PRELIMINARY ENGINEERING REPORT SMITH MOUNTAIN LAKE WATER TREATMENT PLANT BEDFORD COUNTY, VIRGINIA

FEBRUARY 15, 2013

REVISED May 10, 2013

Prepared for:

Bedford County Public Service Authority

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QA/QC Qb



Anderson & Associates, Inc.
Professional Design Services
Blacksburg, Virginia
A&A JN 29701
BCPSA JN 2011-054



COMMONWEALTH of VIRGINIA

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June 7, 2013

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SUBJECT:

Bedford County

Smith Mountain Lake Central

Water System

PWSID No. 5019400

Mr. Brian M. Key, Executive Director Bedford County Public Service Authority 1723 Falling Creek Road Bedford, Virginia 24523

Dear Mr. Key:

A Preliminary Engineering Report prepared by Anderson & Associates, Inc. for Bedford County Public Service Authority located in Bedford County, has been reviewed by this office. The report is entitled "Preliminary Engineering Report, Smith Mountain Lake Water Treatment Plant, Bedford County, Virginia" and is dated February 15, 2013 with revisions dated May 10, 2013.

The report evaluates the design of a 6.0 MGD water treatment plant to ultimately serve the Smith Mountain Lake area, City of Bedford, and Forest Area of Bedford County with the ability to expand the plant to 12.0 MGD in the future. The report evaluates design alternatives for the raw water intake, raw water pump station and transmission line, and water treatment facilities. It recommends a fixed raw water intake system, vertical turbine pumps at the raw water pump station, and pressurized hollow fiber membrane filters with associated appurtenances. Sodium permanganate raw water pretreatment and finished water disinfection are also recommended.

In accordance with § 12VAC5-590-200 of the Commonwealth of Virginia Waterworks Regulations, the Preliminary Engineering Report is approved by this Department with the following conditions:

- 1. Prior to submission of final plans and specifications for this project, submit information pertaining to the design-build schedule including an overview of the entire design-build project, milestones, and a proposed schedule for each subproject. Plans and specifications must be approved for each subproject prior to construction.
- 2. Plans, specifications and documentation for each subproject must be accompanied with supporting calculations for appropriate selection and sizing of equipment and facilities as indicated in the PER. This includes information pertaining to the membrane treatment equipment including: equipment manufacturer and model, equipment performance details, and an NSF Environmental Technology Verification (ETV) report (or similar product specific challenge test conducted in substantial conformance with the EPA's Membrane Filtration Guidance Manual.) This equipment must also be designed to meet the Department's design guidance document.





Mr. Brian M. Key, Executive Director June 7, 2013 Page Two

SUBJECT:

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One copy of the report has been stamped approved and is enclosed. If we can be of additional assistance, please feel free to contact this Office.

Sincerely,

Mitchell R. Childrey, P.E. Engineering Field Director

JDR:ga Enclosure

cc:

ODW-Central

David Inman, P.E., Anderson & Associates, Inc. Rhonda English, Engineering Manager, BCPSA

Bedford County Health Dept., Attn: Kerry W. Gateley, MD, MPH, CPE, Director

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EXECUTIVE SUMMARY

The Bedford County Public Service Authority (BCPSA) commissioned Anderson & Associates, Inc. (A&A) to prepare a Preliminary Engineering Report (PER) in 2010 that evaluated the feasibility of a countywide water system to serve the Lake area, Forest area and connect to Bedford City. The 2010 PER (Lakes-Bedford-Forest Water Supply Evaluation) evaluated several alternatives for serving a Countywide system and connecting to Bedford City and ultimately recommended that a 5.0 MGD facility be constructed and the existing High Point WTP be upgraded to 1.0 MGD for a combined capacity of 6.0 MGD. These treatment facilities would be connected to the distribution system via a proposed 24-inch main along Route 122 from the Lakes area to Bedford City, and a 20-inch main along Route 460 from Bedford City to the Forest area. Later phases of the project proposed in this PER include an 18-inch main along Whitehouse Road and a booster pump station on Route 122. The Virginia Department of Health approved this PER (originally dated August 16, 2010 and revised on June 10, 2011) on July 7, 2011, but considered it to be a feasibility level study due to lack of technical details and calculations normally included in a PER. The approval was based on the following conditions:

- 1. Detailed Preliminary Engineering Report(s) for the water treatment plant and water distribution system expansion must be approved prior to submittal of plans for construction permits.
- 2. The PER for the water treatment plant must include any required water withdrawal permits.
- 3. The PER for the distribution system must include an agreement between the BCPSA and Bedford City for the system interconnection.

The BCPSA commissioned A&A to prepare the present PER to satisfy VDH approval conditions related to the treatment plant in order to move forward with the project. The specific purpose of this PER is to evaluate the intake, raw water pumping/transmission, and treatment facilities for a proposed potable water treatment plant near Smith Mountain Lake. These proposed facilities, hereafter referred to as the Smith Mountain Lake Water Treatment Plant (SML WTP), would immediately serve the Lakes Central and Moneta areas of Bedford County, as well as provide water to the Western Virginia Water Authority for their customers in Franklin County. It is ultimately proposed to serve the Forest area of Bedford County and connect to the City of Bedford's water system so that the two entities' water utilities are interconnected. Bedford City and Bedford County are currently proceeding with a reversion process, whereby Bedford City intends to relinquish its status as a City and incorporate itself as a Town within Bedford County. On August 13, 2012, the Bedford County Board of Supervisors voted to support the legal agreement proposing to revert the City of Bedford to a town. These documents, collectively called the "Reversion Agreement", include a provision that the City's existing potable water system must be connected to the County's water system before December 2016. The current reversion process is expected to conclude in July 2013 and the water and sewer utilities in the City are slated to be merged with the BCPSA's system and staff.

This PER considers locating all treatment capacity (6.0 MGD) at the proposed SMLWTP rather than having 5.0 MGD capacity there and 1.0 MGD capacity at High Point as recommended in the 2010 study. At the same time, it briefly evaluates the best use of equipment and facilities at High Point for this scenario. This was done to achieve efficiency of operation so that the BCPSA has a single treatment plant to operate and maintain instead of two.

As long term water supply plans were finalized within the region, Western Virginia Water Authority (WVWA), approached the BCPSA about participating in the development of additional capacity.

Alternatives were evaluated for multiple processes that make up the treatment train for the proposed 6.0 MGD SML WTP, with the ability to expand to 12.0 MGD, including membrane treatment and conventional treatment. Preliminary cost estimates were developed for each alternative and selections for the alternatives were made based on lowest lifecycle costs. The following table summarizes the recommended alternatives and costs for the WTP processes:

System	Recommended Alternative	Total Project Cost
Intake	Fixed Intake System with two 30-inch intake pipes and two 44-inch diameter screens with dock structure	\$1,030,000
Intake Pump Station	Wetwell with three vertical turbine pumps and an emergency generator enclosed in a 30'x50' two story building (configured to resemble a residence)	\$2,150,000
Raw Water Main	30" Class 200 ductile iron water main with valves every 3,000 feet	\$2,870,000
Pretreatment	Sodium permanganate chemical injection system (installed at High Point WTP) for organic removal	\$90,000
Treatment Plant	6.0 MGD pressurized membrane filters with appurtenances installed in an 14,000 square foot building (includes lab and office space), with a 250,000 gallon raw water tank	\$10,780,000
Backwash Treatment	Relocate Pall AP-4 membrane skids from High Point WTP, and construct a 30,000 gallon holding tank and pumps	\$330,000
Backwash Disposal	10,000 gallon equalization tank and upgrades at Pump Station #4 to pump waste to the Moneta Wastewater Treatment Plant	\$80,000
Clearwell	Precast or cast-in-place concrete rectangular tank with internal baffles	\$1,180,000
Finished Water Pumps	Three split case or vertical turbine pumps with adjustable frequency drives located in treatment facility or adjacent to clearwell	\$720,000
Forest System Improvements	Convert master meter to emergency water supply, install telemetry controlled PRV on transmission main, install altitude valves on New London/Althea Grove tanks	\$236,000
Disinfection	Liquid sodium hypochlorite system, with bulk storage, transfer pumps, day tank, and metering pumps.	\$180,000
TOTAL		\$19,646,000

Annual O&M costs for the recommended alternative are estimated to be in the range of \$833,000 per year based on a production rate of 3.0 MGD (average daily flow at 20 years).

Based on the findings in this report, the following actions are recommended:

- Recalculate the financial assessments that were prepared by Morgan Keegan and summarized in a report titled, *Financial Impact Study of Future Capital Projects* with updated project costs developed in this report.
- Conduct a Preliminary Engineering Conference with VDH to review the findings of this report and review the overall project.
- Begin the design of the water treatment facility as soon as possible. This could be accomplished under a regular design contract, or through an alternative method like Public Private Education and Infrastructure Act (PPEA) or Design/Build.
- Begin the design and construction of the 18-inch and 24-inch water mains along Route 122 and Route 460 as soon as possible. In their approval letter of the Lakes-Bedford-Forest Water Supply Evaluation, VDH required a PER be prepared for the distribution system prior to reviewing plans. This requirement can likely be discussed further at the Preliminary Engineering Conference.

A. <u>INTRODUCTION</u>

1. Background and Purpose of the Report

In 1998, construction began on the Bedford County Public Service Authority (BCPSA) surface water treatment plant (WTP) serving the High Point subdivision using Smith Mountain Lake as the source. At the time, this WTP was the first surface water plant in the state to use membrane filtration as the treatment technology and one of few in the United States treating surface water. In 2010, the BCPSA received a Certificate to Operate from VDH for a capacity of 0.77 million gallons per day (MGD) following the installation of new membrane filters several years earlier. The plant was re-rated and permitted in 2012 at 1.0 MGD, which is the ultimate capacity of the current membrane filters; this capacity upgrade was achieved by upgrading the booster pumps and modifying finished water piping.

In 2010, Anderson & Associates, Inc. (A&A) prepared a feasibility study entitled, *Lakes-Bedford-Forest Water Supply Evaluation*. This study reviewed various technical and financial feasibility alternatives for water system upgrades to provide county-wide service. Hydraulic capacity and water quality issues along with intake and treatment capacity were evaluated. The study recommended that a new regional WTP be constructed, along with a 24-inch transmission main along State Route 122 and a 20-inch transmission main along U. S. Route 460.

The purpose of this Preliminary Engineering Report (PER), is to further develop alternatives for intake, distribution, treatment, and disinfection by-product (DBP) removal for the new regional WTP, hereinafter referred to as the Smith Mountain Lake WTP (SML WTP). The PER summarizes the existing data on raw water quality and demand projections. Alternatives for pumping and treatment are developed and evaluated. Planning level cost estimates are included in the evaluation. Finally, recommendations for development of the WTP and distribution system are provided.

2. Previous Studies

Previous studies related to this PER are listed below:

- a. 1994 Comprehensive Water and Wastewater Study for BCPSA by Anderson & Associates, Inc. (A&A).
- b. 1997 Final Water Quality Summary and Full Scale Demonstration Testing Protocol, High Point Water Treatment Plant for BCPSA by A&A).
- c. 2000 Master Plan for Water and Sewer System Improvements for City of Bedford by Thompson + Litton.
- d. 2003 Preliminary Engineering Report for the State Route 122/Burnt Chimney/ Smith Mountain Lake Water Distribution System Volume I of II by Thompson + Litton.

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- e. 2004 U.S. 220 North Water System Evaluation by Thompson + Litton.
- f. 2007 Bedford County 2025 Comprehensive Plan.
- g. 2009 Water and Sewer Master Plan for BCPSA by Draper Aden Associates.
- h. 2009 Region 2000 Local Government Council Regional Water Supply Plan by Draper Aden Associates and Malcolm Pirnie.
- i. 2010 Lakes-Bedford-Forest Water Supply Evaluation for BCPSA by Anderson & Associates, Inc.
- 2010 Smith Mountain Lake Withdrawal Study for BCPSA and Western Virginia Water Authority (WVWA) by Anderson & Associates, Inc.
- k. 2006 Wastewater Service Evaluation, Hales Ford Bridge to Westlake Area for Franklin County Board of Supervisors by Anderson & Associates, Inc.
- I. 2010 Roanoke Valley-Alleghany Regional Commission Regional Water Supply Plan by Draper Aden Associates.

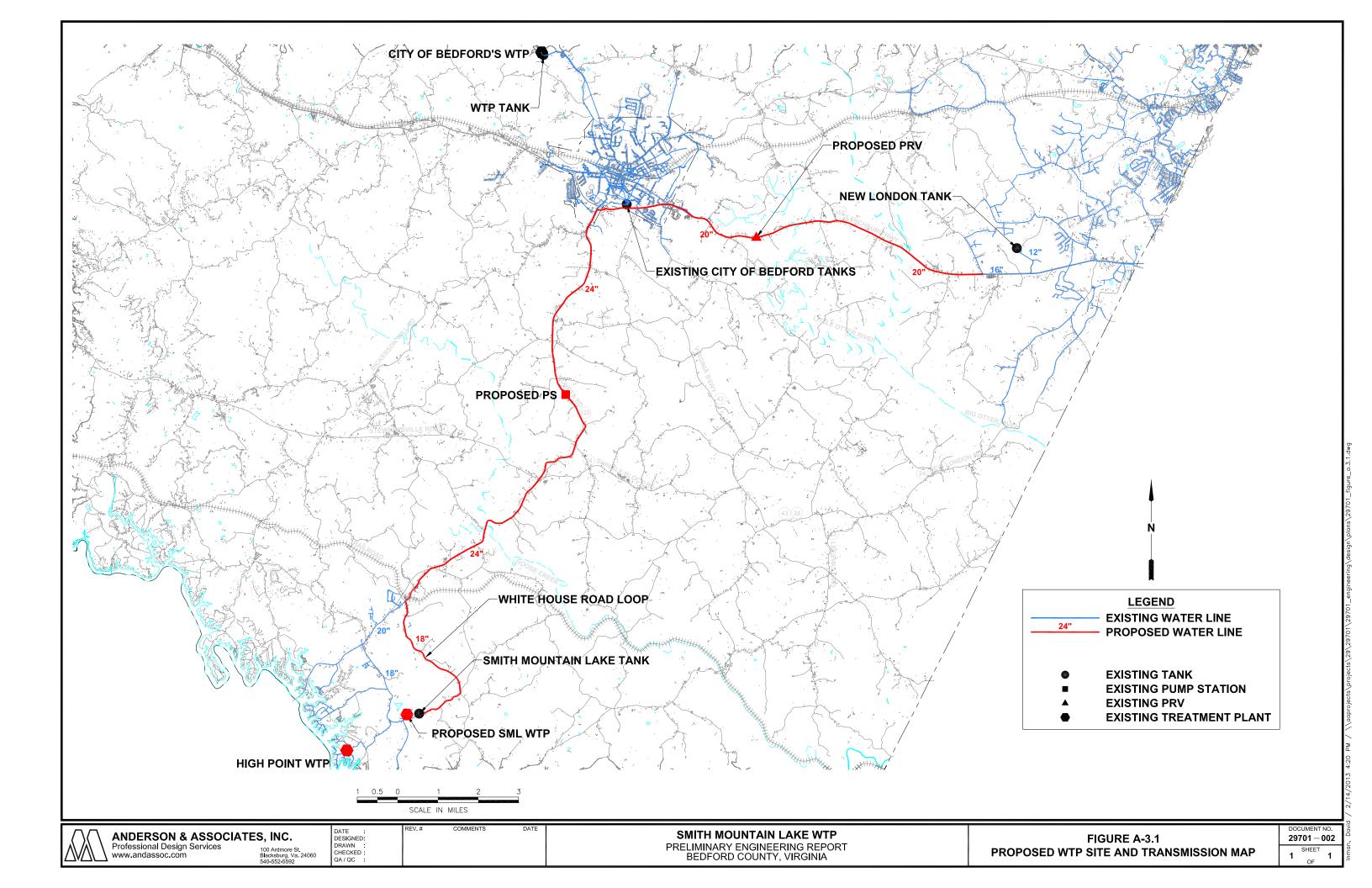
3. General Project Description

Currently, the BCPSA operates independent water systems in the Lakes and Forest areas of Bedford County. The Lakes planning area is located in the southwestern portion of the County: it extends from Smith Mountain Lake on the south to the City of Bedford on the north along Moneta Road (State Route 122). The Forest service area (also known as the Jefferson Planning Area) is located in the eastern portion of the County; it extends from the City of Bedford to the County line on the east along East Lynchburg Salem Turnpike (U. S. Route 460). There are additional water systems within the County; however, this PER focuses on these planning areas only.

The 2010 Lakes-Bedford-Forest Water Supply Evaluation recommended that the High Point WTP be upgraded to a capacity of 1.0 MGD and then the new SML WTP be constructed with a capacity of 5.0 MGD. These projects would be followed by construction of the Route 24-inch 122 and 20-inch Route 460 transmission mains, respectively. Projects that could be initiated as the need arises are the Whitehouse Road Loop pipeline and the Route 122 Pump Station, both of which would be improvements to the hydraulics of the system as demands increase in the future. Figure A-3.1 shows the proposed WTPs and transmission mains recommended in the 2010 study.

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Due to the PSA's preference of keeping the treatment centralized at a single facility, this PER considers all of the required treatment capacity occurring at the SML WTP. The SML WTP is proposed to be located on Radford Church Road at the site of the former Camp 24 Moneta Adult Detention Facility which has been identified in previous studies as a suitable location for a regional facility. Currently, the 98-acre property is being prepared to turn over to Bedford County by the Jail Authority, at which point BCPSA will negotiate with the County for the area required for the treatment works.



4. Water Demand Projections and Assumptions for New WTP Capacity

Water use growth projections are based on BCPSA 2008 production records, the 2009 Water and Sewer Master Plan, and 2000 Master Plan for Water and Sewer System Improvements reports. The growth areas include Lakes and Forest areas. The City of Bedford is not included. The 2009 Water and Sewer Master Plan considered census population figures, Weldon Cooper and Virginia Economic Commission population projections and the Region 2000 Water Supply Plan in its development of water use projections.

Figure A-4.1 summarizes 2008 BCPSA water production and projections compiled from these reports and extrapolated as needed to bring the two sources of data into the same timeframe.

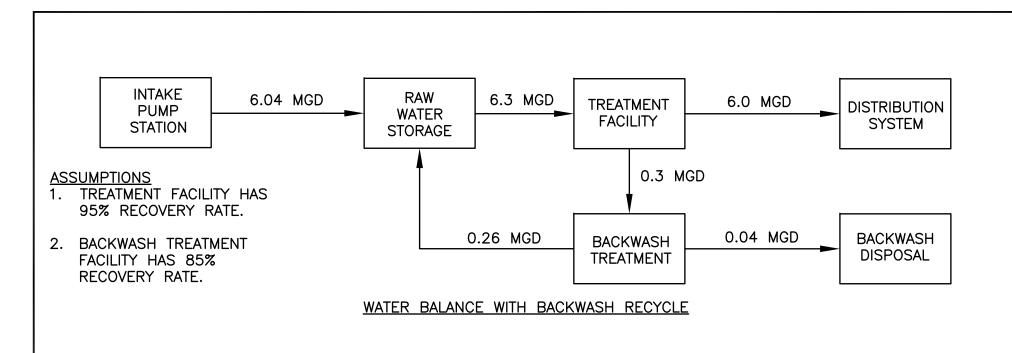
The average daily demand is calculated from the indicated growth rates from the above studies. The peak daily demand is estimated at twice the average daily demand. This peak daily demand factor reflects how summer time demands are greatly increased due to the increased population that lives at Smith Mountain Lake during summer months. The monthly peak factor used for Lakes is a straight line decline of 2.73 (actual) to 1.44 (estimated) over 50 years. The monthly peak factor used for Forest and City of Bedford is a constant 1.40.

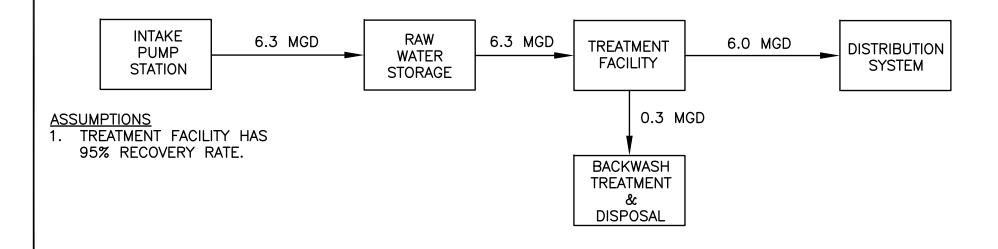
Twenty years was used as a typical planning period for treatment plant capacity. As shown in bold text in Figure A-4.1, at year 2030, this demand equates to 6.0 MGD for serving both the existing Lakes system and the Forest system. Although beyond the scope of this study, the combined demand of the Lakes, Forest, and Bedford systems should be considered in future planning. It should be noted that Franklin County has rights to 40% of the capacity of the High Point WTP (i.e., 0.4 MGD). The transmission mains would be sized for peak monthly demand over a 50-year planning period (i.e., 6.0 MGD).

Using these planning numbers, a water flow balance was prepared (see Figure A-4.2). This flow balance considers the case with and without backwash recycle, which will be further evaluated in the report.

Figure A-4.1 – Water Demand Projections (MGD)

	Lakes Water System								
Year	Rate of Growth (%/year)	Average Daily Demand (MGD)	Peak Daily Demand (MGD)	Monthly Peak Factor	Peak Monthly Demand (MGD)				
2008		0.22	0.44	2.73	0.60				
2012	8	0.30	0.60	2.68	0.80				
2020	8	0.56	1.11	2.46	1.37				
2030	1.5	0.64	1.29	2.20	1.42				
2040	1.5	0.75	1.49	1.93	1.44				
2050	1.5	0.87	1.73	1.67	1.45				
2060	1.5	1.01	2.01	1.44	1.45				
		Forest W	ater System						
2008		1.40	2.80	1.40	1.96				
2012	3.4	1.60	3.20	1.40	2.24				
2020	3.4	2.09	4.18	1.40	2.92				
2030	1.1	2.33	4.67	1.40	3.26				
2040	1.1	2.60	5.21	1.40	3.64				
2050	1.1	2.90	5.81	1.40	4.06				
2060	1.1	3.24	6.48	1.40	4.53				
		Total Lakes +	Forest System	s					
2008		1.62	3.24		2.56				
2012		1.90	3.80		3.04				
2020		2.64	5.29		4.29				
2030		2.97	5.95		4.26				
2040		3.35	6.70		5.08				
2050		3.77	7.54		5.51				
2060		4.24	8.49		5.98				
		City of Be	dford System						
2008		0.85	1.69	1.40	1.19				
2012	2.5	0.93	1.86	1.40	1.30				
2020	2.5	1.13	2.27	1.40	1.59				
2030	2.5	1.45	2.90	1.40	2.03				
2040	1.5	1.68	3.37	1.40	2.36				
2050	1.5	1.95	3.91	1.40	2.74				
2060	1.5	2.27	4.53	1.40	3.17				
		Lakes + Forest +			•				
2008		2.47	4.93		3.75				
2012		2.83	5.66		4.34				
2020		3.77	7.56		5.88				
2030		4.42	8.85		6.29				
2040		5.03	10.06		7.44				
2050		5.72	11.45		8.25				
2060		6.51	13.02		9.15				





ANDERSON & ASSOCIATES, INC. Professional Design Services www.andassoc.com 100 Ardmore St. Blacksburg, Va. 24060 540-552-2592	DATE : 27 JUN 12 REVISIONS DESIGNED: DRAWN : RTM CHECKED : QA / QC :	SMITH MOUNTAIN LAKE WTP PRELIMINARY ENGINEERING REPORT BEDFORD COUNTY, VA	FIGURE A-4.2 - WATER BALANCE	DOCUMENT NO. 29701 SHEET OF
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WATER BALANCE WITHOUT BACKWASH RECYCLE

5. Viable Water Sources

The 2009 Region 2000 Local Government Council Regional Water Supply Plan describes the existing water sources in Bedford County. These water sources consist of public community water systems owned and operated by the BCPSA and privately owned community water systems. BCPSA operates the three major public community water systems; i.e., Forest and New London, Lakes, and Stewartsville. The Forest and New London water system use water purchased from the City of Lynchburg. Stewartsville uses water purchased from the Western Virginia Water Authority (WVWA). The Lakes system's main water source is Smith Mountain Lake. BCPSA also operates smaller community water systems using groundwater wells.

There are 25 private community water systems using groundwater. Homes and businesses use individual groundwater wells. These wells are generally limited in capacity and vary in quantity throughout the year. There is one private community water system, Eagle Eyrie Baptist Conference Center, which uses a 5-mg surface water reservoir.

Smith Mountain Lake is the most viable water source for the SML WTP for the following reasons:

- 1. Reliable Supply Two rivers, the Blackwater and the Roanoke, are the main tributaries to Smith Mountain Lake. The Roanoke River is the larger of the two tributaries and drains a watershed that includes the Roanoke metropolitan area. The surface area of Smith Mountain Lake is 31 square miles, and the catchment area is 1,029 square miles. Mean depth of the lake is 115 feet, with a maximum depth of 200 feet. Smith Mountain Lake stores approximately 2,300,000 acre-foot (i.e. 750 billion gallons) of water at full pond levels and the length of the shoreline is 500 miles. The extensive drainage basin and very large volume makes the lake a reliable supply.
- Quality The 1997 Water Quality Summary indicated that the quality of the water is very good at the current and proposed intake location. Water quality results indicated that the water has low turbidity levels most of the year and is devoid of other constituents that would typically require specialized treatment. A summary of the water quality data from this report are provided in the next section.
- 3. Compatibility with Smith Mountain Lake Goals Since the mid-1960's, when the reservoir was created, the primary use of Smith Mountain Lake has been to provide hydroelectric power to western Virginia. The reservoir also has a significant economic function as a very popular recreation site for boating, swimming, fishing, and other activities. Many resort homes, condominiums and year-round residences are located on the shores of this reservoir. Another important function is as a public water supply for the region. The proposed SML WTP would be compatible with the goals of the Lake Management Plan.

B. SOURCE AND FINISHED WATER QUALITY

1. Source Water Quality

In 1995 and 1996, an extensive source water analysis was conducted at Smith Mountain Lake. Multiple locations and depths were sampled to identify the best location to locate a raw water intake. The results of this analysis were summarized in the 1997 Water Quality Summary submitted to the Virginia Department of Health (VDH). The source water meets the requirements of §9 VAC 25-260 of the Virginia Water Quality Standards (January 2011) for public water supply. In 2008, the BCPSA also performed LT2 source water testing for E. Coli. The results of this testing and selected parameters from the raw water quality data from the 1995-1996 testing are provided in Figure B-1.1.

Figure B-1.1 – Raw Water Quality

Constituent	Average	Range
Alkalinity	75 mg/L	52 – 104 mg/L
Total Dissolved Solids	119 mg/L	115 – 121 mg/L
Dissolved Organic Carbon (DOC)	12.4 mg/L	2.4 – 24.2 mg/L
Total Organic Carbon (TOC)	12.5 mg/L	2.4 – 24.3 mg/L
Iron	0.10 mg/L	<0.01 – 3.0 mg/L
Manganese	0.02 mg/L	<0.01 – 0.1 mg/L
Total Hardness	95 mg/L	89 – 100 mg/L
Giardia	-	<5.1 – 230 per 100 L
Cryptosporidium	-	<5.1 – 20 per 100 L
Fecal Coliforms	4 MPN per 100 mL	1 – 33 MPN per 100 mL
E. Coli	0.6 E. Coli/100 mL	0 – 3.1 E. Coli/100 mL
рН	7.6 S. U.	6.5 – 8.9 S. U.
Temperature	16 degrees C	2.7 – 29.8 degrees C
Turbidity	4.9 NTU	1.0 – 28.1 NTU

2. Finished Water Quality Goals

The finished water quality goals for the proposed SML WTP are generally less than the Maximum Contaminant Levels (MCLs) listed for primary and secondary contaminants in the Safe Drinking Water Act. Additionally, the parameters listed in Figure B-2.1 have been identified as goals to consider for the proposed SML WTP.

Figure B-2.1 – Finished Water Quality Goals

Parameter	Target Concentration		
pН	7.5 – 8.0 S.U.		
TOC	30% reduction		
Turbidity	≤ 0.1 NTU (100% of Time)		

Δ

3. Summary of Current Regulations

3.1 National Regulations

Virginia has adopted the drinking water standards of the U. S. Environmental Protection Agency (EPA) Safe Drinking Water Act (SDWA). The SDWA provides the basic rules for water quality produced by a treatment system and has been amended several times over the years. The rules under the SDWA are either finalized and in effect, finalized and not yet in effect, proposed, or under development.

Finalized rules presently in effect are:

- Surface Water Treatment Rule (SWTR)
- Total Coliform Rule (TCR)
- Stage 1 Disinfectants/Disinfection By-products Rule (Stage 1 D/DBPR)
- Stage 2 Disinfectants/Disinfection By-products Rule (Stage 2 D/DBPR)
- Interim Enhanced Surface Water Treatment Rule (IESWTR)
- Filter Backwash Recycling Rule
- Chemical Phase Rule
- Phase I, II, and V Contaminant Rules
- Lead and Copper Rule (LCR)
- Long-Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR)
- Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)
- Radionuclides Rule
- Arsenic Rule
- Ground Water Rule

Currently, the EPA is proposing revisions to the TCR and LCR (Journal AWWA, March 2012). The proposed revisions to the TCR require systems that have an indication of coliform contamination in the distribution system to assess the problem and take corrective action. The proposed revisions to the LCR are long-term issues such as partial lead

service line replacement, sample site selection; tap sampling, measures to ensure optimal corrosion control, and public education about copper. Sample site selection could potentially impact all systems and would require revising all of the sampling plans and obtaining primary agency approval for these revisions. To optimize corrosion control treatment, the range of allowable water quality parameters could be tightened.

The LT2ESWTR will be reviewed again in 2012 to discuss impacts of uncovered finished water reservoirs (Journal AWWA, March 2012).

In February 2011, EPA announced that a national drinking water regulation would be developed for perchlorate based on a new analysis of the potential health effects on newborns and infants. EPA has until February 2013 to develop the proposed regulation. For affected systems, the cost impact could potentially be significant. At this time, it is unclear the level to which EPA will regulate perchlorate (Journal AWWA, March 2012).

In March 2011, EPA proposed Unregulated Contaminant Monitoring Rule 3 (UCMR3) for 28 chemicals, including pharmaceuticals. EPA anticipates the final UCMR3 will be published in 2012 with monitoring conducted between 2013 and 2015 (Journal AWWA, March 2012).

The most significant of these rules to the potential treatment technology and operational practices used at a new SML WTP is development of a perchlorate MCL and UCMR3. Perchlorate can be generated as a byproduct of disinfection practices. It is formed during the degradation of sodium hypochlorite, but steps can be taken to minimize its formation by certain storage and handling practices of sodium hypochlorite that will be discussed later in this report.

UCMR3 may eventually lead to an MCL being developed for pharmaceuticals. The presence of pharmaceuticals and endocrine disruptors in the nation's drinking water supply has become increasingly recognized as a potential threat to human health. These pollutants enter into the drinking water supply when they are excreted by the public and aren't removed at the wastewater treatment facilities that discharge to surface waters. An Associated Press report in 2008 drew attention to this fact when the report investigators discovered that low concentrations of prescription drugs were detected in the drinking water supplies of 24 major metropolitan areas (Jeff Donn, Martha Mendoza and Justin Pritchard. AP Probe Finds Drugs in Drinking Water. Associated Press, March 9, 2008). Treatment technologies that have shown promise in reducing pharmaceutical levels in drinking water include membrane processes, advanced oxidation processes, and granular activated carbon filtration.

U. S. Army Corps of Engineers has jurisdiction for structures or work including excavation, dredging, and/or disposal activities and activities that alter or modify the course, condition, location, or capacity of a navigable water under §33 CFR Part 322 (Permits for Structures in or Affecting Navigable Waters of the U.S.).

3.2 State Regulations

Under the Public Water Supply Law, Article 2 of Chapter 6 of Title 32.1 of the Code of Virginia, VDH is empowered to supervise and regulate all waterworks and water supplies within Virginia. The regulations related to quantity, quality, and development structures for surface water sources are provided in VDH Waterworks Regulations §12 VAC 5-590-830. The Virginia Water Quality Standards (§9 VAC 25-260) regulate water sources used for public water supply.

Sections §12 VAC 5-590-870 and 880 of the Waterworks Regulations apply to mixing, sedimentation, and filtration. Taste and odor are covered in §12 VAC 5-590-960, and waterworks waste is covered in §12 VAC 5-590-990. With the exception of sanitary sewage and flows recycled through the water treatment system, the wastes generated during the operation of the plant (e.g., filter backwash and presedimentation sludge) are considered to be industrial wastes. Disinfection, pump stations, and plant storage (e.g., washwater tanks and clearwells) are covered in §12 VAC 5-590-1000, 1020, 1040, and 1090, respectively.

Membrane filtration is currently regulated in Virginia through Working Memo 880 (WM 880). This memorandum provides guidance for the use of membrane filtration technology for pathogen and turbidity removal. Under the guidelines, conventional process approval procedures for microfiltration and ultrafiltration, hollow fiber, positive pressure driven membrane filtration technology may be followed (§12 VAC 5-590-200). This memorandum also provides guidance for the preparation of waterworks operation permits and for surveillance of existing and new membrane filtration systems.

C. EXISTING WATER TREATMENT AND INTAKE FACILITIES

1. Smith Mountain Lake Intake Description

The intake location for the proposed SML WTP is proposed to be the same as the High Point WTP intake. The 2010 SML Withdrawal Study compared five intake locations and evaluated them based on six primary criteria; environmental, site availability, site access, site development, water quality, and zoning. The conclusion of the report was that the existing intake site should be used to locate the proposed intake.

The existing intake permit is currently being reviewed by the Virginia Department of Environmental Quality (VDEQ) for an increase of its current permitted peak capacity of 2.999 to 12 MGD. The Joint Permit Application (JPA) and water withdrawal permit application were submitted in March 2011. After an extensive review process, DEQ issued an unofficial copy of the draft permit on January 7, 2013, and are awaiting confirmation of wetland delineation from the U. S. Army Corps of Engineers for the project area. The unofficial copy of the draft permit is included in Appendix F.

The existing intake structure consists of a submersible, adjustable depth, float-suspended wire screen, 24 inches long by 24 inches diameter with 1-mm openings and a screen velocity less than 0.5 fps at 1 MGD. The intake screen connects to the raw water pump station through an 8-inch diameter HDPE and ductile iron pipe. Figure C-1.1 is a schematic of the existing intake pipe and screen.

The raw water pump station consists of a wetwell, valve vault, and two submersible turbine pumps (one on-line and one backup). Raw water is pumped to the raw water storage tank located at the treatment plant. Each pump is rated 695 gpm at 250 feet TDH and driven by a 60-hp motor. The raw water pumps are controlled by level controls in the raw water storage tank. A raw water flow meter is provided inside the WTP. The raw water is strained at the WTP prior to the raw water storage tank through a 1-MGD automatic self-cleaning strainer system with a 40-mesh screen size.

2. High Point WTP Process Description

The original High Point WTP was constructed in 1998 at a capacity of 0.06 million gallons per day (MGD) to serve the High Point subdivision. The WTP was rated at a capacity of 0.77 MGD in 2010 to serve the Lakes central water system. In 2012, the WTP was upgraded to 1.0 MGD by modifying the finished water pumps and interior piping.

The raw water storage tank is a 20-foot diameter glass-lined bolted steel ground level tank (68,000 gallons) equipped with separate inlet and outlet piping, overflow, drain, center roof vent, ladder with safety cage and locking cover and access hatch.

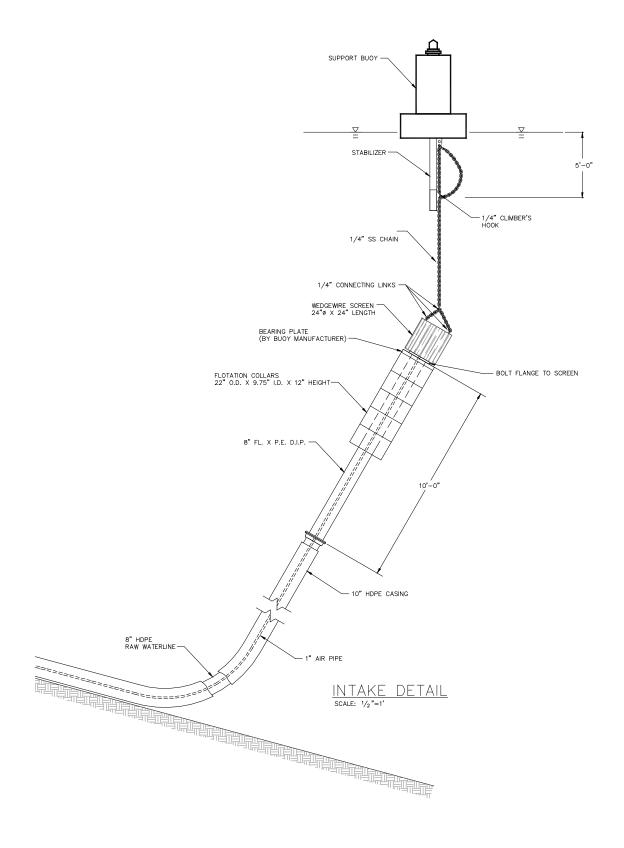


Figure C-1.1 – Existing Intake Schematic

Potassium permanganate is injected in the raw water ahead of the raw water storage tank. The feed pump has a capacity of 30 gpd, and the solution tank capacity is 55 gallons. Typical dosage is 0.7 to 1.0 mg/L.

The High Point WTP has three membrane filtration skids in service. There are two Pall AP-4 membrane filters with 28 modules each and a single Pall AP-3 skid with 6 modules. The AP-4 membrane skids filter raw water from Smith Mountain Lake, and the AP-3 membrane skid filters the backwash water from the two AP-4 membrane skids. The AP-3 discharge is returned to the raw water tank and the AP-4 discharge is disinfected and stored in the clearwell prior to pumping to the distribution system. Each membrane filter skid has its own feed tank and an individual feed pump that draws water from this tank to produce filtered effluent. The AP-4 membrane skid feed tanks are filled by gravity from the facility's raw water storage tank. The AP-3 membrane skid feed tank is filled from pumps in the facility's backwash holding tank; it has a capacity to treat 0.24 MGD of backwash at a flux rate of 40 GFD. The two AP-4 skids operate at a flux rate of 40 gfd to achieve 0.5 MGD each for a combined production capacity of 1.0 MGD.

Sodium hypochlorite is injected in the filtered water prior to the clearwell tank. The chemical feed pump has a capacity of 48 gpd and the solution tank has a capacity of 55 gallons. Typical dosage is 1.0 mg/L.

The clearwell is a 17-foot diameter glass-lined bolted steel ground level tank similar to the raw water storage tank. Four baffled compartments are provided to improve the baffling factor to 0.5. The working volume ranges from 34,800 to 49,200 gallons.

The finished water centrifugal pumps are powered by 75 hp motors with 9.125-inch impellers. They also have variable speed drives to allow for more user control. The capacity of 694 gpm or 1.0 MGD is achieved between 94 and 96% of full motor speed (56.5-57.5 Hz).

3. Challenges with Current Facilities

The High Point WTP would be difficult to expand at the present site due to limited land area, inadequate building space and backwash waste disposal constraints; and would not meet the long-term water requirements for the County. With a new SML WTP being constructed, it may be advantageous to move the existing treatment equipment to the new site, repurpose the building for other use, or abandon the WTP altogether.

One of the main constraints of the present site is that backwash is disposed of via two infiltration basins. The existing backwash disposal area is limited to approximately 3900 square feet and could not support a plant capacity above 2 MGD due to relatively poor soil infiltration rates. In the past, the BCPSA has had to replace soils in these infiltration basins to keep up with the disposal needs of the current facility.

D. <u>REVIEW OF ALTERNATIVES</u>

A variety of systems and processes are proposed to be constructed to support the SML WTP. This section presents a review of two or three alternatives available for each of the process streams. Since sizing of some of the unit processes will depend on the overall flow balance of the selected process train, this PER assumes the treatment and pumping capacity is 6.0 MGD peak and 3.0 MGD average. Where appropriate, consideration of the ultimate future capacity of 12.0 MGD is also made in the PER. Final design should consider the overall flow balance of the selected alternatives and ability to expand to 12.0 MGD in the future. This PER also assumes that the proposed treatment facility site is located at Camp 24 and the intake is at the same site as the existing intake.

1. Intake

In order to increase the amount of water available for withdrawal, the existing intake piping and screening must be upgraded. Several configurations are used for water intakes, and the selection of a suitable configuration is based on site conditions and constraints. The major considerations for this intake are:

- Water quality is good to excellent with very little "trash" or debris present at the proposed intake depth.
- Smith Mountain Lake cannot be dewatered to accommodate the installation of a new intake.

A cylindrical wedge wire intake screen submerged in the lake was considered under these conditions. The use of a mechanically cleaned intake screen located in the Raw Water Pump Station did not appear practical due to the nature of the solids to be screened. The use of a conventional concrete intake "tower" placed in the lake was initially considered and dismissed as impractical to construct under the given conditions (approximately 60-75 feet offshore in about 25-30 feet of water) and concerns about negatively impacting the view of the lake for residences in the cove where the intake is located.

The alternatives considered are a "floating intake" using intake screens supported by buoys and a "fixed intake" where the intake screens and piping are permanently anchored to a structure. Both alternatives appear technically feasible and offer unique advantages and disadvantages. Each of these alternatives is described here.

1.1 Alternative 1 - Floating Intake

General Description: The floating intake alternative is similar to the existing intake system except that multiple intakes would be used to obtain the needed capacity. In this configuration, a drum or tee type wedge wire cylindrical intake screen is supported by buoys. Much of the weight is supported by buoyant underwater collars with the remaining weight supported by a surface marker/retrieval buoy. Water from the intake screen is transferred to the raw water pump well through a flexible polyethylene pipe.

In this configuration, the screens would be suspended at a "fixed" depth below the surface of the lake. The elevation of the screen would vary with lake level and could be expected to vary by 8 feet. The "fixed" depth can be altered or adjusted manually by raising the screen and changing the length of the suspension cable between the buoy and screen.

<u>Preliminary Sizing</u>: Both drum type and tee type screen configurations were initially considered for the floating intake alternatives. A drum type screen is a cylinder with the outlet pipe connected to the end. A tee type screen is similar to two drums with the outlet connected perpendicularly between them.

Preliminary calculations (see Appendix D) were performed to determine the optimum screen configuration and outlet pipe size for this alternative. These calculations were based on screen openings of 1 mm that have been used successfully with the current intake. A 1 mm size opening allows exclusion of debris and aquatic life and should also help minimize operations and maintenance of downstream processes. Outlet pipe sizes were considered to minimize head loss between the screens and pump station wet well. A summary of the configurations that were considered follows:

Number	MGD/Unit	Туре	Screen Dia. (in.)	Outlet Pipe (in.)
1	6.0	Drum	66	30
2	3.0	Drum	44	20
3	2.0	Drum	36	18
4	1.5	Drum	33	16
1	6.0	Tee	44	30
2	3.0	Tee	33	24

The floating intake alternative requires a more flexible outlet pipe than a fixed intake. The use of three drum type inlets was considered as having sufficient pipe flexibility without the use of an excessive number of intakes.

In summary, the floating intake consists of three 36-inch drum type intake screens, each with an 18-inch outlet pipe to the Raw Water Pump Station.

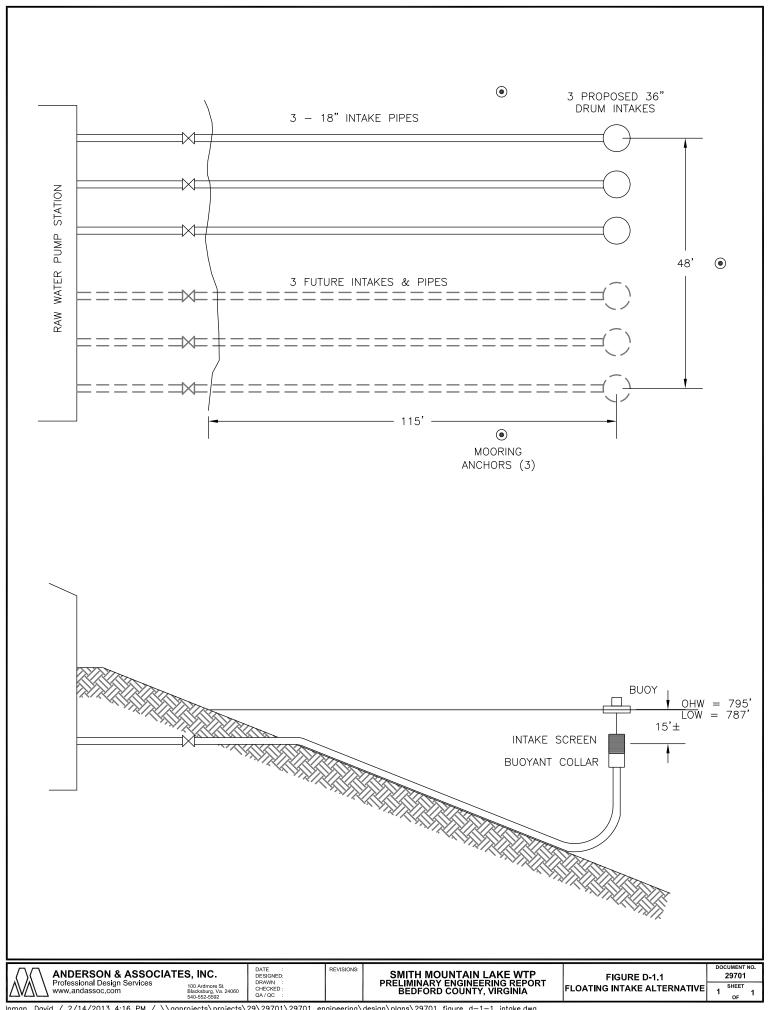
Conceptual Plan: The three intake screens will provide an initial capacity of 6 MGD and will be placed to allow the incremental addition of three more screens to provide an ultimate capacity in excess of 13 MGD. In addition to the three intake screens, three mooring points would be provided to allow easy positioning and stability of a barge and lifting equipment to be used for periodic maintenance. A conceptual layout is shown on Figure D-1.1.

Operation and Maintenance Requirements: This configuration allows the screens to self-regulate the depth of the intake below the water surface. As long as the same depth is desired, no additional operation is needed. Should a change in the depth be desired, the floating screen configuration would require the use of a barge or large boat to lift each screen and adjust the operating depth. While the Authority has not seen a past need to make depth adjustments, the process of making an operational adjustment of depth is not very convenient under this configuration. Frequent adjustment to maintain a more constant intake elevation would not be practical with this configuration.

By comparison with traditional external screens, the submerged intake screens require little, but still some, routine maintenance. Primary maintenance consists of keeping the screens clean so that adequate water can flow to the raw water pump well. An air scouring system is used to routinely provide a burst of air to blow loose debris off the screen. The air scour process is automated and the air supply compressors will require routine maintenance.

The screen can be treated during fabrication with a coating to help minimize bio-fouling; however, a biological growth will occur and require cleaning that air scouring cannot achieve. Cleaning will require the use of a barge and lifting equipment to bring each screen to the surface. Mooring buoys should be installed to make this process easier. Once at the surface, the screen can be pressure washed and inspected. The initial frequency for this additional cleaning is anticipated to be about 2 years. This frequency could potentially be reduced with the use of a biofouling resistant coating, but that should be evaluated during design.

<u>Construction Considerations:</u> The major consideration with intake construction is that, while it is mainly piping, this is not typical utility construction. Pipe installation between the shoreline and the Raw Water Pump Station will require shoring. The pipe to the raw water well will be significantly below lake level. Installation of the screens, pipe, pipe anchor, and mooring anchors in the lake will also require the use of a specialty contractor.



1.2 Alternative 2 - Fixed Intake

General Description: The fixed intake alternative consists of an intake screen or screens suspended under a permanently anchored pier that extends into the lake. A work platform would be placed at the end of the pier and provided with a means of adjusting the intake elevation and lifting the intake screens out of the water for routine or emergency inspection or maintenance. The concept for this alternative is to provide the Authority immediate access to the intake screens if needed and to reduce the need for and cost of an outside contractor for maintenance.

The primary benefit of this alternative is improved convenience and control of both operation and maintenance by the Authority. To this end, the work platform will be sheltered in an enclosure constructed to look like a boathouse. In addition to providing shelter for the operators, the "boathouse" will contain an overhead electric hoist for each screen.

<u>Preliminary Sizing</u>: With this alternative, the outlet pipe between the screen and raw water pump well can be partially supported by the pier structure. This lends itself to the use of a larger diameter polyethylene outlet pipe allowing the use of fewer intake screen assemblies. In fact, as shown in the table of Section D.1.1, a single tee type screen can provide the initial 6 MGD capacity and two can provide in excess of 12 MGD.

While a single tee screen is capable of providing the initial needed flow, a single screen leaves the entire water supply vulnerable if it were to fail. The use of multiple screens was considered. It would take two 30-inch screens to meet initial demands and two additional to supply the total 12 MGD demand. The cost of a 30-inch screen and connected inlet pipe is not that much less than the cost of a 44-inch intake. Constructing both 44-inch screened intakes initially versus one now and one in the future provides the Authority with the desired reliability and no increase in total cost. The second intake screen could be installed initially at less cost than adding it later, but the cost is not deferred and increases the initial intake cost.

In summary, this alternative consists of two 44-inch tee type wedge-wire screens with 30 inch outlet pipes mounted on a fixed pier that extends into the lake. The pier would include a sheltered work platform with a means to adjust elevation or lift the intake screens from the water. The shelter would be constructed to have the appearance of a boathouse.

Operation and Maintenance Requirements: As with a "floating screen" assembly, the primary maintenance is keeping the screen clean. An air scour system would be used for routine maintenance of the fixed screen as with the floating screen. The larger tee screen is a single assembly and has more surface area, and thus would require more air than for multiple smaller screens which could be cleaned individually. However, the anticipated maintenance for either system would be about the same.

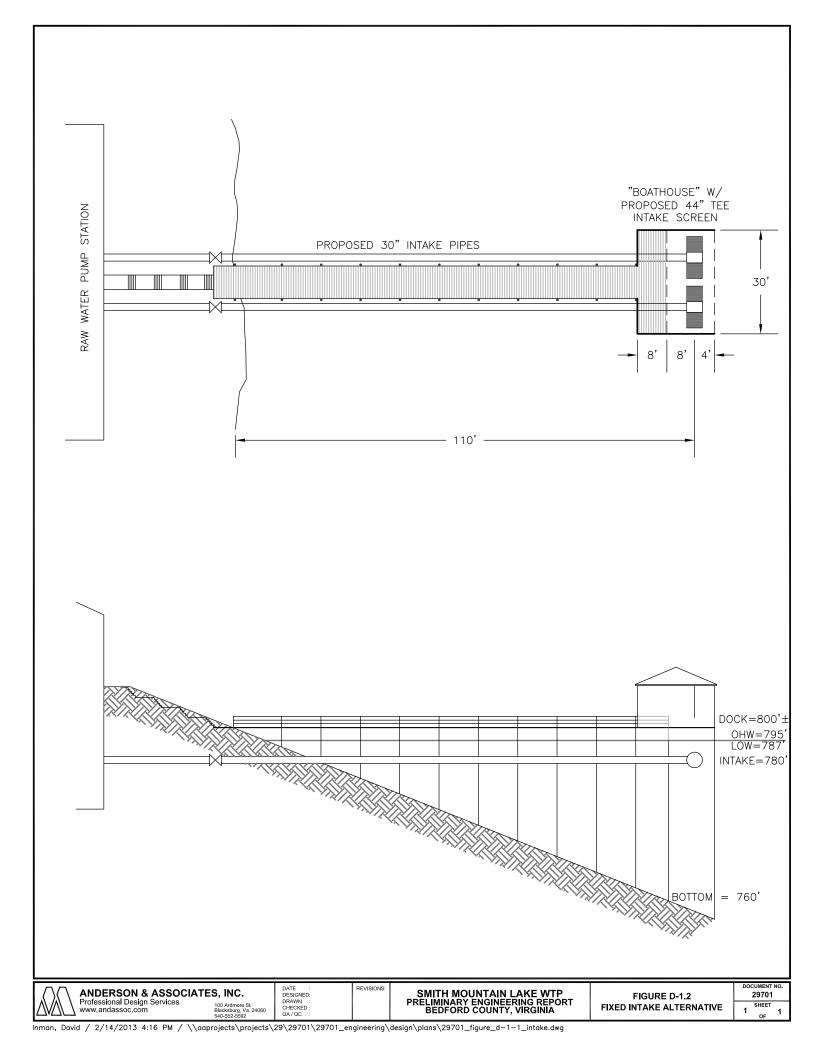
The pier makes access to the sheltered work platform and maintenance of the screen more convenient. It also allows the work to be performed by Authority personnel. The anticipated frequency of inspection and maintenance should not be any different from that required for a floating screen. The pier, work platform, lifting system, and building will all require maintenance. It is anticipated that the pier will require minor annual maintenance and will likely require deck replacement and major maintenance at about 15 year intervals.

Conceptual Plan: The pier would be constructed with a treated wood or composite deck to have an appearance similar to other boat or fishing piers at the lake. The deck would be framed with treated lumber and supported by driven steel pipe piles. It is anticipated that the pier will extend approximately 110 feet into the lake. The work platform at the end of the pier would likely include a cross deck constructed in a "tee" configuration. The boathouse would likely be framed with treated wood and clad with vinyl siding. The support structure would be framed or reinforced with steel to support the screen load. The pier would not be constructed to support the load of the screen should it require removal for severe maintenance or replacement. Complete removal of the screen for "outside" service would still require the use of a large barge and crane. While this is not anticipated, the design and construction should accommodate it.

Two 44 inch tee type wedge-wire screen assemblies have been considered. The assembly would include an air scour system to allow routine cleaning of the screen. Electrical power would be extended to the work platform from the Raw Water Pump Station to accommodate the use of a portable electric hoist. A conceptual layout is shown on Figure D-1.2.

<u>Construction Considerations:</u> The construction of the pier and "boathouse" requires the use of a specialty contractor, but these services are available at Smith Mountain Lake. There is a practical limit on the length of wooden piles that can be readily obtained and driven at the lake of about 40 feet. Welded steel piles would be used for added strength, life, and to gain additional depth. It may be possible to use wooden piles at the shallower depths of the access pier. The single outlet pipe would likely be secured to the piles and the piles will require cross bracing. Both of these tasks will require underwater construction.

The on-shore pipeline to the raw water pump well will require the installation of two pipes, which will have to be secured to the pier structure. This will be more difficult than laying the intake pipes on the bottom as in the floating intake configuration.



2. Raw Water Pump Station and Force Main

A new raw water pump station and raw water main need to be installed in order to accommodate the 6.0 MGD capacity planned for the treatment facility. The existing pump station and wet-well are too small to upgrade and must remain in service while the new facilities are being constructed. Similarly, it is impractical to reuse any of the existing 8-inch raw water main that presently connects the intake to the High Point WTP as the line is insufficient size for the both the initial (6 MGD) and potential future capacity of the SML WTP.

The use of either a 24-inch or 30-inch pipe size was briefly evaluated because the pipe diameter affects the size of the raw water pumps. The use of 30-inch pipe has the potential to reduce energy costs slightly at a 6.0 MGD capacity (approximately 14 feet less head loss than if a 24-inch pipe is used) and significantly at a future 12.0 MGD capacity (approximately 46 feet less head than 24-inch pipe). A single 24-inch pipe was considered for the 6.0 MGD plant now and a dual 24-inch pipe in the future for the 12.0 MGD capacity, but this was ruled out due to concern about constructability of a future 24-inch pipe parallel to the existing since the utility corridor is tight in the residential area around the intake on Smith Mountain Lake. Thus, it is recommended that a single 30-inch pipe will provide the best benefit to the project for the 6.0 MGD and future 12.0 MGD capacity.

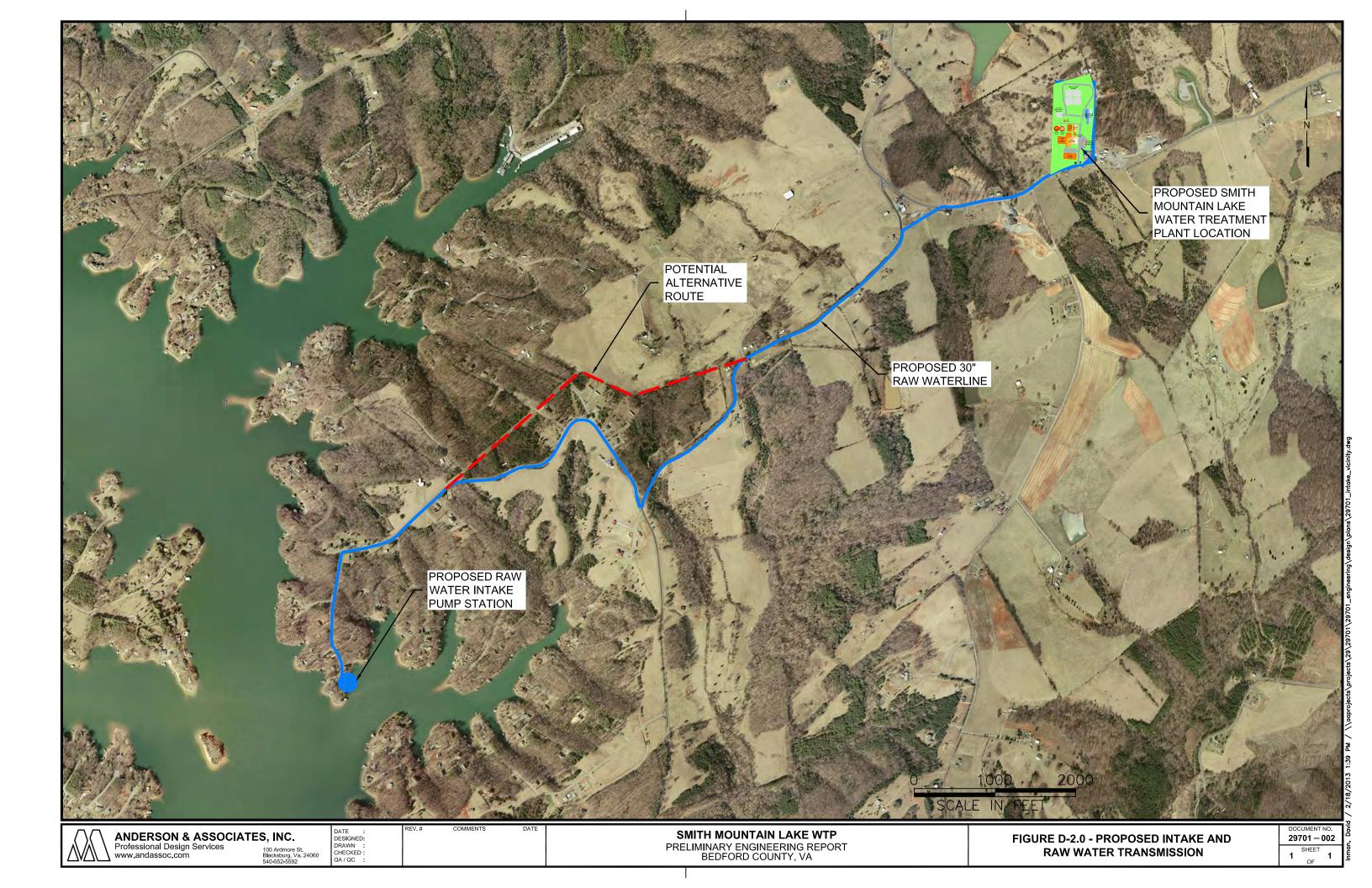
The new 30-inch waterline from the lake intake pumping station to the Camp 24 treatment plant site would require approximately 14,000 linear feet of waterline if constructed along road right of ways. If the line is constructed in a more direct route paralleling an existing electrical transmission line, the line would be approximately 12,750 linear feet. Both alternative routes are shown on Figure D-2.0. This 1,250 linear feet difference would comprise a significant saving during construction if the easements could be acquired without significant expense. Gate valves would be installed every 3,000 feet to facilitate maintenance needs along the raw waterline alignment.

Two pump alternatives are considered for the pump station: vertical turbine pumps and split case pumps.

2.1 Alternative 1 – Vertical Turbine Pumps

General Description: This alternative considers the use of three vertical turbine pumps to meet the raw water demands of the proposed SML WTP. A vertical turbine pump is a water pump where the motor is mounted above ground connected by a shaft to a pump below ground. These pumps typically have multiple stages, each consisting of an impeller on a shaft surrounded by stationary symmetrical guide vanes.

These pumps would be located above a concrete wetwell in a structure that could be designed to look like a boathouse or residential home in order to blend into the surrounding area. The structure would also house the electrical pump controls, air purge system, generator, telemetry, and access to the wet well.



The lake intake system would be piped directly to the wetwell to maintain a water level roughly equivalent with the lake level. The bottom wetwell elevation must be deeper than the lowest lake elevation of record with a small factor of safety for any potential future droughts that drop the lake below its lowest anticipated level. A typical pump layout plan is provided in Figure D-2.1.

<u>Process Description</u>: A combination of pumps is proposed at the raw water pump station (i.e., a single pump at 6 MGD and two smaller pumps at 3 MGD each) to provide redundancy and the ability to vary flow rates to match actual system needs. Equipping each of the pumps with a variable frequency drive (VFD) allows the BCPSA to vary the pumping rates from the pumps to further fine tune the flow rates and match treatment capacity.

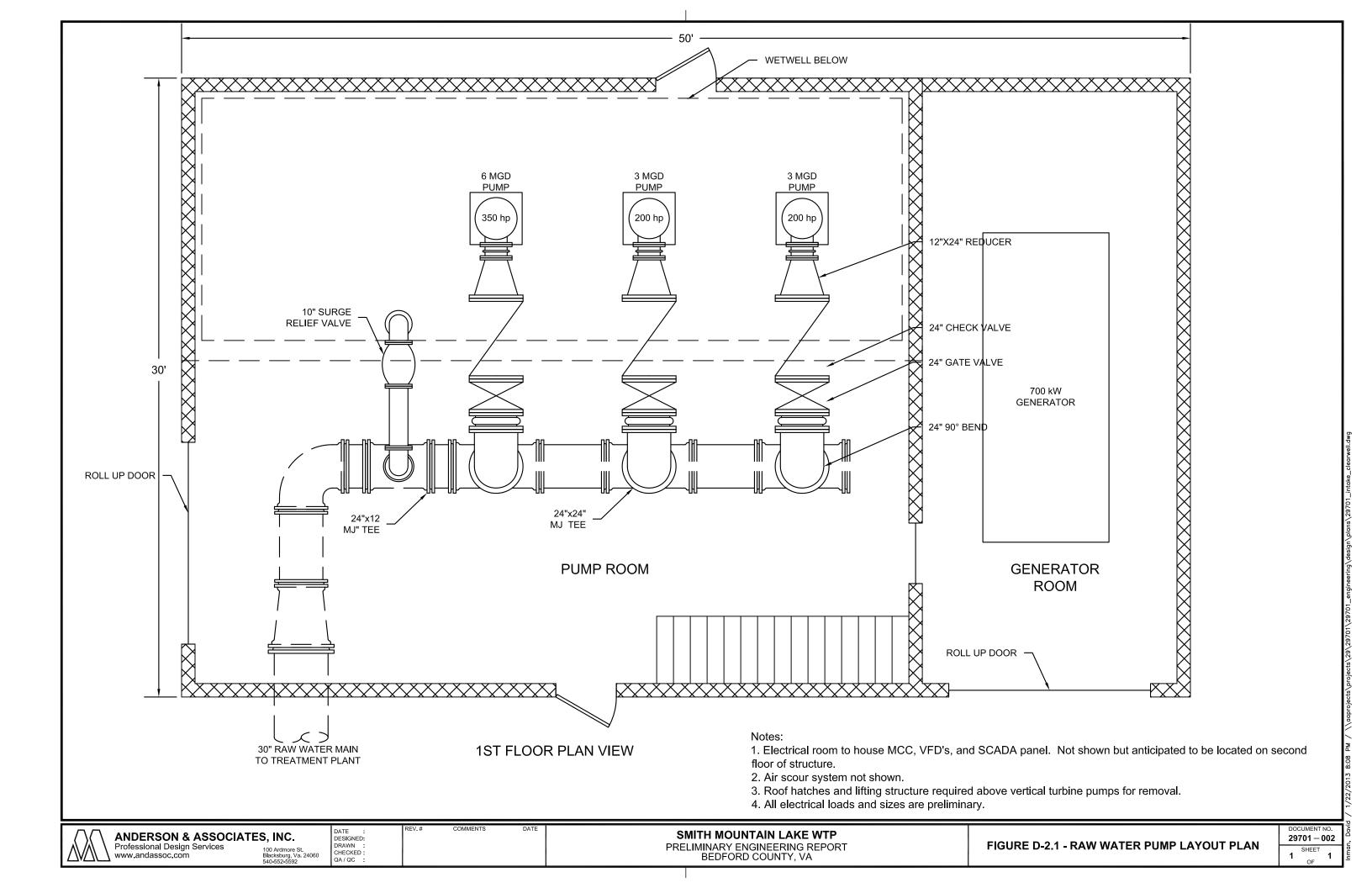
Each pump must be equipped with a check valve and a gate valve for system isolation. A common surge relief valve would be piped on the pump discharge manifold to drain any potential surge flow back to the wetwell. The surge relief valve would be used in combination with VFD's to reduce water hammer in the piping system.

A raw water flow meter is recommended and would likely need to be located in a vault outside of the building so that sufficient straight pipe run is provided upstream and downstream of the meter. This flow meter would communicate to the telemetry system to record and transmit both the flow rate and total volume of water pumped from the lake.

<u>Preliminary Sizing</u>: As stated above, the preliminary sizing of this pump station includes the use of two vertical turbine pumps rated at 3 MGD and a single pump rated at 6 MGD.

Preliminary calculations (see Appendix D) indicate that the larger pump must be capable of 4200 gpm at approximately 275 feet of head. There is approximately 254 feet in elevation difference between the suction water surface and the Camp 24 elevation. A 20-foot tall raw water tank is assumed at Camp 24 to receive the raw water. The preliminary pump selection shows that a Fairbanks Morse vertical turbine, size 18H.2 with 3 impeller stages is a good selection for these conditions. This pump would require a 350 horsepower, 1800 rpm motor and is approximately 85% efficient.

Using the same basic assumptions stated above, preliminary calculations indicate that the smaller pumps should be capable of 2100 gpm at approximately 275 feet of head. The preliminary pump selection for these conditions is a Fairbanks Morse vertical turbine, size 14F.4 with 4 impeller stages. This pump requires a 200 horsepower, 1800 rpm motor and is approximately 85% efficient.



Operation and Maintenance Requirements: Primary operation and maintenance points for vertical turbine pumps are above ground level in the pump building. However, the pump station needs to be designed so that the pumps can be pulled in order to access the impellers, bowls, and shaft, or to replace the pumps if required. The gate and check valves, surge relief valve, and flow measurement should be located above grade in the building for ease of access for maintenance.

Construction Considerations: Construction of this alternative involves construction of a new concrete wetwell to connect to the lake intake system. The wetwell houses each of the three vertical turbine pumps and the motors and discharge pipe are located in a structure constructed over the wetwell. The largest concern during construction is dewatering the area for the wetwell to be constructed. The discharge piping should be carefully restrained against the thrusts generated by the pumping.

The pumps require a minimum of 65 inches of submergence to function properly. The wetwell should be at least 8 feet below the finished floor elevation to accommodate the height of the pumps stages and intake. Due to the low water elevation in Smith Mountain Lake of 787 feet and the headloss through the screens and intake pipe, the bottom of the wetwell is recommended to be at least 778 feet.

The roof of the building needs to have either removable sections or access hatches for the removal of these pumps for maintenance.

2.2 Alternative 2 – Split Case Pumps

General Description: This alternative considers three split case pumps to meet the raw water demands of the proposed SML WTP. In this application, split case pumps would be mounted in a dry pit adjacent to the wet well in order to provide flooded suction to the pumps. The wetwell would be connected to the lake intake system as in the previous alternative. The dry pit must be equal in depth to the wet well. Stairs or a ladder system are needed to access the below ground dry pit.

A structure to house the electrical pump controls, air purge system, generator, telemetry, and access to the dry pit is also considered.

<u>Process Description</u>: The process description for this alternative is the same as Alternative 1.

<u>Preliminary Sizing</u>: Preliminary calculations (see Appendix D) indicate that the larger pump capacity be 4200 gpm at approximately 275 feet of head. The preliminary pump selection is a Fairbanks Morse horizontal split case pump, size 10" 2825C with a 16.5 inch impeller. This pump requires a 400 horsepower, 1785 rpm motor and is approximately 85% efficient.

Preliminary calculations show the smaller pumps should be capable of 2100 gpm at approximately 275 feet of head. The preliminary pump selection is a Fairbanks Morse 6" 2824C horizontal split case pump, with a 16.5625 inch impeller. This pump requires a 250 horsepower, 1785 rpm motor and is approximately 81% efficient.

Operation and Maintenance Requirements: Primary operation and maintenance points for horizontal split case pumps are below ground level in the pump building. The dry pit would likely be considered a confined space with typical Occupational Health and Safety Administration (OSHA) requirements. The gate and check valves would be adjacent to the pumps. The surge relief valve and flow meter would be best located in a vault outside of the dry pit.

A sump pump system would be needed for the dry pit area. The effluent from the sump pump needs disposed of properly to comply with VDEQ regulations. A drainfield system would likely be adequate.

<u>Construction Considerations</u>: Construction of this alternative requires a new wetwell to connect to the lake intake system. A dry pit would be attached to the wet well via three suction pipes that lead to the split case pumps in order to provide flooded suction. There are several construction considerations that need to be addressed for this alternative.

This alternative requires the construction of a large dry pit next to the wet well to house the pumps. The lack of sufficient property for the excavation during dewatering and construction is one construction concern. The structure required for split case pumps is significantly larger than the structure required for the vertical turbine pumps.

The use of a dry pit would require the installation of a sump pump to keep the pit dry. Due to restrictions from VDEQ and the Virginia Department of Conservation and Recreation (DCR), it is likely the effluent from a sump pump cannot be returned to the lake and instead must be pumped to a drainfield for disposal. If a local field cannot be constructed, a potential alternative disposal location is the existing High Point WTP drainfield system.

The construction of a watertight dry pit is an additional construction consideration versus submersible pumps. Since the pumps must be located below the water level of the lake the structure has to be watertight and resist floatation.

3. Pretreatment

Pretreatment of raw water has typically been performed to improve water quality through removal of pathogens, color removal, taste and odor control, prevention of regrowth in the raw water pipeline and treatment processes, and iron and manganese removal. With the EPA requirement for Disinfection By-Product (DBP) reduction, the use of chlorine as a pretreatment oxidant is becoming less common and alternative pretreatment chemicals are now being

used instead. Three chemicals being used as pretreatment alternatives are described in this section. (Sources: EPA's on-line Drinking Water Treatability Database, EPA Guidance Manual for Alternative Disinfectants and Oxidants, 1999; Carus Corporation).

3.1 Alternative 1 – None

<u>General Description</u>: This alternative considers whether pretreatment could be omitted from the process at the SML WTP.

The Smith Mountain Lake Association has maintained a volunteer Lake Water Quality Monitoring Program, in partnership with Ferrum College, for 25 years. The latest annual report issued in 2011 indicated that lake water quality is the best that has been measured in the 25 years that the Water Quality Monitoring Program has made these assessments (Source: January 2012 Smith Mountain Lake Association Newsletter). This is unusual, because typically lakes become nutrient enriched as they age and development increases around them. Runoff from residential and commercial areas and leaching of septic drainfields can all contribute to increased nutrient loads that can degrade water quality in the lake. Furthermore, non-point source pollution from the watershed that feeds the lake can provide a significant input of nutrients into the lake. The increased nutrient enrichment typically decreases raw water quality, both for recreational and public water supply purposes.

Despite the relatively good water quality of Smith Mountain Lake and data that indicates that the lake water quality is staying consistently good, eliminating pretreatment is not recommended as the lake does not have a protected watershed nor a common governing body to enforce water quality protection measures at the local level. Thus, this alternative will not be considered further.

3.2 Alternative 2 – Permanganate Pre-Oxidation

General Description: Potassium permanganate is currently being used at the High Point WTP for pre-oxidation. Although permanganate is a strong oxidant, it is a less effective disinfectant. It is very good at reducing iron and manganese, taste and odor, color, DBP's, and radium. For example, in 1980 AWWA Research Foundation studied the conversion of prechlorination facilities to permanganate oxidation facilities at four conventional WTP's ranging in size from 4.5 to 15 MGD. The study found that Total Tri-halo Methane (TTHM) concentrations were reduced by more than 30% and that taste and odor compounds, iron and manganese, organic and inorganic matter, and algal growth were also reduced. A study conducted in 2000 showed that permanganate applied at the intake of Canyon Lake, California, showed a significant reduction in the amount of TTHM's formed when potassium permanganate is the preoxidant (Pre-Oxidation with Potassium Permanganate Control of Disinfection By-Products, Case History Brochure, by Carus Chemical Company, 2001). EPA classifies permanganate as one of the alternative oxidants that can be used for DBP control.

Process Description: Permanganate would be injected into the raw water line at the High Point WTP or prior to the raw water storage tank to help control biofilm growth inside the pipeline and raw water tank. The raw waterline would provide greater than 30 minutes detention time between the High Point WTP and the raw water tank at SML WTP, thus the permanganate would likely be consumed before adding coagulants or other treatment chemicals that could cause potentially colloidal byproducts. The permanganate would be injected in proportion to flow via a flow pacing signal from the raw water flow meter at the pump station. It would also be beneficial to consider using a compound loop control system, whereby the permanganate residual is measured with an appropriate analyzer and both the flow and residual concentration level is used to vary the output of the metering pump. Either sodium permanganate or potassium permanganate could be used, but typically operators prefer the liquid form (sodium permanganate) because it is easier to handle than the dry powder form (potassium permanganate).

Preliminary Sizing: Typical dosages are 1 to 3 mg/L. Actual dosage would be determined by jar testing in accordance with procedures from the chemical supplier. The typical dosage at the High Point WTP has been 0.7 mg/L. This PER considers preliminary sizing of the permanganate facilities using sodium permanganate at a strength of 20% by weight and a dosage rate of 1 mg/L. The metering pumps need to be sized for the raw water flow rate, which may vary depending on the recovery rate of the selected treatment process. The preliminary sizing of permanganate storage tanks is based on average daily flow of approximately 3.0 MGD. Bulk shipments of sodium permanganate come in quantities of approximately 4,000 gallons. At a feed rate of 1 mg/L at 3 MGD average daily flow, a 700-gallon solution tank of premixed sodium permanganate (20% by weight) would be required to provide 60 days of storage. In actuality, the tank would be sized to include the entire contents of a delivery and plus some extra to meet the daily feed requirements for a period of time. At least 5,000 gallons total storage is recommended if sodium permanganate is used, which provides a full delivery load plus about a 60 day supply. A peristaltic metering pump can pump solution directly from the tank or from a day tank to the injection point. However, a day tank provides the operators a convenient location to monitor daily chemical usage and is recommended if the bulk storage tank is placed a considerable distance from the metering pumps. The metering pump feed rate would need to be at least 23 gpd at a 6.0 MGD flow rate. It is recommended that the metering pump be selected to provide some flexibility to increase or decrease the dosage rate to meet actual dosage requirements. If flow pacing is desired, the metering pump must receive a flow signal from the raw water flow meter in order to vary the metering pump output to match actual flowrate in the raw waterline.

Operation and Maintenance Requirements: Permanganate comes in either liquid or solid. Liquid sodium permanganate is easier to operate and maintain than potassium permanganate, which is a crystalline solid that has to be mixed on-site. The solution is purple in color, which can be problematic to maintaining a clean chemical feed area. If overdosed, the process water turns pink.

<u>Safety/Handling Considerations</u>: Although non-combustible, permanganate is classified as a severe oxidant and contact with other oxidants could cause an explosion. Contact with combustible materials, such as rags or paper towels, can also cause auto-ignition; therefore, clean-up procedures recommended by the manufacturer must be followed.

Construction Considerations: Permanganate is compatible with many metals and plastics such as Teflon, polypropylene, HDPE, and EPDM; however, it is incompatible with natural rubber and fibers. In neutral and alkaline solutions, sodium permanganate is not corrosive to carbon steel and 316 stainless steel; however, chloride corrosion of metals may be accelerated when it is in solution. Per OSHA requirements, oxidants such as permanganate must be stored separately from organic chemicals such as polymers and activated carbon.

3.3 Alternative 3 – Chlorine Dioxide Pre-Oxidation

General Description: Chlorine dioxide is a strong oxidant and disinfectant and is effective in the removal of iron and manganese, arsenic, color, and taste and odor compounds. It also aids in the reduction of TTHM and Halo Acetic Acid (HAA5) by oxidizing organic precursors and allowing the primary disinfection point to be moved downstream of the coagulation, flocculation, and settling processes in the conventional water treatment. Chlorine dioxide produces chlorite/chlorate ion byproducts. Chlorite is a regulated contaminant with a maximum contaminant level of 1.0 mg/L and chlorate is likely to be regulated in the future.

<u>Process Description</u>: Chlorine dioxide would be generated at the High Point WTP and added to the 24-inch raw waterline to control biofilm growth and provide adequate time for oxidation of organic matter. The maximum residual disinfectant level (MDRL) for chlorine dioxide is 0.8 mg/L per the D/DBP Rule. If the oxidant demand of the water is greater than about 1.4 mg/L, use of chlorine dioxide can be problematic due to potential formation of chlorite byproducts that can exceed the 1 mg/L MCL.

<u>Preliminary Sizing</u>: Typical dosage of chlorine dioxide ranges from 0.2 mg/L to 2.0 mg/L. An oxidant demand study should be completed to determine the approximate dosage; however, because of potential byproduct formation, dosage should probably not exceed 1.4 mg/L.

Operation and Maintenance Requirements: Chlorine dioxide is a gas which must be generated on-site. Typically, the generation equipment is rented. Small samples of generated solutions (up to 1%) can be safely stored if the solution is protected from light, chilled, and provided with ventilated headspace. Because of the potential to improperly generate excess chlorine, operator training, sampling, and laboratory testing costs could be high. The Stage 1 DBPR requires all nontransient noncommunity and community systems that use chlorine dioxide, regardless of the purpose, (e.g., disinfection, oxidation, or maintenance of a residual) to perform daily monitoring for both chlorine dioxide and for the disinfection byproduct, chlorite.

<u>Safety/Handling Considerations</u>: Chlorine dioxide decomposes in sunlight and could cause production of noxious odors. The gas is explosive at levels greater than 10% in air. It is a strong respiratory irritant.

<u>Construction Considerations</u>: The generation process varies with application. Typically, chlorine dioxide is generated using sodium chlorite solution and gaseous chlorine or hypochlorous acid. Improper generation could cause excess free chlorine to be introduced at the application point and the potential formation of DBP's. New generators use a solid form to minimize this impact, and electrolysis of sodium chlorite could be used for low-dose applications. Chlorine dioxide is corrosive to steel and stainless steel.

3.4 Alternative 4 – Powdered Carbon Addition

General Description: Powdered activated carbon (PAC) is an organic adsorbent that is generally used seasonally or intermittently for TTHM reduction, taste and odor control, and organic reduction. It is a highly porous material with a large surface area to which contaminants may adsorb. It is removed through sedimentation, membrane filtration, or by the filter backwash cycle.

<u>Process Description</u>: A minimum contact time of 15 minutes is required for taste and odor control. PAC should not be combined with coagulants or other chemicals without sufficient contact time with the source water.

<u>Preliminary Sizing</u>: Typical PAC dosages for taste and odor control range between 1 to 20 mg/L, although dosages up to 100 mg/L are not uncommon in some cases.

Operation and Maintenance Requirements: PAC can only be used once, and separation and disposal of the PAC would be required. In conventional processes, the PAC typically is settled in the settling basins and disposed of with the sludge. In membrane processes, the PAC is trapped on the membranes and removed during backwash. PAC can be abrasive to membrane fibers. PAC slurry is prepared by mixing the powder with water, and operation of slurry equipment can be problematic.

Safety/Handling Considerations: PAC is considered stable; however, it should not be combined with chlorine and permanganate. Wet activated carbon removes oxygen from the air causing a severe hazard to workers inside carbon vessels and enclosed or confined spaces. Dust control is required because dust becomes airborne during the slurry process. PAC should be stored separately from other chemicals and hydrocarbons in a building or compartment that is as fire-resistant. Contact with eyes, skin, or clothing should be avoided.

<u>Construction Considerations</u>: A separate well-ventilated, fire-resistant carbon feed and storage room would be required.

4. Solids Removal

Solids removal is one of the most important steps in producing potable water and is necessary to provide water that is aesthetically acceptable and to remove microbiological contaminants that cannot be destroyed by disinfection alone. The SWTR, IESWTR, LT1ESWTR, and LT2ESWTR define treatment technologies and turbidity limits required to demonstrate to regulating agencies that solids have been sufficiently removed from the water. Solids removal is typically achieved for surface water sources by sedimentation followed by conventional sand filtration. With the advancement of membrane filtration technology, more states are allowing direct filtration of surface water with membrane filters, provided the raw water is of sufficient quality. The High Point WTP that currently serves the Lakes Water System for the BCPSA has been utilizing membrane filtration in a direct filter application since its construction in 1999. This has been a successful application of direct filtration in the state of Virginia, primarily due to the relatively good water quality of Smith Mountain Lake. This PER assesses two alternatives for solids removal: 1) conventional filtration and 2) pressurized membrane filtration.

4.1 Alternative 1 – Sedimentation/Sand Filtration

General Description: Conventional sedimentation/sand filtration treatment consists of multiple units for coagulation, flocculation, sedimentation, and gravity sand filtration for solids removal. Conventional treatment has historically been the most widely applied water treatment technology.

<u>Process Description</u>: The first stage of treatment consists of flash mixing with mechanical mixers to disperse a coagulant. Two coagulants typically used in the region are polyaluminum sulfate or polyaluminum chloride due to their relatively good performance in cold weather and lower sludge production than alum. The coagulant encourages destabilization of solids in the raw water, where they become attached to other particles and are removed in subsequent processes.

The next step is flocculation, where the raw water is slowly agitated to encourage coagulation. Coagulation removes a large amount of organic compounds, including some dissolved organic material, and some suspended particles, including inorganic precipitates, such as iron.

The water may still contain pathogens. Because coagulation removes some of the dissolved substances, less chlorine is required to disinfect the water. VDH Waterworks Regulations require a minimum detention time of 30 minutes for flocculation. At least three successive tapered compartments would be provided to prevent short circuiting. Tapering reduces shearing of the particles and maximizes power input.

Sedimentation immediately follows flocculation. Sedimentation allows the heavy settleable solids to be removed. VDH requires a minimum settling time of 4 hours.

After sedimentation, treated water is sent to gravity sand filters for suspended solids removal. Gravity sand filters can be rapid or slow type. Rapid sand filters are typically used because they have fairly high flow rates and require relatively little space to operate. The filters are generally cleaned twice per day with backwashing filters and are put back into operation immediately. The filters typically have an underdrain system with successively smaller layers of gravel, sand, and anthracite.

<u>Waste Disposal</u>: The floors of the basins should slope toward a sump for withdrawal. Sludge collection equipment could be installed to collect the settled solids at the bottom of the sedimentation basin and remove them for further handling and disposal.

Preliminary Sizing: For preliminary sizing, the treatment process is assumed to be 5% higher than plant capacity (i.e., 6.3 MGD) to account for backwash. The backwash could be minimized by utilizing air assisted backwash. Two rapid mix basins (one active and one standby) approximately 290 cubic feet each would be required to provide a 30second detention time. Two flocculation basins (one active and one standby) approximately 17,500 cubic feet each would be required at the minimum detention time of 30 minutes. Assuming three 12 foot deep compartments would be installed per flocculator, each compartment would be approximately 22 feet by 22 feet and provide about 10 minutes detention time in each. Three sedimentation basins are recommended, each at 50% of the required capacity, so that one can be offline and the remaining two have adequate detention time. VDH requires a minimum detention time of four hours for sedimentation. This equates to 1.05 million gallons of volume at a flowrate of 6.3 MGD, thus, each sedimentation basin should have approximately 525,000 gallons of capacity. This evaluation considers each basin being 40 feet wide by 160 feet long by 13 feet deep with one foot of freeboard. In accordance with VDH regulations, seven high rate gravity sand filters would be required. At a design filter rate of 4 gpm/sf filter area, 156.25 square feet per filter would be required (i.e., 12.5 feet square per filter).

Operation and Maintenance Requirements: Per Section 12VAC5-590-460 of the VDH Waterworks Regulations, two full-time operators would be required while the plant is operating. A Class I operator would be required to be in responsible charge, and at least a Class II operator must be in attendance during the shifts. The other operators in

attendance can be any class. Basins should be designed to be taken out of service for cleaning. Paddles and mixers should be provided with variable speed drives so that the operators can adjust the speeds under varying source water quality. Filters should have local control so that operators can directly observe operational issues that may arise. Controls for varying the backwash flow rate must be provided.

Construction Considerations: The footprint for a conventional plant is typically large. Ideally, the topography of the site would need to slope downhill at about 5 to 10% to allow construction that promotes gravity flow through the flocculators, settling basins, and filters. The site would need careful geotechnical investigation to determine appropriate means to construct the concrete basins so that they don't crack or settle due to poor soil bearing capacity or compaction. The clearwell would have to be either buried below the bottom of the filter floor or else be located lower than the filter effluent valve. The type of filter rate of flow control would have to be determined early in design because it would influence the hydraulics of the plant.

4.2 Alternative 2 – Pressure Membrane Filtration

General Description: For the purposes of compliance with the LT2ESWTR, membrane filtration is defined as a pressure- or vacuum-driven separation process in which particulate matter larger than 1 μm is rejected by an engineered barrier primarily through a size exclusion mechanism and which has a measurable removal efficiency of a target organism that can be verified through the application of a direct integrity test (40 CFR 141.2). The state of Virginia recognizes membrane filtration as an acceptable alternative filtration technology. Under the guidelines of VDH Working Memo 880 (WM 880), conventional process approval procedures for microfiltration and ultrafiltration, hollow fiber, positive pressure driven membrane filtration technology may be followed (§12 VAC 5-590-200). Furthermore, a provisional waterworks operation permit is not required (§12 VAC 5-590-290) for approved membrane filtration equipment when it can be shown that source water quality is similar to that being successfully treated with the technology.

Process Description: Membrane filtration treatment is typically performed either with pressurized membrane modules or immersed membrane fibers under vacuum. The immersed membranes are typically used in situations where the raw water quality is poor and coagulation/flocculation/settling occurs first. They are also more typically used in facilities larger than 10.0 MGD. This PER considers use of pressurized membrane filters for the solids removal. The system generally consists of feed pumps that draw water from a raw water storage tank. The water is pumped through appropriately sized strainers prior to passing into a rack of multiple membrane modules where filtration occurs. The filtered water then flows into a clearwell/storage tank for disinfectant contact time and pumping storage for finished water booster pumps.

Waste Disposal: Two waste streams would be generated by the facility, i.e., the backwash waste and the clean-in-place (CIP) and chemically enhanced backwash (CEB) waste. The backwash waste would be generated every time the membrane units backwashed, typically once per 20 to 60 minutes depending on the raw water quality. Air scour is used in conjunction with backwash to provide agitation and cleaning of the membrane modules. Backwash waste includes the water and solids scoured from the membranes. Occasionally, the backwash would be supplemented with a bleach solution to provide mild cleaning of the membranes (i.e. chemically enhanced backwash or CEB). When the membranes require more thorough chemical cleaning, the CIP system is used. The CIP system would be used to chemically clean the membranes using hot water and a sequence of three chemicals, include a mild (2%) citric acid solution, a mild (1%) sodium hydroxide caustic solution, and a 1000 ppm sodium hypochlorite solution. The membrane manufacturer typically provides a system to prepare and pump the CIP cleaning solutions to the membrane racks. After cleaning, the solution waste is captured for reuse in the other membrane racks until such time that all racks have been cleaned or the CIP solution is too fouled. The CIP waste typically self-neutralizes to a pH of about 7 since it consists of both an acid and caustic cycle. However, when strict control is needed, a neutralizing system is often provided.

Preliminary Sizing: Membrane filtration equipment is typically offered in either custom-designed systems or pre-engineered systems. Custom-designed equipment is typical for facilities 4 MGD and greater. For this PER, four (three plus one backup) custom-designed module racks by Pall Corporation were selected for evaluation, each with a 2-MGD nominal capacity using 88 modules per rack. Having multiple racks would provide redundancy of filtration units as required by WM 880, should one be off-line for maintenance or cleaning. The flux rate considered for this PER is 32.4 GFD average flux with all racks on line and 43.2 average flux with three racks on line at 20 °C. The design flux rate and operating TMP would be determined prior to final design and bidding.

The approximate skid dimensions for the most compact arrangement are 6 feet by 26 feet by 10 feet high. Each membrane filtration skid includes polyvinylidene fluoride (PVDF) membrane media modules and a valve rack to distribute flow as required during filtration, reverse flushing (i.e. backwash), CIP processes, and for the low pressure air scour. Membrane suppliers will also typically supply a compressed air system for the air scour backwash. In addition, feed pumps, reverse flush pumps, appropriately sized strainers, and miscellaneous tanks and pumps used for neutralizing and distributing cleaning solutions used during the CIP process are typical auxiliary equipment required for a complete membrane treatment system.

Operation and Maintenance Requirements: A Class IV or higher operator would need to be in attendance each day of operation for sufficient time to perform necessary monitoring and process evaluation and to make required process adjustments (VDH Working Memo 880). For the SML WTP, an operator would probably be required for 4 to 8 hours per day to perform daily, weekly, and monthly tasks as required.

The system undergoes an automatic 5-minute integrity test (IT) based on a predetermined interval (runtime hours). This test checks for broken fibers in the modules. During the IT, interruption of water production occurs. The modules undergo a programmed regimen for flux maintenance. The flux maintenance cycle recovers the trans-membrane pressure (TMP) and removes any solids fouling the surface. Typically, the flux maintenance cycle interrupts water production for 2 minutes every 20 minutes. The feed strainer is a self-cleaning type that requires a backwash at regular intervals to avoid clogging. This is typically triggered by a timer with a differential pressure switch providing an override function.

The membrane filter system PLC can be set to automatically control the treatment plant. There are two modes of automatic operation, including constant level or constant flow. In constant level mode, the unit would operate as often as needed to maintain the storage tank level at an operator-selected setpoint. On constant flow operation, the unit would operate at a constant flow until the shutoff setpoints (i.e. tank levels) are reached. In either mode, the operator may start and stop the operation as needed.

Construction Considerations: A climate-controlled building would house the membrane filtration equipment. A pre-engineered metal building with slab-on-grade construction can often be utilized for membrane treatment facilities and offers lower construction cost and duration than other building types. However, the total life cycle cost should also be considered since metal buildings can require more interior maintenance than other types in water treatment applications. The main building would house the membrane filtration units, piping, and auxiliary systems such as the compressed air and CIP systems. Additional rooms would be constructed within the building shell to provide designated spaces for laboratory, restroom, mechanical/electrical, and chemical feed facilities. These rooms could be constructed of concrete masonry units and would include HVAC systems designed for the specific usage requirements of the room. The minimum footprint feasible for housing the equipment and facilities would be 80 feet by 140 feet.

5. Backwash Treatment

It is anticipated for conventional treatment that approximately 5% to 10% of the treatment plant capacity would be wasted as backwash water each day and for membrane treatment, the backwash waste would range from 2% to 5%. For a plant capacity of 6.0 MGD, the backwash waste would thus range from 0.30 MGD to 0.60 MGD for conventional and 0.12 MGD to 0.30 MGD for

membrane filtration. This waste is considered an industrial waste and would require treatment prior to disposal. Ultimate disposal options for the backwash waste are discussed in the next section. In order to minimize the volume of the waste requiring disposal, backwash treatment is often incorporated into treatment facilities. This PER assesses two alternatives for backwash treatment: 1) pressure membrane filtration and 2) high rate clarification.

5.1 Alternative 1 – Pressure Membrane Filtration

<u>General Description</u>: The High Point WTP has been utilizing membrane filtration for backwash treatment since 2003. The treated water from the "backwash recovery" membrane system is blended with the raw water and the backwash from these membranes is disposed of via ground infiltration.

<u>Process Description</u>: The backwash water from the main treatment process would be equalized and stored in a below grade concrete tank, i.e. backwash holding tank. The backwash holding tank would feed a submersible pump station that is controlled by the plant SCADA system to deliver the backwash water to a membrane filtration skid for treatment. The primary process control measurement would be based on the level of water in the backwash holding tank. The backwash recovery membrane system would include an on-board feed tank, skid mounted pumps, all required valves and piping to control the treatment process.

Following filtration, the treated water would be delivered to the raw water tank for blending with the influent from the raw water pump station.

<u>Waste Disposal</u>: The backwash wastes from the backwash recovery membrane system would be equalized and disposed of via one of the alternatives discussed in the next section.

Preliminary Sizing: For preliminary sizing, the treatment process is assumed to generate 5% of its rated capacity in backwash waste, which is 0.3 MGD. At a minimum, the backwash volume required to backwash one membrane or gravity filter would be required for the storage tank sizing. This tank would also need to be appropriately sized for equalization and/or neutralization of any backwash waste that has been pH adjusted. This PER will consider a backwash tank volume of 30,000 gallons for cost purposes, which equates to approximately 10% of the daily backwash waste volume. This volume would be refined during final design of the facility. Submersible pumps would be selected that are sized for the average daily flow with at least a 1.5 peak factor. Thus, the capacity of the pumps would be approximately 350 gpm and would only require enough head to overcome the static elevation difference between the low level in the backwash holding tank to the membrane filter skid, plus a 5 psi minimum pressure at the face of the membrane filter piping. The total discharge head is conservatively estimated at 30 feet (12 feet for the minimum pressure for the membrane skid and 18 feet for the difference between low water elevation in the tank and inlet valve

elevation plus minor pipe losses). A pre-engineered membrane treatment system to treat 0.3 MGD would be selected for the membrane system. This PER considers relocating both of the existing Pall AP-4 units at the High Point WTP for repurposing as membrane recovery skids. These systems each have 28 modules and have a nominal rated capacity of 0.5 MGD each at an average flux rate of 40 gfd. At a design flux rate of 24 gfd, a single Pall AP-4 system with 28 modules could treat 0.3 MGD, with 4 hours of downtime for backwashing/cleaning each day. With a conservative flux rate, it is likely that the membrane system could have up to 90% recovery of the backwash waste, thus only approximately 30,000 gallons per day would require disposal.

Operation and Maintenance Requirements: Operations and maintenance of the pressurized membrane system would be the same as described in Section 4.2 above, except that the frequency of chemical cleaning is typically increased. The BCPSA typically cleans their current backwash recovery skid at High Point twice as frequently as the main process skids. Since the BCPSA is already familiar with the operation of membrane systems, no special training or additional staff members with specialized experience would be anticipated. Using this alternative of backwash recovery would lend itself well if pressurized membrane filtration is used as the main treatment technology since the operators would have common spare parts and membrane modules could be moved from the main process to the backwash process as they became aged and/or had broken fibers.

<u>Construction Considerations</u>: The building housing the main treatment process would be suitable to hold the membrane filters. Ideally, the backwash holding tank and submersible feed pumps could be located nearby to minimize friction losses in the piping.

5.2 Alternative 2 - High Rate Clarification

<u>General Description</u>: This alternative would utilize high rate clarifiers, i.e. inclined plate clarifiers, to treat backwash waste and separate the liquid from the solids in the backwash. A coagulant would be used to flocculate the solids prior to the inclined plate settlers.

Process Description: Similar to the previous alternative, the backwash water from the main treatment process would be equalized and stored in a below grade concrete tank, i.e. backwash holding tank. The backwash holding tank would feed a submersible pump station that is controlled by the plant SCADA system to deliver the backwash water to the inclined plate settlers for treatment. The primary process control measurement would be based on the level of water in the backwash holding tank. The inclined plate settlers would be fabricated stainless steel and located above grade either inside or outside the main treatment facility. Locating them inside would avoid freezing issues, but would increase humidity in the building and require taller ceilings to access the equipment. Locating them outside is recommended, with heat tracing/insulation of the above grade pipes that connect the equipment.

Two settlers are proposed, each with a capacity of 360 gpm. A coagulant would be dosed in the piping between the submersible pumps and the inlet to the inclined plate settler units. Water would enter into a flash mix/flocculation tank on each unit and then into the settling chamber. Inclined plates would increase the efficiency of settling and allow higher loading rates than a conventional gravity settler.

Following filtration, the treated water would be pumped or flow by gravity to the raw water tank for blending with the influent from the raw water pump station.

<u>Waste Disposal</u>: The underdrain wastes from the settlers would be disposed of via one of the alternatives discussed in the next section.

<u>Preliminary Sizing</u>: For preliminary sizing, the same backwash volumes, backwash tank size, and pump sizes are considered as in the previous alternative. An inclined plate settler manufacturer was contacted for budgetary pricing and sizing recommendations. They recommended two settlers, each with an inclined plate settling area of 1076 square feet. This would provide a settling rate of 0.33 gpm/square foot at the design flow rate of 360 gpm through one unit. A coagulant (polyaluminum chloride) is assumed at a dosage rate of 20 mg/L for preliminary sizing and cost estimates.

Operation and Maintenance Requirements: Operations and maintenance of the inclined plate settler would be similar to the operation of flocculation and settling facilities at a conventional treatment plant. Operators would perform jar testing to determine optimum dosage rates. The metering pumps would need to be adjusted as required to maintain efficient settling. Daily checks would include recording coagulant usage, monitoring metering pump output, and performing settling tests on the flocculated feed to determine if efficient settling is being achieved. The solids hoppers in the settlers would need to be emptied. This could be performed manually or automated through the use of an actuated valve. Maintenance tasks would include metering pump servicing and repair, and greasing or oiling the flash mix and flocculator drive motors. A food safe grease or oil would be required since the effluent would be returned to the raw water tank.

Construction Considerations: The inclined plate settlers would need to be constructed on a suitable concrete pad. The manufacturer proposed construction of stainless steel, so they could be placed outside without a shelter. However, the piping to and from the settlers would likely need to be insulated and heat traced to avoid freezing issues in the winter. The footprint of each settler is approximately 23 feet long and 8 feet wide. A minimum space of 6 feet between each unit and 5 feet all around is recommended for access and maintenance, thus the total footprint would likely be around 1,024 feet square.

6. Backwash/Solids Handling and Disposal

The alternatives considered within this section are solely for the purpose of treating the backwash waste generated by the selected treatment process. Any sanitary sewer generated on the site would be directed to the existing wastewater pump station on the Camp 24 site (Pump Station #4) and handled separately from the backwash waste. This would avoid the stringent treatment and discharge requirements that occur when handling sanitary sewer.

6.1 Alternative 1 – Pump to Moneta WWTP via Existing Pump Station #4

General Description: For this alternative, it will be assumed that a backwash treatment system is used to minimize the volume of water to be pumped to and disposed of at the Moneta WWTP. The amount of water to be disposed after the backwash treatment system is anticipated to be between 1 to 2% of the plant rating (i.e. a 98 to 99% recovery rate). For the 6 MGD facility, the normal daily backwash and disposal amount would be between 60,000 to 120,000 gpd depending on the actual recovery rate.

The backwash water could flow by gravity to the existing wastewater pump station located at the Camp 24 site. This station was constructed when the Moneta WWTP was constructed for the disposal of wastewater from the Camp 24 facility. The Camp 24 Facility has been demolished, thus the station is not currently in use. This pump station was designated Pump Station #4 in the Moneta Regional Sewer System PER prepared by ACS Design. The pump station is rated for 80 gpm or an average daily flow of 115,200 gpd operated continuously with no peak factor. A 4-inch force main connects this pump station to the gravity sewer system along Route 655.

<u>Preliminary Sizing</u>: If a 99% recovery can be achieved from the treatment process, it appears the existing pump station capacity would be capable of handling the backwash water. A holding/equalization tank would be needed to equalize the flows to the on-site pump station because the backwash flow rate would be significantly higher than the 80 gpm pump limit.

If only a 98% recovery rate is possible from the treatment process, the pumps in this alternative would need to be replaced to increase the pumping rate to approximately 160 gpm.

For the equalization/holding tank, a 10,000 gallon precast septic tank with an HDPE liner is selected for cost estimating purposes. An HDPE liner is recommended in order to provide resistance to corrosion that may occur from the acidic chemicals used in the backwash treatment system (i.e. acid for the CIP process on the membrane, or polyaluminum chloride for the inclined plate setter). The actual sizing of this tank will be based on the selected backwash treatment system as each of the backwash systems evaluated have different requirements.

Operation and Maintenance Requirements: The BCPSA already owns and operates Pump Station #4, however it has been inactive since the Moneta Adult Detention Facility (i.e. Camp 24) was shut-down in 2011. Thus, the requirements for operation and maintenance of that station will be similar to what they were prior to the closing of Camp 24, with the exception that the majority of the waste would be backwash waste versus sanitary sewer.

The holding/equalization tank would require periodic inspection and maintenance on an annual basis. It is anticipated that a non-mechanical flow control valve would be used to set the flow rate from the holding tank, similar to inlet control devices that are used to control flow into storm sewers. This valve would require periodic maintenance and should be designed to be removable from holding/equalization without requiring entrance into the tank.

Construction Considerations: There are no significant construction considerations for this alternative other than to ensure the holding/equalization tank and piping provides gravity flow to the existing Pump Station #4. This alternative requires the use of recovery equipment to ensure the backwash is 1% or less of the total design flow. One option for providing this equipment is the reuse of the Pall AP-4 skids that are currently at High Point. Reusing the AP-4 skids would require dismantling them at High Point and reconnecting them at the new plant.

6.2 Alternative 2 – Infiltration Basins

General Description: The High Point WTP currently disposes of backwash water via infiltration basins that are permitted by EPA under the Underground Injection Control (UIC) Program (40 CFR 144-147). This alternative explores the same backwash disposal method for the proposed SML WTP and assumes that backwash recovery would be utilized to minimize the volume requiring disposal via ground infiltration.

<u>Process Description</u>: Following backwash recovery, a flow equalization tank with a hydraulic flow splitter would direct the backwash water to at least four shallow infiltration basins. The infiltration basins would have similar construction to those at the High Point WTP, although would cover a larger surface area. Four would be provided to allow one to be removed from service for maintenance activities with the remaining three having adequate capacity to treat design flow.

<u>Preliminary Sizing</u>: The 2003 WW Associates study assumed an infiltration rate of 65 minutes/inch for the clay loam soils that cover much of the site. Field observation of the site after recent demolition activities indicate that the area being considered for the water treatment plant site is dominated by sandy loam soils (Cecil series soils). These soils would likely exhibit higher infiltration rates than 65 minutes/inch. However, for a preliminary design, a conservative infiltration rate of 65 minutes per inch (i.e. 0.9 inches per hour) is assumed, with each basin sized for 1/3 of the daily backwash volume of 120,000 gpd following backwash treatment.

This would require each infiltration basin to be approximately 3000 square feet. Assuming the infiltration basins are square and are approximately 3 feet deep with 4:1 sideslopes, the dimension per basin would be approximately 80 feet long and 80 feet wide.

Operation and Maintenance Requirements: The operations and maintenance of the infiltration galleries would be fairly minimal. The operation would need to be observed weekly to ensure that the water flowing to the galleries is not ponding excessively, indicating potential plugging or blinding of the soils. The BCPSA would need to obtain and maintain a valid UIC permit from the EPA for this system.

<u>Construction Considerations</u>: Care would need to be taken during the construction of the infiltration basins to avoid compaction or disturbance of the soils in the infiltration basins.

6.3 Alternative 3 – VPDES Discharge

General Description: An alternative to pumping the wastewater to the existing Moneta WWTP is to treat the backwash water onsite and then dispose of the treated effluent through a VDPES discharge. The purpose of using a backwash treatment system is to minimize the amount of backwash waste that would be pumped to the Moneta WWTP and to produce sufficiently good quality water to blend with the raw water pumped from the intake pump station. With a direct discharge alternative, a backwash treatment system wouldn't be required, thus the treatment process would need to be sized to handle the normal backwash waste flow from the filtration process, assumed to be up to 5% of the rated capacity, or 300,000 gpd.

The Wastewater Collection, Conveyance, and Treatment PER prepared by WW Associates in 2003, evaluated placing a 300,000 gpd sanitary sewage treatment plant at the Camp 24 site. Four potential discharge sites were evaluated in that study, including discharging to an unnamed tributary of Mattox Creek located on the Camp 24 site. This tributary was used as the discharge point for the former Moneta Adult Detention Facility sewage treatment plant (permitted capacity of 21,000 gpd). The WW Associates study ruled out this tributary as a suitable discharge location because DEQ considers it intermittent and any treatment plant discharge would need to be high quality effluent that can sustain aquatic life in 100% effluent flow. The study recommended discharging to Goose Creek via an effluent pump station and force main. The VPDES discharge alternative for backwash waste considers discharging to the location on Goose Creek identified in the WW Associates study, with anticipated effluent limits of 30 mg/L monthly average TSS and 60 mg/L max daily TSS and pH limits of 6.5 to 8.5. Metals and toxics monitoring will also likely be required.

In the case of backwash discharge waste, the main pollutants being added to the waste will be organic and inorganic solids removed from the filters, but there will also be chlorine present that would need to be removed prior to discharge. Either sodium bisulfite or sulfur dioxide could be used for this purpose.

Process Description: A solids separation device such as a clarifier could be used if a small footprint was desired. However, the Camp 24 site has adequate space to construct clay or geomembrane lined earthen ponds that could be used as settling ponds prior to pumping to Goose Creek. Using settling ponds is a relatively inexpensive way to reduce the amount of solids that are discharged and typically provides some reduction in the amount of total residual chlorine. At least two ponds should be considered so that one can be removed from service for maintenance operations. It is anticipated that the suspended solids in the backwash water will be fairly low density with poor settleability characteristics since they would primarily consist of algae and similar "light" organic material due to the intake location in Smith Mountain Lake. Thus, a settling aid or coagulant may be required to provide gravity settling at a suitable rate. This could be added at a flow splitter box equipped with a baffle to provide a turbulent zone to disperse the coagulant.

The effluent from the settling ponds would then be pumped to Goose Creek. The solids from the settling ponds would need to be properly removed and handled. It is anticipated that one pond would be drained at a time and the solids pumped and hauled to the Moneta WWTP where they would be further dewatered before disposal at a landfill.

Preliminary Sizing: Sizing the settling ponds needs to consider several factors, including providing volume for the accumulated solids, providing adequate settling time and surface area to achieve effluent TSS limits, and providing adequate turnover or management to avoid algae growth that can cause effluent TSS violations. For a preliminary design, a a fairly conservative surface overflow rate of about 5 gallons/day per square foot is used for each pond at 300,000 gpd average flow, and two ponds are assumed. Thus, each pond would have a surface area of 60,000 square feet, or approximately 1.4 acres. The ponds would have an operating water depth of approximately 5 feet and one foot of freeboard would be provided, thus the overall basin depth would be about 6 feet.

The effluent pumps would be a duplex submersible pump station sized for approximately 420 gpm per pump and the effluent line will be sized at 10", generally following the alignment to Goose Creek as identified in the WW Associates study.

Operation and Maintenance Requirements: This alternative will have similar maintenance requirements for the pump station as described in Alternative 1. This alternative will require daily sampling and monitoring of the effluent to ensure it is meeting limits. The settling ponds would likely require chemical addition to the backwash water and a licensed wastewater operator. The BCPSA would need to obtain and maintain a valid NPDES permit for any discharging system.

<u>Construction Considerations</u>: This alternative would require a great deal more space for settling ponds than the other alternatives.

7. Post Treatment

Post treatment processes considered in this PER are for purposes of removing Total Organic Carbon (TOC). TOC has been identified as a precursor to disinfection byproduct (DBP) formation and can also indicate the presence of taste and odor compounds in the water. Bedford County PSA customers and WVWA customers in Franklin County have on occasion reported taste and odor problems with the water. These taste/odor complaints have neither seemed to be a frequent or long lasting event in the past.

The 1997 Final Water Quality Summary prepared during development of the original High Point plant suggested either granular activated carbon (GAC) or nanofiltration be considered after the membrane filters for TOC removal at a goal of 30% reduction. At the time of the 1997 report and when the High Point treatment plant was being designed, there was uncertainty of what the Stage 1 Disinfectants and Disinfection Byproduct Rule (DBPR) would require.

Currently, the Stage 1 DBPR requires that conventional treatment facilities must achieve certain TOC removal rates based on the influent alkalinity and TOC levels, unless one of several alternative criteria are met. These removal goals are as follows:

Source Water TOC (mg/L)	Source Water Alkalinity, mg/L as CaCO3		
	0-60	> 60-120	> 120
> 2.0 to 4.0	35.0%	25.0%	15.0%
> 4.0 to 8.0	45.0%	35.0%	25.0%
> 8.0	50.0%	40.0%	30.0%

¹Systems meeting at least one of the alternative compliance criteria in the rule are not required to meet the removals in this table.

If conventional filtration is used for the solids removal process at the SML WTP, the TOC removal goals would range from 25% removal to 40% removal as the TOC varies seasonally and has been measured at levels around 2.0 mg/L to levels greater than 8 mg/L and the raw water alkalinity is typically around 80 mg/L. Three alternatives are considered for post treatment for TOC removal in this report.

²Systems practicing softening must meet the TOC removal requirements in the last column to the right

7.1 Alternative 1 – No Post Treatment

General Description: Treatment for removal of TOC's is not required by regulation if the current practice of direct membrane filtration as the treatment process is utilized for the proposed SML WTP. Furthermore, there may be a certain degree of TOC removal by the pretreatment processes that have been considered, such as pre-oxidation with permanganate or chlorine dioxide. Studies have also shown that direct coagulation ahead of the membrane filters can remove some TOC. The BCPSA produces excellent quality water with the High Point Treatment plant and have been able to maintain compliance with the HAA5 and TTHM limits set in the Stage 1 DBPR rule, though they have had to practice flushing of their waterlines in some areas of the Smith Mountain Lake Central Water System. This alternative considers that the current practices are adequate now and for the immediate future and defers consideration of treatment for future regulated contaminants until such time that they are regulated.

7.2 Alternative 2 – Granular Activated Carbon Filtration

General Description: This alternative considers adding granular activated carbon (GAC) filtration as a sidestream treatment process to remove TOC to the target level of 30% reduction. The typical means of TOC removal by GAC filtration is through adsorption. Adsorption is a physical/chemical process that accumulates contaminants at the interface between liquid and solids phases. Activated carbon is a highly porous material that provides a large surface area to which contaminants may adsorb.

The GAC system could be configured as a pressurized or gravity down-flow fixed bed with multiple absorbers operated in parallel. For a parallel configuration, each unit would receive the same flow and contaminant loading. Multiple contactors are typically operated in a staggered mode so that each contactor is at a different stage of carbon depletion. Only the blended flow from the GAC units and filtration process would need to meet the treatment goal.

<u>Process Description</u>: Filtered water would be fed to the GAC filters from the filtered water main. A hydraulic blending valve would be used to set the proportion of water that is bypassed versus the proportion flowing through the GAC filters. The flow would enter the top of the filters and flow down through the GAC bed to the collection manifold on the bottom. Since filtration would occur prior the GAC filters, it is unlikely that suspended solids would accumulate enough to significantly increase the pressure drop through the filters. However, the filters would be configured to backwash on occasion to remove any fine solids, as well as "agitate" the GAC filter bed and expose new adsorption surfaces on the media.

After passing through the GAC filter(s), the water would blend with the filtered water and then be disinfected prior to the clearwell.

<u>Preliminary Sizing</u>: The primary factors in determining the required GAC filter dimensions and volume are design flow rate and removal rate, breakthrough time, empty bed contact time (EBCT), and hydraulic loading rate. For this PER, the following design assumptions are made:

The design flow rate is estimated at 2 MGD or 33% of plant flow. The breakthrough time is the time when the concentration of DOC in the effluent of the GAC unit exceeds the treatment requirement, after which the GAC must be replaced or regenerated. The average breakthrough time, and consequently the GAC media replacement frequency, is estimated at one year for this PER. The EBCT is the empty bed volume divided by the flow rate. Longer EBCTs can be achieved by increasing the bed volume or reducing the flow rate through the filter. The EBCT and the design flow rate define the amount of carbon to be contained in the adsorption units. Delaying breakthrough with a longer EBCT reduces the rate of carbon depletion. Typical EBCTs for water treatment applications range between 7 to 30 minutes. Two GAC filter manufacturers were contacted for a budget proposal for the equipment and recommendations. One manufacturer proposed an EBCT of 6.5 minutes and the other suggested 10 minutes. This should be confirmed, but the more conservative assumption of a 10 minute EBCT is assumed for the PER. This would require 1860 cubic feet of granular activated carbon media. The manufacturer suggested a loading rate of 4 gpm/square foot, provided by three 12-foot diameter by 23 feet tall units (17,000 gallons capacity each). A backwash would be performed every several weeks to redistribute the media to eliminate channeling and expose additional carbon surface area.

Operation and Maintenance Requirements: The depleted carbon must either be regenerated or replaced once it is spent and breakthrough occurs. Regeneration requires specialized equipment to remove, dewater, and then thermally regenerate the carbon. This is typically only done at larger facilities that can afford to operate their own regeneration equipment. It is assumed that the spent carbon at this facility would be routinely replaced by an outside firm on a contract basis. Operating requirements include close monitoring of the carbon bed depth and breakthrough and controlling flow rate and biological activity. Backwashing may be required occasionally, although this is less likely with the filters upstream.

<u>Safety/Handling Considerations</u>: Spent GAC is considered a hazardous waste and must be handled or disposed properly. GAC should not be stored in the same area as oxidizers.

<u>Construction Considerations</u>: Due to the height of the carbon filters and special handling considerations of carbon, a separate building or a separate "wing" of the main treatment facility may be beneficial. A

separate building is assumed for purposes of estimating costs in this PER. Adequate space needs to be provided for access to the drain and fill ports on the units for carbon replacement. The tanks can be open top concrete with filter underdrains and piping similar to conventional rapid sand filters, or be enclosed steel pressure tanks. It would likely make more sense to use the gravity flow concrete filters if a conventional treatment process is employed and the steel pressurized tanks if a membrane process is utilized.

7.3 Alternative 3 – Ion Exchange

General Description: Ion exchange using anionic exchange media is a recent development in treatment technologies for TOC removal. This technology can be employed in front of the filtration process if an upflow fluidized media bed is utilized and the ion exchange media is designed for this purpose. It can also be utilized after the filtration process in a downflow contactor type arrangement, similar to the GAC filters discussed in the prior alternative. This evaluation assumes a 60% removal efficiency. Once the anion exchange media is spent, it is regenerated on site using a brine solution similar to a water softener. This alternative evaluation considers pressurized anion exchange filters operated in parallel after the filtration process.

Process Description: During normal operation, water would enter the top of the pressurized vessel through a pipe with distribution laterals and orifices, which distributes the flow evenly over the surface of the exchanger bed. The treated water is drawn off by collector piping at the bottom. The vessel would be in service until the ion exchange resin is spent. At this point, the media would be backwashed and then regenerated. Brine would then be pumped to the reactor vessel for the regeneration process, which allows the media to soak in the brine solution for a period of time. After the brine soak is completed, the brine is drained and the media bed is rinsed for a period of time in order to remove all residual brine, at which point the vessel is returned to service. Brine solution for the resin regeneration vessel would be prepared in the brink tank. Clean water and salt would be added directly to the brine tank.

Waste generated would be backwash waste, brine, and a final rinse (filter to waste). The combined residuals, approximately 2,500 gallons per million gallons treated, would be typically directed to the sanitary sewer. Regeneration among the vessels would be staggered. A regeneration event would contain about 3,400 gallons of backwash water (fresh water), 5,200 gallons of diluted brine waste containing 3,400 pounds of salt, and a final rinse waste containing some salinity.

<u>Preliminary Sizing</u>: A manufacturer of ion exchange equipment provided a preliminary technical proposal for this project. Based on 6-MGD capacity, they recommended five 12 foot diameter 13 feet tall ion exchange vessels would be required with one vessel out of service for regeneration (i.e. a 4+1 configuration). In further discussion, they

recommended 3-MGD capacity for this evaluation using three 12 foot x 13 foot tall diameter vessels, since we are targeting 30% removal. Each vessel would be capable of providing up to 930 gpm of treated water and would be rated 75 psi working pressure. With all vessels in service, the flow to each vessel would be 840 gpm. Anion exchange resin depth would be 3 feet. Each vessel would include an inlet distributor, brine distributor, and chemical cleaning and effluent collection assemblies. Included with the system would be electrically actuated wafer style butterfly valves, a PLC control panel, a 30-ton capacity bulk salt storage and brine maker system, two brine pumps, five vessel effluent batch control magnetic flow meters, a brine line magnetic flow meter, and two 50-hp booster pumps from the filtered water effluent header through the ion exchange system.

Operation and Maintenance Requirements: The ion exchange resin would have an expected life of about 20 years. At continuous chlorination levels above 1 mg/L, the anticipated life would be shortened. Approximately 440 pounds of sodium chloride per million gallons would be required for regeneration of the ion exchange resin. Based on operating 24 hours per day at 3MGD, the sodium chloride salt consumption would be 10 tons per month. Since salt consumption is proportional to the amount of DOC removed, seasonal adjustments may be required.

The pressure drop across the ion exchange system is approximately 5-7 psig. Pumping systems are generally sized for 20 psig. The 30 HP pumps would require about 12 kW of energy for the anticipated pump conditions. Thus, at continuous operation approximately 300 kWh would be used each day. Other than the power required to pump water through the vessels, the system requires minimal energy consumption since there very few moving parts. The only operating motors are for supply pumps for brine. The pumps would be similar to chemical feed pumps and run off of fractional horsepower motors. The control panel would run continuously, requiring 20 amps and 110 volts.

<u>Safety/Handling Considerations</u>: This system does not have any special safety or handling considerations.

Construction Considerations: Because of their size and access requirements, it would be advisable to locate the ion exchange system in a separate building or wing of the main treatment facility. Because vessels are tall and heavy, an adequate foundation would be required with concrete subfill. The building would be designed so that vessels could be removed for draining, cleaning, sandblasting, and recoating every 10 to 20 years. Overhead clearance would be required for loading and/or replacing media. Vessels would be provided a finish coat prior to placing into service.

8. Finished Water Pumping and Clearwell

8.1 Clearwell

<u>General Description</u>: The clearwell stores finished water at the treatment plant prior to pumping to the distribution system. The clearwell acts as storage to allow water production and pumping at different rates, provides a wetwell to feed the finished water pumps, and provides contact time to allow adequate disinfection after the addition of chlorine.

Preliminary Sizing: WM 880 requires 30 minutes of chlorine contact time to be achieved with post membrane disinfection. It also requires 0.5 log removal of *Giardia* after membrane filtration. Therefore, the facilities would be designed to provide at least 30 minutes of post membrane filtration contact time and adequate CT for achieving a 0.5 log *Giardia* reduction and 4.0 log virus reduction. CT (minutes•mg/L) is defined as the product of residual disinfectant concentration (C) in mg/L and disinfectant contact time (T) in minutes.

The clearwell would typically be rectangular or circular with internal baffling to prevent short-circuiting and increase plug flow characteristics. Rectangular basins allow maximum use of baffling. The clearwell would be designed with baffled compartments to provide a serpentine flow pattern. The baffles and inlet and outlet piping would be designed to achieve at least an "superior" baffling factor of 0.7 in accordance with VDH Waterworks Regulations. Volume would be adequately sized to minimize cycling of the finished water pumps. The clearwell would also include a drain, an overflow, a vent, an observation port, and at least one foot of freeboard to comply with the Virginia Waterworks Regulations. Given a 0.7 baffling factor, a disinfection dosage of 1.0 mg/L, and pH = 8.5 S.U. at low temperature of 0.5 degrees C (all conditions assumed a conservative worst case), the clearwell would require a minimum volume of approximately 366,000 gallons. A 76,000 gallon regular tank is selected for this evaluation, with 12 baffled compartments and approximately 40,000 gallons per compartment. The recommended low level setting would provide a minimum volume of 381,000 gallons and the high level setting would provide about 380,000 gallons. At 4,200 gpm, the low level would provide 91 minutes of detention time. The working volume of 95,000 gallons would provide approximately 89 minutes of drawdown time at a pumping rate of 4,200 gpm and a fill rate of 3,125 gpm (assuming one membrane filter is off-line for backwash).

Construction Considerations: Typically at conventional treatment facilities, the clearwell is a cast-in-place concrete tank below the floor of the building. This arrangement can increase project cost and time because the clearwell must be constructed prior to the rest of the facility and the excavation can be considerable. In recent years, it has become more common to construct an exterior tank, located either above grade or partially buried, that serves as the clearwell. If possible, the clearwell elevation should set so that the low level elevation of the tank (i.e. the low

range of the working volume) provides flooded suction to the finished water pumps. This PER assumes that a partially buried, precast, posttensioned (AWWA D115) rectangular tank is used.

8.2 Finished Water Pumps

General Description: The finished water pumps would likely be located in the treatment building adjacent to the filter units and draw water from the finished water clearwell. A separate room within the treatment facility would help to minimize noise. Alternatively, they could be located in a separate building adjacent to the clearwell. This PER assumes they are located in the treatment facility. Similar to the raw water pump station, three pumps are planned for pumping to the distribution system. Two smaller 3 MGD pumps, or one larger 6 MGD pump, would be used to fill the Smith Mountain Lake Water Tank. These pumps would also be controlled by variable frequency drives that would enable the flow pumped to the distribution system to be pumped at the most efficient speed.

<u>Process Description</u>: The finished water pumps are the last step in the treatment process because the water is pumped from the treatment facility to the distribution system.

The hydraulic grade from the elevated Smith Mountain Lake Tank is sufficient to provide pressure and water flow to the City of Bedford without re-pumping for the initial demands of the new system. The pumps would be needed to fill the tank from the clearwell when the levels in the elevated tank fall. The pumps would be controlled based on the water levels in the elevated water storage tank.

Preliminary Sizing: There would be two pumps rated at 2100 gpm and one pump rated at 4200 gpm; i.e., the same pump setup as at the raw water pump station. The assumed elevation of the low water level in the clearwell is 1022 feet. The high water level of the Smith Mountain Lake tank is 1220 feet. There is a 198-foot static elevation difference between these two points. Approximately 1,100 feet of 24-inch water line would be required to connect the clearwell and pumps to the existing water line to the tank. The existing waterline is 18 inches in diameter, and the connection point would be approximately 1,600 linear feet from the water tank. Based on the proposed line work being 24 inch and the existing 18 inch water line, the friction losses at 4200 gpm would be approximately 14 feet. Due to the uncertainty of final elevations and the low water level in the clearwell at the preliminary engineering stage, the initial selection of pumps is based on 220 feet of total head required. This PER assumes that vertical split case pumps are used, though either horizontal split case or vertical turbines would also be suitable choices. Two vertical split case pump models that meet the preliminary design criteria are Paco Model 1015-3/4 KPV (4200 gpm at 220 feet TDH) and Paco Model 6015-3/4 KPV (2100 gpm at 220 feet TDH). Efficiency of these pumps is approximately 82%. Fairbanks Morse and

Crane/Weinman offer vertical split case pumps that meet the preliminary design criteria as well.

Operation and Maintenance Requirements: Primary operation and maintenance points for split case pumps would be located in the treatment plant building. The gate and check valves would be located adjacent to the pumps. The finished water flow meter would likely be located in a vault outside of the pump room or main treatment building to allow adequate straight pipe for accurate measurement.

<u>Construction Considerations</u>: A suction header would be provided to the pumps in the main building from the clearwell. The suction header would need to be sufficiently large to prevent net positive suction head restrictions or cavitation issues from developing.

The suction and discharge piping would need to be carefully restrained against the thrusts generated by the pumping.

9. Disinfection

Free chlorine has been the industry standard for disinfection for decades because it is highly effective against most pathogens (exception is *Cryptosporidium*) and has been historically the most reliable. However, with the EPA regulations for DBP control, concerns with the public and operator safety, utilities are changing from chlorine gas as their main disinfectant to alternative sources (Source: EPA Guidance Manual for Alternative Disinfectants and Oxidants, 1999; Water Treatment Plant Design, 4th Edition, AWWA, McGraw-Hill).

9.1 Alternative 1 – Chlorine Gas

General Description: Chlorine gas is typically delivered in one-ton containers or 150-pound cylinders. A chlorinator creates a vacuum and automatic orifice control to meter the gas. Gas can be drawn directly from the storage container or be generated by an evaporator from liquid withdrawn from the container.

<u>Process Description</u>: Chlorine solution would be diffused in the pipe ahead of the clearwell in a concentration necessary to achieve the required CT (e.g., 1.5 to 3 mg/L). A smaller dose would be added to the effluent of the clearwell to adjust the residual before entering the distribution system. A chlorine solution could also be added upstream of the membranes, if required, to reduce fouling.

<u>Preliminary Sizing</u>: For a dosage of 3 mg/L at 4200 gpm, the feed rate would be 150 pounds per day (ppd). A one-ton cylinder and a 500-ppd chlorinator would be required.

<u>Operation and Maintenance Requirements</u>: Special safety equipment and training must be provided for operators.

Safety/Handling Considerations: Chlorine gas is a strong oxidizer and is classified as a poisonous gas by the U.S. Department of Transportation. The storage and use of chlorine is regulated by local fire codes. In addition, facilities storing more than 2,500 pounds of chlorine are subject to the following two safety programs: (1) Process Safety Management standards regulated by the Occupational Safety and Health, and (2) Administration under 29 CFR 1910. The Risk Management Program Rule is administered by EPA under Section 112(r) of the Clean Air Act. In addition to preparing risk management prevention plans, the Department of Homeland Security (DHS) is considering regulations which would require water utilities to prepare Security Vulnerability Assessment and Site Security Plans (Source: "Chlorine Gas vs. Sodium Hypochlorite: What's the Best Option", by Shah, J. and Qureshi, N., AWWA Op Flow, July 2008). New facilities should be designed with enclosures and air scrubbers to contain and neutralize any gas that leaks. Alternatively, secondary containment vessels to fully contain a ton cylinder are available to comply with OSHA and EPA requirements.

Construction Considerations: The 1993 BOCA National Fire Prevention Code requires a treatment system (1) to prevent the accidental release of chlorine gas into the atmosphere, (2) be capable of processing the entire contents of the largest single container of gas, and (3) which reduces the maximum allowable discharge concentration to 5 ppm. Chlorine storage rooms must have emergency power for the gas treatment and ventilation systems, a chlorine gas detention system, an automatic fire detection system, and a continuously operating ventilation system. There must be vacuum piping between the cylinder and the chlorinator and between the chlorinator and the injector. Chlorine solution piping is required between the injector and the feed point.

9.2 Alternative 2 – Sodium Hypochlorite

General Description: In recent years, treatment plants have been converting their chlorine gas systems to sodium hypochlorite because of the safety concerns. Approximately one-third of all U.S. drinking water plants use bulk hypochlorite for disinfection. However, sodium hypochlorite degrades over time and contains many regulated and unregulated contaminants, including bromate, chlorite, chlorate, and perchlorate (Source: "Perchlorate, Bromate, and Chlorate in Hypochlorite Solutions: Guidelines for Utilities" by Stanford et al, Journal AWWA, Volume 103, No. 6, June 2011). Bromate and chlorite are currently regulated; however, it is likely that EPA will address perchlorate and chlorate requirements in future regulations. AWWA B-300 (AWWA Standard for Hypochlorite) addresses recommended practices for the storage and handling of sodium hypochlorite to reduce the levels of perchlorate and chlorate. These practices include (1) diluting the chemical upon delivery by approximately 50%, (2) locating the storage tank in a dark area at a cool temperature, (3) emptying and flushing tanks and piping routinely, (4) controlling pH between 11 and 13 (i.e., below 11 chlorate forms and above 13 perchlorate forms), and (5) controlling concentration of metal ions such as calcium and iron.

<u>Process Description</u>: Sodium hypochlorite would be applied to the filtered water in the same manner as described in the process description for chlorine gas in Section 9.1. Sodium hypochlorite can be delivered in bulk solution or generated on site. On site generation operates by electrolyzing a brine solution to generate hypochlorite. The water supply for the brine solution and dilution water typically requires softening to remove all ions that can form scale in the hypochlorite generation equipment. Hydrogen gas is generated as a by-product and requires careful consideration in the design and equipment selection to avoid potential explosion hazards associated with excess buildup of hydrogen gas in an enclosed space.

Preliminary Sizing: This PER assumes that sodium hypochlorite would be delivered in a 5,000-gallon truck at 12.5% solution. Upon delivery, the 12.5% solution would be stored in a bulk tank. The 12.5% solution would be diluted using an automated diluter to 6.25% concentration. The diluted chemical would be stored in an adjacent bulk storage tank. A water softening system would be installed for the dilution water to reduce precipitation of metals such as calcium and iron and to buffer the pH. If necessary, sodium hydroxide would be added to the dilution water to increase the pH to 11 or 13. The diluted 6.25% hypochlorite solution would then be further diluted to 1% for process use, and a transfer pump would be used to transfer the contents to a day tank located inside the building. Peristaltic metering pumps would pump the solution to the distribution point(s). Optionally, further dilution to 1% could be omitted; however, double-contained Schedule 80 PVC/CPVC solution piping would be required. Assuming a chlorine dosage of 3.0 mg/L, the diluted feed rate would be 312 gpd. For 60 days of storage, a bulk tank with a capacity of 9,400 gallons would be required. With the additional contents of a truck delivery, the total tank volume would be 14,400 gallons.

Operation and Maintenance Requirements: Scaling problems can occur with diluted hypochlorite. If undiluted, off-gassing can occur (i.e., formation of oxygen as a result of decomposition), which could cause vapor lock on the metering pumps.

<u>Safety/Handling Considerations</u>: Although there are fewer training requirements than with chlorine gas, a 12.5% solution of sodium hypochlorite is classified as a hazardous and corrosive substance and therefore special handling is required. Secondary containment is required.

<u>Construction Considerations</u>: Tanks should be FRP, PVC, or polyethylene. Tanks located outdoors should be shielded from UV exposure. Alternatively, tanks could be insulated or placed indoors to limit UV exposure. If the tanks are placed indoors, special consideration must be given to adequate ventilation to avoid corrosion of metals and electrical components in the building. A separate well ventilated chemical

tank room, or a separate building from the main treatment facility would be preferred.

10. Corrosion Control & Fluoridation

In 1991, the EPA promulgated the LCR to control lead and copper in drinking water. Public water systems are required to demonstrate that treatment is controlling levels of lead and copper to acceptable levels in customer's tap water. Acceptable levels for lead and copper are 0.015 mg/L and 1.3 mg/L, respectively, in at least 90% of the samples. Monitoring is required at the entry points if acceptable levels are exceeded on first-draw tap samples, and source water treatment may be required. Various treatment techniques are available for removal of lead and copper in the source water, such as ion exchange, reverse osmosis, lime softening, and coagulation/filtration.

In general, corrosion control techniques in finished water fall into two broad classifications: precipitation and passivation. This study addresses passivation methods, which cause the pipe material and water to react and form metal complexes with very low solubility. The two main passivation methods are corrosion inhibitors and pH and alkalinity adjustment.

Fluoridation has been practiced for many years in public waterworks and is known to improve dental health by reducing tooth decay, especially in young children. In recent years, fluoridation has become increasingly controversial with many special interest groups joining together to protest the use of fluoride in the public water supply. The Bedford County PSA currently does not practice fluoridation of its water supply, though provisions should be considered for the proposed SML WTP to allow the flexibility to do so in the future. Typically, either a sodium fluoride saturator and metering pump or hydrofluorosilicic acid solution and metering pump are used to add fluoride to the finished water prior to pumping to the distribution system. The Virginia Waterworks Regulations require that fluoride chemicals be stored in covered or unopened shipping containers in a separate room with the chemical feeder and that the room be provided with mechanical ventilation to the outside of the building.

10.1 Alternative 1 – None

Lead and copper testing results for the Lakes water system indicate that the treated water is non-corrosive. It is anticipated that there would be no significant change in the quality of the finished water that would cause an increase in corrosiveness. Therefore, one alternative is to not provide any corrosion control equipment at the SML WTP or leave space for adding equipment in future phases.

The Langelier Saturation Index (LSI) is an indicator of the scale forming tendency of water. Water with an LSI value of 0 to <0.5 will typically not dissolve existing calcium carbonate coating on metallic pipe walls or will form a thin coating of calcium carbonate on the pipe wall. A slightly negative LSI can indicate the tendency to dissolve scale from pipe walls and a value in the range of -0.5 <-2.0 indicates corrosive water.

Quarterly reports from 1995-96 for samples taken at the proposed intake location indicate an LSI of 0.02 to 0.5.

10.2 Alternative 2 – Corrosion Inhibitors

General Description: Zinc orthophosphate is a corrosion inhibitor that the LCR identifies as a best available technology (BAT). Zinc orthophosphate is typically used in municipal water systems to inhibit corrosion of water mains, sequester nuisance metals in the water supply (i.e., iron, manganese, calcium, magnesium), and improve the quality of water in the distribution system.

The American Water Works Association Research Foundation (AWWARF) and the EPA have reported that corrosion control (phosphate use included) provides numerous health and consumer benefits at a rate of return much greater than the original cost of the additive. EPA LCR Guidance Manual indicates that annual expenditures on corrosion inhibitors yield a 20-fold increase in consumer benefits.

<u>Process Description</u>: Corrosion inhibitors react with dissolved metals in the water to form a very thin metal-phosphate coating. They also react with metals on pipe surfaces to form a microscopic film on the inner surface of the pipe and removes scale deposits and tuberculation.

Phosphates also help lower TTHM by keeping the pipes cleaner and free of the biofilm that may generate additional organic precursors. Phosphates inhibit corrosion effectively at pH 7 to 7.5, and TTHM formation potential is significantly reduced when water is chlorinated at a lower pH (< 8.0).

Preliminary Sizing: The optimum dosage rate is determined by running a complete water analysis to determine the total demand of the finished water and the consumption rate of the distribution system. Typical dosages range from 1 to 5 mg/L. ANSI/NSF 60 has limited the application of inorganic phosphates to 10 mg/L as total phosphate ion. In most cases, this is not a health-related or safety limitation but a practical guideline for the maximum required quantity of phosphate typically applied in drinking water. Most ground and surface water supplies contain naturally occurring phosphate at low levels.

Zinc orthophosphate is typically packaged and shipped in 5, 15, 30, 55, and 275 gallon containers. It is available in bulk quantities from the manufacturing facility, local warehouses, and bulk terminals. The product is usually shipped in polyethylene drums or food quality stainless steel tanker trucks. For a 6.0 MGD facility at a 2 mg/L dosage rate, the metering pump feed rate would be 37 gpd. At least 60 days of chemical storage capacity in addition to the delivery contents would be recommended, which would require a 1400-gallon tank.

Operation and Maintenance Requirements: The critical parameters in operation are maintaining a stable pH, determining the

correct chemical composition best suited for the water quality, and applying the appropriate dosage. Zinc orthophosphate inhibitors are acidic solutions, and the pH effect of their addition to the finished water must be considered in determining the suitability of their application. The use of this inhibitor requires maintaining a consistent chlorine residual to keep the pH from fluctuating.

Because zinc orthophosphate does not change the water chemistry, the dosage rate in the raw and finished water would have to be measured. Orthophosphate can be measured on a cold water sample. Simple field test kits or laboratory analytical equipment can be used.

An overdose of phosphate is difficult to detect immediately unless orthophosphate is being monitored in the finished water. Too much orthophosphate typically will not result in a water quality problem unless calcium hardness reacting with the phosphate begins to form a slight turbidity during the film formation process inside the system.

<u>Safety/Handling Considerations</u>: Zinc orthophosphate is an odorless, clear, colorless liquid that can cause chemical burns and irritation. Contact with eyes, skin, and clothing should be avoided. Zinc orthophosphate should not be stored in plain steel containers. Stainless steel, plastic, plastic-lined, or rubber-lined containers or storage tanks should be used.

<u>Construction Considerations</u>: A chemical metering pump would be used to inject the undiluted chemical into the finished water. This injection point is separate from other chemicals added to the finished water. Ideally, the metering pump would be located near the injection point to minimize the solution tubing. A containment area would be required for chemical spillage.

10.3 Alternative 3 – Alkalinity Adjustment

<u>General Description</u>: The following chemicals could be added to the finished water to increase alkalinity: caustic soda, lime, sodium bicarbonate, soda ash, and carbon dioxide. Because of ease of use and availability, liquid lime (i.e. calcium hydroxide slurry) was considered for this analysis.

<u>Process Description</u>: Liquid lime would be pumped into the finished water ahead of the clearwell based on pH levels. The metering pump would be manually controlled with flow pacing to allow for fluctuations in the feed rate of the finished water.

Preliminary Sizing: For a 6 MGD facility and design alkalinity feed dosage of 20 mg/L and alkalinity equivalent of liquid lime of 1.26 mg/L, the design liquid lime feed concentration would be 15.87 mg/L. The liquid lime solution strength is typically 35% undiluted. Assuming a bulk delivery volume of 5,000 gallons and an additional 60-day supply, a 13,100-gallon storage tank would be required. The metering pump rate

would be 11.3 gph. The mixer manufacturer would be responsible for sizing the mixer; however, typical mixing requirements would be 1 hp per 1,000 gallons of storage volume.

Operation and Maintenance Requirements: Liquid lime is similar to conventional hydrated lime slurry except that the solids remain in suspension longer. Agitation can be accomplished with a slow speed mechanical agitator or pump recirculation. Liquid lime is also relatively easy to re-agitate if the material does settle. This form of lime also allows for quick unloading from the delivery truck. It is easy to feed, monitor, and control.

<u>Safety/Handling Considerations</u>: This alkali provides several environmental and safety advantages. Liquid lime is non-hazardous, simplifying transportation, storage, and handling. Both air permit requirements and potential injuries associated with dry chemical handling are eliminated.

Workers should wear safety goggles and rubber gloves. Contact with skin is virtually harmless, the principal effect being removal of natural skin oils.

<u>Construction Considerations</u>: Liquid lime should be stored in enclosed plastic, fiberglass, or non-aluminum metal tanks or containers. Product should be stored in a cool, dry, and well-ventilated area away from moisture and acids.

11. Distribution System Disinfection Byproduct Control

The Stage 2 D/DBPR establishes guidelines for reducing disinfection byproducts (DBPs) that form when chlorination is used to disinfect water containing natural organic matter. DBPs can be greatly reduced through pre- or post-treatment as outlined in Sections 3 and 7 of this report. When other treatment is not effective alone in the removal of DBPs, distribution system controls may need to be implemented. Typical DBPs are HAA5 and TTHM. Stage 2 D/DBPR has set the MCL at 0.08 mg/L for TTHM and 0.06 mg/L for HAA5 using locational running annual average (LRAA). Areas of low demand/turnover and long distance distribution lines (i.e., maximum residence time) in the distribution system contribute to the formation of DBPs. These areas include pipe extremities (dead ends), branches with low water use, tanks, and sections of pipe downstream of tanks. Other factors that contribute to DBP formation are pH levels. Chlorination at higher pH forms a higher amount of TTHMs, while lower amounts of HAAs are produced. High temperatures contribute to the formation of TTHMs. Low disinfectant residuals relative to the system average (typically less than 0.2 mg/L) can be an indicator of higher HAA5 concentrations.

An evaluation of the water age under the proposed water system's configuration was performed to help identify areas where additional measures might be necessary to maintain suitable water quality. The evaluation was performed under average daily diurnal demand conditions. The model assumed that water age equals zero at the point of chlorination at the water treatment plant

in the clearwell. From there, it is pumped to the elevated Smith Mountain Lake Tank. The finished water pumps were modeled to fill the Smith Mountain Lake Tank when the level reached 1219' and stop when full (1224'). The proposed transmission main was controlled by the Forest water tanks, opening when the New London Tank's hydraulic grade falls to 1070' and closing when the Altha Grove Tank's hydraulic grade reaches 1075'. Assumptions made in the water age model include complete mixing of all tanks and pipes, uniform residential demands, and demands placed at their nearest node. An evaluation of the water age under the existing High Point/Lakes water system's configuration was also performed to provide a point of comparison to the proposed system.

The results of the existing system water age evaluation are documented in Appendix A in a figure titled "Existing Lakes Water System – Water Age Exhibit" and the results of the proposed water age evaluation are in a figure titled, "Proposed Water System – Water Age Exhibit". The maximum water age calculated in the analysis of the existing Lakes system ranges from less than 2 days in the Highpoint subdivision near the treatment plant, to over 14 days in the far ends of the Lakes system in Bedford County (Lake Estates and Gross Point). The maximum age in the Smith Mountain Lake Tank is approximately 9 days in the existing system. The maximum water age calculated in the analysis of the proposed system ranges from 3 days once it enters the Forest system, up to 22 days at the far end of the Forest system concentrated around the Altha Grove tank. In this operational scenario, the maximum age in the Smith Mountain Lake, Altha Grove and New London Tanks are 2, 22 and 15 days respectively when the water age in the tanks reaches steady state.

It is important to note that no comparisons can be made to the water age in the existing Forest system without having detailed information in the Lynchburg hydraulic model. Thus, it is unknown if the water age increases or decreases in Forest as a result of closing the connections with the City of Lynchburg. Since the water sources are different, a comparison of water age between the existing and proposed systems would not likely provide meaningful information. However, it is possible to compare the water age in the existing High Point/Lakes water system to the proposed Forest system. Based on the proposed system, water ages in the Lakes system appear to improve slightly versus the existing system. This is because the demands from Forest cause the Smith Mountain Lake Tank to fluctuate more frequently, thus increasing the turnover rate and providing lower water ages of around 6 to 8 days in the far ends of the Lakes system.

A further evaluation was performed with the proposed system's controls optimized to increase turnover in the Forest Tanks. To begin, the minimum water level necessary in the Forest Tanks to support a 2-hour 1,000 gpm fire flow event was calculated, assuming equal flow from each tank. The proposed transmission main was controlled by the New London Tank, nearest to its point of connection, and set to fluctuate between a hydraulic grade of 1060' - 1065'. The hydraulic grade of the Altha Grove Tank was examined to ensure it was maintained above the aforementioned minimum level. The water age in this scenario is reduced from the previous operational scenario since the maximum age in the Altha Grove and New London Tanks are reduced to 10 and 6 days respectively, which also reduces the water age in the distribution system. While this provides some

some water age improvement over the initial evaluation, operation of the system with reduced storage volume can change pressures, available fire flows, fire flow duration, and effective storage and is not recommended without further consideration of these changes on overall system performance.

If treatment plant processes are optimized and operational procedures are strictly adhered to, then additional DBP control in the distribution system may not be required. Methods to optimize DBP control in the distribution system include pipe looping, managing valve operation, flushing, bypassing oversized pipes, and storage tank aeration. Chloramination using liquid ammonia is also an option. This section discusses alternatives for lowering the potential for DBP formation.

11.1 Alternative 1 – None

This alternative discusses design features and operational practices that could be performed to reduce DBP's without additional equipment.

<u>General Description</u>: DBP's may not be a problem if the treatment plant chemicals are optimized and operational procedures are strictly adhered to. Other design optimizations include distribution system pipe looping to prevent dead ends, managing valve operation, bypassing oversized pipes, and eliminating excess storage and tanks in series.

Water age in a storage tank can be reduced by increasing the volume turnover. This can be achieved by increasing the volume of water during a drawdown or by increasing the number of fill/drain cycles per day. Increasing the drawdown between fill cycles would be optimal. Adjustment of tank water level controls or the control settings for altitude valves may be required.

Emptying the tank contents by taking it off-line and draining and cleaning it periodically is a good maintenance practice to remove sediment that has accumulated on the tank bottom (Ref: Stage 2 Disinfectants and Disinfection Byproducts Rule, Consecutive Systems Guidance Manual, 2010).

11.2 Alternative 2 – Flushing

General Description: The Stage 2 Guidance Manual also provides detailed information on various flushing techniques. Routine maintenance flushing normally occurs by opening hydrants (without isolation valves) and running the water until it clears. Velocities are usually less than 5 fps and cannot remove sediment and other debris that can contribute to high DBP levels.

Directional flushing can achieve velocities greater than 5 fps to scour the pipe and reduce DBP levels. The water is flushed in one direction through operation of valves. The process typically begins at a source of high quality water (e.g., a large transmission main) and

gradually moves through the system by opening hydrants and opening/closing valves. The higher velocities are achieved because water moves towards the hydrant in one direction.

Automatic (intermittent or continuous) blow-offs can be installed to bring fresh water to pipe extremities and stagnant water zones. The velocities for a blow-off are generally very low in larger pipes; however, blow-offs can be effective on a seasonal basis during high water temperature periods or in smaller diameter distribution systems.

Operation and Maintenance Requirements: Flushing requires the wasted potable water be disposed of properly. This is typically done by discharging to either the sanitary sewer, or any nearby ditches or streams. Prior to discharging from a flushing unit, it may be necessary to dechlorinate with sodium bisulfite.

<u>Construction Considerations</u>: No major construction issues are associated with this alternative. Locating the flushing units at the optimal locations are the main concern.

11.3 Alternative 3 – Storage Tank Aeration/Mixing

General Description: Because TTHMs are volatile compounds, aeration has been shown to reduce or eliminate them. It is not an effective reduction alternative for HAA5s. If mixing is not provided in the storage tank and the water age is high, thermal separation begins to occur with the warmer water rising and the colder water sinking to the bottom. Mechanical aeration devices or recirculation pumps can be used to mix and aerate the contents. Discharge through spray nozzles is normally set above the water surface. Efficiency is achieved by optimizing the ratio of surface area of air to volume of water.

A recent study ("Post Treatment Aeration to Reduce TTHMs" by Brooke and Collins, Journal AWWA, October 2011) suggests that spray aeration can achieve removal rates of 20 to >99.5%. The study also showed that diffused aeration is slightly less effective, that reduction of TTHMs significantly increase with warmer temperatures, and that free chlorine does not appear to be impacted by aeration (except temporarily upon changing the flow pattern of the tank).

Modeling techniques can be used to analyze water mixing characteristics of the storage tank. In addition to calculations of hydraulic residence time, fluid dynamic modeling can provide visual images of water mixture and water temperature profiles can illustrate temperature layers.

Operation and Maintenance Requirements: O&M requirements for storage tank aeration/mixing is similar other treatment processes involving air compressors and pumps. One important consideration is that all materials used in the construction of these systems must be NSF

61 approved and any time they are removed for maintenance or inspection must be disinfected properly prior to reinstallation.

<u>Construction Considerations</u>: The existing tanks would have to be temporarily taken out of service to install the aeration/mixing system. All components would need to be appropriately disinfected prior to installation. It is recommended that the work include draining, cleaning, and disinfecting the entire tank at the time of installation.

11.4 Alternative 4 – Chloramination

General Description: Chloramine as a secondary disinfectant would be beneficial for reducing DBP's in the distribution system. When ammonia is added in the distribution system, it combines with chlorine to produce chloramine. Monochloramine is the most common form and maintains its effectiveness while traveling through the distribution system. It can react with natural organic matter in water to form potentially harmful DBP's; however, compared to chlorine, water treated with monochloramine contains fewer regulated DBP's that have been linked to human health problems. Also, TTHM and HAA5 occur in lower concentrations than in chlorine. Taste and odor generally improves with chloramine, and biofilm is less likely to form. Chloramine has been used by water utilities for several decades and is closely regulated by EPA. It is estimated that about 20% of households use drinking water treated with chloramine.

<u>Process Description</u>: A liquid ammonia storage and feed system would be required, and ammonia would be injected into the finished water line before entering the distribution system. Complete mixing is required in order for the ammonia to react with chlorine. Most drinking water systems add chlorine first in the treatment plant in order to achieve the required concentration and contact time. The point of application of ammonia is typically set to extinguish the free chlorine residual after the optimum disinfection has occurred based on minimizing DBP formation.

Preliminary Sizing: The normal dosage range for monochloramine is 1.0 to 4.0 mg/L. The minimum residual of monochloramine in the distribution system is typically 0.5 mg/L. Liquid ammonia is usually delivered in 20% concentrations. A normal truck delivery is 6,000 gallons. A storage tank, metering pump, relief valve, pulsation dampener, flow meter, and backpressure valve are typically provided. The feed pumps should be located close to the storage tank to minimize the chance of ammonia vapors forming in the piping. A low-pressure steel or fiberglass storage tank could be located outdoors if covered with a shelter or equipped with a temperature control system. The metering pump feed rate would be 34 gpd. The bulk storage tank requirement for 60 days is 1,000 gallons. Adding a 6,000-gallon truck delivery, the total tank volume would be 7,000 gallons.

<u>Operation and Maintenance Requirements</u>: Liquid ammonia feed systems are similar to other liquid chemical feed systems.

Safety/Handling Considerations: Liquid ammonia is very corrosive with a boiling point of 80° F. Therefore, pressures could develop in the storage tank above this temperature. Ammonia gas is flammable at 16 to 25% by volume; however, it is not defined as a flammable gas by the UFC. The storage tank should be equipped with a water trap or ammonia scrubber to keep vapors from escaping to the atmosphere.

<u>Construction Considerations</u>: Temperature and ventilation are important considerations. A separate ammonia feed room is required. Carbon or stainless steel pipe should be used; under no circumstances should copper, brass, or bronze be used.

12. Forest Distribution System Analysis

One concern raised by the Virginia Department of Health during their review of the 2010 *Lakes-Bedford-Forest Water Supply Evaluation* was the impact of removing the Forest water system's connection to the City of Lynchburg might have on the system's available fire flow capacity. Anderson & Associates recently completed the creation of a water model for the Bedford County PSA's Forest water system to analyze the effect the proposed water supply switch. This water model was used to perform an available fire flow analysis of the Forest water system with and without its connections to the City of Lynchburg. The methodology and results of the analysis are described below.

12.1 Fire Flow Analysis Methodology

A hydraulic model of the Forest water system was created using the WaterGEMS software platform based upon the latest water distribution network, facility, and demand information provided by the Bedford County PSA. The hydraulic model was then calibrated based upon fire hydrant flow test and tank trend information provided by the Bedford County PSA.

In the existing water system's configuration, water is produced at the City of Lynchburg's WTP where it is transferred into either the City's Huntingwood Tank or into the Forest service area through either the Hawkins Mill, Lakeside Drive, or Graves Mill Road Master Meters and ultimately into either the Althea Grove or New London Tanks. The existing Forest water system operates as a single pressure zone served by three water storage tanks across Bedford County and the City of Lynchburg with one directional flow into the Forest service area at the aforementioned master meters.

An evaluation of the available fire flow in the existing Forest water system was first performed to establish a baseline value for comparison against the proposed water system's configuration. The evaluation was performed under twice average daily demand conditions, with the Lynchburg WTP pumps off, and all tanks at their approximate normal low level of 1065'. The results of this evaluation are documented in Figure D-12.1 included in Appendix A titled, "Existing Forest Water System – Available Fire Flow Exhibit".

In the proposed water system's configuration, water will be produced at the PSA's proposed SML WTP where it is transferred into the Forest service area through the proposed transmission line, through a proposed pressure reducing valve and into the Althea Grove and New London Tanks. The proposed Forest service area will operate as a single pressure zone served by two water storage tanks with no interaction with the City of Lynchburg at the Hawkins Mill, Lakeside Drive, or Graves Mill Road Master Meters. The remainder of the Forest water system north of the Hawkins Mill Master Meter will continue to be served off the City's Huntingwood Tank.

An evaluation of the available fire flow in the proposed Forest water system was performed to analyze the effect of removing the system's connections with the City of Lynchburg. The evaluation was performed under twice average daily demand conditions, with the proposed transmission main closed, and all tanks at their approximate normal low level of 1065'. The results of this evaluation are documented in Figure D-12.2 included in Appendix A titled, "Proposed Forest Water System – Available Fire Flow Exhibit".

12.2 Fire Flow Analysis Results

The existing Forest water system, with the connections to the City of Lynchburg, demonstrated the ability to maintain a minimum of 500 gpm available fire flow at all hydrant locations served by 6" or larger diameter water lines, while maintaining a minimum of 20 psi throughout the water system. Please refer to Figure D-12.1 included in Appendix A titled, "Existing Forest Water System – Available Fire Flow Exhibit" for details on the available fire flows within the existing water system. Also included in Appendix D is a tabular print-out of the available fire flow at the ten most critical hydrants and a map that identifies the location of these hydrants.

The proposed Forest water system, without the connections to the City of Lynchburg, demonstrated the ability to maintain a minimum of 500 gpm available fire flow at all hydrant locations served by 6" or larger diameter water lines, while maintaining a minimum of 20 psi throughout the water system. Please refer to Figure D-12.2 included in Appendix A titled, "Proposed Forest Water System – Available Fire Flow Exhibit" for details on the available fire flows within the existing water system. Also included in Appendix D is a tabular print-out of the available fire flow at the ten most critical hydrants.

Figure D-12.3, titled, "Forest Water System – AVFF Reduction Exhibit" is included in Appendix A. This exhibit documents the reduction in available fire flow throughout the Forest water system upon the closure of the connections to the City of Lynchburg. This exhibit demonstrates the largest reductions in available fire flow occur nearest to the connections with the City of Lynchburg. However, the reduction in available fire flow is present throughout the Forest service area. This is due to the loss of the flow path provided by the City of Lynchburg's water distribution system on the upstream side of the master meters. It should

also be noted that the parts of the Forest water system remaining on the City's Huntingwood Tank show no change to a slight increase in available fire flow due to the reduced pipe flow caused by closure of the master meter connections.

13. Instrumentation

The instrumentation at the plant needs to monitor various plant processes for the operator, to be able to demonstrate compliance with VDH regulations and troubleshoot potential problems that occur. A SCADA system is also needed to monitor off site tank levels, and record and archive data for reporting purposes. The BCPSA has an advanced SCADA system already, which could be utilized for the control and monitoring of this WTP. This section is written to describe some of the minimum requirements for the instrumentation and SCADA system, but not evaluate alternatives.

13.1 Plant SCADA

The SCADA system at the water treatment plant would feature both an internal and external component. The internal SCADA would be monitoring and controlling plant processes, such as filter backwash, in order to facilitate ease of operation. With conventional filtration, the internal SCADA system is often provided by a systems integrator who programs the screens and sequences into the PLC for filter backwash, rate of flow control, and loss of head monitoring/ alarms. The internal SCADA can also operate pumps based on tank levels in the system. Membrane filtration systems often have a far more complex internal SCADA to control the various processes, open/close valves, and monitor filter status. Due to the complexity, membrane manufacturer's will typically provide a complete SCADA system for their equipment, including operator interface terminals, PLC's, and a plant computer with appropriate hardware and software. At a minimum, the following SCADA components are recommended for this project:

Master PLC with backup program stored on removable media storage and a spare PLC (i.e. shelf spare) readily available in the event of PLC failure.

CPU with SCADA software programmed to the BCPSA's requirements and an external backup.

Uninterruptable power supply and power conditioner for all PLC's and for the CPU system.

13.2 Instrumentation

Instrumentation at the water treatment plant would depend on the treatment process selected. Figure D-13.3 summarizes the minimum instrumentation and control needs for both a conventional and membrane treatment process.

Figure D-13.3 – Instrumentation and Controls

SCADA Components - Membrane	SCADA Components - Conventional
On-Site	On-Site
Raw Water Tank Level	Raw Water Turbidity (Tungsten Filament Type)
Feed Pump Suction Pressure (Manual Gauges)	Raw Water pH/Temp.
Feed Pump Discharge Pressure (Manual Gauges)	Settled Water pH/Temp.
Strainer Suction Pressure (Pressure Transmitters)	Settled Water Turbidity (Tungsten Filament Type)
Strainer Discharge Pressure (Pressure Transmitters)	Settled Water Chlorine Residual
Raw Water Turbidity (Tungsten Filament Type)	Filter Influent Channel Level
Raw Water pH/Temp.	
Rack #1thru #4 Inlet Flow	Filter #1thru#7 Flow
Rack #1thru #4 Inlet Pressure (Pressure Transmitters)	Filter #1thru#7 Loss of Head
Rack #1thru #4 Outlet Pressure (Pressure Transmitters)	Filter #1thru#7 Turbidity (Laser Nephelometer Type)
Rack #1thru #4 FWTurbidity (Laser Nephelometer Type)	FW Combined Turbidity (Tungsten Filament Type)
FW Combined Turbidity (Tungsten Filament Type)	Clearwell Tank Level
FW Flow	FNW pH/Temp.
FW Pressure (Pressure Transmitter)	FNW Free Chlorine Residual
Clearwell Tank Level	FNW Pump Suction Pressure (Manual Gauges)
FNW pH/Temp.	FNW Pump Discharge Pressure (Manual Gauges)
FNW Free Chlorine Residual	FNW Flow
FNW Pump Suction Pressure (Manual Gauges)	Backwash Pump Flow
FNW Pump Discharge Pressure (Manual Gauges)	PACI Tank Level
FNW Flow	Hypochlorite Tank Level
Excess Recirculation Pump Flow	Off-Site
Rack #1thru #4 Air Pressure (Manual Gauges)	Smith Mountain Lake Tank Level
Acid/Caustic Tank Level	Raw Water Pump Station Flow
Acid/Caustic Tank Temperature	
Hypochlorite Tank Level	
Off-Site	
Smith Mountain Lake Tank Level	
Raw Water Pump Station Flow	

E. **EVALUATION OF ALTERNATIVES**

This section presents the advantages and disadvantages of the alternatives presented in the previous section. Each unit process will be evaluated briefly, including estimated project and operation and maintenance (O&M) costs. Costs presented in each individual section are rounded to the nearest \$10,000. A total annual cost is presented for the alternatives when it appears that they may be similar. The total annual cost is based on the sum of amortization of the total project cost and the annual O&M costs. Amortization cost of the project assumes an interest rate of 4.5% and a loan term of 25 years. An overall project cost for the recommended project and alternatives, including engineering and related costs, is presented at the end of this section.

1. Intake

1.1 Advantages and Disadvantages of Alternatives

Two intake alternatives were evaluated: the use of buoysupported floating screens, and adjustable screen supported on a fixed pier structure. Both configurations make use of stainless steel, cylindrical, slotted intake screens. Since the advantages of one alternative are generally disadvantages of the other, mainly the advantages of each of the two alternative configurations are discussed.

The floating intake configuration would generally be easier to construct and thus provides a shorter construction duration versus the fixed intake. It would also allow the use of a smaller air supply system since all three screens would not have to be air scoured at the same time.

Operationally, the adjustable intake provide slightly more reliability than the floating intake since each 44-inch screen can provide 6.0- MGD of capacity with one out of service, thus capacity can be maintained. With the floating intake configuration, most, but not all, of the 6.0 MGD capacity could be maintained if one screen unit is out of service. The floating intake provides withdrawal at a constant depth regardless of the varying lake level and while it's not an easy change, the depth can be altered if desired.

The floating intake will result in only some buoys visible at the lake's surface. This will have less visual impact than a pier and "boathouse". This is likely to make the floating intake meet less resistance during permitting. Since buoys, piers, and boathouses are common at the lake, both alternatives should be acceptable to the public. The floating system does not rely on a rigid structure in the water and would likely sustain less damage if a boat strayed into this restricted area.

The fixed intake and pier system greatly reduces the need for outside assistance during maintenance. It would allow ready access by BCPSA personnel at virtually any time and also allow quicker access during an emergency. Because the screen can be easily raised or lowered, it would allow the Authority personnel to easily adjust the elevation of the screen. In short, it allows the BCPSA more control.

Since the fixed system has fewer screens than the floating screen (both initially and in the future) and a larger air supply system, air scouring should occur less frequently than with three screens.

The fixed intake system does have some distinct disadvantages that are not necessarily advantages to the floating system. The fixed system could create an attractive nuisance with people trying to access the pier. Additional security would be required and, in spite of the additional security, access to the intake area would be more readily available than with the floating intake system.

1.2 Capital and O&M Cost Comparison

The estimated cost for the floating intake and fixed intake is summarized below. O&M costs considered include bi-annual cleaning costs and power costs. While the floating screens require higher cleaning costs due to the cost of hiring a barge with a crane to lift the floating intakes out of the water, the fixed screens require more energy costs to operate the air scour system.

Description	Cost (Millions)	O&M Cost	25 Year Equivalent Annual Cost	Construction Period
Floating	\$0.52	\$20,000	\$55,100	3 to 4 months
Fixed	\$1.03	\$9,000	\$78,500	6 to 9 months

A more detailed breakdown of this preliminary estimate is included in Appendix C.

1.3 Conclusions

While the capital cost of the fixed intake configuration is roughly double to that of the floating intake, the anticipated O&M costs of the floating intake are approximately twice those of the fixed configuration. The O&M costs for the floating system are highly dependent on how often the depth of the intake screen is changed. Four changes per year were assumed. Similar changes in screen elevation with the fixed system can be made at virtually no additional operating cost.

The two alternatives provide a similar function, but the fixed system provides greatly superior control. The fixed system also includes the construction of the intake needed to achieve 12 MGD thus eliminating this as a future expense.

A fixed screen is recommended to allow the Authority more flexibility, access and control, especially during an emergency.

2. Raw Water Pumping

2.1 Advantages and Disadvantages of Alternatives

Both vertical turbine (submersible) and split case (wet pit/dry pit) pumps were evaluated for the raw water pump station, but not as distinct alternatives for cost estimating purposes. An advantage to the use of vertical turbine pumps is that a smaller building footprint is possible, due to the pumps being directly mounted over the wetwell structure. Also, using vertical turbine pumps requires less excavation next to the lake since there is no need to construct a dry pit. As land is at a premium at the projected site, the smaller footprint and less excavation is a clear advantage to the vertical turbine pump selection. One disadvantage of the vertical turbine pumps is that a taller building will be required to provide adequate room to remove the pumps from the wetwell. The design of the building could incorporate an internal hoist system, or it would need to have removable access hatches above the pumps for BCPSA to contract a crane for removal of the pumps.

The construction of the split case pump dry vault would require the installation of a sump pump system capable of dewatering the facility. This is a distinct disadvantage to the vertical turbine submersible since it may be difficult to provide an adequate discharge location immediately beside the pump station facility.

2.2 Capital and O&M Cost Comparison

The cost of the pumps is approximately equal whether they are split case or vertical turbines. The split case pumps would be required to be constructed in a dry pit adjacent to the lake and under the water surface level. This dry pit would result in a significantly higher capital cost to construct the split case pump alternative. For this reason, cost estimates were only developed for the vertical turbine alternative.

Both alternative pump systems would require similar horsepower motors; therefore, electrical costs should be effectively the same. The split case pump would have a slightly higher electrical cost for running the dry pit system because there will be additional lighting, ventilation, and sump pump operation costs associated with this alternative.

No alternatives were evaluated in depth for the raw water line so no cost comparison can be made. Estimated costs are based on the longer of two alternative alignments identified and using 30-inch class 200 ductile iron pipe. The estimated capital and O&M costs for the raw water pump station and raw water force main are:

Description	Cost (Millions)	O&M Cost	25 Year Equivalent Annual Cost	Construction Period
Pump Station	\$2.15	\$138,000	\$283,000	6 to 9 months
Force Main	\$2.87	\$10,000	\$203,600	4 to 6 months

A more detailed breakdown of this preliminary estimate is included in Appendix C.

2.3 Conclusions

Vertical turbine pumps are recommended for the raw water pump station. The building design will need to accommodate removal of these pumps for maintenance and replacement. A 30" pipe is recommended for the raw water line.

3. Pretreatment

3.1 Advantages and Disadvantages of Alternatives

Alternative 1 considers permanganate, which can reduce iron and manganese, taste and odor compounds, nuisance organisms, certain viruses, and controls formation of TTHM's and other DBP's. It is easy to transport, store, and apply and causes little impact on other treatment processes. It is currently being used at the High Point WTP so operators are familiar with it. Disadvantages of permanganate is the long contact time required, the purple/pink color it produces if overfed, and separate feed facilities.

Alternative 2 considers chlorine dioxide, which is a strong oxidant and disinfectant and is very effective in the reduction of DBP's and the removal of iron and manganese, arsenic, color, and taste and odor compounds. It is also more effective than chlorine as a disinfectant. However, because chlorine dioxide produces chlorite/chlorate byproducts, dosage needs to be carefully controlled and monitored to comply with the Stage 1 DBPR. Chlorine dioxide is generated on-site, presents some unique safety concerns, and the cost can be higher than Permanganate. WVWA has had considerable success using Chlorine Dioxide, but other regional utilities such as the BCVPI Water Authority experienced limited success.

Alternative 3 examines the use of PAC, which is typically used intermittently for taste and odor control and TTHM and organic reduction. A disadvantage of this alternative is that large doses are sometimes required and PAC can increase sludge production since solids are being added to the water. Thus sludge handling and disposal costs can increase when it is used. It can also increase the frequency of backwashes in the membrane process. A separate well-ventilated, fire-resistant carbon feed and storage room is required for using PAC.

3.2 Capital and O&M Cost Comparison

Permanganate costs approximately \$0.01 per 1000 gallon of treated water (Source: Carus Corporation). In contrast, chlorine dioxide costs approximately \$0.03 per 1000 gallons (Source: EPA). Because PAC would require relatively high doses compared to the other alternatives and special equipment to prepare the slurry and store the PAC, capital and O&M costs would also be relatively high. For example, based on a dosage of 10 mg/L and a cost of \$1.00/pound for PAC, the chemical cost would be approximately \$0.08 per 1000 gallons. The permanganate and chlorine dioxide would likely have similar O&M costs, but the PAC would require greater O&M costs than either due to the slurry equipment power usage and operator time to monitor and maintain the equipment. Based on this basic comparison, it is anticipated that permanganate would be the least expensive on an annual operating cost basis. The estimated capital and O&M costs of each alternative are:

Description	Cost	O&M Cost	25 Year Equivalent Annual Cost	Construction Period
Liquid Permanganate	\$90,000	\$20,000	\$26,100	<3 months
Chlorine Dioxide	\$270,000	\$50,000	\$68,200	<3 months
PAC	\$380,000	\$110,000	\$135,600	<3 months

A more detailed breakdown of this preliminary estimate is included in Appendix C.

3.3 Conclusions

Because of its ease of usage, lower cost, and operator familiarity with the system, it is recommended that sodium permanganate be used at the SML WTP as a pretreatment oxidant for reduction of DBP's and other organics. By adding it at the High Point WTP, there would be more than enough detention time (i.e., >60 minutes) before reaching the SML WTP. There is adequate room at the existing plant to store a new chemical storage tank. Some site work may be required to allow chemical delivery trucks to access the site easily. The plant should be designed to allow for easily adding chlorine dioxide in the future if the permanganate alone is not successful.

BCPSA should conduct raw water and filtered water Total Organic Carbon (TOC) testing at the existing High Point WTP. It is also recommended that the raw water Ultraviolet Absorbance at 254 nanometers (UVA254) be analyzed at the same time the raw water TOC samples are collected so that a Specific Ultraviolet Absorbance (SUVA) value can be calculated. This will help determine the type and nature of organic carbon present in the raw water, the efficacy of current

permanganate preoxidation on TOC removal, as well as provide additional data for future design purposes

4. Solids Removal

4.1 Advantages and Disadvantages of Alternatives

Alternative 1 is the conventional sedimentation/sand filtration treatment process and is effective in removing organics and pathogens and is a robust process that has been used successfully for many years. However, chemical usage can be high, and the treatment processes are labor intensive. Low water temperatures and low raw water turbidity (conditions present in Smith Mountain Lake) can present operational challenges. VDH Waterworks Regulations require two full time operators in attendance at a conventional plant when the plant is in operation. The heavy civil construction for a conventional water treatment plant is typically high, as the treatment basins, filters, and clearwell are usually constructed of cast in place concrete. Geotechnical conditions of the site are paramount to successful construction of concrete basins that will not leak due to cracks caused by settlement or poor bearing capacity of the soils. The construction time for a conventional plant is also typically fairly lengthy and the cost can be high. For example, it was recently reported in the Northern Virginia Daily, that a new 3.0 MGD conventional water treatment plant constructed in Strasburg will be complete and operational in early September 2012 and that construction commenced in August 2009 at a project cost of approximately \$12 million dollars.

Alternative 2 is to use membrane filtration, which is increasingly becoming a treatment system of choice for utility agencies in Virginia and elsewhere. It is effective in removing larger pathogens such as Giardia and Cryptosporidium and provides absolute barrier separation of particulates from the water. Membrane filtration can handle water quality fluctuations with appropriate pre-treatment, although most systems in the state of Virginia are either being used on surface influenced groundwater or on excellent quality surface water. Because membrane filtration systems are typically fully automated with the capability of remote monitoring and control through SCADA, the operating staff can work part time. VDH Working Memo 880 allows for staffing by a single operator for sufficient time to perform the daily tasks and checks required of the system. In many cases, there is minimal chemical usage compared to conventional treatment, and the units are very compact so smaller buildings can be used to house the equipment. Depending on the design, construction time can also be accelerated. For example, a 4.0 MGD membrane treatment facility (with 3.0 MGD of filtration capacity for the initial plant) was constructed for the Radford Army Ammunition Plant in less than 12 months on a fast track basis. Though the construction cost of that project is confidential at the request of the Owner, it was completed for significantly less cost than the \$12 million conventional facility being finalized in Strasburg. Another 6.0 MGD membrane facility constructed in Waynesboro (Coyner Springs Treatment Facility) was reported by local media to be completed at a construction cost of

approximately \$9.7 million in a period of approximately 13 months starting in late 2007.

4.2 Capital and O&M Cost Comparison

A cost estimate for the conventional treatment alternative was prepared based on cost estimate information and methodology outlined in McGivney and Kawamura's "Cost Estimating Manual for Water Treatment Facilities" (Wiley & Sons, Inc., 2008). A cost estimate for a pressurized membrane filter plant was prepared based on A&A's experience with construction of similar facilities and a budget estimate from Pall Corporation, a potential equipment supplier for the membrane filtration equipment. The summary of capital and operating costs for each alternative are:

Description	Cost (Millions)	O&M Cost	25 Year Equivalent Annual Cost (Millions)	Construction Period
Conventional Filtration	\$18.395	\$740,000	\$1.98	>24 months
Membrane Filtration	\$10.78	\$390,000	\$1.12	12 to 15 months

A more detailed breakdown of this preliminary estimate is included in Appendix C.

4.3 Conclusions

Membrane filtration is an appropriate treatment technology for the water quality anticipated from this source. A pressurized membrane filtration treatment system is the recommended solids removal alternative based on the lower capital and O&M cost of this alternative versus conventional filtration, as well as the lower estimated construction time and the familiarity of BCPSA with membrane filtration treatment currently being utilized at the High Point WTP.

5. Backwash Treatment

5.1 Advantages and Disadvantages of Alternatives

Alternative 1 is to use membrane filters for backwash recovery and the advantages of this alternative are primarily that the BCPSA already owns membrane filtration equipment that can be relocated to the new treatment plant building and utilized for this application. Thus, the capital investment is low since the equipment is already owned. Furthermore, the quality of water produced by the membranes will be excellent so long as the membrane modules are maintained. A disadvantage of reusing the membrane filters at the proposed SML WTP would mean that they are not available for use elsewhere in the PSA's system or for selling to generate some revenue.

Alternative 2 has several disadvantage related to the process. Since high rate clarifers would be best located outside the main treatment building due to their size and operation, the piping to and from the clarifiers would need to have freeze protection measures applied since it some of it would likely be above grade. Also, chemical feed facilities for a coagulant would be needed to provide adequate settling conditions. Finally, the process would need to be optimized and frequently checked to produce good quality effluent and even with optimal conditions, would not produce the same quality effluent as a membrane filter system.

5.2 Capital and O&M Cost Comparison

A manufacturer provided a budget proposal for two high rate clarification units sized for this application. Their cost was used as the basis for that alternative. O&M costs included chemicals, labor, and electricity. The membrane system is assumed to be relocated Pall AP-4 skids from the High Point WTP. Pall's engineering department performed an initial evaluation and recommended both units be used to provide more flexibility in operation. The capital costs for this system include relocating and re-assembling the membrane skids at the new water treatment facility. The O&M costs include the electrical, labor, and chemical costs associated with operating the membrane skid.

Description	Cost	O&M Cost	25 Year Equivalent Annual Cost	Construction Period
Membrane Backwash	\$330,000	\$62,000	\$84,300	3 to 5 months
High Rate Clarifiers	\$1,420,000	\$60,000	\$155,800	6 to 9 months

A more detailed breakdown of this preliminary estimate is included in Appendix C.

5.3 Conclusions

The membrane backwash treatment is recommended due to its lower construction cost and similar operation to the recommended main treatment process (i.e. pressurized membrane filtration). The existing AP-4 units at the High Point WTP can be relocated to the SML WTP for this purpose. The operation of this system will be familiar to BCPSA personnel since they already own and operate it. It will be compatible with the main process selection of membrane filtration and should allow for common use of the chemical feed equipment and membranes that are no longer suitable for use in the main process can be used on the backwash recovery skids.

The existing AP-3 unit can be relocated to one of the Authority's well systems, disassembled for parts and scrap steel, or sold to another utility. The compressed air system for the existing High Point facility is too small for the proposed SML WTP and should go with the AP-3 system for reuse elsewhere.

6. Backwash Disposal

6.1 Advantages and Disadvantages of Alternatives

Alternative 1 (pump to Moneta using PS #4) poses the lowest risk to the PSA in terms of exposure to permit liabilities, since both Alternatives 2 and 3 would require permits and suitable operation for permit compliance. The upgrade of Pump Station #4, if required, would most likely be limited to replacement of pumps, controls, and the equalization basin. The relative simplicity of this upgrade would be an advantage over the complexity of constructing a discharging system or infiltration basins.

Alternative 2 considers infiltration basins that would be simpler to operate and have no impact on the Moneta WWTP, whereas Alternative 1 requires capacity of the liquid treatment train and Alternative 3 requires capacity in the solids treatment system at Moneta. The disadvantage is that the soils at the site need to be carefully considered prior to design and could require replacement if they fail to perform as anticipated in the infiltration basins. Sanitary wastewater would require separate handling by piping to Pump Station #4.

Alternative 3, a VPDES discharging system, has the disadvantage that it would require a licensed wastewater operator and annual permitting fees to discharge. It would require a sludge management plan for the dewatering and ultimate disposal of the solids from the treatment system. As in Alternative 2, sanitary wastewater would require separate handling by piping to Pump Station #4.

6.2 Capital and O&M Cost Comparison

Alternative 1 would require an increase in capacity of the existing pump system at Pump Station #4 and thus require replacement of the two submersible pumps. To accommodate the larger pumps the electrical controls would likely require an upgrade to include larger motor starters. It would also require an equalization basin upstream of the pump station to avoid surges of water that occur during backwash procedures.

Alternative 2 would require construction of four infiltration basins and associated yard piping. It is not anticipated to cost as much as Alternative 3, and just slightly less than Alternative 1.

Alternative 3 (treat the wastewater for surface discharge) would require equipment and facilities for chemical addition, settling ponds, a pump station and force main with all associated appurtenances. The construction of this alternative would have a much higher capital cost than either of the other alternatives assuming that the discharge must be pumped to Goose Creek. If Mattox Creek had favorable discharge limits, the capital cost would decrease significantly.

Regarding O&M costs, Alternative 1 would require electrical service for the pumping of the wastewater, additional O&M costs to treat the wastewater at the Moneta wastewater treatment plant, and periodic routine maintenance of the pumps. Alternative 2 is anticipated to have considerably lower O&M costs than either of the other alternatives, assuming suitable soils are present that don't require frequent replacement. Alternative 3 would require a licensed operator to operate the system, and operational costs would include chemical additive costs to aid in settling, and pumping costs. The sludge would also need to be removed and hauled to Moneta for dewatering, likely once every two to three years. Thus, the O&M costs would likely be significantly higher for this treatment alternative.

Description	Cost	O&M Cost	25 Year Equivalent Annual Cost	Construction Period
Pump to Moneta WWTP	\$80,000	\$44,000	\$49,400	2 to 3 months
Infiltration Basins	\$70,000	\$7,000	\$11,700	2 to 3 months
VDPES Discharge	\$3,220,000	\$50,000	\$267,200	6 to 9 months

6.3 Conclusions

Alternative 2 would only be feasible if suitable soils are located on the property, but offers significantly lower lifecycle costs than the other alternatives. The BCPSA should engage an Authorized Onsite Soil Evaluator (AOSE) to perform preliminary soils investigations at the Camp 24. Preferably, an AOSE who is experienced with the soils in the Moneta area should be selected. This investigation is to determine the suitability of the soils to support infiltration basins for backwash disposal.

It is recommended to investigate this alternative more, but in the meantime plan to initially implement Alternative #1 and pump the process wastewater to the Moneta treatment plant via Pump Station #4. In the future, if the Moneta WWTP capacity becomes critical, BCPSA could consider construction of Alternate 3 for backwash disposal and explore the feasibility of discharging into Mattox Creek rather than pumping to Goose Creek, which would lower the cost of a VPDES discharging system. The design of the waste disposal should take into account the future separation of backwash wastes for this scenario. The costs to

upgrade PS #4, separation of backwash waste, and installation of an equalization tank are included in the overall cost estimate for the recommended project in Section 15.

7. Post Treatment

7.1 Advantages and Disadvantages of Alternatives

Alternative 1 considers no post treatment initially, which defers the decision to add post treatment to a later date. This decision would be deferred until such time that it is required by regulation or at such time that the PSA determines that it is needed to meet specific treatment goals. The advantage of the "do nothing" approach is that it reduces the cost of the overall project initially and allows the PSA time to further refine design criteria and to better assess the needs. The disadvantage is that it becomes more difficult to retrofit a plant later with a new process than if it is installed and designed initially. Also, it can be a public relations problem if it is determined that post treatment is needed to provide the quality of water that is required and the PSA has to install additional equipment on a newly constructed plant. This would likely require increased rates to compensate for the additional expenses and not be understood by the PSA's customer base.

Alternative 2 explores the use of GAC filters, which would require removal and replacement of spent activated carbon. This PER assumes that the GAC is replaced annually. This work is typically contracted due to the need for special handling equipment for the GAC. GAC filters are effective at removing TOC, taste and odor compounds, and have shown promise at removing other emerging contaminants, such as endocrine disruptors and pharmaceuticals. The GAC filtration process is widely studied and utilized, so there is a good body of data and knowledge to select appropriate design conditions to deliver the desired performance.

Alternative 3, ion exchange, would have a similar configuration to the GAC filters, but distinct differences in how it operates. Ion exchange requires regeneration of the media versus replacement of the media. Ion exchange has been used for many years for softening applications using cationic media. The use of anionic ion exchange media for TOC removal is a newer application of ion exchange technology, though one that is showing promising results. Nevertheless, this is a disadvantage since without the wide body of field data; there is some risk that it wouldn't perform as anticipated. The advantage of ion exchange is that the media can last for many years and is regenerated on-site using brine. The regeneration costs are fairly low since the cost of salt is low. However, the brine must also be disposed of properly. Typically, it is discharged to the sanitary sewer.

7.2 Capital and O&M Cost Comparison

The use of either GAC filters or ion exchange filters for TOC removal was evaluated. This PER assumes that the filters are constructed in a separate building from the main treatment facility, thus include the cost of the building. Both processes would have a similar configuration, but have distinct differences in O&M costs. The GAC filters would require removal and replacement of spent activated carbon. This PER assumes that the GAC is replaced annually. This work is typically contracted due to the need for special handling equipment for the GAC. The O&M costs include labor, electrical costs, salt costs for ion exchange, and GAC replacement for GAC filters.

Description	Cost (Millions)	O&M Cost	25 Year Equivalent Annual Cost	Construction Period
GAC Filters	\$4.73	\$182,000	\$501,000	12 months
Ion Exchange	\$5.02	\$57,000	\$395,500	12 months

A more detailed breakdown of this preliminary estimate is included in Appendix C.

7.3 Conclusions

The cost of installing the post-treatment equipment evaluated is fairly high and not required by current regulations if the facility is a direct membrane filtration plant. It is recommended that the BCPSA reserve space on the site for either of these processes in the future, but that post-treatment for TOC removal not be included in the initial project.

8. Finished Water Pumping and Clearwell

8.1 Advantages and Disadvantages of Alternatives

This PER assumes a rectangular concrete tank is used for the clearwell. Rectangular basins are more efficient than circular basins in maximizing baffling usage and allowing high length to width ratios. A partially buried, precast, post-tensioned (AWWA D115) rectangular tank would be used for the membrane filter alternative and a below grade cast-in-place tank would be used for the conventional alternative. It would be easier to access the clearwell for maintenance and inspection if it is outside the treatment building and partially buried, versus cast-in-place below the foundation of the building. Constructing an exterior tank can speed up the construction of the project since the other facilities can be constructed on a parallel track. Using a pre-cast tank can also avoid potential schedule delays due to weather conditions when it may not be conducive to placing cast-in-place concrete.

Split case pumps are assumed to be utilized for the finished water pumps in the case of the membrane alternative. These pumps would be located in either the treatment building or in a pump building adjacent to the clearwell and be connected to the discharge pipe from the clearwell. Vertical turbine pumps would be used for the below grade cast-in-place tank for the conventional alternative. Accessing split case pumps is easier than vertical turbines, although vertical turbines can be more compact than split case pumps and can have slightly greater efficiency than split case pumps.

8.2 Capital and O&M Cost Comparison

The costs for the cast in place and precast clearwell are similar and the decision should be more determined by the PSA's or contractor's preference and schedule than cost. Both can be designed to meet the required performance needs. Similarly, the split case and vertical turbine pumps have similar costs and the decision should be guided more by owner preference. O&M costs for the clearwells were not considered since they are infrequent costs associated with draining and inspecting the tanks. The O&M costs for the finished water pumps are comprised of electrical costs for running the pumps and assumed to be identical since they would be pumping the same flow at similar overall efficiency. The following summarizes the costs of the clearwell. Estimates are in Appendix C.

Description	Cost (Millions)	O&M Cost	25 Year Equivalent Annual Cost	Construction Period
Precast Clearwell	\$1.18	\$-	\$79,600	3 to 4 months
Cast In Place Clearwell	\$1.09	\$-	\$73,500	5 to 6 months
Split Case Pumps	\$0.72	\$110,000	\$158,600	2 to 3 months
Vertical Turbine Pumps	\$0.77	\$110,000	\$161,900	2 to 3 months

8.3 Conclusions

Since none of the options are a clear choice on cost, the PSA should determine if they have a preference and make that known to the designer. Vertical turbine pumps are recommended for the raw water pump station, so it may be advantageous to utilize them at the water treatment facility so similar maintenance parts can be kept in stock. On the other hand, maintenance of split case pumps is generally easier since everything is exposed versus turbine pumps. The cost of a precast clearwell and split case pumps is assumed in the overall project cost in Section 15.

9. Disinfection

9.1 Advantages and Disadvantages of Alternatives

Alternative 1 is to use chlorine gas, which is highly effective against most pathogens and provides residual protection in the distribution system. Historically, it has been the most reliable disinfection system and the most cost effective. However, in recent years, concerns for public and operator safety have initiated stricter and more expensive design measures and monitoring requirements. This facility would require ton cylinders that require a separate room for feed equipment, a scrubber system or secondary containment vessels for the ton cylinders, and loading/unloading facilities to handle the cylinders which increase the cost of the chemical feed equipment. Because of the public and operator safety concerns and the likelihood of stricter handling and safety requirements in the future, costs are expected to increase substantially.

Alternative 2 uses sodium hypochlorite and it is increasingly used for disinfection at water utilities due to safer handling requirements and fewer regulations than chlorine gas. However, hypochlorite has a limited shelf life and can produce regulated contaminants that must be controlled through appropriate storage, flushing, and dilution procedures. Use of hypochlorite feed systems typically involves more labor and maintenance than chlorine gas. Particularly due to the corrosive and scale forming tendency of hypochlorite solutions. These problems can be minimized during design by providing flushing facilities and careful attention in the solution piping design and metering pump selection.

9.2 Capital and O&M Cost Comparison

The estimated cost for each of the two systems is tabulated below.

Description	Cost	O&M Cost	25 Year Equivalent Annual Cost	Construction Period
Gas Chlorine	\$260,000	\$29,000	\$46,500	<3 months
Hypochlorite	\$180,000	\$50,000	\$62,100	<3 months

A more detailed breakdown of this preliminary estimate is included in Appendix C.

9.3 Conclusions

Despite the higher costs, a sodium hypochlorite feed system is recommended due to the uncertainty of the future use of chlorine gas for water treatment facilities and increased safety and handling risks associated with it.

10. Corrosion Control & Fluoridation

10.1 Advantages and Disadvantages of Alternatives

Based on low corrosion potential of the water, installation of a corrosion inhibitor such as zinc orthophosphate or alkalinity adjustment such as lime is not required at this time. However, it is recommended that space be provided for future addition of corrosion control chemical feed equipment.

The BCPSA doesn't currently practice fluoridation of its water supply. Space should be provided in the treatment plant should they elect to add it in the future.

11. Distribution System Disinfection Byproduct Control

11.1 Advantages and Disadvantages of Alternatives

Alternative 1 considers no distribution system DBP control measures. Historically the PSA has been able to maintain compliance with DBP limits in their system because they practice routine flushing and they maintain relatively low chlorine residual in the system compared to some utilities. The do nothing alternative is not recommended since there are some sections of the PSA's water system that will have relatively low turnover for the foreseeable future. Even if treatment technologies are implemented at the plant that help to manage DPB precursors, it is advisable to have the means to address distribution system DBP issues or other distribution system water quality issues.

Alternative 2 is to install automatic flushing units at key locations in the distribution system to supplement the routine maintenance flushing. Automatic and programmable flushing units can be provided to control the level of chlorine residual in water distribution lines, especially at the deadends. The PSA currently utilizes Hydroguard HG-2 automatic flushing and typically flushes each site daily for 1 hour per flush. The advantage of fully automated units would be to reduce O&M costs. As an option, the flushing units can be fitted with telemetry for remote monitoring via SCADA. The costs in this PER assume that no telemetry is included. The disadvantage of flushing is the lost revenue due to wasting potable water. Dechlorination of the waste is also typically required.

Alternative 3 would be to address DBP's in the system at the tanks through aeration. In order to provide the best aeration system, modeling may be required to determine the mixing characteristics of the tank. Water age modeling may also be required. Tank aeration would reduce TTHM but would not be as effective for HAA5 control. There would be additional capital and O&M costs for the aeration system.

Alternative 4 would utilize a liquid ammonia feed system to blend with the chlorine and form chloramine to reduce regulated DBP formation (i.e. TTHM and HAA5) in the distribution system. Liquid ammonia feed systems are similar to other chemical feed systems. One disadvantage of this alternative is the added cost of a separate chemical feed system. In addition, the effect of using chloramine in the distribution system has not been fully realized. Many are concerned that the unregulated DBP's formed by using chloramines may be shown to be more harmful to human health than the currently regulated DBP's. Under certain favorable conditions, bacteria can develop that cause nitrification to occur in the distribution system when chloramines are used. Nitrate and nitrite are the end products of nitrification and both are regulated primary drinking water contaminants. Certain studies have also suggested accelerated rates of corrosion of copper and lead plumbing as a result of chloramines. Another distinct disadvantage of this is that Bedford City does not use chloramination. Thus, there would need to be special consideration of blending issues and notification for customers in Bedford City if they were to receive water that was chloraminated.

11.2 Capital and O&M Cost Comparison

The table below summarizes O&M costs for the various alternatives considered for distribution system DBP control. The liquid ammonia system was based on costs of the liquid ammonia system used at the Blacksburg Christiansburg VPI Water Authority treatment plant. The liquid ammonia system would still require the hypochlorite disinfection facilities be constructed. Automatic flushing costs were estimated based on information provided by Hydro-Guard and assume 10 units would be installed at key locations in the system. For aeration treatment, it is assumed that the New London and Smith Mountain Tanks would have an aeration system installed at an approximate cost of \$75,000 per tank. The O&M costs for aeration include the electrical costs for operating the spray pump and ventilation blower.

Description	Cost	O&M Cost	25 Year Equivalent Annual Cost	Construction Period
Flushing	\$220,000	\$30,000	\$44,800	<3 months
Aeration	\$230,000	\$19,000	\$34,500	<3 months
Liquid Ammonia	\$350,000	\$10,000	\$33,600	<3 months

A more detailed breakdown of this preliminary estimate is included in Appendix C.

11.3 Conclusions

Because of the additional cost and increased management requirements to notify customers of chloramination, liquid ammonia as a secondary control for DBP is not recommended at this time. If pretreatment and post-treatment alone is not sufficient to maintain compliance with DBP rules, automated flushing and tank aeration should be considered for DBP control in the distribution system.

12. Forest Distribution System Analysis

12.1 Advantages and Disadvantages of Alternatives

There weren't alternatives evaluated for this section as in the other sections of the report since the PER basis is that the Forest System will connect to the SML WTP via the proposed transmission mains. The modeling analysis did reveal that there is a decrease in the available fire flow in sections of the Forest system, but that 500 gpm is still maintained on lines 6" and larger. If the reduction in available fire flow is not acceptable to the PSA and County, an alternative that may be considered is installing a PRV at one of the existing Lynchburg Master Meter locations to allow emergency use of Lynchburg water in the event of a fire. The exact configuration of the Master Meter vaults is unknown, but it is assumed that it could accommodate a PRV with some piping modifications. This PER assumes that one of the existing master meter connections to Lynchburg has a PRV installed so that it can serve as an emergency source of water to Forest.

This PER also assumes that the PSA will install new altitude valves at its New London and Althea Grove tanks and a new telemetry controlled valve at the connection to Forest. This valve could have a pressure reducing function since the hydraulic grade from the elevated Smith Mountain Lake Tank is higher than the overflow elevation of the New London and Althea Grove tanks. The normal mode of operation of this valve would be to open and close on command from SCADA. It should be specified to fail in the "open" position so that if the electronics fail the valve remains open. In this case, the altitude valves will prevent the New London and Althea Grove Tanks from overflowing. The PSA would open and close the valve as necessary to allow adequate turnover in the storage tanks. This could be automated by controlling the valve based on level signals from the tanks or it could be based on time, so that the valve opens at night during periods of low demand to refill the tanks, and closes during the day during periods of higher demand so that the tanks are adequately drawn down.

12.2 Capital and O&M Cost

The 2010 Lakes-Bedford-Forest Water Supply Evaluation considered the capital costs of the transmission mains that connect the proposed SML WTP to the Forest area and included \$50,000 for a mainline PRV in a future phase of improvements, but didn't include the

cost of any improvements to the Forest system. The system improvements considered in this PER assume that the PRV is installed now and includes a telemetry control function and a manual bypass valve. Thus, the capital and O&M costs associated with the improvements is summarized below:

Description	Cost	O&M Cost	25 Year Equivalent Annual Cost	Construction Period
Master Meter PRV	\$34,000	\$0	\$2,300	<3 months
Altitude Valves	\$68,000	\$0	\$4,600	<3 months
Telemetry Controlled Valve & Vault	\$134,000	\$0	\$9,000	<3 months

12.3 Conclusions

Switching the water source from Lynchburg to the SML WTP for the Forest area provides the minimum required available fire flow of 500 gpm on lines 6" and larger, thus appears to meet current standards. However, there is a decrease in available fire flows in this scenario versus the current supply from Lynchburg. If available fire flows in the proposed water system are not deemed adequate, then one or more of the master meters can be converted to an emergency connection with a PRV to supply flow into the Forest service area only during a fire flow event. This PER assumes conversion of at least one of the existing master meters for this purpose.

13. SCADA and Instrumentation

13.1 Advantages and Disadvantages of Alternatives

SCADA system alternatives were not evaluated in this study as any SCADA system implemented will need to be compatible with BCPSA's current SCADA system. However, minimum SCADA system components were identified for both a conventional and membrane treatment process. Since the membrane filtration is the recommended treatment process, this section focuses on SCADA for membranes only.

The membrane treatment process relies on instrumentation and controls to monitor and control the process and while the membrane processes can be manually initiated and controlled, it isn't practical to do so. Typically, the membrane filtration system has a complex control system and the membrane filter manufacturer is responsible for programming the PLC(s) to respond to process variables in a manner to sustain the operation of the filters. This high degree of automated control and monitoring with membrane systems can reduce the need for an

operator to constantly monitor the process. A related disadvantage is that the controls and instrumentation require careful calibration to work properly, and must be kept working for the process to work properly.

13.2 Capital and O&M Cost Comparison

The costs for instrumentation and controls required for a SCADA system were included in each component of the treatment process requiring controls. Thus, no separate cost estimate is provided. O&M costs typically include the annual costs of calibration of sensors, and any consumable items used for the water quality sensors, such as reagents and buffer solutions.

13.3 Conclusions

Both an internal SCADA system and external SCADA system are required for the recommended treatment process. The PSA should consider the additional inputs/outputs for this system if there are any considerations to upgrades to their existing SCADA system prior to the proposed project. A piping and instrumentation diagram (P&ID) schematic for the proposed treatment system is included in Appendix A.

14. Summary of Recommended Process Alternatives

Based on the evaluation of process alternatives in this section, the recommended facilities and process streams are described below. A conceptual process diagram is provided in Figure E-3.14. Conceptual site plans for the Intake Pump Station and WTP and a conceptual floor plan for the WTP are located in Appendix A.

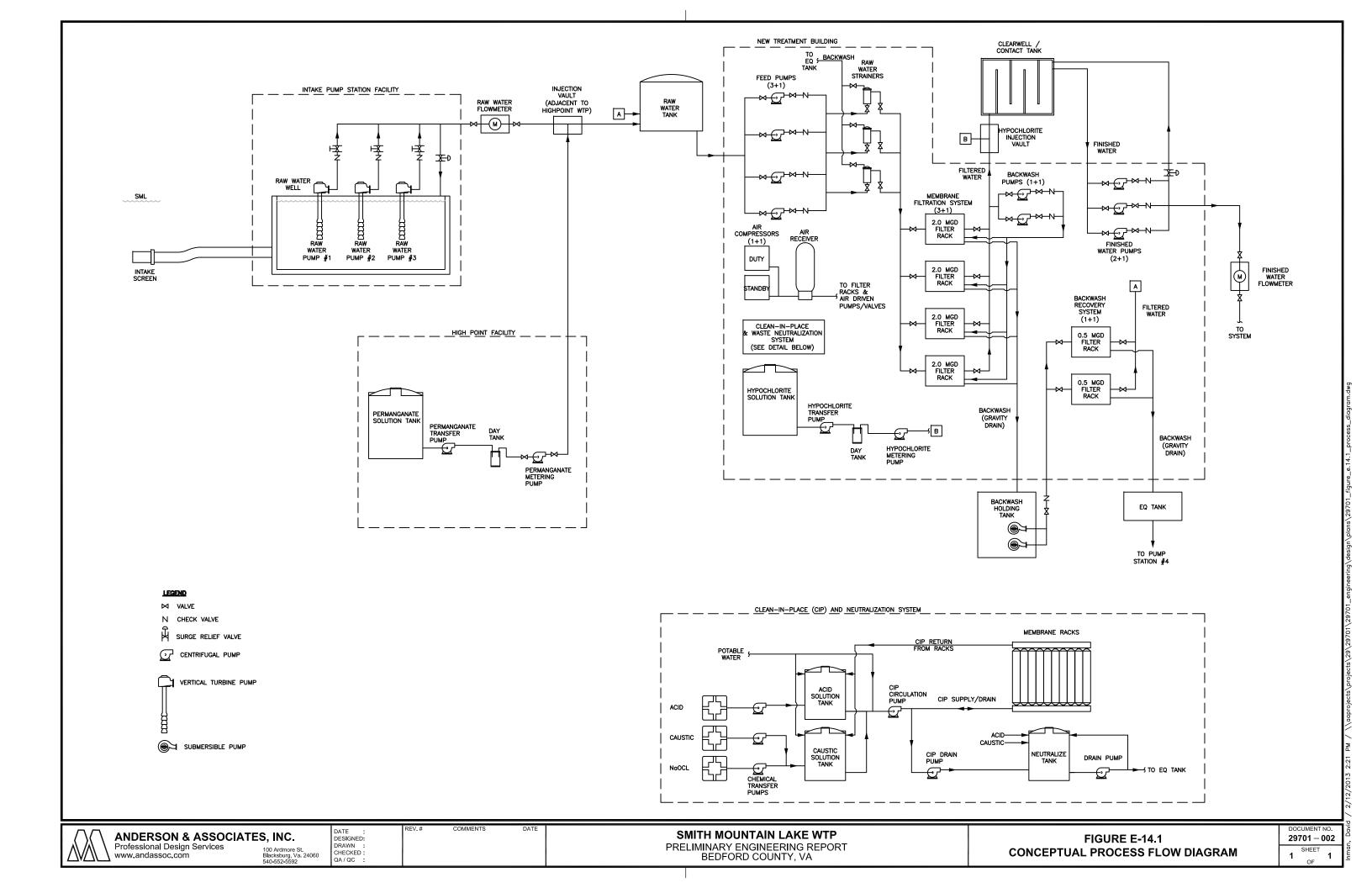
Raw water pumps located at the lake intake would draw lake water from the intake screens and pump them through a new 30-inch raw water line to the raw water tank located at Camp 24 treatment plant site. Two separate intake screens and pipes would convey water to a raw water wetwell. The raw water pumps would be three vertical turbine pumps mounted above the wetwell. Liquid sodium permanganate would be injected into the 30-inch raw water line at the High Point WTP to provide approximately 2 hours of contact time prior to entering the new raw water tank located at the SML WTP. The raw water tank would be approximately 250,000 gallons and provide flooded suction to four raw water feed pumps (three duty, one standby). These pumps would transfer water through three automatic backwashing 400-micron strainers, through the membrane filter racks, to a 400,000-gallon clearwell. Sodium hypochlorite would be injected in a vault prior to the clearwell. A clean-in-place and air system would be provided to chemically clean and air scour the membranes during cleaning and backwash operations.

The clearwell tank would have internal baffling to maximize contact time and is assumed to be a partially buried precast post-tensioned concrete tank. Operation of the membrane filter units would be controlled from the water level in the clearwell. From the clearwell, three split case finished water pumps (two duty, one standby) would pump finished water to the distribution system. The SCADA system would call for the finished water pumps to run based on the Smith Mountain Lake Water Tank level. A second sodium hypochlorite injection point would be located after the finished pump discharge should additional chlorine need to be added to maintain adequate concentrations in the distribution system.

A sidestream treatment utilizing GAC filters or anionic exchange filters between the membrane filters and clearwell is considered for the future for removal of TOC's and other emerging contaminants. Space is reserved in the conceptual site plan for this facility, but it assumed to not be included in the initial project.

Backwash waste will be discharged to an equalization/holding tank with at least 30,000 gallons of volume. Submersible pumps will transfer the backwash from this tank to two pre-engineered Pall AP-4 membrane skids relocated from the existing High Point WTP. The skids will filter the backwash water and transfer it back to the raw water tank. Backwash from these tanks will be drained to another equalization/holding tank that drains to the existing Pump Station #4 at the Camp 24 site. The backwash waste will then be pumped from here to the Moneta WWTP for treatment and disposal.

A waste neutralization system will be provided to capture, neutralize, and pump the CIP waste to the equalization/holding tank prior to draining to Pump Station #4.



15. Total Project Cost

The total project cost for the recommended alternatives are summarized below. Related costs and contingency are assumed to be 30% of the total construction costs. The annual cost is based on a loan period of 25 years and an interest rate of 4.5%.

System	Alternative Cost	Related Cost	Total Project Cost	Annual O&M Costs
Intake	\$790,000	\$240,000	\$1,030,000	\$9,000
Intake Pump Station	\$1,650,000	\$500,000	\$2,150,000	\$138,000
Raw Water Main	\$2,210,000	\$660,000	\$2,870,000	\$10,000
Pretreatment	\$70,000	\$20,000	\$90,000	\$20,000
Treatment Plant	\$8,290,000	\$2,490,000	\$10,780,000	\$390,000
Backwash Treatment	\$250,000	\$80,000	\$330,000	\$62,000
Backwash Disposal	\$60,000	\$20,000	\$80,000	\$44,000
Clearwell	\$910,000	\$270,000	\$1,181,000	\$0
Finished Water Pumps	\$550,000	\$170,000	\$720,000	\$110,000
Disinfection	\$140,000	\$40,000	\$180,000	\$50,000
Forest System Improvements	\$181,000	\$55,000	\$236,000	\$0
TOTAL	\$15,101,000	\$4,545,000	\$19,646,000	\$833,000

Annual O&M costs are tabulated with this table and assume operational staffing costs at \$70 per man hour and electrical costs at \$0.10 per kilowatt hour. The O&M costs also assume that the 6.0 MGD facility is operated approximately 50% of the time to produce 3.0 MGD average daily flow. As the overall system demand increases and the plant operates more hours per day, the operating costs will increase accordingly.

F. STAFFING

1. General

The new SML WTP will require an appropriate level of staffing and management to operate successfully. Furthermore, the BCPSA must consider the additional oversight required of the facilities it will acquire through the consolidation process with Bedford City. This section outlines minimum standards and requirements that should be considered when making decisions about how to staff in the future.

2. Management

Management of the new SML WTP will be organized into a hierarchy of managers, supervisors, and staff as shown in F-2.1. Typical qualifications and duties for these positions are described. A strong management team and structure with well-defined policies and procedures would be paramount to the successful operation and management of a large facility. Since this facility would be the largest facility managed by the BCPSA, additional training and outside management consulting may be beneficial to help the existing staff and managers prepare themselves for this challenge.

5/10/13

Figure F-2.1 – SML WTP Management Hierarchy

Title	Qualifications	Responsibilities	
Executive Director	Direct experience managing a large utility	Determines overall departmental organization, mission, core services, and allocation of financial, human, and capital resources.	
	College degree with advanced degree or training preferred	Develops and manages department goals and priorities.	
	Proven leadership skills	Serves as representative of BCPSA with outside local, state, and federal agencies.	
		Updates Board of Directors at monthly meetings and brings decisions to them that require Board actions	
Operations Manager	Engineering or operations experience	Plans, directs, supervises, and evaluates utility operations and programs including water, wastewater, and stormwater.	
	College degree with PE license desired	Manages capital improvement projects, and administers annual capital and operating budgets.	
	Good organizational and time/project management skills	Ensures compliance with safety rules, and monitors accident investigations conducted by supervisors.	
Water Superintendent	Operational and maintenance experience	Oversees the general operations of water utility workers in the field.	
	HS diploma and Class 1 Waterworks License	Creates work schedules for employees.	
	Effective communication and leadership skills	Makes budget requests for capital and operations budget.	
		Prepares and submits correspondence with state agencies, such as Monthly Operating Reports.	
Lead Operator	Operational and maintenance experience	Directly supervises operators and assigns daily work tasks.	
	HS diploma and Class 3 Waterworks License	Supervises and monitors equipment operation to ensure safety of employees.	
	Self directed and effective	Prepares daily operating reports.	
	troubleshooting skills	Coordinates laboratory sampling.	
Operator	Operational and maintenance experience	Operates, monitors, adjusts, controls, and repairs equipment, valves, and pumps.	
	HS diploma and Class 4 Waterworks License	Performs plant maintenance.	
	Quick learner and team player	Handles and adds chemicals to processes as required.	
		Records data such as residual content of chemicals, water turbidity, and water pressure.	

G. PROJECT PLANNING

1. General

The BCPSA has started their project development efforts early enough to allow adequate time to meet the December 2016 deadline for connection to the City of Bedford as described in the approved reversion agreement document. However, because of the scope of the project, BCPSA should engage the services of an A/E firm for the design of the water treatment facility as soon as possible. The proposed treatment plant site at Camp 24 will need to be surveyed prior to commencing design.

2. Schedule

A proposed project schedule is provided in Appendix E. Based on a traditional design/bid/build delivery process, key dates are as follows:

ITEM	RESPONSIBLE PARTIES	DATE
Execute Design Contract	BCPSA	05/2013
Submit Plans & Specs	Engineer	07/2014
Review Plans & Specs	VDH	10/2014
Advertise for Bids	BCPSA	11/2014
Award Bids	BCPSA	01/2015
Issue Notice to Proceed	BCPSA	02/2015
Begin Construction	Winning Bidder	03/2015
Complete Construction	Winning Bidder	12/2016
Issue Engineer's Certification	Engineer	01/2017

Though the schedule appears to have adequate time for a traditional design/bid/build project delivery method, alternative project delivery methods should be explored, including design/build and the PPEA process. These have the ability to expedite the process and can free up the limited BCPSA staff resources that would otherwise be closely engaged with the A/E firm in a traditional design/bid/build process.

3. Funding

Various funding agencies could potentially be utilized for project funding on the SML WTP project. The planning factors in this report have assumed a rate of 4.5% for 25 years to reflect a conservative evaluation of the proposed debt service to be incurred for each alternative. A separate financial evaluation has been performed by Morgan Keegan titled "Financial Impact Study of Future Capital Projects" dated December 13, 2011. The study assumed a rate of 4.5% for 25 years. The Morgan Keegan evaluation indicated that the recommended improvements are financially feasible. It is recommended that BCPSA reassess the financial assessments prepared by Morgan Keegan with updated project costs developed in this report.

The following agency funding programs should be explored for procurement of funding for this project:

Virginia Department of Health Drinking Water State Revolving Fund - The core program rate is set at 1% below the current market interest rate for municipal 20 year AA revenue bonds. Historically the core program rate has been between 2.2% and 3.5%. This funding source would have to be coupled with another source to complete the recommended project or phasing could be implemented to bridge across multiple funding years. In addition, this program is subject to availability fluctuation depending on the fiscal budget each year. This is a competitive funding program and priority is given to remedying current and potential health issues.

Virginia Resource Authority Pooled Financing Program – This program utilizes AAA/AA interest rates and loan terms up to 30 years. \$750,000 is recommended minimum loan size and this program is very flexible.

Of these alternatives, the Virginia Resource Authority Pooled Financing Program is likely to provide the most favorable loan terms and project control to the PSA. The PSA may also consider alternative financing arrangements proposed in PPEA submittals. It is recommended the PSA also explore the options of partnerships with other agencies, such as WVWA, in providing financial contributions to this project since it provides a regional benefit to these agencies. A regional approach to the project will be viewed very favorably by all funding programs and this scenario will open the door for other grant opportunities such as the Tobacco Commission and Economic Development Association. These programs can provide significant grant monies if the project is determined to improve opportunity for job creation or retention. The reversion process is providing opportunities for synergy and partnering for the entire region. This project could play a significant role in this regard and provide opportunities for economic growth.

H. RECOMMENDATIONS

1. General

The following are a list of recommendations for advancing the SML WTP project:

- 1. A fixed intake is recommended using two 30-inch intake pipes and two 44-inch tee screens. This provides the most flexibility and access for maintenance at the intake location.
- Vertical turbine submersible pumps are recommended for the raw water pumps. The intake pump station will require a great deal of public participation from stakeholders in order to be accepted by the public. It is recommended that the BCPSA initiate this design as soon as possible and consider inviting the public to one or more public workshops to seek input on the design of the structure.

The raw water pumps will add significant electrical load to the electrical distribution system. BCPSA should initiate contact with the electrical utility provider to discuss the anticipated load and frequency of operation of the pumps in order to determine if the existing electrical infrastructure has adequate capacity.

A 30 inch raw water main from the intake pump station to the proposed SML WTP is recommended. This will allow for the future 12 MGD capacity plant without the need to increase the raw water force main size. The BCPSA should explore the alternative shorter raw water pipe alignment with the power utility and property owners.

- 3. Permanganate injection is recommended as a pretreatment means for oxidation of organic matter and reduction of taste and odor compounds. The ideal location will be at a vault located near the High Point WTP to provide adequate reaction time with the raw water. Chlorine dioxide or other pretreatment chemicals may be considered in the future should permanganate alone not be effective.
- 4. The recommended treatment system for the Smith Mountain Lake Water Treatment Plant (WTP) is a pressurized membrane filtration system, similar to the existing High Point WTP but larger in scale. The process has been proven reliable utilizing Smith Mountain Lake as the water source. The flexibility of the membrane filters to increase or decrease production as needed to accommodate fluctuating demands is also an advantage over conventional filtration. Furthermore, reduced staffing and attendance requirements for membrane filtration facilities greatly reduce operating costs versus a conventional facility. Finally, membrane filtration is considered a best available treatment technology that has the ability to meet future regulations.

- 5. Membrane filters are recommended as backwash recovery equipment since they can achieve a high recovery percentage and minimize the amount of backwash to be discharged. The BCPSA should plan to relocate the existing AP4 membrane filter units from the High Point WTP and utilize them for backwash recovery units at the SML WTP.
- 6. Pumping the backwash waste to the Moneta WWTP is recommended for backwash disposal initially. Provided that the soils are suitable and there is enough area for infiltration basins, the BCPSA should consider on-site disposal as a future option, as well as further investigation of a direct discharge at Mattox Creek.
- 7. No post treatment alternatives are recommended at this time. However, space should be reserved on the site and piping configured with the design for future consideration of either GAC filters or ion exchange filters.
- 8. Either split case pumps or vertical turbine pumps are suitable for finished water pumps for the proposed SML WTP. This decision is more a matter of preference, though the split case pumps may offer a slight advantage in capital costs and access for maintenance. Either a precast or cast in place concrete clearwell can be utilized. Preferably, the structure will be rectangular with internal baffling to create a serpentine flow pattern with a high length/width ratio to maximize the disinfection efficiency.
- 9. Sodium hypochlorite is recommended for disinfection due to the potential for future availability and regulatory scrutiny of chlorine gas.
- 10. No corrosion control or fluoride is recommended initially. Space should be allocated at an appropriate location in the WTP facility for adding both in the future.
- Distribution system DBP control other than pretreatment is not recommended with the project initially. If the water quality in Smith Mountain Lake degrades significantly in the future, this may need to be reexamined. The BCPSA will need to evaluate its Stage 2 DBPR monitoring locations with the connection to Forest.
- 12. Add new altitude valves at the Althea Grove and New London tanks and a telemetry controlled pressure reducing valve at the connection of the proposed 20" transmission main to the Forest System on Route 460.
- 13. Retain at least one existing connections with the City of Lynchburg to be used in the event of an emergency, including a fire. Add a pressure reducing valve at the connection to limit the use to times when there is a major draw on the Forest system.
- 14. The proposed SML WTP will have an extensive internal SCADA system to control plant processes. Incorporate the new water treatment plant, pretreatment facilities, and raw water pump station into the BCPSA's existing SCADA system.

15. The High Point WTP is recommended to be utilized as a maintenance and storage building for the Authority, as well as the location of pretreatment dosing equipment. Utilizing the High Point WTP as a pretreatment facility will allow adequate room for a variety of pretreatment options for the BCPSA. The exterior glass lined bolted steel tanks could be removed and salvaged for scrap value in order to minimize the visual impact of the facility.

APPENDIX A CONCEPTUAL PLANS AND DIAGRAMS

BEDFORD COUNTY PSA WATER SYSTEMS GOOSE CREEK FRANKLIN COUNTY CONNECTION SMITH MOUNTAIN LAKE TANK 1,000,000 GALLONS OVERFLOW = 1224.18' L.W.L. = 1180' BASE = 1046.5' **DIAMETER = 62.07'** BEECHWOOD PRV HIGHPOINT SECTION 8 PRV HIGHPOINT ROAD PRV ISLE OF PINES PRV PARK SHORES PRV BENNI COURT PRV FORTY ACRES PRV A HARBOR HEIGHTS PRV **EXISTING WATER SYSTEM** ADD - ALL TANKS AT NORMAL LOW, LAKE ESTATES PRV HIGH POINT WTP - ON. **▲WATERWAYS PRV** <u>LEGEND</u> WATER LINE WITH A **MAXIMUM WATER AGE OF:** GROSS POINT PRV 0 - 2 DAYS CARDINAL ROAD PRV 2 - 4 DAYS SIGN N PINE PRV 4 - 6 DAYS 6 - 8 DAYS 8 - 10 DAYS 10 - 12 DAYS > 12 DAYS **EXISTING TANK EXISTING PUMP STATION EXISTING PRV EXISTING TREATMENT PLANT EXISTING FIRE HYDRANT EXISTING MASTER METER**

2000 1000 0 2000 4000 6000 SCALE IN FEET EXISTING LAKES WATER SYSTEM WATER AGE EXHIBIT MAY 10, 2013

ANDERSON
AND
ASSOCIATES, Inc.

BEDFORD COUNTY PSA WATER SYSTEMS LITTLE OTTER RIVER STEWARTSVILLE RD 24 (43)(24) **EXISTING WATER SYSTEM** ADD - ALL TANKS AT NORMAL LOW, HIGH POINT WTP - ON. LEGEND WATER LINE WITH A **MAXIMUM WATER AGE OF:** 0 - 2 DAYS 2 - 4 DAYS 4 - 6 DAYS 6 - 8 DAYS LAKE ESTATES PRV 8 - 10 DAYS 10 - 12 DAYS > 12 DAYS **EXISTING TANK EXISTING PUMP STATION EXISTING PRV EXISTING TREATMENT PLANT EXISTING FIRE HYDRANT EXISTING MASTER METER**

PROPOSED LAKES WATER SYSTEM WATER AGE EXHIBIT MAY 10, 2013

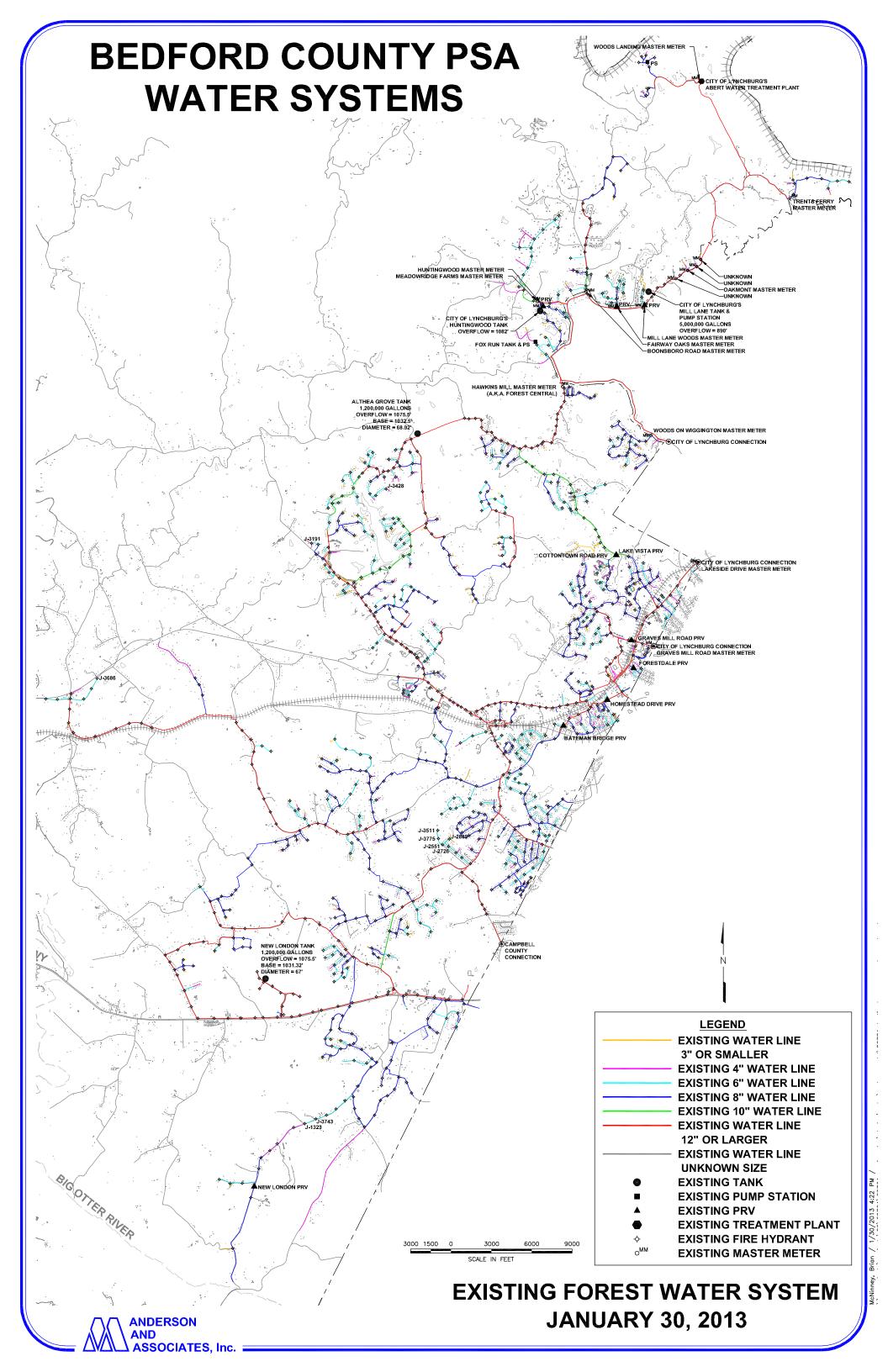


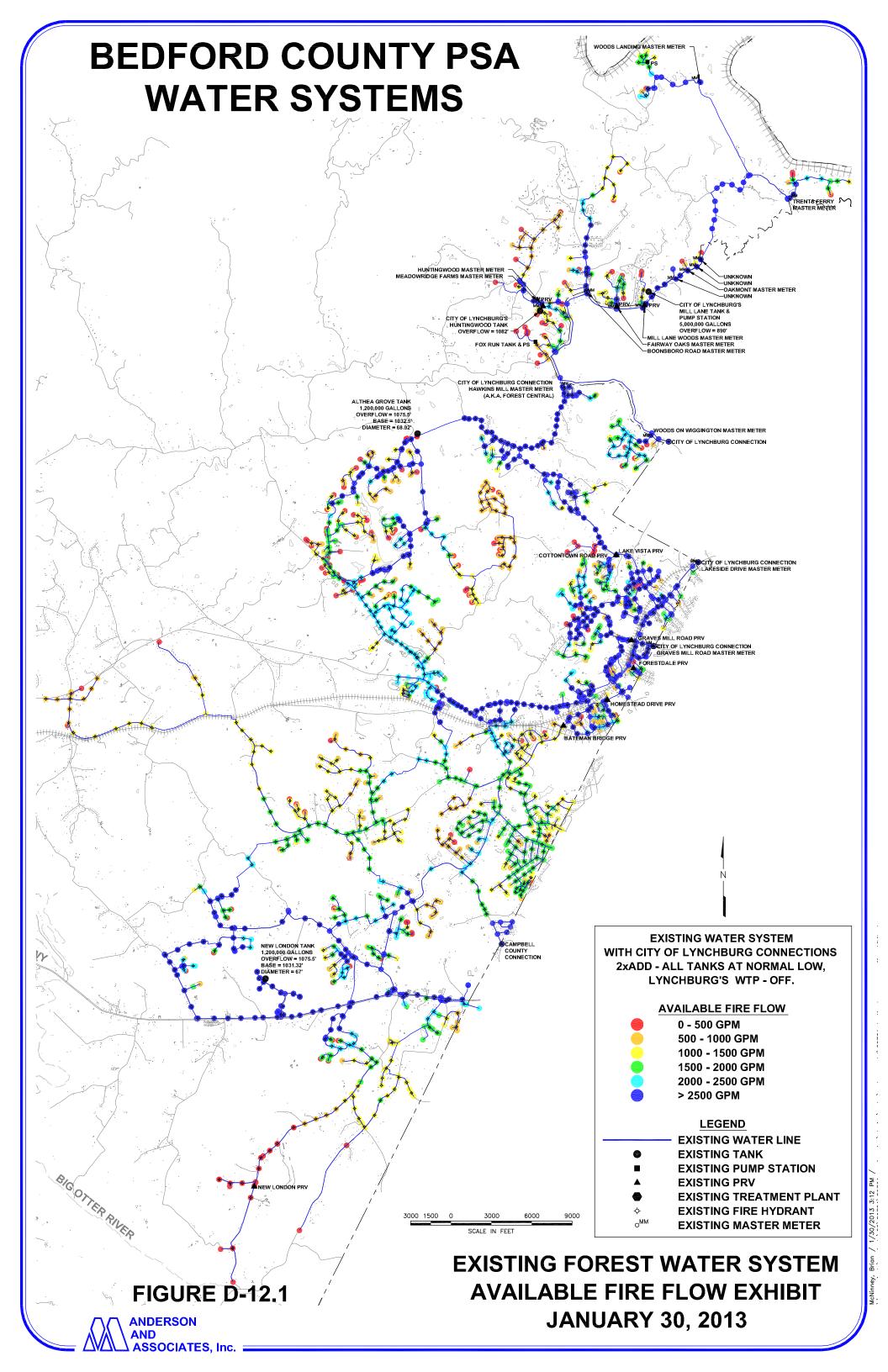
BEDFORD COUNTY PSA WATER SYSTEMS CITY OF LYNCHBURG CONNECTION AKESIDE DRIVE MASTER METER LITTLE OTTER RIVER **EXISTING WATER SYSTEM** ADD - ALL TANKS AT NORMAL LOW, HIGH POINT WTP - ON. LEGEND (43)(24) WATER LINE WITH A **MAXIMUM WATER AGE OF:** 0 - 2 DAYS 2 - 4 DAYS 4 - 6 DAYS 6 - 8 DAYS 8 - 10 DAYS 10 - 12 DAYS > 12 DAYS **EXISTING TANK EXISTING PUMP STATION EXISTING PRV EXISTING TREATMENT PLANT EXISTING FIRE HYDRANT EXISTING MASTER METER**

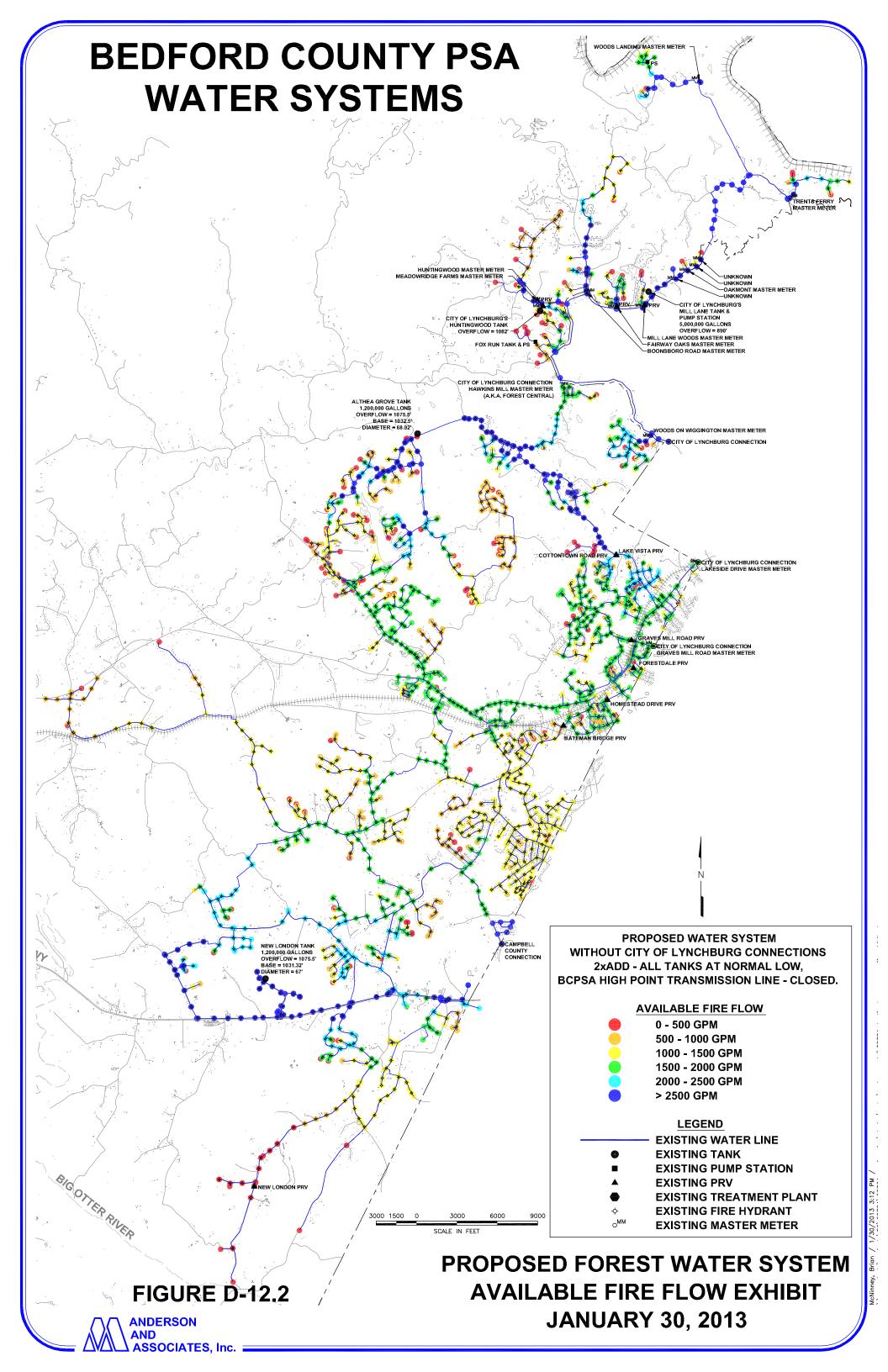
PROPOSED FOREST WATER SYSTEM
WATER AGE EXHIBIT
MAY 10, 2013

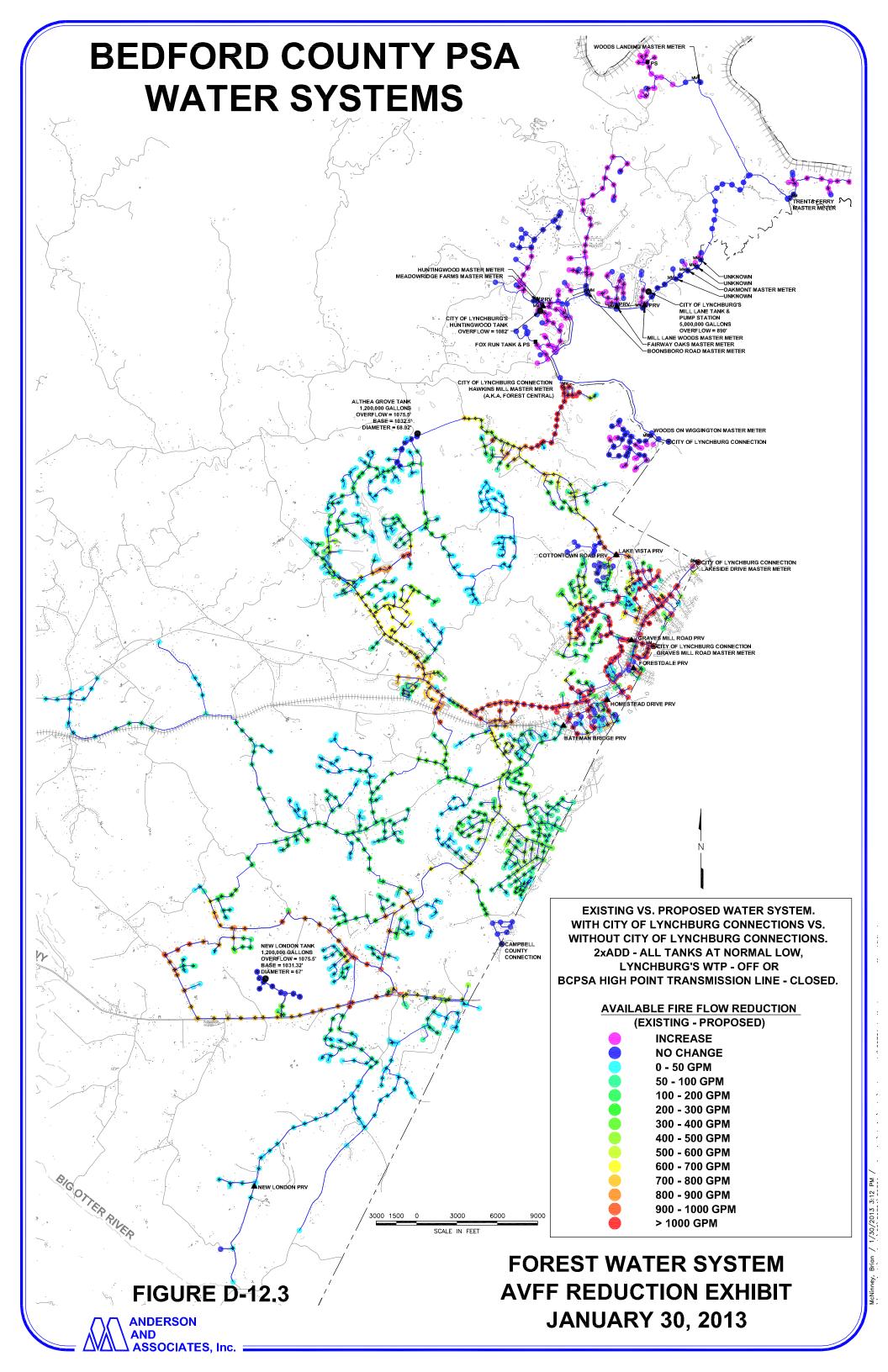
ANDERSON AND ASSOCIATES, Inc.

SCALE IN FEET



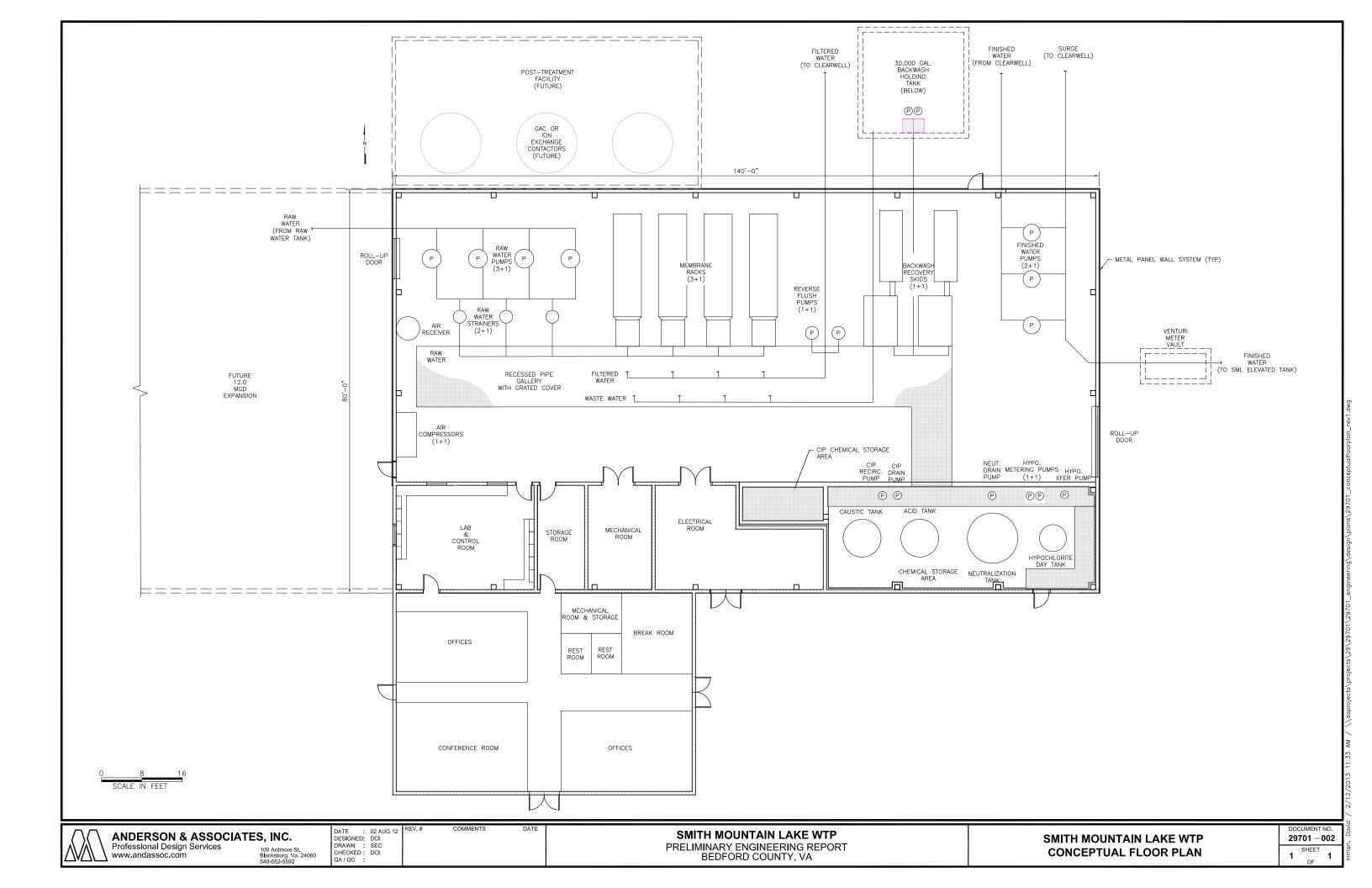












ANALOG OUTPUT ANALYSIS RECORDER (TRENDING)

BINARY INPUT во BINARY OUTPUT BACKWASH CL2 CHLORINE CW CLEARWELL EQ EQUALIZATION ETR EXISTING TO REMAIN FLOW ALARMS, HIGH & LOW FC FLOW CONTROLLER FLOW ELEMENT FE FLOW INDICATION

FNW FINISHED WATER FQI FLOW TOTALIZER / INDICATOR FLOW RECORDER FLOW TRANSMITTER FILTERED WATER FW FW FILTERED WATER GPM GALLONS PER MINUTE HOA HAND-OFF-AUTOMATIC HAND SWITCH INTAKE PUMP STATION IPS POWER SWITCH (MOTOR STARTER)

JS LAH/L LEVEL ALARMS, HIGH & LOW LAHH LEVEL ALARM HIGH-HIGH LEVEL ALARM LOW-LOW LEVEL INDICATOR LEVEL RECORDER LR LSHH LEVEL SWITCH HIGH-HIGH LSLL LEVEL SWITCH LOW-LOW LEVEL TRANSMITTER

PAH/L PRESSURE ALARMS, HIGH & LOW PER PERMANGANATE POSITIVE HYDROGEN ION PRESSURE INDICATION PROGRAMMABLE LOGIC CONTROLLER PMR PHASE MONITORING RELAY POUNDS PER SQUARE INCH PSI PRESSURE TRANSMITTER RATIO CONTROLLER RC RUNNING TIME INDICATION

RW RAW WATER RAW WATER TANK RWW RAW WATER WELL STATUS ALARM

SPEED CONTROLLER (ADJUSTABLE FREQUENCY DRIVE) SCADA SUPERVISORY CONTROL AND DATA ACQUISITION

STATUS INDICATION SMITH MOUNTAIN LAKE SPA SETPOINT ADJUST SPI SETPOINT INDICATION

TAH/L TEMPERATURE ALARMS, HIGH & LOW TEMP TEMPERATURE TEMPERATURE INDICATION

TEMPERATURE RECORDING (TRENDING) TEMPERATURE TRANSMITTER

TUR TURBIDITY TYP

UON UNLESS OTHERWISE NOTED VOLTAGE ALARM LIMITS EXCEEDED WAH/L WEIGHT ALARMS, HIGH & LOW WEIGHT INDICATION WEIGHT RECORDING (TRENDING) WEIGHT TRANSMITTER WATER TREATMENT PLANT

LEGEND

VALVE

Ν CHECK VALVE

SURGE RELIEF VALVE

 $\overline{\Omega}$ CENTRIFUGAL PUMP

VERTICAL TURBINE PUMP

PMR

SUBMERSIBLE PUMP

---- EN ---- ETHERNET SIGNAL

--- IN --- INTERNET

(FT RW) INSTRUMENT, FIELD-MOUNTED

INSTRUMENT, INSIDE-OF-PANEL-MOUNTED

PLC I/O, INSIDE-OF-PANEL

LI SCADA HMI

MASTER

904 Lakeside Drive, Lynchburg, VA 24501 434-846-1350 Fax: 434-846-1351

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SMITH MOUNTAIN LAKE WTP PRELIMINARY ENGINEERING REPORT BEDFORD COUNTY, VA

LEGEND & ABBREVIATIONS

29701 - 002 IC-1

The Raw Water Pumps will be operated on the basis of the Raw Water Tank level or Raw Water flow as determined by the position of HS-LEVEL / FLOW. Operation of each pump shall be determined by the position of its HS-ENABLE / OFF. Pump operational sequence shall be determined by the position of HS-SEQUENCE. Two of the pumps are sized for 50% of the plant capacity, the third for 100%. The 50% capacity pumps will be operated in a lead / lag mode.

Level setpoint shall be set via SPA-LEVEL.

50% pump operation

If the Raw Water Tank level drops to xx.xx', the PLC shall command the lead pump to run. The PLC shall control its speed to maintain the tank level at setpoint. If the tank level drops to xx.xx', the PLC shall command the lag pump to run. The PLC shall control the numn speeds to maintain the tank level at setpoint

If the Raw Water Tank level rises to xx.xx', the PLC shall command the lead pump to stop. The PLC shall control the lag pump speed to maintain the tank level at xx.xx'. If the tank level rises to xx.xx', the PLC shall command the lag pump to stop.

If the Raw Water Tank level drops to xx.xx', the PLC shall command the pump to run and shall control its speed to maintain the tank

If the Raw Water Tank level rises to xx.xx', the PLC shall command the pump to stop.

Flow setpoint shall be set via SPA-FLOW

50% numn operation

The PLC shall command the lead pump to run and adjust its speed to maintain flow rate at setpoint. If pump cannot maintain the setpoint, the PLC shall command the lag pump to run and shall adjust the pump speeds to maintain the setpoint

If the flow rate rises above the setpoint, the PLC shall command the lead pump to stop and shall adjust the lag pump speed to

100% nump operation

The PLC shall command the pump to run and adjust its speed to maintain flow rate at setpoint.

Out of limits conditions

Should the Raw Water Tank level drop to xx.xx', the PLC shall initiate a LOW LEVEL alarm. Should the tank level rise to xx.xx', the PLC shall initiate a HICH LEVEL alarm

Should the Raw Water Well level drop to xx xx' the PLC shall initiate a LOW LEVEL glarm. Should the Raw Water Well level rise to vv vv' the PLC shall initiate a HICH LEVEL alarm

Should the Raw Water Well level drop and trip float switch LSLL, the PLC shall command all pumps to stop and initiate a LOW-LOW level alarm. The PLC shall not allow pumping to resume until the alarm is reset via HS-LEVEL ALARM RESET. Should the well level rise and trip float switch LSHH, the PLC shall initiate a HIGH-HIGH level glarm.

Should the flow rate drop to xxxx qpm, the PLC shall initiate a LOW FLOW alarm. Should the flow rate rise to xxxx qpm PLC shall initiate a HIGH FLOW alarm

Should the PMR sense that the service voltage is out of limits, the PLC shall command all operating pumps to stop and not restart until the service voltage has returned to within acceptable limits and remained within limits for 15 minutes

Permanganate Metering System

The Permanagnate Transfer Pump shall be operated manually

The Permanganate Metering Pump stroke shall be adjusted manually. The pump stroke rate shall be adjusted by the PLC based upon Raw Water

Hypochlorite Metering System

The Hypochlorite Transfer Pump shall be operated manually

The Hypochlorite Metering Pump stroke shall be adjusted manually. The pump stroke rate shall be adjusted by the PLC based upon Finished Water

Finished Water Pumps

The Finished Water Pumps will be operated on the basis of the Smith Mountain Lake Tank level or Finished Water flow as determined by the position of HS-LEVEL / FLOW. Operation of each pump shall be determined by the position of its HS-ENABLE / OFF. Pump operational sequence shall be determined by the position of HS-SEQUENCE. Two of the pumps are sized for 50% of the plant capacity, the third for 100%. The 50% capacity pumps will be operated in a lead / lag mode.

Level setpoint shall be set via SPA-LEVEL.

50% pump operation

If the Smith Mountain Lake Tank level drops to xx.xx', the PLC shall command the lead pump to run. The PLC shall control its speed to maintain the tank level at setpoint. If the tank level drops to xx.xx', the PLC shall command the lag pump to run. The PLC shall control the pump speeds to maintain the tank level at setpoint.

If the Smith Mountain Lake Tank level rises to xx.xx', the PLC shall command the lead pump to stop. The PLC shall control the lag pump speed to maintain the tank level at setpoint. If the tank level rises to xx.xx', the PLC shall command the lag pump to stop.

If the Smith Mountain Lake Tank level drops to xx.xx', the PLC shall command the pump to run and control its speed to maintain the

If the Smith Mountain Lake Tank level rises to xx.xx', the PLC shall command the pump to stop.

Flow setpoint shall be set via SPA-FLOW

50% pump operation

The PLC shall command the lead pump to run and adjust its speed to maintain flow rate at setpoint. If pump cannot maintain the setpoint, the PLC shall command the lag pump to run. The PLC shall adjust the pump speeds to maintain the setpoint

If the flow rate rises above the setpoint, the PLC shall command the lead pump to stop. The PLC shall adjust the lag pump speed

100% pump operation

The PLC shall command the pump to run and adjust its speed to maintain flow rate at setpoint.

Out of limits conditions

Should the Smith Mountain Lake Tank level drop to xx.xx', the PLC shall initiate a LOW LEVEL glarm. Should the tank level rise to xx.xx', the PLC shall initiate a HIGH LEVEL alarm.

Should the Clearwell level drop to xx.xx', the PLC shall initiate a LOW LEVEL alarm. Should the Clearwell level rise to xx.xx', the PLC

Should the Clearwell level drop and trip float switch LSLL, the PLC shall command all pumps to stop and initiate a LOW-LOW level alorm. The PLC shall not allow pumping to resume until the alorm is reset via HS-LEVEL ALARM RESET. Should the Clearwell level rise and trip float switch LSHH, the PLC shall initiate a HIGH-HIGH level alorm.

Should the flow rate drop to xxxx gpm, the PLC shall initiate a LOW FLOW alarm. Should the flow rate rise to xxxx gpm PLC shall

Service voltage

Should the PMR sense that the service voltage is out of limits, the PLC shall command all operating pumps to stop and not restart until the service voltage has returned to within acceptable limits and remained within limits for 15 minutes

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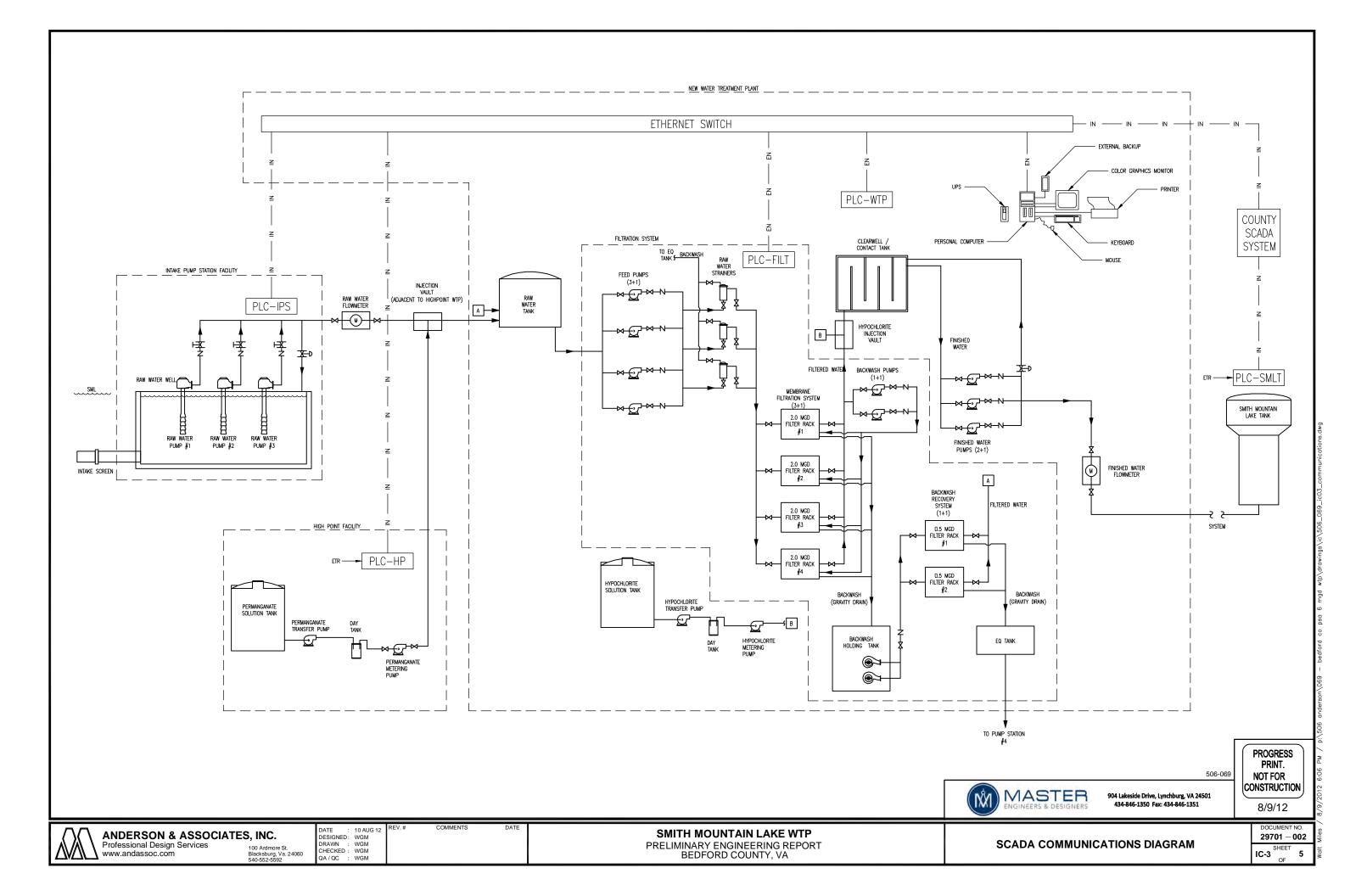
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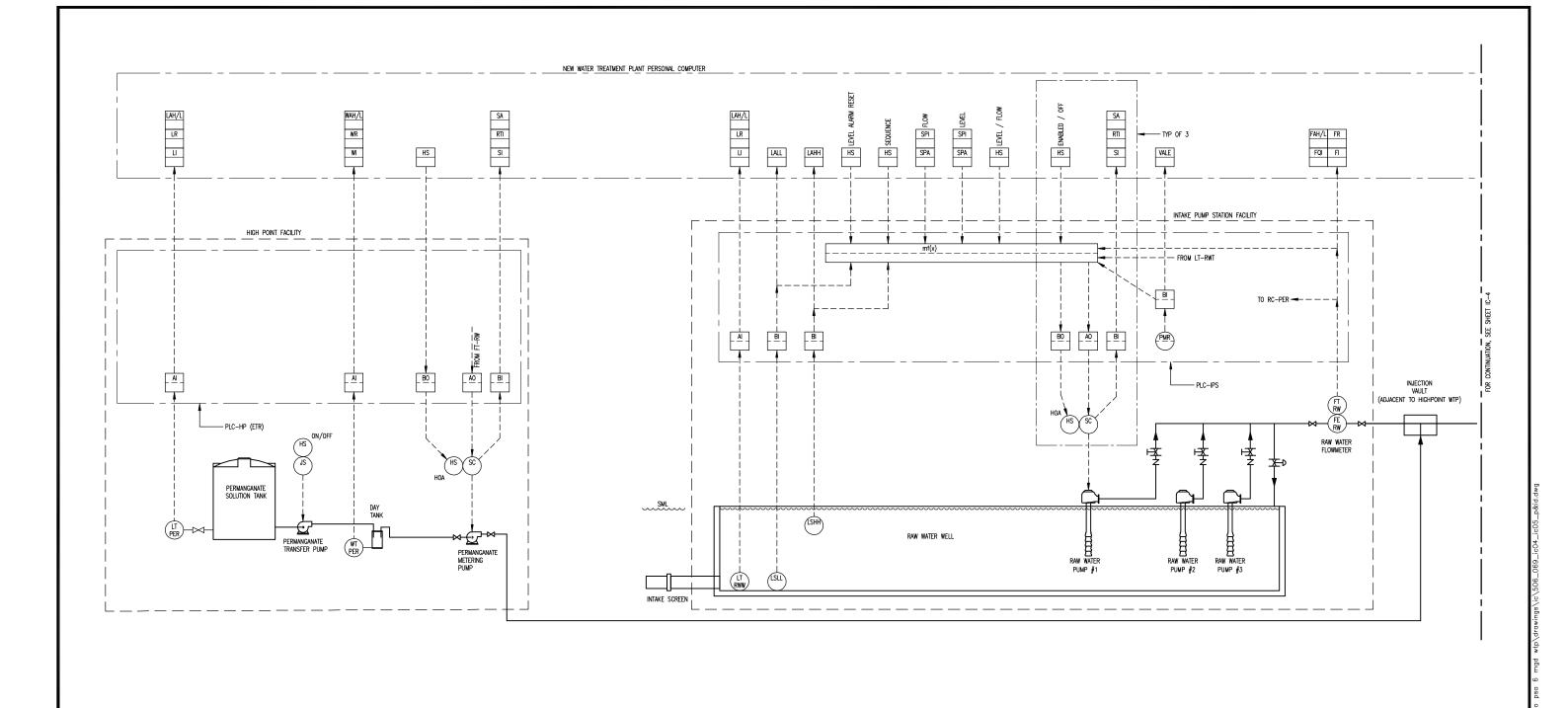
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SMITH MOUNTAIN LAKE WTP

MASTER







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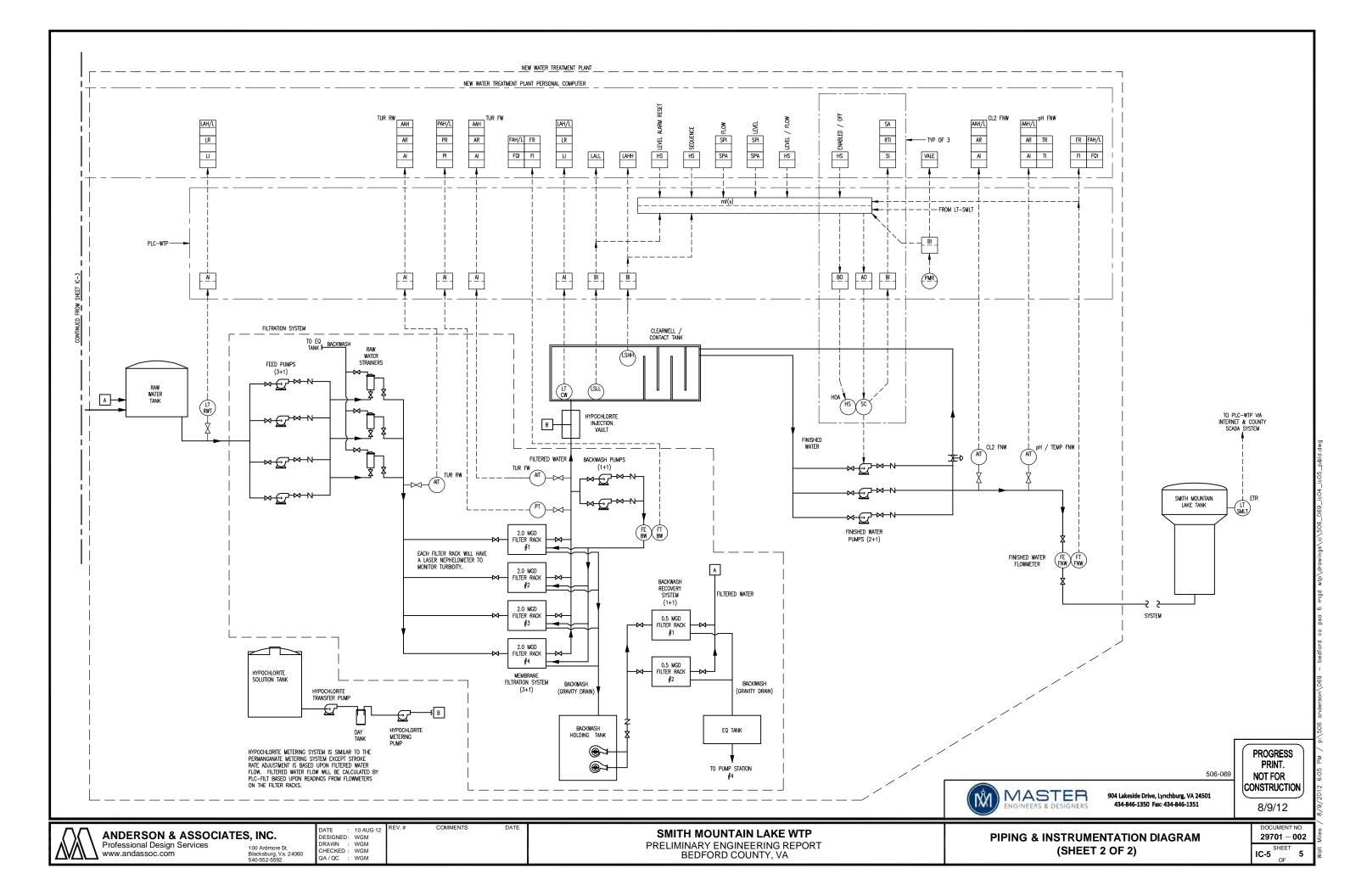
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SMITH MOUNTAIN LAKE WTP PRELIMINARY ENGINEERING REPORT BEDFORD COUNTY, VA

PIPING & INSTRUMENTATION DIAGRAM (SHEET 1 OF 2)

29701 - 002 IC-4 SHEET OF



APPENDIX B

EQUIPMENT SUPPLIER'S INFORMATION

THIS APPENDIX CONTAINS SOME
INFORMATION CONSIDERED PROPRIETARY
BY A REPRESENTATIVE EQUIPMENT
SUPPLIER.
SPECIFIC INFORMATION WILL BE INCLUDED
ON AN
"AS NEEDED" BASIS.



APPENDIX C COST ESTIMATES

Preliminary Cost Estimate - 6 mgd Floating Intake

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Intake Screen (36" drum type)	3	EA	\$46,000	\$138,000
Support Buoy and Hardware	3	LS	\$20,000	\$60,000
Mooring Anchors	3	LS	\$2,000	\$6,000
3-18" HDPE Intake Pipes	516	LF	\$100	\$51,600
3" Polyethylene Air Piping	516	LF	\$50	\$25,800
Pipe Supports/Anchorage	9	EA	\$1,000	\$9,000
Air Scour System	1	LS	\$60,000	\$60,000
Total Process Cost				\$350,400
Mobilization		3%	of TPC	\$10,000
Sitework		5%	of TPC	\$20,000
Electrical and Controls		5%	of TPC	\$20,000
Total Construction Cost				\$400,000
Engineering, Legal, & Admin.		30%	of TCC	\$120,000
TOTAL PROJECT COST				\$520,000
Amortization of Improvements				
Interest Rate	4.5 %	, o		
Term	25 y	ears		
AMORTIZED CAPITAL COST	·			\$35,100
O&M Costs				\$20,000
EQUIVALENT ANNUAL COST				\$55,100

Preliminary Cost Estimate - 6 mgd Fixed Intake

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Steel Piles	600	VLF	\$60	\$40,000
Treated Wood Piles	280	VLF	\$35	\$10,000
Pier Framing, Decking, Railing	600	SF	\$50	\$30,000
Boathouse Type Shelter	600	SF	\$100	\$60,000
Security System (CCTV monitor, entry alarms)	1	LS	\$30,000	\$30,000
Intake Screen (44" tee type)	2	LS	\$90,000	\$180,000
Screen Support structure	1	LS	\$50,000	\$50,000
Electric Hoist Assembly	2	LS	\$10,000	\$20,000
30" HDPE Pipe	290	LF	\$200	\$60,000
6" Polyethylene Air Piping	290	LF	\$75	\$20,000
Pipe Supports/Anchorage	2	LS	\$5,000	\$10,000
Air Scour System	1	LS	\$160,000	\$160,000
Total Process Cost				\$670,000
Mobilization		3%	of TPC	\$20,000
Sitework		5%	of TPC	\$30,000
Electrical and Controls		10%	of TPC	\$70,000
Total Construction Cost				\$790,000
Engineering, Legal, & Admin.		30%	of TCC	\$240,000
TOTAL PROJECT COST				\$1,030,000
Amortization of Improvements				
Interest Rate	4.5	%		
Term	25	years		
AMORTIZED CAPITAL COST				\$69,500
O&M Costs				\$9,000
EQUIVALENT ANNUAL COST				\$78,500

Preliminary Cost Estimate - Intake (Raw Water) Pump Station

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
6 MGD Vertical Turbine Pump	1	Ea	\$156,800	\$156,800
3 MGD Vertical Turbine Pump	2	Ea	\$117,600	\$235,200
350 Hp VFD	1	Ea	\$59,200	\$59,200
200 Hp VFD	2	Ea	\$35,800	\$71,600
Surge Relief Valve	1	Ea	\$6,000	\$6,000
Pump Station Valves	1	LS	\$50,000	\$50,000
Pump Station Piping	1	LS	\$70,000	\$70,000
24" Strap on Flow Meter	1	Ea	\$10,000	\$10,000
Dewatering	1	LS	\$10,000	\$10,000
Wet Well	1	LS	\$100,000	\$100,000
Pump Building	2,250	SF	\$120	\$270,000
Generator	1	Ea	\$250,000	\$250,000
Total Process Cost				\$1,288,800
Mobilization		3%	of TPC	\$40,000
Sitework		5%	of TPC	\$60,000
Electrical and Controls		20%	of TPC	\$260,000
Total Construction Cost				\$1,650,000
Engineering, Legal, & Admin.		30%	of TCC	\$500,000
TOTAL PROJECT COST				\$2,150,000
Amortization of Improvements				
Interest Rate	4.5 %			
Term	25 ye	ears		
AMORTIZED CAPITAL COST				\$145,000
O&M Costs				\$138,000
EQUIVALENT ANNUAL COST				\$283,000

Preliminary Cost Estimate - Raw Water Force Main

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
30" Raw Water Waterline	12,750	LF	\$150	\$1,912,500
30" Gate Valves	5	Ea	\$20,000	\$100,000
Air Releases	5	Ea	\$6,500	\$32,500
Road Bore Setup	5	Ea	\$1,000	\$5,000
36" Casing Pipe	175	LF	\$450	\$78,750
Stream Crossings	3	Ea	\$2,000	\$6,000
Concrete Encasement	90	LF	\$200	\$18,000
Total Process Cost				\$2,152,750
Mobilization		3%	of TPC	\$60,000
Total Construction Cost				\$2,210,000
Engineering, Legal, & Admin.		30%	of TCC	\$660,000
TOTAL PROJECT COST				\$2,870,000
Amortization of Improvements				
Interest Rate	4.5 %			
Term	25 ye	ars		
AMORTIZED CAPITAL COST				\$193,600
O&M Costs				\$10,000
EQUIVALENT ANNUAL COST				\$203,600

Preliminary Cost Estimate - Permanganate Feed System

	Quantity Unit			Unit Cost	Total
CONSTRUCTION COST					
Tank					
7,000 Gallon HDPE Tank & Foundation	1	LS		\$14,000	\$14,000
Tank Appurtenances & Piping	1	LS		\$15,000	\$15,000
Treatment Equipment					
Metering Pumps	3	EA		\$4,000	\$12,000
Safety Equipment	1	LS		\$5,000	\$5,000
Process Monitoring					
Streaming Analyzer	1	LS		\$10,000	\$10,000
Total Process Cost					\$56,000
Mobilization			3%	of TPC	\$2,000
Electrical and Controls			15%	of TPC	\$8,000
Total Construction Cost					\$70,000
Engineering, Legal, & Admin.			30%	of TCC	\$20,000
TOTAL PROJECT COST					\$90,000
Amortization of Improvements					
Interest Rate	4.5 %				
Term	25 years				_
AMORTIZED CAPITAL COST					\$6,100
O&M Costs					\$20,000
					•
EQUIVALENT ANNUAL COST					\$26,100

Preliminary Cost Estimate - Chlorine Dioxide Feed System

	Quantity	Unit		Unit Cost	Total
CONSTRUCTION COST					
Chlorine Dioxide Equipment					
Generator	1	LS		\$75,000	\$75,000
Sodium Chlorite Tank	1	LS		\$10,000	\$10,000
Chlorine Gas Feed Equipment	1	LS		\$30,000	\$30,000
Appurtenances & Piping	1	LS		\$15,000	\$15,000
Pumping Equipment					
Metering Pumps	3	EA		\$4,000	\$12,000
Safety Equipment	1	LS		\$5,000	\$5,000
Building/Site Improvements	1	LS		\$30,000	\$30,000
Total Process Cost					\$177,000
Mobilization			3%	of TPC	\$5,000
Electrical and Controls			15%	of TPC	\$27,000
Total Construction Cost					\$210,000
Engineering, Legal, & Admin.			30%	of TCC	\$60,000
TOTAL PROJECT COST					\$270,000
Amortization of Improvements					
Interest Rate	4.5 %				•
Term	25 years				
AMORTIZED CAPITAL COST	,				\$18,200
O&M Costs					\$50,000
EQUIVALENT ANNUAL COST					\$68,200

Preliminary Cost Estimate - PAC Feed System

	Quantity	Unit		Unit Cost	Total
CONSTRUCTION COST					
PAC Slurry Equipment					
Storage Silo/Slurry Equipment	1	LS		\$200,000	\$200,000
Appurtenances & Piping	1	LS		\$15,000	\$15,000
Pumping Equipment					
Metering Pumps	3	EA		\$4,000	\$12,000
Safety Equipment	1	LS		\$5,000	\$5,000
Building/Site Improvements	1	LS		\$15,000	\$15,000
Total Process Cost					\$247,000
Mobilization			3%	of TPC	\$7,000
Electrical and Controls			15%	of TPC	\$37,000
Total Construction Cost					\$290,000
Engineering, Legal, & Admin.			30%	of TCC	\$90,000
TOTAL PROJECT COST					\$380,000
A (1) (2) (3)					
Amortization of Improvements	4.5.07				
Interest Rate	4.5 %				
Term	25 years				005.000
AMORTIZED CAPITAL COST					\$25,600
O&M Costs					£110.000
Odin Oosts					\$110,000
EQUIVALENT ANNUAL COST					\$135,600

Preliminary Cost Estimate - 6 mgd Conventional Treatment System

Source: McGivney and Kawamura, "Cost Estimating Manual for Water Treatment Facilities" (2008), App A3a

ENR CCI of publication = 8889 ENR CCI (June 2012) = 9291

Process		No. of Units	Total Cost
Rapid Mix Basins		2	\$100,000
Polyaluminum Chlorine Feed System		2	\$100,000
Soda Ash Feed System		2	\$100,000
Flocculators/Basins		2	\$1,440,000
Variable Frequency Drives		6	\$90,000
Settling Basins		3	\$2,190,000
Rapid Sand Filters (Dual Media)		7	\$5,530,000
Backwash Pumps		2 2	\$280,000
Air Scour Wash			\$640,000
Flow Metering		1	\$50,000
Treatment Building/Lab Subtotal Process Costs		6,000	\$900,000
Inflation Factor (9291/8889)			\$11,420,000 1.05
Total Process Costs			\$11,940,000
Total i Tocess Costs			Ψ11,540,000
Mobilization	3%	of TCC	\$360,000
Yard Piping	5%	of TCC	\$600,000
Sitework	10%	of TCC	\$60,000
Electrical and Controls	10%	of TCC	\$1,190,000
Total Construction Cost			\$14,150,000
Engineering, Legal, & Admin. Total Project Cost	30%	of TCC	\$4,245,000 \$18,395,000
Amortization of Improvements			
•	Rate	4.5	%
	Term	25	years
AMORTIZED CAPITAL COST			\$1,240,500
O&M Costs			\$740,000
EQUIVALENT ANNUAL COST			\$1,980,500

Smith Mountain Lake WTP PER Bedford County, VA JN 29701

Preliminary Cost Estimate - 6 mgd Membrane Filtration System

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Yard Structures	•			
Finished Water Meter & Vault	1	LS	\$60,000	\$60,000
Filtered Water Chlorine Injection Vault	1	LS	\$25,000	\$25,000
Raw Water Tank	1	LS		
Glass-Lined Bolted Steel (0.25 mg)	1	LS	\$325,000	\$325,000
Treatment Building				
Pre-Engineered Metal Building and Foundation/Slab	14,200	SF	\$50	\$710,000
Mechanical and HVAC	1	LS	\$125,000	\$125,000
Piping/Plumbing	1	LS	\$175,000	\$175,000
1500 KW Backup Generator	1	LS	\$600,000	\$600,000
Treatment Equipment			, ,	*,
Membrane Filter Equipment	1	LS	\$4,100,000	\$4,100,000
Laboratory			+ .,,	+ 1,100,000
Analytical Equipment	1	LS	\$45,000	\$45,000
Safety Equipment	1	LS	\$15,000	\$15,000
Lab Counters/Cabinets/Furnishings	1	LS	\$30,000	\$30,000
Office	•		400,000	455,555
Finished Office Space/Conference Room	2,400	SF	\$90	\$216,000
Equipment	1	LS	\$10,000	\$10,000
Finishes	1	LS	\$10,000	\$10,000
Furnishings	1	LS	\$30,000	\$30,000
Total Process Cost	•	20	Ψ00,000	\$6,476,000
				Ψ0,470,000
Mobilization		3%	of TPC	\$190,000
Sitework		5%	of TPC	\$320,000
Yard Piping		10%	of TPC	\$650,000
Electrical and Controls		10%	of TPC	\$650,000
Total Construction Cost		1070	01110	\$8,290,000
Engineering, Legal, & Admin.		30%	of TCC	\$2,490,000
TOTAL PROJECT COST		30 70	01100	\$10,780,000
TOTALTROOLOT				φ10,700,000
Amortization of Improvements				
Interest Rate	4.5 9	%		
Term		ears		
AMORTIZED CAPITAL COST	25)	Cars		\$727,000
AMORTILED OAI TIAL GOOT				Ψ121,000
O&M Costs				\$390,000
EQUIVALENT ANNUAL COST				\$1,117,000

Preliminary Cost Estimate - Backwash Recovery Using High Rate Clarifiers

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Clarifiers				
Inclined Plate Settlers	1	LS	\$800,000	\$800,000
Submersible Feed Pumps	2	EA	\$10,000	\$20,000
30,000-gal Feed Tank	1	LS	\$60,000	\$60,000
Polyaluminum Chloride Feed Equipment				\$0
5000-gal Coagulant Tank	1	LS	\$10,000	\$10,000
Secondary Containment Area	1	LS	\$10,000	\$10,000
Day Tank	1	LS	\$1,500	\$0
Metering Pumps	1	LS	\$10,000	\$10,000
Transfer Pump	1	LS	\$5,000	\$10,000
Total Process Cost				\$920,000
Mobilization		3%	of TPC	\$30,000
Electrical/Controls		10%	TCC	\$90,000
Piping		5%	TCC	\$50,000
Total Construction Cost				\$1,090,000
Engineering, Legal, & Admin.		30%	of TCC	\$330,000
TOTAL PROJECT COST				\$1,420,000
Amortization of Improvements				
Interest Rate	4.5	%		
Term	25	years		
AMORTIZED CAPITAL COST				\$95,800
O&M Costs				\$60,000
EQUIVALENT ANNUAL COST				\$155,800

Preliminary Cost Estimate - Backwash Recovery Using Membrane Filtration

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Membrane Filtration				
Relocate and Assemble Pre-engineered Membrane Skids	1	LS	\$80,000	\$80,000
Reprogram and Commission Membrane Skids	1	LS	\$15,000	\$15,000
Submersible Feed Pumps	2	EA	\$15,000	\$30,000
30,000-gal Feed Tank	1	LS	\$90,000	\$90,000
Total Process Cost				\$215,000
Mobilization		3%	of TPC	\$10,000
Electrical/Controls		10%	TCC	\$20,000
Piping		5%	TCC	\$10,000
Total Construction Cost				\$250,000
Engineering, Legal, & Admin.		30%	of TCC	\$80,000
TOTAL PROJECT COST				\$330,000
Amortization of Improvements				
Interest Rate	4.5			
Term	25	years		
AMORTIZED CAPITAL COST				\$22,300
O&M Costs				\$62,000
EQUIVALENT ANNUAL COST				\$84,300
O&M Cost Detail				
Expense Categories	Units	Unit Cost	Qty	Total
Electrical				
Feed Pumps	kWh/yr	\$0.10	73,000	\$7,300
Membrane System	kWh/yr	\$0.10	146,000	\$14,600
Labor	MH	\$70	91	\$6,388
Chemicals				
Hypochlorite	gals/yr	\$1.30	2,022	\$2,629
Acid	gals/yr	\$5.59	425	\$2,378
Caustic	gals/yr	\$1.91	350	\$668
Membrane Replacement Total O&M Cost	membranes i	\$5,000	5.6	\$28,000 \$61,962

Preliminary Cost Estimate - Backwash Disposal Using Pump Station #4

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST	~			
10,000 Gallon EQ/Holding Tank	1	LS	\$20,000	\$20,000
Replace Submersible Pumps	2	EA	\$15,000	\$30,000
Total Process Cost				\$50,000
Mobilization		3%	of TPC	\$1,500
Yard Piping		10%	of TCC	\$5,000
Sitework		5%	of TCC	\$2,500
Electrical and Controls		10%	of TCC	\$5,000
Total Construction Cost				\$60,000
Engineering, Legal, & Admin.		30%	of TCC	\$20,000
TOTAL PROJECT COST				\$80,000
Amortization of Improvements				
Interest Rate	4.5	5 %		
Term	25	i years		
AMORTIZED CAPITAL COST				\$5,400
O&M Costs				\$44,000
EQUIVALENT ANNUAL COST				\$49,400
O&M Cost Detail				
Expense Categories	Units	Unit Cost	Qty	Total
Electrical				
Pumps	kWh/yr	\$0.10	87,600	\$8,760
Labor	MH	\$70	37	\$2,555
Variable Costs at Moneta WWTP	\$/1000 gal	\$0.75	43,800	\$32,850
Total O&M Cost				\$44,165

Preliminary Cost Estimate - Backwash Disposal Using Infiltration Basins

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST Basin Grading Splitter Box and Concrete Work Piping and Valves Total Process Cost	1 1 1	LS LS LS	\$20,000 \$10,000 \$12,000	\$10,000
Mobilization Yard Piping Sitework Electrical and Controls Total Construction Cost Engineering, Legal, & Admin. TOTAL PROJECT COST		3% 10% 2% 0% 30%	of TCC of TCC of TCC	\$1,260 \$4,200 \$840 \$0 \$50,000 \$20,000 \$70,000
Amortization of Improvements Interest Rate Term AMORTIZED CAPITAL COST		5 % 5 years		\$4,700
O&M Costs				\$7,000
EQUIVALENT ANNUAL COST				\$11,700
O&M Cost Detail Expense Categories Electrical Daily Labor Annual Labor/Maintenance Total O&M Cost	Units kWh/yr MH LS	Unit Cost \$0.10 \$70 \$5,000	Qty 14,600 37 1	Total \$1,460 \$2,555 \$4,000 \$6,555

Preliminary Cost Estimate - Backwash Disposal Using VPDES Discharge

	Quantity	Unit	Unit Cost	Total
Pond Grading Membrane Liner Splitter Box and Concrete Work Piping and Valves Pump Station Force Main Total Process Cost	1 1 1 1 1 27,000	LS LS LS LS LS	\$150,000 \$200,000 \$10,000 \$12,000 \$200,000 \$60	\$150,000 \$200,000 \$10,000 \$12,000 \$150,000 \$1,620,000 \$2,142,000
Mobilization Yard Piping Sitework Electrical and Controls Total Construction Cost Engineering, Legal, & Admin. TOTAL PROJECT COST		3% 3% 5% 5% 30%	of TCC	\$64,260 \$64,260 \$107,100 \$107,100 \$2,480,000 \$740,000 \$3,220,000
Amortization of Improvements Interest Rate Term AMORTIZED CAPITAL COST O&M Costs	4.5 25	% years		\$217,200 \$50,000
EQUIVALENT ANNUAL COST				\$267,200
O&M Cost Detail Expense Categories Electrical Electrical Chemicals Daily Labor Sludge removal/hauling Sludge dewatering at Moneta Permit Fees Sampling/Lab Total O&M Cost	Units kWh/yr kWh/yr \$/1000 gal MH LS LS LS	\$0.10 \$0.10 \$0.10 \$70 \$30,000 \$5,000 \$5,000 \$5,000	Qty 52,560 14,600 109,500 183 1 1 1	\$5,256 \$1,460 \$10,950 \$12,775 \$10,000 \$1,667 \$3,000 \$5,000 \$50,108

Preliminary Cost Estimate - Precast Clearwell

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Clearwell				
Precast Tank and Foundation	1	LS	\$840,000	\$840,000
Total Process Cost				\$840,000
Mobilization		3%	of TPC	\$30,000
Sitework		3%	of TPC	\$30,000
Electrical and Controls		1%	of TPC	\$10,000
Total Construction Cost				\$910,000
Engineering, Legal, & Admin.		30%	of TCC	\$270,000
TOTAL PROJECT COST				\$1,180,000
Amortization of Improvements				
Interest Rate	4.5	%		
Term	25	years		
AMORTIZED CAPITAL COST				\$79,600
O&M Costs				\$0
EQUIVALENT ANNUAL COST				\$79,600

Preliminary Cost Estimate - CIP Clearwell

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST	· · · · · · · · · · · · · · · · · · ·			
Clearwell				
Cast in Place Tank	1	LS	\$700,000	\$700,000
Total Process Cost				\$700,000
Mobilization		3%	of TPC	\$20,000
Sitework		15%	of TPC	\$110,000
Electrical and Controls		1%	of TPC	\$10,000
Total Construction Cost				\$840,000
Engineering, Legal, & Admin.		30%	of TCC	\$250,000
TOTAL PROJECT COST				\$1,090,000
Amortization of Improvements				
Interest Rate	4.5 %	6		
Term	25 y	rears		
AMORTIZED CAPITAL COST				\$73,500
O&M Costs				\$0
EQUIVALENT ANNUAL COST				\$73,500

Preliminary Cost Estimate - Finished Water Pumps - Split Case Pumps

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Finished Water Pumps	•			
6 mgd Split Case Pumps & VFD	1	EA	\$200,000	\$200,000
3 mgd Split Case Pumps & VFD	2	EA	\$150,000	\$300,000
Total Process Cost				\$500,000
Mobilization		3%	of TPC	\$20,000
Sitework		0%	of TPC	\$0
Yard Piping		0%	of TPC	\$0
Electrical and Controls		5%	of TPC	\$30,000
Total Construction Cost				\$550,000
Engineering, Legal, & Admin.		30%	of TCC	\$170,000
TOTAL PROJECT COST				\$720,000
Amortization of Improvements				
Interest Rate	4.5 %	6		
Term	25 y	ears		
AMORTIZED CAPITAL COST				\$48,600
O&M Costs				\$110,000
EQUIVALENT ANNUAL COST				\$158,600

Preliminary Cost Estimate - Finished Water Pumps - Turbine Pumps

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Finished Water Pumps	•			
6 mgd Vertical Turbine Pumps & VFD	1	EA	\$220,000	\$220,000
3 mgd Vertical Turbine Pumps & VFD	2	EA	\$160,000	\$320,000
Total Process Cost				\$540,000
Mobilization	•	3%	of TPC	\$20,000
Sitework		0%	of TPC	\$0
Yard Piping		0%	of TPC	\$0
Electrical and Controls		5%	of TPC	\$30,000
Total Construction Cost				\$590,000
Engineering, Legal, & Admin.		30%	of TCC	\$180,000
TOTAL PROJECT COST				\$770,000
Amortization of Improvements				
Interest Rate	4.5 9	%		
Term	25 y	/ears		
AMORTIZED CAPITAL COST				\$51,900
O&M Costs				\$110,000
EQUIVALENT ANNUAL COST				\$161,900

Preliminary Cost Estimate - Disinfection - Gas Chlorine

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST	***************************************			
Gas Chlorine Feed System	1	LS	\$170,000	\$170,000
Safety Equipment	1	LS	\$5,000	\$5,000
Analytical Equipment	1	LS	\$2,000	\$2,000
Total Process Cost				\$177,000
Mobilization		3%	of TPC	\$5,000
Sitework		5%	of TPC	\$9,000
Electrical and Controls		5%	of TPC	\$10,000
Total Construction Cost				\$200,000
Engineering, Legal, & Admin.		30%	of TCC	\$60,000
TOTAL PROJECT COST				\$260,000
Amortization of Improvements				
Interest Rate	4.5 9	%		
Term	25 y	ears/		
AMORTIZED CAPITAL COST				\$17,500
O&M Costs				\$29,000
EQUIVALENT ANNUAL COST				\$46,500

Preliminary Cost Estimate - Disinfection - Hypochlorite

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Tank				
14' Dia.x 14' High HDPE Tank & Foundation	1	EA	\$10,000	\$10,000
8' Dia.x 12' High HDPE Tank & Foundation	1	EA	\$6,000	\$6,000
5' Dia. Day Tank with Scale	1	EA	\$5,000	\$5,000
Tank Appurtenances & Piping	1	LS	\$15,000	\$15,000
Transfer Pump	1	EA	\$10,000	\$10,000
Concrete Containment Area	1	LS	\$5,000	\$5,000
Dilution Equipment	1	EA	\$55,000	\$55,000
Treatment Equipment				
Metering Pumps	2	EA	\$3,500	\$7,000
Safety Equipment	1	LS	\$5,000	\$5,000
Laboratory				
Analytical Equipment	1	LS	\$2,000	\$2,000
Total Process Cost				\$120,000
Mobilization		3%	of TPC	\$4,000
Sitework		5%	of TPC	\$6,000
Electrical and Controls		5%	of TPC	\$10,000
Total Construction Cost				\$140,000
Engineering, Legal, & Admin.		30%	of TCC	\$40,000
TOTAL PROJECT COST				\$180,000
Amortization of Improvements				
Interest Rate	4.5	%		
Term	25	years		
AMORTIZED CAPITAL COST				\$12,100
O&M Costs				\$50,000
EQUIVALENT ANNUAL COST				\$62,100

Preliminary Cost Estimate - Distribution DBP Control - Automatic Flushing Units

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST			-	
Automatic Flushing Units w/ Telemetry	10	EΑ	\$14,000	\$140,000
Total Process Cost				\$140,000
Mobilization		3%	of TPC	\$4,000
Sitework		5%	of TPC	\$7,000
Electrical and Controls		15%	of TPC	\$20,000
Total Construction Cost				\$170,000
Engineering, Legal, & Admin.		30%	of TCC	\$50,000
TOTAL PROJECT COST				\$220,000
Amortization of Improvements				
Interest Rate	4.5 %	%		
Term	25 y	ears		
AMORTIZED CAPITAL COST				\$14,800
O&M Costs				\$30,000
EQUIVALENT ANNUAL COST				\$44,800

Preliminary Cost Estimate - Distribution DBP Control - Storage Tank Aeration

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Aeration Systems	2	EA	\$75,000	\$150,000
Total Process Cost				\$150,000
Mobilization		3%	of TPC	\$5,000
Sitework		5%	of TPC	\$8,000
Electrical and Controls		10%	of TPC	\$20,000
Total Construction Cost				\$180,000
Engineering, Legal, & Admin.		30%	of TCC	\$50,000
TOTAL PROJECT COST				\$230,000
Amortization of Improvements				
Interest Rate	4.5	%		
Term	25	years		
AMORTIZED CAPITAL COST				\$15,500
O&M Costs				\$19,000
EQUIVALENT ANNUAL COST				\$34,500

Preliminary Cost Estimate - Distribution DBP Control - Chloramination

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Liquid Ammonia System	1	LS	\$185,000	\$190,000
Analyzer	1	LS	\$40,000	\$40,000
Total Process Cost				\$230,000
Mobilization		3%	of TPC	\$7,000
Sitework		5%	of TPC	\$12,000
Electrical and Controls		10%	of TPC	\$20,000
Total Construction Cost				\$270,000
Engineering, Legal, & Admin.		30%	of TCC	\$80,000
TOTAL PROJECT COST				\$350,000
Amortization of Improvements				
Interest Rate	4.5	%		
Term	25 <u>y</u>	years		
AMORTIZED CAPITAL COST				\$23,600
O&M Costs				\$10,000
EQUIVALENT ANNUAL COST				\$33,600

Preliminary Cost Estimate - Post Treatment - 3 mgd Granular Activated Carbon System

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Granular Activated Carbon Units	1	LS	\$2,216,000	\$2,220,000
Booster Pumps	2	EA	\$45,000	\$90,000
Pre-Engineered Metal Building and Foundation/Slab	3,000	SF	\$70	\$210,000
Total Process Costs				\$2,520,000
Yard Piping	10%			\$250,000
Sitework	5%			\$130,000
Mechanical	10%			\$250,000
Electrical and Controls	15%			\$380,000
Total Construction Cost				\$3,530,000
Mobilization		3%	of TPC	\$110,000
Total Construction Cost				\$3,640,000
Engineering, Legal, & Admin.		30%	of TCC	\$1,090,000
TOTAL PROJECT COST				\$4,730,000
Amortization of Improvements				
Interest Rate	4.5 %	6		
Term	25 y	ears		
AMORTIZED CAPITAL COST				\$319,000
O&M Costs				\$182,000
EQUIVALENT ANNUAL COST				\$501,000

Preliminary Cost Estimate - Post Treatment - 3 mgd Ion Exchange System

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
Ion Exchange Treatment System	1	LS	\$2,472,000	\$2,470,000
Pre-Engineered Metal Building and Foundation/Slab	3,000	SF	\$70	\$210,000
Total Process Costs				\$2,680,000
Yard Piping	10%			\$270,000
Sitework	5%			\$130,000
Mechanical	10%			\$270,000
Electrical and Controls	15%			\$400,000
Total Construction Cost				\$3,750,000
Mobilization		3%	of TPC	\$110,000
Total Construction Cost				\$3,860,000
Engineering, Legal, & Admin.		30%	of TCC	\$1,160,000
TOTAL PROJECT COST				\$5,020,000
Amortization of Improvements				
Interest Rate	4.5 %	6		
Term	25 y	ears		
AMORTIZED CAPITAL COST				\$338,500
O&M Costs				\$57,000
EQUIVALENT ANNUAL COST				\$395,500

Preliminary Cost Estimate - Forest System Improvements - Connection to New Transmission Main

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
12" PRV	1	Ea	\$20,000	\$20,000
Misc. Pipe Work	1	LS	\$5,000	\$5,000
Total Process Cost				\$25,000
Mobilization		3%	of TPC	\$1,000
Total Construction Cost				\$26,000
Engineering, Legal, & Admin.		30%	of TCC	\$8,000
TOTAL PROJECT COST				\$34,000
A				
Amortization of Improvements	4.5.00			
Interest Rate	4.5 %			
Term	25 ye	ears		
AMORTIZED CAPITAL COST				\$2,300
O&M Costs				\$0
EQUIVALENT ANNUAL COST				\$2,300

Preliminary Cost Estimate - Forest System Improvements - Tank Altitude Valves

	Quantity	Unit	Unit Cost	Total
CONSTRUCTION COST				
12" Altitude Valve	2	Ea	\$20,000	\$40,000
Misc. Pipe Work	1	LS	\$10,000	\$10,000
Total Process Cost				\$50,000
Mobilization		3%	of TPC	\$2,000
Total Construction Cost		3 /0	OFFC	\$ 52,000
		000/	. (700	•
Engineering, Legal, & Admin.		30%	of TCC	\$16,000
TOTAL PROJECT COST				\$68,000
Amortization of Improvements				
Interest Rate	4.5 %			
Term	25 ye	ars		
AMORTIZED CAPITAL COST				\$4,600
O&M Costs				\$0
EQUIVALENT ANNUAL COST				\$4,600

APPENDIX D PRELIMINARY DESIGN CALCULATIONS

PUMP STATION HEAD ANALYSIS

Bedford Lakes WTP PER
Raw Water Pump Station

JN 29701

Suction water surface elevation

Discharge water surface elevation Static head

794.00 feet 1048.00 feet

254.0 feet

FM High Elevation: Last Pipe to High Spot: 1048.00 feet Pipe 4

Pipe Information

7 ipo imormadon										
Pipe 1	Suction and	Suction and Pump Station Piping								
Pipe 2	Water Main	Water Main to Camp 24								
Pipe 3	1									
Pipe 4										
Pipe 5										
Pipe 6										
		Pipe 1	Pipe 2	Pipe 3	Pipe 4	Pipe 5	Pipe 6			
Pipe length (feet)		25	12730	0	0	0	0			
Pipe diameter (inches)		18.00	30.00	0.00	0.00	0.00	0.00			
		1								

Pipe C-factor 120 120 120 120 120 120 Portion of Flow 1.00 1.00 0.00 0.00 0.00 0.00 Cross-sectional area (feet) 1.767 4.909 Hydraulic radius 0.375 0.625

Number of fittings for each pipe

	Pipe 1	Pipe 2	Pipe 3	Pipe 4	Pipe 5	Pipe 6
Gate Valve	1	13			·	
Plug Valve (99% open)						
Butterfly Valve	Ì					
Swing Check Valve	1					
90° Bend	3	2				
45° Bend		4				
22.5° Bend						
11.25° Bend						
Tee (through)	2					
Tee (side out)	1					
Cross (through)	1					
Cross (side out)						
Reducer/increaser	1	1				
Discharge to air		1				
Sum of losses in fittings	7.14	4.87	100.1			
Other miscellaneous losses						
Sum of minor losses (K)	7.14	4.87				

Minimum flow for results

Flow Increment

0 gpm 350 gpm

PUMP STATION HEAD ANALYSIS Bedford Lakes WTP PER

Head Loss Calculations

JN 29701

Head Loss Calculation	13								
	Pipe 1	Pipe 2	Pipe 3	Pipe 4	Pipe 5	Pipe 6	TDH	TDH	TDH
Flow	Loss	Loss	Loss	Loss	Loss	Loss	Full Length	High Spot	Controlling
(gpm)	(feet)	(feet)	(feet)						
0	0	0	0	0	0	0	254.00	254.00	254.00
350	0.02	0.06	0	0	0	0	254.09	254.09	254.09
700	0.09	0.23	0	0	0	0	254.32	254.32	254.32
1050	0.21	0.49	0	0	0	0	254.70	254.70	254.70
1400	0.36	0.84	0	0	0	0	255.20	255.20	255.20
1750	0.57	1.26	0	0	0	0	255.83	255.83	255.83
2100	0.82	1.77	0	0	0	0	256.59	256.59	256.59
2450	1.11	2.36	0	0	0	0	257.47	257.47	257.47
2800	1.45	3.03	0	0	0	0	258.48	258.48	258.48
3150	1.83	3.77	0	0	0	0	259.60	259.60	259.60
3500	2.26	4.58	0	0	0	0	260.85	260.85	260.85
3850	2.74	5.47	0	0	0	0	262.21	262.21	262.21
4200	3.25	6.43	0	0	0	0	263.69	263.69	263.69
4550	3.82	7.46	0	0	0	0	265.28	265.28	265.28
4900	4.43	8.57	0	0	0	0	266.99	266.99	266.99
5250	5.08	9.74	0	0	0	0	268.82	268.82	268.82
5600	5.77	10.98	0	0	0	0	270.75	270.75	270.75
5950	6.52	12.29	0	0	0	0	272.81	272.81	272.81
6300	7.30	13.67	0	0	0	0	274.97	274.97	274.97
6650	8.13	15.11	0	0	0	0	277.25	277.25	277.25
7000	9.01	16.62	0	0	0	0	279.63	279.63	279.63

¥.	اما	ı	cit	Ca	ılcu	lati	٥n	•
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elocity Calculation	IS					
	Pipe 1	Pipe 2	Pipe 3	Pipe 4	Pipe 5	Pipe 6
Flow	Velocity	Velocity	Velocity	Velocity	Velocity	Velocity
(gpm)	(fps)	(fps)	(fps)	(fps)	(fps)	(fps)
0	0	0	0	0	0	0
350	0.44	0.16	0	0	0	0
700	0.88	0.32	0	0	0	0
1050	1.32	0.48	0	0	0	0
1400	1.77	0.64	0	0	0	0
1750	2.21	0.79	0	0	0	0
2100	2.65	0.95	0	0	0	0
2450	3.09	1.11	0	0	0	0
2800	3.53	1.27	0	0	0	0
3150	3.97	1.43	0	0	0	0
3500	4.41	1.59	0	0	0	0
3850	4.85	1.75	0	0	0	0
4200	5.30	1.91	0	0	0	0
4550	5.74	2.07	0	0	0	0
4900	6.18	2.22	0	0	0	0
5250	6.62	2.38	0	0	0	0
5600	7.06	2.54	0	0	0	0
5950	7.50	2.70	0	0	0	0
6300	7.94	2.86	0	0	0	0
6650	8.38	3.02	0	0	0	0
7000	8.83	3.18	0	0	0	0

Company: A&A, Inc.

Name: 29701 - Raw Water - 2100 GPM pump

Date: 5/14/2013

Pump:



FAIRBANKS NIJHUIS"

Size: 14F.4+ (4 stage)

Type: VERT.TURBINE Synch speed: 1800 rpm Curve: 9PC-119436

Dimensions:

Vertical Turbine:

Pump Limits:

Temperature: 150 °F Pressure: 400 psi g

Speed: 1770 rpm Dia: 10.8125 in Impeller: Specific Speeds: Ns: ---

Nss: ---Suction: 10 in

Power: 781 hp

Eye area: ---

Discharge: 12 in Bowl size: 14.3 in Max lateral: 0.7 in Thrust K factor: 15.5 lb/ft Search Criteria:

Flow: 2100 US gpm

Fluid:

Water SG: 1 Viscosity: 1.105 cP

NPSHa: ---

Temperature: 60 °F

Head: 275 ft

Vapor pressure: 0.2563 psi a Atm pressure: 14.7 psi a

Motor:

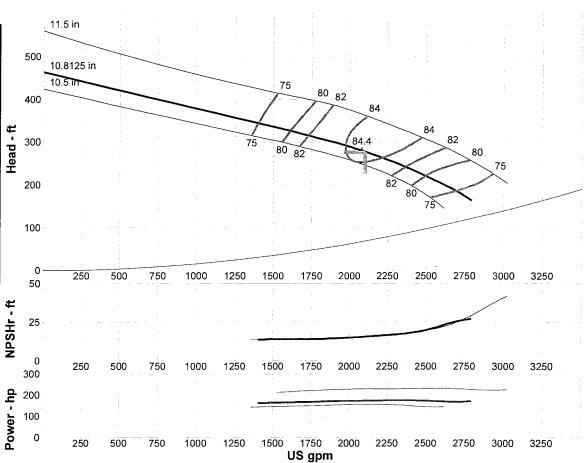
Standard: NEMA Enclosure: TEFC Size: 200 hp Speed: 1800 Frame: 447T

Sizing criteria: Max Power on Design Curve

Sphere size: 1 in

--- Data Point ---Flow: 2100 US gpm Head: 277 ft Eff: 84.4% Power: 174 hp NPSHr: 15.6 ft ---- Design Curve ----Shutoff head: 463 ft Shutoff dP: 200 psi Min flow: BEP: 84.4% @ 2079 US gpm NOL power: 176 hp @ 2364 US gpm -- Max Curve --Max power:

232 hp @ 2626 US gpm



Curve efficiencies are typical. For guaranteed values, contact Fairbanks Morse or your local distributor. Las eficiencias en curvas son típicas. Para valores garantizados contacte a Fairbanks Morse o a su distribuidor local.

Performance Evaluation:

CHOHMANCE LY	aluation.				
Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
2520	1770	216	79.3	173	20.6
2100	1770	277	84.4	174	15.6
1680	1770	320	81.2	167	14.1
1260	1770		***		
840	1770				

Company: A&A, Inc.

Name: 29701 - Raw Water - 4200 GPM pump

Date: 5/14/2013



FAIRBANKS NIJHUIS"

Pump: Size: 18H.2+ (3 stage)

Type: VERT.TURBINE Synch speed: 1800 rpm

Curve: 18-187 Specific Speeds:

Dimensions:

Vertical Turbine:

Pump Limits:

Temperature: 150 °F Pressure: 300 psi g Sphere size: 1.62 in

Speed: 1770 rpm Dia: 13.06 in Impeller: Ns: ---Nss: ----

> Suction: 17.25 in Discharge: 12 in

Bowl size: 17.5 in Max lateral: 0.38 in Thrust K factor: 27 lb/ft Search Criteria:

Flow: 4200 US gpm

Head: 275 ft

Fluid:

Water SG: 1 Viscosity: 1.105 cP

NPSHa: ---

Motor:

Standard: NEMA Enclosure: TEFC Size: 350 hp Speed: 1800 Frame: 449T

Temperature: 60 °F

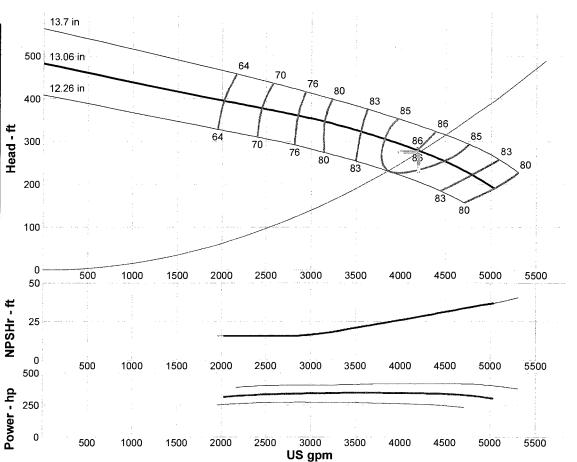
Vapor pressure: 0.2563 psi a

Atm pressure: 14.7 psi a

Sizing criteria: Max Power on Design Curve

---- Data Point ----Flow: 4200 US gpm 278 ft Head: Eff: 85.9% 344 hp Power: NPSHr: 28.3 ft ---- Design Curve ----Shutoff head: 483 ft Shutoff dP: 209 psi Min flow: BEP: 86% @ 4185 US gpm NOL power: 350 hp @ 3552 US gpm -- Max Curve --Max power: 417 hp @ 4390 US gpm

Power: 781 hp Eye area: ---



Curve efficiencies are typical. For guaranteed values, contact Fairbanks Morse or your local distributor. Las eficiencias en curvas son típicas. Para valores garantizados contacte a Fairbanks Morse o a su distribuidor local.

Performance Evaluation:

Citoimatice E	ruidelioit.				
Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
5040	1770				
4200	1770	278	85.9	344	28.3
3360	1770	335	81.6	347	19.8
2520	1770	375	71.1	335	16
1680	1770				

SML Membrane Filtration Facility Clearwell Calculations JN 29701

Step 1 - Check volume required to provide 30 minutes of contact time

Parameter	Value	Units
Qout	4200	gpm
Td required	30	minutes
Volume	126,000	gallons

Step 2 - Check volume required to provide 4 log virus removal (Per 12VAC5-590 and Table L-9)

Parameter Q Log Inactivation Required	Value 4200 4	Units gpm
Temperature pH	0.5 8.5	С
Ct Required		mg-min/L
T10/T Disinfectant Dose	0.7	mg/L
Volume Required	72,000	galions

Step 3 - Check volume required to provide 0.5 log Giardia removal

Value	Units
4200	gpm
0.5	
0.5	С
8.5	
61.1	mg-min/L
0.7	
1	mg/L
366,666	gallons
	4200 0.5 0.5 8.5 61.1 0.7

Step 4 - Perform initial sizing and check that it provides the highest volume calculated in Steps 1, 2, or 3

Parameter	Value	Units
Minimum Volume Required	366,666	gallons
Length	20	ft
Width	15.16	ft
Total Depth	18.5	ft
Freeboard	1.0	ft
Volume per tank	39,692	gallons
Number of tanks	12	
Total Volume	476,300	gallons
Total Volume > Min. Volume?	Yes	

Step 5 - Determine minimum level in tank that will provide minimum volume required

Parameter	Value	Units
Minimum Volume Required	366,666	gallons
Gallon per foot capacity	27,217	gal/ft.
Minimum Depth Required	13.5	ft

Step 6 - Set reasonable hi/low levels and check working volume/drawdown time

Parameter	Value	Units	
Hi level	17.50	ft	
Low level	14.00	ft	
Working volume	95,260	gallons	
Qin	3,125	gpm	Assuming one unit offline for CIP
Qout	4,200	gpm	Assuming finished pumps stay running at full capacity
Drawdown time	88.6	minutes	•

Notes
Drawdown time can be increased greatly by balancing flow into and out of tanks. With VFD control of all pumps in the system, this can be balanced by the operator.

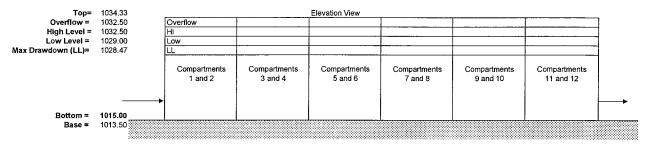
Step 7 - Calculate CT provided at low level assuming Qin = 0

Qout	4200 gpm
Low volume	381,040 gallons
Td	91 minutes
T10/T	0.7
Disinfectant Dose	1.0 mg/L
Ct Provided	64 mg-min/L

Notes

Baffling classification is assumed 0.7 due to internal baffling to provide flow path with high length/width ratio

Step 7 - Draw system sketch w/ control elevations



Reference Data

TABLE L-8 - BAFFLING CLASSIFICATIONS

Baffling Condition Unbaffled (mixed flow)

T10/T Baffling Description
0.1 None, agitated basin, very low length to width ratio high inlet and outlet flow velocities

0.3 Single or multiple unbaffled inlets and outlets, no intrabasin baffles

Average Superior

0.5 Baffled inlet or outlet with some intrabasin baffles0.7 Perforated inlet baffle, serpentine or perforated intrabasin baffles, outlet weir or perforated launders

Excellent

Perfect

O.9 Serpentine baffling throughout basin, very high length to width ratio

1.0 Very high length to width ratio (pipeline flow) (plug flow, perforated inlet, outlet, and intrabasin baffles flow)

TABLE L-9 - CT VALUES FOR INACTIVATION OF VIRUSES BY FREE CHLORINE, pH 6.0-9.0

mp	Log Removal				
	2	3	4		
0.5	6	9	12		
1	5.8	8.7	11.6		
2	5.3	8 ·	10.7		
3	4.9	7.3	9.8		
4	4.4	6.7	8.9		
5	4	6	8		
6	3.8	5.6	7.6		
7	3.6	5.2	7.2		
8	3.4	4.8	6.8		
9	3.2	4.4	6.4		
10	3	4	6		
11	2.8	3.8	5.6		
12	2.6	3.6	5.2		
13	2.4	3.4	4.8		
14	2.2	3.2	4.4		
15	2	3	4		
16	1.8	2.8	3.8		
17	1.6	2.6	3.6		
18	1.4	2.4	3.4		
19	1.2	2.2	3.2		
20	1	2	3		
21	1	1.8	2.8		
22	1	1.6	2.6		
23	1	1.4	2.4		
24	1	1.2	2.2		
25	1	1	2		

TABLE L-2 - CT VALUES FOR INACTIVATION OF GIARDIA BY FREE CHLORINE, pH 8.0-8.5

(mg/L) 0.4 46 92 139 185 231 27 0.6 48 95 143 191 238 28 0.8 49 98 148 197 246 29 1 51 101 152 203 253 30 1.2 52 104 157 209 261 31 1.4 54 107 161 214 268 32 1.6 55 110 165 219 274 32 1.8 56 113 169 225 282 33 2 58 115 173 231 288 34 2.2 59 118 177 235 294 35 2.4 60 120 181 241 301 36 2.6 61 123 184 245 307 36 2.8 63 125 188 250 313 37 3 64 127 191 255 318 38 PH = 8.5 PH = 8.5 0.4 55 110 165 219 274 32 18 38 38 2 2 58 115 173 231 288 34 36 22 59 18 18 177 235 294 35 38 38 39 30 30 30 30 30 30 30 30 30 30 30 30 30
0.4 46 92 139 185 231 27 0.6 48 95 143 191 238 28 0.8 49 98 148 197 246 29 1 51 101 152 203 253 30 1.2 52 104 157 209 261 31 1.4 54 107 161 214 268 32 1.6 55 110 165 219 274 32 1.8 56 113 169 225 282 33 2 58 115 173 231 288 34 2.2 58 115 173 231 288 34 2.2 59 118 177 235 294 35 2.4 60 120 181 241 301 36 2.6 61 123 184 245 307 36 2.8 63 125 188 250 313 37 3 64 127 191 255 318 38 PH = 8.5 0.4 55 110 165 219 274 32 0.6 57 114 171 228 285 34 0.8 59 118 177 236 295 35 1 61 122 183 243 304 36 1.2 63 125 188 251 313 37 1.4 65 129 194 258 323 38
0.8 49 98 148 197 246 29 1 51 101 152 203 253 30 1.2 52 104 157 209 261 31 1.4 54 107 161 214 268 32 1.6 55 110 165 219 274 32 1.8 56 113 169 225 282 33 2 58 115 173 231 288 34 2.2 59 118 177 235 294 35 2.4 60 120 181 241 301 36 2.6 61 123 184 245 307 36 2.8 63 125 188 250 313 37 3 64 127 191 255 318 38 PH = 8.5 0.4 55 110 165 219 274 32 PH = 8.5 0.4 55 110 165 29 274 32 0.6 57 114 171 228 285 34 0.8 59 118 177 236 295 35 1 61 122 183 243 304 36 1.2 63 125 188 251 313 37 1.4 65 129 194 258 323 38
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High Point Water Treatment Plant - Bedford Co. PSA

JN 29701

Size intake screens based on Cook Screens Engineers Guide:

1 INTAKE REQUIREMENTS - Allow for 2% waste since we will recover backwash water

4250 gpm

13.0 MGD Ultimate peak x 1.02 / 1440 =

9208 gpm

Use half of Ultimate peak for initial intake (Q) =

4604 gpm

2 SELECT THE SLOT OPENING SIZE

Use

1 mm =

0.039 in

3 DETERMINE FRACTIONAL OPEN AREA (FOA) FOR THIS SLOT SIZE - from Table 2

FOA for

0.039 in =

0.357

4 DETERMINE THE SCREEN INDEX (SI) - for a single screen (N = number of units)

$$SI = Q/(N \times FOA) =$$

12897

5 SCREEN CONFIGURATION OPTIONS

N	MGD/UNIT	TYPE	DIA (in)	OUTLET	SI/UNIT	SI
1	6.0	drum	66	30	14929	14929
2	3.0	drum	44	20	6635	13270
3	2.0	drum	36	18	4438	13314
4	1.5	drum	33	16	3732	14928
1	6.0	tee	44	30	13270	13270
2	3.0	tee	33	24	7464	14928

6 SELECT CONFIGURATION

Use a	44	in screen with a	30	in outlet pipe
or	3 36	in screens with	18	in outlet pipes

INTAKE SCREEN DESIGN High Point Water Treatment Plant - Bedford Co. PSA

JN 29701

Size intake screens based on Cook Screens Engineers Guide:

1 INTAKE REQUIREMENTS - Allow for 2% waste since we will recover backwash water

4250 gpm

13.0 MGD Ultimate peak x 1.02 / 1440 =

9208 gpm

Use half of Ultimate peak for initial intake (Q) =

4604 gpm

2 SELECT THE SLOT OPENING SIZE

Use

2 mm =

0.078 in

3 DETERMINE FRACTIONAL OPEN AREA (FOA) FOR THIS SLOT SIZE - from Table 2

FOA for

0.078 in =

0.526

4 DETERMINE THE SCREEN INDEX (SI) - for a single screen (N = number of units)

$$SI = Q/(N \times FOA) =$$

8753

5 SCREEN CONFIGURATION OPTIONS

N	I TYPI	E DIA (in)	OUTLET	SI/UNIT	SI
1	drum	54	24	9994	9994
2	drum	40	20	5484	10968
3	drum	33	16	3732	11196
1	tee	36	30	8884	8884
2	tee	27	20	4996	9992

6 SELECT CONFIGURATION

Use a

36 in screen with a

30 in outlet pipe

PUMP STATION HEAD ANALYSIS

Bedford Lakes WTP PER Finished Water Pump Station JN 29701

Suction water surface elevation

Discharge water surface elevation

1025.00 feet 1220.00 feet 195.0 feet

FM High Elevation: Last Pipe to High Spot: 1220.00 feet Pipe 3

Pipe Information

Static head

Pipe 1	Suction and Pump Station Piping
Pipe 2	Proposed Line to Existing Line
Pipe 3	Existing Waterline on Radford Church Road
Dino 4	

Pipe 4 Pipe 5

Pipe 6						
	Pipe 1	Pipe 2	Pipe 3	Pipe 4	Pipe 5	Pipe 6
Pipe length (feet)	75	1050	1600	0	0	0
Pipe diameter (inches)	20.00	18.00	18.00	0.00	0.00	0.00
Pipe C-factor	120	120	120	120	120	120
Portion of Flow	1.00	1.00	1.00	0.00	0.00	0.00
Cross-sectional area (feet)	2.182	1.767	1.767			
Hydraulic radius	0.417	0.375	0.375			

Number of fittings for each pipe

	Pipe 1	Pipe 2	Pipe 3	Pipe 4	Pipe 5	Pipe 6
Gate Valve	1	1	2			
Plug Valve (99% open)						
Butterfly Valve						
Swing Check Valve	1					
90° Bend	3		2			
45° Bend		3				
22.5° Bend						
11.25° Bend						
Tee (through)						
Tee (side out)	1	1	1			
Cross (through)	1					
Cross (side out)						
Reducer/Increaser	1	1	1			
Discharge to air			1			
Sum of losses in fittings	5.94	2.69	3.78			
Other miscellaneous losses						
Sum of minor losses (K)	5.94	2.69	3.78			

Minimum flow for results

0 gpm 350 gpm

Flow Increment

PUMP STATION HEAD ANALYSIS Bedford Lakes WTP PER

Head Loss Calculations

JN 29701

238.40

243.06

247.95

	Pipe 1	Pipe 2	Pipe 3	Pipe 4	Pipe 5	Pipe 6	TDH	TDH	TDH
Flow	Loss	Loss	Loss	Loss	Loss	Loss	Full Length	High Spot	Controlling
(gpm)	(feet)	(feet)	(feet)						
0	0	0	0	0	0	0	195.00	195.00	195.00
350	0.01	0.07	0.10	0	0	0	195.19	195.19	195.19
700	0.06	0.25	0.38	0	0	0	195.69	195.69	195.69
1050	0.13	0.54	0.82	0	0	0	196.49	196.49	196.49
1400	0.22	0.93	1.40	0	0	0	197.55	197.55	197.55
1750	0.35	1.41	2.13	0	0	0	198.89	198.89	198.89
2100	0.50	1.99	2.99	0	0	0	200.48	200.48	200.48
2450	0.67	2.65	3.99	0	0	0	202.32	202.32	202.32
2800	0.88	3.41	5.13	0	0	0	204.41	204.41	204.41
3150	1.11	4.25	6.39	0	0	0	206.75	206.75	206.75
3500	1.36	5.18	7.79	0	0	0	209.33	209.33	209.33
3850	1.65	6.19	9.31	0	0	0	212.15	212.15	212.15
4200	1.96	7.28	10.96	0	0	0	215.20	215.20	215.20
4550	2.29	8.46	12.74	0	0	0	218.50	218.50	218.50
4900	2.66	9.73	14.63	0	0	0	222.02	222.02	222.02
5250	3.05	11.07	16.65	0	0	0	225.77	225.77	225.77
5600	3.46	12.50	18.80	0	0	0	229.76	229.76	229.76
5950	3.90	14.00	21.06	0	0	0	233.97	233.97	233.97

0

0

0

0

0

0

0

0

0

238.40

243.06

247.95

238.40

243.06

247.95

7000	
Velocity Calculation	s

6300

6650

4.37

4.87

5.39

15.59

17.25

19.00

23.44

25.94

28.56

velocity Calculations						
	Pipe 1	Pipe 2	Pipe 3	Pipe 4	Pipe 5	Pipe 6
Flow	Velocity	Velocity	Velocity	Velocity	Velocity	Velocity
(gpm)	(fps)	(fps)	(fps)	(fps)	(fps)	(fps)
0	0	0	0	0	0	0
350	0.36	0.44	0.44	0	0	0
700	0.71	0.88	0.88	0	0	0
1050	1.07	1.32	1.32	0	0	0
1400	1.43	1.77	1.77	0	0	0
1750	1.79	2.21	2.21	0	0	0
2100	2.14	2.65	2.65	0	0	0
2450	2.50	3.09	3.09	0	0	0
2800	2.86	3.53	3.53	0	0	0
3150	3.22	3.97	3.97	0	0	0
3500	3.57	4.41	4.41	0	0	0
3850	3.93	4.85	4.85	0	0	0
4200	4.29	5.30	5.30	0	0	0
4550	4.65	5.74	5.74	0	0	0
4900	5.00	6.18	6.18	0	0	0
5250	5.36	6.62	6.62	0	0	0
5600	5.72	7.06	7.06	0	0	0
5950	6.08	7.50	7.50	0	0	0
6300	6.43	7.94	7.94	0	0	0
6650	6.79	8.38	8.38	0	0	0
7000	7.15	8.83	8.83	0	0	0



					Pump	Perform	ance Datash	neet			
Proje	ct na	me / location	: 29701	- FINIS		4200 6PM	Tag Number		: Default		
		g engineer	-	F-1101.	- C	7 200 april	Service		:		
Custo	•		:				PACO Model		: 1015-3/4 k	(PV	
Custo	omer	ref. / PO	:				Quantity		: 1		
Quote	e nun	mber	;				Quoted By (Sales	Office)	:		
Date	last s	saved	: 01/27/201	3 2:40 PM			Quoted By (Sales	Engineer)	:		
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		I head / pressure	e, rated (red			51	Additional liquid d	escription	:		
		l head / pressure			220.1 ft		Solids diameter, n		: 0.00	in	
		essure, rated / m			0.00 / 0.0	0 psi.g	Solids concentrati	on, by volume	: 0.00	%	
NPS	l ava	ilable, rated		:	Ample		Temperature, max	•	: 68.0	0 deg F	
Frequ		/		:	60 Hz		Fluid density, rate	d / max	: 1.00	0 / 1.000 SG	
	75 J.		13 40.7				Viscosity, rated		: 1.00		
Spee		ed	Mark Stranger and Co.	American Special Control of the Cont	1,780 rpn	1	Vapor pressure, ra	ated	: 0.34	psi.a	
Impel	ler di	iameter, rated		:	14.88 in			ATTENDED	1-2		
Impel	ler di	iameter, maximu	m	:	15.37 in		Material selected		: Cast	iron	
Impel	ler di	ameter, minimur	n	:	11.00 in					機器等提供	
Efficie					81.19 %		Maximum working			1 psi.g	
NPSH	t req	uired / margin re	quired	:	14.02 / 0.	00 ft	Maximum allowab				
-	_			:			Maximum allowab	•		0 psi.g	
MCSI					1,633.1 U	Sgpm	Hydrostatic test pr	essure	: 375.0	0 psi.g	egeggaenerage gerre trauwe en e
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		to shutoff			9.78 %	0	Motor sizing speci	fication		ed on duty poi	nt (rated
		eff. point (BEP)			5,896.1 U	5gpm		~	power	•	
1		(rated / BEP)	.\		71.23 %		Margin over specif	fication	: 0.00	%	
,		ratio (rated / max	•		96.81 %		Service factor		: 1.00	,	
1		(rated dia / max [ANSI/HI 9.6.7-2	•		92.25 % 1.00 / 1.0	0 / 1 00	Power, hydraulic	mt /wata d massacra	: 233	•	
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Spee					'80 rpm		Vapor pressure	e, rated	: 0.34	l psi.a	CORPORATION COMMISSION
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		ameter, maximu			.00 in		Material select			t iron	A Court Promise Process
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Forest Water System
Bedford County Public Service Authority
Available Fire Flow Summary
January 30, 2013
JN 29701

		Existing	Proposed	Reduction
		System	System	in
	Fire	Available	Available	Available
Node	Hydrant	Fire	Fire	Fire
Label	ID	Flow	Flow	Flow
		(gpm)	(gpm)	(gpm)
J-1323	00546	565	555	10
J-3511	00994	596	574	23
J-3686	UNK	621	604	17
J-3743	00545	640	628	12
J-3191	00900	641	556	85
J-3775	00993	643	617	26
J-2551	00954	660	630	31
J-2889	00953	673	645	28
J-3428	00849	685	677	8
J-2726	00952	692	654	38

Initial Conditions:

Twice Average Daily Demand
Huntingwood, Althea Grove, & New London Tanks HGL = 1065'
Existing System - City of Lynchburg WTP - Off
Proposed System - Transmission Main - Closed

Bedford County PSA Water Systems Hydraulic Analysis May 13, 2013 Narrative

The purpose of this hydraulic analysis is to examine the effect of isolating the Forest water system from the City of Lynchburg and supplying the system from the Lakes water system with a proposed treatment plant and transmission main. A summary of the runs completed is presented below while detailed printouts of each model run follow this narrative.

Run #1 – Steady state analysis of twice average conditions for the existing Bedford County PSA Water Systems with initial conditions as follow: WVWA's Parkway Tank – Normal Low, WVWA's Falling Creek WTP – Off, Smith Mountain Lake Tank – Normal Low, High Point WTP – Off, New London Tank – Normal Low, Althea Grove Tank – Normal Low, City of Lynchburg's Huntingwood Tank – Normal Low, City of Lynchburg's connections – Active.

Purpose – To report the available fire flows in the existing system under these conditions while maintaining 20 psi for all users in the system.

Result – Please refer to the included available fire flow exhibits and fire flow report for details.

Run #2 – Steady state analysis of twice average conditions for the proposed Bedford County PSA Water Systems with initial conditions as follow: WVWA's Parkway Tank – Normal Low, WVWA's Falling Creek WTP – Off, Smith Mountain Lake Tank – Normal Low, Proposed WTP – Off, Proposed BCPSA High Point Transmission Line – Constructed – Closed, New London Tank – Normal Low, Althea Grove Tank – Normal Low, & City of Lynchburg's connections – Closed.

Purpose – To report the available fire flows in the proposed system under these conditions while maintaining 20 psi for all users in the system.

Result – Please refer to the included available fire flow exhibits and fire flow report for details.

Run #1 – Steady state analysis of twice average conditions for the existing Bedford County PSA Water Systems with initial conditions as follow:

Stewartsville Water System: WVWA's Parkway Tank – Normal Low (1323') WVWA's Falling Creek WTP – Off

Lakes Water System: Smith Mountain Lake Tank – Normal Low (1219') High Point WTP – Off

Forest Water System:
New London Tank – Normal Low (1065')
Althea Grove Tank – Normal Low (1065')
City of Lynchburg's Huntingwood Tank – Normal Low (1065')
City of Lynchburg WTP – Off
City of Lynchburg's connections – Active

Purpose – To report the available fire flows in the existing system under these conditions while maintaining 20 psi for all users in the system.

Result – Please refer to the included available fire flow exhibits and fire flow report for details.

BEDFORD COUNTY PSA WATER SYSTEMS HYDRAULIC ANALYSIS MAY 13, 2013

Run 1 - Twice Average Daily Demand plus maximum available fire flow calculated for each junction.

Fxisting Water System

All Tanks at Normal Low Level, High Point WTP - Off, & Lynchburg WTP - Off.

Steady State Analysis
Junction Report - sorted by pressure

Calculated Elevation Hydraulic Grade Pressure Pressure ID Label (ft) Zone (gpm) (ft) (psi) 8695 J-4226 680.00 (N/A) <None> (N/A) (N/A) (N/A) (N/A) (N/A) (N/A) (N/A) (N/A) 8701 J-4227 1079.00 <None> 1112.00 8707 J-4229 1110.00 <None> (N/A) (N/A) (N/A) 8709 .1-4230 985.00 <None> (N/A) (N/A) (N/A) 8713 J-4231 607.00 <None> (N/A) (N/A) 8716 J-4232 1030.00 <None> (N/A) (N/A) (N/A) (N/A) (N/A) (N/A) (N/A) 8719 .1-4233 1043 00 <None> (N/A) 8721 J-4234 916.00 <None> (N/A) 8722 J-4235 979.00 <None> (N/A) (N/A) 1064.86 (N/A) 2243 J-1198 1025.04 Tank_Node 1.08 17.23 387 1017.35 1064.88 J-211 Tank Node 386 .I-210 1016 56 Tank Node 0.08 1064 88 20 91 1064.86 1064.86 J-1197 Forest 1007.03 0.48 25.02 7305 J-3957 Forest 760.55 996.47 2354 J-1262 Forest 1.48 825.35 28 04 Forest 0.08 1064.45 4527 J-2373 996.31 Forest 0.28 1064.45 29.48 Forest Forest 0.08 219 J-102 996.18 1064.45 29.54 2316 J-1242 756.89 825.50 29.68 253 252 6401 0.08 0.28 0.68 31.10 31.21 31.57 J-125 992.56 Forest 1064.44 J-124 J-3452 992.29 991.91 1064.44 1064.87 Forest 6400 4433 0.48 1.24 31.65 32.62 J-3451 991.70 Forest 1064.87 1068.85 1022.90 2909 J-1575 0.37 32.74 947.22 Lakes 1726 2560 J-877 J-1375 987.82 946.32 Forest Lakes 0.48 0.55 1064.36 33.12 33.15 945.28 2534 J-1360 Lakes 0.46 1022.88 33.57 1287 J-668 985 88 Forest 0.68 1063.87 33.74 J-1300 944.12 2427 0.20 1022.96 34.11 Lakes 2933 J-1586 914.04 Lakes 0.63 993.43 34.35 1725 6790 J-876 J-3681 984.63 Forest 0.68 1064.36 34.50 912.74 34.93 Lakes 0.20 993.47 724 .1-417 900.05 Forest 0.88 981 49 35 24 0.20 0.55 J-3682 993.47 35.55 2650 J-1427 907.90 Lakes 991.26 36.07 J-1077 J-2476 Lakes 0.81 2036 939 35 1022.88 36.14 555 J-316 896.02 Forest 0.48 981.49 36.98 556 4045 J-317 J-2183 895.60 906.88 Forest Lakes 0.68 981.49 993.48 37.16 37.47 0.68 0.88 0.28 1825 J-941 972.00 Forest 1059.15 37.71 1824 6882 J-940 J-3735 972.00 975.61 1059.15 1063.16 37.71 37.88 Forest 0.20 1.48 0.68 J-2119 J-1230 Lakes Forest 3903 905.70 993.45 37.96 2296 1374 737.36 974.62 J-691 1063.16 Forest 38.31 0.63 0.48 0.20 J-2327 J-371 904.74 975.28 Lakes Forest 993.44 1064.33 38.38 38.53 4447 6334 J-3412 904.37 Lakes 993.44 38.54 646 4870 J-372 J-2566 974.88 974.83 0.08 1064.36 1064.33 38.72 38.72 Forest 3747 J-2045 974.49 Forest 0.68 1064.83 39.09 J-3413 J-3381 993.44 1064.83 6335 902.79 Lakes 0.20 39.22 973.92 0.88 39.33 6281 Forest 2657 .I-1431 890.34 Forest 0.88 981 49 39 44 0.68 J-1374 900.00 39.44 2167 J-1152 973.02 1064.83 39.72 Forest 548 4511 J-312 972.00 Forest Forest 0.08 1064 21 39.89 J-2364 1064.21 5811 J-3108 901.12 Lakes 0.29 993.48 39.96 7297 4707 J-3954 J-2475 889.03 888.98 Forest Forest 0.28 981 48 40.00 40.02 6276 J-3378 874.19 Lakes 0.20 967.37 40.31 6277 4706 J-3379 J-2474 873.94 888.00 0.20 0.48 967.37 981.48 40.42 40.44 Lakes Forest J-2919 J-1418 J-1752 0.28 0.48 0.20 Forest Forest 5483 964.00 1057.66 40.52 3229 899.51 993.44 40.64 Lakes J-2920 J-2184 963.65 899.47 Forest Lakes 0.48 0.37 1057.66 993.48 5484 40.67 1667 J-838 928.91 Lakes 0.20 1022.93 40.68 J-3434 J-3191 899.11 964.80 0.20 0.68 993.44 1059.15 40.81 40.82 6370 Lakes 5961 Forest 7909 J-4143 886.95 Forest 0.68 981.48 40.90 J-311 J-1419 969.55 964.20 1.68 0.48 1064.19 1059.15 40.95 41.08 Forest 2636 Forest 3230 .1-1753 898 45 Lakes 0.20 993 44 41.10 3970 J-2150 962.14 Forest 0.20 1057.61 J-1492 896.95 993.44 41.75 2760 Lakes Lakes Forest 1.06 3011 .I-1621 894 73 991 30 41.78 J-2145 4794 J-2524 966.14 Forest 0.48 1063.57 42.15 1039 891 J-564 884.00 Forest Forest 0.08 981.48 1057.75 42.18 42.28 J-500 960.04 0.88 2322 J-1245 892.96 Lakes 0.37 991.16 42.49 J-1550 J-66 993.43 1064.92 42.51 42.54 0.55 Forest 0.08

Anderson and Associates

5/13/2013

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
2303	J-1234	894.73	Lakes	1.15	993.48	42.73
6417	J-3461	966.15	Forest	0.28	1064.92	42.73
1668	J-839	923.66	Lakes	0.37	1022.91	42.94
4731	J-2489	964.69	Forest	1.08	1063.98	42.96
403 7742	J-221 J-4106	964.62 882.09	Forest Forest	0.08 0.88	1063.98 981.48	42.98 43.00
404	J-222	964.54	Forest	0.08	1063.98	43.02
437	J-243	964.29	Forest	0.48	1063.97	43.13
2805	J-1519	963.79	Forest	1.48	1063.91	43.32
1483 6742	J-744 J-3652	958.70 963.89	Forest Forest	0.48 0.48	1058.95 1064.16	43.37 43.38
2280	J-1220	890.97	Lakes	0.55	991.26	43.39
2166	J-1151	964.52	Forest	0.08	1064.83	43.40
1286	J-667	963.42	Forest	0.08	1064.16	43.59
3162	J-1712	964.01	Forest	0.48	1064.83	43.62
5104 5103	J-2702 J-2701	879.93 879.78	Forest Forest	0.68 0.68	981.48 981.48	43.93 44.00
3416	J-1859	963.05	Forest	0.48	1064.85	44.05
6709	J-3633	962.84	Forest	0.88	1064.83	44.13
2422	J-1297	889.14	Lakes	0.20	991.16	44.14
2026	J-1070	888.99	Lakes	0.20	991.16	44.20
2275 5312	J-1217 J-2820	960.04 959.77	Forest Forest	0.88 0.08	1062.35 1062.35	44.26 44.38
7741	J-4105	878.50	Forest	0.68	981.48	44.55
6945	J-3772	955.32	Forest	0.08	1058.95	44.84
133	J-65	960.72	Forest	0.48	1064.92	45.08
2283	J-1222	721.24	Forest	1.08	825.50	45.11 45.15
3016 6946	J-1622 J-3773	857.19 954.48	Lakes Forest	2.80 0.08	961.54 1058.95	45.15 45.20
5012	J-2649	959.38	Forest	0.08	1064.51	45.49
3009	J-1620	855.41	Lakes	0.98	960.77	45.58
361	J-194	959.12	Forest	0.08	1064.51	45.60
6540	J-3532	959.45	Forest	0.68	1064.86	45.60
333 332	J-176 J-175	958.79 958.68	Forest Forest	0.08 0.08	1064.51 1064.51	45.74 45.79
6541	J-3533	958.85	Forest	0.68	1064.51	45.79 45.86
3137	J-1697	952.48	Forest	0.28	1059.16	46.15
3136	J-1696	952.40	Forest	0.28	1059.16	46.19
3415	J-1858	958.02	Forest	0.48	1064.85	46.22
1482 5494	J-743 J-2925	951.89 951.87	Forest Forest	0.28 0.28	1058.99 1058.99	46.33 46.34
4967	J-2623	952.00	Forest	0.48	1059.16	46.36
4968	J-2624	951.97	Forest	1.48	1059.16	46.37
2206	J-1176	957.46	Forest	0.28	1064.86	46.47
6524 3833	J-3523	951.76 951.59	Forest Forest	1.28 0.48	1059.16 1059.16	46.47
6603	J-2085 J-3570	950.26	Forest	0.48	1059.16	46.54 46.55
3142	J-1700	949.88	Forest	0.08	1057.47	46.55
879	J-494	949.76	Forest	0.88	1057.75	46.72
3143	J-1701	949.41	Forest	0.88	1057.47	46.76
1152 5571	J-608 J-2969	949.78 949.13	Forest Forest	0.28 0.08	1057.85 1057.75	46.76 46.99
5822	J-3114	872.71	Forest	0.68	981.49	47.06
5931	J-3174	948.50	Forest	0.28	1057.44	47.14
3740	J-2041	948.31	Forest	0.88	1057.44	47.22
2276	J-1218	953.15	Forest	0.88	1062.35	47.24
6069 6070	J-3254 J-3255	857.94 857.78	Lakes Lakes	0.46 0.20	967.36 967.36	47.34 47.41
1121	J-3255 J-597	948.00	Forest	0.28	1057.72	47.41
6575	J-3554	948.00	Forest	0.68	1057.72	47.47
2947	J-1593	857.48	Lakes	0.20	967.36	47.54
1119	J-596	871.43	Forest	1.28	981.49	47.61
3006 2001	J-1619 J-1055	857.03 912.45	Lakes Lakes	0.46 0.37	967.36 1022.87	47.73 47.78
4000	J-1055 J-2163	946.70	Forest	0.48	1057.41	47.78 47.90
887	J-498	951.40	Forest	0.88	1062.35	48.00
2348	J-1259	948.00	Forest	0.08	1059.10	48.07
8457	J-4180	948.00	Forest	0.08	1059.10	48.07
8459 8461	J-4181 J-4182	948.00	Forest	0.08	1059.10 1059.10	48.07 48.07
8461 8471	J-4182 J-4187	948.00 948.00	Forest Forest	0.08 0.08	1059.10	48.07 48.07
620	J-355	948.00	Forest	0.08	1059.11	48.07
5709	J-3049	948.00	Forest	0.08	1059.11	48.07
5226	J-2770	870.37	Forest	1.08	981.49	48.08
3021	J-1624	953.76	Forest	1.08	1064.90	48.08
2064 481	J-1092 J-270	953.22 869.87	Forest Forest	0.68 0.08	1064.74 981.48	48.25 48.29
2238	J-1195	881.71	Lakes	0.08	993.43	48.29
480	J-269	869.32	Forest	0.08	981.48	48.53
5227	J-2771	869.25	Forest	1.08	981.49	48.56
2769	J-1497	869.06	Forest	0.88	981.48	48.64
2257 537	J-1206 J-305	952.00 949.32	Forest Forest	0.88 0.28	1064.87 1062.34	48.83 48.90
621	J-356	945.94	Forest	0.28	1059.11	48.96
2224	J-1187	712.26	Forest	0.68	825.46	48.98
3188	J-1727	944.00	Forest	0.48	1057.44	49.08
5553	J-2958	944.00	Forest	0.08	1057.44	49.08
3148 3710	J-1704 J-2024	943.66 943.79	Forest Forest	0.68 0.28	1057.18 1057.44	49.11 49.17
5240	J-2024 J-2779	945.49	Forest	0.48	1057.44	49.17
4609	J-2421	943.62	Forest	0.68	1057.34	49.20
3067	J-1653	943.39	Forest	0.08	1057.18	49.23
3189	J-1728	943.61	Forest	0.08	1057.44	49.25
705 5239	J-406 J-2778	943.60 945.24	Forest Forest	1.68 0.28	1057.47 1059.16	49.27 49.29
3068	J-1654	945.24	Forest	0.28	1059.16	49.29
704	J-405	943.43	Forest	0.28	1057.47	49.34
4610	J-2422	943.27	Forest	0.88	1057.34	49.35
3971	J-2151	943.50	Forest	0.48	1057.58	49.36

Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	
5984	J-3204	943.75	Forest	0.08	1057.84	49.36	
3482	J-1897	945.01	Forest	0.48	1059.10	49.36	
4773	J-2512	949.65	Forest	80.0	1063.90	49.43	
6398	J-3450	948.08	Forest	80.0	1062.34	49.43	
5983	J-3203	943.58	Forest	0.48	1057.84	49.43	
759 7216	J-434	949.47 874.53	Forest Lakes	0.28 0.20	1063.90 988.99	49.51 49.52	
4676	J-3918 J-2458	874.53 874.49	Lakes	0.20	988.99	49.52 49.54	
2321	J-1244	876.58	Lakes	0.37	991.16	49.57	
1058	J-573	943.03	Forest	1.48	1057.67	49.60	
3289	J-1789	944.36	Forest	0.48	1059.10	49.64	
1961	J-1029	944.43	Forest	1.08	1059.18	49.65	
7027	J-3819	942.79	Forest	1.48	1057.58	49.66	
3290 2689	J-1790 J-1449	944.28 866.61	Forest Forest	0.28 2.29	1059.10 981.47	49.68 49.70	
4677	J-2459	874.06	Lakes	0.20	988.99	49.72	
523	J-296	944.14	Forest	0.48	1059.16	49.76	
7886	J-4139	942.56	Forest	1.28	1057.69	49.81	
7215	J-3917	873.73	Lakes	0.20	988.99	49.87	
5092	J-2695	948.90	Forest	0.48	1064.19	49.88	
4738 1221	J-2493 J-638	942.53 942.51	Forest Forest	0.88 0.28	1057.92 1057.92	49.92 49.93	
1644	J-825	848.00	Lakes	0.20	963.60	50.02	
2417	J-1294	848.00	Lakes	0.20	963.60	50.02	
1641	J-823	845.61	Lakes	0.20	961.56	50.17	
3254	J-1768	948.22	Forest	0.48	1064.19	50.17	
1587	J-788	845.50	Lakes	0.20	961.57	50.21	
2207	J-1177	948.77	Forest	0.88	1064.85	50.22	
3746 1588	J-2044 J-789	948.39 845.11	Forest Lakes	0.68 0.81	1064.83 961.56	50.37 50.38	
2829	J-789 J-1532	864.77	Forest	0.48	981.47	50.38	
3255	J-1769	946.94	Forest	0.48	1064.19	50.73	
1016	J-554	941.75	Forest	80.0	1059.13	50.79	
6925	J-3761	943.46	Forest	0.48	1060.87	50.80	
4080	J-2199	864.05	Forest	0.28	981.48	50.81	
5286	J-2805	941.58	Forest	0.28	1059.13	50.86	
2776 5074	J-1501 J-2686	863.75 939.93	Forest Forest	1.08 2.09	981.47 1057.88	50.93 51.03	
539	J-306	939.80	Forest	0.48	1057.88	51.03	
307	J-159	939.30	Forest	0.08	1057.47	51.13	
6562	J-3546	939.49	Forest	0.28	1057.69	51.14	
216	J-100	939.26	Forest	80.0	1057.47	51.14	
217	J-101	939.26	Forest	0.08	1057.47	51.15	
213 214	J-98 J-99	939.25 939.25	Forest Forest	0.08 0.08	1057.47	51.15 51.15	
710	J-408	940.94	Forest	0.68	1057.47 1059.20	51.15	
2055	J-1088	946.39	Forest	0.08	1064.88	51.10	
6563	J-3547	939.19	Forest	0.48	1057.69	51.27	
290	J-149	938.91	Forest	80.0	1057.47	51.30	
540	J-307	939.16	Forest	0.88	1057.88	51.37	
2450	J-1314	841.85	Lakes	1.50	960.69	51.42	
5951 758	J-3186 J-433	938.57 944.87	Forest Forest	0.48 0.88	1057.47 1063.87	51.44 51.48	
2002	J-1056	903.79	Lakes	0.63	1022.86	51.46	
7413	J-3997	938.54	Forest	1.88	1057.69	51.55	
2339	J-1254	872.00	Lakes	0.89	991.28	51.61	
4159	J-2233	941.44	Forest	1.28	1060.87	51.67	
2449	J-1313	841.25	Lakes	1.06	960.69	51.67	
775	J-442	937.89	Forest	0.68	1057.47	51.74	
6471 2281	J-3492 J-1221	937.89 871.65	Forest Lakes	1.08 0.55	1057.49 991.26	51.74 51.75	
6472	J-3493	937.77	Forest	1.08	1057.49	51.75	
4114	J-2213	939.41	Forest	1.28	1059.23	51.84	
4829	J-2543	937.58	Forest	0.48	1057.45	51.86	
5498	J-2927	937.77	Forest	0.68	1057.69	51.88	
5132	J-2717	943.61	Forest	0.48	1063.57	51.90	
6085	J-3264	937.63	Forest	0.08	1057.69	51.94	
1057 4828	J-572 J-2542	937.63 937.15	Forest	0.28 0.28	1057.69 1057.45	51.94 52.05	
4828 1969	J-2542 J-1034	937.15 843.27	Forest Lakes	0.28	963.60	52.05 52.06	
772	J-440	937.32	Forest	0.28	1057.69	52.08	
3797	J-2068	943.18	Forest	0.28	1063.57	52.09	
2690	J-1450	861.06	Forest	1.08	981.47	52.09	
765	J-437	943.33	Forest	0.48	1063.83	52.13	
2007	J-1059	938.56	Forest	1.88	1059.11	52.15	
536	J-304	941.68	Forest	0.08	1062.35	52.21	
2258 2708	J-1207 J-1461	944.14 860.74	Forest Forest	0.88 1.28	1064.87 981.47	52.23 52.24	
6076	J-3259	868.24	Lakes	0.20	988.99	52.24 52.24	
1532	J-761	943.86	Forest	0.08	1064.66	52.27	
5056	J-2676	942.98	Forest	80.0	1063.83	52.29	
3042	J-1637	936.55	Forest	80.0	1057.44	52.31	
4536	J-2378	936.45	Forest	0.28	1057.44	52.35	
3041	J-1636	936.41	Forest	0.08	1057.44	52.36	
7576 802	J-4054 J-455	936.71 936.25	Forest Forest	0.08 0.88	1057.86 1057.48	52.42 52.45	
4821	J-2538	936.57	Forest	0.08	1057.46	52.48	
4820	J-2537	936.42	Forest	0.28	1057.86	52.54	
6075	J-3258	867.47	Lakes	0.20	988.99	52.58	
2680	J-1444	869.73	Lakes	1.06	991.28	52.59	
5601	J-2986	936.00	Forest	0.88	1057.59	52.61	
5602	J-2987	936.00	Forest	0.48	1057.59	52.61	
2304	J-1235	871.88	Lakes	0.63	993.48	52.61	
4936 4937	J-2605 J-2606	936.20 936.16	Forest Forest	0.28 0.08	1057.82 1057.82	52.62 52.64	
2033	J-1075	936.00	Forest	1.08	1057.82	52.70	
6303	J-3394	935.56	Forest	0.48	1057.44	52.73	
1498	J-749	936.90	Forest	0.28	1058.91	52.79	
2517	J-1350	941.92	Forest	80.0	1063.97	52.80	

			Calculated					
Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure		
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)		
6302	J-3393	935.38	Forest	0.68	1057.44	52.81		
5070	J-2684	859.40	Forest	0.48	981.48	52.82		
1782 5069	J-913 J-2683	937.14 859.13	Forest Forest	0.48 2.49	1059.33 981.48	52.87 52.94		
695	J-400	940.00	Forest	1.48	1062.42	52.94		
4603	J-2418	941.44	Forest	1.28	1063.97	53.01		
7268	J-3943	942.17	Forest	0.28	1064.87	53.09		
6109 470	J-3278	936.20	Forest	0.08	1058.91	53.09		
848	J-263 J-478	858.65 941.64	Forest Forest	0.68 0.08	981.48 1064.48	53.14 53.15		
524	J-297	936.31	Forest	0.48	1059.16	53.15		
4857	J-2559	941.49	Forest	0.08	1064.48	53.21		
7088	J-3853	936.00	Forest	0.28	1059.03	53.23		
1018 4054	J-555 J-2186	934.36 934.30	Forest Forest	0.48 0.88	1057.49 1057.45	53.27 53.28		
7814	J-4124	934.41	Forest	0.88	1057.67	53.33		
6349	J-3421	934.11	Forest	2.49	1057.47	53.37		
6350	J-3422	933.83	Forest	1.28	1057.47	53.49		
7269	J-3944	941.14	Forest	0.88	1064.87	53.53		
531 416	J-301 J-230	933.71 857.11	Forest Forest	0.48 0.28	1057.74 981.48	53.66 53.81		
3798	J-2069	939.15	Forest	1.08	1063.57	53.83		
2295	J-1229	700.89	Forest	0.88	825.36	53.85		
2639	J-1420	939.30	Forest	0.88	1063.79	53.86		
2363	J-1267 J-3655	934.99 856.85	Forest Forest	0.68	1059.48 981.48	53.86 53.92		
6747 6748	J-3656	856.27	Forest	1.08 0.08	981.48	53.92 54.17		
4763	J-2506	856.21	Forest	0.28	981.48	54.20		
2605	J-1401	938.40	Forest	0.08	1063.90	54.30		
415	J-229	855.86	Forest	0.28	981.48	54.35		
773 4802	J-441 J-2528	932.00 855.76	Forest Forest	1.88 0.08	1057.70 981.48	54.38 54.40		
4802	J-2528 J-2544	938.17	Forest	0.08	1063.90	54.40		
3824	J-2080	931.79	Forest	1.28	1057.52	54.40		
2827	J-1531	865.51	Lakes	1.15	991.26	54.40		
5317	J-2823	938.01	Forest	0.08	1063.78 1057.47	54.41		
5874 4984	J-3143 J-2632	931.70 931.70	Forest Forest	0.08 0.28	1057.54	54.42 54.44		
930	J-514	932.00	Forest	0.28	1057.91	54.48		
5037	J-2664	932.00	Forest	0.68	1057.91	54.48		
4985	J-2633	931.54	Forest	1.28	1057.54	54.51		
2225 1063	J-1188 J-575	699.45 931.49	Forest Forest	0.08 0.68	825.46 1057.59	54.52 54.56		
228	J-575 J-108	855.36	Forest	0.08	981.48	54.56 54.57		
3494	J-1904	931.33	Forest	1.48	1057.47	54.58		
229	J-109	855.33	Forest	0.08	981.48	54.58		
4424 2938	J-2321 J-1588	931.63 938.67	Forest Forest	0.88 1.48	1057.78 1064.87	54.58 54.60		
2938 4496	J-1588 J-2355	938.62	Forest	0.08	1064.87	54.62		
7262	J-3940	862.72	Lakes	0.37	988.99	54.63		
675	J-390	931.25	Forest	0.08	1057.54	54.64		
5307 1635	J-2817 J-819	932.74 864.84	Forest Lakes	0.68 0.37	1059.04 991.17	54.65 54.65		
1635 450	J-819 J-251	937.45	Forest	0.37	991.17 1063.79	54.65 54.66		
5308	J-2818	932.69	Forest	0.08	1059.04	54.67		
6024	J-3226	932.84	Forest	0.88	1059.21	54.67		
7009	J-3809	931.35	Forest	0.68	1057.78	54.70		
4789 444	J-2521 J-247	937.42 932.59	Forest Forest	0.08 0.08	1063.95 1059.21	54.74 54.78		
3219	J-1746	938.17	Forest	0.28	1064.87	54.76		
532	J-302	931.04	Forest	0.28	1057.74	54.82		
2584	J-1388	935.69	Forest	1.28	1062.41	54.83		
2516	J-1349 I-450	937.20 930.61	Forest Forest	0.88	1063.97 1057.47	54.85 54.89		
810 2614	J-459 J-1406	937.01	Forest	0.28 0.88	1057.47 1063.90	54.89 54.90		
3434	J-1869	931.85	Forest	0.48	1058.95	54.99		
8519	J-4211	930.32	Forest	0.08	1057.47	55.01		
449	J-250	936.35	Forest	0.08	1063.78	55.13		
2334 3495	J-1252 J-1905	865.95 929.96	Lakes Forest	1.24 1.08	993.42 1057.47	55.15 55.17		
3495 4790	J-1905 J-2522	936.40	Forest	0.08	1063.95	55.17		
7263	J-3941	861.41	Lakes	0.20	988.99	55.20		
941	J-519	930.26	Forest	0.08	1057.92	55.23		
7819	J-4125	929.67	Forest	1.28	1057.42	55.27 55.25		
2824 3202	J-1530 J-1736	929.90 931.16	Forest Forest	1.68 0.08	1057.84 1059.10	55.35 55.35		
7010	J-3810	929.78	Forest	0.68	1059.10	55.38		
3834	J-2086	931.14	Forest	0.28	1059.16	55.38		
2153	J-1143	865.32	Lakes	0.46	993.39	55.41		
5865	J-3138	929.72	Forest	0.68	1057.84	55.43		
1661 443	J-834 J-246	865.31 931.05	Lakes Forest	0.72 0.88	993.43 1059.21	55.43 55.45		
985	J-540	930.92	Forest	0.88	1059.21	55.45 55.45		
4913	J-2591	930.80	Forest	0.48	1059.10	55.51		
6959	J-3780	929.16	Forest	0.88	1057.47	55.51		
3444	J-1875	929.48	Forest	1.28	1057.84	55.53		
3201 3968	J-1735 J-2149	930.51 852.87	Forest Forest	0.48 0.68	1059.10 981.48	55.64 55.64		
6469	J-3491	930.19	Forest	0.28	1058.95	55.71		
2748	J-1485	930.15	Forest	0.28	1058.95	55.73		
2604	J-1400	935.04	Forest	1.28	1063.90	55.75		
6958	J-3779	928.59	Forest	1.88	1057.47	55.76		
2247 674	J-1200 J-389	934.88 928.40	Forest Forest	0.68 0.28	1063.95 1057.55	55.84 55.88		
4928	J-2600	929.73	Forest	0.28	1057.55	55.97		
1940	J-1015	929.72	Forest	0.68	1059.10	55.98		
6297	J-3390	744.26	Forest	0.28	873.78	56.04		
2670 1401	J-1438 J-698	843.95 929.43	Lakes Forest	0.89 0.28	973.53 1059.04	56.06 56.07		
1401	9-090	323.43	i orest	0.20	1059.04	30.07		

Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
1452	J-728	929.36	Forest	0.08	1059.03	56.10
4711 4784	J-2477 J-2518	851.74 934.95	Forest Forest	0.88 0.88	981.47 1064.74	56.13 56.15
3863	J-2099	934.93	Forest	0.68	1064.74	56.16
3705 447	J-2021 J-249	851.56 928.00	Forest Forest	1.08 0.28	981.47 1057.96	56.21 56.23
5575	J-249 J-2971	928.00	Forest	0.28	1057.96	56.23
3843	J-2090	927.60	Forest	0.48	1057.59	56.24
2583 6934	J-1387 J-3766	932.33 929.26	Forest Forest	1.68 0.48	1062.42 1059.34	56.28 56.28
2520	J-1352	929.20	Forest	80.0	1059.33	56.30
2519 6298	J-1351 J-3391	929.04 743.36	Forest Forest	0.08 0.48	1059.33 873.78	56.37 56.43
3497	J-1906	851.02	Forest	0.28	981.47	56.44
4319 4907	J-2286 J-2588	858.45 931.87	Lakes Forest	0.20 0.08	988.98 1062.42	56.48 56.48
446	J-2388 J-248	927.40	Forest	0.08	1057.96	56.49
2346	J-1258	928.46	Forest	0.08	1059.05	56.50
6935 2949	J-3767 J-1594	928.63 836.41	Forest Lakes	0.08 0.81	1059.34 967.18	56.55 56.58
1746	J-890	928.55	Forest	0.28	1059.33	56.58
2675 384	J-1441 J-209	850.65 928.14	Forest Forest	1.08 0.08	981.47 1059.04	56.60 56.63
1636	J-820	860.22	Lakes	0.46	991.17	56.66
3487 6062	J-1900 J-3250	928.11 857.96	Forest Lakes	0.68 0.20	1059.10 988.98	56.67 56.69
6061	J-3249	857.96	Lakes	0.63	988.98	56.69
2350	J-1260	836.24	Lakes	0.72	967.42	56.75
383 4771	J-208 J-2511	927.84 850.26	Forest Forest	0.08 0.08	1059.05 981.47	56.77 56.77
2980	J-1606	862.16	Lakes	0.55	993.38	56.78
4410 7977	J-2316 J-4154	926.36 926.10	Forest Forest	3.29 0.28	1057.67 1057.42	56.81 56.81
2101	J-1110	862.05	Lakes	0.20	993.39	56.82
2935 1468	J-1587	857.64	Lakes	0.20 0.28	988.98	56.83
6130	J-736 J-3291	927.52 926.11	Forest Forest	0.28	1058.88 1057.50	56.83 56.84
2100	J-1109	861.97	Lakes	0.20	993.39	56.86
5824 1662	J-3115 J-835	926.45 861.95	Forest Lakes	0.88 0.20	1057.92 993.43	56.88 56.88
6977	J-3790	926.19	Forest	1.28	1057.69	56.89
6976 5636	J-3789 J-3006	926.01 925.84	Forest Forest	0.88 1.08	1057.69 1057.52	56.97 56.97
5269	J-2795	927.19	Forest	0.48	1058.88	56.97
4311 7682	J-2285 J-4086	925.37 857.25	Forest Lakes	1.28 0.29	1057.05 988.98	56.97 56.99
1973	J-1037	931.48	Forest	0.29	1063.25	57.01
3825	J-2081	925.73	Forest	1.08	1057.52	57.02
4360 2324	J-2299 J-1246	925.65 858.94	Forest Lakes	2.09 0.72	1057.50 991.22	57.04 57.23
7031	J-3821	930.96	Forest	0.08	1063.25	57.23
1946 634	J-1019 J-364	926.80 926.63	Forest Forest	1.08 0.88	1059.10 1059.05	57.24 57.29
6968	J-3785	926.41	Forest	0.28	1059.10	57.41
6627 948	J-3585 J-523	926.56 925.17	Forest Forest	0.48 0.08	1059.27 1057.92	57.42 57.43
4259	J-2267	932.00	Forest	0.68	1064.83	57.47
6702 2493	J-3629 J-1337	931.94 1068.30	Forest Fox_Run	0.28 0.68	1064.83 1201.27	57.49 57.53
6626	J-3584	926.13	Forest	1.28	1059.27	57.61
4340 2674	J-2292 J-1440	924.24 848.12	Forest Forest	1.28 0.28	1057.47 981.47	57.64 57.70
468	J-262	847.98	Forest	0.28	981.48	57.76
2015	J-1064	828.90	Lakes	0.46	962.41 981.48	57.76
5953 3761	J-3187 J-2050	847.96 923.87	Forest Forest	0.48 2.09	1057.45	57.77 57.79
4089	J-2204	923.64	Forest	1.28	1057.47	57.90
6362 467	J-3429 J-261	923.53 847.52	Forest Forest	2.09 1.48	1057.47 981.48	57.95 57.96
3670	J-2000	929.28	Forest	0.48	1063.25	57.96
6164 5676	J-3311 J-3030	930.73 927.71	Forest Forest	0.08 0.08	1064.85 1062.00	58.03 58.10
4900	J-2584	929.93	Forest	0.28	1064.43	58.19
971 84	J-533 J-37	929.65 927.15	Forest Forest	0.08 0.08	1064.43 1062.00	58.31 58.34
4184	J-2243	922.48	Forest	1.28	1057.42	58.38
1222	J-639	922.77	Forest	0.68	1057.92	58.47
2661 3555	J-1433 J-1938	846.24 853.72	Forest Lakes	0.88 0.20	981.47 988.98	58.51 58.52
5086	J-2692	922.11	Forest	0.48	1057.41	58.54
2704 7068	J-1459 J-3841	832.00 922.28	Lakes Forest	0.72 0.88	967.35 1057.68	58.56 58.58
6163	J-3310	929.42	Forest	0.08	1064.85	58.60
6490 921	J-3503 J-511	922.43 922.37	Forest Forest	0.48 0.08	1057.92 1057.91	58.62 58.64
7069	J-3842	922.37	Forest	1.68	1057.68	58.64 58.66
5444	J-2897	922.11	Forest	0.48	1057.91	58.76
729 2850	J-419 J-1544	923.22 927.84	Forest Forest	1.28 0.88	1059.06 1063.87	58.77 58.85
1650	J-828	1065.07	Fox_Run	0.48	1201.27	58.93
6816 5506	J-3696 J-2931	852.78 921.45	Lakes Forest	0.20 1.08	988.98 1057.67	58.93 58.94
2092	J-1104	857.20	Lakes	0.37	993.43	58.94
6753	J-3659	922.78	Forest	0.48	1059.06	58.96 58.97
35 2709	J-5 J-1462	925.74 845.10	Forest Forest	0.08 0.48	1062.03 981.47	58.97 59.00
36 2231	J-6 J-1191	925.43 928.24	Forest Forest	1.08 0.28	1062.03 1064.85	59.10
5507	J-1191 J-2932	928.24 921.04	Forest	0.28	1057.67	59.11 59.11

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure	
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)	
1445	J-724	922.22	Forest	0.28	1058.85	59.11	
2970	J-1601	922.48	Forest	0.68	1059.21	59.16	
2029	J-1072	737.03	Forest	0.48	873.78	59.17	
1906	J-993	922.42	Forest	0.68	1059.31	59.22	
6157	J-3306 J-2031	736.88	Forest	0.68	873.78	59.23	
3723 3554	J-2031 J-1937	920.43 852.00	Forest Lakes	0.68 0.20	1057.41 988.98	59.27 59.27	
6158	J-3307	736.69	Forest	0.68	873.78	59.31	
2091	J-1103	856.23	Lakes	0.46	993.43	59.36	
2717	J-1466	823.33	Lakes	0.20	960.64	59.41	
4062	J-2190	920.02	Forest	1.28	1057.42	59.45	
4288	J-2277	920.11	Forest	2.09	1057.52	59.45	
2145	J-1138	829.43	Lakes	0.20	967.07	59.55	
5831 3533	J-3119	920.20	Forest	1.08	1057.85	59.56	
6338	J-1926 J-3415	919.69 919.65	Forest Forest	0.48 1.68	1057.42 1057.46	59.59 59.62	
2954	J-1596	829.52	Lakes	0.89	967.35	59.63	
4142	J-2226	920.00	Forest	1.28	1057.85	59.64	
2419	J-1295	822.69	Lakes	0.55	960.64	59.69	
2420	J-1296	822.62	Lakes	0.29	960.64	59.71	
2966	J-1599	856.69	Forest	1.28	994.76	59.74	
1944	J-1018	926.74	Forest	0.88	1064.84	59.75	
5397	J-2871	919.44	Forest	3.49	1057.54	59.75	
1390 6731	J-694 J-3646	920.00 920.00	Forest Forest	2.29 0.28	1058.14 1058.14	59.77 59.77	
6337	J-3414	919.27	Forest	0.48	1056.14	59.77	
6248	J-3362	920.66	Forest	0.48	1058.95	59.83	
4468	J-2339	926.29	Forest	0.08	1064.62	59.85	
1649	J-827	1062.94	Fox_Run	0.08	1201.27	59.85	
2344	J-1257	920.69	Forest	1.68	1059.03	59.85	
3242	J-1760	926.26	Forest	0.08	1064.62	59.86	
6104	J-3275	919.00	Forest	0.48	1057.42	59.89	
5396	J-2870	919.11 919.34	Forest	2.89	1057.54	59.89	
8297 1399	J-4172 J-697	919.34 925.95	Forest Forest	1.28 0.28	1057.86 1064.64	59.93 60.01	
4016	J-097 J-2170	925.95 842.76	Forest	1.48	981.48	60.01	
109	J-52	925.87	Forest	0.28	1064.64	60.02	
3673	J-2002	918.62	Forest	0.88	1057.41	60.05	
3243	J-1761	925.83	Forest	0.28	1064.62	60.05	
4534	J-2377	925.83	Forest	0.08	1064.64	60.06	
100	J-47	925.82	Forest	0.68	1064.64	60.06	
6121	J-3285	920.00	Forest	0.48	1058.83	60.07	
6122 6103	J-3286 J-3274	920.00 918.57	Forest Forest	0.88 0.68	1058.83 1057.42	60.07 60.07	
5219	J-3274 J-2766	920.39	Forest	0.88	1057.42	60.07	
6285	J-3383	920.30	Forest	0.08	1059.20	60.10	
4040	J-2180	918.50	Forest	0.68	1057.46	60.12	
130	J-64	925.84	Forest	0.48	1064.90	60.17	
5130	J-2716	924.80	Forest	0.28	1063.91	60.19	
2094	J-1105	919.95	Forest Forest	1.28	1059.06	60.19	
5218 2889	J-2765 J-1565	920.13 919.82	Forest	1.08 1.08	1059.27 1058.95	60.20 60.20	
2821	J-1528	918.47	Forest	1.68	1057.68	60.23	
1943	J-1017	925.61	Forest	0.68	1064.85	60.24	
2662	J-1434	842.15	Forest	0.88	981.47	60.28	
2847	J-1542	924.51	Forest	0.28	1063.87	60.29	
2424	J-1298	828.00	Lakes	0.20	967.43	60.32	
2425	J-1299	828.00	Lakes	0.29	967.43	60.32	
2319 2494	J-1243	827.91 1061.76	Lakes Fox Run	1.41	967.41 1201.27	60.35	
1892	J-1338 J-984	1061.76 849.37	Fox_Run Lakes	0.28 0.55	1201.27 988.98	60.36 60.40	
6286	J-3384	919.50	Forest	0.88	1059.20	60.44	
3961	J-2146	917.72	Forest	1.28	1057.42	60.44	
3671	J-2001	923.52	Forest	1.28	1063.25	60.45	
5149	J-2726	918.04	Forest	0.88	1057.82	60.48	
3134	J-1695	917.63	Forest	0.88	1057.45	60.49	
3532	J-1925	917.55	Forest	0.88	1057.42	60.52	
2804	J-1518 J-1051	923.97 1061.28	Forest Fox Pun	0.08	1063.91	60.54	
1995 6249	J-1051 J-3363	1061.28 918.95	Fox_Run Forest	0.08 0.68	1201.27 1058.95	60.57 60.57	
3133	J-3363 J-1694	917.40	Forest	0.08	1058.95	60.59	
6180	J-3320	923.66	Forest	0.48	1063.87	60.66	
2272	J-1215	827.19	Lakes	0.63	967.41	60.67	
4005	J-2165	917.60	Forest	1.08	1057.82	60.67	
2095	J-1106	918.77	Forest	0.48	1059.06	60.70	
2619	J-1409	826.75	Lakes	0.55	967.07	60.71	
6099	J-3272	916.99	Forest	0.08	1057.42	60.76	
101	J-48	924.00	Forest	0.08	1064.64	60.85	
5374	J-2857	924.00	Forest	0.08	1064.64	60.85	
7021 5145	J-3816 J-2724	916.74 917.98	Forest Forest	0.08 0.08	1057.45 1058.85	60.88 60.94	
1347	J-2724 J-686	916.89	Forest	2.49	1058.85	60.95	
2913	J-1576	852.47	Lakes	0.29	993.37	60.96	
2641	J-1421	922.91	Forest	0.08	1063.91	61.00	
5697	J-3042	923.84	Forest	0.48	1064.90	61.03	
2485	J-1333	918.42	Forest	0.48	1059.49	61.03	
7860	J-4132	918.18	Forest	0.88	1059.27	61.04	
163	J-80 J-996	918.38	Forest	0.08	1059.49	61.05	
1911 2146	J-996 J-1139	923.78 825.87	Forest Lakes	1.08 0.37	1064.90 967.07	61.06 61.09	
1446	J-725	917.55	Forest	0.08	1058.85	61.13	
111	J-53	923.24	Forest	0.08	1064.62	61.17	
687	J-396	922.31	Forest	0.08	1063.75	61.20	
2362	J-1266	918.01	Forest	0.48	1059.49	61.21	
39	J-8	923.14	Forest	0.08	1064.62	61.21	
38	J-7	922.91	Forest	0.48	1064.62	61.31	
4483 1747	J-2348 J-891	922.90 917.56	Forest Forest	0.08 0.48	1064.62 1059.33	61.32 61.34	
5564	J-2965	915.87	Forest	1.88	1057.68	61.36	

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure
				(gpm)	• •	(psi)
1305 2740	J-676 J-1480	1180.99 831.56	Stewartsville Lakes	0.69 0.81	1322.92 973.50	61.41 61.41
4449	J-2328	1180.91	Stewartsville	0.26	1322.92	61.44
2659 5563	J-1432 J-2964	824.97 915.51	Lakes Forest	0.72 1.28	967.13 1057.68	61.50 61.51
4323	J-2287	921.53	Forest	0.88	1063.90	61.59
2703 5524	J-1458 J-2942	824.84 916.31	Lakes Forest	0.72 0.48	967.35 1058.84	61.66 61.67
2692	J-1451	838.92	Forest	0.88	981.47	61.68
3392	J-1845	914.88	Forest	0.08	1057.45	61.68
2066 5585	J-1093 J-2976	921.55 922.03	Forest Forest	0.28 0.48	1064.13 1064.62	61.69 61.69
5586	J-2977	922.00	Forest	0.48	1064.62	61.71
1076 5549	J-579 J-2956	919.92 915.16	Forest Forest	0.08 0.48	1062.62 1057.90	61.74 61.75
5523	J-2941	916.08	Forest	1.48	1058.84	61.77
5548 2620	J-2955 J-1410	914.92 824.09	Forest Lakes	0.68 1.24	1057.90 967.08	61.86 61.87
6869	J-3727	916.20	Forest	0.68	1059.26	61.90
6146 2216	J-3300 J-1182	914.31 824.00	Forest Lakes	0.48 1.06	1057.45 967.17	61.93 61.94
3949	J-2141	851.52	Forest	1.68	994.76	61.97
8525	J-4214	914.11	Forest Forest	0.08	1057.42	62.00
2777 5851	J-1502 J-3130	838.11 913.90	Forest	1.08 0.48	981.47 1057.42	62.03 62.09
6823	J-3700	919.01	Forest	0.28	1062.62	62.13
3246 3393	J-1763 J-1846	913.94 913.79	Forest Forest	0.28 0.48	1057.59 1057.45	62.15 62.15
5197	J-2753	920.71	Forest	0.08	1064.39	62.16
4282 6927	J-2275 J-3762	849.69 913.90	Lakes Forest	0.46 0.08	993.37 1057.59	62.16 62.17
2262	J-1209	823.64	Lakes	1.06	967.41	62.20
2186	J-1164	875.36	Lakes	1.41	1019.32	62.28
5796 6870	J-3099 J-3728	919.92 915.28	Forest Forest	0.48 1.08	1063.90 1059.26	62.29 62.30
8498	J-4202	823.04	Lakes	0.55	967.07	62.32
2433 3405	J-1304 J-1852	844.90 849.25	Lakes Lakes	0.20 0.20	988.98 993.37	62.34 62.35
5797	J-3100	919.78	Forest	0.08	1063.90	62.36
1970	J-1035	819.31	Lakes	0.72	963.60	62.42
972 92	J-534 J-42	920.06 920.25	Forest Forest	0.28 0.48	1064.39 1064.64	62.44 62.47
1972	J-1036	918.82	Forest	0.68	1063.24	62.49
2574 3245	J-1382 J-1762	913.11 913.15	Forest Forest	1.68 0.08	1057.54 1057.59	62.49 62.49
1105	J-592	917.86	Forest	0.08	1062.34	62.51
2017 3352	J-1065 J-1824	878.38 836.91	Lakes Forest	0.63 0.48	1022.90 981.47	62.53 62.54
2236	J-1194	848.79	Lakes	0.98	993.42	62.58
7209	J-3914	914.61	Forest	0.28	1059.35	62.62
1769 3441	J-905 J-1873	844.21 912.62	Lakes Forest	0.20 0.48	988.98 1057.42	62.64 62.65
6905	J-3749	914.54	Forest	2.09	1059.35	62.65
3003 4107	J-1617 J-2210	920.00 912.00	Forest Forest	0.88 1.48	1064.85 1057.00	62.67 62.73
2695	J-1453	846.15	Lakes	0.63	991.16	62.74
2810 6906	J-1521 J-3750	912.33 914.23	Forest Forest	0.88 0.08	1057.45 1059.35	62.79 62.79
2360	J-1265	848.21	Lakes	0.72	993.37	62.80
5267 6300	J-2794 J-3392	912.62 911.63	Forest Forest	1.08 1.68	1057.91 1057.00	62.86 62.90
3442	J-1874	912.00	Forest	0.08	1057.42	62.92
3918	J-2126	913.38	Forest	1.68	1058.82	62.92
401 3351	J-220 J-1823	912.45 836.00	Forest Forest	0.48 1.28	1057.91 981.47	62.94 62.94
4538	J-2379	836.00	Forest	0.68	981.47	62.94
1729 3418	J-879 J-1860	821.58 919.21	Lakes Forest	0.89 0.48	967.13 1064.85	62.97 63.01
2820	J-1527	911.94	Forest	1.28	1057.68	63.05
1947 2217	J-1020 J-1183	913.30 821.31	Forest Lakes	0.88 0.46	1059.09 967.17	63.08 63.11
3735	J-2038	916.66	Forest	1.08	1062.60	63.14
5977	J-3200 J-3446	911.86 913.31	Forest	0.48 0.08	1057.79	63.14 63.19
6391 3387	J-3446 J-1842	912.00	Forest Forest	0.08	1059.35 1058.06	63.19
2749	J-1486	912.85	Forest	1.08	1058.95	63.21
400 2682	J-219 J-1445	911.75 847.19	Forest Lakes	0.88 0.20	1057.91 993.37	63.24 63.24
6671	J-3611	918.64	Forest	0.48	1064.85	63.26
3812 3674	J-2075 J-2003	910.68 911.10	Forest Forest	2.69 0.88	1056.92 1057.41	63.27 63.31
6611	J-3575	915.97	Forest	0.28	1062.34	63.32
2575	J-1383	911.12	Forest	3.29	1057.54	63.35
5976 3864	J-3199 J-2100	911.38 918.21	Forest Forest	0.88 0.48	1057.79 1064.74	63.35 63.40
6392	J-3447	912.62	Forest	1.28	1059.35	63.48
4702 7137	J-2472 J-3880	910.76 912.43	Forest Forest	0.88 0.08	1057.51 1059.35	63.49 63.57
1303	J-675	910.88	Forest	1.48	1057.82	63.58
5898 3507	J-3156 J-1912	910.99 910.51	Forest Forest	0.08 0.48	1057.96 1057.51	63.58 63.60
2270	J-1214	820.00	Lakes	1.06	967.07	63.63
93	J-43	917.28	Forest	0.48	1064.63	63.75
3053 3984	J-1644 J-2156	910.61 910.00	Forest Forest	0.28 1.88	1058.06 1057.45	63.79 63.80
5295	J-2810	910.59	Forest	0.48	1058.06	63.80
2609 5897	J-1403 J-3155	910.04 910.38	Forest Forest	1.68 0.88	1057.54 1057.96	63.81 63.85
954	J-526	910.45	Forest	0.28	1058.06	63.86

Node Labol								
Section Sect						Hydraulic Grade		
3601 J-1985 911-54 Forest 0.08 1059-28 6.391 7100 J-3880 910-23 Forest 0.68 1057-96 6.391 7100 J-3880 910-23 Forest 0.68 1057-96 6.391 7100 J-3880 910-23 Forest 0.68 1057-96 6.391 7101 J-3880 910-23 Forest 0.68 1057-96 6.391 7101 J-3880 910-23 Forest 0.68 1057-96 6.391 7101 J-3881 J-388 910-23 Forest 0.48 1057-42 6.15 7101 J-3883 900-24 Forest 0.48 1057-42 6.15 7102 J-3883 900-24 Forest 0.48 1057-42 6.15 7103 J-3883 J-1512 910-72 Forest 0.48 1058-12 6.23 7104 J-3883 J-1512 910-72 Forest 0.68 1058-25 6.43 7106 J-3883 J-3883 908-57 Forest 0.68 1057-42 6.43 7106 J-3883 J-3791 908-57 Forest 0.48 1058-22 6.40 7107 J-3028 J-3791 908-57 Forest 0.48 1057-42 6.43 7108 J-3791 908-57 Forest 0.48 1057-42 6.44 7108 J-3791 J-3028 J-3791 908-57 Forest 0.48 1057-42 6.44 7108 J-3791 J-3028 J-3791 908-57 Forest 0.48 J-3791 908-57	טו	Lapei	(11)	Zone	(gpm)	(π)	(psi)	
100 J-3880		J-3792				1056.92	63.90	
100 J-3899 910_23 Forest 0.68 1057.96 63.91								
5288 J.2866 916.86 Forest 0.08 1064.62 63.93 2001 J.1908 825.47 Labos 0.55 68.073 67.35 64.05 31.1908 32.07 10.73 Forest 0.08 1064.62 63.95 31.203 90.72 Forest 0.08 1068.81 67.35 64.05 31.203 90.72 Forest 0.08 1068.81 67.35 64.23 31.403 J.1912 910.72 Forest 0.08 1068.81 64.23 31.404 J.1912 910.72 Forest 0.08 1068.87 64.25 31.405 J.1912 910.72 Forest 0.08 1067.42 64.31 31.203 90.66 Forest 0.08 1067.42 64.31 31.208 90.66 Forest 0.08 1067.42 64.31 31.208 90.66 Forest 0.08 1067.42 64.31 31.208 J.1912 Forest 0.08 1067.52 64.40 31.208 J.1912 Forest 0.48 1068.52 64.50 31.208 J.1913 Forest 0.28 1067.83 64.50 31.208 J.1913 Forest 0.28 1068.52 64.57 31.208 J.1913 Forest 0.88								
81 J.35 916.73 Forest 0.08 1064.82 63.99 2051 J.1958 20547 L. Jukes 0.55 973.52 c.40.6 4081 J.2199 300.24 Forest 0.48 1057.42 c.40.1 3744 J.2043 915.34 Forest 0.48 1057.42 c.40.1 3744 J.2043 915.34 Forest 0.08 1064.87 c.42.6 c.4.11 4072739 J.1912 910.72 Forest 1.08 1064.87 c.42.6 c.4.34 40741 J.2043 915.34 Forest 0.08 1064.87 c.4.26 4081 J.2043 910.04 Forest 0.08 1067.42 c.4.6.34 4081 J.2043 910.07 Forest 0.08 1067.42 c.4.6.34 4081 J.2043 910.04 Forest 0.08 1067.42 c.4.6.34 4086 J.2055 914.80 Forest 0.08 1068.00 C.4.44 4088 J.2055 914.80 Forest 0.08 1068.00 C.4.44 4088 J.2055 914.80 Forest 0.28 1068.7 C.4.44 4088 J.2055 914.80 Forest 0.28 1068.7 C.4.44 4088 J.2056 914.80 Forest 0.28 1068.7 C.4.44 4088 J.2056 914.80 Forest 0.28 1168.7 C.4.45 4088 J.2056 914.80 Forest 0.28 1168.7 C.4.4								
1961 J.2189 998.24 Forest 0.48 1057.42 64.11 1972 J.3405 910.50 Forest 0.08 1059.35 64.22 1934 J.2368 910.72 Forest 0.08 1059.35 64.23 1972 J.3405 910.72 Forest 0.08 1057.42 64.34 1973 J.2368 908.70 Forest 0.08 1057.42 64.34 1974 J.2368 908.77 Forest 0.08 1057.42 64.34 1973 J.2365 908.67 Forest 0.08 1057.42 64.34 1973 J.2365 908.67 Forest 0.08 1057.42 64.34 1973 J.2365 908.67 Forest 0.08 1057.42 64.37 1973 J.2365 908.64 Forest 0.08 1057.42 64.37 1973 J.2365 908.64 Forest 0.08 1057.42 64.37 1973 J.2365 909.87 Forest 0.08 1053.75 64.44 1973 J.2365 909.87 Forest 0.28 1053.75 64.44 1973 J.2665 909.87 Forest 0.28 1053.75 64.44 1974 J.1463 914.77 Forest 0.48 1053.75 64.44 1974 J.1463 914.77 Forest 0.48 1053.75 64.45 1974 J.3027 914.52 Forest 0.88 1053.75 64.45 1974 J.3027 914.52 Forest 0.88 1053.75 64.55 1974 J.3027 914.52 Forest 0.88 1053.76 64.55 1974 J.3027 914.52 Forest 0.88 1053.76 64.55 1974 J.1463 914.77 Forest 0.88 1053.76 64.55 1974 J.3027 914.52 Forest 0.88 1053.76 64.55 1974 J.3027 914.52 Forest 0.88 1053.72 64.55 1974 J.3027 914.52 Forest 0.88 1053.72 64.55 1975 J.1463								
518 J-293 998.72 Forest 0.48 1058.12 64.21 64.23 3744 J-2045 916.34 Forest 0.08 1059.35 64.21 64.23 3744 J-2045 916.34 Forest 0.08 1004.437 64.25 3744 J-2045 916.34 Forest 0.08 1006.437 64.26 4.26 4.26 4.26 4.26 4.26 4.26 4.2								
5222 J-3405 910.90 Forest 0.08 1059.35 64.23 3744 J-2043 916.34 Forest 0.08 1064.87 64.25 64.31 74.70 1.1512 910.72 Forest 1.08 1059.35 64.31 74.70 1.1512 910.72 Forest 1.08 1059.35 64.31 74.70 1.1512 910.72 Forest 1.08 1059.35 64.31 74.70 1.1512 910.72 75.70 910.72 910								
1942 1940								
1-1512 910.77 Forest 1.08 1059.35 64.51								
4514 J.2586 908.70 Forest 0.88 1057.42 64.34 4013 J.2585 908.67 Forest 0.08 1057.42 64.37 4013 J.2585 908.67 Forest 0.08 1057.42 64.37 4013 J.2585 908.67 Forest 0.08 1057.42 64.37 4013 J.2585 914.80 Forest 0.08 1057.42 64.37 4028 J.2585 914.80 Forest 0.28 1058.75 64.44 4028 J.2585 914.80 Forest 0.28 1058.75 64.44 4028 J.2585 914.80 Forest 0.28 1058.75 64.44 4028 J.2585 J.2585 Forest 0.28 1058.75 64.46 4028 J.2585 J.2585 Forest 0.28 J.2585 64.46 4028 J.2585 J.2585 J.2585 Forest 0.28 J.2585 64.45 4037 J.2585								
4913 J.2265 908.64 Forcest 0.08 1057.42 6.4.37 6923 J.1228 916.04 Forcest 0.68 1064.84 6.4.38 6979 J.3791 908.07 Forcest 0.48 10565.92 6.4.40 4086 J.2565 914.50 Forcest 0.48 10565.92 6.4.40 4086 J.2565 914.50 Forcest 0.48 10565.92 6.4.40 4086 J.2565 914.50 Forcest 0.48 10563.75 6.4.40 40567.74 J.3020 914.77 Forcest 0.88 1053.75 6.4.40 40567.74 J.3020 914.99 Forcest 0.88 10593.55 6.4.50 6047 J.3240 910.28 Forcest 0.88 10593.55 6.4.50 6047 J.3240 914.59 Forcest 0.88 10593.55 6.4.50 6047 J.3240 914.59 Forcest 0.88 10593.55 6.4.50 6047 J.3240 914.59 Forcest 0.88 10593.55 6.4.50 6047 J.3240 914.59 Forcest 0.88 10593.55 6.4.50 6047 J.3240 914.59 Forcest 0.88 10593.55 6.4.50 6047 J.3240 914.59 Forcest 0.88 10593.55 6.4.50 6047 J.3240 914.59 Forcest 0.88 10593.55 6.4.50 6047 J.3240 914.59 Forcest 0.88 10593.55 6.4.50 6047 J.3240 914.59 Forcest 0.88 10593.72 6.4.56 6047 J.3240 914.59 Forcest 0.88 10593.72 6.4.56 6047 J.3240 914.59 Forcest 0.88 10593.72 6.4.56 6047 J.3240 914.59 Forcest 0.88 10593.72 6.4.56 6047 J.3240 914.59 Forcest 0.88 10593.73 8.4.6.6.67 6047 J.3240 914.59 Forcest 0.88 1057.83 914.72 6.4.56 6047 914.59 Forcest 0.88 1057.83 914.72 6.4.56 6047 914.59 914.72 6.4.50 914.72 915.42 914.52	4514							
1-1228 916.04 Forest 0.88 1094.84 64.38								
6979 J-3791 908.07 Forest 0.48 1066.92 64.44								
4888								
5672 J-3028								
2823	5672		914.77	Forest		1063.72		
6221 J-3404 910.28 Forest 0.88 1059.35 6.450 6077 J-3027 914.52 Forest 0.28 1063.72 6.455 6047 J-3240 914.99 Forest 0.28 1064.21 6.456 6047 J-3240 914.99 Forest 0.28 1064.21 6.456 6069 J-1437 824.29 Lakes 0.46 979.52 6.457 3348 J-1622 839.73 Lakes 0.55 989.88 6.458 824.29 Lakes 0.45 989.88 6.458 824.29 Lakes 0.55 989.88 6.458 824.29 Lakes 0.55 989.88 6.458 6.458 6.458 6.459 6								
5671 J-3027 914.52 Forest 0.88 1063.72 64.56 5047 J-3240 J-1437 824.29 Lakes 0.46 973.52 64.57 5348 J-1437 824.29 Lakes 0.46 973.52 64.57 5348 J-152 839.73 Lakes 0.46 973.52 64.57 5843 J-152 839.73 Lakes 0.46 973.52 64.57 5843 J-152 800.55 Forest 0.28 1057.33 64.58 5843 J-152 824.00 Lakes 0.20 973.48 64.69 71638 J-152 824.00 Lakes 0.20 973.48 64.67 71638 J-152 908.33 Forest 0.08 1057.83 64.68 71602 J-346 908.33 Forest 0.08 1057.83 64.68 7170 J-26 1051.60 Fox.Run 0.88 1201.26 64.75 818 J-1652 1051.60 Fox.Run 0.88 1201.26 64.75 818 J-1652 914.89 Forest 0.08 1064.62 64.78 82 J-36 914.89 Forest 0.08 1064.62 64.78 82 J-36 914.89 Forest 0.08 1065.63 64.83 7170 J-202 916.29 Forest 0.08 1065.63 64.83 7170 J-202 916.29 Forest 0.08 1056.63 64.83 7170 J-203 917.20 917.20 917.20 917.20 917.20 7170 J-203 917.20 917.2								
6047 J-3240 914.99 Forest 0.28 1064.21 64.56 64.57 3348 J-1427 834.29 Lakes 0.46 973.52 64.57 3348 J-1222 839.73 Lakes 0.55 989.88 64.58 64.58 64.57 6								
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2556 J-1373 822.33 Lakes 0.20 973.48 65.40 2765 J-1495 906.65 Forest 1.28 1057.82 65.40 2289 J-1225 816.00 Lakes 0.89 967.17 65.40 5638 J-3007 907.48 Forest 0.48 1058.69 65.42 2797 J-1514 822.26 Lakes 0.89 973.51 65.44 6446 J-3478 913.56 Forest 0.48 1058.69 65.45 5869 J-3140 907.32 Forest 1.08 1058.69 65.45 5869 J-3140 907.32 Forest 1.08 1058.69 65.45 5880 J-2861 908.01 Forest 0.08 1059.49 65.51 5380 J-2861 908.01 Forest 0.88 1062.02 65.54 3892 J-2114 910.53 Forest 0.88 1069.94 65.62 2967								
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5638 J-3007 907.48 Forest 0.48 1058.69 65.42 2797 J-1514 822.26 Lakes 0.89 973.51 65.44 6446 J-3478 913.56 Forest 0.48 1064.83 65.45 5869 J-3140 907.32 Forest 1.08 1058.69 65.49 3450 J-1878 906.27 Forest 0.48 1057.68 65.51 5380 J-2861 908.01 Forest 0.08 1059.49 65.54 3892 J-2114 910.53 Forest 0.88 1062.02 65.54 3677 J-2860 907.82 Forest 0.88 1059.49 65.62 2967 J-1600 843.07 Forest 1.48 994.76 65.63 3692 J-2014 906.11 Forest 1.48 994.76 65.63 3932 J-2134 843.04 Forest 1.48 994.76 65.64 686	2765	J-1495	906.65	Forest	1.28	1057.82		
2797 J-1514 822.26 Lakes 0.89 973.51 65.44 6446 J-3478 913.56 Forest 0.48 1064.83 65.45 5869 J-3140 907.32 Forest 1.08 1058.69 65.49 3450 J-1878 906.27 Forest 0.48 1057.68 65.51 5380 J-2861 908.01 Forest 0.08 1059.49 65.54 3892 J-2114 910.53 Forest 0.88 1062.02 65.54 3779 J-2860 907.82 Forest 0.88 1059.49 65.62 2967 J-1600 843.07 Forest 1.88 1059.49 65.62 3692 J-2014 906.11 Forest 1.48 994.76 65.63 3932 J-2134 843.04 Forest 1.48 1057.82 65.64 686 J-395 912.00 Forest 0.08 194.76 65.64 686								
6446 J-3478 913.56 Forest 0.48 1064.83 65.45 5869 J-3140 907.32 Forest 1.08 1058.69 65.49 3450 J-1878 906.27 Forest 0.48 1057.68 65.51 5380 J-2861 908.01 Forest 0.08 1059.49 65.54 5379 J-2860 907.82 Forest 0.88 1069.49 65.62 2967 J-1600 843.07 Forest 1.48 994.76 65.63 3692 J-2014 906.11 Forest 1.48 1057.82 65.64 3932 J-2134 843.04 Forest 0.68 994.76 65.64 36692 J-2014 906.11 Forest 0.68 994.76 65.64 3932 J-2134 843.04 Forest 0.68 994.76 65.64 686 J-395 912.00 Forest 0.08 1063.72 65.64 4183								
5869 J-3140 907.32 Forest 1.08 1058.69 65.49 3450 J-1878 906.27 Forest 0.48 1057.68 65.51 5380 J-2861 908.01 Forest 0.08 1059.49 65.54 3892 J-2114 910.53 Forest 0.88 1062.02 65.54 3677 J-2860 907.82 Forest 0.88 1059.49 65.62 2967 J-1600 843.07 Forest 1.48 994.76 65.63 3692 J-2014 906.11 Forest 1.48 1057.82 65.64 3932 J-2134 843.04 Forest 0.68 994.76 65.64 686 J-395 912.00 Forest 0.08 1063.72 65.64 4183 J-2242 905.69 Forest 2.29 1057.42 65.65 2440 J-1308 821.67 Lakes 0.37 973.48 65.68								
3450 J-1878 906.27 Forest 0.48 1057.68 65.51 5380 J-2861 908.01 Forest 0.08 1059.49 65.54 3892 J-2114 910.53 Forest 0.88 1062.02 65.54 5379 J-2860 907.82 Forest 0.88 1059.49 65.62 2967 J-1600 843.07 Forest 1.48 994.76 65.63 3692 J-2014 906.11 Forest 1.48 1057.82 65.64 3932 J-2134 843.04 Forest 0.68 994.76 65.64 686 J-395 912.00 Forest 0.08 1063.72 65.64 4183 J-2242 905.69 Forest 2.29 1057.42 65.65 2440 J-1308 821.67 Lakes 0.37 973.48 65.68								
5380 J-2861 908.01 Forest 0.08 1059.49 65.54 3892 J-2114 910.53 Forest 0.88 1062.02 65.54 5379 J-2860 907.82 Forest 0.88 1059.49 65.62 2967 J-1600 843.07 Forest 1.48 994.76 65.63 3692 J-2014 906.11 Forest 1.48 1057.82 65.64 3932 J-2134 843.04 Forest 0.68 994.76 65.64 686 J-395 912.00 Forest 0.08 1063.72 65.64 4183 J-2242 905.69 Forest 2.29 1057.42 65.65 2440 J-1308 821.67 Lakes 0.37 973.48 65.68								
3892 J-2114 910.53 Forest 0.88 1062.02 65.54 5379 J-2860 907.82 Forest 0.88 1059.49 65.62 2967 J-1600 843.07 Forest 1.48 994.76 65.63 3692 J-2014 906.11 Forest 1.48 1057.82 65.64 3932 J-2134 843.04 Forest 0.68 994.76 65.64 686 J-395 912.00 Forest 0.08 1063.72 65.64 4183 J-2242 905.69 Forest 2.29 1057.42 65.65 2440 J-1308 821.67 Lakes 0.37 973.48 65.68								
2967 J-1600 843.07 Forest 1.48 994.76 65.63 3692 J-2014 906.11 Forest 1.48 1057.82 65.64 3932 J-2134 843.04 Forest 0.68 994.76 65.64 686 J-395 912.00 Forest 0.08 1063.72 65.64 4183 J-2242 905.69 Forest 2.29 1057.42 65.65 2440 J-1308 821.67 Lakes 0.37 973.48 65.68	3892	J-2114	910.53	Forest	0.88	1062.02	65.54	
3692 J-2014 906.11 Forest 1.48 1057.82 65.64 3932 J-2134 843.04 Forest 0.68 994.76 65.64 686 J-395 912.00 Forest 0.08 1063.72 65.64 4183 J-2242 905.69 Forest 2.29 1057.42 65.65 2440 J-1308 821.67 Lakes 0.37 973.48 65.68								
3932 J-2134 843.04 Forest 0.68 994.76 65.64 686 J-395 912.00 Forest 0.08 1063.72 65.64 4183 J-2242 905.69 Forest 2.29 1057.42 65.65 2440 J-1308 821.67 Lakes 0.37 973.48 65.68								
686 J-395 912.00 Forest 0.08 1063.72 65.64 4183 J-2242 905.69 Forest 2.29 1057.42 65.65 2440 J-1308 821.67 Lakes 0.37 973.48 65.68								
4183 J-2242 905.69 Forest 2.29 1057.42 65.65 2440 J-1308 821.67 Lakes 0.37 973.48 65.68								
2440 J-1308 821.67 Lakes 0.37 973.48 65.68								
601 J-344 906.01 Forest 0.68 1057.84 65.69	2440	J-1308	821.67	Lakes	0.37	973.48	65.68	
	601	J-344	906.01	Forest	0.68	1057.84	65.69	

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure		
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)		
000	1.546	005.03	Forest	0.69	1057.00	65.70		
998 6771	J-546 J-3669	905.93 910.09	Forest Forest	0.68 1.08	1057.83 1062.02	65.72 65.73		
3658	J-1995	912.74	Forest	0.08	1064.83	65.80		
1676	J-844	821.24	Lakes	0.20	973.48	65.87		
1709 2414	J-866	821.23	Lakes	0.20	973.48	65.87		
2414	J-1292 J-1293	821.18 821.16	Lakes Lakes	0.20 0.20	973.48 973.48	65.89 65.90		
8465	J-4184	808.28	Lakes	1.50	960.64	65.92		
2263	J-1210	815.03	Lakes	0.63	967.41	65.93		
1574	J-780 J-1253	906.87 838.81	Forest	0.48	1059.32	65.95		
2338 3466	J-1253 J-1887	912.33	Lakes Forest	1.41 0.48	991.27 1064.81	65.96 65.97		
2431	J-1303	838.73	Lakes	1.58	991.25	65.99		
1573	J-779	906.69	Forest	0.08	1059.32	66.04		
1770	J-906	836.31	Lakes	0.55	988.98	66.05		
364 2430	J-196 J-1302	912.07 838.55	Forest Lakes	0.08 0.55	1064.76 991.25	66.06 66.07		
3890	J-2113	912.16	Forest	0.48	1064.87	66.07		
363	J-195	912.03	Forest	0.08	1064.75	66.07		
2106	J-1113	840.63	Lakes	0.72	993.35	66.07		
8069 6135	J-4165 J-3294	904.70 912.00	Forest Forest	2.89 0.28	1057.46 1064.87	66.09 66.14		
76	J-32	906.11	Forest	0.28	1058.99	66.15		
6186	J-3323	911.89	Forest	0.68	1064.81	66.16		
3464	J-1886	904.49	Forest	0.48	1057.41	66.16		
4214	J-2254	911.75	Forest	0.48	1064.88	66.25		
2032 7092	J-1074 J-3855	904.62 910.96	Forest Forest	0.68 0.28	1057.79 1064.13	66.27 66.27		
7946	J-4148	904.74	Forest	0.48	1057.91	66.27		
4843	J-2551	904.64	Forest	80.0	1057.82	66.27		
4962	J-2620	841.55	Forest	0.48	994.76	66.29		
3313	J-1802	841.54	Forest	0.08	994.76	66.29		
3321 2024	J-1806 J-1069	911.39 808.28	Forest Lakes	0.48 0.37	1064.63 961.56	66.30 66.32		
6029	J-3229	904.45	Forest	0.28	1057.76	66.33		
2004	J-1057	840.00	Lakes	0.46	993.38	66.36		
6675	J-3613	905.60	Forest	0.48	1058.99	66.36		
3691 5598	J-2013 J-2984	904.42 904.00	Forest Forest	0.68 0.68	1057.82 1057.42	66.37 66.38		
5599	J-2985	904.00	Forest	0.88	1057.42	66.38		
5460	J-2906	904.23	Forest	1.48	1057.68	66.39		
658	J-379	903.28	Forest	2.09	1056.73	66.39		
2625	J-1413	828.00	Forest	1.08	981.47	66.40		
3114 3115	J-1683 J-1684	904.00 904.00	Forest Forest	0.08 0.08	1057.51 1057.51	66.42 66.42		
75	J-31	905.47	Forest	0.28	1059.00	66.42		
3929	J-2132	903.75	Forest	1.48	1057.42	66.48		
3451	J-1879	904.00	Forest	0.48	1057.68	66.49		
3267 6377	J-1776 J-3438	908.89 904.00	Forest Forest	0.48 0.28	1062.60 1057.80	66.50 66.54		
3467	J-1888	910.79	Forest	0.28	1064.81	66.64		
4025	J-2174	903.80	Forest	0.88	1057.83	66.64		
5681	J-3033	908.48	Forest	0.48	1062.60	66.68		
502 3438	J-282	903.63	Forest Forest	0.08	1057.80 1057.45	66.70 66.72		
3438 5193	J-1871 J-2751	903.23 903.59	Forest	0.48 0.88	1057.45 1057.83	66.72 66.73		
2652	J-1428	827.22	Forest	0.88	981.47	66.74		
3782	J-2060	908.97	Forest	0.28	1063.25	66.75		
2245 2983	J-1199	836.93	Lakes	0.81 0.48	991.24 1064.80	66.76 66.78		
7062	J-1608 J-3838	910.46 908.89	Forest Forest	0.48	1064.80	66.78 66.78		
3322	J-1807	910.17	Forest	0.28	1064.63	66.83		
196	J-93	907.78	Forest	1.08	1062.34	66.87		
5721	J-3056	902.87	Forest	0.48	1057.45	66.88		
4892 7765	J-2580 J-4110	903.68 902.73	Forest Forest	0.48 1.48	1058.28 1057.42	66.89 66.92		
584	J-334	903.07	Forest	0.08	1057.42	66.94		
2799	J-1515	836.51	Lakes	1.24	991.26	66.95		
4891	J-2579	903.43	Forest	0.08	1058.28	66.99		
7232 7938	J-3926	909.21	Forest	0.28	1064.12 1057.45	67.02 67.02		
7938 6848	J-4146 J-3715	902.54 909.96	Forest Forest	1.08 0.48	1057.45 1064.88	67.02 67.03		
2547	J-1367	805.64	Lakes	0.29	960.64	67.06		
498	J-280	909.73	Forest	0.08	1064.75	67.07		
4276	J-2273	902.69	Forest	1.68	1057.76	67.09		
5847	J-3128	909.66	Forest	0.08	1064.75	67.10 67.14		
1986 6986	J-1045 J-3795	818.29 904.78	Lakes Forest	0.37 0.48	973.48 1060.04	67.14 67.17		
2126	J-1126	904.43	Forest	0.48	1059.69	67.18		
5323	J-2827	909.49	Forest	1.28	1064.87	67.22		
7728	J-4101	902.11	Forest	0.28	1057.51	67.24		
558 1712	J-318 J-868	903.89 818.02	Forest Lakes	0.08 0.46	1059.32 973.48	67.25 67.26		
2191	J-1167	903.95	Forest	1.88	1059.43	67.27		
3911	J-2123	906.52	Forest	0.48	1062.02	67.28		
7721	J-4098	903.16	Forest	0.88	1058.69	67.29		
5856	J-3133	903.69	Forest	0.88	1059.23	67.29		
3588 6666	J-1957 J-3608	901.89 908.50	Forest Forest	0.08 0.28	1057.46 1064.12	67.31 67.33		
2250	J-1202	837.78	Lakes	0.63	993.43	67.34		
5322	J-2826	909.20	Forest	80.0	1064.87	67.35		
503	J-283	902.07	Forest	1.08	1057.80	67.38		
1978	J-1040	909.02	Forest	0.48	1064.83	67.41		
1790 2269	J-918 J-1213	906.78 811.21	Forest Lakes	0.08 0.72	1062.60 967.07	67.42 67.43		
6665	J-3607	908.20	Forest	0.08	1064.12	67.46		
5755	J-3076	906.05	Forest	0.88	1062.02	67.48		
7882	J-4138	901.74	Forest	0.68	1057.79	67.52		
7701	J-4092	902.62	Forest	0.88	1058.69	67.53		

Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
642	J-369	907.96	Forest	0.08	1064.13	67.57
3522 2914	J-1920 J-1577	902.95 837.08	Forest Lakes	0.48 0.89	1059.23 993.37	67.62 67.62
1908	J-994	817.11	Lakes	0.20	973.48	67.65
2854 6034	J-1547 J-3232	901.41 908.41	Forest Forest	1.08 0.28	1057.80 1064.80	67.66 67.66
3535	J-1927	908.40	Forest	0.28	1064.80	67.67
569	J-325	907.78	Forest	0.68	1064.21	67.68
1677 6050	J-845 J-3242	817.04 901.23	Lakes Forest	0.20 0.68	973.48 1057.80	67.68 67.74
751	J-430	903.44	Forest	80.0	1060.04	67.75
1912 7082	J-997 J-3850	908.26 908.06	Forest Forest	1.68 0.08	1064.88 1064.76	67.76 67.80
4200	J-2249	902.55	Forest	0.88	1059.26	67.80
919 2733	J-510 J-1476	908.05 901.00	Forest Forest	0.08 1.88	1064.76 1057.76	67.80 67.82
1909	J-995	816.68	Lakes	0.55	973.48	67.84
5180	J-2744	902.20	Forest	0.48	1059.04	67.86
2343 2503	J-1256 J-1343	902.18 907.75	Forest Forest	0.68 0.28	1059.04 1064.63	67.87 67.87
3456	J-1882	907.98	Forest	80.0	1064.87	67.88
1711 2301	J-867 J-1233	816.55 834.22	Lakes Lakes	0.81 0.72	973.48 991.18	67.90 67.91
2762	J-1493	803.66	Lakes	0.37	960.64	67.92
2990 129	J-1612 J-63	907.75 907.81	Forest Forest	0.88 0.48	1064.83 1064.90	67.96 67.97
575	J-329	900.47	Forest	0.48	1057.84	68.08
4947	J-2611	900.30	Forest	1.28	1057.68	68.09
2811 5333	J-1522 J-2833	900.04 900.42	Forest Forest	1.28 0.08	1057.45 1057.84	68.10 68.11
7941	J-4147	900.00	Forest	1.48	1057.42	68.11
3587 2653	J-1956 J-1429	900.00 824.00	Forest Forest	1.28 0.88	1057.46 981.47	68.13 68.13
2817	J-1525	906.21	Forest	0.88	1063.71	68.14
6375	J-3437	899.92	Forest	0.28	1057.42	68.15
2125 7724	J-1125 J-4099	902.13 901.12	Forest Forest	0.08 1.28	1059.69 1058.69	68.17 68.17
877	J-493	901.62	Forest	0.08	1059.23	68.19
7437 5032	J-4006 J-2661	906.45 907.15	Forest Forest	2.29 0.68	1064.12 1064.85	68.21 68.23
4432	J-2322	910.95	Lakes	1.15	1068.85	68.32
7861 4948	J-4133	901.36	Forest	1.08	1059.27	68.32
4948 576	J-2612 J-330	899.76 899.87	Forest Forest	1.28 0.88	1057.68 1057.84	68.32 68.34
2298	J-1231	833.28	Lakes	0.89	991.26	68.35
6360 8488	J-3428 J-4196	905.73 901.27	Forest Forest	1.28 1.08	1063.71 1059.26	68.35 68.35
2544	J-1365	802.55	Lakes	0.29	960.64	68.40
5033 2502	J-2662 J-1342	906.44 906.08	Forest Forest	1.08 0.08	1064.85	68.54
1893	J-1342 J-985	830.42	Lakes	0.63	1064.63 988.98	68.60 68.60
86	J-38	900.88	Forest	1.28	1059.44	68.60
3919 1956	J-2127 J-1026	900.24 834.75	Forest Lakes	1.88 0.37	1058.82 993.34	68.61 68.61
2957	J-1597	814.88	Lakes	2.80	973.48	68.62
288 2848	J-148 J-1543	899.15 905.19	Forest Forest	0.68 0.68	1057.80 1063.87	68.64 68.65
1489	J-746	900.09	Forest	50.32	1058.80	68.67
3875	J-2105	898.71	Forest	0.88	1057.42	68.67
2853 4806	J-1546 J-2530	899.02 899.89	Forest Forest	1.08 0.88	1057.80 1058.67	68.70 68.70
2129	J-1128	832.34	Lakes	0.55	991.18	68.72
2192 3380	J-1168 J-1839	900.46 900.24	Forest Forest	0.88 0.28	1059.43 1059.26	68.78 68.80
2128	J-1127	832.16	Lakes	0.72	991.19	68.81
3303 4800	J-1797 J-2527	903.54 899.75	Forest Forest	0.48 0.08	1062.60 1058.82	68.82 68.82
959	J-2527 J-528	899.75 899.57	Forest	0.08	1058.67	68.84
287	J-147	898.67	Forest	0.08	1057.80	68.85
5428 5838	J-2888 J-3123	899.59 902.80	Forest Forest	0.08 0.08	1058.80 1062.02	68.88 68.89
4010	J-2168	899.03	Forest	1.68	1058.27	68.90
2981 8487	J-1607 J-4195	834.05 899.91	Lakes Forest	0.63 1.68	993.38 1059.26	68.94 68.94
5654	J-3017	900.06	Forest	0.48	1059.43	68.95
104	J-50	902.63	Forest	0.48	1062.02	68.96
2999 5385	J-1616 J-2864	831.85 899.80	Lakes Forest	3.32 0.88	991.25 1059.28	68.96 69.00
2333	J-1251	833.87	Lakes	0.89	993.41	69.03
844 1931	J-476 J-1009	904.67 807.47	Forest Lakes	0.48 0.37	1064.25 967.07	69.04 69.05
7188	J-3904	905.00	Forest	0.08	1064.62	69.06
5655	J-3018	899.72	Forest	0.48	1059.43 1063.75	69.10 69.12
2712 5390	J-1464 J-2867	904.00 898.05	Forest Forest	0.68 0.28	1057.80	69.12 69.12
6374	J-3436	897.65	Forest	0.68	1057.42	69.13
330 4568	J-174 J-2397	897.94 904.36	Forest Forest	0.68 0.28	1057.80 1064.25	69.17 69.18
3574	J-1949	897.15	Forest	0.88	1057.10	69.20
3647 2548	J-1989	904.83	Forest	0.88 0.29	1064.83	69.22
2548 5386	J-1368 J-2865	800.64 899.27	Lakes Forest	0.29	960.64 1059.28	69.22 69.23
87	J-39	899.07	Forest	1.48	1059.42	69.38
3804 2290	J-2071 J-1226	896.63 806.73	Forest Lakes	1.08 0.55	1057.02 967.17	69.39 69.41
2802	J-1517	834.29	Forest	1.88	994.76	69.43
1955 1987	J-1025 J-1046	832.85 812.88	Lakes Lakes	0.37 0.55	993.34 973.47	69.44 69.48
7774	J-4113	834.14	Forest	0.33	994.76	69.49

Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
1694	J-856	898.64	Forest	0.08	1059.26	69.49
2468 2469	J-1324 J-1325	800.00	Lakes Lakes	0.29 0.20	960.64 960.64	69.50 69.50
2505	J-1344	800.00 800.00	Lakes	0.20	960.64	69.50
5573	J-2970	896.42	Forest	0.88	1057.10	69.52
5466 5540	J-2910 J-2951	903.91 896.59	Forest Forest	0.68 1.28	1064.62 1057.44	69.53 69.59
2887	J-1564	903.69	Forest	0.88	1064.63	69.63
7219 5465	J-3920 J-2909	898.33 903.56	Forest Forest	0.08 0.68	1059.38 1064.62	69.68 69.69
6253	J-3365	899.62	Forest	0.48	1060.77	69.72
2143 6306	J-1137 J-3396	898.52 898.84	Forest Forest	0.68 0.08	1059.69 1060.04	69.73 69.74
6506	J-3512	896.25	Forest	0.88	1057.46	69.75
2227 3878	J-1189 J-2107	805.85 896.21	Lakes Forest	0.20 1.08	967.07 1057.44	69.75 69.76
6305	J-3395	898.74	Forest	0.28	1060.04	69.79
5421	J-2884	903.32	Forest	0.08	1064.63	69.79
2131 7218	J-1129 J-3919	898.03 898.05	Forest Forest	0.68 0.48	1059.35 1059.38	69.80 69.80
643	J-370	902.72	Forest	0.28	1064.13	69.84
6507 570	J-3513 J-326	896.03 902.75	Forest Forest	0.28 0.68	1057.46 1064.20	69.85 69.85
72	J-29	900.56	Forest	0.08	1062.02	69.86
3856 1296	J-2097 J-673	895.86 899.20	Forest Forest	1.28 0.68	1057.43 1060.77	69.90 69.90
2374	J-1274	903.01	Forest	0.28	1064.63	69.92
7511	J-4032	896.15 896.96	Forest	0.48	1057.80	69.94 69.97
4798 5402	J-2526 J-2874	896.20	Forest Forest	0.28 0.48	1058.69 1057.93	69.98
2213	J-1180	831.62	Lakes	0.72	993.42	70.00
5401 143	J-2873 J-70	896.04 899.97	Forest Forest	0.68 0.48	1057.93 1061.86	70.04 70.04
636	J-365	896.56	Forest	0.08	1058.69	70.15
3649 4804	J-1990 J-2529	832.49 901.80	Forest Forest	0.28 0.08	994.76 1064.20	70.21 70.26
7006	J-3807	897.38	Forest	1.08	1059.82	70.28
7510 7007	J-4031 J-3808	895.33 897.26	Forest Forest	0.08 0.88	1057.80 1059.82	70.29 70.33
7975	J-4153	894.88	Forest	1.68	1055.45	70.34
2187	J-1165 J-427	856.69	Lakes	0.72	1019.31 1060.04	70.36
746 6903	J-427 J-3748	897.31 899.86	Forest Forest	0.08 0.08	1060.04	70.40 70.41
6974	J-3788	901.99	Forest	0.08	1064.76	70.42
7111 4459	J-3866 J-2334	896.52 896.44	Forest Forest	0.08 0.28	1059.35 1059.36	70.45 70.48
4458	J-2333	896.43	Forest	80.0	1059.36	70.49
4193 7456	J-2247 J-4012	894.41 896.33	Forest Forest	1.88 0.28	1057.42 1059.36	70.53 70.53
3407	J-1853	901.82	Forest	0.28	1064.87	70.54
8536 808	J-4218 J-458	911.94 895.06	Forest Forest	0.08 0.08	1075.00 1058.17	70.55 70.57
7141	J-458 J-3882	896.25	Forest	0.08	1058.17	70.57
6941	J-3770	900.88	Forest	0.08	1064.01	70.58
1879 265	J-976 J-133	896.14 901.42	Forest Forest	0.48 0.08	1059.28 1064.76	70.58 70.67
3573	J-1948	893.68	Forest	0.48	1057.09	70.70
5891 264	J-3152 J-132	897.50 901.30	Forest Forest	0.08 0.08	1060.96 1064.76	70.72 70.72
6292	J-3387	895.94	Forest	1.68	1059.43	70.73
2189 7038	J-1166 J-3825	895.75 901.12	Forest Forest	0.08 0.08	1059.26 1064.63	70.74 70.74
1139	J-602	900.49	Forest	0.08	1064.01	70.75
4261	J-2268	900.35 817.90	Forest	0.08	1063.91	70.77
3436 7505	J-1870 J-4029	894.50	Forest Forest	1.88 4.32	981.47 1058.17	70.77 70.81
4227	J-2258	899.88	Forest	0.08	1063.58	70.83
8467 7288	J-4185 J-3951	796.75 895.74	Lakes Forest	0.20 1.08	960.64 1059.82	70.91 70.99
6293	J-3388	895.35	Forest	1.28	1059.43	70.99
7289 4950	J-3952 J-2613	895.71 900.15	Forest Forest	0.48 1.08	1059.82 1064.34	71.00 71.03
3935	J-2135	899.33	Forest	80.0	1063.58	71.06
1523	J-759	896.50	Forest Forest	0.08 0.28	1060.96 981.47	71.16 71.16
3039 3784	J-1635 J-2061	817.00 900.39	Forest	0.68	1064.87	71.16
1035	J-562	899.83	Forest	80.0	1064.34	71.17
3038 3301	J-1634 J-1796	816.93 898.02	Forest Forest	0.08 0.48	981.47 1062.60	71.19 71.21
7911	J-4144	893.09	Forest	0.88	1057.68	71.21
2545 3683	J-1366 J-2008	796.00 897.29	Lakes Forest	0.20 0.68	960.64 1062.02	71.23 71.27
6680	J-3616	894.87	Forest	0.08	1059.72	71.32
73 637	J-30 J-366	897.18 893.67	Forest Forest	0.28 0.28	1062.02 1058.69	71.32 71.40
2161	J-1148	893.67 891.86	Forest	1.28	1056.94	71.42
3884	J-2110	893.19	Forest	1.08	1058.36	71.46
373 2570	J-202 J-1380	1053.81 816.24	Lakes Forest	0.20 0.08	1219.00 981.47	71.47 71.49
1791	J-919	897.35	Forest	0.88	1062.60	71.50
2202 693	J-1174 J-399	828.07 1053.69	Lakes Lakes	0.37 0.20	993.37 1219.00	71.52 71.52
1992	J-1049	828.00	Lakes	0.46	993.32	71.52
2117	J-1120	828.00	Lakes	0.55	993.32	71.53
372 6984	J-201 J-3794	1053.63 816.09	Lakes Forest	0.20 0.68	1219.00 981.47	71.55 71.55
5372	J-2856	893.39	Forest	0.88	1058.79	71.56
5065 3552	J-2681 J-1936	816.08 816.07	Forest Forest	2.09 0.28	981.48 981.48	71.56 71.56
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Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
1976	J-1039	801.63	Lakes	0.46	967.07	71.58
406	J-1039 J-223	899.27	Forest	0.48	1064.75	71.50
2020	J-1067	857.41	Lakes	0.72	1022.90	71.60
4494	J-2354	815.94	Forest	0.08	981.47	71.62
1355 407	J-688 J-224	894.19 899.06	Forest Forest	0.08 0.08	1059.72 1064.75	71.62 71.68
5371	J-2855	893.08	Forest	0.48	1058.79	71.69
4808	J-2531	899.03	Forest	0.08	1064.75	71.70
5470	J-2912	891.68	Forest	0.88	1057.42	71.71
5949 1165	J-3185 J-612	1053.25 892.00	Lakes Forest	0.20 0.08	1219.00 1057.80	71.71 71.73
6137	J-3295	892.00	Forest	0.88	1057.80	71.73
5120	J-2710	892.06	Forest	0.08	1057.88	71.74
5988	J-3206	892.00	Forest	0.08	1057.90	71.78
5989 1876	J-3207 J-974	892.00 896.60	Forest Forest	0.88 0.48	1057.90 1062.60	71.78 71.82
2132	J-1130	893.30	Forest	0.88	1059.35	71.84
2313	J-1240	892.98	Forest	1.28	1059.04	71.85
3631	J-1980	890.98	Forest	1.28	1057.07	71.86
1423 7612	J-711 J-4066	892.62 892.68	Forest Forest	0.08 0.68	1058.71 1058.77	71.86 71.86
3408	J-1854	898.62	Forest	0.28	1064.87	71.93
3292	J-1791	892.51	Forest	0.88	1058.78	71.93
6908	J-3751	893.75	Forest	0.88	1060.03	71.94
103	J-49	895.74	Forest	1.28	1062.02	71.94
3293 3924	J-1792 J-2129	892.43 891.06	Forest Forest	0.08 0.88	1058.78 1057.42	71.97 71.97
7213	J-3916	891.00	Forest	0.28	1057.42	72.00
5404	J-2875	892.28	Forest	0.28	1058.71	72.01
1868	J-969	898.08	Forest	1.28	1064.61	72.05
5121 1208	J-2711 J-633	891.34 893.48	Forest Forest	0.28 0.28	1057.88 1060.03	72.05 72.06
194	J-92	896.00	Forest	0.28	1062.60	72.08
1673	J-842	826.77	Lakes	0.46	993.42	72.10
3287	J-1788	895.93	Forest	0.08	1062.60	72.11
2325 2890	J-1247 J-1566	824.50 892.23	Lakes Forest	0.55 0.88	991.22 1058.95	72.13 72.13
3980	J-1566 J-2154	892.23 890.68	Forest	0.88	1058.95	72.13 72.14
6893	J-3742	891.20	Forest	0.08	1057.96	72.15
6956	J-3778	898.10	Forest	0.68	1064.87	72.15
4349 2097	J-2295 J-1107	890.74 824.22	Forest Lakes	1.08 0.72	1057.76 991.24	72.26 72.26
2851	J-1107 J-1545	896.81	Forest	0.68	1063.87	72.28
1975	J-1038	800.00	Lakes	0.20	967.07	72.28
2151	J-1142	814.29	Forest	0.28	981.47	72.33
4818 5581	J-2536 J-2974	891.46 895.36	Forest Forest	0.08 1.28	1058.66 1062.60	72.34 72.36
3319	J-1805	895.28	Forest	0.08	1062.60	72.39
6481	J-3498	890.37	Forest	1.08	1057.76	72.42
747	J-428	892.64	Forest	0.28	1060.04	72.42
8504 6892	J-4205	897.51	Forest Forest	0.28	1064.90	72.42
1185	J-3741 J-620	890.53 907.56	Forest	2.09 0.08	1057.96 1075.00	72.44 72.44
3517	J-1918	890.34	Forest	0.88	1057.82	72.46
2278	J-1219	825.91	Lakes	0.72	993.42	72.48
478	J-268	891.11	Forest	0.08	1058.66	72.49
2694 5767	J-1452 J-3083	823.48 891.73	Lakes Forest	0.37 0.28	991.16 1059.42	72.54 72.55
203	J-94	892.00	Forest	1.28	1059.76	72.58
3083	J-1663	897.10	Forest	1.08	1064.87	72.58
1929	J-1008	825.55	Lakes	0.29	993.34	72.60
3952 2027	J-2142 J-1071	891.49 823.18	Forest Lakes	1.08 0.55	1059.42 991.15	72.65 72.67
2027	J-1071 J-1494	823.18 889.85	Lakes Forest	0.55	991.15 1057.82	72.67 72.68
7622	J-4070	889.82	Forest	0.28	1057.80	72.68
7463	J-4015	889.76	Forest	0.88	1057.79	72.70
5430 2005	J-2889	889.78 825.25	Forest	0.48	1057.82	72.70 72.74
2005 8534	J-1058 J-4217	825.25 906.87	Lakes Forest	0.72 0.08	993.37 1075.00	72.74 72.74
3084	J-1664	896.70	Forest	0.08	1064.87	72.76
3024	J-1626	889.38	Forest	3.69	1057.73	72.84
6460	J-3486	889.31	Forest	0.68	1057.67	72.84
3235 6095	J-1756 J-3270	889.22 892.50	Forest Forest	2.09 0.08	1057.67 1060.99	72.88 72.90
4263	J-2269	890.92	Forest	0.08	1059.42	72.90
7671	J-4084	890.86	Forest	2.49	1059.43	72.93
1066	J-576	896.00	Forest	0.08	1064.62	72.95
7241	J-3930 I-1185	896.00 824.79	Forest	0.88	1064.62	72.95 72.96
2220 1925	J-1185 J-1005	824.79 894.61	Lakes Forest	0.89 0.68	993.42 1063.25	72.96 72.96
3697	J-2017	891.55	Forest	0.08	1060.20	72.97
6210	J-3338	892.23	Forest	0.28	1060.94	72.99
2868	J-1554	812.71	Forest	1.28	981.48	73.02
319 6215	J-167 J-3341	889.88 889.01	Forest Forest	0.08 1.68	1058.66 1057.80	73.02 73.03
753	J-431	889.34	Forest	0.08	1057.80	73.06
5700	J-3044	889.13	Forest	0.48	1058.02	73.07
126	J-61	894.24	Forest	0.48	1063.15	73.08
3551 5082	J-1935 J-2690	812.56 889.22	Forest Forest	0.88 0.48	981.48 1058.21	73.08 73.11
1422	J-2690 J-710	889.68	Forest	0.48	1058.21	73.11
1522	J-758	891.87	Forest	0.28	1060.94	73.15
318	J-166	889.49	Forest	0.28	1058.66	73.19
3234 1801	J-1755 J-925	888.49 812.19	Forest Forest	0.08 0.48	1057.67 981.47	73.19 73.24
1801 6288	J-925 J-3385	812.19 893.85	Forest	0.48	981.47 1063.15	73.24
4640	J-2439	812.09	Forest	0.48	981.48	73.29
3733	J-2037	812.06	Forest	1.08	981.47	73.29
1505	J-750	891.56	Forest	0.08	1060.99	73.31

29701_Run_1_Exst_2xAvg_FF.xls

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure	
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)	
7852	J-4131	888.00	Forest	0.68	1057.46	73.32	
5108	J-2704	889.81	Forest	0.48	1059.27	73.32	
6950	J-3775	888.34	Forest	0.08	1057.82	73.32	
6216	J-3342	888.29	Forest Forest	0.08	1057.80	73.34	
8483 5699	J-4193 J-3043	889.17 888.42	Forest	0.48 0.08	1058.69 1058.02	73.34 73.37	
3510	J-1914	811.88	Forest	0.48	981.48	73.37	
7986	J-4156	889.39	Forest	2.09	1059.00	73.38	
5472	J-2913	892.34	Forest	0.08	1062.02	73.41	
1734 3458	J-882 J-1883	821.35 892.14	Lakes Forest	0.46 0.08	991.15 1062.02	73.47 73.50	
3926	J-2130	887.55	Forest	0.88	1057.45	73.51	
3511	J-1915	811.57	Forest	0.48	981.48	73.51	
3561 5532	J-1942	894.86	Forest	0.48	1064.87	73.55	
2012	J-2947 J-1062	894.40 823.11	Forest Lakes	0.08 0.89	1064.62 993.34	73.64 73.65	
1938	J-1014	823.03	Lakes	0.72	993.32	73.67	
4196	J-2248	887.40	Forest	0.28	1057.82	73.73	
895	J-502	894.18	Forest	0.08	1064.62	73.74	
1159 5745	J-610 J-3070	888.00 887.12	Forest Forest	0.48 0.08	1058.67 1057.80	73.84 73.84	
3424	J-1863	894.14	Forest	0.28	1064.87	73.87	
490	J-275	887.51	Forest	0.08	1058.25	73.87	
7397	J-3992	887.93	Forest	9.60	1058.71	73.89	
3539 1495	J-1929 J-748	887.93 888.00	Forest Forest	0.08 0.08	1058.71 1058.78	73.89 73.89	
6148	J-3301	894.04	Forest	0.48	1064.83	73.89	
1914	J-998	888.46	Forest	1.28	1059.27	73.90	
2375	J-1275	893.74	Forest	0.48	1064.63	73.94	
5746 8527	J-3071 J-4215	886.85 851.94	Forest Lakes	0.08 0.72	1057.80 1022.90	73.96 73.97	
250	J-4215 J-123	886.84	Forest	0.72	1022.90	73.97	
3699	J-2018	893.82	Forest	0.08	1064.83	73.99	
1735	J-883	820.14	Lakes	0.29	991.15	73.99	
475 1999	J-266 J-1054	892.56 822.34	Forest Lakes	0.68 0.55	1063.58 993.37	73.99 73.99	
489	J-1054 J-274	822.34 887.22	Forest	0.48	1058.25	73.99 74.00	
2214	J-1181	822.35	Lakes	0.72	993.42	74.01	
6782	J-3676	887.54	Forest	0.08	1058.67	74.04	
249	J-122	886.68	Forest	0.08	1057.84	74.05	
1470 3896	J-737 J-2116	887.57 893.44	Forest Forest	0.28 0.88	1058.73 1064.62	74.06 74.06	
1896	J-987	885.68	Forest	2.09	1056.88	74.07	
398	J-218	888.85	Forest	0.48	1060.09	74.09	
1802	J-926	810.12	Forest	0.28	981.47	74.14	
3630 1206	J-1979 J-632	885.66 888.31	Forest Forest	0.88 0.88	1057.06 1059.72	74.16 74.16	
5189	J-2749	887.32	Forest	0.08	1058.73	74.16	
6160	J-3308	886.26	Forest	1.28	1057.68	74.17	
6802	J-3688	885.91	Forest	1.88	1057.42	74.21	
1674 397	J-843 J-217	821.89 888.54	Lakes Forest	0.20 0.28	993.42 1060.09	74.21 74.22	
6939	J-3769	886.77	Forest	0.88	1058.36	74.24	
5299	J-2812	887.16	Forest	0.08	1058.77	74.25	
3476	J-1894	886.20	Forest	0.48	1057.82	74.25	
1163 6161	J-611 J-3309	886.18 886.03	Forest Forest	0.48 0.88	1057.84 1057.68	74.27 74.27	
5208	J-2759	892.93	Forest	0.88	1064.62	74.28	
4980	J-2630	887.00	Forest	0.08	1058.71	74.29	
3111	J-1681	887.00	Forest	0.08	1058.71	74.29	
5210 5051	J-2760 J-2673	886.13 886.12	Forest Forest	0.28 0.28	1057.84 1057.84	74.29 74.30	
3252	J-1767	887.01	Forest	0.68	1057.64	74.30	
1228	J-642	887.92	Forest	0.08	1059.71	74.33	
4439	J-2324	886.03	Forest	0.88	1057.83	74.33	
3023 6192	J-1625 J-3327	886.00 885.99	Forest Forest	3.89 0.48	1057.80 1057.79	74.33 74.33	
3112	J-3327 J-1682	886.89	Forest	0.48	1057.79	74.33 74.34	
6191	J-3326	885.96	Forest	0.08	1057.79	74.34	
2160	J-1147	885.11	Forest	0.88	1056.94	74.34	
5300 476	J-2813 J-267	886.93 891.71	Forest Forest	1.28 0.88	1058.77 1063.58	74.35 74.36	
6531	J-267 J-3527	887.53	Forest	0.48	1053.58	74.36	
894	J-501	892.66	Forest	0.48	1064.62	74.40	
4573	J-2400	885.86	Forest	1.08	1057.83	74.40	
5335	J-2834	891.58	Forest	0.08	1063.58	74.42	
6864 6504	J-3724 J-3511	887.69 885.74	Forest Forest	0.28 0.68	1059.72 1057.82	74.43 74.45	
5232	J-2774	887.61	Forest	0.08	1057.02	74.46	
393	J-215	886.58	Forest	0.48	1058.70	74.47	
3073	J-1657	892.47	Forest	1.28	1064.62	74.48	
3251 7329	J-1766 J-3966	886.59 885.64	Forest Forest	0.68 0.88	1058.77 1057.83	74.49 74.50	
5714	J-3052	884.85	Forest	0.08	1057.06	74.50	
5060	J-2678	886.49	Forest	0.08	1058.71	74.51	
6078	J-3260	891.83	Forest	0.08	1064.12	74.54	
667 3076	J-385 J-1659	891.81 892.28	Forest Forest	0.48 0.08	1064.12 1064.62	74.55 74.56	
3076	J-1659 J-1658	892.28 892.22	Forest	1.08	1064.62	74.56 74.59	
542	J-308	892.19	Forest	0.48	1064.63	74.61	
2175	J-1157	889.54	Forest	0.48	1062.02	74.62	
5354	J-2845	886.18	Forest	0.28	1058.70	74.64	
1895 7784	J-986 J-4116	884.36 887.32	Forest Forest	0.08 0.28	1056.91 1059.94	74.66 74.68	
3885	J-2111	885.71	Forest	0.48	1058.36	74.70	
1979	J-1041	892.15	Forest	0.68	1064.82	74.71	
3108	J-1679	886.03 885 98	Forest	0.08 0.08	1058.71	74.71 74.73	
392 2234	J-214 J-1193	885.98 885.06	Forest Forest	0.08	1058.70 1057.82	74.73 74.74	
	0.100	555.00	. 0.000	5.40	.007.02	. 1.1 1	

			Calculated				
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure	
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)	
3109	J-1680	885.93	Forest	0.08	1058.71	74.76	
3930 6044	J-2133 J-3238	884.57 891.72	Forest Forest	1.28 0.68	1057.41 1064.63	74.78 74.81	
6442	J-3476	884.43	Forest	0.68	1057.42	74.85	
6530	J-3526	886.39	Forest	0.48	1059.43	74.87	
4267	J-2270	884.34	Forest	1.08	1057.42	74.88	
4027	J-2175	884.52	Forest	1.08	1057.68	74.92	
3596 2219	J-1962 J-1184	884.47 820.03	Forest Lakes	1.28 0.72	1057.83 993.41	75.00 75.01	
6767	J-3667	884.31	Forest	0.48	1057.76	75.04	
6045	J-3239	891.10	Forest	0.28	1064.63	75.08	
5496	J-2926	891.31	Forest	0.28	1064.84	75.08	
2940 3898	J-1589 J-2117	849.34	Lakes Forest	0.81	1022.90	75.09	
432	J-240	884.00 884.82	Forest	1.08 0.48	1057.83 1058.70	75.21 75.23	
127	J-62	889.19	Forest	1.28	1063.08	75.23	
6814	J-3695	886.93	Forest	0.28	1060.91	75.27	
2292	J-1227	890.85	Forest	0.28	1064.84	75.28	
3475 7235	J-1893 J-3928	883.66 883.90	Forest Forest	0.28 0.08	1057.82 1058.14	75.35 75.39	
7094	J-3856	885.72	Forest	0.88	1060.04	75.42	
4188	J-2245	882.61	Forest	1.48	1056.99	75.45	
4747	J-2498	890.19	Forest	1.08	1064.62	75.47	
6553	J-3540	883.24	Forest	1.68	1057.68	75.47 75.40	
4120 4019	J-2216 J-2171	882.95 890.09	Forest Forest	0.88 0.88	1057.42 1064.62	75.49 75.51	
7343	J-3972	885.23	Forest	0.08	1059.82	75.53	
1526	J-760	886.24	Forest	0.08	1060.91	75.57	
3850	J-2094	884.00	Forest	0.08	1058.69	75.58	
5099	J-2699	884.00	Forest	0.48	1058.74	75.60	
5734 4168	J-3064 J-2237	883.94 820.00	Forest Forest	0.28 1.48	1058.69 994.76	75.61 75.61	
6554	J-3541	882.92	Forest	0.28	1057.68	75.61	
7342	J-3971	885.01	Forest	0.08	1059.82	75.63	
1492	J-747	883.84	Forest	0.88	1058.74	75.67	
7234	J-3927	883.15	Forest	0.28	1058.14	75.71	
4268 3359	J-2271 J-1828	882.42 882.74	Forest Forest	1.68 0.48	1057.42 1057.76	75.71 75.72	
279	J-1626 J-142	883.49	Forest	0.48	1057.76	75.72	
2665	J-1435	885.66	Forest	1.08	1060.81	75.78	
907	J-507	883.47	Forest	0.08	1058.70	75.81	
3360	J-1829	882.50	Forest	0.68	1057.76	75.83	
278 4670	J-141 J-2455	883.34 883.38	Forest Forest	0.68 0.08	1058.61 1058.77	75.83 75.88	
7448	J-4008	882.26	Forest	1.68	1055.77	75.90	
4836	J-2547	883.21	Forest	80.0	1058.70	75.93	
884	J-497	883.13	Forest	0.88	1058.64	75.94	
3152 2818	J-1706 J-1526	888.68 888.12	Forest Forest	0.28 0.68	1064.28 1063.71	75.97 75.97	
1425	J-1526 J-712	883.14	Forest	0.88	1053.71	75.97 75.99	
6026	J-3227	884.19	Forest	0.28	1059.82	75.99	
2987	J-1610	882.10	Forest	1.08	1057.80	76.01	
5780	J-3090	888.87	Forest	0.08	1064.60	76.03	
5781 5338	J-3091 J-2836	888.79 883.13	Forest Forest	0.08 0.48	1064.60 1059.00	76.07 76.09	
7497	J-4027	881.93	Forest	0.48	1059.00	76.09 76.09	
3943	J-2138	888.71	Forest	1.28	1064.63	76.11	
453	J-253	888.32	Forest	0.28	1064.28	76.13	
1873	J-972	846.90	Lakes	1.34	1022.87	76.13	
1441 6027	J-722 J-3228	882.74 883.84	Forest Forest	0.08 0.48	1058.72 1059.82	76.14 76.14	
302	J-3228 J-156	883.74	Forest	0.48	1059.82	76.14 76.15	
6989	J-3797	882.09	Forest	0.68	1058.16	76.18	
7029	J-3820	885.28	Forest	0.48	1061.36	76.18	
6240	J-3357	881.59	Forest	0.48	1057.68	76.19	
1026 5080	J-558 J-2689	882.61 882.54	Forest Forest	0.08 0.08	1058.76 1058.72	76.21 76.23	
2311	J-2689 J-1239	882.54 881.63	Forest	1.48	1058.72	76.23 76.23	
4623	J-2429	882.56	Forest	0.08	1058.78	76.24	
3981	J-2155	881.14	Forest	1.08	1057.41	76.26	
4915	J-2592	882.37	Forest	0.88	1058.65	76.27	
4916	J-2593	882.36 888.51	Forest	0.28	1058.65 1064.84	76.27 76.20	
3401 1408	J-1850 J-702	888.51 882.43	Forest Forest	0.48 0.68	1054.84	76.29 76.29	
5337	J-2835	882.63	Forest	0.88	1058.76	76.29	
608	J-348	882.85	Forest	0.08	1059.29	76.34	
3772	J-2056	880.58	Forest	2.29	1057.02	76.34	
6239	J-3356	881.18	Forest	0.48	1057.68	76.37	
2738 5997	J-1479 J-3211	882.12 882.05	Forest Forest	3.09 0.68	1058.64 1058.59	76.37 76.38	
1984	J-3211 J-1044	888.00	Forest	0.08	1064.62	76.38 76.41	
3399	J-1849	888.00	Forest	0.48	1064.62	76.41	
4960	J-2619	888.00	Forest	0.48	1064.62	76.41	
543	J-309	888.00	Forest	0.08	1064.63	76.42	
3537 1046	J-1928 J-568	882.13 881.73	Forest Forest	0.28 1.08	1058.78 1058.39	76.43 76.43	
5463	J-2908	887.95	Forest	1.68	1064.62	76.43 76.44	
343	J-182	883.32	Forest	0.08	1060.04	76.46	
6355	J-3425	884.86	Forest	0.28	1061.62	76.47	
6427	J-3467	888.10	Forest	0.08	1064.87	76.48	
344	J-183	883.23	Forest	0.08	1060.04	76.50 76.50	
7143 7144	J-3883 J-3884	887.80 887.79	Forest Forest	0.48 0.08	1064.60 1064.60	76.50 76.50	
6988	J-3884 J-3796	881.34	Forest	2.09	1058.16	76.50 76.50	
4230	J-2259	884.76	Forest	1.68	1061.62	76.52	
5462	J-2907	887.69	Forest	0.88	1064.62	76.55	
4999	J-2642	886.74	Forest	0.48	1063.72	76.57	
95 4998	J-44 J-2641	884.30 886.61	Forest Forest	1.08 0.48	1061.36 1063.72	76.61 76.63	
4000	0 2041	555.01	1 01631	0.40	1003.72	7 0.00	

Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
6780	J-3675	880.20	Forest	1.88	1057.41	76.67
6356	J-3426	884.35	Forest	0.68	1061.62	76.69
5617 301	J-2995 J-155	884.59 882.42	Forest Forest	0.88 0.08	1061.88 1059.74	76.71 76.72
6637	J-3591	883.69	Forest	0.08	1061.01	76.72
2490 1547	J-1336 J-768	881.41 1041.60	Forest Lakes	3.88 0.20	1058.76 1218.96	76.73 76.74
1915	J-999	881.88	Forest	0.68	1059.26	76.75
6426 6153	J-3466 J-3304	887.39 879.93	Forest Forest	0.08 0.68	1064.87 1057.42	76.79 76.79
6589	J-3562	880.84	Forest	0.08	1057.42	76.82
5072	J-2685	886.70	Forest	0.08	1064.28	76.83
1867 4953	J-968 J-2615	887.00 879.18	Forest Forest	0.88 0.08	1064.62 1056.80	76.85 76.85
6779	J-3674	879.75	Forest	0.08	1057.41	76.86
452 4392	J-252 J-2310	886.58 885.88	Forest Forest	0.48 1.48	1064.28 1063.72	76.88 76.94
4579	J-2404	880.06	Forest	1.08	1057.96	76.97
3560 4578	J-1941 J-2403	886.91 879.98	Forest Forest	0.08 0.68	1064.87 1057.96	76.99 77.00
1506	J-751	882.96	Forest	0.08	1061.01	77.03
5929	J-3173	1040.88	Lakes	0.20 0.08	1218.96	77.05
1234 3754	J-646 J-2048	896.91 879.31	Forest Forest	1.28	1075.00 1057.42	77.05 77.06
2030	J-1073	695.68	Forest	0.08	873.78	77.06
4190 7357	J-2246 J-3977	883.71 886.64	Forest Forest	1.68 0.08	1061.88 1064.87	77.09 77.11
50	J-15	881.44	Forest	0.08	1059.69	77.12
6213 1619	J-3340	879.54	Forest	1.08	1057.80	77.13 77.14
1619 2098	J-809 J-1108	878.81 812.94	Forest Lakes	0.68 0.20	1057.09 991.24	77.14 77.14
897	J-503	879.94	Forest	0.28	1058.59	77.29
6212 1440	J-3339 J-721	879.10 880.02	Forest Forest	0.88 0.08	1057.80 1058.72	77.31 77.32
1616	J-807	878.36	Forest	0.88	1057.07	77.32
995	J-545	879.87	Forest	0.48	1058.63	77.34
2341 6572	J-1255 J-3552	840.43 880.00	Lakes Forest	0.81 0.08	1019.31 1058.95	77.39 77.42
6573	J-3553	880.00	Forest	1.68	1058.95	77.42
3765 5791	J-2052 J-3096	881.09 879.65	Forest Forest	0.48 1.48	1060.04 1058.63	77.42 77.44
8517	J-4210	880.47	Forest	0.48	1059.47	77.45
1937	J-1013	814.26	Lakes	0.63	993.31	77.47
3597 4761	J-1963 J-2505	878.70 878.62	Forest Forest	0.68 0.48	1057.83 1057.83	77.50 77.54
4952	J-2614	877.59	Forest	1.28	1056.80	77.54
3786 51	J-2062 J-16	878.18 880.42	Forest Forest	0.28 0.08	1057.43 1059.70	77.55 77.56
4586	J-2408	879.46	Forest	0.48	1058.75	77.57
607	J-347	879.98	Forest	0.28 0.08	1059.28	77.58
1620 2309	J-810 J-1238	877.76 884.22	Forest Forest	1.08	1057.09 1063.57	77.59 77.60
1877	J-975	883.23	Forest	1.48	1062.58	77.60
1779 5663	J-911 J-3023	877.56 878.47	Forest Forest	0.48 1.08	1056.91 1057.83	77.60 77.60
1780	J-912	877.46	Forest	1.68	1056.90	77.64
832 1920	J-471 J-1002	883.72 879.73	Forest Forest	0.08 0.48	1063.22 1059.26	77.66 77.67
4740	J-2494	884.63	Forest	0.48	1064.16	77.68
5555	J-2959	880.18	Forest Forest	1.28	1059.73	77.68
1480 796	J-742 J-452	879.15 884.56	Forest	0.48 0.48	1058.75 1064.16	77.70 77.71
6550	J-3538	877.76	Forest	1.68	1057.42	77.73
1146 7237	J-606 J-3929	880.00 878.08	Forest Forest	0.48 0.68	1059.73 1057.84	77.76 77.77
2299	J-1232	811.40	Lakes	0.55	991.26	77.81
5016	J-2651 J-973	879.87	Forest	0.08	1059.74	77.82
1874 2678	J-1443	843.00 878.46	Lakes Forest	0.46 1.28	1022.86 1058.34	77.82 77.82
4296	J-2280	880.04	Forest	0.28	1059.95	77.84
79 5731	J-34 J-3062	885.00 880.00	Forest Forest	0.28 0.68	1064.91 1059.93	77.84 77.85
5732	J-3063	880.00	Forest	0.68	1059.93	77.85
7617 7692	J-4068 J-4089	878.99 879.92	Forest Forest	0.48 0.48	1059.00 1059.94	77.88 77.89
6551	J-3539	877.40	Forest	0.68	1059.54	77.89
5634	J-3005	879.55	Forest	0.08	1059.70	77.94
580 5418	J-332 J-2882	879.58 877.88	Forest Forest	0.08 0.68	1059.74 1058.04	77.95 77.95
7900	J-4141	878.80	Forest	0.88	1059.00	77.96
67 2306	J-26 J-1236	881.10	Forest Lakes	0.08 0.55	1061.30 1019.32	77.96 77.98
472	J-264	839.08 877.56	Forest	0.08	1057.84	78.00
78	J-33	884.61	Forest	0.48	1064.91	78.00
6859 1617	J-3721 J-808	877.49 876.74	Forest Forest	0.08 0.68	1057.80 1057.07	78.01 78.02
5236	J-2776	877.61	Forest	0.88	1057.99	78.04
3652 2616	J-1992 J-1407	876.95 878.13	Forest Forest	0.48 0.48	1057.42 1058.64	78.08 78.10
3802	J-2070	884.00	Forest	1.08	1064.62	78.15
666	J-384	883.49	Forest	0.28	1064.12	78.15
5419 3164	J-2883 J-1713	877.41 876.20	Forest Forest	0.48 0.08	1058.04 1056.91	78.15 78.19
4880	J-2572	878.00	Forest	0.08	1058.72	78.19
4879 5237	J-2571 J-2777	877.98 877.21	Forest Forest	0.08 0.68	1058.72 1057.99	78.20 78.21
4909	J-2589	876.64	Forest	0.68	1057.42	78.22
6283 4782	J-3382 J-2517	884.11 876.12	Forest Forest	0.08 0.48	1064.91 1056.91	78.22 78.22
7102	J-2J1/	0/0.12	i uical	0.40	1000.31	10.22

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
4112	J-2212	883.25	Forest	1.48	1064.10	78.24
2240 66	J-1196 J-25	877.37 880.41	Forest Forest	0.48 0.08	1058.25 1061.30	78.26 78.27
7325	J-25 J-3964	879.03	Forest	0.08	1061.30	78.27
2018	J-1066	841.76	Lakes	0.37	1022.89	78.37
5536	J-2949	877.91	Forest	0.28	1059.05	78.37 78.39
3795 3279	J-2067 J-1784	876.64 876.90	Forest Forest	0.88 0.28	1057.83 1058.09	78.39 78.39
473	J-265	876.56	Forest	0.28	1057.84	78.43
2173	J-1156	880.73	Forest	0.68	1062.01	78.43
6635 1952	J-3590 J-1023	875.67 883.27	Forest Forest	0.28 1.68	1057.02 1064.63	78.46 78.46
5538	J-2950	876.91	Forest	0.48	1058.27	78.46
4246	J-2263	877.31	Forest	1.08	1058.67	78.47
3131 3753	J-1693 J-2047	877.86 876.00	Forest Forest	0.48 1.08	1059.26 1057.42	78.48 78.49
3613	J-1970	883.44	Forest	0.28	1064.87	78.50
1963	J-1030	877.79	Forest	0.08	1059.26	78.52
3810 4451	J-2074 J-2329	877.51 879.05	Forest Forest	1.28 0.48	1059.05 1060.63	78.54 78.56
5408	J-2877	877.09	Forest	0.68	1058.67	78.56
410	J-226	879.01	Forest	0.08	1060.63	78.58
2700 6015	J-1456 J-3221	881.99 878.40	Forest Forest	0.48 0.08	1063.71 1060.23	78.62
6255	J-3221 J-3366	876.00	Forest	0.08	1050.23	78.67 78.67
6256	J-3367	876.00	Forest	0.28	1057.84	78.67
1033	J-561	876.00	Forest	0.68	1057.84	78.67
5178 5359	J-2743 J-2848	875.99 877.12	Forest Forest	0.08 0.08	1057.84 1059.00	78.68 78.69
3764	J-2051	878.14	Forest	0.28	1060.04	78.70
5717	J-3054	878.00	Forest	1.08	1059.94	78.72
561 2629	J-320 J-1414	876.52 876.24	Forest Forest	0.08 0.48	1058.49 1058.27	78.73 78.75
3276	J-1782	874.99	Forest	0.48	1057.02	78.75
5143	J-2723	877.23	Forest	80.0	1059.26	78.76
3278 5974	J-1783 J-3198	876.05 1036.77	Forest Lakes	0.48 0.37	1058.09 1218.85	78.76 78.78
872	J-490	877.14	Forest	0.08	1059.26	78.79
3295	J-1793	877.14	Forest	0.88	1059.26	78.79
5360	J-2849	876.85	Forest	0.08	1059.00	78.81
7086 1898	J-3852 J-988	881.05 874.78	Forest Forest	0.08 2.09	1063.22 1056.95	78.81 78.82
4370	J-2302	875.60	Forest	0.08	1057.80	78.83
8064	J-4164	876.45	Forest	1.28	1058.69	78.85
4866 5716	J-2564 J-3053	875.16 877.64	Forest Forest	0.48 0.68	1057.41 1059.94	78.85 78.87
6081	J-3262	882.28	Forest	0.08	1064.60	78.88
3156	J-1708	875.02	Forest	0.08	1057.41	78.91
5450 285	J-2900 J-146	875.98 876.08	Forest Forest	0.08 0.08	1058.40 1058.50	78.92 78.93
284	J-145	876.06	Forest	0.08	1058.50	78.93
3157	J-1709	874.97	Forest	0.68	1057.41	78.94
1474 1562	J-739 J-776	876.17 1036.37	Forest Lakes	0.08 0.20	1058.64 1218.85	78.95 78.95
145	J-776 J-71	880.71	Forest	1.48	1063.25	78.98
409	J-225	878.02	Forest	0.28	1060.63	79.00
5154 7376	J-2729 J-3983	781.31	Forest	0.48 0.48	963.94 1058.72	79.02
1460	J-732	876.06 876.00	Forest Forest	0.48	1058.70	79.03 79.04
5167	J-2737	875.92	Forest	0.08	1058.64	79.05
5168 6497	J-2738 J-3507	875.87	Forest Forest	0.08 0.08	1058.64	79.07 79.09
5490	J-2923	875.69 875.74	Forest	0.68	1058.49 1058.64	79.09
3275	J-1781	874.11	Forest	1.28	1057.02	79.13
611	J-350	877.29	Forest	0.08	1060.20	79.14
5155 6080	J-2730 J-3261	780.99 881.58	Forest Forest	0.88 0.48	963.94 1064.60	79.15 79.19
3369	J-1833	875.76	Forest	1.68	1058.81	79.20
3676	J-2004	874.28	Forest	0.88	1057.42	79.24
1041 6812	J-565 J-3694	874.68 873.66	Forest Forest	0.08 1.68	1057.83 1056.94	79.24 79.30
423	J-234	875.06	Forest	0.08	1058.40	79.32
2527	J-1356	875.20	Forest Forest	0.48	1058.64 1058.77	79.37 79.38
4845 610	J-2552 J-349	875.30 876.73	Forest	1.08 0.28	1060.23	79.38
3651	J-1991	873.74	Forest	1.28	1057.42	79.47
1419	J-708	874.92	Forest	0.28	1058.64	79.49
4642 6598	J-2440 J-3567	875.76 873.61	Forest Forest	0.08 0.48	1059.52 1057.42	79.50 79.52
2163	J-1149	875.57	Forest	0.88	1059.43	79.55
7693	J-4090	876.00	Forest	0.08	1059.94	79.58
1993 1926	J-1050 J-1006	809.35 879.26	Lakes Forest	0.46 0.88	993.32 1063.24	79.60 79.60
1186	J-621	891.02	Forest	80.0	1075.00	79.60
7632	J-4072	875.00	Forest	0.48	1059.00	79.61
42 4846	J-10 J-2553	779.95 874.75	Forest Forest	0.48 1.28	963.96 1058.77	79.61 79.62
744	J-426	875.48	Forest	0.08	1059.52	79.63
3964	J-2147	877.57	Forest	0.88	1061.61	79.63
6948 7182	J-3774 J-3901	874.50 875.83	Forest Forest	0.28 0.28	1058.64 1060.02	79.67 79.69
7182 2510	J-3901 J-1346	875.83 877.41	Forest	1.28	1060.02	79.69 79.70
2013	J-1063	809.07	Lakes	0.46	993.35	79.73
1043	J-566	1034.31	Lakes	0.20	1218.62	79.74
6698 3677	J-3627 J-2005	873.49 873.08	Forest Forest	0.08 1.08	1057.83 1057.42	79.75 79.76
4085	J-2202	877.27	Forest	1.08	1061.62	79.76
6396	J-3449	877.25	Forest	1.08	1061.62	79.77
5455	J-2903	875.62	Forest	0.28	1060.02	79.78

					Calculated	
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
5454	J-2902	875.55	Forest	0.28	1060.02	79.81
5711 4896	J-3050 J-2582	877.82 874.29	Forest Forest	0.48 0.68	1062.31 1058.81	79.82 79.83
1420	J-709	874.09	Forest	80.0	1058.64	79.85
7709 41	J-4094 J-9	873.06 779.34	Forest Forest	0.08 0.08	1057.68 963.96	79.88 79.88
7661	J-4081	872.74	Forest	2.29	1057.41	79.00
5712	J-3051	877.59	Forest	0.28	1062.31	79.92
4589 3777	J-2410 J-2058	875.43 879.86	Forest Forest	0.08 1.08	1060.16 1064.62	79.92 79.94
5349	J-2842	879.32	Forest	0.88	1064.11	79.95
2617	J-1408	873.82	Forest	0.08	1058.64	79.96
4588 2229	J-2409 J-1190	875.33 877.17	Forest Forest	0.48 0.88	1060.16 1062.01	79.97 79.97
6197	J-3330	874.66	Forest	0.28	1059.53	79.98
3790 5999	J-2064	879.74	Forest	0.68	1064.62	79.99
1028	J-3212 J-559	1033.71 878.73	Lakes Forest	0.20 0.88	1218.62 1063.66	80.00 80.01
5350	J-2843	879.18	Forest	2.49	1064.11	80.01
2751 3822	J-1487 J-2079	873.84 878.70	Forest Forest	0.88 2.09	1058.81 1063.71	80.03 80.05
6582	J-3558	874.94	Forest	1.08	1053.71	80.06
6258	J-3368	878.65	Forest	0.08	1063.71	80.07
3577 5078	J-1951 J-2688	876.53 879.54	Forest Forest	0.48 0.28	1061.62 1064.62	80.08 80.08
614	J-352	874.39	Forest	0.28	1059.47	80.08
3583	J-1954	873.50	Forest	0.08	1058.64	80.10
7489 3140	J-4024 J-1699	874.81 872.64	Forest Forest	1.28 0.08	1059.97 1057.81	80.11 80.12
3814	J-2076	871.73	Forest	0.68	1056.94	80.13
3094	J-1670	879.40	Forest	0.08	1064.62	80.14
2677 3139	J-1442 J-1698	873.09 872.52	Forest Forest	0.88 0.08	1058.34 1057.81	80.15 80.17
1819	J-937	874.14	Forest	80.0	1059.53	80.21
5442 8540	J-2896 J-4220	876.52 889.55	Forest Forest	1.28 0.08	1061.96 1075.00	80.23 80.24
3105	J-4220 J-1677	879.15	Forest	0.28	1064.62	80.25
2701	J-1457	878.22	Forest	0.68	1063.71	80.25
3004 2900	J-1618 J-1571	879.33 873.11	Forest Forest	1.28 2.09	1064.85 1058.64	80.26 80.27
4221	J-2256	876.43	Forest	1.28	1061.96	80.27
3727	J-2033	873.08	Forest	1.28	1058.62	80.28
3106 5883	J-1678 J-3148	879.07 878.03	Forest Forest	0.08 0.48	1064.62 1063.57	80.28 80.28
5147	J-2725	872.25	Forest	0.68	1057.81	80.28
4301	J-2283	874.17	Forest	0.28	1059.74	80.29
950 6583	J-524 J-3559	875.21 874.37	Forest Forest	0.28 0.28	1060.81 1059.98	80.30 80.30
3093	J-1669	879.02	Forest	0.48	1064.62	80.30
3966 6002	J-2148 J-3214	872.60 872.24	Forest Forest	0.08 0.68	1058.24 1057.89	80.32 80.32
4492	J-2353	872.53	Forest	0.28	1057.69	80.35
5343	J-2839	874.23	Forest	0.08	1059.94	80.35
3974 2529	J-2153 J-1357	873.95 874.39	Forest Forest	0.88 0.08	1059.72 1060.19	80.38 80.39
6196	J-3329	873.72	Forest	0.28	1059.53	80.39
5342 6367	J-2838	874.12	Forest	0.08	1059.94	80.40
5500	J-3432 J-2928	875.72 873.36	Forest Forest	0.08 0.48	1061.61 1059.27	80.43 80.43
1818	J-936	873.57	Forest	0.88	1059.52	80.45
2308 7431	J-1237 J-4004	877.60 878.03	Forest Forest	1.48 0.48	1063.57 1064.12	80.46 80.51
424	J-235	872.31	Forest	0.08	1058.40	80.51
5254	J-2787	877.56	Forest	80.0	1063.66	80.52
6466 1697	J-3489 J-858	872.15 871.12	Forest Forest	0.48 0.48	1058.34 1057.38	80.56 80.59
2530	J-1358	873.92	Forest	0.48	1060.19	80.59
6001	J-3213	871.61	Forest	0.08	1057.89	80.59
4422 6083	J-2320 J-3263	871.96 878.50	Forest Forest	1.08 0.88	1058.24 1064.80	80.60 80.60
1858	J-962	872.93	Forest	1.28	1059.27	80.62
5114 7180	J-2707 J-3900	871.87 875.22	Forest Forest	0.88 0.08	1058.24 1061.61	80.63 80.65
6368	J-3433	875.19	Forest	0.28	1061.61	80.66
6854	J-3718	873.21	Forest	1.48	1059.72	80.69
1169 787	J-614 J-448	873.24 877.61	Forest Forest	0.48 0.68	1059.76 1064.14	80.70 80.70
6511	J-3515	875.63	Forest	0.08	1062.20	80.72
4403	J-2314	878.19	Forest	1.28	1064.80	80.73
3469 2737	J-1889 J-1478	872.00 872.00	Forest Forest	1.28 3.09	1058.63 1058.64	80.75 80.75
5293	J-2809	873.26	Forest	80.0	1059.93	80.77
4684 1436	J-2463 J-719	873.03 871.88	Forest Forest	1.48 0.28	1059.76 1058.64	80.79 80.80
5917	J-3166	1031.91	Lakes	0.20	1218.68	80.81
3248	J-1764	870.98	Forest	0.08	1057.80	80.83
5292 1698	J-2808 J-859	873.11 870.49	Forest Forest	0.48 0.48	1059.93 1057.38	80.83 80.86
2594	J-1394	877.32	Forest	0.88	1064.21	80.86
7173	J-3898	873.02	Forest	0.08	1059.93	80.87
7172 3998	J-3897 J-2162	873.02 776.99	Forest Forest	0.08 0.48	1059.93 963.94	80.87 80.88
6632	J-3588	871.65	Forest	0.28	1058.63	80.90
6467	J-3490	871.30 877.50	Forest	0.08	1058.34	80.92
4284 2194	J-2276 J-1169	877.50 874.49	Forest Forest	0.08 0.08	1064.62 1061.61	80.96 80.96
367	J-198	872.46	Forest	0.68	1059.66	80.99
7374 4931	J-3982 J-2602	876.86 872.67	Forest Forest	0.28 0.08	1064.12 1059.95	81.02 81.02
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			Calculated			
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
2815	J-1524	776.65	Forest	0.48	963.95	81.04
7491 2138	J-4025 J-1134	872.54 869.28	Forest Forest	0.68 0.48	1059.93 1056.73	81.08 81.10
4930	J-2601	872.47	Forest	0.48	1059.95	81.11
6189	J-3325	877.09	Forest	1.28	1064.62	81.14
3249	J-1765	870.26	Forest	0.08	1057.80	81.14
3774 1556	J-2057 J-773	874.06 1031.13	Forest Lakes	1.68 0.20	1061.62 1218.68	81.15 81.15
1435	J-718	871.05	Forest	0.28	1058.64	81.16
6317	J-3402	869.12	Forest	0.88	1056.73	81.17
2551	J-1370	872.32	Forest	1.08	1059.94	81.17
6633 5904	J-3589 J-3159	871.01 876.43	Forest Forest	0.08 0.68	1058.63 1064.12	81.17 81.20
831	J-470	875.21	Forest	0.08	1062.90	81.20
366	J-197	871.93	Forest	80.0	1059.66	81.22
939	J-518	870.94	Forest Forest	0.28	1058.71	81.24
4556 3643	J-2390 J-1986	871.86 869.61	Forest	0.08 0.88	1059.66 1057.42	81.25 81.26
6036	J-3233	870.80	Forest	0.28	1058.64	81.27
6512	J-3516	874.34	Forest	0.88	1062.20	81.28
6884	J-3736	876.73	Forest	0.48	1064.60	81.28
854 4823	J-482 J-2539	871.83 869.83	Forest Forest	1.08 0.28	1059.73 1057.76	81.30 81.31
5835	J-3121	872.00	Forest	0.08	1059.96	81.32
5836	J-3122	872.00	Forest	0.08	1059.96	81.32
6885	J-3737	876.60	Forest	0.48	1064.60	81.34
1051 4933	J-570 J-2603	876.54 871.71	Forest Forest	0.08 0.88	1064.62 1059.82	81.37 81.38
1478	J-741	870.54	Forest	0.08	1059.62	81.39
4654	J-2446	870.53	Forest	0.48	1058.64	81.39
3618	J-1973	871.60	Forest	0.28	1059.73	81.40
3720 3525	J-2029 J-1922	874.45 869.59	Forest Forest	0.68 0.68	1062.60 1057.76	81.41 81.41
3525 6798	J-1922 J-3686	869.62	Forest	0.08	1057.76	81.41
395	J-216	871.46	Forest	0.48	1059.66	81.43
7481	J-4022	871.67	Forest	1.28	1059.94	81.46
6188 2512	J-3324 J-1347	876.34 870.29	Forest Forest	0.88 0.28	1064.62 1058.64	81.46 81.49
7574	J-1347 J-4053	870.29 875.73	Forest	0.28	1064.12	81.49
5139	J-2721	871.53	Forest	0.08	1059.94	81.51
4934	J-2604	871.40	Forest	0.48	1059.82	81.52
578	J-331	871.90	Forest	2.29	1060.32	81.52
5807 5138	J-3106 J-2720	871.31 871.38	Forest Forest	0.28 0.08	1059.73 1059.94	81.52 81.58
2550	J-1369	871.32	Forest	0.28	1059.94	81.61
1535	J-762	876.00	Forest	80.0	1064.63	81.61
5905	J-3160	875.48	Forest	0.08	1064.12	81.61
7517 1156	J-4034 J-609	870.12 869.11	Forest Forest	0.08 0.68	1058.76 1057.84	81.62 81.65
7255	J-3938	871.18	Forest	0.08	1057.64	81.66
4031	J-2176	871.15	Forest	0.08	1059.97	81.70
2884	J-1563	875.96 869.47	Forest	0.68	1064.80	81.70
5789 3922	J-3095 J-2128	869.47 868.91	Forest Forest	0.48 0.88	1058.36 1057.83	81.73 81.73
4812	J-2533	875.63	Forest	0.68	1064.62	81.77
7439	J-4007	875.10	Forest	0.48	1064.12	81.78
349	J-186	873.26	Forest	0.08	1062.32	81.80
3873 7254	J-2104 J-3937	869.28 870.82	Forest Forest	0.68 0.08	1058.36 1059.93	81.81 81.82
6842	J-3937 J-3712	873.47	Forest	0.48	1062.60	81.83
7223	J-3922	874.96	Forest	0.88	1064.11	81.84
2438	J-1307	869.50	Forest	0.28	1058.69	81.85
1443 4570	J-723 J-2398	869.43 869.47	Forest Forest	1.08 0.48	1058.64 1058.71	81.86 81.88
4570 4571	J-2398 J-2399	869.47 869.45	Forest	0.48	1058.71	81.88 81.88
3499	J-1907	867.60	Forest	0.08	1056.91	81.91
4064	J-2191	869.03	Forest	1.28	1058.37	81.92
5690 4166	J-3038	874.74 972.54	Forest	0.48	1064.11	81.93
4166 7519	J-2236 J-4035	872.54 874.62	Forest Forest	1.68 0.08	1062.02 1064.11	81.98 81.99
6668	J-3609	868.34	Forest	0.48	1057.85	81.99
350	J-187	872.80	Forest	0.08	1062.32	82.00
8373	J-4174	869.17	Forest	1.68	1058.69	82.00
613 305	J-351 J-158	869.91 871.28	Forest Forest	0.48 0.88	1059.45 1060.81	82.00 82.00
1964	J-1031	869.67	Forest	0.88	1059.25	82.02
6669	J-3610	868.19	Forest	80.0	1057.85	82.05
3470	J-1890	868.96	Forest	3.69	1058.62	82.06
1462	J-733	868.98	Forest	0.08	1058.64	82.06
4593 4110	J-2412 J-2211	868.97 871.14	Forest Forest	0.08 0.68	1058.64 1060.81	82.06 82.06
2989	J-1611	875.14	Forest	0.08	1064.83	82.07
2233	J-1192	868.12	Forest	0.88	1057.82	82.07
1433	J-717	868.96	Forest	0.08	1058.69	82.09
304 2172	J-157 J-1155	871.01 872.21	Forest Forest	0.28 0.68	1060.81 1062.01	82.12 82.12
1229	J-643	869.87	Forest	0.28	1059.71	82.13
5689	J-3037	874.26	Forest	2.09	1064.11	82.14
4330	J-2290	867.95	Forest	1.88	1057.83	82.15
1998 534	J-1053 J-303	803.43 868.47	Lakes Forest	0.55 0.28	993.36 1058.41	82.17 82.18
534 1829	J-303 J-943	868.47 867.42	Forest	0.28	1058.41	82.18 82.18
3081	J-1662	874.86	Forest	0.28	1064.83	82.19
5893	J-3153	868.66	Forest	0.48	1058.69	82.22
1225	J-641	869.67	Forest	0.48	1059.73	82.23
3504 7023	J-1910 J-3817	869.88 870.02	Forest Forest	0.08 0.08	1059.96 1060.27	82.24 82.31
6567	J-3549	873.85	Forest	1.88	1064.12	82.32
2522	J-1353	868.26	Forest	4.09	1058.64	82.37

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
3576	J-1950	871.22	Forest	1.68	1061.62	82.38
7295 3524	J-3953 J-1921	869.48 867.22	Forest Forest	0.08 0.48	1059.94 1057.76	82.40 82.43
2164	J-1150	868.80	Forest	1.08	1059.43	82.48
1432 3787	J-716	868.00	Forest	0.08	1058.69 1057.43	82.50
4982	J-2063 J-2631	866.70 869.56	Forest Forest	0.08 0.08	1060.33	82.52 82.54
2481	J-1331	867.96	Forest	1.08	1058.76	82.55
3817 5632	J-2077 J-3004	866.07 870.42	Forest Forest	3.29 0.08	1056.94 1061.30	82.58 82.58
2745	J-1483	870.27	Forest	1.08	1061.30	82.65
7546 6737	J-4046 J-3649	873.07 867.54	Forest Forest	0.08 1.28	1064.11 1058.62	82.66 82.67
2924	J-1582	869.53	Forest	1.68	1060.62	82.68
7246	J-3933	873.02	Forest	0.08	1064.12	82.68
6514 1983	J-3517 J-1043	870.92 873.45	Forest Forest	0.48 0.88	1062.02 1064.61	82.68 82.70
2437	J-1306	867.51	Forest	0.08	1058.69	82.71
904 1412	J-506 J-704	868.54 873.38	Forest Forest	0.28 0.08	1059.74 1064.63	82.72 82.74
455	J-254	868.99	Forest	0.08	1060.33	82.78
6912	J-3753	772.57	Forest	0.08	963.95	82.80
3019 3505	J-1623 J-1911	868.54 868.55	Forest Forest	0.08 0.68	1059.94 1059.96	82.81 82.81
3639	J-1984	867.23	Forest	0.28	1058.68	82.83
5627 5088	J-3001 J-2693	868.01 867.13	Forest Forest	0.48 0.08	1059.53 1058.69	82.86 82.88
6568	J-3550	872.55	Forest	0.08	1064.12	82.88
5955	J-3188	868.24	Forest	0.08	1059.86	82.91
4130 5863	J-2220 J-3137	866.44 868.27	Forest Forest	0.88 0.48	1058.09 1059.93	82.92 82.92
7524	J-4037	872.44	Forest	0.08	1064.12	82.93
3193	J-1730	868.29	Forest	0.08	1059.97	82.93 82.95
1044 2588	J-567 J-1390	1026.90 868.20	Lakes Forest	0.20 1.08	1218.62 1059.94	82.95 82.96
2466	J-1323	868.11	Forest	0.28	1059.86	82.96
6022 2593	J-3225 J-1393	866.33 872.43	Forest Forest	0.28 0.48	1058.09 1064.21	82.97 82.97
7905	J-4142	868.16	Forest	0.28	1059.93	82.97
5191	J-2750	866.60	Forest	1.28	1058.38	82.97
3828 6887	J-2082 J-3738	772.11 868.08	Forest Forest	1.28 0.08	963.94 1059.93	83.00 83.00
3128	J-1691	866.48	Forest	0.28	1058.38	83.02
5758 788	J-3078 J-449	872.31 872.21	Forest Forest	0.68 0.88	1064.21 1064.12	83.02 83.03
7117	J-3869	872.69	Forest	0.08	1064.60	83.03
2457	J-1317	866.81	Forest	1.08	1058.76	83.05
5862 2137	J-3136 J-1133	867.96 864.69	Forest Forest	0.28 0.88	1059.93 1056.73	83.06 83.09
3728	J-2034	866.57	Forest	1.88	1058.62	83.09
945 5118	J-521 J-2709	868.39 872.02	Forest Forest	0.48 0.08	1060.45 1064.11	83.10 83.11
1396	J-695	872.53	Forest	0.08	1064.63	83.11
7118	J-3870	872.49	Forest	0.08	1064.60	83.12
1397 4605	J-696 J-2419	872.48 871.96	Forest Forest	0.08 0.08	1064.63 1064.12	83.13 83.14
3129	J-1692	866.20	Forest	1.08	1058.38	83.14
7890 1403	J-4140 J-699	866.51 866.47	Forest Forest	0.28 0.08	1058.68 1058.64	83.14 83.14
5516	J-2937	866.45	Forest	0.48	1058.64	83.15
2443	J-1309	867.65	Forest	0.28	1059.86	83.16
3194 7400	J-1731 J-3993	867.74 867.48	Forest Forest	0.08 0.48	1059.97 1059.76	83.17 83.19
2444	J-1310	867.51	Forest	80.0	1059.86	83.22
1655 1518	J-831 J-756	872.40 867.85	Forest Forest	0.68 0.48	1064.80 1060.27	83.24 83.25
3973	J-2152	867.25	Forest	1.28	1059.73	83.27
1633	J-818	866.16	Forest	1.68	1058.64	83.28
6379 2287	J-3439 J-1224	864.92 866.48	Forest Forest	0.48 1.08	1057.42 1059.00	83.29 83.29
1404	J-700	866.12	Forest	0.48	1058.64	83.30
4841 5944	J-2550 J-3182	872.10 867.87	Forest Forest	0.08 0.48	1064.63 1060.45	83.30 83.32
5626	J-3000	866.93	Forest	0.48	1059.53	83.33
6547	J-3536	869.00	Forest	0.48	1061.61	83.34
1010 4297	J-552 J-2281	871.46 867.26	Forest Forest	0.48 0.08	1064.11 1059.93	83.35 83.36
5757	J-3077	871.53	Forest	0.48	1064.21	83.36
2897 2458	J-1570 J-1318	771.23 866.03	Forest Forest	0.48 1.08	963.94 1058.76	83.38 83.39
5945	J-3183	867.72	Forest	0.48	1060.45	83.39
3644	J-1987	864.66	Forest	1.08	1057.42	83.40
7520 3461	J-4036 J-1885	871.22 867.90	Forest Forest	0.08 0.48	1064.11 1060.81	83.46 83.46
6386	J-3443	868.00	Forest	0.08	1060.94	83.48
5410 5879	J-2878 J-3146	866.25 864.76	Forest Forest	0.08	1059.26	83.51 83.52
5879 4554	J-3146 J-2389	864.76 867.76	Forest	0.08 0.08	1057.80 1060.81	83.52 83.52
262	J-131	865.42	Forest	0.28	1058.55	83.56
6913 3992	J-3754 J-2159	770.78 865.82	Forest Forest	0.08 1.08	963.95 1059.00	83.57 83.58
7479	J-4021	871.41	Forest	80.0	1064.61	83.59
3367	J-1832	865.48	Forest	0.08	1058.69	83.59
5878 3541	J-3145 J-1930	864.52 865.97	Forest Forest	0.28 0.08	1057.80 1059.26	83.62 83.63
5364	J-2851	865.65	Forest	80.0	1059.00	83.65
261 3490	J-130 J-1902	865.19 866.55	Forest Forest	0.08 0.48	1058.55 1059.97	83.66 83.68
6548	J-3537	868.16	Forest	1.08	1061.61	83.70

Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
347	J-185	866.29	Forest	0.48	1059.76	83.71
2393	J-1285	871.06	Forest	0.08	1064.63	83.75
1509	J-752	867.34	Forest	0.48	1060.94	83.76
4365	J-2301	866.28	Forest	0.48	1059.91	83.77
346	J-184	866.11	Forest	0.08	1059.76	83.79
7002 5774	J-3805 J-3087	864.13 870.41	Forest Forest	0.08 0.48	1057.83 1064.11	83.80 83.81
6687	J-3620	863.70	Forest	0.48	1057.42	83.82
5913	J-3164	1024.98	Lakes	0.29	1218.74	83.83
3198	J-1733	864.00	Forest	0.08	1057.80	83.85
3199	J-1734	864.00	Forest	0.08	1057.80	83.85
5542	J-2952	864.00	Forest	0.08	1057.80	83.85
3646	J-1988	870.98	Forest	0.48	1064.83	83.87
3330	J-1812	864.76	Forest	0.08	1058.67	83.90
4399 1654	J-2313 J-830	863.43 870.80	Forest Forest	0.08 0.48	1057.42 1064.80	83.93 83.94
5773	J-3086	870.09	Forest	0.48	1064.11	83.95
1417	J-707	864.64	Forest	0.08	1058.68	83.95
6517	J-3519	870.53	Forest	0.48	1064.60	83.97
6263	J-3371	867.08	Forest	0.88	1061.17	83.97
5362	J-2850	864.57	Forest	0.08	1058.68	83.99
6688	J-3621	863.26	Forest	0.68	1057.42	84.01
2169	J-1153	869.86	Forest	0.48	1064.11	84.04
6010 5591	J-3218 J-2980	865.50 865.20	Forest Forest	0.88 0.48	1059.94 1059.76	84.12 84.18
5042	J-2667	864.19	Forest	1.88	1059.76	84.18
5043	J-2668	864.14	Forest	1.08	1058.76	84.20
6711	J-3634	865.24	Forest	0.08	1059.91	84.22
1538	J-763	1024.06	Lakes	0.20	1218.74	84.23
2941	J-1590	828.21	Lakes	0.89	1022.89	84.23
6331	J-3410	864.00	Forest	0.28	1058.68	84.23
915	J-509	864.00	Forest	0.48	1058.68	84.23
6516 8477	J-3518	869.90 866.78	Forest	0.48	1064.60	84.24
8477 3489	J-4190 J-1901	866.78 865.25	Forest Forest	0.68 0.08	1061.50 1059.97	84.25 84.25
1953	J-1901 J-1024	869.89	Forest	0.08	1064.62	84.25 84.25
1340	J-685	1023.94	Lakes	0.20	1218.74	84.28
2035	J-1076	828.00	Lakes	1.06	1022.80	84.28
6340	J-3416	863.77	Forest	0.28	1058.65	84.31
6011	J-3219	865.05	Forest	0.08	1059.94	84.32
2630 7381	J-1415 J-3986	863.38 865.00	Forest Forest	1.28 0.08	1058.27 1059.93	84.32 84.34
7878	J-4137	864.99	Forest	0.88	1059.94	84.35
3329	J-1811	863.68	Forest	0.28	1058.67	84.36
6006	J-3216	863.67	Forest	0.28	1058.67	84.37
669	J-386	864.75	Forest	1.08	1059.76	84.37
123	J-59	865.18	Forest	0.48	1060.21	84.38
6341 5833	J-3417 J-3120	863.58 867.99	Forest Forest	0.08 0.48	1058.65 1063.08	84.40 84.40
456	J-255	865.22	Forest	0.48	1060.33	84.42
8151	J-4169	862.64	Forest	1.08	1057.79	84.43
3460	J-1884	865.63	Forest	0.68	1060.81	84.45
137	J-67	865.98	Forest	0.88	1061.17	84.45
7380	J-3985	864.73	Forest	1.08	1059.93	84.46
596 4278	J-341 J-2274	863.31 865.10	Forest Forest	0.08 1.28	1058.54 1060.33	84.46 84.47
6332	J-3411	863.44	Forest	0.08	1058.68	84.47 84.47
207	J-95	863.41	Forest	0.08	1058.68	84.49
4087	J-2203	867.76	Forest	0.88	1063.08	84.50
7120	J-3871	862.07	Forest	80.0	1057.40	84.51
4478	J-2345	862.04	Forest	0.88	1057.40	84.52
677	J-391	865.54	Forest	0.08	1061.05	84.59
3154	J-1707	864.57	Forest	0.48	1060.21	84.64
4479 7610	J-2346	861.74	Forest	0.88	1057.40	84.65 84.76
7610 1079	J-4065 J-580	862.79 1022.76	Forest Lakes	7.61 0.20	1058.69 1218.68	84.76 84.77
4976	J-2628	861.04	Forest	0.20	1218.68	84.77
7184	J-3902	868.57	Forest	0.28	1064.63	84.83
1552	J-771	1022.26	Lakes	0.20	1218.32	84.83
5902	J-3158	863.43	Forest	0.48	1059.53	84.84
5509	J-2933	1022.50	Lakes	0.29	1218.68	84.88
4862	J-2562	868.43	Forest	0.48	1064.62	84.88
4128	J-2219	863.82	Forest	0.48	1060.01	84.88
5876	J-3144	863.81	Forest	1.68	1060.01	84.89
5963 2404	J-3192 J-1291	1021.89 868 14	Lakes Forest	0.20	1218.32	84.99 85.01
2404 1004	J-1291 J-548	868.14 867.99	Forest	0.08 0.48	1064.63 1064.62	85.01 85.07
6684	J-3618	861.25	Forest	0.48	1057.88	85.07
3860	J-2098	860.72	Forest	0.88	1057.42	85.10
5414	J-2880	860.66	Forest	1.08	1057.42	85.13
5900	J-3157	1021.78	Lakes	0.20	1218.61	85.16
6774	J-3671	861.84	Forest	0.28	1058.68	85.16
1542	J-765	1021.75	Lakes	0.20	1218.61	85.17
3616 5534	J-1972 J-2948	860.00 867.58	Forest Forest	0.68 0.08	1056.98 1064.62	85.22 85.25
5534 4680	J-2948 J-2461	867.58 860.57	Forest	0.08	1064.62	85.25 85.28
4178	J-2240	866.97	Forest	1.68	1064.10	85.29
1464	J-734	861.52	Forest	0.28	1058.65	85.29
7582	J-4056	862.35	Forest	0.48	1059.53	85.31
6773	J-3670	861.50	Forest	0.08	1058.68	85.31
7578	J-4055	861.47	Forest	0.08	1058.68	85.32
1797	J-923	862.31	Forest	0.28	1059.53	85.32 85.34
1777 3990	J-910 J-2158	860.15 864.76	Forest Forest	0.88 1.88	1057.40 1062.02	85.34 85.34
3990 2757	J-2158 J-1490	867.34	Forest	0.88	1062.02	85.34 85.35
4354	J-2296	860.46	Forest	1.08	1057.82	85.39
5970	J-3196	860.40	Forest	0.48	1057.79	85.40
6685	J-3619	860.49	Forest	0.28	1057.88	85.40
864	J-486	864.00	Forest	0.48	1061.44	85.42

			Calculated				
Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure	
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)	
5593	J-2981	864.00	Forest	0.48	1061.44	85.42	
860	J-484	863.91	Forest	0.88	1061.38	85.44	
928	J-513	861.03	Forest	0.08	1058.55	85.45	
4679 1455	J-2460 J-729	860.10 863.45	Forest Forest	0.48 0.08	1057.68 1061.04	85.48 85.49	
6769	J-3668	862.40	Forest	0.48	1060.02	85.50	
7797	J-4120	860.22	Forest	2.29	1057.87	85.52	
4007	J-2166	861.01	Forest	0.28	1058.67	85.52	
966 3615	J-531 J-1971	862.28 859.22	Forest Forest	0.28 2.49	1060.02 1056.98	85.55 85.56	
8015	J-4158	860.99	Forest	1.88	1058.76	85.57	
6840	J-3711	860.88	Forest	0.48	1058.69	85.58	
5116	J-2708	860.83	Forest	0.48	1058.67	85.60	
3501 7044	J-1908 J-3828	863.71 866.68	Forest Forest	0.88 0.08	1061.61 1064.63	85.62 85.64	
5785	J-3093	859.83	Forest	0.68	1057.82	85.66	
708	J-407	863.49	Forest	0.08	1061.50	85.67	
3264	J-1774	860.71	Forest	0.28	1058.78	85.69	
850	J-479	860.61	Forest	0.28	1058.75	85.73	
1899 4498	J-989 J-2356	858.84 860.38	Forest Forest	2.29 0.08	1056.99 1058.58	85.73 85.75	
5969	J-3195	859.54	Forest	2.09	1057.79	85.77	
3265	J-1775	860.52	Forest	0.28	1058.78	85.78	
124	J-60	861.96	Forest	0.28	1060.31	85.81	
3032	J-1631 J-594	860.32 863.22	Forest Forest	0.48 0.08	1058.68 1061.62	85.82 85.84	
1111 4874	J-594 J-2568	860.34	Forest	0.08	1051.62	85.84 85.86	
6918	J-3757	861.37	Forest	0.68	1059.82	85.86	
3031	J-1630	860.22	Forest	0.28	1058.68	85.86	
4395	J-2311	861.25	Forest	2.09	1059.73	85.87	
6839 6895	J-3710 J-3743	860.17 861.31	Forest Forest	0.08 0.68	1058.69	85.89 85.91	
6895 1718	J-872	859.24	Forest	0.88	1059.88 1057.83	85.91 85.92	
4358	J-2298	861.28	Forest	0.68	1059.88	85.93	
1476	J-740	860.00	Forest	0.08	1058.66	85.95	
4974	J-2627	860.00	Forest	0.08	1058.66	85.95	
377 8485	J-204 J-4194	859.83 859.90	Forest Forest	0.28 0.48	1058.58 1058.68	85.99 86.00	
5110	J-2705	862.34	Forest	0.48	1061.21	86.04	
7543	J-4045	858.53	Forest	0.08	1057.41	86.05	
2978	J-1605	824.00	Lakes	1.06	1022.90	86.05	
5753	J-3075	865.90	Forest	0.08	1064.81	86.06	
4509 2210	J-2363 J-1178	858.47 764.91	Forest Forest	2.49 0.08	1057.40 963.95	86.07 86.12	
232	J-111	860.78	Forest	0.68	1059.82	86.12	
6900	J-3746	860.67	Forest	0.08	1059.73	86.12	
4508	J-2362	858.27	Forest	1.68	1057.40	86.15	
6919 5279	J-3758 J-2801	860.67 860.66	Forest Forest	0.08 0.68	1059.82 1059.82	86.16 86.16	
6700	J-3628	861.09	Forest	0.08	1060.31	86.19	
599	J-343	861.98	Forest	0.08	1061.21	86.20	
2814	J-1523	764.71	Forest	0.48	963.95	86.20	
378 231	J-205	859.25 860.44	Forest Forest	0.48	1058.58	86.24 86.26	
5474	J-110 J-2914	860.44 862.36	Forest	0.68 0.68	1059.82 1061.75	86.26 86.26	
3721	J-2030	863.21	Forest	0.88	1062.60	86.27	
3791	J-2065	865.13	Forest	0.48	1064.62	86.31	
7419	J-4000	860.83	Forest	0.08	1060.36	86.33	
4490 6901	J-2352 J-3747	860.22 860.17	Forest Forest	0.68 0.28	1059.76 1059.73	86.33 86.34	
5128	J-2715	864.55	Forest	0.28	1064.11	86.34	
6492	J-3504	858.19	Forest	1.28	1057.81	86.37	
7280	J-3948	860.12	Forest	0.48	1059.82	86.40	
3270 6493	J-1778 J-3505	860.22 858.08	Forest Forest	0.08 0.68	1059.94 1057.81	86.41 86.41	
5475	J-3505 J-2915	862.02	Forest	0.68	1061.75	86.41	
1812	J-932	862.32	Forest	0.88	1062.12	86.44	
1283	J-666	859.94	Forest	0.68	1059.76	86.45	
2785	J-1507	764.07	Forest	0.48	963.95	86.48	
1048 5702	J-569 J-3045	863.00 860.00	Forest Forest	0.08 0.28	1062.90 1059.93	86.49 86.50	
7272	J-3945	860.00	Forest	1.08	1059.93	86.50	
956	J-527	864.11	Forest	0.08	1064.11	86.53	
2195	J-1170	861.53	Forest	0.68	1061.61	86.57	
3894	J-2115	859.97 861 32	Forest	0.68	1060.05 1061.53	86.57 86.62	
3071 1917	J-1656 J-1000	861.32 859.02	Forest Forest	0.08 0.88	1061.53 1059.26	86.62 86.64	
3868	J-2101	763.69	Forest	0.08	963.96	86.64	
3070	J-1655	861.26	Forest	7.88	1061.53	86.65	
4814	J-2534	861.26	Forest	0.08	1061.53	86.65	
7196	J-3908	857.13	Forest	0.08	1057.41	86.65 86.65	
3581 616	J-1953 J-353	864.34 860.06	Forest Forest	0.88 0.88	1064.62 1060.36	86.65 86.66	
3311	J-1801	864.45	Forest	0.48	1064.81	86.69	
5112	J-2706	857.31	Forest	0.68	1057.80	86.74	
1264	J-656	858.24	Forest	0.88	1058.76	86.75	
3269 7279	J-1777 J-3947	859.39 859.24	Forest	0.08	1059.94	86.77 86.78	
7279 6415	J-3947 J-3460	859.24 860.98	Forest Forest	0.08 0.08	1059.82 1061.62	86.78 86.80	
166	J-82	863.41	Forest	1.08	1064.06	86.81	
1457	J-730	858.00	Forest	0.28	1058.65	86.81	
7197	J-3909	856.76	Forest	0.08	1057.41	86.81	
2170	J-1154	863.36	Forest	1.28	1064.11	86.85	
853 2562	J-481 J-1376	858.98 860.00	Forest Forest	0.28 0.48	1059.73 1060.81	86.85 86.88	
768	J-438	859.90	Forest	0.08	1060.78	86.91	
640	J-368	860.61	Forest	0.08	1061.53	86.93	
5172	J-2740	863.68	Forest	0.48	1064.62	86.93	
6310	J-3398	860.10	Forest	0.08	1061.04	86.94	

Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	
861	J-485	860.33	Forest	0.88	1061.33	86.96	
1203	J-630	856.79	Forest	80.0	1057.80	86.97	
1859	J-963	858.22	Forest	0.68	1059.26	86.98	
3725 7792	J-2032 J-4118	857.50 857.54	Forest Forest	0.08 0.48	1058.62 1058.68	87.02 87.02	
1558	J-774	1017.40	Lakes	0.48	1218.55	87.02	
3238	J-1758	860.46	Forest	0.28	1061.62	87.03	
114	J-55	862.19	Forest	1.68	1063.35	87.03	
5907	J-3161	857.45	Forest	2.49	1058.62	87.04	
5486	J-2921	860.08	Forest	0.68	1061.33	87.07	
4713	J-2478	858.13	Forest	0.08	1059.39	87.08	
5230	J-2773	858.64	Forest	0.08	1059.94	87.09	
465	J-260	860.30	Forest	0.68	1061.62	87.10	
777	J-443	858.06	Forest	80.0	1059.39	87.11	
493	J-277	859.46	Forest	80.0	1060.81	87.11	
4591	J-2411	862.69	Forest	0.08	1064.06 1061.56	87.12	
8469 7614	J-4186 J-4067	860.16 856.00	Forest Forest	0.48 0.48	1057.40	87.14 87.14	
7529	J-4040	856.00	Forest	0.48	1057.40	87.14	
4552	J-2388	856.00	Forest	0.08	1057.41	87.14	
7266	J-3942	856.00	Forest	0.68	1057.41	87.14	
5881	J-3147	1017.10	Lakes	0.20	1218.55	87.16	
483	J-271	862.57	Forest	0.88	1064.06	87.18	
5297	J-2811	861.81	Forest	0.48	1063.35	87.20	
639	J-367	860.00	Forest	80.0	1061.56	87.20	
4551	J-2387	855.84	Forest	0.08	1057.41	87.21	
1717	J-871	856.19	Forest	1.28	1057.81	87.23	
4722	J-2483	857.11	Forest	0.08	1058.76	87.25	
8523	J-4213	856.91 857.04	Forest	6.12	1058.64	87.28	
3397 4073	J-1848	857.04 857.02	Forest	0.28 0.48	1058.78	87.28 87.29	
4073 2632	J-2196 J-1416	857.02 855.61	Forest Forest	0.48	1058.78 1057.40	87.29 87.31	
3237	J-1416 J-1757	855.61 859.80	Forest	0.88	1057.40	87.31 87.32	
113	J-54	861.42	Forest	0.08	1063.30	87.34	
5229	J-2772	858.04	Forest	0.08	1059.94	87.35	
7190	J-3905	856.84	Forest	0.08	1058.76	87.36	
1430	J-715	858.87	Forest	0.28	1060.88	87.40	
7077	J-3847	860.82	Forest	0.08	1062.90	87.43	
2964	J-1598	862.72	Forest	0.28	1064.81	87.43	
2612	J-1405	856.27	Forest	0.68	1058.36	87.44	
492	J-276	858.69	Forest	0.28	1060.81	87.45	
1921	J-1003	857.11	Forest	0.68	1059.25	87.46	
4872	J-2567	855.66	Forest	0.08	1057.82	87.47	
7508 4723	J-4030	857.29 856.59	Forest Forest	1.28 0.08	1059.46 1058.76	87.47 87.47	
2580	J-2484 J-1386	858.60	Forest	0.68	1060.81	87.49	
238	J-115	857.62	Forest	0.08	1059.84	87.49	
3611	J-1969	862.59	Forest	0.08	1064.83	87.50	
4757	J-2503	856.53	Forest	0.68	1058.78	87.50	
7653	J-4079	859.36	Forest	0.08	1061.63	87.51	
1428	J-714	856.31	Forest	0.08	1058.64	87.54	
5703	J-3046	857.60	Forest	0.28	1059.93	87.54	
3224	J-1749	857.72	Forest	0.48	1060.06	87.54	
1545	J-767	1016.00	Lakes	0.20	1218.36	87.55	
237	J-114	857.47	Forest	0.08	1059.84	87.56	
2329	J-1249	858.38	Forest	0.28	1060.81	87.58	
8475	J-4189	856.22 855.34	Forest	0.28	1058.68	87.60	
3299	J-1795		Forest	0.88	1057.82	87.61 87.61	
4377	J-2304	854.93 954.96	Forest	0.28	1057.41	87.61	
3103 3102	J-1676 J-1675	854.86 854.83	Forest Forest	0.68 0.08	1057.42 1057.42	87.64 87.65	
3502	J-1909	854.83 859.00	Forest	0.08	1061.61	87.66	
6608	J-3573	859.50	Forest	0.08	1062.12	87.67	
520	J-294	856.00	Forest	0.48	1058.67	87.69	
521	J-295	856.00	Forest	0.48	1058.67	87.69	
5101	J-2700	856.00	Forest	0.08	1058.67	87.69	
3332	J-1813	856.00	Forest	0.88	1058.75	87.72	
2314	J-1241	856.21	Forest	1.08	1059.04	87.75	
3333	J-1814	855.80	Forest	80.0	1058.75	87.81	
2808	J-1520	854.86	Forest	1.28	1057.82	87.81	
6613	J-3576	855.76	Forest	0.08	1058.75	87.82	
6614	J-3577	855.71	Forest	0.88	1058.75	87.85	
6353	J-3424	856.39	Forest	0.48	1059.53	87.89	
7561	J-4051	856.39	Forest	0.48	1059.53	87.89	
1297	J-674	857.70	Forest	0.08	1060.88	87.90	
870	J-489	1014.74	Lakes	0.20	1217.94	87.92	
2883	J-1562	861.59 855.43	Forest Forest	1.08	1064.80 1058.65	87.92 87.92	
8495 1813	J-4200 J-933	855.43 858.86	Forest	0.48 0.48	1058.65 1062.11	87.92 87.94	
6609	J-933 J-3574	858.84	Forest	0.48	1062.11	87.94 87.95	
6915	J-3755	856.42	Forest	0.28	1052.12	87.96	
1796	J-922	856.20	Forest	0.48	1059.52	87.97	
8502	J-4204	855.41	Forest	0.08	1058.75	87.98	
5885	J-3149	857.50	Forest	0.08	1060.88	87.99	
1628	J-815	856.42	Forest	0.48	1059.84	88.01	
588	J-336	860.64	Forest	0.68	1064.10	88.03	
3223	J-1748	856.58	Forest	0.68	1060.06	88.03	
7422	J-4001	860.69	Forest	1.68	1064.21	88.05	
6352	J-3423	856.00	Forest	0.08	1059.53	88.06	
8542	J-4221	871.46	Forest	0.08	1075.00	88.06	
2972	J-1602	856.07	Forest	0.28	1059.63	88.07	
3196	J-1732	854.67	Forest	0.28	1058.24	88.08	
3939	J-2136	855.64	Forest	1.08	1059.26	88.10	
2072 8496	J-1096 J-4201	1014.32 854.93	Lakes Forest	0.37 0.28	1218.03 1058.65	88.14 88.14	
5383	J-4201 J-2863	853.59	Forest	0.28	1058.65	88.18	
4704	J-2473	860.24	Forest	0.08	1064.09	88.20	
4686	J-2464	857.74	Forest	0.28	1061.63	88.22	
5201	J-2755	856.02	Forest	0.88	1059.93	88.22	

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure		
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)		
3714	J-2026	860.68	Forest	0.48	1064.62	88.24		
6101	J-3273	1014.08	Lakes	0.48	1218.03	88.24 88.24		
5608	J-2990	856.06	Forest	0.48	1060.06	88.26		
2655	J-1430	858.11	Forest	0.68	1062.12	88.26		
2858	J-1549	854.20	Forest Forest	0.08	1058.24	88.28		
589 6585	J-337 J-3560	860.02 854.17	Forest	0.48 0.28	1064.09 1058.24	88.29 88.29		
851	J-480	854.66	Forest	0.08	1058.78	88.31		
5382	J-2862	853.26	Forest	0.08	1057.40	88.32		
7040	J-3826	860.47	Forest	0.08	1064.63	88.33		
4864 936	J-2563 J-517	859.89 859.80	Forest Forest	0.48 0.28	1064.06 1064.06	88.34 88.37		
7098	J-3858	856.92	Forest	0.48	1061.21	88.39		
5170	J-2739	854.46	Forest	0.08	1058.78	88.40		
1406	J-701	856.50	Forest	0.08	1060.88	88.42		
726	J-418	855.48	Forest	0.08	1059.85	88.42		
6450 3569	J-3480 J-1946	857.17 857.09	Forest Forest	0.48 0.48	1061.62 1061.62	88.45 88.49		
5048	J-2671	854.01	Forest	0.68	1058.56	88.50		
226	J-107	857.08	Forest	0.28	1061.63	88.50		
2385	J-1281	860.07	Forest	0.08	1064.63	88.50		
721	J-415	856.22	Forest	0.08	1060.81	88.52		
8614 8617	J-4223 J-4224	860.00 860.00	Forest Forest	0.00	1064.63 1064.63	88.53 88.53		
4520	J-2369	1118.26	Stewartsville	0.40	1322.92	88.54		
2633	J-1417	852.74	Forest	0.88	1057.40	88.54		
161	J-79	856.96	Forest	0.28	1061.64	88.56		
7528	J-4039	852.69	Forest	0.08	1057.40	88.57		
946 2463	J-522 J-1321	855.72 856.00	Forest Forest	1.08 0.08	1060.50 1060.81	88.60 88.61		
4662	J-1321 J-2450	859.79	Forest	1.28	1064.62	88.62		
3209	J-1740	852.83	Forest	0.28	1057.82	88.69		
6750	J-3657	854.44	Forest	0.08	1059.46	88.70		
1093	J-586	855.76	Forest	7.00	1060.81	88.72		
2464 2356	J-1322 J-1263	855.75 859.55	Forest Forest	0.68 1.48	1060.81 1064.62	88.72 88.72		
1087	J-1203 J-584	1117.80	Stewartsville	0.55	1322.92	88.74		
225	J-106	856.51	Forest	0.28	1061.63	88.75		
156	J-76	856.88	Forest	0.08	1062.03	88.76		
7012	J-3811	854.49	Forest	0.28	1059.63	88.76		
4382 6654	J-2307 J-3601	852.67 859.45	Forest Forest	1.08 0.48	1057.83 1064.62	88.76 88.77		
4838	J-2548	859.45 854.72	Forest	0.48	1059.92	88.78		
3343	J-1819	852.62	Forest	0.48	1057.82	88.78		
5202	J-2756	854.67	Forest	0.88	1059.93	88.81		
5049 6751	J-2672	853.24	Forest	0.08	1058.56	88.83		
6751 3585	J-3658 J-1955	854.08 855.91	Forest Forest	0.28 0.08	1059.46 1061.32	88.86 88.87		
5213	J-1955 J-2762	852.38	Forest	0.48	1057.83	88.89		
3210	J-1741	852.36	Forest	0.08	1057.82	88.89		
5909	J-3162	1012.91	Lakes	0.20	1218.38	88.90		
4753	J-2501	852.35	Forest	0.28	1057.82	88.90		
3947 3047	J-2140 J-1640	858.19 1012.34	Forest Lakes	0.48 0.20	1063.71 1217.94	88.92 88.95		
4839	J-2549	854.29	Forest	0.28	1059.92	88.97		
8529	J-4216	853.05	Forest	0.48	1058.68	88.97		
5212	J-2761	852.16	Forest	0.68	1057.83	88.98		
4698	J-2470	1012.26	Lakes	0.20	1217.94	88.99		
3048 7301	J-1641 J-3956	1012.25 853.63	Lakes Forest	0.20 0.08	1217.94 1059.46	88.99 89.05		
1458	J-731	852.82	Forest	0.48	1058.65	89.05		
5544	J-2953	852.81	Forest	0.08	1058.65	89.06		
5518	J-2938	854.64	Forest	0.48	1060.50	89.07		
4546	J-2384	851.86	Forest	0.88	1057.76	89.08		
3882 3090	J-2109 J-1667	851.10 851.86	Forest Forest	1.68 0.48	1056.99 1057.76	89.08 89.08		
3090	J-1667 J-1834	851.86 858.60	Forest	0.48	1057.76	89.08 89.14		
7153	J-3889	853.80	Forest	0.08	1059.93	89.19		
5325	J-2828	853.79	Forest	0.88	1059.93	89.19		
3207	J-1739	858.41	Forest	0.08	1064.62	89.22		
1544 4363	J-766	1012.13 853 13	Lakes	0.20	1218.38 1059.45	89.23 89.26		
4363 3184	J-2300 J-1725	853.13 858.45	Forest Forest	1.08 0.08	1059.45 1064.79	89.26 89.27		
756	J-432	852.30	Forest	0.48	1058.67	89.28		
3091	J-1668	851.38	Forest	0.08	1057.76	89.29		
4715	J-2479	853.26	Forest	0.08	1059.66	89.30		
1885	J-980	858.19 855.10	Forest	0.48	1064.62	89.31		
338 337	J-179 J-178	855.19 855.17	Forest Forest	0.08	1061.62 1061.62	89.31 89.32		
3183	J-178 J-1724	858.29	Forest	0.08	1061.62	89.32 89.34		
7706	J-4093	853.93	Forest	1.08	1060.45	89.35		
5326	J-2829	853.39	Forest	0.28	1059.93	89.36		
598	J-342	854.70	Forest	0.08	1061.32	89.40		
1415	J-706	852.00 852.00	Forest Forest	0.48 0.08	1058.64 1058.64	89.41 89.41		
5776 1414	J-3088 J-705	852.00 852.00	Forest Forest	0.08	1058.64 1058.64	89.41 89.41		
903	J-505	852.93	Forest	0.08	1059.66	89.44		
7450	J-4009	853.20	Forest	2.09	1059.94	89.45		
4581	J-2405	852.00	Forest	1.08	1058.75	89.45		
6004	J-3215	853.27	Forest	80.0	1060.05	89.47		
1427 4582	J-713 J-2406	851.82 851.91	Forest Forest	0.08 1.28	1058.64 1058.75	89.48 89.49		
5809	J-3107	851.77	Forest	0.08	1058.64	89.50		
7211	J-3915	857.76	Forest	0.28	1064.63	89.50		
6757	J-3661	853.48	Forest	0.68	1060.39	89.52		
6166	J-3312	856.78	Forest	0.68	1063.71	89.53		
7337 5329	J-3968 J-2831	854.38 851.65	Forest Forest	0.08	1061.32 1058.62	89.54 89.55		
6916	J-2831 J-3756	852.67	Forest	0.08	1058.62	89.55 89.58		
	2 2.30							

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure	
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)	
8039	J-4161	854.64	Forest	0.28	1061.75	89.61	
6237	J-3355	857.07	Forest	0.48	1064.21	89.62	
5302	J-2814	854.88	Forest	0.48	1062.02	89.62	
6890	J-3740	852.82	Forest	0.48	1059.96	89.62	
6236 3662	J-3354 J-1996	857.04 851.57	Forest Forest	0.88 0.28	1064.21 1058.78	89.63 89.65	
866	J-487	853.56	Forest	0.28	1060.78	89.65	
6889	J-3739	852.66	Forest	2.09	1059.96	89.69	
1100	J-590	853.07	Forest	1.08	1060.39	89.70	
3045	J-1639 J-1638	852.72	Forest	0.08 0.48	1060.05 1060.05	89.70 89.70	
3044 2352	J-1036 J-1261	852.72 811.85	Forest Lakes	0.48	1019.31	89.76	
5826	J-3116	854.52	Forest	0.08	1062.03	89.78	
45	J-12	852.51	Forest	0.48	1060.06	89.80	
3909	J-2122	857.25	Forest	0.48	1064.84	89.81	
868 2923	J-488 J-1581	854.02 852.99	Forest Forest	0.68 1.48	1061.62 1060.62	89.82 89.83	
6735	J-3648	853.10	Forest	0.28	1060.78	89.86	
3372	J-1835	856.87	Forest	1.08	1064.62	89.88	
5347	J-2841	850.01	Forest	0.28	1057.76	89.88	
7151 44	J-3888 J-11	856.41 852.18	Forest Forest	0.08 0.28	1064.21 1060.05	89.90 89.93	
2381	J-1278	856.73	Forest	0.08	1064.63	89.95	
2786	J-1508	756.04	Forest	1.08	963.95	89.95	
7501	J-4028	849.45	Forest	2.09	1057.40	89.97	
4071 1224	J-2195 J-640	849.77	Forest Forest	0.28 0.48	1057.76	89.99 90.00	
1224	J-640 J-57	851.73 855.36	Forest	0.48	1059.74 1063.41	90.00	
5328	J-2830	850.57	Forest	0.08	1058.62	90.01	
4014	J-2169	849.74	Forest	1.08	1057.81	90.02	
6127	J-3289	849.31	Forest	2.09	1057.40	90.03	
5939 6800	J-3179 J-3687	852.36 850.46	Forest Forest	0.08 2.09	1060.45 1058.62	90.03 90.06	
6793	J-3683	856.45	Forest	0.08	1064.62	90.06	
6358	J-3427	850.66	Forest	0.88	1058.95	90.12	
7461	J-4014	851.71	Forest	0.08	1060.01	90.12	
5778 1254	J-3089 J-652	853.29 853.25	Forest Forest	0.08 0.68	1061.64 1061.63	90.14 90.15	
5479	J-2917	848.62	Forest	0.28	1056.99	90.15	
6846	J-3714	856.19	Forest	0.48	1064.62	90.18	
6577	J-3555	851.30	Forest	0.68	1059.74	90.18	
3232 2746	J-1754 J-1484	853.56 852.84	Forest Forest	0.28 1.08	1062.02 1061.30	90.19 90.19	
6850	J-1464 J-3716	851.24	Forest	0.88	1059.72	90.19	
4777	J-2514	851.81	Forest	0.08	1060.33	90.21	
817	J-462	853.08	Forest	0.08	1061.63	90.23	
5623 976	J-2998 J-536	848.84 848.15	Forest Forest	0.88 0.68	1057.40 1056.74	90.23 90.25	
654	J-377	853.08	Forest	0.48	1061.72	90.27	
4136	J-2223	851.05	Forest	1.48	1059.72	90.29	
3625	J-1976	855.90	Forest	0.08	1064.62	90.30	
3325 3478	J-1809 J-1895	851.60 851.52	Forest Forest	0.08 0.88	1060.33 1060.33	90.31 90.34	
4638	J-2438	1114.07	Stewartsville	0.26	1322.91	90.35	
6570	J-3551	851.96	Forest	0.08	1060.81	90.36	
1116	J-595	852.00	Forest	0.28	1060.87	90.37	
841 7336	J-475 J-3967	850.82 852.43	Forest Forest	0.88 0.48	1059.70 1061.32	90.37 90.38	
7336 6897	J-3967 J-3744	852.43 755.04	Forest	0.48	963.94	90.38	
6923	J-3760	850.80	Forest	0.88	1059.72	90.39	
7460	J-4013	851.05	Forest	1.08	1060.01	90.41	
3432	J-1868	849.64	Forest	2.89	1058.62	90.42	
567 3853	J-324 J-2095	851.75 851.00	Forest Forest	0.08 0.68	1060.81 1060.05	90.45 90.45	
5624	J-2999	848.34	Forest	0.88	1057.40	90.45	
2331	J-1250	852.93	Forest	1.28	1062.02	90.46	
459	J-257	1008.92	Lakes	0.29	1218.02	90.47	
3324 6128	J-1808 J-3290	851.20 848.24	Forest Forest	0.48 0.08	1060.33 1057.40	90.48 90.49	
4357	J-2297	850.70	Forest	0.68	1059.89	90.49	
1799	J-924	849.39	Forest	0.28	1058.65	90.53	
3126	J-1690	850.42	Forest	0.08	1059.70	90.55	
2729	J-1473	849.66 851.16	Forest	1.08	1058.95 1060.45	90.55	
5938 6008	J-3178 J-3217	851.16 854.10	Forest Forest	0.08 0.48	1060.45 1063.41	90.55 90.56	
2184	J-1163	851.96	Forest	0.48	1061.29	90.57	
6962	J-3782	850.62	Forest	0.08	1059.99	90.59	
4118	J-2215	848.40	Forest	1.48	1057.81	90.60	
4476 5936	J-2344 J-3177	851.84 851.38	Forest Forest	0.48 0.08	1061.29 1060.86	90.62 90.64	
1510	J-753	851.20	Forest	0.48	1060.86	90.64	
4152	J-2229	847.72	Forest	0.88	1057.42	90.72	
3838	J-2087	754.24	Forest	0.48	963.95	90.73	
6479 6616	J-3497 J-3578	854.39 850.15	Forest Forest	0.08 0.28	1064.10 1059.89	90.73 90.74	
234	J-3578 J-112	1113.09	Stewartsville	0.28	1322.91	90.74	
4993	J-2638	854.24	Forest	0.88	1064.10	90.80	
4396	J-2312	849.85	Forest	1.28	1059.72	90.80	
235 5818	J-113 J-3112	1113.01 851.70	Stewartsville	0.11 0.28	1322.91	90.81 90.82	
5818 5959	J-3112 J-3190	851.70 753.96	Forest Forest	0.28	1061.62 963.95	90.82	
2328	J-1248	850.76	Forest	0.48	1060.81	90.88	
5097	J-2698	851.54	Forest	0.48	1061.66	90.91	
6964	J-3783	849.08	Forest	0.68	1059.26	90.93	
7132 3186	J-3877 J-1726	847.20 850.23	Forest Forest	0.48 0.48	1057.40 1060.43	90.94 90.94	
2997	J-1615	850.59	Forest	0.48	1060.81	90.95	
1167	J-613	847.53	Forest	0.48	1057.82	90.98	
4037	J-2178	848.40	Forest	0.68	1058.75	91.01	

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure	
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)	
1732	J-881	848.56	Forest	0.48	1058.99	91.04	
7726	J-4100	854.36	Forest	0.48	1064.84	91.07	
4826	J-2541	851.18	Forest	0.08	1061.72	91.09	
6522	J-3522	850.50	Forest	0.28	1061.04	91.09	
2743 6961	J-1482 J-3781	851.09 849.43	Forest Forest	1.48 0.08	1061.66 1059.99	91.10 91.10	
934	J-516	853.49	Forest	1.28	1064.10	91.12	
4825	J-2540	851.04	Forest	1.68	1061.72	91.15	
8215	J-4171	850.13	Forest	1.08	1060.81	91.15	
3845	J-2091	847.66	Forest Forest	1.08	1058.37 1060.43	91.17	
89 506	J-40 J-285	849.71 850.20	Forest	0.08 0.08	1060.43	91.17 91.22	
4201	J-2250	848.41	Forest	0.28	1059.26	91.23	
7133	J-3878	846.52	Forest	0.08	1057.40	91.24	
914	J-508	847.66	Forest	0.88	1058.66	91.29	
8491 7966	J-4198 J-4152	847.65 848.24	Forest Forest	0.08 19.88	1058.65 1059.33	91.29 91.33	
3221	J-1747	1006.92	Lakes	0.20	1218.04	91.34	
3566	J-1944	852.92	Forest	0.48	1064.10	91.37	
3226	J-1750	850.11	Forest	0.08	1061.32	91.38	
458	J-256	1006.82	Lakes	0.20	1218.04	91.38	
4219 3227	J-2255 J-1751	848.45 850.04	Forest Forest	0.68 0.28	1059.72 1061.32	91.41 91.41	
1741	J-887	847.54	Forest	0.68	1058.99	91.49	
8493	J-4199	849.34	Forest	0.68	1060.81	91.50	
3527	J-1923	847.79	Forest	0.28	1059.35	91.53	
8343	J-4173	845.76	Forest	0.68	1057.41	91.57	
3087 2831	J-1666 J-1533	847.88 847.89	Forest Forest	0.48 0.48	1059.66 1059.72	91.63 91.65	
2611	J-1404	846.51	Forest	0.68	1058.36	91.66	
1664	J-836	846.88	Forest	0.88	1058.81	91.69	
6502	J-3510	846.38	Forest	1.48	1058.37	91.72	
2742 6787	J-1481	849.65	Forest	1.48 0.08	1061.65	91.72	
6787 6788	J-3679 J-3680	848.00 848.00	Forest Forest	0.08	1060.01 1060.01	91.73 91.73	
4127	J-2218	848.00	Forest	1.28	1060.01	91.73	
5046	J-2670	849.24	Forest	0.28	1061.32	91.76	
3086	J-1665	847.55	Forest	0.48	1059.66	91.77	
1438 3848	J-720 J-2093	846.47 846.56	Forest Forest	0.28 1.68	1058.64 1058.75	91.80 91.80	
6458	J-3485	849.95	Forest	0.08	1062.15	91.81	
5160	J-2733	846.54	Forest	0.48	1058.75	91.81	
5840	J-3124	845.19	Forest	0.48	1057.40	91.82	
566	J-323	848.59	Forest	0.08	1060.81	91.82	
5687 6526	J-3036 J-3524	847.43 847.07	Forest Forest	0.88 1.48	1059.69 1059.35	91.83 91.85	
2724	J-1470	845.10	Forest	1.68	1055.40	91.85	
6097	J-3271	846.07	Forest	0.28	1058.37	91.85	
2920	J-1580	846.31	Forest	0.88	1058.62	91.85	
6117 7160	J-3283	1006.03 846.98	Lakes Forest	0.20 0.08	1218.34	91.86 91.88	
1884	J-3893 J-979	852.19	Forest	0.88	1059.35 1064.61	91.90	
697	J-401	849.73	Forest	1.08	1062.15	91.91	
5003	J-2644	851.63	Forest	0.08	1064.06	91.91	
4413	J-2317	845.93	Forest	0.88	1058.37	91.91	
6910 840	J-3752 J-474	845.34 847.23	Forest Forest	0.28 0.28	1057.80 1059.69	91.92 91.92	
2211	J-1179	751.36	Forest	0.48	963.95	91.98	
4995	J-2639	845.93	Forest	0.28	1058.54	91.99	
1276	J-662	852.00	Forest	0.28	1064.63	91.99	
5468	J-2911	852.00	Forest	0.08	1064.63	91.99	
4069 5841	J-2194 J-3125	846.98 844.65	Forest Forest	0.28 2.09	1059.66 1057.40	92.02 92.05	
5045	J-2669	848.56	Forest	1.08	1061.32	92.05	
5446	J-2898	846.22	Forest	0.28	1059.00	92.06	
6413	J-3459	851.43	Forest	0.08	1064.21	92.06	
781 7380	J-445	848.00	Forest	0.28	1060.79	92.07	
7389 6116	J-3989 J-3282	848.00 1005.54	Forest Lakes	0.28 0.20	1060.79 1218.34	92.07 92.07	
8490	J-4197	845.81	Forest	0.48	1058.65	92.09	
1272	J-660	1005.77	Lakes	0.20	1218.61	92.09	
4148	J-2228	850.22	Forest	1.08	1063.08	92.10	
439 7538	J-244 J-4043	847.14 845.02	Forest	0.08	1060.02	92.10	
7538 1144	J-4043 J-605	845.02 844.89	Forest Forest	0.48 0.28	1057.93 1057.81	92.11 92.12	
5243	J-2781	846.81	Forest	1.88	1059.74	92.12	
1804	J-927	851.85	Forest	1.08	1064.79	92.13	
2183	J-1162	848.33	Forest	0.68	1061.28	92.14	
2081	J-1099	851.34	Forest	0.08	1064.31	92.14	
6140 5242	J-3297 J-2780	847.08 846.75	Forest Forest	0.08 1.68	1060.05 1059.74	92.14 92.15	
5934	J-3176	849.00	Forest	0.88	1061.99	92.15	
7046	J-3829	750.91	Forest	1.28	963.94	92.17	
505	J-284	848.00	Forest	0.08	1061.03	92.17	
8473 2725	J-4188 J-1471	848.00 844.36	Forest	0.68 0.88	1061.03 1057.40	92.17 92.17	
2725 2260	J-14/1 J-1208	844.36 845.96	Forest Forest	1.08	1057.40 1059.00	92.17 92.17	
4996	J-2640	845.50	Forest	0.28	1058.54	92.17	
653	J-376	848.70	Forest	0.28	1061.75	92.18	
1024	J-557	847.92	Forest	1.08	1060.97	92.18	
5933	J-3175	848.93	Forest	0.68	1061.99	92.18	
4919 4516	J-2595 J-2367	845.70 844.29	Forest Forest	3.29 0.88	1058.77 1057.40	92.18 92.20	
316	J-165	848.00	Forest	0.28	1061.15	92.22	
315	J-164	848.00	Forest	0.88	1061.15	92.22	
3567	J-1945	850.95	Forest	1.88	1064.10	92.22	
5991	J-3208	1005.46	Lakes	0.20	1218.61	92.22	
632 1204	J-363 J-631	848.00 844.54	Forest Forest	1.08 0.08	1061.21 1057.80	92.25 92.27	
.207	0 001	577.54	. orost	0.00	1007.00	JL.L1	

					Calculated	
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
991	J-543	850.74	Forest	0.68	1064.06	92.30
434 8500	J-241 J-4203	847.79 845.04	Forest Forest	0.48 0.48	1061.11 1058.37	92.30 92.30
4792	J-2523	847.77	Forest	0.28	1061.11	92.31
2590 440	J-1391 J-245	850.85 846.54	Forest Forest	0.48 0.48	1064.21 1060.02	92.31 92.36
5426	J-2887	845.28	Forest	0.48	1058.76	92.36
763	J-436	845.79	Forest	0.08	1059.33	92.39
6412 3257	J-3458 J-1770	850.63 845.14	Forest Forest	0.48 1.68	1064.21 1058.76	92.40 92.43
6139	J-3296	846.41	Forest	2.49	1060.05	92.43
3546	J-1933	750.24	Forest	2.69	963.94	92.46
7786 4918	J-4117 J-2594	846.24 845.00	Forest Forest	1.48 2.09	1059.94 1058.77	92.46 92.49
1887	J-981	844.00	Forest	0.48	1055.77	92.50
5803	J-3104	843.96	Forest	0.68	1057.82	92.53
258 5802	J-128 J-3103	846.16 843.94	Forest Forest	0.08 0.48	1060.02 1057.82	92.53 92.53
276	J-140	846.04	Forest	2.09	1059.94	92.55
259	J-129	846.09	Forest	0.08	1060.02	92.56
1918 4720	J-1001 J-2482	845.31	Forest Forest	0.48 0.08	1059.26	92.56
4720	J-2462 J-242	843.85 847.14	Forest	0.08	1057.81 1061.12	92.57 92.58
3941	J-2137	847.29	Forest	1.28	1061.29	92.58
5621	J-2997	845.91	Forest	0.08	1059.94	92.60
3829 3846	J-2083 J-2092	749.89 844.32	Forest Forest	0.88 1.08	963.94 1058.37	92.61 92.61
299	J-154	845.92	Forest	0.08	1060.02	92.63
5849	J-3129	1004.32	Lakes	0.20	1218.50	92.66
968 6970	J-532 J-3786	844.62 846.94	Forest Forest	0.28 0.08	1058.82 1061.15	92.67 92.68
275	J-139	845.67	Forest	0.88	1059.94	92.70
6898	J-3745	749.48	Forest	0.28	963.94	92.79
1740 1731	J-886 J-880	844.44 844.35	Forest Forest	0.28 0.48	1058.99 1058.99	92.83 92.87
6844	J-3713	844.00	Forest	1.28	1058.67	92.88
7175	J-3899	849.94	Forest	0.48	1064.63	92.89
6184 4038	J-3322 J-2179	1108.28 844.01	Stewartsville Forest	0.11 2.09	1322.98 1058.75	92.89 92.91
1665	J-837	844.05	Forest	0.28	1058.81	92.92
2834	J-1535	843.89	Forest	0.88	1058.67	92.92
2382 1560	J-1279 J-775	849.83 1003.69	Forest Lakes	0.48 0.20	1064.63 1218.50	92.94 92.94
3888	J-2112	842.92	Forest	0.88	1057.82	92.94
2158	J-1146	843.84	Forest	0.08	1058.76	92.99
5216 698	J-2764 J-402	843.86	Forest Forest	0.08 0.88	1058.81	93.00
165	J-81	847.15 848.94	Forest	1.28	1062.10 1063.91	93.00 93.01
3528	J-1924	844.36	Forest	0.48	1059.35	93.01
3382	J-1840	846.13	Forest	0.68	1061.15	93.03
5551 1325	J-2957 J-681	844.47 845.76	Forest Forest	0.48 0.48	1059.58 1060.87	93.06 93.07
2944	J-1591	844.45	Forest	0.08	1059.58	93.07
6662 2919	J-3605 J-1579	849.42 843.36	Forest Forest	0.88 2.49	1064.60 1058.61	93.10 93.13
631	J-1579 J-362	845.95	Forest	0.68	1061.21	93.13
5022	J-2655	842.54	Forest	0.68	1057.83	93.15
6058 5215	J-3247 J-2763	846.07	Forest Forest	0.08	1061.38	93.16 93.19
1565	J-2763 J-777	843.41 1002.88	Lakes	0.28 0.20	1058.81 1218.43	93.19
7251	J-3936	845.79	Forest	0.08	1061.38	93.28
5265	J-2793	843.13	Forest	0.08 2.09	1058.75 1063.91	93.29 93.30
5557 4682	J-2960 J-2462	848.26 748.27	Forest Forest	0.88	963.94	93.31
3547	J-1934	748.27	Forest	0.88	963.94	93.31
353 6663	J-189 J-3606	1107.30 848.87	Stewartsville Forest	0.40 0.88	1322.98 1064.60	93.32 93.34
352	J-188	1107.22	Stewartsville	0.11	1322.98	93.35
5009	J-2647	842.98	Forest	0.28	1058.75	93.35
5010 825	J-2648 J-467	842.96 845.38	Forest Forest	1.08 0.88	1058.75 1061.18	93.36 93.37
5558	J-2961	848.00	Forest	1.28	1063.91	93.41
5667	J-3025	845.88	Forest	0.28	1061.83	93.43
5805 5439	J-3105 J-2894	1002.35 841.60	Lakes Forest	0.20 0.48	1218.43 1057.81	93.49 93.54
3701	J-2019	845.61	Forest	0.48	1061.83	93.55
5021	J-2654	841.54	Forest	0.48	1057.83	93.58
2141 5106	J-1136	844.03 844.38	Forest Forest	0.48	1060.45	93.63
2591	J-2703 J-1392	844.38 847.72	Forest	0.48 0.68	1060.84 1064.21	93.65 93.66
618	J-354	844.51	Forest	0.48	1061.12	93.72
5039	J-2665	840.73	Forest	2.89	1057.40	93.74
7113 7533	J-3867 J-4041	843.77 841.95	Forest Forest	0.28 0.08	1060.45 1058.75	93.75 93.80
722	J-416	844.00	Forest	0.08	1060.81	93.80
1703	J-862	844.00	Forest	0.08	1060.84	93.81
4453 5610	J-2330 J-2991	843.58 847.72	Forest Forest	0.48 0.88	1060.45 1064.60	93.83 93.83
3702	J-2020	844.94	Forest	0.48	1061.83	93.84
4454	J-2331	843.55	Forest	0.48	1060.45	93.85
5040 5440	J-2666 J-2895	840.42 840.81	Forest Forest	0.48 0.28	1057.40 1057.81	93.88 93.88
1080	J-581	1001.64	Lakes	0.20	1218.65	93.89
4958	J-2618	842.81	Forest	0.28	1059.93	93.94
962 3122	J-529 J-1688	840.69 843.29	Forest Forest	0.28 0.28	1057.82 1060.47	93.94 93.96
1743	J-888	847.38	Forest	0.28	1064.60	93.98
4769	J-2510	847.57	Forest	0.68	1064.84	94.00
1849	J-956	843.78	Forest	0.48	1061.07	94.01

Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
4065	J-2192	841.05	Forest	0.68	1058.37	94.02
820 5315	J-464 J-2822	843.59 843.40	Forest Forest	0.28 0.88	1061.02 1060.84	94.07 94.07
1472	J-738	841.17	Forest	0.08	1058.64	94.09
682	J-393	842.26	Forest	1.28	1059.75	94.10
6528	J-3525	1001.15	Lakes	0.20	1218.65	94.10
1850	J-957	843.55	Forest	0.88	1061.07	94.11
6704	J-3630	840.39	Forest	0.48	1057.94	94.12
7025	J-3818	847.04	Forest	0.08	1064.63	94.14
4768 5314	J-2509 J-2821	847.21 843.20	Forest Forest	0.28 1.28	1064.84 1060.84	94.16 94.16
421	J-233	843.39	Forest	0.28	1061.06	94.17
4957	J-2617	842.21	Forest	0.28	1059.93	94.20
1821	J-938	840.01	Forest	0.68	1057.82	94.24
90	J-41	842.63	Forest	0.28	1060.47	94.25
1704	J-863	842.98	Forest	0.48	1060.84	94.26
420	J-232	843.14	Forest	0.08	1061.06	94.28
6059	J-3248	843.38	Forest	0.08 0.28	1061.38	94.32
6852 7761	J-3717 J-4108	842.89 841.74	Forest Forest	1.08	1061.06 1059.96	94.39 94.41
1720	J-873	842.77	Forest	0.48	1061.02	94.43
6929	J-3763	745.65	Forest	0.08	963.95	94.45
1805	J-928	846.44	Forest	0.48	1064.79	94.47
6705	J-3631	839.58	Forest	0.08	1057.94	94.47
2878	J-1559	842.56	Forest	0.48	1061.07	94.54
1129	J-598	840.00	Forest	0.48	1058.56	94.56
5136	J-2719	840.00	Forest	0.08	1058.56	94.56
3178	J-1721	840.12	Forest	0.08	1058.75	94.59
3177 6019	J-1720 J-3223	840.11 839.12	Forest Forest	0.68 0.08	1058.75 1057.81	94.60 94.62
6372	J-3223 J-3435	998.98	Lakes	0.20	1217.72	94.62
1250	J-651	998.91	Lakes	0.29	1217.72	94.67
7206	J-3913	841.75	Forest	1.28	1060.84	94.79
1143	J-604	838.54	Forest	0.48	1057.81	94.87
4485	J-2349	841.57	Forest	0.48	1060.84	94.87
7186	J-3903	845.35	Forest	0.28	1064.63	94.87
4486	J-2350	841.54	Forest	0.28	1060.84	94.88
247 6020	J-121 J-3224	838.47 838.45	Forest Forest	0.08 0.08	1057.80 1057.81	94.89 94.91
4646	J-2442	838.24	Forest	0.08	1057.80	95.00
246	J-120	838.23	Forest	0.48	1057.80	95.00
5787	J-3094	838.21	Forest	0.08	1057.81	95.01
6943	J-3771	838.75	Forest	0.88	1058.37	95.02
1580	J-784	842.35	Forest	0.68	1062.01	95.04
7054	J-3834	1103.19	Stewartsville	0.11	1322.91	95.06
6593	J-3564	838.86	Forest	0.08	1058.65	95.09
1579	J-783 J-272	842.20 841.30	Forest Forest	0.88 1.08	1062.01 1061.22	95.10
486 5979	J-3201	837.85	Forest	0.08	1057.80	95.15 95.16
2896	J-1569	743.99	Forest	0.88	963.94	95.16
2372	J-1273	844.65	Forest	0.08	1064.63	95.17
780	J-444	840.72	Forest	0.08	1060.80	95.22
487	J-273	841.09	Forest	0.28	1061.22	95.24
7602	J-4062	997.85	Lakes	0.37	1218.02	95.26
121	J-58	843.26	Forest	0.08	1063.48	95.28
2384	J-1280	844.36	Forest	0.28	1064.63	95.30
187 6594	J-90 J-3565	841.66 838.27	Forest Forest	1.48 0.28	1062.04 1058.65	95.34 95.35
4525	J-3365 J-2372	839.88	Forest	0.28	1060.36	95.35 95.39
4524	J-2371	839.87	Forest	1.28	1060.36	95.39
389	J-212	837.32	Forest	0.08	1057.82	95.40
5448	J-2899	837.24	Forest	0.48	1057.81	95.43
7394	J-3990	844.00	Forest	0.08	1064.62	95.45
7395	J-3991	844.00	Forest	0.48	1064.62	95.45
656	J-378	839.39	Forest	0.08	1060.02	95.45
30	J-2	839.47	Forest	0.08	1060.11	95.46
4328 1242	J-2289 J-649	841.45 837.13	Forest Forest	1.28 0.08	1062.10 1057.80	95.47 95.47
1242 838	J-649 J-473	837.13 840.35	Forest	0.08	1057.80	95.47 95.51
3667	J-1999	844.01	Forest	0.08	1061.10	95.51
3666	J-1998	844.00	Forest	1.08	1064.79	95.53
6429	J-3468	840.31	Forest	0.28	1061.10	95.53
806	J-457	840.18	Forest	0.48	1061.07	95.57
553	J-315	840.77	Forest	1.88	1061.81	95.63
6930	J-3764	742.90	Forest	0.08	963.95	95.64
2791	J-1511	836.72	Forest	0.08	1057.81	95.66
390	J-213	836.63	Forest	0.08	1057.82	95.69
5748	J-3072	842.00	Forest	0.08	1063.20 1061.23	95.70
500 3216	J-281 J-1744	839.99 837.45	Forest Forest	0.28 0.88	1061.23 1058.75	95.72 95.75
3216 8114	J-1744 J-4168	837.45 837.36	Forest	0.88	1058.75	95.75 95.76
527	J-299	1101.56	Stewartsville	0.28	1322.91	95.76
5967	J-3194	843.37	Forest	0.28	1064.79	95.80
4133	J-2222	842.62	Forest	2.69	1064.12	95.83
5250	J-2785	842.62	Forest	0.48	1064.12	95.83
2917	J-1578	801.33	Lakes	0.37	1022.87	95.85
321	J-168	1101.30	Stewartsville	0.11	1322.91	95.88
2089	J-1102	996.40	Lakes	0.46	1218.02	95.89
4560	J-2392	996.38	Lakes	0.20	1218.02	95.89
762 3217	J-435 J-1745	837.64 837.10	Forest	0.28 0.68	1059.29 1058.75	95.90 95.90
3217 4561	J-1745 J-2393	837.10 996.30	Forest Lakes	0.68	1058.75 1218.02	95.90 95.93
152	J-74	841.48	Forest	0.48	1063.20	95.93
2085	J-1100	996.29	Lakes	0.48	1218.02	95.93
2086	J-1101	996.29	Lakes	0.46	1218.02	95.93
1753	J-895	838.26	Forest	0.88	1060.08	95.97
2500	J-1341	836.94	Forest	1.68	1058.76	95.97
526	J-298	1100.91	Stewartsville	0.26	1322.91	96.05
6596	J-3566	837.23	Forest	0.28	1059.29	96.08

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
2460	J-1319	836.63	Forest	0.68	1058.76	96.11
1744	J-889	842.41	Forest	0.48	1064.60	96.11
2461	J-1320	836.49	Forest	0.88	1058.76	96.17
1990	J-1048	842.24	Forest	0.68	1064.61	96.21
1055 6660	J-571 J-3604	1100.54 835.34	Stewartsville Forest	0.55 0.28	1322.91 1057.80	96.21 96.25
6150	J-3302	741.42	Forest	1.48	963.94	96.27
2389	J-1283	842.07	Forest	0.08	1064.63	96.29
2758	J-1491	842.00	Forest	1.28	1064.62	96.32
8511 627	J-4208 J-360	836.00 838.29	Forest Forest	0.08 0.08	1058.65 1060.99	96.33 96.35
322	J-169	1100.18	Stewartsville	0.40	1322.91	96.37
6155	J-3305	838.78	Forest	0.68	1061.61	96.41
4943	J-2609	1100.05	Stewartsville	0.11	1322.91	96.42
4093	J-2205	839.77 1100.00	Forest	0.68	1062.63	96.42
827 5965	J-468 J-3193	1100.00	Stewartsville Stewartsville	0.11 0.26	1322.91 1322.91	96.44 96.44
7204	J-3912	837.06	Forest	0.48	1060.02	96.46
1714	J-869	835.64	Forest	0.88	1058.76	96.54
1349	J-687	836.67	Forest	0.08	1060.02	96.63
6462 3626	J-3487 J-1977	1099.61 841.17	Stewartsville Forest	0.26 0.88	1322.98 1064.62	96.64 96.67
662	J-382	836.29	Forest	1.48	1059.74	96.68
5195	J-2752	838.45	Forest	1.88	1061.93	96.69
2140	J-1135	836.96	Forest	0.68	1060.45	96.70
6408	J-3456	840.00	Forest	0.48	1063.74	96.80
715 3593	J-411 J-1960	1099.21 835.94	Stewartsville Forest	0.26 1.68	1322.98 1059.72	96.81 96.82
7225	J-3923	834.93	Forest	0.08	1059.72	96.84
171	J-85	839.89	Forest	0.08	1063.74	96.85
4222	J-2257	838.03	Forest	0.28	1061.93	96.87
29	J-1 I-1007	836.20	Forest	1.48	1060.11	96.88
3664 3957	J-1997 J-2144	837.69 835.78	Forest Forest	1.08 2.49	1061.61 1059.73	96.88 96.89
8203	J-4170	834.82	Forest	2.49	1058.76	96.89
4690	J-2466	840.55	Forest	0.28	1064.62	96.94
5412	J-2879	834.63	Forest	0.28	1058.76	96.97
4116	J-2214	837.40	Forest	1.08	1061.61	97.01
7649 3484	J-4078 J-1898	835.75 833.53	Forest Forest	0.08 1.28	1060.01 1057.82	97.03 97.04
1752	J-894	835.68	Forest	0.88	1060.08	97.09
4407	J-2315	833.39	Forest	0.68	1057.80	97.09
648	J-373	839.06	Forest	0.68	1063.49	97.10
552	J-314 J-939	837.39	Forest	0.88	1061.83	97.10
1822 2730	J-1474	833.37 834.41	Forest Forest	0.68 0.88	1057.82 1058.95	97.11 97.15
1005	J-549	839.99	Forest	0.68	1064.62	97.18
1679	J-846	836.17	Forest	0.08	1060.83	97.20
6639	J-3592	839.83	Forest	0.48	1064.62	97.25
798 5182	J-453 J-2745	1098.06 835.91	Stewartsville Forest	0.55 0.68	1322.91 1060.83	97.28 97.31
3767	J-2053	836.70	Forest	0.48	1061.62	97.31
2357	J-1264	839.60	Forest	0.88	1064.60	97.35
7229	J-3925	839.58	Forest	0.08	1064.63	97.37
6954 3447	J-3777	835.74	Forest	0.08	1060.80	97.37
344 <i>7</i> 1680	J-1876 J-847	834.87 835.60	Forest Forest	0.48 1.48	1059.96 1060.84	97.39 97.45
6295	J-3389	836.36	Forest	0.88	1061.62	97.46
430	J-239	837.59	Forest	0.08	1062.90	97.48
6151	J-3303	738.52	Forest	0.88	963.94	97.53
8062	J-4163	833.23	Forest	3.32	1058.66	97.53
2123 7802	J-1124 J-4121	834.87 835.58	Forest Forest	0.88 0.28	1060.36 1061.07	97.56 97.56
5643	J-3010	992.50	Lakes	0.20	1218.02	97.58
4008	J-2167	833.06	Forest	0.88	1058.67	97.61
5942	J-3181	835.52	Forest	0.48	1061.16	97.63
5941	J-3180	835.51	Forest	0.48	1061.16	97.63
1008 325	J-551 J-171	836.97 833.08	Forest Forest	0.88 0.08	1062.63 1058.76	97.63 97.64
2109	J-1115	835.28	Forest	1.48	1061.04	97.68
4023	J-2173	832.05	Forest	1.48	1057.83	97.68
818	J-463	835.72	Forest	0.48	1061.63	97.74
2857	J-1548	832.24	Forest	0.68	1058.24	97.78
6877 6878	J-3732 J-3733	832.00 832.00	Forest Forest	1.28 0.48	1058.03 1058.03	97.79 97.79
170	J-84	837.57	Forest	0.48	1063.61	97.79
324	J-170	832.70	Forest	0.08	1058.76	97.81
2767	J-1496	835.53	Forest	1.08	1061.60	97.81
5657	J-3019	838.02	Forest	1.28	1064.10	97.82
5126 429	J-2714 J-238	837.99 836.77	Forest Forest	0.08 0.08	1064.10	97.83
429 933	J-238 J-515	836.77 837.94	Forest	0.08	1062.90 1064.10	97.83 97.85
5001	J-2643	837.44	Forest	1.68	1063.61	97.85
6448	J-3479	835.39	Forest	1.28	1061.63	97.88
1031	J-560	832.58	Forest	0.28	1058.91	97.92
5705 6818	J-3047 J-3697	833.99 833.57	Forest Forest	0.08 0.48	1060.34 1059.96	97.93 97.95
2053	J-3697 J-1087	991.65	Lakes	1.09	1218.03	97.95 97.95
6819	J-3698	833.57	Forest	0.48	1059.96	97.95
529	J-300	833.89	Forest	0.08	1060.33	97.97
5658	J-3020	837.59	Forest	0.68	1064.10	98.00
5174	J-2741	991.52	Lakes	0.37	1218.03	98.00
359 5076	J-193 J-2687	833.82 832.37	Forest Forest	0.08 0.28	1060.33 1058.91	98.00 98.01
7369	J-3981	838.02	Forest	0.28	1064.62	98.04
3485	J-1899	831.19	Forest	0.08	1057.82	98.05
358	J-192	833.70	Forest	0.08	1060.34	98.05
2371	J-1272	837.85	Forest	0.88	1064.63	98.12
5649	J-3014	831.02	Forest	0.08	1057.80	98.12

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
7126	J-3874	834.94	Forest	0.08	1061.85	98.17
5644	J-3011	991.12	Lakes	0.20	1218.02	98.17
7033 7127	J-3822 J-3875	835.99 834.84	Forest Forest	0.08 0.48	1062.90 1061.85	98.17 98.21
3448	J-1877	832.92	Forest	0.08	1059.96	98.23
3385 1331	J-1841	833.91 830.71	Forest Forest	0.48 0.08	1060.97 1057.80	98.24 98.25
3955	J-683 J-2143	836.98	Forest	0.68	1064.10	98.27
4161	J-2234	837.47	Forest	0.48	1064.62	98.28
3297 7284	J-1794 J-3950	837.37 832.72	Forest Forest	0.08 0.08	1064.62 1060.01	98.32 98.34
2387	J-1282	837.32	Forest	0.68	1064.63	98.34
5477 6055	J-2916 J-3245	832.53 834.15	Forest Forest	0.88 1.08	1059.96 1061.66	98.40 98.43
3880	J-2108	834.19	Forest	1.68	1061.72	98.44
5488	J-2922	837.03	Forest	0.68	1064.62	98.47
7148 7149	J-3886 J-3887	834.06 834.03	Forest Forest	0.08 0.88	1061.66 1061.66	98.47 98.49
2122	J-1123	832.70	Forest	0.88	1060.36	98.50
1923 5629	J-1004 J-3002	833.17 833.85	Forest Forest	0.88 0.68	1060.83 1061.61	98.50 98.54
6056	J-3246	833.82	Forest	0.48	1061.66	98.58
7283	J-3949	832.13	Forest	0.08	1060.01	98.59
2446 5352	J-1311 J-2844	832.00 831.75	Forest Forest	0.88 0.48	1059.89 1059.72	98.60 98.63
5529	J-2945	830.73	Forest	0.28	1058.73	98.64
7258 7588	J-3939 J-4057	836.59 833.74	Forest Forest	0.08 0.48	1064.63 1061.85	98.66 98.69
5630	J-3003	833.41	Forest	0.08	1061.61	98.73
7619	J-4069	829.74	Forest	0.88	1058.02	98.76
2524 2447	J-1354 J-1312	831.44 831.60	Forest Forest	1.08 2.29	1059.72 1059.89	98.77 98.77
1069	J-577	833.27	Forest	0.08	1061.90	98.92
7548 7368	J-4047 J-3980	832.98 835.90	Forest Forest	0.48 0.08	1061.61 1064.62	98.92 98.96
5206	J-2758	735.07	Forest	0.28	963.95	99.03
2052	J-1086	989.06	Lakes	0.29	1218.03	99.07
5530 2149	J-2946 J-1141	829.72 832.53	Forest Forest	0.08 0.88	1058.73 1061.62	99.08 99.11
2538	J-1362	1093.83	Stewartsville	0.26	1322.91	99.11
3146 3594	J-1703 J-1961	734.85 830.56	Forest Forest	0.48 0.88	963.95 1059.72	99.12 99.15
3563	J-1961 J-1943	988.85	Lakes	1.81	1218.03	99.15
8506	J-4206	831.54	Forest	0.48	1060.82	99.20
7551 3145	J-4048 J-1702	832.32 734.47	Forest Forest	0.88 0.08	1061.61 963.95	99.20 99.28
1715	J-870	829.28	Forest	0.68	1058.76	99.28
1554	J-772	988.55	Lakes	4.18	1218.07	99.30
7096 716	J-3857 J-412	832.36 1093.41	Forest Stewartsville	0.08 0.11	1061.90 1322.98	99.31 99.32
661	J-381	830.18	Forest	0.08	1059.75	99.32
7953 3779	J-4151 J-2059	831.26 734.14	Forest Forest	1.68 4.50	1060.84 963.93	99.33 99.42
874	J-491	834.75	Forest	0.48	1064.63	99.45
7155	J-3890	1093.10	Stewartsville	0.11	1322.98	99.45
1466 6721	J-735 J-3640	828.78 988.14	Forest Lakes	4.36 0.20	1058.66 1218.07	99.46 99.48
6618	J-3579	827.85	Forest	1.08	1057.83	99.50
1808 1807	J-930 J-929	832.00 832.00	Forest Forest	0.48 0.88	1062.01 1062.01	99.51 99.51
3336	J-1815	829.57	Forest	0.48	1059.73	99.58
5652	J-3016	988.09	Lakes	0.20	1218.27	99.59
2525 1890	J-1355 J-983	829.53 831.40	Forest Forest	0.08 0.88	1059.72 1061.61	99.59 99.60
1852	J-958	829.49	Forest	0.08	1059.73	99.61
2108 1722	J-1114 J-874	830.80 830.79	Forest Forest	0.48 0.08	1061.04 1061.04	99.62 99.62
5651	J-3015	988.00	Lakes	0.37	1218.27	99.63
4860 4022	J-2561	829.40 827.26	Forest	0.08 0.48	1059.93	99.74
6580	J-2172 J-3557	829.42	Forest Forest	0.48	1057.83 1060.01	99.76 99.77
6777	J-3673	828.70	Forest	0.88	1059.31	99.77
4859 6776	J-2560 J-3672	829.16 828.49	Forest Forest	0.28 0.88	1059.93 1059.31	99.84 99.86
6182	J-3321	832.65	Forest	0.48	1063.49	99.88
2892 4596	J-1567 J-2414	733.09 829.91	Forest Forest	4.28 0.48	963.95 1060.84	99.88 99.91
5263	J-2792	1092.00	Stewartsville	0.11	1322.94	99.92
2564	J-1377	833.56	Forest	0.08	1064.62	99.97
5090 4595	J-2694 J-2413	828.61 829.69	Forest Forest	0.48 0.48	1059.73 1060.84	99.99 100.01
2727	J-1472	829.69	Forest	0.48	1060.84	100.01
1196 3357	J-626 J-1827	1091.74 828.33	Stewartsville Forest	0.11 1.68	1322.94 1059.73	100.03 100.11
2148	J-1140	830.21	Forest	0.08	1061.62	100.11
4692 5340	J-2467	828.30	Forest	0.08	1059.75	100.14 100.20
5340 626	J-2837 J-359	830.01 829.31	Forest Forest	0.48 0.48	1061.60 1060.97	100.20 100.23
2667	J-1436	830.27	Forest	0.08	1062.01	100.26
6723 6579	J-3641 J-3556	830.19 827.98	Forest Forest	0.48 0.08	1062.01 1060.01	100.30 100.39
3599	J-1964	827.61	Forest	0.88	1059.72	100.39
1723	J-875	828.92	Forest	0.48	1061.04	100.43
4249 4170	J-2264 J-2238	827.82 832.45	Forest Forest	1.68 0.48	1060.08 1064.81	100.49 100.53
1061	J-574	825.45	Forest	0.88	1057.81	100.53
7386 4473	J-3988 J-2342	829.60 829.43	Forest Forest	0.48 0.48	1062.01 1061.85	100.55 100.56
6041	J-3236	829.22	Forest	0.48	1061.66	100.56

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure	
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)	
3285	J-1787	827.63	Forest	1.68	1060.08	100.57	
2009 2835	J-1060 J-1536	829.13 826.07	Forest Forest	0.88 1.48	1061.60 1058.67	100.58 100.63	
8521	J-4212	832.00	Forest	0.68	1064.60	100.64	
4474	J-2343	829.23	Forest	0.08	1061.85	100.64	
7608 3305	J-4064 J-1798	828.91 828.84	Forest Forest	0.48 0.08	1061.62 1061.62	100.68 100.71	
4650	J-2444	825.01	Forest	0.68	1057.81	100.72	
6483	J-3499	831.78	Forest	0.08	1064.61	100.73	
3345 6345	J-1820 J-3419	827.66 828.70	Forest Forest	0.28 0.48	1060.53 1061.62	100.75 100.77	
5290	J-2807	827.10	Forest	0.28	1060.08	100.80	
3870	J-2102	828.63	Forest Forest	0.88	1061.62	100.80	
6260 6042	J-3369 J-3237	827.46 828.65	Forest	0.48 0.88	1060.45 1061.66	100.80 100.81	
2994	J-1614	826.71	Forest	0.28	1059.78	100.84	
4068	J-2193	826.56	Forest	0.08	1059.66	100.85	
106 6261	J-51 J-3370	827.41 827.13	Forest Forest	0.08 1.08	1060.53 1060.45	100.86 100.95	
2156	J-1145	827.12	Forest	0.08	1060.45	100.95	
5367	J-2853	826.73	Forest	0.08	1060.08	100.96	
5665 5366	J-3024 J-2852	826.26 826.56	Forest Forest	0.48 0.08	1059.66 1060.08	100.98 101.03	
785	J-447	827.25	Forest	0.08	1060.82	101.05	
4095	J-2206	829.70	Forest	1.28	1063.30	101.07	
5162	J-2734	827.94	Forest	0.68	1061.62	101.10	
1889 2222	J-982 J-1186	827.92 828.08	Forest Forest	0.68 0.08	1061.62 1061.85	101.11 101.14	
5163	J-2735	827.77	Forest	0.28	1061.62	101.18	
5185	J-2747	825.85	Forest	0.88	1059.73	101.19	
1846 2120	J-954 J-1122	826.17 827.67	Forest Forest	0.08 0.68	1060.08 1061.61	101.20 101.21	
1271	J-659	984.52	Lakes	0.20	1218.61	101.28	
6229	J-3350	829.19	Forest	0.08	1063.30	101.29	
341 6537	J-181 J-3530	1088.75 827.66	Stewartsville Forest	0.11 0.48	1322.91 1061.85	101.31 101.32	
1853	J-959	825.45	Forest	2.49	1059.68	101.34	
340	J-180	1088.65	Stewartsville	0.11	1322.91	101.36	
5719 5184	J-3055	825.72	Forest Forest	0.48 0.68	1060.06	101.39 101.40	
6422	J-2746 J-3464	825.37 826.20	Forest	0.28	1059.73 1060.62	101.42	
2832	J-1534	825.28	Forest	1.28	1059.72	101.43	
5027	J-2658	829.34	Forest	0.48	1064.07	101.55	
901 5872	J-504 J-3142	829.32 983.79	Forest Lakes	0.08 0.20	1064.07 1218.61	101.57 101.60	
6228	J-3349	828.47	Forest	1.48	1063.30	101.60	
1333	J-684	825.14	Forest	0.48	1060.06	101.64	
5416 6484	J-2881 J-3500	825.07 829.57	Forest Forest	0.08 0.08	1060.02 1064.61	101.65 101.69	
2572	J-1381	825.95	Forest	0.08	1061.05	101.72	
6682	J-3617	822.81	Forest	0.88	1057.93	101.72	
117 3520	J-56 J-1919	825.48 826.33	Forest Forest	0.08 0.08	1060.62 1061.61	101.73 101.79	
4255	J-2265	826.17	Forest	1.48	1061.64	101.88	
6424	J-3465	825.44	Forest	0.08	1061.05	101.94	
6017 6538	J-3222 J-3531	825.80 825.99	Forest Forest	0.08 0.48	1061.61 1061.85	102.02 102.05	
5816	J-3111	825.54	Forest	0.48	1061.54	102.05	
7768	J-4111	824.00	Forest	0.88	1060.08	102.14	
2645 6168	J-1424	821.82	Forest Forest	0.48	1057.93 1060.12	102.15	
6169	J-3313 J-3314	824.00 824.00	Forest	1.68 0.28	1060.12	102.16 102.16	
1614	J-806	824.90	Forest	0.68	1061.05	102.17	
4374	J-2303	821.58	Forest	0.08	1057.80	102.20	
980 6382	J-537 J-3441	825.44 823.53	Forest Forest	0.28 0.28	1061.94 1060.09	102.32 102.35	
1192	J-624	828.00	Forest	0.08	1064.63	102.38	
7202	J-3911	828.00	Forest	0.28	1064.63	102.38	
2476 5815	J-1328 J-3110	824.37 824.82	Forest Forest	0.68 1.28	1061.05 1061.54	102.40 102.42	
4786	J-2519	824.33	Forest	0.08	1061.09	102.43	
2197	J-1171	825.05	Forest	0.68	1061.85	102.45	
7049 6381	J-3831 J-3440	823.04 823.26	Forest Forest	1.08 0.48	1059.85 1060.09	102.46 102.46	
1613	J-805	824.19	Forest	0.48	1061.05	102.48	
5566	J-2966	820.93	Forest	0.08	1057.80	102.48	
7004 2893	J-3806 J-1568	822.84 726.95	Forest Forest	0.08 0.48	1059.78 963.95	102.52 102.54	
2893 4787	J-1568 J-2520	824.02	Forest	0.48	1061.09	102.54	
5567	J-2967	820.67	Forest	0.08	1057.80	102.59	
2402 2684	J-1290 J-1446	827.42 820.53	Forest Forest	0.28 0.48	1064.63 1057.79	102.63 102.65	
2684 3410	J-1446 J-1855	820.53 824.57	Forest	0.48	1057.79	102.65	
2119	J-1121	824.23	Forest	0.88	1061.62	102.71	
4000	J-2465	824.48	Forest	0.48	1061.94	102.74	
4688	J-2306	822.53 823.55	Forest Forest	1.48 0.08	1060.01 1061.05	102.75 102.75	
4380	J-1305		Forest	0.28	1058.76	102.75	
4380 2435 1177	J-1305 J-617	821.26		0.48	1061.62	102.79	
4380 2435 1177 5895	J-617 J-3154	824.04	Forest				
4380 2435 1177 5895 3403	J-617 J-3154 J-1851	824.04 823.85	Forest	0.08	1061.62	102.87	
4380 2435 1177 5895	J-617 J-3154	824.04					
4380 2435 1177 5895 3403 4540 154 7135	J-617 J-3154 J-1851 J-2380 J-75 J-3879	824.04 823.85 820.93 825.26 819.89	Forest Forest Forest Forest	0.08 2.69 1.48 0.08	1061.62 1058.76 1063.10 1057.83	102.87 102.90 102.90 102.94	
4380 2435 1177 5895 3403 4540 154 7135 7048	J-617 J-3154 J-1851 J-2380 J-75 J-3879 J-3830	824.04 823.85 820.93 825.26 819.89 821.90	Forest Forest Forest Forest	0.08 2.69 1.48 0.08 0.88	1061.62 1058.76 1063.10 1057.83 1059.85	102.87 102.90 102.90 102.94 102.95	
4380 2435 1177 5895 3403 4540 154 7135 7048 4541	J-617 J-3154 J-1851 J-2380 J-75 J-3879 J-3830 J-2381	824.04 823.85 820.93 825.26 819.89 821.90 820.67	Forest Forest Forest Forest Forest	0.08 2.69 1.48 0.08 0.88 0.28	1061.62 1058.76 1063.10 1057.83 1059.85 1058.76	102.87 102.90 102.90 102.94 102.95 103.01	
4380 2435 1177 5895 3403 4540 154 7135 7048 4541 4575 7454	J-617 J-3154 J-1851 J-2380 J-75 J-3879 J-3830 J-2381 J-2401 J-4011	824.04 823.85 820.93 825.26 819.89 821.90 820.67 819.70 823.06	Forest Forest Forest Forest Forest Forest Forest Forest Forest	0.08 2.69 1.48 0.08 0.88 0.28 0.08	1061.62 1058.76 1063.10 1057.83 1059.85	102.87 102.90 102.90 102.94 102.95 103.01 103.02 103.04	
4380 2435 1177 5895 3403 4540 154 7135 7048 4541 4575	J-617 J-3154 J-1851 J-2380 J-75 J-3879 J-3830 J-2381 J-2401	824.04 823.85 820.93 825.26 819.89 821.90 820.67 819.70	Forest Forest Forest Forest Forest Forest Forest	0.08 2.69 1.48 0.08 0.88 0.28 0.08	1061.62 1058.76 1063.10 1057.83 1059.85 1058.76 1057.83	102.87 102.90 102.90 102.94 102.95 103.01 103.02	

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
2155 7473	J-1144 J-4018	822.17 821.49	Forest Forest	0.68 0.68	1060.45 1059.96	103.09 103.17
3707	J-2022	819.26	Forest	0.68	1057.81	103.21
7629	J-4071	979.43	Lakes	0.20	1218.02	103.23
4667 4668	J-2453 J-2454	820.00 820.00	Forest Forest	2.09 0.88	1058.75 1058.75	103.29 103.29
6872	J-3729	822.38	Forest	0.28	1061.15	103.30
7350	J-3976	819.11	Forest	0.08	1057.87	103.30
3996	J-2161	822.94	Forest	2.09	1061.72	103.31
6873 1593	J-3730 J-792	822.35 822.18	Forest Forest	0.08 0.08	1061.15 1061.05	103.32 103.34
6176	J-3318	821.08	Forest	0.48	1059.95	103.35
8088	J-4167	821.93	Forest	0.88	1060.83	103.36
1190 3840	J-623 J-2088	1084.00 821.89	Stewartsville Forest	0.11 0.88	1322.93 1060.84	103.38 103.38
5660	J-3021	822.23	Forest	0.68	1061.21	103.39
5867	J-3139	818.79	Forest	0.08	1057.80	103.41
1901 6760	J-990 J-3663	821.76 818.80	Forest Forest	0.88 0.08	1060.82 1057.87	103.43 103.43
1071	J-578	820.93	Forest	0.28	1060.02	103.43
1594	J-793	821.87	Forest	0.88	1061.05	103.48
7474	J-4019	820.70	Forest	0.48	1059.96	103.52
5661 6440	J-3022 J-3475	821.72 978.82	Forest Lakes	1.48 0.20	1061.21 1218.32	103.62 103.62
2790	J-1510	818.16	Forest	1.08	1057.81	103.68
4619	J-2427	1083.27	Stewartsville	3.28	1322.91	103.68
6245 6759	J-3360 J-3662	824.23 818.17	Forest Forest	1.08 0.48	1063.91 1057.87	103.69 103.71
586	J-335	1083.16	Stewartsville	0.11	1322.91	103.73
3412	J-1856	819.92	Forest	0.88	1059.72	103.75
1882	J-978	821.03 821.23	Forest Forest	0.08	1060.84	103.76
2536 3641	J-1361 J-1985	821.74	Forest	0.08 0.48	1061.05 1061.60	103.76 103.77
4505	J-2360	818.89	Forest	1.68	1058.76	103.78
4379	J-2305	820.09	Forest	2.09	1060.01	103.80 103.81
1591 6439	J-791 J-3474	824.69 978.29	Forest Lakes	0.08 0.20	1064.62 1218.32	103.81
875	J-492	824.52	Forest	0.08	1064.63	103.88
4506	J-2361	818.62	Forest	3.09	1058.76	103.90
3413 6246	J-1857 J-3361	819.53 823.47	Forest Forest	0.68 0.08	1059.72 1063.91	103.92 104.03
7932	J-4145	819.51	Forest	0.08	1059.95	104.03
1171	J-615	977.37	Lakes	0.81	1217.86	104.05
5583 2928	J-2975 J-1584	824.13 821.10	Forest Forest	0.28 1.28	1064.63 1061.62	104.05 104.06
4894	J-2581	1082.41	Stewartsville	0.11	1322.93	104.06
1590	J-790	823.77	Forest	0.28	1064.62	104.21
2204 1810	J-1175 J-931	820.61 820.52	Forest Forest	0.88 0.48	1061.61 1061.62	104.27 104.31
6218	J-3343	820.52 820.42	Forest	0.48	1061.62	104.31
4751	J-2500	817.98	Forest	0.08	1059.20	104.37
4132	J-2221	822.85	Forest	1.08	1064.10	104.38
988 4882	J-542 J-2573	817.90 820.31	Forest Forest	0.08 0.08	1059.20 1061.62	104.40 104.40
799	J-454	1081.58	Stewartsville	0.40	1322.91	104.41
4104	J-2209	818.32	Forest	0.28	1059.66	104.41
7384 4464	J-3987 J-2337	976.65 823.23	Lakes Forest	0.29 0.48	1218.03 1064.63	104.43 104.44
5546	J-2954	1081.52	Stewartsville	0.11	1322.91	104.44
7416	J-3998	816.46	Forest	0.48 0.88	1057.87	104.45 104.46
4883 1583	J-2574 J-786	820.17 820.37	Forest Forest	0.28	1061.62 1061.84	104.46
4299	J-2282	817.26	Forest	2.49	1058.75	104.48
6966	J-3784	819.39	Forest	0.28	1060.88	104.48
2902 6932	J-1572 J-3765	823.02 976.25	Forest Lakes	0.08 0.20	1064.63 1217.86	104.53 104.53
1585	J-787	820.23	Forest	0.28	1061.84	104.54
7639	J-4075	820.08	Forest	0.08	1061.72	104.55
6861 7417	J-3722 J-3999	816.00 816.00	Forest Forest	0.08 0.08	1057.77 1057.87	104.60 104.65
190	J-91	820.96	Forest	0.08	1062.84	104.65
4154	J-2230	818.08	Forest	0.48	1059.96	104.65
5771 5310	J-3085 J-2819	818.09 816.79	Forest Forest	0.48 0.68	1060.01 1058.75	104.67 104.68
1582	J-785	819.85	Forest	0.08	1061.84	104.70
1652	J-829	819.82	Forest	0.28	1061.84	104.71
1602 6175	J-798 J-3317	819.54 817.56	Forest Forest	0.08 1.08	1061.84 1059.95	104.83 104.87
7812	J-4123	818.80	Forest	0.48	1061.22	104.88
1007	J-550	820.29	Forest	0.48	1062.76	104.90
6464	J-3488 J-1981	976.00	Lakes	0.20	1218.58	104.95
3633 1410	J-703	818.88 819.77	Forest Forest	0.88 0.08	1061.72 1062.76	105.07 105.13
4532	J-2376	814.76	Forest	0.08	1057.81	105.16
4598 3558	J-2415 J-1940	817.67 814.90	Forest	1.08 0.08	1060.84	105.21
3558 5005	J-1940 J-2645	814.90 814.88	Forest Forest	0.08	1058.09 1058.09	105.22 105.23
1764	J-902	818.18	Forest	0.88	1061.61	105.32
4599	J-2416	817.37	Forest	1.28	1060.84	105.34
1701 6862	J-861 J-3723	817.58 814.27	Forest Forest	0.68 0.28	1061.04 1057.77	105.34 105.35
2771	J-1498	814.29	Forest	1.28	1057.77	105.36
5674	J-3029	817.32	Forest	0.88	1060.86	105.37
1358 5922	J-689 J-3169	974.91 974.39	Lakes Lakes	0.20 0.20	1218.58 1218.23	105.42 105.50
7677	J-4085	820.00	Forest	0.48	1063.91	105.53
4384	J-2308	816.00	Forest	0.08	1059.95	105.55
5820 5272	J-3113 J-2797	818.89 817.01	Forest Forest	0.88 0.48	1062.84 1061.11	105.55 105.61
UL1 L	J-2131	017.01	, orest	0.40	1001.11	103.01

					Calculated	
Node ID	Node Label	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
טו	Labei	(ft)	Zone	(gpm)	(ft)	(psi)
1570	J-778	974.01	Lakes	0.20	1218.23	105.66
2586 5271	J-1389 J-2796	817.22 816.71	Forest Forest	1.28 0.88	1061.60 1061.11	105.73 105.74
2395	J-1286	820.17	Forest	0.08	1064.63	105.76
5025 5024	J-2657 J-2656	973.40 973.35	Lakes Lakes	0.63 0.29	1218.03 1218.03	105.84 105.86
1772	J-907	816.90	Forest	0.08	1061.62	105.88
7035	J-3823	815.11	Forest	0.08	1059.85	105.89
7426 4002	J-4002 J-2164	816.06 816.08	Forest Forest	1.68 0.88	1060.83 1060.86	105.90 105.90
7346	J-3974	813.87	Forest	0.48	1058.74	105.94
1989	J-1047	819.68	Forest	0.08	1064.62	105.97 106.01
3119 2945	J-1686 J-1592	812.75 814.44	Forest Forest	0.08 0.68	1057.77 1059.53	106.01
1847	J-955	814.95	Forest	0.68	1060.08	106.06
2397 5234	J-1287 J-2775	819.45 812.42	Forest Forest	0.08 0.28	1064.63 1057.77	106.08 106.15
4607	J-2420	812.43	Forest	0.08	1057.81	106.13
822	J-465	815.46	Forest	0.28	1060.88	106.18
3120 6996	J-1687 J-3801	812.35 816.14	Forest Forest	0.08	1057.77 1061.62	106.18 106.20
1700	J-860	815.53	Forest	0.08	1061.05	106.22
2400	J-1289	819.08	Forest	0.08	1064.63	106.24
2975 6093	J-1604 J-3269	816.39 972.46	Forest Lakes	1.08 0.37	1061.94 1218.03	106.24 106.25
5743	J-3069	816.13	Forest	0.08	1061.72	106.26
1085 6997	J-583 J-3802	813.37 815.90	Forest Forest	0.08 0.48	1059.01 1061.62	106.28 106.31
223	J-3002 J-105	1077.20	Stewartsville	0.48	1322.91	106.31
3634	J-1982	816.00	Forest	1.88	1061.72	106.31
222 4855	J-104 J-2558	1077.17 813.16	Stewartsville Forest	0.11 0.28	1322.91 1059.01	106.32 106.37
7345	J-3973	812.87	Forest	0.28	1058.74	106.38
3708	J-2023	811.82	Forest	1.88	1057.81	106.43
2078 7169	J-1098 J-3896	972.01 818.39	Lakes Forest	0.20 0.28	1218.03 1064.63	106.44 106.53
4925	J-2598	813.69	Forest	0.08	1059.94	106.54
4926	J-2599	813.67	Forest	0.08	1059.94	106.55
3150 1657	J-1705 J-832	818.33 814.65	Forest Forest	0.08 0.88	1064.63 1061.02	106.56 106.59
7872	J-4135	814.67	Forest	0.68	1061.10	106.62
1767 4634	J-904 J-2436	815.38 814.34	Forest Forest	0.48 0.68	1061.84 1060.83	106.63 106.65
1966	J-1032	817.82	Forest	0.88	1064.63	106.03
5927	J-3172	812.87	Forest	0.28	1059.95	106.90
64 4945	J-24 J-2610	815.00 814.92	Forest Forest	0.68 0.08	1062.10 1062.10	106.91 106.94
5199	J-2754	817.35	Forest	0.08	1064.63	106.98
7036	J-3824	812.56	Forest	0.68	1059.85	106.99
4633 1194	J-2435 J-625	813.50 971.03	Forest Lakes	0.48 0.29	1060.83 1218.42	107.01 107.03
6733	J-3647	971.01	Lakes	0.20	1218.42	107.04
2103 1277	J-1111 J-663	813.64 817.18	Forest Forest	0.48 0.28	1061.05 1064.63	107.04 107.06
3168	J-1715	812.44	Forest	0.48	1059.94	107.08
3117	J-1685	812.38	Forest	1.08	1059.95	107.11
5920 7075	J-3168 J-3846	812.87 813.31	Forest Forest	0.88 0.08	1060.45 1061.07	107.12 107.20
3769	J-2054	811.88	Forest	1.88	1059.73	107.23
2782 6755	J-1505 J-3660	812.07	Forest Forest	0.68	1059.95	107.24
2783	J-3660 J-1506	812.03 812.00	Forest	0.88 1.08	1059.94 1059.95	107.26 107.28
1608	J-802	813.04	Forest	0.68	1061.02	107.29
8538 1831	J-4219 J-944	816.62 811.91	Forest Forest	0.48 0.08	1064.63 1059.94	107.30 107.31
47	J-13	814.02	Forest	0.68	1062.10	107.31
6828	J-3703	809.64	Forest	0.68	1057.80	107.37
7074 1512	J-3845 J-754	812.76 812.37	Forest Forest	0.08 0.48	1061.07 1060.74	107.43 107.46
6825	J-3701	810.38	Forest	0.08	1058.75	107.46
1600	J-797	812.65	Forest	0.68	1061.02	107.46
1765 1658	J-903 J-833	813.20 812.52	Forest Forest	0.88 0.88	1061.61 1061.02	107.47 107.51
1692	J-855	812.43	Forest	1.88	1061.03	107.55
1761 6829	J-900 J-3704	813.24 808.95	Forest Forest	0.08 0.28	1061.85 1057.80	107.56 107.67
3557	J-1939	809.23	Forest	0.08	1058.09	107.67
4615	J-2425	811.98	Forest	0.88	1060.85	107.67
6171 7553	J-3315 J-4049	811.85 812.15	Forest Forest	0.08 0.68	1060.74 1061.10	107.68 107.71
1865	J-967	812.63	Forest	0.68	1061.61	107.72
1688	J-852	812.04	Forest	0.08	1061.02	107.72
1599 7124	J-796 J-3873	812.00 812.00	Forest Forest	0.08	1061.02 1061.02	107.74 107.74
1607	J-801	812.00	Forest	0.08	1061.02	107.74
5919 4614	J-3167 J-2424	811.41 811.78	Forest Forest	1.08 0.28	1060.45 1060.85	107.75 107.76
6826	J-2424 J-3702	809.65	Forest	0.28	1058.75	107.76
2514	J-1348	811.90	Forest	0.08	1061.02	107.79
1881 7606	J-977 J-4063	811.67 808.33	Forest Forest	1.28 0.48	1060.83 1057.81	107.80 107.94
5739	J-3067	811.28	Forest	0.48	1060.85	107.98
4833	J-2545	811.42	Forest	0.08	1061.02	107.99
7359 7018	J-3978 J-3814	811.20 814.95	Forest Forest	0.48 0.08	1060.85 1064.62	108.01 108.02
2200	J-1173	808.00	Forest	0.48	1057.76	108.06
5345 4834	J-2840 J-2546	808.00 811.25	Forest Forest	0.48 0.08	1057.76 1061.02	108.06 108.07
4256	J-2266	811.84	Forest	2.29	1061.64	108.08

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
1173	J-616	811.84	Forest	0.08	1061.64	108.08
426	J-236	811.83	Forest	0.08	1061.64	108.08
4902 6476	J-2585 J-3495	811.79 807.77	Forest Forest	0.48 0.88	1061.64 1057.76	108.10 108.16
2541	J-1364	807.69	Forest	2.49	1057.78	108.20
6477 1682	J-3496 J-848	807.65 810.87	Forest Forest	0.48 0.88	1057.76 1061.02	108.21 108.23
5737	J-3066	810.61	Forest	0.88	1060.82	108.25
3841 427	J-2089 J-237	810.60 811.37	Forest Forest	0.88 0.48	1060.85 1061.64	108.27 108.28
5736	J-3065	810.55	Forest	0.48	1060.82	108.28
8481	J-4192	810.78	Forest	0.68	1061.07	108.29
1774 3770	J-908 J-2055	811.29 809.32	Forest Forest	0.28 1.68	1061.61 1059.73	108.30 108.34
7795	J-4119	812.95	Forest	1.28	1063.38	108.35
5274 1377	J-2798 J-692	807.34 807.33	Forest Forest	0.28 0.28	1057.80 1057.80	108.36 108.37
3915	J-2125	809.46	Forest	1.68	1059.95	108.37
5502	J-2929	807.30	Forest	0.28	1057.80	108.38
2644 8036	J-1423 J-4160	807.25 813.94	Forest Forest	0.88	1057.93 1064.62	108.45 108.46
7465	J-4016	810.23	Forest	0.08	1061.05	108.52
2881 624	J-1561 J-358	813.79 1072.06	Forest Stewartsville	0.08 0.11	1064.62 1322.92	108.52 108.53
1775	J-909	810.71	Forest	0.88	1061.60	108.55
5947	J-3184	966.36	Lakes	0.29	1217.30	108.57
1188 6762	J-622 J-3664	806.83 812.00	Forest Forest	0.88 1.08	1057.80 1062.98	108.58 108.58
5014	J-2650	808.71	Forest	2.29	1059.73	108.60
1864 8022	J-966 J-4159	810.49 810.35	Forest Forest	1.48 1.08	1061.61 1061.66	108.65 108.73
6991	J-3798	810.29	Forest	1.68	1061.64	108.75
1132	J-600	965.89	Lakes	2.24	1217.30	108.77
1683 582	J-849 J-333	809.58 810.14	Forest Forest	0.08 0.48	1061.02 1061.64	108.78 108.81
623	J-357	1071.40	Stewartsville	0.26	1322.92	108.82
2929 1689	J-1585 J-853	809.89 809.22	Forest Forest	1.48 0.88	1061.62 1061.02	108.91 108.94
5067	J-2682	812.28	Forest	0.08	1064.09	108.95
1691	J-854	809.16	Forest	0.08 0.68	1061.04	108.98 108.99
1759 2540	J-899 J-1363	807.82 805.78	Forest Forest	0.88	1059.72 1057.78	108.99
1013	J-553	812.08	Forest	0.28	1064.09	109.03
7641 6993	J-4076 J-3799	809.04 809.35	Forest Forest	0.08 2.09	1061.07 1061.42	109.04 109.06
6347	J-3420	807.50	Forest	0.68	1059.72	109.13
1604 4078	J-799 J-2198	808.81 811.81	Forest Forest	0.08 0.28	1061.04 1064.10	109.13 109.15
7019	J-3815	812.32	Forest	0.48	1064.62	109.15
6795	J-3684	808.73	Forest	0.08	1061.04	109.17
5619 5561	J-2996 J-2963	805.38 812.22	Forest Forest	0.08 0.48	1057.78 1064.62	109.20 109.20
3758	J-2049	809.13	Forest	0.28	1061.72	109.28
7064 180	J-3839 J-88	811.48 810.37	Forest Forest	0.08 0.08	1064.07 1062.98	109.29 109.29
5813	J-3109	811.41	Forest	0.48	1064.10	109.33
6831 6509	J-3705 J-3514	808.12 1070.25	Forest Stewartsville	0.08 0.11	1060.83 1322.97	109.33 109.34
282	J-144	805.67	Forest	0.28	1058.66	109.46
6765	J-3666	807.05	Forest Forest	0.48	1060.08	109.48
7051 7831	J-3832 J-4129	806.80 806.79	Forest	2.29 0.68	1059.85 1059.85	109.48 109.49
6199	J-3331	807.66	Forest	1.08	1060.83	109.54
2104 1758	J-1112 J-898	807.87 806.54	Forest Forest	0.88 1.28	1061.05 1059.72	109.54 109.54
650	J-374	810.87	Forest	0.08	1064.07	109.55
1605 6994	J-800 J-3800	807.74 808.05	Forest Forest	0.68 0.08	1061.04 1061.42	109.59 109.62
2974	J-1603	808.54	Forest	1.08	1061.94	109.63
7000	J-3804	809.88	Forest	0.08	1063.38	109.68
281 4964	J-143 J-2621	805.12 804.19	Forest Forest	0.28 0.28	1058.66 1057.76	109.69 109.71
7948	J-4149	807.54	Forest	0.28	1061.12	109.71
4911 5560	J-2590 J-2962	1069.28 810.98	Stewartsville Forest	0.11 0.08	1322.91 1064.62	109.74 109.74
783	J-446	807.25	Forest	0.08	1060.93	109.76
4048 8479	J-2185 J-4191	807.91 807.41	Forest Forest	0.88 0.28	1061.61 1061.12	109.76 109.77
7227	J-3924	804.81	Forest	0.28	1058.64	109.82
1098	J-589	1068.97	Stewartsville	0.26	1322.91	109.87
1793 7688	J-920 J-4087	807.65 806.05	Forest Forest	0.48 1.08	1061.60 1060.08	109.87 109.91
6764	J-3665	806.01	Forest	0.88	1060.08	109.92
6200 4850	J-3332 J-2555	806.72 804.53	Forest Forest	0.88 0.28	1060.83 1058.66	109.94 109.95
6678	J-3615	810.46	Forest	0.68	1064.60	109.96
375 4124	J-203 J-2217	804.46 807.44	Forest Forest	0.08 1.88	1058.66 1061.66	109.98 109.99
2706	J-1460	809.75	Forest	0.28	1064.07	110.04
993	J-544	1068.63	Stewartsville	0.11	1322.97	110.04
6620 6677	J-3580 J-3614	804.26 810.22	Forest Forest	0.08 0.88	1058.64 1064.60	110.06 110.06
6999	J-3803	808.91	Forest	0.68	1063.38	110.10
5799 4965	J-3101 J-2622	804.94 803.08	Forest Forest	0.08 0.48	1059.53 1057.76	110.15 110.19
6796	J-3685	806.27	Forest	0.08	1061.04	110.23
792	J-451	805.97	Forest	0.28	1060.83	110.26
5800 3988	J-3102 J-2157	804.62 802.79	Forest Forest	0.68 0.88	1059.53 1057.76	110.29 110.31
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Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
6696	J-3626	806.55	Forest	1.88	1061.61	110.35
6695 6621	J-3625 J-3581	806.40 803.31	Forest Forest	0.08 0.08	1061.61 1058.64	110.42 110.47
6405	J-3454	806.43	Forest	0.28	1061.85	110.51
6312	J-3399	805.35	Forest	0.08	1060.91	110.57
6624 7827	J-3583 J-4127	804.23 808.72	Forest Forest	0.48 0.68	1060.08 1064.62	110.70 110.72
4077	J-2197	808.18	Forest	0.28	1064.10	110.72
5514	J-2936	804.86	Forest	0.28	1060.84	110.75
7052	J-3833	803.81	Forest	0.68	1059.85	110.78
4042 5513	J-2181 J-2935	804.80 804.40	Forest Forest	1.48 0.88	1060.91 1060.84	110.81 110.95
2391	J-1284	808.00	Forest	0.08	1064.63	111.03
2774	J-1500	808.00	Forest	0.28	1064.63	111.03
7402	J-3994	801.93	Forest	0.28	1058.64	111.07
1762 6406	J-901 J-3455	805.03 805.03	Forest Forest	0.88 0.48	1061.84 1061.85	111.11 111.11
4522	J-2370	807.78	Forest	0.08	1064.63	111.13
6623	J-3582	803.22	Forest	0.88	1060.08	111.13
6629	J-3586	802.14	Forest	0.48	1059.22	111.23
2199 2379	J-1172 J-1277	800.67 807.45	Forest Forest	0.68 0.48	1057.76 1064.63	111.23 111.27
6630	J-3587	801.98	Forest	0.68	1059.22	111.30
7452	J-4010	803.46	Forest	0.08	1060.84	111.36
1784	J-914	802.40	Forest	0.48	1060.08	111.49
2985 983	J-1609 J-539	943.54 800.01	Fox_Run Forest	1.28 0.48	1201.27 1057.82	111.51 111.54
2906	J-1574	803.02	Forest	1.08	1060.99	111.61
5281	J-2802	960.00	Lakes	1.41	1218.03	111.64
5282	J-2803	960.00	Lakes	0.81	1218.03	111.64
7084 1610	J-3851 J-803	958.94 806.33	Lakes Forest	0.20 1.08	1217.08 1064.62	111.68 111.75
6039	J-3235	801.77	Forest	0.68	1064.62	111.75
4326	J-2288	802.40	Forest	1.48	1060.84	111.81
6557	J-3543	799.43	Forest	0.48	1058.02	111.88
6972 8509	J-3787 J-4207	802.20 804.19	Forest Forest	0.28 0.68	1060.86 1062.90	111.91 111.93
6038	J-3234	801.35	Forest	0.48	1060.20	111.99
1611	J-804	805.70	Forest	0.08	1064.62	112.02
6325	J-3407	798.75	Forest	1.48	1057.79	112.08
5707 987	J-3048 J-541	805.52 800.00	Forest Forest	0.48 0.08	1064.62 1059.12	112.10 112.11
5058	J-2677	800.00	Forest	0.08	1059.12	112.11
7146	J-3885	799.58	Forest	1.08	1058.74	112.13
2779	J-1503	801.72	Forest	1.28	1060.96	112.16
3099 3100	J-1673 J-1674	804.00 804.00	Forest Forest	0.48 0.48	1063.30 1063.30	112.19 112.19
6410	J-3457	804.00	Forest	0.48	1063.30	112.19
4549	J-2386	799.30	Forest	0.48	1058.74	112.25
6556	J-3542	798.57	Forest	0.68	1058.02	112.25
7193 7194	J-3906 J-3907	958.74 958.73	Lakes Lakes	0.20 0.20	1218.20 1218.20	112.26 112.26
1307	J-677	959.08	Lakes	0.20	1218.61	112.29
823	J-466	801.30	Forest	0.08	1060.86	112.30
1755	J-896	798.20	Forest	0.88	1057.81	112.32
5995 6324	J-3210 J-3406	958.93 798.04	Lakes Forest	0.20 0.48	1218.61 1057.79	112.35 112.38
881	J-495	1063.14	Stewartsville	0.48	1322.93	112.30
3213	J-1742	958.34	Lakes	0.20	1218.15	112.41
7595	J-4059	800.33	Forest	0.88	1060.21	112.44
4548 5134	J-2385 J-2718	798.86 804.06	Forest Forest	0.28 0.28	1058.74	112.44 112.50
7821	J-4126	798.66	Forest	0.28	1064.07 1058.74	112.50
6444	J-3477	958.05	Lakes	0.20	1218.15	112.53
2487	J-1334	797.65	Forest	0.08	1057.79	112.55
3214 7732	J-1743 J-4102	957.99 800.65	Lakes Forest	0.20 0.28	1218.15 1060.82	112.56 112.56
1626	J-4102 J-814	800.83	Forest	0.28	1060.82	112.56
2773	J-1499	804.40	Forest	0.88	1064.63	112.59
4889	J-2578	799.67	Forest	0.28	1059.93	112.61
1625	J-813	800.72	Forest	0.08	1061.01	112.61
651 4146	J-375 J-2227	803.72 803.01	Forest Forest	0.28 0.48	1064.07 1063.38	112.64 112.65
6319	J-3403	797.33	Forest	0.28	1057.79	112.69
4888	J-2577	799.47	Forest	0.08	1059.93	112.69
4988	J-2635	802.84	Forest	0.88	1063.38	112.72
4987 3307	J-2634 J-1799	802.82 957.55	Forest Lakes	0.48 0.20	1063.38 1218.15	112.73 112.75
6226	J-1799 J-3348	957.55 957.47	Lakes	0.20	1218.15	112.75
6403	J-3453	957.54	Lakes	0.20	1218.47	112.89
1904	J-992	798.40	Forest	0.48	1059.53	112.98
8060 5726	J-4162 J-3059	956.87 802.05	Lakes	0.20	1218.02	112.99 113.07
5726 3913	J-3059 J-2124	802.05 956.75	Forest Lakes	0.08 0.72	1063.38 1218.15	113.07
1832	J-945	798.54	Forest	0.48	1059.94	113.10
1131	J-599	956.00	Lakes	0.20	1217.47	113.13
6225	J-3347	956.68	Lakes	0.20	1218.21	113.15
2599 7658	J-1397 J-4080	1061.38 801.76	Stewartsville Forest	2.34 0.08	1322.92 1063.38	113.16 113.19
6394	J-3448	799.99	Forest	0.08	1061.62	113.19
7071	J-3843	796.76	Forest	0.68	1058.43	113.21
6090	J-3267	956.57	Lakes	0.20	1218.29	113.23
6744 6745	J-3653 J-3654	796.00 796.00	Forest Forest	1.08 0.28	1057.76 1057.76	113.25 113.25
7514	J-4033	796.00	Forest	0.48	1057.76	113.25
3026	J-1627	798.10	Forest	1.48	1059.87	113.25
1794	J-921	799.81	Forest	0.88	1061.59	113.26
2010 3831	J-1061 J-2084	799.72 798.07	Forest Forest	1.28 0.88	1061.57 1059.95	113.29 113.31
5001	0 2004	130.01	1 01031	0.00	1003.30	113.31

					Calculated	
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
1108 1240	J-593 J-648	1061.04 956.44	Stewartsville Lakes	0.11 0.20	1322.94 1218.47	113.31 113.37
6880	J-3734	1060.67	Stewartsville	1.99	1322.92	113.46
5245	J-2782	955.18	Lakes	0.20	1217.47	113.48
7072 2285	J-3844 J-1223	796.12 799.53	Forest Forest	1.08 1.88	1058.43 1061.85	113.49 113.49
6091	J-3268	955.96	Lakes	0.20	1218.29	113.50
512	J-289	955.64	Lakes	0.20	1218.03	113.52
2488 4898	J-1335 J-2583	795.39 1060.52	Forest Stewartsville	0.68 0.11	1057.79 1322.94	113.53 113.54
4335	J-2291	799.24	Forest	1.48	1061.72	113.56
3793	J-2066	799.03	Forest Lakes	0.88 0.20	1061.62 1217.87	113.61
1201 4779	J-629 J-2515	955.27 797.25	Forest	1.08	1060.08	113.61 113.71
8679	J-4225	800.00	Forest	0.00	1062.93	113.76
4780 4208	J-2516 J-2251	796.94 796.94	Forest Forest	0.48 0.88	1060.08 1060.08	113.85 113.85
2687	J-1448	798.42	Forest	1.08	1061.63	113.88
8415	J-4177	796.70	Forest	0.68	1059.95	113.90
6785 6251	J-3678 J-3364	794.43 954.46	Forest Lakes	0.28 0.20	1057.83 1217.87	113.96 113.96
6053	J-3244	796.72	Forest	1.88	1060.16	113.98
5727	J-3060	799.86	Forest	0.48	1063.38	114.01
3905 5646	J-2120 J-3012	799.84 795.79	Forest Forest	0.48 0.48	1063.38 1059.53	114.02 114.11
5084	J-2691	800.86	Forest	0.08	1064.61	114.11
5647	J-3013	795.66	Forest	0.08	1059.53	114.16
1785 3480	J-915 J-1896	796.13 954.08	Forest Lakes	0.88 1.32	1060.08 1218.03	114.20 114.20
2697	J-1454	796.88	Forest	0.88	1060.83	114.20
1707	J-865	797.01	Forest	1.28	1061.01	114.22
6052	J-3243 J-3636	796.13	Forest Forest	0.48 0.48	1060.16 1059.96	114.24 114.24
6714 6713	J-3635	795.91 795.88	Forest	0.48	1059.96	114.24
7713	J-4096	796.33	Forest	0.08	1060.45	114.27
3051	J-1643	953.49	Lakes	0.89	1218.03	114.45
749 3050	J-429 J-1642	953.72 953.37	Lakes Lakes	0.20 0.20	1218.35 1218.03	114.49 114.50
2840	J-1539	796.90	Forest	0.88	1061.62	114.53
6784	J-3677	793.07	Forest	0.68	1057.83	114.55
1037 32	J-563 J-3	799.84 799.82	Forest Forest	0.48 0.28	1064.61 1064.61	114.55 114.56
5406	J-2876	953.14	Lakes	0.20	1218.03	114.60
1685	J-850	799.15	Forest	1.28	1064.05	114.61
6233 925	J-3352 J-512	953.16 952.00	Lakes Lakes	0.20 0.20	1218.23 1217.08	114.68 114.69
2378	J-1276	799.55	Forest	0.20	1064.63	114.69
7983	J-4155	796.49	Forest	1.28	1061.62	114.71
3871 6836	J-2103 J-3708	796.37 796.19	Forest Forest	0.48 1.48	1061.62 1061.61	114.76 114.84
6234	J-3353	952.73	Lakes	0.20	1218.23	114.87
1837	J-948	799.07	Forest	0.28	1064.60	114.89
2554	J-1372 J-3445	796.39	Forest	0.48	1061.93	114.89
6389 3363	J-3445 J-1831	952.58 952.46	Lakes Lakes	0.20 1.15	1218.15 1218.03	114.90 114.90
4163	J-2235	795.18	Forest	0.48	1060.86	114.95
7476	J-4020	1057.15	Stewartsville Forest	3.28 0.08	1322.91	114.98
61 4664	J-22 J-2451	797.10 952.24	Lakes	0.20	1062.90 1218.03	115.00 115.00
6717	J-3638	796.08	Forest	0.48	1061.95	115.03
1967 2553	J-1033	798.72	Forest Forest	1.08 0.48	1064.61	115.04
1756	J-1371 J-897	796.02 791.89	Forest	0.48	1061.93 1057.81	115.05 115.05
3362	J-1830	952.09	Lakes	0.29	1218.03	115.06
4665	J-2452	952.00	Lakes	0.20	1218.03	115.10 115.15
62 6223	J-23 J-3346	796.75 952.19	Forest Lakes	0.08 0.20	1062.90 1218.35	115.15
836	J-472	794.62	Forest	0.28	1060.83	115.18
1182	J-619	952.32	Lakes	0.20	1218.60	115.21
6716 5511	J-3637 J-2934	795.49 793.73	Forest Forest	0.68	1061.95 1060.24	115.28 115.31
6222	J-3345	951.71	Lakes	0.20	1218.35	115.36
6388	J-3444	951.48	Lakes	0.20	1218.15	115.38
6308 4471	J-3397 J-2341	951.34 794.07	Lakes Forest	0.20 1.28	1218.03 1060.83	115.39 115.42
7690	J-4088	794.82	Forest	1.88	1061.61	115.43
296	J-152	951.55	Lakes	0.20	1218.35	115.43
297 4766	J-153 J-2508	951.51 794.01	Lakes Forest	0.29 0.88	1218.35 1060.85	115.45 115.45
4470	J-2340	793.89	Forest	0.48	1060.83	115.49
1280	J-664	793.28	Forest	0.48	1060.24	115.50
4672 3262	J-2456 J-1773	793.88 793.88	Forest Forest	1.68 0.08	1060.86 1060.86	115.51 115.51
2068	J-1094	951.04	Lakes	0.20	1218.03	115.51
4765	J-2507	793.80	Forest	0.48	1060.85	115.54
4529 4530	J-2374 J-2375	1055.80 1055.73	Stewartsville Stewartsville	0.11 0.11	1322.91 1322.91	115.57 115.60
7837	J-2375 J-4130	793.58	Forest	1.48	1060.84	115.63
511	J-288	950.72	Lakes	0.20	1218.03	115.65
7493	J-4026	793.50	Forest	0.48	1060.82	115.66
2698 1449	J-1455 J-726	793.49 792.98	Forest Forest	0.48 0.28	1060.83 1060.38	115.67 115.69
7277	J-3946	795.75	Forest	1.68	1063.30	115.76
5018	J-2652	794.04	Forest	0.08	1061.68	115.79
5957 5669	J-3189 J-3026	950.97 950.38	Lakes Lakes	0.20 0.29	1218.60 1218.03	115.79 115.80
2788	J-1509	790.12	Forest	1.28	1057.78	115.80
7716	J-4097	792.14	Forest	0.68	1059.96	115.87
7320	J-3962	789.94	Forest	0.08	1057.79	115.89

					Calculated	
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
2265	J-1211	789.90	Forest	0.08	1057.76	115.89
6519	J-3520	789.92	Forest	0.68	1057.79	115.90
6488	J-3502	950.46	Lakes	0.20	1218.37	115.91
4386 3492	J-2309 J-1903	791.58 950.03	Forest Lakes	0.08 1.41	1059.53	115.93 115.95
731	J-420	950.37	Lakes	0.20	1218.03 1218.37	115.95
4972	J-2626	791.41	Forest	0.28	1059.53	116.00
5019	J-2653	793.54	Forest	1.08	1061.68	116.01
3543	J-1931	795.11	Forest	0.48	1063.30	116.03
6520 7042	J-3521 J-3827	789.60 796.33	Forest Forest	0.68 0.08	1057.79 1064.63	116.04 116.08
4735	J-2491	792.50	Forest	0.08	1060.82	116.09
5063	J-2680	949.67	Lakes	0.37	1218.03	116.11
1450	J-727	792.00	Forest	0.08	1060.37	116.11
6173 5062	J-3316 J-2679	792.00 949.65	Forest Lakes	0.28 0.89	1060.37 1218.03	116.11 116.11
1686	J-851	795.68	Forest	0.48	1064.07	116.12
846	J-477	1054.52	Stewartsville	0.40	1322.92	116.12
4488	J-2351	1054.49	Stewartsville	0.11	1322.92	116.13
2876 7600	J-1558 J-4061	792.37 794.70	Forest Forest	0.48 0.08	1060.86 1063.30	116.16 116.21
4736	J-2492	792.16	Forest	0.88	1060.82	116.21
7162	J-3894	949.35	Lakes	1.67	1218.03	116.24
1861	J-964	794.40	Forest	0.48	1063.37	116.37
3607	J-1967	794.28	Forest	0.08	1063.37	116.42
6837 4236	J-3709 J-2260	792.41 795.45	Forest Forest	1.28 1.28	1061.61 1064.79	116.47 116.53
4236 2754	J-1489	795.45 795.14	Forest	1.28	1064.79	116.53
8463	J-4183	948.75	Lakes	0.20	1218.35	116.64
4180	J-2241	788.00	Forest	1.48	1057.81	116.74
6279	J-3380	788.00	Forest	0.48	1057.81	116.74
7378 6365	J-3984 J-3431	793.28 793.28	Forest Forest	0.08 1.28	1063.37 1063.38	116.86 116.86
4848	J-2554	789.23	Forest	0.08	1059.53	116.95
6437	J-3473	947.81	Lakes	0.37	1218.15	116.96
2252	J-1203	790.49	Forest	0.68	1060.85	116.97
3609	J-1968	947.76	Lakes	0.20	1218.15	116.98
3028 3029	J-1628 J-1629	947.72 947.72	Lakes Lakes	0.20 0.20	1218.15 1218.15	117.00 117.00
6013	J-3220	947.72	Lakes	0.20	1218.03	117.00
6436	J-3472	947.60	Lakes	0.37	1218.15	117.05
6364	J-3430	792.67	Forest	0.08	1063.38	117.13
4415	J-2318	788.80	Forest	0.08	1059.53	117.13
3281 33	J-1785 J-4	947.42 793.71	Lakes Forest	0.63 0.68	1218.15 1064.49	117.13 117.15
3124	J-1689	788.74	Forest	0.08	1059.53	117.15
5520	J-2939	789.97	Forest	0.68	1060.80	117.18
2844	J-1541	1052.00	Stewartsville	3.44	1322.86	117.19
4212 4728	J-2253 J-2487	789.90 1052.00	Forest Stewartsville	1.68 0.11	1060.80 1322.91	117.21 117.21
4728 4729	J-2487 J-2488	1052.00	Stewartsville	0.40	1322.91	117.21
5187	J-2748	1051.94	Stewartsville	0.26	1322.93	117.24
700	J-403	1051.97	Stewartsville	0.11	1322.97	117.25
5521	J-2940	789.73	Forest	0.28	1060.80	117.28
1903 2479	J-991 J-1330	788.42 788.35	Forest Forest	0.08 0.08	1059.53 1059.53	117.30 117.32
5095	J-2697	789.13	Forest	0.08	1060.34	117.34
1838	J-949	793.34	Forest	0.48	1064.60	117.36
6807	J-3691	791.96	Forest	0.88	1063.30	117.40
882 2478	J-496	1051.52 788 12	Stewartsville	0.11	1322.93	117.42
2478 5320	J-1329 J-2825	788.12 791.78	Forest Forest	0.08 0.48	1059.53 1063.37	117.43 117.51
3579	J-1952	786.11	Forest	0.08	1057.76	117.53
7828	J-4128	792.94	Forest	0.28	1064.62	117.54
6875	J-3731	946.82	Lakes	0.37	1218.52	117.55
5458 2069	J-2905	789.09 946.25	Forest	0.48 0.20	1060.84	117.58 117.59
4082	J-1095 J-2200	788.98	Lakes Forest	0.20	1218.03 1060.91	117.59
2398	J-1288	792.65	Forest	0.68	1064.63	117.67
5094	J-2696	788.35	Forest	0.08	1060.34	117.68
4627	J-2431	787.50	Forest	0.48	1059.53	117.69
1239 5319	J-647 J-2824	946.39 791.23	Lakes Forest	0.20 0.68	1218.52 1063.37	117.74 117.74
4628	J-2432	787.35	Forest	0.08	1059.53	117.74
3544	J-1932	791.01	Forest	0.88	1063.30	117.81
6810	J-3693	789.32	Forest	0.68	1061.61	117.81
5457	J-2904	788.47	Forest	0.08	1060.84	117.84
5695 2880	J-3041 J-1560	785.35 792.00	Forest Forest	0.08 1.48	1057.76 1064.62	117.86 117.95
2880 1981	J-1560 J-1042	792.00 791.97	Forest	0.08	1064.62	117.95
982	J-538	785.06	Forest	0.08	1057.82	118.01
7770	J-4112	787.74	Forest	0.88	1060.80	118.14
328	J-173	945.22	Lakes	0.29	1218.38	118.18
1706	J-864 J-3692	787.71	Forest Forest	0.88	1061.01	118.24 118.25
6809 4749	J-3692 J-2499	788.31 791.26	Forest	0.68 0.08	1061.61 1064.62	118.25
7199	J-3910	791.18	Forest	0.08	1064.63	118.31
1862	J-965	789.83	Forest	1.28	1063.35	118.34
5783	J-3092	784.20	Forest	0.68	1057.82	118.38
6452	J-3481	944.36	Lakes	0.20	1218.15	118.45
6088 5424	J-3266 J-2886	944.43 787.73	Lakes Forest	0.20 0.08	1218.24 1061.63	118.46 118.50
3327	J-1810	790.70	Forest	0.08	1064.62	118.51
6087	J-3265	944.12	Lakes	0.20	1218.24	118.60
5423	J-2885	787.43	Forest	0.68	1061.63	118.63
2686 6453	J-1447 J-3482	787.35 943.85	Forest Lakes	0.28	1061.63	118.67
6453 7327	J-3482 J-3965	943.85 943.82	Lakes Lakes	0.37 0.20	1218.15 1218.15	118.68 118.69
7863	J-4134	784.38	Forest	0.68	1058.74	118.71

Nada	Nada	Elevation	D	Damand	Calculated	D
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
327	J-172	944.01	Lakes	0.20	1218.38	118.71
1293 7316	J-672 J-3961	783.42 943.51	Forest Lakes	0.08 0.20	1057.83 1218.15	118.73 118.82
7316 5911	J-3961 J-3163	941.90	Lakes	0.20	1216.70	118.82
6565	J-3548	783.01	Forest	0.08	1057.83	118.90
2428	J-1301	943.74	Lakes Forest	0.20	1218.60	118.92 118.93
7299 4209	J-3955 J-2252	786.73 785.21	Forest	0.68 1.28	1061.63 1060.11	118.93
6384	J-3442	943.23	Lakes	0.29	1218.15	118.94
1827	J-942	789.63	Forest	0.88	1064.62	118.97
7758 3340	J-4107 J-1817	788.36 943.09	Forest Lakes	0.68 0.37	1063.38 1218.15	118.99 119.00
1513	J-755	785.54	Forest	0.08	1060.66	119.03
6142	J-3298	785.49	Forest	0.28	1060.66	119.05
5259 964	J-2790 J-530	942.66 941.46	Lakes Lakes	0.63 0.37	1218.03 1216.88	119.14 119.16
5981	J-3202	943.08	Lakes	0.20	1218.61	119.21
5276	J-2799	784.38	Forest	1.08	1060.11	119.30
3621 6343	J-1974 J-3418	942.27 941.09	Lakes Lakes	0.20 0.20	1218.03 1216.88	119.31 119.32
5277	J-2800	784.28	Forest	0.68	1060.11	119.34
2453	J-1315	787.45	Forest	0.28	1063.48	119.43
943 4243	J-520 J-2261	942.52 784.71	Lakes Forest	0.20 1.28	1218.61 1060.84	119.45 119.47
3341	J-1818	942.00	Lakes	0.46	1218.15	119.47
2719	J-1467	784.62	Forest	1.48	1060.83	119.50
2780 1216	J-1504 J-637	784.72 940.28	Forest Lakes	0.68 0.29	1060.96 1216.70	119.52 119.59
7079	J-3848	940.43	Lakes	0.29	1216.98	119.65
5247	J-2783	784.27	Forest	1.48	1060.86	119.67
2062 2061	J-1091 J-1090	786.84 786.78	Forest Forest	0.08 0.08	1063.52 1063.48	119.71 119.71
573	J-328	941.24	Lakes	0.55	1218.03	119.75
7644	J-4077	784.00	Forest	0.28	1060.83	119.77
6821 3654	J-3699 J-1993	786.51 786.46	Forest Forest	0.68 0.68	1063.38 1063.38	119.79 119.81
5692	J-3039	783.76	Forest	0.68	1060.80	119.87
2074	J-1097	786.18	Forest	0.08	1063.44	119.95
5248 5693	J-2784 J-3040	783.27 782.91	Forest Forest	0.48 0.28	1060.86 1060.80	120.10 120.23
54	J-18	784.94	Forest	0.08	1062.86	120.25
5860	J-3135	940.19	Lakes	0.20	1218.13	120.25
4033	J-2177	782.87	Forest	0.88	1060.81	120.25
6641 7733	J-3593 J-4103	780.21 782.62	Forest Forest	1.48 0.08	1058.17 1060.82	120.26 120.37
53	J-17	784.65	Forest	1.08	1062.86	120.37
7559 701	J-4050 J-404	782.74 1044.58	Forest Stewartsville	0.88 0.11	1060.97 1322.97	120.38 120.45
1550	J-770	939.60	Lakes	0.20	1218.13	120.43
690	J-397	939.92	Lakes	0.20	1218.60	120.57
2532 7080	J-1359 J-3849	939.89 938.22	Lakes Lakes	0.20 0.20	1218.60 1216.98	120.58 120.61
2483	J-1332	939.81	Lakes	0.20	1218.60	120.62
3036	J-1633	939.75	Lakes	0.20	1218.60	120.65
6543 293	J-3534 J-150	783.98 938.96	Forest Lakes	0.68 0.20	1062.86 1217.88	120.66 120.67
5760	J-3079	778.78	Forest	0.88	1057.81	120.72
294 158	J-151 J-77	938.60 937.62	Lakes Lakes	0.20 0.20	1217.88 1216.98	120.83 120.87
6866	J-3725	781.59	Forest	0.48	1060.97	120.88
7711	J-4095	937.59	Lakes	0.20	1216.98	120.88
1856 5761	J-961 J-3080	782.45 778.39	Forest Forest	0.88 0.48	1061.84 1057.81	120.88 120.89
3191	J-1729	939.10	Lakes	0.20	1218.60	120.93
370	J-200	781.38	Forest	0.08	1060.92	120.94
369 7636	J-199 J-4074	781.34 938.53	Forest Lakes	0.68 0.20	1060.92 1218.15	120.96 120.98
5305	J-2816	783.40	Forest	1.28	1063.08	121.01
3160	J-1711	938.34	Lakes	0.37	1218.15	121.06
418 6242	J-231 J-3358	937.07 784.69	Lakes Forest	0.20 0.28	1216.98 1064.62	121.10 121.11
6419	J-3462	783.44	Forest	0.28	1063.39	121.12
5683	J-3034	780.92	Forest	0.28	1060.92	121.14
6867 1788	J-3726 J-917	780.96 780.10	Forest Forest	0.48 0.88	1060.97 1060.12	121.15 121.15
4043	J-2182	780.88	Forest	1.68	1060.91	121.16
6271	J-3375	937.35	Lakes	0.20	1217.92	121.39
6420 3159	J-3463 J-1710	782.74 937.48	Forest Lakes	0.28 0.20	1063.39 1218.15	121.42 121.43
5606	J-2989	937.14	Lakes	4.42	1217.88	121.46
6642 6243	J-3594 J-3359	777.41	Forest	1.48 0.08	1058.17 1064.62	121.47 121.48
605	J-346	783.85 937.08	Forest Lakes	0.20	1217.88	121.49
4877	J-2570	779.74	Forest	0.08	1060.82	121.61
5304 1317	J-2815 J-680	781.81 778.46	Forest Forest	0.88 0.08	1063.08 1060.02	121.69 121.82
1257	J-653	936.34	Lakes	0.08	1217.92	121.82
5765	J-3082	778.91	Forest	0.08	1060.49	121.83
572 5986	J-327 J-3205	936.43 936.62	Lakes Lakes	0.20 0.20	1218.03 1218.60	121.84 122.00
1738	J-885	779.61	Forest	0.20	1061.60	122.00
5399	J-2872	777.88	Forest	0.08	1060.02	122.07
1289 7365	J-669 J-3979	935.75 782.33	Lakes Forest	0.20 0.08	1217.91 1064.62	122.07 122.14
5915	J-3165	935.57	Lakes	0.20	1217.91	122.14
5729	J-3061	1040.62	Stewartsville	0.11	1322.96	122.16
7667 4876	J-4083 J-2569	779.33 778.13	Forest Forest	0.68 0.08	1061.70 1060.82	122.16 122.31
4083	J-2201	778.08	Forest	0.68	1060.91	122.37

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
1787	J-916	777.17	Forest	0.08	1060.13	122.43
691 1102	J-398 J-591	935.38 935.32	Lakes Lakes	0.29 0.20	1218.60 1218.60	122.54 122.56
4292	J-2278	780.00	Forest	1.28	1063.37	122.60
5157	J-2731	780.00	Forest	0.08	1063.37	122.60
5158	J-2732	780.00	Forest	0.88	1063.37	122.60 122.60
7323 1816	J-3963 J-935	780.00 774.43	Forest Forest	0.48 0.68	1063.37 1057.81	122.60
6690	J-3622	780.00	Forest	0.68	1063.38	122.61
6691 3283	J-3623 J-1786	780.00 779.92	Forest Forest	0.48 0.48	1063.38 1063.38	122.61 122.64
5685	J-3035	777.39	Forest	1.08	1060.91	122.67
3240	J-1759	776.60	Forest	0.48	1060.13	122.67
4816	J-2535	776.52	Forest	0.68	1060.13 1322.96	122.70 122.71
857 4563	J-483 J-2394	1039.33 777.82	Stewartsville Forest	0.11 0.88	1061.60	122.71
1855	J-960	777.63	Forest	0.88	1061.83	122.96
5972	J-3197	934.35	Lakes	0.20	1218.60	122.98
509 2720	J-287 J-1468	1038.54 776.33	Stewartsville Forest	0.26 0.08	1322.91 1060.83	123.03 123.09
2735	J-1477	778.82	Forest	0.48	1063.38	123.12
1815	J-934	773.19	Forest	1.08 0.08	1057.81	123.14
1292 2672	J-671 J-1439	773.20 776.95	Forest Forest	0.08	1057.84 1061.60	123.15 123.15
5435	J-2892	778.71	Forest	0.68	1063.38	123.16
7666 7763	J-4082	776.96	Forest	0.48	1061.70	123.19
8413	J-4109 J-4176	778.64 775.00	Forest Forest	1.48 0.08	1063.50 1060.01	123.25 123.31
1388	J-693	772.78	Forest	0.28	1057.81	123.32
5394	J-2869 J-3563	772.75 772.72	Forest Forest	1.28 0.08	1057.81 1057.84	123.33 123.36
6591 4309	J-2284	1037.64	Stewartsville	1.12	1322.92	123.42
7541	J-4044	777.92	Forest	0.88	1063.39	123.51
6456 4565	J-3484 J-2395	777.43 775.34	Forest Forest	0.08	1062.90 1060.83	123.51 123.52
6729	J-3645	777.87	Forest	0.88	1063.38	123.52
1520	J-757	774.96	Forest	0.08	1060.49	123.54
3078 3079	J-1660 J-1661	772.20 772.19	Forest Forest	0.28 0.08	1057.81 1057.81	123.57 123.58
3694	J-2015	932.49	Lakes	0.98	1218.15	123.59
4566	J-2396	775.15	Forest	0.48	1060.83	123.60
7115 5151	J-3868 J-2727	777.58 777.37	Forest Forest	0.08 0.48	1063.38 1063.37	123.65 123.74
5152	J-2728	777.32	Forest	0.88	1063.37	123.76
6728	J-3644	777.28	Forest	0.28	1063.38	123.78
6455 4441	J-3483 J-2325	776.75 776.91	Forest Forest	0.48 2.29	1062.90 1063.07	123.80 123.81
147	J-72	776.00	Forest	0.48	1062.24	123.84
5481 2871	J-2918 J-1556	776.00 778.34	Forest Forest	1.28 1.28	1062.24 1064.62	123.84 123.86
6231	J-3351	771.47	Forest	1.28	1057.81	123.89
508	J-286	1036.43	Stewartsville	0.26	1322.91	123.95
4543 4544	J-2382 J-2383	1036.23 1036.11	Stewartsville Stewartsville	0.11 0.11	1322.91 1322.91	124.04 124.09
2111	J-1116	776.09	Forest	1.08	1062.90	124.09
4503 7249	J-2359 J-3935	777.81 773.16	Forest Forest	0.08 0.08	1064.62 1060.01	124.09 124.11
2753	J-1488	777.66	Forest	0.28	1064.62	124.11
5925	J-3171	773.82	Forest	0.88	1060.82	124.17
4244 5924	J-2262 J-3170	773.82 773.64	Forest Forest	2.49 0.68	1060.84 1060.82	124.18 124.25
7248	J-3934	772.76	Forest	0.08	1060.01	124.28
4923 1082	J-2597 J-582	773.37	Forest Forest	0.08 0.08	1060.84 1064.09	124.37 124.39
2875	J-1557	776.58 773.27	Forest	2.29	1064.09	124.39
2497	J-1339	772.38	Forest	0.08	1060.01	124.45
5577 4759	J-2972 J-2504	773.12 1035.15	Forest Stewartsville	0.48 0.11	1060.87 1322.92	124.50 124.51
6205	J-3335	930.40	Lakes	0.20	1218.19	124.51
1549	J-769	930.19	Lakes	0.20	1218.15	124.59
6804 6805	J-3689 J-3690	772.00 772.00	Forest Forest	0.08 0.08	1060.01 1060.01	124.61 124.61
4885	J-2575	772.14	Forest	2.89	1060.17	124.62
4978 4886	J-2629 J-2576	771.49 771.92	Forest Forest	0.28 0.88	1059.53 1060.17	124.62 124.71
5526	J-2943	772.50	Forest	1.48	1060.80	124.71
1737	J-884	773.25	Forest	0.28	1061.60	124.75
3472 6206	J-1891 J-3336	772.39 929.71	Forest Lakes	0.28 0.20	1060.87 1218.19	124.81 124.81
3655	J-1994	774.87	Forest	0.48	1063.38	124.82
5284	J-2804	775.54 1034.35	Forest	0.48	1064.09 1322.92	124.84 124.85
1000 5527	J-547 J-2944	772.08	Stewartsville Forest	0.58 0.48	1060.80	124.85
6032	J-3231	774.63	Forest	2.09	1063.37	124.93
2115 3172	J-1119 J-1717	768.71 771.75	Forest Forest	0.48 0.08	1057.76 1060.81	125.06 125.06
7996	J-4157	772.51	Forest	0.48	1061.62	125.08
3175	J-1719	770.38	Forest	0.08	1059.53	125.10
6031 2043	J-3230 J-1081	773.78 928.37	Forest Lakes	0.48 0.29	1063.37 1218.03	125.29 125.32
2863	J-1552	771.12	Forest	0.88	1060.81	125.34
5261 4343	J-2791 J-2294	771.05 767.97	Forest Forest	0.68 1.08	1060.81 1057.76	125.37
4343 2044	J-2294 J-1082	767.97 928.06	Forest Lakes	0.20	1057.76 1218.03	125.38 125.46
3174	J-1718	769.55	Forest	0.28	1059.53	125.46
6178 2870	J-3319 J-1555	774.63 774.63	Forest Forest	0.08 0.08	1064.62 1064.62	125.47 125.47
712	J-409	927.84	Lakes	0.20	1217.85	125.47
4621	J-2428	767.70	Forest	0.48	1057.76	125.50

					Calculated	
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
6673	J-3612	767.90	Forest	0.08	1058.02	125.52
2607 3205	J-1402 J-1738	767.72 774.22	Forest Forest	0.88 0.08	1058.02 1064.62	125.60 125.64
7157	J-3891	770.39	Forest	0.28	1060.94	125.71
5223	J-2768	769.57	Forest	1.08	1060.15	125.72
7158 5224	J-3892 J-2769	770.32 769.43	Forest Forest	0.48 1.48	1060.94 1060.15	125.74 125.78
2841	J-1540	770.88	Forest	0.88	1060.15	125.76
2112	J-1117	772.12	Forest	0.48	1062.90	125.80
355	J-190	927.16	Lakes	0.20	1217.93	125.80
3430 6693	J-1867 J-3624	772.00 772.00	Forest Forest	0.28 0.08	1062.86 1062.86	125.84 125.84
4500	J-2357	770.03	Forest	0.48	1060.94	125.86
2114	J-1118	766.83	Forest	0.48	1057.76	125.87
3204	J-1737	773.62	Forest	0.48	1064.62	125.91
356 4501	J-191 J-2358	926.88 769.86	Lakes Forest	0.20 1.28	1217.93 1060.94	125.93 125.94
3473	J-1892	769.32	Forest	0.68	1060.87	126.14
5793	J-3097	769.72	Forest	0.08	1061.62	126.29
5724 5723	J-3058 J-3057	925.99 925.90	Lakes Lakes	0.20 0.20	1218.03 1218.03	126.35 126.39
1245	J-650	925.79	Lakes	0.20	1217.95	126.40
6265	J-3372	925.73	Lakes	0.20	1217.93	126.42
2253	J-1204	768.58	Forest	1.28	1060.85	126.45
5331 5794	J-2832 J-3098	925.40 768.74	Lakes Forest	0.20 0.28	1217.95 1061.62	126.57 126.71
889	J-499	768.00	Forest	0.28	1060.90	126.71
4796	J-2525	768.00	Forest	0.48	1060.90	126.72
3429	J-1866	769.54	Forest	0.28	1062.86	126.91
2578 1870	J-1385 J-970	771.10 769.84	Forest Forest	1.08 1.08	1064.62 1063.38	126.99 127.00
3738	J-2040	767.22	Forest	0.68	1060.91	127.06
4443	J-2326	1029.11	Stewartsville	0.69	1322.91	127.11
6434	J-3471	924.10	Lakes Forest	0.29	1218.03 1060.91	127.17 127.19
3907 7569	J-2121 J-4052	766.93 924.02	Forest Lakes	1.28 0.37	1218.03	127.19
594	J-340	923.92	Lakes	0.20	1217.93	127.21
3751	J-2046	766.79	Forest	0.48	1060.91	127.25
6433 3695	J-3470 J-2016	923.61 923.07	Lakes Lakes	0.20 0.37	1218.03 1218.15	127.38 127.67
804	J-2016 J-456	923.26	Lakes	0.37	1218.60	127.67
7536	J-4042	922.74	Lakes	0.20	1218.15	127.81
8453	J-4179	578.08	Forest	0.68	873.78	127.94
310 2498	J-161 J-1340	922.15 764.00	Lakes Forest	0.20 0.08	1218.03 1060.01	128.01 128.07
4558	J-2391	764.85	Forest	0.48	1060.91	128.09
7348	J-3975	921.95	Lakes	0.20	1218.03	128.10
7130	J-3876	764.70	Forest	1.28	1060.80	128.11
2837 3742	J-1537 J-2042	764.53 764.59	Forest Forest	0.48 0.48	1060.80 1060.91	128.18 128.20
4700	J-2471	764.53	Forest	0.68	1060.89	128.22
4466	J-2338	764.38	Forest	0.48	1060.80	128.24
255 5221	J-126 J-2767	764.46 921.59	Forest Lakes	0.48 0.20	1060.89 1218.03	128.25 128.26
309	J-2767 J-160	921.59 921.49	Lakes Lakes	0.20	1218.03	128.26
6144	J-3299	921.35	Lakes	0.29	1218.03	128.36
256	J-127	764.17	Forest	0.68	1060.89	128.37
3737 4617	J-2039 J-2426	764.00 764.00	Forest Forest	0.68 0.88	1060.91 1060.91	128.46 128.46
2366	J-2426 J-1269	764.00 767.67	Forest	0.08	1064.63	128.48
2365	J-1268	767.67	Forest	0.08	1064.63	128.48
4696	J-2469	1025.90	Stewartsville	0.40	1322.95	128.52
2059 680	J-1089 J-392	920.96 1025.82	Lakes Stewartsville	0.20 0.11	1218.03 1322.95	128.53 128.55
1935	J-1012	766.17	Forest	0.11	1063.46	128.62
6269	J-3374	920.51	Lakes	0.20	1217.89	128.66
1290	J-670	920.00	Lakes	0.20	1217.89	128.88
5432 5433	J-2890 J-2891	765.55 765.15	Forest Forest	0.28 0.48	1063.46 1063.46	128.89 129.07
2714	J-1465	766.13	Forest	0.28	1064.63	129.15
3994	J-2160	761.56	Forest	1.48	1060.13	129.18
3034 5760	J-1632	765.88 765.85	Forest Forest	0.08	1064.63 1064.61	129.25
5769 2577	J-3084 J-1384	765.85 765.81	Forest	0.08 0.08	1064.61	129.26 129.28
2926	J-1583	764.66	Forest	0.88	1063.48	129.28
7066	J-3840	765.39	Forest	0.08	1064.62	129.47
4100	J-2208	761.45 759.26	Forest	1.28	1060.80	129.51
5029 5030	J-2659 J-2660	758.26 758.14	Forest Forest	0.88 0.48	1057.76 1057.76	129.58 129.63
2266	J-1212	757.97	Forest	0.48	1057.75	129.03
718	J-413	764.67	Forest	0.08	1064.61	129.77
6645	J-3596	764.32	Forest	0.08	1064.61	129.92
7060 159	J-3837 J-78	760.16 916.03	Forest Lakes	0.68 0.20	1060.80 1216.98	130.07 130.21
7593	J-4058	759.39	Forest	1.28	1060.80	130.41
1750	J-893	756.39	Forest	0.48	1058.02	130.50
713	J-410	915.99	Lakes	0.20	1217.85	130.60
5035 3686	J-2663 J-2010	915.95 916.25	Lakes Lakes	0.20 0.37	1217.85 1218.14	130.62 130.62
4905	J-2587	916.08	Lakes	0.29	1218.14	130.62
4584	J-2407	914.82	Lakes	0.20	1216.98	130.73
3717	J-2028	758.60	Forest	0.48	1060.82	130.76
6600 6601	J-3568 J-3569	916.00 916.00	Lakes Lakes	0.29 0.20	1218.31 1218.31	130.79 130.79
2180	J-3569 J-1160	755.03	Forest	0.20	1057.76	130.79
6113	J-3280	915.40	Lakes	0.20	1218.17	130.99
6114	J-3281	915.30	Lakes	0.20	1218.17	131.04
3806 5053	J-2072 J-2674	757.81 757.11	Forest Forest	1.08 1.28	1060.80 1060.13	131.09 131.10
5055	0 2014	757.11	1 01631	1.20	1000.10	101.10

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
7122	J-3872	915.12	Lakes	0.20	1218.14	131.11
1749	J-892	754.88	Forest	0.68	1058.02	131.15
8513	J-4209	757.56	Forest	0.68	1060.82	131.21
6644	J-3595	761.32	Forest	0.08	1064.61	131.22
70 4904	J-28 J-2586	758.95 914.78	Forest Lakes	0.08 0.20	1062.30 1218.14	131.24 131.25
5054	J-2675	756.73	Forest	0.48	1060.13	131.27
272	J-137	915.16	Lakes	0.20	1218.61	131.28
3378	J-1838	759.28	Forest	0.08	1062.86	131.35
273 3680	J-138 J-2007	914.97 757.16	Lakes Forest	0.20 0.48	1218.61 1060.80	131.37 131.37
3628	J-1978	760.94	Forest	0.28	1064.62	131.39
737	J-422	757.05	Forest	1.28	1060.90	131.46
5141	J-2722	758.61	Forest	0.08	1062.86	131.63
5595	J-2982	756.27	Forest	0.48	1060.91	131.81
4156 3716	J-2231 J-2027	1018.17 756.05	Stewartsville Forest	0.42 0.88	1322.92 1060.82	131.85 131.86
6314	J-3400	755.99	Forest	0.68	1060.80	131.87
3679	J-2006	755.67	Forest	1.28	1060.80	132.01
7090	J-3854	756.95	Forest	0.08	1062.30	132.11
1959 98	J-1028 J-46	759.14 911.37	Forest Lakes	0.48 0.20	1064.63 1216.98	132.17 132.22
1577	J-782	911.10	Lakes	0.20	1216.98	132.34
1576	J-781	911.01	Lakes	0.20	1216.98	132.38
69	J-27	756.32	Forest	0.08	1062.30	132.38
4342	J-2293	751.47 756.51	Forest Forest	0.68	1057.76	132.52
3058 3059	J-1647 J-1648	756.51 756.41	Forest Forest	0.08 0.08	1062.86 1062.86	132.54 132.59
2904	J-1573	754.40	Forest	1.48	1060.90	132.61
1096	J-588	911.54	Lakes	0.20	1218.31	132.72
6315	J-3401	753.99	Forest	1.48	1060.80	132.74
1950	J-1022	1016.00 911.25	Stewartsville	0.40	1322.91	132.79
5751 5204	J-3074 J-2757	911.25 750.65	Lakes Forest	0.20 0.88	1218.28 1057.76	132.84 132.87
6132	J-3292	911.02	Lakes	0.20	1218.31	132.95
1871	J-971	756.09	Forest	0.48	1063.38	132.95
4970	J-2625	1015.59	Stewartsville	0.11	1322.92	132.97
5750 7108	J-3073 J-3864	910.94 910.39	Lakes Lakes	0.20 0.20	1218.28 1217.85	132.97 133.02
1646	J-826	909.39	Lakes	0.20	1216.98	133.08
1259	J-654	750.23	Forest	0.28	1057.82	133.08
7109	J-3865	910.20	Lakes	0.20	1217.85	133.10
5596	J-2983	753.21	Forest	0.08	1060.91	133.13
7139 6486	J-3881 J-3501	910.11 750.01	Lakes Forest	0.20 0.08	1217.85 1057.82	133.14 133.18
4939	J-2607	909.09	Lakes	0.20	1216.98	133.21
97	J-45	909.00	Lakes	0.37	1216.98	133.25
6937	J-3768	752.10 749.27	Forest	0.48	1060.15	133.28
6106 4138	J-3276 J-2224	756.00	Forest Forest	1.68 0.08	1057.76 1064.62	133.47 133.53
1281	J-665	751.49	Forest	0.48	1060.15	133.55
4174	J-2239	755.91	Forest	0.08	1064.62	133.57
2838	J-1538	752.07	Forest	1.48	1060.80	133.57
814 719	J-460 J-414	1014.18 755.85	Stewartsville Forest	0.26 0.08	1322.92 1064.61	133.58 133.59
4725	J-2485	751.99	Forest	0.08	1060.89	133.65
790	J-450	751.94	Forest	0.08	1060.89	133.67
1958	J-1027	755.66	Forest	0.08	1064.63	133.68
6107 592	J-3277	748.52 1013.67	Forest Stewartsville	0.48	1057.76	133.79 133.81
592 4726	J-339 J-2486	751.54	Forest	0.11 0.28	1322.95 1060.89	133.81
6124	J-3287	908.48	Lakes	0.20	1218.16	133.98
591	J-338	1012.81	Stewartsville	0.11	1322.95	134.18
6125	J-3288	907.52	Lakes	0.20	1218.16	134.40
2181 6856	J-1161 J-3719	745.74 1010.59	Forest Stewartsville	0.88 0.40	1057.76 1322.92	134.99 135.13
6857	J-3720	1010.43	Stewartsville	1.36	1322.92	135.20
738	J-423	748.09	Forest	0.28	1060.91	135.34
3338	J-1816	749.95	Forest	1.68	1063.37	135.60
1934	J-1011	749.75	Forest	0.48	1063.46	135.73
5741 2722	J-3068 J-1469	750.24 748.65	Forest Forest	0.48 0.08	1064.62 1063.37	136.02 136.16
4630	J-2433	902.22	Lakes	0.20	1216.97	136.18
815	J-461	1008.03	Stewartsville	0.26	1322.92	136.24
4853	J-2557	903.13	Lakes	0.63	1218.03	136.24
4631	J-2434	902.05	Lakes	0.20	1216.97	136.25
5377 4852	J-2859 J-2556	748.41 903.04	Forest Lakes	0.48 1.24	1063.37 1218.03	136.27 136.28
3453	J-1880	748.20	Forest	1.28	1063.37	136.36
5376	J-2858	748.00	Forest	0.48	1063.37	136.45
2177	J-1158	742.26	Forest	0.88	1057.76	136.50
7058 4755	J-3836 J-2502	745.06 741.85	Forest Forest	0.28 0.48	1060.80 1057.76	136.60 136.68
4755 4139	J-2502 J-2225	741.85 748.68	Forest	0.48	1064.62	136.68
3603	J-1966	747.24	Forest	1.88	1063.37	136.77
2567	J-1378	744.65	Forest	1.68	1060.80	136.78
2862	J-1551	744.59	Forest	1.28	1060.81	136.81
3454 6739	J-1881 J-3650	747.15 748.00	Forest Forest	0.28 0.08	1063.37 1064.62	136.81 136.99
6740	J-3650 J-3651	748.00	Forest	0.08	1064.62	136.99
5845	J-3127	746.61	Forest	0.48	1063.37	137.05
6290	J-3386	743.81	Forest	0.48	1060.91	137.19
3376	J-1837 J-2736	900.88 746.18	Lakes Forest	0.55 0.08	1218.03 1063.37	137.22 137.23
5165 3807	J-2/36 J-2073	745.18 743.59	Forest	0.08	1063.37	137.23
3317	J-1804	900.64	Lakes	3.35	1218.03	137.32
2647	J-1425	745.89	Forest	0.88	1063.37	137.36
2178	J-1159	740.20 739.89	Forest	0.68	1057.76 1057.76	137.39
4420	J-2319	739.89	Forest	0.48	1057.76	137.52

					Calculated	
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
5588	J-2978	739.84	Forest	0.48	1057.82	137.57
3316 6474	J-1803 J-3494	900.00 745.33	Lakes Forest	0.29 0.68	1218.03 1063.37	137.60 137.60
6921	J-3759	899.76	Lakes	0.20	1218.03	137.70
3273 3272	J-1780 J-1779	899.76 899.42	Lakes Lakes	0.55 0.20	1218.03 1218.03	137.70 137.85
3712	J-2025	741.81	Forest	1.88	1060.80	138.01
4456	J-2332	1003.97	Stewartsville	0.26	1322.96	138.01
3374 1198	J-1836 J-627	899.03 1003.86	Lakes Stewartsville	0.55 1.55	1218.03 1322.96	138.02 138.06
1095	J-587	899.17	Lakes	0.20	1218.32	138.08
6194	J-3328	738.56	Forest	1.08	1057.76	138.10 138.14
5504 5589	J-2930 J-2979	744.02 738.50	Forest Forest	1.48 0.48	1063.30 1057.82	138.14
3097	J-1672	743.84	Forest	0.48	1063.30	138.22
3096 5492	J-1671 J-2924	743.71 898.70	Forest Lakes	0.48 0.20	1063.30 1218.32	138.27 138.28
2568	J-1379	741.06	Forest	0.08	1060.80	138.33
2648	J-1426	743.57	Forest	0.88	1063.37	138.36
1840 5369	J-950 J-2854	743.43 740.44	Forest Forest	0.48 0.08	1063.37 1060.80	138.43 138.60
3515	J-1917	897.01	Lakes	0.20	1218.03	138.89
3355 6707	J-1826	741.74	Forest Forest	0.08	1062.86	138.93
4990	J-3632 J-2636	741.25 741.47	Forest	0.08 0.08	1062.86 1063.37	139.15 139.27
4991	J-2637	741.31	Forest	0.68	1063.37	139.34
3354 1261	J-1825 J-655	740.02 1000.03	Forest Stewartsville	0.08 0.26	1062.86 1322.92	139.68 139.70
150	J-73	739.38	Forest	0.08	1062.37	139.74
6952	J-3776	895.01	Lakes	0.29	1218.03	139.75
7308 4644	J-3958 J-2441	893.74 999.68	Lakes Stewartsville	0.20 0.11	1216.97 1322.92	139.85 139.85
1841	J-951	740.11	Forest	1.08	1063.36	139.86
3819	J-2078	999.55	Stewartsville	1.41	1322.91	139.90
3389 3390	J-1843 J-1844	893.52 893.18	Lakes Lakes	0.20 0.20	1216.97 1216.97	139.94 140.09
3514	J-1916	894.21	Lakes	0.20	1218.03	140.10
5615	J-2994	738.23	Forest	0.28	1062.46	140.28
3166 6495	J-1714 J-3506	739.29 736.86	Forest Forest	0.28 0.08	1064.62 1062.37	140.76 140.83
2795	J-1513	739.08	Forest	0.08	1064.62	140.85
267 268	J-134 J-135	892.19 892.19	Lakes Lakes	0.20 0.20	1218.10 1218.10	141.00 141.00
270	J-136	892.19	Lakes	0.20	1218.10	141.00
175	J-86	736.00	Forest	0.08	1062.46	141.24
3571 6719	J-1947 J-3639	891.49 737.82	Lakes Forest	1.24 0.08	1218.03 1064.62	141.28 141.39
6431	J-3469	995.82	Stewartsville	0.11	1322.91	141.52
2601	J-1398	735.73	Forest	0.68	1062.86	141.54
6605 6606	J-3571 J-3572	736.20 736.16	Forest Forest	0.48 1.68	1063.37 1063.37	141.55 141.57
6220	J-3344	735.55	Forest	0.48	1062.86	141.61
5889	J-3151	890.72	Lakes	0.20	1218.10	141.64
1232 2622	J-645 J-1411	888.20 735.27	Lakes Forest	0.20 0.68	1216.30 1063.37	141.95 141.95
6649	J-3598	734.93	Forest	0.48	1063.37	142.10
244 243	J-119 J-118	889.49 889.19	Lakes Lakes	0.20 0.20	1218.03 1218.03	142.14 142.27
5763	J-3081	887.24	Lakes	0.46	1216.30	142.37
6650	J-3599	734.18	Forest	1.68	1063.37	142.42
5288 1231	J-2806 J-644	887.04 886.88	Lakes Lakes	0.20 0.20	1216.49 1216.49	142.54 142.61
2135	J-1132	887.97	Lakes	0.72	1218.03	142.80
5679	J-3032	733.01	Forest	0.88	1063.43	142.96
5437 3623	J-2893 J-1975	992.26 992.02	Stewartsville Stewartsville	0.40 0.11	1322.92 1322.91	143.06 143.16
5678	J-3031	732.51	Forest	0.08	1063.43	143.17
7339 4625	J-3969 J-2430	732.43 991.88	Forest Stewartsville	0.48 0.11	1063.37 1322.92	143.18 143.23
7340	J-3970	732.29	Forest	0.08	1063.37	143.23
211	J-97	887.00	Lakes	0.20	1218.11	143.26
210 1022	J-96 J-556	886.94 991.53	Lakes Stewartsville	0.20 0.26	1218.11 1322.92	143.28 143.38
6833	J-3706	886.60	Lakes	0.20	1218.03	143.39
1211	J-634	726.21	Forest	0.08	1057.83	143.48
4157 5993	J-2232 J-3209	991.16 886.77	Stewartsville Lakes	0.69 0.20	1322.92 1218.61	143.53 143.57
4270	J-2272	730.82	Forest	1.88	1062.89	143.67
6834 4612	J-3707 J-2423	885.90	Lakes Lakes	0.29 0.20	1218.03 1218.03	143.69 143.71
974	J-535	885.87 886.41	Lakes	0.20	1218.61	143.71
3426	J-1864	885.71	Lakes	0.20	1218.03	143.78
5858 3427	J-3134 J-1865	725.48 885.66	Forest Lakes	0.48 0.20	1057.83 1218.03	143.79 143.80
3590	J-1958	885.62	Lakes	0.29	1218.03	143.82
4660	J-2449	730.35	Forest	0.48	1062.77	143.82
4481 1949	J-2347 J-1021	730.39 990.38	Forest Stewartsville	0.68 0.11	1062.89 1322.91	143.86 143.87
664	J-383	885.46	Lakes	0.37	1218.03	143.89
140 2602	J-69	730.00	Forest	1.28	1062.77	143.97
2134	J-1399 J-1131	729.76 884.91	Forest Lakes	0.88 0.20	1062.86 1218.03	144.12 144.12
1312	J-678	884.26	Lakes	0.29	1217.83	144.32
3056 3055	J-1646 J-1645	884.41 884.40	Lakes Lakes	0.46 0.29	1218.03 1218.03	144.34 144.34
6267	J-3373	884.05	Lakes	0.29	1217.83	144.41
1834	J-946	729.36	Forest	1.08	1063.37	144.51
5613 3591	J-2993 J-1959	729.54 882.68	Forest Lakes	0.48 2.97	1064.62 1218.03	144.97 145.09
	2 .230					

					Calculated	
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
1089	J-585	728.00	Forest	0.48	1064.08	145.41
5176	J-2742	728.00	Forest	0.08	1064.08	145.41
545 6587	J-310 J-3561	881.83 881.71	Lakes Lakes	0.20 0.20	1218.12 1218.12	145.50 145.55
7875	J-4136	881.60	Lakes	0.46	1218.03	145.55
6725	J-3642	724.44	Forest	0.88	1060.91	145.57
5612 2623	J-2992 J-1412	727.29 724.28	Forest Forest	0.48 0.48	1064.62 1063.37	145.95 146.71
1835	J-947	723.70	Forest	0.48	1063.37	146.96
2597	J-1396	720.00	Forest	0.48	1060.80	147.45
4745 8375	J-2497 J-4175	981.74 720.32	Stewartsville Forest	0.11 0.08	1322.95 1061.85	147.63 147.76
6726	J-3643	719.24	Forest	0.68	1060.91	147.70
1274	J-661	874.35	Lakes	0.20	1216.06	147.84
6533 1199	J-3528 J-628	873.86 980.00	Lakes Stewartsville	0.20 0.11	1216.06 1322.95	148.06 148.38
770	J-628 J-439	874.90	Lakes	0.11	1218.03	148.38
4636	J-2437	874.17	Lakes	0.20	1218.03	148.77
4921 3422	J-2596	720.24	Forest Forest	0.08	1064.62 1064.62	149.00
3422	J-1862 J-1861	720.18 719.87	Forest	0.08 0.28	1064.62	149.02 149.16
2596	J-1395	716.00	Forest	0.88	1060.80	149.18
1843	J-952	719.74	Forest	0.08	1064.62	149.21
672 7597	J-388 J-4060	976.63 870.57	Stewartsville Lakes	0.69 0.20	1322.92 1217.82	149.82 150.24
5853	J-3131	716.05	Forest	1.88	1063.37	150.27
671	J-387	975.09	Stewartsville	0.11	1322.92	150.49
5854 1844	J-3132 J-953	715.49 716.00	Forest Forest	0.08 0.88	1063.37 1064.61	150.51 150.83
5569	J-2968	868.96	Lakes	0.20	1217.82	150.93
1313	J-679	868.58	Lakes	0.20	1217.82	151.10
5356 5357	J-2846 J-2847	866.99 866.30	Lakes Lakes	0.20 0.20	1216.97 1216.97	151.42 151.72
1670	J-840	971.62	Stewartsville	0.26	1322.91	151.72
6535	J-3529	971.13	Stewartsville	0.11	1322.92	152.20
5604	J-2988 J-394	866.02	Lakes Stewartsville	0.46 0.11	1218.03 1322.92	152.30
684 4733	J-394 J-2490	970.66 864.03	Lakes	0.11	1217.78	152.41 153.05
1671	J-841	969.03	Stewartsville	0.55	1322.91	153.11
3180	J-1722	862.90	Lakes	0.20	1216.97	153.19
2473 3181	J-1327 J-1723	863.62 862.73	Lakes Lakes	0.63 1.06	1217.78 1216.97	153.23 153.27
3689	J-2012	708.49	Forest	1.08	1062.81	153.30
4694	J-2468	862.58	Lakes	0.37	1216.97	153.33
3637 2050	J-1983 J-1085	863.35 863.50	Lakes Lakes	0.29 0.20	1217.78 1218.03	153.34 153.39
4955	J-2616	708.02	Forest	0.88	1062.81	153.50
7165	J-3895	863.17	Lakes	0.20	1218.03	153.53
8076 4717	J-4166 J-2480	863.12 861.73	Lakes Lakes	0.20 0.29	1218.03 1217.76	153.55 154.04
7243	J-3931	861.71	Lakes	0.37	1217.76	154.05
4718	J-2481	861.54	Lakes	0.29	1217.76	154.12
4810 7244	J-2532 J-3932	860.60 861.36	Lakes Lakes	0.20 0.20	1216.98 1217.76	154.19 154.20
2038	J-1078	861.61	Lakes	0.20	1218.03	154.21
185	J-89	860.35	Lakes	0.20	1216.98	154.30
5257 2039	J-2789 J-1079	861.03 861.19	Lakes Lakes	0.29 0.20	1217.77 1218.03	154.34 154.39
5256	J-2788	860.82	Lakes	0.20	1217.77	154.43
6119	J-3284	861.19	Lakes	0.20	1218.20	154.46
6274 3688	J-3377 J-2011	859.93 704.94	Lakes Forest	1.52 0.88	1217.76 1062.79	154.82 154.83
2046	J-1083	860.09	Lakes	0.20	1218.03	154.86
2041	J-1080	860.00	Lakes	0.20	1218.03	154.90
4518 2048	J-2368 J-1084	704.63 859.02	Forest Lakes	0.48 0.20	1062.79 1218.03	154.96 155.33
3395	J-1847	858.20	Lakes	0.46	1217.75	155.56
6065	J-3252	858.11	Lakes	0.29	1217.75	155.60
6064	J-3251 J-3257	857.64 857.60	Lakes	0.20 0.20	1217.75	155.80 155.84
6073 7016	J-3257 J-3813	697.52	Lakes Forest	0.20	1217.79 1057.83	155.89
6072	J-3256	856.92	Lakes	0.20	1217.79	156.13
6273 829	J-3376 J-469	856.63 857.05	Lakes Lakes	0.37 0.20	1217.76 1218.20	156.24 156.25
6208	J-3337	855.81	Lakes	0.20	1218.01	156.25
1180	J-618	854.57	Lakes	0.55	1218.01	157.25
1268	J-658	852.00	Lakes	0.29	1215.86	157.42
4648 4742	J-2443 J-2495	852.00 852.19	Lakes Lakes	0.72 0.72	1215.86 1216.97	157.42 157.83
4743	J-2496	851.51	Lakes	0.55	1216.97	158.12
1212	J-635	692.00	Forest	0.08	1057.83	158.28
139 515	J-68 J-291	694.79 846.91	Forest Lakes	0.48 0.20	1062.73 1218.03	159.19 160.57
6500	J-3509	846.22	Lakes	0.20	1217.75	160.74
1622	J-811	846.06	Lakes	0.29	1217.75	160.81
1630 7221	J-816 J-3921	845.88 845.85	Lakes Lakes	0.20 0.20	1217.75 1217.75	160.89 160.90
6499	J-3508	845.81	Lakes	0.20	1217.75	160.92
178	J-87	844.90	Lakes	0.20	1216.98	160.98
4652 4186	J-2445 J-2244	844.76 843.72	Lakes Lakes	0.20 0.72	1216.98 1216.97	161.04 161.49
6658	J-3603	844.53	Lakes	0.72	1218.03	161.60
413	J-228	843.99	Lakes	0.20	1217.99	161.81
952 412	J-525 J-227	843.65 842.88	Lakes Lakes	0.20 0.20	1218.24 1217.99	162.07 162.29
5007	J-2646	842.85	Lakes	0.20	1218.03	162.29
514	J-290	842.77	Lakes	0.20	1218.03	162.36
3731 4098	J-2036 J-2207	842.73 841.49	Lakes Lakes	0.20 1.24	1218.03 1216.97	162.38 162.45
7030	J-22U1	041.48	Lancs	1.44	1210.37	102.40

					Calculated	
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
7014	J-3812	841.53	Lakes	0.20	1218.24	162.98
1148	J-607	840.88	Lakes	0.20	1218.05	163.18
6656	J-3602	839.82	Lakes	0.20	1218.05	163.64
461	J-258	839.33	Lakes	0.20	1218.21	163.92
5887	J-3150	838.89	Lakes	0.20	1218.02	164.03
564	J-322	838.21	Lakes	0.46	1218.02	164.33
6545	J-3535	835.42	Lakes	0.29	1215.66	164.51
4057	J-2188	836.45	Lakes	0.72	1216.97	164.64
3730	J-2035	836.87	Lakes	0.20	1218.03	164.91
6111	J-3279	836.62	Lakes	0.29	1217.99	165.00
5123	J-2712	682.99	Forest	0.08	1064.63	165.11
1136	J-601	833.96	Lakes	0.55	1215.66	165.14
312	J-162 J-163	836.34	Lakes Lakes	0.20 0.29	1218.21	165.22 165.29
313		836.17			1218.21	
550	J-313	835.45	Lakes	0.72	1217.99	165.51
4674	J-2457	835.62	Lakes	0.20	1218.21	165.53
5124	J-2713	682.00	Forest	0.88	1064.63	165.54
4658	J-2448	833.80	Lakes	0.20	1216.98	165.78
58	J-20	833.77	Lakes	0.20	1216.98	165.80
59	J-21	833.64	Lakes	0.37	1216.98	165.85
4294	J-2279	938.48	Stewartsville	0.55	1322.91	166.32
5392	J-2868	938.45	Stewartsville	0.83	1322.91	166.34
4056	J-2187	831.19	Lakes	1.41	1216.97	166.91
4601	J-2417	831.10	Lakes	0.37	1216.97	166.95
563	J-321	831.95	Lakes	0.20	1218.02	167.04
2022	J-1068	829.97	Lakes	0.20	1216.98	167.44
4461	J-2335	829.08	Lakes	1.93	1216.97	167.82
4462	J-2336	829.08	Lakes	0.20	1216.97	167.82
6329	J-3409	829.60	Lakes	0.20	1218.25	168.15
168	J-83	672.67	Forest	0.08	1062.65	168.72
6652	J-3600	672.38	Forest	0.08	1062.65	168.85
7486	J-4023	825.01	Lakes	0.20	1216.97	169.58
463	J-259	826.28	Lakes	0.20	1218.25	169.59
241	J-117	822.18	Lakes	0.37	1218.25	171.36
1214	J-636	822.06	Lakes	0.55	1218.17	171.38
240	J-116	822.02	Lakes	0.37	1218.25	171.43
6067	J-3253	820.03	Lakes	0.20	1218.17	172.26
495	J-278	815.49	Lakes	0.29	1215.51	173.07
1266	J-657	817.44	Lakes	0.20	1218.07	173.33
5579	J-2973	816.54	Lakes	0.20	1218.07	173.72
6647	J-3597	816.45	Lakes	0.20	1218.14	173.80
496	J-279	812.27	Lakes	0.20	1215.51	174.46
7808	J-4122	658.30	Forest	0.48	1064.63	175.80
1329	J-682	811.66	Lakes	0.48	1218.14	175.87
3260	J-082 J-1772	914.04	Stewartsville	0.20	1322.91	175.87
3259	J-1771	913.57	Stewartsville Lakes	0.26 257.22	1322.91	177.10
381	J-207	799.73			1215.48	179.87
2369	J-1271	639.47	Forest	0.48	1064.63	183.95
2368	J-1270	630.22	Forest	80.0	1064.63	187.95

BEDFORD COUNTY PSA WATER SYSTEMS HYDRAULIC ANALYSIS MAY 13, 2013

Run 1 - Twice Average Daily Demand plus maximum available fire flow calculated for each junction.

Existing Water System.

All Tanks at Normal Low Level, High Point WTP - Off, & Lynchburg WTP - Off.

Steady State Analysis

Pipe Report - sorted by link label

Pipe Report - Sor	ted by link label									
Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
28	P-1	18.00	1.00	130.00	Open	0.08	1060.11	1060.11	0.00	0.00
31	P-2	191.00	1.00	130.00	Open	0.68	1064.61	1064.49	0.12	0.00
34	P-3	3.00	10.00	130.00	Open	42.52	1062.03	1062.03	0.00	0.00
37 40	P-4 P-5	10.00 12.00	10.00 10.00	130.00 130.00	Open Open	35.45 -0.08	1064.62 963.96	1064.62 963.96	0.00	0.00
8578	P-6	20.00	4.00	130.00	Open	0.00	1201.29	1201.29	0.00	0.00
43	P-6	15.00	10.00	130.00	Open	-225.46	1060.05	1060.06	0.01	0.00
8579	P-7	992.00	4.00	130.00	Open	3.75	1201.29	1201.27	0.02	0.00
46	P-7	16.00	10.00	130.00	Open	97.49	1062.10	1062.10	0.00	0.00
49 8582	P-8 P-8	16.00 60.00	10.00 6.00	130.00 130.00	Open Open	-224.40 0.00	1059.69 971.50	1059.70 971.50	0.01 0.00	0.00
52	P-9	17.00	10.00	130.00	Open	-114.87	1062.86	1062.86	0.00	0.00
8583	P-9	57.00	6.00	130.00	Open	0.00	1218.60	1218.60	0.00	0.00
55	P-10	19.00	10.00	130.00	Open	-28.46	1062.10	1062.10	0.00	0.00
8585	P-10 P-11	14.00 22.00	4.00	130.00	Open	12.39 13.42	1218.60	1218.60	0.00	0.00
57 8586	P-11	15.00	10.00 4.00	130.00 130.00	Open Open	12.39	1216.98 1022.96	1216.98 1022.96	0.00	0.00
60	P-12	24.00	10.00	130.00	Open	-117.82	1062.90	1062.90	0.00	0.00
8590	P-13	100.00	6.00	130.00	Open	-0.54	1075.00	1075.00	0.00	0.00
63	P-13	31.00	10.00	130.00	Open	97.49	1062.10	1062.10	0.00	0.00
65 8606	P-14 P-14	32.00 257.00	10.00 3.00	130.00 130.00	Open Open	2.32 -6.56	1061.30 825.50	1061.30 825.55	0.00 0.05	0.00
68	P-15	43.00	10.00	130.00	Open	135.02	1062.30	1062.30	0.05	0.00
8607	P-15	297.00	3.00	130.00	Open	-6.56	1062.24	1062.30	0.06	0.00
8610	P-16	7.00	8.00	130.00	Open	2.39	1217.85	1217.85	0.00	0.00
71	P-16	43.00	10.00	130.00	Open	0.28	1062.02	1062.02	0.00	0.00
8611 74	P-17 P-17	6.00 51.00	8.00 10.00	130.00 130.00	Open Open	2.39 164.78	1068.85 1059.00	1068.85 1058.99	0.00 0.01	0.00
77	P-18	53.00	10.00	130.00	Open	23.16	1064.91	1056.99	0.00	0.00
8613	P-18	627.00	20.00	130.00	Open	-772.43	1064.92	1065.00	0.08	0.00
80	P-19	57.00	10.00	130.00	Open	16.94	1064.62	1064.62	0.00	0.00
8615	P-19	655.00	30.00	130.00	Open	-36.50	1064.63	1064.63	0.00	0.00
83 8618	P-20 P-21	72.00 20.00	10.00 30.00	130.00 130.00	Open Open	-221.48 -36.50	1062.00 1064.63	1062.03 1064.63	0.03	0.00
85	P-21	74.00	10.00	130.00	Open	179.12	1059.44	1059.42	0.02	0.00
88	P-22	84.00	10.00	130.00	Open	-230.80	1060.43	1060.47	0.03	0.00
8619	P-22	124.00	30.00	130.00	Open	-36.50	1064.63	1064.63	0.00	0.00
91	P-23 P-24	109.00	10.00	130.00	Open	36.92	1064.64	1064.63	0.00	0.00
94 96	P-24 P-25	133.00 134.00	10.00 10.00	130.00 130.00	Open Open	-236.22 11.88	1061.30 1216.98	1061.36 1216.98	0.06	0.00
8628	P-26	100.00	36.00	130.00	Open	0.00	800.00	800.00	0.00	0.00
99	P-26	178.00	10.00	130.00	Open	41.07	1064.64	1064.64	0.00	0.00
8629	P-27	100.00	36.00	130.00	Open	0.00	1064.63	1064.63	0.00	0.00
102 8656	P-27 P-28	154.00	10.00	130.00	Open	7.84 42.97	1062.02	1062.02 1322.98	0.00	0.00
105	P-28	3508.00 161.00	12.00 10.00	130.00 130.00	Open Open	-231.36	1323.01 1060.47	1060.53	0.03	0.00
107	P-29	164.00	10.00	130.00	Open	40.91	1064.64	1064.64	0.00	0.00
8660	P-30	53.00	10.00	130.00	Open	0.00	1670.00	1670.00	0.00	0.00
108	P-30	181.00	10.00	130.00	Open	41.75	1064.64	1064.64	0.00	0.00
110 8661	P-31 P-31	189.00 4182.00	10.00 10.00	130.00 130.00	Open Open	35.30 0.00	1064.62 1323.01	1064.62 1323.01	0.00	0.00
112	P-32	214.00	10.00	130.00	Open	-170.39	1063.30	1063.35	0.05	0.00
8680	P-32	15015.00	12.00	130.00	Open	186.61	1062.93	1061.23	1.70	0.00
115	P-33	214.00	10.00	130.00	Open	7.29	1062.02	1062.02	0.00	0.00
8681 116	P-33 P-34	9718.00 219.00	20.00 10.00	130.00 130.00	Open Open	-473.95 -231.71	1062.93 1060.53	1063.44 1060.62	0.51 0.09	0.00
8682	P-34	2712.00	16.00	130.00	Open	287.34	1060.53	1060.62	0.09	0.00
118	P-35	226.00	10.00	130.00	Open	27.30	1064.62	1064.62	0.00	0.00
8685	P-35	1000.00	20.00	130.00	Open	0.00	1200.00	1200.00	0.00	0.00
119	P-36	243.00	10.00	130.00	Open	-188.48	1063.41	1063.48	0.07	0.00
8686 8696	P-36 P-37	1000.00 14541.00	20.00 24.00	130.00 121.00	Open <none></none>	0.00 (N/A)	1062.93 (N/A)	1062.93 (N/A)	0.00 (N/A)	0.00 (N/A)
122	P-37	246.00	10.00	130.00	Open	-229.89	1060.21	1060.31	0.10	0.00
125	P-38	264.00	10.00	130.00	Open	180.17	1063.15	1063.08	0.07	0.00
8698	P-38	11295.00	24.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
128	P-39	264.00	10.00	130.00	Open	-19.08	1064.90	1064.90	0.00	0.00
8700 8702	P-39 P-40	14908.00 6907.00	24.00 24.00	121.00 121.00	<none></none>	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)
131	P-40	292.00	10.00	130.00	Open	-115.63	1062.86	1062.90	0.03	0.00
8704	P-41	11943.00	24.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
132	P-41	296.00	10.00	130.00	Open	25.07	1064.92	1064.92	0.00	0.00
135	P-42	307.00	10.00	130.00	Open	-230.25	1060.31	1060.43	0.12	0.00
8706 8708	P-42 P-43	4968.00 7025.00	24.00	121.00	<none></none>	(N/A) (N/A)	(N/A) (N/A)	(N/A)	(N/A) (N/A)	(N/A) (N/A)
8708 136	P-43 P-43	313.00	24.00 10.00	121.00 130.00	<none> Open</none>	-233.83	(N/A) 1061.17	(N/A) 1061.30	(N/A) 0.13	(N/A) 0.00
138	P-44	323.00	10.00	130.00	Open	-108.82	1061.17	1061.30	0.13	0.00
141	P-45	374.00	10.00	130.00	Open	-228.94	1060.06	1060.21	0.15	0.00
8712	P-45	12618.00	20.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
8714	P-46	20979.00	20.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
142 144	P-46 P-47	383.00 401.00	10.00	130.00	Open	-221.32 180.73	1061.86	1062.00 1063.15	0.14	0.00
144 8715	P-47 P-47	401.00 10795.00	10.00 20.00	130.00 121.00	Open <none></none>	180.73 (N/A)	1063.25 (N/A)	1063.15 (N/A)	0.10 (N/A)	0.00 (N/A)
146	P-48	414.00	10.00	130.00	Open	128.38	1062.30	1062.24	0.06	0.00
8717	P-48	1283.00	20.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
8718	P-49	4641.00	20.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
148	P-49 P-50	539.00	10.00	130.00	Open	22.80	1064.91	1064.90	0.00	0.00
149 151	P-50 P-51	436.00 482.00	10.00 10.00	130.00 130.00	Open Open	135.18 -159.60	1062.37 1063.20	1062.30 1063.30	0.07 0.10	0.00
.51	. 01	.52.00	. 5.00	.55.00	Open	.55.66	.000.20	. 555.55	0.10	5.50

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
153	P-52	491.00	10.00	130.00	Open	-159.04	1063.10	1063.20	0.10	0.00
8731 8732	P-52 P-53	500.00 500.00	24.00 24.00	131.00 131.00	<none></none>	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)
155	P-53	486.00	10.00	130.00	Open	16.71	1062.03	1062.02	0.00	0.00
157	P-54	498.00	10.00	130.00	Open	14.61	1216.98	1216.98	0.00	0.00
160 162	P-55 P-56	498.00 540.00	10.00 10.00	130.00 130.00	Open Open	-238.14 -223.09	1061.64 1059.49	1061.86 1059.69	0.22 0.21	0.00 0.00
164	P-57	577.00	10.00	130.00	Open	-181.15	1063.91	1064.06	0.15	0.00
167 169	P-58 P-59	548.00 572.00	10.00 10.00	130.00 130.00	Open Open	135.84 -174.31	1062.73 1063.61	1062.65 1063.74	0.08 0.14	0.00 0.00
172	P-60	580.00	10.00	130.00	Open	187.52	1063.41	1063.25	0.16	0.00
173	P-61	610.00 603.00	10.00	130.00 130.00	Open	-28.46	963.96	963.97	0.01 0.09	0.00
174 176	P-62 P-63	654.00	10.00 10.00	130.00	Open Open	135.33 -237.78	1062.46 1061.36	1062.37 1061.64	0.09	0.00 0.00
177	P-64	697.00	10.00	130.00	Open	12.45	1216.98	1216.98	0.00	0.00
179 181	P-65 P-66	649.00 657.00	10.00 10.00	130.00 130.00	Open Open	-118.58 12.85	1062.90 1216.98	1062.98 1216.98	0.08	0.00
182	P-67	665.00	10.00	130.00	Open	-174.87	1063.74	1063.91	0.16	0.00
183 184	P-68 P-69	713.00 727.00	10.00 10.00	130.00 130.00	Open Open	16.86 13.82	1062.03 1216.98	1062.03 1216.98	0.00	0.00 0.00
186	P-70	736.00	10.00	130.00	Open	96.73	1062.10	1062.04	0.06	0.00
188	P-71	819.00	10.00	130.00	Open	-36.36	1064.62	1064.63	0.01	0.00
189 191	P-72 P-73	955.00 907.00	10.00 10.00	130.00 130.00	Open Open	176.45 -224.55	1063.08 1059.70	1062.84 1060.05	0.24 0.35	0.00 0.00
192	P-74	923.00	10.00	130.00	Open	-110.58	1062.77	1062.86	0.10	0.00
193 195	P-75 P-76	964.00 1201.00	10.00 10.00	130.00 130.00	Open Open	175.49 -165.95	1062.84 1062.34	1062.60 1062.60	0.24 0.27	0.00 0.00
197	P-77	1003.00	10.00	130.00	Open	14.22	1216.98	1216.98	0.00	0.00
198	P-78	1040.00	10.00	130.00	Open	-119.73	1062.98	1063.10	0.13	0.00
199 200	P-79 P-80	1036.00 1064.00	10.00 10.00	130.00 130.00	Open Open	126.62 -172.55	1062.24 1063.35	1062.10 1063.61	0.14 0.25	0.00 0.00
201	P-81	1308.00	10.00	130.00	Open	24.72	1064.92	1064.91	0.01	0.00
202 204	P-82 P-83	1104.00 1246.00	10.00 10.00	130.00 130.00	Open Open	192.49 135.68	1059.76 1062.65	1059.44 1062.46	0.32 0.19	0.00 0.00
205	P-84	1338.00	10.00	130.00	Open	-232.07	1062.63	1061.17	0.55	0.00
206	P-85	1422.00	10.00	130.00	Open	164.22	1058.99	1058.68	0.31	0.00
208 209	P-86 P-87	1698.00 1.00	10.00 12.00	130.00 130.00	Open Open	176.00 81.55	1059.42 1218.11	1059.00 1218.11	0.42 0.00	0.00 0.00
212	P-88	1.00	12.00	130.00	Open	-0.08	1057.47	1057.47	0.00	0.00
215 218	P-89 P-90	1.00 2.00	12.00 12.00	130.00 130.00	Open Open	0.08 -274.09	1057.47 1064.45	1057.47 1064.45	0.00	0.00 0.00
221	P-91	2.00	12.00	130.00	Open	-0.11	1322.91	1322.91	0.00	0.00
224 227	P-92 P-93	2.00 3.00	12.00 12.00	130.00 130.00	Open Open	262.16 -0.23	1061.63 981.48	1061.63 981.48	0.00	0.00
230	P-94	4.00	12.00	130.00	Open	155.49	1059.82	1059.82	0.00	0.00
233	P-95	4.00	12.00	130.00	Open	-0.11	1322.91	1322.91	0.00	0.00
236 239	P-96 P-97	4.00 4.00	12.00 12.00	130.00 130.00	Open Open	262.79 -0.37	1059.84 1218.25	1059.84 1218.25	0.00	0.00
242	P-98	4.00	12.00	130.00	Open	18.92	1218.03	1218.03	0.00	0.00
245 248	P-99 P-100	5.00 5.00	12.00 12.00	130.00 130.00	Open Open	7.14 -22.70	1057.80 1057.84	1057.80 1057.84	0.00	0.00 0.00
251	P-101	5.00	12.00	130.00	Open	0.08	1064.44	1064.44	0.00	0.00
254	P-102	6.00	12.00	130.00	Open	-17.04	1060.89	1060.89	0.00	0.00
257 260	P-103 P-104	6.00 6.00	12.00 12.00	130.00 130.00	Open Open	-37.75 0.28	1060.02 1058.55	1060.02 1058.55	0.00	0.00 0.00
263	P-105	6.00	12.00	130.00	Open	0.08	1064.76	1064.76	0.00	0.00
266 269	P-106 P-107	6.00 6.00	12.00 12.00	130.00 130.00	Open Open	0.60 0.20	1218.10 1218.10	1218.10 1218.10	0.00	0.00 0.00
271	P-108	6.00	12.00	130.00	Open	0.20	1218.61	1218.61	0.00	0.00
274 277	P-109 P-110	6.00 6.00	12.00 12.00	130.00 130.00	Open Open	159.02 -0.68	1059.94 1058.61	1059.94 1058.61	0.00	0.00 0.00
280	P-111	6.00	12.00	130.00	Open	-0.63	1058.66	1058.66	0.00	0.00
283 286	P-112 P-113	6.00 7.00	12.00 12.00	130.00	Open	0.08 3.66	1058.50	1058.50	0.00	0.00 0.00
289	P-113	10.00	12.00	130.00 130.00	Open Open	-11.35	1057.80 1057.47	1057.80 1057.47	0.00	0.00
291	P-115	10.00	12.00	130.00	Open	-11.43	1057.47	1057.47	0.00	0.00
292 295	P-116 P-117	7.00 7.00	12.00 12.00	130.00 130.00	Open Open	0.20 32.15	1217.88 1218.35	1217.88 1218.35	0.00	0.00 0.00
298	P-118	8.00	12.00	130.00	Open	-0.08	1060.02	1060.02	0.00	0.00
300 303	P-119 P-120	8.00 8.00	12.00 12.00	130.00 130.00	Open Open	0.28 7.88	1059.74 1060.81	1059.74 1060.81	0.00	0.00 0.00
306	P-121	8.00	12.00	130.00	Open	11.58	1057.47	1057.47	0.00	0.00
308 311	P-122 P-123	8.00 9.00	12.00 12.00	130.00 130.00	Open Open	17.09 0.29	1218.03 1218.21	1218.03 1218.21	0.00	0.00 0.00
314	P-124	9.00	12.00	130.00	Open	134.11	1061.15	1061.15	0.00	0.00
317	P-125	10.00	12.00	130.00	Open	-0.28	1058.66	1058.66	0.00	0.00
320 323	P-126 P-127	10.00 10.00	12.00 12.00	130.00 130.00	Open Open	-0.11 12.96	1322.91 1058.76	1322.91 1058.76	0.00	0.00 0.00
326	P-128	11.00	12.00	130.00	Open	0.29	1218.38	1218.38	0.00	0.00
329 331	P-129 P-130	11.00 11.00	12.00 12.00	130.00 130.00	Open Open	4.01 -0.08	1057.80 1064.51	1057.80 1064.51	0.00	0.00 0.00
334	P-131	11.00	12.00	130.00	Open	16.87	1064.62	1064.62	0.00	0.00
336 339	P-132 P-133	11.00 11.00	12.00 12.00	130.00 130.00	Open Open	0.08 -0.11	1061.62 1322.91	1061.62 1322.91	0.00	0.00 0.00
342	P-134	12.00	12.00	130.00	Open	218.85	1060.04	1060.04	0.00	0.00
345	P-135	12.00	12.00	130.00	Open	45.94	1059.76	1059.76	0.00	0.00
348 351	P-136 P-137	12.00 12.00	12.00 12.00	130.00 130.00	Open Open	0.08 42.85	1062.32 1322.98	1062.32 1322.98	0.00	0.00 0.00
354	P-138	12.00	12.00	130.00	Open	-0.20	1217.93	1217.93	0.00	0.00
357 360	P-139 P-140	13.00 13.00	12.00 12.00	130.00 130.00	Open Open	164.43 170.96	1060.34 1064.51	1060.33 1064.51	0.00	0.00 0.00
362	P-141	13.00	12.00	130.00	Open	-611.61	1064.75	1064.76	0.01	0.00
365 368	P-142 P-143	14.00 14.00	12.00 12.00	130.00 130.00	Open Open	-2.70 -74.16	1059.66 1060.92	1059.66 1060.92	0.00	0.00 0.00
371	P-144	14.00	12.00	130.00	Open	-0.20	1219.00	1219.00	0.00	0.00
374	P-145 P-146	15.00	12.00	130.00 130.00	Open	-0.08	1058.66	1058.66	0.00	0.00 0.00
376 379	P-146 P-147	15.00 16.00	12.00 12.00	130.00	Open Open	-144.47 257.22	1058.58 1215.48	1058.58 1215.48	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
382	P-148	16.00	12.00	130.00	Open	316.09	1059.05	1059.04	0.00	0.00
385 388	P-149 P-150	16.00 16.00	12.00 12.00	130.00 130.00	Open Open	-206.39 -0.08	1064.88 1057.82	1064.88 1057.82	0.00	0.00
391	P-151	17.00	12.00	130.00	Open	-81.86	1058.70	1058.70	0.00	0.00
394	P-152	18.00	12.00	130.00	Open	-2.55	1059.66	1059.66	0.00	0.00
396 399	P-153 P-154	25.00 27.00	12.00 12.00	130.00 130.00	Open Open	0.48 -0.88	1060.09 1057.91	1060.09 1057.91	0.00	0.00
402	P-155	21.00	12.00	130.00	Open	-265.95	1063.98	1063.98	0.00	0.00
405 408	P-156 P-157	23.00 24.00	12.00 12.00	130.00 130.00	Open Open	0.08 -180.77	1064.75 1060.63	1064.75 1060.63	0.00	0.00
411	P-158	24.00	12.00	130.00	Open	0.20	1217.99	1217.99	0.00	0.00
414 417	P-159 P-160	24.00 24.00	12.00 12.00	130.00 130.00	Open	-0.55 262.94	981.48 1216.98	981.48 1216.98	0.00 0.01	0.00
417	P-161	25.00	12.00	130.00	Open Open	131.98	1061.06	1061.06	0.00	0.00
422	P-162	28.00	12.00	130.00	Open	-159.14	1058.40	1058.40	0.00	0.00
425 428	P-163 P-164	29.00 30.00	12.00 12.00	130.00 130.00	Open Open	-44.29 -0.08	1061.64 1062.90	1061.64 1062.90	0.00	0.00
431	P-165	31.00	12.00	130.00	Open	-81.50	1058.70	1058.70	0.00	0.00
433 436	P-166 P-167	31.00 32.00	12.00 12.00	130.00 130.00	Open Open	-220.12 -220.22	1061.11 1063.97	1061.12 1063.98	0.00 0.01	0.00
438	P-168	35.00	12.00	130.00	Open	0.48	1060.02	1060.02	0.00	0.00
441	P-169	38.00	12.00	130.00	Open	-273.73	1064.44	1064.45	0.01	0.00
442 445	P-170 P-171	38.00 39.00	12.00 12.00	130.00 130.00	Open Open	130.72 203.19	1059.21 1057.96	1059.21 1057.96	0.00 0.01	0.00
448	P-172	41.00	12.00	130.00	Open	-211.76	1063.78	1063.79	0.01	0.00
451 454	P-173 P-174	41.00 41.00	12.00 12.00	130.00 130.00	Open Open	168.23 -149.42	1064.28 1060.33	1064.28 1060.33	0.00	0.00 0.00
457	P-175	42.00	12.00	130.00	Open	285.76	1218.04	1218.02	0.01	0.00
460 462	P-176 P-177	61.00 45.00	12.00 12.00	130.00 130.00	Open Open	0.68 85.37	1218.21 1218.25	1218.21 1218.25	0.00	0.00 0.00
464	P-178	48.00	12.00	130.00	Open	16.61	1061.62	1061.62	0.00	0.00
466	P-179	46.00	12.00	130.00	Open	17.51	981.48	981.48	0.00	0.00
469 471	P-180 P-181	46.00 47.00	12.00 12.00	130.00 130.00	Open Open	16.65 -22.00	981.48 1057.84	981.48 1057.84	0.00	0.00
474	P-182	49.00	12.00	130.00	Open	-196.58	1063.58	1063.58	0.01	0.00
477 479	P-183 P-184	50.00 50.00	12.00 12.00	130.00 130.00	Open Open	-90.85 13.90	1058.66 981.48	1058.66 981.48	0.00	0.00
482	P-185	57.00	12.00	130.00	Open	137.46	1064.06	1064.06	0.00	0.00
484	P-186	57.00	12.00	130.00	Open	-37.91	1060.02	1060.02	0.00	0.00
485 488	P-187 P-188	68.00 60.00	12.00 12.00	130.00 130.00	Open Open	0.28 220.74	1061.22 1058.25	1061.22 1058.25	0.00 0.01	0.00
491	P-189	62.00	12.00	130.00	Open	-151.06	1060.81	1060.81	0.00	0.00
494 497	P-190 P-191	67.00 63.00	12.00 12.00	130.00 130.00	Open Open	0.20 0.38	1215.51 1064.75	1215.51 1064.75	0.00	0.00
501	P-193	65.00	12.00	130.00	Open	2.24	1057.80	1057.80	0.00	0.00
504 507	P-194 P-195	66.00 66.00	12.00 12.00	130.00 130.00	Open Open	-219.01 0.26	1061.03 1322.91	1061.04 1322.91	0.01 0.00	0.00
510	P-196	67.00	12.00	130.00	Open	0.20	1218.03	1218.03	0.00	0.00
513	P-197	69.00	12.00	130.00	Open	72.09	1218.03	1218.03	0.00	0.00
516 519	P-198 P-199	69.00 71.00	12.00 12.00	130.00 130.00	Open Open	211.93 4.60	1058.13 1058.67	1058.12 1058.67	0.01 0.00	0.00
522	P-200	72.00	12.00	130.00	Open	125.64	1059.16	1059.16	0.00	0.00
525 528	P-201 P-202	73.00 73.00	12.00 12.00	130.00 130.00	Open Open	12.08 0.08	1322.91 1060.33	1322.91 1060.33	0.00	0.00
530	P-203	73.00	12.00	130.00	Open	23.29	1057.74	1057.74	0.00	0.00
533 535	P-204 P-205	78.00 75.00	12.00 12.00	130.00 130.00	Open Open	174.94 264.43	1058.41 1062.35	1058.40 1062.34	0.01 0.02	0.00
538	P-206	76.00	12.00	130.00	Open	-131.17	1057.88	1057.88	0.00	0.00
541	P-207	78.00	12.00 12.00	130.00	Open	-14.32	1064.63 1218.12	1064.63 1218.11	0.00	0.00
544 546	P-208 P-209	80.00 83.00	12.00	130.00 130.00	Open Open	81.75 -270.23	1064.19	1064.21	0.00 0.02	0.00
549	P-210	84.00	12.00	130.00	Open	62.05	1217.99	1217.99	0.00	0.00
551 554	P-211 P-212	85.00 86.00	12.00 12.00	130.00 130.00	Open Open	277.20 38.63	1061.83 981.49	1061.81 981.49	0.02	0.00
557	P-213	86.00	12.00	130.00	Open	-163.03	1059.32	1059.33	0.01	0.00
560 562	P-214 P-215	87.00 88.00	12.00 12.00	130.00 130.00	Open Open	-223.01 64.46	1058.49 1218.02	1058.50 1218.02	0.01 0.00	0.00
565	P-216	91.00	12.00	130.00	Open	83.68	1060.81	1060.81	0.00	0.00
568 571	P-217 P-218	91.00 94.00	12.00 12.00	130.00 130.00	Open Open	157.34 9.83	1064.21 1218.03	1064.20 1218.03	0.01 0.00	0.00
574	P-219	101.00	12.00	130.00	Open	1.78	1057.84	1057.84	0.00	0.00
577	P-220	102.00	12.00	130.00	Open	-149.26	1060.32	1060.33	0.01	0.00
579 581	P-221 P-222	102.00 103.00	12.00 12.00	130.00 130.00	Open Open	0.63 0.48	1059.74 1061.64	1059.74 1061.64	0.00	0.00
583	P-223	106.00	12.00	130.00	Open	0.08	1057.80	1057.80	0.00	0.00
585 587	P-224 P-225	132.00 108.00	12.00 12.00	130.00 130.00	Open Open	8.46 138.98	1322.91 1064.10	1322.91 1064.09	0.00 0.01	0.00 0.00
590	P-226	113.00	12.00	130.00	Open	0.11	1322.95	1322.95	0.00	0.00
593 595	P-227 P-228	113.00 114.00	12.00 12.00	130.00 130.00	Open Open	60.86 -143.76	1217.93 1058.54	1217.93 1058.55	0.00 0.01	0.00
597	P-229	114.00	12.00	130.00	Open	609.16	1061.32	1061.21	0.12	0.00
600 603	P-230 P-231	151.00 138.00	12.00 12.00	130.00 130.00	Open Open	44.12 257.22	1057.84 1215.51	1057.83 1215.48	0.00	0.00 0.00
604	P-231 P-232	117.00	12.00	130.00	Open	54.65	1217.88	1215.48	0.03	0.00
606	P-233	125.00	12.00	130.00	Open	-138.59	1059.28	1059.29	0.01	0.00
609 612	P-234 P-235	124.00 126.00	12.00 12.00	130.00 130.00	Open Open	262.23 -260.11	1060.23 1059.45	1060.20 1059.47	0.03	0.00
615	P-236	128.00	12.00	130.00	Open	280.61	1060.36	1060.33	0.03	0.00
617 619	P-237 P-238	156.00 130.00	12.00 12.00	130.00 130.00	Open Open	1.73 116.15	1061.12 1059.11	1061.12 1059.11	0.00 0.01	0.00
622	P-239	130.00	12.00	130.00	Open	0.11	1322.92	1322.92	0.00	0.00
625	P-240 P-241	134.00 136.00	12.00 12.00	130.00	Open	-217.10 0.00	1060.97	1060.99 981.48	0.02 0.00	0.00
628 630	P-241 P-242	136.00	12.00 12.00	130.00 130.00	Open Open	-0.68	981.48 1061.21	1061.21	0.00	0.00
633	P-243	136.00	12.00	130.00	Open	95.39	1059.05	1059.05	0.00	0.00
635 638	P-244 P-245	137.00 137.00	12.00 12.00	130.00 130.00	Open Open	-92.31 236.18	1058.69 1061.56	1058.69 1061.53	0.00 0.02	0.00 0.00
641	P-246	139.00	12.00	130.00	Open	-71.52	1064.13	1064.13	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
644	P-247	142.00	12.00	130.00	Open	-272.14	1064.33	1064.36	0.03	0.00
647 649	P-248 P-249	141.00 143.00	12.00 12.00	130.00 130.00	Open Open	-188.55 -49.03	1063.48 1064.07	1063.49 1064.07	0.02 0.00	0.00 0.00
652	P-250	147.00	12.00	130.00	Open	251.17	1061.75	1061.72	0.03	0.00
655	P-251	149.00	12.00	130.00	Open	-36.61	1060.02	1060.02	0.00	0.00
657 660	P-252 P-253	154.00 151.00	12.00 12.00	130.00 130.00	Open Open	57.48 104.22	1056.73 1059.75	1056.73 1059.74	0.00 0.01	0.00 0.00
663	P-254	202.00	12.00	130.00	Open	24.79	1218.03	1218.03	0.00	0.00
665	P-255	155.00	12.00	130.00	Open	-70.61	1064.12 1059.76	1064.12	0.00	0.00
668 670	P-256 P-257	158.00 160.00	12.00 12.00	130.00 130.00	Open Open	-101.70 11.20	1322.92	1059.76 1322.92	0.01 0.00	0.00 0.00
673	P-258	162.00	12.00	130.00	Open	138.21	1057.55	1057.54	0.01	0.00
676 678	P-259 P-260	162.00 194.00	12.00 12.00	130.00 130.00	Open Open	608.53 -1.11	1061.21 981.48	1061.05 981.48	0.16 0.00	0.00 0.00
679	P-261	166.00	12.00	130.00	Open	38.65	1322.95	1322.95	0.00	0.00
681	P-262	168.00	12.00	130.00	Open	-104.37	1059.75	1059.75	0.01	0.00
683 685	P-263 P-264	170.00 178.00	12.00 12.00	130.00 130.00	Open Open	15.25 -210.09	1322.92 1063.72	1322.92 1063.75	0.00 0.03	0.00 0.00
688	P-265	220.00	12.00	130.00	Open	261.32	1060.09	1060.04	0.05	0.00
689 692	P-266 P-267	184.00 174.00	12.00 12.00	130.00 130.00	Open Open	-13.59 -0.60	1218.60 1219.00	1218.60 1219.00	0.00	0.00 0.00
694	P-268	184.00	12.00	130.00	Open	334.11	1062.42	1062.35	0.06	0.00
696	P-269	178.00	12.00	130.00	Open	284.07	1062.15	1062.10	0.04	0.00
699 702	P-270 P-271	179.00 183.00	12.00 12.00	130.00 130.00	Open Open	0.11 0.60	1322.97 1218.03	1322.97 1218.03	0.00	0.00 0.00
703	P-272	183.00	12.00	130.00	Open	27.71	1057.47	1057.47	0.00	0.00
706 707	P-273 P-274	188.00 187.00	12.00 12.00	130.00 130.00	Open Open	16.32 228.07	1218.03	1218.03 1061.50	0.00	0.00 0.00
707	P-275	187.00	12.00	130.00	Open	129.76	1061.53 1059.21	1059.20	0.03	0.00
711	P-276	188.00	12.00	130.00	Open	49.66	1217.85	1217.85	0.00	0.00
714 717	P-277 P-278	190.00 206.00	12.00 12.00	130.00 130.00	Open Open	41.82 10.11	1322.98 1064.61	1322.98 1064.61	0.00	0.00 0.00
720	P-279	204.00	12.00	130.00	Open	53.50	1060.81	1060.81	0.00	0.00
723 725	P-280	206.00	12.00	130.00 130.00	Open	39.18	981.49	981.49	0.00	0.00
727	P-281 P-282	208.00 209.00	12.00 12.00	130.00	Open Open	136.62 70.32	1059.85 1218.03	1059.84 1218.02	0.01 0.00	0.00 0.00
728	P-283	207.00	12.00	130.00	Open	103.04	1059.06	1059.05	0.01	0.00
730 732	P-284 P-285	208.00 210.00	12.00 12.00	130.00 130.00	Open Open	120.06 -223.16	1218.38 1058.50	1218.37 1058.54	0.01 0.03	0.00 0.00
733	P-286	212.00	12.00	130.00	Open	-211.60	1063.75	1063.78	0.03	0.00
734	P-287	233.00	12.00	130.00	Open	612.07	1065.00	1064.76	0.24	0.00
8749 8750	P-287A P-287B	116.00 117.00	12.00 12.00	130.00 130.00	Open Open	0.00	1064.76 1065.00	1064.76 1065.00	0.00	0.00 0.00
736	P-288	215.00	12.00	130.00	Open	-61.33	1060.90	1060.91	0.00	0.00
739 741	P-289 P-290	292.00 220.00	12.00 12.00	130.00 130.00	Open Open	-377.59 -219.37	1064.88 1061.04	1065.00 1061.07	0.12 0.03	0.00 0.00
743	P-291	220.00	12.00	130.00	Open	-260.86	1059.47	1059.52	0.05	0.00
745	P-292	221.00	12.00	130.00	Open	-42.12	1060.04	1060.04	0.00	0.00
748 750	P-293 P-294	221.00 225.00	12.00 12.00	130.00 130.00	Open Open	32.55 -40.93	1218.35 1060.04	1218.35 1060.04	0.00	0.00 0.00
752	P-295	226.00	12.00	130.00	Open	217.03	1058.25	1058.21	0.03	0.00
754 755	P-296 P-297	306.00 241.00	12.00 12.00	130.00 130.00	Open Open	-371.70 0.48	1064.88 1058.67	1065.00 1058.67	0.12 0.00	0.00 0.00
757	P-298	240.00	12.00	130.00	Open	-217.14	1063.87	1063.90	0.04	0.00
760	P-299	245.00	12.00	130.00	Open	51.71	1060.81	1060.81	0.00	0.00
761 764	P-300 P-301	246.00 249.00	12.00 12.00	130.00 130.00	Open Open	-238.44 -213.27	1059.29 1063.83	1059.33 1063.87	0.04 0.04	0.00 0.00
766	P-302	252.00	12.00	130.00	Open	-219.36	1061.07	1061.11	0.04	0.00
767 769	P-303 P-304	252.00 318.00	12.00 12.00	130.00 130.00	Open Open	-202.49 31.16	1060.78 1218.03	1060.81 1218.03	0.03	0.00 0.00
771	P-305	255.00	12.00	130.00	Open	-86.92	1057.69	1057.70	0.01	0.00
774 776	P-306 P-307	257.00 260.00	12.00 12.00	130.00 130.00	Open Open	11.20 -258.55	1057.47 1059.39	1057.47 1059.45	0.00 0.05	0.00 0.00
778	P-308	260.00	12.00	130.00	Open	12.14	1057.47	1057.47	0.00	0.00
779	P-309	268.00	12.00	130.00	Open	83.38	1060.80	1060.79	0.01	0.00
782 784	P-310 P-311	264.00 305.00	12.00 12.00	130.00 130.00	Open Open	-216.14 84.44	1060.93 1060.82	1060.97 1060.81	0.04 0.01	0.00 0.00
786	P-312	266.00	12.00	130.00	Open	137.57	1064.14	1064.12	0.02	0.00
789 791	P-313 P-314	273.00 272.00	12.00 12.00	130.00 130.00	Open Open	-18.40 85.00	1060.89 1060.83	1060.89 1060.82	0.00 0.01	0.00
793	P-315	272.00	12.00	130.00	Open	16.96	981.48	981.48	0.00	0.00
794	P-316	279.00	12.00	130.00	Open	-258.39	1059.33	1059.39	0.06	0.00
795 797	P-317 P-318	271.00 271.00	12.00 12.00	130.00 130.00	Open Open	155.62 5.65	1064.16 1322.91	1064.14 1322.91	0.02 0.00	0.00 0.00
800	P-319	272.00	12.00	130.00	Open	-218.25	1060.99	1061.03	0.04	0.00
801 803	P-320 P-321	273.00 285.00	12.00 12.00	130.00 130.00	Open Open	64.42 -14.08	1057.48 1218.60	1057.47 1218.60	0.00	0.00 0.00
805	P-322	282.00	12.00	130.00	Open	132.34	1061.07	1061.06	0.00	0.00
807	P-323	282.00	12.00	130.00	Open	216.48	1058.21	1058.17	0.04	0.00
809 811	P-324 P-325	287.00 290.00	12.00 12.00	130.00 130.00	Open Open	0.36 212.08	1057.47 1058.17	1057.47 1058.13	0.00 0.04	0.00
812	P-326	407.00	12.00	130.00	Open	262.71	1061.72	1061.63	0.09	0.00
813 816	P-327 P-328	296.00 304.00	12.00	130.00	Open	28.83	1322.92	1322.92	0.00	0.00 0.00
819	P-328 P-329	304.00	12.00 12.00	130.00 130.00	Open Open	-40.22 176.72	1061.63 1061.06	1061.63 1061.02	0.00	0.00
821	P-330	313.00	12.00	130.00	Open	141.00	1060.88	1060.86	0.02	0.00
824 826	P-331 P-332	354.00 405.00	12.00 12.00	130.00 130.00	Open Open	184.98 7.86	1061.22 1322.91	1061.18 1322.91	0.04 0.00	0.00 0.00
828	P-333	314.00	12.00	130.00	Open	83.69	1218.21	1218.20	0.01	0.00
830	P-334	312.00	12.00	130.00	Open	-610.84	1062.90	1063.22	0.32	0.00
833 834	P-335 P-336	309.00 318.00	12.00 12.00	130.00 130.00	Open Open	1.93 -212.71	1057.84 1063.79	1057.84 1063.83	0.00 0.05	0.00 0.00
835	P-337	313.00	12.00	130.00	Open	85.35	1060.83	1060.83	0.01	0.00
837 839	P-338 P-339	311.00 313.00	12.00 12.00	130.00 130.00	Open Open	135.01 -97.43	1061.12 1059.69	1061.10 1059.70	0.02 0.01	0.00 0.00
842	P-340	323.00	12.00	130.00	Open	-0.48	1322.91	1322.91	0.00	0.00
843	P-341	324.00	12.00	130.00	Open	167.68	1064.28	1064.25	0.03	0.00
845	P-342	318.00	12.00	130.00	Open	14.14	1322.92	1322.92	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
847	P-343	330.00	12.00	130.00	Open	170.81	1064.51	1064.48	0.03	0.00
849	P-344	324.00	12.00	130.00	Open	-155.22	1058.75	1058.78	0.03	0.00
852 855	P-345 P-346	323.00 324.00	12.00 12.00	130.00 130.00	Open Open	60.30 253.08	1059.73 1061.81	1059.73 1061.75	0.00 0.06	0.00 0.00
856	P-347	327.00	12.00	130.00	Open	41.14	1322.97	1322.96	0.00	0.00
858	P-348	342.00	12.00	130.00	Open	-161.72	1059.29	1059.32	0.03	0.00
859 862	P-349 P-350	332.00 339.00	12.00 12.00	130.00 130.00	Open Open	225.25 81.42	1061.38 1059.74	1061.33 1059.73	0.05 0.01	0.00 0.00
863	P-351	337.00	12.00	130.00	Open	226.36	1061.44	1061.38	0.05	0.00
865	P-352 P-353	338.00	12.00	130.00	Open	82.27	1060.78	1060.78	0.01	0.00
867 869	P-354	355.00 339.00	12.00 12.00	130.00 130.00	Open Open	16.76 282.35	1061.62 1218.02	1061.62 1217.94	0.00 0.08	0.00 0.00
871	P-355	341.00	12.00	130.00	Open	-137.84	1059.26	1059.28	0.02	0.00
873 876	P-356 P-357	363.00 342.00	12.00 12.00	130.00 130.00	Open Open	-12.78 -132.28	1064.63 1059.21	1064.63 1059.23	0.00 0.02	0.00 0.00
878	P-358	347.00	12.00	130.00	Open	-60.22	1055.21	1057.75	0.02	0.00
880	P-359	348.00	12.00	130.00	Open	29.57	1322.93	1322.93	0.00	0.00
883 885	P-360 P-361	363.00 353.00	12.00 12.00	130.00 130.00	Open Open	-90.50 -273.38	1058.64 1064.36	1058.66 1064.44	0.01 0.08	0.00 0.00
886	P-362	363.00	12.00	130.00	Open	69.61	1062.35	1062.35	0.01	0.00
888	P-363	357.00	12.00	130.00	Open	-58.56	1060.90	1060.90	0.00	0.00
890 892	P-364 P-365	360.00 361.00	12.00 12.00	130.00 130.00	Open Open	-61.18 83.53	1057.75 1060.81	1057.75 1060.80	0.01 0.01	0.00
893	P-366	359.00	12.00	130.00	Open	14.60	1064.62	1064.62	0.00	0.00
896	P-367	454.00	12.00	130.00	Open	-86.26	1058.59	1058.61	0.01	0.00
898 899	P-368 P-369	379.00 366.00	12.00 12.00	130.00 130.00	Open Open	-85.30 82.82	1058.58 1060.79	1058.59 1060.78	0.01 0.01	0.00 0.00
900	P-370	365.00	12.00	130.00	Open	-46.84	1064.07	1064.07	0.00	0.00
902	P-371	367.00	12.00	130.00	Open	-261.17	1059.66	1059.74	0.08	0.00
905 906	P-372 P-373	379.00 370.00	12.00 12.00	130.00 130.00	Open Open	2.59 -93.07	1057.80 1058.69	1057.80 1058.70	0.00 0.01	0.00 0.00
908	P-374	532.00	12.00	130.00	Open	262.08	1060.20	1060.09	0.11	0.00
909	P-375	375.00	12.00	130.00	Open	119.66	1218.37	1218.35	0.02	0.00
910 911	P-376 P-377	381.00 409.00	12.00 12.00	130.00 130.00	Open Open	-71.17 236.74	1064.12 1061.63	1064.13 1061.56	0.01 0.07	0.00 0.00
912	P-378	470.00	12.00	130.00	Open	262.23	1059.84	1059.74	0.10	0.00
913	P-379	387.00	12.00	130.00	Open	-133.66	1058.66	1058.68	0.02	0.00
916 917	P-380 P-381	385.00 387.00	12.00 12.00	130.00 130.00	Open Open	136.62 0.79	1064.12 1059.74	1064.10 1059.74	0.02	0.00 0.00
918	P-382	392.00	12.00	130.00	Open	0.38	1064.76	1064.76	0.00	0.00
920	P-383	427.00	12.00	130.00	Open	-2.44	1057.91	1057.91	0.00	0.00
922 923	P-384 P-385	411.00 396.00	12.00 12.00	130.00 130.00	Open Open	140.64 134.65	1060.86 1061.10	1060.83 1061.07	0.03 0.02	0.00 0.00
924	P-386	400.00	12.00	130.00	Open	277.75	1217.08	1216.98	0.09	0.00
926 927	P-387 P-388	401.00 405.00	12.00 12.00	130.00 130.00	Open Open	227.32 79.47	1061.50 1058.55	1061.44 1058.54	0.07 0.01	0.00 0.00
929	P-389	407.00	12.00	130.00	Open	-2.99	1057.91	1057.91	0.00	0.00
931	P-390	407.00	12.00	130.00	Open	-135.00	1059.23	1059.26	0.03	0.00
932 935	P-391 P-392	410.00 444.00	12.00 12.00	130.00 130.00	Open Open	-51.61 -44.77	1064.10 1064.06	1064.10 1064.06	0.00	0.00 0.00
937	P-393	412.00	12.00	130.00	Open	166.92	1064.00	1064.00	0.04	0.00
938	P-394	412.00	12.00	130.00	Open	-93.23	1058.70	1058.71	0.01	0.00
940 942	P-395 P-396	420.00 424.00	12.00 12.00	130.00 130.00	Open Open	-149.33 -19.67	1057.88 1218.61	1057.92 1218.61	0.03	0.00 0.00
944	P-397	420.00	12.00	130.00	Open	-175.76	1060.45	1060.50	0.04	0.00
947	P-398	552.00 438.00	12.00	130.00	Open	7.02 12.51	1057.92	1057.92	0.00	0.00
949 951	P-399 P-400	438.00	12.00 12.00	130.00 130.00	Open Open	12.51 84.97	1060.81 1218.25	1060.81 1218.24	0.00 0.01	0.00 0.00
953	P-401	433.00	12.00	130.00	Open	210.62	1058.12	1058.06	0.06	0.00
955	P-402	440.00	12.00	130.00	Open	-53.67	1064.11	1064.12	0.00	0.00
957 958	P-403 P-404	514.00 447.00	12.00 12.00	130.00 130.00	Open Open	-144.12 -91.00	1058.55 1058.66	1058.58 1058.67	0.04 0.01	0.00 0.00
960	P-405	445.00	12.00	130.00	Open	-217.50	1063.90	1063.97	0.07	0.00
961	P-406 P-407	448.00 454.00	12.00	130.00	Open	-21.41	1057.82	1057.82	0.00	0.00
963 965	P-408	454.00	12.00 12.00	130.00 130.00	Open Open	262.05 -38.46	1216.98 1060.02	1216.88 1060.02	0.10 0.00	0.00 0.00
967	P-409	455.00	12.00	130.00	Open	-155.37	1058.78	1058.82	0.04	0.00
969 970	P-410 P-411	510.00 508.00	12.00 12.00	130.00 130.00	Open Open	133.76 170.30	1061.15 1064.43	1061.12 1064.39	0.03 0.05	0.00 0.00
973	P-412	494.00	12.00	130.00	Open	-20.07	1218.61	1218.61	0.00	0.00
975	P-413	464.00	12.00	130.00	Open	61.81	1056.74	1056.73	0.01	0.00
977 978	P-414 P-415	465.00 465.00	12.00 12.00	130.00 130.00	Open Open	156.58 -578.02	1064.20 1064.45	1064.16 1064.88	0.04 0.43	0.00 0.00
979	P-416	465.00	12.00	130.00	Open	278.91	1061.94	1061.83	0.11	0.00
981	P-417	470.00	12.00	130.00	Open	26.30	1057.82	1057.82	0.00	0.00
984 986	P-418 P-419	473.00 479.00	12.00 12.00	130.00 130.00	Open Open	105.75 -237.73	1059.11 1059.12	1059.09 1059.20	0.02 0.08	0.00 0.00
989	P-420	479.00	12.00	130.00	Open	135.67	1061.18	1061.15	0.03	0.00
990	P-421	488.00	12.00	130.00	Open	-45.53	1064.06	1064.06	0.00	0.00
992 994	P-422 P-423	480.00 482.00	12.00 12.00	130.00 130.00	Open Open	41.37 89.18	1322.97 1058.64	1322.97 1058.63	0.00 0.01	0.00
996	P-424	484.00	12.00	130.00	Open	-154.86	1058.71	1058.75	0.04	0.00
997	P-425	485.00	12.00	130.00	Open	43.76	1057.83	1057.83	0.00	0.00
999 1001	P-426 P-427	506.00 488.00	12.00 12.00	130.00 130.00	Open Open	-1.64 170.66	1322.92 1064.48	1322.92 1064.43	0.00 0.05	0.00 0.00
1001	P-428	490.00	12.00	130.00	Open	-46.28	1064.46	1064.43	0.00	0.00
1003	P-429	501.00	12.00	130.00	Open	11.77	1064.62	1064.62	0.00	0.00
1006 1009	P-430 P-431	492.00 495.00	12.00 12.00	130.00 130.00	Open Open	286.79 -53.52	1062.76 1064.11	1062.63 1064.11	0.12 0.01	0.00 0.00
1009	P-431 P-432	495.00	12.00	130.00	Open	0.23	1064.11	1064.11	0.00	0.00
1012	P-433	499.00	12.00	130.00	Open	-51.05	1064.09	1064.10	0.01	0.00
1014 1015	P-434 P-435	501.00 496.00	12.00 12.00	130.00 130.00	Open Open	57.48 116.30	981.50 1059.13	981.49 1059.11	0.01 0.02	0.00
1015	P-435 P-436	496.00 496.00	12.00 12.00	130.00	Open Open	82.95	1059.13	1059.11	0.02	0.00
1019	P-437	497.00	12.00	130.00	Open	-237.88	1059.20	1059.29	0.09	0.00
1020 1021	P-438 P-439	498.00 500.00	12.00 12.00	130.00 130.00	Open Open	138.42 26.56	1064.09 1322.92	1064.06 1322.92	0.03	0.00 0.00
1023	P-440	528.00	12.00	130.00	Open	175.97	1061.02	1060.97	0.05	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
1025	P-441	504.00	12.00	130.00	Open	19.91	1058.76	1058.76	0.00	0.00
1027 1029	P-442 P-443	528.00 506.00	12.00 12.00	130.00 130.00	Open Open	-198.49 116.65	1063.66 1059.16	1063.72 1059.13	0.07 0.02	0.00
1030	P-444	506.00	12.00	130.00	Open	-236.67	1058.82	1058.91	0.09	0.00
1032	P-445 P-446	511.00	12.00 12.00	130.00	Open	-21.24	1057.84	1057.84	0.00	0.00
1034 1036	P-446 P-447	512.00 537.00	12.00	130.00 130.00	Open Open	169.95 10.26	1064.39 1064.61	1064.34 1064.61	0.05 0.00	0.00
1038	P-448	602.00	12.00	130.00	Open	-0.08	981.48	981.48	0.00	0.00
1040 1042	P-449 P-450	520.00 579.00	12.00 12.00	130.00 130.00	Open Open	36.92 -22.06	1057.83 1218.62	1057.83 1218.62	0.00	0.00
1045	P-451	853.00	12.00	130.00	Open	-221.70	1058.25	1058.39	0.13	0.00
1047 1049	P-452 P-453	520.00 529.00	12.00 12.00	130.00 130.00	Open Open	-0.23 -270.79	1062.90 1064.21	1062.90 1064.33	0.00 0.12	0.00
1050	P-454	525.00	12.00	130.00	Open	14.44	1064.62	1064.62	0.00	0.00
1052	P-455	660.00	12.00	130.00	Open	128.00	1059.20	1059.16	0.04	0.00
1053 1054	P-456 P-457	531.00 692.00	12.00 12.00	130.00 130.00	Open Open	-91.96 7.34	1058.67 1322.91	1058.69 1322.91	0.02	0.00
1056	P-458	549.00	12.00	130.00	Open	81.92	1057.69	1057.67	0.01	0.00
1059 1060	P-459 P-460	591.00 540.00	12.00 12.00	130.00 130.00	Open Open	168.79 22.22	1064.34 1057.82	1064.28 1057.81	0.06 0.00	0.00
1062	P-461	543.00	12.00	130.00	Open	154.69	1057.59	1057.55	0.04	0.00
1064	P-462 P-463	543.00	12.00 12.00	130.00	Open	11.15	1060.81 1064.62	1060.81 1064.62	0.00	0.00
1065 1067	P-464	549.00 561.00	12.00	130.00 130.00	Open Open	13.69 -42.40	1064.62	1064.62	0.00	0.00
1068	P-465	567.00	12.00	130.00	Open	610.22	1061.90	1061.32	0.58	0.00
1070 1072	P-466 P-467	565.00 568.00	12.00 12.00	130.00 130.00	Open Open	1.06 0.23	1060.02 1064.75	1060.02 1064.75	0.00	0.00
1073	P-468	571.00	12.00	130.00	Open	17.49	1218.03	1218.03	0.00	0.00
1074 1075	P-469 P-470	582.00 587.00	12.00 12.00	130.00 130.00	Open Open	-52.96 338.64	1064.10 1062.62	1064.11 1062.42	0.01 0.20	0.00
1077	P-471	615.00	12.00	130.00	Open	-62.08	1060.91	1060.92	0.01	0.00
1078 1081	P-472 P-473	599.00 602.00	12.00 12.00	130.00 130.00	Open	122.80 -50.70	1218.68 1064.09	1218.65 1064.09	0.03 0.01	0.00
1083	P-474	605.00	12.00	130.00	Open Open	221.93	1064.09	1064.09	0.01	0.00
1084	P-475	597.00	12.00	130.00	Open	-237.22	1058.91	1059.01	0.11	0.00
1086 1088	P-476 P-477	597.00 623.00	12.00 12.00	130.00 130.00	Open Open	12.82 -49.59	1322.92 1064.07	1322.91 1064.08	0.00 0.01	0.00
1090	P-478	602.00	12.00	130.00	Open	-237.58	1059.01	1059.12	0.11	0.00
1091 1092	P-479 P-480	604.00 670.00	12.00 12.00	130.00 130.00	Open Open	-197.54 7.00	1063.58 1060.81	1063.66 1060.81	0.08	0.00
1094	P-481	603.00	12.00	130.00	Open	86.51	1218.32	1218.31	0.02	0.00
1097	P-482	613.00	12.00	130.00	Open	4.77	1322.91	1322.91	0.00	0.00
1099 1101	P-483 P-484	614.00 639.00	12.00 12.00	130.00 130.00	Open Open	-164.59 -18.47	1060.34 1218.60	1060.39 1218.60	0.06 0.00	0.00
1103	P-485	637.00	12.00	130.00	Open	-85.96	1057.67	1057.69	0.02	0.00
1104 1106	P-486 P-487	635.00 641.00	12.00 12.00	130.00 130.00	Open Open	66.89 -0.38	1062.35 1062.90	1062.34 1062.90	0.01 0.00	0.00
1107	P-488	638.00	12.00	130.00	Open	38.13	1322.95	1322.94	0.00	0.00
1109 1110	P-489 P-490	659.00 690.00	12.00 12.00	130.00 130.00	Open Open	-222.85 17.72	1058.39 1061.62	1058.49 1061.62	0.10 0.00	0.00
1112	P-491	681.00	12.00	130.00	Open	13.77	1322.92	1322.92	0.00	0.00
1113 1114	P-492 P-493	697.00 682.00	12.00 12.00	130.00 130.00	Open Open	141.55 -261.02	1060.93 1059.52	1060.88 1059.66	0.05 0.14	0.00
1115	P-494	675.00	12.00	130.00	Open	-163.65	1060.81	1060.87	0.14	0.00
1117	P-495	675.00	12.00	130.00	Open	281.91	1062.10	1061.94	0.16	0.00
1118 1120	P-496 P-497	703.00 682.00	12.00 12.00	130.00 130.00	Open Open	37.07 -83.24	981.49 1057.72	981.49 1057.74	0.00 0.02	0.00
1122	P-498	687.00	12.00	130.00	Open	209.51	1058.06	1057.96	0.10	0.00
1123 1124	P-499 P-500	693.00 723.00	12.00 12.00	130.00 130.00	Open Open	-189.71 -50.14	1063.49 1064.08	1063.58 1064.09	0.08 0.01	0.00
1125	P-501	690.00	12.00	130.00	Open	-166.35	1060.39	1060.45	0.06	0.00
1126 1127	P-502 P-503	698.00 727.00	12.00 12.00	130.00 130.00	Open Open	-22.35 -74.51	1057.84 1060.92	1057.84 1060.93	0.00 0.02	0.00
1128	P-504	707.00	12.00	130.00	Open	237.05	1058.68	1058.56	0.12	0.00
1130 1133	P-505 P-506	716.00 732.00	12.00 12.00	130.00 130.00	Open Open	280.67 -72.90	1217.47 1058.68	1217.30 1058.70	0.17 0.01	0.00 0.00
1134	P-507	727.00	12.00	130.00	Open	147.71	1059.82	1059.76	0.05	0.00
1135	P-508	722.00	12.00	130.00	Open	257.71	1215.66	1215.51	0.15	0.00
1137 1138	P-509 P-510	723.00 723.00	12.00 12.00	130.00 130.00	Open Open	26.94 -611.14	1322.92 1064.01	1322.92 1064.75	0.00 0.74	0.00
1140	P-511	729.00	12.00	130.00	Open	-4.23	1058.66	1058.66	0.00	0.00
1142 1145	P-512 P-513	738.00 737.00	12.00 12.00	130.00 130.00	Open Open	20.11 -98.38	1057.81 1059.70	1057.81 1059.73	0.00	0.00
1147	P-514	824.00	12.00	130.00	Open	72.49	1218.05	1218.03	0.02	0.00
1149 1150	P-515 P-516	736.00 738.00	12.00 12.00	130.00 130.00	Open Open	104.80 223.69	1059.09 1061.33	1059.06 1061.21	0.03 0.12	0.00
1151	P-517	768.00	12.00	130.00	Open	202.64	1057.96	1057.85	0.10	0.00
1153 1154	P-518 P-519	778.00	12.00 12.00	130.00 130.00	Open	-202.28	1057.75 1322.91	1057.85	0.10	0.00
1154	P-520	780.00 766.00	12.00	130.00	Open Open	6.68 -36.54	1057.84	1322.91 1057.84	0.00	0.00
1157	P-521 P-522	770.00	12.00 12.00	130.00	Open	5.14 5.16	1322.91	1322.91	0.00	0.00
1158 1160	P-522 P-523	832.00 911.00	12.00 12.00	130.00 130.00	Open Open	5.16 87.22	1058.67 1058.63	1058.67 1058.61	0.00	0.00
1161	P-524	771.00	12.00	130.00	Open	8.23	1322.91	1322.91	0.00	0.00
1162 1164	P-525 P-526	787.00 768.00	12.00 12.00	130.00 130.00	Open Open	-5.18 6.03	1057.84 1057.80	1057.84 1057.80	0.00	0.00
1166	P-527	771.00	12.00	130.00	Open	36.77	1057.83	1057.82	0.00	0.00
1168 1170	P-528 P-529	777.00 786.00	12.00 12.00	130.00 130.00	Open Open	44.98 52.84	1059.76 1217.86	1059.76 1217.85	0.01 0.01	0.00
1170	P-530	797.00	12.00	130.00	Open	-43.74	1061.64	1061.64	0.01	0.00
1174	P-531	782.00	12.00	130.00	Open	-610.99	1063.22	1064.01	0.80	0.00
1175 1176	P-532 P-533	786.00 802.00	12.00 12.00	130.00 130.00	Open Open	35.11 12.61	981.49 1058.76	981.48 1058.76	0.00	0.00
1178	P-534	805.00	12.00	130.00	Open	41.60	1322.98	1322.97	0.01	0.00
1179 1181	P-535 P-536	807.00 940.00	12.00 12.00	130.00 130.00	Open Open	63.80 -19.27	1218.02 1218.60	1218.01 1218.61	0.01 0.00	0.00 0.00
1183	P-537	866.00	12.00	130.00	Open	10.82	1064.62	1064.61	0.00	0.00
1184	P-538	807.00	12.00	130.00	Open	-0.08	1075.00	1075.00	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
1187	P-539	825.00	12.00	130.00	Open	8.10	1057.80	1057.80	0.00	0.00
1189 1191	P-540 P-541	814.00 859.00	12.00 12.00	130.00 130.00	Open Open	37.45 -5.14	1322.93 1064.63	1322.93 1064.63	0.00	0.00
1193	P-542	831.00	12.00	130.00	Open	120.55	1218.42	1218.38	0.04	0.00
1195	P-543	822.00	12.00	130.00	Open	37.68	1322.94	1322.93	0.00	0.00
1197 1200	P-544 P-545	827.00 830.00	12.00 12.00	130.00 130.00	Open Open	39.10 53.85	1322.96 1217.87	1322.95 1217.86	0.01 0.01	0.00
1202	P-546	831.00	12.00	130.00	Open	10.47	1057.80	1057.80	0.00	0.00
1205 1207	P-547 P-548	838.00 839.00	12.00 12.00	130.00 130.00	Open Open	58.94 -40.38	1059.73 1060.03	1059.72 1060.04	0.01 0.01	0.00
1209	P-549	842.00	12.00	130.00	Open	236.49	1058.56	1058.41	0.15	0.00
1210 1213	P-550 P-551	890.00 1047.00	12.00 12.00	130.00 130.00	Open	27.56 83.29	1057.83 1218.20	1057.83 1218.17	0.00 0.03	0.00
1215	P-552	850.00	12.00	130.00	Open Open	261.48	1216.20	1216.17	0.03	0.00
1217	P-553	852.00	12.00	130.00	Open	16.51	1064.62	1064.62	0.00	0.00
1218 1219	P-554 P-555	857.00 859.00	12.00 12.00	130.00 130.00	Open Open	38.88 54.25	1322.95 1217.88	1322.95 1217.87	0.01 0.01	0.00
1220	P-556	930.00	12.00	130.00	Open	-4.91	1057.92	1057.92	0.00	0.00
1223 1226	P-557 P-558	873.00 887.00	12.00 12.00	130.00 130.00	Open Open	41.86 42.34	1059.74 1322.98	1059.73 1322.98	0.01 0.01	0.00
1227	P-559	883.00	12.00	130.00	Open	40.80	1059.71	1059.71	0.01	0.00
1230	P-560	910.00	12.00	130.00	Open	260.60	1216.49	1216.30	0.19	0.00
1233 1235	P-561 P-562	890.00 890.00	12.00 12.00	130.00 130.00	Open Open	-0.23 74.09	1075.00 1218.11	1075.00 1218.10	0.00 0.02	0.00
1236	P-563	891.00	12.00	130.00	Open	-96.27	1059.66	1059.69	0.03	0.00
1237 1238	P-564 P-565	897.00 901.00	12.00 12.00	130.00 130.00	Open Open	37.91 121.43	1322.94 1218.52	1322.94 1218.47	0.01 0.05	0.00
1241	P-566	925.00	12.00	130.00	Open	10.12	1057.80	1057.80	0.00	0.00
1243 1244	P-567 P-568	904.00 939.00	12.00 12.00	130.00 130.00	Open Open	40.92 61.26	1322.96 1217.95	1322.96 1217.93	0.01 0.01	0.00 0.00
1246	P-569	943.00	12.00	130.00	Open	-100.14	1059.73	1059.76	0.03	0.00
1247	P-570	1025.00	12.00	130.00	Open	66.53	1062.34	1062.32	0.02	0.00
1248 1249	P-571 P-572	945.00 916.00	12.00 12.00	130.00 130.00	Open Open	-57.20 281.56	1060.89 1217.94	1060.90 1217.72	0.01 0.22	0.00
1251	P-573	927.00	12.00	130.00	Open	278.15	1217.30	1217.08	0.22	0.00
1252 1253	P-574 P-575	1000.00 943.00	12.00 12.00	130.00 130.00	Open Open	-18.87 -25.14	1218.60 1061.63	1218.60 1061.63	0.00	0.00
1255	P-576	934.00	12.00	130.00	Open	20.66	1057.81	1057.81	0.00	0.00
1256 1258	P-577 P-578	962.00 949.00	12.00 12.00	130.00 130.00	Open Open	60.46 27.06	1217.93 1057.82	1217.92 1057.82	0.01 0.00	0.00
1260	P-579	944.00	12.00	130.00	Open	14.65	1322.92	1322.92	0.00	0.00
1262	P-580	948.00	12.00	130.00	Open	-267.11	1063.98	1064.19	0.21	0.00
1263 1265	P-581 P-582	962.00 1071.00	12.00 12.00	130.00 130.00	Open Open	11.11 72.89	1058.76 1218.07	1058.76 1218.05	0.00 0.02	0.00
1267	P-583	970.00	12.00	130.00	Open	258.54	1215.86	1215.66	0.20	0.00
1269 1270	P-584 P-585	984.00 988.00	12.00 12.00	130.00 130.00	Open Open	610.38 -21.26	1062.90 1218.61	1061.90 1218.61	1.00 0.00	0.00
1273	P-586	979.00	12.00	130.00	Open	259.54	1216.06	1215.86	0.20	0.00
1275 1278	P-587 P-588	1096.00 972.00	12.00 12.00	130.00 130.00	Open Open	-13.49 -5.94	1064.63 1057.84	1064.63 1057.84	0.00	0.00
1279	P-589	1010.00	12.00	130.00	Open	163.72	1060.24	1060.15	0.09	0.00
1282 1284	P-590 P-591	998.00 994.00	12.00 12.00	130.00	Open Open	-22.76 86.91	1059.75	1059.76	0.00	0.00
1285	P-592	1033.00	12.00	130.00 130.00	Open	303.30	1218.35 1064.16	1218.32 1063.87	0.03	0.00
1288	P-593	983.00	12.00	130.00	Open	59.66	1217.91	1217.89	0.01	0.00
1291 1294	P-594 P-595	988.00 1094.00	12.00 12.00	130.00 130.00	Open Open	28.27 164.40	1057.84 1060.97	1057.83 1060.87	0.00 0.10	0.00
1295	P-596	1000.00	12.00	130.00	Open	-182.48	1060.77	1060.88	0.11	0.00
1298 1299	P-597 P-598	1000.00 1002.00	12.00 12.00	130.00 130.00	Open Open	261.00 57.78	1216.70 1059.72	1216.49 1059.71	0.21 0.01	0.00
1300	P-599	996.00	12.00	130.00	Open	12.73	1064.62	1064.62	0.00	0.00
1301 1302	P-600 P-601	1101.00 1007.00	12.00 12.00	130.00 130.00	Open Open	15.09 -128.60	981.48 1057.82	981.48 1057.88	0.00 0.06	0.00
1304	P-602	1178.00	12.00	130.00	Open	-0.95	1322.92	1322.92	0.00	0.00
1306	P-603	1115.00	12.00	130.00	Open	-20.86	1218.61	1218.61	0.00	0.00
1308 1309	P-604 P-605	1001.00 1018.00	12.00 12.00	130.00 130.00	Open	29.20 -13.13	1322.93 1064.63	1322.92 1064.63	0.00	0.00
1310	P-606	1013.00	12.00	130.00	Open	164.28	1060.33	1060.24	0.09	0.00
1311 1314	P-607 P-608	1037.00 1017.00	12.00 12.00	130.00 130.00	Open Open	48.78 157.63	1217.83 1057.67	1217.82 1057.59	0.01 0.08	0.00
1315	P-609	1034.00	12.00	130.00	Open	-3.75	1057.91	1057.92	0.00	0.00
1316 1318	P-610 P-611	1028.00 1026.00	12.00 12.00	130.00 130.00	Open Open	0.71 60.06	1060.02 1217.92	1060.02 1217.91	0.00 0.01	0.00
1319	P-612	1033.00	12.00	130.00	Open	303.85	1064.45	1064.16	0.29	0.00
1320	P-613 P-614	1027.00 1029.00	12.00 12.00	130.00 130.00	Open Open	-6.07	1057.92 1057.80	1057.92 1057.80	0.00	0.00
1321 1322	P-615	1050.00	12.00	130.00	Open	6.99 121.03	1218.47	1218.42	0.05	0.00
1323	P-616	1030.00	12.00	130.00	Open	281.07	1217.72	1217.47	0.25	0.00
1324 1326	P-617 P-618	1044.00 1208.00	12.00 12.00	130.00 130.00	Open Open	0.48 -13.84	1060.87 1064.63	1060.87 1064.63	0.00	0.00
1327	P-619	1056.00	12.00	130.00	Open	-0.48	1322.91	1322.91	0.00	0.00
1328 1330	P-620 P-621	1102.00 1052.00	12.00 12.00	130.00 130.00	Open Open	82.15 9.97	1218.14 1057.80	1218.12 1057.80	0.03	0.00
1332	P-622	1062.00	12.00	130.00	Open	162.77	1060.15	1060.06	0.09	0.00
1334 1335	P-623 P-624	1076.00 1091.00	12.00 12.00	130.00 130.00	Open Open	-20.47 59.26	1218.61 1217.89	1218.61 1217.88	0.00 0.01	0.00
1336	P-625	1088.00	12.00	130.00	Open	15.03	1322.92	1322.92	0.00	0.00
1337	P-626	1102.00	12.00	130.00	Open	28.12	1057.83	1057.83	0.00	0.00
1338 1339	P-627 P-628	1314.00 1117.00	12.00 12.00	130.00 130.00	Open Open	63.06 123.28	1218.01 1218.74	1217.99 1218.68	0.02 0.06	0.00
1341	P-629	1095.00	12.00	130.00	Open	11.85	1322.91	1322.91	0.00	0.00
1342 1343	P-630 P-631	1166.00 1152.00	12.00 12.00	130.00 130.00	Open Open	-24.12 -41.98	1059.76 1061.63	1059.76 1061.64	0.00 0.01	0.00
1344	P-632	1133.00	12.00	130.00	Open	107.68	1057.54	1057.49	0.05	0.00
1345 1346	P-633 P-634	1141.00 1145.00	12.00 12.00	130.00 130.00	Open Open	259.94 -123.88	1216.30 1057.76	1216.06 1057.82	0.24 0.06	0.00 0.00
1348	P-635	1189.00	12.00	130.00	Open	0.56	1060.02	1060.02	0.00	0.00
1350	P-636	1176.00	12.00	130.00	Open	84.57	1218.24	1218.21	0.03	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
1351	P-637	1390.00	12.00	130.00	Open	161.81	1060.06	1059.94	0.12	0.00
1352 1353	P-638 P-639	1201.00 1480.00	12.00 12.00	130.00 130.00	Open Open	82.55 156.85	1218.17 1059.94	1218.14 1059.82	0.03 0.12	0.00
1354	P-640	1228.00	12.00	130.00	Open	40.95	1059.72	1059.71	0.01	0.00
1356	P-641	1190.00	12.00	130.00	Open	0.00	1060.81	1060.81	0.00	0.00
1357 1359	P-642 P-643	1232.00 1290.00	12.00 12.00	130.00 130.00	Open Open	122.40 -21.66	1218.65 1218.61	1218.58 1218.62	0.06 0.00	0.00
1360	P-644	1242.00	12.00	130.00	Open	122.00	1218.58	1218.52	0.06	0.00
1361 1362	P-645 P-646	1252.00 1268.00	12.00 12.00	130.00 130.00	Open Open	-177.32 -39.22	1060.50 1060.02	1060.63 1060.03	0.13 0.01	0.00
1363	P-647	1300.00	12.00	130.00	Open	-118.35	1057.70	1057.76	0.06	0.00
1364 1365	P-648 P-649	1515.00 1306.00	12.00 12.00	130.00 130.00	Open	41.10 49.26	1059.73 1217.85	1059.72 1217.83	0.01 0.01	0.00
1366	P-650	1313.00	12.00	130.00	Open Open	-181.32	1060.63	1060.77	0.14	0.00
1367	P-651	1475.00	12.00	130.00	Open	82.28	1057.72	1057.69	0.04	0.00
1368 1369	P-652 P-653	1442.00 1446.00	12.00 12.00	130.00 130.00	Open Open	264.07 73.29	1062.34 1218.10	1062.03 1218.07	0.31 0.03	0.00
1370	P-654	2121.00	12.00	130.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
1372 1373	P-655 P-656	1683.00 1602.00	12.00 12.00	130.00 130.00	Open Open	284.68 338.99	1060.78 1063.16	1060.36 1062.62	0.42 0.55	0.00
1375	P-657	1814.00	12.00	130.00	Open	55.01	1060.83	1060.81	0.02	0.00
1376	P-658	1762.00	12.00	130.00	Open	9.26	1057.80	1057.80	0.00	0.00
1378 1379	P-659 P-660	1671.00 2004.00	12.00 12.00	130.00 130.00	Open Open	9.81 86.11	1057.80 1218.31	1057.80 1218.25	0.00 0.05	0.00
1380	P-661	2029.00	12.00	130.00	Open	28.43	1057.84	1057.84	0.01	0.00
1381 1382	P-662 P-663	1862.00 1952.00	12.00 12.00	130.00 130.00	Open Open	217.89 285.23	1060.04 1062.63	1059.76 1062.15	0.28 0.48	0.00 0.00
1383	P-664	1900.00	12.00	130.00	Open	27.41	1057.83	1057.82	0.01	0.00
1384 1385	P-665 P-666	2216.00 2065.00	12.00 12.00	130.00 130.00	Open Open	25.47 339.95	1061.63 1063.87	1061.62 1063.16	0.01 0.71	0.00 0.00
1386	P-667	2830.00	12.00	130.00	Open	61.65	1217.99	1217.95	0.71	0.00
1387	P-668	2731.00	12.00	130.00	Open	19.75	1057.81	1057.81	0.00	0.00
1389 1391	P-669 P-670	2751.00 3072.00	12.00 12.00	130.00 130.00	Open Open	-156.43 -158.99	1057.92 1058.14	1058.14 1058.40	0.22 0.26	0.00
1392	P-671	2919.00	12.00	130.00	Open	43.02	1059.76	1059.74	0.02	0.00
1393 1394	P-672 P-673	3784.00 4336.00	12.00 12.00	130.00 130.00	Open Open	171.12 11.23	1064.88 1057.81	1064.51 1057.80	0.36 0.00	0.00
1395	P-674	3.00	16.00	130.00	Open	-45.04	1064.63	1064.63	0.00	0.00
1398	P-675	6.00	16.00	130.00	Open	-68.26	1064.64	1064.64	0.00	0.00
1400 1402	P-676 P-677	11.00 16.00	16.00 16.00	130.00 130.00	Open Open	0.28 -8.98	1059.04 1058.64	1059.04 1058.64	0.00	0.00
1405	P-678	17.00	16.00	130.00	Open	-182.83	1060.88	1060.88	0.00	0.00
1407 1411	P-679 P-681	22.00 22.00	16.00 16.00	130.00 130.00	Open Open	176.51 -0.08	1058.76 1064.63	1058.76 1064.63	0.00	0.00
1413	P-682	24.00	16.00	130.00	Open	79.52	1058.64	1058.64	0.00	0.00
1416 1418	P-683 P-684	34.00 46.00	16.00 16.00	130.00 130.00	Open Open	137.47 1.38	1058.68 1058.64	1058.68 1058.64	0.00	0.00
1421	P-685	60.00	16.00	130.00	Open	158.21	1058.71	1058.71	0.00	0.00
1424	P-686	72.00	16.00	130.00	Open	196.50	1058.77	1058.76	0.00	0.00
1426 1429	P-687 P-688	78.00 81.00	16.00 16.00	130.00 130.00	Open Open	0.08 -0.28	1058.64 1060.88	1058.64 1060.88	0.00	0.00
1431	P-689	90.00	16.00	130.00	Open	138.18	1058.69	1058.69	0.00	0.00
1434 1437	P-690 P-691	120.00 124.00	16.00 16.00	130.00 130.00	Open Open	2.69 0.23	1058.64 1058.64	1058.64 1058.64	0.00	0.00
1439	P-692	134.00	16.00	130.00	Open	168.58	1058.72	1058.72	0.00	0.00
1442 1444	P-693 P-694	147.00 153.00	16.00 16.00	130.00 130.00	Open Open	-3.25 251.34	1058.64 1058.85	1058.64 1058.85	0.00 0.01	0.00
1447	P-695	164.00	16.00	130.00	Open	-8.42	1058.64	1058.64	0.00	0.00
1448	P-696	170.00	16.00 16.00	130.00	Open	263.50	1060.38	1060.37	0.01	0.00
1451 1453	P-697 P-698	200.00 228.00	16.00	130.00 130.00	Open Open	315.74 2.14	1059.04 1058.64	1059.03 1058.64	0.01 0.00	0.00
1454	P-699	258.00	16.00	130.00	Open	-184.51	1061.04	1061.05	0.01	0.00
1456 1459	P-700 P-701	259.00 277.00	16.00 16.00	130.00 130.00	Open Open	91.30 146.42	1058.65 1058.70	1058.65 1058.69	0.00 0.01	0.00
1461	P-702	278.00	16.00	130.00	Open	1.03	1058.64	1058.64	0.00	0.00
1463 1465	P-703 P-704	317.00 325.00	16.00 16.00	130.00 130.00	Open Open	91.85 -38.40	1058.65 1058.66	1058.65 1058.66	0.00	0.00
1467	P-705	329.00	16.00	130.00	Open	303.45	1058.88	1058.85	0.02	0.00
1469 1471	P-706 P-707	341.00 355.00	16.00 16.00	130.00 130.00	Open Open	169.29 72.77	1058.73 1058.64	1058.72 1058.64	0.01 0.00	0.00
1471	P-708	366.00	16.00	130.00	Open	-0.44	1058.64	1058.64	0.00	0.00
1475	P-709	378.00	16.00	130.00	Open	94.23	1058.66	1058.65	0.00	0.00
1477 1479	P-710 P-711	394.00 417.00	16.00 16.00	130.00 130.00	Open Open	0.87 171.96	1058.64 1058.76	1058.64 1058.75	0.00 0.01	0.00
1481	P-712	417.00	16.00	130.00	Open	314.83	1058.99	1058.95	0.03	0.00
1484 1485	P-713 P-714	442.00 449.00	16.00 16.00	130.00 130.00	Open Open	94.39 137.63	1058.66 1058.69	1058.66 1058.68	0.00 0.01	0.00 0.00
1486	P-715	452.00	16.00	130.00	Open	0.32	1058.64	1058.64	0.00	0.00
1487 1490	P-716 P-717	453.00 462.00	16.00 16.00	130.00 130.00	Open Open	250.83 90.74	1058.82 1058.65	1058.80 1058.64	0.02 0.00	0.00
1491	P-718	475.00	16.00	130.00	Open	171.00	1058.75	1058.74	0.01	0.00
1493 1494	P-719 P-720	475.00 478.00	16.00 16.00	130.00 130.00	Open Open	169.64 197.46	1058.74 1058.78	1058.73 1058.77	0.01 0.01	0.00 0.00
1494	P-720 P-721	502.00	16.00	130.00	Open	168.42	1058.78	1058.77	0.01	0.00
1497	P-722	516.00	16.00	130.00	Open	304.21	1058.91	1058.88	0.04	0.00
1499 1500	P-723 P-724	536.00 549.00	16.00 16.00	130.00 130.00	Open Open	251.19 200.44	1058.85 1058.80	1058.82 1058.78	0.03 0.02	0.00
1501	P-725	553.00	16.00	130.00	Open	315.38	1059.03	1058.99	0.04	0.00
1502 1503	P-726 P-727	559.00 573.00	16.00 16.00	130.00 130.00	Open Open	78.97 157.86	1058.64 1058.71	1058.64 1058.70	0.00 0.01	0.00
1504	P-728	599.00	16.00	130.00	Open	-184.20	1060.99	1061.01	0.02	0.00
1507 1508	P-729 P-730	616.00	16.00 16.00	130.00 130.00	Open	304.56 423.38	1058.95 1060.94	1058.91 1060.86	0.04 0.08	0.00
1508	P-730 P-731	624.00 645.00	16.00	130.00	Open Open	423.38 422.27	1060.94	1060.86	0.08	0.00
1514	P-732	649.00	16.00	130.00	Open	-11.14	1058.64	1058.64	0.00	0.00
1515 1516	P-733 P-734	785.00 804.00	16.00 16.00	130.00 130.00	Open Open	-4.31 423.94	1058.66 1061.05	1058.66 1060.94	0.00 0.10	0.00 0.00
1517	P-735	844.00	16.00	130.00	Open	262.59	1060.27	1060.23	0.04	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
1519	P-736	916.00	16.00	130.00	Open	421.77	1060.49	1060.38	0.12	0.00
1521 1524	P-737 P-738	965.00 992.00	16.00 16.00	130.00 130.00	Open Open	-183.90 422.83	1060.94 1060.86	1060.96 1060.74	0.03 0.13	0.00
1525	P-739	1029.00	16.00	130.00	Open	-183.34	1060.91	1060.94	0.03	0.00
1527	P-740	1047.00	16.00	130.00	Open	-184.05	1060.96	1060.99	0.03	0.00
1528 1529	P-741 P-742	1064.00 1204.00	16.00 16.00	130.00 130.00	Open Open	-184.36 -182.99	1061.01 1060.88	1061.04 1060.91	0.03 0.03	0.00
1530	P-743	1275.00	16.00	130.00	Open	421.92	1060.66	1060.49	0.16	0.00
1531	P-744	1748.00	16.00	130.00	Open	110.28	1064.66	1064.64	0.02	0.00
1533 1534	P-745 P-746	1856.00 1952.00	16.00 16.00	130.00 130.00	Open Open	263.14 -45.19	1060.37 1064.63	1060.27 1064.63	0.10 0.00	0.00
1536	P-747	2626.00	16.00	130.00	Open	-67.90	1064.63	1064.64	0.01	0.00
1537 1539	P-748 P-749	7.00 104.00	18.00 18.00	130.00 130.00	Open Open	400.26 525.51	1218.74 1219.01	1218.74 1219.00	0.00 0.01	0.00
1541	P-750	140.00	18.00	130.00	Open	377.12	1218.62	1218.61	0.01	0.00
1543	P-751	318.00	18.00	130.00	Open	375.13	1218.38	1218.36	0.02	0.00
1546 1548	P-752 P-753	358.00 397.00	18.00 18.00	130.00 130.00	Open Open	524.72 333.93	1219.00 1218.15	1218.96 1218.13	0.04 0.02	0.00
1551	P-754	682.00	18.00	130.00	Open	343.22	1218.36	1218.32	0.03	0.00
1553 1555	P-755 P-756	819.00 872.00	18.00 18.00	130.00 130.00	Open Open	329.15 399.78	1218.07 1218.74	1218.04 1218.68	0.04 0.06	0.00
1557	P-757	1014.00	18.00	130.00	Open	376.72	1218.61	1218.55	0.06	0.00
1559	P-758	946.00	18.00	130.00	Open	376.32	1218.55	1218.50	0.05	0.00
1561 1563	P-759 P-760	1039.00 978.00	18.00 18.00	130.00 130.00	Open Open	523.75 399.38	1218.85 1218.68	1218.74 1218.62	0.11 0.06	0.00
1564	P-761	1000.00	18.00	130.00	Open	375.53	1218.43	1218.38	0.06	0.00
1566	P-762	1064.00	18.00	130.00	Open	524.32	1218.96 1218.50	1218.85 1218.43	0.11	0.00
1567 1568	P-763 P-764	1100.00 1234.00	18.00 18.00	130.00 130.00	Open Open	375.93 333.53	1218.13	1218.07	0.06 0.06	0.00
1569	P-765	1813.00	18.00	130.00	Open	342.42	1218.23	1218.15	0.09	0.00
1571 1572	P-766 P-767	1869.00 2.00	18.00 2.00	130.00 130.00	Open Open	342.82 0.48	1218.32 1059.32	1218.23 1059.32	0.09	0.00
1575	P-768	2.00	2.00	130.00	Open	-0.40	1216.98	1216.98	0.00	0.00
1578	P-769	6.00	2.00	130.00	Open	-0.88	1062.01	1062.01	0.00	0.00
1581 1584	P-770 P-771	6.00 9.00	2.00 2.00	130.00 130.00	Open Open	0.28 0.28	1061.84 1061.84	1061.84 1061.84	0.00	0.00
1586	P-772	10.00	2.00	130.00	Open	3.80	961.57	961.56	0.01	0.00
1589	P-773 P-774	12.00	2.00 2.00	130.00	Open	-0.28	1064.62 1061.05	1064.62	0.00	0.00
1592 1598	P-776	13.00 15.00	2.00	130.00 130.00	Open Open	0.88 0.68	1061.03	1061.05 1061.02	0.00	0.00
1601	P-777	15.00	2.00	130.00	Open	0.63	1061.84	1061.84	0.00	0.00
1603 1606	P-778 P-779	15.00 16.00	2.00 2.00	130.00 130.00	Open Open	0.68 0.68	1061.04 1061.02	1061.04 1061.02	0.00	0.00
1609	P-780	16.00	2.00	130.00	Open	1.44	1064.62	1064.62	0.00	0.00
1612	P-781	16.00	2.00	130.00	Open	0.68	1061.05	1061.05	0.00	0.00
1615 1618	P-782 P-783	17.00 18.00	2.00 2.00	130.00 130.00	Open Open	0.68 0.08	1057.07 1057.09	1057.07 1057.09	0.00	0.00
1621	P-784	26.00	2.00	130.00	Open	0.46	1217.75	1217.75	0.00	0.00
1624 1627	P-785 P-786	19.00 19.00	2.00 2.00	130.00 130.00	Open Open	0.68 0.48	1061.01 1059.84	1061.01 1059.84	0.00	0.00
1629	P-787	31.00	2.00	130.00	Open	4.37	1217.75	1217.73	0.00	0.00
1632	P-788	25.00	2.00	130.00	Open	1.68	1058.64	1058.64	0.00	0.00
1634 1637	P-789 P-790	26.00 28.00	2.00 2.00	130.00 130.00	Open Open	0.46 0.40	991.17 973.48	991.17 973.48	0.00	0.00
1640	P-791	28.00	2.00	130.00	Open	0.20	961.56	961.56	0.00	0.00
1642 1645	P-792 P-793	30.00 33.00	2.00 2.00	130.00 130.00	Open Open	1.58 -0.20	963.61 1216.98	963.60 1216.98	0.00	0.00
1647	P-794	34.00	2.00	130.00	Open	4.37	961.59	961.57	0.00	0.00
1648	P-795	36.00	2.00	130.00	Open	0.48	1201.27	1201.27	0.00	0.00
1651 1653	P-796 P-797	40.00 43.00	2.00 2.00	130.00 130.00	Open Open	-1.19 -0.48	1061.84 1064.80	1061.84 1064.80	0.00	0.00
1656	P-798	43.00	2.00	130.00	Open	-0.88	1061.02	1061.02	0.00	0.00
1659 1660	P-799 P-800	48.00 51.00	2.00 2.00	130.00 130.00	Open Open	1.23 0.20	1059.32 993.43	1059.32 993.43	0.00	0.00
1663	P-801	54.00	2.00	130.00	Open	0.28	1058.81	1058.81	0.00	0.00
1666	P-802	53.00	2.00	130.00	Open	3.51	1022.93	1022.91	0.02	0.00
1669 1672	P-803 P-804	232.00 56.00	2.00 2.00	130.00 130.00	Open Open	0.55 0.20	1322.91 993.42	1322.91 993.42	0.00	0.00
1675	P-805	74.00	2.00	130.00	Open	0.20	973.48	973.48	0.00	0.00
1678 1681	P-806 P-807	58.00 58.00	2.00 2.00	130.00 130.00	Open Open	-1.64 -0.88	1060.83 1061.02	1060.84 1061.02	0.01 0.00	0.00 0.00
1684	P-808	368.00	2.00	130.00	Open	-1.28	1064.05	1064.07	0.03	0.00
1687	P-809	64.00	2.00	130.00	Open	0.88	1061.02	1061.02	0.00	0.00
1690 1693	P-810 P-811	64.00 67.00	2.00 2.00	130.00 130.00	Open Open	1.88 -0.08	1061.04 1059.26	1061.03 1059.26	0.01 0.00	0.00
1696	P-812	67.00	2.00	130.00	Open	0.48	1057.38	1057.38	0.00	0.00
1699	P-813	68.00	2.00	130.00	Open	0.68	1061.05	1061.04	0.00	0.00
1702 1705	P-814 P-815	70.00 72.00	2.00 2.00	130.00 130.00	Open Open	-1.44 -0.88	1060.84 1061.01	1060.84 1061.01	0.01 0.00	0.00
1708	P-816	74.00	2.00	130.00	Open	0.20	973.48	973.48	0.00	0.00
1710 1713	P-817 P-818	75.00 81.00	2.00 2.00	130.00 130.00	Open Open	0.46 0.68	973.48 1058.76	973.48 1058.76	0.00	0.00 0.00
1716	P-819	287.00	2.00	130.00	Open	-1.28	1056.76	1056.76	0.00	0.00
1719	P-820	120.00	2.00	130.00	Open	-0.48	1061.02	1061.02	0.00	0.00
1721 1724	P-821 P-822	98.00 103.00	2.00 2.00	130.00 130.00	Open Open	0.48 0.48	1061.04 1064.36	1061.04 1064.36	0.00	0.00
1727	P-823	88.00	2.00	130.00	Open	0.89	967.13	967.13	0.00	0.00
1730	P-824	100.00	2.00	130.00	Open	0.48	1058.99	1058.99	0.00	0.00
1733 1736	P-825 P-826	96.00 103.00	2.00 2.00	130.00 130.00	Open Open	-0.46 0.68	991.15 1061.60	991.15 1061.60	0.00	0.00
1739	P-827	112.00	2.00	130.00	Open	0.68	1058.99	1058.99	0.00	0.00
1742 1745	P-828 P-829	102.00 101.00	2.00 2.00	130.00 130.00	Open Open	0.48 0.48	1064.60 1059.33	1064.60 1059.33	0.00	0.00
1745 1748	P-829 P-830	143.00	2.00	130.00	Open	-0.68	1059.33	1059.33	0.00	0.00
1751	P-831	133.00	2.00	130.00	Open	0.88	1060.08	1060.08	0.00	0.00
1754 1757	P-832 P-833	134.00 128.00	2.00 2.00	130.00 130.00	Open Open	0.48 0.68	1057.81 1059.72	1057.81 1059.72	0.00	0.00
1760	P-834	149.00	2.00	130.00	Open	0.88	1061.85	1061.84	0.01	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
1763	P-835	114.00	2.00	130.00	Open	0.01	1061.61	1061.61	0.00	0.00
1766 1768	P-836 P-837	164.00 195.00	2.00 2.00	130.00 130.00	Open Open	0.48 0.55	1061.84 988.98	1061.84 988.98	0.00	0.00
1771	P-838	124.00	2.00	130.00	Open	-0.87	1061.61	1061.62	0.00	0.00
1773	P-839	165.00	2.00	130.00	Open	0.88	1061.61	1061.60	0.01	0.00
1776 1778	P-840 P-841	125.00 126.00	2.00 2.00	130.00 130.00	Open Open	1.84 1.68	1057.40 1056.91	1057.38 1056.90	0.02 0.01	0.00
1778	P-842	126.00	2.00	130.00	Open	0.48	1050.31	1059.33	0.00	0.00
1783	P-843	171.00	2.00	130.00	Open	0.88	1060.08	1060.08	0.01	0.00
1786 1789	P-844 P-845	159.00 155.00	2.00 2.00	130.00 130.00	Open Open	0.88 0.88	1060.13 1062.60	1060.12 1062.60	0.01 0.01	0.00
1792	P-846	159.00	2.00	130.00	Open	0.88	1062.60	1062.50	0.01	0.00
1795	P-847	174.00	2.00	130.00	Open	-0.48	1059.52	1059.53	0.00	0.00
1798 1800	P-848 P-849	132.00 149.00	2.00 2.00	130.00 130.00	Open Open	0.28 0.28	1058.65 981.47	1058.65 981.47	0.00	0.00
1803	P-850	134.00	2.00	130.00	Open	0.48	1064.79	1064.79	0.00	0.00
1806	P-851	187.00	2.00	130.00	Open	0.48	1062.01	1062.01	0.00	0.00
1809 1811	P-852 P-853	134.00 192.00	2.00 2.00	130.00 130.00	Open Open	0.89 0.48	1061.62 1062.12	1061.61 1062.11	0.00	0.00
1814	P-854	213.00	2.00	130.00	Open	0.68	1057.81	1057.81	0.00	0.00
1817	P-855	213.00	2.00	130.00	Open	-0.88	1059.52	1059.53	0.01	0.00
1820 1823	P-856 P-857	175.00 139.00	2.00 2.00	130.00 130.00	Open Open	0.68 0.68	1057.82 1059.15	1057.82 1059.15	0.00	0.00
1826	P-858	225.00	2.00	130.00	Open	0.88	1064.62	1064.62	0.01	0.00
1828 1830	P-859 P-860	149.00 212.00	2.00 2.00	130.00 130.00	Open Open	0.88 0.48	1057.38 1059.94	1057.38 1059.94	0.01 0.00	0.00
1833	P-861	193.00	2.00	130.00	Open	0.48	1059.94	1063.37	0.00	0.00
1836	P-862	220.00	2.00	130.00	Open	0.48	1064.60	1064.60	0.00	0.00
1839 1842	P-863 P-864	290.00 209.00	2.00 2.00	130.00 130.00	Open Open	1.08 0.88	1063.37 1064.62	1063.36 1064.61	0.01 0.01	0.00
1845	P-865	208.00	2.00	130.00	Open	0.68	1060.08	1060.08	0.00	0.00
1848	P-866	172.00	2.00	130.00	Open	-0.48	1061.07	1061.07	0.00	0.00
1851 1854	P-867 P-868	207.00 244.00	2.00 2.00	130.00 130.00	Open Open	2.49 -0.88	1059.73 1061.83	1059.68 1061.84	0.05 0.01	0.00
1857	P-869	181.00	2.00	130.00	Open	0.68	1059.27	1059.26	0.00	0.00
1860	P-870	301.00	2.00	130.00	Open	1.28	1063.37	1063.35	0.02	0.00
1863 1866	P-871 P-872	199.00 197.00	2.00 2.00	130.00 130.00	Open Open	0.68 1.28	1061.61 1064.62	1061.61 1064.61	0.00 0.01	0.00
1869	P-873	274.00	2.00	130.00	Open	0.48	1063.38	1063.38	0.00	0.00
1872	P-874	219.00	2.00	130.00	Open	0.46	1022.87	1022.86	0.00	0.00
1875 1878	P-875 P-876	206.00 251.00	2.00 2.00	130.00 130.00	Open Open	1.48 0.48	1062.60 1059.28	1062.58 1059.28	0.02 0.00	0.00
1880	P-877	230.00	2.00	130.00	Open	-1.28	1060.83	1060.84	0.02	0.00
1883	P-878	215.00	2.00	130.00	Open	-0.88	1064.61	1064.62	0.01	0.00
1886 1888	P-879 P-880	264.00 238.00	2.00 2.00	130.00 130.00	Open Open	0.48 0.88	1057.80 1061.62	1057.80 1061.61	0.00 0.01	0.00
1891	P-881	254.00	2.00	130.00	Open	0.63	988.98	988.98	0.00	0.00
1894	P-882	222.00	2.00	130.00	Open	2.09	1056.91	1056.88	0.04	0.00
1897 1900	P-883 P-884	221.00 244.00	2.00 2.00	130.00 130.00	Open Open	-2.09 -0.88	1056.95 1060.82	1056.99 1060.83	0.04 0.01	0.00
1902	P-885	275.00	2.00	130.00	Open	0.48	1059.53	1059.53	0.00	0.00
1905	P-886 P-887	223.00	2.00 2.00	130.00	Open Open	-0.68	1059.31	1059.32	0.00	0.00
1907 1910	P-887 P-888	227.00 234.00	2.00	130.00 130.00	Open	0.55 1.68	973.48 1064.90	973.48 1064.88	0.00 0.03	0.00
1913	P-889	233.00	2.00	130.00	Open	0.68	1059.27	1059.26	0.01	0.00
1916 1919	P-890 P-891	270.00 251.00	2.00 2.00	130.00 130.00	Open Open	0.48 0.68	1059.26 1059.26	1059.26 1059.25	0.00 0.01	0.00
1922	P-892	261.00	2.00	130.00	Open	-0.88	1060.83	1060.84	0.01	0.00
1924	P-893	253.00	2.00	130.00	Open	0.88	1063.25	1063.24	0.01	0.00
1927 1930	P-894 P-895	269.00 258.00	2.00 2.00	130.00 130.00	Open Open	0.29 -0.37	993.35 967.07	993.34 967.07	0.00	0.00
1933	P-896	262.00	2.00	130.00	Open	-0.48	1063.46	1063.46	0.00	0.00
1936	P-897	309.00	2.00	130.00	Open	-0.63	993.31	993.32	0.01	0.00
1939 1942	P-898 P-899	268.00 290.00	2.00 2.00	130.00 130.00	Open Open	0.88 0.88	1059.10 1064.85	1059.09 1064.84	0.01 0.01	0.00
1945	P-900	281.00	2.00	130.00	Open	0.88	1059.10	1059.09	0.01	0.00
1948	P-901	298.00	2.00	130.00	Open	0.40	1322.91	1322.91	0.00	0.00
1951 1954	P-902 P-903	292.00 289.00	2.00 2.00	130.00 130.00	Open Open	0.88 0.37	1064.63 993.34	1064.62 993.34	0.01 0.00	0.00 0.00
1957	P-904	310.00	2.00	130.00	Open	0.48	1064.63	1064.63	0.00	0.00
1960 1962	P-905 P-906	308.00 308.00	2.00 2.00	130.00 130.00	Open Open	-1.08 0.88	1059.18 1059.26	1059.20 1059.25	0.02 0.01	0.00
1965	P-907	317.00	2.00	130.00	Open	1.08	1059.26	1064.61	0.01	0.00
1968	P-908	321.00	2.00	130.00	Open	0.72	963.60	963.60	0.01	0.00
1971 1974	P-909 P-910	315.00 316.00	2.00 2.00	130.00 130.00	Open Open	-0.68 0.46	1063.24 967.07	1063.25 967.07	0.01 0.00	0.00
1977	P-910 P-911	324.00	2.00	130.00	Open	0.48	1064.83	1064.82	0.00	0.00
1980	P-912	337.00	2.00	130.00	Open	0.96	1064.62	1064.61	0.01	0.00
1982 1985	P-913 P-914	351.00 355.00	2.00 2.00	130.00 130.00	Open Open	-0.88 0.55	1064.61 973.48	1064.62 973.47	0.01 0.01	0.00
1988	P-915	374.00	2.00	130.00	Open	0.68	1064.62	1064.61	0.01	0.00
1991	P-916	390.00	2.00	130.00	Open	0.46	993.32	993.32	0.00	0.00
1994	P-917 P-918	359.00 423.00	2.00	130.00	Open	0.88	1201.27	1201.26	0.01	0.00
1997 2000	P-918 P-919	423.00 373.00	2.00 2.00	130.00 130.00	Open Open	-0.55 0.63	993.36 1022.87	993.37 1022.86	0.01 0.01	0.00
2003	P-920	374.00	2.00	130.00	Open	0.72	993.38	993.37	0.01	0.00
2006 2008	P-921 P-922	374.00 397.00	2.00 2.00	130.00 130.00	Open Open	-1.88 1.28	1059.11 1061.60	1059.16 1061.57	0.05 0.03	0.00 0.00
2008	P-922 P-923	407.00	2.00	130.00	Open	-0.89	993.34	993.35	0.03	0.00
2014	P-924	504.00	2.00	130.00	Open	0.46	962.42	962.41	0.01	0.00
2016 2019	P-925 P-926	714.00 572.00	2.00 2.00	130.00 130.00	Open Open	0.37 0.72	1022.90 1022.91	1022.89 1022.90	0.01 0.01	0.00
2019	P-926 P-927	568.00	2.00	130.00	Open	0.72	1216.98	1216.98	0.00	0.00
2023	P-928	755.00	2.00	130.00	Open	-0.37	961.56	961.57	0.01	0.00
2025 2028	P-929 P-930	892.00 903.00	2.00 2.00	130.00 130.00	Open Open	0.55 0.08	991.16 873.78	991.15 873.78	0.01 0.00	0.00 0.00
2031	P-931	974.00	2.00	130.00	Open	-0.68	1057.79	1057.81	0.02	0.00
2034	P-932	1630.00	2.00	130.00	Open	-1.06	1022.80	1022.88	0.08	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
2037	P-933	6.00	20.00	130.00	Open	3.56	1218.03	1218.03	0.00	0.00
2040 2042	P-934 P-935	7.00 16.00	20.00 20.00	130.00 130.00	Open Open	0.20 0.20	1218.03 1218.03	1218.03 1218.03	0.00	0.00
2045	P-936	24.00	20.00	130.00	Open	3.16	1218.03	1218.03	0.00	0.00
2047	P-937	62.00	20.00	130.00	Open	0.20	1218.03	1218.03	0.00	0.00
2049 2051	P-938 P-939	203.00 291.00	20.00 20.00	130.00 130.00	Open Open	3.96 40.90	1218.03 1218.03	1218.03 1218.03	0.00	0.00
2054	P-940	326.00	20.00	130.00	Open	-746.88	1064.88	1064.92	0.04	0.00
2056 2057	P-941 P-942	446.00 526.00	20.00 20.00	130.00 130.00	Open Open	43.00 4.62	1218.04 1218.03	1218.03 1218.03	0.00	0.00
2058	P-943	604.00	20.00	130.00	Open	36.75	1218.03	1218.03	0.00	0.00
2060 2063	P-944 P-945	679.00 682.00	20.00 20.00	130.00 130.00	Open	-475.27 -708.83	1063.48 1064.66	1063.52 1064.74	0.04 0.08	0.00
2063	P-945 P-947	681.00	20.00	130.00	Open Open	37.81	1218.03	1218.03	0.00	0.00
2070	P-948	693.00	20.00	130.00	Open	37.23	1218.03	1218.03	0.00	0.00
2071 2073	P-949 P-950	698.00 772.00	20.00 20.00	130.00 130.00	Open Open	39.43 -474.03	1218.03 1063.44	1218.03 1063.48	0.00 0.04	0.00
2075	P-951	1107.00	20.00	130.00	Open	36.26	1218.03	1218.03	0.00	0.00
2076 2077	P-952 P-953	1245.00 1364.00	20.00 20.00	130.00 130.00	Open Open	-711.55 38.86	1064.74 1218.03	1064.88 1218.03	0.14 0.00	0.00
2079	P-954	1503.00	20.00	130.00	Open	38.29	1218.03	1218.03	0.00	0.00
2080	P-955	2209.00	20.00	130.00	Open	-598.40	1064.13	1064.31	0.18	0.00
2082 2083	P-956 P-957	4305.00 9624.00	20.00 20.00	130.00 130.00	Open Open	-598.47 -526.32	1064.31 1063.52	1064.66 1064.13	0.35 0.62	0.00
2084	P-958	1.00	3.00	130.00	Open	-0.63	1218.02	1218.02	0.00	0.00
2087 2088	P-959 P-960	6.00 8.00	3.00 3.00	130.00 130.00	Open Open	-0.60 1.09	1216.98 1218.02	1216.98 1218.02	0.00	0.00 0.00
2090	P-961	10.00	3.00	130.00	Open	-1.81	993.43	993.43	0.00	0.00
2093 2096	P-962 P-963	13.00 25.00	3.00 3.00	130.00 130.00	Open Open	0.48 0.20	1059.06 991.24	1059.06 991.24	0.00	0.00 0.00
2099	P-964	43.00	3.00	130.00	Open	-0.20	993.39	993.39	0.00	0.00
2102	P-965	49.00	3.00	130.00	Open	0.88	1061.05	1061.05	0.00	0.00
2105 2107	P-966 P-967	75.00 59.00	3.00 3.00	130.00 130.00	Open Open	1.40 1.48	993.35 1061.04	993.35 1061.04	0.00	0.00
2110	P-968	82.00	3.00	130.00	Open	-1.08	1062.90	1062.90	0.00	0.00
2113 2116	P-969 P-970	80.00 90.00	3.00 3.00	130.00 130.00	Open Open	-0.48 0.92	1057.76 993.32	1057.76 993.32	0.00	0.00
2118	P-971	212.00	3.00	130.00	Open	0.68	1061.62	1061.61	0.00	0.00
2121 2124	P-972 P-973	151.00 98.00	3.00 3.00	130.00 130.00	Open Open	-0.88 0.48	1060.36 1059.69	1060.36 1059.69	0.00	0.00
2127	P-973	101.00	3.00	130.00	Open	5.82	991.19	991.18	0.00	0.00
2130	P-975	198.00	3.00	130.00	Open	0.88	1059.35	1059.35	0.00	0.00
2133 2136	P-976 P-977	102.00 106.00	3.00 3.00	130.00 130.00	Open Open	0.72 -0.88	1218.03 1056.73	1218.03 1056.73	0.00	0.00
2139	P-978	291.00	3.00	130.00	Open	-0.68	1060.45	1060.45	0.00	0.00
2142 2144	P-979 P-980	114.00 117.00	3.00 3.00	130.00 130.00	Open Open	0.68 0.92	1059.69 967.07	1059.69 967.07	0.00	0.00
2147	P-981	151.00	3.00	130.00	Open	0.88	1061.62	1061.62	0.00	0.00
2150 2152	P-982 P-983	174.00 175.00	3.00 3.00	130.00 130.00	Open Open	0.76 1.58	981.47 993.39	981.47 993.39	0.00	0.00
2154	P-984	211.00	3.00	130.00	Open	-0.68	1060.45	1060.45	0.00	0.00
2157	P-985 P-986	135.00	3.00 3.00	130.00	Open Open	1.56 1.28	1058.76	1058.76	0.00	0.00
2159 2162	P-987	135.00 178.00	3.00	130.00 130.00	Open	1.08	1056.94 1059.43	1056.94 1059.43	0.00	0.00
2165	P-988	250.00	3.00	130.00	Open	0.68	1064.83	1064.83	0.00	0.00
2168 2171	P-989 P-990	223.00 149.00	3.00 3.00	130.00 130.00	Open Open	1.28 -0.68	1064.11 1062.01	1064.11 1062.01	0.00	0.00
2174	P-991	150.00	3.00	130.00	Open	-2.24	1062.01	1062.02	0.00	0.00
2176 2179	P-992 P-993	165.00 274.00	3.00 3.00	130.00 130.00	Open Open	0.68 0.88	1057.76 1057.76	1057.76 1057.76	0.00	0.00
2182	P-994	177.00	3.00	130.00	Open	-0.68	1061.28	1061.29	0.00	0.00
2185 2188	P-995 P-996	176.00 179.00	3.00 3.00	130.00 130.00	Open Open	2.24 1.16	1019.32 1059.26	1019.31 1059.26	0.00	0.00
2190	P-997	248.00	3.00	130.00	Open	-1.88	1059.43	1059.43	0.00	0.00
2193	P-998	200.00	3.00	130.00	Open	0.68	1061.61	1061.61	0.00	0.00
2196 2198	P-999 P-1000	184.00 227.00	3.00 3.00	130.00 130.00	Open	0.96 -0.68	1061.85 1057.76	1061.85 1057.76	0.00	0.00
2201	P-1001	214.00	3.00	130.00	Open	-1.09	993.37	993.37	0.00	0.00
2203 2205	P-1002 P-1003	197.00 199.00	3.00 3.00	130.00 130.00	Open Open	1.16 0.88	1061.61 1064.86	1061.61 1064.85	0.00	0.00
2208	P-1004	201.00	3.00	130.00	Open	1.23	1059.69	1059.69	0.00	0.00
2209 2212	P-1005 P-1006	210.00 220.00	3.00 3.00	130.00 130.00	Open Open	0.48 0.72	963.95 993.42	963.95 993.42	0.00	0.00
2215	P-1007	218.00	3.00	130.00	Open	0.46	967.17	967.17	0.00	0.00
2218 2221	P-1008 P-1009	221.00 237.00	3.00 3.00	130.00 130.00	Open Open	-0.72 1.47	993.41 1061.85	993.42 1061.84	0.00	0.00
2223	P-1010	236.00	3.00	130.00	Open	-0.68	825.46	825.46	0.00	0.00
2226	P-1011	241.00	3.00	130.00	Open	0.66	967.07	967.07	0.00	0.00
2228 2230	P-1012 P-1013	245.00 256.00	3.00 3.00	130.00 130.00	Open Open	-0.88 1.56	1062.01 1064.85	1062.01 1064.85	0.00	0.00
2232	P-1014	254.00	3.00	130.00	Open	-0.88	1057.82	1057.82	0.00	0.00
2235 2237	P-1015 P-1016	249.00 254.00	3.00 3.00	130.00 130.00	Open Open	0.66 0.92	993.42 993.43	993.42 993.43	0.00	0.00
2239	P-1017	258.00	3.00	130.00	Open	0.48	1058.25	1058.25	0.00	0.00
2241 2244	P-1018 P-1019	291.00 313.00	3.00 3.00	130.00 130.00	Open Open	1.08 0.81	1064.86 991.24	1064.86 991.24	0.00	0.00
2246	P-1020	336.00	3.00	130.00	Open	0.88	1063.95	1063.95	0.00	0.00
2249	P-1021	300.00	3.00	130.00	Open	0.63	993.43	993.43	0.00	0.00
2251 2254	P-1022 P-1023	432.00 327.00	3.00 3.00	130.00 130.00	Open Open	1.28 1.72	1060.85 991.25	1060.85 991.24	0.00 0.01	0.00
2256	P-1024	313.00	3.00	130.00	Open	0.88	1064.87	1064.87	0.00	0.00
2259 2261	P-1025 P-1026	331.00 332.00	3.00 3.00	130.00 130.00	Open Open	0.96 0.63	1059.00 967.41	1058.99 967.41	0.00	0.00
2264	P-1027	464.00	3.00	130.00	Open	0.88	1057.76	1057.75	0.00	0.00
2267 2268	P-1028 P-1029	343.00 372.00	3.00 3.00	130.00 130.00	Open Open	-1.35 -0.72	993.32 967.07	993.32 967.07	0.00	0.00 0.00
2271	P-1030	413.00	3.00	130.00	Open	0.72	967.41	967.41	0.00	0.00
2274	P-1031	392.00	3.00	130.00	Open	0.88	1062.35	1062.35	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
2277	P-1032	350.00	3.00	130.00	Open	-0.72	993.42	993.43	0.00	0.00
2279 2282	P-1033 P-1034	394.00 358.00	3.00 3.00	130.00 130.00	Open Open	0.55 -4.60	991.26 825.46	991.26 825.50	0.00 0.04	0.00
2284	P-1035	375.00	3.00	130.00	Open	1.76	1061.85	1061.84	0.04	0.00
2286	P-1036	387.00	3.00	130.00	Open	0.96	1059.00	1058.99	0.00	0.00
2288 2291	P-1037 P-1038	378.00 510.00	3.00 3.00	130.00 130.00	Open Open	-0.89 0.68	967.17 1064.84	967.17 1064.84	0.00	0.00
2294	P-1039	403.00	3.00	130.00	Open	-0.88	825.36	825.36	0.00	0.00
2297	P-1040 P-1041	409.00	3.00	130.00	Open	0.55	991.26	991.26	0.00	0.00
2300 2302	P-1041	468.00 465.00	3.00 3.00	130.00 130.00	Open Open	0.72 0.63	991.18 993.48	991.18 993.48	0.00	0.00
2305	P-1043	477.00	3.00	130.00	Open	0.55	1019.32	1019.32	0.00	0.00
2307 2310	P-1044 P-1045	429.00 447.00	3.00 3.00	130.00 130.00	Open Open	1.08 1.48	1063.57 1057.82	1063.57 1057.81	0.00 0.01	0.00
2312	P-1046	444.00	3.00	130.00	Open	1.08	1059.04	1059.04	0.00	0.00
2315 2317	P-1047 P-1048	506.00 456.00	3.00 3.00	130.00 130.00	Open Open	0.88 1.18	825.50 993.39	825.50 993.38	0.00	0.00
2318	P-1049	540.00	3.00	130.00	Open	0.20	967.41	967.41	0.00	0.00
2320	P-1050	500.00	3.00	130.00	Open	-0.37	991.16	991.16	0.00	0.00
2323 2326	P-1051 P-1052	509.00 496.00	3.00 3.00	130.00 130.00	Open Open	0.55 0.74	991.22 993.35	991.22 993.34	0.00	0.00 0.00
2327	P-1053	587.00	3.00	130.00	Open	-0.48	1060.81	1060.81	0.00	0.00
2330 2332	P-1054 P-1055	514.00 548.00	3.00 3.00	130.00 130.00	Open Open	-1.56 -0.89	1062.01 993.41	1062.02 993.42	0.01 0.00	0.00 0.00
2335	P-1056	527.00	3.00	130.00	Open	-2.81	993.41	993.42	0.00	0.00
2337	P-1058	567.00	3.00	130.00	Open	-1.41	991.27	991.28	0.01	0.00
2340 2342	P-1059 P-1060	662.00 597.00	3.00 3.00	130.00 130.00	Open Open	0.81 1.68	1019.31 1059.04	1019.31 1059.03	0.00 0.01	0.00
2345	P-1061	669.00	3.00	130.00	Open	1.42	1059.06	1059.05	0.01	0.00
2347	P-1062 P-1063	809.00	3.00 3.00	130.00 130.00	Open Open	3.18	1059.10 967.41	1059.06	0.04	0.00
2349 2351	P-1063 P-1064	901.00 864.00	3.00	130.00	Open	-1.21 0.72	1019.31	967.42 1019.31	0.01 0.00	0.00
2353	P-1065	956.00	3.00	130.00	Open	-1.48	825.35	825.36	0.01	0.00
2355 2358	P-1066 P-1067	1412.00 1376.00	3.00 3.00	130.00 130.00	Open Open	1.56 -3.85	1064.62 825.36	1064.60 825.46	0.02 0.10	0.00
2359	P-1068	1333.00	3.00	130.00	Open	1.35	993.37	993.35	0.01	0.00
2361 2364	P-1069	1399.00 1.00	3.00 30.00	130.00 130.00	Open	0.68 0.08	1059.49 1064.63	1059.48 1064.63	0.00	0.00
2367	P-1070 P-1071	73.00	30.00	130.00	Open Open	-0.08	1064.63	1064.63	0.00	0.00
2370	P-1072	131.00	30.00	130.00	Open	-25.37	1064.63	1064.63	0.00	0.00
2373 2376	P-1073 P-1074	173.00 232.00	30.00 30.00	130.00 130.00	Open Open	-37.01 -44.89	1064.63 1064.63	1064.63 1064.63	0.00	0.00
2377	P-1075	398.00	30.00	130.00	Open	-35.04	1064.63	1064.63	0.00	0.00
2380 2383	P-1076 P-1077	507.00 685.00	30.00 30.00	130.00 130.00	Open Open	-27.14 -36.35	1064.63 1064.63	1064.63 1064.63	0.00	0.00
2386	P-1078	628.00	30.00	130.00	Open	-25.72	1064.63	1064.63	0.00	0.00
2388	P-1079	737.00	30.00	130.00	Open	-26.48	1064.63	1064.63	0.00	0.00
2390 2392	P-1080 P-1081	759.00 653.00	30.00 30.00	130.00 130.00	Open Open	-30.98 -36.66	1064.63 1064.63	1064.63 1064.63	0.00	0.00
2394	P-1082	688.00	30.00	130.00	Open	-34.88	1064.63	1064.63	0.00	0.00
2396 2399	P-1083 P-1084	681.00 711.00	30.00 30.00	130.00 130.00	Open Open	-29.16 -29.01	1064.63 1064.63	1064.63 1064.63	0.00	0.00 0.00
2401	P-1085	698.00	30.00	130.00	Open	-28.65	1064.63	1064.63	0.00	0.00
2403	P-1086	740.00	30.00	130.00	Open	-26.78	1064.63	1064.63	0.00	0.00
2405 2406	P-1087 P-1088	712.00 746.00	30.00 30.00	130.00 130.00	Open Open	-26.63 -32.29	1064.63 1064.63	1064.63 1064.63	0.00	0.00
2408	P-1090	968.00	30.00	130.00	Open	-36.00	1064.63	1064.63	0.00	0.00
2409 2410	P-1091 P-1092	1272.00 2516.00	30.00 30.00	130.00 130.00	Open Open	-28.10 -29.92	1064.63 1064.63	1064.63 1064.63	0.00	0.00
2411	P-1093	3501.00	30.00	130.00	Open	-10.09	1064.63	1064.63	0.00	0.00
2412 2413	P-1094 P-1095	8158.00 1.00	36.00 4.00	130.00 130.00	Open Open	14.40 -3.50	1064.63 973.48	1064.63 973.48	0.00	0.00
2416	P-1095	3.00	4.00	130.00	Open	-0.20	963.60	963.60	0.00	0.00
2418	P-1097	3.00	4.00	130.00	Open	0.29	960.64	960.64	0.00	0.00
2421 2423	P-1098 P-1099	6.00 6.00	4.00 4.00	130.00 130.00	Open Open	3.24 -0.20	991.16 967.43	991.16 967.43	0.00	0.00 0.00
2426	P-1100	6.00	4.00	130.00	Closed	0.00	1022.96	1218.60	0.00	0.00
2429 2432	P-1101 P-1102	6.00 6.00	4.00 4.00	130.00 130.00	Open Open	4.90 -0.20	991.25 988.98	991.25 988.98	0.00	0.00 0.00
2434	P-1103	7.00	4.00	130.00	Open	0.76	1061.05	1061.05	0.00	0.00
2436 2439	P-1104 P-1105	7.00 9.00	4.00 4.00	130.00 130.00	Open Open	0.28 -0.37	1058.69 973.48	1058.69 973.48	0.00	0.00
2439	P-1106	9.00	4.00	130.00	Open	0.56	1061.04	1061.04	0.00	0.00
2442	P-1107	9.00	4.00	130.00	Open	9.64	1059.86	1059.86	0.00	0.00
2445 2448	P-1108 P-1109	9.00 10.00	4.00 4.00	130.00 130.00	Open Open	2.29 1.50	1059.89 960.69	1059.89 960.69	0.00	0.00
2451	P-1110	11.00	4.00	130.00	Open	0.96	1061.02	1061.02	0.00	0.00
2452 2454	P-1111 P-1112	11.00 13.00	4.00 4.00	130.00 130.00	Open Open	1.16 -0.80	1063.48 973.48	1063.48 973.48	0.00	0.00
2456	P-1113	13.00	4.00	130.00	Open	1.08	1058.76	1058.76	0.00	0.00
2459	P-1114 P-1115	13.00	4.00	130.00	Open	0.88	1058.76	1058.76	0.00	0.00
2462 2465	P-1115 P-1116	14.00 15.00	4.00 4.00	130.00 130.00	Open Open	0.68 0.28	1060.81 1059.86	1060.81 1059.86	0.00	0.00 0.00
2467	P-1117	15.00	4.00	130.00	Open	0.20	960.64	960.64	0.00	0.00
2470 2471	P-1118 P-1119	16.00 16.00	4.00 4.00	130.00 130.00	Open Open	2.01 -11.48	973.48 1217.77	973.48 1217.78	0.00	0.00
2474	P-1120	17.00	4.00	130.00	Open	1.26	973.48	973.48	0.00	0.00
2475	P-1121	17.00	4.00	130.00	Open	0.68	1061.05	1061.05	0.00	0.00
2477 2480	P-1122 P-1123	18.00 20.00	4.00 4.00	130.00 130.00	Open Open	0.08 -1.08	1059.53 1058.76	1059.53 1058.76	0.00	0.00
2484	P-1125	30.00	4.00	130.00	Open	1.16	1059.49	1059.49	0.00	0.00
2486 2489	P-1126 P-1127	31.00 31.00	4.00 4.00	130.00 130.00	Open Open	-0.83 3.88	1057.79 1058.76	1057.79 1058.76	0.00	0.00
2491	P-1128	33.00	4.00	130.00	Open	0.96	1201.27	1201.27	0.00	0.00
2492 2495	P-1129 P-1130	33.00 38.00	4.00 4.00	130.00 130.00	Open Open	1.56 -2.36	1201.27 973.48	1201.27 973.48	0.00	0.00 0.00
2495 2496	P-1130 P-1131	38.00 47.00	4.00	130.00	Open	-2.36 0.08	1060.01	1060.01	0.00	0.00
2499	P-1132	39.00	4.00	130.00	Open	1.68	1058.76	1058.76	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
2501	P-1133	40.00	4.00	130.00	Open	0.28	1064.63	1064.63	0.00	0.00
2504 2506	P-1134 P-1135	44.00 47.00	4.00 4.00	130.00 130.00	Open Open	0.20 -4.19	960.64 973.48	960.64 973.48	0.00	0.00
2507	P-1136	48.00	4.00	130.00	Open	4.20	1218.60	1218.60	0.00	0.00
2509	P-1137	50.00	4.00	130.00	Open	0.76	1061.61	1061.61	0.00	0.00
2511 2513	P-1138 P-1139	53.00 65.00	4.00 4.00	130.00 130.00	Open Open	0.28 2.72	1058.64 1061.02	1058.64 1061.02	0.00	0.00
2515	P-1140	63.00	4.00	130.00	Open	-0.88	1063.97	1063.97	0.00	0.00
2518 2521	P-1141 P-1142	64.00 65.00	4.00 4.00	130.00 130.00	Open Open	1.31 4.09	1059.33 1058.64	1059.33 1058.64	0.00	0.00
2523	P-1143	65.00	4.00	130.00	Open	0.96	1059.72	1059.72	0.00	0.00
2526	P-1144	67.00	4.00	130.00	Open	0.48	1058.64	1058.64	0.00	0.00
2528 2531	P-1145 P-1146	69.00 70.00	4.00 4.00	130.00 130.00	Open Open	0.48 0.20	1060.19 1218.60	1060.19 1218.60	0.00	0.00
2533	P-1147	70.00	4.00	130.00	Open	-1.87	1022.88	1022.88	0.00	0.00
2535 2537	P-1148 P-1149	71.00 71.00	4.00 4.00	130.00 130.00	Open Open	1.51 0.26	1061.05 1322.91	1061.05 1322.91	0.00	0.00
2539	P-1150	72.00	4.00	130.00	Open	-1.64	1057.78	1057.78	0.00	0.00
2542 2543	P-1151 P-1152	73.00 74.00	4.00 4.00	130.00 130.00	Open Open	1.84 0.20	1061.07 960.64	1061.07 960.64	0.00	0.00
2546	P-1153	78.00	4.00	130.00	Open	2.23	960.64	960.64	0.00	0.00
2549	P-1154	91.00	4.00	130.00	Open	1.08	1059.94	1059.94	0.00	0.00
2552 2555	P-1155 P-1156	100.00 93.00	4.00 4.00	130.00 130.00	Open Open	0.48 -0.20	1061.93 973.48	1061.93 973.48	0.00	0.00
2557	P-1157	105.00	4.00	130.00	Open	0.29	991.16	991.16	0.00	0.00
2559 2561	P-1158 P-1159	109.00 110.00	4.00 4.00	130.00 130.00	Open Open	-12.20 -1.71	1022.94 1060.81	1022.96 1060.81	0.02 0.00	0.00
2563	P-1160	113.00	4.00	130.00	Open	0.76	1064.62	1064.62	0.00	0.00
2565 2566	P-1161 P-1162	120.00 176.00	4.00 4.00	130.00 130.00	Open Open	1.51 -1.68	1201.27 1060.80	1201.27 1060.80	0.00	0.00
2569	P-1163	126.00	4.00	130.00	Open	1.03	981.47	981.47	0.00	0.00
2571	P-1164	186.00	4.00	130.00	Open	2.52	1061.05	1061.04	0.00	0.00
2573 2576	P-1165 P-1166	128.00 130.00	4.00 4.00	130.00 130.00	Open Open	-1.68 1.08	1057.54 1064.62	1057.54 1064.62	0.00	0.00
2579	P-1167	180.00	4.00	130.00	Open	-0.68	1060.81	1060.81	0.00	0.00
2581 2582	P-1168 P-1169	133.00 232.00	4.00 4.00	130.00 130.00	Open Open	2.49 1.28	991.16 1062.42	991.16 1062.41	0.00	0.00
2585	P-1170	155.00	4.00	130.00	Open	1.36	1061.60	1061.60	0.00	0.00
2587	P-1171	146.00	4.00	130.00	Open	1.08	1059.94	1059.94	0.00	0.00
2589 2592	P-1172 P-1173	227.00 235.00	4.00 4.00	130.00 130.00	Open Open	0.68 0.88	1064.21 1064.21	1064.21 1064.21	0.00	0.00
2595	P-1174	285.00	4.00	130.00	Open	-0.88	1060.80	1060.80	0.00	0.00
2598 2600	P-1175 P-1176	145.00 146.00	4.00 4.00	130.00 130.00	Open Open	-7.76 0.88	1322.92 1062.86	1322.93 1062.86	0.01 0.00	0.00
2603	P-1177	149.00	4.00	130.00	Open	1.03	1063.90	1063.90	0.00	0.00
2606 2608	P-1178 P-1179	157.00 159.00	4.00 4.00	130.00 130.00	Open Open	-1.16 1.68	1058.02 1057.54	1058.02 1057.54	0.00	0.00
2610	P-1180	200.00	4.00	130.00	Open	-0.68	1058.36	1058.36	0.00	0.00
2613 2615	P-1181 P-1182	164.00 157.00	4.00 4.00	130.00 130.00	Open Open	0.88 -0.48	1063.90 1058.64	1063.90 1058.64	0.00	0.00
2618	P-1183	165.00	4.00	130.00	Open	-3.44	967.07	967.08	0.00	0.00
2621	P-1184	265.00	4.00	130.00	Open	0.48	1063.37	1063.37	0.00	0.00
2624 2626	P-1185 P-1186	175.00 173.00	4.00 4.00	130.00 130.00	Open Open	1.19 1.12	981.47 967.07	981.47 967.07	0.00	0.00
2627	P-1187	206.00	4.00	130.00	Open	1.16	1064.36	1064.36	0.00	0.00
2628 2631	P-1188 P-1189	179.00 181.00	4.00 4.00	130.00 130.00	Open Open	1.28 -0.88	1058.27 1057.40	1058.27 1057.40	0.00	0.00
2634	P-1190	180.00	4.00	130.00	Open	0.48	1059.15	1059.15	0.00	0.00
2637 2638	P-1191 P-1192	180.00 184.00	4.00 4.00	130.00 130.00	Open Open	-0.76 0.88	1060.81 1063.79	1060.81 1063.79	0.00	0.00
2640	P-1193	192.00	4.00	130.00	Open	0.88	1063.91	1063.91	0.00	0.00
2643 2646	P-1194 P-1195	187.00 225.00	4.00 4.00	130.00 130.00	Open Open	-0.88 0.88	1057.93 1063.37	1057.93 1063.37	0.00	0.00
2649	P-1196	188.00	4.00	130.00	Open	-0.55	991.26	991.26	0.00	0.00
2651	P-1197	195.00	4.00	130.00	Open	0.88	981.47	981.47 1062.12	0.00	0.00
2654 2656	P-1198 P-1199	204.00 206.00	4.00 4.00	130.00 130.00	Open Open	1.36 -0.88	1062.12 981.49	981.49	0.00	0.00
2658	P-1200	286.00	4.00	130.00	Open	1.44	967.13 981.47	967.13	0.00	0.00
2660 2663	P-1201 P-1202	210.00 236.00	4.00 4.00	130.00 130.00	Open Open	-0.88 1.18	981.47 963.60	981.47 963.60	0.00	0.00
2664	P-1203	218.00	4.00	130.00	Open	-1.08	1060.81	1060.81	0.00	0.00
2666 2668	P-1204 P-1205	219.00 223.00	4.00 4.00	130.00 130.00	Open Open	1.36 -4.97	1062.01 973.52	1062.01 973.53	0.00 0.01	0.00
2671	P-1206	231.00	4.00	130.00	Open	0.96	1061.60	1061.60	0.00	0.00
2673 2676	P-1207 P-1208	233.00 235.00	4.00 4.00	130.00 130.00	Open Open	1.08 1.28	981.47 1058.34	981.47 1058.34	0.00	0.00
2679	P-1209	235.00	4.00	130.00	Open	-2.30	991.28	991.28	0.00	0.00
2681	P-1210 P-1211	236.00	4.00	130.00 130.00	Open	2.07	993.37	993.37	0.00	0.00
2683 2685	P-1211	238.00 238.00	4.00 4.00	130.00	Open Open	0.48 1.08	1057.79 1061.63	1057.79 1061.63	0.00	0.00
2688	P-1213	242.00	4.00	130.00	Open	1.08	981.47 981.47	981.47	0.00	0.00
2691 2693	P-1214 P-1215	243.00 244.00	4.00 4.00	130.00 130.00	Open Open	-0.88 -0.37	981.47 991.16	981.47 991.16	0.00	0.00
2696	P-1216	258.00	4.00	130.00	Open	-0.88	1060.83	1060.83	0.00	0.00
2699 2702	P-1217 P-1218	247.00 255.00	4.00 4.00	130.00 130.00	Open Open	0.68 -0.72	1063.71 967.35	1063.71 967.35	0.00	0.00
2705	P-1219	248.00	4.00	130.00	Open	-1.76	1064.07	1064.07	0.00	0.00
2707 2710	P-1220 P-1221	252.00 250.00	4.00 4.00	130.00 130.00	Open Open	-1.28 0.68	981.47 1063.75	981.47 1063.75	0.00	0.00
2710	P-1222	253.00	4.00	130.00	Open	0.56	1063.75	1064.63	0.00	0.00
2715	P-1223	283.00	4.00	130.00	Open	-1.77	967.07	967.07	0.00	0.00
2716 2718	P-1224 P-1225	254.00 323.00	4.00 4.00	130.00 130.00	Open Open	0.20 -1.48	960.64 1060.83	960.64 1060.83	0.00	0.00
2721	P-1226	267.00	4.00	130.00	Open	1.56	1063.37	1063.37	0.00	0.00
2723 2726	P-1227 P-1228	272.00 273.00	4.00 4.00	130.00 130.00	Open Open	0.88 -1.36	1057.40 1060.84	1057.40 1060.84	0.00	0.00 0.00
2728	P-1229	316.00	4.00	130.00	Open	0.88	1058.95	1058.95	0.00	0.00
2731	P-1230	276.00	4.00	130.00	Open	1.88	1057.76	1057.76	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
2734	P-1231	281.00	4.00	130.00	Open	1.56	1063.38	1063.38	0.00	0.00
2736 2739	P-1232 P-1233	284.00 287.00	4.00 4.00	130.00 130.00	Open Open	1.40 -7.89	1058.64 973.48	1058.64 973.50	0.00 0.02	0.00
2741	P-1234	287.00	4.00	130.00	Open	-1.48	1061.65	1061.66	0.00	0.00
2744	P-1235	295.00	4.00	130.00	Open	1.08	1061.30	1061.30	0.00	0.00
2747 2750	P-1236 P-1237	323.00 325.00	4.00 4.00	130.00 130.00	Open Open	1.08 1.16	1058.95 1058.81	1058.95 1058.81	0.00	0.00
2752	P-1238	302.00	4.00	130.00	Open	1.48	1064.62	1064.62	0.00	0.00
2755 2756	P-1239 P-1240	297.00 300.00	4.00 4.00	130.00 130.00	Open Open	3.25 1.28	967.42 1064.62	967.41 1064.62	0.00	0.00
2759	P-1241	302.00	4.00	130.00	Open	4.54	993.44	993.43	0.01	0.00
2761 2763	P-1242 P-1243	307.00 303.00	4.00 4.00	130.00 130.00	Open	0.68 -0.68	960.64 1057.82	960.64 1057.82	0.00	0.00
2766	P-1243	316.00	4.00	130.00	Open Open	2.64	1061.60	1061.60	0.00	0.00
2768	P-1245	326.00	4.00	130.00	Open	0.88	981.48	981.48	0.00	0.00
2770 2772	P-1246 P-1247	314.00 317.00	4.00 4.00	130.00 130.00	Open Open	1.36 -0.88	1057.81 1064.63	1057.81 1064.63	0.00	0.00
2775	P-1248	315.00	4.00	130.00	Open	1.08	981.47	981.47	0.00	0.00
2778 2781	P-1249 P-1250	320.00 357.00	4.00 4.00	130.00 130.00	Open Open	-1.28 1.08	1060.96 1059.95	1060.96 1059.95	0.00	0.00
2784	P-1251	595.00	4.00	130.00	Open	1.08	963.95	963.95	0.00	0.00
2787	P-1252	330.00	4.00	130.00	Open	-1.28	1057.78	1057.78	0.00	0.00
2789 2792	P-1253 P-1254	333.00 352.00	4.00 4.00	130.00 130.00	Open Open	-1.08 1.56	1057.81 1059.35	1057.81 1059.35	0.00	0.00
2794	P-1255	342.00	4.00	130.00	Open	0.96	1064.62	1064.62	0.00	0.00
2796 2798	P-1256 P-1257	383.00 353.00	4.00 4.00	130.00 130.00	Open Open	3.07 1.44	973.51 991.26	973.50 991.26	0.00	0.00 0.00
2800	P-1258	355.00	4.00	130.00	Open	-0.88	994.76	994.76	0.00	0.00
2803 2806	P-1259 P-1260	367.00 359.00	4.00 4.00	130.00 130.00	Open Open	1.48 3.71	1063.91 1022.94	1063.91 1022.93	0.00 0.01	0.00 0.00
2807	P-1261	372.00	4.00	130.00	Open	1.36	1057.82	1057.82	0.00	0.00
2809	P-1262	369.00	4.00	130.00	Open	1.28	1057.45	1057.45	0.00	0.00
2812 2813	P-1263 P-1264	380.00 509.00	4.00 4.00	130.00 130.00	Open Open	1.56 0.48	1059.15 963.95	1059.15 963.95	0.00	0.00
2816	P-1265	378.00	4.00	130.00	Open	0.68	1063.71	1063.71	0.00	0.00
2819 2822	P-1266 P-1267	377.00 403.00	4.00 4.00	130.00 130.00	Open Open	-1.28 -1.08	1057.68 1057.84	1057.68 1057.84	0.00	0.00
2825	P-1268	411.00	4.00	130.00	Open	5.18	967.43	967.42	0.00	0.00
2826	P-1269	387.00	4.00	130.00	Open	-1.64	991.26	991.26	0.00	0.00
2828 2830	P-1270 P-1271	441.00 388.00	4.00 4.00	130.00 130.00	Open Open	-0.48 1.28	981.47 1059.72	981.47 1059.72	0.00	0.00
2833	P-1272	390.00	4.00	130.00	Open	1.48	1058.67	1058.67	0.00	0.00
2836 2839	P-1273 P-1274	393.00 437.00	4.00 4.00	130.00 130.00	Open Open	1.48 -0.88	1060.80 1061.62	1060.80 1061.62	0.00	0.00
2842	P-1275	393.00	4.00	130.00	Open	0.68	960.64	960.64	0.00	0.00
2843 2845	P-1276 P-1277	3807.00 403.00	4.00 4.00	130.00 130.00	Open Open	-3.44 0.86	1322.86 967.07	1322.92 967.07	0.06	0.00
2846	P-1278	445.00	4.00	130.00	Open	0.68	1063.87	1063.87	0.00	0.00
2849 2852	P-1279 P-1280	409.00 444.00	4.00 4.00	130.00 130.00	Open Open	0.68 1.08	1063.87 1057.80	1063.87 1057.80	0.00	0.00
2855	P-1281	412.00	4.00	130.00	Open	1.44	993.42	993.42	0.00	0.00
2856	P-1282	414.00	4.00	130.00	Open	-0.68	1058.24	1058.24	0.00	0.00
2859 2861	P-1283 P-1284	429.00 419.00	4.00 4.00	130.00 130.00	Open Open	-2.18 -1.28	993.43 1060.81	993.43 1060.81	0.00	0.00
2864	P-1285	423.00	4.00	130.00	Open	-1.44	967.17	967.17	0.00	0.00
2865 2866	P-1286 P-1287	513.00 446.00	4.00 4.00	130.00 130.00	Open Open	-2.93 -1.88	973.48 981.47	973.48 981.48	0.01 0.00	0.00
2869	P-1288	426.00	4.00	130.00	Open	1.28	1064.62	1064.62	0.00	0.00
2872 2873	P-1289 P-1290	428.00 521.00	4.00 4.00	130.00 130.00	Open Open	4.55 1.74	991.18 960.64	991.17 960.64	0.01 0.00	0.00
2874	P-1291	520.00	4.00	130.00	Open	-2.29	1060.86	1060.86	0.00	0.00
2877 2879	P-1292 P-1293	437.00 438.00	4.00 4.00	130.00 130.00	Open	0.48 -1.48	1061.07 1064.62	1061.07 1064.62	0.00	0.00
2882	P-1293	445.00	4.00	130.00	Open Open	-1.46	1064.82	1064.82	0.00	0.00
2885	P-1295	444.00	4.00	130.00	Open	-0.98	1064.80	1064.80	0.00	0.00
2886 2888	P-1296 P-1297	450.00 489.00	4.00 4.00	130.00 130.00	Open	2.56 0.88	1064.63 1058.95	1064.63 1058.95	0.00	0.00
2891	P-1298	476.00	4.00	130.00	Open	0.48	963.95	963.95	0.00	0.00
2894 2895	P-1299 P-1300	477.00 534.00	4.00 4.00	130.00 130.00	Open Open	1.44 -0.88	1060.81 963.94	1060.81 963.94	0.00	0.00
2898	P-1301	543.00	4.00	130.00	Open	-3.72	991.16	991.17	0.01	0.00
2899 2901	P-1302 P-1303	574.00 590.00	4.00 4.00	130.00 130.00	Open Open	-1.69 1.96	1058.64 1064.63	1058.64 1064.63	0.00	0.00
2903	P-1304	562.00	4.00	130.00	Open	1.48	1064.63	1064.63	0.00	0.00
2905	P-1305 P-1306	557.00	4.00	130.00	Open	-1.08	1060.99	1060.99	0.00	0.00
2907 2908	P-1306 P-1307	672.00 526.00	4.00 4.00	130.00 130.00	Open Open	0.83 -7.94	960.64 1022.90	960.64 1022.94	0.00 0.04	0.00 0.00
2910	P-1308	529.00	4.00	130.00	Open	3.07	993.43	993.42	0.01	0.00
2911 2912	P-1309 P-1310	566.00 563.00	4.00 4.00	130.00 130.00	Open Open	-11.48 0.89	973.53 993.37	973.61 993.37	0.08	0.00
2915	P-1311	579.00	4.00	130.00	Open	6.54	991.22	991.19	0.03	0.00
2916 2918	P-1312 P-1313	566.00 602.00	4.00 4.00	130.00 130.00	Open Open	-0.37 -2.49	1022.87 1058.61	1022.87 1058.62	0.00	0.00
2921	P-1314	558.00	4.00	130.00	Open	5.75	991.28	991.26	0.02	0.00
2922	P-1315 P-1316	585.00	4.00	130.00	Open	-1.48	1060.62 1063.48	1060.62 1063.48	0.00	0.00
2925 2927	P-1316 P-1317	573.00 626.00	4.00 4.00	130.00 130.00	Open Open	0.88 1.48	1063.48 1061.62	1063.48 1061.62	0.00	0.00
2930	P-1318	600.00	4.00	130.00	Open	-2.17	1022.87	1022.87	0.00	0.00
2931 2932	P-1319 P-1320	596.00 606.00	4.00 4.00	130.00 130.00	Open Open	-3.17 -3.74	1022.87 993.42	1022.88 993.43	0.01 0.01	0.00
2934	P-1321	614.00	4.00	130.00	Open	0.94	988.98	988.98	0.00	0.00
2936 2937	P-1322 P-1323	605.00 607.00	4.00 4.00	130.00 130.00	Open Open	-1.75 -1.76	991.16 1064.87	991.16 1064.87	0.00	0.00
2937	P-1324	620.00	4.00	130.00	Open	0.89	1022.90	1022.89	0.00	0.00
2942 2943	P-1325 P-1326	627.00 630.00	4.00 4.00	130.00 130.00	Open Open	-1.61 7.82	993.42 1059.58	993.42 1059.53	0.00 0.04	0.00 0.00
2943 2946	P-1326 P-1327	644.00	4.00	130.00	Open	2.33	967.36	967.35	0.04	0.00
2948	P-1328	644.00	4.00	130.00	Open	-8.61	967.13	967.18	0.05	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
2950	P-1329	765.00	4.00	130.00	Open	-0.55	973.52	973.52	0.00	0.00
2952 2953	P-1330 P-1331	684.00 652.00	4.00 4.00	130.00 130.00	Open Open	-0.74 0.89	991.15 967.35	991.16 967.35	0.00	0.00
2955	P-1332	660.00	4.00	130.00	Open	2.07	1022.90	1022.90	0.00	0.00
2956 2958	P-1333 P-1334	787.00 761.00	4.00 4.00	130.00 130.00	Open Open	-1.36 1.90	973.48 967.41	973.48 967.41	0.00	0.00
2959	P-1335	814.00	4.00	130.00	Open	-1.43	973.48	973.48	0.00	0.00
2960 2961	P-1336 P-1337	729.00 688.00	4.00 4.00	130.00 130.00	Open Open	-5.62 -5.50	973.50 1022.88	973.53 1022.90	0.03 0.02	0.00 0.00
2962	P-1338	725.00	4.00	130.00	Open	-4.93	993.35	993.37	0.02	0.00
2963	P-1339	736.00	4.00	130.00	Open	-2.14 -1.28	1064.80	1064.81	0.00	0.00
2965 2968	P-1340 P-1341	747.00 783.00	4.00 4.00	130.00 130.00	Open Open	-1.78	994.76 967.07	994.76 967.08	0.00	0.00 0.00
2969	P-1342 P-1343	764.00	4.00	130.00	Open	-0.68	1059.21	1059.21	0.00	0.00
2971 2973	P-1343 P-1344	764.00 771.00	4.00 4.00	130.00 130.00	Open Open	8.38 -1.08	1059.63 1061.94	1059.58 1061.94	0.06 0.00	0.00
2976	P-1345	813.00	4.00	130.00	Open	3.96	973.52	973.51	0.02	0.00
2977 2979	P-1346 P-1347	828.00 1017.00	4.00 4.00	130.00 130.00	Open Open	1.06 0.63	1022.90 993.38	1022.90 993.38	0.00	0.00
2982	P-1348	796.00	4.00	130.00	Open	-0.78	1064.80	1064.80	0.00	0.00
2984 2986	P-1349 P-1350	1327.00 814.00	4.00 4.00	130.00 130.00	Open Open	-1.28 -1.08	1201.27 1057.80	1201.27 1057.80	0.00	0.00
2988	P-1351	875.00	4.00	130.00	Open	0.88	1064.83	1064.83	0.00	0.00
2993 2995	P-1353 P-1354	866.00 868.00	4.00 4.00	130.00 130.00	Open Open	9.29 -2.96	1059.86 967.17	1059.78 967.18	0.08 0.01	0.00
2996	P-1355	955.00	4.00	130.00	Open	-0.48	1060.81	1060.81	0.00	0.00
2998 3000	P-1356 P-1357	1383.00 1714.00	4.00 4.00	130.00 130.00	Open Open	-1.75 1.56	991.25 991.25	991.25 991.25	0.01 0.01	0.00
3001	P-1358	1057.00	4.00	130.00	Open	2.96	991.26	991.25	0.01	0.00
3002 3005	P-1359 P-1360	1087.00 1123.00	4.00 4.00	130.00 130.00	Open Open	1.28 12.38	1064.85 967.36	1064.85 967.18	0.00 0.18	0.00
3007	P-1361	1171.00	4.00	130.00	Open	-6.46	967.08	967.13	0.06	0.00
3008 3010	P-1362 P-1363	1283.00 1231.00	4.00 4.00	130.00 130.00	Open Open	7.40 7.80	960.77 991.30	960.69 991.22	0.08 0.08	0.00
3012	P-1364	1745.00	4.00	130.00	Open	2.42	1022.91	1022.90	0.01	0.00
3013 3014	P-1365 P-1366	1783.00 2232.00	4.00 4.00	130.00 130.00	Open Open	4.84 4.20	960.69 1019.36	960.64 1019.32	0.05 0.05	0.00 0.00
3015	P-1367	1914.00	4.00	130.00	Open	-2.80	961.54	961.56	0.02	0.00
3017 3018	P-1368 P-1369	1733.00 1900.00	4.00 4.00	130.00 130.00	Open Open	8.93 4.65	1059.78 1059.94	1059.63 1059.89	0.15 0.05	0.00 0.00
3020	P-1370	2656.00	4.00	130.00	Open	-1.08	1064.90	1064.91	0.00	0.00
3022	P-1371	3976.00	4.00	130.00	Open Open	3.69	1057.80	1057.73	0.07 0.02	0.00
3025 3027	P-1372 P-1373	7382.00 1.00	4.00 6.00	130.00 130.00	Open	1.48 -0.20	1059.89 1218.15	1059.87 1218.15	0.02	0.00 0.00
3030 3033	P-1374 P-1375	3.00 3.00	6.00 6.00	130.00 130.00	Open Open	0.48 0.08	1058.68 1064.63	1058.68 1064.63	0.00	0.00 0.00
3035	P-1376	3.00	6.00	130.00	Open	12.99	1218.60	1218.60	0.00	0.00
3037	P-1377	3.00 3.00	6.00	130.00	Open	-0.08	981.47	981.47	0.00	0.00
3040 3043	P-1378 P-1379	4.00	6.00 6.00	130.00 130.00	Open Open	-0.08 0.08	1057.44 1060.05	1057.44 1060.05	0.00	0.00
3046	P-1380	4.00	6.00	130.00	Open	0.20	1217.94	1217.94	0.00	0.00
3049 3052	P-1381 P-1382	4.00 4.00	6.00 6.00	130.00 130.00	Open Open	-1.72 0.83	1218.03 1058.06	1218.03 1058.06	0.00	0.00
3054	P-1383	5.00	6.00	130.00	Open	0.46	1218.03	1218.03	0.00	0.00
3057 3060	P-1384 P-1385	5.00 5.00	6.00 6.00	130.00 130.00	Open Open	-0.08 0.08	1062.86 1057.41	1062.86 1057.41	0.00	0.00
3063	P-1386	5.00	6.00	130.00	Open	-0.08	1058.12	1058.12	0.00	0.00
3066 3069	P-1387 P-1388	5.00 5.00	6.00 6.00	130.00 130.00	Open Open	0.28 -7.88	1057.18 1061.53	1057.18 1061.53	0.00	0.00
3072	P-1389	5.00	6.00	130.00	Open	1.08	1064.62	1064.62	0.00	0.00
3075 3077	P-1390 P-1391	5.00 5.00	6.00 6.00	130.00 130.00	Open Open	-0.08 0.08	1064.62 1057.81	1064.62 1057.81	0.00	0.00
3080	P-1392	5.00	6.00	130.00	Open	-0.28	1064.83	1064.83	0.00	0.00
3082 3085	P-1393 P-1394	6.00 6.00	6.00 6.00	130.00 130.00	Open Open	0.08 0.48	1064.87 1059.66	1064.87 1059.66	0.00	0.00
3088	P-1395	6.00	6.00	130.00	Open	-12.59	1218.60	1218.60	0.00	0.00
3089 3092	P-1396 P-1397	6.00 7.00	6.00 6.00	130.00 130.00	Open Open	0.08 0.08	1057.76 1064.62	1057.76 1064.62	0.00	0.00 0.00
3095	P-1398	7.00	6.00	130.00	Open	0.48	1063.30	1063.30	0.00	0.00
3098 3101	P-1399 P-1400	7.00 7.00	6.00 6.00	130.00 130.00	Open Open	0.48 0.68	1063.30 1057.42	1063.30 1057.42	0.00	0.00 0.00
3104	P-1401	7.00	6.00	130.00	Open	1.44	1064.62	1064.62	0.00	0.00
3107 3110	P-1402 P-1403	7.00 8.00	6.00 6.00	130.00 130.00	Open Open	0.08 0.08	1058.71 1058.71	1058.71 1058.71	0.00	0.00 0.00
3113	P-1404	8.00	6.00	130.00	Open	0.08	1057.51	1057.51	0.00	0.00
3116 3118	P-1405 P-1406	8.00 8.00	6.00 6.00	130.00 130.00	Open Open	2.64 7.10	1059.95 1057.77	1059.95 1057.77	0.00	0.00 0.00
3121	P-1407	8.00	6.00	130.00	Open	0.28	1060.47	1060.47	0.00	0.00
3123 3125	P-1408 P-1409	8.00 9.00	6.00 6.00	130.00 130.00	Open Open	-1.19 0.08	1059.53 1059.70	1059.53 1059.70	0.00	0.00 0.00
3127	P-1410	9.00	6.00	130.00	Open	-9.36	1058.38	1058.38	0.00	0.00
3130 3132	P-1411 P-1412	9.00 9.00	6.00 6.00	130.00 130.00	Open Open	1.84 -0.08	1059.26 1057.45	1059.26 1057.45	0.00	0.00 0.00
3135	P-1413	9.00	6.00	130.00	Open	0.28	1059.16	1059.16	0.00	0.00
3138 3141	P-1414 P-1415	9.00 9.00	6.00 6.00	130.00 130.00	Open Open	0.08 0.88	1057.81 1057.47	1057.81 1057.47	0.00	0.00 0.00
3144	P-1416	9.00	6.00	130.00	Open	0.48	963.95	963.95	0.00	0.00
3147 3149	P-1417 P-1418	9.00 9.00	6.00 6.00	130.00 130.00	Open Open	-29.81 -0.08	1057.18 1064.63	1057.18 1064.63	0.00	0.00 0.00
3149 3151	P-1419	9.00	6.00	130.00	Open	-0.28	1064.28	1064.28	0.00	0.00
3153	P-1420 P-1421	9.00	6.00	130.00	Open	0.48	1060.21	1060.21	0.00	0.00
3155 3158	P-1421 P-1422	10.00 10.00	6.00 6.00	130.00 130.00	Open Open	1.44 0.37	1057.41 1218.15	1057.41 1218.15	0.00	0.00 0.00
3161	P-1423	10.00	6.00	130.00	Open	0.76	1064.83	1064.83	0.00	0.00
3163 3165	P-1424 P-1425	10.00 10.00	6.00 6.00	130.00 130.00	Open Open	-0.63 1.03	1056.91 1064.62	1056.91 1064.62	0.00	0.00 0.00
3167 3169	P-1426 P-1427	11.00 15.00	6.00 6.00	130.00 130.00	Open	0.56 7.40	1059.94 1064.63	1059.94 1064.63	0.00	0.00 0.00
3109	r-142/	13.00	0.00	130.00	Open	7.40	1004.03	1004.03	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
3171	P-1428	11.00	6.00	130.00	Open	-2.16	1060.81	1060.81	0.00	0.00
3173 3176	P-1429 P-1430	11.00 11.00	6.00 6.00	130.00 130.00	Open Open	-0.28 -0.68	1059.53 1058.75	1059.53 1058.75	0.00	0.00
3179	P-1431	11.00	6.00	130.00	Open	-0.20	1216.97	1216.97	0.00	0.00
3182	P-1432	15.00	6.00	130.00	Open	-0.08	1064.79	1064.79	0.00	0.00
3185 3187	P-1433 P-1434	12.00 12.00	6.00 6.00	130.00 130.00	Open Open	0.48 0.08	1060.43 1057.44	1060.43 1057.44	0.00	0.00
3190	P-1435	12.00	6.00	130.00	Open	0.20	1218.60	1218.60	0.00	0.00
3192 3195	P-1436 P-1437	12.00 12.00	6.00 6.00	130.00 130.00	Open Open	0.08 -0.76	1059.97 1058.24	1059.97 1058.24	0.00	0.00
3197	P-1438	12.00	6.00	130.00	Open	0.08	1057.80	1057.80	0.00	0.00
3200 3203	P-1439 P-1440	12.00 12.00	6.00 6.00	130.00 130.00	Open Open	0.08 1.51	1059.10 1064.62	1059.10 1064.62	0.00	0.00
3206	P-1440 P-1441	12.00	6.00	130.00	Open	-1.36	1064.62	1064.62	0.00	0.00
3208	P-1442	12.00	6.00	130.00	Open	0.08	1057.82	1057.82	0.00	0.00
3211 3212	P-1443 P-1444	12.00 13.00	6.00 6.00	130.00 130.00	Open Open	1.36 -0.20	1064.62 1218.15	1064.62 1218.15	0.00	0.00
3215	P-1445	13.00	6.00	130.00	Open	0.68	1058.75	1058.75	0.00	0.00
3218 3220	P-1446 P-1447	13.00 13.00	6.00 6.00	130.00 130.00	Open Open	3.24 0.20	1064.87 1218.04	1064.87 1218.04	0.00	0.00
3222	P-1448	13.00	6.00	130.00	Open	1.84	1060.06	1060.06	0.00	0.00
3225 3228	P-1449 P-1450	14.00 14.00	6.00 6.00	130.00 130.00	Open Open	0.28 12.21	1061.32 993.44	1061.32 993.44	0.00	0.00
3231	P-1451	14.00	6.00	130.00	Open	-2.84	1062.02	1062.02	0.00	0.00
3233 3236	P-1452 P-1453	14.00	6.00	130.00	Open	-0.08 -0.08	1057.67	1057.67 1061.62	0.00	0.00
3236	P-1453 P-1454	15.00 15.00	6.00 6.00	130.00 130.00	Open Open	0.96	1061.62 1060.13	1061.62	0.00	0.00
3241	P-1455	15.00	6.00	130.00	Open	0.28	1064.62	1064.62	0.00	0.00
3244 3247	P-1456 P-1457	15.00 16.00	6.00 6.00	130.00 130.00	Open Open	-0.08 -0.08	1057.59 1057.80	1057.59 1057.80	0.00	0.00
3250	P-1458	16.00	6.00	130.00	Open	0.68	1058.77	1058.77	0.00	0.00
3253 3256	P-1459 P-1460	16.00 16.00	6.00 6.00	130.00 130.00	Open Open	0.48 1.64	1064.19 1058.76	1064.19 1058.76	0.00	0.00
3258	P-1461	16.00	6.00	130.00	Open	-0.26	1322.91	1322.91	0.00	0.00
3261 3263	P-1462 P-1463	16.00 17.00	6.00 6.00	130.00 130.00	Open Open	-2.76 0.83	1060.86 1058.78	1060.86 1058.78	0.00	0.00
3266	P-1464	17.00	6.00	130.00	Open	1.44	1062.60	1062.60	0.00	0.00
3268 3271	P-1465 P-1466	17.00 17.00	6.00 6.00	130.00	Open Open	0.08 0.55	1059.94	1059.94	0.00	0.00 0.00
3274	P-1467	18.00	6.00	130.00 130.00	Open	0.88	1218.03 1057.02	1218.03 1057.02	0.00	0.00
3277	P-1468	18.00	6.00	130.00	Open	67.53	1058.09	1058.09	0.01	0.00
3280 3282	P-1469 P-1470	18.00 18.00	6.00 6.00	130.00 130.00	Open Open	-0.40 2.04	1218.15 1063.38	1218.15 1063.38	0.00	0.00
3284	P-1471	18.00	6.00	130.00	Open	0.76	1060.08	1060.08	0.00	0.00
3286 3288	P-1472 P-1473	19.00 19.00	6.00 6.00	130.00 130.00	Open Open	3.40 0.28	1062.60 1059.10	1062.60 1059.10	0.00	0.00
3291	P-1474	19.00	6.00	130.00	Open	0.08	1058.78	1058.78	0.00	0.00
3294 3296	P-1475 P-1476	19.00 19.00	6.00 6.00	130.00 130.00	Open Open	0.88 0.83	1059.26 1064.62	1059.26 1064.62	0.00	0.00
3298	P-1477	20.00	6.00	130.00	Open	12.40	1057.82	1057.82	0.00	0.00
3300 3302	P-1478 P-1479	20.00 21.00	6.00 6.00	130.00 130.00	Open Open	2.04 0.48	1062.60 1062.60	1062.60 1062.60	0.00	0.00 0.00
3304	P-1480	21.00	6.00	130.00	Open	0.96	1061.62	1061.62	0.00	0.00
3306 3308	P-1481 P-1482	21.00 22.00	6.00 6.00	130.00 130.00	Open Open	-0.60 8.38	1218.15 960.77	1218.15 960.77	0.00	0.00 0.00
3310	P-1483	23.00	6.00	130.00	Open	-2.89	1064.81	1064.81	0.00	0.00
3312 3314	P-1484 P-1485	23.00 23.00	6.00 6.00	130.00 130.00	Open Open	-0.83 4.91	994.76 993.44	994.76 993.44	0.00	0.00 0.00
3315	P-1486	24.00	6.00	130.00	Open	3.35	1218.03	1218.03	0.00	0.00
3318	P-1487 P-1488	24.00	6.00	130.00	Open	0.08	1062.60	1062.60	0.00	0.00
3320 3323	P-1489	24.00 27.00	6.00 6.00	130.00 130.00	Open Open	0.28 -0.48	1064.63 1060.33	1064.63 1060.33	0.00	0.00
3326	P-1490	24.00	6.00	130.00	Open	1.03	1064.62	1064.62	0.00	0.00
3328 3331	P-1491 P-1492	24.00 25.00	6.00 6.00	130.00 130.00	Open Open	9.19 0.08	1058.67 1058.75	1058.67 1058.75	0.00	0.00
3334	P-1493	26.00	6.00	130.00	Open	-0.40	1218.60	1218.60	0.00	0.00
3335 3337	P-1494 P-1495	26.00 27.00	6.00 6.00	130.00 130.00	Open Open	2.56 -1.64	1059.73 1063.37	1059.73 1063.37	0.00	0.00
3339	P-1496	28.00	6.00	130.00	Open	1.29	1218.15	1218.15	0.00	0.00
3342 3344	P-1497 P-1498	29.00 30.00	6.00 6.00	130.00 130.00	Open Open	1.23 0.28	1057.82 1060.53	1057.82 1060.53	0.00	0.00 0.00
3346	P-1499	30.00	6.00	130.00	Open	0.55	988.98	988.98	0.00	0.00
3349 3350	P-1500 P-1501	31.00 31.00	6.00 6.00	130.00 130.00	Open Open	1.84 -1.17	1063.91 981.47	1063.91 981.47	0.00	0.00
3353	P-1502	31.00	6.00	130.00	Open	0.08	1062.86	1062.86	0.00	0.00
3356 3358	P-1503 P-1504	34.00 33.00	6.00 6.00	130.00 130.00	Open Open	-2.66 -3.85	1059.73 1057.76	1059.73 1057.76	0.00	0.00 0.00
3361	P-1505	33.00	6.00	130.00	Open	1.15	1218.03	1218.03	0.00	0.00
3364	P-1506	34.00	6.00	130.00 130.00	Open	0.63	1060.05 1063.87	1060.05 1063.87	0.00	0.00
3365 3366	P-1507 P-1508	34.00 34.00	6.00 6.00	130.00	Open Open	1.44 0.43	1053.67	1058.69	0.00	0.00
3368	P-1509	34.00	6.00	130.00	Open	2.04	1058.81	1058.81	0.00	0.00
3370 3373	P-1510 P-1511	35.00 35.00	6.00 6.00	130.00 130.00	Open Open	8.61 0.94	1064.62 1218.03	1064.62 1218.03	0.00	0.00
3375	P-1512	37.00	6.00	130.00	Open	0.55	1218.03	1218.03	0.00	0.00
3377 3379	P-1513 P-1514	39.00 37.00	6.00 6.00	130.00 130.00	Open Open	0.38 1.23	1062.86 1059.26	1062.86 1059.26	0.00	0.00
3381	P-1515	37.00	6.00	130.00	Open	0.68	1061.15	1061.15	0.00	0.00
3383 3384	P-1516 P-1517	38.00 38.00	6.00 6.00	130.00 130.00	Open Open	7.71 0.48	963.95 1060.97	963.95 1060.97	0.00	0.00
3386	P-1518	38.00	6.00	130.00	Open	0.08	1058.06	1058.06	0.00	0.00
3388 3391	P-1519 P-1520	38.00 39.00	6.00 6.00	130.00 130.00	Open Open	0.20 1.75	1216.97 1057.45	1216.97 1057.45	0.00	0.00
3394	P-1521	40.00	6.00	130.00	Open	8.38	1217.75	1217.75	0.00	0.00
3396 3398	P-1522 P-1523	40.00 40.00	6.00 6.00	130.00 130.00	Open Open	0.28 -0.96	1058.78 1064.62	1058.78 1064.62	0.00	0.00 0.00
3400	P-1524	41.00	6.00	130.00	Open	1.23	1064.84	1064.84	0.00	0.00
3402	P-1525	42.00	6.00	130.00	Open	1.81	1061.62	1061.62	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
3404	P-1526	45.00	6.00	130.00	Open	-8.67	993.37	993.37	0.00	0.00
3406 3409	P-1527 P-1528	45.00 45.00	6.00 6.00	130.00 130.00	Open Open	-0.63 2.72	1064.87 1061.94	1064.87 1061.94	0.00	0.00
3411	P-1529	47.00	6.00	130.00	Open	0.68	1059.72	1059.72	0.00	0.00
3414	P-1530	47.00	6.00	130.00	Open	0.48	1064.85	1064.85	0.00	0.00
3417 3419	P-1531 P-1532	48.00 48.00	6.00 6.00	130.00 130.00	Open Open	16.41 4.18	1064.85 1218.03	1064.85 1218.03	0.00	0.00
3420	P-1532	48.00	6.00	130.00	Open	0.08	1064.62	1064.62	0.00	0.00
3423	P-1534	48.00	6.00	130.00	Open	-1.59	1064.87	1064.87	0.00	0.00
3425 3428	P-1535 P-1536	48.00 50.00	6.00 6.00	130.00 130.00	Open Open	0.20 0.89	1218.03 1062.86	1218.03 1062.86	0.00	0.00
3431	P-1537	57.00	6.00	130.00	Open	3.37	1058.62	1058.62	0.00	0.00
3433	P-1538	52.00	6.00	130.00	Open	1.64	1058.95	1058.95	0.00	0.00
3435 3437	P-1539 P-1540	52.00 52.00	6.00 6.00	130.00 130.00	Open Open	-1.03 -6.57	981.47 1057.45	981.47 1057.45	0.00	0.00
3440	P-1541	53.00	6.00	130.00	Open	-2.84	1057.42	1057.42	0.00	0.00
3443	P-1542	53.00	6.00	130.00	Open	-12.15	1057.84	1057.84	0.00	0.00
3445 3446	P-1543 P-1544	54.00 55.00	6.00 6.00	130.00 130.00	Open Open	2.16 1.44	1057.45 1059.96	1057.45 1059.96	0.00	0.00
3449	P-1545	55.00	6.00	130.00	Open	3.04	1057.68	1057.68	0.00	0.00
3452 3455	P-1546 P-1547	56.00 56.00	6.00 6.00	130.00 130.00	Open Open	3.20 -0.08	1063.37 1064.87	1063.37 1064.87	0.00	0.00
3457	P-1548	57.00	6.00	130.00	Open	-2.72	1062.02	1062.02	0.00	0.00
3459	P-1549	59.00	6.00	130.00	Open	1.23	1060.81	1060.81	0.00	0.00
3462 3463	P-1550 P-1551	59.00 61.00	6.00 6.00	130.00 130.00	Open Open	-2.11 0.23	1064.07 1057.41	1064.07 1057.41	0.00	0.00
3465	P-1552	61.00	6.00	130.00	Open	12.13	1064.81	1064.81	0.00	0.00
3468	P-1553	62.00	6.00	130.00	Open	19.04	1058.63	1058.62	0.00	0.00
3471 3474	P-1554 P-1555	64.00 64.00	6.00 6.00	130.00 130.00	Open Open	-13.24 -0.28	1060.87 1057.82	1060.87 1057.82	0.00	0.00
3477	P-1556	65.00	6.00	130.00	Open	-0.63	1060.33	1060.33	0.00	0.00
3479 3481	P-1557 P-1558	65.00	6.00 6.00	130.00	Open Open	1.32	1218.03	1218.03	0.00	0.00
3483	P-1559	65.00 66.00	6.00	130.00 130.00	Open	6.27 0.08	1059.10 1057.82	1059.10 1057.82	0.00	0.00
3486	P-1560	66.00	6.00	130.00	Open	4.55	1059.10	1059.10	0.00	0.00
3488 3491	P-1561 P-1562	67.00 72.00	6.00 6.00	130.00 130.00	Open Open	0.48 1.41	1059.97 1218.03	1059.97 1218.03	0.00	0.00
3493	P-1563	68.00	6.00	130.00	Open	-3.21	1057.47	1057.47	0.00	0.00
3496	P-1564	70.00	6.00	130.00	Open	4.63	981.47	981.47	0.00	0.00
3498 3500	P-1565 P-1566	70.00 70.00	6.00 6.00	130.00 130.00	Open Open	-0.08 0.08	1056.91 1061.61	1056.91 1061.61	0.00	0.00
3503	P-1567	100.00	6.00	130.00	Open	0.68	1059.96	1059.96	0.00	0.00
3506	P-1568	71.00	6.00	130.00	Open	-22.65	1057.51	1057.51	0.00	0.00
3509 3512	P-1569 P-1570	71.00 71.00	6.00 6.00	130.00 130.00	Open Open	-7.68 1.58	981.48 1218.03	981.48 1218.03	0.00	0.00
3513	P-1571	71.00	6.00	130.00	Open	-1.08	1218.03	1218.03	0.00	0.00
3516 3518	P-1572 P-1573	73.00 73.00	6.00 6.00	130.00 130.00	Open Open	2.84 1.84	1057.82 1062.35	1057.82 1062.35	0.00	0.00
3519	P-1574	73.00	6.00	130.00	Open	2.04	1062.33	1062.33	0.00	0.00
3521	P-1575	74.00	6.00	130.00	Open	2.64	1059.23	1059.23	0.00	0.00
3523 3526	P-1576 P-1577	74.00 76.00	6.00 6.00	130.00 130.00	Open Open	-1.38 0.48	1057.76 1059.35	1057.76 1059.35	0.00	0.00 0.00
3529	P-1578	76.00	6.00	130.00	Open	-2.79	1056.91	1056.91	0.00	0.00
3530	P-1579	77.00	6.00	130.00	Open	-8.03	1061.53	1061.53	0.00	0.00
3531 3534	P-1580 P-1581	77.00 79.00	6.00 6.00	130.00 130.00	Open Open	-2.24 7.35	1057.42 1064.80	1057.42 1064.80	0.00	0.00
3536	P-1582	79.00	6.00	130.00	Open	2.90	1058.78	1058.78	0.00	0.00
3538 3540	P-1583 P-1584	80.00 80.00	6.00 6.00	130.00	Open Open	0.23 1.23	1058.71	1058.71 1059.26	0.00	0.00
3542	P-1585	82.00	6.00	130.00 130.00	Open	4.20	1059.26 1063.30	1063.30	0.00	0.00
3545	P-1586	82.00	6.00	130.00	Open	6.26	963.94	963.94	0.00	0.00
3548 3549	P-1587 P-1588	83.00 83.00	6.00 6.00	130.00 130.00	Open Open	0.60 -3.57	1217.94 1059.10	1217.94 1059.10	0.00	0.00
3550	P-1589	84.00	6.00	130.00	Open	6.96	981.48	981.48	0.00	0.00
3553	P-1590	89.00	6.00	130.00	Open	2.89	988.98	988.98	0.00	0.00
3556 3559	P-1591 P-1592	85.00 89.00	6.00 6.00	130.00 130.00	Open	-0.08 0.48	1058.09 1064.87	1058.09 1064.87	0.00	0.00
3562	P-1593	89.00	6.00	130.00	Open	1.81	1218.03	1218.03	0.00	0.00
3564 3565	P-1594 P-1595	90.00 92.00	6.00 6.00	130.00 130.00	Open Open	1.03 -2.84	1059.10 1064.10	1059.10 1064.10	0.00	0.00
3568	P-1596	93.00	6.00	130.00	Open	-2.84 -7.68	1064.10	1061.62	0.00	0.00
3570	P-1597	95.00	6.00	130.00	Open	1.24	1218.03	1218.03	0.00	0.00
3572 3575	P-1598 P-1599	94.00 95.00	6.00 6.00	130.00 130.00	Open Open	-27.70 -0.70	1057.09 1061.62	1057.10 1061.62	0.01 0.00	0.00
3578	P-1600	96.00	6.00	130.00	Open	1.11	1057.76	1057.76	0.00	0.00
3580	P-1601	96.00	6.00	130.00	Open	8.77	1064.62	1064.62	0.00	0.00
3582 3584	P-1602 P-1603	97.00 106.00	6.00 6.00	130.00 130.00	Open Open	8.26 0.08	1058.64 1061.32	1058.64 1061.32	0.00	0.00
3586	P-1604	98.00	6.00	130.00	Open	0.08	1057.46	1057.46	0.00	0.00
3589 3592	P-1605 P-1606	139.00 101.00	6.00 6.00	130.00 130.00	Open Open	2.97 0.88	1218.03 1059.72	1218.03 1059.72	0.00	0.00 0.00
3595	P-1607	104.00	6.00	130.00	Open	2.04	1059.72	1059.72	0.00	0.00
3598	P-1608	105.00	6.00	130.00	Open	0.88	1059.72	1059.72	0.00	0.00
3600 3602	P-1609 P-1610	109.00 109.00	6.00 6.00	130.00 130.00	Open Open	4.46 1.56	1059.26 1063.37	1059.26 1063.37	0.00	0.00 0.00
3604	P-1611	132.00	6.00	130.00	Open	7.40	1063.57	1063.37	0.00	0.00
3605	P-1612	112.00	6.00	130.00	Open	2.16	1061.94	1061.94	0.00	0.00
3606 3608	P-1613 P-1614	120.00 120.00	6.00 6.00	130.00 130.00	Open Open	1.76 -0.20	1063.37 1218.15	1063.37 1218.15	0.00	0.00
3610	P-1614 P-1615	120.00	6.00	130.00	Closed	0.00	1064.31	1064.83	0.00	0.00
3612	P-1616	123.00	6.00	130.00	Open	-3.70	1064.87	1064.87	0.00	0.00
3614 3617	P-1617 P-1618	123.00 123.00	6.00 6.00	130.00 130.00	Open Open	-10.65 0.28	1056.98 1059.73	1056.98 1059.73	0.00	0.00
3619	P-1619	149.00	6.00	130.00	Open	10.50	1058.69	1058.68	0.00	0.00
3620	P-1620	135.00	6.00	130.00	Open	5.46	1218.03	1218.03	0.00	0.00
3622 3624	P-1621 P-1622	127.00 127.00	6.00 6.00	130.00 130.00	Open Open	0.52 0.88	1322.91 1064.62	1322.91 1064.62	0.00	0.00
3627	P-1623	129.00	6.00	130.00	Open	3.18	1064.62	1064.62	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
3629	P-1624	134.00	6.00	130.00	Open	-23.62	1057.06	1057.07	0.01	0.00
3632	P-1625	134.00	6.00	130.00	Open	3.44	1061.72	1061.72	0.00	0.00
3635 3636	P-1626 P-1627	139.00 136.00	6.00 6.00	130.00 130.00	Open Open	-10.32 -12.31	1059.10 1217.78	1059.11 1217.78	0.00	0.00
3638	P-1628	145.00	6.00	130.00	Open	-3.33	1058.68	1058.68	0.00	0.00
3640	P-1629	147.00	6.00	130.00	Open	5.36	1061.60	1061.60	0.00	0.00
3642 3645	P-1630 P-1631	158.00 149.00	6.00 6.00	130.00 130.00	Open Open	-0.88 8.74	1057.42 1064.83	1057.42 1064.83	0.00	0.00
3648	P-1632	151.00	6.00	130.00	Open	-0.28	994.76	994.76	0.00	0.00
3650	P-1633	152.00	6.00	130.00	Open	3.60	1057.42	1057.42 1063.38	0.00	0.00
3653 3656	P-1634 P-1635	158.00 160.00	6.00 6.00	130.00 130.00	Open Open	0.48 1.56	1063.38 1064.79	1063.38	0.00	0.00
3657	P-1636	162.00	6.00	130.00	Open	5.74	1064.83	1064.83	0.00	0.00
3659 3660	P-1637 P-1638	165.00 165.00	6.00 6.00	130.00 130.00	Open Open	-9.32 5.99	993.37 981.47	993.37 981.47	0.00	0.00
3661	P-1639	168.00	6.00	130.00	Open	0.28	1058.78	1058.78	0.00	0.00
3663	P-1640	168.00	6.00	130.00	Open	2.19	1061.61	1061.61	0.00	0.00
3665 3668	P-1641 P-1642	169.00 172.00	6.00 6.00	130.00 130.00	Open Open	2.27 2.50	1064.79 988.98	1064.79 988.98	0.00	0.00
3669	P-1643	172.00	6.00	130.00	Open	-2.11	1063.25	1063.25	0.00	0.00
3672	P-1644	178.00	6.00	130.00	Open	-0.88	1057.41	1057.41	0.00	0.00
3675 3678	P-1645 P-1646	179.00 180.00	6.00 6.00	130.00 130.00	Open Open	1.08 2.44	1057.42 1060.80	1057.42 1060.80	0.00	0.00
3681	P-1647	196.00	6.00	130.00	Open	-1.56	1057.07	1057.07	0.00	0.00
3682	P-1648	186.00	6.00	130.00	Open	-2.87	1062.02	1062.02	0.00	0.00
3684 3687	P-1649 P-1650	210.00 188.00	6.00 6.00	130.00 130.00	Open Open	-26.10 -28.85	1218.12 1062.79	1218.14 1062.81	0.02 0.02	0.00 0.00
3690	P-1651	189.00	6.00	130.00	Open	-2.55	1057.82	1057.82	0.00	0.00
3693	P-1652	193.00	6.00	130.00	Open	0.22	1218.15	1218.15	0.00	0.00
3696 3698	P-1653 P-1654	195.00 196.00	6.00 6.00	130.00 130.00	Open Open	0.08 -1.79	1060.20 1064.83	1060.20 1064.83	0.00	0.00
3700	P-1655	239.00	6.00	130.00	Open	0.48	1061.83	1061.83	0.00	0.00
3703	P-1656	197.00	6.00	130.00	Open	3.90	1059.26	1059.26	0.00	0.00
3704 3706	P-1657 P-1658	197.00 199.00	6.00 6.00	130.00 130.00	Open Open	2.64 5.00	981.47 1057.81	981.47 1057.81	0.00	0.00
3709	P-1659	209.00	6.00	130.00	Open	-0.43	1057.44	1057.44	0.00	0.00
3711	P-1660	200.00	6.00	130.00	Open	1.84	1060.80	1060.80	0.00	0.00
3713 3715	P-1661 P-1662	203.00 210.00	6.00 6.00	130.00 130.00	Open Open	-1.71 -0.88	1064.62 1060.82	1064.62 1060.82	0.00	0.00
3718	P-1663	204.00	6.00	130.00	Open	-1.36	1060.80	1060.80	0.00	0.00
3719	P-1664	205.00	6.00	130.00	Open	0.88	1062.60	1062.60	0.00	0.00
3722 3724	P-1665 P-1666	211.00 213.00	6.00 6.00	130.00 130.00	Open Open	-3.10 10.90	1057.41 1058.62	1057.41 1058.62	0.00	0.00
3726	P-1667	234.00	6.00	130.00	Open	-1.28	1058.62	1058.62	0.00	0.00
3729 3732	P-1668 P-1669	220.00 217.00	6.00 6.00	130.00 130.00	Open Open	-0.20 -1.08	1218.03 981.47	1218.03 981.47	0.00	0.00
3734	P-1670	228.00	6.00	130.00	Open	6.07	1062.60	1062.60	0.00	0.00
3736	P-1671	224.00	6.00	130.00	Open	-2.04	1060.91	1060.91	0.00	0.00
3739 3741	P-1672 P-1673	226.00 227.00	6.00 6.00	130.00 130.00	Open Open	1.34 -2.24	1057.44 1060.91	1057.44 1060.91	0.00	0.00
3743	P-1674	291.00	6.00	130.00	Open	3.60	1064.87	1064.87	0.00	0.00
3745	P-1675	228.00	6.00	130.00	Open	1.56	1064.83	1064.83	0.00	0.00
3748 3749	P-1676 P-1677	231.00 231.00	6.00 6.00	130.00 130.00	Open Open	0.83 0.23	963.95 1058.71	963.95 1058.71	0.00	0.00
3750	P-1678	233.00	6.00	130.00	Open	-0.48	1060.91	1060.91	0.00	0.00
3752	P-1679	235.00 244.00	6.00	130.00	Open	2.84	1057.42	1057.42 1218.03	0.00	0.00
3755 3756	P-1680 P-1681	238.00	6.00 6.00	130.00 130.00	Open Open	6.29 -1.56	1218.03 1063.25	1218.03	0.00	0.00
3757	P-1682	238.00	6.00	130.00	Open	0.28	1061.72	1061.72	0.00	0.00
3759	P-1683	245.00	6.00	130.00	Open	5.67	1218.03	1218.03	0.00	0.00
3760 3762	P-1684 P-1685	239.00 258.00	6.00 6.00	130.00 130.00	Open Open	2.31 -0.76	1057.45 1057.09	1057.45 1057.09	0.00	0.00
3763	P-1686	261.00	6.00	130.00	Open	-0.28	1060.04	1060.04	0.00	0.00
3766	P-1687	254.00	6.00 6.00	130.00	Open	14.67 3.47	1061.63	1061.62	0.01 0.00	0.00
3768 3771	P-1688 P-1689	261.00 250.00	6.00	130.00 130.00	Open Open	0.12	1059.73 1057.02	1059.73 1057.02	0.00	0.00
3773	P-1690	250.00	6.00	130.00	Open	-0.43	1061.62	1061.62	0.00	0.00
3775 3776	P-1691 P-1692	280.00 257.00	6.00 6.00	130.00 130.00	Open Open	0.00 1.08	1064.83 1064.62	1064.83 1064.62	0.00	0.00 0.00
3778	P-1693	298.00	6.00	130.00	Open	4.50	963.94	963.93	0.00	0.00
3780	P-1694	258.00	6.00	130.00	Open	0.83	1061.83	1061.83	0.00	0.00
3781 3783	P-1695 P-1696	265.00 265.00	6.00 6.00	130.00 130.00	Open Open	1.56 0.68	1063.25 1064.87	1063.25 1064.87	0.00	0.00
3785	P-1697	265.00	6.00	130.00	Open	0.08	1057.43	1057.43	0.00	0.00
3788	P-1698	267.00	6.00	130.00	Open	2.84	1059.04	1059.04	0.00	0.00
3789 3792	P-1699 P-1700	268.00 293.00	6.00 6.00	130.00 130.00	Open Open	0.68 1.56	1064.62 1061.62	1064.62 1061.62	0.00	0.00 0.00
3794	P-1701	276.00	6.00	130.00	Open	-2.16	1057.83	1057.83	0.00	0.00
3796	P-1702	286.00	6.00	130.00	Open	-1.04	1063.57	1063.57	0.00	0.00
3799 3800	P-1703 P-1704	278.00 275.00	6.00 6.00	130.00 130.00	Open Open	0.18 0.96	988.98 1057.76	988.98 1057.76	0.00	0.00
3801	P-1705	276.00	6.00	130.00	Open	-1.08	1064.62	1064.62	0.00	0.00
3803	P-1706	276.00	6.00	130.00	Open	-1.08	1057.02	1057.02	0.00	0.00
3805 3808	P-1707 P-1708	338.00 290.00	6.00 6.00	130.00 130.00	Open Open	-1.08 0.63	1060.80 1057.44	1060.80 1057.44	0.00	0.00 0.00
3809	P-1709	302.00	6.00	130.00	Open	5.20	1059.05	1059.04	0.00	0.00
3811	P-1710	314.00	6.00	130.00	Open	-4.96	1056.91	1056.92	0.00	0.00
3813 3815	P-1711 P-1712	281.00 284.00	6.00 6.00	130.00 130.00	Open Open	2.16 7.04	1056.94 1064.63	1056.94 1064.63	0.00	0.00
3816	P-1713	290.00	6.00	130.00	Open	4.52	1056.94	1056.94	0.00	0.00
3818	P-1714	291.00	6.00	130.00	Open	0.80	1322.91	1322.91	0.00	0.00
3820 3821	P-1715 P-1716	285.00 286.00	6.00 6.00	130.00 130.00	Open Open	6.31 5.00	1061.60 1063.71	1061.60 1063.71	0.00	0.00
3823	P-1717	286.00	6.00	130.00	Open	-1.28	1057.52	1057.52	0.00	0.00
3826	P-1718 P-1719	286.00	6.00	130.00 130.00	Open	-2.32 4.25	981.47 963.94	981.47 963.94	0.00	0.00 0.00
3827 3830	P-1719 P-1720	290.00 288.00	6.00 6.00	130.00	Open Open	4.25 0.88	1059.95	1059.95	0.00	0.00
3832	P-1721	288.00	6.00	130.00	Open	0.28	1059.16	1059.16	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
3835	P-1722	301.00	6.00	130.00	Open	1.19	1064.62	1064.62	0.00	0.00
3836 3837	P-1723 P-1724	291.00 291.00	6.00 6.00	130.00 130.00	Open Open	-26.46 5.59	1057.07 963.95	1057.09 963.95	0.03	0.00
3839	P-1725	293.00	6.00	130.00	Open	-9.37	1060.84	1060.85	0.00	0.00
3842	P-1726	293.00	6.00	130.00	Open	-0.43	1057.59	1057.59	0.00	0.00
3844 3847	P-1727 P-1728	294.00 298.00	6.00 6.00	130.00 130.00	Open Open	-1.56 0.41	1058.37 1058.75	1058.37 1058.75	0.00	0.00
3849	P-1729	301.00	6.00	130.00	Open	11.36	1058.70	1058.69	0.01	0.00
3851 3852	P-1730 P-1731	299.00 305.00	6.00 6.00	130.00 130.00	Open Open	0.63 0.68	1218.15 1060.06	1218.15 1060.05	0.00	0.00
3854	P-1732	302.00	6.00	130.00	Open	20.26	1057.44	1057.43	0.02	0.00
3857 3858	P-1733 P-1734	306.00 304.00	6.00 6.00	130.00 130.00	Open	4.37 0.43	993.43 1064.62	993.43 1064.62	0.00	0.00
3859	P-1735	304.00	6.00	130.00	Open Open	-8.58	1054.62	1054.62	0.00	0.00
3861	P-1736	305.00	6.00	130.00	Open	-6.40	993.37	993.37	0.00	0.00
3862 3865	P-1737 P-1738	402.00 326.00	6.00 6.00	130.00 130.00	Open Open	0.48 2.72	1064.74 1057.81	1064.74 1057.81	0.00	0.00
3866	P-1739	306.00	6.00	130.00	Open	11.01	1058.69	1058.69	0.01	0.00
3867 3869	P-1740 P-1741	307.00 336.00	6.00 6.00	130.00 130.00	Open Open	8.26 5.36	963.96 1061.62	963.95 1061.62	0.00	0.00
3872	P-1742	319.00	6.00	130.00	Open	-1.36	1058.36	1058.36	0.00	0.00
3874	P-1743	316.00	6.00	130.00	Open	0.68	1057.42	1057.42	0.00	0.00
3877 3879	P-1744 P-1745	312.00 314.00	6.00 6.00	130.00 130.00	Open Open	11.07 -1.68	1057.44 1061.72	1057.43 1061.72	0.01 0.00	0.00
3881	P-1746	314.00	6.00	130.00	Open	-3.44	1056.99	1056.99	0.00	0.00
3883 3886	P-1747 P-1748	326.00 316.00	6.00 6.00	130.00 130.00	Open Open	-1.08 8.40	1058.36 1057.82	1058.36 1057.81	0.00	0.00 0.00
3887	P-1749	317.00	6.00	130.00	Open	-0.88	1057.82	1057.82	0.00	0.00
3889 3891	P-1750 P-1751	325.00 322.00	6.00 6.00	130.00 130.00	Open Open	0.48 -6.93	1064.87 1062.02	1064.87 1062.02	0.00	0.00 0.00
3893	P-1752	320.00	6.00	130.00	Open	0.68	1062.02	1062.02	0.00	0.00
3895	P-1753	321.00	6.00	130.00	Open	2.44	1064.62	1064.62	0.00	0.00
3897 3899	P-1754 P-1755	330.00 336.00	6.00 6.00	130.00 130.00	Open Open	-1.08 1.44	1057.83 1063.75	1057.83 1063.75	0.00	0.00
3900	P-1756	405.00	6.00	130.00	Open	-4.00	981.47	981.47	0.00	0.00
3902 3904	P-1757 P-1758	350.00 336.00	6.00 6.00	130.00 130.00	Open Open	12.61 1.84	993.45 1063.38	993.44 1063.38	0.01 0.00	0.00
3904	P-1758 P-1759	335.00	6.00	130.00	Open	-1.28	1063.38	1063.38	0.00	0.00
3908	P-1760	337.00	6.00	130.00	Open	9.29	1064.84	1064.83	0.00	0.00
3910 3912	P-1761 P-1762	344.00 338.00	6.00 6.00	130.00 130.00	Open Open	6.22 1.95	1062.02 1218.15	1062.02 1218.15	0.00	0.00
3914	P-1763	340.00	6.00	130.00	Open	4.00	1059.95	1059.95	0.00	0.00
3916 3917	P-1764 P-1765	343.00 343.00	6.00 6.00	130.00 130.00	Open Open	-2.24 6.36	1060.80 1058.82	1060.80 1058.82	0.00	0.00
3920	P-1766	351.00	6.00	130.00	Open	6.15	963.95	963.95	0.00	0.00
3921 3923	P-1767 P-1768	345.00 342.00	6.00 6.00	130.00	Open Open	0.88 -4.86	1057.83	1057.83 1057.42	0.00	0.00
3925	P-1769	343.00	6.00	130.00 130.00	Open	-0.88	1057.41 1057.45	1057.42	0.00	0.00
3928	P-1770	345.00	6.00	130.00	Open	1.28	1057.42	1057.41	0.00	0.00
3931 3933	P-1771 P-1772	351.00 375.00	6.00 6.00	130.00 130.00	Open Open	-3.60 1.23	994.76 1064.83	994.76 1064.83	0.00	0.00
3934	P-1773	384.00	6.00	130.00	Open	3.04	1063.58	1063.57	0.00	0.00
3936 3937	P-1774 P-1775	358.00 443.00	6.00 6.00	130.00 130.00	Open Open	-4.08 2.39	981.47 1062.60	981.47 1062.60	0.00	0.00
3938	P-1776	397.00	6.00	130.00	Open	1.08	1059.26	1059.26	0.00	0.00
3940 3942	P-1777 P-1778	358.00 358.00	6.00 6.00	130.00 130.00	Open Open	-1.64 4.20	1061.29 1064.63	1061.29 1064.62	0.00	0.00
3944	P-1779	361.00	6.00	130.00	Open	-6.05	1056.91	1056.92	0.00	0.00
3946	P-1780	361.00	6.00	130.00	Open	6.16	1063.71	1063.71	0.00	0.00
3948 3950	P-1781 P-1782	361.00 368.00	6.00 6.00	130.00 130.00	Open Open	4.25 4.28	994.76 981.47	994.76 981.47	0.00	0.00
3951	P-1783	364.00	6.00	130.00	Open	-1.64	1059.42	1059.42	0.00	0.00
3953 3954	P-1784 P-1785	370.00 378.00	6.00 6.00	130.00 130.00	Open Open	4.03 0.68	1218.03 1064.10	1218.03 1064.10	0.00	0.00
3956	P-1786	379.00	6.00	130.00	Open	5.70	1059.73	1059.73	0.00	0.00
3958 3960	P-1787 P-1788	457.00 370.00	6.00 6.00	130.00 130.00	Open Open	0.88 -1.28	1063.57 1057.42	1063.57 1057.42	0.00	0.00
3962	P-1789	478.00	6.00	130.00	Open	1.84	1064.87	1064.87	0.00	0.00
3963	P-1790	385.00	6.00	130.00	Open	0.34	1061.61	1061.61	0.00	0.00
3965 3967	P-1791 P-1792	374.00 380.00	6.00 6.00	130.00 130.00	Open Open	-3.63 -7.36	1058.24 981.47	1058.25 981.48	0.00	0.00 0.00
3969	P-1793	382.00	6.00	130.00	Open	26.75	1057.61	1057.58	0.03	0.00
3972 3975	P-1794 P-1795	379.00 410.00	6.00 6.00	130.00 130.00	Open Open	4.93 2.39	1059.73 1059.26	1059.72 1059.26	0.00	0.00
3976	P-1796	690.00	6.00	130.00	Open	-0.28	1063.57	1063.57	0.00	0.00
3977 3978	P-1797 P-1798	397.00 416.00	6.00 6.00	130.00 130.00	Open Open	-0.08 3.24	1064.83 1064.90	1064.83 1064.90	0.00	0.00 0.00
3979	P-1799	389.00	6.00	130.00	Open	1.08	1057.41	1057.41	0.00	0.00
3982	P-1800	400.00	6.00	130.00	Open	1.35	988.98	988.98	0.00	0.00
3983 3985	P-1801 P-1802	385.00 389.00	6.00 6.00	130.00 130.00	Open Open	-2.84 -6.72	1057.45 981.47	1057.45 981.48	0.00	0.00
3986	P-1803	387.00	6.00	130.00	Open	-1.91	1064.62	1064.62	0.00	0.00
3987 3989	P-1804 P-1805	390.00 393.00	6.00 6.00	130.00 130.00	Open Open	1.64 -3.60	1057.76 1062.02	1057.76 1062.02	0.00	0.00
3991	P-1806	400.00	6.00	130.00	Open	2.32	1059.00	1059.00	0.00	0.00
3993	P-1807 P-1808	392.00	6.00 6.00	130.00 130.00	Open	2.11	1060.13	1060.13	0.00	0.00
3995 3997	P-1808 P-1809	393.00 397.00	6.00	130.00 130.00	Open Open	6.29 6.86	1061.72 963.94	1061.72 963.94	0.00	0.00 0.00
3999	P-1810	395.00	6.00	130.00	Open	-1.23	1057.41	1057.41	0.00	0.00
4001 4003	P-1811 P-1812	399.00 395.00	6.00 6.00	130.00 130.00	Open Open	-10.73 -5.61	1060.85 1057.45	1060.86 1057.45	0.01 0.00	0.00 0.00
4004	P-1813	400.00	6.00	130.00	Open	-8.23	1057.82	1057.82	0.00	0.00
4006 4009	P-1814 P-1815	397.00 401.00	6.00 6.00	130.00 130.00	Open Open	0.88 2.24	1058.67 1058.27	1058.67 1058.27	0.00	0.00 0.00
4011	P-1816	405.00	6.00	130.00	Open	2.11	1059.00	1059.00	0.00	0.00
4012	P-1817	403.00	6.00	130.00	Open	3.28	1064.62	1064.62	0.00	0.00 0.00
4013 4015	P-1818 P-1819	437.00 406.00	6.00 6.00	130.00 130.00	Open Open	-1.64 7.75	1057.81 981.48	1057.81 981.47	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
4017	P-1820	407.00	6.00	130.00	Open	-0.79	981.47	981.47	0.00	0.00
4018	P-1821	408.00	6.00	130.00	Open	6.29	1064.63	1064.62	0.00	0.00
4020 4021	P-1822 P-1823	411.00 416.00	6.00 6.00	130.00 130.00	Open Open	6.72 1.46	1061.62 1057.83	1061.62 1057.83	0.00	0.00
4024	P-1824	446.00	6.00	130.00	Open	6.16	1057.83	1057.83	0.00	0.00
4026	P-1825	414.00	6.00	130.00	Open	1.08	1057.68	1057.68	0.00	0.00
4028 4029	P-1826 P-1827	419.00 424.00	6.00 6.00	130.00 130.00	Open Open	2.67 -11.68	1062.02 993.38	1062.02 993.39	0.00 0.01	0.00
4030	P-1828	421.00	6.00	130.00	Open	9.39	1059.97	1059.97	0.01	0.00
4032	P-1829	426.00	6.00	130.00	Open	-2.92	1060.81	1060.81	0.00	0.00
4034 4035	P-1830 P-1831	441.00 439.00	6.00 6.00	130.00 130.00	Open Open	4.45 4.49	1058.62 1058.64	1058.62 1058.64	0.00	0.00
4036	P-1832	436.00	6.00	130.00	Open	7.08	1058.75	1058.75	0.00	0.00
4039 4041	P-1833 P-1834	429.00 443.00	6.00 6.00	130.00 130.00	Open Open	-8.00 -4.20	1057.46 1060.91	1057.46 1060.91	0.00	0.00
4044	P-1835	434.00	6.00	130.00	Open	2.44	993.48	993.48	0.00	0.00
4047	P-1836	503.00	6.00	130.00	Open	2.16	1061.61	1061.61	0.00	0.00
4049 4050	P-1837 P-1838	437.00 453.00	6.00 6.00	130.00 130.00	Open Open	7.58 -4.96	1062.02 1060.91	1062.02 1060.91	0.00	0.00
4051	P-1839	449.00	6.00	130.00	Open	1.44	1064.19	1064.19	0.00	0.00
4052	P-1840	444.00	6.00	130.00	Open	1.71	1064.79	1064.79	0.00	0.00
4053 4055	P-1841 P-1842	439.00 454.00	6.00 6.00	130.00 130.00	Open Open	-1.03 0.72	1057.45 1216.97	1057.45 1216.97	0.00	0.00
4058	P-1843	452.00	6.00	130.00	Open	2.04	1062.60	1062.60	0.00	0.00
4059	P-1844	442.00	6.00	130.00	Open	10.04	1061.61	1061.60	0.01	0.00
4060 4063	P-1845 P-1846	459.00 445.00	6.00 6.00	130.00 130.00	Open Open	1.28 -6.24	1057.42 1058.37	1057.42 1058.37	0.00	0.00 0.00
4066	P-1847	464.00	6.00	130.00	Open	5.51	1059.10	1059.10	0.00	0.00
4067	P-1848	502.00	6.00	130.00	Open	-0.83	1059.66	1059.66	0.00	0.00
4070 4072	P-1849 P-1850	527.00 451.00	6.00 6.00	130.00 130.00	Open Open	-2.33 1.39	1057.76 1058.78	1057.76 1058.78	0.00	0.00
4074	P-1851	461.00	6.00	130.00	Open	9.76	1057.82	1057.82	0.01	0.00
4075	P-1852	456.00	6.00	130.00	Open	0.57	1218.15	1218.15	0.00	0.00
4076 4079	P-1853 P-1854	457.00 524.00	6.00 6.00	130.00 130.00	Open Open	2.44 -0.28	1064.10 981.48	1064.10 981.48	0.00	0.00
4081	P-1855	480.00	6.00	130.00	Open	-0.88	1060.91	1060.91	0.00	0.00
4084 4086	P-1856 P-1857	471.00 497.00	6.00 6.00	130.00 130.00	Open Open	-4.38 -2.44	1061.62 1063.08	1061.62 1063.08	0.00	0.00
4088	P-1858	464.00	6.00	130.00	Open	10.16	1053.06	1053.06	0.00	0.00
4090	P-1859	462.00	6.00	130.00	Open	13.31	1061.62	1061.61	0.01	0.00
4091 4092	P-1860 P-1861	493.00 626.00	6.00 6.00	130.00 130.00	Open Open	8.34 -0.68	1058.62 1062.63	1058.62 1062.63	0.01 0.00	0.00
4094	P-1862	473.00	6.00	130.00	Open	1.44	1062.03	1063.30	0.00	0.00
4096	P-1863	561.00	6.00	130.00	Open	-0.27	1064.62	1064.62	0.00	0.00
4097 4099	P-1864 P-1865	502.00 478.00	6.00 6.00	130.00 130.00	Open Open	2.50 1.28	1216.97 1060.80	1216.97 1060.80	0.00	0.00
4101	P-1866	562.00	6.00	130.00	Open	-2.52	1058.36	1058.37	0.00	0.00
4102	P-1867	484.00	6.00	130.00	Open	2.50	1057.45	1057.44	0.00	0.00
4103 4105	P-1868 P-1869	483.00 613.00	6.00 6.00	130.00 130.00	Open Open	-0.28 2.72	1059.66 1061.60	1059.66 1061.60	0.00	0.00
4106	P-1870	495.00	6.00	130.00	Open	-16.52	1057.00	1057.02	0.02	0.00
4108	P-1871	486.00	6.00	130.00	Open	4.20	1057.82	1057.82	0.00	0.00
4109 4111	P-1872 P-1873	531.00 487.00	6.00 6.00	130.00 130.00	Open Open	0.68 -1.48	1060.81 1064.10	1060.81 1064.10	0.00	0.00
4113	P-1874	507.00	6.00	130.00	Open	1.28	1059.23	1059.23	0.00	0.00
4115 4117	P-1875 P-1876	488.00 492.00	6.00 6.00	130.00 130.00	Open Open	-0.62 0.83	1061.61 1057.81	1061.61 1057.81	0.00	0.00
4117	P-1877	493.00	6.00	130.00	Open	10.72	1057.61	1057.61	0.00	0.00
4121	P-1878	514.00	6.00	130.00	Open	3.20	1059.16	1059.15	0.00	0.00
4122 4123	P-1879 P-1880	502.00 496.00	6.00 6.00	130.00 130.00	Open Open	2.99 -3.44	1059.10 1061.66	1059.10 1061.66	0.00	0.00
4125	P-1881	507.00	6.00	130.00	Open	2.04	1064.74	1064.74	0.00	0.00
4126	P-1882	507.00	6.00	130.00	Open	6.21	1060.01	1060.01	0.00	0.00
4129 4131	P-1883 P-1884	505.00 516.00	6.00 6.00	130.00 130.00	Open Open	-1.79 -14.20	1058.09 1064.10	1058.09 1064.12	0.00 0.01	0.00
4134	P-1885	516.00	6.00	130.00	Open	-1.94	1057.41	1057.41	0.00	0.00
4135	P-1886	510.00	6.00	130.00	Open	3.92	1059.73	1059.72	0.00	0.00
4137 4140	P-1887 P-1888	518.00 515.00	6.00 6.00	130.00 130.00	Open Open	1.19 -2.67	1064.62 1064.62	1064.62 1064.62	0.00	0.00 0.00
4141	P-1889	514.00	6.00	130.00	Open	-14.92	1057.84	1057.85	0.02	0.00
4143	P-1890	542.00	6.00	130.00	Open	-5.09	981.47 1062.86	981.47	0.00	0.00
4144 4145	P-1891 P-1892	517.00 525.00	6.00 6.00	130.00 130.00	Open Open	2.04 3.20	1062.86	1062.86 1063.38	0.00	0.00
4147	P-1893	520.00	6.00	130.00	Open	-1.08	1063.08	1063.08	0.00	0.00
4149	P-1894 P-1895	562.00	6.00	130.00	Open	2.59	1062.60	1062.60	0.00	0.00
4150 4151	P-1895 P-1896	545.00 523.00	6.00 6.00	130.00 130.00	Open Open	-11.60 0.88	1056.98 1057.42	1056.99 1057.42	0.01 0.00	0.00 0.00
4153	P-1897	524.00	6.00	130.00	Open	0.48	1059.96	1059.96	0.00	0.00
4155	P-1898	935.00	6.00	130.00	Open	1.83	1322.92	1322.92	0.00	0.00
4158 4160	P-1899 P-1900	558.00 616.00	6.00 6.00	130.00 130.00	Open Open	-164.87 2.79	1060.87 1064.62	1062.34 1064.62	1.47 0.00	0.00
4162	P-1901	541.00	6.00	130.00	Open	-4.52	1060.86	1060.86	0.00	0.00
4164	P-1902	605.00	6.00	130.00	Open	-12.49	1060.86	1060.87	0.01	0.00
4165 4167	P-1903 P-1904	715.00 541.00	6.00 6.00	130.00 130.00	Open Open	-2.81 -1.48	1062.02 994.76	1062.02 994.76	0.00	0.00 0.00
4169	P-1905	545.00	6.00	130.00	Open	-0.48	1064.81	1064.81	0.00	0.00
4171	P-1906	558.00	6.00	130.00	Open	2.44	1063.37	1063.37	0.00	0.00
4172 4173	P-1907 P-1908	541.00 560.00	6.00 6.00	130.00 130.00	Open Open	-6.62 1.39	1057.42 1064.62	1057.42 1064.62	0.00	0.00
4175	P-1909	589.00	6.00	130.00	Open	-2.44	1058.36	1058.37	0.00	0.00
4176	P-1910 P-1011	553.00	6.00	130.00	Open	1.91	1059.94	1059.94	0.00	0.00
4177 4179	P-1911 P-1912	564.00 552.00	6.00 6.00	130.00 130.00	Open Open	1.68 3.60	1064.10 1057.82	1064.10 1057.81	0.00	0.00
4181	P-1913	554.00	6.00	130.00	Open	4.32	1064.62	1064.62	0.00	0.00
4182 4185	P-1914 P-1915	548.00	6.00	130.00 130.00	Open	-2.29 -1.64	1057.42	1057.42 1216.97	0.00	0.00 0.00
4185 4187	P-1915 P-1916	596.00 557.00	6.00 6.00	130.00	Open Open	-1.64 -1.48	1216.97 1056.99	1216.97	0.00	0.00
4189	P-1917	567.00	6.00	130.00	Open	17.29	1061.88	1061.86	0.02	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
4191	P-1918	603.00	6.00	130.00	Open	-27.49	1062.73	1062.79	0.06	0.00
4192 4194	P-1919 P-1920	563.00 557.00	6.00 6.00	130.00 130.00	Open Open	-1.88 8.61	1057.42 1064.81	1057.42 1064.80	0.00 0.01	0.00
4195	P-1921	636.00	6.00	130.00	Open	-1.79	1057.82	1057.82	0.00	0.00
4197	P-1922	571.00	6.00	130.00	Open	5.71	1058.67	1058.67	0.00	0.00
4198 4199	P-1923 P-1924	561.00 580.00	6.00 6.00	130.00 130.00	Open Open	1.78 3.55	993.48 1059.26	993.48 1059.26	0.00	0.00
4202	P-1925	601.00	6.00	130.00	Open	-21.51	1056.94	1056.98	0.04	0.00
4203	P-1926	574.00	6.00	130.00	Open	-2.95	1064.83	1064.83	0.00	0.00
4204 4205	P-1927 P-1928	596.00 587.00	6.00 6.00	130.00 130.00	Open Open	-22.66 -2.89	1057.02 1057.76	1057.06 1057.76	0.04 0.00	0.00
4206	P-1929	591.00	6.00	130.00	Open	-19.42	1056.99	1057.70	0.03	0.00
4207	P-1930	574.00	6.00	130.00	Open	-19.43	1060.08	1060.11	0.03	0.00
4210 4211	P-1931 P-1932	576.00 581.00	6.00 6.00	130.00 130.00	Open Open	9.16 -5.96	1057.42 1060.80	1057.42 1060.80	0.01 0.00	0.00
4213	P-1933	580.00	6.00	130.00	Open	18.32	1064.90	1064.88	0.03	0.00
4215	P-1934 P-1935	630.00	6.00	130.00	Open	2.09	963.94	963.94	0.00	0.00
4216 4217	P-1935 P-1936	587.00 598.00	6.00 6.00	130.00 130.00	Open Open	1.56 -163.11	1059.72 1059.33	1059.72 1060.87	0.00 1.54	0.00
4218	P-1937	785.00	6.00	130.00	Open	2.52	1059.72	1059.72	0.00	0.00
4220 4223	P-1938 P-1939	607.00 613.00	6.00 6.00	130.00 130.00	Open Open	22.02 -2.26	1061.96 1061.62	1061.93 1061.62	0.04 0.00	0.00
4224	P-1940	592.00	6.00	130.00	Open	9.23	1051.02	1059.96	0.00	0.00
4225	P-1941	592.00	6.00	130.00	Open	6.80	1057.47	1057.46	0.00	0.00
4226 4228	P-1942 P-1943	596.00 597.00	6.00 6.00	130.00 130.00	Open Open	2.99 -17.00	1063.58 1057.45	1063.57 1057.47	0.00 0.02	0.00
4229	P-1944	664.00	6.00	130.00	Open	0.78	1061.62	1061.62	0.00	0.00
4231	P-1945	614.00	6.00	130.00	Open	-2.24	1056.73	1056.73	0.00	0.00
4232 4233	P-1946 P-1947	676.00 610.00	6.00 6.00	130.00 130.00	Open Open	-29.46 17.37	1057.10 1064.88	1057.18 1064.85	0.07 0.02	0.00
4234	P-1948	608.00	6.00	130.00	Open	-21.29	1057.47	1057.51	0.04	0.00
4235 4237	P-1949 P-1950	608.00 620.00	6.00 6.00	130.00 130.00	Open Open	1.28 -0.89	1064.79 1057.45	1064.79 1057.45	0.00	0.00
4237	P-1951	662.00	6.00	130.00	Open	-2.38	1061.61	1061.62	0.00	0.00
4239	P-1952	613.00	6.00	130.00	Open	2.99	1063.87	1063.87	0.00	0.00
4240 4241	P-1953 P-1954	621.00 657.00	6.00 6.00	130.00 130.00	Open Open	-2.79 -2.64	1060.33 1060.91	1060.33 1060.91	0.00	0.00
4242	P-1955	689.00	6.00	130.00	Open	-1.28	1060.84	1060.84	0.00	0.00
4245	P-1956	611.00	6.00	130.00	Open	1.64	1058.67	1058.67	0.00	0.00
4247 4248	P-1957 P-1958	623.00 616.00	6.00 6.00	130.00 130.00	Open Open	13.36 2.72	1057.84 1060.08	1057.82 1060.08	0.02 0.00	0.00
4250	P-1959	707.00	6.00	130.00	Open	2.52	1061.62	1061.62	0.00	0.00
4251 4252	P-1960 P-1961	618.00 624.00	6.00 6.00	130.00 130.00	Open	4.40 -1.44	1057.83 1057.82	1057.83 1057.82	0.00	0.00
4252	P-1962	616.00	6.00	130.00	Open Open	-10.50	993.37	993.38	0.00	0.00
4254	P-1963	647.00	6.00	130.00	Open	-1.48	1061.64	1061.64	0.00	0.00
4257 4258	P-1964 P-1965	620.00 628.00	6.00 6.00	130.00 130.00	Open Open	2.59 13.29	1059.26 1064.83	1059.26 1064.81	0.00 0.02	0.00
4260	P-1966	659.00	6.00	130.00	Open	2.79	1063.91	1063.91	0.00	0.00
4262	P-1967	629.00	6.00	130.00	Open	-0.28	1059.42	1059.42	0.00	0.00
4264 4265	P-1968 P-1969	757.00 637.00	6.00 6.00	130.00 130.00	Open Open	-0.83 2.44	1058.12 1057.42	1058.12 1057.42	0.00	0.00 0.00
4266	P-1970	639.00	6.00	130.00	Open	-6.84	1057.42	1057.42	0.00	0.00
4269	P-1971	658.00	6.00	130.00	Open	-30.81	1062.81	1062.89	0.08	0.00
4271 4272	P-1972 P-1973	684.00 650.00	6.00 6.00	130.00 130.00	Open Open	5.44 -17.37	991.26 1064.12	991.25 1064.14	0.00 0.03	0.00
4273	P-1974	650.00	6.00	130.00	Open	17.24	991.30	991.28	0.03	0.00
4274 4275	P-1975 P-1976	752.00 720.00	6.00 6.00	130.00 130.00	Open Open	2.24 7.22	1063.97 1057.76	1063.97 1057.76	0.00 0.01	0.00
4277	P-1977	746.00	6.00	130.00	Open	1.28	1060.33	1060.33	0.00	0.00
4279	P-1978	670.00	6.00	130.00	Open	2.64	1059.73	1059.72	0.00	0.00
4280 4281	P-1979 P-1980	847.00 711.00	6.00 6.00	130.00 130.00	Open Open	1.91 0.46	1063.25 993.37	1063.25 993.37	0.00	0.00
4283	P-1981	662.00	6.00	130.00	Open	3.75	1064.62	1064.62	0.00	0.00
4285	P-1982	690.00 890.00	6.00	130.00	Open	-26.10	991.30	991.36	0.06	0.00
4286 4287	P-1983 P-1984	670.00	6.00 6.00	130.00 130.00	Open	19.85 -3.44	1061.93 1057.52	1061.88 1057.52	0.05 0.00	0.00
4289	P-1985	692.00	6.00	130.00	Open	-0.63	1058.09	1058.09	0.00	0.00
4290 4291	P-1986 P-1987	681.00 716.00	6.00 6.00	130.00 130.00	Open Open	6.76 3.52	1059.05 1063.37	1059.05 1063.37	0.00	0.00
4293	P-1988	681.00	6.00	130.00	Open	2.07	1322.91	1322.91	0.00	0.00
4295	P-1989 P-1990	690.00	6.00	130.00	Open	13.02	1059.95	1059.93	0.02	0.00
4298 4300	P-1990 P-1991	936.00 699.00	6.00 6.00	130.00 130.00	Open Open	1.75 0.28	1058.75 1059.74	1058.75 1059.74	0.00	0.00
4302	P-1992	711.00	6.00	130.00	Open	3.40	1058.77	1058.76	0.00	0.00
4303 4304	P-1993 P-1994	754.00 718.00	6.00 6.00	130.00 130.00	Open Open	2.24 -5.31	1061.30 1063.25	1061.30 1063.25	0.00	0.00 0.00
4305	P-1995	697.00	6.00	130.00	Open	2.37	1061.62	1061.62	0.00	0.00
4306	P-1996	698.00	6.00	130.00	Open	-4.97	1062.02	1062.02	0.00	0.00
4307 4308	P-1997 P-1998	716.00 793.00	6.00 6.00	130.00 130.00	Open Open	0.91 5.37	981.47 1322.92	981.47 1322.91	0.00	0.00
4310	P-1999	707.00	6.00	130.00	Open	-18.68	1057.02	1057.05	0.03	0.00
4312	P-2000	721.00	6.00	130.00	Open	15.72	1058.40	1058.38	0.02	0.00
4313 4314	P-2001 P-2002	713.00 898.00	6.00 6.00	130.00 130.00	Open Open	-3.17 2.44	1060.62 1063.30	1060.63 1063.30	0.00	0.00 0.00
4315	P-2003	718.00	6.00	130.00	Open	-10.19	1057.82	1057.84	0.01	0.00
4316	P-2004	740.00	6.00	130.00	Open	3.64	1058.67	1058.67	0.00	0.00
4317 4318	P-2005 P-2006	737.00 867.00	6.00 6.00	130.00 130.00	Open Open	4.92 -1.09	1058.75 988.98	1058.75 988.98	0.00	0.00
4320	P-2007	793.00	6.00	130.00	Open	5.19	1064.83	1064.83	0.00	0.00
4321 4322	P-2008 P-2009	758.00 764.00	6.00 6.00	130.00 130.00	Open Open	2.11 2.32	1064.83 1063.90	1064.83 1063.90	0.00	0.00
4322	P-2009 P-2010	832.00	6.00	130.00	Open	-0.50	1053.90	1053.90	0.00	0.00
4325	P-2011	866.00	6.00	130.00	Open	-3.85	1060.84	1060.84	0.00	0.00
4327 4329	P-2012 P-2013	745.00 822.00	6.00 6.00	130.00 130.00	Open Open	-1.28 -4.12	1062.10 1057.83	1062.10 1057.83	0.00	0.00 0.00
4331	P-2014	791.00	6.00	130.00	Open	2.56	1059.72	1059.72	0.00	0.00
4332	P-2015	764.00	6.00	130.00	Open	9.74	1058.68	1058.67	0.01	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
4333	P-2016	759.00	6.00	130.00	Open	1.44	1057.76	1057.76	0.00	0.00
4334	P-2017	760.00	6.00	130.00	Open	1.48	1061.72	1061.72	0.00	0.00
4336 4337	P-2018 P-2019	819.00 803.00	6.00 6.00	130.00 130.00	Open Open	-6.08 3.21	1057.83 1062.86	1057.84 1062.86	0.00	0.00
4338	P-2020	778.00	6.00	130.00	Open	1.64	1057.81	1057.81	0.00	0.00
4339	P-2021	827.00	6.00	130.00	Open	-1.65	1057.47	1057.47	0.00	0.00
4341 4344	P-2022 P-2023	855.00 999.00	6.00 6.00	130.00 130.00	Open Open	5.19 0.74	1057.76 1322.92	1057.76 1322.91	0.00	0.00
4345	P-2024	784.00	6.00	130.00	Open	-17.28	1057.85	1057.88	0.03	0.00
4346	P-2025	804.00	6.00	130.00	Open	4.60	981.48	981.47	0.00	0.00
4347 4348	P-2026 P-2027	823.00 948.00	6.00 6.00	130.00 130.00	Open Open	24.58 0.54	1062.03 1057.76	1061.96 1057.76	0.06	0.00
4350	P-2028	810.00	6.00	130.00	Open	3.40	1058.67	1058.67	0.00	0.00
4351 4352	P-2029 P-2030	817.00 906.00	6.00 6.00	130.00 130.00	Open Open	0.23 3.04	1062.86	1062.86	0.00	0.00
4353	P-2031	823.00	6.00	130.00	Open	1.99	1057.81 1057.82	1057.81 1057.82	0.00	0.00
4355	P-2032	924.00	6.00	130.00	Open	0.54	1062.86	1062.86	0.00	0.00
4356 4359	P-2033 P-2034	827.00 1038.00	6.00 6.00	130.00 130.00	Open Open	11.35 24.79	1059.89 1057.58	1059.88 1057.50	0.02 0.08	0.00
4361	P-2035	865.00	6.00	130.00	Open	-7.80	1058.37	1058.38	0.01	0.00
4362	P-2036	838.00	6.00	130.00	Open	-1.08	1059.45	1059.45	0.00	0.00
4364 4366	P-2037 P-2038	864.00 854.00	6.00 6.00	130.00 130.00	Open Open	12.31 22.02	1059.91 1057.50	1059.89 1057.44	0.02 0.05	0.00
4367	P-2039	921.00	6.00	130.00	Open	-0.63	1059.53	1059.53	0.00	0.00
4368	P-2040	860.00	6.00	130.00	Open	2.55	1058.78	1058.78	0.00	0.00
4369 4371	P-2041 P-2042	866.00 913.00	6.00 6.00	130.00 130.00	Open Open	0.23 0.43	1057.80 1064.62	1057.80 1064.62	0.00	0.00
4372	P-2043	881.00	6.00	130.00	Open	14.25	1064.85	1064.83	0.02	0.00
4373	P-2044	872.00	6.00	130.00	Open	-0.23	1057.80	1057.80	0.00	0.00
4375 4376	P-2045 P-2046	876.00 889.00	6.00 6.00	130.00 130.00	Open Open	-3.45 0.28	1064.81 1057.41	1064.81 1057.41	0.00	0.00
4378	P-2047	894.00	6.00	130.00	Open	1.48	1060.01	1060.01	0.00	0.00
4381	P-2048	924.00	6.00	130.00	Open	3.02	1057.83	1057.83	0.00	0.00
4383 4385	P-2049 P-2050	1066.00 929.00	6.00 6.00	130.00 130.00	Open Open	-7.32 -1.34	1059.95 1059.53	1059.96 1059.53	0.01 0.00	0.00
4387	P-2051	905.00	6.00	130.00	Open	10.00	1059.88	1059.86	0.01	0.00
4388 4389	P-2052 P-2053	905.00 954.00	6.00 6.00	130.00 130.00	Open Open	12.87 -13.70	1059.93 1056.92	1059.91 1056.94	0.02 0.03	0.00
4390	P-2054	950.00	6.00	130.00	Open	-13.70	1056.92	1056.94	0.03	0.00
4391	P-2055	970.00	6.00	130.00	Open	7.32	1063.72	1063.71	0.01	0.00
4393 4394	P-2056 P-2057	985.00 923.00	6.00 6.00	130.00 130.00	Open Open	2.99 7.12	1060.06 1059.73	1060.06 1059.72	0.00 0.01	0.00
4397	P-2058	989.00	6.00	130.00	Open	2.84	1063.73	1063.71	0.00	0.00
4398	P-2059	971.00	6.00	130.00	Open	-2.44	1057.42	1057.42	0.00	0.00
4400 4401	P-2060 P-2061	999.00 1105.00	6.00 6.00	130.00 130.00	Open Open	4.40 2.70	1058.82 1057.76	1058.81 1057.76	0.00	0.00
4402	P-2062	945.00	6.00	130.00	Open	6.79	1064.80	1064.80	0.01	0.00
4404	P-2063	955.00	6.00	130.00	Open	13.43	1057.46	1057.44	0.02	0.00
4405 4406	P-2064 P-2065	957.00 999.00	6.00 6.00	130.00 130.00	Open Open	0.38 -0.38	1057.80 1057.80	1057.80 1057.80	0.00	0.00
4408	P-2066	986.00	6.00	130.00	Open	4.05	1060.01	1060.01	0.00	0.00
4409	P-2067	1015.00	6.00	130.00	Open	-2.84	1057.67	1057.67	0.00	0.00
4411 4412	P-2068 P-2069	994.00 1121.00	6.00 6.00	130.00 130.00	Open Open	4.63 -2.92	1064.80 1058.37	1064.79 1058.37	0.00	0.00
4414	P-2070	998.00	6.00	130.00	Open	-1.70	1059.53	1059.53	0.00	0.00
4416	P-2071	1024.00	6.00	130.00	Open	12.19	1061.64	1061.62	0.02	0.00
4417 4418	P-2072 P-2073	1039.00 1058.00	6.00 6.00	130.00 130.00	Open Open	-1.34 -5.28	1057.80 1058.37	1057.80 1058.38	0.00	0.00
4419	P-2074	1100.00	6.00	130.00	Open	2.07	1057.76	1057.76	0.00	0.00
4421	P-2075	1027.00	6.00	130.00	Open	-3.27	1058.24	1058.24	0.00	0.00
4423 4425	P-2076 P-2077	1036.00 1115.00	6.00 6.00	130.00 130.00	Open Open	9.19 6.75	1057.78 1057.77	1057.76 1057.76	0.01 0.01	0.00
4426	P-2078	1146.00	6.00	130.00	Open	-3.88	1057.42	1057.42	0.00	0.00
4427	P-2079	1062.00	6.00	130.00	Open	-1.31	1058.24	1058.24	0.00	0.00
4428 4429	P-2080 P-2081	1071.00 1349.00	6.00 6.00	130.00 130.00	Open Open	7.10 22.23	993.44 1061.81	993.43 1061.72	0.01 0.09	0.00
4430	P-2082	1099.00	6.00	130.00	Open	1.44	1064.62	1064.62	0.00	0.00
4431	P-2083	1269.00	6.00	130.00	Open	1.24	1068.85	1068.85	0.00	0.00
4434 4435	P-2084 P-2085	1309.00 1341.00	6.00 6.00	130.00 130.00	Open Open	-3.16 1.59	1322.91 1064.62	1322.91 1064.62	0.00	0.00
4436	P-2086	1183.00	6.00	130.00	Open	3.52	1064.64	1064.63	0.00	0.00
4437 4438	P-2087 P-2088	1215.00 1200.00	6.00 6.00	130.00 130.00	Open Open	3.63 3.75	1057.76 1057.83	1057.76 1057.82	0.00	0.00
4440	P-2089	1313.00	6.00	130.00	Open	-33.38	1062.89	1063.07	0.18	0.00
4442	P-2090	1412.00	6.00	130.00	Open	0.69	1322.91	1322.91	0.00	0.00
4444 4445	P-2091 P-2092	1641.00 2157.00	6.00 6.00	130.00 130.00	Open Open	-0.60 8.12	1218.03 991.28	1218.03 991.26	0.00 0.02	0.00
4446	P-2093	1966.00	6.00	130.00	Open	-13.71	993.39	993.44	0.02	0.00
4448	P-2094	1.00	6.10	130.00	Open	-0.26	1322.92	1322.92	0.00	0.00
4450 4452	P-2095 P-2096	1.00 1.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.48	1060.63 1060.45	1060.63 1060.45	0.00	0.00
4455	P-2097	2.00	6.10	130.00	Open	-0.26	1322.96	1322.96	0.00	0.00
4457	P-2098	2.00	6.10	130.00	Open	0.28	1059.36	1059.36	0.00	0.00
4460 4463	P-2099 P-2100	2.00 2.00	6.10 6.10	130.00 130.00	Open Open	-1.93 0.48	1216.97 1064.63	1216.97 1064.63	0.00	0.00
4465	P-2101	3.00	6.10	130.00	Open	0.48	1064.63	1064.63	0.00	0.00
4467	P-2102	3.00	6.10	130.00	Open	0.08	1064.62	1064.62	0.00	0.00
4469 4472	P-2103 P-2104	3.00 3.00	6.10 6.10	130.00 130.00	Open Open	-0.48 -0.48	1060.83 1061.85	1060.83 1061.85	0.00	0.00
4472	P-2104 P-2105	3.00	6.10	130.00	Open	0.48	1061.85	1061.85	0.00	0.00
4477	P-2106	3.00	6.10	130.00	Open	0.88	1057.40	1057.40	0.00	0.00
4480 4482	P-2107 P-2108	3.00 3.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.08	1062.89 1064.62	1062.89 1064.62	0.00	0.00
4482 4484	P-2108 P-2109	3.00	6.10	130.00	Open	-0.48	1064.62	1064.62	0.00	0.00
4487	P-2110	3.00	6.10	130.00	Open	-0.11	1322.92	1322.92	0.00	0.00
4489 4491	P-2111 P-2112	3.00 3.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.28	1059.76 1058.24	1059.76 1058.24	0.00	0.00
4493	P-2113	3.00	6.10	130.00	Open	0.08	981.47	981.47	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
4495	P-2114	3.00	6.10	130.00	Open	0.08	1064.87	1064.87	0.00	0.00
4497 4499	P-2115 P-2116	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	0.08 1.28	1058.58 1060.94	1058.58 1060.94	0.00	0.00
4502	P-2117	4.00	6.10	130.00	Open	-0.08	1064.62	1064.62	0.00	0.00
4504	P-2118	4.00	6.10	130.00	Open	-1.68	1058.76	1058.76	0.00	0.00
4507 4510	P-2119 P-2120	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	2.49 -0.48	1057.40 1064.21	1057.40 1064.21	0.00	0.00
4512	P-2121	4.00	6.10	130.00	Open	0.88	1057.42	1057.42	0.00	0.00
4515	P-2122	4.00	6.10	130.00	Open	0.88	1057.40	1057.40	0.00	0.00
4517 4519	P-2123 P-2124	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.40	1062.79 1322.92	1062.79 1322.92	0.00	0.00
4521	P-2125	4.00	6.10	130.00	Open	-0.08	1064.63	1064.63	0.00	0.00
4523	P-2126	4.00	6.10	130.00	Open	0.08	1060.36	1060.36	0.00	0.00
4526 4528	P-2127 P-2128	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	-0.28 -0.11	1064.45 1322.91	1064.45 1322.91	0.00	0.00
4531	P-2129	4.00	6.10	130.00	Open	-0.08	1057.81	1057.81	0.00	0.00
4533	P-2130 P-2131	4.00 4.00	6.10	130.00	Open	80.0	1064.64	1064.64 1057.44	0.00	0.00
4535 4537	P-2131 P-2132	4.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.68	1057.44 981.47	981.47	0.00	0.00
4539	P-2133	4.00	6.10	130.00	Open	0.28	1058.76	1058.76	0.00	0.00
4542 4545	P-2134 P-2135	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	0.11 0.88	1322.91 1057.76	1322.91 1057.76	0.00	0.00
4547	P-2136	4.00	6.10	130.00	Open	-0.28	1057.70	1057.70	0.00	0.00
4550	P-2137	4.00	6.10	130.00	Open	0.08	1057.41	1057.41	0.00	0.00
4553 4555	P-2138 P-2139	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	80.0 80.0	1060.81 1059.66	1060.81 1059.66	0.00	0.00
4557	P-2140	4.00	6.10	130.00	Open	-0.48	1060.91	1060.91	0.00	0.00
4559	P-2141	4.00	6.10	130.00	Open	-0.20	1218.02	1218.02	0.00	0.00
4562 4564	P-2142 P-2143	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	-0.88 -0.08	1061.60 1060.83	1061.60 1060.83	0.00	0.00
4567	P-2144	4.00	6.10	130.00	Open	0.28	1064.25	1064.25	0.00	0.00
4569 4572	P-2145 P-2146	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	0.08 -1.08	1058.71 1057.83	1058.71 1057.83	0.00	0.00
4574	P-2146 P-2147	4.00	6.10	130.00	Open	0.48	1057.83	1057.83	0.00	0.00
4577	P-2148	4.00	6.10	130.00	Open	1.08	1057.96	1057.96	0.00	0.00
4580 4583	P-2149 P-2150	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	1.28 -0.20	1058.75 1216.98	1058.75 1216.98	0.00	0.00
4585	P-2151	4.00	6.10	130.00	Open	0.48	1058.75	1058.75	0.00	0.00
4587	P-2152	4.00	6.10	130.00	Open	0.08	1060.16	1060.16	0.00	0.00
5068 5071	P-2153 P-2154	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.08	981.48 1064.28	981.48 1064.28	0.00	0.00
5073	P-2155	7.00	6.10	130.00	Open	2.09	1057.88	1057.88	0.00	0.00
5075 5077	P-2156 P-2157	7.00 7.00	6.10 6.10	130.00 130.00	Open	-0.28 0.28	1058.91 1064.62	1058.91 1064.62	0.00	0.00
5077	P-2157	7.00	6.10	130.00	Open Open	0.28	1054.62	1058.72	0.00	0.00
5081	P-2159	7.00	6.10	130.00	Open	0.48	1058.21	1058.21	0.00	0.00
5083 5085	P-2160 P-2161	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.48	1064.61 1057.41	1064.61 1057.41	0.00	0.00
5087	P-2162	7.00	6.10	130.00	Open	0.08	1058.69	1058.69	0.00	0.00
5089	P-2163	7.00	6.10	130.00	Open	0.48	1059.73	1059.73	0.00	0.00
5091 5093	P-2164 P-2165	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.08	1064.19 1060.34	1064.19 1060.34	0.00	0.00 0.00
5096	P-2166	7.00	6.10	130.00	Open	0.48	1061.66	1061.66	0.00	0.00
5098	P-2167	7.00	6.10	130.00	Open	0.48	1058.74	1058.74	0.00	0.00
5100 5102	P-2168 P-2169	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.68	1058.67 981.48	1058.67 981.48	0.00	0.00
5105	P-2170	7.00	6.10	130.00	Open	0.48	1060.84	1060.84	0.00	0.00
5107 5109	P-2171 P-2172	7.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.08	1059.27 1061.21	1059.27 1061.21	0.00	0.00
5111	P-2173	7.00	6.10	130.00	Open	0.68	1057.80	1057.80	0.00	0.00
5113	P-2174	7.00	6.10	130.00	Open	0.88	1058.24	1058.24	0.00	0.00
5115 5117	P-2175 P-2176	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.48 -0.08	1058.67 1064.11	1058.67 1064.11	0.00	0.00
5119	P-2177	7.00	6.10	130.00	Open	0.28	1057.88	1057.88	0.00	0.00
5122	P-2178	7.00	6.10	130.00	Open	-0.08	1064.63	1064.63	0.00	0.00
5125 5127	P-2179 P-2180	7.00 7.00	6.10 6.10	130.00 130.00	Open	-0.08 -0.08	1064.10 1064.11	1064.10 1064.11	0.00	0.00
5129	P-2181	7.00	6.10	130.00	Open	-0.28	1063.91	1063.91	0.00	0.00
5131 5133	P-2182 P-2183	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.28	1063.57 1064.07	1063.57 1064.07	0.00	0.00
5135	P-2184	7.00	6.10	130.00	Open	0.08	1058.56	1058.56	0.00	0.00
5137	P-2185	7.00	6.10	130.00	Open	80.0	1059.94	1059.94	0.00	0.00
5140 5142	P-2186 P-2187	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.08	1062.86 1059.26	1062.86 1059.26	0.00	0.00
5144	P-2188	7.00	6.10	130.00	Open	0.08	1058.85	1058.85	0.00	0.00
5146 5148	P-2189 P-2190	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.88	1057.81 1057.82	1057.81 1057.82	0.00	0.00 0.00
5150	P-2191	7.00	6.10	130.00	Open	-0.48	1063.37	1063.37	0.00	0.00
5153	P-2192	7.00	6.10	130.00	Open	0.88	963.94	963.94	0.00	0.00
5156 5159	P-2193 P-2194	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.48	1063.37 1058.75	1063.37 1058.75	0.00	0.00
5161	P-2195	7.00	6.10	130.00	Open	0.28	1061.62	1061.62	0.00	0.00
5164	P-2196	7.00	6.10	130.00	Open	-0.08	1063.37	1063.37	0.00	0.00
5166 5169	P-2197 P-2198	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.08	1058.64 1058.78	1058.64 1058.78	0.00	0.00 0.00
5171	P-2199	7.00	6.10	130.00	Open	-0.48	1064.62	1064.62	0.00	0.00
5173	P-2200	7.00	6.10	130.00	Open	0.37	1218.03	1218.03	0.00	0.00
5175 5177	P-2201 P-2202	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.08	1064.08 1057.84	1064.08 1057.84	0.00	0.00
5179	P-2203	7.00	6.10	130.00	Open	-0.48	1059.04	1059.04	0.00	0.00
5181 5183	P-2204 P-2205	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.88	1060.83 1059.73	1060.83 1059.73	0.00	0.00
5186	P-2205 P-2206	7.00	6.10	130.00	Open	-0.26	1322.93	1322.93	0.00	0.00
5188	P-2207	7.00	6.10	130.00	Open	0.08	1058.73	1058.73	0.00	0.00
5190 5192	P-2208 P-2209	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	1.28 0.88	1058.38 1057.83	1058.38 1057.83	0.00	0.00 0.00
5194	P-2210	7.00	6.10	130.00	Open	-1.88	1061.93	1061.93	0.00	0.00
5196	P-2211	7.00	6.10	130.00	Open	80.0	1064.39	1064.39	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
5198	P-2212	7.00	6.10	130.00	Open	0.08	1064.63	1064.63	0.00	0.00
5200 5203	P-2213 P-2214	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.88	1059.93 1057.76	1059.93 1057.76	0.00	0.00
5205	P-2215	7.00	6.10	130.00	Open	0.28	963.95	963.95	0.00	0.00
5207	P-2216	7.00	6.10	130.00	Open	0.88	1064.62	1064.62	0.00	0.00
5209 5211	P-2217 P-2218	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.48	1057.84 1057.83	1057.84 1057.83	0.00	0.00
5214	P-2219	7.00	6.10	130.00	Open	0.08	1058.81	1058.81	0.00	0.00
5217 5220	P-2220 P-2221	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-1.08 0.20	1059.27 1218.03	1059.27 1218.03	0.00	0.00
5222	P-2222	7.00	6.10	130.00	Open	1.48	1060.15	1060.15	0.00	0.00
5225 5228	P-2223 P-2224	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-1.08 0.08	981.49 1059.94	981.49 1059.94	0.00	0.00
5231	P-2225	7.00	6.10	130.00	Open	-0.08	1059.94	1059.94	0.00	0.00
5233	P-2226	7.00	6.10	130.00	Open	0.28	1057.77	1057.77	0.00	0.00
5235 5238	P-2227 P-2228	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.28	1057.99 1059.16	1057.99 1059.16	0.00	0.00
5241	P-2229	7.00	6.10	130.00	Open	1.88	1059.74	1059.74	0.00	0.00
5244 5246	P-2230 P-2231	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.20 0.48	1217.47 1060.86	1217.47 1060.86	0.00	0.00
5249	P-2232	7.00	6.10	130.00	Open	0.48	1064.12	1064.12	0.00	0.00
5251 5253	P-2233 P-2234	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.28 -0.08	1058.82 1063.66	1058.82 1063.66	0.00	0.00
5255	P-2235	7.00	6.10	130.00	Open	-0.20	1217.77	1217.77	0.00	0.00
5258	P-2236 P-2237	7.00 7.00	6.10	130.00	Open	0.63	1218.03	1218.03 1060.81	0.00	0.00
5260 5262	P-2237 P-2238	7.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.11	1060.81 1322.94	1322.94	0.00	0.00
5264	P-2239	7.00	6.10	130.00	Open	-0.08	1058.75	1058.75	0.00	0.00
5266 5268	P-2240 P-2241	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	1.08 -0.48	1057.91 1058.88	1057.91 1058.88	0.00	0.00
5270	P-2242	7.00	6.10	130.00	Open	0.48	1061.11	1061.11	0.00	0.00
5273 5275	P-2243 P-2244	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.68	1057.80 1060.11	1057.80 1060.11	0.00	0.00
5278	P-2245	7.00	6.10	130.00	Open	0.68	1059.82	1059.82	0.00	0.00
5280 5283	P-2246 P-2247	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.81 -0.48	1218.03 1064.09	1218.03 1064.09	0.00	0.00
5285	P-2248	7.00	6.10	130.00	Open	0.28	1059.13	1059.13	0.00	0.00
5287 5289	P-2249 P-2250	7.00 7.00	6.10 6.10	130.00	Open Open	-0.20 0.28	1216.49 1060.08	1216.49	0.00	0.00 0.00
5291	P-2251	7.00	6.10	130.00 130.00	Open	0.28	1059.93	1060.08 1059.93	0.00	0.00
5294	P-2252	7.00	6.10	130.00	Open	0.48	1058.06	1058.06	0.00	0.00
5296 5298	P-2253 P-2254	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.08	1063.35 1058.77	1063.35 1058.77	0.00	0.00
5301	P-2255	7.00	6.10	130.00	Open	0.48	1062.02	1062.02	0.00	0.00
5303 5306	P-2256 P-2257	8.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.88 0.08	1063.08 1059.04	1063.08 1059.04	0.00	0.00
5788	P-2258	9.00	6.10	130.00	Open	0.48	1058.36	1058.36	0.00	0.00
5790 5792	P-2259 P-2260	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	1.48 0.28	1058.63 1061.62	1058.63 1061.62	0.00	0.00
5795	P-2261	9.00	6.10	130.00	Open	-0.48	1063.90	1063.90	0.00	0.00
5798 5801	P-2262 P-2263	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.68	1059.53 1057.82	1059.53 1057.82	0.00	0.00 0.00
5804	P-2264	9.00	6.10	130.00	Open	-0.20	1218.43	1218.43	0.00	0.00
5806 5808	P-2265 P-2266	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.28 -0.08	1059.73 1058.64	1059.73 1058.64	0.00	0.00 0.00
5810	P-2267	9.00	6.10	130.00	Open	0.29	993.48	993.48	0.00	0.00
5812 5814	P-2268 P-2269	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.48	1064.10 1061.54	1064.10 1061.54	0.00	0.00
5817	P-2270	9.00	6.10	130.00	Open	-0.28	1061.62	1061.62	0.00	0.00
5819 5821	P-2271	9.00	6.10 6.10	130.00	Open	0.88	1062.84	1062.84	0.00	0.00
5823	P-2272 P-2273	9.00 9.00	6.10	130.00 130.00	Open Open	0.68 0.88	981.49 1057.92	981.49 1057.92	0.00	0.00
5825	P-2274	9.00	6.10	130.00	Open	-0.08	1062.03	1062.03	0.00	0.00
5827 5830	P-2275 P-2276	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.28 1.08	1057.96 1057.85	1057.96 1057.85	0.00	0.00
5832	P-2277	9.00	6.10	130.00	Open	0.48	1063.08	1063.08	0.00	0.00
5834 5837	P-2278 P-2279	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.08	1059.96 1062.02	1059.96 1062.02	0.00	0.00
5839	P-2280	9.00	6.10	130.00	Open	2.09	1057.40	1057.40	0.00	0.00
5842 5844	P-2281 P-2282	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.48	1057.83 1063.37	1057.83 1063.37	0.00	0.00 0.00
5846	P-2283	9.00	6.10	130.00	Open	-0.08	1064.75	1064.75	0.00	0.00
5848 5850	P-2284 P-2285	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.20 0.48	1218.50 1057.42	1218.50 1057.42	0.00	0.00
5852	P-2286	9.00	6.10	130.00	Open	-1.88	1063.37	1063.37	0.00	0.00
5855 5857	P-2287 P-2288	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.48	1059.23 1057.83	1059.23 1057.83	0.00	0.00 0.00
5859	P-2289	9.00	6.10	130.00	Open	0.20	1218.13	1218.13	0.00	0.00
5861	P-2290	9.00	6.10	130.00 130.00	Open	-0.28	1059.93	1059.93	0.00	0.00
5864 5866	P-2291 P-2292	9.00 9.00	6.10 6.10	130.00	Open Open	0.68 0.08	1057.84 1057.80	1057.84 1057.80	0.00	0.00
5868	P-2293	9.00	6.10	130.00	Open	0.48	1058.69	1058.69	0.00	0.00
5871 5873	P-2294 P-2295	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.20 0.08	1218.61 1057.47	1218.61 1057.47	0.00	0.00
5875	P-2296	9.00	6.10	130.00	Open	1.68	1060.01	1060.01	0.00	0.00
5877 5880	P-2297 P-2298	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.20	1057.80 1218.55	1057.80 1218.55	0.00	0.00
5882	P-2299	9.00	6.10	130.00	Open	-0.48	1063.57	1063.57	0.00	0.00
5884 5886	P-2300 P-2301	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.20	1060.88 1218.02	1060.88 1218.02	0.00	0.00 0.00
5888	P-2302	9.00	6.10	130.00	Open	-0.20	1218.10	1218.10	0.00	0.00
5890 5892	P-2303 P-2304	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.48	1060.96 1058.69	1060.96 1058.69	0.00	0.00
5892 5894	P-2305	9.00	6.10	130.00	Open	-0.48	1061.62	1061.62	0.00	0.00
5896 5899	P-2306 P-2307	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.20	1057.96 1218.61	1057.96 1218.61	0.00	0.00 0.00
5901	P-2307 P-2308	9.00	6.10	130.00	Open	0.48	1059.53	1059.53	0.00	0.00
5903	P-2309	10.00	6.10	130.00	Open	-0.68	1064.12	1064.12	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
5906	P-2310	9.00	6.10	130.00	Open	2.49	1058.62	1058.62	0.00	0.00
5908	P-2311	9.00	6.10	130.00	Open	-0.20	1218.38	1218.38	0.00	0.00
5910 5912	P-2312 P-2313	9.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.20 0.29	1216.70 1218.74	1216.70 1218.74	0.00	0.00
5914	P-2314	10.00	6.10	130.00	Open	0.20	1217.91	1217.91	0.00	0.00
5916 5918	P-2315 P-2316	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	-0.20 0.88	1218.68 1060.45	1218.68 1060.45	0.00	0.00
5921	P-2317	10.00	6.10	130.00	Open	-0.20	1218.23	1218.23	0.00	0.00
5923	P-2318	10.00	6.10	130.00	Open	-0.68	1060.82	1060.82	0.00	0.00
5926 5928	P-2319 P-2320	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.20	1059.95 1218.96	1059.95 1218.96	0.00	0.00
5930	P-2321	10.00	6.10	130.00	Open	0.28	1057.44	1057.44	0.00	0.00
5932	P-2322	10.00	6.10	130.00	Open	0.88	1061.99	1061.99	0.00	0.00
5935 5937	P-2323 P-2324	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.08	1060.86 1060.45	1060.86 1060.45	0.00	0.00
5940	P-2325	10.00	6.10	130.00	Open	0.48	1061.16	1061.16	0.00	0.00
5943	P-2326	10.00	6.10	130.00	Open	0.48	1060.45	1060.45	0.00	0.00
5946 5948	P-2327 P-2328	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.29 -0.20	1217.30 1219.00	1217.30 1219.00	0.00	0.00
5950	P-2329	10.00	6.10	130.00	Open	0.48	1057.47	1057.47	0.00	0.00
5952	P-2330	10.00	6.10	130.00	Open	0.48	981.48	981.48	0.00	0.00
5954 5956	P-2331 P-2332	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.20	1059.86 1218.60	1059.86 1218.60	0.00	0.00
5958	P-2333	10.00	6.10	130.00	Open	0.08	963.95	963.95	0.00	0.00
5960 5962	P-2334 P-2335	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	-0.68 -0.20	1059.15 1218.32	1059.15 1218.32	0.00	0.00
5964	P-2336	10.00	6.10	130.00	Open	-0.26	1322.91	1322.91	0.00	0.00
5966	P-2337	10.00	6.10	130.00	Open	-0.28	1064.79	1064.79	0.00	0.00
5968 5971	P-2338 P-2339	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.20	1057.79 1218.60	1057.79 1218.60	0.00	0.00
5973	P-2340	10.00	6.10	130.00	Open	-0.37	1218.85	1218.85	0.00	0.00
5975	P-2341	10.00	6.10	130.00	Open	0.48	1057.79	1057.79	0.00	0.00
5978 5980	P-2342 P-2343	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.20	1057.80 1218.61	1057.80 1218.61	0.00	0.00
5982	P-2344	10.00	6.10	130.00	Open	0.08	1057.84	1057.84	0.00	0.00
5985	P-2345	10.00	6.10	130.00	Open	-0.20	1218.60	1218.60	0.00	0.00
5987 5990	P-2346 P-2347	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.88 -0.20	1057.90 1218.61	1057.90 1218.61	0.00	0.00
5992	P-2348	10.00	6.10	130.00	Open	-0.20	1218.61	1218.61	0.00	0.00
5994	P-2349	10.00	6.10	130.00	Open	-0.20	1218.61	1218.61	0.00	0.00
5996 5998	P-2350 P-2351	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.20	1058.59 1218.62	1058.59 1218.62	0.00	0.00
6000	P-2352	10.00	6.10	130.00	Open	0.68	1057.89	1057.89	0.00	0.00
6003 6005	P-2353 P-2354	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.28	1060.05 1058.67	1060.05 1058.67	0.00	0.00
6003	P-2355	10.00	6.10	130.00	Open	0.48	1063.41	1063.41	0.00	0.00
6009	P-2356	10.00	6.10	130.00	Open	0.08	1059.94	1059.94	0.00	0.00
6012 6014	P-2357 P-2358	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.37 0.08	1218.03 1060.23	1218.03 1060.23	0.00	0.00
6016	P-2359	10.00	6.10	130.00	Open	-0.08	1060.23	1060.23	0.00	0.00
6018	P-2360	10.00	6.10	130.00	Open	0.08	1057.81	1057.81	0.00	0.00
6021 6023	P-2361 P-2362	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.88	1058.09 1059.21	1058.09 1059.21	0.00	0.00
6025	P-2363	10.00	6.10	130.00	Open	0.48	1059.21	1059.21	0.00	0.00
6028	P-2364	10.00	6.10	130.00	Open	0.28	1057.76	1057.76	0.00	0.00
6030 6033	P-2365 P-2366	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.28	1063.37 1064.80	1063.37 1064.80	0.00	0.00
6035	P-2367	10.00	6.10	130.00	Open	0.28	1058.64	1058.64	0.00	0.00
6037	P-2368	10.00	6.10	130.00	Open	-0.48	1060.20	1060.20	0.00	0.00
6040 6043	P-2369 P-2370	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.88 -0.68	1061.66 1064.63	1061.66 1064.63	0.00	0.00
6046	P-2371	10.00	6.10	130.00	Open	-0.28	1064.21	1064.21	0.00	0.00
6049 6051	P-2372 P-2373	10.00 10.00	6.10 6.10	130.00 130.00	Open	0.68 1.88	1057.80	1057.80	0.00	0.00
6054	P-2373	10.00	6.10	130.00	Open Open	0.48	1060.16 1061.66	1060.16 1061.66	0.00	0.00
6057	P-2375	10.00	6.10	130.00	Open	0.08	1061.38	1061.38	0.00	0.00
6060 6063	P-2376 P-2377	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	-0.63 -0.20	988.98 1217.75	988.98 1217.75	0.00	0.00
6066	P-2378	10.00	6.10	130.00	Open	-0.20	1218.17	1218.17	0.00	0.00
6068	P-2379	10.00	6.10	130.00	Open	-0.46	967.36	967.36	0.00	0.00
6071 6074	P-2380 P-2381	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.20	1217.79 988.99	1217.79 988.99	0.00	0.00
6077	P-2382	10.00	6.10	130.00	Open	-0.08	1064.12	1064.12	0.00	0.00
6079	P-2383	10.00	6.10	130.00	Open	0.08	1064.60	1064.60	0.00	0.00
6082 6084	P-2384 P-2385	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.08	1064.80 1057.69	1064.80 1057.69	0.00	0.00
6086	P-2386	10.00	6.10	130.00	Open	0.20	1218.24	1218.24	0.00	0.00
6089	P-2387 P-2388	10.00	6.10	130.00	Open	-0.20	1218.29	1218.29 1218.03	0.00	0.00
6092 6094	P-2389	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.37 0.08	1218.03 1060.99	1060.99	0.00	0.00
6096	P-2390	10.00	6.10	130.00	Open	0.28	1058.37	1058.37	0.00	0.00
6098 6100	P-2391 P-2392	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.20	1057.42 1218.03	1057.42 1218.03	0.00	0.00
6100	P-2392 P-2393	10.00	6.10	130.00	Open	0.20	1218.03	1218.03	0.00	0.00
6105	P-2394	10.00	6.10	130.00	Open	0.48	1057.76	1057.76	0.00	0.00
6108 6110	P-2395 P-2396	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.29	1058.91 1217.99	1058.91 1217.99	0.00	0.00
6110 6112	P-2396 P-2397	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.29	1217.99 1218.17	1217.99 1218.17	0.00	0.00
6115	P-2398	10.00	6.10	130.00	Open	0.20	1218.34	1218.34	0.00	0.00
6118 6120	P-2399 P-2400	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.48	1218.20 1058.83	1218.20 1058.83	0.00	0.00
6123	P-2400 P-2401	10.00	6.10	130.00	Open	0.20	1218.16	1218.16	0.00	0.00
6126	P-2402	10.00	6.10	130.00	Open	0.08	1057.40	1057.40	0.00	0.00
6129 6131	P-2403 P-2404	10.00 10.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.20	1057.50 1218.31	1057.50 1218.31	0.00	0.00
6133	P-2405	10.00	6.10	130.00	Open	0.28	1064.87	1064.87	0.00	0.00
6136	P-2406	10.00	6.10	130.00	Open	0.88	1057.80	1057.80	0.00	0.00
6138	P-2407	10.00	6.10	130.00	Open	80.0	1060.05	1060.05	0.00	0.00

644 P-2408 10.00	Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
6145											
6147 P-2411 10.00											
6152 P-2415 10.00	6147	P-2411	10.00	6.10	130.00	Open	0.48	1064.83	1064.83	0.00	0.00
6154 P-2415 10.00											
6150		P-2414	10.00	6.10						0.00	0.00
6162											
61677											
6170											
6174											
6177 P.2422 110.0 6.10 130.0 Open 0.08 1064.62 1064.62 0.00 0.00 0.00 1771 1772 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
61818 P.2426 11.00 6.10 130.00 Open -0.48 1063.49 0.00 0.00 0.00 6183 P.2426 11.00 6.10 130.00 Open -0.11 13.228 31322.28 1322.28 0.00 0.00 0.00 6185 P.2427 11.00 6.10 130.00 Open -0.28 1064.81 1064.81 0.00 0.00 0.00 6185 P.2428 11.00 6.10 130.00 Open -0.28 1069.83 1069.83 0.00 0.00 0.00 6193 P.2430 11.00 6.10 130.00 Open -0.28 1069.83 1069.83 0.00 0.00 0.00 6193 P.2431 11.00 6.10 130.00 Open -0.28 1069.83 1069.83 0.00 0.00 0.00 6196 P.2431 11.00 6.10 130.00 Open -0.28 1069.83 1069.83 0.00 0.00 0.00 6196 P.2431 11.00 6.10 130.00 Open -0.28 1069.83 1069.83 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
6185 P-2427 11.00 6.10 130.00 Open -0.11 1322.98 1322.98 0.00 0.00 0.00 16185 P-2427 11.00 6.10 130.00 Open 1.28 1086.87 1086.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
61950 P-2428 11.00 6.10 130.00 Open 1.28 1064.62 1064.62 0.00 0.00 0.00 19190 P-2428 11.00 6.10 130.00 Open 1.88 1057.78 1057.78 0.00 0.00 0.00 0.00 0.00 0.00 0.00											
61930 P-2420 11.00 6.10 130.00 Open 0.48 1057.79 0007.90 0.00 0.00 19183 P-2420 11.00 6.10 130.00 Open 1.08 1057.76 1057.76 0.00 0.00 0.00 19185 P-2420 11.00 6.10 130.00 Open 0.28 1059.53 1059.53 0.00 0.00 0.00 19185 P-2431 11.00 6.10 130.00 Open 0.29 126.89 130.00 0.00 0.00 0.00 0.00 0.00 0.00 0.											
6196 P-2431 11.00 6.10 130.00 Open 0.28 1059.55 1059.55 0.00 0.00 0.00 0.00 0.00 0.00 0.0											
6198 P.2432 11.00 6.10 130.00 Open 0.88 1050.83 1050.83 0.00 0.00 0.00 0.00 0.00 0.00 0.00											
6204 P-2435 11.00											
6207 P-2435 11.00											
6209 P.2437 11.00 6.10 130.00 Open 1.08 1067.80 1060.94 0.00 0.00 0.00 6214 P.2437 11.00 6.10 130.00 Open 1.08 1057.80 1057.80 0.00 0.00 0.00 6214 P.2438 11.00 6.10 130.00 Open 0.48 1057.80 1057.80 0.00 0.00 0.00 0.00 0.00 0.00 0.00											
6214 P-2439 11.00 6.10 130.00 Open 0.08 1057.80 1057.80 0.00 0.00 0.00 6219 P-2440 11.00 6.10 130.00 Open 0.48 1061.80 10061.80 0.00 0.00 6221 P-2441 11.00 6.10 130.00 Open 0.48 1061.80 10061.80 0.00 0.00 0.00 6222 P-2441 11.00 6.10 130.00 Open 0.20 1218.35 1002.86 0.00 0.00 0.00 6222 P-2441 11.00 6.10 130.00 Open 0.20 1218.35 1002.80 0.00 0.00 0.00 6222 P-2444 11.00 6.10 130.00 Open 0.20 1218.35 1000 0.00 0.00 0.00 0.00 0.00 0.00 0.0	6209	P-2436	11.00	6.10	130.00	Open	0.28	1060.94	1060.94	0.00	0.00
6217 P-2439 11,00 6.10 130,00 Open 0.48 1061.60 1061.60 0.00											
6221 P.2441 11.00 6.10 130.00 Open 0.20 1218.35 1218.35 0.00 0.00 0.00 6227 P.2442 11.00 6.10 130.00 Open 1.28 1057.81 1057.81 1007.81 0.00 0.00 6223 P.2444 11.00 6.10 130.00 Open 1.28 1057.81 1057.81 0.00 0.00 0.00 6232 P.2446 11.00 6.10 130.00 Open 1.28 1057.81 1057.81 0.00 0.00 0.00 6232 P.2446 11.00 6.10 130.00 Open 1.28 1057.81 1057.81 0.00 0.00 0.00 6232 P.2446 11.00 6.10 130.00 Open 1.28 1057.81 1057.81 0.00 0.00 0.00 6232 P.2446 11.00 6.10 130.00 Open 1.08 1058.23 1058.23 0.00 0.00 0.00 6233 P.2446 11.00 6.10 130.00 Open 0.48 1057.81 1057.88 0.00 0.00 0.00 6247 P.2446 11.00 6.10 130.00 Open 0.48 1057.81 1057.88 0.00 0.00 0.00 6247 P.2458 11.00 6.10 130.00 Open 0.48 1057.81 1057.88 0.00 0.00 0.00 6247 P.2458 11.00 6.10 130.00 Open 0.28 1058.95 1058.95 0.00 0.00 0.00 6252 P.2452 11.00 6.10 130.00 Open 0.28 1058.95 1058.95 0.00 0.00 0.00 6252 P.2452 11.00 6.10 130.00 Open 0.28 1058.95 1058.95 0.00 0.00 0.00 6254 P.2453 11.00 6.10 130.00 Open 0.28 1057.84 1057.84 0.00 0.00 6254 P.2453 11.00 6.10 130.00 Open 0.28 1057.84 1057.84 0.00 0.00 6259 P.2456 11.00 6.10 130.00 Open 0.28 1057.84 1057.84 0.00 0.00 6259 P.2456 11.00 6.10 130.00 Open 0.08 1053.71 1067.74 0.00 0.00 6259 P.2456 11.00 6.10 130.00 Open 0.08 1053.71 1067.74 0.00 0.00 6259 P.2456 11.00 6.10 130.00 Open 0.08 1053.71 1067.74 0.00 0.00 6259 P.2456 11.00 6.10 130.00 Open 0.08 1053.71 1067.74 0.00 0.00 6259 P.2456 11.00 6.10 130.00 Open 0.08 1053.71 1063.71 0.00 0.00 6259 P.2456 11.00 6.10 130.00 Open 0.08 1053.71 1063.71 0.00 0.00 6259 P.2456 11.00 6.10 130.00 Open 0.08 1063.71 1063.75 0.00 0.00 6259 P.2456 11.00 6.10 130.00 Open 0.08 1063.71 1063.75 0.00 0.00 6259 P.2456 11.00 6.10 130.00 Open 0.08 1063.71 1063.75 0.00 0.00 6259 P.2456 11.00 6.10 130.00 Open 0.08 1063.71 1063.75 0.00 0.00 6256 P.2456 11.00 6.10 130.00 Open 0.08 1063.91 1063.91 1063.91 0.00 0.00 6256 P.2456 11.00 6.10 130.00 Open 0.08 1063.91 1063.91 1063.91 0.00 0.00 6256 P.2456 11.00 6.10 130.00 Open 0.08 1063.91 1063.91 0.00 0.00 6256 P.2468 11.00 6.10 130.00 Open 0.08 1063.91	6217	P-2439	11.00	6.10	130.00	Open	0.48	1061.60	1061.60	0.00	0.00
6224 P.2443 11.00 6.10 130.00 Open 1.28 1063.39 10.00 0.00 0.00 0.20 Per 1.28 1063.39 10.00 0.00 0.00 0.20 P.2444 11.00 6.10 130.00 Open 1.28 1067.81 1063.39 10.00 0.00 0.00 0.232 P.2446 11.00 6.10 130.00 Open 1.28 1067.81 1067.81 1007.81 0.00 0.00 0.00 0.232 P.2446 11.00 6.10 130.00 Open 0.20 1218.23 1067.81 0.00 0.00 0.00 0.235 P.2446 11.00 6.10 130.00 Open 0.20 1218.23 1067.81 0.00 0.00 0.00 0.20 0.20 0.20 0.20 0.2											
6232 P.2445 11.00	6224	P-2442	11.00	6.10	130.00	Open	0.20	1218.21	1218.21	0.00	0.00
6232 P-2446 11.00 6.10 130.00 Open 0.20 1218.23 1218.23 0.00 0.00 6238 P-2447 11.00 6.10 130.00 Open 0.48 1064.21 1064.21 0.00 0.00 0.00 6238 P-2447 11.00 6.10 130.00 Open 0.48 1067.68 1057.68 0.00 0.00 6244 P-2448 11.00 6.10 130.00 Open 0.08 1064.62 1064.62 0.00 0.00 6244 P-2449 11.00 6.10 130.00 Open 0.08 1064.62 1064.62 0.00 0.00 6244 P-2449 11.00 6.10 130.00 Open 0.08 1064.62 1064.62 0.00 0.00 6250 P-2451 11.00 6.10 130.00 Open 0.08 1063.91 1063.91 0.00 0.00 6250 P-2451 11.00 6.10 130.00 Open 0.08 1063.91 1063.91 0.00 0.00 6250 P-2451 11.00 6.10 130.00 Open 0.20 1057.67 1217.67 0.00 0.00 6252 P-2452 11.00 6.10 130.00 Open 0.20 1057.67 1060.77 0.00 0.00 6254 P-2452 11.00 6.10 130.00 Open 0.20 1057.67 1060.77 0.00 0.00 6252 P-2452 11.00 6.10 130.00 Open 0.20 1067.67 1060.77 0.00 0.00 6252 P-2455 11.00 6.10 130.00 Open 0.20 1067.67 1060.77 0.00 0.00 6252 P-2455 11.00 6.10 130.00 Open 0.28 1067.67 1060.77 0.00 0.00 6252 P-2455 11.00 6.10 130.00 Open 0.28 1067.67 1060.77 0.00 0.00 6252 P-2455 11.00 6.10 130.00 Open 0.28 1061.47 1061.17 0.00 0.00 6256 P-2455 11.00 6.10 130.00 Open 0.28 1061.47 1061.17 0.00 0.00 6256 P-2455 11.00 6.10 130.00 Open 0.20 1217.63 1217.63 0.00 0.00 6256 P-2455 11.00 6.10 130.00 Open 0.20 1217.63 1217.63 0.00 0.00 6256 P-2456 11.00 6.10 130.00 Open 0.20 1217.63 1217.63 0.00 0.00 6256 P-2456 11.00 6.10 130.00 Open 0.20 1217.63 1217.63 0.00 0.00 6256 P-2456 11.00 6.10 130.00 Open 0.20 1217.63 1217.60 0.00 0.00 6277 P-2461 11.00 6.10 130.00 Open 0.20 1217.63 1217.60 0.00 0.00 6277 P-2461 11.00 6.10 130.00 Open 0.20 1217.63 1217.60 0.00 0.00 6275 P-2461 11.00 6.10 130.00 Open 0.20 1217.63 1217.60 0.00 0.00 6275 P-2464 11.00 6.10 130.00 Open 0.20 1217.63 1217.60 0.00 0.00 6275 P-2464 11.00 6.10 130.00 Open 0.20 1217.63 1217.60 0.00 0.00 6275 P-2464 11.00 6.10 130.00 Open 0.20 1217.63 1217.60 0.00 0.00 0.00 6275 P-2464 11.00 6.10 130.00 Open 0.20 1064.31 1066.43 1066.43 1066.43 1066.43 1066.43 1066.43 1066.43 1066.43 1066.43 1066.43 1066.43 1066.43 1066.43 1066.43 1066.43 1066.43 1066.43 1066											
6238 P.2447 11.00	6232	P-2445	11.00	6.10	130.00	Open	0.20	1218.23	1218.23	0.00	0.00
6241											
6247 P.2450 11.00	6241	P-2448	11.00	6.10	130.00	Open	0.08	1064.62	1064.62	0.00	0.00
6250 P.2451 11.00											
6254 P-2453 11.00 6.10 130.00 Open 0.28 105.784 1057.84 0.00 0.0	6250	P-2451	11.00	6.10	130.00	Open	-0.20	1217.87	1217.87	0.00	0.00
6257 P-2454 11.00 6.10 130.00 Open -0.08 1063.71 1063.71 0.00 0.											
6282 P-2466 11.00	6257	P-2454	11.00	6.10	130.00	Open	-0.08	1063.71	1063.71	0.00	0.00
6284 P-2487 11.00 6.10 130.00 Open -0.20 1217.83 1217.83 0.00 0.00 6288 P-2489 11.00 6.10 130.00 Open -0.20 1217.83 1217.83 0.00 0.00 6270 P-24861 11.00 6.10 130.00 Open -0.20 1217.82 1217.92 0.00 0.00 6272 P-24861 11.00 6.10 130.00 Open -0.37 1217.76 1217.79 0.00 0.00 6275 P-2463 11.00 6.10 130.00 Open -0.37 1217.76 1217.76 0.00 0.00 6280 P-2463 11.00 6.10 130.00 Open -0.88 1064.81 1057.81 0.00 0.00 6281 P-2465 11.00 6.10 130.00 Open -0.08 1064.81 1064.81 0.00 0.00 6284 P-2466 11.00 6.10 130.00											
6288 P-2459 11,00 6.10 130,00 Open -0.20 1217,89 1217,89 0.00 0.00 6272 P-2461 11,00 6.10 130,00 Open -0.27 1217,76 1217,92 0.00 0.00 6275 P-2463 11,00 6.10 130,00 Open -0.20 967,37 0.00 0.00 6278 P-2463 11,00 6.10 130,00 Open -0.28 1067,81 1057,81 0.00 0.00 6280 P-2465 11,00 6.10 130,00 Open -0.08 1064,91 1064,91 0.00 0.00 6284 P-2466 11,00 6.10 130,00 Open -0.08 1064,91 1064,91 0.00 0.00 6284 P-2467 11,00 6.10 130,00 Open -0.08 1064,91 1069,91 0.00 0.00 6289 P-2468 11,00 6.10 130,00 Open 1	6264	P-2457	11.00	6.10	130.00	Open	-0.20	1217.93	1217.93	0.00	0.00
6270 P-2460 11.00 6.10 130.00 Open -0.20 1217.92 1217.92 0.00 0.00 0.00 6275 P-2462 11.00 6.10 130.00 Open -0.37 1217.76 1217.76 0.00 0.00 6275 P-2462 11.00 6.10 130.00 Open -0.42 967.37 967.37 0.00 0.00 0.00 6280 P-2464 11.00 6.10 130.00 Open -0.48 1057.81 1067.81 0.00 0.00 0.00 6282 P-2465 11.00 6.10 130.00 Open -0.08 1064.83 1064.83 0.00 0.00 0.00 6282 P-2465 11.00 6.10 130.00 Open -0.08 1064.83 1064.83 0.00 0.00 0.00 6287 P-2467 11.00 6.10 130.00 Open -0.08 1065.20 1059.20 0.00 0.00 6287 P-2467 11.00 6.10 130.00 Open -0.08 1065.15 1063.15 0.00 0.00 6291 P-2469 11.00 6.10 130.00 Open -0.48 1060.91 1060.91 0.00 0.00 6294 P-2470 11.00 6.10 130.00 Open 0.88 1061.82 0.00 0.00 0.00 6294 P-2473 11.00 6.10 130.00 Open 0.88 1061.62 0.00 0.00 6299 P-2472 11.00 6.10 130.00 Open 0.48 873.78 873.78 0.00 0.00 6304 P-2473 11.00 6.10 130.00 Open 0.48 1067.44 1057.44 0.00 0.00 6304 P-2475 11.00 6.10 130.00 Open 0.48 1060.91 1060.91 0.00 0.00 6304 P-2475 11.00 6.10 130.00 Open 0.48 1060.91 1060.04 0.00 0.00 6307 P-2475 11.00 6.10 130.00 Open 0.48 1060.91 1060.04 0.00 0.00 6301 P-2474 11.00 6.10 130.00 Open 0.48 1060.91 1060.04 0.00 0.00 6301 P-2475 11.00 6.10 130.00 Open 0.48 1060.91 1060.04 0.00											
6275 P-2462 11.00 6.10 130.00 Open -0.20 967.37 967.37 0.00 0.00 6278 P-2464 11.00 6.10 130.00 Open -0.88 1064.83 1064.83 0.00 0.00 6282 P-2465 11.00 6.10 130.00 Open -0.08 1064.83 1064.83 0.00 0.00 6287 P-2466 11.00 6.10 130.00 Open -0.08 1058.92 1059.20 0.00 0.00 0.00 6287 P-2468 11.00 6.10 130.00 Open -0.48 1060.91 1060.91 0.00 0.00 6291 P-2469 11.00 6.10 130.00 Open 1.28 1059.43 1059.43 0.00 0.00 6294 P-2479 11.00 6.10 130.00 Open 0.48 167.38 873.78 0.00 0.00 6299 P-2476 11.00 6.10 130.0	6270	P-2460	11.00	6.10	130.00	Open	-0.20	1217.92	1217.92	0.00	0.00
6278 P-2463 11.00 6.10 130.00 Open 0.48 1057.81 1057.81 0.00 0.00 6282 P-2465 11.00 6.10 130.00 Open -0.08 1064.81 1064.89 0.00 0.00 6284 P-2466 11.00 6.10 130.00 Open -0.08 1068.49 1069.20 0.00 0.00 6287 P-2467 11.00 6.10 130.00 Open -0.08 1063.15 1063.15 0.00 0.00 6289 P-2468 11.00 6.10 130.00 Open -0.48 1060.91 1000 0.00 6294 P-2470 11.00 6.10 130.00 Open 0.88 1061.62 1061.62 0.00 0.00 6296 P-2472 11.00 6.10 130.00 Open 1.68 1057.00 1057.00 0.00 0.00 6301 P-2474 11.00 6.10 130.00 Open 0.0											
6282 P-2466 11.00 6.10 130.00 Open -0.08 1064.91 1064.91 0.00 0.00 6284 P-2466 11.00 6.10 130.00 Open -0.08 1059.20 0.00 0.00 6289 P-2468 11.00 6.10 130.00 Open -0.48 1060.91 1060.91 0.00 0.00 6291 P-2469 11.00 6.10 130.00 Open -0.48 1060.91 1060.91 0.00 0.00 6294 P-2470 11.00 6.10 130.00 Open 0.48 873.78 1059.43 0.00 0.00 6296 P-2471 11.00 6.10 130.00 Open 0.48 137.78 873.78 0.00 0.00 6301 P-2473 11.00 6.10 130.00 Open 1.68 1057.04 1057.44 0.00 0.00 6301 P-2473 11.00 6.10 130.00 Open 0.08 </td <td>6278</td> <td>P-2463</td> <td>11.00</td> <td>6.10</td> <td>130.00</td> <td>Open</td> <td>0.48</td> <td>1057.81</td> <td>1057.81</td> <td>0.00</td> <td>0.00</td>	6278	P-2463	11.00	6.10	130.00	Open	0.48	1057.81	1057.81	0.00	0.00
6284 P-2466 11.00 6.10 130.00 Open -0.08 1059.20 0.00 0.00 6289 P-2468 11.00 6.10 130.00 Open -0.48 1060.91 1060.91 0.00 0.00 6291 P-2489 11.00 6.10 130.00 Open 1.28 1059.43 1059.43 0.00 0.00 6294 P-2470 11.00 6.10 130.00 Open 0.48 873.78 10.00 0.00 6299 P-2471 11.00 6.10 130.00 Open 0.48 873.78 80.00 0.00 6301 P-2473 11.00 6.10 130.00 Open 0.48 1057.40 1057.40 0.00 0.00 6304 P-2473 11.00 6.10 130.00 Open 0.48 1057.44 0.00 0.00 6309 P-2475 11.00 6.10 130.00 Open 0.20 1218.03 1218.03 0.00 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
6289 P-2468 11.00 6.10 130.00 Open -0.48 1060.91 1060.91 0.00 0.00 6291 P-2469 11.00 6.10 130.00 Open 1.28 1059.43 1059.43 0.00 0.00 6296 P-2471 11.00 6.10 130.00 Open 0.48 873.78 873.78 0.00 0.00 6299 P-2472 11.00 6.10 130.00 Open 0.48 873.78 873.78 0.00 0.00 6301 P-2473 11.00 6.10 130.00 Open 0.48 1057.44 1057.44 0.00 0.00 6304 P-2475 11.00 6.10 130.00 Open 0.08 1060.04 1060.04 0.00 0.00 6307 P-2475 11.00 6.10 130.00 Open 0.08 1060.04 1060.04 0.00 0.00 6304 P-2476 11.00 6.10 130.00 Open <td>6284</td> <td>P-2466</td> <td>11.00</td> <td>6.10</td> <td>130.00</td> <td>Open</td> <td>-0.08</td> <td>1059.20</td> <td>1059.20</td> <td>0.00</td> <td>0.00</td>	6284	P-2466	11.00	6.10	130.00	Open	-0.08	1059.20	1059.20	0.00	0.00
6291 P.2469 11.00 6.10 130.00 Open 1.28 1059.43 1050.43 0.00 0.00 6294 P.2470 11.00 6.10 130.00 Open 0.88 1061.62 1061.62 0.00 0.00 6299 P.2472 11.00 6.10 130.00 Open 1.68 1057.00 1057.00 0.00 0.00 6301 P.2473 11.00 6.10 130.00 Open 0.48 1057.04 1057.44 0.00 0.00 0.00 6304 P.2474 11.00 6.10 130.00 Open 0.08 1060.04 1060.04 0.00 0.00 6307 P.2475 11.00 6.10 130.00 Open 0.08 1060.04 1060.04 0.00 0.00 6311 P.2475 11.00 6.10 130.00 Open 0.08 1060.91 100 0.00 6311 P.2487 11.00 6.10 130.00 Open <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
6296 P-2471 11.00 6.10 130.00 Open 0.48 873.78 873.78 0.00 0.00 6299 P-2472 11.00 6.10 130.00 Open 1.68 1057.00 1057.00 0.00 0.00 6301 P-2473 11.00 6.10 130.00 Open 0.48 1057.44 1057.44 0.00 0.00 6304 P-2474 11.00 6.10 130.00 Open 0.48 1057.44 1057.44 0.00 0.00 6307 P-2475 11.00 6.10 130.00 Open 0.08 1060.04 1060.04 0.00 0.00 6309 P-2476 11.00 6.10 130.00 Open 0.08 1060.04 1060.04 0.00 0.00 6309 P-2476 11.00 6.10 130.00 Open 0.08 1060.04 1061.04 0.00 0.00 6311 P-2477 11.00 6.10 130.00 Open 0.08 1060.04 1061.04 0.00 0.00 6311 P-2477 11.00 6.10 130.00 Open 0.08 1060.01 1060.01 1060.00 0.00 6313 P-2478 11.00 6.10 130.00 Open 1.48 1060.80 1060.80 0.00 0.00 6316 P-2479 11.00 6.10 130.00 Open 0.88 1066.81 1060.80 0.00 0.00 6318 P-2480 11.00 6.10 130.00 Open 0.88 1056.73 1056.73 0.00 0.00 6320 P-2481 11.00 6.10 130.00 Open 0.88 1059.35 1059.35 0.00 0.00 6322 P-2482 11.00 6.10 130.00 Open 1.48 1057.79 1057.79 0.00 0.00 6328 P-2483 11.00 6.10 130.00 Open 1.48 1057.79 1057.79 0.00 0.00 6326 P-2483 11.00 6.10 130.00 Open 0.68 1057.45 1057.45 0.00 0.00 6330 P-2485 11.00 6.10 130.00 Open 0.68 1058.68 1059.35 0.00 0.00 6333 P-2486 11.00 6.10 130.00 Open 0.68 1057.45 1057.45 0.00 0.00 6333 P-2486 11.00 6.10 130.00 Open 0.68 1058.68 1058.68 0.00 0.00 6333 P-2486 11.00 6.10 130.00 Open 0.68 1058.68 1058.68 0.00 0.00 6334 P-2487 11.00 6.10 130.00 Open 0.20 1218.25 1218.25 0.00 0.00 6334 P-2487 11.00 6.10 130.00 Open 0.20 1218.25 1218.25 0.00 0.00 6334 P-2489 11.00 6.10 130.00 Open 0.20 1218.25 1218.25 0.00 0.00 6334 P-2489 11.00 6.10 130.00 Open 0.20 1218.25 1218.25 0.00 0.00 6344 P-2491 11.00 6.10 130.00 Open 0.00 1058.65 1058.65 0.00 0.00 6344 P-2491 11.00 6.10 130.00 Open 0.20 1216.88 1059.45 0.00 0.00 6344 P-2491 11.00 6.10 130.00 Open 0.20 1216.88 1059.45 0.00 0.00 6354 P-2497 11.00 6.10 130.00 Open 0.20 1216.88 1059.45 0.00 0.00 6366 P-2499 11.00 6.10 130.00 Open 0.20 1216.89 1059.53 0.00 0.00 0.00 6366 P-2499 11.00 6.10 130.00 Open 0.28 1057.47 1057.47 0.00 0.00 6366 P-2499 11.00 6.10 130.00 Open 0.28 1057.40 1057.42 0.00	6291	P-2469	11.00	6.10	130.00	Open	1.28	1059.43	1059.43	0.00	0.00
Care P-2472 11.00 6.10 130.00 Open 1.68 1057.00 1057.00 0.00 0.00											
6304 P-2474 11.00 6.10 130.00 Open 0.08 1060.04 1060.04 0.00 0.00 6309 P-2476 11.00 6.10 130.00 Open 0.08 1061.04 1218.03 0.00 0.00 0.00 6311 P-2476 11.00 6.10 130.00 Open 0.08 1061.04 1061.04 0.00 0.00 0.00 6311 P-2478 11.00 6.10 130.00 Open 0.08 1060.91 1060.91 0.00 0.00 0.00 6316 P-2479 11.00 6.10 130.00 Open 0.88 1056.73 1056.73 0.00 0.00 0.00 6318 P-2480 11.00 6.10 130.00 Open 0.88 1056.73 1056.73 0.00 0.00 0.00 6320 P-2481 11.00 6.10 130.00 Open 0.88 1059.35 1059.35 0.00 0.00 0.00 6323 P-2482 11.00 6.10 130.00 Open 0.88 1059.35 1059.35 0.00 0.00 6326 P-2483 11.00 6.10 130.00 Open 0.68 1057.79 1057.79 0.00 0.00 6326 P-2483 11.00 6.10 130.00 Open 0.68 1057.45 1057.45 0.00 0.00 6330 P-2485 11.00 6.10 130.00 Open 0.68 1058.68 1059.35 0.00 0.00 6333 P-2486 11.00 6.10 130.00 Open 0.08 1058.68 1058.68 0.00 0.00 6333 P-2486 11.00 6.10 130.00 Open 0.00 1058.68 1058.68 0.00 0.00 6336 P-2487 11.00 6.10 130.00 Open 0.20 993.44 993.44 0.00 0.00 6336 P-2487 11.00 6.10 130.00 Open 0.20 993.44 993.44 0.00 0.00 6342 P-2489 11.00 6.10 130.00 Open 0.08 1058.65 1058.65 0.00 0.00 6342 P-2489 11.00 6.10 130.00 Open 0.08 1058.65 1058.65 0.00 0.00 6344 P-2491 11.00 6.10 130.00 Open 0.08 1058.65 1058.65 0.00 0.00 6344 P-2491 11.00 6.10 130.00 Open 0.08 1058.65 1058.65 0.00 0.00 6346 P-2491 11.00 6.10 130.00 Open 0.08 1058.65 1058.65 0.00 0.00 6351 P-2493 11.00 6.10 130.00 Open 0.20 1216.83 1216.83 0.00 0.00 0.00 6364 P-2494 11.00 6.10 130.00 Open 0.28 1057.47 1057.47 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	6299	P-2472	11.00	6.10	130.00	Open	1.68	1057.00	1057.00	0.00	0.00
6307 P-2475 11.00 6.10 130.00 Open -0.20 1218.03 1218.03 0.00 0.00 6309 P-2476 11.00 6.10 130.00 Open -0.08 1061.04 1061.04 0.00 0.00 6311 P-2477 11.00 6.10 130.00 Open -0.08 1060.91 1060.91 0.00 0.00 6313 P-2478 11.00 6.10 130.00 Open -1.48 1060.80 1060.80 0.00 0.00 6316 P-2479 11.00 6.10 130.00 Open 0.88 1056.73 1056.73 0.00 0.00 6318 P-2480 11.00 6.10 130.00 Open 0.28 1057.79 1057.79 0.00 0.00 6320 P-2481 11.00 6.10 130.00 Open 0.88 1059.35 1059.35 0.00 0.00 6323 P-2482 11.00 6.10 130.00 Open 0.88 1057.79 1057.79 0.00 0.00 6326 P-2483 11.00 6.10 130.00 Open 0.68 1057.45 1057.45 0.00 0.00 6328 P-2484 11.00 6.10 130.00 Open 0.68 1057.45 1057.45 0.00 0.00 6333 P-2485 11.00 6.10 130.00 Open 0.20 1218.25 1218.25 0.00 0.00 6333 P-2486 11.00 6.10 130.00 Open 0.20 993.44 993.44 0.00 0.00 6336 P-2487 11.00 6.10 130.00 Open 0.20 993.44 993.44 0.00 0.00 6342 P-2489 11.00 6.10 130.00 Open 0.20 168 1057.46 1057.46 0.00 0.00 6342 P-2489 11.00 6.10 130.00 Open 0.20 993.44 993.44 0.00 0.00 6344 P-2490 11.00 6.10 130.00 Open 0.20 1218.85 1216.88 0.00 0.00 6344 P-2491 11.00 6.10 130.00 Open 0.20 168.85 1058.65 0.00 0.00 6346 P-2491 11.00 6.10 130.00 Open 0.20 1059.72 1059.72 0.00 0.00 6351 P-2493 11.00 6.10 130.00 Open 0.20 1059.72 1059.72 0.00 0.00 6354 P-2494 11.00 6.10 130.00 Open 0.20 1059.72 1059.72 0.00 0.00 6354 P-2494 11.00 6.10 130.00 Open 0.20 1059.72 1059.72 0.00 0.00 6355 P-2495 11.00 6.10 130.00 Open 0.28 1057.47 1057.47 0.00 0.00 6356 P-2499 11.00 6.10 130.00 Open 0.28 1058.35 1059.53 0.00 0.00 6366 P-2499 1											
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6313 P-2478 11.00 6.10 130.00 Open 1.48 1060.80 1060.80 0.00 0.00 6316 P-2479 11.00 6.10 130.00 Open 0.88 1056.73 1056.73 0.00 0.00 6318 P-2480 11.00 6.10 130.00 Open 0.28 1057.79 1057.79 0.00 0.00 6320 P-2481 11.00 6.10 130.00 Open -0.88 1059.35 1059.35 0.00 0.00 6326 P-2481 11.00 6.10 130.00 Open -0.88 1057.75 1057.79 0.00 0.00 6326 P-2483 11.00 6.10 130.00 Open -0.20 1218.25 10.00 0.00 0.00 6328 P-2484 11.00 6.10 130.00 Open 0.20 1218.25 10.00 0.00 6330 P-2485 11.00 6.10 130.00 Open 0.20<											
6318 P-2480 11.00 6.10 130.00 Open 0.28 1057.79 1057.79 0.00 0.00 6320 P-2481 11.00 6.10 130.00 Open -0.88 1059.35 1059.35 0.00 0.00 6323 P-2482 11.00 6.10 130.00 Open 1.48 1057.79 1057.79 0.00 0.00 6326 P-2483 11.00 6.10 130.00 Open 0.68 1057.45 1057.45 0.00 0.00 6328 P-2484 11.00 6.10 130.00 Open 0.20 1218.25 1218.25 0.00 0.00 6333 P-2485 11.00 6.10 130.00 Open 0.08 1058.68 1059.44 0.00 0.00 6333 P-2486 11.00 6.10 130.00 Open 0.08 1058.68 1057.46 0.00 0.00 6334 P-2487 11.00 6.10 130.00 Ope	6313	P-2478	11.00	6.10	130.00	Open	1.48	1060.80	1060.80	0.00	0.00
6320 P-2481 11.00 6.10 130.00 Open -0.88 1059.35 1059.35 0.00 0.00 6323 P-2482 11.00 6.10 130.00 Open 1.48 1057.79 1057.79 0.00 0.00 6326 P-2483 11.00 6.10 130.00 Open 0.68 1057.45 1057.45 0.00 0.00 6328 P-2485 11.00 6.10 130.00 Open 0.20 1218.25 120.00 0.00 6330 P-2486 11.00 6.10 130.00 Open 0.20 993.44 993.44 0.00 0.00 6333 P-2487 11.00 6.10 130.00 Open 0.20 993.44 993.44 0.00 0.00 6339 P-2488 11.00 6.10 130.00 Open 0.20 1216.88 10.00 0.00 6342 P-2489 11.00 6.10 130.00 Open 0.20 1216.88 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
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6328 P-2484 11.00 6.10 130.00 Open -0.20 1218.25 1218.25 0.00 0.00 6330 P-2485 11.00 6.10 130.00 Open 0.08 1058.68 1058.68 0.00 0.00 6333 P-2486 11.00 6.10 130.00 Open 0.20 993.44 993.44 0.00 0.00 6336 P-2487 11.00 6.10 130.00 Open 0.08 1058.65 0.00 0.00 6342 P-2489 11.00 6.10 130.00 Open 0.20 1216.88 1216.88 0.00 0.00 6344 P-2491 11.00 6.10 130.00 Open -0.48 1061.62 1061.62 0.00 0.00 6344 P-2491 11.00 6.10 130.00 Open -0.48 1061.62 1061.62 0.00 0.00 6348 P-2492 11.00 6.10 130.00 Open 1.28 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
6333 P-2486 11.00 6.10 130.00 Open 0.20 993.44 993.44 0.00 0.00 6336 P-2487 11.00 6.10 130.00 Open 1.68 1057.46 1057.46 0.00 0.00 6339 P-2488 11.00 6.10 130.00 Open 0.20 1216.88 105.00 0.00 6344 P-2490 11.00 6.10 130.00 Open 0.20 1216.88 126.88 0.00 0.00 6346 P-2491 11.00 6.10 130.00 Open 0.68 1059.72 1059.72 0.00 0.00 6348 P-2491 11.00 6.10 130.00 Open 0.68 1059.72 1059.72 0.00 0.00 6344 P-2492 11.00 6.10 130.00 Open 0.68 1059.72 1059.72 0.00 0.00 6344 P-2492 11.00 6.10 130.00 Open 1.28 <td>6328</td> <td>P-2484</td> <td>11.00</td> <td>6.10</td> <td>130.00</td> <td>Open</td> <td>-0.20</td> <td>1218.25</td> <td>1218.25</td> <td>0.00</td> <td>0.00</td>	6328	P-2484	11.00	6.10	130.00	Open	-0.20	1218.25	1218.25	0.00	0.00
6336 P-2487 11.00 6.10 130.00 Open 1.68 1057.46 1057.46 0.00 0.00 6339 P-2488 11.00 6.10 130.00 Open 1.08 1058.65 1058.65 0.00 0.00 6342 P-2489 11.00 6.10 130.00 Open 0.20 1216.88 1216.88 0.00 0.00 6344 P-2491 11.00 6.10 130.00 Open 0.48 1061.62 1061.62 0.00 0.00 6348 P-2491 11.00 6.10 130.00 Open 0.68 1059.72 1059.72 0.00 0.00 6351 P-2492 11.00 6.10 130.00 Open 1.28 1057.47 1057.47 0.00 0.00 6351 P-2493 11.00 6.10 130.00 Open 0.28 1059.53 1059.53 0.00 0.00 6357 P-2494 11.00 6.10 130.00 Open											
6342 P-2489 11.00 6.10 130.00 Open 0.20 1216.88 1216.88 0.00 0.00 6344 P-2490 11.00 6.10 130.00 Open -0.48 1061.62 1061.62 0.00 0.00 6346 P-2491 11.00 6.10 130.00 Open 0.68 1059.72 1059.72 0.00 0.00 6348 P-2492 11.00 6.10 130.00 Open 1.28 1057.47 1057.47 0.00 0.00 6351 P-2493 11.00 6.10 130.00 Open 0.28 1057.47 1057.47 0.00 0.00 6354 P-2494 11.00 6.10 130.00 Open -0.28 1061.62 1061.62 0.00 0.00 6357 P-2495 11.00 6.10 130.00 Open -0.28 1061.62 1061.62 0.00 0.00 6361 P-2496 11.00 6.10 130.00 O	6336	P-2487	11.00	6.10	130.00	Open	1.68	1057.46	1057.46	0.00	0.00
6344 P-2490 11.00 6.10 130.00 Open -0.48 1061.62 1061.62 0.00 0.00 6346 P-2491 11.00 6.10 130.00 Open 0.68 1059.72 1059.72 0.00 0.00 6351 P-2493 11.00 6.10 130.00 Open 0.68 1059.73 1059.73 0.00 0.00 6351 P-2493 11.00 6.10 130.00 Open 0.48 1059.53 1059.53 0.00 0.00 6354 P-2494 11.00 6.10 130.00 Open 0.48 1059.53 1059.53 0.00 0.00 6354 P-2495 11.00 6.10 130.00 Open 0.28 1061.62 1061.62 0.00 0.00 6359 P-2496 11.00 6.10 130.00 Open 0.88 1058.95 0.00 0.00 6359 P-2496 11.00 6.10 130.00 Open 1.28 1063.71 1063.71 0.00 0.00 6361 P-2497 11.00 6.10 130.00 Open 1.28 1063.71 1063.71 0.00 0.00 6366 P-2498 11.00 6.10 130.00 Open 2.09 1057.47 1057.47 0.00 0.00 6366 P-2498 11.00 6.10 130.00 Open 0.08 1061.61 1061.61 0.00 0.00 6369 P-2500 12.00 6.10 130.00 Open 0.08 1061.61 1061.61 0.00 0.00 6369 P-2500 12.00 6.10 130.00 Open 0.20 993.44 993.44 0.00 0.00 6371 P-2501 11.00 6.10 130.00 Open 0.20 1217.72 1217.72 0.00 0.00 6373 P-2502 11.00 6.10 130.00 Open 0.28 1057.80 1057.80 0.00 0.00 6376 P-2503 11.00 6.10 130.00 Open 0.28 1057.80 1057.80 0.00 0.00 6378 P-2504 11.00 6.10 130.00 Open 0.28 1057.80 1057.80 0.00 0.00 6378 P-2504 11.00 6.10 130.00 Open 0.28 1057.42 1057.42 0.00 0.00											
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6351 P-2493 11.00 6.10 130.00 Open 0.48 1059.53 1059.53 0.00 0.00 6354 P-2494 11.00 6.10 130.00 Open -0.28 1061.62 1061.62 0.00 0.00 6359 P-2496 11.00 6.10 130.00 Open -0.88 1058.95 1058.95 0.00 0.00 6361 P-2497 11.00 6.10 130.00 Open -1.28 1063.71 1063.71 0.00 0.00 6361 P-2497 11.00 6.10 130.00 Open -2.09 1057.47 1057.47 0.00 0.00 6363 P-2498 11.00 6.10 130.00 Open -0.08 1063.38 1063.38 0.00 0.00 6366 P-2499 11.00 6.10 130.00 Open -0.08 1061.61 1061.61 0.00 0.00 6369 P-2500 12.00 6.10 130.00 Open -0.08 1061.61 1061.61 0.00 0.00 63671 P-2501 11.00 6.10 130.00 Open -0.20 993.44 993.44 0.00 0.00 6373 P-2502 11.00 6.10 130.00 Open -0.28 1057.42 1057.42 0.00 0.00 6376 P-2503 11.00 6.10 130.00 Open -0.28 1057.80 1057.80 0.00 0.00 6378 P-2504 11.00 6.10 130.00 Open 0.28 1057.80 1057.80 0.00 0.00											
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6359 P-2496 11.00 6.10 130.00 Open -1.28 1063.71 1063.71 0.00 0.00 6361 P-2497 11.00 6.10 130.00 Open 2.09 1057.47 1057.47 0.00 0.00 6363 P-2498 11.00 6.10 130.00 Open -0.08 1063.38 1063.38 0.00 0.00 6366 P-2499 11.00 6.10 130.00 Open -0.08 1061.61 1061.61 0.00 0.00 6369 P-2500 12.00 6.10 130.00 Open -0.20 993.44 993.44 0.00 0.00 6371 P-2501 11.00 6.10 130.00 Open -0.20 993.44 993.44 0.00 0.00 6373 P-2501 11.00 6.10 130.00 Open -0.28 1057.42 1057.42 0.00 0.00 6376 P-2503 11.00 6.10 130.00 Op											
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6366 P-2499 11.00 6.10 130.00 Open -0.08 1061.61 1061.61 0.00 0.00 6369 P-2500 12.00 6.10 130.00 Open -0.20 993.44 993.44 0.00 0.00 6371 P-2501 11.00 6.10 130.00 Open -0.20 1217.72 1217.72 0.00 0.00 6373 P-2502 11.00 6.10 130.00 Open 0.28 1057.82 1057.80 0.00 0.00 6376 P-2503 11.00 6.10 130.00 Open 0.28 1057.80 1057.80 0.00 0.00 6378 P-2504 11.00 6.10 130.00 Open 0.48 1057.42 1057.42 0.00 0.00											
6371 P-2501 11.00 6.10 130.00 Open -0.20 1217.72 1217.72 0.00 0.00 6373 P-2502 11.00 6.10 130.00 Open 0.28 1057.42 1057.42 0.00 0.00 6376 P-2503 11.00 6.10 130.00 Open 0.28 1057.80 1057.80 0.00 0.00 6378 P-2504 11.00 6.10 130.00 Open 0.48 1057.42 1057.42 0.00 0.00	6366	P-2499	11.00	6.10	130.00	Open	-0.08	1061.61	1061.61	0.00	0.00
6373 P-2502 11.00 6.10 130.00 Open 0.28 1057.42 1057.42 0.00 0.00 6376 P-2503 11.00 6.10 130.00 Open 0.28 1057.80 1057.80 0.00 0.00 6378 P-2504 11.00 6.10 130.00 Open 0.48 1057.42 1057.42 0.00 0.00											
6378 P-2504 11.00 6.10 130.00 Open 0.48 1057.42 1057.42 0.00 0.00	6373	P-2502	11.00	6.10	130.00	Open	0.28	1057.42	1057.42	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
6383	P-2506	12.00	6.10	130.00	Open	-0.29	1218.15	1218.15	0.00	0.00
6385 6387	P-2507 P-2508	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.20	1060.94 1218.15	1060.94 1218.15	0.00	0.00
6390	P-2509	12.00	6.10	130.00	Open	-0.08	1059.35	1059.35	0.00	0.00
6393	P-2510	12.00	6.10	130.00	Open	-0.08	1061.62	1061.62	0.00	0.00
6395 6397	P-2511 P-2512	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-1.08 -0.08	1061.62 1062.34	1061.62 1062.34	0.00	0.00
6399	P-2513	12.00	6.10	130.00	Open	-0.48	1064.87	1064.87	0.00	0.00
6402 6404	P-2514 P-2515	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.20 -0.28	1218.47 1061.85	1218.47 1061.85	0.00	0.00 0.00
6407	P-2516	12.00	6.10	130.00	Open	0.48	1063.74	1063.74	0.00	0.00
6409 6411	P-2517 P-2518	12.00 12.00	6.10 6.10	130.00 130.00	Open	-0.48 -0.48	1063.30 1064.21	1063.30 1064.21	0.00	0.00
6414	P-2519	12.00	6.10	130.00	Open Open	-0.48	1064.21	1064.21	0.00	0.00
6416	P-2520	12.00	6.10	130.00	Open	-0.28	1064.92	1064.92	0.00	0.00
6418 6421	P-2521 P-2522	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.28 -0.28	1063.39 1060.62	1063.39 1060.62	0.00	0.00
6423	P-2523	12.00	6.10	130.00	Open	-0.08	1061.05	1061.05	0.00	0.00
6425 6428	P-2524 P-2525	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.28	1064.87 1061.10	1064.87 1061.10	0.00	0.00
6430	P-2526	12.00	6.10	130.00	Open	-0.11	1322.91	1322.91	0.00	0.00
6432	P-2527	12.00	6.10	130.00	Open	-0.20	1218.03	1218.03	0.00	0.00
6435 6438	P-2528 P-2529	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.37 0.20	1218.15 1218.32	1218.15 1218.32	0.00	0.00 0.00
6441	P-2530	12.00	6.10	130.00	Open	0.68	1057.42	1057.42	0.00	0.00
6443 6445	P-2531 P-2532	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.48	1218.15 1064.83	1218.15 1064.83	0.00	0.00
6447	P-2533	12.00	6.10	130.00	Open	-1.28	1061.63	1061.63	0.00	0.00
6449 6451	P-2534 P-2535	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.48 -0.20	1061.62 1218.15	1061.62 1218.15	0.00	0.00
6454	P-2536	12.00	6.10	130.00	Open	0.08	1062.90	1062.90	0.00	0.00
6457	P-2537	12.00	6.10	130.00	Open	0.08	1062.15	1062.15	0.00	0.00
6459 6461	P-2538 P-2539	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.26	1057.67 1322.98	1057.67 1322.98	0.00	0.00
6463	P-2540	12.00	6.10	130.00	Open	0.20	1218.58	1218.58	0.00	0.00
6465 6468	P-2541 P-2542	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.28	1058.34 1058.95	1058.34 1058.95	0.00	0.00
6470	P-2543	12.00	6.10	130.00	Open	1.08	1057.49	1057.49	0.00	0.00
6473	P-2544	12.00	6.10	130.00	Open	-0.68	1063.37	1063.37	0.00	0.00
6475 6478	P-2545 P-2546	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.08	1057.76 1064.10	1057.76 1064.10	0.00	0.00 0.00
6480	P-2547	12.00	6.10	130.00	Open	1.08	1057.76	1057.76	0.00	0.00
6482 6485	P-2548 P-2549	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.08	1064.61 1057.82	1064.61 1057.82	0.00	0.00
6487	P-2550	12.00	6.10	130.00	Open	0.20	1218.37	1218.37	0.00	0.00
6489 6491	P-2551 P-2552	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.68	1057.92 1057.81	1057.92 1057.81	0.00	0.00
6494	P-2553	12.00	6.10	130.00	Open	0.08	1062.37	1062.37	0.00	0.00
6496 6498	P-2554 P-2555	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.20	1058.49 1217.75	1058.49 1217.75	0.00	0.00
6501	P-2556	12.00	6.10	130.00	Open	1.48	1058.37	1058.37	0.00	0.00
6503	P-2557	12.00	6.10	130.00	Open	0.68	1057.82	1057.82	0.00	0.00
6505 6508	P-2558 P-2559	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.11	1057.46 1322.97	1057.46 1322.97	0.00	0.00
6510	P-2560	12.00	6.10	130.00	Open	-0.08	1062.20	1062.20	0.00	0.00
6513 6515	P-2561 P-2562	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.48	1062.02 1064.60	1062.02 1064.60	0.00	0.00
6518	P-2563	12.00	6.10	130.00	Open	0.68	1057.79	1057.79	0.00	0.00
6521 6523	P-2564 P-2565	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.28 1.28	1061.04 1059.16	1061.04 1059.16	0.00	0.00 0.00
6525	P-2566	12.00	6.10	130.00	Open	1.48	1059.35	1059.35	0.00	0.00
6527 6529	P-2567 P-2568	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.20 0.48	1218.65 1059.43	1218.65 1059.43	0.00	0.00
6532	P-2569	12.00	6.10	130.00	Open	0.40	1216.06	1216.06	0.00	0.00
6534	P-2570	12.00	6.10	130.00	Open	-0.11	1322.92	1322.92	0.00	0.00
6536 6539	P-2571 P-2572	12.00 12.00	6.10 6.10	130.00 130.00	Open	-0.48 -0.68	1061.85 1064.86	1061.85 1064.86	0.00	0.00 0.00
6542	P-2573	12.00	6.10	130.00	Open	0.68	1062.86	1062.86	0.00	0.00
6544 6546	P-2574 P-2575	12.00 13.00	6.10 6.10	130.00 130.00	Open Open	-0.29 -0.48	1215.66 1061.61	1215.66 1061.61	0.00	0.00
6549	P-2576	13.00	6.10	130.00	Open	0.68	1057.42	1057.42	0.00	0.00
6552 6555	P-2577 P-2578	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.48	1057.68 1058.02	1057.68 1058.02	0.00	0.00
6558	P-2579	13.00	6.10	130.00	Open	0.48	1056.02	1056.02	0.00	0.00
6561	P-2580	13.00	6.10	130.00	Open	0.48	1057.69	1057.69	0.00	0.00
6564 6566	P-2581 P-2582	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.08 -1.88	1057.83 1064.12	1057.83 1064.12	0.00	0.00
6569	P-2583	13.00	6.10	130.00	Open	0.08	1060.81	1060.81	0.00	0.00
6571 6574	P-2584 P-2585	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.68	1058.95 1057.72	1058.95 1057.72	0.00	0.00 0.00
6576	P-2586	13.00	6.10	130.00	Open	-0.68	1059.74	1059.74	0.00	0.00
6578 6581	P-2587 P-2588	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.28	1060.01 1059.98	1060.01 1059.98	0.00	0.00
6584	P-2589	13.00	6.10	130.00	Open	0.28	1058.24	1058.24	0.00	0.00
6586	P-2590 P-2501	13.00	6.10	130.00	Open	-0.20	1218.12	1218.12	0.00	0.00
6588 6590	P-2591 P-2592	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.08	1058.39 1057.84	1058.39 1057.84	0.00	0.00
6592	P-2593	13.00	6.10	130.00	Open	0.28	1058.65	1058.65	0.00	0.00
6595 6597	P-2594 P-2595	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	-0.28 0.48	1059.29 1057.42	1059.29 1057.42	0.00	0.00
6599	P-2596	13.00	6.10	130.00	Open	0.20	1218.31	1218.31	0.00	0.00
6602 6604	P-2597 P-2598	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.48	1057.85 1063.37	1057.85 1063.37	0.00	0.00
6607	P-2599	13.00	6.10	130.00	Open	-0.08	1062.12	1062.12	0.00	0.00
6610 6612	P-2600 P-2601	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	-0.28 -0.08	1062.34 1058.75	1062.34 1058.75	0.00	0.00
6615	P-2601 P-2602	13.00	6.10	130.00	Open	-0.08 0.28	1058.75	1058.75	0.00	0.00
6617	P-2603	13.00	6.10	130.00	Open	1.08	1057.83	1057.83	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
6619	P-2604	13.00	6.10	130.00	Open	0.08	1058.64	1058.64	0.00	0.00
6622 6625	P-2605 P-2606	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.48 -1.28	1060.08 1059.27	1060.08 1059.27	0.00	0.00
6628	P-2607	13.00	6.10	130.00	Open	0.68	1059.22	1059.22	0.00	0.00
6631	P-2608 P-2609	13.00	6.10	130.00	Open	0.08	1058.63	1058.63	0.00	0.00
6634 6636	P-2610	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1057.02 1061.01	1057.02 1061.01	0.00	0.00
6638	P-2611	13.00	6.10	130.00	Open	0.48	1064.62	1064.62	0.00	0.00
6640 6643	P-2612 P-2613	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	1.48 0.08	1058.17 1064.61	1058.17 1064.61	0.00	0.00
6646	P-2614	13.00	6.10	130.00	Open	0.20	1218.14	1218.14	0.00	0.00
6648 6651	P-2615 P-2616	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.08	1063.37 1062.65	1063.37 1062.65	0.00	0.00 0.00
6653	P-2617	13.00	6.10	130.00	Open	-0.48	1064.62	1064.62	0.00	0.00
6655 6657	P-2618 P-2619	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.20	1218.05 1218.03	1218.05 1218.03	0.00	0.00
6659	P-2620	13.00	6.10	130.00	Open	0.28	1057.80	1057.80	0.00	0.00
6661	P-2621	13.00	6.10	130.00	Open	-0.88	1064.60	1064.60	0.00	0.00
6664 6667	P-2622 P-2623	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1064.12 1057.85	1064.12 1057.85	0.00	0.00
6670	P-2624	13.00	6.10	130.00	Open	0.48	1064.85	1064.85	0.00	0.00
6672 6674	P-2625 P-2626	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.48	1058.02 1058.99	1058.02 1058.99	0.00	0.00
6676	P-2627	13.00	6.10	130.00	Open	-0.88	1064.60	1064.60	0.00	0.00
6679 6681	P-2628 P-2629	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.88	1059.72 1057.93	1059.72 1057.93	0.00	0.00
6683	P-2630	14.00	6.10	130.00	Open	0.28	1057.88	1057.88	0.00	0.00
6686 6689	P-2631 P-2632	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.68	1057.42 1063.38	1057.42 1063.38	0.00	0.00
6692	P-2633	14.00	6.10	130.00	Open	-0.08	1063.36	1063.36	0.00	0.00
6694	P-2634 P-2635	14.00 14.00	6.10	130.00	Open	1.88 0.08	1061.61	1061.61 1057.83	0.00	0.00
6697 6699	P-2636	14.00	6.10 6.10	130.00 130.00	Open Open	0.08	1057.83 1060.31	1060.31	0.00	0.00
6701	P-2637	14.00	6.10	130.00 130.00	Open	0.28	1064.83	1064.83	0.00	0.00
6703 6706	P-2638 P-2639	14.00 14.00	6.10 6.10	130.00	Open Open	0.08 -0.08	1057.94 1062.86	1057.94 1062.86	0.00	0.00
6708	P-2640	14.00	6.10	130.00	Open	-0.88	1064.83	1064.83	0.00	0.00
6710 6712	P-2641 P-2642	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.48	1059.91 1059.96	1059.91 1059.96	0.00	0.00
6715	P-2643	14.00	6.10	130.00	Open	-0.68	1061.95	1061.95	0.00	0.00
6718 6720	P-2644 P-2645	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.20	1064.62 1218.07	1064.62 1218.07	0.00	0.00
6722	P-2646	14.00	6.10	130.00	Open	-0.48	1062.01	1062.01	0.00	0.00
6724 6727	P-2647 P-2648	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.28	1060.91 1063.38	1060.91 1063.38	0.00	0.00
6730	P-2649	14.00	6.10	130.00	Open	0.28	1058.14	1058.14	0.00	0.00
6732 6734	P-2650 P-2651	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.20 0.28	1218.42 1060.78	1218.42 1060.78	0.00	0.00
6736	P-2652	14.00	6.10	130.00	Open	1.28	1058.62	1058.62	0.00	0.00
6738 6741	P-2653 P-2654	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.48	1064.62 1064.16	1064.62 1064.16	0.00	0.00
6743	P-2655	14.00	6.10	130.00	Open	0.28	1057.76	1057.76	0.00	0.00
6746 7228	P-2656 P-2657	14.00 11.00	6.10 8.00	130.00 130.00	Open Open	-1.08 0.08	981.48 1064.63	981.48 1064.63	0.00	0.00
7230	P-2658	11.00	8.00	130.00	Open	26.47	1218.14	1218.14	0.00	0.00
7231 7233	P-2659 P-2660	11.00 11.00	8.00 8.00	130.00 130.00	Open Open	0.28 0.08	1064.12 1058.14	1064.12 1058.14	0.00	0.00
7236	P-2661	11.00	8.00	130.00	Open	0.68	1057.84	1057.84	0.00	0.00
7238 7239	P-2662 P-2663	11.00 11.00	8.00 8.00	130.00 130.00	Open Open	2.04 1.76	873.78 1064.11	873.78 1064.11	0.00	0.00
7239	P-2664	11.00	8.00	130.00	Open	0.88	1064.11	1064.11	0.00	0.00
7242	P-2665	11.00	8.00	130.00	Open	0.20	1217.76	1217.76	0.00	0.00
7245 7247	P-2666 P-2667	11.00 11.00	8.00 8.00	130.00 130.00	Open Open	7.40 0.08	1064.12 1060.01	1064.12 1060.01	0.00	0.00
7250	P-2668	11.00	8.00	130.00	Open	-0.08	1061.38	1061.38	0.00	0.00
7252 7253	P-2669 P-2670	11.00 11.00	8.00 8.00	130.00 130.00	Open Open	-26.69 -0.08	1060.01 1059.93	1060.01 1059.93	0.00	0.00
7256	P-2671	11.00	8.00	130.00	Open	-0.96	1059.53	1059.53	0.00	0.00
7257 7259	P-2672 P-2673	12.00 12.00	8.00 8.00	130.00 130.00	Open Open	-0.08 8.94	1064.63 1060.45	1064.63 1060.45	0.00	0.00
7261	P-2675	12.00	8.00	130.00	Open	0.20	988.99	988.99	0.00	0.00
7264 7265	P-2676 P-2677	13.00 13.00	8.00 8.00	130.00 130.00	Open Open	1.84 -0.68	1060.83 1057.41	1060.83 1057.41	0.00	0.00
7267	P-2678	13.00	8.00	130.00	Open	34.98	1064.87	1064.87	0.00	0.00
7270 7271	P-2679 P-2680	13.00 13.00	8.00 8.00	130.00 130.00	Open Open	21.54 4.71	1058.77 1059.93	1058.77 1059.93	0.00	0.00
7273	P-2681	13.00	8.00	130.00	Open	1.16	1063.37	1063.37	0.00	0.00
7274 7275	P-2682 P-2683	13.00 13.00	8.00 8.00	130.00 130.00	Open Open	11.57 8.80	1061.62 1063.72	1061.62 1063.72	0.00	0.00
7276	P-2684	13.00	8.00	130.00	Open	4.68	1063.30	1063.30	0.00	0.00
7278 7281	P-2685 P-2686	13.00 13.00	8.00 8.00	130.00 130.00	Open Open	-0.08 4.25	1059.82 1322.91	1059.82 1322.91	0.00	0.00
7282	P-2687	13.00	8.00	130.00	Open	0.08	1060.01	1060.01	0.00	0.00
7285 7286	P-2688 P-2689	14.00 14.00	8.00 8.00	130.00 130.00	Open Open	1.16 -1.36	1064.21 1064.21	1064.21 1064.21	0.00	0.00
7287	P-2690	14.00	8.00	130.00	Open	-1.08	1059.82	1059.82	0.00	0.00
7290 7291	P-2691 P-2692	14.00 14.00	8.00 8.00	130.00 130.00	Open Open	3.75 4.77	1060.83 1217.75	1060.83 1217.75	0.00	0.00
7292	P-2693	15.00	8.00	130.00	Open	-40.52	1063.90	1063.90	0.00	0.00
7293 7294	P-2694 P-2695	15.00 15.00	8.00 8.00	130.00 130.00	Open Open	3.12 -0.08	1218.15 1059.94	1218.15 1059.94	0.00	0.00 0.00
7294 7296	P-2695 P-2696	15.00 15.00	8.00	130.00	Open	-0.08 0.28	981.48	981.48	0.00	0.00
7298	P-2697	15.00	8.00	130.00	Open	-21.23	1061.63	1061.63	0.00	0.00
7300 7302	P-2698 P-2699	15.00 15.00	8.00 8.00	130.00 130.00	Open Open	0.08 92.13	1059.46 1061.66	1059.46 1061.66	0.00	0.00
7303 7304	P-2700 P-2701	16.00 17.00	8.00 8.00	130.00 130.00	Open Open	3.74 1.56	1216.97 1064.86	1216.97 1064.86	0.00	0.00 0.00
7304 7306	P-2701 P-2702	16.00	8.00	130.00	Open	12.59	1060.80	1064.86	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7307	P-2703	16.00	8.00	130.00	Open	-0.20	1216.97	1216.97	0.00	0.00
7312 7313	P-2705 P-2706	17.00 17.00	8.00 8.00	130.00 130.00	Open Open	3.20 3.07	1064.60 1063.58	1064.60 1063.58	0.00	0.00
7314	P-2707	17.00	8.00	130.00	Open	3.63	1061.05	1061.05	0.00	0.00
7315	P-2708	17.00	8.00	130.00	Open	0.94	1218.15	1218.15	0.00	0.00
7317 7318	P-2709 P-2710	17.00 17.00	8.00 8.00	130.00 130.00	Open Open	14.35 5.21	993.44 1057.46	993.44 1057.46	0.00	0.00
7319	P-2711	18.00	8.00	130.00	Open	-0.08	1057.79	1057.79	0.00	0.00
7321 7322	P-2712 P-2713	18.00 18.00	8.00 8.00	130.00 130.00	Open Open	0.91 4.80	1064.63 1063.37	1064.63 1063.37	0.00	0.00
7324	P-2714	18.00	8.00	130.00	Open	13.30	1059.95	1059.95	0.00	0.00
7326 7328	P-2715 P-2716	18.00 18.00	8.00 8.00	130.00 130.00	Open Open	-0.20 5.71	1218.15 1057.83	1218.15 1057.83	0.00	0.00
7330	P-2717	18.00	8.00	130.00	Open	-1.11	1057.65	1057.65	0.00	0.00
7331	P-2718	18.00	8.00	130.00	Open	-1.36	1061.63	1061.63	0.00	0.00
7332 7333	P-2719 P-2720	18.00 19.00	8.00 8.00	130.00 130.00	Open Open	10.99 7.33	1063.38 1057.42	1063.38 1057.42	0.00	0.00
7334	P-2721	19.00	8.00	130.00	Open	6.40	1217.75	1217.75	0.00	0.00
7335 7338	P-2722 P-2723	30.00 19.00	8.00 8.00	130.00 130.00	Open Open	-0.48 0.08	1061.32 1063.37	1061.32 1063.37	0.00	0.00
7341	P-2724	20.00	8.00	130.00	Open	-0.08	1059.82	1059.82	0.00	0.00
7344 7347	P-2725 P-2726	21.00 21.00	8.00 8.00	130.00 130.00	Open Open	0.48 -0.20	1058.74 1218.03	1058.74 1218.03	0.00	0.00
7349	P-2727	21.00	8.00	130.00	Open	0.08	1057.87	1057.87	0.00	0.00
7351	P-2728 P-2729	21.00	8.00	130.00	Open	-1.12	988.98 1061.04	988.98 1061.04	0.00	0.00
7352 7353	P-2729 P-2730	21.00 22.00	8.00 8.00	130.00 130.00	Open Open	-52.28 -8.23	1057.42	1057.42	0.00	0.00
7354	P-2731	22.00	8.00	130.00	Open	30.45	1057.54	1057.54	0.00	0.00
7355 7356	P-2732 P-2733	24.00 23.00	8.00 8.00	130.00 130.00	Open Open	-38.72 0.08	1060.89 1064.87	1060.89 1064.87	0.00	0.00
7358	P-2734	27.00	8.00	130.00	Open	9.37	1060.85	1060.85	0.00	0.00
7360 7361	P-2735 P-2736	24.00 24.00	8.00 8.00	130.00 130.00	Open Open	2.79 -61.36	1061.02 1058.71	1061.02 1058.71	0.00	0.00
7362	P-2737	24.00	8.00	130.00	Open	60.72	1058.34	1058.34	0.00	0.00
7363 7364	P-2738 P-2739	24.00 25.00	8.00 8.00	130.00 130.00	Open Open	2.76 0.08	1059.43 1064.62	1059.43 1064.62	0.00	0.00
7366	P-2740	25.00	8.00	130.00	Open	81.02	1058.82	1058.81	0.00	0.00
7367	P-2741 P-2742	25.00	8.00 8.00	130.00	Open Open	1.51	1064.62 1057.84	1064.62	0.00	0.00
7370 7371	P-2742 P-2743	25.00 26.00	8.00	130.00 130.00	Open	-65.64 45.51	1063.95	1057.85 1063.95	0.00	0.00
7372	P-2744	26.00	8.00	130.00	Open	2.24	1061.62	1061.62	0.00	0.00
7373 7375	P-2745 P-2746	26.00 26.00	8.00 8.00	130.00 130.00	Open Open	10.12 0.48	1064.12 1058.72	1064.12 1058.72	0.00	0.00
7377	P-2747	27.00	8.00	130.00	Open	18.47	1063.37	1063.37	0.00	0.00
7379 7382	P-2748 P-2749	27.00 28.00	8.00 8.00	130.00 130.00	Open Open	0.08 0.63	1059.93 1058.72	1059.93 1058.72	0.00	0.00
7383	P-2750	28.00	8.00	130.00	Open	-0.29	1218.03	1218.03	0.00	0.00
7385 7387	P-2751 P-2752	28.00 28.00	8.00 8.00	130.00 130.00	Open Open	1.91 -6.87	1062.01 988.99	1062.01 988.99	0.00	0.00
7388	P-2753	29.00	8.00	130.00	Open	0.28	1060.79	1060.79	0.00	0.00
7390 7391	P-2754 P-2755	29.00 29.00	8.00 8.00	130.00 130.00	Open Open	7.24 -20.71	1059.95 1060.11	1059.95 1060.11	0.00	0.00
7392	P-2756	29.00	8.00	130.00	Open	3.20	1059.72	1059.72	0.00	0.00
7393 7396	P-2757 P-2758	29.00 29.00	8.00 8.00	130.00 130.00	Open Open	-0.08 9.60	1064.62 1058.71	1064.62 1058.71	0.00	0.00
7398	P-2759	30.00	8.00	130.00	Open	5.56	1058.95	1058.95	0.00	0.00
7399 7401	P-2760 P-2761	30.00 30.00	8.00 8.00	130.00 130.00	Open Open	0.48 0.28	1059.76 1058.64	1059.76 1058.64	0.00	0.00
7403	P-2762	30.00	8.00	130.00	Open	0.16	1059.82	1059.82	0.00	0.00
7404 7405	P-2763	31.00	8.00	130.00	Open	-5.84	1058.76	1058.76	0.00	0.00
7405	P-2764 P-2765	31.00 31.00	8.00 8.00	130.00 130.00	Open Open	-16.32 6.00	1064.85 1218.03	1064.85 1218.03	0.00	0.00
7407	P-2766	31.00	8.00	130.00	Open	2.52	1064.63	1064.63	0.00	0.00
7411 7412	P-2768 P-2769	32.00 32.00	8.00 8.00	130.00 130.00	Open Open	7.97 16.33	1061.61 1057.69	1061.61 1057.69	0.00	0.00
7414	P-2770	32.00	8.00	130.00	Open	1.23	1064.63	1064.63	0.00	0.00
7415 7418	P-2771 P-2772	32.00 32.00	8.00 8.00	130.00 130.00	Open Open	0.08 0.08	1057.87 1060.36	1057.87 1060.36	0.00	0.00
7420	P-2773	33.00	8.00	130.00	Open	1.26	1064.62	1064.62	0.00	0.00
7421 7423	P-2774 P-2775	34.00 35.00	8.00 8.00	130.00 130.00	Open Open	1.44 0.63	1064.21 1064.87	1064.21 1064.87	0.00	0.00
7424	P-2776	35.00	8.00	130.00	Open	64.31	1062.12	1062.12	0.00	0.00
7425 7427	P-2777 P-2778	36.00 36.00	8.00 8.00	130.00 130.00	Open Open	6.67 15.64	1060.83 1064.62	1060.83 1064.62	0.00	0.00
7428	P-2779	39.00	8.00	130.00	Open	30.59	1218.28	1218.28	0.00	0.00
7430 7432	P-2780 P-2781	36.00 38.00	8.00 8.00	130.00 130.00	Open Open	16.10 8.04	1064.12 981.48	1064.12 981.48	0.00	0.00
7433	P-2782	38.00	8.00	130.00	Open	-5.66	1218.02	1218.02	0.00	0.00
7435	P-2783	38.00	8.00	130.00 130.00	Open	-46.54	1061.02	1061.02 1064.12	0.00	0.00
7436 7438	P-2784 P-2785	38.00 38.00	8.00 8.00	130.00	Open Open	0.63 10.11	1064.12 1064.12	1064.12	0.00	0.00
7440	P-2786	38.00	8.00	130.00	Open	11.81	1064.62	1064.62	0.00	0.00
7441 7442	P-2787 P-2788	38.00 38.00	8.00 8.00	130.00 130.00	Open Open	2.26 7.75	1218.03 1063.37	1218.03 1063.37	0.00	0.00
7443	P-2789	39.00	8.00	130.00	Open	0.60	1218.03	1218.03	0.00	0.00
7444 7445	P-2790 P-2791	40.00 40.00	8.00 8.00	130.00 130.00	Open Open	5.48 -1.64	1063.37 1059.49	1063.37 1059.49	0.00	0.00
7446	P-2792	40.00	8.00	130.00	Open	1.64	1064.62	1064.62	0.00	0.00
7447 7449	P-2793 P-2794	40.00 42.00	8.00 8.00	130.00 130.00	Open Open	0.77 -143.41	1057.68 1059.92	1057.68 1059.94	0.00 0.02	0.00
7451	P-2795	41.00	8.00	130.00	Open	5.33	1060.84	1060.84	0.00	0.00
7453 7455	P-2796 P-2797	41.00 42.00	8.00 8.00	130.00 130.00	Open Open	65.48 0.28	1061.22 1059.36	1061.21 1059.36	0.00	0.00
7457	P-2798	42.00	8.00	130.00	Open	14.22	1060.84	1060.84	0.00	0.00
7458 7459	P-2799 P-2800	42.00 44.00	8.00 8.00	130.00 130.00	Open Open	9.80 0.08	1064.87 1060.01	1064.87 1060.01	0.00	0.00 0.00
7459 7462	P-2800 P-2801	43.00	8.00	130.00	Open	-8.48	1057.79	1057.79	0.00	0.00
7464	P-2802	43.00	8.00	130.00	Open	-53.19	1061.04	1061.05	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7466	P-2803	43.00	8.00	130.00	Open	-44.07	1061.01	1061.01	0.00	0.00
7467 7468	P-2804 P-2805	44.00 44.00	8.00 8.00	130.00 130.00	Open Open	4.40 3.35	1064.62 1059.53	1064.62 1059.53	0.00	0.00
7470	P-2806	45.00	8.00	130.00	Open	0.69	1060.01	1060.01	0.00	0.00
7471 7472	P-2807 P-2808	45.00 45.00	8.00 8.00	130.00 130.00	Open Open	12.23 0.48	1063.37 1059.96	1063.37 1059.96	0.00	0.00
7475	P-2809	47.00	8.00	130.00	Open	3.28	1322.91	1322.91	0.00	0.00
7477 7478	P-2810 P-2811	48.00 47.00	8.00 8.00	130.00 130.00	Open Open	0.56 5.03	1061.32 1064.61	1061.32 1064.60	0.00	0.00
7480	P-2812	47.00	8.00	130.00	Open	2.59	1059.94	1059.94	0.00	0.00
7482	P-2813	47.00	8.00	130.00	Open	21.66	1063.38	1063.38	0.00	0.00
7483 7484	P-2814 P-2815	47.00 48.00	8.00 8.00	130.00 130.00	Open Open	4.06 0.96	1059.53 1057.76	1059.53 1057.76	0.00	0.00
7485	P-2816	49.00	8.00	130.00	Open	0.20	1216.97	1216.97	0.00	0.00
7487 7488	P-2817 P-2818	50.00 50.00	8.00 8.00	130.00 130.00	Open Open	-5.66 33.42	967.43 1059.98	967.43 1059.97	0.00	0.00
7490	P-2819	59.00	8.00	130.00	Open	3.10	1059.93	1059.93	0.00	0.00
7492 7494	P-2820 P-2821	50.00 50.00	8.00 8.00	130.00 130.00	Open Open	29.40 1.59	1060.82 1061.85	1060.82 1061.85	0.00	0.00
7495	P-2822	50.00	8.00	130.00	Open	83.29	1058.75	1058.74	0.01	0.00
7496 7498	P-2823 P-2824	51.00 51.00	8.00 8.00	130.00 130.00	Open Open	-7.92 79.55	1057.79 1058.56	1057.79 1058.55	0.00 0.01	0.00
7499	P-2825	51.00	8.00	130.00	Open	8.75	1322.92	1322.92	0.00	0.00
7500 7502	P-2826 P-2827	52.00 52.00	8.00 8.00	130.00 130.00	Open Open	-16.01 -1.76	1057.40 1057.40	1057.40 1057.40	0.00	0.00
7503	P-2828	53.00	8.00	130.00	Open	19.32	1057.47	1057.47	0.00	0.00
7504	P-2829	53.00	8.00	130.00 130.00	Open	4.32	1058.17	1058.17 1057.82	0.00	0.00
7506 7507	P-2830 P-2831	54.00 54.00	8.00 8.00	130.00	Open Open	-21.26 0.43	1057.81 1059.46	1057.82	0.00	0.00
7509	P-2832	54.00	8.00	130.00	Open	0.48	1057.80	1057.80	0.00	0.00
7512 7513	P-2833 P-2834	71.00 54.00	8.00 8.00	130.00 130.00	Open Open	-58.47 5.56	1056.91 1057.76	1056.92 1057.76	0.01 0.00	0.00
7515	P-2835	57.00	8.00	130.00	Open	14.62	1057.84	1057.84	0.00	0.00
7516 7518	P-2836 P-2837	55.00 55.00	8.00 8.00	130.00 130.00	Open Open	-0.08 0.08	1058.76 1064.11	1058.76 1064.11	0.00	0.00
7521	P-2838	56.00	8.00	130.00	Open	12.84	967.36	967.36	0.00	0.00
7522 7523	P-2839 P-2840	57.00 57.00	8.00 8.00	130.00 130.00	Open Open	4.09 0.08	1061.85 1064.12	1061.85 1064.12	0.00	0.00
7525	P-2841	58.00	8.00	130.00	Open	10.28	1064.62	1064.62	0.00	0.00
7527 7530	P-2842 P-2843	58.00 58.00	8.00 8.00	130.00 130.00	Open Open	-19.36 -0.83	1057.40 1057.41	1057.40 1057.41	0.00	0.00
7531	P-2844	58.00	8.00	130.00	Open	8.42	1216.97	1216.97	0.00	0.00
7532	P-2845	59.00	8.00	130.00	Open	1.16	1058.75	1058.75	0.00	0.00
7534 7535	P-2846 P-2847	59.00 60.00	8.00 8.00	130.00 130.00	Open Open	-14.36 0.20	1061.62 1218.15	1061.62 1218.15	0.00	0.00
7537	P-2848	60.00	8.00	130.00	Open	-72.39	1057.93	1057.94	0.01	0.00
7539 7540	P-2849 P-2850	60.00 61.00	8.00 8.00	130.00 130.00	Open Open	10.68 20.41	1216.97 1063.39	1216.97 1063.39	0.00	0.00
7542	P-2851	62.00	8.00	130.00	Open	0.99	1057.41	1057.41	0.00	0.00
7544 7545	P-2852 P-2853	62.00 63.00	8.00 8.00	130.00 130.00	Open Open	6.48 0.08	1061.85 1064.11	1061.85 1064.11	0.00	0.00
7547	P-2854	63.00	8.00	130.00	Open	-23.63	1061.61	1061.61	0.00	0.00
7549 7550	P-2855 P-2856	64.00 65.00	8.00 8.00	130.00 130.00	Open Open	-9.17 -46.94	1059.94 1061.61	1059.94 1061.61	0.00	0.00
7552	P-2857	65.00	8.00	130.00	Open	61.96	1061.11	1061.10	0.01	0.00
7554 7555	P-2858 P-2859	69.00 65.00	8.00 8.00	130.00 130.00	Open Open	3.50 1.36	1064.60 1060.08	1064.60 1060.08	0.00	0.00
7556	P-2860	66.00	8.00	130.00	Open	0.63	1057.87	1057.87	0.00	0.00
7557 7558	P-2861 P-2862	67.00 67.00	8.00 8.00	130.00 130.00	Open Open	7.92 41.03	1064.62 1060.97	1064.62 1060.97	0.00	0.00
7560	P-2863	68.00	8.00	130.00	Open	1.79	1059.53	1059.53	0.00	0.00
7562	P-2864 P-2865	68.00 68.00	8.00	130.00 130.00	Open	20.49 -0.48	1059.73	1059.73	0.00	0.00
7563 7564	P-2866	68.00	8.00 8.00	130.00	Open Open	-45.79	1063.37 1061.02	1063.37 1061.02	0.00	0.00
7565	P-2867	68.00	8.00	130.00	Open	-4.66	1218.15	1218.15	0.00	0.00
7566 7567	P-2868 P-2869	68.00 70.00	8.00 8.00	130.00 130.00	Open Open	66.38 -12.02	1062.32 1061.72	1062.31 1061.72	0.01 0.00	0.00
7568	P-2870	68.00	8.00	130.00	Open	0.37	1218.03	1218.03	0.00	0.00
7570 7571	P-2871 P-2872	69.00 70.00	8.00 8.00	130.00 130.00	Open Open	-53.04 9.46	1061.04 1059.97	1061.04 1059.97	0.01 0.00	0.00
7572	P-2873	71.00	8.00	130.00	Open	-4.87	1057.42	1057.42	0.00	0.00
7573 7575	P-2874 P-2875	71.00 72.00	8.00 8.00	130.00 130.00	Open Open	0.08 39.23	1064.12 1057.86	1064.12 1057.86	0.00	0.00
7577	P-2876	72.00	8.00	130.00	Open	-1.95	1058.68	1058.68	0.00	0.00
7579 7580	P-2877 P-2878	72.00 73.00	8.00 8.00	130.00 130.00	Open Open	5.06 -2.94	1064.63 1057.96	1064.62 1057.96	0.00	0.00
7581	P-2879	73.00	8.00	130.00	Open	-4.34	1059.53	1059.53	0.00	0.00
7583 7584	P-2880 P-2881	74.00 74.00	8.00 8.00	130.00 130.00	Open Open	-10.29 5.03	1057.42 1057.68	1057.43 1057.68	0.00	0.00
7585	P-2882	74.00	8.00	130.00	Open	1.16	1060.45	1060.45	0.00	0.00
7586	P-2883 P-2884	79.00	8.00	130.00	Open	-14.60	1057.82	1057.82 1061.85	0.00	0.00
7587 7589	P-2885	76.00 76.00	8.00 8.00	130.00 130.00	Open Open	-0.48 10.14	1061.85 1058.71	1051.85	0.00	0.00
7590	P-2886	76.00	8.00	130.00	Open	6.19	1063.58	1063.58	0.00	0.00
7591 7592	P-2887 P-2888	77.00 77.00	8.00 8.00	130.00 130.00	Open Open	21.24 7.24	1058.64 1060.80	1058.64 1060.80	0.00	0.00
7594	P-2889	78.00	8.00	130.00	Open	-35.32	1060.20	1060.21	0.00	0.00
7596 7598	P-2890 P-2891	78.00 79.00	8.00 8.00	130.00 130.00	Open Open	48.38 0.38	1217.82 1060.01	1217.82 1060.01	0.01 0.00	0.00
7599	P-2892	79.00	8.00	130.00	Open	0.08	1063.30	1063.30	0.00	0.00
7601 7603	P-2893 P-2894	96.00 134.00	8.00 8.00	130.00 130.00	Open Open	0.37 -143.06	1218.02 1059.85	1218.02 1059.92	0.00 0.07	0.00
7603 7604	P-2894 P-2895	134.00 81.00	8.00 8.00	130.00 130.00	Open Open	-143.06 -6.07	1059.85 988.99	1059.92 988.99	0.07	0.00
7605	P-2896	81.00	8.00	130.00	Open	27.11	1057.81	1057.80	0.00	0.00
7607 7609	P-2897 P-2898	81.00 98.00	8.00 8.00	130.00 130.00	Open Open	44.50 -7.61	1061.62 1058.69	1061.62 1058.69	0.00	0.00 0.00
7611	P-2899	82.00	8.00	130.00	Open	40.11	1058.78	1058.77	0.00	0.00
7613	P-2900	84.00	8.00	130.00	Open	8.57	1057.40	1057.40	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7615	P-2901	85.00	8.00	130.00	Open	-59.24	1061.05	1061.05	0.01	0.00
7616 7618	P-2902 P-2903	86.00 86.00	8.00 8.00	130.00 130.00	Open Open	-0.48 -77.10	1059.00 1058.02	1059.00 1058.03	0.00 0.01	0.00
7620	P-2904	87.00	8.00	130.00	Open	-11.63	1060.08	1060.08	0.00	0.00
7621	P-2905	89.00	8.00	130.00	Open	-13.16	1057.80	1057.80	0.00	0.00
7623 7624	P-2906 P-2907	89.00 90.00	8.00 8.00	130.00 130.00	Open Open	1.34 127.56	1218.03 1060.19	1218.03 1060.16	0.00 0.04	0.00
7625	P-2908	95.00	8.00	130.00	Open	30.59	993.49	993.48	0.00	0.00
7626	P-2909 P-2910	90.00	8.00	130.00	Open	58.00	1058.28	1058.27	0.01	0.00
7627 7628	P-2910 P-2911	91.00 91.00	8.00 8.00	130.00 130.00	Open Open	6.66 2.72	1057.54 1218.02	1057.54 1218.02	0.00	0.00
7630	P-2912	93.00	8.00	130.00	Open	-139.47	1057.61	1057.66	0.04	0.00
7631 7635	P-2913 P-2915	98.00 94.00	8.00 8.00	130.00 130.00	Open Open	-10.79 0.20	1059.00 1218.15	1059.00 1218.15	0.00	0.00
7637	P-2916	94.00	8.00	130.00	Open	25.13	1057.78	1057.78	0.00	0.00
7638 7640	P-2917 P-2918	94.00 95.00	8.00 8.00	130.00 130.00	Open Open	0.08 -0.15	1061.72 1061.07	1061.72 1061.07	0.00	0.00
7642	P-2919	95.00	8.00	130.00	Open	-12.51	1057.83	1057.83	0.00	0.00
7643	P-2920	97.00	8.00	130.00	Open	0.28	1060.83	1060.83	0.00	0.00
7645 7646	P-2921 P-2922	97.00 97.00	8.00 8.00	130.00 130.00	Open Open	35.25 -21.67	1064.88 1064.63	1064.87 1064.63	0.00	0.00
7647	P-2923	98.00	8.00	130.00	Open	2.67	1061.05	1061.05	0.00	0.00
7648 7650	P-2924 P-2925	99.00 100.00	8.00 8.00	130.00 130.00	Open Open	35.70 96.79	1060.02 1059.38	1060.01 1059.36	0.00 0.02	0.00 0.00
7651	P-2925 P-2926	100.00	8.00	130.00	Open	9.69	1216.97	1216.97	0.02	0.00
7652	P-2927	100.00	8.00	130.00	Open	0.08	1061.63	1061.63	0.00	0.00
7654 7655	P-2928 P-2929	102.00 102.00	8.00 8.00	130.00 130.00	Open Open	4.96 31.87	1059.72 1218.35	1059.72 1218.35	0.00	0.00
7656	P-2930	103.00	8.00	130.00	Open	9.56	1058.75	1058.75	0.00	0.00
7657	P-2931	103.00 106.00	8.00	130.00 130.00	Open Open	0.08	1063.38	1063.38	0.00	0.00
7659 7660	P-2932 P-2933	106.00	8.00 8.00	130.00	Open	-1.76 -2.29	1060.36 1057.41	1060.36 1057.41	0.00	0.00
7662	P-2934	111.00	8.00	130.00	Open	5.97	1061.05	1061.05	0.00	0.00
7663 7664	P-2935 P-2936	108.00 108.00	8.00 8.00	130.00 130.00	Open Open	24.25 -3.32	1057.49 1058.76	1057.49 1058.76	0.00	0.00
7665	P-2937	134.00	8.00	130.00	Open	0.68	1061.70	1061.70	0.00	0.00
7668	P-2938	109.00	8.00	130.00	Open	12.51	1061.62	1061.62 1058.62	0.00	0.00
7669 7670	P-2939 P-2940	110.00 115.00	8.00 8.00	130.00 130.00	Open Open	72.26 2.92	1058.64 1059.43	1058.62	0.02	0.00
7672	P-2941	118.00	8.00	130.00	Open	-5.67	1060.08	1060.08	0.00	0.00
7673 7674	P-2942 P-2943	121.00 121.00	8.00 8.00	130.00 130.00	Open Open	-21.13 -2.99	1060.85 1060.81	1060.85 1060.81	0.00	0.00
7675	P-2944	119.00	8.00	130.00	Open	15.44	1061.62	1061.62	0.00	0.00
7676	P-2945 P-2946	120.00 122.00	8.00 8.00	130.00	Open	-0.48 5.22	1063.91	1063.91 1061.05	0.00	0.00
7678 7679	P-2946 P-2947	154.00	8.00	130.00 130.00	Open Open	0.83	1061.05 1059.93	1051.05	0.00	0.00
7680	P-2948	123.00	8.00	130.00	Open	3.32	1058.76	1058.76	0.00	0.00
7681 7683	P-2949 P-2950	124.00 126.00	8.00 8.00	130.00 130.00	Open Open	-0.29 0.76	988.98 1064.60	988.98 1064.60	0.00	0.00
7684	P-2951	126.00	8.00	130.00	Open	3.40	1057.80	1057.80	0.00	0.00
7685	P-2952	126.00	8.00	130.00	Open	-44.83	1061.01	1061.02	0.01	0.00
7686 7687	P-2953 P-2954	129.00 127.00	8.00 8.00	130.00 130.00	Open Open	221.38 5.56	1059.49 1060.08	1059.34 1060.08	0.14 0.00	0.00
7689	P-2955	129.00	8.00	130.00	Open	1.88	1061.61	1061.61	0.00	0.00
7691 7694	P-2956 P-2957	129.00 129.00	8.00 8.00	130.00 130.00	Open Open	0.08 -17.43	1059.94 1064.85	1059.94 1064.86	0.00	0.00
7695	P-2958	134.00	8.00	130.00	Open	-24.23	1060.13	1060.13	0.00	0.00
7696 7697	P-2959 P-2960	136.00 137.00	8.00 8.00	130.00 130.00	Open Open	-8.76 21.98	1057.81 1064.87	1057.81 1064.86	0.00	0.00
7698	P-2961	137.00	8.00	130.00	Open	16.42	967.37	967.37	0.00	0.00
7700	P-2962	138.00	8.00	130.00	Open	5.56	1058.69	1058.69	0.00	0.00
7702 7703	P-2963 P-2964	139.00 139.00	8.00 8.00	130.00 130.00	Open Open	8.30 9.79	1218.15 1058.95	1218.15 1058.95	0.00	0.00
7704	P-2965	140.00	8.00	130.00	Open	1.11	1060.04	1060.04	0.00	0.00
7705 7707	P-2966 P-2967	142.00 166.00	8.00 8.00	130.00 130.00	Open Open	5.59 7.58	1060.45 1057.80	1060.45 1057.80	0.00	0.00 0.00
4590	P-2968	4.00	6.10	130.00	Open	0.08	1064.06	1064.06	0.00	0.00
4592 4594	P-2969 P-2970	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.48	1058.64 1060.84	1058.64 1060.84	0.00	0.00 0.00
4597	P-2971	4.00	6.10	130.00	Open	-1.08	1060.84	1060.84	0.00	0.00
4600	P-2972	5.00	6.10	130.00	Open	-0.37	1216.97	1216.97	0.00	0.00
4602 4604	P-2973 P-2974	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-1.28 0.08	1063.97 1064.12	1063.97 1064.12	0.00	0.00
4606	P-2975	5.00	6.10	130.00	Open	0.08	1057.81	1057.81	0.00	0.00
4608 4611	P-2976 P-2977	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.88 -0.20	1057.34 1218.03	1057.34 1218.03	0.00	0.00
4613	P-2978	5.00	6.10	130.00	Open	0.88	1060.85	1060.85	0.00	0.00
4616	P-2979	5.00	6.10	130.00	Open	-0.88	1060.91	1060.91	0.00	0.00
4618 4620	P-2980 P-2981	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-3.28 0.48	1322.91 1057.76	1322.91 1057.76	0.00	0.00
4622	P-2982	5.00	6.10	130.00	Open	0.08	1058.78	1058.78	0.00	0.00
4624 4626	P-2983 P-2984	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.11 -0.48	1322.92 1059.53	1322.92 1059.53	0.00	0.00
4629	P-2985	5.00	6.10	130.00	Open	-0.46	1216.97	1216.97	0.00	0.00
4632	P-2986	5.00	6.10	130.00	Open	-0.48	1060.83	1060.83	0.00	0.00
4635 4637	P-2987 P-2988	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.20 -0.26	1218.03 1322.91	1218.03 1322.91	0.00	0.00
4639	P-2989	5.00	6.10	130.00	Open	0.48	981.48	981.48	0.00	0.00
4641	P-2990 P-2001	5.00	6.10	130.00	Open	-0.08	1059.52	1059.52	0.00	0.00
4643 4645	P-2991 P-2992	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.11 0.08	1322.92 1057.80	1322.92 1057.80	0.00	0.00
4647	P-2993	5.00	6.10	130.00	Open	0.72	1215.86	1215.86	0.00	0.00
4649 4651	P-2994 P-2995	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.20	1057.81 1216.98	1057.81 1216.98	0.00	0.00 0.00
4653	P-2996	5.00	6.10	130.00	Open	-0.48	1058.64	1058.64	0.00	0.00
4655 4657	P-2997 P-2998	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.20	1058.12 1216.98	1058.12 1216.98	0.00	0.00
4659	P-2999	5.00	6.10	130.00	Open	0.48	1062.77	1062.77	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
4661	P-3000	5.00	6.10	130.00	Open	-1.28	1064.62	1064.62	0.00	0.00
4663 4666	P-3001 P-3002	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.20 0.88	1218.03 1058.75	1218.03 1058.75	0.00	0.00
4669	P-3002	5.00	6.10	130.00	Open	0.08	1058.77	1058.77	0.00	0.00
4671	P-3004	5.00	6.10	130.00	Open	-1.68	1060.86	1060.86	0.00	0.00
4673 4675	P-3005 P-3006	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.20 -0.20	1218.21 988.99	1218.21 988.99	0.00	0.00
4678	P-3007	5.00	6.10	130.00	Open	0.48	1057.68	1057.68	0.00	0.00
4681	P-3008 P-3009	5.00 5.00	6.10 6.10	130.00	Open Open	0.88 1.48	963.94 1059.76	963.94	0.00	0.00
4683 4685	P-3010	5.00	6.10	130.00 130.00	Open	0.28	1061.63	1059.76 1061.63	0.00	0.00
4687	P-3011	5.00	6.10	130.00	Open	0.48	1061.94	1061.94	0.00	0.00
4689 4691	P-3012 P-3013	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.28 0.08	1064.62 1059.75	1064.62 1059.75	0.00	0.00
4693	P-3014	5.00	6.10	130.00	Open	-0.37	1216.97	1216.97	0.00	0.00
4695 4697	P-3015 P-3016	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.40 -0.20	1322.95 1217.94	1322.95 1217.94	0.00	0.00
4699	P-3017	5.00	6.10	130.00	Open	-0.68	1060.89	1060.89	0.00	0.00
4701 4703	P-3018 P-3019	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.08	1057.51 1064.09	1057.51 1064.09	0.00	0.00
4705	P-3020	5.00	6.10	130.00	Open	0.28	981.48	981.48	0.00	0.00
4708	P-3021	5.00	6.10	130.00	Open	-0.08	981.49	981.49	0.00	0.00
4710 4712	P-3022 P-3023	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.88 -0.08	981.47 1059.39	981.47 1059.39	0.00	0.00
4714	P-3024	5.00	6.10	130.00	Open	-0.08	1059.66	1059.66	0.00	0.00
4716 4719	P-3025 P-3026	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.29 0.08	1217.76 1057.81	1217.76 1057.81	0.00	0.00 0.00
4721	P-3027	5.00	6.10	130.00	Open	-0.08	1058.76	1058.76	0.00	0.00
4724 4727	P-3028 P-3029	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.11	1060.89 1322.91	1060.89 1322.91	0.00	0.00
4730	P-3030	5.00	6.10	130.00	Open	-1.08	1063.98	1063.98	0.00	0.00
4732 4734	P-3031 P-3032	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.08	1217.78 1060.82	1217.78 1060.82	0.00	0.00
4737	P-3033	5.00	6.10	130.00	Open	0.88	1057.92	1057.92	0.00	0.00
4739 4741	P-3034 P-3035	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.72	1064.16 1216.97	1064.16 1216.97	0.00	0.00
4744	P-3036	5.00	6.10	130.00	Open	-0.12	1322.95	1322.95	0.00	0.00
4746 4748	P-3037 P-3038	5.00	6.10 6.10	130.00	Open Open	-1.08	1064.62	1064.62	0.00	0.00 0.00
4740	P-3039	5.00 5.00	6.10	130.00 130.00	Open	0.08 -0.08	1064.62 1059.20	1064.62 1059.20	0.00	0.00
4752	P-3040	5.00	6.10	130.00	Open	0.28	1057.82	1057.82	0.00	0.00
4754 4756	P-3041 P-3042	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.68	1057.76 1058.78	1057.76 1058.78	0.00	0.00
4758	P-3043	5.00	6.10	130.00	Open	-0.11	1322.92	1322.92	0.00	0.00
4760 4762	P-3044 P-3045	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.28	1057.83 981.48	1057.83 981.48	0.00	0.00
4764	P-3046	5.00	6.10	130.00	Open	-0.48	1060.85	1060.85	0.00	0.00
4767 4770	P-3047 P-3048	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.08	1064.84 981.47	1064.84 981.47	0.00	0.00
4772	P-3049	5.00	6.10	130.00	Open	-0.08	1063.90	1063.90	0.00	0.00
4774 4776	P-3050 P-3051	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.28 0.08	1064.62 1060.33	1064.62 1060.33	0.00	0.00 0.00
4778	P-3052	6.00	6.10	130.00	Open	0.48	1060.08	1060.08	0.00	0.00
4781 4783	P-3053 P-3054	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.88	1056.91 1064.74	1056.91 1064.74	0.00	0.00 0.00
4785	P-3055	6.00	6.10	130.00	Open	0.28	1061.09	1061.09	0.00	0.00
4788 4791	P-3056 P-3057	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.28	1063.95 1061.11	1063.95 1061.11	0.00	0.00
4793	P-3058	6.00	6.10	130.00	Open	0.48	1063.57	1063.57	0.00	0.00
4795 4797	P-3059 P-3060	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.48 -0.28	1060.90 1058.69	1060.90 1058.69	0.00	0.00
4799	P-3061	6.00	6.10	130.00	Open	-0.08	1058.82	1058.82	0.00	0.00
4801 4803	P-3062 P-3063	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.08	981.48 1064.20	981.48 1064.20	0.00	0.00
4805	P-3064	6.00	6.10	130.00	Open	-0.88	1054.20	1054.20	0.00	0.00
4807	P-3065	6.00	6.10	130.00	Open	-0.08	1064.75	1064.75	0.00	0.00
4809 4811	P-3066 P-3067	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.68	1216.98 1064.62	1216.98 1064.62	0.00	0.00
4813	P-3068	6.00	6.10	130.00	Open	0.08	1061.53	1061.53 1060.13	0.00	0.00
4815 4817	P-3069 P-3070	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.68 -0.08	1060.13 1058.66	1058.66	0.00	0.00 0.00
4819	P-3071	6.00	6.10	130.00	Open	0.08	1057.86	1057.86	0.00	0.00
4822 4824	P-3072 P-3073	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.28 0.08	1057.76 1061.72	1057.76 1061.72	0.00	0.00
4827	P-3074	6.00	6.10	130.00	Open	0.48	1057.45	1057.45	0.00	0.00
4830 4832	P-3075 P-3076	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.08	1063.90 1061.02	1063.90 1061.02	0.00	0.00 0.00
4835	P-3077	6.00	6.10	130.00	Open	-0.08	1058.70	1058.70	0.00	0.00
4837 4840	P-3078 P-3079	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1059.92 1064.63	1059.92 1064.63	0.00	0.00
4842	P-3080	6.00	6.10	130.00	Open	0.08	1057.82	1057.82	0.00	0.00
4844 4847	P-3081 P-3082	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-1.08 -0.08	1058.77 1059.53	1058.77 1059.53	0.00	0.00
4849	P-3083	6.00	6.10	130.00	Open	-0.28	1058.66	1058.66	0.00	0.00
4851 4854	P-3084 P-3085	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.63 -0.28	1218.03 1059.01	1218.03 1059.01	0.00	0.00
4856	P-3086	6.00	6.10	130.00	Open	-0.08	1064.48	1064.48	0.00	0.00
4858	P-3087 P-3088	6.00 6.00	6.10 6.10	130.00	Open	0.08 0.48	1059.93	1059.93	0.00	0.00
4861 4863	P-3088 P-3089	6.00	6.10	130.00 130.00	Open Open	-0.48	1064.62 1064.06	1064.62 1064.06	0.00	0.00
4865	P-3090	6.00	6.10	130.00	Open	-0.48	1057.41	1057.41	0.00	0.00
4867 4869	P-3091 P-3092	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.28 -0.88	1063.75 1064.33	1063.75 1064.33	0.00	0.00
4871	P-3093 P-3094	6.00 6.00	6.10 6.10	130.00	Open	0.08	1057.82 1058.78	1057.82	0.00	0.00
4873 4875	P-3094 P-3095	6.00	6.10	130.00 130.00	Open Open	0.28 -0.08	1058.78	1058.78 1060.82	0.00	0.00
4878	P-3096 P-3097	6.00	6.10	130.00	Open	-0.08	1058.72	1058.72	0.00	0.00
4881	12081	6.00	6.10	130.00	Open	0.88	1061.62	1061.62	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
4884	P-3098	6.00	6.10	130.00	Open	0.88	1060.17	1060.17	0.00	0.00
4887 4890	P-3099 P-3100	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.48	1059.93 1058.28	1059.93 1058.28	0.00	0.00
4893	P-3101	6.00	6.10	130.00	Open	-0.11	1322.93	1322.93	0.00	0.00
4895	P-3102	6.00	6.10	130.00	Open	-0.68	1058.81	1058.81	0.00	0.00
4897 4899	P-3103 P-3104	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.11 -0.28	1322.94 1064.43	1322.94 1064.43	0.00	0.00
4901	P-3105	6.00	6.10	130.00	Open	-0.48	1061.64	1061.64	0.00	0.00
4903	P-3106	6.00	6.10	130.00	Open	0.29	1218.14	1218.14	0.00	0.00
4906 4908	P-3107 P-3108	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.68	1062.42 1057.42	1062.42 1057.42	0.00	0.00
4910	P-3109	6.00	6.10	130.00	Open	-0.11	1322.91	1322.91	0.00	0.00
4912	P-3110	6.00	6.10	130.00	Open	0.48	1059.10	1059.10	0.00	0.00
4914 4917	P-3111 P-3112	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.28 3.29	1058.65 1058.77	1058.65 1058.77	0.00	0.00
4920	P-3113	6.00	6.10	130.00	Open	-0.08	1064.62	1064.62	0.00	0.00
4922	P-3114	6.00	6.10	130.00	Open	-0.08	1060.84	1060.84	0.00	0.00
4924 4927	P-3115 P-3116	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	80.0 80.0	1059.94 1059.09	1059.94 1059.09	0.00	0.00
4929	P-3117	6.00	6.10	130.00	Open	0.08	1059.95	1059.95	0.00	0.00
4932 4935	P-3118 P-3119	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.08	1059.82 1057.82	1059.82 1057.82	0.00	0.00
4938	P-3120	6.00	6.10	130.00	Open	-0.20	1216.98	1216.98	0.00	0.00
4940	P-3121	6.00	6.10	130.00	Open	0.88	1057.44	1057.44	0.00	0.00
4942 4944	P-3122 P-3123	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.11 0.08	1322.91 1062.10	1322.91 1062.10	0.00	0.00
4946	P-3124	6.00	6.10	130.00	Open	1.28	1057.68	1057.68	0.00	0.00
4949	P-3125	6.00	6.10	130.00	Open	1.08	1064.34	1064.34	0.00	0.00
4951 4954	P-3126 P-3127	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.88	1056.80 1062.81	1056.80 1062.81	0.00	0.00
4956	P-3128	6.00	6.10	130.00	Open	0.28	1059.93	1059.93	0.00	0.00
4959 4961	P-3129 P-3130	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.48 -0.48	1064.62 994.76	1064.62 994.76	0.00	0.00
4963	P-3131	6.00	6.10	130.00	Open	0.48	1057.76	1057.76	0.00	0.00
4966	P-3132	6.00	6.10	130.00	Open	-0.48	1059.16	1059.16	0.00	0.00
4969 4971	P-3133 P-3134	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.11 -0.28	1322.92 1059.53	1322.92 1059.53	0.00	0.00
4973	P-3135	6.00	6.10	130.00	Open	0.08	1058.66	1058.66	0.00	0.00
4975	P-3136	6.00	6.10	130.00	Open	0.28	1056.98	1056.98	0.00	0.00
4977 4979	P-3137 P-3138	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1059.53 1058.71	1059.53 1058.71	0.00	0.00
4981	P-3139	6.00	6.10	130.00	Open	0.08	1060.33	1060.33	0.00	0.00
4983 4986	P-3140 P-3141	6.00 6.00	6.10 6.10	130.00 130.00	Open	1.28 -0.48	1057.54 1063.38	1057.54 1063.38	0.00	0.00
4989	P-3141	6.00	6.10	130.00	Open Open	0.68	1063.36	1063.37	0.00	0.00
4992	P-3143	6.00	6.10	130.00	Open	0.88	1064.10	1064.10	0.00	0.00
4994 4997	P-3144 P-3145	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.48	1058.54 1063.72	1058.54 1063.72	0.00	0.00
5000	P-3146	6.00	6.10	130.00	Open	1.68	1063.61	1063.61	0.00	0.00
5002	P-3147	6.00	6.10	130.00	Open	-0.08	1064.06	1064.06	0.00	0.00
5004 5006	P-3148 P-3149	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.20	1058.09 1218.03	1058.09 1218.03	0.00	0.00
5008	P-3150	6.00	6.10	130.00	Open	-0.28	1058.75	1058.75	0.00	0.00
5011	P-3151	6.00	6.10	130.00	Open	0.08	1064.51	1064.51	0.00	0.00
5013 5015	P-3152 P-3153	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	2.29 -0.08	1059.73 1059.74	1059.73 1059.74	0.00	0.00
5017	P-3154	6.00	6.10	130.00	Open	-0.08	1061.68	1061.68	0.00	0.00
5020 5023	P-3155 P-3156	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.63	1057.83 1218.03	1057.83 1218.03	0.00	0.00
5026	P-3157	6.00	6.10	130.00	Open	-0.48	1064.07	1064.07	0.00	0.00
5028	P-3158	6.00	6.10	130.00	Open	0.48	1057.76	1057.76	0.00	0.00
5031 5034	P-3159 P-3160	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	1.08 0.20	1064.85 1217.85	1064.85 1217.85	0.00	0.00
5036	P-3161	6.00	6.10	130.00	Open	0.68	1057.91	1057.91	0.00	0.00
5038	P-3162	6.00	6.10	130.00	Open	0.48	1057.40	1057.40 1058.76	0.00	0.00
5041 5044	P-3163 P-3164	6.00 6.00	6.10 6.10	130.00 130.00	Open	1.08 0.28	1058.76 1061.32	1058.76	0.00	0.00
5047	P-3165	6.00	6.10	130.00	Open	0.08	1058.56	1058.56	0.00	0.00
5050 5052	P-3166 P-3167	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.48	1057.84 1060.13	1057.84 1060.13	0.00	0.00
5055	P-3168	7.00	6.10	130.00	Open	-0.08	1063.83	1063.83	0.00	0.00
5057	P-3169	7.00	6.10	130.00	Open	-0.08	1059.12	1059.12	0.00	0.00
5059 5061	P-3170 P-3171	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.37	1058.71 1218.03	1058.71 1218.03	0.00	0.00
5064	P-3172	7.00	6.10	130.00	Open	2.09	981.48	981.48	0.00	0.00
5066 5309	P-3173 P-3174	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.68	1064.09 1058.75	1064.09 1058.75	0.00	0.00
5311	P-3175	8.00	6.10	130.00	Open	0.08	1062.35	1062.35	0.00	0.00
5313	P-3176	8.00	6.10	130.00	Open	0.88	1060.84	1060.84	0.00	0.00
5316 5318	P-3177 P-3178	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.68	1063.78 1063.37	1063.78 1063.37	0.00	0.00
5321	P-3179	8.00	6.10	130.00	Open	-0.08	1064.87	1064.87	0.00	0.00
5324	P-3180	8.00	6.10	130.00	Open	0.28	1059.93	1059.93	0.00	0.00
5327 5330	P-3181 P-3182	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.20	1058.62 1217.95	1058.62 1217.95	0.00	0.00
5332	P-3183	8.00	6.10	130.00	Open	0.08	1057.84	1057.84	0.00	0.00
5334	P-3184	8.00	6.10	130.00	Open	-0.08	1063.58	1063.58	0.00	0.00
5336 5339	P-3185 P-3186	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.88 -0.48	1059.00 1061.60	1059.00 1061.60	0.00	0.00
5341	P-3187	8.00	6.10	130.00	Open	0.08	1059.94	1059.94	0.00	0.00
5344	P-3188	8.00	6.10	130.00	Open	0.48	1057.76	1057.76	0.00	0.00
5346 5348	P-3189 P-3190	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.88	1057.76 1064.11	1057.76 1064.11	0.00	0.00
5351	P-3191	8.00	6.10	130.00	Open	0.48	1059.72	1059.72	0.00	0.00
5353 5355	P-3192 P-3193	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.20	1058.70 1216.97	1058.70 1216.97	0.00	0.00
5358	P-3193 P-3194	8.00	6.10	130.00	Open	-0.20	1059.00	1059.00	0.00	0.00
5361	P-3195	8.00	6.10	130.00	Open	-0.08	1058.68	1058.68	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
5363	P-3196	8.00	6.10	130.00	Open	-0.08	1059.00	1059.00	0.00	0.00
5365 5368	P-3197 P-3198	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	80.0 80.0	1060.08 1060.80	1060.08 1060.80	0.00	0.00
5370	P-3199	8.00	6.10	130.00	Open	-0.48	1058.79	1058.79	0.00	0.00
5373	P-3200	8.00	6.10	130.00	Open	0.08	1064.64	1064.64	0.00	0.00
5375 5378	P-3201 P-3202	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.08	1063.37 1059.49	1063.37 1059.49	0.00	0.00
5381	P-3203	8.00	6.10	130.00	Open	0.00	1055.49	1055.49	0.00	0.00
5384	P-3204	8.00	6.10	130.00	Open	-0.88	1059.28	1059.28	0.00	0.00
5387 5389	P-3205 P-3206	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.28	1064.63 1057.80	1064.63 1057.80	0.00	0.00
5391	P-3207	8.00	6.10	130.00	Open	-0.83	1322.91	1322.91	0.00	0.00
5393	P-3208	8.00	6.10	130.00	Open	1.28	1057.81	1057.81	0.00	0.00
5395 5398	P-3209 P-3210	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	3.49 0.08	1057.54 1060.02	1057.54 1060.02	0.00	0.00
5400	P-3211	8.00	6.10	130.00	Open	0.48	1057.93	1057.93	0.00	0.00
5403	P-3212	8.00	6.10	130.00	Open	-0.28	1058.71	1058.71	0.00	0.00
5405 5407	P-3213 P-3214	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.68	1218.03 1058.67	1218.03 1058.67	0.00	0.00
5409	P-3215	8.00	6.10	130.00	Open	-0.08	1059.26	1059.26	0.00	0.00
5411	P-3216 P-3217	8.00	6.10	130.00	Open	0.28	1058.76	1058.76	0.00	0.00
5413 5415	P-3217 P-3218	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	1.08 0.08	1057.42 1060.02	1057.42 1060.02	0.00	0.00
5417	P-3219	8.00	6.10	130.00	Open	0.48	1058.04	1058.04	0.00	0.00
5420 5422	P-3220 P-3221	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.08	1064.63 1061.63	1064.63 1061.63	0.00	0.00
5425	P-3222	8.00	6.10	130.00	Open	-0.08	1051.63	1051.03	0.00	0.00
5427	P-3223	8.00	6.10	130.00	Open	0.08	1058.80	1058.80	0.00	0.00
5429 5431	P-3224 P-3225	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.48	1057.82 1063.46	1057.82 1063.46	0.00	0.00
5434	P-3226	8.00	6.10	130.00	Open	-0.68	1063.40	1063.40	0.00	0.00
5436	P-3227	8.00	6.10	130.00	Open	-0.40	1322.92	1322.92	0.00	0.00
5438 5441	P-3228 P-3229	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.28 -1.28	1057.81 1061.96	1057.81 1061.96	0.00	0.00
5443	P-3230	8.00	6.10	130.00	Open	0.48	1057.91	1057.91	0.00	0.00
5445	P-3231	8.00	6.10	130.00	Open	-0.28	1059.00	1059.00	0.00	0.00
5447 5449	P-3232 P-3233	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.08	1057.81 1058.40	1057.81 1058.40	0.00	0.00
5451	P-3234	8.00	6.10	130.00	Open	0.08	1057.41	1057.41	0.00	0.00
5453	P-3235	8.00	6.10	130.00	Open	0.28	1060.02	1060.02	0.00	0.00
5456 5459	P-3236 P-3237	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.48 1.48	1060.84 1057.68	1060.84 1057.68	0.00	0.00
5461	P-3238	8.00	6.10	130.00	Open	-0.88	1064.62	1064.62	0.00	0.00
5464	P-3239	8.00	6.10	130.00	Open	-0.68	1064.62	1064.62	0.00	0.00
5467 5469	P-3240 P-3241	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.88	1064.63 1057.42	1064.63 1057.42	0.00	0.00
5471	P-3242	8.00	6.10	130.00	Open	0.08	1062.02	1062.02	0.00	0.00
5473	P-3243	8.00	6.10	130.00	Open	0.68	1061.75	1061.75	0.00	0.00
5476 5478	P-3244 P-3245	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.28	1059.96 1056.99	1059.96 1056.99	0.00	0.00
5480	P-3246	8.00	6.10	130.00	Open	1.28	1062.24	1062.24	0.00	0.00
5482	P-3247	8.00	6.10 6.10	130.00	Open Open	0.48	1057.66	1057.66	0.00	0.00
5485 5487	P-3248 P-3249	8.00 8.00	6.10	130.00 130.00	Open	0.68 -0.68	1061.33 1064.62	1061.33 1064.62	0.00	0.00
5489	P-3250	8.00	6.10	130.00	Open	-0.68	1058.64	1058.64	0.00	0.00
5491 5493	P-3251 P-3252	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.28	1218.32 1058.99	1218.32 1058.99	0.00	0.00
5495	P-3253	8.00	6.10	130.00	Open	0.28	1064.84	1064.84	0.00	0.00
5497	P-3254	8.00	6.10	130.00	Open	0.68	1057.69	1057.69	0.00	0.00
5499 5501	P-3255 P-3256	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.28	1059.27 1057.80	1059.27 1057.80	0.00	0.00
5503	P-3257	8.00	6.10	130.00	Open	-1.48	1063.30	1063.30	0.00	0.00
5505	P-3258	8.00	6.10	130.00	Open	0.68	1057.67	1057.67	0.00	0.00
5508 5510	P-3259 P-3260	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.29 0.08	1218.68 1060.24	1218.68 1060.24	0.00	0.00
5512	P-3261	8.00	6.10	130.00	Open	-0.88	1060.84	1060.84	0.00	0.00
5515	P-3262	8.00	6.10	130.00	Open	0.48	1058.64	1058.64	0.00	0.00
5517 5519	P-3263 P-3264	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.28	1060.50 1060.80	1060.50 1060.80	0.00	0.00 0.00
5522	P-3265	8.00	6.10	130.00	Open	0.48	1058.84	1058.84	0.00	0.00
5525 5528	P-3266 P-3267	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.08	1060.80 1058.73	1060.80 1058.73	0.00	0.00
5531	P-3268	8.00	6.10	130.00	Open	-0.08	1056.75	1064.62	0.00	0.00
5533	P-3269	8.00	6.10	130.00	Open	-0.08	1064.62	1064.62	0.00	0.00
5535	P-3270 P-3271	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.28 0.48	1059.05 1058.27	1059.05 1058.27	0.00	0.00
5537 5539	P-3271	8.00	6.10	130.00	Open	1.28	1056.27	1056.27	0.00	0.00
5541	P-3273	8.00	6.10	130.00	Open	0.08	1057.80	1057.80	0.00	0.00
5543 5545	P-3274	8.00	6.10	130.00 130.00	Open	-0.08 -0.11	1058.65 1322.91	1058.65	0.00	0.00
5545 5547	P-3275 P-3276	8.00 8.00	6.10 6.10	130.00	Open Open	-0.11 0.48	1057.90	1322.91 1057.90	0.00	0.00
5550	P-3277	8.00	6.10	130.00	Open	0.48	1059.58	1059.58	0.00	0.00
5552 5554	P-3278 P-3279	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.08 -1.28	1057.44 1059.73	1057.44 1059.73	0.00	0.00
5556	P-3279 P-3280	8.00	6.10	130.00	Open	1.28	1059.73	1063.91	0.00	0.00
5559	P-3281	8.00	6.10	130.00	Open	-0.08	1064.62	1064.62	0.00	0.00
5562 5565	P-3282 P-3283	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	1.88 0.08	1057.68 1057.80	1057.68 1057.80	0.00	0.00 0.00
5568	P-3283 P-3284	8.00	6.10	130.00	Open	-0.20	1057.80	1057.80	0.00	0.00
5570	P-3285	8.00	6.10	130.00	Open	0.08	1057.75	1057.75	0.00	0.00
5572 5574	P-3286 P-3287	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.28	1057.10 1057.96	1057.10 1057.96	0.00	0.00
5576	P-3287 P-3288	8.00	6.10	130.00	Open	0.28	1060.87	1060.87	0.00	0.00
5578	P-3289	8.00	6.10	130.00	Open	-0.20	1218.07	1218.07	0.00	0.00
5580 5582	P-3290 P-3291	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	1.28 0.28	1062.60 1064.63	1062.60 1064.63	0.00	0.00 0.00
5584	P-3292	8.00	6.10	130.00	Open	-0.48	1064.62	1064.62	0.00	0.00
5587	P-3293	8.00	6.10	130.00	Open	0.48	1057.82	1057.82	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
5590	P-3294	8.00	6.10	130.00	Open	0.48	1059.76	1059.76	0.00	0.00
5592 5594	P-3295 P-3296	8.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.08	1061.44 1060.91	1061.44 1060.91	0.00	0.00
5597	P-3297	9.00	6.10	130.00	Open	0.88	1057.42	1057.42	0.00	0.00
5600	P-3298	9.00	6.10	130.00	Open	0.48	1057.59	1057.59	0.00	0.00
5603 5605	P-3299 P-3300	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.46 -4.42	1218.03 1217.88	1218.03 1217.88	0.00	0.00
5607	P-3301	9.00	6.10	130.00	Open	-0.48	1060.06	1060.06	0.00	0.00
5609	P-3302	9.00	6.10	130.00	Open	0.88	1064.60	1064.60	0.00	0.00
5611 5614	P-3303 P-3304	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.28	1064.62 1062.46	1064.62 1062.46	0.00	0.00
5616	P-3305	9.00	6.10	130.00	Open	-0.88	1061.88	1061.88	0.00	0.00
5618 5620	P-3306 P-3307	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.08	1057.78 1059.94	1057.78 1059.94	0.00	0.00
5622	P-3308	9.00	6.10	130.00	Open	0.08	1055.34	1055.54	0.00	0.00
5625	P-3309	9.00	6.10	130.00	Open	0.48	1059.53	1059.53	0.00	0.00
5628 5631	P-3310 P-3311	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.08	1061.61 1061.30	1061.61 1061.30	0.00	0.00
5633	P-3312	9.00	6.10	130.00	Open	0.08	1059.70	1059.70	0.00	0.00
5635	P-3313 P-3314	9.00	6.10	130.00	Open	1.08	1057.52	1057.52	0.00	0.00
5637 5640	P-3314 P-3315	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.48	1058.69 1057.76	1058.69 1057.76	0.00	0.00
5642	P-3316	9.00	6.10	130.00	Open	-0.20	1218.02	1218.02	0.00	0.00
5645 5648	P-3317 P-3318	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.08	1059.53 1057.80	1059.53 1057.80	0.00	0.00
5650	P-3319	9.00	6.10	130.00	Open	0.20	1218.27	1218.27	0.00	0.00
5653	P-3320	9.00	6.10	130.00	Open	0.48	1059.43	1059.43	0.00	0.00
5656 5659	P-3321 P-3322	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.68 1.48	1064.10 1061.21	1064.10 1061.21	0.00	0.00
5662	P-3323	9.00	6.10	130.00	Open	1.08	1057.83	1057.83	0.00	0.00
5664	P-3324	9.00	6.10	130.00	Open	0.48	1059.66	1059.66	0.00	0.00
5666 5668	P-3325 P-3326	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.29	1061.83 1218.03	1061.83 1218.03	0.00	0.00
5670	P-3327	9.00	6.10	130.00	Open	-0.88	1063.72	1063.72	0.00	0.00
5673	P-3328	9.00	6.10	130.00	Open	0.88	1060.86	1060.86	0.00	0.00
5675 5677	P-3329 P-3330	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.08	1062.00 1063.43	1062.00 1063.43	0.00	0.00
5680	P-3331	9.00	6.10	130.00	Open	-0.48	1062.60	1062.60	0.00	0.00
5682	P-3332	9.00	6.10	130.00	Open	0.28	1060.92	1060.92	0.00	0.00
5684 5686	P-3333 P-3334	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-1.08 0.88	1060.91 1059.69	1060.91 1059.69	0.00	0.00 0.00
5688	P-3335	9.00	6.10	130.00	Open	-2.09	1064.11	1064.11	0.00	0.00
5691 5694	P-3336 P-3337	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1060.80 1057.76	1060.80 1057.76	0.00	0.00
5696	P-3338	9.00	6.10	130.00	Open	-0.48	1064.90	1064.90	0.00	0.00
5698	P-3339	9.00	6.10	130.00	Open	0.48	1058.02	1058.02	0.00	0.00
5701 5704	P-3340 P-3341	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1059.93 1060.34	1059.93 1060.34	0.00	0.00
5706	P-3342	9.00	6.10	130.00	Open	0.48	1064.62	1064.62	0.00	0.00
5708	P-3343	9.00	6.10	130.00	Open	-0.08	1059.11	1059.11	0.00	0.00
5710 5713	P-3344 P-3345	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1062.31 1057.06	1062.31 1057.06	0.00	0.00
5715	P-3346	9.00	6.10	130.00	Open	1.08	1059.94	1059.94	0.00	0.00
5718 5720	P-3347 P-3348	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.48	1060.06 1057.45	1060.06 1057.45	0.00	0.00 0.00
5722	P-3349	9.00	6.10	130.00	Open	-0.20	1218.03	1218.03	0.00	0.00
5725	P-3350	9.00	6.10	130.00	Open	-0.08	1063.38	1063.38	0.00	0.00
5728 5730	P-3351 P-3352	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.11 0.68	1322.96 1059.93	1322.96 1059.93	0.00	0.00
5733	P-3353	9.00	6.10	130.00	Open	0.28	1058.69	1058.69	0.00	0.00
5735 5738	P-3354 P-3355	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.88 -0.48	1060.82 1060.85	1060.82 1060.85	0.00	0.00
5740	P-3356	9.00	6.10	130.00	Open	0.48	1060.65	1060.65	0.00	0.00
5742	P-3357	9.00	6.10	130.00	Open	80.0	1061.72	1061.72	0.00	0.00
5744 5747	P-3358 P-3359	9.00 9.00	6.10 6.10	130.00 130.00	Open	0.08 0.08	1057.80 1063.20	1057.80 1063.20	0.00	0.00
5749	P-3360	9.00	6.10	130.00	Open	0.20	1218.28	1218.28	0.00	0.00
5752	P-3361	9.00	6.10	130.00	Open	0.08	1064.81	1064.81	0.00	0.00
5754 5756	P-3362 P-3363	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.88 -0.48	1062.02 1064.21	1062.02 1064.21	0.00	0.00
5759	P-3364	9.00	6.10	130.00	Open	0.48	1057.81	1057.81	0.00	0.00
5762	P-3365	9.00	6.10	130.00 130.00	Open	0.46	1216.30	1216.30	0.00	0.00
5764 5766	P-3366 P-3367	9.00 9.00	6.10 6.10	130.00	Open Open	0.08 0.28	1060.49 1059.42	1060.49 1059.42	0.00	0.00 0.00
5768	P-3368	9.00	6.10	130.00	Open	-0.08	1064.61	1064.61	0.00	0.00
5770 5772	P-3369 P-3370	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.28	1060.01 1064.11	1060.01 1064.11	0.00	0.00
5775	P-3371	9.00	6.10	130.00	Open	-0.08	1058.64	1058.64	0.00	0.00
5777	P-3372	9.00	6.10	130.00	Open	-0.08	1061.64	1061.64	0.00	0.00
5779 5782	P-3373 P-3374	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.68	1064.60 1057.82	1064.60 1057.82	0.00	0.00
5784	P-3375	9.00	6.10	130.00	Open	0.68	1057.82	1057.82	0.00	0.00
5786	P-3376	9.00	6.10	130.00	Open	0.08	1057.81	1057.81	0.00	0.00
6749 6752	P-3377 P-3378	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.48	1059.46 1059.06	1059.46 1059.06	0.00	0.00 0.00
6754	P-3379	14.00	6.10	130.00	Open	0.88	1059.94	1059.94	0.00	0.00
6756	P-3380	14.00	6.10	130.00	Open	0.68	1060.39	1060.39	0.00	0.00
6758 6761	P-3381 P-3382	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.08 1.08	1057.87 1062.98	1057.87 1062.98	0.00	0.00
6763	P-3383	14.00	6.10	130.00	Open	0.48	1060.08	1060.08	0.00	0.00
6766 6768	P-3384 P-3385	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.48	1057.76 1060.02	1057.76 1060.02	0.00	0.00
6770	P-3385 P-3386	14.00	6.10	130.00	Open	-1.08	1060.02	1060.02	0.00	0.00
6772	P-3387	14.00	6.10	130.00	Open	0.28	1058.68	1058.68	0.00	0.00
6775 6778	P-3388 P-3389	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.88 1.88	1059.31 1057.41	1059.31 1057.41	0.00	0.00 0.00
6781	P-3390	14.00	6.10	130.00	Open	-0.08	1058.67	1058.67	0.00	0.00
6783	P-3391	14.00	6.10	130.00	Open	0.28	1057.83	1057.83	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
6786	P-3392	14.00	6.10	130.00	Open	0.48	1060.01	1060.01	0.00	0.00
6789 6792	P-3393 P-3394	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.20 -0.08	993.47 1064.62	993.47 1064.62	0.00	0.00
6794	P-3395	14.00	6.10	130.00	Open	0.08	1061.04	1061.04	0.00	0.00
6797	P-3396	14.00	6.10	130.00	Open	0.08	1057.80	1057.80	0.00	0.00
6799 6801	P-3397 P-3398	15.00 15.00	6.10 6.10	130.00 130.00	Open Open	2.09 -1.88	1058.62 1057.42	1058.62 1057.42	0.00	0.00
6803	P-3399	15.00	6.10	130.00	Open	0.08	1060.01	1060.01	0.00	0.00
6806	P-3400	15.00	6.10	130.00	Open	-0.88	1063.30	1063.30	0.00	0.00
6808 6811	P-3401 P-3402	15.00 15.00	6.10 6.10	130.00 130.00	Open Open	0.68 1.68	1061.61 1056.94	1061.61 1056.94	0.00	0.00
6813	P-3403	15.00	6.10	130.00	Open	0.28	1060.91	1060.91	0.00	0.00
6815 6817	P-3404 P-3405	15.00 15.00	6.10 6.10	130.00 130.00	Open Open	0.20 0.48	988.98 1059.96	988.98 1059.96	0.00	0.00
6820	P-3406	15.00	6.10	130.00	Open	-0.68	1063.38	1063.38	0.00	0.00
6822	P-3407	15.00	6.10	130.00	Open	-0.28	1062.62	1062.62	0.00	0.00
6824 6827	P-3408 P-3409	15.00 15.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.28	1058.75 1057.80	1058.75 1057.80	0.00	0.00
6830	P-3410	15.00	6.10	130.00	Open	0.08	1060.83	1060.83	0.00	0.00
6832 6835	P-3411 P-3412	15.00 15.00	6.10 6.10	130.00 130.00	Open Open	-0.20 1.28	1218.03 1061.61	1218.03 1061.61	0.00	0.00
6838	P-3413	15.00	6.10	130.00	Open	0.48	1058.69	1058.69	0.00	0.00
6841	P-3414	15.00	6.10	130.00	Open	-0.48	1062.60	1062.60	0.00	0.00
6843 6845	P-3415 P-3416	15.00 15.00	6.10 6.10	130.00 130.00	Open Open	-1.28 0.48	1058.67 1064.62	1058.67 1064.62	0.00	0.00
6847	P-3417	15.00	6.10	130.00	Open	0.48	1064.88	1064.88	0.00	0.00
6849 6851	P-3418 P-3419	15.00 15.00	6.10 6.10	130.00	Open Open	0.88 0.28	1059.72	1059.72 1061.06	0.00	0.00
6853	P-3419	15.00	6.10	130.00 130.00	Open	1.48	1061.06 1059.72	1051.00	0.00	0.00
6855	P-3421	15.00	6.10	130.00	Open	-0.40	1322.92	1322.92	0.00	0.00
6858 6860	P-3422 P-3423	15.00 16.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.28	1057.80 1057.77	1057.80 1057.77	0.00	0.00
6863	P-3424	16.00	6.10	130.00	Open	0.28	1059.72	1059.72	0.00	0.00
6865	P-3425 P-3426	16.00 16.00	6.10	130.00	Open	0.48	1060.97	1060.97	0.00	0.00
6868 6871	P-3427	16.00	6.10 6.10	130.00 130.00	Open Open	-0.68 0.08	1059.26 1061.15	1059.26 1061.15	0.00	0.00
6874	P-3428	16.00	6.10	130.00	Open	0.37	1218.52	1218.52	0.00	0.00
6876 6879	P-3429 P-3430	16.00 16.00	6.10 6.10	130.00 130.00	Open Open	0.48 -1.99	1058.03 1322.92	1058.03 1322.92	0.00	0.00
6881	P-3431	16.00	6.10	130.00	Open	-0.28	1063.16	1063.16	0.00	0.00
6883	P-3432	16.00	6.10	130.00	Open	0.48	1064.60	1064.60	0.00	0.00
6886 6888	P-3433 P-3434	16.00 16.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.48	1059.93 1059.96	1059.93 1059.96	0.00	0.00
6891	P-3435	16.00	6.10	130.00	Open	0.08	1057.96	1057.96	0.00	0.00
6894 6896	P-3436 P-3437	16.00 16.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.28	1059.88 963.94	1059.88 963.94	0.00	0.00
6899	P-3438	16.00	6.10	130.00	Open	0.28	1059.73	1059.73	0.00	0.00
6902	P-3439	16.00	6.10	130.00	Open	0.08	1062.60	1062.60	0.00	0.00
6904 6907	P-3440 P-3441	16.00 16.00	6.10 6.10	130.00 130.00	Open Open	-2.09 0.88	1059.35 1060.03	1059.35 1060.03	0.00	0.00
6909	P-3442	16.00	6.10	130.00	Open	0.28	1057.80	1057.80	0.00	0.00
6911 6914	P-3443 P-3444	16.00 16.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.28	963.95 1059.73	963.95 1059.73	0.00	0.00
6917	P-3445	17.00	6.10	130.00	Open	0.28	1059.73	1059.73	0.00	0.00
6920	P-3446	17.00	6.10	130.00	Open	0.20	1218.03	1218.03	0.00	0.00
6922 6924	P-3447 P-3448	17.00 17.00	6.10 6.10	130.00 130.00	Open Open	0.88 -0.48	1059.72 1060.87	1059.72 1060.87	0.00	0.00
6926	P-3449	17.00	6.10	130.00	Open	0.08	1057.59	1057.59	0.00	0.00
6928 6931	P-3450 P-3451	17.00 17.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.20	963.95 1217.86	963.95 1217.86	0.00	0.00
6933	P-3452	17.00	6.10	130.00	Open	-0.48	1059.34	1059.34	0.00	0.00
6936	P-3453	17.00	6.10	130.00 130.00	Open	0.48	1060.15	1060.15 1058.36	0.00	0.00
6938 6940	P-3454 P-3455	17.00 17.00	6.10 6.10	130.00	Open Open	0.88 0.08	1058.36 1064.01	1058.36	0.00	0.00
6942	P-3456	17.00	6.10	130.00	Open	0.88	1058.37	1058.37	0.00	0.00
6944 6947	P-3457 P-3458	17.00 18.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.28	1058.95 1058.64	1058.95 1058.64	0.00	0.00
6949	P-3459	18.00	6.10	130.00	Open	0.08	1057.82	1057.82	0.00	0.00
6951 6953	P-3460 P-3461	18.00 18.00	6.10 6.10	130.00 130.00	Open Open	-0.29 0.08	1218.03 1060.80	1218.03 1060.80	0.00	0.00
6955	P-3461 P-3462	18.00	6.10	130.00	Open	-0.68	1060.80	1060.80	0.00	0.00
6957	P-3463	18.00	6.10	130.00	Open	0.88	1057.47	1057.47	0.00	0.00
6960 6963	P-3464 P-3465	18.00 18.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.68	1059.99 1059.26	1059.99 1059.26	0.00	0.00
6965	P-3466	19.00	6.10	130.00	Open	0.28	1060.88	1060.88	0.00	0.00
6967 6969	P-3467 P-3468	19.00 19.00	6.10 6.10	130.00 130.00	Open Open	-0.28 0.08	1059.10 1061.15	1059.10 1061.15	0.00	0.00 0.00
6971	P-3469	19.00	6.10	130.00	Open	0.08	1061.15	1061.15	0.00	0.00
6973	P-3470	19.00	6.10	130.00	Open	0.08	1064.76	1064.76	0.00	0.00
6975 6978	P-3471 P-3472	19.00 19.00	6.10 6.10	130.00 130.00	Open Open	1.28 1.08	1057.69 1056.92	1057.69 1056.92	0.00	0.00
6981	P-3473	21.00	6.10	130.00	Open	-0.08	1058.13	1058.13	0.00	0.00
6983	P-3474 P-3475	21.00	6.10 6.10	130.00 130.00	Open Open	0.68	981.47 1060.04	981.47 1060.04	0.00	0.00 0.00
6985 6987	P-3475 P-3476	22.00 24.00	6.10	130.00	Open	0.48 0.68	1050.04	1050.04	0.00	0.00
6990	P-3477	24.00	6.10	130.00	Open	-1.68	1061.64	1061.64	0.00	0.00
6992 6995	P-3478 P-3479	28.00 24.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.48	1061.42 1061.62	1061.42 1061.62	0.00	0.00 0.00
6998	P-3480	24.00	6.10	130.00	Open	-0.68	1063.38	1061.62	0.00	0.00
7001	P-3481	24.00	6.10	130.00	Open	0.08	1057.83	1057.83	0.00	0.00
7003 7005	P-3482 P-3483	25.00 25.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.88	1059.78 1059.82	1059.78 1059.82	0.00	0.00
7008	P-3484	26.00	6.10	130.00	Open	0.68	1057.78	1057.78	0.00	0.00
7011 7013	P-3485 P-3486	27.00 27.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.20	1059.63 1218.24	1059.63 1218.24	0.00	0.00
7013	P-3486 P-3487	27.00	6.10	130.00	Open	0.08	1057.83	1057.83	0.00	0.00
7017	P-3488	28.00	6.10	130.00	Open	0.48	1064.62	1064.62	0.00	0.00
7020	P-3489	28.00	6.10	130.00	Open	0.08	1057.45	1057.45	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7022	P-3490	29.00	6.10	130.00	Open	0.08	1060.27	1060.27	0.00	0.00
7024 7026	P-3491 P-3492	31.00 31.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -1.48	1064.63 1057.58	1064.63 1057.58	0.00	0.00
7028	P-3493	33.00	6.10	130.00	Open	0.48	1061.36	1061.36	0.00	0.00
7030	P-3494	34.00	6.10 6.10	130.00	Open	0.08	1063.25	1063.25	0.00	0.00
7032 7034	P-3495 P-3496	34.00 34.00	6.10	130.00 130.00	Open Open	0.08 0.68	1062.90 1059.85	1062.90 1059.85	0.00	0.00
7037	P-3497	34.00	6.10	130.00	Open	-0.08	1064.63	1064.63	0.00	0.00
7039 7041	P-3498 P-3499	34.00 35.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.08	1064.63 1064.63	1064.63 1064.63	0.00	0.00
7043	P-3500	35.00	6.10	130.00	Open	-0.08	1064.63	1064.63	0.00	0.00
7045 7047	P-3501 P-3502	36.00 38.00	6.10 6.10	130.00 130.00	Open Open	-1.28 -0.88	963.94 1059.85	963.94 1059.85	0.00	0.00
7050	P-3503	38.00	6.10	130.00	Open	0.68	1059.85	1059.85	0.00	0.00
7053 7055	P-3504 P-3505	38.00 38.00	6.10 6.10	130.00 130.00	Open Open	-0.11 1.28	1322.91 1057.82	1322.91 1057.82	0.00	0.00
7057	P-3506	40.00	6.10	130.00	Open	0.28	1060.80	1060.80	0.00	0.00
7059	P-3507	42.00	6.10	130.00	Open	0.68	1060.80	1060.80	0.00	0.00
7061 7063	P-3508 P-3509	43.00 47.00	6.10 6.10	130.00 130.00	Open Open	80.0 80.0	1063.25 1064.07	1063.25 1064.07	0.00	0.00
7065	P-3510	47.00	6.10	130.00	Open	0.08	1064.62	1064.62	0.00	0.00
7067 7070	P-3511 P-3512	48.00 50.00	6.10 6.10	130.00 130.00	Open Open	1.68 1.08	1057.68 1058.43	1057.68 1058.43	0.00	0.00
7073	P-3513	52.00	6.10	130.00	Open	0.08	1061.07	1061.07	0.00	0.00
7076 7078	P-3514 P-3515	54.00 54.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.29	1062.90 1216.98	1062.90 1216.98	0.00	0.00
7081	P-3516	56.00	6.10	130.00	Open	0.08	1064.76	1064.76	0.00	0.00
7083 7085	P-3517 P-3518	63.00 63.00	6.10 6.10	130.00 130.00	Open Open	-0.20 0.08	1217.08 1063.22	1217.08 1063.22	0.00	0.00
7087	P-3519	66.00	6.10	130.00	Open	0.08	1053.22	1059.03	0.00	0.00
7089 7091	P-3520 P-3521	74.00 74.00	6.10 6.10	130.00	Open Open	0.08 0.28	1062.30	1062.30	0.00	0.00
7093	P-3522	89.00	6.10	130.00 130.00	Open	0.28	1064.13 1060.04	1064.13 1060.04	0.00	0.00
7095	P-3523	106.00	6.10	130.00	Open	0.08	1061.90 1061.21	1061.90	0.00	0.00
7097 7099	P-3524 P-3525	190.00 1.00	6.10 8.00	130.00 130.00	Open Open	0.48 2.41	1057.96	1061.21 1057.96	0.00	0.00
7105	P-3527	2.00	8.00	130.00	Open	0.08	1057.42	1057.42	0.00	0.00
7107 7110	P-3528 P-3529	2.00 3.00	8.00 8.00	130.00 130.00	Open Open	0.20 95.88	1217.85 1059.36	1217.85 1059.35	0.00	0.00
7112	P-3530	3.00	8.00	130.00	Open	2.99	1060.45	1060.45	0.00	0.00
7114 7116	P-3531 P-3532	3.00 3.00	8.00 8.00	130.00 130.00	Open Open	80.0 80.0	1063.38 1064.60	1063.38 1064.60	0.00	0.00
7119	P-3533	3.00	8.00	130.00	Open	-0.08	1057.40	1057.40	0.00	0.00
7121 7123	P-3534 P-3535	3.00 4.00	8.00 8.00	130.00 130.00	Open Open	26.67 -49.57	1218.14 1061.02	1218.14 1061.02	0.00	0.00
7125	P-3536	4.00	8.00	130.00	Open	0.48	1061.85	1061.85	0.00	0.00
7128 7129	P-3537 P-3538	4.00 4.00	8.00 8.00	130.00 130.00	Open Open	1.92 2.44	1218.02 1060.80	1218.02 1060.80	0.00	0.00
7131	P-3539	5.00	8.00	130.00	Open	0.08	1057.40	1057.40	0.00	0.00
7134 7136	P-3540 P-3541	4.00 4.00	8.00 8.00	130.00 130.00	Open Open	0.08 0.08	1057.83 1059.35	1057.83 1059.35	0.00	0.00
7138	P-3542	4.00	8.00	130.00	Open	0.20	1217.85	1217.85	0.00	0.00
7140 7142	P-3543 P-3544	5.00 5.00	8.00 8.00	130.00	Open Open	96.23 0.08	1059.36 1064.60	1059.36 1064.60	0.00	0.00
7142	P-3545	5.00	8.00	130.00 130.00	Open	1.23	1054.60	1054.60	0.00	0.00
7147	P-3546 P-3547	5.00	8.00 8.00	130.00	Open	84.28 0.08	1061.66	1061.66 1064.21	0.00	0.00
7150 7152	P-3548	6.00 6.00	8.00	130.00 130.00	Open Open	0.08	1064.21 1059.93	1059.93	0.00	0.00
7154	P-3549 P-3550	6.00	8.00	130.00	Open	0.11	1322.98	1322.98	0.00	0.00
7156 7159	P-3550 P-3551	6.00 7.00	8.00 8.00	130.00 130.00	Open Open	0.48 0.08	1060.94 1059.35	1060.94 1059.35	0.00	0.00
7161	P-3552	7.00	8.00	130.00	Open	-2.47 220.82	1218.03	1218.03	0.00	0.00
7163 7164	P-3553 P-3554	7.00 7.00	8.00 8.00	130.00 130.00	Open Open	0.20	1059.34 1218.03	1059.33 1218.03	0.01 0.00	0.00
7166	P-3555	7.00	8.00	130.00	Open	2.44	1059.94	1059.94	0.00	0.00
7167 7168	P-3556 P-3557	7.00 7.00	8.00 8.00	130.00 130.00	Open Open	220.78 -0.28	1059.05 1064.63	1059.05 1064.63	0.01 0.00	0.00
7170	P-3558	7.00	8.00	130.00	Open	37.36	1060.94	1060.94	0.00	0.00
7171 7174	P-3559 P-3560	7.00 7.00	8.00 8.00	130.00 130.00	Open Open	0.08 0.48	1059.93 1064.63	1059.93 1064.63	0.00	0.00
7176	P-3561	8.00	8.00	130.00	Open	-48.34	1063.46	1063.46	0.00	0.00
7177 7178	P-3562 P-3563	8.00 8.00	8.00 8.00	130.00 130.00	Open Open	13.44 6.38	1058.75 1060.84	1058.75 1060.84	0.00	0.00
7179	P-3564	8.00	8.00	130.00	Open	0.08	1061.61	1061.61	0.00	0.00
7181 7183	P-3565 P-3566	8.00 8.00	8.00 8.00	130.00 130.00	Open Open	0.28 -0.08	1060.02 1064.63	1060.02 1064.63	0.00	0.00
7185	P-3567	8.00	8.00	130.00	Open	-0.28	1064.63	1064.63	0.00	0.00
7187 7189	P-3568 P-3569	8.00 8.00	8.00 8.00	130.00 130.00	Open Open	0.08 6.72	1064.62 1058.76	1064.62 1058.76	0.00	0.00
7191	P-3570	9.00	8.00	130.00	Open	4.96	1059.35	1059.35	0.00	0.00
7192 7195	P-3571 P-3572	9.00 9.00	8.00 8.00	130.00 130.00	Open Open	0.20 0.08	1218.20 1057.41	1218.20 1057.41	0.00	0.00
7198	P-3573	9.00	8.00	130.00	Open	-0.08	1064.63	1064.63	0.00	0.00
7200 7201	P-3574 P-3575	9.00 9.00	8.00 8.00	130.00 130.00	Open Open	-0.76 0.28	1060.45 1064.63	1060.45 1064.63	0.00	0.00
7203	P-3576	9.00	8.00	130.00	Open	0.48	1060.02	1060.02	0.00	0.00
7205 7207	P-3577 P-3578	9.00	8.00	130.00	Open	-9.48 15.37	1060.84	1060.84	0.00	0.00
7207 7208	P-3578 P-3579	10.00 10.00	8.00 8.00	130.00 130.00	Open Open	15.37 7.63	967.36 1059.35	967.36 1059.35	0.00	0.00
7210	P-3580	10.00	8.00	130.00	Open	0.28	1064.63	1064.63	0.00	0.00
7212 7214	P-3581 P-3582	10.00 10.00	8.00 8.00	130.00 130.00	Open Open	-4.81 0.20	1057.41 988.99	1057.41 988.99	0.00	0.00
7217	P-3583	10.00	8.00	130.00	Open	0.08	1059.38	1059.38	0.00	0.00
7220 7222	P-3584 P-3585	10.00 10.00	8.00 8.00	130.00 130.00	Open Open	0.20 3.47	1217.75 1064.11	1217.75 1064.11	0.00	0.00
7224	P-3586	10.00	8.00	130.00	Open	0.08	1058.76	1058.76	0.00	0.00
7226 7949	P-3587 P-3588	10.00 338.00	8.00 8.00	130.00 130.00	Open Open	0.43 -2.24	1058.64 1057.93	1058.64 1057.93	0.00	0.00 0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7950	P-3589	339.00	8.00	130.00	Open	-7.26	988.99	988.99	0.00	0.00
7952 7954	P-3590 P-3591	338.00 343.00	8.00 8.00	130.00 130.00	Open Open	6.42 2.99	1060.84 1217.85	1060.84 1217.85	0.00	0.00
7955	P-3592	340.00	8.00	130.00	Open	3.13	1061.85	1061.85	0.00	0.00
7956	P-3593	341.00	8.00	130.00	Open	-16.54	1058.77	1058.77	0.00	0.00
7957 7958	P-3594 P-3595	345.00 344.00	8.00 8.00	130.00 130.00	Open Open	50.60 1.03	1060.89 1059.93	1060.86 1059.93	0.03	0.00
7959	P-3596	386.00	8.00	130.00	Open	-4.25	1055.55	1055.55	0.00	0.00
7960	P-3597	344.00	8.00	130.00	Open	-7.01	1057.67	1057.67	0.00	0.00
7961 7962	P-3598 P-3599	354.00 347.00	8.00 8.00	130.00 130.00	Open Open	-38.37 -7.26	1060.87 1218.11	1060.89 1218.11	0.02 0.00	0.00
7963	P-3600	348.00	8.00	130.00	Open	9.06	1064.63	1064.63	0.00	0.00
7964	P-3601	363.00	8.00	130.00	Open	1.76	1060.08	1060.08	0.00	0.00
7965 7967	P-3602 P-3603	362.00 355.00	8.00 8.00	130.00 130.00	Open Open	-19.88 1.03	1059.33 1061.85	1059.33 1061.85	0.00	0.00
7968	P-3604	393.00	8.00	130.00	Open	-8.16	1058.69	1058.69	0.00	0.00
7969	P-3605	358.00	8.00	130.00	Open	5.72	1061.85	1061.85	0.00	0.00
7970 7971	P-3606 P-3607	356.00 357.00	8.00 8.00	130.00 130.00	Open Open	3.44 5.51	1057.40 1218.03	1057.40 1218.03	0.00	0.00
7972	P-3608	357.00	8.00	130.00	Open	11.40	1060.92	1060.91	0.00	0.00
7973 7974	P-3609 P-3610	361.00 356.00	8.00 8.00	130.00 130.00	Open Open	45.66 34.09	1063.98 1057.45	1063.95 1057.44	0.02 0.01	0.00
7976	P-3611	357.00	8.00	130.00	Open	0.36	1057.43	1057.44	0.00	0.00
7978	P-3612	360.00	8.00	130.00	Open	25.34	1063.39	1063.38	0.01	0.00
7979 7980	P-3613 P-3614	359.00 402.00	8.00 8.00	130.00 130.00	Open Open	24.27 -16.47	1059.97 1064.85	1059.96 1064.85	0.01 0.00	0.00
7981	P-3615	373.00	8.00	130.00	Open	1.84	1064.62	1064.62	0.00	0.00
7982	P-3616	361.00	8.00	130.00	Open	-15.32	1061.62	1061.62	0.00	0.00
7984 7985	P-3617 P-3618	364.00 364.00	8.00 8.00	130.00 130.00	Open Open	-10.12 -9.43	1059.94 1059.00	1059.94 1059.00	0.00	0.00
7987	P-3619	613.00	8.00	130.00	Open	72.11	1058.62	1058.54	0.09	0.00
7988 7989	P-3620 P-3621	366.00	8.00 8.00	130.00	Open	9.51 2.52	1061.62	1061.62	0.00	0.00
7989 7990	P-3622	385.00 381.00	8.00	130.00 130.00	Open Open	6.04	1064.11 1063.37	1064.11 1063.37	0.00	0.00
7991	P-3623	370.00	8.00	130.00	Open	35.66	1063.08	1063.07	0.01	0.00
7992 7993	P-3624 P-3625	372.00 374.00	8.00 8.00	130.00 130.00	Open Open	4.71 6.79	1063.38 1063.37	1063.38 1063.37	0.00	0.00
7994	P-3626	413.00	8.00	130.00	Open	15.38	1063.37	1060.84	0.00	0.00
7995	P-3627	380.00	8.00	130.00	Open	0.48	1061.62	1061.62	0.00	0.00
7997 7998	P-3628 P-3629	376.00 379.00	8.00 8.00	130.00 130.00	Open Open	29.54 2.59	1057.70 1061.62	1057.69 1061.62	0.01 0.00	0.00
7999	P-3630	388.00	8.00	130.00	Open	8.32	1058.75	1058.75	0.00	0.00
8000	P-3631	415.00	8.00	130.00	Open	6.69	1059.43	1059.43	0.00	0.00
8001 8002	P-3632 P-3633	384.00 383.00	8.00 8.00	130.00 130.00	Open Open	11.01 0.63	1061.62 1057.83	1061.61 1057.83	0.00	0.00
8003	P-3634	383.00	8.00	130.00	Open	-1.20	1218.03	1218.03	0.00	0.00
8004 8005	P-3635 P-3636	383.00 384.00	8.00 8.00	130.00 130.00	Open Open	24.64 20.85	1060.81 1059.73	1060.80 1059.73	0.01 0.01	0.00
8006	P-3637	446.00	8.00	130.00	Open	-5.87	1060.82	1060.82	0.00	0.00
8007	P-3638	384.00	8.00	130.00	Open	-10.28	1059.94	1059.94	0.00	0.00
8008 8009	P-3639 P-3640	392.00 391.00	8.00 8.00	130.00 130.00	Open Open	28.35 -37.31	1218.20 1057.82	1218.19 1057.84	0.01 0.02	0.00 0.00
8010	P-3641	393.00	8.00	130.00	Open	2.44	1061.66	1061.66	0.00	0.00
8011	P-3642	492.00	8.00	130.00	Open	1.81	1057.40	1057.40	0.00	0.00
8012 8013	P-3643 P-3644	395.00 415.00	8.00 8.00	130.00 130.00	Open Open	4.83 3.24	1057.42 1061.61	1057.42 1061.61	0.00	0.00
8014	P-3645	398.00	8.00	130.00	Open	22.16	1058.76	1058.75	0.01	0.00
8016	P-3646	406.00	8.00	130.00	Open	38.11	1060.96	1060.94	0.02	0.00
8017 8018	P-3647 P-3648	398.00 428.00	8.00 8.00	130.00 130.00	Open Open	40.74 21.29	1057.91 1059.28	1057.90 1059.27	0.02 0.01	0.00
8019	P-3649	414.00	8.00	130.00	Open	1.64	1061.75	1061.75	0.00	0.00
8020 8021	P-3650 P-3651	408.00 423.00	8.00 8.00	130.00 130.00	Open Open	19.85 1.08	1063.39 1061.66	1063.38 1061.66	0.01 0.00	0.00
8023	P-3652	410.00	8.00	130.00	Open	16.20	1057.55	1057.54	0.00	0.00
8024	P-3653	407.00	8.00	130.00	Open	13.31	1063.38	1063.38	0.00	0.00
8025 8026	P-3654 P-3655	405.00 409.00	8.00 8.00	130.00 130.00	Open	-23.79 -10.49	1061.61 1060.97	1061.62 1060.97	0.01 0.00	0.00
8027	P-3656	406.00	8.00	130.00	Open	9.20	981.48	981.48	0.00	0.00
8028 8029	P-3657 P-3658	407.00 409.00	8.00 8.00	130.00 130.00	Open Open	-37.95 28.75	1061.64 1218.21	1061.66 1218.20	0.02 0.01	0.00
8030	P-3659	410.00	8.00	130.00	Open	10.13	1059.73	1059.73	0.00	0.00
8031	P-3660	421.00	8.00	130.00	Open	5.51	1059.00	1059.00	0.00	0.00
8032 8033	P-3661 P-3662	421.00 412.00	8.00 8.00	130.00 130.00	Open Open	23.14 6.05	1064.87 1064.62	1064.87 1064.62	0.01 0.00	0.00
8034	P-3663	416.00	8.00	130.00	Open	14.48	1064.85	1064.85	0.00	0.00
8035	P-3664	453.00	8.00	130.00	Open	-0.08	1064.62	1064.62	0.00	0.00
8037 8038	P-3665 P-3666	412.00 555.00	8.00 8.00	130.00 130.00	Open Open	5.36 0.28	1060.82 1061.75	1060.82 1061.75	0.00	0.00
8040	P-3667	415.00	8.00	130.00	Open	-0.91	1057.59	1057.59	0.00	0.00
8041	P-3668	415.00	8.00	130.00	Open	9.02	1057.69	1057.68	0.00	0.00
8042 8043	P-3669 P-3670	440.00 453.00	8.00 8.00	130.00 130.00	Open Open	1.65 -8.82	1061.61 1060.84	1061.61 1060.84	0.00	0.00 0.00
8044	P-3671	420.00	8.00	130.00	Open	-30.30	1057.42	1057.44	0.01	0.00
8045 8046	P-3672 P-3673	477.00 423.00	8.00	130.00	Open	-3.12 -8.72	1218.02 1057.40	1218.02	0.00	0.00
8046 8047	P-3673 P-3674	423.00 425.00	8.00 8.00	130.00 130.00	Open Open	-8.72 0.66	1057.40	1057.40 1057.83	0.00	0.00
8048	P-3675	453.00	8.00	130.00	Open	4.71	1064.62	1064.62	0.00	0.00
8049 8050	P-3676 P-3677	441.00	8.00 8.00	130.00	Open	-112.25 -69.67	1057.47	1057.61	0.14 0.06	0.00 0.00
8050 8051	P-3677 P-3678	427.00 434.00	8.00	130.00 130.00	Open Open	-69.67 10.72	1057.87 1063.30	1057.93 1063.30	0.06	0.00
8052	P-3679	427.00	8.00	130.00	Open	74.64	1061.61	1061.54	0.06	0.00
8053 8054	P-3680 P-3681	433.00 432.00	8.00 8.00	130.00 130.00	Open Open	13.34 22.89	1057.77 1058.77	1057.77 1058.77	0.00 0.01	0.00
8055	P-3682	432.00	8.00	130.00	Open	-1.15	1058.77	1058.77	0.00	0.00
8056	P-3683	432.00	8.00	130.00	Open	-26.13	1060.01	1060.01	0.01	0.00
8057 8058	P-3684 P-3685	437.00 436.00	8.00 8.00	130.00 130.00	Open Open	-1.48 10.96	1218.03 1064.87	1218.03 1064.87	0.00	0.00
8059	P-3686	439.00	8.00	130.00	Open	0.20	1218.02	1218.02	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
8061	P-3687	434.00	8.00	130.00	Open	3.32	1058.66	1058.66	0.00	0.00
8063 8065	P-3688 P-3689	452.00 467.00	8.00 8.00	130.00 130.00	Open Open	1.28 3.36	1058.69 1061.62	1058.69 1061.62	0.00	0.00
8066	P-3690	437.00	8.00	130.00	Open	-0.23	1061.38	1061.38	0.00	0.00
8067	P-3691	438.00	8.00	130.00	Open	97.34	1059.49	1059.38	0.11	0.00
8068 8070	P-3692 P-3693	444.00 514.00	8.00 8.00	130.00 130.00	Open Open	14.05 -2.32	1057.46 1060.45	1057.46 1060.45	0.00	0.00
8071	P-3694	446.00	8.00	130.00	Open	-1.23	1060.43	1060.43	0.00	0.00
8072	P-3695	451.00	8.00	130.00	Open	-5.00	1063.91	1063.91	0.00	0.00
8073 8074	P-3696 P-3697	517.00 452.00	8.00 8.00	130.00 130.00	Open Open	-45.25 31.90	1061.64 1057.46	1061.68 1057.45	0.03 0.01	0.00
8075	P-3698	452.00	8.00	130.00	Open	-0.20	1218.03	1218.03	0.00	0.00
8077	P-3699	454.00	8.00	130.00	Open	1.23	1059.53	1059.53	0.00	0.00
8078 8079	P-3700 P-3701	467.00 457.00	8.00 8.00	130.00 130.00	Open Open	-6.45 8.28	1060.84 1057.42	1060.84 1057.42	0.00	0.00
8080	P-3702	457.00	8.00	130.00	Open	-1.74	1057.41	1057.41	0.00	0.00
8081	P-3703	484.00	8.00	130.00	Open	5.91	1217.75	1217.75	0.00	0.00
8082 8083	P-3704 P-3705	464.00 464.00	8.00 8.00	130.00 130.00	Open Open	-2.04 28.44	1059.96 1060.82	1059.96 1060.81	0.00 0.01	0.00
8084	P-3706	462.00	8.00	130.00	Open	10.84	1060.91	1060.91	0.00	0.00
8085 8086	P-3707 P-3708	464.00 466.00	8.00 8.00	130.00 130.00	Open Open	24.64 47.58	1057.79 1063.46	1057.78 1063.43	0.01 0.03	0.00
8087	P-3709	464.00	8.00	130.00	Open	-0.88	1060.83	1060.83	0.00	0.00
8089	P-3710	519.00	8.00	130.00	Open	11.18	1057.69	1057.69	0.00	0.00
8090 8091	P-3711 P-3712	487.00 476.00	8.00 8.00	130.00 130.00	Open Open	-20.12 -60.60	1059.96 1061.05	1059.96 1061.10	0.01 0.05	0.00
8092	P-3713	485.00	8.00	130.00	Open	8.21	1060.85	1060.84	0.00	0.00
8093	P-3714	482.00	8.00	130.00	Open	3.72	1059.43	1059.43	0.00	0.00
8094 8095	P-3715 P-3716	472.00 477.00	8.00 8.00	130.00 130.00	Open Open	23.36 9.79	1057.52 1059.35	1057.51 1059.35	0.01 0.00	0.00
8096	P-3717	473.00	8.00	130.00	Open	7.16	1064.63	1064.62	0.00	0.00
8097 8098	P-3718 P-3719	504.00 476.00	8.00 8.00	130.00	Open	4.40 3.05	1059.27	1059.27	0.00	0.00
8098	P-3719 P-3720	551.00	8.00	130.00 130.00	Open Open	20.52	1057.46 1057.78	1057.46 1057.77	0.00	0.00
8100	P-3721	520.00	8.00	130.00	Open	-0.19	1057.68	1057.68	0.00	0.00
8101 8102	P-3722 P-3723	482.00 479.00	8.00 8.00	130.00 130.00	Open Open	127.01 7.77	1060.16 1061.66	1059.96 1061.66	0.19 0.00	0.00
8103	P-3724	479.00	8.00	130.00	Open	-3.25	1057.41	1057.41	0.00	0.00
8104	P-3725	486.00	8.00	130.00	Open	0.35	1218.15	1218.15	0.00	0.00
8105 8106	P-3726 P-3727	503.00 483.00	8.00 8.00	130.00 130.00	Open Open	20.68 84.60	1058.64 1059.31	1058.63 1059.22	0.01 0.09	0.00
8107	P-3728	509.00	8.00	130.00	Open	3.04	1057.76	1057.76	0.00	0.00
8108	P-3729	652.00	8.00	130.00	Open	0.17	1057.96	1057.96	0.00	0.00
8109 8110	P-3730 P-3731	495.00 507.00	8.00 8.00	130.00 130.00	Open Open	3.27 -19.17	1058.02 1060.84	1058.02 1060.85	0.00 0.01	0.00
8111	P-3732	506.00	8.00	130.00	Closed	0.00	963.94	1060.97	0.00	0.00
8112 8113	P-3733 P-3734	508.00 489.00	8.00 8.00	130.00 130.00	Open Open	9.26 -0.28	1060.80 1058.68	1060.80 1058.68	0.00	0.00
8115	P-3735	490.00	8.00	130.00	Open	20.31	1063.38	1063.37	0.00	0.00
8116	P-3736	496.00	8.00	130.00	Open	80.66	1058.81	1058.73	0.09	0.00
8117 8118	P-3737 P-3738	505.00 498.00	8.00 8.00	130.00 130.00	Open Open	37.83 -3.71	1063.10 1057.42	1063.08 1057.42	0.02 0.00	0.00 0.00
8119	P-3739	509.00	8.00	130.00	Open	-8.01	1057.81	1057.81	0.00	0.00
8120	P-3740	497.00	8.00	130.00	Open	28.89	1057.54	1057.52	0.01	0.00
8121 8122	P-3741 P-3742	498.00 499.00	8.00 8.00	130.00 130.00	Open Open	-22.49 7.26	1060.85 1058.76	1060.86 1058.76	0.01 0.00	0.00
8123	P-3743	500.00	8.00	130.00	Open	-24.45	1060.86	1060.87	0.01	0.00
8124	P-3744	502.00	8.00	130.00	Open	-36.63	1057.45	1057.47	0.02	0.00
8125 8126	P-3745 P-3746	503.00 507.00	8.00 8.00	130.00 130.00	Open Open	8.1 <u>2</u> 16.11	1058.70 981.48	1058.69 981.48	0.00	0.00
8127	P-3747	538.00	8.00	130.00	Open	1.23	1063.38	1063.38	0.00	0.00
8128 8129	P-3748 P-3749	547.00 508.00	8.00 8.00	130.00 130.00	Open Open	2.11 66.69	1058.02 1058.02	1058.02 1057.96	0.00 0.06	0.00
8130	P-3750	514.00	8.00	130.00	Open	-8.68	1218.03	1218.03	0.00	0.00
8131	P-3751	515.00	8.00	130.00	Open	21.31	1059.74	1059.74	0.01	0.00
8132 8133	P-3752 P-3753	525.00 514.00	8.00 8.00	130.00 130.00	Open	3.35 -1.51	1063.38 1059.53	1063.38 1059.53	0.00	0.00
8134	P-3754	518.00	8.00	130.00	Open	3.88	1057.45	1057.45	0.00	0.00
8135 8136	P-3755 P-3756	514.00 560.00	8.00 8.00	130.00 130.00	Open Open	28.58 67.25	1061.62 1058.09	1061.61 1058.02	0.01 0.07	0.00
8137	P-3757	537.00	8.00	130.00	Open	11.70	1058.09	1058.02	0.07	0.00
8138	P-3758	528.00	8.00	130.00	Open	24.97	1060.01	1059.99	0.01	0.00
8139 8140	P-3759 P-3760	566.00 518.00	8.00 8.00	130.00 130.00	Open Open	46.56 19.58	1061.12 1057.81	1061.09 1057.81	0.04 0.01	0.00
8141	P-3761	530.00	8.00	130.00	Open	11.19	1060.84	1060.83	0.00	0.00
8142	P-3762	524.00	8.00	130.00	Open	31.71	1218.36	1218.34	0.02	0.00
8143 8144	P-3763 P-3764	521.00 523.00	8.00 8.00	130.00 130.00	Open Open	1.19 19.94	1059.93 1064.86	1059.93 1064.86	0.00 0.01	0.00
8145	P-3765	548.00	8.00	130.00	Open	6.60	1064.62	1064.62	0.00	0.00
8146	P-3766 P-3767	527.00 530.00	8.00 8.00	130.00	Open	4.81	1057.42	1057.42	0.00 0.01	0.00
8147 8148	P-3768	533.00	8.00	130.00 130.00	Open Open	-21.99 -37.87	1061.63 1057.84	1061.64 1057.86	0.01	0.00 0.00
8149	P-3769	535.00	8.00	130.00	Open	25.12	1057.91	1057.90	0.01	0.00
8150 8152	P-3770 P-3771	618.00 601.00	8.00 8.00	130.00 130.00	Open Open	1.08 2.72	1057.79 1060.08	1057.79 1060.08	0.00	0.00 0.00
8153	P-3772	543.00	8.00	130.00	Open	-1.43	1060.08	1063.37	0.00	0.00
8154	P-3773	541.00	8.00	130.00	Open	-10.95	1059.00	1059.00	0.00	0.00
8155 8156	P-3774 P-3775	708.00 541.00	8.00 8.00	130.00 130.00	Open Open	10.51 -110.48	1322.92 1057.18	1322.92 1057.34	0.00 0.17	0.00
8157	P-3776	543.00	8.00	130.00	Open	-35.75	1060.82	1060.85	0.17	0.00
8158	P-3777	541.00	8.00	130.00	Open	-2.27	1057.59	1057.59	0.00	0.00
8159 8160	P-3778 P-3779	543.00 546.00	8.00 8.00	130.00 130.00	Open Open	-22.78 2.04	1057.42 1057.79	1057.42 1057.79	0.01 0.00	0.00
8161	P-3780	555.00	8.00	130.00	Open	7.30	1060.80	1060.80	0.00	0.00
8162	P-3781 P-3782	551.00	8.00	130.00	Open	14.74	993.45	993.44	0.00	0.00
8163 8164	P-3782 P-3783	595.00 550.00	8.00 8.00	130.00 130.00	Open Open	-28.01 45.46	1057.40 1061.66	1057.42 1061.62	0.01 0.03	0.00
8165	P-3784	551.00	8.00	130.00	Open	1.23	1059.93	1059.93	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
8166	P-3785	553.00	8.00	130.00	Open	10.05	1064.84	1064.84	0.00	0.00
8167 8168	P-3786 P-3787	564.00 571.00	8.00 8.00	130.00 130.00	Open Open	5.42 9.63	1060.84 1058.95	1060.84 1058.95	0.00	0.00
8169	P-3788	612.00	8.00	130.00	Open	-6.13	1064.87	1064.87	0.00	0.00
8170	P-3789	556.00	8.00	130.00	Open	1.71	1064.21	1064.21	0.00	0.00
8171 8172	P-3790 P-3791	608.00 713.00	8.00 8.00	130.00 130.00	Open Open	-8.77 2.19	1057.67 1064.62	1057.67 1064.62	0.00	0.00 0.00
8173	P-3792	581.00	8.00	130.00	Open	-62.49	1056.74	1056.80	0.06	0.00
8174 8175	P-3793 P-3794	572.00 563.00	8.00 8.00	130.00 130.00	Open Open	16.78 7.74	1058.77 1057.80	1058.76 1057.80	0.01 0.00	0.00 0.00
8176	P-3795	569.00	8.00	130.00	Open	0.76	1060.04	1060.04	0.00	0.00
8177	P-3796	583.00	8.00	130.00	Open	-8.41	1057.83	1057.83	0.00	0.00
8178 8179	P-3797 P-3798	565.00 568.00	8.00 8.00	130.00 130.00	Open Open	82.53 -1.87	1058.74 1059.82	1058.64 1059.82	0.10 0.00	0.00
8180	P-3799	585.00	8.00	130.00	Open	-15.26	981.48	981.49	0.00	0.00
8181 8182	P-3800 P-3801	569.00 588.00	8.00 8.00	130.00 130.00	Open Open	42.43 5.23	1058.82 1059.16	1058.79 1059.16	0.03	0.00
8183	P-3802	574.00	8.00	130.00	Open	-0.60	1059.16	1059.16	0.00	0.00
8184	P-3803	601.00	8.00	130.00	Open	-16.83	1057.80	1057.80	0.01	0.00
8185 8186	P-3804 P-3805	577.00 583.00	8.00 8.00	130.00 130.00	Open Open	27.16 34.04	1218.16 1060.91	1218.14 1060.89	0.01 0.02	0.00 0.00
8187	P-3806	575.00	8.00	130.00	Open	66.44	1061.29	1061.22	0.07	0.00
7708 7710	P-3807	146.00	8.00	130.00	Open	0.10	1057.68	1057.68	0.00	0.00
7710	P-3808 P-3809	147.00 147.00	8.00 8.00	130.00 130.00	Open Open	0.20 0.08	1216.98 1060.45	1216.98 1060.45	0.00	0.00
7714	P-3810	148.00	8.00	130.00	Open	-8.12	1064.10	1064.10	0.00	0.00
7715 7717	P-3811 P-3812	149.00 153.00	8.00 8.00	130.00 130.00	Open Open	-0.68 -50.32	1059.96 1061.02	1059.96 1061.04	0.00 0.01	0.00
7718	P-3813	166.00	8.00	130.00	Open	58.72	1061.95	1061.93	0.02	0.00
7719	P-3814	156.00	8.00	130.00	Open	3.27	1057.42	1057.42	0.00	0.00
7720 7722	P-3815 P-3816	158.00 162.00	8.00 8.00	130.00 130.00	Open Open	-0.88 4.43	1058.69 1059.26	1058.69 1059.26	0.00	0.00 0.00
7723	P-3817	163.00	8.00	130.00	Open	-1.44	1058.69	1058.69	0.00	0.00
7725 7727	P-3818 P-3819	166.00 164.00	8.00 8.00	130.00 130.00	Open Open	0.28 0.28	1064.84 1057.51	1064.84 1057.51	0.00	0.00 0.00
7729	P-3820	164.00	8.00	130.00	Open	0.43	1061.61	1061.61	0.00	0.00
7730	P-3821	165.00	8.00	130.00	Open	10.47	1061.62	1061.62	0.00	0.00
7731 7734	P-3822 P-3823	165.00 167.00	8.00 8.00	130.00 130.00	Open Open	-0.28 2.95	1060.82 1061.02	1060.82 1061.02	0.00	0.00
7735	P-3824	167.00	8.00	130.00	Open	21.39	1058.64	1058.64	0.00	0.00
7736 7738	P-3825 P-3826	169.00 172.00	8.00 8.00	130.00 130.00	Open Open	-22.63 3.71	1064.63 981.48	1064.63 981.48	0.00	0.00
7739	P-3827	172.00	8.00	130.00	Open	17.70	1217.76	1217.76	0.00	0.00
7740	P-3828	171.00	8.00	130.00	Open	3.95	981.48	981.48	0.00	0.00
7743 7744	P-3829 P-3830	172.00 175.00	8.00 8.00	130.00 130.00	Open Open	-5.71 -36.29	1060.82 1057.82	1060.82 1057.82	0.00 0.01	0.00 0.00
7745	P-3831	176.00	8.00	130.00	Open	3.67	1057.76	1057.76	0.00	0.00
7746 7747	P-3832 P-3833	219.00 180.00	8.00 8.00	130.00 130.00	Open Open	0.23 95.25	1060.01 1062.04	1060.01 1061.99	0.00 0.04	0.00 0.00
7748	P-3834	200.00	8.00	130.00	Open	18.58	1062.04	1061.99	0.04	0.00
7749	P-3835	183.00	8.00	130.00	Open	0.43	1057.51	1057.51	0.00	0.00
7750 7751	P-3836 P-3837	183.00 185.00	8.00 8.00	130.00 130.00	Open Open	-22.63 -2.51	1064.63 1059.82	1064.63 1059.82	0.00	0.00
7752	P-3838	188.00	8.00	130.00	Open	-16.57	1057.40	1057.40	0.00	0.00
7753 7754	P-3839 P-3840	186.00 199.00	8.00 8.00	130.00 130.00	Open Open	-111.29 -140.23	1057.41 1057.66	1057.47 1057.75	0.06 0.10	0.00
7754 7755	P-3840 P-3841	187.00	8.00	130.00	Open	4.15	1057.66	1057.75	0.10	0.00
7756	P-3842	195.00	8.00	130.00	Open	20.33	1058.63	1058.63	0.00	0.00
7757 7759	P-3843 P-3844	187.00 189.00	8.00 8.00	130.00 130.00	Open Open	14.46 2.04	1063.38 1060.82	1063.38 1060.82	0.00	0.00 0.00
7760	P-3845	190.00	8.00	130.00	Open	-4.15	1059.96	1059.96	0.00	0.00
7762 7764	P-3846 P-3847	189.00 190.00	8.00 8.00	130.00 130.00	Open Open	-50.98 16.10	1063.50 1057.42	1063.52 1057.42	0.01 0.00	0.00
7766	P-3848	191.00	8.00	130.00	Open	10.10	1216.97	1216.97	0.00	0.00
7767	P-3849	191.00	8.00	130.00	Open	-5.52	1060.08	1060.08	0.00	0.00
7769 7771	P-3850 P-3851	191.00 196.00	8.00 8.00	130.00 130.00	Open	23.69 -35.87	1060.80 1057.45	1060.80 1057.45	0.00 0.01	0.00 0.00
7772	P-3852	201.00	8.00	130.00	Open	19.56	963.96	963.95	0.00	0.00
7773 7775	P-3853 P-3854	202.00 202.00	8.00 8.00	130.00 130.00	Open Open	-0.28 -10.49	994.76 994.76	994.76 994.76	0.00	0.00
7777	P-3855	246.00	8.00	130.00	Open	10.43	1064.87	1064.87	0.00	0.00
7779	P-3856	203.00	8.00	130.00	Open	5.17	1217.75	1217.75	0.00	0.00
7780 7781	P-3857 P-3858	230.00 204.00	8.00 8.00	130.00 130.00	Open Open	2.39 16.66	981.48 1064.12	981.48 1064.12	0.00	0.00 0.00
7782	P-3859	207.00	8.00	130.00	Open	-4.55	1057.40	1057.40	0.00	0.00
7783 7785	P-3860 P-3861	206.00 308.00	8.00 8.00	130.00 130.00	Open Open	5.31 1.48	1059.94 1059.94	1059.94 1059.94	0.00	0.00 0.00
7787	P-3862	208.00	8.00	130.00	Open	7.14	1059.53	1059.53	0.00	0.00
7788	P-3863	215.00	8.00	130.00	Open	-1.39	1058.68	1058.68	0.00	0.00
7789 7790	P-3864 P-3865	214.00 213.00	8.00 8.00	130.00 130.00	Open Open	41.07 18.45	1058.79 963.95	1058.78 963.95	0.01 0.00	0.00
7791	P-3866	213.00	8.00	130.00	Open	-1.03	1058.68	1058.68	0.00	0.00
7793 7794	P-3867 P-3868	220.00 220.00	8.00 8.00	130.00 130.00	Open Open	4.76 0.83	1059.94 1063.38	1059.94 1063.38	0.00	0.00
7796	P-3869	215.00	8.00	130.00	Open	-66.20	1053.36	1057.87	0.03	0.00
7798	P-3870	243.00	8.00	130.00	Open	11.52	1063.72	1063.72	0.00	0.00
7799 7800	P-3871 P-3872	217.00 221.00	8.00 8.00	130.00 130.00	Open Open	4.80 -32.10	1063.37 1060.08	1063.37 1060.09	0.00 0.01	0.00 0.00
7801	P-3873	265.00	8.00	130.00	Open	46.21	1061.09	1061.07	0.02	0.00
7803 7804	P-3874 P-3875	234.00 216.00	8.00 8.00	130.00 130.00	Open Open	-1.56 -4.55	1062.90 994.76	1062.90 994.76	0.00	0.00
7804 7805	P-3875 P-3876	217.00	8.00	130.00	Open	-112.04	1057.34	1057.41	0.00	0.00
7806	P-3877	336.00	8.00	130.00	Open	128.12	1060.33	1060.19	0.14	0.00
7807 7809	P-3878 P-3879	223.00 219.00	8.00 8.00	130.00 130.00	Open Open	9.53 1.96	1064.63 1059.43	1064.63 1059.43	0.00	0.00
7810	P-3880	221.00	8.00	130.00	Open	-2.72	1057.40	1057.40	0.00	0.00
7811 7813	P-3881 P-3882	220.00 221.00	8.00 8.00	130.00 130.00	Open Open	0.48 -0.88	1061.22 1057.67	1061.22 1057.67	0.00	0.00
7010	1 0002	221.00	0.00	100.00	Open	0.00	1007.07	1007.07	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7815	P-3883	221.00	8.00	130.00	Open	0.84	1060.01	1060.01	0.00	0.00
7816 7817	P-3884 P-3885	225.00 241.00	8.00 8.00	130.00 130.00	Open Open	9.56 4.37	1064.12 1057.40	1064.11 1057.40	0.00	0.00
7818	P-3886	225.00	8.00	130.00	Open	20.58	1057.40	1057.42	0.00	0.00
7820	P-3887	226.00	8.00	130.00	Open	0.48	1058.74	1058.74	0.00	0.00
7822 7823	P-3888 P-3889	234.00 225.00	8.00 8.00	130.00 130.00	Open Open	0.68 50.47	1216.98 1058.83	1216.98 1058.82	0.00 0.02	0.00
7824	P-3890	225.00	8.00	130.00	Open	-3.20	1059.96	1059.96	0.02	0.00
7825	P-3891	226.00	8.00	130.00	Open	51.31	1058.16	1058.14	0.02	0.00
7826 7829	P-3892 P-3893	230.00 233.00	8.00 8.00	130.00 130.00	Open Open	3.35 7.06	1064.62 1058.76	1064.62 1058.76	0.00	0.00
7830	P-3894	229.00	8.00	130.00	Open	-0.68	1059.85	1059.85	0.00	0.00
7832	P-3895	244.00	8.00	130.00	Open	-2.11	1062.90	1062.90	0.00	0.00
7833 7834	P-3896 P-3897	232.00 247.00	8.00 8.00	130.00 130.00	Open Open	7.72 -10.74	1218.15 1059.95	1218.15 1059.95	0.00	0.00
7835	P-3898	240.00	8.00	130.00	Open	8.97	1059.26	1059.26	0.00	0.00
7836	P-3899	234.00	8.00	130.00	Open	15.94	1060.84	1060.84	0.00	0.00
7838 7839	P-3900 P-3901	233.00 235.00	8.00 8.00	130.00 130.00	Open Open	7.33 48.43	1218.15 1061.18	1218.15 1061.16	0.00 0.02	0.00
7840	P-3902	238.00	8.00	130.00	Open	-6.04	1057.96	1057.96	0.00	0.00
7841	P-3903	237.00	8.00	130.00	Open	-16.19	1064.62	1064.63	0.00	0.00
7842 7843	P-3904 P-3905	241.00 238.00	8.00 8.00	130.00 130.00	Open Open	18.30 -41.08	963.95 1063.90	963.94 1063.91	0.00 0.01	0.00
7844	P-3906	243.00	8.00	130.00	Open	16.59	963.94	963.94	0.00	0.00
7845 7846	P-3907 P-3908	241.00 242.00	8.00 8.00	130.00 130.00	Open Open	13.62 -21.11	1060.84 1057.81	1060.84 1057.81	0.00	0.00
7847	P-3909	242.00	8.00	130.00	Open	69.36	1061.32	1061.29	0.00	0.00
7848	P-3910	247.00	8.00	130.00	Open	3.69	1061.61	1061.61	0.00	0.00
7849 7850	P-3911 P-3912	245.00 247.00	8.00 8.00	130.00 130.00	Open Open	6.49 14.40	1322.92 1058.75	1322.92 1058.75	0.00	0.00
7851	P-3913	248.00	8.00	130.00	Open	18.53	1056.75	1057.46	0.00	0.00
7853	P-3914	260.00	8.00	130.00	Open	-75.10	1060.34	1060.38	0.04	0.00
7854 7855	P-3915 P-3916	252.00 258.00	8.00 8.00	130.00 130.00	Open Open	17.86 -1.84	1057.42 1057.40	1057.42 1057.40	0.00	0.00
7856	P-3917	255.00	8.00	130.00	Open	219.43	1059.33	1057.40	0.28	0.00
7857	P-3918	258.00	8.00	130.00	Open	9.56	1059.73	1059.73	0.00	0.00
7858 7859	P-3919 P-3920	260.00 260.00	8.00 8.00	130.00 130.00	Open Open	6.87 16.21	1058.76 1059.27	1058.76 1059.27	0.00	0.00
7862	P-3921	263.00	8.00	130.00	Open	-0.68	1058.74	1058.74	0.00	0.00
7864	P-3922	261.00	8.00	130.00	Open	45.60	1060.86	1060.85	0.02	0.00
7865 7866	P-3923 P-3924	315.00 268.00	8.00 8.00	130.00 130.00	Open Open	-5.79 40.07	1059.16 1060.97	1059.16 1060.96	0.00 0.01	0.00
7867	P-3925	315.00	8.00	130.00	Open	-3.12	1060.36	1060.36	0.00	0.00
7868	P-3926	264.00	8.00	130.00	Open	3.90	1059.53	1059.53	0.00	0.00
7869 7870	P-3927 P-3928	274.00 270.00	8.00 8.00	130.00 130.00	Open Open	8.00 8.91	1059.73 1064.21	1059.73 1064.21	0.00	0.00
7871	P-3929	266.00	8.00	130.00	Open	0.68	1061.10	1061.10	0.00	0.00
7873	P-3930	267.00	8.00	130.00	Open	51.83	1058.85	1058.83	0.02	0.00
7874 7876	P-3931 P-3932	271.00 274.00	8.00 8.00	130.00 130.00	Open Open	0.46 9.25	1218.03 963.94	1218.03 963.94	0.00	0.00
7877	P-3933	298.00	8.00	130.00	Open	-0.88	1059.94	1059.94	0.00	0.00
7879	P-3934	271.00	8.00	130.00	Open Open	31.36	1217.79	1217.78	0.01	0.00
7880 7881	P-3935 P-3936	272.00 274.00	8.00 8.00	130.00 130.00	Open	10.23 0.68	1058.76 1057.79	1058.76 1057.79	0.00	0.00
7883	P-3937	285.00	8.00	130.00	Open	2.24	1064.62	1064.62	0.00	0.00
7884 7885	P-3938 P-3939	275.00 279.00	8.00 8.00	130.00 130.00	Open Open	13.88 17.08	1061.62 1057.69	1061.62 1057.69	0.00	0.00
7887	P-3940	276.00	8.00	130.00	Open	45.02	1061.07	1061.06	0.02	0.00
7888	P-3941	280.00	8.00	130.00	Open	5.20	1057.40	1057.40	0.00	0.00
7889 7891	P-3942 P-3943	277.00 277.00	8.00 8.00	130.00 130.00	Open Open	-3.06 16.94	1058.68 963.94	1058.68 963.94	0.00	0.00
7892	P-3944	284.00	8.00	130.00	Open	0.99	1061.32	1061.32	0.00	0.00
7893	P-3945	283.00	8.00	130.00	Open	7.89	963.94	963.94	0.00	0.00
7894 7895	P-3946 P-3947	290.00 285.00	8.00 8.00	130.00 130.00	Open Open	1.31 3.86	1060.45 1218.15	1060.45 1218.15	0.00	0.00
7896	P-3948	286.00	8.00	130.00	Open	1.52	1218.15	1218.15	0.00	0.00
7897	P-3949	287.00	8.00	130.00	Open	2.32	1218.02	1218.02	0.00	0.00
7898 7899	P-3950 P-3951	339.00 288.00	8.00 8.00	130.00 130.00	Open Open	-46.41 0.88	1061.68 1059.00	1061.70 1059.00	0.02 0.00	0.00 0.00
7901	P-3952	291.00	8.00	130.00	Open	-31.46	1057.44	1057.45	0.01	0.00
7902	P-3953	298.00	8.00	130.00	Open	9.40	1064.11 1064.62	1064.11	0.00	0.00
7903 7904	P-3954 P-3955	289.00 290.00	8.00 8.00	130.00 130.00	Open Open	1.23 0.28	1054.62	1064.62 1059.93	0.00	0.00
7906	P-3956	290.00	8.00	130.00	Open	13.55	1060.80	1060.80	0.00	0.00
7907 7908	P-3957 P-3958	291.00 292.00	8.00 8.00	130.00 130.00	Open Open	11.29 -0.68	1059.73 981.48	1059.73 981.48	0.00	0.00
7910	P-3959	292.00	8.00	130.00	Open	0.88	1057.68	1057.68	0.00	0.00
7912	P-3960	292.00	8.00	130.00	Open	10.92	1058.75	1058.75	0.00	0.00
7913 7914	P-3961 P-3962	342.00 294.00	8.00 8.00	130.00 130.00	Open Open	-1.56 2.84	1057.40 1057.80	1057.40 1057.80	0.00	0.00
7915	P-3963	294.00	8.00	130.00	Open	5.00	1064.10	1064.10	0.00	0.00
7916	P-3964	294.00	8.00	130.00	Open	47.47	1061.16	1061.15	0.02	0.00
7917 7918	P-3965 P-3966	300.00 302.00	8.00 8.00	130.00 130.00	Open Open	19.41 -34.42	963.95 1060.11	963.95 1060.12	0.00 0.01	0.00
7918 7919	P-3967	302.00	8.00	130.00	Open	4.46	1060.11	1060.12	0.00	0.00
7920	P-3968	308.00	8.00	130.00	Open	-2.30	1058.68	1058.68	0.00	0.00
7921	P-3969	349.00	8.00	130.00	Open	-1.75 126.25	1060.84	1060.84	0.00	0.00
7922 7923	P-3970 P-3971	311.00 342.00	8.00 8.00	130.00 130.00	Open Open	126.25 6.01	1059.96 1061.61	1059.84 1061.61	0.12 0.00	0.00
7924	P-3972	315.00	8.00	130.00	Open	11.08	1216.98	1216.97	0.00	0.00
7925	P-3973	359.00	8.00	130.00	Open	27.90	963.96	963.96	0.01	0.00
7926 7927	P-3974 P-3975	320.00 315.00	8.00 8.00	130.00 130.00	Open Open	-10.24 -8.51	1060.84 1059.16	1060.84 1059.16	0.00	0.00
7928	P-3976	319.00	8.00	130.00	Open	0.43	1064.62	1064.62	0.00	0.00
7929	P-3977 P-3978	315.00	8.00	130.00 130.00	Open	9.36	1064.12	1064.12 981.48	0.00	0.00 0.00
7930 7931	P-3978 P-3979	316.00 317.00	8.00 8.00	130.00	Open Open	13.83 14.88	981.48 1059.96	981.48 1059.95	0.00	0.00
7933	P-3980	318.00	8.00	130.00	Open	6.16	1063.37	1063.37	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7934	P-3981	318.00	8.00	130.00	Open	15.93	1061.62	1061.62	0.00	0.00
7935 7936	P-3982 P-3983	320.00 320.00	8.00 8.00	130.00 130.00	Open Open	-36.96 4.20	1057.81 1059.27	1057.82 1059.27	0.01 0.00	0.00
7937	P-3984	324.00	8.00	130.00	Open	-1.08	1055.27	1057.45	0.00	0.00
7939	P-3985	329.00	8.00	130.00	Open	88.07	1059.53	1059.46	0.07	0.00
7940 7942	P-3986 P-3987	330.00 331.00	8.00 8.00	130.00 130.00	Open Open	32.54 -6.47	1057.44 988.99	1057.42 988.99	0.01 0.00	0.00
7943	P-3988	331.00	8.00	130.00	Open	0.79	1064.87	1064.87	0.00	0.00
7944	P-3989	386.00	8.00	130.00	Open	-3.72	1057.40	1057.40	0.00	0.00
7945 7947	P-3990 P-3991	339.00 336.00	8.00 8.00	130.00 130.00	Open Open	66.34 47.12	1057.96 1061.15	1057.91 1061.12	0.04 0.02	0.00
8188	P-3992	661.00	8.00	130.00	Open	-1.99	1057.96	1057.96	0.02	0.00
8189	P-3993	598.00	8.00	130.00	Open	-49.50	1063.46	1063.50	0.04	0.00
8190 8191	P-3994 P-3995	578.00 594.00	8.00 8.00	130.00 130.00	Open Open	23.41 2.33	1057.89 1218.03	1057.88 1218.03	0.01 0.00	0.00
8192	P-3996	580.00	8.00	130.00	Open	18.27	1217.77	1217.76	0.01	0.00
8193	P-3997	728.00	8.00	130.00	Open	-32.86	1060.09	1060.11	0.02	0.00
8194 8195	P-3998 P-3999	584.00 590.00	8.00 8.00	130.00 130.00	Open Open	-72.95 7.98	1057.94 1060.45	1058.02 1060.45	0.08	0.00
8196	P-4000	672.00	8.00	130.00	Open	5.25	1061.62	1061.61	0.00	0.00
8197 8198	P-4001 P-4002	747.00 594.00	8.00 8.00	130.00 130.00	Open Open	-4.45 -7.75	981.48 1059.16	981.48 1059.16	0.00	0.00
8199	P-4003	620.00	8.00	130.00	Open	5.91	1059.10	1059.10	0.00	0.00
8200	P-4004	600.00	8.00	130.00	Open	-9.34	1057.41	1057.42	0.00	0.00
8201 8202	P-4005 P-4006	596.00 729.00	8.00 8.00	130.00 130.00	Open Open	-2.52 2.29	1064.21 1058.76	1064.21 1058.76	0.00	0.00
8204	P-4007	600.00	8.00	130.00	Open	2.99	1058.75	1058.74	0.00	0.00
8205	P-4008	616.00	8.00	130.00	Open	58.56	1058.34	1058.28	0.06	0.00
8206 8207	P-4009 P-4010	629.00 597.00	8.00 8.00	130.00 130.00	Open Open	29.73 92.89	1058.66 1059.66	1058.64 1059.53	0.02 0.13	0.00
8208	P-4011	597.00	8.00	130.00	Open	3.51	1322.91	1322.91	0.00	0.00
8209 8210	P-4012 P-4013	607.00 621.00	8.00 8.00	130.00 130.00	Open Open	-18.79 -0.31	1057.80 1059.82	1057.81 1059.82	0.01 0.00	0.00
8211	P-4014	652.00	8.00	130.00	Open	2.36	963.94	963.94	0.00	0.00
8212	P-4015	627.00	8.00	130.00	Open	-17.42	981.49	981.49	0.01	0.00
8213 8214	P-4016 P-4017	615.00 601.00	8.00 8.00	130.00 130.00	Open Open	29.55 -1.08	1218.24 1060.81	1218.23 1060.81	0.02	0.00
8216	P-4018	626.00	8.00	130.00	Open	-4.77	1064.87	1064.87	0.00	0.00
8217	P-4019	818.00	8.00	130.00	Open	1.03	981.48	981.48	0.00	0.00
8218 8219	P-4020 P-4021	617.00 609.00	8.00 8.00	130.00 130.00	Open Open	2.99 59.88	1059.93 1062.01	1059.93 1061.95	0.00 0.06	0.00
8220	P-4022	677.00	8.00	130.00	Open	5.71	1064.12	1064.12	0.00	0.00
8221 8222	P-4023 P-4024	640.00 656.00	8.00 8.00	130.00 130.00	Open	-1.44 -41.91	1059.85 1060.97	1059.85 1061.01	0.00 0.03	0.00
8223	P-4024 P-4025	616.00	8.00	130.00	Open Open	-60.80	1058.65	1058.71	0.03	0.00
8224	P-4026	620.00	8.00	130.00	Open	9.76	1063.72	1063.72	0.00	0.00
8225 8226	P-4027 P-4028	620.00 626.00	8.00 8.00	130.00 130.00	Open Open	8.59 1.44	1060.84 1064.62	1060.84 1064.62	0.00	0.00
8227	P-4029	629.00	8.00	130.00	Open	12.48	1058.75	1058.75	0.00	0.00
8228	P-4030	636.00	8.00	130.00	Open	-3.86	1059.93	1059.93	0.00	0.00
8229 8230	P-4031 P-4032	651.00 630.00	8.00 8.00	130.00 130.00	Open Open	-3.24 -37.33	1057.82 1063.87	1057.82 1063.90	0.00 0.03	0.00
8231	P-4033	646.00	8.00	130.00	Open	2.84	1058.95	1058.95	0.00	0.00
8232	P-4034	628.00	8.00	130.00	Open	17.66	1057.48	1057.47	0.01	0.00
8233 8234	P-4035 P-4036	748.00 684.00	8.00 8.00	130.00 130.00	Open Open	-10.07 27.95	1060.08 993.48	1060.08 993.47	0.00 0.02	0.00
8235	P-4037	639.00	8.00	130.00	Open	29.15	1218.23	1218.21	0.02	0.00
8236 8237	P-4038 P-4039	765.00 846.00	8.00 8.00	130.00 130.00	Open Open	2.79 1.93	1064.12 1057.96	1064.12 1057.96	0.00	0.00
8238	P-4040	795.00	8.00	130.00	Open	-1.12	1057.68	1057.68	0.00	0.00
8239	P-4041	719.00	8.00	130.00	Open	-0.91	1061.07	1061.07	0.00	0.00
8240 8241	P-4042 P-4043	678.00 719.00	8.00 8.00	130.00 130.00	Open Open	64.67 -146.98	1062.20 1059.94	1062.12 1060.32	0.08 0.38	0.00
8242	P-4044	754.00	8.00	130.00	Open	-5.96	1057.79	1057.79	0.00	0.00
8243 8244	P-4045	658.00	8.00	130.00	Open	27.56	1218.17	1218.16	0.02	0.00
8245	P-4046 P-4047	655.00 683.00	8.00 8.00	130.00 130.00	Open	46.63 -22.68	1063.43 1059.96	1063.39 1059.97	0.04 0.01	0.00
8246	P-4048	657.00	8.00	130.00	Open	17.13	1217.76	1217.76	0.01	0.00
8247 8248	P-4049 P-4050	666.00 658.00	8.00 8.00	130.00 130.00	Open Open	46.73 61.27	1057.88 1058.41	1057.84 1058.34	0.04 0.07	0.00
8249	P-4051	675.00	8.00	130.00	Open	2.73	1064.62	1064.62	0.00	0.00
8250	P-4052	676.00	8.00	130.00	Open	19.69	1057.47	1057.46	0.01	0.00
8251 8252	P-4053 P-4054	697.00 664.00	8.00 8.00	130.00 130.00	Open Open	-1.96 -9.79	1059.82 1057.42	1059.82 1057.42	0.00	0.00
8253	P-4055	680.00	8.00	130.00	Open	39.58	1057.90	1057.86	0.03	0.00
8254 8255	P-4056 P-4057	674.00 797.00	8.00 8.00	130.00 130.00	Open Open	-59.65 5.96	1058.58 1063.37	1058.65 1063.37	0.07 0.00	0.00 0.00
8256	P-4058	670.00	8.00	130.00	Open	-14.18	1058.77	1058.77	0.00	0.00
8257	P-4059	699.00	8.00	130.00	Open	-1.64	1063.91	1063.91	0.00	0.00
8258 8259	P-4060 P-4061	676.00 687.00	8.00 8.00	130.00 130.00	Open Open	-27.83 5.68	1060.13 1059.95	1060.15 1059.95	0.02	0.00
8260	P-4062	691.00	8.00	130.00	Open	6.78	1059.94	1059.93	0.00	0.00
8261	P-4063	711.00	8.00	130.00	Open	4.60	1058.95	1058.95	0.00	0.00
8262 8263	P-4064 P-4065	702.00 761.00	8.00 8.00	130.00 130.00	Open Open	-6.47 17.75	1218.03 1059.74	1218.03 1059.73	0.00 0.01	0.00
8264	P-4066	710.00	8.00	130.00	Open	8.69	1057.43	1057.42	0.00	0.00
8265	P-4067	705.00	8.00	130.00	Open	3.04	1062.42	1062.42	0.00	0.00
8266 8267	P-4068 P-4069	736.00 726.00	8.00 8.00	130.00 130.00	Open Open	6.96 2.44	1064.62 1059.27	1064.62 1059.27	0.00	0.00
8268	P-4070	700.00	8.00	130.00	Open	3.04	1064.10	1064.10	0.00	0.00
8269	P-4071	692.00	8.00	130.00	Open	24.16	1057.90	1057.89	0.01	0.00
8270 8271	P-4072 P-4073	695.00 713.00	8.00 8.00	130.00 130.00	Open Open	1.03 -8.44	1057.42 1057.42	1057.42 1057.42	0.00	0.00
8272	P-4074	704.00	8.00	130.00	Open	20.94	1057.82	1057.81	0.01	0.00
8273 8274	P-4075 P-4076	705.00 717.00	8.00 8.00	130.00 130.00	Open Open	1.19 1.81	1057.87 1057.83	1057.87 1057.83	0.00	0.00
8274	P-4076 P-4077	704.00	8.00	130.00	Open	-9.34	1057.83	1057.83	0.00	0.00
8276	P-4078	703.00	8.00	130.00	Open	2.04	1057.76	1057.76	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
8277	P-4079	707.00	8.00	130.00	Open	-4.40	1059.85	1059.85	0.00	0.00
8278 8279	P-4080 P-4081	716.00 703.00	8.00 8.00	130.00 130.00	Open Open	12.98 2.04	1057.77 1060.45	1057.76 1060.45	0.00	0.00
8280	P-4082	721.00	8.00	130.00	Open	-43.95	1063.91	1063.95	0.04	0.00
8281	P-4083	713.00	8.00	130.00	Open	2.24	1064.60	1064.60	0.00	0.00
8282 8283	P-4084 P-4085	719.00 878.00	8.00 8.00	130.00 130.00	Open Open	-3.50 -22.47	1059.93 1060.11	1059.93 1060.13	0.00 0.01	0.00
8284	P-4086	776.00	8.00	130.00	Open	2.55	1059.93	1059.93	0.00	0.00
8285 8286	P-4087 P-4088	753.00 729.00	8.00 8.00	130.00 130.00	Open Open	7.35 2.39	1064.21 1060.83	1064.21 1060.83	0.00	0.00
8287	P-4089	749.00	8.00	130.00	Open	6.88	981.48	981.48	0.00	0.00
8288 8289	P-4090 P-4091	1075.00 724.00	8.00 8.00	130.00 130.00	Open Open	84.30 9.65	1059.04 1064.62	1058.84 1064.62	0.20 0.00	0.00
8290	P-4092	748.00	8.00	130.00	Open	23.05	1059.29	1059.28	0.01	0.00
8291 8292	P-4093 P-4094	733.00 733.00	8.00 8.00	130.00 130.00	Open Open	6.19 -1.84	1057.76 1059.00	1057.76 1059.00	0.00	0.00
8293	P-4095	739.00	8.00	130.00	Open	16.42	1217.82	1217.81	0.00	0.00
8294	P-4096	740.00	8.00	130.00	Open	-79.99	1057.05	1057.18	0.13	0.00
8295 8296	P-4097 P-4098	937.00 743.00	8.00 8.00	130.00 130.00	Open Open	-34.16 1.28	1060.17 1057.86	1060.20 1057.86	0.03	0.00
8298	P-4099	735.00	8.00	130.00	Open	2.44	1059.27	1059.27	0.00	0.00
8299 8300	P-4100 P-4101	780.00 841.00	8.00 8.00	130.00 130.00	Open Open	2.33 -6.85	1216.97 1057.68	1216.97 1057.69	0.00	0.00
8301	P-4102	761.00	8.00	130.00	Open	4.95	1060.80	1060.80	0.00	0.00
8302 8303	P-4103 P-4104	862.00 773.00	8.00 8.00	130.00 130.00	Open Open	-4.00 7.52	1063.37 1058.95	1063.37 1058.95	0.00	0.00
8304	P-4105	774.00	8.00	130.00	Open	86.36	1059.46	1059.31	0.15	0.00
8305	P-4106 P-4107	770.00	8.00	130.00	Open	1.44	1059.35	1059.35	0.00	0.00
8306 8307	P-4107 P-4108	766.00 767.00	8.00 8.00	130.00 130.00	Open Open	-6.36 -3.83	1059.85 1059.82	1059.85 1059.82	0.00	0.00
8308	P-4109	762.00	8.00	130.00	Open	-36.74	1060.05	1060.08	0.03	0.00
8309 8310	P-4110 P-4111	760.00 773.00	8.00 8.00	130.00 130.00	Open Open	24.11 26.15	1059.96 1057.80	1059.95 1057.79	0.01 0.02	0.00
8311	P-4112	762.00	8.00	130.00	Open	2.32	1057.76	1057.76	0.00	0.00
8312 8313	P-4113 P-4114	798.00 770.00	8.00 8.00	130.00 130.00	Open Open	11.00 12.72	1064.84 1064.85	1064.84 1064.84	0.00	0.00
8314	P-4115	802.00	8.00	130.00	Open	4.00	1058.69	1058.69	0.00	0.00
8315 8316	P-4116 P-4117	795.00	8.00 8.00	130.00	Open	48.24 -1.44	1057.99	1057.93	0.05	0.00
8317	P-4117 P-4118	831.00 791.00	8.00	130.00 130.00	Open Open	-5.50	1057.79 988.98	1057.79 988.99	0.00	0.00
8318	P-4119	796.00	8.00	130.00	Open	70.71	1061.42	1061.32	0.11	0.00
8319 8320	P-4120 P-4121	771.00 860.00	8.00 8.00	130.00 130.00	Open Open	31.31 8.27	1218.34 1057.45	1218.32 1057.45	0.02	0.00
8321	P-4122	776.00	8.00	130.00	Open	18.76	1217.78	1217.77	0.01	0.00
8322 8323	P-4123 P-4124	811.00 805.00	8.00 8.00	130.00 130.00	Open Open	9.72 8.10	1064.61 1064.63	1064.61 1064.62	0.00	0.00
8324	P-4125	791.00	8.00	130.00	Open	-12.29	981.48	981.48	0.00	0.00
8325 8326	P-4126 P-4127	789.00 788.00	8.00 8.00	130.00	Open Open	-11.40 82.34	1057.79	1057.80	0.00 0.14	0.00
8327	P-4127 P-4128	797.00	8.00	130.00 130.00	Open	27.95	1058.84 1218.19	1058.70 1218.17	0.14	0.00
8328	P-4129	798.00	8.00	130.00	Open	-13.44	1057.81	1057.82	0.00	0.00
8329 8330	P-4130 P-4131	793.00 816.00	8.00 8.00	130.00 130.00	Open Open	-24.39 71.56	1061.61 1058.54	1061.63 1058.43	0.01 0.11	0.00
8331	P-4132	805.00	8.00	130.00	Open	4.61	1064.61	1064.60	0.00	0.00
8332 8333	P-4133 P-4134	826.00 823.00	8.00 8.00	130.00 130.00	Open Open	21.90 72.88	1057.83 1061.54	1057.82 1061.42	0.01 0.12	0.00
8334	P-4135	801.00	8.00	130.00	Open	5.96	1058.75	1058.75	0.00	0.00
8335 8336	P-4136 P-4137	832.00 821.00	8.00 8.00	130.00 130.00	Open Open	4.08 19.19	1064.60 1061.63	1064.60 1061.62	0.00 0.01	0.00
8337	P-4138	816.00	8.00	130.00	Open	6.44	1063.30	1063.30	0.00	0.00
8338	P-4139	804.00	8.00	130.00	Open	-11.48	1057.81	1057.81	0.00	0.00
8339 8340	P-4140 P-4141	811.00 822.00	8.00 8.00	130.00 130.00	Open Open	12.23 -10.43	1057.76 1059.94	1057.76 1059.94	0.00	0.00
8341	P-4142	806.00	8.00	130.00	Open	49.80	1058.04	1057.99	0.06	0.00
8342 8344	P-4143 P-4144	833.00 807.00	8.00 8.00	130.00 130.00	Open Open	-0.68 86.01	1057.41 1059.35	1057.41 1059.20	0.00 0.16	0.00
8345	P-4145	810.00	8.00	130.00	Open	9.82	1057.54	1057.54	0.00	0.00
8346 8347	P-4146 P-4147	829.00 865.00	8.00 8.00	130.00 130.00	Open Open	11.07 3.33	1063.37 1057.68	1063.37 1057.68	0.00	0.00
8348	P-4148	832.00	8.00	130.00	Open	-3.27	1059.82	1059.82	0.00	0.00
8349 8350	P-4149 P-4150	813.00 905.00	8.00 8.00	130.00 130.00	Open Open	2.07 35.60	1057.68 1060.94	1057.68 1060.91	0.00 0.03	0.00
8351	P-4151	948.00	8.00	130.00	Open	5.49	1050.94	1057.68	0.00	0.00
8352	P-4152	849.00	8.00	130.00	Open	6.39	1059.53	1059.53	0.00	0.00
8353 8354	P-4153 P-4154	945.00 836.00	8.00 8.00	130.00 130.00	Open Open	6.92 85.05	1060.08 1059.20	1060.08 1059.04	0.00 0.16	0.00
8355	P-4155	846.00	8.00	130.00	Open	8.09	1057.80	1057.80	0.00	0.00
8356 8357	P-4156 P-4157	831.00 836.00	8.00 8.00	130.00 130.00	Open Open	30.92 7.59	1218.32 1057.69	1218.29 1057.68	0.02 0.00	0.00
8358	P-4158	836.00	8.00	130.00	Open	-2.07	1059.66	1059.66	0.00	0.00
8359 8360	P-4159 P-4160	958.00 837.00	8.00 8.00	130.00 130.00	Open Open	65.62 -78.86	1062.31 1058.03	1062.20 1058.17	0.11 0.14	0.00
8361	P-4161	850.00	8.00	130.00	Open	-30.39	1060.15	1060.17	0.02	0.00
8362	P-4162	843.00	8.00	130.00	Open	-35.20	1057.78	1057.81	0.03	0.00
8363 8364	P-4163 P-4164	977.00 850.00	8.00 8.00	130.00 130.00	Open Open	10.44 -8.80	1063.38 1058.76	1063.37 1058.77	0.00	0.00
8365	P-4165	884.00	8.00	130.00	Open	10.03	1064.61	1064.61	0.00	0.00
8366 8367	P-4166 P-4167	866.00 865.00	8.00 8.00	130.00 130.00	Open Open	-3.68 3.60	1057.68 1060.82	1057.68 1060.82	0.00	0.00
8368	P-4168	882.00	8.00	130.00	Open	4.06	1064.60	1064.60	0.00	0.00
8369	P-4169	866.00	8.00	130.00	Open	47.08	1057.93	1057.88	0.06	0.00
8370 8371	P-4170 P-4171	870.00 928.00	8.00 8.00	130.00 130.00	Open Open	-2.36 4.20	1218.03 1057.76	1218.03 1057.76	0.00	0.00
8372	P-4172	861.00	8.00	130.00	Open	1.68	1058.69	1058.69	0.00	0.00
8374 8376	P-4173 P-4174	863.00 870.00	8.00 8.00	130.00 130.00	Open Open	-57.77 29.95	1061.85 1218.27	1061.93 1218.24	0.08 0.02	0.00
8377	P-4175	875.00	8.00	130.00	Open	98.30	1059.71	1059.49	0.22	0.00
8378	P-4176	881.00	8.00	130.00	Open	5.41	1064.10	1064.10	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
8379	P-4177	866.00	8.00	130.00	Open	3.35	873.78	873.78	0.00	0.00
8380 8381	P-4178 P-4179	911.00 916.00	8.00 8.00	130.00 130.00	Open Open	2.32 27.55	1064.60 993.47	1064.60 993.45	0.00 0.02	0.00
8382	P-4180	883.00	8.00	130.00	Open	-10.58	1059.94	1059.95	0.00	0.00
8383	P-4181	895.00	8.00	130.00	Open	-3.40	1057.79	1057.79	0.00	0.00
8384 8385	P-4182 P-4183	904.00 891.00	8.00 8.00	130.00 130.00	Open Open	9.88 -74.94	1064.61 1060.21	1064.61 1060.34	0.00 0.13	0.00
8386	P-4184	898.00	8.00	130.00	Open	22.09	1057.49	1057.47	0.01	0.00
8387 8388	P-4185 P-4186	917.00 911.00	8.00 8.00	130.00 130.00	Open Open	13.89 30.52	1057.47 1218.29	1057.46 1218.27	0.01 0.03	0.00
8389	P-4187	922.00	8.00	130.00	Open	-2.76	1218.03	1218.03	0.00	0.00
8390 8391	P-4188 P-4189	905.00 922.00	8.00 8.00	130.00 130.00	Open Open	5.91 2.95	1057.42 1059.93	1057.42 1059.93	0.00	0.00
8392	P-4190	923.00	8.00	130.00	Open	6.04	1064.11	1064.11	0.00	0.00
8393	P-4191	917.00	8.00	130.00	Open	-3.78	1059.53	1059.53	0.00	0.00
8394 8395	P-4192 P-4193	919.00 1075.00	8.00 8.00	130.00 130.00	Open Open	63.32 10.13	1061.21 1061.85	1061.11 1061.85	0.10 0.00	0.00
8396	P-4194	949.00	8.00	130.00	Open	-38.74	1060.16	1060.21	0.04	0.00
8397 8398	P-4195 P-4196	974.00 928.00	8.00 8.00	130.00 130.00	Open Open	2.32 -13.79	1059.35 1061.72	1059.35 1061.72	0.00 0.01	0.00
8399	P-4197	971.00	8.00	130.00	Open	12.09	1059.44	1059.43	0.01	0.00
8400	P-4198	1092.00	8.00	130.00	Open	4.64	1064.62	1064.62	0.00	0.00
8401 8402	P-4199 P-4200	997.00 983.00	8.00 8.00	130.00 130.00	Open Open	80.31 5.51	1058.73 1060.83	1058.56 1060.83	0.17 0.00	0.00
8403	P-4201	943.00	8.00	130.00	Open	9.23	1060.83	1060.83	0.00	0.00
8404 8405	P-4202 P-4203	953.00 980.00	8.00 8.00	130.00 130.00	Open Open	3.32 15.24	1063.37 1217.76	1063.37 1217.75	0.00 0.01	0.00
8406	P-4204	963.00	8.00	130.00	Open	30.99	1218.31	1218.28	0.03	0.00
8407 8408	P-4205 P-4206	1058.00 978.00	8.00 8.00	130.00 130.00	Open Open	8.00 -63.84	1063.30 1056.80	1063.30 1056.91	0.00 0.11	0.00
8409	P-4207	1265.00	8.00	130.00	Open	4.02	1322.91	1322.91	0.00	0.00
8410	P-4208	1012.00	8.00	130.00	Open	62.27	1062.12	1062.01	0.11	0.00
8411 8412	P-4209 P-4210	1005.00 995.00	8.00 8.00	130.00 130.00	Open Open	-1.97 0.08	1218.03 1060.01	1218.03 1060.01	0.00	0.00
8414	P-4211	1251.00	8.00	130.00	Open	0.68	1059.95	1059.95	0.00	0.00
8416 8417	P-4212 P-4213	998.00 1064.00	8.00 8.00	130.00 130.00	Open Open	31.75 -36.38	1217.82 1060.12	1217.79 1060.16	0.03 0.04	0.00
8418	P-4214	1004.00	8.00	130.00	Open	-34.18	1060.12	1060.10	0.04	0.00
8419	P-4215	1014.00	8.00	130.00	Open	-2.40	988.98	988.98	0.00	0.00
8420 8421	P-4216 P-4217	1026.00 1044.00	8.00 8.00	130.00 130.00	Open Open	5.83 34.78	1059.53 1060.01	1059.53 1059.98	0.00 0.04	0.00
8422	P-4218	1086.00	8.00	130.00	Open	5.08	1060.80	1060.80	0.00	0.00
8423 8426	P-4219 P-4221	1289.00 1105.00	8.00 8.00	130.00 130.00	Open Open	0.99 3.69	1059.93 1064.62	1059.93 1064.62	0.00	0.00
8427	P-4222	1092.00	8.00	130.00	Open	-0.83	1060.02	1060.02	0.00	0.00
8428 8429	P-4223 P-4224	1124.00 1166.00	8.00 8.00	130.00 130.00	Open Open	13.89 -13.66	1057.47 1057.83	1057.46 1057.84	0.01 0.01	0.00
8430	P-4225	1163.00	8.00	130.00	Open	-4.36	1059.94	1057.04	0.00	0.00
8431	P-4226 P-4227	1166.00	8.00	130.00	Open	10.73	1059.27	1059.26	0.00	0.00
8432 8433	P-4227 P-4228	1290.00 1220.00	8.00 8.00	130.00 130.00	Open Open	3.35 -4.21	1064.60 1059.93	1064.60 1059.94	0.00	0.00
8434	P-4229	1382.00	8.00	130.00	Open	50.96	1058.14	1058.04	0.10	0.00
8435 8436	P-4230 P-4231	1214.00 1322.00	8.00 8.00	130.00 130.00	Open Open	31.47 -60.03	1218.35 1056.92	1218.31 1057.05	0.04 0.13	0.00
8437	P-4232	1307.00	8.00	130.00	Open	16.03	967.37	967.36	0.01	0.00
8438 8439	P-4233 P-4234	1453.00 1464.00	8.00 8.00	130.00 130.00	Open Open	0.54 93.69	1060.01 1061.99	1060.01 1061.66	0.00 0.33	0.00
8440	P-4235	1332.00	8.00	130.00	Open	54.08	1058.27	1058.16	0.11	0.00
8441	P-4236 P-4237	1360.00 1425.00	8.00	130.00	Open	24.82	1059.99	1059.97	0.03	0.00
8442 8443	P-4238	1410.00	8.00 8.00	130.00 130.00	Open Open	8.25 8.54	1057.81 1059.94	1057.80 1059.94	0.00	0.00
8445	P-4240	1862.00	8.00	130.00	Open	23.77	1057.78	1057.74	0.03	0.00
8446 8447	P-4241 P-4242	2504.00 2538.00	8.00 8.00	130.00 130.00	Open Open	69.79 83.44	1058.43 1059.22	1058.09 1058.75	0.33 0.47	0.00
8448	P-4243	2410.00	8.00	130.00	Open	-47.57	1061.70	1061.85	0.16	0.00
8449 8450	P-4244 P-4245	2305.00 2749.00	8.00 8.00	130.00 130.00	Open Open	14.13 22.85	1059.95 1057.88	1059.94 1057.83	0.02 0.05	0.00
8451	P-4246	2640.00	8.00	130.00	Open	81.82	1058.64	1058.17	0.47	0.00
8452 8454	P-4247 P-4248	2638.00 3442.00	8.00 8.00	130.00 130.00	Open Open	0.68 82.89	873.78 1060.38	873.78 1059.75	0.00 0.62	0.00
8455	P-4249	4140.00	8.00	130.00	Open	2.59	873.78	873.78	0.00	0.00
8456	P-4250	6.00	99.00	130.00	Open	0.23	1059.10	1059.10	0.00	0.00
8458 8460	P-4251 P-4252	11.00 11.00	99.00 99.00	130.00 130.00	Open Open	0.08 0.08	1059.10 1059.10	1059.10 1059.10	0.00	0.00
8462	P-4253	11.00	99.00	130.00	Open	0.20	1218.35	1218.35	0.00	0.00
8464 8466	P-4254 P-4255	15.00 18.00	99.00 99.00	130.00 130.00	Open Open	1.50 0.20	960.64 960.64	960.64 960.64	0.00	0.00
8468	P-4256	21.00	99.00	130.00	Open	0.48	1061.56	1061.56	0.00	0.00
8470 8472	P-4257 P-4258	22.00 28.00	99.00 99.00	130.00 130.00	Open Open	-0.08 0.68	1059.10 1061.03	1059.10 1061.03	0.00	0.00
8474	P-4259	32.00	99.00	130.00	Open	-0.28	1058.68	1058.68	0.00	0.00
8476	P-4260	33.00	99.00	130.00	Open	0.68	1061.50	1061.50	0.00	0.00
8478 8480	P-4261 P-4262	36.00 39.00	99.00 99.00	130.00 130.00	Open Open	0.28 0.68	1061.12 1061.07	1061.12 1061.07	0.00	0.00
8482	P-4263	46.00	99.00	130.00	Open	0.48	1058.69	1058.69	0.00	0.00
8484 8486	P-4264 P-4265	47.00 50.00	99.00 99.00	130.00 130.00	Open Open	-0.48 -1.68	1058.68 1059.26	1058.68 1059.26	0.00	0.00
8489	P-4266	68.00	99.00	130.00	Open	-0.48	1058.65	1058.65	0.00	0.00
8492	P-4267	75.00	99.00 99.00	130.00	Open	0.68	1060.81	1060.81	0.00	0.00
8494 8497	P-4268 P-4269	77.00 128.00	99.00	130.00 130.00	Open Open	-0.48 0.55	1058.65 967.07	1058.65 967.07	0.00 0.00	0.00
8499	P-4270	207.00	99.00	130.00	Open	0.48	1058.37	1058.37	0.00	0.00
8501 8503	P-4271 P-4272	155.00 206.00	99.00 99.00	130.00 130.00	Open Open	-0.08 -0.28	1058.75 1064.90	1058.75 1064.90	0.00	0.00
8505	P-4273	166.00	99.00	130.00	Open	0.48	1060.82	1060.82	0.00	0.00
8507 8508	P-4274 P-4275	188.00 168.00	99.00 99.00	130.00 130.00	Open Open	1.24 0.68	1059.33 1062.90	1059.33 1062.90	0.00	0.00
8510	P-4276	174.00	99.00	130.00	Open	0.08	1058.65	1058.65	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
8512	P-4277	213.00	99.00	130.00	Open	0.68	1060.82	1060.82	0.00	0.00
8514	P-4278	209.00	99.00	130.00	Open	0.99	1058.65	1058.65	0.00	0.00
8515	P-4279	227.00	99.00	130.00	Open	2.10	1058.65	1058.65	0.00	0.00
8516	P-4280	260.00	99.00	130.00	Open	-0.48	1059.47	1059.47	0.00	0.00
8518	P-4281	243.00	99.00	130.00	Open	0.08	1057.47	1057.47	0.00	0.00
8520	P-4282	245.00	99.00	130.00	Open	0.68	1064.60	1064.60	0.00	0.00
8522	P-4283	251.00	99.00	130.00	Open	-6.12	1058.64	1058.64	0.00	0.00
8524	P-4284	261.00	99.00	130.00	Open	0.08	1057.42	1057.42	0.00	0.00
8526	P-4285	312.00	99.00	130.00	Open	-0.72	1022.90	1022.90	0.00	0.00
8528	P-4286	290.00	99.00	130.00	Open	-0.48	1058.68	1058.68	0.00	0.00
8530	P-4287	444.00	99.00	130.00	Open	1.75	1058.65	1058.65	0.00	0.00
8531	P-4288	461.00	99.00	130.00	Open	0.43	1058.65	1058.65	0.00	0.00
8532	P-4289	477.00	99.00	130.00	Open	-2.77	1059.26	1059.26	0.00	0.00
8533	P-4290	601.00	99.00	130.00	Open	0.31	1075.00	1075.00	0.00	0.00
8535	P-4291	724.00	99.00	130.00	Open	-0.08	1075.00	1075.00	0.00	0.00
8537	P-4292	786.00	99.00	130.00	Open	-0.48	1064.63	1064.63	0.00	0.00
8539	P-4293	1004.00	99.00	130.00	Open	-0.08	1075.00	1075.00	0.00	0.00
8541	P-4294	876.00	99.00	130.00	Open	0.46	1075.00	1075.00	0.00	0.00
499	P-Graves_Mill	64.00	12.00	130.00	Open	186.34	1061.23	1061.22	0.01	0.00
2065	P-Hawkins_Mill	709.00	20.00	130.00	Open	71.80	1064.13	1064.13	0.00	0.00
1409	P-Lakeside	22.00	16.00	130.00	Open	287.26	1062.76	1062.76	0.00	0.00

BEDFORD COUNTY PSA WATER SYSTEMS HYDRAULIC ANALYSIS MAY 13, 2013

Run 1 - Twice Average Daily Demand plus maximum available fire flow calculated for each junction.

Existing Water System.

All Tanks at Normal Low Level, High Point WTP - Off, & Lynchburg WTP - Off.

Steady State Analysis

Tank Report

Node Label	Base Elevation (ft)	Minimum Elevation (ft)	Initial Elevation (ft)	Maximum Elevation (ft)	Diameter (ft)	Inflow (gpm)	Hydraulic Grade (ft)
Althea_Grove_Tank	1032.50	1032.50	1065.00	1075.50	68.92	-749.29	1065.00
Fox_Run_Tank	1000.00	1196.03	1201.29	1201.39	2.67	-3.75	1201.29
Huntingwood_Tank	1050.00	1050.00	1065.00	1082.00	100.00	-772.43	1065.00
New_London_Tank	1031.32	1031.32	1065.00	1075.50	67.00	-612.07	1065.00
Parkway_Tank	1279.00	1279.00	1323.01	1329.00	60.00	-42.97	1323.01
Smith_Mountain_Lake_Tank	1046.50	1180.00	1219.01	1224.18	62.07	-525.51	1219.01
Stewartsville_Tank	1249.98	1249.98	1249.99	1250.00	10.00	(N/A)	(N/A)
R-4						-0.54	1075.00
R-Abert_WTP						0.00	800.00
R-Falling Creek						0.00	1670.00
R-High_Point_Clearwell						0.00	971.50
R-Lynchburg_WTP						0.00	1200.00
R-Camp_24						(N/A)	(N/A)

Pump Report

Pump Label	Elevation (ft)	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)
PMP-Abert_WTP	0.00	Off	800.00	1,064.63	0.00	0.00
PMP-Camp_24	1,000.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)
PMP-Fox_Run	1,007.36	Off	1,064.83	1,201.29	0.00	0.00
PMP-High_Point_WTP	936.97	Off	971.50	1,218.60	0.00	0.00
PMP-New_London	912.00	Off	1,064.76	1,065.00	0.00	0.00

Valve Report

Valve	Elevation	Diameter	Control	Disabassa	Upstream Hydraulic Grade	Downstream Hydraulic Grade	Headloss
				Discharge			
Label	(ft)	(in)	Status	(gpm)	(ft)	(ft)	(ft)
PRV-8	928.06	6.00	Inactive	10.96	1,064.87	1,064.87	0.00
PRV-9	885.56	6.00	Inactive	22.63	1,064.63	1,064.63	0.00
PRV-10	895.29	6.00	Inactive	7.40	1,064.63	1,064.63	0.00
PRV-27	880.00	6.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)
PRV-Bateman_Bridge	905.20	6.00	Active	57.48	1,056.73	981.50	75.23
PRV-Beechwood	922.00	3.00	Active	26.10	1,218.12	991.36	226.76
PRV-Benni_Court	848.00	2.00	Active	1.58	1,218.03	963.61	254.42
PRV-Cardinal_Road	846.81	1.50	Active	0.46	1,217.75	962.42	255.33
PRV-Cottontown_Road	813.68	6.00	Active	28.46	1,062.10	963.97	98.13
PRV-Forestdale	856.03	6.00	Active	10.49	1,060.97	994.76	66.21
PRV-Forty_Acres	828.70	4.00	Active	5.66	1,218.02	967.43	250.60
PRV-Franklin_County	803.07	6.00	Inactive	257.22	1,215.48	1,215.48	0.00
PRV-Graves_Mill_Road	848.00	10.00	Inactive	-219.37	1,061.07	1,061.07	0.00
PRV-Gross_Point	856.72	4.00	Active	8.38	1,217.75	960.77	256.98
PRV-Harbor_Heights	907.00	6.00	Active	2.39	1,217.85	1,068.85	149.00
PRV-Highpoint_Road	942.03	3.00	Active	12.39	1,218.60	1,022.96	195.64
PRV-Highpoint_Section_8	950.00	3.00	Active	4.20	1,218.60	1,019.36	199.24
PRV-Homestead_Drive	849.86	8.00	Closed	0.00	1,060.81	981.48	0.00
PRV-Isle_of_Pines	901.00	4.00	Active	30.59	1,218.28	993.49	224.79
PRV-Lake_Estates	874.89	4.00	Active	16.42	1,217.81	967.37	250.44
PRV-Lake_Vista	814.36	6.00	Inactive	97.49	1,062.10	1,062.10	0.00
PRV-New_London	785.92	6.00	Active	3.35	1,059.53	873.78	185.75
PRV-Park_Shores	873.38	4.00	Active	7.26	1,218.11	988.99	229.13
PRV-Ridgeview_Drive	740.00	6.00	Active	6.56	1,062.24	825.55	236.69
PRV-Sign_N_Pine	845.98	1.50	Active	4.37	1,217.73	961.59	256.14
PRV-Waterways	858.00	2.00	Active	11.48	1,217.77	973.61	244.17

BEDFORD COUNTY PSA WATER SYSTEMS HYDRAULIC ANALYSIS MAY 13, 2013

Run 1 - Twice Average Daily Demand plus maximum available fire flow calculated for each junction.

Existing Water System.

All Tanks at Normal Low Level, High Point WTP - Off, & Lynchburg WTP - Off.

Steady State Analysis

Fire Flow Report - sorted by Available Fire Flow

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
8695	J-4226	<none></none>	(N/A)	1.00	(N/A)	(N/A)	(N/A)	20.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
8701	J-4227	<none></none>	(N/A)	1.00	(N/A)	(N/A)	(N/A)	20.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
8705 8707	J-4228 J-4229	<none></none>	(N/A) (N/A)	1.00 1.00	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	20.00 20.00	(N/A) (N/A)	20.00 20.00	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)
8707	J-4229 J-4230	<none></none>	(N/A)	1.00	(N/A)	(N/A)	(N/A)	20.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
8713	J-4231	<none></none>	(N/A)	1.00	(N/A)	(N/A)	(N/A)	20.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
8716	J-4232	<none></none>	(N/A)	1.00	(N/A)	(N/A)	(N/A)	20.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
8719	J-4233	<none></none>	(N/A)	1.00	(N/A)	(N/A)	(N/A)	20.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
8721 8722	J-4234 J-4235	<none></none>	(N/A) (N/A)	1.00 1.00	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	20.00 20.00	(N/A) (N/A)	20.00 20.00	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)
386	J-210	Tank_Node	FALSE	1.00	0.00	1.08	0.08	20.00	20.91	20.00	17.23	J-1198	(N/A)	17.23	J-1198
387	J-211	Tank_Node	FALSE	1.00	0.00	1.08	0.08	20.00	20.56	20.00	17.23	J-1198	(N/A)	17.23	J-1198
2243	J-1198	Tank_Node	FALSE	1.00	0.00	2.08	1.08	20.00	17.23	20.00	20.56	J-211	(N/A)	20.56	J-211
33 2354	J-4 J-1262	Forest Forest	TRUE TRUE	1.00 1.00	37.68 39.06	1.68 2.48	38.36 40.54	20.00 20.00	21.41 20.15	20.00 20.00	24.30 24.31	J-1197 J-1197	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2295	J-1229	Forest	TRUE	1.00	48.65	1.88	49.53	20.00	44.38	20.00	20.01	J-1262	(N/A)	17.23	J-1198
2296	J-1230	Forest	TRUE	1.00	48.67	2.48	50.15	20.00	30.04	20.00	20.00	J-1262	(N/A)	17.23	J-1198
2035	J-1076	Lakes	TRUE	1.00	59.98	2.06	61.04	20.00	20.01	20.00	31.53	J-1360	(N/A)	17.23	J-1198
2032 2027	J-1074 J-1071	Forest Lakes	TRUE TRUE	1.00 1.00	67.70 71.15	1.68 1.55	68.38 71.70	20.00 20.00	20.02 20.18	20.00 20.00	24.31 32.62	J-1197 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2024	J-1069	Lakes	TRUE	1.00	76.50	1.37	76.87	20.00	20.01	20.00	32.62	J-2323	(N/A)	17.23	J-1198
2030	J-1073	Forest	TRUE	1.00	79.80	1.08	79.87	20.00	20.00	20.00	24.31	J-1197	(N/A)	17.23	J-1198
2002 2015	J-1056	Lakes	TRUE	1.00	84.33	1.63	84.97	20.00	20.11	20.00	29.92	J-1360	(N/A)	17.23	J-1198
2015	J-1064 J-1066	Lakes Lakes	TRUE TRUE	1.00 1.00	87.42 88.46	1.46 1.37	87.88 88.84	20.00 20.00	20.01 20.04	20.00 20.00	32.62 30.76	J-2323 J-1575	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2020	J-1067	Lakes	TRUE	1.00	90.23	1.72	90.95	20.00	20.04	20.00	32.33	J-1575	(N/A)	17.23	J-1198
2007	J-1059	Forest	TRUE	1.00	92.00	2.88	93.89	20.00	20.04	20.00	24.31	J-1197	(N/A)	17.23	J-1198
2012	J-1062	Lakes	TRUE	1.00	93.71	1.89	94.60	20.00	20.07	20.00	32.62	J-2323	(N/A)	17.23	J-1198
2225 2224	J-1188 J-1187	Forest Forest	TRUE TRUE	1.00 1.00	94.21 94.24	1.08 1.68	94.29 94.92	20.00 20.00	46.49 38.12	20.00 20.00	20.01 20.00	J-1262 J-1262	(N/A) (N/A)	17.22 17.22	J-1198 J-1198
2316	J-1242	Forest	TRUE	1.00	95.18	1.88	96.06	20.00	20.00	20.00	24.30	J-1197	(N/A)	17.22	J-1198
1961	J-1029	Forest	TRUE	1.00	98.47	2.08	99.55	20.00	20.07	20.00	24.31	J-1197	(N/A)	17.23	J-1198
1976	J-1039	Lakes	TRUE	1.00	104.36	1.46	104.82	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1825 2005	J-941 J-1058	Forest Lakes	TRUE TRUE	1.00 1.00	107.05 107.63	1.68 1.72	107.73 108.35	20.00 20.00	20.00 20.05	20.00 20.00	24.31 32.62	J-1197 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1996	J-1052	Fox_Run	TRUE	1.00	108.28	1.88	109.16	20.00	20.01	20.00	53.56	J-1337	(N/A)	17.23	J-1198
1993	J-1050	Lakes	TRUE	1.00	108.80	1.46	109.26	20.00	20.33	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1956 1970	J-1026	Lakes	TRUE TRUE	1.00 1.00	110.64 111.60	1.37 1.72	111.01 112.32	20.00 20.00	20.25 20.00	20.00 20.00	32.62 32.62	J-2323	(N/A)	17.23 17.23	J-1198
1970	J-1035 J-1046	Lakes Lakes	TRUE	1.00	111.77	1.72	112.32	20.00	20.00	20.00	32.62	J-2323 J-2323	(N/A) (N/A)	17.23	J-1198 J-1198
1726	J-877	Forest	TRUE	1.00	111.82	1.48	112.30	20.00	20.01	20.00	24.31	J-1197	(N/A)	17.23	J-1198
1937	J-1013	Lakes	TRUE	1.00	111.90	1.63	112.53	20.00	20.33	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1944	J-1018 J-1009	Forest	TRUE TRUE	1.00 1.00	113.01	1.88	113.89 116.25	20.00 20.00	20.02 20.01	20.00 20.00	24.20 32.62	J-1197 J-2323	(N/A) (N/A)	17.12 17.23	J-1198 J-1198
1931 1972	J-1009 J-1036	Lakes Forest	TRUE	1.00	115.88 117.99	1.37 1.68	118.67	20.00	20.07	20.00	24.31	J-2323 J-1197	(N/A)	17.23	J-1198
1998	J-1053	Lakes	TRUE	1.00	118.01	1.55	118.56	20.00	20.09	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1906	J-993	Forest	TRUE	1.00	123.16	1.68	123.84	20.00	20.18	20.00	24.30	J-1197	(N/A)	17.23	J-1198
30 1947	J- <u>2</u> J-1020	Forest Forest	TRUE TRUE	1.00 1.00	123.56 125.81	1.08 1.88	123.63 126.69	20.00 20.00	20.19 20.11	20.00 20.00	24.31 24.30	J-1197 J-1197	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2321	J-1020 J-1244	Lakes	TRUE	1.00	127.62	1.37	127.99	20.00	20.11	20.00	21.04	J-1197 J-1374	(N/A)	17.23	J-1198
2558	J-1374	Lakes	TRUE	1.00	129.39	1.29	129.67	20.00	20.04	20.00	23.64	J-1245	(N/A)	17.23	J-1198
2322	J-1245	Lakes	TRUE	1.00	131.47	1.37	131.84	20.00	22.32	20.00	20.05	J-1374	(N/A)	17.23	J-1198
2694 1735	J-1452 J-883	Lakes Lakes	TRUE TRUE	1.00 1.00	131.65 131.65	1.37 1.29	132.02 131.94	20.00 20.00	47.65 46.68	20.00 20.00	20.00 20.00	J-1374 J-1374	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2695	J-1453	Lakes	TRUE	1.00	131.65	1.63	132.29	20.00	39.17	20.00	20.00	J-1374	(N/A)	17.23	J-1198
2026	J-1070	Lakes	TRUE	1.00	131.66	1.20	131.86	20.00	24.73	20.00	20.00	J-1374	(N/A)	17.23	J-1198
1734	J-882	Lakes	TRUE	1.00	131.66	1.46	132.12	20.00	30.85	20.00	20.00	J-1374	(N/A)	17.23	J-1198
2422 1929	J-1297 J-1008	Lakes Lakes	TRUE TRUE	1.00 1.00	131.66 132.11	1.20 1.29	131.86 132.39	20.00 20.00	24.70 20.00	20.00 20.00	20.00 32.62	J-1374 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1979	J-1041	Forest	TRUE	1.00	133.14	1.68	133.82	20.00	20.05	20.00	24.24	J-1197	(N/A)	17.16	J-1198
1941	J-1016	Forest	TRUE	1.00	133.28	1.88	134.16	20.00	20.12	20.00	24.30	J-1197	(N/A)	17.23	J-1198
1909	J-995	Lakes	TRUE	1.00	134.28	1.55	134.83	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.23	J-1198
2363 1983	J-1267 J-1043	Forest Forest	TRUE TRUE	1.00 1.00	135.60 138.27	1.68 1.88	136.28 139.15	20.00 20.00	20.18 20.01	20.00 20.00	24.30 24.29	J-1197 J-1197	(N/A) (N/A)	17.23 17.21	J-1198 J-1198
1874	J-973	Lakes	TRUE	1.00	143.23	1.46	143.69	20.00	20.00	20.00	24.35	J-1360	(N/A)	17.23	J-1198
1893	J-985	Lakes	TRUE	1.00	144.20	1.63	144.84	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1635 1636	J-819 J-820	Lakes Lakes	TRUE TRUE	1.00 1.00	145.22 145.22	1.37 1.46	145.59 145.68	20.00 20.00	35.22 32.25	20.00 20.00	20.00 20.00	J-1374 J-1374	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1964	J-1031	Forest	TRUE	1.00	145.84	1.88	146.72	20.00	20.19	20.00	24.30	J-1197	(N/A)	17.23	J-1198
1990	J-1048	Forest	TRUE	1.00	147.27	1.68	147.95	20.00	20.01	20.00	24.29	J-1197	(N/A)	17.21	J-1198
1879	J-976	Forest	TRUE	1.00	147.86	1.48	148.34	20.00	20.21	20.00	24.30	J-1197	(N/A)	17.23	J-1198
1904 1912	J-992 J-997	Forest Forest	TRUE TRUE	1.00 1.00	148.18 148.24	1.48 2.68	148.66 149.92	20.00 20.00	20.03 20.00	20.00 20.00	24.31 24.30	J-1197 J-1197	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
1953	J-1024	Forest	TRUE	1.00	150.26	1.88	151.14	20.00	20.00	20.00	24.29	J-1197 J-1197	(N/A)	17.22	J-1198
2283	J-1222	Forest	TRUE	1.00	152.93	2.08	154.01	20.00	37.08	20.00	20.00	J-1262	(N/A)	17.22	J-1198
1770	J-906	Lakes	TRUE	1.00	152.99	1.55	153.53	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.23	J-1198
2010 1829	J-1061 J-943	Forest Forest	TRUE TRUE	1.00 1.00	154.24 155.88	2.28 1.88	155.53 156.76	20.00 20.00	20.00 20.00	20.00 20.00	24.31 24.30	J-1197 J-1197	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
1717	J-943 J-871	Forest	TRUE	1.00	156.44	2.28	157.72	20.00	20.00	20.00	24.30	J-1197 J-1197	(N/A)	17.22	J-1198
3016	J-1622	Lakes	TRUE	1.00	157.66	3.80	160.45	20.00	20.01	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1926	J-1006	Forest	TRUE	1.00	158.04	1.88	158.92	20.00	20.10	20.00	24.31	J-1197	(N/A)	17.23	J-1198
1896 2129	J-987 J-1128	Forest Lakes	TRUE TRUE	1.00 1.00	159.29 159.30	3.09 1.55	161.38 159.85	20.00 20.00	20.00 49.29	20.00 20.00	24.30 20.01	J-1197 J-1374	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
2301	J-1233	Lakes	TRUE	1.00	159.32	1.72	160.04	20.00	33.70	20.00	20.00	J-1374	(N/A)	17.23	J-1198
1923	J-1004	Forest	TRUE	1.00	161.44	1.88	162.32	20.00	20.14	20.00	24.30	J-1197	(N/A)	17.22	J-1198
1921 1915	J-1003 J-999	Forest Forest	TRUE TRUE	1.00 1.00	162.46 162.51	1.68 1.68	163.14 163.19	20.00 20.00	20.28 20.26	20.00 20.00	24.30 24.30	J-1197 J-1197	(N/A) (N/A)	17.22 17.22	J-1198 J-1198
1010	0 333	1 01001	INOL	1.00	102.01	1.00	100.10	20.00	20.20	20.00	27.00	0 1101	(11/71)	11.22	0 1130

Node	Node	Pressure		Desired Fire Flow	Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
2013 1685	J-1063 J-850	Lakes Forest	TRUE TRUE	1.00 1.00	167.09 167.32	1.46 2.28	167.55 168.60	20.00 20.00	26.40 20.01	20.00 20.00	20.32 24.29	J-1062 J-1197	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
2269	J-1213	Lakes	TRUE	1.00	167.48	1.72	168.20	20.00	20.02	20.00	29.08	J-1214	(N/A)	17.23	J-1198
1782 1898	J-913 J-988	Forest Forest	TRUE TRUE	1.00 1.00	167.82 168.02	1.48 3.09	168.30 170.11	20.00 20.00	20.00 20.00	20.00 20.00	24.30 24.30	J-1197 J-1197	(N/A) (N/A)	17.22 17.22	J-1198 J-1198
1918	J-1001	Forest	TRUE	1.00	169.73	1.48	170.21	20.00	20.33	20.00	24.30	J-1197	(N/A)	17.22	J-1198
2717 1729	J-1466 J-879	Lakes Lakes	TRUE TRUE	1.00 1.00	170.19 170.40	1.20 1.89	170.38 171.30	20.00 20.00	20.02 20.01	20.00 20.00	31.23 32.62	J-1365 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2022	J-1068	Lakes	TRUE	1.00	170.82	1.20	171.02	20.00	20.13	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1868 1887	J-969 J-981	Forest Forest	TRUE TRUE	1.00 1.00	171.19 172.88	2.28 1.48	172.47 173.36	20.00 20.00	20.01 20.00	20.00 20.00	24.29 24.30	J-1197 J-1197	(N/A) (N/A)	17.21 17.23	J-1198 J-1198
1877	J-975	Forest	TRUE	1.00	173.47	2.48	174.95	20.00	20.18	20.00	24.31	J-1197	(N/A)	17.23	J-1198
1901 2545	J-990 J-1366	Forest Lakes	TRUE TRUE	1.00 1.00	175.21 175.78	1.88 1.20	176.09 175.98	20.00 20.00	20.18 31.14	20.00 20.00	24.30 20.00	J-1197 J-1466	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
2544	J-1365	Lakes	TRUE	1.00	175.78	1.29	176.07	20.00	28.99	20.00	20.00	J-1466	(N/A)	17.23	J-1198
1818 32	J-936 J-3	Forest Forest	TRUE TRUE	1.00 1.00	176.51 176.75	1.88 1.28	177.39 177.03	20.00 20.00	20.00 20.29	20.00 20.00	24.31 22.88	J-1197 J-4	(N/A) (N/A)	17.23 17.21	J-1198 J-1198
2128	J-1127	Lakes	TRUE	1.00	177.38	1.72	178.10	20.00	49.37	20.00	20.00	J-1374	(N/A)	17.23	J-1198
2036 2534	J-1077 J-1360	Lakes Lakes	TRUE TRUE	1.00 1.00	177.68 177.89	1.81 1.46	178.48 178.34	20.00 20.00	21.94 20.01	20.00 20.00	20.04 22.58	J-1360 J-1077	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1873	J-972	Lakes	TRUE	1.00	177.99	2.34	179.32	20.00	50.94	20.00	20.00	J-1360	(N/A)	17.23	J-1198
2917 2001	J-1578 J-1055	Lakes Lakes	TRUE TRUE	1.00 1.00	177.99 177.99	1.37 1.37	178.36 178.36	20.00 20.00	65.28 28.38	20.00 20.00	20.00 20.00	J-1360 J-1360	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1967	J-1033	Forest	TRUE	1.00	178.42	2.08	179.50	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
3026 2341	J-1627 J-1255	Forest Lakes	TRUE TRUE	1.00 1.00	179.25 182.95	2.48 1.81	180.73 183.76	20.00 20.00	20.00 20.00	20.00 20.00	24.31 32.62	J-1197 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1802	J-926	Forest	TRUE	1.00	182.96	1.28	183.24	20.00	20.01	20.00	24.30	J-1197	(N/A)	17.22	J-1198
8498 1975	J-4202 J-1038	Lakes Lakes	TRUE TRUE	1.00 1.00	183.30 183.60	1.55 1.20	183.84 183.80	20.00 20.00	21.47 21.05	20.00 20.00	20.25 20.34	J-1139 J-1039	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2146	J-1139	Lakes	TRUE	1.00	183.77	1.37	184.14	20.00	20.06	20.00	21.28	J-4202	(N/A)	17.23	J-1198
2420 2419	J-1296 J-1295	Lakes Lakes	TRUE TRUE	1.00 1.00	184.43 184.46	1.29 1.55	184.72 185.00	20.00 20.00	20.02 20.01	20.00 20.00	20.02 20.04	J-1295 J-1296	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2505	J-1344	Lakes	TRUE	1.00	185.17	1.20	185.37	20.00	26.64	20.00	20.14	J-1466	(N/A)	17.23	J-1198
2469 2468	J-1325 J-1324	Lakes Lakes	TRUE TRUE	1.00 1.00	185.19 185.19	1.20 1.29	185.39 185.48	20.00 20.00	26.93 27.09	20.00 20.00	20.14 20.14	J-1466 J-1466	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2762	J-1493	Lakes	TRUE	1.00	185.55	1.37	185.92	20.00	28.51	20.00	20.00	J-1466	(N/A)	17.23	J-1198
1698 2245	J-859 J-1199	Forest Lakes	TRUE TRUE	1.00 1.00	185.94 186.52	1.48 1.81	186.41 187.32	20.00 20.00	20.00 20.00	20.00 20.00	24.30 27.67	J-1197 J-1427	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
3021	J-1624	Forest	TRUE	1.00	187.03	2.08	188.11	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2352 1709	J-1261 J-866	Lakes Lakes	TRUE TRUE	1.00 1.00	189.21 189.45	1.72 1.20	189.93 189.65	20.00 20.00	20.00 20.00	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1938	J-1014	Lakes	TRUE	1.00	190.42	1.72	191.14	20.00	20.00	20.00	23.80	J-1013	(N/A)	17.23	J-1198
1791 2270	J-919 J-1214	Forest Lakes	TRUE TRUE	1.00 1.00	190.72 190.88	1.88 2.06	191.60 191.94	20.00 20.00	20.00 20.02	20.00 20.00	24.31 23.83	J-1197 J-1213	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
8527	J-4215	Lakes	TRUE	1.00	191.40	1.72	192.12	20.00	31.78	20.00	20.08	J-839	(N/A)	17.23	J-1198
2941 1862	J-1590 J-965	Lakes Forest	TRUE TRUE	1.00 1.00	191.41 191.42	1.89 2.28	192.31 192.70	20.00 20.00	35.27 20.07	20.00 20.00	20.07 24.29	J-839 J-1197	(N/A) (N/A)	17.23 17.21	J-1198 J-1198
2940	J-1589	Lakes	TRUE	1.00	191.42	1.81	192.22	20.00	32.90	20.00	20.07	J-839	(N/A)	17.23	J-1198
2289 1668	J-1225 J-839	Lakes Lakes	TRUE TRUE	1.00 1.00	191.72 191.74	1.89 1.37	192.61 192.11	20.00 20.00	20.01 20.00	20.00 20.00	32.62 31.24	J-2323 J-1575	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2145	J-1138	Lakes	TRUE	1.00	192.83	1.20	193.03	20.00	20.10	20.00	21.64	J-1139	(N/A)	17.23	J-1198
1884 1890	J-979 J-983	Forest Forest	TRUE TRUE	1.00 1.00	194.08 194.77	1.88 1.88	194.96 195.65	20.00 20.00	20.01 20.12	20.00 20.00	24.28 24.29	J-1197 J-1197	(N/A) (N/A)	17.20 17.21	J-1198 J-1198
1813	J-933	Forest	TRUE	1.00	195.44	1.48	195.92	20.00	20.00	20.00	24.31	J-1197	(N/A)	17.23	J-1198
2281 1855	J-1221 J-960	Lakes Forest	TRUE TRUE	1.00 1.00	195.85 195.89	1.55 1.88	196.39 196.77	20.00 20.00	20.00 20.00	20.00 20.00	22.48 24.31	J-1427 J-1197	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2619	J-1409	Lakes	TRUE	1.00	197.93	1.55	198.47	20.00	21.39	20.00	20.23	J-1138	(N/A)	17.23	J-1198
2227 1932	J-1189 J-1010	Lakes Lakes	TRUE TRUE	1.00 1.00	198.00 198.04	1.20 1.55	198.20 198.59	20.00 20.00	22.41 22.70	20.00 20.00	20.21 20.19	J-1138 J-1138	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2650	J-1427	Lakes	TRUE	1.00	198.15	1.55	198.70	20.00	20.01	20.00	29.51	J-1220	(N/A)	17.23	J-1198
1767 3024	J-904 J-1626	Forest Forest	TRUE TRUE	1.00 1.00	200.11 200.84	1.48 4.69	200.58 204.53	20.00 20.00	20.00 20.00	20.00 20.00	24.31 24.30	J-1197 J-1197	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
1712	J-868	Lakes	TRUE	1.00	200.85	1.46	201.31	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.23	J-1198
2548 8467	J-1368 J-4185	Lakes Lakes	TRUE TRUE	1.00 1.00	201.42 201.43	1.29 1.20	201.71 201.62	20.00 20.00	29.82 31.50	20.00 20.00	20.00 20.00	J-1466 J-1466	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1959	J-1028	Forest	TRUE	1.00	201.95	1.48	202.43	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.20	J-1198
1859 8465	J-963 J-4184	Forest Lakes	TRUE TRUE	1.00 1.00	203.59 203.69	1.68 2.50	204.27 205.19	20.00 20.00	20.00 26.68	20.00 20.00	24.30 20.16	J-1197 J-1466	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
2620	J-1410	Lakes	TRUE	1.00	203.82	2.24	205.05	20.00	22.51	20.00	20.20	J-1138	(N/A)	17.23	J-1198
1881 2547	J-977 J-1367	Forest Lakes	TRUE TRUE	1.00 1.00	204.15 204.16	2.28 1.29	205.43 204.45	20.00 20.00	20.14 27.66	20.00 20.00	24.29 20.00	J-1197 J-1466	(N/A) (N/A)	17.21 17.23	J-1198 J-1198
1950	J-1022	Stewartsville		1.00	205.14	1.40	205.54	20.00	20.04	20.00	60.33	J-676	(N/A)	17.23	J-1198
1662 8521	J-835 J-4212	Lakes Forest	TRUE TRUE	1.00 1.00	205.79 208.96	1.20 1.68	205.99 209.64	20.00 20.00	20.00 23.83	20.00 20.00	32.62 20.54	J-2323 J-1264	(N/A) (N/A)	17.23 17.20	J-1198 J-1198
1853	J-959	Forest	TRUE	1.00	209.31	3.49	211.80	20.00	20.13	20.00	24.30	J-1197	(N/A)	17.23	J-1198
2357 1796	J-1264 J-922	Forest Forest	TRUE TRUE	1.00 1.00	209.51 209.88	1.88 1.48	210.39 210.36	20.00 20.00	20.17 20.00	20.00 20.00	23.45 24.30	J-4212 J-1197	(N/A) (N/A)	17.20 17.23	J-1198 J-1198
1955	J-1025	Lakes	TRUE	1.00	211.04	1.37	211.41	20.00	21.15	20.00	20.33	J-1026	(N/A)	17.23	J-1198
1992 1871	J-1049 J-971	Lakes Forest	TRUE TRUE	1.00 1.00	211.75 213.10	1.46 1.48	212.21 213.57	20.00 20.00	20.01 20.15	20.00 20.00	24.82 24.29	J-1120 J-1197	(N/A) (N/A)	17.23 17.21	J-1198 J-1198
1747	J-891	Forest	TRUE	1.00	213.63	1.48	214.11	20.00	20.00	20.00	24.30	J-1197	(N/A)	17.22	J-1198
1822 1808	J-939 J-930	Forest Forest	TRUE TRUE	1.00 1.00	214.12 214.51	1.68 1.48	214.80 214.98	20.00 20.00	20.00 20.00	20.00 20.00	24.30 24.31	J-1197 J-1197	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
2280	J-1220	Lakes	TRUE	1.00	214.98	1.55	215.52	20.00	27.32	20.00	20.00	J-1427	(N/A)	17.23	J-1198
1847 2325	J-955 J-1247	Forest Lakes	TRUE TRUE	1.00 1.00	215.77 216.18	1.68 1.55	216.45 216.73	20.00 20.00	20.00 24.62	20.00 20.00	24.31 20.08	J-1197 J-1374	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1841	J-951	Forest	TRUE	1.00	216.24	2.08	217.32	20.00	20.09	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2324 2306	J-1246 J-1236	Lakes Lakes	TRUE TRUE	1.00 1.00	216.65 216.71	1.72 1.55	217.37 217.26	20.00 20.00	37.79 20.00	20.00 20.00	20.00 30.80	J-1374 J-1164	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1827	J-942	Forest	TRUE	1.00	218.30	1.88	219.18	20.00	20.01	20.00	24.28	J-1197	(N/A)	17.20	J-1198
1677 1641	J-845 J-823	Lakes Lakes	TRUE TRUE	1.00 1.00	218.82 220.01	1.20 1.20	219.02 220.21	20.00 20.00	20.01 20.00	20.00 20.00	32.62 26.48	J-2323 J-1622	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2217	J-1183	Lakes	TRUE	1.00	220.12	1.46	220.58	20.00	20.02	20.00	31.31	J-1182	(N/A)	17.23	J-1198
1775 1780	J-909 J-912	Forest Forest	TRUE TRUE	1.00 1.00	220.51 221.47	1.88 2.68	221.39 223.15	20.00 20.00	20.01 20.00	20.00 20.00	24.31 24.30	J-1197 J-1197	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
1849	J-956	Forest	TRUE	1.00	221.74	1.48	222.22	20.00	20.22	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2097	J-1107	Lakes	TRUE	1.00	223.22	1.72	223.94	20.00	25.76	20.00	20.26	J-1199	(N/A)	17.23	J-1198

Node	Node	Pressure		Desired Fire Flow	Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
2098 2117	J-1108 J-1120	Lakes Lakes	TRUE TRUE	1.00 1.00	223.36 223.51	1.20 1.55	223.56 224.06	20.00 20.00	29.13 20.01	20.00 20.00	20.21 20.01	J-1199 J-1049	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1865	J-967	Forest	TRUE	1.00	224.13	1.68	224.81	20.00	20.21	20.00	24.29	J-1197	(N/A)	17.21	J-1198
1838 1832	J-949 J-945	Forest Forest	TRUE TRUE	1.00 1.00	224.51 224.56	1.48 1.48	224.99 225.04	20.00 20.00	20.04 20.00	20.00 20.00	24.28 24.30	J-1197 J-1197	(N/A) (N/A)	17.20 17.23	J-1198 J-1198
2344	J-1257	Forest	TRUE	1.00	225.67	2.68	227.36	20.00	20.00	20.00	24.30	J-1197	(N/A)	17.22	J-1198
1741 1674	J-887 J-843	Forest Lakes	TRUE TRUE	1.00 1.00	226.04 227.35	1.68 1.20	226.72 227.55	20.00 20.00	20.00 20.00	20.00 20.00	24.30 32.47	J-1197 J-1586	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
1934	J-1011	Forest	TRUE	1.00	227.50	1.48	227.98	20.00	20.06	20.00	24.29	J-1197	(N/A)	17.21	J-1198
1732 1816	J-881 J-935	Forest Forest	TRUE TRUE	1.00 1.00	228.59 229.12	1.48 1.68	229.07 229.80	20.00 20.00	20.00 20.00	20.00 20.00	24.30 24.30	J-1197 J-1197	(N/A) (N/A)	17.22 17.22	J-1198 J-1198
1805	J-928	Forest	TRUE	1.00	230.64	1.48	231.12	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2333 1697	J-1251 J-858	Lakes Forest	TRUE TRUE	1.00 1.00	231.27 231.78	1.89 1.48	232.16 232.26	20.00 20.00	20.00 20.01	20.00 20.00	29.33 20.28	J-1586 J-859	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
2004	J-1057	Lakes	TRUE	1.00	232.76	1.46	233.22	20.00	20.00	20.00	26.38	J-1058	(N/A)	17.23	J-1198
2304 2276	J-1235 J-1218	Lakes Forest	TRUE TRUE	1.00 1.00	236.18 237.74	1.63 1.88	236.81 238.62	20.00 20.00	20.00 20.00	20.00 20.00	32.62 24.30	J-2323 J-1197	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2258	J-1207	Forest	TRUE	1.00	239.06	1.88	239.94	20.00	20.02	20.00	24.20	J-1197	(N/A)	17.12	J-1198
5551 2945	J-2957 J-1592	Forest Forest	TRUE TRUE	1.00 1.00	239.58 239.64	1.48 1.68	240.06 240.32	20.00 20.00	20.20 22.21	20.00 20.00	20.23 20.19	J-1591 J-2957	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
8453	J-4179	Forest	TRUE	1.00	239.65	1.68	240.33	20.00	118.68	20.00	20.18	J-2957	(N/A)	17.23	J-1198
6157 6158	J-3306 J-3307	Forest Forest	TRUE TRUE	1.00 1.00	239.65 239.65	1.68 1.68	240.33 240.33	20.00 20.00	51.46 51.52	20.00 20.00	20.18 20.18	J-2957 J-2957	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2029	J-1072	Forest	TRUE	1.00	239.65	1.48	240.13	20.00	51.40	20.00	20.18	J-2957	(N/A)	17.23	J-1198
6298 6297	J-3391 J-3390	Forest Forest	TRUE TRUE	1.00 1.00	239.65 239.65	1.48 1.28	240.13 239.93	20.00 20.00	51.00 50.64	20.00 20.00	20.18 20.18	J-2957 J-2957	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5800	J-3102	Forest	TRUE	1.00	239.90	1.68	240.57	20.00	26.18	20.00	20.05	J-2957	(N/A)	17.23	J-1198
5799 2167	J-3101 J-1152	Forest Forest	TRUE TRUE	1.00 1.00	239.92 239.93	1.08 1.68	239.99 240.60	20.00 20.00	26.01 20.00	20.00 20.00	20.04 24.18	J-2957 J-1197	(N/A) (N/A)	17.23 17.10	J-1198 J-1198
3175	J-1719	Forest	TRUE	1.00	239.99	1.08	240.06	20.00	33.25	20.00	20.00	J-2957	(N/A)	17.23	J-1198
4628 2478	J-2432 J-1329	Forest Forest	TRUE TRUE	1.00 1.00	239.99 239.99	1.08 1.08	240.06 240.06	20.00 20.00	32.31 32.13	20.00 20.00	20.00 20.00	J-2957 J-2957	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3174	J-1718	Forest	TRUE	1.00	239.99	1.28	240.26	20.00	33.58	20.00	20.00	J-2957	(N/A)	17.23	J-1198
2479 4415	J-1330 J-2318	Forest Forest	TRUE TRUE	1.00 1.00	239.99 239.99	1.08 1.08	240.06 240.06	20.00 20.00	31.73 31.86	20.00 20.00	20.00 20.00	J-2957 J-2957	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
4627	J-2431	Forest	TRUE	1.00	239.99	1.48	240.46	20.00	32.23	20.00	20.00	J-2957	(N/A)	17.23	J-1198
4978 5647	J-2629 J-3013	Forest Forest	TRUE TRUE	1.00 1.00	239.99 239.99	1.28 1.08	240.26 240.06	20.00 20.00	32.75 29.48	20.00 20.00	20.00 20.00	J-2957 J-2957	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5646	J-3012	Forest	TRUE	1.00	239.99	1.48	240.46	20.00	29.44	20.00	20.00	J-2957	(N/A)	17.23	J-1198
4386 4972	J-2309 J-2626	Forest Forest	TRUE TRUE	1.00 1.00	239.99 239.99	1.08 1.28	240.06 240.26	20.00 20.00	28.35 28.41	20.00 20.00	20.00 20.00	J-2957 J-2957	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1903	J-991	Forest	TRUE	1.00	239.99	1.08	240.06	20.00	27.56	20.00	20.00	J-2957	(N/A)	17.23	J-1198
3124 4848	J-1689 J-2554	Forest Forest	TRUE TRUE	1.00 1.00	239.99 239.99	1.08 1.08	240.06 240.06	20.00 20.00	27.44 27.21	20.00 20.00	20.00 20.00	J-2957 J-2957	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2944	J-1591	Forest	TRUE	1.00	239.99	1.08	240.06	20.00	20.01	20.00	20.00	J-2957	(N/A)	17.23	J-1198
2338 1762	J-1253 J-901	Lakes Forest	TRUE TRUE	1.00 1.00	240.18 240.95	2.41 1.88	241.59 241.83	20.00 20.00	20.11 20.00	20.00 20.00	32.50 24.30	J-1427 J-1197	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2187	J-1165	Lakes	TRUE	1.00	241.30	1.72	242.02	20.00	20.00	20.00	24.00	J-1164	(N/A)	17.23	J-1198
1794 2290	J-921 J-1226	Forest Lakes	TRUE TRUE	1.00 1.00	242.94 247.81	1.88 1.55	243.82 248.35	20.00 20.00	20.01 24.08	20.00 20.00	24.30 20.07	J-1197 J-1225	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1650	J-828	Fox_Run	TRUE	1.00	249.74	1.48	250.22	20.00	20.00	20.00	39.48	J-1337	(N/A)	17.23	J-1198
1799 1785	J-924 J-915	Forest Forest	TRUE TRUE	1.00 1.00	251.23 251.51	1.28 1.88	251.51 252.39	20.00 20.00	20.00 20.00	20.00 20.00	24.30 24.30	J-1197 J-1197	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
2186	J-1164	Lakes	TRUE	1.00	254.84	2.41	256.26	20.00	20.00	20.00	28.08	J-1165	(N/A)	17.23	J-1198
2909 1753	J-1575 J-895	Lakes Forest	TRUE TRUE	1.00 1.00	255.16 255.30	1.37 1.88	255.53 256.18	20.00 20.00	20.02 20.00	20.00 20.00	20.84 24.30	J-1360 J-1197	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2017	J-1065	Lakes	TRUE	1.00	255.33	1.63	255.96	20.00	37.42	20.00	20.00	J-1575	(N/A)	17.23	J-1198
2978 1671	J-1605 J-841	Lakes Stewartsville	TRUE TRUE	1.00 1.00	255.33 257.50	2.06 1.55	256.40 258.05	20.00 20.00	45.55 20.06	20.00 20.00	20.00 59.85	J-1575 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
7012	J-3811	Forest	TRUE	1.00	258.04	1.28	258.32	20.00	20.83	20.00	20.21	J-1602	(N/A)	17.23	J-1198
2972 1588	J-1602 J-789	Forest Lakes	TRUE TRUE	1.00 1.00	258.49 258.93	1.28 1.81	258.77 259.74	20.00 20.00	20.00 25.26	20.00 20.00	20.68 20.03	J-3811 J-1622	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1728	J-878	Lakes	TRUE	1.00	259.85	1.55	260.40	20.00	21.92	20.00	20.09	J-879	(N/A)	17.23	J-1198
2273 2216	J-1216 J-1182	Lakes Lakes	TRUE TRUE	1.00 1.00	260.43 262.24	1.72 2.06	261.15 263.30	20.00 20.00	20.10 20.02	20.00 20.00	32.62 21.18	J-2323 J-1183	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1844	J-953	Forest	TRUE	1.00	262.26	1.88	263.14	20.00	20.02	20.00	24.27	J-1197	(N/A)	17.19	J-1198
2263 2659	J-1210 J-1432	Lakes Lakes	TRUE TRUE	1.00 1.00	262.59 267.99	1.63 1.72	263.22 268.71	20.00 20.00	20.00 22.03	20.00 20.00	32.62 20.07	J-2323 J-1138	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2827	J-1531	Lakes	TRUE	1.00	268.55	2.15	269.70	20.00	38.34	20.00	20.00	J-1427	(N/A)	17.23	J-1198
2255 1756	J-1205 J-897	Lakes Forest	TRUE TRUE	1.00 1.00	268.56 269.78	2.24 1.48	269.80 270.25	20.00 20.00	27.31 20.00	20.00 20.00	20.00 24.30	J-1427 J-1197	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
1788 2293	J-917 J-1228	Forest Forest	TRUE TRUE	1.00 1.00	271.83 272.09	1.88 1.68	272.71 272.77	20.00 20.00	20.00 20.09	20.00 20.00	24.30 24.06	J-1197 J-1197	(N/A) (N/A)	17.23 16.98	J-1198 J-1198
1835	J-947	Forest	TRUE	1.00	272.11	1.48	272.58	20.00	20.28	20.00	24.28	J-1197	(N/A)	17.20	J-1198
1720 1639	J-873 J-822	Forest Lakes	TRUE TRUE	1.00 1.00	272.34 274.57	1.48 1.20	272.82 274.77	20.00 20.00	20.00 20.02	20.00 20.00	24.29 21.22	J-1197 J-866	(N/A) (N/A)	17.21 17.23	J-1198 J-1198
2219	J-1184	Lakes	TRUE	1.00	282.15	1.72	282.87	20.00	20.02	20.00	27.20	J-1586	(N/A)	17.23	J-1198
1759 2299	J-899 J-1232	Forest Lakes	TRUE TRUE	1.00 1.00	282.88 285.40	1.68 1.55	283.56 285.95	20.00 20.00	20.00 20.00	20.00 20.00	24.30 31.27	J-1197 J-1427	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
1694	J-856	Forest	TRUE	1.00	287.48	1.08	287.56	20.00	20.01	20.00	24.30	J-1197	(N/A)	17.22	J-1198
1744 2450	J-889 J-1314	Forest Lakes	TRUE TRUE	1.00 1.00	288.58 288.65	1.48 2.50	289.05 290.15	20.00 20.00	20.13 20.00	20.00 20.00	24.27 20.49	J-1197 J-1313	(N/A) (N/A)	17.19 17.23	J-1198 J-1198
2449	J-1313	Lakes	TRUE	1.00	289.33	2.06	290.39	20.00	20.36	20.00	20.11	J-1314	(N/A)	17.23	J-1198
2214 2844	J-1181 J-1541	Lakes Stewartsville	TRUE TRUE	1.00 1.00	291.61 291.76	1.72 4.44	292.33 295.20	20.00 20.00	20.00 20.02	20.00 20.00	31.46 59.71	J-1586 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2311	J-1239	Forest	TRUE	1.00	292.81	2.48	294.30	20.00	20.01	20.00	24.30	J-1197	(N/A)	17.22	J-1198
2250 1661	J-1202 J-834	Lakes Lakes	TRUE TRUE	1.00 1.00	293.96 294.59	1.63 1.72	294.59 295.31	20.00 20.00	20.00 20.00	20.00 20.00	27.70 21.45	J-1586 J-835	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2278	J-1219	Lakes	TRUE	1.00	294.68	1.72	295.40	20.00	20.00	20.00	27.67	J-1586	(N/A)	17.23	J-1198
1749 1587	J-892 J-788	Forest Lakes	TRUE TRUE	1.00 1.00	297.48 298.11	1.68 1.20	298.16 298.31	20.00 20.00	20.00 25.10	20.00 20.00	24.30 20.03	J-1197 J-1622	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
1723	J-875	Forest	TRUE	1.00	302.83	1.48	303.31	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.21	J-1198
1738 1715	J-885 J-870	Forest Forest	TRUE TRUE	1.00 1.00	303.59 304.04	1.68 1.68	304.27 304.72	20.00 20.00	20.02 20.00	20.00 20.00	24.30 24.30	J-1197 J-1197	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
2328	J-1248	Forest	TRUE	1.00	306.77	1.48	307.25	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
1673 1574	J-842 J-780	Lakes Forest	TRUE TRUE	1.00 1.00	308.52 310.16	1.46 1.48	308.98 310.64	20.00 20.00	20.00 25.23	20.00 20.00	22.11 20.05	J-843 J-993	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
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Node	Node	Pressure	Fire Flow Constraints Satisfied	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone		(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
1585 1573	J-787 J-779	Forest Forest	TRUE TRUE	1.00 1.00	310.16 310.40	1.28 1.08	310.44 310.47	20.00 20.00	20.03 26.81	20.00 20.00	24.30 20.00	J-1197 J-993	(N/A) (N/A)	17.22 17.22	J-1198 J-1198
1711	J-867	Lakes	TRUE	1.00	313.19	1.81	313.99	20.00	20.79	20.00	20.15	J-868	(N/A)	17.23	J-1198
1928 1583	J-1007 J-786	Lakes Forest	TRUE TRUE	1.00 1.00	313.25 314.84	1.37 1.28	313.62 315.12	20.00 20.00	20.02 20.03	20.00 20.00	23.78 24.30	J-1026 J-1197	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
1908	J-994	Lakes	TRUE	1.00	314.88	1.20	315.08	20.00	20.55	20.00	20.16	J-868	(N/A)	17.23	J-1198
1986 1969	J-1045 J-1034	Lakes Lakes	TRUE TRUE	1.00 1.00	316.57 322.72	1.37 1.46	316.94 323.18	20.00 20.00	20.03 20.07	20.00 20.00	20.14 24.79	J-868 J-1294	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1582	J-785	Forest	TRUE	1.00	324.58	1.08	324.65	20.00	20.52	20.00	20.29	J-786	(N/A)	17.22	J-1198
2100 2319	J-1109 J-1243	Lakes Lakes	TRUE TRUE	1.00 1.00	325.57 326.08	1.20 2.41	325.77 327.49	20.00 20.00	20.01 20.00	20.00 20.00	25.03 32.62	J-1110 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2954	J-1596	Lakes	TRUE	1.00	326.18	1.89	327.07	20.00	20.08	20.00	32.62	J-2323	(N/A)	17.23	J-1198
2949 2951	J-1594 J-1595	Lakes Lakes	TRUE TRUE	1.00 1.00	326.32 327.20	1.81 1.55	327.13 327.74	20.00 20.00	20.05 20.00	20.00 20.00	23.03 32.62	J-1138 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1579	J-783	Forest	TRUE	1.00	334.28	1.88	335.16	20.00	20.00	20.00	24.30	J-1197	(N/A)	17.22	J-1198
1824 2309	J-940 J-1238	Forest Forest	TRUE TRUE	1.00 1.00	335.38 338.59	1.88 2.08	336.26 339.67	20.00 20.00	20.00 20.00	20.00 20.00	20.00 24.31	J-941 J-1197	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
1654	J-830	Forest	TRUE	1.00	342.39	1.48	342.87	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.20	J-1198
2248 1580	J-1201 J-784	Forest Forest	TRUE TRUE	1.00 1.00	344.45 347.98	1.88 1.68	345.33 348.66	20.00 20.00	20.00 20.01	20.00 20.00	24.31 20.07	J-1197 J-783	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
2556	J-1373	Lakes	TRUE	1.00	350.01	1.20	350.21	20.00	20.04	20.00	22.40	J-822	(N/A)	17.23	J-1198
2106 2957	J-1113 J-1597	Lakes Lakes	TRUE TRUE	1.00 1.00	350.22 350.67	1.72 3.80	350.94 353.46	20.00 20.00	21.35 20.00	20.00 20.00	20.13 23.35	J-1007 J-822	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2981	J-1607	Lakes	TRUE	1.00	352.16	1.63	352.80	20.00	20.00	20.00	32.13	J-1586	(N/A)	17.23	J-1198
2101 1665	J-1110 J-837	Lakes Forest	TRUE TRUE	1.00 1.00	352.89 353.24	1.20 1.28	353.09 353.52	20.00 20.00	20.01 20.01	20.00 20.00	20.05 24.30	J-1109 J-1197	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
2314	J-1241	Forest	TRUE	1.00	353.78	2.08	354.86	20.00	20.00	20.00	24.30	J-1197	(N/A)	17.22	J-1198
2220 2417	J-1185 J-1294	Lakes Lakes	TRUE TRUE	1.00 1.00	353.94 354.02	1.89 1.20	354.83 354.22	20.00 20.00	20.00 20.00	20.00 20.00	22.06 20.10	J-1184 J-825	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2229	J-1190	Forest	TRUE	1.00	354.50	1.88	355.38	20.00	20.01	20.00	24.30	J-1197	(N/A)	17.22	J-1198
1644 1602	J-825 J-798	Lakes Forest	TRUE TRUE	1.00 1.00	354.67 355.25	1.20 1.08	354.87 355.32	20.00 20.00	20.00 20.65	20.00 20.00	20.00 20.29	J-1294 J-786	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
1703	J-862	Forest	TRUE	1.00	356.46	1.08	356.54	20.00	20.43	20.00	20.26	J-2703	(N/A)	17.20	J-1198
1995 1649	J-1051 J-827	Fox_Run Fox_Run	TRUE TRUE	1.00 1.00	356.65 356.67	1.08 1.08	356.72 356.74	20.00 20.00	20.64 21.06	20.00 20.00	20.13 20.13	J-828 J-828	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5106	J-2703	Forest	TRUE	1.00	357.05	1.48	357.53	20.00	20.01	20.00	20.20	J-862	(N/A)	17.20	J-1198
1638 2455	J-821 J-1316	Lakes Lakes	TRUE TRUE	1.00 1.00	360.66 362.25	1.20 1.20	360.86 362.45	20.00 20.00	20.05 20.32	20.00 20.00	20.05 20.15	J-822 J-822	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2207	J-1177	Forest	TRUE	1.00	365.78	1.88	366.66	20.00	20.00	20.00	23.75	J-1197	(N/A)	16.68	J-1198
2213 1676	J-1180 J-844	Lakes Lakes	TRUE TRUE	1.00 1.00	367.03 367.32	1.72 1.20	367.75 367.51	20.00 20.00	20.00 21.32	20.00 20.00	24.01 20.13	J-1181 J-822	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1999	J-1054	Lakes	TRUE	1.00	369.20	1.55	369.74	20.00	20.01	20.00	28.19	J-1053	(N/A)	17.23	J-1198
1943 2447	J-1017 J-1312	Forest Forest	TRUE TRUE	1.00 1.00	369.28 370.80	1.68 3.29	369.96 373.09	20.00 20.00	20.63 20.01	20.00 20.00	20.14 20.17	J-1018 J-1311	(N/A) (N/A)	16.73 17.22	J-1198 J-1198
2446	J-1311	Forest	TRUE	1.00	371.15	1.88	372.03	20.00	20.04	20.00	20.21	J-1312	(N/A)	17.22	J-1198
2126 2985	J-1126 J-1609	Forest Fox_Run	TRUE TRUE	1.00 1.00	371.68 371.85	1.48 2.28	372.16 373.13	20.00 20.00	20.02 23.43	20.00 20.00	24.30 20.13	J-1197 J-1337	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
2494	J-1338	Fox_Run	TRUE	1.00	371.88	1.28	372.16	20.00	21.72	20.00	20.12	J-1337	(N/A)	17.23	J-1198
2143 2493	J-1137 J-1337	Forest Fox_Run	TRUE TRUE	1.00 1.00	372.24 372.53	1.68 1.68	372.92 373.21	20.00 20.00	20.01 20.00	20.00 20.00	24.30 21.40	J-1197 J-828	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
2334	J-1252	Lakes	TRUE	1.00	375.27	2.24	376.50	20.00	20.00	20.00	22.43	J-1586	(N/A)	17.23	J-1198
2440 2414	J-1308 J-1292	Lakes Lakes	TRUE TRUE	1.00 1.00	375.43 375.49	1.37 1.20	375.81 375.69	20.00 20.00	20.78 21.31	20.00 20.00	20.14 20.13	J-822 J-822	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2415	J-1293	Lakes	TRUE	1.00	375.50	1.20	375.70	20.00	21.36	20.00	20.13	J-822	(N/A)	17.23	J-1198
2990 7004	J-1612 J-3806	Forest Forest	TRUE TRUE	1.00 1.00	381.19 387.86	1.88 1.08	382.07 387.94	20.00 20.00	20.00 34.32	20.00 20.00	24.07 20.00	J-1197 J-1602	(N/A) (N/A)	16.99 17.22	J-1198 J-1198
2994	J-1614	Forest	TRUE	1.00	387.87	1.28	388.14	20.00	32.77	20.00	20.00	J-1602	(N/A)	17.22	J-1198
2233 1731	J-1192 J-880	Forest Forest	TRUE TRUE	1.00 1.00	388.41 390.54	1.88 1.48	389.29 391.02	20.00 20.00	20.03 22.04	20.00 20.00	24.30 20.22	J-1197 J-881	(N/A) (N/A)	17.22 17.22	J-1198 J-1198
2266	J-1212	Forest	TRUE	1.00	391.05	1.88	391.93	20.00	20.01	20.00	24.30	J-1197	(N/A)	17.22	J-1198
2132 1701	J-1130 J-861	Forest Forest	TRUE TRUE	1.00 1.00	391.24 392.86	1.88 1.68	392.12 393.54	20.00 20.00	20.01 20.00	20.00 20.00	24.30 24.28	J-1197 J-1197	(N/A) (N/A)	17.22 17.20	J-1198 J-1198
2191	J-1167	Forest	TRUE	1.00	394.96	2.88	396.85	20.00	20.01	20.00	24.30	J-1197	(N/A)	17.22	J-1198
1667 2257	J-838 J-1206	Lakes Forest	TRUE TRUE	1.00 1.00	396.38 398.05	1.20 1.88	396.58 398.93	20.00 20.00	20.00 20.00	20.00 20.00	22.27 23.40	J-839 J-1207	(N/A) (N/A)	17.23 16.99	J-1198 J-1198
2262	J-1209	Lakes	TRUE	1.00	399.16	2.06	400.22	20.00	20.00	20.00	23.72	J-1210	(N/A)	17.23	J-1198
5182 1679	J-2745 J-846	Forest Forest	TRUE TRUE	1.00 1.00	402.80 403.52	1.68 1.08	403.48 403.59	20.00 20.00	20.35 20.03	20.00 20.00	20.27 20.14	J-846 J-2745	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
2703	J-1458	Lakes	TRUE	1.00	405.19	1.72	405.91	20.00	20.00	20.00	28.00	J-1459	(N/A)	17.23	J-1198
2095 1689	J-1106 J-853	Forest Forest	TRUE TRUE	1.00 1.00	405.29 405.74	1.48 1.88	405.77 406.62	20.00 20.00	20.03 20.00	20.00 20.00	21.82 24.28	J-1105 J-1197	(N/A) (N/A)	17.22 17.20	J-1198 J-1198
2914	J-1577	Lakes	TRUE	1.00	406.19	1.89	407.08	20.00	20.01	20.00	31.51	J-1586	(N/A)	17.23	J-1198
2236 1692	J-1194 J-855	Lakes Forest	TRUE TRUE	1.00 1.00	408.54 410.53	1.98 2.88	409.52 412.42	20.00 20.00	20.00 20.00	20.00 20.00	27.43 24.28	J-1180 J-1197	(N/A) (N/A)	17.23 17.20	J-1198 J-1198
1706	J-864	Forest	TRUE	1.00	412.05	1.88	412.93	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.20	J-1198
2172 2094	J-1155 J-1105	Forest Forest	TRUE TRUE	1.00 1.00	415.04 415.75	1.68 2.28	415.72 417.03	20.00 20.00	20.02 20.01	20.00 20.00	24.30 20.52	J-1197 J-1106	(N/A) (N/A)	17.22 17.22	J-1198 J-1198
2933	J-1586	Lakes	TRUE	1.00	415.84	1.63	416.47	20.00	20.01	20.00	30.15	J-1550	(N/A)	17.23	J-1198
3004 2999	J-1618 J-1616	Forest Lakes	TRUE TRUE	1.00 1.00	418.07 421.68	2.28 4.32	419.35 425.00	20.00 20.00	20.00 20.00	20.00 20.00	24.27 26.56	J-1197 J-1427	(N/A) (N/A)	17.19 17.23	J-1198 J-1198
1740	J-886	Forest	TRUE	1.00	423.38	1.28	423.66	20.00	21.57	20.00	20.23	J-887	(N/A)	17.22	J-1198
2740 2805	J-1480 J-1519	Lakes Forest	TRUE TRUE	1.00 1.00	423.50 425.43	1.81 2.48	424.31 426.91	20.00 20.00	20.02 20.00	20.00 20.00	23.28 24.31	J-822 J-1197	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2970	J-1601	Forest	TRUE	1.00	427.20	1.68	427.88	20.00	20.02	20.00	24.29	J-1197	(N/A)	17.22	J-1198
2966 2829	J-1599 J-1532	Forest Forest	TRUE TRUE	1.00 1.00	431.37 434.30	2.28 1.48	432.65 434.78	20.00 20.00	20.00 20.00	20.00 20.00	24.28 24.29	J-1197 J-1197	(N/A) (N/A)	17.20 17.22	J-1198 J-1198
1682	J-848	Forest	TRUE	1.00	435.12	1.88	436.00	20.00	20.00	20.00	24.27	J-1197	(N/A)	17.20	J-1198
1801 2797	J-925 J-1514	Forest Lakes	TRUE TRUE	1.00 1.00	439.04 439.94	1.48 1.89	439.52 440.84	20.00 20.00	20.08 20.02	20.00 20.00	20.98 21.06	J-926 J-1480	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
2195	J-1170	Forest	TRUE	1.00	442.75	1.68	443.43	20.00	20.00	20.00	24.30	J-1197	(N/A)	17.22	J-1198
2987 2240	J-1610 J-1196	Forest Forest	TRUE TRUE	1.00 1.00	449.04 450.78	2.08 1.48	450.13 451.25	20.00 20.00	20.05 20.02	20.00 20.00	24.30 24.29	J-1197 J-1197	(N/A) (N/A)	17.22 17.21	J-1198 J-1198
2091	J-1103	Lakes	TRUE	1.00	450.83	1.46	451.29	20.00	20.00	20.00	20.05	J-1586	(N/A)	17.23	J-1198
2092 2860	J-1104 J-1550	Lakes Lakes	TRUE TRUE	1.00 1.00	451.02 451.63	1.37 1.55	451.39 452.18	20.00 20.00	21.72 28.16	20.00 20.00	20.04 20.00	J-1586 J-1586	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2360	J-1265	Lakes	TRUE	1.00	456.17	1.72	456.89	20.00	20.02	20.00	30.87	J-1586	(N/A)	17.23	J-1198
2125	J-1125	Forest	TRUE	1.00	457.07	1.08	457.15	20.00	21.14	20.00	20.14	J-1126	(N/A)	17.22	J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
2704	J-1459	Lakes	TRUE	1.00	459.86	1.72	460.58	20.00	20.00	20.00	21.07	J-1596	(N/A)	17.23	J-1198
1856	J-961	Forest	TRUE	1.00	463.56	1.88	464.44	20.00	20.05	20.00	22.13	J-960	(N/A)	17.22	J-1198
2298	J-1231	Lakes	TRUE	1.00	464.25	1.89	465.15	20.00	20.01	20.00	24.80	J-1427	(N/A)	17.23	J-1198
2120	J-1122	Forest	TRUE	1.00	466.37	1.68	467.05	20.00	20.00	20.00	24.30	J-1197	(N/A)	17. <u>22</u>	J-1198
2883	J-1562	Forest	TRUE	1.00	470.16	2.08	471.24	20.00	20.00	20.00	24.26	J-1197	(N/A)	17.18	J-1198
1764	J-902	Forest	TRUE	1.00	471.37	1.88	472.25	20.00	20.00	20.00	24.27	J-1197	(N/A)	17.19	J-1198
2636	J-1419	Forest	TRUE	1.00	474.21	1.48	474.69	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2253	J-1204	Forest	TRUE	1.00	474.79	2.28	476.07	20.00	20.00	20.00	24.27	J-1197	(N/A)	17.19	J-1198
1725	J-876	Forest	TRUE	1.00	484.48	1.68	485.16	20.00	21.38	20.00	20.00	J-877	(N/A)	17.23	J-1198
2140	J-1135	Forest	TRUE	1.00	484.48	1.68	485.16	20.00	20.01	20.00	24.30	J-1197	(N/A)	17.22	J-1198
2669	J-1437	Lakes	TRUE	1.00	484.51	1.46	484.97	20.00	20.58	20.00	20.07	J-1595	(N/A)	17.23	J-1198
1765	J-903	Forest	TRUE	1.00	484.84	1.88	485.72	20.00	20.00	20.00	24.27	J-1197	(N/A)	17.19	J-1198
2433	J-1304	Lakes	TRUE	1.00	485.45	1.20	485.65	20.00	20.00	20.00	20.66	J-905	(N/A)	17.23	J-1198
2670	J-1438	Lakes	TRUE	1.00	487.17	1.89	488.06	20.00	20.02	20.00	25.37	J-1480	(N/A)	17.23	J-1198
1769	J-905	Lakes	TRUE	1.00	487.25	1.20	487.45	20.00	20.37	20.00	20.08	J-1304	(N/A)	17.23	J-1198
1657	J-832	Forest	TRUE	1.00	488.80	1.88	489.68	20.00	20.01	20.00	24.27	J-1197	(N/A)	17.19	J-1198
2161	J-1148	Forest	TRUE	1.00	490.80	2.28	492.08	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
1920	J-1002	Forest	TRUE	1.00	491.13	1.48	491.61	20.00	20.04	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2272	J-1215	Lakes	TRUE	1.00	497.95	1.63	498.58	20.00	20.00	20.00	23.06	J-1209	(N/A)	17.23	J-1198
2997	J-1615	Forest	TRUE	1.00	501.20	1.48	501.68	20.00	20.01	20.00	24.27	J-1197	(N/A)	17.19	J-1198
4282	J-2275	Lakes	TRUE	1.00	506.12	1.46	506.58	20.00	20.03	20.00	26.70	J-1852	(N/A)	17.23	J-1198
2238	J-1195	Lakes	TRUE	1.00	509.78	1.55	510.32	20.00	20.01	20.00	26.61	J-1586	(N/A)	17.23	J-1198
1652	J-829	Forest	TRUE	1.00	510.54	1.28	510.82	20.00	20.38	20.00	20.14	J-786	(N/A)	17.22	J-1198
2170	J-1154	Forest	TRUE	1.00	511.44	2.28	512.72	20.00	20.00	20.00	24.25	J-1197	(N/A)	17.17	J-1198
1774	J-908	Forest	TRUE	1.00	512.67	1.28	512.95	20.00	20.00	20.00	20.25	J-909	(N/A)	17.22	J-1198
2823	J-1529	Forest	TRUE	1.00	517.52	2.08	518.60	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2818	J-1526	Forest	TRUE	1.00	522.73	1.68	523.41	20.00	20.01	20.00	24.30	J-1197	(N/A)	17.22	J-1198
4433	J-2323	Lakes	TRUE	1.00	529.62	2.24	530.86	20.00	20.00	20.00	32.74	J-1575	(N/A)	17.23	J-1198
2339	J-1254	Lakes	TRUE	1.00	534.02	1.89	534.91	20.00	20.01	20.00	21.61	J-1427	(N/A)	17.23	J-1198
2199	J-1172	Forest	TRUE	1.00	534.81	1.68	535.49	20.00	20.05	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2431	J-1303	Lakes	TRUE	1.00	546.05	2.58	547.64	20.00	20.01	20.00	20.55	J-1302	(N/A)	17.23	J-1198
2202	J-1174	Lakes	TRUE	1.00	547.54	1.37	547.91	20.00	26.66	20.00	20.00	J-1007	(N/A)	17.23	J-1198
2149	J-1141	Forest	TRUE	1.00	547.66	1.88	548.54	20.00	20.00	20.00	24.30	J-1197	(N/A)	17.22	J-1198
2430	J-1302	Lakes	TRUE	1.00	548.63	1.55	549.17	20.00	20.16	20.00	20.08	J-1303	(N/A)	17.23	J-1198
2164	J-1150	Forest	TRUE	1.00	550.13	2.08	551.21	20.00	20.03	20.00	24.30	J-1197	(N/A)	17.22	J-1198
2854	J-1547	Forest	TRUE	1.00	552.99	2.08	554.08	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
3405	J-1852	Lakes	TRUE	1.00	554.88	1.20	555.08	20.00	20.26	20.00	20.07	J-2275	(N/A)	17.23	J-1198
2682	J-1445	Lakes	TRUE	1.00	554.95	1.20	555.15	20.00	20.64	20.00	20.06	J-2275	(N/A)	17.23	J-1198
2173	J-1156	Forest	TRUE	1.00	556.08	1.68	556.76	20.00	20.08	20.00	21.62	J-1190	(N/A)	17.22	J-1198
2211	J-1179	Forest	TRUE	1.00	557.11	1.48	557.58	20.00	20.06	20.00	24.26	J-1197	(N/A)	17.18	J-1198
2614	J-1406	Forest	TRUE	1.00	559.48	1.88	560.36	20.00	20.00	20.00	24.30	J-1197	(N/A)	17.22	J-1198
2913	J-1576	Lakes	TRUE	1.00	559.76	1.29	560.04	20.00	20.06	20.00	21.26	J-2275	(N/A)	17.23	J-1198
3183	J-1724	Forest	TRUE	1.00	561.18	1.08	561.26	20.00	20.06	20.00	20.15	J-1725	(N/A)	17.17	J-1198
1804	J-927	Forest	TRUE	1.00	561.40	2.08	562.48	20.00	21.19	20.00	20.11	J-1725	(N/A)	17.17	J-1198
3184	J-1725	Forest	TRUE	1.00	561.60	1.08	561.68	20.00	20.06	20.00	20.13	J-1724	(N/A)	17.17	J-1198
1620	J-810	Forest	TRUE	1.00	562.47	1.08	562.54	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2466	J-1323	Forest	TRUE	1.00	565.34	1.28	565.62	20.00	20.00	20.00	21.47	J-1310	(N/A)	17.22	J-1198
2181	J-1323 J-1161	Forest	TRUE	1.00	566.26	1.88	567.14	20.00	20.03	20.00	24.29	J-1197	(N/A)	17.22	J-1198
2680	J-1444	Lakes	TRUE	1.00	566.57	2.06	567.64	20.00	36.52	20.00	20.00	J-1427	(N/A)	17.23	J-1198
2799	J-1515	Lakes	TRUE	1.00	566.61	2.24	567.84	20.00	26.08	20.00	20.00	J-1427	(N/A)	17.23	J-1198
1633	J-818	Forest	TRUE	1.00	570.79	2.68	572.47	20.00	20.01	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2444	J-1310	Forest	TRUE	1.00	571.07	1.08	571.15	20.00	20.36	20.00	20.10	J-1323	(N/A)	17.22	J-1198
5955	J-3188	Forest	TRUE	1.00	574.69	1.08	574.77	20.00	20.00	20.00	20.16	J-1323	(N/A)	17.22	J-1198
2443	J-1309	Forest	TRUE	1.00	574.75	1.28	575.03	20.00	20.35	20.00	20.10	J-3188	(N/A)	17.22	J-1198
2884	J-1563	Forest	TRUE	1.00	578.23	1.68	578.90	20.00	20.02	20.00	24.25	J-1197	(N/A)	17.17	J-1198
2137	J-1133	Forest	TRUE	1.00	578.69	1.88	579.57	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
1617	J-808	Forest	TRUE	1.00	579.26	1.68	579.94	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2769	J-1497	Forest	TRUE	1.00	581.47	1.88	582.35	20.00	20.03	20.00	24.29	J-1197	(N/A)	17.21	J-1198
6281	J-3381	Forest	TRUE	1.00	581.80	1.88	582.68	20.00	20.16	20.00	20.03	J-2045	(N/A)	16.77	J-1198
3747	J-2045	Forest	TRUE	1.00	582.03	1.68	582.71	20.00	20.02	20.00	20.26	J-3381	(N/A)	16.77	J-1198
1761	J-900	Forest	TRUE	1.00	583.72	1.08	583.80	20.00	20.00	20.00	23.55	J-901	(N/A)	17.22	J-1198
2777	J-1502	Forest	TRUE	1.00	584.82	2.08	585.90	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2980	J-1606	Lakes	TRUE	1.00	585.00	1.55	585.55	20.00	20.04	20.00	23.90	J-1143	(N/A)	17.23	J-1198
3667	J-1999	Forest	TRUE	1.00	585.16	1.28	585.44	20.00	26.25	20.00	20.00	J-1725	(N/A)	17.17	J-1198
5967	J-3194	Forest	TRUE	1.00	585.16	1.28	585.44	20.00	26.42	20.00	20.00	J-1725	(N/A)	17.17	J-1198
1655	J-831	Forest	TRUE	1.00	586.76	1.68	587.44	20.00	20.02	20.00	20.72	J-830	(N/A)	17.17	J-1198
2183	J-1162	Forest	TRUE	1.00	587.45	1.68	588.13	20.00	20.02	20.00	24.26	J-1197	(N/A)	17.18	J-1198
2848	J-1543	Forest	TRUE	1.00	591.71	1.68	592.39	20.00	20.00	20.00	24.30	J-1197	(N/A)	17.22	J-1198
2350	J-1260	Lakes	TRUE	1.00	592.21	1.72	592.93	20.00	20.00	20.00	23.60	J-1243	(N/A)	17.23	J-1198
2155	J-1144	Forest	TRUE	1.00	592.49	1.68	593.17	20.00	20.02	20.00	24.30	J-1197	(N/A)	17.22	J-1198
4236	J-2260	Forest	TRUE	1.00	594.80	2.28	596.08	20.00	39.77	20.00	20.00	J-1725	(N/A)	17.17	J-1198
3666	J-1998	Forest	TRUE	1.00	594.80	2.08	595.88	20.00	26.25	20.00	20.00	J-1725	(N/A)	17.17	J-1198
6504	J-3511	Forest	TRUE	1.00	596.05	1.68	596.73	20.00	20.15	20.00	20.09	J-1894	(N/A)	17.21	J-1198
3475	J-1893	Forest	TRUE	1.00 1.00	596.11	1.28	596.39	20.00 20.00	20.40	20.00	20.08	J-1894	(N/A)	17.21	J-1198
3476 2919	J-1894 J-1579	Forest Forest	TRUE TRUE	1.00	596.62 598.21	1.48 3.49	597.10 600.70	20.00	20.00 20.01	20.00 20.00	20.20 24.29	J-3511 J-1197	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
2890	J-1566	Forest	TRUE	1.00	600.95	1.88	601.83	20.00	20.04	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2114	J-1118	Forest	TRUE	1.00	605.62	1.48	606.10	20.00	20.10	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2657	J-1431	Forest	TRUE	1.00	608.68	1.88	609.56	20.00	20.01	20.00	24.29	J-1197	(N/A)	17.21	J-1198
1952	J-1023	Forest	TRUE	1.00	609.85	2.68	611.54	20.00	20.00	20.00	24.22	J-1197	(N/A)	17.14	J-1198
2820	J-1527	Forest	TRUE	1.00	612.40	2.28	613.68	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
6034	J-3232	Forest	TRUE	1.00	612.54	1.28	612.82	20.00	20.00	20.00	20.12	J-1927	(N/A)	17.16	J-1198
6083	J-3263	Forest	TRUE	1.00	612.83	1.88	613.71	20.00	20.40	20.00	20.08	J-3232	(N/A)	17.16	J-1198
4403	J-2314	Forest	TRUE	1.00	612.86	2.28	614.14	20.00	20.65	20.00	20.07	J-3232	(N/A)	17.16	J-1198
3535	J-1927	Forest	TRUE	1.00	613.42	1.28	613.69	20.00	20.00	20.00	20.00	J-3232	(N/A)	17.16	J-1198
2983	J-1608	Forest	TRUE	1.00	614.18	1.48	614.66	20.00	20.05	20.00	20.94	J-3232	(N/A)	17.16	J-1198
2009	J-1060	Forest	TRUE	1.00	617.76	1.88	618.64	20.00	20.50	20.00	20.12	J-2837	(N/A)	17.22	J-1198
5340	J-2837	Forest	TRUE	1.00	617.83	1.48	618.31	20.00	20.00	20.00	20.48	J-1060	(N/A)	17.22	J-1198
2867	J-1553	Forest	TRUE	1.00	619.84	2.88	621.72	20.00	20.02	20.00	24.29	J-1197	(N/A)	17.21	J-1198
3248	J-1764	Forest	TRUE	1.00	620.52	1.08	620.60	20.00	20.00	20.00	20.53	J-1765	(N/A)	17.21	J-1198
3249	J-1765	Forest	TRUE	1.00	621.21	1.08	621.29	20.00	20.41	20.00	20.09	J-1764	(N/A)	17.21	J-1198
6798	J-3686	Forest	TRUE	1.00	621.23	1.08	621.31	20.00	20.51	20.00	20.09	J-1764	(N/A)	17.21	J-1198
2923	J-1581	Forest	TRUE	1.00	621.51	2.48	622.99	20.00	20.02	20.00	24.30	J-1197	(N/A)	17.22	J-1198
2835	J-1536	Forest	TRUE	1.00	623.27	2.48	624.75	20.00	20.02	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2153	J-1143	Lakes	TRUE	1.00	623.63	1.46	624.09	20.00	20.04	20.00	21.41	J-1606	(N/A)	17.23	J-1198
2857	J-1548	Forest	TRUE	1.00	625.10	1.68	625.78	20.00	20.03	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2580	J-1386	Forest	TRUE	1.00	628.74	1.68	629.42	20.00	20.03	20.00	24.26	J-1197	(N/A)	17.18	J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
1646 2560	J-826 J-1375	Lakes Lakes	TRUE TRUE	1.00 1.00	629.70 632.97	1.20 1.55	629.90 633.51	20.00 20.00	20.02 20.42	20.00 20.00	32.62 20.02	J-2323 J-1575	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3699	J-2018	Forest	TRUE	1.00	633.65	1.08	633.73	20.00	44.20	20.00	20.00	J-2045	(N/A)	16.71	J-1198
2989 3081	J-1611 J-1662	Forest Forest	TRUE TRUE	1.00 1.00	633.65 633.65	1.08 1.28	633.73 633.93	20.00 20.00	47.10 47.15	20.00 20.00	20.00 20.00	J-2045 J-2045	(N/A) (N/A)	16.71 16.71	J-1198 J-1198
6148	J-3301	Forest	TRUE	1.00	633.65	1.48	634.13	20.00	43.98	20.00	20.00	J-2045	(N/A)	16.71	J-1198
1978 3746	J-1040 J-2044	Forest Forest	TRUE TRUE	1.00 1.00	633.65 633.65	1.48 1.68	634.13 634.33	20.00 20.00	40.34 31.29	20.00 20.00	20.00 20.00	J-2045 J-2045	(N/A) (N/A)	16.71 16.71	J-1198 J-1198
2811	J-1522	Forest	TRUE	1.00	639.43	2.28	640.71	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
4358 6895	J-2298 J-3743	Forest Forest	TRUE TRUE	1.00 1.00	639.89 639.89	1.68 1.68	640.57 640.57	20.00 20.00	23.02 22.79	20.00 20.00	20.00 20.00	J-3188 J-3188	(N/A) (N/A)	17.22 17.22	J-1198 J-1198
2635	J-1418	Forest	TRUE	1.00	641.08	1.48	641.56	20.00	22.88	20.00	20.00	J-941	(N/A)	17.21	J-1198
5961 2851	J-3191 J-1545	Forest Forest	TRUE TRUE	1.00 1.00	641.08 641.61	1.68 1.68	641.76 642.29	20.00 20.00	22.99 20.00	20.00 20.00	20.00 24.30	J-941 J-1197	(N/A) (N/A)	17.21 17.22	J-1198 J-1198
6950	J-3775	Forest	TRUE	1.00	642.82	1.08	642.89	20.00	20.00	20.00	20.65	J-2248	(N/A)	17.21	J-1198
4196 2786	J-2248 J-1508	Forest Forest	TRUE TRUE	1.00 1.00	643.92 652.36	1.28 2.08	644.20 653.44	20.00 20.00	20.48 20.06	20.00 20.00	20.07 24.25	J-3775 J-1197	(N/A) (N/A)	17.21 17.17	J-1198 J-1198
4170	J-2238	Forest	TRUE	1.00	656.37	1.48	656.85	20.00	36.89	20.00	20.00	J-1608	(N/A)	17.16	J-1198
2964 3311	J-1598 J-1801	Forest Forest	TRUE TRUE	1.00 1.00	656.38 656.44	1.28 1.48	656.65 656.92	20.00 20.00	31.82 31.26	20.00 20.00	20.00 20.00	J-1608 J-1608	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
5753	J-3075	Forest	TRUE	1.00	656.44	1.08	656.52	20.00	30.50	20.00	20.00	J-1608	(N/A)	17.16	J-1198
3467 3466	J-1888 J-1887	Forest Forest	TRUE TRUE	1.00 1.00	658.34 660.03	1.08 1.48	658.42 660.50	20.00 20.00	20.00 20.06	20.00 20.00	20.14 20.25	J-1608 J-3323	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
6186	J-3323	Forest	TRUE	1.00	660.43	1.68	661.11	20.00	20.04	20.00	20.00	J-1887	(N/A)	17.16	J-1198
4843 3691	J-2551 J-2013	Forest Forest	TRUE TRUE	1.00 1.00	660.47 660.56	1.08 1.68	660.55 661.24	20.00 20.00	20.00 20.17	20.00 20.00	20.18 20.07	J-2013 J-2551	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
2783	J-1506	Forest	TRUE	1.00	662.96	2.08	664.04	20.00	20.07	20.00	24.30	J-1197	(N/A)	17.22	J-1198
2690 2611	J-1450 J-1404	Forest Forest	TRUE TRUE	1.00 1.00	664.90 666.48	2.08 1.68	665.98 667.16	20.00 20.00	20.00 20.00	20.00 20.00	24.29 24.29	J-1197 J-1197	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
2801	J-1516	Forest	TRUE	1.00	667.06	1.88	667.94	20.00	20.01	20.00	24.26	J-1197	(N/A)	17.18	J-1198
2974 1714	J-1603 J-869	Forest Forest	TRUE TRUE	1.00 1.00	667.27 667.38	2.08 1.88	668.35 668.26	20.00 20.00	20.01 20.03	20.00 20.00	24.25 22.78	J-1197 J-870	(N/A) (N/A)	17.17 17.21	J-1198 J-1198
2708	J-1461	Forest	TRUE	1.00	668.19	2.28	669.47	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
6702 4259	J-3629 J-2267	Forest Forest	TRUE TRUE	1.00 1.00	670.67 671.96	1.28 1.68	670.95 672.64	20.00 20.00	20.00 20.04	20.00 20.00	20.17 20.07	J-2267 J-3629	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
2749	J-1486	Forest	TRUE	1.00	672.38	2.08	673.46	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.21	J-1198
5430 2131	J-2889 J-1129	Forest Forest	TRUE TRUE	1.00 1.00	672.93 673.09	1.48 1.68	673.41 673.77	20.00 20.00	20.22 20.00	20.00 20.00	20.08 22.05	J-1918 J-1130	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
2234	J-1193	Forest	TRUE	1.00	673.25	1.48	673.73	20.00	21.19	20.00	20.04	J-1918	(N/A)	17.21	J-1198
3517 2815	J-1918 J-1524	Forest Forest	TRUE TRUE	1.00 1.00	673.54 673.73	1.88 1.48	674.42 674.21	20.00 20.00	20.00 20.00	20.00 20.00	20.25 24.25	J-2889 J-1197	(N/A) (N/A)	17.21 17.17	J-1198 J-1198
3884	J-2110	Forest	TRUE	1.00	674.98	2.08	676.06	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
3692 1737	J-2014 J-884	Forest Forest	TRUE TRUE	1.00 1.00	680.07 681.31	2.48 1.28	681.55 681.59	20.00 20.00	20.00 22.81	20.00 20.00	20.64 20.06	J-2551 J-885	(N/A) (N/A)	17.21 17.22	J-1198 J-1198
2817	J-1525	Forest	TRUE	1.00	684.27	1.88	685.15	20.00	20.04	20.00	20.25	J-3428	(N/A)	17.22	J-1198
6360 1628	J-3428 J-815	Forest Forest	TRUE TRUE	1.00 1.00	684.58 687.74	2.28 1.48	685.86 688.22	20.00 20.00	20.05 20.04	20.00 20.00	20.00 24.27	J-1525 J-1197	(N/A) (N/A)	17.22 17.19	J-1198 J-1198
5149	J-2726	Forest	TRUE	1.00	691.51	1.88	692.39	20.00	20.00	20.00	20.30	J-2165	(N/A)	17.21	J-1198
4005 2122	J-2165 J-1123	Forest Forest	TRUE TRUE	1.00 1.00	691.98 699.49	2.08 1.88	693.06 700.37	20.00 20.00	20.25 20.02	20.00 20.00	20.06 24.26	J-2726 J-1197	(N/A) (N/A)	17.21 17.19	J-1198 J-1198
5867	J-3139	Forest	TRUE	1.00	700.83	1.08	700.91	20.00	42.44	20.00	20.00	J-1764	(N/A)	17.21	J-1198
4374 2166	J-2303 J-1151	Forest Forest	TRUE TRUE	1.00 1.00	700.83 702.19	1.08 1.08	700.91 702.27	20.00 20.00	41.38 23.68	20.00 20.00	20.00 20.00	J-1764 J-1152	(N/A) (N/A)	17.21 16.61	J-1198 J-1198
2178	J-1159	Forest	TRUE	1.00	704.72	1.68	705.40	20.00	20.09	20.00	24.29	J-1197	(N/A)	17.21	J-1198
3162 6709	J-1712 J-3633	Forest Forest	TRUE TRUE	1.00 1.00	705.49 705.49	1.48 1.88	705.97 706.37	20.00 20.00	23.90 24.19	20.00 20.00	20.00 20.00	J-1152 J-1152	(N/A) (N/A)	16.61 16.61	J-1198 J-1198
2584	J-1388	Forest	TRUE	1.00	707.92	2.28	709.21	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.22	J-1198
1793 2701	J-920 J-1457	Forest Forest	TRUE TRUE	1.00 1.00	710.10 712.24	1.48 1.68	710.58 712.92	20.00 20.00	20.00 20.03	20.00 20.00	23.39 24.30	J-921 J-1197	(N/A) (N/A)	17.22 17.22	J-1198 J-1198
5695	J-3041	Forest	TRUE	1.00	713.51	1.08	713.59	20.00	20.35	20.00	20.17	J-1952	(N/A)	17.21	J-1198
2115 3579	J-1119 J-1952	Forest Forest	TRUE TRUE	1.00 1.00	713.79 714.19	1.48 1.08	714.27 714.26	20.00 20.00	22.89 20.00	20.00 20.00	20.10 20.02	J-1952 J-1211	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
2265	J-1211	Forest	TRUE	1.00	714.26	1.08	714.34	20.00	20.00	20.00	21.64	J-1952	(N/A)	17.21	J-1198
2605 4831	J-1401 J-2544	Forest Forest	TRUE TRUE	1.00 1.00	715.24 715.30	1.08 1.08	715.32 715.38	20.00 20.00	20.02 20.02	20.00 20.00	20.12 20.02	J-2544 J-1401	(N/A) (N/A)	17.22 17.22	J-1198 J-1198
3885	J-2111	Forest	TRUE	1.00	715.56	1.48	716.04	20.00	23.24	20.00	20.00	J-2110	(N/A)	17.21	J-1198
6939 2760	J-3769 J-1492	Forest Lakes	TRUE TRUE	1.00 1.00	715.56 719.46	1.88 1.37	716.44 719.84	20.00 20.00	22.51 27.00	20.00 20.00	20.00 20.00	J-2110 J-1586	(N/A) (N/A)	17.21 17.23	J-1198 J-1198
3230 6616	J-1753 J-3578	Lakes Forest	TRUE TRUE	1.00 1.00	719.46 721.61	1.20 1.28	719.66 721.88	20.00 20.00	26.75 27.63	20.00 20.00	20.00 20.00	J-1586 J-3188	(N/A) (N/A)	17.23 17.22	J-1198 J-1198
4357	J-3376 J-2297	Forest	TRUE	1.00	721.61	1.68	722.29	20.00	27.60	20.00	20.00	J-3188	(N/A)	17.22	J-1198
2896 6370	J-1569 J-3434	Forest Lakes	TRUE TRUE	1.00 1.00	724.71 726.57	1.88 1.20	725.59 726.77	20.00 20.00	20.00 26.27	20.00 20.00	24.24 20.00	J-1197 J-1586	(N/A) (N/A)	17.17 17.23	J-1198 J-1198
3229	J-1752	Lakes	TRUE	1.00	726.57	1.20	726.77	20.00	26.29	20.00	20.00	J-1586	(N/A)	17.23	J-1198
1664 2893	J-836 J-1568	Forest Forest	TRUE TRUE	1.00 1.00	726.92 731.71	1.88 1.48	727.80 732.19	20.00 20.00	20.05 20.00	20.00 20.00	21.27 24.24	J-837 J-1197	(N/A) (N/A)	17.20 17.16	J-1198 J-1198
2675	J-1441	Forest	TRUE	1.00	734.60	2.08	735.68	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.10	J-1198
1614 2464	J-806 J-1322	Forest Forest	TRUE TRUE	1.00 1.00	739.55 739.89	1.68 1.68	740.23 740.57	20.00 20.00	20.04 20.04	20.00 20.00	24.25 20.67	J-1197 J-1386	(N/A) (N/A)	17.17 17.18	J-1198 J-1198
2929	J-1585	Forest	TRUE	1.00	742.79	2.48	744.27	20.00	20.04	20.00	24.24	J-1197	(N/A)	17.17	J-1198
2463 1821	J-1321 J-938	Forest Forest	TRUE TRUE	1.00 1.00	743.40 743.41	1.08 1.68	743.47 744.09	20.00 20.00	21.22 20.00	20.00 20.00	20.09 22.87	J-1386 J-939	(N/A) (N/A)	17.18 17.21	J-1198 J-1198
3199	J-1734	Forest	TRUE	1.00	744.17	1.08	744.25	20.00	20.00	20.00	20.22	J-2952	(N/A)	17.21	J-1198
5542 3198	J-2952 J-1733	Forest Forest	TRUE TRUE	1.00 1.00	744.73 745.64	1.08 1.08	744.81 745.71	20.00 20.00	20.00 20.00	20.00 20.00	20.14 20.00	J-1734 J-1734	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
2194	J-1169	Forest	TRUE	1.00	753.76	1.08	753.84	20.00	20.01	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2878 5553	J-1559 J-2958	Forest Forest	TRUE TRUE	1.00 1.00	760.18 763.06	1.48 1.08	760.66 763.14	20.00 20.00	20.04 20.01	20.00 20.00	24.25 20.16	J-1197 J-1727	(N/A) (N/A)	17.17 17.20	J-1198 J-1198
2733	J-1476	Forest	TRUE	1.00	763.88	2.88	765.77	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.21	J-1198
3189 6481	J-1728 J-3498	Forest Forest	TRUE TRUE	1.00 1.00	764.27 765.29	1.08 2.08	764.35 766.37	20.00 20.00	20.01 20.00	20.00 20.00	20.08 20.06	J-2958 J-2295	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
3188	J-1727	Forest	TRUE	1.00	765.35	1.48	765.83	20.00	20.01	20.00	20.01	J-2958	(N/A)	17.20	J-1198
4349 1755	J-2295 J-896	Forest Forest	TRUE TRUE	1.00 1.00	765.77 767.10	2.08 1.88	766.85 767.98	20.00 20.00	20.00 20.00	20.00 20.00	20.16 22.73	J-3498 J-897	(N/A) (N/A)	17.20 17.21	J-1198 J-1198
2832	J-1534	Forest	TRUE	1.00	767.59	2.28	768.88	20.00	20.04	20.00	24.29	J-1197	(N/A)	17.21	J-1198
2764 1966	J-1494 J-1032	Forest Forest	TRUE TRUE	1.00 1.00	767.91 772.50	1.68 1.88	768.58 773.38	20.00 20.00	20.00 20.00	20.00 20.00	24.28 24.19	J-1197 J-1197	(N/A) (N/A)	17.21 17.11	J-1198 J-1198
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								Desired	Calculated	Desired Minimum	Calculated Minimum	Minimum	Desired Minimum	Calculated Minimum	Minimum
Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Residual Pressure (psi)	Residual Pressure (psi)	Zone Pressure (psi)	Zone Pressure (psi)	Zone Pressure Node	System Pressure (psi)	System Pressure (psi)	System Pressure Node
3091	J-1668	Forest	TRUE	1.00	775.18	1.08	775.25	20.00	20.21	20.00	20.12	J-2384	(N/A)	17.20	J-1198
4546 3090	J-2384 J-1667	Forest Forest	TRUE TRUE	1.00 1.00	775.45 775.93	1.88 1.48	776.33 776.41	20.00 20.00	20.00 20.00	20.00 20.00	20.08 20.00	J-1667 J-2384	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
8500	J-4203	Forest	TRUE	1.00	778.24	1.48	778.71	20.00	21.22	20.00	20.09	J-2091	(N/A)	17.21	J-1198
3845 5116	J-2091 J-2708	Forest Forest	TRUE TRUE	1.00 1.00	778.79 779.76	2.08 1.48	779.87 780.23	20.00 20.00	20.00 20.00	20.00 20.00	21.13 20.05	J-4203 J-2166	(N/A) (N/A)	17.21 17.20	J-1198 J-1198
4007	J-2166	Forest	TRUE	1.00	780.10	1.28	780.23	20.00	20.00	20.00	20.03	J-2708	(N/A)	17.20	J-1198
4008	J-2167	Forest	TRUE	1.00	780.10	1.88	780.98	20.00	24.03	20.00	20.00	J-2166	(N/A)	17.20	J-1198
2692 5865	J-1451 J-3138	Forest Forest	TRUE TRUE	1.00 1.00	783.50 783.88	1.88 1.68	784.38 784.56	20.00 20.00	20.00 20.01	20.00 20.00	24.28 20.28	J-1197 J-1875	(N/A) (N/A)	17.20 17.21	J-1198 J-1198
3444	J-1875	Forest	TRUE	1.00	785.45	2.28	786.73	20.00	20.16	20.00	20.05	J-3138	(N/A)	17.21	J-1198
2642 1626	J-1422 J-814	Forest Forest	TRUE TRUE	1.00 1.00	788.57 789.39	1.88 1.68	789.45 790.07	20.00 20.00	20.01 20.04	20.00 20.00	24.30 24.24	J-1197 J-1197	(N/A) (N/A)	17.22 17.17	J-1198 J-1198
6367	J-3432	Forest	TRUE	1.00	789.49	1.08	789.57	20.00	20.04	20.00	20.26	J-1197 J-2147	(N/A)	17.17	J-1198
2612	J-1405	Forest	TRUE	1.00	789.86	1.68	790.54	20.00	20.00	20.00	20.92	J-3095	(N/A)	17.21	J-1198
7180 6368	J-3900 J-3433	Forest Forest	TRUE TRUE	1.00 1.00	790.54 790.57	1.08 1.28	790.61 790.84	20.00 20.00	20.26 20.31	20.00 20.00	20.09 20.09	J-3432 J-3432	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
3964	J-2147	Forest	TRUE	1.00	791.47	1.88	792.35	20.00	20.01	20.00	20.50	J-2259	(N/A)	17.21	J-1198
2586 2672	J-1389 J-1439	Forest Forest	TRUE TRUE	1.00 1.00	792.54 792.54	2.28 1.88	793.82 793.43	20.00 20.00	20.00 24.55	20.00 20.00	21.15 20.00	J-1985 J-1389	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
4563	J-2394	Forest	TRUE	1.00	792.54	1.88	793.43	20.00	24.10	20.00	20.00	J-1389	(N/A)	17.21	J-1198
2119 2510	J-1121	Forest	TRUE TRUE	1.00	793.39	1.88	794.27	20.00	21.55	20.00	20.06	J-1122	(N/A)	17.21	J-1198
5789	J-1346 J-3095	Forest Forest	TRUE	1.00 1.00	794.98 795.31	2.28 1.48	796.26 795.79	20.00 20.00	20.46 20.00	20.00 20.00	20.07 20.26	J-2259 J-2104	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
4230	J-2259	Forest	TRUE	1.00	795.37	2.68	797.05	20.00	20.00	20.00	20.74	J-3425	(N/A)	17.21	J-1198
2151 2661	J-1142 J-1433	Forest Forest	TRUE TRUE	1.00 1.00	795.48 795.50	1.28 1.88	795.76 796.38	20.00 20.00	20.00 20.09	20.00 20.00	20.91 24.28	J-925 J-1197	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
6548	J-3537	Forest	TRUE	1.00	795.51	2.08	796.59	20.00	24.96	20.00	20.00	J-2259	(N/A)	17.21	J-1198
6547 3502	J-3536 J-1909	Forest Forest	TRUE TRUE	1.00 1.00	795.51 795.76	1.48 1.08	795.99 795.84	20.00 20.00	24.35 24.34	20.00 20.00	20.00 20.00	J-2259 J-2259	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
3502	J-1909 J-1908	Forest	TRUE	1.00	795.76	1.88	796.64	20.00	23.77	20.00	20.00	J-2259	(N/A)	17.21	J-1198
3873	J-2104	Forest	TRUE	1.00	795.82	1.68	796.50	20.00	20.18	20.00	20.10	J-3095	(N/A)	17.21	J-1198
4116 6155	J-2214 J-3305	Forest Forest	TRUE TRUE	1.00 1.00	796.02 796.02	2.08 1.68	797.10 796.70	20.00 20.00	35.15 34.36	20.00 20.00	20.00 20.00	J-2259 J-2259	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
3576	J-1950	Forest	TRUE	1.00	796.82	2.68	798.50	20.00	24.87	20.00	20.00	J-2259	(N/A)	17.21	J-1198
3524 6355	J-1921 J-3425	Forest Forest	TRUE TRUE	1.00 1.00	797.31 797.53	1.48 1.28	797.78 797.81	20.00 20.00	25.96 20.02	20.00 20.00	20.00 20.43	J-2295 J-2259	(N/A) (N/A)	17.20 17.21	J-1198 J-1198
3577	J-1951	Forest	TRUE	1.00	797.96	1.48	798.43	20.00	21.69	20.00	20.00	J-2259	(N/A)	17.21	J-1198
6396	J-3449	Forest	TRUE	1.00	797.96	2.08	799.04	20.00	21.15	20.00	20.00	J-2259	(N/A) (N/A)	17.21	J-1198
6218 6356	J-3343 J-3426	Forest Forest	TRUE TRUE	1.00 1.00	798.15 798.79	1.48 1.68	798.63 799.47	20.00 20.00	20.48 20.30	20.00 20.00	20.12 20.08	J-1985 J-3425	(N/A)	17.21 17.21	J-1198 J-1198
3641	J-1985	Forest	TRUE	1.00	798.80	1.48	799.28	20.00	20.00	20.00	20.16	J-1496	(N/A)	17.21	J-1198
4823 3525	J-2539 J-1922	Forest Forest	TRUE TRUE	1.00 1.00	799.63 799.63	1.28 1.68	799.91 800.31	20.00 20.00	24.62 24.84	20.00 20.00	20.00 20.00	J-2295 J-2295	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
3888	J-2112	Forest	TRUE	1.00	799.67	1.88	800.55	20.00	20.00	20.00	22.45	J-1740	(N/A)	17.21	J-1198
2767 2824	J-1496 J-1530	Forest Forest	TRUE TRUE	1.00 1.00	799.75 799.86	2.08 2.68	800.83 801.54	20.00 20.00	20.00 20.00	20.00 20.00	22.39 20.08	J-2837 J-3138	(N/A) (N/A)	17.21 17.20	J-1198 J-1198
4443	J-2326	Stewartsville		1.00	800.93	1.69	801.62	20.00	20.00	20.00	50.50	J-676	(N/A)	17.23	J-1198
3238	J-1758	Forest	TRUE	1.00	801.84	1.28	802.12	20.00	21.75	20.00	20.00	J-2259	(N/A)	17.21	J-1198
3774 6415	J-2057 J-3460	Forest Forest	TRUE TRUE	1.00 1.00	801.84 801.84	2.68 1.08	803.53 801.92	20.00 20.00	21.20 21.29	20.00 20.00	20.00 20.00	J-2259 J-2259	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
3237	J-1757	Forest	TRUE	1.00	801.84	1.08	801.92	20.00	21.72	20.00	20.00	J-2259	(N/A)	17.21	J-1198
4085 2109	J-2202 J-1115	Forest Forest	TRUE TRUE	1.00 1.00	803.16 803.41	2.08 2.48	804.24 804.89	20.00 20.00	23.27 20.04	20.00 20.00	20.00 24.24	J-3425 J-1197	(N/A) (N/A)	17.21 17.16	J-1198 J-1198
3305	J-1798	Forest	TRUE	1.00	805.10	1.08	805.17	20.00	38.97	20.00	20.00	J-2259	(N/A)	17.21	J-1198
2148 2712	J-1140 J-1464	Forest Forest	TRUE TRUE	1.00 1.00	805.10 805.42	1.08 1.68	805.18 806.10	20.00 20.00	37.92 20.03	20.00 20.00	20.00 24.30	J-2259 J-1197	(N/A) (N/A)	17.21 17.22	J-1198 J-1198
3403	J-1851	Forest	TRUE	1.00	805.50	1.08	805.58	20.00	40.96	20.00	20.00	J-2259	(N/A)	17.21	J-1198
5895	J-3154	Forest	TRUE	1.00	805.50	1.48	805.98	20.00	40.70	20.00	20.00	J-2259	(N/A)	17.21	J-1198
4420 6194	J-2319 J-3328	Forest Forest	TRUE TRUE	1.00 1.00	808.31 808.31	1.48 2.08	808.79 809.39	20.00 20.00	41.63 41.99	20.00 20.00	20.00 20.00	J-1211 J-1211	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
4064	J-2191	Forest	TRUE	1.00	811.28	2.28	812.56	20.00	30.46	20.00	20.00	J-2110	(N/A)	17.21	J-1198
3871 6394	J-2103 J-3448	Forest Forest	TRUE TRUE	1.00 1.00	811.31 811.39	1.48 1.08	811.79 811.47	20.00 20.00	52.26 34.95	20.00 20.00	20.01 20.00	J-2259 J-2259	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
3793	J-2066	Forest	TRUE	1.00	811.39	1.88	812.27	20.00	35.61	20.00	20.00	J-2259	(N/A)	17.21	J-1198
2906 465	J-1574 J-260	Forest Forest	TRUE TRUE	1.00 1.00	812.48 812.96	2.08 1.68	813.56 813.64	20.00 20.00	20.02 30.61	20.00 20.00	24.25 20.00	J-1197 J-3425	(N/A) (N/A)	17.17 17.21	J-1198 J-1198
337	J-178	Forest	TRUE	1.00	813.19	1.08	813.26	20.00	32.83	20.00	20.00	J-3425	(N/A)	17.21	J-1198
338 3870	J-179 J-2102	Forest Forest	TRUE TRUE	1.00 1.00	813.19 813.99	1.08 1.88	813.26 814.87	20.00 20.00	32.81 39.50	20.00 20.00	20.00 20.00	J-3425 J-2259	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
6345	J-3419	Forest	TRUE	1.00	813.99	1.48	814.47	20.00	39.25	20.00	20.00	J-2259	(N/A)	17.21	J-1198
5818	J-3112	Forest	TRUE	1.00	814.95	1.28	815.23	20.00	34.16	20.00	20.00	J-3425	(N/A)	17.21	J-1198
868 3011	J-488 J-1621	Forest Lakes	TRUE TRUE	1.00 1.00	814.95 815.62	1.68 2.06	815.63 816.68	20.00 20.00	33.33 25.72	20.00 20.00	20.00 20.00	J-3425 J-1427	(N/A) (N/A)	17.21 17.23	J-1198 J-1198
3210	J-1741	Forest	TRUE	1.00	815.76	1.08	815.84	20.00	20.00	20.00	20.07	J-1740	(N/A)	17.21	J-1198
3209 4071	J-1740 J-2195	Forest Forest	TRUE TRUE	1.00 1.00	816.20 816.77	1.28 1.28	816.48 817.05	20.00 20.00	20.00 33.75	20.00 20.00	20.20 20.00	J-1741 J-2295	(N/A) (N/A)	17.21 17.20	J-1198 J-1198
5347	J-2841	Forest	TRUE	1.00	816.77	1.28	817.05	20.00	33.49	20.00	20.00	J-2295	(N/A)	17.20	J-1198
6097	J-3271	Forest	TRUE	1.00	817.04	1.28	817.32	20.00	20.59	20.00	20.11	J-2091	(N/A)	17.21	J-1198 J-1198
3846 3569	J-2092 J-1946	Forest Forest	TRUE TRUE	1.00 1.00	817.22 817.80	2.08 1.48	818.30 818.28	20.00 20.00	21.52 30.59	20.00 20.00	20.08 20.00	J-2091 J-2259	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
6450	J-3480	Forest	TRUE	1.00	817.80	1.48	818.28	20.00	30.31	20.00	20.00	J-2259	(N/A)	17.21	J-1198
1111 2303	J-594 J-1234	Forest Lakes	TRUE TRUE	1.00 1.00	818.82 819.20	1.08 2.15	818.89 820.35	20.00 20.00	29.37 20.00	20.00 20.00	20.00 29.73	J-3425 J-3108	(N/A) (N/A)	17.21 17.23	J-1198 J-1198
3343	J-1819	Forest	TRUE	1.00	819.75	1.48	820.23	20.00	20.20	20.00	20.12	J-1740	(N/A)	17.21	J-1198
4753 5408	J-2501 J-2877	Forest Forest	TRUE TRUE	1.00 1.00	819.76 822.81	1.28 1.68	820.03 823.49	20.00 20.00	20.22 20.00	20.00 20.00	20.11 20.07	J-1740 J-2263	(N/A) (N/A)	17.21 17.20	J-1198 J-1198
4246	J-2263	Forest	TRUE	1.00	823.35	2.08	824.43	20.00	20.00	20.00	20.10	J-2877	(N/A)	17.20	J-1198
3202 2746	J-1736 J-1484	Forest	TRUE TRUE	1.00 1.00	825.06 825.07	1.08 2.08	825.14 826.15	20.00 20.00	20.00 20.03	20.00 20.00	20.43 24.29	J-2591 J-1197	(N/A) (N/A)	17.20 17.21	J-1198 J-1198
2875	J-1464 J-1557	Forest Forest	TRUE	1.00	826.35	3.29	828.64	20.00	20.03	20.00	24.29	J-1197 J-1197	(N/A) (N/A)	17.21	J-1198 J-1198
4913	J-2591	Forest	TRUE	1.00	827.88	1.48	828.36	20.00	20.09	20.00	20.06	J-1736	(N/A)	17.20	J-1198
3201 6782	J-1735 J-3676	Forest Forest	TRUE TRUE	1.00 1.00	828.03 828.59	1.48 1.08	828.51 828.67	20.00 20.00	20.33 20.00	20.00 20.00	20.05 20.10	J-1736 J-610	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
6844	J-3713	Forest	TRUE	1.00	828.87	2.28	830.15	20.00	21.17	20.00	20.06	J-610	(N/A)	17.20	J-1198
2834 756	J-1535 J-432	Forest Forest	TRUE TRUE	1.00 1.00	828.95 829.42	1.88 1.48	829.83 829.89	20.00 20.00	21.52 34.55	20.00 20.00	20.05 20.00	J-610 J-610	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
. 50	5 102	. 51031			J_J.72	0	020.00	20.00	555	20.00	20.00	5 510	(//)	20	5 . 100

Node	Node	Pressure		Desired Fire Flow	Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
5101 520	J-2700 J-294	Forest Forest	TRUE TRUE	1.00 1.00	829.42 829.42	1.08 1.48	829.49 829.90	20.00 20.00	33.05 33.19	20.00 20.00	20.00 20.00	J-610 J-610	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
521	J-295	Forest	TRUE	1.00	829.42	1.48	829.90	20.00	33.14	20.00	20.00	J-610	(N/A)	17.20	J-1198
1159 1608	J-610 J-802	Forest Forest	TRUE TRUE	1.00 1.00	829.42 830.75	1.48 1.68	829.90 831.43	20.00 20.00	20.00 20.05	20.00 20.00	20.20 24.24	J-3676 J-1197	(N/A) (N/A)	17.20 17.16	J-1198 J-1198
6859	J-3721	Forest	TRUE	1.00	831.18	1.08	831.26	20.00	20.00	20.00	21.14	J-2302	(N/A)	17.21	J-1198
4794 3959	J-2524	Forest	TRUE TRUE	1.00	831.34 832.32	1.48	831.82 833.00	20.00 20.00	20.02 20.04	20.00 20.00	20.08 20.10	J-2145	(N/A) (N/A)	17.22 17.22	J-1198
4370	J-2145 J-2302	Forest Forest	TRUE	1.00 1.00	833.34	1.68 1.08	833.41	20.00	20.04	20.00	20.10	J-2524 J-3721	(N/A)	17.22	J-1198 J-1198
817	J-462 J-2053	Forest	TRUE TRUE	1.00 1.00	834.26 834.26	1.08	834.33	20.00 20.00	33.76	20.00 20.00	20.00 20.00	J-3425 J-3425	(N/A) (N/A)	17.21 17.21	J-1198
3767 6295	J-2053 J-3389	Forest Forest	TRUE	1.00	834.26	1.48 1.88	834.74 835.14	20.00	34.83 34.74	20.00	20.00	J-3425 J-3425	(N/A) (N/A)	17.21	J-1198 J-1198
2204	J-1175	Forest	TRUE	1.00	834.28	1.88	835.16	20.00	25.32	20.00	20.00	J-3425	(N/A) (N/A)	17.21	J-1198
3520 6017	J-1919 J-3222	Forest Forest	TRUE TRUE	1.00 1.00	834.28 834.28	1.08 1.08	834.35 834.35	20.00 20.00	24.52 24.54	20.00 20.00	20.00 20.00	J-3425 J-3425	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
3664 818	J-1997 J-463	Forest	TRUE TRUE	1.00	834.28 836.48	2.08	835.36 836.96	20.00 20.00	23.48	20.00 20.00	20.00 20.01	J-3425 J-3425	(N/A) (N/A)	17.21 17.21	J-1198
6448	J-463 J-3479	Forest Forest	TRUE	1.00 1.00	836.48	1.48 2.28	837.76	20.00	41.27 41.16	20.00	20.01	J-3425 J-3425	(N/A) (N/A)	17.21	J-1198 J-1198
2639 4536	J-1420 J-2378	Forest	TRUE TRUE	1.00 1.00	838.92 840.36	1.88 1.28	839.80 840.63	20.00 20.00	20.00 20.01	20.00 20.00	24.30 20.05	J-1197 J-1637	(N/A) (N/A)	17.22 17.20	J-1198 J-1198
3041	J-1636	Forest Forest	TRUE	1.00	840.78	1.08	840.85	20.00	20.01	20.00	20.03	J-1637	(N/A)	17.20	J-1198
4407	J-2315	Forest	TRUE	1.00	840.86	1.68	841.54	20.00	36.27	20.00	20.00	J-1764	(N/A)	17.21	J-1198
6660 3042	J-3604 J-1637	Forest Forest	TRUE TRUE	1.00 1.00	840.86 840.93	1.28 1.08	841.14 841.01	20.00 20.00	35.14 20.01	20.00 20.00	20.00 20.06	J-1764 J-2378	(N/A) (N/A)	17.21 17.20	J-1198 J-1198
3359	J-1828	Forest	TRUE	1.00	841.34	1.48	841.82	20.00	23.04	20.00	20.00	J-2295	(N/A)	17.20	J-1198
6767 3360	J-3667 J-1829	Forest Forest	TRUE TRUE	1.00 1.00	841.34 843.57	1.48 1.68	841.82 844.25	20.00 20.00	22.06 23.57	20.00 20.00	20.00 20.00	J-2295 J-2295	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
1173	J-616	Forest	TRUE	1.00	845.14	1.08	845.22	20.00	51.61	20.00	20.01	J-3425	(N/A)	17.21	J-1198
6991 2776	J-3798 J-1501	Forest Forest	TRUE TRUE	1.00 1.00	845.15 846.18	2.68 2.08	846.83 847.26	20.00 20.00	51.76 20.47	20.00 20.00	20.01 20.03	J-3425 J-1532	(N/A) (N/A)	17.21 17.20	J-1198 J-1198
2790	J-1510	Forest	TRUE	1.00	848.53	2.08	849.61	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.21	J-1198
4365 6711	J-2301 J-3634	Forest Forest	TRUE TRUE	1.00 1.00	848.76 848.82	1.48 1.08	849.24 848.89	20.00 20.00	20.93 21.07	20.00 20.00	20.07 20.06	J-3188 J-3188	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
426	J-236	Forest	TRUE	1.00	851.33	1.08	851.41	20.00	51.62	20.00	20.01	J-3425	(N/A)	17.21	J-1198
4902 582	J-2585 J-333	Forest Forest	TRUE TRUE	1.00 1.00	851.34 851.56	1.48 1.48	851.81 852.04	20.00 20.00	51.50 52.27	20.00 20.00	20.01 20.01	J-3425 J-3425	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
427	J-237	Forest	TRUE	1.00	851.56	1.48	852.04	20.00	51.82	20.00	20.01	J-3425	(N/A)	17.21	J-1198
2609 6258	J-1403 J-3368	Forest Forest	TRUE TRUE	1.00 1.00	852.95 855.35	2.68 1.08	854.63 855.42	20.00 20.00	20.00 31.76	20.00 20.00	24.28 20.08	J-1197 J-1525	(N/A) (N/A)	17.20 17.22	J-1198 J-1198
3822	J-2079	Forest	TRUE	1.00	855.35	3.09	857.43	20.00	31.99	20.00	20.08	J-1525	(N/A)	17.22	J-1198
2730 1946	J-1474 J-1019	Forest Forest	TRUE TRUE	1.00 1.00	855.39 857.11	1.88 2.08	856.27 858.19	20.00 20.00	20.06 21.89	20.00 20.00	24.28 20.00	J-1197 J-1736	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
1600	J-797	Forest	TRUE	1.00	858.05	1.68	858.73	20.00	20.06	20.00	24.24	J-1197	(N/A)	17.16	J-1198
2725 2788	J-1471 J-1509	Forest Forest	TRUE TRUE	1.00 1.00	858.06 859.55	1.88 2.28	858.94 860.83	20.00 20.00	20.00 20.00	20.00 20.00	24.28 24.28	J-1197 J-1197	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
2742	J-1481	Forest	TRUE	1.00	861.53	2.48	863.02	20.00	20.03	20.00	24.23	J-1197	(N/A)	17.15	J-1198
5707 1611	J-3048 J-804	Forest Forest	TRUE TRUE	1.00 1.00	862.86 863.49	1.48 1.08	863.34 863.57	20.00 20.00	20.00 20.00	20.00 20.00	20.13 20.08	J-804 J-3048	(N/A) (N/A)	17.09 17.09	J-1198 J-1198
3824	J-2080	Forest	TRUE	1.00	867.65	2.28	868.93	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.20	J-1198
1605 3710	J-800 J-2024	Forest Forest	TRUE TRUE	1.00 1.00	869.03 869.91	1.68 1.28	869.71 870.19	20.00 20.00	20.05 20.13	20.00 20.00	24.24 20.04	J-1197 J-2958	(N/A) (N/A)	17.16 17.20	J-1198 J-1198
3003	J-1617	Forest	TRUE	1.00	872.58	1.88	873.46	20.00	25.20	20.00	20.00	J-2267	(N/A)	17.13	J-1198
2858 6585	J-1549 J-3560	Forest Forest	TRUE TRUE	1.00 1.00	873.25 873.36	1.08 1.28	873.33 873.64	20.00 20.00	20.00 20.00	20.00 20.00	20.10 20.08	J-1732 J-1732	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
3196	J-1732	Forest	TRUE	1.00	873.95	1.28	874.23	20.00	20.00	20.00	20.20	J-1549	(N/A)	17.20	J-1198
3939 2926	J-2136 J-1583	Forest Forest	TRUE TRUE	1.00 1.00	874.90 881.85	2.08 1.88	875.98 882.73	20.00 20.00	20.00 20.00	20.00 20.00	24.28 24.20	J-1197 J-1197	(N/A) (N/A)	17.20 17.12	J-1198 J-1198
5018	J-2652	Forest	TRUE	1.00	882.33	1.08	882.40	20.00	59.19	20.00	20.01	J-3425	(N/A)	17.21	J-1198
5019 3833	J-2653 J-2085	Forest Forest	TRUE TRUE	1.00 1.00	882.33 882.55	2.08 1.48	883.41 883.03	20.00 20.00	59.55 28.84	20.00 20.00	20.01 20.00	J-3425 J-941	(N/A) (N/A)	17.21 17.20	J-1198 J-1198
6524	J-3523	Forest	TRUE	1.00	882.57	2.28	883.85	20.00	28.48	20.00	20.00	J-941	(N/A)	17.20	J-1198
3834 1594	J-2086 J-793	Forest Forest	TRUE TRUE	1.00 1.00	882.60 885.16	1.28 1.88	882.88 886.04	20.00 20.00	30.34 20.06	20.00 20.00	20.00 24.24	J-941 J-1197	(N/A) (N/A)	17.20 17.16	J-1198 J-1198
5663	J-3023	Forest	TRUE	1.00	885.34	2.08	886.42	20.00	20.00	20.00	21.00	J-2067	(N/A)	17.21	J-1198
7062 3795	J-3838 J-2067	Forest Forest	TRUE TRUE	1.00 1.00	886.49 886.71	1.08 1.88	886.57 887.59	20.00 20.00	20.00 20.85	20.00 20.00	20.98 20.06	J-2060 J-3023	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
1718	J-872	Forest	TRUE	1.00	887.23	1.88	888.11	20.00	21.19	20.00	20.00	J-3023	(N/A)	17.21	J-1198
3418 6671	J-1860 J-3611	Forest Forest	TRUE TRUE	1.00 1.00	888.90 888.90	1.48 1.48	889.38 889.38	20.00 20.00	25.54 25.48	20.00 20.00	20.00 20.00	J-2267 J-2267	(N/A) (N/A)	17.12 17.12	J-1198 J-1198
1925	J-1005	Forest	TRUE	1.00	889.95	1.68	890.63	20.00	20.00	20.00	20.66	J-2060	(N/A)	17.21	J-1198
4380 3782	J-2306 J-2060	Forest Forest	TRUE TRUE	1.00 1.00	891.57 897.02	2.48 1.28	893.05 897.30	20.00 20.00	20.00 20.00	20.00 20.00	24.29 20.03	J-1197 J-3838	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
2880	J-1560	Forest	TRUE	1.00	897.38	2.48	898.86	20.00	20.00	20.00	24.16	J-1197	(N/A)	17.08	J-1198
3797 2904	J-2068 J-1573	Forest Forest	TRUE TRUE	1.00 1.00	899.85 899.90	1.28 2.48	900.13 901.38	20.00 20.00	27.82 20.01	20.00 20.00	20.04 24.24	J-2145 J-1197	(N/A) (N/A)	17.22 17.16	J-1198 J-1198
5132	J-2717	Forest	TRUE	1.00	900.73	1.48	901.21	20.00	27.42	20.00	20.00	J-2145	(N/A)	17.22	J-1198
2574 7666	J-1382 J-4082	Forest Forest	TRUE TRUE	1.00 1.00	903.24 904.26	2.68 1.48	904.92 904.74	20.00 20.00	20.00 66.74	20.00 20.00	24.28 20.02	J-1197 J-3425	(N/A) (N/A)	17.20 17.21	J-1198 J-1198
7667	J-4083	Forest	TRUE	1.00	904.27	1.68	904.95	20.00	64.83	20.00	20.02	J-3425	(N/A)	17.21	J-1198
2840 2516	J-1539 J-1349	Forest Forest	TRUE TRUE	1.00 1.00	904.63 907.39	1.88 1.88	905.51 908.27	20.00 20.00	20.03 20.02	20.00 20.00	24.23 24.30	J-1197 J-1197	(N/A) (N/A)	17.15 17.22	J-1198 J-1198
3831	J-2084	Forest	TRUE	1.00	910.95	1.88	911.83	20.00	20.00	20.00	21.60	J-3172	(N/A)	17.21	J-1198
2343 5180	J-1256 J-2744	Forest Forest	TRUE TRUE	1.00 1.00	913.64 913.64	1.68 1.48	914.32 914.12	20.00 20.00	28.01 27.83	20.00 20.00	20.00 20.00	J-1257 J-1257	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
6943	J-3771	Forest	TRUE	1.00	915.10	1.88	915.98	20.00	43.13	20.00	20.00	J-2110	(N/A)	17.20	J-1198
4065 4188	J-2192 J-2245	Forest Forest	TRUE TRUE	1.00 1.00	915.10 916.72	1.68 2.48	915.78 918.21	20.00 20.00	42.56 20.01	20.00 20.00	20.00 24.28	J-2110 J-1197	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
5410	J-2878	Forest	TRUE	1.00	917.45	1.08	917.52	20.00	20.00	20.00	20.32	J-1930	(N/A)	17.20	J-1198
3541 5927	J-1930 J-3172	Forest Forest	TRUE TRUE	1.00 1.00	918.21 918.94	1.08 1.28	918.29 919.22	20.00 20.00	20.23 20.00	20.00 20.00	20.11 20.47	J-2878 J-1685	(N/A) (N/A)	17.20 17.21	J-1198 J-1198
2782	J-1505	Forest	TRUE	1.00	920.01	1.68	920.69	20.00	20.20	20.00	20.07	J-3172	(N/A)	17.21	J-1198
3117 1973	J-1685 J-1037	Forest Forest	TRUE TRUE	1.00 1.00	920.03 922.03	2.08 1.88	921.11 922.91	20.00 20.00	20.28 20.00	20.00 20.00	20.07 24.29	J-3172 J-1197	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
2719	J-1467	Forest	TRUE	1.00	922.36	2.48	923.84	20.00	20.04	20.00	24.24	J-1197	(N/A)	17.16	J-1198
2594 1989	J-1394 J-1047	Forest Forest	TRUE TRUE	1.00 1.00	923.41 924.03	1.88 1.08	924.29 924.11	20.00 20.00	20.01 29.78	20.00 20.00	24.24 20.01	J-1197 J-1048	(N/A) (N/A)	17.16 17.08	J-1198 J-1198
3898	J-2117	Forest	TRUE	1.00	926.66	2.08	927.74	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.20	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
4711	J-2477	Forest	TRUE	1.00	930.98	1.88	931.86	20.00	25.53	20.00	20.03	J-1532	(N/A)	17.19	J-1198
3705	J-2021	Forest	TRUE	1.00	930.98	2.08	932.06	20.00	25.74	20.00	20.03	J-1532	(N/A)	17.19	J-1198
2653 2804	J-1429 J-1518	Forest Forest	TRUE TRUE	1.00 1.00	931.34 931.71	1.88 1.08	932.22 931.79	20.00 20.00	20.05 37.23	20.00 20.00	24.27 20.00	J-1197 J-1519	(N/A) (N/A)	17.19 17.22	J-1198 J-1198
5130	J-1316 J-2716	Forest	TRUE	1.00	931.71	1.28	931.79	20.00	36.69	20.00	20.00	J-1519 J-1519	(N/A)	17.22	J-1198
2678	J-1443	Forest	TRUE	1.00	932.06	2.28	933.34	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.20	J-1198
2700 2871	J-1456 J-1556	Forest Forest	TRUE TRUE	1.00 1.00	934.27 935.61	1.48 2.28	934.74 936.89	20.00 20.00	30.52 20.00	20.00 20.00	20.04 24.15	J-1525 J-1197	(N/A) (N/A)	17.22 17.07	J-1198 J-1198
3798	J-2069	Forest	TRUE	1.00	936.77	2.08	937.85	20.00	31.76	20.00	20.02	J-2145	(N/A)	17.22	J-1198
1917 3023	J-1000 J-1625	Forest Forest	TRUE TRUE	1.00 1.00	937.31 943.12	1.88 4.89	938.19 947.02	20.00 20.00	23.13 21.49	20.00 20.00	20.00 20.00	J-2878 J-1626	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
2862	J-1551	Forest	TRUE	1.00	943.17	2.28	944.45	20.00	20.04	20.00	24.23	J-1020	(N/A)	17.16	J-1198
2160	J-1147	Forest	TRUE	1.00	943.78	1.88	944.66	20.00	22.92	20.00	20.00	J-1148	(N/A)	17.20	J-1198
5931 2758	J-3174 J-1491	Forest Forest	TRUE TRUE	1.00 1.00	944.74 947.06	1.28 2.28	945.01 948.35	20.00 20.00	20.00 20.00	20.00 20.00	20.35 24.15	J-2041 J-1197	(N/A) (N/A)	17.20 17.07	J-1198 J-1198
2684	J-1446	Forest	TRUE	1.00	947.33	1.48	947.81	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.20	J-1198
3740 2641	J-2041 J-1421	Forest Forest	TRUE TRUE	1.00 1.00	950.00 951.75	1.88 1.08	950.88 951.83	20.00 20.00	20.10 37.69	20.00 20.00	20.02 20.00	J-3174 J-1519	(N/A) (N/A)	17.20 17.22	J-1198 J-1198
5785	J-3093	Forest	TRUE	1.00	952.42	1.68	953.09	20.00	20.08	20.00	20.05	J-2296	(N/A)	17.20	J-1198
4354 3922	J-2296 J-2128	Forest Forest	TRUE TRUE	1.00 1.00	952.86 955.18	2.08 1.88	953.94 956.06	20.00 20.00	20.00 20.00	20.00 20.00	20.28 24.28	J-3093 J-1197	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
5745	J-3070	Forest	TRUE	1.00	955.67	1.08	955.75	20.00	21.01	20.00	20.00	J-1626	(N/A)	17.20	J-1198
5746	J-3071 J-2279	Forest	TRUE TRUE	1.00	955.67	1.08	955.75 959.26	20.00	20.88	20.00 20.00	20.00	J-1626 J-2326	(N/A) (N/A)	17.20 17.23	J-1198
4294 5392	J-2279 J-2868	Stewartsville Stewartsville		1.00 1.00	958.71 958.71	1.55 1.83	959.26 959.55	20.00 20.00	59.21 59.00	20.00	20.00 20.00	J-2326 J-2326	(N/A) (N/A)	17.23	J-1198 J-1198
6377	J-3438	Forest	TRUE	1.00	959.71	1.28	959.98	20.00	20.02	20.00	20.48	J-282	(N/A)	17.20	J-1198
502 584	J-282 J-334	Forest Forest	TRUE TRUE	1.00 1.00	963.22 963.28	1.08 1.08	963.30 963.36	20.00 20.00	20.19 20.25	20.00 20.00	20.03 20.02	J-3438 J-3438	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
503	J-283	Forest	TRUE	1.00	963.57	2.08	964.65	20.00	20.77	20.00	20.00	J-3438	(N/A)	17.20	J-1198
2329 3599	J-1249 J-1964	Forest Forest	TRUE TRUE	1.00 1.00	964.83 966.24	1.28 1.88	965.11 967.12	20.00 20.00	20.00 20.00	20.00 20.00	23.30 22.34	J-1248 J-1355	(N/A) (N/A)	17.16 17.21	J-1198 J-1198
1590	J-790	Forest	TRUE	1.00	966.37	1.28	966.65	20.00	20.00	20.00	24.15	J-1197	(N/A)	17.07	J-1198
1812 288	J-932 J-148	Forest Forest	TRUE TRUE	1.00 1.00	967.20 968.31	1.88 1.68	968.08 968.99	20.00 20.00	20.00 22.10	20.00 20.00	21.50 20.00	J-933 J-3438	(N/A) (N/A)	17.21 17.20	J-1198 J-1198
5390	J-2867	Forest	TRUE	1.00	968.40	1.28	968.68	20.00	22.35	20.00	20.00	J-3438	(N/A)	17.20	J-1198
287 330	J-147 J-174	Forest Forest	TRUE TRUE	1.00 1.00	968.40 968.54	1.08 1.68	968.48 969.22	20.00 20.00	22.30 22.62	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
4343	J-174 J-2294	Forest	TRUE	1.00	969.69	2.08	970.77	20.00	29.49	20.00	20.00	J-3436 J-1211	(N/A)	17.20	J-1198
4621	J-2428	Forest	TRUE	1.00	969.69	1.48	970.17	20.00	29.46	20.00	20.00	J-1211	(N/A)	17.20	J-1198
2630 3330	J-1415 J-1812	Forest Forest	TRUE TRUE	1.00 1.00	969.72 971.31	2.28 1.08	971.01 971.39	20.00 20.00	20.00 30.06	20.00 20.00	24.28 20.00	J-1197 J-610	(N/A) (N/A)	17.20 17.19	J-1198 J-1198
1807	J-929	Forest	TRUE	1.00	975.47	1.88	976.35	20.00	20.00	20.00	20.00	J-930	(N/A)	17.21	J-1198
1165 6137	J-612 J-3295	Forest Forest	TRUE TRUE	1.00 1.00	978.42 978.42	1.08 1.88	978.50 979.30	20.00 20.00	25.19 24.91	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
3329	J-1811	Forest	TRUE	1.00	978.94	1.28	979.22	20.00	30.52	20.00	20.00	J-610	(N/A)	17.19	J-1198
6006 1843	J-3216 J-952	Forest Forest	TRUE TRUE	1.00 1.00	978.94 979.83	1.28 1.08	979.22 979.90	20.00 20.00	30.24 20.00	20.00 20.00	20.00 21.62	J-610 J-953	(N/A) (N/A)	17.19 17.06	J-1198 J-1198
2588	J-1390	Forest	TRUE	1.00	980.58	2.08	981.66	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
3915 6317	J-2125 J-3402	Forest Forest	TRUE TRUE	1.00 1.00	981.21 981.41	2.68 1.88	982.89 982.29	20.00 20.00	21.51 20.09	20.00 20.00	20.03 20.34	J-3172 J-1134	(N/A) (N/A)	17.21 17.19	J-1198 J-1198
2838	J-1538	Forest	TRUE	1.00	981.70	2.48	983.19	20.00	20.05	20.00	24.23	J-1197	(N/A)	17.15	J-1198
2525 2138	J-1355 J-1134	Forest Forest	TRUE TRUE	1.00 1.00	982.37 984.07	1.08 1.48	982.45 984.55	20.00 20.00	20.00 20.05	20.00 20.00	20.83 20.11	J-1964 J-3402	(N/A) (N/A)	17.21 17.19	J-1198 J-1198
6029	J-3229	Forest	TRUE	1.00	984.74	1.28	985.02	20.00	20.00	20.00	21.05	J-2273	(N/A)	17.20	J-1198
2632 4276	J-1416 J-2273	Forest Forest	TRUE TRUE	1.00 1.00	986.79 988.30	1.88 2.68	987.67 989.99	20.00 20.00	20.00 20.76	20.00 20.00	24.28 20.00	J-1197 J-3229	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
4447	J-2327	Lakes	TRUE	1.00	990.83	1.63	991.46	20.00	20.00	20.00	20.29	J-3412	(N/A)	17.23	J-1198
6176 247	J-3318 J-121	Forest Forest	TRUE TRUE	1.00 1.00	991.17 991.99	1.48 1.08	991.65 992.07	20.00 20.00	20.00 48.37	20.00 20.00	21.81 20.01	J-3317 J-3438	(N/A) (N/A)	17.21 17.20	J-1198 J-1198
4646	J-2442	Forest	TRUE	1.00	991.99	1.08	992.07	20.00	48.32	20.00	20.01	J-3438	(N/A)	17.20	J-1198
246 6175	J-120 J-3317	Forest Forest	TRUE TRUE	1.00 1.00	992.06 992.95	1.48 2.08	992.54 994.03	20.00 20.00	48.47 21.55	20.00 20.00	20.01 20.02	J-3438 J-3318	(N/A) (N/A)	17.20 17.21	J-1198 J-1198
3825	J-2081	Forest	TRUE	1.00	993.64	2.08	994.72	20.00	22.62	20.00	20.02	J-2080	(N/A)	17.20	J-1198
5636 6334	J-3006 J-3412	Forest Lakes	TRUE TRUE	1.00 1.00	993.64 994.52	2.08 1.20	994.72 994.72	20.00 20.00	22.31 20.17	20.00 20.00	20.00 20.01	J-2080 J-2327	(N/A) (N/A)	17.20 17.23	J-1198 J-1198
4384	J-2308	Forest	TRUE	1.00	994.64	1.08	994.72	20.00	22.20	20.00	20.00	J-3318	(N/A)	17.21	J-1198
6335 5977	J-3413 J-3200	Lakes Forest	TRUE TRUE	1.00 1.00	994.75 997.38	1.20 1.48	994.95 997.86	20.00 20.00	20.52 20.02	20.00 20.00	20.00 20.52	J-2327 J-3199	(N/A) (N/A)	17.23 17.20	J-1198 J-1198
2665	J-1435	Forest	TRUE	1.00	999.69	2.08	1000.77	20.00	20.00	20.00	24.23	J-1197	(N/A)	17.16	J-1198
2697 5976	J-1454 J-3199	Forest	TRUE	1.00	1000.35 1001.35	1.88	1001.23 1002.23	20.00	20.00 20.23	20.00 20.00	24.23 20.02	J-1197	(N/A)	17.15 17.20	J-1198
7882	J-3199 J-4138	Forest Forest	TRUE TRUE	1.00 1.00	1001.63	1.88 1.68	1002.31	20.00 20.00	20.23	20.00	20.02	J-3200 J-3200	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
3677	J-2005	Forest	TRUE	1.00	1002.02	2.08	1003.10	20.00	20.00	20.00	24.27	J-1197	(N/A)	17.20	J-1198
5878 5879	J-3145 J-3146	Forest Forest	TRUE TRUE	1.00 1.00	1002.10 1002.11	1.28 1.08	1002.38 1002.18	20.00 20.00	30.79 30.42	20.00 20.00	20.00 20.00	J-1626 J-1626	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
3802	J-2070	Forest	TRUE	1.00	1002.14	2.08	1003.22	20.00	20.00	20.00	24.14	J-1197	(N/A)	17.06	J-1198
1188 5502	J-622 J-2929	Forest Forest	TRUE TRUE	1.00 1.00	1003.38 1003.38	1.88 1.28	1004.26 1003.66	20.00 20.00	62.07 61.62	20.00 20.00	20.03 20.03	J-3438 J-3438	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
4142	J-2226	Forest	TRUE	1.00	1003.43	2.28	1004.71	20.00	24.29	20.00	20.00	J-1530	(N/A)	17.20	J-1198
5831 2754	J-3119 J-1489	Forest Forest	TRUE TRUE	1.00 1.00	1003.43 1005.27	2.08 2.48	1004.51 1006.75	20.00 20.00	23.94 20.00	20.00 20.00	20.00 24.14	J-1530 J-1197	(N/A) (N/A)	17.20 17.06	J-1198 J-1198
5394	J-2869	Forest	TRUE	1.00	1007.55	2.28	1008.83	20.00	20.56	20.00	20.07	J-935	(N/A)	17.20	J-1198
1815 3903	J-934 J-2119	Forest Lakes	TRUE TRUE	1.00 1.00	1007.56 1010.51	2.08 1.20	1008.64 1010.70	20.00 20.00	20.61 23.62	20.00 20.00	20.07 20.00	J-935 J-1586	(N/A) (N/A)	17.20 17.23	J-1198 J-1198
4761	J-2505	Forest	TRUE	1.00	1015.75	1.48	1016.23	20.00	20.00	20.00	20.12	J-1963	(N/A)	17.20	J-1198
2570 7031	J-1380	Forest	TRUE TRUE	1.00	1016.41	1.08 1.08	1016.48	20.00	20.03	20.00	20.16	J-2354	(N/A)	17.18	J-1198
7031 4494	J-3821 J-2354	Forest Forest	TRUE	1.00 1.00	1016.50 1016.77	1.08	1016.57 1016.84	20.00 20.00	20.00 20.04	20.00 20.00	20.81 20.00	J-1037 J-1380	(N/A) (N/A)	17.21 17.18	J-1198 J-1198
3597	J-1963	Forest	TRUE	1.00	1016.93	1.68	1017.61	20.00	20.00	20.00	20.04	J-2505	(N/A)	17.20	J-1198
3136 3137	J-1696 J-1697	Forest Forest	TRUE TRUE	1.00 1.00	1017.53 1017.55	1.28 1.28	1017.81 1017.83	20.00 20.00	28.49 28.16	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
1870	J-970	Forest	TRUE	1.00	1017.82	2.08	1018.90	20.00	20.03	20.00	24.18	J-1197	(N/A)	17.10	J-1198
3777 2313	J-2058 J-1240	Forest Forest	TRUE TRUE	1.00 1.00	1022.54 1025.05	2.08 2.28	1023.62 1026.33	20.00 20.00	20.00 32.00	20.00 20.00	24.13 20.00	J-1197 J-1257	(N/A) (N/A)	17.05 17.19	J-1198 J-1198
6885	J-3737 J-1962	Forest	TRUE TRUE	1.00	1027.17 1027.26	1.48 2.28	1027.65 1028.54	20.00	20.02 20.00	20.00 20.00	20.45	J-3736 J-2117	(N/A) (N/A)	17.05 17.20	J-1198 J-1198
3596 3670	J-1962 J-2000	Forest Forest	TRUE	1.00 1.00	1027.26	1.48	1028.54	20.00 20.00	20.00	20.00	20.21 20.00	J-2117 J-1037	(N/A) (N/A)	17.20	J-1198 J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
1377 5274	J-692 J-2798	Forest Forest	TRUE TRUE	1.00 1.00	1029.24 1029.24	1.28 1.28	1029.52 1029.52	20.00 20.00	61.85 61.63	20.00 20.00	20.03 20.03	J-3438 J-3438	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
3658	J-1995	Forest	TRUE	1.00	1029.85	1.08	1029.92	20.00	46.72	20.00	20.00	J-2045	(N/A)	16.07	J-1198
6446 6884	J-3478 J-3736	Forest Forest	TRUE TRUE	1.00 1.00	1029.85 1031.22	1.48 1.48	1030.33 1031.69	20.00 20.00	45.98 20.02	20.00 20.00	20.00 20.07	J-2045 J-3737	(N/A) (N/A)	16.07 17.05	J-1198 J-1198
1743	J-888	Forest	TRUE	1.00	1031.36	1.88	1032.24	20.00	26.71	20.00	20.00	J-3736	(N/A)	17.05	J-1198
5610	J-2991	Forest	TRUE	1.00	1031.36	1.88	1032.24	20.00	26.28	20.00	20.00	J-3736	(N/A)	17.05	J-1198
7117 7118	J-3869 J-3870	Forest Forest	TRUE TRUE	1.00 1.00	1032.36 1032.37	1.08 1.08	1032.44 1032.45	20.00 20.00	21.78 21.84	20.00 20.00	20.03 20.03	J-3736 J-3736	(N/A) (N/A)	17.05 17.05	J-1198 J-1198
2779	J-1503	Forest	TRUE	1.00	1034.08	2.28	1035.37	20.00	20.05	20.00	24.22	J-1197	(N/A)	17.14	J-1198
6460 3295	J-3486 J-1793	Forest Forest	TRUE TRUE	1.00 1.00	1034.31 1034.46	1.68 1.88	1034.99 1035.35	20.00 20.00	20.00 20.00	20.00 20.00	20.42 20.37	J-1756 J-1030	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3234	J-1755	Forest	TRUE	1.00	1037.09	1.08	1037.16	20.00	20.00	20.00	20.13	J-3486	(N/A)	17.19	J-1198
3235 1963	J-1756 J-1030	Forest Forest	TRUE TRUE	1.00 1.00	1038.09 1038.15	3.09 1.08	1040.17 1038.23	20.00 20.00	20.08 20.00	20.00 20.00	20.04 20.28	J-3486 J-1693	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
5143	J-2723	Forest	TRUE	1.00	1040.44	1.08	1040.52	20.00	20.10	20.00	20.05	J-1693	(N/A)	17.19	J-1198
3131 6502	J-1693 J-3510	Forest Forest	TRUE TRUE	1.00 1.00	1040.92 1042.47	1.48 2.48	1041.40 1043.95	20.00 20.00	20.00 20.23	20.00 20.00	20.03 20.06	J-1030 J-2091	(N/A) (N/A)	17.19 17.20	J-1198 J-1198
4413	J-2317	Forest	TRUE	1.00	1042.65	1.88	1043.53	20.00	20.78	20.00	20.03	J-2091	(N/A)	17.20	J-1198
2591 658	J-1392 J-379	Forest Forest	TRUE TRUE	1.00 1.00	1042.83 1043.60	1.68 3.09	1043.50 1045.69	20.00 20.00	20.01 20.04	20.00 20.00	24.23 24.27	J-1197 J-1197	(N/A) (N/A)	17.15 17.19	J-1198 J-1198
3814	J-2076	Forest	TRUE	1.00	1044.83	1.68	1045.51	20.00	28.75	20.00	20.04	J-1148	(N/A)	17.19	J-1198
6812 976	J-3694 J-536	Forest Forest	TRUE TRUE	1.00 1.00	1045.31 1051.33	2.68 1.68	1047.00 1052.01	20.00 20.00	27.39 43.86	20.00 20.00	20.00 20.01	J-1148 J-379	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
6598	J-3567	Forest	TRUE	1.00	1055.30	1.48	1055.78	20.00	20.00	20.00	20.14	J-2004	(N/A)	17.19	J-1198
1331 5649	J-683 J-3014	Forest Forest	TRUE TRUE	1.00 1.00	1055.79 1055.79	1.08 1.08	1055.86 1055.87	20.00 20.00	51.73 51.30	20.00 20.00	20.02 20.02	J-3438 J-3438	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
3676	J-2004	Forest	TRUE	1.00	1055.75	1.88	1057.59	20.00	20.00	20.00	20.02	J-3567	(N/A)	17.19	J-1198
2242	J-1197	Forest	TRUE	1.00	1065.09	1.48	1065.57	20.00	20.00	20.00	20.86	J-3957	(N/A)	12.92	J-1198
4532 2771	J-2376 J-1498	Forest Forest	TRUE TRUE	1.00 1.00	1065.58 1066.10	1.08 2.28	1065.66 1067.38	20.00 20.00	20.00 20.27	20.00 20.00	20.34 20.06	J-1498 J-2376	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
6324	J-3406	Forest	TRUE	1.00	1066.14	1.48	1066.62	20.00	53.62	20.00	20.01	J-3200	(N/A)	17.20	J-1198
6325 6519	J-3407 J-3520	Forest Forest	TRUE TRUE	1.00 1.00	1066.15 1066.21	2.48 1.68	1067.64 1066.89	20.00 20.00	52.94 49.71	20.00 20.00	20.01 20.01	J-3200 J-3200	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
7320	J-3962	Forest	TRUE	1.00	1066.21	1.08	1066.29	20.00	49.54	20.00	20.01	J-3200	(N/A)	17.20	J-1198
6520 8151	J-3521 J-4169	Forest Forest	TRUE TRUE	1.00 1.00	1066.22 1066.28	1.68 2.08	1066.90 1067.36	20.00 20.00	49.45 34.94	20.00 20.00	20.01 20.01	J-3200 J-3200	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
5969	J-3195	Forest	TRUE	1.00	1066.29	3.09	1068.37	20.00	35.01	20.00	20.00	J-3200	(N/A)	17.20	J-1198
5970 7497	J-3196 J-4027	Forest Forest	TRUE TRUE	1.00 1.00	1066.29 1066.29	1.48 1.88	1066.77 1067.17	20.00 20.00	34.30 32.10	20.00 20.00	20.00 20.00	J-3200 J-3200	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
6191	J-3326	Forest	TRUE	1.00	1066.30	1.08	1066.38	20.00	30.82	20.00	20.00	J-3200	(N/A)	17.20	J-1198
6192 7463	J-3327 J-4015	Forest Forest	TRUE TRUE	1.00 1.00	1066.31 1066.31	1.48 1.88	1066.79 1067.19	20.00 20.00	30.44 29.56	20.00 20.00	20.00 20.00	J-3200 J-3200	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
3947	J-2140	Forest	TRUE	1.00	1070.23	1.48	1070.71	20.00	40.78	20.00	20.00	J-1525	(N/A)	17.21	J-1198
6166	J-3312	Forest	TRUE TRUE	1.00	1070.23	1.68	1070.91	20.00 20.00	41.05	20.00 20.00	20.00 24.04	J-1525	(N/A) (N/A)	17.21	J-1198
1882 4379	J-978 J-2305	Forest Forest	TRUE	1.00 1.00	1071.59 1073.44	1.08 3.09	1071.67 1075.52	20.00	20.00 21.09	20.00	20.03	J-977 J-2306	(N/A)	17.14 17.21	J-1198 J-1198
1242	J-649	Forest	TRUE	1.00	1073.51	1.08	1073.58	20.00	48.95	20.00	20.02	J-3438	(N/A)	17.20	J-1198
5979 5771	J-3201 J-3085	Forest Forest	TRUE TRUE	1.00 1.00	1073.52 1073.59	1.08 1.48	1073.59 1074.07	20.00 20.00	48.30 21.63	20.00 20.00	20.02 20.01	J-3438 J-2306	(N/A) (N/A)	17.20 17.21	J-1198 J-1198
3260	J-1772	Stewartsville		1.00	1075.08	1.83	1075.91	20.00	69.79	20.00	20.00	J-2326	(N/A)	17.23	J-1198
3259 2751	J-1771 J-1487	Stewartsville Forest	TRUE TRUE	1.00 1.00	1075.08 1077.37	1.26 1.88	1075.34 1078.25	20.00 20.00	69.40 20.00	20.00 20.00	20.00 20.42	J-2326 J-1833	(N/A) (N/A)	17.23 17.19	J-1198 J-1198
3784	J-2061	Forest	TRUE	1.00	1077.79	1.68	1078.47	20.00	20.00	20.00	23.24	J-1197	(N/A)	16.17	J-1198
5114 4896	J-2707 J-2582	Forest Forest	TRUE TRUE	1.00 1.00	1080.86 1081.36	1.88 1.68	1081.74 1082.03	20.00 20.00	20.00 20.47	20.00 20.00	20.20 20.04	J-2320 J-1833	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3369	J-1833	Forest	TRUE	1.00	1081.72	2.68	1083.41	20.00	20.00	20.00	20.64	J-2582	(N/A)	17.19	J-1198
4422 2111	J-2320 J-1116	Forest Forest	TRUE TRUE	1.00 1.00	1082.90 1083.34	2.08 2.08	1083.98 1084.42	20.00 20.00	20.00 20.02	20.00 20.00	20.04 24.21	J-2707 J-1197	(N/A) (N/A)	17.19 17.13	J-1198 J-1198
4377	J-2304	Forest	TRUE	1.00	1083.53	1.28	1083.81	20.00	20.00	20.00	24.27	J-1197	(N/A)	17.19	J-1198
6887 3643	J-3738 J-1986	Forest Forest	TRUE TRUE	1.00 1.00	1083.68 1084.00	1.08 1.88	1083.76 1084.88	20.00 20.00	20.01 20.00	20.00 20.00	20.46 24.27	J-3188 J-1197	(N/A) (N/A)	17.21 17.19	J-1198 J-1198
5566	J-2966	Forest	TRUE	1.00	1085.98	1.08	1086.06	20.00	49.66	20.00	20.01	J-1626	(N/A)	17.20	J-1198
5567 7305	J-2967 J-3957	Forest Forest	TRUE TRUE	1.00 1.00	1085.98 1086.78	1.08 1.48	1086.06 1087.26	20.00 20.00	49.49 20.71	20.00 20.00	20.01 20.00	J-1626 J-1197	(N/A) (N/A)	17.20 12.92	J-1198 J-1198
4297	J-2281	Forest	TRUE	1.00	1087.94	1.08	1088.02	20.00	20.48	20.00	20.03	J-3188	(N/A)	17.21	J-1198
1204 6910	J-631 J-3752	Forest Forest	TRUE TRUE	1.00 1.00	1089.84 1089.85	1.08 1.28	1089.91 1090.13	20.00 20.00	45.74 44.84	20.00 20.00	20.01 20.01	J-3438 J-3438	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
2616	J-1407	Forest	TRUE	1.00	1090.08	1.48	1090.56	20.00	20.00	20.00	24.27	J-1197	(N/A)	17.19	J-1198
5352 5781	J-2844 J-3091	Forest Forest	TRUE TRUE	1.00 1.00	1090.16 1091.03	1.48 1.08	1090.64 1091.11	20.00 20.00	20.00 20.03	20.00 20.00	20.41 20.31	J-1354 J-3090	(N/A) (N/A)	17.21 17.04	J-1198 J-1198
2551	J-1370	Forest	TRUE	1.00	1091.03	2.08	1092.27	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.04	J-1198
2524 2135	J-1354 J-1132	Forest Lakes	TRUE TRUE	1.00 1.00	1091.82 1092.56	2.08 1.72	1092.90 1093.27	20.00 20.00	20.20 20.00	20.00 20.00	20.06 32.62	J-2844 J-2323	(N/A) (N/A)	17.21 17.23	J-1198 J-1198
1940	J-1132 J-1015	Forest	TRUE	1.00	1092.50	1.68	1093.27	20.00	20.63	20.00	20.00	J-2323 J-1736	(N/A)	17.23	J-1198
5780	J-3090	Forest	TRUE	1.00	1094.00	1.08	1094.08	20.00	20.03	20.00	20.07	J-3091	(N/A)	17.04	J-1198
4193 5078	J-2247 J-2688	Forest Forest	TRUE TRUE	1.00 1.00	1096.78 1096.82	2.88 1.28	1098.66 1097.10	20.00 20.00	20.00 21.46	20.00 20.00	24.27 20.04	J-1197 J-2070	(N/A) (N/A)	17.19 17.04	J-1198 J-1198
3106	J-1678	Forest	TRUE	1.00	1096.86	1.08	1096.94	20.00	21.90	20.00	20.04	J-2070	(N/A)	17.04	J-1198
3105 2189	J-1677 J-1166	Forest Forest	TRUE TRUE	1.00 1.00	1096.88 1099.87	1.28 1.08	1097.15 1099.95	20.00 20.00	22.13 20.54	20.00 20.00	20.03 20.02	J-2070 J-1839	(N/A) (N/A)	17.04 17.19	J-1198 J-1198
3380	J-1839	Forest	TRUE	1.00	1100.10	1.28	1100.38	20.00	20.00	20.00	21.94	J-1166	(N/A)	17.19	J-1198
6300 7144	J-3392 J-3884	Forest Forest	TRUE TRUE	1.00 1.00	1100.67 1100.88	2.68 1.08	1102.36 1100.96	20.00 20.00	20.00 20.46	20.00 20.00	20.23 20.04	J-2210 J-3090	(N/A) (N/A)	17.19 17.03	J-1198 J-1198
7143	J-3883	Forest	TRUE	1.00	1100.89	1.48	1101.37	20.00	20.51	20.00	20.04	J-3090	(N/A)	17.03	J-1198
2596 2604	J-1395 J-1400	Forest Forest	TRUE TRUE	1.00 1.00	1102.84 1103.76	1.88 2.28	1103.72 1105.04	20.00 20.00	20.09 21.45	20.00 20.00	24.22 20.00	J-1197 J-1401	(N/A) (N/A)	17.14 17.22	J-1198 J-1198
4107	J-2210	Forest	TRUE	1.00	1104.24	2.48	1105.73	20.00	20.00	20.00	20.16	J-3392	(N/A)	17.19	J-1198
2623 1203	J-1412	Forest	TRUE TRUE	1.00 1.00	1104.55	1.48 1.08	1105.03	20.00 20.00	20.06 40.44	20.00	24.16 20.01	J-1197	(N/A) (N/A)	17.08 17.20	J-1198
5112	J-630 J-2706	Forest Forest	TRUE	1.00	1105.17 1105.18	1.08	1105.25 1105.86	20.00	39.96	20.00 20.00	20.01	J-3438 J-3438	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
4607	J-2420	Forest	TRUE	1.00	1106.54	1.08	1106.62	20.00	20.01	20.00	20.45	J-2023	(N/A)	17.20	J-1198
3708 4114	J-2023 J-2213	Forest Forest	TRUE TRUE	1.00 1.00	1107.43 1108.64	2.88 2.28	1109.31 1109.93	20.00 20.00	20.33 20.00	20.00 20.00	20.06 24.27	J-2420 J-1197	(N/A) (N/A)	17.20 17.19	J-1198 J-1198
3882	J-2109 J-2917	Forest	TRUE	1.00	1108.73	2.68	1110.41	20.00	33.68	20.00	20.05	J-2245 J-2245	(N/A)	17.19	J-1198
5479 7588	J-4057	Forest Forest	TRUE TRUE	1.00 1.00	1108.75 1111.19	1.28 1.48	1109.03 1111.67	20.00 20.00	34.46 20.00	20.00 20.00	20.05 20.21	J-3874	(N/A) (N/A)	17.19 17.21	J-1198 J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
3926 5421	J-2130 J-2884	Forest Forest	TRUE TRUE	1.00 1.00	1111.28 1111.33	1.88 1.08	1112.16 1111.41	20.00 20.00	20.00 20.01	20.00 20.00	24.27 20.13	J-1197 J-1564	(N/A) (N/A)	17.19 17.03	J-1198 J-1198
2773	J-1499	Forest	TRUE	1.00	1111.44	1.88	1112.32	20.00	20.00	20.00	24.11	J-1197	(N/A)	17.03	J-1198
7126 7127	J-3874 J-3875	Forest Forest	TRUE TRUE	1.00 1.00	1112.85 1112.91	1.08 1.48	1112.92 1113.39	20.00 20.00	20.01 20.00	20.00 20.00	20.05 20.00	J-3875 J-3874	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
2887	J-1564	Forest	TRUE	1.00	1112.92	1.88	1113.80	20.00	20.00	20.00	20.16	J-2884	(N/A)	17.03	J-1198
4603 4062	J-2418 J-2190	Forest Forest	TRUE TRUE	1.00 1.00	1114.73 1114.75	2.28 2.28	1116.02 1116.04	20.00 20.00	20.05 20.01	20.00 20.00	20.03 24.27	J-1350 J-1197	(N/A) (N/A)	17.22 17.19	J-1198 J-1198
2517	J-1350	Forest	TRUE	1.00	1115.26	1.08	1115.34	20.00	20.00	20.00	20.21	J-2418	(N/A)	17.22	J-1198
2648 3662	J-1426 J-1996	Forest Forest	TRUE TRUE	1.00 1.00	1116.09 1118.53	1.88 1.28	1116.97 1118.81	20.00 20.00	20.04 20.00	20.00 20.00	24.16 22.76	J-1197 J-1775	(N/A) (N/A)	17.08 17.19	J-1198 J-1198
2564	J-1377	Forest	TRUE	1.00	1118.93	1.08	1119.01	20.00	23.80	20.00	20.04	J-1048	(N/A)	17.03	J-1198
4968 4967	J-2624 J-2623	Forest Forest	TRUE TRUE	1.00 1.00	1120.18 1120.19	2.48 1.48	1121.66 1120.67	20.00 20.00	28.68 28.44	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
8375	J-4175	Forest	TRUE	1.00	1120.37	1.08	1120.45	20.00	91.32	20.00	20.03	J-3425	(N/A)	17.21	J-1198
2285 6406	J-1223 J-3455	Forest Forest	TRUE TRUE	1.00 1.00	1120.64 1120.65	2.88 1.48	1122.52 1121.13	20.00 20.00	46.36 43.37	20.00 20.00	20.00 20.00	J-3425 J-3425	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
6405	J-3454	Forest	TRUE	1.00	1120.65	1.28	1120.93	20.00	42.32	20.00	20.00	J-3425	(N/A)	17.21	J-1198
2197 6538	J-1171 J-3531	Forest Forest	TRUE TRUE	1.00 1.00	1120.68 1120.69	1.68 1.48	1121.36 1121.16	20.00 20.00	31.17 30.21	20.00 20.00	20.00 20.00	J-3425 J-3425	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
6537	J-3530	Forest	TRUE	1.00	1120.69	1.48	1121.17	20.00	29.05	20.00	20.00	J-3425	(N/A)	17.21	J-1198
2222 4474	J-1186 J-2343	Forest Forest	TRUE TRUE	1.00 1.00	1120.69 1120.69	1.08 1.08	1120.77 1120.77	20.00 20.00	25.96 24.98	20.00 20.00	20.00 20.00	J-3425 J-3425	(N/A) (N/A)	17.21 17.21	J-1198 J-1198
4473	J-2342	Forest	TRUE	1.00	1120.69	1.48	1121.17	20.00	24.78	20.00	20.00	J-3425	(N/A)	17.21	J-1198
5345 4952	J-2840 J-2614	Forest Forest	TRUE TRUE	1.00 1.00	1124.17 1124.38	1.48 2.28	1124.65 1125.66	20.00 20.00	20.00 31.12	20.00 20.00	20.30 20.00	J-1173 J-379	(N/A) (N/A)	17.20 17.19	J-1198 J-1198
4953	J-2615	Forest	TRUE	1.00	1124.38	1.08	1124.46	20.00	30.21	20.00	20.00	J-379	(N/A)	17.19	J-1198
5488 3297	J-2922 J-1794	Forest Forest	TRUE TRUE	1.00 1.00	1124.88 1124.90	1.68 1.08	1125.56 1124.97	20.00 20.00	22.02 22.16	20.00 20.00	20.06 20.05	J-1048 J-1048	(N/A) (N/A)	17.03 17.03	J-1198 J-1198
2200	J-1173	Forest	TRUE	1.00	1126.30	1.48	1126.78	20.00	20.00	20.00	20.00	J-2840	(N/A)	17.20	J-1198
4201 6964	J-2250 J-3783	Forest Forest	TRUE TRUE	1.00 1.00	1126.36 1126.36	1.28 1.68	1126.64 1127.04	20.00 20.00	27.72 26.76	20.00 20.00	20.00 20.00	J-2878 J-2878	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
1779	J-911	Forest	TRUE	1.00	1126.74	1.48	1127.21	20.00	20.50	20.00	20.02	J-987	(N/A)	17.19	J-1198
4782 1895	J-2517 J-986	Forest Forest	TRUE TRUE	1.00 1.00	1126.74 1126.84	1.48 1.08	1127.22 1126.92	20.00 20.00	20.50 20.60	20.00 20.00	20.02 20.01	J-987 J-987	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3164	J-1713	Forest	TRUE	1.00	1126.86	1.08	1126.94	20.00	20.67	20.00	20.01	J-987	(N/A)	17.19	J-1198
3499 1949	J-1907 J-1021	Forest Stewartsville	TRUE TRUE	1.00 1.00	1127.00 1129.38	1.08 1.11	1127.07 1129.49	20.00 20.00	21.57 31.11	20.00 20.00	20.00 20.03	J-987 J-1022	(N/A) (N/A)	17.19 17.23	J-1198 J-1198
4154	J-2230	Forest	TRUE	1.00	1129.56	1.48	1130.04	20.00	20.00	20.00	24.29	J-1197	(N/A)	17.21	J-1198
3804 3355	J-2071 J-1826	Forest Forest	TRUE TRUE	1.00 1.00	1131.34 1132.20	2.08 1.08	1132.42 1132.27	20.00 20.00	20.03 20.06	20.00 20.00	23.01 21.52	J-1704 J-3632	(N/A) (N/A)	17.19 17.12	J-1198 J-1198
3671	J-2001	Forest	TRUE	1.00	1133.33	2.28	1134.61	20.00	23.44	20.00	20.00	J-1037	(N/A)	17.21	J-1198
6707 3354	J-3632 J-1825	Forest Forest	TRUE TRUE	1.00 1.00	1137.12 1138.55	1.08 1.08	1137.20 1138.63	20.00 20.00	20.06 20.85	20.00 20.00	20.37 20.10	J-1826 J-1826	(N/A) (N/A)	17.12 17.12	J-1198 J-1198
6968	J-3785	Forest	TRUE	1.00	1140.40	1.28	1140.68	20.00	21.34	20.00	20.00	J-1736	(N/A)	17.19	J-1198
3487 4874	J-1900 J-2568	Forest Forest	TRUE TRUE	1.00 1.00	1140.40 1144.18	1.68 1.28	1141.08 1144.46	20.00 20.00	21.32 20.00	20.00 20.00	20.00 20.15	J-1736 J-1775	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3265	J-1775	Forest	TRUE TRUE	1.00 1.00	1145.64	1.28	1145.92	20.00	20.00	20.00 20.00	20.08 21.95	J-2568	(N/A)	17.19	J-1198
3707 1722	J-2022 J-874	Forest Forest	TRUE	1.00	1146.11 1147.87	1.68 1.08	1146.79 1147.95	20.00 20.00	20.00 20.00	20.00	20.74	J-2376 J-1115	(N/A) (N/A)	17.20 17.13	J-1198 J-1198
3644	J-1987	Forest	TRUE	1.00	1148.51	2.08	1149.59	20.00	22.14	20.00	20.00	J-1986	(N/A)	17.19	J-1198
6379 3397	J-3439 J-1848	Forest Forest	TRUE TRUE	1.00 1.00	1148.51 1150.95	1.48 1.28	1148.99 1151.22	20.00 20.00	21.61 20.00	20.00 20.00	20.00 20.08	J-1986 J-1774	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3264 2108	J-1774 J-1114	Forest Forest	TRUE TRUE	1.00 1.00	1151.70 1153.84	1.28 1.48	1151.98 1154.31	20.00 20.00	20.00 21.96	20.00 20.00	20.08 20.02	J-1775 J-1115	(N/A) (N/A)	17.19 17.13	J-1198 J-1198
3812	J-2075	Forest	TRUE	1.00	1155.70	3.69	1158.38	20.00	20.05	20.00	24.05	J-1113 J-1704	(N/A)	17.13	J-1198
6431 3623	J-3469 J-1975	Stewartsville Stewartsville		1.00 1.00	1158.14 1158.22	1.11 1.11	1158.25 1158.33	20.00 20.00	28.31 30.40	20.00 20.00	20.04 20.03	J-1022 J-1022	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
7905	J-4142	Forest	TRUE	1.00	1159.23	1.28	1159.50	20.00	20.00	20.00	22.97	J-3137	(N/A)	17.21	J-1198
4278 7002	J-2274 J-3805	Forest Forest	TRUE TRUE	1.00 1.00	1160.03 1160.73	2.28 1.08	1161.31 1160.81	20.00 20.00	20.00 25.27	20.00 20.00	24.23 20.00	J-1197 J-3023	(N/A) (N/A)	17.15 17.20	J-1198 J-1198
4330	J-2290	Forest	TRUE	1.00	1160.74	2.88	1162.62	20.00	24.55	20.00	20.00	J-3023	(N/A)	17.20	J-1198
4342 5204	J-2293 J-2757	Forest Forest	TRUE TRUE	1.00 1.00	1161.30 1161.30	1.68 1.88	1161.98 1162.18	20.00 20.00	36.63 36.71	20.00 20.00	20.00 20.00	J-1211 J-1211	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
1695	J-857	Forest	TRUE	1.00	1161.92	1.48	1162.40	20.00	20.00	20.00	23.19	J-1965	(N/A)	17.19	J-1198
3961 5811	J-2146 J-3108	Forest Lakes	TRUE TRUE	1.00 1.00	1165.12 1165.39	2.28 1.29	1166.41 1165.68	20.00 20.00	20.01 20.00	20.00 20.00	24.27 21.07	J-1197 J-2184	(N/A) (N/A)	17.19 17.23	J-1198 J-1198
2738	J-1479	Forest	TRUE	1.00	1167.95	4.09	1171.04	20.00	20.00	20.00	24.26	J-1197	(N/A)	17.18	J-1198
4514 4513	J-2366 J-2365	Forest Forest	TRUE TRUE	1.00 1.00	1169.93 1172.10	1.88 1.08	1170.81 1172.17	20.00 20.00	20.02 20.06	20.00 20.00	20.19 20.03	J-3863 J-2366	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
7106	J-3863	Forest	TRUE	1.00	1172.49	1.08	1172.56	20.00	20.00	20.00	20.01	J-2366	(N/A)	17.19	J-1198
1834 4046	J-946 J-2184	Forest Lakes	TRUE TRUE	1.00 1.00	1175.34 1176.23	2.08 1.37	1176.42 1176.61	20.00 20.00	20.05 20.73	20.00 20.00	22.50 20.02	J-947 J-3108	(N/A) (N/A)	17.07 17.23	J-1198 J-1198
2644	J-1423	Forest	TRUE	1.00	1176.58	1.88	1177.46	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.20	J-1198
3890 3894	J-2113 J-2115	Forest Forest	TRUE TRUE	1.00 1.00	1177.76 1177.79	1.48 1.68	1178.23 1178.47	20.00 20.00	20.00 20.00	20.00 20.00	23.08 24.27	J-1197 J-1197	(N/A) (N/A)	16.00 17.19	J-1198 J-1198
4263	J-2269	Forest	TRUE	1.00	1179.89	1.28	1180.16	20.00	20.00	20.00	24.28	J-1197	(N/A)	17.20	J-1198
4183 6541	J-2242 J-3533	Forest Forest	TRUE TRUE	1.00 1.00	1180.83 1183.60	3.29 1.68	1183.12 1184.28	20.00 20.00	20.00 38.39	20.00 20.00	24.27 20.00	J-1197 J-1197	(N/A) (N/A)	17.19 12.92	J-1198 J-1198
6540 6327	J-3532	Forest	TRUE TRUE	1.00	1183.63	1.68	1184.31	20.00	37.64 20.01	20.00	20.00	J-1197	(N/A) (N/A)	12.92	J-1198
6215	J-3408 J-3341	Forest Forest	TRUE	1.00 1.00	1184.23 1188.05	1.68 2.68	1184.91 1189.73	20.00 20.00	29.89	20.00 20.00	20.41 20.00	J-2131 J-3200	(N/A)	17.19 17.20	J-1198 J-1198
6216 5862	J-3342 J-3136	Forest Forest	TRUE TRUE	1.00 1.00	1188.05 1189.01	1.08 1.28	1188.12 1189.29	20.00 20.00	29.75 20.00	20.00 20.00	20.00 20.24	J-3200 J-3137	(N/A) (N/A)	17.20 17.21	J-1198 J-1198
3927	J-2131	Forest	TRUE	1.00	1190.46	2.28	1191.74	20.00	20.01	20.00	20.06	J-3408	(N/A)	17.19	J-1198
5863 3485	J-3137 J-1899	Forest Forest	TRUE TRUE	1.00 1.00	1191.52 1193.38	1.48 1.08	1192.00 1193.46	20.00 20.00	20.00 20.01	20.00 20.00	20.05 21.94	J-4142 J-1898	(N/A) (N/A)	17.21 17.20	J-1198 J-1198
6050	J-1899 J-3242	Forest	TRUE	1.00	1196.45	1.68	1197.13	20.00	20.02	20.00	20.36	J-1547	(N/A)	17.20	J-1198 J-1198
3594 1388	J-1961 J-693	Forest Forest	TRUE TRUE	1.00 1.00	1196.50 1196.64	1.88 1.28	1197.38 1196.91	20.00 20.00	20.00 76.78	20.00 20.00	22.19 20.00	J-1960 J-3438	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
3068	J-1654	Forest	TRUE	1.00	1201.16	1.28	1201.44	20.00	20.00	20.00	20.16	J-1653	(N/A)	17.19	J-1198
2853 6081	J-1546 J-3262	Forest Forest	TRUE TRUE	1.00 1.00	1201.78 1203.56	2.08 1.08	1202.86 1203.64	20.00 20.00	21.04 22.45	20.00 20.00	20.00 20.02	J-1547 J-3090	(N/A) (N/A)	17.20 17.01	J-1198 J-1198
6080	J-3261	Forest	TRUE	1.00	1203.77	1.48	1204.24	20.00	23.16	20.00	20.00	J-3090	(N/A)	17.01	J-1198
7622 7510	J-4070 J-4031	Forest Forest	TRUE TRUE	1.00 1.00	1204.50 1204.54	1.28 1.08	1204.78 1204.62	20.00 20.00	29.54 25.74	20.00 20.00	20.00 20.00	J-3200 J-3200	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
7511	J-4032	Forest	TRUE	1.00	1204.55	1.48	1205.03	20.00	24.78	20.00	20.00	J-3200	(N/A)	17.20	J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
6401 6400	J-3452 J-3451	Forest Forest	TRUE TRUE	1.00 1.00	1204.67 1204.69	1.68 1.48	1205.35 1205.17	20.00 20.00	27.19 26.78	20.00 20.00	20.00 20.00	J-1197 J-1197	(N/A) (N/A)	12.92 12.92	J-1198 J-1198
3067	J-1653	Forest	TRUE	1.00	1205.36	1.08	1205.44	20.00	20.00	20.00	20.07	J-1654	(N/A)	17.19	J-1198
3083 3084	J-1663 J-1664	Forest Forest	TRUE TRUE	1.00 1.00	1208.98 1208.99	2.08 1.08	1210.06 1209.07	20.00 20.00	21.46 21.36	20.00 20.00	20.04 20.04	J-2061 J-2061	(N/A) (N/A)	15.94 15.94	J-1198 J-1198
3673	J-2002	Forest	TRUE	1.00	1209.84	1.88	1210.72	20.00	20.02	20.00	24.27	J-1197	(N/A)	17.19	J-1198
3727 2567	J-2033 J-1378	Forest Forest	TRUE TRUE	1.00 1.00	1210.00 1210.09	2.28 2.68	1211.28 1211.77	20.00 20.00	20.00 20.00	20.00 20.00	24.26 24.21	J-1197 J-1197	(N/A) (N/A)	17.18 17.13	J-1198 J-1198
7173	J-3898	Forest	TRUE	1.00	1210.10	1.08	1210.18	20.00	20.01	20.00	20.09	J-3897	(N/A)	17.21	J-1198
3484 5573	J-1898 J-2970	Forest Forest	TRUE TRUE	1.00 1.00	1210.83 1210.98	2.28 1.88	1212.11 1211.86	20.00 20.00	20.00 26.55	20.00 20.00	21.01 20.00	J-1899 J-1653	(N/A) (N/A)	17.20 17.19	J-1198 J-1198
3574	J-1949	Forest	TRUE	1.00	1210.98	1.88	1211.86	20.00	26.58	20.00	20.00	J-1653	(N/A)	17.19	J-1198
7172 1619	J-3897 J-809	Forest Forest	TRUE TRUE	1.00 1.00	1211.01 1211.28	1.08 1.68	1211.08 1211.96	20.00 20.00	20.01 21.85	20.00 20.00	20.01 20.00	J-3898 J-1653	(N/A) (N/A)	17.21 17.19	J-1198 J-1198
3573	J-1948	Forest	TRUE	1.00	1211.29	1.48	1211.77	20.00	27.24	20.00	20.00	J-1653	(N/A)	17.19	J-1198
1616 3631	J-807 J-1980	Forest Forest	TRUE TRUE	1.00 1.00	1212.11 1212.14	1.88 2.28	1212.99 1213.42	20.00 20.00	23.25 26.79	20.00 20.00	20.00 20.00	J-1653 J-1653	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3630	J-1979	Forest	TRUE	1.00	1212.47	1.88	1213.35	20.00	28.84	20.00	20.00	J-1653	(N/A)	17.19	J-1198
5714 3148	J-3052 J-1704	Forest Forest	TRUE TRUE	1.00 1.00	1212.47 1212.56	1.08 1.68	1212.55 1213.24	20.00 20.00	28.80 20.00	20.00 20.00	20.00 20.12	J-1653 J-1653	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3601	J-1965	Forest	TRUE	1.00	1212.77	1.08	1212.85	20.00	20.01	20.00	20.74	J-3727	(N/A)	17.19	J-1198
4200 6869	J-2249 J-3727	Forest Forest	TRUE TRUE	1.00 1.00	1212.93 1213.74	1.88 1.68	1213.81 1214.42	20.00 20.00	22.05 20.00	20.00 20.00	20.00 21.08	J-1965 J-3728	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3810	J-2074	Forest	TRUE	1.00	1215.72	2.28	1217.00	20.00	38.69	20.00	20.00	J-1257	(N/A)	17.19	J-1198
5536 3593	J-2949 J-1960	Forest Forest	TRUE TRUE	1.00 1.00	1215.72 1216.03	1.28 2.68	1216.00 1217.71	20.00 20.00	38.18 20.00	20.00 20.00	20.00 22.33	J-1257 J-1961	(N/A) (N/A)	17.19 17.20	J-1198 J-1198
2206	J-1176	Forest	TRUE	1.00	1217.33	1.28	1217.61	20.00	37.79	20.00	20.00	J-1197	(N/A)	12.92	J-1198
6848 4214	J-3715 J-2254	Forest Forest	TRUE TRUE	1.00 1.00	1217.35 1217.35	1.48 1.48	1217.83 1217.83	20.00 20.00	28.92 28.78	20.00 20.00	20.00 20.00	J-2267 J-2267	(N/A) (N/A)	17.07 17.07	J-1198 J-1198
4656	J-2447	Forest	TRUE	1.00	1217.41	1.08	1217.49	20.00	20.01	20.00	20.26	J-1652	(N/A)	17.18	J-1198
4662 3064	J-2450 J-1651	Forest Forest	TRUE TRUE	1.00 1.00	1218.34 1218.85	2.28 1.08	1219.62 1218.93	20.00 20.00	20.00 20.01	20.00 20.00	20.32 20.13	J-1263 J-2447	(N/A) (N/A)	17.00 17.18	J-1198 J-1198
2356	J-1263	Forest	TRUE	1.00	1219.85	2.48	1221.34	20.00	20.16	20.00	20.06	J-2450	(N/A)	17.00	J-1198
3065 3853	J-1652 J-2095	Forest Forest	TRUE TRUE	1.00 1.00	1220.28 1222.07	1.68 1.68	1220.96 1222.75	20.00 20.00	20.08 20.00	20.00 20.00	20.04 24.27	J-2447 J-1197	(N/A) (N/A)	17.18 17.19	J-1198 J-1198
3876	J-2106	Forest	TRUE	1.00	1223.92	1.68	1224.60	20.00	20.02	20.00	24.27	J-1197	(N/A)	17.19	J-1198
6870 2602	J-3728 J-1399	Forest Forest	TRUE TRUE	1.00 1.00	1224.94 1226.59	2.08 1.88	1226.02 1227.47	20.00 20.00	20.42 20.03	20.00 20.00	20.01 24.19	J-3727 J-1197	(N/A) (N/A)	17.19 17.11	J-1198 J-1198
7021	J-3816	Forest	TRUE	1.00	1228.29	1.08	1228.37	20.00	20.00	20.00	20.83	J-1695	(N/A)	17.19	J-1198
2687 3079	J-1448 J-1661	Forest Forest	TRUE TRUE	1.00 1.00	1229.01 1229.46	2.08 1.08	1230.09 1229.54	20.00 20.00	20.06 20.00	20.00 20.00	24.20 20.23	J-1197 J-1660	(N/A) (N/A)	17.12 17.20	J-1198 J-1198
6903	J-3748	Forest	TRUE	1.00	1229.61	1.08	1229.69	20.00	20.00	20.00	21.49	J-1796	(N/A)	17.20	J-1198
3864 6231	J-2100 J-3351	Forest Forest	TRUE TRUE	1.00 1.00	1229.78 1229.94	1.48 2.28	1230.26 1231.22	20.00 20.00	20.00 20.00	20.00 20.00	24.08 20.16	J-1197 J-1660	(N/A) (N/A)	17.00 17.20	J-1198 J-1198
3078	J-1660	Forest	TRUE	1.00	1231.00	1.28	1231.28	20.00	20.00	20.00	20.01	J-1661	(N/A)	17.20	J-1198
8525 7977	J-4214 J-4154	Forest Forest	TRUE TRUE	1.00 1.00	1231.67 1231.70	1.08 1.28	1231.75 1231.98	20.00 20.00	25.19 20.00	20.00 20.00	20.00 24.26	J-4154 J-1197	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3817	J-2077	Forest	TRUE	1.00	1231.92	4.29	1235.21	20.00	31.16	20.00	20.00	J-1148	(N/A)	17.18	J-1198
5193 1984	J-2751 J-1044	Forest Forest	TRUE TRUE	1.00 1.00	1235.30 1236.93	1.88 1.08	1236.18 1237.01	20.00 20.00	20.02 20.02	20.00 20.00	20.23 21.92	J-2174 J-2619	(N/A) (N/A)	17.19 17.00	J-1198 J-1198
3133	J-1694	Forest	TRUE	1.00	1237.36	1.08	1237.44	20.00	20.00	20.00	20.33	J-1695	(N/A)	17.19	J-1198
3319 3415	J-1805 J-1858	Forest Forest	TRUE TRUE	1.00 1.00	1237.50 1238.60	1.08 1.48	1237.57 1239.08	20.00 20.00	20.00 36.78	20.00 20.00	20.12 20.00	J-3748 J-1197	(N/A) (N/A)	17.20 12.92	J-1198 J-1198
4025	J-2174	Forest	TRUE	1.00	1238.64	1.88	1239.52	20.00	20.02	20.00	20.11	J-2751	(N/A)	17.19	J-1198
3416 1876	J-1859 J-974	Forest Forest	TRUE TRUE	1.00 1.00	1238.67 1238.69	1.48 1.48	1239.15 1239.17	20.00 20.00	32.36 20.48	20.00 20.00	20.00 20.03	J-1197 J-3748	(N/A) (N/A)	12.92 17.20	J-1198 J-1198
6980	J-3792	Forest	TRUE	1.00	1238.75	2.08	1239.83	20.00	20.05	20.00	21.03	J-1704	(N/A)	17.18	J-1198
3301 6477	J-1796 J-3496	Forest Forest	TRUE TRUE	1.00 1.00	1238.82 1238.89	1.48 1.48	1239.29 1239.37	20.00 20.00	20.82 20.00	20.00 20.00	20.02 20.48	J-3748 J-3495	(N/A) (N/A)	17.20 17.19	J-1198 J-1198
5732	J-3063	Forest	TRUE	1.00	1241.81	1.68	1242.49	20.00	20.01	20.00	20.40	J-3062	(N/A)	17.20	J-1198
2553 2554	J-1371 J-1372	Forest Forest	TRUE TRUE	1.00 1.00	1242.45 1242.60	1.48 1.48	1242.93 1243.07	20.00 20.00	58.58 23.81	20.00 20.00	20.01 20.00	J-3425 J-3425	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
6476	J-3495	Forest	TRUE	1.00	1242.70	1.88	1243.58	20.00	20.00	20.00	20.06	J-3496	(N/A)	17.19	J-1198
2180 5029	J-1160 J-2659	Forest Forest	TRUE TRUE	1.00 1.00	1242.72 1242.72	1.08 1.88	1242.80 1243.60	20.00 20.00	33.21 32.39	20.00 20.00	20.00 20.00	J-3495 J-3495	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
5030	J-2660	Forest	TRUE	1.00	1242.72	1.48	1243.20	20.00	32.17	20.00	20.00	J-3495	(N/A)	17.19	J-1198
3134 3981	J-1695 J-2155	Forest Forest	TRUE TRUE	1.00 1.00	1243.00 1245.99	1.88 2.08	1243.88 1247.07	20.00 20.00	20.02 20.01	20.00 20.00	20.12 24.26	J-1694 J-1197	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3647	J-1989	Forest	TRUE	1.00	1246.25	1.88	1247.13	20.00	50.14	20.00	20.00	J-2045	(N/A)	15.63	J-1198
2104 5731	J-1112 J-3062	Forest Forest	TRUE TRUE	1.00 1.00	1246.66 1246.73	1.88 1.68	1247.54 1247.41	20.00 20.00	20.00 20.01	20.00 20.00	24.20 20.01	J-1197 J-3063	(N/A) (N/A)	17.12 17.20	J-1198 J-1198
3275	J-1781	Forest	TRUE	1.00	1252.09	2.28	1253.38	20.00	35.85	20.00	20.00	J-1704	(N/A)	17.18	J-1198
6979 1686	J-3791 J-851	Forest Forest	TRUE TRUE	1.00 1.00	1253.59 1255.15	1.48 1.48	1254.07 1255.63	20.00 20.00	20.50 21.58	20.00 20.00	20.00 20.07	J-3792 J-850	(N/A) (N/A)	17.18 17.10	J-1198 J-1198
3945	J-2139	Forest	TRUE	1.00	1256.01	1.68	1256.69	20.00	20.45	20.00	20.00	J-3792	(N/A)	17.18	J-1198
3276 6635	J-1782 J-3590	Forest Forest	TRUE TRUE	1.00 1.00	1256.58 1256.59	1.48 1.28	1257.06 1256.87	20.00 20.00	35.34 34.46	20.00 20.00	20.00 20.00	J-1704 J-1704	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
4960	J-2619	Forest	TRUE	1.00	1257.13	1.48	1257.61	20.00	20.01	20.00	20.28	J-1044	(N/A)	16.99	J-1198
3988 3422	J-2157 J-1862	Forest Forest	TRUE TRUE	1.00 1.00	1259.00 1259.18	1.88 1.08	1259.88 1259.26	20.00 20.00	22.25 20.00	20.00 20.00	20.00 22.34	J-2840 J-2596	(N/A) (N/A)	17.19 16.99	J-1198 J-1198
3399	J-1849	Forest	TRUE	1.00	1260.44	1.48	1260.92	20.00	20.01	20.00	20.01	J-1044	(N/A)	16.99	J-1198
5681 4707	J-3033 J-2475	Forest Forest	TRUE TRUE	1.00 1.00	1263.13 1264.38	1.48 1.28	1263.61 1264.66	20.00 20.00	20.00 20.00	20.00 20.00	20.23 20.21	J-1776 J-3954	(N/A) (N/A)	17.20 17.16	J-1198 J-1198
3615	J-1971	Forest	TRUE	1.00	1264.73	3.49	1267.22	20.00	36.91	20.00	20.01	J-2210	(N/A)	17.18	J-1198
7297 3616	J-3954 J-1972	Forest Forest	TRUE TRUE	1.00 1.00	1265.33 1265.78	1.28 1.68	1265.61 1266.46	20.00 20.00	20.00 35.22	20.00 20.00	20.20 20.01	J-2475 J-1704	(N/A) (N/A)	17.16 17.18	J-1198 J-1198
4976	J-2628	Forest	TRUE	1.00	1265.79	1.28	1266.06	20.00	34.50	20.00	20.01	J-1704	(N/A)	17.18	J-1198
4311 1899	J-2285 J-989	Forest Forest	TRUE TRUE	1.00 1.00	1266.03 1266.03	2.28 3.29	1267.31 1268.32	20.00 20.00	21.61 34.50	20.00 20.00	20.00 20.00	J-1704 J-1704	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
3772	J-2056	Forest	TRUE	1.00	1266.04	3.29	1268.32	20.00	33.60	20.00	20.00	J-1704	(N/A)	17.18	J-1198
1790 3303	J-918 J-1797	Forest Forest	TRUE TRUE	1.00 1.00	1266.06 1266.21	1.08 1.48	1266.14 1266.69	20.00 20.00	20.10 20.45	20.00 20.00	20.04 20.03	J-1776 J-1776	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
3267	J-1776	Forest	TRUE	1.00	1266.64	1.48	1267.12	20.00	20.00	20.00	20.18	J-3033	(N/A)	17.20	J-1198
1630 7221	J-816 J-3921	Lakes Lakes	TRUE TRUE	1.00 1.00	1266.95 1266.97	1.20 1.20	1267.15 1267.17	20.00 20.00	25.06 24.94	20.00 20.00	20.13 20.13	J-1622 J-1622	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
4720	J-2482	Forest	TRUE	1.00	1267.37	1.08	1267.44	20.00	45.82	20.00	20.02	J-3438	(N/A)	17.19	J-1198
1144	J-605	Forest	TRUE	1.00	1267.37	1.28	1267.65	20.00	45.60	20.00	20.02	J-3438	(N/A)	17.19	J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
5477	J-2916	Forest	TRUE	1.00	1267.82	1.88	1268.70	20.00	20.00	20.00	20.20	J-1877	(N/A)	17.20	J-1198
6499	J-3508	Lakes	TRUE	1.00	1267.85	1.20	1268.05	20.00	25.09	20.00	20.13	J-1622	(N/A)	17.23	J-1198
6500	J-3509	Lakes	TRUE	1.00	1267.94	1.20	1268.14	20.00	24.34	20.00	20.12	J-1622	(N/A)	17.23	J-1198
3448	J-1877	Forest	TRUE	1.00	1269.61	1.08	1269.69	20.00	20.00	20.00	20.17	J-2916	(N/A)	17.20	J-1198
4921	J-2596	Forest	TRUE	1.00	1270.23	1.08	1270.31	20.00	20.00	20.00	20.31	J-1862	(N/A)	16.99	J-1198
6717	J-3638	Forest	TRUE	1.00	1270.36	1.48	1270.84	20.00	58.56	20.00	20.01	J-3425	(N/A)	17.20	J-1198
6716	J-3637	Forest	TRUE	1.00	1270.36	1.68	1271.04	20.00	58.17	20.00	20.01	J-3425	(N/A)	17.20	J-1198
3421	J-1861	Forest	TRUE	1.00	1271.11	1.28	1271.39	20.00	20.28	20.00	20.12	J-2596	(N/A)	16.99	J-1198
4706	J-2474	Forest	TRUE	1.00	1272.22	1.48	1272.70	20.00	20.44	20.00	20.00	J-3954	(N/A)	17.16	J-1198
4082	J-2200	Forest	TRUE	1.00	1273.90	1.88	1274.78	20.00	20.00	20.00	24.20	J-1197	(N/A)	17.12	J-1198
3730	J-2035	Lakes	TRUE	1.00	1277.07	1.20	1277.27	20.00	20.01	20.00	28.54	J-2646	(N/A)	17.23	J-1198
4243	J-2261	Forest	TRUE	1.00	1280.09	2.28	1281.37	20.00	20.00	20.00	24.20	J-1197	(N/A)	17.12	J-1198
1622	J-811	Lakes	TRUE	1.00	1281.18	1.29	1281.47	20.00	24.98	20.00	20.13	J-1622	(N/A)	17.23	J-1198
1746	J-890	Forest	TRUE	1.00	1282.36	1.28	1282.64	20.00	23.71	20.00	20.00	J-913	(N/A)	17.18	J-1198
2520	J-1352	Forest	TRUE	1.00	1282.36	1.08	1282.43	20.00	23.43	20.00	20.00	J-913	(N/A)	17.18	J-1198
2920	J-1580	Forest	TRUE	1.00	1284.88	1.88	1285.76	20.00	20.00	20.00	21.13	J-3687	(N/A)	17.18	J-1198
6927	J-3762	Forest	TRUE	1.00	1286.63	1.08	1286.71	20.00	20.00	20.00	20.79	J-1763	(N/A)	17.18	J-1198
3447	J-1876	Forest	TRUE	1.00	1287.57	1.48	1288.05	20.00	20.00	20.00	20.85	J-1877	(N/A)	17.20	J-1198
1143	J-604	Forest	TRUE	1.00	1288.70	1.48	1289.17	20.00	48.35	20.00	20.02	J-3438	(N/A)	17.19	J-1198
5787	J-3094	Forest	TRUE	1.00	1288.70	1.08	1288.78	20.00	48.06	20.00	20.02	J-3438	(N/A)	17.19	J-1198
6800	J-3687	Forest	TRUE	1.00	1289.25	3.09	1291.34	20.00	20.00	20.00	21.07	J-1868	(N/A)	17.18	J-1198
3413	J-1857	Forest	TRUE	1.00	1289.39	1.68	1290.07	20.00	20.00	20.00	22.25	J-1856	(N/A)	17.20	J-1198
4178	J-2240	Forest	TRUE	1.00	1289.84	2.68	1291.53	20.00	20.01	20.00	24.20	J-1197	(N/A)	17.12	J-1198
3245	J-1762	Forest	TRUE	1.00	1293.04	1.08	1293.11	20.00	20.00	20.00	20.43	J-1763	(N/A)	17.18	J-1198
3557	J-1939	Forest	TRUE	1.00	1293.23	1.08	1293.31	20.00	20.00	20.00	21.94	J-1940	(N/A)	17.18	J-1198
5876	J-3144	Forest	TRUE	1.00	1296.19	2.68	1297.88	20.00	20.00	20.00	20.43	J-2219	(N/A)	17.20	J-1198
3432	J-1868	Forest	TRUE	1.00	1296.24	3.89	1299.13	20.00	20.40	20.00	20.05	J-3687	(N/A)	17.18	J-1198
4905	J-2587	Lakes	TRUE	1.00	1299.86	1.29	1300.15	20.00	20.00	20.00	20.22	J-2010	(N/A)	17.23	J-1198
3686	J-2010	Lakes	TRUE	1.00	1300.06	1.37	1300.43	20.00	20.00	20.00	20.26	J-2587	(N/A)	17.23	J-1198
6846	J-3714	Forest	TRUE	1.00	1300.16	1.48	1300.64	20.00	20.00	20.00	20.85	J-1976	(N/A)	16.98	J-1198
7122	J-3872	Lakes	TRUE	1.00	1300.47	1.20	1300.67	20.00	20.57	20.00	20.08	J-2010	(N/A)	17.23	J-1198
4904	J-2586	Lakes	TRUE	1.00	1300.76	1.20	1300.95	20.00	20.72	20.00	20.08	J-2010	(N/A)	17.23	J-1198
3246	J-1763	Forest	TRUE	1.00	1300.91	1.28	1301.19	20.00	20.00	20.00	20.02	J-3762	(N/A)	17.18	J-1198
4128	J-2219	Forest	TRUE	1.00	1301.05	1.48	1301.53	20.00	20.01	20.00	20.01	J-3144	(N/A)	17.20	J-1198
3009	J-1620 J-3310	Lakes	TRUE TRUE	1.00 1.00	1303.01 1303.52	1.98 1.08	1303.99 1303.60	20.00 20.00	20.03 46.77	20.00 20.00	22.11 20.00	J-1847 J-1197	(N/A) (N/A)	17.23 12.92	J-1198
6163 6164	J-3310 J-3311	Forest Forest	TRUE	1.00	1303.52	1.08	1303.60	20.00	45.72	20.00	20.00	J-1197 J-1197	(N/A) (N/A)	12.92	J-1198 J-1198
3626	J-1977	Forest	TRUE	1.00	1305.61	1.88	1306.49	20.00	20.00	20.00	20.19	J-3714	(N/A)	16.98	J-1198
3651	J-1991	Forest	TRUE	1.00	1306.59	2.28	1307.87	20.00	35.13	20.00	20.01	J-2366	(N/A)	17.18	J-1198
3652	J-1992	Forest	TRUE	1.00	1306.71	1.48	1307.19	20.00	25.69	20.00	20.00	J-2366	(N/A)	17.18	J-1198
4909	J-2589	Forest	TRUE	1.00	1306.71	1.68	1307.39	20.00	25.54	20.00	20.00	J-2366	(N/A)	17.18	J-1198
3625	J-1976	Forest	TRUE	1.00	1306.92	1.08	1307.00	20.00	20.19	20.00	20.06	J-3714	(N/A)	16.98	J-1198
5005	J-2645	Forest	TRUE	1.00	1307.49	1.48	1307.97	20.00	20.00	20.00	20.29	J-1940	(N/A)	17.18	J-1198
2231	J-1191	Forest	TRUE	1.00	1308.50	1.28	1308.78	20.00	47.10	20.00	20.00	J-1197	(N/A)	12.92	J-1198
3412	J-1856	Forest	TRUE	1.00	1309.10	1.88	1309.98	20.00	20.00	20.00	20.17	J-1857	(N/A)	17.20	J-1198
3140	J-1699	Forest Forest	TRUE	1.00	1309.67	1.08	1309.75	20.00	20.02	20.00	20.55	J-1698	(N/A)	17.19	J-1198
3558	J-1940	Lakes	TRUE	1.00	1309.94	1.08	1310.02	20.00	20.00	20.00	20.01	J-2645	(N/A)	17.18	J-1198
6064	J-3251		TRUE	1.00	1311.80	1.20	1312.00	20.00	20.00	20.00	20.29	J-3252	(N/A)	17.23	J-1198
6065	J-3252	Lakes	TRUE	1.00	1313.34	1.29	1313.63	20.00	20.00	20.00	20.21	J-3251	(N/A)	17.23	J-1198
5147	J-2725	Forest	TRUE	1.00	1313.65	1.68	1314.33	20.00	20.01	20.00	20.19	J-1699	(N/A)	17.19	J-1198
3395	J-1847	Lakes	TRUE	1.00	1314.50	1.46	1314.96	20.00	20.00	20.00	20.04	J-3252	(N/A)	17.23	J-1198
3128	J-1691	Forest	TRUE	1.00	1315.24	1.28	1315.52	20.00	31.56	20.00	20.00	J-2110	(N/A)	17.19	J-1198
5191	J-2750	Forest	TRUE	1.00	1315.24	2.28	1316.52	20.00	31.17	20.00	20.00	J-2110	(N/A)	17.19	J-1198
3139	J-1698	Forest	TRUE	1.00	1315.40	1.08	1315.48	20.00	20.10	20.00	20.05	J-1699	(N/A)	17.19	J-1198
4650	J-2444	Forest	TRUE	1.00	1317.71	1.68	1318.39	20.00	53.93	20.00	20.00	J-3438	(N/A)	17.19	J-1198
1061	J-574	Forest	TRUE	1.00	1317.71	1.88	1318.59	20.00	53.99	20.00	20.00	J-3438	(N/A)	17.19	J-1198
4152	J-2229	Forest	TRUE	1.00	1317.99	1.88	1318.87	20.00	20.00	20.00	24.26	J-1197	(N/A)	17.18	J-1198
5007	J-2646	Lakes	TRUE	1.00	1319.23	1.20	1319.43	20.00	20.02	20.00	20.37	J-2036	(N/A)	17.23	J-1198
3731	J-2036	Lakes	TRUE	1.00	1320.82	1.20	1321.02	20.00	20.05	20.00	20.00	J-2646	(N/A)	17.23	J-1198
6130	J-3291	Forest	TRUE	1.00	1321.84	1.68	1322.52 1321.97	20.00	20.00	20.00	20.70	J-2299	(N/A)	17.18	J-1198
3058	J-1647	Forest	TRUE	1.00	1321.89	1.08	1321.97	20.00	20.00	20.00	20.31	J-1648	(N/A)	17.10	J-1198
3129	J-1692	Forest	TRUE	1.00	1322.42	2.08		20.00	31.68	20.00	20.00	J-2110	(N/A)	17.19	J-1198
3059	J-1648	Forest	TRUE	1.00	1322.98	1.08	1323.06	20.00	20.14	20.00	20.10	J-1647	(N/A)	17.10	J-1198
3442	J-1874	Forest	TRUE	1.00	1323.90	1.08	1323.97	20.00	26.11	20.00	20.00	J-4154	(N/A)	17.18	J-1198
3441	J-1873	Forest	TRUE	1.00	1323.94	1.48	1324.42	20.00	22.96	20.00	20.00	J-4154	(N/A)	17.18	J-1198
5851	J-3130	Forest	TRUE	1.00	1323.95	1.48	1324.43	20.00	21.96	20.00	20.00	J-4154	(N/A)	17.18	J-1198
1837	J-948	Forest	TRUE	1.00	1325.57	1.28	1325.85	20.00	33.22	20.00	20.00	J-3090	(N/A)	16.98	J-1198
7479	J-4021	Forest	TRUE	1.00	1325.57	1.08	1325.65	20.00	27.55	20.00	20.00	J-3090	(N/A)	16.98	J-1198
6677	J-3614	Forest	TRUE	1.00	1325.57	1.88	1326.45	20.00	29.43	20.00	20.00	J-3090	(N/A)	16.98	J-1198
6516	J-3518	Forest	TRUE	1.00	1325.57	1.48	1326.05	20.00	27.57	20.00	20.00	J-3090	(N/A)	16.98	J-1198
6517	J-3519	Forest	TRUE	1.00	1325.57	1.48	1326.05	20.00	26.70	20.00	20.00	J-3090	(N/A)	16.98	J-1198
6678	J-3615	Forest	TRUE	1.00	1325.57	1.68	1326.25	20.00	29.98	20.00	20.00	J-3090	(N/A)	16.98	J-1198
6662	J-3605	Forest	TRUE	1.00	1325.57	1.88	1326.45	20.00	24.64	20.00	20.00	J-3090	(N/A)	16.98	J-1198
6663	J-3606	Forest	TRUE	1.00	1325.57	1.88	1326.45	20.00	25.53	20.00	20.00	J-3090	(N/A)	16.98	J-1198
5326	J-2829	Forest	TRUE	1.00	1326.97	1.28	1327.25	20.00	20.01	20.00	20.23	J-3889	(N/A)	17.20	J-1198
7153	J-3889	Forest	TRUE	1.00	1328.50	1.08	1328.58	20.00	20.01	20.00	20.09	J-2828	(N/A)	17.20	J-1198
6180	J-3320	Forest	TRUE	1.00	1328.62	1.48	1329.10	20.00	20.00	20.00	20.18	J-1542	(N/A)	17.21	J-1198
5141	J-2722	Forest	TRUE	1.00	1329.14	1.08	1329.21	20.00	20.00	20.00	20.06	J-1838	(N/A)	17.10	J-1198
5325	J-2828	Forest	TRUE	1.00	1329.49	1.88	1330.37	20.00	20.00	20.00	20.00	J-3889	(N/A)	17.20	J-1198
3378	J-1838	Forest	TRUE	1.00	1329.55	1.08	1329.63	20.00	20.00	20.00	20.29	J-2722	(N/A)	17.10	J-1198
2847		Forest	TRUE	1.00	1331.99	1.28	1332.27	20.00	20.00	20.00	20.37	J-3320	(N/A)	17.21	J-1198
4360	J-1542 J-2299	Forest	TRUE	1.00	1332.34	3.09	1334.42	20.00	20.21	20.00	20.01	J-3291	(N/A)	17.18	J-1198
4180	J-2241	Forest	TRUE	1.00	1335.08	2.48	1336.57	20.00	39.80	20.00	20.01	J-3438	(N/A)	17.19	J-1198
6279	J-3380	Forest	TRUE	1.00	1335.09	1.48	1335.57	20.00	39.24	20.00	20.00	J-3438	(N/A)	17.19	J-1198
983	J-539	Forest	TRUE	1.00	1335.18	1.48	1335.65	20.00	65.00	20.00	20.00	J-3438	(N/A)	17.19	J-1198
6212	J-3339	Forest	TRUE	1.00	1336.82	1.88	1337.70	20.00	34.18	20.00	20.01	J-3200	(N/A)	17.19	J-1198
6213	J-3340	Forest	TRUE	1.00	1336.84	2.08	1337.92	20.00	33.44	20.00	20.01	J-3200	(N/A)	17.19	J-1198
4080	J-2199	Forest	TRUE	1.00	1337.41	1.28	1337.68	20.00	20.00	20.00	24.23	J-1197	(N/A)	17.15	J-1198
6106	J-3276	Forest	TRUE	1.00	1338.39	2.68	1340.07	20.00	32.02	20.00	20.00	J-2840	(N/A)	17.19	J-1198
6107	J-3277	Forest	TRUE	1.00	1338.39	1.48	1338.87	20.00	31.84	20.00	20.00	J-2840	(N/A)	17.19	J-1198
7514	J-4033	Forest	TRUE	1.00	1338.39	1.48	1338.87	20.00	25.19	20.00	20.00	J-2840	(N/A)	17.19	J-1198
6744	J-3653	Forest	TRUE	1.00	1338.40	2.08	1339.48	20.00	24.45	20.00	20.00	J-2840	(N/A)	17.19	J-1198
4755	J-2502	Forest	TRUE	1.00	1338.40	1.48	1338.87	20.00	25.41	20.00	20.00	J-2840	(N/A)	17.19	J-1198
2177	J-1158	Forest	TRUE	1.00	1338.40	1.88	1339.28	20.00	25.49	20.00	20.00	J-2840	(N/A)	17.19	J-1198
6745	J-3654	Forest	TRUE	1.00	1338.40	1.28	1338.67	20.00	23.74	20.00	20.00	J-2840	(N/A)	17.19	J-1198
4100	J-2208	Forest	TRUE	1.00	1338.65	2.28	1339.93	20.00	20.00	20.00	24.19	J-1197	(N/A)	17.12	J-1198
1750	J-893	Forest	TRUE	1.00	1338.79	1.48	1339.27	20.00	20.00	20.00	20.65	J-892	(N/A)	17.19	J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID 5218	Label J-2765	Zone	Satisfied TRUE	(gpm) 1.00	(gpm)	(gpm) 2.08	(gpm) 1340.82	(psi) 20.00	(psi) 20.01	(psi)	(psi) 20.25	Node	(psi)	(psi)	Node J-1198
2850	J-1544	Forest Forest	TRUE	1.00	1339.74 1340.03	1.88	1340.82	20.00	20.00	20.00 20.00	21.44	J-2766 J-1542	(N/A) (N/A)	17.18 17.21	J-1198 J-1198
4432 3806	J-2322 J-2072	Lakes Forest	TRUE TRUE	1.00 1.00	1340.62 1340.64	2.15 2.08	1341.77 1341.72	20.00 20.00	55.78 20.00	20.00 20.00	20.08 24.19	J-2323 J-1197	(N/A) (N/A)	17.23 17.12	J-1198 J-1198
3224	J-1749	Forest	TRUE	1.00	1342.07	1.48	1341.72	20.00	21.00	20.00	20.03	J-1197 J-2115	(N/A)	17.12	J-1198
7108 7109	J-3864 J-3865	Lakes Lakes	TRUE TRUE	1.00 1.00	1342.84 1342.84	1.20 1.20	1343.04 1343.04	20.00 20.00	55.98 56.03	20.00 20.00	20.04 20.04	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
7139	J-3881	Lakes	TRUE	1.00	1342.84	1.20	1343.04	20.00	56.05	20.00	20.04	J-2323 J-2323	(N/A)	17.23	J-1198
5219 1858	J-2766 J-962	Forest Forest	TRUE TRUE	1.00 1.00	1344.44 1344.56	1.88 2.28	1345.32 1345.84	20.00 20.00	20.01 30.45	20.00 20.00	20.12 20.00	J-2765 J-2766	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
5500	J-2928	Forest	TRUE	1.00	1344.56	1.48	1345.04	20.00	29.85	20.00	20.00	J-2766	(N/A)	17.18	J-1198
4112 2938	J-2212 J-1588	Forest Forest	TRUE TRUE	1.00 1.00	1348.21 1350.17	2.48 2.48	1349.69 1351.65	20.00 20.00	20.01 25.77	20.00 20.00	24.19 20.00	J-1197 J-1206	(N/A) (N/A)	17.11 15.68	J-1198 J-1198
5608	J-2990	Forest	TRUE	1.00	1350.31	1.48	1350.79	20.00	21.25	20.00	20.02	J-2115	(N/A)	17.19	J-1198
3223 5783	J-1748 J-3092	Forest Forest	TRUE TRUE	1.00 1.00	1350.57 1351.01	1.68 1.68	1351.25 1351.69	20.00 20.00	21.46 71.37	20.00 20.00	20.00 20.00	J-2115 J-3438	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
982	J-538	Forest	TRUE	1.00	1351.02	1.08	1351.09	20.00	71.46	20.00	20.00	J-3438	(N/A)	17.19	J-1198
3728 6737	J-2034 J-3649	Forest Forest	TRUE TRUE	1.00 1.00	1352.49 1352.49	2.88 2.28	1354.38 1353.78	20.00 20.00	22.82 21.67	20.00 20.00	20.00 20.00	J-2033 J-2033	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
6923	J-3760	Forest	TRUE	1.00	1352.83	1.88	1353.71	20.00	20.00	20.00	21.29	J-2312	(N/A)	17.20	J-1198
4219 6124	J-2255 J-3287	Forest Lakes	TRUE TRUE	1.00 1.00	1353.63 1354.49	1.68 1.20	1354.31 1354.69	20.00 20.00	20.00 23.37	20.00 20.00	20.65 20.00	J-1533 J-2010	(N/A) (N/A)	17.20 17.23	J-1198 J-1198
6125	J-3288	Lakes	TRUE	1.00	1354.49	1.20	1354.69	20.00	23.26	20.00	20.00	J-2010	(N/A)	17.23	J-1198
4573 2831	J-2400 J-1533	Forest Forest	TRUE TRUE	1.00 1.00	1355.80 1357.40	2.08 1.48	1356.88 1357.88	20.00 20.00	20.02 20.29	20.00 20.00	20.15 20.05	J-2324 J-2255	(N/A) (N/A)	17.19 17.20	J-1198 J-1198
4439	J-2324	Forest	TRUE	1.00	1357.74	1.88	1358.63	20.00	20.02	20.00	20.09	J-2400	(N/A)	17.19	J-1198
2808 4104	J-1520 J-2209	Forest Forest	TRUE TRUE	1.00 1.00	1357.83 1359.78	2.28 1.28	1359.11 1360.06	20.00 20.00	20.01 20.00	20.00 20.00	20.81 24.28	J-2567 J-1197	(N/A) (N/A)	17.19 17.20	J-1198 J-1198
7329	J-3966	Forest	TRUE	1.00	1361.29	1.88	1362.17	20.00	20.20	20.00	20.03	J-2324	(N/A)	17.19	J-1198
4396 4872	J-2312 J-2567	Forest Forest	TRUE TRUE	1.00 1.00	1361.98 1363.36	2.28 1.08	1363.26 1363.44	20.00 20.00	20.45 20.03	20.00 20.00	20.04 20.48	J-3760 J-1795	(N/A) (N/A)	17.20 17.19	J-1198 J-1198
3733	J-2037	Forest	TRUE	1.00	1364.88	2.08	1365.96	20.00	20.00	20.00	24.23	J-1197	(N/A)	17.15	J-1198
3930 3299	J-2133 J-1795	Forest Forest	TRUE TRUE	1.00 1.00	1365.80 1366.81	2.28 1.88	1367.09 1367.69	20.00 20.00	20.01 20.19	20.00 20.00	24.26 20.05	J-1197 J-2567	(N/A) (N/A)	17.18 17.19	J-1198 J-1198
7027	J-3819	Forest	TRUE	1.00	1367.55	2.48	1369.03	20.00	20.00	20.00	21.34	J-2151	(N/A)	17.18	J-1198
3146 5206	J-1703 J-2758	Forest Forest	TRUE TRUE	1.00 1.00	1367.74 1368.22	1.48 1.28	1368.22 1368.49	20.00 20.00	20.00 20.00	20.00 20.00	20.42 20.47	J-2758 J-1703	(N/A) (N/A)	17.10 17.10	J-1198 J-1198
4496 3219	J-2355	Forest	TRUE	1.00	1369.18	1.08	1369.26	20.00	25.63	20.00	20.00	J-1206	(N/A)	15.64	J-1198
5086	J-1746 J-2692	Forest Forest	TRUE TRUE	1.00 1.00	1369.18 1370.25	1.28 1.48	1369.46 1370.73	20.00 20.00	25.98 20.00	20.00 20.00	20.00 21.10	J-1206 J-2031	(N/A) (N/A)	15.64 17.18	J-1198 J-1198
3145 3875	J-1702 J-2105	Forest Forest	TRUE TRUE	1.00 1.00	1371.09 1371.21	1.08 1.88	1371.17 1372.09	20.00 20.00	20.33 31.86	20.00 20.00	20.07 20.01	J-2758 J-4154	(N/A) (N/A)	17.10 17.18	J-1198 J-1198
3031	J-1630	Forest	TRUE	1.00	1373.70	1.28	1373.98	20.00	32.02	20.00	20.00	J-610	(N/A)	17.18	J-1198
3032 5032	J-1631 J-2661	Forest Forest	TRUE TRUE	1.00 1.00	1373.70 1375.49	1.48 1.68	1374.18 1376.17	20.00 20.00	31.81 53.80	20.00 20.00	20.00 20.00	J-610 J-1197	(N/A) (N/A)	17.18 12.92	J-1198 J-1198
5033	J-2662	Forest	TRUE	1.00	1375.50	2.08	1376.58	20.00	53.78	20.00	20.00	J-1197	(N/A)	12.92	J-1198
5092 3723	J-2695 J-2031	Forest Forest	TRUE TRUE	1.00 1.00	1377.56 1378.23	1.48 1.68	1378.04 1378.91	20.00 20.00	20.00 20.73	20.00 20.00	20.67 20.00	J-1768 J-2692	(N/A) (N/A)	17.22 17.18	J-1198 J-1198
5212	J-2761	Forest	TRUE	1.00	1378.34	1.68	1379.02	20.00	29.43	20.00	20.00	J-2324	(N/A)	17.19	J-1198
5213 4168	J-2762 J-2237	Forest Forest	TRUE TRUE	1.00 1.00	1378.34 1378.66	1.48 2.48	1378.82 1380.14	20.00 20.00	28.96 20.03	20.00 20.00	20.00 24.19	J-2324 J-1197	(N/A) (N/A)	17.19 17.11	J-1198 J-1198
5292	J-2808	Forest	TRUE	1.00	1378.73	1.48	1379.21	20.00	22.98	20.00	20.00	J-3063	(N/A)	17.20	J-1198
5293 6486	J-2809 J-3501	Forest Forest	TRUE TRUE	1.00 1.00	1378.73 1384.75	1.08 1.08	1378.81 1384.83	20.00 20.00	22.54 85.98	20.00 20.00	20.00 20.00	J-3063 J-3438	(N/A) (N/A)	17.20 17.19	J-1198 J-1198
1259 3255	J-654 J-1769	Forest Forest	TRUE TRUE	1.00 1.00	1384.75 1384.92	1.28 1.48	1385.03 1385.40	20.00 20.00	86.54 20.00	20.00 20.00	20.00 20.09	J-3438 J-2695	(N/A) (N/A)	17.19 17.22	J-1198 J-1198
4023	J-1769 J-2173	Forest	TRUE	1.00	1385.36	2.48	1386.85	20.00	35.89	20.00	20.09	J-2324	(N/A)	17.22	J-1198
4575 7135	J-2401 J-3879	Forest Forest	TRUE TRUE	1.00 1.00	1385.37 1385.37	1.08 1.08	1385.45 1385.45	20.00 20.00	35.69 35.56	20.00 20.00	20.00 20.00	J-2324 J-2324	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
4576	J-2402	Forest	TRUE	1.00	1385.38	1.48	1385.85	20.00	35.51	20.00	20.00	J-2324	(N/A)	17.19	J-1198
3254 3674	J-1768 J-2003	Forest Forest	TRUE TRUE	1.00 1.00	1386.85 1387.08	1.48 1.88	1387.33 1387.96	20.00 20.00	20.31 23.26	20.00 20.00	20.02 20.00	J-2695 J-2002	(N/A) (N/A)	17.22 17.18	J-1198 J-1198
6273	J-3376	Lakes	TRUE	1.00	1387.13	1.37	1387.50	20.00	20.91	20.00	20.09	J-3377	(N/A)	17.23	J-1198
6274 1958	J-3377 J-1027	Lakes Forest	TRUE TRUE	1.00 1.00	1387.62 1387.77	2.52 1.08	1389.14 1387.84	20.00 20.00	20.00 21.60	20.00 20.00	20.46 20.10	J-2323 J-1028	(N/A) (N/A)	17.23 16.96	J-1198 J-1198
4148	J-2228	Forest	TRUE	1.00	1387.91	2.08	1388.99	20.00	20.04	20.00	24.28	J-1197	(N/A)	17.20	J-1198
7386 2667	J-3988 J-1436	Forest Forest	TRUE TRUE	1.00 1.00	1389.94 1389.94	1.48 1.08	1390.42 1390.02	20.00 20.00	44.09 43.38	20.00 20.00	20.00 20.00	J-3425 J-3425	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
6723	J-3641	Forest	TRUE	1.00	1389.95	1.48	1390.43	20.00	42.66	20.00	20.00	J-3425	(N/A)	17.20	J-1198
7491 3637	J-4025 J-1983	Forest Lakes	TRUE TRUE	1.00 1.00	1390.50 1391.52	1.68 1.29	1391.18 1391.81	20.00 20.00	23.23 50.42	20.00 20.00	20.00 20.08	J-3063 J-2323	(N/A) (N/A)	17.20 17.23	J-1198 J-1198
6073 712	J-3257 J-409	Lakes	TRUE TRUE	1.00 1.00	1391.54 1391.55	1.20 1.20	1391.74 1391.75	20.00 20.00	57.03 48.47	20.00 20.00	20.08 20.08	J-2323	(N/A)	17.23 17.23	J-1198 J-1198
6072	J-3256	Lakes Lakes	TRUE	1.00	1391.56	1.20	1391.76	20.00	56.77	20.00	20.08	J-2323 J-2323	(N/A) (N/A)	17.23	J-1198
6277 6276	J-3379 J-3378	Lakes Lakes	TRUE TRUE	1.00 1.00	1391.74 1391.79	1.20 1.20	1391.94 1391.99	20.00 20.00	38.38 37.67	20.00 20.00	20.06 20.05	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
7243	J-3931	Lakes	TRUE	1.00	1391.90	1.37	1392.27	20.00	30.82	20.00	20.04	J-2323	(N/A)	17.23	J-1198
7244 713	J-3932 J-410	Lakes Lakes	TRUE TRUE	1.00 1.00	1391.90 1391.92	1.20 1.20	1392.10 1392.12	20.00 20.00	30.82 53.15	20.00 20.00	20.04 20.04	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5035	J-2663	Lakes	TRUE	1.00	1391.92	1.20	1392.12	20.00	52.84	20.00	20.04	J-2323	(N/A)	17.23	J-1198
2473 4733	J-1327 J-2490	Lakes Lakes	TRUE TRUE	1.00 1.00	1392.32 1392.33	1.63 1.20	1392.95 1392.53	20.00 20.00	42.02 41.57	20.00 20.00	20.00 20.00	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1313	J-679	Lakes	TRUE	1.00	1392.33	1.20	1392.53	20.00	68.57	20.00	20.00	J-2323	(N/A)	17.23	J-1198
5569 7597	J-2968 J-4060	Lakes Lakes	TRUE TRUE	1.00 1.00	1392.33 1392.34	1.20 1.20	1392.53 1392.54	20.00 20.00	67.96 66.50	20.00 20.00	20.00 20.00	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5257	J-2789	Lakes	TRUE	1.00	1392.34	1.29	1392.62	20.00	39.72	20.00	20.00	J-2323	(N/A)	17.23	J-1198
1312 5256	J-678 J-2788	Lakes Lakes	TRUE TRUE	1.00 1.00	1392.34 1392.34	1.29 1.20	1392.62 1392.54	20.00 20.00	64.02 39.42	20.00 20.00	20.00 20.00	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6267 2947	J-3373	Lakes Lakes	TRUE TRUE	1.00 1.00	1392.34	1.20 1.20	1392.54 1392.54	20.00 20.00	63.51	20.00 20.00	20.00	J-2323	(N/A) (N/A)	17.23 17.23	J-1198
6070	J-1593 J-3255	Lakes	TRUE	1.00	1392.34 1392.34	1.20	1392.54	20.00	25.88 25.90	20.00	20.00 20.00	J-2323 J-2323	(N/A)	17.23	J-1198 J-1198
3006 6069	J-1619 J-3254	Lakes Lakes	TRUE TRUE	1.00 1.00	1392.34 1392.34	1.46 1.46	1392.80 1392.80	20.00 20.00	25.24 25.28	20.00 20.00	20.00 20.00	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
4717	J-2480	Lakes	TRUE	1.00	1392.34	1.29	1392.63	20.00	27.93	20.00	20.00	J-2323	(N/A)	17.23	J-1198
4718 4073	J-2481 J-2196	Lakes Forest	TRUE TRUE	1.00 1.00	1392.34 1393.23	1.29 1.48	1392.63 1393.71	20.00 20.00	28.29 21.60	20.00 20.00	20.00 20.00	J-2323 J-1774	(N/A) (N/A)	17.23 17.18	J-1198 J-1198
4757	J-2503	Forest	TRUE	1.00	1393.23	1.68	1393.91	20.00	21.54	20.00	20.00	J-1774	(N/A)	17.18	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
4027	J-2175	Forest	TRUE	1.00	1393.53	2.08	1394.61	20.00	20.01	20.00	24.26	J-1197	(N/A)	17.18	J-1198
8343	J-4173	Forest	TRUE	1.00	1398.54	1.68	1399.22	20.00	20.01	20.00	24.26	J-1197	(N/A)	17.18	J-1198
5619 7255	J-2996 J-3938	Forest Forest	TRUE TRUE	1.00 1.00	1399.79 1400.50	1.08 1.08	1399.87 1400.57	20.00 20.00	20.01 23.35	20.00 20.00	20.33 20.00	J-1363 J-3063	(N/A) (N/A)	17.19 17.20	J-1198 J-1198
7254	J-3937	Forest	TRUE	1.00	1400.50	1.08	1400.57	20.00	23.35	20.00	20.00	J-3063	(N/A)	17.20	J-1198
2540	J-1363	Forest	TRUE	1.00	1402.70	1.28	1402.98	20.00	20.01	20.00	20.18	J-2996	(N/A)	17.19	J-1198
4747 5202	J-2498 J-2756	Forest Forest	TRUE TRUE	1.00 1.00	1403.18 1406.06	2.08 1.88	1404.26 1406.94	20.00 20.00	20.01 20.25	20.00 20.00	20.33 20.05	J-2171 J-2755	(N/A) (N/A)	16.95 17.20	J-1198 J-1198
4022	J-2172	Forest	TRUE	1.00	1406.20	1.48	1406.68	20.00	33.20	20.00	20.00	J-2324	(N/A)	17.19	J-1198
6618 5201	J-3579 J-2755	Forest Forest	TRUE TRUE	1.00 1.00	1406.21 1406.58	2.08 1.88	1407.29 1407.46	20.00 20.00	32.22 20.00	20.00 20.00	20.00 20.59	J-2324 J-2756	(N/A) (N/A)	17.19 17.20	J-1198 J-1198
4019	J-2171	Forest	TRUE	1.00	1400.58	1.88	1407.46	20.00	20.04	20.00	20.00	J-2498	(N/A)	16.95	J-1198
3971	J-2151	Forest	TRUE	1.00	1407.36	1.48	1407.84	20.00	20.00	20.00	20.30	J-3819	(N/A)	17.18	J-1198
6932 1171	J-3765 J-615	Lakes Lakes	TRUE TRUE	1.00 1.00	1409.34 1409.68	1.20 1.81	1409.54 1410.49	20.00 20.00	26.58 27.01	20.00 20.00	20.08 20.05	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3456	J-1882	Forest	TRUE	1.00	1410.28	1.08	1410.35	20.00	20.00	20.00	21.59	J-2113	(N/A)	15.56	J-1198
6626 4335	J-3584 J-2291	Forest Forest	TRUE TRUE	1.00 1.00	1410.96 1413.82	2.28 2.48	1412.24 1415.30	20.00 20.00	20.01 20.00	20.00 20.00	20.55 24.17	J-3585 J-1197	(N/A) (N/A)	17.18 17.09	J-1198 J-1198
6114	J-3281	Lakes	TRUE	1.00	1422.28	1.20	1422.48	20.00	20.00	20.00	20.14	J-2010	(N/A)	17.23	J-1198
6627	J-3585	Forest	TRUE	1.00	1422.67	1.48	1423.15	20.00	20.02	20.00	20.21	J-3584	(N/A)	17.18	J-1198
6113 1914	J-3280 J-998	Lakes Forest	TRUE TRUE	1.00 1.00	1422.69 1423.03	1.20 2.28	1422.89 1424.31	20.00 20.00	20.47 25.42	20.00 20.00	20.09 20.00	J-2010 J-3585	(N/A) (N/A)	17.23 17.18	J-1198 J-1198
5343	J-2839	Forest	TRUE	1.00	1423.03	1.08	1423.11	20.00	20.02	20.00	20.52	J-2838	(N/A)	17.20	J-1198
5108 7295	J-2704 J-3953	Forest Forest	TRUE TRUE	1.00 1.00	1423.03 1423.99	1.48 1.08	1423.51 1424.07	20.00 20.00	24.44 20.02	20.00 20.00	20.00 20.65	J-3585 J-1623	(N/A) (N/A)	17.18 17.20	J-1198 J-1198
4296	J-2280	Forest	TRUE	1.00	1424.18	1.28	1424.46	20.00	20.02	20.00	20.73	J-3964	(N/A)	17.20	J-1198
7194	J-3907	Lakes	TRUE	1.00	1425.29	1.20	1425.49	20.00	20.00	20.00	20.13	J-3906	(N/A)	17.23	J-1198
7193 6205	J-3906 J-3335	Lakes Lakes	TRUE TRUE	1.00 1.00	1426.41 1426.42	1.20 1.20	1426.61 1426.62	20.00 20.00	20.00 26.06	20.00 20.00	20.01 20.00	J-3907 J-3906	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6206	J-3336	Lakes	TRUE	1.00	1426.42	1.20	1426.62	20.00	25.73	20.00	20.00	J-3906	(N/A)	17.23	J-1198
3019 6880	J-1623 J-3734	Forest Stewartsville	TRUE TRUE	1.00 1.00	1426.86 1427.53	1.08 2.99	1426.93 1429.52	20.00 20.00	20.44 20.01	20.00 20.00	20.03 20.62	J-3953 J-1397	(N/A) (N/A)	17.20 17.23	J-1198 J-1198
7325	J-3964	Forest	TRUE	1.00	1428.10	1.08	1428.18	20.00	20.46	20.00	20.02	J-2280	(N/A)	17.20	J-1198
5342	J-2838	Forest	TRUE	1.00	1428.87	1.08	1428.94	20.00	20.10	20.00	20.05	J-2839	(N/A)	17.20	J-1198
1201 6251	J-629 J-3364	Lakes Lakes	TRUE TRUE	1.00 1.00	1429.68 1429.69	1.20 1.20	1429.88 1429.89	20.00 20.00	36.54 36.25	20.00 20.00	20.01 20.01	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6011	J-3219	Forest	TRUE	1.00	1431.10	1.08	1431.18	20.00	21.10	20.00	20.00	J-3953	(N/A)	17.20	J-1198
6010 2599	J-3218 J-1397	Forest Stewartsville	TRUE TRUE	1.00 1.00	1431.10 1432.69	1.88 3.34	1431.98 1435.03	20.00 20.00	21.49 20.01	20.00 20.00	20.00 20.31	J-3953 J-3734	(N/A) (N/A)	17.20 17.23	J-1198 J-1198
1892	J-984	Lakes	TRUE	1.00	1432.74	1.55	1433.29	20.00	20.00	20.00	26.13	J-1587	(N/A)	17.23	J-1198
2578 4957	J-1385 J-2617	Forest Forest	TRUE TRUE	1.00 1.00	1434.62 1436.46	2.08 1.28	1435.70 1436.74	20.00 20.00	20.00 31.66	20.00 20.00	24.02 20.00	J-1197 J-3063	(N/A) (N/A)	16.95 17.20	J-1198 J-1198
4958	J-2618	Forest	TRUE	1.00	1436.46	1.28	1436.74	20.00	31.05	20.00	20.00	J-3063	(N/A)	17.20	J-1198
7814	J-4124	Forest	TRUE	1.00	1437.47	1.88	1438.35	20.00	20.00	20.00	24.26	J-1197	(N/A)	17.18	J-1198
3407 3787	J-1853 J-2063	Forest Forest	TRUE TRUE	1.00 1.00	1437.50 1438.53	1.08 1.08	1437.57 1438.61	20.00 20.00	24.47 20.03	20.00 20.00	20.00 24.26	J-2113 J-1197	(N/A) (N/A)	15.51 17.18	J-1198 J-1198
4931	J-2602	Forest	TRUE	1.00	1440.72	1.08	1440.79	20.00	21.37	20.00	20.00	J-2280	(N/A)	17.20	J-1198
4930 5239	J-2601 J-2778	Forest Forest	TRUE TRUE	1.00 1.00	1440.72 1442.98	1.08 1.28	1440.79 1443.26	20.00 20.00	21.80 31.17	20.00 20.00	20.00 20.00	J-2280 J-941	(N/A) (N/A)	17.20 17.18	J-1198 J-1198
5240	J-2779	Forest	TRUE	1.00	1442.98	1.48	1443.46	20.00	31.17	20.00	20.00	J-941 J-941	(N/A)	17.18	J-1198
3348	J-1822	Lakes	TRUE	1.00	1443.62	1.55	1444.17	20.00	20.00	20.00	22.51	J-1821	(N/A)	17.23	J-1198
4964 4965	J-2621 J-2622	Forest Forest	TRUE TRUE	1.00 1.00	1446.51 1446.51	1.28 1.48	1446.79 1446.99	20.00 20.00	21.65 21.78	20.00 20.00	20.00 20.00	J-2840 J-2840	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
4382	J-2307	Forest	TRUE	1.00	1446.97	2.08	1448.05	20.00	34.44	20.00	20.01	J-2324	(N/A)	17.19	J-1198
3076 4610	J-1659 J-2422	Forest Forest	TRUE TRUE	1.00 1.00	1449.53 1449.71	1.08 1.88	1449.61 1450.59	20.00 20.00	20.02 20.00	20.00 20.00	20.25 20.06	J-1657 J-1704	(N/A) (N/A)	16.94 17.18	J-1198 J-1198
3074	J-1658	Forest	TRUE	1.00	1450.05	2.08	1451.14	20.00	20.00	20.00	20.22	J-1657	(N/A)	16.94	J-1198
294	J-151	Lakes	TRUE	1.00	1450.30	1.20	1450.49	20.00	43.78	20.00	20.05	J-2323	(N/A)	17.23	J-1198
293 4609	J-150 J-2421	Lakes Forest	TRUE TRUE	1.00 1.00	1450.31 1451.19	1.20 1.68	1450.50 1451.87	20.00 20.00	43.64 20.10	20.00 20.00	20.05 20.01	J-2323 J-1704	(N/A) (N/A)	17.23 17.18	J-1198 J-1198
3073	J-1657	Forest	TRUE	1.00	1453.15	2.28	1454.44	20.00	20.00	20.00	20.09	J-1659	(N/A)	16.94	J-1198
605 5606	J-346 J-2989	Lakes Lakes	TRUE TRUE	1.00 1.00	1453.18 1453.23	1.20 5.42	1453.38 1457.64	20.00 20.00	44.46 43.90	20.00 20.00	20.05 20.05	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3269	J-1777	Forest	TRUE	1.00	1453.49	1.08	1453.57	20.00	22.81	20.00	20.00	J-3953	(N/A)	17.20	J-1198
3270 2175	J-1778 J-1157	Forest Forest	TRUE TRUE	1.00 1.00	1453.49 1456.95	1.08 1.48	1453.57 1457.43	20.00 20.00	21.36 20.00	20.00 20.00	20.00 22.48	J-3953 J-2913	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
4161	J-2234	Forest	TRUE	1.00	1457.85	1.48	1458.33	20.00	40.13	20.00	20.00	J-2070	(N/A)	16.94	J-1198
6639	J-3592	Forest	TRUE	1.00	1457.85	1.48	1458.33	20.00	38.33	20.00	20.00	J-2070	(N/A)	16.94	J-1198
5364 7016	J-2851 J-3813	Forest Forest	TRUE TRUE	1.00 1.00	1459.71 1460.31	1.08 1.08	1459.79 1460.39	20.00 20.00	20.01 107.73	20.00 20.00	20.13 20.00	J-1224 J-3438	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
1212	J-635	Forest	TRUE	1.00	1460.31	1.08	1460.39	20.00	111.73	20.00	20.00	J-3438	(N/A)	17.19	J-1198
4479 7120	J-2346 J-3871	Forest Forest	TRUE TRUE	1.00 1.00	1460.70 1460.78	1.88 1.08	1461.58 1460.85	20.00 20.00	20.02 20.00	20.00 20.00	20.05 20.06	J-3871 J-2345	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
4478	J-2345	Forest	TRUE	1.00	1461.33	1.88	1462.21	20.00	20.02	20.00	20.01	J-3871	(N/A)	17.18	J-1198
2287	J-1224	Forest	TRUE	1.00	1461.34	2.08	1462.42	20.00	20.00	20.00	20.36	J-2851	(N/A)	17.19	J-1198
7682 7878	J-4086 J-4137	Lakes Forest	TRUE TRUE	1.00 1.00	1462.22 1463.18	1.29 1.88	1462.51 1464.06	20.00 20.00	20.00 20.01	20.00 20.00	21.68 21.60	J-3250 J-1370	(N/A) (N/A)	17.23 17.20	J-1198 J-1198
1777	J-910	Forest	TRUE	1.00	1464.27	1.88	1465.15	20.00	24.76	20.00	20.00	J-858	(N/A)	17.18	J-1198
5717 5302	J-3054 J-2814	Forest Forest	TRUE TRUE	1.00 1.00	1466.36 1466.55	2.08 1.48	1467.45 1467.03	20.00 20.00	20.01 20.00	20.00 20.00	20.70 20.99	J-3053 J-1754	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
2331	J-1250	Forest	TRUE	1.00	1470.56	2.28	1471.84	20.00	20.00	20.00	20.08	J-2814	(N/A)	17.20	J-1198
3232 5632	J-1754 J-3004	Forest Forest	TRUE TRUE	1.00 1.00	1470.97 1471.02	1.28 1.08	1471.25 1471.10	20.00 20.00	20.62 20.00	20.00 20.00	20.05 20.61	J-2814 J-1483	(N/A) (N/A)	17.20 17.19	J-1198 J-1198
5022	J-3004 J-2655	Forest	TRUE	1.00	1471.02	1.68	1471.88	20.00	38.82	20.00	20.01	J-1463 J-2324	(N/A)	17.19	J-1198
5021	J-2654	Forest	TRUE	1.00	1471.20	1.48	1471.68	20.00	38.89	20.00	20.01	J-2324	(N/A)	17.19	J-1198
5229 5230	J-2772 J-2773	Forest Forest	TRUE TRUE	1.00 1.00	1471.33 1471.33	1.08 1.08	1471.41 1471.41	20.00 20.00	22.52 21.84	20.00 20.00	20.00 20.00	J-2839 J-2839	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
7381	J-3986	Forest	TRUE	1.00	1472.07	1.08	1472.15	20.00	20.02	20.00	20.57	J-3985	(N/A)	17.20	J-1198
2550 6780	J-1369 J-3675	Forest	TRUE TRUE	1.00 1.00	1472.97 1473.49	1.28 2.88	1473.25 1475.37	20.00 20.00	20.46 20.01	20.00 20.00	20.03 21.05	J-1370 J-3674	(N/A) (N/A)	17.20 17.18	J-1198 J-1198
6984	J-3075 J-3794	Forest Forest	TRUE	1.00	1473.49	1.68	1474.18	20.00	20.00	20.00	20.88	J-1635	(N/A)	17.13	J-1198
5139	J-2721	Forest	TRUE	1.00	1473.53	1.08	1473.61	20.00	20.02	20.00	20.10	J-1370	(N/A)	17.20	J-1198
5716 4859	J-3053 J-2560	Forest Forest	TRUE TRUE	1.00 1.00	1473.73 1473.76	1.68 1.28	1474.41 1474.04	20.00 20.00	20.19 33.71	20.00 20.00	20.04 20.00	J-3054 J-3063	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
4860	J-2561	Forest	TRUE	1.00	1473.76	1.08	1473.84	20.00	33.24	20.00	20.00	J-3063	(N/A)	17.20	J-1198
4552 7266	J-2388 J-3942	Forest Forest	TRUE TRUE	1.00 1.00	1473.85 1474.41	1.08 1.68	1473.93 1475.09	20.00 20.00	20.02 20.01	20.00 20.00	20.27 20.22	J-3942 J-2388	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
. 200	0 0072	. 51051	0L			00		20.00	20.01	20.00		0 2000	(///)	0	0

Node	Node		Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
5138 4551	J-2720 J-2387	Forest Forest	TRUE TRUE	1.00 1.00	1474.52 1476.57	1.08 1.08	1474.59 1476.65	20.00 20.00	20.44 20.12	20.00 20.00	20.03 20.05	J-1370 J-3942	(N/A) (N/A)	17.20 17.18	J-1198 J-1198
7380	J-3985	Forest	TRUE	1.00	1477.41	2.08	1478.49	20.00	20.17	20.00	20.05	J-3986	(N/A)	17.20	J-1198
3347 2745	J-1821 J-1483	Lakes Forest	TRUE TRUE	1.00 1.00	1477.43 1477.51	1.72 2.08	1478.14 1478.59	20.00 20.00	20.65 20.12	20.00 20.00	20.04 20.05	J-1822 J-3004	(N/A) (N/A)	17.23 17.19	J-1198 J-1198
4866	J-2564	Forest	TRUE	1.00	1478.24	1.48	1478.72	20.00	20.02	20.00	20.48	J-1709	(N/A)	17.18	J-1198
2538 1290	J-1362 J-670	Stewartsville Lakes	TRUE TRUE	1.00 1.00	1480.31 1481.68	1.26 1.20	1480.57 1481.88	20.00 20.00	20.03 51.84	20.00 20.00	28.65 20.04	J-676 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6269	J-3374	Lakes	TRUE	1.00	1481.69	1.20	1481.89	20.00	50.95	20.00	20.04	J-2323	(N/A)	17.23	J-1198
5697 7196	J-3042 J-3908	Forest Forest	TRUE TRUE	1.00 1.00	1481.93 1482.78	1.48 1.08	1482.40 1482.86	20.00 20.00	20.00 20.03	20.00 20.00	20.58 20.19	J-996 J-3909	(N/A) (N/A)	17.02 17.18	J-1198 J-1198
7197	J-3909	Forest	TRUE	1.00	1482.96	1.08	1483.04	20.00	20.03	20.00	20.01	J-3908	(N/A)	17.18	J-1198
3157 6226	J-1709 J-3348	Forest Lakes	TRUE TRUE	1.00 1.00	1483.35 1484.05	1.68 1.20	1484.03 1484.25	20.00 20.00	20.13 20.00	20.00 20.00	20.04 20.12	J-2564 J-3906	(N/A) (N/A)	17.18 17.23	J-1198 J-1198
7693	J-4090	Forest	TRUE	1.00	1484.29	1.08	1484.36	20.00	20.02	20.00	20.44	J-4089	(N/A)	17.20	J-1198
6225 7481	J-3347 J-4022	Lakes Forest	TRUE TRUE	1.00 1.00	1484.62 1485.10	1.20 2.28	1484.82 1486.38	20.00 20.00	20.95 20.32	20.00 20.00	20.06 20.04	J-3906 J-1370	(N/A) (N/A)	17.23 17.20	J-1198 J-1198
3038	J-1634	Forest	TRUE	1.00	1485.15	1.08	1485.23	20.00	20.00	20.00	20.17	J-1635	(N/A)	17.13	J-1198
3807 7058	J-2073 J-3836	Forest Forest	TRUE TRUE	1.00 1.00	1485.31 1485.31	1.88 1.28	1486.19 1485.59	20.00 20.00	26.15 23.05	20.00 20.00	20.00 20.00	J-2072 J-2072	(N/A) (N/A)	17.10 17.10	J-1198 J-1198
5504	J-2930	Forest	TRUE	1.00	1485.50	2.48	1486.99	20.00	20.04	20.00	20.61	J-1672	(N/A)	17.08	J-1198
6061 6779	J-3249 J-3674	Lakes Forest	TRUE TRUE	1.00 1.00	1486.06 1486.26	1.63 1.08	1486.69 1486.34	20.00 20.00	20.00 20.22	20.00 20.00	20.62 20.03	J-3250 J-3675	(N/A) (N/A)	17.23 17.18	J-1198 J-1198
3097	J-1672	Forest	TRUE	1.00	1486.48	1.48	1486.95	20.00	20.00	20.00	20.39	J-2930	(N/A)	17.08	J-1198
7661 3039	J-4081 J-1635	Forest Forest	TRUE TRUE	1.00 1.00	1486.77 1487.90	3.29 1.28	1489.05 1488.17	20.00 20.00	21.46 20.00	20.00 20.00	20.00 20.03	J-3675 J-1634	(N/A) (N/A)	17.18 17.13	J-1198 J-1198
3408	J-1854	Forest	TRUE	1.00	1487.91	1.28	1488.19	20.00	25.86	20.00	20.00	J-2113	(N/A)	15.40	J-1198
6956 7543	J-3778 J-4045	Forest Forest	TRUE TRUE	1.00 1.00	1487.91 1488.12	1.68 1.08	1488.59 1488.20	20.00 20.00	24.97 20.03	20.00 20.00	20.00 20.39	J-2113 J-2564	(N/A) (N/A)	15.40 17.18	J-1198 J-1198
5472	J-2913	Forest	TRUE	1.00	1488.41	1.08	1488.48	20.00	20.00	20.00	20.58	J-1883	(N/A)	17.19	J-1198
3096 4925	J-1671 J-2598	Forest Forest	TRUE TRUE	1.00 1.00	1488.45 1489.35	1.48 1.08	1488.92 1489.43	20.00 20.00	20.24 38.65	20.00 20.00	20.10 20.00	J-2930 J-3953	(N/A) (N/A)	17.08 17.20	J-1198 J-1198
4926	J-2599	Forest	TRUE	1.00	1489.35	1.08	1489.43	20.00	38.28	20.00	20.00	J-3953	(N/A)	17.20	J-1198
5835 5836	J-3121 J-3122	Forest Forest	TRUE TRUE	1.00 1.00	1489.45 1489.45	1.08 1.08	1489.53 1489.53	20.00 20.00	21.48 20.92	20.00 20.00	20.00 20.00	J-2280 J-2280	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
7692	J-4089	Forest	TRUE	1.00	1490.68	1.48	1491.15	20.00	20.01	20.00	20.24	J-4116	(N/A)	17.20	J-1198
4083 5685	J-2201 J-3035	Forest Forest	TRUE TRUE	1.00 1.00	1490.81 1490.81	1.68 2.08	1491.49 1491.90	20.00 20.00	24.72 24.46	20.00 20.00	20.00 20.00	J-2200 J-2200	(N/A) (N/A)	17.10 17.10	J-1198 J-1198
1670	J-840	Stewartsville	TRUE	1.00	1491.79	1.26	1492.05	20.00	25.32	20.00	20.05	J-2326	(N/A)	17.23	J-1198
3819 7188	J-2078 J-3904	Stewartsville Forest	TRUE TRUE	1.00 1.00	1492.17 1492.42	2.41 1.08	1493.58 1492.49	20.00 20.00	32.79 20.02	20.00 20.00	20.00 20.63	J-2326 J-2910	(N/A) (N/A)	17.23 16.93	J-1198 J-1198
5703 7272	J-3046 J-3945	Forest Forest	TRUE TRUE	1.00 1.00	1492.59 1492.59	1.28 2.08	1492.87	20.00 20.00	24.65 24.39	20.00 20.00	20.00 20.00	J-3063 J-3063	(N/A) (N/A)	17.20	J-1198 J-1198
5702	J-3945 J-3045	Forest	TRUE	1.00	1492.59	1.28	1493.67 1492.87	20.00	24.39	20.00	20.00	J-3063	(N/A)	17.20 17.20	J-1198
1911 3156	J-996 J-1708	Forest Forest	TRUE TRUE	1.00 1.00	1492.97 1493.25	2.08 1.08	1494.05 1493.32	20.00 20.00	20.03 20.10	20.00 20.00	20.00 20.04	J-3042 J-2564	(N/A) (N/A)	17.02 17.18	J-1198 J-1198
6483	J-3499	Forest	TRUE	1.00	1493.44	1.08	1493.52	20.00	44.70	20.00	20.04	J-3090	(N/A)	16.93	J-1198
6484 7784	J-3500 J-4116	Forest Forest	TRUE TRUE	1.00 1.00	1493.44 1494.19	1.08 1.28	1493.52 1494.47	20.00 20.00	44.91 20.02	20.00 20.00	20.00 23.22	J-3090 J-4089	(N/A) (N/A)	16.93 17.20	J-1198 J-1198
5465	J-2909	Forest	TRUE	1.00	1494.31	1.68	1494.99	20.00	20.17	20.00	20.04	J-3904	(N/A)	16.93	J-1198
5466 4157	J-2910 J-2232	Forest Stewartsville	TRUE TRUE	1.00 1.00	1494.38 1495.21	1.68 1.69	1495.06 1495.90	20.00 20.00	20.51 30.75	20.00 20.00	20.04 20.00	J-3904 J-1022	(N/A) (N/A)	16.93 17.23	J-1198 J-1198
5437	J-2893	Stewartsville	TRUE	1.00	1495.21	1.40	1495.61	20.00	29.77	20.00	20.00	J-1022	(N/A)	17.23	J-1198
3458 1846	J-1883 J-954	Forest Forest	TRUE TRUE	1.00 1.00	1495.54 1495.62	1.08 1.08	1495.62 1495.69	20.00 20.00	20.13 20.01	20.00 20.00	20.04 20.59	J-2913 J-1787	(N/A) (N/A)	17.19 17.20	J-1198 J-1198
3490	J-1902	Forest	TRUE	1.00	1497.27	1.48	1497.75	20.00	20.01	20.00	21.56	J-2280	(N/A)	17.20	J-1198
6391 5290	J-3446 J-2807	Forest Forest	TRUE TRUE	1.00 1.00	1498.18 1499.60	1.08 1.28	1498.26 1499.88	20.00 20.00	20.00 20.00	20.00 20.00	21.05 20.21	J-3447 J-1787	(N/A) (N/A)	17.19 17.20	J-1198 J-1198
6062	J-3250	Lakes	TRUE	1.00	1499.76	1.20	1499.96	20.00	20.00	20.00	20.00	J-3249	(N/A)	17.23	J-1198
5858 1211	J-3134 J-634	Forest Forest	TRUE TRUE	1.00 1.00	1500.05 1500.05	1.48 1.08	1500.53 1500.12	20.00 20.00	96.68 96.93	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3924 5470	J-2129	Forest	TRUE	1.00	1500.52	1.88	1501.40	20.00	26.03	20.00	20.00	J-2002	(N/A)	17.17	J-1198
7861	J-2912 J-4133	Forest Forest	TRUE TRUE	1.00 1.00	1500.53 1500.66	1.88 2.08	1501.41 1501.74	20.00 20.00	25.26 28.23	20.00 20.00	20.00 20.00	J-2002 J-2766	(N/A) (N/A)	17.17 17.18	J-1198 J-1198
3285 4319	J-1787 J-2286	Forest Lakes	TRUE TRUE	1.00 1.00	1501.82 1502.85	2.68 1.20	1503.50 1503.05	20.00 20.00	20.00 20.00	20.00 20.00	20.23 20.21	J-2807 J-3250	(N/A) (N/A)	17.20 17.23	J-1198 J-1198
8297	J-4172	Forest	TRUE	1.00	1502.96	2.28	1504.24	20.00	20.02	20.00	24.04	J-3204	(N/A)	17.18	J-1198
2935 3401	J-1587 J-1850	Lakes Forest	TRUE TRUE	1.00 1.00	1503.52 1505.06	1.20 1.48	1503.72 1505.53	20.00 20.00	20.00 57.44	20.00 20.00	25.51 20.00	J-1304 J-1197	(N/A) (N/A)	17.23 12.92	J-1198 J-1198
2292	J-1227	Forest	TRUE	1.00	1505.10	1.28	1505.38	20.00	53.62	20.00	20.00	J-1197	(N/A)	12.92	J-1198
5496 4888	J-2926 J-2577	Forest Forest	TRUE TRUE	1.00 1.00	1505.10 1508.02	1.28 1.08	1505.38 1508.09	20.00 20.00	52.92 43.43	20.00 20.00	20.00 20.00	J-1197 J-3063	(N/A) (N/A)	12.92 17.20	J-1198 J-1198
4889	J-2578	Forest	TRUE	1.00	1508.02	1.28	1508.30	20.00	42.96	20.00	20.00	J-3063	(N/A)	17.20	J-1198
1289 5915	J-669 J-3165	Lakes Lakes	TRUE TRUE	1.00 1.00	1508.42 1508.47	1.20 1.20	1508.62 1508.67	20.00 20.00	45.05 44.49	20.00 20.00	20.06 20.05	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6022	J-3225	Forest	TRUE	1.00	1509.44	1.28	1509.72	20.00	20.01	20.00	20.59	J-2220	(N/A)	17.17	J-1198
2924 4784	J-1582 J-2518	Forest Forest	TRUE TRUE	1.00 1.00	1511.44 1511.82	2.68 1.88	1513.13 1512.70	20.00 20.00	20.00 20.00	20.00 20.00	24.28 20.39	J-1197 J-2099	(N/A) (N/A)	17.20 16.92	J-1198 J-1198
6392	J-3447	Forest	TRUE	1.00	1513.02	2.28	1514.30	20.00	20.31	20.00	20.02	J-3446	(N/A)	17.19	J-1198
7137 4508	J-3880 J-2362	Forest Forest	TRUE TRUE	1.00 1.00	1513.06 1513.67	1.08 2.68	1513.13 1515.35	20.00 20.00	20.33 25.57	20.00 20.00	20.02 20.00	J-3446 J-858	(N/A) (N/A)	17.19 17.18	J-1198 J-1198
4509	J-2363	Forest	TRUE	1.00	1513.67	3.49	1516.16	20.00	25.23	20.00	20.00	J-858	(N/A)	17.18	J-1198 J-1198
2892 3980	J-1567 J-2154	Forest Forest	TRUE TRUE	1.00 1.00	1515.83 1515.93	5.28 1.48	1520.11 1516.41	20.00 20.00	20.92 20.00	20.00 20.00	20.07 20.03	J-2758 J-3916	(N/A) (N/A)	17.08 17.17	J-1198
7213 4130	J-3916 J-2220	Forest Forest	TRUE TRUE	1.00 1.00	1516.54 1517.54	1.28 1.88	1516.81 1518.42	20.00 20.00	20.00 20.00	20.00 20.00	20.14 20.05	J-2154 J-3225	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
4301	J-2283	Forest	TRUE	1.00	1517.66	1.28	1517.94	20.00	20.00	20.00	24.21	J-1197	(N/A)	17.13	J-1198
5540 7765	J-2951 J-4110	Forest Forest	TRUE TRUE	1.00 1.00	1518.13 1518.52	2.28 2.48	1519.41 1520.01	20.00 20.00	20.00 30.12	20.00 20.00	20.68 20.01	J-2107 J-4154	(N/A) (N/A)	17.18 17.17	J-1198 J-1198
2810	J-1521	Forest	TRUE	1.00	1518.57	1.88	1519.45	20.00	20.00	20.00	23.13	J-1846	(N/A)	17.18	J-1198
5741 3194	J-3068 J-1731	Forest Forest	TRUE TRUE	1.00 1.00	1518.99 1519.58	1.48 1.08	1519.47 1519.65	20.00 20.00	20.00 20.01	20.00 20.00	21.26 20.61	J-2225 J-1730	(N/A) (N/A)	16.92 17.20	J-1198 J-1198
4363	J-2300	Forest	TRUE	1.00	1519.73	2.08	1520.81	20.00	20.00	20.00	24.22	J-1197	(N/A)	17.14	J-1198
3367 2437	J-1832 J-1306	Forest Forest	TRUE TRUE	1.00 1.00	1520.18 1520.19	1.08 1.08	1520.26 1520.27	20.00 20.00	29.75 26.50	20.00 20.00	20.00 20.00	J-610 J-610	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
5088	J-2693	Forest	TRUE	1.00	1520.19	1.08	1520.27	20.00	26.21	20.00	20.00	J-610	(N/A)	17.17	J-1198
2438	J-1307	Forest	TRUE	1.00	1520.20	1.28	1520.48	20.00	22.12	20.00	20.00	J-610	(N/A)	17.17	J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
3863 3489	J-2099 J-1901	Forest Forest	TRUE TRUE	1.00 1.00	1520.59 1521.11	1.68 1.08	1521.27 1521.19	20.00 20.00	20.01 23.47	20.00 20.00	20.00 20.00	J-2518 J-2280	(N/A) (N/A)	16.92 17.20	J-1198 J-1198
4139	J-2225	Forest	TRUE	1.00	1522.43	1.28	1522.71	20.00	20.77	20.00	20.10	J-3068	(N/A)	16.92	J-1198
6854 4118	J-3718 J-2215	Forest Forest	TRUE TRUE	1.00 1.00	1524.34 1525.83	2.48 2.48	1525.82 1527.32	20.00 20.00	20.00 47.46	20.00 20.00	20.66 20.00	J-2153 J-3200	(N/A) (N/A)	17.20 17.18	J-1198 J-1198
6347	J-3420	Forest	TRUE	1.00	1526.76	1.68	1527.44	20.00	20.00	20.00	20.58	J-899	(N/A)	17.20	J-1198
3878 6862	J-2107 J-3723	Forest Forest	TRUE TRUE	1.00 1.00	1527.01 1527.55	2.08 1.28	1528.09 1527.83	20.00 20.00	20.19 20.02	20.00 20.00	20.03 20.31	J-2951 J-3722	(N/A) (N/A)	17.17 17.18	J-1198 J-1198
3193	J-1730	Forest	TRUE	1.00	1527.85	1.08	1527.92	20.00	20.01	20.00	20.25	J-1731	(N/A)	17.20	J-1198
6850 6861	J-3716 J-3722	Forest Forest	TRUE TRUE	1.00 1.00	1528.25 1530.48	1.88 1.08	1529.13 1530.56	20.00 20.00	20.00 20.02	20.00 20.00	21.06 20.77	J-2223 J-3723	(N/A) (N/A)	17.20 17.18	J-1198 J-1198
1758	J-898	Forest	TRUE	1.00	1531.74	2.28	1533.02	20.00	20.61	20.00	20.06	J-899	(N/A)	17.20	J-1198
2575 2192	J-1383 J-1168	Forest Forest	TRUE TRUE	1.00 1.00	1531.93 1532.05	4.29 1.88	1535.22 1532.93	20.00 20.00	20.86 21.51	20.00 20.00	20.00 20.00	J-1382 J-1167	(N/A) (N/A)	17.17 17.19	J-1198 J-1198
3974	J-2153	Forest	TRUE	1.00	1533.77	1.88	1534.65	20.00	20.00	20.00	20.32	J-3718	(N/A)	17.20	J-1198
5984 2795	J-3204 J-1513	Forest Forest	TRUE TRUE	1.00 1.00	1534.09 1535.18	1.08 1.08	1534.17 1535.26	20.00 20.00	20.00 20.01	20.00 20.00	20.73 20.63	J-3203 J-1714	(N/A) (N/A)	17.17 16.92	J-1198 J-1198
4410	J-2316	Forest	TRUE	1.00	1535.72	4.29	1539.01	20.00	23.48	20.00	20.00	J-4124	(N/A)	17.17	J-1198
7476 6719	J-4020 J-3639	Stewartsville Forest	TRUE TRUE	1.00 1.00	1536.02 1537.49	4.28 1.08	1539.30 1537.57	20.00 20.00	20.00 20.01	20.00 20.00	21.42 20.29	J-2374 J-1714	(N/A) (N/A)	17.23 16.92	J-1198 J-1198
1257	J-653	Lakes	TRUE	1.00	1538.04	1.20	1538.24	20.00	44.80	20.00	20.06	J-2323	(N/A)	17.23	J-1198
6271 3721	J-3375 J-2030	Lakes Forest	TRUE TRUE	1.00 1.00	1538.14 1538.29	1.20 1.88	1538.34 1539.17	20.00 20.00	43.63 20.00	20.00 20.00	20.05 24.28	J-2323 J-1197	(N/A) (N/A)	17.23 17.20	J-1198 J-1198
3166	J-1714	Forest	TRUE	1.00	1539.48	1.28	1539.76	20.00	20.01	20.00	20.10	J-1513	(N/A)	16.92	J-1198
4136 5654	J-2223 J-3017	Forest Forest	TRUE TRUE	1.00 1.00	1539.68 1539.90	2.48 1.48	1541.16 1540.38	20.00 20.00	20.14 21.68	20.00 20.00	20.06 20.00	J-3716 J-1167	(N/A) (N/A)	17.20 17.19	J-1198 J-1198
5655	J-3018	Forest	TRUE	1.00	1539.90	1.48	1540.38	20.00	21.24	20.00	20.00	J-1167	(N/A)	17.19	J-1198
3436 4529	J-1870 J-2374	Forest Stewartsville	TRUE TRUE	1.00 1.00	1541.29 1542.69	2.88 1.11	1543.18 1542.81	20.00 20.00	20.00 20.40	20.00 20.00	20.39 20.08	J-1635 J-4020	(N/A) (N/A)	17.13 17.23	J-1198 J-1198
4530	J-2375	Stewartsville	TRUE	1.00	1542.72	1.11	1542.84	20.00	20.69	20.00	20.08	J-4020	(N/A)	17.23	J-1198
7060 7860	J-3837 J-4132	Forest Forest	TRUE TRUE	1.00 1.00	1543.12 1543.59	1.68 1.88	1543.80 1544.47	20.00 20.00	20.00 23.63	20.00 20.00	22.23 20.00	J-2208 J-3585	(N/A) (N/A)	17.09 17.18	J-1198 J-1198
4054	J-2186	Forest	TRUE	1.00	1545.19	1.88	1546.07	20.00	26.15	20.00	20.01	J-3174	(N/A)	17.17	J-1198
3424 4000	J-1863 J-2163	Forest Forest	TRUE TRUE	1.00 1.00	1547.74 1548.95	1.28 1.48	1548.02 1549.43	20.00 20.00	27.80 20.00	20.00 20.00	20.00 21.21	J-2113 J-1704	(N/A) (N/A)	15.28 17.17	J-1198 J-1198
6153	J-3304	Forest	TRUE	1.00	1549.18	1.68	1549.86	20.00	20.00	20.00	20.93	J-2048	(N/A)	17.17	J-1198
5448 6791	J-2899 J-3682	Forest Lakes	TRUE TRUE	1.00 1.00	1549.79	1.48 1.20	1550.27 1550.91	20.00 20.00	20.01 20.28	20.00 20.00	20.78 20.01	J-1511 J-1586	(N/A)	17.18 17.23	J-1198 J-1198
6790	J-3681	Lakes	TRUE	1.00	1550.71 1551.21	1.20	1551.41	20.00	20.28	20.00	20.00	J-1586	(N/A) (N/A)	17.23	J-1198
6565 1293	J-3548 J-672	Forest Forest	TRUE TRUE	1.00 1.00	1553.89 1553.89	1.08 1.08	1553.97 1553.97	20.00 20.00	71.49 72.18	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
5598	J-2984	Forest	TRUE	1.00	1554.57	1.68	1555.25	20.00	23.14	20.00	20.00	J-4154	(N/A)	17.17	J-1198
5599 5983	J-2985 J-3203	Forest	TRUE TRUE	1.00 1.00	1554.57 1554.74	1.88 1.48	1555.45 1555.22	20.00 20.00	22.53 20.09	20.00 20.00	20.00 20.02	J-4154 J-3204	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
3929	J-2132	Forest Forest	TRUE	1.00	1555.56	2.48	1557.04	20.00	23.06	20.00	20.02	J-4154	(N/A)	17.17	J-1198
2791	J-1511	Forest	TRUE	1.00	1555.67	1.08	1555.75	20.00	20.28	20.00	20.05	J-2899	(N/A)	17.18	J-1198
7721 2562	J-4098 J-1376	Forest Forest	TRUE TRUE	1.00 1.00	1556.11 1556.86	1.88 1.48	1556.99 1557.34	20.00 20.00	20.01 20.00	20.00 20.00	20.65 20.70	J-3008 J-1249	(N/A) (N/A)	17.19 17.10	J-1198 J-1198
5639	J-3008	Forest	TRUE	1.00	1557.04	1.08	1557.11	20.00	20.00	20.00	20.93	J-3007	(N/A)	17.19	J-1198
3754 3680	J-2048 J-2007	Forest Forest	TRUE TRUE	1.00 1.00	1559.51 1560.49	2.28 1.48	1560.79 1560.97	20.00 20.00	20.29 21.90	20.00 20.00	20.03 20.04	J-3304 J-2208	(N/A) (N/A)	17.17 17.09	J-1198 J-1198
3984	J-2156	Forest	TRUE	1.00	1562.18	2.88	1564.06	20.00	20.00	20.00	21.32	J-2131	(N/A)	17.17	J-1198
3843 6248	J-2090 J-3362	Forest Forest	TRUE TRUE	1.00 1.00	1562.48 1562.56	1.48 1.28	1562.96 1562.84	20.00 20.00	20.00 20.00	20.00 20.00	23.87 21.48	J-2987 J-3363	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
3143	J-1701	Forest	TRUE TRUE	1.00	1563.68	1.88	1564.56	20.00	20.00	20.00	20.46	J-1700	(N/A)	17.17	J-1198
5452 4061	J-2901 J-2189	Forest Forest	TRUE	1.00 1.00	1564.73 1567.21	1.08 1.48	1564.81 1567.69	20.00 20.00	20.00 27.15	20.00 20.00	20.69 20.00	J-1650 J-4154	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
6559	J-3544	Forest	TRUE	1.00	1567.47	3.89	1570.36	20.00	22.83	20.00	20.00	J-1382	(N/A) (N/A)	17.17	J-1198
6560 594	J-3545 J-340	Forest Lakes	TRUE TRUE	1.00 1.00	1567.47 1567.51	1.28 1.20	1567.75 1567.70	20.00 20.00	22.01 50.16	20.00 20.00	20.00 20.04	J-1382 J-2323	(N/A)	17.17 17.23	J-1198 J-1198
6265 5638	J-3372 J-3007	Lakes Forest	TRUE TRUE	1.00 1.00	1567.54 1568.89	1.20 1.48	1567.74 1569.37	20.00 20.00	48.63 20.35	20.00 20.00	20.04 20.02	J-2323 J-3008	(N/A) (N/A)	17.23 17.19	J-1198 J-1198
5446	J-2898	Forest	TRUE	1.00	1568.89	1.48	1569.37	20.00	20.33	20.00	20.02	J-887	(N/A)	17.19	J-1198
2260 6099	J-1208 J-3272	Forest	TRUE TRUE	1.00 1.00	1569.22	2.08 1.08	1570.30	20.00 20.00	20.72	20.00	20.03 20.37	J-887 J-2146	(N/A) (N/A)	17.19	J-1198 J-1198
356	J-191	Forest Lakes	TRUE	1.00	1570.67 1571.07	1.20	1570.75 1571.27	20.00	20.00 48.88	20.00 20.00	20.04	J-2323	(N/A)	17.17 17.23	J-1198
355 3062	J-190 J-1650	Lakes Forest	TRUE TRUE	1.00 1.00	1571.08 1571.45	1.20 1.08	1571.28 1571.53	20.00 20.00	48.73 20.00	20.00 20.00	20.04 20.22	J-2323 J-2901	(N/A) (N/A)	17.23 17.17	J-1198 J-1198
3779	J-2059	Forest	TRUE	1.00	1575.00	5.50	1579.49	20.00	20.00	20.00	24.15	J-1197	(N/A)	17.07	J-1198
2348 8459	J-1259 J-4181	Forest Forest	TRUE TRUE	1.00 1.00	1575.35 1575.35	1.08 1.08	1575.42 1575.42	20.00 20.00	20.00 20.00	20.00 20.00	20.00 20.00	J-4181 J-4182	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
8461	J-4182	Forest	TRUE	1.00	1575.35	1.08	1575.42	20.00	20.00	20.00	20.00	J-4181	(N/A)	17.17	J-1198
8457 8471	J-4180 J-4187	Forest Forest	TRUE TRUE	1.00 1.00	1575.35 1575.35	1.08 1.08	1575.42 1575.42	20.00 20.00	20.00 20.00	20.00 20.00	20.00 20.00	J-4181 J-4181	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
3061	J-1649	Forest	TRUE	1.00	1576.13	1.08	1576.21	20.00	20.24	20.00	20.00	J-2901	(N/A)	17.17	J-1198
2158 5426	J-1146 J-2887	Forest Forest	TRUE TRUE	1.00 1.00	1576.91 1577.15	1.08 1.08	1576.99 1577.22	20.00 20.00	20.00 20.00	20.00 20.00	20.57 20.62	J-2887 J-1770	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
6550	J-3538	Forest	TRUE	1.00	1577.45	2.68	1579.13	20.00	33.40	20.00	20.02	J-2366	(N/A)	17.17	J-1198
6551 6321	J-3539 J-3404	Forest Forest	TRUE TRUE	1.00 1.00	1577.47 1577.73	1.68 1.88	1578.15 1578.61	20.00 20.00	32.66 20.02	20.00 20.00	20.01 20.50	J-2366 J-3405	(N/A) (N/A)	17.17 17.19	J-1198 J-1198
5538	J-2950	Forest	TRUE	1.00	1577.76	1.48	1578.24	20.00	20.01	20.00	20.86	J-1414	(N/A)	17.18	J-1198
3532 6302	J-1925 J-3393	Forest Forest	TRUE TRUE	1.00 1.00	1578.80 1579.65	1.88 1.68	1579.68 1580.33	20.00 20.00	20.10 23.03	20.00 20.00	20.02 20.00	J-2146 J-3174	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
6303	J-3394	Forest	TRUE	1.00	1579.68	1.48	1580.16	20.00	22.19	20.00	20.00	J-3174	(N/A)	17.17	J-1198
2729 6573	J-1473 J-3553	Forest Forest	TRUE TRUE	1.00 1.00	1579.76 1579.76	2.08 2.68	1580.84 1581.44	20.00 20.00	25.59 24.41	20.00 20.00	20.00 20.00	J-3362 J-3362	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
6358	J-3427	Forest	TRUE	1.00	1579.76	1.88	1580.64	20.00	24.40	20.00	20.00	J-3362	(N/A)	17.17	J-1198
6572	J-3552 J-3363	Forest	TRUE TRUE	1.00	1579.76	1.08 1.68	1579.83 1580.44	20.00	23.52 20.74	20.00 20.00	20.00	J-3362 J-3362	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
6249 3142	J-3363 J-1700	Forest Forest	TRUE	1.00 1.00	1579.76 1581.17	1.68	1581.24	20.00 20.00	20.74	20.00	20.00 20.21	J-3362 J-1701	(N/A)	17.17	J-1198 J-1198
3790 3257	J-2064	Forest	TRUE TRUE	1.00 1.00	1581.24	1.68 2.68	1581.92	20.00	23.57	20.00	20.00	J-1044	(N/A)	16.90	J-1198
3257 2476	J-1770 J-1328	Forest Forest	TRUE	1.00	1583.25 1583.35	1.68	1584.93 1584.03	20.00 20.00	20.12 20.00	20.00 20.00	20.06 24.16	J-2887 J-1197	(N/A) (N/A)	17.17 17.08	J-1198 J-1198
4449 1305	J-2328 J-676	Stewartsville Stewartsville	TRUE TRUE	1.00 1.00	1584.37 1585.11	1.26 1.69	1584.62 1585.80	20.00 20.00	20.00 20.00	20.00 20.00	20.04 20.03	J-676 J-2328	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2793	J-1512	Forest	TRUE	1.00	1586.04	2.08	1587.12	20.00	20.01	20.00	20.10	J-3405	(N/A)	17.19	J-1198
2629	J-1414	Forest	TRUE	1.00	1586.08	1.48	1586.55	20.00	20.32	20.00	20.03	J-2950	(N/A)	17.18	J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
7160 3527	J-3893 J-1923	Forest Forest	TRUE TRUE	1.00 1.00	1586.32 1586.32	1.08 1.28	1586.40 1586.60	20.00 20.00	29.31 29.09	20.00 20.00	20.00 20.00	J-1512 J-1512	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
6526	J-3524	Forest	TRUE	1.00	1586.32	2.48	1587.80	20.00	28.56	20.00	20.00	J-1512	(N/A)	17.19	J-1198
3528 6322	J-1924 J-3405	Forest Forest	TRUE TRUE	1.00 1.00	1586.33 1588.18	1.48 1.08	1586.81 1588.26	20.00 20.00	24.83 20.00	20.00 20.00	20.00 20.08	J-1512 J-1512	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
6146	J-3300	Forest	TRUE	1.00	1590.51	1.48	1590.99	20.00	20.00	20.00	20.45	J-1845	(N/A)	17.17	J-1198
3393 6234	J-1846 J-3353	Forest Lakes	TRUE TRUE	1.00 1.00	1591.10 1591.88	1.48 1.20	1591.57 1592.08	20.00 20.00	20.00 21.88	20.00 20.00	20.63 20.04	J-1521 J-3906	(N/A) (N/A)	17.17 17.23	J-1198 J-1198
6233	J-3352	Lakes	TRUE	1.00	1592.22	1.20	1592.42	20.00	22.43	20.00	20.00	J-3906	(N/A)	17.23	J-1198
2889 3290	J-1565 J-1790	Forest Forest	TRUE TRUE	1.00 1.00	1592.72 1594.72	2.08 1.28	1593.80 1594.99	20.00 20.00	20.36 20.00	20.00 20.00	20.00 21.41	J-3362 J-1789	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
6220	J-3344	Forest	TRUE	1.00	1596.83	1.48	1597.31	20.00	20.00	20.00	20.70	J-1398	(N/A)	17.07	J-1198
1840 3392	J-950 J-1845	Forest Forest	TRUE TRUE	1.00 1.00	1598.03 1601.00	1.48 1.08	1598.50 1601.08	20.00 20.00	20.00 20.00	20.00 20.00	21.43 20.25	J-951 J-3300	(N/A) (N/A)	17.00 17.17	J-1198 J-1198
1245	J-650	Lakes	TRUE	1.00	1601.40	1.20	1601.60	20.00	49.36	20.00	20.04	J-2323	(N/A)	17.23	J-1198
5331 2601	J-2832 J-1398	Lakes Forest	TRUE TRUE	1.00 1.00	1601.42 1601.87	1.20 1.68	1601.62 1602.55	20.00 20.00	48.96 20.00	20.00 20.00	20.04 20.08	J-2323 J-3344	(N/A) (N/A)	17.23 17.07	J-1198 J-1198
3561 4828	J-1942 J-2542	Forest	TRUE TRUE	1.00 1.00	1605.02 1605.36	1.48 1.28	1605.50 1605.64	20.00 20.00	20.00	20.00 20.00	22.23 20.01	J-1197 J-3174	(N/A) (N/A)	15.15 17.17	J-1198 J-1198
4829	J-2542 J-2543	Forest Forest	TRUE	1.00	1605.41	1.48	1605.89	20.00	24.60 23.98	20.00	20.00	J-3174 J-3174	(N/A)	17.17	J-1198
1292 6591	J-671 J-3563	Forest Forest	TRUE TRUE	1.00 1.00	1607.25 1607.25	1.08 1.08	1607.32 1607.32	20.00 20.00	76.61 75.89	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
5874	J-3143	Forest	TRUE	1.00	1615.04	1.08	1615.11	20.00	20.00	20.00	20.81	J-1904	(N/A)	17.17	J-1198
4516 5234	J-2367 J-2775	Forest Forest	TRUE TRUE	1.00 1.00	1615.45 1616.02	1.88 1.28	1616.33 1616.30	20.00 20.00	20.12 20.47	20.00 20.00	20.06 20.05	J-1470 J-3722	(N/A) (N/A)	17.17 17.18	J-1198 J-1198
2724	J-1470	Forest	TRUE	1.00	1616.03	2.68	1617.72	20.00	20.01	20.00	20.33	J-1471	(N/A)	17.17	J-1198
3119 3120	J-1686 J-1687	Forest Forest	TRUE TRUE	1.00 1.00	1616.55 1616.55	1.08 1.08	1616.63 1616.63	20.00 20.00	21.41 20.95	20.00 20.00	20.00 20.00	J-3722 J-3722	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
6362	J-3429	Forest	TRUE	1.00	1617.71	3.09	1619.79	20.00	20.00	20.00	20.75	J-2204	(N/A)	17.17	J-1198
7069 4936	J-3842 J-2605	Forest Forest	TRUE TRUE	1.00 1.00	1618.67 1619.83	2.68 1.28	1620.36 1620.11	20.00 20.00	20.00 21.31	20.00 20.00	22.26 20.00	J-3546 J-3204	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
4937	J-2606	Forest	TRUE	1.00	1619.84	1.08	1619.91	20.00	20.90	20.00	20.00	J-3204	(N/A)	17.17	J-1198
3907 2487	J-2121 J-1334	Forest Forest	TRUE TRUE	1.00 1.00	1623.08 1623.35	2.28 1.08	1624.36 1623.43	20.00 20.00	20.00 29.90	20.00 20.00	24.16 20.00	J-1197 J-1446	(N/A) (N/A)	17.09 17.18	J-1198 J-1198
6319	J-3403	Forest	TRUE	1.00	1623.35	1.28	1623.63	20.00	29.24	20.00	20.00	J-1446	(N/A)	17.18	J-1198
6802 7819	J-3688 J-4125	Forest Forest	TRUE TRUE	1.00 1.00	1625.22 1625.55	2.88 2.28	1627.10 1626.83	20.00 20.00	20.02 22.01	20.00 20.00	20.91 20.00	J-3174 J-3174	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
6020	J-3224	Forest	TRUE	1.00	1626.40	1.08	1626.47	20.00	51.04	20.00	20.00	J-3200	(N/A)	17.18	J-1198
6019 3786	J-3223 J-2062	Forest Forest	TRUE TRUE	1.00 1.00	1626.40 1628.62	1.08 1.28	1626.47 1628.90	20.00 20.00	51.48 21.00	20.00 20.00	20.00 20.00	J-3200 J-2951	(N/A) (N/A)	17.18 17.17	J-1198 J-1198
3646	J-1988	Forest	TRUE	1.00	1629.17	1.48	1629.65	20.00	64.79	20.00	20.00	J-2045	(N/A)	14.69	J-1198
1752 6442	J-894 J-3476	Forest Forest	TRUE TRUE	1.00 1.00	1629.31 1629.98	1.88 1.68	1630.19 1630.66	20.00 20.00	21.12 20.00	20.00 20.00	20.00 21.52	J-895 J-2216	(N/A) (N/A)	17.20 17.17	J-1198 J-1198
4244 4923	J-2262 J-2597	Forest	TRUE TRUE	1.00 1.00	1630.14	3.49 1.08	1632.62 1630.21	20.00 20.00	24.71	20.00 20.00	20.00 20.00	J-2261 J-2261	(N/A) (N/A)	17.08 17.08	J-1198 J-1198
3533	J-1926	Forest Forest	TRUE	1.00	1630.14 1632.31	1.48	1630.21	20.00	24.47 23.02	20.00	20.00	J-3174	(N/A)	17.08	J-1198
7501 5623	J-4028 J-2998	Forest Forest	TRUE TRUE	1.00 1.00	1632.45 1632.48	3.09 1.88	1634.54 1633.36	20.00 20.00	29.38 24.13	20.00 20.00	20.00 20.00	J-858 J-858	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
5624	J-2999	Forest	TRUE	1.00	1632.48	1.88	1633.36	20.00	23.69	20.00	20.00	J-858	(N/A)	17.17	J-1198
8064 7724	J-4164 J-4099	Forest Forest	TRUE TRUE	1.00 1.00	1632.58 1632.59	2.28 2.28	1633.86 1633.87	20.00 20.00	24.88 23.08	20.00 20.00	20.00 20.00	J-3008 J-3008	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3649	J-1990	Forest	TRUE	1.00	1633.81	1.28	1634.09	20.00	20.00	20.00	23.39	J-1599	(N/A)	17.09	J-1198
3791 5172	J-2065 J-2740	Forest Forest	TRUE TRUE	1.00 1.00	1634.06 1634.08	1.48 1.48	1634.54 1634.55	20.00 20.00	21.98 22.08	20.00 20.00	20.03 20.03	J-1044 J-1044	(N/A) (N/A)	16.89 16.89	J-1198 J-1198
3494	J-1904	Forest	TRUE	1.00	1634.14	2.48	1635.62	20.00	20.16	20.00	20.00	J-3143	(N/A)	17.17	J-1198
4089 5907	J-2204 J-3161	Forest Forest	TRUE TRUE	1.00 1.00	1637.55 1638.00	2.28 3.49	1638.83 1640.49	20.00 20.00	20.00 20.00	20.00 20.00	20.05 20.64	J-3429 J-2032	(N/A) (N/A)	17.17 17.16	J-1198 J-1198
4941	J-2608	Forest	TRUE	1.00	1638.23	1.88	1639.11	20.00	20.00	20.00	20.45	J-2096	(N/A)	17.17	J-1198
3970 1613	J-2150 J-805	Forest Forest	TRUE TRUE	1.00 1.00	1639.44 1641.17	1.48 1.08	1639.92 1641.24	20.00 20.00	20.01 20.37	20.00 20.00	20.76 20.06	J-2919 J-806	(N/A) (N/A)	17.17 17.07	J-1198 J-1198
4110	J-2211	Forest	TRUE	1.00	1641.31	1.68	1641.99	20.00	20.00	20.00	24.17	J-1197	(N/A)	17.09	J-1198
3289 5484	J-1789 J-2920	Forest Forest	TRUE TRUE	1.00 1.00	1641.58 1645.00	1.48 1.48	1642.06 1645.48	20.00 20.00	20.00 20.01	20.00 20.00	20.04 20.45	J-1790 J-2919	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
4267	J-2270 J-2216	Forest	TRUE TRUE	1.00 1.00	1645.25	2.08 1.88	1646.33 1646.48	20.00 20.00	20.67	20.00 20.00	20.00 20.00	J-3688 J-3476	(N/A) (N/A)	17.17	J-1198 J-1198
4120 7576	J-4054	Forest Forest	TRUE	1.00	1645.60 1645.80	1.08	1645.88	20.00	20.64 20.58	20.00	20.00	J-3204	(N/A)	17.17 17.17	J-1198
4728 4729	J-2487 J-2488	Stewartsville Stewartsville		1.00 1.00	1645.83 1645.87	1.11 1.40	1645.95 1646.27	20.00 20.00	21.92 22.29	20.00 20.00	20.06 20.06	J-4020 J-4020	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3725	J-2032	Forest	TRUE	1.00	1646.88	1.08	1646.95	20.00	20.01	20.00	20.04	J-3161	(N/A)	17.16	J-1198
7644 3855	J-4077 J-2096	Forest Forest	TRUE TRUE	1.00 1.00	1647.05 1647.21	1.28 1.88	1647.33 1648.09	20.00 20.00	20.00 20.05	20.00 20.00	21.66 20.04	J-1467 J-2608	(N/A) (N/A)	17.08 17.17	J-1198 J-1198
3464	J-1886	Forest	TRUE	1.00	1648.56	1.48	1649.04	20.00	22.57	20.00	20.00	J-2692	(N/A)	17.17	J-1198
5665 7133	J-3024 J-3878	Forest Forest	TRUE TRUE	1.00 1.00	1648.65 1649.13	1.48 1.08	1649.13 1649.21	20.00 20.00	20.00 30.55	20.00 20.00	20.55 20.00	J-2193 J-858	(N/A) (N/A)	17.19 17.17	J-1198 J-1198
7132	J-3877	Forest	TRUE	1.00	1649.13	1.48	1649.61	20.00	30.36	20.00	20.00	J-858	(N/A)	17.17	J-1198
6563 5165	J-3547 J-2736	Forest Forest	TRUE TRUE	1.00 1.00	1649.70 1650.67	1.48 1.08	1650.17 1650.75	20.00 20.00	20.00 20.00	20.00 20.00	20.84 20.06	J-3546 J-1966	(N/A) (N/A)	17.17 16.99	J-1198 J-1198
3603	J-1966	Forest	TRUE	1.00	1651.18	2.88	1653.06	20.00	20.00	20.00	20.46	J-2736	(N/A)	16.99	J-1198
390 389	J-213 J-212	Forest Forest	TRUE TRUE	1.00 1.00	1651.60 1651.60	1.08 1.08	1651.68 1651.68	20.00 20.00	52.55 52.21	20.00 20.00	20.00 20.00	J-3200 J-3200	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
4759	J-2504	Stewartsville	TRUE	1.00	1653.08	1.11	1653.20	20.00	82.73	20.00	20.00	J-676	(N/A)	17.23	J-1198
1000 4068	J-547 J-2193	Stewartsville Forest	TRUE TRUE	1.00 1.00	1653.09 1654.87	1.58 1.08	1653.66 1654.94	20.00 20.00	83.45 20.00	20.00 20.00	20.00 20.13	J-676 J-3024	(N/A) (N/A)	17.23 17.19	J-1198 J-1198
4821	J-2538	Forest	TRUE	1.00	1654.97	1.08	1655.05	20.00	20.00	20.00	20.12	J-3204	(N/A)	17.17	J-1198
4768 4769	J-2509 J-2510	Forest Forest	TRUE TRUE	1.00 1.00	1656.16 1656.17	1.28 1.68	1656.44 1656.84	20.00 20.00	70.87 70.33	20.00 20.00	20.00 20.00	J-1197 J-1197	(N/A) (N/A)	12.92 12.92	J-1198 J-1198
6197 4820	J-3330	Forest	TRUE TRUE	1.00 1.00	1657.70	1.28	1657.97	20.00 20.00	20.01	20.00	21.07 20.00	J-937	(N/A)	17.19	J-1198
6816	J-2537 J-3696	Forest Lakes	TRUE	1.00	1658.97 1659.74	1.28 1.20	1659.25 1659.94	20.00	20.39 20.54	20.00 20.00	20.03	J-3204 J-1587	(N/A) (N/A)	17.17 17.23	J-1198 J-1198
3555 4184	J-1938 J-2243	Lakes Forest	TRUE TRUE	1.00 1.00	1659.80 1662.31	1.20 2.28	1660.00 1663.59	20.00 20.00	21.27 21.00	20.00 20.00	20.03 20.00	J-1587 J-3174	(N/A) (N/A)	17.23 17.17	J-1198 J-1198
2720	J-1468	Forest	TRUE	1.00	1662.57	1.08	1662.64	20.00	23.59	20.00	20.00	J-1467	(N/A)	17.08	J-1198
6961 6962	J-3781 J-3782	Forest Forest	TRUE TRUE	1.00 1.00	1663.22 1663.23	1.08 1.08	1663.30 1663.30	20.00 20.00	26.97 25.09	20.00 20.00	20.00 20.00	J-2280 J-2280	(N/A) (N/A)	17.20 17.20	J-1198 J-1198
4057	J-2188	Lakes	TRUE	1.00	1663.66	1.72	1664.38	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.23	J-1198
4566 4565	J-2396 J-2395	Forest Forest	TRUE TRUE	1.00 1.00	1665.03 1665.03	1.48 1.08	1665.50 1665.10	20.00 20.00	24.10 23.71	20.00 20.00	20.00 20.00	J-1467 J-1467	(N/A) (N/A)	17.08 17.08	J-1198 J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
6103	J-3274	Forest	TRUE	1.00	1666.32	1.68	1667.00	20.00	22.51	20.00	20.00	J-3174	(N/A)	17.17	J-1198
6104	J-3275	Forest	TRUE	1.00	1666.34	1.48	1666.82	20.00	21.56	20.00	20.00	J-3174	(N/A)	17.17	J-1198
5602 3880	J-2987 J-2108	Forest Forest	TRUE TRUE	1.00 1.00	1667.91 1669.67	1.48 2.68	1668.39 1671.35	20.00 20.00	20.00 20.00	20.00 20.00	20.69 24.14	J-2986 J-1197	(N/A) (N/A)	17.17 17.06	J-1198 J-1198
5483	J-2919	Forest	TRUE	1.00	1669.91	1.28	1670.18	20.00	20.00	20.00	20.15	J-2920	(N/A)	17.17	J-1198
5959	J-3190	Forest	TRUE	1.00	1669.96	1.08	1670.04	20.00	20.01	20.00	20.65	J-2087	(N/A)	17.06	J-1198
6196 1819	J-3329 J-937	Forest Forest	TRUE TRUE	1.00 1.00	1670.68 1670.85	1.28 1.08	1670.96 1670.93	20.00 20.00	20.44 20.02	20.00 20.00	20.03 20.02	J-3330 J-3330	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
3324	J-1808	Forest	TRUE	1.00	1672.02	1.48	1672.50	20.00	20.00	20.00	21.64	J-2274	(N/A)	17.10	J-1198
2033 4638	J-1075 J-2438	Forest Stewartsville	TRUE	1.00 1.00	1673.24 1675.67	2.08 1.26	1674.32 1675.93	20.00 20.00	20.00 20.00	20.00 20.00	20.11 20.42	J-3204 J-676	(N/A) (N/A)	17.17 17.23	J-1198 J-1198
3679	J-2436 J-2006	Forest	TRUE	1.00	1676.81	2.28	1678.09	20.00	22.50	20.00	20.42	J-2208	(N/A)	17.23	J-1198
6562	J-3546	Forest	TRUE	1.00	1678.09	1.28	1678.36	20.00	20.00	20.00	20.13	J-3547	(N/A)	17.17	J-1198
3838 7413	J-2087 J-3997	Forest Forest	TRUE TRUE	1.00 1.00	1678.28 1679.69	1.48 2.88	1678.76 1681.58	20.00 20.00	20.00 20.00	20.00 20.00	20.13 20.04	J-3190 J-3546	(N/A) (N/A)	17.06 17.17	J-1198 J-1198
234	J-112	Stewartsville	TRUE	1.00	1679.99	1.11	1680.10	20.00	20.47	20.00	20.06	J-2438	(N/A)	17.23	J-1198
235 1885	J-113 J-980	Stewartsville Forest	TRUE	1.00 1.00	1680.00 1681.39	1.11 1.48	1680.11 1681.87	20.00 20.00	20.51 20.02	20.00 20.00	20.06 20.93	J-2438 J-1739	(N/A) (N/A)	17.23 16.87	J-1198 J-1198
6842	J-3712	Forest	TRUE	1.00	1681.96	1.48	1682.44	20.00	20.00	20.00	20.74	J-2029	(N/A)	17.19	J-1198
962	J-529	Forest	TRUE	1.00	1682.08	1.28	1682.36	20.00	50.80	20.00	20.00	J-3200	(N/A)	17.18	J-1198
2655 684	J-1430 J-394	Forest Stewartsville	TRUE	1.00 1.00	1682.47 1684.99	1.68 1.11	1683.15 1685.11	20.00 20.00	31.79 106.88	20.00 20.00	20.00 20.00	J-3425 J-676	(N/A) (N/A)	17.19 17.23	J-1198 J-1198
671	J-387	Stewartsville	TRUE	1.00	1684.99	1.11	1685.11	20.00	105.46	20.00	20.00	J-676	(N/A)	17.23	J-1198
6535 1022	J-3529 J-556	Stewartsville Stewartsville		1.00 1.00	1685.00 1685.00	1.11 1.26	1685.11 1685.26	20.00 20.00	105.74 99.83	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
4625	J-2430	Stewartsville		1.00	1685.00	1.11	1685.11	20.00	99.29	20.00	20.00	J-676	(N/A)	17.23	J-1198
815	J-461	Stewartsville Stewartsville		1.00	1685.00	1.26	1685.26 1685.69	20.00	94.83	20.00	20.00	J-676	(N/A) (N/A)	17.23	J-1198
672 1261	J-388 J-655	Stewartsville		1.00 1.00	1685.00 1685.02	1.69 1.26	1685.28	20.00 20.00	104.32 90.98	20.00 20.00	20.00 20.00	J-676 J-676	(N/A)	17.23 17.23	J-1198 J-1198
4644	J-2441	Stewartsville		1.00	1685.02	1.11	1685.13	20.00	90.74	20.00	20.00	J-676	(N/A)	17.23	J-1198
6857 6856	J-3720 J-3719	Stewartsville Stewartsville		1.00 1.00	1685.05 1685.05	2.36 1.40	1686.41 1685.45	20.00 20.00	74.82 73.59	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
4488	J-2351	Stewartsville	TRUE	1.00	1685.05	1.11	1685.16	20.00	64.42	20.00	20.00	J-676	(N/A)	17.23	J-1198
846 4156	J-477 J-2231	Stewartsville Stewartsville		1.00 1.00	1685.05 1685.05	1.40 1.42	1685.45 1685.47	20.00 20.00	64.64 70.41	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
623	J-357	Stewartsville		1.00	1685.06	1.26	1685.32	20.00	56.40	20.00	20.00	J-676	(N/A)	17.23	J-1198
624	J-358	Stewartsville		1.00	1685.06	1.11	1685.17	20.00	55.74	20.00	20.00	J-676	(N/A)	17.23	J-1198
4309 222	J-2284 J-104	Stewartsville Stewartsville		1.00 1.00	1685.07 1685.07	2.12 1.11	1686.19 1685.19	20.00 20.00	56.85 46.37	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
223	J-105	Stewartsville	TRUE	1.00	1685.07	1.11	1685.19	20.00	46.36	20.00	20.00	J-676	(N/A)	17.23	J-1198
341 340	J-181 J-180	Stewartsville Stewartsville		1.00 1.00	1685.07 1685.07	1.11 1.11	1685.19 1685.19	20.00 20.00	44.23 44.24	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
586	J-335	Stewartsville	TRUE	1.00	1685.07	1.11	1685.19	20.00	44.17	20.00	20.00	J-676	(N/A)	17.23	J-1198
4619 526	J-2427 J-298	Stewartsville Stewartsville		1.00 1.00	1685.08 1685.08	4.28 1.26	1688.36 1685.33	20.00 20.00	43.73 39.90	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
527	J-299	Stewartsville		1.00	1685.08	1.11	1685.19	20.00	39.40	20.00	20.00	J-676	(N/A)	17.23	J-1198
7054	J-3834	Stewartsville		1.00	1685.08	1.11	1685.19	20.00	35.74	20.00	20.00	J-676	(N/A)	17.23	J-1198
1087 827	J-584 J-468	Stewartsville Stewartsville		1.00 1.00	1685.08 1685.08	1.55 1.11	1685.62 1685.19	20.00 20.00	34.34 34.25	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
4520	J-2369	Stewartsville	TRUE	1.00	1685.08	1.40	1685.48	20.00	33.82	20.00	20.00	J-676	(N/A)	17.23	J-1198
321 322	J-168 J-169	Stewartsville Stewartsville		1.00 1.00	1685.08 1685.08	1.11 1.40	1685.19 1685.48	20.00 20.00	32.48 33.00	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5965	J-3193	Stewartsville		1.00	1685.08	1.26	1685.34	20.00	33.48	20.00	20.00	J-676	(N/A)	17.23	J-1198
4943	J-2609	Stewartsville		1.00	1685.08	1.11	1685.20	20.00	30.58	20.00	20.00	J-676	(N/A)	17.23	J-1198
1055 799	J-571 J-454	Stewartsville Stewartsville		1.00 1.00	1685.08 1685.08	1.55 1.40	1685.63 1685.49	20.00 20.00	30.83 35.98	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
798	J-453	Stewartsville		1.00	1685.08	1.55	1685.63	20.00	29.64	20.00	20.00	J-676	(N/A)	17.23	J-1198
4911 4543	J-2590 J-2382	Stewartsville Stewartsville		1.00 1.00	1685.08 1685.08	1.11 1.11	1685.20 1685.20	20.00 20.00	38.61 51.33	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
509	J-287	Stewartsville	TRUE	1.00	1685.08	1.26	1685.34	20.00	50.41	20.00	20.00	J-676	(N/A)	17.23	J-1198
4544 508	J-2383 J-286	Stewartsville Stewartsville		1.00 1.00	1685.08 1685.09	1.11 1.26	1685.20 1685.34	20.00 20.00	51.07 51.51	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1098	J-589	Stewartsville		1.00	1685.09	1.26	1685.34	20.00	39.21	20.00	20.00	J-676	(N/A)	17.23	J-1198
5546	J-2954	Stewartsville	TRUE TRUE	1.00 1.00	1685.09	1.11 3.29	1685.20	20.00 20.00	35.39 20.00	20.00 20.00	20.00 22.40	J-676	(N/A)	17.23	J-1198
2689 3243	J-1449 J-1761	Forest Forest	TRUE	1.00	1685.12 1687.39	1.28	1687.41 1687.67	20.00	20.00	20.00	21.07	J-1450 J-2339	(N/A) (N/A)	17.11 16.87	J-1198 J-1198
2435	J-1305	Forest	TRUE	1.00	1688.18	1.08	1688.26	20.00	20.64	20.00	20.05	J-806	(N/A)	17.07	J-1198
5802 5803	J-3103 J-3104	Forest Forest	TRUE TRUE	1.00 1.00	1689.98 1689.98	1.48 1.68	1690.46 1690.66	20.00 20.00	48.65 47.94	20.00 20.00	20.00 20.00	J-3200 J-3200	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
5601	J-2986	Forest	TRUE	1.00	1690.10	1.88	1690.98	20.00	20.00	20.00	20.00	J-2987	(N/A)	17.17	J-1198
2362 5563	J-1266 J-2964	Forest Forest	TRUE TRUE	1.00 1.00	1690.47 1691.92	1.48 2.28	1690.95 1693.21	20.00 20.00	27.35 22.75	20.00 20.00	20.00 20.00	J-1267 J-3997	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
5564	J-2965	Forest	TRUE	1.00	1691.94	2.88	1693.82	20.00	21.97	20.00	20.00	J-3997	(N/A)	17.17	J-1198
3720 3207	J-2029 J-1739	Forest Forest	TRUE TRUE	1.00 1.00	1693.28 1693.48	1.68 1.08	1693.96 1693.55	20.00 20.00	20.00 20.03	20.00 20.00	20.42 20.13	J-3712 J-980	(N/A) (N/A)	17.19 16.87	J-1198 J-1198
4777	J-2514	Forest	TRUE	1.00	1693.61	1.08	1693.69	20.00	20.00	20.00	20.13	J-2274	(N/A)	17.10	J-1198
3325	J-1809	Forest	TRUE	1.00	1695.64	1.08	1695.72	20.00	20.34	20.00	20.05	J-2274	(N/A)	17.10	J-1198
6609 6608	J-3574 J-3573	Forest Forest	TRUE TRUE	1.00 1.00	1695.85 1695.86	1.28 1.08	1696.13 1695.93	20.00 20.00	31.48 30.17	20.00 20.00	20.00 20.00	J-3425 J-3425	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
7068	J-3841	Forest	TRUE	1.00	1696.01	1.88	1696.89	20.00	20.59	20.00	20.02	J-3546	(N/A)	17.17	J-1198
3478 2821	J-1895 J-1528	Forest Forest	TRUE TRUE	1.00 1.00	1696.33 1697.37	1.88 2.68	1697.21 1699.05	20.00 20.00	25.87 22.01	20.00 20.00	20.00 20.02	J-2274 J-3546	(N/A) (N/A)	17.10 17.17	J-1198 J-1198
3751	J-2046	Forest	TRUE	1.00	1697.46	1.48	1697.94	20.00	20.00	20.00	24.15	J-1197	(N/A)	17.08	J-1198
3495 4268	J-1905 J-2271	Forest Forest	TRUE TRUE	1.00 1.00	1697.77 1698.81	2.08 2.68	1698.85 1700.49	20.00 20.00	20.07 37.55	20.00 20.00	20.02 20.00	J-3143 J-3174	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
5097	J-2698	Forest	TRUE	1.00	1700.26	1.48	1700.74	20.00	20.00	20.00	20.75	J-1482	(N/A)	17.17	J-1198
3683	J-2008	Forest	TRUE	1.00	1702.34	1.68	1703.02	20.00	20.00	20.00	22.14	J-2913	(N/A)	17.19	J-1198
4947 4948	J-2611 J-2612	Forest Forest	TRUE TRUE	1.00 1.00	1702.98 1702.98	2.28 2.28	1704.26 1704.26	20.00 20.00	27.81 27.56	20.00 20.00	20.02 20.02	J-3546 J-3546	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
412	J-227	Lakes	TRUE	1.00	1703.68	1.20	1703.88	20.00	85.25	20.00	20.04	J-2323	(N/A)	17.23	J-1198
7369 413	J-3981 J-228	Forest Lakes	TRUE TRUE	1.00 1.00	1704.19 1704.23	1.08 1.20	1704.27 1704.43	20.00 20.00	48.98 84.66	20.00 20.00	20.00 20.00	J-3904 J-2323	(N/A) (N/A)	16.87 17.23	J-1198 J-1198
6474	J-3494	Forest	TRUE	1.00	1704.93	1.68	1705.60	20.00	20.00	20.00	20.71	J-1425	(N/A)	16.98	J-1198
814 4970	J-460 J-2625	Stewartsville Stewartsville		1.00 1.00	1705.10 1705.11	1.26 1.11	1705.36 1705.22	20.00 20.00	92.17 91.09	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2737	J-1478	Forest	TRUE	1.00	1705.27	4.09	1708.36	20.00	20.00	20.00	23.99	J-1479	(N/A)	17.16	J-1198
550	J-313	Lakes	TRUE	1.00	1706.90	1.72	1707.62	20.00	88.48	20.00	20.05	J-2323	(N/A)	17.23	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
						(gpm)									
2743 6111	J-1482 J-3279	Forest Lakes	TRUE TRUE	1.00 1.00	1706.95 1706.97	2.48 1.29	1708.43 1707.25	20.00 20.00	20.25 87.17	20.00 20.00	20.06 20.05	J-2698 J-2323	(N/A) (N/A)	17.06 17.23	J-1198 J-1198
4468	J-2339	Forest	TRUE	1.00	1707.03	1.08	1707.11	20.00	20.00	20.00	20.25	J-1760	(N/A)	16.87	J-1198
2647 6654	J-1425 J-3601	Forest Forest	TRUE TRUE	1.00 1.00	1710.66 1712.62	1.88 1.48	1711.54 1713.10	20.00 20.00	20.00 20.02	20.00 20.00	20.25 20.53	J-3494 J-2026	(N/A) (N/A)	16.98 16.86	J-1198 J-1198
3242	J-1760	Forest	TRUE	1.00	1712.67	1.08	1712.75	20.00	20.01	20.00	20.00	J-2339	(N/A)	16.86	J-1198
6553 6554	J-3540 J-3541	Forest Forest	TRUE TRUE	1.00 1.00	1713.03 1713.03	2.68 1.28	1714.71 1713.30	20.00 20.00	37.15 36.25	20.00 20.00	20.02 20.02	J-3546 J-3546	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
7528	J-4039	Forest	TRUE	1.00	1713.95	1.08	1714.02	20.00	27.98	20.00	20.00	J-858	(N/A)	17.17	J-1198
5382 5383	J-2862 J-2863	Forest Forest	TRUE TRUE	1.00 1.00	1713.98 1713.98	1.08 1.88	1714.05 1714.86	20.00 20.00	22.98 22.20	20.00 20.00	20.00 20.00	J-858 J-858	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
2633	J-1417	Forest	TRUE	1.00	1713.98	1.88	1714.86	20.00	22.09	20.00	20.00	J-858	(N/A)	17.17	J-1198
4962 2967	J-2620 J-1600	Forest Forest	TRUE TRUE	1.00 1.00	1714.09 1714.11	1.48 2.48	1714.57 1715.60	20.00 20.00	24.09 25.92	20.00 20.00	20.03 20.03	J-1599 J-1599	(N/A) (N/A)	17.08 17.08	J-1198 J-1198
3313	J-1802	Forest	TRUE	1.00	1714.14	1.08	1714.21	20.00	24.57	20.00	20.03	J-1599	(N/A)	17.08	J-1198
2577 6242	J-1384 J-3358	Forest Forest	TRUE TRUE	1.00 1.00	1714.37 1714.37	1.08 1.28	1714.45 1714.65	20.00 20.00	62.41 58.55	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.86 16.86	J-1198 J-1198
7365 7368	J-3979 J-3980	Forest Forest	TRUE TRUE	1.00 1.00	1714.37 1714.37	1.08 1.08	1714.45 1714.45	20.00 20.00	59.04 49.90	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.86 16.86	J-1198 J-1198
6243	J-3359	Forest	TRUE	1.00	1714.37	1.08	1714.45	20.00	58.03	20.00	20.00	J-3904 J-3904	(N/A)	16.86	J-1198
7827 7828	J-4127 J-4128	Forest Forest	TRUE TRUE	1.00 1.00	1714.37 1714.37	1.68 1.28	1715.05 1714.65	20.00 20.00	55.00 56.88	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.86 16.86	J-1198 J-1198
7066	J-3840	Forest	TRUE	1.00	1714.37	1.08	1714.45	20.00	58.81	20.00	20.00	J-3904	(N/A)	16.86	J-1198
2753 4503	J-1488 J-2359	Forest Forest	TRUE TRUE	1.00 1.00	1714.37 1714.37	1.28 1.08	1714.65 1714.45	20.00 20.00	55.47 55.08	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.86 16.86	J-1198 J-1198
7709	J-4094	Forest	TRUE	1.00	1716.28	1.08	1716.36	20.00	42.02	20.00	20.02	J-3546	(N/A)	17.17	J-1198
1167 6088	J-613 J-3266	Forest Lakes	TRUE TRUE	1.00 1.00	1717.31 1718.81	1.48 1.20	1717.79 1719.01	20.00 20.00	47.37 25.40	20.00 20.00	20.00 20.00	J-3200 J-3906	(N/A) (N/A)	17.18 17.23	J-1198 J-1198
6087	J-3265	Lakes	TRUE	1.00	1718.81	1.20	1719.01	20.00	26.35	20.00	20.00	J-3906	(N/A)	17.23	J-1198
5337 3714	J-2835 J-2026	Forest Forest	TRUE TRUE	1.00 1.00	1719.16 1719.64	1.88 1.48	1720.04 1720.12	20.00 20.00	20.01 20.02	20.00 20.00	20.44 20.55	J-2836 J-3601	(N/A) (N/A)	17.19 16.86	J-1198 J-1198
4800	J-2527	Forest	TRUE	1.00	1721.74	1.08	1721.82	20.00	20.00	20.00	20.28	J-2127	(N/A)	17.16	J-1198
6624 7688	J-3583 J-4087	Forest Forest	TRUE TRUE	1.00 1.00	1722.52 1723.00	1.48 2.08	1723.00 1724.08	20.00 20.00	20.67 33.93	20.00 20.00	20.04 20.00	J-895 J-895	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
6623	J-3582	Forest	TRUE	1.00	1723.02	1.88	1723.90	20.00	22.11	20.00	20.00	J-895	(N/A)	17.19	J-1198
1784 7617	J-914 J-4068	Forest Forest	TRUE TRUE	1.00 1.00	1723.02 1725.33	1.48 1.48	1723.50 1725.81	20.00 20.00	21.06 20.01	20.00 20.00	20.00 20.09	J-895 J-2836	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
5338	J-2836	Forest	TRUE	1.00	1726.67	1.48	1727.14	20.00	20.01	20.00	20.23	J-2835	(N/A)	17.19	J-1198
3919 6292	J-2127 J-3387	Forest Forest	TRUE TRUE	1.00 1.00	1727.26 1727.57	2.88 2.68	1729.15 1729.26	20.00 20.00	20.01 23.47	20.00 20.00	20.22 20.00	J-2527 J-1167	(N/A) (N/A)	17.16 17.19	J-1198 J-1198
6293	J-3388	Forest	TRUE	1.00	1727.58	2.28	1728.86	20.00	22.83	20.00	20.00	J-1167	(N/A)	17.19	J-1198
3860 5414	J-2098 J-2880	Forest Forest	TRUE TRUE	1.00 1.00	1728.39 1728.41	1.88 2.08	1729.27 1729.49	20.00 20.00	32.19 31.57	20.00 20.00	20.01 20.01	J-2002 J-2002	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
7357	J-3977	Forest	TRUE	1.00	1728.69	1.08	1728.77	20.00	23.09	20.00	20.03	J-1942	(N/A)	14.87	J-1198
3560 1688	J-1941 J-852	Forest Forest	TRUE TRUE	1.00 1.00	1728.73 1729.57	1.08 1.08	1728.80 1729.64	20.00 20.00	23.47 20.00	20.00 20.00	20.03 21.22	J-1942 J-853	(N/A) (N/A)	14.87 17.06	J-1198 J-1198
3322	J-1807	Forest	TRUE	1.00	1731.04	1.28	1731.32	20.00	20.00	20.00	21.60	J-1806	(N/A)	16.86	J-1198
7460 7461	J-4013 J-4014	Forest Forest	TRUE TRUE	1.00 1.00	1731.08 1731.08	2.08 1.08	1732.16 1731.16	20.00 20.00	25.06 23.81	20.00 20.00	20.00 20.00	J-2280 J-2280	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
5902 6977	J-3158 J-3790	Forest Forest	TRUE TRUE	1.00 1.00	1732.80 1733.07	1.48 2.28	1733.28 1734.35	20.00 20.00	20.01 20.00	20.00 20.00	21.23 21.29	J-923 J-4139	(N/A) (N/A)	17.19 17.17	J-1198 J-1198
4680	J-2461	Forest	TRUE	1.00	1733.77	1.48	1734.25	20.00	44.08	20.00	20.00	J-3546	(N/A)	17.17	J-1198
4679 3655	J-2460 J-1994	Forest Forest	TRUE TRUE	1.00 1.00	1733.77 1734.57	1.48 1.48	1734.25 1735.05	20.00 20.00	44.69 20.00	20.00 20.00	20.00 24.05	J-3546 J-1197	(N/A) (N/A)	17.17 16.97	J-1198 J-1198
1156	J-609	Forest	TRUE	1.00	1735.54	1.68	1736.22	20.00	35.12	20.00	20.01	J-3438	(N/A)	17.18	J-1198
7529 5039	J-4040 J-2665	Forest Forest	TRUE TRUE	1.00 1.00	1735.55 1735.55	1.08 3.89	1735.63 1738.44	20.00 20.00	26.55 26.83	20.00 20.00	20.00 20.00	J-858 J-858	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
5840	J-3124	Forest	TRUE	1.00	1735.55	1.48	1736.03	20.00	26.58	20.00	20.00	J-858	(N/A)	17.17	J-1198
5040 5841	J-2666 J-3125	Forest Forest	TRUE TRUE	1.00 1.00	1735.56 1735.56	1.48 3.09	1736.04 1737.64	20.00 20.00	26.47 26.07	20.00 20.00	20.00 20.00	J-858 J-858	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
7614	J-4067	Forest	TRUE	1.00	1735.56	1.48	1736.04	20.00	24.69	20.00	20.00	J-858	(N/A)	17.17	J-1198
6127 6128	J-3289 J-3290	Forest Forest	TRUE TRUE	1.00 1.00	1735.57 1735.57	3.09 1.08	1737.65 1735.65	20.00 20.00	23.92 23.56	20.00 20.00	20.00 20.00	J-858 J-858	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
4328	J-2289	Forest	TRUE TRUE	1.00 1.00	1735.90	2.28	1737.18	20.00 20.00	20.00 20.00	20.00	24.12 21.13	J-1197 J-1786	(N/A) (N/A)	17.05	J-1198 J-1198
2735 7821	J-1477 J-4126	Forest Forest	TRUE	1.00	1737.09 1737.89	1.48 1.48	1737.57 1738.37	20.00	20.00	20.00 20.00	24.24	J-1766 J-1197	(N/A)	16.97 17.16	J-1198
6668 6669	J-3609 J-3610	Forest Forest	TRUE TRUE	1.00 1.00	1737.97 1738.02	1.48 1.08	1738.45 1738.09	20.00 20.00	35.22 34.21	20.00 20.00	20.01 20.01	J-3438 J-3438	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
6427	J-3467	Forest	TRUE	1.00	1738.68	1.08	1738.75	20.00	22.17	20.00	20.04	J-2113	(N/A)	14.84	J-1198
6426 3613	J-3466 J-1970	Forest Forest	TRUE TRUE	1.00 1.00	1738.68 1739.51	1.08 1.28	1738.75 1739.78	20.00 20.00	23.46 32.42	20.00 20.00	20.04 20.00	J-2113 J-2113	(N/A) (N/A)	14.84 14.84	J-1198 J-1198
1041	J-565	Forest	TRUE	1.00	1739.69	1.08	1739.77	20.00	35.35	20.00	20.02	J-3200	(N/A)	17.18	J-1198
6698 5506	J-3627 J-2931	Forest Forest	TRUE TRUE	1.00 1.00	1739.74 1739.79	1.08 2.08	1739.81 1740.87	20.00 20.00	34.70 25.61	20.00 20.00	20.01 20.00	J-3200 J-4124	(N/A) (N/A)	17.18 17.17	J-1198 J-1198
5507	J-2932	Forest	TRUE	1.00	1739.81	1.68	1740.49	20.00	25.12	20.00	20.00	J-4124	(N/A)	17.17	J-1198
1797 7938	J-923 J-4146	Forest Forest	TRUE TRUE	1.00 1.00	1743.80 1744.38	1.28 2.08	1744.08 1745.46	20.00 20.00	20.51 20.00	20.00 20.00	20.03 22.13	J-3158 J-2050	(N/A) (N/A)	17.19 17.17	J-1198 J-1198
5435	J-2892	Forest	TRUE	1.00	1746.47	1.68	1747.15	20.00	20.00	20.00	20.14	J-1786	(N/A)	16.97	J-1198
3283 3735	J-1786 J-2038	Forest Forest	TRUE TRUE	1.00 1.00	1747.82 1748.01	1.48 2.08	1748.30 1749.09	20.00 20.00	20.00 20.00	20.00 20.00	20.48 23.36	J-1477 J-1776	(N/A) (N/A)	16.97 17.19	J-1198 J-1198
6605	J-3571	Forest	TRUE	1.00	1749.39	1.48	1749.87	20.00	20.00	20.00	21.10	J-3572	(N/A)	16.97	J-1198
2541 6239	J-1364 J-3356	Forest Forest	TRUE TRUE	1.00 1.00	1749.93 1750.03	3.49 1.48	1752.42 1750.51	20.00 20.00	23.60 33.33	20.00 20.00	20.00 20.01	J-3722 J-3546	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
6240	J-3357	Forest	TRUE	1.00	1750.11	1.48	1750.58	20.00	32.23	20.00	20.01	J-3546	(N/A)	17.17	J-1198
4399 7448	J-2313 J-4008	Forest Forest	TRUE TRUE	1.00 1.00	1750.16 1751.25	1.08 2.68	1750.23 1752.93	20.00 20.00	42.96 32.74	20.00 20.00	20.00 20.01	J-3174 J-3546	(N/A) (N/A)	17.16 17.17	J-1198 J-1198
7911	J-4144	Forest	TRUE	1.00 1.00	1751.63	1.88	1752.51	20.00 20.00	21.52	20.00	20.00 20.00	J-3546	(N/A)	17.17	J-1198
6687 6688	J-3620 J-3621	Forest Forest	TRUE TRUE	1.00	1752.00 1752.01	1.68 1.68	1752.68 1752.69	20.00	42.76 41.78	20.00 20.00	20.00	J-3174 J-3174	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
3761 3588	J-2050 J-1957	Forest Forest	TRUE TRUE	1.00 1.00	1752.22 1752.52	3.09 1.08	1754.31 1752.60	20.00 20.00	20.00 20.00	20.00 20.00	22.44 21.84	J-3174 J-3174	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
998	J-546	Forest	TRUE	1.00	1756.01	1.68	1756.69	20.00	21.62	20.00	20.00	J-3200	(N/A)	17.18	J-1198
250 2622	J-123 J-1411	Forest Forest	TRUE TRUE	1.00 1.00	1757.22 1757.26	1.48 1.68	1757.70 1757.94	20.00 20.00	27.13 20.22	20.00 20.00	20.00 20.10	J-3438 J-3571	(N/A) (N/A)	17.18 16.97	J-1198 J-1198
249	J-122	Forest	TRUE	1.00	1757.36	1.08	1757.44	20.00	27.20	20.00	20.00	J-3438	(N/A)	17.18	J-1198
5210 6606	J-2760 J-3572	Forest Forest	TRUE TRUE	1.00 1.00	1757.37 1758.10	1.28 2.68	1757.65 1759.79	20.00 20.00	26.85 20.02	20.00 20.00	20.00 20.00	J-3438 J-3571	(N/A) (N/A)	17.18 16.97	J-1198 J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
7797 7416	J-4120 J-3998	Forest Forest	TRUE TRUE	1.00 1.00	1758.89 1758.95	3.29 1.48	1761.17 1759.43	20.00 20.00	36.66 39.72	20.00 20.00	20.01 20.01	J-3438 J-3438	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
7417	J-3999	Forest	TRUE	1.00	1758.97	1.08	1759.04	20.00	39.20	20.00	20.01	J-3438	(N/A)	17.18	J-1198
6759 7350	J-3662 J-3976	Forest Forest	TRUE TRUE	1.00 1.00	1759.01 1759.02	1.48 1.08	1759.48 1759.10	20.00 20.00	37.49 36.61	20.00 20.00	20.01 20.01	J-3438 J-3438	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
6760	J-3663	Forest	TRUE	1.00	1759.04	1.08	1759.12	20.00	36.03	20.00	20.01	J-3438	(N/A)	17.18	J-1198
6764 6765	J-3665 J-3666	Forest Forest	TRUE TRUE	1.00 1.00	1759.81 1759.81	1.88 1.48	1760.69 1760.29	20.00 20.00	33.95 32.32	20.00 20.00	20.00 20.00	J-895 J-895	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
5843	J-3126	Forest	TRUE	1.00	1760.41	1.28	1760.69	20.00	20.00	20.00	20.43	J-3200	(N/A)	17.18	J-1198
6925 6208	J-3761 J-3337	Forest Lakes	TRUE TRUE	1.00 1.00	1761.06 1762.03	1.48 1.20	1761.54 1762.23	20.00 20.00	20.00 78.70	20.00 20.00	22.31 20.00	J-2233 J-2323	(N/A) (N/A)	17.18 17.23	J-1198 J-1198
1180	J-618	Lakes	TRUE	1.00	1762.03	1.55	1762.57	20.00	80.16	20.00	20.00	J-2323	(N/A)	17.23	J-1198
5833 6469	J-3120 J-3491	Forest Forest	TRUE TRUE	1.00 1.00	1762.21 1763.93	1.48 1.28	1762.69 1764.21	20.00 20.00	20.00 20.00	20.00 20.00	20.86 21.04	J-2203 J-1485	(N/A) (N/A)	17.20 17.16	J-1198 J-1198
3321	J-1806	Forest	TRUE	1.00	1764.68	1.48	1765.16	20.00	20.00	20.00	20.53	J-1807	(N/A)	16.85	J-1198
2530 7010	J-1358 J-3810	Forest Forest	TRUE TRUE	1.00 1.00	1766.62 1767.20	1.48 1.68	1767.10 1767.88	20.00 20.00	20.00 20.00	20.00 20.00	24.18 21.53	J-1197 J-3809	(N/A) (N/A)	17.10 17.16	J-1198 J-1198
2698	J-1455	Forest	TRUE	1.00	1767.46	1.48	1767.94	20.00	21.47	20.00	20.00	J-1454	(N/A)	17.07	J-1198
5386 5385	J-2865 J-2864	Forest Forest	TRUE TRUE	1.00 1.00	1768.19 1768.21	1.88 1.88	1769.07 1769.09	20.00 20.00	31.81 30.90	20.00 20.00	20.00 20.00	J-3585 J-3585	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
6492	J-3504	Forest	TRUE	1.00	1769.37	2.28	1770.65	20.00	35.20	20.00	20.01	J-3200	(N/A)	17.18	J-1198
6493 4470	J-3505 J-2340	Forest Forest	TRUE TRUE	1.00 1.00	1769.41 1770.29	1.68 1.48	1770.09 1770.77	20.00 20.00	34.23 21.09	20.00 20.00	20.01 20.05	J-3200 J-1454	(N/A) (N/A)	17.18 17.07	J-1198 J-1198
4471	J-2341	Forest	TRUE	1.00	1770.34	2.28	1771.63	20.00	21.26	20.00	20.04	J-1454	(N/A)	17.07	J-1198
602 4087	J-345 J-2203	Forest Forest	TRUE TRUE	1.00 1.00	1771.38 1773.00	1.08 1.88	1771.46 1773.88	20.00 20.00	20.41 20.15	20.00 20.00	20.00 20.05	J-3200 J-3120	(N/A) (N/A)	17.18 17.20	J-1198 J-1198
4127	J-2218	Forest	TRUE	1.00	1773.15	2.28	1774.43	20.00	26.84	20.00	20.00	J-2219	(N/A)	17.19	J-1198
6787 6788	J-3679 J-3680	Forest Forest	TRUE TRUE	1.00 1.00	1773.90 1773.91	1.08 1.48	1773.98 1774.38	20.00 20.00	26.71 25.51	20.00 20.00	20.00 20.00	J-2219 J-2219	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
6160	J-3308	Forest	TRUE	1.00	1774.87	2.28	1776.15	20.00	30.08	20.00	20.01	J-3546	(N/A)	17.17	J-1198
6161 601	J-3309 J-344	Forest Forest	TRUE TRUE	1.00 1.00	1774.91 1776.26	1.88 1.68	1775.79 1776.94	20.00 20.00	29.32 21.36	20.00 20.00	20.01 20.00	J-3546 J-3200	(N/A) (N/A)	17.17 17.18	J-1198 J-1198
6644	J-3595	Forest	TRUE	1.00	1776.79	1.08	1776.87	20.00	75.19	20.00	20.00	J-3090	(N/A)	16.84	J-1198
6645 1576	J-3596 J-781	Forest Lakes	TRUE TRUE	1.00 1.00	1776.79 1777.77	1.08 1.20	1776.87 1777.97	20.00 20.00	72.78 20.00	20.00 20.00	20.00 20.70	J-3090 J-826	(N/A) (N/A)	16.84 17.23	J-1198 J-1198
473	J-265	Forest	TRUE	1.00	1777.78	1.28	1778.05	20.00	31.31	20.00	20.70	J-3438	(N/A)	17.18	J-1198
5178 3909	J-2743 J-2122	Forest Forest	TRUE TRUE	1.00 1.00	1777.79 1778.29	1.08 1.48	1777.87 1778.77	20.00 20.00	30.95 63.54	20.00 20.00	20.01 20.00	J-3438 J-1197	(N/A) (N/A)	17.18 12.92	J-1198 J-1198
7726	J-4100	Forest	TRUE	1.00	1778.29	1.48	1778.77	20.00	60.98	20.00	20.00	J-1197 J-1197	(N/A)	12.92	J-1198
5369 882	J-2854 J-496	Forest Stewartsville	TRUE TRUE	1.00 1.00	1778.38 1778.47	1.08 1.11	1778.46 1778.58	20.00 20.00	21.20 76.02	20.00 20.00	20.07 20.00	J-1378 J-676	(N/A) (N/A)	17.06 17.23	J-1198 J-1198
5187	J-2748	Stewartsville	TRUE	1.00	1778.47	1.26	1778.73	20.00	75.24	20.00	20.00	J-676	(N/A)	17.23	J-1198
2568 6976	J-1379 J-3789	Forest Forest	TRUE TRUE	1.00 1.00	1778.48 1778.91	1.08 1.88	1778.56 1779.79	20.00 20.00	21.61 20.09	20.00 20.00	20.06 20.02	J-1378 J-3790	(N/A) (N/A)	17.06 17.17	J-1198 J-1198
472	J-264	Forest	TRUE	1.00	1779.20	1.08	1779.79	20.00	30.86	20.00	20.02	J-3438	(N/A)	17.17	J-1198
7237 5767	J-3929	Forest Forest	TRUE	1.00	1779.21	1.68	1779.89	20.00	30.38	20.00	20.01	J-3438	(N/A)	17.18	J-1198
575	J-3083 J-329	Forest	TRUE TRUE	1.00 1.00	1780.41 1780.81	1.28 1.08	1780.68 1780.89	20.00 20.00	20.02 23.24	20.00 20.00	20.90 20.00	J-2142 J-3200	(N/A) (N/A)	17.19 17.18	J-1198 J-1198
5333 1864	J-2833 J-966	Forest Forest	TRUE TRUE	1.00 1.00	1780.82 1780.94	1.08 2.48	1780.90 1782.42	20.00 20.00	22.57 20.98	20.00 20.00	20.00 20.05	J-3200 J-967	(N/A) (N/A)	17.18 17.05	J-1198 J-1198
5460	J-2906	Forest	TRUE	1.00	1781.55	2.48	1783.03	20.00	20.96	20.00	20.03	J-4139	(N/A)	17.03	J-1198
3450	J-1878	Forest	TRUE TRUE	1.00	1781.90	1.48	1782.38	20.00	25.10	20.00	20.00	J-4139	(N/A)	17.17	J-1198
7886 3451	J-4139 J-1879	Forest Forest	TRUE	1.00 1.00	1781.96 1782.00	2.28 1.48	1783.24 1782.47	20.00 20.00	20.00 20.92	20.00 20.00	21.33 20.00	J-3546 J-4139	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
576 3554	J-330 J-1937	Forest Lakes	TRUE TRUE	1.00 1.00	1782.30 1783.32	1.88 1.20	1783.18 1783.52	20.00 20.00	23.33 22.82	20.00 20.00	20.00 20.02	J-3200 J-2286	(N/A) (N/A)	17.18 17.23	J-1198 J-1198
3955	J-2143	Forest	TRUE	1.00	1783.56	1.68	1784.24	20.00	20.03	20.00	24.14	J-1197	(N/A)	17.06	J-1198
4078 5813	J-2198 J-3109	Forest Forest	TRUE TRUE	1.00 1.00	1783.70 1783.70	1.28 1.48	1783.98 1784.18	20.00 20.00	43.87 43.26	20.00 20.00	20.00 20.00	J-2240 J-2240	(N/A) (N/A)	17.06 17.06	J-1198 J-1198
524	J-297	Forest	TRUE	1.00	1784.26	1.48	1784.74	20.00	35.45	20.00	20.00	J-941	(N/A)	17.16	J-1198
523 4548	J-296 J-2385	Forest Forest	TRUE TRUE	1.00 1.00	1786.42 1787.96	1.48 1.28	1786.90 1788.24	20.00 20.00	31.93 20.00	20.00 20.00	20.00 20.16	J-941 J-3885	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
3482	J-1897	Forest	TRUE	1.00	1788.01	1.48	1788.49	20.00	21.27	20.00	20.00	J-4181	(N/A)	17.16	J-1198
6693 7863	J-3624 J-4134	Forest Forest	TRUE TRUE	1.00 1.00	1788.96 1788.97	1.08 1.68	1789.03 1789.65	20.00 20.00	20.00 20.53	20.00 20.00	21.22 20.06	J-1867 J-3885	(N/A) (N/A)	17.05 17.16	J-1198 J-1198
4255	J-2265	Forest	TRUE	1.00	1789.45	2.48	1790.93	20.00	20.00	20.00	24.13	J-1197	(N/A)	17.05	J-1198
7146 4738	J-3885 J-2493	Forest Forest	TRUE TRUE	1.00 1.00	1789.65 1789.67	2.08 1.88	1790.73 1790.55	20.00 20.00	20.00 20.00	20.00 20.00	20.12 20.44	J-2386 J-638	(N/A) (N/A)	17.16 17.17	J-1198 J-1198
4549	J-2386	Forest	TRUE	1.00	1789.70	1.48	1790.17	20.00	20.00	20.00	20.00	J-3885	(N/A)	17.16	J-1198
5755 2503	J-3076 J-1343	Forest Forest	TRUE TRUE	1.00 1.00	1791.57 1792.52	1.88 1.28	1792.45 1792.79	20.00 20.00	20.00 20.01	20.00 20.00	20.59 23.92	J-2123 J-1197	(N/A) (N/A)	17.19 16.84	J-1198 J-1198
3102	J-1675	Forest	TRUE	1.00	1792.99	1.08	1793.07	20.00	38.58	20.00	20.00	J-2150	(N/A)	17.16	J-1198
3103 2748	J-1676 J-1485	Forest Forest	TRUE TRUE	1.00 1.00	1792.99 1793.43	1.68 1.28	1793.67 1793.70	20.00 20.00	37.91 20.05	20.00 20.00	20.00 20.03	J-2150 J-3491	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
1163	J-611	Forest	TRUE	1.00	1793.74	1.48	1794.22	20.00	27.95	20.00	20.00	J-3200	(N/A)	17.18	J-1198
5051 8088	J-2673 J-4167	Forest Forest	TRUE TRUE	1.00 1.00	1793.76 1794.14	1.28 1.88	1794.04 1795.02	20.00 20.00	27.37 20.00	20.00 20.00	20.00 24.14	J-3200 J-1197	(N/A) (N/A)	17.18 17.06	J-1198 J-1198
5652	J-3016	Lakes	TRUE	1.00	1794.50	1.20	1794.69	20.00	20.00	20.00	20.83	J-3015	(N/A)	17.23	J-1198
1033 6255	J-561 J-3366	Forest Forest	TRUE TRUE	1.00 1.00	1794.77 1794.81	1.68 1.68	1795.45 1795.49	20.00 20.00	31.34 29.98	20.00 20.00	20.01 20.01	J-3438 J-3438	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
6256	J-3367	Forest	TRUE	1.00	1794.84	1.28	1795.12	20.00	29.02	20.00	20.00	J-3438	(N/A)	17.18	J-1198
3952 6350	J-2142 J-3422	Forest Forest	TRUE TRUE	1.00 1.00	1795.24 1796.42	2.08 2.28	1796.32 1797.70	20.00 20.00	20.14 20.00	20.00 20.00	20.04 20.85	J-3083 J-3421	(N/A) (N/A)	17.19 17.16	J-1198 J-1198
3480	J-1896	Lakes	TRUE	1.00	1796.75	2.32	1798.07	20.00	20.00	20.00	26.49	J-1642	(N/A)	17.23	J-1198
7941 2527	J-4147 J-1356	Forest Forest	TRUE TRUE	1.00 1.00	1797.29 1797.29	2.48 1.48	1798.77 1797.77	20.00 20.00	23.77 20.01	20.00 20.00	20.00 24.23	J-2366 J-1197	(N/A) (N/A)	17.16 17.15	J-1198 J-1198
564	J-322	Lakes	TRUE	1.00	1797.36	1.46	1797.81	20.00	87.29	20.00	20.05	J-2323	(N/A)	17.23	J-1198
5887	J-3150 J-833	Lakes	TRUE TRUE	1.00	1797.42 1798.24	1.20 1.88	1797.62 1799.12	20.00 20.00	86.20 20.97	20.00 20.00	20.04	J-2323 J-832	(N/A) (N/A)	17.23 17.05	J-1198
1658 5549	J-833 J-2956	Forest Forest	TRUE	1.00 1.00	1798.24	1.88	1798.86	20.00	26.11	20.00	20.05 20.00	J-832 J-3204	(N/A)	17.05 17.16	J-1198 J-1198
5548	J-2955	Forest	TRUE TRUE	1.00 1.00	1798.38	1.68 1.88	1799.06	20.00 20.00	26.92 20.01	20.00	20.00 20.45	J-3204	(N/A)	17.16	J-1198
4682 5402	J-2462 J-2874	Forest Forest	TRUE	1.00	1798.40 1799.86	1.48	1799.28 1800.34	20.00	20.00	20.00 20.00	20.77	J-1934 J-2873	(N/A) (N/A)	17.05 17.18	J-1198 J-1198
4424 3430	J-2321 J-1867	Forest Forest	TRUE TRUE	1.00 1.00	1799.98 1800.36	1.88 1.28	1800.86 1800.64	20.00 20.00	20.00 20.00	20.00 20.00	21.00 20.00	J-3809 J-3624	(N/A) (N/A)	17.16 17.05	J-1198 J-1198
7538	J-4043	Forest	TRUE	1.00	1800.42	1.48	1800.89	20.00	39.21	20.00	20.02	J-3438	(N/A)	17.18	J-1198
2645	J-1424	Forest	TRUE	1.00	1800.45	1.48	1800.93	20.00	41.29	20.00	20.01	J-3438	(N/A)	17.18	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
6682	J-3617	Forest	TRUE	1.00	1800.50	1.88	1801.38	20.00	39.71	20.00	20.01	J-3438	(N/A)	17.18	J-1198
3180	J-1722	Lakes	TRUE	1.00	1800.90	1.20	1801.10	20.00	20.00	20.00	21.12	J-1723	(N/A)	17.23	J-1198
563 2425	J-321 J-1299	Lakes Lakes	TRUE TRUE	1.00 1.00	1801.32 1801.39	1.20 1.29	1801.52 1801.68	20.00 20.00	90.01 59.14	20.00 20.00	20.05 20.05	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3438	J-1871	Forest	TRUE	1.00	1801.75	1.48	1802.23	20.00	22.00	20.00	20.00	J-2050	(N/A)	17.16	J-1198
5721 2424	J-3056 J-1298	Forest Lakes	TRUE TRUE	1.00 1.00	1801.76 1802.05	1.48 1.20	1802.24 1802.25	20.00 20.00	21.37 55.01	20.00 20.00	20.00 20.00	J-2050 J-2323	(N/A) (N/A)	17.16 17.23	J-1198 J-1198
5651	J-3015	Lakes	TRUE	1.00	1803.55	1.37	1803.92	20.00	20.11	20.00	20.07	J-3016	(N/A)	17.23	J-1198
3911 3547	J-2123 J-1934	Forest Forest	TRUE TRUE	1.00 1.00	1804.16 1804.31	1.48 1.88	1804.63 1805.19	20.00 20.00	20.01 20.01	20.00 20.00	20.21 20.01	J-3076 J-2462	(N/A) (N/A)	17.19 17.05	J-1198 J-1198
3764	J-2051	Forest	TRUE	1.00	1804.65	1.28	1804.92	20.00	20.01	20.00	24.27	J-1197	(N/A)	17.19	J-1198
1221 400	J-638 J-219	Forest Forest	TRUE TRUE	1.00 1.00	1805.23 1805.90	1.28 1.88	1805.50 1806.78	20.00 20.00	20.03 27.09	20.00 20.00	20.02 20.00	J-2493 J-2493	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
401	J-220	Forest	TRUE	1.00	1805.91	1.48	1806.39	20.00	26.88	20.00	20.00	J-2493	(N/A)	17.17	J-1198
5267 921	J-2794 J-511	Forest Forest	TRUE TRUE	1.00 1.00	1805.94 1806.01	2.08 1.08	1807.03 1806.09	20.00 20.00	26.18 23.98	20.00 20.00	20.00 20.00	J-2493 J-2493	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
5444	J-2897	Forest	TRUE	1.00	1806.03	1.48	1806.51	20.00	23.39	20.00	20.00	J-2493	(N/A)	17.17	J-1198
930 5037	J-514 J-2664	Forest Forest	TRUE TRUE	1.00 1.00	1806.08 1806.08	1.08 1.68	1806.15 1806.76	20.00 20.00	21.15 20.62	20.00 20.00	20.00 20.00	J-2493 J-2493	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
710	J-408	Forest	TRUE	1.00	1806.14	1.68	1806.82	20.00	32.16	20.00	20.00	J-941	(N/A)	17.16	J-1198
881 6704	J-495 J-3630	Stewartsville Forest	TRUE	1.00 1.00	1806.14 1806.23	1.11 1.48	1806.25 1806.71	20.00 20.00	70.99 40.65	20.00 20.00	20.00 20.02	J-676 J-3438	(N/A) (N/A)	17.23 17.18	J-1198 J-1198
6705	J-3631	Forest	TRUE	1.00	1806.27	1.08	1806.35	20.00	39.76	20.00	20.02	J-3438	(N/A)	17.18	J-1198
4694 6375	J-2468 J-3437	Lakes Forest	TRUE TRUE	1.00 1.00	1806.53 1807.78	1.37 1.28	1806.90 1808.05	20.00 20.00	20.00 23.25	20.00 20.00	20.31 20.00	J-1722 J-2150	(N/A) (N/A)	17.23 17.16	J-1198 J-1198
6374	J-3436	Forest	TRUE	1.00	1807.85	1.68	1808.53	20.00	25.20	20.00	20.00	J-2150	(N/A)	17.16	J-1198
3181 3439	J-1723 J-1872	Lakes Forest	TRUE TRUE	1.00 1.00	1807.98 1808.54	2.06 2.08	1809.05 1809.62	20.00 20.00	20.19 23.05	20.00 20.00	20.11 20.00	J-1722 J-2050	(N/A) (N/A)	17.23 17.16	J-1198 J-1198
3856	J-2097	Forest	TRUE	1.00	1809.58	2.28	1810.86	20.00	26.61	20.00	20.00	J-2050 J-2150	(N/A)	17.16	J-1198
6514 4159	J-3517 J-2233	Forest Forest	TRUE TRUE	1.00 1.00	1809.94 1810.17	1.48 2.28	1810.42 1811.45	20.00 20.00	20.00 20.88	20.00 20.00	20.37 20.00	J-2236 J-3761	(N/A) (N/A)	17.19 17.18	J-1198 J-1198
6024	J-3226	Forest	TRUE	1.00	1811.68	1.88	1812.56	20.00	34.45	20.00	20.00	J-941	(N/A)	17.16	J-1198
444 515	J-247 J-291	Forest Lakes	TRUE TRUE	1.00 1.00	1811.68 1811.83	1.08 1.20	1811.76 1812.03	20.00 20.00	35.46 83.48	20.00 20.00	20.00 20.00	J-941 J-2323	(N/A) (N/A)	17.16 17.23	J-1198 J-1198
3492	J-1903	Lakes	TRUE	1.00	1812.00	2.41	1813.41	20.00	20.00	20.00	25.21	J-1896	(N/A)	17.23	J-1198
443 6771	J-246 J-3669	Forest Forest	TRUE TRUE	1.00 1.00	1812.81 1814.08	1.88 2.08	1813.69 1815.16	20.00 20.00	36.05 20.00	20.00 20.00	20.00 21.06	J-941 J-2114	(N/A) (N/A)	17.16 17.19	J-1198 J-1198
5401	J-2873	Forest	TRUE	1.00	1814.44	1.68	1815.12	20.00	20.00	20.00	20.03	J-2114 J-2874	(N/A)	17.19	J-1198
514 704	J-290 J-405	Lakes	TRUE TRUE	1.00 1.00	1814.51 1814.66	1.20 1.08	1814.70 1814.74	20.00 20.00	85.32 21.36	20.00 20.00	20.04 20.00	J-2323 J-3174	(N/A) (N/A)	17.23 17.16	J-1198 J-1198
6821	J-3699	Forest Forest	TRUE	1.00	1814.90	1.68	1815.58	20.00	20.00	20.00	21.36	J-1993	(N/A)	16.96	J-1198
6658 4166	J-3603 J-2236	Lakes Forest	TRUE TRUE	1.00 1.00	1815.09 1815.97	1.20 2.68	1815.29 1817.65	20.00 20.00	83.35 20.00	20.00 20.00	20.00 20.70	J-2323 J-3517	(N/A) (N/A)	17.23 17.19	J-1198 J-1198
7009	J-3809	Forest	TRUE	1.00	1816.45	1.68	1817.13	20.00	20.00	20.00	20.76	J-2321	(N/A)	17.19	J-1198
705 307	J-406	Forest	TRUE	1.00	1816.72	2.68	1818.41	20.00 20.00	20.85	20.00 20.00	20.00 20.00	J-3174	(N/A) (N/A)	17.16	J-1198
216	J-159 J-100	Forest Forest	TRUE TRUE	1.00 1.00	1817.49 1817.51	1.08 1.08	1817.57 1817.59	20.00	21.99 21.99	20.00	20.00	J-3174 J-3174	(N/A)	17.16 17.16	J-1198 J-1198
217	J-101 J-3186	Forest	TRUE TRUE	1.00 1.00	1817.52	1.08	1817.59	20.00	21.98	20.00 20.00	20.00	J-3174 J-3174	(N/A) (N/A)	17.16	J-1198
5951 290	J-3186 J-149	Forest Forest	TRUE	1.00	1817.52 1817.53	1.48 1.08	1818.00 1817.61	20.00 20.00	21.41 22.11	20.00	20.00 20.00	J-3174 J-3174	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
214	J-99	Forest	TRUE TRUE	1.00 1.00	1817.57	1.08	1817.65	20.00	21.94	20.00 20.00	20.00 20.00	J-3174	(N/A) (N/A)	17.16	J-1198
213 8519	J-98 J-4211	Forest Forest	TRUE	1.00	1817.57 1818.00	1.08 1.08	1817.65 1818.07	20.00 20.00	21.93 24.19	20.00	20.00	J-3174 J-3174	(N/A)	17.16 17.16	J-1198 J-1198
810 775	J-459 J-442	Forest Forest	TRUE TRUE	1.00 1.00	1818.01 1818.15	1.28 1.68	1818.28 1818.83	20.00 20.00	24.07 21.87	20.00 20.00	20.00 20.00	J-3174 J-3174	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
2498	J-1340	Forest	TRUE	1.00	1821.02	1.08	1821.09	20.00	20.00	20.00	24.27	J-1197	(N/A)	17.10	J-1198
877 3522	J-493 J-1920	Forest Forest	TRUE TRUE	1.00 1.00	1822.20 1822.68	1.08 1.48	1822.28 1823.16	20.00 20.00	48.21 40.39	20.00 20.00	20.01 20.00	J-941 J-941	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
5856	J-3133	Forest	TRUE	1.00	1822.68	1.88	1823.56	20.00	39.26	20.00	20.00	J-941	(N/A)	17.16	J-1198
4476 7932	J-2344 J-4145	Forest Forest	TRUE TRUE	1.00 1.00	1823.95 1824.05	1.48 1.08	1824.43 1824.12	20.00 20.00	20.00 44.78	20.00 20.00	20.22 20.01	J-1163 J-4116	(N/A) (N/A)	17.05 17.19	J-1198 J-1198
8415	J-4177	Forest	TRUE	1.00	1824.22	1.68	1824.89	20.00	24.52	20.00	20.00	J-4116	(N/A)	17.19	J-1198
6349 6999	J-3421 J-3803	Forest Forest	TRUE TRUE	1.00 1.00	1825.72 1826.20	3.49 1.68	1828.21 1826.88	20.00 20.00	20.00 20.04	20.00 20.00	20.12 21.79	J-3422 J-3804	(N/A) (N/A)	17.16 16.96	J-1198 J-1198
2184	J-1163	Forest	TRUE	1.00	1827.10	1.48	1827.58	20.00	20.00	20.00	20.05	J-2344	(N/A)	17.05	J-1198
3654 6905	J-1993 J-3749	Forest Forest	TRUE TRUE	1.00 1.00	1827.84 1828.68	1.68 3.09	1828.52 1830.76	20.00 20.00	20.08 20.00	20.00 20.00	20.06 21.42	J-3699 J-3914	(N/A) (N/A)	16.96 17.19	J-1198 J-1198
802	J-455	Forest	TRUE	1.00	1829.45	1.88	1830.33	20.00	24.42	20.00	20.01	J-3174	(N/A)	17.16	J-1198
872 8488	J-490 J-4196	Forest Forest	TRUE TRUE	1.00 1.00	1834.36 1834.82	1.08 2.08	1834.44 1835.90	20.00 20.00	58.10 47.65	20.00 20.00	20.01 20.00	J-941 J-941	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
8487	J-4195	Forest	TRUE	1.00	1834.82	2.68	1836.51	20.00	48.24	20.00	20.00	J-941	(N/A)	17.16	J-1198
3587 6338	J-1956 J-3415	Forest Forest	TRUE TRUE	1.00 1.00	1835.04 1837.28	2.28 2.68	1836.32 1838.96	20.00 20.00	26.71 25.94	20.00 20.00	20.01 20.01	J-3174 J-3174	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
4040	J-2180	Forest	TRUE	1.00	1837.30	1.68	1837.98	20.00	27.48	20.00	20.00	J-3174	(N/A)	17.16	J-1198
6337 3892	J-3414 J-2114	Forest Forest	TRUE TRUE	1.00 1.00	1837.60 1838.37	1.48 1.88	1838.08 1839.26	20.00 20.00	27.10 20.00	20.00 20.00	20.00 20.19	J-3174 J-3669	(N/A) (N/A)	17.16 17.19	J-1198 J-1198
5286	J-2805	Forest	TRUE	1.00	1838.63	1.28	1838.91	20.00	32.38	20.00	20.00	J-941	(N/A)	17.16	J-1198
1016 3990	J-554 J-2158	Forest Forest	TRUE TRUE	1.00 1.00	1838.64 1841.18	1.08 2.88	1838.71 1843.07	20.00 20.00	32.94 20.17	20.00 20.00	20.00 20.02	J-941 J-2008	(N/A) (N/A)	17.16 17.19	J-1198 J-1198
3716	J-2027	Forest	TRUE	1.00	1841.24	1.88	1842.13	20.00	20.00	20.00	24.13	J-1197	(N/A)	17.06	J-1198
3753 3470	J-2047 J-1890	Forest Forest	TRUE TRUE	1.00 1.00	1841.33 1843.69	2.08 4.69	1842.41 1847.39	20.00 20.00	26.49 21.78	20.00 20.00	20.00 20.00	J-2366 J-2033	(N/A) (N/A)	17.16 17.15	J-1198 J-1198
607	J-347	Forest	TRUE	1.00	1844.32	1.28	1844.59	20.00	56.29	20.00	20.01	J-941	(N/A)	17.16	J-1198
8069 4138	J-4165 J-2224	Forest Forest	TRUE TRUE	1.00 1.00	1844.32 1845.84	3.89 1.08	1847.21 1845.91	20.00 20.00	34.05 20.01	20.00 20.00	20.00 20.87	J-3174 J-2239	(N/A) (N/A)	17.16 16.82	J-1198 J-1198
7658	J-4080	Forest	TRUE	1.00	1846.06	1.08	1846.14	20.00	21.01	20.00	20.03	J-3804	(N/A)	16.95	J-1198
7000 3429	J-3804 J-1866	Forest Forest	TRUE TRUE	1.00 1.00	1846.09 1846.28	1.08 1.28	1846.17 1846.56	20.00 20.00	20.03 21.09	20.00 20.00	20.45 20.03	J-3803 J-3624	(N/A) (N/A)	16.95 17.04	J-1198 J-1198
7046	J-3829	Forest	TRUE	1.00	1847.39	2.28	1848.67	20.00	20.01	20.00	23.77	J-2083	(N/A)	17.04	J-1198
608 4668	J-348 J-2454	Forest Forest	TRUE TRUE	1.00 1.00	1847.54 1849.39	1.08 1.88	1847.61 1850.27	20.00 20.00	54.84 20.00	20.00 20.00	20.01 20.47	J-941 J-2453	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
4014	J-2169	Forest	TRUE	1.00	1850.86	2.08	1851.94	20.00	31.82	20.00	20.01	J-3200	(N/A)	17.17	J-1198
6959 6151	J-3780 J-3303	Forest Forest	TRUE TRUE	1.00 1.00	1851.02 1851.18	1.88 1.88	1851.90 1852.06	20.00 20.00	20.00 20.36	20.00 20.00	20.26 20.03	J-3174 J-3302	(N/A) (N/A)	17.16 17.04	J-1198 J-1198
6150	J-3302	Forest	TRUE	1.00	1851.54	2.48	1853.02	20.00	20.00	20.00	21.26	J-3303	(N/A)	17.04	J-1198
4174 1148	J-2239 J-607	Forest Lakes	TRUE TRUE	1.00 1.00	1853.19 1854.76	1.08 1.20	1853.27 1854.96	20.00 20.00	20.04 86.15	20.00 20.00	20.00 20.05	J-2224 J-2323	(N/A) (N/A)	16.82 17.23	J-1198 J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
4667	J-2453	Forest	TRUE	1.00	1855.24	3.09	1857.33	20.00	20.00	20.00	20.00	J-2454	(N/A)	17.16	J-1198
6656	J-3602	Lakes	TRUE	1.00	1855.40	1.20	1855.60	20.00	85.35	20.00	20.00	J-2323	(N/A)	17.23	J-1198
7852 6471	J-4131	Forest	TRUE TRUE	1.00	1855.64	1.68	1856.32	20.00	40.12	20.00	20.00	J-3174	(N/A) (N/A)	17.16	J-1198
6472	J-3492 J-3493	Forest Forest	TRUE	1.00 1.00	1855.78 1855.83	2.08 2.08	1856.86 1856.91	20.00 20.00	21.98 20.91	20.00 20.00	20.00 20.00	J-3174 J-3174	(N/A)	17.16 17.16	J-1198 J-1198
1018	J-555	Forest	TRUE	1.00	1856.06	1.48	1856.53	20.00	25.23	20.00	20.01	J-3174	(N/A)	17.16	J-1198
1787 6202	J-916 J-3333	Forest Forest	TRUE TRUE	1.00 1.00	1856.32 1856.42	1.08 1.68	1856.40 1857.10	20.00 20.00	21.27 22.78	20.00 20.00	20.00 20.00	J-917 J-3174	(N/A) (N/A)	17.19 17.16	J-1198 J-1198
6203	J-3334	Forest	TRUE	1.00	1856.45	1.88	1857.33	20.00	21.43	20.00	20.00	J-3174	(N/A)	17.16	J-1198
4868	J-2565 J-2710	Forest	TRUE TRUE	1.00 1.00	1856.87 1856.92	1.28 1.08	1857.14 1857.00	20.00 20.00	20.00 21.63	20.00 20.00	20.57 20.00	J-1463 J-3200	(N/A) (N/A)	17.20 17.17	J-1198 J-1198
5120 5121	J-2710	Forest Forest	TRUE	1.00	1856.93	1.08	1857.20	20.00	21.03	20.00	20.00	J-3200 J-3200	(N/A)	17.17	J-1198
558	J-318	Forest	TRUE	1.00	1858.16	1.08	1858.23	20.00	45.16	20.00	20.00	J-941	(N/A)	17.16	J-1198
7975 7209	J-4153 J-3914	Forest Forest	TRUE TRUE	1.00 1.00	1858.37 1858.84	2.68 1.28	1860.05 1859.12	20.00 20.00	33.29 20.00	20.00 20.00	20.00 20.28	J-3174 J-3749	(N/A) (N/A)	17.16 17.19	J-1198 J-1198
6507	J-3513	Forest	TRUE	1.00	1859.01	1.28	1859.29	20.00	34.14	20.00	20.00	J-3174	(N/A)	17.16	J-1198
6506 559	J-3512 J-319	Forest Forest	TRUE TRUE	1.00 1.00	1859.01 1860.61	1.88 1.08	1859.89 1860.68	20.00 20.00	35.17 42.95	20.00 20.00	20.00 20.00	J-3174 J-941	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
5406	J-2876	Lakes	TRUE	1.00	1861.41	1.20	1861.61	20.00	20.00	20.00	20.34	J-1896	(N/A)	17.23	J-1198
7728	J-4101	Forest	TRUE	1.00	1862.56	1.28	1862.83	20.00 20.00	20.00	20.00 20.00	21.36	J-3174	(N/A) (N/A)	17.16	J-1198
6958 4340	J-3779 J-2292	Forest Forest	TRUE TRUE	1.00 1.00	1862.93 1863.06	2.88 2.28	1864.81 1864.35	20.00	21.57 23.52	20.00	20.00 20.00	J-3174 J-3174	(N/A)	17.16 17.16	J-1198 J-1198
7619	J-4069	Forest	TRUE	1.00	1863.75	1.88	1864.63	20.00	39.90	20.00	20.01	J-3438	(N/A)	17.18	J-1198
6556 6557	J-3542 J-3543	Forest Forest	TRUE TRUE	1.00 1.00	1863.83 1863.88	1.68 1.48	1864.51 1864.35	20.00 20.00	40.95 39.35	20.00 20.00	20.01 20.01	J-3438 J-3438	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
3372	J-1835	Forest	TRUE	1.00	1863.90	2.08	1864.98	20.00	33.47	20.00	20.00	J-1044	(N/A)	16.82	J-1198
2607 6673	J-1402 J-3612	Forest Forest	TRUE TRUE	1.00 1.00	1863.92 1863.94	1.88 1.08	1864.80 1864.02	20.00 20.00	40.56 39.26	20.00 20.00	20.01 20.01	J-3438 J-3438	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
2597	J-1396	Forest	TRUE	1.00	1864.27	1.48	1864.74	20.00	20.00	20.00	21.73	J-1395	(N/A)	17.05	J-1198
3050 5439	J-1642 J-2894	Lakes Forest	TRUE TRUE	1.00 1.00	1864.74 1864.80	1.20 1.48	1864.94 1865.27	20.00 20.00	20.34 34.19	20.00 20.00	20.04 20.01	J-1896 J-3200	(N/A) (N/A)	17.23 17.17	J-1198 J-1198
5440	J-2895	Forest	TRUE	1.00	1864.81	1.48	1865.09	20.00	33.78	20.00	20.01	J-3200	(N/A)	17.17	J-1198
6906	J-3750	Forest	TRUE	1.00	1865.14	1.08	1865.22	20.00	20.17	20.00	20.00	J-3914	(N/A)	17.19	J-1198
8413 2488	J-4176 J-1335	Forest Forest	TRUE TRUE	1.00 1.00	1865.35 1865.81	1.08 1.68	1865.43 1866.49	20.00 20.00	20.00 30.88	20.00 20.00	24.27 20.00	J-1197 J-1446	(N/A) (N/A)	17.19 17.17	J-1198 J-1198
7561	J-4051	Forest	TRUE	1.00	1867.30	1.48	1867.78	20.00	27.91	20.00	20.00	J-3330	(N/A)	17.19	J-1198
6352 6353	J-3423 J-3424	Forest Forest	TRUE TRUE	1.00 1.00	1867.31 1867.31	1.08 1.48	1867.39 1867.79	20.00 20.00	26.36 25.16	20.00 20.00	20.00 20.00	J-3330 J-3330	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
4288	J-2277	Forest	TRUE	1.00	1868.41	3.09	1870.49	20.00	25.06	20.00	20.00	J-2080	(N/A)	17.16	J-1198
3051 5208	J-1643 J-2759	Lakes Forest	TRUE TRUE	1.00 1.00	1869.19 1869.37	1.89 1.88	1870.08 1870.25	20.00 20.00	20.29 20.01	20.00 20.00	20.04 20.45	J-1896 J-2116	(N/A) (N/A)	17.23 16.81	J-1198 J-1198
2711	J-1463	Forest	TRUE	1.00	1869.97	1.48	1870.45	20.00	20.01	20.00	20.00	J-2565	(N/A)	17.20	J-1198
2522 4816	J-1353 J-2535	Forest Forest	TRUE TRUE	1.00 1.00	1870.24 1872.08	5.09 1.68	1874.33 1872.76	20.00 20.00	20.00 20.99	20.00 20.00	24.23 20.01	J-1197 J-917	(N/A) (N/A)	17.15 17.19	J-1198 J-1198
3240	J-1759	Forest	TRUE	1.00	1872.14	1.48	1872.62	20.00	21.51	20.00	20.00	J-917	(N/A)	17.19	J-1198
6877	J-3732	Forest	TRUE	1.00	1872.35	2.28	1873.63	20.00	38.15	20.00	20.01	J-3438	(N/A)	17.18	J-1198
6878 1190	J-3733 J-623	Forest Stewartsville	TRUE TRUE	1.00 1.00	1872.40 1876.44	1.48 1.11	1872.88 1876.55	20.00 20.00	36.63 61.97	20.00 20.00	20.01 20.00	J-3438 J-676	(N/A) (N/A)	17.18 17.23	J-1198 J-1198
4894	J-2581	Stewartsville	TRUE	1.00	1876.44	1.11	1876.55	20.00	62.09	20.00	20.00	J-676	(N/A)	17.23	J-1198
3896 3758	J-2116 J-2049	Forest Forest	TRUE TRUE	1.00 1.00	1877.75 1879.51	1.88 1.28	1878.63 1879.79	20.00 20.00	20.01 20.00	20.00 20.00	20.23 24.11	J-2759 J-1197	(N/A) (N/A)	16.81 17.03	J-1198 J-1198
5773	J-3086	Forest	TRUE	1.00	1879.99	1.28	1880.26	20.00	20.00	20.00	20.72	J-3087	(N/A)	16.94	J-1198
5155 2169	J-2730 J-1153	Forest Forest	TRUE TRUE	1.00 1.00	1888.16 1890.96	1.88 1.48	1889.04 1891.43	20.00 20.00	20.01 20.00	20.00 20.00	20.55 20.04	J-2729 J-3087	(N/A) (N/A)	17.03 16.94	J-1198 J-1198
5774	J-3087	Forest	TRUE	1.00	1891.68	1.48	1892.16	20.00	20.00	20.00	20.14	J-3086	(N/A)	16.94	J-1198
7761 6818	J-4108 J-3697	Forest Forest	TRUE TRUE	1.00 1.00	1891.81 1891.83	2.08 1.48	1892.89 1892.31	20.00 20.00	34.63 33.25	20.00 20.00	20.00 20.00	J-4116 J-4116	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
7473	J-4018	Forest	TRUE	1.00	1891.84	1.68	1892.52	20.00	32.67	20.00	20.00	J-4116	(N/A)	17.19	J-1198
6819 7474	J-3698 J-4019	Forest Forest	TRUE TRUE	1.00 1.00	1891.84 1891.85	1.48 1.48	1892.32 1892.32	20.00 20.00	31.80 31.85	20.00 20.00	20.00 20.00	J-4116 J-4116	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
6713	J-3635	Forest	TRUE	1.00	1891.86	1.88	1892.74	20.00	31.78	20.00	20.00	J-4116	(N/A)	17.19	J-1198
6714 7716	J-3636	Forest	TRUE	1.00	1891.86	1.48	1892.34	20.00	30.42	20.00	20.00	J-4116	(N/A)	17.19	J-1198
7716	J-4097 J-4119	Forest Forest	TRUE TRUE	1.00 1.00	1891.87 1894.26	1.68 2.28	1892.55 1895.54	20.00 20.00	29.56 20.05	20.00 20.00	20.00 21.37	J-4116 J-3804	(N/A) (N/A)	17.19 16.94	J-1198 J-1198
6728	J-3644	Forest	TRUE	1.00	1894.35	1.28	1894.63	20.00	20.22	20.00	20.04	J-4119	(N/A)	16.94	J-1198
6729 7115	J-3645 J-3868	Forest Forest	TRUE TRUE	1.00 1.00	1894.46 1894.47	1.88 1.08	1895.34 1894.55	20.00 20.00	21.31 21.35	20.00 20.00	20.03 20.03	J-4119 J-4119	(N/A) (N/A)	16.94 16.94	J-1198 J-1198
891	J-500	Forest	TRUE	1.00	1895.03	1.88	1895.91	20.00	21.72	20.00	20.00	J-2919	(N/A)	17.16	J-1198
3829 7946	J-2083 J-4148	Forest Forest	TRUE TRUE	1.00 1.00	1895.18 1897.12	1.88 1.48	1896.06 1897.60	20.00 20.00	20.47 29.93	20.00 20.00	20.03 20.00	J-3829 J-3204	(N/A) (N/A)	17.03 17.16	J-1198 J-1198
5154	J-2729	Forest	TRUE	1.00	1897.51	1.48	1897.98	20.00	20.02	20.00	20.15	J-2730	(N/A)	17.03	J-1198
620 5709	J-355 J-3049	Forest Forest	TRUE TRUE	1.00 1.00	1898.02 1898.03	1.08 1.08	1898.10 1898.10	20.00 20.00	30.10 29.22	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
4558	J-2391	Forest	TRUE	1.00	1898.13	1.48	1898.60	20.00	20.55	20.00	20.04	J-2121	(N/A)	17.10	J-1198
3742	J-2042	Forest	TRUE	1.00	1898.24	1.48	1898.72	20.00	21.04	20.00	20.02	J-2121	(N/A)	17.05	J-1198
3828 4617	J-2082 J-2426	Forest Forest	TRUE TRUE	1.00 1.00	1899.44 1901.93	2.28 1.88	1900.72 1902.81	20.00 20.00	20.01 20.75	20.00 20.00	20.61 20.03	J-2729 J-2046	(N/A) (N/A)	17.03 17.05	J-1198 J-1198
3737	J-2039	Forest	TRUE	1.00	1902.04	1.68	1902.72	20.00	21.22	20.00	20.02	J-2046	(N/A)	17.05	J-1198
3546 3566	J-1933 J-1944	Forest Forest	TRUE TRUE	1.00 1.00	1907.92 1909.75	3.69 1.48	1910.61 1910.22	20.00 20.00	20.00 33.12	20.00 20.00	20.86 20.00	J-2462 J-2212	(N/A) (N/A)	17.03 17.05	J-1198 J-1198
4993	J-2638	Forest	TRUE	1.00	1909.75	1.88	1910.63	20.00	31.96	20.00	20.00	J-2212	(N/A)	17.05	J-1198
1266 5579	J-657 J-2973	Lakes Lakes	TRUE TRUE	1.00 1.00	1911.21 1911.22	1.20 1.20	1911.41 1911.42	20.00 20.00	96.29 95.89	20.00 20.00	20.03 20.03	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5561	J-2963	Forest	TRUE	1.00	1912.91	1.48	1913.38	20.00	60.15	20.00	20.00	J-3904	(N/A)	16.80	J-1198
5560 5571	J-2962 J-2969	Forest	TRUE TRUE	1.00 1.00	1912.91	1.08 1.08	1912.98	20.00 20.00	59.89 25.19	20.00 20.00	20.00 20.00	J-3904 J-2919	(N/A) (N/A)	16.80 17.16	J-1198 J-1198
879	J-2969 J-494	Forest Forest	TRUE	1.00	1913.18 1913.18	1.08	1913.26 1914.06	20.00	25.19 25.70	20.00	20.00	J-2919 J-2919	(N/A) (N/A)	17.16	J-1198 J-1198
7909	J-4143	Forest	TRUE	1.00	1913.82	1.68	1914.50	20.00	20.01	20.00	24.17	J-1197	(N/A)	17.09	J-1198
621 5312	J-356 J-2820	Forest Forest	TRUE TRUE	1.00 1.00	1914.75 1914.89	1.08 1.08	1914.82 1914.97	20.00 20.00	30.95 20.00	20.00 20.00	20.00 20.67	J-941 J-1217	(N/A) (N/A)	17.16 17.19	J-1198 J-1198
6828	J-3703	Forest	TRUE	1.00	1917.97	1.68	1918.65	20.00	41.60	20.00	20.02	J-3200	(N/A)	17.17	J-1198
6829 7606	J-3704 J-4063	Forest Forest	TRUE TRUE	1.00 1.00	1918.03 1918.40	1.28 1.48	1918.30 1918.88	20.00 20.00	40.41 44.34	20.00 20.00	20.01 20.00	J-3200 J-3200	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
3508	J-1913	Forest	TRUE	1.00	1922.21	1.28	1922.49	20.00	24.09	20.00	20.00	J-2080	(N/A)	17.16	J-1198
3115 3114	J-1684 J-1683	Forest Forest	TRUE TRUE	1.00 1.00	1922.23 1922.28	1.08 1.08	1922.30 1922.35	20.00 20.00	20.12 20.98	20.00 20.00	20.00 20.00	J-2080 J-2080	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
5308	J-2818	Forest	TRUE	1.00	1922.72	1.08	1922.80	20.00	20.00	20.00	20.67	J-2817	(N/A)	17.18	J-1198

April	Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
1-95	4093	I-2205	Forest	TRUE								24.08	I-1107		17.00	L1198
1,2777 Percet TRUE 1,00 1922-00 1,98				TRUE										(N/A)		
1.2770																
1-901 Flower Fl																
1-663 Freez														(N/A)		
1-980 1-98																
1-1500																
1.586																
1,9853 Forest TRUE																
1-986 1-2862 Forces	4985	J-2633	Forest	TRUE	1.00	1936.29	2.28	1937.57	20.00	25.47	20.00	20.01	J-3174	(N/A)	17.16	J-1198
1-160																
14517	3434	J-1869	Forest	TRUE	1.00	1937.12	1.48	1937.59	20.00	20.00	20.00	20.72	J-3491	(N/A)	17.15	J-1198
ASS \$\frac{1}{2}\frac{1}{2} \frac{1}{2}																
\$4.00 \$4.0																
1420 1420																
Sept Sept Sept Front TRUE 1.00 1941.47 1.68 1942.61 20.00 20.00 20.00 20.00 20.01 20.00																
1987 1987 1987 1988																
1482 1482																
1972 1977 Froest TRUE 1,00 1946 15 1,08 1946 23 20,00 20,0	4492	J-2353	Forest	TRUE	1.00	1945.06	1.28	1945.34	20.00	20.00	20.00	20.28	J-2148	(N/A)	17.15	J-1198
1-1217 1-1218 1																
Fig. 2009 Fig.	2275	J-1217	Forest	TRUE	1.00	1946.57	1.88	1947.45	20.00	20.00	20.00	20.12	J-2820	(N/A)	17.19	J-1198
1966 1967 1968																
1.5882	1152	J-608		TRUE	1.00	1949.17	1.28	1949.45	20.00	25.70	20.00	20.00	J-2919	(N/A)	17.15	J-1198
Sego J-3117																
1966 Je26 Selevantsville TRUE 1.00 1955,80 1.11 1955.91 20.00 58.62 20.00 20.00 Je76 (NA) 17.23 J-1185 J-1185 J-1285 J-2870 Forest TRUE 1.00 1955.80 1.11 1955.91 20.00 27.77 20.00 20.00 Je76 (NA) 17.23 J-1185 J-1185 J-1285 J-2870 TRUE 1.00 1955.82 3.88 TRUE 1.00 1955.91 J-270 TRUE 1.00 1955.92 20.00 20.00 20.00 20.00 J-276 (NA) 17.25 J-1186 J-270 TRUE 1.00 1955.92 20.00 20.00 20.00 20.00 J-276 (NA) 17.25 J-1186 J-270 TRUE 1.00 1955.92 L.88 1955.66 20.00 20.00 20.00 20.00 J-2864 (NA) 17.08 J-1186 J-270 TRUE 1.00 1955.92 L.88 1955.66 20.00 20.00 20.00 J-2864 (NA) 17.08 J-1186 J-270 TRUE 1.00 1955.92 L.88 1955.66 20.00 20.00 20.00 J-2864 (NA) 17.08 J-1186 J-270 TRUE 1.00 1955.92 L.88 1955.66 20.00 20.00 20.00 J-2864 (NA) 17.08 J-1186 J-270 TRUE 1.00 1955.93 L.88 1955.66 20.00 20.00 20.00 J-2864 (NA) 17.15 J-1186 J-270 TRUE 1.00 1955.90 L.88 1957.84 20.00 20.00 J-2000 J-1167 (NA) 17.15 J-1186 J-270 TRUE 1.00 1955.00 L.88 1957.84 20.00 20.00 J-1167 (NA) 17.18 J-1186 J-270 TRUE J-270 J-27																
25263 J-2792 Slewartswille TRUE 1.00 1955.80 1.11 1955.91 20.00 57.79 20.00 20.00 J-3174 (WA) 17.23 J-1188 17.00 1955.81 3.89 1958.71 20.00 20.05 20.00 20.00 J-3174 (WA) 17.16 J-1188 17.00 1955.81 1.28 1955.01 20.00 20.00 20.00 J-3174 (WA) 17.16 J-1188 17.00 1955.01 1.28 1955.01 20.00 20.00 20.00 J-3174 (WA) 17.16 J-1188 15.00 1955.01 1.88 1956.05 20.00 22.00 20.00 20.00 J-3174 (WA) 17.16 J-1188 15.00 1955.01 1.88 1956.05 20.00 22.00 20.00 20.00 J-3174 (WA) 17.16 J-1188 15.00 1955.01 1.88 1956.05 20.00 22.00 20.00 20.00 J-3174 (WA) 17.08 J-1188 J-1188 J-2701 J-1188 J-2701 J-1188 J-2701																
Forest From																
1.6650 J.3699																
5103 J-2701 Forest TRUE 1.00 1955.88 1.68 1956.66 2.00 2.00 2.00 2.00 J-3954 (NA) 17.16 J-1188 5118 J-2405 Forest TRUE 1.00 1956.38 2.08 1959.47 2.00 2.05 2.00 2.00 J-2406 (NA) 17.15 J-1188 5118 J-2405 Co. 1.00 1956.38 3.49 1959.47 2.00 2.05 2.00 2.00 J-1167 (NA) 17.18 J-1188 J																
4581 J-2405 Forest TRUE 1.00 1956.23 2.08 1957.31 2.000 2.010 2.000 2.05 J-2406 (N/A) 17.15 J-1188 17671 J-1408 Forest TRUE 1.00 1956.29 3.49 1956.27 2.000 2.566 2.000 2.000 J-1167 (N/A) 17.18 J-1188 1.00 1957.00 1.88 1957.47 2.000 2.044 2.000 2.000 J-1167 (N/A) 17.18 J-1188 1.00 1957.00 1.88 1957.87 2.000 2.000 2.311 2.000 2.000 J-1167 (N/A) 17.18 J-1188 1.00 1957.00 1.48 1957.47 2.000 2.311 2.000 2.000 J-1167 (N/A) 17.18 J-1188 1.00 1957.00 1.48 1957.47 2.000 2.311 2.000 2.000 J-1167 (N/A) 17.18 J-1188 1.00 1957.00 1.48 1957.47 2.000 2.000 J-1167 (N/A) 17.18 J-1188 1.00 1957.00 1.48 1957.47 2.000 2.000 2.311 2.000 J-1167 (N/A) 17.18 J-1188 1.000 1957.00 1.48 1957.47 2.000 2.000 2.311 2.000 J-1167 (N/A) 17.18 J-1188																
Formal 1-4084 Forcest TRUE 1.00 1956-38 3.49 1956-47 20.00 25.66 20.00 20.00 1-1167 (N/A) 17.18 1-1188 1																
263 J-1149 Forest TRUE 1.00 1957.00 1.48 1957.48 20.00 22.11 20.00 20.00 J-1167 (NA) 17.18 J-1198 5631 J-3527 Forest TRUE 1.00 1957.64 2.48 1959.12 20.00 53.21 20.00 20.00 J-3438 (NA) 17.17 J-1198 47.49 J-3593 Forest TRUE 1.00 1957.64 2.48 1959.12 20.00 53.03 20.00 20.00 J-3438 (NA) 17.17 J-1198 47.49 J-2489 Forest TRUE 1.00 1957.64 2.48 1959.12 20.00 53.03 20.00 20.00 J-3438 (NA) 17.17 J-1198 47.49 J-2489 Forest TRUE 1.00 1958.15 1.08 1958.22 20.00 22.22 20.00 20.02 J-3438 (NA) 17.17 J-1198 J	7671	J-4084	Forest	TRUE	1.00	1956.98	3.49	1959.47	20.00	25.66	20.00	20.00	J-1167	(N/A)	17.18	J-1198
6641 J-3593 Forest TRUE 1.00 1957.06 1.48 1957.47 20.00 22.72 20.00 20.00 J-1167 (NA) 17.18 J-1198 6644 J-3593 Forest TRUE 1.00 1957.64 2.48 1959.12 20.00 53.08 20.00 20.00 J-3438 (NA) 17.77 J-1198 6442 J-3594 Forest TRUE 1.00 1957.64 2.48 1959.12 20.00 23.22 20.00 20.00 J-3438 (NA) 17.77 J-1198 3327 J-1810 Forest TRUE 1.00 1958.61 1.08 1958.22 20.00 23.22 20.00 20.01 J-3 (NA) 16.79 J-1198 3327 J-1810 Forest TRUE 1.00 1958.21 1.08 1958.22 20.00 23.27 20.00 20.01 J-3 (NA) 17.76 J-1198 3327 J-1810 Forest TRUE 1.00 1958.21 1.08 1958.22 20.00 23.47 20.00 20.01 J-3 (NA) 17.76 J-1198 3989 J-3200 Forest TRUE 1.00 1968.67 3.49 1960.32 20.00 23.27 20.00 20.01 J-320 (NA) 17.76 J-1198 3989 J-3200 Forest TRUE 1.00 1961.67 3.49 1961.49 20.00 25.30 20.00 J-2219 (NA) 17.74 J-1198 3.49																
Forest TRUE 1,00 1957,64 2,48 1959,12 2,000 25,000 20,00 3,3438 (NA) 17,17 1,1198 1,4749 5,7449 5	6531	J-3527	Forest	TRUE	1.00	1957.00	1.48	1957.47	20.00	22.72	20.00	20.00	J-1167	(N/A)	17.18	J-1198
A-749																
93712 J-2026 Forest TRUE 1.00 1960.73 2.88 1962.62 20.00 21.24 20.00 20.01 J-378 (N/A) 17.04 J-1198 9598 J-3207 Forest TRUE 1.00 1960.85 1.88 1960.93 2.000 27.53 20.00 20.00 J-3204 (N/A) 17.16 J-1198 9598 J-3207 Forest TRUE 1.00 1961.67 3.49 1964.16 20.00 25.50 20.00 20.00 J-3204 (N/A) 17.16 J-1198 9598 J-3206 Forest TRUE 1.00 1961.67 3.49 1964.16 20.00 25.50 20.00 20.00 J-3204 (N/A) 17.16 J-1198 9598 J-3206 Forest TRUE 1.00 1961.67 3.49 1964.16 20.00 25.30 20.00 20.00 J-3204 (N/A) 17.19 J-1198 9598 J-3207 Forest TRUE 1.00 1961.67 1.08 1961.75 20.00 23.98 20.00 20.00 J-2219 (N/A) 17.19 J-1198 9598 J-3207 Forest TRUE 1.00 1965.14 22.8 1966.42 20.00 20.00 23.98 20.00 J-2219 (N/A) 17.15 J-1198 9509 J-3207 Forest TRUE 1.00 1965.62 1.37 1965.99 20.00 21.81 20.00 20.01 J-2188 (N/A) 17.25 J-1198 9509 J-32167 Lakes TRUE 1.00 1965.62 1.37 1965.99 20.00 21.81 20.00 20.01 J-2188 (N/A) 17.23 J-1198 9509 Forest TRUE 1.00 1965.72 1.48 1966.21 20.00 20.00 20.00 J-2188 (N/A) 17.23 J-1198 95743 J-3069 Forest TRUE 1.00 1967.77 1.08 1967.25 20.00 20.00 20.00 J-1982 (N/A) 17.15 J-1198 95755 J-3660 Forest TRUE 1.00 1967.67 1.08 1967.25 20.00 20.00 20.00 20.00 J-1982 (N/A) 17.15 J-1198 95750 J-3560 Forest TRUE 1.00 1967.68 1.88 1968.55 20.00 20.01 20.00 20.07 J-1982 (N/A) 17.15 J-1198 95760 J-3560 Forest TRUE 1.00 1967.68 1.88 1968.56 20.00 20.01 20.00 20.07 J-1982 (N/A) 17.15 J-1198 95760 J-3560 Forest TRUE 1.00 1977.66 1.88 1971.56 20.00 20.00 20.00 20.00 J-2293 (N/A) 17.15 J-1198 95761 J-3069 Forest TRUE 1.00 1977.66 1.88 1971.56 20.00 20.00 20.00 20.00 J-2293 (N/A) 17.15 J-1198 95761 J-3060 Forest TRUE 1.00 1977.62 1.88 1971.56 20.00 20.00 20.00 20.00 J-2293 (N/A) 17.15 J-1198 95761 J-3060 Forest TRUE 1.00 1977.62 1.88 1971.56 20.00 20.00 20.00 20.00 J-2293 (N/A) 17.15 J-1198 95761 J-3090 Forest TRUE 1.00 1977.62 1.88 1971.56 20.00 20.00 20.00 20.00 J-2293 (N/A) 17.15 J-1198 95761 J-3090 Forest TRUE 1.00 1977.62 1.88 1971.56 20.00 20.00 20.00 20.00 J-2293 (N/A) 17.17 J-1198 9586 J-2203 Forest TRUE 1.00 1978.68 1.88 1975.50 20.00	4749	J-2499	Forest	TRUE	1.00	1958.15	1.08	1958.22	20.00	23.22	20.00	20.02	J-3	(N/A)	16.79	J-1198
5988 J-3207																
6139 J-3296 Forest TRUE 1.00 1961.67 3.49 1994.16 20.00 25.30 20.00 J-2219 (N/A) 17.19 J-1198 5164 J-3297 Forest TRUE 1.00 1961.67 1.08 1961.75 20.00 20.38 20.00 20.00 J-2213 (N/A) 17.19 J-1198 3469 J-1889 Forest TRUE 1.00 1965.62 1.37 1965.69 20.00 20.47 20.00 20.00 J-2213 (N/A) 17.15 J-1198 1.00 1965.62 1.37 1965.69 20.00 21.81 20.00 20.00 J-2218 (N/A) 17.23 J-1198 1.00 1965.62 1.37 1965.69 20.00 21.81 20.00 20.04 J-3571 (N/A) 16.91 J-1198 1.00 1965.72 2.41 1967.13 20.00 22.27 20.00 20.04 J-3571 (N/A) 16.91 J-1198 1.00 1965.73 1.48 1966.21 20.00 21.67 20.00 20.04 J-3571 (N/A) 16.91 J-1198 1.00 1967.47 1.00 1967.47 1.00 1967.47 1.00 1967.47 1.28 1967.65 20.00 20.00 20.09 20.04 J-3571 (N/A) 16.91 J-1198 1.00 1967.68 1.00 1967.68 1.00 1967.68 1.00 1967.68 1.00 1967.68 1.00 1967.68 1.00 1.	5988	J-3206	Forest	TRUE	1.00	1960.85	1.08	1960.93	20.00	27.53	20.00	20.00	J-3204	(N/A)	17.16	J-1198
6140 J-3297 Forest TRUE 1.00 1961.67 1.08 1961.75 2.000 23.98 20.00 20.00 J-2219 (NA) 17.19 J-1198 4601 J-2417 Lakes TRUE 1.00 1965.61 1.08 1965.76 20.00 21.81 20.00 20.01 J-2188 (NA) 17.23 J-1198 4066 J-2417 Lakes TRUE 1.00 1965.62 1.37 1965.99 20.00 21.81 20.00 20.01 J-2188 (NA) 17.23 J-1198 4066 J-2187 Lakes TRUE 1.00 1965.68 1.08 1965.76 20.00 21.61 20.00 20.01 J-2188 (NA) 17.23 J-1198 4066 J-2187 Lakes TRUE 1.00 1965.75 1.08 1965.76 20.00 21.67 20.00 20.00 J-2188 (NA) 17.23 J-1198 5743 J-3069 Forest TRUE 1.00 1967.71 1.08 1967.25 20.00 20.00 20.00 J-2188 (NA) 17.23 J-1198 5743 J-3069 Forest TRUE 1.00 1967.71 1.08 1967.25 20.00 20.00 20.00 20.99 J-1982 (NA) 17.02 J-1198 6755 J-3660 Forest TRUE 1.00 1967.37 1.28 1967.65 20.00 20.00 20.00 20.99 J-1982 (NA) 17.15 J-1198 6755 J-3660 Forest TRUE 1.00 1967.68 1.88 1968.65 20.00 20.00 20.00 21.28 J-11715 (NA) 17.19 J-1198 6807 J-3691 Forest TRUE 1.00 1970.66 1.88 1971.54 20.00 20.00 20.00 21.97 J-1932 (NA) 17.15 J-1198 4771 J-2511 Forest TRUE 1.00 1971.00 10.8 1971.08 20.00 20.00 20.00 20.00 21.97 J-1932 (NA) 17.15 J-1198 4771 J-2511 Forest TRUE 1.00 1973.68 1.28 1975.50 20.00 20.00 20.00 20.00 J-219 J-1106 (NA) 17.17 J-1198																
4801 J-2417	6140	J-3297	Forest	TRUE	1.00	1961.67	1.08	1961.75	20.00	23.98	20.00	20.00	J-2219	(N/A)	17.19	J-1198
7340 J-970																
7339 J3969 Forest TRUE 1.00 1967.37 1.48 1966.25 20.00 20.00 20.00 20.90 J-1982 (IVA) 17.02 J-1198 1.118 1	7340			TRUE	1.00			1965.76	20.00	21.21	20.00	20.04		(N/A)	16.91	
5743 J-3069 Forest TRUE 1.00 1967.37 1.08 1967.25 20.00 20.00 20.00 20.99 J-1982 (N/A) 17.02 J-1982 (Fig. 1.00 1967.68 1.00 1967.37 1.28 1967.65 20.00 20.01 20.00 20.00 24.23 J-1197 (N/A) 17.15 J-1198 (Fig. 1.00 1967.68 1.88 1968.65 20.00 20.00 20.00 20.00 21.28 J-1716 (N/A) 17.19 J-198 (N/A) 17.15 J-198 (N/A) J-19																
6755 J-3660 Forest TRUE 1.00 1967.68 1.88 1968.56 20.00 20.00 20.00 21.28 J-1715 (N/A) 17.19 J-1198 1.198	5743	J-3069	Forest	TRUE	1.00	1967.17	1.08	1967.25	20.00	20.00	20.00	20.99	J-1982	(N/A)	17.02	J-1198
5160 J-2733 Forest TRUE 1.00 1968.47 1.48 1968.95 20.00 20.01 20.00 20.73 J-2093 (NA) 17.15 J-1198 1831 J-944 Forest TRUE 1.00 1971.00 1.08 1971.08 20.00 20.00 20.00 21.02 J-1715 (NA) 17.03 J-1198 1831 J-944 Forest TRUE 1.00 1971.00 1.08 1971.08 20.00 20.00 20.00 20.00 21.02 J-1715 (NA) 17.19 J-1198 1831 J-2511 Forest TRUE 1.00 1971.00 1.08 1971.08 20.00 20.00 20.00 20.00 20.19 J-1906 (NA) 17.19 J-1198																
1831 J-944 Forest TRUE 1.00 1971.00 1.08 1971.08 20.00 20.00 20.00 21.02 J-1715 (N/A) 17.19 J-1198 17.15 J-1198 17.15 J-1198 17.15 J-12903 Forest TRUE 1.00 1973.68 1.28 1973.96 20.00 20.00 20.00 20.00 20.00 J-3200 (N/A) 17.19 J-1198	5160	J-2733	Forest	TRUE	1.00	1968.47	1.48	1968.95	20.00	20.01	20.00	20.73	J-2093	(N/A)	17.15	J-1198
4771 J-2511 Forest RUE 1.00 1971.72 1.08 1973.96 20.00 20.00 20.00 20.00 20.01 20.01 20.01 20.01 20.00 20.02 20.00 20.02 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 1.7 1.991.10 (N/A) 17.17 J-1198 5761 J-3080 Forest TRUE 1.00 1976.91 1.48 1975.10 20.00 25.41 20.00 20.00 J-2919 (N/A) 17.17 J-1198 4928 J-2600 Forest TRUE 1.00 1977.26 1.08 1977.80 20.00 37.19 20.00 2.941 (N/A) 17.15 J-1198 3497 J-1906 Forest TRUE 1.00 1977.52 1.28 1977.80 20.00 20.00 20.00 J-941 (N/A) 17.08 J-1198																
5760	4771					1971.72					20.00					J-1198
5761																
1063																
985	1063	J-575		TRUE				1976.59			20.00		J-2919	(N/A)	17.16	
3497																
3848 J-2093 Forest TRUE 1.00 1979.82 2.68 1981.51 20.00 20.00 20.00 20.02 J-2733 (N/A) 17.15 J-1198 5419 J-2883 Forest TRUE 1.00 1979.93 1.48 1980.41 20.00 20.00 20.00 20.04 J-2882 (N/A) 17.17 J-1198 6085 J-3264 Forest TRUE 1.00 1980.29 1.08 1980.36 20.00 27.05 20.00 20.00 J-2919 (N/A) 17.16 J-1198 1057 J-572 Forest TRUE 1.00 1980.29 1.28 1980.57 20.00 28.10 20.00 20.00 J-2919 (N/A) 17.16 J-1198 1058 J-3901 Forest TRUE 1.00 1983.97 2.68 1985.66 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.19 J-1198 4907 J-2588 Forest TRUE 1.00 1983.97 2.68 1985.66 20.00 21.45 20.00 20.00 J-388 (N/A) 17.19 J-1198 4907 J-2588 Forest TRUE 1.00 1983.97 1.08 1984.05 20.00 21.02 20.00 20.00 J-388 (N/A) 17.19 J-1198 3544 J-1932 Forest TRUE 1.00 1984.03 1.48 1984.50 20.00 20.00 20.00 20.00 J-3891 (N/A) 17.19 J-1198 3544 J-1932 Forest TRUE 1.00 1987.95 1.28 1988.54 20.00 20.04 20.00 20.04 J-3691 (N/A) 17.19 J-1198 6312 J-3399 Forest TRUE 1.00 1987.95 1.28 1988.81 20.00 20.00 20.00 20.00 J-2181 (N/A) 17.19 J-1198 3992 J-2159 Forest TRUE 1.00 1992.62 2.08 1989.71 1.00 20.00 20.00 20.00 20.00 J-2181 (N/A) 17.19 J-1198 5418 J-2802 Forest TRUE 1.00 1992.79 1.08 1989.81 20.00 20.00 20.00 20.00 J-2181 (N/A) 17.19 J-1198 3998 J-2162 Forest TRUE 1.00 1992.86 1.68 1993.54 20.00 20.00 20.00 20.00 J-2883 (N/A) 17.13 J-1198 1058 J-573 Forest TRUE 1.00 1994.41 1.48 1994.89 20.00 20.00 20.00 J-2919 (N/A) 17.10 J-1198 1058 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 21.87 20.00 20.01 J-2279 (N/A) 17.10 J-1198 1058 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 25.33 20.00 20.01 J-2919 (N/A) 17.16 J-1198 1058 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 25.33 20.00 20.01 J-2919 (N/A) 17.16 J-1198 1058 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 25.33 20.00 20.01 J-2919 (N/A) 17.16 J-1198 1058 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 25.33 20.00 20.01 J-2919 (N/A) 17.16 J-1198 1058 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 25.33 20.00 20.01 J-2919 (N/A) 17.16 J-1198 1058 J-573 Forest	3497	J-1906	Forest	TRUE	1.00	1977.52	1.28	1977.80	20.00	20.00	20.00	20.33	J-2511	(N/A)	17.08	J-1198
5419 J-2883 Forest TRUE 1.00 1979.93 1.48 1980.41 20.00 20.00 20.00 20.64 J-2882 (N/A) 17.17 J-1198 6085 J-3264 Forest TRUE 1.00 1980.29 1.08 1980.57 20.00 20.00 20.00 J-2919 (N/A) 17.16 J-198 7182 J-3901 Forest TRUE 1.00 1983.66 1.28 1980.57 20.00 20.00 20.00 J-2919 (N/A) 17.16 J-198 7182 J-3901 Forest TRUE 1.00 1983.97 2.68 1985.66 20.00 20.02 20.00 20.33 J-2903 (N/A) 17.19 J-1198 4907 J-2588 Forest TRUE 1.00 1983.97 1.08 1984.05 20.00 21.02 20.00 J-1388 (N/A) 17.19 J-1198 4907 J-2588 Forest TRUE 1.00 1983.97																
1057 J-572 Forest TRUE 1.00 1980.29 1.28 1980.57 20.00 28.10 20.00 20.00 J-2919 (N/A) 17.16 J-1198	5419	J-2883	Forest	TRUE	1.00	1979.93	1.48	1980.41	20.00	20.00	20.00	20.64	J-2882	(N/A)	17.17	J-1198
7182 J-3901 Forest TRUE 1.00 1983.66 1.28 1983.94 20.00 20.02 20.00 20.33 J-2903 (N/A) 17.19 J-1198 2532 J-1387 Forest TRUE 1.00 1983.97 2.68 1985.66 20.00 21.45 20.00 20.00 J-1388 (N/A) 17.19 J-1198 4907 J-2588 Forest TRUE 1.00 1983.97 1.08 1984.05 20.00 20.00 20.00 20.00 J-1388 (N/A) 17.19 J-1198 3168 J-1715 Forest TRUE 1.00 1984.03 1.48 1984.50 20.00 20.00 20.00 20.00 J-3888 (N/A) 17.19 J-1198 3544 J-1932 Forest TRUE 1.00 1987.86 1.88 1988.74 20.00 20.00 20.00 20.00 J-3660 (N/A) 17.02 J-1198 3544 J-2902 Forest TRUE 1.00 1987.95 1.28 1988.22 20.00 20.14 20.00 20.02 J-3901 (N/A) 17.02 J-1198 3912 J-2159 Forest TRUE 1.00 1987.95 1.28 1988.22 20.00 20.14 20.00 20.02 J-3901 (N/A) 17.19 J-1198 3912 J-2159 Forest TRUE 1.00 1987.95 1.08 1989.81 20.00 20.00 20.00 21.40 J-2181 (N/A) 17.04 J-1198 3912 J-2159 Forest TRUE 1.00 1992.62 2.08 1993.71 20.00 20.00 20.00 20.01 J-1224 (N/A) 17.18 J-1198 3912 J-2159 Lakes TRUE 1.00 1992.79 1.20 1992.99 20.00 20.00 20.00 20.00 J-2219 (N/A) 17.23 J-1198 3918 J-2882 Forest TRUE 1.00 1992.86 1.68 1993.54 20.00 20.00 20.00 20.00 J-2729 (N/A) 17.02 J-1198 3918 J-2162 Forest TRUE 1.00 1994.41 1.48 1994.89 20.00 21.87 20.00 20.01 J-2729 (N/A) 17.02 J-1198 3918 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 25.33 20.00 20.01 J-2729 (N/A) 17.16 I-198 3918 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 25.33 20.00 20.01 J-2799 (N/A) 17.16 I-198 3918 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 25.33 20.00 20.01 J-2799 (N/A) 17.16 I-198 3918 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 25.33 20.00 20.00 J-2919 (N/A) 17.16 I-198 3918 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 25.33 20.00 20.00 J-2919 (N/A) 17.16 I-198 3918 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 25.33 20.00 20.00 J-2919 (N/A) 17.16 I-198 3918 J-573 Forest TRUE 1.00 1995.44 2.48 1994.89 20.00 25.33 20.00 20.00 J-2919 (N/A) 17.16 I-198 3918 J-290 20.00 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.16 J-1198 3918 J-290 20.00 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.16 J-1198 3918 J-290 20.00 20.00 20.0																J-1198 J-1198
4907 J-2588 Forest TRUE 1.00 1983.97 1.08 1984.05 20.00 21.02 20.00 20.00 J-1388 (N/A) 17.19 J-1198 3168 J-1715 Forest TRUE 1.00 1984.03 1.48 1984.50 20.00 20.00 20.01 20.01 33660 (N/A) 17.19 J-1198 3544 J-1932 Forest TRUE 1.00 1987.86 1.88 1988.74 20.00 20.44 20.00 20.04 J-3691 (N/A) 17.19 J-1198 5454 J-2902 Forest TRUE 1.00 1987.95 1.28 1988.22 20.00 20.14 20.00 20.02 J-3991 (N/A) 17.19 J-1198 6312 J-3399 Forest TRUE 1.00 1989.73 1.08 1989.81 20.00 20.00 20.02 J-2161 (N/A) 17.19 J-1198 2532 J-1359 Lakes TRUE 1	7182	J-3901	Forest	TRUE	1.00	1983.66	1.28	1983.94	20.00	20.02	20.00	20.33	J-2903	(N/A)	17.19	J-1198
3188 J-1715 Forest TRUE 1.00 1984.03 1.48 1984.50 20.00 20.00 20.00 20.18 J-3660 (N/A) 17.19 J-1198 3544 J-1932 Forest TRUE 1.00 1987.96 1.88 1988.74 20.00 20.04 20.00 20.04 J-3691 (N/A) 17.02 J-1198 5454 J-2902 Forest TRUE 1.00 1987.95 1.28 1988.22 20.00 20.14 20.00 20.02 J-3901 (N/A) 17.19 J-1198 6312 J-3399 Forest TRUE 1.00 1987.95 1.08 1989.81 20.00 20.00 20.00 21.40 J-2181 (N/A) 17.19 J-1198 3992 J-2159 Forest TRUE 1.00 1992.62 2.08 1993.71 20.00 20.00 20.00 21.40 J-2181 (N/A) 17.14 J-1198 2552 J-1359 Lakes TRUE 1.00 1992.69 1.20 1993.71 20.00 20.00 20.00 32.62 J-2323 (N/A) 17.23 J-1198 5418 J-2882 Forest TRUE 1.00 1992.79 1.20 1992.99 20.00 20.00 20.00 32.62 J-2323 (N/A) 17.23 J-1198 5418 J-2882 Forest TRUE 1.00 1994.41 1.48 1994.89 20.00 20.00 20.00 20.01 J-2729 (N/A) 17.02 J-1198 1058 J-573 Forest TRUE 1.00 1995.44 2.48 1994.92 20.00 25.33 20.00 20.00 J-2919 (N/A) 17.16 J-1198																
5454 J-2902 Forest TRUE 1.00 1987.95 1.28 1988.22 20.00 20.14 20.00 20.02 J-3991 (N/A) 17.19 J-1198 312 J-3399 Forest TRUE 1.00 1992.62 2.08 1993.71 20.00 20.00 20.01 J-2181 (N/A) 17.04 J-1198 3992 J-2159 Forest TRUE 1.00 1992.62 2.08 1993.71 20.00 20.02 20.00 20.01 J-1224 (N/A) 17.18 J-1198 5418 J-2882 Forest TRUE 1.00 1992.79 1.20 1992.99 20.00 20.02 20.00 32.62 J-2323 (N/A) 17.23 J-1198 5418 J-2882 Forest TRUE 1.00 1992.86 1.68 1993.54 20.00 20.00 20.00 20.20 J-2883 (N/A) 17.17 J-1198 3998 J-2162 Forest TRUE	3168	J-1715	Forest	TRUE	1.00	1984.03	1.48	1984.50	20.00	20.00	20.00	20.18	J-3660	(N/A)	17.19	J-1198
6312 J-3399 Forest TRUE 1.00 1989.73 1.08 1989.81 20.00 20.00 20.00 21.40 J-2181 (N/A) 17.04 J-1198 3992 J-2159 Forest TRUE 1.00 1992.62 2.08 1993.71 20.00 20.00 20.00 20.01 J-1224 (N/A) 17.18 J-1198 2532 J-1359 Lakes TRUE 1.00 1992.79 1.20 1992.99 20.00 20.02 20.00 32.62 J-2323 (N/A) 17.23 J-1198 5418 J-2882 Forest TRUE 1.00 1992.86 1.68 1993.54 20.00 20.00 20.00 20.00 J-2883 (N/A) 17.17 J-1198 3998 J-2162 Forest TRUE 1.00 1994.41 1.48 1994.89 20.00 21.87 20.00 20.01 J-2729 (N/A) 17.02 J-1198 1058 J-573 Forest TRUE 1.00 1995.44 2.48 1994.92 20.00 25.33 20.00 20.00 J-2919 (N/A) 17.16 J-1198																
2532 J-1359 Lakes TRUE 1.00 1992.79 1.20 1992.99 20.00 20.02 20.00 32.62 J-2323 (N/A) 17.23 J-1198 5418 J-2882 Forest TRUE 1.00 1992.86 1.68 1993.54 20.00 20.00 20.00 20.00 J-2883 (N/A) 17.17 J-1198 1058 J-573 Forest TRUE 1.00 1994.41 1.48 1994.89 20.00 21.87 20.00 20.01 J-2729 (N/A) 17.02 J-1198 1058 J-573 Forest TRUE 1.00 1995.44 2.48 1996.92 20.00 25.33 20.00 20.00 J-2919 (N/A) 17.16 J-1198	6312	J-3399	Forest	TRUE	1.00	1989.73	1.08	1989.81	20.00	20.00	20.00	21.40	J-2181	(N/A)	17.04	J-1198
5418 J-2882 Forest TRUE 1.00 1992.86 1.68 1993.54 20.00 20.00 20.00 20.20 J-2883 (N/A) 17.17 J-1198 1998 J-2162 Forest TRUE 1.00 1994.41 1.48 1994.89 20.00 21.87 20.00 20.01 J-2729 (N/A) 17.02 J-1198 1058 J-573 Forest TRUE 1.00 1995.44 2.48 1996.92 20.00 25.33 20.00 20.00 J-2919 (N/A) 17.16 J-1198																
3998 J-2162 Forest TRUE 1.00 1994.41 1.48 1994.89 20.00 21.87 20.00 20.01 J-2729 (N/A) 17.02 J-1198 1058 J-573 Forest TRUE 1.00 1995.44 2.48 1996.92 20.00 25.33 20.00 20.00 J-2919 (N/A) 17.16 J-1198	5418	J-2882	Forest	TRUE	1.00	1992.86	1.68	1993.54	20.00	20.00	20.00	20.20	J-2883	(N/A)	17.17	J-1198
		J-2162	Forest					1994.89			20.00	20.01	J-2729	(N/A)	17.02	

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
268 270	J-135 J-136	Lakes Lakes	TRUE TRUE	1.00 1.00	1995.77 1995.77	1.20 1.20	1995.97 1995.97	20.00 20.00	63.90 63.88	20.00 20.00	20.00 20.00	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5889	J-3151	Lakes	TRUE	1.00	1995.77	1.20	1995.97	20.00	63.58	20.00	20.00	J-2323	(N/A)	17.23	J-1198
8373 4042	J-4174 J-2181	Forest Forest	TRUE TRUE	1.00 1.00	2003.13 2003.71	2.68 2.48	2004.82 2005.20	20.00 20.00	20.01 20.27	20.00 20.00	24.25 20.03	J-1197 J-3399	(N/A) (N/A)	17.17 17.04	J-1198 J-1198
1850	J-957	Forest	TRUE	1.00	2004.92	1.88	2005.80	20.00	20.13	20.00	20.03	J-956	(N/A)	17.04	J-1198
1852 2427	J-958 J-1300	Forest Lakes	TRUE TRUE	1.00 1.00	2005.96 2006.72	1.08 1.20	2006.04 2006.92	20.00 20.00	20.01 21.36	20.00 20.00	21.74 20.00	J-959 J-1575	(N/A) (N/A)	17.18 17.23	J-1198 J-1198
447	J-249	Forest	TRUE	1.00	2006.87	1.28	2007.15	20.00	34.72	20.00	20.01	J-2919	(N/A)	17.15	J-1198
5575 446	J-2971 J-248	Forest Forest	TRUE TRUE	1.00 1.00	2006.98 2009.98	1.28 1.28	2007.26 2010.25	20.00 20.00	33.86 34.96	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
6893	J-3742	Forest	TRUE	1.00	2010.70	1.08	2010.77	20.00	33.87	20.00	20.00	J-2919	(N/A)	17.15	J-1198
5898 6892	J-3156 J-3741	Forest Forest	TRUE TRUE	1.00 1.00	2010.70 2010.70	1.08 3.09	2010.78 2012.78	20.00 20.00	32.58 35.89	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
5897	J-3155	Forest	TRUE	1.00	2010.70	1.88	2011.58	20.00	33.81	20.00	20.00	J-2919	(N/A)	17.15	J-1198
4579 4578	J-2404 J-2403	Forest Forest	TRUE TRUE	1.00 1.00	2010.71 2010.71	2.08 1.68	2011.79 2011.39	20.00 20.00	39.57 40.04	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
7100	J-3859	Forest	TRUE	1.00	2010.71	1.68	2011.39	20.00	35.48	20.00	20.00	J-2919	(N/A)	17.15	J-1198
7101 6889	J-3860 J-3739	Forest Forest	TRUE TRUE	1.00 1.00	2010.71 2015.43	1.48 3.09	2011.19 2017.51	20.00 20.00	35.45 29.19	20.00 20.00	20.00 20.00	J-2919 J-4116	(N/A) (N/A)	17.15 17.19	J-1198 J-1198
5310	J-2819	Forest	TRUE	1.00	2015.44	1.68	2016.12	20.00	20.00	20.00	20.56	J-2282	(N/A)	17.15	J-1198
6890 6410	J-3740 J-3457	Forest Forest	TRUE TRUE	1.00 1.00	2015.44 2016.01	1.48 1.48	2015.92 2016.49	20.00 20.00	27.38 20.00	20.00 20.00	20.00 21.30	J-4116 J-1674	(N/A) (N/A)	17.19 17.02	J-1198 J-1198
6739 6740	J-3650 J-3651	Forest Forest	TRUE TRUE	1.00 1.00	2021.15 2021.24	1.08 1.88	2021.22 2022.12	20.00 20.00	21.97 23.49	20.00 20.00	20.04 20.03	J-2224 J-2224	(N/A) (N/A)	16.76 16.76	J-1198 J-1198
3100	J-1674	Forest	TRUE	1.00	2021.24	1.48	2022.12	20.00	20.00	20.00	20.83	J-3457	(N/A)	17.02	J-1198
7546 5498	J-4046 J-2927	Forest Forest	TRUE TRUE	1.00 1.00	2022.19 2022.27	1.08 1.68	2022.27 2022.95	20.00 20.00	20.00 25.89	20.00 20.00	21.01 20.00	J-3922 J-2919	(N/A) (N/A)	16.91 17.15	J-1198 J-1198
772	J-2927 J-440	Forest	TRUE	1.00	2022.27	1.28	2022.55	20.00	26.96	20.00	20.00	J-2919	(N/A)	17.15	J-1198
4299 2674	J-2282 J-1440	Forest Forest	TRUE TRUE	1.00 1.00	2023.03 2024.16	3.49 1.28	2025.51 2024.44	20.00 20.00	20.00 21.10	20.00 20.00	20.20 20.00	J-2819 J-1441	(N/A) (N/A)	17.15 17.08	J-1198 J-1198
6952	J-3776	Lakes	TRUE	1.00	2025.95	1.29	2026.24	20.00	20.00	20.00	22.32	J-1916	(N/A)	17.23	J-1198
2709 2512	J-1462 J-1347	Forest Forest	TRUE TRUE	1.00 1.00	2029.16 2029.20	1.48 1.28	2029.64 2029.47	20.00 20.00	26.77 20.01	20.00 20.00	20.00 24.22	J-1461 J-1197	(N/A) (N/A)	17.08 17.14	J-1198 J-1198
5090	J-2694	Forest	TRUE	1.00	2030.62	1.48	2031.10	20.00	20.01	20.00	20.90	J-1827	(N/A)	17.18	J-1198
5699 5700	J-3043 J-3044	Forest Forest	TRUE TRUE	1.00 1.00	2031.73 2031.80	1.08 1.48	2031.81 2032.28	20.00 20.00	29.18 27.88	20.00 20.00	20.01 20.00	J-3204 J-3204	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
6512	J-3516	Forest	TRUE	1.00	2031.81	1.88	2032.69	20.00	24.80	20.00	20.00	J-3425	(N/A)	17.18	J-1198
6511 3099	J-3515 J-1673	Forest Forest	TRUE TRUE	1.00 1.00	2031.82 2031.85	1.08 1.48	2031.89 2032.33	20.00 20.00	22.92 20.00	20.00 20.00	20.00 20.00	J-3425 J-3457	(N/A) (N/A)	17.18 17.02	J-1198 J-1198
2765	J-1495	Forest	TRUE	1.00	2032.89	2.28	2034.17	20.00	20.17	20.00	20.00	J-3835	(N/A)	17.16	J-1198
773 5689	J-441 J-3037	Forest Forest	TRUE TRUE	1.00 1.00	2032.99 2033.51	2.88 3.09	2034.88 2035.59	20.00 20.00	28.94 20.00	20.00 20.00	20.00 20.69	J-2919 J-3922	(N/A) (N/A)	17.15 16.91	J-1198 J-1198
5924	J-3170	Forest	TRUE	1.00	2033.75	1.68	2034.43	20.00	20.00	20.00	21.03	J-3171	(N/A)	17.03	J-1198
6001 6002	J-3213 J-3214	Forest Forest	TRUE TRUE	1.00 1.00	2036.49 2036.53	1.08 1.68	2036.57 2037.20	20.00 20.00	26.68 25.30	20.00 20.00	20.00 20.00	J-3204 J-3204	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
6989	J-3797	Forest	TRUE	1.00	2037.07	1.68	2037.75	20.00	20.00	20.00	22.90	J-3928	(N/A)	17.17	J-1198
7986 4991	J-4156 J-2637	Forest Forest	TRUE TRUE	1.00 1.00	2038.87 2039.32	3.09 1.68	2040.95 2040.00	20.00 20.00	20.02 20.02	20.00 20.00	22.72 20.62	J-2836 J-2636	(N/A) (N/A)	17.18 16.89	J-1198 J-1198
7223	J-3922	Forest	TRUE	1.00	2040.64	1.88	2041.52	20.00	20.00	20.00	20.39	J-3038	(N/A)	16.91	J-1198
3357 7235	J-1827 J-3928	Forest Forest	TRUE TRUE	1.00 1.00	2041.49 2041.62	2.68 1.08	2043.17 2041.70	20.00 20.00	20.15 20.00	20.00 20.00	20.03 20.65	J-2694 J-3927	(N/A) (N/A)	17.18 17.17	J-1198 J-1198
3514	J-1916	Lakes	TRUE	1.00	2044.00	1.20	2044.20	20.00	20.40	20.00	20.05	J-3776	(N/A)	17.23	J-1198
4990 3717	J-2636 J-2028	Forest Forest	TRUE TRUE	1.00 1.00	2044.59 2044.82	1.08 1.48	2044.67 2045.30	20.00 20.00	20.06 20.97	20.00 20.00	20.13 20.02	J-2637 J-3171	(N/A) (N/A)	16.89 17.03	J-1198 J-1198
5925	J-3171	Forest	TRUE	1.00	2044.99	1.88	2045.87	20.00	20.00	20.00	20.08	J-3170	(N/A)	17.03	J-1198
8513 5690	J-4209 J-3038	Forest Forest	TRUE TRUE	1.00 1.00	2045.01 2045.58	1.68 1.48	2045.69 2046.06	20.00 20.00	21.40 20.12	20.00 20.00	20.00 20.03	J-3171 J-3922	(N/A) (N/A)	17.03 16.91	J-1198 J-1198
4045 7234	J-2183 J-3927	Lakes Forest	TRUE TRUE	1.00 1.00	2047.45 2048.75	1.20 1.28	2047.65 2049.03	20.00 20.00	23.12 20.32	20.00 20.00	20.00 20.00	J-1586 J-3928	(N/A) (N/A)	17.23 17.17	J-1198 J-1198
3336	J-1815	Forest	TRUE	1.00	2050.22	1.48	2050.70	20.00	20.32	20.00	20.05	J-958	(N/A)	17.17	J-1198
5442 2876	J-2896 J-1558	Forest Forest	TRUE TRUE	1.00 1.00	2051.15 2051.82	2.28 1.48	2052.43 2052.30	20.00 20.00	20.00 20.00	20.00 20.00	20.94 21.30	J-2256 J-2456	(N/A) (N/A)	17.18 17.03	J-1198 J-1198
7215	J-3917	Lakes	TRUE	1.00	2052.14	1.20	2052.34	20.00	39.66	20.00	20.05	J-2323	(N/A)	17.23	J-1198
7216 4677	J-3918 J-2459	Lakes Lakes	TRUE TRUE	1.00 1.00	2052.20 2052.24	1.20 1.20	2052.40 2052.44	20.00 20.00	39.01 38.67	20.00 20.00	20.05 20.05	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
4676	J-2458	Lakes	TRUE	1.00	2052.32	1.20	2052.52	20.00	37.92	20.00	20.04	J-2323	(N/A)	17.23	J-1198
3850 5734	J-2094 J-3064	Forest Forest	TRUE TRUE	1.00 1.00	2052.40 2052.40	1.08 1.28	2052.48 2052.68	20.00 20.00	21.74 20.76	20.00 20.00	20.00 20.00	J-610 J-610	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
7792	J-4118	Forest	TRUE	1.00	2052.57	1.48	2053.05	20.00	20.01	20.00	20.58	J-4189	(N/A)	17.14	J-1198
8475 7263	J-4189 J-3941	Forest Lakes	TRUE TRUE	1.00 1.00	2052.74 2052.94	1.28 1.20	2053.02 2053.14	20.00 20.00	20.57 31.37	20.00 20.00	20.00 20.00	J-4118 J-2323	(N/A) (N/A)	17.14 17.23	J-1198 J-1198
6076	J-3259	Lakes	TRUE	1.00	2052.94	1.20	2053.14	20.00	31.21	20.00	20.00	J-2323	(N/A)	17.23	J-1198
7262 211	J-3940 J-97	Lakes Lakes	TRUE TRUE	1.00 1.00	2052.94 2052.94	1.37 1.20	2053.31 2053.14	20.00 20.00	31.16 66.18	20.00 20.00	20.00 20.00	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6075	J-3258	Lakes	TRUE TRUE	1.00	2052.94	1.20	2053.14	20.00	30.42	20.00	20.00	J-2323	(N/A)	17.23 17.23	J-1198
210 1108	J-96 J-593	Lakes Stewartsville		1.00 1.00	2053.01 2054.09	1.20 1.11	2053.21 2054.20	20.00 20.00	66.20 71.91	20.00 20.00	20.00 20.00	J-2323 J-676	(N/A) (N/A)	17.23	J-1198 J-1198
4898	J-2583	Stewartsville		1.00	2054.09	1.11	2054.21	20.00	71.46	20.00	20.00	J-676	(N/A)	17.23	J-1198
5589 5588	J-2979 J-2978	Forest Forest	TRUE TRUE	1.00 1.00	2055.73 2055.73	1.48 1.48	2056.20 2056.21	20.00 20.00	64.60 64.92	20.00 20.00	20.00 20.00	J-3200 J-3200	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
545 6587	J-310 J-3561	Lakes Lakes	TRUE TRUE	1.00 1.00	2058.41 2058.41	1.20 1.20	2058.61 2058.61	20.00 20.00	68.42 67.00	20.00 20.00	20.00 20.00	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
4672	J-2456	Forest	TRUE	1.00	2060.68	2.68	2062.37	20.00	20.00	20.00	20.57	J-1773	(N/A)	17.03	J-1198
1861 7600	J-964 J-4061	Forest Forest	TRUE TRUE	1.00 1.00	2062.19 2064.88	1.48 1.08	2062.67 2064.96	20.00 20.00	20.00 20.00	20.00 20.00	21.97 21.94	J-965 J-3946	(N/A) (N/A)	16.88 17.01	J-1198 J-1198
6633	J-3589	Forest	TRUE	1.00	2065.41	1.08	2065.48	20.00	20.00	20.00	20.58	J-2033	(N/A)	17.14	J-1198
6285 3262	J-3383 J-1773	Forest Forest	TRUE TRUE	1.00 1.00	2066.41 2067.52	1.08 1.08	2066.49 2067.59	20.00 20.00	20.00 20.00	20.00 20.00	21.59 20.00	J-3384 J-2456	(N/A) (N/A)	17.18 17.03	J-1198 J-1198
4221	J-2256	Forest	TRUE	1.00	2068.01	2.28	2069.29	20.00	20.07	20.00	20.02	J-2896	(N/A)	17.18	J-1198
3387 3053	J-1842 J-1644	Forest Forest	TRUE TRUE	1.00 1.00	2068.05 2068.08	1.08 1.28	2068.13 2068.35	20.00 20.00	36.11 41.40	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
5295	J-2810	Forest	TRUE	1.00	2068.08	1.48	2068.56	20.00	40.61	20.00	20.01	J-2919	(N/A)	17.14	J-1198
954 6364	J-526 J-3430	Forest Forest	TRUE TRUE	1.00 1.00	2068.53 2076.00	1.28 1.08	2068.81 2076.07	20.00 20.00	41.95 27.52	20.00 20.00	20.00 20.00	J-2919 J-4119	(N/A) (N/A)	17.14 16.88	J-1198 J-1198
6365	J-3431	Forest	TRUE	1.00	2076.00	2.28	2077.28	20.00	28.51	20.00	20.00	J-4119	(N/A)	16.88	J-1198
6632	J-3588	Forest	TRUE	1.00	2076.93	1.28	2077.20	20.00	20.62	20.00	20.00	J-2033	(N/A)	17.14	J-1198

1.00	Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
1412																
1-6501 1-6500 1	7831	J-4129	Forest	TRUE	1.00	2084.66	1.68	2085.34	20.00	20.00	20.00	23.46	J-3823	(N/A)	17.08	J-1198
1,4479 Perc Feet																
Section Property	2732	J-1475	Forest	TRUE	1.00	2087.19	1.68	2087.87	20.00	22.41	20.00	20.00	J-2919	(N/A)	17.15	J-1198
1.500																
1.50																
1985																
1-981		J-3659														
1.9864																
1-1920																
1.500 1.50																
2398 Free TRUE																
1-950																
519 J-280 Fromt TRUE																
1.567 1.567 Freest TRUE																
1-14																
Age Age																
1.5322 J-2826 Forest TRUE 1.00 2113.6 1.08 2113.27 2.00 2.015 2.000 2.001 2.011 (NA) 1.87 J-198 (NA) J-198																
1986 1986																
Sept																
SST6 J-2858 Forest TRUE 1.00 212.05.8 1.48 2121.05 20.00 20.00 20.00 20.77 20.869 (NA) 17.24 J-1988 1.58 J-1988 J																
1.531 J-3410 Forest TRUE 1.00 212.15 1.28 212.45 2000 20.02 20.00 20.06 J-3411 (NA) 17.14 J-1198 SAT J-1596 Forest TRUE 1.00 212.53 1.88 2127.82 20.00 20.05 20.00 20.01 J-3204 (NA) 17.14 J-1198 SAT J-1596 Forest TRUE 1.00 212.53 1.88 2127.82 20.00 38.53 20.00 20.01 J-3204 (NA) 17.15 J-1198 1.00 21.00 J-3205 I.00 J-3205 I																
1.279 J-1784 Forest TRUE																
1.537 1.2659 Forest TRUE 1.00 213.81 1.48 2128.81 2.00 2.00 2.00 2.16 1.2858 (NA) 1.686 1.198																
1488 1488 1489																
Self J-2995 Forest TRUE 1.00								2132.06								
Bello J-392 Stewartswille TRUE 1.00 2133.07 1.11 2133.19 2.000 87.15 20.00 20.00 J-676 (NA) 17.23 J-1198 17.05 J-3923 Forest TRUE 1.00 2133.11 1.08 2133.18 20.00 20.00 20.00 20.00 21.11 J-3824 (NA) 17.07 J-1198 17.05																
1705 J-3823 Forest TRUE 1.00 2133.47 2.68 2133.18 20.00 20.00 20.00 20.01 J-3824 (NA) 17.07 J-1198 1303 J-675 Forest TRUE 1.00 2135.47 2.68 2137.29 20.00 20.58 20.00 20.01 J-2919 (NA) 17.65 J-1198 1303 J-675 Forest TRUE 1.00 2136.69 1.20 2135.65 20.00 98.82 20.00 20.00 J-2919 (NA) 17.15 J-1198 17.00 2136.69 1.20 2136.69 2.00 2.00 8.82 2.00 2.00 2.00 J-2919 (NA) 17.25 J-1198 17.00 2.00 2.00 J-2919 (NA) 17.25 J-1198 17.00 2.00 2.00 2.00 2.00 J-2919 (NA) 17.25 J-1198 J																
3338 J-1816 Forest TRUE 1.00 2133.47 2.68 2.135.15 20.00 20.00 20.00 2.061 J-1469 (IVA) 17.15 1.198 1329 J-682 Lakes TRUE 1.00 2136.80 2.48 2.135.15 20.00 35.48 20.00 20.00 2.2019 2.293 (IVA) 17.15 1.198 1329 J-682 Lakes TRUE 1.00 2136.66 1.20 2136.66 2.000 95.18 2.000 2.000 2.000 2.203 (IVA) 17.23 J-1198 2.2018																
1329 J-882 Lakes TRUE 1.00 2136.49 1.20 2136.76 20.00 98.62 20.00 20.04 J-3232 (NA) 17.23 J-1198 1.00 2136.76 1.00 2136.76 1.00 2136.76 2136.76 20.00 20.01 J-3204 (NA) 17.23 J-1198 1.00 2136.76 2136.76 2136.77 20.00 20.00 20.00 20.00 J-32294 (NA) 17.00 J-1198 1.00 2136.86 1.08 2136.33 20.00 20.00 20.00 J-32294 (NA) 17.00 J-1198 1.00 2136.86 1.08 2136.33 20.00 20.00 20.00 J-32294 (NA) 17.00 J-1198 1.00 2136.86 1.00																
6847 J.5597 Lakes TRUE 1.00 2136.56 1.20 2136.76 20.00 95.18 20.00 20.03 J.32323 (NA) 17.23 J-1198 6897 J-3744 Forest TRUE 1.00 2136.85 1.08 2136.33 20.00 31.36 20.00 20.00 J.32204 (NA) 17.00 J-1198 6898 J-3745 Forest TRUE 1.00 2136.85 1.28 2137.37 20.00 20.00 20.00 J-2729 (NA) 17.00 J-1198 6945 J-3772 Forest TRUE 1.00 2136.85 1.28 2137.37 20.00 20.00 20.00 J-2729 (NA) 17.00 J-1198 6945 J-2772 Forest TRUE 1.00 2136.25 1.08 2139.70 20.00 20.00 20.00 J-2729 (NA) 17.00 J-1198 6945 J-2772 Forest TRUE 1.00 2136.25 1.08 2139.70 20.00 20.00 20.00 J-2719 (NA) 17.14 J-1198 J-																
B889 J3744 Forest TRUE 1.00 2196.85 1.08 2196.83 20.00 31.35 20.00 20.00 J2729 (N/A) 17.00 J-1198 6945 J3772 Forest TRUE 1.00 2196.62 1.08 2193.70 20.00 20.00 20.00 20.00 J2729 (N/A) 17.00 J-1198 6945 J3772 Forest TRUE 1.00 219.62 1.08 2193.70 20.00 20.00 20.00 20.00 J2719 (N/A) 17.14 J-1198 808 J-458 Forest TRUE 1.00 2143.02 1.08 2143.16 20.00 48.29 20.00 20.00 J-2919 (N/A) 17.14 J-1198 808 J-458 Forest TRUE 1.00 2145.03 1.29 2145.00 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.14 J-1198 4710 Lakes TRUE 1.00 2145.31 1.29 2145.60 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.23 J-1198 4780 J-2516 Forest TRUE 1.00 2147.14 Lakes 2145.22 20.00 30.00 20.00 20.00 J-8956 (N/A) 17.18 J-1198 4780 J-2516 Forest TRUE 1.00 2147.14 Lakes 2148.22 20.00 36.66 20.00 20.00 J-8956 (N/A) 17.18 J-1198 4780 J-2516 Forest TRUE 1.00 2147.14 Lakes 2145.22 20.00 36.66 20.00 20.00 J-8956 (N/A) 17.18 J-1198 4780 J-208 Forest TRUE 1.00 2152.46 1.08 2152.46 20.00 38.25 20.00 20.00 J-8956 (N/A) 17.14 J-1198 384 J-208 Forest TRUE 1.00 2153.75 1.08 2153.83 20.00 38.23 20.00 20.00 J-8956 (N/A) 17.14 J-1198 384 J-208 Forest TRUE 1.00 2153.75 1.08 2153.83 20.00 38.23 20.00 20.01 J-941 (N/A) 17.14 J-1198 378 J-1258 Forest TRUE 1.00 2155.07 1.11 2155.18 20.00 38.03 20.00 20.01 J-941 (N/A) 17.14 J-1198 378 J-1258 Forest TRUE 1.00 2155.07 1.11 2155.18 20.00 20.00 J-676 (N/A) 17.14 J-1198 3177 J-1720 Forest TRUE 1.00 2155.07 1.11 2155.18 20.00 20.00 J-676 (N/A) 17.14 J-1198 3177 J-1720 Forest TRUE 1.00 2159.61 1.08 2159.60 1.08 2159.60 20.00 20.00 J-676 (N/A) 17.14 J-																
B898 J3745 Forest TRUE 1.00 2198.68 1.28 2197.70 2.000 2.000 2.000 J2729 (N/A) 17.00 J-1198 7505 J-1029 Forest TRUE 1.00 2143.02 5.32 2147.34 2.000 48.29 2.000 2.000 2.000 J2919 (N/A) 17.14 J-1198 2.008 J-148 Forest TRUE 1.00 2143.02 5.32 2147.34 2.000 48.29 2.000 2.000 J-2919 (N/A) 17.14 J-1198 2.008 J-1507 J-1100 Lakes TRUE 1.00 2144.87 1.63 2145.51 2.000 2.000 2.000 2.000 J-2919 (N/A) 17.14 J-1198 2.008 J-1100 Lakes TRUE 1.00 2144.87 1.63 2145.51 2.000 2.000 2.000 2.000 2.000 J-2919 (N/A) 17.14 J-1198 4.009 J-2728 J-1100 J-2728 J-1198 J-1																
Top Top																
808 J-458 Forest TRUE 1.00 2143.08 1.08 2143.16 20.00 42.9 20.00 J-2919 (NA) 17.14 J-1198 2085 J-1100 Lakes TRUE 1.00 2148.87 1.05 2145.55 20.00 20.00 20.00 23.86 J-1101 (NA) 17.23 J-1198 4780 J-2516 Forest TRUE 1.00 2147.14 1.08 2147.62 20.00 37.26 20.00 20.00 J-895 (NA) 17.18 J-1198 4780 J-2516 Forest TRUE 1.00 2147.14 1.48 2147.62 20.00 36.60 20.00 20.00 J-895 (NA) 17.18 J-1198 3484 J-209 Forest TRUE 1.00 2152.46 1.08 2152.45 20.00 36.39 20.00 20.00 J-895 (NA) 17.14 J-1198 3484 J-209 Forest TRUE 1.00 2153.75 1.08 2153.46 20.00 36.39 20.00 20.00 J-941 (NA) 17.14 J-1198 3484 J-209 Forest TRUE 1.00 2153.75 1.08 2154.66 20.00 37.66 20.00 20.01 J-941 (NA) 17.14 J-1198 3484 J-209 Forest TRUE 1.00 2153.78 1.08 2154.46 20.00 37.66 20.00 20.01 J-941 (NA) 17.14 J-1198 3494 J-209 Forest TRUE 1.00 2153.78 1.08 2154.46 20.00 37.66 20.00 20.01 J-941 (NA) 17.14 J-1198 3494 J-209 Forest TRUE 1.00 2153.78 1.08 2154.46 20.00 37.66 20.00 20.01 J-941 (NA) 17.14 J-1198 3494 J-209 J-208 J																
6434 J-3471								2143.16								
4780 J.2516 Forest TRUE 1.00 2147.14 2.08 2148.22 2.00.0 37.26 20.00 20.00 J.895 (NA) 17.18 J.1198 383 J.208 Forest TRUE 1.00 2152.46 1.08 2152.54 20.00 38.39 20.00 20.00 J.895 (NA) 17.18 J.1198 384 J.209 Forest TRUE 1.00 2153.76 1.08 2153.83 20.00 38.39 20.00 20.01 J.941 (NA) 17.14 J.1198 1401 J.598 Forest TRUE 1.00 2153.76 1.28 2154.06 20.00 37.66 20.00 20.01 J.941 (NA) 17.14 J.1198 1401 J.598 Forest TRUE 1.00 2153.76 1.28 2154.06 20.00 37.66 20.00 20.01 J.941 (NA) 17.14 J.1198 2346 J.1258 Forest TRUE 1.00 2153.99 1.08 2154.06 20.00 37.66 20.00 20.01 J.941 (NA) 17.14 J.1198 2346 J.1258 Forest TRUE 1.00 2153.99 1.08 2154.06 20.00 38.03 20.00 20.01 J.941 (NA) 17.14 J.1198 591 J.338 Slewantsville TRUE 1.00 2155.07 1.11 2155.18 20.00 92.78 20.00 20.00 J.676 (NA) 17.14 J.1198 592 J.339 Slewantsville TRUE 1.00 2155.07 1.11 2155.18 20.00 91.89 20.00 20.00 J.676 (NA) 17.23 J.1198 1452 J.728 Forest TRUE 1.00 2155.87 1.11 2155.18 20.00 91.89 20.00 20.01 J.941 (NA) 17.14 J.1198 1452 J.728 Forest TRUE 1.00 2155.87 1.51 2.51 20.00 91.89 20.00 20.01 J.941 (NA) 17.14 J.1198 1452 J.728 Forest TRUE 1.00 2155.87 1.50 20.00 91.89 20.00 20.01 J.941 (NA) 17.14 J.1198 1452 J.728 Forest TRUE 1.00 2155.86 1.08 2159.20 20.00 37.63 20.00 20.01 J.941 (NA) 17.14 J.1198 1453 J.728 Forest TRUE 1.00 2159.86 1.08 2159.69 20.00 20.00 20.01 J.941 (NA) 17.14 J.1198 1477 J.1720 Forest TRUE 1.00 2159.87 1.88 2169.20 20.00 37.63 20.00 20.01 J.941 (NA) 17.14 J.1198 1478 J.1721 Forest TRUE 1.00 2159.87 1.28 2160.15 20.00 36.34 20.00 20.01 J.3200 (NA) 17.14 J.1198 1478 J.3677 Forest TRUE 1.00 2159.87 1.28 2160.15 20.00 36.34 20.00 20.01 J.3200 (NA) 17.14 J.1198 1478 J.3678 Forest TRUE 1.00 2159.87 1.28 2160.15 20.00 36.34 20.00 20.01 J.3200 (NA) 17.14 J.1198 1479 J.3268 Forest TRUE 1.00 2159.87 1.28 2160.15 20.00 36.34 20.00 20.01 J.3200 (NA) 17.14 J.1198 1479 J.3678 Forest TRUE 1.00 2159.87 1.28 2160.15 20.00 36.34 20.00 20.00 J.3010 (NA) 17.14 J.1198 1479 J.3678 Forest TRUE 1.00 2159.87 1.28 2160.15 20.00 36.34 20.00 20.00 J.3200 (NA) 17.14 J.1198																
383 J-208 Forest TRUE 1.00 2152-46 1.08 2152-54 2.000 38.23 2.000 2.001 J-941 (N/A) 17.14 J-1198 1401 J-698 Forest TRUE 1.00 2153.78 1.28 2154.06 20.00 37.66 20.00 2.011 J-941 (N/A) 17.14 J-1198 1401 J-698 Forest TRUE 1.00 2153.78 1.28 2154.06 20.00 37.66 20.00 20.01 J-941 (N/A) 17.14 J-1198 17.53 J-4041 Forest TRUE 1.00 2153.66 1.08 2154.06 20.00 37.66 20.00 20.01 J-941 (N/A) 17.14 J-1198 1.08 J-1288 Forest TRUE 1.00 2155.07 1.11 2155.18 20.00 22.78 20.00 20.01 J-941 (N/A) 17.14 J-1198 1.09 J-2246 Forest TRUE 1.00 2155.07 1.11 2155.18 20.00 92.78 20.00 20.00 J-676 (N/A) 17.23 J-1198 1.05 1	4779	J-2515	Forest	TRUE	1.00	2147.14	2.08	2148.22	20.00	37.26	20.00	20.00	J-895	(N/A)	17.18	J-1198
384 J.209																
7533 J-4041 Forest TRUE 1.00 2154.96 2.00 24.35 2.00 2.00 J-2405 (NA) 17.14 J-1198 591 J-338 Stewartsville TRUE 1.00 2155.07 1.11 2155.18 2.00 20.00 2.00 J-676 (NA) 17.14 J-1198 592 J-339 Stewartsville TRUE 1.00 2155.07 1.11 2155.18 2.00 92.78 20.00 20.00 J-676 (NA) 17.23 J-1198 4190 J-2246 Forest TRUE 1.00 2155.82 2.68 2157.50 20.00 20.01 J-941 (NA) 17.18 J-1198 1452 J-728 Forest TRUE 1.00 2159.53 1.08 2159.00 20.00 20.01 J-941 (NA) 17.14 J-1198 3176 J-1720 Forest TRUE 1.00 2159.61 1.68 2160.48 20.00 22.01 2.00	384	J-209	Forest	TRUE	1.00	2153.75	1.08	2153.83	20.00	38.23	20.00	20.01	J-941	(N/A)	17.14	J-1198
2346 J-1258 Forest TRUE 1.00 2155.67 1.11 2155.18 2.000 2.000 2.000 2.000 2.000 3.941 (N/A) 17.14 J-1198 592 J-338 Stewartsville TRUE 1.00 2155.07 1.11 2155.18 2.000 91.89 2.000 2.000 J-676 (N/A) 17.23 J-1198 1.000 2.000 J-2406 (N/A) 17.23 J-1198 1.000 2.000 J-2406 (N/A) 17.23 J-1198 1.000 J-2246 Forest TRUE 1.000 2.155.82 2.68 2.157.50 2.000 2.000 2.000 2.000 J-295 (N/A) 17.18 J-1198 1.000 J-2246 Forest TRUE 1.000 2.159.52 1.08 2.159.61 2.000 2.000 2.000 2.000 2.380 J-1197 (N/A) 16.72 J-1198 1.000 3.000 J-2406 (N/A) 1.744 J-1198 3.000 J-2406 (N/A) J-144 (N/A) 3.000 J-2406 (N/A) 3.000																
592 J-339 Stewartsville TRUE 1.00 2155.07 1.11 2155.18 20.00 91.89 20.00 20.01 J-295 (N/A) 17.23 J-1198	2346	J-1258	Forest	TRUE	1.00	2154.66	1.08	2154.74	20.00	38.03	20.00	20.01	J-941	(N/A)	17.14	J-1198
4190																
8036	4190	J-2246	Forest	TRUE	1.00	2155.82	2.68	2157.50	20.00	20.39	20.00	20.01	J-2995	(N/A)	17.18	J-1198
3178 J-1721 Forest TRUE 1.00 2159.61 1.08 2159.69 20.00 24.01 20.00 20.00 J-2405 (N/A) 17.14 J-1198 6784 J-3677 Forest TRUE 1.00 2159.61 1.68 2160.29 20.00 22.55 20.00 20.00 J-2405 (N/A) 17.14 J-1198 6785 J-3678 Forest TRUE 1.00 2159.87 1.28 2160.18 20.00 36.34 20.00 20.01 J-3200 (N/A) 17.16 J-1198 6785 J-3678 Forest TRUE 1.00 2159.87 1.28 2160.15 20.00 34.02 20.00 20.01 J-3200 (N/A) 17.16 J-1198 7088 J-3853 Forest TRUE 1.00 2159.92 1.28 2160.20 20.00 26.61 20.00 20.00 J-941 (N/A) 17.14 J-1198 7088 J-3853 Forest TRUE 1.00 2161.38 1.88 2162.26 20.00 33.52 20.00 20.00 J-2405 (N/A) 17.14 J-1198 7084 J-2650 Forest TRUE 1.00 2162.34 3.29 2164.63 20.00 33.52 20.00 20.00 J-2415 (N/A) 17.18 J-1198 7094 J-2565 Forest TRUE 1.00 2162.59 1.20 2162.79 20.00 33.91 20.00 20.00 J-3016 (N/A) 17.23 J-1198 7094 J-2565 Forest TRUE 1.00 2162.59 1.20 2162.79 20.00 32.41 20.00 20.00 J-3016 (N/A) 17.23 J-1198 7094 J-2565 Forest TRUE 1.00 2162.59 1.20 2162.79 20.00 32.41 20.00 20.00 J-3016 (N/A) 17.23 J-1198 7094 J-2565 Forest TRUE 1.00 2167.75 2.28 2169.05 20.00 30.24 20.00 20.00 J-3016 (N/A) 17.23 J-1198 7095 J-2565 Forest TRUE 1.00 2167.75 2.28 2169.05 20.00 20.00 20.00 J-2655 (N/A) 17.18 J-1198 7095 J-2565 Forest TRUE 1.00 2167.79 2.28 2169.05 20.00 20.00 20.00 J-2655 (N/A) 17.18 J-1198 7095 J-2565 Forest TRUE 1.00 2167.79 2.28 2169.05 20.00 20.00 20.00 J-2655 (N/A) 17.18 J-1198 7095 J-2565 Forest TRUE 1.00 2167.79 1.88 2170.69 20.00 20.00 20.00 J-2655 (N/A) 17.18 J-1198 7095 J-2565 Forest TRUE 1.00 2171.97 1.88 2172.33 20.00 20.00 20.00 20.00 J-2655 (N/A) 17.18 J-1198 7095 J-2565 Forest TRUE 1.00 2171.97 1.48 2172.35 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.14 J-1198 7095 J-2569 Forest TRUE 1.00 2171.97 1.48 2172.35 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.14 J-1198 7095 J-2569 Forest TRUE 1.00 2171.97 1.48 2172.35 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.14 J-1198 7095 J-2569 Forest TRUE 1.00 2171.97 1.48 2172.45 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.14 J-1198 7095 J-2569 Forest TRUE 1.00 2171.80 1.28 2175.08 20.00 20.00 20.00 20.																
6784 J-3677 Forest TRUE 1.00 2159.87 1.28 2160.48 20.00 36.34 20.00 20.01 J-3200 (N/A) 17.16 J-1198 7088 J-3873 Forest TRUE 1.00 2159.87 1.28 2160.15 20.00 34.02 20.00 20.01 J-3200 (N/A) 17.16 J-1198 7088 J-3873 Forest TRUE 1.00 2159.92 1.28 2160.20 20.00 26.61 20.00 20.00 J-941 (N/A) 17.14 J-1198 7088 J-3873 Forest TRUE 1.00 2161.38 1.88 2162.26 20.00 33.52 20.00 20.00 J-941 (N/A) 17.14 J-1198 7098 J-3873 J-2152 Forest TRUE 1.00 2162.34 3.29 2164.63 20.00 20.00 20.00 J-20.00 J-3016 (N/A) 17.18 J-1198 6091 J-3268 Lakes TRUE 1.00 2162.58 1.20 2162.78 20.00 33.91 20.00 20.00 J-3016 (N/A) 17.23 J-1198 6090 J-3267 Lakes TRUE 1.00 2162.59 1.20 2162.78 20.00 33.91 20.00 20.00 J-3016 (N/A) 17.23 J-1198 3973 J-2152 Forest TRUE 1.00 2167.77 2.28 2169.05 20.00 32.41 20.00 20.00 J-3016 (N/A) 17.23 J-1198 3973 J-2152 Forest TRUE 1.00 2167.77 2.28 2169.05 20.00 22.90 20.00 J-2153 (N/A) 17.18 J-1198 5736 J-3065 Forest TRUE 1.00 2171.02 1.88 2171.90 20.00 20.00 20.00 J-3066 (N/A) 17.18 J-1198 5736 J-2580 Forest TRUE 1.00 2171.02 1.88 2171.90 20.00 20.00 20.00 20.00 J-3066 (N/A) 17.18 J-1198 5082 J-2580 Forest TRUE 1.00 2171.02 1.88 2172.33 20.00 20.00 20.00 20.00 J-2153 (N/A) 17.18 J-1198 5082 J-2580 Forest TRUE 1.00 2171.02 1.88 2172.33 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.11 J-1198 5082 J-2580 Forest TRUE 1.00 2171.02 1.88 2172.33 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.11 J-1198 5082 J-2580 Forest TRUE 1.00 2171.02 1.88 2172.33 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.13 J-1198 5082 J-2580 Forest TRUE 1.00 2171.02 1.88 2172.05 20.00 50.67 20.00 20.00 J-2919 (N/A) 17.14 J-1198 5082 J-2580 Forest TRUE 1.00 2171.02 1.88 2172.05 20.00 50.67 20.00 20.00 J-2919 (N/A) 17.14 J-1198 5082 J-2580 Forest TRUE 1.00 2171.02 1.88 2172.05 20.00 50.67 20.00 20.00 J-2919 (N/A) 17.13 J-1198 5082 J-2580 Forest TRUE 1.00 2171.02 1.88 2172.05 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.13 J-1198 5082 J-2580 Forest TRUE 1.00 2171.02 1.88 2172.05 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.14 J-1198 5082 J-2580 Forest TRUE 1.00 2171.02 1.88 2175.08 20.	3178	J-1721	Forest	TRUE	1.00	2159.61	1.08	2159.69	20.00	24.01	20.00	20.00	J-2405	(N/A)	17.14	J-1198
6785 J-3678 Forest TRUE 1.00 2159.87 1.28 2160.15 20.00 34.02 20.00 20.01 J-3200 (IVA) 17.16 J-1198 7768 J-3853 Forest TRUE 1.00 2159.92 1.28 2160.20 20.00 2.661 20.00 20.00 2.000 J-941 (IVA) 17.14 J-1198 7768 J-4111 Forest TRUE 1.00 2161.38 1.88 2162.26 20.00 33.52 20.00 20.00 J-2219 (IVA) 17.18 J-1198 5014 J-2650 Forest TRUE 1.00 2162.34 3.29 2164.63 20.00 20.00 20.00 20.00 J-2016 (IVA) 17.18 J-1198 6091 J-3268 Lakes TRUE 1.00 2162.59 1.20 2162.78 20.00 33.91 20.00 20.00 J-3016 (IVA) 17.23 J-1198 6090 J-3267 Lakes TRUE 1.00 2162.59 1.20 2162.79 20.00 32.41 20.00 20.00 J-3016 (IVA) 17.23 J-1198 3581 J-1953 Forest TRUE 1.00 2163.75 1.88 2164.63 20.00 30.24 20.00 20.00 J-3016 (IVA) 17.23 J-1198 3973 J-2152 Forest TRUE 1.00 2167.77 2.28 2169.05 20.00 22.90 20.00 20.00 J-2153 (IVA) 17.18 J-1198 3770 J-2055 Forest TRUE 1.00 2169.01 2.68 2170.69 20.00 20.00 20.00 20.00 J-2056 (IVA) 17.18 J-1198 4892 J-2580 Forest TRUE 1.00 2171.02 1.88 2172.33 20.00 20.00 20.00 20.00 2.26 J-2650 (IVA) 17.11 J-1198 5082 J-2690 Forest TRUE 1.00 2171.97 1.48 2172.33 20.00 20.00 20.00 20.00 J-2919 (IVA) 17.13 J-1198 5494 J-2925 Forest TRUE 1.00 2171.97 1.48 2172.35 20.00 20.00 20.00 20.00 J-2919 (IVA) 17.13 J-1198 5494 J-2925 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 20.00 20.00 20.00 J-2919 (IVA) 17.13 J-1198 5494 J-2925 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 20.00 20.00 20.00 J-2919 (IVA) 17.13 J-1198 5494 J-2925 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 20.00 20.00 20.00 J-2919 (IVA) 17.14 J-1198 5494 J-2925 Forest TRUE 1.00 2174.80 1.2																
Trigon T	6785	J-3678	Forest	TRUE	1.00	2159.87	1.28	2160.15	20.00	34.02	20.00	20.01	J-3200	(N/A)	17.16	J-1198
5014 J-2650 Forest TRUE 1.00 2162.34 3.29 2164.63 20.00 20.00 20.00 20.00 J-3016 (N/A) 17.18 J-1198																
6000 J-32667 Lakes TRUE 1.00 2162.59 1.20 2162.79 20.00 32.41 20.00 20.00 J-3016 (N/A) 17.23 J-1198 3581 J-1953 Forest TRUE 1.00 2167.77 2.28 2169.05 20.00 22.90 20.00 20.00 J-1044 (N/A) 16.72 J-1198 3770 J-2055 Forest TRUE 1.00 2167.77 2.28 2169.05 20.00 22.90 20.00 20.00 J-2153 (N/A) 17.18 J-1198 5736 J-3065 Forest TRUE 1.00 2171.02 1.88 2170.69 20.00 20.00 20.00 20.00 20.00 J-2153 (N/A) 17.18 J-1198 5736 J-3065 Forest TRUE 1.00 2171.97 1.88 2171.90 20.00 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.16 J-1198 5733 J-431 Forest TRUE 1.00 2171.97 1.88 2172.05 20.00 50.67 20.00 20.00 J-2919 (N/A) 17.13 J-1198 500 J-2690 Forest TRUE 1.00 2171.97 1.88 2172.05 20.00 50.67 20.00 20.00 J-2919 (N/A) 17.13 J-1198 500 J-2690 Forest TRUE 1.00 2171.97 1.48 2172.05 20.00 50.67 20.00 20.00 J-2919 (N/A) 17.13 J-1198 500 J-2690 Forest TRUE 1.00 2171.97 1.48 2172.05 20.00 50.67 20.00 20.00 J-2919 (N/A) 17.13 J-1198 500 J-2690 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 26.65 20.00 20.00 J-2919 (N/A) 17.14 J-1198 500 J-2695 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 26.65 20.00 20.00 J-2919 (N/A) 17.14 J-1198 500 J-2695 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 26.65 20.00 20.00 J-2919 (N/A) 17.14 J-1198 500 J-2695 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 26.65 20.00 20.00 J-2919 (N/A) 17.14 J-1198 500 J-2695 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 20.00 20.00 J-2919 (N/A) 17.14 J-1198 500 J-2695 J-2695 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 20.00 20.00 J-2919 (N/A) 17.14 J-1198 500 J-2695 J-2695 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 20.00 20.00 J-2919 (N/A) 17.14 J-1198 500 J-2695 J-2695 Forest TRUE 1.00 2175.80 1.08 2175.08 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.14 J-1198 500 J-2695 J-2695 Forest TRUE 1.00 2176.86 1.48 2179.04 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.14 J-1198 500 J-2695 J-2695 Forest TRUE 1.00 2178.66 1.48 2179.04 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.15 J-1198 500 J-2696 J-2696 Forest TRUE 1.00 2181.06 1.48 2181.67 20.00 20.00 20.00 J-2919 (N/A) 17.15 J-1198 500 J-2696 J-2696 Forest TRUE 1																
3581 J-1953 Forest TRUE 1.00 2163.75 1.88 2164.63 20.00 30.24 20.00 20.00 J-1044 (N/A) 16.72 J-1198 3973 J-2152 Forest TRUE 1.00 2167.77 2.28 2169.05 20.00 22.00 20.00 20.00 J-2153 (N/A) 17.18 J-1198 3770 J-2055 Forest TRUE 1.00 2169.01 2.68 2170.69 20.00 20.00 20.00 20.00 20.00 J-2153 (N/A) 17.18 J-1198 5736 J-2056 Forest TRUE 1.00 2171.02 1.88 2171.90 20.00 20.00 20.00 20.00 20.00 20.00 1.265 (N/A) 17.18 J-1198 5736 J-2580 Forest TRUE 1.00 2171.85 1.48 2172.33 20.00 20.00 20.00 20.00 20.00 20.00 1.265 J-2579 (N/A) 17.16 J-1198 5082 J-2690 Forest TRUE 1.00 2171.97 1.08 2172.05 20.00 50.67 20.00 20.00 J-2919 (N/A) 17.13 J-1198 5082 J-2690 Forest TRUE 1.00 2171.97 1.48 2172.45 20.00 49.85 20.00 20.00 J-2919 (N/A) 17.13 J-1198 5082 J-2690 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 26.65 20.00 20.00 J-2919 (N/A) 17.14 J-1198 1482 J-743 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 26.65 20.00 20.00 J-941 (N/A) 17.14 J-1198 5726 J-3059 Forest TRUE 1.00 2175.80 1.08 2175.88 20.00 20.00 20.00 20.00 J-941 (N/A) 17.14 J-1198 5726 J-3059 Forest TRUE 1.00 2178.56 1.48 2179.04 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.14 J-1198 2497 J-1339 Forest TRUE 1.00 2178.56 1.48 2179.04 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.18 J-1198 5521 J-2940 Forest TRUE 1.00 2178.61 1.08 2178.69 20.00 20.00 20.00 J-2919 (N/A) 17.15 J-1198 5521 J-2940 Forest TRUE 1.00 2178.61 1.08 2178.69 20.00 20.00 20.00 J-2939 (N/A) 17.01 J-1198 5521 J-2940 Forest TRUE 1.00 2181.06 1.48 2181.54 20.00 20.00 20.00 J-2919 (N/A) 17.15 J-1198 5539 J-306 Forest TRUE 1.00 2181.06 1.48 2181.54 20.00 20.00 20.00 J-2919 (N/A) 17.15 J-1198 5539 J-306 Forest TRUE 1.00 2181.06 1.48 2181.54 20.00 20.00 20.00 J-2919 (N/A) 17.15 J-1198 5539 J-306 Forest TRUE 1.00 2181.06 1.48 2181.54 20.00 20.00 20.00 J-209 J-2919 (N/A) 17.15 J-1198 5539 J-306 Forest TRUE 1.00 2181.06 1.48 2181.54 20.00 20.00 20.00 J-209 J-2919 (N/A) 17.15 J-1198 5539 J-306 Forest TRUE 1.00 2181.06 1.48 2181.54 20.00 20.00 20.00 J-209 J-2919 (N/A) 17.15 J-1198 5539 J-306 Forest TRUE 1.00 2181.06 1.48 2181.54																
3770 J-2055 Forest TRUE 1.00 2199.01 2.88 2170.69 20.00 20.00 20.00 20.26 J-2660 (N/A) 17.18 J-1198 4736 J-3065 Forest TRUE 1.00 2171.02 1.88 2170.69 20.00 1.00 17.13 J-1198 217.197 1.08 2172.05 20.00 50.67 20.00 20.00 J-2919 (N/A) 17.13 J-1198 20.00 20.00 20.00 J-2919 (N/A) 17.13 J-1198 2175.08 20.00 20.00 20.00 J-2919	3581	J-1953	Forest	TRUE	1.00	2163.75	1.88	2164.63	20.00	30.24	20.00	20.00	J-1044	(N/A)	16.72	J-1198
5736 J-3065 Forest TRUE 1.00 2171.02 1.88 2171.90 20.00 20.00 20.00 21.00 23.066 (N/A) 17.01 J-1198 753 J-2580 Forest TRUE 1.00 2171.97 1.48 2172.05 20.00 20.00 20.05 J-2579 (N/A) 17.16 J-1198 753 J-431 Forest TRUE 1.00 2171.97 1.48 2172.05 20.00 50.67 20.00 J-2919 (N/A) 17.13 J-1198 5494 J-2926 Forest TRUE 1.00 2171.97 1.48 2172.45 20.00 49.85 20.00 J-2919 (N/A) 17.13 J-1198 5494 J-2926 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 26.65 20.00 20.00 J-941 (N/A) 17.14 J-1198 482 J-743 Forest TRUE 1.00 2174.80 1.28																
753 J-421 Forest TRUE 1.00 2171.97 1.08 2172.05 20.00 50.67 20.00 20.00 J-2919 (N/A) 17.13 J-1198 5082 J-2690 Forest TRUE 1.00 2171.97 1.48 2172.45 20.00 49.85 20.00 20.00 J-2919 (N/A) 17.13 J-1198 5494 J-2925 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 26.65 20.00 20.00 J-941 (N/A) 17.14 J-1198 5726 J-3059 Forest TRUE 1.00 2175.80 1.08 2175.08 20.00 20.00 20.00 J-941 (N/A) 17.14 J-1198 5726 J-3059 Forest TRUE 1.00 2175.80 1.08 2175.88 20.00 20.00 20.00 J-941 (N/A) 16.85 J-1198 2785 J-1507 Forest TRUE 1.00 2178.	5736	J-3065	Forest	TRUE	1.00	2171.02	1.88	2171.90	20.00	20.00	20.00	21.10	J-3066	(N/A)	17.01	J-1198
5082 J-2690 Forest TRUE 1.00 2171.97 1.48 2172.45 20.00 49.85 20.00 20.00 J-2919 (N/A) 17.13 J-1198 5494 J-2925 Forest TRUE 1.00 2174.80 1.28 2175.08 20.00 26.65 20.00 20.00 J-941 (N/A) 17.14 J-1198 4482 J-743 Forest TRUE 1.00 2175.80 1.08 2175.08 20.00 20.00 20.00 J-941 (N/A) 17.14 J-1198 5726 J-3059 Forest TRUE 1.00 2178.56 1.08 2175.88 20.00 20.00 20.00 22.07 J-3060 (N/A) 16.85 J-1198 2497 J-1339 Forest TRUE 1.00 2178.61 1.08 2178.69 20.00 20.00 20.00 J-4176 (N/A) 17.18 J-1198 2497 J-3490 Forest TRUE 1.00 217						2171.97										
1482 J-743 Forest TRUE 1.00 2174.80 1.28 2175.08 2.00 27.64 20.00 20.00 J-941 (N/A) 17.14 J-1198 5726 J-3059 Forest TRUE 1.00 2175.80 1.08 2175.00 20.00 20.00 20.00 22.07 J-3060 (N/A) 16.85 J-1198 2785 J-1507 Forest TRUE 1.00 2178.56 1.48 2179.04 20.00 20.00 20.00 23.48 J-1508 (N/A) 16.89 J-1198 2497 J-1339 Forest TRUE 1.00 2178.61 1.08 2178.69 20.00 21.14 20.00 20.00 J-4176 (N/A) 17.18 J-1198 5521 J-2940 Forest TRUE 1.00 2181.06 1.48 2181.54 20.00 20.00 20.01 J-2939 (N/A) 17.01 J-1198 539 J-306 Forest TRUE 1.00	5082	J-2690	Forest	TRUE	1.00	2171.97	1.48	2172.45	20.00	49.85	20.00	20.00	J-2919	(N/A)	17.13	J-1198
5726 J-3059 Forest TRUE 1.00 2175.80 1.08 2175.88 20.00 20.00 20.00 22.07 J-3060 (N/A) 16.85 J-1198 2785 J-1507 Forest TRUE 1.00 2178.56 1.48 2179.04 20.00 20.00 23.48 J-1508 (N/A) 16.99 J-1198 2497 J-1339 Forest TRUE 1.00 2178.61 1.08 2178.69 20.00 21.14 20.00 20.00 J-4176 (N/A) 17.18 J-1198 5521 J-2940 Forest TRUE 1.00 2180.89 1.28 2181.17 20.00 20.01 20.00 20.91 J-2939 (N/A) 17.01 J-1198 539 J-306 Forest TRUE 1.00 2181.06 1.48 2181.54 20.00 22.08 20.00 J-2919 (N/A) 17.15 J-1198																
2497 J-1339 Forest TRUE 1.00 2178.61 1.08 2178.69 20.00 21.14 20.00 20.00 J-4176 (N/A) 17.18 J-1198 5521 J-2940 Forest TRUE 1.00 2180.89 1.28 2181.7 20.00 20.01 20.00 20.91 J-2939 (N/A) 17.01 J-1198 539 J-306 Forest TRUE 1.00 2181.06 1.48 2181.54 20.00 22.08 20.00 20.00 J-2919 (N/A) 17.15 J-1198	5726	J-3059	Forest	TRUE	1.00	2175.80	1.08	2175.88	20.00	20.00	20.00	22.07	J-3060	(N/A)	16.85	J-1198
5521 J-2940 Forest TRUE 1.00 2180.89 1.28 2181.17 20.00 20.01 20.00 20.91 J-2939 (N/A) 17.01 J-1198 539 J-306 Forest TRUE 1.00 2181.06 1.48 2181.54 20.00 22.08 20.00 20.00 J-2919 (N/A) 17.15 J-1198	2497	J-1339		TRUE	1.00	2178.61	1.08	2178.69	20.00	21.14	20.00	20.00	J-4176	(N/A)	17.18	J-1198
	5521		Forest					2181.17			20.00		J-2939	(N/A)	17.01	

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
5366	J-2852	Forest	TRUE	1.00	2182.19	1.08	2182.27	20.00	29.29	20.00	20.00	J-2219	(N/A)	17.18	J-1198
5367	J-2853	Forest	TRUE	1.00	2182.19	1.08	2182.27	20.00	28.21	20.00	20.00	J-2219	(N/A)	17.18	J-1198
3738 540	J-2040 J-307	Forest Forest	TRUE TRUE	1.00 1.00	2183.09 2184.59	1.68 1.88	2183.77 2185.47	20.00 20.00	20.00 22.29	20.00 20.00	20.13 20.00	J-2121 J-2919	(N/A) (N/A)	17.01 17.15	J-1198 J-1198
5010	J-2648	Forest	TRUE	1.00	2184.88	2.08	2185.96	20.00	23.67	20.00	20.00	J-2405	(N/A)	17.14	J-1198
5009 6946	J-2647 J-3773	Forest Forest	TRUE TRUE	1.00 1.00	2184.88 2186.07	1.28 1.08	2185.16 2186.15	20.00 20.00	22.91 21.64	20.00 20.00	20.00 20.00	J-2405 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
1483	J-744	Forest	TRUE	1.00	2186.15	1.48	2186.62	20.00	24.53	20.00	20.00	J-941	(N/A)	17.14	J-1198
5737 4212	J-3066 J-2253	Forest Forest	TRUE TRUE	1.00 1.00	2186.28 2189.87	1.88 2.68	2187.16 2191.56	20.00 20.00	20.00 20.00	20.00 20.00	20.03 20.29	J-3065 J-2939	(N/A) (N/A)	17.01 17.01	J-1198 J-1198
5727	J-3060	Forest	TRUE	1.00	2189.92	1.48	2190.40	20.00	20.98	20.00	20.23	J-3059	(N/A)	16.84	J-1198
5520 4891	J-2939 J-2579	Forest Forest	TRUE TRUE	1.00 1.00	2192.38 2192.58	1.68 1.08	2193.06 2192.66	20.00 20.00	20.00 20.11	20.00 20.00	20.07 20.01	J-2253 J-2580	(N/A) (N/A)	17.01 17.16	J-1198 J-1198
3905	J-2120	Forest	TRUE	1.00	2193.25	1.48	2193.73	20.00	20.92	20.00	20.03	J-3059	(N/A)	16.84	J-1198
1867 2757	J-968 J-1490	Forest Forest	TRUE TRUE	1.00 1.00	2193.79 2193.79	1.88 1.88	2194.67 2194.67	20.00 20.00	24.80 23.64	20.00 20.00	20.00 20.00	J-969 J-969	(N/A) (N/A)	16.71 16.71	J-1198 J-1198
5534	J-2948	Forest	TRUE	1.00	2193.79	1.08	2193.87	20.00	22.52	20.00	20.00	J-969	(N/A)	16.71	J-1198
4249 6381	J-2264 J-3440	Forest Forest	TRUE TRUE	1.00 1.00	2194.58 2194.90	2.68 1.48	2196.26 2195.38	20.00 20.00	26.89 31.71	20.00 20.00	20.00 20.00	J-2219 J-2219	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
6382	J-3441	Forest	TRUE	1.00	2194.91	1.28	2195.19	20.00	30.07	20.00	20.00	J-2219	(N/A)	17.18	J-1198
7900 490	J-4141 J-275	Forest Forest	TRUE TRUE	1.00 1.00	2194.96 2196.20	1.88 1.08	2195.84 2196.28	20.00 20.00	20.00 51.39	20.00 20.00	24.25 20.00	J-1197 J-2919	(N/A) (N/A)	17.17 17.13	J-1198 J-1198
489	J-274	Forest	TRUE	1.00	2202.81	1.48	2203.29	20.00	51.50	20.00	20.00	J-2919	(N/A)	17.13	J-1198
6109 1498	J-3278 J-749	Forest Forest	TRUE TRUE	1.00 1.00	2203.11 2203.11	1.08 1.28	2203.18 2203.39	20.00 20.00	32.74 33.71	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
941	J-519	Forest	TRUE	1.00	2204.82	1.08	2204.90	20.00	25.80	20.00	20.00	J-2919	(N/A)	17.15	J-1198
2662 5195	J-1434 J-2752	Forest Forest	TRUE TRUE	1.00 1.00	2204.96 2206.44	1.88 2.88	2205.84 2208.32	20.00 20.00	21.77 20.00	20.00 20.00	20.00 21.08	J-1433 J-2257	(N/A) (N/A)	17.06 17.18	J-1198 J-1198
4031	J-2176	Forest	TRUE	1.00	2206.44	1.08	2206.32	20.00	20.00	20.00	20.83	J-4024	(N/A)	17.18	J-1198
5060 3744	J-2678 J-2043	Forest Forest	TRUE TRUE	1.00 1.00	2206.88 2207.41	1.08 1.08	2206.96 2207.49	20.00 20.00	20.00 35.43	20.00 20.00	21.09 20.00	J-1679 J-1206	(N/A) (N/A)	17.14 13.61	J-1198 J-1198
2086	J-1101	Lakes	TRUE	1.00	2207.68	1.46	2208.14	20.00	20.00	20.00	20.00	J-1100	(N/A)	17.23	J-1198
4010 3109	J-2168 J-1680	Forest Forest	TRUE TRUE	1.00 1.00	2208.45 2210.78	2.68 1.08	2210.13 2210.86	20.00 20.00	20.31 20.00	20.00 20.00	20.00 20.73	J-2580 J-2678	(N/A) (N/A)	17.16 17.14	J-1198 J-1198
6583	J-3559	Forest	TRUE	1.00	2212.47	1.28	2212.75	20.00	20.00	20.00	21.43	J-3558	(N/A)	17.18	J-1198
1468 5269	J-736 J-2795	Forest Forest	TRUE TRUE	1.00 1.00	2216.67 2216.77	1.28 1.48	2216.94 2217.25	20.00 20.00	37.58 36.81	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
4222	J-2795 J-2257	Forest	TRUE	1.00	2220.51	1.28	2220.78	20.00	20.21	20.00	20.01	J-2752	(N/A)	17.14	J-1198
4466 7130	J-2338	Forest	TRUE TRUE	1.00 1.00	2224.24 2224.24	1.48 2.28	2224.72 2225.52	20.00 20.00	21.81 22.20	20.00 20.00	20.00 20.00	J-2253 J-2253	(N/A) (N/A)	17.00 17.00	J-1198 J-1198
2837	J-3876 J-1537	Forest Forest	TRUE	1.00	2224.24	1.48	2224.72	20.00	22.20	20.00	20.00	J-2253 J-2253	(N/A)	17.00	J-1198
7489 1445	J-4024 J-724	Forest Forest	TRUE TRUE	1.00 1.00	2224.59 2226.32	2.28 1.28	2225.87 2226.59	20.00 20.00	20.00 39.73	20.00 20.00	20.99 20.01	J-4116 J-941	(N/A) (N/A)	17.18 17.14	J-1198 J-1198
3108	J-1679	Forest	TRUE	1.00	2227.99	1.08	2228.07	20.00	20.21	20.00	20.01	J-2678	(N/A)	17.14	J-1198
5463	J-2908	Forest	TRUE TRUE	1.00	2229.16	2.68	2230.85	20.00 20.00	24.39	20.00 20.00	20.00 20.00	J-969	(N/A) (N/A)	16.69	J-1198
5462 1446	J-2907 J-725	Forest Forest	TRUE	1.00 1.00	2229.16 2230.09	1.88 1.08	2230.04 2230.17	20.00	23.46 41.68	20.00	20.00	J-969 J-941	(N/A)	16.69 17.14	J-1198 J-1198
5145	J-2724	Forest	TRUE TRUE	1.00	2230.10	1.08	2230.18	20.00	40.58	20.00 20.00	20.00 20.03	J-941 J-2323	(N/A)	17.14	J-1198
1214 6067	J-636 J-3253	Lakes Lakes	TRUE	1.00 1.00	2232.44 2232.47	1.55 1.20	2232.99 2232.67	20.00 20.00	94.33 93.90	20.00	20.03	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6031	J-3230	Forest	TRUE TRUE	1.00 1.00	2233.94	1.48	2234.42 2238.12	20.00	20.00	20.00 20.00	20.95	J-3231 J-2825	(N/A) (N/A)	16.83	J-1198
5319 7593	J-2824 J-4058	Forest Forest	TRUE	1.00	2237.44 2237.63	1.68 2.28	2238.91	20.00 20.00	20.00 23.36	20.00	20.81 20.00	J-2023 J-2253	(N/A)	16.82 17.00	J-1198 J-1198
6314 6315	J-3400 J-3401	Forest Forest	TRUE TRUE	1.00 1.00	2237.63 2237.63	1.68 2.48	2238.31 2239.11	20.00 20.00	22.11 21.53	20.00 20.00	20.00 20.00	J-2253 J-2253	(N/A) (N/A)	17.00 17.00	J-1198 J-1198
7758	J-4107	Forest	TRUE	1.00	2239.29	1.68	2239.11	20.00	30.64	20.00	20.00	J-4119	(N/A)	16.82	J-1198
5527	J-2944	Forest	TRUE TRUE	1.00	2241.81 2242.00	1.48	2242.29 2242.48	20.00 20.00	20.00 33.96	20.00 20.00	20.87 20.00	J-2253 J-941	(N/A) (N/A)	17.00	J-1198
6121 6122	J-3285 J-3286	Forest Forest	TRUE	1.00 1.00	2242.00	1.48 1.88	2242.40	20.00	35.28	20.00	20.00	J-941	(N/A)	17.14 17.14	J-1198 J-1198
7701 1488	J-4092 J-745	Forest Forest	TRUE TRUE	1.00 1.00	2242.30 2242.40	1.88 1.08	2243.18 2242.48	20.00 20.00	22.43 45.44	20.00 20.00	20.00 20.00	J-3008 J-941	(N/A) (N/A)	17.17 17.14	J-1198 J-1198
5252	J-2786	Forest	TRUE	1.00	2242.40	1.28	2242.68	20.00	44.46	20.00	20.00	J-941	(N/A)	17.14	J-1198
6228 6582	J-3349 J-3558	Forest Forest	TRUE TRUE	1.00 1.00	2243.65 2243.69	2.48 2.08	2245.13 2244.77	20.00 20.00	20.00 20.00	20.00 20.00	21.14 20.13	J-3350 J-4024	(N/A) (N/A)	16.99 17.18	J-1198 J-1198
6032	J-3231	Forest	TRUE	1.00	2244.59	3.09	2246.67	20.00	20.04	20.00	20.40	J-3230	(N/A)	16.82	J-1198
5157 3918	J-2731 J-2126	Forest Forest	TRUE TRUE	1.00 1.00	2245.01 2245.79	1.08 2.68	2245.09 2247.47	20.00 20.00	20.00 35.53	20.00 20.00	20.93 20.00	J-2732 J-941	(N/A) (N/A)	16.82 17.14	J-1198 J-1198
5320	J-2825	Forest	TRUE	1.00	2247.73	1.48	2248.21	20.00	20.00	20.00	20.24	J-2824	(N/A)	16.82	J-1198
5371 5372	J-2855 J-2856	Forest Forest	TRUE TRUE	1.00 1.00	2248.42 2248.43	1.48 1.88	2248.90 2249.31	20.00 20.00	40.89 41.82	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
1489	J-746	Forest	TRUE	1.00	2249.44	51.32	2299.76	20.00	48.90	20.00	20.01	J-941	(N/A)	17.14	J-1198
3293 3292	J-1792 J-1791	Forest Forest	TRUE TRUE	1.00 1.00	2249.59 2249.60	1.08 1.88	2249.66 2250.48	20.00 20.00	39.86 42.56	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
5428	J-2888	Forest	TRUE	1.00	2249.81	1.08	2249.88	20.00	48.04	20.00	20.00	J-941	(N/A)	17.14	J-1198
2500 7612	J-1341 J-4066	Forest Forest	TRUE TRUE	1.00 1.00	2250.27 2250.29	2.68 1.68	2251.95 2250.97	20.00 20.00	20.00 42.81	20.00 20.00	20.19 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
2900	J-1571	Forest	TRUE	1.00	2250.44	3.09	2252.53	20.00	23.90	20.00	20.00	J-1479	(N/A)	17.13	J-1198
4846 6690	J-2553 J-3622	Forest Forest	TRUE TRUE	1.00 1.00	2251.28 2251.48	2.28 1.68	2252.56 2252.16	20.00 20.00	47.50 28.43	20.00 20.00	20.01 20.00	J-941 J-4119	(N/A) (N/A)	17.14 16.82	J-1198 J-1198
6691	J-3623	Forest	TRUE	1.00	2251.48	1.48	2251.96	20.00	30.29	20.00	20.00	J-4119	(N/A)	16.82	J-1198
4845 5526	J-2552 J-2943	Forest Forest	TRUE TRUE	1.00 1.00	2252.01 2252.41	2.08 2.48	2253.09 2253.90	20.00 20.00	46.44 20.00	20.00 20.00	20.00 20.06	J-941 J-2253	(N/A) (N/A)	17.14 17.00	J-1198 J-1198
5299	J-2812	Forest	TRUE	1.00	2252.43	1.08	2252.51	20.00	40.51	20.00	20.00	J-941	(N/A)	17.14	J-1198
5300 3252	J-2813 J-1767	Forest Forest	TRUE TRUE	1.00 1.00	2252.43 2252.49	2.28 1.68	2253.71 2253.17	20.00 20.00	41.54 39.12	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
3251	J-1766	Forest	TRUE	1.00	2252.50	1.68	2253.18	20.00	41.62	20.00	20.00	J-941	(N/A)	17.14	J-1198
7346 8015	J-3974 J-4158	Forest Forest	TRUE TRUE	1.00 1.00	2253.37 2254.45	1.48 2.88	2253.85 2256.34	20.00 20.00	20.00 51.90	20.00 20.00	21.18 20.01	J-3973 J-941	(N/A) (N/A)	17.17 17.14	J-1198 J-1198
4292	J-2278	Forest	TRUE	1.00	2254.84	2.28	2256.13	20.00	20.01	20.00	20.65	J-3963	(N/A)	16.82	J-1198
4919 4918	J-2595 J-2594	Forest Forest	TRUE TRUE	1.00 1.00	2254.84 2254.84	4.29 3.09	2258.14 2256.93	20.00 20.00	58.04 59.15	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
3333	J-1814	Forest	TRUE	1.00	2254.96	1.08	2255.04	20.00	28.76	20.00	20.00	J-941	(N/A)	17.14	J-1198
3217 3216	J-1745 J-1744	Forest Forest	TRUE TRUE	1.00 1.00	2255.24 2255.24	1.68 1.88	2255.92 2256.12	20.00 20.00	25.29 27.02	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
3332	J-1813	Forest	TRUE	1.00	2255.25	1.88	2256.13	20.00	32.28	20.00	20.00	J-941	(N/A)	17.14	J-1198
6613 6614	J-3576 J-3577	Forest Forest	TRUE TRUE	1.00 1.00	2255.25 2255.25	1.08 1.88	2255.33 2256.14	20.00 20.00	30.85 32.61	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
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Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
4037 5158	J-2178 J-2732	Forest Forest	TRUE TRUE	1.00 1.00	2255.26 2255.78	1.68 1.88	2255.94 2256.66	20.00 20.00	42.89 20.03	20.00 20.00	20.00 20.03	J-941 J-2731	(N/A) (N/A)	17.14 16.82	J-1198 J-1198
5042	J-2667	Forest	TRUE	1.00	2257.37	2.88	2259.25	20.00	53.62	20.00	20.00	J-941	(N/A)	17.14	J-1198
5043 5845	J-2668 J-3127	Forest Forest	TRUE TRUE	1.00 1.00	2257.38 2257.48	2.08 1.48	2258.46 2257.96	20.00 20.00	52.84 21.83	20.00 20.00	20.00 20.02	J-941 J-3059	(N/A) (N/A)	17.14 16.82	J-1198 J-1198
3454	J-1881	Forest	TRUE	1.00	2257.62	1.28	2257.89	20.00	22.79	20.00	20.01	J-3059	(N/A)	16.82	J-1198
3607 3453	J-1967 J-1880	Forest Forest	TRUE TRUE	1.00 1.00	2257.71 2257.79	1.08 2.28	2257.79 2259.08	20.00 20.00	20.09 30.46	20.00 20.00	20.04 20.00	J-964 J-3059	(N/A) (N/A)	16.82 16.82	J-1198 J-1198
1264	J-656	Forest	TRUE	1.00	2258.39	1.88	2259.27	20.00	60.00	20.00	20.00	J-941	(N/A)	17.14	J-1198
4541 4540	J-2381 J-2380	Forest Forest	TRUE TRUE	1.00 1.00	2259.61 2259.62	1.28 3.69	2259.89 2262.31	20.00 20.00	77.86 78.28	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
7378	J-3984	Forest	TRUE	1.00	2260.01	1.08	2260.08	20.00	20.00	20.00	20.04	J-964	(N/A)	16.82	J-1198
1177 4505	J-617 J-2360	Forest Forest	TRUE TRUE	1.00 1.00	2260.26 2260.26	1.28 2.68	2260.54 2261.95	20.00 20.00	78.89 70.99	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
4506	J-2361	Forest	TRUE	1.00	2260.26	4.09	2263.35	20.00	71.65	20.00	20.00	J-941	(N/A)	17.14	J-1198
2519 8203	J-1351 J-4170	Forest Forest	TRUE TRUE	1.00 1.00	2260.50 2260.71	1.08 3.29	2260.58 2262.99	20.00 20.00	34.21 38.48	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
6229	J-3350	Forest	TRUE	1.00	2261.26	1.08	2261.33	20.00	20.00	20.00	20.31	J-3349	(N/A)	16.99	J-1198
6805 1495	J-3690 J-748	Forest Forest	TRUE TRUE	1.00 1.00	2261.44 2261.44	1.08 1.08	2261.52 2261.52	20.00 20.00	20.01 54.01	20.00 20.00	20.72 20.00	J-4176 J-941	(N/A) (N/A)	17.18 17.14	J-1198 J-1198
4623	J-2429	Forest	TRUE	1.00	2261.91	1.08	2261.99	20.00	44.16	20.00	20.00	J-941	(N/A)	17.14	J-1198
3537 7323	J-1928 J-3963	Forest Forest	TRUE TRUE	1.00 1.00	2261.92 2262.73	1.28 1.48	2262.19 2263.20	20.00 20.00	45.02 20.00	20.00 20.00	20.00 20.00	J-941 J-2278	(N/A) (N/A)	17.14 16.82	J-1198 J-1198
6934	J-3766	Forest	TRUE	1.00	2263.42	1.48	2263.89	20.00	31.74	20.00	20.00	J-941	(N/A)	17.14	J-1198
6935 7578	J-3767 J-4055	Forest Forest	TRUE TRUE	1.00 1.00	2263.43 2263.65	1.08 1.08	2263.50 2263.72	20.00 20.00	34.29 21.09	20.00 20.00	20.00 20.00	J-941 J-3410	(N/A) (N/A)	17.14 17.13	J-1198 J-1198
8485	J-4194	Forest	TRUE	1.00	2263.65	1.48	2264.13	20.00	21.77	20.00	20.00	J-3410	(N/A)	17.13	J-1198
7345 6826	J-3973 J-3702	Forest Forest	TRUE TRUE	1.00 1.00	2264.53 2264.57	1.28 1.08	2264.80 2264.64	20.00 20.00	20.44 20.00	20.00 20.00	20.01 20.57	J-3974 J-3974	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
7227	J-3924	Forest	TRUE	1.00	2265.56	1.28	2265.84	20.00	22.18	20.00	20.00	J-3438	(N/A)	17.17	J-1198
6620 7402	J-3580 J-3994	Forest Forest	TRUE TRUE	1.00 1.00	2265.56 2265.56	1.08 1.28	2265.64 2265.84	20.00 20.00	22.06 21.99	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
6621	J-3581	Forest	TRUE	1.00	2265.57	1.08	2265.64	20.00	20.72	20.00	20.00	J-3438	(N/A)	17.17	J-1198
325 5412	J-171 J-2879	Forest Forest	TRUE TRUE	1.00 1.00	2266.42 2266.42	1.08 1.28	2266.50 2266.70	20.00 20.00	75.91 74.16	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
4723	J-2484	Forest	TRUE	1.00	2266.53	1.08	2266.61	20.00	56.36	20.00	20.00	J-941	(N/A)	17.14	J-1198
7190 4722	J-3905 J-2483	Forest Forest	TRUE TRUE	1.00 1.00	2266.53 2266.53	1.08 1.08	2266.61 2266.61	20.00 20.00	55.97 55.46	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
2460	J-1319	Forest	TRUE	1.00	2266.53	1.68	2267.21	20.00	60.27	20.00	20.00	J-941	(N/A)	17.14	J-1198
7225 324	J-3923 J-170	Forest Forest	TRUE TRUE	1.00 1.00	2266.53 2266.53	1.08 1.08	2266.61 2266.61	20.00 20.00	60.65 76.10	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
2481	J-1331	Forest	TRUE	1.00	2266.81	2.08	2267.89	20.00	26.18	20.00	20.00	J-941	(N/A)	17.14	J-1198
1577 2458	J-782 J-1318	Lakes Forest	TRUE TRUE	1.00 1.00	2266.85 2266.97	1.20 2.08	2267.05 2268.05	20.00 20.00	20.01 34.38	20.00 20.00	20.05 20.00	J-781 J-941	(N/A) (N/A)	17.23 17.14	J-1198 J-1198
2461	J-1320	Forest	TRUE	1.00	2266.98	1.88	2267.86	20.00	46.62	20.00	20.00	J-941	(N/A)	17.14	J-1198
7517 2457	J-4034 J-1317	Forest Forest	TRUE TRUE	1.00 1.00	2266.99 2267.00	1.08 2.08	2267.07 2268.08	20.00 20.00	44.33 47.74	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
7690	J-4088	Forest	TRUE	1.00	2269.80	2.88	2271.68	20.00	20.00	20.00	24.06	J-1197	(N/A)	16.98	J-1198
2210 6804	J-1178 J-3689	Forest Forest	TRUE TRUE	1.00 1.00	2270.15 2270.35	1.08 1.08	2270.22 2270.43	20.00 20.00	20.01 21.30	20.00 20.00	20.37 20.00	J-1507 J-4176	(N/A) (N/A)	16.98 17.18	J-1198 J-1198
6134	J-3293	Forest	TRUE	1.00	2270.43	1.88	2271.31	20.00	36.47	20.00	20.00	J-1206	(N/A)	13.42	J-1198
6135 7770	J-3294 J-4112	Forest Forest	TRUE TRUE	1.00 1.00	2270.43 2270.81	1.28 1.88	2270.71 2271.69	20.00 20.00	35.96 20.96	20.00 20.00	20.00 20.00	J-1206 J-2939	(N/A) (N/A)	13.42 17.00	J-1198 J-1198
1425	J-712	Forest	TRUE	1.00	2273.11	1.88	2273.99	20.00	56.03	20.00	20.00	J-941	(N/A)	17.13	J-1198
4670 6825	J-2455 J-3701	Forest Forest	TRUE TRUE	1.00 1.00	2273.11 2273.18	1.08 1.08	2273.19 2273.26	20.00 20.00	55.24 21.13	20.00 20.00	20.00 20.00	J-941 J-3974	(N/A) (N/A)	17.13 17.17	J-1198 J-1198
1026	J-558	Forest	TRUE	1.00	2274.94	1.08	2275.02	20.00	56.24	20.00	20.00	J-941	(N/A)	17.13	J-1198
1408 2490	J-702 J-1336	Forest Forest	TRUE TRUE	1.00 1.00	2275.60 2275.96	1.68 4.88	2276.27 2279.84	20.00 20.00	56.31 23.77	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.13 17.13	J-1198 J-1198
7111	J-3866	Forest	TRUE	1.00	2276.33	1.08	2276.41	20.00	27.83	20.00	20.00	J-3914	(N/A)	17.17	J-1198
4458 4459	J-2333 J-2334	Forest Forest	TRUE TRUE	1.00 1.00	2277.55 2277.55	1.08 1.28	2277.62 2277.83	20.00 20.00	27.85 27.57	20.00 20.00	20.00 20.00	J-3914 J-3914	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
7141	J-3882	Forest	TRUE	1.00	2279.57	1.28	2279.85	20.00	27.90	20.00	20.00	J-3914	(N/A)	17.17	J-1198
7456 1199	J-4012 J-628	Forest Stewartsville	TRUE TRUE	1.00 1.00	2279.61 2279.72	1.28 1.11	2279.88 2279.84	20.00 20.00	26.33 106.97	20.00 20.00	20.00 20.00	J-3914 J-676	(N/A) (N/A)	17.17 17.23	J-1198 J-1198
4745	J-2497	Stewartsville	TRUE	1.00	2279.72	1.11	2279.84	20.00	105.54	20.00	20.00	J-676	(N/A)	17.23	J-1198
7384 719	J-3987 J-414	Lakes Forest	TRUE TRUE	1.00 1.00	2281.54 2281.82	1.29 1.08	2281.82 2281.90	20.00 20.00	20.00 77.56	20.00 20.00	22.43 20.00	J-2657 J-3090	(N/A) (N/A)	17.23 16.67	J-1198 J-1198
5151	J-2727	Forest	TRUE	1.00	2283.77	1.48	2284.25	20.00	20.44	20.00	20.04	J-964	(N/A)	16.81	J-1198
5152 1480	J-2728 J-742	Forest Forest	TRUE TRUE	1.00 1.00	2283.92 2288.03	1.88 1.48	2284.80 2288.51	20.00 20.00	21.40 57.60	20.00 20.00	20.03 20.00	J-964 J-941	(N/A) (N/A)	16.81 17.13	J-1198 J-1198
4586	J-2408	Forest	TRUE	1.00	2288.04	1.48	2288.51	20.00	56.92	20.00	20.00	J-941	(N/A)	17.13	J-1198
29 5025	J-1 J-2657	Forest Lakes	TRUE TRUE	1.00 1.00	2289.46 2296.57	2.48 1.63	2290.94 2297.20	20.00 20.00	21.42 20.60	20.00 20.00	20.00 20.02	J-2 J-3987	(N/A) (N/A)	17.18 17.23	J-1198 J-1198
5024	J-2656	Lakes	TRUE	1.00	2296.93	1.29	2297.21	20.00	21.43	20.00	20.00	J-3987	(N/A)	17.23	J-1198
6774 5854	J-3671 J-3132	Forest Forest	TRUE TRUE	1.00 1.00	2296.99 2301.86	1.28 1.08	2297.27 2301.93	20.00 20.00	20.00 38.84	20.00 20.00	21.00 20.00	J-3410 J-3059	(N/A) (N/A)	17.13 16.80	J-1198 J-1198
5853	J-3131	Forest	TRUE	1.00	2301.86	2.88	2303.74	20.00	37.35	20.00	20.00	J-3059	(N/A)	16.80	J-1198
5099 1492	J-2699 J-747	Forest Forest	TRUE TRUE	1.00 1.00	2302.42 2302.42	1.48 1.88	2302.90 2303.30	20.00 20.00	54.37 55.41	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.13 17.13	J-1198 J-1198
4987	J-2634	Forest	TRUE	1.00	2303.01	1.48	2303.49	20.00	20.00	20.00	20.82	J-2635	(N/A)	16.80	J-1198
1046 6589	J-568 J-3562	Forest Forest	TRUE TRUE	1.00 1.00	2305.31 2305.31	2.08 1.08	2306.39 2305.39	20.00 20.00	53.71 52.29	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.12 17.12	J-1198 J-1198
718	J-413	Forest	TRUE	1.00	2305.65	1.08	2305.73	20.00	73.74	20.00	20.00	J-3090	(N/A)	16.67	J-1198
5769 7249	J-3084 J-3935	Forest Forest	TRUE TRUE	1.00 1.00	2305.66 2305.90	1.08 1.08	2305.73 2305.98	20.00 20.00	71.98 20.42	20.00 20.00	20.00 20.03	J-3090 J-4176	(N/A) (N/A)	16.67 17.18	J-1198 J-1198
7248	J-3934	Forest	TRUE	1.00	2306.17	1.08	2306.25	20.00	20.98	20.00	20.01	J-4176	(N/A)	17.18	J-1198
4988 3087	J-2635 J-1666	Forest Forest	TRUE TRUE	1.00 1.00	2313.87 2315.17	1.88 1.48	2314.75 2315.64	20.00 20.00	20.03 20.02	20.00 20.00	20.04 21.08	J-2634 J-1665	(N/A) (N/A)	16.80 17.18	J-1198 J-1198
5189	J-2749	Forest	TRUE TRUE	1.00	2317.06 2317.06	1.08	2317.13	20.00	52.77	20.00 20.00	20.00	J-941	(N/A) (N/A)	17.13	J-1198
1470 6773	J-737 J-3670	Forest Forest	TRUE	1.00 1.00	2317.84	1.28 1.08	2317.34 2317.92	20.00 20.00	53.65 21.08	20.00	20.00 20.00	J-941 J-3410	(N/A)	17.13 17.13	J-1198 J-1198
2485	J-1333 J-80	Forest	TRUE TRUE	1.00 1.00	2317.86	1.48 1.08	2318.33	20.00 20.00	35.44 36.95	20.00	20.00 20.00	J-941 J-941	(N/A)	17.14	J-1198 J-1198
163 6412	J-3458	Forest Forest	TRUE	1.00	2317.87 2317.94	1.48	2317.94 2318.41	20.00	20.00	20.00 20.00	21.34	J-3459	(N/A) (N/A)	17.14 17.02	J-1198
7395 7394	J-3991 J-3990	Forest Forest	TRUE TRUE	1.00 1.00	2318.32 2318.32	1.48 1.08	2318.80 2318.40	20.00 20.00	46.39 45.31	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.66 16.66	J-1198 J-1198
1004	0.0990	1 01621	INCE	1.00	2010.02	1.00	2010.40	20.00	→J.J1	20.00	20.00	0.0004	(14/74)	10.00	0 1130

Node	Node	Pressure		Desired Fire Flow	Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
7218 7219	J-3919 J-3920	Forest Forest	TRUE TRUE	1.00 1.00	2321.35 2321.36	1.48 1.08	2321.83 2321.43	20.00 20.00	26.52 26.02	20.00 20.00	20.00 20.00	J-3914 J-3914	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
4392	J-2310	Forest	TRUE	1.00	2321.46	2.48	2322.94	20.00	28.80	20.00	20.00	J-1525	(N/A)	17.19	J-1198
4461 7486	J-2335 J-4023	Lakes Lakes	TRUE TRUE	1.00 1.00	2324.46 2326.17	2.93 1.20	2326.39 2326.37	20.00 20.00	20.00 20.00	20.00 20.00	20.28 20.09	J-2336 J-2335	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
4146	J-2227	Forest	TRUE	1.00	2326.49	1.48	2326.97	20.00	20.00	20.00	20.14	J-2635	(N/A)	16.79	J-1198
4462 6119	J-2336 J-3284	Lakes Lakes	TRUE TRUE	1.00 1.00	2326.93 2327.14	1.20 1.20	2327.13 2327.33	20.00 20.00	20.00 75.96	20.00 20.00	20.00 20.00	J-2335 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
829	J-469	Lakes	TRUE	1.00	2327.14	1.20	2327.34	20.00	79.17	20.00	20.00	J-2323	(N/A)	17.23	J-1198
4069 7376	J-2194 J-3983	Forest Forest	TRUE TRUE	1.00 1.00	2327.19 2327.72	1.28 1.48	2327.46 2328.20	20.00 20.00	20.00 56.47	20.00 20.00	20.29 20.00	J-1666 J-941	(N/A) (N/A)	17.18 17.13	J-1198 J-1198
1440	J-721	Forest	TRUE	1.00	2327.72	1.08	2327.80	20.00	56.80	20.00	20.00	J-941	(N/A)	17.13	J-1198
4879 4880	J-2571 J-2572	Forest Forest	TRUE TRUE	1.00 1.00	2327.72 2327.72	1.08 1.08	2327.80 2327.80	20.00 20.00	55.78 56.62	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.13 17.13	J-1198 J-1198
4227	J-2258	Forest	TRUE	1.00	2328.72	1.08	2328.79	20.00	48.74	20.00	20.01	J-2145	(N/A)	17.19	J-1198
5185 7632	J-2747 J-4072	Forest Forest	TRUE TRUE	1.00 1.00	2329.94 2330.14	1.88 1.48	2330.82 2330.61	20.00 20.00	20.01 26.23	20.00 20.00	21.21 20.00	J-2746 J-4156	(N/A) (N/A)	17.18 17.17	J-1198 J-1198
3901	J-2118	Forest	TRUE	1.00	2330.54	2.88	2332.43	20.00	20.00	20.00	24.12	J-1197	(N/A)	17.04	J-1198
7288 1441	J-3951 J-722	Forest Forest	TRUE TRUE	1.00 1.00	2330.64 2331.95	2.08 1.08	2331.72 2332.02	20.00 20.00	20.00 55.58	20.00 20.00	20.54 20.00	J-3952 J-941	(N/A) (N/A)	17.18 17.13	J-1198 J-1198
5080	J-2689	Forest	TRUE	1.00	2331.95	1.08	2332.03	20.00	54.68	20.00	20.00	J-941	(N/A)	17.13	J-1198
3086 5523	J-1665 J-2941	Forest Forest	TRUE TRUE	1.00 1.00	2332.16 2333.08	1.48 2.48	2332.64 2334.56	20.00 20.00	20.17 21.67	20.00 20.00	20.02 20.00	J-1666 J-2817	(N/A) (N/A)	17.18 17.17	J-1198 J-1198
5524 6810	J-2942 J-3693	Forest Forest	TRUE TRUE	1.00 1.00	2333.09 2333.39	1.48 1.68	2333.57 2334.07	20.00 20.00	20.43 20.28	20.00 20.00	20.00 20.03	J-2817 J-4088	(N/A) (N/A)	17.17 16.97	J-1198 J-1198
6809	J-3692	Forest	TRUE	1.00	2333.87	1.68	2334.54	20.00	22.82	20.00	20.03	J-4088	(N/A)	16.97	J-1198
4999 4998	J-2642 J-2641	Forest Forest	TRUE TRUE	1.00 1.00	2334.79 2334.79	1.48 1.48	2335.26 2335.27	20.00 20.00	28.43 27.63	20.00 20.00	20.00 20.00	J-1525 J-1525	(N/A) (N/A)	17.19 17.19	J-1198 J-1198
2590	J-1391	Forest	TRUE	1.00	2336.92	1.48	2337.40	20.00	20.00	20.00	20.28	J-3459	(N/A)	17.19	J-1198
2897 6413	J-1570 J-3459	Forest Forest	TRUE TRUE	1.00 1.00	2340.22 2341.94	1.48 1.08	2340.70 2342.02	20.00 20.00	24.36 20.00	20.00 20.00	20.00 20.25	J-2729 J-1391	(N/A) (N/A)	16.97 17.02	J-1198 J-1198
7289	J-3952	Forest	TRUE	1.00	2344.34	1.48	2344.81	20.00	20.03	20.00	20.02	J-3951	(N/A)	17.18	J-1198
5184 1422	J-2746 J-710	Forest Forest	TRUE TRUE	1.00 1.00	2346.10 2347.97	1.68 1.08	2346.78 2348.05	20.00 20.00	20.23 52.42	20.00 20.00	20.02 20.00	J-2747 J-941	(N/A) (N/A)	17.18 17.13	J-1198 J-1198
3539	J-1929	Forest	TRUE	1.00	2347.97	1.08	2348.05	20.00	50.23	20.00	20.00	J-941	(N/A)	17.13	J-1198
7397 4980	J-3992 J-2630	Forest Forest	TRUE TRUE	1.00 1.00	2347.98 2348.40	10.60 1.08	2357.58 2348.47	20.00 20.00	49.11 37.29	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.13 17.13	J-1198 J-1198
3112	J-1682	Forest	TRUE	1.00	2348.40	1.08	2348.47	20.00	36.95	20.00	20.00	J-941	(N/A)	17.13	J-1198
3111 3769	J-1681 J-2054	Forest Forest	TRUE TRUE	1.00 1.00	2348.40 2348.99	1.08 2.88	2348.47 2350.87	20.00 20.00	38.15 20.00	20.00 20.00	20.00 20.80	J-941 J-2747	(N/A) (N/A)	17.13 17.18	J-1198 J-1198
6168	J-3313	Forest	TRUE	1.00	2349.45	2.68	2351.14	20.00	24.32	20.00	20.00	J-2	(N/A)	17.18	J-1198
6169 1423	J-3314 J-711	Forest Forest	TRUE TRUE	1.00 1.00	2349.45 2349.91	1.28 1.08	2349.73 2349.98	20.00 20.00	22.88 51.13	20.00 20.00	20.00 20.00	J-2 J-941	(N/A) (N/A)	17.18 17.13	J-1198 J-1198
5404	J-2875	Forest	TRUE	1.00	2349.91	1.28	2350.19	20.00	50.12	20.00	20.00	J-941	(N/A)	17.13	J-1198
1390 6731	J-694 J-3646	Forest Forest	TRUE TRUE	1.00 1.00	2354.88 2354.88	3.29 1.28	2357.17 2355.16	20.00 20.00	28.46 26.43	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
461	J-258	Lakes	TRUE	1.00	2356.70	1.20	2356.90	20.00	86.89	20.00	20.05	J-2323	(N/A)	17.23	J-1198
4674 312	J-2457 J-162	Lakes Lakes	TRUE TRUE	1.00 1.00	2356.72 2357.14	1.20 1.20	2356.92 2357.34	20.00 20.00	87.45 87.83	20.00 20.00	20.05 20.03	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
313	J-163	Lakes	TRUE	1.00	2357.14	1.29	2357.43	20.00	87.86	20.00	20.03	J-2323	(N/A)	17.23	J-1198
7019 5920	J-3815 J-3168	Forest Forest	TRUE TRUE	1.00 1.00	2361.21 2362.21	1.48 1.88	2361.69 2363.09	20.00 20.00	20.02 20.01	20.00 20.00	22.95 22.09	J-3814 J-3167	(N/A) (N/A)	16.64 17.18	J-1198 J-1198
1460	J-732	Forest	TRUE	1.00	2368.63	1.08	2368.71	20.00	58.14	20.00	20.00	J-941	(N/A)	17.13	J-1198
5692 5693	J-3039 J-3040	Forest Forest	TRUE TRUE	1.00 1.00	2368.92 2368.92	1.68 1.28	2369.60 2369.19	20.00 20.00	22.69 21.74	20.00 20.00	20.00 20.00	J-2939 J-2939	(N/A) (N/A)	16.98 16.98	J-1198 J-1198
3935	J-2135	Forest	TRUE	1.00	2368.94	1.08	2369.02	20.00	48.98	20.00	20.01	J-2145	(N/A)	17.19	J-1198
1037 5084	J-563 J-2691	Forest Forest	TRUE TRUE	1.00 1.00	2371.28 2371.28	1.48 1.08	2371.76 2371.36	20.00 20.00	58.52 57.06	20.00 20.00	20.00 20.00	J-3090 J-3090	(N/A) (N/A)	16.64 16.64	J-1198 J-1198
7007 2652	J-3808 J-1428	Forest Forest	TRUE TRUE	1.00 1.00	2371.81 2373.81	1.88 1.88	2372.69 2374.69	20.00 20.00	20.00 25.06	20.00 20.00	23.61 20.00	J-3807 J-1451	(N/A) (N/A)	17.18 17.04	J-1198 J-1198
6420	J-1426 J-3463	Forest	TRUE	1.00	2375.08	1.28	2375.36	20.00	32.95	20.00	20.00	J-4119	(N/A)	16.78	J-1198
6419 7732	J-3462 J-4102	Forest Forest	TRUE TRUE	1.00 1.00	2375.08 2375.41	1.28 1.28	2375.36 2375.69	20.00 20.00	30.88 20.01	20.00 20.00	20.00 22.17	J-4119 J-3066	(N/A) (N/A)	16.78 16.98	J-1198 J-1198
6027	J-3228	Forest	TRUE	1.00	2376.46	1.48	2376.94	20.00	20.00	20.00	21.22	J-3972	(N/A)	17.18	J-1198
6839 1432	J-3710 J-716	Forest Forest	TRUE TRUE	1.00 1.00	2377.53 2377.85	1.08 1.08	2377.61 2377.93	20.00 20.00	49.36 61.51	20.00 20.00	20.01 20.00	J-941 J-941	(N/A) (N/A)	17.13 17.13	J-1198 J-1198
7610	J-4065	Forest	TRUE	1.00	2378.28	8.61	2385.89	20.00	44.33	20.00	20.00	J-941	(N/A)	17.13	J-1198
6840 1433	J-3711 J-717	Forest Forest	TRUE TRUE	1.00 1.00	2378.29 2380.87	1.48 1.08	2378.77 2380.95	20.00 20.00	46.82 61.07	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.13 17.13	J-1198 J-1198
5893	J-3153	Forest	TRUE	1.00	2380.87	1.48	2381.35	20.00	59.87	20.00	20.00	J-941	(N/A)	17.13	J-1198
6261 3697	J-3370 J-2017	Forest Forest	TRUE TRUE	1.00 1.00	2381.32 2381.75	2.08 1.08	2382.40 2381.83	20.00 20.00	20.01 20.00	20.00 20.00	21.49 24.26	J-3369 J-1197	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
7342	J-3971	Forest	TRUE	1.00	2381.82	1.08	2381.90	20.00	20.00	20.00	20.69	J-3972	(N/A)	17.18	J-1198
5919 7713	J-3167 J-4096	Forest Forest	TRUE TRUE	1.00 1.00	2384.63 2384.82	2.08 1.08	2385.71 2384.90	20.00 20.00	20.64 21.35	20.00 20.00	20.01 20.00	J-3168 J-3168	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
2881	J-1561	Forest	TRUE	1.00	2387.74	1.08	2387.81	20.00	20.10	20.00	20.04	J-4160	(N/A)	16.64	J-1198
6199 6200	J-3331 J-3332	Forest Forest	TRUE TRUE	1.00 1.00	2390.41 2390.41	2.08 1.88	2391.49 2391.29	20.00 20.00	26.18 24.94	20.00 20.00	20.00 20.00	J-4167 J-4167	(N/A) (N/A)	16.98 16.98	J-1198 J-1198
4209	J-2252	Forest	TRUE	1.00	2394.56	2.28	2395.84	20.00	20.72	20.00	20.00	J-895	(N/A)	17.18	J-1198
5362 1417	J-2850 J-707	Forest Forest	TRUE TRUE	1.00 1.00	2396.10 2396.11	1.08 1.08	2396.18 2396.19	20.00 20.00	61.64 62.80	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.12 17.12	J-1198 J-1198
5277	J-2800	Forest	TRUE	1.00	2396.38	1.68	2397.06	20.00	20.01	20.00	20.08	J-895	(N/A)	17.18	J-1198
50 915	J-15 J-509	Forest Forest	TRUE TRUE	1.00 1.00	2396.46 2397.27	1.08 1.48	2396.54 2397.75	20.00 20.00	50.47 63.07	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.12	J-1198 J-1198
8529 7890	J-4216 J-4140	Forest	TRUE TRUE	1.00	2397.40 2397.40	1.48	2397.87 2397.68	20.00 20.00	33.16 27.34	20.00	20.00 20.00	J-941 J-941	(N/A)	17.12 17.12	J-1198 J-1198
561	J-320	Forest Forest	TRUE	1.00 1.00	2397.42	1.28 1.08	2397.50	20.00	55.97	20.00 20.00	20.00	J-2919	(N/A) (N/A)	17.12	J-1198
6497 3639	J-3507 J-1984	Forest Forest	TRUE TRUE	1.00 1.00	2397.42 2397.68	1.08 1.28	2397.50 2397.95	20.00 20.00	54.54 38.10	20.00 20.00	20.00 20.00	J-2919 J-941	(N/A) (N/A)	17.12 17.12	J-1198 J-1198
5276	J-2799	Forest	TRUE	1.00	2397.93	2.08	2399.01	20.00	20.91	20.00	20.00	J-895	(N/A)	17.18	J-1198
5634 51	J-3005 J-16	Forest Forest	TRUE TRUE	1.00 1.00	2398.85 2398.85	1.08 1.08	2398.93 2398.93	20.00 20.00	49.87 50.84	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
7343	J-3972	Forest	TRUE	1.00	2399.26	1.08	2399.33	20.00	20.00	20.00	20.09	J-3971	(N/A)	17.18	J-1198
3957 2156	J-2144 J-1145	Forest Forest	TRUE TRUE	1.00 1.00	2401.93 2402.58	3.49 1.08	2404.42 2402.65	20.00 20.00	20.01 20.02	20.00 20.00	22.69 20.23	J-1815 J-3369	(N/A) (N/A)	17.17 17.18	J-1198 J-1198
6882	J-3735	Forest	TRUE	1.00	2403.62	1.28	2403.89	20.00	20.00	20.00	22.83	J-691	(N/A)	17.18	J-1198
7541	J-4044	Forest	TRUE	1.00	2404.37	1.88	2405.25	20.00	35.16	20.00	20.00	J-4119	(N/A)	16.77	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
7018	J-3814	Forest	TRUE	1.00	2405.45	1.08	2405.53	20.00	20.00	20.00	20.44	J-4160	(N/A)	16.63	J-1198
6260	J-3369	Forest	TRUE	1.00	2406.26	1.48	2406.74	20.00	20.01	20.00	20.16	J-3370	(N/A)	17.18	J-1198
6026 7733	J-3227 J-4103	Forest Forest	TRUE TRUE	1.00 1.00	2406.79 2409.01	1.28 1.08	2407.07 2409.08	20.00 20.00	20.11 32.11	20.00 20.00	20.02 20.00	J-3972 J-3066	(N/A) (N/A)	17.18 16.98	J-1198 J-1198
284	J-145	Forest	TRUE	1.00	2410.10	1.08	2410.18	20.00	56.19	20.00	20.01	J-2919	(N/A)	17.12	J-1198
285 3363	J-146 J-1831	Forest Lakes	TRUE TRUE	1.00 1.00	2410.10 2418.97	1.08 2.15	2410.18 2420.12	20.00 20.00	56.15 20.00	20.00 20.00	20.01 24.74	J-2919 J-1896	(N/A) (N/A)	17.12 17.23	J-1198 J-1198
2572	J-1381	Forest	TRUE	1.00	2421.07	1.08	2421.15	20.00	24.04	20.00	20.00	J-1115	(N/A)	16.96	J-1198
6424 4456	J-3465 J-2332	Forest Stewartsville	TRUE TRUE	1.00 1.00	2421.07 2421.40	1.08 1.26	2421.15 2421.65	20.00 20.00	22.43 96.30	20.00 20.00	20.00 20.00	J-1115 J-676	(N/A) (N/A)	16.96 17.23	J-1198 J-1198
1198	J-627	Stewartsville	TRUE	1.00	2421.40	2.55	2422.95	20.00	96.65	20.00	20.00	J-676	(N/A)	17.23	J-1198
5612 5613	J-2992 J-2993	Forest Forest	TRUE TRUE	1.00 1.00	2425.28 2425.28	1.48 1.48	2425.76 2425.76	20.00 20.00	31.05 31.45	20.00 20.00	20.00 20.00	J-2224 J-2224	(N/A) (N/A)	16.62 16.62	J-1198 J-1198
2617	J-1408	Forest	TRUE	1.00	2426.14	1.08	2426.22	20.00	21.86	20.00	20.00	J-1407	(N/A)	17.12	J-1198
5360 5359	J-2849 J-2848	Forest Forest	TRUE TRUE	1.00 1.00	2431.59 2431.60	1.08 1.08	2431.67 2431.68	20.00 20.00	25.43 24.08	20.00 20.00	20.00 20.00	J-4156 J-4156	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
3390	J-1844	Lakes	TRUE	1.00	2434.13	1.20	2434.33	20.00	20.01	20.00	24.91	J-2433	(N/A)	17.23	J-1198
7269 596	J-3944 J-341	Forest Forest	TRUE TRUE	1.00 1.00	2435.60 2442.42	1.88 1.08	2436.48 2442.50	20.00 20.00	49.00 61.77	20.00 20.00	20.00 20.01	J-1197 J-2919	(N/A) (N/A)	12.92 17.11	J-1198 J-1198
4664	J-2451	Lakes	TRUE	1.00	2442.97	1.20	2443.17	20.00	20.00	20.00	20.88	J-2452	(N/A)	17.23	J-1198
7742 375	J-4106 J-203	Forest Forest	TRUE TRUE	1.00 1.00	2446.28 2452.59	1.88 1.08	2447.16 2452.67	20.00 20.00	23.00 82.41	20.00 20.00	20.00 20.01	J-3954 J-941	(N/A) (N/A)	17.03 17.12	J-1198 J-1198
282	J-144	Forest	TRUE	1.00	2452.59	1.28	2452.87	20.00	82.01	20.00	20.01	J-941	(N/A)	17.12	J-1198
4850 914	J-2555 J-508	Forest Forest	TRUE TRUE	1.00 1.00	2452.60 2452.60	1.28 1.88	2452.87 2453.48	20.00 20.00	81.54 69.66	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.12 17.12	J-1198 J-1198
1141	J-603	Forest	TRUE TRUE	1.00 1.00	2452.60	1.08	2452.67	20.00	79.87	20.00	20.01	J-941	(N/A) (N/A)	17.12	J-1198
281 1466	J-143 J-735	Forest Forest	TRUE	1.00	2452.60 2452.61	1.28 5.36	2452.88 2456.96	20.00 20.00	82.21 77.36	20.00 20.00	20.01 20.01	J-941 J-941	(N/A)	17.12 17.12	J-1198 J-1198
261 262	J-130 J-131	Forest Forest	TRUE TRUE	1.00 1.00	2452.83 2452.83	1.08 1.28	2452.91 2453.11	20.00 20.00	60.87 60.74	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.11 17.11	J-1198 J-1198
3583	J-1954	Forest	TRUE	1.00	2452.03	1.08	2453.11	20.00	31.22	20.00	20.00	J-941	(N/A)	17.11	J-1198
5167 5168	J-2737 J-2738	Forest Forest	TRUE TRUE	1.00 1.00	2453.38 2453.38	1.08 1.08	2453.46 2453.46	20.00 20.00	23.09 22.02	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.12 17.12	J-1198 J-1198
8062	J-4163	Forest	TRUE	1.00	2453.44	4.32	2456.76	20.00	51.95	20.00	20.00	J-941	(N/A)	17.12	J-1198
4665 5939	J-2452 J-3179	Lakes Forest	TRUE TRUE	1.00 1.00	2453.45 2456.44	1.20 1.08	2453.65 2456.51	20.00 20.00	20.14 20.00	20.00 20.00	20.04 22.08	J-2451 J-3178	(N/A) (N/A)	17.23 17.18	J-1198 J-1198
928	J-513	Forest	TRUE	1.00	2458.96	1.08	2459.03	20.00	61.42	20.00	20.01	J-2919	(N/A)	17.11	J-1198
73 72	J-30 J-29	Forest Forest	TRUE TRUE	1.00 1.00	2462.90 2462.90	1.28 1.08	2463.18 2462.98	20.00 20.00	24.71 23.85	20.00 20.00	20.00 20.00	J-2114 J-2114	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
3765	J-2052	Forest	TRUE	1.00	2464.33	1.48	2464.81	20.00	20.00	20.00	21.27	J-2051	(N/A)	17.18	J-1198
6601 1476	J-3569 J-740	Lakes Forest	TRUE TRUE	1.00 1.00	2464.37 2469.12	1.20 1.08	2464.57 2469.19	20.00 20.00	20.00 64.20	20.00 20.00	22.05 20.01	J-3568 J-941	(N/A) (N/A)	17.23 17.12	J-1198 J-1198
4974	J-2627	Forest	TRUE	1.00	2469.12	1.08	2469.19	20.00	63.25	20.00	20.01	J-941	(N/A)	17.12	J-1198
7052 5048	J-3833 J-2671	Forest Forest	TRUE TRUE	1.00 1.00	2471.07 2471.28	1.68 1.68	2471.75 2471.96	20.00 20.00	20.00 63.39	20.00 20.00	21.13 20.01	J-3823 J-2919	(N/A) (N/A)	17.04 17.11	J-1198 J-1198
5049	J-2672	Forest	TRUE	1.00	2471.28	1.08	2471.36	20.00	62.78	20.00	20.01	J-2919	(N/A)	17.11	J-1198
6912 6913	J-3753 J-3754	Forest Forest	TRUE TRUE	1.00 1.00	2473.43 2473.93	1.08 1.08	2473.50 2474.00	20.00 20.00	23.82 22.02	20.00 20.00	20.04 20.00	J-2729 J-2729	(N/A) (N/A)	16.95 16.95	J-1198 J-1198
7006	J-3807	Forest	TRUE	1.00	2477.78	2.08	2478.86	20.00	20.00	20.00	20.05	J-3808	(N/A)	17.17	J-1198
952 5712	J-525 J-3051	Lakes Forest	TRUE TRUE	1.00 1.00	2481.53 2481.60	1.20 1.28	2481.73 2481.88	20.00 20.00	85.03 40.91	20.00 20.00	20.05 20.01	J-2323 J-1217	(N/A) (N/A)	17.23 17.17	J-1198 J-1198
1105 6611	J-592	Forest	TRUE TRUE	1.00 1.00	2481.63	1.08	2481.70 2482.00	20.00 20.00	34.32	20.00	20.01 20.00	J-1217	(N/A) (N/A)	17.17	J-1198 J-1198
887	J-3575 J-498	Forest Forest	TRUE	1.00	2481.72 2481.98	1.28 1.88	2482.86	20.00	33.06 23.74	20.00 20.00	20.00	J-1217 J-1217	(N/A)	17.17 17.17	J-1198
5711 349	J-3050 J-186	Forest Forest	TRUE TRUE	1.00 1.00	2482.03 2482.03	1.48 1.08	2482.51 2482.11	20.00 20.00	42.24 47.25	20.00 20.00	20.00 20.00	J-1217 J-1217	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
350	J-187	Forest	TRUE	1.00	2482.03	1.08	2482.11	20.00	47.38	20.00	20.00	J-1217	(N/A)	17.17	J-1198
7014 6341	J-3812 J-3417	Lakes Forest	TRUE TRUE	1.00 1.00	2482.39 2483.52	1.20 1.08	2482.58 2483.59	20.00 20.00	81.59 60.79	20.00 20.00	20.00 20.01	J-2323 J-941	(N/A) (N/A)	17.23 17.12	J-1198 J-1198
8491	J-4198	Forest	TRUE	1.00	2483.52	1.08	2483.59	20.00	69.44	20.00	20.01	J-941	(N/A)	17.12	J-1198
6594 6593	J-3565 J-3564	Forest Forest	TRUE TRUE	1.00 1.00	2483.52 2483.52	1.28 1.08	2483.80 2483.60	20.00 20.00	71.42 73.24	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.12 17.12	J-1198 J-1198
8490	J-4197	Forest	TRUE	1.00	2483.52	1.48	2484.00	20.00	70.23	20.00	20.01	J-941	(N/A)	17.12	J-1198
8495 1464	J-4200 J-734	Forest Forest	TRUE TRUE	1.00 1.00	2483.52 2483.52	1.48 1.28	2484.00 2483.80	20.00 20.00	66.07 63.44	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.12 17.12	J-1198 J-1198
6340 8496	J-3416 J-4201	Forest	TRUE TRUE	1.00 1.00	2483.52 2483.52	1.28 1.28	2483.80 2483.80	20.00 20.00	62.46 66.29	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.12	J-1198 J-1198
8511	J-4208	Forest Forest	TRUE	1.00	2483.52	1.08	2483.60	20.00	74.48	20.00	20.01	J-941	(N/A)	17.12 17.12	J-1198
4630 5626	J-2433 J-3000	Lakes Forest	TRUE TRUE	1.00 1.00	2484.40 2486.85	1.20 1.08	2484.60 2486.92	20.00 20.00	20.01 23.34	20.00 20.00	20.88 20.00	J-2434 J-3330	(N/A) (N/A)	17.23 17.17	J-1198 J-1198
5627	J-3001	Forest	TRUE	1.00	2486.85	1.48	2487.33	20.00	21.44	20.00	20.00	J-3330	(N/A)	17.17	J-1198
4098 4186	J-2207 J-2244	Lakes Lakes	TRUE TRUE	1.00 1.00	2487.09 2487.09	2.24 1.72	2488.33 2487.81	20.00 20.00	28.58 28.30	20.00 20.00	20.00 20.00	J-1722 J-1722	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3204	J-1737	Forest	TRUE	1.00	2487.69	1.48	2488.17	20.00	31.34	20.00	20.00	J-3	(N/A)	16.60	J-1198
2870 3205	J-1555 J-1738	Forest Forest	TRUE TRUE	1.00 1.00	2487.69 2487.69	1.08 1.08	2487.77 2487.77	20.00 20.00	26.74 29.00	20.00 20.00	20.00 20.00	J-3 J-3	(N/A) (N/A)	16.60 16.60	J-1198 J-1198
6178	J-3319	Forest	TRUE	1.00	2487.69	1.08	2487.77	20.00	27.22	20.00	20.00	J-3	(N/A)	16.60	J-1198
2141 5938	J-1136 J-3178	Forest Forest	TRUE TRUE	1.00 1.00	2488.08 2488.27	1.48 1.08	2488.56 2488.35	20.00 20.00	20.44 20.52	20.00 20.00	20.01 20.00	J-3179 J-3179	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
3362	J-1830	Lakes	TRUE	1.00	2488.67	1.29	2488.96	20.00	20.88	20.00	20.02	J-1896	(N/A)	17.23	J-1198
1005 4690	J-549 J-2466	Forest Forest	TRUE TRUE	1.00 1.00	2489.37 2489.37	1.68 1.28	2490.05 2489.64	20.00 20.00	41.15 40.11	20.00 20.00	20.00 20.00	J-3090 J-3090	(N/A) (N/A)	16.60 16.60	J-1198 J-1198
7051 196	J-3832 J-93	Forest Forest	TRUE TRUE	1.00 1.00	2489.49 2489.60	3.29 2.08	2491.77 2490.68	20.00 20.00	23.60 21.13	20.00 20.00	20.00 20.00	J-3823 J-3761	(N/A) (N/A)	17.04 17.17	J-1198 J-1198
8022	J-4159	Forest	TRUE	1.00	2489.82	2.08	2490.90	20.00	20.00	20.00	24.02	J-1197	(N/A)	16.94	J-1198
6600 5380	J-3568 J-2861	Lakes Forest	TRUE TRUE	1.00 1.00	2490.05 2491.80	1.29 1.08	2490.34 2491.88	20.00 20.00	20.00 20.00	20.00 20.00	20.00 21.26	J-3569 J-3914	(N/A) (N/A)	17.23 17.17	J-1198 J-1198
4631	J-2434	Lakes	TRUE	1.00	2493.64	1.20	2493.84	20.00	20.12	20.00	20.05	J-2433	(N/A)	17.23	J-1198
7308 1593	J-3958 J-792	Lakes Forest	TRUE TRUE	1.00 1.00	2493.79 2494.10	1.20 1.08	2493.99 2494.18	20.00 20.00	20.42 25.67	20.00 20.00	20.03 20.00	J-2433 J-1115	(N/A) (N/A)	17.23 16.95	J-1198 J-1198
4743	J-2496	Lakes	TRUE	1.00	2494.21	1.55	2494.76	20.00	26.75	20.00	20.00	J-2433	(N/A)	17.23	J-1198
4742 5357	J-2495 J-2847	Lakes Lakes	TRUE TRUE	1.00 1.00	2494.21 2494.21	1.72 1.20	2494.93 2494.41	20.00 20.00	25.66 24.68	20.00 20.00	20.00 20.00	J-2433 J-2433	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5356	J-2846	Lakes	TRUE	1.00	2494.21	1.20	2494.41	20.00	23.09	20.00	20.00	J-2433	(N/A)	17.23	J-1198
3389 1457	J-1843 J-730	Lakes Forest	TRUE TRUE	1.00 1.00	2494.21 2495.80	1.20 1.28	2494.41 2496.08	20.00 20.00	21.17 64.87	20.00 20.00	20.00 20.01	J-2433 J-941	(N/A) (N/A)	17.23 17.12	J-1198 J-1198
4498	J-2356	Forest	TRUE	1.00	2500.00	1.08	2500.08	20.00	62.09	20.00	20.01	J-2919	(N/A)	17.11	J-1198

Node	Node	Pressure	Fire Flow Constraints Satisfied	Desired Fire Flow	Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	TRUE	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
377	J-204	Forest		1.00	2500.00	1.28	2500.28	20.00	62.97	20.00	20.01	J-2919	(N/A)	17.11	J-1198
378	J-204 J-205	Forest	TRUE	1.00	2501.45	1.48	2501.93	20.00	63.22	20.00	20.01	J-2919	(N/A)	17.11	J-1198
3994	J-2160	Forest	TRUE	1.00	2503.25	2.48	2504.73	20.00	28.02	20.00	20.00	J-917	(N/A)	17.18	J-1198
5053	J-2674	Forest	TRUE	1.00	2503.84	2.28	2505.12	20.00	28.98	20.00	20.00	J-895	(N/A)	17.18	J-1198
5054	J-2675	Forest	TRUE	1.00	2503.84	1.48	2504.32	20.00	28.00	20.00	20.00	J-895	(N/A)	17.18	J-1198
5544	J-2953	Forest	TRUE	1.00	2505.98	1.08	2506.06	20.00	65.74	20.00	20.01	J-941	(N/A)	17.11	J-1198
1458	J-731	Forest	TRUE	1.00	2505.98	1.48	2506.46	20.00	67.04	20.00	20.01	J-941	(N/A)	17.11	J-1198
4538	J-2379	Forest	TRUE	1.00	2507.02	1.68	2507.70	20.00	20.00	20.00	20.26	J-1824	(N/A)	17.02	J-1198
2536	J-1361	Forest	TRUE	1.00	2507.44	1.08	2507.52	20.00	26.08	20.00	20.00	J-1115	(N/A)	16.95	J-1198
3352	J-1824	Forest	TRUE	1.00	2515.34	1.48	2515.81	20.00	20.00	20.00	20.39	J-2379	(N/A)	17.02	J-1198
6751	J-3658	Forest	TRUE	1.00	2517.97	1.28	2518.25	20.00	20.00	20.00	22.14	J-3657	(N/A)	17.17	J-1198
6915	J-3755	Forest	TRUE	1.00	2518.92	1.88	2519.80	20.00	27.58	20.00	20.00	J-2153	(N/A)	17.17	J-1198
6916	J-3756	Forest	TRUE	1.00	2518.92	1.28	2519.20	20.00	26.58	20.00	20.00	J-2153	(N/A)	17.17	J-1198
8504	J-4205	Forest	TRUE	1.00	2522.50	1.28	2522.78	20.00	34.96	20.00	20.00	J-2267	(N/A)	16.78	J-1198
129	J-63	Forest	TRUE	1.00	2522.50	1.48	2522.98	20.00	30.50	20.00	20.00	J-2267	(N/A)	16.78	J-1198
4877	J-2570	Forest	TRUE	1.00	2523.40	1.08	2523.47	20.00	33.36	20.00	20.00	J-3066	(N/A)	16.96	J-1198
4876	J-2569	Forest	TRUE	1.00	2523.40	1.08	2523.47	20.00	33.07	20.00	20.00	J-3066	(N/A)	16.96	J-1198
1414	J-705	Forest	TRUE	1.00	2524.47	1.08	2524.55	20.00	67.26	20.00	20.01	J-941	(N/A)	17.11	J-1198
897	J-503	Forest	TRUE	1.00	2524.49	1.28	2524.77	20.00	53.75	20.00	20.00	J-2919	(N/A)	17.11	J-1198
5997	J-3211	Forest	TRUE	1.00	2524.49	1.68	2525.17	20.00	51.19	20.00	20.00	J-2919	(N/A)	17.11	J-1198
5776	J-3088	Forest	TRUE	1.00	2524.72	1.08	2524.80	20.00	65.75	20.00	20.01	J-941	(N/A)	17.11	J-1198
1415	J-706	Forest	TRUE	1.00	2524.72	1.48	2525.20	20.00	67.23	20.00	20.01	J-941	(N/A)	17.11	J-1198
1472	J-738	Forest	TRUE	1.00	2530.29	1.08	2530.36	20.00	71.22	20.00	20.01	J-941	(N/A)	17.11	J-1198
8523	J-4213	Forest	TRUE	1.00	2531.08	7.12	2537.20	20.00	64.40	20.00	20.00	J-941	(N/A)	17.11	J-1198
463	J-259	Lakes	TRUE	1.00	2532.93	1.20	2533.13	20.00	92.50	20.00	20.00	J-2323	(N/A)	17.23	J-1198
6329	J-3409	Lakes	TRUE	1.00	2532.93	1.20	2533.13	20.00	89.25	20.00	20.00	J-2323	(N/A)	17.23	J-1198
5809	J-3107	Forest	TRUE	1.00	2533.57	1.08	2533.64	20.00	64.52	20.00	20.01	J-941	(N/A)	17.11	J-1198
1427	J-713	Forest	TRUE	1.00	2533.57	1.08	2533.64	20.00	65.99	20.00	20.01	J-941	(N/A)	17.11	J-1198
1428	J-714	Forest	TRUE	1.00	2533.57	1.08	2533.64	20.00	63.93	20.00	20.01	J-941	(N/A)	17.11	J-1198
1438	J-720	Forest	TRUE	1.00	2533.57	1.28	2533.85	20.00	68.49	20.00	20.01	J-941	(N/A)	17.11	J-1198
5379	J-2860	Forest	TRUE	1.00	2534.20	1.88	2535.09	20.00	20.09	20.00	20.01	J-2861	(N/A)	17.17	J-1198
104	J-50	Forest	TRUE	1.00	2535.31	1.48	2535.79	20.00	23.20	20.00	20.00	J-2114	(N/A)	17.17	J-1198
5838	J-3123	Forest	TRUE	1.00	2535.31	1.08	2535.39	20.00	21.63	20.00	20.00	J-2114	(N/A)	17.17	J-1198
6777	J-3673	Forest	TRUE	1.00	2536.96	1.88	2537.84	20.00	20.00	20.00	22.42	J-3672	(N/A)	17.17	J-1198
4934	J-2604	Forest	TRUE	1.00	2537.42	1.48	2537.90	20.00	20.00	20.00	20.86	J-2603	(N/A)	17.17	J-1198
240	J-116	Lakes	TRUE	1.00	2538.38	1.37	2538.75	20.00	94.33	20.00	20.00	J-2323	(N/A)	17.23	J-1198
241	J-117	Lakes	TRUE	1.00	2538.38	1.37	2538.75	20.00	94.28	20.00	20.00	J-2323	(N/A)	17.23	J-1198
3045	J-1639	Forest	TRUE	1.00	2539.54	1.08	2539.62	20.00	51.91	20.00	20.01	J-941	(N/A)	17.14	J-1198
6004	J-3215	Forest	TRUE	1.00	2539.54	1.08	2539.62	20.00	50.73	20.00	20.01	J-941	(N/A)	17.14	J-1198
44	J-11	Forest	TRUE	1.00	2539.54	1.28	2539.82	20.00	59.00	20.00	20.01	J-941	(N/A)	17.14	J-1198
2677	J-1442	Forest	TRUE	1.00	2539.75	1.88	2540.63	20.00	31.64	20.00	20.01	J-2580	(N/A)	17.15	J-1198
3044	J-1638	Forest	TRUE	1.00	2540.30	1.48	2540.78	20.00	52.61	20.00	20.00	J-941	(N/A)	17.14	J-1198
194	J-92	Forest	TRUE	1.00	2541.03	1.08	2541.10	20.00	28.94	20.00	20.00	J-2038	(N/A)	17.17	J-1198
3287 5581	J-1788 J-2974	Forest	TRUE TRUE	1.00 1.00	2541.04 2541.04	1.08 2.28	2541.12	20.00 20.00	25.54	20.00 20.00	20.00 20.00	J-2038 J-2038	(N/A) (N/A)	17.17	J-1198 J-1198
45	J-2974 J-12	Forest Forest	TRUE	1.00	2542.74	1.48	2542.33 2543.22	20.00	24.45 58.78	20.00	20.00	J-2036 J-941	(N/A)	17.17 17.14	J-1198
5062	J-2679	Lakes	TRUE	1.00	2542.75	1.89	2543.64	20.00	31.68	20.00	20.00	J-3987	(N/A)	17.23	J-1198
5063	J-2680	Lakes	TRUE	1.00	2542.75	1.37	2543.13	20.00	30.51	20.00	20.00	J-3987	(N/A)	17.23	J-1198
1404	J-700	Forest	TRUE	1.00	2545.70	1.48	2546.18	20.00	60.90	20.00	20.00	J-941	(N/A)	17.23	J-1198
1403	J-699	Forest	TRUE	1.00	2546.22	1.08	2546.30	20.00	60.74	20.00	20.01	J-941	(N/A)	17.11	J-1198
5516	J-2937	Forest	TRUE	1.00	2546.22	1.48	2546.70	20.00	59.41	20.00	20.01	J-941	(N/A)	17.11	J-1198
6052	J-3243	Forest	TRUE	1.00	2547.55	1.48	2548.03	20.00	34.13	20.00	20.00	J-2280	(N/A)	17.18	J-1198
6053	J-3244	Forest	TRUE	1.00	2547.55	2.88	2549.44	20.00	32.20	20.00	20.00	J-2280	(N/A)	17.18	J-1198
7162	J-3894	Lakes	TRUE	1.00	2547.98	2.67	2549.65	20.00	31.81	20.00	20.00	J-3987	(N/A)	17.23	J-1198
4852	J-2556	Lakes	TRUE	1.00	2547.98	2.24	2549.22	20.00	25.26	20.00	20.00	J-3987	(N/A)	17.23	J-1198
4853	J-2557	Lakes	TRUE	1.00	2547.98	1.63	2548.61	20.00	24.22	20.00	20.00	J-3987	(N/A)	17.23	J-1198
7875	J-4136	Lakes	TRUE	1.00	2547.98	1.46	2548.44	20.00	22.43	20.00	20.00	J-3987	(N/A)	17.23	J-1198
278	J-141	Forest	TRUE	1.00	2550.72	1.68	2551.40	20.00	51.87	20.00	20.00	J-2919	(N/A)	17.11	J-1198
279	J-142	Forest	TRUE	1.00	2550.73	1.28	2551.00	20.00	51.85	20.00	20.00	J-2919	(N/A)	17.11	J-1198
1443	J-723	Forest	TRUE	1.00	2552.38	2.08	2553.46	20.00	59.38	20.00	20.00	J-941	(N/A)	17.11	J-1198
1435	J-718	Forest	TRUE	1.00	2556.46	1.28	2556.74	20.00	58.64	20.00	20.01	J-941	(N/A)	17.11	J-1198
6036	J-3233	Forest	TRUE	1.00	2556.46	1.28	2556.74	20.00	57.06	20.00	20.01	J-941	(N/A)	17.11	J-1198
7301	J-3956	Forest	TRUE	1.00	2557.47	1.08	2557.55	20.00	20.00	20.00	20.33	J-3657	(N/A)	17.17	J-1198
6466	J-3489	Forest	TRUE	1.00	2557.59	1.48	2558.07	20.00	32.00	20.00	20.01	J-2580	(N/A)	17.15	J-1198
6467	J-3490	Forest	TRUE	1.00	2557.66	1.08	2557.74	20.00	30.34	20.00	20.01	J-2580	(N/A)	17.15	J-1198
5328	J-2830	Forest	TRUE	1.00	2558.08	1.08	2558.16	20.00	63.01	20.00	20.01	J-941	(N/A)	17.11	J-1198
4933	J-2603	Forest	TRUE	1.00	2558.24	1.88	2559.12	20.00	20.00	20.00	20.13	J-2604	(N/A)	17.17	J-1198
5329	J-2831	Forest	TRUE	1.00	2558.84	1.08	2558.92	20.00	61.18	20.00	20.00	J-941	(N/A)	17.11	J-1198
6837	J-3709	Forest	TRUE	1.00	2559.29	2.28	2560.57	20.00	20.00	20.00	20.90	J-3708	(N/A)	16.93	J-1198
2625	J-1413	Forest	TRUE	1.00	2560.92	2.08	2562.00	20.00	20.00	20.00	24.09	J-1197	(N/A)	17.01	J-1198
1436	J-719	Forest	TRUE	1.00	2561.18	1.28	2561.46	20.00	58.22	20.00	20.00	J-941	(N/A)	17.11	J-1198
6750	J-3657	Forest	TRUE	1.00	2564.51	1.08	2564.59	20.00	20.00	20.00	20.15	J-3658	(N/A)	17.17	J-1198
7582	J-4056	Forest	TRUE	1.00	2565.86	1.48	2566.34	20.00	25.33	20.00	20.00	J-3330	(N/A)	17.17	J-1198
1004	J-548	Forest	TRUE	1.00	2565.88	1.48	2566.36	20.00	29.04	20.00	20.00	J-3090	(N/A)	16.57	J-1198
4862	J-2562	Forest	TRUE	1.00	2565.88	1.48	2566.36	20.00	27.83	20.00	20.00	J-3090	(N/A)	16.57	J-1198
3351	J-1823	Forest	TRUE	1.00	2567.63	2.28	2568.91	20.00	20.01	20.00	20.39	J-1449	(N/A)	17.02	J-1198
1419	J-708	Forest	TRUE	1.00	2568.73	1.28	2569.00	20.00	56.82	20.00	20.00	J-941	(N/A)	17.11	J-1198
1420	J-709	Forest	TRUE	1.00	2570.25	1.08	2570.33	20.00	57.17	20.00	20.00	J-941	(N/A)	17.11	J-1198
6948	J-3774	Forest	TRUE	1.00	2570.25	1.28	2570.53	20.00	53.92	20.00	20.00	J-941	(N/A)	17.11	J-1198
6836	J-3708	Forest	TRUE	1.00	2572.90	2.48	2574.38	20.00	20.00	20.00	20.59	J-4088	(N/A)	16.93	J-1198
7268	J-3943	Forest	TRUE	1.00	2572.94	1.28	2573.22	20.00	48.55	20.00	20.00	J-1197	(N/A)	12.92	J-1198
475	J-266	Forest	TRUE	1.00	2577.48	1.68	2578.16	20.00	51.91	20.00	20.00	J-2145	(N/A)	17.19	J-1198
5450	J-2900	Forest	TRUE	1.00	2578.88	1.08	2578.96	20.00	45.07	20.00	20.00	J-2919	(N/A)	17.15	J-1198
423	J-234	Forest	TRUE	1.00	2578.88	1.08	2578.96	20.00	46.84	20.00	20.00	J-2919	(N/A)	17.15	J-1198
1462	J-733	Forest	TRUE	1.00	2579.40	1.08	2579.48	20.00	59.28	20.00	20.00	J-941	(N/A)	17.11	J-1198
4593	J-2412	Forest	TRUE	1.00	2579.40	1.08	2579.48	20.00	58.60	20.00	20.00	J-941	(N/A)	17.11	J-1198
6776	J-3672	Forest	TRUE	1.00	2579.98	1.88	2580.86	20.00	20.12	20.00	20.03	J-3673	(N/A)	17.17	J-1198
424	J-235	Forest	TRUE	1.00	2581.33	1.08	2581.41	20.00	48.02	20.00	20.00	J-2919	(N/A)	17.15	J-1198
6237	J-3355	Forest	TRUE	1.00	2587.29	1.48	2587.77	20.00	27.19	20.00	20.00	J-1394	(N/A)	16.99	J-1198
7151	J-3888	Forest	TRUE	1.00	2587.29	1.08	2587.37	20.00	27.21	20.00	20.00	J-1394	(N/A)	16.99	J-1198
6236	J-3354	Forest	TRUE	1.00	2587.29	1.88	2588.17	20.00	25.31	20.00	20.00	J-1394	(N/A)	16.99	J-1198
7422	J-4001	Forest	TRUE	1.00	2587.29	2.68	2588.97	20.00	27.19	20.00	20.00	J-1394	(N/A)	16.99	J-1198
534	J-303	Forest	TRUE	1.00	2588.25	1.28	2588.53	20.00	49.67	20.00	20.00	J-2919	(N/A)	17.15	J-1198
4915	J-2592	Forest	TRUE	1.00	2589.24	1.88	2590.13	20.00	45.57	20.00	20.00	J-2919	(N/A)	17.10	J-1198
4916	J-2593	Forest	TRUE	1.00	2589.25	1.28	2589.52	20.00	44.54	20.00	20.00	J-2919	(N/A)	17.10	J-1198
5335	J-2834	Forest	TRUE	1.00	2589.85	1.08	2589.93	20.00	50.94	20.00	20.00	J-2145	(N/A)	17.18	J-1198
476	J-267	Forest	TRUE	1.00	2589.86	1.88	2590.74	20.00	52.26	20.00	20.00	J-2145	(N/A)	17.18	J-1198
710	0 201	1 01031	INOL	1.00	2003.00	1.00	2000.14	20.00	J2.20	20.00	20.00	0 2140	(14/7)	17.10	0 1130

								Desired	Calculated	Desired Minimum	Calculated Minimum	Minimum	Desired Minimum	Calculated Minimum	Minimum
Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Residual Pressure (psi)	Residual Pressure (psi)	Zone Pressure (psi)	Zone Pressure (psi)	Zone Pressure Node	System Pressure (psi)	System Pressure (psi)	System Pressure Node
7508	J-4030	Forest	TRUE	1.00	2591.47	2.28	2592.75	20.00	20.00	20.00	21.24	J-3657	(N/A)	17.17	J-1198
1478 4654	J-741 J-2446	Forest Forest	TRUE TRUE	1.00 1.00	2592.64 2592.65	1.08 1.48	2592.72 2593.13	20.00 20.00	58.47 57.60	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.11 17.11	J-1198 J-1198
5224	J-2769	Forest	TRUE	1.00	2595.91	2.48	2597.40	20.00	23.28	20.00	20.00	J-2280	(N/A)	17.17	J-1198
5223 103	J-2768 J-49	Forest Forest	TRUE TRUE	1.00 1.00	2595.92 2597.13	2.08 2.28	2597.00 2598.41	20.00 20.00	24.43 26.40	20.00 20.00	20.00 20.00	J-2280 J-2114	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
995	J-545	Forest	TRUE	1.00	2603.58	1.48	2604.06	20.00	53.44	20.00	20.00	J-2919	(N/A)	17.10	J-1198
5791 123	J-3096 J-59	Forest Forest	TRUE TRUE	1.00 1.00	2603.59 2604.84	2.48 1.48	2605.07 2605.31	20.00 20.00	51.97 51.66	20.00 20.00	20.00 20.00	J-2919 J-941	(N/A) (N/A)	17.10 17.14	J-1198 J-1198
3154	J-1707	Forest	TRUE	1.00	2604.84	1.48	2605.32	20.00	50.22	20.00	20.00	J-941	(N/A)	17.14	J-1198
5530 5529	J-2946 J-2945	Forest Forest	TRUE TRUE	1.00 1.00	2606.54 2606.54	1.08 1.28	2606.61 2606.82	20.00 20.00	66.07 67.03	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.10 17.10	J-1198 J-1198
2814	J-1523	Forest	TRUE	1.00	2606.78	1.48	2607.26	20.00	27.22	20.00	20.03	J-2729	(N/A)	16.93	J-1198
5490 1474	J-2923 J-739	Forest Forest	TRUE TRUE	1.00 1.00	2608.00 2608.00	1.68 1.08	2608.68 2608.08	20.00 20.00	54.66 55.87	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.10 17.10	J-1198 J-1198
4033	J-2177	Forest	TRUE	1.00	2608.64	1.88	2609.52	20.00	23.08	20.00	20.00	J-2939	(N/A)	16.94	J-1198
857 5729	J-483 J-3061	Stewartsville Stewartsville	TRUE TRUE	1.00 1.00	2608.74 2608.74	1.11 1.11	2608.85 2608.85	20.00 20.00	81.31 79.18	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1700	J-860	Forest	TRUE	1.00	2609.69	1.08	2609.77	20.00	28.55	20.00	20.00	J-1115	(N/A)	16.93	J-1198
884 7071	J-497 J-3843	Forest Forest	TRUE TRUE	1.00 1.00	2620.57 2620.96	1.88 1.68	2621.45 2621.64	20.00 20.00	52.74 56.86	20.00 20.00	20.00 20.00	J-941 J-2919	(N/A) (N/A)	17.10 17.11	J-1198 J-1198
7072	J-3844	Forest	TRUE	1.00	2620.96	2.08	2622.04	20.00	48.31	20.00	20.00	J-2919	(N/A)	17.11	J-1198
6182 648	J-3321 J-373	Forest Forest	TRUE TRUE	1.00 1.00	2623.35 2623.35	1.48 1.68	2623.83 2624.03	20.00 20.00	72.81 71.98	20.00 20.00	20.00 20.00	J-2145 J-2145	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
1374	J-691	Forest	TRUE	1.00	2623.39	1.68	2624.07	20.00	20.43	20.00	20.00	J-3735	(N/A)	17.18	J-1198
5315 98	J-2822	Forest	TRUE	1.00	2623.43	1.88	2624.31	20.00	20.01	20.00 20.00	21.51	J-2821	(N/A) (N/A)	16.94	J-1198
6630	J-46 J-3587	Lakes Forest	TRUE TRUE	1.00 1.00	2624.77 2624.89	1.20 1.68	2624.97 2625.57	20.00 20.00	20.01 20.00	20.00	20.13 21.80	J-782 J-3673	(N/A) (N/A)	17.23 17.16	J-1198 J-1198
959	J-528	Forest	TRUE	1.00	2627.67	1.08	2627.75	20.00	44.23	20.00	20.01	J-2919	(N/A)	17.10	J-1198
4806 4818	J-2530 J-2536	Forest Forest	TRUE TRUE	1.00 1.00	2627.68 2628.14	1.88 1.08	2628.56 2628.21	20.00 20.00	43.03 47.18	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.10 17.10	J-1198 J-1198
478	J-268	Forest	TRUE	1.00	2628.14	1.08	2628.21	20.00	48.39	20.00	20.01	J-2919	(N/A)	17.10	J-1198
318 319	J-166 J-167	Forest Forest	TRUE TRUE	1.00 1.00	2628.74 2628.75	1.28 1.08	2629.02 2628.82	20.00 20.00	49.10 48.99	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.10 17.10	J-1198 J-1198
536	J-304	Forest	TRUE	1.00	2630.50	1.08	2630.58	20.00	27.95	20.00	20.00	J-1217	(N/A)	17.17	J-1198
636 4798	J-365 J-2526	Forest Forest	TRUE TRUE	1.00 1.00	2631.09 2631.09	1.08 1.28	2631.17 2631.37	20.00 20.00	45.26 44.01	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.10 17.10	J-1198 J-1198
8483	J-4193	Forest	TRUE	1.00	2632.14	1.48	2632.62	20.00	48.44	20.00	20.01	J-2919	(N/A)	17.10	J-1198
637 121	J-366 J-58	Forest Forest	TRUE TRUE	1.00 1.00	2632.14 2632.35	1.28 1.08	2632.42 2632.43	20.00 20.00	46.50 69.54	20.00 20.00	20.01 20.00	J-2919 J-2145	(N/A) (N/A)	17.10 17.18	J-1198 J-1198
7872	J-4135	Forest	TRUE	1.00	2632.74	1.68	2633.42	20.00	20.01	20.00	24.00	J-1197	(N/A)	16.93	J-1198
4570 4571	J-2398 J-2399	Forest Forest	TRUE TRUE	1.00 1.00	2633.74 2633.74	1.48 1.08	2634.22 2633.82	20.00 20.00	56.92 56.21	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.10 17.10	J-1198 J-1198
4836	J-2547	Forest	TRUE	1.00	2634.13	1.08	2634.21	20.00	50.08	20.00	20.01	J-2919	(N/A)	17.10	J-1198
907 4996	J-507 J-2640	Forest Forest	TRUE TRUE	1.00 1.00	2634.13 2635.09	1.08 1.28	2634.21 2635.37	20.00 20.00	51.04 47.60	20.00 20.00	20.01 20.00	J-2919 J-2919	(N/A) (N/A)	17.10 17.11	J-1198 J-1198
4995	J-2639	Forest	TRUE	1.00	2635.09	1.28	2635.37	20.00	48.48	20.00	20.00	J-2919	(N/A)	17.11	J-1198
939 537	J-518 J-305	Forest Forest	TRUE TRUE	1.00 1.00	2636.36 2637.51	1.28 1.28	2636.64 2637.78	20.00 20.00	56.88 24.37	20.00 20.00	20.01 20.00	J-2919 J-1217	(N/A) (N/A)	17.09 17.17	J-1198 J-1198
6398	J-3450	Forest	TRUE	1.00	2637.56	1.08	2637.63	20.00	22.76	20.00	20.00	J-1217	(N/A)	17.17	J-1198
7241 124	J-3930 J-60	Forest Forest	TRUE TRUE	1.00 1.00	2641.86 2647.20	1.88 1.28	2642.74 2647.47	20.00 20.00	20.00 51.99	20.00 20.00	20.53 20.00	J-576 J-941	(N/A) (N/A)	16.54 17.14	J-1198 J-1198
6700	J-3628	Forest	TRUE	1.00	2647.20	1.08	2647.28	20.00	49.85	20.00	20.00	J-941	(N/A)	17.14	J-1198
6042 5314	J-3237 J-2821	Forest Forest	TRUE TRUE	1.00 1.00	2651.56 2652.09	1.88 2.28	2652.44 2653.37	20.00 20.00	20.00 20.11	20.00 20.00	21.56 20.03	J-3236 J-2822	(N/A) (N/A)	16.91 16.94	J-1198 J-1198
4939	J-2607	Lakes	TRUE	1.00	2652.43	1.20	2652.63	20.00	20.01	20.00	20.11	J-46	(N/A)	17.23	J-1198
97 850	J-45 J-479	Lakes Forest	TRUE TRUE	1.00 1.00	2653.89 2653.98	1.37 1.28	2654.26 2654.26	20.00 20.00	21.03 61.08	20.00 20.00	20.00 20.01	J-46 J-2919	(N/A) (N/A)	17.23 17.09	J-1198 J-1198
8502	J-4204	Forest	TRUE	1.00	2653.99	1.08	2654.06	20.00	63.33	20.00	20.01	J-2919	(N/A)	17.09	J-1198
1066 1129	J-576 J-598	Forest Forest	TRUE TRUE	1.00 1.00	2656.41 2657.67	1.08 1.48	2656.49 2658.15	20.00 20.00	20.00 60.96	20.00 20.00	20.00 20.00	J-3930 J-2919	(N/A) (N/A)	16.53 17.15	J-1198 J-1198
5136	J-2719	Forest	TRUE	1.00	2657.67	1.08	2657.75	20.00	59.69	20.00	20.00	J-2919	(N/A)	17.15	J-1198
6629 4885	J-3586 J-2575	Forest Forest	TRUE TRUE	1.00 1.00	2659.09 2663.41	1.48 3.89	2659.57 2666.30	20.00 20.00	20.19 31.76	20.00 20.00	20.02 20.00	J-3673 J-2280	(N/A) (N/A)	17.16 17.17	J-1198 J-1198
4886	J-2576	Forest	TRUE	1.00	2663.41	1.88	2664.29	20.00	30.76	20.00	20.00	J-2280	(N/A)	17.17	J-1198
695 3551	J-400 J-1935	Forest Forest	TRUE TRUE	1.00 1.00	2665.66 2666.13	2.48 1.88	2667.14 2667.01	20.00 20.00	28.59 42.59	20.00 20.00	20.00 20.00	J-1217 J-1532	(N/A) (N/A)	17.17 17.00	J-1198 J-1198
120	J-57	Forest	TRUE	1.00	2669.08	1.48	2669.56	20.00	61.70	20.00	20.00	J-2145	(N/A)	17.18	J-1198
6008 3618	J-3217 J-1973	Forest Forest	TRUE TRUE	1.00 1.00	2669.08 2669.25	1.48 1.28	2669.56 2669.53	20.00 20.00	60.42 20.00	20.00 20.00	20.00 24.25	J-2145 J-1197	(N/A) (N/A)	17.18 17.17	J-1198 J-1198
851	J-480	Forest	TRUE	1.00	2670.15	1.08	2670.23	20.00	63.56	20.00	20.01	J-2919	(N/A)	17.09	J-1198
5170 6041	J-2739 J-3236	Forest Forest	TRUE TRUE	1.00 1.00	2670.15 2680.63	1.08 1.48	2670.23 2681.11	20.00 20.00	62.37 20.00	20.00 20.00	20.01 20.25	J-2919 J-3237	(N/A) (N/A)	17.09 16.91	J-1198 J-1198
130	J-64	Forest	TRUE	1.00	2681.10	1.48	2681.58	20.00	22.70	20.00	20.00	J-2267	(N/A)	16.73	J-1198
700 701	J-403 J-404	Stewartsville Stewartsville	TRUE TRUE	1.00 1.00	2687.23 2687.23	1.11 1.11	2687.34 2687.34	20.00 20.00	75.84 77.82	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5216	J-2764	Forest	TRUE	1.00	2688.69	1.08	2688.76	20.00	66.34	20.00	20.01	J-2919	(N/A)	17.08	J-1198
5215 4481	J-2763 J-2347	Forest Forest	TRUE TRUE	1.00 1.00	2688.69 2689.09	1.28 1.68	2688.97 2689.77	20.00 20.00	67.83 20.00	20.00 20.00	20.01 20.37	J-2919 J-2272	(N/A) (N/A)	17.08 16.92	J-1198 J-1198
4270	J-2272	Forest	TRUE	1.00	2693.54	2.88	2695.42	20.00	20.00	20.00	20.18	J-2347	(N/A)	16.92	J-1198
7812 968	J-4123 J-532	Forest Forest	TRUE TRUE	1.00 1.00	2694.80 2697.78	1.48 1.28	2695.28 2698.05	20.00 20.00	20.01 67.88	20.00 20.00	23.99 20.01	J-1197 J-2919	(N/A) (N/A)	16.91 17.08	J-1198 J-1198
4454	J-2331	Forest	TRUE	1.00	2700.20	1.48	2700.68	20.00	20.00	20.00	20.17	J-2330	(N/A)	17.17	J-1198
89 3186	J-40 J-1726	Forest Forest	TRUE TRUE	1.00 1.00	2701.98 2701.98	1.08 1.48	2702.05 2702.46	20.00 20.00	55.99 53.33	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
4453	J-2330	Forest	TRUE	1.00	2703.75	1.48	2704.23	20.00	20.00	20.00	20.02	J-2331	(N/A)	17.17	J-1198
7113 3941	J-3867 J-2137	Forest Forest	TRUE TRUE	1.00 1.00	2705.22 2708.71	1.28 2.28	2705.50 2709.99	20.00 20.00	20.00 22.02	20.00 20.00	20.08 20.00	J-2330 J-1163	(N/A) (N/A)	17.17 16.91	J-1198 J-1198
5674	J-3029	Forest	TRUE	1.00	2709.46	1.88	2710.34	20.00	20.01	20.00	22.23	J-2164	(N/A)	16.93	J-1198
6283 78	J-3382 J-33	Forest Forest	TRUE TRUE	1.00 1.00	2711.43 2711.43	1.08 1.48	2711.51 2711.91	20.00 20.00	47.16 49.92	20.00 20.00	20.00 20.00	J-1624 J-1624	(N/A) (N/A)	16.72 16.72	J-1198 J-1198
79	J-34	Forest	TRUE	1.00	2711.43	1.28	2711.71	20.00	48.84	20.00	20.00	J-1624	(N/A)	16.72	J-1198
7465 2514	J-4016 J-1348	Forest Forest	TRUE TRUE	1.00 1.00	2714.02 2716.54	1.08 1.08	2714.09 2716.62	20.00 20.00	30.84 21.19	20.00 20.00	20.00 20.00	J-1115 J-832	(N/A) (N/A)	16.91 16.91	J-1198 J-1198
3122	J-1688	Forest	TRUE	1.00	2717.36	1.28	2717.64	20.00	56.77	20.00	20.00	J-941	(N/A)	17.14	J-1198
90 207	J-41 J-95	Forest Forest	TRUE TRUE	1.00 1.00	2717.36 2719.67	1.28 1.08	2717.64 2719.74	20.00 20.00	58.69 50.04	20.00 20.00	20.00 20.00	J-941 J-2919	(N/A) (N/A)	17.14 17.15	J-1198 J-1198
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Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow	Available Fire Flow	Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure Node	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure Node
				(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)		(psi)	(psi)	
6696 6039	J-3626 J-3235	Forest Forest	TRUE TRUE	1.00 1.00	2723.65 2725.76	2.88 1.68	2725.53 2726.44	20.00 20.00	20.00 40.40	20.00 20.00	21.65 20.00	J-967 J-2280	(N/A) (N/A)	16.90 17.17	J-1198 J-1198
6038	J-3234	Forest	TRUE	1.00	2725.76	1.48	2726.24	20.00	38.68	20.00	20.00	J-2280	(N/A)	17.17	J-1198
6795 6796	J-3684 J-3685	Forest Forest	TRUE TRUE	1.00 1.00	2726.59 2726.59	1.08 1.08	2726.67 2726.67	20.00 20.00	30.95 29.36	20.00 20.00	20.00 20.00	J-1115 J-1115	(N/A) (N/A)	16.91 16.91	J-1198 J-1198
5667	J-3025	Forest	TRUE	1.00	2728.18	1.28	2728.46	20.00	20.00	20.00	21.83	J-2019	(N/A)	16.89	J-1198
7953 2103	J-4151 J-1111	Forest Forest	TRUE TRUE	1.00 1.00	2735.99 2736.18	2.68 1.48	2737.67 2736.66	20.00 20.00	20.58 28.08	20.00 20.00	20.00 20.00	J-2822 J-1115	(N/A) (N/A)	16.92 16.91	J-1198 J-1198
4834	J-2546	Forest	TRUE	1.00	2737.66	1.08	2737.74	20.00	20.35	20.00	20.03	J-832	(N/A)	16.91	J-1198
4833 3609	J-2545 J-1968	Forest Lakes	TRUE TRUE	1.00 1.00	2738.11 2739.88	1.08 1.20	2738.19 2740.08	20.00 20.00	21.40 20.00	20.00 20.00	20.00 32.62	J-832 J-2323	(N/A) (N/A)	16.91 17.23	J-1198 J-1198
4002	J-2164	Forest	TRUE	1.00	2740.04	1.88	2740.93	20.00	20.55	20.00	20.01	J-3029	(N/A)	16.92	J-1198
7595 432	J-4059 J-240	Forest Forest	TRUE TRUE	1.00 1.00	2744.23 2746.01	1.88 1.48	2745.11 2746.49	20.00 20.00	43.38 37.55	20.00 20.00	20.00 20.00	J-2280 J-2919	(N/A) (N/A)	17.17 17.15	J-1198 J-1198
1604	J-799	Forest	TRUE	1.00	2747.04	1.08	2747.12	20.00	30.05	20.00	20.00	J-1115	(N/A)	16.91	J-1198
392 5354	J-214 J-2845	Forest Forest	TRUE TRUE	1.00 1.00	2747.07 2747.08	1.08 1.28	2747.15 2747.35	20.00 20.00	36.92 35.29	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
3345	J-1820	Forest	TRUE	1.00	2747.38	1.28	2747.66	20.00	58.23	20.00	20.00	J-941	(N/A)	17.14	J-1198
106 393	J-51 J-215	Forest Forest	TRUE TRUE	1.00 1.00	2747.38 2747.65	1.08 1.48	2747.46 2748.13	20.00 20.00	64.60 36.58	20.00 20.00	20.00 20.00	J-941 J-2919	(N/A) (N/A)	17.14 17.15	J-1198 J-1198
7677	J-4085	Forest	TRUE	1.00	2748.26	1.48	2748.74	20.00	20.00	20.00	24.00	J-1197	(N/A)	16.92	J-1198
1031 5076	J-560 J-2687	Forest Forest	TRUE TRUE	1.00 1.00	2751.24 2751.24	1.28 1.28	2751.52 2751.52	20.00 20.00	71.97 70.71	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.07 17.07	J-1198 J-1198
145	J-71	Forest	TRUE	1.00	2751.78	2.48	2753.26	20.00	44.58	20.00	20.00	J-2145	(N/A)	17.18	J-1198
6695 4048	J-3625 J-2185	Forest Forest	TRUE TRUE	1.00 1.00	2752.70 2752.70	1.08 1.88	2752.77 2753.58	20.00 20.00	21.04 22.04	20.00 20.00	20.00 20.00	J-967 J-967	(N/A) (N/A)	16.90 16.90	J-1198 J-1198
5349	J-2842	Forest	TRUE	1.00	2752.74	1.88	2753.62	20.00	20.00	20.00	21.61	J-2843	(N/A)	16.75	J-1198
1691 6439	J-854 J-3474	Forest Lakes	TRUE TRUE	1.00 1.00	2753.34 2755.39	1.08 1.20	2753.42 2755.59	20.00 20.00	29.63 24.26	20.00 20.00	20.00 20.00	J-1115 J-3016	(N/A) (N/A)	16.91 17.23	J-1198 J-1198
6440	J-3475	Lakes	TRUE	1.00	2755.39	1.20	2755.59	20.00	21.71	20.00	20.00	J-3016	(N/A)	17.23	J-1198
190 5820	J-91 J-3113	Forest Forest	TRUE TRUE	1.00 1.00	2758.83 2758.83	1.08 1.88	2758.90 2759.71	20.00 20.00	59.67 58.82	20.00 20.00	20.00 20.00	J-2038 J-2038	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
5046	J-2670	Forest	TRUE	1.00	2760.12	1.28	2760.40	20.00	20.02	20.00	21.48	J-2669	(N/A)	16.90	J-1198
5070 5254	J-2684 J-2787	Forest Forest	TRUE TRUE	1.00 1.00	2760.41 2760.56	1.48 1.08	2760.89 2760.64	20.00 20.00	20.00 56.88	20.00 20.00	21.48 20.00	J-2683 J-2145	(N/A) (N/A)	16.99 17.18	J-1198 J-1198
1028	J-559	Forest	TRUE	1.00	2760.57	1.88	2761.45	20.00	57.73	20.00	20.00	J-2145	(N/A)	17.18	J-1198
3701 1051	J-2019 J-570	Forest Forest	TRUE TRUE	1.00 1.00	2763.77 2764.90	1.08 1.08	2763.84 2764.98	20.00 20.00	20.14 28.42	20.00 20.00	20.03 20.00	J-3025 J-3930	(N/A) (N/A)	16.88 16.49	J-1198 J-1198
4812	J-2533	Forest	TRUE	1.00	2764.90	1.68	2765.58	20.00	27.64	20.00	20.00	J-3930	(N/A)	16.49	J-1198
35 36	J-5 J-6	Forest Forest	TRUE TRUE	1.00 1.00	2767.07 2767.15	1.08 2.08	2767.14 2768.23	20.00 20.00	29.40 29.48	20.00 20.00	20.00 20.00	J-1217 J-1217	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
156	J-76	Forest	TRUE	1.00	2767.36	1.08	2767.44	20.00	46.47	20.00	20.00	J-1217	(N/A)	17.16	J-1198
5826 7706	J-3116 J-4093	Forest Forest	TRUE TRUE	1.00 1.00	2767.36 2767.98	1.08 2.08	2767.44 2769.06	20.00 20.00	45.74 20.00	20.00 20.00	20.00 20.68	J-1217 J-3179	(N/A) (N/A)	17.16 17.17	J-1198 J-1198
8039	J-4161	Forest	TRUE	1.00	2770.39	1.28	2770.66	20.00	20.00	20.00	23.97	J-1197	(N/A)	16.89	J-1198
84 5676	J-37 J-3030	Forest Forest	TRUE TRUE	1.00 1.00	2780.91 2780.99	1.08 1.08	2780.99 2781.07	20.00 20.00	28.15 26.14	20.00 20.00	20.00 20.00	J-1217 J-1217	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
5045	J-2669	Forest	TRUE	1.00	2785.77	2.08	2786.85	20.00	20.31	20.00	20.02	J-2670	(N/A)	16.90	J-1198
7280 7279	J-3948 J-3947	Forest Forest	TRUE TRUE	1.00 1.00	2787.08 2787.08	1.48 1.08	2787.56 2787.16	20.00 20.00	21.17 20.86	20.00 20.00	20.00 20.00	J-3972 J-3972	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
1076	J-579	Forest	TRUE	1.00	2789.35	1.08	2789.43	20.00	36.99	20.00	20.01	J-1217	(N/A)	17.17	J-1198
6823 6422	J-3700 J-3464	Forest Forest	TRUE TRUE	1.00 1.00	2789.35 2789.38	1.28 1.28	2789.63 2789.65	20.00 20.00	34.41 61.84	20.00 20.00	20.01 20.00	J-1217 J-941	(N/A) (N/A)	17.17 17.14	J-1198 J-1198
117	J-56	Forest	TRUE	1.00	2789.38	1.08	2789.46	20.00	64.53	20.00	20.00	J-941	(N/A)	17.14	J-1198
5350 6919	J-2843 J-3758	Forest Forest	TRUE TRUE	1.00 1.00	2792.15 2792.81	3.49 1.08	2794.64 2792.89	20.00 20.00	20.09 20.00	20.00 20.00	20.02 21.49	J-2842 J-3951	(N/A) (N/A)	16.74 17.17	J-1198 J-1198
6246	J-3361	Forest	TRUE	1.00	2795.18	1.08	2795.26	20.00	20.00	20.00	21.85	J-3360	(N/A)	16.92	J-1198
1607 7124	J-801 J-3873	Forest Forest	TRUE TRUE	1.00 1.00	2800.22 2801.48	1.08 1.08	2800.30 2801.55	20.00 20.00	26.51 26.46	20.00 20.00	20.00 20.00	J-1115 J-1115	(N/A) (N/A)	16.90 16.90	J-1198 J-1198
2502	J-1342	Forest	TRUE	1.00	2802.01	1.08	2802.08	20.00	22.30	20.00	20.00	J-1806	(N/A)	16.47	J-1198
6288 126	J-3385 J-61	Forest Forest	TRUE TRUE	1.00 1.00	2805.48 2805.48	1.08 1.48	2805.55 2805.96	20.00 20.00	32.50 34.54	20.00 20.00	20.00 20.00	J-2145 J-2145	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
7774	J-4113	Forest	TRUE	1.00	2809.20	1.28	2809.48	20.00	20.00	20.00	21.06	J-1599	(N/A)	16.92	J-1198
1599 993	J-796 J-544	Forest Stewartsville	TRUE TRUE	1.00 1.00	2813.43 2815.48	1.08 1.11	2813.51 2815.59	20.00 20.00	26.00 68.63	20.00 20.00	20.00 20.00	J-1115 J-676	(N/A) (N/A)	16.90 17.23	J-1198 J-1198
6509	J-3514	Stewartsville		1.00	2815.48	1.11	2815.59	20.00	65.52	20.00	20.00	J-676	(N/A)	17.23	J-1198
1085 4855	J-583 J-2558	Forest Forest	TRUE TRUE	1.00 1.00	2817.48 2817.48	1.08 1.28	2817.55 2817.75	20.00 20.00	78.95 77.83	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.06 17.06	J-1198 J-1198
1680	J-847	Forest	TRUE	1.00	2817.59	2.48	2819.07	20.00	20.27	20.00	20.02	J-846	(N/A)	16.91	J-1198
6132 5585	J-3292 J-2976	Lakes Forest	TRUE TRUE	1.00 1.00	2819.38 2819.62	1.20 1.48	2819.58 2820.10	20.00 20.00	53.86 20.00	20.00 20.00	20.02 21.63	J-2323 J-2977	(N/A) (N/A)	17.23 16.47	J-1198 J-1198
1096	J-588	Lakes	TRUE	1.00	2819.70	1.20	2819.90	20.00	55.64	20.00	20.00	J-2323	(N/A)	17.23	J-1198
178 4652	J-87 J-2445	Lakes Lakes	TRUE TRUE	1.00 1.00	2820.72 2820.72	1.20 1.20	2820.92 2820.92	20.00 20.00	48.76 47.81	20.00 20.00	20.00 20.00	J-46 J-46	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5069	J-2683	Forest	TRUE	1.00	2822.45	3.49	2824.93	20.00	20.12	20.00	20.00	J-2684	(N/A)	16.98	J-1198
5226 6245	J-2770 J-3360	Forest Forest	TRUE TRUE	1.00 1.00	2828.23 2829.81	2.08 2.08	2829.31 2830.89	20.00 20.00	20.00 20.00	20.00 20.00	21.91 20.33	J-2771 J-3361	(N/A) (N/A)	16.98 16.91	J-1198 J-1198
5272	J-2797	Forest	TRUE	1.00	2832.57	1.48	2833.04	20.00	20.01	20.00	21.56	J-2796	(N/A)	16.89	J-1198
3932 6930	J-2134 J-3764	Forest Forest	TRUE TRUE	1.00 1.00	2833.55 2834.52	1.68 1.08	2834.23 2834.60	20.00 20.00	25.93 33.20	20.00 20.00	20.02 20.05	J-1599 J-2729	(N/A) (N/A)	16.92 16.89	J-1198 J-1198
6929	J-3763	Forest	TRUE	1.00	2834.92	1.08	2834.99	20.00	35.46	20.00	20.02	J-2729	(N/A)	16.89	J-1198
1683 127	J-849 J-62	Forest Forest	TRUE TRUE	1.00 1.00	2835.13 2839.80	1.08 2.28	2835.21 2841.09	20.00 20.00	26.22 33.98	20.00 20.00	20.00 20.00	J-1115 J-2145	(N/A) (N/A)	16.89 17.17	J-1198 J-1198
6918	J-3757	Forest	TRUE	1.00	2842.36	1.68	2843.04	20.00	21.14	20.00	20.00	J-3951	(N/A)	17.16	J-1198
4261 5661	J-2268 J-3022	Forest Forest	TRUE TRUE	1.00 1.00	2845.28 2846.59	1.08 2.48	2845.36 2848.07	20.00 20.00	47.45 20.01	20.00 20.00	20.00 20.73	J-1519 J-1163	(N/A) (N/A)	17.18 16.89	J-1198 J-1198
143	J-70	Forest	TRUE	1.00	2849.26	1.48	2849.74	20.00	37.30	20.00	20.01	J-1217	(N/A)	17.16	J-1198
5532 4599	J-2947 J-2416	Forest Forest	TRUE TRUE	1.00 1.00	2852.58 2852.78	1.08 2.28	2852.66 2854.06	20.00 20.00	20.00 22.44	20.00 20.00	20.96 20.00	J-3930 J-2822	(N/A) (N/A)	16.45 16.90	J-1198 J-1198
4598	J-2415	Forest	TRUE	1.00	2852.78	2.08	2853.86	20.00	21.48	20.00	20.00	J-2822	(N/A)	16.90	J-1198
7454 5271	J-4011 J-2796	Forest Forest	TRUE TRUE	1.00 1.00	2853.01 2859.07	1.48 1.88	2853.49 2859.95	20.00 20.00	21.20 20.16	20.00 20.00	20.00 20.03	J-1163 J-2797	(N/A) (N/A)	16.89 16.89	J-1198 J-1198
5660	J-3021	Forest	TRUE	1.00	2863.52	1.68	2864.19	20.00	20.77	20.00	20.00	J-1163	(N/A)	16.88	J-1198
7526 7553	J-4038 J-4049	Forest Forest	TRUE TRUE	1.00 1.00	2865.61 2866.41	11.28 1.68	2875.89 2867.08	20.00 20.00	20.01 21.69	20.00 20.00	22.15 20.00	J-35 J-1115	(N/A) (N/A)	16.45 16.89	J-1198 J-1198
1625	J-813	Forest	TRUE	1.00	2876.44	1.08	2876.52	20.00	28.53	20.00	20.00	J-1115	(N/A)	16.89	J-1198
895	J-502	Forest	TRUE	1.00	2881.48	1.08	2881.56	20.00	20.79	20.00	20.00	J-3930	(N/A)	16.44	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
5586	J-2977	Forest	TRUE	1.00	2881.94	1.48	2882.42	20.00	20.01	20.00	20.00	J-2976	(N/A)	16.44	J-1198
3628	J-1978	Forest	TRUE	1.00	2884.16	1.28	2884.44	20.00	36.83	20.00	20.00	J-3	(N/A)	16.44	J-1198
7602 987	J-4062 J-541	Lakes Forest	TRUE TRUE	1.00 1.00	2884.29 2886.74	1.37 1.08	2884.66 2886.82	20.00 20.00	20.00 83.41	20.00 20.00	26.02 20.00	J-1102 J-2919	(N/A) (N/A)	17.23 17.05	J-1198 J-1198
5058	J-2677	Forest	TRUE	1.00	2886.74	1.08	2886.82	20.00	81.93	20.00	20.00	J-2919	(N/A)	17.05	J-1198
8215 1707	J-4171 J-865	Forest Forest	TRUE TRUE	1.00 1.00	2888.96 2890.89	2.08 2.28	2890.04 2892.17	20.00 20.00	20.01 29.63	20.00 20.00	24.00 20.00	J-1197 J-1115	(N/A) (N/A)	16.92 16.88	J-1198 J-1198
7075	J-3846	Forest	TRUE	1.00	2892.61	1.08	2892.68	20.00	20.01	20.00	23.98	J-1115 J-1197	(N/A)	16.90	J-1198
5739 4395	J-3067 J-2311	Forest Forest	TRUE TRUE	1.00 1.00	2896.74 2899.24	1.48 3.09	2897.22 2901.33	20.00 20.00	20.01 25.50	20.00 20.00	22.22 20.00	J-2089 J-2153	(N/A) (N/A)	16.90 17.16	J-1198 J-1198
4775	J-2511	Forest	TRUE	1.00	2902.52	1.28	2902.80	20.00	20.00	20.00	20.86	J-36	(N/A)	16.43	J-1198
5227 4124	J-2771 J-2217	Forest	TRUE TRUE	1.00 1.00	2905.26 2911.73	2.08 2.88	2906.34 2913.61	20.00 20.00	20.48 39.08	20.00 20.00	20.00 20.00	J-2770 J-2698	(N/A) (N/A)	16.97 16.87	J-1198
7493	J-4026	Forest Forest	TRUE	1.00	2912.63	1.48	2913.01	20.00	27.40	20.00	20.00	J-3066	(N/A)	16.89	J-1198 J-1198
4736 4735	J-2492 J-2491	Forest Forest	TRUE TRUE	1.00 1.00	2912.64 2912.64	1.88 1.08	2913.52 2912.71	20.00 20.00	25.07 23.85	20.00 20.00	20.00 20.00	J-3066 J-3066	(N/A) (N/A)	16.89 16.89	J-1198 J-1198
7204	J-3912	Forest	TRUE	1.00	2916.29	1.48	2916.77	20.00	20.00	20.00	20.68	J-687	(N/A)	17.17	J-1198
76 6675	J-32 J-3613	Forest Forest	TRUE TRUE	1.00 1.00	2918.69 2919.05	1.08 1.48	2918.76 2919.53	20.00 20.00	24.42 21.83	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
3621	J-1974	Lakes	TRUE	1.00	2920.01	1.20	2920.20	20.00	25.11	20.00	20.00	J-1896	(N/A)	17.13	J-1198
5259 1095	J-2790 J-587	Lakes Lakes	TRUE TRUE	1.00 1.00	2920.01 2922.45	1.63 1.20	2920.64 2922.65	20.00 20.00	23.43 61.02	20.00 20.00	20.00 20.02	J-1896 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5492	J-2924	Lakes	TRUE	1.00	2922.45	1.20	2922.65	20.00	59.49	20.00	20.02	J-2323	(N/A)	17.23	J-1198
75 1349	J-31 J-687	Forest Forest	TRUE TRUE	1.00 1.00	2925.98 2927.18	1.28 1.08	2926.25 2927.25	20.00 20.00	24.50 20.19	20.00 20.00	20.00 20.02	J-2919 J-3912	(N/A) (N/A)	17.15 17.16	J-1198 J-1198
3841	J-2089	Forest	TRUE	1.00	2932.69	1.88	2933.57	20.00	20.19	20.00	20.02	J-3912 J-3067	(N/A)	16.89	J-1198
335	J-177	Forest	TRUE TRUE	1.00	2933.31	1.08	2933.39	20.00	20.16	20.00	20.02	J-36	(N/A)	16.42	J-1198
82 894	J-36 J-501	Forest Forest	TRUE	1.00 1.00	2933.90 2933.92	1.08 1.48	2933.98 2934.39	20.00 20.00	20.00 22.60	20.00 20.00	20.23 20.00	J-177 J-36	(N/A) (N/A)	16.42 16.42	J-1198 J-1198
5679 5678	J-3032 J-3031	Forest Forest	TRUE TRUE	1.00 1.00	2939.32 2939.32	1.88 1.08	2940.20 2939.40	20.00 20.00	54.61 52.86	20.00 20.00	20.00 20.00	J-4119 J-4119	(N/A) (N/A)	16.55	J-1198 J-1198
6188	J-3031 J-3324	Forest	TRUE	1.00	2939.32	1.88	2939.40	20.00	25.05	20.00	20.00	J-4119 J-1044	(N/A) (N/A)	16.55 16.42	J-1198 J-1198
6189	J-3325	Forest	TRUE	1.00	2940.64	2.28	2941.92	20.00	22.32	20.00	20.00	J-1044	(N/A)	16.42	J-1198
4751 988	J-2500 J-542	Forest Forest	TRUE TRUE	1.00 1.00	2944.43 2944.44	1.08 1.08	2944.51 2944.51	20.00 20.00	73.47 74.60	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.03 17.03	J-1198 J-1198
686	J-395	Forest	TRUE	1.00	2944.99	1.08	2945.07	20.00	43.22	20.00	20.00	J-2145	(N/A)	17.18	J-1198
5672 5671	J-3028 J-3027	Forest Forest	TRUE TRUE	1.00 1.00	2945.08 2945.11	1.88 1.88	2945.96 2945.99	20.00 20.00	27.72 25.86	20.00 20.00	20.00 20.00	J-2145 J-2145	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
81	J-35	Forest	TRUE	1.00	2946.29	1.08	2946.37	20.00	20.00	20.00	20.79	J-36	(N/A)	16.42	J-1198
7048 161	J-3830 J-79	Forest Forest	TRUE TRUE	1.00 1.00	2946.59 2956.73	1.88 1.28	2947.47 2957.00	20.00 20.00	20.01 51.74	20.00 20.00	23.80 20.00	J-2919 J-1217	(N/A) (N/A)	16.99 17.15	J-1198 J-1198
5778	J-3089	Forest	TRUE	1.00	2956.73	1.08	2956.80	20.00	51.34	20.00	20.00	J-1217	(N/A)	17.15	J-1198
6747 1704	J-3655 J-863	Forest Forest	TRUE TRUE	1.00 1.00	2962.91 2971.59	2.08 1.48	2963.99 2972.07	20.00 20.00	20.00 20.61	20.00 20.00	23.35 20.00	J-3656 J-2703	(N/A) (N/A)	16.96 16.88	J-1198 J-1198
1610	J-803	Forest	TRUE	1.00	2973.81	2.08	2974.89	20.00	24.28	20.00	20.02	J-3904	(N/A)	16.40	J-1198
874 1192	J-491 J-624	Forest Forest	TRUE TRUE	1.00 1.00	2974.34 2974.34	1.48 1.08	2974.82 2974.42	20.00 20.00	50.39 46.20	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.40 16.40	J-1198 J-1198
1591	J-791	Forest	TRUE	1.00	2974.34	1.08	2974.42	20.00	43.34	20.00	20.00	J-3904	(N/A)	16.40	J-1198
7283 6579	J-3949 J-3556	Forest Forest	TRUE TRUE	1.00 1.00	2976.25 2976.25	1.08 1.08	2976.33 2976.33	20.00 20.00	24.75 23.86	20.00 20.00	20.00 20.00	J-4116 J-4116	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
7284	J-3950	Forest	TRUE	1.00	2976.26	1.08	2976.33	20.00	23.72	20.00	20.00	J-4116	(N/A)	17.16	J-1198
7649 6580	J-4078 J-3557	Forest Forest	TRUE TRUE	1.00 1.00	2976.26 2976.27	1.08 1.08	2976.34 2976.34	20.00 20.00	36.35 20.34	20.00 20.00	20.00 20.00	J-4116 J-4116	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
4955	J-2616	Forest	TRUE	1.00	2977.57	1.88	2978.45	20.00	20.00	20.00	21.14	J-2012	(N/A)	16.87	J-1198
7452 4326	J-4010 J-2288	Forest Forest	TRUE TRUE	1.00 1.00	2978.52 2978.53	1.08 2.48	2978.60 2980.01	20.00 20.00	27.21 25.21	20.00 20.00	20.00 20.00	J-2822 J-2822	(N/A) (N/A)	16.88 16.88	J-1198 J-1198
4556	J-2390	Forest	TRUE	1.00	2986.52	1.08	2986.60	20.00	20.00	20.00	20.76	J-198	(N/A)	17.16	J-1198
3611 5514	J-1969 J-2936	Forest Forest	TRUE TRUE	1.00 1.00	2988.82 2991.38	1.08 1.28	2988.89 2991.65	20.00 20.00	63.58 26.65	20.00 20.00	20.00 20.00	J-2045 J-2822	(N/A) (N/A)	14.31 16.88	J-1198 J-1198
5513	J-2935	Forest	TRUE	1.00	2991.38	1.88	2992.26	20.00	25.04	20.00	20.00	J-2822	(N/A)	16.88	J-1198
3689 4560	J-2012 J-2392	Forest Lakes	TRUE TRUE	1.00 1.00	2991.61 3005.69	2.08 1.20	2992.69 3005.89	20.00 20.00	20.00 20.00	20.00 20.00	20.21 20.28	J-2616 J-4062	(N/A) (N/A)	16.87 17.23	J-1198 J-1198
2089	J-1102	Lakes	TRUE	1.00	3006.11	1.46	3006.57	20.00	20.64	20.00	20.01	J-4062	(N/A)	17.23	J-1198
4284 762	J-2276 J-435	Forest Forest	TRUE TRUE	1.00 1.00	3006.57 3007.03	1.08 1.28	3006.64 3007.30	20.00 20.00	24.54 64.96	20.00 20.00	20.00 20.00	J-1044 J-2919	(N/A) (N/A)	16.39 17.02	J-1198 J-1198
6596 366	J-3566 J-197	Forest	TRUE TRUE	1.00 1.00	3007.03 3007.98	1.28 1.08	3007.30 3008.06	20.00 20.00	62.19 20.13	20.00 20.00	20.00 20.02	J-2919 J-198	(N/A) (N/A)	17.02 17.16	J-1198 J-1198
395	J-197	Forest Forest	TRUE	1.00	3007.98	1.48	3008.58	20.00	20.13	20.00	20.02	J-198	(N/A)	17.16	J-1198
367 59	J-198 J-21	Forest Lakes	TRUE TRUE	1.00 1.00	3008.45 3009.26	1.68 1.37	3009.13 3009.63	20.00 20.00	20.00 53.64	20.00 20.00	20.23 20.00	J-197 J-46	(N/A) (N/A)	17.16 17.23	J-1198 J-1198
4561	J-2393	Lakes	TRUE	1.00	3011.85	1.20	3012.04	20.00	20.67	20.00	20.00	J-4062	(N/A)	17.23	J-1198
6900 6901	J-3746 J-3747	Forest Forest	TRUE TRUE	1.00 1.00	3015.55 3015.57	1.08 1.28	3015.63 3015.85	20.00 20.00	25.75 22.31	20.00 20.00	20.00 20.00	J-2153 J-2153	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
58	J-20	Lakes	TRUE	1.00	3016.22	1.20	3016.42	20.00	53.58	20.00	20.00	J-46	(N/A)	17.10	J-1198
4658 111	J-2448 J-53	Lakes Forest	TRUE TRUE	1.00 1.00	3016.22 3016.41	1.20 1.08	3016.42 3016.48	20.00 20.00	52.43 20.00	20.00 20.00	20.00 20.52	J-46 J-2976	(N/A) (N/A)	17.23 16.39	J-1198 J-1198
687	J-396	Forest	TRUE	1.00	3017.44	1.08	3017.52	20.00	38.72	20.00	20.00	J-2145	(N/A)	17.18	J-1198
7996	J-4157	Forest	TRUE TRUE	1.00	3018.08 3023.60	1.48	3018.56	20.00	20.00	20.00 20.00	23.93	J-1197	(N/A) (N/A)	16.85	J-1198
3868 6306	J-2101 J-3396	Forest Forest	TRUE	1.00 1.00	3028.85	1.08 1.08	3023.68 3028.93	20.00 20.00	27.66 20.00	20.00	20.03 22.58	J-2729 J-3395	(N/A)	16.85 17.16	J-1198 J-1198
6997 7966	J-3802 J-4152	Forest Forest	TRUE TRUE	1.00 1.00	3037.69 3039.13	1.48 20.88	3038.17 3059.01	20.00 20.00	20.01 37.15	20.00 20.00	23.92 20.00	J-1197 J-2919	(N/A) (N/A)	16.84 17.01	J-1198 J-1198
763	J-436	Forest	TRUE	1.00	3039.14	1.08	3039.21	20.00	60.90	20.00	20.00	J-2919	(N/A)	17.01	J-1198
4077 7098	J-2197 J-3858	Forest Forest	TRUE TRUE	1.00 1.00	3041.46 3047.24	1.28 1.48	3041.74 3047.71	20.00 20.00	52.48 20.00	20.00 20.00	20.00 24.25	J-2212 J-1197	(N/A) (N/A)	16.91 17.17	J-1198 J-1198
724	J-417	Forest	TRUE	1.00	3053.67	1.88	3054.55	20.00	20.82	20.00	20.01	J-379	(N/A)	16.96	J-1198
3376 3585	J-1837 J-1955	Lakes Forest	TRUE TRUE	1.00 1.00	3053.89 3068.21	1.55 1.08	3054.44 3068.29	20.00 20.00	20.00 20.00	20.00 20.00	29.49 24.25	J-1804 J-1197	(N/A) (N/A)	17.23 17.17	J-1198 J-1198
656	J-378	Forest	TRUE	1.00	3072.02	1.08	3072.09	20.00	35.77	20.00	20.00	J-3901	(N/A)	17.16	J-1198
3093 3094	J-1669 J-1670	Forest Forest	TRUE TRUE	1.00 1.00	3073.24 3073.24	1.48 1.08	3073.72 3073.32	20.00 20.00	23.89 21.93	20.00 20.00	20.00 20.00	J-1044 J-1044	(N/A) (N/A)	16.36 16.36	J-1198 J-1198
716	J-412	Stewartsville	TRUE	1.00	3075.41	1.11	3075.52	20.00	57.92	20.00	20.00	J-676	(N/A)	17.23	J-1198
7155 777	J-3890 J-443	Stewartsville Forest	TRUE TRUE	1.00 1.00	3075.41 3076.58	1.11 1.08	3075.52 3076.65	20.00 20.00	57.67 54.99	20.00 20.00	20.00 20.00	J-676 J-2919	(N/A) (N/A)	17.23 17.01	J-1198 J-1198
4713	J-2478	Forest	TRUE	1.00	3076.58	1.08	3076.65	20.00	53.77	20.00	20.00	J-2919	(N/A)	17.01	J-1198
875 5583	J-492 J-2975	Forest Forest	TRUE TRUE	1.00 1.00	3080.26 3080.26	1.08 1.28	3080.34 3080.54	20.00 20.00	54.82 53.09	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.36 16.36	J-1198 J-1198
													,		

29701_Run_1_Exst_2xAvg_FF.xls

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
													-		
137 6263	J-67 J-3371	Forest Forest	TRUE TRUE	1.00 1.00	3082.86 3082.87	1.88 1.88	3083.74 3083.75	20.00 20.00	41.72 38.62	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
5243	J-2781	Forest	TRUE	1.00	3083.82	2.88	3085.70	20.00	20.00	20.00	21.69	J-2780	(N/A)	17.16	J-1198
3505 7094	J-1911 J-3856	Forest Forest	TRUE TRUE	1.00 1.00	3090.17 3099.25	1.68 1.88	3090.85 3100.13	20.00 20.00	20.00 20.00	20.00 20.00	23.62 22.98	J-2919 J-2919	(N/A) (N/A)	16.96 17.16	J-1198 J-1198
1071	J-578	Forest	TRUE	1.00	3101.14	1.28	3101.42	20.00	38.69	20.00	20.00	J-3901	(N/A)	17.16	J-1198
5416	J-2881	Forest	TRUE	1.00	3101.15	1.08	3101.23	20.00	34.97	20.00	20.00	J-3901	(N/A)	17.16	J-1198
258 1317	J-128 J-680	Forest Forest	TRUE TRUE	1.00 1.00	3101.16 3101.27	1.08 1.08	3101.23 3101.35	20.00 20.00	32.82 47.89	20.00 20.00	20.00 20.00	J-3901 J-3901	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
5399	J-2872	Forest	TRUE	1.00	3101.27	1.08	3101.35	20.00	46.21	20.00	20.00	J-3901	(N/A)	17.16	J-1198
95 7029	J-44 J-3820	Forest Forest	TRUE TRUE	1.00 1.00	3101.29 3101.40	2.08 1.48	3102.37 3101.88	20.00 20.00	34.50 26.12	20.00 20.00	20.00 20.00	J-1217 J-1217	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
259	J-129	Forest	TRUE	1.00	3102.35	1.08	3102.43	20.00	32.85	20.00	20.00	J-3901	(N/A)	17.16	J-1198
299 3317	J-154 J-1804	Forest	TRUE	1.00	3102.35	1.08	3102.43	20.00	32.85	20.00	20.00	J-3901	(N/A) (N/A)	17.16	J-1198
6986	J-1604 J-3795	Lakes Forest	TRUE TRUE	1.00 1.00	3103.77 3104.47	4.35 1.48	3107.12 3104.95	20.00 20.00	20.00 20.00	20.00 20.00	26.18 23.00	J-1837 J-2919	(N/A)	17.23 17.16	J-1198 J-1198
6908	J-3751	Forest	TRUE	1.00	3110.91	1.88	3111.79	20.00	20.00	20.00	22.98	J-2919	(N/A)	17.16	J-1198
449 5317	J-250 J-2823	Forest Forest	TRUE TRUE	1.00 1.00	3111.94 3111.94	1.08 1.08	3112.02 3112.02	20.00 20.00	32.60 29.95	20.00 20.00	20.00 20.00	J-2145 J-2145	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
613	J-351	Forest	TRUE	1.00	3112.49	1.48	3112.97	20.00	49.30	20.00	20.00	J-2919	(N/A)	17.00	J-1198
439 440	J-244 J-245	Forest Forest	TRUE TRUE	1.00 1.00	3113.77 3113.77	1.08 1.48	3113.84 3114.25	20.00 20.00	32.39 32.33	20.00 20.00	20.00 20.00	J-3901 J-3901	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
6222	J-3345	Lakes	TRUE	1.00	3117.67	1.20	3117.87	20.00	29.47	20.00	20.03	J-2323	(N/A)	17.23	J-1198
8463 7049	J-4183 J-3831	Lakes Forest	TRUE TRUE	1.00 1.00	3117.96 3118.38	1.20 2.08	3118.16 3119.46	20.00 20.00	37.55 20.01	20.00 20.00	20.02 20.51	J-2323 J-3830	(N/A) (N/A)	17.23 16.96	J-1198 J-1198
297	J-153	Lakes	TRUE	1.00	3118.43	1.29	3118.71	20.00	36.27	20.00	20.00	J-2323	(N/A)	17.23	J-1198
296	J-152	Lakes	TRUE	1.00	3118.43	1.20	3118.63	20.00	36.32	20.00	20.00	J-2323	(N/A)	17.23	J-1198
749 6223	J-429 J-3346	Lakes Lakes	TRUE TRUE	1.00 1.00	3118.43 3118.43	1.20 1.20	3118.63 3118.63	20.00 20.00	37.41 26.55	20.00 20.00	20.00 20.00	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1287	J-668	Forest	TRUE	1.00	3118.53	1.68	3119.21	20.00	20.00	20.00	24.26	J-1197	(N/A)	17.18	J-1198
7074 4709	J-3845 J-2476	Forest Forest	TRUE TRUE	1.00 1.00	3119.57 3123.70	1.08 1.08	3119.64 3123.78	20.00 20.00	20.27 20.88	20.00 20.00	20.03 20.01	J-3846 J-379	(N/A) (N/A)	16.86 16.95	J-1198 J-1198
6305	J-3395	Forest	TRUE	1.00	3124.12	1.28	3124.40	20.00	20.06	20.00	20.02	J-3396	(N/A)	17.16	J-1198
555 5242	J-316 J-2780	Forest Forest	TRUE TRUE	1.00 1.00	3124.38 3125.33	1.48 2.68	3124.85 3127.01	20.00 20.00	22.19 20.05	20.00 20.00	20.00 20.03	J-379 J-2781	(N/A) (N/A)	16.95 17.16	J-1198 J-1198
6748	J-3656	Forest	TRUE	1.00	3126.44	1.08	3126.52	20.00	20.26	20.00	20.03	J-3655	(N/A)	16.93	J-1198
614 8517	J-352 J-4210	Forest Forest	TRUE TRUE	1.00 1.00	3130.27 3130.27	1.28 1.48	3130.54 3130.75	20.00 20.00	47.09 44.46	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	16.99 16.99	J-1198 J-1198
450	J-251	Forest	TRUE	1.00	3130.27	1.48	3131.44	20.00	32.12	20.00	20.00	J-2919 J-2145	(N/A)	17.18	J-1198
66	J-25	Forest	TRUE	1.00	3131.41	1.08	3131.49	20.00	35.10	20.00	20.00	J-1217	(N/A)	17.14	J-1198
67 5457	J-26 J-2904	Forest Forest	TRUE TRUE	1.00 1.00	3131.41 3137.48	1.08 1.08	3131.49 3137.56	20.00 20.00	34.09 36.15	20.00 20.00	20.00 20.00	J-1217 J-2822	(N/A) (N/A)	17.14 16.86	J-1198 J-1198
5458	J-2905	Forest	TRUE	1.00	3137.50	1.48	3137.98	20.00	33.91	20.00	20.00	J-2822	(N/A)	16.86	J-1198
7559 7079	J-4050 J-3848	Forest Lakes	TRUE TRUE	1.00 1.00	3138.00 3141.49	1.88 1.29	3138.88 3141.77	20.00 20.00	28.30 20.00	20.00 20.00	20.00 32.62	J-1115 J-2323	(N/A) (N/A)	16.84 17.23	J-1198 J-1198
4518	J-2368	Forest	TRUE	1.00	3143.29	1.48	3143.77	20.00	20.00	20.00	20.86	J-2011	(N/A)	16.84	J-1198
38 39	J-7 J-8	Forest Forest	TRUE TRUE	1.00 1.00	3143.93 3143.93	1.48 1.08	3144.41 3144.01	20.00 20.00	21.46 21.14	20.00 20.00	20.00 20.00	J-2339 J-2339	(N/A) (N/A)	16.33 16.33	J-1198 J-1198
4483	J-2348	Forest	TRUE	1.00	3143.93	1.08	3144.01	20.00	20.50	20.00	20.00	J-2339	(N/A)	16.33	J-1198
3968 840	J-2149 J-474	Forest Forest	TRUE TRUE	1.00 1.00	3145.80 3147.15	1.68 1.28	3146.48 3147.43	20.00 20.00	20.18 30.62	20.00 20.00	20.01 20.00	J-3655 J-198	(N/A) (N/A)	16.93 17.16	J-1198 J-1198
5687	J-3036	Forest	TRUE	1.00	3147.19	1.88	3148.07	20.00	28.31	20.00	20.00	J-198	(N/A)	17.16	J-1198
715 6462	J-411 J-3487	Stewartsville Stewartsville		1.00 1.00	3147.23 3147.23	1.26 1.26	3147.49 3147.49	20.00 20.00	55.41 52.26	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5797	J-3100	Forest	TRUE	1.00	3148.42	1.08	3148.50	20.00	35.95	20.00	20.00	J-1519	(N/A)	17.18	J-1198
5796 5555	J-3099 J-2959	Forest Forest	TRUE TRUE	1.00 1.00	3148.42 3149.82	1.48 2.28	3148.90 3151.10	20.00 20.00	33.65 20.00	20.00 20.00	20.00 21.70	J-1519 J-2919	(N/A) (N/A)	17.18 17.16	J-1198 J-1198
6996	J-3801	Forest	TRUE	1.00	3151.29	1.08	3151.36	20.00	20.00	20.00	20.12	J-3802	(N/A)	16.82	J-1198
3688	J-2011	Forest	TRUE	1.00	3154.30	1.88	3155.18	20.00	20.00	20.00	20.13	J-2368	(N/A)	16.84	J-1198
556 87	J-317 J-39	Forest Forest	TRUE TRUE	1.00 1.00	3154.82 3155.05	1.68 2.48	3155.50 3156.53	20.00 20.00	22.24 25.21	20.00 20.00	20.00 20.00	J-379 J-2919	(N/A) (N/A)	16.94 17.15	J-1198 J-1198
3949	J-2141	Forest	TRUE	1.00	3155.46	2.68	3157.15	20.00	22.26	20.00	20.02	J-1599	(N/A)	16.86	J-1198
232 1229	J-111 J-643	Forest Forest	TRUE TRUE	1.00 1.00	3155.90 3156.17	1.68 1.28	3156.58 3156.45	20.00 20.00	35.84 40.14	20.00 20.00	20.00 20.01	J-3807 J-2817	(N/A) (N/A)	17.16 17.15	J-1198 J-1198
5279	J-2801	Forest	TRUE	1.00	3156.23	1.68	3156.91	20.00	34.14	20.00	20.00	J-3807	(N/A)	17.16	J-1198
231 6666	J-110 J-3608	Forest Forest	TRUE TRUE	1.00 1.00	3156.23 3156.29	1.68 1.28	3156.91 3156.57	20.00 20.00	35.97 20.00	20.00 20.00	20.00 22.92	J-3807 J-3926	(N/A) (N/A)	17.16 16.65	J-1198 J-1198
744	J-426	Forest	TRUE	1.00	3161.92	1.08	3162.00	20.00	46.15	20.00	20.00	J-2919	(N/A)	16.99	J-1198
4642 1772	J-2440 J-907	Forest Forest	TRUE TRUE	1.00 1.00	3161.92 3162.42	1.08 1.08	3162.00 3162.50	20.00 20.00	44.78 20.01	20.00 20.00	20.00 20.34	J-2919 J-3801	(N/A) (N/A)	16.99 16.82	J-1198 J-1198
7741	J-4105	Forest	TRUE	1.00	3163.04	1.68	3163.72	20.00	24.56	20.00	20.00	J-3954	(N/A)	16.93	J-1198
86 6866	J-38 J-3725	Forest Forest	TRUE TRUE	1.00 1.00	3164.64 3166.63	2.28 1.48	3165.92 3167.11	20.00 20.00	24.57 28.07	20.00 20.00	20.00 20.00	J-2919 J-1115	(N/A) (N/A)	17.15 16.84	J-1198 J-1198
6867	J-3726	Forest	TRUE	1.00	3166.64	1.48	3167.11	20.00	24.33	20.00	20.00	J-1115 J-1115	(N/A)	16.84	J-1198
2428	J-1301	Lakes	TRUE	1.00	3168.85	1.20	3169.05	20.00	20.00	20.00	21.66	J-1359	(N/A)	17.23	J-1198
4323 5934	J-2287 J-3176	Forest Forest	TRUE TRUE	1.00 1.00	3170.36 3170.61	1.88 1.88	3171.24 3171.50	20.00 20.00	35.00 20.01	20.00 20.00	20.00 22.55	J-1519 J-3175	(N/A) (N/A)	17.18 16.82	J-1198 J-1198
8060	J-4162	Lakes	TRUE	1.00	3176.15	1.20	3176.35	20.00	20.00	20.00	31.77	J-4062	(N/A)	17.23	J-1198
4485 7206	J-2349 J-3913	Forest Forest	TRUE TRUE	1.00 1.00	3183.84 3183.85	1.48 2.28	3184.32 3185.13	20.00 20.00	20.00 20.78	20.00 20.00	20.12 20.00	J-2703 J-2703	(N/A) (N/A)	16.85 16.85	J-1198 J-1198
4486	J-2350	Forest	TRUE	1.00	3186.86	1.28	3187.14	20.00	20.65	20.00	20.00	J-2703	(N/A)	16.85	J-1198
3273 6921	J-1780 J-3759	Lakes Lakes	TRUE TRUE	1.00 1.00	3189.15 3194.55	1.55 1.20	3189.70 3194.75	20.00 20.00	20.00 20.00	20.00 20.00	24.67 24.33	J-3759 J-1780	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6993	J-3799	Forest	TRUE	1.00	3196.49	3.09	3198.57	20.00	30.93	20.00	20.00	J-2670	(N/A)	16.82	J-1198
6994	J-3800	Forest	TRUE TRUE	1.00 1.00	3196.50	1.08	3196.58	20.00	24.36	20.00	20.00	J-2670	(N/A)	16.82	J-1198
3316 6545	J-1803 J-3535	Lakes Lakes	TRUE	1.00	3197.40 3199.44	1.29 1.29	3197.69 3199.72	20.00 20.00	20.42 20.00	20.00 20.00	20.04 23.69	J-1837 J-601	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1228	J-642	Forest	TRUE	1.00	3201.13	1.08	3201.21	20.00	28.96	20.00	20.00	J-2817	(N/A)	17.15	J-1198
5232 841	J-2774 J-475	Forest Forest	TRUE TRUE	1.00 1.00	3201.15 3201.54	1.08 1.88	3201.22 3202.42	20.00 20.00	27.31 28.97	20.00 20.00	20.00 20.00	J-2817 J-198	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
3126	J-1690	Forest	TRUE	1.00	3201.57	1.08	3201.65	20.00	26.65	20.00	20.00	J-198	(N/A)	17.15	J-1198
6680 731	J-3616 J-420	Forest Lakes	TRUE TRUE	1.00 1.00	3203.08 3203.73	1.08 1.20	3203.15 3203.93	20.00 20.00	20.00 38.87	20.00 20.00	20.85 20.00	J-2919 J-2323	(N/A) (N/A)	17.15 17.23	J-1198 J-1198
6488	J-3502	Lakes	TRUE	1.00	3203.73	1.20	3203.93	20.00	35.76	20.00	20.00	J-2323	(N/A)	17.23	J-1198
5724 5723	J-3058 J-3057	Lakes Lakes	TRUE TRUE	1.00 1.00	3208.32 3208.32	1.20 1.20	3208.52 3208.52	20.00 20.00	31.36 29.09	20.00 20.00	20.00 20.00	J-2451 J-2451	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
966	J-531	Forest	TRUE	1.00	3210.20	1.28	3210.48	20.00	25.77	20.00	20.00	J-3901	(N/A)	17.16	J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
6769 1146	J-3668 J-606	Forest Forest	TRUE TRUE	1.00 1.00	3210.23 3215.19	1.48 1.48	3210.71 3215.67	20.00 20.00	22.12 20.10	20.00 20.00	20.00 20.02	J-3901 J-2959	(N/A) (N/A)	17.16 17.15	J-1198 J-1198
4095	J-2206	Forest	TRUE	1.00	3215.68	2.28	3216.96	20.00	20.00	20.00	20.22	J-3350	(N/A)	16.84	J-1198
6864 1206	J-3724 J-632	Forest Forest	TRUE TRUE	1.00 1.00	3217.98 3217.98	1.28 1.88	3218.26 3218.86	20.00 20.00	27.73 31.59	20.00 20.00	20.00 20.00	J-2817 J-2817	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
6384	J-3442	Lakes	TRUE	1.00	3219.89	1.29	3220.17	20.00	20.00	20.00	22.84	J-1968	(N/A)	17.23	J-1198
2780 2483	J-1504 J-1332	Forest Lakes	TRUE TRUE	1.00 1.00	3221.66 3224.93	1.68 1.20	3222.34 3225.13	20.00 20.00	27.36 23.23	20.00 20.00	20.00 20.00	J-1503 J-1575	(N/A) (N/A)	16.83 17.23	J-1198 J-1198
3341	J-1818	Lakes	TRUE	1.00	3228.83	1.46	3229.29	20.00	22.49	20.00	20.00	J-1968	(N/A)	17.23	J-1198
7711 5933	J-4095 J-3175	Lakes Forest	TRUE TRUE	1.00 1.00	3231.93 3233.93	1.20 1.68	3232.13 3234.60	20.00 20.00	20.00 20.06	20.00 20.00	28.97 20.03	J-3848 J-3176	(N/A) (N/A)	17.23 16.81	J-1198 J-1198
5250	J-2785	Forest	TRUE	1.00	3234.77	1.48	3235.25	20.00	20.00	20.00	21.82	J-2222	(N/A)	16.88	J-1198
346 381	J-184 J-207	Forest Lakes	TRUE TRUE	1.00 1.00	3239.31 3239.61	1.08 258.22	3239.39 3496.83	20.00 20.00	32.09 25.68	20.00 20.00	20.00 20.00	J-3807 J-3535	(N/A) (N/A)	17.15 17.23	J-1198 J-1198
495	J-278	Lakes	TRUE	1.00	3239.61 3239.61	1.29	3239.90	20.00	20.58	20.00	20.00	J-3535	(N/A)	17.23	J-1198
496 1136	J-279 J-601	Lakes Lakes	TRUE TRUE	1.00 1.00	3239.61	1.20 1.55	3239.81 3240.15	20.00 20.00	21.33 20.63	20.00 20.00	20.00 20.00	J-3535 J-3535	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
347 7400	J-185 J-3993	Forest Forest	TRUE TRUE	1.00 1.00	3240.37 3240.37	1.48 1.48	3240.85 3240.85	20.00 20.00	31.97 29.37	20.00 20.00	20.00 20.00	J-3807 J-3807	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
7232	J-3926	Forest	TRUE	1.00	3241.36	1.28	3241.64	20.00	20.00	20.00	21.08	J-3608	(N/A)	16.62	J-1198
3461 4554	J-1885 J-2389	Forest Forest	TRUE TRUE	1.00 1.00	3241.61 3241.61	1.48 1.08	3242.08 3241.68	20.00 20.00	21.40 20.42	20.00 20.00	20.00 20.00	J-2211 J-2211	(N/A) (N/A)	16.86 16.86	J-1198 J-1198
4043	J-2182	Forest	TRUE	1.00	3244.04	2.68	3245.73	20.00	30.59	20.00	20.00	J-3399	(N/A)	16.84	J-1198
669 5591	J-386 J-2980	Forest Forest	TRUE TRUE	1.00 1.00	3245.91 3245.91	2.08 1.48	3246.99 3246.38	20.00 20.00	31.50 29.21	20.00 20.00	20.00 20.00	J-3807 J-3807	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
7837	J-4130	Forest	TRUE	1.00	3250.32	2.48	3251.81	20.00	37.41	20.00	20.00	J-2822	(N/A)	16.83	J-1198
7641 8481	J-4076 J-4192	Forest Forest	TRUE TRUE	1.00 1.00	3251.47 3251.47	1.08 1.68	3251.55 3252.15	20.00 20.00	21.84 21.09	20.00 20.00	20.00 20.00	J-3846 J-3846	(N/A) (N/A)	16.84 16.84	J-1198 J-1198
327	J-172	Lakes	TRUE	1.00	3253.60	1.20	3253.80	20.00	41.64	20.00	20.02	J-2323	(N/A)	17.23	J-1198
328 3191	J-173 J-1729	Lakes Lakes	TRUE TRUE	1.00 1.00	3253.60 3256.10	1.29 1.20	3253.88 3256.30	20.00 20.00	41.01 20.11	20.00 20.00	20.02 20.00	J-2323 J-1575	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3036	J-1633	Lakes	TRUE	1.00	3256.11	1.20	3256.30	20.00	23.26	20.00	20.00	J-1575	(N/A)	17.23	J-1198
1208 1355	J-633 J-688	Forest Forest	TRUE TRUE	1.00 1.00	3257.98 3259.66	1.28 1.08	3258.26 3259.74	20.00 20.00	20.13 22.20	20.00 20.00	20.01 20.00	J-3751 J-2817	(N/A) (N/A)	17.16 17.15	J-1198 J-1198
3272	J-1779	Lakes	TRUE	1.00	3260.58	1.20	3260.78	20.00	20.20	20.00	20.05	J-3759	(N/A)	17.23	J-1198
4715 903	J-2479 J-505	Forest Forest	TRUE TRUE	1.00 1.00	3265.47 3265.47	1.08 1.08	3265.55 3265.55	20.00 20.00	52.98 54.44	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	16.96 16.96	J-1198 J-1198
3840	J-2088	Forest	TRUE	1.00	3267.98	1.88	3268.86	20.00	25.32	20.00	20.00	J-2703	(N/A)	16.83	J-1198
6533 6665	J-3528 J-3607	Lakes Forest	TRUE TRUE	1.00 1.00	3268.99 3271.21	1.20 1.08	3269.19 3271.28	20.00 20.00	20.00 20.44	20.00 20.00	22.97 20.00	J-661 J-3926	(N/A) (N/A)	17.23 16.62	J-1198 J-1198
2841 690	J-1540 J-397	Forest	TRUE TRUE	1.00 1.00	3271.61 3272.02	1.88 1.20	3272.49 3272.22	20.00 20.00	31.26 23.18	20.00 20.00	20.00 20.00	J-1539 J-1575	(N/A) (N/A)	16.80 17.23	J-1198
4648	J-2443	Lakes Lakes	TRUE	1.00	3272.02	1.72	3272.82	20.00	20.00	20.00	21.33	J-658	(N/A)	17.23	J-1198 J-1198
3340 5807	J-1817 J-3106	Lakes Forest	TRUE TRUE	1.00 1.00	3272.52 3273.59	1.37 1.28	3272.89 3273.86	20.00 20.00	20.30 36.61	20.00 20.00	20.04 20.00	J-1968 J-2817	(N/A) (N/A)	17.23 17.15	J-1198 J-1198
854	J-482	Forest	TRUE	1.00	3273.59	2.08	3274.67	20.00	38.78	20.00	20.00	J-2817	(N/A)	17.15	J-1198
185 4810	J-89 J-2532	Lakes Lakes	TRUE TRUE	1.00 1.00	3276.11 3276.11	1.20 1.20	3276.31 3276.31	20.00 20.00	42.08 40.37	20.00 20.00	20.00 20.00	J-46 J-46	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
4133	J-2222	Forest	TRUE	1.00	3278.29	3.69	3280.98	20.00	20.00	20.00	20.00	J-2785	(N/A)	16.87	J-1198
5621 276	J-2997 J-140	Forest Forest	TRUE TRUE	1.00 1.00	3279.17 3279.17	1.08 3.09	3279.24 3281.25	20.00 20.00	35.54 37.89	20.00 20.00	20.00 20.00	J-3807 J-3807	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
275	J-139	Forest	TRUE	1.00	3279.67	1.88	3280.55	20.00	38.03	20.00	20.00	J-3807	(N/A)	17.15	J-1198
1810 187	J-931 J-90	Forest Forest	TRUE TRUE	1.00 1.00	3286.61 3287.91	1.48 2.48	3287.09 3289.39	20.00 20.00	20.01 20.01	20.00 20.00	21.02 20.98	J-90 <u>2</u> J-3176	(N/A) (N/A)	16.79 16.80	J-1198 J-1198
1268	J-658	Lakes	TRUE	1.00	3290.68	1.29	3290.97	20.00	20.00	20.00	20.00	J-2443	(N/A)	17.23	J-1198
853 2112	J-481 J-1117	Forest Forest	TRUE TRUE	1.00 1.00	3293.21 3293.56	1.28 1.48	3293.49 3294.03	20.00 20.00	44.58 21.72	20.00 20.00	20.00 20.00	J-2919 J-1116	(N/A) (N/A)	17.15 16.82	J-1198 J-1198
5056	J-2676	Forest	TRUE	1.00	3296.87	1.08	3296.95	20.00	27.78	20.00	20.00	J-2145	(N/A)	17.17	J-1198
765 7520	J-437 J-4036	Forest Forest	TRUE TRUE	1.00 1.00	3296.87 3298.96	1.48 1.08	3297.35 3299.04	20.00 20.00	29.52 20.00	20.00 20.00	20.00 20.46	J-2145 J-2842	(N/A) (N/A)	17.17 16.61	J-1198 J-1198
662 661	J-382 J-381	Forest Forest	TRUE TRUE	1.00 1.00	3300.70 3304.46	2.48 1.08	3302.18 3304.54	20.00 20.00	55.06 58.03	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
4692	J-2467	Forest	TRUE	1.00	3304.47	1.08	3304.54	20.00	57.49	20.00	20.00	J-2919	(N/A)	17.15	J-1198
5972 691	J-3197 J-398	Lakes Lakes	TRUE TRUE	1.00 1.00	3306.12 3306.13	1.20 1.29	3306.32 3306.41	20.00 20.00	22.88 25.15	20.00 20.00	20.00 20.00	J-1575 J-1575	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5793	J-3097	Forest	TRUE	1.00	3307.93	1.08	3308.01	20.00	31.76	20.00	20.00	J-1539	(N/A)	16.79	J-1198
5794 682	J-3098 J-393	Forest Forest	TRUE TRUE	1.00 1.00	3307.93 3308.98	1.28 2.28	3308.21 3310.27	20.00 20.00	29.74 53.20	20.00 20.00	20.00 20.00	J-1539 J-2919	(N/A) (N/A)	16.79 17.15	J-1198 J-1198
1169	J-614	Forest	TRUE	1.00	3309.14	1.48	3309.61	20.00	26.56	20.00	20.00	J-3807	(N/A)	17.15	J-1198
4684 5281	J-2463 J-2802	Forest Lakes	TRUE TRUE	1.00 1.00	3309.14 3309.59	2.48 2.41	3310.62 3311.00	20.00 20.00	25.30 27.20	20.00 20.00	20.00 20.00	J-3807 J-3987	(N/A) (N/A)	17.15 17.23	J-1198 J-1198
5282	J-2803	Lakes	TRUE	1.00	3309.59	1.81	3310.39	20.00	25.30	20.00	20.00	J-3987	(N/A)	17.23	J-1198
4490 1283	J-2352 J-666	Forest Forest	TRUE TRUE	1.00 1.00	3309.70 3309.70	1.68 1.68	3310.38 3310.38	20.00 20.00	45.13 46.06	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
7519 1274	J-4035	Forest Lakes	TRUE	1.00 1.00	3313.00	1.08	3313.07	20.00	22.04	20.00	20.00	J-2842	(N/A)	16.60	J-1198
203	J-661 J-94	Forest	TRUE TRUE	1.00	3314.10 3318.01	1.20 2.28	3314.30 3319.29	20.00 20.00	20.00 34.20	20.00 20.00	20.21 20.00	J-3528 J-2919	(N/A) (N/A)	17.23 17.15	J-1198 J-1198
3511 580	J-1915 J-332	Forest Forest	TRUE TRUE	1.00 1.00	3322.79 3324.61	1.48 1.08	3323.27 3324.68	20.00 20.00	35.80 38.21	20.00 20.00	20.00 20.00	J-1532 J-2919	(N/A) (N/A)	16.91 16.95	J-1198 J-1198
904	J-506	Forest	TRUE	1.00	3324.61	1.28	3324.88	20.00	46.91	20.00	20.00	J-2919	(N/A)	16.95	J-1198
301 5016	J-155 J-2651	Forest Forest	TRUE TRUE	1.00 1.00	3324.61 3324.61	1.08 1.08	3324.69 3324.69	20.00 20.00	35.94 36.44	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	16.95 16.95	J-1198 J-1198
302	J-156	Forest	TRUE	1.00	3324.61	1.28	3324.89	20.00	35.29	20.00	20.00	J-2919	(N/A)	16.95	J-1198
1225 7636	J-641 J-4074	Forest Lakes	TRUE TRUE	1.00 1.00	3325.14 3330.73	1.48 1.20	3325.62 3330.92	20.00 20.00	28.83 20.00	20.00 20.00	20.00 24.61	J-2919 J-3965	(N/A) (N/A)	17.15 17.23	J-1198 J-1198
4596	J-2414	Forest	TRUE	1.00	3333.06	1.48	3333.54	20.00	20.00	20.00	21.20	J-2413	(N/A)	16.82	J-1198
751 1224	J-430 J-640	Forest Forest	TRUE TRUE	1.00 1.00	3336.75 3336.99	1.08 1.48	3336.83 3337.47	20.00 20.00	20.58 35.43	20.00 20.00	20.00 20.00	J-3795 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
6577	J-3555	Forest	TRUE	1.00	3336.99	1.68	3337.67	20.00	32.02	20.00	20.00	J-2919	(N/A)	17.15	J-1198
4132 7084	J-2221 J-3851	Forest Lakes	TRUE TRUE	1.00 1.00	3346.05 3351.10	2.08 1.20	3347.13 3351.30	20.00 20.00	46.13 20.00	20.00 20.00	20.00 32.62	J-2212 J-2323	(N/A) (N/A)	16.86 17.23	J-1198 J-1198
6452 4595	J-3481 J-2413	Lakes	TRUE TRUE	1.00 1.00	3358.60 3358.90	1.20 1.48	3358.80 3359.38	20.00 20.00	20.00 20.12	20.00 20.00	23.57 20.03	J-3482 J-2414	(N/A) (N/A)	17.23 16.81	J-1198 J-1198
804	J-456	Forest Lakes	TRUE	1.00	3360.54	1.20	3360.74	20.00	30.42	20.00	20.02	J-1575	(N/A)	17.23	J-1198
2727 1119	J-1472 J-596	Forest Forest	TRUE TRUE	1.00 1.00	3363.55 3365.76	1.48 2.28	3364.02 3367.04	20.00 20.00	20.00 31.82	20.00 20.00	20.03 20.00	J-2414 J-379	(N/A) (N/A)	16.81 16.91	J-1198 J-1198
5822	J-3114	Forest	TRUE	1.00	3365.76	1.68	3366.44	20.00	28.75	20.00	20.00	J-379	(N/A)	16.91	J-1198

29701_Run_1_Exst_2xAvg_FF.xls

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
6047 4441	J-3240 J-2325	Forest Forest	TRUE TRUE	1.00 1.00	3365.86 3371.14	1.28 3.29	3366.14 3373.42	20.00 20.00	20.00 20.00	20.00 20.00	22.99 23.88	J-3241 J-1197	(N/A) (N/A)	16.90 16.80	J-1198 J-1198
3510	J-1914	Forest	TRUE	1.00	3379.74	1.48	3380.22	20.00	23.14	20.00	20.00	J-1532	(N/A)	16.90	J-1198
4640 7437	J-2439 J-4006	Forest Forest	TRUE TRUE	1.00 1.00	3379.76 3380.67	1.48 3.29	3380.24 3382.95	20.00 20.00	21.64 21.20	20.00 20.00	20.00 20.00	J-1532 J-3926	(N/A) (N/A)	16.90 16.59	J-1198 J-1198
7536	J-4042	Lakes	TRUE	1.00	3382.26	1.20	3382.46	20.00	20.00	20.00	24.39	J-2016	(N/A)	17.23	J-1198
5911 7327	J-3163 J-3965	Lakes Lakes	TRUE TRUE	1.00 1.00	3389.10 3393.72	1.20 1.20	3389.30 3393.92	20.00 20.00	20.00 20.00	20.00 20.00	23.25 21.50	J-637 J-3961	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2868	J-1554	Forest	TRUE	1.00	3394.10	2.28	3395.38	20.00	32.49	20.00	20.02	J-1532	(N/A)	16.90	J-1198
5763 1333	J-3081 J-684	Lakes Forest	TRUE TRUE	1.00 1.00	3398.98 3399.76	1.46 1.48	3399.44 3400.24	20.00 20.00	20.00 43.35	20.00 20.00	22.07 20.00	J-3163 J-3807	(N/A) (N/A)	17.23 17.15	J-1198 J-1198
5719	J-3055	Forest	TRUE	1.00	3399.76	1.48	3400.24	20.00	40.53	20.00	20.00	J-3807	(N/A)	17.15	J-1198
4945 64	J-2610 J-24	Forest Forest	TRUE TRUE	1.00 1.00	3401.07 3401.07	1.08 1.68	3401.15 3401.75	20.00 20.00	24.15 25.83	20.00 20.00	20.00 20.00	J-90 J-90	(N/A) (N/A)	16.78 16.78	J-1198 J-1198
238	J-115	Forest	TRUE	1.00	3405.51	1.08	3405.59	20.00	50.63	20.00	20.00	J-2919	(N/A)	16.93	J-1198
237 42	J-114 J-10	Forest Forest	TRUE TRUE	1.00 1.00	3406.22 3408.52	1.08 1.48	3406.30 3408.99	20.00 20.00	50.69 24.13	20.00 20.00	20.00 20.00	J-2919 J-90	(N/A) (N/A)	16.93 16.78	J-1198 J-1198
47	J-13	Forest	TRUE	1.00	3408.52	1.68	3409.20	20.00	25.89	20.00	20.00	J-90	(N/A)	16.78	J-1198
41 7080	J-9 J-3849	Forest Lakes	TRUE TRUE	1.00 1.00	3408.52 3412.55	1.08 1.20	3408.59 3412.75	20.00 20.00	24.09 20.96	20.00 20.00	20.00 20.00	J-90 J-3848	(N/A) (N/A)	16.78 17.23	J-1198 J-1198
2252	J-1203	Forest	TRUE	1.00	3413.22	1.68	3413.90	20.00	29.13	20.00	20.00	J-2822	(N/A)	16.80	J-1198
3374 7316	J-1836 J-3961	Lakes Lakes	TRUE TRUE	1.00 1.00	3417.77 3419.23	1.55 1.20	3418.32 3419.43	20.00 20.00	20.83 20.18	20.00 20.00	20.03 20.04	J-1837 J-3965	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
746	J-427	Forest	TRUE	1.00	3421.89	1.08	3421.97	20.00	23.22	20.00	20.00	J-3795	(N/A)	17.15	J-1198
6453 726	J-3482 J-418	Lakes Forest	TRUE TRUE	1.00 1.00	3422.79 3427.32	1.37 1.08	3423.16 3427.40	20.00 20.00	20.26 50.46	20.00 20.00	20.04 20.00	J-3481 J-2919	(N/A) (N/A)	17.23 16.93	J-1198 J-1198
467	J-261	Forest	TRUE	1.00	3430.74	2.48	3432.22	20.00	43.43	20.00	20.00	J-2919	(N/A)	16.90	J-1198
468 5953	J-262 J-3187	Forest Forest	TRUE TRUE	1.00 1.00	3433.55 3433.55	1.08 1.48	3433.63 3434.03	20.00 20.00	43.30 40.40	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	16.90 16.90	J-1198 J-1198
4016	J-2170	Forest	TRUE	1.00	3433.65	2.48	3435.13	20.00	29.39	20.00	20.00	J-2919	(N/A)	16.90	J-1198
1232 1231	J-645 J-644	Lakes Lakes	TRUE TRUE	1.00 1.00	3434.36 3441.19	1.20 1.20	3434.56 3441.39	20.00 20.00	20.00 31.42	20.00 20.00	20.34 20.00	J-3163 J-3163	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5288	J-2806	Lakes	TRUE	1.00	3441.19	1.20	3441.39	20.00	29.31	20.00	20.00	J-3163	(N/A)	17.23	J-1198
1216 7158	J-637 J-3892	Lakes Forest	TRUE TRUE	1.00 1.00	3441.19 3445.28	1.29 1.48	3441.47 3445.76	20.00 20.00	20.70 28.76	20.00 20.00	20.00 20.00	J-3163 J-1503	(N/A) (N/A)	17.23 16.79	J-1198 J-1198
7157	J-3891	Forest	TRUE	1.00	3445.28	1.28	3445.56	20.00	29.19	20.00	20.00	J-1503	(N/A)	16.79	J-1198
1276 5468	J-662 J-2911	Forest Forest	TRUE TRUE	1.00 1.00	3446.61 3446.61	1.28 1.08	3446.89 3446.69	20.00 20.00	42.93 40.59	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.20 16.20	J-1198 J-1198
758	J-433	Forest	TRUE	1.00	3448.61	1.88	3449.49	20.00	28.81	20.00	20.00	J-2145	(N/A)	17.17	J-1198
4500 4501	J-2357 J-2358	Forest Forest	TRUE TRUE	1.00 1.00	3449.57 3449.57	1.48 2.28	3450.04 3450.85	20.00 20.00	29.28 28.18	20.00 20.00	20.00 20.00	J-1503 J-1503	(N/A) (N/A)	16.78 16.78	J-1198 J-1198
4766	J-2508	Forest	TRUE	1.00	3450.23	1.88	3451.11	20.00	26.22	20.00	20.00	J-2822	(N/A)	16.80	J-1198
4765 228	J-2507 J-108	Forest Forest	TRUE TRUE	1.00 1.00	3450.23 3450.89	1.48 1.08	3450.71 3450.97	20.00 20.00	24.84 40.55	20.00 20.00	20.00 20.00	J-2822 J-2919	(N/A) (N/A)	16.80 16.89	J-1198 J-1198
4802	J-2528	Forest	TRUE	1.00	3450.90	1.08	3450.97	20.00	38.62	20.00	20.00	J-2919	(N/A)	16.89	J-1198
229 1039	J-109 J-564	Forest Forest	TRUE TRUE	1.00 1.00	3450.90 3450.90	1.08 1.08	3450.98 3450.98	20.00 20.00	40.60 21.62	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	16.89 16.89	J-1198 J-1198
470	J-263	Forest	TRUE	1.00	3453.84	1.68	3454.52	20.00	39.25	20.00	20.00	J-2919	(N/A)	16.89	J-1198
3695 1194	J-2016 J-625	Lakes Lakes	TRUE TRUE	1.00 1.00	3460.81 3478.94	1.37 1.29	3461.19 3479.23	20.00 20.00	20.00 29.95	20.00 20.00	20.14 20.00	J-4042 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6733	J-3647	Lakes	TRUE	1.00	3478.95	1.20	3479.14	20.00	25.79	20.00	20.00	J-2323	(N/A)	17.23	J-1198
344 343	J-183 J-182	Forest Forest	TRUE TRUE	1.00 1.00	3478.97 3479.93	1.08 1.08	3479.05 3480.01	20.00 20.00	35.49 35.45	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
747	J-428	Forest	TRUE	1.00	3484.45	1.28	3484.73	20.00	25.88	20.00	20.00	J-2919	(N/A)	17.15	J-1198
3028 3694	J-1628 J-2015	Lakes Lakes	TRUE TRUE	1.00 1.00	3486.39 3487.82	1.20 1.98	3486.59 3488.80	20.00 20.00	20.00 20.00	20.00 20.00	20.33 27.09	J-1629 J-1968	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6048	J-3241	Forest	TRUE	1.00	3488.92	2.28	3490.20	20.00	20.20	20.00	20.01	J-3240	(N/A)	16.88	J-1198
3029 7629	J-1629 J-4071	Lakes Lakes	TRUE TRUE	1.00 1.00	3492.87 3493.08	1.20 1.20	3493.07 3493.28	20.00 20.00	20.00 27.99	20.00 20.00	20.00 20.02	J-1628 J-4062	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1102	J-591	Lakes	TRUE	1.00	3494.47	1.20	3494.67 3494.67	20.00	25.17	20.00	20.00	J-1575	(N/A)	17.23	J-1198
5986 398	J-3205 J-218	Lakes Forest	TRUE TRUE	1.00 1.00	3494.47 3495.48	1.20 1.48	3494.67	20.00 20.00	21.61 32.75	20.00 20.00	20.00 20.00	J-1575 J-2919	(N/A) (N/A)	17.23 17.15	J-1198 J-1198
397	J-217	Forest	TRUE	1.00	3495.49	1.28	3495.77	20.00	33.16	20.00	20.00	J-2919	(N/A)	17.15	J-1198
6937 1281	J-3768 J-665	Forest Forest	TRUE TRUE	1.00 1.00	3495.66 3495.66	1.48 1.48	3496.14 3496.14	20.00 20.00	67.47 72.85	20.00 20.00	20.01 20.01	J-3807 J-3807	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
53 54	J-17 J-18	Forest	TRUE	1.00	3500.00	2.08	3501.08	20.00	42.00	20.00	23.86	J-1197	(N/A)	16.78	J-1198
61	J-18 J-22	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	41.90 37.28	20.00 20.00	23.86 23.86	J-1197 J-1197	(N/A) (N/A)	16.78 16.78	J-1198 J-1198
62 69	J-23 J-27	Forest	TRUE TRUE	1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	37.50	20.00 20.00	23.86 23.84	J-1197 J-1197	(N/A) (N/A)	16.78 16.77	J-1198 J-1198
70	J-27 J-28	Forest Forest	TRUE	1.00 1.00	3500.00	1.08	3500.08	20.00	46.97 45.79	20.00	23.84	J-1197 J-1197	(N/A)	16.77	J-1198
92 93	J-42 J-43	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.48	3500.48 3500.48	20.00 20.00	39.75 38.02	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
100	J-43 J-47	Forest	TRUE	1.00	3500.00	1.68	3500.48	20.00	46.81	20.00	23.25	J-1197 J-1197	(N/A)	16.17	J-1198
101	J-48	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00 20.00	42.67	20.00	23.25	J-1197	(N/A)	16.17	J-1198
109 113	J-52 J-54	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.08	3500.28 3500.08	20.00	51.81 27.99	20.00 20.00	23.25 23.86	J-1197 J-1197	(N/A) (N/A)	16.17 16.79	J-1198 J-1198
114	J-55	Forest	TRUE TRUE	1.00	3500.00	2.68	3501.68	20.00	29.58	20.00 20.00	23.87	J-1197	(N/A) (N/A)	16.79	J-1198
133 134	J-65 J-66	Forest Forest	TRUE	1.00 1.00	3500.00 3500.00	1.48 1.08	3500.48 3500.08	20.00 20.00	44.32 33.65	20.00	23.55 23.55	J-1197 J-1197	(N/A)	16.47 16.47	J-1198 J-1198
139 140	J-68 J-69	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00 20.00	80.70 65.14	20.00	23.85	J-1197	(N/A)	16.77	J-1198
147	J-72	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	2.28 1.48	3501.28 3500.48	20.00	38.17	20.00 20.00	23.85 22.99	J-1197 J-90	(N/A) (N/A)	16.78 16.76	J-1198 J-1198
150 152	J-73 J-74	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.48	3500.08 3500.48	20.00 20.00	54.80 32.61	20.00 20.00	23.85 23.86	J-1197 J-1197	(N/A) (N/A)	16.77 16.78	J-1198 J-1198
154	J-75	Forest	TRUE	1.00	3500.00	2.48	3501.48	20.00	35.93	20.00	23.86	J-1197	(N/A)	16.78	J-1198
158 159	J-77 J-78	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	35.87 31.59	20.00 20.00	31.78 31.78	J-3851 J-3851	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
165	J-81	Forest	TRUE	1.00	3500.00	2.28	3501.28	20.00	62.30	20.00	23.88	J-1197	(N/A)	16.80	J-1198
166 168	J-82 J-83	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	2.08 1.08	3501.08 3500.08	20.00 20.00	65.33 88.17	20.00 20.00	23.89 23.85	J-1197 J-1197	(N/A) (N/A)	16.81 16.77	J-1198 J-1198
170	J-84	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	51.14	20.00	23.87	J-1197	(N/A)	16.79	J-1198
171 175	J-85 J-86	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	57.04 57.31	20.00 20.00	23.88 23.85	J-1197 J-1197	(N/A) (N/A)	16.80 16.77	J-1198 J-1198
180	J-88	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	34.07	20.00	23.86	J-1197	(N/A)	16.78	J-1198
219 220	J-102 J-103	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	23.06 22.96	20.00 20.00	22.96 23.03	J-103 J-2373	(N/A) (N/A)	17.18 17.18	J-1198 J-1198
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Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
225	J-106	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	61.34	20.00	23.83	J-1197	(N/A)	16.75	J-1198
226	J-107	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	61.09	20.00	23.83	J-1197	(N/A)	16.75	J-1198
243 244	J-118 J-119	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	100.19 100.01	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
252	J-124	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	24.38	20.00	23.00	J-103	(N/A)	17.18	J-1198
253 255	J-125 J-126	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.48	3500.08 3500.48	20.00 20.00	24.20 74.16	20.00 20.00	23.00 23.87	J-103 J-1197	(N/A) (N/A)	17.18 16.79	J-1198 J-1198
256	J-120 J-127	Forest	TRUE	1.00	3500.00	1.68	3500.48	20.00	74.16	20.00	23.87	J-1197 J-1197	(N/A)	16.79	J-1198
264	J-132	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	57.61	20.00	24.30	J-1197	(N/A)	17.22	J-1198
265 272	J-133 J-137	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.20	3500.08 3500.20	20.00 20.00	57.49 60.26	20.00 20.00	24.30 32.62	J-1197 J-2323	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
273	J-138	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	60.28	20.00	32.62	J-2323	(N/A)	17.23	J-1198
304	J-157	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	40.14	20.00	23.90	J-1197	(N/A)	16.82	J-1198
305 309	J-158 J-160	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.88 1.20	3500.88 3500.20	20.00 20.00	39.94 79.74	20.00 20.00	23.90 32.62	J-1197 J-2323	(N/A) (N/A)	16.82 17.23	J-1198 J-1198
310	J-161	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	79.36	20.00	32.62	J-2323	(N/A)	17.23	J-1198
315 316	J-164 J-165	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.88 1.28	3500.88 3500.28	20.00 20.00	62.22 62.24	20.00 20.00	23.87 23.87	J-1197 J-1197	(N/A) (N/A)	16.79 16.79	J-1198 J-1198
332	J-175	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	26.38	20.00	24.06	J-1197	(N/A)	16.99	J-1198
333 352	J-176 J-188	Forest Stewartsville	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.11	3500.08 3500.11	20.00 20.00	26.45 53.32	20.00 20.00	24.06 21.37	J-1197 J-676	(N/A) (N/A)	16.99 17.23	J-1198 J-1198
353	J-189	Stewartsville		1.00	3500.00	1.40	3500.40	20.00	53.15	20.00	21.24	J-676	(N/A)	17.23	J-1198
358	J-192	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	39.46	20.00	20.77	J-2919	(N/A)	17.15	J-1198
359 361	J-193 J-194	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	39.39 26.34	20.00 20.00	20.76 24.07	J-2919 J-1197	(N/A) (N/A)	17.15 16.99	J-1198 J-1198
363	J-195	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	62.74	20.00	24.30	J-1197	(N/A)	17.22	J-1198
364 369	J-196 J-199	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.68	3500.08 3500.68	20.00 20.00	62.90 83.54	20.00 20.00	24.30 23.87	J-1197 J-1197	(N/A) (N/A)	17.22 16.79	J-1198 J-1198
370	J-199 J-200	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	83.63	20.00	23.87	J-1197 J-1197	(N/A)	16.79	J-1198
372	J-201	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	69.25	20.00	32.62	J-2323	(N/A)	17.23	J-1198
373 403	J-202 J-221	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.08	3500.20 3500.08	20.00 20.00	69.32 25.29	20.00 20.00	32.62 23.58	J-2323 J-103	(N/A) (N/A)	17.23 17.17	J-1198 J-1198
404	J-222	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	25.40	20.00	23.58	J-103	(N/A)	17.17	J-1198
406 407	J-223 J-224	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	61.22 61.06	20.00 20.00	24.30 24.30	J-1197 J-1197	(N/A) (N/A)	17.22 17.22	J-1198 J-1198
407	J-224 J-225	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	27.57	20.00	21.50	J-1197 J-2919	(N/A)	17.16	J-1198
410	J-226	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	27.22	20.00	21.51	J-2919	(N/A)	17.16	J-1198
415 416	J-229 J-230	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.28	3500.28 3500.28	20.00 20.00	45.50 44.82	20.00 20.00	20.44 20.42	J-2919 J-2919	(N/A) (N/A)	16.88 16.88	J-1198 J-1198
418	J-231	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	35.80	20.00	31.78	J-3851	(N/A)	17.23	J-1198
420 421	J-232 J-233	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.28	3500.08 3500.28	20.00 20.00	63.19 63.07	20.00 20.00	23.87 23.87	J-1197 J-1197	(N/A) (N/A)	16.80 16.80	J-1198 J-1198
429	J-238	Forest	TRUE	1.00	3500.00	1.08	3500.28	20.00	64.92	20.00	24.26	J-1197 J-1197	(N/A)	17.18	J-1198
430	J-239	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	64.90	20.00	24.26	J-1197	(N/A)	17.18	J-1198
434 435	J-241 J-242	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.08	3500.48 3500.08	20.00 20.00	64.19 64.64	20.00 20.00	23.87 23.87	J-1197 J-1197	(N/A) (N/A)	16.79 16.79	J-1198 J-1198
437	J-243	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	25.18	20.00	23.59	J-103	(N/A)	17.17	J-1198
452 453	J-252 J-253	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.28	3500.48	20.00 20.00	54.12 53.34	20.00 20.00	23.98 23.98	J-1197 J-1197	(N/A) (N/A)	16.91 16.90	J-1198 J-1198
455 455	J-253 J-254	Forest	TRUE	1.00	3500.00	1.28	3500.28 3500.08	20.00	47.18	20.00	23.98	J-1197 J-2919	(N/A) (N/A)	16.87	J-1198 J-1198
456	J-255	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	49.05	20.00	22.53	J-2919	(N/A)	16.87	J-1198
458 459	J-256 J-257	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.29	3500.20 3500.29	20.00 20.00	62.17 60.72	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
480	J-269	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	38.45	20.00	20.25	J-2919	(N/A)	16.88	J-1198
481 483	J-270	Forest Forest	TRUE TRUE	1.00 1.00	3500.00	1.08 1.88	3500.08 3500.88	20.00 20.00	37.70 65.61	20.00 20.00	20.25 23.89	J-2919 J-1197	(N/A) (N/A)	16.88	J-1198 J-1198
486	J-271 J-272	Forest	TRUE	1.00	3500.00 3500.00	2.08	3501.08	20.00	62.94	20.00	23.86	J-1197 J-1197	(N/A)	16.81 16.78	J-1198
487	J-273	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	62.27	20.00	23.86	J-1197	(N/A)	16.78	J-1198
492 493	J-276 J-277	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.08	3500.28 3500.08	20.00 20.00	56.67 56.15	20.00 20.00	23.90 23.90	J-1197 J-1197	(N/A) (N/A)	16.82 16.82	J-1198 J-1198
498	J-280	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	63.04	20.00	24.30	J-1197	(N/A)	17.22	J-1198
500 505	J-281 J-284	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.08	3500.28 3500.08	20.00 20.00	63.28 61.94	20.00 20.00	23.86 23.87	J-1197 J-1197	(N/A) (N/A)	16.78 16.79	J-1198 J-1198
506	J-285	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	61.18	20.00	23.87	J-1197 J-1197	(N/A)	16.79	J-1198
511	J-288	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	61.79	20.00	32.62	J-2323	(N/A)	17.23	J-1198
512 529	J-289 J-300	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.08	3500.20 3500.08	20.00 20.00	58.91 38.54	20.00 20.00	32.62 20.76	J-2323 J-2919	(N/A) (N/A)	17.23 17.15	J-1198 J-1198
542	J-308	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	50.06	20.00	23.25	J-1197	(N/A)	16.17	J-1198
543 547	J-309 J-311	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 2.68	3500.08 3501.68	20.00 20.00	52.75 27.03	20.00 20.00	23.25 23.38	J-1197 J-103	(N/A) (N/A)	16.17 17.18	J-1198 J-1198
548	J-312	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	26.38	20.00	23.36	J-103	(N/A)	17.18	J-1198
552 553	J-314 J-315	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.88 2.88	3500.88 3501.88	20.00 20.00	69.13 67.68	20.00 20.00	23.82 23.82	J-1197 J-1197	(N/A) (N/A)	16.74 16.74	J-1198 J-1198
566	J-313	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	58.19	20.00	23.89	J-1197 J-1197	(N/A)	16.74	J-1198
567	J-324	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	56.77	20.00	23.89	J-1197	(N/A)	16.82	J-1198
569 570	J-325 J-326	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.68 1.68	3500.68 3500.68	20.00 20.00	44.70 46.87	20.00 20.00	23.96 23.96	J-1197 J-1197	(N/A) (N/A)	16.88 16.88	J-1198 J-1198
572	J-327	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	71.07	20.00	32.62	J-2323	(N/A)	17.23	J-1198
573	J-328	Lakes	TRUE	1.00	3500.00	1.55	3500.54	20.00	67.93	20.00	32.62	J-2323	(N/A)	17.23	J-1198
578 588	J-331 J-336	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	3.29 1.68	3502.29 3500.68	20.00 20.00	45.37 65.72	20.00 20.00	22.39 23.91	J-2919 J-1197	(N/A) (N/A)	16.87 16.83	J-1198 J-1198
589	J-337	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	66.10	20.00	23.91	J-1197	(N/A)	16.83	J-1198
598 599	J-342 J-343	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	60.06 56.24	20.00 20.00	23.49 23.14	J-2919 J-2919	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
610	J-349	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	39.65	20.00	20.26	J-2919	(N/A)	17.15	J-1198
611	J-350	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	39.05	20.00	20.19	J-2919	(N/A)	17.15	J-1198
616 618	J-353 J-354	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.88 1.48	3500.88 3500.48	20.00 20.00	51.56 65.51	20.00 20.00	22.73 23.87	J-2919 J-1197	(N/A) (N/A)	16.87 16.79	J-1198 J-1198
626	J-359	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	69.21	20.00	23.87	J-1197	(N/A)	16.80	J-1198
627 631	J-360 J-362	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.68	3500.08 3500.68	20.00 20.00	65.53 62.80	20.00 20.00	23.87 23.86	J-1197 J-1197	(N/A) (N/A)	16.80 16.78	J-1198 J-1198
632	J-363	Forest	TRUE	1.00	3500.00	2.08	3501.08	20.00	63.43	20.00	23.86	J-1197	(N/A)	16.78	J-1198
639	J-367	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	58.94	20.00	23.83	J-1197	(N/A)	16.75	J-1198
640 642	J-368 J-369	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	58.43 59.33	20.00 20.00	23.84 23.60	J-1197 J-1197	(N/A) (N/A)	16.76 16.52	J-1198 J-1198
643	J-370	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	62.61	20.00	23.59	J-1197	(N/A)	16.51	J-1198
645	J-371	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	27.97	20.00	23.22	J-103	(N/A)	17.18	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
646	J-372	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	29.10	20.00	23.17	J-103	(N/A)	17.18	J-1198
650	J-374	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	87.43	20.00	23.82	J-1197	(N/A)	16.75	J-1198
651 653	J-375 J-376	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.28	3500.28 3500.28	20.00 20.00	90.58 64.25	20.00 20.00	23.82 23.82	J-1197 J-1197	(N/A) (N/A)	16.74 16.74	J-1198 J-1198
654	J-377	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	62.51	20.00	23.82	J-1197	(N/A)	16.74	J-1198
664	J-383	Lakes	TRUE	1.00	3500.00	1.37	3500.37	20.00	104.09	20.00	32.62	J-2323	(N/A)	17.23	J-1198
666 667	J-384 J-385	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.48	3500.28 3500.48	20.00 20.00	66.69 63.93	20.00 20.00	23.63 23.62	J-1197 J-1197	(N/A) (N/A)	16.55 16.54	J-1198 J-1198
677	J-391	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	53.76	20.00	22.65	J-2919	(N/A)	17.16	J-1198
693 697	J-399 J-401	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 2.08	3500.20 3501.08	20.00 20.00	71.32 64.49	20.00 20.00	32.62 23.80	J-2323 J-1197	(N/A) (N/A)	17.23 16.72	J-1198 J-1198
698	J-402	Forest	TRUE	1.00	3500.00	1.88	3500.88	20.00	65.41	20.00	23.80	J-1197	(N/A)	16.72	J-1198
708	J-407	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	56.90	20.00	23.84	J-1197	(N/A)	16.76	J-1198
721 722	J-415 J-416	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	55.86 61.85	20.00 20.00	23.89 23.90	J-1197 J-1197	(N/A) (N/A)	16.82 16.82	J-1198 J-1198
737	J-422	Forest	TRUE	1.00	3500.00	2.28	3501.28	20.00	87.75	20.00	23.87	J-1197	(N/A)	16.79	J-1198
738 759	J-423 J-434	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.28	3500.28 3500.28	20.00 20.00	93.20 28.06	20.00 20.00	23.87 21.23	J-1197 J-2145	(N/A) (N/A)	16.79 17.17	J-1198 J-1198
768	J-438	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	56.14	20.00	23.90	J-1197	(N/A)	16.82	J-1198
770	J-439	Lakes	TRUE	1.00	3500.00	1.29	3500.29	20.00	112.27	20.00	32.62	J-2323	(N/A)	17.23	J-1198
780 781	J-444 J-445	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.28	3500.08 3500.28	20.00 20.00	61.62 58.81	20.00 20.00	23.90 23.90	J-1197 J-1197	(N/A) (N/A)	16.82 16.82	J-1198 J-1198
783	J-446	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	78.51	20.00	23.88	J-1197	(N/A)	16.80	J-1198
785 787	J-447 J-448	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.68	3500.08 3500.68	20.00 20.00	67.78 57.97	20.00 20.00	23.89 23.93	J-1197 J-1197	(N/A) (N/A)	16.81 16.85	J-1198 J-1198
788	J-449	Forest	TRUE	1.00	3500.00	1.88	3500.88	20.00	60.29	20.00	23.92	J-1197	(N/A)	16.84	J-1198
790	J-450	Forest	TRUE TRUE	1.00	3500.00	1.08	3500.08	20.00	81.05	20.00	23.87	J-1197	(N/A)	16.79	J-1198
792 796	J-451 J-452	Forest Forest	TRUE	1.00 1.00	3500.00 3500.00	1.28 1.48	3500.28 3500.48	20.00 20.00	77.57 54.84	20.00 20.00	23.89 23.94	J-1197 J-1197	(N/A) (N/A)	16.81 16.86	J-1198 J-1198
806	J-457	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	64.85	20.00	23.87	J-1197	(N/A)	16.79	J-1198
820 822	J-464 J-465	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.28	3500.28 3500.28	20.00 20.00	62.17 74.17	20.00 20.00	23.88 23.88	J-1197 J-1197	(N/A) (N/A)	16.80 16.80	J-1198 J-1198
823	J-466	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	80.30	20.00	23.88	J-1197	(N/A)	16.81	J-1198
825 831	J-467 J-470	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.88 1.08	3500.88 3500.08	20.00 20.00	62.48 61.58	20.00 20.00	23.86 24.26	J-1197 J-1197	(N/A) (N/A)	16.78 17.18	J-1198 J-1198
832	J-470 J-471	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	60.32	20.00	24.26	J-1197 J-1197	(N/A)	17.18	J-1198
836	J-472	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	83.52	20.00	23.89	J-1197	(N/A)	16.81	J-1198
838 844	J-473 J-476	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.48	3500.08 3500.48	20.00 20.00	65.85 46.12	20.00 20.00	23.87 23.97	J-1197 J-1197	(N/A) (N/A)	16.79 16.89	J-1198 J-1198
848	J-478	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	33.12	20.00	24.05	J-1197	(N/A)	16.97	J-1198
860 861	J-484 J-485	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.88 1.88	3500.88 3500.88	20.00 20.00	56.14 57.67	20.00 20.00	23.85 23.85	J-1197 J-1197	(N/A) (N/A)	16.77 16.77	J-1198 J-1198
864	J-486	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	56.27	20.00	23.84	J-1197	(N/A)	16.76	J-1198
866 870	J-487	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	57.36	20.00	23.90	J-1197	(N/A)	16.82	J-1198
889	J-489 J-499	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.88	3500.20 3500.88	20.00 20.00	53.84 80.46	20.00 20.00	32.62 23.87	J-2323 J-1197	(N/A) (N/A)	17.23 16.79	J-1198 J-1198
901	J-504	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	79.38	20.00	23.84	J-1197	(N/A)	16.76	J-1198
919 925	J-510 J-512	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.20	3500.08 3500.20	20.00 20.00	60.26 34.79	20.00 20.00	24.30 31.78	J-1197 J-3851	(N/A) (N/A)	17.22 17.23	J-1198 J-1198
933	J-515	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	79.31	20.00	23.73	J-1197	(N/A)	16.65	J-1198
934	J-516	Forest	TRUE	1.00	3500.00	2.28	3501.28	20.00	73.71	20.00	23.71	J-1197	(N/A)	16.63	J-1198
936 943	J-517 J-520	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.20	3500.28 3500.20	20.00 20.00	66.51 43.64	20.00 20.00	23.87 32.62	J-1197 J-2323	(N/A) (N/A)	16.79 17.23	J-1198 J-1198
945	J-521	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	27.00	20.00	21.09	J-2919	(N/A)	17.15	J-1198
946 950	J-522 J-524	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	2.08 1.28	3501.08 3500.28	20.00 20.00	33.52 44.42	20.00 20.00	21.19 23.90	J-2919 J-1197	(N/A) (N/A)	17.15 16.82	J-1198 J-1198
956	J-527	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	73.00	20.00	23.66	J-1197	(N/A)	16.58	J-1198
964 971	J-530 J-533	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.37 1.08	3500.37 3500.08	20.00 20.00	28.11 37.36	20.00 20.00	27.84 24.04	J-3163 J-1197	(N/A) (N/A)	17.23 16.96	J-1198 J-1198
972	J-534	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	40.71	20.00	24.02	J-1197	(N/A)	16.94	J-1198
974 980	J-535 J-537	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.28	3500.20	20.00 20.00	78.28 74.36	20.00 20.00	32.62 23.81	J-2323 J-1197	(N/A) (N/A)	17.23 16.73	J-1198 J-1198
991	J-537 J-543	Forest	TRUE	1.00	3500.00	1.68	3500.28 3500.68	20.00	74.30	20.00	23.85	J-1197 J-1197	(N/A)	16.73	J-1198
1007	J-550	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	83.69	20.00	23.74	J-1197	(N/A)	16.66	J-1198
1008 1010	J-551 J-552	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.88 1.48	3500.88 3500.48	20.00 20.00	74.41 67.84	20.00 20.00	23.75 23.68	J-1197 J-1197	(N/A) (N/A)	16.67 16.60	J-1198 J-1198
1013	J-553	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	89.36	20.00	23.75	J-1197	(N/A)	16.67	J-1198
1024 1035	J-557 J-562	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	2.08 1.08	3501.08 3500.08	20.00 20.00	59.49 48.85	20.00 20.00	23.88 24.00	J-1197 J-1197	(N/A) (N/A)	16.80 16.93	J-1198 J-1198
1043	J-566	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	64.72	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1044	J-567	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	74.46	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1048 1069	J-569 J-577	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	59.71 72.85	20.00 20.00	24.26 24.25	J-1197 J-1197	(N/A) (N/A)	17.18 17.17	J-1198 J-1198
1079	J-580	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	66.47	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1080 1082	J-581 J-582	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.08	3500.20 3500.08	20.00 20.00	68.49 103.64	20.00 20.00	32.62 23.77	J-2323 J-1197	(N/A) (N/A)	17.23 16.69	J-1198 J-1198
1089	J-585	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	123.77	20.00	23.80	J-1197	(N/A)	16.72	J-1198
1093	J-586	Forest	TRUE TRUE	1.00	3500.00 3500.00	8.00	3507.00	20.00	39.15 32.17	20.00	23.90	J-1197	(N/A) (N/A)	16.82	J-1198
1100 1116	J-590 J-595	Forest Forest	TRUE	1.00 1.00	3500.00	2.08 1.28	3501.08 3500.28	20.00 20.00	57.99	20.00 20.00	20.92 23.89	J-2919 J-1197	(N/A)	17.15 16.81	J-1198 J-1198
1131	J-599	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	54.19	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1132 1139	J-600 J-602	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	3.24 1.08	3502.24 3500.08	20.00 20.00	40.70 59.85	20.00 20.00	32.62 24.28	J-2323 J-1197	(N/A) (N/A)	17.23 17.20	J-1198 J-1198
1182	J-619	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	28.81	20.00	29.39	J-3189	(N/A)	17.23	J-1198
1185 1186	J-620 J-621	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	20.84 37.00	20.00 20.00	24.31 24.31	J-1197 J-1197	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1234	J-646	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	44.38	20.00	24.31	J-1197	(N/A)	17.23	J-1198
1239	J-647	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	62.97	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1240 1250	J-648 J-651	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.29	3500.20 3500.29	20.00 20.00	47.91 48.89	20.00 20.00	31.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1254	J-652	Forest	TRUE	1.00	3500.00	1.68	3500.68	20.00	57.72	20.00	23.83	J-1197	(N/A)	16.75	J-1198
1271 1272	J-659 J-660	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	60.55 62.50	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1277	J-663	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	68.93	20.00	23.25	J-1197	(N/A)	16.17	J-1198
1280 1286	J-664 J-667	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.08	3500.48 3500.08	20.00 20.00	55.54 30.63	20.00 20.00	20.52 21.63	J-2919 J-668	(N/A) (N/A)	17.15 17.17	J-1198 J-1198
1296	J-673	Forest	TRUE	1.00	3500.00	1.68	3500.68	20.00	23.60	20.00	21.84	J-2919	(N/A)	17.17	J-1198

Node	Node	Pressure		Desired Fire Flow	Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
1297 1307	J-674 J-677	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.20	3500.08 3500.20	20.00 20.00	46.51 58.97	20.00 20.00	22.09 32.62	J-2919 J-2323	(N/A) (N/A)	17.16 17.23	J-1198 J-1198
1325	J-681	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	49.04	20.00	23.89	J-1197	(N/A)	16.81	J-1198
1340 1358	J-685 J-689	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	79.25 65.40	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1396	J-695	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	61.89	20.00	23.25	J-1197	(N/A)	16.17	J-1198
1397 1399	J-696 J-697	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.28	3500.08 3500.28	20.00 20.00	61.92 51.76	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
1406	J-701	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	47.05	20.00	22.09	J-2919	(N/A)	17.16	J-1198
1410 1412	J-703 J-704	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	83.94 61.46	20.00 20.00	23.74 23.25	J-1197 J-1197	(N/A) (N/A)	16.66 16.17	J-1198 J-1198
1430	J-715	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	45.78	20.00	22.09	J-2919	(N/A)	17.16	J-1198
1449 1450	J-726 J-727	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.08	3500.28 3500.08	20.00 20.00	78.75 78.95	20.00 20.00	20.82 20.78	J-2919 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
1455	J-729	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	54.09	20.00	22.59	J-2919	(N/A)	17.16	J-1198
1505 1506	J-750 J-751	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	38.59 43.45	20.00 20.00	22.37 22.43	J-2919 J-2919	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
1509	J-752	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	51.62	20.00	22.33	J-2919	(N/A)	17.16	J-1198
1510 1512	J-753 J-754	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.48	3500.48 3500.48	20.00 20.00	57.69 73.23	20.00 20.00	22.14 21.80	J-2919 J-2919	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
1513	J-755	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	84.10	20.00	21.57	J-2919	(N/A)	17.16	J-1198
1518 1520	J-756 J-757	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.08	3500.48 3500.08	20.00 20.00	44.17 87.38	20.00 20.00	20.40 21.13	J-2919 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
1522	J-758	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	35.03	20.00	22.23	J-2919	(N/A)	17.16	J-1198
1523 1526	J-759 J-760	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	34.60 35.90	20.00 20.00	22.30 22.16	J-2919 J-2919	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
1532	J-761	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	49.12	20.00	23.25	J-1197	(N/A)	16.17	J-1198
1535 1538	J-762 J-763	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.20	3500.08 3500.20	20.00 20.00	65.89 79.19	20.00 20.00	23.25 32.62	J-1197 J-2323	(N/A) (N/A)	16.17 17.23	J-1198 J-1198
1542	J-765	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	76.43	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1544 1545	J-766 J-767	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	72.99 70.72	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1547	J-768	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	75.83	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1549 1550	J-769 J-770	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	99.82 95.02	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
1552	J-771	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	66.76	20.00	32.62	J-2323	(N/A)	17.23	J-1198
1554 1556	J-772 J-773	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	5.18 1.20	3504.18 3500.20	20.00 20.00	71.58 74.48	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198
1558	J-774	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	76.41	20.00	32.62	J-2323	(N/A)	17.23	J-1198 J-1198
1560 1562	J-775	Lakes	TRUE TRUE	1.00	3500.00	1.20	3500.20	20.00 20.00	80.57	20.00	32.62	J-2323	(N/A) (N/A)	17.23 17.23	J-1198
1565	J-776 J-777	Lakes Lakes	TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00	75.96 78.86	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A)	17.23	J-1198 J-1198
1570 1889	J-778 J-982	Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.68	3500.20 3500.68	20.00 20.00	84.19 29.10	20.00 20.00	32.62 23.83	J-2323 J-1197	(N/A) (N/A)	17.23	J-1198 J-1198
1935	J-982 J-1012	Forest Forest	TRUE	1.00	3500.00	1.68	3500.68	20.00	46.01	20.00	23.83	J-1197 J-1197	(N/A) (N/A)	16.75 16.29	J-1198 J-1198
2038	J-1078	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	117.34	20.00	32.62	J-2323	(N/A)	17.23	J-1198
2039 2041	J-1079 J-1080	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	117.51 118.03	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2043	J-1081	Lakes	TRUE	1.00	3500.00	1.29	3500.29	20.00	90.75	20.00	32.62	J-2323	(N/A)	17.23	J-1198
2044 2046	J-1082 J-1083	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	90.87 117.97	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2048	J-1084	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	118.37	20.00	32.62	J-2323	(N/A)	17.23	J-1198
2050 2052	J-1085 J-1086	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.29	3500.20 3500.29	20.00 20.00	116.71 69.44	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
2053 2055	J-1087	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	2.09 1.08	3501.09 3500.08	20.00 20.00	68.04 50.12	20.00 20.00	32.62 23.16	J-2323 J-1197	(N/A) (N/A)	17.23 16.09	J-1198 J-1198
2055	J-1088 J-1089	Lakes	TRUE	1.00	3500.00	1.08	3500.08	20.00	93.38	20.00	32.62	J-1197 J-2323	(N/A) (N/A)	17.23	J-1198 J-1198
2061 2062	J-1090	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	101.43	20.00	23.37	J-1197	(N/A) (N/A)	16.29	J-1198
2062	J-1091 J-1092	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.68	3500.08 3500.68	20.00 20.00	102.04 45.77	20.00 20.00	23.37 23.22	J-1197 J-1197	(N/A)	16.29 16.14	J-1198 J-1198
2066 2068	J-1093 J-1094	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.20	3500.28 3500.20	20.00 20.00	52.92 82.24	20.00 20.00	23.37 32.62	J-1197 J-2323	(N/A) (N/A)	16.29 17.23	J-1198 J-1198
2069	J-1094 J-1095	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	83.66	20.00	32.62	J-2323	(N/A)	17.23	J-1198
2072 2074	J-1096	Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.37 1.08	3500.37	20.00 20.00	57.57 100.98	20.00	32.62 23.37	J-2323 J-1197	(N/A) (N/A)	17.23	J-1198 J-1198
2078	J-1097 J-1098	Forest Lakes	TRUE	1.00	3500.00	1.20	3500.08 3500.20	20.00	74.58	20.00 20.00	32.62	J-2323	(N/A)	16.29 17.23	J-1198
2081 2123	J-1099 J-1124	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.88	3500.08 3500.88	20.00 20.00	85.41 28.55	20.00 20.00	23.37 22.73	J-1197 J-2919	(N/A) (N/A)	16.29 16.87	J-1198 J-1198
2134	J-1131	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	69.97	20.00	32.62	J-2323	(N/A)	17.23	J-1198
2247 2365	J-1200 J-1268	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.68 1.08	3500.68 3500.08	20.00 20.00	27.55 106.46	20.00 20.00	23.48 23.25	J-1519 J-1197	(N/A) (N/A)	17.17 16.17	J-1198 J-1198
2366	J-1269	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	106.46	20.00	23.25	J-1197	(N/A)	16.17	J-1198
2368 2369	J-1270 J-1271	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.48	3500.08 3500.48	20.00 20.00	164.25 160.26	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
2371	J-1272	Forest	TRUE	1.00	3500.00	1.88	3500.88	20.00	74.88	20.00	23.25	J-1197	(N/A)	16.17	J-1198
2372 2374	J-1273 J-1274	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.28	3500.08 3500.28	20.00 20.00	71.95 48.65	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
2375	J-1275	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	52.69	20.00	23.25	J-1197	(N/A)	16.17	J-1198
2378	J-1276	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	92.96	20.00	23.25	J-1197	(N/A)	16.17	J-1198
2379 2381	J-1277 J-1278	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.08	3500.48 3500.08	20.00 20.00	89.59 67.09	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
2382 2384	J-1279 J-1280	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.28	3500.48 3500.28	20.00 20.00	70.15 73.75	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
2385	J-1281	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	67.04	20.00	23.25	J-1197	(N/A)	16.17	J-1198
2387 2389	J-1282 J-1283	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.68 1.08	3500.68 3500.08	20.00 20.00	75.21 73.25	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
2391	J-1284	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	89.11	20.00	23.25	J-1197	(N/A)	16.17	J-1198
2393 2395	J-1285 J-1286	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	62.39 83.94	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
2397	J-1287	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	83.64	20.00	23.25	J-1197	(N/A)	16.17	J-1198
2398 2400	J-1288 J-1289	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.68 1.08	3500.68 3500.08	20.00 20.00	95.33 83.71	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
2402	J-1290	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	80.01	20.00	23.25	J-1197	(N/A)	16.17	J-1198
2404 2453	J-1291 J-1315	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.28	3500.08 3500.28	20.00 20.00	62.06 75.24	20.00 20.00	23.25 23.37	J-1197 J-1197	(N/A) (N/A)	16.17 16.29	J-1198 J-1198
2529	J-1357	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	35.29	20.00	21.56	J-2919	(N/A)	16.89	J-1198
2686	J-1447	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	40.51	20.00	23.83	J-1197	(N/A)	16.75	J-1198

Node	Node	Pressure		Desired Fire Flow	Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
2706 2714	J-1460 J-1465	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.28	3500.28 3500.28	20.00 20.00	68.63 105.68	20.00 20.00	23.82 23.25	J-1197 J-1197	(N/A) (N/A)	16.75 16.17	J-1198 J-1198
2774	J-1500	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	86.54	20.00	23.25	J-1197	(N/A)	16.17	J-1198
2902 2928	J-1572 J-1584	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 2.28	3500.08 3501.28	20.00 20.00	80.21 41.47	20.00 20.00	23.25 23.83	J-1197 J-1197	(N/A) (N/A)	16.17 16.75	J-1198 J-1198
2975	J-1604	Forest	TRUE	1.00	3500.00	2.08	3501.08	20.00	26.94	20.00	23.81	J-1197	(N/A)	16.73	J-1198
3034 3047	J-1632 J-1640	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.20	3500.08 3500.20	20.00 20.00	104.81 27.76	20.00 20.00	23.25 27.80	J-1197 J-2470	(N/A) (N/A)	16.17 17.23	J-1198 J-1198
3048	J-1641	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	26.50	20.00	27.76	J-1640	(N/A)	17.23	J-1198
3055 3056	J-1645 J-1646	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.29 1.46	3500.29 3500.46	20.00 20.00	63.02 61.39	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3070	J-1655	Forest	TRUE	1.00	3500.00	8.88	3507.88	20.00	31.25	20.00	23.84	J-1197	(N/A)	16.76	J-1198
3071 3150	J-1656 J-1705	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	32.87 81.19	20.00 20.00	23.84 23.25	J-1197 J-1197	(N/A) (N/A)	16.76 16.17	J-1198 J-1198
3152	J-1706	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	50.24	20.00	23.98	J-1197	(N/A)	16.90	J-1198
3159 3160	J-1710 J-1711	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.37	3500.20 3500.37	20.00 20.00	85.43 81.79	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3213	J-1742	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	23.31	20.00	27.68	J-3477	(N/A)	17.23	J-1198
3214 3221	J-1743 J-1747	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	27.70 57.89	20.00 20.00	27.55 32.62	J-1742 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3226	J-1750	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	39.19	20.00	23.49	J-2919	(N/A)	17.16	J-1198
3227 3281	J-1751 J-1785	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.63	3500.28 3500.63	20.00 20.00	34.65 25.65	20.00 20.00	23.49 25.52	J-2919 J-1628	(N/A) (N/A)	17.16 17.23	J-1198 J-1198
3307	J-1799	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	34.76	20.00	32.62	J-2323	(N/A)	17.23	J-1198
3382 3385	J-1840 J-1841	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.68 1.48	3500.68 3500.48	20.00 20.00	50.94 54.81	20.00 20.00	23.87 23.87	J-1197 J-1197	(N/A) (N/A)	16.79 16.80	J-1198 J-1198
3410	J-1855	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	60.02	20.00	23.81	J-1197	(N/A)	16.73	J-1198
3426 3427	J-1864 J-1865	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	59.32 43.67	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3460	J-1884	Forest	TRUE	1.00	3500.00	1.68	3500.68	20.00	32.72	20.00	23.90	J-1197	(N/A)	16.82	J-1198
3472 3473	J-1891 J-1892	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.68	3500.28 3500.68	20.00 20.00	40.57 55.65	20.00 20.00	23.87 23.87	J-1197 J-1197	(N/A) (N/A)	16.79 16.79	J-1198 J-1198
3504	J-1910	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	36.80	20.00	20.53	J-2919	(N/A)	16.90	J-1198
3563 3571	J-1943 J-1947	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	2.81 2.24	3501.81 3501.24	20.00 20.00	40.44 68.10	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
3590	J-1947 J-1958	Lakes	TRUE	1.00	3500.00	1.29	3500.29	20.00	72.72	20.00	32.62	J-2323	(N/A)	17.23	J-1198
3591 3913	J-1959 J-2124	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	3.97 1.72	3502.96 3500.72	20.00 20.00	28.53 39.55	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A)	17.23 17.23	J-1198
3943	J-2124 J-2138	Forest	TRUE	1.00	3500.00	2.28	3500.72	20.00	23.85	20.00	21.81	J-2323 J-2116	(N/A) (N/A)	16.17	J-1198 J-1198
3996	J-2161	Forest	TRUE TRUE	1.00	3500.00	3.09	3502.08	20.00 20.00	32.72	20.00	23.82	J-1197	(N/A) (N/A)	16.74	J-1198
4163 4256	J-2235 J-2266	Forest Forest	TRUE	1.00 1.00	3500.00 3500.00	1.48 3.29	3500.48 3502.29	20.00	44.82 42.19	20.00 20.00	23.87 23.83	J-1197 J-1197	(N/A)	16.79 16.75	J-1198 J-1198
4451 4464	J-2329 J-2337	Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.48	3500.48 3500.48	20.00 20.00	26.90 79.52	20.00 20.00	21.51 23.25	J-2919 J-1197	(N/A) (N/A)	17.16 16.17	J-1198 J-1198
4511	J-2364	Forest Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	79.52 25.18	20.00	23.25	J-1197 J-103	(N/A) (N/A)	17.18	J-1198 J-1198
4522	J-2370	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	85.43	20.00	23.25	J-1197	(N/A)	16.17	J-1198
4524 4525	J-2371 J-2372	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	2.28 1.08	3501.28 3500.08	20.00 20.00	34.92 33.71	20.00 20.00	22.73 22.73	J-2919 J-2919	(N/A) (N/A)	16.87 16.87	J-1198 J-1198
4527	J-2373	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	21.80	20.00	22.96	J-103	(N/A)	17.18	J-1198
4534 4568	J-2377 J-2397	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.28	3500.08 3500.28	20.00 20.00	50.61 45.05	20.00 20.00	23.25 23.97	J-1197 J-1197	(N/A) (N/A)	16.17 16.89	J-1198 J-1198
4584	J-2407	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	30.91	20.00	31.59	J-78	(N/A)	17.23	J-1198
4588 4589	J-2409 J-2410	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.08	3500.48 3500.08	20.00 20.00	33.67 32.43	20.00 20.00	21.52 21.52	J-2919 J-2919	(N/A) (N/A)	16.89 16.89	J-1198 J-1198
4591 4605	J-2411	Forest	TRUE TRUE	1.00	3500.00	1.08	3500.08	20.00	64.36	20.00	23.89	J-1197 J-1197	(N/A) (N/A)	16.81	J-1198
4612	J-2419 J-2423	Forest Lakes	TRUE	1.00 1.00	3500.00 3500.00	1.08 1.20	3500.08 3500.20	20.00 20.00	58.90 57.74	20.00 20.00	23.92 32.62	J-1197 J-2323	(N/A) (N/A)	16.84 17.23	J-1198 J-1198
4614	J-2424	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	29.48	20.00	23.87	J-1197	(N/A) (N/A)	16.79	J-1198
4615 4636	J-2425 J-2437	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.88 1.20	3500.88 3500.20	20.00 20.00	27.88 111.07	20.00 20.00	23.87 32.62	J-1197 J-2323	(N/A)	16.79 17.23	J-1198 J-1198
4660 4686	J-2449 J-2464	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.28	3500.48 3500.28	20.00 20.00	63.49 59.30	20.00 20.00	23.85 23.83	J-1197 J-1197	(N/A) (N/A)	16.78 16.75	J-1198 J-1198
4688	J-2465	Forest	TRUE	1.00	3500.00	1.48	3500.28	20.00	58.55	20.00	23.81	J-1197 J-1197	(N/A)	16.73	J-1198
4698 4700	J-2470 J-2471	Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.68	3500.20 3500.68	20.00 20.00	26.29 72.65	20.00 20.00	27.76 23.87	J-1640 J-1197	(N/A) (N/A)	17.23 16.79	J-1198 J-1198
4704	J-2473	Forest Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	64.50	20.00	23.91	J-1197	(N/A)	16.83	J-1198
4725 4726	J-2485 J-2486	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.28	3500.08 3500.28	20.00 20.00	79.32 78.00	20.00 20.00	23.87 23.87	J-1197 J-1197	(N/A) (N/A)	16.79 16.79	J-1198 J-1198
4731	J-2489	Forest	TRUE	1.00	3500.00	2.08	3501.08	20.00	23.83	20.00	23.58	J-103	(N/A)	17.17	J-1198
4740 4763	J-2494 J-2506	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.28	3500.48 3500.28	20.00 20.00	53.30 43.71	20.00 20.00	23.94 20.42	J-1197 J-2919	(N/A) (N/A)	16.86 16.88	J-1198 J-1198
4773	J-2512	Forest	TRUE	1.00	3500.00	1.08	3500.28	20.00	26.47	20.00	21.23	J-2145	(N/A)	17.17	J-1198
4786 4787	J-2519 J-2520	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.28	3500.08 3500.28	20.00 20.00	55.27 53.59	20.00 20.00	23.87 23.87	J-1197 J-1197	(N/A) (N/A)	16.79 16.79	J-1198 J-1198
4789	J-2521	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	25.14	20.00	23.70	J-103	(N/A)	17.17	J-1198
4790 4792	J-2522 J-2523	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.28	3500.08 3500.28	20.00 20.00	27.39 62.39	20.00 20.00	23.70 23.87	J-103 J-1197	(N/A) (N/A)	17.17 16.79	J-1198 J-1198
4796	J-2525	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	78.66	20.00	23.87	J-1197	(N/A)	16.79	J-1198
4804 4808	J-2529 J-2531	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	45.48 59.52	20.00 20.00	23.96 24.30	J-1197 J-1197	(N/A) (N/A)	16.88 17.22	J-1198 J-1198
4814	J-2534	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	31.09	20.00	23.84	J-1197	(N/A)	16.76	J-1198
4825 4826	J-2540 J-2541	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	2.68 1.08	3501.68 3500.08	20.00 20.00	58.72 56.85	20.00 20.00	23.82 23.82	J-1197 J-1197	(N/A) (N/A)	16.74 16.74	J-1198 J-1198
4838	J-2548	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	46.77	20.00	20.11	J-2919	(N/A)	16.91	J-1198
4839 4841	J-2549 J-2550	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.08	3500.28 3500.08	20.00 20.00	45.15 60.28	20.00 20.00	20.11 23.25	J-2919 J-1197	(N/A) (N/A)	16.91 16.17	J-1198 J-1198
4857	J-2559	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	31.38	20.00	24.05	J-1197	(N/A)	16.97	J-1198
4864 4870	J-2563 J-2566	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.88	3500.48 3500.88	20.00 20.00	64.66 26.35	20.00 20.00	23.87 23.22	J-1197 J-103	(N/A) (N/A)	16.79 17.18	J-1198 J-1198
4882	J-2573	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	39.63	20.00	23.83	J-1197	(N/A)	16.75	J-1198
4883 4900	J-2574 J-2584	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.88 1.28	3500.88 3500.28	20.00 20.00	37.89 35.43	20.00 20.00	23.83 24.04	J-1197 J-1197	(N/A) (N/A)	16.75 16.96	J-1198 J-1198
4950	J-2613	Forest	TRUE	1.00	3500.00	2.08	3501.08	20.00	46.90	20.00	24.00	J-1197	(N/A)	16.93	J-1198
4982 5001	J-2631 J-2643	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 2.68	3500.08 3501.68	20.00 20.00	45.13 49.38	20.00 20.00	22.48 23.87	J-2919 J-1197	(N/A) (N/A)	16.87 16.79	J-1198 J-1198
5003	J-2644	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	67.99	20.00	23.85	J-1197	(N/A)	16.78	J-1198
5012	J-2649	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	24.42	20.00	24.07	J-1197	(N/A)	16.99	J-1198

Node	Node	Pressure		Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
5027 5067	J-2658 J-2682	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.08	3500.48 3500.08	20.00 20.00	77.56 87.16	20.00 20.00	23.84 23.75	J-1197 J-1197	(N/A) (N/A)	16.76 16.67	J-1198 J-1198
5072	J-2685	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	51.96	20.00	23.98	J-1197	(N/A)	16.91	J-1198
5094 5095	J-2696 J-2697	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	62.36 59.92	20.00 20.00	20.75 20.75	J-2919 J-2919	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
5110	J-2705	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	53.37	20.00	23.14	J-2919	(N/A)	17.16	J-1198
5118 5123	J-2709 J-2712	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	65.49 93.17	20.00 20.00	23.68 23.25	J-1197 J-1197	(N/A) (N/A)	16.60 16.17	J-1198 J-1198
5124	J-2713	Forest	TRUE	1.00	3500.00	1.88	3500.88	20.00	95.71	20.00	23.25	J-1197	(N/A)	16.17	J-1198
5126 5128	J-2714 J-2715	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	77.18 70.70	20.00 20.00	23.73 23.66	J-1197 J-1197	(N/A) (N/A)	16.65 16.58	J-1198 J-1198
5134	J-2718	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	88.33	20.00	23.82	J-1197	(N/A)	16.74	J-1198
5162 5163	J-2734 J-2735	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.68 1.28	3500.68 3500.28	20.00 20.00	38.24 36.20	20.00 20.00	23.83 23.83	J-1197 J-1197	(N/A) (N/A)	16.75 16.75	J-1198 J-1198
5174	J-2741	Lakes	TRUE	1.00	3500.00	1.37	3500.37	20.00	65.99	20.00	32.62	J-2323	(N/A)	17.23	J-1198
5176 5197	J-2742 J-2753	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	121.66 38.32	20.00 20.00	23.80 24.02	J-1197 J-1197	(N/A) (N/A)	16.72 16.94	J-1198 J-1198
5199	J-2754	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	66.75	20.00	23.25	J-1197	(N/A)	16.17	J-1198
5221 5245	J-2767 J-2782	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	77.59 52.44	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5247	J-2783	Forest	TRUE	1.00	3500.00	2.48	3501.48	20.00	33.58	20.00	23.53	J-2822	(N/A)	16.79	J-1198
5248 5284	J-2784 J-2804	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.48	3500.48 3500.48	20.00 20.00	31.90 101.98	20.00 20.00	23.53 23.77	J-2822 J-1197	(N/A) (N/A)	16.79 16.69	J-1198 J-1198
5297	J-2811	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	27.64	20.00	23.87	J-1197	(N/A)	16.79	J-1198
5304 5305	J-2815 J-2816	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.88 2.28	3500.88 3501.28	20.00 20.00	24.51 26.24	20.00 20.00	23.86 23.86	J-1197 J-1197	(N/A) (N/A)	16.78 16.78	J-1198 J-1198
5374	J-2857	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	40.26	20.00	23.25	J-1197	(N/A)	16.17	J-1198
5388 5423	J-2866 J-2885	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.68	3500.08 3500.68	20.00 20.00	35.79 42.07	20.00 20.00	23.25 23.83	J-1197 J-1197	(N/A) (N/A)	16.17 16.75	J-1198 J-1198
5424	J-2886	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	39.53	20.00	23.83	J-1197	(N/A)	16.75	J-1198
5432 5433	J-2890 J-2891	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.48	3500.28 3500.48	20.00 20.00	45.61 43.38	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
5474	J-2914	Forest	TRUE	1.00	3500.00	1.68	3500.48	20.00	25.02	20.00	23.82	J-1197	(N/A)	16.74	J-1198
5475 5481	J-2915 J-2918	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.68 2.28	3500.68 3501.28	20.00 20.00	22.76 35.76	20.00 20.00	23.82 22.99	J-1197 J-90	(N/A) (N/A)	16.74 16.76	J-1198 J-1198
5486	J-2921	Forest	TRUE	1.00	3500.00	1.68	3500.68	20.00	55.36	20.00	23.85	J-1197	(N/A)	16.77	J-1198
5509 5511	J-2933 J-2934	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.29 1.08	3500.29 3500.08	20.00 20.00	64.18 52.94	20.00 20.00	32.62 20.52	J-2323 J-2919	(N/A) (N/A)	17.23 17.15	J-1198 J-1198
5518	J-2938	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	31.57	20.00	21.19	J-2919	(N/A)	17.15	J-1198
5557 5558	J-2960 J-2961	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	3.09 2.28	3502.08 3501.28	20.00 20.00	26.23 23.93	20.00 20.00	23.88 23.88	J-1197 J-1197	(N/A) (N/A)	16.80 16.80	J-1198 J-1198
5577	J-2972	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	37.85	20.00	23.87	J-1197	(N/A)	16.79	J-1198
5593 5595	J-2981 J-2982	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.48	3500.48 3500.48	20.00 20.00	53.86 65.50	20.00 20.00	23.84 23.87	J-1197 J-1197	(N/A) (N/A)	16.76 16.79	J-1198 J-1198
5596	J-2983	Forest	TRUE	1.00	3500.00	1.08	3500.48	20.00	64.11	20.00	23.87	J-1197	(N/A)	16.79	J-1198
5604 5615	J-2988 J-2994	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.46 1.28	3500.46 3500.28	20.00 20.00	112.91 53.63	20.00 20.00	32.62 23.85	J-2323 J-1197	(N/A) (N/A)	17.23 16.77	J-1198 J-1198
5629	J-3002	Forest	TRUE	1.00	3500.00	1.68	3500.68	20.00	49.87	20.00	23.83	J-1197	(N/A)	16.75	J-1198
5630 5643	J-3003 J-3010	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.20	3500.08 3500.20	20.00 20.00	47.35 26.69	20.00 20.00	23.83 27.09	J-1197 J-4062	(N/A) (N/A)	16.75 17.23	J-1198 J-1198
5644	J-3011	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	30.00	20.00	27.09	J-4062	(N/A)	17.23	J-1198
5657 5658	J-3019 J-3020	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	2.28 1.68	3501.28 3500.68	20.00 20.00	43.32 40.79	20.00 20.00	23.92 23.92	J-1197 J-1197	(N/A) (N/A)	16.84 16.84	J-1198 J-1198
5669	J-3026	Lakes	TRUE	1.00	3500.00	1.29	3500.29	20.00	79.81	20.00	32.62	J-2323	(N/A)	17.23	J-1198
5683 5705	J-3034 J-3047	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.08	3500.28 3500.08	20.00 20.00	81.12 36.62	20.00 20.00	23.87 20.77	J-1197 J-2919	(N/A) (N/A)	16.79 17.15	J-1198 J-1198
5748	J-3072	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	29.67	20.00	23.86	J-1197	(N/A)	16.78	J-1198
5765 5805	J-3082 J-3105	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.20	3500.08 3500.20	20.00 20.00	82.96 76.38	20.00 20.00	21.13 32.62	J-2919 J-2323	(N/A) (N/A)	17.15 17.23	J-1198 J-1198
5815	J-3110	Forest	TRUE	1.00	3500.00	2.28	3501.28	20.00	34.85	20.00	23.83	J-1197	(N/A)	16.75	J-1198
5816 5847	J-3111 J-3128	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.08	3500.48 3500.08	20.00 20.00	31.83 60.35	20.00 20.00	23.83 24.30	J-1197 J-1197	(N/A) (N/A)	16.75 17.22	J-1198 J-1198
5849	J-3129	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	77.59	20.00	32.62	J-2323	(N/A)	17.23	J-1198
5860 5872	J-3135 J-3142	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	92.05 58.15	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5881	J-3147	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	73.83	20.00	32.62	J-2323	(N/A)	17.23	J-1198
5885 5891	J-3149 J-3152	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	43.91 31.46	20.00 20.00	22.09 22.30	J-2919 J-2919	(N/A) (N/A)	17.16 17.16	J-1198 J-1198
5900	J-3157	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	73.70	20.00	32.62	J-2323	(N/A)	17.23	J-1198
5904 5905	J-3159 J-3160	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.68 1.08	3500.68 3500.08	20.00 20.00	45.51 48.93	20.00 20.00	23.63 23.63	J-1197 J-1197	(N/A) (N/A)	16.55 16.55	J-1198 J-1198
5909	J-3162	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	69.94	20.00	32.62	J-2323	(N/A)	17.23	J-1198
5913 5917	J-3164 J-3166	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.29 1.20	3500.29 3500.20	20.00 20.00	75.78 71.13	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5922	J-3169	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	81.02	20.00	32.62	J-2323	(N/A)	17.23	J-1198
5929 5936	J-3173 J-3177	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.08	3500.20 3500.08	20.00 20.00	73.13 54.60	20.00 20.00	32.62 22.14	J-2323 J-2919	(N/A) (N/A)	17.23 17.16	J-1198 J-1198
5941	J-3180	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	57.47	20.00	23.87	J-1197	(N/A)	16.79	J-1198
5942 5944	J-3181 J-3182	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.48	3500.48 3500.48	20.00 20.00	54.45 26.26	20.00 20.00	23.87 21.09	J-1197 J-2919	(N/A) (N/A)	16.79 17.15	J-1198 J-1198
5945	J-3183	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	23.31	20.00	21.09	J-2919	(N/A)	17.15	J-1198
5947 5949	J-3184 J-3185	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.29 1.20	3500.29 3500.20	20.00 20.00	37.48 66.55	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5957	J-3189	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	26.38	20.00	28.81	J-619	(N/A)	17.23	J-1198
5963 5974	J-3192 J-3198	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.37	3500.20 3500.37	20.00 20.00	63.91 72.77	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5981	J-3202	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	40.39	20.00	32.62	J-2323	(N/A)	17.23	J-1198
5991 5993	J-3208 J-3209	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	59.62 75.11	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
5995	J-3210	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	56.02	20.00	32.62	J-2323	(N/A)	17.23	J-1198
5999 6013	J-3212 J-3220	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.37	3500.20 3500.37	20.00 20.00	61.96 80.09	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6015	J-3221	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	35.91	20.00	20.26	J-2919	(N/A)	17.15	J-1198
6044 6045	J-3238 J-3239	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.68 1.28	3500.68 3500.28	20.00 20.00	27.43 30.71	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
6055	J-3245	Forest	TRUE	1.00	3500.00	2.08	3501.08	20.00	38.32	20.00	23.83	J-1197	(N/A)	16.75	J-1198
6056	J-3246	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	35.45	20.00	23.83	J-1197	(N/A)	16.75	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
6058	J-3247	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	28.71	20.00	23.85	J-1197	(N/A)	16.77	J-1198
6059	J-3248	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	26.86	20.00	23.85	J-1197	(N/A)	16.77	J-1198
6078 6093	J-3260 J-3269	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.37	3500.08 3500.37	20.00 20.00	60.91 71.38	20.00 20.00	23.62 32.62	J-1197 J-2323	(N/A) (N/A)	16.54 17.23	J-1198 J-1198
6095	J-3270	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	35.17	20.00	22.37	J-2919	(N/A)	17.16	J-1198
6101 6116	J-3273 J-3282	Lakes Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.20	3500.20 3500.20	20.00 20.00	54.66 32.40	20.00 20.00	32.62 32.19	J-2323 J-3283	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6117	J-3283	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	29.17	20.00	32.40	J-3282	(N/A)	17.23	J-1198
6142 6144	J-3298 J-3299	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.29	3500.28 3500.29	20.00 20.00	81.11 90.20	20.00 20.00	21.57 32.62	J-2919 J-2323	(N/A) (N/A)	17.16 17.23	J-1198 J-1198
6171	J-3299 J-3315	Forest	TRUE	1.00	3500.00	1.08	3500.29	20.00	70.44	20.00	21.80	J-2323 J-2919	(N/A)	17.23	J-1198
6173 6184	J-3316 J-3322	Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.11	3500.28 3500.11	20.00 20.00	75.94 49.41	20.00 20.00	20.78 21.24	J-2919 J-676	(N/A) (N/A)	17.15 17.23	J-1198
6210	J-3322 J-3338	Stewartsville Forest	TRUE	1.00	3500.00	1.28	3500.11	20.00	31.56	20.00	22.23	J-2919	(N/A)	17.23	J-1198 J-1198
6253 6290	J-3365 J-3386	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.48	3500.48 3500.48	20.00 20.00	20.10 91.74	20.00 20.00	21.84 23.87	J-2919 J-1197	(N/A) (N/A)	17.16 16.79	J-1198 J-1198
6308	J-3397	Lakes	TRUE	1.00	3500.00	1.20	3500.46	20.00	58.21	20.00	32.62	J-1197 J-2323	(N/A)	17.23	J-1198
6310 6343	J-3398 J-3418	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.20	3500.08 3500.20	20.00 20.00	52.22 24.95	20.00 20.00	22.59 27.84	J-2919 J-3163	(N/A) (N/A)	17.16 17.23	J-1198 J-1198
6372	J-3415	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	45.54	20.00	32.62	J-2323	(N/A)	17.23	J-1198
6386 6388	J-3443 J-3444	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.20	3500.08 3500.20	20.00 20.00	47.72 57.03	20.00 20.00	22.33 32.62	J-2919 J-2323	(N/A) (N/A)	17.16 17.23	J-1198 J-1198
6389	J-3445	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	60.16	20.00	32.62	J-2323	(N/A)	17.23	J-1198
6403 6408	J-3453 J-3456	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.48	3500.20 3500.48	20.00 20.00	43.82 53.38	20.00 20.00	31.62 23.88	J-2323 J-1197	(N/A) (N/A)	17.23 16.80	J-1198 J-1198
6417	J-3450 J-3461	Forest	TRUE	1.00	3500.00	1.28	3500.48	20.00	30.22	20.00	23.55	J-1197 J-1197	(N/A)	16.47	J-1198
6429	J-3468	Forest	TRUE TRUE	1.00	3500.00	1.28	3500.28	20.00	62.25	20.00	23.87	J-1197	(N/A)	16.79	J-1198
6436 6437	J-3472 J-3473	Lakes Lakes	TRUE	1.00 1.00	3500.00 3500.00	1.37 1.37	3500.37 3500.37	20.00 20.00	22.50 26.02	20.00 20.00	26.02 26.12	J-3473 J-3472	(N/A) (N/A)	17.23 17.23	J-1198 J-1198
6444 6455	J-3477 J-3483	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.48	3500.20 3500.48	20.00 20.00	24.06 26.44	20.00 20.00	27.55 23.86	J-1742 J-1197	(N/A) (N/A)	17.23 16.78	J-1198 J-1198
6456	J-3483 J-3484	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	20.44	20.00	23.86	J-1197 J-1197	(N/A) (N/A)	16.78	J-1198 J-1198
6458	J-3485	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	60.78	20.00	23.80	J-1197	(N/A)	16.72	J-1198
6464 6479	J-3488 J-3497	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.08	3500.20 3500.08	20.00 20.00	61.31 69.70	20.00 20.00	32.62 23.71	J-2323 J-1197	(N/A) (N/A)	17.23 16.63	J-1198 J-1198
6495	J-3506	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	52.27	20.00	23.85	J-1197	(N/A)	16.77	J-1198
6522 6528	J-3522 J-3525	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.20	3500.28 3500.20	20.00 20.00	57.44 65.08	20.00 20.00	23.87 32.62	J-1197 J-2323	(N/A) (N/A)	16.79 17.23	J-1198 J-1198
6543	J-3534	Forest	TRUE	1.00	3500.00	1.68	3500.68	20.00	38.70	20.00	23.86	J-1197	(N/A)	16.78	J-1198
6567 6568	J-3549 J-3550	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	2.88 1.08	3501.88 3500.08	20.00 20.00	33.72 38.20	20.00 20.00	23.63 23.63	J-1197 J-1197	(N/A) (N/A)	16.55 16.55	J-1198 J-1198
6570	J-3551	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	52.77	20.00	23.89	J-1197	(N/A)	16.82	J-1198
6637 6652	J-3591 J-3600	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	39.22 84.37	20.00 20.00	22.43 23.85	J-2919 J-1197	(N/A) (N/A)	17.16 16.77	J-1198 J-1198
6721	J-3640	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	67.54	20.00	32.62	J-2323	(N/A)	17.23	J-1198
6725 6726	J-3642 J-3643	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.88 1.68	3500.88 3500.68	20.00 20.00	69.92 67.95	20.00 20.00	23.86 23.86	J-1197 J-1197	(N/A) (N/A)	16.78 16.78	J-1198 J-1198
6735	J-3648	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	53.35	20.00	23.90	J-1197	(N/A)	16.82	J-1198
6742 6757	J-3652 J-3661	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.48 1.68	3500.48 3500.68	20.00 20.00	26.21 27.78	20.00 20.00	21.63 20.92	J-668 J-2919	(N/A) (N/A)	17.17 17.15	J-1198 J-1198
6762	J-3664	Forest	TRUE	1.00	3500.00	2.08	3501.08	20.00	29.14	20.00	23.86	J-1197	(N/A)	16.78	J-1198
6814 6831	J-3695 J-3705	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.08	3500.28 3500.08	20.00 20.00	31.08 72.12	20.00 20.00	22.16 23.89	J-2919 J-1197	(N/A) (N/A)	17.16 16.81	J-1198 J-1198
6833	J-3706	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	96.57	20.00	32.62	J-2323	(N/A)	17.23	J-1198
6834 6852	J-3707 J-3717	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.29 1.28	3500.29 3500.28	20.00 20.00	101.39 58.78	20.00 20.00	32.62 23.87	J-2323 J-1197	(N/A) (N/A)	17.23 16.80	J-1198 J-1198
6872	J-3729	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	56.49	20.00	23.87	J-1197	(N/A)	16.79	J-1198
6873 6875	J-3730 J-3731	Forest Lakes	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.37	3500.08 3500.37	20.00 20.00	51.69 57.96	20.00 20.00	23.87 32.62	J-1197 J-2323	(N/A) (N/A)	16.79 17.23	J-1198 J-1198
6941	J-3770	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	54.56	20.00	24.28	J-1197	(N/A)	17.20	J-1198
6954 6966	J-3777 J-3784	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.28	3500.08 3500.28	20.00 20.00	58.35 66.75	20.00 20.00	23.90 23.88	J-1197 J-1197	(N/A) (N/A)	16.82 16.80	J-1198 J-1198
6970	J-3786	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	56.97	20.00	23.87	J-1197	(N/A)	16.79	J-1198
6972 6974	J-3787 J-3788	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.08	3500.28 3500.08	20.00 20.00	74.19 51.59	20.00 20.00	23.88 24.30	J-1197 J-1197	(N/A) (N/A)	16.81 17.22	J-1198 J-1198
7023	J-3817	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	34.50	20.00	20.40	J-2919	(N/A)	17.15	J-1198
7025 7033	J-3818 J-3822	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	63.25 55.35	20.00 20.00	23.25 24.26	J-1197 J-1197	(N/A) (N/A)	16.17 17.18	J-1198 J-1198
7038	J-3825	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	39.23	20.00	23.25	J-1197	(N/A)	16.17	J-1198
7040 7042	J-3826 J-3827	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	56.62 83.80	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
7044	J-3828	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	53.74	20.00	23.25	J-1197	(N/A)	16.17	J-1198
7064 7077	J-3839 J-3847	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	53.72 44.38	20.00 20.00	23.82 24.26	J-1197 J-1197	(N/A) (N/A)	16.75 17.18	J-1198 J-1198
7082	J-3850	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	43.38	20.00	24.30	J-1197	(N/A)	17.22	J-1198
7086 7090	J-3852 J-3854	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	42.50 24.40	20.00 20.00	24.26 23.84	J-1197 J-1197	(N/A) (N/A)	17.18 16.77	J-1198 J-1198
7092	J-3855	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	35.74	20.00	23.60	J-1197	(N/A)	16.52	J-1198
7096 7148	J-3857 J-3886	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	41.31 38.73	20.00 20.00	24.25 23.83	J-1197 J-1197	(N/A) (N/A)	17.17 16.75	J-1198 J-1198
7149	J-3887	Forest	TRUE	1.00	3500.00	1.88	3500.88	20.00	38.87	20.00	23.83	J-1197	(N/A)	16.75	J-1198
7165 7169	J-3895 J-3896	Lakes Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.20 1.28	3500.20 3500.28	20.00 20.00	116.09 83.44	20.00 20.00	32.62 23.25	J-2323 J-1197	(N/A) (N/A)	17.23 16.17	J-1198 J-1198
7175	J-3899	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	69.54	20.00	23.25	J-1197	(N/A)	16.17	J-1198
7184 7186	J-3902 J-3903	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.28	3500.08 3500.28	20.00 20.00	61.23 71.01	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
7199	J-3910	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	95.24	20.00	23.25	J-1197	(N/A)	16.17	J-1198
7202 7211	J-3911 J-3915	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.28 1.28	3500.28 3500.28	20.00 20.00	79.03 65.85	20.00 20.00	23.25 23.25	J-1197 J-1197	(N/A) (N/A)	16.17 16.17	J-1198 J-1198
7229	J-3925	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	73.44	20.00	23.25	J-1197	(N/A)	16.17	J-1198
7246 7251	J-3933 J-3936	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.08 1.08	3500.08 3500.08	20.00 20.00	37.73 27.95	20.00 20.00	23.63 23.85	J-1197 J-1197	(N/A) (N/A)	16.55 16.77	J-1198 J-1198
7258	J-3939	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	74.56	20.00	23.25	J-1197	(N/A)	16.17	J-1198
7299 7336	J-3955 J-3967	Forest Forest	TRUE TRUE	1.00 1.00	3500.00 3500.00	1.68 1.48	3500.68 3500.48	20.00 20.00	42.22 31.92	20.00 20.00	23.83 23.49	J-1197 J-2919	(N/A) (N/A)	16.75 17.16	J-1198 J-1198
7337	J-3968	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	33.49	20.00	23.49	J-2919	(N/A)	17.16	J-1198
7348	J-3975	Lakes	TRUE	1.00	3500.00	1.20	3500.20	20.00	77.76	20.00	32.62	J-2323	(N/A)	17.23	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
7359	J-3978	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	30.34	20.00	23.87	J-1197	(N/A)	16.79	J-1198
7374	J-3982	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	50.09	20.00	23.63	J-1197	(N/A)	16.55	J-1198
7389	J-3989	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	56.48	20.00	23.90	J-1197	(N/A)	16.82	J-1198
7419	J-4000	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	48.65	20.00	22.73	J-2919	(N/A)	16.87	J-1198
7431	J-4004	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	52.50	20.00	23.63	J-1197	(N/A)	16.55	J-1198
7439	J-4007	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	33.76	20.00	23.63	J-1197	(N/A)	16.55	J-1198
7450	J-4009	Forest	TRUE	1.00	3500.00	3.09	3502.08	20.00	46.82	20.00	20.29	J-2919	(N/A)	16.90	J-1198
7524	J-4037	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	30.32	20.00	23.63	J-1197	(N/A)	16.55	J-1198
7548	J-4047	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	49.68	20.00	23.83	J-1197	(N/A)	16.75	J-1198
7551	J-4048	Forest	TRUE	1.00	3500.00	1.88	3500.88	20.00	48.55	20.00	23.83	J-1197	(N/A)	16.75	J-1198
7569	J-4052	Lakes	TRUE	1.00	3500.00	1.37	3500.37	20.00	73.09	20.00	32.62	J-2323	(N/A)	17.23	J-1198
7574	J-4053	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	47.79	20.00	23.63	J-1197	(N/A)	16.55	J-1198
7608	J-4064	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	38.32	20.00	23.83	J-1197	(N/A)	16.75	J-1198
7639	J-4075	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	26.40	20.00	23.82	J-1197	(N/A)	16.74	J-1198
7653	J-4079	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	47.03	20.00	23.83	J-1197	(N/A)	16.75	J-1198
7763	J-4109	Forest	TRUE	1.00	3500.00	2.48	3501.48	20.00	89.97	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7786	J-4117	Forest	TRUE	1.00	3500.00	2.48	3501.48	20.00	25.04	20.00	20.29	J-2919	(N/A)	16.90	J-1198
7802	J-4121	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	55.96	20.00	23.87	J-1197	(N/A)	16.79	J-1198
7808	J-4122	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	134.08	20.00	23.25	J-1197	(N/A)	16.17	J-1198
7948	J-4149	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	59.57	20.00	23.87	J-1197	(N/A)	16.79	J-1198
7983	J-4155	Forest	TRUE	1.00	3500.00	2.28	3501.28	20.00	40.65	20.00	23.83	J-1197	(N/A)	16.75	J-1198
8469	J-4186	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	58.87	20.00	23.83	J-1197	(N/A)	16.75	J-1198
8473	J-4188	Forest	TRUE	1.00	3500.00	1.68	3500.68	20.00	61.94	20.00	23.87	J-1197	(N/A)	16.79	J-1198
8477	J-4190	Forest	TRUE	1.00	3500.00	1.68	3500.68	20.00	55.47	20.00	23.84	J-1197	(N/A)	16.76	J-1198
8479	J-4191	Forest	TRUE	1.00	3500.00	1.28	3500.28	20.00	59.62	20.00	23.87	J-1197	(N/A)	16.79	J-1198
8493	J-4199	Forest	TRUE	1.00	3500.00	1.68	3500.68	20.00	57.87	20.00	23.89	J-1197	(N/A)	16.82	J-1198
8506	J-4206	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	65.92	20.00	23.89	J-1197	(N/A)	16.81	J-1198
8509	J-4207	Forest	TRUE	1.00	3500.00	1.68	3500.68	20.00	34.28	20.00	23.86	J-1197	(N/A)	16.78	J-1198
8534	J-4217	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	40.08	20.00	24.31	J-1197	(N/A)	17.23	J-1198
8536	J-4218	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	27.95	20.00	24.31	J-1197	(N/A)	17.23	J-1198
8538	J-4219	Forest	TRUE	1.00	3500.00	1.48	3500.48	20.00	85.62	20.00	23.25	J-1197	(N/A)	16.17	J-1198
8540	J-4220	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	47.57	20.00	24.31	J-1197	(N/A)	17.23	J-1198
8542	J-4221	Forest	TRUE	1.00	3500.00	1.08	3500.08	20.00	55.40	20.00	24.31	J-1197	(N/A)	17.23	J-1198
8614	J-4223	Forest	TRUE	1.00	3500.00	1.00	3500.00	20.00	67.16	20.00	23.25	J-1197	(N/A)	16.17	J-1198
8617	J-4224	Forest	TRUE	1.00	3500.00	1.00	3500.00	20.00	67.16	20.00	23.25	J-1197	(N/A)	16.17	J-1198
8679	J-4225	Forest	TRUE	1.00	3500.00	1.00	3500.00	20.00	85.99	20.00	23.37	J-1197	(N/A)	16.29	J-1198

Run #2 – Steady state analysis of twice average conditions for the proposed Bedford County PSA Water Systems with initial conditions as follow:

Stewartsville Water System: WVWA's Parkway Tank – Normal Low (1323') WVWA's Falling Creek WTP – Off

Lakes / Forest Water System:
Smith Mountain Lake Tank – Normal Low (1219')
Proposed WTP – Off
Proposed BCPSA High Point Transmission Line – Constructed – Closed
New London Tank – Normal Low (1065')
Althea Grove Tank – Normal Low (1065')
City of Lynchburg's connections – Closed

Purpose – To report the available fire flows in the proposed system under these conditions while maintaining 20 psi for all users in the system.

Result – Please refer to the included available fire flow exhibits and fire flow report for details.

BEDFORD COUNTY PSA WATER SYSTEMS HYDRAULIC ANALYSIS MAY 13, 2013

Run 2 - Twice Average Daily Demand plus maximum available fire flow calculated for each junction.
Proposed Water System.
All Tanks at Normal Low Level & Proposed Transmission Main - Closed.
Steady State Analysis
Junction Report - sorted by pressure

					Calculated	
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
8695	J-4226	680.00	<none></none>	(N/A)	(N/A)	(N/A)
8701	J-4227	1079.00	<none></none>	(N/A)	(N/A)	(N/A)
8705	J-4228	1112.00	<none></none>	(N/A)	(N/A)	(N/A)
8707	J-4229	1110.00	<none></none>	(N/A)	(N/A)	(N/A)
8709	J-4230	985.00	<none></none>	(N/A)	(N/A)	(N/A)
8713	J-4231	607.00	<none></none>	(N/A)	(N/A)	(N/A)
8716 8719	J-4232 J-4233	1030.00 1043.00	<none> <none></none></none>	(N/A)	(N/A)	(N/A)
8719 8721	J-4234	916.00	<none></none>	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)
8722	J-4235	979.00	<none></none>	(N/A)	(N/A)	(N/A)
2243	J-1198	1025.04	Tank_Node	1.08	1064.98	17.28
387	J-211	1017.35	Tank_Node	0.08	1064.74	20.50
386	J-210	1016.56	Tank_Node	0.08	1064.73	20.84
2242	J-1197	1008.68	Forest	0.48	1064.98	24.36
7305	J-3957	1007.03	Forest	0.48	1064.98	25.07
2354 220	J-1262 J-103	760.55 996.47	Forest Forest	1.48 0.08	825.35 1064.02	28.04 29.23
4527	J-2373	996.31	Forest	0.28	1064.02	29.23
219	J-102	996.18	Forest	0.08	1064.02	29.35
2316	J-1242	756.89	Forest	0.88	825.50	29.68
253	J-125	992.56	Forest	0.08	1064.01	30.91
252	J-124	992.29	Forest	0.28	1064.01	31.03
6401	J-3452	991.91	Forest	0.68	1064.98	31.61
6400	J-3451	991.70	Forest	0.48	1064.98	31.70
4433 2909	J-2323 J-1575	993.46 947.22	Lakes Lakes	1.24 0.37	1068.85 1022.90	32.62 32.74
1726	J-877	987.82	Forest	0.48	1063.87	32.74
2560	J-1375	946.32	Lakes	0.55	1022.94	33.15
1287	J-668	985.88	Forest	0.68	1063.06	33.39
2534	J-1360	945.28	Lakes	0.46	1022.88	33.57
2427	J-1300	944.12	Lakes	0.20	1022.96	34.11
1725	J-876	984.63	Forest	0.68	1063.87	34.29
2933	J-1586	914.04 912.74	Lakes	0.63	993.43	34.35
6790 724	J-3681 J-417	912.74 900.05	Lakes Forest	0.20 0.88	993.47 981.49	34.93 35.24
1825	J-941	972.00	Forest	0.68	1053.97	35.46
1824	J-940	972.00	Forest	0.88	1053.97	35.47
6791	J-3682	911.31	Lakes	0.20	993.47	35.55
2650	J-1427	907.90	Lakes	0.55	991.26	36.07
2036	J-1077	939.35	Lakes	0.81	1022.88	36.14
4709	J-2476	896.26	Forest	0.08	981.49	36.88
555	J-316 J-317	896.02	Forest Forest	0.48 0.68	981.49 981.49	36.98
556 6882	J-317 J-3735	895.60 975.61	Forest	0.88	1061.87	37.16 37.32
4045	J-2183	906.88	Lakes	0.20	993.48	37.47
1374	J-691	974.62	Forest	0.68	1061.87	37.75
3903	J-2119	905.70	Lakes	0.20	993.45	37.96
5483	J-2919	964.00	Forest	0.28	1051.93	38.05
2296	J-1230	737.36	Forest	1.48	825.36	38.08
5484	J-2920	963.65	Forest Forest	0.48 0.48	1051.93	38.20
645 2635	J-371 J-1418	975.28 965.34	Forest	0.48	1063.82 1053.97	38.31 38.35
4447	J-2327	904.74	Lakes	0.63	993.44	38.38
4870	J-2566	974.83	Forest	0.88	1063.82	38.50
646	J-372	974.88	Forest	0.08	1063.88	38.51
6334	J-3412	904.37	Lakes	0.20	993.44	38.54
5961	J-3191	964.80	Forest	0.68	1053.97	38.58
3970	J-2150	962.14	Forest	0.48	1051.89	38.83
2636 3747	J-1419 J-2045	964.20 974.49	Forest Forest	0.48 0.68	1053.97 1064.96	38.84 39.14
6335	J-3413	902.79	Lakes	0.20	993.44	39.14
6281	J-3381	973.92	Forest	0.88	1064.96	39.39
2657	J-1431	890.34	Forest	0.88	981.49	39.44
2558	J-1374	900.00	Lakes	0.29	991.16	39.44
548	J-312	972.00	Forest	0.08	1063.62	39.64
4511	J-2364	972.00	Forest	0.48	1063.62	39.64
2167 891	J-1152 J-500	973.02 960.04	Forest Forest	0.68 0.88	1064.96 1052.02	39.78 39.80
891 5811	J-500 J-3108	960.04 901.12	Forest Lakes	0.88	1052.02 993.48	39.80 39.96
7297	J-3954	889.03	Forest	0.28	981.48	40.00
4707	J-2475	888.98	Forest	0.28	981.48	40.02
6276	J-3378	874.19	Lakes	0.20	967.37	40.31
6277	J-3379	873.94	Lakes	0.20	967.37	40.42
4706	J-2474	888.00	Forest	0.48	981.48	40.44
3229	J-1752	899.51	Lakes	0.20	993.44	40.64
4046 1667	J-2184	899.47	Lakes	0.37	993.48	40.67
1667 547	J-838 J-311	928.91 969.55	Lakes Forest	0.20 1.68	1022.93 1063.59	40.68 40.69
6370	J-3434	899.11	Lakes	0.20	993.44	40.89
7909	J-4143	886.95	Forest	0.68	981.48	40.90
1483	J-744	958.70	Forest	0.48	1053.48	41.01
3230	J-1753	898.45	Lakes	0.20	993.44	41.10
3959	J-2145	966.29	Forest	0.68	1062.54	41.65
4794	J-2524	966.14	Forest	0.48	1062.54	41.71
2760	J-1492	896.95	Lakes	0.37	993.44	41.75
3011 1039	J-1621 J-564	894.73 884.00	Lakes Forest	1.06 0.08	991.30 981.48	41.78 42.18
6945	J-364 J-3772	955.32	Forest	0.08	1053.48	42.18 42.47
2322	J-1245	892.96	Lakes	0.37	991.16	42.49
	-				-	-

Node Node Pressure Demand Phydraus Company Pressure Demand Phydraus Company Pressure Company Pressure Company Pressure Company Pressure Company Pressure Company Pressure Phydraus									
2850	Node	Node	Elevation	Pressure	Demand		Pressure		
124 J.66 965.58 Forest 0.08 1064.99 42.58 42.54 42.44 403 J.224 48.98 96.69 Forest 1.08 1003.24 42.54 42.64 403 J.224 98.46.69 Forest 0.08 1003.24 42.65 42.66 403 J.224 98.47 12.44 98.67	ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)		
1948 1948 986.88 Forest 0.08 1064.99 42.58	2860	J-1550	895.17	Lakes	0.55	993.43	42.51		
403 J.221	134			Forest					
404 J.222 884.54 Forest 0.08 1682.24 42.70 2030 J.124 887.7									
2303 J-1234 884-73 Lakes 1.15 980-48 42.73									
6417 J-243 986.15 Forest 0.28 1064.99 42.76 6946 J-273 364.29 Forest 0.48 1083.23 4.281 6946 J-273 854.48 Forest 0.08 1083.23 4.281 6946 J-273 854.48 Forest 0.08 1053.48 4.284 1083.29 J-275 6956 J-2									
5846 J.3773 954.48 Forest 0.08 1053.48 42.24 1868 J.383 923.66 Lakes 0.37 102.29 42.24 2805 J.1519 963.79 Forest 1.48 1063.13 42.29 2805 J.1519 963.42 Forest 0.08 1063.54 43.32 2826 J.467 963.42 Forest 0.08 1063.54 43.32 2826 J.467 963.42 Forest 0.08 1063.54 43.32 2826 J.1517 964.52 Forest 0.08 1063.54 43.32 2826 J.1517 964.52 Forest 0.89 1064.96 43.46 2827 J.1517 964.52 Forest 0.89 1064.96 43.46 2827 J.1517 964.51 Forest 0.89 1064.96 43.46 3827 J.1712 964.01 Forest 0.89 1064.96 43.46 3827 J.1712 964.01 Forest 0.89 1064.96 43.46 3827 J.1712 964.01 Forest 0.89 961.48 43.88 3162 J.1712 879.33 Forest 0.88 981.48 43.88 3162 J.3726 S61.87 Forest 0.89 981.48 43.83 3163 J.3726 S61.87 Forest 0.89 981.48 43.33 3164 J.7626 S62.49 Forest 0.89 981.48 43.83 3163 J.3707 990.26 Forest 0.89 1052.04 44.04 3174 J.1709 940.88 Forest 0.89 1052.04 44.04 3164 J.1709 940.88 Forest 0.89 1052.04 44.04 3164 J.1709 940.88 Forest 0.89 1052.04 44.04 3164 J.1626 S63.05 Forest 0.89 1052.03 44.10 3164 J.1626 S63.05 Forest 0.89									
1688 J-839 923-66 Lakes 0.37 1022-91 42-94 42-94 42-95 42-									
2905 J-1519									
7742 J.4106 882.09 Forest 0.88 981.48 43.00 67674 J.3652 963.89 Forest 0.48 1063.54 43.01 67674 J.3652 963.89 Forest 0.08 1063.54 43.32 63.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00									
1286									
2290 J-1/220 899.97 Lakes 0.55 991.26 4.3.39	6742	J-3652	963.89						
2166									
2275 1-1217 990.04 Forest 0.88 1060.49 43.58 3162									
1912 192820 999.77									
1317 J-1697 952.48 Forest 0.28 1053.38 43.91 15104 J-2702 879.93 Forest 0.68 981.48 43.93 3136 J-1696 952.40 Forest 0.28 1053.98 43.95 13126 J-1743 951.89 Forest 0.28 1053.56 43.99 15484 J-25221 951.89 Forest 0.28 1053.56 43.99 15484 J-25221 951.89 Forest 0.28 1053.56 43.99 15484 J-25221 951.89 Forest 0.28 1053.56 43.99 15484 J-25221 951.89 Forest 0.28 1053.56 44.04 41.									
1504 1,2702 879.33 Forest 0.88 881.48 43.93 1482 1,743 951.89 Forest 0.28 1053.56 43.95 1482 1,743 951.89 Forest 0.28 1053.56 43.95 15103 1,2701 879.78 Forest 0.28 1053.56 43.95 15103 1,2701 879.78 Forest 0.88 981.48 44.00 15203 1,2701 879.78 Forest 0.88 981.48 44.00 15203 1,2701 879.78 Forest 0.88 981.48 44.00 15204 1,2701 879.78 Forest 0.88 1052.04 44.00 1,4859 983.08 Forest 0.88 1052.04 44.00 1,4859 983.08 Forest 0.48 1053.98 44.13 4,4968 1,262.3 985.05 Forest 0.48 1053.98 44.13 4,968 1,262.4 981.97 Forest 1.48 1053.98 44.13 4,107 1,2701 899.17 Forest 1.48 1053.98 44.13 4,107 1,2701 899.17 Forest 1.48 1053.98 44.13 4,107 1,2701 899.17 Forest 1.28 1053.98 44.13 4,107 1,2702 899.18 Forest 0.88 1064.96 44.18 6,624 1,3523 981.76 Forest 0.28 1053.98 44.23 1,107 1,2969 949.78 Forest 0.28 1053.98 44.23 1,108 1,109									
1-1696 952.40 Forest 0.28 1053.98 43.95									
1482									
5494 J-2225 951.87									
5603 J-5570 550.26 Forest 0.08 1052.04 44.04 3416 J-1899 963.05 Forest 0.48 1064.97 44.10 44.10 J-1899 963.05 Forest 0.48 1064.97 44.10 4966 J-2622 951.97 Forest 0.48 1053.98 44.12 4968 J-2622 951.97 Forest 1.48 1053.98 44.13 44.13 44.15 44.15 44.15 44.15 44.15 4968 J-2623 951.97 Forest 0.48 1064.96 44.13 44.12 44.13 44.15 44.15 44.15 44.15 4968 J-2623 951.97 Forest 0.48 1064.96 44.18 44.13 J-1701 49.45 16.15 44.12 44.15 44.14 44.15 44.15 44.15 44.15 44.15 44.15 44.15 44.15 44.15 44.15 44.15 44.15 44.15 44.17 44.15									
3142 J-1700 949.88 Forest 0.08 1051.76 44.08 4064.96 J-1859 963.05 Forest 0.48 1063.98 44.12 4966 J-2623 952.00 Forest 0.48 1063.98 44.12 4068 J-2624 J-1207 889.14 Lakes 0.20 991.16 44.18 1070.99 11.6 44.18 1070.99 11.6 44.18 1070.99 11.6 44.18 1070.99 11.6 44.18 1070.99 11.6 44.18 1070.99 11.6 44.18 1070.99 11.6 44.18 1070.99 11.6 44.18 1070.99 11.6 44.18 1070.99 11.6 44.18 1070.99 11.6 44.18 1070.99 11.6 44.19 11.6 11.6 11.6 11.6 11.6 11.6 11.6 1									
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5553 J-2958 944.00 Forest 0.08 1051.78 46.63 3148 J-1704 943.66 Forest 0.68 1051.47 46.64 621 J-356 945.94 Forest 0.08 1053.85 46.69 3710 J-2024 943.79 Forest 0.28 1051.78 46.72 4609 J-2421 943.62 Forest 0.08 1051.47 46.76 3189 J-1653 943.39 Forest 0.08 1051.47 46.76 3189 J-1728 943.61 Forest 0.08 1051.47 46.76 3189 J-1654 943.24 Forest 0.08 1051.81 46.82 3068 J-1654 943.24 Forest 0.28 1051.47 46.83 3068 J-1654 943.24 Forest 0.28 1051.81 46.82 3069 J-2422 943.27 Forest 0.28 1051.81 46.83 3971									
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704 J-405 943.43 Forest 0.08 1051.81 46.89 5984 J-3204 943.75 Forest 0.08 1052.21 46.93 5240 J-2779 945.49 Forest 0.48 1053.98 46.94 5983 J-3203 943.58 Forest 0.48 1052.21 47.00 5229 J-2778 945.24 Forest 0.28 1053.98 47.04 5822 J-3114 872.71 Forest 0.68 981.49 47.05 3482 J-1897 945.01 Forest 0.68 981.49 47.09 1058 J-573 943.03 Forest 0.48 1053.85 47.09 1058 J-573 943.03 Forest 1.48 1051.06 47.16 7027 J-3819 942.79 Forest 1.48 1051.06 47.16 887 J-498 951.40 Forest 1.48 1051.86 47.19 6069	4610	J-2422	943.27	Forest	0.88		46.88		
5984 J-3204 943.75 Forest 0.08 1052.21 46.93 5240 J-2779 945.49 Forest 0.48 1052.21 47.00 5983 J-3203 943.58 Forest 0.48 1052.21 47.00 5239 J-2778 945.24 Forest 0.28 1053.98 47.04 5222 J-3114 872.71 Forest 0.68 981.49 47.06 3482 J-1897 945.01 Forest 0.48 1053.85 47.09 1058 J-573 943.03 Forest 1.48 1052.03 47.16 887 J-3819 942.79 Forest 1.48 1051.86 47.19 887 J-498 951.40 Forest 0.88 1060.49 47.20 6069 J-3254 857.94 Lakes 0.46 967.36 47.37 3289 J-1789 944.36 Forest 0.28 1053.85 47.37 3290									
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7886 J-4139 942.56 Forest 1.28 1052.13 47.41 6070 J-3255 857.78 Lakes 0.20 967.36 47.41 1961 J-1029 944.43 Forest 1.08 1054.06 47.43 523 J-296 944.14 Forest 0.48 1053.99 47.53 2947 J-1593 857.48 Lakes 0.20 967.36 47.54 1119 J-596 871.43 Forest 1.28 981.49 47.61 4738 J-2493 942.53 Forest 0.88 1052.79 47.71 1221 J-638 942.51 Forest 0.28 1052.79 47.71									
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1221 J-638 942.51 Forest 0.28 1052.79 47.71									

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
2001	J-1055	912.45	Lakes	0.37	1022.87	47.78
5226 537	J-2770 J-305	870.37 949.32	Forest Forest	1.08 0.28	981.49 1060.47	48.08 48.09
3021	J-1624	953.76	Forest	1.08	1064.98	48.12
481	J-270	869.87	Forest	0.08	981.48	48.29
2238 2064	J-1195 J-1092	881.71 953.22	Lakes Forest	0.55 0.68	993.43 1064.98	48.34 48.35
480	J-269	869.32	Forest	80.0	981.48	48.53
1016 5227	J-554 J-2771	941.75 869.25	Forest Forest	0.08 1.08	1053.92 981.49	48.53 48.56
5286	J-2805	941.58	Forest	0.28	1053.92	48.60
6398 2769	J-3450 J-1497	948.08 869.06	Forest Forest	0.08 0.88	1060.47 981.48	48.62 48.64
307	J-1497 J-159	939.30	Forest	0.08	1051.81	48.68
216	J-100	939.26	Forest	0.08	1051.81	48.69
217 213	J-101 J-98	939.26 939.25	Forest Forest	0.08 0.08	1051.81 1051.81	48.70 48.70
214	J-99	939.25	Forest	0.08	1051.81	48.70
6562 5074	J-3546 J-2686	939.49 939.93	Forest Forest	0.28 2.09	1052.12 1052.70	48.73 48.79
539	J-306	939.80	Forest	0.48	1052.70	48.85
290 6563	J-149 J-3547	938.91 939.19	Forest Forest	0.08 0.48	1051.81 1052.12	48.85 48.86
2257	J-1206	952.00	Forest	0.88	1064.98	48.88
710 2224	J-408 J-1187	940.94 712.26	Forest Forest	0.68 0.68	1054.07 825.46	48.95 48.98
5951	J-3186	938.57	Forest	0.48	1051.81	49.00
4773	J-2512	949.65	Forest	0.08	1063.11	49.09
540 7413	J-307 J-3997	939.16 938.54	Forest Forest	0.88 1.88	1052.71 1052.12	49.13 49.14
759	J-434	949.47	Forest	0.28	1063.11	49.17
6925 775	J-3761 J-442	943.46 937.89	Forest Forest	0.48 0.68	1057.37 1051.81	49.28 49.29
6471	J-3492	937.89	Forest	1.08	1051.83	49.30
6472 4829	J-3493 J-2543	937.77 937.58	Forest Forest	1.08 0.48	1051.83 1051.79	49.35 49.41
5498	J-2927	937.77	Forest	0.68	1052.11	49.47
6085	J-3264	937.63	Forest Forest	0.08	1052.03 1052.03	49.50
1057 7216	J-572 J-3918	937.63 874.53	Lakes	0.28 0.20	988.99	49.50 49.52
4676	J-2458	874.49	Lakes	0.20	988.99	49.54
2321 4828	J-1244 J-2542	876.58 937.15	Lakes Forest	0.37 0.28	991.16 1051.79	49.57 49.60
5092	J-2695	948.90	Forest	0.48	1063.59	49.62
4114 772	J-2213 J-440	939.41 937.32	Forest Forest	1.28 0.28	1054.15 1052.11	49.64 49.66
2689	J-1449	866.61	Forest	2.29	981.47	49.70
4677 3042	J-2459 J-1637	874.06 936.55	Lakes Forest	0.20 0.08	988.99 1051.78	49.72 49.85
7215	J-3917	873.73	Lakes	0.20	988.99	49.87
4536	J-2378	936.45	Forest	0.28	1051.78	49.90
3041 2007	J-1636 J-1059	936.41 938.56	Forest Forest	0.08 1.88	1051.78 1053.94	49.91 49.92
3254	J-1768	948.22	Forest	0.48	1063.59	49.92
7576 802	J-4054 J-455	936.71 936.25	Forest Forest	0.08 0.88	1052.25 1051.82	49.99 50.00
1644	J-825	848.00	Lakes	0.20	963.60	50.02
2417 4821	J-1294 J-2538	848.00 936.57	Lakes Forest	0.20 0.08	963.60 1052.26	50.02 50.05
4820	J-2537	936.42	Forest	0.28	1052.26	50.12
4159 5601	J-2233 J-2986	941.44 936.00	Forest Forest	1.28 0.88	1057.37 1051.94	50.16 50.16
5602	J-2987	936.00	Forest	0.48	1051.94	50.16
1641	J-823	845.61	Lakes	0.20	961.56	50.17
4936 4937	J-2605 J-2606	936.20 936.16	Forest Forest	0.28 0.08	1052.19 1052.19	50.18 50.20
1587	J-788	845.50	Lakes	0.20	961.57	50.21
2033 6303	J-1075 J-3394	936.00 935.56	Forest Forest	1.08 0.48	1052.16 1051.76	50.26 50.27
2207	J-1177	948.77	Forest	0.88	1064.97	50.28
6302 1588	J-3393 J-789	935.38 845.11	Forest Lakes	0.68 0.81	1051.76 961.56	50.35 50.38
1498	J-749	936.90	Forest	0.28	1053.38	50.40
3746 3255	J-2044 J-1769	948.39 946.94	Forest Forest	0.68 0.48	1064.96 1063.59	50.43 50.47
2829	J-1532	864.77	Forest	0.48	981.47	50.49
1782	J-913	937.14	Forest	0.48	1054.31	50.70
6109 4080	J-3278 J-2199	936.20 864.05	Forest Forest	0.08 0.28	1053.38 981.48	50.70 50.81
1018	J-555	934.36	Forest	0.48	1051.83	50.82
4054 7814	J-2186 J-4124	934.30 934.41	Forest Forest	0.88 0.88	1051.78 1052.03	50.83 50.89
7088	J-3853	936.00	Forest	0.28	1053.65	50.90
524 6349	J-297 J-3421	936.31 934.11	Forest Forest	0.48 2.49	1053.98 1051.81	50.91 50.93
2776	J-1501	863.75	Forest	1.08	981.47	50.93
6350	J-3422	933.83	Forest	1.28	1051.81	51.04
758 531	J-433 J-301	944.87 933.71	Forest Forest	0.88 0.48	1063.05 1052.03	51.13 51.19
2055	J-1088	946.39	Forest	80.0	1064.99	51.31
536 2450	J-304 J-1314	941.68 841.85	Forest Lakes	0.08 1.50	1060.50 960.69	51.41 51.42
5132	J-2717	943.61	Forest	0.48	1062.54	51.46
2002 2339	J-1056 J-1254	903.79 872.00	Lakes Lakes	0.63 0.89	1022.86 991.28	51.52 51.61
3797	J-2068	943.18	Forest	0.28	1062.54	51.65
2449 2281	J-1313 J-1221	841.25 871.65	Lakes Lakes	1.06 0.55	960.69 991.26	51.67 51.75
2363	J-1267	934.99	Forest	0.68	1054.63	51.76

					Calculated	
Node ID	Node Label	Elevation	Pressure Zone	Demand	Hydraulic Grade (ft)	Pressure
		(ft)		(gpm)		(psi)
765 5056	J-437 J-2676	943.33 942.98	Forest Forest	0.48 0.08	1062.99 1062.99	51.77 51.93
3824	J-2080	931.79	Forest	1.28	1051.87	51.95
5874	J-3143	931.70	Forest	0.08	1051.82	51.97
773 4984	J-441 J-2632	932.00 931.70	Forest Forest	1.88 0.28	1052.14 1051.88	51.98 52.00
1969	J-1034	843.27	Lakes	0.46	963.60	52.06
4985	J-2633	931.54	Forest	1.28	1051.88	52.07
2690 1063	J-1450 J-575	861.06 931.49	Forest Forest	1.08 0.68	981.47 1051.94	52.09 52.11
4424	J-2321	931.63	Forest	0.88	1052.11	52.13
3494	J-1904	931.33 940.00	Forest Forest	1.48 1.48	1051.82 1060.60	52.13 52.18
695 675	J-400 J-390	931.25	Forest	0.08	1051.88	52.18
2708	J-1461	860.74	Forest	1.28	981.47	52.24
6076 7009	J-3259	868.24	Lakes Forest	0.20	988.99	52.24
930	J-3809 J-514	931.35 932.00	Forest	0.68 0.08	1052.10 1052.79	52.25 52.26
5037	J-2664	932.00	Forest	0.68	1052.79	52.26
2258	J-1207	944.14	Forest	0.88	1064.98	52.28
532 1532	J-302 J-761	931.04 943.86	Forest Forest	0.28 0.08	1052.03 1064.97	52.35 52.40
810	J-459	930.61	Forest	0.28	1051.81	52.44
6024	J-3226	932.84	Forest	0.88	1054.10	52.46
2517 848	J-1350 J-478	941.92 941.64	Forest Forest	0.08 0.08	1063.23 1063.04	52.48 52.53
8519	J-4211	930.32	Forest	0.08	1051.81	52.56
444	J-247	932.59	Forest	0.08	1054.10	52.57
6075 2680	J-3258 J-1444	867.47 869.73	Lakes Lakes	0.20 1.06	988.99 991.28	52.58 52.59
4857	J-2559	941.49	Forest	0.08	1063.04	52.59
2304	J-1235	871.88	Lakes	0.63	993.48	52.61
3434 4603	J-1869 J-2418	931.85 941.44	Forest Forest	0.48 1.28	1053.48 1063.23	52.62 52.69
3495	J-1905	929.96	Forest	1.08	1053.23	52.69
7819	J-4125	929.67	Forest	1.28	1051.75	52.82
5070	J-2684	859.40	Forest	0.48	981.48 1052.10	52.82 52.92
7010 5069	J-3810 J-2683	929.78 859.13	Forest Forest	0.68 2.49	981.48	52.92 52.94
941	J-519	930.26	Forest	0.08	1052.79	53.01
6959	J-3780	929.16	Forest	0.88	1051.82	53.07
5307 3202	J-2817 J-1736	932.74 931.16	Forest Forest	0.68 0.08	1055.40 1053.84	53.07 53.08
5308	J-2818	932.69	Forest	0.08	1055.40	53.09
2824	J-1530	929.90	Forest	1.68	1052.66	53.11
7268 470	J-3943 J-263	942.17 858.65	Forest Forest	0.28 0.68	1064.99 981.48	53.14 53.14
3834	J-2086	931.14	Forest	0.28	1053.98	53.14
985	J-540	930.92	Forest	0.88	1053.80	53.16
5865 4913	J-3138 J-2591	929.72 930.80	Forest Forest	0.68 0.48	1052.66 1053.84	53.19 53.23
443	J-246	931.05	Forest	0.88	1054.10	53.24
3444	J-1875	929.48	Forest	1.28	1052.66	53.29
6958 6469	J-3779 J-3491	928.59 930.19	Forest Forest	1.88 0.28	1051.82 1053.48	53.31 53.34
2748	J-1485	930.15	Forest	0.28	1053.48	53.36
3201	J-1735	930.51	Forest	0.48	1053.84	53.36
3798 674	J-2069 J-389	939.15 928.40	Forest Forest	1.08 0.28	1062.54 1051.89	53.39 53.43
2639	J-1420	939.30	Forest	0.88	1062.91	53.48
7269	J-3944	941.14	Forest	0.88	1064.98	53.58
447 5575	J-249 J-2971	928.00 928.00	Forest Forest	0.28 0.28	1052.06 1052.06	53.68 53.68
4928	J-2600	929.73	Forest	0.08	1053.80	53.68
1940	J-1015	929.72	Forest	0.68	1053.84	53.70
1401 1452	J-698 J-728	929.43 929.36	Forest Forest	0.28 0.08	1053.68 1053.65	53.76 53.78
3843	J-2090	927.60	Forest	0.48	1053.03	53.80
416	J-230	857.11	Forest	0.28	981.48	53.81
2295 6747	J-1229 J-3655	700.89 856.85	Forest Forest	0.88 1.08	825.36 981.48	53.85 53.92
446	J-248	927.40	Forest	0.28	1052.07	53.92
2605	J-1401	938.40	Forest	0.08	1063.11	53.95
5317 2584	J-2823	938.01	Forest	0.08 1.28	1062.90	54.04 54.04
4831	J-1388 J-2544	935.69 938.17	Forest Forest	0.08	1060.60 1063.11	54.04 54.05
6934	J-3766	929.26	Forest	0.48	1054.33	54.11
2520 6748	J-1352	929.20	Forest Forest	0.08	1054.31 981.48	54.13 54.17
2346	J-3656 J-1258	856.27 928.46	Forest	80.0 80.0	1053.71	54.17
2519	J-1351	929.04	Forest	0.08	1054.31	54.20
4763	J-2506	856.21	Forest Forest	0.28 0.08	981.48	54.20
450 384	J-251 J-209	937.45 928.14	Forest	0.08	1062.91 1053.68	54.28 54.32
415	J-229	855.86	Forest	0.28	981.48	54.35
7977	J-4154	926.10	Forest	0.28	1051.74	54.36
4410 6130	J-2316 J-3291	926.36 926.11	Forest Forest	3.29 0.68	1052.03 1051.80	54.37 54.38
6935	J-3767	928.63	Forest	0.08	1054.33	54.38
4802	J-2528	855.76	Forest	0.08	981.48	54.40
3487 2827	J-1900 J-1531	928.11 865.51	Forest Lakes	0.68 1.15	1053.84 991.26	54.40 54.40
1746	J-890	928.55	Forest	0.28	1054.31	54.41
4789	J-2521	937.42	Forest	0.08	1063.20	54.42
1468 383	J-736 J-208	927.52 927.84	Forest Forest	0.28 0.08	1053.30 1053.70	54.42 54.45
6977	J-3790	926.19	Forest	1.28	1052.12	54.49
4311	J-2285	925.37	Forest	1.28	1051.35	54.51
2225	J-1188	699.45	Forest	0.08	825.46	54.52

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Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure				
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)				
5636	J-3006	925.84	Forest	1.08	1051.87	54.53				
2516	J-1349	937.20	Forest	0.88	1063.23	54.53				
2614	J-1406	937.01	Forest	0.88	1063.11	54.56				
5269	J-2795	927.19	Forest	0.48	1053.30	54.56				
6976 228	J-3789 J-108	926.01 855.36	Forest Forest	0.88 0.08	1052.12 981.48	54.56 54.57				
3825	J-2081	925.73	Forest	1.08	1051.87	54.58				
229	J-109	855.33	Forest	0.08	981.48	54.58				
4360	J-2299	925.65	Forest	2.09	1051.80	54.58				
7262 2938	J-3940	862.72 938.67	Lakes	0.37 1.48	988.99	54.63				
1635	J-1588 J-819	864.84	Forest Lakes	0.37	1064.98 991.17	54.65 54.65				
5824	J-3115	926.45	Forest	0.88	1052.79	54.66				
4496	J-2355	938.62	Forest	0.08	1064.98	54.67				
449	J-250	936.35	Forest	0.08	1062.90	54.75				
4790 3219	J-2522 J-1746	936.40 938.17	Forest Forest	0.08 0.28	1063.20 1064.98	54.86 54.86				
1946	J-1019	926.80	Forest	1.08	1053.84	54.97				
634	J-364	926.63	Forest	0.88	1053.71	54.98				
6968	J-3785	926.41	Forest	0.28	1053.84	55.14				
2334	J-1252	865.95	Lakes	1.24	993.42	55.15				
4340 7263	J-2292 J-3941	924.24 861.41	Forest Lakes	1.28 0.20	1051.82 988.99	55.20 55.20				
948	J-523	925.17	Forest	0.08	1052.79	55.21				
6627	J-3585	926.56	Forest	0.48	1054.25	55.24				
3761	J-2050	923.87	Forest	2.09	1051.79	55.35				
2604	J-1400	935.04	Forest	1.28	1063.11	55.41 55.41				
2153 1661	J-1143 J-834	865.32 865.31	Lakes Lakes	0.46 0.72	993.39 993.43	55.41 55.43				
6626	J-3584	926.13	Forest	1.28	1054.25	55.43				
4089	J-2204	923.64	Forest	1.28	1051.81	55.45				
2583	J-1387	932.33	Forest	1.68	1060.60	55.50				
6362 2247	J-3429	923.53	Forest	2.09	1051.81	55.50 55.52				
3968	J-1200 J-2149	934.88 852.87	Forest Forest	0.68 0.68	1063.20 981.48	55.52 55.64				
4907	J-2588	931.87	Forest	0.08	1060.60	55.70				
4184	J-2243	922.48	Forest	1.28	1051.74	55.93				
6297	J-3390	744.26	Forest	0.28	873.78	56.04				
2670 5086	J-1438 J-2692	843.95 922.11	Lakes Forest	0.89 0.48	973.53 1051.71	56.06 56.07				
4711	J-2477	851.74	Forest	0.48	981.47	56.13				
7068	J-3841	922.28	Forest	0.88	1052.12	56.17				
3705	J-2021	851.56	Forest	1.08	981.47	56.21				
7069	J-3842	922.11	Forest	1.68	1052.12	56.25				
1222 4784	J-639 J-2518	922.77 934.95	Forest Forest	0.68 0.88	1052.79 1064.98	56.26 56.26				
3863	J-2099	934.93	Forest	0.68	1064.98	56.27				
6490	J-3503	922.43	Forest	0.48	1052.79	56.40				
6298	J-3391	743.36	Forest	0.48	873.78	56.43				
921	J-511	922.37	Forest	0.08	1052.79	56.43				
3497 1973	J-1906 J-1037	851.02 931.48	Forest Forest	0.28 0.88	981.47 1061.95	56.44 56.45				
729	J-1037 J-419	923.22	Forest	1.28	1053.73	56.45				
4319	J-2286	858.45	Lakes	0.20	988.98	56.48				
5506	J-2931	921.45	Forest	1.08	1052.03	56.49				
5444	J-2897	922.11 836.41	Forest	0.48	1052.79	56.54 56.58				
2949 2675	J-1594 J-1441	836.41 850.65	Lakes Forest	0.81 1.08	967.18 981.47	56.58 56.60				
6753	J-3659	922.78	Forest	0.48	1053.73	56.66				
1636	J-820	860.22	Lakes	0.46	991.17	56.66				
5507	J-2932	921.04	Forest	0.68	1052.03	56.67				
7031	J-3821	930.96	Forest	0.08	1061.95	56.67				
1445 6062	J-724 J-3250	922.22 857.96	Forest Lakes	0.28 0.20	1053.24 988.98	56.69 56.69				
6061	J-3249	857.96	Lakes	0.63	988.98	56.69				
2350	J-1260	836.24	Lakes	0.72	967.42	56.75				
4771	J-2511	850.26	Forest	0.08	981.47	56.77				
2980	J-1606 J-2031	862.16	Lakes	0.55 0.68	993.38	56.78				
3723 2101	J-2031 J-1110	920.43 862.05	Forest Lakes	0.68	1051.71 993.39	56.80 56.82				
2935	J-1587	857.64	Lakes	0.20	988.98	56.83				
2100	J-1109	861.97	Lakes	0.20	993.39	56.86				
1662	J-835	861.95	Lakes	0.20	993.43	56.88				
2970	J-1601	922.48	Forest	0.68	1054.10	56.95				
4062 7682	J-2190 J-4086	920.02 857.25	Forest Lakes	1.28 0.29	1051.74 988.98	56.99 56.99				
4288	J-2277	920.11	Forest	2.09	1051.87	57.01				
1906	J-993	922.42	Forest	0.68	1054.32	57.07				
3533	J-1926	919.69	Forest	0.48	1051.74	57.13				
5676	J-3030	927.71	Forest	0.08	1059.82	57.16				
6338 2324	J-3415 J-1246	919.65 858.94	Forest Lakes	1.68 0.72	1051.81 991.22	57.18 57.23				
5397	J-1246 J-2871	919.44	Forest	3.49	1051.89	57.23				
5831	J-3119	920.20	Forest	1.08	1052.68	57.32				
6337	J-3414	919.27	Forest	0.48	1051.81	57.34				
84	J-37	927.15	Forest	0.08	1059.82	57.40				
3670 4142	J-2000 J-2226	929.28 920.00	Forest Forest	0.48 1.28	1061.95 1052.68	57.40 57.40				
4142 6104	J-2226 J-3275	920.00 919.00	Forest	1.28 0.48	1052.68	57.40 57.43				
5396	J-2870	919.11	Forest	2.89	1051.74	57.45				
6248	J-3362	920.66	Forest	0.28	1053.48	57.47				
4259	J-2267	932.00	Forest	0.68	1064.90	57.50				
8297	J-4172	919.34	Forest	1.28	1052.25	57.51 57.51				
4900 6702	J-2584 J-3629	929.93 931.94	Forest Forest	0.28 0.28	1062.85 1064.90	57.51 57.53				
2493	J-1337	1068.30	Fox_Run	0.68	1201.27	57.53				
2344	J-1257	920.69	Forest	1.68	1053.69	57.54				
3673	J-2002	918.62	Forest	0.88	1051.72	57.58				
6103	J-3274	918.57	Forest	0.68	1051.74	57.62				

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure	
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)	
971	J-533	929.65	Forest	0.08	1062.85	57.63	
6121	J-3285	920.00	Forest	0.48	1053.20	57.63	
6122	J-3286	920.00	Forest	0.88	1053.20	57.63	
4040 2674	J-2180 J-1440	918.50 848.12	Forest Forest	0.68 0.28	1051.81 981.47	57.67 57.70	
1390	J-694	920.00	Forest	2.29	1053.37	57.70	
6731	J-3646	920.00	Forest	0.28	1053.37	57.70	
468 2015	J-262 J-1064	847.98 828.90	Forest Lakes	0.08 0.46	981.48 962.41	57.76 57.76	
5953	J-3187	847.96	Forest	0.48	981.48	57.77	
2821	J-1528	918.47	Forest	1.68	1052.12	57.82	
2889	J-1565	919.82	Forest	1.08	1053.48 1053.75	57.83	
2094 5219	J-1105 J-2766	919.95 920.39	Forest Forest	1.28 0.88	1053.75	57.89 57.91	
467	J-261	847.52	Forest	1.48	981.48	57.96	
3961	J-2146	917.72	Forest	1.28	1051.74	57.98	
5218 35	J-2765 J-5	920.13 925.74	Forest Forest	1.08 0.08	1054.25 1059.87	58.02 58.03	
3134	J-1695	917.63	Forest	0.88	1051.78	58.04	
3532	J-1925	917.55	Forest	0.88	1051.74	58.06	
6164 3133	J-3311 J-1694	930.73	Forest	0.08	1064.97	58.08	
36	J-1694 J-6	917.40 925.43	Forest Forest	0.08 1.08	1051.78 1059.87	58.14 58.17	
6249	J-3363	918.95	Forest	0.68	1053.48	58.21	
5149	J-2726	918.04	Forest	0.88	1052.65	58.24	
6099 2095	J-3272 J-1106	916.99 918.77	Forest Forest	0.08 0.48	1051.74 1053.75	58.30 58.40	
7021	J-1106 J-3816	918.77 916.74	Forest	0.48	1053.75	58.40 58.42	
4005	J-2165	917.60	Forest	1.08	1052.65	58.43	
2850	J-1544	927.84	Forest	0.88	1063.05	58.50	
2661 5145	J-1433 J-2724	846.24 917.98	Forest Forest	0.88 0.08	981.47 1053.23	58.51 58.51	
3555	J-1938	853.72	Lakes	0.20	988.98	58.52	
2704	J-1459	832.00	Lakes	0.72	967.35	58.56	
6285	J-3383	920.30	Forest	0.08	1055.73 1052.34	58.59 58.60	
1347 6163	J-686 J-3310	916.89 929.42	Forest Forest	2.49 0.08	1052.34 1064.97	58.60 58.65	
1446	J-725	917.55	Forest	0.08	1053.23	58.70	
7860	J-4132	918.18	Forest	0.88	1054.25	58.87	
1650 6816	J-828 J-3696	1065.07 852.78	Fox_Run Lakes	0.48 0.20	1201.27 988.98	58.93 58.93	
2485	J-1333	918.42	Forest	0.48	1054.63	58.93	
2092	J-1104	857.20	Lakes	0.37	993.43	58.94	
6286 5564	J-3384	919.50 915.87	Forest Forest	0.88 1.88	1055.73 1052.12	58.94 58.95	
163	J-2965 J-80	915.87 918.38	Forest	1.88 0.08	1052.12 1054.63	58.95 58.95	
2709	J-1462	845.10	Forest	0.48	981.47	59.00	
5563	J-2964	915.51	Forest	1.28	1052.12	59.10	
2362 2231	J-1266 J-1191	918.01 928.24	Forest Forest	0.48 0.28	1054.63 1064.97	59.11 59.16	
2029	J-1072	737.03	Forest	0.48	873.78	59.17	
1747	J-891	917.56	Forest	0.48	1054.31	59.17	
6157 3392	J-3306 J-1845	736.88 914.88	Forest Forest	0.68 0.08	873.78 1051.79	59.23 59.23	
3554	J-1845 J-1937	852.00	Lakes	0.08	988.98	59.23 59.27	
6158	J-3307	736.69	Forest	0.68	873.78	59.31	
5549	J-2956	915.16	Forest	0.48	1052.31	59.34	
2091 2717	J-1103 J-1466	856.23 823.33	Lakes Lakes	0.46 0.20	993.43 960.64	59.36 59.41	
5548	J-2955	914.92	Forest	0.68	1052.31	59.44	
6146	J-3300	914.31	Forest	0.48	1051.79	59.48	
8525 2145	J-4214 J-1138	914.11 829.43	Forest Lakes	0.08 0.20	1051.74 967.07	59.54	
2145 2954	J-1138 J-1596	829.43 829.52	Lakes Lakes	0.20	967.35	59.55 59.63	
5851	J-3130	913.90	Forest	0.48	1051.74	59.63	
2419	J-1295	822.69	Lakes	0.55	960.64	59.69	
3393 3246	J-1846 J-1763	913.79 913.94	Forest Forest	0.48 0.28	1051.79 1051.94	59.71 59.71	
2420	J-1296	822.62	Lakes	0.29	960.64	59.71	
6869	J-3727	916.20	Forest	0.68	1054.24	59.72	
6927	J-3762	913.90	Forest	0.08	1051.94	59.72	
2966 1944	J-1599 J-1018	856.69 926.74	Forest Forest	1.28 0.88	994.76 1064.96	59.74 59.80	
5130	J-2716	924.80	Forest	0.28	1063.13	59.85	
1649	J-827	1062.94	Fox_Run	0.08	1201.27	59.85	
3671	J-2001 J-1542	923.52	Forest	1.28	1061.95	59.89	
2847 4468	J-1542 J-2339	924.51 926.29	Forest Forest	0.28 0.08	1063.05 1064.93	59.94 59.98	
5524	J-2942	916.31	Forest	0.48	1054.97	60.00	
3242	J-1760	926.26	Forest	0.08	1064.93	60.00	
4016 2574	J-2170 J-1382	842.76 913.11	Forest Forest	1.48 1.68	981.48 1051.89	60.02 60.04	
3245	J-1762	913.11	Forest	0.08	1051.89	60.05	
5523	J-2941	916.08	Forest	1.48	1054.97	60.09	
6870	J-3728	915.28	Forest	1.08	1054.24	60.12	
1399 109	J-697 J-52	925.95 925.87	Forest Forest	0.28 0.28	1064.95 1064.95	60.14 60.18	
3243	J-1761	925.83	Forest	0.28	1064.93	60.18	
3441	J-1873	912.62	Forest	0.48	1051.74	60.19	
4534	J-2377	925.83	Forest	0.08	1064.95	60.19	
100 130	J-47 J-64	925.82 925.84	Forest Forest	0.68 0.48	1064.95 1064.98	60.19 60.20	
2804	J-1518	923.97	Forest	0.48	1063.13	60.21	
4107	J-2210	912.00	Forest	1.48	1051.30	60.27	
2662 1943	J-1434 J-1017	842.15 925.61	Forest Forest	0.88	981.47 1064.97	60.28 60.29	
1943 6180	J-1017 J-3320	925.61 923.66	Forest	0.68 0.48	1064.97	60.29	
2424	J-1298	828.00	Lakes	0.20	967.43	60.32	
2425	J-1299	828.00	Lakes	0.29	967.43	60.32	

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure		
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)		
2810	J-1521	912.33	Forest	0.88	1051.79	60.34		
2319	J-1243	827.91	Lakes	1.41	967.41	60.35		
2494	J-1338	1061.76	Fox_Run	0.28	1201.27	60.36		
1892	J-984	849.37	Lakes	0.55	988.98	60.40		
6300	J-3392	911.63	Forest	1.68	1051.30 1051.74	60.43		
3442 3918	J-1874 J-2126	912.00 913.38	Forest Forest	0.08 1.68	1051.74	60.46 60.48		
1995	J-1051	1061.28	Fox_Run	0.08	1201.27	60.57		
3387	J-1842	912.00	Forest	0.08	1052.09	60.61		
5267	J-2794	912.62	Forest	1.08	1052.79	60.65		
2820	J-1527	911.94	Forest	1.28	1052.12	60.65		
2641	J-1421	922.91	Forest	0.08	1063.13	60.67		
2272 2619	J-1215 J-1409	827.19 826.75	Lakes Lakes	0.63 0.55	967.41 967.07	60.67 60.71		
401	J-220	912.45	Forest	0.48	1052.79	60.71		
3812	J-2075	910.68	Forest	2.69	1051.21	60.80		
1947	J-1020	913.30	Forest	0.88	1053.83	60.80		
687	J-396	922.31	Forest	0.08	1062.85	60.81		
3674	J-2003	911.10	Forest	0.88	1051.72	60.84		
2749	J-1486	912.85	Forest	1.08	1053.48	60.85		
2575 2913	J-1383 J-1576	911.12 852.47	Forest Lakes	3.29 0.29	1051.89 993.37	60.90 60.96		
101	J-48	924.00	Forest	0.08	1064.95	60.98		
5374	J-2857	924.00	Forest	0.08	1064.95	60.98		
5977	J-3200	911.86	Forest	0.48	1052.86	61.01		
1076	J-579	919.92	Forest	0.08	1060.94	61.01		
400	J-219	911.75	Forest	0.88	1052.79	61.02		
5898	J-3156	910.99	Forest	0.08	1052.06	61.03		
4702	J-2472	910.76	Forest	0.88	1051.85 1064.98	61.04		
5697 1911	J-304 <u>2</u> J-996	923.84 923.78	Forest Forest	0.48 1.08	1064.98 1064.98	61.06 61.09		
2146	J-1139	825.87	Lakes	0.37	967.07	61.09		
3507	J-1912	910.51	Forest	0.48	1051.85	61.15		
7209	J-3914	914.61	Forest	0.28	1056.05	61.19		
3053	J-1644	910.61	Forest	0.28	1052.09	61.21		
5976	J-3199	911.38	Forest	0.88	1052.86	61.21		
5295	J-2810	910.59	Forest	0.48	1052.09	61.22		
6905 4323	J-3749 J-2287	914.54 921.53	Forest Forest	2.09 0.88	1056.05 1063.11	61.23 61.25		
954	J-526	910.45	Forest	0.28	1052.09	61.28		
1303	J-675	910.88	Forest	1.48	1052.52	61.29		
111	J-53	923.24	Forest	0.08	1064.93	61.30		
5897	J-3155	910.38	Forest	0.88	1052.06	61.30		
3984	J-2156	910.00	Forest	1.88	1051.79	61.35		
39	J-8	923.14	Forest	0.08	1064.93	61.35		
6906 7101	J-3750 J-3860	914.23 910.23	Forest Forest	0.08 0.48	1056.05 1052.06	61.36 61.36		
7100	J-3859	910.23	Forest	0.68	1052.06	61.36		
2609	J-1403	910.04	Forest	1.68	1051.89	61.37		
5197	J-2753	920.71	Forest	0.08	1062.64	61.41		
1305	J-676	1180.99	Stewartsville	0.69	1322.92	61.41		
6823	J-3700	919.01	Forest	0.28	1060.94	61.41		
2740	J-1480	831.56	Lakes	0.81	973.50	61.41		
6980 4449	J-3792 J-2328	909.22 1180.91	Forest Stewartsville	1.08 0.26	1051.22 1322.92	61.43 61.44		
38	J-2328 J-7	922.91	Forest	0.26	1064.93	61.44		
4483	J-2348	922.90	Forest	0.08	1064.93	61.45		
2659	J-1432	824.97	Lakes	0.72	967.13	61.50		
518	J-293	909.72	Forest	0.48	1052.10	61.60		
4061	J-2189	909.24	Forest	0.48	1051.74	61.65		
2703	J-1458	824.84	Lakes	0.72	967.35	61.66		
2692	J-1451	838.92	Forest Forest	0.88	981.47 1062.64	61.68 61.69		
972 1105	J-534 J-592	920.06 917.86	Forest Forest	0.28 0.08	1062.64 1060.48	61.69 61.71		
3601	J-1965	911.54	Forest	0.08	1054.24	61.74		
6391	J-3446	913.31	Forest	0.08	1056.05	61.76		
5585	J-2976	922.03	Forest	0.48	1064.93	61.83		
5586	J-2977	922.00	Forest	0.48	1064.93	61.84		
2620	J-1410	824.09	Lakes	1.24	967.08	61.87		
4514	J-2366	908.70	Forest	0.88	1051.76	61.90		
7106 4513	J-3863 J-2365	908.67 908.64	Forest	80.0 80.0	1051.76 1051.76	61.91 61.92		
4513 1972	J-2365 J-1036	908.64 918.82	Forest Forest	0.08	1051.76 1061.94	61.92		
6979	J-3791	908.07	Forest	0.48	1051.22	61.93		
2216	J-1182	824.00	Lakes	1.06	967.17	61.94		
5796	J-3099	919.92	Forest	0.48	1063.11	61.95		
3949	J-2141	851.52	Forest	1.68	994.76	61.97		
5797	J-3100	919.78	Forest	0.08	1063.11	62.01		
2777	J-1502	838.11	Forest	1.08	981.47	62.03		
2066	J-1093	921.55	Forest	0.28	1064.97 1056.05	62.05		
6392 7137	J-3447 J-3880	912.62 912.43	Forest Forest	1.28 0.08	1056.05 1056.05	62.05 62.14		
4282	J-3880 J-2275	849.69	Lakes	0.46	993.37	62.14		
2262	J-1209	823.64	Lakes	1.06	967.41	62.20		
517	J-292	908.29	Forest	0.08	1052.10	62.22		
3508	J-1913	908.03	Forest	0.28	1051.86	62.23		
2823	J-1529	908.78	Forest	1.08	1052.66	62.25		
2186	J-1164	875.36	Lakes	1.41	1019.32	62.28		
8498	J-4202	823.04	Lakes	0.55	967.07	62.32		
3735 2433	J-2038 J-1304	916.66 844.90	Forest Lakes	1.08 0.20	1060.74 988.98	62.34 62.34		
2433 3405	J-1304 J-1852	849.25	Lakes	0.20	993.37	62.34		
3945	J-2139	907.02	Forest	0.68	1051.21	62.38		
4941	J-2608	907.48	Forest	0.88	1051.75	62.42		
1970	J-1035	819.31	Lakes	0.72	963.60	62.42		
3855	J-2096	907.46	Forest	0.88	1051.75	62.43		
6203	J-3334	907.44	Forest	0.88	1051.78	62.45		
5828 5843	J-3117 J-3126	908.00 908.55	Forest Forest	0.08 0.28	1052.35 1052.98	62.45 62.49		
JU43	J-3120	300.00	ruiest	0.28	1002.98	02.49		

Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	
6611	J-3575	915.97	Forest	0.28	1060.48	62.52	
2017	J-1065	878.38	Lakes	0.63	1022.90	62.53	
3352	J-1824	836.91	Forest	0.48	981.47	62.54	
5452	J-2901	907.15	Forest	0.08	1051.71	62.55	
2236	J-1194	848.79	Lakes	0.98	993.42	62.58	
602 5252	J-345	908.33	Forest	0.08	1052.98	62.58	
5252 6982	J-2786 J-3793	908.48 907.42	Forest Forest	0.28 0.08	1053.16 1052.10	62.60 62.60	
92	J-42	920.25	Forest	0.48	1064.95	62.60	
1769	J-905	844.21	Lakes	0.20	988.98	62.64	
1488	J-745	908.35	Forest	0.08	1053.16	62.65	
4656	J-2447	907.28	Forest	0.08	1052.10	62.66	
5829	J-3118	907.52	Forest	0.28	1052.35	62.66	
3927	J-2131	906.94	Forest	1.28	1051.79	62.67	
3062	J-1650	906.81	Forest	0.08	1051.71	62.69	
3065 3003	J-1652 J-1617	907.18 920.00	Forest Forest	0.68 0.88	1052.10 1064.92	62.70 62.70	
6327	J-3408	906.83	Forest	0.68	1051.79	62.72	
2695	J-1453	846.15	Lakes	0.63	991.16	62.74	
2732	J-1475	907.29	Forest	0.68	1052.34	62.75	
6202	J-3333	906.71	Forest	0.68	1051.78	62.76	
3064	J-1651	907.02	Forest	0.08	1052.10	62.77	
3061	J-1649	906.59	Forest	0.08	1051.71	62.79	
6322	J-3405	910.90	Forest	0.08	1056.05	62.80	
2360 3876	J-1265 J-2106	848.21 906.50	Lakes Forest	0.72 0.68	993.37 1051.74	62.80 62.84	
3439	J-1872	906.49	Forest	1.08	1051.74	62.87	
6559	J-3544	906.58	Forest	2.89	1051.89	62.87	
2793	J-1512	910.72	Forest	1.08	1056.05	62.88	
5641	J-3009	906.96	Forest	0.48	1052.34	62.90	
3351	J-1823	836.00	Forest	1.28	981.47	62.94	
4538	J-2379	836.00	Forest	0.68	981.47	62.94	
6560	J-3545	906.41	Forest	0.28	1051.89	62.94	
7056 1729	J-3835 J-879	907.03 821.58	Forest Lakes	1.28 0.89	1052.52 967.13	62.95 62.97	
559	J-319	908.68	Forest	0.08	1054.34	63.02	
3418	J-1860	919.21	Forest	0.48	1064.93	63.04	
1941	J-1016	908.10	Forest	0.88	1053.83	63.05	
6321	J-3404	910.28	Forest	0.88	1056.05	63.07	
3450	J-1878	906.27	Forest	0.48	1052.12	63.10	
2217	J-1183	821.31	Lakes	0.46 1.28	967.17	63.11	
2765 4183	J-1495 J-2242	906.65 905.69	Forest Forest	2.29	1052.52 1051.74	63.11 63.19	
1695	J-857	908.16	Forest	0.48	1054.24	63.20	
2682	J-1445	847.19	Lakes	0.20	993.37	63.24	
6671	J-3611	918.64	Forest	0.48	1064.93	63.29	
5639	J-3008	908.24	Forest	0.08	1054.67	63.35	
3692 3864	J-2014 J-2100	906.11 918.21	Forest Forest	1.48 0.48	1052.64 1064.98	63.40 63.50	
6047	J-3240	914.99	Forest	0.48	1064.98	63.55	
5870	J-3141	907.75	Forest	0.48	1054.67	63.56	
601	J-344	906.01	Forest	0.68	1052.99	63.59	
998	J-546	905.93	Forest	0.68	1052.96	63.62	
2270	J-1214	820.00	Lakes	1.06	967.07	63.63	
8069 5638	J-4165 J-3007	904.70 907.48	Forest Forest	2.89 0.48	1051.81 1054.67	63.65 63.68	
3464	J-1886	904.49	Forest	0.48	1051.71	63.69	
6048	J-3241	914.55	Forest	1.28	1061.88	63.74	
5869	J-3140	907.32	Forest	1.08	1054.67	63.75	
1574	J-780	906.87	Forest	0.48	1054.32	63.79	
2032	J-1074	904.62	Forest	0.68	1052.14	63.83	
7946	J-4148	904.74	Forest	0.48	1052.34	63.86	
1573 6029	J-779 J-3229	906.69 904.45	Forest Forest	0.08 0.28	1054.32 1052.09	63.88 63.88	
93	J-3229 J-43	917.28	Forest	0.28	1052.09	63.89	
5598	J-2984	904.00	Forest	0.68	1051.74	63.92	
5599	J-2985	904.00	Forest	0.88	1051.74	63.92	
658	J-379	903.28	Forest	2.09	1051.03	63.92	
3114	J-1683	904.00	Forest	0.08	1051.86	63.97	
3115	J-1684	904.00	Forest	0.08	1051.86	63.97	
5460	J-2906	904.23	Forest	1.48	1052.12	63.98	
3929 4843	J-2132	903.75	Forest	1.48	1051.74	64.03	
4843 5672	J-2551 J-3028	904.64 914.77	Forest Forest	0.08 0.88	1052.64 1062.81	64.03 64.05	
2951	J-3028 J-1595	914.77 825.47	Forest Lakes	0.88 0.55	1062.81 973.52	64.05 64.05	
4868	J-2565	914.80	Forest	0.28	1062.85	64.06	
5388	J-2866	916.86	Forest	0.08	1064.94	64.07	
2711	J-1463	914.77	Forest	0.48	1062.85	64.07	
3451	J-1879	904.00	Forest	0.48	1052.12	64.09	
81	J-35	916.73	Forest	0.08	1064.93	64.12	
3691	J-2013	904.42	Forest	0.68	1052.64	64.13	
5671 5380	J-3027	914.52	Forest	0.88 0.08	1062.81	64.16 64.16	
5380 5379	J-2861 J-2860	908.01 907.82	Forest Forest	0.08	1056.31 1056.31	64.16 64.25	
3438	J-1871	907.82	Forest	0.48	1051.79	64.28	
3744	J-2043	916.34	Forest	0.08	1064.98	64.31	
5721	J-3056	902.87	Forest	0.48	1051.79	64.43	
2293	J-1228	916.04	Forest	0.68	1064.97	64.43	
6377	J-3438	904.00	Forest	0.28	1052.99	64.46	
7765 2248	J-4110	902.73	Forest	1.48 0.88	1051.74	64.47 64.50	
2248 4025	J-1201 J-2174	914.12 903.80	Forest Forest	0.88	1063.20 1052.96	64.50 64.53	
76	J-32	906.11	Forest	0.08	1055.29	64.55	
2669	J-1437	824.29	Lakes	0.46	973.52	64.57	
7938	J-4146	902.54	Forest	1.08	1051.79	64.58	
3348	J-1822	839.73	Lakes	0.55	988.98	64.58	
3892 502	J-2114 J-282	910.53 903.63	Forest Forest	0.88 0.08	1059.87 1052.99	64.61 64.62	
5193	J-282 J-2751	903.59	Forest	0.88	1052.99	64.63	
0.00	0 2/01	000.00	. 0.000	5.00	.002.00	34.00	

Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
			_			
4276	J-2273	902.69	Forest	1.68	1052.09	64.64
2867 1639	J-1553 J-822	832.02 824.00	Forest Lakes	1.88 0.20	981.47 973.48	64.66 64.67
1638	J-821	824.00	Lakes	0.20	973.48	64.67
1996	J-1052	1051.60	Fox_Run	0.88	1201.26	64.75
6675	J-3613	905.60	Forest	0.48	1055.29	64.76
7728	J-4101	902.11	Forest	0.28	1051.86	64.79
2273	J-1216	817.64	Lakes	0.72	967.41	64.80
1728 6771	J-878 J-3669	817.36 910.09	Lakes Forest	0.55 1.08	967.13	64.80 64.80
75	J-31	905.47	Forest	0.28	1059.87 1055.32	64.83
2455	J-1316	823.63	Lakes	0.20	973.48	64.84
1928	J-1007	843.44	Lakes	0.37	993.35	64.86
3588	J-1957	901.89	Forest	0.08	1051.80	64.86
584	J-334	903.07	Forest	0.08	1052.99	64.86
82	J-36	914.89	Forest	0.08	1064.93	64.91
4892 2642	J-2580 J-1422	903.68 912.98	Forest	0.48	1053.82	64.96
7092	J-3855	910.96	Forest Forest	0.88 0.28	1063.13 1061.12	64.96 64.97
3901	J-2118	831.30	Forest	1.88	981.47	64.97
4891	J-2579	903.43	Forest	0.08	1053.82	65.06
558	J-318	903.89	Forest	0.08	1054.33	65.09
5856	J-3133	903.69	Forest	0.88	1054.15	65.09
335	J-177	914.36	Forest	0.08	1064.93	65.14
2126	J-1126	904.43	Forest	0.48	1055.07	65.18 65.10
3347 4775	J-1821 J-2513	838.31 914.22	Lakes Forest	0.72 0.28	988.98 1064.93	65.19 65.20
4775 2801	J-2513 J-1516	914.22 844.05	Forest	0.28	1064.93 994.76	65.20 65.21
7526	J-4038	914.18	Forest	10.28	1064.93	65.22
2255	J-1205	840.49	Lakes	1.24	991.25	65.22
686	J-395	912.00	Forest	0.08	1062.81	65.25
503	J-283	902.07	Forest	1.08	1052.99	65.30
6134	J-3293	913.94	Forest	0.88	1064.98	65.35
1932	J-1010	815.97	Lakes	0.55	967.07	65.37
7882 2556	J-4138 J-1373	901.74 822.33	Forest Lakes	0.68 0.20	1052.86 973.48	65.38 65.40
2289	J-1373 J-1225	816.00	Lakes	0.89	967.17	65.40
3522	J-1920	902.95	Forest	0.48	1054.15	65.42
2797	J-1514	822.26	Lakes	0.89	973.51	65.44
2733	J-1476	901.00	Forest	1.88	1052.34	65.48
6446	J-3478	913.56	Forest	0.48	1064.96	65.50
2854	J-1547	901.41	Forest	1.08	1052.86	65.52
5180 7721	J-2744 J-4098	902.20 903.16	Forest Forest	0.48 0.88	1053.70 1054.67	65.55 65.55
2343	J-1256	902.18	Forest	0.68	1054.67	65.56
6050	J-3242	901.23	Forest	0.68	1052.86	65.60
2967	J-1600	843.07	Forest	1.48	994.76	65.63
4200	J-2249	902.55	Forest	0.88	1054.24	65.63
3932	J-2134	843.04	Forest	0.68	994.76	65.64
2811	J-1522	900.04	Forest	1.28	1051.79	65.65
7941 3587	J-4147 J-1956	900.00 900.00	Forest Forest	1.48 1.28	1051.77 1051.80	65.66 65.68
2440	J-1308	821.67	Lakes	0.37	973.48	65.68
4947	J-2611	900.30	Forest	1.28	1052.12	65.68
6375	J-3437	899.92	Forest	0.28	1051.74	65.69
3267	J-1776	908.89	Forest	0.48	1060.74	65.70
7232	J-3926	909.21	Forest	0.28	1061.12	65.72
7701	J-4092	902.62	Forest	0.88	1054.67	65.78
3658 1676	J-1995 J-844	912.74 821.24	Forest Lakes	0.08 0.20	1064.96 973.48	65.86 65.87
2191	J-844 J-1167	903.95	Forest	1.88	1056.20	65.87
1709	J-866	821.23	Lakes	0.20	973.48	65.87
5681	J-3033	908.48	Forest	0.48	1060.74	65.88
2414	J-1292	821.18	Lakes	0.20	973.48	65.89
2415	J-1293	821.16	Lakes	0.20	973.48	65.90
4948	J-2612	899.76	Forest	1.28	1052.12	65.92
8465 2263	J-4184 J-1210	808.28 815.03	Lakes Lakes	1.50 0.63	960.64 967.41	65.92 65.93
4806	J-1210 J-2530	899.89	Forest	0.88	1052.30	65.94
196	J-93	907.78	Forest	1.08	1060.23	65.96
2338	J-1253	838.81	Lakes	1.41	991.27	65.96
575	J-329	900.47	Forest	0.08	1052.99	65.99
2431	J-1303	838.73	Lakes	1.58	991.25	65.99
877	J-493	901.62	Forest	0.08	1054.15	65.99
3466 6986	J-1887	912.33	Forest Forest	0.48 0.48	1064.88 1057.34	66.00 66.00
6986 364	J-3795 J-196	904.78 912.07	Forest	0.48	1057.34	66.00 66.01
5333	J-2833	900.42	Forest	0.08	1052.99	66.01
363	J-195	912.03	Forest	0.08	1064.61	66.02
6666	J-3608	908.50	Forest	0.28	1061.12	66.03
1770	J-906	836.31	Lakes	0.55	988.98	66.05
2430	J-1302	838.55	Lakes	0.55	991.25	66.07
2106	J-1113	840.63	Lakes	0.72	993.35	66.07
959 3890	J-528 J-2113	899.57 912.16	Forest Forest	0.08 0.48	1052.30 1064.98	66.08 66.12
7861	J-4133	901.36	Forest	1.08	1054.25	66.15
6665	J-3607	908.20	Forest	0.08	1061.12	66.16
3919	J-2127	900.24	Forest	1.88	1053.16	66.16
8488	J-4196	901.27	Forest	1.08	1054.20	66.17
2125	J-1125	902.13	Forest	0.08	1055.07	66.17
3782	J-2060	908.97	Forest	0.28	1061.95	66.19
6135 6186	J-3294 J-3323	912.00 911.89	Forest Forest	0.28 0.68	1064.98 1064.88	66.19 66.19
1489	J-3323 J-746	900.09	Forest	50.32	1054.88	66.21
3875	J-2105	898.71	Forest	0.88	1051.74	66.21
7062	J-3838	908.89	Forest	0.08	1061.95	66.22
576	J-330	899.87	Forest	0.88	1052.99	66.25
642	J-369	907.96	Forest	0.08	1061.12	66.27
4214	J-2254	911.75	Forest	0.48	1064.95	66.28

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
4962	J-2620	841.55	Forest	0.48	994.76	66.29
3313	J-1802	841.54	Forest	0.08	994.76	66.29
2024	J-1069	808.28	Lakes	0.37	961.56	66.32
3911	J-2123	906.52	Forest	0.48	1059.87	66.35
2004 4800	J-1057 J-2527	840.00 899.75	Lakes Forest	0.46 0.08	993.38 1053.16	66.36 66.37
2625	J-1413	828.00	Forest	1.08	981.47	66.40
5428	J-2888	899.59	Forest	0.08	1053.11	66.42
7724	J-4099	901.12	Forest	1.28	1054.67	66.43
3321 5755	J-1806 J-3076	911.39 906.05	Forest Forest	0.48 0.88	1064.94 1059.87	66.43 66.55
288	J-148	899.15	Forest	0.68	1052.99	66.56
2853	J-1546	899.02	Forest	1.08	1052.86	66.56
751	J-430	903.44	Forest	0.08	1057.34	66.58
1790	J-918	906.78	Forest	0.08	1060.74	66.61
3380 6374	J-1839 J-3436	900.24 897.65	Forest Forest	0.28 0.68	1054.24 1051.74	66.63 66.67
3467	J-1888	910.79	Forest	0.08	1064.88	66.67
569	J-325	907.78	Forest	0.68	1061.88	66.67
3574	J-1949	897.15	Forest	0.88	1051.40	66.73
2652 8487	J-1428 J-4195	827.22 899.91	Forest Forest	0.88 1.68	981.47 1054.20	66.74 66.75
2245	J-1199	836.93	Lakes	0.81	991.24	66.76
287	J-147	898.67	Forest	0.08	1052.99	66.76
2983	J-1608	910.46	Forest	0.48	1064.88	66.81
5385	J-2864	899.80	Forest	0.88	1054.26	66.82
7437 3804	J-4006 J-2071	906.45 896.63	Forest Forest	2.29 1.08	1061.12 1051.31	66.92 66.93
2799	J-1515	836.51	Lakes	1.24	991.26	66.95
3322	J-1807	910.17	Forest	0.28	1064.94	66.96
4010	J-2168	899.03	Forest	1.68	1053.81	66.97
498 5390	J-280 J-2867	909.73 898.05	Forest Forest	0.08 0.28	1064.61 1052.99	67.01 67.04
5390 5847	J-2867 J-3128	998.05 909.66	Forest	0.28	1052.99	67.04 67.04
5573	J-2970	896.42	Forest	0.88	1051.40	67.05
5386	J-2865	899.27	Forest	0.88	1054.26	67.05
6848	J-3715 J-1367	909.96 805.64	Forest Lakes	0.48 0.29	1064.95	67.06
2547 330	J-1367 J-174	897.94	Forest	0.29	960.64 1052.99	67.06 67.08
1986	J-1045	818.29	Lakes	0.37	973.48	67.14
5540	J-2951	896.59	Forest	1.28	1051.78	67.14
4798	J-2526	896.96	Forest	0.28	1052.28	67.20
86 1712	J-38 J-868	900.88 818.02	Forest Lakes	1.28 0.46	1056.21 973.48	67.20 67.26
5323	J-2827	909.49	Forest	1.28	1064.98	67.27
6506	J-3512	896.25	Forest	0.88	1051.81	67.30
3878	J-2107	896.21	Forest	1.08	1051.78	67.31
1694	J-856	898.64	Forest	0.08	1054.24	67.32
2250 636	J-1202 J-365	837.78 896.56	Lakes Forest	0.63 0.08	993.43 1052.28	67.34 67.37
2192	J-1168	900.46	Forest	0.88	1056.20	67.38
5322	J-2826	909.20	Forest	0.08	1064.98	67.40
6507	J-3513	896.03	Forest	0.28	1051.81	67.40
2269 3856	J-1213 J-2097	811.21 895.86	Lakes Forest	0.72 1.28	967.07 1051.74	67.43 67.44
1978	J-1040	909.02	Forest	0.48	1064.96	67.47
5654	J-3017	900.06	Forest	0.48	1056.20	67.55
2914	J-1577	837.08	Lakes	0.89	993.37	67.62
1908 1677	J-994 J-845	817.11 817.04	Lakes Lakes	0.20 0.20	973.48 973.48	67.65 67.68
6034	J-3232	908.41	Forest	0.28	1064.88	67.69
3535	J-1927	908.40	Forest	0.28	1064.88	67.70
5655	J-3018	899.72	Forest	0.48	1056.20	67.70
2143 7082	J-1137	898.52	Forest	0.68 0.08	1055.07	67.73 67.74
7082 2817	J-3850 J-1525	908.06 906.21	Forest Forest	0.08	1064.63 1062.79	67.74 67.74
919	J-510	908.05	Forest	0.08	1064.63	67.75
1912	J-997	908.26	Forest	1.68	1064.95	67.79
7511	J-4032	896.15	Forest	0.48	1052.86	67.80
1909 7975	J-995 J-4153	816.68 894.88	Lakes Forest	0.55 1.68	973.48 1051.79	67.84 67.89
1711	J-867	816.55	Lakes	0.81	973.48	67.89
2301	J-1233	834.22	Lakes	0.72	991.18	67.91
5402	J-2874	896.20	Forest	0.48	1053.18	67.92
2762	J-1493	803.66	Lakes	0.37	960.64	67.92
3456 808	J-1882 J-458	907.98 895.06	Forest Forest	0.08 0.08	1064.98 1052.11	67.93 67.95
808 6360	J-458 J-3428	905.73	Forest	1.28	1062.79	67.95 67.95
5838	J-3123	902.80	Forest	0.08	1059.87	67.96
87	J-39	899.07	Forest	1.48	1056.17	67.97
5401	J-2873	896.04	Forest	0.68	1053.18	67.98
129 2503	J-63 J-1343	907.81 907.75	Forest Forest	0.48 0.28	1064.98 1064.94	68.00 68.01
3303	J-1797	903.54	Forest	0.48	1064.94	68.01
2990	J-1612	907.75	Forest	0.88	1064.96	68.02
104	J-50	902.63	Forest	0.48	1059.87	68.03
4193	J-2247	894.41	Forest	1.88	1051.74	68.07
844 2653	J-476 J-1429	904.67 824.00	Forest Forest	0.48 0.88	1062.04 981.47	68.09 68.13
7510	J-4031	895.33	Forest	0.08	1052.86	68.16
7505	J-4029	894.50	Forest	4.32	1052.11	68.19
4568	J-2397	904.36	Forest	0.28	1062.04	68.22
3573	J-1948	893.68	Forest	0.48	1051.39	68.24
7219 5032	J-3920 J-2661	898.33 907.15	Forest Forest	0.08 0.68	1056.11 1064.97	68.26 68.28
2848	J-1543	905.19	Forest	0.68	1063.05	68.30
4432	J-2322	910.95	Lakes	1.15	1068.85	68.32
2298	J-1231	833.28	Lakes	0.89	991.26	68.35
2131	J-1129	898.03	Forest	0.68	1056.05	68.37

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10	Node	Node	Elevation	Pressure	Demand		Pressure	
2544 J-1365 S02.56 Lakes O.29 S90.64 G64.25 G84.1	ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)	
2544 J-1365 S02.56 Lakes O.29 S90.64 G64.25 G84.1	7218	J-3919	898.05	Forest	0.48	1056.11	68.38	
943 J-370 902.72 Forest 0.28 1051.24 98.53 1051.24 98.57	2544					960.64		
14	1879							
1,000 1,00								
5033 J-2682 906.44 Forest 1.08 106.39 989.88 88.09 1986 J-1026 834.75 Lukes 0.53 989.88 88.06 1987 J-1026 834.75 Lukes 0.52 190.94 88.61 537 J-386 880.67 Forest 0.28 190.24 88.62 537 J-386 880.67 Forest 0.28 190.21 88.62 527 J-1464 390.00 Forest 0.68 1062.27 86.62 523 J-386 88.62 Forest 0.68 1062.47 88.73 523 J-380 88.62 Forest 0.68 1062.27 86.73 7791 J-1414 88.30 90 Forest 0.88 1052.12 68.81 72128 J-127 80.23 Forest 0.88 1052.12 68.81 7791 J-286 80.62 Forest 0.88 1052.47 68.11	6306							
1956 1-1026 534.75 Lakes 0.37 993.34 68.81	5033							
93967 J-1597 B41-88 Lakes	1893							
2957 J-1597 814.88 Lakes 2.80 973.48 88.22 537 J-366 835.67 Forest 0.28 1052.27 88.82 537 J-366 835.67 Forest 0.28 1052.27 88.82 52129 J-1128 822.34 Lakes 0.55 991.18 68.72 52523 J-3355 996.29 Forest 0.68 1054.34 68.73 52522 J-1342 996.09 Forest 0.68 1054.34 68.73 52522 J-1342 996.09 Forest 0.68 1054.34 68.73 52523 J-1342 89.06.09 Forest 0.68 1054.34 68.73 52524 J-1444 893.09 Forest 0.68 1054.34 68.73 5252 J-1427 882.16 Lakes 0.72 991.19 68.81 5270 J-352 892.75 Forest 0.68 1056.47 68.81 5270 J-352 892.75 Forest 0.68 1056.47 68.81 5270 J-352 892.75 Forest 0.68 1056.47 68.81 52281 J-1607 834.05 Lakes 0.68 1056.47 68.81 52291 J-1607 834.05 Lakes 0.68 1056.47 68.81 52291 J-1607 834.05 Lakes 0.68 1056.47 68.81 52291 J-1607 834.05 Lakes 0.68 1056.47 68.81 52291 J-1608 891.80 Forest 0.68 1056.47 68.81 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.02 52291 J-1608 891.80 Forest 0.68 1056.60 69.03 52291 J-1608 891.80 Forest 0.68 1056.60 69.03 52291 J-1608 891.80 Forest 0.68 1056.60 69.03 52291 J-1608 891.80 Forest 0.68 1056.60 69.03 52291 J-1608 891.80 Forest 0.68 1056.60 69.03 52291 J-1608 891.80 Forest 0.68 1056.60 69.03 52291 J-1608 891.80 Forest 0.68 1056.60 69.03 52291 J-1608 891.80 Forest 0.68 1056.60 69.03 52291 J-1608 891.80 Forest 0.68 1056.60 69.03 52291 J-1608 891.80 Forest 0.68 1056.90 69.03 52291 J-1260 891.80 Forest 0.68 1056.90 69.03 52291 J-1260 891.80 Forest 0.68 1056.90 69.03 52291 J-1260 891.80 Forest 0.68 1056.90 69.03 52291 J-1260 891.80 Forest 0.68 1056.90 69.0								
1372 1366								
2712 J-1484 99.4.00 Forest 0.88 1062.85 68.73 6253 J-3365 89.9.62 Forest 0.48 1058.47 63.73 62502 J-1542 99.6.08 Forest 0.08 1064.94 68.73 62502 J-1542 99.6.08 Forest 0.08 1064.94 68.73 62502 J-1542 99.6.08 Forest 0.88 1052.12 68.73 12121 J-11127 82.21 61 Lakes 0.076 29.11 19 68.81 12121 J-1127 82.21 61 Lakes 0.076 29.11 19 68.81 12126 J-1527 99.00.56 Forest 0.08 10558.47 68.81 12126 J-1527 99.00.56 Forest 0.08 10558.47 68.22 12126 J-1507 834.05 Lakes 0.38 93.33 68.42 12126 J-1507 834.05 Lakes 0.38 93.33 68.42 12126 J-1507 834.05 Lakes 0.38 93.33 68.42 12126 J-1507 834.05 Lakes 0.38 93.33 68.42 12126 J-1507 834.05 Lakes 0.38 93.33 68.42 12126 J-1507 834.05 Lakes 0.38 93.33 68.42 12126 J-1507 834.05 Lakes 0.38 93.33 68.43 125 68.35 125 6	637							
25253 J-3365 899.62 Forest 0.48 1058.47 68.73 25262 J-1342 906.08 Forest 0.08 1064.94 68.73 27213 J-1322 832.16 Lukes 0.02 911.9 68.31 2737 J-3368 902.20 Forest 0.08 1061.24 68.81 277 J-29 900.59 Forest 0.08 1058.67 68.22 288H J-1607 834.05 Lukes 0.63 993.38 68.94 289H J-1616 831.85 Lukes 0.63 993.38 68.94 29899 J-1616 831.85 Lukes 3.32 991.25 68.96 27111 3.986 895.23 Forest 1.08 1066.02 69.96 27333 3.985.23 Forest 1.08 1066.02 69.05 27446 J-2234 886.42 Forest 1.08 1066.05 69.06 27445 J-2233	2129							
1965 1964 1965 1966 1966 1966 1966 1966 1967	2712							
1911								
1-12 1-12								
1296	2128							
1-29								
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6293 J-3388 895.35 Forest 1.28 1056.20 69.59 4818 J-2536 891.46 Forest 0.08 1052.32 69.60 6893 J-3742 891.20 Forest 0.08 1052.06 69.60 6903 J-3748 899.86 Forest 0.08 1062.74 69.61 1165 J-612 892.00 Forest 0.08 1052.99 69.65 6137 J-3295 892.00 Forest 0.88 1052.99 69.65 5140 J-2710 892.06 Forest 0.88 1052.99 69.65 5466 J-2910 903.91 Forest 0.88 1053.07 69.66 5466 J-2910 903.91 Forest 0.68 1064.93 69.67 478 J-268 891.11 Forest 0.48 1056.92 69.74 478 J-268 891.11 Forest 0.08 1052.32 69.75 2227	7213							
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478 J-268 891.11 Forest 0.08 1052.32 69.75 7289 J-3952 895.71 Forest 0.48 1056.92 69.75 2227 J-1189 805.85 Lakes 0.20 967.07 69.75 2887 J-1564 903.69 Forest 0.88 1053.48 69.76 28890 J-1566 892.23 Forest 0.88 1053.48 69.77 5891 J-3152 897.50 Forest 0.08 1058.78 69.78 5449 J-2299 903.56 Forest 0.68 1052.09 69.81 5465 J-2909 903.56 Forest 0.68 1064.93 69.82 6892 J-3741 890.53 Forest 0.08 1064.94 69.93 5421 J-2884 90.32 Forest 0.08 1064.94 69.93 5421 J-2811 891.34 Forest 1.08 1052.09 69.97 5121	3980	J-2154	890.68	Forest	0.48	1051.73	69.68	
J2389 J3952 895.71 Forest 0.48 1056.92 69.75 22227 J-1189 805.85 Lakes 0.20 967.07 69.75 2287 J-1564 903.69 Forest 0.88 1064.94 69.76 2890 J-1566 892.23 Forest 0.88 1053.48 69.77 5891 J-3152 897.50 Forest 0.08 1058.78 69.78 4349 J-2295 890.74 Forest 1.08 1052.09 69.81 5465 J-2909 903.56 Forest 0.68 1064.93 69.81 5421 J-2884 903.32 Forest 0.08 1064.94 69.93 5621 J-22884 903.32 Forest 0.08 1064.94 69.93 56121 J-2711 891.34 Forest 0.28 1055.07 69.97 2213 J-1180 831.62 Lakes 0.72 993.42 70.00 2374	7288							
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5465 J-2909 903.56 Forest 0.68 1064.93 69.82 68892 J-3741 890.53 Forest 2.09 1052.06 69.89 5421 J-2884 903.32 Forest 0.08 1064.94 69.93 6481 J-3498 890.37 Forest 1.08 1052.09 69.97 5121 J-2711 891.34 Forest 0.28 1053.07 69.97 2213 J-1180 831.62 Lakes 0.72 993.42 70.00 6880 J-3616 894.87 Forest 0.28 1056.76 70.04 2374 J-1274 903.01 Forest 0.28 1056.76 70.04 3649 J-1990 832.49 Forest 0.28 194.76 70.21 4950 J-2613 900.15 Forest 1.08 1062.43 70.21 1523 J-759 896.50 Forest 0.08 1058.78 70.21 3517	5891							
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2213 J-1180 831.62 Lakes 0.72 993.42 70.00 6680 J-3616 894.87 Forest 0.08 1056.76 70.04 2374 J-1274 903.01 Forest 0.28 1064.94 70.06 3649 J-1990 832.49 Forest 0.28 194.76 70.21 4950 J-2613 900.15 Forest 1.08 1062.43 70.21 1523 J-759 896.50 Forest 0.08 1058.78 70.21 3517 J-1918 890.34 Forest 0.08 1052.64 70.22 319 J-167 898.88 Forest 0.08 1052.32 70.28 3255 J-588 894.19 Forest 0.08 1056.76 70.34 3683 J-2008 897.29 Forest 0.68 1059.86 70.34 4035 J-562 899.83 Forest 0.08 1062.43 70.35 6941	6481							
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1523 J-759 896.50 Forest 0.08 1058.78 70.21 3517 J-1918 890.34 Forest 0.88 1052.64 70.22 319 J-167 898.88 Forest 0.08 1052.32 70.28 1355 J-888 894.19 Forest 0.08 1056.76 70.34 3683 J-2008 897.29 Forest 0.68 1059.86 70.34 1035 J-562 899.83 Forest 0.08 1062.43 70.35 6941 J-3770 900.88 Forest 0.08 1063.48 70.35 2187 J-1165 856.69 Lakes 0.72 1019.31 70.36	3649							
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6941 J-3770 900.88 Forest 0.08 1063.48 70.35 2187 J-1165 856.69 Lakes 0.72 1019.31 70.36								
2187 J-1165 856.69 Lakes 0.72 1019.31 70.36	1035 6941							
6074 L3788 Q01 QQ Forest 0.09 1064 69 70.97	2187	J-1165	856.69	Lakes	0.72	1019.31	70.36	
0.00 001.00 1004.03 /0.3/	6974	J-3788	901.99	Forest	80.0	1064.63	70.37	

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure	
ID	Label	(ft)	Zone	(gpm)	fft)	(psi)	
4227 2764	J-2258 J-1494	899.88 889.85	Forest Forest	0.08 0.68	1062.55 1052.52	70.38 70.38	
73	J-30	897.18	Forest	0.28	1059.87	70.39	
3301	J-1796	898.02	Forest	0.48	1060.74	70.40	
6460	J-3486	889.31	Forest	0.68	1052.03	70.40	
2132 753	J-1130 J-431	893.30 889.34	Forest Forest	0.88 0.08	1056.05 1052.12	70.42 70.43	
4261	J-2268	900.35	Forest	0.08	1063.13	70.43	
3235	J-1756	889.22	Forest	2.09	1052.03	70.44	
318	J-166	889.49	Forest	0.28	1052.32	70.45	
5430	J-2889	889.78	Forest	0.48	1052.64	70.46	
5082 1139	J-2690 J-602	889.22 900.49	Forest Forest	0.48 0.08	1052.12 1063.48	70.48 70.52	
7622	J-4070	889.82	Forest	0.28	1052.86	70.54	
8536	J-4218	911.94	Forest	0.08	1075.00	70.55	
7463	J-4015	889.76	Forest	0.88	1052.86	70.56	
8483	J-4193	889.17	Forest	0.48	1052.27	70.57	
1422 3407	J-710 J-1853	889.68 901.82	Forest Forest	0.08 0.08	1052.80 1064.98	70.57 70.59	
265	J-133	901.42	Forest	0.08	1064.63	70.59	
3935	J-2135	899.33	Forest	0.08	1062.55	70.62	
5700	J-3044	889.13	Forest	0.48	1052.36	70.62	
264	J-132	901.30	Forest	0.08	1064.63	70.67	
1791	J-919	897.35	Forest	0.88	1060.74	70.69	
3234 3024	J-1755 J-1626	888.49 889.38	Forest Forest	0.08 3.69	1052.03 1052.92	70.75 70.76	
3436	J-1870	817.90	Forest	1.88	981.47	70.77	
6908	J-3751	893.75	Forest	0.88	1057.33	70.78	
7852	J-4131	888.00	Forest	0.68	1051.80	70.87	
7038	J-3825	901.12	Forest	0.08	1064.94	70.88	
1208 6215	J-633 J-3341	893.48 889.01	Forest Forest	0.28 1.68	1057.33 1052.86	70.89 70.89	
8467	J-4185	796.75	Lakes	0.20	960.64	70.89	
5699	J-3043	888.42	Forest	0.08	1052.36	70.93	
103	J-49	895.74	Forest	1.28	1059.87	71.01	
1876	J-974	896.60	Forest	0.48	1060.74	71.02	
3926 6950	J-2130 J-3775	887.55 888.34	Forest Forest	0.88 0.08	1051.79 1052.64	71.06 71.09	
5767	J-3083	891.73	Forest	0.08	1052.04	71.09	
5108	J-2704	889.81	Forest	0.48	1054.25	71.15	
3039	J-1635	817.00	Forest	0.28	981.47	71.16	
3038	J-1634	816.93	Forest	0.08	981.47	71.19	
6216	J-3342	888.29	Forest	0.08	1052.86	71.20	
3784 490	J-2061 J-275	900.39 887.51	Forest Forest	0.68 0.08	1064.98 1052.13	71.21 71.22	
2545	J-1366	796.00	Lakes	0.20	960.64	71.23	
3952	J-2142	891.49	Forest	1.08	1056.17	71.25	
747	J-428	892.64	Forest	0.28	1057.34	71.26	
1159	J-610	888.00	Forest	0.48	1052.71	71.26	
194 3287	J-92 J-1788	896.00 895.93	Forest Forest	0.08 0.08	1060.74 1060.74	71.28 71.31	
203	J-94	892.00	Forest	1.28	1056.83	71.31	
7397	J-3992	887.93	Forest	9.60	1052.80	71.33	
3539	J-1929	887.93	Forest	0.08	1052.80	71.33	
489	J-274	887.22	Forest	0.48	1052.13	71.35	
1495 6782	J-748 J-3676	888.00 887.54	Forest Forest	0.08 0.08	1053.06 1052.71	71.41 71.46	
373	J-202	1053.81	Lakes	0.20	1219.00	71.46	
2570	J-1380	816.24	Forest	0.08	981.47	71.49	
4196	J-2248	887.40	Forest	0.28	1052.64	71.49	
4263	J-2269	890.92	Forest	0.28	1056.17	71.50	
2202 693	J-1174 J-399	828.07 1053.69	Lakes Lakes	0.37 0.20	993.37 1219.00	71.52 71.52	
1470	J-737	887.57	Forest	0.28	1052.88	71.52	
1992	J-1049	828.00	Lakes	0.46	993.32	71.53	
2117	J-1120	828.00	Lakes	0.55	993.32	71.53	
7671	J-4084	890.86	Forest	2.49	1056.20	71.53	
406 372	J-223 J-201	899.27 1053.63	Forest Lakes	0.08 0.20	1064.61 1219.00	71.54 71.55	
6984	J-3794	816.09	Forest	0.68	981.47	71.55	
5581	J-2974	895.36	Forest	1.28	1060.74	71.55	
5065	J-2681	816.08	Forest	2.09	981.48	71.56	
3552	J-1936	816.07	Forest	0.28	981.48	71.56	
1976 3319	J-1039 J-1805	801.63 895.28	Lakes Forest	0.46 0.08	967.07 1060.74	71.58 71.59	
2020	J-1805 J-1067	895.28 857.41	Forest Lakes	0.08	1060.74	71.59 71.60	
1896	J-987	885.68	Forest	2.09	1051.17	71.60	
4494	J-2354	815.94	Forest	0.08	981.47	71.62	
407	J-224	899.06	Forest	0.08	1064.61	71.63	
5189	J-2749	887.32	Forest	0.08	1052.88	71.63	
4808 3630	J-2531 J-1979	899.03 885.66	Forest Forest	0.08 0.88	1064.61 1051.35	71.64 71.69	
5949	J-1979 J-3185	1053.25	Forest Lakes	0.88	1051.35	71.69 71.71	
1914	J-998	888.46	Forest	1.28	1054.25	71.73	
4980	J-2630	887.00	Forest	0.08	1052.80	71.73	
3111	J-1681	887.00	Forest	0.08	1052.80	71.73	
6802	J-3688	885.91	Forest	1.88	1051.74	71.75	
6160 5745	J-3308 J-3070	886.26 887.12	Forest Forest	1.28 0.08	1052.12 1052.99	71.76 71.76	
5299	J-2812	887.16	Forest	0.08	1053.03	71.77	
3112	J-1682	886.89	Forest	0.08	1052.80	71.78	
7986	J-4156	889.39	Forest	2.09	1055.31	71.78	
3252	J-1767	887.01	Forest	0.68	1053.03	71.83	
3697 6161	J-2017 J-3309	891.55 886.03	Forest Forest	0.08 0.88	1057.60 1052.12	71.84 71.86	
5300	J-2813	886.93	Forest	1.28	1052.12	71.87	
2160	J-1147	885.11	Forest	0.88	1051.23	71.88	
5746	J-3071	886.85	Forest	0.08	1052.99	71.88	
250	J-123	886.84	Forest	0.48	1053.02	71.90	

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
2851	J-1545	896.81	Forest	0.68	1063.05	71.93
2665	J-1435	885.66	Forest	1.08	1051.96	71.95
5060 6095	J-2678 J-3270	886.49 892.50	Forest Forest	0.08 0.08	1052.80 1058.82	71.95 71.96
249	J-122	886.68	Forest	0.08	1053.02	71.96
3408	J-1854	898.62	Forest	0.28	1064.98	71.98
3251 3476	J-1766 J-1894	886.59 886.20	Forest Forest	0.68 0.48	1053.03 1052.64	72.01 72.01
6210	J-3338	892.23	Forest	0.28	1058.74	72.04
5714	J-3052	884.85	Forest	0.08	1051.35	72.04
1673 2325	J-842 J-1247	826.77 824.50	Lakes Lakes	0.46 0.55	993.42 991.22	72.10 72.13
3108	J-1679	886.03	Forest	0.08	1052.80	72.15
1163	J-611	886.18 898.08	Forest Forest	0.48	1052.99	72.17
1868 1895	J-969 J-986	884.36	Forest	1.28 0.08	1064.92 1051.21	72.18 72.19
1522	J-758	891.87	Forest	0.28	1058.74	72.20
3109 6192	J-1680 J-3327	885.93 885.99	Forest Forest	0.08 0.48	1052.80 1052.86	72.20 72.20
5051	J-2673	886.12	Forest	0.48	1052.99	72.20
6956	J-3778	898.10	Forest	0.68	1064.98	72.20
5210 6191	J-2760 J-3326	886.13 885.96	Forest Forest	0.28 0.08	1053.02 1052.86	72.21 72.21
6504	J-3511	885.74	Forest	0.68	1052.64	72.21
4439	J-2324	886.03	Forest	0.88	1052.99	72.24
3023 2097	J-1625 J-1107	886.00 824.22	Forest Lakes	3.89 0.72	1052.99 991.24	72.25 72.26
1975	J-1038	800.00	Lakes	0.20	967.07	72.28
4573	J-2400	885.86	Forest	1.08	1052.99	72.31
3930 2151	J-2133 J-1142	884.57 814.29	Forest Forest	1.28 0.28	1051.73 981.47	72.32 72.33
6939	J-3769	886.77	Forest	0.88	1053.99	72.35
1505	J-750	891.56	Forest	0.08	1058.82	72.37
6442 1925	J-3476 J-1005	884.43 894.61	Forest Forest	0.68 0.68	1051.76 1061.95	72.40 72.40
7329	J-3966	885.64	Forest	0.88	1052.99	72.41
4267	J-2270	884.34	Forest	1.08	1051.74	72.42
1185 8504	J-620 J-4205	907.56 897.51	Forest Forest	0.08 0.28	1075.00 1064.98	72.44 72.46
2278	J-1219	825.91	Lakes	0.72	993.42	72.48
126	J-61	894.24	Forest	0.48	1061.76	72.48
5472 2234	J-2913 J-1193	892.34 885.06	Forest Forest	0.08 0.48	1059.86 1052.64	72.48 72.50
4027	J-2175	884.52	Forest	1.08	1052.12	72.51
2694	J-1452	823.48	Lakes	0.37	991.16	72.54
3458 6767	J-1883 J-3667	892.14 884.31	Forest Forest	0.08 0.48	1059.86 1052.09	72.57 72.59
1929	J-1008	825.55	Lakes	0.29	993.34	72.60
3083	J-1663	897.10	Forest	1.08	1064.98	72.63
6288 2027	J-3385 J-1071	893.85 823.18	Forest Lakes	0.08 0.55	1061.76 991.15	72.65 72.67
393	J-215	886.58	Forest	0.48	1054.67	72.73
2005	J-1058	825.25	Lakes	0.72	993.37	72.74
8534 3084	J-4217 J-1664	906.87 896.70	Forest Forest	0.08 0.08	1075.00 1064.98	72.74 72.81
3885	J-2111	885.71	Forest	0.48	1053.99	72.81
302	J-156	883.74	Forest	0.28	1052.03	72.81
1206 3596	J-632 J-1962	888.31 884.47	Forest Forest	0.88 1.28	1056.76 1052.96	72.88 72.89
5354	J-2845	886.18	Forest	0.28	1054.67	72.90
398 2220	J-218	888.85	Forest	0.48	1057.42	72.93
6531	J-1185 J-3527	824.79 887.53	Lakes Forest	0.89 0.48	993.42 1056.20	72.96 72.98
4188	J-2245	882.61	Forest	1.48	1051.28	72.98
392	J-214	885.98	Forest	0.08	1054.67	72.99
3850 2868	J-2094 J-1554	884.00 812.71	Forest Forest	0.08 1.28	1052.74 981.48	73.00 73.02
279	J-142	883.49	Forest	0.28	1052.27	73.02
907 5734	J-507 J-3064	883.47 883.94	Forest Forest	0.08 0.28	1052.26 1052.74	73.03 73.03
4120	J-2216	882.95	Forest	0.88	1051.76	73.04
1228	J-642	887.92	Forest	0.08	1056.74	73.04
397 6553	J-217 J-3540	888.54 883.24	Forest Forest	0.28 1.68	1057.42 1052.12	73.06 73.06
3551	J-1935	812.56	Forest	0.88	981.48	73.08
1066	J-576	896.00	Forest	0.08	1064.93	73.09
7241 5099	J-3930 J-2699	896.00 884.00	Forest Forest	0.88 0.48	1064.93 1052.93	73.09 73.09
278	J-141	883.34	Forest	0.68	1052.27	73.09
3898	J-2117	884.00	Forest	1.08	1052.96	73.10
3475 4836	J-1893 J-2547	883.66 883.21	Forest Forest	0.28 0.08	1052.64 1052.26	73.11 73.14
6864	J-3724	887.69	Forest	0.28	1056.76	73.14
1492	J-747	883.84	Forest	0.88	1052.93	73.16
5232 6554	J-2774 J-3541	887.61 882.92	Forest Forest	0.08 0.28	1056.74 1052.12	73.18 73.21
884	J-497	883.13	Forest	0.28	1052.12	73.21
1801	J-925	812.19	Forest	0.48	981.47	73.24
6078 667	J-3260 J-385	891.83 891.81	Forest Forest	0.08 0.48	1061.12 1061.12	73.24 73.25
4268	J-2271	882.42	Forest	1.68	1051.74	73.26
3359	J-1828	882.74	Forest	0.48	1052.09	73.27
4640 3733	J-2439 J-2037	812.09 812.06	Forest Forest	0.48 1.08	981.48 981.47	73.29 73.29
3360	J-1829	882.50	Forest	0.68	1052.09	73.29
3510	J-1914	811.88	Forest	0.48	981.48	73.37
301 4670	J-155 J-2455	882.42 883.38	Forest Forest	0.08 0.08	1052.03 1053.02	73.38 73.39
7235	J-3928	883.90	Forest	0.08	1053.58	73.41

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
1734	J-882	821.35	Lakes	0.46	991.15	73.47
6530	J-3526	886.39	Forest	0.48	1056.20	73.47
432	J-240	884.82	Forest	0.48	1054.67	73.49
7448	J-4008	882.26	Forest Forest	1.68	1052.12	73.49
4915 4916	J-2592 J-2593	882.37 882.36	Forest	0.88 0.28	1052.24 1052.24	73.49 73.50
1425	J-712	883.14	Forest	0.88	1053.02	73.50
3511	J-1915	811.57	Forest	0.48	981.48	73.51
7784	J-4116	887.32	Forest	0.28	1057.28	73.53
475 1441	J-266 J-722	892.56 882.74	Forest Forest	0.68 0.08	1062.55 1052.84	73.55 73.59
3561	J-1942	894.86	Forest	0.48	1064.98	73.60
5997	J-3211	882.05	Forest	0.68	1052.25	73.64
2012	J-1062	823.11	Lakes	0.89	993.34	73.65
1938 5080	J-1014 J-2689	823.03 882.54	Lakes Forest	0.72 0.08	993.32 1052.84	73.67 73.68
2175	J-1157	889.54	Forest	0.48	1059.86	73.69
1026	J-558	882.61	Forest	0.08	1053.01	73.72
2738	J-1479	882.12	Forest	3.09	1052.54	73.73
7234 1046	J-3927	883.15 881.73	Forest Forest	0.28 1.08	1053.58 1052.17	73.73 73.74
4623	J-568 J-2429	882.56	Forest	0.08	1052.17	73.74
5532	J-2947	894.40	Forest	0.08	1064.93	73.78
6240	J-3357	881.59	Forest	0.48	1052.12	73.78
1408	J-702	882.43	Forest	0.68	1053.01	73.80
3981 3772	J-2155	881.14 880.58	Forest Forest	1.08 2.29	1051.73 1051.31	73.81
895	J-2056 J-502	894.18	Forest	0.08	1064.93	73.87 73.88
3424	J-1863	894.14	Forest	0.28	1064.98	73.92
476	J-267	891.71	Forest	0.88	1062.56	73.92
2987	J-1610 J-3301	882.10	Forest	1.08	1052.99	73.93 73.95
6148 3537	J-3301 J-1928	894.04 882.13	Forest Forest	0.48 0.28	1064.96 1053.06	73.95 73.95
7497	J-4027	881.93	Forest	0.88	1052.86	73.95
6239	J-3356	881.18	Forest	0.48	1052.12	73.96
8527	J-4215	851.94	Lakes	0.72	1022.90	73.97
5335 2311	J-2834 J-1239	891.58 881.63	Forest Forest	0.08 1.48	1062.56 1052.64	73.97 73.99
1735	J-1239 J-883	820.14	Lakes	0.29	991.15	73.99
1999	J-1054	822.34	Lakes	0.55	993.37	73.99
2214	J-1181	822.35	Lakes	0.72	993.42	74.01
3699	J-2018	893.82	Forest	0.08	1064.96	74.04
2375 6589	J-1275 J-3562	893.74 880.84	Forest Forest	0.48 0.08	1064.94 1052.17	74.07 74.13
1802	J-926	810.12	Forest	0.28	981.47	74.14
608	J-348	882.85	Forest	80.0	1054.27	74.16
3896	J-2116	893.44	Forest	0.88	1064.93	74.20
6989 1674	J-3797 J-843	882.09 821.89	Forest Lakes	0.68 0.20	1053.61 993.42	74.21 74.21
6780	J-3675	880.20	Forest	1.88	1051.73	74.22
8517	J-4210	880.47	Forest	0.48	1052.07	74.24
2490	J-1336	881.41	Forest	3.88	1053.01	74.24
7094	J-3856	885.72	Forest	0.88	1057.34	74.25
7343 6814	J-3972 J-3695	885.23 886.93	Forest Forest	0.08 0.28	1056.92 1058.69	74.28 74.31
6153	J-3304	879.93	Forest	0.68	1051.76	74.34
7342	J-3971	885.01	Forest	80.0	1056.92	74.38
4953	J-2615	879.18 970.75	Forest	80.0	1051.10	74.38
6779 5208	J-3674 J-2759	879.75 892.93	Forest Forest	0.08 0.88	1051.73 1064.93	74.41 74.42
4579	J-2404	880.06	Forest	1.08	1052.06	74.42
4578	J-2403	879.98	Forest	0.68	1052.06	74.45
5016	J-2651	879.87	Forest	0.08	1052.03	74.49
5338 894	J-2836 J-501	883.13 892.66	Forest Forest	0.48 0.48	1055.31 1064.93	74.49 74.53
894 6988	J-501 J-3796	892.66 881.34	Forest	2.09	1064.93	74.53 74.53
897	J-503	879.94	Forest	0.28	1052.25	74.55
1915	J-999	881.88	Forest	0.68	1054.24	74.57
995	J-545	879.87	Forest	0.48	1052.31	74.61
3754 127	J-2048 J-62	879.31 889.19	Forest Forest	1.28 1.28	1051.76 1061.63	74.61 74.61
1526	J-760	886.24	Forest	0.08	1058.69	74.61
580	J-332	879.58	Forest	80.0	1052.03	74.61
3073	J-1657	892.47	Forest	1.28	1064.93	74.62
1619	J-809	878.81	Forest	0.68	1051.39	74.67
3076 5791	J-1659 J-3096	892.28 879.65	Forest Forest	0.08 1.48	1064.93 1052.31	74.70 74.70
5337	J-2835	882.63	Forest	0.88	1055.31	74.71
3074	J-1658	892.22	Forest	1.08	1064.93	74.72
6026	J-3227	884.19	Forest	0.28	1056.92	74.73
542 1979	J-308 J-1041	892.19 892.15	Forest Forest	0.48 0.68	1064.94 1064.95	74.74 74.76
1440	J-721	880.02	Forest	0.08	1052.85	74.76
1616	J-807	878.36	Forest	0.88	1051.36	74.85
6027	J-3228	883.84	Forest	0.48	1056.92	74.89
6044	J-3238	891.72	Forest	0.68	1064.94	74.95
7029 6213	J-3820 J-3340	885.28 879.54	Forest Forest	0.48 1.08	1058.52 1052.87	74.95 74.99
2219	J-3340 J-1184	820.03	Lakes	0.72	993.41	74.99 75.01
6572	J-3552	880.00	Forest	0.08	1053.48	75.06
6573	J-3553	880.00	Forest	1.68	1053.48	75.06
3152	J-1706	888.68	Forest	0.28	1062.17	75.06
4952 4586	J-2614 J-2408	877.59 879.46	Forest Forest	1.28 0.48	1051.10 1052.97	75.07 75.07
2940	J-1589	849.34	Lakes	0.48	1032.97	75.07
3786	J-2062	878.18	Forest	0.28	1051.77	75.10
1620	J-810	877.76	Forest	0.08	1051.39	75.12
50 1770	J-15 J-911	881.44 977.56	Forest	0.08	1055.07	75.12 75.13
1779	J-811	877.56	Forest	0.48	1051.21	10.13

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
5496	J-2926	891.31	Forest	0.28	1064.97	75.13
1780	J-2926 J-912	877.46	Forest	1.68	1054.97	75.13 75.17
6212	J-3339	879.10	Forest	0.88	1052.87	75.18
1480	J-742	879.15	Forest	0.48	1052.97	75.20
6045	J-3239	891.10	Forest	0.28	1064.94	75.21
453 6550	J-253 J-3538	888.32 877.76	Forest Forest	0.28 1.68	1062.17 1051.76	75.22 75.28
343	J-182	883.32	Forest	0.08	1057.34	75.29
344	J-183	883.23	Forest	80.0	1057.34	75.33
2292	J-1227	890.85	Forest	0.28	1064.97	75.33
95 3597	J-44 J-1963	884.30 878.70	Forest Forest	1.08 0.68	1058.52	75.38 75.39
607	J-347	879.98	Forest	0.28	1052.96 1054.25	75.40
4761	J-2505	878.62	Forest	0.48	1052.96	75.43
6551	J-3539	877.40	Forest	0.68	1051.76	75.44
2616	J-1407	878.13	Forest	0.48	1052.54	75.46
1920 5663	J-1002 J-3023	879.73 878.47	Forest Forest	0.48 1.08	1054.24 1052.98	75.50 75.50
1617	J-808	876.74	Forest	0.68	1051.36	75.55
51	J-16	880.42	Forest	0.08	1055.08	75.57
2818	J-1526	888.12	Forest	0.68	1062.79	75.57
4747	J-2498	890.19	Forest	1.08	1064.93	75.60
4168 2240	J-2237 J-1196	820.00	Forest Forest	1.48 0.48	994.76	75.61
3652	J-1196 J-1992	877.37 876.95	Forest	0.48	1052.13 1051.76	75.61 75.64
4019	J-2171	890.09	Forest	0.88	1064.93	75.65
4880	J-2572	878.00	Forest	80.0	1052.85	75.65
4879	J-2571	877.98	Forest	0.08	1052.85	75.66
6355	J-3425	884.86	Forest	0.28	1059.76	75.67
7237 5617	J-3929 J-2995	878.08 884.59	Forest Forest	0.68 0.88	1053.01 1059.58	75.68 75.71
4230	J-2259	884.76	Forest	1.68	1059.76	75.71
3164	J-1713	876.20	Forest	0.08	1051.21	75.72
4782	J-2517	876.12	Forest	0.48	1051.21	75.75
4909	J-2589	876.64	Forest	0.68	1051.76	75.77
6637 4246	J-3591 J-2263	883.69 877.31	Forest Forest	0.08 1.08	1058.85 1052.72	75.78 75.89
6356	J-3426	884.35	Forest	0.68	1052.72	75.89
472	J-264	877.56	Forest	0.08	1053.01	75.91
2678	J-1443	878.46	Forest	1.28	1053.92	75.91
3279	J-1784	876.90	Forest	0.28	1052.37	75.92
5072 6859	J-2685 J-3721	886.70 877.49	Forest Forest	0.08 0.08	1062.19 1052.99	75.93 75.93
5418	J-2882	877.49 877.88	Forest	0.08	1052.99	75.93 75.93
5634	J-3005	879.55	Forest	0.08	1055.08	75.95
452	J-252	886.58	Forest	0.48	1062.19	75.98
5408	J-2877	877.09	Forest	0.68	1052.72	75.99
6635 5236	J-3590 J-2776	875.67 877.61	Forest Forest	0.28 0.88	1051.31 1053.28	75.99 76.00
561	J-320	876.52	Forest	0.88	1053.28	76.00
3753	J-2047	876.00	Forest	1.08	1051.76	76.04
5536	J-2949	877.91	Forest	0.28	1053.70	76.06
4190	J-2246	883.71	Forest	1.68	1059.58	76.09
1506 1873	J-751	882.96 846.90	Forest Lakes	0.08	1058.85	76.10 76.13
1873 5419	J-972 J-2883	846.90 877.41	Forest	1.34 0.48	1022.87 1053.38	76.13 76.14
5780	J-3090	888.87	Forest	0.08	1064.91	76.17
5237	J-2777	877.21	Forest	0.68	1053.28	76.18
4999	J-2642	886.74	Forest	0.48	1062.81	76.18
285	J-146	876.08	Forest	0.08	1052.20	76.20
5781 284	J-3091 J-145	888.79 876.06	Forest Forest	0.08 0.08	1064.91 1052.20	76.20 76.21
1474	J-739	876.17	Forest	0.08	1052.35	76.22
3810	J-2074	877.51	Forest	1.28	1053.70	76.23
4998	J-2641	886.61	Forest	0.48	1062.81	76.23
3943	J-2138	888.71	Forest	1.28	1064.94	76.25
3765	J-2052	881.09 975.76	Forest	0.48 0.08	1057.34	76.26
4642 3278	J-2440 J-1783	875.76 876.05	Forest Forest	0.08	1052.06 1052.37	76.28 76.28
7617	J-4068	878.99	Forest	0.48	1055.31	76.28
3276	J-1782	874.99	Forest	0.48	1051.31	76.29
3795	J-2067	876.64	Forest	0.88	1052.98	76.29
3131	J-1693	877.86	Forest	0.48	1054.24	76.31
473 1963	J-265 J-1030	876.56 877.79	Forest Forest	0.28 0.08	1053.01 1054.24	76.34 76.34
3401	J-1850	888.51	Forest	0.08	1054.24	76.34 76.34
1898	J-988	874.78	Forest	2.09	1051.25	76.35
6497	J-3507	875.69	Forest	0.08	1052.19	76.37
7900	J-4141	878.80	Forest	0.88	1055.31	76.37
4866	J-2564	875.16 975.43	Forest	0.48	1051.73	76.39
4589 5555	J-2410 J-2959	875.43 880.18	Forest Forest	0.08 1.28	1052.00 1056.76	76.39 76.40
744	J-2959 J-426	875.48	Forest	0.08	1056.76	76.40
5490	J-2923	875.74	Forest	0.68	1052.35	76.41
5167	J-2737	875.92	Forest	80.0	1052.54	76.42
5168	J-2738	875.87	Forest	0.08	1052.54	76.44
4588	J-2409	875.33 875.02	Forest	0.48	1052.00	76.44 76.45
3156 1460	J-1708 J-732	875.02 876.00	Forest Forest	0.08 0.08	1051.73 1052.74	76.45 76.47
950	J-524	875.21	Forest	0.08	1052.74	76.47
1146	J-606	880.00	Forest	0.48	1056.76	76.48
3157	J-1709	874.97	Forest	0.68	1051.73	76.48
7376	J-3983	876.06	Forest	0.48	1052.85	76.49
6427	J-3467	888.10 976.01	Forest	0.08	1064.98	76.53 76.53
5538 4392	J-2950 J-2310	876.91 885.88	Forest Forest	0.48 1.48	1053.81 1062.81	76.53 76.55
1984	J-1044	888.00	Forest	0.08	1064.93	76.55
3399	J-1849	888.00	Forest	0.48	1064.93	76.55
4960	J-2619	888.00	Forest	0.48	1064.93	76.55

					Calculated	
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
543	J-309	888.00	Forest	0.08	1064.94	76.55
5463 6255	J-2908 J-3366	887.95 876.00	Forest Forest	1.68 0.68	1064.93 1053.00	76.57 76.58
6256	J-3367	876.00	Forest	0.28	1053.00	76.58
1033 5143	J-561 J-2723	876.00	Forest Forest	0.68 0.08	1053.00	76.58
5143	J-2723 J-2743	877.23 875.99	Forest	0.08	1054.24 1053.01	76.58 76.59
4740	J-2494	884.63	Forest	0.48	1061.67	76.60
872	J-490	877.14	Forest	0.08	1054.20	76.60
3295 796	J-1793 J-452	877.14 884.56	Forest Forest	0.88 0.48	1054.24 1061.67	76.62 76.63
7143	J-3883	887.80	Forest	0.48	1064.91	76.63
7144	J-3884	887.79	Forest	0.08	1064.91	76.63
2527 3275	J-1356 J-1781	875.20 874.11	Forest Forest	0.48 1.28	1052.40 1051.31	76.66 76.67
5462	J-2907	887.69	Forest	0.88	1064.93	76.68
5731	J-3062	880.00	Forest	0.68	1057.28	76.70
5732 4296	J-3063 J-2280	880.00 880.04	Forest Forest	0.68 0.28	1057.28	76.70
67	J-2260 J-26	881.10	Forest	0.08	1057.33 1058.41	76.71 76.71
1547	J-768	1041.60	Lakes	0.20	1218.96	76.74
7692	J-4089	879.92	Forest	0.48	1057.28	76.74
4370 3369	J-2302 J-1833	875.60 875.76	Forest Forest	0.08 1.68	1052.99 1053.16	76.75 76.75
1419	J-708	874.92	Forest	0.28	1052.40	76.79
3676	J-2004	874.28	Forest	0.88	1051.76	76.79
1877 2629	J-975 J-1414	883.23 876.24	Forest Forest	1.48 0.48	1060.72 1053.81	76.79 76.82
6812	J-3694	873.66	Forest	1.68	1053.61	76.83
6426	J-3466	887.39	Forest	0.08	1064.98	76.83
2529	J-1357	874.39	Forest	0.08	1051.99	76.84
666 614	J-384 J-352	883.49 874.39	Forest Forest	0.28 0.28	1061.12 1052.07	76.85 76.87
4845	J-2552	875.30	Forest	1.08	1053.04	76.90
4301	J-2283	874.17	Forest	0.28	1052.03	76.95
6948 1867	J-3774 J-968	874.50 887.00	Forest Forest	0.28 0.88	1052.40 1064.93	76.97 76.98
66	J-25	880.41	Forest	0.08	1058.41	77.01
3651	J-1991	873.74	Forest	1.28	1051.76	77.02
5450	J-2900	875.98	Forest	0.08	1054.02	77.03
3560 2530	J-1941 J-1358	886.91 873.92	Forest Forest	0.08 0.48	1064.98 1051.99	77.04 77.05
5929	J-3173	1040.88	Lakes	0.20	1218.96	77.05
1234	J-646	896.91	Forest	0.08	1075.00	77.05
2030 4112	J-1073 J-2212	695.68 883.25	Forest Forest	0.08 1.48	873.78 1061.38	77.06 77.07
6598	J-3567	873.61	Forest	0.48	1051.76	77.08
5359	J-2848	877.12	Forest	0.08	1055.31	77.10
8064	J-4164	876.45	Forest	1.28	1054.67	77.11
1041 4846	J-565 J-2553	874.68 874.75	Forest Forest	0.08 1.28	1052.95 1053.04	77.13 77.14
7325	J-3964	879.03	Forest	0.08	1057.33	77.14
2098	J-1108	812.94	Lakes	0.20	991.24	77.14
1420 2309	J-709 J-1238	874.09 884.22	Forest Forest	0.08 1.08	1052.40 1062.54	77.14 77.15
7357	J-3977	886.64	Forest	0.08	1064.98	77.16
5360	J-2849	876.85	Forest	0.08	1055.31	77.21
832 3677	J-471 J-2005	883.72 873.08	Forest Forest	0.08 1.08	1062.25 1051.76	77.24 77.31
2617	J-1408	873.82	Forest	0.08	1052.54	77.32
4896	J-2582	874.29	Forest	0.68	1053.16	77.39
2341	J-1255	840.43	Lakes	0.81	1019.31	77.39
423 7661	J-234 J-4081	875.06 872.74	Forest Forest	0.08 2.29	1054.02 1051.73	77.43 77.44
3583	J-1954	873.50	Forest	0.08	1052.54	77.46
7709	J-4094	873.06	Forest	0.08	1052.12	77.47
1937 2173	J-1013 J-1156	814.26 880.73	Lakes Forest	0.63 0.68	993.31 1059.86	77.47 77.50
4451	J-2329	879.05	Forest	0.48	1058.25	77.53
3764	J-2051	878.14	Forest	0.28	1057.34	77.53
6015 410	J-3221 J-226	878.40 879.01	Forest Forest	0.08 0.08	1057.64 1058.25	77.55 77.55
5717	J-3054	878.00	Forest	1.08	1057.28	77.57
2751	J-1487	873.84	Forest	0.88	1053.16	77.58
2900	J-1571	873.11	Forest	2.09	1052.54	77.63
3727 6698	J-2033 J-3627	873.08 873.49	Forest Forest	1.28 0.08	1052.53 1052.95	77.64 77.64
3814	J-2076	871.73	Forest	0.68	1051.23	77.66
3966	J-2148	872.60	Forest	0.08	1052.13	77.68
4492 5716	J-2353 J-3053	872.53 877.64	Forest Forest	0.28 0.68	1052.13 1057.28	77.70 77.72
2299	J-1232	811.40	Lakes	0.55	991.26	77.81
1874	J-973	843.00	Lakes	0.46	1022.86	77.82
79 578	J-34 J-331	885.00 871.90	Forest Forest	0.28 2.29	1064.98 1051.98	77.87 77.92
6002	J-331 J-3214	871.90 872.24	Forest	0.68	1051.98	77.92 77.94
4422	J-2320	871.96	Forest	1.08	1052.13	77.95
409	J-225	878.02	Forest	0.28	1058.24	77.97
3140 2306	J-1699 J-1236	872.64 839.08	Forest Lakes	0.08 0.55	1052.88 1019.32	77.98 77.98
5114	J-2707	871.87	Forest	0.88	1052.13	77.99
611	J-350	877.29	Forest	0.08	1057.60	78.01
7632 3139	J-4072 J-1698	875.00 872.52	Forest	0.48	1055.31	78.01
3139 78	J-1698 J-33	872.52 884.61	Forest Forest	0.08 0.48	1052.88 1064.98	78.03 78.04
1436	J-719	871.88	Forest	0.28	1052.41	78.11
3469 2737	J-1889 J-1478	872.00 872.00	Forest Forest	1.28 3.09	1052.53 1052.54	78.11 78.11
1697	J-1478 J-858	872.00 871.12	Forest	0.48	1052.54 1051.72	78.11 78.14
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					Calculated	
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
5147	J-2725	872.25	Forest	0.68	1052.88	78.15
2163 305	J-1149 J-158	875.57 871.28	Forest Forest	0.88 0.88	1056.20 1051.96	78.15 78.17
6001	J-3213	871.61	Forest	0.08	1052.38	78.21
2700 4110	J-1456 J-2211	881.99	Forest Forest	0.48 0.68	1062.80	78.22 78.23
2677	J-2211 J-1442	871.14 873.09	Forest	0.88	1051.96 1053.92	78.23 78.24
6283	J-3382	884.11	Forest	0.08	1064.98	78.25
5500 6632	J-2928 J-3588	873.36 871.65	Forest Forest	0.48 0.28	1054.25 1052.53	78.26 78.26
610	J-349	876.73	Forest	0.28	1057.64	78.27
3802	J-2070	884.00	Forest	1.08	1064.93	78.28
304 2018	J-157 J-1066	871.01 841.76	Forest Lakes	0.28 0.37	1051.96 1022.89	78.29 78.37
7086	J-3852	881.05	Forest	0.08	1062.25	78.40
1698 145	J-859 J-71	870.49 880.71	Forest Forest	0.48 1.48	1051.72 1061.95	78.41 78.42
7693	J-4090	876.00	Forest	0.08	1057.28	78.43
939	J-518	870.94	Forest	0.28	1052.24	78.44
1858 1435	J-962 J-718	872.93 871.05	Forest Forest	1.28 0.28	1054.25 1052.41	78.45 78.47
7182	J-3901	875.83	Forest	0.28	1057.32	78.53
6633	J-3589	871.01	Forest	0.08	1052.53	78.54
3613 6036	J-1970 J-3233	883.44 870.80	Forest Forest	0.28 0.28	1064.98 1052.41	78.54 78.57
1952	J-1023	883.27	Forest	1.68	1064.94	78.60
5455	J-2903	875.62	Forest	0.28	1057.32	78.61
424 6197	J-235 J-3330	872.31 874.66	Forest Forest	0.08 0.28	1054.03 1056.39	78.62 78.63
2138	J-1134	869.28	Forest	0.48	1051.03	78.64
5454 6466	J-2902	875.55	Forest Forest	0.28 0.48	1057.32 1053.93	78.64 78.65
5349	J-3489 J-2842	872.15 879.32	Forest	0.48	1061.11	78.65 78.65
1478	J-741	870.54	Forest	0.08	1052.37	78.67
4654 6317	J-2446 J-3402	870.53 869.12	Forest Forest	0.48 0.88	1052.37 1051.03	78.67 78.70
5350	J-2843	879.18	Forest	2.49	1061.11	78.72
3248	J-1764	870.98	Forest	0.08	1052.99	78.74
5974 2512	J-3198 J-1347	1036.77 870.29	Lakes Forest	0.37 0.28	1218.85 1052.41	78.78 78.79
3504	J-1910	869.88	Forest	0.08	1052.01	78.80
3643	J-1986	869.61	Forest	0.88	1051.74	78.80
613 3964	J-351 J-2147	869.91 877.57	Forest Forest	0.48 0.88	1052.07 1059.76	78.81 78.83
1819	J-937	874.14	Forest	0.08	1056.39	78.85
4823 2510	J-2539 J-1346	869.83 877.41	Forest Forest	0.28 1.28	1052.09 1059.76	78.85 78.89
6582	J-3558	874.94	Forest	1.08	1059.76	78.90
4982	J-2631	869.56	Forest	0.08	1051.98	78.93
1562 7489	J-776 J-4024	1036.37 874.81	Lakes Forest	0.20 1.28	1218.85 1057.30	78.95 78.95
4085	J-2202	877.27	Forest	1.08	1059.76	78.96
3525	J-1922	869.59	Forest	0.68	1052.09	78.96
6396 6467	J-3449 J-3490	877.25 871.30	Forest Forest	1.08 0.08	1059.76 1053.93	78.96 79.01
5154	J-2729	781.31	Forest	0.48	963.94	79.02
5711 6081	J-3050 J-3262	877.82 882.28	Forest Forest	0.48 0.08	1060.46 1064.91	79.02 79.02
6196	J-3329	873.72	Forest	0.28	1056.39	79.02
1926	J-1006	879.26	Forest	0.88	1061.94	79.04
2229 3249	J-1190 J-1765	877.17 870.26	Forest Forest	0.88 0.08	1059.86 1052.99	79.04 79.06
4570	J-2398	869.47	Forest	0.48	1052.24	79.08
4571	J-2399	869.45	Forest	0.08	1052.24	79.08
1818 3974	J-936 J-2153	873.57 873.95	Forest Forest	0.88 0.88	1056.38 1056.78	79.10 79.10
5712	J-3051	877.59	Forest	0.28	1060.46	79.12
7517 6583	J-4034 J-3559	870.12 874.37	Forest Forest	0.08 0.28	1053.01 1057.30	79.13 79.14
5155	J-2730	780.99	Forest	0.88	963.94	79.15
1443	J-723	869.43	Forest	1.08	1052.42	79.17
455 5343	J-254 J-2839	868.99 874.23	Forest Forest	80.0 80.0	1051.98 1057.32	79.17 79.21
7431	J-4004	878.03	Forest	0.48	1061.12	79.21
5342	J-2838	874.12	Forest	0.08	1057.32	79.26
3577 2438	J-1951 J-1307	876.53 869.50	Forest Forest	0.48 0.28	1059.76 1052.73	79.27 79.28
5442	J-2896	876.52	Forest	1.28	1059.76	79.28
4221 6080	J-2256 J-3261	876.43 881.58	Forest Forest	1.28 0.48	1059.76 1064.91	79.32 79.32
6798	J-3686	869.62	Forest	0.48	1052.99	79.32
1462	J-733	868.98	Forest	0.08	1052.39	79.35
4593 3505	J-2412 J-1911	868.97 868.55	Forest Forest	0.08 0.68	1052.39 1052.01	79.35 79.37
904	J-506	868.54	Forest	0.28	1052.03	79.39
6854	J-3718	873.21	Forest	1.48	1056.78	79.42
3470 1169	J-1890 J-614	868.96 873.24	Forest Forest	3.69 0.48	1052.53 1056.82	79.42 79.42
3499	J-1907	867.60	Forest	0.08	1051.21	79.44
1433	J-717 J-2463	868.96	Forest	0.08	1052.71	79.50
4684 1156	J-2463 J-609	873.03 869.11	Forest Forest	1.48 0.68	1056.82 1053.03	79.52 79.57
787	J-448	877.61	Forest	0.68	1061.56	79.59
1028 1993	J-559 J-1050	878.73 809.35	Forest Lakes	0.88 0.46	1062.69 993.32	79.59 79.60
1186	J-621	891.02	Forest	0.48	1075.00	79.60
42	J-10	779.95	Forest	0.48	963.96	79.61
5293 6367	J-2809 J-3432	873.26 875.72	Forest Forest	0.08 0.08	1057.28 1059.76	79.62 79.63
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Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
3922	J-2128	868.91	Forest	0.88	1052.96	79.63
5893	J-3153	868.66	Forest	0.48	1052.71	79.63
3461	J-1885	867.90	Forest	0.48	1051.96	79.63
3822	J-2079	878.70	Forest	2.09	1062.79	79.65
6258 2522	J-3368 J-1353	878.65 868.26	Forest Forest	0.08 4.09	1062.79 1052.42	79.67 79.68
5292	J-2808	873.11	Forest	0.48	1057.28	79.68
367	J-198	872.46	Forest	0.68	1056.64	79.68
4554	J-2389	867.76	Forest	0.08	1051.96	79.69
7173 7374	J-3898 J-3982	873.02 876.86	Forest Forest	0.08 0.28	1057.28 1061.12	79.72 79.72
7172	J-3897	873.02	Forest	0.08	1057.28	79.72
2013	J-1063	809.07	Lakes	0.46	993.35	79.73
1829	J-943	867.42	Forest	0.88	1051.72	79.73
1043	J-566	1034.31	Lakes	0.20	1218.62	79.74
5883 2233	J-3148 J-1192	878.03 868.12	Forest Forest	0.48 0.88	1062.54 1052.64	79.83 79.83
5789	J-3095	869.47	Forest	0.48	1053.99	79.83
7180	J-3900	875.22	Forest	0.08	1059.76	79.84
2594	J-1394	877.32	Forest	0.88	1061.87	79.85
1964 6368	J-1031	869.67	Forest Forest	0.88 0.28	1054.23	79.85
2701	J-3433 J-1457	875.19 878.22	Forest	0.68	1059.76 1062.80	79.85 79.86
41	J-9	779.34	Forest	0.08	963.96	79.88
4931	J-2602	872.67	Forest	0.08	1057.33	79.89
5904	J-3159	876.43	Forest	0.68	1061.12	79.91
6668 3873	J-3609 J-2104	868.34 869.28	Forest Forest	0.48 0.68	1053.04	79.91 79.91
6511	J-2104 J-3515	875.63	Forest	0.08	1053.99 1060.34	79.91
366	J-197	871.93	Forest	0.08	1056.64	79.92
1432	J-716	868.00	Forest	0.08	1052.72	79.92
7491	J-4025	872.54	Forest	0.68	1057.28	79.93
4556 6669	J-2390 J-3610	871.86 868.19	Forest Forest	0.08 0.08	1056.64 1053.04	79.94 79.97
4930	J-2601	872.47	Forest	0.08	1053.04	79.97 79.98
3524	J-1921	867.22	Forest	0.48	1052.09	79.98
5999	J-3212	1033.71	Lakes	0.20	1218.62	80.00
2308	J-1237 J-482	877.60	Forest	1.48	1062.54	80.02 80.02
854 2551	J-482 J-1370	871.83 872.32	Forest Forest	1.08 1.08	1056.78 1057.28	80.02
4064	J-2191	869.03	Forest	1.28	1053.99	80.03
6737	J-3649	867.54	Forest	1.28	1052.53	80.04
4330	J-2290	867.95	Forest	1.88	1052.98	80.06
2481	J-1331	867.96	Forest	1.08	1053.01	80.06
3777 3787	J-2058 J-2063	879.86 866.70	Forest Forest	1.08 0.08	1064.93 1051.77	80.07 80.07
5254	J-2787	877.56	Forest	0.08	1062.69	80.10
3817	J-2077	866.07	Forest	3.29	1051.24	80.11
3618	J-1973	871.60	Forest	0.28	1056.77	80.12
395 3790	J-216 J-2064	871.46 879.74	Forest Forest	0.48 0.68	1056.64 1064.93	80.12 80.12
4933	J-2603	871.71	Forest	0.88	1056.92	80.12
2437	J-1306	867.51	Forest	0.08	1052.73	80.14
8477	J-4190	866.78	Forest	0.68	1052.02	80.14
2194 5835	J-1169	874.49 872.00	Forest	0.08	1059.76 1057.35	80.16
5835 5836	J-3121 J-3122	872.00 872.00	Forest Forest	0.08 0.08	1057.35 1057.35	80.19 80.19
5078	J-2688	879.54	Forest	0.28	1064.93	80.21
7574	J-4053	875.73	Forest	0.08	1061.12	80.21
3639	J-1984	867.23	Forest	0.28	1052.68	80.23
8540 5807	J-4220	889.55	Forest	0.08	1075.00	80.24
8373	J-3106 J-4174	871.31 869.17	Forest Forest	0.28 1.68	1056.78 1054.67	80.25 80.26
4934	J-2604	871.40	Forest	0.48	1056.92	80.27
3094	J-1670	879.40	Forest	0.08	1064.93	80.27
534	J-303	868.47	Forest	0.28	1054.04	80.29
3004 5088	J-1618 J-2693	879.33 867.13	Forest Forest	1.28 0.08	1064.92 1052.73	80.30 80.30
7481	J-4022	871.67	Forest	1.28	1052.73	80.31
5905	J-3160	875.48	Forest	0.08	1061.12	80.32
3774	J-2057	874.06	Forest	1.68	1059.76	80.34
5139	J-2721	871.53	Forest	0.08	1057.28	80.36
3105 3106	J-1677 J-1678	879.15 879.07	Forest Forest	0.28 0.08	1064.93 1064.93	80.38 80.41
5138	J-1678 J-2720	879.07 871.38	Forest	0.08	1057.28	80.41
3093	J-1669	879.02	Forest	0.48	1064.93	80.44
4130	J-2220	866.44	Forest	0.88	1052.37	80.44
1403	J-699	866.47	Forest	0.08	1052.43	80.45
3728 2550	J-2034 J-1369	866.57 871.32	Forest Forest	1.88 0.28	1052.53 1057.28	80.46 80.46
5516	J-1369 J-2937	871.32 866.45	Forest	0.28	1057.28	80.46 80.46
6512	J-3516	874.34	Forest	0.88	1060.34	80.47
7439	J-4007	875.10	Forest	0.48	1061.12	80.48
6022	J-3225	866.33	Forest	0.28	1052.37	80.49
7255 4031	J-3938 J-2176	871.18 871.15	Forest Forest	0.08 0.08	1057.28 1057.30	80.52 80.54
7223	J-3922	871.15 874.96	Forest	0.88	1061.11	80.54 80.54
7890	J-4140	866.51	Forest	0.28	1052.68	80.55
2457	J-1317	866.81	Forest	1.08	1053.01	80.56
1633	J-818	866.16	Forest	1.68	1052.42	80.59
3720 1404	J-2029 J-700	874.45 866.12	Forest Forest	0.68 0.48	1060.74 1052.43	80.60 80.61
3460	J-1884	865.63	Forest	0.48	1052.43	80.62
2137	J-1133	864.69	Forest	0.88	1051.03	80.62
6083	J-3263	878.50	Forest	0.88	1064.87	80.63
5690	J-3038	874.74	Forest	0.48	1061.11	80.64
7254 7519	J-3937 J-4035	870.82 874.62	Forest Forest	0.08 0.08	1057.28 1061.12	80.67 80.69
831	J-4035 J-470	874.62 875.21	Forest	0.08	1061.76	80.69
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					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
4403	J-2314	878.19	Forest	1.28	1064.87	80.77
456 5917	J-255 J-3166	865.22 1031.91	Forest Lakes	0.28 0.20	1051.98 1218.68	80.81 80.81
262	J-131	865.42	Forest	0.28	1052.21	80.82
6379	J-3439 J-3037	864.92 874.26	Forest Forest	0.48 2.09	1051.74 1061.11	80.83 80.84
5689 1229	J-643	869.87	Forest	0.28	1051.11	80.84
4278	J-2274	865.10	Forest	1.28	1051.98	80.86
3998 2458	J-2162 J-1318	776.99 866.03	Forest Forest	0.48 1.08	963.94 1053.01	80.88 80.90
261	J-130	865.19	Forest	80.0	1052.21	80.92
3644 1225	J-1987 J-641	864.66 869.67	Forest Forest	1.08 0.48	1051.74 1056.77	80.94 80.95
349	J-186	873.26	Forest	0.08	1060.46	80.99
3367	J-1832	865.48	Forest	0.08	1052.73	81.01
6567 6842	J-3549 J-3712	873.85 873.47	Forest Forest	1.88 0.48	1061.12 1060.74	81.02 81.03
2815	J-1524	776.65	Forest	0.48	963.95	81.04
4166 5191	J-2236 J-2750	872.54 866.60	Forest Forest	1.68 1.28	1059.86 1054.00	81.05 81.08
2164	J-1150	868.80	Forest	1.08	1056.20	81.08
4284 3128	J-2276 J-1691	877.50 866.48	Forest Forest	0.08 0.28	1064.93 1054.00	81.09 81.13
1556	J-773	1031.13	Lakes	0.20	1218.68	81.15
2172	J-1155	872.21	Forest	0.68	1059.86	81.19
350 7023	J-187 J-3817	872.80 870.02	Forest Forest	0.08 0.08	1060.46 1057.71	81.20 81.21
3129	J-1692	866.20	Forest	1.08	1054.00	81.25
7295 6189	J-3953 J-3325	869.48 877.09	Forest Forest	0.08 1.28	1057.30 1064.93	81.26 81.27
3330	J-1812	864.76	Forest	0.08	1052.72	81.32
5632 5410	J-3004 J-2878	870.42 866.25	Forest Forest	0.08 0.08	1058.41 1054.24	81.33 81.33
864	J-486	864.00	Forest	0.48	1052.01	81.34
5593 1417	J-2981 J-707	864.00 864.64	Forest Forest	0.48 0.08	1052.01 1052.68	81.34 81.35
6687	J-3620	863.70	Forest	0.68	1052.06	81.36
7546	J-4046	873.07	Forest	0.08	1061.11	81.36
860 7246	J-484 J-3933	863.91 873.02	Forest Forest	0.88 0.08	1052.00 1061.12	81.38 81.38
5362	J-2850	864.57	Forest	0.08	1052.68	81.39
2745 6884	J-1483 J-3736	870.27 876.73	Forest Forest	1.08 0.48	1058.41 1064.91	81.40 81.42
5879	J-3146	864.76	Forest	0.08	1052.99	81.44
3541 4399	J-1930 J-2313	865.97 863.43	Forest Forest	0.08 0.08	1054.24 1051.74	81.45 81.47
6885	J-3737	876.60	Forest	0.48	1064.91	81.48
5627 1051	J-3001 J-570	868.01 876.54	Forest Forest	0.48 0.08	1056.39 1064.93	81.50 81.50
5878	J-3145	864.52	Forest	0.28	1052.99	81.54
6688 708	J-3621 J-407	863.26 863.49	Forest Forest	0.68 0.08	1051.74 1052.02	81.55 81.57
3576	J-1950	871.22	Forest	1.68	1052.02	81.57
6568	J-3550	872.55	Forest	0.08	1061.12 1064.93	81.58
6188 6331	J-3324 J-3410	876.34 864.00	Forest Forest	0.88 0.28	1052.68	81.59 81.63
915	J-509	864.00	Forest	0.48	1052.68	81.63
7524 2924	J-4037 J-1582	872.44 869.53	Forest Forest	0.08 1.68	1061.12 1058.24	81.63 81.65
6340	J-3416	863.77	Forest	0.28	1052.51	81.66
3019 5042	J-1623 J-2667	868.54 864.19	Forest Forest	0.08 1.88	1057.30 1053.01	81.67 81.70
2287	J-1224	866.48	Forest	1.08	1055.31	81.70
7002 5043	J-3805 J-2668	864.13 864.14	Forest Forest	0.08 1.08	1052.98 1053.01	81.71 81.72
596	J-341	863.31	Forest	0.08	1052.21	81.72
2884 6341	J-1563 J-3417	875.96 863.58	Forest Forest	0.68 0.08	1064.88 1052.51	81.73 81.74
1535	J-762	876.00	Forest	0.08	1064.94	81.75
6514 3198	J-3517 J-1733	870.92 864.00	Forest Forest	0.48 0.08	1059.86 1052.99	81.75 81.77
3199	J-1734	864.00	Forest	0.08	1052.99	81.77
5542 3193	J-2952 J-1730	864.00 868.29	Forest Forest	0.08 0.08	1052.99 1057.29	81.77 81.77
5955	J-3188	868.24	Forest	0.08	1057.29	81.78
5863	J-3137	868.27	Forest	0.48	1057.28	81.78
3329 6006	J-1811 J-3216	863.68 863.67	Forest Forest	0.28 0.28	1052.72 1052.72	81.79 81.79
2588	J-1390	868.20	Forest	1.08	1057.28	81.81
5118 7905	J-2709 J-4142	872.02 868.16	Forest Forest	0.08 0.28	1061.12 1057.28	81.82 81.82
2466	J-1323	868.11	Forest	0.28	1057.24	81.83
6887 6332	J-3738 J-3411	868.08 863.44	Forest Forest	0.08 0.08	1057.31 1052.68	81.87 81.88
788	J-449	872.21	Forest	0.88	1061.48	81.89
4812 5862	J-2533 J-3136	875.63 867.96	Forest Forest	0.68 0.28	1064.93 1057.28	81.90 81.91
7400	J-3993	867.48	Forest	0.48	1056.83	81.92
2593 5626	J-1393 J-3000	872.43 866.93	Forest Forest	0.48 0.08	1061.87 1056.39	81.96 81.97
3992	J-2159	865.82	Forest	1.08	1055.31	81.98
4605 3973	J-2419 J-2152	871.96 867.25	Forest Forest	0.08 1.28	1061.48 1056.78	82.00 82.00
3973 3194	J-2152 J-1731	867.25 867.74	Forest	0.08	1056.78 1057.29	82.00 82.01
5758	J-3078	872.31	Forest	0.68	1061.87	82.02
945 2443	J-521 J-1309	868.39 867.65	Forest Forest	0.48 0.28	1057.97 1057.24	82.02 82.03
1010	J-552	871.46	Forest	0.48	1061.12	82.06
5364	J-2851	865.65	Forest	0.08	1055.31	82.06

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
7120	J-3871	862.07	Forest	0.08	1051.74	82.06
5474	J-2914	862.36	Forest	0.68	1052.04	82.06
4478	J-2345	862.04	Forest	0.88	1051.74	82.07
2444 2989	J-1310 J-1611	867.51 875.14	Forest Forest	0.08 0.08	1057.24 1064.96	82.09 82.13
1518	J-756	867.85	Forest	0.48	1057.71	82.15
7520	J-4036	871.22	Forest	0.08	1061.12	82.16
7610	J-4065	862.79	Forest	7.61	1052.72	82.17
1998	J-1053	803.43	Lakes	0.55	993.36	82.17
4479 5475	J-2346 J-2915	861.74 862.02	Forest Forest	0.88 0.68	1051.74 1052.04	82.20 82.21
4297	J-2281	867.26	Forest	0.08	1057.31	82.22
3081	J-1662	874.86	Forest	0.28	1064.96	82.25
5944	J-3182	867.87	Forest	0.48	1057.97	82.25
8151 4976	J-4169 J-2628	862.64 861.04	Forest Forest	1.08 0.28	1052.86 1051.27	82.30 82.30
5945	J-3183	867.72	Forest	0.48	1057.97	82.31
5757	J-3077	871.53	Forest	0.48	1061.87	82.35
2630	J-1415	863.38	Forest	1.28	1053.81	82.39
347 3071	J-185 J-1656	866.29 861.32	Forest Forest	0.48 0.08	1056.83 1052.02	82.44 82.51
5774	J-3087	870.41	Forest	0.48	1061.11	82.51
346	J-184	866.11	Forest	0.08	1056.83	82.52
6386	J-3443	868.00	Forest	0.08	1058.75	82.53
3070	J-1655	861.26	Forest	7.88	1052.02	82.53
4814 6547	J-2534 J-3536	861.26 869.00	Forest Forest	0.08 0.48	1052.02 1059.76	82.53 82.53
3490	J-1902	866.55	Forest	0.48	1059.76	82.56
6774	J-3671	861.84	Forest	0.28	1052.68	82.56
123	J-59	865.18	Forest	0.48	1056.15	82.62
1464	J-734	861.52	Forest	0.28 0.48	1052.51	82.63 82.64
4365 3860	J-2301 J-2098	866.28 860.72	Forest Forest	0.48 0.88	1057.29 1051.73	82.64 82.64
5773	J-3086	870.09	Forest	0.28	1061.11	82.65
6263	J-3371	867.08	Forest	0.88	1058.14	82.66
5414	J-2880	860.66	Forest	1.08	1051.73	82.67
7419 6684	J-4000 J-3618	860.83 861.25	Forest Forest	0.08 0.28	1051.98 1052.40	82.70 82.70
928	J-513	861.03	Forest	0.28	1052.40	82.71
6773	J-3670	861.50	Forest	0.08	1052.68	82.71
7578	J-4055	861.47	Forest	0.08	1052.68	82.72
207	J-95	863.41	Forest	0.08	1054.64	82.74
2169 3616	J-1153 J-1972	869.86 860.00	Forest Forest	0.48 0.68	1061.11 1051.27	82.75 82.76
6912	J-3753	772.57	Forest	0.08	963.95	82.80
1509	J-752	867.34	Forest	0.48	1058.75	82.81
640	J-368	860.61	Forest	0.08	1052.02	82.81
1983 4680	J-1043 J-2461	873.45 860.57	Forest Forest	0.88 0.48	1064.92 1052.12	82.84 82.88
1412	J-704	873.38	Forest	0.48	1064.94	82.88
3154	J-1707	864.57	Forest	0.48	1056.15	82.89
1777	J-910	860.15	Forest	0.88	1051.74	82.89
6548 850	J-3537 J-479	868.16 860.61	Forest Forest	1.08 0.28	1059.76 1052.22	82.89 82.90
5591	J-2980	865.20	Forest	0.48	1056.82	82.91
861	J-485	860.33	Forest	0.88	1051.99	82.92
4007	J-2166	861.01	Forest	0.28	1052.72	82.94
1044 6010	J-567	1026.90	Lakes	0.20	1218.62	82.95
3828	J-3218 J-2082	865.50 772.11	Forest Forest	0.88 1.28	1057.30 963.94	82.98 83.00
6840	J-3711	860.88	Forest	0.48	1052.72	83.00
4498	J-2356	860.38	Forest	0.08	1052.24	83.01
8469	J-4186	860.16	Forest	0.48	1052.02	83.01
5116 5486	J-2708 J-2921	860.83 860.08	Forest Forest	0.48 0.68	1052.72 1051.99	83.02 83.03
6685	J-3619	860.49	Forest	0.28	1051.99	83.03
616	J-353	860.06	Forest	0.88	1051.98	83.04
2562	J-1376	860.00	Forest	0.48	1051.96	83.05
4679	J-2460	860.10	Forest	0.48	1052.12	83.08 83.08
8015 639	J-4158 J-367	860.99 860.00	Forest Forest	1.88 0.08	1053.01 1052.02	83.08 83.08
3615	J-1971	859.22	Forest	2.49	1052.02	83.09
6711	J-3634	865.24	Forest	0.08	1057.29	83.09
768	J-438	859.90	Forest	0.08	1051.96	83.10
669 3489	J-386 J-1901	864.75 865.25	Forest Forest	1.08 0.08	1056.82 1057.36	83.10 83.12
137	J-1901 J-67	865.98	Forest	0.88	1057.36	83.12
7117	J-3869	872.69	Forest	0.08	1064.91	83.17
6011	J-3219	865.05	Forest	0.08	1057.30	83.18
7381	J-3986	865.00	Forest	0.08	1057.28	83.19
7878 3264	J-4137 J-1774	864.99 860.71	Forest Forest	0.88 0.28	1057.28 1053.06	83.20 83.22
377	J-204	859.83	Forest	0.28	1052.24	83.24
1396	J-695	872.53	Forest	0.08	1064.94	83.25
3032	J-1631	860.32	Forest	0.48	1052.73	83.25
7118	J-3870	872.49	Forest Forest	0.08	1064.91	83.25
1899 1397	J-989 J-696	858.84 872.48	Forest Forest	2.29 0.08	1051.28 1064.94	83.26 83.27
5970	J-3196	860.40	Forest	0.48	1052.86	83.27
1655	J-831	872.40	Forest	0.68	1064.88	83.27
493	J-277	859.46	Forest	0.08	1051.96	83.28
3031	J-1630	860.22	Forest	0.28	1052.73	83.29
4354 1476	J-2296 J-740	860.46 860.00	Forest Forest	1.08 0.08	1052.99 1052.54	83.30 83.30
4974	J-2627	860.00	Forest	0.08	1052.54	83.30
3265	J-1775	860.52	Forest	0.28	1053.06	83.30
6839	J-3710	860.17	Forest	0.08	1052.72	83.31
7380	J-3985	864.73	Forest	1.08	1057.28	83.31
2897	J-1570	771.23	Forest	0.48	963.94	83.38

Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
4874	J-2568	860.34	Forest	0.28	1053.06	83.38
7653	J-4079	859.36	Forest	0.08	1052.08	83.38
8485	J-4194	859.90	Forest	0.48	1052.68	83.40
4841	J-2550	872.10	Forest	0.08	1064.94	83.43
7797	J-4120	860.22	Forest	2.29	1053.10	83.45
5902	J-3158	863.43	Forest	0.48	1056.39	83.49
378 5785	J-205 J-3093	859.25 859.83	Forest Forest	0.48 0.68	1052.24 1052.99	83.50 83.57
6913	J-3754	770.78	Forest	0.08	963.95	83.57
7543	J-4045	858.53	Forest	0.08	1051.73	83.59
4509	J-2363	858.47	Forest	2.49	1051.74	83.62
492	J-276	858.69	Forest	0.28	1051.96	83.62
5969	J-3195	859.54	Forest	2.09	1052.86	83.64
2580	J-1386	858.60	Forest	0.68	1051.96	83.66
677	J-391	865.54	Forest	0.08	1058.90	83.66
4508 7479	J-2362 J-4021	858.27 871.41	Forest Forest	1.68 0.08	1051.74 1064.92	83.71 83.72
2329	J-1249	858.38	Forest	0.08	1051.96	83.75
4128	J-2219	863.82	Forest	0.48	1057.43	83.77
5876	J-3144	863.81	Forest	1.68	1057.43	83.77
5833	J-3120	867.99	Forest	0.48	1061.63	83.78
1718	J-872	859.24	Forest	0.88	1052.98	83.82
5913	J-3164	1024.98	Lakes	0.29	1218.74	83.83
4087	J-2203	867.76	Forest	0.88	1061.63	83.88
2393	J-1285	871.06	Forest	0.08	1064.94	83.88
4713	J-2478 J-1988	858.13	Forest Forest	0.08	1052.08	83.91
3646 777	J-1988 J-443	870.98 858.06	Forest Forest	0.48 0.08	1064.97 1052.08	83.93 83.94
7582	J-443 J-4056	862.35	Forest	0.48	1056.39	83.95
1654	J-830	870.80	Forest	0.48	1064.88	83.97
1797	J-923	862.31	Forest	0.28	1056.39	83.97
4686	J-2464	857.74	Forest	0.28	1052.04	84.07
6517	J-3519	870.53	Forest	0.48	1064.92	84.10
124	J-60	861.96	Forest	0.28	1056.35	84.10
4178	J-2240	866.97	Forest	1.68	1061.38	84.11
238 1457	J-115	857.62 858.00	Forest	0.08	1052.02	84.11
1457 237	J-730 J-114	858.00 857.47	Forest Forest	0.28 0.08	1052.50 1052.02	84.15 84.17
6492	J-3504	858.19	Forest	1.28	1052.02	84.18
7196	J-3908	857.13	Forest	0.08	1051.73	84.20
1538	J-763	1024.06	Lakes	0.20	1218.74	84.23
6493	J-3505	858.08	Forest	0.68	1052.76	84.23
2941	J-1590	828.21	Lakes	0.89	1022.89	84.23
1264	J-656	858.24	Forest	0.88	1053.01	84.27
1340	J-685	1023.94	Lakes	0.20	1218.74	84.28
2035 6769	J-1076 J-3668	828.00 862.40	Lakes Forest	1.06 0.48	1022.80 1057.33	84.28 84.33
226	J-107	857.08	Forest	0.48	1052.04	84.35
7197	J-3909	856.76	Forest	0.08	1051.73	84.36
6516	J-3518	869.90	Forest	0.48	1064.92	84.37
3725	J-2032	857.50	Forest	0.08	1052.52	84.38
1953	J-1024	869.89	Forest	0.88	1064.93	84.38
966	J-531	862.28	Forest	0.28	1057.33	84.39
5907	J-3161	857.45	Forest	2.49	1052.52	84.40
3990	J-2158	864.76	Forest	1.88	1059.86	84.41
7792 1917	J-4118 J-1000	857.54 859.02	Forest Forest	0.48 0.88	1052.68 1054.24	84.42 84.46
6700	J-3628	861.09	Forest	0.08	1056.35	84.48
1455	J-729	863.45	Forest	0.08	1058.89	84.56
225	J-106	856.51	Forest	0.28	1052.04	84.60
4395	J-2311	861.25	Forest	2.09	1056.78	84.60
8523	J-4213	856.91	Forest	6.12	1052.45	84.60
6918	J-3757	861.37	Forest	0.68	1056.92	84.61
1628	J-815	856.42	Forest	0.48	1052.02	84.63
5112	J-2706	857.31	Forest	0.68	1052.99	84.66
4552	J-2388	856.00 856.00	Forest	0.08	1051.73	84.68
7266 721	J-3942 J-415	856.22	Forest	0.68	1051.73 1051.96	84.68 84.68
721 7614	J-415 J-4067	856.22 856.00	Forest	0.08	1051.74	84.69
7529	J-4040	856.00	Forest	0.48	1051.74	84.69
3894	J-2115	859.97	Forest	0.68	1055.83	84.74
4551	J-2387	855.84	Forest	0.08	1051.73	84.76
4722	J-2483	857.11	Forest	0.08	1053.01	84.76
1079	J-580	1022.76	Lakes	0.20	1218.68	84.77
6895	J-3743	861.31	Forest	0.68	1057.26	84.78
2463	J-1321	856.00	Forest	0.08	1051.96	84.78
4358	J-2298	861.28	Forest	0.68	1057.26	84.79
3397	J-1848	857.04	Forest	0.28	1053.06	84.81
1859	J-963 J-2196	858.22 857.02	Forest Forest	0.68	1054.24	84.81
4073 3501	J-2196 J-1908	857.02 863.71	Forest Forest	0.48 0.88	1053.06 1059.76	84.82 84.82
1552	J-1908 J-771	1022.26	Lakes	0.88	1218.32	84.83
6900	J-3746	860.67	Forest	0.20	1056.78	84.85
2632	J-1416	855.61	Forest	0.88	1051.74	84.86
232	J-111	860.78	Forest	0.68	1056.92	84.86
1428	J-714	856.31	Forest	0.08	1052.45	84.86
7190	J-3905	856.84	Forest	0.08	1053.01	84.87
5509	J-2933	1022.50	Lakes	0.29	1218.68	84.88
1093	J-586	855.76	Forest	7.00	1051.96	84.89
1203	J-630	856.79	Forest	0.08	1052.99	84.89
2464	J-1322 I-3758	855.75 860.67	Forest	0.68 0.08	1051.96	84.89 84.91
6919 5279	J-3758 J-2801	860.67 860.66	Forest Forest	0.08	1056.92 1056.92	84.91 84.91
5279 7184	J-2801 J-3902	868.57	Forest	0.68	1056.92	84.91 84.96
4723	J-3902 J-2484	856.59	Forest	0.08	1053.01	84.98
5963	J-3192	1021.89	Lakes	0.20	1218.32	84.99
8475	J-4189	856.22	Forest	0.28	1052.68	85.00
231	J-110	860.44	Forest	0.68	1056.92	85.01
4862	J-2562	868.43	Forest	0.48	1064.93	85.01

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
4757	J-2503	856.53	Forest	0.68	1053.06	85.03
726	J-418	855.48	Forest	0.08	1052.02	85.04
1111	J-594	863.22	Forest	0.08	1059.77	85.04
5128	J-2715	864.55	Forest	0.08	1061.12	85.05
4490	J-2352	860.22	Forest	0.68	1056.83	85.06
6901 520	J-3747 J-294	860.17 856.00	Forest Forest	0.28 0.48	1056.78 1052.71	85.07 85.11
521	J-295	856.00	Forest	0.48	1052.71	85.11
5101	J-2700	856.00	Forest	0.08	1052.71	85.11
1717	J-871	856.19	Forest	1.28	1052.96	85.13
7280	J-3948	860.12	Forest	0.48	1056.92	85.15
2404	J-1291	868.14	Forest	0.08	1064.94 1051.73	85.15
4377 5110	J-2304 J-2705	854.93 862.34	Forest Forest	0.28 0.08	1051.73	85.15 85.15
8502	J-4204	855.41	Forest	0.08	1052.22	85.15
5900	J-3157	1021.78	Lakes	0.20	1218.61	85.16
1542	J-765	1021.75	Lakes	0.20	1218.61	85.17
3103	J-1676	854.86	Forest	0.68	1051.74	85.18
1283 3102	J-666 J-1675	859.94 854.83	Forest Forest	0.68 0.08	1056.83 1051.74	85.18 85.19
1004	J-548	867.99	Forest	0.48	1064.93	85.20
114	J-55	862.19	Forest	1.68	1059.15	85.22
3332	J-1813	856.00	Forest	0.88	1053.00	85.23
956	J-527	864.11	Forest	0.08	1061.12	85.24
8495	J-4200	855.43	Forest	0.48	1052.51	85.27
3270 1921	J-1778 J-1003	860.22 857.11	Forest Forest	0.08 0.68	1057.31 1054.23	85.27 85.29
599	J-1003 J-343	861.98	Forest	0.08	1054.23	85.29 85.31
3333	J-1814	855.80	Forest	0.08	1053.00	85.32
6613	J-3576	855.76	Forest	0.08	1053.00	85.34
5702	J-3045	860.00	Forest	0.28	1057.28	85.35
7272	J-3945	860.00	Forest	1.08	1057.28	85.35
4838 6614	J-2548 J-3577	854.72 855.71	Forest Forest	0.08 0.88	1052.02 1053.00	85.36 85.36
4872	J-3577 J-2567	855.66	Forest	0.08	1053.00	85.38
5297	J-2811	861.81	Forest	0.48	1059.15	85.38
5534	J-2948	867.58	Forest	0.08	1064.93	85.38
8039	J-4161	854.64	Forest	0.28	1052.04	85.41
3196	J-1732	854.67	Forest	0.28	1052.13	85.43
2314	J-1241	856.21	Forest	1.08	1053.70	85.44
3721 851	J-2030 J-480	863.21 854.66	Forest Forest	0.88 0.08	1060.74 1052.21	85.46 85.47
8496	J-4201	854.93	Forest	0.28	1052.51	85.49
113	J-54	861.42	Forest	0.08	1059.01	85.49
2757	J-1490	867.34	Forest	0.88	1064.93	85.49
3299	J-1795	855.34	Forest	0.88	1053.00	85.52
7279 2612	J-3947 J-1405	859.24 856.27	Forest Forest	0.08 0.68	1056.92 1053.99	85.53 85.54
166	J-82	863.41	Forest	1.08	1061.13	85.54
4839	J-2549	854.29	Forest	0.28	1052.02	85.55
2170	J-1154	863.36	Forest	1.28	1061.11	85.56
5170	J-2739	854.46	Forest	0.08	1052.21	85.56
853	J-481	858.98	Forest	0.28	1056.79	85.58
3269 2858	J-1777 J-1549	859.39 854.20	Forest Forest	0.08 0.08	1057.31 1052.13	85.63 85.63
1812	J-1349 J-932	862.32	Forest	0.88	1060.26	85.64
6585	J-3560	854.17	Forest	0.28	1052.13	85.65
3224	J-1749	857.72	Forest	0.48	1055.83	85.71
2808	J-1520	854.86	Forest	1.28	1053.00	85.72
5383	J-2863	853.59	Forest	0.88	1051.74	85.73
5048 2195	J-2671	854.01 861.53	Forest	0.68	1052.20	85.75 85.77
2195 7044	J-1170 J-3828	861.53 866.68	Forest Forest	0.68 0.08	1059.76 1064.94	85.77 85.78
866	J-487	853.56	Forest	0.08	1051.96	85.84
4591	J-2411	862.69	Forest	0.08	1061.15	85.87
5382	J-2862	853.26	Forest	0.08	1051.74	85.87
483	J-271	862.57	Forest	0.88	1061.15	85.92
3939	J-2136	855.64	Forest	1.08	1054.24	85.93
5230 1048	J-2773 J-569	858.64 863.00	Forest Forest	0.08 0.08	1057.31 1061.76	85.96 86.00
1048 6415	J-569 J-3460	863.00 860.98	Forest	0.08	1061.76	86.00 86.00
4715	J-2479	853.26	Forest	0.08	1052.04	86.00
6310	J-3398	860.10	Forest	0.08	1058.89	86.01
7450	J-4009	853.20	Forest	2.09	1052.01	86.02
1254	J-652	853.25	Forest	0.68	1052.08	86.02
6735	J-3648	853.10	Forest	0.28	1051.96	86.04
2978 4363	J-1605 J-2300	824.00 853.13	Lakes Forest	1.06 1.08	1022.90	86.05 86.07
4363 654	J-2300 J-377	853.13 853.08	Forest	0.48	1052.07 1052.04	86.07 86.08
5049	J-2672	853.24	Forest	0.48	1052.04	86.08
7508	J-4030	857.29	Forest	1.28	1056.26	86.08
5753	J-3075	865.90	Forest	0.08	1064.88	86.09
2633	J-1417	852.74	Forest	0.88	1051.74	86.10
2210	J-1178	764.91	Forest	0.08	963.95	86.12
7528 903	J-4039	852.69 852.93	Forest	0.08	1051.74	86.12 86.15
903 2814	J-505 J-1523	852.93 764.71	Forest Forest	0.08 0.48	1052.04 963.95	86.15 86.20
3223	J-1523 J-1748	856.58	Forest	0.68	1055.83	86.21
5229	J-2772	858.04	Forest	0.08	1057.31	86.21
3238	J-1758	860.46	Forest	0.28	1059.76	86.23
465	J-260	860.30	Forest	0.68	1059.77	86.30
8529	J-4216	853.05	Forest	0.48	1052.68	86.37
1458	J-731	852.82	Forest	0.48	1052.48	86.39
5544 5703	J-2953 J-3046	852.81 857.60	Forest Forest	0.08 0.28	1052.48 1057.28	86.39 86.39
5608	J-3046 J-2990	856.06	Forest	0.28	1057.28	86.43
1430	J-715	858.87	Forest	0.48	1058.64	86.43
3791	J-2065	865.13	Forest	0.48	1064.93	86.45
2785	J-1507	764.07	Forest	0.48	963.95	86.48

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
1116	J-595	852.00	Forest	0.28	1051.96	86.51
3237 6570	J-1757	859.80	Forest Forest	0.08 0.08	1059.76 1051.96	86.51 86.53
6353	J-3551 J-3424	851.96 856.39	Forest	0.08	1051.96	86.53
7561	J-4051	856.39	Forest	0.48	1056.39	86.53
3209	J-1740	852.83	Forest	0.28	1052.99	86.60
4777 2184	J-2514 J-1163	851.81 851.96	Forest Forest	0.08 0.48	1051.98 1052.14	86.60 86.61
3882	J-2109	851.10	Forest	1.68	1051.28	86.61
1796	J-922	856.20	Forest	0.48	1056.39	86.61
567 4546	J-324 J-2384	851.75 851.86	Forest Forest	0.08 0.88	1051.96 1052.09	86.62 86.63
3090	J-1667	851.86	Forest	0.48	1052.09	86.63
3868	J-2101	763.69	Forest	0.08	963.96	86.64
4476 4382	J-2344 J-2307	851.84 852.67	Forest Forest	0.48 1.08	1052.14 1052.99	86.66 86.67
6915	J-3755	856.42	Forest	0.88	1056.78	86.69
3343	J-1819	852.62	Forest	0.48	1052.99	86.69
3325 6352	J-1809 J-3423	851.60 856.00	Forest Forest	0.08 0.08	1051.98 1056.39	86.70 86.70
756	J-432	852.30	Forest	0.48	1052.71	86.71
3311	J-1801	864.45	Forest	0.48	1064.88	86.72
1414 1415	J-705 J-706	852.00 852.00	Forest Forest	0.08 0.48	1052.45 1052.45	86.73 86.73
5776	J-3088	852.00	Forest	0.48	1052.45	86.73
3478	J-1895	851.52	Forest	0.88	1051.98	86.73
3581 5213	J-1953	864.34	Forest Forest	0.88 0.48	1064.93	86.79 86.79
3210	J-2762 J-1741	852.38 852.36	Forest	0.48	1052.99 1052.99	86.80
1427	J-713	851.82	Forest	0.08	1052.45	86.80
4753	J-2501	852.35	Forest	0.28	1052.99	86.81
5809 3091	J-3107 J-1668	851.77 851.38	Forest Forest	0.08 0.08	1052.45 1052.09	86.83 86.84
588	J-336	860.64	Forest	0.68	1061.36	86.84
3502	J-1909	859.00	Forest Forest	0.08	1059.76	86.86 86.86
6608 3324	J-3573 J-1808	859.50 851.20	Forest	0.08 0.48	1060.27 1051.98	86.87
5329	J-2831	851.65	Forest	0.08	1052.45	86.88
5212	J-2761	852.16	Forest	0.68	1052.99	86.89
4826 1297	J-2541 J-674	851.18 857.70	Forest Forest	0.08 0.08	1052.04 1058.64	86.90 86.94
7077	J-3847	860.82	Forest	0.08	1061.76	86.94
2972	J-1602	856.07	Forest	0.28	1057.01	86.94
4825 4581	J-2540 J-2405	851.04 852.00	Forest Forest	1.68 1.08	1052.04 1053.00	86.96 86.96
4704	J-2473	860.24	Forest	0.08	1061.33	87.00
4582	J-2406	851.91	Forest	1.28	1053.00	87.00
5885 1558	J-3149 J-774	857.50 1017.40	Forest Lakes	0.08 0.20	1058.64 1218.55	87.03 87.03
7422	J-4001	860.69	Forest	1.68	1061.88	87.04
5097 2328	J-2698 J-1248	851.54 850.76	Forest Forest	0.48 0.48	1052.72 1051.96	87.04 87.05
5172	J-2740	863.68	Forest	0.48	1064.93	87.07
4864	J-2563	859.89	Forest	0.48	1061.13	87.07
5201 589	J-2755 J-337	856.02 860.02	Forest Forest	0.88 0.48	1057.28 1061.33	87.07 87.10
936	J-517	859.80	Forest	0.28	1061.13	87.11
2997	J-1615	850.59	Forest	0.48	1051.96	87.12
1813 6609	J-933 J-3574	858.86 858.84	Forest Forest	0.48 0.28	1060.26 1060.27	87.14 87.15
5881	J-3147	1017.10	Lakes	0.20	1218.55	87.16
6522	J-3522	850.50	Forest	0.28	1051.96	87.16
3662 2743	J-1996 J-1482	851.57 851.09	Forest Forest	0.28 1.48	1053.06 1052.72	87.18 87.24
506	J-285	850.20	Forest	0.08	1051.96	87.29
6750	J-3657	854.44	Forest	0.08	1056.26	87.32
8215 5328	J-4171 J-2830	850.13 850.57	Forest Forest	1.08 0.08	1051.96 1052.45	87.32 87.34
6800	J-3687	850.46	Forest	2.09	1052.52	87.42
5347	J-2841	850.01	Forest	0.28	1052.09	87.43
6458 161	J-3485 J-79	849.95 856.96	Forest Forest	0.08 0.28	1052.04 1059.09	87.43 87.45
1406	J-701	856.50	Forest	0.08	1058.64	87.46
2655	J-1430	858.11	Forest	0.68	1060.26	87.46
2964 6751	J-1598 J-3658	862.72 854.08	Forest Forest	0.28 0.28	1064.88 1056.26	87.47 87.47
7098	J-3858	856.92	Forest	0.48	1059.16	87.50
7501	J-4028 J-401	849.45 849.73	Forest Forest	2.09	1051.74	87.52
697 4071	J-2195	849.77	Forest	1.08 0.28	1052.04 1052.09	87.53 87.53
946	J-522	855.72	Forest	1.08	1058.04	87.53
1545	J-767	1016.00 862.59	Lakes Forest	0.20	1218.36	87.55 87.56
3611 6127	J-1969 J-3289	862.59 849.31	Forest	0.08 2.09	1064.97 1051.74	87.56 87.58
7012	J-3811	854.49	Forest	0.28	1057.01	87.62
6004	J-3215	853.27	Forest	0.08	1055.82	87.64
6450 5202	J-3480 J-2756	857.17 854.67	Forest Forest	0.48 0.88	1059.77 1057.28	87.65 87.66
8493	J-4199	849.34	Forest	0.68	1051.96	87.66
7301	J-3956	853.63	Forest	0.08 0.28	1056.26	87.67
5479 3569	J-2917 J-1946	848.62 857.09	Forest Forest	0.28	1051.28 1059.77	87.68 87.69
6358	J-3427	850.66	Forest	0.88	1053.48	87.75
3432 976	J-1868	849.64 848.15	Forest	2.89	1052.52	87.78 87.78
5623	J-536 J-2998	848.15 848.84	Forest Forest	0.68 0.88	1051.04 1051.74	87.78 87.78
4014	J-2169	849.74	Forest	1.08	1052.66	87.80
5046 156	J-2670 J-76	849.24 856.88	Forest Forest	0.28 0.08	1052.17 1059.87	87.80 87.82
.50	0.70	000.00	, 0103t	0.00	1000.01	01.02

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
2742	J-1481	849.65	Forest	1.48	1052.72	87.86
3045	J-1639	852.72	Forest	80.0	1055.82	87.87
1799	J-924	849.39	Forest	0.28	1052.49	87.87
3044 870	J-1638 J-489	852.72 1014.74	Forest Lakes	0.48 0.20	1055.82 1217.94	87.87 87.92
2883	J-1562	861.59	Forest	1.08	1064.87	87.95
45	J-12	852.51	Forest	0.48	1055.83	87.97
653	J-376	848.70	Forest	0.28	1052.04	87.97
566	J-323	848.59	Forest	0.08	1051.96	87.99
5624 5518	J-2999 J-2938	848.34 854.64	Forest Forest	0.88 0.48	1051.74 1058.04	88.00 88.00
3585	J-1955	855.91	Forest	0.08	1059.33	88.01
7153	J-3889	853.80	Forest	80.0	1057.28	88.04
5325	J-2828	853.79	Forest	0.88	1057.28	88.04
6128 8542	J-3290 J-4221	848.24 871.46	Forest Forest	0.08 0.08	1051.74 1075.00	88.05 88.06
5045	J-2669	848.56	Forest	1.08	1052.17	88.09
44	J-11	852.18	Forest	0.28	1055.82	88.10
2072	J-1096	1014.32	Lakes	0.37	1218.03	88.14
2183 2729	J-1162 J-1473	848.33 849.66	Forest Forest	0.68 1.08	1052.14 1053.48	88.18 88.18
7966	J-4152	848.24	Forest	19.88	1052.08	88.19
5326	J-2829	853.39	Forest	0.28	1057.28	88.22
505	J-284	848.00	Forest	0.08	1051.95	88.24
8473	J-4188	848.00	Forest	0.68	1051.95	88.24
6101 781	J-3273 J-445	1014.08 848.00	Lakes Forest	0.20 0.28	1218.03 1051.96	88.24 88.24
7389	J-3989	848.00	Forest	0.28	1051.96	88.24
315	J-164	848.00	Forest	0.88	1051.96	88.24
316	J-165	848.00	Forest	0.28	1051.96	88.24
632 4152	J-363 J-2229	848.00 847.72	Forest Forest	1.08 0.88	1051.97 1051.76	88.25 88.28
1024	J-2229 J-557	847.72 847.92	Forest	1.08	1051.76	88.28
7706	J-4093	853.93	Forest	1.08	1057.97	88.28
6916	J-3756	852.67	Forest	0.28	1056.78	88.31
434 4792	J-241 J-2523	847.79 847.77	Forest Forest	0.48 0.28	1051.96 1051.96	88.34 88.35
3714	J-2026	860.68	Forest	0.48	1064.93	88.37
6757	J-3661	853.48	Forest	0.68	1057.87	88.43
6890	J-3740	852.82	Forest	0.48	1057.29	88.46
7040	J-3826	860.47	Forest	0.08	1064.94	88.47
4118 7132	J-2215 J-3877	848.40 847.20	Forest Forest	1.48 0.48	1052.88 1051.74	88.47 88.49
338	J-179	855.19	Forest	0.08	1059.77	88.51
337	J-178	855.17	Forest	0.08	1059.77	88.52
3947 4037	J-2140	858.19	Forest	0.48	1062.80	88.52
6889	J-2178 J-3739	848.40 852.66	Forest Forest	0.68 2.09	1053.01 1057.29	88.52 88.53
598	J-342	854.70	Forest	0.08	1059.33	88.54
4520	J-2369	1118.26	Stewartsville	0.40	1322.92	88.54
1100 6237	J-590	853.07	Forest Forest	1.08	1057.87	88.61
435	J-3355 J-242	857.07 847.14	Forest	0.48 0.08	1061.88 1051.96	88.61 88.62
6236	J-3354	857.04	Forest	0.88	1061.88	88.62
3853	J-2095	851.00	Forest	0.68	1055.83	88.62
3941 8491	J-2137 J-4198	847.29 847.65	Forest Forest	1.28 0.08	1052.14 1052.51	88.63 88.64
2385	J-1281	860.07	Forest	0.08	1064.94	88.64
698	J-402	847.15	Forest	0.88	1052.04	88.64
914	J-508	847.66	Forest	0.88	1052.56	88.65
8614	J-4223	860.00	Forest	0.00	1064.94	88.67
8617 7337	J-4224 J-3968	860.00 854.38	Forest Forest	0.00 0.08	1064.94 1059.33	88.67 88.67
5302	J-2814	854.88	Forest	0.48	1059.86	88.69
6970	J-3786	846.94	Forest	0.08	1051.96	88.70
1224	J-640	851.73	Forest	0.48	1056.78	88.72
1087 4662	J-584 J-2450	1117.80 859.79	Stewartsville Forest	0.55 1.28	1322.92 1064.93	88.74 88.76
6964	J-3783	849.08	Forest	0.68	1054.24	88.76
7133	J-3878	846.52	Forest	80.0	1051.74	88.79
2923	J-1581	852.99	Forest	1.48	1058.24	88.80
5826 2356	J-3116 J-1263	854.52 859.55	Forest Forest	0.08 1.48	1059.87 1064.93	88.84 88.86
1167	J-613	847.53	Forest	0.48	1054.93	88.86
5934	J-3176	849.00	Forest	0.88	1054.42	88.88
5909	J-3162	1012.91	Lakes	0.20	1218.38	88.90
7151	J-3888	856.41 850.45	Forest	0.08	1061.88	88.90
6654 6577	J-3601 J-3555	859.45 851.30	Forest Forest	0.48 0.68	1064.93 1056.78	88.90 88.90
5933	J-3175	848.93	Forest	0.68	1054.42	88.91
6850	J-3716	851.24	Forest	0.88	1056.78	88.93
2746	J-1484	852.84	Forest	1.08	1058.40	88.94
3047 5939	J-1640 J-3179	1012.34 852.36	Lakes Forest	0.20 0.08	1217.94 1057.97	88.95 88.96
4698	J-2470	1012.26	Lakes	0.20	1217.94	88.99
3048	J-1641	1012.25	Lakes	0.20	1217.94	88.99
7461	J-4014	851.71	Forest	0.08	1057.42	89.00
4136 868	J-2223 J-488	851.05 854.02	Forest Forest	1.48 0.68	1056.78 1059.77	89.01 89.02
7786	J-466 J-4117	854.02 846.24	Forest	1.48	1052.01	89.02
5778	J-3089	853.29	Forest	80.0	1059.09	89.04
3382	J-1840	846.13	Forest	0.68	1051.96	89.05
4201 841	J-2250 J-475	848.41 850.82	Forest Forest	0.28 0.88	1054.24 1056.71	89.05 89.08
841 6058	J-475 J-3247	850.82 846.07	Forest	0.88	1056.71	89.08 89.10
8343	J-4173	845.76	Forest	0.68	1051.73	89.12
6923	J-3760	850.80	Forest	0.88	1056.78	89.12
1438 6166	J-720 J-3312	846.47 856.78	Forest Forest	0.28 0.68	1052.45 1062.80	89.12 89.14
0100	J-331Z	000.78	ruiest	0.08	1002.60	09.14

Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
631	J-362	845.95	Forest	0.68	1051.97	89.14
5667 1325	J-3025 J-681	845.88 845.76	Forest Forest	0.28 0.48	1052.04 1051.96	89.19 89.21
2920	J-1580	846.31	Forest	0.88	1052.52	89.22
7251	J-3936	845.79	Forest	0.08	1052.00	89.22
1544	J-766	1012.13	Lakes	0.20	1218.38	89.23
1664	J-836	846.88	Forest	0.88	1053.16	89.25
3126	J-1690	850.42	Forest	0.08	1056.71	89.25
763	J-436	845.79	Forest	0.08	1052.08	89.25
3232 3371	J-1754 J-1834	853.56 858.60	Forest Forest	0.28 0.08	1059.86 1064.93	89.26 89.27
3845	J-2091	847.66	Forest	1.08	1053.99	89.27
7460	J-4013	851.05	Forest	1.08	1057.42	89.29
3186	J-1726	850.23	Forest	0.48	1056.61	89.29
3184	J-1725	858.45	Forest	0.08	1064.86	89.30
3701	J-2019	845.61	Forest	0.08	1052.04	89.31
3848	J-2093	846.56	Forest	1.68	1053.00	89.32
5160	J-2733	846.54	Forest	0.48	1053.00	89.33
4995 3207	J-2639 J-1739	845.93 858.41	Forest Forest	0.28 0.08	1052.44 1064.93	89.35 89.35
5840	J-3124	845.19	Forest	0.48	1051.74	89.37
4357	J-2297	850.70	Forest	0.68	1057.27	89.38
3183	J-1724	858.29	Forest	0.08	1064.86	89.38
825	J-467	845.38	Forest	0.88	1051.96	89.38
2724	J-1470	845.10	Forest	1.68	1051.74	89.40
817	J-462	853.08	Forest	0.08	1059.77	89.42
8490 6479	J-4197	845.81 854.39	Forest	0.48	1052.51	89.43 89.44
1885	J-3497 J-980	854.39 858.19	Forest Forest	0.08 0.48	1061.12 1064.93	89.44 89.45
1732	J-881	848.56	Forest	0.48	1055.31	89.45
6962	J-3782	850.62	Forest	0.08	1057.40	89.46
5938	J-3178	851.16	Forest	0.08	1057.97	89.48
120	J-57	855.36	Forest	0.48	1062.25	89.51
89	J-40	849.71	Forest	0.08	1056.61	89.52
7336	J-3967	852.43	Forest	0.48	1059.33	89.52
4396	J-2312	849.85	Forest	1.28 1.28	1056.78	89.53
2331 4996	J-1250 J-2640	852.93 845.50	Forest Forest	0.28	1059.86 1052.44	89.53 89.53
5841	J-3125	844.65	Forest	2.09	1051.74	89.60
3702	J-2020	844.94	Forest	0.48	1052.04	89.60
6616	J-3578	850.15	Forest	0.28	1057.27	89.61
4993	J-2638	854.24	Forest	0.88	1061.38	89.62
7211	J-3915	857.76	Forest	0.28	1064.94	89.64
5936	J-3177	851.38	Forest Forest	0.08	1058.63	89.67
4919 2725	J-2595 J-1471	845.70 844.36	Forest	3.29 0.88	1053.02 1051.74	89.70 89.72
1510	J-753	851.20	Forest	0.48	1058.63	89.74
4516	J-2367	844.29	Forest	0.88	1051.74	89.75
618	J-354	844.51	Forest	0.48	1051.96	89.75
5106	J-2703	844.38	Forest	0.48	1051.84	89.76
2352	J-1261	811.85	Lakes	0.72	1019.31	89.76
2611 968	J-1404 J-532	846.51 844.62	Forest Forest	0.68 0.28	1053.99 1052.20	89.77 89.81
6502	J-3510	846.38	Forest	1.48	1054.00	89.83
934	J-516	853.49	Forest	1.28	1061.12	89.83
6910	J-3752	845.34	Forest	0.28	1052.99	89.84
3909	J-2122	857.25	Forest	0.48	1064.97	89.87
5426	J-2887	845.28	Forest	0.08	1053.03	89.88
1741 1703	J-887 J-862	847.54 844.00	Forest Forest	0.68 0.08	1055.31 1051.84	89.89 89.92
1703 3257	J-862 J-1770	844.00 845.14	Forest	1.68	1051.84	89.92 89.94
2786	J-1508	756.04	Forest	1.08	963.95	89.95
6097	J-3271	846.07	Forest	0.28	1053.99	89.96
722	J-416	844.00	Forest	0.08	1051.96	89.97
6961	J-3781	849.43	Forest	0.08	1057.40	89.98
4918	J-2594	845.00	Forest	2.09	1053.02	90.00
3372	J-1835	856.87	Forest	1.08	1064.93	90.02
4413	J-2317	845.93	Forest	0.88	1054.00	90.02
5818 1144	J-3112 J-605	851.70 844.89	Forest Forest	0.28 0.28	1059.77 1053.00	90.02 90.04
6008	J-3217	854.10	Forest	0.28	1062.25	90.04
1849	J-956	843.78	Forest	0.48	1051.96	90.00
7538	J-4043	845.02	Forest	0.48	1053.22	90.08
2381	J-1278	856.73	Forest	0.08	1064.94	90.08
3527	J-1923	847.79	Forest	0.28	1056.05	90.11
4219	J-2255	848.45	Forest	0.68	1056.78	90.13
5216	J-2764	843.86	Forest	0.08	1052.20	90.14
820	J-464	843.59	Forest	0.28	1051.96	90.15
1850	J-957 J-2822	843.55 843.40	Forest Forest	0.88	1051.96	90.17 90.18
5315 1204	J-2822 J-631	843.40 844.54	Forest Forest	0.88 0.08	1051.84 1052.99	90.18 90.19
3566	J-1944	852.92	Forest	0.08	1061.38	90.19
6793	J-3683	856.45	Forest	0.08	1064.93	90.20
421	J-233	843.39	Forest	0.28	1051.96	90.24
6059	J-3248	843.38	Forest	0.08	1052.00	90.26
5314	J-2821	843.20	Forest	1.28	1051.84	90.27
6844	J-3713	844.00	Forest	1.28	1052.71	90.30
6846 3087	J-3714 J-1666	856.19 847.88	Forest	0.48 0.48	1064.93	90.31
3087 5215	J-1666 J-2763	847.88 843.41	Forest Forest	0.48	1056.64 1052.20	90.32 90.33
420	J-232	843.14	Forest	0.28	1052.20	90.33
2834	J-1535	843.89	Forest	0.88	1052.71	90.35
4638	J-2438	1114.07	Stewartsville	0.26	1322.91	90.35
1704	J-863	842.98	Forest	0.48	1051.84	90.37
2831	J-1533	847.89	Forest	0.48	1056.78	90.37
6897	J-3744	755.04	Forest	0.08	963.94	90.38
5803 1918	J-3104 J-1001	843.96 845.31	Forest Forest	0.68 0.48	1052.87 1054.24	90.39 90.39
5802	J-3103	843.94	Forest	0.48	1054.24	90.39

Node	Node	Elevation	Pressure	Demand	Calculated Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
8500	J-4203	845.04	Forest	0.48	1053.99	90.40
6526 1887	J-3524 J-981	847.07 844.00	Forest Forest	1.48 0.48	1056.05 1052.99	90.42 90.42
4038	J-2179	844.01	Forest	2.09	1053.00	90.42
3625	J-1976	855.90	Forest	0.08	1064.93	90.44
7160 6852	J-3893 J-3717	846.98 842.89	Forest Forest	0.08 0.28	1056.05 1051.96	90.46 90.46
3086	J-1665	847.55	Forest	0.48	1056.64	90.46
5446	J-2898	846.22	Forest	0.28	1055.31	90.46
1665 459	J-837 J-257	844.05 1008.92	Forest Lakes	0.28 0.29	1053.16 1218.02	90.47 90.47
2919	J-1579	843.36	Forest	2.49	1052.51	90.49
4720	J-2482	843.85	Forest	0.08	1053.00	90.49
1720 2158	J-873 J-1146	842.77 843.84	Forest Forest	0.48 0.08	1051.96 1053.03	90.51 90.51
3226	J-1750	850.11	Forest	0.08	1059.33	90.52
5687	J-3036	847.43	Forest	0.88	1056.69	90.54
3227 2260	J-1751 J-1208	850.04 845.96	Forest Forest	0.28 1.08	1059.33 1055.31	90.55 90.58
2878	J-1559	842.56	Forest	0.48	1051.96	90.60
6787	J-3679	848.00	Forest	0.08	1057.43	90.61
6788 4127	J-3680 J-2218	848.00 848.00	Forest Forest	0.48 1.28	1057.43 1057.43	90.61 90.61
840	J-474	847.23	Forest	0.28	1056.69	90.63
5003	J-2644	851.63	Forest	0.08	1061.13	90.64
4069 3846	J-2194 J-2092	846.98 844.32	Forest Forest	0.28 1.08	1056.64 1053.99	90.71 90.72
3838	J-2087	754.24	Forest	0.48	963.95	90.73
234	J-112	1113.09	Stewartsville	0.11	1322.91	90.78
5265 235	J-2793 J-113	843.13 1113.01	Forest Stewartsville	0.08 0.11	1053.00 1322.91	90.80 90.81
5243	J-2781	846.81	Forest	1.88	1056.80	90.85
5959	J-3190	753.96	Forest	0.08	963.95	90.85
5009 5010	J-2647 J-2648	842.98 842.96	Forest Forest	0.28 1.08	1053.00 1053.00	90.86 90.87
5242	J-2780	846.75	Forest	1.68	1056.80	90.88
3888	J-2112	842.92	Forest	0.88	1052.99	90.89
7206 439	J-3913 J-244	841.75 847.14	Forest Forest	1.28 0.08	1051.84 1057.33	90.90 90.94
4485	J-2349	841.57	Forest	0.48	1051.84	90.94
4486	J-2350	841.54	Forest	0.28	1051.84	90.99
991	J-543	850.74	Forest	0.68	1061.13	91.03
6140 3567	J-3297 J-1945	847.08 850.95	Forest Forest	0.08 1.88	1057.48 1061.38	91.03 91.04
6413	J-3459	851.43	Forest	0.08	1061.88	91.05
5022	J-2655	842.54	Forest	0.68	1052.99	91.05
4328 7726	J-2289 J-4100	841.45 854.36	Forest Forest	1.28 0.28	1052.04 1064.97	91.11 91.12
486	J-272	841.30	Forest	1.08	1051.96	91.14
440	J-245	846.54	Forest	0.48	1057.33	91.20
487 1740	J-273 J-886	841.09 844.44	Forest Forest	0.28 0.28	1051.96 1055.31	91.23 91.24
1731	J-880	844.35	Forest	0.48	1055.31	91.27
5039	J-2665	840.73	Forest	2.89	1051.74	91.30
2590 5439	J-1391 J-2894	850.85 841.60	Forest Forest	0.48 0.48	1061.88 1052.64	91.30 91.31
7533	J-4041	841.95	Forest	0.08	1053.00	91.31
6139	J-3296	846.41	Forest Forest	2.49	1057.48	91.32
276 3221	J-140 J-1747	846.04 1006.92	Lakes	2.09 0.20	1057.13 1218.04	91.33 91.34
258	J-128	846.16	Forest	0.08	1057.32	91.36
458 5621	J-256	1006.82	Lakes	0.20	1218.04 1057.13	91.38
780	J-2997 J-444	845.91 840.72	Forest Forest	0.08 0.08	1057.13	91.38 91.39
259	J-129	846.09	Forest	0.08	1057.32	91.39
6412	J-3458	850.63	Forest	0.48 1.88	1061.88	91.39
553 1472	J-315 J-738	840.77 841.17	Forest Forest	0.08	1052.04 1052.45	91.40 91.41
5040	J-2666	840.42	Forest	0.48	1051.74	91.43
299	J-154	845.92	Forest Forest	0.08	1057.32	91.46
4148 5021	J-2228 J-2654	850.22 841.54	Forest	1.08 0.48	1061.63 1052.99	91.47 91.49
275	J-139	845.67	Forest	0.88	1057.13	91.49
838	J-473	840.35	Forest	0.08	1051.96	91.55
6429 3528	J-3468 J-1924	840.31 844.36	Forest Forest	0.28 0.48	1051.96 1056.05	91.57 91.59
806	J-457	840.18	Forest	0.48	1051.96	91.63
165	J-81	848.94	Forest	1.28	1060.72	91.63
5440 500	J-2895 J-281	840.81 839.99	Forest Forest	0.28 0.28	1052.64 1051.96	91.65 91.71
4525	J-2372	839.88	Forest	0.08	1051.98	91.76
4524	J-2371	839.87	Forest	1.28	1051.98	91.77
962 4093	J-529 J-2205	840.69 839.77	Forest Forest	0.28 0.68	1052.88 1052.04	91.80 91.84
6117	J-3283	1006.03	Lakes	0.20	1218.34	91.86
5557	J-2960	848.26	Forest	2.09	1060.72	91.92
5551 2944	J-2957 J-1591	844.47 844.45	Forest Forest	0.48 0.08	1056.96 1056.96	91.93 91.94
2211	J-1179	751.36	Forest	0.48	963.95	91.98
5558	J-2961	848.00	Forest	1.28	1060.72	92.03
1884 6116	J-979 J-3282	852.19 1005.54	Forest Lakes	0.88 0.20	1064.92 1218.34	92.04 92.07
1272	J-660	1005.54	Lakes	0.20	1218.61	92.07
6704	J-3630	840.39	Forest	0.48	1053.24	92.09
3178 3177	J-1721 J-1720	840.12 840.11	Forest Forest	0.08 0.68	1053.00 1053.00	92.10 92.11
1276	J-662	852.00	Forest	0.88	1064.94	92.11
5468	J-2911	852.00	Forest	0.08	1064.94	92.13
4065	J-2192	841.05	Forest	0.68	1053.99	92.13

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
187	J-90	841.66	Forest	1.48	1054.63	92.14
1821	J-938	840.01	Forest	0.68	1054.65	92.14
1804	J-927	851.85	Forest	1.08	1064.86	92.16
7046 5991	J-3829 J-3208	750.91 1005.46	Forest Lakes	1.28 0.20	963.94 1218.61	92.17 92.22
3122	J-1688	843.29	Forest	0.28	1056.68	92.32
2081 6593	J-1099 J-3564	851.34 838.86	Forest Forest	0.08 0.08	1064.97 1052.51	92.43 92.44
627	J-360	838.29	Forest	0.08	1051.95	92.44
6705 3546	J-3631 J-1933	839.58 750.24	Forest Forest	0.08 2.69	1053.24 963.94	92.44 92.46
6019	J-3223	839.12	Forest	0.08	1052.88	92.48
2141 3829	J-1136 J-2083	844.03	Forest	0.48	1057.97	92.56 92.61
90	J-2003 J-41	749.89 842.63	Forest Forest	0.88 0.28	963.94 1056.68	92.61
2591	J-1392	847.72	Forest	0.68	1061.87	92.65
5849 7113	J-3129 J-3867	1004.32 843.77	Lakes Forest	0.20 0.28	1218.50 1057.97	92.66 92.68
6594	J-3565	838.27	Forest	0.28	1052.51	92.69
1129 5136	J-598 J-2719	840.00 840.00	Forest Forest	0.48 0.08	1054.37 1054.37	92.75 92.75
4453	J-2330	843.58	Forest	0.48	1057.97	92.75
4454	J-2331	843.55	Forest Forest	0.48	1057.97	92.77
6020 762	J-3224 J-435	838.45 837.64	Forest	0.08 0.28	1052.88 1052.09	92.77 92.78
6898	J-3745	749.48	Forest	0.28	963.94	92.79
1143 4958	J-604 J-2618	838.54 842.81	Forest Forest	0.48 0.28	1053.00 1057.29	92.79 92.79
247	J-121	838.47	Forest	0.08	1052.99	92.81
682 552	J-393 J-314	842.26 837.39	Forest Forest	1.28 0.88	1056.82 1052.04	92.83 92.87
6184	J-3322	1108.28	Stewartsville	0.88	1322.98	92.89
4646	J-2442	838.24	Forest	0.08	1052.99	92.91
246 5787	J-120 J-3094	838.23 838.21	Forest Forest	0.48 0.08	1052.99 1053.00	92.92 92.93
1560	J-775	1003.69	Lakes	0.20	1218.50	92.94
6596 7175	J-3566 J-3899	837.23 849.94	Forest Forest	0.28 0.48	1052.09 1064.94	92.96 93.02
1008	J-551	836.97	Forest	0.88	1052.04	93.05
4957	J-2617	842.21	Forest	0.28	1057.29	93.05
2382 5979	J-1279 J-3201	849.83 837.85	Forest Forest	0.48 0.08	1064.94 1052.99	93.07 93.08
6943	J-3771	838.75	Forest	0.88	1053.99	93.12
8114 5448	J-4168 J-2899	837.36 837.24	Forest Forest	0.28 0.48	1052.68 1052.66	93.16 93.20
6662	J-3605	849.42	Forest	0.88	1064.91	93.24
7761 1565	J-4108 J-777	841.74 1002.88	Forest Lakes	1.08 0.20	1057.29 1218.43	93.26 93.26
3216	J-1744	837.45	Forest	0.88	1053.00	93.26
389	J-212	837.32	Forest	0.08	1052.88	93.26
1679 4682	J-846 J-2462	836.17 748.27	Forest Forest	0.08 0.88	1051.83 963.94	93.31 93.31
3547	J-1934	748.27	Forest	0.88	963.94	93.31
353 352	J-189 J-188	1107.30 1107.22	Stewartsville Stewartsville	0.40 0.11	1322.98 1322.98	93.32 93.35
1242	J-649	837.13	Forest	0.08	1052.99	93.39
3217 5182	J-1745 J-2745	837.10 835.91	Forest Forest	0.68 0.68	1053.00 1051.83	93.41 93.42
2791	J-1511	836.72	Forest	0.08	1052.66	93.43
6663 2500	J-3606 J-1341	848.87 836.94	Forest Forest	0.88 1.68	1064.91 1053.01	93.47 93.48
5805	J-3105	1002.35	Lakes	0.20	1218.43	93.49
6954	J-3777	835.74	Forest	0.08	1051.96	93.55
1680 390	J-847 J-213	835.60 836.63	Forest Forest	1.48 0.08	1051.84 1052.88	93.56 93.56
2460	J-1319	836.63	Forest	0.68	1053.01	93.62
7802 5942	J-4121 J-3181	835.58 835.52	Forest Forest	0.28 0.48	1051.96 1051.96	93.62 93.64
5941	J-3180	835.51	Forest	0.48	1051.96	93.65
8511 2461	J-4208 J-1320	836.00 836.49	Forest Forest	0.08 0.88	1052.51 1053.01	93.68 93.68
2109	J-1115	835.28	Forest	1.48	1055.01	93.75
5748 1080	J-3072 J-581	842.00 1001.64	Forest	0.08 0.20	1058.71	93.76 93.89
2123	J-581 J-1124	834.87	Lakes Forest	0.20	1218.65 1051.98	93.89
5610	J-2991	847.72	Forest	0.88	1064.91	93.97
152 1714	J-74 J-869	841.48 835.64	Forest Forest	0.48 0.88	1058.71 1053.03	93.99 94.05
4769	J-2510	847.57	Forest	0.68	1064.97	94.06
6528 1580	J-3525 J-784	1001.15 842.35	Lakes Forest	0.20 0.68	1218.65 1059.86	94.10 94.10
1743	J-888	847.38	Forest	0.88	1064.91	94.12
6660	J-3604	835.34	Forest	0.28	1052.99	94.17
1579 4768	J-783 J-2509	842.20 847.21	Forest Forest	0.88 0.28	1059.86 1064.97	94.17 94.21
3880	J-2108	834.19	Forest	1.68	1052.03	94.25
7025 656	J-3818 J-378	847.04 839.39	Forest Forest	0.08 0.08	1064.94 1057.32	94.28 94.29
3385	J-1841	833.91	Forest	0.48	1051.95	94.33
7225 30	J-3923 J-2	834.93 839.47	Forest Forest	0.08 0.08	1053.01 1057.56	94.35 94.36
8203	J-4170	834.82	Forest	2.29	1053.01	94.40
6929	J-3763	745.65	Forest	0.08	963.95	94.45
5412 1805	J-2879 J-928	834.63 846.44	Forest Forest	0.28 0.48	1053.01 1064.86	94.48 94.50
5629	J-3002	833.85	Forest	0.68	1052.36	94.54
6055 1923	J-3245 J-1004	834.15 833.17	Forest Forest	1.08 0.88	1052.74 1051.83	94.57 94.60
7148	J-3886	834.06	Forest	0.08	1052.72	94.61

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
7149	J-3887	834.03	Forest	0.88	1052.72	94.62
6372	J-3435	998.98	Lakes	0.20	1217.72	94.64
1250 4133	J-651 J-2222	998.91 842.62	Lakes Forest	0.29 2.69	1217.72 1061.45	94.67 94.68
5250	J-2222 J-2785	842.62	Forest	0.48	1061.45	94.68
6056	J-3246	833.82	Forest	0.48	1052.74	94.72
5630 2730	J-3003 J-1474	833.41 834.41	Forest Forest	0.08 0.88	1052.36 1053.48	94.73 94.78
121	J-58	843.26	Forest	0.08	1062.37	94.80
1753	J-895	838.26	Forest	0.88	1057.52	94.87
2122 8062	J-1123 J-4163	832.70 833.23	Forest Forest	0.88 3.32	1051.98 1052.56	94.87 94.89
7548	J-4047	832.98	Forest	0.48	1052.38	94.92
3484	J-1898	833.53	Forest	1.28	1052.99	94.95
7186 1031	J-3903 J-560	845.35 832.58	Forest Forest	0.28 0.28	1064.94 1052.18	95.00 95.01
4407	J-2315	833.39	Forest	0.68	1052.99	95.01
1822	J-939	833.37	Forest	0.68	1053.00	95.02
4008 7054	J-2167 J-3834	833.06 1103.19	Forest Stewartsville	0.88 0.11	1052.72 1322.91	95.04 95.06
5076	J-2687	832.37	Forest	0.28	1052.18	95.10
2857	J-1548	832.24	Forest Forest	0.68	1052.13	95.14
325 2896	J-171 J-1569	833.08 743.99	Forest	0.08 0.88	1053.01 963.94	95.15 95.16
7551	J-4048	832.32	Forest	0.88	1052.38	95.21
7602	J-4062 J-3912	997.85	Lakes	0.37	1218.02	95.26
7204 6408	J-3912 J-3456	837.06 840.00	Forest Forest	0.48 0.48	1057.32 1060.27	95.30 95.30
2372	J-1273	844.65	Forest	0.08	1064.94	95.31
324 171	J-170	832.70 839.89	Forest Forest	0.08	1053.01	95.32
8506	J-85 J-4206	839.89	Forest	0.08 0.48	1060.27 1051.96	95.35 95.36
662	J-382	836.29	Forest	1.48	1056.80	95.41
7953 2384	J-4151 J-1280	831.26 844.36	Forest Forest	1.68 0.28	1051.84 1064.94	95.43
1349	J-687	836.67	Forest	0.28	1057.32	95.43 95.47
3593	J-1960	835.94	Forest	1.68	1056.78	95.55
3667	J-1999 J-1998	844.01 844.00	Forest Forest	0.28 1.08	1064.86	95.55
3666 7394	J-3990	844.00	Forest	0.08	1064.87 1064.93	95.56 95.59
7395	J-3991	844.00	Forest	0.48	1064.93	95.59
4023 6155	J-2173 J-3305	832.05 838.78	Forest Forest	1.48 0.68	1052.99 1059.76	95.59
3957	J-3305 J-2144	835.78	Forest	2.49	1059.76	95.61 95.62
2140	J-1135	836.96	Forest	0.68	1057.97	95.62
6930 1890	J-3764 J-983	742.90 831.40	Forest Forest	0.08 0.88	963.95 1052.50	95.64 95.66
2108	J-1114	830.80	Forest	0.48	1052.50	95.69
1722	J-874	830.79	Forest	0.08	1051.97	95.70
5195	J-2752 J-299	838.45	Forest	1.88 0.11	1059.68	95.71
527 29	J-299 J-1	1101.56 836.20	Stewartsville Forest	1.48	1322.91 1057.56	95.77 95.77
6877	J-3732	832.00	Forest	1.28	1053.45	95.81
6878	J-3733 J-2945	832.00 830.73	Forest Forest	0.48 0.28	1053.45 1052.20	95.81
5529 5967	J-3194	843.37	Forest	0.28	1064.86	95.82 95.83
2917	J-1578	801.33	Lakes	0.37	1022.87	95.85
7649 321	J-4078 J-168	835.75 1101.30	Forest Stewartsville	0.08 0.11	1057.32 1322.91	95.87 95.88
2089	J-1102	996.40	Lakes	0.46	1218.02	95.89
4560	J-2392	996.38	Lakes	0.20	1218.02	95.89
4222 4561	J-2257	838.03	Forest Lakes	0.28 0.20	1059.68 1218.02	95.90 95.93
2085	J-2393 J-1100	996.30 996.29	Lakes	0.63	1218.02	95.93
2086	J-1101	996.29	Lakes	0.46	1218.02	95.93
3485 1752	J-1899 J-894	831.19 835.68	Forest Forest	0.08 0.88	1052.99 1057.53	95.96 95.98
4596	J-2414	829.91	Forest	0.48	1057.55	96.02
5649	J-3014	831.02	Forest	0.08	1052.99	96.04
526 3664	J-298 J-1997	1100.91 837.69	Stewartsville Forest	0.26 1.08	1322.91 1059.75	96.05 96.08
4595	J-2413	829.69	Forest	0.48	1059.75	96.12
2727	J-1472	829.69	Forest	0.48	1051.85	96.12
1331 170	J-683 J-84	830.71 837.57	Forest Forest	0.08 0.08	1052.99 1059.87	96.17 96.18
4116	J-2214	837.40	Forest	1.08	1059.76	96.20
1055	J-571	1100.54	Stewartsville	0.55	1322.91	96.21
3447 5001	J-1876 J-2643	834.87 837.44	Forest Forest	0.48 1.68	1057.28 1059.87	96.23 96.24
5530	J-2643 J-2946	829.72	Forest	0.08	1059.87	96.24
1744	J-889	842.41	Forest	0.48	1064.91	96.26
6150	J-3302	741.42	Forest	1.48	963.94	96.27
626 1990	J-359 J-1048	829.31 842.24	Forest Forest	0.48 0.68	1051.95 1064.92	96.32 96.34
322	J-169	1100.18	Stewartsville	0.40	1322.91	96.37
4943 2389	J-2609 J-1283	1100.05 842.07	Stewartsville Forest	0.11 0.08	1322.91 1064.94	96.42 96.42
2389 827	J-1283 J-468	842.07 1100.00	Stewartsville	0.08	1322.91	96.42 96.44
5965	J-3193	1100.00	Stewartsville	0.26	1322.91	96.44
2758	J-1491	842.00	Forest	1.28 0.48	1064.93	96.45
1723 3767	J-875 J-2053	828.92 836.70	Forest Forest	0.48	1051.97 1059.77	96.51 96.51
5126	J-2714	837.99	Forest	0.08	1061.12	96.54
933	J-515	837.94	Forest	0.48	1061.12	96.56
648 5657	J-373 J-3019	839.06 838.02	Forest Forest	0.68 1.28	1062.40 1061.37	96.63 96.64
6462	J-3487	1099.61	Stewartsville	0.26	1322.98	96.64
6295	J-3389	836.36	Forest	0.88	1059.77	96.66
6041	J-3236	829.22	Forest	0.48	1052.72	96.70

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
7608 7619	J-4064 J-4069	828.91 829.74	Forest Forest	0.48 0.88	1052.51 1053.42	96.74 96.77
6818	J-3697	833.57	Forest	0.48	1057.29	96.79
6819	J-3698	833.57	Forest	0.48	1057.29	96.79
1715 3626	J-870 J-1977	829.28 841.17	Forest Forest	0.68 0.88	1053.02 1064.93	96.80 96.81
715	J-411	1099.21	Stewartsville	0.26	1322.98	96.81
1466	J-735	828.78	Forest	4.36	1052.56	96.82
5658 5705	J-3020 J-3047	837.59 833.99	Forest Forest	0.68	1061.37 1057.78	96.82 96.82
529	J-300	833.89	Forest	0.08	1057.78	96.86
359	J-193	833.82	Forest	0.08	1057.78	96.90
818 6042	J-463 J-3237	835.72 828.65	Forest Forest	0.48 0.88	1059.77 1052.72	96.94 96.94
358	J-192	833.70	Forest	0.08	1057.78	96.95
430	J-239	837.59	Forest	0.08	1061.76	96.99
2767 3448	J-1496 J-1877	835.53 832.92	Forest Forest	1.08 0.08	1059.75 1057.28	97.01 97.07
4690	J-2466	840.55	Forest	0.28	1064.93	97.08
6448	J-3479	835.39	Forest	1.28	1059.77	97.08
3955 1889	J-2143 J-982	836.98 827.92	Forest Forest	0.68 0.68	1061.38 1052.51	97.09 97.17
5162	J-2734	827.94	Forest	0.68	1052.54	97.17
7284	J-3950	832.72	Forest	0.08	1057.32	97.17
785 5477	J-447 J-2916	827.25 832.53	Forest Forest	0.08 0.88	1051.96 1057.28	97.22 97.24
5163	J-2735	827.77	Forest	0.28	1052.54	97.24
798	J-453	1098.06	Stewartsville	0.55	1322.91	97.28
1005 429	J-549 J-238	839.99 836.77	Forest Forest	0.68	1064.93 1061.76	97.32 97.34
5352	J-2844	831.75	Forest	0.48	1056.78	97.36
7126	J-3874	834.94	Forest	0.08	1059.99	97.37
6639 6618	J-3592 J-3579	839.83 827.85	Forest Forest	0.48 1.08	1064.93 1052.99	97.39 97.41
7127	J-3875	834.84	Forest	0.48	1052.99	97.41
7283	J-3949	832.13	Forest	0.08	1057.32	97.43
2446 2357	J-1311 J-1264	832.00 839.60	Forest Forest	0.88 0.88	1057.25 1064.91	97.46 97.48
2524	J-1354	831.44	Forest	1.08	1056.78	97.49
7229	J-3925	839.58	Forest	0.08	1064.94	97.50
6151 5643	J-3303 J-3010	738.52 992.50	Forest Lakes	0.88 0.20	963.94 1218.02	97.53 97.58
2447	J-1312	831.60	Forest	2.29	1057.25	97.63
4022	J-2172	827.26	Forest	0.48	1052.99	97.66
7033 2572	J-3822 J-1381	835.99 825.95	Forest Forest	0.08	1061.76 1051.98	97.68 97.79
3594	J-1961	830.56	Forest	0.88	1056.78	97.88
7588	J-4057	833.74	Forest	0.48	1059.99	97.89
2053 4255	J-1087 J-2265	991.65 826.17	Lakes Forest	1.09 1.48	1218.03 1052.62	97.95 97.97
5174	J-2741	991.52	Lakes	0.37	1218.03	98.00
6424 980	J-3465 J-537	825.44 825.44	Forest Forest	0.08 0.28	1051.98 1052.04	98.01 98.04
661	J-381	830.18	Forest	0.08	1056.81	98.05
2835	J-1536	826.07	Forest	1.48	1052.71	98.06
5816 5644	J-3111 J-3011	825.54 991.12	Forest Lakes	0.48 0.20	1052.33 1218.02	98.12 98.17
7369	J-3981	838.02	Forest	0.08	1064.93	98.17
1069	J-577	833.27	Forest	0.08	1060.22	98.19
1614 2371	J-806 J-1272	824.90 837.85	Forest Forest	0.68 0.88	1051.98 1064.94	98.24 98.25
3336	J-1815	829.57	Forest	0.48	1056.79	98.30
2149	J-1141	832.53	Forest	0.88	1059.76	98.31
2525 6777	J-1355 J-3673	829.53 828.70	Forest Forest	0.08 0.88	1056.78 1055.97	98.32 98.33
1852	J-958	829.49	Forest	0.08	1056.79	98.34
4161	J-2234	837.47	Forest	0.48	1064.93	98.41
3410 6776	J-1855 J-3672	824.57 828.49	Forest Forest	0.08 0.88	1052.04 1055.97	98.41 98.42
5815	J-3110	824.82	Forest	1.28	1052.33	98.43
3297 1061	J-1794 J-574	837.37 825.45	Forest Forest	0.08 0.88	1064.93 1053.00	98.45 98.45
4688	J-2465	824.48	Forest	0.48	1052.04	98.45
2476	J-1328	824.37	Forest	0.68	1051.98	98.47
2387 4786	J-1282 J-2519	837.32	Forest	0.68	1064.94	98.48 98.48
1613	J-805	824.33 824.19	Forest Forest	0.08	1051.96 1051.98	98.55
7096	J-3857	832.36	Forest	0.08	1060.22	98.59
4860 5488	J-2561 J-2922	829.40 837.03	Forest Forest	0.08 0.68	1057.29 1064.93	98.60 98.60
6580	J-3557	829.42	Forest	0.08	1057.32	98.60
4787	J-2520	824.02	Forest	0.28	1051.96	98.62
4650 4859	J-2444 J-2560	825.01 829.16	Forest Forest	0.68 0.28	1053.00 1057.29	98.64 98.70
1808	J-930	832.00	Forest	0.48	1060.15	98.71
1807	J-929	832.00	Forest	0.88	1060.15	98.71
5090 7258	J-2694 J-3939	828.61 836.59	Forest Forest	0.48 0.08	1056.79 1064.94	98.72 98.80
2435	J-1305	823.55	Forest	0.08	1051.98	98.83
3357	J-1827	828.33	Forest	1.68	1056.79	98.84
4692 5206	J-2467 J-2758	828.30 735.07	Forest Forest	0.08 0.28	1056.81 963.95	98.87 99.03
7049	J-2758 J-3831	823.04	Forest	1.08	1052.02	99.03
2052	J-1086	989.06	Lakes	0.29	1218.03	99.07
7368 7454	J-3980 J-4011	835.90 823.06	Forest Forest	0.08 0.48	1064.93 1052.09	99.09 99.09
2538	J-1362	1093.83	Stewartsville	0.46	1322.91	99.11
3996	J-2161	822.94	Forest	2.09	1052.03	99.12
3146	J-1703	734.85	Forest	0.48	963.95	99.12

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
			Forest			
3345 3599	J-1820 J-1964	827.66 827.61	Forest	0.28 0.88	1056.82 1056.78	99.14 99.15
3563	J-1943	988.85	Lakes	1.81	1218.03	99.16
4095 6579	J-2206 J-3556	829.70 827.98	Forest Forest	1.28 0.08	1059.01 1057.32	99.21 99.23
106	J-5556 J-51	827.41	Forest	0.08	1057.32	99.25
3145	J-1702	734.47	Forest	0.08	963.95	99.28
1554 2148	J-772 J-1140	988.55 830.21	Lakes Forest	4.18 0.08	1218.07 1059.76	99.30 99.31
716	J-412	1093.41	Stewartsville	0.08	1322.98	99.31
6872	J-3729	822.38	Forest	0.28	1051.96	99.33
6873 4249	J-3730 J-2264	822.35 827.82	Forest Forest	0.08 1.68	1051.96 1057.53	99.34 99.38
5340	J-2837	830.01	Forest	0.48	1057.55	99.39
6182	J-3321	832.65	Forest	0.48	1062.40	99.40
1593 3779	J-792 J-2059	822.18 734.14	Forest Forest	0.08 4.50	1051.98 963.93	99.42 99.42
6229	J-3350	829.19	Forest	0.08	1059.01	99.42
5660	J-3021	822.23	Forest	0.68	1052.09	99.45
7155	J-3890	1093.10	Stewartsville	0.11	1322.98	99.45
2667 3285	J-1436 J-1787	830.27 827.63	Forest Forest	0.08 1.68	1060.15 1057.53	99.46 99.46
8088	J-4167	821.93	Forest	0.88	1051.83	99.47
6721	J-3640	988.14	Lakes	0.20	1218.07	99.48
3840 6723	J-2088 J-3641	821.89 830.19	Forest Forest	0.88 0.48	1051.85 1060.15	99.49 99.49
1901	J-990	821.76	Forest	0.88	1051.83	99.54
4068	J-2193	826.56	Forest	0.08	1056.64	99.55
1594 7048	J-793 J-3830	821.87 821.90	Forest Forest	0.88 0.88	1051.98 1052.02	99.56 99.56
5652	J-3016	988.09	Lakes	0.20	1218.27	99.59
874	J-491	834.75	Forest	0.48	1064.94	99.59
5651 5661	J-3015 J-3022	988.00 821.72	Lakes Forest	0.37 1.48	1218.27 1052.09	99.63 99.67
5665	J-3024	826.26	Forest	0.48	1056.64	99.68
6682	J-3617	822.81	Forest	0.88	1053.22	99.69
5290	J-2807	827.10 826.71	Forest Forest	0.28	1057.53	99.69
2994 6260	J-1614 J-3369	827.46	Forest	0.28 0.48	1057.16 1057.97	99.70 99.73
6228	J-3349	828.47	Forest	1.48	1059.01	99.74
7386	J-3988	829.60	Forest	0.48	1060.15	99.75
4473 2009	J-2342 J-1060	829.43 829.13	Forest Forest	0.48 0.88	1059.99 1059.74	99.76 99.77
2536	J-1361	821.23	Forest	0.08	1051.98	99.83
4474	J-2343	829.23	Forest	0.08	1059.99	99.84
5367 6422	J-2853 J-3464	826.73 826.20	Forest Forest	0.08 0.28	1057.53 1057.00	99.86 99.86
1882	J-978	821.03	Forest	0.08	1051.84	99.86
6261	J-3370	827.13	Forest	1.08	1057.97	99.87
2156 2892	J-1145 J-1567	827.12 733.09	Forest Forest	0.08 4.28	1057.97 963.95	99.88 99.88
3305	J-1798	828.84	Forest	0.08	1059.76	99.91
5185	J-2747	825.85	Forest	0.88	1056.79	99.91
5263 5366	J-2792 J-2852	1092.00 826.56	Stewartsville Forest	0.11 0.08	1322.94 1057.53	99.92 99.93
6345	J-3419	828.70	Forest	0.48	1059.76	99.97
3870	J-2102	828.63	Forest	0.88	1059.76	100.00
1196 1853	J-626 J-959	1091.74 825.45	Stewartsville Forest	0.11 2.49	1322.94 1056.74	100.03 100.07
2928	J-1584	821.10	Forest	1.28	1052.46	100.10
1846	J-954	826.17	Forest	0.08	1057.53	100.10
2564 2645	J-1377 J-1424	833.56 821.82	Forest Forest	0.08 0.48	1064.93 1053.22	100.10 100.12
4374	J-2303	821.58	Forest	0.08	1052.99	100.12
5184	J-2746	825.37	Forest	0.68	1056.79	100.12
2832 117	J-1534 J-56	825.28 825.48	Forest Forest	1.28 0.08	1056.78 1057.00	100.16 100.17
5719	J-3055	825.72	Forest	0.48	1057.33	100.17
1007	J-550	820.29	Forest	0.48	1052.04	100.26
1177 5027	J-617 J-2658	821.26 829.34	Forest Forest	0.28 0.48	1053.01 1061.13	100.27 100.28
901	J-504	829.32	Forest	0.48	1061.13	100.28
2222	J-1186	828.08	Forest	0.08	1059.99	100.34
7639 1810	J-4075 J-931	820.08 820.52	Forest Forest	0.08 0.48	1052.03 1052.51	100.35 100.37
2684	J-1446	820.53	Forest	0.48	1052.51	100.37
5566	J-2966	820.93	Forest	0.08	1052.99	100.40
4540	J-2380	820.93	Forest Forest	2.69	1053.01	100.41
2120 4882	J-1122 J-2573	827.67 820.31	Forest	0.68 0.08	1059.76 1052.46	100.41 100.44
1141	J-603	820.39	Forest	0.08	1052.56	100.45
1333	J-684	825.14	Forest	0.48	1057.33	100.46
5416 1410	J-2881 J-703	825.07 819.77	Forest Forest	0.08 0.08	1057.32 1052.04	100.48 100.49
4883	J-2574	820.17	Forest	0.88	1052.46	100.50
5567	J-2967	820.67	Forest	0.08	1052.99	100.51
6537 4541	J-3530 J-2381	827.66 820.67	Forest Forest	0.48 0.28	1059.99 1053.01	100.52 100.52
4170	J-2381 J-2238	832.45	Forest	0.28	1064.88	100.52
6966	J-3784	819.39	Forest	0.28	1051.95	100.62
8521 4667	J-4212 J-2453	832.00 820.00	Forest Forest	0.68 2.09	1064.91 1053.00	100.77 100.81
4668	J-2453 J-2454	820.00	Forest	0.88	1053.00	100.81
7135	J-3879	819.89	Forest	0.08	1052.99	100.85
6483	J-3499	831.78	Forest	0.08	1064.92	100.87
154 3633	J-75 J-1981	825.26 818.88	Forest Forest	1.48 0.88	1058.40 1052.03	100.87 100.87
4575	J-2401	819.70	Forest	0.08	1052.99	100.93
7812	J-4123	818.80	Forest	0.48	1052.09	100.93

December Color							
1950		l Hydraulic Grad					
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A-229							
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2204 J-1175 820.61 Forest 0.88 1059.75			0.28 0.88		813.16 820.61		
1600 J-797 812.65 Forest 0.68 1051.96	6 103.5	1051.96	0.68	Forest	812.65	J-797	1600
6218 J-3343 820.42 Forest 0.48 1059.75	5 103.5	1059.75	0.48	Forest	820.42	J-3343	6218

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand	Hydraulic Grade (ft)	Pressure
				(gpm)		(psi)
4619 6175	J-2427 J-3317	1083.27 817.56	Stewartsville Forest	3.28 1.08	1322.91 1057.27	103.68 103.71
586	J-335	1083.16	Stewartsville	0.11	1322.91	103.73
1585 3119	J-787 J-1686	820.23 812.75	Forest Forest	0.28 0.08	1059.99 1052.55	103.73 103.75
4615	J-1686 J-2425	812.75	Forest	0.88	1052.55	103.75
1865	J-967	812.63	Forest	0.68	1052.50	103.78
7553 1688	J-4049 J-852	812.15 812.04	Forest Forest	0.68 0.08	1052.02 1051.96	103.78 103.80
64	J-24	815.00	Forest	0.68	1054.93	103.81
1599	J-796	812.00	Forest	0.08	1051.96	103.82
7124 1607	J-3873 J-801	812.00 812.00	Forest Forest	0.08 0.08	1051.96 1051.96	103.82 103.82
4945	J-2610	814.92	Forest	0.08	1054.93	103.84
6439	J-3474	978.29	Lakes	0.20	1218.32	103.85
2514 4614	J-1348 J-2424	811.90 811.78	Forest Forest	0.08 0.28	1051.96 1051.85	103.86 103.87
5234	J-2775	812.42	Forest	0.28	1052.55	103.89
1582 1881	J-785 J-977	819.85 811.67	Forest Forest	0.08 1.28	1059.99 1051.83	103.90 103.91
1652	J-829	819.82	Forest	0.28	1059.99	103.91
3120	J-1687	812.35	Forest	0.08	1052.55	103.92
190 1591	J-91 J-791	820.96 824.69	Forest Forest	0.08 0.08	1061.19 1064.93	103.94 103.94
875	J-492	824.52	Forest	0.08	1064.94	104.02
1602	J-798	819.54	Forest	0.08	1059.99	104.03
1171 4894	J-615 J-2581	977.37 1082.41	Lakes Stewartsville	0.81 0.11	1217.86 1322.93	104.05 104.06
4833	J-2545	811.42	Forest	0.08	1051.96	104.07
4607 5739	J-2420 J-3067	812.43 811.28	Forest Forest	0.08 0.48	1052.99 1051.85	104.08 104.08
7359	J-3978	811.20	Forest	0.48	1051.85	104.08
4834	J-2546	811.25	Forest	0.08	1051.96	104.15
7677 4256	J-4085 J-2266	820.00 811.84	Forest Forest	0.48 2.29	1060.72 1052.62	104.15 104.17
5583	J-2200 J-2975	824.13	Forest	0.28	1064.94	104.17
47	J-13	814.02	Forest	0.68	1054.95	104.24
7346 1682	J-3974 J-848	813.87 810.87	Forest Forest	0.48 0.88	1054.86 1051.96	104.27 104.31
1590	J-790	823.77	Forest	0.28	1064.93	104.34
3708	J-2023	811.82	Forest	1.88	1052.99	104.34
8481 5737	J-4192 J-3066	810.78 810.61	Forest Forest	0.68 0.88	1051.96 1051.82	104.35 104.36
3841	J-2089	810.60	Forest	0.88	1051.85	104.38
4384	J-2308	816.00	Forest	0.08	1057.27	104.39
5736 799	J-3065 J-454	810.55 1081.58	Forest Stewartsville	0.88 0.40	1051.82 1322.91	104.39 104.41
7384	J-3987	976.65	Lakes	0.29	1218.03	104.43
5546 6932	J-2954 J-3765	1081.52	Stewartsville Lakes	0.11 0.20	1322.91 1217.86	104.44 104.53
4464	J-2337	976.25 823.23	Forest	0.48	1064.94	104.57
7465	J-4016	810.23	Forest	0.08	1051.98	104.59
2902 7345	J-1572 J-3973	823.02 812.87	Forest Forest	0.08 0.28	1064.94 1054.86	104.66 104.70
1864	J-966	810.49	Forest	1.48	1052.50	104.71
5820	J-3113	818.89	Forest	0.88	1061.19	104.83
8022 1683	J-4159 J-849	810.35 809.58	Forest Forest	1.08 0.08	1052.72 1051.96	104.86 104.86
2945	J-1592	814.44	Forest	0.68	1056.91	104.91
2586 2929	J-1389 J-1585	817.22 809.89	Forest Forest	1.28 1.48	1059.74 1052.45	104.93 104.95
1847	J-955	814.95	Forest	0.68	1057.52	104.95
6464	J-3488	976.00	Lakes	0.20	1218.58	104.95
1689 1691	J-853 J-854	809.22 809.16	Forest Forest	0.88	1051.96 1051.97	105.02 105.05
6993	J-3799	809.35	Forest	2.09	1052.25	105.09
3758	J-2049	809.13	Forest	0.28	1052.03	105.09
7641 6828	J-4076 J-3703	809.04 809.64	Forest Forest	0.08 0.68	1051.96 1052.58	105.10 105.11
3557	J-1939	809.23	Forest	0.08	1052.37	105.19
1604 6795	J-799 J-3684	808.81 808.73	Forest Forest	0.08 0.08	1051.97 1051.97	105.20 105.24
2974	J-1603	808.54	Forest	1.08	1051.97	105.24
4925	J-2598	813.69	Forest	0.08	1057.30	105.40
6829 4926	J-3704 J-2599	808.95 813.67	Forest Forest	0.28 0.08	1052.58 1057.30	105.41 105.41
1358	J-689	974.91	Lakes	0.20	1218.58	105.42
6831	J-3705	808.12	Forest	0.08	1051.96	105.49
5922 2104	J-3169 J-1112	974.39 807.87	Lakes Forest	0.20 0.88	1218.23 1051.98	105.50 105.61
6199	J-3331	807.66	Forest	1.08	1051.84	105.65
6994	J-3800	808.05	Forest	0.08	1052.25	105.65
1570 1605	J-778 J-800	974.01 807.74	Lakes Forest	0.20 0.68	1218.23 1051.97	105.66 105.67
7606	J-4063	808.33	Forest	0.48	1052.58	105.68
5927 7948	J-3172 J-4149	812.87	Forest	0.28	1057.27	105.74
7948 6825	J-4149 J-3701	807.54 810.38	Forest Forest	0.28 0.08	1051.96 1054.88	105.75 105.78
2200	J-1173	808.00	Forest	0.48	1052.54	105.80
5345 8479	J-2840 J-4191	808.00 807.41	Forest Forest	0.48 0.28	1052.54 1051.96	105.80 105.80
4048	J-2185	807.91	Forest	0.28	1052.50	105.80
1767	J-904	815.38	Forest	0.48	1059.99	105.83
5025 5024	J-2657 J-2656	973.40 973.35	Lakes Lakes	0.63 0.29	1218.03 1218.03	105.84 105.86
3168	J-1715	812.44	Forest	0.48	1057.13	105.87
783	J-446	807.25	Forest	0.08	1051.95	105.87
6476 2395	J-3495 J-1286	807.77 820.17	Forest Forest	0.88	1052.54 1064.94	105.90 105.90
	50					

Node							
6477 J.3496						Hydraulic Grade	
6477 J.3496	25/11	L1364	907.60	Forest	2.40	1052.56	105.04
3117 J-1685 812.38 Forest 1.08 1057.27 105.35 676.29 105.36 675.0 J-3060 812.07 Forest 0.88 1057.37 105.36 675.0 J-3060 812.07 Forest 0.88 1057.37 105.36 675.0 J-3060 812.07 Forest 0.88 1057.37 105.36 676.00 J-3332 806.72 Forest 0.88 1057.27 105.00 105.84 105.00 J-3060 91.00 J-							
5756 J-3660 812.03 Forest O.88 1057.97 106.04							
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2782 J-1506 81-97 Forest 0.68 1057-27 106.09 1757-13 106.09 1751-1831 J-944 811-91 Forest 0.08 1057-13 106.09 1751-1831 J-944 811-91 Forest 0.08 1057-13 106.09 1751-1831 J-9482 806.80 Forest 2.09 105.202 106.10 1							
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1989							
1989	7831		806.79	Forest	0.68	1052.02	106.10
2783 J. 1506 912.00 Forest 1.08 1057.27 106.12 22977 J. 12077 819.45 Forest 0.08 1052.72 106.12 23977 J. 12089 913.45 Forest 0.08 1064.94 106.21 2397 J. 12089 913.33 Forest 0.28 1052.99 105.29 1397 J. 12089 913.33 Forest 0.28 1052.99 105.29 1502 J. 12089 913.33 Forest 0.28 1052.99 105.29 1502 J. 12089 913.33 Forest 0.28 1052.99 106.29 1503 913 913 913 913 913 913 913 913 913 91							
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6762 J.3664 812.00 Forest 1.08 1058.01 106.83 106.43 106.43 106.65 1370.95 10698 972.01 Lakes 0.20 1218.03 106.44 1058.43 106.66 695 J.3625 806.40 Forest 0.08 1052.50 106.84 1068.45 106.66 10695.50 106.84 1068.50 106.84 1068.50 106.80 10695.50 106.84 1188 J.622 806.83 Forest 0.28 1069.29 106.50 106.80 1188 J.622 806.83 Forest 0.28 1069.29 106.50 106.80 1188 J.622 806.83 Forest 0.28 1069.29 106.50 106.80 1188 J.525 1069.20 106.50 106.80 1069.50 106.80 1							
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188							
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6312	7169	J-3896	818.39	Forest	0.28	1064.94	106.67
6171 J-3315 811.85 Forest 0.08 1084.49 106.68 1761 J-900 813.24 Forest 0.08 1064.94 106.76 2540 J-1303 805.78 Forest 0.28 1052.56 106.72 282 J-1444 805.67 Forest 0.28 1052.56 106.72 282 J-14032 817.82 Forest 0.28 1051.84 106.62 5514 J-2936 804.86 Forest 0.28 1051.84 106.62 4042 J-2181 804.80 Forest 1.48 1051.92 106.92 5619 J-2996 805.38 Forest 1.08 1052.56 106.94 1194 J-625 971.03 Lakes 0.29 1218.42 107.04 5513 J-2345 804.40 Forest 0.88 1051.84 107.05 281 J-143 805.12 Forest 0.88 1052.56 107.05 3770<							
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7732 J-4102 800.65 Forest 0.28 1051.83 108.67 1625 J-813 800.72 Forest 0.08 1051.95 108.70 6621 J-3581 803.31 Forest 0.08 1054.66 108.75 2706 J-1460 809.75 Forest 0.28 1061.13 108.76 1132 J-600 965.89 Lakes 2.24 1217.30 108.77	1626	J-814	800.83	Forest	0.68	1051.95	108.65
1625 J-813 800.72 Forest 0.08 1051.95 108.70 6621 J-3581 803.31 Forest 0.08 1054.66 108.75 2706 J-1460 809.75 Forest 0.28 1061.13 108.76 1132 J-500 965.89 Lakes 2.24 1217.30 108.77							
6621 J-3581 803.31 Forest 0.08 1054.66 108.75 2706 J-1460 809.75 Forest 0.28 1061.13 108.76 1132 J-600 965.89 Lakes 2.24 1217.30 108.77							
2706 J-1460 809.75 Forest 0.28 1061.13 108.76 1132 J-600 965.89 Lakes 2.24 1217.30 108.77							
1132 J-600 965.89 Lakes 2.24 1217.30 108.77							
	7688	J-4087	806.05	Forest	1.08	1057.53	108.80

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
623	J-357	1071.40	Stewartsville	0.26	1322.92	108.82
6764	J-3665	806.01	Forest	0.88	1057.53	108.82
2199 7795	J-1172 J-4119	800.67 812.95	Forest Forest	0.68 1.28	1052.54 1064.82	108.97 108.97
5799	J-3101	804.94	Forest	0.08	1056.91	109.02
1793 987	J-920 J-541	807.65 800.00	Forest Forest	0.48 0.08	1059.74 1052.13	109.07 109.09
5058	J-2677	800.00	Forest	0.08	1052.13	109.09
5800 7019	J-3102 J-3815	804.62 812.32	Forest Forest	0.68 0.48	1056.91 1064.93	109.15 109.30
5561	J-2963	812.22	Forest	0.48	1064.93	109.34
6509	J-3514	1070.25	Stewartsville	0.11	1322.97	109.34
7402 4335	J-3994 J-2291	801.93 799.24	Forest Forest	0.28 1.48	1054.66 1052.03	109.34 109.37
983	J-539	800.01	Forest	0.48	1053.00	109.46
4077 6624	J-2197 J-3583	808.18 804.23	Forest Forest	0.28 0.48	1061.38 1057.53	109.55 109.59
7146	J-3885	799.58	Forest	1.08	1053.00	109.64
6405 8509	J-3454 J-4207	806.43	Forest Forest	0.28	1059.99	109.70
4911	J-2590	804.19 1069.28	Stewartsville	0.68 0.11	1057.76 1322.91	109.71 109.74
6629	J-3586	802.14	Forest	0.48	1055.79	109.74
4549 6630	J-2386 J-3587	799.30 801.98	Forest Forest	0.48 0.68	1053.00 1055.79	109.76 109.81
1098	J-589	1068.97	Stewartsville	0.26	1322.91	109.87
5560	J-2962 J-3543	810.98 799.43	Forest	0.08	1064.93	109.87
6557 6325	J-3543 J-3407	799.43 798.75	Forest Forest	0.48 1.48	1053.42 1052.86	109.89 109.94
4548	J-2385	798.86	Forest	0.28	1053.00	109.95
2687 6623	J-1448 J-3582	798.42 803.22	Forest Forest	1.08 0.88	1052.56 1057.53	109.96 110.03
7821	J-4126	798.66	Forest	0.48	1053.00	110.04
993	J-544	1068.63 810.46	Stewartsville	0.11	1322.97	110.04
6678 6677	J-3615 J-3614	810.46	Forest Forest	0.68 0.88	1064.91 1064.91	110.09 110.19
1755	J-896	798.20	Forest	0.88	1052.99	110.23
6324 6556	J-3406 J-3542	798.04 798.57	Forest Forest	0.48 0.68	1052.86 1053.42	110.25 110.26
2487	J-1334	797.65	Forest	0.08	1052.56	110.29
7000	J-3804	809.88	Forest	0.08	1064.82	110.30
1707 2697	J-865 J-1454	797.01 796.88	Forest Forest	1.28 0.88	1051.95 1051.83	110.30 110.31
1762	J-901	805.03	Forest	0.88	1059.99	110.31
6406 3099	J-3455 J-1673	805.03 804.00	Forest Forest	0.48 0.48	1059.99 1059.01	110.31 110.33
3100	J-1674	804.00	Forest	0.48	1059.01	110.33
6410	J-3457	804.00	Forest	0.48	1059.01	110.33
1784 6319	J-914 J-3403	802.40 797.33	Forest Forest	0.48 0.28	1057.53 1052.56	110.38 110.43
2840	J-1539	796.90	Forest	0.88	1052.49	110.58
7071 6039	J-3843 J-3235	796.76 801.77	Forest Forest	0.68 0.68	1052.42 1057.67	110.61 110.72
6999	J-3803	808.91	Forest	0.68	1064.82	110.72
7983	J-4155	796.49	Forest	1.28	1052.49	110.76
7827 7072	J-4127 J-3844	808.72 796.12	Forest Forest	0.68 1.08	1064.93 1052.42	110.85 110.89
6836	J-3708	796.19	Forest	1.48	1052.50	110.90
6038 6744	J-3234 J-3653	801.35 796.00	Forest Forest	0.48 1.08	1057.67 1052.54	110.90 110.99
6745	J-3654	796.00	Forest	0.28	1052.54	110.99
7514 4163	J-4033 J-2235	796.00 795.18	Forest Forest	0.48 0.48	1052.54 1051.86	110.99 111.05
2391	J-1284	808.00	Forest	0.08	1064.94	111.17
2774	J-1500 J-2718	808.00	Forest	0.28	1064.94	111.17
5134 4522	J-2718 J-2370	804.06 807.78	Forest Forest	0.28 0.08	1061.13 1064.94	111.22 111.26
2488	J-1335	795.39	Forest	0.68	1052.56	111.27
836 7595	J-472 J-4059	794.62 800.33	Forest Forest	0.28 0.88	1051.96 1057.68	111.34 111.34
651	J-375	803.72	Forest	0.28	1061.13	111.37
2379 4889	J-1277 J-2578	807.45 799.67	Forest Forest	0.48 0.28	1064.94 1057.29	111.40 111.46
7690	J-4088	794.82	Forest	1.88	1052.50	111.49
2985	J-1609	943.54	Fox_Run	1.28	1201.27	111.51
4471 4888	J-2341 J-2577	794.07 799.47	Forest Forest	1.28 0.08	1051.83 1057.29	111.52 111.55
4766	J-2508	794.01	Forest	0.88	1051.85	111.56
4470 4672	J-2340 J-2456	793.89 793.88	Forest Forest	0.48 1.68	1051.83 1051.86	111.60 111.62
3262	J-1773	793.88	Forest	0.08	1051.86	111.62
5281	J-2802	960.00	Lakes	1.41	1218.03	111.64
5282 4765	J-2803 J-2507	960.00 793.80	Lakes Forest	0.81 0.48	1218.03 1051.85	111.64 111.65
6785	J-3678	794.43	Forest	0.28	1052.50	111.65
7084 7837	J-3851 J-4130	958.94 793.58	Lakes Forest	0.20 1.48	1217.08 1051.85	111.68 111.74
7493	J-4026	793.50	Forest	0.48	1051.83	111.76
2698	J-1455	793.49	Forest	0.48	1051.83	111.77
1904 1832	J-992 J-945	798.40 798.54	Forest Forest	0.48 0.48	1056.91 1057.12	111.85 111.88
1610	J-803	806.33	Forest	1.08	1064.93	111.89
3026 3831	J-1627 J-2084	798.10 798.07	Forest Forest	1.48 0.88	1057.23 1057.27	112.11 112.15
1611	J-804	805.70	Forest	0.08	1064.93	112.16
4735 5707	J-2491	792.50	Forest	0.08	1051.82	112.20
5707 6784	J-3048 J-3677	805.52 793.07	Forest Forest	0.48 0.68	1064.93 1052.50	112.23 112.24
7193	J-3906	958.74	Lakes	0.20	1218.20	112.26
7194	J-3907	958.73	Lakes	0.20	1218.20	112.26

Node						Calculated	
1907 1907 1908	Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
1736 1,2462 792.16	2876	J-1558	792.37	Forest	0.48	1051.86	112.27
5996 J-3210							
1989 1946 799.99 Forest							
1794	6394	J-3448	799.99	Forest	0.08	1059.76	112.39
1794 J-921 799.81 Forest 0.88 1059.74 112-46							
2010							
587 J-709 F96-A1 Forest 1.28 1052-50 112.53 3214 J-1743 J-575 957-59 Lakee 0.20 1218-15 112.64 4774 J-575 797-29 Forest 1.08 1057-53 112.41 1215 1217-7773 J-1696 904-40 Forest 0.68 1057-53 112.41 1217-7773 J-1696 904-40 Forest 0.68 1057-53 112.74 4208 J-2251 796.94 Forest 0.68 1057-53 112.74 4208 J-2251 J-206 796.93 Forest 0.68 1059-76 112.61 12							
1214 1743 597.99							
1.281							
2773 J-1499				Forest			
9415 J. J. J. J. J. J. J. J. J. J. J. J. J.							
1-2516 796.94 Forest 0.48 1057.53 112.74							
1.00							
1							
9793 J. 2006 799.03 Forest 0.88 1059.76 112.81 112.81 6226 J.3344 995.74 Lakes 0.20 1218.21 112.81 6053 J.3244 796.72 Forest 1.88 1057.63 112.86 6033 J.3244 796.72 Forest 1.88 1057.63 112.88 1057.63 112.89 6043 J.3453 97.74 112.89 605.81 112.81 102.81 102.81 102.81 102.81 112.81 112.81 10							
6063 J-3244 796.72 Forest 1.88 1057.63 112.86							
622 J-23 796.75 Lakes 0.20 1218.47 112.89 62 J-23 796.75 179.89 Forest 0.48 1052.99 112.96 5846 J-3912 795.79 791.89 Forest 0.48 1052.99 112.96 5846 J-3012 795.79 Forest 0.48 1052.99 112.96 5846 J-3012 795.79 Forest 0.48 1056.91 112.98 6846 J-3013 795.66 Forest 0.68 1051.85 113.09 112.96 791.00							
Fig. 1987 791.89 Forest 0.08 1057.76 112.93 112.96 112.97							
5686 J-3012 795.79 Forest 0.48 1056.91 112.98 5060 J-4162 956.87 Lakes 0.20 121.02 112.99 50647 J-3013 795.66 Forest 0.08 1056.91 113.03 5744 J-3636 795.91 Forest 0.48 1057.29 113.09 5745 J-216.4 956.87 Forest 0.48 1057.29 113.09 5785 J-216.4 956.88 Forest 0.88 1057.52 113.09 5785 J-216.4 956.88 Forest 0.88 1057.52 113.09 5785 J-216.4 956.88 Forest 0.88 1057.53 113.09 5785 J-216.4 956.88 Lakes 0.72 1218.15 113.00 5785 J-243 796.13 Forest 0.48 1057.63 113.14 5052 J-3243 796.13 Forest 0.48 1057.63 113.14 5052 J-3243 796.13 Forest 0.48 1057.63 113.14 5259 J-1397 1061.38 Stewartsville 2.34 1322.92 113.16 5777 J-4096 796.35 Forest 0.08 1057.97 113.20 5000 J-3267 966.67 Lakes 0.20 1218.29 113.67 5520 J-2239 799.97 Forest 0.68 1051.80 113.23 1108 J-593 709.17 Forest 0.68 1051.80 113.23 1108 J-593 709.97 Forest 0.68 1051.80 113.31 1108 J-593 709.97 Forest 1.68 1051.80 113.31 1108 J-593 1061.04 Stewartsville 1.28 1061.80 113.31 1108 J-593 799.97 Forest 0.68 1051.80 113.31 1108 J-593 799.97 Forest 0.88 1051.80 113.31 1108 J-593 799.97 Forest 0.88 1051.80 113.33 1108 J-593 799.97 Forest 0.88 1051.80 113.33 1108 J-593 799.97 Forest 0.88 1051.80 113.33 1109 J-594 799.97 Forest 0.88 1051.80 113.33							
1980			791.89				
5647							
2252							
1785							
1981 J-2124 556.75							
131							
6052 J.3243 796.13 Forest 0.48 1057.63 113.14 52599 J.1397 1061.38 Stawartsville 2.34 1322.92 113.16 7713 J.4096 796.33 Forest 0.08 1057.97 113.26 6090 J.3267 956.57 Lakes 0.20 1218.29 113.23 6090 J.3267 956.57 Lakes 0.20 1218.29 113.23 6090 J.3267 956.57 Lakes 0.20 1218.29 113.23 6146 J.2227 803.01 Forest 0.68 1051.80 113.28 6146 J.2227 803.01 Forest 0.68 1051.80 113.28 6121 J.2253 789.90 Forest 1.68 1051.80 113.28 6121 J.2253 1061.04 Stawartsville 0.11 1322.94 113.31 6186 J.850 Forest 0.88 1061.80 113.34 6186 J.850 Forest 0.88 1064.82 113.35 6186 J.2635 802.84 Forest 0.88 1064.82 113.35 6180 J.3734 802.82 Forest 0.88 1064.82 113.35 6190 J.3268 956.64 Lakes 0.20 1218.47 113.37 6260 J.3734 1060.67 Stawartsville 1.99 1322.92 113.46 6245 J.2782 955.18 Lakes 0.20 1218.29 113.50 6191 J.3268 955.96 Lakes 0.20 1218.29 113.50 6191 J.3268 955.96 Lakes 0.20 1218.29 113.50 6192 J.299 955.57 Lakes 0.20 1217.87 113.51 6261 J.269 955.57 Lakes 0.20 1217.87 113.61 6262 J.299 955.57 Lakes 0.20 1217.87 113.61 6263 J.3996 789.94 Forest 0.08 1052.55 113.56 6319 J.3520 789.92 Forest 0.08 1052.55 113.56 6319 J.3520 789.93 Forest 0.08 1052.65 113.76 6319 J.3520 789.94 Forest 0.08 1052.65 113.76 6319 J.3520 789.94 Forest 0.08 1052.65 113.76 6319 J.3520 789.94 Forest 0.08 1052.65 113.76 6319 J.3520 789.95 Forest 0.08 1052.65 113.76 6319 J.3520 789.85 Forest 0.08 1052.65 113.76 6319 J.3520 789.85 Forest 0.08 1052.65 113.76 6319 J.3520 789.86 Forest 0.08 1052.65 113.76 6310 J.664 792.38 Forest 0.08 1052.65 113.76 6310							
1925 J-3347 956.68							
2599							
Forest							110.10
1446 J-2227 803.01 Forest 0.48 1064.82 113.27	7713	J-4096	796.33	Forest	0.08		
15520 J-2939 789.97 Forest 0.68 1051.80 113.28 1108 J-593 1061.04 Stewartsville 0.11 1322.94 113.31 1108 J-593 1061.04 Stewartsville 0.11 1322.94 113.31 1488 J-2635 802.84 Forest 0.88 1064.82 113.35 4988 J-2635 802.84 Forest 0.88 1064.82 113.35 1240 J-648 956.44 Lakes 0.20 1218.47 113.35 1240 J-648 956.44 Lakes 0.20 1218.47 113.35 1240 J-648 956.44 Lakes 0.20 1218.47 113.35 12524 J-2782 955.18 Lakes 0.20 1218.47 113.39 12688 J-3734 1060.67 Stewartsville 1.99 1322.92 113.46 1294 J-2268 955.96 Lakes 0.20 1218.29 113.49 1294 J-2268 955.96 Lakes 0.20 1218.29 113.50 1294 955.64 Lakes 0.20 1218.29 113.50 1395 J-2782 955.18 Lakes 0.20 1218.29 113.50 1396 J-2583 1060.52 Stewartsville 0.11 1322.94 113.54 1298 J-2583 1060.52 Stewartsville 0.11 1322.94 113.54 1296 J-2290 955.27 Lakes 0.20 1217.87 113.61 1262 955.27 Lakes 0.20 1217.87 113.61 1263 J-2905 789.90 Forest 0.08 1052.53 1396 J-2905 789.90 Forest 0.08 1052.53 1396 J-3500 789.92 Forest 0.08 1052.86 113.76 1396 J-3500 789.92 Forest 0.08 1052.86 113.76 1396 J-3500 789.92 Forest 0.08 1052.86 113.76 1397 J-3942 J-3900 Forest 0.08 1052.86 113.76 1397 J-3942 J-3900 Forest 0.08 1052.86 113.76 1398 J-3500 789.92 Forest 0.08 1052.86 113.76 1397 J-3942 J-3904 738.47 Forest 0.08 1064.82 113.89 1397 J-3942 J-3904 738.47 Forest 0.08 1064.82 113.89 1397 J-3940 J-383 789.32 Forest 0.08 1064.82 113.80 1397 J-3940 J-383 789.32 Forest 0.08 1064.82 113.76 1398 J-3504 J-3504 793.77 Forest 0.08 1064.82 114.40 1498 J-3504 J-3504 793.77 Forest 0.48 1060.00 114.40 1498 J-3904							
14212							
1685							
4988 J-2635 802.84 Forest 0.48 1064.82 113.35 1240 J-648 956.44 Lakes 0.20 1218.47 113.35 1240 J-648 956.44 Lakes 0.20 1218.47 113.35 12521 J-2940 789.73 Forest 0.28 1051.80 133.39 12880 J-3734 1060.67 Stewartsville 1.99 1322.92 113.46 15245 J-2782 955.18 Lakes 0.20 1217.47 113.48 15245 J-2782 955.56 Lakes 0.20 1218.29 113.50 1512 J-289 955.64 Lakes 0.20 1218.03 113.52 1512 J-289 955.64 Lakes 0.20 1218.03 113.52 1512 J-289 955.27 Lakes 0.20 1218.03 113.54 12788 J-1509 790.12 Forest 1.28 1052.55 113.55 1201 J-629 955.27 Lakes 0.20 0.217.87 113.61 1201 J-629 955.27 Lakes 0.20 0.217.87 113.61 1205 J-2505 799.09 Forest 0.08 1052.53 113.63 15468 J-2905 799.99 Forest 0.08 1052.53 113.68 15726 J-3059 802.05 Forest 0.08 1064.82 113.69 15727 J-3946 799.92 Forest 0.68 1052.86 113.76 16810 J-3520 789.92 Forest 0.68 1052.86 113.76 16810 J-3633 789.32 Forest 0.08 1064.82 113.87 1777 J-3946 795.75 Forest 0.08 1064.82 113.87 1777 J-3946 795.75 Forest 0.08 1064.82 113.89 15620 J-3521 789.60 Forest 0.68 1052.50 113.90 156457 J-2904 788.47 Forest 0.08 1051.84 113.90 15651 J-3384 954.46 Lakes 0.20 1217.87 113.96 15652 J-3384 954.46 Lakes 0.20 1217.87 113.96 15653 J-1371 796.37 Forest 0.08 1054.84 113.90 15654 J-1934 793.77 Forest 0.08 1054.85 113.90 15651 J-3384 954.66 Lakes 0.20 1217.87 113.90 15652 J-3384 954.66 Lakes 0.20 1217.83 114.40 15600 J-464 793.73 Forest 0.48 1060.09 114.20 1577 J-3966 799.86 Forest 0.48 1060.09 1							
1987 J-2634 802.82 Forest 0.48 1064.82 113.35							
5521 J-2940 789.73 Forest 0.28 1051.80 113.39 6880 J-3734 1060.67 Stewartsville 1.99 1322.92 113.46 6091 J-3268 955.61 Lakes 0.20 1218.29 113.50 512 J-2289 955.64 Lakes 0.20 1218.29 113.50 4898 J-2583 1060.52 Stewartsville 0.11 1322.94 113.54 2788 J-1509 790.12 Forest 1.28 1052.55 113.55 1201 J-629 955.27 Lakes 0.20 1217.87 113.61 2265 J-1211 789.90 Forest 0.08 1052.56 113.61 5726 J-3059 802.05 Forest 0.08 1054.25 113.69 7320 J-3962 789.94 Forest 0.08 1054.26 113.76 6619 J-3520 789.92 Forest 0.8 1054.26 113.76							
6880 J-3734 1060.67 Slewartsville 1.99 1322.92 113.46 5245 J-2782 955.18 Lakes 0.20 1217.47 113.48 6091 J-3268 955.96 Lakes 0.20 1218.29 113.50 512 J-2283 1000.52 Slewartsville 0.11 1322.94 113.54 4898 J-2583 1000.52 Slewartsville 0.11 1322.94 113.52 2788 J-1509 790.12 Forest 1.28 1052.55 113.55 2265 J-1211 789.90 Forest 0.08 1052.53 113.63 5458 J-2905 789.09 Forest 0.08 1064.82 113.69 5726 J-3059 802.05 Forest 0.08 1064.82 113.69 5468 J-2900 789.92 Forest 0.08 1064.82 113.69 780 J-3662 789.92 Forest 0.8 1052.86 113.76							
5245 J-2782 955.18							
6091 J-3268 955.96 Lakes 0.20 1218.29 113.50							
4898 J-2583 1060.52 Stewartswile 0.11 1322.94 113.54 2788 J-1509 790.12 Forest 1.28 1052.55 131.54 1201 J-629 955.27 Lakes 0.20 1217.87 113.61 2265 J-1211 789.90 Forest 0.08 1052.53 113.63 5458 J-2905 789.99 Forest 0.08 1064.82 113.69 5726 J-3059 802.05 Forest 0.08 1064.82 113.69 7320 J-3962 789.94 Forest 0.08 1064.82 113.69 7320 J-3520 789.92 Forest 0.88 1052.86 113.76 4082 J-2200 788.98 Forest 0.88 1052.86 113.76 4082 J-2200 788.98 Forest 0.88 1052.96 113.76 4082 J-2200 789.98 Forest 0.88 1052.50 113.82	6091	J-3268	955.96	Lakes			113.50
2788							
1201							
5458 J-2905 789.09 Forest 0.48 1051.84 113.68 5726 J-3059 802.05 Forest 0.08 1064.82 113.69 7320 J-3620 789.94 Forest 0.08 1052.86 113.76 6619 J-3520 789.92 Forest 0.68 1052.86 113.76 4082 J-2200 788.98 Forest 0.68 1052.86 113.76 7658 J-4080 801.76 Forest 0.08 1064.82 113.82 6810 J-3693 789.32 Forest 0.68 1052.50 113.87 7277 J-3946 795.75 Forest 0.68 1052.86 113.90 6520 J-3521 789.60 Forest 0.68 1052.86 113.90 5457 J-2904 788.47 Forest 0.68 1052.86 113.90 5457 J-2904 788.47 Forest 0.68 1052.96 113.96 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>							
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3050 J-1642 95.3.37 Lakes 0.20 1218.03 114.50 5424 J-2886 787.73 Forest 0.08 1052.56 114.58 5406 J-2876 953.14 Lakes 0.20 1218.03 114.60 1449 J-726 792.98 Forest 0.28 1057.88 114.61 8679 J-4225 800.00 Forest 0.48 1064.96 114.63 5727 J-3060 799.86 Forest 0.48 1064.92 114.63 3905 J-2120 799.84 Forest 0.48 1064.82 114.65 4180 J-2241 788.00 Forest 0.48 1053.00 114.65 6279 J-3380 788.00 Forest 0.48 1053.00 114.65 6233 J-3352 953.16 Lakes 0.20 1218.23 114.69 925 J-512 952.00 Lakes 0.20 1217.08 114.69 1037<							
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5423 J-2885 787.43 Forest 0.68 1052.56 114.71							

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
2686	J-1447	787.35	Forest	0.28	1052.56	114.75
4386	J-2309	791.58	Forest	0.28	1052.56	114.75
2378	J-1276	799.55	Forest	0.08	1064.94	114.82
1686 6234	J-851 J-3353	795.68 952.73	Forest Lakes	0.48 0.20	1061.13 1218.23	114.85 114.87
4972	J-2626	791.41	Forest	0.28	1056.91	114.87
6389	J-3445 J-1831	952.58	Lakes Lakes	0.20 1.15	1218.15	114.90 114.90
3363 7476	J-4020	952.46 1057.15	Stewartsville	3.28	1218.03 1322.91	114.98
5018	J-2652	794.04	Forest	0.08	1059.82	114.99
4664 7299	J-2451 J-3955	952.24 786.73	Lakes Forest	0.20 0.68	1218.03 1052.56	115.00 115.01
1837	J-948	799.07	Forest	0.28	1064.91	115.02
1450	J-727	792.00	Forest	0.08	1057.87	115.03
6173 3362	J-3316 J-1830	792.00 952.09	Forest Lakes	0.28 0.29	1057.87 1218.03	115.03 115.06
4665	J-2452	952.00	Lakes	0.20	1218.03	115.10
6223	J-3346	952.19	Lakes	0.20	1218.35	115.15
1967 5019	J-1033 J-2653	798.72 793.54	Forest Forest	1.08 1.08	1064.92 1059.82	115.17 115.21
1182	J-619	952.32	Lakes	0.20	1218.60	115.21
3579 6222	J-1952 J-3345	786.11 951.71	Forest Lakes	0.08 0.20	1052.53 1218.35	115.27 115.36
6388	J-3444	951.48	Lakes	0.20	1218.15	115.38
6308	J-3397	951.34	Lakes	0.20	1218.03	115.39
296 297	J-152 J-153	951.55 951.51	Lakes Lakes	0.20 0.29	1218.35 1218.35	115.43 115.45
2068	J-1094	951.04	Lakes	0.20	1218.03	115.51
6807 4529	J-3691 J-2374	791.96 1055.80	Forest Stewartsville	0.88 0.11	1059.01 1322.91	115.54 115.57
4243	J-2261	784.71	Forest	1.28	1051.84	115.57
4530	J-2375	1055.73	Stewartsville	0.11	1322.91	115.60
5695 2780	J-3041 J-1504	785.35 784.72	Forest Forest	0.08 0.68	1052.53 1051.92	115.60 115.61
2719	J-1467	784.62	Forest	1.48	1051.83	115.61
511	J-288	950.72	Lakes	0.20	1218.03	115.65
5247 5957	J-2783 J-3189	784.27 950.97	Forest Lakes	1.48 0.20	1051.86 1218.60	115.77 115.79
5669	J-3026	950.38	Lakes	0.29	1218.03	115.80
4848 7644	J-2554 J-4077	789.23 784.00	Forest Forest	0.08 0.28	1056.91 1051.83	115.81 115.88
6488	J-3502	950.46	Lakes	0.20	1218.37	115.00
982	J-538	785.06	Forest	0.08	1053.01	115.93
3492 731	J-1903 J-420	950.03 950.37	Lakes Lakes	1.41 0.20	1218.03 1218.37	115.95 115.95
3544	J-1932	791.01	Forest	0.88	1059.01	115.95
5692	J-3039	783.76	Forest	0.68	1051.81	115.97
4415 3124	J-2318 J-1689	788.80 788.74	Forest Forest	0.08 0.08	1056.91 1056.91	116.00 116.02
5063	J-2680	949.67	Lakes	0.37	1218.03	116.11
5062 846	J-2679 J-477	949.65 1054.52	Lakes Stewartsville	0.89 0.40	1218.03 1322.92	116.11 116.12
4488	J-2351	1054.49	Stewartsville	0.11	1322.92	116.13
1903	J-991	788.42	Forest	0.08	1056.91	116.16
2479 5248	J-1330 J-2784	788.35 783.27	Forest Forest	0.08 0.48	1056.91 1051.86	116.19 116.21
7042	J-3827	796.33	Forest	0.08	1064.94	116.21
7863 7162	J-4134 J-3894	784.38 949.35	Forest Lakes	0.68 1.67	1053.00 1218.03	116.22 116.24
5095	J-2697	789.13	Forest	0.08	1057.84	116.26
2478	J-1329	788.12	Forest	0.08	1056.91	116.29
5783 5693	J-3092 J-3040	784.20 782.91	Forest Forest	0.68 0.28	1053.01 1051.81	116.30 116.34
4033	J-2177	782.87	Forest	0.88	1051.81	116.36
7559 7733	J-4050 J-4103	782.74 782.62	Forest Forest	0.88	1051.93 1051.83	116.47 116.47
4627	J-2431	787.50	Forest	0.48	1051.65	116.47
4236	J-2260	795.45	Forest	1.28	1064.86	116.56
5094 4628	J-2696 J-2432	788.35 787.35	Forest Forest	0.08 0.08	1057.84 1056.91	116.60 116.63
8463	J-4183	948.75	Lakes	0.20	1218.35	116.64
1293 2754	J-672 J-1489	783.42 795.14	Forest Forest	0.08 1.48	1053.02 1064.93	116.65 116.73
6565	J-3548	783.01	Forest	0.08	1053.02	116.73
6437	J-3473	947.81	Lakes	0.37	1218.15	116.96
6866 3609	J-3725 J-1968	781.59 947.76	Forest Lakes	0.48 0.20	1051.93 1218.15	116.96 116.98
1861	J-964	794.40	Forest	0.48	1064.82	117.00
3028	J-1628	947.72	Lakes	0.20	1218.15	117.00
3029 6013	J-1629 J-3220	947.72 947.56	Lakes Lakes	0.20 0.37	1218.15 1218.03	117.00 117.02
3607	J-1967	794.28	Forest	0.08	1064.82	117.05
6436 370	J-3472 J-200	947.60 781.38	Lakes Forest	0.37 0.08	1218.15 1051.93	117.05 117.05
369	J-199	781.34	Forest	0.68	1051.93	117.07
3281	J-1785	947.42	Lakes	0.63	1218.15	117.13
2844 4728	J-1541 J-2487	1052.00 1052.00	Stewartsville Stewartsville	3.44 0.11	1322.86 1322.91	117.19 117.21
4729	J-2488	1052.00	Stewartsville	0.40	1322.91	117.21
6867 5187	J-3726 J-2748	780.96 1051.94	Forest Stewartsville	0.48 0.26	1051.93 1322.93	117.24 117.24
700	J-403	1051.94	Stewartsville	0.26	1322.97	117.24
5683	J-3034	780.92	Forest	0.28	1051.93	117.25
4043 33	J-2182 J-4	780.88 793.71	Forest Forest	1.68 0.68	1051.92 1064.80	117.27 117.29
882	J-496	1051.52	Stewartsville	0.11	1322.93	117.42
7378 6365	J-3984 J-3431	793.28 793.28	Forest Forest	0.08 1.28	1064.82 1064.82	117.48 117.48
1838	J-949	793.34	Forest	0.48	1064.91	117.50

Nada	Nada	Flavorian	D	Damand	Calculated	D
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
6875	J-3731	946.82	Lakes	0.37	1218.52	117.55
2069	J-1095	946.25	Lakes	0.20	1218.03	117.59
7828 4877	J-4128 J-2570	792.94 779.74	Forest Forest	0.28 0.08	1064.93 1051.83	117.68 117.72
1239	J-647	946.39	Lakes	0.20	1218.52	117.74
6364	J-3430	792.67	Forest	0.08	1064.82	117.75
2398	J-1288	792.65	Forest	0.68	1064.94	117.81
4209 54	J-2252 J-18	785.21 784.94	Forest Forest	1.28 0.08	1057.57 1057.65	117.83 117.99
1513	J-755	785.54	Forest	0.08	1057.05	117.99
6142	J-3298	785.49	Forest	0.28	1058.31	118.04
2880	J-1560	792.00	Forest	1.48	1064.93	118.09
1981	J-1042	791.97	Forest	0.08	1064.93	118.10 118.11
53 5320	J-17 J-2825	784.65 791.78	Forest Forest	1.08 0.48	1057.64 1064.82	118.11
328	J-173	945.22	Lakes	0.29	1218.38	118.18
5276	J-2799	784.38	Forest	1.08	1057.57	118.20
5277	J-2800	784.28	Forest	0.68	1057.57	118.24
6641 5319	J-3593 J-2824	780.21 791.23	Forest Forest	1.48 0.68	1053.73 1064.82	118.34 118.37
6543	J-3534	783.98	Forest	0.68	1057.65	118.40
4749	J-2499	791.26	Forest	0.08	1064.93	118.41
4876	J-2569	778.13	Forest	0.08	1051.83	118.41
7199	J-3910	791.18	Forest	0.08	1064.94	118.44
5760 6452	J-3079 J-3481	778.78 944.36	Forest Lakes	0.88 0.20	1052.56 1218.15	118.45 118.45
6088	J-3266	944.43	Lakes	0.20	1218.24	118.46
4083	J-2201	778.08	Forest	0.68	1051.92	118.48
6087	J-3265	944.12	Lakes	0.20	1218.24	118.60
5761 3327	J-3080 J-1810	778.39 790.70	Forest Forest	0.48 0.08	1052.56 1064.93	118.62 118.65
6453	J-3482	943.85	Lakes	0.37	1218.15	118.68
7327	J-3965	943.82	Lakes	0.20	1218.15	118.69
327	J-172	944.01	Lakes	0.20	1218.38	118.71
5685 7316	J-3035 J-3961	777.39 943.51	Forest Lakes	1.08 0.20	1051.92 1218.15	118.78 118.82
5911	J-3163	941.90	Lakes	0.20	1216.70	118.90
2428	J-1301	943.74	Lakes	0.20	1218.60	118.92
6384	J-3442	943.23	Lakes	0.29	1218.15	118.94
5305	J-2816	783.40	Forest	1.28	1058.34	118.96
1862 3340	J-965 J-1817	789.83 943.09	Forest Lakes	1.28 0.37	1064.79 1218.15	118.96 119.00
1827	J-942	789.63	Forest	0.88	1064.93	119.11
5259	J-2790	942.66	Lakes	0.63	1218.03	119.14
964	J-530	941.46	Lakes	0.37	1216.88	119.16
2720 5981	J-1468 J-3202	776.33 943.08	Forest Lakes	0.08 0.20	1051.83 1218.61	119.20 119.21
3621	J-1974	942.27	Lakes	0.20	1218.03	119.31
6343	J-3418	941.09	Lakes	0.20	1216.88	119.32
943	J-520	942.52	Lakes	0.20	1218.61	119.45
3341 6642	J-1818 J-3594	942.00 777.41	Lakes Forest	0.46 1.48	1218.15 1053.73	119.47 119.55
1216	J-637	940.28	Lakes	0.29	1216.70	119.55
7758	J-4107	788.36	Forest	0.68	1064.82	119.61
4565	J-2395	775.34	Forest	0.08	1051.83	119.62
5304 7079	J-2815 J-3848	781.81 940.43	Forest Lakes	0.88 0.29	1058.34 1216.98	119.64 119.65
4566	J-2396	775.15	Forest	0.48	1051.83	119.03
573	J-328	941.24	Lakes	0.55	1218.03	119.75
1788	J-917	780.10	Forest	0.88	1057.58	120.05
2453	J-1315 J-961	787.45	Forest Forest	0.28	1064.96	120.06
1856 5860	J-3135	782.45 940.19	Lakes	0.88 0.20	1059.99 1218.13	120.08 120.25
5925	J-3171	773.82	Forest	0.88	1051.82	120.28
4244	J-2262	773.82	Forest	2.49	1051.84	120.29
2062	J-1091	786.84	Forest	0.08	1064.96	120.33
2061 5924	J-1090 J-3170	786.78 773.64	Forest	0.08	1064.96 1051.82	120.35 120.36
6821	J-3699	786.51	Forest Forest	0.68 0.68	1064.82	120.41
3654	J-1993	786.46	Forest	0.68	1064.82	120.43
701	J-404	1044.58	Stewartsville	0.11	1322.97	120.45
4923 1550	J-2597 J-770	773.37 939.60	Forest Lakes	0.08 0.20	1051.84 1218.13	120.48 120.50
1816	J-935	774.43	Forest	0.68	1052.98	120.50
2875	J-1557	773.27	Forest	2.29	1051.86	120.53
690	J-397	939.92	Lakes	0.20	1218.60	120.57
2532	J-1359	939.89	Lakes	0.20	1218.60	120.58
5577 7080	J-2972 J-3849	773.12 938.22	Forest Lakes	0.48 0.20	1051.87 1216.98	120.60 120.61
2074	J-1097	786.18	Forest	0.08	1064.96	120.61
2483	J-1332	939.81	Lakes	0.20	1218.60	120.62
3036	J-1633	939.75	Lakes	0.20	1218.60	120.65
1317 293	J-680 J-150	778.46 938.96	Forest Lakes	0.08 0.20	1057.32 1217.88	120.65 120.67
293 5765	J-3082	778.91	Forest	0.20	1058.06	120.67
294	J-151	938.60	Lakes	0.20	1217.88	120.83
5526	J-2943	772.50	Forest	1.48	1051.80	120.84
158	J-77	937.62	Lakes	0.20	1216.98	120.87
7711 5399	J-4095 J-2872	937.59 777.88	Lakes Forest	0.20 0.08	1216.98 1057.32	120.88 120.90
147	J-72	776.00	Forest	0.48	1055.46	120.91
5481	J-2918	776.00	Forest	1.28	1055.46	120.91
3472	J-1891	772.39	Forest	0.28	1051.87	120.92
3191 7636	J-1729 J-4074	939.10 938.53	Lakes Lakes	0.20 0.20	1218.60 1218.15	120.93 120.98
5527	J-2944	772.08	Forest	0.48	1051.80	120.96
1815	J-934	773.19	Forest	1.08	1052.99	121.05
3160	J-1711	938.34	Lakes	0.37	1218.15	121.06
1292	J-671	773.20	Forest	0.08	1053.03	121.07

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
440						
418 7996	J-231 J-4157	937.07 772.51	Lakes Forest	0.20 0.48	1216.98 1052.49	121.10 121.13
3172	J-1717	771.75	Forest	0.08	1051.81	121.17
1738 1388	J-885 J-693	779.61 772.78	Forest Forest	0.68 0.28	1059.74 1053.00	121.20 121.24
5394	J-2869	772.75	Forest	1.28	1053.00	121.24
6242	J-3358	784.69	Forest	0.28	1064.93	121.25
6591 6456	J-3563 J-3484	772.72 777.43	Forest Forest	0.08	1053.03	121.28 121.29
1787	J-916	777.43	Forest	0.08	1057.75 1057.59	121.29
7667	J-4083	779.33	Forest	0.68	1059.84	121.36
6271	J-3375	937.35 937.48	Lakes Lakes	0.20 0.20	1217.92	121.39
3159 2863	J-1710 J-1552	771.12	Forest	0.20	1218.15 1051.81	121.43 121.44
5606	J-2989	937.14	Lakes	4.42	1217.88	121.46
5261 3078	J-2791 J-1660	771.05	Forest Forest	0.68	1051.81	121.47
3078 605	J-1660 J-346	772.20 937.08	Forest Lakes	0.28 0.20	1053.00 1217.88	121.49 121.49
3079	J-1661	772.19	Forest	0.08	1053.00	121.50
3240	J-1759	776.60	Forest	0.48	1057.59	121.57
6455 4816	J-3483 J-2535	776.75 776.52	Forest Forest	0.48 0.68	1057.75 1057.59	121.58 121.61
6243	J-3359	783.85	Forest	0.08	1064.93	121.61
6419	J-3462	783.44	Forest	0.28	1064.83	121.75
4441 7157	J-2325 J-3891	776.91 770.39	Forest Forest	2.29 0.28	1058.30 1051.91	121.75 121.80
6231	J-3351	771.47	Forest	1.28	1053.00	121.81
1257	J-653	936.34	Lakes	0.20	1217.92	121.82
7158 572	J-3892 J-327	770.32 936.43	Forest Lakes	0.48 0.20	1051.91 1218.03	121.83 121.84
2841	J-1540	770.88	Forest	0.20	1052.49	121.84
2111	J-1116	776.09	Forest	1.08	1057.75	121.86
4500	J-2357	770.03	Forest	0.48	1051.91	121.96
4563 5986	J-2394 J-3205	777.82 936.62	Forest Lakes	0.88 0.20	1059.74 1218.60	121.97 122.00
4501	J-2358	769.86	Forest	1.28	1051.91	122.03
6420	J-3463	782.74	Forest	0.28	1064.83	122.05
1289 8413	J-669 J-4176	935.75 775.00	Lakes Forest	0.20 0.08	1217.91 1057.32	122.07 122.15
5915	J-3165	935.57	Lakes	0.20	1217.91	122.16
5729	J-3061	1040.62	Stewartsville	0.11	1322.96	122.16
1855 3473	J-960 J-1892	777.63 769.32	Forest Forest	0.88 0.68	1059.98 1051.87	122.16 122.25
7365	J-3979	782.33	Forest	0.08	1064.93	122.27
5793	J-3097	769.72	Forest	0.08	1052.49	122.34
2672 7666	J-1439 J-4082	776.95 776.96	Forest Forest	0.88 0.48	1059.74 1059.84	122.35 122.39
1520	J-757	774.96	Forest	0.08	1058.06	122.48
691	J-398	935.38	Lakes	0.29	1218.60	122.54
2253	J-1204	768.58	Forest	1.28 0.20	1051.85	122.56
1102 857	J-591 J-483	935.32 1039.33	Lakes Stewartsville	0.20	1218.60 1322.96	122.56 122.71
5794	J-3098	768.74	Forest	0.28	1052.49	122.76
2115 889	J-1119	768.71	Forest Forest	0.48 0.88	1052.53 1051.90	122.80 122.83
4796	J-499 J-2525	768.00 768.00	Forest	0.88	1051.90	122.83
7249	J-3935	773.16	Forest	0.08	1057.32	122.95
5972	J-3197	934.35	Lakes	0.20	1218.60	122.98 123.03
509 1082	J-287 J-582	1038.54 776.58	Stewartsville Forest	0.26 0.08	1322.91 1061.13	123.03
7248	J-3934	772.76	Forest	0.08	1057.32	123.11
4343	J-2294	767.97	Forest	1.08	1052.54	123.12
3738 4292	J-2040 J-2278	767.22 780.00	Forest Forest	0.68 1.28	1051.92 1064.81	123.18 123.23
5157	J-2731	780.00	Forest	0.08	1064.81	123.23
5158	J-2732	780.00	Forest	0.88	1064.81	123.23
7323 6690	J-3963 J-3622	780.00 780.00	Forest Forest	0.48 0.68	1064.81 1064.82	123.23 123.23
6691	J-3623	780.00	Forest	0.48	1064.82	123.23
4621	J-2428	767.70	Forest	0.48	1052.54	123.24
3283 2497	J-1786 J-1339	779.92 772.38	Forest Forest	0.48 0.08	1064.82 1057.32	123.26 123.28
3907	J-2121	766.93	Forest	1.28	1051.92	123.30
3751	J-2046	766.79	Forest	0.48	1051.92	123.36
4309 6804	J-2284 J-3689	1037.64 772.00	Stewartsville Forest	1.12 0.08	1322.92 1057.32	123.42 123.45
6805	J-3690	772.00	Forest	0.08	1057.32	123.45
4978	J-2629	771.49	Forest	0.28	1056.91	123.49
4885 6673	J-2575 J-3612	772.14 767.90	Forest Forest	2.89 0.08	1057.64 1053.42	123.52 123.53
5284	J-2804	775.54	Forest	0.48	1061.13	123.56
2112	J-1117	772.12	Forest	0.48	1057.75	123.58
3430 6693	J-1867 J-3624	772.00 772.00	Forest Forest	0.28 0.08	1057.64 1057.64	123.58 123.58
3694	J-3624 J-2015	932.49	Lakes	0.08	1218.15	123.58
2607	J-1402	767.72	Forest	0.88	1053.42	123.61
2114	J-1118	766.83	Forest	0.48	1052.53	123.61
4886 2735	J-2576 J-1477	771.92 778.82	Forest Forest	0.88 0.48	1057.64 1064.82	123.62 123.74
5435	J-2892	778.71	Forest	0.68	1064.82	123.79
7763	J-4109	778.64	Forest	1.48	1064.94	123.87
508 1737	J-286 J-884	1036.43 773.25	Stewartsville Forest	0.26 0.28	1322.91 1059.74	123.95 123.95
3175	J-1719	770.38	Forest	0.08	1056.91	123.97
2871	J-1556	778.34	Forest	1.28	1064.93	123.99
4543 4544	J-2382 J-2383	1036.23 1036.11	Stewartsville Stewartsville	0.11 0.11	1322.91 1322.91	124.04 124.09
7541	J-4044	777.92	Forest	0.88	1064.83	124.13
6729	J-3645	777.87	Forest	0.88	1064.82	124.15

					Calculated	
Node	Node	Elevation	Pressure	Demand	Hydraulic Grade	Pressure
ID	Label	(ft)	Zone	(gpm)	(ft)	(psi)
4558	J-2391	764.85	Forest	0.48	1051.92	124.20
7130 4503	J-3876 J-2359	764.70 777.81	Forest Forest	1.28 0.08	1051.80 1064.93	124.21 124.22
7115	J-3868	777.58	Forest	0.08	1064.82	124.28
2837 2753	J-1537 J-1488	764.53 777.66	Forest Forest	0.48 0.28	1051.80 1064.93	124.29 124.29
3742	J-2042	764.59	Forest	0.48	1051.92	124.23
4700	J-2471	764.53	Forest	0.68	1051.89	124.33
3174 4466	J-1718 J-2338	769.55 764.38	Forest Forest	0.28 0.48	1056.91 1051.80	124.33 124.35
255	J-126	764.46	Forest	0.48	1051.89	124.36
5151	J-2727	777.37	Forest Forest	0.48 0.88	1064.81 1064.81	124.36
5152 6728	J-2728 J-3644	777.32 777.28	Forest	0.88	1064.81	124.39 124.40
256	J-127	764.17	Forest	0.68	1051.89	124.48
4759 6205	J-2504 J-3335	1035.15 930.40	Stewartsville Lakes	0.11 0.20	1322.92 1218.19	124.51 124.51
3737	J-2039	764.00	Forest	0.68	1051.92	124.57
4617	J-2426	764.00	Forest	0.88	1051.92	124.57
1549 5223	J-769 J-2768	930.19 769.57	Lakes Forest	0.20 1.08	1218.15 1057.61	124.59 124.62
3429	J-1866	769.54	Forest	0.28	1057.64	124.65
5224	J-2769	769.43	Forest Lakes	1.48	1057.61	124.68
6206 1000	J-3336 J-547	929.71 1034.35	Stewartsville	0.20 0.58	1218.19 1322.92	124.81 124.85
2043	J-1081	928.37	Lakes	0.29	1218.03	125.32
3655 2044	J-1994 J-1082	774.87 928.06	Forest Lakes	0.48 0.20	1064.82 1218.03	125.45 125.46
712	J-409	927.84	Lakes	0.20	1217.85	125.46
6032	J-3231	774.63	Forest	2.09	1064.81	125.55
6178 2870	J-3319 J-1555	774.63 774.63	Forest Forest	0.08	1064.93 1064.93	125.60 125.60
4100	J-2208	761.45	Forest	1.28	1051.80	125.62
3205	J-1738	774.22	Forest	0.08	1064.93	125.78
355 6031	J-190 J-3230	927.16 773.78	Lakes Forest	0.20 0.48	1217.93 1064.81	125.80 125.92
356	J-191	926.88	Lakes	0.20	1217.93	125.93
3204	J-1737	773.62	Forest	0.48	1064.93	126.04
7060 5724	J-3837 J-3058	760.16 925.99	Forest Lakes	0.68 0.20	1051.80 1218.03	126.18 126.35
5723	J-3057	925.90	Lakes	0.20	1218.03	126.39
1245 6265	J-650 J-3372	925.79	Lakes Lakes	0.20 0.20	1217.95 1217.93	126.40 126.42
7593	J-4058	925.73 759.39	Forest	1.28	1051.80	126.42
5331	J-2832	925.40	Lakes	0.20	1217.95	126.57
3717 2498	J-2028 J-1340	758.60 764.00	Forest Forest	0.48 0.08	1051.82 1057.32	126.86 126.91
4443	J-2326	1029.11	Stewartsville	0.69	1322.91	127.11
2578	J-1385	771.10	Forest	1.08	1064.93	127.13
6434 3806	J-3471 J-2072	924.10 757.81	Lakes Forest	0.29 1.08	1218.03 1051.80	127.17 127.19
7569	J-4052	924.02	Lakes	0.37	1218.03	127.21
594	J-340	923.92	Lakes	0.20	1217.93	127.21
8513 5029	J-4209 J-2659	757.56 758.26	Forest Forest	0.68 0.88	1051.82 1052.54	127.31 127.32
5030	J-2660	758.14	Forest	0.48	1052.54	127.37
6433 2266	J-3470 J-1212	923.61 757.97	Lakes Forest	0.20 0.88	1218.03 1052.53	127.38 127.44
3680	J-2007	757.16	Forest	0.48	1052.55	127.48
737	J-422	757.05	Forest	1.28	1051.91	127.57
1870 3695	J-970 J-2016	769.84 923.07	Forest Lakes	1.08 0.37	1064.82 1218.15	127.63 127.67
804	J-456	923.26	Lakes	0.20	1218.60	127.78
7536	J-4042	922.74	Lakes	0.20	1218.15	127.81
5595 8453	J-2982 J-4179	756.27 578.08	Forest Forest	0.48 0.68	1051.93 873.78	127.92 127.94
3716	J-2027	756.05	Forest	0.88	1051.82	127.97
6314 310	J-3400 J-161	755.99 922.15	Forest Lakes	0.68 0.20	1051.80	127.98 128.01
3994	J-2160	761.56	Forest	1.48	1218.03 1057.59	128.08
7348	J-3975	921.95	Lakes	0.20	1218.03	128.10
3679 5221	J-2006 J-2767	755.67 921.59	Forest Lakes	1.28 0.20	1051.80 1218.03	128.12 128.26
309	J-160	921.49	Lakes	0.20	1218.03	128.30
6144	J-3299	921.35	Lakes	0.29	1218.03	128.36
70 1750	J-28 J-893	758.95 756.39	Forest Forest	0.08 0.48	1055.67 1053.42	128.38 128.51
4696	J-2469	1025.90	Stewartsville	0.40	1322.95	128.52
2059 680	J-1089 J-392	920.96 1025.82	Lakes Stewartsville	0.20 0.11	1218.03 1322.95	128.53 128.55
2366	J-1269	767.67	Forest	0.08	1064.94	128.61
2365	J-1268	767.67	Forest	0.08	1064.94	128.61
6269 2180	J-3374 J-1160	920.51 755.03	Lakes Forest	0.20 0.08	1217.89 1052.54	128.66 128.71
2904	J-1573	754.40	Forest	1.48	1051.91	128.72
6315	J-3401	753.99	Forest	1.48	1051.80	128.85
1290 3378	J-670 J-1838	920.00 759.28	Lakes Forest	0.20 0.08	1217.89 1057.64	128.88 129.09
1749	J-892	754.88	Forest	0.68	1053.41	129.16
5596	J-2983	753.21 766.17	Forest	0.08	1051.93	129.24
1935 7090	J-1012 J-3854	766.17 756.95	Forest Forest	0.68 0.08	1064.90 1055.70	129.25 129.25
2714	J-1465	766.13	Forest	0.28	1064.94	129.28
5141 3034	J-2722 J-1632	758.61 765.88	Forest Forest	0.08 0.08	1057.64 1064.94	129.37 129.39
5769	J-3084	765.85	Forest	0.08	1064.92	129.39
2577	J-1384	765.81	Forest	0.08	1064.93	129.42
5432 69	J-2890 J-27	765.55 756.32	Forest Forest	0.28 0.08	1064.90 1055.70	129.52 129.53
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					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
7066 2838	J-3840 J-1538	765.39 752.07	Forest Forest	0.08 1.48	1064.93 1051.80	129.60 129.68
5433	J-2891	765.15	Forest	0.48	1064.90	129.69
4725	J-2485	751.99	Forest	0.08	1051.89	129.75
790 718	J-450 J-413	751.94 764.67	Forest Forest	0.08 0.08	1051.89 1064.92	129.77 129.90
2926	J-1583	764.66	Forest	0.88	1064.96	129.92
4726	J-2486	751.54	Forest	0.28	1051.89	129.95
5053 6645	J-2674 J-3596	757.11 764.32	Forest Forest	1.28 0.08	1057.59 1064.92	130.00 130.06
5054	J-2675	756.73	Forest	0.48	1057.59	130.17
159	J-78	916.03	Lakes	0.20	1216.98	130.21
4342 3058	J-2293 J-1647	751.47 756.51	Forest Forest	0.68 0.08	1052.54 1057.64	130.26 130.29
3059	J-1648	756.41	Forest	0.08	1057.64	130.33
713	J-410 J-2757	915.99 750.65	Lakes Forest	0.20	1217.85	130.60
5204 5035	J-2757 J-2663	915.95	Lakes	0.88 0.20	1052.54 1217.85	130.61 130.62
3686	J-2010	916.25	Lakes	0.37	1218.14	130.62
4905	J-2587	916.08	Lakes	0.29	1218.14	130.69
4584 6600	J-2407 J-3568	914.82 916.00	Lakes Lakes	0.20 0.29	1216.98 1218.31	130.73 130.79
6601	J-3569	916.00	Lakes	0.20	1218.31	130.79
6113	J-3280	915.40	Lakes	0.20	1218.17	130.99
1259 6114	J-654 J-3281	750.23 915.30	Forest Lakes	0.28 0.20	1053.01 1218.17	131.00 131.04
6486	J-3501	750.01	Forest	0.08	1053.01	131.09
7122	J-3872	915.12	Lakes	0.20	1218.14	131.11
6106 4904	J-3276 J-2586	749.27 914.78	Forest Lakes	1.68 0.20	1052.54 1218.14	131.21 131.25
272	J-137	915.16	Lakes	0.20	1218.61	131.28
6644	J-3595	761.32	Forest	0.08	1064.92	131.35
273 738	J-138 J-423	914.97 748.09	Lakes Forest	0.20 0.28	1218.61 1051.92	131.37 131.45
3628	J-1978	760.94	Forest	0.28	1064.93	131.45
6107	J-3277	748.52	Forest	0.48	1052.54	131.54
4156	J-2231	1018.17	Stewartsville	0.42	1322.92	131.85
6937 98	J-3768 J-46	752.10 911.37	Forest Lakes	0.48 0.20	1057.48 1216.98	132.12 132.22
1959	J-1028	759.14	Forest	0.48	1064.94	132.30
1577	J-782	911.10	Lakes	0.20	1216.98	132.34
1576 1281	J-781 J-665	911.01 751.49	Lakes Forest	0.20 0.48	1216.98 1057.48	132.38 132.39
7058	J-3836	745.06	Forest	0.28	1051.80	132.71
1096	J-588	911.54	Lakes	0.20	1218.31	132.72
2181 1950	J-1161 J-1022	745.74 1016.00	Forest Stewartsville	0.88 0.40	1052.53 1322.91	132.73 132.79
5751	J-3074	911.25	Lakes	0.20	1218.28	132.84
2567	J-1378	744.65	Forest	1.68	1051.80	132.89
2862 6132	J-1551 J-3292	744.59 911.02	Forest Lakes	1.28 0.20	1051.81 1218.31	132.92 132.95
4970	J-2625	1015.59	Stewartsville	0.11	1322.92	132.97
5750	J-3073	910.94	Lakes	0.20	1218.28	132.97
7108 1646	J-3864 J-826	910.39 909.39	Lakes Lakes	0.20 0.20	1217.85 1216.98	133.02 133.08
7109	J-3865	910.20	Lakes	0.20	1217.85	133.10
7139	J-3881	910.11	Lakes	0.20	1217.85	133.14
4939 97	J-2607 J-45	909.09 909.00	Lakes Lakes	0.20 0.37	1216.98 1216.98	133.21 133.25
6290	J-3386	743.81	Forest	0.48	1051.92	133.30
3807	J-2073	743.59	Forest	0.88	1051.80	133.35
1871 814	J-971 J-460	756.09 1014.18	Forest Stewartsville	0.48 0.26	1064.82 1322.92	133.57 133.58
4138	J-2224	756.00	Forest	0.08	1064.93	133.66
4174	J-2239	755.91	Forest	0.08	1064.93	133.70
719 1958	J-414 J-1027	755.85 755.66	Forest Forest	0.08 0.08	1064.92 1064.94	133.72 133.81
592	J-339	1013.67	Stewartsville	0.11	1322.95	133.81
6124	J-3287	908.48	Lakes	0.20	1218.16	133.98
3712 591	J-2025 J-338	741.81 1012.81	Forest Stewartsville	1.88 0.11	1051.80 1322.95	134.12 134.18
2177	J-1158	742.26	Forest	0.88	1052.54	134.24
6125	J-3288	907.52	Lakes	0.20	1218.16	134.40
4755 2568	J-2502 J-1379	741.85 741.06	Forest Forest	0.48 0.08	1052.54 1051.80	134.42 134.44
5369	J-1379 J-2854	740.44	Forest	0.08	1051.80	134.44
6856	J-3719	1010.59	Stewartsville	0.40	1322.92	135.13
2178	J-1159	740.20	Forest	0.68	1052.54	135.13
6857 4420	J-3720 J-2319	1010.43 739.89	Stewartsville Forest	1.36 0.48	1322.92 1052.53	135.20 135.26
5588	J-2978	739.84	Forest	0.48	1052.53	135.29
6194	J-3328	738.56	Forest	1.08	1052.53	135.84
5589 5741	J-2979 J-3068	738.50 750.24	Forest Forest	0.48 0.48	1052.53 1064.93	135.87 136.15
4630	J-2433	902.22	Lakes	0.20	1216.97	136.18
3338	J-1816	749.95	Forest	1.68	1064.81	136.22
815 4853	J-461 J-2557	1008.03 903.13	Stewartsville Lakes	0.26 0.63	1322.92 1218.03	136.24 136.24
4631	J-2557 J-2434	903.13	Lakes	0.83	1216.97	136.24
4852	J-2556	903.04	Lakes	1.24	1218.03	136.28
5504 1934	J-2930 J-1011	744.02 749.75	Forest Forest	1.48 0.48	1059.00 1064.90	136.28 136.35
3097	J-1011 J-1672	749.75 743.84	Forest	0.48	1059.00	136.35
3096	J-1671	743.71	Forest	0.48	1059.00	136.41
3355	J-1826	741.74	Forest	0.08	1057.64	136.67
2722 4139	J-1469 J-2225	748.65 748.68	Forest Forest	0.08 0.28	1064.81 1064.93	136.79 136.83
6707	J-3632	741.25	Forest	0.08	1057.64	136.89
5377	J-2859	748.41	Forest	0.48	1064.81	136.89

					Calculated	
Node ID	Node Label	Elevation (ft)	Pressure Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
150	J-73	739.38	Forest	0.08	1055.93	136.96
3453	J-1880	748.20	Forest	1.28	1064.82	136.98
5376 6739	J-2858 J-3650	748.00 748.00	Forest Forest	0.48 0.08	1064.81 1064.93	137.07 137.12
6740	J-3651	748.00	Forest	0.88	1064.93	137.12
3376	J-1837	900.88	Lakes	0.55	1218.03	137.22
3317 3603	J-1804 J-1966	900.64 747.24	Lakes Forest	3.35 1.88	1218.03 1064.81	137.32 137.40
3354	J-1825	740.02	Forest	0.08	1057.64	137.42
3454	J-1881	747.15	Forest	0.28	1064.82	137.44
5615 3316	J-2994 J-1803	738.23 900.00	Forest Lakes	0.28 0.29	1056.25 1218.03	137.59 137.60
5845	J-3127	746.61	Forest	0.48	1064.82	137.67
6921	J-3759	899.76	Lakes	0.20	1218.03	137.70
3273	J-1780 J-1779	899.76	Lakes	0.55	1218.03	137.70
3272 5165	J-1779 J-2736	899.42 746.18	Lakes Forest	0.20 0.08	1218.03 1064.81	137.85 137.86
2647	J-1425	745.89	Forest	0.88	1064.82	137.98
4456 3374	J-2332	1003.97	Stewartsville Lakes	0.26	1322.96 1218.03	138.01
6495	J-1836 J-3506	899.03 736.86	Forest	0.55 0.08	1055.93	138.02 138.04
1198	J-627	1003.86	Stewartsville	1.55	1322.96	138.06
1095	J-587	899.17	Lakes	0.20	1218.32	138.08
6474 5492	J-3494 J-2924	745.33 898.70	Forest Lakes	0.68 0.20	1064.82 1218.32	138.23 138.28
175	J-86	736.00	Forest	0.08	1056.25	138.56
3515	J-1917	897.01	Lakes	0.20	1218.03	138.89
2648 1840	J-1426 J-950	743.57 743.43	Forest Forest	0.88 0.48	1064.82 1064.81	138.99 139.05
2601	J-1398	735.73	Forest	0.68	1057.64	139.28
6220	J-3344	735.55	Forest	0.48	1057.64	139.35
1261 6952	J-655 J-3776	1000.03 895.01	Stewartsville Lakes	0.26 0.29	1322.92 1218.03	139.70 139.75
7308	J-3958	893.74	Lakes	0.20	1216.97	139.85
4644	J-2441	999.68	Stewartsville	0.11	1322.92	139.85
4990 3819	J-2636 J-2078	741.47 999.55	Forest Stewartsville	0.08 1.41	1064.81 1322.91	139.89 139.90
3389	J-1843	893.52	Lakes	0.20	1216.97	139.94
4991	J-2637	741.31	Forest	0.68	1064.81	139.96
3390 3514	J-1844 J-1916	893.18 894.21	Lakes Lakes	0.20 0.20	1216.97 1218.03	140.09 140.10
1841	J-951	740.11	Forest	1.08	1064.80	140.48
3166	J-1714	739.29	Forest	0.28	1064.93	140.89
2795 267	J-1513 J-134	739.08 892.19	Forest Lakes	0.08 0.20	1064.93 1218.10	140.98 141.00
268	J-135	892.19	Lakes	0.20	1218.10	141.00
270	J-136	892.19	Lakes	0.20	1218.10	141.01
3571 1211	J-1947 J-634	891.49 726.21	Lakes Forest	1.24 0.08	1218.03 1053.02	141.28 141.39
4270	J-2272	730.82	Forest	1.88	1057.74	141.45
4660	J-2449	730.35	Forest	0.48	1057.32	141.46
6431 6719	J-3469 J-3639	995.82 737.82	Stewartsville Forest	0.11 0.08	1322.91 1064.93	141.52 141.52
140	J-69	730.00	Forest	1.28	1057.32	141.61
4481 5889	J-2347 J-3151	730.39 890.72	Forest Lakes	0.68 0.20	1057.74 1218.10	141.63 141.64
6725	J-3642	724.44	Forest	0.88	1051.90	141.67
5858	J-3134	725.48	Forest	0.48	1053.02	141.71
2602 1232	J-1399 J-645	729.76 888.20	Forest Lakes	0.88 0.20	1057.64 1216.30	141.86 141.95
244	J-119	889.49	Lakes	0.20	1218.03	142.14
6605	J-3571	736.20	Forest	0.48	1064.81	142.17
6606 243	J-3572 J-118	736.16 889.19	Forest Lakes	1.68 0.20	1064.81 1218.03	142.19 142.27
5763	J-3081	887.24	Lakes	0.46	1216.30	142.37
5288	J-2806	887.04	Lakes	0.20	1216.49	142.54
2622 1231	J-1411 J-644	735.27 886.88	Forest Lakes	0.68 0.20	1064.81 1216.49	142.58 142.61
6649	J-3598	734.93	Forest	0.48	1064.81	142.72
2135	J-1132	887.97	Lakes	0.72	1218.03	142.80
6650 5437	J-3599 J-2893	734.18 992.26	Forest Stewartsville	1.68 0.40	1064.81 1322.92	143.05 143.06
3623	J-1975	992.02	Stewartsville	0.11	1322.91	143.16
4625	J-2430	991.88	Stewartsville	0.11	1322.92	143.23
211 210	J-97 J-96	887.00 886.94	Lakes Lakes	0.20 0.20	1218.11 1218.11	143.26 143.28
1022	J-556	991.53	Stewartsville	0.26	1322.92	143.38
6833	J-3706 J-2232	886.60	Lakes Stewartsville	0.20	1218.03 1322.92	143.39
4157 2597	J-1396	991.16 720.00	Forest	0.69 0.48	1051.80	143.53 143.55
5993	J-3209	886.77	Lakes	0.20	1218.61	143.57
5679	J-3032	733.01	Forest	0.88	1064.87	143.58
6834 4612	J-3707 J-2423	885.90 885.87	Lakes Lakes	0.29 0.20	1218.03 1218.03	143.69 143.71
974	J-535	886.41	Lakes	0.20	1218.61	143.73
3426 5678	J-1864 J-3031	885.71 732.51	Lakes Forest	0.20 0.08	1218.03 1064.87	143.78 143.79
3427	J-1865	885.66	Lakes	0.08	1218.03	143.79
7339	J-3969	732.43	Forest	0.48	1064.81	143.81
3590 7340	J-1958 J-3970	885.62 732.29	Lakes Forest	0.29 0.08	1218.03 1064.81	143.82 143.86
1949	J-1021	990.38	Stewartsville	0.11	1322.91	143.87
664	J-383	885.46	Lakes	0.37	1218.03	143.89
6726 2134	J-3643 J-1131	719.24 884.91	Forest Lakes	0.68 0.20	1051.90 1218.03	143.93 144.12
1089	J-585	728.00	Forest	0.48	1061.13	144.13
5176 1312	J-2742 J-678	728.00 884.26	Forest Lakes	0.08 0.29	1061.13 1217.83	144.13 144.32
3056	J-1646	884.41	Lakes	0.46	1217.83	144.34

Node						Calculated	
3055 J-1645 884.40 Lakes 0.20 1718.03 14-3.4 6267 J-3526 884.00 Lakes 0.20 1718.03 14-4.3 1-3526 J-3526 884.00 Lakes 0.20 1718.03 14-4.4 1-3526 J-3526 884.00 Lakes 0.20 1718.03 14-4.4 1-3526 J-3526 F-0rest 0.48 1064.81 14-4.4 1-3526 J-3526 F-0rest 1.08 1064.81 14-4.4 1-3526 J-3526 F-0rest 1.08 1064.81 14-5.1 1584 J-366 723.36 F-0rest 1.08 1064.81 14-5.1 1584 J-366 884.00 Lakes 0.20 1718.00 14-5.2 1-3526 J-3526 F-0rest 1.08 1064.81 14-5.0 1-3526 J-3526 F-0rest 1.08 1064.81 14-5.0 1-3526 J-3526 F-0rest 1.08 1064.81 14-5.0 1-3526 J-3526 F-0rest 1.08 1064.81 14-5.0 1-3526 J-3526 F-0rest 1.08 1064.81 14-5.0 1-3526 J-3526 F-0rest 1.08 1064.81 14-5.0 1-3526 J-3526 F-0rest 1.08 1064.81 14-5.0 1-3526 J-3526 F-0rest 1.08 1064.93 14-5.5 1-3526 J-3526 F-0rest 1.08 1064.93 14-5.5 1-3526 J-3526 F-0rest 1.08 1064.93 14-5.0 1-3526 J						Hydraulic Grade	
1,449							
1991 J-1990							
1834 J946 P29.36 Forest 1.08 1064.81 465.18 69.46 1.35 1.05 1.00 Forest 1.08 1051.80 146.28 1.46 1.35 1.05 1.00 Forest 1.08 1051.80 146.28 1.46 1.35 1.05 1.00 Forest 1.08 1051.80 146.50 146							
2596							
546							
1975 19-136							
5612 J-2592 727-29 Forest O.48 10614-33 1440.08 1475-32 1475 720-22 Forest O.48 10614-31 1475-32 1475 724-28 Forest O.48 10614-31 1475-33 1475-32 1475-3							
5875 J-4175 720.32 Forest 0.08 1000.00 1449.93 1485.83 J-447 72.72 Forest 0.48 1004.81 147.83 148.85 J-447 72.72 Forest 0.48 1004.81 147.86 147.85 148.85 J-447 72.72 Forest 0.48 1004.81 147.86 147.85 148.85 J-4661 747.43 Lakes 0.20 1216.06 147.86 147.85 147.85 148.							
1835						1060.00	
1774 J-61							
1,774							
1919				Lakes		1216.06	
1700							
4836 J-2437							
3422 J-1862 720.18 Forest 0.08 1064.93 149.16 1343 J-952 719.74 Forest 0.28 1064.93 149.26 1672 J-388 976.53 Sevartsville 0.08 1064.93 1463.85 1672 J-388 976.53 Sevartsville 0.09 1221.92 140.82 17697 J-4000 870.57 Lakes 0.20 1217.82 150.28 15659 J-2688 868.96 Forest 1.88 102.01 1217.82 150.28 15669 J-2688 868.96 Lakes 0.20 1217.82 150.28 15669 J-2688 868.96 Lakes 0.20 1217.82 150.98 15669 J-2686 R68.96 Lakes 0.20 1217.82 150.98 15669 J-2687 R68.58 Lakes 0.20 1217.82 150.98 15669 J-2687 R68.58 Lakes 0.20 1217.82 151.10 15685 J-3132 715.40 Forest 0.08 1604.93 150.99 15685 J-3132 7715.40 Forest 0.08 1604.93 150.99 15685 J-32646 R68.99 Lakes 0.20 1216.97 151.12 15767 J-2840 971.62 Sevartsville 0.20 1216.97 151.42 15767 J-2840 971.63 Sevartsville 0.11 1322.92 152.20 15760 J-2887 R66.02 Lakes 0.20 1216.97 151.72 15760 J-2888 R66.02 Lakes 0.46 1216.93 152.20 15760 J-2888 R66.02 Lakes 0.46 1216.93 152.20 15760 J-2888 R66.02 Lakes 0.46 1216.93 152.20 15760 J-2888 R66.02 Lakes 0.46 1216.93 152.20 15760 J-2888 R66.02 Lakes 0.46 1216.93 152.20 15760 J-2888 R66.02 Lakes 0.46 1216.93 152.20 15760 J-2888 R66.02 Lakes 0.46 1216.93 152.20 15760 J-2888 R66.02 Lakes 0.46 1216.93 152.20 15760 J-2888 R66.02 Lakes 0.46 1216.93 152.20 15760 J-2888 R66.02 Lakes 0.46 1216.93 152.20 15760 J-2888 R66.02 Lakes 0.46 1216.93 152.20 15760 J-2888 R66.02 Lakes 0.46 1216.93 152.20 15760 J-2888 R66.02 Lakes 0.40 1217.78 153.13 15760 J-2888 R66.02 Lakes 0.40 1217.78 153.13 15760 J-2888 R66.02 Lakes 0.40 1217.79 153.13 15760 J-2888 R66.02 Lakes 0.40 1217.79 153.13 15760 J-2888 R66.02 Lakes 0.40 1217.79 153.13 15760 J-2888 R66.02 Lakes 0.40 1217.79 153.13 15760 J-2888 R66.02 Lakes 0.40 1217.79 153.13 15760 J-2888 R66.02 Lakes 0.40 1217.79 153.13 15760 J-2888 R66.02 Lakes 0.40 1	4636	J-2437		Lakes	0.20	1218.03	
1481 J-1861 719.87 Forest 0.28 1064.93 1482.29							
1943							
7997 J-4060 870.57 Lakes 0.20 1217.82 150.24 167.1 1322.92 150.49 1585.3 J-3131 716.05 Forest 1.88 1064.82 150.89 1585.9 J-3131 716.05 Forest 1.88 1064.82 150.89 1585.9 J-3131 716.05 Forest 1.88 1064.82 150.89 1844 J-953 716.00 Forest 0.28 1067.9 150.99 1584.4 J-953 716.00 Forest 0.28 1067.9 150.99 1585.4 J-3132 776.4 Forest 0.28 1067.9 150.99 1585.4 J-3132 776.4 Forest 0.28 1067.9 150.99 1585.4 J-3132 776.4 Forest 0.28 1067.4 J-2616 50.9 1585.4 J-3132 776.4 Forest 0.28 1067.4 J-2616 50.9 1585.4 J-3132 776.4 Forest 0.28 1067.4 J-2616 50.9 1585.4 J-2616 50.9 1585.4 J-2616 50.9 Lakes 0.20 1216.97 151.14 50.5 150.9 152.0 J-2616 50.9 Lakes 0.20 1216.97 151.72 151.72 151.72 151.70 J-2617 J-2617 50.0 Forest 0.28 1057.4 J-2616 50.0 Forest 0.28 1057.4 J-2616 50.0 Forest 0.28 1057.4 J-2616 50.0 Forest 0.28 1057.4 J-2616 50.0 Forest 0.28 1057.4 J-2616 50.0 Forest 0.20 1216.97 151.72 151.7		J-952		Forest	0.08	1064.93	
5671 J-387 975.09 Slewartsville 0.11 1322.92 150.49							
5853 J-3131 716.05 Forest 1.88 1064.82 150.89							
1844 J.953 716.00 Forest 0.88 1064.93 150.98 130.98 1313 J.679 868.58 Lakes 0.20 1217.82 151.10 150.98 150.99 1313 J.679 868.58 Lakes 0.20 1217.82 151.10 150.56 150.56 J.2616 708.02 Forest 0.88 1057.49 151.20 151.20 150.56 J.2646 866.99 Lakes 0.20 1216.97 151.42 151.50 150.56 J.2647 866.30 Lakes 0.20 1216.97 151.42 150.50 150.50 12.60 12.60 150.50 12.60 150.50 150.50 12.60 150.50 150.50 12.60 150.5							
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1313 J-679 888.58 Lakes 0.20 1217.82 151.10 5854 J-2816 705.02 Forest 0.08 1054.82 151.14 5356 J-2846 866.90 Lakes 0.20 1216.97 151.42 5357 J-2847 866.30 Lakes 0.20 1216.97 151.12 5357 J-2840 971.62 Stewartsville 0.26 1322.91 151.79 6535 J-3529 971.13 Stewartsville 0.26 1218.03 152.20 684 J-394 970.66 Stewartsville 0.11 1322.92 152.20 684 J-394 970.66 Stewartsville 0.11 1322.92 152.40 4513 J-2388 J-260.80 Forest 0.88 1057.42 152.50 4514 J-2388 J-286.80 Lakes 0.61 152.78 153.19 2473 J-1327 853.52 Lakes 0.37 1216.97 153.31							
4955 J-2616 700.02 Forest 0.88 1057.49 151.20							
1.5356 J.2846 866.99							
1,536.7 J-2847 866.30 Lakes 0.20 1216.97 151.72 151.79 6535 J-3529 971.13 Stewartsville 0.26 1322.91 151.99 6535 J-3529 971.13 Stewartsville 0.11 1322.92 152.20 684 J-394 970.66 Stewartsville 0.11 1322.92 152.20 684 J-394 970.66 Stewartsville 0.11 1322.92 152.41 152.63 4518 J-2368 704.63 Forest 0.88 1057.42 152.63 4518 J-2368 704.63 Forest 0.48 1057.42 152.63 4518 J-2368 704.63 Forest 0.48 1057.42 152.63 1671 J-841 980.03 Lakes 0.20 1217.78 153.05 1671 J-841 980.03 Stewartsville 0.55 1322.91 153.11 J-1327 863.62 Lakes 0.20 1216.97 153.13 J-1327 863.62 Lakes 0.63 1217.78 153.23 1381 J-1723 862.73 Lakes 0.03 1217.78 153.23 1381 J-1327 863.65 Lakes 0.29 1217.78 153.33 153.39 153.							
5555 J-3529 971.13 Stewartsville							
6804 J-2988 866.02 Lakes 0.46 1218.03 152.31 684 J-394 970.66 Stewartsville 0.11 1322.92 152.41 3888 J-2011 704.94 Forest 0.48 1057.42 152.50 4518 J-2368 704.63 Forest 0.48 1057.42 152.63 4733 J-2490 864.03 Lakee 0.20 1217.78 153.01 1671 J-841 969.03 Stewartsville 0.55 1322.91 153.11 3180 J-1722 862.90 Lakee 0.63 1217.78 153.21 3181 J-1723 862.73 Lakee 0.037 1216.97 153.23 3181 J-1728 863.35 Lakee 0.20 1218.03 153.33 3637 J-1983 863.35 Lakee 0.20 1218.03 153.33 7165 J-3895 863.17 Lakee 0.20 1218.03 153.39							
884 J-394 970.66 Stewartswille 0.11 1322.92 152.41 3888 J-2011 704.94 Forest 0.88 1057.42 152.50 45718 J-2388 704.63 Forest 0.08 1057.42 152.63 4773 J-2490 884.03 Lakes 0.20 1217.78 153.05 1671 J-841 969.03 Stewartswille 0.55 1322.91 153.19 3180 J-1722 862.92 Lakes 0.63 1217.78 153.19 2473 J-1327 863.62 Lakes 0.63 1217.78 153.29 3181 J-1723 862.73 Lakes 0.37 1216.97 153.33 3637 J-1983 863.50 Lakes 0.20 1218.03 153.35 36076 J-4166 863.12 Lakes 0.20 1218.03 153.35 4717 J-2480 861.73 Lakes 0.20 1218.03 153.35							
1898 J-2011 704.94 Forest 0.88 1057.42 152.60							
1671 J-941 969.03 Stewartswille 0.55 1322.91 153.15 153.15 153.11 153.13		J-2011	704.94	Forest	0.88	1057.42	152.50
1671 J-941 989.03 Stewartsville 0.55 1322.91 153.11 153.19 2473 J-1327 882.90 Lakes 0.20 1216.97 153.19 2473 J-1327 883.62 Lakes 0.63 1217.78 153.29 2473 J-1327 882.27 Lakes 0.63 1217.78 153.27 4694 J-2468 882.58 Lakes 0.37 1216.97 153.33 181 J-1723 882.73 Lakes 0.37 1216.97 153.37 2690 J-1085 883.50 Lakes 0.29 1217.78 153.34 2050 J-1085 883.50 Lakes 0.29 1217.78 153.34 2050 J-1085 883.51 Lakes 0.20 1218.03 153.39 17165 J-3885 883.17 Lakes 0.20 1218.03 153.39 17165 J-3885 883.17 Lakes 0.20 1218.03 153.53 18076 J-3813 897.52 Lakes 0.20 1218.03 153.53 18076 J-3813 897.52 Lakes 0.20 1218.03 153.53 18076 J-3813 897.52 Lakes 0.20 1218.03 153.53 18076 J-3813 897.52 Lakes 0.20 1218.03 153.53 18076 J-3813 897.52 Lakes 0.29 1217.76 154.04 1717 J-2480 861.73 Lakes 0.29 1217.76 154.04 1718 J-2481 891.54 Lakes 0.29 1217.76 154.04 1718 J-2482 881.54 Lakes 0.29 1217.76 154.05 1714 1718 J-2482 881.54 Lakes 0.29 1217.76 154.05 1714 1718 J-2482 881.54 Lakes 0.20 1216.98 154.19 1724 1719 1718 881.61 Lakes 0.20 1216.98 154.19 1718 1718 1718 1718 1718 1718 1718 17							
13180							
1818							
A694							
2637							
17165	3637	J-1983			0.29	1217.78	
8076 J-4166 863.12 Lakes 0.20 1218.03 153.55 17016 J-3813 697.52 Forest 0.08 1055.02 153.81 4717 J-2480 861.73 Lakes 0.29 1217.76 154.04 7243 J-3931 861.71 Lakes 0.37 1217.76 154.05 154.04 4718 J-2481 861.54 Lakes 0.29 1217.76 154.12 4810 J-2532 860.60 Lakes 0.20 1216.98 154.19 154.12 155.13 154.1							
Total							
17443							
4718							
A810							
2038							
185							
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6119 J-3284 861.19 Lakes 0.20 1218.20 154.46 6274 J-3377 859.93 Lakes 1.52 1217.76 154.82 2046 J-1083 860.09 Lakes 0.20 1218.03 154.86 2041 J-1080 860.00 Lakes 0.20 1218.03 154.86 2041 J-1080 860.00 Lakes 0.20 1218.03 154.86 6066 J-3252 858.11 Lakes 0.20 1218.03 155.33 3395 J-1847 858.20 Lakes 0.46 1217.75 155.56 6065 J-3252 858.11 Lakes 0.29 1217.75 155.60 6064 J-3251 857.64 Lakes 0.20 1217.79 155.84 6072 J-3255 857.60 Lakes 0.20 1217.79 155.84 6072 J-3255 856.63 Lakes 0.20 1217.79 155.84 1212 J-635 692.00 Forest 0.08 1053.02 156.19 6273 J-3376 856.63 Lakes 0.20 1217.76 156.24 829 J-469 857.05 Lakes 0.20 1218.01 156.25 6208 J-3337 855.81 Lakes 0.20 1218.01 156.71 139 J-68 694.79 Forest 0.48 1057.20 1218.01 156.71 139 J-68 894.79 Forest 0.48 1057.20 1218.01 156.71 139 J-68 854.57 Lakes 0.55 1218.01 157.25 1268 J-658 852.00 Lakes 0.72 1215.86 157.42 4442 J-2495 852.19 Lakes 0.72 1215.86 157.42 4442 J-2495 852.19 Lakes 0.72 1215.86 157.42 4442 J-2496 857.51 Lakes 0.29 1215.86 157.42 1468 J-658 852.00 Lakes 0.72 1216.97 157.83 147.3 J-291 846.91 Lakes 0.20 1217.75 160.91 157.25 1515 J-291 846.91 Lakes 0.20 1217.75 160.91 163.00 J-818 845.27 Lakes 0.29 1215.86 157.42 1468 J-2496 851.51 Lakes 0.29 1215.86 157.42 1468 J-2495 852.19 Lakes 0.72 1216.97 157.83 160.57 160.91 J-3509 846.22 Lakes 0.20 1217.75 160.91 163.00 J-818 845.85 Lakes 0.20 1217.75 160.91 163.00 J-818 845.85 Lakes 0.20 1217.75 160.99 172 J-2496 845.51 Lakes 0.20 1217.75 160.99 172 J-2496 845.51 Lakes 0.20 1217.75 160.99 172 J-2496 845.51 Lakes 0.20 1217.75 160.99 172 J-2496 845.85 Lakes 0.20 1217.75 160.99 172 J-2496 845.85 Lakes 0.20 1217.75 160.99 172 J-2496 845.85 Lakes 0.20 1217.75 160.99 172 J-2496 845.85 Lakes 0.20 1217.75 160.99 172 J-2496 845.85 Lakes 0.20 1217.75 160.99 172 J-2496 845.85 Lakes 0.20 1217.75 160.99 172 J-2496 845.85 Lakes 0.20 1217.75 160.99 172 J-2496 845.85 Lakes 0.20 1217.75 160.99 172 J-2446 844.76 Lakes 0.20 1217.79 161.81 163.0 J-2446 844.76 Lakes 0.20 1217.79 161.81 163.0 J-2446 844.76 Lakes 0.20 1218.03 162.38 160.57 1							
Company							
2041 J-1080 860.00 Lakes 0.20 1218.03 154.90 2048 J-1084 859.02 Lakes 0.20 1218.03 155.33 3395 J-1847 858.20 Lakes 0.46 1217.75 155.56 6065 J-32521 857.64 Lakes 0.29 1217.75 155.60 6073 J-3257 857.60 Lakes 0.20 1217.79 155.84 6072 J-3256 856.92 Lakes 0.20 1217.79 156.84 6072 J-355 692.00 Forest 0.08 1053.02 156.19 6273 J-3376 856.63 Lakes 0.20 1217.79 156.13 6273 J-3376 856.63 Lakes 0.20 1218.00 156.24 829 J-469 857.05 Lakes 0.20 1218.01 156.71 139 J-68 694.79 Forest 0.48 1057.20 156.80 1180							
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6072 J-3256 856.92 Lakes 0.20 1217.79 156.13 1212 J-635 692.00 Forest 0.08 1053.02 156.19 6273 J-3376 856.63 Lakes 0.37 1217.76 156.24 829 J-469 857.05 Lakes 0.20 1218.01 156.25 6208 J-3337 855.81 Lakes 0.20 1218.01 156.71 139 J-68 694.79 Forest 0.48 1057.20 156.80 1180 J-618 854.57 Lakes 0.29 1215.86 157.42 1268 J-658 852.00 Lakes 0.29 1215.86 157.42 4648 J-2443 852.00 Lakes 0.72 1215.86 157.42 4742 J-2495 852.19 Lakes 0.72 1216.97 157.83 4743 J-2496 851.51 Lakes 0.55 1218.03 160.57 5515							
1212		J-3256		Lakes			156.13
829 J-469 857.05 Lakes 0.20 1218.20 156.25 6208 J-3337 855.81 Lakes 0.20 1218.01 156.71 139 J-68 694.79 Forest 0.48 1057.20 156.80 1180 J-618 854.57 Lakes 0.55 1218.01 157.25 1268 J-658 852.00 Lakes 0.72 1215.86 157.42 4648 J-2443 852.00 Lakes 0.72 1215.86 157.42 4742 J-2495 851.51 Lakes 0.55 1216.97 157.83 4743 J-2496 851.51 Lakes 0.55 1216.97 158.12 515 J-291 846.91 Lakes 0.20 1218.03 160.57 6500 J-3509 846.22 Lakes 0.20 1217.75 160.81 1630 J-811 846.06 Lakes 0.29 1217.75 160.81 1630 <							
6208 J-3337 855.81 Lakes 0.20 1218.01 156.71 139 J-68 694.79 Forest 0.48 1057.20 156.80 1180 J-618 854.57 Lakes 0.55 1218.01 157.25 1268 J-658 852.00 Lakes 0.72 1215.86 157.42 4648 J-2443 852.00 Lakes 0.72 1215.86 157.42 4742 J-2495 852.19 Lakes 0.72 1216.97 157.83 4743 J-2496 851.51 Lakes 0.55 1216.97 157.83 4743 J-2496 851.51 Lakes 0.20 1218.03 160.57 515 J-291 846.91 Lakes 0.20 1218.03 160.57 6500 J-3509 846.22 Lakes 0.20 1217.75 160.91 1630 J-816 845.88 Lakes 0.29 1217.75 160.89 7221							
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1268 J-658 852.00 Lakes 0.29 1215.86 157.42 4648 J-2443 852.00 Lakes 0.72 1215.86 157.42 4742 J-2495 852.19 Lakes 0.72 1216.97 157.83 4743 J-2496 851.51 Lakes 0.55 1216.97 158.12 515 J-291 846.91 Lakes 0.20 1218.03 160.57 6500 J-3509 846.22 Lakes 0.20 1217.75 160.74 1622 J-811 846.06 Lakes 0.29 1217.75 160.81 1630 J-816 845.88 Lakes 0.20 1217.75 160.81 1630 J-3921 845.85 Lakes 0.20 1217.75 160.90 6499 J-3508 845.81 Lakes 0.20 1217.75 160.92 178 J-87 844.90 Lakes 0.20 1216.98 160.98 4652							
4688 J-2443 852.00 Lakes 0.72 1215.86 157.42 4742 J-2495 852.19 Lakes 0.72 1216.97 157.83 4743 J-2496 851.51 Lakes 0.55 1216.97 158.12 515 J-291 846.91 Lakes 0.20 1217.75 160.74 1622 J-811 846.06 Lakes 0.29 1217.75 160.81 1630 J-816 845.88 Lakes 0.20 1217.75 160.81 1630 J-876 845.85 Lakes 0.20 1217.75 160.81 1630 J-876 845.81 Lakes 0.20 1217.75 160.89 7221 J-3921 845.81 Lakes 0.20 1217.75 160.92 178 J-87 844.90 Lakes 0.20 1217.75 160.92 178 J-2445 844.76 Lakes 0.20 1216.98 161.04 4186 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
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6499 J-3508 845.81 Lakes 0.20 1217.75 160.92 178 J-87 844.90 Lakes 0.20 1216.98 160.98 4652 J-2445 844.76 Lakes 0.20 1216.98 161.04 4186 J-2244 843.72 Lakes 0.72 1216.97 161.49 6658 J-3603 844.53 Lakes 0.20 1218.03 161.60 413 J-228 843.99 Lakes 0.20 1218.03 161.60 413 J-228 843.99 Lakes 0.20 1217.99 161.81 952 J-525 843.65 Lakes 0.20 1217.99 162.29 5007 J-2646 842.85 Lakes 0.20 1217.99 162.29 5007 J-2646 842.85 Lakes 0.20 1218.03 162.32 514 J-290 842.77 Lakes 0.20 1218.03 162.36 3731 J-2036 842.73 Lakes 0.20 1218.03 162.36							
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413 J-228 843.99 Lakes 0.20 1217.99 161.81 952 J-525 843.65 Lakes 0.20 1218.24 162.07 412 J-227 842.88 Lakes 0.20 1217.99 162.29 5007 J-2646 842.85 Lakes 0.20 1218.03 162.32 514 J-290 842.77 Lakes 0.20 1218.03 162.36 3731 J-2036 842.73 Lakes 0.20 1218.03 162.38							
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514 J-290 842.77 Lakes 0.20 1218.03 162.36 3731 J-2036 842.73 Lakes 0.20 1218.03 162.38							
3731 J-2036 842.73 Lakes 0.20 1218.03 162.38							
4098 J-2207 841.49 Lakes 1.24 1216.97 162.45	3731	J-2036	842.73	Lakes	0.20	1218.03	162.38
	4098	J-2207	841.49	Lakes	1.24	1216.97	162.45

Node Label Elevation Cone C						Calculated	
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7014 J-3812 841.53 Lakes 0.20 1218.24 162.98 1148 J-607 840.88 Lakes 0.20 1218.05 163.18 6666 J-3602 838.82 Lakes 0.20 1218.05 163.64 461 J-258 839.33 Lakes 0.20 1218.02 163.64 461 J-258 839.33 Lakes 0.20 1218.02 164.03 5887 J-3150 838.89 Lakes 0.20 1218.02 164.03 564 J-322 838.21 Lakes 0.46 1218.02 164.03 6645 J-3535 835.42 Lakes 0.29 1215.66 164.51 4057 J-2188 836.45 Lakes 0.29 1215.66 164.51 4057 J-2188 836.45 Lakes 0.20 1218.03 164.91 6111 J-3279 836.62 Lakes 0.20 1218.03 164.91 6111 J-3279 836.62 Lakes 0.29 1215.66 165.14 312 J-162 836.34 Lakes 0.55 1215.66 165.14 313 J-601 833.96 Lakes 0.55 1215.66 165.14 313 J-163 836.17 Lakes 0.20 1218.21 165.25 5123 J-2712 682.99 Forest 0.08 1064.94 165.25 513 J-2713 682.00 Forest 0.08 1064.94 165.25 514 J-2713 682.00 Forest 0.88 1064.94 165.53 550 J-313 835.45 Lakes 0.20 1218.21 165.29 4674 J-2457 835.62 Lakes 0.20 1218.21 165.53 5124 J-2713 682.00 Forest 0.88 1064.94 165.63 58 J-2448 833.80 Lakes 0.20 1216.98 165.78 58 J-20 833.77 Lakes 0.20 1216.98 165.78 58 J-21 833.64 Lakes 0.20 1216.98 165.78 58 J-21 833.64 Lakes 0.20 1216.98 165.78 58 J-21 833.64 Lakes 0.20 1216.98 165.78 58 J-21 833.64 Lakes 0.20 1216.98 165.78 58 J-21 833.64 Lakes 0.20 1216.98 165.78 58 J-21 833.64 Lakes 0.20 1216.98 165.79 58 J-21 833.64 Lakes 0.20 1216.98 165.79 58 J-21 833.64 Lakes 0.20 1216.98 165.85 59 J-21 833.64 Lakes 0.20 1216.98 165.85 59 J-21 833.64 Lakes 0.20 1216.98 165.85 59 J-21 833.64 Lakes 0.20 1216.98 165.85 59 J-21 833.64 Lakes 0.20 1216.98 165.85 59 J-21 833.64 Lakes 0.20 1216.98 165.85 59 J-21 833.64 Lakes 0.20 1216.98 165.85 59 J-21 833.64 Lakes 0.20 1216.98 165.85 59 J-21 833.64 Lakes 0.20 1216.98 165.85 59 J-21 833.64 Lakes 0.20 1216.98 165.85 59 J-21 833.64 Lakes 0.20 1216.97 165.51 58 J-28 89 89 84.5 Stewartsville 0.55 1322.91 166.32 59 J-21 833.64 Lakes 0.20 1216.97 165.51 59 J-21 833.64 Lakes 0.20 1216.97 165.51 59 J-21 833.64 Lakes 0.20 1216.97 165.55 59 J-21 833.64 Lakes 0.20 1216.97 165.55 59 J-21 833.64 Lakes 0.20 1216.97 165.55 59 J-21 833.64 Lakes 0.20 1216.97							
1148							-
6656 J-3602 839.82 Lakes 0.20 1218.05 163.64 461 J-258 839.33 Lakes 0.20 1218.01 163.92 5887 J-3150 838.89 Lakes 0.20 1218.02 164.03 564 J-322 838.21 Lakes 0.46 1218.02 164.03 5645 J-3635 835.42 Lakes 0.29 1215.66 164.51 4057 J-2188 836.45 Lakes 0.72 1218.03 164.91 4057 J-2188 836.45 Lakes 0.20 1218.03 164.91 4057 J-2188 836.45 Lakes 0.20 1218.03 164.91 6111 J-3279 836.62 Lakes 0.29 1217.99 165.00 1136 J-601 833.96 Lakes 0.55 1215.66 165.14 312 J-162 836.34 Lakes 0.20 1218.21 165.22 5123 J-2712 682.99 Forest 0.08 1064.94 165.25 5123 J-2712 682.99 Forest 0.08 1064.94 165.25 5313 J-163 836.17 Lakes 0.72 1217.99 165.51 4674 J-2457 835.62 Lakes 0.72 1217.99 165.51 4674 J-2457 835.62 Lakes 0.20 1218.21 165.53 4658 J-2448 833.80 Lakes 0.20 1218.21 165.68 4658 J-2448 833.80 Lakes 0.20 1216.98 165.68 59 J-21 833.64 Lakes 0.37 1216.98 165.80 50 J-2868 938.45 Stewartsville 0.55 1322.91 166.34 4065 J-2868 938.45 Stewartsville 0.55 1322.91 166.34 4066 J-2187 831.19 Lakes 1.41 1216.97 166.91 4066 J-2187 831.19 Lakes 0.20 1218.02 167.04 4061 J-2335 829.08 Lakes 0.20 1218.07 177.82 4062 J-336 829.06 Lakes 0.20 1218.07 177.82 4064 J-2336 829.06 Lakes 0.20 1218.07 177.32 4066 J-278 815.49 Lakes 0.20 1218.07 173.33							
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5887 J-3150 838.89 Lakes 0.20 1218.02 164.33 564 J-322 838.21 Lakes 0.46 1218.02 164.33 6545 J-35355 335.42 Lakes 0.72 1216.66 164.51 4067 J-2188 836.45 Lakes 0.72 1216.97 164.64 43730 J-2035 836.62 Lakes 0.20 1218.03 164.91 6111 J-3279 836.62 Lakes 0.29 1217.99 165.00 1136 J-601 833.96 Lakes 0.20 1218.21 165.14 312 J-162 836.34 Lakes 0.20 1218.21 165.22 5123 J-2712 682.99 Forest 0.08 1064.94 165.29 550 J-313 835.45 Lakes 0.72 1217.99 166.51 4674 J-2467 835.62 Lakes 0.72 1218.21 165.29 5124							
6544 J-322 838.21 Lakes 0.46 1218.06 164.51 4057 J-2188 836.45 Lakes 0.72 1216.97 164.64 3730 J-2035 836.87 Lakes 0.20 1218.03 164.91 6111 J-3279 836.62 Lakes 0.29 1217.99 165.00 1136 J-601 833.96 Lakes 0.55 1215.66 165.14 312 J-162 836.34 Lakes 0.55 1215.66 165.14 312 J-162 836.31 Lakes 0.20 1218.21 165.22 5123 J-2712 682.99 Forest 0.08 1064.94 165.22 313 J-163 836.17 Lakes 0.29 1218.21 165.22 550 J-313 835.62 Lakes 0.20 1218.21 165.53 4674 J-2467 835.62 Lakes 0.20 1218.21 165.53 5124 <	461	J-258	839.33	Lakes		1218.21	163.92
6545 J-3535 835.42 Lakes 0.29 1215.66 164.51							
4057							
1973 1973 1974 1975							
6111							
1136			836.87				164.91
312 J-162 836.34 Lakes 0.20 1218.21 165.25 5123 J-2712 682.99 Forest 0.08 1064.94 165.25 313 J-163 836.17 Lakes 0.29 1218.21 165.29 550 J-313 835.45 Lakes 0.72 1217.99 165.51 4674 J-2467 835.62 Lakes 0.72 1218.21 165.53 5124 J-2713 682.00 Forest 0.88 1064.94 165.68 4658 J-2448 833.80 Lakes 0.20 1216.98 165.68 59 J-21 833.64 Lakes 0.37 1216.98 165.80 168 J-83 672.67 Forest 0.08 1056.91 166.24 4294 J-2279 938.48 Stewartsville 0.55 1322.91 166.32 4594 J-2286 938.45 Stewartsville 0.83 1322.91 166.32 4592							
5123 J-2712 682.99 Forest 0.08 1064.94 165.29 313 J-163 836.17 Lakes 0.29 1218.21 165.29 550 J-313 835.45 Lakes 0.72 1217.99 165.51 4674 J-2457 835.62 Lakes 0.20 1218.21 165.53 5124 J-2713 682.00 Forest 0.88 1044.94 165.68 4658 J-2448 833.80 Lakes 0.20 1216.98 165.78 58 J-20 833.77 Lakes 0.20 1216.98 165.78 59 J-21 833.64 Lakes 0.37 1216.98 165.85 168 J-83 672.67 Forest 0.08 1056.91 166.28 4294 J-2279 938.48 Stewartsville 0.55 1322.91 166.32 4394 J-22187 831.19 Lakes 1.41 1216.97 166.91 4065			833.96			1215.66	165.14
313 J-163 836.17 Lakes 0.29 1218.21 165.29 550 J-313 835.45 Lakes 0.72 1217.99 165.51 4674 J-2457 835.62 Lakes 0.20 1218.21 165.53 5124 J-2713 682.00 Forest 0.88 1064.94 165.65 4658 J-20 833.77 Lakes 0.20 1216.98 165.78 58 J-20 833.77 Lakes 0.20 1216.98 165.85 168 J-83 672.67 Forest 0.08 1056.91 166.85 168 J-83 672.67 Forest 0.08 1056.91 166.24 4294 J-2279 938.48 Stewartsville 0.83 1322.91 166.34 4592 J-2868 938.45 Stewartsville 0.83 1322.91 166.34 4056 J-2187 831.19 Lakes 0.37 1216.97 166.91 4051 <td></td> <td></td> <td>836.34</td> <td>Lakes</td> <td>0.20</td> <td>1218.21</td> <td>165.22</td>			836.34	Lakes	0.20	1218.21	165.22
550 J-313 835.45 Lakes 0.72 1217.99 165.51 4674 J-2457 835.62 Lakes 0.20 1218.21 165.53 5124 J-2713 682.00 Forest 0.88 1064.94 165.68 4658 J-2448 833.80 Lakes 0.20 1216.98 165.80 58 J-20 833.77 Lakes 0.20 1216.98 165.80 59 J-21 833.64 Lakes 0.37 1216.98 165.85 168 J-83 672.67 Forest 0.08 1056.91 166.32 4294 J-2279 938.48 Stewartsville 0.55 1322.91 166.32 5392 J-2868 938.45 Stewartsville 0.83 1322.91 166.32 4056 J-2187 831.19 Lakes 1.41 1216.97 166.91 4601 J-2417 831.10 Lakes 0.37 1216.97 166.91 4601<							
4674	313	J-163	836.17	Lakes	0.29	1218.21	165.29
5124 J-2713 682.00 Forest 0.88 1064.94 165.68 4658 J-2448 833.80 Lakes 0.20 1216.98 165.78 58 J-20 833.77 Lakes 0.20 1216.98 165.80 59 J-21 833.64 Lakes 0.37 1216.98 165.80 168 J-83 672.67 Forest 0.08 1056.91 166.24 4294 J-2279 938.48 Stewartsville 0.55 1322.91 166.32 5392 J-2868 938.45 Stewartsville 0.83 1322.91 166.32 6652 J-3600 672.38 Forest 0.08 1056.91 166.37 4056 J-2187 831.19 Lakes 1.41 1216.97 166.91 4601 J-2417 831.10 Lakes 0.20 1218.02 167.04 2022 J-1068 829.97 Lakes 0.20 1218.02 167.04 40						1217.99	
4658 J-2448 833.80						1218.21	
58 J-20 833.77 Lakes 0.20 1216.98 165.85 59 J-21 833.64 Lakes 0.37 1216.98 165.85 168 J-83 672.67 Forest 0.08 1056.91 166.24 4294 J-2279 938.48 Stewartsville 0.83 1322.91 166.34 5392 J-2868 938.45 Stewartsville 0.83 1322.91 166.34 6652 J-3600 672.38 Forest 0.08 1056.91 166.34 4056 J-2187 831.19 Lakes 0.37 1216.97 166.91 4601 J-2417 831.10 Lakes 0.20 1216.97 166.95 553 J-321 831.95 Lakes 0.20 1216.97 167.94 4461 J-2335 829.98 Lakes 0.20 1216.98 167.44 4461 J-2335 829.08 Lakes 0.20 1216.97 167.82 6329<	5124	J-2713	682.00	Forest	0.88	1064.94	165.68
59 J-21 833.64 Lakes 0.37 1216.98 165.85 168 J-83 672.67 Forest 0.08 1056.91 166.24 4294 J-2279 938.48 Stewartsville 0.55 1322.91 166.32 5392 J-2868 938.45 Stewartsville 0.83 1322.91 166.32 4056 J-2187 831.19 Lakes 0.08 1056.91 166.91 4601 J-2417 831.19 Lakes 0.37 1216.97 166.91 4601 J-2417 831.19 Lakes 0.20 1218.02 167.04 563 J-321 831.95 Lakes 0.20 1218.02 167.04 2022 J-1068 829.97 Lakes 0.20 1218.02 167.04 4461 J-2335 829.08 Lakes 0.20 1216.97 167.82 4462 J-2336 829.08 Lakes 0.20 1218.97 167.82 46	4658	J-2448	833.80	Lakes	0.20	1216.98	165.78
188 J-83 672.67 Forest 0.08 1056.91 166.92 4294 J-2279 938.48 Stewartsville 0.55 1322.91 166.32 5392 J-2868 938.45 Stewartsville 0.83 1322.91 166.34 6652 J-3600 672.38 Forest 0.08 1056.91 166.91 4801 J-2417 831.19 Lakes 0.37 1216.97 166.95 563 J-321 831.10 Lakes 0.37 1216.97 166.95 563 J-321 831.95 Lakes 0.20 1216.98 167.44 4461 J-2335 829.98 Lakes 0.20 1216.98 167.44 4461 J-2336 829.08 Lakes 0.20 1216.97 167.82 6329 J-3409 829.60 Lakes 0.20 1218.25 168.15 7486 J-4023 825.01 Lakes 0.20 1218.25 168.15 <td< td=""><td>58</td><td>J-20</td><td>833.77</td><td>Lakes</td><td>0.20</td><td>1216.98</td><td>165.80</td></td<>	58	J-20	833.77	Lakes	0.20	1216.98	165.80
4294 J-2279 938.48 Stewartsville 0.55 1322.91 166.34 5392 J-2868 938.45 Stewartsville 0.83 1322.91 166.34 6652 J-3600 672.38 Forest 0.08 1056.91 166.37 4056 J-2187 831.19 Lakes 1.41 1216.97 166.95 563 J-321 831.19 Lakes 0.20 1218.02 167.04 2022 J-1068 829.97 Lakes 0.20 1216.97 166.95 4461 J-2335 829.08 Lakes 0.20 1216.97 167.82 4462 J-2336 829.08 Lakes 0.20 1216.97 167.82 4462 J-2336 829.08 Lakes 0.20 1216.97 167.82 4463 J-24023 825.01 Lakes 0.20 1216.97 167.82 4632 J-259 826.28 Lakes 0.20 1218.25 168.15	59	J-21	833.64	Lakes	0.37	1216.98	165.85
5392 J-2868 938.45 Stewartsville 0.83 1322.91 166.37 6662 J-3600 672.38 Forest 0.08 1056.91 166.37 4056 J-2187 831.19 Lakes 1.41 1216.97 166.91 4601 J-2417 831.10 Lakes 0.20 1218.02 167.04 563 J-321 831.95 Lakes 0.20 1218.02 167.04 2022 J-1068 829.97 Lakes 0.20 1216.98 167.04 4461 J-2335 829.08 Lakes 0.20 1216.97 167.82 6329 J-3409 829.60 Lakes 0.20 1216.97 167.82 6329 J-3409 829.60 Lakes 0.20 1218.25 168.15 463 J-259 826.28 Lakes 0.20 1218.25 168.15 241 J-117 822.18 Lakes 0.37 1218.25 171.38 240 <td>168</td> <td>J-83</td> <td>672.67</td> <td>Forest</td> <td>0.08</td> <td>1056.91</td> <td>166.24</td>	168	J-83	672.67	Forest	0.08	1056.91	166.24
6652 J-3600 672.38 Forest 0.08 1056.91 166.91 4056 J-2187 831.19 Lakes 1.41 1216.97 166.91 4601 J-2417 831.10 Lakes 0.37 1216.97 166.95 563 J-321 831.95 Lakes 0.20 1216.98 167.44 4461 J-2335 829.98 Lakes 0.20 1216.98 167.44 4461 J-2335 829.08 Lakes 0.20 1216.97 167.82 6329 J-3409 829.00 Lakes 0.20 1218.25 167.82 6329 J-3409 829.60 Lakes 0.20 1218.25 168.15 7486 J-4023 825.01 Lakes 0.20 1218.25 168.15 443 J-117 822.18 Lakes 0.20 1218.25 171.38 463 J-259 826.28 Lakes 0.37 1218.25 171.43 241	4294	J-2279	938.48	Stewartsville	0.55	1322.91	166.32
4056 J-2187 831.19 Lakes 1.41 1216.97 166.95 4601 J-2417 831.10 Lakes 0.37 1216.97 166.95 563 J-321 831.95 Lakes 0.20 1218.02 167.04 2022 J-1088 829.97 Lakes 0.20 1216.98 167.44 4461 J-2335 829.08 Lakes 0.20 1216.97 167.82 4462 J-2336 829.08 Lakes 0.20 1216.97 167.82 4462 J-2336 829.08 Lakes 0.20 1216.97 167.82 4532 J-3409 829.60 Lakes 0.20 1216.97 167.82 463 J-259 826.28 Lakes 0.20 1216.97 169.58 463 J-259 826.28 Lakes 0.20 1218.25 169.59 463 J-259 826.28 Lakes 0.20 1218.25 169.59 463 J-259 826.28 Lakes 0.37 1218.25 171.36 1214 J-636 822.06 Lakes 0.55 1218.17 171.38 240 J-116 822.02 Lakes 0.37 1218.25 171.43 240 J-116 822.02 Lakes 0.37 1218.25 171.43 495 J-278 815.49 Lakes 0.20 1218.07 173.37 1266 J-657 817.44 Lakes 0.20 1218.07 173.37 1266 J-657 817.44 Lakes 0.20 1218.07 173.37 5647 J-3597 816.54 Lakes 0.20 1218.07 173.37 6647 J-3597 816.54 Lakes 0.20 1218.14 173.80 496 J-279 812.27 Lakes 0.20 1218.14 173.80 496 J-279 812.27 Lakes 0.20 1218.14 173.80 496 J-279 812.27 Lakes 0.20 1218.14 173.80 3260 J-1772 914.04 Stewartsville 0.83 1322.91 176.90 3259 J-1771 913.57 Stewartsville 0.86 1322.91 177.10 381 J-207 799.73 Lakes 257.22 1215.48 179.87 508-75 J-2716 639.47 Forest 0.48 1064.94 184.08 34-102 34-102 34-102 34-102 34-102 34-104 34-108 34-102 34-102 34-102 34-104 34-108 34-108 34-102 34-102 34-102 34-104 34-108 34-102 34-102 34-102 34-104 34-108 34-102 34-102 34-102 34-104 34-108 34-102 34-102 34-104 34-108 34-102 34-102 34-104 34-108 34-102 34-102 34-104 34-108 34-102 34-102 34-102	5392	J-2868	938.45	Stewartsville	0.83	1322.91	166.34
4601 J-2417 831.10 Lakes 0.37 1216.97 166.95	6652	J-3600	672.38	Forest	0.08	1056.91	166.37
4601 J-2417 831.10 Lakes 0.37 1216.97 166.95 563 J-321 831.95 Lakes 0.20 1218.02 167.04 4461 J-2335 829.08 Lakes 0.20 1216.98 167.44 4461 J-2335 829.08 Lakes 0.20 1216.97 167.82 4462 J-2336 829.08 Lakes 0.20 1216.97 167.82 6329 J-3409 829.60 Lakes 0.20 1216.97 167.82 6329 J-3409 829.60 Lakes 0.20 1218.25 168.15 7486 J-4023 825.01 Lakes 0.20 1218.25 168.15 7486 J-4023 825.01 Lakes 0.20 1218.25 169.58 463 J-259 826.28 Lakes 0.20 1218.25 171.36 464 J-117 822.18 Lakes 0.37 1218.25 171.36 4214 J-16 822.02 Lakes 0.37 1218.25 171.36 420 J-116 822.02 Lakes 0.37 1218.25 171.36 496 J-278 815.49 Lakes 0.20 1218.17 172.26 495 J-278 815.49 Lakes 0.29 1215.51 173.07 1266 J-657 817.44 Lakes 0.20 1218.07 173.37 5667 J-3597 816.54 Lakes 0.20 1218.07 173.37 6647 J-3597 816.54 Lakes 0.20 1218.17 173.80 496 J-279 812.27 Lakes 0.20 1218.14 173.80 496 J-279 812.27 Lakes 0.20 1218.14 173.80 496 J-279 816.25 Lakes 0.20 1218.14 173.80 496 J-279 816.25 Lakes 0.20 1218.14 173.80 496 J-279 816.25 Lakes 0.20 1218.14 175.87 7808 J-4122 658.30 Forest 0.48 1064.94 175.93 3259 J-1771 913.57 Stewartsville 0.83 1322.91 176.90 3259 J-1771 93.57 Stewartsville 0.26 1322.91 177.10 331 J-207 799.73 Lakes 257.22 1215.48 179.87 569 J-1271 639.47 Forest 0.48 1064.94 416.08	4056	J-2187	831.19	Lakes	1.41	1216.97	166.91
563 J-321 831.95 Lakes 0.20 1218.02 167.04 2022 J-1068 829.97 Lakes 0.20 1216.98 167.44 4461 J-2335 829.08 Lakes 1.93 1216.97 167.82 4462 J-2336 829.08 Lakes 0.20 1218.97 167.82 4662 J-2336 829.08 Lakes 0.20 1218.25 188.15 7486 J-4023 825.01 Lakes 0.20 1218.97 169.58 463 J-259 826.28 Lakes 0.20 1218.25 169.59 463 J-259 826.28 Lakes 0.20 1218.25 169.59 241 J-117 822.18 Lakes 0.37 1218.25 169.59 241 J-4636 822.06 Lakes 0.55 1218.17 171.38 240 J-116 822.02 Lakes 0.37 1218.25 171.43 240	4601	J-2417	831.10	Lakes	0.37	1216.97	166.95
4461 J-2335 829.08 Lakes 1.93 1216.97 167.82 4462 J-2336 829.08 Lakes 0.20 1218.25 168.15 6329 J-3409 829.60 Lakes 0.20 1218.25 168.15 7486 J-4023 825.01 Lakes 0.20 1216.97 169.58 463 J-259 826.28 Lakes 0.20 1218.25 169.59 241 J-117 822.18 Lakes 0.37 1218.25 171.36 1214 J-636 822.06 Lakes 0.55 1218.17 171.38 240 J-116 822.02 Lakes 0.55 1218.17 171.36 6067 J-3253 820.03 Lakes 0.20 1218.17 172.26 495 J-278 815.49 Lakes 0.20 1218.07 173.33 5579 J-2973 816.54 Lakes 0.20 1218.07 173.32 6647 <	563	J-321		Lakes	0.20		167.04
4461 J-2335 829.08 Lakes 1.93 1216.97 167.82 4462 J-2336 829.08 Lakes 0.20 1218.97 167.82 6329 J-3409 829.60 Lakes 0.20 1218.25 168.15 7486 J-4023 825.01 Lakes 0.20 1218.25 169.59 463 J-259 826.28 Lakes 0.20 1218.25 171.36 241 J-117 822.18 Lakes 0.37 1218.25 171.38 240 J-116 822.02 Lakes 0.55 1218.17 171.38 240 J-116 822.02 Lakes 0.37 1218.25 171.43 6067 J-3253 82.003 Lakes 0.20 1218.17 172.26 495 J-278 815.49 Lakes 0.20 1218.07 173.07 1266 J-657 817.44 Lakes 0.20 1218.07 173.32 6647 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>							
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BEDFORD COUNTY PSA WATER SYSTEMS HYDRAULIC ANALYSIS MAY 13, 2013

Run 2 - Twice Average Daily Demand plus maximum available fire flow calculated for each junction.
Proposed Water System.
All Tanks at Normal Low Level & Proposed Transmission Main - Closed.
Steady State Analysis
Pipe Report - sorted by link label

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
28	P-1	18.00	1.00	130.00	Open	0.08	1057.56	1057.56	0.00	0.00
31	P-2	191.00	1.00	130.00	Open	0.68	1064.92	1064.80	0.12	0.00
34 37	P-3 P-4	3.00 10.00	10.00 10.00	130.00 130.00	Open Open	52.29 35.45	1059.87 1064.93	1059.87 1064.93	0.00	0.00 0.00
40	P-5	12.00	10.00	130.00	Open	-0.08	963.96	963.96	0.00	0.00
8578	P-6	20.00	4.00	130.00	Open	0.00	1201.29	1201.29	0.00	0.00
43	P-6	15.00	10.00	130.00	Open	-336.28	1055.82	1055.83	0.01	0.00
8579	P-7	992.00	4.00	130.00	Open	3.75	1201.29	1201.27	0.02	0.00
46 49	P-7 P-8	16.00 16.00	10.00 10.00	130.00 130.00	Open Open	228.46 -335.21	1054.95 1055.07	1054.94 1055.08	0.01 0.01	0.00 0.00
8582	P-8	60.00	6.00	130.00	Open	0.00	971.50	971.50	0.00	0.00
52	P-9	17.00	10.00	130.00	Open	-217.61	1057.64	1057.65	0.01	0.00
8583	P-9	57.00	6.00	130.00	Open	0.00	1218.60	1218.60	0.00	0.00
55 8585	P-10 P-10	19.00 14.00	10.00 4.00	130.00 130.00	Open	-28.46	1054.95	1054.95 1218.60	0.00	0.00 0.00
57	P-11	22.00	10.00	130.00	Open Open	12.39 13.42	1218.60 1216.98	1216.98	0.00	0.00
8586	P-11	15.00	4.00	130.00	Open	12.39	1022.96	1022.96	0.00	0.00
60	P-12	24.00	10.00	130.00	Open	-220.56	1057.75	1057.76	0.01	0.00
8590	P-13	100.00	6.00	130.00	Open	-0.54	1075.00	1075.00	0.00	0.00
63 65	P-13 P-14	31.00 32.00	10.00 10.00	130.00 130.00	Open Open	228.45 2.32	1054.94 1058.41	1054.93 1058.41	0.01 0.00	0.00 0.00
8606	P-14	257.00	3.00	130.00	Open	-6.56	825.50	825.55	0.05	0.00
68	P-15	43.00	10.00	130.00	Open	265.99	1055.70	1055.67	0.02	0.00
8607	P-15	297.00	3.00	130.00	Open	-6.56	1055.61	1055.67	0.06	0.00
8610	P-16	7.00	8.00	130.00	Open	2.39	1217.85	1217.85	0.00	0.00
71 8611	P-16 P-17	43.00 6.00	10.00 8.00	130.00 130.00	Open Open	0.28 2.39	1059.87 1068.85	1059.87 1068.85	0.00	0.00 0.00
74	P-17	51.00	10.00	130.00	Open	247.08	1055.32	1055.29	0.02	0.00
77	P-18	53.00	10.00	130.00	Open	23.16	1064.98	1064.98	0.00	0.00
8613	P-18	627.00	20.00	130.00	Open	-226.68	1064.99	1065.00	0.01	0.00
80 8615	P-19 P-19	57.00 655.00	10.00 30.00	130.00	Open	16.94	1064.93	1064.93	0.00	0.00
83	P-19 P-20	72.00	10.00	130.00 130.00	Open Open	-36.51 -322.52	1064.94 1059.82	1064.94 1059.87	0.00 0.05	0.00
8618	P-21	20.00	30.00	130.00	Open	-36.51	1064.94	1064.94	0.00	0.00
85	P-21	74.00	10.00	130.00	Open	261.42	1056.21	1056.17	0.04	0.00
88	P-22	84.00	10.00	130.00	Open	-341.62	1056.61	1056.68	0.07	0.00
8619 91	P-22 P-23	124.00 109.00	30.00 10.00	130.00 130.00	Open Open	-36.51 36.92	1064.94 1064.95	1064.94 1064.94	0.00	0.00 0.00
94	P-24	133.00	10.00	130.00	Open	-347.04	1054.95	1058.52	0.12	0.00
96	P-25	134.00	10.00	130.00	Open	11.88	1216.98	1216.98	0.00	0.00
8628	P-26	100.00	36.00	130.00	Open	0.00	800.00	800.00	0.00	0.00
99	P-26	178.00	10.00	130.00	Open	41.07	1064.95	1064.95	0.00	0.00
8629 102	P-27 P-27	100.00 154.00	36.00 10.00	130.00 130.00	Open Open	0.00 7.84	1064.94 1059.87	1064.94 1059.87	0.00	0.00
8656	P-28	3508.00	12.00	130.00	Open	42.97	1323.01	1322.98	0.00	0.00
105	P-28	161.00	10.00	130.00	Open	-342.17	1056.68	1056.82	0.14	0.00
107	P-29	164.00	10.00	130.00	Open	40.91	1064.95	1064.95	0.00	0.00
8660	P-30	53.00	10.00	130.00	Open	0.00	1670.00	1670.00	0.00	0.00
108 110	P-30 P-31	181.00 189.00	10.00 10.00	130.00 130.00	Open Open	41.75 35.30	1064.95 1064.93	1064.95 1064.93	0.00	0.00
8661	P-31	4182.00	10.00	130.00	Open	0.00	1323.01	1323.01	0.00	0.00
112	P-32	214.00	10.00	130.00	Open	-301.36	1059.01	1059.15	0.14	0.00
8680	P-32	15015.00	12.00	130.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
115	P-33	214.00	10.00	130.00	Open	7.29	1059.87	1059.87	0.00	0.00
8681 116	P-33 P-34	9718.00 219.00	20.00 10.00	130.00 130.00	Open Open	0.00 -342.53	1064.96 1056.82	1064.96 1057.00	0.00 0.19	0.00
8682	P-34	2712.00	16.00	130.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
118	P-35	226.00	10.00	130.00	Open	27.30	1064.93	1064.93	0.00	0.00
8685	P-35	1000.00	20.00	130.00	Open	0.00	1200.00	1200.00	0.00	0.00
119	P-36	243.00	10.00	130.00 130.00	Open	-259.95 0.00	1062.25 1064.96	1062.37 1064.96	0.12	0.00 0.00
8686 8696	P-36 P-37	1000.00 14541.00	20.00 24.00	121.00	Open <none></none>	(N/A)	(N/A)	(N/A)	0.00 (N/A)	(N/A)
122	P-37	246.00	10.00	130.00	Open	-340.71	1056.15	1056.35	0.21	0.00
125	P-38	264.00	10.00	130.00	Open	251.64	1061.76	1061.63	0.13	0.00
8698	P-38	11295.00	24.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
128	P-39	264.00	10.00	130.00	Open	-19.08	1064.98	1064.98	0.00	0.00
8700 8702	P-39 P-40	14908.00 6907.00	24.00 24.00	121.00 121.00	<none></none>	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)
131	P-40	292.00	10.00	130.00	Open	-218.37	1057.65	1057.75	0.11	0.00
8704	P-41	11943.00	24.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
132	P-41	296.00	10.00	130.00	Open	25.07	1064.99	1064.99	0.00	0.00
135	P-42	307.00	10.00	130.00	Open	-341.06	1056.35	1056.61	0.26	0.00
8706 8708	P-42 P-43	4968.00 7025.00	24.00 24.00	121.00 121.00	<none></none>	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)
136	P-43	313.00	10.00	130.00	Open	-344.64	1058.14	1058.41	0.27	0.00
138	P-44	323.00	10.00	130.00	Open	-211.56	1057.20	1057.32	0.11	0.00
141	P-45	374.00	10.00	130.00	Open	-339.75	1055.83	1056.15	0.31	0.00
8712	P-45	12618.00	20.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
8714	P-46	20979.00	20.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
142 144	P-46 P-47	383.00 401.00	10.00 10.00	130.00 130.00	Open Open	-322.37 252.20	1059.53 1061.95	1059.82 1061.76	0.29 0.19	0.00
8715	P-47	10795.00	20.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
146	P-48	414.00	10.00	130.00	Open	259.35	1055.67	1055.46	0.21	0.00
8717	P-48	1283.00	20.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
8718	P-49	4641.00	20.00	121.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
148 149	P-49 P-50	539.00 436.00	10.00 10.00	130.00 130.00	Open	22.80	1064.98	1064.98	0.00	0.00
149 151	P-50 P-51	436.00 482.00	10.00	130.00	Open Open	266.15 -290.57	1055.93 1058.71	1055.70 1059.01	0.23 0.30	0.00 0.00
					.,		•			

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
153	P-52	491.00	10.00	130.00	Open	-290.01	1058.40	1058.71	0.31	0.00
8731 8732	P-52 P-53	500.00 500.00	24.00 24.00	131.00 131.00	<none></none>	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)	(N/A) (N/A)
155	P-53	486.00	10.00	130.00	Open	16.71	1059.87	1059.87	0.00	0.00
157	P-54	498.00	10.00	130.00	Open	14.61	1216.98	1216.98	0.00	0.00
160 162	P-55 P-56	498.00 540.00	10.00 10.00	130.00 130.00	Open Open	-348.95 -333.90	1059.09 1054.63	1059.53 1055.07	0.44 0.44	0.00 0.00
164	P-57	577.00	10.00	130.00	Open	-312.12	1060.72	1061.13	0.41	0.00
167 169	P-58 P-59	548.00 572.00	10.00 10.00	130.00 130.00	Open Open	266.81 -305.28	1057.20 1059.87	1056.91 1060.27	0.29 0.39	0.00 0.00
172	P-60	580.00	10.00	130.00	Open	258.99	1062.25	1061.95	0.29	0.00
173 174	P-61 P-62	610.00 603.00	10.00 10.00	130.00 130.00	Open	-28.46 266.30	963.96	963.97 1055.93	0.01 0.32	0.00
176	P-63	654.00	10.00	130.00	Open Open	-348.59	1056.25 1058.52	1055.95	0.52	0.00
177	P-64	697.00	10.00	130.00	Open	12.45	1216.98	1216.98	0.00	0.00
179 181	P-65 P-66	649.00 657.00	10.00 10.00	130.00 130.00	Open Open	-221.32 12.85	1057.76 1216.98	1058.01 1216.98	0.24 0.00	0.00
182	P-67	665.00	10.00	130.00	Open	-305.84	1060.27	1060.72	0.46	0.00
183 184	P-68 P-69	713.00 727.00	10.00 10.00	130.00 130.00	Open Open	16.86 13.82	1059.87 1216.98	1059.87 1216.98	0.00	0.00 0.00
186	P-70	736.00	10.00	130.00	Open	227.70	1054.93	1054.63	0.00	0.00
188	P-71	819.00	10.00	130.00	Open	-36.36	1064.93	1064.94	0.01	0.00
189 191	P-72 P-73	955.00 907.00	10.00 10.00	130.00 130.00	Open Open	247.92 -335.37	1061.63 1055.08	1061.19 1055.82	0.44 0.74	0.00 0.00
192	P-74	923.00	10.00	130.00	Open	-213.32	1057.32	1057.64	0.33	0.00
193 195	P-75 P-76	964.00 1201.00	10.00 10.00	130.00 130.00	Open Open	246.97 -237.43	1061.19 1060.23	1060.74 1060.74	0.45 0.52	0.00 0.00
197	P-77	1003.00	10.00	130.00	Open	14.22	1216.98	1216.98	0.00	0.00
198	P-78	1040.00	10.00	130.00	Open	-222.48	1058.01	1058.40	0.40	0.00
199 200	P-79 P-80	1036.00 1064.00	10.00 10.00	130.00 130.00	Open Open	257.59 -303.52	1055.46 1059.15	1054.95 1059.87	0.52 0.72	0.00 0.00
201	P-81	1308.00	10.00	130.00	Open	24.72	1064.99	1064.98	0.01	0.00
202 204	P-82 P-83	1104.00 1246.00	10.00 10.00	130.00 130.00	Open Open	274.80 266.65	1056.83 1056.91	1056.21 1056.25	0.62 0.66	0.00 0.00
205	P-84	1338.00	10.00	130.00	Open	-342.88	1050.91	1058.14	1.14	0.00
206	P-85	1422.00	10.00	130.00	Open	246.53	1055.29	1054.64	0.65	0.00
208 209	P-86 P-87	1698.00 1.00	10.00 12.00	130.00 130.00	Open Open	258.31 81.55	1056.17 1218.11	1055.32 1218.11	0.85 0.00	0.00 0.00
212	P-88	1.00	12.00	130.00	Open	-0.08	1051.81	1051.81	0.00	0.00
215 218	P-89 P-90	1.00 2.00	12.00 12.00	130.00 130.00	Open Open	0.08 -359.47	1051.81 1064.02	1051.81 1064.02	0.00	0.00 0.00
221	P-91	2.00	12.00	130.00	Open	-0.11	1322.91	1322.91	0.00	0.00
224 227	P-92 P-93	2.00 3.00	12.00 12.00	130.00 130.00	Open Open	-25.18 -0.23	1052.04 981.48	1052.04 981.48	0.00	0.00
230	P-94	4.00	12.00	130.00	Open	205.96	1056.92	1056.92	0.00	0.00
233	P-95	4.00	12.00	130.00	Open	-0.11	1322.91	1322.91	0.00	0.00
236 239	P-96 P-97	4.00 4.00	12.00 12.00	130.00 130.00	Open Open	-80.20 -0.37	1052.02 1218.25	1052.02 1218.25	0.00	0.00
242	P-98	4.00	12.00	130.00	Open	18.92	1218.03	1218.03	0.00	0.00
245 248	P-99 P-100	5.00 5.00	12.00 12.00	130.00 130.00	Open Open	7.14 -59.53	1052.99 1053.02	1052.99 1053.02	0.00	0.00 0.00
251	P-101	5.00	12.00	130.00	Open	0.08	1064.01	1064.01	0.00	0.00
254	P-102	6.00	12.00	130.00	Open	-27.86	1051.89	1051.89	0.00	0.00
257 260	P-103 P-104	6.00 6.00	12.00 12.00	130.00 130.00	Open Open	-30.97 0.28	1057.32 1052.21	1057.32 1052.21	0.00	0.00 0.00
263	P-105	6.00	12.00	130.00	Open	0.08	1064.63	1064.63	0.00	0.00
266 269	P-106 P-107	6.00 6.00	12.00 12.00	130.00 130.00	Open Open	0.60 0.20	1218.10 1218.10	1218.10 1218.10	0.00	0.00 0.00
271	P-108	6.00	12.00	130.00	Open	0.20	1218.61	1218.61	0.00	0.00
274 277	P-109 P-110	6.00 6.00	12.00 12.00	130.00 130.00	Open Open	209.48 -0.68	1057.13 1052.27	1057.13 1052.27	0.00	0.00 0.00
280	P-111	6.00	12.00	130.00	Open	-0.63	1052.56	1052.56	0.00	0.00
283 286	P-112 P-113	6.00 7.00	12.00 12.00	130.00	Open	0.08 3.66	1052.20 1052.99	1052.20 1052.99	0.00	0.00
289	P-113	10.00	12.00	130.00 130.00	Open Open	-11.12	1052.99	1052.99	0.00	0.00
291	P-115	10.00	12.00	130.00	Open	-11.20	1051.81	1051.81	0.00	0.00
292 295	P-116 P-117	7.00 7.00	12.00 12.00	130.00 130.00	Open Open	0.20 32.15	1217.88 1218.35	1217.88 1218.35	0.00	0.00 0.00
298	P-118	8.00	12.00	130.00	Open	-0.08	1057.32	1057.32	0.00	0.00
300 303	P-119 P-120	8.00 8.00	12.00 12.00	130.00 130.00	Open Open	0.28 7.88	1052.03 1051.96	1052.03 1051.96	0.00	0.00 0.00
306	P-121	8.00	12.00	130.00	Open	11.35	1051.81	1051.81	0.00	0.00
308 311	P-122 P-123	8.00 9.00	12.00 12.00	130.00 130.00	Open Open	17.09 0.29	1218.03 1218.21	1218.03 1218.21	0.00	0.00 0.00
314	P-124	9.00	12.00	130.00	Open	-8.10	1051.96	1051.96	0.00	0.00
317	P-125	10.00	12.00	130.00	Open	-0.28	1052.32	1052.32	0.00	0.00
320 323	P-126 P-127	10.00 10.00	12.00 12.00	130.00 130.00	Open Open	-0.11 -14.80	1322.91 1053.01	1322.91 1053.01	0.00	0.00 0.00
326	P-128	11.00	12.00	130.00	Open	0.29	1218.38	1218.38	0.00	0.00
329 331	P-129 P-130	11.00 11.00	12.00 12.00	130.00 130.00	Open Open	4.01 -0.08	1052.99 1063.18	1052.99 1063.18	0.00	0.00
334	P-131	11.00	12.00	130.00	Open	16.87	1064.93	1064.93	0.00	0.00
336 339	P-132 P-133	11.00	12.00 12.00	130.00	Open	0.08	1059.77 1322.91	1059.77	0.00	0.00 0.00
339	P-133 P-134	11.00 12.00	12.00	130.00 130.00	Open Open	-0.11 301.76	1322.91	1322.91 1057.34	0.00	0.00
345	P-135	12.00	12.00	130.00	Open	59.57	1056.83	1056.83	0.00	0.00
348 351	P-136 P-137	12.00 12.00	12.00 12.00	130.00 130.00	Open Open	0.08 42.85	1060.46 1322.98	1060.46 1322.98	0.00	0.00 0.00
354	P-138	12.00	12.00	130.00	Open	-0.20	1217.93	1217.93	0.00	0.00
357 360	P-139 P-140	13.00 13.00	12.00 12.00	130.00 130.00	Open Open	214.90 373.73	1057.78 1063.19	1057.78 1063.18	0.00 0.01	0.00 0.00
362	P-140 P-141	13.00	12.00	130.00	Open	-772.31	1063.19	1063.18	0.01	0.00
365	P-142	14.00	12.00	130.00	Open	-2.70	1056.64	1056.64	0.00	0.00
368 371	P-143 P-144	14.00 14.00	12.00 12.00	130.00 130.00	Open Open	-85.10 -0.20	1051.93 1219.00	1051.93 1219.00	0.00	0.00
374	P-145	15.00	12.00	130.00	Open	-0.08	1052.56	1052.56	0.00	0.00
376 379	P-146 P-147	15.00 16.00	12.00 12.00	130.00 130.00	Open Open	-119.42 257.22	1052.24 1215.48	1052.24 1215.48	0.00	0.00
		. 5.50	.2.50	. 55.56	Spon	_0		0.40	5.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
382	P-148	16.00	12.00	130.00	Open	498.38	1053.70	1053.68	0.01	0.00
385	P-149	16.00	12.00	130.00	Open	-199.20	1064.73	1064.74	0.00	0.00
388 391	P-150 P-151	16.00 17.00	12.00 12.00	130.00 130.00	Open Open	-0.08 -123.42	1052.88 1054.67	1052.88 1054.67	0.00	0.00 0.00
394	P-152	18.00	12.00	130.00	Open	-2.55	1056.64	1056.64	0.00	0.00
396	P-153	25.00	12.00	130.00	Open	0.48	1057.42	1057.42	0.00	0.00
399 402	P-154 P-155	27.00 21.00	12.00 12.00	130.00 130.00	Open Open	-0.88 -351.34	1052.79 1063.24	1052.79 1063.24	0.00 0.01	0.00 0.00
405	P-156	23.00	12.00	130.00	Open	0.08	1064.61	1064.61	0.00	0.00
408	P-157 P-158	24.00	12.00	130.00	Open	-231.23	1058.24	1058.25	0.00	0.00
411 414	P-158 P-159	24.00 24.00	12.00 12.00	130.00 130.00	Open Open	0.20 -0.55	1217.99 981.48	1217.99 981.48	0.00	0.00 0.00
417	P-160	24.00	12.00	130.00	Open	262.94	1216.98	1216.98	0.01	0.00
419 422	P-161 P-162	25.00 28.00	12.00 12.00	130.00 130.00	Open Open	11.10 -262.49	1051.96 1054.02	1051.96 1054.03	0.00 0.01	0.00 0.00
425	P-163	29.00	12.00	130.00	Open	-44.29	1059.79	1059.79	0.00	0.00
428	P-164	30.00	12.00	130.00	Open	-0.08	1061.76	1061.76	0.00	0.00
431 433	P-165 P-166	31.00 31.00	12.00 12.00	130.00 130.00	Open Open	-123.07 -53.36	1054.67 1051.96	1054.67 1051.96	0.00	0.00 0.00
436	P-167	32.00	12.00	130.00	Open	-291.69	1063.23	1063.24	0.01	0.00
438	P-168	35.00	12.00	130.00	Open	0.48	1057.33	1057.33	0.00	0.00
441 442	P-169 P-170	38.00 38.00	12.00 12.00	130.00 130.00	Open Open	-359.12 202.19	1064.01 1054.10	1064.02 1054.10	0.01 0.01	0.00
445	P-171	39.00	12.00	130.00	Open	86.99	1052.07	1052.06	0.00	0.00
448	P-172	41.00	12.00	130.00	Open	-283.23	1062.90	1062.91	0.01	0.00
451 454	P-173 P-174	41.00 41.00	12.00 12.00	130.00 130.00	Open Open	371.00 33.88	1062.19 1051.98	1062.17 1051.98	0.02 0.00	0.00 0.00
457	P-175	42.00	12.00	130.00	Open	285.76	1218.04	1218.02	0.01	0.00
460	P-176	61.00	12.00	130.00	Open	0.68	1218.21	1218.21	0.00	0.00
462 464	P-177 P-178	45.00 48.00	12.00 12.00	130.00 130.00	Open Open	85.37 16.61	1218.25 1059.77	1218.25 1059.77	0.00	0.00 0.00
466	P-179	46.00	12.00	130.00	Open	17.51	981.48	981.48	0.00	0.00
469	P-180	46.00	12.00	130.00	Open	16.65	981.48	981.48	0.00	0.00
471 474	P-181 P-182	47.00 49.00	12.00 12.00	130.00 130.00	Open Open	-58.83 -268.05	1053.01 1062.55	1053.01 1062.56	0.00 0.01	0.00 0.00
477	P-183	50.00	12.00	130.00	Open	109.77	1052.32	1052.32	0.00	0.00
479	P-184	50.00	12.00	130.00	Open	13.90	981.48	981.48	0.00	0.00
482 484	P-185 P-186	57.00 57.00	12.00 12.00	130.00 130.00	Open Open	340.23 -31.12	1061.15 1057.32	1061.13 1057.33	0.02	0.00 0.00
485	P-187	68.00	12.00	130.00	Open	0.28	1051.96	1051.96	0.00	0.00
488	P-188	60.00	12.00	130.00	Open	104.54	1052.13	1052.13	0.00	0.00
491 494	P-189 P-190	62.00 67.00	12.00 12.00	130.00 130.00	Open Open	14.23 0.20	1051.96 1215.51	1051.96 1215.51	0.00	0.00 0.00
497	P-191	63.00	12.00	130.00	Open	0.38	1064.61	1064.61	0.00	0.00
501 504	P-193 P-194	65.00 66.00	12.00 12.00	130.00 130.00	Open Open	2.24 -52.25	1052.99 1051.95	1052.99 1051.96	0.00	0.00 0.00
507	P-195	66.00	12.00	130.00	Open	0.26	1322.91	1322.91	0.00	0.00
510	P-196	67.00	12.00	130.00	Open	0.20	1218.03	1218.03	0.00	0.00
513 516	P-197 P-198	69.00 69.00	12.00 12.00	130.00 130.00	Open Open	72.09 95.73	1218.03 1052.10	1218.03 1052.10	0.00	0.00 0.00
519	P-199	71.00	12.00	130.00	Open	4.60	1052.71	1052.71	0.00	0.00
522	P-200	72.00	12.00	130.00	Open	197.11	1053.99	1053.98	0.01	0.00
525 528	P-201 P-202	73.00 73.00	12.00 12.00	130.00 130.00	Open Open	12.08 0.08	1322.91 1057.78	1322.91 1057.78	0.00	0.00 0.00
530	P-203	73.00	12.00	130.00	Open	36.15	1052.03	1052.03	0.00	0.00
533	P-204	78.00	12.00	130.00	Open	278.29 375.24	1054.04	1054.03	0.02	0.00
535 538	P-205 P-206	75.00 76.00	12.00 12.00	130.00 130.00	Open Open	-234.52	1060.50 1052.70	1060.47 1052.71	0.03 0.01	0.00 0.00
541	P-207	78.00	12.00	130.00	Open	-14.32	1064.94	1064.94	0.00	0.00
544 546	P-208	80.00	12.00 12.00	130.00	Open	81.75	1218.12	1218.11	0.00	0.00
549	P-209 P-210	83.00 84.00	12.00	130.00 130.00	Open Open	-355.61 62.05	1063.59 1217.99	1063.62 1217.99	0.03	0.00 0.00
551	P-211	85.00	12.00	130.00	Open	-10.14	1052.04	1052.04	0.00	0.00
554	P-212 P-213	86.00	12.00 12.00	130.00	Open	38.63 -234.51	981.49	981.49	0.00 0.01	0.00
557 560	P-213	86.00 87.00	12.00	130.00 130.00	Open Open	-106.80	1054.33 1052.19	1054.34 1052.20	0.00	0.00 0.00
562	P-215	88.00	12.00	130.00	Open	64.46	1218.02	1218.02	0.00	0.00
565 568	P-216 P-217	91.00 91.00	12.00 12.00	130.00 130.00	Open Open	-21.40 360.10	1051.96 1061.88	1051.96 1061.84	0.00 0.03	0.00 0.00
571	P-218	94.00	12.00	130.00	Open	9.83	1218.03	1218.03	0.00	0.00
574	P-219	101.00	12.00	130.00	Open	-35.05	1052.99	1052.99	0.00	0.00
577 579	P-220 P-221	102.00 102.00	12.00 12.00	130.00 130.00	Open Open	34.03 0.63	1051.98 1052.03	1051.98 1052.03	0.00	0.00
581	P-222	103.00	12.00	130.00	Open	0.48	1059.79	1059.79	0.00	0.00
583	P-223	106.00	12.00	130.00	Open	0.08	1052.99	1052.99	0.00	0.00
585 587	P-224 P-225	132.00 108.00	12.00 12.00	130.00 130.00	Open Open	8.46 341.74	1322.91 1061.36	1322.91 1061.33	0.00 0.04	0.00 0.00
590	P-226	113.00	12.00	130.00	Open	0.11	1322.95	1322.95	0.00	0.00
593	P-227	113.00	12.00	130.00	Open	60.86	1217.93	1217.93	0.00	0.00
595 597	P-228 P-229	114.00 114.00	12.00 12.00	130.00 130.00	Open Open	-118.71 769.86	1052.21 1059.33	1052.21 1059.16	0.01 0.18	0.00
600	P-230	151.00	12.00	130.00	Open	101.47	1052.99	1052.98	0.01	0.00
603	P-231	138.00	12.00	130.00	Open	257.22	1215.51	1215.48	0.03	0.00
604 606	P-232 P-233	117.00 125.00	12.00 12.00	130.00 130.00	Open Open	54.65 -210.07	1217.88 1054.25	1217.88 1054.27	0.00 0.02	0.00 0.00
609	P-234	124.00	12.00	130.00	Open	338.36	1057.64	1057.60	0.04	0.00
612	P-235	126.00	12.00	130.00	Open	82.88	1052.07	1052.07	0.00	0.00
615 617	P-236 P-237	128.00 156.00	12.00 12.00	130.00 130.00	Open Open	-62.38 23.06	1051.98 1051.96	1051.98 1051.96	0.00	0.00
619	P-238	130.00	12.00	130.00	Open	187.62	1053.86	1053.85	0.01	0.00
622	P-239	130.00	12.00	130.00	Open	0.11	1322.92	1322.92	0.00	0.00
625 628	P-240 P-241	134.00 136.00	12.00 12.00	130.00 130.00	Open Open	-50.34 0.00	1051.95 981.48	1051.95 981.48	0.00	0.00 0.00
630	P-242	136.00	12.00	130.00	Open	-0.68	1051.97	1051.97	0.00	0.00
633 635	P-243 P-244	136.00	12.00	130.00 130.00	Open	165.01	1053.71	1053.70	0.01 0.01	0.00 0.00
635 638	P-244 P-245	137.00 137.00	12.00 12.00	130.00	Open Open	108.30 90.75	1052.28 1052.02	1052.27 1052.02	0.01	0.00
641	P-246	139.00	12.00	130.00	Open	0.28	1061.12	1061.12	0.00	0.00

5/13/2013

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
644	P-247	142.00	12.00	130.00	Open	-357.53	1063.82	1063.88	0.05	0.00
647 649	P-248 P-249	141.00 143.00	12.00 12.00	130.00 130.00	Open Open	-260.03 22.77	1062.37 1061.13	1062.40 1061.13	0.03	0.00
652	P-250	147.00	12.00	130.00	Open	-16.06	1052.04	1052.04	0.00	0.00
655	P-251	149.00	12.00	130.00	Open	-29.83	1057.32	1057.32	0.00	0.00
657 660	P-252 P-253	154.00 151.00	12.00 12.00	130.00 130.00	Open Open	57.48 132.15	1051.03 1056.81	1051.03 1056.80	0.00 0.01	0.00 0.00
663	P-254	202.00	12.00	130.00	Open	24.79	1218.03	1218.03	0.00	0.00
665	P-255	155.00	12.00	130.00	Open	1.19	1061.12	1061.12 1056.83	0.00	0.00
668 670	P-256 P-257	158.00 160.00	12.00 12.00	130.00 130.00	Open Open	-138.53 11.20	1056.82 1322.92	1322.92	0.01 0.00	0.00 0.00
673	P-258	162.00	12.00	130.00	Open	144.64	1051.89	1051.88	0.01	0.00
676 678	P-259 P-260	162.00 194.00	12.00 12.00	130.00 130.00	Open Open	769.23 -1.11	1059.16 981.48	1058.90 981.48	0.25 0.00	0.00 0.00
679	P-261	166.00	12.00	130.00	Open	38.65	1322.95	1322.95	0.00	0.00
681	P-262	168.00	12.00	130.00	Open	-132.30	1056.81	1056.82	0.01	0.00
683 685	P-263 P-264	170.00 178.00	12.00 12.00	130.00 130.00	Open Open	15.25 -281.56	1322.92 1062.81	1322.92 1062.85	0.00 0.04	0.00 0.00
688	P-265	220.00	12.00	130.00	Open	337.45	1057.42	1057.34	0.07	0.00
689 692	P-266 P-267	184.00 174.00	12.00 12.00	130.00 130.00	Open Open	-13.59 -0.60	1218.60 1219.00	1218.60 1219.00	0.00	0.00 0.00
694	P-268	184.00	12.00	130.00	Open	444.92	1060.60	1060.50	0.10	0.00
696	P-269	178.00	12.00	130.00	Open	-3.27	1052.04	1052.04	0.00	0.00
699 702	P-270 P-271	179.00 183.00	12.00 12.00	130.00 130.00	Open Open	0.11 0.60	1322.97 1218.03	1322.97 1218.03	0.00	0.00 0.00
703	P-272	183.00	12.00	130.00	Open	26.76	1051.81	1051.81	0.00	0.00
706 707	P-273 P-274	188.00 187.00	12.00 12.00	130.00 130.00	Open Open	16.32 82.64	1218.03	1218.03	0.00	0.00 0.00
707	P-275	187.00	12.00	130.00	Open	201.24	1052.02 1054.10	1052.02 1054.07	0.00	0.00
711	P-276	188.00	12.00	130.00	Open	49.66	1217.85	1217.85	0.00	0.00
714 717	P-277 P-278	190.00 206.00	12.00 12.00	130.00 130.00	Open Open	41.82 10.11	1322.98 1064.92	1322.98 1064.92	0.00	0.00 0.00
720	P-279	204.00	12.00	130.00	Open	-19.11	1051.96	1051.96	0.00	0.00
723	P-280	206.00	12.00	130.00	Open	39.18	981.49	981.49	0.00	0.00
725 727	P-281 P-282	208.00 209.00	12.00 12.00	130.00 130.00	Open Open	-46.68 70.32	1052.02 1218.03	1052.02 1218.02	0.00	0.00 0.00
728	P-283	207.00	12.00	130.00	Open	172.66	1053.73	1053.71	0.02	0.00
730 732	P-284 P-285	208.00 210.00	12.00 12.00	130.00 130.00	Open Open	120.06 -106.96	1218.38 1052.20	1218.37 1052.21	0.01 0.01	0.00 0.00
733	P-286	212.00	12.00	130.00	Open	-283.08	1062.85	1062.90	0.05	0.00
734	P-287	233.00	12.00	130.00	Open	772.77	1065.00	1064.63	0.37	0.00
8749 8750	P-287A P-287B	116.00 117.00	12.00 12.00	130.00 130.00	Open Open	0.00	1064.63 1065.00	1064.63 1065.00	0.00	0.00 0.00
736	P-288	215.00	12.00	130.00	Open	-72.27	1051.91	1051.92	0.00	0.00
739 741	P-289 P-290	292.00 220.00	12.00 12.00	130.00 130.00	Open Open	-573.16 -52.60	1064.74 1051.96	1065.00 1051.96	0.26 0.00	0.00 0.00
743	P-291	220.00	12.00	130.00	Open	82.13	1051.90	1052.06	0.00	0.00
745	P-292	221.00	12.00	130.00	Open	-35.33	1057.34	1057.34	0.00	0.00
748 750	P-293 P-294	221.00 225.00	12.00 12.00	130.00 130.00	Open Open	32.55 -34.15	1218.35 1057.34	1218.35 1057.34	0.00	0.00 0.00
752	P-295	226.00	12.00	130.00	Open	100.83	1052.13	1052.12	0.01	0.00
754	P-296 P-297	306.00	12.00	130.00	Open	-561.18	1064.73	1065.00	0.27	0.00
755 757	P-297 P-298	241.00 240.00	12.00 12.00	130.00 130.00	Open Open	0.48 -288.62	1052.71 1063.05	1052.71 1063.11	0.00 0.06	0.00 0.00
760	P-299	245.00	12.00	130.00	Open	-20.90	1051.96	1051.96	0.00	0.00
761 764	P-300 P-301	246.00 249.00	12.00 12.00	130.00 130.00	Open Open	104.55 -284.74	1052.09 1062.99	1052.08 1063.05	0.01 0.06	0.00 0.00
766	P-302	252.00	12.00	130.00	Open	-52.61	1051.96	1051.96	0.00	0.00
767 769	P-303 P-304	252.00	12.00 12.00	130.00	Open	35.41	1051.96	1051.96	0.00	0.00
771	P-305	318.00 255.00	12.00	130.00 130.00	Open Open	31.16 -190.27	1218.03 1052.11	1218.03 1052.14	0.00	0.00 0.00
774	P-306	257.00	12.00	130.00	Open	10.97	1051.81	1051.81	0.00	0.00
776 778	P-307 P-308	260.00 260.00	12.00 12.00	130.00 130.00	Open Open	84.44 11.91	1052.08 1051.81	1052.07 1051.81	0.01 0.00	0.00 0.00
779	P-309	268.00	12.00	130.00	Open	-21.71	1051.96	1051.96	0.00	0.00
782 784	P-310	264.00	12.00	130.00	Open	-49.38 -20.65	1051.95	1051.95	0.00	0.00
784 786	P-311 P-312	305.00 266.00	12.00 12.00	130.00 130.00	Open Open	320.44	1051.96 1061.56	1051.96 1061.48	0.00 0.08	0.00
789	P-313	273.00	12.00	130.00	Open	-29.21	1051.89	1051.89	0.00	0.00
791 793	P-314 P-315	272.00 278.00	12.00 12.00	130.00 130.00	Open Open	-20.09 16.96	1051.96 981.48	1051.96 981.48	0.00	0.00 0.00
794	P-316	279.00	12.00	130.00	Open	84.60	1052.08	1052.08	0.01	0.00
795 797	P-317 P-318	271.00 271.00	12.00 12.00	130.00 130.00	Open Open	358.39 5.65	1061.67 1322.91	1061.56 1322.91	0.10 0.00	0.00 0.00
800	P-319	272.00	12.00	130.00	Open	-51.49	1051.95	1051.95	0.00	0.00
801	P-320	273.00	12.00	130.00	Open	69.89	1051.82	1051.81	0.01	0.00
803 805	P-321 P-322	285.00 282.00	12.00 12.00	130.00 130.00	Open Open	-14.08 11.45	1218.60 1051.96	1218.60 1051.96	0.00	0.00
807	P-323	282.00	12.00	130.00	Open	100.28	1052.12	1052.11	0.01	0.00
809	P-324 P-325	287.00	12.00	130.00 130.00	Open	0.36	1051.81	1051.81	0.00	0.00
811 812	P-325 P-326	290.00 407.00	12.00 12.00	130.00	Open Open	95.88 -24.63	1052.11 1052.04	1052.10 1052.04	0.01 0.00	0.00
813	P-327	296.00	12.00	130.00	Open	28.83	1322.92	1322.92	0.00	0.00
816 819	P-328 P-329	304.00 304.00	12.00 12.00	130.00 130.00	Open Open	-40. <u>22</u> 11.44	1059.77 1051.96	1059.77 1051.96	0.00	0.00 0.00
821	P-330	313.00	12.00	130.00	Open	-36.71	1051.95	1051.95	0.00	0.00
824	P-331	354.00	12.00	130.00	Open	-1.64	1051.96	1051.96	0.00	0.00
826 828	P-332 P-333	405.00 314.00	12.00 12.00	130.00 130.00	Open Open	7.86 83.69	1322.91 1218.21	1322.91 1218.20	0.00 0.01	0.00 0.00
830	P-334	312.00	12.00	130.00	Open	-771.54	1061.76	1062.25	0.49	0.00
833 834	P-335 P-336	309.00 318.00	12.00 12.00	130.00 130.00	Open Open	-34.90 -284.19	1052.99 1062.91	1052.99 1062.99	0.00 0.08	0.00 0.00
835	P-337	313.00	12.00	130.00	Open	-19.74	1051.96	1051.96	0.00	0.00
837	P-338	311.00	12.00	130.00	Open	14.12	1051.96	1051.96	0.00	0.00
839 842	P-339 P-340	313.00 323.00	12.00 12.00	130.00 130.00	Open Open	-134.26 -0.48	1056.69 1322.91	1056.71 1322.91	0.02 0.00	0.00 0.00
843	P-341	324.00	12.00	130.00	Open	370.44	1062.17	1062.04	0.13	0.00
845	P-342	318.00	12.00	130.00	Open	14.14	1322.92	1322.92	0.00	0.00

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Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
847	P-343	330.00	12.00	130.00	Open	373.58	1063.18	1063.04	0.14	0.00
849	P-344	324.00	12.00	130.00	Open	96.62	1052.22	1052.21	0.01	0.00
852 855	P-345 P-346	323.00 324.00	12.00 12.00	130.00 130.00	Open Open	88.23 -14.15	1056.79 1052.04	1056.78 1052.04	0.01 0.00	0.00 0.00
856	P-347	327.00	12.00	130.00	Open	41.14	1322.97	1322.96	0.00	0.00
858	P-348	342.00	12.00	130.00	Open	-233.20	1054.27	1054.33	0.06	0.00
859 862	P-349 P-350	332.00 339.00	12.00 12.00	130.00 130.00	Open Open	79.82 109.35	1052.00 1056.80	1051.99 1056.79	0.01 0.01	0.00 0.00
863	P-351	337.00	12.00	130.00	Open	80.93	1052.01	1052.00	0.01	0.00
865	P-352 P-353	338.00	12.00	130.00	Open	-22.82	1051.96	1051.96 1059.77	0.00	0.00
867 869	P-353 P-354	355.00 339.00	12.00 12.00	130.00 130.00	Open Open	16.76 282.35	1059.77 1218.02	1217.94	0.00 0.08	0.00 0.00
871	P-355	341.00	12.00	130.00	Open	-209.31	1054.20	1054.25	0.05	0.00
873 876	P-356 P-357	363.00 342.00	12.00 12.00	130.00 130.00	Open Open	-12.78 -203.75	1064.94 1054.10	1064.94 1054.15	0.00 0.05	0.00 0.00
878	P-358	347.00	12.00	130.00	Open	49.55	1052.03	1052.03	0.00	0.00
880	P-359	348.00	12.00	130.00	Open	29.57	1322.93	1322.93	0.00	0.00
883 885	P-360 P-361	363.00 353.00	12.00 12.00	130.00 130.00	Open Open	110.12 -358.76	1052.34 1063.88	1052.32 1064.01	0.02 0.13	0.00 0.00
886	P-362	363.00	12.00	130.00	Open	69.61	1060.50	1060.49	0.01	0.00
888	P-363	357.00	12.00	130.00	Open	-69.50	1051.90	1051.91	0.01	0.00
890 892	P-364 P-365	360.00 361.00	12.00 12.00	130.00 130.00	Open Open	48.60 -21.56	1052.03 1051.96	1052.02 1051.96	0.00	0.00
893	P-366	359.00	12.00	130.00	Open	14.60	1064.93	1064.93	0.00	0.00
896	P-367	454.00	12.00	130.00	Open	-112.43	1052.25	1052.27	0.02	0.00
898 899	P-368 P-369	379.00 366.00	12.00 12.00	130.00 130.00	Open Open	-111.47 -22.27	1052.24 1051.96	1052.25 1051.96	0.02 0.00	0.00 0.00
900	P-370	365.00	12.00	130.00	Open	24.96	1061.13	1061.13	0.00	0.00
902	P-371	367.00	12.00	130.00	Open	81.82	1052.04	1052.03	0.01	0.00
905 906	P-372 P-373	379.00 370.00	12.00 12.00	130.00 130.00	Open Open	2.59 107.55	1052.99 1052.27	1052.99 1052.26	0.00 0.02	0.00 0.00
908	P-374	532.00	12.00	130.00	Open	338.20	1057.60	1057.42	0.18	0.00
909	P-375	375.00	12.00	130.00	Open	119.66	1218.37	1218.35	0.02	0.00
910 911	P-376 P-377	381.00 409.00	12.00 12.00	130.00 130.00	Open Open	0.63 91.31	1061.12 1052.04	1061.12 1052.02	0.00 0.01	0.00 0.00
912	P-378	470.00	12.00	130.00	Open	-80.75	1052.02	1052.03	0.01	0.00
913	P-379	387.00	12.00	130.00	Open	-315.95	1052.56	1052.68	0.12	0.00
916 917	P-380 P-381	385.00 387.00	12.00 12.00	130.00 130.00	Open Open	319.48 0.79	1061.48 1052.03	1061.36 1052.03	0.12 0.00	0.00 0.00
918	P-382	392.00	12.00	130.00	Open	0.38	1064.63	1064.63	0.00	0.00
920	P-383	427.00	12.00	130.00	Open	-2.44	1052.79	1052.79	0.00	0.00
922 923	P-384 P-385	411.00 396.00	12.00 12.00	130.00 130.00	Open Open	-37.06 13.77	1051.95 1051.96	1051.96 1051.96	0.00	0.00 0.00
924	P-386	400.00	12.00	130.00	Open	277.75	1217.08	1216.98	0.09	0.00
926	P-387	401.00	12.00	130.00	Open	81.89	1052.02	1052.01	0.01	0.00
927 929	P-388 P-389	405.00 407.00	12.00 12.00	130.00 130.00	Open Open	-11.68 -2.99	1052.20 1052.79	1052.21 1052.79	0.00	0.00 0.00
931	P-390	407.00	12.00	130.00	Open	-206.47	1054.15	1054.20	0.06	0.00
932	P-391	410.00	12.00	130.00	Open	20.19	1061.12	1061.12	0.00	0.00
935 937	P-392 P-393	444.00 412.00	12.00 12.00	130.00 130.00	Open Open	27.03 369.69	1061.13 1062.04	1061.13 1061.88	0.00 0.17	0.00 0.00
938	P-394	412.00	12.00	130.00	Open	107.39	1052.26	1052.24	0.02	0.00
940	P-395	420.00	12.00	130.00	Open	-252.68	1052.71	1052.79	0.08	0.00
942 944	P-396 P-397	424.00 420.00	12.00 12.00	130.00 130.00	Open Open	-19.67 -226.23	1218.61 1057.97	1218.61 1058.04	0.00 0.07	0.00 0.00
947	P-398	552.00	12.00	130.00	Open	7.02	1052.79	1052.79	0.00	0.00
949 951	P-399 P-400	438.00	12.00 12.00	130.00	Open	12.51 84.97	1051.96	1051.96	0.00 0.01	0.00 0.00
953	P-400 P-401	431.00 433.00	12.00	130.00 130.00	Open Open	94.42	1218.25 1052.10	1218.24 1052.09	0.01	0.00
955	P-402	440.00	12.00	130.00	Open	18.12	1061.12	1061.12	0.00	0.00
957 958	P-403 P-404	514.00 447.00	12.00 12.00	130.00 130.00	Open Open	-119.07 109.62	1052.21 1052.32	1052.24 1052.30	0.03 0.02	0.00 0.00
960	P-404 P-405	445.00	12.00	130.00	Open	-288.97	1063.11	1063.23	0.02	0.00
961	P-406	448.00	12.00	130.00	Open	-21.41	1052.88	1052.88	0.00	0.00
963 965	P-407 P-408	454.00 454.00	12.00 12.00	130.00 130.00	Open	262.05 -31.68	1216.98 1057.33	1216.88 1057.33	0.10 0.00	0.00 0.00
967	P-409	455.00	12.00	130.00	Open	96.46	1057.33	1052.20	0.00	0.00
969	P-410	510.00	12.00	130.00	Open	-8.46	1051.96	1051.96	0.00	0.00
970 973	P-411 P-412	508.00 494.00	12.00 12.00	130.00 130.00	Open Open	373.07 -20.07	1062.85 1218.61	1062.64 1218.61	0.21 0.00	0.00
975	P-413	464.00	12.00	130.00	Open	61.81	1051.04	1051.03	0.00	0.00
977	P-414	465.00	12.00	130.00	Open	359.35	1061.84	1061.67	0.18	0.00
978 979	P-415 P-416	465.00 465.00	12.00 12.00	130.00 130.00	Open Open	-760.31 -8.43	1064.02 1052.04	1064.73 1052.04	0.71 0.00	0.00 0.00
981	P-417	470.00	12.00	130.00	Open	26.30	1053.01	1053.00	0.00	0.00
984	P-418	473.00	12.00	130.00	Open	175.38	1053.85	1053.80	0.05	0.00
986 989	P-419 P-420	479.00 479.00	12.00 12.00	130.00 130.00	Open Open	105.26 -6.54	1052.13 1051.96	1052.11 1051.96	0.02 0.00	0.00 0.00
990	P-421	488.00	12.00	130.00	Open	26.27	1061.13	1061.13	0.00	0.00
992	P-422	480.00	12.00	130.00	Open	41.37	1322.97	1322.97	0.00	0.00
994 996	P-423 P-424	482.00 484.00	12.00 12.00	130.00 130.00	Open Open	115.35 96.97	1052.34 1052.24	1052.31 1052.22	0.02 0.02	0.00 0.00
997	P-425	485.00	12.00	130.00	Open	101.11	1052.24	1052.22	0.02	0.00
999	P-426	506.00	12.00	130.00	Open	-1.64	1322.92	1322.92	0.00	0.00
1001 1002	P-427 P-428	488.00 490.00	12.00 12.00	130.00 130.00	Open Open	373.42 25.51	1063.04 1061.13	1062.85 1061.13	0.20 0.00	0.00 0.00
1002	P-429	501.00	12.00	130.00	Open	11.77	1064.93	1064.93	0.00	0.00
1006	P-430	492.00	12.00	130.00	Open	-0.56	1052.04	1052.04	0.00	0.00
1009 1011	P-431 P-432	495.00 499.00	12.00 12.00	130.00 130.00	Open Open	18.28 0.23	1061.12 1064.63	1061.12 1064.63	0.00	0.00 0.00
1011	P-432 P-433	499.00	12.00	130.00	Open	20.75	1064.63	1064.63	0.00	0.00
1014	P-434	501.00	12.00	130.00	Open	57.48	981.50	981.49	0.01	0.00
1015 1017	P-435 P-436	496.00 496.00	12.00 12.00	130.00 130.00	Open Open	187.77 88.34	1053.92 1051.83	1053.86 1051.82	0.06 0.01	0.00 0.00
1017	P-436 P-437	496.00	12.00	130.00	Open	105.11	1051.83	1051.82	0.01	0.00
1020	P-438	498.00	12.00	130.00	Open	341.19	1061.33	1061.15	0.17	0.00
1021 1023	P-439 P-440	500.00 528.00	12.00 12.00	130.00 130.00	Open Open	26.56 10.68	1322.92 1051.96	1322.92 1051.96	0.00	0.00 0.00
1020	1 440	520.00	12.00	100.00	Open	10.00	1001.30	1001.00	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
1025	P-441	504.00	12.00	130.00	Open	-7.85	1053.01	1053.01	0.00	0.00
1027 1029	P-442 P-443	528.00 506.00	12.00 12.00	130.00 130.00	Open Open	-269.97 188.13	1062.69 1053.98	1062.81 1053.92	0.12 0.06	0.00
1030	P-444	506.00	12.00	130.00	Open	106.32	1052.20	1052.18	0.02	0.00
1032	P-445 P-446	511.00	12.00 12.00	130.00	Open	-58.07	1053.00	1053.01	0.01	0.00
1034 1036	P-446 P-447	512.00 537.00	12.00	130.00 130.00	Open Open	372.71 10.26	1062.64 1064.92	1062.43 1064.92	0.21 0.00	0.00
1038	P-448	602.00	12.00	130.00	Open	-0.08	981.48	981.48	0.00	0.00
1040 1042	P-449 P-450	520.00 579.00	12.00 12.00	130.00 130.00	Open Open	94.27 -22.06	1052.96 1218.62	1052.95 1218.62	0.02 0.00	0.00
1045	P-451	853.00	12.00	130.00	Open	-105.49	1052.13	1052.17	0.03	0.00
1047 1049	P-452 P-453	520.00 529.00	12.00 12.00	130.00 130.00	Open Open	-0.23 -356.17	1061.76 1063.62	1061.76 1063.82	0.00 0.20	0.00
1050	P-454	525.00	12.00	130.00	Open	14.44	1063.62	1063.62	0.20	0.00
1052	P-455	660.00	12.00	130.00	Open	199.48	1054.07	1053.99	0.08	0.00
1053 1054	P-456 P-457	531.00 692.00	12.00 12.00	130.00 130.00	Open Open	108.66 7.34	1052.30 1322.91	1052.28 1322.91	0.02 0.00	0.00
1056	P-458	549.00	12.00	130.00	Open	-15.00	1052.03	1052.03	0.00	0.00
1059 1060	P-459 P-460	591.00 540.00	12.00 12.00	130.00 130.00	Open Open	371.56 22.22	1062.43 1053.00	1062.19 1053.00	0.24 0.00	0.00
1062	P-461	543.00	12.00	130.00	Open	161.12	1051.94	1051.89	0.05	0.00
1064	P-462 P-463	543.00	12.00 12.00	130.00	Open	11.15	1051.96 1064.93	1051.96 1064.93	0.00	0.00
1065 1067	P-464	549.00 561.00	12.00	130.00 130.00	Open Open	13.69 -35.61	1057.34	1057.34	0.00	0.00
1068	P-465	567.00	12.00	130.00	Open	770.93	1060.22	1059.33	0.89	0.00
1070 1072	P-466 P-467	565.00 568.00	12.00 12.00	130.00 130.00	Open Open	1.06 0.23	1057.32 1064.61	1057.32 1064.61	0.00	0.00
1073	P-468	571.00	12.00	130.00	Open	17.49	1218.03	1218.03	0.00	0.00
1074 1075	P-469 P-470	582.00 587.00	12.00 12.00	130.00 130.00	Open Open	18.83 449.45	1061.12 1060.94	1061.12 1060.60	0.00 0.34	0.00
1077	P-471	615.00	12.00	130.00	Open	-73.02	1051.92	1051.93	0.01	0.00
1078 1081	P-472 P-473	599.00 602.00	12.00 12.00	130.00 130.00	Open	122.80 21.10	1218.68 1061.13	1218.65 1061.12	0.03	0.00
1083	P-474	605.00	12.00	130.00	Open Open	76.50	1051.13	1051.12	0.00	0.00
1084	P-475	597.00	12.00	130.00	Open	105.77	1052.18	1052.15	0.02	0.00
1086 1088	P-476 P-477	597.00 623.00	12.00 12.00	130.00 130.00	Open Open	12.82 22.21	1322.92 1061.13	1322.91 1061.13	0.00	0.00
1090	P-478	602.00	12.00	130.00	Open	105.41	1052.15	1052.13	0.02	0.00
1091 1092	P-479 P-480	604.00 670.00	12.00 12.00	130.00 130.00	Open Open	-269.01 7.00	1062.56 1051.96	1062.69 1051.96	0.13 0.00	0.00
1094	P-481	603.00	12.00	130.00	Open	86.51	1218.32	1218.31	0.02	0.00
1097	P-482	613.00	12.00	130.00	Open	4.77	1322.91	1322.91	0.00	0.00
1099 1101	P-483 P-484	614.00 639.00	12.00 12.00	130.00 130.00	Open Open	-215.05 -18.47	1057.78 1218.60	1057.87 1218.60	0.09	0.00
1103	P-485	637.00	12.00	130.00	Open	-189.32	1052.03	1052.11	0.07	0.00
1104 1106	P-486 P-487	635.00 641.00	12.00 12.00	130.00 130.00	Open Open	66.89 -0.38	1060.49 1061.76	1060.48 1061.76	0.01 0.00	0.00
1107	P-488	638.00	12.00	130.00	Open	38.13	1322.95	1322.94	0.00	0.00
1109 1110	P-489 P-490	659.00 690.00	12.00 12.00	130.00 130.00	Open Open	-106.65 17.72	1052.17 1059.77	1052.19 1059.77	0.03	0.00
1112	P-491	681.00	12.00	130.00	Open	13.77	1322.92	1322.92	0.00	0.00
1113 1114	P-492 P-493	697.00 682.00	12.00 12.00	130.00 130.00	Open Open	-36.15 81.97	1051.95 1052.06	1051.95 1052.04	0.00 0.02	0.00
1115	P-494	675.00	12.00	130.00	Open	1.64	1052.06	1052.04	0.02	0.00
1117	P-495	675.00	12.00	130.00	Open	-5.43	1052.04	1052.04	0.00	0.00
1118 1120	P-496 P-497	703.00 682.00	12.00 12.00	130.00 130.00	Open Open	37.07 13.68	981.49 1052.03	981.49 1052.03	0.00	0.00
1122	P-498	687.00	12.00	130.00	Open	93.31	1052.09	1052.07	0.02	0.00
1123 1124	P-499 P-500	693.00 723.00	12.00 12.00	130.00 130.00	Open Open	-261.18 21.66	1062.40 1061.13	1062.55 1061.13	0.15 0.00	0.00
1125	P-501	690.00	12.00	130.00	Open	-216.81	1057.87	1057.97	0.10	0.00
1126 1127	P-502 P-503	698.00 727.00	12.00 12.00	130.00 130.00	Open Open	-59.18 -85.45	1053.01 1051.93	1053.02 1051.95	0.01 0.02	0.00
1128	P-504	707.00	12.00	130.00	Open	360.92	1054.64	1054.37	0.27	0.00
1130 1133	P-505 P-506	716.00 732.00	12.00 12.00	130.00 130.00	Open Open	280.67 -114.47	1217.47 1054.64	1217.30 1054.67	0.17 0.03	0.00 0.00
1134	P-507	727.00	12.00	130.00	Open	198.18	1056.92	1056.83	0.03	0.00
1135	P-508	722.00	12.00	130.00	Open	257.71	1215.66	1215.51	0.15	0.00
1137 1138	P-509 P-510	723.00 723.00	12.00 12.00	130.00 130.00	Open Open	26.94 -771.85	1322.92 1063.48	1322.92 1064.61	0.00 1.13	0.00
1140	P-511	729.00	12.00	130.00	Open	-4.23	1052.56	1052.56	0.00	0.00
1142 1145	P-512 P-513	738.00 737.00	12.00 12.00	130.00 130.00	Open Open	20.11 -135.21	1053.00 1056.71	1053.00 1056.76	0.00 0.05	0.00
1147	P-514	824.00	12.00	130.00	Open	72.49	1218.05	1218.03	0.02	0.00
1149 1150	P-515 P-516	736.00 738.00	12.00 12.00	130.00 130.00	Open Open	174.42 78.26	1053.80 1051.99	1053.73 1051.97	0.07 0.02	0.00
1151	P-517	768.00	12.00	130.00	Open	86.44	1052.06	1052.04	0.02	0.00
1153 1154	P-518 P-519	778.00 780.00	12.00 12.00	130.00 130.00	Open Open	-86.08 6.68	1052.02 1322.91	1052.04 1322.91	0.02 0.00	0.00
1155	P-520	766.00	12.00	130.00	Open	-73.37	1053.02	1053.03	0.00	0.00
1157	P-521 P-522	770.00	12.00 12.00	130.00	Open	5.14 5.16	1322.91	1322.91	0.00	0.00
1158 1160	P-522 P-523	832.00 911.00	12.00 12.00	130.00 130.00	Open Open	5.16 113.38	1052.71 1052.31	1052.71 1052.27	0.00 0.04	0.00
1161	P-524	771.00	12.00	130.00	Open	8.23	1322.91	1322.91	0.00	0.00
1162 1164	P-525 P-526	787.00 768.00	12.00 12.00	130.00 130.00	Open Open	-42.01 6.03	1052.99 1052.99	1052.99 1052.99	0.01 0.00	0.00
1166	P-527	771.00	12.00	130.00	Open	94.12	1052.95	1052.92	0.02	0.00
1168 1170	P-528 P-529	777.00 786.00	12.00 12.00	130.00 130.00	Open Open	58.61 52.84	1056.83 1217.86	1056.82 1217.85	0.01 0.01	0.00
1170	P-530	797.00	12.00	130.00	Open	-43.74	1059.78	1059.79	0.01	0.00
1174	P-531	782.00	12.00	130.00	Open	-771.69	1062.25	1063.48	1.23	0.00
1175 1176	P-532 P-533	786.00 802.00	12.00 12.00	130.00 130.00	Open Open	35.11 -15.15	981.49 1053.01	981.48 1053.01	0.00	0.00
1178	P-534	805.00	12.00	130.00	Open	41.60	1322.98	1322.97	0.01	0.00
1179 1181	P-535 P-536	807.00 940.00	12.00 12.00	130.00 130.00	Open Open	63.80 -19.27	1218.02 1218.60	1218.01 1218.61	0.01 0.00	0.00 0.00
1183	P-537	866.00	12.00	130.00	Open	10.82	1064.93	1064.92	0.00	0.00
1184	P-538	807.00	12.00	130.00	Open	-0.08	1075.00	1075.00	0.00	0.00

5/13/2013

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
1187	P-539	825.00	12.00	130.00	Open	8.10	1052.99	1052.99	0.00	0.00
1189 1191	P-540 P-541	814.00 859.00	12.00 12.00	130.00 130.00	Open Open	37.45 -5.14	1322.93 1064.94	1322.93 1064.94	0.00	0.00
1193	P-542	831.00	12.00	130.00	Open	120.55	1218.42	1218.38	0.04	0.00
1195	P-543	822.00	12.00	130.00	Open	37.68	1322.94	1322.93	0.00	0.00
1197 1200	P-544 P-545	827.00 830.00	12.00 12.00	130.00 130.00	Open Open	39.10 53.85	1322.96 1217.87	1322.95 1217.86	0.01 0.01	0.00
1202	P-546	831.00	12.00	130.00	Open	10.47	1052.99	1052.99	0.00	0.00
1205 1207	P-547 P-548	838.00 839.00	12.00 12.00	130.00 130.00	Open Open	86.87 -33.59	1056.78 1057.33	1056.76 1057.34	0.02 0.00	0.00
1209	P-549	842.00	12.00	130.00	Open	360.36	1054.37	1054.04	0.32	0.00
1210	P-550	890.00	12.00	130.00	Open	27.56	1053.02 1218.20	1053.02 1218.17	0.00	0.00
1213 1215	P-551 P-552	1047.00 850.00	12.00 12.00	130.00 130.00	Open Open	83.29 261.48	1216.88	1216.17	0.03 0.18	0.00
1217	P-553	852.00	12.00	130.00	Open	16.51	1064.93	1064.93	0.00	0.00
1218 1219	P-554 P-555	857.00 859.00	12.00 12.00	130.00 130.00	Open Open	38.88 54.25	1322.95 1217.88	1322.95 1217.87	0.01 0.01	0.00
1220	P-556	930.00	12.00	130.00	Open	-4.91	1052.79	1052.79	0.00	0.00
1223 1226	P-557 P-558	873.00 887.00	12.00 12.00	130.00 130.00	Open Open	55.50 42.34	1056.78 1322.98	1056.77 1322.98	0.01 0.01	0.00
1227	P-559	883.00	12.00	130.00	Open	54.43	1056.74	1056.73	0.01	0.00
1230	P-560	910.00	12.00	130.00	Open	260.60	1216.49	1216.30	0.19	0.00
1233 1235	P-561 P-562	890.00 890.00	12.00 12.00	130.00 130.00	Open Open	-0.23 74.09	1075.00 1218.11	1075.00 1218.10	0.00 0.02	0.00
1236	P-563	891.00	12.00	130.00	Open	-133.10	1056.64	1056.69	0.05	0.00
1237 1238	P-564 P-565	897.00 901.00	12.00 12.00	130.00 130.00	Open Open	37.91 121.43	1322.94 1218.52	1322.94 1218.47	0.01 0.05	0.00
1241	P-566	925.00	12.00	130.00	Open	10.12	1052.99	1052.99	0.00	0.00
1243 1244	P-567 P-568	904.00 939.00	12.00 12.00	130.00 130.00	Open Open	40.92 61.26	1322.96 1217.95	1322.96 1217.93	0.01 0.01	0.00 0.00
1244	P-569	943.00	12.00	130.00	Open	-136.97	1056.76	1056.82	0.01	0.00
1247	P-570	1025.00	12.00	130.00	Open	66.53	1060.48	1060.46	0.02	0.00
1248 1249	P-571 P-572	945.00 916.00	12.00 12.00	130.00 130.00	Open Open	-68.14 281.56	1051.89 1217.94	1051.90 1217.72	0.02 0.22	0.00
1251	P-573	927.00	12.00	130.00	Open	278.15	1217.30	1217.08	0.22	0.00
1252 1253	P-574 P-575	1000.00 943.00	12.00 12.00	130.00 130.00	Open Open	-18.87 116.77	1218.60 1052.08	1218.60 1052.04	0.00 0.04	0.00
1255	P-576	934.00	12.00	130.00	Open	20.66	1053.00	1053.00	0.00	0.00
1256	P-577	962.00	12.00	130.00	Open	60.46	1217.93	1217.92	0.01	0.00
1258 1260	P-578 P-579	949.00 944.00	12.00 12.00	130.00 130.00	Open Open	27.06 14.65	1053.01 1322.92	1053.01 1322.92	0.00	0.00
1262	P-580	948.00	12.00	130.00	Open	-352.50	1063.24	1063.59	0.35	0.00
1263 1265	P-581 P-582	962.00 1071.00	12.00 12.00	130.00 130.00	Open Open	-3.76 72.89	1053.01 1218.07	1053.01 1218.05	0.00 0.02	0.00
1267	P-583	970.00	12.00	130.00	Open	258.54	1215.86	1215.66	0.20	0.00
1269 1270	P-584 P-585	984.00 988.00	12.00 12.00	130.00 130.00	Open Open	771.08 -21.26	1061.76 1218.61	1060.22 1218.61	1.54 0.00	0.00
1273	P-586	979.00	12.00	130.00	Open	259.54	1216.06	1215.86	0.20	0.00
1275 1278	P-587 P-588	1096.00	12.00 12.00	130.00 130.00	Open Open	-13.49 -42.77	1064.94	1064.94 1053.00	0.00 0.01	0.00
1279	P-589	972.00 1010.00	12.00	130.00	Open	214.19	1052.99 1057.63	1055.00	0.01	0.00
1282	P-590	998.00	12.00	130.00	Open	-23.36	1056.82	1056.83	0.00	0.00
1284 1285	P-591 P-592	994.00 1033.00	12.00 12.00	130.00 130.00	Open Open	86.91 400.20	1218.35 1063.54	1218.32 1063.06	0.03 0.48	0.00
1288	P-593	983.00	12.00	130.00	Open	59.66	1217.91	1217.89	0.01	0.00
1291 1294	P-594 P-595	988.00 1094.00	12.00 12.00	130.00 130.00	Open Open	28.27 -0.88	1053.03 1051.96	1053.02 1051.96	0.00	0.00
1295	P-596	1000.00	12.00	130.00	Open	-232.94	1058.47	1058.64	0.17	0.00
1298 1299	P-597 P-598	1000.00 1002.00	12.00 12.00	130.00 130.00	Open Open	261.00 85.71	1216.70 1056.76	1216.49 1056.73	0.21 0.03	0.00
1300	P-599	996.00	12.00	130.00	Open	12.73	1064.93	1064.93	0.00	0.00
1301 1302	P-600 P-601	1101.00 1007.00	12.00 12.00	130.00 130.00	Open Open	15.09 -231.95	981.48 1052.52	981.48 1052.70	0.00 0.17	0.00 0.00
1304	P-602	1178.00	12.00	130.00	Open	-0.95	1322.92	1322.92	0.00	0.00
1306	P-603	1115.00	12.00	130.00	Open	-20.86	1218.61	1218.61	0.00	0.00
1308 1309	P-604 P-605	1001.00 1018.00	12.00 12.00	130.00 130.00	Open	29.20 -13.13	1322.93 1064.94	1322.92 1064.94	0.00	0.00
1310	P-606	1013.00	12.00	130.00	Open	214.74	1057.78	1057.63	0.15	0.00
1311 1314	P-607 P-608	1037.00 1017.00	12.00 12.00	130.00 130.00	Open Open	48.78 164.06	1217.83 1052.03	1217.82 1051.94	0.01 0.09	0.00
1315	P-609	1034.00	12.00	130.00	Open	-3.75	1052.79	1052.79	0.00	0.00
1316 1318	P-610 P-611	1028.00 1026.00	12.00 12.00	130.00 130.00	Open Open	0.71 60.06	1057.32 1217.92	1057.32 1217.91	0.00 0.01	0.00
1319	P-612	1028.00	12.00	130.00	Open	400.76	1064.02	1063.54	0.48	0.00
1320	P-613	1027.00	12.00	130.00	Open	-6.07	1052.79	1052.79	0.00	0.00
1321 1322	P-614 P-615	1029.00 1050.00	12.00 12.00	130.00 130.00	Open Open	6.99 121.03	1052.99 1218.47	1052.99 1218.42	0.00 0.05	0.00 0.00
1323	P-616	1030.00	12.00	130.00	Open	281.07	1217.72	1217.47	0.25	0.00
1324 1326	P-617 P-618	1044.00 1208.00	12.00 12.00	130.00 130.00	Open Open	0.48 -13.84	1051.96 1064.94	1051.96 1064.94	0.00	0.00
1327	P-619	1056.00	12.00	130.00	Open	-0.48	1322.91	1322.91	0.00	0.00
1328 1330	P-620 P-621	1102.00 1052.00	12.00 12.00	130.00 130.00	Open Open	82.15 9.97	1218.14 1052.99	1218.12 1052.99	0.03	0.00
1332	P-622	1062.00	12.00	130.00	Open	213.23	1057.48	1052.99	0.15	0.00
1334	P-623	1076.00	12.00	130.00	Open	-20.47 50.26	1218.61	1218.61 1217.88	0.00	0.00
1335 1336	P-624 P-625	1091.00 1088.00	12.00 12.00	130.00 130.00	Open Open	59.26 15.03	1217.89 1322.92	1217.88	0.01 0.00	0.00
1337	P-626	1102.00	12.00	130.00	Open	28.12	1053.02	1053.02	0.00	0.00
1338 1339	P-627 P-628	1314.00 1117.00	12.00 12.00	130.00 130.00	Open Open	63.06 123.28	1218.01 1218.74	1217.99 1218.68	0.02 0.06	0.00
1341	P-629	1095.00	12.00	130.00	Open	11.85	1322.91	1322.91	0.00	0.00
1342 1343	P-630 P-631	1166.00 1152.00	12.00 12.00	130.00 130.00	Open Open	-24.72 -41.98	1056.83 1059.77	1056.83 1059.78	0.00 0.01	0.00
1344	P-632	1133.00	12.00	130.00	Open	113.25	1051.88	1051.83	0.05	0.00
1345 1346	P-633 P-634	1141.00 1145.00	12.00 12.00	130.00 130.00	Open Open	259.94 -227.23	1216.30 1052.34	1216.06 1052.52	0.24 0.19	0.00 0.00
1348	P-635	1189.00	12.00	130.00	Open	0.56	1052.34	1052.52	0.19	0.00
1350	P-636	1176.00	12.00	130.00	Open	84.57	1218.24	1218.21	0.03	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
1351	P-637	1390.00	12.00	130.00	Open	212.28	1057.33	1057.13	0.20	0.00
1352	P-638	1201.00	12.00	130.00	Open	82.55	1218.17	1218.14	0.03	0.00
1353 1354	P-639 P-640	1480.00 1228.00	12.00 12.00	130.00 130.00	Open Open	207.32 54.59	1057.13 1056.76	1056.92 1056.74	0.20 0.01	0.00 0.00
1356	P-641	1190.00	12.00	130.00	Open	0.00	1051.96	1051.96	0.00	0.00
1357	P-642	1232.00	12.00	130.00	Open	122.40	1218.65	1218.58	0.06	0.00
1359 1360	P-643 P-644	1290.00 1242.00	12.00 12.00	130.00 130.00	Open Open	-21.66 122.00	1218.61 1218.58	1218.62 1218.52	0.00 0.06	0.00 0.00
1361	P-645	1252.00	12.00	130.00	Open	-227.79	1058.04	1058.24	0.20	0.00
1362	P-646	1268.00	12.00	130.00	Open	-32.43	1057.33	1057.33	0.01	0.00
1363	P-647	1300.00	12.00	130.00	Open	-221.70	1052.14	1052.34	0.20	0.00
1364 1365	P-648 P-649	1515.00 1306.00	12.00 12.00	130.00 130.00	Open Open	54.74 49.26	1056.77 1217.85	1056.76 1217.83	0.02 0.01	0.00 0.00
1366	P-650	1313.00	12.00	130.00	Open	-231.79	1058.25	1058.47	0.22	0.00
1367	P-651	1475.00	12.00	130.00	Open	-14.64	1052.03	1052.03	0.00	0.00
1368 1369	P-652 P-653	1442.00 1446.00	12.00 12.00	130.00 130.00	Open Open	374.89 73.29	1060.47 1218.10	1059.87 1218.07	0.59 0.03	0.00
1370	P-654	2121.00	12.00	130.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
1372	P-655	1683.00	12.00	130.00	Open	-58.31	1051.96	1051.98	0.02	0.00
1373 1375	P-656 P-657	1602.00 1814.00	12.00 12.00	130.00 130.00	Open Open	449.80 -17.60	1061.87 1051.96	1060.94 1051.96	0.92 0.00	0.00 0.00
1376	P-658	1762.00	12.00	130.00	Open	9.26	1052.99	1052.99	0.00	0.00
1378	P-659	1671.00	12.00	130.00	Open	9.81	1052.99	1052.99	0.00	0.00
1379	P-660 P-661	2004.00	12.00	130.00	Open	86.11	1218.31	1218.25	0.05	0.00
1380 1381	P-662	2029.00 1862.00	12.00 12.00	130.00 130.00	Open Open	28.43 300.80	1053.03 1057.34	1053.03 1056.83	0.01 0.51	0.00 0.00
1382	P-663	1952.00	12.00	130.00	Open	-2.11	1052.04	1052.04	0.00	0.00
1383	P-664	1900.00	12.00	130.00	Open	27.41	1053.02	1053.01	0.01	0.00
1384 1385	P-665 P-666	2216.00 2065.00	12.00 12.00	130.00 130.00	Open Open	25.47 450.76	1059.77 1063.06	1059.77 1061.87	0.01 1.20	0.00 0.00
1386	P-667	2830.00	12.00	130.00	Open	61.65	1217.99	1217.95	0.04	0.00
1387	P-668	2731.00	12.00	130.00	Open	19.75	1053.00	1053.00	0.00	0.00
1389	P-669	2751.00	12.00	130.00	Open	-259.78	1052.79	1053.37	0.57	0.00
1391 1392	P-670 P-671	3072.00 2919.00	12.00 12.00	130.00 130.00	Open Open	-262.34 56.65	1053.37 1056.82	1054.02 1056.78	0.65 0.04	0.00 0.00
1393	P-672	3784.00	12.00	130.00	Open	373.88	1064.74	1063.19	1.55	0.00
1394	P-673	4336.00	12.00	130.00	Open	11.23	1053.00	1052.99	0.00	0.00
1395 1398	P-674 P-675	3.00 6.00	16.00 16.00	130.00 130.00	Open Open	-45.04 -68.26	1064.94 1064.95	1064.94 1064.95	0.00	0.00 0.00
1400	P-676	11.00	16.00	130.00	Open	0.28	1053.68	1053.68	0.00	0.00
1402	P-677	16.00	16.00	130.00	Open	-235.77	1052.43	1052.43	0.00	0.00
1405 1407	P-678 P-679	17.00 22.00	16.00 16.00	130.00 130.00	Open Open	-233.30 358.80	1058.64 1053.01	1058.64 1053.01	0.00	0.00 0.00
1411	P-681	22.00	16.00	130.00	Open	-0.08	1064.94	1064.94	0.00	0.00
1413	P-682	24.00	16.00	130.00	Open	35.03	1052.45	1052.45	0.00	0.00
1416	P-683	34.00	16.00	130.00	Open	319.76	1052.68	1052.68	0.00	0.00
1418 1421	P-684 P-685	46.00 60.00	16.00 16.00	130.00 130.00	Open Open	228.17 340.50	1052.40 1052.80	1052.40 1052.79	0.00 0.01	0.00 0.00
1424	P-686	72.00	16.00	130.00	Open	351.03	1053.02	1053.01	0.01	0.00
1426	P-687	78.00	16.00	130.00	Open	0.08	1052.45	1052.45	0.00	0.00
1429 1431	P-688 P-689	81.00 90.00	16.00 16.00	130.00 130.00	Open Open	-0.28 320.47	1058.64 1052.72	1058.64 1052.71	0.00 0.01	0.00 0.00
1434	P-690	120.00	16.00	130.00	Open	229.48	1052.72	1052.41	0.00	0.00
1437	P-691	124.00	16.00	130.00	Open	0.23	1052.45	1052.45	0.00	0.00
1439 1442	P-692 P-693	134.00 147.00	16.00 16.00	130.00 130.00	Open Open	350.86 -230.04	1052.85 1052.41	1052.84 1052.42	0.01 0.01	0.00 0.00
1444	P-694	153.00	16.00	130.00	Open	405.86	1053.24	1053.23	0.02	0.00
1447	P-695	164.00	16.00	130.00	Open	-235.21	1052.42	1052.43	0.01	0.00
1448 1451	P-696 P-697	170.00 200.00	16.00 16.00	130.00 130.00	Open Open	339.62 498.03	1057.88 1053.68	1057.87 1053.65	0.01 0.03	0.00 0.00
1453	P-698	228.00	16.00	130.00	Open	228.93	1053.00	1053.05	0.03	0.00
1454	P-699	258.00	16.00	130.00	Open	-234.98	1058.89	1058.90	0.01	0.00
1456 1459	P-700 P-701	259.00 277.00	16.00 16.00	130.00	Open	273.59 328.71	1052.50	1052.48	0.01 0.02	0.00 0.00
1459	P-701 P-702	277.00	16.00	130.00 130.00	Open Open	227.81	1052.74 1052.40	1052.72 1052.39	0.02	0.00
1463	P-703	317.00	16.00	130.00	Open	274.14	1052.51	1052.50	0.02	0.00
1465	P-704	325.00	16.00	130.00	Open	-38.40 485.74	1052.56	1052.56	0.00	0.00
1467 1469	P-705 P-706	329.00 341.00	16.00 16.00	130.00 130.00	Open Open	485.74 351.57	1053.30 1052.88	1053.24 1052.85	0.05 0.03	0.00 0.00
1471	P-707	355.00	16.00	130.00	Open	28.27	1052.45	1052.45	0.00	0.00
1473	P-708	366.00	16.00	130.00	Open	226.35	1052.35	1052.34	0.01	0.00
1475 1477	P-709 P-710	378.00 394.00	16.00 16.00	130.00 130.00	Open Open	276.52 227.66	1052.54 1052.39	1052.51 1052.37	0.02 0.02	0.00 0.00
1479	P-711	417.00	16.00	130.00	Open	354.24	1053.01	1052.97	0.04	0.00
1481	P-712	417.00	16.00	130.00	Open	497.12	1053.56	1053.48	0.07	0.00
1484 1485	P-713 P-714	442.00 449.00	16.00 16.00	130.00 130.00	Open Open	276.67 319.91	1052.56 1052.71	1052.54 1052.68	0.03	0.00 0.00
1486	P-715	452.00	16.00	130.00	Open	227.11	1052.71	1052.35	0.03	0.00
1487	P-716	453.00	16.00	130.00	Open	405.36	1053.16	1053.11	0.05	0.00
1490	P-717	462.00	16.00	130.00	Open	273.03	1052.48	1052.45	0.03	0.00
1491 1493	P-718 P-719	475.00 475.00	16.00 16.00	130.00 130.00	Open Open	353.29 351.93	1052.97 1052.93	1052.93 1052.88	0.04 0.04	0.00 0.00
1494	P-720	478.00	16.00	130.00	Open	351.98	1053.06	1053.02	0.04	0.00
1496	P-721	502.00	16.00	130.00	Open	350.71	1052.84	1052.80	0.04	0.00
1497 1499	P-722 P-723	516.00 536.00	16.00 16.00	130.00 130.00	Open Open	486.49 405.71	1053.38 1053.23	1053.30 1053.16	0.08 0.06	0.00 0.00
1500	P-723 P-724	549.00	16.00	130.00	Open	354.96	1053.23	1053.16	0.05	0.00
1501	P-725	553.00	16.00	130.00	Open	497.67	1053.65	1053.56	0.09	0.00
1502	P-726	559.00	16.00	130.00	Open	34.47	1052.45	1052.45	0.00	0.00
1503 1504	P-727 P-728	573.00 599.00	16.00 16.00	130.00 130.00	Open Open	340.14 -234.67	1052.79 1058.82	1052.74 1058.85	0.05 0.03	0.00 0.00
1507	P-729	616.00	16.00	130.00	Open	486.85	1053.48	1053.38	0.10	0.00
1508	P-730	624.00	16.00	130.00	Open	533.62	1058.75	1058.63	0.12	0.00
1511 1514	P-731 P-732	645.00 649.00	16.00 16.00	130.00 130.00	Open Open	532.51 -237.93	1058.43 1052.43	1058.31 1052.45	0.13 0.03	0.00 0.00
1515	P-733	785.00	16.00	130.00	Open	-4.31	1052.56	1052.56	0.00	0.00
1516	P-734	804.00	16.00	130.00	Open	534.18	1058.90	1058.75	0.16	0.00
1517	P-735	844.00	16.00	130.00	Open	338.71	1057.71	1057.64	0.07	0.00

1519	Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
1922 P.738 992.00 16.00 150.00 Open 535.07 1068.83 1068.84 0.19 0.00											
1925 P-786 1040-00 1040 1040 1040 1040 1040 105											
1529 P-741 1006-100 1500 1500 Copen 234-82 1058-85 1058-85 0.058-90 0.05 0.00											
1929 P-742 1294-00 16,00 130.00 Open 233-45 1068-84 1068-86 0.05 0.00											
1530 P-743 1275.00 16.00 130.00 Open 532.16 1058.31 1058.06 0.25 0.00 0.00 1331.81 P-746 1748.00 16.00 130.00 Open 17.22 1064.64 1064.95 0.00 0.00 1538.81 P-746 1652.00 16.00 130.00 Open 4-62.20 1064.64 1064.95 0.00 0.00 1538.78 P-747 2625.00 16.00 130.00 Open 4-62.20 1064.64 1064.95 0.00 0.00 1337.37 P-748 7.60 16.00 130.00 Open 4-62.20 1064.64 1064.95 0.00 0.00 1337.37 P-748 7.60 16.00 130.00 Open 4-62.20 1718.74 1278.74 0.00 0.00 0.00 1337.37 P-748 7.60 16.00 130.00 Open 4-0.20 1718.74 1278.74 0.00 0.00 0.00 1338.30 Open 2718.74 1278.74 0.00 0.00 0.00 1348.00 0.00											
1833 P-745 1850.00 150.00 150.00 150.00 Open 3892.77 1677.87 1677.77 0.16 0.00 0.	1530	P-743	1275.00	16.00	130.00	Open	532.16	1058.31	1058.06	0.25	0.00
1534 P-740 20500 16.00 130.00 Cpen 4-5.20 1064.94 1064.95 107 0.00 1.00 1.00 1.00 1.00 1.00 1.00											
1852 P-746 1 144-00 18.00 18.00 19.00 Open 400.26 1218-74 1218-74 0.00 0.00 1.00 1.00 1.00 1.00 1.00 1.0											
1539 P-749 104-00 18.00 130.00 Open 252-51 1219-01 1219-00 Oo11 O.00 Oo11 O.00 Open 177-70 140-00 18.00 130.00 Open 371-13 1218-38 1218-38 O.02 O.00 Open 171-13 1218-38 Open Oo11 O.00 Open 171-13 Open											
1541 P.750 140.00 150.0 150.0 150.00 Cpen 977.12 1218.62 1218.61 0.01 0.00 1.00 150.00 Cpen 977.12 1218.62 1218.61 0.01 0.00 0.00 150.00 Cpen 977.12 1218.62 1218.63 0.02 0.00 0.00 150.0 150.00 Cpen 93.15.12 1218.63 1218.63 0.02 0.00 0.00 150.0 150.0 150.0 0.00 0.00 150.0 150.0 150.0 0.00 Cpen 93.15.2 1218.63 0.00 0.00 0.00 150.0 150.0 150.0 0.00 Cpen 93.15.2 1218.63 0.00 0.00 0.00 0.00 150.0 150.0 150.0 0.00 Cpen 93.15.2 1218.63 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
1546 P.752 358.00 18.00 130.00 Open 524.72 1219.00 1218.85 0.04 0.00 1546 P.753 875.00 18.00 130.00 Open 333.33 1218.55 1218.15 1218.15 1218.15 1551 P.756 672.00 18.00 130.00 Open 343.22 1218.39 1218.34 0.02 0.00 1557 P.756 672.00 18.00 130.00 Open 376.72 1218.51 1218.15 0.06 0.00 1557 P.757 1014.00 18.00 130.00 Open 376.72 1218.51 1218.55 0.06 0.00 1557 P.758 672.00 18.00 130.00 Open 376.32 1218.55 1218.50 0.06 0.00 1559 P.758 978.00 18.00 130.00 Open 376.32 1218.55 1218.50 0.06 0.00 1560 P.761 100.00 18.00 130.00 Open 376.32 1218.55 1218.50 0.06 0.00 1566 P.762 1064.00 18.00 130.00 Open 524.32 1218.56 1218.50 0.06 0.00 1566 P.763 110.00 18.00 130.00 Open 524.32 1218.56 1218.55 0.06 0.00 1566 P.763 110.00 18.00 130.00 Open 524.32 1218.56 0.128.50 0.06 0.00 1567 P.765 1813.00 18.00 130.00 Open 524.32 1218.50 1218.55 0.06 0.00 1567 P.765 1813.00 18.00 130.00 Open 524.32 1218.50 1218.50 0.06 0.00 1572 P.767 1813.00 18.00 130.00 Open 524.32 1218.50 1218.50 0.06 0.00 1572 P.767 1813.00 18.00 130.00 Open 524.32 1218.50 1218.50 0.00 0.00 1572 P.767 150.00 2.00 130.00 Open 524.32 1218.50 0.128.50 0.00 0.00 1572 P.767 150.00 2.00 130.00 Open 524.32 1218.50 0.128.50 0.00 0.00 1572 P.767 1813.00 18.00 130.00 Open 524.22 1218.50 0.128.50 0.00 0.00 0.00 1574 P.777 0.00 2.00 130.00 Open 0.48 1064.32 0.06 0.00											
1548 P.783 897.00 18.00 130.00 Open 3343.22 1218.36 1218.30 0.02 0.00 15551 P.784 882.00 18.00 130.00 Open 3343.22 1218.06 1218.07 1218.08 0.00 0.00 15552 P.785 819.00 18.00 130.00 Open 326.18 1218.07 1218.08 0.04 0.00 0.00 15559 P.786 819.00 18.00 130.00 Open 376.72 1218.08 1218.08 0.06 0.00 0.00 15559 P.786 946.00 18.00 130.00 Open 376.72 1218.08 1218.08 0.06 0.00 0.00 0.00 0.00 0.00 0.00											
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1555 P.756 872.00 18.00 130.00 Open 397.8 1218.74 1218.86 0.06 0.00 1557 P.757 1014.00 18.00 130.00 Open 376.72 1218.58 1218.58 0.06 0.00 0.00 1558 P.758 346.00 18.00 130.00 Open 376.72 1218.58 1218.59 0.06 0.00 0.00 1558 P.758 346.00 18.00 130.00 Open 375.32 1218.58 0.06 0.00 0.00 1558 P.758 346.00 18.00 130.00 Open 375.33 1218.68 1218.88 0.06 0.00 0.00 1558 P.758 1810.00 18.00 130.00 Open 375.33 1218.43 1218.38 0.06 0.00 0.00 1558 P.758 1810.00 18.00 130.00 Open 375.33 1218.43 1218.38 0.06 0.00 0.00 1558 P.758 1815.00 18.00 130.00 Open 375.33 1218.43 1218.38 0.06 0.00 0.00 1558 P.758 1815.00 18.00 130.00 Open 375.33 1218.39 1218.33 0.00 0.00 0.00 1558 P.758 1815.00 18.00 130.00 Open 375.33 1218.39 1218.33 0.00 0.00 0.00 1558 P.758 1815.00 18.00 130.00 Open 375.33 1218.30 1218.33 0.00 0.00 0.00 1558 P.758 1815.00 18.00 0.00 0.00 0.00 0.00 0.00 0.00											
1559 P.758 946.00 18.00 130.00 Open 376.22 1218.55 1218.50 0.05 0.00 0.00 16501 130.00 Open 375.32 1218.65 1218.65 0.05 0.00 0.00 15602 0.00 0.											
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1567 P-764 1240											
1569	1567	P-763		18.00	130.00	Open	375.93	1218.50	1218.43		0.00
1571 P-766 1889.00 18.00 19.00 Open 342.82 1218.22 1218.23 0.09 0.00 0.00 1575 P-768 2.00 2.00 130.00 Open 0.48 1054.32 1054.32 0.00 0.00 0.00 1575 P-768 2.00 2.00 130.00 Open 0.48 1054.32 1059.88 0.00 0.0											
1575 P-769 C.00 2.00 130.00 Open -0.40 1216.98 1216.98 0.00 0.00 0.00 1581 P-770 6.00 2.00 130.00 Open -0.88 1059.86 1059.99 0.00 0.00 0.00 1581 P-770 6.00 2.00 130.00 Open 0.28 1059.99 1059.99 0.00 0.00 0.00 1586 P-771 10.00 2.00 130.00 Open 0.28 1059.99 1059.99 0.00 0.00 0.00 1586 P-772 10.00 2.00 130.00 Open 0.28 1059.99 1059.99 0.00 0.00 0.00 1586 P-773 12.00 2.00 130.00 Open 0.28 1059.99 1059.99 0.00	1571	P-766	1869.00	18.00	130.00	Open	342.82	1218.32	1218.23	0.09	0.00
1578 P-769											
19586 P-772 10.00 2.00 130.00 Open 0.28 1099.99 1099.99 0.00 0.00 10598 P-773 12.00 2.00 130.00 Open 0.28 1091.99 1099.99 0.00 0.00 15989 P-773 12.00 2.00 130.00 Open 0.28 1091.98 1091.98 0.00 0.00 15989 P-774 13.00 2.00 130.00 Open 0.88 1051.98 1051.98 0.00 0.00 1099 P-776 15.00 2.00 130.00 Open 0.88 1051.98 1051.98 0.00 0.00 100 1598 P-776 15.00 2.00 130.00 Open 0.88 1051.98 1051.98 0.00 0.00 100 1598 P-776 15.00 2.00 130.00 Open 0.88 1051.98 1051.98 0.00 0.00 100 1598 P-776 150.00 2.00 130.00 Open 0.88 1051.98 1051.98 0.00 0.00 100 1500 P-779 150.00 2.00 130.00 Open 0.88 1051.98 1051.98 0.00 0.00 1500 P-779 150.00 2.00 130.00 Open 0.88 1051.98 1051.99 0.00 0.00 1500 P-780 150.00 2.00 130.00 Open 0.88 1051.98 1069.99 0.00 0.00 1500 P-780 150.00 2.00 130.00 Open 0.88 1051.98 1069.99 0.00 0.00 1501.99 100 P-780 150.00 2.00 130.00 Open 0.88 1051.98 1069.99 0.00 0.00 1501.99 100 P-780 150.00 2.00 130.00 Open 0.88 1051.98 1069.99 0.00 0.00 1501.99 100 P-780 150.00 2.00 130.00 Open 0.88 1051.98 1069.99 0.00 0.00 1501.99 100 P-780 150.00 0.00 1501.99 100 P-780 1501.99 100 P-		P-769									
1586 P-772											
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1606 P-778 15.00 2.00 130.00 Open 0.68 1051.97 1051.97 0.00 0.00 1609 P-780 16.00 2.00 130.00 Open 1.44 1064.93 1064.93 0.00 0.00 1615 P-781 16.00 2.00 130.00 Open 1.44 1064.93 1064.93 0.00 0.00 0.00 1615 P-782 17.00 2.00 130.00 Open 0.68 1051.36 1051.36 0.00 0.00 0.00 1615 P-782 17.00 2.00 130.00 Open 0.68 1051.36 1051.38 0.00 0.00 0.00 1615 P-782 17.00 2.00 130.00 Open 0.68 1051.36 1051.38 0.00 0.00 0.00 1621 P-784 26.00 2.00 130.00 Open 0.68 1051.36 1051.36 0.00 0.00 1624 P-785 19.00 2.00 130.00 Open 0.46 1217.75 1217.75 0.00 0.00 1627 P-786 19.00 2.00 130.00 Open 0.48 1052.02 1052.02 0.00 0.00 1629 P-787 31.00 2.00 130.00 Open 0.48 1052.02 1052.02 0.00 0.00 1629 P-787 31.00 2.00 130.00 Open 0.48 1052.02 1052.02 0.00 0.00 1634 P-789 25.00 2.00 130.00 Open 0.48 917.75 9127.73 0.02 0.00 1634 P-789 25.00 2.00 130.00 Open 0.46 911.75 9127.73 0.02 0.00											
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1609 P.780 16.00 2.00 130.00 Open 1.44 1064.93 1064.93 0.00 0.00 0.00 1615 P.782 17.00 2.00 130.00 Open 0.68 1051.36 1051.36 0.00 0.00 0.00 1615 P.782 17.00 2.00 130.00 Open 0.68 1051.36 1051.36 0.00 0.00 0.00 1621 P.784 26.00 2.00 130.00 Open 0.68 1051.36 1051.38 0.00 0.00 0.00 1621 P.784 26.00 2.00 130.00 Open 0.46 1217.75 1217.75 0.00 0.00 0.00 1627 P.786 19.00 2.00 130.00 Open 0.48 1052.02 1052.02 0.00 0.00 1627 P.786 19.00 2.00 130.00 Open 0.48 1052.02 1052.02 0.00 0.00 1629 P.787 31.00 2.00 130.00 Open 0.48 1052.02 1052.02 0.00 0.00 1632 P.788 25.00 2.00 130.00 Open 0.48 1052.02 1052.02 0.00 0.00 1634 P.789 25.00 2.00 130.00 Open 0.48 9117.59 117.75 1217.73 0.02 0.00 1634 P.789 25.00 2.00 130.00 Open 0.46 9117.59 117.75 1217.73 0.00 0.00 1634 P.789 25.00 2.00 130.00 Open 0.46 9117.59 9117.59 0.00 0.											
1615	1609	P-780	16.00	2.00	130.00	Open	1.44	1064.93	1064.93	0.00	0.00
1618											
1627 P-785 19.00 2.00 130.00 Open 0.68 1051.95 1051.95 0.00 0.00 1629 P-787 31.00 2.00 130.00 Open 0.48 1052.02 1052.02 0.00 0.00 1629 P-787 31.00 2.00 130.00 Open 1.68 1052.02 1052.02 0.00 0.00 1634 P-789 26.00 2.00 130.00 Open 1.68 1052.42 0.00 0.00 0.00 1634 P-789 26.00 2.00 130.00 Open 0.46 991.17 991.17 0.00 0.00 1634 P-789 26.00 2.00 130.00 Open 0.46 991.17 991.17 0.00 0.00 1640 P-791 28.00 2.00 130.00 Open 0.40 991.17 991.17 0.00 0.00 1640 P-791 28.00 2.00 130.00 Open 0.40 991.15 963.60 0.00 0.00 1645 P-783 33.00 2.00 130.00 Open 1.58 963.61 963.60 0.00 0.00 1645 P-793 33.00 2.00 130.00 Open 4.37 961.59 961.55 0.00 0.00 1646 P-794 34.00 2.00 130.00 Open 4.37 961.59 961.57 0.02 0.00 1648 P-795 36.00 2.00 130.00 Open 4.37 961.59 961.57 0.02 0.00 1681 P-796 36.00 2.00 130.00 Open 4.19 1059.99 100 0.00 0.00 1685 P-797 43.00 2.00 130.00 Open 4.19 1059.99 100 0.00 0.00 1685 P-798 48.00 2.00 130.00 Open 4.37 1059.99 100 0.00 0.00 1685 P-799 48.00 2.00 130.00 Open 4.38 1054.88 1064.88 0.00 0.00 1686 P-800 51.00 2.00 130.00 Open 4.38 1054.88 1064.88 0.00 0.00 1686 P-800 51.00 2.00 130.00 Open 4.23 1054.33 1054.32 0.00 0.00 1686 P-801 54.00 2.00 130.00 Open 0.28 1053.16 1053.16 0.00 0.00 1686 P-802 53.00 2.00 130.00 Open 0.28 1053.16 1053.16 0.00 0.00 1686 P-803 232.00 2.00 130.00 Open 0.29 993.43 993.43 0.00 0.00 1686 P-803 232.00 2.00 130.00 Open 0.29 993.43 993.43 0.00 0.00 1686 P-803 368.00 2.00 130.00 Open 0.20 993.43 993.43 0.00 0.00 1686 P-803 368.00 2.00 130.00 Open 0.20 993.43 993.43 0.00	1618	P-783	18.00	2.00	130.00	Open	0.08	1051.39	1051.39	0.00	0.00
1627											
1632 P.788 25.00 2.00 130.00 Open 1.68 1052.43 1052.42 0.00 0.00 0.00 1637 P.790 28.00 2.00 130.00 Open 0.46 991.17 0.00 0.00 1640 P.791 28.00 2.00 130.00 Open 0.40 973.48 973.48 0.00 0.00 0.00 1642 P.792 30.00 2.00 130.00 Open 0.20 961.56 0.00 0.00 0.00 1645 P.792 30.00 2.00 130.00 Open 0.20 1216.98 0.00 0.00 0.00 1645 P.793 33.00 2.00 130.00 Open 0.20 1216.98 0.00 0.00 0.00 1647 P.794 34.00 2.00 130.00 Open 0.48 1201.27 0.00 0.00 1648 P.795 36.00 2.00 130.00 Open 0.48 1201.27 0.00 0.00 1648 P.796 40.00 2.00 130.00 Open 0.48 1201.27 0.00 0.00 1653 P.797 43.00 2.00 130.00 Open 0.48 1201.27 0.00 0.00 1653 P.797 43.00 2.00 130.00 Open 0.48 1064.88 1064.88 0.00 0.00 1665 P.798 48.00 2.00 130.00 Open 0.20 30.00 Open 0.48 1064.83 1064.88 0.00 0.00 1665 P.799 48.00 2.00 130.00 Open 0.20 933.43 1054.32 0.00 0.00 1666 P.800 S.100 2.00 130.00 Open 0.20 933.43 1054.32 0.00 0.00 1666 P.801 S.300 2.00 130.00 Open 0.20 933.43 939.43 0.00 0.00 1667 P.805 S.300 2.00 130.00 Open 0.25 1322.91 1322.91 0.02 0.00 1677 P.805 74.00 2.00 130.00 Open 0.55 1322.91 1322.91 0.00 0.00 1677 P.805 74.00 2.00 130.00 Open 0.20 933.43 939.42 0.00 0.00 1681 P.807 S.800 2.00 130.00 Open 0.20 933.48 939.42 0.00 0.00 1686 P.803 825.00 2.00 130.00 Open 0.20 933.44 939.42 0.00 0.00 1677 P.806 74.00 2.00 130.00 Open 0.20 933.44 939.42 0.00 0.00 1677 P.806 74.00 2.00 130.00 Open 0.88 1051.96 1051.96 0.00 0.00 1689 P.813 68.00 2.00 130.00 Open 0.88 1051.96 1051.96 0.00 0.00 1689 P.813 68.00 2.00 130.00 Open 0.88 1051.96 1051.96 0.00 0	1627	P-786	19.00	2.00		Open	0.48			0.00	0.00
1634 P-788 26.00 2.00 130.00 Open 0.46 991.17 991.17 0.00 0.00 1640 P-791 28.00 2.00 130.00 Open 0.40 973.48 0.00 0.00 1641 P-792 28.00 2.00 130.00 Open 0.20 981.56 961.56 0.00 0.00 1645 P-793 33.00 2.00 130.00 Open 1.58 963.61 0.00 0.00 1646 P-793 33.00 2.00 130.00 Open 4.37 981.59 961.57 0.02 0.00 1647 P-794 34.00 2.00 130.00 Open 4.37 981.59 961.57 0.02 0.00 1648 P-785 36.00 2.00 130.00 Open 4.37 981.59 961.57 0.02 0.00 1651 P-786 40.00 2.00 130.00 Open 4.37 981.59 961.59 0.00 0.00 1653 P-797 43.00 2.00 130.00 Open 4.38 1064.88 106											
1640 P-791 28.00 2.00 130.00 Open 0.20 961.56 961.56 0.00 0.00 1645 P-793 33.00 2.00 130.00 Open -0.20 1216.98 1216.98 0.00 0.00 1647 P-794 34.00 2.00 130.00 Open -0.20 1216.98 1216.98 0.00 0.00 1648 P-795 36.00 2.00 130.00 Open -0.47 961.57 0.02 0.00 1648 P-796 36.00 2.00 130.00 Open -1.19 1059.99 1059.99 0.00 0.00 1651 P-796 43.00 2.00 130.00 Open -1.19 1059.99 1059.99 0.00 0.00 1656 P-798 43.00 2.00 130.00 Open -0.88 1051.96 1051.96 0.00 0.00 1666 P-798 43.00 2.00 130.00 Open -0.88 1051.96 1051.96 0.00 0.00 1666 P-800 51.00 2.00 130.00 Open 0.20 993.43 993.43 0.00 0.00 1666 P-802 53.00 2.00 130.00 Open 0.20 993.43 993.43 0.00 0.00 1666 P-802 53.00 2.00 130.00 Open 0.20 993.43 1052.91 0.02 0.00 1677 P-804 56.00 2.00 130.00 Open 0.20 993.42 933.42 0.00 0.00 1677 P-804 56.00 2.00 130.00 Open 0.20 993.42 933.42 0.00 0.00 1676 P-803 574.00 2.00 130.00 Open 0.20 993.42 933.42 0.00 0.00 1676 P-806 58.00 2.00 130.00 Open 0.20 993.42 933.42 0.00 0.00 1676 P-806 58.00 2.00 130.00 Open 0.20 993.42 933.42 0.00 0.00 1676 P-806 58.00 2.00 130.00 Open 0.20 993.42 933.42 0.00 0.00 1676 P-806 58.00 2.00 130.00 Open 0.20 973.48 973.48 0.00 0.00 1684 P-808 368.00 2.00 130.00 Open 0.20 973.48 973.48 0.00 0.00 1689 P-810 64.00 2.00 130.00 Open 0.20 973.48 973.48 0.00 0.00 1689 P-810 64.00 2.00 130.00 Open 0.48 1051.97 1051.96 0.00 0.00 1689 P-813 88.00 2.00 130.00 Open 0.48 1051.97 1051.97 0.00 0.00 1700 P-815 72.00 2.00 130.00 Open 0.48 1051.97 1051.97 0.00 0.00 1700 P-815 72.00 2.00 130.00 Open 0.48 1051.97 1051.97											
1642 P-792 30.00 2.00 130.00 Open 1.58 963.61 963.60 0.00 0.00 1647 P-794 34.00 2.00 130.00 Open 4.37 961.59 961.57 0.02 0.00 1648 P-795 36.00 2.00 130.00 Open 4.37 961.59 961.57 0.02 0.00 1648 P-796 40.00 2.00 130.00 Open 0.48 1201.27 1201.27 0.00 0.00 1653 P-797 43.00 2.00 130.00 Open -0.48 1064.88 1064.88 0.00 0.00 1656 P-798 43.00 2.00 130.00 Open -0.48 1064.88 1064.88 0.00 0.00 1656 P-798 48.00 2.00 130.00 Open 1.23 1054.33 1054.32 0.00 0.00 1666 P-800 51.00 2.00 130.00 Open 0.28 1053.16 1053.16 0.00 0.00 1666 P-800 54.00 2.00 130.00 Open 0.28 1053.16 1053.16 0.00 0.00 1668 P-802 53.00 2.00 130.00 Open 0.28 1053.16 1053.16 0.00 0.00 16672 P-804 56.00 2.00 130.00 Open 0.55 1322.91 1322.91 0.00 0.00 16772 P-804 56.00 2.00 130.00 Open 0.20 973.48 973.48 0.00 0.00 1678 P-805 74.00 2.00 130.00 Open 0.20 973.48 973.48 0.00 0.00 1678 P-806 58.00 2.00 130.00 Open 0.20 973.48 973.48 0.00 0.00 1678 P-806 58.00 2.00 130.00 Open 0.20 973.48 973.48 0.00 0.00 1684 P-808 368.00 2.00 130.00 Open 0.20 973.48 973.48 0.00 0.00 1684 P-808 368.00 2.00 130.00 Open 0.188 1051.96 1051.96 0.00 0.00 1686 P-810 64.00 2.00 130.00 Open 0.188 1051.96 1051.96 0.00 0.00 1686 P-810 64.00 2.00 130.00 Open 0.20 973.48 973.48 0.00 0.00 1686 P-811 67.00 2.00 130.00 Open 0.88 1051.96 1051.96 0.00 0.00 1686 P-811 67.00 2.00 130.00 Open 0.88 1051.97 1051.96 0.00 0.00 1686 P-811 67.00 2.00 130.00 Open 0.48 1051.97 1051.96 0.00 0.00 1699 P-813 68.00 2.00 130.00 Open 0.48 1051.97 1051.96 0.00 0.00 1705 P-815 72.00 2.00 130.00 Open 0.48											
1647											
1648											
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1660											
1863											
1666											
1672	1666	P-802	53.00	2.00	130.00	Open	3.51	1022.93	1022.91	0.02	0.00
1675											
1681	1675	P-805	74.00	2.00	130.00	Open	0.20	973.48	973.48	0.00	0.00
1684											
1690 P-810 64.00 2.00 130.00 Open 1.88 1051.97 1051.96 0.01 0.00 1693 P-811 67.00 2.00 130.00 Open 0.48 1051.72 1051.72 0.00 0.00 1696 P-812 67.00 2.00 130.00 Open 0.48 1051.72 1051.72 0.00 0.00 1699 P-813 68.00 2.00 130.00 Open 0.68 1051.98 1051.97 0.00 0.00 1702 P-814 70.00 2.00 130.00 Open 0.48 1051.95 1051.95 0.00 0.00 1705 P-815 72.00 2.00 130.00 Open 0.20 973.48 973.48 0.00 0.00 1708 P-816 74.00 2.00 130.00 Open 0.20 973.48 973.48 0.00 0.00 1710 P-817 75.00 2.00 130.00 Open 0.68 1053.03 1053.02 0.00 0.00 1711 P-818 81.00 2.00 130.00 Open 0.68 1053.03 1053.02 0.00 0.00 1716 P-819 287.00 2.00 130.00 Open 0.68 1053.03 1053.02 0.00 0.00 1719 P-820 120.00 2.00 130.00 Open 0.48 1051.96 1051.96 0.00 0.00 1721 P-821 98.00 2.00 130.00 Open 0.48 1051.97 1051.97 0.00 0.00 1721 P-822 103.00 2.00 130.00 Open 0.48 1051.97 1051.97 0.00 0.00 1727 P-823 88.00 2.00 130.00 Open 0.48 1055.31 1055.31 0.00 0.00 1730 P-824 100.00 2.00 130.00 Open 0.48 1055.31 1055.31 0.00 0.00 1733 P-825 96.00 2.00 130.00 Open 0.48 1055.31 1055.31 0.00 0.00 1736 P-826 103.00 2.00 130.00 Open 0.68 1059.74 1059.74 0.00 0.00 1737 P-828 102.00 2.00 130.00 Open 0.68 1059.74 1059.74 0.00 0.00 1736 P-826 103.00 2.00 130.00 Open 0.48 1055.31 1055.31 0.00 0.00 1736 P-826 103.00 2.00 130.00 Open 0.68 1059.74 1059.74 0.00 0.00 1736 P-826 103.00 2.00 130.00 Open 0.68 1055.31 1055.31 0.00 0.00 1736 P-828 102.00 2.00 130.00 Open 0.68 1055.31 1055.31 0.00 0.00 1737 P-833 133.00 2.00 130.00 Open 0.68 1056.79 1056.78 0.00											
1893											
1696											
1702			67.00		130.00	Open	0.48				0.00
1705											
1710	1705	P-815	72.00	2.00	130.00	Open	-0.88	1051.95	1051.95	0.00	0.00
1713											
1719	1713	P-818	81.00	2.00	130.00	Open	0.68	1053.03	1053.02	0.00	0.00
1721											
1724 P-822 103.00 2.00 130.00 Open 0.48 1663.87 1063.87 0.00 0.00 1727 P-823 88.00 2.00 130.00 Open 0.89 967.13 967.13 0.00 0.00 1730 P-824 100.00 2.00 130.00 Open 0.48 1055.31 1055.31 0.00 0.00 1733 P-825 96.00 2.00 130.00 Open -0.46 991.15 991.15 0.00 0.00 1736 P-826 103.00 2.00 130.00 Open -0.68 1055.74 1059.74 0.00 0.00 1739 P-827 112.00 2.00 130.00 Open 0.68 1055.31 1055.31 0.00 0.00 1742 P-828 102.00 2.00 130.00 Open 0.48 1064.91 1064.91 0.00 0.00 1745 P-829 101.00 2.00 130.00 Open <td>1721</td> <td>P-821</td> <td>98.00</td> <td>2.00</td> <td>130.00</td> <td>Open</td> <td>0.48</td> <td>1051.97</td> <td>1051.97</td> <td>0.00</td> <td>0.00</td>	1721	P-821	98.00	2.00	130.00	Open	0.48	1051.97	1051.97	0.00	0.00
1730 P-824 100.00 2.00 130.00 Open 0.48 1055.31 1055.31 0.00 0.00 1733 P-825 96.00 2.00 130.00 Open -0.46 991.15 991.15 0.00 0.00 1736 P-826 103.00 2.00 130.00 Open 0.68 1055.31 1055.31 0.00 0.00 1739 P-827 112.00 2.00 130.00 Open 0.68 1055.31 1055.31 0.00 0.00 1742 P-828 102.00 2.00 130.00 Open 0.48 1064.91 1064.91 0.00 0.00 1745 P-829 101.00 2.00 130.00 Open 0.48 1064.91 1064.91 0.00 0.00 1748 P-830 143.00 2.00 130.00 Open -0.68 1053.41 1053.42 0.00 0.00 1751 P-831 133.00 2.00 130.00 Open<				2.00							
1733 P-825 96.00 2.00 130.00 Open -0.46 991.15 991.15 0.00 0.00 1736 P-826 103.00 2.00 130.00 Open 0.68 1059.74 1059.74 0.00 0.00 1739 P-827 112.00 2.00 130.00 Open 0.68 1055.31 1055.31 0.00 0.00 1742 P-828 102.00 2.00 130.00 Open 0.48 1064.91 1064.91 0.00 0.00 1745 P-829 101.00 2.00 130.00 Open 0.48 1054.31 1064.91 0.00 0.00 1748 P-830 143.00 2.00 130.00 Open 0.68 1057.53 1057.52 0.00 0.00 1751 P-831 133.00 2.00 130.00 Open 0.88 1057.53 1057.52 0.00 0.00 1754 P-832 134.00 2.00 130.00 Open </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
1739 P-827 112.00 2.00 130.00 Open 0.68 1055.31 1055.31 0.00 0.00 1742 P-828 102.00 2.00 130.00 Open 0.48 1064.91 1064.91 0.00 0.00 1745 P-829 101.00 2.00 130.00 Open 0.48 1054.31 1054.31 0.00 0.00 1748 P-830 143.00 2.00 130.00 Open 0.68 1053.41 1053.42 0.00 0.00 1751 P-831 133.00 2.00 130.00 Open 0.88 1057.53 1057.52 0.00 0.00 1754 P-832 134.00 2.00 130.00 Open 0.48 1052.99 1052.99 0.00 0.00 1757 P-833 128.00 2.00 130.00 Open 0.48 1056.79 1056.78 0.00 0.00	1733	P-825	96.00	2.00	130.00	Open	-0.46	991.15	991.15	0.00	0.00
1742 P-828 102.00 2.00 130.00 Open 0.48 1064.91 1064.91 0.00 0.00 1745 P-829 101.00 2.00 130.00 Open 0.48 1054.31 1054.31 0.00 0.00 1748 P-830 143.00 2.00 130.00 Open 0.68 1053.41 1053.42 0.00 0.00 1751 P-831 133.00 2.00 130.00 Open 0.88 1057.53 1057.52 0.00 0.00 1754 P-832 134.00 2.00 130.00 Open 0.48 1052.99 1052.99 0.00 0.00 1757 P-833 128.00 2.00 130.00 Open 0.68 1056.79 1056.78 0.00 0.00											
1748 P-830 143.00 2.00 130.00 Open -0.68 1053.41 1053.42 0.00 0.00 1751 P-831 133.00 2.00 130.00 Open 0.88 1057.53 1057.52 0.00 0.00 1754 P-832 134.00 2.00 130.00 Open 0.48 1052.99 1052.99 0.00 0.00 1757 P-833 128.00 2.00 130.00 Open 0.68 1056.79 1056.78 0.00 0.00	1742	P-828	102.00	2.00	130.00	Open	0.48	1064.91	1064.91	0.00	0.00
1751 P-831 133.00 2.00 130.00 Open 0.88 1057.53 1057.52 0.00 0.00 1754 P-832 134.00 2.00 130.00 Open 0.48 1052.99 1052.99 0.00 0.00 1757 P-833 128.00 2.00 130.00 Open 0.68 1056.79 1056.78 0.00 0.00											
1757 P-833 128.00 2.00 130.00 Open 0.68 1056.79 1056.78 0.00 0.00	1751	P-831	133.00	2.00	130.00	Open	0.88	1057.53	1057.52	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
1763	P-835	114.00	2.00	130.00	Open	0.01	1052.50	1052.50	0.00	0.00
1766 1768	P-836 P-837	164.00 195.00	2.00 2.00	130.00 130.00	Open Open	0.48 0.55	1059.99 988.98	1059.99 988.98	0.00	0.00
1771	P-838	124.00	2.00	130.00	Open	-0.87	1052.50	1052.51	0.00	0.00
1773 1776	P-839 P-840	165.00 125.00	2.00 2.00	130.00 130.00	Open Open	0.88 1.84	1059.75 1051.74	1059.75 1051.72	0.01 0.02	0.00
1778	P-841	126.00	2.00	130.00	Open	1.68	1051.21	1051.19	0.01	0.00
1781 1783	P-842 P-843	126.00 171.00	2.00 2.00	130.00 130.00	Open Open	0.48 0.88	1054.31 1057.53	1054.31 1057.52	0.00 0.01	0.00
1786	P-844	159.00	2.00	130.00	Open	0.88	1057.59	1057.58	0.01	0.00
1789 1792	P-845 P-846	155.00 159.00	2.00 2.00	130.00 130.00	Open Open	0.88 0.88	1060.74 1059.74	1060.74 1059.74	0.01 0.01	0.00
1795	P-847	174.00	2.00	130.00	Open	-0.48	1056.39	1059.74	0.00	0.00
1798	P-848	132.00	2.00	130.00	Open Open	0.28 0.28	1052.50	1052.49 981.47	0.00	0.00
1800 1803	P-849 P-850	149.00 134.00	2.00 2.00	130.00 130.00	Open	0.28	981.47 1064.86	1064.86	0.00	0.00
1806 1809	P-851 P-852	187.00 134.00	2.00 2.00	130.00 130.00	Open Open	0.48 0.89	1060.15 1052.51	1060.15 1052.50	0.00	0.00
1811	P-853	192.00	2.00	130.00	Open	0.48	1060.26	1060.26	0.00	0.00
1814 1817	P-854 P-855	213.00 213.00	2.00 2.00	130.00 130.00	Open Open	0.68 -0.88	1052.99	1052.98 1056.39	0.00 0.01	0.00
1820	P-856	175.00	2.00	130.00	Open	0.68	1056.38 1053.00	1056.59	0.00	0.00
1823 1826	P-857	139.00	2.00	130.00	Open	0.68	1053.97	1053.97	0.00	0.00
1828	P-858 P-859	225.00 149.00	2.00 2.00	130.00 130.00	Open Open	0.88 0.88	1064.93 1051.72	1064.93 1051.72	0.01 0.01	0.00
1830	P-860	212.00	2.00	130.00	Open	0.48	1057.13	1057.12	0.00	0.00
1833 1836	P-861 P-862	193.00 220.00	2.00 2.00	130.00 130.00	Open Open	0.48 0.48	1064.81 1064.91	1064.81 1064.91	0.00	0.00
1839	P-863	290.00	2.00	130.00	Open	1.08	1064.81	1064.80	0.01	0.00
1842 1845	P-864 P-865	209.00 208.00	2.00 2.00	130.00 130.00	Open Open	0.88 0.68	1064.93 1057.53	1064.93 1057.52	0.01 0.00	0.00
1848	P-866	172.00	2.00	130.00	Open	-0.48	1051.96	1051.96	0.00	0.00
1851 1854	P-867 P-868	207.00 244.00	2.00 2.00	130.00 130.00	Open Open	2.49 -0.88	1056.79 1059.98	1056.74 1059.99	0.05 0.01	0.00
1857	P-869	181.00	2.00	130.00	Open	0.68	1054.25	1054.24	0.00	0.00
1860 1863	P-870 P-871	301.00 199.00	2.00 2.00	130.00 130.00	Open Open	1.28 0.68	1064.82 1052.50	1064.79 1052.50	0.02	0.00
1866	P-872	197.00	2.00	130.00	Open	1.28	1064.93	1064.92	0.01	0.00
1869 1872	P-873 P-874	274.00 219.00	2.00 2.00	130.00 130.00	Open Open	0.48 0.46	1064.82 1022.87	1064.82 1022.86	0.00	0.00
1875	P-875	206.00	2.00	130.00	Open	1.48	1060.74	1060.72	0.02	0.00
1878 1880	P-876 P-877	251.00 230.00	2.00 2.00	130.00 130.00	Open Open	0.48 -1.28	1054.25 1051.83	1054.25 1051.84	0.00 0.02	0.00
1883	P-878	215.00	2.00	130.00	Open	-0.88	1064.92	1064.93	0.01	0.00
1886 1888	P-879 P-880	264.00 238.00	2.00 2.00	130.00 130.00	Open Open	0.48 0.88	1052.99 1052.51	1052.99 1052.50	0.00 0.01	0.00
1891	P-881	254.00	2.00	130.00	Open	0.63	988.98	988.98	0.00	0.00
1894 1897	P-882 P-883	222.00 221.00	2.00 2.00	130.00 130.00	Open Open	2.09 -2.09	1051.21 1051.25	1051.17 1051.28	0.04 0.04	0.00
1900	P-884	244.00	2.00	130.00	Open	-0.88	1051.83	1051.83	0.04	0.00
1902 1905	P-885 P-886	275.00 223.00	2.00 2.00	130.00 130.00	Open Open	0.48 -0.68	1056.91 1054.32	1056.91 1054.32	0.00	0.00
1905	P-887	227.00	2.00	130.00	Open	0.55	973.48	973.48	0.00	0.00
1910 1913	P-888 P-889	234.00 233.00	2.00 2.00	130.00 130.00	Open Open	1.68 0.68	1064.98 1054.25	1064.95 1054.24	0.03	0.00
1916	P-890	270.00	2.00	130.00	Open	0.48	1054.25	1054.24	0.00	0.00
1919 1922	P-891 P-892	251.00 261.00	2.00 2.00	130.00 130.00	Open Open	0.68 -0.88	1054.24 1051.83	1054.23 1051.84	0.01 0.01	0.00
1924	P-893	253.00	2.00	130.00	Open	0.88	1061.65	1051.84	0.01	0.00
1927 1930	P-894 P-895	269.00 258.00	2.00 2.00	130.00 130.00	Open Open	0.29 -0.37	993.35 967.07	993.34 967.07	0.00	0.00
1933	P-896	262.00	2.00	130.00	Open	-0.37	1064.90	1064.90	0.00	0.00
1936 1939	P-897 P-898	309.00 268.00	2.00 2.00	130.00 130.00	Open Open	-0.63 0.88	993.31 1053.84	993.32 1053.83	0.01 0.01	0.00
1942	P-899	290.00	2.00	130.00	Open	0.88	1064.97	1064.96	0.01	0.00
1945	P-900	281.00	2.00	130.00	Open	0.88	1053.84	1053.83	0.01	0.00
1948 1951	P-901 P-902	298.00 292.00	2.00 2.00	130.00 130.00	Open Open	0.40 0.88	1322.91 1064.94	1322.91 1064.93	0.00 0.01	0.00
1954	P-903	289.00	2.00	130.00	Open	0.37	993.34	993.34	0.00	0.00
1957 1960	P-904 P-905	310.00 308.00	2.00 2.00	130.00 130.00	Open Open	0.48 -1.08	1064.94 1054.06	1064.94 1054.07	0.00 0.02	0.00
1962	P-906	308.00	2.00	130.00	Open	0.88	1054.24	1054.23	0.01	0.00
1965 1968	P-907 P-908	317.00 321.00	2.00 2.00	130.00 130.00	Open Open	1.08 0.72	1064.94 963.60	1064.92 963.60	0.02 0.01	0.00 0.00
1971	P-909	315.00	2.00	130.00	Open	-0.68	1061.94	1061.95	0.01	0.00
1974 1977	P-910 P-911	316.00 324.00	2.00 2.00	130.00 130.00	Open Open	0.46 0.68	967.07 1064.96	967.07 1064.95	0.00 0.01	0.00
1980	P-912	337.00	2.00	130.00	Open	0.96	1064.93	1064.92	0.01	0.00
1982 1985	P-913 P-914	351.00 355.00	2.00 2.00	130.00 130.00	Open Open	-0.88 0.55	1064.92 973.48	1064.93 973.47	0.01 0.01	0.00
1988	P-915	374.00	2.00	130.00	Open	0.68	1064.93	1064.92	0.01	0.00
1991 1994	P-916 P-917	390.00 359.00	2.00 2.00	130.00 130.00	Open Open	0.46 0.88	993.32 1201.27	993.32 1201.26	0.00 0.01	0.00
1997	P-918	423.00	2.00	130.00	Open	-0.55	993.36	993.37	0.01	0.00
2000 2003	P-919 P-920	373.00 374.00	2.00 2.00	130.00 130.00	Open Open	0.63 0.72	1022.87 993.38	1022.86 993.37	0.01 0.01	0.00
2006	P-921	374.00	2.00	130.00	Open	-1.88	1053.94	1053.99	0.05	0.00
2008 2011	P-922 P-923	397.00 407.00	2.00 2.00	130.00 130.00	Open Open	1.28 -0.89	1059.74 993.34	1059.72 993.35	0.03 0.01	0.00
2014	P-924	504.00	2.00	130.00	Open	0.46	962.42	962.41	0.01	0.00
2016 2019	P-925 P-926	714.00 572.00	2.00 2.00	130.00 130.00	Open Open	0.37 0.72	1022.90 1022.91	1022.89 1022.90	0.01 0.01	0.00
2021	P-927	568.00	2.00	130.00	Open	0.20	1216.98	1216.98	0.00	0.00
2023 2025	P-928 P-929	755.00 892.00	2.00 2.00	130.00 130.00	Open Open	-0.37 0.55	961.56 991.16	961.57 991.15	0.01 0.01	0.00
2028	P-930	903.00	2.00	130.00	Open	0.08	873.78	873.78	0.00	0.00
2031 2034	P-931 P-932	974.00 1630.00	2.00 2.00	130.00 130.00	Open Open	-0.68 -1.06	1052.14 1022.80	1052.16 1022.88	0.02 0.08	0.00 0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
2037	P-933	6.00	20.00	130.00	Open	3.56	1218.03	1218.03	0.00	0.00
2040 2042	P-934 P-935	7.00 16.00	20.00 20.00	130.00 130.00	Open Open	0.20 0.20	1218.03 1218.03	1218.03 1218.03	0.00	0.00
2045	P-936	24.00	20.00	130.00	Open	3.16	1218.03	1218.03	0.00	0.00
2047	P-937	62.00	20.00	130.00	Open	0.20	1218.03	1218.03	0.00	0.00
2049 2051	P-938 P-939	203.00 291.00	20.00 20.00	130.00 130.00	Open Open	3.96 40.90	1218.03 1218.03	1218.03 1218.03	0.00	0.00
2054	P-940	326.00	20.00	130.00	Open	-201.13	1064.99	1064.99	0.00	0.00
2056 2057	P-941 P-942	446.00 526.00	20.00 20.00	130.00 130.00	Open Open	43.00 4.62	1218.04 1218.03	1218.03 1218.03	0.00	0.00
2058	P-943	604.00	20.00	130.00	Open	36.75	1218.03	1218.03	0.00	0.00
2060 2063	P-944 P-945	679.00 682.00	20.00 20.00	130.00 130.00	Open Open	-1.31 -168.27	1064.96 1064.97	1064.96 1064.98	0.00 0.01	0.00
2063	P-947	681.00	20.00	130.00	Open	37.81	1218.03	1218.03	0.00	0.00
2070	P-948	693.00	20.00	130.00	Open	37.23	1218.03	1218.03	0.00	0.00
2071 2073	P-949 P-950	698.00 772.00	20.00 20.00	130.00 130.00	Open Open	39.43 -0.08	1218.03 1064.96	1218.03 1064.96	0.00	0.00
2075	P-951	1107.00	20.00	130.00	Open	36.26	1218.03	1218.03	0.00	0.00
2076 2077	P-952 P-953	1245.00 1364.00	20.00 20.00	130.00 130.00	Open Open	-170.98 38.86	1064.98 1218.03	1064.99 1218.03	0.01 0.00	0.00
2079	P-954	1503.00	20.00	130.00	Open	38.29	1218.03	1218.03	0.00	0.00
2080 2082	P-955 P-956	2209.00 4305.00	20.00 20.00	130.00 130.00	Open Open	-52.64 -57.90	1064.97 1064.97	1064.97 1064.97	0.00	0.00
2082	P-957	9624.00	20.00	130.00	Open	-52.37	1064.96	1064.97	0.00	0.00
2084	P-958	1.00	3.00	130.00	Open	-0.63	1218.02	1218.02	0.00	0.00
2087 2088	P-959 P-960	6.00 8.00	3.00 3.00	130.00 130.00	Open Open	-0.60 1.09	1216.98 1218.02	1216.98 1218.02	0.00	0.00
2090	P-961	10.00	3.00	130.00	Open	-1.81	993.43	993.43	0.00	0.00
2093 2096	P-962 P-963	13.00 25.00	3.00 3.00	130.00 130.00	Open Open	0.48 0.20	1053.75 991.24	1053.75 991.24	0.00	0.00
2099	P-964	43.00	3.00	130.00	Open	-0.20	993.39	993.39	0.00	0.00
2102 2105	P-965 P-966	49.00 75.00	3.00 3.00	130.00 130.00	Open Open	0.88 1.40	1051.98 993.35	1051.98 993.35	0.00	0.00
2107	P-967	59.00	3.00	130.00	Open	1.48	1051.97	1051.97	0.00	0.00
2110	P-968 P-969	82.00 80.00	3.00	130.00 130.00	Open	-1.08	1057.75 1052.53	1057.75	0.00	0.00
2113 2116	P-969 P-970	90.00	3.00 3.00	130.00	Open Open	-0.48 0.92	993.32	1052.53 993.32	0.00	0.00
2118	P-971	212.00	3.00	130.00	Open	0.68	1059.76	1059.76	0.00	0.00
2121 2124	P-972 P-973	151.00 98.00	3.00 3.00	130.00 130.00	Open Open	-0.88 0.48	1051.98 1055.07	1051.98 1055.07	0.00	0.00
2127	P-974	101.00	3.00	130.00	Open	5.82	991.19	991.18	0.02	0.00
2130 2133	P-975 P-976	198.00 102.00	3.00 3.00	130.00 130.00	Open Open	0.88 0.72	1056.05 1218.03	1056.05 1218.03	0.00	0.00
2136	P-977	106.00	3.00	130.00	Open	-0.88	1051.03	1051.03	0.00	0.00
2139 2142	P-978 P-979	291.00 114.00	3.00 3.00	130.00 130.00	Open Open	-0.68 0.68	1057.97 1055.07	1057.97 1055.07	0.00	0.00
2144	P-980	117.00	3.00	130.00	Open	0.92	967.07	967.07	0.00	0.00
2147 2150	P-981 P-982	151.00 174.00	3.00 3.00	130.00 130.00	Open Open	0.88 0.76	1059.76 981.47	1059.76 981.47	0.00	0.00
2152	P-983	175.00	3.00	130.00	Open	1.58	993.39	993.39	0.00	0.00
2154	P-984	211.00	3.00	130.00	Open	-0.68	1057.97	1057.97	0.00	0.00
2157 2159	P-985 P-986	135.00 135.00	3.00 3.00	130.00 130.00	Open Open	1.56 1.28	1053.03 1051.23	1053.03 1051.23	0.00	0.00
2162	P-987	178.00	3.00	130.00	Open	1.08	1056.20	1056.20	0.00	0.00
2165 2168	P-988 P-989	250.00 223.00	3.00 3.00	130.00 130.00	Open Open	0.68 1.28	1064.96 1061.11	1064.96 1061.11	0.00	0.00
2171	P-990	149.00	3.00	130.00	Open	-0.68	1059.86	1059.86	0.00	0.00
2174 2176	P-991 P-992	150.00 165.00	3.00 3.00	130.00 130.00	Open Open	-2.24 0.68	1059.86 1052.54	1059.86 1052.54	0.00	0.00
2179	P-993	274.00	3.00	130.00	Open	0.88	1052.54	1052.53	0.00	0.00
2182 2185	P-994 P-995	177.00 176.00	3.00 3.00	130.00 130.00	Open Open	-0.68 2.24	1052.14 1019.32	1052.14 1019.31	0.00	0.00
2188	P-996	179.00	3.00	130.00	Open	1.16	1054.24	1054.24	0.00	0.00
2190 2193	P-997 P-998	248.00 200.00	3.00 3.00	130.00 130.00	Open Open	-1.88 0.68	1056.20 1059.76	1056.20 1059.76	0.00	0.00
2196	P-999	184.00	3.00	130.00	Open	0.96	1059.99	1059.99	0.00	0.00
2198	P-1000	227.00 214.00	3.00	130.00	Open	-0.68	1052.54	1052.54	0.00	0.00
2201 2203	P-1001 P-1002	197.00	3.00 3.00	130.00 130.00	Open Open	-1.09 1.16	993.37 1059.75	993.37 1059.75	0.00	0.00
2205	P-1003	199.00	3.00	130.00	Open	0.88	1064.97	1064.97	0.00	0.00
2208 2209	P-1004 P-1005	201.00 210.00	3.00 3.00	130.00 130.00	Open Open	1.23 0.48	1055.07 963.95	1055.07 963.95	0.00	0.00
2212	P-1006	220.00	3.00	130.00	Open	0.72	993.42	993.42	0.00	0.00
2215 2218	P-1007 P-1008	218.00 221.00	3.00 3.00	130.00 130.00	Open Open	0.46 -0.72	967.17 993.41	967.17 993.42	0.00	0.00
2221	P-1009	237.00	3.00	130.00	Open	1.47	1059.99	1059.99	0.00	0.00
2223 2226	P-1010 P-1011	236.00 241.00	3.00 3.00	130.00 130.00	Open Open	-0.68 0.66	825.46 967.07	825.46 967.07	0.00	0.00
2228	P-1012	245.00	3.00	130.00	Open	-0.88	1059.86	1059.86	0.00	0.00
2230	P-1013	256.00	3.00	130.00	Open	1.56	1064.97	1064.97	0.00	0.00
2232 2235	P-1014 P-1015	254.00 249.00	3.00 3.00	130.00 130.00	Open Open	-0.88 0.66	1052.64 993.42	1052.64 993.42	0.00	0.00
2237	P-1016	254.00	3.00	130.00	Open	0.92	993.43	993.43	0.00	0.00
2239 2241	P-1017 P-1018	258.00 291.00	3.00 3.00	130.00 130.00	Open Open	0.48 1.08	1052.13 1064.98	1052.13 1064.98	0.00	0.00
2244	P-1019	313.00	3.00	130.00	Open	0.81	991.24	991.24	0.00	0.00
2246 2249	P-1020 P-1021	336.00 300.00	3.00 3.00	130.00 130.00	Open Open	0.88 0.63	1063.20 993.43	1063.20 993.43	0.00	0.00
2251	P-1022	432.00	3.00	130.00	Open	1.28	1051.85	1051.85	0.00	0.00
2254 2256	P-1023 P-1024	327.00 313.00	3.00 3.00	130.00 130.00	Open Open	1.72 0.88	991.25 1064.98	991.24 1064.98	0.01 0.00	0.00
2259	P-1024 P-1025	331.00	3.00	130.00	Open	0.88	1055.31	1055.31	0.00	0.00
2261	P-1026	332.00	3.00	130.00	Open	0.63	967.41	967.41	0.00	0.00
2264 2267	P-1027 P-1028	464.00 343.00	3.00 3.00	130.00 130.00	Open Open	0.88 -1.35	1052.53 993.32	1052.53 993.32	0.00	0.00
2268	P-1029	372.00	3.00	130.00	Open	-0.72	967.07	967.07	0.00	0.00
2271 2274	P-1030 P-1031	413.00 392.00	3.00 3.00	130.00 130.00	Open Open	0.72 0.88	967.41 1060.49	967.41 1060.49	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
2277	P-1032	350.00	3.00	130.00	Open	-0.72	993.42	993.43	0.00	0.00
2279 2282	P-1033 P-1034	394.00 358.00	3.00 3.00	130.00 130.00	Open Open	0.55 -4.60	991.26 825.46	991.26 825.50	0.00 0.04	0.00
2284	P-1035	375.00	3.00	130.00	Open	1.76	1059.99	1059.99	0.01	0.00
2286	P-1036	387.00	3.00	130.00	Open	0.96	1055.31	1055.31	0.00	0.00
2288 2291	P-1037 P-1038	378.00 510.00	3.00 3.00	130.00 130.00	Open Open	-0.89 0.68	967.17 1064.97	967.17 1064.97	0.00	0.00
2294	P-1039	403.00	3.00	130.00	Open	-0.88	825.36	825.36	0.00	0.00
2297 2300	P-1040 P-1041	409.00 468.00	3.00 3.00	130.00 130.00	Open Open	0.55 0.72	991.26 991.18	991.26 991.18	0.00	0.00
2302	P-1042	465.00	3.00	130.00	Open	0.63	993.48	993.48	0.00	0.00
2305 2307	P-1043 P-1044	477.00 429.00	3.00 3.00	130.00 130.00	Open Open	0.55 1.08	1019.32 1062.54	1019.32 1062.54	0.00	0.00
2310	P-1044	447.00	3.00	130.00	Open	1.48	1052.54	1052.54	0.00	0.00
2312	P-1046	444.00	3.00	130.00	Open	1.08	1053.70	1053.70	0.00	0.00
2315 2317	P-1047 P-1048	506.00 456.00	3.00 3.00	130.00 130.00	Open Open	0.88 1.18	825.50 993.39	825.50 993.38	0.00	0.00
2318	P-1049	540.00	3.00	130.00	Open	0.20	967.41	967.41	0.00	0.00
2320 2323	P-1050 P-1051	500.00 509.00	3.00 3.00	130.00 130.00	Open Open	-0.37 0.55	991.16 991.22	991.16 991.22	0.00	0.00
2326	P-1052	496.00	3.00	130.00	Open	0.74	993.35	993.34	0.00	0.00
2327 2330	P-1053 P-1054	587.00 514.00	3.00 3.00	130.00 130.00	Open Open	-0.48 -1.56	1051.96 1059.86	1051.96 1059.86	0.00 0.01	0.00
2332	P-1055	548.00	3.00	130.00	Open	-0.89	993.41	993.42	0.00	0.00
2335 2337	P-1056 P-1058	527.00	3.00	130.00	Open	-2.81 -1.41	993.32	993.35 991.28	0.02 0.01	0.00
2340	P-1058 P-1059	567.00 662.00	3.00 3.00	130.00 130.00	Open Open	0.81	991.27 1019.31	1019.31	0.00	0.00
2342	P-1060	597.00	3.00	130.00	Open	1.68	1053.70	1053.69	0.01	0.00
2345 2347	P-1061 P-1062	669.00 809.00	3.00 3.00	130.00 130.00	Open Open	3.27 5.03	1053.75 1053.85	1053.71 1053.75	0.04 0.10	0.00
2349	P-1063	901.00	3.00	130.00	Open	-1.21	967.41	967.42	0.01	0.00
2351 2353	P-1064 P-1065	864.00 956.00	3.00 3.00	130.00 130.00	Open Open	0.72 -1.48	1019.31 825.35	1019.31 825.36	0.00 0.01	0.00
2355	P-1066	1412.00	3.00	130.00	Open	1.56	1064.93	1064.91	0.02	0.00
2358 2359	P-1067 P-1068	1376.00 1333.00	3.00 3.00	130.00 130.00	Open Open	-3.85 1.35	825.36 993.37	825.46 993.35	0.10 0.01	0.00
2361	P-1069	1399.00	3.00	130.00	Open	0.68	1054.63	1054.63	0.00	0.00
2364	P-1070 P-1071	1.00 73.00	30.00 30.00	130.00	Open Open	0.08 -0.08	1064.94	1064.94 1064.94	0.00	0.00 0.00
2367 2370	P-1071	131.00	30.00	130.00 130.00	Open	-25.37	1064.94 1064.94	1064.94	0.00	0.00
2373	P-1073	173.00	30.00	130.00	Open	-37.01	1064.94	1064.94	0.00	0.00
2376 2377	P-1074 P-1075	232.00 398.00	30.00 30.00	130.00 130.00	Open Open	-44.89 -35.04	1064.94 1064.94	1064.94 1064.94	0.00	0.00
2380	P-1076	507.00	30.00	130.00	Open	-27.14	1064.94	1064.94	0.00	0.00
2383 2386	P-1077 P-1078	685.00 628.00	30.00 30.00	130.00 130.00	Open Open	-36.35 -25.72	1064.94 1064.94	1064.94 1064.94	0.00	0.00
2388	P-1079	737.00	30.00	130.00	Open	-26.48	1064.94	1064.94	0.00	0.00
2390 2392	P-1080 P-1081	759.00 653.00	30.00 30.00	130.00 130.00	Open Open	-30.98 -36.66	1064.94 1064.94	1064.94 1064.94	0.00	0.00
2394	P-1082	688.00	30.00	130.00	Open	-34.89	1064.94	1064.94	0.00	0.00
2396 2399	P-1083 P-1084	681.00 711.00	30.00 30.00	130.00 130.00	Open Open	-29.16 -29.01	1064.94 1064.94	1064.94 1064.94	0.00	0.00 0.00
2401	P-1085	698.00	30.00	130.00	Open	-28.65	1064.94	1064.94	0.00	0.00
2403 2405	P-1086 P-1087	740.00 712.00	30.00 30.00	130.00 130.00	Open Open	-26.79 -26.63	1064.94 1064.94	1064.94 1064.94	0.00	0.00 0.00
2406	P-1088	746.00	30.00	130.00	Open	-32.29	1064.94	1064.94	0.00	0.00
2408 2409	P-1090 P-1091	968.00	30.00	130.00	Open Open	-36.00	1064.94	1064.94	0.00	0.00 0.00
2409	P-1091 P-1092	1272.00 2516.00	30.00 30.00	130.00 130.00	Open	-28.10 -29.92	1064.94 1064.94	1064.94 1064.94	0.00	0.00
2411	P-1093	3501.00	30.00	130.00	Open	-10.09	1064.94	1064.94	0.00	0.00
2412 2413	P-1094 P-1095	8158.00 1.00	36.00 4.00	130.00 130.00	Open Open	14.40 -3.50	1064.94 973.48	1064.94 973.48	0.00	0.00
2416	P-1096	3.00	4.00	130.00	Open	-0.20	963.60	963.60	0.00	0.00
2418 2421	P-1097 P-1098	3.00 6.00	4.00 4.00	130.00 130.00	Open Open	0.29 3.24	960.64 991.16	960.64 991.16	0.00	0.00
2423	P-1099	6.00	4.00	130.00	Open	-0.20	967.43	967.43	0.00	0.00
2426 2429	P-1100 P-1101	6.00 6.00	4.00 4.00	130.00 130.00	Closed Open	0.00 4.90	1022.96 991.25	1218.60 991.25	0.00	0.00
2432	P-1102	6.00	4.00	130.00	Open	-0.20	988.98	988.98	0.00	0.00
2434 2436	P-1103 P-1104	7.00 7.00	4.00 4.00	130.00 130.00	Open Open	0.76 0.28	1051.98 1052.73	1051.98 1052.73	0.00	0.00 0.00
2439	P-1105	9.00	4.00	130.00	Open	-0.37	973.48	973.48	0.00	0.00
2441 2442	P-1106 P-1107	9.00 9.00	4.00 4.00	130.00 130.00	Open Open	0.56 9.64	1051.97 1057.24	1051.97 1057.24	0.00	0.00 0.00
2445	P-1108	9.00	4.00	130.00	Open	2.29	1057.25	1057.25	0.00	0.00
2448 2451	P-1109	10.00	4.00 4.00	130.00	Open	1.50	960.69	960.69	0.00	0.00 0.00
2452	P-1110 P-1111	11.00 11.00	4.00	130.00 130.00	Open Open	0.96 1.16	1051.96 1064.96	1051.96 1064.96	0.00	0.00
2454	P-1112	13.00	4.00	130.00	Open	-0.80	973.48	973.48	0.00	0.00
2456 2459	P-1113 P-1114	13.00 13.00	4.00 4.00	130.00 130.00	Open Open	1.08 0.88	1053.01 1053.01	1053.01 1053.01	0.00	0.00
2462	P-1115	14.00	4.00	130.00	Open	0.68	1051.96	1051.96	0.00	0.00
2465 2467	P-1116 P-1117	15.00 15.00	4.00 4.00	130.00 130.00	Open Open	0.28 0.20	1057.24 960.64	1057.24 960.64	0.00	0.00
2470	P-1118	16.00	4.00	130.00	Open	2.01	973.48	973.48	0.00	0.00
2471 2474	P-1119 P-1120	16.00 17.00	4.00 4.00	130.00 130.00	Open Open	-11.48 1.26	1217.77 973.48	1217.78 973.48	0.00	0.00 0.00
2475	P-1121	17.00	4.00	130.00	Open	0.68	1051.98	973.48 1051.98	0.00	0.00
2477	P-1122	18.00	4.00	130.00	Open	0.08	1056.91	1056.91	0.00	0.00
2480 2484	P-1123 P-1125	20.00 30.00	4.00 4.00	130.00 130.00	Open Open	-1.08 1.16	1053.01 1054.63	1053.01 1054.63	0.00	0.00 0.00
2486	P-1126	31.00	4.00	130.00	Open	-0.83	1052.56	1052.56	0.00	0.00
2489 2491	P-1127 P-1128	31.00 33.00	4.00 4.00	130.00 130.00	Open Open	3.88 0.96	1053.01 1201.27	1053.01 1201.27	0.00	0.00 0.00
2492	P-1129	33.00	4.00	130.00	Open	1.56	1201.27	1201.27	0.00	0.00
2495 2496	P-1130 P-1131	38.00 47.00	4.00 4.00	130.00 130.00	Open Open	-2.36 0.08	973.48 1057.32	973.48 1057.32	0.00	0.00
2499	P-1132	39.00	4.00	130.00	Open	1.68	1053.01	1053.01	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
2501	P-1133	40.00	4.00	130.00	Open	0.28	1064.94	1064.94	0.00	0.00
2504 2506	P-1134 P-1135	44.00 47.00	4.00 4.00	130.00 130.00	Open Open	0.20 -4.19	960.64 973.48	960.64 973.48	0.00	0.00
2507	P-1136	48.00	4.00	130.00	Open	4.20	1218.60	1218.60	0.00	0.00
2509 2511	P-1137 P-1138	50.00 53.00	4.00 4.00	130.00 130.00	Open Open	0.76 0.28	1059.76 1052.41	1059.76 1052.41	0.00	0.00
2513	P-1139	65.00	4.00	130.00	Open	2.72	1052.41	1052.41	0.00	0.00
2515	P-1140	63.00	4.00	130.00	Open	-0.88	1063.23	1063.23	0.00	0.00
2518 2521	P-1141 P-1142	64.00 65.00	4.00 4.00	130.00 130.00	Open Open	1.31 4.09	1054.31 1052.42	1054.31 1052.42	0.00	0.00 0.00
2523	P-1143	65.00	4.00	130.00	Open	0.96	1056.78	1056.78	0.00	0.00
2526 2528	P-1144 P-1145	67.00 69.00	4.00 4.00	130.00 130.00	Open Open	0.48 0.48	1052.40 1051.99	1052.40 1051.99	0.00	0.00
2531	P-1146	70.00	4.00	130.00	Open	0.20	1218.60	1218.60	0.00	0.00
2533 2535	P-1147	70.00	4.00	130.00	Open	-1.87	1022.88	1022.88 1051.98	0.00	0.00
2537	P-1148 P-1149	71.00 71.00	4.00 4.00	130.00 130.00	Open Open	1.51 0.26	1051.98 1322.91	1322.91	0.00	0.00
2539	P-1150	72.00	4.00	130.00	Open	-1.64	1052.56	1052.56	0.00	0.00
2542 2543	P-1151 P-1152	73.00 74.00	4.00 4.00	130.00 130.00	Open Open	1.84 0.20	1051.96 960.64	1051.96 960.64	0.00	0.00
2546	P-1153	78.00	4.00	130.00	Open	2.23	960.64	960.64	0.00	0.00
2549 2552	P-1154 P-1155	91.00 100.00	4.00 4.00	130.00 130.00	Open Open	1.08 0.48	1057.28 1060.08	1057.28 1060.08	0.00	0.00
2555	P-1156	93.00	4.00	130.00	Open	-0.20	973.48	973.48	0.00	0.00
2557 2559	P-1157 P-1158	105.00 109.00	4.00 4.00	130.00 130.00	Open Open	0.29 -12.20	991.16 1022.94	991.16 1022.96	0.00 0.02	0.00
2561	P-1159	110.00	4.00	130.00	Open	-12.20	1051.96	1051.96	0.02	0.00
2563	P-1160	113.00	4.00	130.00 130.00	Open	0.76	1064.93	1064.93	0.00	0.00
2565 2566	P-1161 P-1162	120.00 176.00	4.00 4.00	130.00	Open Open	1.51 -1.68	1201.27 1051.80	1201.27 1051.80	0.00	0.00 0.00
2569	P-1163	126.00	4.00	130.00	Open	1.03	981.47	981.47	0.00	0.00
2571 2573	P-1164 P-1165	186.00 128.00	4.00 4.00	130.00 130.00	Open Open	2.52 -1.68	1051.98 1051.89	1051.97 1051.89	0.00	0.00
2576	P-1166	130.00	4.00	130.00	Open	1.08	1064.93	1064.93	0.00	0.00
2579 2581	P-1167 P-1168	180.00 133.00	4.00 4.00	130.00 130.00	Open Open	-0.68 2.49	1051.96 991.16	1051.96 991.16	0.00	0.00
2582	P-1169	232.00	4.00	130.00	Open	1.28	1060.60	1060.60	0.00	0.00
2585 2587	P-1170 P-1171	155.00 146.00	4.00 4.00	130.00 130.00	Open Open	1.36 1.08	1059.74 1057.28	1059.74 1057.28	0.00	0.00
2589	P-1172	227.00	4.00	130.00	Open	0.68	1061.88	1061.87	0.00	0.00
2592 2595	P-1173 P-1174	235.00 285.00	4.00 4.00	130.00 130.00	Open Open	0.88 -0.88	1061.87 1051.80	1061.87 1051.80	0.00	0.00
2598	P-1175	145.00	4.00	130.00	Open	-7.76	1322.92	1322.93	0.01	0.00
2600 2603	P-1176 P-1177	146.00 149.00	4.00 4.00	130.00 130.00	Open Open	0.88 1.03	1057.64 1063.11	1057.64 1063.11	0.00	0.00
2606	P-1178	157.00	4.00	130.00	Open	-1.16	1053.11	1053.42	0.00	0.00
2608 2610	P-1179 P-1180	159.00 200.00	4.00 4.00	130.00	Open	1.68 -0.68	1051.89	1051.89	0.00	0.00
2613	P-1180 P-1181	164.00	4.00	130.00 130.00	Open Open	0.88	1053.99 1063.11	1053.99 1063.11	0.00	0.00
2615	P-1182	157.00	4.00	130.00	Open	-0.48	1052.54	1052.54	0.00	0.00
2618 2621	P-1183 P-1184	165.00 265.00	4.00 4.00	130.00 130.00	Open Open	-3.44 0.48	967.07 1064.81	967.08 1064.81	0.00	0.00
2624	P-1185	175.00	4.00	130.00	Open	1.19	981.47	981.47	0.00	0.00
2626 2627	P-1186 P-1187	173.00 206.00	4.00 4.00	130.00 130.00	Open Open	1.12 1.16	967.07 1063.88	967.07 1063.87	0.00	0.00 0.00
2628	P-1188	179.00	4.00	130.00	Open	1.28	1053.81	1053.81	0.00	0.00
2631 2634	P-1189 P-1190	181.00 180.00	4.00 4.00	130.00 130.00	Open Open	-0.88 0.48	1051.74 1053.97	1051.74 1053.97	0.00	0.00
2637	P-1191	180.00	4.00	130.00	Open	-0.76	1051.96	1051.96	0.00	0.00
2638 2640	P-1192 P-1193	184.00 192.00	4.00 4.00	130.00 130.00	Open Open	0.88 0.88	1062.91 1063.13	1062.91 1063.13	0.00	0.00
2643	P-1194	187.00	4.00	130.00	Open	-0.88	1053.22	1053.22	0.00	0.00
2646 2649	P-1195 P-1196	225.00 188.00	4.00 4.00	130.00 130.00	Open Open	0.88 -0.55	1064.82 991.26	1064.82 991.26	0.00	0.00
2651	P-1197	195.00	4.00	130.00	Open	0.88	981.47	981.47	0.00	0.00
2654 2656	P-1198 P-1199	204.00 206.00	4.00 4.00	130.00 130.00	Open Open	1.36 -0.88	1060.26 981.49	1060.26 981.49	0.00	0.00
2658	P-1200	286.00	4.00	130.00	Open	1.44	967.13	967.13	0.00	0.00
2660 2663	P-1201 P-1202	210.00 236.00	4.00 4.00	130.00 130.00	Open Open	-0.88 1.18	981.47 963.60	981.47 963.60	0.00	0.00
2664	P-1203	218.00	4.00	130.00	Open	-1.08	1051.96	1051.96	0.00	0.00
2666 2668	P-1204 P-1205	219.00 223.00	4.00 4.00	130.00 130.00	Open Open	1.36 -4.97	1060.15 973.52	1060.15 973.53	0.00 0.01	0.00
2671	P-1206	231.00	4.00	130.00	Open	0.96	1059.74	1059.74	0.00	0.00
2673	P-1207	233.00	4.00	130.00	Open	1.08	981.47	981.47	0.00	0.00
2676 2679	P-1208 P-1209	235.00 235.00	4.00 4.00	130.00 130.00	Open Open	1.28 -2.30	1053.92 991.28	1053.92 991.28	0.00	0.00
2681	P-1210	236.00	4.00	130.00	Open	2.07	993.37	993.37	0.00	0.00
2683 2685	P-1211 P-1212	238.00 238.00	4.00 4.00	130.00 130.00	Open Open	0.48 1.08	1052.56 1052.56	1052.56 1052.56	0.00	0.00 0.00
2688	P-1213	242.00	4.00	130.00	Open	1.08	981.47	981.47	0.00	0.00
2691 2693	P-1214 P-1215	243.00 244.00	4.00 4.00	130.00 130.00	Open Open	-0.88 -0.37	981.47 991.16	981.47 991.16	0.00	0.00
2696	P-1216	258.00	4.00	130.00	Open	-0.88	1051.83	1051.83	0.00	0.00
2699 2702	P-1217 P-1218	247.00 255.00	4.00 4.00	130.00 130.00	Open Open	0.68 -0.72	1062.80 967.35	1062.80 967.35	0.00	0.00
2705	P-1219	248.00	4.00	130.00	Open	-1.76	1061.13	1061.13	0.00	0.00
2707	P-1220 P-1221	252.00	4.00 4.00	130.00	Open	-1.28	981.47	981.47	0.00	0.00
2710 2713	P-1221 P-1222	250.00 253.00	4.00	130.00 130.00	Open Open	0.68 0.56	1062.85 1064.94	1062.85 1064.94	0.00	0.00
2715	P-1223	283.00	4.00	130.00	Open	-1.77	967.07	967.07	0.00	0.00
2716 2718	P-1224 P-1225	254.00 323.00	4.00 4.00	130.00 130.00	Open Open	0.20 -1.48	960.64 1051.83	960.64 1051.83	0.00	0.00
2721	P-1226	267.00	4.00	130.00	Open	1.56	1064.81	1064.81	0.00	0.00
2723 2726	P-1227 P-1228	272.00 273.00	4.00 4.00	130.00 130.00	Open Open	0.88 -1.36	1051.74 1051.84	1051.74 1051.85	0.00	0.00 0.00
2728	P-1229	316.00	4.00	130.00	Open	0.88	1053.48	1053.48	0.00	0.00
2731	P-1230	276.00	4.00	130.00	Open	1.88	1052.34	1052.34	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
2734	P-1231	281.00	4.00	130.00	Open	1.56	1064.82	1064.82	0.00	0.00
2736 2739	P-1232 P-1233	284.00 287.00	4.00 4.00	130.00 130.00	Open Open	1.40 -7.89	1052.54 973.48	1052.54 973.50	0.00 0.02	0.00
2741	P-1234	287.00	4.00	130.00	Open	-1.48	1052.72	1052.72	0.00	0.00
2744 2747	P-1235 P-1236	295.00 323.00	4.00 4.00	130.00 130.00	Open Open	1.08 1.08	1058.41 1053.48	1058.40 1053.48	0.00	0.00
2750	P-1237	325.00	4.00	130.00	Open	1.16	1053.16	1053.16	0.00	0.00
2752 2755	P-1238 P-1239	302.00 297.00	4.00 4.00	130.00 130.00	Open Open	1.48 3.25	1064.93 967.42	1064.93 967.41	0.00	0.00
2756	P-1240	300.00	4.00	130.00	Open	1.28	1064.93	1064.93	0.00	0.00
2759 2761	P-1241 P-1242	302.00 307.00	4.00 4.00	130.00 130.00	Open Open	4.54 0.68	993.44 960.64	993.43 960.64	0.01 0.00	0.00
2763	P-1243	303.00	4.00	130.00	Open	-0.68	1052.52	1052.52	0.00	0.00
2766 2768	P-1244 P-1245	316.00 326.00	4.00 4.00	130.00 130.00	Open Open	2.64 0.88	1059.75 981.48	1059.74 981.48	0.00	0.00
2770	P-1246	314.00	4.00	130.00	Open	1.36	1052.99	1052.99	0.00	0.00
2772 2775	P-1247 P-1248	317.00 315.00	4.00 4.00	130.00 130.00	Open Open	-0.88 1.08	1064.94 981.47	1064.94 981.47	0.00	0.00
2778	P-1249	320.00	4.00	130.00	Open	-1.28	1051.92	1051.92	0.00	0.00
2781 2784	P-1250 P-1251	357.00 595.00	4.00 4.00	130.00 130.00	Open Open	1.08 1.08	1057.27 963.95	1057.27 963.95	0.00	0.00
2787	P-1252	330.00	4.00	130.00	Open	-1.28	1052.55	1052.56	0.00	0.00
2789 2792	P-1253 P-1254	333.00 352.00	4.00 4.00	130.00 130.00	Open Open	-1.08 1.56	1052.66 1056.05	1052.66 1056.05	0.00	0.00 0.00
2794	P-1255	342.00	4.00	130.00	Open	0.96	1064.93	1064.93	0.00	0.00
2796 2798	P-1256 P-1257	383.00 353.00	4.00 4.00	130.00 130.00	Open Open	3.07 1.44	973.51 991.26	973.50 991.26	0.00	0.00
2800	P-1258	355.00	4.00	130.00	Open	-0.88	994.76	994.76	0.00	0.00
2803 2806	P-1259 P-1260	367.00 359.00	4.00 4.00	130.00 130.00	Open Open	1.48 3.71	1063.13 1022.94	1063.13 1022.93	0.00 0.01	0.00
2807	P-1261	372.00	4.00	130.00	Open	1.36	1053.00	1053.00	0.00	0.00
2809 2812	P-1262 P-1263	369.00 380.00	4.00 4.00	130.00 130.00	Open Open	1.28 1.56	1051.79 1053.97	1051.79 1053.97	0.00	0.00
2813	P-1264	509.00	4.00	130.00	Open	0.48	963.95	963.95	0.00	0.00
2816 2819	P-1265 P-1266	378.00 377.00	4.00 4.00	130.00 130.00	Open Open	0.68 -1.28	1062.79 1052.12	1062.79 1052.12	0.00	0.00
2822	P-1267	403.00	4.00	130.00	Open	-1.08	1052.66	1052.66	0.00	0.00
2825 2826	P-1268 P-1269	411.00 387.00	4.00 4.00	130.00 130.00	Open Open	5.18 -1.64	967.43 991.26	967.42 991.26	0.01 0.00	0.00
2828	P-1270	441.00	4.00	130.00	Open	-0.48	981.47	981.47	0.00	0.00
2830 2833	P-1271 P-1272	388.00 390.00	4.00 4.00	130.00 130.00	Open Open	1.28 1.48	1056.78 1052.71	1056.78 1052.71	0.00	0.00
2836	P-1273	393.00	4.00	130.00	Open	1.48	1051.80	1051.80	0.00	0.00
2839 2842	P-1274 P-1275	437.00 393.00	4.00 4.00	130.00 130.00	Open Open	-0.88 0.68	1052.49 960.64	1052.49 960.64	0.00	0.00
2843	P-1276	3807.00	4.00	130.00	Open	-3.44	1322.86	1322.92	0.06	0.00
2845 2846	P-1277 P-1278	403.00 445.00	4.00 4.00	130.00 130.00	Open Open	0.86 0.68	967.07 1063.05	967.07 1063.05	0.00	0.00
2849	P-1279	409.00	4.00	130.00	Open	0.68	1063.05	1063.05	0.00	0.00
2852 2855	P-1280 P-1281	444.00 412.00	4.00 4.00	130.00 130.00	Open Open	1.08 1.44	1052.86 993.42	1052.86 993.42	0.00	0.00
2856	P-1282	414.00	4.00	130.00	Open	-0.68	1052.13	1052.13	0.00	0.00
2859 2861	P-1283 P-1284	429.00 419.00	4.00 4.00	130.00 130.00	Open Open	-2.18 -1.28	993.43 1051.81	993.43 1051.81	0.00	0.00
2864	P-1285	423.00	4.00	130.00	Open	-1.44	967.17	967.17	0.00	0.00
2865 2866	P-1286 P-1287	513.00 446.00	4.00 4.00	130.00 130.00	Open Open	-2.93 -1.88	973.48 981.47	973.48 981.48	0.01 0.00	0.00
2869	P-1288	426.00	4.00	130.00	Open	1.28	1064.93	1064.93	0.00	0.00
2872 2873	P-1289 P-1290	428.00 521.00	4.00 4.00	130.00 130.00	Open Open	4.55 1.74	991.18 960.64	991.17 960.64	0.01 0.00	0.00 0.00
2874	P-1291	520.00	4.00	130.00	Open	-2.29	1051.86	1051.86	0.00	0.00
2877 2879	P-1292 P-1293	437.00 438.00	4.00 4.00	130.00 130.00	Open Open	0.48 -1.48	1051.96 1064.93	1051.96 1064.93	0.00	0.00
2882	P-1294	445.00	4.00	130.00	Open	-1.08	1064.87	1064.88	0.00	0.00
2885 2886	P-1295 P-1296	444.00 450.00	4.00 4.00	130.00 130.00	Open Open	-0.98 2.56	1064.88 1064.94	1064.88 1064.94	0.00	0.00
2888	P-1297	489.00	4.00	130.00	Open	0.88	1053.48	1053.48	0.00	0.00
2891 2894	P-1298 P-1299	476.00 477.00	4.00 4.00	130.00 130.00	Open Open	0.48 1.44	963.95 1051.96	963.95 1051.96	0.00	0.00
2895	P-1300	534.00	4.00	130.00	Open	-0.88	963.94	963.94	0.00	0.00
2898 2899	P-1301 P-1302	543.00 574.00	4.00 4.00	130.00 130.00	Open Open	-3.72 -1.69	991.16 1052.54	991.17 1052.54	0.01 0.00	0.00
2901	P-1303	590.00	4.00	130.00	Open	1.96	1064.94	1064.94	0.00	0.00
2903 2905	P-1304 P-1305	562.00 557.00	4.00 4.00	130.00 130.00	Open Open	1.48 -1.08	1051.91 1051.95	1051.91 1051.95	0.00	0.00
2907	P-1306	672.00	4.00	130.00	Open	0.83	960.64	960.64	0.00	0.00
2908 2910	P-1307 P-1308	526.00 529.00	4.00 4.00	130.00 130.00	Open Open	-7.94 3.07	1022.90 993.43	1022.94 993.42	0.04 0.01	0.00
2911	P-1309	566.00	4.00	130.00	Open	-11.48	973.53	973.61	0.08	0.00
2912 2915	P-1310 P-1311	563.00 579.00	4.00 4.00	130.00 130.00	Open Open	0.89 6.54	993.37 991.22	993.37 991.19	0.00 0.03	0.00
2916	P-1312	566.00	4.00	130.00	Open	-0.37	1022.87	1022.87	0.00	0.00
2918 2921	P-1313 P-1314	602.00 558.00	4.00 4.00	130.00 130.00	Open Open	-2.49 5.75	1052.51 991.28	1052.52 991.26	0.00 0.02	0.00
2922	P-1315	585.00	4.00	130.00	Open	-1.48	1058.24	1058.24	0.00	0.00
2925 2927	P-1316 P-1317	573.00 626.00	4.00 4.00	130.00 130.00	Open Open	0.88 1.48	1064.96 1052.46	1064.96 1052.45	0.00	0.00
2930	P-1318	600.00	4.00	130.00	Open	-2.17	1022.87	1022.87	0.00	0.00
2931 2932	P-1319 P-1320	596.00 606.00	4.00 4.00	130.00 130.00	Open Open	-3.17 -3.74	1022.87 993.42	1022.88 993.43	0.01 0.01	0.00
2934	P-1321	614.00	4.00	130.00	Open	0.94	988.98	988.98	0.00	0.00
2936 2937	P-1322 P-1323	605.00 607.00	4.00 4.00	130.00 130.00	Open Open	-1.75 -1.76	991.16 1064.98	991.16 1064.98	0.00	0.00
2939	P-1324	620.00	4.00	130.00	Open	0.89	1022.90	1022.89	0.00	0.00
2942 2943	P-1325 P-1326	627.00 630.00	4.00 4.00	130.00 130.00	Open Open	-1.61 7.82	993.42 1056.96	993.42 1056.91	0.00 0.04	0.00
2946	P-1327	644.00	4.00	130.00	Open	2.33	967.36	967.35	0.00	0.00
2948	P-1328	644.00	4.00	130.00	Open	-8.61	967.13	967.18	0.05	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
2950	P-1329	765.00	4.00	130.00	Open	-0.55	973.52	973.52	0.00	0.00
2952 2953	P-1330 P-1331	684.00 652.00	4.00 4.00	130.00 130.00	Open Open	-0.74 0.89	991.15 967.35	991.16 967.35	0.00	0.00
2955	P-1332	660.00	4.00	130.00	Open	2.07	1022.90	1022.90	0.00	0.00
2956	P-1333	787.00	4.00 4.00	130.00	Open	-1.36	973.48	973.48	0.00	0.00
2958 2959	P-1334 P-1335	761.00 814.00	4.00	130.00 130.00	Open Open	1.90 -1.43	967.41 973.48	967.41 973.48	0.00	0.00
2960	P-1336	729.00	4.00	130.00	Open	-5.62	973.50	973.53	0.03	0.00
2961 2962	P-1337 P-1338	688.00 725.00	4.00 4.00	130.00 130.00	Open Open	-5.50 -4.93	1022.88 993.35	1022.90 993.37	0.02 0.02	0.00
2963	P-1339	736.00	4.00	130.00	Open	-2.14	1064.88	1064.88	0.00	0.00
2965 2968	P-1340 P-1341	747.00 783.00	4.00 4.00	130.00 130.00	Open Open	-1.28 -1.78	994.76 967.07	994.76 967.08	0.00	0.00
2969	P-1342	764.00	4.00	130.00	Open	-0.68	1054.10	1054.10	0.00	0.00
2971 2973	P-1343 P-1344	764.00 771.00	4.00 4.00	130.00 130.00	Open Open	8.38 -1.08	1057.01 1052.03	1056.96 1052.04	0.06 0.00	0.00
2976	P-1345	813.00	4.00	130.00	Open	3.96	973.52	973.51	0.02	0.00
2977	P-1346	828.00	4.00	130.00	Open	1.06	1022.90	1022.90	0.00	0.00
2979 2982	P-1347 P-1348	1017.00 796.00	4.00 4.00	130.00 130.00	Open Open	0.63 -0.78	993.38 1064.88	993.38 1064.88	0.00	0.00
2984	P-1349	1327.00	4.00	130.00	Open	-1.28	1201.27	1201.27	0.00	0.00
2986 2988	P-1350 P-1351	814.00 875.00	4.00 4.00	130.00 130.00	Open Open	-1.08 0.88	1052.99 1064.96	1052.99 1064.96	0.00	0.00
2993	P-1353	866.00	4.00	130.00	Open	9.29	1057.24	1057.16	0.08	0.00
2995 2996	P-1354 P-1355	868.00 955.00	4.00 4.00	130.00 130.00	Open Open	-2.96 -0.48	967.17 1051.96	967.18 1051.96	0.01 0.00	0.00
2998	P-1356	1383.00	4.00	130.00	Open	-1.75	991.25	991.25	0.00	0.00
3000	P-1357	1714.00	4.00	130.00	Open	1.56	991.25	991.25 991.25	0.01	0.00
3001 3002	P-1358 P-1359	1057.00 1087.00	4.00 4.00	130.00 130.00	Open Open	2.96 1.28	991.26 1064.92	991.25 1064.92	0.01 0.00	0.00 0.00
3005	P-1360	1123.00	4.00	130.00	Open	12.38	967.36	967.18	0.18	0.00
3007 3008	P-1361 P-1362	1171.00 1283.00	4.00 4.00	130.00 130.00	Open Open	-6.46 7.40	967.08 960.77	967.13 960.69	0.06 0.08	0.00
3010	P-1363	1231.00	4.00	130.00	Open	7.80	991.30	991.22	0.08	0.00
3012 3013	P-1364 P-1365	1745.00 1783.00	4.00 4.00	130.00 130.00	Open Open	2.42 4.84	1022.91 960.69	1022.90 960.64	0.01 0.05	0.00
3014	P-1366	2232.00	4.00	130.00	Open	4.20	1019.36	1019.32	0.05	0.00
3015 3017	P-1367 P-1368	1914.00	4.00 4.00	130.00	Open	-2.80 8.93	961.54	961.56	0.02 0.15	0.00
3017	P-1369	1733.00 1900.00	4.00	130.00 130.00	Open Open	4.65	1057.16 1057.30	1057.01 1057.25	0.15	0.00
3020	P-1370	2656.00	4.00	130.00	Open	-1.08	1064.98	1064.98	0.00	0.00
3022 3025	P-1371 P-1372	3976.00 7382.00	4.00 4.00	130.00 130.00	Open Open	3.69 1.48	1052.99 1057.25	1052.92 1057.23	0.07 0.02	0.00
3027	P-1373	1.00	6.00	130.00	Open	-0.20	1218.15	1218.15	0.00	0.00
3030 3033	P-1374 P-1375	3.00 3.00	6.00 6.00	130.00 130.00	Open Open	0.48 0.08	1052.73 1064.94	1052.73 1064.94	0.00	0.00
3035	P-1376	3.00	6.00	130.00	Open	12.99	1218.60	1218.60	0.00	0.00
3037 3040	P-1377 P-1378	3.00 3.00	6.00 6.00	130.00	Open Open	-0.08 -0.08	981.47 1051.78	981.47	0.00	0.00 0.00
3043	P-1379	4.00	6.00	130.00 130.00	Open	0.08	1051.76	1051.78 1055.82	0.00	0.00
3046	P-1380	4.00	6.00	130.00	Open	0.20	1217.94	1217.94	0.00	0.00
3049 3052	P-1381 P-1382	4.00 4.00	6.00 6.00	130.00 130.00	Open Open	-1.72 0.83	1218.03 1052.09	1218.03 1052.09	0.00	0.00
3054	P-1383	5.00	6.00	130.00	Open	0.46	1218.03	1218.03	0.00	0.00
3057 3060	P-1384 P-1385	5.00 5.00	6.00 6.00	130.00 130.00	Open Open	-0.08 0.08	1057.64 1051.71	1057.64 1051.71	0.00	0.00
3063	P-1386	5.00	6.00	130.00	Open	-0.08	1052.10	1052.10	0.00	0.00
3066 3069	P-1387 P-1388	5.00 5.00	6.00 6.00	130.00 130.00	Open Open	0.28 -7.88	1051.47 1052.02	1051.47 1052.02	0.00	0.00
3072	P-1389	5.00	6.00	130.00	Open	1.08	1064.93	1064.93	0.00	0.00
3075	P-1390	5.00	6.00	130.00	Open	-0.08	1064.93	1064.93	0.00	0.00
3077 3080	P-1391 P-1392	5.00 5.00	6.00 6.00	130.00 130.00	Open Open	0.08 -0.28	1053.00 1064.96	1053.00 1064.96	0.00	0.00
3082	P-1393	6.00	6.00	130.00	Open	0.08	1064.98	1064.98	0.00	0.00
3085 3088	P-1394 P-1395	6.00 6.00	6.00 6.00	130.00 130.00	Open Open	0.48 -12.59	1056.64 1218.60	1056.64 1218.60	0.00	0.00
3089	P-1396	6.00	6.00	130.00	Open	0.08	1052.09	1052.09	0.00	0.00
3092 3095	P-1397 P-1398	7.00 7.00	6.00 6.00	130.00 130.00	Open Open	0.08 0.48	1064.93 1059.00	1064.93 1059.00	0.00	0.00 0.00
3098	P-1399	7.00	6.00	130.00	Open	0.48	1059.01	1059.01	0.00	0.00
3101 3104	P-1400 P-1401	7.00 7.00	6.00 6.00	130.00 130.00	Open Open	0.68 1.44	1051.74 1064.93	1051.74 1064.93	0.00	0.00
3104	P-1401 P-1402	7.00	6.00	130.00	Open	0.08	1052.80	1052.80	0.00	0.00
3110	P-1403	8.00	6.00	130.00	Open	0.08	1052.80	1052.80	0.00	0.00
3113 3116	P-1404 P-1405	8.00 8.00	6.00 6.00	130.00 130.00	Open Open	0.08 2.64	1051.86 1057.27	1051.86 1057.27	0.00	0.00
3118	P-1406	8.00	6.00	130.00	Open	7.10	1052.55	1052.55	0.00	0.00
3121 3123	P-1407 P-1408	8.00 8.00	6.00 6.00	130.00 130.00	Open Open	0.28 -1.19	1056.68 1056.91	1056.68 1056.91	0.00	0.00
3125	P-1409	9.00	6.00	130.00	Open	0.08	1056.71	1056.71	0.00	0.00
3127 3130	P-1410 P-1411	9.00 9.00	6.00 6.00	130.00 130.00	Open Open	-9.36 1.84	1054.00 1054.24	1054.00 1054.24	0.00	0.00 0.00
3130	P-1411 P-1412	9.00	6.00	130.00	Open Open	1.84 -0.08	1054.24	1054.24	0.00	0.00
3135	P-1413	9.00	6.00	130.00	Open	0.28	1053.98	1053.98	0.00	0.00
3138 3141	P-1414 P-1415	9.00 9.00	6.00 6.00	130.00 130.00	Open Open	0.08 0.88	1052.88 1051.76	1052.88 1051.76	0.00	0.00
3144	P-1416	9.00	6.00	130.00	Open	0.48	963.95	963.95	0.00	0.00
3147 3149	P-1417 P-1418	9.00 9.00	6.00 6.00	130.00 130.00	Open Open	-29.81 -0.08	1051.47 1064.94	1051.47 1064.94	0.00	0.00 0.00
3149	P-1419	9.00	6.00	130.00	Open	-0.28	1062.17	1062.17	0.00	0.00
3153	P-1420	9.00	6.00	130.00	Open	0.48	1056.15	1056.15	0.00	0.00
3155 3158	P-1421 P-1422	10.00 10.00	6.00 6.00	130.00 130.00	Open Open	1.44 0.37	1051.73 1218.15	1051.73 1218.15	0.00	0.00
3161	P-1423	10.00	6.00	130.00	Open	0.76	1064.96	1064.96	0.00	0.00
3163 3165	P-1424 P-1425	10.00 10.00	6.00 6.00	130.00 130.00	Open Open	-0.63 1.03	1051.21 1064.93	1051.21 1064.93	0.00	0.00 0.00
3167	P-1426	11.00	6.00	130.00	Open	0.56	1057.13	1057.13	0.00	0.00
3169	P-1427	15.00	6.00	130.00	Open	7.40	1064.94	1064.94	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
3171	P-1428	11.00	6.00	130.00	Open	-2.16	1051.81	1051.81	0.00	0.00
3173 3176	P-1429 P-1430	11.00 11.00	6.00 6.00	130.00 130.00	Open Open	-0.28 -0.68	1056.91 1053.00	1056.91 1053.00	0.00	0.00
3179	P-1431	11.00	6.00	130.00	Open	-0.20	1216.97	1216.97	0.00	0.00
3182	P-1432	15.00	6.00	130.00	Open	-0.08	1064.86	1064.86	0.00	0.00
3185 3187	P-1433 P-1434	12.00 12.00	6.00 6.00	130.00 130.00	Open Open	0.48 0.08	1056.61 1051.78	1056.61 1051.78	0.00	0.00
3190	P-1435	12.00	6.00	130.00	Open	0.20	1218.60	1218.60	0.00	0.00
3192 3195	P-1436 P-1437	12.00 12.00	6.00 6.00	130.00 130.00	Open Open	0.08 -0.76	1057.29 1052.13	1057.29 1052.13	0.00	0.00
3197	P-1438	12.00	6.00	130.00	Open	0.08	1052.99	1052.99	0.00	0.00
3200 3203	P-1439 P-1440	12.00 12.00	6.00 6.00	130.00 130.00	Open Open	0.08 1.51	1053.84 1064.93	1053.84 1064.93	0.00	0.00
3206	P-1440 P-1441	12.00	6.00	130.00	Open	-1.36	1064.93	1064.93	0.00	0.00
3208	P-1442	12.00	6.00	130.00	Open	0.08	1052.99	1052.99	0.00	0.00
3211 3212	P-1443 P-1444	12.00 13.00	6.00 6.00	130.00 130.00	Open Open	1.36 -0.20	1064.93 1218.15	1064.93 1218.15	0.00	0.00
3215	P-1445	13.00	6.00	130.00	Open	0.68	1053.00	1053.00	0.00	0.00
3218 3220	P-1446 P-1447	13.00 13.00	6.00 6.00	130.00 130.00	Open Open	3.24 0.20	1064.98 1218.04	1064.98 1218.04	0.00	0.00
3222	P-1448	13.00	6.00	130.00	Open	1.84	1055.83	1055.83	0.00	0.00
3225 3228	P-1449 P-1450	14.00 14.00	6.00 6.00	130.00 130.00	Open Open	0.28 12.21	1059.33 993.44	1059.33 993.44	0.00	0.00
3231	P-1451	14.00	6.00	130.00	Open	-2.84	1059.86	1059.86	0.00	0.00
3233 3236	P-1452 P-1453	14.00	6.00	130.00	Open	-0.08 -0.08	1052.03	1052.03	0.00	0.00
3236	P-1453 P-1454	15.00 15.00	6.00 6.00	130.00 130.00	Open Open	0.96	1059.76 1057.59	1059.76 1057.59	0.00	0.00
3241	P-1455	15.00	6.00	130.00	Open	0.28	1064.93	1064.93	0.00	0.00
3244 3247	P-1456 P-1457	15.00 16.00	6.00 6.00	130.00 130.00	Open Open	-0.08 -0.08	1051.94 1052.99	1051.94 1052.99	0.00	0.00
3250	P-1458	16.00	6.00	130.00	Open	0.68	1053.03	1053.03	0.00	0.00
3253 3256	P-1459 P-1460	16.00 16.00	6.00 6.00	130.00 130.00	Open Open	0.48 1.64	1063.59 1053.03	1063.59 1053.03	0.00	0.00
3258	P-1461	16.00	6.00	130.00	Open	-0.26	1322.91	1322.91	0.00	0.00
3261 3263	P-1462 P-1463	16.00 17.00	6.00 6.00	130.00 130.00	Open Open	-2.76 0.83	1051.86 1053.06	1051.86 1053.06	0.00	0.00
3266	P-1464	17.00	6.00	130.00	Open	1.44	1060.74	1060.74	0.00	0.00
3268 3271	P-1465 P-1466	17.00 17.00	6.00 6.00	130.00	Open Open	0.08 0.55	1057.31	1057.31 1218.03	0.00	0.00 0.00
3274	P-1467	18.00	6.00	130.00 130.00	Open	0.88	1218.03 1051.31	1051.31	0.00	0.00
3277	P-1468	18.00	6.00	130.00	Open	23.03	1052.37	1052.37	0.00	0.00
3280 3282	P-1469 P-1470	18.00 18.00	6.00 6.00	130.00 130.00	Open Open	-0.40 2.04	1218.15 1064.82	1218.15 1064.82	0.00	0.00
3284	P-1471	18.00	6.00	130.00	Open	0.76	1057.53	1057.53	0.00	0.00
3286 3288	P-1472 P-1473	19.00 19.00	6.00 6.00	130.00 130.00	Open Open	3.40 0.28	1060.74 1053.85	1060.74 1053.85	0.00	0.00
3291	P-1474	19.00	6.00	130.00	Open	0.08	1053.06	1053.06	0.00	0.00
3294 3296	P-1475 P-1476	19.00 19.00	6.00 6.00	130.00 130.00	Open Open	0.88 0.83	1054.24 1064.93	1054.24 1064.93	0.00	0.00
3298	P-1477	20.00	6.00	130.00	Open	12.40	1053.00	1053.00	0.00	0.00
3300 3302	P-1478 P-1479	20.00 21.00	6.00 6.00	130.00 130.00	Open Open	2.04 0.48	1060.74 1060.74	1060.74 1060.74	0.00	0.00 0.00
3304	P-1480	21.00	6.00	130.00	Open	0.96	1059.76	1059.76	0.00	0.00
3306 3308	P-1481 P-1482	21.00 22.00	6.00 6.00	130.00 130.00	Open Open	-0.60 8.38	1218.15 960.77	1218.15 960.77	0.00	0.00 0.00
3310	P-1483	23.00	6.00	130.00	Open	-2.89	1064.88	1064.88	0.00	0.00
3312 3314	P-1484 P-1485	23.00 23.00	6.00 6.00	130.00 130.00	Open Open	-0.83 4.91	994.76 993.44	994.76 993.44	0.00	0.00 0.00
3315	P-1486	24.00	6.00	130.00	Open	3.35	1218.03	1218.03	0.00	0.00
3318	P-1487 P-1488	24.00	6.00	130.00	Open	0.08	1060.74	1060.74	0.00	0.00
3320 3323	P-1489	24.00 27.00	6.00 6.00	130.00 130.00	Open Open	0.28 -0.48	1064.94 1051.98	1064.94 1051.98	0.00	0.00
3326	P-1490	24.00	6.00	130.00	Open	1.03	1064.93	1064.93	0.00	0.00
3328 3331	P-1491 P-1492	24.00 25.00	6.00 6.00	130.00 130.00	Open Open	9.19 0.08	1052.72 1053.00	1052.72 1053.00	0.00	0.00
3334	P-1493	26.00	6.00	130.00	Open	-0.40	1218.60	1218.60	0.00	0.00
3335 3337	P-1494 P-1495	26.00 27.00	6.00 6.00	130.00 130.00	Open Open	2.56 -1.64	1056.79 1064.81	1056.79 1064.81	0.00	0.00
3339	P-1496	28.00	6.00	130.00	Open	1.29	1218.15	1218.15	0.00	0.00
3342 3344	P-1497 P-1498	29.00 30.00	6.00 6.00	130.00 130.00	Open Open	1.23 0.28	1052.99 1056.82	1052.99 1056.82	0.00	0.00 0.00
3346	P-1499	30.00	6.00	130.00	Open	0.55	988.98	988.98	0.00	0.00
3349 3350	P-1500 P-1501	31.00 31.00	6.00 6.00	130.00 130.00	Open Open	1.84 -1.17	1063.13 981.47	1063.13 981.47	0.00	0.00
3353	P-1502	31.00	6.00	130.00	Open	0.08	1057.64	1057.64	0.00	0.00
3356 3358	P-1503 P-1504	34.00 33.00	6.00 6.00	130.00 130.00	Open Open	-2.66 -3.85	1056.79 1052.09	1056.79 1052.09	0.00	0.00 0.00
3361	P-1505	33.00	6.00	130.00	Open	1.15	1218.03	1218.03	0.00	0.00
3364 3365	P-1506 P-1507	34.00 34.00	6.00 6.00	130.00 130.00	Open Open	0.63 1.44	1055.82 1063.05	1055.82 1063.05	0.00	0.00 0.00
3366	P-1507	34.00	6.00	130.00	Open	0.43	1053.03	1052.73	0.00	0.00
3368	P-1509 P-1510	34.00	6.00	130.00	Open	2.04	1053.16	1053.16	0.00	0.00
3370 3373	P-1510 P-1511	35.00 35.00	6.00 6.00	130.00 130.00	Open Open	8.61 0.94	1064.93 1218.03	1064.93 1218.03	0.00	0.00 0.00
3375	P-1512	37.00	6.00	130.00	Open	0.55	1218.03	1218.03	0.00	0.00
3377 3379	P-1513 P-1514	39.00 37.00	6.00 6.00	130.00 130.00	Open Open	0.38 1.23	1057.64 1054.24	1057.64 1054.24	0.00	0.00
3381	P-1515	37.00	6.00	130.00	Open	0.68	1051.96	1051.96	0.00	0.00
3383 3384	P-1516 P-1517	38.00 38.00	6.00 6.00	130.00 130.00	Open Open	7.71 0.48	963.95 1051.95	963.95 1051.95	0.00	0.00
3386	P-1518	38.00	6.00	130.00	Open	0.08	1052.09	1052.09	0.00	0.00
3388 3391	P-1519 P-1520	38.00 39.00	6.00 6.00	130.00 130.00	Open Open	0.20 1.66	1216.97 1051.79	1216.97 1051.79	0.00	0.00
3394	P-1521	40.00	6.00	130.00	Open	8.38	1217.75	1217.75	0.00	0.00
3396 3398	P-1522 P-1523	40.00 40.00	6.00 6.00	130.00 130.00	Open Open	0.28 -0.96	1053.06 1064.93	1053.06 1064.93	0.00	0.00 0.00
3400	P-1524	41.00	6.00	130.00	Open	1.23	1064.97	1064.97	0.00	0.00
3402	P-1525	42.00	6.00	130.00	Open	1.81	1059.76	1059.76	0.00	0.00

1940 P-1028	Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
3490 P-1528											
3411											
3470	3411	P-1529	47.00	6.00	130.00	Open	0.68	1056.78	1056.78	0.00	0.00
3449											
3422 P.1534	3419	P-1532	48.00	6.00	130.00	Open	4.18	1218.03	1218.03	0.00	0.00
3428											
3431 P.1537 S7.00 6.00 130.00 Open 3.37 1652.52 1652.52 0.00 0.0								1218.03	1218.03		
3435											
3440											
3440											
3446											
3446											
3452 P-1547 5500 6.00 13000 Open 3.20 1054.82 1054.82 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
3457 P-1548 55.00 6.00 130.00 Open -0.08 1064.88 1064.88 0.00 0.00 1003 14547 P-1548 55.00 6.00 130.00 Open 1.23 1051.86 1051.86 0.00 0.00 1003 1459 P-1548 55.00 6.00 130.00 Open 1.23 1051.86 1051.86 0.00 0.00 0.00 1003 1459 P-1551 61 0.00 0.00 1000 0.00 0.00 1000 0.00 1000 0.00 1000 0.00 1000 0.00 1000 0.00 1000 0.00 0.00 1000 0.00 0.00 1000 0.00 1000 0.00 1000 0.00 1000 0.00 1000 0.00 1000 0.00 0.00 1000 0.00 1000 0.00 1000 0.00 1000 0.00 1000 0.00 1000 0.00 0.00 1000 0.00 1000 0.00 0.00 1000 0.00 0.00 1000 0.00 0.00 1000 0.00 0.00 1000 0.00 0.00 1000 0.00 0											
3459											
3462 P-1550 59.00 6.00 130.00 Open 2.21 1061:13 1061:13 0.00 0.00 3468 P-1552 61.00 6.00 130.00 Open 12.31 1064.88 1064.88 0.00 0.00 3468 P-1552 61.00 6.00 130.00 Open 12.13 1064.88 1064.88 0.00 0.00 3474 P-1558 62.00 6.00 130.00 Open -0.63 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 100.00 0.00 0.00 343 1079.65 65.00 6.00 130.00 Open -0.63 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64 1052.64											
3468 P.1552 61.00 6.00 130.00 Open 19.04 1052.53 1068.88 0.00 0.00 0.00 3471 P.1553 62.00 6.00 130.00 Open 19.04 1052.53 1051.87 1061.87 0.00 0.00 0.00 3471 P.1556 64.00 6.00 130.00 Open 4.02 1051.87 1061.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
3468 P.1553 62.00 6.00 130.00 Open 13.28 1052.53 1052.64 0.00 0.											
3474 P.1555											
3477 P-1556 65.00 6.00 130.00 Open -0.63 1051.98 1051.98 0.00 0.00 0.00 3481 P-1559 65.00 6.00 130.00 Open 1.25 1218.03 1051.98 0.00 0.00 0.00 3481 P-1559 65.00 6.00 130.00 Open 6.27 1053.85 1053.85 0.00 0.00 0.00 3483 P-1559 66.00 6.00 130.00 Open 6.27 1053.85 1053.85 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
3481											
3486 P-1569 66.00 6.00 130.00 Open 0.08 1052.99 1052.99 0.00 0.00 0.00 3488 P-1561 67.00 6.00 130.00 Open 4.55 1053.84 1.005.38 4.00 0.00 0.00 3489 P-1562 72.00 6.00 130.00 Open 1.41 1216.03 1053.84 0.00 0.00 0.00 3489 P-1562 72.00 6.00 130.00 Open 1.41 1216.03 1057.36 0.00 0.00 0.00 3493 P-1563 68.00 6.00 130.00 Open 1.43 1216.03 91.07 32 0.00 0.00 0.00 3493 P-1563 68.00 6.00 130.00 Open 1.43 1216.03 91.07 32 0.00 0.00 0.00 3493 P-1565 70.00 6.00 130.00 Open 1.48 13.05 16.2 1051.82 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
3488 P-1561 67.00 6.00 130.00 Open 0.48 1057.36 1057.36 0.00 0.00 0.00 3493 P-1562 72.00 6.00 130.00 Open -3.76 1051.82 1051.82 0.00											
3491											
3496											
1948 P-1565 70.00 6.00 130.00 Open -0.08 1051.21 1051.21 0.00 0.00 3503 P-1567 100.00 6.00 130.00 Open 0.08 1059.76 1059.76 1059.76 0.00 0.00 3503 P-1567 100.00 6.00 130.00 Open 0.68 1052.01 1052.01 0.00 0.00 3509 P-1569 71.00 6.00 130.00 Open -7.68 981.48 81.48 0.00 0.00 3509 P-1579 71.00 6.00 130.00 Open -7.68 981.48 81.48 0.00 0.00 3513 P-1571 71.00 6.00 130.00 Open -7.68 981.48 381.48 0.00 0.00 3513 P-1571 71.00 6.00 130.00 Open -1.08 1218.03 1218.03 0.00 0.00 3518 P-1572 73.00 6.00 130.00 Open -1.08 1218.03 1218.03 0.00 0.00 3518 P-1573 73.00 6.00 130.00 Open -1.44 1052.64 1052.64 0.00 0.00 3518 P-1573 73.00 6.00 130.00 Open -1.44 1052.64 1052.64 0.00 0.00 0.00 3523 P-1576 74.00 6.00 130.00 Open -1.44 1052.64 1052.64 0.00 0.00 0.00 3523 P-1576 74.00 6.00 130.00 Open -1.38 1052.09 1052.09 0.00 0.00 3529 P-1578 76.00 6.00 130.00 Open -2.44 1052.64 1054.15 1054.15 0.00 0.00 3526 P-1577 77.00 6.00 130.00 Open -2.79 1051.21 1051.21 0.00 0.00 3531 P-1560 77.00 6.00 130.00 Open -2.24 1051.74 1051.74 0.00 0.00 3531 P-1580 77.00 6.00 130.00 Open -2.24 1051.74 1051.74 0.00 0.00 3534 P-1581 79.00 6.00 130.00 Open -2.24 1051.74 1051.74 0.00 0.00 3534 P-1581 80.00 6.00 130.00 Open -2.24 1051.74 1051.74 0.00 0.00 3538 P-1583 80.00 6.00 130.00 Open -2.24 1053.06 1053.06 0.00 0.00 3538 P-1583 80.00 6.00 130.00 Open -2.24 1053.06 1053.06 0.00 0.00 3538 P-1583 80.00 6.00 130.00 Open -2.24 1053.36 1053.06 0.00 0.00 3538 P-1583 80.00 6.00 130.00 Open -2.24 1052.44 1054.24 0.00 0.00 3536 P-1583 80.00 6.00 130.00 Open -2.24 1053.											
5500 P-1568 70.00 6.00 130.00 Open 0.08 1063.76 1052.01 0.00 0.00 0.00 3506 P-1568 71.00 6.00 130.00 Open -23.511 1051.85 1051.86 0.01 0.00 0.0											
1506	3500	P-1566	70.00	6.00	130.00	Open	0.08	1059.76	1059.76	0.00	0.00
S512											
Set Set	3509	P-1569	71.00	6.00	130.00	Open	-7.68	981.48	981.48	0.00	0.00
3516 P-1572 73.00 6.00 130.00 Open 2.84 1052.64 1052.64 0.00 0.0											
S519											
18521											
S256 P-1577 76.00 6.00 130.00 Open 0.48 1056.05 1056.05 0.00 0.0		P-1575	74.00	6.00	130.00	Open	2.64	1054.15	1054.15	0.00	
1852 P.1578 76,00 6.00 130,00 Open -2.79 1051.21 1051.21 0.00 0.0											
SS31	3529	P-1578	76.00		130.00	Open		1051.21	1051.21	0.00	
13534 P.1581 79.00 6.00 130.00 Open 7.35 1064.88 1064.88 0.00 0.											
13538		P-1581	79.00		130.00	Open		1064.88			
1540											
S546					130.00	Open		1054.24			
S548											
3550				6.00	130.00	Open		1217.94	1217.94		
S553											
3559					130.00	Open					
3562											
3565	3562	P-1593	89.00	6.00	130.00	Open	1.81	1218.03	1218.03	0.00	0.00
3568											
1872	3568	P-1596	93.00	6.00	130.00	Open	-7.68	1059.77	1059.77	0.00	
3575											
3580	3575	P-1599	95.00	6.00	130.00	Open	-0.70	1059.76	1059.76	0.00	0.00
3582 P-1602 97.00 6.00 130.00 Open 8.26 1052.54 1052.54 0.00 0.00 3584 P-1603 106.00 6.00 130.00 Open 0.08 1059.33 1059.33 0.00 0.00 3586 P-1604 98.00 6.00 130.00 Open 0.08 1051.80 1051.80 0.00 0.00 3589 P-1606 101.00 6.00 130.00 Open 0.88 1056.78 0.06 0.00 3595 P-1607 104.00 6.00 130.00 Open 0.88 1056.78 1056.96 0.00 0.00 3598 P-1607 104.00 6.00 130.00 Open 0.88 1056.78 1056.78 0.00 0.00 3595 P-1607 104.00 6.00 130.00 Open 0.88 1056.78 1056.78 0.00 0.00 3600 P-1610 109.00 6.00 130.00 Open 1											
3586 P-1604 98.00 6.00 130.00 Open 0.08 1051.80 1051.80 0.00 0.00 3589 P-1605 139.00 6.00 130.00 Open 2.97 1218.03 1218.03 0.00 0.00 3595 P-1606 101.00 6.00 130.00 Open 2.94 1052.96 1052.96 0.00 0.00 3595 P-1608 105.00 6.00 130.00 Open 0.88 1056.78 1056.78 0.00 0.00 3600 P-1609 109.00 6.00 130.00 Open 0.88 1056.78 0.00 0.00 3602 P-1610 109.00 6.00 130.00 Open 1.56 1064.81 1064.94 0.00 0.00 3604 P-1611 132.00 6.00 130.00 Open 2.16 1064.94 1064.94 0.00 0.00 3605 P-1612 112.00 6.00 130.00 Open	3582	P-1602	97.00	6.00	130.00	Open	8.26	1052.54	1052.54	0.00	0.00
3589 P-1605 139.00 6.00 130.00 Open 2.97 1218.03 1218.03 0.00 0.00 3592 P-1606 101.00 6.00 130.00 Open 0.88 1056.78 1056.78 0.00 0.00 3595 P-1607 104.00 6.00 130.00 Open 2.04 1052.96 1052.96 0.00 0.00 3598 P-1609 109.00 6.00 130.00 Open 0.88 1056.78 1056.78 0.00 0.00 3600 P-1610 109.00 6.00 130.00 Open 4.66 1054.24 1054.24 0.00 0.00 3602 P-1610 109.00 6.00 130.00 Open 1.56 1064.81 1064.94 0.00 0.00 3605 P-1612 112.00 6.00 130.00 Open 1.76 1064.94 1064.94 0.00 0.00 3608 P-1613 122.00 6.00 130.00											
3595 P-1607 104.00 6.00 130.00 Open 2.04 1052.96 1052.96 0.00 0.00 3598 P-1608 105.00 6.00 130.00 Open 0.88 1056.78 1056.78 0.00 0.00 3600 P-1609 109.00 6.00 130.00 Open 4.46 1054.24 1054.24 0.00 0.00 3602 P-1610 109.00 6.00 130.00 Open 1.56 1064.94 1064.94 0.00 0.00 3605 P-1612 112.00 6.00 130.00 Open 2.16 1052.04 1052.04 0.00 0.00 3606 P-1613 120.00 6.00 130.00 Open 1.76 1064.82 1064.82 0.00 0.00 3608 P-1614 120.00 6.00 130.00 Open -0.20 1218.15 1218.15 0.00 0.00 3610 P-1616 122.00 6.00 130.00	3589	P-1605	139.00	6.00	130.00	Open	2.97	1218.03	1218.03	0.00	0.00
3598 P-1608 105.00 6.00 130.00 Open 0.88 1056.78 1056.78 0.00 0.00 3600 P-1609 109.00 6.00 130.00 Open 4.46 1054.24 1054.24 0.00 0.00 3602 P-1610 109.00 6.00 130.00 Open 1.56 1054.81 1064.94 0.00 0.00 3604 P-1611 132.00 6.00 130.00 Open 7.40 1064.94 1064.94 0.00 0.00 3605 P-1612 112.00 6.00 130.00 Open 2.16 1052.04 1050.44 0.00 0.00 3608 P-1613 120.00 6.00 130.00 Open -0.20 1218.15 1064.92 0.00 0.00 3610 P-1615 122.00 6.00 130.00 Open -0.20 1218.15 1064.97 0.00 0.00 3612 P-1616 123.00 6.00 130.00											
3602 P-1610 109.00 6.00 130.00 Open 1.56 1064.81 1064.81 0.00 0.00 3604 P-1611 132.00 6.00 130.00 Open 1.56 1064.94 1064.94 0.00 0.00 3605 P-1612 112.00 6.00 130.00 Open 2.16 1052.04 1052.04 0.00 0.00 3608 P-1613 120.00 6.00 130.00 Open 1.76 1064.82 1064.82 0.00 0.00 3610 P-1615 122.00 6.00 130.00 Open 5.18 1064.97 1064.99 0.00 0.00 3612 P-1616 123.00 6.00 130.00 Open 5.18 1064.98 1064.98 0.00 0.00 3614 P-1617 123.00 6.00 130.00 Open -1.05 1051.27 1051.27 0.00 0.00 3617 P-1618 123.00 6.00 130.00	3598	P-1608	105.00	6.00	130.00	Open	0.88	1056.78	1056.78	0.00	0.00
3604											
3606 P-1613 120.00 6.00 130.00 Open 1.76 1064.82 1064.82 0.00 0.00 3608 P-1614 120.00 6.00 130.00 Open -0.20 1218.15 1218.15 0.00 0.00 3610 P-1615 122.00 6.00 130.00 Open 5.18 1064.97 0.00 0.00 3612 P-1616 123.00 6.00 130.00 Open -3.70 1064.98 1064.98 0.00 0.00 3614 P-1617 123.00 6.00 130.00 Open -10.65 1051.27 1051.27 0.00 0.00 3617 P-1618 123.00 6.00 130.00 Open 0.28 1056.77 1051.27 0.00 0.00 3619 P-1619 149.00 6.00 130.00 Open 10.50 1052.73 1052.73 0.00 0.00 3620 P-1620 135.00 6.00 130.00 Open	3604	P-1611	132.00	6.00	130.00	Open	7.40	1064.94	1064.94	0.00	0.00
3608 P-1614 120.00 6.00 130.00 Open -0.20 1218.15 1218.15 0.00 0.00 3610 P-1615 122.00 6.00 130.00 Open -5.18 1064.97 1064.97 0.00 0.00 3612 P-1616 123.00 6.00 130.00 Open -3.70 1064.98 1064.98 0.00 0.00 3614 P-1617 123.00 6.00 130.00 Open -10.65 1051.27 1051.27 0.00 0.00 3617 P-1618 123.00 6.00 130.00 Open 0.28 1056.77 1056.77 0.00 0.00 3619 P-1619 149.00 6.00 130.00 Open 10.50 1052.73 1052.73 0.00 0.00 3620 P-1620 135.00 6.00 130.00 Open 5.46 1218.03 1218.03 0.00 0.00 3622 P-1621 127.00 6.00 130.00											
3612 P-1616 123.00 6.00 130.00 Open -3.70 1064.98 1064.98 0.00 0.00 3614 P-1617 123.00 6.00 130.00 Open -10.65 1051.27 1051.27 0.00 0.00 3617 P-1618 123.00 6.00 130.00 Open 0.28 1056.77 1056.77 0.00 0.00 3619 P-1619 149.00 6.00 130.00 Open 10.50 1052.73 1052.73 0.00 0.00 3620 P-1620 135.00 6.00 130.00 Open 5.46 1218.03 1218.03 0.00 0.00 3622 P-1621 127.00 6.00 130.00 Open 0.52 1322.91 1322.91 0.00 0.00 3624 P-1622 127.00 6.00 130.00 Open 0.88 1064.93 1064.93 0.00 0.00	3608	P-1614	120.00	6.00	130.00	Open	-0.20	1218.15	1218.15	0.00	0.00
3614 P-1617 123.00 6.00 130.00 Open -10.65 1051.27 1051.27 0.00 0.00 3617 P-1618 123.00 6.00 130.00 Open -0.28 1056.77 1056.77 0.00 0.00 3619 P-1619 149.00 6.00 130.00 Open 10.50 1052.73 1052.73 0.00 0.00 3620 P-1620 135.00 6.00 130.00 Open 5.46 1218.03 1218.03 0.00 0.00 3622 P-1621 127.00 6.00 130.00 Open 0.52 1322.91 1322.91 0.00 0.00 3624 P-1622 127.00 6.00 130.00 Open 0.88 1064.93 1064.93 0.00 0.00											
3619 P-1619 149.00 6.00 130.00 Open 10.50 1052.73 1052.73 0.00 0.00 3620 P-1620 135.00 6.00 130.00 Open 5.46 1218.03 1218.03 0.00 0.00 3622 P-1621 127.00 6.00 130.00 Open 0.52 1322.91 1322.91 0.00 0.00 3624 P-1622 127.00 6.00 130.00 Open 0.88 1064.93 1064.93 0.00 0.00	3614	P-1617	123.00	6.00	130.00	Open	-10.65	1051.27	1051.27	0.00	0.00
3620 P-1620 135.00 6.00 130.00 Open 5.46 1218.03 1218.03 0.00 0.00 3622 P-1621 127.00 6.00 130.00 Open 0.52 1322.91 1322.91 0.00 0.00 3624 P-1622 127.00 6.00 130.00 Open 0.88 1064.93 1064.93 0.00 0.00											
3624 P-1622 127.00 6.00 130.00 Open 0.88 1064.93 1064.93 0.00 0.00	3620	P-1620	135.00	6.00	130.00	Open	5.46	1218.03	1218.03	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
3629	P-1624	134.00	6.00	130.00	Open	-23.62	1051.35	1051.36	0.01	0.00
3632 3635	P-1625 P-1626	134.00 139.00	6.00 6.00	130.00 130.00	Open Open	3.44 -12.17	1052.03 1053.85	1052.03 1053.85	0.00	0.00
3636	P-1627	136.00	6.00	130.00	Open	-12.31	1217.78	1217.78	0.00	0.00
3638 3640	P-1628 P-1629	145.00 147.00	6.00 6.00	130.00 130.00	Open Open	-3.33 5.36	1052.68 1059.75	1052.68 1059.74	0.00	0.00
3642	P-1630	158.00	6.00	130.00	Open	-0.88	1051.74	1051.74	0.00	0.00
3645 3648	P-1631 P-1632	149.00 151.00	6.00 6.00	130.00 130.00	Open Open	8.74 -0.28	1064.97 994.76	1064.96 994.76	0.00	0.00
3650	P-1633	152.00	6.00	130.00	Open	3.60	1051.76	1051.76	0.00	0.00
3653 3656	P-1634 P-1635	158.00 160.00	6.00 6.00	130.00 130.00	Open Open	0.48 1.56	1064.82 1064.86	1064.82 1064.86	0.00	0.00
3657	P-1636	162.00	6.00	130.00	Open	5.74	1064.96	1064.96	0.00	0.00
3659	P-1637	165.00	6.00 6.00	130.00	Open Open	-9.32 5.99	993.37	993.37	0.00	0.00
3660 3661	P-1638 P-1639	165.00 168.00	6.00	130.00 130.00	Open	0.28	981.47 1053.06	981.47 1053.06	0.00	0.00
3663 3665	P-1640 P-1641	168.00 169.00	6.00 6.00	130.00 130.00	Open Open	2.19 2.27	1059.75 1064.87	1059.75 1064.86	0.00	0.00
3668	P-1642	172.00	6.00	130.00	Open	2.50	988.98	988.98	0.00	0.00
3669 3672	P-1643 P-1644	172.00 178.00	6.00 6.00	130.00 130.00	Open Open	-2.11 -0.88	1061.95 1051.72	1061.95 1051.72	0.00	0.00
3675	P-1645	179.00	6.00	130.00	Open	1.08	1051.72	1051.72	0.00	0.00
3678 3681	P-1646 P-1647	180.00 196.00	6.00 6.00	130.00 130.00	Open Open	2.44 -1.56	1051.80 1051.36	1051.80 1051.36	0.00	0.00
3682	P-1648	186.00	6.00	130.00	Open	-2.87	1051.36	1051.36	0.00	0.00
3684	P-1649	210.00	6.00 6.00	130.00	Open	-26.10 -57.08	1218.12	1218.14	0.02	0.00
3687 3690	P-1650 P-1651	188.00 189.00	6.00	130.00 130.00	Open Open	-2.55	1057.42 1052.64	1057.49 1052.64	0.07 0.00	0.00
3693	P-1652	193.00	6.00	130.00	Open	0.22	1218.15	1218.15	0.00	0.00
3696 3698	P-1653 P-1654	195.00 196.00	6.00 6.00	130.00 130.00	Open Open	0.08 -1.79	1057.60 1064.96	1057.60 1064.96	0.00	0.00
3700	P-1655	239.00	6.00	130.00	Open	0.48	1052.04	1052.04	0.00	0.00
3703 3704	P-1656 P-1657	197.00 197.00	6.00 6.00	130.00 130.00	Open Open	3.90 2.64	1054.24 981.47	1054.24 981.47	0.00	0.00
3706	P-1658	199.00	6.00	130.00	Open	5.00	1052.99	1052.99	0.00	0.00
3709 3711	P-1659 P-1660	209.00 200.00	6.00 6.00	130.00 130.00	Open Open	-0.43 1.84	1051.78 1051.80	1051.78 1051.80	0.00	0.00
3713	P-1661	203.00	6.00	130.00	Open	-1.71	1064.93	1064.93	0.00	0.00
3715 3718	P-1662 P-1663	210.00 204.00	6.00 6.00	130.00 130.00	Open Open	-0.88 -1.36	1051.82 1051.80	1051.82 1051.80	0.00	0.00
3719	P-1664	205.00	6.00	130.00	Open	0.88	1060.74	1060.74	0.00	0.00
3722 3724	P-1665 P-1666	211.00 213.00	6.00 6.00	130.00 130.00	Open Open	-7.18 10.90	1051.71 1052.53	1051.72 1052.52	0.00	0.00
3726	P-1667	234.00	6.00	130.00	Open	-1.28	1052.53	1052.53	0.00	0.00
3729 3732	P-1668 P-1669	220.00 217.00	6.00 6.00	130.00 130.00	Open Open	-0.20 -1.08	1218.03 981.47	1218.03 981.47	0.00	0.00
3734	P-1670	228.00	6.00	130.00	Open	6.07	1060.74	1060.74	0.00	0.00
3736 3739	P-1671 P-1672	224.00 226.00	6.00 6.00	130.00 130.00	Open Open	-2.04 1.34	1051.92 1051.78	1051.92 1051.78	0.00	0.00
3741	P-1673	227.00	6.00	130.00	Open	-2.24	1051.92	1051.92	0.00	0.00
3743 3745	P-1674 P-1675	291.00 228.00	6.00 6.00	130.00 130.00	Open Open	3.60 1.56	1064.98 1064.96	1064.98 1064.96	0.00	0.00
3748	P-1676	231.00	6.00	130.00	Open	0.83	963.95	963.95	0.00	0.00
3749 3750	P-1677 P-1678	231.00 233.00	6.00 6.00	130.00 130.00	Open Open	0.23 -0.48	1052.80 1051.92	1052.80 1051.92	0.00	0.00
3752	P-1679	235.00	6.00	130.00	Open	2.84	1051.76	1051.76	0.00	0.00
3755 3756	P-1680 P-1681	244.00 238.00	6.00 6.00	130.00 130.00	Open Open	6.29 -1.56	1218.03 1061.95	1218.03 1061.95	0.00	0.00
3757	P-1682	238.00	6.00	130.00	Open	0.28	1052.03	1052.03	0.00	0.00
3759 3760	P-1683 P-1684	245.00 239.00	6.00 6.00	130.00 130.00	Open Open	5.67 2.22	1218.03 1051.79	1218.03 1051.79	0.00	0.00
3762	P-1685	258.00	6.00	130.00	Open	-0.76	1051.39	1051.39	0.00	0.00
3763 3766	P-1686 P-1687	261.00 254.00	6.00 6.00	130.00 130.00	Open Open	-0.28 14.67	1057.34 1059.77	1057.34 1059.77	0.00 0.01	0.00
3768	P-1688	261.00	6.00	130.00	Open	3.47	1056.79	1056.79	0.00	0.00
3771 3773	P-1689 P-1690	250.00 250.00	6.00 6.00	130.00 130.00	Open Open	0.12 -0.43	1051.31 1059.76	1051.31 1059.76	0.00	0.00
3775	P-1691	280.00	6.00	130.00	Open	0.00	1064.96	1064.96	0.00	0.00
3776 3778	P-1692 P-1693	257.00 298.00	6.00 6.00	130.00 130.00	Open Open	1.08 4.50	1064.93 963.94	1064.93 963.93	0.00	0.00
3780	P-1694	258.00	6.00	130.00	Open	0.83	1052.04	1052.04	0.00	0.00
3781 3783	P-1695 P-1696	265.00 265.00	6.00 6.00	130.00 130.00	Open Open	1.56 0.68	1061.95 1064.98	1061.95 1064.98	0.00	0.00
3785	P-1697	265.00	6.00	130.00	Open	0.08	1051.77	1051.77	0.00	0.00
3788 3789	P-1698 P-1699	267.00 268.00	6.00 6.00	130.00 130.00	Open Open	2.84 0.68	1053.70 1064.93	1053.70 1064.93	0.00	0.00
3792	P-1700	293.00	6.00	130.00	Open	1.56	1059.76	1059.76	0.00	0.00
3794	P-1701 P-1702	276.00	6.00	130.00	Open	-2.16 -1.04	1052.98	1052.98 1062.54	0.00	0.00
3796 3799	P-1703	286.00 278.00	6.00 6.00	130.00 130.00	Open Open	0.18	1062.54 988.98	988.98	0.00	0.00
3800 3801	P-1704	275.00	6.00 6.00	130.00 130.00	Open	0.96 -1.08	1052.53 1064.93	1052.53 1064.93	0.00	0.00
3803	P-1705 P-1706	276.00 276.00	6.00	130.00	Open Open	-1.08	1054.93	1054.93	0.00	0.00
3805	P-1707 P-1708	338.00	6.00	130.00	Open	-1.08	1051.80	1051.80 1051.78	0.00	0.00
3808 3809	P-1708 P-1709	290.00 302.00	6.00 6.00	130.00 130.00	Open Open	0.63 5.20	1051.78 1053.70	1051.78	0.00	0.00
3811	P-1710	314.00	6.00	130.00	Open	-4.96	1051.21	1051.21	0.00	0.00
3813 3815	P-1711 P-1712	281.00 284.00	6.00 6.00	130.00 130.00	Open Open	2.16 7.04	1051.23 1064.94	1051.23 1064.94	0.00	0.00
3816	P-1713	290.00	6.00	130.00	Open	4.52	1051.24	1051.23	0.00	0.00
3818 3820	P-1714 P-1715	291.00 285.00	6.00 6.00	130.00 130.00	Open Open	0.80 6.31	1322.91 1059.75	1322.91 1059.75	0.00	0.00
3821	P-1716	286.00	6.00	130.00	Open	5.00	1062.80	1062.79	0.00	0.00
3823 3826	P-1717 P-1718	286.00 286.00	6.00 6.00	130.00 130.00	Open Open	-1.28 -2.32	1051.87 981.47	1051.87 981.47	0.00	0.00
3827	P-1719	290.00	6.00	130.00	Open	4.25	963.94	963.94	0.00	0.00
3830 3832	P-1720 P-1721	288.00 288.00	6.00 6.00	130.00 130.00	Open Open	0.88 0.28	1057.27 1053.98	1057.27 1053.98	0.00 0.00	0.00 0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
3835	P-1722	301.00	6.00	130.00	Open	1.19	1064.93	1064.93	0.00	0.00
3836 3837	P-1723 P-1724	291.00 291.00	6.00 6.00	130.00 130.00	Open Open	-26.46 5.59	1051.36 963.95	1051.39 963.95	0.03	0.00
3839	P-1725	293.00	6.00	130.00	Open	-9.41	1051.85	1051.85	0.00	0.00
3842	P-1726	293.00	6.00	130.00	Open	-0.43	1051.94	1051.94	0.00	0.00
3844 3847	P-1727 P-1728	294.00 298.00	6.00 6.00	130.00 130.00	Open Open	-1.56 0.41	1053.99 1053.00	1053.99 1053.00	0.00	0.00
3849	P-1729	301.00	6.00	130.00	Open	11.36	1052.74	1052.74	0.01	0.00
3851 3852	P-1730 P-1731	299.00 305.00	6.00 6.00	130.00 130.00	Open Open	0.63 0.68	1218.15 1055.83	1218.15 1055.83	0.00	0.00
3854	P-1732	302.00	6.00	130.00	Open	17.91	1051.75	1051.74	0.01	0.00
3857 3858	P-1733 P-1734	306.00 304.00	6.00 6.00	130.00 130.00	Open Open	4.37 0.43	993.43 1064.93	993.43 1064.93	0.00	0.00
3859	P-1735	304.00	6.00	130.00	Open	-12.66	1054.93	1054.93	0.00	0.00
3861	P-1736	305.00	6.00	130.00	Open	-6.40	993.37	993.37	0.00	0.00
3862 3865	P-1737 P-1738	402.00 326.00	6.00 6.00	130.00 130.00	Open Open	0.48 2.72	1064.98 1052.99	1064.98 1052.99	0.00	0.00
3866	P-1739	306.00	6.00	130.00	Open	11.01	1052.74	1052.73	0.01	0.00
3867 3869	P-1740 P-1741	307.00 336.00	6.00 6.00	130.00 130.00	Open Open	8.26 5.36	963.96 1059.76	963.95 1059.76	0.00	0.00
3872	P-1742	319.00	6.00	130.00	Open	-1.36	1053.99	1053.99	0.00	0.00
3874 3877	P-1743 P-1744	316.00 312.00	6.00 6.00	130.00 130.00	Open Open	0.68 10.99	1051.74 1051.78	1051.74 1051.77	0.00 0.01	0.00
3879	P-1745	314.00	6.00	130.00	Open	-1.68	1052.03	1052.03	0.00	0.00
3881	P-1746 P-1747	314.00	6.00	130.00	Open	-3.44	1051.28	1051.28	0.00	0.00
3883 3886	P-1747 P-1748	326.00 316.00	6.00 6.00	130.00 130.00	Open Open	-1.08 8.40	1053.99 1052.99	1053.99 1052.99	0.00	0.00 0.00
3887	P-1749	317.00	6.00	130.00	Open	-0.88	1052.99	1052.99	0.00	0.00
3889 3891	P-1750 P-1751	325.00 322.00	6.00 6.00	130.00 130.00	Open Open	0.48 -6.93	1064.98 1059.87	1064.98 1059.87	0.00	0.00
3893	P-1752	320.00	6.00	130.00	Open	0.68	1055.83	1055.83	0.00	0.00
3895 3897	P-1753 P-1754	321.00 330.00	6.00 6.00	130.00 130.00	Open Open	2.44 -1.08	1064.93 1052.96	1064.93 1052.96	0.00	0.00
3899	P-1755	336.00	6.00	130.00	Open	1.44	1062.85	1062.85	0.00	0.00
3900 3902	P-1756 P-1757	405.00 350.00	6.00 6.00	130.00 130.00	Open Open	-4.00 12.61	981.47 993.45	981.47 993.44	0.00 0.01	0.00
3904	P-1758	336.00	6.00	130.00	Open	1.84	1064.82	1064.82	0.00	0.00
3906 3908	P-1759 P-1760	335.00	6.00 6.00	130.00	Open	-1.28 4.11	1051.92	1051.92	0.00	0.00 0.00
3910	P-1761	337.00 344.00	6.00	130.00 130.00	Open Open	6.22	1064.97 1059.87	1064.97 1059.86	0.00	0.00
3912	P-1762	338.00	6.00	130.00	Open	1.95	1218.15	1218.15	0.00	0.00
3914 3916	P-1763 P-1764	340.00 343.00	6.00 6.00	130.00 130.00	Open Open	4.00 -2.24	1057.27 1051.80	1057.27 1051.80	0.00	0.00
3917	P-1765	343.00	6.00	130.00	Open	6.36	1053.16	1053.16	0.00	0.00
3920 3921	P-1766 P-1767	351.00 345.00	6.00 6.00	130.00 130.00	Open Open	6.15 0.88	963.95 1052.96	963.95 1052.96	0.00	0.00
3923	P-1768	342.00	6.00	130.00	Open	-8.94	1051.72	1051.72	0.00	0.00
3925 3928	P-1769 P-1770	343.00 345.00	6.00 6.00	130.00 130.00	Open Open	-0.88 1.28	1051.79 1051.74	1051.79 1051.73	0.00	0.00
3931	P-1771	351.00	6.00	130.00	Open	-3.60	994.76	994.76	0.00	0.00
3933 3934	P-1772 P-1773	375.00 384.00	6.00 6.00	130.00 130.00	Open Open	1.23 3.04	1064.96 1062.55	1064.96 1062.54	0.00	0.00 0.00
3936	P-1774	358.00	6.00	130.00	Open	-4.08	981.47	981.47	0.00	0.00
3937 3938	P-1775 P-1776	443.00 397.00	6.00 6.00	130.00 130.00	Open Open	2.39 1.08	1060.74 1054.24	1060.74 1054.24	0.00	0.00 0.00
3940	P-1777	358.00	6.00	130.00	Open	-1.64	1052.14	1054.24	0.00	0.00
3942 3944	P-1778 P-1779	358.00 361.00	6.00 6.00	130.00 130.00	Open Open	4.20 -6.05	1064.94 1051.21	1064.93 1051.21	0.00	0.00 0.00
3946	P-1779	361.00	6.00	130.00	Open	6.16	1062.80	1062.80	0.00	0.00
3948	P-1781	361.00	6.00	130.00	Open	4.25	994.76	994.76	0.00	0.00
3950 3951	P-1782 P-1783	368.00 364.00	6.00 6.00	130.00 130.00	Open Open	4.28 -1.64	981.47 1056.17	981.47 1056.17	0.00	0.00
3953	P-1784	370.00	6.00	130.00	Open	4.03	1218.03	1218.03	0.00	0.00
3954 3956	P-1785 P-1786	378.00 379.00	6.00 6.00	130.00 130.00	Open Open	0.68 5.70	1061.38 1056.79	1061.38 1056.79	0.00	0.00
3958	P-1787	457.00	6.00	130.00	Open	0.88	1062.54	1062.54	0.00	0.00
3960 3962	P-1788 P-1789	370.00 478.00	6.00 6.00	130.00 130.00	Open Open	-1.28 1.84	1051.74 1064.98	1051.74 1064.98	0.00	0.00
3963	P-1790	385.00	6.00	130.00	Open	0.34	1059.76	1059.76	0.00	0.00
3965 3967	P-1791 P-1792	374.00 380.00	6.00 6.00	130.00 130.00	Open Open	-3.63 -7.36	1052.13 981.47	1052.13 981.48	0.00	0.00 0.00
3969	P-1793	382.00	6.00	130.00	Open	24.40	1051.89	1051.86	0.03	0.00
3972 3975	P-1794 P-1795	379.00 410.00	6.00 6.00	130.00 130.00	Open Open	4.93 2.39	1056.78 1054.24	1056.78 1054.24	0.00	0.00
3976	P-1796	690.00	6.00	130.00	Open	-0.28	1062.54	1062.54	0.00	0.00
3977 3978	P-1797 P-1798	397.00 416.00	6.00 6.00	130.00 130.00	Open Open	5.11 3.24	1064.97 1064.98	1064.97 1064.98	0.00	0.00 0.00
3979	P-1799	389.00	6.00	130.00	Open	1.08	1051.73	1051.73	0.00	0.00
3982 3983	P-1800 P-1801	400.00 385.00	6.00 6.00	130.00 130.00	Open Open	1.35 -2.84	988.98 1051.79	988.98 1051.79	0.00	0.00 0.00
3985	P-1802	389.00	6.00	130.00	Open	-6.72	981.47	981.48	0.00	0.00
3986	P-1803	387.00	6.00	130.00	Open	-1.91	1064.93	1064.93	0.00	0.00
3987 3989	P-1804 P-1805	390.00 393.00	6.00 6.00	130.00 130.00	Open Open	1.64 -3.60	1052.54 1059.86	1052.54 1059.86	0.00	0.00 0.00
3991	P-1806	400.00	6.00	130.00	Open	2.32	1055.31	1055.31	0.00	0.00
3993 3995	P-1807 P-1808	392.00 393.00	6.00 6.00	130.00 130.00	Open Open	2.11 6.29	1057.59 1052.03	1057.59 1052.03	0.00	0.00
3997	P-1809	397.00	6.00	130.00	Open	6.86	963.94	963.94	0.00	0.00
3999 4001	P-1810 P-1811	395.00 399.00	6.00 6.00	130.00 130.00	Open Open	-5.31 -10.77	1051.71 1051.85	1051.71 1051.86	0.00 0.01	0.00
4003	P-1812	395.00	6.00	130.00	Open	-5.70	1051.79	1051.79	0.00	0.00
4004 4006	P-1813 P-1814	400.00 397.00	6.00 6.00	130.00 130.00	Open Open	-8.23 0.88	1052.64 1052.72	1052.65 1052.72	0.00	0.00
4009	P-1815	401.00	6.00	130.00	Open	2.24	1053.81	1053.81	0.00	0.00
4011 4012	P-1816 P-1817	405.00 403.00	6.00 6.00	130.00 130.00	Open Open	2.11 3.28	1055.31 1064.93	1055.31 1064.93	0.00	0.00 0.00
4013	P-1818	437.00	6.00	130.00	Open	-1.64	1052.66	1052.66	0.00	0.00
4015	P-1819	406.00	6.00	130.00	Open	7.75	981.48	981.47	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
4017	P-1820	407.00	6.00	130.00	Open	-0.79	981.47	981.47	0.00	0.00
4018 4020	P-1821 P-1822	408.00 411.00	6.00 6.00	130.00 130.00	Open Open	6.29 6.72	1064.94 1059.77	1064.93 1059.76	0.00	0.00
4021	P-1823	416.00	6.00	130.00	Open	1.46	1052.99	1052.99	0.00	0.00
4024 4026	P-1824 P-1825	446.00 414.00	6.00 6.00	130.00	Open	6.16	1052.96	1052.96	0.00	0.00
4028	P-1825 P-1826	414.00	6.00	130.00 130.00	Open Open	1.08 2.67	1052.12 1059.86	1052.12 1059.86	0.00	0.00
4029	P-1827	424.00	6.00	130.00	Open	-11.68	993.38	993.39	0.01	0.00
4030 4032	P-1828 P-1829	421.00 426.00	6.00 6.00	130.00 130.00	Open Open	9.39 -2.92	1057.30 1051.81	1057.29 1051.81	0.01 0.00	0.00 0.00
4034	P-1830	441.00	6.00	130.00	Open	4.45	1052.53	1052.53	0.00	0.00
4035 4036	P-1831 P-1832	439.00 436.00	6.00 6.00	130.00 130.00	Open Open	4.49 7.08	1052.54 1053.01	1052.54 1053.00	0.00	0.00
4039	P-1833	429.00	6.00	130.00	Open	-8.14	1053.01	1053.00	0.00	0.00
4041	P-1834	443.00	6.00	130.00	Open	-4.20	1051.92	1051.92	0.00	0.00
4044 4047	P-1835 P-1836	434.00 503.00	6.00 6.00	130.00 130.00	Open Open	2.44 2.16	993.48 1052.50	993.48 1052.50	0.00	0.00
4049	P-1837	437.00	6.00	130.00	Open	7.58	1059.87	1059.87	0.00	0.00
4050 4051	P-1838 P-1839	453.00 449.00	6.00 6.00	130.00 130.00	Open Open	-4.96 1.44	1051.92 1063.59	1051.92 1063.59	0.00	0.00
4052	P-1840	444.00	6.00	130.00	Open	1.71	1064.86	1064.86	0.00	0.00
4053 4055	P-1841 P-1842	439.00 454.00	6.00	130.00	Open	-1.03 0.72	1051.78	1051.78 1216.97	0.00	0.00
4058	P-1843	452.00	6.00 6.00	130.00 130.00	Open Open	2.04	1216.97 1060.74	1060.74	0.00	0.00
4059	P-1844	442.00	6.00	130.00	Open	10.04	1059.75	1059.75	0.01	0.00
4060 4063	P-1845 P-1846	459.00 445.00	6.00 6.00	130.00 130.00	Open Open	1.28 -6.24	1051.74 1053.99	1051.74 1053.99	0.00	0.00
4066	P-1847	464.00	6.00	130.00	Open	5.51	1053.85	1053.84	0.00	0.00
4067 4070	P-1848 P-1849	502.00 527.00	6.00 6.00	130.00 130.00	Open Open	-0.83 -2.33	1056.64 1052.09	1056.64 1052.09	0.00	0.00
4072	P-1850	451.00	6.00	130.00	Open	1.39	1053.06	1053.06	0.00	0.00
4074 4075	P-1851 P-1852	461.00 456.00	6.00 6.00	130.00 130.00	Open	9.76 0.57	1053.00 1218.15	1052.99 1218.15	0.01 0.00	0.00
4075	P-1852 P-1853	456.00	6.00	130.00	Open Open	2.44	1061.38	1061.38	0.00	0.00
4079	P-1854	524.00	6.00	130.00	Open	-0.28	981.48	981.48	0.00	0.00
4081 4084	P-1855 P-1856	480.00 471.00	6.00 6.00	130.00 130.00	Open Open	-0.88 -4.38	1051.92 1059.76	1051.92 1059.76	0.00	0.00
4086	P-1857	497.00	6.00	130.00	Open	-2.44	1061.63	1061.63	0.00	0.00
4088 4090	P-1858 P-1859	464.00 462.00	6.00 6.00	130.00 130.00	Open Open	9.93 13.31	1051.81 1059.77	1051.81 1059.75	0.01 0.01	0.00
4091	P-1860	493.00	6.00	130.00	Open	8.34	1052.52	1052.52	0.01	0.00
4092	P-1861	626.00	6.00	130.00	Open	-0.68	1052.04	1052.04	0.00	0.00
4094 4096	P-1862 P-1863	473.00 561.00	6.00 6.00	130.00 130.00	Open Open	1.44 -0.27	1059.01 1064.93	1059.01 1064.93	0.00	0.00
4097	P-1864	502.00	6.00	130.00	Open	2.50	1216.97	1216.97	0.00	0.00
4099 4101	P-1865 P-1866	478.00 562.00	6.00 6.00	130.00 130.00	Open Open	1.28 -2.52	1051.80 1053.99	1051.80 1053.99	0.00	0.00
4102	P-1867	484.00	6.00	130.00	Open	2.50	1051.78	1051.78	0.00	0.00
4103 4105	P-1868 P-1869	483.00 613.00	6.00 6.00	130.00 130.00	Open Open	-0.28 2.72	1056.64 1059.74	1056.64 1059.74	0.00	0.00
4106	P-1870	495.00	6.00	130.00	Open	-16.52	1051.30	1051.31	0.02	0.00
4108 4109	P-1871 P-1872	486.00	6.00 6.00	130.00 130.00	Open Open	4.20 0.68	1052.64 1051.96	1052.64 1051.96	0.00	0.00
4111	P-1873	531.00 487.00	6.00	130.00	Open	-1.48	1061.38	1061.38	0.00	0.00
4113	P-1874	507.00	6.00	130.00	Open	1.28	1054.15	1054.15	0.00	0.00
4115 4117	P-1875 P-1876	488.00 492.00	6.00 6.00	130.00 130.00	Open Open	-0.62 0.83	1059.76 1052.88	1059.76 1052.88	0.00	0.00
4119	P-1877	493.00	6.00	130.00	Open	10.63	1051.77	1051.76	0.01	0.00
4121 4122	P-1878 P-1879	514.00 502.00	6.00 6.00	130.00 130.00	Open Open	3.20 2.99	1053.98 1053.84	1053.97 1053.84	0.00	0.00 0.00
4123	P-1880	496.00	6.00	130.00	Open	-3.44	1052.72	1052.72	0.00	0.00
4125 4126	P-1881 P-1882	507.00 507.00	6.00 6.00	130.00 130.00	Open Open	2.04 6.21	1064.98 1057.43	1064.98 1057.43	0.00	0.00
4129	P-1883	505.00	6.00	130.00	Open	-1.79	1052.37	1052.37	0.00	0.00
4131 4134	P-1884 P-1885	516.00 516.00	6.00 6.00	130.00 130.00	Open Open	-34.10 -6.02	1061.38 1051.71	1061.45 1051.71	0.07 0.00	0.00 0.00
4135	P-1886	510.00	6.00	130.00	Open	3.92	1056.78	1056.78	0.00	0.00
4137 4140	P-1887 P-1888	518.00	6.00	130.00	Open	1.19	1064.93	1064.93	0.00	0.00
4140	P-1889	515.00 514.00	6.00 6.00	130.00 130.00	Open Open	-2.67 -14.92	1064.93 1052.66	1064.93 1052.68	0.00 0.02	0.00
4143	P-1890	542.00	6.00	130.00	Open	-5.09	981.47	981.47	0.00	0.00
4144 4145	P-1891 P-1892	517.00 525.00	6.00 6.00	130.00 130.00	Open Open	2.04 3.20	1057.64 1064.82	1057.64 1064.82	0.00	0.00
4147	P-1893	520.00	6.00	130.00	Open	-1.08	1061.63	1061.63	0.00	0.00
4149 4150	P-1894 P-1895	562.00 545.00	6.00 6.00	130.00 130.00	Open Open	2.59 -11.61	1060.74 1051.27	1060.74 1051.28	0.00 0.01	0.00
4151	P-1896	523.00	6.00	130.00	Open	0.88	1051.76	1051.76	0.00	0.00
4153	P-1897	524.00	6.00 6.00	130.00	Open	0.48	1057.28	1057.28	0.00	0.00
4155 4158	P-1898 P-1899	935.00 558.00	6.00	130.00 130.00	Open Open	1.83 -236.34	1322.92 1057.37	1322.92 1060.23	2.86	0.00 0.01
4160	P-1900	616.00	6.00	130.00	Open	2.79	1064.93	1064.93	0.00	0.00
4162 4164	P-1901 P-1902	541.00 605.00	6.00 6.00	130.00 130.00	Open Open	-4.52 -12.53	1051.86 1051.86	1051.86 1051.87	0.00 0.01	0.00
4165	P-1903	715.00	6.00	130.00	Open	-2.81	1059.86	1059.86	0.00	0.00
4167 4169	P-1904 P-1905	541.00 545.00	6.00 6.00	130.00 130.00	Open Open	-1.48 -0.48	994.76 1064.88	994.76 1064.88	0.00	0.00
4171	P-1906	558.00	6.00	130.00	Open	2.44	1064.82	1064.82	0.00	0.00
4172 4173	P-1907 P-1908	541.00 560.00	6.00 6.00	130.00 130.00	Open Open	-10.70 1.39	1051.72 1064.93	1051.73 1064.93	0.01 0.00	0.00
4173	P-1908 P-1909	589.00	6.00	130.00	Open	-2.44	1053.99	1053.99	0.00	0.00
4176	P-1910	553.00	6.00	130.00	Open	1.91	1057.13	1057.13	0.00	0.00
4177 4179	P-1911 P-1912	564.00 552.00	6.00 6.00	130.00 130.00	Open Open	1.68 3.60	1061.38 1053.00	1061.38 1053.00	0.00	0.00
4181	P-1913	554.00	6.00	130.00	Open	4.32	1064.93	1064.93	0.00	0.00
4182 4185	P-1914 P-1915	548.00 596.00	6.00 6.00	130.00 130.00	Open Open	-2.29 -1.64	1051.74 1216.97	1051.74 1216.97	0.00	0.00 0.00
4187	P-1916	557.00	6.00	130.00	Open	-1.48	1051.28	1051.28	0.00	0.00
4189	P-1917	567.00	6.00	130.00	Open	27.06	1059.58	1059.53	0.05	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
4191	P-1918	603.00	6.00	130.00	Open	-55.72	1057.20	1057.42	0.21	0.00
4192 4194	P-1919 P-1920	563.00 557.00	6.00 6.00	130.00 130.00	Open Open	-1.88 8.61	1051.74 1064.88	1051.74 1064.88	0.00 0.01	0.00
4195	P-1921	636.00	6.00	130.00	Open	-1.79	1052.64	1052.64	0.00	0.00
4197	P-1922	571.00	6.00	130.00	Open	5.71	1052.72	1052.71	0.00	0.00
4198 4199	P-1923 P-1924	561.00 580.00	6.00 6.00	130.00 130.00	Open Open	1.78 3.55	993.48 1054.24	993.48 1054.24	0.00	0.00
4202	P-1925	601.00	6.00	130.00	Open	-21.51	1051.24	1051.27	0.04	0.00
4203 4204	P-1926 P-1927	574.00 596.00	6.00 6.00	130.00 130.00	Open Open	-2.95 -22.66	1064.96 1051.31	1064.96 1051.35	0.00 0.04	0.00
4205	P-1928	587.00	6.00	130.00	Open	-2.89	1051.01	1051.09	0.00	0.00
4206	P-1929	591.00	6.00	130.00	Open	-19.42	1051.28	1051.31	0.03	0.00
4207 4210	P-1930 P-1931	574.00 576.00	6.00 6.00	130.00 130.00	Open Open	-22.20 9.07	1057.53 1051.76	1057.57 1051.76	0.04 0.01	0.00
4211	P-1932	581.00	6.00	130.00	Open	-5.96	1051.80	1051.80	0.00	0.00
4213 4215	P-1933 P-1934	580.00 630.00	6.00 6.00	130.00 130.00	Open Open	18.32 2.09	1064.98 963.94	1064.95 963.94	0.03	0.00
4216	P-1935	587.00	6.00	130.00	Open	1.56	1056.78	1056.78	0.00	0.00
4217 4218	P-1936 P-1937	598.00 785.00	6.00 6.00	130.00 130.00	Open Open	-234.58 2.52	1054.34 1056.78	1057.37 1056.78	3.02 0.00	0.01 0.00
4220	P-1938	607.00	6.00	130.00	Open	31.78	1050.76	1059.68	0.08	0.00
4223	P-1939	613.00	6.00	130.00	Open	-2.26	1059.76	1059.76	0.00	0.00
4224 4225	P-1940 P-1941	592.00 592.00	6.00 6.00	130.00 130.00	Open Open	9.23 6.57	1057.29 1051.81	1057.28 1051.80	0.01 0.00	0.00
4226	P-1942	596.00	6.00	130.00	Open	2.99	1062.55	1062.54	0.00	0.00
4228 4229	P-1943 P-1944	597.00 664.00	6.00 6.00	130.00 130.00	Open Open	-17.32 0.78	1051.79 1059.76	1051.82 1059.76	0.02 0.00	0.00
4231	P-1945	614.00	6.00	130.00	Open	-2.24	1053.70	1053.70	0.00	0.00
4232	P-1946	676.00	6.00	130.00	Open	-29.46	1051.40	1051.47	0.07	0.00
4233 4234	P-1947 P-1948	610.00 608.00	6.00 6.00	130.00 130.00	Open Open	17.37 -22.15	1064.95 1051.82	1064.93 1051.85	0.02 0.04	0.00
4235	P-1949	608.00	6.00	130.00	Open	1.28	1064.87	1064.86	0.00	0.00
4237 4238	P-1950 P-1951	620.00 662.00	6.00 6.00	130.00 130.00	Open Open	-0.98 -2.38	1051.79 1059.76	1051.79 1059.76	0.00	0.00
4239	P-1952	613.00	6.00	130.00	Open	2.99	1063.05	1063.05	0.00	0.00
4240	P-1953 P-1954	621.00 657.00	6.00	130.00	Open	-2.79	1051.98	1051.98 1051.92	0.00	0.00
4241 4242	P-1954 P-1955	689.00	6.00 6.00	130.00 130.00	Open Open	-2.64 -1.28	1051.92 1051.84	1051.92	0.00	0.00
4245	P-1956	611.00	6.00	130.00	Open	1.64	1052.72	1052.72	0.00	0.00
4247 4248	P-1957 P-1958	623.00 616.00	6.00 6.00	130.00 130.00	Open Open	13.36 2.72	1053.02 1057.53	1053.00 1057.53	0.02 0.00	0.00
4250	P-1959	707.00	6.00	130.00	Open	2.52	1059.76	1059.76	0.00	0.00
4251 4252	P-1960 P-1961	618.00 624.00	6.00 6.00	130.00 130.00	Open Open	4.40 -1.44	1052.96 1052.64	1052.96 1052.64	0.00	0.00
4253	P-1962	616.00	6.00	130.00	Open	-10.50	993.37	993.38	0.00	0.00
4254	P-1963	647.00	6.00	130.00	Open	-1.48	1052.62	1052.62	0.00	0.00
4257 4258	P-1964 P-1965	620.00 628.00	6.00 6.00	130.00 130.00	Open Open	2.59 13.29	1054.24 1064.90	1054.24 1064.88	0.00 0.02	0.00
4260	P-1966	659.00	6.00	130.00	Open	2.79	1063.13	1063.13	0.00	0.00
4262 4264	P-1967 P-1968	629.00 757.00	6.00 6.00	130.00 130.00	Open Open	-0.28 -0.83	1056.17 1052.10	1056.17 1052.10	0.00	0.00
4265	P-1969	637.00	6.00	130.00	Open	2.44	1051.76	1051.76	0.00	0.00
4266 4269	P-1970 P-1971	639.00 658.00	6.00 6.00	130.00 130.00	Open Open	-5.70 -59.04	1051.74 1057.49	1051.74 1057.74	0.00 0.26	0.00
4209	P-1972	684.00	6.00	130.00	Open	5.44	991.26	991.25	0.20	0.00
4272 4273	P-1973 P-1974	650.00 650.00	6.00 6.00	130.00 130.00	Open	-37.27 17.24	1061.45 991.30	1061.56 991.28	0.11 0.03	0.00
4273	P-1974 P-1975	752.00	6.00	130.00	Open Open	2.24	1063.23	1063.23	0.03	0.00
4275	P-1976	720.00	6.00	130.00	Open	7.22	1052.09	1052.09	0.01	0.00
4277 4279	P-1977 P-1978	746.00 670.00	6.00 6.00	130.00 130.00	Open Open	1.28 2.64	1051.98 1056.79	1051.98 1056.79	0.00	0.00
4280	P-1979	847.00	6.00	130.00	Open	1.91	1061.95	1061.95	0.00	0.00
4281 4283	P-1980 P-1981	711.00 662.00	6.00 6.00	130.00 130.00	Open Open	0.46 3.75	993.37 1064.93	993.37 1064.93	0.00	0.00
4285	P-1982	690.00	6.00	130.00	Open	-26.10	991.30	991.36	0.06	0.00
4286	P-1983	890.00	6.00	130.00	Open	29.62	1059.68	1059.58	0.10	0.00
4287 4289	P-1984 P-1985	670.00 692.00	6.00 6.00	130.00 130.00	Open Open	-3.44 -0.63	1051.87 1052.37	1051.87 1052.37	0.00	0.00
4290	P-1986	681.00	6.00	130.00	Open	6.76	1053.71	1053.70	0.00	0.00
4291 4293	P-1987 P-1988	716.00 681.00	6.00 6.00	130.00 130.00	Open Open	3.52 2.07	1064.81 1322.91	1064.81 1322.91	0.00	0.00
4295	P-1989	690.00	6.00	130.00	Open	13.02	1057.33	1057.31	0.02	0.00
4298 4300	P-1990 P-1991	936.00 699.00	6.00 6.00	130.00 130.00	Open Open	1.75 0.28	1053.00 1052.03	1053.00 1052.03	0.00	0.00
4302	P-1992	711.00	6.00	130.00	Open	3.40	1053.03	1053.03	0.00	0.00
4303 4304	P-1993 P-1994	754.00 718.00	6.00 6.00	130.00	Open	2.24 -5.31	1058.41	1058.41	0.00	0.00
4305	P-1994 P-1995	697.00	6.00	130.00 130.00	Open Open	2.37	1061.95 1059.76	1061.95 1059.76	0.00	0.00
4306	P-1996	698.00	6.00	130.00	Open	-4.97	1059.86	1059.87	0.00	0.00
4307 4308	P-1997 P-1998	716.00 793.00	6.00 6.00	130.00 130.00	Open Open	0.91 5.37	981.47 1322.92	981.47 1322.91	0.00	0.00
4310	P-1999	707.00	6.00	130.00	Open	-18.68	1051.31	1051.35	0.03	0.00
4312 4313	P-2000 P-2001	721.00 713.00	6.00 6.00	130.00 130.00	Open Open	15.72 -3.17	1054.03 1058.24	1054.00 1058.24	0.02 0.00	0.00
4314	P-2001 P-2002	898.00	6.00	130.00	Open	2.44	1058.24	1058.24	0.00	0.00
4315	P-2003	718.00	6.00	130.00	Open	-10.19	1052.65	1052.66	0.01	0.00
4316 4317	P-2004 P-2005	740.00 737.00	6.00 6.00	130.00 130.00	Open Open	3.64 4.92	1052.71 1053.00	1052.71 1053.00	0.00	0.00
4318	P-2006	867.00	6.00	130.00	Open	-1.09	988.98	988.98	0.00	0.00
4320 4321	P-2007 P-2008	793.00 758.00	6.00 6.00	130.00 130.00	Open Open	5.19 2.11	1064.96 1064.96	1064.96 1064.96	0.00	0.00
4322	P-2009	764.00	6.00	130.00	Open	2.32	1063.11	1063.11	0.00	0.00
4324	P-2010	832.00	6.00	130.00	Open	-0.50	1056.79	1056.79	0.00	0.00
4325 4327	P-2011 P-2012	866.00 745.00	6.00 6.00	130.00 130.00	Open Open	-3.85 -1.28	1051.84 1052.04	1051.84 1052.04	0.00	0.00
4329	P-2013	822.00	6.00	130.00	Open	-4.12	1052.98	1052.98	0.00	0.00
4331 4332	P-2014 P-2015	791.00 764.00	6.00 6.00	130.00 130.00	Open Open	2.56 9.74	1056.78 1052.73	1056.78 1052.72	0.00 0.01	0.00
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Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
4333	P-2016	759.00	6.00	130.00	Open	1.44	1052.09	1052.09	0.00	0.00
4334 4336	P-2017 P-2018	760.00 819.00	6.00 6.00	130.00 130.00	Open Open	1.48 -6.08	1052.03 1052.98	1052.03 1052.99	0.00	0.00
4337	P-2019	803.00	6.00	130.00	Open	3.21	1052.50	1052.99	0.00	0.00
4338	P-2020	778.00	6.00	130.00	Open	1.64	1053.00	1053.00	0.00	0.00
4339 4341	P-2021 P-2022	827.00 855.00	6.00 6.00	130.00 130.00	Open Open	-2.20 5.19	1051.82 1052.54	1051.82 1052.54	0.00	0.00
4344	P-2023	999.00	6.00	130.00	Open	0.74	1322.92	1322.91	0.00	0.00
4345	P-2024	784.00	6.00	130.00	Open	-17.28	1052.68	1052.71	0.03	0.00
4346 4347	P-2025 P-2026	804.00 823.00	6.00 6.00	130.00 130.00	Open Open	4.60 34.35	981.48 1059.87	981.47 1059.76	0.00 0.12	0.00
4348	P-2027	948.00	6.00	130.00	Open	0.54	1052.09	1052.09	0.00	0.00
4350 4351	P-2028 P-2029	810.00 817.00	6.00 6.00	130.00 130.00	Open Open	3.40 0.23	1052.72 1057.64	1052.72 1057.64	0.00	0.00
4352	P-2030	906.00	6.00	130.00	Open	3.04	1052.99	1052.99	0.00	0.00
4353	P-2031	823.00	6.00	130.00	Open	1.99	1052.99	1052.99	0.00	0.00
4355 4356	P-2032 P-2033	924.00 827.00	6.00 6.00	130.00 130.00	Open Open	0.54 11.35	1057.64 1057.27	1057.64 1057.26	0.00 0.02	0.00
4359	P-2034	1038.00	6.00	130.00	Open	22.44	1051.86	1051.80	0.07	0.00
4361 4362	P-2035 P-2036	865.00 838.00	6.00 6.00	130.00 130.00	Open Open	-7.80 -1.08	1053.99 1052.07	1054.00 1052.07	0.01 0.00	0.00
4364	P-2037	864.00	6.00	130.00	Open	12.31	1057.29	1057.27	0.02	0.00
4366	P-2038	854.00	6.00	130.00	Open	19.67	1051.80	1051.75	0.04	0.00
4367 4368	P-2039 P-2040	921.00 860.00	6.00 6.00	130.00 130.00	Open Open	-0.63 2.55	1056.91 1053.06	1056.91 1053.06	0.00	0.00
4369	P-2041	866.00	6.00	130.00	Open	0.23	1052.99	1052.99	0.00	0.00
4371 4372	P-2042 P-2043	913.00 881.00	6.00 6.00	130.00 130.00	Open Open	0.43 14.25	1064.93 1064.92	1064.93 1064.90	0.00 0.02	0.00
4373	P-2044	872.00	6.00	130.00	Open	-0.23	1052.99	1052.99	0.02	0.00
4375	P-2045	876.00	6.00	130.00	Open	-3.45	1064.88	1064.88	0.00	0.00
4376 4378	P-2046 P-2047	889.00 894.00	6.00 6.00	130.00 130.00	Open Open	0.28 1.48	1051.73 1057.43	1051.73 1057.43	0.00	0.00
4381	P-2048	924.00	6.00	130.00	Open	3.02	1052.99	1052.99	0.00	0.00
4383 4385	P-2049 P-2050	1066.00 929.00	6.00 6.00	130.00 130.00	Open Open	-7.32 -1.34	1057.27 1056.91	1057.28 1056.91	0.01 0.00	0.00
4387	P-2051	905.00	6.00	130.00	Open	10.00	1050.91	1057.24	0.00	0.00
4388	P-2052	905.00	6.00	130.00	Open	12.87	1057.31	1057.29	0.02	0.00
4389 4390	P-2053 P-2054	954.00 950.00	6.00 6.00	130.00 130.00	Open Open	-13.70 -13.35	1051.21 1051.27	1051.24 1051.30	0.03 0.02	0.00
4391	P-2055	970.00	6.00	130.00	Open	7.32	1062.81	1062.80	0.01	0.00
4393 4394	P-2056 P-2057	985.00 923.00	6.00 6.00	130.00 130.00	Open Open	2.99 7.12	1055.83 1056.78	1055.83 1056.78	0.00 0.01	0.00
4394	P-2058	989.00	6.00	130.00	Open	2.84	1062.79	1062.79	0.00	0.00
4398	P-2059	971.00	6.00	130.00	Open	-2.44	1051.74	1051.74	0.00	0.00
4400 4401	P-2060 P-2061	999.00 1105.00	6.00 6.00	130.00 130.00	Open Open	4.40 2.70	1053.16 1052.09	1053.16 1052.09	0.00	0.00
4402	P-2062	945.00	6.00	130.00	Open	6.79	1064.88	1064.87	0.01	0.00
4404	P-2063	955.00	6.00	130.00	Open	13.35	1051.80	1051.78	0.02	0.00
4405 4406	P-2064 P-2065	957.00 999.00	6.00 6.00	130.00 130.00	Open Open	0.38 -0.38	1052.99 1052.99	1052.99 1052.99	0.00	0.00
4408	P-2066	986.00	6.00	130.00	Open	4.05	1057.43	1057.43	0.00	0.00
4409 4411	P-2067 P-2068	1015.00 994.00	6.00 6.00	130.00 130.00	Open Open	-2.84 4.63	1052.03 1064.87	1052.03 1064.87	0.00	0.00
4412	P-2069	1121.00	6.00	130.00	Open	-2.92	1053.99	1054.00	0.00	0.00
4414 4416	P-2070 P-2071	998.00 1024.00	6.00 6.00	130.00 130.00	Open Open	-1.70 35.91	1056.91 1052.62	1056.91 1052.46	0.00 0.16	0.00
4417	P-2071	1024.00	6.00	130.00	Open	-1.34	1052.02	1052.46	0.00	0.00
4418	P-2073	1058.00	6.00	130.00	Open	-5.28	1054.00	1054.00	0.00	0.00
4419 4421	P-2074 P-2075	1100.00 1027.00	6.00 6.00	130.00 130.00	Open Open	2.07 -3.27	1052.53 1052.13	1052.53 1052.13	0.00	0.00
4423	P-2076	1036.00	6.00	130.00	Open	9.19	1052.11	1052.09	0.01	0.00
4425 4426	P-2077 P-2078	1115.00 1146.00	6.00 6.00	130.00 130.00	Open Open	6.75 -2.73	1052.55 1051.74	1052.54 1051.74	0.01 0.00	0.00
4427	P-2079	1062.00	6.00	130.00	Open	-1.31	1051.74	1051.74	0.00	0.00
4428	P-2080	1071.00	6.00	130.00	Open	7.10	993.44	993.43	0.01	0.00
4429 4430	P-2081 P-2082	1349.00 1099.00	6.00 6.00	130.00 130.00	Open Open	2.12 1.44	1052.04 1064.93	1052.03 1064.93	0.00	0.00
4431	P-2083	1269.00	6.00	130.00	Open	1.24	1068.85	1068.85	0.00	0.00
4434 4435	P-2084 P-2085	1309.00 1341.00	6.00 6.00	130.00 130.00	Open Open	-3.16 1.59	1322.91 1064.93	1322.91 1064.93	0.00	0.00
4435	P-2086	1183.00	6.00	130.00	Open	3.52	1064.95	1064.93	0.00	0.00
4437	P-2087	1215.00	6.00	130.00	Open	3.63	1052.54	1052.53	0.00	0.00
4438 4440	P-2088 P-2089	1200.00 1313.00	6.00 6.00	130.00 130.00	Open Open	3.75 -61.61	1052.99 1057.74	1052.99 1058.30	0.00 0.56	0.00
4442	P-2090	1412.00	6.00	130.00	Open	0.69	1322.91	1322.91	0.00	0.00
4444 4445	P-2091 P-2092	1641.00 2157.00	6.00 6.00	130.00 130.00	Open Open	-0.60 8.12	1218.03 991.28	1218.03 991.26	0.00 0.02	0.00
4446	P-2093	1966.00	6.00	130.00	Open	-13.71	993.39	993.44	0.02	0.00
4448	P-2094	1.00	6.10	130.00	Open	-0.26	1322.92	1322.92	0.00	0.00
4450 4452	P-2095 P-2096	1.00 1.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.48	1058.25 1057.97	1058.25 1057.97	0.00	0.00
4455	P-2097	2.00	6.10	130.00	Open	-0.26	1322.96	1322.96	0.00	0.00
4457	P-2098 P-2099	2.00	6.10	130.00	Open	0.28	1056.06	1056.06	0.00	0.00
4460 4463	P-2099 P-2100	2.00 2.00	6.10 6.10	130.00 130.00	Open Open	-1.93 0.48	1216.97 1064.94	1216.97 1064.94	0.00	0.00 0.00
4465	P-2101	3.00	6.10	130.00	Open	0.48	1051.80	1051.80	0.00	0.00
4467 4469	P-2102 P-2103	3.00 3.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.48	1064.93 1051.83	1064.93 1051.83	0.00	0.00
4472	P-2104	3.00	6.10	130.00	Open	-0.48	1059.99	1059.99	0.00	0.00
4475	P-2105	3.00	6.10	130.00	Open	0.48	1052.14	1052.14	0.00	0.00
4477 4480	P-2106 P-2107	3.00 3.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.68	1051.74 1057.74	1051.74 1057.74	0.00	0.00
4482	P-2108	3.00	6.10	130.00	Open	0.08	1064.93	1064.93	0.00	0.00
4484 4487	P-2109 P-2110	3.00 3.00	6.10 6.10	130.00 130.00	Open Open	-0.48 -0.11	1051.84 1322.92	1051.84 1322.92	0.00	0.00
4489	P-2111	3.00	6.10	130.00	Open	0.68	1056.83	1056.83	0.00	0.00
4491	P-2112	3.00	6.10	130.00	Open	0.28	1052.13	1052.13 981.47	0.00	0.00
4493	P-2113	3.00	6.10	130.00	Open	80.0	981.47	301.47	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
4495	P-2114	3.00	6.10	130.00	Open	0.08	1064.98	1064.98	0.00	0.00
4497 4499	P-2115 P-2116	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	0.08 1.28	1052.24 1051.91	1052.24 1051.91	0.00	0.00
4502	P-2117	4.00	6.10	130.00	Open	-0.08	1064.93	1064.93	0.00	0.00
4504 4507	P-2118 P-2119	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	-1.68 2.49	1053.01 1051.74	1053.01 1051.74	0.00	0.00
4507	P-2119	4.00	6.10	130.00	Open	-0.48	1063.62	1063.62	0.00	0.00
4512	P-2121	4.00	6.10	130.00	Open	0.88	1051.76	1051.76	0.00	0.00
4515 4517	P-2122 P-2123	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.48	1051.74 1057.42	1051.74 1057.42	0.00	0.00 0.00
4519	P-2124	4.00	6.10	130.00	Open	0.40	1322.92	1322.92	0.00	0.00
4521 4523	P-2125 P-2126	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.08	1064.94 1051.98	1064.94 1051.98	0.00	0.00
4526	P-2127	4.00	6.10	130.00	Open	-0.28	1064.02	1064.02	0.00	0.00
4528	P-2128 P-2129	4.00	6.10	130.00	Open	-0.11	1322.91	1322.91	0.00	0.00
4531 4533	P-2129 P-2130	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.08	1052.99 1064.95	1052.99 1064.95	0.00	0.00
4535	P-2131	4.00	6.10	130.00	Open	0.28	1051.78	1051.78	0.00	0.00
4537 4539	P-2132 P-2133	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.28	981.47 1053.01	981.47 1053.01	0.00	0.00
4542	P-2134	4.00	6.10	130.00	Open	0.11	1322.91	1322.91	0.00	0.00
4545 4547	P-2135 P-2136	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	0.88 -0.28	1052.09 1053.00	1052.09 1053.00	0.00	0.00
4550	P-2137	4.00	6.10	130.00	Open	0.08	1051.73	1051.73	0.00	0.00
4553 4555	P-2138 P-2139	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.08	1051.96 1056.64	1051.96 1056.64	0.00	0.00
4557	P-2139 P-2140	4.00	6.10	130.00	Open	-0.48	1050.04	1050.04	0.00	0.00
4559	P-2141	4.00	6.10	130.00 130.00	Open	-0.20	1218.02	1218.02	0.00	0.00
4562 4564	P-2142 P-2143	4.00 4.00	6.10 6.10	130.00	Open Open	-0.88 -0.08	1059.74 1051.83	1059.74 1051.83	0.00	0.00 0.00
4567	P-2144	4.00	6.10	130.00	Open	0.28	1062.04	1062.04	0.00	0.00
4569 4572	P-2145 P-2146	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	0.08 -1.08	1052.24 1052.99	1052.24 1052.99	0.00	0.00
4574	P-2147	4.00	6.10	130.00	Open	0.48	1052.99	1052.99	0.00	0.00
4577 4580	P-2148 P-2149	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	1.08 1.28	1052.06 1053.00	1052.06 1053.00	0.00	0.00
4583	P-2150	4.00	6.10	130.00	Open	-0.20	1216.98	1216.98	0.00	0.00
4585 4587	P-2151 P-2152	4.00 4.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.08	1052.97 1052.00	1052.97 1052.00	0.00	0.00
5068	P-2153	7.00	6.10	130.00	Open	0.48	981.48	981.48	0.00	0.00
5071 5073	P-2154 P-2155	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.08 2.09	1062.19 1052.70	1062.19 1052.70	0.00	0.00
5075	P-2156	7.00	6.10	130.00	Open	-0.28	1052.18	1052.18	0.00	0.00
5077 5079	P-2157 P-2158	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1064.93 1052.84	1064.93 1052.84	0.00	0.00
5081	P-2159	7.00	6.10	130.00	Open	0.48	1052.12	1052.12	0.00	0.00
5083 5085	P-2160	7.00 7.00	6.10 6.10	130.00	Open	-0.08 0.48	1064.92	1064.92 1051.71	0.00	0.00
5085	P-2161 P-2162	7.00	6.10	130.00 130.00	Open Open	0.48	1051.71 1052.73	1051.71	0.00	0.00
5089	P-2163	7.00	6.10	130.00	Open	0.48	1056.79	1056.79	0.00	0.00
5091 5093	P-2164 P-2165	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.08	1063.59 1057.84	1063.59 1057.84	0.00	0.00
5096	P-2166	7.00	6.10	130.00	Open	0.48	1052.72	1052.72	0.00	0.00
5098 5100	P-2167 P-2168	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.08	1052.93 1052.71	1052.93 1052.71	0.00	0.00
5102	P-2169	7.00	6.10	130.00	Open	0.68	981.48	981.48	0.00	0.00
5105 5107	P-2170 P-2171	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.48	1051.84 1054.25	1051.84 1054.25	0.00	0.00
5109	P-2172	9.00	6.10	130.00	Open	0.08	1059.16	1059.16	0.00	0.00
5111 5113	P-2173 P-2174	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.88	1052.99 1052.13	1052.99 1052.13	0.00	0.00
5115	P-2175	7.00	6.10	130.00	Open	-0.48	1052.72	1052.72	0.00	0.00
5117 5119	P-2176 P-2177	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.28	1061.12 1053.07	1061.12 1053.07	0.00	0.00
5122	P-2178	7.00	6.10	130.00	Open	-0.08	1064.94	1064.94	0.00	0.00
5125 5127	P-2179 P-2180	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.08	1061.12 1061.12	1061.12 1061.12	0.00	0.00 0.00
5129	P-2181	7.00	6.10	130.00	Open	-0.28	1063.13	1063.13	0.00	0.00
5131 5133	P-2182 P-2183	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.28	1062.54 1061.13	1062.54 1061.13	0.00	0.00
5135	P-2184	7.00	6.10	130.00	Open	0.08	1054.37	1054.37	0.00	0.00
5137 5140	P-2185 P-2186	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.08	1057.28 1057.64	1057.28 1057.64	0.00	0.00
5142	P-2187	7.00	6.10	130.00	Open	-0.08	1054.24	1054.24	0.00	0.00
5144 5146	P-2188 P-2189	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.68	1053.23 1052.88	1053.23 1052.88	0.00	0.00
5148	P-2190	7.00	6.10	130.00	Open	0.88	1052.65	1052.65	0.00	0.00
5150	P-2191	7.00	6.10	130.00	Open	-0.48	1064.81	1064.81	0.00	0.00
5153 5156	P-2192 P-2193	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.88 -0.08	963.94 1064.81	963.94 1064.81	0.00	0.00
5159	P-2194	7.00	6.10	130.00	Open	0.48	1053.00	1053.00	0.00	0.00
5161 5164	P-2195 P-2196	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.08	1052.54 1064.81	1052.54 1064.81	0.00	0.00
5166	P-2197	7.00	6.10	130.00	Open	0.08	1052.54	1052.54	0.00	0.00
5169 5171	P-2198 P-2199	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.48	1052.21 1064.93	1052.21 1064.93	0.00	0.00
5173	P-2200	7.00	6.10	130.00	Open	0.37	1218.03	1218.03	0.00	0.00
5175 5177	P-2201 P-2202	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.08	1061.13 1053.01	1061.13 1053.01	0.00	0.00
5179	P-2203	7.00	6.10	130.00	Open	-0.48	1053.70	1053.70	0.00	0.00
5181 5183	P-2204 P-2205	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.88	1051.83 1056.79	1051.83 1056.79	0.00	0.00
5186	P-2206	7.00	6.10	130.00	Open	-0.26	1322.93	1322.93	0.00	0.00
5188 5190	P-2207 P-2208	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.08 1.28	1052.88 1054.00	1052.88 1054.00	0.00	0.00
5192	P-2209	7.00	6.10	130.00	Open	0.88	1052.96	1052.96	0.00	0.00
5194 5196	P-2210 P-2211	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-1.88 0.08	1059.68 1062.64	1059.68 1062.64	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
5198	P-2212	7.00	6.10	130.00	Open	0.08	1064.94	1064.94	0.00	0.00
5200 5203	P-2213 P-2214	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.88	1057.28 1052.54	1057.28 1052.54	0.00	0.00
5205	P-2215	7.00	6.10	130.00	Open	0.28	963.95	963.95	0.00	0.00
5207 5209	P-2216 P-2217	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.28	1064.93 1053.02	1064.93 1053.02	0.00	0.00
5209	P-2217	7.00	6.10	130.00	Open	0.28	1053.02	1053.02	0.00	0.00
5214	P-2219	7.00	6.10	130.00	Open	0.08	1052.20	1052.20	0.00	0.00
5217 5220	P-2220 P-2221	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-1.08 0.20	1054.25 1218.03	1054.25 1218.03	0.00	0.00 0.00
5222	P-2222	7.00	6.10	130.00	Open	1.48	1057.61	1057.61	0.00	0.00
5225 5228	P-2223 P-2224	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-1.08 0.08	981.49 1057.31	981.49 1057.31	0.00	0.00
5231	P-2225	7.00	6.10	130.00	Open	-0.08	1056.74	1056.74	0.00	0.00
5233	P-2226 P-2227	7.00	6.10	130.00	Open	0.28	1052.55	1052.55 1053.28	0.00	0.00
5235 5238	P-2228	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.28	1053.28 1053.98	1053.28	0.00	0.00
5241	P-2229	7.00	6.10	130.00	Open	1.88	1056.80	1056.80	0.00	0.00
5244 5246	P-2230 P-2231	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.20 0.48	1217.47 1051.86	1217.47 1051.86	0.00	0.00
5249	P-2232	7.00	6.10	130.00	Open	0.48	1061.45	1061.45	0.00	0.00
5251 5253	P-2233 P-2234	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.28 -0.08	1053.16 1062.69	1053.16 1062.69	0.00	0.00
5255	P-2235	7.00	6.10	130.00	Open	-0.20	1217.77	1217.77	0.00	0.00
5258	P-2236 P-2237	7.00 7.00	6.10	130.00	Open	0.63	1218.03 1051.81	1218.03 1051.81	0.00	0.00
5260 5262	P-2237 P-2238	7.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.11	1322.94	1322.94	0.00	0.00
5264	P-2239	7.00	6.10	130.00	Open	-0.08	1053.00	1053.00	0.00	0.00
5266 5268	P-2240 P-2241	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	1.08 -0.48	1052.79 1053.30	1052.79 1053.30	0.00	0.00
5270	P-2242	7.00	6.10	130.00	Open	0.48	1052.02	1052.02	0.00	0.00
5273 5275	P-2243 P-2244	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.68	1052.99 1057.57	1052.99 1057.57	0.00	0.00
5278	P-2245	7.00	6.10	130.00	Open	0.68	1056.92	1056.92	0.00	0.00
5280 5283	P-2246 P-2247	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.81 -0.48	1218.03 1061.13	1218.03 1061.13	0.00	0.00
5285	P-2247 P-2248	7.00	6.10	130.00	Open	0.28	1053.92	1053.92	0.00	0.00
5287	P-2249	7.00	6.10	130.00	Open	-0.20	1216.49	1216.49	0.00	0.00
5289 5291	P-2250 P-2251	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1057.53 1057.28	1057.53 1057.28	0.00	0.00
5294	P-2252	7.00	6.10	130.00	Open	0.48	1052.09	1052.09	0.00	0.00
5296 5298	P-2253 P-2254	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.08	1059.15 1053.03	1059.15 1053.03	0.00	0.00
5301	P-2255	7.00	6.10	130.00	Open	0.48	1059.86	1059.86	0.00	0.00
5303 5306	P-2256 P-2257	8.00 7.00	6.10 6.10	130.00 130.00	Open Open	-0.88 0.08	1058.34 1055.40	1058.34 1055.40	0.00	0.00 0.00
5788	P-2258	9.00	6.10	130.00	Open	0.48	1053.99	1053.99	0.00	0.00
5790 5792	P-2259 P-2260	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	1.48 0.28	1052.31 1052.49	1052.31 1052.49	0.00	0.00 0.00
5795	P-2261	9.00	6.10	130.00	Open	-0.48	1063.11	1063.11	0.00	0.00
5798	P-2262 P-2263	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.68	1056.91	1056.91 1052.87	0.00	0.00
5801 5804	P-2264	9.00	6.10	130.00	Open	-0.20	1052.87 1218.43	1218.43	0.00	0.00
5806	P-2265	9.00	6.10	130.00	Open	-0.28	1056.78	1056.78	0.00	0.00
5808 5810	P-2266 P-2267	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.29	1052.45 993.48	1052.45 993.48	0.00	0.00
5812	P-2268	9.00	6.10	130.00	Open	0.48	1061.38	1061.38	0.00	0.00
5814 5817	P-2269 P-2270	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.28	1052.33 1059.77	1052.33 1059.77	0.00	0.00
5819	P-2271	9.00	6.10	130.00	Open	0.88	1061.19	1061.19	0.00	0.00
5821 5823	P-2272 P-2273	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.88	981.49 1052.79	981.49 1052.79	0.00	0.00
5825	P-2274	9.00	6.10	130.00	Open	-0.08	1059.87	1059.87	0.00	0.00
5827 5830	P-2275 P-2276	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.28 1.08	1052.35 1052.68	1052.35 1052.68	0.00	0.00
5832	P-2277	9.00	6.10	130.00	Open	0.48	1061.63	1061.63	0.00	0.00
5834 5837	P-2278 P-2279	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.08	1057.35 1059.87	1057.35 1059.87	0.00	0.00
5839	P-2280	9.00	6.10	130.00	Open	2.09	1051.74	1051.74	0.00	0.00
5842	P-2281 P-2282	9.00 9.00	6.10	130.00 130.00	Open	0.28 -0.48	1052.98	1052.98 1064.82	0.00	0.00
5844 5846	P-2283	9.00	6.10 6.10	130.00	Open Open	-0.48	1064.82 1064.61	1064.62	0.00	0.00
5848	P-2284	9.00	6.10	130.00	Open	-0.20	1218.50	1218.50	0.00	0.00
5850 5852	P-2285 P-2286	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.48 -1.88	1051.74 1064.82	1051.74 1064.82	0.00	0.00
5855	P-2287	9.00	6.10	130.00	Open	0.88	1054.15	1054.15	0.00	0.00
5857 5859	P-2288 P-2289	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.20	1053.02 1218.13	1053.02 1218.13	0.00	0.00
5861	P-2290	9.00	6.10	130.00	Open	-0.28	1057.28	1057.28	0.00	0.00
5864 5866	P-2291 P-2292	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.08	1052.66 1052.99	1052.66 1052.99	0.00	0.00
5868	P-2293	9.00	6.10	130.00	Open	0.48	1054.67	1054.67	0.00	0.00
5871	P-2294	9.00	6.10	130.00	Open	-0.20	1218.61	1218.61	0.00	0.00
5873 5875	P-2295 P-2296	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 1.68	1051.82 1057.43	1051.82 1057.43	0.00	0.00 0.00
5877	P-2297	9.00	6.10	130.00	Open	0.08	1052.99	1052.99	0.00	0.00
5880 5882	P-2298 P-2299	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.48	1218.55 1062.54	1218.55 1062.54	0.00	0.00
5884	P-2300	9.00	6.10	130.00	Open	0.08	1058.64	1058.64	0.00	0.00
5886 5888	P-2301 P-2302	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.20	1218.02 1218.10	1218.02 1218.10	0.00	0.00
5890	P-2302 P-2303	9.00	6.10	130.00	Open	0.08	1058.78	1058.78	0.00	0.00
5892	P-2304	9.00	6.10	130.00	Open	-0.48	1052.71	1052.71	0.00	0.00
5894 5896	P-2305 P-2306	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.08	1059.76 1052.06	1059.76 1052.06	0.00	0.00
5899 5901	P-2307 P-2308	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.20 0.48	1218.61 1056.39	1218.61 1056.39	0.00	0.00
5903	P-2309	10.00	6.10	130.00	Open	-0.68	1061.12	1061.12	0.00	0.00

	Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
Sept											
Sept											
Seption P-2315 10,000											
Sept P.2317											
5626 P.2319 10,00		P-2317						1218.23			
5828 P.2320 10,00											
5830 P.2321 10,00											
5835 P.2224 10,00	5930		10.00		130.00	Open	0.28		1051.78	0.00	0.00
5937 P.2324 10.00											
5945 P.2328 10.00	5937	P-2324	10.00	6.10		Open	0.08	1057.97			
5946 P.2327 10.00											
5950 P.2329 10.00											
58564 P.2331 10.00 6.10 130.00 Open 0.48 981.48 981.48 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
5954 P.2331 10.00											
5958 P-2334 10.00											
5860 P.2335 10.00 6.10 130.00 Open -0.68 1053.97 1053.97 0.00 0.											
5964 P.2336 10.00 6.10 130.00 Open -0.26 1322.91 1322.91 0.00 0.00 0.00 5968 P.2337 10.00 6.10 130.00 Open -0.28 1322.91 1322.91 0.00											
5986 P.233 10,00											
5988 P.2338 10.00											
5975 P-2341 10.00 6.10 130.00 Open 0.37 1218.85 1218.85 0.00 0.00 0.05 5976 P-2341 10.00 6.10 130.00 Open 0.48 1052.86 1052.86 0.00	5968	P-2338	10.00	6.10	130.00	Open	0.48	1052.86	1052.86	0.00	0.00
5976 P-2341 10.00 6.10 130.00 Open 0.48 1652.86 1652.98 0.00 0.0											
5980 P.2344 10.00 6.10 130.00 Open 0.20 1218.61 1218.61 0.00 0.00 0.00 5986 P.2346 10.00 6.10 130.00 Open 0.08 1052.21 1062.26 0.00											
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6079 P-2383 10.00 6.10 130.00 Open 0.08 1064.91 1064.91 0.00 0.00 6082 P-2384 10.00 6.10 130.00 Open 0.88 1064.87 1064.87 0.00 0.00 6084 P-2385 10.00 6.10 130.00 Open 0.20 1218.24 1218.24 0.00 0.00 6089 P-2387 10.00 6.10 130.00 Open 0.20 1218.24 1218.29 0.00 0.00 6092 P-2388 10.00 6.10 130.00 Open 0.37 1218.03 1218.03 0.00 0.00 6094 P-2389 10.00 6.10 130.00 Open 0.08 1058.82 0.00 0.00 6096 P-2390 10.00 6.10 130.00 Open 0.08 1051.74 1051.74 0.00 0.00 6102 P-2393 10.00 6.10 130.00 Open 0.28 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
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6086 P-2386 10.00 6.10 130.00 Open 0.20 1218.24 1218.24 0.00 0.00 6089 P-2387 10.00 6.10 130.00 Open 0.20 1218.29 1218.29 0.00 0.00 6092 P-2388 10.00 6.10 130.00 Open 0.08 1058.82 1058.82 0.00 0.00 6094 P-2390 10.00 6.10 130.00 Open 0.08 1058.82 1058.82 0.00 0.00 6098 P-2391 10.00 6.10 130.00 Open 0.08 1058.82 1058.99 0.00 0.00 6100 P-2392 10.00 6.10 130.00 Open 0.28 1051.74 1051.74 0.00 0.00 6102 P-2393 10.00 6.10 130.00 Open 0.48 1051.74 1051.74 0.00 0.00 6105 P-2393 10.00 6.10 130.00 Open											
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6120 P-2400 10.00 6.10 130.00 Open -0.48 1053.20 1053.20 0.00 0.00 6123 P-2401 10.00 6.10 130.00 Open 0.20 1218.16 1218.16 0.00 0.00 6126 P-2402 10.00 6.10 130.00 Open 0.08 1051.74 1051.74 0.00 0.00 6129 P-2403 10.00 6.10 130.00 Open 0.68 1051.80 1051.80 0.00 0.00 6131 P-2404 10.00 6.10 130.00 Open 0.68 1051.80 1051.80 0.00 0.00 6131 P-2405 10.00 6.10 130.00 Open 0.20 1218.31 1218.31 0.00 0.00 6133 P-2405 10.00 6.10 130.00 Open 0.28 1064.98 1064.98 0.00 0.00 6136 P-2406 10.00 6.10 130.00 Open 0.88 1052.99 1052.99 0.00 0.00											
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6129 P-2403 10.00 6.10 130.00 Open 0.68 1051.80 1051.80 0.00 0.00 6131 P-2404 10.00 6.10 130.00 Open -0.20 1218.31 1218.31 0.00 0.00 6133 P-2405 10.00 6.10 130.00 Open 0.28 1064.98 1064.98 0.00 0.00 6136 P-2406 10.00 6.10 130.00 Open 0.88 1052.99 1052.99 0.00 0.00	6123	P-2401	10.00	6.10	130.00	Open	0.20	1218.16	1218.16	0.00	0.00
6131 P-2404 10.00 6.10 130.00 Open -0.20 1218.31 1218.31 0.00 0.00 6133 P-2405 10.00 6.10 130.00 Open 0.28 1064.98 1064.98 0.00 0.00 6136 P-2406 10.00 6.10 130.00 Open 0.88 1052.99 1052.99 0.00 0.00											
6136 P-2406 10.00 6.10 130.00 Open 0.88 1052.99 1052.99 0.00 0.00	6131	P-2404	10.00	6.10	130.00	Open	-0.20	1218.31	1218.31	0.00	0.00

644 P-2408 10.00	Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
6145											
6147 P-2411 10.00 6.10 130.00 Open 0.48 1064-86 1064-66 0.00 0.0											
6152	6147	P-2411	10.00	6.10	130.00	Open	0.48	1064.96	1064.96	0.00	0.00
6154 P-2415 10.00 6.10 130.00 Cpen 0.68 1097,76 1090,76 0.00 0.0											
6150	6154	P-2414	10.00	6.10	130.00	Open	-0.68	1059.76	1059.76	0.00	0.00
6165											
61677		P-2417			130.00						
6170											
6174											
6177 P.2423 10.00 6.10 130.00 Open 0.08 1064.93 1064.93 0.00 0.00 0.00 1777 P.2424 11.00 6.10 130.00 Open 0.48 1053.05 1053.05 0.00 0.00 0.00 1778 1778 1778 1778 1778 1778 1778 17											
6181 P-2428 11.00 6.10 130.00 Open -0.48 1062.40 0.00 0.00 0.00 1888 P-2428 11.00 6.10 130.00 Open 0.81 1062.48 10064.88 0.00 0.00 0.00 1888 P-2428 11.00 6.10 130.00 Open 0.88 1064.88 0.00 0.00 0.00 0.00 1898 P-2428 11.00 6.10 130.00 Open 0.88 1064.88 0.00 0.00 0.00 0.00 0.00 0.00 0.00		P-2423									
6185 P-2427 11.00 6.10 130.00 Open -0.11 1322.98 1322.98 0.00 0.00 0.00 16185 P-2427 11.00 6.10 130.00 Open 1.28 1006.88 1006.88 0.00 0.00 0.00 16185 P-2430 11.00 6.10 130.00 Open 1.28 1006.89 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
61970 P-2428 11.00 6.10 130.00 Open 1.28 1064.93 1064.93 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	6183	P-2426	11.00	6.10		Open	-0.11	1322.98	1322.98	0.00	0.00
61930 P-2420 11.00 6.10 130.00 Open 0.48 1052.86 0.00 0.00 0.00 6193 P-2420 11.00 6.10 130.00 Open 1.08 1052.83 1052.83 0.00 0.00 0.00 6195 P-2420 11.00 6.10 130.00 Open 0.28 1056.39 1056.39 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
6198 P-2431 11.00 6.10 130.00 Open 0.28 1056.39 1056.39 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
6198 P.2432 11.00 6.10 130.00 Open 0.88 1051.84 1051.84 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
6204 P-2435 11.00 6.10 130.00 Open 0.20 1218 19 1218 19 0.00 0.0											
62079 P-2435											
6211 P.2437 11.00 6.10 130.00 Open 1.08 1052.87 1052.87 0.00 0.00 0.00 6217 P.2438 11.00 6.10 130.00 Open 0.08 1052.86 1052.86 1052.86 0.00 0.00 0.00 6217 P.2439 11.00 6.10 130.00 Open 0.48 1056.75 1059.75 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
6214 P-2499 11.00 6.10 130.00 Open 0.08 1052.86 1052.86 0.00 0.00 0.00 6219 P-2440 11.00 6.10 130.00 Open 0.48 1059.75 1059.75 0.00 0.00 6221 P-2441 11.00 6.10 130.00 Open 0.48 1059.76 1059.75 0.00 0.00 0.00 6222 P-2441 11.00 6.10 130.00 Open 0.20 1218.35 105.00 0.00 0.00 6222 P-2441 11.00 6.10 130.00 Open 0.20 1218.35 100 0.00 0.00 6222 P-2444 11.00 6.10 130.00 Open 0.20 1218.35 1050.00 0.00 0.00 6232 P-2445 11.00 6.10 130.00 Open 0.20 1218.35 100 0.00 0.00 6232 P-2446 11.00 6.10 130.00 Open 0.20 1218.35 1053.00 0.00 0.00 6232 P-2446 11.00 6.10 130.00 Open 0.20 1218.35 1053.00 0.00 0.00 6238 P-2446 11.00 6.10 130.00 Open 0.20 1218.33 1218.23 0.00 0.00 0.00 6238 P-2446 11.00 6.10 130.00 Open 0.20 1218.37 1218.23 0.00 0.00 0.00 6238 P-2446 11.00 6.10 130.00 Open 0.48 1058.12 1058.10 1058.00 0.00 0.00 6238 P-2446 11.00 6.10 130.00 Open 0.48 1058.12 1058.12 1059.20 0.00 0.00 6234 P-2448 11.00 6.10 130.00 Open 0.48 1058.12 1058.21 1059.20 0.00 0.00 6234 P-2448 11.00 6.10 130.00 Open 0.48 1059.72 1059.43 0.00 0.00 6244 P-2449 11.00 6.10 130.00 Open 0.48 1059.72 1059.43 0.00 0.00 6252 P-2452 11.00 6.10 130.00 Open 0.48 1059.73 1054.33 0.00 0.00 6254 P-2453 11.00 6.10 130.00 Open 0.48 1059.73 1058.43 0.00 0.00 6254 P-2453 11.00 6.10 130.00 Open 0.48 1059.73 1058.47 0.00 0.00 6254 P-2453 11.00 6.10 130.00 Open 0.48 1059.73 1058.47 0.00 0.00 6254 P-2453 11.00 6.10 130.00 Open 0.48 1059.73 1058.40 0.00 0.00 6254 P-2453 11.00 6.10 130.00 Open 0.48 1059.73 1058.30 0.00 0.00 6259 P-2455 11.00 6.10 130.00 Open 0.48 1059.73 1058.30 0.00 0.00 6259 P-2455 11.00 6.10 130.00 Open 0.48 1059.73 1058.30 0.00 0.00 6259 P-2456 11.00 6.10 130.00 Open 0.00 1217.82 117.83 0.00 0.00 0.00 6259 P-2456 11.00 6.10 130.00 Open 0.00 1217.82 117.83 0.00 0.00 0.00 6259 P-2456 11.00 6.10 130.00 Open 0.00 1217.82 117.83 0.00 0.00 0.00 6259 P-2456 11.00 6.10 130.00 Open 0.00 1217.82 117.83 0.00 0.00 0.00 6259 P-2456 11.00 6.10 130.00 Open 0.00 1217.82 117.83 0.00 0.00 0.00 6259 P-2456 11.00 6.10 130.00 Open 0.00 1217.82 117.83 0.00 0.00 0.00 6259 P-											
6219 P.2440											
6221 P.2441 11.00 6.10 130.00 Open 0.20 1218.35 1218.35 0.00 0.00 0.00 0.00 0.227 P.2443 11.00 6.10 130.00 Open 0.20 1218.21 1053.00 0.00											
6227 P.2444 11.00 6.10 130.00 Open 1.48 1099.01 1099.01 0.00 0.00 0.00 6232 P.2445 11.00 6.10 130.00 Open 0.20 1218.23 1218.23 0.00 0.00 0.00 6232 P.2445 11.00 6.10 130.00 Open 0.20 1218.23 1218.23 0.00 0.00 6238 P.2447 11.00 6.10 130.00 Open 0.88 1061.88 1061.88 0.00 0.00 6238 P.2447 11.00 6.10 130.00 Open 0.88 1061.88 1061.88 0.00 0.00 6238 P.2447 11.00 6.10 130.00 Open 0.88 1061.88 1061.88 0.00 0.00 6234 P.2448 11.00 6.10 130.00 Open 0.28 1065.30 1066.33 1066.34											
6232 P.2445 11.00											
6235 P.2446											
6238 P.2447 11.00											
6241											
6247 P.2450 11.00			11.00		130.00	Open		1064.93	1064.93	0.00	0.00
6252 P-2452 11.00 6.10 130.00 Open 0.48 1058.47 1058.47 0.00 0.00 6257 P-2454 11.00 6.10 130.00 Open -0.08 1062.79 1062.79 0.00 0.00 6259 P-2456 11.00 6.10 130.00 Open 0.88 1057.97 1057.97 0.00 0.00 6264 P-2456 11.00 6.10 130.00 Open 0.20 1217.93 1217.93 0.00 0.00 6266 P-2458 11.00 6.10 130.00 Open -0.20 1217.83 1217.83 0.00 0.00 6276 P-2460 11.00 6.10 130.00 Open -0.20 1217.89 1217.89 0.00 0.00 6272 P-2461 11.00 6.10 130.00 Open -0.20 1217.96 0.00 0.00 6275 P-2462 11.00 6.10 130.00 Open -0.											
6254 P-2453 11.00 6.10 130.00 Open 0.28 1053.00 1053.00 0.00 0.00 0.00 6259 P-2455 11.00 6.10 130.00 Open 0.08 1057.97 1057.97 0.00 0.00 0.00 62624 P-2456 11.00 6.10 130.00 Open 0.88 1058.14 1058.14 1058.14 0.00 0.00 0.00 6264 P-2457 11.00 6.10 130.00 Open 0.20 1217.83 1217.83 0.00 0	6250	P-2451	11.00	6.10	130.00	Open	-0.20	1217.87	1217.87	0.00	0.00
6257 P-2454 11.00 6.10 130.00 Open -0.08 1062.79 1062.79 0.00 0.00 6262 P-2456 11.00 6.10 130.00 Open 0.88 1057.97 1057.97 0.00 0.00 6262 P-2456 11.00 6.10 130.00 Open 0.88 1058.14 1058.14 100.00 0.00 6266 P-2458 11.00 6.10 130.00 Open -0.20 1217.83 1217.83 0.00 0.00 6266 P-2458 11.00 6.10 130.00 Open -0.20 1217.83 1217.83 0.00 0.00 6266 P-2458 11.00 6.10 130.00 Open -0.20 1217.89 1217.89 0.00 0.00 6270 P-2460 11.00 6.10 130.00 Open -0.20 1217.89 1217.89 0.00 0.00 6270 P-2460 11.00 6.10 130.00 Open -0.20 1217.89 1217.60 0.00 0.00 6275 P-2462 11.00 6.10 130.00 Open -0.20 1217.76 1217.76 0.00 0.00 6275 P-2462 11.00 6.10 130.00 Open -0.20 1217.76 1217.76 0.00 0.00 6275 P-2462 11.00 6.10 130.00 Open -0.37 1217.76 1217.76 0.00 0.00 6282 P-2464 11.00 6.10 130.00 Open -0.28 1063.00 1053.00 0.00 0.00 6284 P-2463 11.00 6.10 130.00 Open -0.88 1064.96 1064.96 0.00 0.00 6282 P-2464 11.00 6.10 130.00 Open -0.88 1064.96 1064.98 0.00 0.00 6282 P-2466 11.00 6.10 130.00 Open -0.08 1064.98 1064.98 0.00 0.00 6282 P-2466 11.00 6.10 130.00 Open -0.08 1065.73 1055.73 0.00 0.00 6287 P-2467 11.00 6.10 130.00 Open -0.08 1065.73 1055.73 0.00 0.00 6287 P-2468 11.00 6.10 130.00 Open -0.08 1055.73 1055.73 0.00 0.00 6284 P-2470 11.00 6.10 130.00 Open -0.08 1055.73 1055.73 0.00 0.00 6284 P-2470 11.00 6.10 130.00 Open -0.08 1055.73 1055.73 0.00 0.00 6284 P-2470 11.00 6.10 130.00 Open -0.08 1055.73 1055.73 0.00 0.00 6284 P-2477 11.00 6.10 130.00 Open -0.08 1051.76 0.00 0.00 6284 P-2477 11.00 6.10 130.00 Open -0.08 1051.76 0.00 0.00 6301 P-2473 11.00 6.10 130.00 Open -0.08 1055.73 1055.73 0.00 0.00 0.00 6301 P-2473 11.00 6.10 130.00 Open -0.08 1055.73 1055.73 0.00 0.00 0.00 6301 P-2473 11.00 6.10 130.00 Open -0.08 1055.73 1055.70 0.00 0.00 6301 P-2473 11.00 6.10 130.00 Open -0.08 1055.73 1055.70 0.00 0.00 6331 P-2473 11.00 6.10 130.00 Open -0.08 1055.73 1055.70 0.00 0.00 6331 P-2473 11.00 6.10 130.00 Open -0.08 1055.73 1055.70 0.00 0.00 6331 P-2473 11.00 6.10 130.00 Open -0.08 1055.93 1055.05 0.00 0.00 0.00 6331 P-2473 11.00 6.10 130.00 Open -0											
6282 P-2466 11.00		P-2454			130.00	Open	-0.08	1062.79	1062.79	0.00	0.00
6284 P-2487 11.00 6.10 130.00 Open -0.20 1217.93 1217.93 0.00 0.00 6286 P-2489 11.00 6.10 130.00 Open -0.20 1217.83 10.00 0.00 0.00 6270 P-2481 11.00 6.10 130.00 Open -0.20 1217.89 1217.89 0.00 0.00 6272 P-2461 11.00 6.10 130.00 Open -0.37 1217.76 1217.79 0.00 0.00 6275 P-2463 11.00 6.10 130.00 Open -0.37 1217.76 1217.76 0.00 0.00 6280 P-2463 11.00 6.10 130.00 Open -0.08 1064.98 10.00 0.00 0.00 6281 P-2465 11.00 6.10 130.00 Open -0.08 1055.73 1055.73 0.00 0.00 6284 P-2466 11.00 6.10 130.00 O											
6288 P-2459 11.00 6.10 130.00 Open -0.20 1217.89 1217.89 0.00 0.00 6272 P-2461 11.00 6.10 130.00 Open -0.20 1217.92 0.00 0.00 6275 P-2462 11.00 6.10 130.00 Open -0.27 1217.76 1217.76 0.00 0.00 6275 P-2463 11.00 6.10 130.00 Open -0.28 1053.00 0.00 0.00 6280 P-2465 11.00 6.10 130.00 Open -0.88 1064.98 0.00 0.00 6284 P-2465 11.00 6.10 130.00 Open -0.08 1064.98 10.00 0.00 6284 P-2467 11.00 6.10 130.00 Open -0.08 1064.98 0.00 0.00 6289 P-2468 11.00 6.10 130.00 Open 1.28 1055.20 0.00 0.00	6264	P-2457	11.00		130.00	Open	-0.20	1217.93	1217.93	0.00	0.00
6270 P-2460 11.00 6.10 130.00 Open -0.20 1217.92 1217.76 0.00 0.00 6275 P-2462 11.00 6.10 130.00 Open -0.20 967.37 967.37 0.00 0.00 6278 P-2463 11.00 6.10 130.00 Open -0.88 1053.00 0.00 0.00 6280 P-2464 11.00 6.10 130.00 Open -0.88 1064.96 1063.00 0.00 6282 P-2465 11.00 6.10 130.00 Open -0.08 1064.98 1064.98 0.00 0.00 6284 P-2467 11.00 6.10 130.00 Open -0.48 1061.98 1064.98 0.00 0.00 6289 P-2467 11.00 6.10 130.00 Open -0.48 1051.92 0.00 0.00 6294 P-2478 11.00 6.10 130.00 Open 0.48 1055.20 10											
6275 P-2462 11.00 6.10 130.00 Open -0.20 967.37 967.37 0.00 0.00 6278 P-2464 11.00 6.10 130.00 Open -0.88 1064.96 1063.00 0.00 0.00 6282 P-2465 11.00 6.10 130.00 Open -0.08 1064.96 1064.98 0.00 0.00 6284 P-2466 11.00 6.10 130.00 Open -0.08 1055.73 10.00 0.00 6289 P-2467 11.00 6.10 130.00 Open -0.08 1061.76 1061.76 0.00 0.00 6294 P-2469 11.00 6.10 130.00 Open -0.88 1056.70 1056.20 0.00 0.00 6294 P-2471 11.00 6.10 130.00 Open 0.88 1058.77 0.00 0.00 6299 P-2472 11.00 6.10 130.00 Open 1.88 1051.		P-2460	11.00		130.00	Open		1217.92	1217.92		0.00
6278 P-2463 11.00 6.10 130.00 Open 0.48 1053.00 1053.00 0.00 0.00 6282 P-2465 11.00 6.10 130.00 Open -0.08 1064.98 1064.98 0.00 0.00 6284 P-2466 11.00 6.10 130.00 Open -0.08 1064.98 1064.98 0.00 0.00 6287 P-2467 11.00 6.10 130.00 Open -0.08 1061.76 1061.73 0.00 0.00 6299 P-2468 11.00 6.10 130.00 Open -0.48 1051.92 1050.00 0.00 0.00 6294 P-2470 11.00 6.10 130.00 Open 0.88 1059.77 1059.77 0.00 0.00 6294 P-2472 11.00 6.10 130.00 Open 0.48 873.78 873.78 0.00 0.00 6301 P-2472 11.00 6.10 130.00 Op											
6282 P.2465 11.00 6.10 130.00 Open -0.08 1064.98 0.00 0.00 6284 P.2466 11.00 6.10 130.00 Open -0.08 1065.73 1055.73 0.00 0.00 6289 P.2468 11.00 6.10 130.00 Open -0.48 1061.92 0.00 0.00 6291 P.2469 11.00 6.10 130.00 Open -0.48 1065.92 1051.92 0.00 0.00 6294 P.2470 11.00 6.10 130.00 Open 0.48 1059.77 0.00 0.00 6296 P.2471 11.00 6.10 130.00 Open 0.48 1059.77 0.00 0.00 6301 P.2473 11.00 6.10 130.00 Open 1.68 1051.30 1051.76 0.00 0.00 6301 P.2473 11.00 6.10 130.00 Open 0.20 1218.03 1051.76 0.00 </td <td></td> <td></td> <td></td> <td></td> <td>130.00</td> <td>Open</td> <td>0.48</td> <td>1053.00</td> <td>1053.00</td> <td></td> <td>0.00</td>					130.00	Open	0.48	1053.00	1053.00		0.00
6284 P-2466 11.00 6.10 130.00 Open -0.08 105.73 0.00 0.00 6289 P-2468 11.00 6.10 130.00 Open -0.48 1061.76 1061.76 0.00 0.00 6281 P-2469 11.00 6.10 130.00 Open 1.28 1056.20 1051.92 0.00 0.00 6294 P-2470 11.00 6.10 130.00 Open 0.88 1695.77 1059.77 0.00 0.00 6299 P-2471 11.00 6.10 130.00 Open 0.48 873.78 1050.00 0.00 6301 P-2473 11.00 6.10 130.00 Open 0.48 1051.76 0.00 0.00 6304 P-2475 11.00 6.10 130.00 Open 0.48 1051.73 1057.34 0.00 0.00 6309 P-2475 11.00 6.10 130.00 Open -0.20 1218.03 1218.0											
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6328 P-2484 11.00 6.10 130.00 Open -0.20 1218.25 1218.25 0.00 0.00 6330 P-2485 11.00 6.10 130.00 Open 0.08 1052.68 1052.68 0.00 0.00 6333 P-2486 11.00 6.10 130.00 Open 0.20 993.44 993.44 0.00 0.00 6336 P-2487 11.00 6.10 130.00 Open 0.08 1052.51 1052.51 0.00 0.00 6342 P-2489 11.00 6.10 130.00 Open 0.20 1216.88 1216.88 0.00 0.00 6344 P-2491 11.00 6.10 130.00 Open -0.48 1055.76 1059.76 0.00 0.00 6348 P-2491 11.00 6.10 130.00 Open -0.48 1056.79 1056.79 0.00 0.00 6348 P-2492 11.00 6.10 130.00 Ope											
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6351 P-2493 11.00 6.10 130.00 Open 0.48 1056.39 1056.39 0.00 0.00 6354 P-2494 11.00 6.10 130.00 Open -0.28 1059.76 1059.76 0.00 0.00 6357 P-2495 11.00 6.10 130.00 Open -0.88 1053.48 1053.48 0.00 0.00 6359 P-2496 11.00 6.10 130.00 Open -1.28 1062.79 1062.79 0.00 0.00 6361 P-2497 11.00 6.10 130.00 Open -1.28 1062.79 1062.79 0.00 0.00 6361 P-2498 11.00 6.10 130.00 Open -0.08 1064.82 1064.82 0.00 0.00 6366 P-2499 11.00 6.10 130.00 Open -0.08 1064.82 1064.82 0.00 0.00 6369 P-2500 12.00 6.10 130.00 Open -0.08 1059.76 1059.76 0.00 0.00 63676 P-2501 11.00 6.10 130.00 Open -0.20 993.44 993.44 0.00 0.00 6373 P-2502 11.00 6.10 130.00 Open -0.28 1051.74 1051.74 0.00 0.00 6376 P-2503 11.00 6.10 130.00 Open 0.28 1052.99 1052.99 0.00 0.00 6378 P-2504 11.00 6.10 130.00 Open 0.28 1052.99 1052.99 0.00 0.00											
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6359 P-2496 11.00 6.10 130.00 Open -1.28 1062.79 1062.79 0.00 0.00 6361 P-2497 11.00 6.10 130.00 Open -2.09 1051.81 1051.81 0.00 0.00 6363 P-2498 11.00 6.10 130.00 Open -0.08 1064.82 1064.82 0.00 0.00 6366 P-2499 11.00 6.10 130.00 Open -0.08 1059.76 1059.76 0.00 0.00 6369 P-2500 12.00 6.10 130.00 Open -0.20 993.44 993.44 0.00 0.00 6371 P-2501 11.00 6.10 130.00 Open -0.20 1217.72 1217.72 0.00 0.00 6373 P-2502 11.00 6.10 130.00 Open 0.28 1051.74 1051.74 0.00 0.00 6376 P-2503 11.00 6.10 130.00											
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6366 P-2499 11.00 6.10 130.00 Open -0.08 1059.76 1059.76 0.00 0.00 6369 P-2500 12.00 6.10 130.00 Open -0.20 993.44 993.44 0.00 0.00 6371 P-2501 11.00 6.10 130.00 Open -0.20 1217.72 1217.72 0.00 0.00 6373 P-2502 11.00 6.10 130.00 Open 0.28 1051.74 1051.74 0.00 0.00 6376 P-2503 11.00 6.10 130.00 Open 0.28 1051.74 1051.74 0.00 0.00 6378 P-2504 11.00 6.10 130.00 Open 0.48 1051.74 1051.74 0.00 0.00											
6371 P-2501 11.00 6.10 130.00 Open -0.20 1217.72 1217.72 0.00 0.00 6373 P-2503 11.00 6.10 130.00 Open 0.28 1051.74 1051.74 0.00 0.00 6376 P-2503 11.00 6.10 130.00 Open 0.28 1051.74 1051.74 0.00 0.00 6378 P-2504 11.00 6.10 130.00 Open 0.48 1051.74 1051.74 0.00 0.00	6366	P-2499	11.00	6.10	130.00	Open	-0.08	1059.76	1059.76	0.00	0.00
6373 P-2502 11.00 6.10 130.00 Open 0.28 1051.74 1051.74 0.00 0.00 6376 P-2503 11.00 6.10 130.00 Open 0.28 1052.99 1052.99 0.00 0.00 6378 P-2504 11.00 6.10 130.00 Open 0.48 1051.74 1051.74 0.00 0.00											
6378 P-2504 11.00 6.10 130.00 Open 0.48 1051.74 1051.74 0.00 0.00	6373	P-2502	11.00	6.10	130.00	Open	0.28	1051.74	1051.74	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
6383	P-2506	12.00	6.10	130.00	Open	-0.29	1218.15	1218.15	0.00	0.00
6385 6387	P-2507 P-2508	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.20	1058.75 1218.15	1058.75 1218.15	0.00	0.00
6390	P-2509	12.00	6.10	130.00	Open	-0.20	1056.05	1056.05	0.00	0.00
6393	P-2510	12.00	6.10	130.00	Open	-0.08	1059.76	1059.76	0.00	0.00
6395 6397	P-2511 P-2512	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-1.08 -0.08	1059.76 1060.47	1059.76 1060.47	0.00	0.00
6399	P-2513	12.00	6.10	130.00	Open	-0.48	1064.98	1064.98	0.00	0.00
6402	P-2514 P-2515	12.00	6.10	130.00	Open	0.20	1218.47 1059.99	1218.47	0.00	0.00
6404 6407	P-2516	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.28 0.48	1060.27	1059.99 1060.27	0.00	0.00
6409	P-2517	12.00	6.10	130.00	Open	-0.48	1059.01	1059.01	0.00	0.00
6411 6414	P-2518 P-2519	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.48 -0.08	1061.88 1059.76	1061.88 1059.76	0.00	0.00
6416	P-2520	12.00	6.10	130.00	Open	-0.28	1064.99	1064.99	0.00	0.00
6418 6421	P-2521 P-2522	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.28 -0.28	1064.83 1057.00	1064.83 1057.00	0.00	0.00
6423	P-2523	12.00	6.10	130.00	Open	-0.28	1057.00	1057.00	0.00	0.00
6425	P-2524	12.00	6.10	130.00	Open	0.08	1064.98	1064.98	0.00	0.00
6428 6430	P-2525 P-2526	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.11	1051.96 1322.91	1051.96 1322.91	0.00	0.00
6432	P-2527	12.00	6.10	130.00	Open	-0.20	1218.03	1218.03	0.00	0.00
6435 6438	P-2528 P-2529	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.37 0.20	1218.15 1218.32	1218.15 1218.32	0.00	0.00 0.00
6441	P-2529 P-2530	12.00	6.10	130.00	Open	0.20	1051.76	1051.76	0.00	0.00
6443	P-2531	12.00	6.10	130.00	Open	-0.20	1218.15	1218.15	0.00	0.00
6445 6447	P-2532 P-2533	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.48 -1.28	1064.96 1059.77	1064.96 1059.77	0.00	0.00
6449	P-2534	12.00	6.10	130.00	Open	-0.48	1059.77	1059.77	0.00	0.00
6451	P-2535	12.00	6.10	130.00 130.00	Open Open	-0.20	1218.15	1218.15	0.00	0.00
6454 6457	P-2536 P-2537	12.00 12.00	6.10 6.10	130.00	Open	0.08 0.08	1057.75 1052.04	1057.75 1052.04	0.00	0.00
6459	P-2538	12.00	6.10	130.00	Open	0.68	1052.03	1052.03	0.00	0.00
6461 6463	P-2539 P-2540	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.26 0.20	1322.98 1218.58	1322.98 1218.58	0.00	0.00
6465	P-2541	12.00	6.10	130.00	Open	0.08	1053.93	1053.93	0.00	0.00
6468	P-2542 P-2543	12.00	6.10	130.00	Open	-0.28	1053.48	1053.48	0.00	0.00
6470 6473	P-2543 P-2544	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	1.08 -0.68	1051.83 1064.82	1051.83 1064.82	0.00	0.00
6475	P-2545	12.00	6.10	130.00	Open	0.48	1052.54	1052.54	0.00	0.00
6478 6480	P-2546 P-2547	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.08 1.08	1061.12 1052.09	1061.12 1052.09	0.00	0.00
6482	P-2548	12.00	6.10	130.00	Open	0.08	1064.92	1064.92	0.00	0.00
6485 6487	P-2549 P-2550	12.00 12.00	6.10 6.10	130.00	Open	0.08	1053.01	1053.01	0.00	0.00
6489	P-2550 P-2551	12.00	6.10	130.00 130.00	Open Open	0.20 0.48	1218.37 1052.79	1218.37 1052.79	0.00	0.00
6491	P-2552	12.00	6.10	130.00	Open	0.68	1052.76	1052.76	0.00	0.00
6494 6496	P-2553 P-2554	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.08	1055.93 1052.19	1055.93 1052.19	0.00	0.00
6498	P-2555	12.00	6.10	130.00	Open	0.20	1217.75	1217.75	0.00	0.00
6501	P-2556	12.00	6.10	130.00	Open	1.48	1054.00	1054.00	0.00	0.00
6503 6505	P-2557 P-2558	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.28	1052.64 1051.81	1052.64 1051.81	0.00	0.00
6508	P-2559	12.00	6.10	130.00	Open	-0.11	1322.97	1322.97	0.00	0.00
6510 6513	P-2560 P-2561	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.48	1060.34 1059.86	1060.34 1059.86	0.00	0.00
6515	P-2562	12.00	6.10	130.00	Open	0.48	1064.92	1064.92	0.00	0.00
6518	P-2563	12.00	6.10	130.00	Open	0.68	1052.86	1052.86	0.00	0.00
6521 6523	P-2564 P-2565	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.28 1.28	1051.96 1053.98	1051.96 1053.98	0.00	0.00
6525	P-2566	12.00	6.10	130.00	Open	1.48	1056.05	1056.05	0.00	0.00
6527 6529	P-2567 P-2568	12.00 12.00	6.10 6.10	130.00 130.00	Open Open	0.20 0.48	1218.65 1056.20	1218.65 1056.20	0.00	0.00
6532	P-2569	12.00	6.10	130.00	Open	0.20	1216.06	1216.06	0.00	0.00
6534 6536	P-2570 P-2571	12.00 12.00	6.10 6.10	130.00 130.00	Open	-0.11 -0.48	1322.92 1059.99	1322.92 1059.99	0.00	0.00
6539	P-2572	12.00	6.10	130.00	Open	-0.48	1064.98	1064.98	0.00	0.00
6542	P-2573	12.00	6.10	130.00	Open	0.68	1057.65	1057.65	0.00	0.00
6544 6546	P-2574 P-2575	12.00 13.00	6.10 6.10	130.00 130.00	Open Open	-0.29 -0.48	1215.66 1059.76	1215.66 1059.76	0.00	0.00
6549	P-2576	13.00	6.10	130.00	Open	0.68	1051.76	1051.76	0.00	0.00
6552 6555	P-2577 P-2578	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.48	1052.12 1053.42	1052.12 1053.42	0.00	0.00
6558	P-2579	13.00	6.10	130.00	Open	0.28	1051.89	1051.89	0.00	0.00
6561	P-2580	13.00	6.10	130.00	Open	0.48	1052.12	1052.12 1053.02	0.00	0.00
6564 6566	P-2581 P-2582	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.08 -1.88	1053.02 1061.12	1053.02	0.00	0.00 0.00
6569	P-2583	13.00	6.10	130.00	Open	0.08	1051.96	1051.96	0.00	0.00
6571 6574	P-2584 P-2585	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.68	1053.48 1052.03	1053.48 1052.03	0.00	0.00
6576	P-2586	13.00	6.10	130.00	Open	-0.68	1056.78	1056.78	0.00	0.00
6578	P-2587 P-2588	13.00 13.00	6.10 6.10	130.00	Open Open	0.08 0.28	1057.32 1057.30	1057.32	0.00	0.00
6581 6584	P-2588 P-2589	13.00	6.10	130.00 130.00	Open	0.28	1057.30	1057.30 1052.13	0.00	0.00
6586	P-2590	13.00	6.10	130.00	Open	-0.20	1218.12	1218.12	0.00	0.00
6588 6590	P-2591 P-2592	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	80.0 80.0	1052.17 1053.03	1052.17 1053.03	0.00	0.00
6592	P-2593	13.00	6.10	130.00	Open	0.28	1052.51	1052.51	0.00	0.00
6595	P-2594	13.00	6.10	130.00	Open	-0.28	1052.09	1052.09	0.00	0.00
6597 6599	P-2595 P-2596	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.20	1051.76 1218.31	1051.76 1218.31	0.00	0.00 0.00
6602	P-2597	13.00	6.10	130.00	Open	0.08	1052.04	1052.04	0.00	0.00
6604 6607	P-2598 P-2599	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	-0.48 -0.08	1064.81 1060.27	1064.81 1060.27	0.00	0.00 0.00
6610	P-2600	13.00	6.10	130.00	Open	-0.28	1060.48	1060.48	0.00	0.00
6612 6615	P-2601 P-2602	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.28	1053.00 1057.27	1053.00 1057.27	0.00	0.00
6617	P-2603	13.00	6.10	130.00	Open	1.08	1057.27	1052.99	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
6619	P-2604	13.00	6.10	130.00	Open	0.08	1054.66	1054.66	0.00	0.00
6622 6625	P-2605 P-2606	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.48 -1.28	1057.53 1054.25	1057.53 1054.25	0.00	0.00
6628	P-2607	13.00	6.10	130.00	Open	0.68	1055.79	1055.79	0.00	0.00
6631	P-2608 P-2609	13.00	6.10	130.00	Open	0.08	1052.53	1052.53	0.00	0.00
6634 6636	P-2610	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1051.31 1058.85	1051.31 1058.85	0.00	0.00 0.00
6638	P-2611	13.00	6.10	130.00	Open	0.48	1064.93	1064.93	0.00	0.00
6640 6643	P-2612 P-2613	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	1.48 0.08	1053.73 1064.92	1053.73 1064.92	0.00	0.00
6646	P-2614	13.00	6.10	130.00	Open	0.20	1218.14	1218.14	0.00	0.00
6648 6651	P-2615 P-2616	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.08	1064.81 1056.91	1064.81 1056.91	0.00	0.00 0.00
6653	P-2617	13.00	6.10	130.00	Open	-0.48	1064.93	1064.93	0.00	0.00
6655 6657	P-2618 P-2619	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.20	1218.05 1218.03	1218.05 1218.03	0.00	0.00
6659	P-2620	13.00	6.10	130.00	Open	0.28	1052.99	1052.99	0.00	0.00
6661	P-2621	13.00	6.10	130.00	Open	-0.88	1064.91	1064.91	0.00	0.00
6664 6667	P-2622 P-2623	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1061.12 1053.04	1061.12 1053.04	0.00	0.00
6670	P-2624	13.00	6.10	130.00	Open	0.48	1064.93	1064.93	0.00	0.00
6672 6674	P-2625 P-2626	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.48	1053.42 1055.29	1053.42 1055.29	0.00	0.00
6676	P-2627	13.00	6.10	130.00	Open	-0.88	1064.91	1064.91	0.00	0.00
6679 6681	P-2628 P-2629	13.00 13.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.88	1056.76 1053.22	1056.76 1053.22	0.00	0.00
6683	P-2630	14.00	6.10	130.00	Open	0.28	1052.40	1052.40	0.00	0.00
6686 6689	P-2631 P-2632	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.68	1051.74 1064.82	1051.74 1064.82	0.00	0.00
6692	P-2633	14.00	6.10	130.00	Open	-0.08	1057.64	1057.64	0.00	0.00
6694	P-2634 P-2635	14.00 14.00	6.10	130.00	Open	1.88 0.08	1052.50	1052.50 1052.95	0.00	0.00
6697 6699	P-2636	14.00	6.10 6.10	130.00 130.00	Open Open	0.08	1052.95 1056.35	1052.95	0.00	0.00
6701	P-2637	14.00	6.10	130.00 130.00	Open	0.28	1064.90	1064.90 1053.24	0.00	0.00
6703 6706	P-2638 P-2639	14.00 14.00	6.10 6.10	130.00	Open Open	0.08 -0.08	1053.24 1057.64	1053.24	0.00	0.00
6708	P-2640	14.00	6.10	130.00	Open	-0.88	1064.96	1064.96	0.00	0.00
6710 6712	P-2641 P-2642	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.48	1057.29 1057.29	1057.29 1057.29	0.00	0.00
6715	P-2643	14.00	6.10	130.00	Open	-0.68	1060.09	1060.09	0.00	0.00
6718 6720	P-2644 P-2645	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.20	1064.93 1218.07	1064.93 1218.07	0.00	0.00
6722	P-2646	14.00	6.10	130.00	Open	-0.48	1060.15	1060.15	0.00	0.00
6724 6727	P-2647 P-2648	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.28	1051.90 1064.82	1051.90 1064.82	0.00	0.00
6730	P-2649	14.00	6.10	130.00	Open	0.28	1053.37	1053.37	0.00	0.00
6732 6734	P-2650 P-2651	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.20 0.28	1218.42 1051.96	1218.42 1051.96	0.00	0.00
6736	P-2652	14.00	6.10	130.00	Open	1.28	1052.53	1052.53	0.00	0.00
6738 6741	P-2653 P-2654	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.48	1064.93 1063.54	1064.93 1063.54	0.00	0.00
6743	P-2655	14.00	6.10	130.00	Open	0.28	1052.54	1052.54	0.00	0.00
6746 7228	P-2656 P-2657	14.00 11.00	6.10 8.00	130.00 130.00	Open Open	-1.08 0.08	981.48 1064.94	981.48 1064.94	0.00	0.00
7230	P-2658	11.00	8.00	130.00	Open	26.47	1218.14	1218.14	0.00	0.00
7231 7233	P-2659 P-2660	11.00 11.00	8.00 8.00	130.00 130.00	Open Open	0.28 0.08	1061.12 1053.58	1061.12 1053.58	0.00	0.00
7236	P-2661	11.00	8.00	130.00	Open	0.68	1053.01	1053.01	0.00	0.00
7238 7239	P-2662 P-2663	11.00 11.00	8.00 8.00	130.00 130.00	Open Open	2.04 1.76	873.78 1061.11	873.78 1061.11	0.00	0.00
7239	P-2664	11.00	8.00	130.00	Open	0.88	1064.93	1064.93	0.00	0.00
7242 7245	P-2665	11.00	8.00	130.00	Open	0.20 7.40	1217.76	1217.76	0.00	0.00
7245	P-2666 P-2667	11.00 11.00	8.00 8.00	130.00 130.00	Open Open	0.08	1061.12 1057.32	1061.12 1057.32	0.00	0.00
7250	P-2668	11.00	8.00	130.00	Open	-0.08 -33.47	1052.00	1052.00	0.00	0.00
7252 7253	P-2669 P-2670	11.00 11.00	8.00 8.00	130.00 130.00	Open Open	-0.08	1057.43 1057.28	1057.43 1057.28	0.00	0.00
7256	P-2671	11.00	8.00	130.00	Open	-0.96	1056.39	1056.39	0.00	0.00
7257 7259	P-2672 P-2673	12.00 12.00	8.00 8.00	130.00 130.00	Open Open	-0.08 8.94	1064.94 1057.97	1064.94 1057.97	0.00	0.00
7261	P-2675	12.00	8.00	130.00	Open	0.20	988.99	988.99	0.00	0.00
7264 7265	P-2676 P-2677	13.00 13.00	8.00 8.00	130.00 130.00	Open Open	1.84 -0.68	1051.83 1051.73	1051.83 1051.73	0.00	0.00
7267	P-2678	13.00	8.00	130.00	Open	29.79	1064.99	1064.98	0.00	0.00
7270 7271	P-2679 P-2680	13.00 13.00	8.00 8.00	130.00 130.00	Open Open	36.40 4.71	1053.03 1057.28	1053.03 1057.28	0.00	0.00
7273	P-2681	13.00	8.00	130.00	Open	1.16	1064.81	1064.81	0.00	0.00
7274 7275	P-2682 P-2683	13.00 13.00	8.00 8.00	130.00 130.00	Open Open	11.57 8.80	1052.51 1062.81	1052.51 1062.81	0.00	0.00
7276	P-2684	13.00	8.00	130.00	Open	4.68	1059.01	1059.01	0.00	0.00
7278 7281	P-2685 P-2686	13.00 13.00	8.00 8.00	130.00 130.00	Open Open	-0.08 4.25	1056.92 1322.91	1056.92 1322.91	0.00	0.00
7282	P-2687	13.00	8.00	130.00	Open	0.08	1057.32	1057.32	0.00	0.00
7285 7286	P-2688 P-2689	14.00 14.00	8.00 8.00	130.00 130.00	Open Open	1.16 -1.36	1061.88 1061.87	1061.88 1061.87	0.00	0.00
7287	P-2690	14.00	8.00	130.00	Open	-1.08	1051.67	1056.92	0.00	0.00
7290 7291	P-2691	14.00	8.00	130.00	Open	3.75 4.77	1051.83	1051.83	0.00	0.00
7291 7292	P-2692 P-2693	14.00 15.00	8.00 8.00	130.00 130.00	Open Open	4.77 -54.43	1217.75 1063.11	1217.75 1063.11	0.00	0.00
7293	P-2694	15.00	8.00	130.00	Open	3.12	1218.15	1218.15	0.00	0.00
7294 7296	P-2695 P-2696	15.00 15.00	8.00 8.00	130.00 130.00	Open Open	-0.08 0.28	1057.30 981.48	1057.30 981.48	0.00	0.00
7298	P-2697	15.00	8.00	130.00	Open	-58.76	1052.56	1052.56	0.00	0.00
7300 7302	P-2698 P-2699	15.00 15.00	8.00 8.00	130.00 130.00	Open Open	0.08 223.10	1056.26 1052.74	1056.26 1052.72	0.00 0.02	0.00
7303 7304	P-2700 P-2701	16.00 17.00	8.00 8.00	130.00 130.00	Open Open	3.74 1.56	1216.97 1064.98	1216.97 1064.98	0.00	0.00 0.00
7304 7306	P-2701 P-2702	16.00	8.00	130.00	Open	12.59	1051.80	1051.80	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7307	P-2703	16.00	8.00	130.00	Open	-0.20	1216.97	1216.97	0.00	0.00
7312 7313	P-2705 P-2706	17.00 17.00	8.00 8.00	130.00 130.00	Open Open	3.20 3.07	1064.91 1062.55	1064.91 1062.55	0.00	0.00
7314	P-2707	17.00	8.00	130.00	Open	3.63	1051.98	1051.98	0.00	0.00
7315	P-2708	17.00	8.00	130.00	Open	0.94	1218.15	1218.15	0.00	0.00
7317 7318	P-2709 P-2710	17.00 17.00	8.00 8.00	130.00 130.00	Open Open	14.35 4.35	993.44 1051.81	993.44 1051.81	0.00	0.00
7319	P-2711	18.00	8.00	130.00	Open	-0.08	1052.86	1052.86	0.00	0.00
7321 7322	P-2712 P-2713	18.00 18.00	8.00 8.00	130.00 130.00	Open Open	0.91 4.80	1064.94 1064.81	1064.94 1064.81	0.00	0.00
7324	P-2714	18.00	8.00	130.00	Open	13.30	1057.33	1057.33	0.00	0.00
7326 7328	P-2715 P-2716	18.00 18.00	8.00 8.00	130.00 130.00	Open Open	-0.20 5.71	1218.15 1052.99	1218.15 1052.99	0.00	0.00
7330	P-2717	18.00	8.00	130.00	Open	-1.11	1052.99	1052.99	0.00	0.00
7331	P-2718	18.00	8.00	130.00	Open	-1.36	1052.56	1052.56	0.00	0.00
7332 7333	P-2719 P-2720	18.00 19.00	8.00 8.00	130.00 130.00	Open Open	10.99 0.90	1064.82 1051.74	1064.82 1051.74	0.00	0.00
7334	P-2721	19.00	8.00	130.00	Open	6.40	1217.75	1217.75	0.00	0.00
7335 7338	P-2722 P-2723	30.00 19.00	8.00 8.00	130.00 130.00	Open Open	-0.48 0.08	1059.33 1064.81	1059.33 1064.81	0.00	0.00
7341	P-2724	20.00	8.00	130.00	Open	-0.08	1056.92	1056.92	0.00	0.00
7344 7347	P-2725 P-2726	21.00 21.00	8.00 8.00	130.00 130.00	Open Open	0.48 -0.20	1054.86 1218.03	1054.86 1218.03	0.00	0.00
7349	P-2727	21.00	8.00	130.00	Open	0.08	1053.10	1053.10	0.00	0.00
7351	P-2728 P-2729	21.00	8.00	130.00	Open	-1.12 -41.34	988.98	988.98 1051.97	0.00	0.00
7352 7353	P-2729 P-2730	21.00 22.00	8.00 8.00	130.00 130.00	Open Open	-41.34 -9.37	1051.97 1051.74	1051.97	0.00	0.00
7354	P-2731	22.00	8.00	130.00	Open	31.31	1051.88	1051.88	0.00	0.00
7355 7356	P-2732 P-2733	24.00 23.00	8.00 8.00	130.00 130.00	Open Open	-38.85 0.08	1051.89 1064.98	1051.89 1064.98	0.00	0.00
7358	P-2734	27.00	8.00	130.00	Open	9.24	1051.85	1051.85	0.00	0.00
7360 7361	P-2735 P-2736	24.00 24.00	8.00 8.00	130.00 130.00	Open Open	2.79 -10.14	1051.96 1052.24	1051.96 1052.24	0.00	0.00
7362	P-2737	24.00	8.00	130.00	Open	81.24	1053.93	1053.92	0.00	0.00
7363 7364	P-2738 P-2739	24.00 25.00	8.00 8.00	130.00 130.00	Open Open	2.76 0.08	1056.20 1064.93	1056.20 1064.93	0.00	0.00
7366	P-2740	25.00	8.00	130.00	Open	-10.14	1052.20	1052.20	0.00	0.00
7367	P-2741 P-2742	25.00	8.00 8.00	130.00	Open Open	1.51 -102.47	1064.93	1064.93	0.00 0.01	0.00
7370 7371	P-2742 P-2743	25.00 26.00	8.00	130.00 130.00	Open	59.42	1053.03 1063.20	1053.04 1063.20	0.00	0.00
7372	P-2744	26.00	8.00	130.00	Open	2.24	1052.49	1052.49	0.00	0.00
7373 7375	P-2745 P-2746	26.00 26.00	8.00 8.00	130.00 130.00	Open Open	10.12 0.48	1061.12 1052.85	1061.12 1052.85	0.00	0.00
7377	P-2747	27.00	8.00	130.00	Open	18.47	1064.82	1064.82	0.00	0.00
7379 7382	P-2748 P-2749	27.00 28.00	8.00 8.00	130.00 130.00	Open Open	0.08 0.63	1057.28 1052.85	1057.28 1052.85	0.00	0.00
7383	P-2750	28.00	8.00	130.00	Open	-0.29	1218.03	1218.03	0.00	0.00
7385 7387	P-2751 P-2752	28.00 28.00	8.00 8.00	130.00 130.00	Open Open	1.91 -6.87	1060.15 988.99	1060.15 988.99	0.00	0.00
7388	P-2753	29.00	8.00	130.00	Open	0.28	1051.96	1051.96	0.00	0.00
7390 7391	P-2754 P-2755	29.00 29.00	8.00 8.00	130.00 130.00	Open Open	7.24 -23.48	1057.27 1057.57	1057.27 1057.57	0.00	0.00
7392	P-2756	29.00	8.00	130.00	Open	3.20	1056.78	1056.78	0.00	0.00
7393 7396	P-2757 P-2758	29.00 29.00	8.00 8.00	130.00 130.00	Open Open	-0.08 9.60	1064.93 1052.80	1064.93 1052.80	0.00	0.00
7398	P-2759	30.00	8.00	130.00	Open	5.56	1053.48	1053.48	0.00	0.00
7399 7401	P-2760 P-2761	30.00 30.00	8.00 8.00	130.00 130.00	Open Open	0.48 0.28	1056.83 1054.66	1056.83 1054.66	0.00	0.00
7403	P-2762	30.00	8.00	130.00	Open	0.16	1056.92	1056.92	0.00	0.00
7404	P-2763	31.00	8.00	130.00	Open	-18.73	1053.01	1053.01	0.00	0.00
7405 7406	P-2764 P-2765	31.00 31.00	8.00 8.00	130.00 130.00	Open Open	-11.13 6.00	1064.97 1218.03	1064.97 1218.03	0.00	0.00
7407 7411	P-2766	31.00	8.00	130.00	Open	2.52	1064.94	1064.94	0.00	0.00
7411	P-2768 P-2769	32.00 32.00	8.00 8.00	130.00 130.00	Open Open	7.97 16.33	1052.50 1052.12	1052.50 1052.12	0.00	0.00
7414	P-2770	32.00	8.00	130.00	Open	1.23	1064.94	1064.94	0.00	0.00
7415 7418	P-2771 P-2772	32.00 32.00	8.00 8.00	130.00 130.00	Open Open	80.0 80.0	1053.10 1051.98	1053.10 1051.98	0.00	0.00
7420	P-2773	33.00	8.00	130.00	Open	1.26	1064.93	1064.93	0.00	0.00
7421 7423	P-2774 P-2775	34.00 35.00	8.00 8.00	130.00 130.00	Open Open	1.44 0.63	1061.88 1064.98	1061.88 1064.98	0.00	0.00
7424	P-2776	35.00	8.00	130.00	Open	64.31	1060.27	1060.26	0.00	0.00
7425 7427	P-2777 P-2778	36.00 36.00	8.00 8.00	130.00 130.00	Open Open	6.67 15.64	1051.83 1064.93	1051.83 1064.93	0.00	0.00
7428	P-2779	39.00	8.00	130.00	Open	30.59	1218.28	1218.28	0.00	0.00
7430 7432	P-2780 P-2781	36.00 38.00	8.00 8.00	130.00 130.00	Open Open	16.10 8.04	1061.12 981.48	1061.12 981.48	0.00	0.00
7433	P-2782	38.00	8.00	130.00	Open	-5.66	1218.02	1218.02	0.00	0.00
7435	P-2783	38.00	8.00	130.00 130.00	Open	-35.60	1051.96	1051.96	0.00	0.00
7436 7438	P-2784 P-2785	38.00 38.00	8.00 8.00	130.00	Open Open	0.63 10.11	1061.12 1061.12	1061.12 1061.12	0.00	0.00
7440	P-2786	38.00	8.00	130.00	Open	11.81	1064.93	1064.93	0.00	0.00
7441 7442	P-2787 P-2788	38.00 38.00	8.00 8.00	130.00 130.00	Open Open	2.26 7.75	1218.03 1064.81	1218.03 1064.81	0.00	0.00
7443	P-2789	39.00	8.00	130.00	Open	0.60	1218.03	1218.03	0.00	0.00
7444 7445	P-2790 P-2791	40.00 40.00	8.00 8.00	130.00 130.00	Open Open	5.48 -1.64	1064.81 1054.63	1064.81 1054.63	0.00	0.00
7446	P-2792	40.00	8.00	130.00	Open	1.64	1064.93	1064.93	0.00	0.00
7447 7449	P-2793 P-2794	40.00 42.00	8.00 8.00	130.00 130.00	Open Open	0.77 39.89	1052.12 1052.02	1052.12 1052.01	0.00	0.00
7451	P-2795	41.00	8.00	130.00	Open	5.33	1051.84	1051.84	0.00	0.00
7453 7455	P-2796 P-2797	41.00 42.00	8.00 8.00	130.00 130.00	Open Open	54.54 0.28	1052.09 1056.06	1052.09 1056.06	0.00	0.00
7457	P-2798	42.00	8.00	130.00	Open	14.24	1051.84	1051.84	0.00	0.00
7458 7459	P-2799 P-2800	42.00 44.00	8.00 8.00	130.00 130.00	Open Open	9.80 0.08	1064.98 1057.42	1064.98 1057.42	0.00	0.00
7462	P-2801	43.00	8.00	130.00	Open	-8.48	1052.86	1052.86	0.00	0.00
7464	P-2802	43.00	8.00	130.00	Open	-42.25	1051.97	1051.98	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7466	P-2803	43.00	8.00	130.00	Open	-33.13	1051.95	1051.95	0.00	0.00
7467	P-2804	44.00	8.00	130.00	Open	4.40	1064.93	1064.93	0.00	0.00
7468 7470	P-2805 P-2806	44.00 45.00	8.00 8.00	130.00 130.00	Open Open	3.35 0.69	1056.91 1057.32	1056.91 1057.32	0.00	0.00
7471	P-2807	45.00	8.00	130.00	Open	12.23	1064.82	1064.82	0.00	0.00
7472	P-2808	45.00	8.00	130.00	Open	0.48	1057.29	1057.29	0.00	0.00
7475 7477	P-2809 P-2810	47.00 48.00	8.00 8.00	130.00 130.00	Open Open	3.28 0.56	1322.91 1059.33	1322.91 1059.33	0.00	0.00
7478	P-2811	47.00	8.00	130.00	Open	5.03	1064.92	1064.92	0.00	0.00
7480	P-2812 P-2813	47.00	8.00	130.00	Open	2.59	1057.28	1057.28	0.00	0.00
7482 7483	P-2813 P-2814	47.00 47.00	8.00 8.00	130.00 130.00	Open Open	21.66 4.06	1064.82 1056.91	1064.82 1056.91	0.00	0.00
7484	P-2815	48.00	8.00	130.00	Open	0.96	1052.54	1052.54	0.00	0.00
7485 7487	P-2816 P-2817	49.00 50.00	8.00 8.00	130.00 130.00	Open Open	0.20 -5.66	1216.97 967.43	1216.97 967.43	0.00	0.00
7488	P-2818	50.00	8.00	130.00	Open	26.64	1057.30	1057.30	0.00	0.00
7490	P-2819	59.00	8.00	130.00	Open	3.10	1057.28	1057.28	0.00	0.00
7492 7494	P-2820 P-2821	50.00 50.00	8.00 8.00	130.00 130.00	Open Open	29.40 1.59	1051.83 1059.99	1051.82 1059.99	0.00	0.00
7495	P-2822	50.00	8.00	130.00	Open	120.12	1054.88	1054.86	0.02	0.00
7496	P-2823	51.00	8.00	130.00	Open	-7.92	1052.86	1052.86	0.00	0.00
7498 7499	P-2824 P-2825	51.00 51.00	8.00 8.00	130.00 130.00	Open Open	-11.60 8.75	1052.20 1322.92	1052.20 1322.92	0.00	0.00
7500	P-2826	52.00	8.00	130.00	Open	-16.01	1051.74	1051.74	0.00	0.00
7502	P-2827	52.00	8.00	130.00	Open	-1.76	1051.74	1051.74	0.00	0.00
7503 7504	P-2828 P-2829	53.00 53.00	8.00 8.00	130.00 130.00	Open Open	19.50 4.32	1051.82 1052.11	1051.82 1052.11	0.00	0.00
7506	P-2830	54.00	8.00	130.00	Open	-21.26	1052.88	1052.88	0.00	0.00
7507	P-2831	54.00	8.00	130.00	Open	0.43	1056.26	1056.26	0.00	0.00
7509 7512	P-2832 P-2833	54.00 71.00	8.00 8.00	130.00 130.00	Open Open	0.48 -58.47	1052.86 1051.21	1052.86 1051.22	0.00 0.01	0.00
7513	P-2834	54.00	8.00	130.00	Open	5.56	1052.54	1052.54	0.00	0.00
7515	P-2835	57.00	8.00	130.00	Open	14.62	1053.00	1053.00	0.00	0.00
7516 7518	P-2836 P-2837	55.00 55.00	8.00 8.00	130.00 130.00	Open Open	-0.08 0.08	1053.01 1061.12	1053.01 1061.12	0.00	0.00
7521	P-2838	56.00	8.00	130.00	Open	12.84	967.36	967.36	0.00	0.00
7522	P-2839 P-2840	57.00	8.00	130.00	Open	4.09	1059.99	1059.99	0.00	0.00
7523 7525	P-2840 P-2841	57.00 58.00	8.00 8.00	130.00 130.00	Open Open	0.08 10.28	1061.12 1064.93	1061.12 1064.93	0.00	0.00
7527	P-2842	58.00	8.00	130.00	Open	-19.36	1051.74	1051.74	0.00	0.00
7530	P-2843	58.00	8.00	130.00	Open	-0.83	1051.73	1051.73	0.00	0.00
7531 7532	P-2844 P-2845	58.00 59.00	8.00 8.00	130.00 130.00	Open Open	8.42 1.16	1216.97 1053.00	1216.97 1053.00	0.00	0.00
7534	P-2846	59.00	8.00	130.00	Open	-51.89	1052.46	1052.46	0.00	0.00
7535 7537	P-2847 P-2848	60.00 60.00	8.00 8.00	130.00 130.00	Open Open	0.20 -109.22	1218.15 1053.22	1218.15 1053.24	0.00 0.02	0.00
7539	P-2849	60.00	8.00	130.00	Open	10.68	1216.97	1216.97	0.02	0.00
7540	P-2850	61.00	8.00	130.00	Open	20.41	1064.83	1064.83	0.00	0.00
7542 7544	P-2851 P-2852	62.00 62.00	8.00 8.00	130.00 130.00	Open Open	0.99 6.48	1051.73 1059.99	1051.73 1059.99	0.00	0.00
7545	P-2853	63.00	8.00	130.00	Open	0.48	1061.11	1061.11	0.00	0.00
7547	P-2854	63.00	8.00	130.00	Open	118.28	1052.38	1052.36	0.02	0.00
7549 7550	P-2855 P-2856	64.00 65.00	8.00 8.00	130.00 130.00	Open Open	-15.95 33.73	1057.30 1052.38	1057.30 1052.38	0.00	0.00
7552	P-2857	65.00	8.00	130.00	Open	51.02	1052.02	1052.02	0.00	0.00
7554	P-2858 P-2859	69.00	8.00	130.00 130.00	Open	3.50	1064.91	1064.91 1057.53	0.00	0.00
7555 7556	P-2859 P-2860	65.00 66.00	8.00 8.00	130.00	Open Open	1.36 0.63	1057.53 1053.10	1057.53	0.00	0.00
7557	P-2861	67.00	8.00	130.00	Open	7.92	1064.93	1064.93	0.00	0.00
7558	P-2862	67.00	8.00	130.00	Open	30.09	1051.93	1051.93	0.00	0.00
7560 7562	P-2863 P-2864	68.00 68.00	8.00 8.00	130.00 130.00	Open Open	1.79 20.49	1056.39 1056.78	1056.39 1056.78	0.00	0.00
7563	P-2865	68.00	8.00	130.00	Open	-0.48	1064.81	1064.81	0.00	0.00
7564	P-2866	68.00	8.00 8.00	130.00	Open	-34.84 -4.66	1051.96	1051.96	0.00	0.00
7565 7566	P-2867 P-2868	68.00 68.00	8.00	130.00 130.00	Open Open	66.38	1218.15 1060.46	1218.15 1060.46	0.00	0.00
7567	P-2869	70.00	8.00	130.00	Open	8.09	1052.04	1052.04	0.00	0.00
7568 7570	P-2870 P-2871	68.00 69.00	8.00 8.00	130.00 130.00	Open Open	0.37 -42.10	1218.03 1051.97	1218.03 1051.97	0.00	0.00
7571	P-2872	70.00	8.00	130.00	Open	9.46	1057.30	1057.30	0.00	0.00
7572	P-2873	71.00	8.00	130.00	Open	-10.16	1051.74	1051.74	0.00	0.00
7573 7575	P-2874 P-2875	71.00 72.00	8.00 8.00	130.00 130.00	Open Open	0.08 52.08	1061.12 1052.26	1061.12 1052.25	0.00 0.01	0.00
7577	P-2876	72.00	8.00	130.00	Open	-1.95	1052.68	1052.68	0.00	0.00
7579	P-2877	72.00	8.00	130.00	Open	5.06	1064.94	1064.93	0.00	0.00
7580 7581	P-2878 P-2879	73.00 73.00	8.00 8.00	130.00 130.00	Open Open	-2.94 -4.34	1052.06 1056.39	1052.06 1056.39	0.00	0.00 0.00
7583	P-2880	74.00	8.00	130.00	Open	-14.37	1051.74	1051.74	0.00	0.00
7584	P-2881	74.00	8.00	130.00	Open	5.03	1052.12	1052.12	0.00	0.00
7585 7586	P-2882 P-2883	74.00 79.00	8.00 8.00	130.00 130.00	Open Open	1.16 -71.95	1057.97 1052.87	1057.97 1052.88	0.00 0.01	0.00
7587	P-2884	76.00	8.00	130.00	Open	-0.48	1059.99	1059.99	0.00	0.00
7589	P-2885	76.00	8.00	130.00	Open	10.14	1052.80	1052.80	0.00	0.00
7590 7591	P-2886 P-2887	76.00 77.00	8.00 8.00	130.00 130.00	Open Open	6.19 21.24	1062.55 1052.54	1062.55 1052.54	0.00	0.00
7592	P-2888	77.00	8.00	130.00	Open	7.24	1051.80	1052.34	0.00	0.00
7594	P-2889	78.00	8.00	130.00	Open	-38.09	1057.67	1057.68	0.00	0.00
7596 7598	P-2890 P-2891	78.00 79.00	8.00 8.00	130.00 130.00	Open Open	48.38 0.38	1217.82 1057.32	1217.82 1057.32	0.01 0.00	0.00
7599	P-2892	79.00	8.00	130.00	Open	0.38	1057.32	1057.32	0.00	0.00
7601	P-2893	96.00	8.00	130.00	Open	0.37	1218.02	1218.02	0.00	0.00
7603 7604	P-2894 P-2895	134.00 81.00	8.00 8.00	130.00 130.00	Open Open	40.24 -6.07	1052.02 988.99	1052.02 988.99	0.01 0.00	0.00
7605	P-2896	81.00	8.00	130.00	Open	27.11	1052.58	1052.58	0.00	0.00
7607	P-2897	81.00	8.00	130.00	Open	114.22	1052.54	1052.51	0.03	0.00
7609 7611	P-2898 P-2899	98.00 82.00	8.00 8.00	130.00 130.00	Open Open	-7.61 67.88	1052.72 1053.06	1052.72 1053.05	0.00 0.01	0.00
7613	P-2900	84.00	8.00	130.00	Open	8.57	1051.74	1051.74	0.00	0.00

5/13/2013

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7615	P-2901	85.00	8.00	130.00	Open	-48.30	1051.98	1051.98	0.01	0.00
7616 7618	P-2902 P-2903	86.00 86.00	8.00 8.00	130.00 130.00	Open Open	-0.48 -113.93	1055.31 1053.42	1055.31 1053.45	0.00	0.00
7620	P-2904	87.00	8.00	130.00	Open	-14.40	1057.53	1057.53	0.00	0.00
7621	P-2905	89.00	8.00	130.00	Open	-13.16	1052.86	1052.86	0.00	0.00
7623 7624	P-2906 P-2907	89.00 90.00	8.00 8.00	130.00 130.00	Open Open	1.34 -32.13	1218.03 1051.99	1218.03 1052.00	0.00	0.00
7625	P-2908	95.00	8.00	130.00	Open	30.59	993.49	993.48	0.00	0.00
7626	P-2909 P-2910	90.00	8.00	130.00	Open	78.52	1053.82	1053.81	0.01	0.00
7627 7628	P-2910 P-2911	91.00 91.00	8.00 8.00	130.00 130.00	Open Open	6.66 2.72	1051.89 1218.02	1051.89 1218.02	0.00	0.00
7630	P-2912	93.00	8.00	130.00	Open	-133.04	1051.89	1051.93	0.04	0.00
7631 7635	P-2913 P-2915	98.00 94.00	8.00 8.00	130.00 130.00	Open Open	-10.79 0.20	1055.31 1218.15	1055.31 1218.15	0.00	0.00
7637	P-2916	94.00	8.00	130.00	Open	37.98	1052.11	1052.10	0.00	0.00
7638 7640	P-2917 P-2918	94.00 95.00	8.00 8.00	130.00 130.00	Open Open	0.08 -0.15	1052.03 1051.96	1052.03 1051.96	0.00	0.00
7642	P-2919	95.00	8.00	130.00	Open	-12.51	1051.90	1051.90	0.00	0.00
7643	P-2920	97.00	8.00	130.00	Open	0.28	1051.83	1051.83	0.00	0.00
7645 7646	P-2921 P-2922	97.00 97.00	8.00 8.00	130.00 130.00	Open Open	30.07 -21.67	1064.99 1064.94	1064.99 1064.94	0.00	0.00
7647	P-2923	98.00	8.00	130.00	Open	2.67	1051.98	1051.98	0.00	0.00
7648 7650	P-2924 P-2925	99.00 100.00	8.00 8.00	130.00 130.00	Open Open	28.92 138.35	1057.32 1056.11	1057.32 1056.06	0.00 0.05	0.00 0.00
7651	P-2925 P-2926	100.00	8.00	130.00	Open	9.69	1216.97	1216.97	0.00	0.00
7652	P-2927	100.00	8.00	130.00	Open	0.08	1052.08	1052.08	0.00	0.00
7654 7655	P-2928 P-2929	102.00 102.00	8.00 8.00	130.00 130.00	Open Open	4.96 31.87	1056.78 1218.35	1056.78 1218.35	0.00	0.00
7656	P-2930	103.00	8.00	130.00	Open	9.56	1053.00	1053.00	0.00	0.00
7657	P-2931	103.00 106.00	8.00	130.00 130.00	Open Open	0.08	1064.82	1064.82	0.00	0.00
7659 7660	P-2932 P-2933	106.00	8.00 8.00	130.00	Open	-1.76 -2.29	1051.98 1051.73	1051.98 1051.73	0.00	0.00
7662	P-2934	111.00	8.00	130.00	Open	5.97	1051.98	1051.98	0.00	0.00
7663 7664	P-2935 P-2936	108.00 108.00	8.00 8.00	130.00 130.00	Open Open	24.43 -3.32	1051.83 1053.01	1051.83 1053.01	0.00	0.00
7665	P-2937	134.00	8.00	130.00	Open	0.68	1059.84	1059.84	0.00	0.00
7668	P-2938	109.00	8.00	130.00	Open	12.51	1052.51	1052.51	0.00	0.00
7669 7670	P-2939 P-2940	110.00 115.00	8.00 8.00	130.00 130.00	Open Open	27.76 2.92	1052.45 1056.20	1052.45 1056.20	0.00	0.00
7672	P-2941	118.00	8.00	130.00	Open	-8.44	1057.53	1057.53	0.00	0.00
7673 7674	P-2942 P-2943	121.00 121.00	8.00 8.00	130.00 130.00	Open Open	-21.21 -2.99	1051.85 1051.96	1051.85 1051.96	0.00	0.00
7675	P-2944	119.00	8.00	130.00	Open	15.44	1052.51	1052.51	0.00	0.00
7676	P-2945 P-2946	120.00 122.00	8.00 8.00	130.00	Open	-0.48 5.22	1060.72	1060.72 1051.98	0.00	0.00
7678 7679	P-2946 P-2947	154.00	8.00	130.00 130.00	Open Open	-5.22 -5.95	1051.98 1057.28	1051.98	0.00	0.00
7680	P-2948	123.00	8.00	130.00	Open	3.32	1053.01	1053.01	0.00	0.00
7681 7683	P-2949 P-2950	124.00 126.00	8.00 8.00	130.00 130.00	Open Open	-0.29 0.76	988.98 1064.91	988.98 1064.91	0.00	0.00
7684	P-2951	126.00	8.00	130.00	Open	3.40	1052.86	1052.86	0.00	0.00
7685	P-2952	126.00	8.00	130.00	Open	-33.89	1051.95	1051.96	0.00	0.00
7686 7687	P-2953 P-2954	129.00 127.00	8.00 8.00	130.00 130.00	Open Open	332.19 5.56	1054.63 1057.53	1054.33 1057.53	0.31 0.00	0.00
7689	P-2955	129.00	8.00	130.00	Open	1.88	1052.50	1052.50	0.00	0.00
7691 7694	P-2956 P-2957	129.00 129.00	8.00 8.00	130.00 130.00	Open Open	0.08 -12.24	1057.28 1064.97	1057.28 1064.97	0.00	0.00
7695	P-2958	134.00	8.00	130.00	Open	-27.00	1057.59	1057.59	0.00	0.00
7696 7697	P-2959 P-2960	136.00	8.00 8.00	130.00	Open Open	-66.11 16.80	1052.64 1064.98	1052.66	0.02	0.00
7698	P-2960 P-2961	137.00 137.00	8.00	130.00 130.00	Open	16.42	967.37	1064.98 967.37	0.00	0.00
7700	P-2962	138.00	8.00	130.00	Open	5.56	1054.67	1054.67	0.00	0.00
7702 7703	P-2963 P-2964	139.00 139.00	8.00 8.00	130.00 130.00	Open Open	8.30 9.79	1218.15 1053.48	1218.15 1053.48	0.00	0.00
7704	P-2965	140.00	8.00	130.00	Open	1.11	1057.34	1057.34	0.00	0.00
7705 7707	P-2966 P-2967	142.00 166.00	8.00 8.00	130.00 130.00	Open Open	5.59 7.58	1057.97 1052.99	1057.97 1052.99	0.00	0.00
4590	P-2968	4.00	6.10	130.00	Open	0.08	1061.15	1061.15	0.00	0.00
4592 4594	P-2969 P-2970	4.00 4.00	6.10	130.00 130.00	Open	-0.08 0.48	1052.39 1051.85	1052.39 1051.85	0.00	0.00 0.00
4597	P-2971	4.00	6.10 6.10	130.00	Open Open	-1.08	1051.85	1051.84	0.00	0.00
4600	P-2972	5.00	6.10	130.00	Open	-0.37	1216.97	1216.97	0.00	0.00
4602 4604	P-2973 P-2974	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-1.28 0.08	1063.23 1061.48	1063.23 1061.48	0.00	0.00
4606	P-2975	5.00	6.10	130.00	Open	0.08	1052.99	1052.99	0.00	0.00
4608 4611	P-2976 P-2977	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.88 -0.20	1051.64 1218.03	1051.64 1218.03	0.00	0.00
4613	P-2978	5.00	6.10	130.00	Open	0.88	1051.85	1051.85	0.00	0.00
4616	P-2979	5.00	6.10	130.00	Open	-0.88	1051.92	1051.92	0.00	0.00
4618 4620	P-2980 P-2981	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-3.28 0.48	1322.91 1052.54	1322.91 1052.54	0.00	0.00
4622	P-2982	5.00	6.10	130.00	Open	0.08	1053.06	1053.06	0.00	0.00
4624 4626	P-2983 P-2984	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.11 -0.48	1322.92 1056.91	1322.92 1056.91	0.00	0.00
4629	P-2985	5.00	6.10	130.00	Open	-0.46	1216.97	1216.97	0.00	0.00
4632	P-2986	5.00	6.10	130.00	Open	-0.48	1051.83	1051.83	0.00	0.00
4635 4637	P-2987 P-2988	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.20 -0.26	1218.03 1322.91	1218.03 1322.91	0.00	0.00
4639	P-2989	5.00	6.10	130.00	Open	0.48	981.48	981.48	0.00	0.00
4641 4643	P-2990 P-2991	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.11	1052.06 1322.92	1052.06 1322.92	0.00	0.00
4645	P-2991 P-2992	5.00	6.10	130.00	Open	0.08	1052.92	1052.92	0.00	0.00
4647	P-2993	5.00	6.10	130.00	Open	0.72	1215.86	1215.86	0.00	0.00
4649 4651	P-2994 P-2995	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.68 -0.20	1053.00 1216.98	1053.00 1216.98	0.00	0.00 0.00
4653	P-2996	5.00	6.10	130.00	Open	-0.48	1052.37	1052.37	0.00	0.00
4655 4657	P-2997 P-2998	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.20	1052.10 1216.98	1052.10 1216.98	0.00	0.00
4659	P-2999	5.00	6.10	130.00	Open	0.48	1057.32	1057.32	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
4661	P-3000	5.00	6.10	130.00	Open	-1.28	1064.93	1064.93	0.00	0.00
4663 4666	P-3001 P-3002	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.20 0.88	1218.03 1053.00	1218.03 1053.00	0.00	0.00
4669	P-3003	5.00	6.10	130.00	Open	80.0	1053.02	1053.02	0.00	0.00
4671 4673	P-3004 P-3005	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-1.68 0.20	1051.86 1218.21	1051.86 1218.21	0.00	0.00
4675	P-3006	5.00	6.10	130.00	Open	-0.20	988.99	988.99	0.00	0.00
4678 4681	P-3007 P-3008	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.88	1052.12 963.94	1052.12 963.94	0.00	0.00
4683	P-3009	5.00	6.10	130.00	Open	1.48	1056.82	1056.82	0.00	0.00
4685 4687	P-3010 P-3011	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.48	1052.04 1052.04	1052.04 1052.04	0.00	0.00
4689	P-3012	5.00	6.10	130.00	Open	-0.28	1064.93	1064.93	0.00	0.00
4691 4693	P-3013 P-3014	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.37	1056.81 1216.97	1056.81 1216.97	0.00	0.00
4695	P-3015	5.00	6.10	130.00	Open	-0.40	1322.95	1322.95	0.00	0.00
4697 4699	P-3016 P-3017	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.68	1217.94 1051.89	1217.94 1051.89	0.00	0.00
4701	P-3018	5.00	6.10	130.00	Open	0.88	1051.85	1051.85	0.00	0.00
4703 4705	P-3019 P-3020	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.28	1061.33 981.48	1061.33 981.48	0.00	0.00
4708	P-3020 P-3021	5.00	6.10	130.00	Open	-0.08	981.49	981.49	0.00	0.00
4710 4712	P-3022 P-3023	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.88 -0.08	981.47 1052.08	981.47 1052.08	0.00	0.00
4714	P-3023	5.00	6.10	130.00	Open	-0.08	1052.06	1052.06	0.00	0.00
4716	P-3025 P-3026	5.00	6.10	130.00	Open	-0.29	1217.76 1053.00	1217.76	0.00	0.00
4719 4721	P-3026 P-3027	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.08	1053.00	1053.00 1053.01	0.00	0.00
4724	P-3028	5.00	6.10	130.00	Open	0.28	1051.89	1051.89	0.00	0.00
4727 4730	P-3029 P-3030	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.11 -1.08	1322.91 1063.24	1322.91 1063.24	0.00	0.00
4732	P-3031	5.00	6.10	130.00	Open	-0.20	1217.78	1217.78	0.00	0.00
4734 4737	P-3032 P-3033	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.88	1051.82 1052.79	1051.82 1052.79	0.00	0.00
4739	P-3034	5.00	6.10	130.00	Open	0.48	1061.67	1061.67	0.00	0.00
4741 4744	P-3035 P-3036	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.72 -0.11	1216.97 1322.95	1216.97 1322.95	0.00	0.00
4746	P-3037	5.00	6.10	130.00	Open	-1.08	1064.93	1064.93	0.00	0.00
4748 4750	P-3038 P-3039	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.08	1064.93 1052.11	1064.93 1052.11	0.00	0.00
4752	P-3040	5.00	6.10	130.00	Open	0.28	1052.99	1052.99	0.00	0.00
4754 4756	P-3041 P-3042	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.68	1052.54 1053.06	1052.54 1053.06	0.00	0.00
4758	P-3043	5.00	6.10	130.00	Open	-0.11	1322.92	1322.92	0.00	0.00
4760 4762	P-3044 P-3045	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.28	1052.96 981.48	1052.96 981.48	0.00	0.00
4764	P-3046	5.00	6.10	130.00	Open	-0.48	1051.85	1051.85	0.00	0.00
4767 4770	P-3047 P-3048	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.08	1064.97 981.47	1064.97 981.47	0.00	0.00
4772	P-3049	5.00	6.10	130.00	Open	-0.08	1063.11	1063.11	0.00	0.00
4774 4776	P-3050 P-3051	5.00 5.00	6.10 6.10	130.00 130.00	Open Open	-0.28 0.08	1064.93 1051.98	1064.93 1051.98	0.00	0.00
4778	P-3051	6.00	6.10	130.00	Open	0.48	1057.53	1057.53	0.00	0.00
4781 4783	P-3053 P-3054	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.88	1051.21 1064.98	1051.21 1064.98	0.00	0.00
4785	P-3055	6.00	6.10	130.00	Open	0.88	1054.96	1054.96	0.00	0.00
4788 4791	P-3056 P-3057	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.28	1063.20 1051.96	1063.20 1051.96	0.00	0.00
4793	P-3058	6.00	6.10	130.00	Open	0.28	1062.54	1062.54	0.00	0.00
4795 4797	P-3059 P-3060	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.48 -0.28	1051.90 1052.28	1051.90 1052.28	0.00	0.00
4799	P-3061	6.00	6.10	130.00	Open	-0.28	1052.26	1052.26	0.00	0.00
4801 4803	P-3062 P-3063	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.08	981.48 1061.84	981.48 1061.84	0.00	0.00
4805	P-3064	6.00	6.10	130.00	Open	-0.88	1051.64	1052.30	0.00	0.00
4807	P-3065	6.00	6.10	130.00	Open	-0.08	1064.61	1064.61	0.00	0.00
4809 4811	P-3066 P-3067	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.68	1216.98 1064.93	1216.98 1064.93	0.00	0.00
4813	P-3068	6.00	6.10	130.00	Open	0.08	1052.02	1052.02	0.00	0.00
4815 4817	P-3069 P-3070	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.68 -0.08	1057.59 1052.32	1057.59 1052.32	0.00	0.00
4819	P-3071	6.00	6.10	130.00	Open	0.08	1052.26	1052.26	0.00	0.00
4822 4824	P-3072 P-3073	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.28 0.08	1052.09 1052.04	1052.09 1052.04	0.00	0.00 0.00
4827	P-3074	6.00	6.10	130.00	Open	0.48	1051.79	1051.79	0.00	0.00
4830 4832	P-3075 P-3076	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.08	1063.11 1051.96	1063.11 1051.96	0.00	0.00
4835	P-3077	6.00	6.10	130.00	Open	-0.08	1052.26	1052.26	0.00	0.00
4837 4840	P-3078 P-3079	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1052.02 1064.94	1052.02 1064.94	0.00	0.00 0.00
4842	P-3080	6.00	6.10	130.00	Open	0.08	1052.64	1052.64	0.00	0.00
4844 4847	P-3081 P-3082	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-1.08 -0.08	1053.04 1056.91	1053.04 1056.91	0.00	0.00
4849	P-3083	6.00	6.10	130.00	Open	-0.28	1052.56	1052.56	0.00	0.00
4851 4854	P-3084 P-3085	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.63 -0.28	1218.03 1052.15	1218.03 1052.15	0.00	0.00
4856	P-3086	6.00	6.10	130.00	Open	-0.08	1063.04	1063.04	0.00	0.00
4858 4861	P-3087 P-3088	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.48	1057.29 1064.93	1057.29 1064.93	0.00	0.00
4863	P-3089	6.00	6.10	130.00	Open	-0.48	1061.13	1061.13	0.00	0.00
4865 4867	P-3090 P-3091	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.48 -0.28	1051.73 1062.85	1051.73 1062.85	0.00	0.00
4869	P-3092	6.00	6.10	130.00	Open	-0.88	1063.82	1063.82	0.00	0.00
4871 4873	P-3093 P-3094	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.28	1053.00 1053.06	1053.00 1053.06	0.00	0.00
4875	P-3095	6.00	6.10	130.00	Open	-0.08	1051.83	1051.83	0.00	0.00
4878 4881	P-3096 P-3097	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.88	1052.85 1052.46	1052.85 1052.46	0.00	0.00
	. 500.	2.00				2.00			2.00	2.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
4884	P-3098	6.00	6.10	130.00	Open	0.88	1057.64	1057.64	0.00	0.00
4887 4890	P-3099 P-3100	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.48	1057.29 1053.82	1057.29 1053.82	0.00	0.00 0.00
4893	P-3101	6.00	6.10	130.00	Open	-0.11	1322.93	1322.93	0.00	0.00
4895	P-3102	6.00	6.10	130.00	Open	-0.68	1053.16	1053.16	0.00	0.00
4897 4899	P-3103 P-3104	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.11 -0.28	1322.94 1062.85	1322.94 1062.85	0.00	0.00 0.00
4901	P-3105	6.00	6.10	130.00	Open	-0.48	1059.79	1059.79	0.00	0.00
4903 4906	P-3106 P-3107	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.29 -0.08	1218.14 1060.60	1218.14 1060.60	0.00	0.00 0.00
4908	P-3108	6.00	6.10	130.00	Open	0.68	1051.76	1051.76	0.00	0.00
4910	P-3109	6.00	6.10	130.00	Open	-0.11	1322.91	1322.91	0.00	0.00
4912 4914	P-3110 P-3111	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.28	1053.84 1052.24	1053.84 1052.24	0.00	0.00 0.00
4917	P-3112	6.00	6.10	130.00	Open	3.29	1053.02	1053.02	0.00	0.00
4920 4922	P-3113 P-3114	6.00	6.10 6.10	130.00 130.00	Open	-0.08 -0.08	1064.93	1064.93 1051.84	0.00	0.00 0.00
4924	P-3115	6.00 6.00	6.10	130.00	Open Open	0.08	1051.84 1057.30	1057.30	0.00	0.00
4927	P-3116	6.00	6.10	130.00	Open	0.08	1053.80	1053.80	0.00	0.00
4929 4932	P-3117 P-3118	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.48	1057.33 1056.92	1057.33 1056.92	0.00	0.00 0.00
4935	P-3119	6.00	6.10	130.00	Open	0.08	1052.19	1052.19	0.00	0.00
4938	P-3120	6.00	6.10	130.00	Open	-0.20	1216.98	1216.98	0.00	0.00
4940 4942	P-3121 P-3122	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.88 -0.11	1051.75 1322.91	1051.75 1322.91	0.00	0.00 0.00
4944	P-3123	6.00	6.10	130.00	Open	0.08	1054.93	1054.93	0.00	0.00
4946 4949	P-3124 P-3125	6.00 6.00	6.10 6.10	130.00	Open Open	1.28 1.08	1052.12	1052.12 1062.43	0.00	0.00 0.00
4949	P-3125	6.00	6.10	130.00 130.00	Open	0.08	1062.43 1051.10	1052.43	0.00	0.00
4954	P-3127	6.00	6.10	130.00	Open	0.88	1057.49	1057.49	0.00	0.00
4956 4959	P-3128 P-3129	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.48	1057.29 1064.93	1057.29 1064.93	0.00	0.00 0.00
4961	P-3130	6.00	6.10	130.00	Open	-0.48	994.76	994.76	0.00	0.00
4963	P-3131	6.00	6.10	130.00	Open	0.48	1052.54	1052.54	0.00	0.00
4966 4969	P-3132 P-3133	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.48 -0.11	1053.98 1322.92	1053.98 1322.92	0.00	0.00
4971	P-3134	6.00	6.10	130.00	Open	-0.28	1056.91	1056.91	0.00	0.00
4973 4975	P-3135 P-3136	6.00	6.10 6.10	130.00	Open	80.0	1052.54	1052.54	0.00	0.00
4977	P-3137	6.00 6.00	6.10	130.00 130.00	Open Open	0.28 0.28	1051.27 1056.91	1051.27 1056.91	0.00	0.00
4979	P-3138	6.00	6.10	130.00	Open	0.08	1052.80	1052.80	0.00	0.00
4981 4983	P-3139 P-3140	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.08 1.28	1051.98 1051.88	1051.98 1051.88	0.00	0.00 0.00
4986	P-3141	6.00	6.10	130.00	Open	-0.48	1064.82	1064.82	0.00	0.00
4989	P-3142	6.00	6.10	130.00	Open	0.68	1064.81	1064.81	0.00	0.00
4992 4994	P-3143 P-3144	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.28	1061.38 1052.44	1061.38 1052.44	0.00	0.00 0.00
4997	P-3145	6.00	6.10	130.00	Open	-0.48	1062.81	1062.81	0.00	0.00
5000 5002	P-3146 P-3147	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	1.68 -0.08	1059.87 1061.13	1059.87 1061.13	0.00	0.00 0.00
5002	P-3148	6.00	6.10	130.00	Open	0.48	1052.37	1052.37	0.00	0.00
5006	P-3149	6.00	6.10	130.00	Open	-0.20	1218.03	1218.03	0.00	0.00
5008 5011	P-3150 P-3151	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.28 0.08	1053.00 1063.19	1053.00 1063.19	0.00	0.00 0.00
5013	P-3152	6.00	6.10	130.00	Open	2.29	1056.79	1056.79	0.00	0.00
5015 5017	P-3153 P-3154	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.08	1052.03 1059.82	1052.03 1059.82	0.00	0.00 0.00
5020	P-3155	6.00	6.10	130.00	Open	-0.48	1052.99	1052.99	0.00	0.00
5023	P-3156	6.00	6.10	130.00	Open	0.63	1218.03	1218.03	0.00	0.00
5026 5028	P-3157 P-3158	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.48	1061.13 1052.54	1061.13 1052.54	0.00	0.00
5031	P-3159	6.00	6.10	130.00	Open	1.08	1064.97	1064.97	0.00	0.00
5034 5036	P-3160 P-3161	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.20 0.68	1217.85 1052.79	1217.85 1052.79	0.00	0.00 0.00
5038	P-3162	6.00	6.10	130.00	Open	0.48	1052.79	1052.79	0.00	0.00
5041	P-3163	6.00	6.10	130.00	Open	1.08	1053.01	1053.01	0.00	0.00
5044 5047	P-3164 P-3165	6.00 6.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1052.17 1052.20	1052.17 1052.20	0.00	0.00 0.00
5050	P-3166	7.00	6.10	130.00	Open	0.28	1052.99	1052.99	0.00	0.00
5052	P-3167 P-3168	7.00 7.00	6.10	130.00 130.00	Open	0.48 -0.08	1057.59	1057.59 1062.99	0.00	0.00 0.00
5055 5057	P-3168 P-3169	7.00	6.10 6.10	130.00	Open Open	-0.08	1062.99 1052.13	1052.99	0.00	0.00
5059	P-3170	7.00	6.10	130.00	Open	0.08	1052.80	1052.80	0.00	0.00
5061 5064	P-3171 P-3172	7.00 7.00	6.10 6.10	130.00 130.00	Open Open	0.37 2.09	1218.03 981.48	1218.03 981.48	0.00	0.00 0.00
5066	P-3173	7.00	6.10	130.00	Open	-0.08	1061.12	1061.12	0.00	0.00
5309	P-3174	7.00	6.10	130.00	Open	-0.68	1053.00	1053.00	0.00	0.00
5311 5313	P-3175 P-3176	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.88	1060.49 1051.84	1060.49 1051.84	0.00	0.00 0.00
5316	P-3177	8.00	6.10	130.00	Open	-0.08	1062.90	1062.90	0.00	0.00
5318 5321	P-3178 P-3179	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.68 -0.08	1064.82 1064.98	1064.82 1064.98	0.00	0.00 0.00
5321	P-3179 P-3180	8.00	6.10	130.00	Open	0.28	1054.98	1054.98	0.00	0.00
5327	P-3181	8.00	6.10	130.00	Open	0.08	1052.45	1052.45	0.00	0.00
5330 5332	P-3182 P-3183	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.20 0.08	1217.95 1052.99	1217.95 1052.99	0.00	0.00 0.00
5334	P-3184	8.00	6.10	130.00	Open	-0.08	1062.56	1062.56	0.00	0.00
5336	P-3185	8.00	6.10	130.00	Open	-0.88	1055.31	1055.31	0.00	0.00
5339 5341	P-3186 P-3187	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.08	1059.74 1057.32	1059.74 1057.32	0.00	0.00 0.00
5344	P-3188	8.00	6.10	130.00	Open	0.48	1052.54	1052.54	0.00	0.00
5346 5348	P-3189 P-3190	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.88	1052.09 1061.11	1052.09 1061.11	0.00	0.00
5348 5351	P-3190 P-3191	8.00	6.10	130.00	Open	-0.88 0.48	1051.11	1051.11	0.00	0.00
5353	P-3192	8.00	6.10	130.00	Open	0.28	1054.67	1054.67	0.00	0.00
5355 5358	P-3193 P-3194	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.08	1216.97 1055.31	1216.97 1055.31	0.00	0.00 0.00
5361	P-3195	8.00	6.10	130.00	Open	-0.08	1052.68	1052.68	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
5363	P-3196	8.00	6.10	130.00	Open	-0.08	1055.31	1055.31	0.00	0.00
5365 5368	P-3197 P-3198	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	80.0 80.0	1057.53 1051.80	1057.53 1051.80	0.00	0.00
5370	P-3199	8.00	6.10	130.00	Open	-0.48	1051.00	1053.09	0.00	0.00
5373	P-3200	8.00	6.10	130.00	Open	0.08	1064.95	1064.95	0.00	0.00
5375 5378	P-3201 P-3202	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.08	1064.81 1056.31	1064.81 1056.31	0.00	0.00
5381	P-3203	8.00	6.10	130.00	Open	0.00	1050.51	1051.74	0.00	0.00
5384	P-3204	8.00	6.10	130.00	Open	-0.88	1054.26	1054.26	0.00	0.00
5387 5389	P-3205 P-3206	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.28	1064.94 1052.99	1064.94 1052.99	0.00	0.00
5391	P-3207	8.00	6.10	130.00	Open	-0.83	1322.91	1322.91	0.00	0.00
5393	P-3208	8.00	6.10	130.00	Open	1.28	1052.99	1052.99	0.00	0.00
5395 5398	P-3209 P-3210	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	3.49 0.08	1051.89 1057.32	1051.89 1057.32	0.00	0.00
5400	P-3211	8.00	6.10	130.00	Open	0.48	1053.18	1053.18	0.00	0.00
5403	P-3212	8.00	6.10	130.00	Open	-0.28	1052.79	1052.79	0.00	0.00
5405 5407	P-3213 P-3214	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.68	1218.03 1052.72	1218.03 1052.72	0.00	0.00
5409	P-3215	8.00	6.10	130.00	Open	-0.08	1054.24	1054.24	0.00	0.00
5411 5413	P-3216 P-3217	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.28 1.08	1053.01 1051.73	1053.01 1051.73	0.00	0.00
5415	P-3218	8.00	6.10	130.00	Open	0.08	1057.73	1057.73	0.00	0.00
5417	P-3219	8.00	6.10	130.00	Open	0.48	1053.38	1053.38	0.00	0.00
5420 5422	P-3220 P-3221	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.08	1064.94 1052.56	1064.94 1052.56	0.00	0.00
5425	P-3222	8.00	6.10	130.00	Open	-0.08	1053.03	1053.03	0.00	0.00
5427	P-3223	8.00	6.10	130.00	Open	0.08	1053.11	1053.11	0.00	0.00
5429 5431	P-3224 P-3225	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.48	1052.64 1064.90	1052.64 1064.90	0.00	0.00
5434	P-3226	8.00	6.10	130.00	Open	-0.68	1064.82	1064.82	0.00	0.00
5436 5438	P-3227 P-3228	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.40 0.28	1322.92 1052.64	1322.92 1052.64	0.00	0.00
5441	P-3229	8.00	6.10	130.00	Open	-1.28	1052.64	1052.64	0.00	0.00
5443	P-3230	8.00	6.10	130.00	Open	0.48	1052.79	1052.79	0.00	0.00
5445 5447	P-3231 P-3232	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.28 0.48	1055.31 1052.66	1055.31 1052.66	0.00	0.00
5449	P-3233	8.00	6.10	130.00	Open	0.48	1054.02	1054.02	0.00	0.00
5451	P-3234	8.00	6.10	130.00	Open	0.08	1051.71	1051.71	0.00	0.00
5453 5456	P-3235 P-3236	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.48	1057.32 1051.84	1057.32 1051.84	0.00	0.00
5459	P-3237	8.00	6.10	130.00	Open	1.48	1052.12	1052.12	0.00	0.00
5461 5464	P-3238 P-3239	8.00 8.00	6.10 6.10	130.00 130.00	Open	-0.88 -0.68	1064.93 1064.93	1064.93 1064.93	0.00	0.00
5467	P-3240	8.00	6.10	130.00	Open Open	-0.08	1064.93	1064.94	0.00	0.00
5469	P-3241	8.00	6.10	130.00	Open	0.88	1051.72	1051.72	0.00	0.00
5471 5473	P-3242 P-3243	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.68	1059.86 1052.04	1059.86 1052.04	0.00	0.00
5476	P-3244	8.00	6.10	130.00	Open	0.88	1057.28	1057.28	0.00	0.00
5478	P-3245	8.00	6.10	130.00	Open	0.28	1051.28	1051.28	0.00	0.00
5480 5482	P-3246 P-3247	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	1.28 0.48	1055.46 1051.93	1055.46 1051.93	0.00	0.00
5485	P-3248	8.00	6.10	130.00	Open	0.68	1051.99	1051.99	0.00	0.00
5487 5489	P-3249	8.00	6.10 6.10	130.00	Open	-0.68	1064.93	1064.93	0.00	0.00
5491	P-3250 P-3251	8.00 8.00	6.10	130.00 130.00	Open Open	-0.68 -0.20	1052.35 1218.32	1052.35 1218.32	0.00	0.00
5493	P-3252	8.00	6.10	130.00	Open	-0.28	1053.56	1053.56	0.00	0.00
5495 5497	P-3253 P-3254	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.68	1064.97 1052.11	1064.97 1052.11	0.00	0.00
5499	P-3255	8.00	6.10	130.00	Open	0.48	1054.25	1054.25	0.00	0.00
5501	P-3256	8.00	6.10	130.00	Open	0.28	1052.99	1052.99	0.00	0.00
5503 5505	P-3257 P-3258	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-1.48 0.68	1059.00 1052.03	1059.00 1052.03	0.00	0.00
5508	P-3259	8.00	6.10	130.00	Open	0.29	1218.68	1218.68	0.00	0.00
5510	P-3260	8.00	6.10	130.00	Open	80.0	1057.63	1057.63	0.00	0.00
5512 5515	P-3261 P-3262	8.00 8.00	6.10 6.10	130.00 130.00	Open	-0.88 0.48	1051.84 1052.43	1051.84 1052.43	0.00	0.00
5517	P-3263	8.00	6.10	130.00	Open	0.48	1058.04	1058.04	0.00	0.00
5519 5522	P-3264 P-3265	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.48	1051.80 1054.97	1051.80 1054.97	0.00	0.00
5525	P-3266	8.00	6.10	130.00	Open	0.48	1051.80	1051.80	0.00	0.00
5528	P-3267	8.00	6.10	130.00	Open	0.08	1052.20	1052.20	0.00	0.00
5531 5533	P-3268 P-3269	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.08	1064.93 1064.93	1064.93 1064.93	0.00	0.00
5535	P-3270	8.00	6.10	130.00	Open	-0.28	1053.70	1053.70	0.00	0.00
5537 5539	P-3271 P-3272	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.48 1.28	1053.81 1051.78	1053.81 1051.78	0.00	0.00
5541	P-3273	8.00	6.10	130.00	Open	0.08	1051.76	1052.99	0.00	0.00
5543	P-3274	8.00	6.10	130.00	Open	-0.08	1052.48	1052.48	0.00	0.00
5545 5547	P-3275 P-3276	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-0.11 0.48	1322.91 1052.31	1322.91 1052.31	0.00	0.00
5550	P-3277	8.00	6.10	130.00	Open	0.48	1056.96	1056.96	0.00	0.00
5552	P-3278	8.00	6.10	130.00	Open	0.08	1051.78	1051.78	0.00	0.00
5554 5556	P-3279 P-3280	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	-1.28 1.28	1056.76 1060.72	1056.76 1060.72	0.00	0.00
5559	P-3281	8.00	6.10	130.00	Open	-0.08	1064.93	1064.93	0.00	0.00
5562	P-3282	8.00	6.10	130.00	Open	1.88	1052.12	1052.12	0.00	0.00
5565 5568	P-3283 P-3284	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.20	1052.99 1217.82	1052.99 1217.82	0.00	0.00
5570	P-3285	8.00	6.10	130.00	Open	0.08	1052.03	1052.03	0.00	0.00
5572	P-3286	8.00	6.10	130.00	Open	0.88	1051.40	1051.40	0.00	0.00
5574 5576	P-3287 P-3288	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.48	1052.06 1051.87	1052.06 1051.87	0.00	0.00
5578	P-3289	8.00	6.10	130.00	Open	-0.20	1218.07	1218.07	0.00	0.00
5580 5582	P-3290 P-3291	8.00 8.00	6.10 6.10	130.00 130.00	Open Open	1.28 0.28	1060.74 1064.94	1060.74 1064.94	0.00	0.00
5584	P-3291 P-3292	8.00	6.10	130.00	Open	-0.48	1064.94	1064.94	0.00	0.00
5587	P-3293	8.00	6.10	130.00	Open	0.48	1052.53	1052.53	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
5590	P-3294	8.00	6.10	130.00	Open	0.48	1056.82	1056.82	0.00	0.00
5592 5594	P-3295 P-3296	8.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.08	1052.01 1051.93	1052.01 1051.93	0.00	0.00
5597	P-3297	9.00	6.10	130.00	Open	0.88	1051.74	1051.74	0.00	0.00
5600 5603	P-3298 P-3299	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.46	1051.94 1218.03	1051.94 1218.03	0.00	0.00
5605	P-3300	9.00	6.10	130.00	Open	-4.42	1217.88	1217.88	0.00	0.00
5607 5609	P-3301 P-3302	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.88	1055.83 1064.91	1055.83 1064.91	0.00	0.00
5611	P-3303	9.00	6.10	130.00	Open	-0.48	1064.93	1064.93	0.00	0.00
5614 5616	P-3304 P-3305	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.28 -0.88	1056.25 1059.58	1056.25 1059.58	0.00	0.00
5618	P-3306	9.00	6.10	130.00	Open	0.08	1052.56	1052.56	0.00	0.00
5620 5622	P-3307 P-3308	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.88	1057.13 1051.74	1057.13 1051.74	0.00	0.00
5625	P-3309	9.00	6.10	130.00	Open	0.48	1056.39	1056.39	0.00	0.00
5628 5631	P-3310 P-3311	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.08	1052.36 1058.41	1052.36 1058.41	0.00	0.00
5633	P-3312	9.00	6.10	130.00	Open	0.08	1055.08	1055.08	0.00	0.00
5635 5637	P-3313 P-3314	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	1.08 0.08	1051.87 1054.67	1051.87 1054.67	0.00	0.00
5640	P-3315	9.00	6.10	130.00	Open	0.48	1052.34	1052.34	0.00	0.00
5642 5645	P-3316 P-3317	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.20 0.08	1218.02 1056.91	1218.02 1056.91	0.00	0.00
5648	P-3318	9.00	6.10	130.00	Open	0.08	1052.99	1052.99	0.00	0.00
5650 5653	P-3319 P-3320	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.20 0.48	1218.27 1056.20	1218.27 1056.20	0.00	0.00
5656	P-3321	9.00	6.10	130.00	Open	0.68	1061.37	1061.37	0.00	0.00
5659 5662	P-3322 P-3323	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	1.48 1.08	1052.09 1052.98	1052.09 1052.98	0.00	0.00
5664	P-3324	9.00	6.10	130.00	Open	0.48	1056.64	1056.64	0.00	0.00
5666 5668	P-3325 P-3326	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.29	1052.04 1218.03	1052.04 1218.03	0.00	0.00
5670	P-3327	9.00	6.10	130.00	Open	-0.88	1062.81	1062.81	0.00	0.00
5673 5675	P-3328 P-3329	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.88 -0.08	1051.86 1059.82	1051.86 1059.82	0.00	0.00
5677	P-3330	9.00	6.10	130.00	Open	-0.08	1064.87	1064.87	0.00	0.00
5680 5682	P-3331 P-3332	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.28	1060.74 1051.93	1060.74 1051.93	0.00	0.00
5684	P-3333	9.00	6.10	130.00	Open	-1.08	1051.92	1051.92	0.00	0.00
5686 5688	P-3334 P-3335	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.88 -2.09	1056.69 1061.11	1056.69 1061.11	0.00	0.00
5691	P-3336	9.00	6.10	130.00	Open	0.28	1051.81	1051.81	0.00	0.00
5694 5696	P-3337 P-3338	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.48	1052.53 1064.98	1052.53 1064.98	0.00	0.00
5698	P-3339	9.00	6.10	130.00	Open	0.48	1052.36	1052.36	0.00	0.00
5701 5704	P-3340 P-3341	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1057.28 1057.78	1057.28 1057.78	0.00	0.00
5706	P-3342	9.00	6.10	130.00	Open	0.48	1064.93	1064.93	0.00	0.00
5708 5710	P-3343 P-3344	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.28	1053.86 1060.46	1053.86 1060.46	0.00	0.00
5713	P-3345	9.00	6.10	130.00	Open	0.08	1051.35	1051.35	0.00	0.00
5715 5718	P-3346 P-3347	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	1.08 0.48	1057.28 1057.33	1057.28 1057.33	0.00	0.00
5720	P-3348	9.00	6.10	130.00	Open	0.48	1051.79	1051.79	0.00	0.00
5722 5725	P-3349 P-3350	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.20 -0.08	1218.03 1064.82	1218.03 1064.82	0.00	0.00 0.00
5728	P-3351	9.00	6.10	130.00	Open	-0.11	1322.96	1322.96	0.00	0.00
5730 5733	P-3352 P-3353	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.28	1057.28 1052.74	1057.28 1052.74	0.00	0.00
5735	P-3354	9.00	6.10	130.00 130.00	Open	-0.88 -0.48	1051.82	1051.82	0.00	0.00
5738 5740	P-3355 P-3356	9.00 9.00	6.10 6.10	130.00	Open Open	0.48	1051.85 1064.93	1051.85 1064.93	0.00	0.00 0.00
5742 5744	P-3357 P-3358	9.00 9.00	6.10 6.10	130.00 130.00	Open	0.08 0.08	1052.03 1052.99	1052.03 1052.99	0.00	0.00
5744	P-3359	9.00	6.10	130.00	Open Open	0.08	1052.99	1052.99	0.00	0.00
5749 5752	P-3360 P-3361	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.20 0.08	1218.28 1064.88	1218.28 1064.88	0.00	0.00
5754	P-3362	9.00	6.10	130.00	Open	-0.88	1059.87	1059.87	0.00	0.00
5756 5759	P-3363 P-3364	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.48	1061.87 1052.56	1061.87 1052.56	0.00	0.00
5762	P-3365	9.00	6.10	130.00	Open	0.46	1216.30	1216.30	0.00	0.00
5764 5766	P-3366 P-3367	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.28	1058.06 1056.17	1058.06 1056.17	0.00	0.00
5768	P-3368	9.00	6.10	130.00	Open	-0.08	1064.92	1064.92	0.00	0.00
5770 5772	P-3369 P-3370	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.28	1057.43 1061.11	1057.43 1061.11	0.00	0.00
5775	P-3371	9.00	6.10	130.00	Open	-0.08	1052.45	1052.45	0.00	0.00
5777 5779	P-3372 P-3373	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.08	1059.09 1064.91	1059.09 1064.91	0.00	0.00
5782	P-3374	9.00	6.10	130.00	Open	0.68	1053.01	1053.01	0.00	0.00
5784 5786	P-3375 P-3376	9.00 9.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.08	1052.99 1053.00	1052.99 1053.00	0.00	0.00
6749	P-3377	14.00	6.10	130.00	Open	0.28	1056.26	1056.26	0.00	0.00
6752 6754	P-3378 P-3379	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.88	1053.73 1057.13	1053.73 1057.13	0.00	0.00
6756	P-3380	14.00	6.10	130.00	Open	0.68	1057.87	1057.87	0.00	0.00
6758 6761	P-3381 P-3382	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.08 1.08	1053.10 1058.01	1053.10 1058.01	0.00	0.00
6763	P-3383	14.00	6.10	130.00	Open	0.48	1057.53	1057.53	0.00	0.00
6766 6768	P-3384 P-3385	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.48	1052.09 1057.33	1052.09 1057.33	0.00	0.00
6770	P-3386	14.00	6.10	130.00	Open	-1.08	1059.87	1059.87	0.00	0.00
6772 6775	P-3387 P-3388	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.88	1052.68 1055.97	1052.68 1055.97	0.00	0.00
6778	P-3389	14.00	6.10	130.00	Open	1.88	1051.73	1051.73	0.00	0.00
6781 6783	P-3390 P-3391	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	-0.08 0.28	1052.71 1052.50	1052.71 1052.50	0.00 0.00	0.00 0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
6786	P-3392	14.00	6.10	130.00	Open	0.48	1057.43	1057.43	0.00	0.00
6789 6792	P-3393 P-3394	14.00 14.00	6.10 6.10	130.00 130.00	Open Open	0.20 -0.08	993.47 1064.93	993.47 1064.93	0.00	0.00
6794	P-3395	14.00	6.10	130.00	Open	0.08	1051.97	1051.97	0.00	0.00
6797	P-3396	14.00 15.00	6.10	130.00	Open	0.08	1052.99	1052.99	0.00	0.00
6799 6801	P-3397 P-3398	15.00	6.10 6.10	130.00 130.00	Open Open	2.09 -1.88	1052.52 1051.74	1052.52 1051.74	0.00	0.00
6803	P-3399	15.00	6.10	130.00	Open	0.08	1057.32	1057.32	0.00	0.00
6806 6808	P-3400 P-3401	15.00 15.00	6.10 6.10	130.00 130.00	Open Open	-0.88 0.68	1059.01 1052.50	1059.01 1052.50	0.00	0.00
6811	P-3402	15.00	6.10	130.00	Open	1.68	1051.23	1051.23	0.00	0.00
6813 6815	P-3403 P-3404	15.00 15.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.20	1058.69 988.98	1058.69 988.98	0.00	0.00
6817	P-3405	15.00	6.10	130.00	Open	0.48	1057.29	1057.29	0.00	0.00
6820	P-3406	15.00	6.10	130.00	Open Open	-0.68	1064.82	1064.82	0.00	0.00
6822 6824	P-3407 P-3408	15.00 15.00	6.10 6.10	130.00 130.00	Open	-0.28 0.08	1060.94 1054.88	1060.94 1054.88	0.00	0.00
6827	P-3409	15.00	6.10	130.00	Open	0.28	1052.58	1052.58	0.00	0.00
6830 6832	P-3410 P-3411	15.00 15.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.20	1051.96 1218.03	1051.96 1218.03	0.00	0.00
6835	P-3412	15.00	6.10	130.00	Open	1.28	1052.50	1052.50	0.00	0.00
6838 6841	P-3413 P-3414	15.00 15.00	6.10 6.10	130.00 130.00	Open Open	0.48 -0.48	1052.72 1060.74	1052.72 1060.74	0.00	0.00
6843	P-3415	15.00	6.10	130.00	Open	-1.28	1052.71	1052.71	0.00	0.00
6845 6847	P-3416 P-3417	15.00 15.00	6.10 6.10	130.00 130.00	Open Open	0.48 0.48	1064.93 1064.95	1064.93 1064.95	0.00	0.00
6849	P-3417	15.00	6.10	130.00	Open	0.48	1056.78	1054.95	0.00	0.00
6851	P-3419	15.00	6.10	130.00	Open	0.28	1051.96	1051.96	0.00	0.00
6853 6855	P-3420 P-3421	15.00 15.00	6.10 6.10	130.00 130.00	Open Open	1.48 -0.40	1056.78 1322.92	1056.78 1322.92	0.00	0.00
6858	P-3422	15.00	6.10	130.00	Open	0.08	1052.99	1052.99	0.00	0.00
6860 6863	P-3423 P-3424	16.00 16.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.28	1052.55 1056.76	1052.55 1056.76	0.00	0.00
6865	P-3425	16.00	6.10	130.00	Open	0.48	1051.93	1051.93	0.00	0.00
6868 6871	P-3426 P-3427	16.00 16.00	6.10 6.10	130.00 130.00	Open Open	-0.68 0.08	1054.24 1051.96	1054.24 1051.96	0.00	0.00
6874	P-3428	16.00	6.10	130.00	Open	0.37	1218.52	1218.52	0.00	0.00
6876 6879	P-3429 P-3430	16.00 16.00	6.10 6.10	130.00 130.00	Open Open	0.48 -1.99	1053.45 1322.92	1053.45 1322.92	0.00	0.00
6881	P-3431	16.00	6.10	130.00	Open	-0.28	1061.87	1061.87	0.00	0.00
6883 6886	P-3432 P-3433	16.00	6.10 6.10	130.00	Open	0.48 0.08	1064.91	1064.91	0.00	0.00
6888	P-3433	16.00 16.00	6.10	130.00 130.00	Open Open	0.08	1057.31 1057.29	1057.31 1057.29	0.00	0.00
6891	P-3435	16.00	6.10	130.00	Open	0.08	1052.06	1052.06	0.00	0.00
6894 6896	P-3436 P-3437	16.00 16.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.28	1057.26 963.94	1057.26 963.94	0.00	0.00
6899	P-3438	16.00	6.10	130.00	Open	0.28	1056.78	1056.78	0.00	0.00
6902 6904	P-3439 P-3440	16.00 16.00	6.10 6.10	130.00 130.00	Open Open	0.08 -2.09	1060.74 1056.05	1060.74 1056.05	0.00	0.00
6907	P-3441	16.00	6.10	130.00	Open	0.88	1057.33	1057.33	0.00	0.00
6909 6911	P-3442 P-3443	16.00 16.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1052.99 963.95	1052.99 963.95	0.00	0.00
6914	P-3444	16.00	6.10	130.00	Open	0.28	1056.78	1056.78	0.00	0.00
6917 6920	P-3445 P-3446	17.00 17.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.20	1056.92 1218.03	1056.92 1218.03	0.00	0.00
6922	P-3447	17.00	6.10	130.00	Open	0.88	1056.78	1056.78	0.00	0.00
6924 6926	P-3448 P-3449	17.00 17.00	6.10 6.10	130.00 130.00	Open Open	-0.48 0.08	1057.37 1051.94	1057.37 1051.94	0.00	0.00
6928	P-3450	17.00	6.10	130.00	Open	0.08	963.95	963.95	0.00	0.00
6931 6933	P-3451 P-3452	17.00 17.00	6.10 6.10	130.00 130.00	Open Open	0.20 -0.48	1217.86 1054.33	1217.86 1054.33	0.00	0.00
6936	P-3453	17.00	6.10	130.00	Open	0.48	1057.48	1057.48	0.00	0.00
6938 6940	P-3454 P-3455	17.00 17.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.08	1053.99 1063.48	1053.99 1063.48	0.00	0.00
6942	P-3456	17.00	6.10	130.00	Open	0.88	1053.46	1053.46	0.00	0.00
6944	P-3457	17.00	6.10	130.00	Open	-0.08	1053.48	1053.48	0.00	0.00
6947 6949	P-3458 P-3459	18.00 18.00	6.10 6.10	130.00 130.00	Open Open	0.28 0.08	1052.40 1052.64	1052.40 1052.64	0.00	0.00
6951	P-3460	18.00	6.10	130.00	Open	-0.29	1218.03	1218.03	0.00	0.00
6953 6955	P-3461 P-3462	18.00 18.00	6.10 6.10	130.00 130.00	Open Open	0.08 -0.68	1051.96 1064.98	1051.96 1064.98	0.00	0.00
6957	P-3463	18.00	6.10	130.00	Open	0.88	1051.82	1051.82	0.00	0.00
6960 6963	P-3464 P-3465	18.00 18.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.68	1057.40 1054.24	1057.40 1054.24	0.00	0.00
6965	P-3466	19.00	6.10	130.00	Open	0.28	1051.95	1051.95	0.00	0.00
6967 6969	P-3467 P-3468	19.00 19.00	6.10 6.10	130.00 130.00	Open Open	-0.28 0.08	1053.84 1051.96	1053.84 1051.96	0.00	0.00
6971	P-3469	19.00	6.10	130.00	Open	0.28	1051.95	1051.95	0.00	0.00
6973	P-3470	19.00	6.10	130.00	Open	0.08	1064.63	1064.63	0.00	0.00
6975 6978	P-3471 P-3472	19.00 19.00	6.10 6.10	130.00 130.00	Open Open	1.28 1.08	1052.12 1051.22	1052.12 1051.22	0.00	0.00
6981	P-3473	21.00	6.10	130.00	Open	-0.08	1052.10	1052.10	0.00	0.00
6983 6985	P-3474 P-3475	21.00 22.00	6.10 6.10	130.00 130.00	Open Open	0.68 0.48	981.47 1057.34	981.47 1057.34	0.00	0.00
6987	P-3476	24.00	6.10	130.00	Open	0.68	1053.61	1053.61	0.00	0.00
6990 6992	P-3477 P-3478	24.00 28.00	6.10 6.10	130.00 130.00	Open Open	-1.68 0.08	1059.78 1052.25	1059.78 1052.25	0.00	0.00
6995	P-3479	24.00	6.10	130.00	Open	0.48	1052.51	1052.51	0.00	0.00
6998 7001	P-3480 P-3481	24.00 24.00	6.10 6.10	130.00 130.00	Open Open	-0.68 0.08	1064.82 1052.98	1064.82 1052.98	0.00	0.00
7003	P-3482	25.00	6.10	130.00	Open	0.08	1057.16	1057.16	0.00	0.00
7005 7008	P-3483 P-3484	25.00 26.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.68	1056.92 1052.10	1056.92 1052.10	0.00	0.00
7011	P-3485	27.00	6.10	130.00	Open	0.28	1057.01	1057.01	0.00	0.00
7013 7015	P-3486 P-3487	27.00 27.00	6.10 6.10	130.00 130.00	Open Open	-0.20 0.08	1218.24 1053.02	1218.24 1053.02	0.00	0.00 0.00
7017	P-3488	28.00	6.10	130.00	Open	0.48	1064.93	1064.93	0.00	0.00
7020	P-3489	28.00	6.10	130.00	Open	0.08	1051.78	1051.78	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7022	P-3490	29.00	6.10	130.00	Open	0.08	1057.71	1057.71	0.00	0.00
7024 7026	P-3491 P-3492	31.00 31.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -1.48	1064.94 1051.86	1064.94 1051.86	0.00	0.00
7028	P-3493	33.00	6.10	130.00	Open	0.48	1058.52	1058.52	0.00	0.00
7030	P-3494	34.00	6.10	130.00	Open	80.0	1061.95	1061.95	0.00	0.00
7032 7034	P-3495 P-3496	34.00 34.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.68	1061.76 1052.02	1061.76 1052.02	0.00	0.00
7037	P-3497	34.00	6.10	130.00	Open	-0.08	1064.94	1064.94	0.00	0.00
7039 7041	P-3498 P-3499	34.00 35.00	6.10 6.10	130.00 130.00	Open Open	-0.08 -0.08	1064.94 1064.94	1064.94 1064.94	0.00	0.00
7043	P-3500	35.00	6.10	130.00	Open	-0.08	1064.94	1064.94	0.00	0.00
7045 7047	P-3501 P-3502	36.00 38.00	6.10 6.10	130.00 130.00	Open Open	-1.28 -0.88	963.94 1052.02	963.94 1052.02	0.00	0.00
7050	P-3502	38.00	6.10	130.00	Open	0.68	1052.02	1052.02	0.00	0.00
7053	P-3504	38.00	6.10	130.00	Open	-0.11	1322.91	1322.91	0.00	0.00
7055 7057	P-3505 P-3506	38.00 40.00	6.10 6.10	130.00 130.00	Open Open	1.28 0.28	1052.52 1051.80	1052.52 1051.80	0.00	0.00
7059	P-3507	42.00	6.10	130.00	Open	0.68	1051.80	1051.80	0.00	0.00
7061 7063	P-3508 P-3509	43.00 47.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.08	1061.95 1061.13	1061.95 1061.13	0.00	0.00
7065	P-3510	47.00	6.10	130.00	Open	0.08	1064.93	1064.93	0.00	0.00
7067	P-3511	48.00	6.10	130.00	Open	1.68	1052.12	1052.12	0.00	0.00
7070 7073	P-3512 P-3513	50.00 52.00	6.10 6.10	130.00 130.00	Open Open	1.08 0.08	1052.42 1051.96	1052.42 1051.96	0.00	0.00
7076	P-3514	54.00	6.10	130.00	Open	0.08	1061.76	1061.76	0.00	0.00
7078 7081	P-3515 P-3516	54.00 56.00	6.10 6.10	130.00 130.00	Open Open	-0.29 0.08	1216.98 1064.63	1216.98 1064.63	0.00	0.00 0.00
7083	P-3517	63.00	6.10	130.00	Open	-0.20	1217.08	1217.08	0.00	0.00
7085 7087	P-3518 P-3519	63.00 66.00	6.10 6.10	130.00 130.00	Open Open	0.08 0.28	1062.25 1053.65	1062.25 1053.65	0.00	0.00
7089	P-3520	74.00	6.10	130.00	Open	0.28	1055.70	1055.70	0.00	0.00
7091	P-3521 P-3522	74.00	6.10	130.00	Open	0.28	1061.12	1061.12	0.00	0.00
7093 7095	P-3522 P-3523	89.00 106.00	6.10 6.10	130.00 130.00	Open Open	0.88 0.08	1057.34 1060.22	1057.34 1060.22	0.00	0.00
7097	P-3524	190.00	6.10	130.00	Open	0.48	1059.16	1059.16	0.00	0.00
7099 7105	P-3525 P-3527	1.00 2.00	8.00 8.00	130.00 130.00	Open Open	2.41 0.08	1052.06 1051.76	1052.06 1051.76	0.00	0.00
7107	P-3528	2.00	8.00	130.00	Open	0.20	1217.85	1217.85	0.00	0.00
7110 7112	P-3529 P-3530	3.00 3.00	8.00 8.00	130.00 130.00	Open Open	137.44 2.99	1056.06 1057.97	1056.06 1057.97	0.00	0.00
7112	P-3531	3.00	8.00	130.00	Open	0.08	1064.82	1064.82	0.00	0.00
7116	P-3532	3.00	8.00	130.00	Open	0.08	1064.91	1064.91	0.00	0.00
7119 7121	P-3533 P-3534	3.00 3.00	8.00 8.00	130.00 130.00	Open Open	-0.08 26.67	1051.74 1218.14	1051.74 1218.14	0.00	0.00
7123	P-3535	4.00	8.00	130.00	Open	-38.62	1051.96	1051.96	0.00	0.00
7125 7128	P-3536 P-3537	4.00 4.00	8.00 8.00	130.00 130.00	Open Open	0.48 1.92	1059.99 1218.02	1059.99 1218.02	0.00	0.00
7129	P-3538	4.00	8.00	130.00	Open	2.44	1051.80	1051.80	0.00	0.00
7131 7134	P-3539 P-3540	5.00 4.00	8.00 8.00	130.00 130.00	Open Open	80.0 80.0	1051.74 1052.99	1051.74 1052.99	0.00	0.00
7136	P-3541	4.00	8.00	130.00	Open	0.08	1056.05	1056.05	0.00	0.00
7138 7140	P-3542 P-3543	4.00 5.00	8.00 8.00	130.00	Open Open	0.20 137.80	1217.85	1217.85	0.00	0.00
7140	P-3544	5.00	8.00	130.00 130.00	Open	0.08	1056.06 1064.91	1056.06 1064.91	0.00	0.00
7145	P-3545	5.00	8.00	130.00	Open	1.23	1053.00	1053.00	0.00	0.00
7147 7150	P-3546 P-3547	5.00 6.00	8.00 8.00	130.00 130.00	Open Open	215.25 0.08	1052.72 1061.88	1052.72 1061.88	0.01 0.00	0.00
7152	P-3548	6.00	8.00	130.00	Open	0.08	1057.28	1057.28	0.00	0.00
7154 7156	P-3549 P-3550	6.00 6.00	8.00 8.00	130.00 130.00	Open Open	0.11 0.48	1322.98 1051.91	1322.98 1051.91	0.00	0.00
7159	P-3551	7.00	8.00	130.00	Open	0.08	1056.05	1056.05	0.00	0.00
7161 7163	P-3552 P-3553	7.00 7.00	8.00 8.00	130.00 130.00	Open Open	-2.47 331.63	1218.03 1054.33	1218.03 1054.31	0.00 0.02	0.00
7164	P-3554	7.00	8.00	130.00	Open	0.20	1218.03	1218.03	0.02	0.00
7166	P-3555	7.00	8.00	130.00	Open	2.44	1057.28	1057.28	0.00	0.00
7167 7168	P-3556 P-3557	7.00 7.00	8.00 8.00	130.00 130.00	Open	333.44 -0.28	1053.71 1064.94	1053.70 1064.94	0.02	0.00
7170	P-3558	7.00	8.00	130.00	Open	26.41	1051.91	1051.91	0.00	0.00
7171 7174	P-3559 P-3560	7.00 7.00	8.00 8.00	130.00 130.00	Open Open	0.08 0.48	1057.28 1064.94	1057.28 1064.94	0.00	0.00
7176	P-3561	8.00	8.00	130.00	Open	-48.34	1064.90	1064.90	0.00	0.00
7177 7178	P-3562 P-3563	8.00 8.00	8.00 8.00	130.00 130.00	Open Open	13.44 6.25	1053.00 1051.85	1053.00 1051.85	0.00	0.00
7179	P-3564	8.00	8.00	130.00	Open	0.08	1059.76	1059.76	0.00	0.00
7181	P-3565 P-3566	8.00 8.00	8.00 8.00	130.00 130.00	Open Open	0.28 -0.08	1057.32 1064.94	1057.32 1064.94	0.00	0.00
7183 7185	P-3567	8.00	8.00	130.00	Open	-0.08	1064.94	1064.94	0.00	0.00
7187	P-3568	8.00	8.00	130.00	Open	0.08	1064.93	1064.93	0.00	0.00
7189 7191	P-3569 P-3570	8.00 9.00	8.00 8.00	130.00 130.00	Open Open	6.72 4.96	1053.01 1056.05	1053.01 1056.05	0.00	0.00
7192	P-3571	9.00	8.00	130.00	Open	0.20	1218.20	1218.20	0.00	0.00
7195 7198	P-3572 P-3573	9.00 9.00	8.00 8.00	130.00 130.00	Open Open	0.08 -0.08	1051.73 1064.94	1051.73 1064.94	0.00	0.00
7200	P-3574	9.00	8.00	130.00	Open	-0.76	1057.97	1057.97	0.00	0.00
7201 7203	P-3575 P-3576	9.00 9.00	8.00 8.00	130.00 130.00	Open Open	0.28 0.48	1064.94 1057.32	1064.94 1057.32	0.00	0.00
7205	P-3577	9.00	8.00	130.00	Open	-9.60	1051.84	1051.84	0.00	0.00
7207	P-3578	10.00	8.00	130.00	Open	15.37	967.36	967.36	0.00	0.00
7208 7210	P-3579 P-3580	10.00 10.00	8.00 8.00	130.00 130.00	Open Open	7.63 0.28	1056.05 1064.94	1056.05 1064.94	0.00	0.00
7212	P-3581	10.00	8.00	130.00	Open	-4.81	1051.73	1051.73	0.00	0.00
7214 7217	P-3582 P-3583	10.00 10.00	8.00 8.00	130.00 130.00	Open Open	0.20 0.08	988.99 1056.11	988.99 1056.11	0.00	0.00
7220	P-3584	10.00	8.00	130.00	Open	0.20	1217.75	1217.75	0.00	0.00
7222 7224	P-3585 P-3586	10.00 10.00	8.00 8.00	130.00 130.00	Open Open	3.47 0.08	1061.11 1053.01	1061.11 1053.01	0.00	0.00 0.00
7226	P-3587	10.00	8.00	130.00	Open	0.43	1054.66	1054.66	0.00	0.00
7949	P-3588	338.00	8.00	130.00	Open	-2.24	1053.22	1053.22	0.00	0.00

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Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7950	P-3589	339.00	8.00	130.00	Open	-7.26	988.99	988.99	0.00	0.00
7952 7954	P-3590 P-3591	338.00 343.00	8.00 8.00	130.00 130.00	Open Open	6.41 2.99	1051.84 1217.85	1051.84 1217.85	0.00	0.00
7955	P-3592	340.00	8.00	130.00	Open	3.13	1059.99	1059.99	0.00	0.00
7956	P-3593	341.00	8.00 8.00	130.00	Open	-29.43	1053.04	1053.05	0.01	0.00
7957 7958	P-3594 P-3595	345.00 344.00	8.00	130.00 130.00	Open Open	50.47 1.03	1051.89 1057.28	1051.86 1057.28	0.02 0.00	0.00
7959	P-3596	386.00	8.00	130.00	Open	-4.25	1051.73	1051.73	0.00	0.00
7960 7961	P-3597 P-3598	344.00 354.00	8.00 8.00	130.00 130.00	Open Open	-7.01 -38.50	1052.03 1051.87	1052.03 1051.89	0.00 0.02	0.00
7962	P-3599	347.00	8.00	130.00	Open	-7.26	1218.11	1218.11	0.00	0.00
7963 7964	P-3600 P-3601	348.00 363.00	8.00 8.00	130.00 130.00	Open Open	9.06 1.76	1064.94 1057.53	1064.94 1057.53	0.00	0.00
7965	P-3602	362.00	8.00	130.00	Open	-19.88	1052.08	1052.08	0.00	0.00
7967 7968	P-3603 P-3604	355.00 393.00	8.00 8.00	130.00 130.00	Open Open	1.03 -8.16	1059.99 1052.72	1059.99 1052.72	0.00	0.00
7969	P-3605	358.00	8.00	130.00	Open	5.72	1052.72	1052.72	0.00	0.00
7970	P-3606	356.00	8.00	130.00	Open	3.44	1051.74	1051.74	0.00	0.00
7971 7972	P-3607 P-3608	357.00 357.00	8.00 8.00	130.00 130.00	Open Open	5.51 11.40	1218.03 1051.93	1218.03 1051.93	0.00	0.00
7973	P-3609	361.00	8.00	130.00	Open	59.57	1063.24	1063.20	0.04	0.00
7974 7976	P-3610 P-3611	356.00 357.00	8.00 8.00	130.00 130.00	Open Open	34.18 0.36	1051.79 1051.74	1051.78 1051.74	0.01 0.00	0.00
7978	P-3612	360.00	8.00	130.00	Open	25.34	1064.83	1064.82	0.01	0.00
7979 7980	P-3613 P-3614	359.00 402.00	8.00 8.00	130.00 130.00	Open Open	31.05 -11.29	1057.36 1064.97	1057.35 1064.97	0.01 0.00	0.00
7981	P-3615	373.00	8.00	130.00	Open	1.84	1064.93	1064.93	0.00	0.00
7982 7984	P-3616 P-3617	361.00 364.00	8.00 8.00	130.00 130.00	Open Open	-52.85 -16.91	1052.46 1057.30	1052.49 1057.31	0.03	0.00
7985	P-3618	364.00	8.00	130.00	Open	-9.43	1055.31	1055.31	0.00	0.00
7987 7988	P-3619 P-3620	613.00 366.00	8.00 8.00	130.00 130.00	Open Open	27.61 9.51	1052.45 1059.76	1052.44 1059.76	0.01 0.00	0.00
7989	P-3621	385.00	8.00	130.00	Open	2.52	1061.11	1061.11	0.00	0.00
7990	P-3622	381.00	8.00	130.00 130.00	Open	6.04	1064.81	1064.81	0.00	0.00
7991 7992	P-3623 P-3624	370.00 372.00	8.00 8.00	130.00	Open Open	63.89 4.71	1058.34 1064.82	1058.30 1064.82	0.04 0.00	0.00
7993	P-3625	374.00	8.00	130.00	Open	6.79	1064.81	1064.81	0.00	0.00
7994 7995	P-3626 P-3627	413.00 380.00	8.00 8.00	130.00 130.00	Open Open	15.39 0.48	1051.84 1052.49	1051.84 1052.49	0.00	0.00
7997	P-3628	376.00	8.00	130.00	Open	29.54	1052.14	1052.13	0.01	0.00
7998 7999	P-3629 P-3630	379.00 388.00	8.00 8.00	130.00 130.00	Open Open	2.59 8.32	1052.49 1053.00	1052.49 1053.00	0.00	0.00
8000	P-3631	415.00	8.00	130.00	Open	6.69	1056.20	1056.20	0.00	0.00
8001 8002	P-3632 P-3633	384.00 383.00	8.00 8.00	130.00 130.00	Open Open	11.01 0.63	1052.51 1052.99	1052.50 1052.99	0.00	0.00
8003	P-3634	383.00	8.00	130.00	Open	-1.20	1218.03	1218.03	0.00	0.00
8004 8005	P-3635 P-3636	383.00 384.00	8.00 8.00	130.00 130.00	Open Open	24.64 20.85	1051.81 1056.79	1051.81 1056.78	0.01 0.01	0.00
8006	P-3637	446.00	8.00	130.00	Open	-5.87	1051.83	1051.83	0.00	0.00
8007 8008	P-3638 P-3639	384.00 392.00	8.00 8.00	130.00 130.00	Open Open	-17.06 28.35	1057.31 1218.20	1057.31 1218.19	0.00 0.01	0.00
8009	P-3640	391.00	8.00	130.00	Open	-50.17	1052.19	1052.21	0.03	0.00
8010 8011	P-3641 P-3642	393.00	8.00 8.00	130.00 130.00	Open Open	2.44 1.81	1052.72 1051.74	1052.72 1051.74	0.00	0.00
8012	P-3643	492.00 395.00	8.00	130.00	Open	4.83	1051.74	1051.74	0.00	0.00
8013 8014	P-3644 P-3645	415.00	8.00 8.00	130.00	Open Open	3.24 22.16	1052.50	1052.50	0.00	0.00
8016	P-3646	398.00 406.00	8.00	130.00 130.00	Open	27.17	1053.01 1051.92	1053.01 1051.91	0.01 0.01	0.00
8017	P-3647	398.00	8.00	130.00 130.00	Open	53.59 21.29	1052.34	1052.31 1054.25	0.03	0.00
8018 8019	P-3648 P-3649	428.00 414.00	8.00 8.00	130.00	Open Open	1.64	1054.26 1052.04	1054.25	0.01 0.00	0.00
8020	P-3650	408.00	8.00	130.00	Open	19.85	1064.83	1064.82	0.01	0.00
8021 8023	P-3651 P-3652	423.00 410.00	8.00 8.00	130.00 130.00	Open Open	1.08 16.20	1052.72 1051.89	1052.72 1051.89	0.00	0.00
8024	P-3653	407.00	8.00	130.00	Open	13.31	1064.82	1064.82	0.00	0.00
8025 8026	P-3654 P-3655	405.00 409.00	8.00 8.00	130.00 130.00	Open Open	-85.03 -10.49	1052.38 1051.96	1052.46 1051.96	0.08	0.00
8027	P-3656	406.00	8.00	130.00	Open	9.20	981.48	981.48	0.00	0.00
8028 8029	P-3657 P-3658	407.00 409.00	8.00 8.00	130.00 130.00	Open Open	-99.19 28.75	1052.62 1218.21	1052.72 1218.20	0.10 0.01	0.00
8030	P-3659	410.00	8.00	130.00	Open	10.13	1056.78	1056.78	0.00	0.00
8031 8032	P-3660 P-3661	421.00 421.00	8.00 8.00	130.00 130.00	Open Open	5.51 17.95	1055.31 1064.98	1055.31 1064.98	0.00	0.00
8033	P-3662	412.00	8.00	130.00	Open	6.05	1064.93	1064.93	0.00	0.00
8034 8035	P-3663 P-3664	416.00 453.00	8.00 8.00	130.00 130.00	Open Open	9.29 -0.08	1064.97 1064.93	1064.97 1064.93	0.00	0.00
8037	P-3665	412.00	8.00	130.00	Open	5.36	1051.83	1051.82	0.00	0.00
8038 8040	P-3666 P-3667	555.00 415.00	8.00 8.00	130.00 130.00	Open Open	0.28 -0.91	1052.04 1051.94	1052.04 1051.94	0.00	0.00
8041	P-3668	415.00	8.00	130.00	Open	9.02	1051.94	1051.94	0.00	0.00
8042	P-3669	440.00	8.00	130.00	Open	1.65	1059.76	1059.76	0.00	0.00
8043 8044	P-3670 P-3671	453.00 420.00	8.00 8.00	130.00 130.00	Open Open	-8.83 -36.73	1051.84 1051.75	1051.84 1051.76	0.00 0.02	0.00
8045	P-3672	477.00	8.00	130.00	Open	-3.12	1218.02	1218.02 1051.74	0.00	0.00
8046 8047	P-3673 P-3674	423.00 425.00	8.00 8.00	130.00 130.00	Open Open	-8.72 0.66	1051.74 1052.99	1051.74 1052.99	0.00	0.00
8048	P-3675	453.00	8.00	130.00	Open	4.71	1064.93	1064.93	0.00	0.00
8049 8050	P-3676 P-3677	441.00 427.00	8.00 8.00	130.00 130.00	Open Open	-108.17 -106.50	1051.76 1053.10	1051.89 1053.22	0.13 0.12	0.00
8051	P-3678	434.00	8.00	130.00	Open	10.72	1059.01	1059.01	0.00	0.00
8052 8053	P-3679 P-3680	427.00 433.00	8.00 8.00	130.00 130.00	Open Open	63.69 13.34	1052.38 1052.55	1052.33 1052.55	0.05 0.00	0.00
8054	P-3681	432.00	8.00	130.00	Open	37.76	1053.05	1053.03	0.02	0.00
8055 8056	P-3682 P-3683	431.00 432.00	8.00 8.00	130.00 130.00	Open Open	-1.15 -32.92	1052.12 1057.42	1052.12 1057.43	0.00 0.01	0.00
8057	P-3684	437.00	8.00	130.00	Open	-1.48	1218.03	1218.03	0.00	0.00
8058 8059	P-3685 P-3686	436.00 439.00	8.00 8.00	130.00 130.00	Open Open	10.96 0.20	1064.98 1218.02	1064.98 1218.02	0.00 0.00	0.00 0.00

Best P-9887	Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
Beel											
8666 P-3980											
BORD P-9802	8066	P-3690	437.00	8.00	130.00	Open	-0.23	1052.00	1052.00	0.00	0.00
8877 P-988											
B072											
8073											
B074											
8077 P-3899				8.00	130.00		31.67		1051.79	0.01	
8079 P.3701 45700 8.00 130.00 Cpen 6.47 165184 165184 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.											
8679 P.3701 457.00 8.00 130.00 Open 8.28 1051.77 1051.75 0.00 0.											
Beat P.57703			457.00		130.00	Open		1051.77	1051.76	0.00	0.00
8882 P.3705 48-00 8.00 130.00 Open 2.04 1067.29 1067.29 0.00 0.00 0.00 8084 P.3705 48-00 8.00 130.00 Open 29.44 1051.82 1051.82 0.00 0.00 0.00 8084 P.3706 48-00 8.00 130.00 Open 10.84 1051.82 1051.82 0.00 0.00 0.00 8084 P.3708 48-00 8.00 130.00 Open 47.58 1068 9.00 1061.82 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
8984 P.3706 462.00 8.00 130.00 Open 10.84 1051.83 1051.82 0.00 0.00 0.00 80868 P.3707 464.00 8.00 130.00 Open 47.58 1064.89 1064.87 0.033 0.00 0.00 80868 P.3708 4650.00 8.00 130.00 Open 47.58 1064.89 1064.87 0.033 0.00 0.00 0.00 0.00 0.00 0.00 0.	8082	P-3704	464.00	8.00	130.00	Open	-2.04	1057.29	1057.29	0.00	0.00
8086 P.3778 464.00 8.00 130.00 Open 24.64 1052.56 1052.56 0.01 0.00 0pen 8086 P.3778 465.00 8.00 130.00 Open 4.758 1056.40 1064.67 0.03 0.00 0.00 0.00 0.00 0.00 0.00 0.0											
8087 P.3710 \$150.0 \$0.0 \$130.0 \$0.0 \$150.0 \$0.0 \$1.138 \$1051.83 \$0.00 \$0.0 \$0.0 \$0.00 \$0.00 \$0.00 \$0.00 \$1.138 \$1057.39 \$0.00											
8090 P.3710 479.00 8.00 130.00 Open 1.13.3 1052.13 1052.12 0.00 0.00 0.00 8091 P.3711 487.00 8.00 130.00 Open 4.09.8 1057.29 1.00.0 0.00 0.00 8091 P.3712 475.00 8.00 130.00 Open 8.09 1051.88 1052.02 0.03 0.00 0.00 8091 P.3713 485.00 8.00 130.00 Open 8.09 1051.88 1052.02 0.03 0.00 0.00 8092 P.3714 485.00 8.00 130.00 Open 8.09 1051.88 1052.02 0.00 0.00 0.00 8096 P.3715 477.00 8.00 130.00 Open 8.09 1056.86 1051.88 0.00 0.00 0.00 0.00 0.00 0.00 0.00											
8996 P.3711 487.00 8.00 130.00 Open -13.33 1057.28 1057.29 0.00 0.00											
8993 P.3714 485.00 8.00 130.00 Open 8.08 1051.85 1051.85 0.00 0.00 0.00 8094 P.3715 472.00 8.00 130.00 Open 3.72 1056.20 1056.20 0.00 0.00 8094 P.3716 472.00 8.00 130.00 Open 3.72 1056.80 1056.80 1056.80 0.00 0.00 0.00 8098 P.3716 477.00 8.00 130.00 Open 4.40 1054.25 1056.80 0.00 0.00 0.00 8099 P.3719 476.00 8.00 130.00 Open 2.18 1056.80 1056.80 0.00 0.00 0.00 8099 P.3719 476.00 8.00 130.00 Open 2.18 1056.81 1051.81 0.00 0.00 0.00 8099 P.3720 551.00 8.00 130.00 Open 2.18 1056.81 1051.81 1051.81 0.00 0.00 0.00 0.00 0.00 0.00 0.00		P-3711	487.00	8.00		Open	-13.33			0.00	0.00
8993 P-3716 4720 8.00 130.00 Open 3.72 1056.20 1056.20 0.00 0.00 0.00 8096 P-3716 477.00 8.00 130.00 Open 24.22 1056.20 1056.80 0.01 0.00 0.00 8096 P-3716 477.00 8.00 130.00 Open 7.16 1056.60 1056.05 0.00 0.00 0.00 8096 P-3718 476.00 8.00 130.00 Open 7.16 1056.60 1056.05 0.00 0.00 0.00 8096 P-3718 476.00 8.00 130.00 Open 7.16 1056.60 1056.05 0.00 0.00 0.00 8096 P-3718 476.00 8.00 130.00 Open 7.16 1056.60 1056.05 0.00 0.00 0.00 8096 P-3720 551.00 8.00 130.00 Open 2.18 1051.81 1051.81 0.00 0.00 0.00 8100 P-3720 551.00 8.00 130.00 Open 2.05.2 1052.56 1052.55 0.01 0.00 0.00 8100 P-3721 520.00 8.00 130.00 Open 3.26.90 1052.00 1052.55 0.00 0.00 0.00 8100 P-3722 482.00 8.00 130.00 Open 3.26.90 1052.00 1052.01 0.02 0.00 8101 P-3722 482.00 8.00 130.00 Open 3.26.90 1052.00 1052.01 0.02 0.00 8101 P-3723 479.00 8.00 130.00 Open 3.26.90 1052.00 1052.01 0.02 0.00 8101 P-3725 479.00 8.00 130.00 Open 3.26.90 1052.00 1052.01 0.00 0.00 8101 P-3725 479.00 8.00 130.00 Open 3.26.90 1052.00 1052.00 1052.00 0.00 8101 P-3725 479.00 8.00 130.00 Open 3.26.90 1052.00 1052.00 1052.00 0.00 8101 P-3725 479.00 8.00 130.00 Open 2.05.80 1052.00 1052.00 0.00 0.00 8100 P-3725 483.00 8.00 130.00 Open 2.05.80 1055.97 1055.79 0.18 0.00 8106 P-3726 50.00 8.00 130.00 Open 121.43 1055.97 1055.79 0.18 0.00 8106 P-3726 50.00 8.00 130.00 Open 121.43 1055.97 1055.70 0.00 0.00 8109 P-3729 50.00 8.00 130.00 Open 121.43 1055.97 1055.79 0.18 0.00 8109 P-3729 50.00 8.00 130.00 Open 121.43 1055.97 1055.79 0.18 0.00 8109 P-3729 50.00 8.00 130.00 Open 121.43 1055.97 1055.79 0.18 0.00 8109 P-3729 50.00 8.00 130.00 Open 121.43 1055.97 1055.80 0.00 0.00 8111 P-3733 508.00 8.00 130.00 Open 121.43 1055.97 1055.80 0.00 0.00 8111 P-3733 508.00 8.00 130.00 Open 121.43 1053.44 1053											
8996 P. 3716 472.00 8.00 130.00 Open 2.72 1061.87 1061.88 0.01 0.00 0.00 8096 P. 3716 473.00 8.00 130.00 Open 9.79 1066.06 1066.05 0.00 0.00 8096 P. 3716 473.00 8.00 130.00 Open 9.79 1066.06 1066.05 0.00 0.00 0.00 8096 P. 3716 50.00 8.00 130.00 Open 4.49 1064.28 1064.28 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
8996 P.3717 473.00 8.00 130.00 Open 7.16 1064.94 1064.33 0.00 0.00 0.00 8098 P.3718 504.00 8.00 130.00 Open 4.40 1064.25 1064.25 0.00 0.00 0.00 8098 P.3719 476.00 8.00 130.00 Open 2.18 1062.55 1062.55 0.00 0.00 0.00 8098 P.3720 510.0 8.00 130.00 Open 2.218 1062.55 1062.55 0.00 0.00 0.00 0.00 0.00 0.00 0.00	8094	P-3715	472.00	8.00	130.00	Open	24.22	1051.87	1051.86	0.01	0.00
8997 P-3719 4760 8.00 130.00 Open 4.40 1054.25 1054.25 0.00 0.00 0.00 8098 P-3719 4760 8.00 130.00 Open 2.18 1051.81 1051.81 10051.81 0.00 0.00 0.00 8098 P-3720 551.00 8.00 130.00 Open 2.052 1052.56 1052.55 0.01 0.00 0.00 130.00 Open 2.18 1051.81 1051.81 10051.81 0.00 0.00 0.00 130.00 Open 4.019 1052.12 1052.12 0.00 0.00 0.00 130.00 Open 4.019 1052.12 1052.12 0.00 0.00 0.00 130.00 Open 4.019 1052.12 1052.12 0.00 0.00 0.00 130.00 Open 4.019 1052.12 1052.12 0.00 0.00 0.00 130.00 Open 4.35 1051.33 1051.33 0.00 0pen 1.35 1051.73 0.00 0.00 0.00 130.00 Open 4.35 1051.73 1051.73 0.00 0.00 0.00 130.00 Open 4.35 1051.73 1051.73 0.00 0.00 0.00 130.00 Open 4.35 1051.73 1051.73 0.00 0.00 0.00 130.00 Open 4.35 1051.73 1051.73 0.00 0.00 0.00 130.00 Open 4.35 1051.73 1051.73 0.00 0.00 0.00 130.00 Open 4.35 1051.73 1051.73 0.00 0.00 0.00 130.00 Open 4.35 1051.73 1051.73 0.00 0.00 0.00 130.00 Open 4.35 1051.73 1051.73 0.00 0.00 0.00 130.00 Open 5.35 1051.73 1051.73 1051.74 1051.74 0.00 0.00 0.00 130.00 Open 5.35 1051.75 1051.75 0.00 0.00 0.00 0.00 130.00 Open 5.35 1051.75 1051.80 0.00 0.00 0.00 130.00 Open 5.35 1051.80 1051.80 0.00 0.00 0.00 130.00 Open 5.35 1051.80 1051.80 0.00 0.00 0.00 130.00 Open 5.35 1051.80 1051.80 0.00 0.00 0.00 130.00 Open 5.35 1051.80 1051.80 0.00 0.00 0.00 130.00 Open 5.35 1051.80 1051.80 0.00 0.00 0.00 130.00 Open 5.35 1051.80 1051.80 0.00 0.00 0.00 130.00 Open 5.35 1051.80 1051.80 0.00 0.00 0.00 0.00 130.00 Open 5.35 1051.80 1051.80 0.00 0.00 0.00 0.00 130.00 Open 5.35 1051.80 1051.80 0.00 0.00 0.00 0.00 0.00 0.00 0.00											
8099 P-3720 S51.00 8.00 130.00 Open 20.52 1052.55 0.01 0.00 0.00 8101 P-3721 520.00 8.00 130.00 Open 4.019 1052.12 0.00 1052.01 0.02 0.00 8101 P-3722 482.00 8.00 130.00 Open 4.77 1052.00 1052.01 0.02 0.00 0.00 8102 P-3723 470.00 8.00 130.00 Open 7.77 1052.00 1052.01 0.02 0.00 0.00 8103 P-3724 470.00 8.00 130.00 Open 7.77 1052.72 1052.00 1052.01 0.00 0.00 8103 P-3725 480.00 8.00 130.00 Open 3.25 1051.73 1051.73 0.00 0.00 0.00 8103 P-3725 480.00 8.00 130.00 Open 3.25 1051.73 1051.73 0.00 0.00 0.00 8103 P-3725 480.00 8.00 130.00 Open 3.25 1051.73 1051.73 0.00 0.00 0.00 8103 P-3728 500.00 8.00 130.00 Open 3.25 1051.73 1051.73 0.00 0.00 0.00 8103 P-3728 500.00 8.00 130.00 Open 3.25 1051.73 1051.73 0.00 0.00 0.00 8103 P-3728 500.00 8.00 130.00 Open 3.25 1051.85 1051.85 0.00 8.00 130.00 Open 3.25 1051.85 1051.85 0.00 0.00 0.00 8109 P-3730 480.00 8.00 130.00 Open 3.27 1053.42 1053.42 0.00 0.00 0.00 8112 P-3731 507.00 8.00 130.00 Open 3.25 1051.85 1051.85 0.01 0.00 0.00 8112 P-3733 500.00 8.00 130.00 Open 4.25 1051.85 1051.85 0.01 0.00 0.00 8112 P-3733 500.00 8.00 130.00 Open 4.26 1052.84 1051.80 1051.80 0.00 0.00 8113 P-3738 480.00 8.00 130.00 Open 4.26 1052.84 1052.84 0.00 0.00 0.00 8113 P-3738 480.00 8.00 130.00 Open 4.26 1052.84 1052.84 0.00 0.00 8113 P-3738 480.00 8.00 130.00 Open 4.26 1052.85 1051.85 0.00 0.00 0.00 8114 P-3738 480.00 8.00 130.00 Open 4.26 1052.85 1051.85 0.00 0.00 0.00 8114 P-3738 480.00 8.00 130.00 Open 4.26 1052.85 1051.85 0.00 0.00 0.00 8114 P-3738 480.00 8.00 130.00 Open 4.26 1052.85 1052.85 0.00 0.00 0.00 8114 P-3738 480.00 8.00 130.00 Open 4.26 1052.85 1052.85 0.00 0.00 0.00 8114 P-3738 480.00 8.00 130.00 Open 4.26 1052.85 1052.85 0.00 0.00 0.00 8114 P-3738 480.00 8.00 130.00 Open 4.26 1052.85 1052.85 0.00 0.00 0.00 8114 P-3738 480.00 8.00 130.00 Open 4.26 1052.85 1052.85 0.00 0.00 0.00 8114 P-3738 480.00 8.00 130.00 Open 4.26 1052.85 1052.85 0.00 0.00 0.00 8114 P-3738 480.00 8.00 130.00 Open 4.26 1052.85 1052.85 0.00 0.00 0.00 8114 P-3738 480.00 8.00 130.00 Open 4.26 1052.85 1052.85 0.00 0.											
8100 P-3721 S20.00 8.00 130.00 Open -0.19 1052.12 1052.12 0.00 0.00 8102 P-3723 475.00 8.00 130.00 Open -32.69 1052.00 1052.01 0.052.01 0.00 0.00 8102 P-3723 475.00 8.00 130.00 Open -3.67 1052.72 1052.72 0.00 0.00 0.00 8103 P-3724 475.00 8.00 130.00 Open -3.65 1051.73 1051.73 0.00 0.00 0.00 8104 P-3724 475.00 8.00 130.00 Open -3.65 1051.73 1051.73 0.00 0.00 0.00 8104 P-3725 486.00 8.00 130.00 Open -3.65 1051.73 1051.73 0.00 0.00 0.00 8104 P-3725 486.00 8.00 130.00 Open -3.65 1051.73 1051.73 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
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8106 P-3726 503.00 8.00 130.00 Open 0.55 1218.15 1218.15 0.00 0.00 8106 P-3727 483.00 8.00 130.00 Open 1214.33 1055.97 1056.79 0.18 0.00 8106 P-3727 483.00 8.00 130.00 Open 1214.33 1055.97 1056.79 0.18 0.00 8106 P-3728 690.00 8.00 130.00 Open 0.17 1052.06 1055.06 0.00 0.00 8108 P-3729 652.00 8.00 130.00 Open 0.17 1052.06 1052.06 0.00 0.00 8109 P-3730 485.00 8.00 130.00 Open 0.17 1052.06 1052.06 0.00 0.00 8110 P-3731 507.00 8.00 130.00 Open 1.92.57 1051.85 1051.85 0.01 0.00 8111 P-3731 507.00 8.00 130.00 Open 1.92.58 1051.85 1051.85 0.01 0.00 8111 P-3732 506.00 8.00 130.00 Open 9.26 1051.85 1051.85 0.01 0.00 8111 P-3733 508.00 8.00 130.00 Open 9.26 1051.85 1051.85 0.01 0.00 8111 P-3734 489.00 8.00 130.00 Open 9.26 1051.85 1051.80 0.00 0.00 8113 P-3734 489.00 8.00 130.00 Open 9.26 1051.80 1051.80 0.00 0.00 8113 P-3735 480.00 8.00 130.00 Open 9.26 1051.80 1051.80 0.00 0.00 8114 P-3735 480.00 8.00 130.00 Open 9.26 1051.80 1051.80 0.00 0.00 8116 P-3735 480.00 8.00 130.00 Open 9.26 1051.80 1054.82 0.01 0.00 8117 P-3737 508.00 8.00 130.00 Open 9.26 1051.80 1054.82 0.01 0.00 8117 P-3737 508.00 8.00 130.00 Open 8.00 130.00 0pen 1.92.51 1054.82 0.01 100.00 8117 P-3737 508.00 8.00 130.00 Open 8.00 130.00 0pen 1.92.51 1054.82 0.01 100.00 8119 P-3739 508.00 8.00 130.00 Open 8.00 1051.74											
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8111 P-3732 506.00 8.00 130.00 Open 9.26 105.18 0.00 0.00 8113 P-3734 489.00 8.00 130.00 Open -0.28 1052.68 1052.68 0.00 0.00 8115 P-3736 480.00 8.00 130.00 Open -0.28 1052.68 1052.28 0.00 0.00 8116 P-3736 480.00 8.00 130.00 Open -10.49 1052.20 1052.20 0.00 0.00 8117 P-37378 488.00 8.00 130.00 Open -60.51 1058.40 1051.74 0.00 0.00 8119 P-3739 509.00 8.00 130.00 Open -65.36 1052.58 1052.64 0.06 0.00 8120 P-3740 497.00 8.00 130.00 Open -2.57 1051.85 1051.86 001.60 8121 P-3744 499.00 8.00 130.00 Open -7.61											
8113 P-3734 489.00 8.00 130.00 Open -0.28 1052.68 1052.68 0.00 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
8115 P-3735 490.00 8.00 130.00 Open 20.31 1064.82 1064.82 1064.22 0.01 0.00 8117 P-3737 505.00 8.00 130.00 Open -66.05 1058.40 1055.22 0.00 0.00 8118 P-3739 509.00 8.00 130.00 Open -9.00 10.151.74 0.00 0.00 8119 P-3739 509.00 8.00 130.00 Open -9.53.6 1052.58 1052.64 0.06 0.00 8120 P-3741 499.00 8.00 130.00 Open -22.57 1051.88 1051.86 0.01 0.00 8121 P-3744 499.00 8.00 130.00 Open -7.61 1053.01 100 0.00 8122 P-3743 500.00 8.00 130.00 Open -24.53 1051.86 1051.87 0.01 0.00 8124 P-3746 502.00 8.00 130.00 Open <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
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8119 P-3739 509.00 8.00 130.00 Open 29.75 1051.88 1051.87 0.01 0.00 8120 P-3741 488.00 8.00 130.00 Open 29.75 1051.85 1051.86 0.01 0.00 8121 P-3742 489.00 8.00 130.00 Open -2.57 1051.85 1051.86 0.01 0.00 8122 P-3742 500.00 8.00 130.00 Open -2.45.3 1051.87 0.01 0.00 8124 P-3745 503.00 8.00 130.00 Open -81.2 1054.67 1054.67 0.01 0.00 8126 P-3746 507.00 8.00 130.00 Open 16.11 981.48 981.48 0.00 0.00 8128 P-3748 547.00 8.00 130.00 Open 2.11 1055.42 1063.42 0.00 0.00 8129 P-3749 547.00 8.00 130.00 Open											
8121 P-3741 488.00 8.00 130.00 Open -72.57 1051.85 1051.86 0.01 0.00 8122 P-3742 499.00 8.00 130.00 Open -74.61 1053.01 1.00 0.00 8124 P-3744 500.00 8.00 130.00 Open -43.06 1051.87 1051.81 0.01 0.00 8126 P-3746 503.00 8.00 130.00 Open 81.2 1054.67 1054.67 0.00 0.00 8126 P-3746 507.00 8.00 130.00 Open 12.3 1064.82 981.48 0.00 0.00 8128 P-3748 547.00 8.00 130.00 Open 2.11 1053.42 1063.42 0.00 0.00 8129 P-3749 508.00 8.00 130.00 Open 2.11 1055.42 1052.35 0.01 0.00 8130 P-3756 514.00 8.00 130.00 Open											
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8125 P-3745 503.00 8.00 130.00 Open 8.12 1054.67 0.00 0.00 8126 P-3746 507.00 8.00 130.00 Open 16.11 981.48 881.48 0.00 0.00 8127 P-3747 538.00 8.00 130.00 Open 1.23 1064.82 1064.82 0.00 0.00 8128 P-3748 547.00 8.00 130.00 Open 2.11 1053.42 1063.42 0.00 0.00 8129 P-3749 508.00 8.00 130.00 Open -8.68 1218.03 1016.00 0.00 0.00 8131 P-3751 515.00 8.00 130.00 Open -8.68 1218.03 1066.80 0.01 0.00 8133 P-3755 515.00 8.00 130.00 Open 3.35 1064.82 0.00 0.00 0.00 8133 P-3754 518.00 8.00 130.00 Open 4	8123	P-3743	500.00	8.00		Open	-24.53	1051.86		0.01	0.00
8126 P-3746 507.00 8.00 130.00 Open 16.11 981.48 80.00 0.00 8127 P-3747 538.00 8.00 130.00 Open 2.11 1058.42 1064.82 0.00 0.00 8128 P-3748 547.00 8.00 130.00 Open 2.11 1053.42 1053.42 0.00 0.00 8129 P-3749 508.00 8.00 130.00 Open 22.19 1052.36 1052.35 0.01 0.00 8130 P-3756 514.00 8.00 130.00 Open 21.31 1056.80 1056.80 0.01 0.00 8132 P-3755 514.00 8.00 130.00 Open -1.51 1056.83 0.00 0.00 0.00 8134 P-3753 514.00 8.00 130.00 Open -1.51 1056.39 0.00 0.00 8134 P-3756 518.00 8.00 130.00 Open 22.75 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>											
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8143 P-3763 \$21.00 8.00 130.00 Open 1.19 1057.28 1057.28 0.00 0.00 8144 P-3764 523.00 8.00 130.00 Open 1.476 1064.98 1064.98 0.00 0.00 8145 P-3765 548.00 8.00 130.00 Open 6.60 1064.93 1064.93 0.00 0.00 8146 P-3766 530.00 8.00 130.00 Open -59.52 1051.74 1051.74 0.00 0.00 8147 P-3768 533.00 8.00 130.00 Open -59.52 1052.25 0.04 0.00 8148 P-3768 533.00 8.00 130.00 Open -50.72 1052.24 1052.25 0.04 0.00 8150 P-3770 618.00 8.00 130.00 Open 2.72 1052.34 1052.36 0.02 0.00 8152 P-3771 618.00 8.00 130.00 Open											
8144 P-3764 523.00 8.00 130.00 Open 14.76 1064.98 1064.98 0.00 0.00 8145 P-3766 528.00 8.00 130.00 Open 6.60 1064.93 1064.93 0.00 0.00 8146 P-3766 527.00 8.00 130.00 Open -1.62 1051.74 1051.74 0.00 0.00 8147 P-3767 530.00 8.00 130.00 Open -50.72 1052.26 0.05 0.00 8148 P-3768 533.00 8.00 130.00 Open -50.72 1052.21 1052.25 0.04 0.00 8149 P-3769 535.00 8.00 130.00 Open -32.23 1052.24 1052.26 0.02 0.00 8150 P-3770 618.00 8.00 130.00 Open 2.72 1057.53 1057.53 0.00 0.00 8153 P-3772 541.00 8.00 130.00 Open											
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8147 P.3767 530.00 8.00 130.00 Open -59.52 1052.56 1052.62 0.05 0.00 8148 P.3768 533.00 8.00 130.00 Open -50.72 1052.21 1052.25 0.04 0.00 8149 P.3769 535.00 8.00 130.00 Open -32.23 1052.34 1052.36 0.02 0.00 8150 P.3770 618.00 8.00 130.00 Open 1.08 1052.86 1052.86 0.00 0.00 8152 P.3771 601.00 8.00 130.00 Open -1.43 1065.86 1052.86 0.00 0.00 8153 P.3772 543.00 8.00 130.00 Open -1.43 1065.81 1065.32 0.00 0.00 8154 P.3773 541.00 8.00 130.00 Open -10.95 1055.31 1055.32 0.00 0.00 8155 P.3774 708.00 8.00 130.00 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
8149 P-3769 535.00 8.00 130.00 Open -32.23 1052.34 1052.36 0.02 0.00 8150 P-3770 6618.00 8.00 130.00 Open 1.08 1052.86 1052.86 0.00 0.00 8152 P-3771 601.00 8.00 130.00 Open 2.72 1057.53 1057.53 0.00 0.00 8153 P-3772 543.00 8.00 130.00 Open -14.33 1064.81 1064.81 0.00 0.00 8154 P-3773 541.00 8.00 130.00 Open -10.95 1055.31 1055.32 0.00 0.00 8155 P-3774 708.00 8.00 130.00 Open -10.95 1055.31 1055.32 0.00 0.00 8156 P-3775 541.00 8.00 130.00 Open -10.95 1055.31 1051.64 0.17 0.00 8157 P-3776 541.00 8.00 130.00 <td>8147</td> <td>P-3767</td> <td>530.00</td> <td>8.00</td> <td>130.00</td> <td>Open</td> <td>-59.52</td> <td>1052.56</td> <td>1052.62</td> <td>0.05</td> <td>0.00</td>	8147	P-3767	530.00	8.00	130.00	Open	-59.52	1052.56	1052.62	0.05	0.00
8150 P-3770 618.00 8.00 130.00 Open 1.08 1052.86 1052.86 0.00 0.00 8152 P-3771 601.00 8.00 130.00 Open 1.272 1057.53 1057.53 0.00 0.00 8153 P-3772 543.00 8.00 130.00 Open -1.43 1064.81 1064.81 0.00 0.00 8154 P-3773 541.00 8.00 130.00 Open -10.95 1055.31 1055.32 0.00 0.00 8155 P-3774 708.00 8.00 130.00 Open -10.51 1322.92 1322.92 0.00 0.00 8156 P-3775 541.00 8.00 130.00 Open -110.48 1051.47 1051.64 0.17 0.00 8157 P-3776 541.00 8.00 130.00 Open -35.75 1051.83 1051.94 0.00 0.00 8158 P-3777 541.00 8.00 130.00 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
8152 P-3771 601.00 8.00 130.00 Open 2.72 1057.53 1057.53 0.00 0.00 8153 P-3772 543.00 8.00 130.00 Open -1.43 1064.81 1064.81 0.00 0.00 8154 P-3773 541.00 8.00 130.00 Open -10.95 1055.31 1055.32 0.00 0.00 8155 P-3775 541.00 8.00 130.00 Open -10.95 1051.47 1051.64 0.17 0.00 8156 P-3776 541.00 8.00 130.00 Open -10.95 1051.47 1051.64 0.17 0.00 8157 P-3776 541.00 8.00 130.00 Open -2.27 1051.94 1051.94 0.00 0.00 8158 P-3777 541.00 8.00 130.00 Open -2.27 1051.94 1051.94 0.00 0.00 8159 P-3778 543.00 8.00 130.00											
8154 P-3773 541.00 8.00 130.00 Open -10.95 1055.31 1055.32 0.00 0.00 8155 P-3774 708.00 8.00 130.00 Open -10.51 1322.92 1322.92 0.00 0.00 8156 P-3775 541.00 8.00 130.00 Open -110.48 1051.47 1051.64 0.17 0.00 8157 P-3776 541.00 8.00 130.00 Open -35.75 1051.83 1051.95 0.02 0.00 8158 P-3777 541.00 8.00 130.00 Open -2.27 1051.94 1051.94 0.00 0.00 8159 P-3778 543.00 8.00 130.00 Open -22.86 1051.76 1051.77 0.01 0.00 8160 P-3778 546.00 8.00 130.00 Open 2.24 1052.86 1052.86 0.00 0.00 8161 P-3780 555.00 8.00 130.00 </td <td>8152</td> <td>P-3771</td> <td>601.00</td> <td>8.00</td> <td>130.00</td> <td>Open</td> <td>2.72</td> <td>1057.53</td> <td>1057.53</td> <td>0.00</td> <td>0.00</td>	8152	P-3771	601.00	8.00	130.00	Open	2.72	1057.53	1057.53	0.00	0.00
8155 P-3774 708.00 8.00 130.00 Open 10.51 1322.92 1322.92 2.00 0.00 8156 P-3775 541.00 8.00 130.00 Open -110.48 1051.47 1051.64 0.17 0.00 8157 P-3776 543.00 8.00 130.00 Open -22.7 1051.83 1051.94 0.00 0.00 8158 P-3777 541.00 8.00 130.00 Open -2.27 1051.94 1051.94 0.00 0.00 8169 P-3778 543.00 8.00 130.00 Open -22.86 1051.76 1051.77 0.01 0.00 8160 P-3778 546.00 8.00 130.00 Open 2.04 1052.86 1052.86 0.00 0.00 8161 P-3780 555.00 8.00 130.00 Open 7.30 1051.80 0.00 0.00 8162 P-3781 551.00 8.00 130.00 Open											
8157 P-3776 543.00 8.00 130.00 Open -35.75 1051.83 1051.85 0.02 0.00 8158 P-3777 541.00 8.00 130.00 Open -2.27 1051.94 1051.94 0.00 0.00 8159 P-3778 543.00 8.00 130.00 Open -2.286 1051.76 1051.77 0.01 0.00 8160 P-3778 546.00 8.00 130.00 Open 2.04 1052.86 1052.86 0.00 0.00 8161 P-3780 555.00 8.00 130.00 Open 7.30 1051.80 1051.80 0.00 0.00 8162 P-3781 551.00 8.00 130.00 Open 14.74 993.45 993.44 0.00 0.00 8163 P-3782 595.00 8.00 130.00 Open -28.01 1051.74 1051.76 0.01 0.00 8164 P-3783 550.00 8.00 130.00	8155	P-3774	708.00	8.00	130.00	Open	10.51	1322.92	1322.92	0.00	0.00
8158 P-3777 541.00 8.00 130.00 Open -2.27 1051.94 1051.94 0.00 0.00 8159 P-3778 543.00 8.00 130.00 Open -22.86 1051.76 1051.77 0.01 0.00 8160 P-3779 546.00 8.00 130.00 Open 2.04 1052.86 1052.86 0.00 0.00 8161 P-3780 555.00 8.00 130.00 Open 7.30 1051.80 1051.80 0.00 0.00 8162 P-3781 551.00 8.00 130.00 Open 14.74 993.45 993.44 0.00 0.00 8163 P-3782 595.00 8.00 130.00 Open -28.01 1051.74 1051.76 0.01 0.00 8164 P-3783 550.00 8.00 130.00 Open 115.18 1052.72 1052.54 0.18 0.00											
8159 P-3778 543.00 8.00 130.00 Open -22.86 1051.76 1051.77 0.01 0.00 8160 P-3779 546.00 8.00 130.00 Open 2.04 1052.86 1052.86 0.00 0.00 8161 P-3780 555.00 8.00 130.00 Open 7.30 1051.80 1051.80 0.00 0.00 8162 P-3781 551.00 8.00 130.00 Open 14.74 993.45 993.44 0.00 0.00 8163 P-3782 595.00 8.00 130.00 Open -28.01 1051.74 1051.76 0.01 0.00 8164 P-3783 550.00 8.00 130.00 Open 115.18 1052.72 1052.54 0.18 0.00											
8161 P-3780 555.00 8.00 130.00 Open 7.30 1051.80 1051.80 0.00 0.00 8162 P-3781 551.00 8.00 130.00 Open 14.74 993.45 993.44 0.00 0.00 8163 P-3782 595.00 8.00 130.00 Open -28.01 1051.74 1051.76 0.01 0.00 8164 P-3783 550.00 8.00 130.00 Open 115.18 1052.72 1052.54 0.18 0.00	8159	P-3778	543.00	8.00	130.00	Open	-22.86	1051.76	1051.77	0.01	0.00
8162 P-3781 551.00 8.00 130.00 Open 14.74 993.45 993.44 0.00 0.00 8163 P-3782 595.00 8.00 130.00 Open -28.01 1051.74 1051.76 0.01 0.00 8164 P-3783 550.00 8.00 130.00 Open 115.18 1052.72 1052.54 0.18 0.00											
8163 P-3782 595.00 8.00 130.00 Open -28.01 1051.74 1051.76 0.01 0.00 8164 P-3783 550.00 8.00 130.00 Open 115.18 1052.72 1052.54 0.18 0.00	8162	P-3781	551.00	8.00	130.00	Open	14.74	993.45	993.44	0.00	0.00
								1051.74			

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
8166	P-3785	553.00	8.00	130.00	Open	4.86	1064.97	1064.97	0.00	0.00
8167 8168	P-3786 P-3787	564.00 571.00	8.00 8.00	130.00 130.00	Open Open	5.29 9.63	1051.85 1053.48	1051.84 1053.48	0.00	0.00
8169	P-3788	612.00	8.00	130.00	Open	-6.13	1064.98	1064.98	0.00	0.00
8170	P-3789	556.00	8.00	130.00	Open	1.71	1061.88	1061.88	0.00	0.00
8171 8172	P-3790 P-3791	608.00 713.00	8.00 8.00	130.00 130.00	Open Open	-8.77 2.19	1052.03 1064.93	1052.03 1064.93	0.00	0.00
8173	P-3792	581.00	8.00	130.00	Open	-62.49	1051.04	1051.10	0.06	0.00
8174 8175	P-3793 P-3794	572.00 563.00	8.00 8.00	130.00 130.00	Open Open	31.65 7.74	1053.03 1052.99	1053.01 1052.99	0.02 0.00	0.00
8176	P-3795	569.00	8.00	130.00	Open	0.76	1052.33	1052.33	0.00	0.00
8177 8178	P-3796 P-3797	583.00 565.00	8.00 8.00	130.00 130.00	Open Open	-8.41 119.36	1052.99 1054.86	1052.99 1054.66	0.00 0.20	0.00
8179	P-3798	568.00	8.00	130.00	Open	-1.87	1054.66	1054.66	0.20	0.00
8180	P-3799	585.00	8.00	130.00	Open	-15.26	981.48	981.49	0.00	0.00
8181 8182	P-3800 P-3801	569.00 588.00	8.00 8.00	130.00 130.00	Open Open	70.19 5.23	1053.16 1053.98	1053.09 1053.98	0.08	0.00
8183	P-3802	574.00	8.00	130.00	Open	-0.60	1056.92	1056.92	0.00	0.00
8184 8185	P-3803 P-3804	601.00 577.00	8.00 8.00	130.00 130.00	Open Open	-16.83 27.16	1052.86 1218.16	1052.87 1218.14	0.01 0.01	0.00
8186	P-3805	583.00	8.00	130.00	Open	23.09	1051.90	1051.89	0.01	0.00
8187 7708	P-3806 P-3807	575.00	8.00	130.00	Open	55.49	1052.14 1052.12	1052.09 1052.12	0.05 0.00	0.00
7710	P-3808	146.00 147.00	8.00 8.00	130.00 130.00	Open Open	0.10 0.20	1216.98	1216.98	0.00	0.00
7712	P-3809	147.00	8.00	130.00	Open	0.08	1057.97	1057.97	0.00	0.00
7714 7715	P-3810 P-3811	148.00 149.00	8.00 8.00	130.00 130.00	Open Open	-8.12 -0.68	1061.38 1057.29	1061.38 1057.29	0.00	0.00
7717	P-3812	153.00	8.00	130.00	Open	-39.38	1051.96	1051.97	0.01	0.00
7718 7719	P-3813 P-3814	166.00 156.00	8.00 8.00	130.00 130.00	Open Open	58.72 3.27	1060.09 1051.74	1060.08 1051.74	0.02 0.00	0.00
7720	P-3815	158.00	8.00	130.00	Open	-0.88	1054.67	1054.67	0.00	0.00
7722 7723	P-3816 P-3817	162.00 163.00	8.00 8.00	130.00 130.00	Open Open	4.43 -1.44	1054.24 1054.67	1054.24 1054.67	0.00	0.00
7725	P-3818	166.00	8.00	130.00	Open	0.28	1064.97	1064.97	0.00	0.00
7727	P-3819 P-3820	164.00	8.00	130.00	Open	0.28	1051.86	1051.86	0.00	0.00
7729 7730	P-3820 P-3821	164.00 165.00	8.00 8.00	130.00 130.00	Open Open	0.43 10.47	1059.76 1059.76	1059.76 1059.76	0.00	0.00
7731	P-3822	165.00	8.00	130.00	Open	-0.28	1051.83	1051.83	0.00	0.00
7734 7735	P-3823 P-3824	167.00 167.00	8.00 8.00	130.00 130.00	Open Open	2.95 21.39	1051.96 1052.54	1051.96 1052.54	0.00	0.00
7736	P-3825	169.00	8.00	130.00	Open	-22.63	1064.94	1064.94	0.00	0.00
7738 7739	P-3826 P-3827	172.00 170.00	8.00 8.00	130.00 130.00	Open Open	3.71 17.70	981.48 1217.76	981.48 1217.76	0.00	0.00
7740	P-3828	171.00	8.00	130.00	Open	3.95	981.48	981.48	0.00	0.00
7743 7744	P-3829 P-3830	172.00 175.00	8.00 8.00	130.00 130.00	Open Open	-5.71 -93.64	1051.83 1052.88	1051.83 1052.92	0.00 0.04	0.00
7745	P-3831	176.00	8.00	130.00	Open	3.67	1052.54	1052.52	0.04	0.00
7746	P-3832	219.00	8.00	130.00	Open	0.23	1057.32	1057.32	0.00	0.00
7747 7748	P-3833 P-3834	180.00 200.00	8.00 8.00	130.00 130.00	Open Open	226.22 13.40	1054.63 1064.98	1054.42 1064.97	0.21 0.00	0.00
7749	P-3835	183.00	8.00	130.00	Open	0.43	1051.86	1051.86	0.00	0.00
7750 7751	P-3836 P-3837	183.00 185.00	8.00 8.00	130.00 130.00	Open Open	-22.63 -2.51	1064.94 1056.92	1064.94 1056.92	0.00	0.00
7752	P-3838	188.00	8.00	130.00	Open	-16.57	1051.74	1051.74	0.00	0.00
7753 7754	P-3839 P-3840	186.00 199.00	8.00 8.00	130.00 130.00	Open Open	-107.21 -133.80	1051.71 1051.93	1051.76 1052.02	0.05 0.09	0.00
7755	P-3841	187.00	8.00	130.00	Open	4.15	1057.28	1057.28	0.00	0.00
7756 7757	P-3842 P-3843	195.00 187.00	8.00 8.00	130.00 130.00	Open Open	20.33 14.46	1052.53 1064.82	1052.53 1064.82	0.00	0.00
7759	P-3844	189.00	8.00	130.00	Open	2.04	1051.82	1051.82	0.00	0.00
7760 7762	P-3845 P-3846	190.00 189.00	8.00 8.00	130.00 130.00	Open Open	-4.15 -50.98	1057.29 1064.94	1057.29 1064.96	0.00 0.01	0.00
7764	P-3847	190.00	8.00	130.00	Open	17.25	1051.74	1051.74	0.00	0.00
7766	P-3848	191.00	8.00	130.00	Open	10.09	1216.97	1216.97	0.00	0.00
7767 7769	P-3849 P-3850	191.00 191.00	8.00 8.00	130.00 130.00	Open Open	-8.29 23.69	1057.53 1051.81	1057.53 1051.80	0.00	0.00
7771	P-3851	196.00	8.00	130.00	Open	-42.30	1051.78	1051.79	0.01	0.00
7772 7773	P-3852 P-3853	201.00 202.00	8.00 8.00	130.00 130.00	Open Open	19.56 -0.28	963.96 994.76	963.95 994.76	0.00	0.00
7775	P-3854	202.00	8.00	130.00	Open	-10.49	994.76	994.76	0.00	0.00
7777 7779	P-3855 P-3856	246.00 203.00	8.00 8.00	130.00 130.00	Open Open	10.96 5.17	1064.98 1217.75	1064.98 1217.75	0.00	0.00
7780	P-3857	230.00	8.00	130.00	Open	2.39	981.48	981.48	0.00	0.00
7781 7782	P-3858 P-3859	204.00 207.00	8.00 8.00	130.00 130.00	Open Open	16.66 -4.55	1061.12 1051.74	1061.12 1051.74	0.00	0.00
7783	P-3860	206.00	8.00	130.00	Open	5.31	1057.28	1057.74	0.00	0.00
7785	P-3861	308.00	8.00	130.00 130.00	Open	1.48	1052.01	1052.01	0.00	0.00
7787 7788	P-3862 P-3863	208.00 215.00	8.00 8.00	130.00	Open Open	7.14 -1.39	1056.91 1052.68	1056.91 1052.68	0.00	0.00
7789	P-3864	214.00	8.00	130.00	Open	68.83	1053.09	1053.06	0.03	0.00
7790 7791	P-3865 P-3866	213.00 213.00	8.00 8.00	130.00 130.00	Open Open	18.45 -1.03	963.95 1052.68	963.95 1052.68	0.00	0.00
7793	P-3867	220.00	8.00	130.00	Open	4.76	1057.28	1057.28	0.00	0.00
7794 7796	P-3868 P-3869	220.00 215.00	8.00 8.00	130.00 130.00	Open Open	0.83 -103.03	1064.82 1053.04	1064.82 1053.10	0.00 0.06	0.00
7798	P-3870	243.00	8.00	130.00	Open	11.52	1062.81	1062.81	0.00	0.00
7799 7800	P-3871 P-3872	217.00 221.00	8.00 8.00	130.00 130.00	Open Open	4.80 -36.12	1064.81 1057.53	1064.81 1057.53	0.00 0.01	0.00 0.00
7800	P-3872 P-3873	265.00	8.00	130.00	Open	1.81	1057.53	1057.53	0.00	0.00
7803	P-3874	234.00	8.00	130.00	Open	-1.56	1057.75	1057.75	0.00	0.00
7804 7805	P-3875 P-3876	216.00 217.00	8.00 8.00	130.00 130.00	Open Open	-4.55 -112.04	994.76 1051.64	994.76 1051.71	0.00 0.07	0.00
7806	P-3877	336.00	8.00	130.00	Open	-31.58	1051.98	1051.99	0.01	0.00
7807 7809	P-3878 P-3879	223.00 219.00	8.00 8.00	130.00 130.00	Open Open	9.53 1.96	1064.94 1056.20	1064.94 1056.20	0.00	0.00
7810	P-3880	221.00	8.00	130.00	Open	-2.72	1051.74	1051.74	0.00	0.00
7811 7813	P-3881 P-3882	220.00 221.00	8.00 8.00	130.00 130.00	Open Open	0.48 -0.88	1052.09 1052.03	1052.09 1052.03	0.00	0.00 0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7815	P-3883	221.00	8.00	130.00	Open	0.84	1057.32	1057.32	0.00	0.00
7816 7817	P-3884 P-3885	225.00 241.00	8.00 8.00	130.00 130.00	Open Open	9.56 4.37	1061.12 1051.74	1061.12 1051.74	0.00	0.00
7818	P-3886	225.00	8.00	130.00	Open	21.73	1051.75	1051.74	0.00	0.00
7820	P-3887	226.00	8.00 8.00	130.00	Open	0.48	1053.00	1053.00	0.00	0.00
7822 7823	P-3888 P-3889	234.00 225.00	8.00	130.00 130.00	Open Open	0.68 78.24	1216.98 1053.20	1216.98 1053.16	0.00	0.00 0.00
7824	P-3890	225.00	8.00	130.00	Open	-3.20	1057.29	1057.29	0.00	0.00
7825 7826	P-3891 P-3892	226.00 230.00	8.00 8.00	130.00 130.00	Open Open	71.84 3.35	1053.61 1064.93	1053.58 1064.93	0.03	0.00 0.00
7829	P-3893	233.00	8.00	130.00	Open	7.06	1053.01	1053.01	0.00	0.00
7830 7832	P-3894 P-3895	229.00 244.00	8.00 8.00	130.00 130.00	Open Open	-0.68 -2.11	1052.02 1057.75	1052.02 1057.75	0.00	0.00
7833	P-3896	232.00	8.00	130.00	Open	7.72	1218.15	1218.15	0.00	0.00
7834	P-3897	247.00	8.00	130.00	Open	-17.52	1057.33	1057.33	0.00	0.00
7835 7836	P-3898 P-3899	240.00 234.00	8.00 8.00	130.00 130.00	Open Open	8.97 15.95	1054.24 1051.85	1054.24 1051.84	0.00	0.00
7838	P-3900	233.00	8.00	130.00	Open	7.33	1218.15	1218.15	0.00	0.00
7839 7840	P-3901 P-3902	235.00 238.00	8.00 8.00	130.00 130.00	Open Open	4.03 -6.04	1051.96 1052.06	1051.96 1052.07	0.00	0.00
7841	P-3903	237.00	8.00	130.00	Open	-16.19	1064.93	1064.94	0.00	0.00
7842 7843	P-3904 P-3905	241.00 238.00	8.00 8.00	130.00 130.00	Open Open	18.30 -54.99	963.95 1063.11	963.94 1063.13	0.00 0.02	0.00
7844	P-3906	243.00	8.00	130.00	Open	16.59	963.94	963.94	0.00	0.00
7845 7846	P-3907 P-3908	241.00 242.00	8.00 8.00	130.00	Open	13.61 -21.11	1051.84	1051.84	0.00	0.00
7847	P-3909	242.00	8.00	130.00 130.00	Open Open	58.41	1052.88 1052.17	1052.88 1052.14	0.00	0.00
7848	P-3910	247.00	8.00	130.00	Open	3.69	1059.76	1059.76	0.00	0.00
7849 7850	P-3911 P-3912	245.00 247.00	8.00 8.00	130.00 130.00	Open Open	6.49 14.40	1322.92 1053.01	1322.92 1053.00	0.00	0.00
7851	P-3913	248.00	8.00	130.00	Open	19.26	1051.81	1051.80	0.00	0.00
7853 7854	P-3914 P-3915	260.00 252.00	8.00 8.00	130.00 130.00	Open Open	-81.88 19.01	1057.84 1051.74	1057.88 1051.74	0.05 0.00	0.00
7855	P-3916	258.00	8.00	130.00	Open	-1.84	1051.74	1051.74	0.00	0.00
7856 7857	P-3917 P-3918	255.00 258.00	8.00 8.00	130.00 130.00	Open Open	330.25 9.56	1054.31 1056.79	1053.71 1056.79	0.60 0.00	0.00
7858	P-3919	260.00	8.00	130.00	Open	6.87	1056.79	1056.79	0.00	0.00
7859	P-3920	260.00	8.00	130.00	Open	16.21	1054.25	1054.25	0.00	0.00
7862 7864	P-3921 P-3922	263.00 261.00	8.00 8.00	130.00 130.00	Open Open	-0.68 45.47	1053.00 1051.86	1053.00 1051.85	0.00 0.02	0.00
7865	P-3923	315.00	8.00	130.00	Open	-5.79	1053.98	1053.98	0.00	0.00
7866 7867	P-3924 P-3925	268.00 315.00	8.00 8.00	130.00 130.00	Open Open	29.13 -3.12	1051.93 1051.98	1051.92 1051.98	0.01 0.00	0.00
7868	P-3926	264.00	8.00	130.00	Open	3.90	1056.91	1056.91	0.00	0.00
7869 7870	P-3927 P-3928	274.00 270.00	8.00 8.00	130.00 130.00	Open Open	8.00 8.91	1056.79 1061.88	1056.79 1061.88	0.00	0.00
7871	P-3929	266.00	8.00	130.00	Open	0.68	1052.02	1052.02	0.00	0.00
7873 7874	P-3930 P-3931	267.00 271.00	8.00 8.00	130.00 130.00	Open Open	79.60 0.46	1053.24 1218.03	1053.20 1218.03	0.05 0.00	0.00
7876	P-3932	274.00	8.00	130.00	Open	9.25	963.94	963.94	0.00	0.00
7877	P-3933	298.00	8.00	130.00	Open	-0.88	1057.28	1057.28	0.00	0.00
7879 7880	P-3934 P-3935	271.00 272.00	8.00 8.00	130.00 130.00	Open Open	31.36 -4.64	1217.79 1053.01	1217.78 1053.01	0.01 0.00	0.00
7881	P-3936	274.00	8.00	130.00	Open	0.68	1052.86	1052.86	0.00	0.00
7883 7884	P-3937 P-3938	285.00 275.00	8.00 8.00	130.00 130.00	Open Open	2.24 13.88	1064.93 1052.51	1064.93 1052.51	0.00	0.00
7885	P-3939	279.00	8.00	130.00	Open	17.08	1052.13	1052.12	0.00	0.00
7887 7888	P-3940 P-3941	276.00 280.00	8.00 8.00	130.00 130.00	Open Open	0.62 5.20	1051.96 1051.74	1051.96 1051.74	0.00	0.00
7889	P-3942	277.00	8.00	130.00	Open	-3.06	1052.68	1052.68	0.00	0.00
7891 7892	P-3943 P-3944	277.00 284.00	8.00 8.00	130.00 130.00	Open Open	16.94 0.99	963.94 1059.33	963.94 1059.33	0.00	0.00
7893	P-3945	283.00	8.00	130.00	Open	7.89	963.94	963.94	0.00	0.00
7894	P-3946	290.00	8.00	130.00	Open	1.31	1057.97	1057.97	0.00	0.00
7895 7896	P-3947 P-3948	285.00 286.00	8.00 8.00	130.00 130.00	Open Open	3.86 1.52	1218.15 1218.15	1218.15 1218.15	0.00	0.00
7897	P-3949	287.00	8.00	130.00	Open	2.32	1218.02	1218.02	0.00	0.00
7898 7899	P-3950 P-3951	339.00 288.00	8.00 8.00	130.00 130.00	Open Open	-46.41 0.88	1059.82 1055.31	1059.84 1055.31	0.02 0.00	0.00
7901	P-3952	291.00	8.00	130.00	Open	-37.89	1051.76	1051.78	0.01	0.00
7902 7903	P-3953 P-3954	298.00 289.00	8.00 8.00	130.00 130.00	Open Open	9.40 1.23	1061.12 1064.93	1061.11 1064.93	0.00	0.00
7904	P-3955	290.00	8.00	130.00	Open	0.28	1057.28	1057.28	0.00	0.00
7906 7907	P-3956 P-3957	290.00 291.00	8.00 8.00	130.00 130.00	Open Open	13.55 11.29	1051.80 1056.78	1051.80 1056.78	0.00	0.00
7908	P-3958	292.00	8.00	130.00	Open	-0.68	981.48	981.48	0.00	0.00
7910	P-3959	292.00	8.00	130.00	Open	0.88	1052.12 1053.00	1052.12	0.00	0.00
7912 7913	P-3960 P-3961	292.00 342.00	8.00 8.00	130.00 130.00	Open Open	10.92 -1.56	1053.00	1053.00 1051.74	0.00	0.00
7914	P-3962	294.00	8.00	130.00	Open	2.84	1052.86	1052.86	0.00	0.00
7915 7916	P-3963 P-3964	294.00 294.00	8.00 8.00	130.00 130.00	Open Open	24.90 3.07	1061.38 1051.96	1061.37 1051.96	0.01 0.00	0.00
7917	P-3965	300.00	8.00	130.00	Open	19.41	963.95	963.95	0.00	0.00
7918 7919	P-3966 P-3967	302.00 309.00	8.00 8.00	130.00 130.00	Open Open	-38.43 4.46	1057.56 1064.93	1057.58 1064.93	0.01 0.00	0.00
7920	P-3968	308.00	8.00	130.00	Open	-2.30	1052.68	1052.68	0.00	0.00
7921	P-3969	349.00	8.00	130.00	Open	-1.82 -33.44	1051.85	1051.85	0.00	0.00
7922 7923	P-3970 P-3971	311.00 342.00	8.00 8.00	130.00 130.00	Open Open	-33.44 6.01	1052.01 1052.50	1052.02 1052.50	0.01 0.00	0.00
7924	P-3972	315.00	8.00	130.00	Open	11.08	1216.98	1216.97	0.00	0.00
7925 7926	P-3973 P-3974	359.00 320.00	8.00 8.00	130.00 130.00	Open Open	27.90 -10.35	963.96 1051.84	963.96 1051.85	0.01 0.00	0.00
7927	P-3975	315.00	8.00	130.00	Open	-8.51	1053.98	1053.98	0.00	0.00
7928 7929	P-3976 P-3977	319.00 315.00	8.00 8.00	130.00 130.00	Open Open	0.43 9.36	1064.93 1061.12	1064.93 1061.12	0.00	0.00
7930	P-3978	316.00	8.00	130.00	Open	13.83	981.48	981.48	0.00	0.00
7931 7933	P-3979 P-3980	317.00 318.00	8.00 8.00	130.00 130.00	Open Open	8.10 6.16	1057.29 1064.82	1057.29 1064.81	0.00	0.00
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Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
7934	P-3981	318.00	8.00	130.00	Open	15.93	1059.77	1059.76	0.00	0.00
7935 7936	P-3982 P-3983	320.00 320.00	8.00 8.00	130.00 130.00	Open Open	-49.81 4.20	1052.16 1054.25	1052.19 1054.25	0.02	0.00
7937	P-3984	324.00	8.00	130.00	Open	-1.08	1054.25	1054.25	0.00	0.00
7939	P-3985	329.00	8.00	130.00	Open	124.90	1056.39	1056.26	0.13	0.00
7940 7942	P-3986 P-3987	330.00 331.00	8.00 8.00	130.00 130.00	Open Open	32.62 -6.47	1051.78 988.99	1051.77 988.99	0.01 0.00	0.00
7943	P-3988	331.00	8.00	130.00	Open	0.79	1064.98	1064.98	0.00	0.00
7944	P-3989	386.00	8.00	130.00	Open	-3.72	1051.74	1051.74	0.00	0.00
7945 7947	P-3990 P-3991	339.00 336.00	8.00 8.00	130.00 130.00	Open Open	21.84 2.72	1052.35 1051.96	1052.34 1051.96	0.01 0.00	0.00
8188	P-3992	661.00	8.00	130.00	Open	-1.99	1051.90	1051.90	0.00	0.00
8189	P-3993	598.00	8.00	130.00	Open	-49.50	1064.90	1064.94	0.04	0.00
8190 8191	P-3994 P-3995	578.00 594.00	8.00 8.00	130.00 130.00	Open Open	-33.94 2.33	1052.38 1218.03	1052.40 1218.03	0.02	0.00
8192	P-3996	580.00	8.00	130.00	Open	18.27	1217.77	1217.76	0.01	0.00
8193	P-3997	728.00	8.00	130.00	Open	-36.87	1057.53	1057.56	0.03	0.00
8194 8195	P-3998 P-3999	584.00 590.00	8.00 8.00	130.00 130.00	Open Open	-109.78 7.98	1053.24 1057.97	1053.42 1057.97	0.18 0.00	0.00
8196	P-4000	672.00	8.00	130.00	Open	5.25	1059.76	1059.76	0.00	0.00
8197 8198	P-4001 P-4002	747.00 594.00	8.00 8.00	130.00 130.00	Open Open	-4.45 -7.75	981.48 1053.98	981.48 1053.98	0.00	0.00
8199	P-4003	620.00	8.00	130.00	Open	5.91	1056.05	1056.05	0.00	0.00
8200	P-4004	600.00	8.00	130.00	Open	-9.34	1051.73	1051.74	0.00	0.00
8201 8202	P-4005 P-4006	596.00 729.00	8.00 8.00	130.00 130.00	Open Open	-2.52 2.29	1061.87 1053.01	1061.88 1053.01	0.00	0.00
8204	P-4007	600.00	8.00	130.00	Open	2.99	1053.00	1053.00	0.00	0.00
8205	P-4008	616.00	8.00	130.00	Open	79.08	1053.92	1053.82	0.10	0.00
8206 8207	P-4009 P-4010	629.00 597.00	8.00 8.00	130.00 130.00	Open Open	29.73 129.72	1052.56 1056.64	1052.54 1056.39	0.02 0.25	0.00
8208	P-4011	597.00	8.00	130.00	Open	3.51	1322.91	1322.91	0.00	0.00
8209 8210	P-4012 P-4013	607.00 621.00	8.00 8.00	130.00 130.00	Open Open	-18.79 -0.31	1052.87 1056.92	1052.88 1056.92	0.01 0.00	0.00
8211	P-4014	652.00	8.00	130.00	Open	2.36	963.94	963.94	0.00	0.00
8212	P-4015	627.00	8.00	130.00	Open	-17.42	981.49	981.49	0.01	0.00
8213 8214	P-4016 P-4017	615.00 601.00	8.00 8.00	130.00 130.00	Open Open	29.55 -1.08	1218.24 1051.96	1218.23 1051.96	0.02 0.00	0.00
8216	P-4018	626.00	8.00	130.00	Open	-4.77	1064.98	1064.98	0.00	0.00
8217	P-4019	818.00	8.00	130.00	Open	1.03	981.48	981.48	0.00	0.00
8218 8219	P-4020 P-4021	617.00 609.00	8.00 8.00	130.00 130.00	Open Open	2.99 59.88	1057.28 1060.15	1057.28 1060.09	0.00 0.06	0.00
8220	P-4022	677.00	8.00	130.00	Open	5.71	1061.12	1061.12	0.00	0.00
8221 8222	P-4023 P-4024	640.00 656.00	8.00 8.00	130.00 130.00	Open	-1.44 -30.97	1052.02 1051.93	1052.02 1051.95	0.00 0.02	0.00
8222	P-4024 P-4025	616.00	8.00	130.00	Open Open	-30.97 -9.59	1051.93	1051.95	0.02	0.00
8224	P-4026	620.00	8.00	130.00	Open	9.76	1062.81	1062.81	0.00	0.00
8225 8226	P-4027 P-4028	620.00 626.00	8.00 8.00	130.00 130.00	Open Open	8.57 1.44	1051.84 1064.93	1051.84 1064.93	0.00	0.00
8227	P-4029	629.00	8.00	130.00	Open	12.48	1053.00	1053.00	0.00	0.00
8228	P-4030	636.00	8.00	130.00	Open	-10.64	1057.29	1057.29	0.00	0.00
8229 8230	P-4031 P-4032	651.00 630.00	8.00 8.00	130.00 130.00	Open Open	-3.24 -51.24	1052.52 1063.06	1052.52 1063.11	0.00 0.05	0.00
8231	P-4033	646.00	8.00	130.00	Open	2.84	1053.48	1053.48	0.00	0.00
8232	P-4034	628.00	8.00	130.00	Open	17.57	1051.82	1051.81	0.01	0.00
8233 8234	P-4035 P-4036	748.00 684.00	8.00 8.00	130.00 130.00	Open Open	-12.84 27.95	1057.53 993.48	1057.53 993.47	0.00 0.02	0.00
8235	P-4037	639.00	8.00	130.00	Open	29.15	1218.23	1218.21	0.02	0.00
8236 8237	P-4038 P-4039	765.00 846.00	8.00 8.00	130.00 130.00	Open Open	2.79 1.93	1061.12 1052.06	1061.12 1052.06	0.00	0.00
8238	P-4040	795.00	8.00	130.00	Open	-1.12	1052.12	1052.12	0.00	0.00
8239	P-4041	719.00	8.00	130.00	Open	-0.91	1051.96	1051.96	0.00	0.00
8240 8241	P-4042 P-4043	678.00 719.00	8.00 8.00	130.00 130.00	Open Open	64.67 36.32	1060.34 1052.01	1060.27 1051.98	0.08	0.00
8242	P-4044	754.00	8.00	130.00	Open	-5.96	1052.86	1052.86	0.00	0.00
8243 8244	P-4045	658.00	8.00	130.00	Open	27.56	1218.17 1064.87	1218.16	0.02	0.00
8245	P-4046 P-4047	655.00 683.00	8.00 8.00	130.00 130.00	Open	46.63 -15.89	1057.29	1064.83 1057.30	0.04 0.01	0.00
8246	P-4048	657.00	8.00	130.00	Open	17.13	1217.76	1217.76	0.01	0.00
8247 8248	P-4049 P-4050	666.00 658.00	8.00 8.00	130.00 130.00	Open Open	67.25 81.80	1053.07 1054.04	1052.99 1053.93	0.08 0.12	0.00
8249	P-4051	675.00	8.00	130.00	Open	2.73	1064.93	1064.93	0.00	0.00
8250	P-4052	676.00	8.00	130.00	Open	20.41	1051.82	1051.81	0.01	0.00
8251 8252	P-4053 P-4054	697.00 664.00	8.00 8.00	130.00 130.00	Open Open	-1.96 -10.93	1056.92 1051.74	1056.92 1051.74	0.00	0.00
8253	P-4055	680.00	8.00	130.00	Open	52.43	1052.31	1052.26	0.05	0.00
8254 8255	P-4056 P-4057	674.00 797.00	8.00 8.00	130.00 130.00	Open Open	-8.43 5.96	1052.24 1064.82	1052.24 1064.82	0.00	0.00 0.00
8256	P-4058	670.00	8.00	130.00	Open	-27.07	1053.02	1053.04	0.00	0.00
8257	P-4059	699.00	8.00	130.00	Open	-1.64	1060.72	1060.72	0.00	0.00
8258 8259	P-4060 P-4061	676.00 687.00	8.00 8.00	130.00 130.00	Open Open	-30.60 5.68	1057.59 1057.27	1057.61 1057.27	0.02 0.00	0.00
8260	P-4062	691.00	8.00	130.00	Open	-0.01	1057.28	1057.28	0.00	0.00
8261	P-4063	711.00	8.00	130.00	Open	4.60	1053.48	1053.48	0.00	0.00
8262 8263	P-4064 P-4065	702.00 761.00	8.00 8.00	130.00 130.00	Open Open	-6.47 17.75	1218.03 1056.80	1218.03 1056.79	0.00 0.01	0.00 0.00
8264	P-4066	710.00	8.00	130.00	Open	2.26	1051.74	1051.74	0.00	0.00
8265	P-4067	705.00	8.00	130.00	Open	3.04	1060.60	1060.60	0.00	0.00
8266 8267	P-4068 P-4069	736.00 726.00	8.00 8.00	130.00 130.00	Open Open	6.96 2.44	1064.93 1054.25	1064.93 1054.25	0.00	0.00
8268	P-4070	700.00	8.00	130.00	Open	22.94	1061.37	1061.36	0.01	0.00
8269	P-4071	692.00	8.00	130.00	Open	-33.19	1052.36	1052.38	0.02	0.00
8270 8271	P-4072 P-4073	695.00 713.00	8.00 8.00	130.00 130.00	Open Open	1.03 -13.72	1051.76 1051.74	1051.76 1051.75	0.00	0.00
8272	P-4074	704.00	8.00	130.00	Open	-36.41	1052.53	1052.56	0.03	0.00
8273 8274	P-4075 P-4076	705.00 717.00	8.00 8.00	130.00 130.00	Open Open	1.19 1.81	1053.10 1052.99	1053.10 1052.99	0.00	0.00 0.00
8274	P-4076 P-4077	704.00	8.00	130.00	Open	-13.41	1052.99	1052.99	0.00	0.00
8276	P-4078	703.00	8.00	130.00	Open	2.04	1052.54	1052.54	0.00	0.00

B2779	Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
B279 P-088											
Beach P-6862 721-00 0.00 130-00 Open 37-86 1093-31 1093-30 0.07 0.00											
READY P-4084 T1-500 0.00 130.00 Chem 1-02.81 1097.29 1097.29 0.00											
Beach P-688 P-68											
BEATH P-4086 776.00											
Bear P-4088 728.00 8.00 130.00 Open 2.30 1051.83 1051.85 100.00 0.00	8284	P-4086	776.00	8.00	130.00	Open	2.55	1057.28	1057.28	0.00	0.00
BZ87 P-4089											
B289											
B290											
B291											
P-985											
8298 P-4007 9370 8.00 130.00 Open -79.99 1061.35 1061.47 0.13 0.00 0.00 8208 P-4077 9370 8.00 130.00 Open -79.99 1061.35 1062.25 0.00 0.00 0.00 8.00 130.00 Open -8.55 1062.25 0.00 0.00 0.00 0.00 0.00 0.00 0.00											
8298 P-4089 735.00 8.00 130.00 Open 1.28 1062.25 1002.25 0.00 0.00 8298 P-4099 735.00 8.00 130.00 Open 2.44 1054.25 1054.25 0.00 0.00 8299 P-4100 780.00 8.00 130.00 Open 2.33 1216.97 1216.97 0.00 0.00 8302 P-4102 787.00 8.00 130.00 Open 4.96 1016 0.00 0.00 8302 P-4104 777.30 8.00 130.00 Open 7.52 1053.48 1053.48 0.00 0.00 0.00 8506 P-4104 773.00 8.00 130.00 Open -123.11 1056.28 1056.39 0.00 0.00 8307 P-4108 777.00 8.00 130.00 Open -3.83 1056.52 1056.53 0.00 0.00 8307 P-4108 787.00 8.00 130.00 <t< td=""><td>8294</td><td>P-4096</td><td>740.00</td><td>8.00</td><td>130.00</td><td>Open</td><td>-79.99</td><td>1051.35</td><td>1051.47</td><td>0.13</td><td>0.00</td></t<>	8294	P-4096	740.00	8.00	130.00	Open	-79.99	1051.35	1051.47	0.13	0.00
Beggs											
B300											
8302 P-4103 8620 8.00 130.00 Open 4.00 1064.81 1065.80 1061.80 0.00 0.00 0.00 8303 P-4104 773.00 8.00 130.00 Open 7.52 1053.48 1055.48 0.00 0.00 0.00 8303 P-4106 773.00 8.00 130.00 Open 7.52 1053.48 1055.48 0.00 0.00 0.00 8306 P-4106 773.00 8.00 130.00 Open 123.41 1056.28 1055.28 0.00 0.00 0.00 8306 P-4108 776.00 8.00 130.00 Open 4.03 1052.20 1052.00 0.00 0.00 8306 P-4108 767.00 8.00 130.00 Open 4.38 1052.02 1052.02 0.00 0.00 0.00 8308 P-4108 767.00 8.00 130.00 Open 4.38 1052.02 1056.02 0.00 0.00 0.00 8308 P-4109 762.00 8.00 130.00 Open 4.38 1052.02 1056.02 0.00 0.00 0.00 8308 P-4109 762.00 8.00 130.00 Open 4.38 1057.48 1057.53 0.04 0.00 8309 P-4101 770.00 8.00 130.00 Open 4.38 1057.48 1057.53 0.04 0.00 0.00 8308 P-4101 770.00 8.00 130.00 Open 4.00 1056.92 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
8303 P-4105 773.00 8.00 130.00 Cpen 7.52 1053.48 1053.48 0.00 0.00 0.00 8306 P-4105 774.00 8.00 130.00 Cpen 123.19 1056.28 1056.29 10.22 0.00 0.00 8306 P-4107 768.00 8.00 130.00 Cpen 1.44 1056.05 1056.05 0.00 0.00 0.00 8306 P-4107 768.00 8.00 130.00 Cpen 4.33 1057.48 1057.53 0.04 0.00 8.00 130.00 Cpen 1.44 1056.05 1056.05 0.00 0.00 0.00 0.00 0.00 0.00 0.0											
8306 P-4106 774.00 8.00 130.00 Open 1.34.19 1056.26 1055.97 0.28 0.00 0.00 8.006 P-4107 766.00 8.00 130.00 Open 4.48 1056.06 1056.05 0.00 0.00 8.006 P-4107 766.00 8.00 130.00 Open 4.38 1052.02 1052.02 0.00 0.00 0.00 8.006 P-4108 767.00 8.00 130.00 Open 4.38 1052.02 1052.02 0.00 0.00 0.00 8.00 130.00 Open 4.38 1052.02 1052.02 0.00 0.00 0.00 8.00 130.00 Open 4.38 1052.02 1052.02 0.00 0.00 0.00 0.00 0.00 0.00 0.0											
8306 P-4107 760.00 8.00 130.00 Open 1.4.44 1056.05 1056.05 0.00 0.00 0.00 8307 P-4107 760.00 8.00 130.00 Open 4.3.63 1056.92 1056.92 0.00 0.00 0.00 8307 P-4108 762.00 8.00 130.00 Open 4.3.63 1056.92 1056.92 0.00 0.00 0.00 8307 P-4108 762.00 8.00 130.00 Open 4.3.63 1056.92 1056.92 0.00 0.00 0.00 8309 P-4108 762.00 8.00 130.00 Open 4.3.63 1056.92 1056.92 0.00 0.00 0.00 8309 P-4108 762.00 8.00 130.00 Open 4.3.63 1056.92 1056.92 0.00 0.00 0.00 8309 P-4112 762.00 8.00 130.00 Open 2.5 15 1052.94 1052.56 0.02 0.00 0.00 8312 P-4112 762.00 8.00 130.00 Open 2.5 15 1052.94 1052.56 0.02 0.00 0.00 8312 P-4113 788.00 8.00 130.00 Open 2.5 15 1052.94 1052.56 0.02 0.00 0.00 8314 P-4113 788.00 8.00 130.00 Open 2.5 15 1052.94 1052.56 0.00 0.00 0.00 8314 P-4113 788.00 8.00 130.00 Open 2.5 15 1052.94 1052.56 0.00 0.00 0.00 8314 P-4115 785.00 8.00 130.00 Open 4.5 15 1052.94 1052.56 0.00 0.00 0.00 8314 P-4116 785.00 8.00 130.00 Open 4.5 15 1052.94 1054.97 0.00 0.00 0.00 8314 P-4118 785.00 8.00 130.00 Open 4.5 15 1052.94 1054.97 0.00 0.00 0.00 8319 P-4118 785.00 8.00 130.00 Open 4.5 15 1052.94 1054.97 0.00 0.00 0.00 8319 P-4119 760.00 8.00 130.00 Open 5.5 10 88.98 98.90 0.00 0.00 0.00 8319 P-4120 771.00 8.00 130.00 Open 5.5 10 88.98 98.90 0.00 0.00 0.00 8319 P-4120 771.00 8.00 130.00 Open 8.49 1051.79 1051.79 0.00 0.00 8320 P-4121 800.00 8.00 130.00 Open 8.49 1051.79 1052.25											
8308 P-4109 767.00 8.00 130.00 Open -3.83 1065.82 1066.82 0.00 0.00 0.00 8309 P-4109 762.00 8.00 130.00 Open -3.83 1067.48 1067.33 0.02 0.00 0.00 8309 P-4110 760.00 8.00 130.00 Open -3.83 1067.48 1067.33 0.02 0.00 0.00 0.00 0.00 0.00 0.00 0			770.00		130.00	Open		1056.05	1056.05		0.00
B398											
B310	8308	P-4109	762.00	8.00	130.00	Open	-43.53	1057.48	1057.53	0.04	0.00
B311											
8314 P-4116 770.00 8.00 130.00 Open 7.53 1064.97 1064.97 0.00 0.00 8315 P-4116 795.00 8.00 130.00 Open 8.76 1054.67 1054.67 0.00 0.00 0.00 8315 P-4116 795.00 8.00 130.00 Open 8.76 1053.28 1052.18 0.10 0.00 0.00 8317 P-4118 791.00 8.00 130.00 Open -5.50 985.88 98.99 0.00 0.00 0.00 8317 P-4118 791.00 8.00 130.00 Open -5.50 985.88 198.99 0.00 0.00 0.00 0.00 0.00 0.00 0.00											
8314 P.4116 802.00 8.00 130.00 Open 4.00 1054.67 1056.67 0.00 0.00 8316 P.4117 831.00 8.00 130.00 Open 5.07 1052.55 1055.18 0.00 0.00 8316 P.4117 831.00 8.00 130.00 Open 5.07 1052.55 1055.18 0.00 0.00 8318 P.4119 796.00 8.00 130.00 Open 5.07 1052.55 1055.17 0.08 0.00 8318 P.4119 796.00 8.00 130.00 Open 5.07 1052.55 1055.17 0.08 0.00 8318 P.4119 796.00 8.00 130.00 Open 5.07 1052.55 1052.57 0.08 0.00 100.00 8320 P.4121 860.00 8.00 130.00 Open 9.00											
8316 P-4117 83100 8.00 130.00 Open -1.44 1052.86 1052.86 0.00 0.00 8318 P-4119 796.00 8.00 130.00 Open 55.50 988.98 988.99 0.00 0.00 8319 P-4121 771.00 8.00 130.00 Open 13.11 1218.34 1218.32 0.02 0.00 8320 P-4122 776.00 8.00 130.00 Open 8.49 1051.79 100.11 0.00 0.00 8322 P-4122 776.00 8.00 130.00 Open 9.72 1064.92 108.49 20.00 0.00 0.00 8322 P-4228 750.00 8.00 130.00 Open 9.72 1064.92 108.49 108.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
8318 P-4119 796.00 8.00 130.00 Open 5.50 988.98 98.99 0.00 0.00 8318 P-4129 776.00 8.00 130.00 Open 5.77 1052.55 1052.17 0.08 0.00 8319 P-4120 771.00 8.00 130.00 Open 8.131 1218.34 1218.32 0.02 0.00 8321 P-4121 860.00 8.00 130.00 Open 18.76 1217.78 1217.77 0.01 0.00 0.00 8321 P-4122 860.00 8.00 130.00 Open 18.76 1217.78 1217.77 0.01 0.00 0.00 8321 P-4123 801.00 8.00 130.00 Open 18.76 1217.78 1217.77 0.01 0.00 0.00 0.00 0.00 0.00 0.00											
8318 P-4119 796.00 8.00 130.00 Open 59.77 1052.25 1052.17 0.08 0.00 0											
8321 P-4121 860.00	8318	P-4119	796.00	8.00	130.00	Open	59.77	1052.25	1052.17	0.08	0.00
8321											
8322 P-4124 805.00 8.00 130.00 Open 8.10 1064.94 1064.93 0.00 0.00 0.00 8325 P-4126 789.00 8.00 130.00 Open -11.40 1052.86 1052.86 0.00 0.	8321	P-4122	776.00	8.00	130.00	Open	18.76	1217.78	1217.77	0.01	0.00
8324 P-4125 791.00 8.00 130.00 Open 12.29 881.48 981.48 0.00 0.00											
8326 P-4127 788.00 8.00 130.00 Open 123.90 1054.97 1054.67 0.30 0.00 8328 P-4129 798.00 8.00 130.00 Open 27.95 1052.76 1052.87 0.11 0.00 8328 P-4129 798.00 8.00 130.00 Open 27.96 1052.87 0.152.08 0.27 0.00 8330 P-4131 816.00 8.00 130.00 Open 27.96 1052.44 1052.42 0.02 0.00 8331 P-4132 805.00 8.00 130.00 Open 27.96 1052.54 1052.50 0.02 0.00 8332 P-4133 826.00 8.00 130.00 Open 35.46 1052.50 1052.53 0.03 0.00 83334 P-4135 801.00 8.00 130.00 Open 5.96 1052.50 1052.53 0.03 0.00 8334 P-4135 801.00 8.00 130.00 Open 5.96 1053.00 1053.00 0.00 0.00 8334 P-4136 802.00 8.00 130.00 Open 5.96 1053.00 1053.00 0.00 0.00 8336 P-4137 821.00 8.00 130.00 Open 6.1.33 1064.91 0.00 0.00 8338 P-4139 804.00 8.00 130.00 Open 6.44 1059.01 0.00 0.00 8338 P-4139 804.00 8.00 130.00 Open 6.44 1059.01 0.00 0.00 8338 P-4141 822.00 8.00 130.00 Open 6.44 1059.01 0.00 0.00 8339 P-4141 820.00 8.00 130.00 Open 12.23 1052.56 1052.54 0.00 0.00 8340 P-4141 822.00 8.00 130.00 Open 12.23 1052.54 0.00 0.00 8341 P-4142 806.00 8.00 130.00 Open 12.23 1053.38 1052.54 0.00 0.00 8342 P-4143 833.00 8.00 130.00 Open 12.23 1053.38 1052.54 0.00 0.00 8344 P-4144 832.00 8.00 130.00 Open 12.23 1053.38 1052.54 0.00 0.00 8344 P-4144 833.00 8.00 130.00 Open 12.25 1053.38 1055.54 0.00 0.00 8345 P-4146 805.00 8.00 130.00 Open 12.25 1053.38 1055.28 0.11 0.00 8346 P-4146 832.00 8.00 130.00 Open 12.25 1053.38 1055.28 0.11 0.00 8347 P-4147 865.00 8.00 130.00 Open 12.25 1053.38 1056.08 0.00 0.00 8348 P-4158 805.00 8.00 130.00 Open 12.25 1055.91 1055.1	8324	P-4125	791.00	8.00	130.00	Open	-12.29	981.48	981.48	0.00	0.00
8327 P-4128 797.00 8.00 130.00 Open 27.95 1218.19 1218.17 0.02 0.00											
8329 P-4130 793.00 8.00 130.00 Open 117.53 1052.36 1052.48 0.02 0.00	8327	P-4128		8.00		Open	27.95	1218.19		0.02	0.00
8330 P-4131 816.00 8.00 130.00 Open 27.06 1052.44 1064.91 0.00 0.00											
8332											
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8341 P-4142 806.00 8.00 130.00 Open 70.32 1053.38 1053.28 0.11 0.00 8342 P-4143 833.00 8.00 130.00 Open -0.68 1051.73 1051.73 0.00 0.00 8344 P-4144 807.00 8.00 130.00 Open 127.58 1056.06 1055.73 0.03 0.00 8345 P-4146 829.00 8.00 130.00 Open 9.82 1051.89 100 0.00 8346 P-4146 829.00 8.00 130.00 Open 11.07 1064.82 1064.81 0.00 0.00 8347 P-4147 865.00 8.00 130.00 Open 3.27 1056.92 0.00 0.00 8348 P-4149 813.00 8.00 130.00 Open 24.65 1051.91 1051.91 0.00 0.00 8350 P-4150 985.00 8.00 130.00 Open 24.65											
8342											
8344 P-4144 807.00 8.00 130.00 Open 127.58 1056.06 1055.73 0.33 0.00 8345 P-4145 810.00 8.00 130.00 Open 127.58 1051.89 1051.89 0.00 0.00 8346 P-4146 829.00 8.00 130.00 Open 11.07 1064.82 1062.12 0.00 0.00 8347 P-4148 832.00 8.00 130.00 Open -3.27 1056.92 1056.92 0.00 0.00 8348 P-4148 832.00 8.00 130.00 Open -2.07 1056.92 1056.92 0.00 0.00 8350 P-4150 905.00 8.00 130.00 Open 2.465 1051.91 1051.90 0.02 0.00 8351 P-4151 948.00 8.00 130.00 Open 6.39 1056.91 1052.12 0.00 0.00 8353 P-4153 945.00 8.00 130.00											
8346	8344	P-4144	807.00	8.00	130.00	Open	127.58	1056.06	1055.73	0.33	0.00
B347											
B349	8347	P-4147	865.00	8.00	130.00	Open	3.33	1052.12	1052.12	0.00	0.00
B350											
8352											
8353 P.4153 945.00 8.00 130.00 Open 6.92 1057.53 1057.53 0.00 0.00 8354 P.4154 836.00 8.00 130.00 Open 126.62 1055.73 1055.40 0.33 0.00 8355 P.4155 846.00 8.00 130.00 Open 8.09 1502.99 1052.99 0.00 0.00 8356 P.4157 836.00 8.00 130.00 Open 7.59 1052.12 1052.12 0.00 0.00 8357 P.4157 836.00 8.00 130.00 Open 7.59 1052.12 1052.12 0.00 0.00 8358 P.4158 836.00 8.00 130.00 Open -2.07 1056.64 1056.64 0.00 0.00 8360 P.4160 837.00 8.00 130.00 Open -33.17 1057.61 1057.64 0.03 0.00 8361 P.4161 850.00 8.00 130.00											
8354 P-4154 836.00 8.00 130.00 Open 126.62 1055.73 1055.49 0.33 0.00 8355 P-4155 846.00 8.00 130.00 Open 126.62 1055.73 1055.49 0.00 0.00 8356 P-4156 831.00 8.00 130.00 Open 30.92 1218.32 1218.29 0.02 0.00 8357 P-4157 836.00 8.00 130.00 Open 7.59 1052.12 1052.12 0.00 0.00 8358 P-4158 836.00 8.00 130.00 Open -2.07 1056.64 1066.64 0.00 0.00 8369 P-4169 958.00 8.00 130.00 Open -5.62 1060.46 1060.34 0.11 0.00 8361 P-4161 850.00 8.00 130.00 Open -15.69 1053.45 1053.73 0.28 0.00 8362 P-4161 850.00 8.00 130.00											
8356 P-4156 831.00 8.00 130.00 Open 30.92 1218.32 1218.29 0.02 0.00 8357 P-4157 836.00 8.00 130.00 Open 7.59 1052.12 1052.12 0.00 0.00 8358 P-4158 836.00 8.00 130.00 Open -2.07 1056.64 1056.64 0.00 0.00 8359 P-4169 958.00 8.00 130.00 Open -65.62 1060.46 1060.34 0.11 0.00 8361 P-4161 850.00 8.00 130.00 Open -415.69 1053.45 1053.73 0.28 0.00 8361 P-4161 850.00 8.00 130.00 Open -38.17 1057.61 1057.64 0.03 0.00 8362 P-4162 843.00 8.00 130.00 Open -48.05 1052.11 1052.16 0.06 0.00 8364 P-4163 850.00 8.00 130.00 <td>8354</td> <td></td> <td>836.00</td> <td></td> <td>130.00</td> <td>Open</td> <td></td> <td></td> <td></td> <td>0.33</td> <td>0.00</td>	8354		836.00		130.00	Open				0.33	0.00
8357 P.4157 836.00 8.00 130.00 Open 7.59 1052.12 1052.12 0.00 0.00 8358 P.4158 836.00 8.00 130.00 Open -2.07 1056.64 1065.64 0.00 0.00 8359 P.4159 958.00 8.00 130.00 Open 65.62 1060.46 1060.34 0.11 0.00 8360 P.4161 850.00 8.00 130.00 Open -115.69 1053.45 1053.73 0.28 0.00 8361 P.4161 850.00 8.00 130.00 Open -33.17 1057.61 1057.64 0.03 0.00 8362 P.4162 843.00 8.00 130.00 Open -48.05 1052.11 1052.16 0.06 0.00 8363 P.4163 850.00 8.00 130.00 Open -21.70 1053.01 1053.02 0.01 0.00 8364 P.4164 850.00 8.00 130.00 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
8359 P-4159 958.00 8.00 130.00 Open 65.62 1080.46 1080.34 0.11 0.00 8360 P-4160 837.00 8.00 130.00 Open -115.69 1053.45 1053.73 0.28 0.00 8361 P-4161 850.00 8.00 130.00 Open -33.17 1057.61 1057.64 0.03 0.00 8362 P-4162 843.00 8.00 130.00 Open -48.05 1052.11 1052.16 0.06 0.00 8364 P-4164 850.00 8.00 130.00 Open -21.70 1053.01 1053.02 0.01 0.00 8364 P-4164 850.00 8.00 130.00 Open -21.70 1053.01 1054.82 0.00 0.00 8365 P-4165 866.00 8.00 130.00 Open -21.70 1053.01 1054.92 0.00 0.00 8367 P-4167 865.00 8.00 130.00	8357	P-4157	836.00	8.00	130.00	Open	7.59	1052.12	1052.12	0.00	0.00
8360 P.4160 837.00 8.00 130.00 Open -115.69 1053.45 1053.73 0.28 0.00 8361 P.4161 850.00 8.00 130.00 Open -33.17 1057.61 1057.64 0.03 0.00 8362 P.4162 843.00 8.00 130.00 Open -48.05 1052.11 1052.16 0.06 0.00 8363 P.4163 850.00 8.00 130.00 Open 10.44 1064.82 1064.82 0.00 0.00 8365 P.4164 850.00 8.00 130.00 Open -21.70 1053.01 1053.02 0.01 0.00 8366 P.4166 884.00 8.00 130.00 Open -3.88 1052.12 1052.12 0.00 0.00 8366 P.4167 865.00 8.00 130.00 Open -3.88 1052.12 1052.12 0.00 0.00 8368 P.4169 866.00 8.00 130.00 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
8362 P.4162 843.00 8.00 130.00 Open 448.05 1052.11 1052.16 0.06 0.00 8363 P.4163 977.00 8.00 130.00 Open 10.44 1064.82 1064.82 0.00 0.00 8364 P.4164 850.00 8.00 130.00 Open -21.70 1053.01 1053.02 0.01 0.00 8365 P.4166 866.00 8.00 130.00 Open -10.03 1064.92 1064.92 0.00 0.00 8367 P.4167 865.00 8.00 130.00 Open -3.68 1052.12 1052.12 0.00 0.00 8368 P.4168 886.00 8.00 130.00 Open 4.06 1064.91 1064.91 0.00 0.00 8368 P.4169 866.00 8.00 130.00 Open 4.06 1064.91 1064.91 0.00 0.00 8370 P.4170 870.00 8.00 130.00	8360	P-4160	837.00	8.00	130.00	Open	-115.69	1053.45	1053.73	0.28	0.00
8363 P.4163 977.00 8.00 130.00 Open 10.44 1064.82 1064.82 0.00 0.00 8364 P.4164 850.00 8.00 130.00 Open -21.70 1053.01 1053.02 0.01 0.00 8365 P.4165 884.00 8.00 130.00 Open 10.33 1064.92 1064.92 0.00 0.00 8366 P.4167 865.00 8.00 130.00 Open 3.68 1051.82 1051.82 0.00 0.00 8368 P.4168 882.00 8.00 130.00 Open 4.06 1064.91 1064.91 0.00 0.00 8369 P.4169 866.00 8.00 130.00 Open 4.06 1064.91 1064.91 0.00 0.00 8370 P.4170 870.00 8.00 130.00 Open 4.20 1052.18 1053.07 0.11 0.00 8371 P.4172 861.00 8.00 130.00											
8365 P.4165 884.00 8.00 130.00 Open 10.03 1064.92 1064.92 0.00 0.00 8366 P.4166 866.00 8.00 130.00 Open -3.68 1052.12 1052.12 0.00 0.00 8367 P.4167 865.00 8.00 130.00 Open 3.60 1051.82 1051.82 0.00 0.00 8368 P.4169 866.00 8.00 130.00 Open 4.06 1064.91 1064.91 0.00 0.00 8370 P.4170 870.00 8.00 130.00 Open 4.20 1052.54 1052.54 0.00 0.00 8371 P.4171 861.00 8.00 130.00 Open 4.20 1052.54 1052.54 0.00 0.00 8372 P.4172 861.00 8.00 130.00 Open 4.20 1052.54 1052.54 0.00 0.00 8374 P.4172 861.00 8.00 130.00	8363	P-4163	977.00	8.00	130.00	Open	10.44	1064.82	1064.82	0.00	0.00
8366 P-4166 866.00 8.00 130.00 Open -3.68 1052.12 1052.12 0.00 0.00 8367 P-4167 865.00 8.00 130.00 Open 3.60 1051.82 1051.82 0.00 0.00 8368 P-4168 882.00 8.00 130.00 Open 4.06 1064.91 1064.91 0.00 0.00 8369 P-4169 866.00 8.00 130.00 Open 67.61 1053.18 1053.07 0.11 0.00 8370 P-4171 928.00 8.00 130.00 Open -2.36 1218.03 1218.03 0.00 0.00 8371 P-4171 928.00 8.00 130.00 Open 4.20 1562.54 1052.54 0.00 0.00 8372 P-4172 861.00 8.00 130.00 Open -57.77 1060.00 1060.08 0.08 0.00 8374 P-4174 870.00 8.00 130.00											
8367 P-4167 865.00 8.00 130.00 Open 3.60 1051.82 1051.82 0.00 0.00 8368 P-4168 886.00 8.00 130.00 Open 4.06 1064.91 1064.91 0.00 0.00 8369 P-4169 866.00 8.00 130.00 Open 67.61 1053.18 1053.07 0.11 0.00 8370 P-4170 870.00 8.00 130.00 Open -2.36 1218.03 1218.03 0.00 0.00 8371 P-4171 928.00 8.00 130.00 Open 4.20 1052.54 1052.54 0.00 0.00 8372 P-4172 861.00 8.00 130.00 Open 1.68 1054.67 1054.67 0.00 0.00 8374 P-4173 863.00 8.00 130.00 Open -57.77 1060.00 1060.08 0.08 0.00 8376 P-4174 870.00 8.00 130.00											
8369 P-4169 866.00 8.00 130.00 Open 67.61 1053.18 1053.07 0.11 0.00 8370 P-4170 870.00 8.00 130.00 Open -2.36 1218.03 1218.03 0.00 0.00 8371 P-4171 928.00 8.00 130.00 Open 4.20 1052.54 1052.54 0.00 0.00 8372 P-4172 861.00 8.00 130.00 Open -57.77 1060.00 1060.08 0.08 0.00 8374 P-4174 870.00 8.00 130.00 Open -57.77 1060.00 1060.08 0.08 0.00 8376 P-4174 870.00 8.00 130.00 Open 29.95 1218.27 1218.24 0.02 0.00 8377 P-4175 875.00 8.00 130.00 Open 139.86 1056.73 1056.31 0.42 0.00	8367		865.00		130.00	Open	3.60	1051.82	1051.82	0.00	0.00
8370 P-4170 870.00 8.00 130.00 Open -2.36 1218.03 1218.03 0.00 0.00 8371 P-4171 928.00 8.00 130.00 Open 4.20 1052.54 1052.54 0.00 0.00 8372 P-4172 861.00 8.00 130.00 Open 1.68 1054.67 1054.67 0.00 0.00 8374 P-4173 863.00 8.00 130.00 Open -57.77 1060.00 1060.08 0.08 0.00 8376 P-4174 870.00 8.00 130.00 Open 2.95 1218.27 1218.24 0.02 0.00 8377 P-4175 875.00 8.00 130.00 Open 139.86 1056.73 1056.31 0.42 0.00											
8372 P-4172 861.00 8.00 130.00 Open 1.68 1054.67 1054.67 0.00 0.00 8374 P-4173 863.00 8.00 130.00 Open -57.77 1060.00 1060.08 0.08 0.00 8376 P-4174 870.00 8.00 130.00 Open 29.95 1218.27 1218.24 0.02 0.00 8377 P-4175 875.00 8.00 130.00 Open 139.86 1056.73 1056.31 0.42 0.00	8370	P-4170	870.00	8.00	130.00	Open	-2.36	1218.03	1218.03	0.00	0.00
8374 P-4173 863.00 8.00 130.00 Open 57.77 1060.00 1060.08 0.08 0.00 8376 P-4174 870.00 8.00 130.00 Open 29.95 1218.27 1218.24 0.02 0.00 8377 P-4175 875.00 8.00 130.00 Open 139.86 1056.73 1056.31 0.42 0.00											
8377 P-4175 875.00 8.00 130.00 Open 139.86 1056.73 1056.31 0.42 0.00	8374	P-4173	863.00	8.00	130.00	Open	-57.77	1060.00	1060.08	0.08	0.00

Sept	Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
Best											
SESS P-4180											
Beach P-4182	8382	P-4180	883.00	8.00	130.00	Open	-17.37	1057.32	1057.33	0.01	0.00
1885 P-4183 881-00 0.00 130.00 Chem 21.73 1097-88 1097-84 0.16 0.00 0											
BASE P.4185 917.00											
S886											
\$889											
BSPS				8.00	130.00				1218.03	0.00	
8836 P-4190 973.00 8.00 130.00 Cpen 6.04 1061.11 1061.11 0.00 0.00 0.00 8384 P-4191 917.00 8.00 130.00 Cpen 6.238 1052.00 1052.00 100 0.00 0.00 0.00 0.00 0.00 0.00 0											
B994 P-4192 919.00											
8396 P.4193 1975.00 8.00 130.00 Open 10.13 1900.00 1999.90 0.00 0.00 0.00 18397 P.4194 946.00 8.00 130.00 Open 4.27.8 1057.83 1057.83 0.05 8.00 0.00 0.00 18397 P.4196 974.00 8.00 130.00 Open 2.3.2 1056.05 1056.05 0.00 0.00 0.00 0.00 18397 P.4197 977.00 8.00 130.00 Open 12.09 1056.05 1056.05 0.00 0.00 0.00 0.00 0.00 0.00 0.0											
8396 P.4194 944.00 8.00 130.00 Open 4-27,6 1067,63 1067,68 0.00 0.00 0.00 8397 P.4195 97.00 8.00 130.00 Open 6.33 1052,04 1052,04 0.00 0.00 0.00 8398 P.4198 1052,00 8.00 130.00 Open 6.33 1052,04 1052,03 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
8398 P.4167 971.00 8.00 130.00 Open 6.33 1052.04 1052.03 0.00 0.00 0.00 85399 P.4167 971.00 8.00 130.00 Open 12.09 1056.21 1056.30 0.00 0.00 0.00 8609 P.4188 1052.00 8.00 130.00 Open 4.64 1064.83 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	8396	P-4194	949.00	8.00	130.00	Open	-42.76	1057.63	1057.68	0.05	0.00
8990 P-1498 19620 8.00 130.00 Open 12.09 1965.21 1965.23 0.00 0.00 0.00 8400 P-1498 1962.00 8.00 130.00 Open 4.64 10043 100443 3 0.00 0.00 0.00 0.00 8401 P-1498 957.00 8.00 130.00 Open 1.08 1105.23 1052.23 0.00 0.00 0.00 0.00 0.00 0.00 0.00											
8401 P.4199 997.00											
8403 P-4201 943.00 8.00 130.00 Open 9.23 1051.81 1051.83 0.00 0.00 0.00 8404 P-4201 943.00 8.00 130.00 Open 9.23 1054.81 1064.81 0.00 0.00 0.00 8408 P-4202 983.00 8.00 130.00 Open 15.30 1054.81 1051.83 0.00 0.00 0.00 8408 P-4203 880.00 8.00 130.00 Open 15.30 1054.81 1064.81 0.00 0.00 0.00 8408 P-4203 880.00 8.00 130.00 Open 15.30 1059.01 1059.01 0.00 0.00 0.00 8408 P-4205 978.00 8.00 130.00 Open 40.00 1059.01 1059.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00											
8403 P-4201 943.00 8.00 130.00 Open 9.23 1051.84 1051.83 0.00 0.00 0.00 8405 P-4202 953.00 8.00 130.00 Open 3.32 1217.76 1217.75 0.01 0.00											
8406 P-4204 983.00 80.00 130.00 Open 15.24 1217.76 1217.75 0.01 0.00 0.00 8407 P-4204 983.00 8.00 130.00 Open 30.99 1218.31 1218.31 1218.30 0.00 0.00 8407 P-4205 1058.00 8.00 130.00 Open 45.36 0.01 1059.01 1058.01 1.00 0.00 0.00 8408 P-4206 97.00 8.00 130.00 Open 45.36 0.01 1059.01 1058.01 0.00 0.00 0.00 8408 P-4206 97.00 8.00 130.00 Open 45.36 0.01 1059.01 1058.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00		P-4201				Open		1051.84	1051.83	0.00	0.00
8406 P-4205 1983.00 8.00 130.00 Open 3.099 1218.31 1218.28 0.03 0.00 0.00 8408 P-4205 1978.00 8.00 130.00 Open 8.00 1095.01 1059.01 0.00 0.00 8408 P-4206 1978.00 8.00 130.00 Open 4.02 132.21 1105.21 0.11 0.00 0.00 140.0											
8406 P.4205 978.00 8.00 130.00 Open 8.00 1059.01 1059.01 1059.01 0.00 0.00 8.00 8.00 P.4205 978.00 8.00 130.00 Open 4.02 1322.91 1322.91 0.00 0.00 8.00 130.00 Open 6.2.27 1050.28 1051.01 1051.01 0.01 10.00 0.00 14.00											
8400 P-4207 1265.00 8.00 130.00 Open 4.02 1322.91 1322.91 0.00 0.00 0.00 8411 P-4208 105.50 8.00 130.00 Open 6.27 1060.26 1060.15 0.10 0.00 0.00 8411 P-4209 1005.00 8.00 130.00 Open 1.197 1218.03 1218.03 0.00 0.00 0.00 8412 P-4219 95.00 8.00 130.00 Open 0.08 1057.32 1057.32 0.00 0.00 0.00 8416 P-4212 1251.00 8.00 130.00 Open 0.08 1057.32 1057.32 0.00 0.00 0.00 8418 P-4214 1060.00 8.00 130.00 Open 1.08 1057.32 1057.32 0.00 0.00 0.00 8418 P-4214 1006.00 8.00 130.00 Open 4.09 1057.43 1057.83 0.00 0.00 0.00 8418 P-4214 1006.00 8.00 130.00 Open 4.09 1057.43 1057.83 0.05 0.00 0.00 8418 P-4216 1014.00 8.00 130.00 Open 4.09 1057.43 1057.84 0.05 0.00 0.00 8420 P-4216 1014.00 8.00 130.00 Open 5.83 1055.84 1057.83 0.05 0.00 0.00 8420 P-4216 1014.00 8.00 130.00 Open 5.83 1055.84 1057.83 0.05 0.00 0.00 8420 P-4216 1016.00 8.00 130.00 Open 2.00 1057.32 1057.33 0.03 0.00 0.00 8421 P-4216 1026.00 8.00 130.00 Open 2.00 1057.32 1057.33 0.00 0.00 0.00 8421 P-4216 1050.00 8.00 130.00 Open 2.00 1057.32 1057.33 0.00 0.00 0.00 8427 P-4221 1050.00 8.00 130.00 Open 2.00 1057.32 1057.32 0.00 0.00 0.00 8427 P-4222 1092.00 8.00 130.00 Open 3.00 1057.32 1057.32 0.00 0.00 8429 P-4224 1165.00 8.00 130.00 Open 3.00 1057.32 1057.32 0.00 0.00 8429 P-4224 1165.00 8.00 130.00 Open 3.00 1057.32 1057.32 0.00 0.00 8429 P-4224 1165.00 8.00 130.00 Open 1.35 1057.32 1057.32 0.00 0.00 8429 P-4224 1165.00 8.00 130.00 Open 1.35 1057.32 1057.32 0.00 0.00 0.00 8429 P-4224 1165.00 8.00 130.00 Open 1.35 1057.32 1057.32 0.00 0.00 0.00 8429 P-4224 1165.00 8.00 130.00 Open 1.35 1057.32 1057.32 0.00 0.00 0.00 8439 P-4224 1165.00 8.00 130.00 Open 1.35 1057.32 1057.32 0.00 0.00 0.00 8439 P-4224 1165.00 8.00 130.00 Open 1.35 1057.32 1057.32 0.00 0.00 0.00 8439 P-4224 1165.00 8.00 130.00 Open 1.35 1057.32 1057.32 0.00 0.00 0.00 8439 P-4224 1165.00 8.00 130.00 Open 1.35 1057.32 0.00 0.00 0.00 0.00 8439 P-4224 130.00 8.00 130.00 Open 1.35 1057.32 1057.32 0.00 0.00 0.00 8439 P-4223 1320.00 8.00 130.00 Open 1.35 1057.32 1057.32 0.00 0.00 0.00 0.00 8439 P-4223 130.00 8.00	8407	P-4205	1058.00	8.00	130.00	Open	8.00	1059.01	1059.01	0.00	0.00
8410 P-4209 1050 08 8.00 130.00 Open 62.27 1060.26 1060.15 0.11 0.00 0.00 8412 P-4209 1050.00 8.00 130.00 Open 1.197 1218.03 1057.32 1057.32 0.00 0.00 0.00 8412 P-4211 1250.00 8.00 130.00 Open 1.08 1057.32 1057.32 0.00 0.00 0.00 8414 P-4211 1250.00 8.00 130.00 Open 1.08 1057.32 1057.32 0.00 0.00 0.00 8416 P-4211 1250.00 8.00 130.00 Open 1.08 1057.29 1057.32 0.00 0.00 0.00 8416 P-4211 1250.00 8.00 130.00 Open 1.08 1057.29 1057.32 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
8414 P-4211 12510 898.00 8.00 130.00 Open 0.88 1057.32 1057.32 0.00 0.00 0.00 8416 P-4212 998.00 8.00 130.00 Open 0.88 1057.29 1057.22 0.00 0.00 0.00 8416 P-4213 1060.00 8.00 130.00 Open 4.039 1057.58 1057.32 1057.32 0.00 0.00 0.00 8418 P-4213 1060.00 8.00 130.00 Open 4.039 1057.58 1057.38 0.05 0.00 0.00 8418 P-4215 1010.00 8.00 130.00 Open 4.096 1057.43 1057.83 0.05 0.00 0.00 8418 P-4215 1010.00 8.00 130.00 Open 4.096 1057.43 1057.83 0.05 0.00 0.00 8420 P-4215 1010.00 8.00 130.00 Open 4.096 1057.43 1057.84 0.05 0.00 0.00 8420 P-4218 1020.00 8.00 130.00 Open 5.80 1058.91 1058.39 1057.58 100.00 0.00 0.00 0.00 0.00 0.00 0.00 0											
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8419 P-4215 101400 8.00 130.00 Open -40.96 1057.48 1057.48 0.05 0.00 8420 P-4216 101400 8.00 130.00 Open -5.83 1056.91 1056.91 0.00 0.00 8420 P-4217 101400 8.00 130.00 Open 5.83 1056.91 1056.91 0.00 0.00 8422 P-4218 1086.00 8.00 130.00 Open 5.08 1051.80 1051.80 0.00 0.00 8422 P-4218 1086.00 8.00 130.00 Open 5.08 1051.80 1051.80 0.00 0.00 8426 P-4221 1105.00 8.00 130.00 Open 3.69 1051.80 1051.80 0.00 0.00 8426 P-4221 1105.00 8.00 130.00 Open 3.69 1054.33 1064.33 0.00 0.00 8426 P-4222 10150.00 8.00 130.00 Open 3.69 1054.33 1064.33 0.00 0.00 8426 P-4222 10150.00 8.00 130.00 Open 1.00 13.00 0pen 1.00 0pen 1.00 13.00 0pen 1.00 0pen		P-4212	998.00	8.00	130.00	Open	31.75	1217.82	1217.79	0.03	0.00
8419 P-4215 1014.00 8.00 130.00 Open 2.40 988.98 98.98 0.00 0.00 0.00 8421 P-4217 1048.00 8.00 130.00 Open 28.00 1057.32 1057.30 0.03 0.00 8421 P-4218 1086.00 8.00 130.00 Open 2.58 1057.28 1057.28 0.00 0.00 8423 P-4219 11280.00 8.00 130.00 Open -5.80 1057.28 0.00 0.00 8426 P-4221 1105.00 8.00 130.00 Open -0.83 1057.32 1057.32 0.00 0.00 8428 P-4224 1166.00 8.00 130.00 Open -13.66 1052.29 1055.00 0.01 0.00 8439 P-4226 1166.00 8.00 130.00 Open -1.15 1057.30 0.01 0.00 8431 P-4226 1166.00 8.00 130.00 Open											
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8428 P-4223 1124.00 8.00 130.00 Open 13.17 1051.81 1051.81 0.01 0.00 8430 P-4225 1166.00 8.00 130.00 Open -11.15 1057.30 1057.30 0.01 0.00 8431 P-4226 1166.00 8.00 130.00 Open -11.15 1054.25 1054.24 0.00 0.00 8432 P-4227 1290.00 8.00 130.00 Open 3.35 1064.91 1064.91 0.00 0.00 8433 P-4229 1382.00 8.00 130.00 Open 71.48 1053.88 1053.38 0.19 0.00 8435 P-4231 1322.00 8.00 130.00 Open -50.33 1051.22 1051.35 0.13 0.00 8436 P-4231 1327.00 8.00 130.00 Open -60.33 1051.22 1057.32 0.00 0.00 8439 P-4234 1464.00 8.00 13											
8430 P-4225 1163.00 8.00 130.00 Open -11.15 1057.30 10.17 0.01 0.00 8431 P-4227 1290.00 8.00 130.00 Open 3.35 1064.91 10.00 0.00 0.00 8433 P-4229 1322.00 8.00 130.00 Open 71.48 1057.29 1057.30 0.01 0.00 8434 P-4229 1382.00 8.00 130.00 Open 71.48 1053.38 1053.38 0.19 0.00 8435 P-4231 1322.00 8.00 130.00 Open -60.33 1051.22 1051.35 0.13 0.00 8437 P-4232 1307.00 8.00 130.00 Open -5.4 1057.32 1057.32 0.01 100 8439 P-4234 1464.00 8.00 130.00 Open -5.4 1057.32 1057.32 0.00 0.00 8441 P-4236 13320.00 8.00 130.00 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
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8432 P-4227 1290.00 8.00 130.00 Open 3.35 1064.91 1064.91 0.00 0.00 8434 P-4229 1382.00 8.00 130.00 Open 71.48 1055.38 0.19 0.00 8434 P-4231 124.00 8.00 130.00 Open 31.47 1218.35 104.0 0.00 8436 P-4231 1322.00 8.00 130.00 Open -6.03 1051.22 1051.35 0.13 0.00 8437 P-4223 1430.00 8.00 130.00 Open 1.64 1067.32 1057.35 0.13 0.00 8439 P-4234 1484.00 8.00 130.00 Open 0.54 1057.32 1057.32 0.00 0.00 8441 P-4236 1380.00 8.00 130.00 Open 31.61 1053.81 1057.32 0.00 0.00 8442 P-4236 1380.00 8.00 130.00 Open 31.61											
8434 P-4229 138200 8.00 130.00 Open 71.48 1055.38 1053.38 0.19 0.00 8436 P-4231 1322.00 8.00 130.00 Open -8.03 1051.22 1051.35 0.13 0.00 8436 P-4231 1307.00 8.00 130.00 Open 16.03 1051.22 1051.35 0.13 0.00 8438 P-4233 1453.00 8.00 130.00 Open 0.54 1057.32 1057.32 0.00 0.00 8440 P-4225 1332.00 8.00 130.00 Open 224.66 1057.32 1057.32 0.00 0.00 8441 P-4235 132.00 8.00 130.00 Open 7.460 1057.40 1057.32 0.00 0.00 8441 P-4237 1425.00 8.00 130.00 Open 8.25 1057.28 1052.00 0.00 0.00 8443 P-4243 1410.00 8.00 130.00 </td <td>8432</td> <td>P-4227</td> <td>1290.00</td> <td>8.00</td> <td>130.00</td> <td>Open</td> <td>3.35</td> <td>1064.91</td> <td>1064.91</td> <td>0.00</td> <td>0.00</td>	8432	P-4227	1290.00	8.00	130.00	Open	3.35	1064.91	1064.91	0.00	0.00
8435 P-4230 1214.00 8.00 130.00 Open 460.3 1218.35 1218.31 0.04 0.00 8437 P-4232 1307.00 8.00 130.00 Open 460.33 1651.25 161.35 0.13 0.00 8438 P-4233 1453.00 8.00 130.00 Open 0.54 1057.32 967.36 0.01 0.00 8440 P-4234 1484.00 8.00 130.00 Open 74.60 1053.81 1053.61 0.20 0.00 8441 P-4235 1332.00 8.00 130.00 Open 74.60 1053.81 1053.61 0.20 0.00 8442 P-4237 1425.00 8.00 130.00 Open 75.5 1055.00 1057.38 0.04 0.00 8443 P-4240 1862.00 8.00 130.00 Open 1.55 1053.00 1057.28 10.00 0.00 84445 P-4240 1862.00 8.00 130.00<											
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B438		P-4231									
8439 P-4224 1464.00 8.00 130.00 Open 224.66 1054.42 1052.74 1.68 0.00 8441 P-4236 1332.00 8.00 130.00 Open 7.46 1053.31 1053.61 0.20 0.00 8441 P-4237 1425.00 8.00 130.00 Open 8.25 1053.00 1057.36 0.04 0.00 8442 P-4237 1425.00 8.00 130.00 Open 8.25 1053.00 1052.99 0.00 0.00 8445 P-4240 1862.00 8.00 130.00 Open 36.63 1052.10 1052.03 0.07 0.00 8445 P-4240 1862.00 8.00 130.00 Open 36.63 1052.10 1052.03 0.07 0.00 8447 P-4242 2538.00 8.00 130.00 Open 120.27 1055.79 1054.88 0.92 0.00 8448 P-4244 2305.00 8.00 130.00 Open 7.34 1057.28 1057.28 0.00 0.00 8449 P-4244 2305.00 8.00 130.00 Open 7.34 1057.29 1057.28 0.00 0.00 8451 P-4246 2640.00 8.00 130.00 Open 7.34 1057.29 1057.28 0.01 0.00 8452 P-4247 2638.00 8.00 130.00 Open 0.86 873.78 873.78 0.00 0.00 8452 P-4246 2640.00 8.00 130.00 Open 0.88 873.78 873.78 0.00 0.00 8455 P-4248 3442.00 8.00 130.00 Open 0.88 873.78 873.78 0.00 0.00 8455 P-4249 4140.00 8.00 130.00 Open 0.88 873.78 873.78 0.00 0.00 8455 P-4249 4140.00 8.00 130.00 Open 0.89 873.78 873.78 0.00 0.00 8458 P-4251 111.00 99.00 130.00 Open 0.08 1053.85 1053.85 0.00 0.00 8458 P-4253 111.00 99.00 130.00 Open 0.08 1053.85 1053.85 0.00 0.00 8468 P-4256 18.00 99.00 130.00 Open 0.08 1053.85 1053.85 0.00 0.00 8468 P-4256 18.00 99.00 130.00 Open 0.08 1053.85 1053.85 0.00 0.00 0.00 8468 P-4256 18.00 99.00 130.00 Open 0.20 1218.35 1218.35 0.00 0.00 0.00 8468 P-4256 18.00 99.00 130.00 Open 0.20 168.8 1051.95 1051.95 0.00											
B441	8439	P-4234	1464.00	8.00		Open	224.66		1052.74	1.68	0.00
B442 P-4237 1425.00 8.00 130.00 Open 1.75 1053.00 1052.99 0.00 0.00 8443 P-4240 1862.00 8.00 130.00 Open 35.63 1057.28 1057.28 0.00 0.00 8446 P-4241 2504.00 8.00 130.00 Open 25.30 1052.42 1052.37 0.05 0.00 8446 P-4241 2504.00 8.00 130.00 Open 25.30 1055.79 1054.88 0.92 0.00 8447 P-4243 2410.00 8.00 130.00 Open -47.57 1059.84 1060.00 0.16 0.00 8449 P-4244 2305.00 8.00 130.00 Open -47.57 1059.84 1060.00 0.16 0.00 8451 P-4246 2749.00 8.00 130.00 Open -34.50 1052.40 1052.50 0.10 0.00 8452 P-4246 2640.00 8.00 130											
8445 P-4240 1862.00 8.00 130.00 Open 36.33 1052.10 1052.03 0.07 0.00 8446 P-4241 2504.00 8.00 130.00 Open 120.27 1052.37 0.05 0.00 8448 P-4242 2410.00 8.00 130.00 Open 120.27 1054.88 0.92 0.00 8448 P-4243 2410.00 8.00 130.00 Open -47.57 1059.84 1060.00 0.16 0.00 8450 P-4245 2749.00 8.00 130.00 Open -34.50 1052.40 1052.50 0.10 0.00 8451 P-4246 2640.00 8.00 130.00 Open 118.65 1054.66 1053.73 0.03 0.00 8452 P-4247 2638.00 8.00 130.00 Open 112.22 1057.88 1056.82 1.06 0.00 8455 P-4248 3442.00 8.00 130.00 Open 110											
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B454											
8455 P-4249 4140.00 8.00 130.00 Open 2.59 873.78 873.78 0.00 0.00 8456 P-4250 6.00 99.00 130.00 Open 0.23 1053.85 1053.85 0.00 0.00 8460 P-4251 11.00 99.00 130.00 Open 0.08 1053.85 1053.85 0.00 0.00 8462 P-4253 11.00 99.00 130.00 Open 0.20 1128.35 1218.35 0.00 0.00 8464 P-4254 15.00 99.00 130.00 Open 0.20 960.64 960.64 0.00 0.00 8468 P-4256 18.00 99.00 130.00 Open 0.20 960.64 960.64 0.00 0.00 8468 P-4256 21.00 99.00 130.00 Open 0.08 1053.85 1052.02 0.00 0.00 8470 P-4257 22.00 99.00 130.00 Op		P-4248	3442.00	8.00	130.00					1.06	0.00
B458 P-4251 11.00 99.00 130.00 Open 0.08 1053.85 1053.85 0.00 0.00 8460 P-4252 11.00 99.00 130.00 Open 0.08 1053.85 1053.85 0.00 0.00 8462 P-4253 11.00 99.00 130.00 Open 0.20 1218.35 1218.35 0.00 0.00 8464 P-4255 18.00 99.00 130.00 Open 0.20 960.64 960.64 0.00 0.00 8468 P-4255 18.00 99.00 130.00 Open 0.48 1052.02 0.00 0.00 8472 P-4256 21.00 99.00 130.00 Open 0.48 1052.02 1053.85 0.00 0.00 8472 P-4258 28.00 99.00 130.00 Open -0.88 1051.95 1051.95 0.00 0.00 8474 P-4256 33.00 99.00 130.00 Open			4140.00			Open	2.59	873.78	873.78	0.00	
B460											
8464 P-4254 15.00 99.00 130.00 Open 1.50 960.64 960.64 0.00 0.00 8466 P-4255 18.00 99.00 130.00 Open 0.20 960.64 960.64 0.00 0.00 8470 P-4256 21.00 99.00 130.00 Open -0.08 1053.85 1053.85 0.00 0.00 8470 P-4258 28.00 99.00 130.00 Open -0.08 1053.85 1053.85 0.00 0.00 8472 P-4258 28.00 99.00 130.00 Open -0.28 1052.68 1052.68 0.00 0.00 8476 P-4261 36.00 99.00 130.00 Open 0.68 1052.68 1052.68 0.00 0.00 8478 P-4261 36.00 99.00 130.00 Open 0.68 1051.96 1051.96 0.00 0.00 8482 P-4263 36.00 99.00 130.00 <	8460	P-4252	11.00	99.00	130.00	Open	0.08	1053.85	1053.85	0.00	0.00
8466 P-4255 18.00 99.00 130.00 Open 0.20 960.64 960.64 0.00 0.00 8468 P-4256 21.00 99.00 130.00 Open 0.48 1052.02 1052.02 0.00 0.00 8470 P-4257 22.00 99.00 130.00 Open -0.68 1051.95 1051.95 0.00 0.00 8472 P-4259 32.00 99.00 130.00 Open -0.68 1051.95 1051.95 0.00 0.00 8474 P-4259 32.00 99.00 130.00 Open -0.28 1052.68 1052.02 0.00 0.00 8476 P-4260 33.00 99.00 130.00 Open 0.28 1051.96 0.00 0.00 8478 P-4261 38.00 99.00 130.00 Open 0.68 1051.96 1051.96 0.00 0.00 8482 P-4263 46.00 99.00 130.00 Open <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>											
8488 P-4256 21.00 99.00 130.00 Open 0.48 1052.02 1052.02 0.00 0.00 8470 P-4257 22.00 99.00 130.00 Open -0.08 1053.85 1053.85 0.00 0.00 8472 P-4258 28.00 99.00 130.00 Open -0.28 1051.95 1051.95 0.00 0.00 8474 P-4250 33.00 99.00 130.00 Open -0.28 1052.02 1052.02 0.00 0.00 8476 P-4260 33.00 99.00 130.00 Open 0.28 1051.96 1052.02 0.00 0.00 8478 P-4261 36.00 99.00 130.00 Open 0.28 1051.96 1051.96 0.00 0.00 8482 P-4263 46.00 99.00 130.00 Open -0.48 1052.27 1052.27 0.00 0.00 8484 P-4265 50.00 99.00 130.00											
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B474											
8478 P-4261 36.00 99.00 130.00 Open 0.28 1051.96 1051.96 0.00 0.00 8480 P-4262 39.00 99.00 130.00 Open 0.68 1051.96 1051.96 0.00 0.00 8482 P-4263 46.00 99.00 130.00 Open 0.48 1052.27 1052.27 0.00 0.00 8484 P-4264 47.00 99.00 130.00 Open -0.48 1052.68 1052.20 0.00 0.00 8486 P-4266 68.00 99.00 130.00 Open -0.48 1052.61 1052.50 0.00 0.00 8489 P-4266 68.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8492 P-4267 75.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8497 P-4268 77.00 99.00 130.00	8474	P-4259	32.00	99.00	130.00	Open	-0.28	1052.68	1052.68	0.00	0.00
B480 P-4262 39.00 99.00 130.00 Open 0.68 1051.96 1051.96 0.00 0.00 8482 P-4263 46.00 99.00 130.00 Open 0.48 1052.27 1052.27 0.00 0.00 8484 P-4264 47.00 99.00 130.00 Open -0.48 1052.68 1052.68 0.00 0.00 8486 P-4266 68.00 99.00 130.00 Open -1.68 1054.20 1054.20 0.00 0.00 8492 P-4267 75.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8494 P-4269 128.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8497 P-4269 128.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8501 P-4270 207.00 99.00 130.00											
8482 P-4263 46.00 99.00 130.00 Open 0.48 1052.27 1052.27 0.00 0.00 8484 P-4264 47.00 99.00 130.00 Open -0.48 1052.68 1052.68 0.00 0.00 8486 P-4265 50.00 99.00 130.00 Open -1.68 1052.61 1052.51 0.00 0.00 8489 P-4266 68.00 99.00 130.00 Open -0.48 1052.51 1051.96 0.00 0.00 8492 P-4267 75.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8494 P-4268 77.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8497 P-4269 128.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8499 P-4270 207.00 99.00 130.00											
8486 P-4265 50.00 99.00 130.00 Open -1.68 1054.20 1054.20 0.00 0.00 8489 P-4266 68.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8492 P-4267 75.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8494 P-4268 77.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8497 P-4270 207.00 99.00 130.00 Open -0.48 1053.99 1053.99 0.00 0.00 8501 P-4271 155.00 99.00 130.00 Open -0.08 1052.22 1052.22 0.00 0.00 8503 P-4272 206.00 99.00 130.00 Open -0.28 1052.22 1052.22 0.00 0.00 8505 P-4273 166.00 99.00 130.00 <td>8482</td> <td>P-4263</td> <td>46.00</td> <td>99.00</td> <td>130.00</td> <td>Open</td> <td>0.48</td> <td>1052.27</td> <td>1052.27</td> <td>0.00</td> <td>0.00</td>	8482	P-4263	46.00	99.00	130.00	Open	0.48	1052.27	1052.27	0.00	0.00
8489 P-4266 68.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8492 P-4267 75.00 99.00 130.00 Open -0.68 1051.96 1051.96 0.00 0.00 8494 P-4268 77.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8497 P-4269 128.00 99.00 130.00 Open 0.48 1053.99 105.99 0.00 0.00 8499 P-4270 207.00 99.00 130.00 Open -0.48 1053.99 1053.99 0.00 0.00 8501 P-4271 155.00 99.00 130.00 Open -0.28 1064.98 1064.98 0.00 0.00 8503 P-4272 206.00 99.00 130.00 Open -0.28 1064.98 1064.98 0.00 0.00 8505 P-4274 188.00 99.00 130.00 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
8494 P-4268 77.00 99.00 130.00 Open -0.48 1052.51 1052.51 0.00 0.00 8497 P-4269 128.00 99.00 130.00 Open 0.55 967.07 967.07 0.00 0.00 8499 P-4270 207.00 99.00 130.00 Open 0.48 1053.99 1053.99 0.00 0.00 8501 P-4271 155.00 99.00 130.00 Open -0.08 1052.22 1052.22 0.00 0.00 8503 P-4272 206.00 99.00 130.00 Open -0.28 1051.96 1064.98 0.00 0.00 8505 P-4273 186.00 99.00 130.00 Open 0.48 1051.96 1051.96 0.00 0.00 8507 P-4274 188.00 99.00 130.00 Open 0.48 1051.96 1051.96 0.00 0.00 8508 P-4275 168.00 99.00 130.00	8489	P-4266	68.00	99.00	130.00	Open	-0.48	1052.51	1052.51	0.00	0.00
8497 P-4269 128.00 99.00 130.00 Open 0.55 967.07 967.07 0.00 0.00 8499 P-4270 207.00 99.00 130.00 Open 0.04 1053.99 1053.99 0.00 0.00 8501 P-4271 155.00 99.00 130.00 Open -0.08 1052.22 1052.22 0.00 0.00 8503 P-4272 206.00 99.00 130.00 Open -0.28 1064.98 1064.98 0.00 0.00 8505 P-4273 166.00 99.00 130.00 Open 0.48 1051.96 1051.96 0.00 0.00 8507 P-4274 188.00 99.00 130.00 Open 1.24 1054.31 1054.31 0.00 0.00 8508 P-4275 168.00 99.00 130.00 Open 0.68 1057.76 1057.76 0.00 0.00											
8499 P-4270 207.00 99.00 130.00 Open 0.48 1053.99 1053.99 0.00 0.00 8501 P-4271 155.00 99.00 130.00 Open -0.08 1052.22 1052.22 0.00 0.00 8503 P-4272 206.00 99.00 130.00 Open -0.28 1064.98 1064.98 0.00 0.00 8505 P-4273 186.00 99.00 130.00 Open 0.48 1051.96 1051.96 0.00 0.00 8507 P-4274 188.00 99.00 130.00 Open 1.24 1054.31 1054.31 0.00 0.00 8508 P-4275 168.00 99.00 130.00 Open 0.68 1057.76 1057.76 0.00 0.00											
8503 P-4272 206.00 99.00 130.00 Open -0.28 1064.98 1064.98 0.00 0.00 8505 P-4273 166.00 99.00 130.00 Open 0.48 1051.96 1051.96 0.00 0.00 8507 P-4274 188.00 99.00 130.00 Open 1.24 1054.31 1054.31 0.00 0.00 8508 P-4275 168.00 99.00 130.00 Open 0.68 1057.76 1057.76 0.00 0.00	8499	P-4270	207.00	99.00	130.00	Open	0.48	1053.99	1053.99	0.00	0.00
8505 P-4273 186.00 99.00 130.00 Open 0.48 1051.96 1051.96 0.00 0.00 8507 P-4274 188.00 99.00 130.00 Open 1.24 1054.31 1054.31 0.00 0.00 8508 P-4275 168.00 99.00 130.00 Open 0.68 1057.76 1057.76 0.00 0.00											
8508 P-4275 168.00 99.00 130.00 Open 0.68 1057.76 1057.76 0.00 0.00	8505	P-4273	166.00	99.00	130.00	Open	0.48	1051.96	1051.96	0.00	0.00

Link ID	Link Label	Length (ft)	Diameter (in)	Roughness Coefficient	Control Status	Discharge (gpm)	Upstream Hydraulic Grade (ft)	Downstream Hydraulic Grade (ft)	Headloss (ft)	Headloss Gradient (ft/1000ft)
8512	P-4277	213.00	99.00	130.00	Open	0.68	1051.82	1051.82	0.00	0.00
8514	P-4278	209.00	99.00	130.00	Open	0.99	1052.51	1052.51	0.00	0.00
8515	P-4279	227.00	99.00	130.00	Open	2.10	1052.51	1052.51	0.00	0.00
8516	P-4280	260.00	99.00	130.00	Open	-0.48	1052.07	1052.07	0.00	0.00
8518	P-4281	243.00	99.00	130.00	Open	0.08	1051.81	1051.81	0.00	0.00
8520	P-4282	245.00	99.00	130.00	Open	0.68	1064.91	1064.91	0.00	0.00
8522	P-4283	251.00	99.00	130.00	Open	-6.12	1052.45	1052.45	0.00	0.00
8524	P-4284	261.00	99.00	130.00	Open	0.08	1051.74	1051.74	0.00	0.00
8526	P-4285	312.00	99.00	130.00	Open	-0.72	1022.90	1022.90	0.00	0.00
8528	P-4286	290.00	99.00	130.00	Open	-0.48	1052.68	1052.68	0.00	0.00
8530	P-4287	444.00	99.00	130.00	Open	1.75	1052.51	1052.51	0.00	0.00
8531	P-4288	461.00	99.00	130.00	Open	0.43	1052.51	1052.51	0.00	0.00
8532	P-4289	477.00	99.00	130.00	Open	-2.77	1054.20	1054.20	0.00	0.00
8533	P-4290	601.00	99.00	130.00	Open	0.31	1075.00	1075.00	0.00	0.00
8535	P-4291	724.00	99.00	130.00	Open	-0.08	1075.00	1075.00	0.00	0.00
8537	P-4292	786.00	99.00	130.00	Open	-0.48	1064.94	1064.94	0.00	0.00
8539	P-4293	1004.00	99.00	130.00	Open	-0.08	1075.00	1075.00	0.00	0.00
8541	P-4294	876.00	99.00	130.00	Open	0.46	1075.00	1075.00	0.00	0.00
499	P-Graves_Mill	64.00	12.00	130.00	Open	-0.28	1051.96	1051.96	0.00	0.00
2065	P-Hawkins_Mill	709.00	20.00	130.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
1409	P-Lakeside	22.00	16.00	130.00	Open	-0.08	1052.04	1052.04	0.00	0.00

BEDFORD COUNTY PSA WATER SYSTEMS HYDRAULIC ANALYSIS MAY 13, 2013

Run 2 - Twice Average Daily Demand plus maximum available fire flow calculated for each junction.
Proposed Water System.
All Tanks at Normal Low Level & Proposed Transmission Main - Closed.
Steady State Analysis
Tank Report

Node Label	Base Elevation (ft)	Minimum Elevation (ft)	Initial Elevation (ft)	Maximum Elevation (ft)	Diameter (ft)	Inflow (gpm)	Hydraulic Grade (ft)
Althea_Grove_Tank	1032.50	1032.50	1065.00	1075.50	68.92	-1134.34	1065.00
Fox_Run_Tank	1000.00	1196.03	1201.29	1201.39	2.67	-3.75	1201.29
Huntingwood_Tank	1050.00	1050.00	1065.00	1082.00	100.00	-226.68	1065.00
New_London_Tank	1031.32	1031.32	1065.00	1075.50	67.00	-772.77	1065.00
Parkway_Tank	1279.00	1279.00	1323.01	1329.00	60.00	-42.97	1323.01
Smith_Mountain_Lake_Tank	1046.50	1180.00	1219.01	1224.18	62.07	-525.51	1219.01
Stewartsville_Tank	1249.98	1249.98	1249.99	1250.00	10.00	(N/A)	(N/A)
R-4						-0.54	1075.00
R-Abert_WTP						0.00	800.00
R-Falling Creek						0.00	1670.00
R-High_Point_Clearwell						0.00	971.50
R-Lynchburg_WTP						0.00	1200.00
R-Camp_24						(N/A)	(N/A)

Pump Report

Pump Label	Elevation (ft)	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)
PMP-Abert_WTP	0.00	Off	800.00	1,064.94	0.00	0.00
PMP-Camp_24	1,000.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)
PMP-Fox_Run	1,007.36	Off	1,064.96	1,201.29	0.00	0.00
PMP-High_Point_WTP	936.97	Off	971.50	1,218.60	0.00	0.00
PMP-New_London	912.00	Off	1,064.63	1,065.00	0.00	0.00

Valve Report

					Upstream Hvdraulic	Downstream Hydraulic	
Valve	Elevation	Diameter	Control	Discharge	Grade	Grade	Headloss
Label	(ft)	(in)	Status	(gpm)	(ft)	(ft)	(ft)
	. ,	. ,		,	. ,	. ,	. ,
PRV-8	928.06	6.00	Inactive	10.96	1,064.98	1,064.98	0.00
PRV-9	885.56	6.00	Inactive	22.63	1,064.94	1,064.94	0.00
PRV-10	895.29	6.00	Inactive	7.40	1,064.94	1,064.94	0.00
PRV-27	880.00	6.00	<none></none>	(N/A)	(N/A)	(N/A)	(N/A)
PRV-Bateman_Bridge	905.20	6.00	Active	57.48	1,051.03	981.50	69.53
PRV-Beechwood	922.00	3.00	Active	26.10	1,218.12	991.36	226.76
PRV-Benni_Court	848.00	2.00	Active	1.58	1,218.03	963.61	254.42
PRV-Cardinal_Road	846.81	1.50	Active	0.46	1,217.75	962.42	255.33
PRV-Cottontown_Road	813.68	6.00	Active	28.46	1,054.95	963.97	90.98
PRV-Forestdale	856.03	6.00	Active	10.49	1,051.96	994.76	57.20
PRV-Forty_Acres	828.70	4.00	Active	5.66	1,218.02	967.43	250.60
PRV-Franklin_County	803.07	6.00	Inactive	257.22	1,215.48	1,215.48	0.00
PRV-Graves_Mill_Road	848.00	10.00	Inactive	-52.61	1,051.96	1,051.96	0.00
PRV-Gross_Point	856.72	4.00	Active	8.38	1,217.75	960.77	256.98
PRV-Harbor_Heights	907.00	6.00	Active	2.39	1,217.85	1,068.85	149.00
PRV-Highpoint_Road	942.03	3.00	Active	12.39	1,218.60	1,022.96	195.64
PRV-Highpoint_Section_8	950.00	3.00	Active	4.20	1,218.60	1,019.36	199.24
PRV-Homestead_Drive	849.86	8.00	Closed	0.00	1,051.96	981.48	0.00
PRV-Isle_of_Pines	901.00	4.00	Active	30.59	1,218.28	993.49	224.79
PRV-Lake_Estates	874.89	4.00	Active	16.42	1,217.81	967.37	250.44
PRV-Lake_Vista	814.36	6.00	Inactive	228.45	1,054.94	1,054.94	0.00
PRV-New_London	785.92	6.00	Active	3.35	1,056.91	873.78	183.13
PRV-Park_Shores	873.38	4.00	Active	7.26	1,218.11	988.99	229.13
PRV-Ridgeview_Drive	740.00	6.00	Active	6.56	1,055.61	825.55	230.06
PRV-Sign_N_Pine	845.98	1.50	Active	4.37	1,217.73	961.59	256.14
PRV-Waterways	858.00	2.00	Active	11.48	1,217.77	973.61	244.17

BEDFORD COUNTY PSA WATER SYSTEMS HYDRAULIC ANALYSIS MAY 13, 2013

Run 2 - Twice Average Daily Demand plus maximum available fire flow calculated for each junction.
Proposed Water System.

All Tanks at Normal Low Level & Proposed Transmission Main - Closed.

Steady State Analysis
Fire Flow Report - sorted by Available Fire Flow

	Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
1-622 1-622 1-622 1-622 1-622 1-622 1-623 1	8695	J-4226	<none></none>	(N/A)	1.00	(N/A)	(N/A)	(N/A)	20.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
14-220	8701	J-4227	<none></none>	(N/A)	1.00	(N/A)	(N/A)	(N/A)	20.00	(N/A)	20.00	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
2.4-232 4-4-232 4-4-2-2 4-4-																
Fig. 12																
Fig. 1																
1-12-12 1-12																
Section Sect																
186 2-710 Torn Node FALSE 1.00 0.00 1.00 1.00 2.000 20.48 2.000 17.28 1.1188 (NA) 17.28 1.11888 1.1188 1.1188 1.11888 1.1188 1.1188 1.1188 1.1188																
1972 1-11																
33																
1-1926																
2256 -1-220 Freest True 1.00 48.65 188 49.53 20.00 44.65 20.00 20.01 -1-202 NA) 17.28 -1-180 17.20																
2286																
1902	2296	J-1230		TRUE	1.00	48.67	2.48	50.15	20.00	30.04	20.00	20.00	J-1262	(N/A)	17.28	J-1198
1907 1908 Liebe TRUE 1.00 71.15 1.55 71.70 20.00 20.16 20.00 32.62 1.2332 0.740 17.28 1.9189																
1909																
2015																
2010																
1.00 1.009																
2018 J-1066 Lakes TRUE 1.00 88.46 1.37 88.84 20.00 20.04 20.00 30.76 J-1575 (N/A) 17.28 J-1580 20.00 20.04 20.00 20.07 20.04 20.00 20.07 20.04 20.00 20.07 20.00 20.00 20.07 20.00 20.07 20.00																
1961 J-1022 Forest TRUE 1.00 93.71 1.189 94.70 20.00 20.15 20.00 24.36 J-1937 (NA) 17.28 J-198 1.192 J-192																
2012																
1.2224 J.1188 Forest TRUE 1.00 94.24 1.08 94.29 20.00 46.49 20.00 20.01 J.1262 (NA) 17.28 J.1198																
1.00 1.00																
	2224	J-1187			1.00	94.24		94.92	20.00		20.00	20.00		(N/A)		
1976 1-1039 Lakes TRUE 1.00 104-36 1.46 104-82 20.00 20.00 20.00 20.00 32.62 3-2323 (NA) 17.28 3-1198 1966 1-1052 Fox, Run TRUE 1.00 107-83 1-172 103-83 20.00 20.05 20.00 32.62 3-2323 (NA) 17.28 3-1198 1-198																
2005																
1985																
1956 J-1026 Lakes TRUE 1.00 110.64 1.37 111.01 20.00 20.25 20.00 23.62 J-2232 (NA) 17.28 J-1198 1726 J-137 1727 J-1035 Lakes TRUE 1.00 111.67 1.48 J-1198 J-																
1726																
1970																
1937 J-1018																
1944 J-1018 Forest TRUE 1.00 113.30 1.88 114.18 2.00 2.00 2.00 2.00 24.30 J-1197 (N/A) 17.22 J-1198 1931 J-1009 Lakes TRUE 1.00 116.84 1.68 117.52 2.00 2.011 2.00 24.36 J-1197 (N/A) 17.28 J-1198 1906 J-1053 Lakes TRUE 1.00 116.84 1.68 117.52 2.00 2.011 2.00 24.36 J-1197 (N/A) 17.28 J-1198 1906 J-1053 Lakes TRUE 1.00 118.99 1.68 119.67 2.00 2.00 2.00 2.362 J-2323 (N/A) 17.28 J-1198 1906 J-1020 Forest TRUE 1.00 118.99 1.68 119.67 2.00 2.00 2.00 2.436 J-1197 (N/A) 17.28 J-1198 1.00 1.0																
1931 J-1009																
1972 J-1036 Forest TRUE 1.00 116.84 1.68 117.52 20.00 20.01 20.00 24.36 J-1197 (WA) 17.28 J-1198 1986 J-1937 Forest TRUE 1.00 118.99 1.68 119.67 20.00 20.00 20.00 24.36 J-1197 (WA) 17.28 J-1198 1996 J-1020 Forest TRUE 1.00 12.10 18.89 12.218 20.00 20.24 20.00 24.36 J-1197 (WA) 17.28 J-1198 1997 J-1020 Forest TRUE 1.00 12.25 1.08 122.18 20.00 20.28 20.00 24.36 J-1197 (WA) 17.28 J-1198 1997 J-1244 Lakes TRUE 1.00 122.35 1.08 122.42 20.00 20.28 20.00 24.36 J-1197 (WA) 17.28 J-1198 1941 J-1016 Forest TRUE 1.00 122.85 1.88 122.18 20.00 20.26 20.00 24.36 J-1197 (WA) 17.28 J-1198 1941 J-1016 Forest TRUE 1.00 123.99 1.29 129.67 20.00 20.06 20.00 24.36 J-1197 (WA) 17.28 J-1198 1941 J-1016 Forest TRUE 1.00 130.43 1.68 131.11 20.00 20.00 20.00 20.36 J-1197 (WA) 17.28 J-1198 2363 J-1267 Forest TRUE 1.00 130.43 1.68 131.11 20.00 20.00 20.00 20.05 J-1374 (WA) 17.28 J-1198 2363 J-1267 Forest TRUE 1.00 131.65 1.37 131.84 20.00 22.00 20.00 20.00 J-1374 (WA) 17.28 J-1198 2363 J-1452 Lakes TRUE 1.00 131.65 1.37 131.84 20.00 22.00 20.00 20.00 J-1374 (WA) 17.28 J-1198 2363 J-163 Lakes TRUE 1.00 131.65 1.37 132.04 20.00 47.65 20.00 20.00 J-1374 (WA) 17.28 J-1198 20.25 J-1070 Lakes TRUE 1.00 131.66 1.00																
1996 J-993 Forest TRUE 1.00 118.99 1.68 119.67 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 30 J-2 Forest TRUE 1.00 122.35 1.08 122.42 20.00 20.28 20.00 24.36 J-1197 (N/A) 17.28 J-1198 30 J-2 Forest TRUE 1.00 127.62 1.37 127.99 20.00 20.28 20.00 24.36 J-1197 (N/A) 17.28 J-1198 30 J-2 Forest TRUE 1.00 127.62 1.37 127.99 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 31.11 J-1016 Forest TRUE 1.00 128.69 1.88 122.57 20.00 20.06 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2565 J-1374 Lakes TRUE 1.00 129.39 129.67 20.00 20.04 20.00 23.64 J-1265 (N/A) 17.28 J-1198 2363 J-1267 Forest TRUE 1.00 130.43 1.68 131.11 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2363 J-1267 Forest TRUE 1.00 130.43 1.68 131.11 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2362 J-1265 Lakes TRUE 1.00 131.47 1.37 131.84 20.00 22.32 20.00 20.05 J-1374 (N/A) 17.28 J-1198 2363 J-1452 Lakes TRUE 1.00 131.65 1.37 131.84 20.00 22.32 20.00 20.05 J-1374 (N/A) 17.28 J-1198 20.04 J-1452 Lakes TRUE 1.00 131.65 1.63 132.29 20.00 33.17 20.00 20.00 J-1374 (N/A) 17.28 J-1198 20.00 J-1452 Lakes TRUE 1.00 131.65 1.63 132.29 20.00 33.17 20.00 20.00 J-1374 (N/A) 17.28 J-1198 20.00 J-1452 Lakes TRUE 1.00 131.65 1.63 132.29 20.00 24.75 20.00 20.00 J-1374 (N/A) 17.28 J-1198 20.00 J-1452 Lakes TRUE J-100 131.65 1.63 132.29 20.00 24.75 20.00 20.00 J-1374 (N/A) 17.28 J-1198 20.00 J-1374 J-1198 J-1198 J-1294 J-129	1972	J-1036	Forest	TRUE	1.00	116.84	1.68	117.52	20.00	20.11	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1947 J-1020 Forest TRUE 1.00 121.30 1.88 122.18 20.00 20.24 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2321 J-1244 Lakes TRUE 1.00 127.62 1.37 127.99 20.00 20.01 20.00 21.04 J-1374 (N/A) 17.28 J-1198 2321 J-1244 Lakes TRUE 1.00 128.69 1.88 128.57 20.00 20.02 20.00 21.04 J-1374 (N/A) 17.28 J-1198 2568 J-1374 Lakes TRUE 1.00 128.69 1.88 128.57 20.00 20.02 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2568 J-1267 Forest TRUE 1.00 130.43 1.68 131.11 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2322 J-1245 Lakes TRUE 1.00 131.47 1.37 131.84 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2322 J-1245 Lakes TRUE 1.00 131.65 1.37 131.84 20.00 22.32 20.00 20.05 J-1374 (N/A) 17.28 J-1198 2322 J-1245 Lakes TRUE 1.00 131.65 1.29 131.94 20.00 26.00 20.00 J-1374 (N/A) 17.28 J-1198 20.00 J-1374 (N/A) 17.28 J-1198 20.00 J-1374 Lakes TRUE 1.00 131.65 1.29 131.94 20.00 20.00 J-1374 (N/A) 17.28 J-1198 20.00 J-1374 (N/A) 17.28 J-1198 20.00 J-1374 Lakes TRUE J-100 131.65 J-129 J-1297 Lakes TRUE J-100 J-13.66 J-20 J-13.86 J-129 J-1297 J-1297 Lakes TRUE J-100 J-13.66 J-20 J-13.86 J-129 J-1297 J-1297 J-1297 J-1297 J-1298 J-1297 J-1298 J-1297 J-1298 J-1298 J-1299 J-1298 J-1299 J-1298 J-129																
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2863 J-1267 Forest TRUE 1.00 130.43 1.68 131.11 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2322 J-1245 Lakes TRUE 1.00 131.65 1.37 132.02 20.00 47.65 20.00 20.00 J-1374 (N/A) 17.28 J-1198 2694 J-1452 Lakes TRUE 1.00 131.65 1.37 132.02 20.00 46.68 20.00 20.00 J-1374 (N/A) 17.28 J-1198 2695 J-1453 Lakes TRUE 1.00 131.65 1.29 131.94 20.00 46.68 20.00 20.00 J-1374 (N/A) 17.28 J-1198 2695 J-1453 Lakes TRUE 1.00 131.65 1.63 132.29 20.00 39.17 20.00 20.00 J-1374 (N/A) 17.28 J-1198 2026 J-1070 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 24.73 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1734 J-1277 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 24.73 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1734 J-128 J-1297 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 24.70 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1879 J-108 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 20.00 24.70 20.00 J-1374 (N/A) 17.28 J-1198 1879 J-108 Lakes TRUE 1.00 132.11 1.29 132.39 20.00 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1979 J-1041 Forest TRUE 1.00 133.53 1.68 134.21 20.00 20.00 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1999 J-1041 Forest TRUE 1.00 134.28 1.55 134.83 20.00 20.00 20.00 24.32 J-1197 (N/A) 17.22 J-1198 1983 J-1043 Forest TRUE 1.00 134.28 1.55 134.83 20.00 20.00 20.00 24.32 J-1197 (N/A) 17.28 J-1198 1983 J-1043 Forest TRUE 1.00 142.64 1.88 143.52 20.00 20.00 20.00 24.35 J-1197 (N/A) 17.28 J-1198 1873 J-976 Forest TRUE 1.00 142.24 1.48 143.52 20.00 20.00 20.00 24.35 J-1397 (N/A) 17.28 J-1198 1873 J-995 Lakes TRUE 1.00 142.24 1.48 143.52 20.00 20.00 20.00 24.35 J-1397 (N/A) 17.28 J-1198 183 J-995 Lakes TRUE 1.00 142.24 1.46 145.69 20.00 20.00 20.00 24.35 J-1397 (N/A) 17.28 J-1198 183 J-995 Lakes TRUE 1.00 142.24 1.46 145.69 20.00 20.00 20.00 24.35 J-1397 (N/A) 17.28 J-1198 183 J-996 Forest TRUE 1.00 145.22 1.46 145.69 20.00 20.00 20.00 24.35 J-1397 (N/A) 17.28 J-1198 183 J-996 Forest TRUE 1.00 145.22 1.46 145.69 20.00 20.00 20.00 24.35 J-1397 (N/A) 17.28 J-1198 1990 J-1048 Forest TRUE 1.00 150.37 1.88 151.35 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1990 J-1048																
2822 J-1245 Lakes TRUE 1.00 131.65 1.37 131.84 20.00 22.32 20.00 20.05 J-1374 (NA) 17.28 J-1198 1735 J-883 Lakes TRUE 1.00 131.65 1.37 132.02 20.00 47.65 20.00 20.00 J-1374 (NA) 17.28 J-1198 1735 J-883 Lakes TRUE 1.00 131.65 1.29 131.94 20.00 46.68 20.00 20.00 J-1374 (NA) 17.28 J-1198 1735 J-1835 Lakes TRUE 1.00 131.65 1.29 131.94 20.00 46.68 20.00 20.00 J-1374 (NA) 17.28 J-1198 1734 J-862 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 20.00 24.73 20.00 20.00 J-1374 (NA) 17.28 J-1198 1734 J-862 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 24.73 20.00 20.00 J-1374 (NA) 17.28 J-1198 1734 J-862 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 24.70 20.00 20.00 J-1374 (NA) 17.28 J-1198 1929 J-1008 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 24.70 20.00 20.00 J-1374 (NA) 17.28 J-1198 1929 J-1008 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 24.70 20.00 20.00 J-1374 (NA) 17.28 J-1198 1939 J-1004 Lakes TRUE 1.00 132.11 1.29 132.39 20.00 20.00 20.00 32.62 J-2323 (NA) 17.28 J-1198 1999 J-995 Lakes TRUE 1.00 133.53 1.68 134.21 20.00 20.00 20.00 20.00 32.62 J-2323 (NA) 17.28 J-1198 1993 J-1034 Forest TRUE 1.00 134.28 1.55 134.83 20.00 20.00 20.00 20.00 32.62 J-2323 (NA) 17.28 J-1198 1994 J-1031 Forest TRUE 1.00 134.28 1.55 134.83 20.00 20.00 20.00 20.00 32.62 J-2323 (NA) 17.28 J-1198 1994 J-1031 Forest TRUE 1.00 134.28 14.55 134.83 20.00 20.00 20.00 20.00 24.35 J-1197 (NA) 17.28 J-1198 1994 J-1031 Forest TRUE 1.00 142.64 1.88 143.52 20.00 20.00 20.00 24.35 J-1197 (NA) 17.28 J-1198 1879 J-978 Forest TRUE 1.00 142.64 1.88 143.52 20.00 20.00 20.00 24.35 J-1197 (NA) 17.28 J-1198 1873 J-978 Forest TRUE 1.00 142.64 1.88 145.52 20.00 20.00 20.00 24.35 J-1197 (NA) 17.28 J-1198 1893 J-985 Lakes TRUE 1.00 145.22 1.46 145.68 20.00 20.00 20.00 24.35 J-1197 (NA) 17.28 J-1198 1893 J-985 Lakes TRUE 1.00 145.22 1.46 145.69 20.00 20.00 20.00 24.35 J-1197 (NA) 17.28 J-1198 199 J-978 Forest TRUE 1.00 145.22 1.46 145.69 20.00 20.00 20.00 24.35 J-1197 (NA) 17.28 J-1198 1993 J-1048 Forest TRUE 1.00 145.29 1.65 145.69 20.00 20.00 20.00 20.00 J-1374 (NA) 17.28 J-1198 199																
1735 J-883 Lakes TRUE 1.00 131.65 1.29 131.94 20.00 46.68 20.00 20.00 J-1374 (NA) 17.28 J-1189 2026 J-1070 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 24.73 20.00 20.00 J-1374 (NA) 17.28 J-1189 2026 J-1070 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 24.73 20.00 20.00 J-1374 (NA) 17.28 J-1189 1734 J-128 J-1287																
2695 J-1453 Lakes TRUE 1.00 131.65 1.63 132.29 20.00 29.17 20.00 J-1374 (NA) 17.28 J-1188 1734 J-180 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 20.00 20.00 J-1374 (N/A) 17.28 J-1188 1734 J-1297 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1929 J-1041 Forest TRUE 1.00 132.11 1.29 132.39 20.00 20.00 20.00 32.62 J-1197 (N/A) 17.28 J-1198 1979 J-1041 Forest TRUE 1.00 134.28 1.55 134.83 20.00 20.00 20.00 24.32 J-1197 (N/A) 17.28 J-1198 1994 J-1041 Forest TRUE 1.00 134.26 1.58																
2026 J-1070 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 24.73 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1734 J-128 J-128 J-1297 Lakes TRUE 1.00 131.66 1.20 131.86 20.00 24.70 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1929 J-1008 Lakes TRUE 1.00 132.11 1.29 132.39 20.00 20.00 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1929 J-1008 Lakes TRUE 1.00 132.11 1.29 132.39 20.00 20.00 20.00 20.00 24.32 J-1197 (N/A) 17.28 J-1198 1999 J-995 Lakes TRUE 1.00 134.28 1.55 134.83 20.00 20.00 20.00 24.32 J-1197 (N/A) 17.28 J-1198 1993 J-1043 Forest TRUE 1.00 134.24 1.88 139.35 20.00 20.00 20.00 24.35 J-1197 (N/A) 17.28 J-1198 1994 J-1031 Forest TRUE 1.00 142.64 1.88 143.52 20.00 20.00 20.00 24.35 J-1197 (N/A) 17.28 J-1198 1874 J-973 Lakes TRUE 1.00 143.23 1.46 143.69 20.00 20.00 20.00 24.35 J-1197 (N/A) 17.28 J-1198 1893 J-986 Forest TRUE 1.00 144.20 1.63 144.84 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1893 J-895 Lakes TRUE 1.00 144.20 1.63 144.84 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1893 J-895 Lakes TRUE 1.00 145.22 1.37 145.59 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1893 J-895 Lakes TRUE 1.00 145.22 1.37 145.59 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1893 J-895 Lakes TRUE 1.00 145.22 1.37 145.59 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1893 J-1024 Forest TRUE 1.00 145.22 1.37 145.59 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1904 J-992 Forest TRUE 1.00 145.22 1.37 145.59 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1904 J-992 Forest TRUE 1.00 145.22 1.37 145.59 20.00 20.00 20.00 2																
1734																
1929	1734	J-882	Lakes	TRUE	1.00	131.66	1.46	132.12	20.00	30.85	20.00	20.00	J-1374	(N/A)	17.28	J-1198
1979																
1909																
1964 J-1031 Forest TRUE 1.00 142.64 1.88 143.52 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1879 J-976 Forest TRUE 1.00 143.23 1.46 143.69 20.00 20.00 20.00 24.35 J-1360 (N/A) 17.28 J-1198 1879 J-976 Forest TRUE 1.00 143.20 1.48 143.63 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1883 J-985 Lakes TRUE 1.00 144.20 1.63 144.84 20.00 20.00 20.00 22.00 22.323 (N/A) 17.28 J-1198 1635 J-819 Lakes TRUE 1.00 145.22 1.37 145.59 20.00 35.22 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1636 J-820 Lakes TRUE 1.00 145.22 1.46 145.68 20.00 32.25 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1904 J-992 Forest TRUE 1.00 147.01 1.48 147.49 20.00 20.03 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1912 J-997 Forest TRUE 1.00 148.30 2.68 149.99 20.00 20.00 20.00 24.35 J-1197 (N/A) 17.27 J-1198 1912 J-997 Forest TRUE 1.00 148.30 2.68 149.99 20.00 20.00 20.00 24.35 J-1197 (N/A) 17.27 J-1198 1953 J-1024 Forest TRUE 1.00 150.47 1.88 151.35 20.00 20.00 24.35 J-1197 (N/A) 17.27 J-1198 122 J-943 Forest TRUE 1.00 150.47 1.88 151.35 20.00 20.00 24.35 J-1197 (N/A) 17.28 J-1198 2283 J-1222 Forest TRUE 1.00 152.99 1.55 153.53 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1770 J-906 Lakes TRUE 1.00 153.31 2.28 154.59 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1771 J-871 Forest TRUE 1.00 153.31 2.28 154.59 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1923 J-1004 Forest TRUE 1.00 153.74 2.28 155.02 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1923 J-1004 Forest TRUE 1.00 153.74 2.28 155.02 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1923 J-1004 Forest TRUE 1.00 156.6	1909	J-995	Lakes	TRUE	1.00	134.28	1.55	134.83	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1874 J-973 Lakes TRUE 1.00 143.23 1.46 143.69 20.00 20.00 20.00 24.35 J-1360 (N/A) 17.28 J-1198 1879 J-976 Forest TRUE 1.00 143.90 1.48 144.84 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1883 J-985 Lakes TRUE 1.00 144.20 1.63 144.84 20.00 20.00 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1635 J-819 Lakes TRUE 1.00 145.22 1.37 145.59 20.00 32.25 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1904 J-992 Forest TRUE 1.00 147.01 1.48 147.49 20.00 20.03 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1990 J-1048 Forest TRUE																
1879 J-976 Forest TRUE 1.00 143.90 1.48 144.38 2.0.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1635 J-819 Lakes TRUE 1.00 145.22 1.37 145.59 20.00 35.22 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1636 J-820 Lakes TRUE 1.00 145.22 1.37 145.59 20.00 35.22 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1636 J-820 Lakes TRUE 1.00 145.22 1.46 145.68 20.00 32.25 20.00 20.00 J-1374 (N/A) 17.28 J-1198 1994 J-104 Forest TRUE 1.00 147.01 1.48 147.49 20.00 20.03 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1990 J-1048 Forest TRUE 1.00 147.45 1.68 148.13 20.00 20.00 20.00 24.35 J-1197 (N/A) 17.27 J-1198 1912 J-997 Forest TRUE 1.00 148.30 2.68 149.99 20.00 20.00 20.00 24.35 J-1197 (N/A) 17.27 J-1198 1829 J-943 Forest TRUE 1.00 150.47 1.88 151.35 20.00 20.01 20.00 24.35 J-1197 (N/A) 17.27 J-1198 1829 J-122 Forest TRUE 1.00 151.97 1.88 152.85 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1770 J-906 Lakes TRUE 1.00 152.93 2.08 154.01 20.00 37.08 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1777 J-871 Forest TRUE 1.00 153.31 2.28 155.02 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1797 J-871 Forest TRUE 1.00 153.37 2.28 155.02 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1923 J-1004 Forest TRUE 1.00 154.56 3.09 156.64 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1926 J-1006 Forest TRUE 1.00 156.65 3.09 156.64 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1926 J-1006 Forest TRUE 1.00 156.65 3.09 156.64 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1926 J-1006 Forest TRUE 1.00 156.65 3.80 156.69 20.00 20.00 20.00 24.36 J-1197 (N/																
18893 J-985 Lakes TRUE 1.00 144.20 1.63 144.84 20.00 20.00 20.00 J-2323 (IVA) 17.28 J-1198 1635 J-819 Lakes TRUE 1.00 145.22 1.37 145.59 20.00 35.22 20.00 20.00 J-1374 (NA) 17.28 J-1198 1904 J-992 Forest TRUE 1.00 147.01 1.48 147.49 20.00 20.03 20.00 J-1197 (N/A) 17.28 J-1198 1990 J-1048 Forest TRUE 1.00 147.01 1.48 147.49 20.00 20.00 24.36 J-1197 (N/A) 17.27 J-1198 1912 J-997 Forest TRUE 1.00 148.30 2.68 149.99 20.00 20.00 24.35 J-1197 (N/A) 17.27 J-1198 1953 J-1024 Forest TRUE 1.00 150.47 1.88 151.35						143.90					20.00					
1636			Lakes			144.20		144.84			20.00	32.62			17.28	J-1198
1904 J-992 Forest TRUE 1.00 147.01 1.48 147.49 2.0.00 20.03 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1990 J-1048 Forest TRUE 1.00 147.45 1.68 148.13 20.00 20.00 20.00 24.35 J-1197 (N/A) 17.27 J-1198 1912 J-997 Forest TRUE 1.00 148.30 2.68 149.99 20.00 20.00 20.00 24.35 J-1197 (N/A) 17.27 J-1198 1953 J-1024 Forest TRUE 1.00 150.47 1.88 151.35 20.00 20.00 20.00 24.35 J-1197 (N/A) 17.27 J-1198 1829 J-943 Forest TRUE 1.00 151.97 1.88 151.35 20.00 20.00 20.00 24.35 J-1197 (N/A) 17.28 J-1198 2283 J-1222 Forest TRUE 1.00 152.93 2.08 154.01 20.00 37.08 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1770 J-966 Lakes TRUE 1.00 152.93 2.08 154.01 20.00 37.08 20.00 20.00 32.62 J-2323 (N/A) 17.28 J-1198 1771 J-871 Forest TRUE 1.00 153.31 2.28 154.59 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1896 J-987 Forest TRUE 1.00 154.56 3.09 156.64 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1926 J-1006 Forest TRUE 1.00 156.05 1.88 156.93 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1926 J-1006 Forest TRUE 1.00 156.64 1.88 157.72 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1926 J-1006 Forest TRUE 1.00 156.64 1.88 157.72 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1915 J-999 Forest TRUE 1.00 158.64 1.68 159.32 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1915 J-999 Forest TRUE 1.00 158.64 1.68 159.32 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1915 J-999 Forest TRUE 1.00 158.64 1.68 159.32 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1915 J-999 Forest TRUE 1.00 158.64 1.68 159.32 20.00 20																
1990																
1953 J-1024 Forest TRUE 1.00 150.47 1.88 151.35 20.00 20.01 20.00 24.35 J-1197 (N/A) 17.27 J-1198 J-189 J-943 Forest TRUE 1.00 151.97 1.88 151.35 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 J-1198 J-1222 Forest TRUE 1.00 152.93 2.08 154.01 20.00 37.08 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198	1990	J-1048	Forest	TRUE	1.00	147.45	1.68	148.13	20.00	20.00	20.00	24.35	J-1197	(N/A)	17.27	J-1198
1829 J-943 Forest TRUE 1.00 151.97 1.88 152.85 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 12283 J-1222 Forest TRUE 1.00 152.93 2.08 154.01 20.00 20.00 20.00 20.00 20.00 17.28 J-1198 1770 J-906 Lakes TRUE 1.00 152.99 1.55 153.53 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2010 J-1061 Forest TRUE 1.00 153.31 2.28 155.02 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1777 J-871 Forest TRUE 1.00 154.36 3.09 156.64 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1923 J-1004 Forest TRUE 1.00																
2283 J-1222 Forest TRUE 1.00 152.93 2.08 154.01 20.00 37.08 20.00 20.00 J-1262 (N/A) 17.28 J-1198 1770 J-906 Lakes TRUE 1.00 152.99 1.55 153.53 20.00 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1717 J-871 Forest TRUE 1.00 153.74 2.28 155.02 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1896 J-987 Forest TRUE 1.00 154.56 3.09 156.64 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1923 J-1004 Forest TRUE 1.00 156.95 1.88 156.93 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1926 J-1006 Forest																
1770																
1717	1770	J-906	Lakes	TRUE	1.00	152.99	1.55	153.53	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1896 J-987 Forest TRUE 1.00 154.56 3.09 156.64 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1923 J-1004 Forest TRUE 1.00 156.05 1.88 156.93 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 3016 J-1026 Forest TRUE 1.00 156.64 1.88 157.72 20.00 20.01 20.00 24.36 J-1197 (N/A) 17.28 J-1198 3016 J-1622 Lakes TRUE 1.00 157.66 3.80 160.45 20.00 20.01 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1915 J-999 Forest TRUE 1.00 158.64 1.68 159.32 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1921 J-103 Forest TRUE																
1923 J-1004 Forest TRUE 1.00 156.05 1.88 156.93 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 3016 J-1622 Lakes TRUE 1.00 157.66 3.80 160.45 20.00 20.01 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1915 J-999 Forest TRUE 1.00 158.64 1.68 159.32 20.00 20.01 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1921 J-1033 Forest TRUE 1.00 158.64 1.68 159.32 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1921 J-103 Forest TRUE 1.00 159.23 1.68 159.90 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2129 J-1128 Lakes TRUE 1.00																
1926 J-1006 Forest TRUE 1.00 156.84 1.88 157.72 20.00 20.16 20.00 24.36 J-1197 (N/A) 17.28 J-1198 3016 J-1622 Lakes TRUE 1.00 157.66 3.80 160.45 20.00 20.01 20.00 32.62 J-3232 (N/A) 17.28 J-1198 1951 J-999 Forest TRUE 1.00 158.64 1.68 159.32 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1921 J-1003 Forest TRUE 1.00 159.23 1.68 159.90 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1921 J-103 Forest TRUE 1.00 159.23 1.68 159.90 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2129 J-1128 Lakes TRUE		J-1004									20.00			(N/A)		
1915 J-999 Forest TRUE 1.00 158.64 1.68 159.32 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 1921 J-103 Forest TRUE 1.00 159.23 1.68 159.90 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2129 J-1128 Lakes TRUE 1.00 159.30 1.55 159.85 20.00 49.29 20.00 20.01 J-1374 (N/A) 17.28 J-1198 2129 J-1128 Lakes TRUE 1.00 159.30 1.55 159.85 20.00 49.29 20.00 20.01 J-1374 (N/A) 17.28 J-1198			Forest			156.84										J-1198
1921 J-1003 Forest TRUE 1.00 159.23 1.68 159.90 20.00 20.00 20.00 24.36 J-1197 (N/A) 17.28 J-1198 2129 J-1128 Lakes TRUE 1.00 159.30 1.55 159.85 20.00 49.29 20.00 20.01 J-1374 (N/A) 17.28 J-1198																
2129 J-1128 Lakes TRUE 1.00 159.30 1.55 159.85 20.00 49.29 20.00 20.01 J-1374 (N/A) 17.28 J-1198																
2301 J-1233 Lakes TRUE 1.00 159.32 1.72 160.04 20.00 33.70 20.00 20.00 J-1374 (N/A) 17.28 J-1198	2129	J-1128	Lakes	TRUE	1.00	159.30	1.55	159.85	20.00	49.29	20.00	20.01	J-1374	(N/A)	17.28	J-1198
	2301	J-1233	Lakes	TRUE	1.00	159.32	1.72	160.04	20.00	33.70	20.00	20.00	J-1374	(N/A)	17.28	J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
1782 1898	J-913 J-988	Forest Forest	TRUE TRUE	1.00 1.00	160.25 163.41	1.48 3.09	160.73 165.49	20.00 20.00	20.00 20.00	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1685	J-850	Forest	TRUE	1.00	164.93	2.28	166.21	20.00	20.14	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1918 2013	J-1001 J-1063	Forest Lakes	TRUE TRUE	1.00 1.00	166.64 167.09	1.48 1.46	167.12 167.55	20.00 20.00	20.00 26.40	20.00 20.00	24.36 20.32	J-1197 J-1062	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2269	J-1213	Lakes	TRUE	1.00	167.48	1.72	168.20	20.00	20.02	20.00	29.08	J-1214	(N/A)	17.28	J-1198
1901 1887	J-990 J-981	Forest Forest	TRUE TRUE	1.00 1.00	169.63 169.87	1.88 1.48	170.51 170.34	20.00 20.00	20.00 20.00	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2717	J-1466	Lakes	TRUE	1.00	170.19	1.20	170.38	20.00	20.02	20.00	31.23	J-1365	(N/A)	17.28	J-1198
1729 2022	J-879 J-1068	Lakes Lakes	TRUE TRUE	1.00 1.00	170.40 170.82	1.89 1.20	171.30 171.02	20.00 20.00	20.01 20.13	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1868	J-969	Forest	TRUE	1.00	171.51	2.28	172.79	20.00	20.00	20.00	24.35	J-1197	(N/A)	17.27	J-1198
1877 1818	J-975 J-936	Forest Forest	TRUE TRUE	1.00 1.00	171.82 173.72	2.48 1.88	173.30 174.61	20.00 20.00	20.00 20.00	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2545	J-1366	Lakes	TRUE	1.00	175.78	1.20	175.98	20.00	31.14	20.00	20.00	J-1466	(N/A)	17.28	J-1198
2544 32	J-1365 J-3	Lakes Forest	TRUE TRUE	1.00 1.00	175.78 176.95	1.29 1.28	176.07 177.22	20.00 20.00	28.99 20.27	20.00 20.00	20.00 22.86	J-1466 J-4	(N/A) (N/A)	17.28 17.27	J-1198 J-1198
2128 2036	J-1127 J-1077	Lakes Lakes	TRUE TRUE	1.00 1.00	177.38 177.68	1.72 1.81	178.10 178.48	20.00 20.00	49.37 21.94	20.00 20.00	20.00 20.04	J-1374 J-1360	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3026	J-1627	Forest	TRUE	1.00	177.80	2.48	179.28	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2534 1873	J-1360 J-972	Lakes Lakes	TRUE TRUE	1.00 1.00	177.89 177.99	1.46 2.34	178.34 179.32	20.00 20.00	20.01 50.94	20.00 20.00	22.58 20.00	J-1077 J-1360	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2917	J-1578	Lakes	TRUE	1.00	177.99	1.37	178.36	20.00	65.28	20.00	20.00	J-1360	(N/A)	17.28	J-1198
2001 1967	J-1055 J-1033	Lakes Forest	TRUE TRUE	1.00 1.00	177.99 178.59	1.37 2.08	178.36 179.68	20.00 20.00	28.38 20.00	20.00 20.00	20.00 24.35	J-1360 J-1197	(N/A) (N/A)	17.28 17.27	J-1198 J-1198
1698	J-859	Forest	TRUE	1.00	181.03	1.48	181.51	20.00	20.01	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2341 1802	J-1255 J-926	Lakes Forest	TRUE TRUE	1.00 1.00	182.95 182.96	1.81 1.28	183.76 183.24	20.00 20.00	20.00 20.01	20.00 20.00	32.62 24.36	J-2323 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8498	J-4202	Lakes	TRUE	1.00	183.30	1.55	183.84	20.00	21.47	20.00	20.25	J-1139	(N/A)	17.28	J-1198
1975 2146	J-1038 J-1139	Lakes Lakes	TRUE TRUE	1.00 1.00	183.60 183.77	1.20 1.37	183.80 184.14	20.00 20.00	21.05 20.06	20.00 20.00	20.34 21.28	J-1039 J-4202	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2420	J-1296	Lakes	TRUE	1.00	184.43	1.29	184.72	20.00	20.02	20.00	20.02	J-1295	(N/A)	17.28	J-1198
2419 2505	J-1295 J-1344	Lakes Lakes	TRUE TRUE	1.00 1.00	184.46 185.17	1.55 1.20	185.00 185.37	20.00 20.00	20.01 26.64	20.00 20.00	20.04 20.14	J-1296 J-1466	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2469	J-1325 J-1324	Lakes	TRUE TRUE	1.00	185.19	1.20 1.29	185.39 185.48	20.00 20.00	26.93 27.09	20.00 20.00	20.14	J-1466 J-1466	(N/A) (N/A)	17.28 17.28	J-1198
2468 2762	J-1324 J-1493	Lakes Lakes	TRUE	1.00 1.00	185.19 185.55	1.29	185.48	20.00	28.51	20.00	20.14 20.00	J-1466 J-1466	(N/A) (N/A)	17.28	J-1198 J-1198
2245 3021	J-1199 J-1624	Lakes Forest	TRUE TRUE	1.00 1.00	186.52 187.18	1.81 2.08	187.32 188.26	20.00 20.00	20.00 20.00	20.00 20.00	27.67 24.35	J-1427 J-1197	(N/A) (N/A)	17.28 17.27	J-1198 J-1198
1890	J-1624 J-983	Forest	TRUE	1.00	187.95	1.88	188.83	20.00	20.00	20.00	24.36	J-1197 J-1197	(N/A)	17.28	J-1198
1791 2352	J-919 J-1261	Forest Lakes	TRUE TRUE	1.00 1.00	188.23 189.21	1.88 1.72	189.11 189.93	20.00 20.00	20.00 20.00	20.00 20.00	24.36 32.62	J-1197 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1709	J-866	Lakes	TRUE	1.00	189.45	1.20	189.65	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1938 2270	J-1014 J-1214	Lakes Lakes	TRUE TRUE	1.00 1.00	190.42 190.88	1.72 2.06	191.14 191.94	20.00 20.00	20.00 20.02	20.00 20.00	23.80 23.83	J-1013 J-1213	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8527	J-4215	Lakes	TRUE	1.00	191.40	1.72	192.12	20.00	31.78	20.00	20.08	J-839	(N/A)	17.28	J-1198
2941 2940	J-1590 J-1589	Lakes Lakes	TRUE TRUE	1.00 1.00	191.41 191.42	1.89 1.81	192.31 192.22	20.00 20.00	35.27 32.90	20.00 20.00	20.07 20.07	J-839 J-839	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2289	J-1225	Lakes	TRUE	1.00	191.72	1.89	192.61	20.00	20.01	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1668 1862	J-839 J-965	Lakes Forest	TRUE TRUE	1.00 1.00	191.74 192.34	1.37 2.28	192.11 193.62	20.00 20.00	20.00 20.03	20.00 20.00	31.24 24.34	J-1575 J-1197	(N/A) (N/A)	17.28 17.27	J-1198 J-1198
2145	J-1138	Lakes	TRUE	1.00	192.83	1.20	193.03	20.00	20.10	20.00	21.64	J-1139	(N/A)	17.28	J-1198
1813 1884	J-933 J-979	Forest Forest	TRUE TRUE	1.00 1.00	193.73 194.34	1.48 1.88	194.21 195.22	20.00 20.00	20.00 20.01	20.00 20.00	24.36 24.34	J-1197 J-1197	(N/A) (N/A)	17.28 17.27	J-1198 J-1198
1855 2281	J-960 J-1221	Forest Lakes	TRUE TRUE	1.00 1.00	194.75 195.85	1.88 1.55	195.63 196.39	20.00 20.00	20.00 20.00	20.00 20.00	24.36 22.48	J-1197 J-1427	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3024	J-1626	Forest	TRUE	1.00	195.88	4.69	199.57	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1881 2619	J-977 J-1409	Forest Lakes	TRUE TRUE	1.00 1.00	197.65 197.93	2.28 1.55	198.93 198.47	20.00 20.00	20.00 21.39	20.00 20.00	24.36 20.23	J-1197 J-1138	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2227	J-1189	Lakes	TRUE	1.00	198.00	1.20	198.20	20.00	22.41	20.00	20.21	J-1138	(N/A)	17.28	J-1198
1932 2650	J-1010 J-1427	Lakes Lakes	TRUE TRUE	1.00 1.00	198.04 198.15	1.55 1.55	198.59 198.70	20.00 20.00	22.70 20.01	20.00 20.00	20.19 29.51	J-1138 J-1220	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1767	J-904	Forest	TRUE	1.00	198.71	1.48	199.19	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1859 1712	J-963 J-868	Forest Lakes	TRUE TRUE	1.00 1.00	198.84 200.85	1.68 1.46	199.52 201.31	20.00 20.00	20.00 20.00	20.00 20.00	24.36 32.62	J-1197 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2548	J-1368	Lakes	TRUE	1.00	201.42	1.29	201.71	20.00	29.82	20.00	20.00	J-1466	(N/A)	17.28	J-1198
8467 1959	J-4185 J-1028	Lakes Forest	TRUE TRUE	1.00 1.00	201.43 202.13	1.20 1.48	201.62 202.61	20.00 20.00	31.50 20.00	20.00 20.00	20.00 24.34	J-1466 J-1197	(N/A) (N/A)	17.28 17.27	J-1198 J-1198
8465 2620	J-4184 J-1410	Lakes Lakes	TRUE TRUE	1.00 1.00	203.69 203.82	2.50 2.24	205.19 205.05	20.00 20.00	26.68 22.51	20.00 20.00	20.16 20.20	J-1466 J-1138	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2547	J-1367	Lakes	TRUE	1.00	203.62	1.29	204.45	20.00	27.66	20.00	20.20	J-1136 J-1466	(N/A)	17.28	J-1198
1950 1747	J-1022 J-891	Stewartsville Forest	TRUE TRUE	1.00 1.00	205.14 205.58	1.40 1.48	205.54 206.06	20.00 20.00	20.04 20.01	20.00 20.00	60.33 24.36	J-676 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1662	J-835	Lakes	TRUE	1.00	205.79	1.20	205.99	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1796 1853	J-922 J-959	Forest Forest	TRUE TRUE	1.00 1.00	206.82 206.93	1.48 3.49	207.30 209.42	20.00 20.00	20.00 20.21	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8521	J-4212	Forest	TRUE	1.00	209.22	1.68	209.90	20.00	23.83	20.00	20.54	J-1264	(N/A)	17.26	J-1198
2357 1822	J-1264 J-939	Forest Forest	TRUE TRUE	1.00 1.00	209.80 210.54	1.88 1.68	210.68 211.22	20.00 20.00	20.15 20.00	20.00 20.00	23.44 24.36	J-4212 J-1197	(N/A) (N/A)	17.26 17.28	J-1198 J-1198
1955	J-1025	Lakes	TRUE	1.00	211.04	1.37	211.41	20.00	21.15	20.00	20.33	J-1026	(N/A)	17.28	J-1198
1992 1808	J-1049 J-930	Lakes Forest	TRUE TRUE	1.00 1.00	211.75 212.85	1.46 1.48	212.21 213.33	20.00 20.00	20.01 20.00	20.00 20.00	24.82 24.36	J-1120 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1849	J-956	Forest	TRUE	1.00	213.23	1.48	213.70	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1847 1871	J-955 J-971	Forest Forest	TRUE TRUE	1.00 1.00	213.86 214.05	1.68 1.48	214.54 214.53	20.00 20.00	20.00 20.07	20.00 20.00	24.36 24.34	J-1197 J-1197	(N/A) (N/A)	17.28 17.26	J-1198 J-1198
1780 2280	J-912 J-1220	Forest	TRUE TRUE	1.00 1.00	214.95	2.68	216.63 215.52	20.00 20.00	20.01 27.32	20.00 20.00	24.36 20.00	J-1197 J-1427	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2325	J-1247	Lakes Lakes	TRUE	1.00	214.98 216.18	1.55 1.55	216.73	20.00	24.62	20.00	20.08	J-1374	(N/A)	17.28	J-1198
2344 2324	J-1257 J-1246	Forest Lakes	TRUE TRUE	1.00 1.00	216.29 216.65	2.68 1.72	217.98 217.37	20.00 20.00	20.00 37.79	20.00 20.00	24.36 20.00	J-1197 J-1374	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2306	J-1236	Lakes	TRUE	1.00	216.71	1.55	217.26	20.00	20.00	20.00	30.80	J-1164	(N/A)	17.28	J-1198
1865 1841	J-967 J-951	Forest Forest	TRUE TRUE	1.00 1.00	216.86 217.13	1.68 2.08	217.54 218.21	20.00 20.00	20.00 20.04	20.00 20.00	24.36 24.34	J-1197 J-1197	(N/A) (N/A)	17.28 17.26	J-1198 J-1198
1827	J-942	Forest	TRUE	1.00	218.52	1.88	219.40	20.00	20.01	20.00	24.34	J-1197	(N/A)	17.26	J-1198
1677 1775	J-845 J-909	Lakes Forest	TRUE TRUE	1.00 1.00	218.82 218.96	1.20 1.88	219.02 219.84	20.00 20.00	20.01 20.01	20.00 20.00	32.62 24.36	J-2323 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1641	J-823	Lakes	TRUE	1.00	220.01	1.20	220.21	20.00	20.00	20.00	26.48	J-1622	(N/A)	17.28	J-1198

Noc				Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID			Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
221 174			Lakes Forest	TRUE TRUE	1.00 1.00	220.12 222.40	1.46 1.68	220.58 223.08	20.00 20.00	20.02 20.00	20.00 20.00	31.31 24.36	J-1182 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
183			Forest	TRUE	1.00	222.47	1.48	222.95	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
209			Lakes Lakes	TRUE TRUE	1.00 1.00	223.22 223.36	1.72 1.20	223.94 223.56	20.00 20.00	25.76 29.13	20.00 20.00	20.26 20.21	J-1199 J-1199	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
211	7 J-11	20	Lakes	TRUE	1.00	223.51	1.55	224.06	20.00	20.01	20.00	20.01	J-1049	(N/A)	17.28	J-1198
183 173			Forest Forest	TRUE TRUE	1.00 1.00	224.75 224.88	1.48 1.48	225.23 225.35	20.00 20.00	20.03 20.00	20.00 20.00	24.34 24.36	J-1197 J-1197	(N/A) (N/A)	17.26 17.28	J-1198 J-1198
169	97 J-8	58	Forest	TRUE	1.00	225.37	1.48	225.85	20.00	20.02	20.00	20.29	J-859	(N/A)	17.28	J-1198
181 167			Forest Lakes	TRUE TRUE	1.00 1.00	226.23 227.35	1.68 1.20	226.91 227.55	20.00 20.00	20.00 20.00	20.00 20.00	24.36 32.47	J-1197 J-1586	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
193			Forest	TRUE	1.00	228.48	1.48	228.96	20.00	20.01	20.00	24.34	J-1197	(N/A)	17.26	J-1198
180 233			Forest Lakes	TRUE TRUE	1.00 1.00	230.72 231.27	1.48 1.89	231.19 232.16	20.00 20.00	20.00 20.00	20.00 20.00	24.35 29.33	J-1197 J-1586	(N/A) (N/A)	17.27 17.28	J-1198 J-1198
227			Forest	TRUE	1.00	232.14	1.88	233.02	20.00	20.01	20.00	24.36	J-1197	(N/A)	17.28	J-1198
200			Lakes Lakes	TRUE TRUE	1.00 1.00	232.76 236.18	1.46 1.63	233.22 236.81	20.00 20.00	20.00 20.00	20.00 20.00	26.38 32.62	J-1058 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
555 294			Forest Forest	TRUE TRUE	1.00 1.00	236.84 236.98	1.48 1.68	237.32 237.66	20.00 20.00	20.23 22.41	20.00 20.00	20.25 20.17	J-1591 J-2957	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
845	3 J-41	79	Forest	TRUE	1.00	236.99	1.68	237.67	20.00	119.00	20.00	20.17	J-2957	(N/A)	17.28	J-1198
615 615			Forest Forest	TRUE TRUE	1.00 1.00	236.99 236.99	1.68 1.68	237.67 237.67	20.00 20.00	51.75 51.81	20.00 20.00	20.17 20.17	J-2957 J-2957	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
202	29 J-10	72	Forest	TRUE	1.00	236.99	1.48	237.47	20.00	51.69	20.00	20.16	J-2957	(N/A)	17.28	J-1198
629 629			Forest Forest	TRUE TRUE	1.00 1.00	236.99 237.00	1.48 1.28	237.47 237.27	20.00 20.00	51.24 50.88	20.00 20.00	20.16 20.16	J-2957 J-2957	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
580	00 J-31	02	Forest	TRUE	1.00	237.25	1.68	237.93	20.00	26.37	20.00	20.03	J-2957	(N/A)	17.28	J-1198
579 317			Forest Forest	TRUE TRUE	1.00 1.00	237.27 237.30	1.08 1.08	237.35 237.38	20.00 20.00	26.20 33.63	20.00 20.00	20.01 20.00	J-2957 J-2957	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
247	78 J-13	329	Forest	TRUE	1.00	237.30	1.08	237.38	20.00	32.37	20.00	20.00	J-2957	(N/A)	17.28	J-1198
317 462			Forest Forest	TRUE TRUE	1.00 1.00	237.30 237.30	1.28 1.08	237.58 237.38	20.00 20.00	33.96 32.56	20.00 20.00	20.00 20.00	J-2957 J-2957	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
247	79 J-13	30	Forest	TRUE	1.00	237.30	1.08	237.38	20.00	31.98	20.00	20.00	J-2957	(N/A)	17.28	J-1198
441 462			Forest Forest	TRUE TRUE	1.00 1.00	237.30 237.30	1.08 1.48	237.38 237.78	20.00 20.00	32.10 32.48	20.00 20.00	20.00 20.00	J-2957 J-2957	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
497	78 J-26	29	Forest	TRUE	1.00	237.30	1.28	237.58	20.00	33.13	20.00	20.00	J-2957	(N/A)	17.28	J-1198
564 564			Forest Forest	TRUE TRUE	1.00 1.00	237.30 237.30	1.08 1.48	237.38 237.78	20.00 20.00	29.71 29.67	20.00 20.00	20.00 20.00	J-2957 J-2957	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
438			Forest	TRUE	1.00	237.30	1.08	237.38	20.00	28.64	20.00	20.00	J-2957	(N/A)	17.28	J-1198
497 190			Forest Forest	TRUE TRUE	1.00 1.00	237.30 237.30	1.28 1.08	237.58 237.38	20.00 20.00	28.70 27.89	20.00 20.00	20.00 20.00	J-2957 J-2957	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
312			Forest	TRUE TRUE	1.00 1.00	237.30 237.30	1.08	237.38 237.38	20.00 20.00	27.77	20.00 20.00	20.00 20.00	J-2957 J-2957	(N/A) (N/A)	17.28 17.28	J-1198
484 294			Forest Forest	TRUE	1.00	237.30	1.08 1.08	237.38	20.00	27.55 20.01	20.00	20.00	J-2957	(N/A)	17.28	J-1198 J-1198
176 225			Forest Forest	TRUE TRUE	1.00 1.00	239.26 239.41	1.88 1.88	240.14 240.29	20.00 20.00	20.00 20.02	20.00 20.00	24.36 24.28	J-1197 J-1197	(N/A) (N/A)	17.28 17.20	J-1198 J-1198
233			Lakes	TRUE	1.00	240.18	2.41	241.59	20.00	20.11	20.00	32.50	J-1427	(N/A)	17.28	J-1198
179 218			Forest Lakes	TRUE TRUE	1.00 1.00	241.25 241.30	1.88 1.72	242.13 242.02	20.00 20.00	20.01 20.00	20.00 20.00	24.36 24.00	J-1197 J-1164	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
216	67 J-11	52	Forest	TRUE	1.00	241.49	1.68	242.17	20.00	20.02	20.00	24.26	J-1197	(N/A)	17.18	J-1198
179 229			Forest Lakes	TRUE TRUE	1.00 1.00	244.52 247.81	1.28 1.55	244.80 248.35	20.00 20.00	20.00 24.08	20.00 20.00	24.36 20.07	J-1197 J-1225	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
178	35 J-9	15	Forest	TRUE	1.00	249.41	1.88	250.29	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
165 175			Fox_Run Forest	TRUE TRUE	1.00 1.00	249.74 252.63	1.48 1.88	250.22 253.51	20.00 20.00	20.00 20.00	20.00 20.00	39.48 24.36	J-1337 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
218	36 J-11	64	Lakes	TRUE TRUE	1.00	254.84	2.41 1.28	256.26	20.00	20.00 20.82	20.00 20.00	28.08	J-1165	(N/A) (N/A)	17.28	J-1198
701 290			Forest Lakes	TRUE	1.00 1.00	254.89 255.16	1.28	255.17 255.53	20.00 20.00	20.82	20.00	20.20 20.84	J-1602 J-1360	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
201 297			Lakes Forest	TRUE TRUE	1.00 1.00	255.33 255.33	1.63 1.28	255.96 255.61	20.00 20.00	37.42 20.00	20.00 20.00	20.00 20.68	J-1575 J-3811	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
297			Lakes	TRUE	1.00	255.33	2.06	256.40	20.00	45.55	20.00	20.00	J-1575	(N/A)	17.28	J-1198
167 158			Stewartsville Lakes	TRUE	1.00 1.00	257.50 258.93	1.55 1.81	258.05 259.74	20.00 20.00	20.06 25.26	20.00 20.00	59.85 20.03	J-676 J-1622	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
172	28 J-87	78	Lakes	TRUE	1.00	259.85	1.55	260.40	20.00	21.92	20.00	20.09	J-879	(N/A)	17.28	J-1198
227 172			Lakes Forest	TRUE TRUE	1.00 1.00	260.43 260.77	1.72 1.48	261.15 261.24	20.00 20.00	20.10 20.01	20.00 20.00	32.62 24.36	J-2323 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
221	6 J-11	82	Lakes	TRUE	1.00	262.24	2.06	263.30	20.00	20.02	20.00	21.18	J-1183	(N/A)	17.28	J-1198
184 226			Forest Lakes	TRUE TRUE	1.00 1.00	262.48 262.59	1.88 1.63	263.36 263.22	20.00 20.00	20.01 20.00	20.00 20.00	24.34 32.62	J-1197 J-2323	(N/A) (N/A)	17.26 17.28	J-1198 J-1198
175	6 J-89	97	Forest	TRUE	1.00	266.02	1.48	266.49	20.00	20.01	20.00	24.36	J-1197	(N/A)	17.28	J-1198
265 282			Lakes Lakes	TRUE TRUE	1.00 1.00	267.99 268.55	1.72 2.15	268.71 269.70	20.00 20.00	22.03 38.34	20.00 20.00	20.07 20.00	J-1138 J-1427	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
225 178	55 J-12	205	Lakes Forest	TRUE TRUE	1.00 1.00	268.56 269.67	2.24 1.88	269.80 270.55	20.00 20.00	27.31 20.00	20.00 20.00	20.00 24.36	J-1427 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
229			Forest	TRUE	1.00	273.01	1.68	273.69	20.00	20.00	20.00	24.36	J-1197 J-1197	(N/A)	17.20	J-1198
183 163	35 J-94		Forest Lakes	TRUE TRUE	1.00 1.00	273.32 274.57	1.48 1.20	273.80 274.77	20.00 20.00	20.14 20.02	20.00 20.00	24.34 21.22	J-1197 J-866	(N/A) (N/A)	17.26 17.28	J-1198 J-1198
169			Forest	TRUE	1.00	277.55	1.08	277.63	20.00	20.05	20.00	24.36	J-1197	(N/A)	17.28	J-1198
175 221			Forest Lakes	TRUE TRUE	1.00 1.00	279.90 282.15	1.68 1.72	280.58 282.87	20.00 20.00	20.00 20.00	20.00 20.00	24.36 27.20	J-1197 J-1586	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
231	1 J-12	39	Forest	TRUE	1.00	284.14	2.48	285.62	20.00	20.02	20.00	24.36	J-1197	(N/A)	17.28	J-1198
229 245			Lakes Lakes	TRUE TRUE	1.00 1.00	285.40 288.65	1.55 2.50	285.95 290.15	20.00 20.00	20.00 20.00	20.00 20.00	31.27 20.49	J-14 <u>2</u> 7 J-1313	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
174	14 J-88	89	Forest	TRUE	1.00	289.03	1.48	289.51	20.00	20.10	20.00	24.34	J-1197	(N/A)	17.26	J-1198
244 172			Lakes Forest	TRUE TRUE	1.00 1.00	289.33 290.15	2.06 1.48	290.39 290.63	20.00 20.00	20.36 20.01	20.00 20.00	20.11 24.36	J-1314 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
221	4 J-11	81	Lakes	TRUE	1.00	291.61	1.72	292.33	20.00	20.00	20.00	31.46	J-1586	(N/A)	17.28	J-1198
284 232			Stewartsville Forest	TRUE TRUE	1.00 1.00	291.76 292.72	4.44 1.48	295.20 293.20	20.00 20.00	20.02 20.01	20.00 20.00	59.71 24.36	J-676 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
225 174	50 J-12	202	Lakes	TRUE TRUE	1.00 1.00	293.96 294.01	1.63 1.68	294.59 294.68	20.00 20.00	20.00 20.00	20.00 20.00	27.70 24.36	J-1586 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
166	31 J-83	34	Forest Lakes	TRUE	1.00	294.59	1.72	295.31	20.00	20.00	20.00	21.45	J-835	(N/A)	17.28	J-1198
227 157			Lakes Forest	TRUE TRUE	1.00 1.00	294.68 296.72	1.72 1.08	295.40 296.80	20.00 20.00	20.00 26.81	20.00 20.00	27.67 20.00	J-1586 J-993	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
157	74 J-78	80	Forest	TRUE	1.00	296.72	1.48	297.20	20.00	25.30	20.00	20.00	J-993	(N/A)	17.28	J-1198
171 158			Forest Lakes	TRUE TRUE	1.00 1.00	296.88 298.11	1.68 1.20	297.56 298.31	20.00 20.00	20.01 25.10	20.00 20.00	24.36 20.03	J-1197 J-1622	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
182			Forest	TRUE	1.00	300.17	1.88	301.05	20.00	20.00	20.00	20.00	J-941	(N/A)	17.28	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
1738	J-885	Forest	TRUE	1.00	301.49	1.68	302.17	20.00	20.03	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1585	J-787	Forest	TRUE	1.00	307.54	1.28	307.82	20.00	20.04	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1673 1583	J-842 J-786	Lakes Forest	TRUE TRUE	1.00 1.00	308.52 312.16	1.46 1.28	308.98 312.43	20.00 20.00	20.00 20.04	20.00 20.00	22.11 24.36	J-843 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1711	J-867	Lakes	TRUE	1.00	313.19	1.81	313.99	20.00	20.79	20.00	20.15	J-868	(N/A)	17.28	J-1198
1928 1908	J-1007 J-994	Lakes Lakes	TRUE TRUE	1.00 1.00	313.25 314.88	1.37 1.20	313.62 315.08	20.00 20.00	20.02 20.55	20.00 20.00	23.78 20.16	J-1026 J-868	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1986	J-1045	Lakes	TRUE	1.00	316.57	1.37	316.94	20.00	20.03	20.00	20.14	J-868	(N/A)	17.28	J-1198
1582 1969	J-785 J-1034	Forest Lakes	TRUE TRUE	1.00 1.00	321.79 322.72	1.08 1.46	321.87 323.18	20.00 20.00	20.52 20.07	20.00 20.00	20.29 24.79	J-786 J-1294	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2100	J-1109	Lakes	TRUE	1.00	325.57	1.20	325.77	20.00	20.01	20.00	25.03	J-1110	(N/A)	17.28	J-1198
2319 2954	J-1243 J-1596	Lakes Lakes	TRUE TRUE	1.00 1.00	326.08 326.18	2.41 1.89	327.49 327.07	20.00 20.00	20.00 20.08	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2949	J-1594	Lakes	TRUE	1.00	326.32	1.81	327.13	20.00	20.05	20.00	23.03	J-1138	(N/A)	17.28	J-1198
2951 1579	J-1595 J-783	Lakes Forest	TRUE TRUE	1.00 1.00	327.20 330.44	1.55 1.88	327.74 331.32	20.00 20.00	20.00 20.01	20.00 20.00	32.62 24.36	J-2323 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2309	J-1238	Forest	TRUE	1.00	336.18	2.08	337.26	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1703 5106	J-862 J-2703	Forest Forest	TRUE TRUE	1.00 1.00	339.06 339.52	1.08 1.48	339.14 340.00	20.00 20.00	20.41 20.04	20.00 20.00	20.24 20.24	J-2703 J-862	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2248	J-1201	Forest	TRUE	1.00	342.49	1.88	343.37	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1654 1665	J-830 J-837	Forest Forest	TRUE TRUE	1.00 1.00	342.54 343.81	1.48 1.28	343.02 344.09	20.00 20.00	20.00 20.02	20.00 20.00	24.34 24.36	J-1197 J-1197	(N/A) (N/A)	17.26 17.28	J-1198 J-1198
1580	J-784	Forest	TRUE	1.00	343.89	1.68	344.57	20.00	20.01	20.00	20.08	J-783	(N/A)	17.28	J-1198
2314 2229	J-1241 J-1190	Forest Forest	TRUE TRUE	1.00 1.00	344.04 349.23	2.08 1.88	345.12 350.11	20.00 20.00	20.01 20.01	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2556	J-1373	Lakes	TRUE	1.00	350.01	1.20	350.21	20.00	20.04	20.00	22.40	J-822	(N/A)	17.28	J-1198
2106 2957	J-1113 J-1597	Lakes Lakes	TRUE TRUE	1.00 1.00	350.22 350.67	1.72 3.80	350.94 353.46	20.00 20.00	21.35 20.00	20.00 20.00	20.13 23.35	J-1007 J-822	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1602	J-798	Forest	TRUE	1.00	352.06	1.08	352.14	20.00	20.65	20.00	20.29	J-786	(N/A)	17.28	J-1198
2981 2101	J-1607 J-1110	Lakes Lakes	TRUE TRUE	1.00 1.00	352.16 352.89	1.63 1.20	352.80 353.09	20.00 20.00	20.00 20.01	20.00 20.00	32.13 20.05	J-1586 J-1109	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2220	J-1185	Lakes	TRUE	1.00	353.94	1.89	354.83	20.00	20.00	20.00	22.06	J-1184	(N/A)	17.28	J-1198
2417 1644	J-1294 J-825	Lakes Lakes	TRUE TRUE	1.00 1.00	354.02 354.67	1.20 1.20	354.22 354.87	20.00 20.00	20.00 20.00	20.00 20.00	20.10 20.00	J-825 J-1294	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1995	J-1051 J-827	Fox_Run	TRUE TRUE	1.00 1.00	356.65 356.67	1.08 1.08	356.72 356.74	20.00 20.00	20.64	20.00 20.00	20.13 20.13	J-828 J-828	(N/A) (N/A)	17.28 17.28	J-1198
1649 2126	J-827 J-1126	Fox_Run Forest	TRUE	1.00	357.49	1.48	357.97	20.00	21.06 20.06	20.00	24.36	J-828 J-1197	(N/A) (N/A)	17.28	J-1198 J-1198
2143 1638	J-1137 J-821	Forest Lakes	TRUE TRUE	1.00 1.00	358.81 360.66	1.68 1.20	359.49 360.86	20.00 20.00	20.05 20.05	20.00 20.00	24.36 20.05	J-1197 J-822	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2455	J-1316	Lakes	TRUE	1.00	362.25	1.20	362.45	20.00	20.03	20.00	20.05	J-822	(N/A)	17.28	J-1198
2447 2207	J-1312 J-1177	Forest Forest	TRUE TRUE	1.00 1.00	366.49 366.75	3.29 1.88	368.78 367.63	20.00 20.00	20.02 20.01	20.00 20.00	20.17 23.87	J-1311 J-1197	(N/A) (N/A)	17.28 16.79	J-1198 J-1198
2446	J-1311	Forest	TRUE	1.00	366.80	1.88	367.68	20.00	20.06	20.00	20.23	J-1312	(N/A)	17.28	J-1198
2213 1676	J-1180 J-844	Lakes Lakes	TRUE TRUE	1.00 1.00	367.03 367.32	1.72 1.20	367.75 367.51	20.00 20.00	20.00 21.32	20.00 20.00	24.01 20.13	J-1181 J-822	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1999	J-1054	Lakes	TRUE	1.00	369.20	1.55	369.74	20.00	20.01	20.00	28.19	J-1053	(N/A)	17.28	J-1198
1943 2985	J-1017 J-1609	Forest Fox_Run	TRUE TRUE	1.00 1.00	370.16 371.85	1.68 2.28	370.84 373.13	20.00 20.00	20.64 23.43	20.00 20.00	20.14 20.13	J-1018 J-1337	(N/A) (N/A)	16.84 17.28	J-1198 J-1198
2494	J-1338	Fox_Run	TRUE	1.00	371.88	1.28	372.16	20.00	21.72	20.00	20.12	J-1337	(N/A)	17.28	J-1198
2493 1701	J-1337 J-861	Fox_Run Forest	TRUE TRUE	1.00 1.00	372.53 375.19	1.68 1.68	373.21 375.87	20.00 20.00	20.00 20.03	20.00 20.00	21.40 24.36	J-828 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2334	J-1252	Lakes	TRUE	1.00	375.27	2.24	376.50	20.00	20.00	20.00	22.43	J-1586	(N/A)	17.28	J-1198
2440 2414	J-1308 J-1292	Lakes Lakes	TRUE TRUE	1.00 1.00	375.43 375.49	1.37 1.20	375.81 375.69	20.00 20.00	20.78 21.31	20.00 20.00	20.14 20.13	J-822 J-822	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2415 2233	J-1293	Lakes	TRUE TRUE	1.00	375.50	1.20	375.70	20.00	21.36	20.00 20.00	20.13	J-822 J-1197	(N/A) (N/A)	17.28	J-1198
2132	J-1192 J-1130	Forest Forest	TRUE	1.00 1.00	377.16 381.99	1.88 1.88	378.04 382.87	20.00 20.00	20.06 20.04	20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2990 7004	J-1612 J-3806	Forest Forest	TRUE TRUE	1.00 1.00	382.05 382.53	1.88 1.08	382.93 382.61	20.00 20.00	20.08 34.32	20.00 20.00	24.16 20.00	J-1197 J-1602	(N/A) (N/A)	17.08 17.28	J-1198 J-1198
2994	J-1614	Forest	TRUE	1.00	382.54	1.28	382.81	20.00	32.77	20.00	20.00	J-1602	(N/A)	17.28	J-1198
5182 1731	J-2745 J-880	Forest Forest	TRUE TRUE	1.00 1.00	382.74 383.01	1.68 1.48	383.42 383.49	20.00 20.00	20.33 22.03	20.00 20.00	20.26 20.20	J-846 J-881	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1679	J-846	Forest	TRUE	1.00	383.16	1.08	383.23	20.00	20.12	20.00	20.23	J-2745	(N/A)	17.28	J-1198
2191 2266	J-1167 J-1212	Forest Forest	TRUE TRUE	1.00 1.00	384.58 385.49	2.88 1.88	386.47 386.37	20.00 20.00	20.02 20.02	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2095	J-1106	Forest	TRUE	1.00	385.93	1.48	386.41	20.00	20.00	20.00	21.59	J-1105	(N/A)	17.28	J-1198
1689 1692	J-853 J-855	Forest Forest	TRUE TRUE	1.00 1.00	387.92 392.07	1.88 2.88	388.80 393.95	20.00 20.00	20.02 20.01	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2094	J-1105	Forest	TRUE	1.00	394.91	2.28	396.19	20.00	20.07	20.00	20.58	J-1106	(N/A)	17.28	J-1198
1706 1667	J-864 J-838	Forest Lakes	TRUE TRUE	1.00 1.00	395.54 396.38	1.88 1.20	396.42 396.58	20.00 20.00	20.02 20.00	20.00 20.00	24.36 22.27	J-1197 J-839	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2257	J-1206	Forest	TRUE	1.00	398.89	1.88	399.77 400.22	20.00	20.00	20.00	23.40	J-1207	(N/A)	17.11	J-1198
2262 2703	J-1209 J-1458	Lakes Lakes	TRUE TRUE	1.00 1.00	399.16 405.19	2.06 1.72	405.91	20.00 20.00	20.00 20.00	20.00 20.00	23.72 28.00	J-1210 J-1459	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2914 2970	J-1577 J-1601	Lakes Forest	TRUE TRUE	1.00 1.00	406.19 406.38	1.89 1.68	407.08 407.06	20.00 20.00	20.01 20.00	20.00 20.00	31.51 24.36	J-1586 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2172	J-1155	Forest	TRUE	1.00	408.48	1.68	409.16	20.00	20.03	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2236 1740	J-1194 J-886	Lakes Forest	TRUE TRUE	1.00 1.00	408.54 415.03	1.98 1.28	409.52 415.31	20.00 20.00	20.00 21.56	20.00 20.00	27.43 20.21	J-1180 J-887	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1682	J-848	Forest	TRUE	1.00	415.03	1.88	415.92	20.00	20.03	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2933 3004	J-1586 J-1618	Lakes Forest	TRUE TRUE	1.00 1.00	415.84 418.27	1.63 2.28	416.47 419.55	20.00 20.00	20.01 20.00	20.00 20.00	30.15 24.34	J-1550 J-1197	(N/A) (N/A)	17.28 17.26	J-1198 J-1198
2805	J-1519	Forest	TRUE	1.00	420.18	2.48	421.66	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2999 2740	J-1616 J-1480	Lakes Lakes	TRUE TRUE	1.00 1.00	421.68 423.50	4.32 1.81	425.00 424.31	20.00 20.00	20.00 20.02	20.00 20.00	26.56 23.28	J-1427 J-822	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2636	J-1419	Forest	TRUE	1.00	427.70	1.48	428.18	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2966 2240	J-1599 J-1196	Forest Forest	TRUE TRUE	1.00 1.00	431.37 433.62	2.28 1.48	432.65 434.10	20.00 20.00	20.00 20.05	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2829	J-1532	Forest	TRUE TRUE	1.00 1.00	434.30	1.48 2.08	434.78	20.00 20.00	20.00	20.00 20.00	24.36	J-1197	(N/A) (N/A)	17.28	J-1198
2987 2195	J-1610 J-1170	Forest Forest	TRUE	1.00	436.83 436.95	1.68	437.91 437.63	20.00	20.09 20.00	20.00	24.36 24.36	J-1197 J-1197	(N/A)	17.28 17.28	J-1198 J-1198
2125 1801	J-1125 J-925	Forest Forest	TRUE TRUE	1.00 1.00	438.54 439.04	1.08 1.48	438.62 439.52	20.00 20.00	21.11 20.08	20.00 20.00	20.12 20.98	J-1126 J-926	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2797	J-1514	Lakes	TRUE	1.00	439.94	1.89	440.84	20.00	20.02	20.00	21.06	J-1480	(N/A)	17.28	J-1198
1764 2091	J-902 J-1103	Forest Lakes	TRUE TRUE	1.00 1.00	448.66 450.83	1.88 1.46	449.54 451.29	20.00 20.00	20.04 20.00	20.00 20.00	24.36 20.05	J-1197 J-1586	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2092	J-1104	Lakes	TRUE	1.00	451.02	1.37	451.39	20.00	21.72	20.00	20.04	J-1586	(N/A)	17.28	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow	Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
				(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)				-	
2860 2253	J-1550 J-1204	Lakes Forest	TRUE TRUE	1.00 1.00	451.63 455.81	1.55 2.28	452.18 457.09	20.00 20.00	28.16 20.02	20.00 20.00	20.00 24.36	J-1586 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2360	J-1265	Lakes	TRUE	1.00	456.17	1.72	456.89	20.00	20.02	20.00	30.87	J-1586	(N/A)	17.28	J-1198
1856 2704	J-961 J-1459	Forest Lakes	TRUE TRUE	1.00 1.00	459.45 459.86	1.88 1.72	460.33 460.58	20.00 20.00	20.07 20.00	20.00 20.00	22.14 21.07	J-960 J-1596	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2120	J-1122	Forest	TRUE	1.00	461.21	1.68	461.89	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1765 1657	J-903 J-832	Forest Forest	TRUE TRUE	1.00 1.00	461.66 463.99	1.88 1.88	462.54 464.87	20.00 20.00	20.05 20.05	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2298	J-1231	Lakes	TRUE	1.00	464.25	1.89	465.15	20.00	20.01	20.00	24.80	J-1427	(N/A)	17.28	J-1198
2161 2883	J-1148 J-1562	Forest Forest	TRUE TRUE	1.00 1.00	470.26 470.37	2.28 2.08	471.54 471.45	20.00 20.00	20.00 20.00	20.00 20.00	24.36 24.33	J-1197 J-1197	(N/A) (N/A)	17.28 17.25	J-1198 J-1198
2997	J-1615	Forest	TRUE	1.00	470.82	1.48	471.30	20.00	20.08	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1920 1725	J-1002 J-876	Forest Forest	TRUE TRUE	1.00 1.00	474.53 477.42	1.48 1.68	475.01 478.10	20.00 20.00	20.00 21.38	20.00 20.00	24.36 20.00	J-1197 J-877	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2140	J-1135	Forest	TRUE	1.00	478.02	1.68	478.70	20.00	20.03	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2170 2669	J-1154 J-1437	Forest Lakes	TRUE TRUE	1.00 1.00	482.35 484.51	2.28 1.46	483.63 484.97	20.00 20.00	20.04 20.58	20.00 20.00	24.36 20.07	J-1197 J-1595	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2433	J-1304	Lakes	TRUE	1.00	485.45	1.20	485.65	20.00	20.00	20.00	20.66	J-905	(N/A)	17.28	J-1198
2670 1769	J-1438 J-905	Lakes Lakes	TRUE TRUE	1.00 1.00	487.17 487.25	1.89 1.20	488.06 487.45	20.00 20.00	20.02 20.37	20.00 20.00	25.37 20.08	J-1480 J-1304	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2823	J-1529	Forest	TRUE	1.00	494.82	2.08	495.90	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2272 1652	J-1215 J-829	Lakes Forest	TRUE TRUE	1.00 1.00	497.95 504.78	1.63 1.28	498.58 505.06	20.00 20.00	20.00 20.38	20.00 20.00	23.06 20.14	J-1209 J-786	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4282	J-2275	Lakes	TRUE	1.00	506.12	1.46	506.58	20.00	20.03	20.00	26.70	J-1852	(N/A)	17.28	J-1198
1774 2238	J-908 J-1195	Forest Lakes	TRUE TRUE	1.00 1.00	507.08 509.78	1.28 1.55	507.36 510.32	20.00 20.00	20.00 20.01	20.00 20.00	20.25 26.61	J-909 J-1586	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2818	J-1526	Forest	TRUE	1.00	518.65	1.68	519.33	20.00	20.02	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2199 4433	J-1172 J-2323	Forest Lakes	TRUE TRUE	1.00 1.00	524.59 529.62	1.68 2.24	525.27 530.86	20.00 20.00	20.09 20.00	20.00 20.00	24.36 32.74	J-1197 J-1575	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2854	J-1547	Forest	TRUE	1.00	533.61	2.08	534.69	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2339 2164	J-1254 J-1150	Lakes Forest	TRUE TRUE	1.00 1.00	534.02 537.37	1.89 2.08	534.91 538.45	20.00 20.00	20.01 20.08	20.00 20.00	21.61 24.36	J-1427 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1620	J-810	Forest	TRUE	1.00	540.44	1.08	540.51	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2149 2173	J-1141 J-1156	Forest Forest	TRUE TRUE	1.00 1.00	540.60 544.82	1.88 1.68	541.48 545.50	20.00 20.00	20.00 20.00	20.00 20.00	24.36 21.54	J-1197 J-1190	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2431	J-1303	Lakes	TRUE	1.00	546.05	2.58	547.64	20.00	20.01	20.00	20.55	J-1302	(N/A)	17.28	J-1198
2183 2202	J-1162 J-1174	Forest Lakes	TRUE TRUE	1.00 1.00	547.41 547.54	1.68 1.37	548.08 547.91	20.00 20.00	20.00 26.66	20.00 20.00	24.36 20.00	J-1197 J-1007	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1633	J-818	Forest	TRUE	1.00	547.92	2.68	549.60	20.00	20.05	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2430 2614	J-1302 J-1406	Lakes Forest	TRUE TRUE	1.00 1.00	548.63 554.24	1.55 1.88	549.17 555.12	20.00 20.00	20.16 20.01	20.00 20.00	20.08 24.36	J-1303 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3405	J-1852	Lakes	TRUE	1.00	554.88	1.20	555.08	20.00	20.26	20.00	20.07	J-2275	(N/A)	17.28	J-1198
2682 2466	J-1445 J-1323	Lakes Forest	TRUE TRUE	1.00 1.00	554.95 555.46	1.20 1.28	555.15 555.74	20.00 20.00	20.64 20.00	20.00 20.00	20.06 21.43	J-2275 J-1310	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5961	J-3191	Forest	TRUE	1.00	555.62	1.68	556.30	20.00	23.02	20.00	20.00	J-941	(N/A)	17.28	J-1198
2635 1617	J-1418 J-808	Forest Forest	TRUE TRUE	1.00 1.00	555.63 556.42	1.48 1.68	556.11 557.10	20.00 20.00	22.89 20.00	20.00 20.00	20.00 24.36	J-941 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2211	J-1179	Forest	TRUE	1.00	557.11	1.48	557.58	20.00	20.06	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2137 2181	J-1133 J-1161	Forest Forest	TRUE TRUE	1.00 1.00	557.50 557.56	1.88 1.88	558.38 558.44	20.00 20.00	20.00 20.06	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2913	J-1576	Lakes	TRUE	1.00	559.76	1.29	560.04	20.00	20.06	20.00	21.26	J-2275	(N/A)	17.28	J-1198
2444 3183	J-1310 J-1724	Forest Forest	TRUE TRUE	1.00 1.00	561.04 561.45	1.08 1.08	561.12 561.53	20.00 20.00	20.36 20.06	20.00 20.00	20.09 20.15	J-1323 J-1725	(N/A) (N/A)	17.28 17.25	J-1198 J-1198
1804	J-1724 J-927	Forest	TRUE	1.00	561.66	2.08	562.75	20.00	21.19	20.00	20.13	J-1725	(N/A)	17.25	J-1198
3184 5955	J-1725 J-3188	Forest Forest	TRUE TRUE	1.00 1.00	561.87 564.55	1.08 1.08	561.95 564.63	20.00 20.00	20.06 20.00	20.00 20.00	20.13 20.16	J-1724 J-1323	(N/A) (N/A)	17.25 17.28	J-1198 J-1198
2443	J-1309	Forest	TRUE	1.00	564.61	1.28	564.89	20.00	20.35	20.00	20.09	J-3188	(N/A)	17.28	J-1198
2680 2799	J-1444 J-1515	Lakes Lakes	TRUE TRUE	1.00 1.00	566.57 566.61	2.06 2.24	567.64 567.84	20.00 20.00	36.52 26.08	20.00 20.00	20.00 20.00	J-1427 J-1427	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6504	J-3511	Forest	TRUE	1.00	573.53	1.68	574.21	20.00	20.16	20.00	20.09	J-1894	(N/A)	17.28	J-1198
3475 3476	J-1893 J-1894	Forest Forest	TRUE TRUE	1.00 1.00	573.62 574.05	1.28 1.48	573.90 574.53	20.00 20.00	20.44 20.00	20.00 20.00	20.07 20.20	J-1894 J-3511	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2890	J-1566	Forest	TRUE	1.00	574.30	1.88	575.18	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1761 2919	J-900 J-1579	Forest Forest	TRUE TRUE	1.00 1.00	576.60 577.43	1.08 3.49	576.68 579.92	20.00 20.00	20.00 20.05	20.00 20.00	23.55 24.36	J-901 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2884	J-1563	Forest	TRUE	1.00	578.54	1.68	579.22	20.00	20.02	20.00	24.32	J-1197	(N/A)	17.24	J-1198
2820 2769	J-1527 J-1497	Forest Forest	TRUE TRUE	1.00 1.00	581.09 581.47	2.28 1.88	582.38 582.35	20.00 20.00	20.00 20.03	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2580	J-1386	Forest	TRUE	1.00	581.83	1.68	582.51	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2155 2777	J-1144 J-1502	Forest Forest	TRUE TRUE	1.00 1.00	584.58 584.82	1.68 2.08	585.26 585.90	20.00 20.00	20.05 20.00	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2980	J-1606	Lakes	TRUE	1.00	585.00	1.55	585.55	20.00	20.04	20.00	23.90	J-1143	(N/A)	17.28	J-1198
3667 5967	J-1999 J-3194	Forest Forest	TRUE TRUE	1.00 1.00	585.44 585.44	1.28 1.28	585.72 585.72	20.00 20.00	26.25 26.42	20.00 20.00	20.00 20.00	J-1725 J-1725	(N/A) (N/A)	17.24 17.24	J-1198 J-1198
6281	J-3381	Forest	TRUE	1.00	586.93	1.88	587.81	20.00	20.16	20.00	20.03	J-2045	(N/A)	16.87	J-1198
1655 2848	J-831 J-1543	Forest Forest	TRUE TRUE	1.00 1.00	587.07 587.11	1.68 1.68	587.75 587.79	20.00 20.00	20.02 20.01	20.00 20.00	20.72 24.36	J-830 J-1197	(N/A) (N/A)	17.24 17.28	J-1198 J-1198
3747	J-2045	Forest	TRUE	1.00	587.46	1.68	588.14	20.00	20.00	20.00	20.25	J-3381	(N/A)	16.87	J-1198
2350 4236	J-1260 J-2260	Lakes Forest	TRUE TRUE	1.00 1.00	592.21 595.08	1.72 2.28	592.93 596.36	20.00 20.00	20.00 39.77	20.00 20.00	23.60 20.00	J-1243 J-1725	(N/A) (N/A)	17.28 17.24	J-1198 J-1198
3666	J-1998	Forest	TRUE	1.00	595.08	2.08	596.16	20.00	26.25	20.00	20.00	J-1725	(N/A)	17.24	J-1198
2114 3248	J-1118 J-1764	Forest Forest	TRUE TRUE	1.00 1.00	595.62 603.37	1.48 1.08	596.10 603.45	20.00 20.00	20.00 20.00	20.00 20.00	24.36 20.52	J-1197 J-1765	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2835	J-1536	Forest	TRUE	1.00	603.62	2.48	605.11	20.00	20.08	20.00	24.36	J-1197	(N/A)	17.28	J-1198
3249 6798	J-1765 J-3686	Forest Forest	TRUE TRUE	1.00 1.00	604.04 604.07	1.08 1.08	604.12 604.14	20.00 20.00	20.40 20.51	20.00 20.00	20.09 20.08	J-1764 J-1764	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2857	J-1548	Forest	TRUE	1.00	604.87	1.68	605.55	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2657 2811	J-1431	Forest	TRUE TRUE	1.00	608.68 608.75	1.88 2.28	609.56 610.03	20.00	20.01 20.00	20.00 20.00	24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198
2009	J-1522 J-1060	Forest Forest	TRUE	1.00 1.00	608.75	1.88	609.78	20.00 20.00	20.00	20.00	24.36 20.12	J-1197 J-2837	(N/A)	17.28 17.28	J-1198 J-1198
5340	J-2837	Forest	TRUE TRUE	1.00 1.00	608.98	1.48 2.68	609.46	20.00	20.00	20.00	20.48	J-1060	(N/A)	17.28	J-1198
1952 2923	J-1023 J-1581	Forest Forest	TRUE	1.00	611.24 611.66	2.48	612.93 613.14	20.00 20.00	20.00 20.05	20.00 20.00	24.30 24.36	J-1197 J-1197	(N/A) (N/A)	17.22 17.28	J-1198 J-1198
6034 6083	J-3232 J-3263	Forest Forest	TRUE TRUE	1.00 1.00	612.98 613.26	1.28 1.88	613.25 614.14	20.00 20.00	20.00 20.39	20.00 20.00	20.12 20.08	J-1927 J-3232	(N/A) (N/A)	17.24 17.24	J-1198 J-1198
4403	J-2314	Forest	TRUE	1.00	613.29	2.28	614.57	20.00	20.64	20.00	20.08	J-3232	(N/A)	17.24	J-1198
3535	J-1927	Forest	TRUE	1.00	613.85	1.28	614.13	20.00	20.00	20.00	20.00	J-3232	(N/A)	17.24	J-1198

Node	Node	Pressure		Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
2983	J-1608	Forest	TRUE	1.00	614.64	1.48	615.12	20.00	20.05	20.00	20.94	J-3232	(N/A)	17.24	J-1198
6950	J-3775	Forest	TRUE	1.00	617.28	1.08	617.35	20.00	20.00	20.00	20.63	J-2248	(N/A)	17.28	J-1198
4196	J-2248	Forest	TRUE	1.00	618.37	1.28	618.65	20.00	20.47	20.00	20.06	J-3775	(N/A)	17.28	J-1198
2974	J-1603	Forest	TRUE	1.00	619.54	2.08	620.62	20.00	20.10	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2867	J-1553	Forest	TRUE	1.00	619.84	2.88	621.72	20.00	20.02	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2153	J-1143	Lakes	TRUE	1.00	623.63	1.46	624.09	20.00	20.04	20.00	21.41	J-1606	(N/A)	17.28	J-1198
4358	J-2298	Forest	TRUE	1.00	627.94	1.68	628.62	20.00	23.02	20.00	20.00	J-3188	(N/A)	17.28	J-1198
6895	J-3743	Forest	TRUE	1.00	627.94	1.68	628.62	20.00	22.80	20.00	20.00	J-3188	(N/A)	17.28	J-1198
4843	J-2551	Forest	TRUE	1.00	629.65	1.08	629.73	20.00	20.01	20.00	20.18	J-2013	(N/A)	17.28	J-1198
1646	J-826	Lakes	TRUE	1.00	629.70	1.20	629.90	20.00	20.02	20.00	32.62	J-2323	(N/A)	17.28	J-1198
3691	J-2013	Forest	TRUE	1.00	629.79	1.68	630.46	20.00	20.17	20.00	20.07	J-2551	(N/A)	17.28	J-1198
2560	J-1375	Lakes	TRUE	1.00	632.97	1.55	633.51	20.00	20.42	20.00	20.02	J-1575	(N/A)	17.28	J-1198
2749	J-1486	Forest	TRUE	1.00	634.08	2.08	635.16	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2851	J-1545	Forest	TRUE	1.00	636.72	1.68	637.40	20.00	20.01	20.00	24.36	J-1197	(N/A)	17.28	J-1198
3699	J-2018	Forest	TRUE	1.00	639.38	1.08	639.45	20.00	44.02	20.00	20.00	J-2045	(N/A)	16.81	J-1198
2989	J-1611	Forest	TRUE	1.00	639.38	1.08	639.45	20.00	46.83	20.00	20.00	J-2045	(N/A)	16.81	J-1198
3081	J-1662	Forest	TRUE	1.00	639.38	1.28	639.65	20.00	46.88	20.00	20.00	J-2045	(N/A)	16.81	J-1198
6148	J-3301	Forest	TRUE	1.00	639.38	1.48	639.85	20.00	43.80	20.00	20.00	J-2045	(N/A)	16.81	J-1198
1978	J-1040	Forest	TRUE	1.00	639.38	1.48	639.86	20.00	40.21	20.00	20.00	J-2045	(N/A)	16.81	J-1198
3746	J-2044	Forest	TRUE	1.00	639.38	1.68	640.06	20.00	31.29	20.00	20.00	J-2045	(N/A)	16.81	J-1198
1628	J-815	Forest	TRUE	1.00	643.42	1.48	643.89	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
5430	J-2889	Forest	TRUE	1.00	645.20	1.48	645.68	20.00	20.22	20.00	20.08	J-1918	(N/A)	17.28	J-1198
3517	J-1918	Forest	TRUE	1.00	645.75	1.88	646.63	20.00	20.00	20.00	20.20	J-2014	(N/A)	17.28	J-1198
2234	J-1193	Forest	TRUE	1.00	645.77	1.48	646.25	20.00	21.23	20.00	20.00	J-1918	(N/A)	17.28	J-1198
1714	J-869	Forest	TRUE	1.00	645.89	1.88	646.77	20.00	20.00	20.00	22.75	J-870	(N/A)	17.28	J-1198
3692	J-2014	Forest	TRUE	1.00	647.48	2.48	648.97	20.00	20.00	20.00	20.64	J-2551	(N/A)	17.28	J-1198
2611	J-1404	Forest	TRUE	1.00	649.20	1.68	649.88	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
3884	J-2110	Forest	TRUE	1.00	650.21	2.08	651.29	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2786	J-1508	Forest	TRUE	1.00	652.36	2.08	653.44	20.00	20.06	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2131	J-1129	Forest	TRUE	1.00	653.63	1.68	654.31	20.00	20.00	20.00	22.05	J-1130	(N/A)	17.28	J-1198
5149	J-2726	Forest	TRUE	1.00	653.65	1.88	654.53	20.00	20.01	20.00	20.29	J-2165	(N/A)	17.28	J-1198
2783	J-1506	Forest	TRUE	1.00	653.92	2.08	655.00	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
4005	J-2165	Forest	TRUE	1.00	654.16	2.08	655.24	20.00	20.24	20.00	20.05	J-2726	(N/A)	17.28	J-1198
2122	J-1123	Forest	TRUE	1.00	654.67	1.88	655.55	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
4170	J-2238	Forest	TRUE	1.00	656.86	1.48	657.34	20.00	36.87	20.00	20.00	J-1608	(N/A)	17.24	J-1198
2964	J-1598	Forest	TRUE	1.00	656.87	1.28	657.14	20.00	31.81	20.00	20.00	J-1608	(N/A)	17.24	J-1198
3311	J-1801	Forest	TRUE	1.00	656.93	1.48	657.41	20.00	31.25	20.00	20.00	J-1608	(N/A)	17.24	J-1198
5753	J-3075	Forest	TRUE	1.00	656.93	1.08	657.01	20.00	30.49	20.00	20.00	J-1608	(N/A)	17.24	J-1198
3467	J-1888	Forest	TRUE	1.00	658.84	1.08	658.91	20.00	20.00	20.00	20.14	J-1608	(N/A)	17.24	J-1198
3466	J-1887	Forest	TRUE	1.00	660.55	1.48	661.02	20.00	20.05	20.00	20.24	J-3323	(N/A)	17.24	J-1198
6186 2690	J-3323	Forest	TRUE TRUE	1.00	660.94 664.90	1.68 2.08	661.62 665.98	20.00 20.00	20.04 20.00	20.00 20.00	20.00 24.36	J-1887 J-1197	(N/A) (N/A)	17.24 17.28	J-1198
2801	J-1450 J-1516	Forest Forest	TRUE	1.00 1.00	667.06	1.88	667.94	20.00	20.00	20.00	24.36	J-1197 J-1197	(N/A) (N/A)	17.28	J-1198 J-1198
2708	J-1461	Forest	TRUE	1.00	668.19	2.28	669.47	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
6702	J-3629	Forest	TRUE	1.00	671.31	1.28	671.58	20.00	20.00	20.00	20.17	J-2267	(N/A)	17.24	J-1198
4259	J-2267	Forest	TRUE	1.00	672.62	1.68	673.30	20.00	20.04	20.00	20.07	J-3629	(N/A)	17.24	J-1198
1737	J-884	Forest	TRUE	1.00	673.17	1.28	673.45	20.00	22.75	20.00	20.00	J-885	(N/A)	17.28	J-1198
2815	J-1524	Forest	TRUE	1.00	673.73	1.48	674.21	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2817	J-1525	Forest	TRUE	1.00	676.57	1.88	677.45	20.00	20.05	20.00	20.26	J-3428	(N/A)	17.28	J-1198
6360	J-3428	Forest	TRUE	1.00	676.97	2.28	678.25	20.00	20.05	20.00	20.00	J-1525	(N/A)	17.28	J-1198
2464	J-1322	Forest	TRUE	1.00	677.73	1.68	678.41	20.00	20.00	20.00	20.35	J-1386	(N/A)	17.28	J-1198
2463	J-1321	Forest	TRUE	1.00	679.45	1.08	679.53	20.00	21.19	20.00	20.06	J-1386	(N/A)	17.28	J-1198
5867	J-3139	Forest	TRUE	1.00	680.40	1.08	680.48	20.00	42.45	20.00	20.00	J-1764	(N/A)	17.28	J-1198
4374	J-2303	Forest	TRUE	1.00	680.40	1.08	680.48	20.00	41.38	20.00	20.00	J-1764	(N/A)	17.28	J-1198
2584	J-1388	Forest	TRUE	1.00	682.53	2.28	683.81	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1614	J-806	Forest	TRUE	1.00	685.75	1.68	686.43	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
3885	J-2111	Forest	TRUE	1.00	688.78	1.48	689.26	20.00	23.24	20.00	20.00	J-2110	(N/A)	17.28	J-1198
6939	J-3769	Forest	TRUE	1.00	688.78	1.88	689.66	20.00	22.53	20.00	20.00	J-2110	(N/A)	17.28	J-1198
2178	J-1159	Forest	TRUE	1.00	693.51	1.68	694.19	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
5553	J-2958	Forest	TRUE	1.00	694.68	1.08	694.76	20.00	20.00	20.00	20.12	J-1727	(N/A)	17.28	J-1198
2929	J-1585	Forest	TRUE	1.00	695.38	2.48	696.87	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
3189	J-1728	Forest	TRUE	1.00	696.14	1.08	696.21	20.00	20.00	20.00	20.03	J-2958	(N/A)	17.28	J-1198
3188	J-1727	Forest	TRUE	1.00	696.18	1.48	696.66	20.00	20.03	20.00	20.03	J-2958	(N/A)	17.28	J-1198
2878	J-1559	Forest	TRUE	1.00	697.54	1.48	698.02	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
3579	J-1952	Forest	TRUE	1.00	699.13	1.08	699.21	20.00	20.21	20.00	20.16	J-1211	(N/A)	17.28	J-1198
5695	J-3041	Forest	TRUE	1.00	699.16	1.08	699.24	20.00	20.39	20.00	20.16	J-1211	(N/A)	17.28	J-1198
2115	J-1119	Forest	TRUE	1.00	699.67	1.48	700.15	20.00	23.04	20.00	20.03	J-1211	(N/A)	17.28	J-1198
1793	J-920	Forest	TRUE	1.00	699.78	1.48	700.26	20.00	20.00	20.00	23.39	J-921	(N/A)	17.28	J-1198
2265	J-1211	Forest	TRUE	1.00	699.81	1.08	699.88	20.00	20.00	20.00	21.64	J-1952	(N/A)	17.28	J-1198
1664	J-836	Forest	TRUE	1.00	701.13	1.88	702.01	20.00	20.00	20.00	21.22	J-837	(N/A)	17.28	J-1198
2701	J-1457	Forest	TRUE	1.00	705.64	1.68	706.32	20.00	20.04	20.00	24.36	J-1197	(N/A)	17.28	J-1198
4357	J-2297	Forest	TRUE	1.00	707.22	1.68	707.89	20.00	27.60	20.00	20.00	J-3188	(N/A)	17.28	J-1198
6616	J-3578	Forest	TRUE	1.00	707.22	1.28	707.49	20.00	27.63	20.00	20.00	J-3188	(N/A)	17.28	J-1198
2605	J-1401	Forest	TRUE	1.00	707.34	1.08	707.42	20.00	20.04	20.00	20.14	J-2544	(N/A)	17.28	J-1198
4831	J-2544	Forest	TRUE	1.00	707.43	1.08	707.50	20.00	20.04	20.00	20.03	J-1401	(N/A)	17.28	J-1198
2166	J-1151	Forest	TRUE	1.00	708.49	1.08	708.56	20.00	23.68	20.00	20.00	J-1152	(N/A)	16.72	J-1198
3162	J-1712	Forest	TRUE	1.00	711.82	1.48	712.30	20.00	23.90	20.00	20.00	J-1152	(N/A)	16.71	J-1198
6709	J-3633	Forest	TRUE	1.00	711.82	1.88	712.70	20.00	24.18	20.00	20.00	J-1152	(N/A)	16.71	J-1198
2760	J-1492	Lakes	TRUE	1.00	719.46	1.37	719.84	20.00	27.00	20.00	20.00	J-1586	(N/A)	17.28	J-1198
3230	J-1753	Lakes	TRUE	1.00	719.46	1.20	719.66	20.00	26.75	20.00	20.00	J-1586	(N/A)	17.28	J-1198
3199	J-1734	Forest	TRUE	1.00	722.96	1.08	723.04	20.00	20.00	20.00	20.22	J-2952	(N/A)	17.28	J-1198
5542	J-2952	Forest	TRUE	1.00	723.50	1.08	723.58	20.00	20.00	20.00	20.13	J-1734	(N/A)	17.28	J-1198
3198	J-1733	Forest	TRUE	1.00	724.37	1.08	724.44	20.00	20.00	20.00	20.00	J-1734	(N/A)	17.28	J-1198
2896	J-1569	Forest	TRUE	1.00	724.71	1.88	725.59	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1821	J-938	Forest	TRUE	1.00	725.28	1.68	725.96	20.00	20.00	20.00	22.87	J-939	(N/A)	17.28	J-1198
2733	J-1476	Forest	TRUE	1.00	726.05	2.88	727.94	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
6370	J-3434	Lakes	TRUE	1.00	726.57	1.20	726.77	20.00	26.27	20.00	20.00	J-1586	(N/A)	17.28	J-1198
3229	J-1752	Lakes	TRUE	1.00	726.57	1.20	726.77	20.00	26.29	20.00	20.00	J-1586	(N/A)	17.28	J-1198
6481	J-3498	Forest	TRUE	1.00	727.80	2.08	728.89	20.00	20.00	20.00	20.04	J-2295	(N/A)	17.28	J-1198
4349	J-2295	Forest	TRUE	1.00	728.13	2.08	729.21	20.00	20.00	20.00	20.16	J-3498	(N/A)	17.28	J-1198
2675	J-1441	Forest	TRUE	1.00	729.89	2.08	730.97	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
5865	J-3138	Forest	TRUE	1.00	731.45	1.68	732.13	20.00	20.02	20.00	20.27	J-1875	(N/A)	17.28	J-1198
2893	J-1568	Forest	TRUE	1.00	731.71	1.48	732.19	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
3444	J-1875	Forest	TRUE	1.00	733.04	2.28	734.32	20.00	20.15	20.00	20.05	J-3138	(N/A)	17.28	J-1198
2764	J-1494	Forest	TRUE	1.00	734.19	1.68	734.87	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1626	J-814	Forest	TRUE	1.00	735.15	1.68	735.83	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2194	J-1169	Forest	TRUE	1.00	736.39	1.08	736.47	20.00	20.04	20.00	24.36	J-1197	(N/A)	17.28	J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
2109 2824	J-1115 J-1530	Forest Forest	TRUE TRUE	1.00 1.00	736.88 745.77	2.48 2.68	738.36 747.45	20.00 20.00	20.00 20.01	20.00 20.00	24.36 20.09	J-1197 J-3138	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5116	J-2708	Forest	TRUE	1.00	746.32	1.48	746.80	20.00	20.00	20.00	20.04	J-2166	(N/A)	17.28	J-1198
3091 6524	J-1668 J-3523	Forest Forest	TRUE TRUE	1.00 1.00	746.40 746.59	1.08 2.28	746.48 747.87	20.00 20.00	20.21 28.55	20.00 20.00	20.11 20.00	J-2384 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3833	J-2085	Forest	TRUE	1.00	746.59	1.48	747.07	20.00	28.83	20.00	20.00	J-941	(N/A)	17.28	J-1198
3834 4007	J-2086 J-2166	Forest Forest	TRUE TRUE	1.00 1.00	746.59 746.60	1.28 1.28	746.87 746.87	20.00 20.00	32.30 20.00	20.00 20.00	20.00 20.08	J-941 J-2708	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4008	J-2167	Forest	TRUE	1.00	746.61	1.88	747.49	20.00	24.66	20.00	20.00	J-2166	(N/A)	17.28	J-1198
4546 3090	J-2384 J-1667	Forest Forest	TRUE TRUE	1.00 1.00	746.66 747.11	1.88 1.48	747.54 747.58	20.00 20.00	20.00 20.00	20.00 20.00	20.07 20.00	J-1667 J-2384	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1755	J-896	Forest	TRUE	1.00	751.90	1.88	752.78	20.00	20.00	20.00	22.73	J-897	(N/A)	17.28	J-1198
2832 2906	J-1534 J-1574	Forest Forest	TRUE TRUE	1.00 1.00	754.55 754.57	2.28 2.08	755.83 755.65	20.00 20.00	20.00 20.00	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8500	J-4203	Forest	TRUE	1.00	756.95	1.48	757.43	20.00	21.20	20.00	20.07	J-2091	(N/A)	17.28	J-1198
3524 3845	J-1921 J-2091	Forest Forest	TRUE TRUE	1.00 1.00	757.25 757.39	1.48 2.08	757.73 758.47	20.00 20.00	26.35 20.00	20.00 20.00	20.00 21.13	J-2295 J-4203	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3525	J-1922	Forest	TRUE	1.00	759.39	1.68	760.07	20.00	25.23	20.00	20.00	J-2295	(N/A)	17.28	J-1198
4823 3202	J-2539 J-1736	Forest Forest	TRUE TRUE	1.00 1.00	759.39 763.72	1.28 1.08	759.67 763.80	20.00 20.00	25.02 20.02	20.00 20.00	20.00 20.41	J-2295 J-2591	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4913	J-2591	Forest	TRUE	1.00	766.43	1.48	766.90	20.00	20.10	20.00	20.05	J-1736	(N/A)	17.28	J-1198
3201 2612	J-1735 J-1405	Forest Forest	TRUE TRUE	1.00 1.00	766.67 766.77	1.48 1.68	767.15 767.45	20.00 20.00	20.32 20.00	20.00 20.00	20.03 20.57	J-1736 J-3095	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1608	J-802	Forest	TRUE	1.00	767.49	1.68	768.17	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
4536 3042	J-2378 J-1637	Forest Forest	TRUE TRUE	1.00 1.00	769.28 769.71	1.28 1.08	769.55 769.79	20.00 20.00	20.00 20.00	20.00 20.00	20.03 20.04	J-1637 J-2378	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3041	J-1636	Forest	TRUE	1.00	769.72	1.08	769.80	20.00	20.00	20.00	20.00	J-1637	(N/A)	17.28	J-1198
5789 3873	J-3095 J-2104	Forest Forest	TRUE TRUE	1.00 1.00	769.76 770.26	1.48 1.68	770.24 770.94	20.00 20.00	20.00 20.18	20.00 20.00	20.25 20.10	J-2104 J-3095	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6367	J-3432	Forest	TRUE	1.00	770.45	1.08	770.53	20.00	20.05	20.00	20.25	J-2147	(N/A)	17.28	J-1198
7180 6368	J-3900 J-3433	Forest Forest	TRUE TRUE	1.00 1.00	771.69 771.73	1.08 1.28	771.77 772.01	20.00 20.00	20.26 20.31	20.00 20.00	20.09 20.08	J-3432 J-3432	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3964	J-2147	Forest	TRUE	1.00	772.20	1.88	773.08	20.00	20.02	20.00	20.35	J-2259	(N/A)	17.28	J-1198
2875 1966	J-1557 J-1032	Forest Forest	TRUE TRUE	1.00 1.00	773.64 773.78	3.29 1.88	775.93 774.66	20.00 20.00	20.00 20.00	20.00 20.00	24.36 24.28	J-1197 J-1197	(N/A) (N/A)	17.28 17.20	J-1198 J-1198
2510	J-1346	Forest	TRUE	1.00	774.69	2.28	775.97	20.00	20.57	20.00	20.05	J-2259	(N/A)	17.28	J-1198
4230 2692	J-2259 J-1451	Forest Forest	TRUE TRUE	1.00 1.00	774.83 774.84	2.68 1.88	776.51 775.72	20.00 20.00	20.02 20.02	20.00 20.00	20.72 24.36	J-3425 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6548	J-3537	Forest	TRUE	1.00	775.06	2.08	776.15	20.00	25.07	20.00	20.00	J-2259	(N/A)	17.28	J-1198
6547 4071	J-3536 J-2195	Forest Forest	TRUE TRUE	1.00 1.00	775.07 775.17	1.48 1.28	775.55 775.45	20.00 20.00	24.47 34.12	20.00 20.00	20.00 20.00	J-2259 J-2295	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5347	J-2841	Forest	TRUE	1.00	775.17	1.28	775.45	20.00	33.87	20.00	20.00	J-2295	(N/A)	17.28	J-1198
3502 3501	J-1909 J-1908	Forest Forest	TRUE TRUE	1.00 1.00	775.30 775.30	1.08 1.88	775.38 776.18	20.00 20.00	24.66 24.02	20.00 20.00	20.00 20.00	J-2259 J-2259	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4116	J-2214	Forest	TRUE	1.00	775.51	2.08	776.59	20.00	35.41	20.00	20.01	J-2259	(N/A)	17.28	J-1198
6155 3576	J-3305 J-1950	Forest Forest	TRUE TRUE	1.00 1.00	775.52 776.31	1.68 2.68	776.19 778.00	20.00 20.00	34.63 24.91	20.00 20.00	20.01 20.00	J-2259 J-2259	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6355	J-3425	Forest	TRUE	1.00	776.72	1.28	777.00	20.00	20.05	20.00	20.44	J-2259	(N/A)	17.28	J-1198
3577 6396	J-1951 J-3449	Forest Forest	TRUE TRUE	1.00 1.00	777.41 777.41	1.48 2.08	777.89 778.49	20.00 20.00	21.78 21.25	20.00 20.00	20.00 20.00	J-2259 J-2259	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6356	J-3426	Forest	TRUE	1.00	778.20	1.68	778.88	20.00	20.29	20.00	20.07	J-3425	(N/A)	17.28	J-1198
3888 2586	J-2112 J-1389	Forest Forest	TRUE TRUE	1.00 1.00	778.96 779.41	1.88 2.28	779.85 780.70	20.00 20.00	20.00 20.01	20.00 20.00	22.13 20.95	J-1740 J-1496	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2672	J-1439	Forest	TRUE	1.00	779.44	1.88	780.32	20.00	24.94	20.00	20.00	J-1389	(N/A)	17.28	J-1198
4563 4064	J-2394 J-2191	Forest Forest	TRUE TRUE	1.00 1.00	779.44 779.56	1.88 2.28	780.32 780.84	20.00 20.00	24.49 30.46	20.00 20.00	20.00 20.00	J-1389 J-2110	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2119	J-1121	Forest	TRUE	1.00	779.87	1.88	780.75	20.00	21.49	20.00	20.00	J-1122	(N/A)	17.28	J-1198
3237 3238	J-1757 J-1758	Forest Forest	TRUE TRUE	1.00 1.00	781.13 781.13	1.08 1.28	781.21 781.41	20.00 20.00	22.15 22.17	20.00 20.00	20.00 20.00	J-2259 J-2259	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6415 3774	J-3460 J-2057	Forest Forest	TRUE TRUE	1.00 1.00	781.13 781.13	1.08 2.68	781.21 782.82	20.00 20.00	21.72 21.37	20.00 20.00	20.00 20.00	J-2259 J-2259	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2642	J-1422	Forest	TRUE	1.00	781.90	1.88	782.78	20.00	20.01	20.00	24.36	J-1197	(N/A)	17.28	J-1198
5408 4085	J-2877 J-2202	Forest Forest	TRUE TRUE	1.00 1.00	781.98 782.38	1.68 2.08	782.66 783.46	20.00 20.00	20.00 23.27	20.00 20.00	20.05 20.00	J-2263 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4246	J-2263	Forest	TRUE	1.00	782.41	2.08	783.49	20.00	20.00	20.00	20.10	J-2877	(N/A)	17.28	J-1198
6782 3305	J-3676 J-1798	Forest Forest	TRUE TRUE	1.00 1.00	783.71 784.17	1.08 1.08	783.78 784.25	20.00 20.00	20.01 39.23	20.00 20.00	20.07 20.01	J-610 J-2259	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2148	J-1140	Forest	TRUE	1.00	784.18	1.08	784.26	20.00	38.20	20.00	20.01	J-2259	(N/A)	17.28	J-1198
3641 1159	J-1985 J-610	Forest Forest	TRUE TRUE	1.00 1.00	784.29 784.32	1.48 1.48	784.76 784.79	20.00 20.00	20.17 20.00	20.00 20.00	20.13 20.20	J-1496 J-3676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
756	J-432	Forest	TRUE	1.00	784.33	1.48	784.81	20.00	34.64	20.00	20.00	J-610	(N/A)	17.28	J-1198
520 521	J-294 J-295	Forest Forest	TRUE TRUE	1.00 1.00	784.33 784.33	1.48 1.48	784.81 784.81	20.00 20.00	33.26 33.21	20.00 20.00	20.00 20.00	J-610 J-610	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5101	J-2700	Forest	TRUE	1.00	784.33	1.08	784.41	20.00	33.13	20.00	20.00	J-610	(N/A)	17.28	J-1198
2834 6844	J-1535 J-3713	Forest Forest	TRUE TRUE	1.00 1.00	784.35 784.35	1.88 2.28	785.23 785.63	20.00 20.00	23.17 22.84	20.00 20.00	20.00 20.00	J-610 J-610	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6218	J-3343	Forest	TRUE	1.00	784.43	1.48	784.90	20.00	20.51	20.00	20.10	J-1496	(N/A)	17.28	J-1198
3403 5895	J-1851 J-3154	Forest Forest	TRUE TRUE	1.00 1.00	784.54 784.55	1.08 1.48	784.62 785.03	20.00 20.00	41.23 40.98	20.00 20.00	20.02 20.01	J-2259 J-2259	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2767	J-1496	Forest	TRUE	1.00	784.99	2.08	786.07	20.00	20.01	20.00	22.39	J-2837	(N/A)	17.28	J-1198
3710 2742	J-2024 J-1481	Forest Forest	TRUE TRUE	1.00 1.00	785.68 787.42	1.28 2.48	785.96 788.90	20.00 20.00	20.12 20.00	20.00 20.00	20.03 24.36	J-2958 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2661	J-1433	Forest	TRUE	1.00	789.36	1.88	790.24	20.00	20.02	20.00	24.36	J-1197	(N/A)	17.28	J-1198
3871 3793	J-2103 J-2066	Forest Forest	TRUE TRUE	1.00 1.00	790.00 790.27	1.48 1.88	790.48 791.15	20.00 20.00	52.57 36.63	20.00 20.00	20.03 20.00	J-2259 J-2259	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6394	J-3448	Forest	TRUE	1.00	790.27	1.08	790.35	20.00	35.98	20.00	20.00	J-2259	(N/A)	17.28	J-1198
1600 4420	J-797 J-2319	Forest Forest	TRUE TRUE	1.00 1.00	790.85 790.95	1.68 1.48	791.53 791.42	20.00 20.00	20.00 41.64	20.00 20.00	24.36 20.00	J-1197 J-1211	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6194 465	J-3328	Forest	TRUE TRUE	1.00 1.00	790.95 791.74	2.08	792.03	20.00 20.00	42.00 30.61	20.00 20.00	20.00 20.00	J-1211	(N/A) (N/A)	17.28 17.28	J-1198
337	J-260 J-178	Forest Forest	TRUE	1.00	791.95	1.68 1.08	792.42 792.02	20.00	32.84	20.00	20.01	J-3425 J-3425	(N/A)	17.28	J-1198 J-1198
338 1946	J-179 J-1019	Forest Forest	TRUE TRUE	1.00 1.00	791.95 792.37	1.08 2.08	792.02 793.45	20.00 20.00	32.82 21.89	20.00 20.00	20.01 20.00	J-3425 J-1736	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3870	J-2102	Forest	TRUE	1.00	792.69	1.88	793.57	20.00	39.74	20.00	20.01	J-2259	(N/A)	17.28	J-1198
6345 3210	J-3419 J-1741	Forest Forest	TRUE TRUE	1.00 1.00	792.69 793.10	1.48 1.08	793.17 793.18	20.00 20.00	39.50 20.00	20.00 20.00	20.01 20.06	J-2259 J-1740	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3209	J-1740	Forest	TRUE	1.00	793.46	1.28	793.73	20.00	20.00	20.00	20.20	J-1741	(N/A)	17.28	J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
5818 868	J-3112 J-488	Forest Forest	TRUE TRUE	1.00 1.00	793.62 793.63	1.28 1.68	793.90 794.31	20.00 20.00	34.17 33.34	20.00 20.00	20.01 20.01	J-3425 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6097	J-3271	Forest	TRUE	1.00	794.24	1.28	794.51	20.00	20.59	20.00	20.10	J-2091	(N/A)	17.28	J-1198
2151 3846	J-1142 J-2092	Forest Forest	TRUE TRUE	1.00 1.00	794.28 794.50	1.28 2.08	794.56 795.58	20.00 20.00	20.00 21.50	20.00 20.00	20.91 20.06	J-925 J-2091	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2712	J-1464	Forest	TRUE	1.00	795.44	1.68	796.12	20.00	20.04	20.00	24.36	J-1197	(N/A)	17.28	J-1198
3569 6450	J-1946 J-3480	Forest Forest	TRUE TRUE	1.00 1.00	796.40 796.40	1.48 1.48	796.87 796.88	20.00 20.00	30.66 30.39	20.00 20.00	20.00 20.00	J-2259 J-2259	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3343	J-1819	Forest	TRUE	1.00	796.87	1.48	797.34	20.00	20.20	20.00	20.11	J-1740	(N/A)	17.28	J-1198
4753 4794	J-2501 J-2524	Forest Forest	TRUE TRUE	1.00 1.00	796.87 797.02	1.28 1.48	797.15 797.50	20.00 20.00	20.22 20.00	20.00 20.00	20.11 20.06	J-1740 J-2145	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1111	J-594	Forest	TRUE	1.00	797.36	1.08	797.44	20.00	29.37	20.00	20.00	J-3425	(N/A)	17.28	J-1198
3359 6767	J-1828 J-3667	Forest Forest	TRUE TRUE	1.00 1.00	797.78 797.78	1.48 1.48	798.26 798.26	20.00 20.00	23.08 22.12	20.00 20.00	20.00 20.00	J-2295 J-2295	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3959	J-2145	Forest	TRUE	1.00	798.20	1.68	798.88	20.00	20.00	20.00	20.07	J-2524	(N/A)	17.28	J-1198
3824 3360	J-2080 J-1829	Forest Forest	TRUE TRUE	1.00 1.00	798.41 799.83	2.28 1.68	799.69 800.51	20.00 20.00	20.01 23.57	20.00 20.00	24.36 20.00	J-1197 J-2295	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2609	J-1403	Forest	TRUE	1.00	800.76	2.68	802.45	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
4443 1605	J-2326 J-800	Stewartsville Forest	TRUE	1.00 1.00	800.93 801.79	1.69 1.68	801.62 802.47	20.00 20.00	20.00 20.00	20.00 20.00	50.50 24.36	J-676 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6859	J-3721	Forest	TRUE	1.00	803.46	1.08	803.54	20.00	20.01	20.00	21.12	J-2302	(N/A)	17.28	J-1198
2746 4370	J-1484 J-2302	Forest Forest	TRUE TRUE	1.00 1.00	804.45 805.62	2.08 1.08	805.53 805.70	20.00 20.00	20.00 20.86	20.00 20.00	24.36 20.05	J-1197 J-3721	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1594	J-793	Forest	TRUE	1.00	810.58	1.88	811.46	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
817 3767	J-462 J-2053	Forest Forest	TRUE TRUE	1.00 1.00	812.14 812.14	1.08 1.48	812.22 812.62	20.00 20.00	33.76 35.12	20.00 20.00	20.01 20.01	J-3425 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6295	J-3389	Forest	TRUE	1.00	812.14	1.88	813.02	20.00	35.04	20.00	20.01	J-3425	(N/A)	17.28	J-1198
2204 6017	J-1175 J-3222	Forest Forest	TRUE TRUE	1.00 1.00	812.21 812.21	1.88 1.08	813.09 812.29	20.00 20.00	26.39 25.54	20.00 20.00	20.00 20.00	J-3425 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3520	J-1919	Forest	TRUE	1.00	812.21	1.08	812.29	20.00	25.52	20.00	20.00	J-3425	(N/A)	17.28	J-1198
3664 4407	J-1997 J-2315	Forest Forest	TRUE TRUE	1.00 1.00	812.22 814.05	2.08 1.68	813.30 814.73	20.00 20.00	24.29 36.27	20.00 20.00	20.00 20.00	J-3425 J-1764	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6660	J-3604	Forest	TRUE	1.00	814.06	1.28	814.33	20.00	35.16	20.00	20.00	J-1764	(N/A)	17.28	J-1198
818 6448	J-463 J-3479	Forest Forest	TRUE TRUE	1.00 1.00	814.20 814.21	1.48 2.28	814.68 815.49	20.00 20.00	41.29 41.18	20.00 20.00	20.02 20.02	J-3425 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3011	J-1621	Lakes	TRUE	1.00	815.62	2.06	816.68	20.00	25.72	20.00	20.00	J-1427	(N/A)	17.28	J-1198
2303 1173	J-1234 J-616	Lakes Forest	TRUE TRUE	1.00 1.00	819.20 822.40	2.15 1.08	820.35 822.48	20.00 20.00	20.00 51.64	20.00 20.00	29.73 20.04	J-3108 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6991	J-3798	Forest	TRUE	1.00	822.42	2.68	824.10	20.00	51.81	20.00	20.04	J-3425	(N/A)	17.28	J-1198
2639 2730	J-1420 J-1474	Forest Forest	TRUE TRUE	1.00 1.00	824.30 825.38	1.88 1.88	825.18 826.27	20.00 20.00	20.00 20.00	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2725	J-1471	Forest	TRUE	1.00	826.36	1.88	827.24	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2790 426	J-1510 J-236	Forest Forest	TRUE TRUE	1.00 1.00	827.54 828.35	2.08 1.08	828.62 828.43	20.00 20.00	20.00 51.65	20.00 20.00	24.36 20.04	J-1197 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4902	J-2585	Forest	TRUE	1.00	828.36	1.48	828.83	20.00	51.54	20.00	20.04	J-3425	(N/A)	17.28	J-1198
582 427	J-333 J-237	Forest Forest	TRUE TRUE	1.00 1.00	828.56 828.57	1.48 1.48	829.04 829.05	20.00 20.00	52.30 51.84	20.00 20.00	20.04 20.04	J-3425 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4365	J-2301	Forest	TRUE	1.00	830.37	1.48	830.85	20.00	20.92	20.00	20.05	J-3188	(N/A)	17.28	J-1198
6711 2858	J-3634 J-1549	Forest Forest	TRUE TRUE	1.00 1.00	830.80 833.88	1.08 1.08	830.88 833.95	20.00 20.00	21.02 20.00	20.00 20.00	20.00 20.07	J-3188 J-1732	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6585	J-3560	Forest	TRUE	1.00	833.99	1.28	834.27	20.00	20.00	20.00	20.06	J-1732	(N/A)	17.28	J-1198
3196 2840	J-1732 J-1539	Forest Forest	TRUE TRUE	1.00 1.00	834.41 840.16	1.28 1.88	834.68 841.04	20.00 20.00	20.00 20.00	20.00 20.00	20.20 24.36	J-1549 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2788	J-1509	Forest	TRUE	1.00	840.56	2.28	841.84	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
5931 2904	J-3174 J-1573	Forest Forest	TRUE TRUE	1.00 1.00	841.01 842.21	1.28 2.48	841.29 843.69	20.00 20.00	20.00 20.00	20.00 20.00	20.30 24.36	J-2041 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3939	J-2136	Forest	TRUE	1.00	843.14	2.08	844.22	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
6258 3822	J-3368 J-2079	Forest Forest	TRUE TRUE	1.00 1.00	843.66 843.66	1.08 3.09	843.74 845.75	20.00 20.00	31.69 31.91	20.00 20.00	20.00 20.00	J-1525 J-1525	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2574	J-1382 J-1501	Forest	TRUE TRUE	1.00	844.19	2.68 2.08	845.88 846.06	20.00 20.00	20.01 20.47	20.00 20.00	24.36 20.03	J-1197	(N/A) (N/A)	17.28	J-1198
2776 3740	J-2041	Forest Forest	TRUE	1.00 1.00	844.98 845.01	1.88	845.90	20.00	20.47	20.00	20.03	J-1532 J-3174	(N/A)	17.28 17.28	J-1198 J-1198
2343	J-1256	Forest	TRUE TRUE	1.00 1.00	848.62	1.68	849.30	20.00 20.00	28.01	20.00 20.00	20.00 20.00	J-1257	(N/A) (N/A)	17.28	J-1198
5180 3137	J-2744 J-1697	Forest Forest	TRUE	1.00	848.62 848.77	1.48 1.28	849.10 849.05	20.00	27.85 28.23	20.00	20.00	J-1257 J-941	(N/A)	17.28 17.28	J-1198 J-1198
3136 2719	J-1696 J-1467	Forest Forest	TRUE TRUE	1.00 1.00	848.77 853.88	1.28 2.48	849.05 855.36	20.00 20.00	28.48 20.00	20.00 20.00	20.00 24.36	J-941 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5663	J-3023	Forest	TRUE	1.00	854.14	2.08	855.22	20.00	20.00	20.00	20.99	J-2067	(N/A)	17.28	J-1198
3795 1718	J-2067 J-872	Forest Forest	TRUE TRUE	1.00 1.00	855.51 855.94	1.88 1.88	856.39 856.82	20.00 20.00	20.84 21.65	20.00 20.00	20.05 20.00	J-3023 J-3023	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5018	J-2652	Forest	TRUE	1.00	858.10	1.08	858.18	20.00	59.23	20.00	20.05	J-3425	(N/A)	17.28	J-1198
5019 2329	J-2653 J-1249	Forest Forest	TRUE TRUE	1.00 1.00	858.11 859.52	2.08 1.28	859.19 859.80	20.00 20.00	59.58 20.00	20.00 20.00	20.05 23.30	J-3425 J-1248	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3797	J-2068	Forest	TRUE	1.00	860.15	1.28	860.43	20.00	27.97	20.00	20.01	J-2145	(N/A)	17.28	J-1198
5132 5707	J-2717 J-3048	Forest Forest	TRUE TRUE	1.00 1.00	860.17 864.26	1.48 1.48	860.65 864.74	20.00 20.00	27.62 20.00	20.00 20.00	20.01 20.13	J-2145 J-804	(N/A) (N/A)	17.28 17.18	J-1198 J-1198
2665	J-1435	Forest	TRUE	1.00	864.36	2.08	865.44	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1611 7062	J-804 J-3838	Forest Forest	TRUE TRUE	1.00 1.00	864.90 865.29	1.08 1.08	864.98 865.36	20.00 20.00	20.00 20.01	20.00 20.00	20.08 20.95	J-3048 J-2060	(N/A) (N/A)	17.18 17.28	J-1198 J-1198
4188	J-2245	Forest	TRUE	1.00	867.73	2.48	869.21	20.00	20.01	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1925 3003	J-1005 J-1617	Forest Forest	TRUE TRUE	1.00 1.00	871.39 873.51	1.68 1.88	872.07 874.39	20.00 20.00	20.00 25.20	20.00 20.00	20.40 20.00	J-2060 J-2267	(N/A) (N/A)	17.28 17.21	J-1198 J-1198
2594	J-1394	Forest	TRUE	1.00	874.07	1.88	874.95	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
3782 4380	J-2060 J-2306	Forest Forest	TRUE TRUE	1.00 1.00	875.75 876.77	1.28 2.48	876.03 878.26	20.00 20.00	20.01 20.00	20.00 20.00	20.04 24.36	J-3838 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6943	J-3771	Forest	TRUE	1.00	877.56	1.88	878.44	20.00	43.16	20.00	20.01	J-2110	(N/A)	17.28	J-1198
4065 7666	J-2192 J-4082	Forest Forest	TRUE TRUE	1.00 1.00	877.56 879.69	1.68 1.48	878.24 880.16	20.00 20.00	42.57 66.72	20.00 20.00	20.01 20.00	J-2110 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7667	J-4083	Forest	TRUE	1.00	879.69	1.68	880.37	20.00	64.85	20.00	20.00	J-3425	(N/A)	17.28	J-1198
5410 3541	J-2878 J-1930	Forest Forest	TRUE TRUE	1.00 1.00	880.81 881.57	1.08 1.08	880.88 881.64	20.00 20.00	20.01 20.22	20.00 20.00	20.31 20.10	J-1930 J-2878	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2862	J-1551	Forest	TRUE	1.00	881.89	2.28	883.18	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2926 2160	J-1583 J-1147	Forest Forest	TRUE TRUE	1.00 1.00	886.52 888.04	1.88 1.88	887.40 888.92	20.00 20.00	20.04 22.92	20.00 20.00	24.26 20.00	J-1197 J-1148	(N/A) (N/A)	17.18 17.28	J-1198 J-1198
3418	J-1860	Forest	TRUE	1.00	889.85	1.48	890.33	20.00	25.54	20.00	20.00	J-2267	(N/A)	17.21	J-1198
6671 3898	J-3611 J-2117	Forest Forest	TRUE TRUE	1.00 1.00	889.85 891.49	1.48 2.08	890.33 892.58	20.00 20.00	25.48 20.01	20.00 20.00	20.00 24.36	J-2267 J-1197	(N/A) (N/A)	17.21 17.28	J-1198 J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
3798 1973	J-2069 J-1037	Forest Forest	TRUE TRUE	1.00 1.00	894.00 894.48	2.08 1.88	895.08 895.36	20.00 20.00	31.74 20.01	20.00 20.00	20.00 24.36	J-2145 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2516	J-1349	Forest	TRUE	1.00	896.71	1.88	897.60	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
3831 2678	J-2084 J-1443	Forest Forest	TRUE TRUE	1.00 1.00	897.00 897.67	1.88 2.28	897.88 898.95	20.00 20.00	20.00 20.00	20.00 20.00	21.38 24.36	J-3172 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2880	J-1560	Forest	TRUE	1.00	898.76	2.48	900.24	20.00	20.00	20.00	24.25	J-1197	(N/A)	17.18	J-1198
1917 5927	J-1000 J-3172	Forest Forest	TRUE TRUE	1.00 1.00	899.52 903.74	1.88 1.28	900.40 904.02	20.00 20.00	23.13 20.00	20.00 20.00	20.00 20.46	J-2878 J-1685	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2782	J-1505	Forest	TRUE	1.00	904.36	1.68	905.04	20.00	20.27	20.00	20.46	J-3172	(N/A)	17.28	J-1198
3117 3023	J-1685 J-1625	Forest Forest	TRUE TRUE	1.00 1.00	904.38 905.94	2.08 4.89	905.46 909.83	20.00 20.00	20.35 21.49	20.00 20.00	20.14 20.00	J-3172 J-1626	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3825	J-1025 J-2081	Forest	TRUE	1.00	907.62	2.08	908.70	20.00	22.62	20.00	20.00	J-2080	(N/A)	17.28	J-1198
5636 3330	J-3006	Forest	TRUE TRUE	1.00 1.00	907.63	2.08 1.08	908.71 913.40	20.00 20.00	22.35 30.06	20.00 20.00	20.00 20.00	J-2080 J-610	(N/A) (N/A)	17.28 17.28	J-1198
2838	J-1812 J-1538	Forest Forest	TRUE	1.00	913.32 913.43	2.48	914.92	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198 J-1198
2804 5130	J-1518 J-2716	Forest Forest	TRUE TRUE	1.00 1.00	914.66 914.66	1.08 1.28	914.74 914.94	20.00 20.00	37.23 36.69	20.00 20.00	20.00 20.00	J-1519 J-1519	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2697	J-1454	Forest	TRUE	1.00	915.28	1.88	916.16	20.00	20.00	20.00	24.36	J-1319 J-1197	(N/A)	17.28	J-1198
6377 5745	J-3438 J-3070	Forest Forest	TRUE TRUE	1.00 1.00	916.18 917.70	1.28 1.08	916.46 917.78	20.00 20.00	20.00 21.01	20.00 20.00	20.44 20.00	J-282 J-1626	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5746	J-3071	Forest	TRUE	1.00	917.71	1.08	917.78	20.00	20.90	20.00	20.00	J-1626	(N/A)	17.28	J-1198
2700 502	J-1456 J-282	Forest Forest	TRUE TRUE	1.00 1.00	919.16 919.28	1.48 1.08	919.64 919.36	20.00 20.00	30.48 20.18	20.00 20.00	20.00 20.02	J-1525 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
584	J-202 J-334	Forest	TRUE	1.00	919.26	1.08	919.44	20.00	20.16	20.00	20.02	J-3438	(N/A)	17.28	J-1198
503 3329	J-283 J-1811	Forest Forest	TRUE TRUE	1.00 1.00	919.57 920.21	2.08 1.28	920.65 920.49	20.00 20.00	20.77 30.53	20.00 20.00	20.00 20.00	J-3438 J-610	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6006	J-3216	Forest	TRUE	1.00	920.21	1.28	920.49	20.00	30.28	20.00	20.00	J-610	(N/A)	17.28	J-1198
6029	J-3229	Forest	TRUE TRUE	1.00	921.15	1.28	921.43	20.00	20.02	20.00	21.04	J-2273	(N/A) (N/A)	17.28	J-1198
2684 5785	J-1446 J-3093	Forest Forest	TRUE	1.00 1.00	921.65 922.05	1.48 1.68	922.13 922.73	20.00 20.00	20.00 20.10	20.00 20.00	24.36 20.05	J-1197 J-2296	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3922	J-2128	Forest	TRUE	1.00	922.37	1.88	923.25	20.00	20.00 20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
4354 288	J-2296 J-148	Forest Forest	TRUE TRUE	1.00 1.00	922.45 923.96	2.08 1.68	923.53 924.64	20.00 20.00	22.10	20.00 20.00	20.28 20.00	J-3093 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5390	J-2867	Forest	TRUE	1.00	924.04	1.28	924.32	20.00	22.37	20.00	20.00	J-3438	(N/A)	17.28	J-1198
287 330	J-147 J-174	Forest Forest	TRUE TRUE	1.00 1.00	924.04 924.17	1.08 1.68	924.12 924.85	20.00 20.00	22.30 22.62	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4968	J-2624	Forest	TRUE	1.00	924.20	2.48	925.68	20.00	28.67	20.00	20.00	J-941	(N/A)	17.28	J-1198
4967 4276	J-2623 J-2273	Forest Forest	TRUE TRUE	1.00 1.00	924.20 924.52	1.48 2.68	924.67 926.20	20.00 20.00	28.50 20.76	20.00 20.00	20.00 20.00	J-941 J-3229	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1989	J-1047	Forest	TRUE	1.00	925.83	1.08	925.91	20.00	29.79	20.00	20.02	J-1048	(N/A)	17.17	J-1198
4142 5831	J-2226 J-3119	Forest Forest	TRUE TRUE	1.00 1.00	926.93 926.93	2.28 2.08	928.21 928.01	20.00 20.00	24.29 23.97	20.00 20.00	20.00 20.00	J-1530 J-1530	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3705	J-2021	Forest	TRUE	1.00	929.34	2.08	930.42	20.00	25.74	20.00	20.03	J-1532	(N/A)	17.28	J-1198
4711 2653	J-2477 J-1429	Forest Forest	TRUE TRUE	1.00 1.00	929.79 930.55	1.88 1.88	930.67 931.43	20.00 20.00	25.51 20.05	20.00 20.00	20.00 24.36	J-1532 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6317	J-3402	Forest	TRUE	1.00	930.92	1.88	931.80	20.00	20.10	20.00	20.31	J-1134	(N/A)	17.28	J-1198
1165 6137	J-612 J-3295	Forest Forest	TRUE TRUE	1.00 1.00	933.33 933.33	1.08 1.88	933.40 934.21	20.00 20.00	25.19 24.93	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2138	J-1134	Forest	TRUE	1.00	933.35	1.48	933.83	20.00	20.05	20.00	20.12	J-3402	(N/A)	17.28	J-1198
2641 2630	J-1421 J-1415	Forest Forest	TRUE TRUE	1.00 1.00	934.08 936.80	1.08 2.28	934.16 938.08	20.00 20.00	37.69 20.00	20.00 20.00	20.00 24.36	J-1519 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2871	J-1556	Forest	TRUE	1.00	937.00	2.28	938.28	20.00	20.00	20.00	24.25	J-1197	(N/A)	17.17	J-1198
2779 2632	J-1503 J-1416	Forest Forest	TRUE TRUE	1.00 1.00	941.47 944.13	2.28 1.88	942.75 945.02	20.00 20.00	20.00 20.00	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1812	J-932	Forest	TRUE	1.00	945.16	1.88	946.04	20.00	20.00	20.00	21.50	J-933	(N/A)	17.28	J-1198
5977 247	J-3200 J-121	Forest Forest	TRUE TRUE	1.00 1.00	945.62 945.78	1.48 1.08	946.09 945.86	20.00 20.00	20.00 48.37	20.00 20.00	20.47 20.02	J-3199 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4646	J-2442	Forest	TRUE	1.00	945.79	1.08	945.86	20.00	48.34	20.00	20.02	J-3438	(N/A)	17.28	J-1198
246 4343	J-120 J-2294	Forest Forest	TRUE TRUE	1.00 1.00	945.85 946.71	1.48 2.08	946.33 947.80	20.00 20.00	48.48 29.49	20.00 20.00	20.02 20.00	J-3438 J-1211	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4621 2313	J-2428 J-1240	Forest Forest	TRUE TRUE	1.00 1.00	946.72 947.16	1.48 2.28	947.19 948.44	20.00 20.00	29.47 32.00	20.00 20.00	20.00 20.00	J-1211 J-1257	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3599	J-1240 J-1964	Forest	TRUE	1.00	947.79	1.88	948.67	20.00	20.00	20.00	22.23	J-1257 J-1355	(N/A)	17.28	J-1198
2758	J-1491 J-3199	Forest	TRUE TRUE	1.00 1.00	948.99 949.05	2.28	950.27 949.93	20.00 20.00	20.00 20.22	20.00	24.25 20.02	J-1197 J-3200	(N/A) (N/A)	17.17 17.28	J-1198 J-1198
5976 7882	J-4138	Forest Forest	TRUE	1.00	949.29	1.88 1.68	949.97	20.00	22.41	20.00 20.00	20.02	J-3200	(N/A)	17.28	J-1198
3677 1188	J-2005 J-622	Forest Forest	TRUE TRUE	1.00 1.00	952.57 956.75	2.08 1.88	953.66 957.63	20.00 20.00	20.01 62.04	20.00 20.00	24.36 20.00	J-1197 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5502	J-2929	Forest	TRUE	1.00	956.75	1.28	957.03	20.00	61.62	20.00	20.00	J-3438	(N/A)	17.28	J-1198
1807 2588	J-929 J-1390	Forest Forest	TRUE TRUE	1.00 1.00	956.90 957.67	1.88 2.08	957.78 958.75	20.00 20.00	20.00 20.00	20.00 20.00	20.00 24.36	J-930 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4294	J-2279	Stewartsville		1.00	958.71	1.55	959.26	20.00	59.21	20.00	20.00	J-2326	(N/A)	17.28	J-1198
5392 5878	J-2868 J-3145	Stewartsville Forest	TRUE TRUE	1.00 1.00	958.71 961.16	1.83 1.28	959.55 961.43	20.00 20.00	59.00 30.79	20.00 20.00	20.00 20.00	J-2326 J-1626	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5879	J-3146	Forest	TRUE	1.00	961.16	1.08	961.24	20.00	30.44	20.00	20.00	J-1626	(N/A)	17.28	J-1198
1882 2525	J-978 J-1355	Forest Forest	TRUE TRUE	1.00 1.00	962.50 963.28	1.08 1.08	962.58 963.36	20.00 20.00	20.01 20.00	20.00 20.00	24.05 20.83	J-977 J-1964	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3915	J-2125	Forest	TRUE	1.00	964.68	2.68	966.36	20.00	21.49	20.00	20.03	J-3172	(N/A)	17.28	J-1198
1590 658	J-790 J-379	Forest Forest	TRUE TRUE	1.00 1.00	968.17 969.30	1.28 3.09	968.44 971.38	20.00 20.00	20.00 20.05	20.00 20.00	24.24 24.36	J-1197 J-1197	(N/A) (N/A)	17.16 17.28	J-1198 J-1198
6176	J-3318	Forest	TRUE	1.00	973.55	1.48	974.03	20.00	20.00	20.00	21.80	J-3317	(N/A)	17.28	J-1198
6175 976	J-3317 J-536	Forest Forest	TRUE TRUE	1.00 1.00	975.42 976.04	2.08 1.68	976.50 976.72	20.00 20.00	21.53 43.87	20.00 20.00	20.00 20.02	J-3318 J-379	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6460	J-3486	Forest	TRUE	1.00	976.41	1.68	977.09	20.00	20.01	20.00	20.39	J-1756	(N/A)	17.28	J-1198
4761 4384	J-2505 J-2308	Forest Forest	TRUE TRUE	1.00 1.00	976.74 976.95	1.48 1.08	977.22 977.03	20.00 20.00	20.01 22.20	20.00 20.00	20.12 20.00	J-1963 J-3318	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3597	J-1963	Forest	TRUE	1.00	977.84	1.68	978.52	20.00	20.01	20.00	20.05	J-2505	(N/A)	17.28	J-1198
6812 3814	J-3694 J-2076	Forest Forest	TRUE TRUE	1.00 1.00	979.15 979.15	2.68 1.68	980.83 979.82	20.00 20.00	27.45 28.71	20.00 20.00	20.00 20.00	J-1148 J-1148	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3234	J-1755	Forest	TRUE	1.00	979.25	1.08	979.33	20.00	20.02	20.00	20.10	J-3486	(N/A)	17.28	J-1198
3235 1377	J-1756 J-692	Forest Forest	TRUE TRUE	1.00 1.00	979.91 980.67	3.09 1.28	981.99 980.95	20.00 20.00	20.08 61.82	20.00 20.00	20.04 20.00	J-3486 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5274	J-2798	Forest	TRUE	1.00	980.67	1.28	980.95	20.00	61.62	20.00	20.00	J-3438	(N/A)	17.28	J-1198
1843 3596	J-952 J-1962	Forest Forest	TRUE TRUE	1.00 1.00	981.02 985.64	1.08 2.28	981.10 986.92	20.00 20.00	20.00 20.01	20.00 20.00	21.62 20.21	J-953 J-2117	(N/A) (N/A)	17.16 17.28	J-1198 J-1198
7031	J-3821	Forest	TRUE	1.00	986.56	1.08	986.64	20.00	20.05	20.00	20.80	J-1037	(N/A)	17.28	J-1198
5394	J-2869	Forest	TRUE	1.00	986.84	2.28	988.13	20.00	20.56	20.00	20.07	J-935	(N/A)	17.28	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
1815	J-934	Forest	TRUE	1.00	986.85	2.08	987.93	20.00	20.60	20.00	20.07	J-935	(N/A)	17.28	J-1198
3295	J-1793	Forest	TRUE	1.00	986.94	1.88	987.82	20.00	20.00	20.00	20.32	J-1030	(N/A)	17.28	J-1198
1963 4447	J-1030 J-2327	Forest Lakes	TRUE TRUE	1.00 1.00	990.06 990.83	1.08 1.63	990.14 991.46	20.00 20.00	20.01 20.00	20.00 20.00	20.26 20.29	J-1693 J-3412	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2591	J-2327 J-1392	Forest	TRUE	1.00	991.56	1.68	992.24	20.00	20.00	20.00	24.36	J-3412 J-1197	(N/A)	17.28	J-1198
5143	J-2723	Forest	TRUE	1.00	992.27	1.08	992.35	20.00	20.11	20.00	20.04	J-1693	(N/A)	17.28	J-1198
3131 6334	J-1693 J-3412	Forest Lakes	TRUE TRUE	1.00 1.00	992.65 994.52	1.48 1.20	993.13 994.72	20.00 20.00	20.01 20.17	20.00 20.00	20.04 20.01	J-1030 J-2327	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6335	J-3413	Lakes	TRUE	1.00	994.75	1.20	994.95	20.00	20.52	20.00	20.00	J-2327	(N/A)	17.28	J-1198
1940 3670	J-1015 J-2000	Forest Forest	TRUE TRUE	1.00 1.00	998.77 999.51	1.68 1.48	999.45 999.99	20.00 20.00	20.63 20.95	20.00 20.00	20.00 20.00	J-1736 J-1037	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6598	J-3567	Forest	TRUE	1.00	1,001.15	1.48	1,001.63	20.00	20.02	20.00	20.11	J-2004	(N/A)	17.28	J-1198
3676	J-2004	Forest	TRUE	1.00	1,002.19	1.88	1,003.07	20.00	20.01	20.00	20.30	J-3567	(N/A)	17.28	J-1198
1331 5649	J-683 J-3014	Forest Forest	TRUE TRUE	1.00 1.00	1,004.66 1,004.67	1.08 1.08	1,004.74 1,004.75	20.00 20.00	51.74 51.34	20.00 20.00	20.03 20.03	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3802	J-2070	Forest	TRUE	1.00	1,004.90	2.08	1,005.98	20.00	20.00	20.00	24.24	J-1197	(N/A)	17.16	J-1198
2754 4114	J-1489 J-2213	Forest Forest	TRUE TRUE	1.00 1.00	1,006.93 1,007.92	2.48 2.28	1,008.42 1,009.20	20.00 20.00	20.00 20.00	20.00 20.00	24.23 24.36	J-1197 J-1197	(N/A) (N/A)	17.16 17.28	J-1198 J-1198
6324	J-3406	Forest	TRUE	1.00	1,008.03	1.48	1,008.51	20.00	55.16	20.00	20.03	J-3200	(N/A)	17.28	J-1198
6325 7320	J-3407 J-3962	Forest Forest	TRUE TRUE	1.00 1.00	1,008.05 1,008.13	2.48 1.08	1,009.53 1,008.21	20.00 20.00	54.53 51.83	20.00 20.00	20.02 20.02	J-3200 J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6519	J-3520	Forest	TRUE	1.00	1,008.13	1.68	1,008.81	20.00	51.98	20.00	20.02	J-3200	(N/A)	17.28	J-1198
6520	J-3521 J-4169	Forest	TRUE TRUE	1.00 1.00	1,008.14	1.68	1,008.82	20.00 20.00	51.76	20.00 20.00	20.02 20.01	J-3200	(N/A)	17.28 17.28	J-1198
8151 5969	J-4169 J-3195	Forest Forest	TRUE	1.00	1,008.27 1,008.27	2.08 3.09	1,009.35 1,010.36	20.00	35.57 35.76	20.00	20.01	J-3200 J-3200	(N/A) (N/A)	17.28	J-1198 J-1198
5970	J-3196	Forest	TRUE	1.00	1,008.28	1.48	1,008.76	20.00	35.09	20.00	20.01	J-3200	(N/A)	17.28	J-1198
7497 6191	J-4027 J-3326	Forest Forest	TRUE TRUE	1.00 1.00	1,008.29 1,008.31	1.88 1.08	1,009.17 1,008.38	20.00 20.00	32.19 30.86	20.00 20.00	20.01 20.01	J-3200 J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6192	J-3327	Forest	TRUE	1.00	1,008.32	1.48	1,008.79	20.00	30.52	20.00	20.01	J-3200	(N/A)	17.28	J-1198
7463 6502	J-4015 J-3510	Forest Forest	TRUE TRUE	1.00 1.00	1,008.33 1,010.14	1.88 2.48	1,009.21 1,011.63	20.00 20.00	29.56 20.24	20.00 20.00	20.00 20.05	J-3200 J-2091	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4413	J-2317	Forest	TRUE	1.00	1,010.38	1.88	1,011.26	20.00	20.77	20.00	20.02	J-2091	(N/A)	17.28	J-1198
3903 6300	J-2119 J-3392	Lakes Forest	TRUE TRUE	1.00 1.00	1,010.51 1,013.23	1.20 2.68	1,010.70 1,014.91	20.00 20.00	23.62 20.00	20.00 20.00	20.00 20.17	J-1586 J-2210	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2570	J-1380	Forest	TRUE	1.00	1,015.45	1.08	1,015.52	20.00	20.03	20.00	20.16	J-2354	(N/A)	17.28	J-1198
4494 4107	J-2354 J-2210	Forest Forest	TRUE TRUE	1.00 1.00	1,015.78 1,015.95	1.08 2.48	1,015.86 1,017.43	20.00 20.00	20.04 20.00	20.00 20.00	20.00 20.16	J-1380 J-3392	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1722	J-874	Forest	TRUE	1.00	1,016.77	1.08	1,017.43	20.00	20.00	20.00	20.16	J-3392 J-1115	(N/A)	17.28	J-1198
5114	J-2707	Forest	TRUE	1.00	1,017.27	1.88	1,018.15	20.00	20.00	20.00	20.18	J-2320	(N/A)	17.28	J-1198
4278 2108	J-2274 J-1114	Forest Forest	TRUE TRUE	1.00 1.00	1,018.29 1,018.48	2.28 1.48	1,019.57 1,018.96	20.00 20.00	20.00 21.94	20.00 20.00	24.36 20.00	J-1197 J-1115	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4422	J-2320	Forest	TRUE	1.00	1,019.07	2.08	1,020.15	20.00	20.00	20.00	20.04	J-2707	(N/A)	17.28	J-1198
2751 1242	J-1487 J-649	Forest Forest	TRUE TRUE	1.00 1.00	1,019.42 1,021.00	1.88 1.08	1,020.30 1,021.08	20.00 20.00	20.00 48.96	20.00 20.00	20.31 20.03	J-1833 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5979	J-3201	Forest	TRUE	1.00	1,021.02	1.08	1,021.10	20.00	48.34	20.00	20.03	J-3438	(N/A)	17.28	J-1198
4062 4896	J-2190 J-2582	Forest Forest	TRUE TRUE	1.00 1.00	1,022.14 1,022.35	2.28 1.68	1,023.42 1,023.03	20.00 20.00	20.00 20.48	20.00 20.00	24.36 20.02	J-1197 J-1833	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3369	J-1833	Forest	TRUE	1.00	1,022.56	2.68	1,024.24	20.00	20.00	20.00	20.64	J-2582	(N/A)	17.28	J-1198
2616 1870	J-1407 J-970	Forest Forest	TRUE TRUE	1.00 1.00	1,023.34 1,023.35	1.48 2.08	1,023.82 1,024.43	20.00 20.00	20.01 20.01	20.00 20.00	24.36 24.23	J-1197 J-1197	(N/A) (N/A)	17.28 17.15	J-1198 J-1198
3777	J-2058	Forest	TRUE	1.00	1,025.30	2.08	1,026.38	20.00	20.00	20.00	24.23	J-1197	(N/A)	17.15	J-1198
2596 4193	J-1395 J-2247	Forest Forest	TRUE TRUE	1.00 1.00	1,026.62 1,027.01	1.88 2.88	1,027.50 1,028.89	20.00 20.00	20.00 20.01	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3643	J-1986	Forest	TRUE	1.00	1,027.74	1.88	1,028.62	20.00	20.01	20.00	24.36	J-1197	(N/A)	17.28	J-1198
6885 4377	J-3737 J-2304	Forest Forest	TRUE TRUE	1.00 1.00	1,029.93 1,032.99	1.48 1.28	1,030.41 1,033.27	20.00 20.00	20.01 20.01	20.00 20.00	20.45 24.36	J-3736 J-1197	(N/A) (N/A)	17.15 17.28	J-1198 J-1198
2111	J-1116	Forest	TRUE	1.00	1,033.13	2.08	1,034.21	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
6884 1743	J-3736 J-888	Forest Forest	TRUE TRUE	1.00 1.00	1,033.99 1,034.10	1.48 1.88	1,034.47 1,034.98	20.00 20.00	20.01 26.68	20.00 20.00	20.07 20.00	J-3737 J-3736	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
5610	J-2991	Forest	TRUE	1.00	1,034.10	1.88	1,034.98	20.00	26.25	20.00	20.00	J-3736	(N/A)	17.15	J-1198
7117 7118	J-3869 J-3870	Forest Forest	TRUE TRUE	1.00 1.00	1,035.08 1,035.09	1.08 1.08	1,035.16 1,035.16	20.00 20.00	21.79 21.84	20.00 20.00	20.04 20.04	J-3736 J-3736	(N/A) (N/A)	17.15 17.15	J-1198 J-1198
1204	J-631	Forest	TRUE	1.00	1,036.05	1.08	1,036.12	20.00	45.75	20.00	20.04	J-3438	(N/A)	17.13	J-1198
6910	J-3752	Forest	TRUE TRUE	1.00 1.00	1,036.07	1.28 1.28	1,036.35	20.00 20.00	44.90 20.02	20.00	20.02 21.96	J-3438 J-1166	(N/A) (N/A)	17.28	J-1198 J-1198
3380 2189	J-1839 J-1166	Forest Forest	TRUE	1.00	1,036.57 1,036.85	1.08	1,036.85 1,036.93	20.00	20.67	20.00 20.00	20.00	J-11839	(N/A)	17.28 17.28	J-1198
4532 2771	J-2376 J-1498	Forest Forest	TRUE TRUE	1.00 1.00	1,038.06 1,038.61	1.08 2.28	1,038.13 1,039.89	20.00 20.00	20.01 20.26	20.00 20.00	20.34 20.06	J-1498 J-2376	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5566	J-2966	Forest	TRUE	1.00	1,039.28	1.08	1,039.36	20.00	49.66	20.00	20.00	J-1626	(N/A)	17.28	J-1198
5567	J-2967	Forest	TRUE	1.00	1,039.29	1.08	1,039.36	20.00	49.52	20.00	20.02	J-1626	(N/A)	17.28	J-1198
6968 3487	J-3785 J-1900	Forest Forest	TRUE TRUE	1.00 1.00	1,039.42 1,039.42	1.28 1.68	1,039.70 1,040.10	20.00 20.00	21.45 21.32	20.00 20.00	20.00 20.00	J-1736 J-1736	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4952	J-2614	Forest	TRUE	1.00	1,040.22	2.28	1,041.51	20.00	31.12	20.00	20.01	J-379	(N/A)	17.28	J-1198
4953 3658	J-2615 J-1995	Forest Forest	TRUE TRUE	1.00 1.00	1,040.23 1,041.01	1.08 1.08	1,040.31 1,041.08	20.00 20.00	30.24 46.72	20.00 20.00	20.00 20.00	J-379 J-2045	(N/A) (N/A)	17.28 16.18	J-1198 J-1198
6446	J-3478	Forest	TRUE	1.00	1,041.01	1.48	1,041.49	20.00	45.98	20.00	20.00	J-2045	(N/A)	16.18	J-1198
5479 3882	J-2917 J-2109	Forest Forest	TRUE TRUE	1.00 1.00	1,041.91 1,041.91	1.28 2.68	1,042.19 1,043.59	20.00 20.00	34.45 33.63	20.00 20.00	20.00 20.00	J-2245 J-2245	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3926	J-2130	Forest	TRUE	1.00	1,045.55	1.88	1,046.43	20.00	20.02	20.00	23.60	J-2131	(N/A)	17.28	J-1198
3068 6166	J-1654 J-3312	Forest Forest	TRUE TRUE	1.00 1.00	1,049.01 1,049.84	1.28 1.68	1,049.28 1,050.52	20.00 20.00	20.01 41.07	20.00 20.00	20.12 20.01	J-1653 J-1525	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3947	J-2140	Forest	TRUE	1.00	1,049.84	1.48	1,050.32	20.00	40.78	20.00	20.01	J-1525	(N/A)	17.28	J-1198
1203 5112	J-630 J-2706	Forest Forest	TRUE TRUE	1.00 1.00	1,050.18 1,050.19	1.08 1.68	1,050.26 1,050.87	20.00 20.00	40.44 39.99	20.00 20.00	20.02 20.02	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3067	J-1653	Forest	TRUE	1.00	1,051.85	1.08	1,051.93	20.00	20.01	20.00	20.07	J-1654	(N/A)	17.28	J-1198
3804 4379	J-2071	Forest	TRUE TRUE	1.00	1,053.00	2.08	1,054.08	20.00	20.00	20.00	20.15	J-1704	(N/A)	17.28	J-1198
5771	J-2305 J-3085	Forest Forest	TRUE	1.00 1.00	1,054.12 1,054.27	3.09 1.48	1,056.21 1,054.75	20.00 20.00	21.07 21.63	20.00 20.00	20.02 20.00	J-2306 J-2306	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3499	J-1907	Forest	TRUE	1.00	1,054.80	1.08	1,054.88	20.00	22.30	20.00	20.00	J-987	(N/A)	17.28	J-1198
1779 3164	J-911 J-1713	Forest Forest	TRUE TRUE	1.00 1.00	1,054.80 1,054.80	1.48 1.08	1,055.28 1,054.88	20.00 20.00	20.82 21.06	20.00 20.00	20.00 20.00	J-987 J-987	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4782	J-2517	Forest	TRUE	1.00	1,054.80	1.48	1,055.28	20.00	20.90	20.00	20.00	J-987	(N/A)	17.28	J-1198
1895 5573	J-986 J-2970	Forest Forest	TRUE TRUE	1.00 1.00	1,054.81 1,056.08	1.08 1.88	1,054.88 1,056.96	20.00 20.00	20.59 29.59	20.00 20.00	20.00 20.01	J-987 J-1653	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3574	J-1949	Forest	TRUE	1.00	1,056.08	1.88	1,056.96	20.00	29.53	20.00	20.01	J-1653	(N/A)	17.28	J-1198
1619 3276	J-809 J-1782	Forest Forest	TRUE TRUE	1.00 1.00	1,056.10 1,056.13	1.68 1.48	1,056.78 1,056.61	20.00 20.00	27.65 38.89	20.00 20.00	20.02 20.03	J-1653 J-1704	(N/A) (N/A)	17.28 17.28	J-1198 J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
1899	J-989	Forest	TRUE	1.00	1,056.31	3.29	1,058.60	20.00	40.28	20.00	20.03	J-1704	(N/A)	17.28	J-1198
3573	J-1948	Forest	TRUE	1.00	1,056.35	1.48	1,056.83	20.00	30.38	20.00	20.01	J-1653	(N/A)	17.28	J-1198
3772 6635	J-2056 J-3590	Forest Forest	TRUE TRUE	1.00 1.00	1,056.41 1,056.50	3.29 1.28	1,058.70 1,056.78	20.00 20.00	37.01 38.16	20.00 20.00	20.02 20.02	J-1704 J-1704	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1616	J-807	Forest	TRUE	1.00	1,056.51	1.88	1,057.39	20.00	28.78	20.00	20.02	J-1704	(N/A)	17.28	J-1198
4311	J-2285	Forest	TRUE	1.00	1,056.51	2.28	1,057.80	20.00	22.92	20.00	20.02	J-1704	(N/A)	17.28	J-1198
3631 3275	J-1980 J-1781	Forest Forest	TRUE TRUE	1.00 1.00	1,056.53 1,056.56	2.28 2.28	1,057.81 1,057.84	20.00 20.00	30.30 39.31	20.00 20.00	20.02 20.02	J-1704 J-1704	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3630	J-1979	Forest	TRUE	1.00	1,056.58	1.88	1,057.46	20.00	32.41	20.00	20.02	J-1704	(N/A)	17.28	J-1198
5714 3148	J-3052 J-1704	Forest Forest	TRUE TRUE	1.00 1.00	1,056.58 1.056.88	1.08 1.68	1,056.66 1,057.56	20.00 20.00	32.47 20.00	20.00 20.00	20.02 20.12	J-1704 J-1653	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6887	J-3738	Forest	TRUE	1.00	1,057.29	1.08	1,057.37	20.00	20.02	20.00	20.45	J-3188	(N/A)	17.28	J-1198
3812 4297	J-2075 J-2281	Forest	TRUE TRUE	1.00 1.00	1,061.37	3.69 1.08	1,064.05	20.00 20.00	20.00 20.47	20.00 20.00	21.40 20.02	J-1704 J-3188	(N/A) (N/A)	17.28 17.28	J-1198
2551	J-2281 J-1370	Forest Forest	TRUE	1.00	1,061.58 1,063.81	2.08	1,061.66 1,064.89	20.00	20.47	20.00	24.36	J-3188 J-1197	(N/A) (N/A)	17.28	J-1198 J-1198
3662	J-1996	Forest	TRUE	1.00	1,065.05	1.28	1,065.33	20.00	20.00	20.00	22.19	J-1775	(N/A)	17.28	J-1198
5352 3961	J-2844 J-2146	Forest Forest	TRUE TRUE	1.00 1.00	1,067.74 1,067.94	1.48 2.28	1,068.21 1,069.22	20.00 20.00	20.00 20.00	20.00 20.00	20.40 24.36	J-1354 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2524	J-1354	Forest	TRUE	1.00	1,069.36	2.08	1,070.44	20.00	20.20	20.00	20.06	J-2844	(N/A)	17.28	J-1198
3260 3259	J-1772 J-1771	Stewartsville Stewartsville		1.00 1.00	1,075.08 1,075.08	1.83 1.26	1,075.91 1,075.34	20.00 20.00	69.79 69.40	20.00 20.00	20.00 20.00	J-2326 J-2326	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4201	J-2250	Forest	TRUE	1.00	1,076.27	1.28	1,076.55	20.00	27.72	20.00	20.00	J-2878	(N/A)	17.28	J-1198
6964 4607	J-3783 J-2420	Forest Forest	TRUE TRUE	1.00 1.00	1,076.27	1.68 1.08	1,076.95	20.00 20.00	26.82 20.01	20.00 20.00	20.00 20.45	J-2878 J-2023	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3708	J-2023	Forest	TRUE	1.00	1,077.62 1,078.54	2.88	1,077.70 1,080.42	20.00	20.01	20.00	20.45	J-2023 J-2420	(N/A)	17.28	J-1198
3784	J-2061	Forest	TRUE	1.00	1,079.38	1.68	1,080.06	20.00	20.00	20.00	23.39	J-1197	(N/A)	16.31	J-1198
4514 3355	J-2366 J-1826	Forest Forest	TRUE TRUE	1.00 1.00	1,082.61 1,084.13	1.88 1.08	1,083.49 1,084.21	20.00 20.00	20.00 20.00	20.00 20.00	20.15 21.37	J-3863 J-3632	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4513	J-2365	Forest	TRUE	1.00	1,084.27	1.08	1,084.35	20.00	20.06	20.00	20.03	J-2366	(N/A)	17.28	J-1198
7106 4874	J-3863 J-2568	Forest Forest	TRUE TRUE	1.00 1.00	1,084.65 1,085.37	1.08 1.28	1,084.73 1,085.64	20.00 20.00	20.00 20.01	20.00 20.00	20.01 20.13	J-2366 J-1775	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3644	J-1987	Forest	TRUE	1.00	1,086.54	2.08	1,087.62	20.00	22.14	20.00	20.00	J-1986	(N/A)	17.28	J-1198
6379	J-3439	Forest	TRUE	1.00	1,086.54	1.48	1,087.02	20.00	21.65	20.00	20.00	J-1986	(N/A) (N/A)	17.28	J-1198
3265 1695	J-1775 J-857	Forest Forest	TRUE TRUE	1.00 1.00	1,086.63 1,087.22	1.28 1.48	1,086.91 1,087.70	20.00 20.00	20.01 20.03	20.00 20.00	20.08 22.68	J-2568 J-1965	(N/A)	17.28 17.28	J-1198 J-1198
2604	J-1400	Forest	TRUE	1.00	1,087.90	2.28	1,089.18	20.00	21.45	20.00	20.00	J-1401	(N/A)	17.28	J-1198
6707 2242	J-3632 J-1197	Forest Forest	TRUE TRUE	1.00 1.00	1,088.74 1,089.22	1.08 1.48	1,088.81 1,089.70	20.00 20.00	20.00 20.00	20.00 20.00	20.27 20.87	J-1826 J-3957	(N/A) (N/A)	17.28 12.92	J-1198 J-1198
7126	J-3874	Forest	TRUE	1.00	1,089.31	1.08	1,089.38	20.00	20.23	20.00	20.04	J-3425	(N/A)	17.28	J-1198
7127 8375	J-3875 J-4175	Forest Forest	TRUE TRUE	1.00 1.00	1,089.32 1,089.42	1.48 1.08	1,089.80 1,089.50	20.00 20.00	20.23 91.31	20.00 20.00	20.03 20.02	J-3425 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7588	J-4057	Forest	TRUE	1.00	1,089.49	1.48	1,089.97	20.00	20.02	20.00	20.02	J-3425	(N/A)	17.28	J-1198
2285 6406	J-1223 J-3455	Forest Forest	TRUE TRUE	1.00 1.00	1,089.69 1,089.69	2.88 1.48	1,091.57 1,090.17	20.00 20.00	46.89 43.93	20.00 20.00	20.00 20.00	J-3425 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6405	J-3455	Forest	TRUE	1.00	1,089.69	1.28	1,089.17	20.00	42.91	20.00	20.00	J-3425 J-3425	(N/A)	17.28	J-1198
2197	J-1171	Forest	TRUE	1.00	1,089.72	1.68	1,090.40	20.00	31.92	20.00	20.00	J-3425	(N/A)	17.28	J-1198
6538 6537	J-3531 J-3530	Forest Forest	TRUE TRUE	1.00 1.00	1,089.72 1,089.72	1.48 1.48	1,090.20 1,090.20	20.00 20.00	30.98 29.84	20.00 20.00	20.00 20.00	J-3425 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2222	J-1186	Forest	TRUE	1.00	1,089.72	1.08	1,089.80	20.00	26.90	20.00	20.00	J-3425	(N/A)	17.28	J-1198
4473 4474	J-2342 J-2343	Forest Forest	TRUE TRUE	1.00 1.00	1,089.72 1,089.72	1.48 1.08	1,090.20 1,089.80	20.00 20.00	25.75 25.94	20.00 20.00	20.00 20.00	J-3425 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3354	J-1825	Forest	TRUE	1.00	1,089.74	1.08	1,089.81	20.00	20.83	20.00	20.08	J-1826	(N/A)	17.28	J-1198
2738 3397	J-1479 J-1848	Forest Forest	TRUE TRUE	1.00 1.00	1,090.40 1,091.65	4.09 1.28	1,093.49 1,091.93	20.00 20.00	20.00 20.13	20.00 20.00	24.36 20.05	J-1197 J-1774	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3264	J-1774	Forest	TRUE	1.00	1,092.09	1.28	1,092.36	20.00	20.01	20.00	20.09	J-1775	(N/A)	17.28	J-1198
5345 2135	J-2840 J-1132	Forest Lakes	TRUE TRUE	1.00 1.00	1,092.34 1,092.56	1.48 1.72	1,092.82 1,093.27	20.00 20.00	20.01 20.00	20.00 20.00	20.29 32.62	J-1173 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4183	J-1132 J-2242	Forest	TRUE	1.00	1,092.73	3.29	1,095.27	20.00	20.00	20.00	24.36	J-2323 J-1197	(N/A)	17.28	J-1198
2200	J-1173	Forest	TRUE	1.00	1,094.37 1,094.39	1.48	1,094.85	20.00	20.01	20.00	20.01	J-2840	(N/A)	17.28	J-1198
5781 3616	J-3091 J-1972	Forest Forest	TRUE TRUE	1.00 1.00	1,094.39	1.08 1.68	1,094.47 1,095.82	20.00 20.00	20.02 40.01	20.00 20.00	20.30 20.00	J-3090 J-1704	(N/A) (N/A)	17.14 17.28	J-1198 J-1198
4976	J-2628	Forest	TRUE	1.00	1,095.14	1.28	1,095.42	20.00	39.34	20.00	20.00	J-1704	(N/A)	17.28	J-1198
6327 4603	J-3408 J-2418	Forest Forest	TRUE TRUE	1.00 1.00	1,097.14 1,097.38	1.68 2.28	1,097.82 1,098.66	20.00 20.00	20.00 20.06	20.00 20.00	20.34 20.03	J-2131 J-1350	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5780	J-3090	Forest	TRUE	1.00	1,097.38	1.08	1,097.46	20.00	20.02	20.00	20.06	J-3091	(N/A)	17.14	J-1198
2517 3945	J-1350 J-2139	Forest Forest	TRUE TRUE	1.00 1.00	1,097.89 1,098.56	1.08 1.68	1,097.97 1,099.24	20.00 20.00	20.00 23.46	20.00 20.00	20.21 20.00	J-2418 J-1704	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6979	J-3791	Forest	TRUE	1.00	1,098.56	1.48	1,099.04	20.00	23.29	20.00	20.00	J-1704	(N/A)	17.28	J-1198
3615 3817	J-1971 J-2077	Forest Forest	TRUE TRUE	1.00 1.00	1,098.56 1,098.57	3.49 4.29	1,101.05 1,101.86	20.00 20.00	41.28 34.32	20.00 20.00	20.00 20.00	J-1704 J-1704	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6980	J-3792	Forest	TRUE	1.00	1,098.58	2.08	1,099.67	20.00	22.12	20.00	20.00	J-1704	(N/A)	17.28	J-1198
5078 3106	J-2688	Forest Forest	TRUE TRUE	1.00 1.00	1,099.94 1,099.98	1.28 1.08	1,100.22 1,100.05	20.00 20.00	21.46 21.90	20.00 20.00	20.04 20.04	J-2070 J-2070	(N/A) (N/A)	17.14 17.14	J-1198 J-1198
3105	J-1678 J-1677	Forest	TRUE	1.00	1,099.98	1.08	1,100.05	20.00	21.90	20.00	20.04	J-2070 J-2070	(N/A) (N/A)	17.14	J-1198 J-1198
3671	J-2001	Forest	TRUE	1.00	1,100.82	2.28	1,102.10	20.00	23.44	20.00	20.00	J-1037	(N/A)	17.28	J-1198
3927 3673	J-2131 J-2002	Forest Forest	TRUE TRUE	1.00 1.00	1,102.41 1,103.53	2.28 1.88	1,103.70 1,104.41	20.00 20.00	20.00 20.00	20.00 20.00	20.05 24.08	J-3408 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7144	J-3884	Forest	TRUE	1.00	1,104.18	1.08	1,104.25	20.00	20.46	20.00	20.05	J-3090	(N/A)	17.14	J-1198
7143 2567	J-3883 J-1378	Forest Forest	TRUE TRUE	1.00 1.00	1,104.18 1,107.83	1.48 2.68	1,104.66 1,109.51	20.00 20.00	20.51 20.00	20.00 20.00	20.04 24.36	J-3090 J-1197	(N/A) (N/A)	17.14 17.28	J-1198 J-1198
2104	J-1112	Forest	TRUE	1.00	1,108.11	1.88	1,108.99	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
4154	J-2230	Forest	TRUE	1.00	1,109.00	1.48	1,109.48	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2623 2687	J-1412 J-1448	Forest Forest	TRUE TRUE	1.00 1.00	1,109.49 1,110.31	1.48 2.08	1,109.96 1,111.39	20.00 20.00	20.02 20.00	20.00 20.00	24.21 24.36	J-1197 J-1197	(N/A) (N/A)	17.14 17.28	J-1198 J-1198
7305	J-3957	Forest	TRUE	1.00	1,111.54	1.48	1,112.02	20.00	20.71	20.00	20.00	J-1197	(N/A)	12.92	J-1198
7002 4330	J-3805 J-2290	Forest Forest	TRUE TRUE	1.00 1.00	1,112.61 1,112.61	1.08 2.88	1,112.69 1,114.50	20.00 20.00	25.34 24.55	20.00 20.00	20.00 20.00	J-3023 J-3023	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3810	J-2074	Forest	TRUE	1.00	1,112.91	2.28	1,114.19	20.00	38.70	20.00	20.01	J-1257	(N/A)	17.28	J-1198
5536 8525	J-2949 J-4214	Forest Forest	TRUE TRUE	1.00 1.00	1,112.92 1,112.96	1.28 1.08	1,113.19 1,113.04	20.00 20.00	38.24 25.19	20.00 20.00	20.01 20.00	J-1257 J-4154	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7977	J-4154	Forest	TRUE	1.00	1,113.02	1.28	1,113.30	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2773 3707	J-1499	Forest	TRUE TRUE	1.00 1.00	1,113.44	1.88	1,114.32	20.00	20.00 20.01	20.00	24.21	J-1197	(N/A)	17.14	J-1198 J-1198
4656	J-2022 J-2447	Forest Forest	TRUE	1.00	1,114.38 1,114.89	1.68 1.08	1,115.06 1,114.96	20.00 20.00	20.00	20.00 20.00	21.96 20.22	J-2376 J-1652	(N/A) (N/A)	17.28 17.28	J-1198
5421 3064	J-2884	Forest	TRUE TRUE	1.00	1,115.12	1.08	1,115.20	20.00	20.00	20.00 20.00	20.13	J-1564 J-2447	(N/A) (N/A)	17.13 17.28	J-1198 J-1198
2887	J-1651 J-1564	Forest Forest	TRUE	1.00 1.00	1,116.38 1,116.70	1.08 1.88	1,116.45 1,117.58	20.00 20.00	20.00 20.00	20.00	20.08 20.16	J-2447 J-2884	(N/A)	17.28	J-1198 J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
3065	J-1652	Forest	TRUE	1.00	1,117.17	1.68	1,117.85	20.00	20.07	20.00	20.03	J-2447	(N/A)	17.28	J-1198
6215	J-3341	Forest	TRUE	1.00	1,118.71	2.68	1,120.39	20.00	29.89	20.00	20.01	J-3200	(N/A)	17.28	J-1198
6216 2648	J-3342 J-1426	Forest Forest	TRUE TRUE	1.00 1.00	1,118.71 1,121.34	1.08 1.88	1,118.79 1,122.22	20.00 20.00	29.80 20.01	20.00 20.00	20.01 24.21	J-3200 J-1197	(N/A) (N/A)	17.28 17.13	J-1198 J-1198
2564	J-1377	Forest	TRUE	1.00	1,121.36	1.08	1,121.44	20.00	23.81	20.00	20.05	J-1048	(N/A)	17.13	J-1198
7021 6869	J-3816 J-3727	Forest Forest	TRUE TRUE	1.00 1.00	1,123.90 1,127.26	1.08 1.68	1,123.98 1,127.94	20.00 20.00	20.00 20.00	20.00 20.00	20.64 20.99	J-1695 J-3728	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5488	J-2922	Forest	TRUE	1.00	1,127.35	1.68	1,128.03	20.00	22.02	20.00	20.06	J-1048	(N/A)	17.13	J-1198
3297 1949	J-1794 J-1021	Forest Stewartsville	TRUE TRUE	1.00 1.00	1,127.36 1,129.38	1.08 1.11	1,127.44 1,129.49	20.00 20.00	22.17 31.11	20.00 20.00	20.06 20.03	J-1048 J-1022	(N/A) (N/A)	17.13 17.28	J-1198 J-1198
3876	J-2106	Forest	TRUE	1.00	1,129.91	1.68	1,130.59	20.00	20.00	20.00	24.25	J-4154	(N/A)	17.28	J-1198
7905 4200	J-4142 J-2249	Forest Forest	TRUE TRUE	1.00 1.00	1,130.37 1,130.55	1.28 1.88	1,130.65 1,131.43	20.00 20.00	20.02 22.27	20.00 20.00	22.84 20.00	J-3137 J-1965	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3601	J-1965	Forest	TRUE	1.00	1,130.55	1.08	1,130.63	20.00	20.00	20.00	20.40	J-3727	(N/A)	17.28	J-1198
5204 4342	J-2757 J-2293	Forest Forest	TRUE TRUE	1.00 1.00	1,130.59 1,130.59	1.88 1.68	1,131.47 1,131.27	20.00 20.00	36.72 36.63	20.00 20.00	20.00 20.00	J-1211 J-1211	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3133	J-1694	Forest	TRUE	1.00	1,130.84	1.08	1,130.92	20.00	20.00	20.00	20.26	J-1695	(N/A)	17.28	J-1198
3894 3727	J-2115 J-2033	Forest Forest	TRUE TRUE	1.00 1.00	1,132.11 1,132.71	1.68 2.28	1,132.78 1,134.00	20.00 20.00	20.00 20.01	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6050	J-3242	Forest	TRUE	1.00	1,133.12	1.68	1,133.80	20.00	20.05	20.00	20.03	J-3200	(N/A)	17.28	J-1198
7622 7510	J-4070 J-4031	Forest Forest	TRUE TRUE	1.00 1.00	1,133.55 1,133.61	1.28 1.08	1,133.83 1,133.69	20.00 20.00	29.54 25.89	20.00 20.00	20.01 20.00	J-3200 J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7511	J-4032	Forest	TRUE	1.00	1,133.62	1.48	1,134.10	20.00	25.00	20.00	20.00	J-3200	(N/A)	17.28	J-1198
2853 1388	J-1546 J-693	Forest Forest	TRUE TRUE	1.00 1.00	1,133.65 1,134.05	2.08 1.28	1,134.73 1,134.32	20.00 20.00	21.35 76.78	20.00 20.00	20.00 20.00	J-3200 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3134	J-1695	Forest	TRUE	1.00	1,135.66	1.88	1,136.54	20.00	20.00	20.00	20.10	J-1694	(N/A)	17.28	J-1198
6870 4263	J-3728 J-2269	Forest Forest	TRUE TRUE	1.00 1.00	1,137.32 1,139.93	2.08 1.28	1,138.40 1,140.21	20.00 20.00	20.40 20.01	20.00 20.00	20.00 24.36	J-3727 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4082	J-2209	Forest	TRUE	1.00	1,140.06	1.88	1,140.94	20.00	20.00	20.00	24.36	J-1197 J-1197	(N/A)	17.28	J-1198
2644 4243	J-1423 J-2261	Forest Forest	TRUE TRUE	1.00 1.00	1,146.59 1,146.69	1.88 2.28	1,147.47 1,147.97	20.00 20.00	20.00 20.00	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5239	J-2778	Forest	TRUE	1.00	1,147.38	1.28	1,147.66	20.00	31.31	20.00	20.00	J-941	(N/A)	17.28	J-1198
5240 1746	J-2779 J-890	Forest Forest	TRUE TRUE	1.00 1.00	1,147.38 1,154.83	1.48 1.28	1,147.86 1,155.11	20.00 20.00	31.47 23.72	20.00 20.00	20.00 20.00	J-941 J-913	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2520	J-1352	Forest	TRUE	1.00	1,154.83	1.08	1,154.91	20.00	23.43	20.00	20.00	J-913	(N/A)	17.28	J-1198
3485 6431	J-1899 J-3469	Forest Stewartsville	TRUE TRUE	1.00 1.00	1,157.07 1,158.14	1.08 1.11	1,157.15 1,158.25	20.00 20.00	20.02 28.31	20.00 20.00	21.79 20.04	J-1898 J-1022	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3623	J-1975	Stewartsville		1.00	1,158.22	1.11	1,158.33	20.00	30.40	20.00	20.04	J-1022 J-1022	(N/A)	17.28	J-1198
5862 5863	J-3136 J-3137	Forest	TRUE TRUE	1.00 1.00	1,159.20	1.28 1.48	1,159.48 1,162.06	20.00 20.00	20.02 20.01	20.00 20.00	20.23 20.06	J-3137 J-4142	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1686	J-851	Forest Forest	TRUE	1.00	1,161.58 1,164.47	1.48	1,164.95	20.00	21.54	20.00	20.03	J-4142 J-850	(N/A)	17.28	J-1198
5811 3981	J-3108 J-2155	Lakes Forest	TRUE TRUE	1.00 1.00	1,165.39 1,168.14	1.29 2.08	1,165.68 1,169.22	20.00 20.00	20.00 20.02	20.00 20.00	21.07 23.89	J-2184 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5193	J-2751	Forest	TRUE	1.00	1,168.63	1.88	1,169.51	20.00	20.02	20.00	20.18	J-2919 J-2174	(N/A)	17.28	J-1198
3594 4025	J-1961	Forest	TRUE TRUE	1.00	1,171.00	1.88	1,171.88	20.00	20.00	20.00 20.00	22.02 20.09	J-1960	(N/A) (N/A)	17.28 17.28	J-1198
2602	J-2174 J-1399	Forest Forest	TRUE	1.00 1.00	1,171.53 1,172.45	1.88 1.88	1,172.41 1,173.33	20.00 20.00	20.00 20.00	20.00	24.36	J-2751 J-1197	(N/A)	17.28	J-1198 J-1198
3484	J-1898 J-2184	Forest	TRUE TRUE	1.00 1.00	1,173.20	2.28	1,174.49	20.00	20.01	20.00 20.00	21.02 20.02	J-1899 J-3108	(N/A) (N/A)	17.28 17.28	J-1198
4046 3853	J-2184 J-2095	Lakes Forest	TRUE	1.00	1,176.23 1,176.46	1.37 1.68	1,176.61 1,177.14	20.00 20.00	20.73 20.00	20.00	24.36	J-3108 J-1197	(N/A) (N/A)	17.28	J-1198 J-1198
7173	J-3898	Forest	TRUE TRUE	1.00 1.00	1,178.35	1.08	1,178.43	20.00	20.03	20.00 20.00	20.10 20.03	J-3897	(N/A) (N/A)	17.28 17.28	J-1198
7172 3890	J-3897 J-2113	Forest Forest	TRUE	1.00	1,179.22 1,179.75	1.08 1.48	1,179.30 1,180.23	20.00 20.00	20.03 20.00	20.00	23.23	J-3898 J-1197	(N/A)	16.15	J-1198 J-1198
6927 1834	J-3762 J-946	Forest Forest	TRUE TRUE	1.00 1.00	1,179.96 1,180.39	1.08 2.08	1,180.04 1,181.48	20.00 20.00	20.00 20.01	20.00 20.00	20.67 22.46	J-1763 J-947	(N/A) (N/A)	17.28 17.12	J-1198 J-1198
3245	J-1762	Forest	TRUE	1.00	1,186.29	1.08	1,186.37	20.00	20.00	20.00	20.32	J-1763	(N/A)	17.12	J-1198
7027 6130	J-3819 J-3291	Forest Forest	TRUE TRUE	1.00 1.00	1,186.50 1,186.56	2.48 1.68	1,187.98 1,187.24	20.00 20.00	20.00 20.00	20.00 20.00	20.96 20.61	J-2151 J-2299	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3442	J-1874	Forest	TRUE	1.00	1,189.06	1.08	1,189.14	20.00	26.11	20.00	20.01	J-4154	(N/A)	17.28	J-1198
3593 3441	J-1960 J-1873	Forest Forest	TRUE TRUE	1.00 1.00	1,189.10 1,189.14	2.68 1.48	1,190.78 1,189.62	20.00 20.00	20.00 23.48	20.00 20.00	22.33 20.00	J-1961 J-4154	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5851	J-3130	Forest	TRUE	1.00	1,189.16	1.48	1,189.64	20.00	22.56	20.00	20.00	J-4154	(N/A)	17.28	J-1198
4178 3246	J-2240 J-1763	Forest Forest	TRUE TRUE	1.00 1.00	1,190.49 1,192.12	2.68 1.28	1,192.17 1,192.40	20.00 20.00	20.07 20.00	20.00 20.00	24.36 20.02	J-1197 J-3762	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4360	J-2299	Forest	TRUE	1.00	1,195.36	3.09	1,197.45	20.00	20.20	20.00	20.00	J-3291	(N/A)	17.28	J-1198
6903 4720	J-3748 J-2482	Forest Forest	TRUE TRUE	1.00 1.00	1,197.70 1,198.78	1.08 1.08	1,197.78 1,198.85	20.00 20.00	20.00 45.82	20.00 20.00	21.45 20.00	J-1796 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1144	J-605	Forest	TRUE	1.00	1,198.78	1.28	1,199.05	20.00	45.58	20.00	20.00	J-3438	(N/A)	17.28	J-1198
3651 3652	J-1991 J-1992	Forest Forest	TRUE TRUE	1.00 1.00	1,200.35 1,200.57	2.28 1.48	1,201.63 1,201.05	20.00 20.00	35.14 26.86	20.00 20.00	20.02 20.00	J-2366 J-2366	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4909	J-2589	Forest	TRUE	1.00	1,200.58	1.68	1,201.25	20.00	26.74	20.00	20.00	J-2366	(N/A)	17.28	J-1198
3079 6477	J-1661 J-3496	Forest Forest	TRUE TRUE	1.00 1.00	1,201.25 1,201.52	1.08 1.48	1,201.32 1,202.00	20.00 20.00	20.01 20.01	20.00 20.00	20.23 20.46	J-1660 J-3495	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6231	J-3351	Forest	TRUE	1.00	1,201.83	2.28	1,203.11	20.00	20.00	20.00	20.14	J-1660	(N/A)	17.28	J-1198
3078 4100	J-1660 J-2208	Forest Forest	TRUE TRUE	1.00 1.00	1,202.74 1,204.40	1.28 2.28	1,203.01 1,205.69	20.00 20.00	20.01 20.00	20.00 20.00	20.01 24.36	J-1661 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6476	J-3495	Forest	TRUE	1.00	1,205.12	1.88	1,206.00	20.00	20.01	20.00	20.06	J-3496	(N/A)	17.28	J-1198
2180 5029	J-1160 J-2659	Forest Forest	TRUE TRUE	1.00 1.00	1,205.18 1,205.18	1.08 1.88	1,205.25 1,206.06	20.00 20.00	33.74 32.88	20.00 20.00	20.00 20.00	J-3495 J-3495	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5030	J-2660	Forest	TRUE	1.00	1,205.18	1.48	1,205.66	20.00	32.68	20.00	20.00	J-3495	(N/A)	17.28	J-1198
3319 1876	J-1805 J-974	Forest Forest	TRUE TRUE	1.00 1.00	1,206.56 1,206.65	1.08 1.48	1,206.64 1,207.13	20.00 20.00	20.00 20.51	20.00 20.00	20.02 20.02	J-3748 J-3748	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3301	J-1796	Forest	TRUE	1.00	1,206.90	1.48	1,207.38	20.00	20.79	20.00	20.00	J-3748	(N/A)	17.28	J-1198
5732 6081	J-3063 J-3262	Forest Forest	TRUE TRUE	1.00 1.00	1,207.22 1,207.27	1.68 1.08	1,207.90 1,207.34	20.00 20.00	20.02 22.45	20.00 20.00	20.40 20.02	J-3062 J-3090	(N/A) (N/A)	17.28 17.12	J-1198 J-1198
6080	J-3261	Forest	TRUE	1.00	1,207.35	1.48	1,207.83	20.00	23.17	20.00	20.01	J-3090	(N/A)	17.12	J-1198
3806 2553	J-2072 J-1371	Forest Forest	TRUE TRUE	1.00 1.00	1,207.77 1,208.09	2.08 1.48	1,208.85 1,208.57	20.00 20.00	20.00 58.58	20.00 20.00	24.36 20.01	J-1197 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2554	J-1372	Forest	TRUE	1.00	1,208.23	1.48	1,208.71	20.00	25.56	20.00	20.00	J-3425	(N/A)	17.28	J-1198
6541 6540	J-3533 J-3532	Forest Forest	TRUE TRUE	1.00 1.00	1,208.84 1,208.84	1.68 1.68	1,209.52 1,209.52	20.00 20.00	38.31 37.54	20.00 20.00	20.00 20.00	J-1197 J-1197	(N/A) (N/A)	12.92 12.92	J-1198 J-1198
3083	J-1663	Forest	TRUE	1.00	1,210.81	2.08	1,211.89	20.00	21.46	20.00	20.04	J-2061	(N/A)	16.10	J-1198
3084 5731	J-1664 J-3062	Forest Forest	TRUE TRUE	1.00 1.00	1,210.82 1,211.95	1.08 1.68	1,210.89 1,212.63	20.00 20.00	21.36 20.02	20.00 20.00	20.04 20.02	J-2061 J-3063	(N/A) (N/A)	16.10 17.28	J-1198 J-1198
2920	J-1580	Forest	TRUE	1.00	1,212.85	1.88	1,213.73	20.00	20.01	20.00	20.84	J-3687	(N/A)	17.28	J-1198
3971 6800	J-2151 J-3687	Forest Forest	TRUE TRUE	1.00 1.00	1,214.63 1,214.93	1.48 3.09	1,215.11 1,217.01	20.00 20.00	20.00 20.00	20.00 20.00	20.31 21.00	J-3819 J-1868	(N/A) (N/A)	17.28 17.28	J-1198 J-1198

Node	Node	Pressure		Desired Fire Flow	Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
4335 1143	J-2291 J-604	Forest Forest	TRUE TRUE	1.00 1.00	1,216.45 1,218.20	2.48 1.48	1,217.94 1,218.68	20.00 20.00	20.00 48.33	20.00 20.00	24.36 20.00	J-1197 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5787	J-3094	Forest	TRUE	1.00	1,218.20	1.08	1,218.28	20.00	48.08	20.00	20.00	J-3438	(N/A)	17.28	J-1198
6848 4214	J-3715 J-2254	Forest Forest	TRUE TRUE	1.00 1.00	1,218.87 1,218.87	1.48 1.48	1,219.35 1,219.35	20.00 20.00	28.92 28.78	20.00 20.00	20.00 20.00	J-2267 J-2267	(N/A) (N/A)	17.17 17.17	J-1198 J-1198
3988	J-2157	Forest	TRUE	1.00	1,220.59	1.88	1,221.47	20.00	22.25	20.00	20.00	J-2840	(N/A)	17.28	J-1198
3432 4662	J-1868 J-2450	Forest Forest	TRUE TRUE	1.00 1.00	1,221.30 1,221.46	3.89 2.28	1,224.19 1,222.74	20.00 20.00	20.39 20.00	20.00 20.00	20.03 20.32	J-3687 J-1263	(N/A) (N/A)	17.28 17.11	J-1198 J-1198
2356	J-1263	Forest	TRUE	1.00	1,222.97	2.48	1,224.45	20.00	20.00	20.00	20.32	J-2450	(N/A)	17.11	J-1198
4112	J-2212	Forest	TRUE	1.00	1,227.21	2.48	1,228.69	20.00	20.05	20.00	24.36	J-1197	(N/A)	17.28	J-1198
5681 3875	J-3033 J-2105	Forest Forest	TRUE TRUE	1.00 1.00	1,227.36 1,227.49	1.48 1.88	1,227.84 1,228.37	20.00 20.00	20.00 31.87	20.00 20.00	20.21 20.02	J-1776 J-4154	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1790	J-918	Forest	TRUE	1.00	1,230.11	1.08	1,230.18	20.00	20.14	20.00	20.03	J-1776	(N/A)	17.28	J-1198
3303 3267	J-1797 J-1776	Forest Forest	TRUE TRUE	1.00 1.00	1,230.43 1,230.60	1.48 1.48	1,230.91 1,231.08	20.00 20.00	20.53 20.00	20.00 20.00	20.01 20.18	J-1776 J-3033	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5086	J-2692	Forest	TRUE	1.00	1,231.80	1.48	1,232.28	20.00	20.00	20.00	21.03	J-2031	(N/A)	17.28	J-1198
6401 6400	J-3452 J-3451	Forest Forest	TRUE TRUE	1.00 1.00	1,232.52 1,232.52	1.68 1.48	1,233.19 1,233.00	20.00 20.00	27.19 26.75	20.00 20.00	20.00 20.00	J-1197 J-1197	(N/A) (N/A)	12.92 12.92	J-1198 J-1198
3864	J-2100	Forest	TRUE	1.00	1,233.70	1.48	1,234.17	20.00	20.00	20.00	24.19	J-1197	(N/A)	17.11	J-1198
5218 6717	J-2765 J-3638	Forest Forest	TRUE TRUE	1.00 1.00	1,233.91 1,235.15	2.08 1.48	1,234.99 1,235.63	20.00 20.00	20.00 58.57	20.00 20.00	20.19 20.01	J-2766 J-3425	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6716	J-3637	Forest	TRUE	1.00	1,235.16	1.68	1,235.84	20.00	58.21	20.00	20.01	J-3425	(N/A)	17.28	J-1198
1858 5500	J-962 J-2928	Forest Forest	TRUE TRUE	1.00 1.00	1,237.63 1,237.64	2.28 1.48	1,238.91 1,238.12	20.00 20.00	31.89 31.35	20.00 20.00	20.00 20.00	J-2766 J-2766	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5219	J-2766	Forest	TRUE	1.00	1,237.70	1.88	1,238.58	20.00	20.00	20.00	20.11	J-2765	(N/A)	17.28	J-1198
3723 3557	J-2031 J-1939	Forest Forest	TRUE TRUE	1.00 1.00	1,238.35 1,239.34	1.68 1.08	1,239.03 1,239.42	20.00 20.00	20.73 20.01	20.00 20.00	20.00 21.61	J-2692 J-1940	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4610	J-2422	Forest	TRUE	1.00	1,240.11	1.88	1,240.99	20.00	20.04	20.00	20.02	J-1704	(N/A)	17.28	J-1198
4609 1984	J-2421 J-1044	Forest Forest	TRUE TRUE	1.00 1.00	1,240.63 1,240.90	1.68 1.08	1,241.31 1,240.98	20.00 20.00	20.09 20.01	20.00 20.00	20.00 21.93	J-1704 J-2619	(N/A) (N/A)	17.28 17.11	J-1198 J-1198
5477	J-2916	Forest	TRUE	1.00	1,240.90	1.88	1,242.81	20.00	20.00	20.00	20.19	J-1877	(N/A)	17.11	J-1198
2206	J-1176	Forest	TRUE	1.00	1,243.04	1.28	1,243.32	20.00	37.67	20.00	20.00	J-1197	(N/A)	12.92	J-1198
3448 1061	J-1877 J-574	Forest Forest	TRUE TRUE	1.00 1.00	1,243.57 1,244.17	1.08 1.88	1,243.64 1,245.05	20.00 20.00	20.01 53.99	20.00 20.00	20.18 20.00	J-2916 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4650	J-2444	Forest	TRUE	1.00	1,244.17	1.68	1,244.85	20.00	53.96	20.00	20.00	J-3438	(N/A)	17.28	J-1198
3128 5191	J-1691 J-2750	Forest Forest	TRUE TRUE	1.00 1.00	1,250.48 1,250.48	1.28 2.28	1,250.76 1,251.77	20.00 20.00	31.56 31.20	20.00 20.00	20.00 20.00	J-2110 J-2110	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5005	J-2645	Forest	TRUE	1.00	1,250.96	1.48	1,251.44	20.00	20.00	20.00	20.27	J-1940	(N/A)	17.28	J-1198
3674 4152	J-2003 J-2229	Forest Forest	TRUE TRUE	1.00 1.00	1,251.31 1,251.79	1.88 1.88	1,252.19 1,252.67	20.00 20.00	23.26 20.02	20.00 20.00	20.00 23.14	J-2002 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6212	J-3339	Forest	TRUE	1.00	1,252.08	1.88	1,252.96	20.00	34.19	20.00	20.01	J-3200	(N/A)	17.28	J-1198
6213 3058	J-3340 J-1647	Forest Forest	TRUE TRUE	1.00 1.00	1,252.11 1,252.41	2.08 1.08	1,253.19 1,252.49	20.00 20.00	33.51 20.00	20.00 20.00	20.01 20.29	J-3200 J-1648	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3140	J-1699	Forest	TRUE	1.00	1,252.78	1.08	1,252.86	20.00	20.00	20.00	20.49	J-1698	(N/A)	17.28	J-1198
3558 3059	J-1940 J-1648	Forest	TRUE TRUE	1.00 1.00	1,253.20 1,253.38	1.08 1.08	1,253.28 1,253.45	20.00 20.00	20.01 20.14	20.00 20.00	20.01 20.09	J-2645 J-1647	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5147	J-1046 J-2725	Forest Forest	TRUE	1.00	1,255.36	1.68	1,256.78	20.00	20.14	20.00	20.09	J-1699	(N/A)	17.28	J-1198
3129	J-1692	Forest	TRUE	1.00	1,257.10	2.08	1,258.18	20.00	31.68	20.00	20.00	J-2110	(N/A)	17.28	J-1198
3139 5141	J-1698 J-2722	Forest Forest	TRUE TRUE	1.00 1.00	1,257.81 1,258.32	1.08 1.08	1,257.89 1,258.39	20.00 20.00	20.10 20.00	20.00 20.00	20.04 20.03	J-1699 J-1838	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3728	J-2034	Forest	TRUE	1.00	1,258.39	2.88	1,260.27	20.00	22.82	20.00	20.00	J-2033	(N/A)	17.28	J-1198
6737 3378	J-3649 J-1838	Forest Forest	TRUE TRUE	1.00 1.00	1,258.39 1,258.51	2.28 1.08	1,259.67 1,258.59	20.00 20.00	21.76 20.00	20.00 20.00	20.00 20.29	J-2033 J-2722	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4180	J-2241	Forest	TRUE	1.00	1,259.78	2.48	1,261.27	20.00	42.89	20.00	20.01	J-3438	(N/A)	17.28	J-1198
6279 983	J-3380 J-539	Forest Forest	TRUE TRUE	1.00 1.00	1,259.79 1,259.98	1.48 1.48	1,260.27 1,260.46	20.00 20.00	42.39 65.00	20.00 20.00	20.01 20.00	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3447	J-1876	Forest	TRUE	1.00	1,260.75	1.48	1,261.22	20.00	20.00	20.00	20.85	J-1877	(N/A)	17.28	J-1198
4707 3647	J-2475 J-1989	Forest Forest	TRUE TRUE	1.00 1.00	1,260.75 1,260.78	1.28 1.88	1,261.02 1,261.66	20.00 20.00	20.00 50.14	20.00 20.00	20.21 20.00	J-3954 J-2045	(N/A) (N/A)	17.28 15.74	J-1198 J-1198
3422	J-1862	Forest	TRUE	1.00	1,260.92	1.08	1,260.99	20.00	20.00	20.00	22.34	J-2596	(N/A)	17.10	J-1198
4960 7297	J-2619 J-3954	Forest Forest	TRUE TRUE	1.00 1.00	1,261.16 1,261.68	1.48 1.28	1,261.64 1,261.96	20.00 20.00	20.01 20.00	20.00 20.00	20.28 20.20	J-1044 J-2475	(N/A) (N/A)	17.10 17.28	J-1198 J-1198
3413	J-1857	Forest	TRUE	1.00	1,262.56	1.68	1,263.24	20.00	20.00	20.00	22.16	J-1856	(N/A)	17.28	J-1198
5876 3399	J-3144 J-1849	Forest Forest	TRUE TRUE	1.00 1.00	1,263.72 1,264.49	2.68 1.48	1,265.40 1,264.97	20.00 20.00	20.01 20.01	20.00 20.00	20.42 20.01	J-2219 J-1044	(N/A) (N/A)	17.28	J-1198 J-1198
3415	J-1858	Forest	TRUE	1.00	1,264.65	1.48	1,265.13	20.00	36.64	20.00	20.00	J-1197	(N/A)	17.10 12.92	J-1198
3416 1630	J-1859 J-816	Forest Lakes	TRUE TRUE	1.00 1.00	1,264.66 1,266.95	1.48 1.20	1,265.14 1,267.15	20.00 20.00	32.13 25.06	20.00 20.00	20.00 20.13	J-1197 J-1622	(N/A) (N/A)	12.92 17.28	J-1198 J-1198
7221	J-3921	Lakes	TRUE	1.00	1,266.97	1.20	1,267.17	20.00	24.94	20.00	20.13	J-1622	(N/A)	17.28	J-1198
6499	J-3508	Lakes	TRUE	1.00	1,267.85	1.20	1,268.05	20.00	25.09	20.00	20.13	J-1622	(N/A)	17.28	J-1198
6500 4128	J-3509 J-2219	Lakes Forest	TRUE TRUE	1.00 1.00	1,267.94 1,268.30	1.20 1.48	1,268.14 1,268.78	20.00 20.00	24.34 20.02	20.00 20.00	20.12 20.02	J-1622 J-3144	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4706	J-2474	Forest	TRUE	1.00	1,268.50	1.48	1,268.98	20.00	20.44	20.00	20.00	J-3954	(N/A)	17.28	J-1198
3031 3032	J-1630 J-1631	Forest Forest	TRUE TRUE	1.00 1.00	1,269.16 1,269.16	1.28 1.48	1,269.44 1,269.64	20.00 20.00	32.03 31.84	20.00 20.00	20.00 20.00	J-610 J-610	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4921	J-2596	Forest	TRUE	1.00	1,271.99	1.08	1,272.07	20.00	20.00	20.00	20.31	J-1862	(N/A)	17.10	J-1198
3930 7814	J-2133 J-4124	Forest Forest	TRUE TRUE	1.00 1.00	1,272.17 1,272.69	2.28 1.88	1,273.45 1,273.57	20.00 20.00	20.00 20.00	20.00 20.00	22.19 23.15	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3421	J-1861	Forest	TRUE	1.00	1,272.87	1.28	1,273.14	20.00	20.28	20.00	20.12	J-2596	(N/A)	17.10	J-1198
5484 982	J-2920 J-538	Forest Forest	TRUE TRUE	1.00 1.00	1,274.21 1,274.31	1.48 1.08	1,274.69 1,274.38	20.00 20.00	20.00 71.46	20.00 20.00	20.22 20.00	J-2919 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5783	J-3092	Forest	TRUE	1.00	1,274.31	1.68	1,274.99	20.00	71.42	20.00	20.00	J-3438	(N/A)	17.28	J-1198
3730 2562	J-2035 J-1376	Lakes Forest	TRUE TRUE	1.00 1.00	1,277.07 1,279.66	1.20 1.48	1,277.27 1,280.14	20.00 20.00	20.01 20.03	20.00 20.00	28.54 20.73	J-2646 J-1249	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1622	J-811	Lakes	TRUE	1.00	1,281.18	1.29	1,281.47	20.00	24.98	20.00	20.13	J-1622	(N/A)	17.28	J-1198
3412 3970	J-1856	Forest	TRUE	1.00	1,281.60	1.88	1,282.48	20.00	20.00	20.00	20.17	J-1857	(N/A)	17.28	J-1198
5483	J-2150 J-2919	Forest Forest	TRUE TRUE	1.00 1.00	1,281.62 1,285.59	1.48 1.28	1,282.10 1,285.87	20.00 20.00	20.00 20.00	20.00 20.00	20.22 20.15	J-2919 J-2920	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3224	J-1749	Forest	TRUE	1.00	1,286.49	1.48	1,286.97	20.00	20.97	20.00	20.00	J-2115	(N/A)	17.28	J-1198
6626 4573	J-3584 J-2400	Forest Forest	TRUE TRUE	1.00 1.00	1,287.50 1,290.17	2.28 2.08	1,288.78 1,291.25	20.00 20.00	20.00 20.00	20.00 20.00	20.43 20.12	J-3585 J-2324	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4439	J-2324	Forest	TRUE	1.00	1,291.90	1.88	1,292.78	20.00	20.00	20.00	20.07	J-2400	(N/A)	17.28	J-1198
3142 3143	J-1700 J-1701	Forest Forest	TRUE TRUE	1.00 1.00	1,293.87 1,293.88	1.08 1.88	1,293.95 1,294.76	20.00 20.00	20.50 20.24	20.00 20.00	20.00 20.00	J-2150 J-2150	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5608	J-2990	Forest	TRUE	1.00	1,294.12	1.48	1,294.60	20.00	21.26	20.00	20.00	J-2115	(N/A)	17.28	J-1198
3223 7329	J-1748 J-3966	Forest Forest	TRUE TRUE	1.00 1.00	1,294.12 1,294.91	1.68 1.88	1,294.80 1,295.79	20.00 20.00	21.46 20.20	20.00 20.00	20.00 20.03	J-2115 J-2324	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
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Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow	Available Fire Flow (gpm)	Total Flow Desired	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
				(gpm)		(gpm)								-	
4000 5326	J-2163 J-2829	Forest Forest	TRUE TRUE	1.00 1.00	1,295.26 1,295.74	1.48 1.28	1,295.74 1,296.02	20.00 20.00	20.21 20.01	20.00 20.00	20.00 20.22	J-2150 J-3889	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6106	J-3276	Forest	TRUE TRUE	1.00	1,295.76	2.68	1,297.45 1,296.24	20.00	32.80	20.00	20.00	J-2840	(N/A)	17.28	J-1198
6107 2177	J-3277 J-1158	Forest Forest	TRUE	1.00 1.00	1,295.76 1,295.77	1.48 1.88	1,296.24	20.00 20.00	32.64 26.82	20.00 20.00	20.00 20.00	J-2840 J-2840	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4755	J-2502	Forest	TRUE	1.00	1,295.77	1.48	1,296.25	20.00	26.76	20.00	20.00	J-2840	(N/A)	17.28	J-1198
7514 6744	J-4033 J-3653	Forest Forest	TRUE TRUE	1.00 1.00	1,295.77 1,295.77	1.48 2.08	1,296.25 1,296.85	20.00 20.00	25.19 24.50	20.00 20.00	20.00 20.00	J-2840 J-2840	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6745	J-3654	Forest	TRUE	1.00	1,295.77	1.28	1,296.05	20.00	23.83	20.00	20.00	J-2840	(N/A)	17.28	J-1198
1914 5108	J-998 J-2704	Forest Forest	TRUE TRUE	1.00 1.00	1,296.95 1,296.95	2.28 1.48	1,298.23 1,297.43	20.00 20.00	27.17 26.25	20.00 20.00	20.00 20.00	J-3585 J-3585	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6627	J-3585	Forest	TRUE	1.00	1,296.98	1.48	1,297.46	20.00	20.00	20.00	20.19	J-3584	(N/A)	17.28	J-1198
7153 5325	J-3889 J-2828	Forest Forest	TRUE TRUE	1.00 1.00	1,297.10 1,298.14	1.08 1.88	1,297.17 1,299.02	20.00 20.00	20.02 20.01	20.00 20.00	20.10 20.00	J-2828 J-3889	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4301	J-2283	Forest	TRUE	1.00	1,299.41	1.28	1,299.69	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
4905 3686	J-2587 J-2010	Lakes Lakes	TRUE TRUE	1.00 1.00	1,299.86 1,300.06	1.29 1.37	1,300.15 1,300.43	20.00 20.00	20.00 20.00	20.00 20.00	20.22 20.26	J-2010 J-2587	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6180	J-3320	Forest	TRUE	1.00	1,300.43	1.48	1,300.91	20.00	20.00	20.00	20.16	J-1542	(N/A)	17.28	J-1198
7122 4904	J-3872 J-2586	Lakes Lakes	TRUE TRUE	1.00 1.00	1,300.47 1,300.76	1.20 1.20	1,300.67 1,300.95	20.00 20.00	20.57 20.72	20.00 20.00	20.08 20.08	J-2010 J-2010	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4054	J-2186	Forest	TRUE	1.00	1,302.12	1.88	1,303.00	20.00	26.14	20.00	20.00	J-3174	(N/A)	17.28	J-1198
4027 3009	J-2175 J-1620	Forest Lakes	TRUE TRUE	1.00 1.00	1,302.92 1,303.01	2.08 1.98	1,304.00 1,303.99	20.00 20.00	20.03 20.03	20.00 20.00	22.97 22.11	J-2919 J-1847	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2847	J-1542	Forest	TRUE	1.00	1,303.41	1.28	1,303.68	20.00	20.00	20.00	20.35	J-1544	(N/A)	17.28	J-1198
6846 6486	J-3714 J-3501	Forest Forest	TRUE TRUE	1.00 1.00	1,303.52 1,304.76	1.48 1.08	1,304.00 1,304.84	20.00 20.00	20.00 86.05	20.00 20.00	20.86 20.00	J-1976 J-3438	(N/A) (N/A)	17.09 17.28	J-1198 J-1198
1259	J-654	Forest	TRUE	1.00	1,304.77	1.28	1,305.04	20.00	86.54	20.00	20.00	J-3438	(N/A)	17.28	J-1198
4083	J-2201	Forest	TRUE TRUE	1.00	1,305.13 1,305.13	1.68	1,305.81	20.00	24.72	20.00	20.00	J-2200	(N/A)	17.28	J-1198
5685 2808	J-3035 J-1520	Forest Forest	TRUE	1.00 1.00	1,305.65	2.08 2.28	1,306.21 1,306.93	20.00 20.00	24.58 20.02	20.00 20.00	20.00 20.75	J-2200 J-2567	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3626	J-1977	Forest	TRUE	1.00	1,308.70	1.88	1,309.58	20.00	20.00	20.00	20.22	J-3714	(N/A)	17.09	J-1198
3061 3062	J-1649 J-1650	Forest Forest	TRUE TRUE	1.00 1.00	1,308.76 1,308.82	1.08 1.08	1,308.84 1,308.89	20.00 20.00	25.63 25.27	20.00 20.00	20.01 20.01	J-2150 J-2150	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5452	J-2901	Forest	TRUE	1.00	1,308.85	1.08	1,308.93	20.00	25.00	20.00	20.01	J-2150	(N/A)	17.28	J-1198
3464 1750	J-1886 J-893	Forest Forest	TRUE TRUE	1.00 1.00	1,309.16 1,309.94	1.48 1.48	1,309.64 1,310.42	20.00 20.00	29.75 20.00	20.00 20.00	20.00 20.66	J-2150 J-892	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2850	J-1544	Forest	TRUE	1.00	1,310.06	1.88	1,310.94	20.00	20.00	20.00	21.44	J-1542	(N/A)	17.28	J-1198
3625 5212	J-1976 J-2761	Forest Forest	TRUE TRUE	1.00 1.00	1,310.29 1,310.44	1.08 1.68	1,310.37 1,311.12	20.00 20.00	20.19 29.90	20.00 20.00	20.06 20.00	J-3714 J-2324	(N/A) (N/A)	17.09 17.28	J-1198 J-1198
5213	J-2762	Forest	TRUE	1.00	1,310.44	1.48	1,310.92	20.00	29.46	20.00	20.00	J-2324	(N/A)	17.28	J-1198
4073 4757	J-2196 J-2503	Forest Forest	TRUE TRUE	1.00 1.00	1,310.50 1,310.50	1.48 1.68	1,310.98 1,311.18	20.00 20.00	21.60 21.57	20.00 20.00	20.00 20.00	J-1774 J-1774	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4168	J-2237	Forest	TRUE	1.00	1,310.88	2.48	1,312.36	20.00	20.09	20.00	24.36	J-1197	(N/A)	17.28	J-1198
4872 6064	J-2567 J-3251	Forest Lakes	TRUE TRUE	1.00 1.00	1,311.00 1,311.80	1.08 1.20	1,311.08 1,312.00	20.00 20.00	20.00 20.00	20.00 20.00	20.43 20.29	J-1795 J-3252	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4110	J-2211	Forest	TRUE	1.00	1,311.00	1.68	1,313.15	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
6065	J-3252	Lakes	TRUE	1.00	1,313.34	1.29	1,313.63	20.00	20.00	20.00	20.21	J-3251	(N/A)	17.28	J-1198
3299 3395	J-1795 J-1847	Forest Lakes	TRUE TRUE	1.00 1.00	1,313.91 1,314.50	1.88 1.46	1,314.79 1,314.96	20.00 20.00	20.19 20.00	20.00 20.00	20.05 20.04	J-2567 J-3252	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4023	J-2173	Forest	TRUE	1.00	1,316.83	2.48	1,318.31	20.00	36.56	20.00	20.01	J-2324	(N/A)	17.28	J-1198
4575 7135	J-2401 J-3879	Forest Forest	TRUE TRUE	1.00 1.00	1,316.84 1,316.85	1.08 1.08	1,316.92 1,316.92	20.00 20.00	36.86 36.73	20.00 20.00	20.01 20.01	J-2324 J-2324	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4576	J-2402	Forest	TRUE	1.00	1,316.85	1.48	1,317.33	20.00	36.70	20.00	20.01	J-2324	(N/A)	17.28	J-1198
6923 5984	J-3760 J-3204	Forest Forest	TRUE TRUE	1.00 1.00	1,318.17 1,319.02	1.88 1.08	1,319.05 1,319.10	20.00 20.00	20.00 20.00	20.00 20.00	21.25 20.57	J-2312 J-3203	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5007	J-2646	Lakes	TRUE	1.00	1,319.23	1.20	1,319.43	20.00	20.02	20.00	20.37	J-2036	(N/A)	17.28	J-1198
4219 3807	J-2255 J-2073	Forest Forest	TRUE TRUE	1.00 1.00	1,319.44 1,320.42	1.68 1.88	1,320.12 1,321.30	20.00 20.00	20.00 26.15	20.00 20.00	20.63 20.00	J-1533 J-2072	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7058	J-3836	Forest	TRUE	1.00	1,320.42	1.28	1,320.70	20.00	23.53	20.00	20.00	J-2072	(N/A)	17.28	J-1198
3731 2831	J-2036 J-1533	Lakes Forest	TRUE TRUE	1.00 1.00	1,320.82 1,323.13	1.20 1.48	1,321.02 1,323.61	20.00 20.00	20.05 20.29	20.00 20.00	20.00 20.05	J-2646 J-2255	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8343	J-4173	Forest	TRUE	1.00	1,324.18	1.68	1,324.86	20.00	20.03	20.00	21.25	J-3174	(N/A)	17.28	J-1198
6302 6303	J-3393 J-3394	Forest Forest	TRUE TRUE	1.00 1.00	1,326.22 1,326.30	1.68 1.48	1,326.90 1,326.77	20.00 20.00	23.73 23.10	20.00 20.00	20.01 20.00	J-3174 J-3174	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4396	J-2312	Forest	TRUE	1.00	1,327.06	2.28	1,328.34	20.00	20.44	20.00	20.04	J-3760	(N/A)	17.28	J-1198
7479 1837	J-4021 J-948	Forest Forest	TRUE TRUE	1.00 1.00	1,329.90 1,329.90	1.08 1.28	1,329.98 1,330.18	20.00 20.00	27.55 33.07	20.00 20.00	20.00 20.00	J-3090 J-3090	(N/A) (N/A)	17.09 17.09	J-1198 J-1198
6517	J-3519	Forest	TRUE	1.00	1,329.90	1.48	1,330.38	20.00	26.70	20.00	20.00	J-3090	(N/A)	17.09	J-1198
6678 6516	J-3615 J-3518	Forest Forest	TRUE TRUE	1.00 1.00	1,329.90 1,329.90	1.68 1.48	1,330.58 1,330.38	20.00 20.00	29.83 27.57	20.00 20.00	20.00 20.00	J-3090 J-3090	(N/A) (N/A)	17.09 17.09	J-1198 J-1198
6677	J-3614	Forest	TRUE	1.00	1,329.90	1.88	1,330.78	20.00	29.28	20.00	20.00	J-3090	(N/A)	17.09	J-1198
6662 6663	J-3605 J-3606	Forest Forest	TRUE TRUE	1.00 1.00	1,329.90 1,329.90	1.88 1.88	1,330.78 1,330.78	20.00 20.00	24.57 25.46	20.00 20.00	20.00 20.00	J-3090 J-3090	(N/A) (N/A)	17.09 17.09	J-1198 J-1198
6163	J-3310	Forest	TRUE	1.00	1,330.79	1.08	1,330.86	20.00	46.57	20.00	20.00	J-1197	(N/A)	12.92	J-1198
6164	J-3311	Forest	TRUE	1.00 1.00	1,330.80	1.08	1,330.87	20.00	45.50	20.00	20.00	J-1197	(N/A)	12.92	J-1198
4104 5983	J-2209 J-3203	Forest Forest	TRUE TRUE	1.00	1,331.37 1,334.61	1.28 1.48	1,331.65 1,335.09	20.00 20.00	20.00 20.08	20.00 20.00	24.36 20.01	J-1197 J-3204	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4328	J-2289	Forest	TRUE	1.00	1,335.82	2.28	1,337.10	20.00	20.01	20.00	24.36	J-1197	(N/A)	17.28	J-1198
2231 4022	J-1191 J-2172	Forest Forest	TRUE TRUE	1.00 1.00	1,335.86 1,335.90	1.28 1.48	1,336.14 1,336.38	20.00 20.00	46.89 34.31	20.00 20.00	20.00 20.01	J-1197 J-2324	(N/A) (N/A)	12.92 17.28	J-1198 J-1198
6618	J-3579	Forest	TRUE	1.00	1,335.91	2.08	1,336.99	20.00	33.39	20.00	20.00	J-2324	(N/A)	17.28	J-1198
4080 2476	J-2199 J-1328	Forest Forest	TRUE TRUE	1.00 1.00	1,336.85 1,338.46	1.28 1.68	1,337.13 1,339.14	20.00 20.00	20.00 20.02	20.00 20.00	23.91 24.36	J-2919 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5292	J-2808	Forest	TRUE	1.00	1,338.93	1.48	1,339.41	20.00	22.98	20.00	20.00	J-3063	(N/A)	17.28	J-1198
5293 4432	J-2809 J-2322	Forest Lakes	TRUE TRUE	1.00 1.00	1,338.93 1,340.62	1.08 2.15	1,339.01 1,341.77	20.00 20.00	22.56 55.78	20.00 20.00	20.00 20.08	J-3063 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3924	J-2129	Forest	TRUE	1.00	1,340.97	1.88	1,341.85	20.00	27.28	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5470 7108	J-2912 J-3864	Forest Lakes	TRUE TRUE	1.00 1.00	1,340.97 1,342.84	1.88 1.20	1,341.85 1,343.04	20.00 20.00	26.60 55.98	20.00 20.00	20.00 20.04	J-2919 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7139	J-3881	Lakes	TRUE	1.00	1,342.84	1.20	1,343.04	20.00	56.05	20.00	20.04	J-2323	(N/A)	17.28	J-1198
7109 3880	J-3865 J-2108	Lakes Forest	TRUE TRUE	1.00 1.00	1,342.84 1,344.37	1.20 2.68	1,343.04 1,346.05	20.00 20.00	56.03 20.01	20.00 20.00	20.04 24.36	J-2323 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4828	J-2542	Forest	TRUE	1.00	1,344.61	1.28	1,344.89	20.00	24.71	20.00	20.01	J-3174	(N/A)	17.28	J-1198
4829 7765	J-2543 J-4110	Forest Forest	TRUE TRUE	1.00 1.00	1,344.70 1,345.75	1.48 2.48	1,345.18 1,347.23	20.00 20.00	24.21 30.13	20.00 20.00	20.01 20.02	J-3174 J-4154	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4363	J-2300	Forest	TRUE	1.00	1,345.85	2.08	1,346.93	20.00	20.01	20.00	24.36	J-1197	(N/A)	17.28	J-1198
4410	J-2316	Forest	TRUE	1.00	1,350.06	4.29	1,353.35	20.00	23.48	20.00	20.00	J-4124	(N/A)	17.28	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
7491	J-4025	Forest	TRUE	1.00	1,350.21	1.68	1,350.89	20.00	23.23	20.00	20.00	J-3063	(N/A)	17.28	J-1198
7386	J-3988	Forest	TRUE	1.00	1,350.95	1.48	1,351.43	20.00	44.09	20.00	20.01	J-3425	(N/A)	17.28	J-1198
2667	J-1436	Forest	TRUE	1.00	1,350.96	1.08	1,351.04	20.00	43.40	20.00	20.01	J-3425	(N/A)	17.28	J-1198
6723 3787	J-3641 J-2063	Forest Forest	TRUE TRUE	1.00 1.00	1,350.97 1,351.32	1.48 1.08	1,351.44 1,351.39	20.00 20.00	42.72 20.00	20.00 20.00	20.00 21.54	J-3425 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8297	J-4172	Forest	TRUE	1.00	1,353.32	2.28	1,354.60	20.00	20.00	20.00	21.42	J-3204	(N/A)	17.28	J-1198
3860 5414	J-2098 J-2880	Forest Forest	TRUE TRUE	1.00 1.00	1,353.89 1,353.89	1.88 2.08	1,354.77 1,354.97	20.00 20.00	43.26 42.87	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2938	J-1588	Forest	TRUE	1.00	1,353.99	2.48	1,355.47	20.00	25.77	20.00	20.00	J-1206	(N/A)	15.84	J-1198
5619	J-2996	Forest	TRUE	1.00	1,354.38	1.08	1,354.46	20.00	20.02	20.00	20.32	J-1363	(N/A)	17.28	J-1198
6124 6125	J-3287 J-3288	Lakes Lakes	TRUE TRUE	1.00 1.00	1,354.49 1,354.49	1.20 1.20	1,354.69 1,354.69	20.00 20.00	23.37 23.26	20.00 20.00	20.00 20.00	J-2010 J-2010	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8457	J-4180	Forest	TRUE	1.00	1,354.69	1.08	1,354.77	20.00	20.00	20.00	20.00	J-4181	(N/A)	17.28	J-1198
8459 8461	J-4181 J-4182	Forest Forest	TRUE TRUE	1.00 1.00	1,354.69 1,354.69	1.08 1.08	1,354.77 1,354.77	20.00 20.00	20.00 20.00	20.00 20.00	20.00 20.00	J-4182 J-4181	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2348	J-1259	Forest	TRUE	1.00	1,354.69	1.08	1,354.77	20.00	20.00	20.00	20.00	J-4181	(N/A)	17.28	J-1198
8471 5092	J-4187 J-2695	Forest Forest	TRUE TRUE	1.00 1.00	1,354.69 1,355.49	1.08 1.48	1,354.77 1,355.97	20.00 20.00	20.00 20.00	20.00 20.00	20.00 20.66	J-4181 J-1768	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2540	J-1363	Forest	TRUE	1.00	1,357.07	1.28	1,357.35	20.00	20.02	20.00	20.19	J-2996	(N/A)	17.28	J-1198
7819	J-4125	Forest	TRUE	1.00	1,358.34	2.28	1,359.63	20.00	23.67	20.00	20.00	J-3174	(N/A)	17.28	J-1198
4941 3855	J-2608 J-2096	Forest Forest	TRUE TRUE	1.00 1.00	1,358.83 1,359.24	1.88 1.88	1,359.71 1,360.12	20.00 20.00	25.28 25.58	20.00 20.00	20.01 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7254	J-3937	Forest	TRUE	1.00	1,359.80	1.08	1,359.88	20.00	23.38	20.00	20.00	J-3063	(N/A)	17.28	J-1198
7255 524	J-3938 J-297	Forest Forest	TRUE TRUE	1.00 1.00	1,359.80 1,359.80	1.08 1.48	1,359.88 1,360.28	20.00 20.00	23.38 35.45	20.00 20.00	20.00 20.01	J-3063 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
523	J-296	Forest	TRUE	1.00	1,360.75	1.48	1,361.23	20.00	32.01	20.00	20.01	J-941	(N/A)	17.28	J-1198
7060 3103	J-3837 J-1676	Forest Forest	TRUE TRUE	1.00 1.00	1,362.70 1,362.72	1.68 1.68	1,363.38 1,363.40	20.00 20.00	20.01 49.35	20.00 20.00	21.67 20.00	J-2208 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3102	J-1675	Forest	TRUE	1.00	1,362.72	1.08	1,362.80	20.00	49.76	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3533	J-1926	Forest	TRUE	1.00	1,362.82	1.48	1,363.30	20.00	25.62	20.00	20.01	J-3174	(N/A)	17.28	J-1198
3733 3532	J-2037 J-1925	Forest Forest	TRUE TRUE	1.00 1.00	1,362.92 1,363.15	2.08 1.88	1,364.00 1,364.03	20.00 20.00	20.00 22.13	20.00 20.00	23.54 20.00	J-2919 J-3174	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6099	J-3272	Forest	TRUE	1.00	1,363.16	1.08	1,363.24	20.00	21.85	20.00	20.00	J-3174	(N/A)	17.28	J-1198
3255 3254	J-1769 J-1768	Forest Forest	TRUE TRUE	1.00 1.00	1,363.23 1,364.49	1.48 1.48	1,363.71 1,364.96	20.00 20.00	20.00 20.31	20.00 20.00	20.06 20.02	J-2695 J-2695	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4061	J-2189	Forest	TRUE	1.00	1,366.36	1.48	1,366.84	20.00	27.89	20.00	20.00	J-3174	(N/A)	17.28	J-1198
4148 3146	J-2228	Forest	TRUE	1.00	1,366.40	2.08	1,367.48	20.00 20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198 J-1198
6374	J-1703 J-3436	Forest Forest	TRUE TRUE	1.00 1.00	1,367.74 1,368.09	1.48 1.68	1,368.22 1,368.77	20.00	20.00 34.50	20.00 20.00	20.42 20.01	J-2758 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5206	J-2758	Forest	TRUE	1.00	1,368.22	1.28	1,368.49	20.00	20.00	20.00	20.47	J-1703	(N/A)	17.28	J-1198
6375 3856	J-3437 J-2097	Forest Forest	TRUE TRUE	1.00 1.00	1,368.92 1,369.61	1.28 2.28	1,369.20 1,370.90	20.00 20.00	32.91 35.64	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6780	J-3675	Forest	TRUE	1.00	1,369.76	2.88	1,371.64	20.00	20.00	20.00	20.05	J-3174	(N/A)	17.28	J-1198
7120 4479	J-3871 J-2346	Forest Forest	TRUE TRUE	1.00 1.00	1,369.83 1,369.86	1.08 1.88	1,369.90 1,370.74	20.00 20.00	20.25 20.27	20.00 20.00	20.03 20.03	J-858 J-858	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4478	J-2345	Forest	TRUE	1.00	1,369.89	1.88	1,370.78	20.00	20.30	20.00	20.02	J-858	(N/A)	17.28	J-1198
1777	J-910	Forest	TRUE	1.00	1,370.20	1.88	1,371.08	20.00	24.76	20.00	20.00	J-858	(N/A)	17.28	J-1198
3145 710	J-1702 J-408	Forest Forest	TRUE TRUE	1.00 1.00	1,371.09 1,371.70	1.08 1.68	1,371.17 1,372.38	20.00 20.00	20.33 32.84	20.00 20.00	20.07 20.01	J-2758 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5202	J-2756	Forest	TRUE	1.00	1,371.71	1.88	1,372.59	20.00	20.26	20.00	20.04	J-2755	(N/A)	17.28	J-1198
5599 5598	J-2985 J-2984	Forest Forest	TRUE TRUE	1.00 1.00	1,371.72 1,371.73	1.88 1.68	1,372.61 1,372.41	20.00 20.00	24.08 24.56	20.00 20.00	20.00 20.00	J-3174 J-3174	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3157	J-1709	Forest	TRUE	1.00	1,371.81	1.68	1,372.48	20.00	20.84	20.00	20.00	J-3174	(N/A)	17.28	J-1198
7661 3980	J-4081 J-2154	Forest Forest	TRUE TRUE	1.00 1.00	1,371.81 1,371.81	3.29 1.48	1,374.09 1,372.28	20.00 20.00	22.31 21.44	20.00 20.00	20.00 20.00	J-3174 J-3174	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7266	J-3942	Forest	TRUE	1.00	1,371.81	1.68	1,372.48	20.00	21.23	20.00	20.00	J-3174	(N/A)	17.28	J-1198
4866 3929	J-2564 J-2132	Forest Forest	TRUE TRUE	1.00 1.00	1,371.81 1,371.81	1.48 2.48	1,372.28 1,373.29	20.00 20.00	20.43 24.55	20.00 20.00	20.00 20.00	J-3174 J-3174	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4551	J-2132 J-2387	Forest	TRUE	1.00	1,371.81	1.08	1,373.29	20.00	21.48	20.00	20.00	J-3174 J-3174	(N/A)	17.28	J-1198
7197	J-3909	Forest	TRUE	1.00	1,371.81	1.08	1,371.88	20.00	21.78	20.00	20.00	J-3174	(N/A)	17.28	J-1198
3156 7213	J-1708 J-3916	Forest Forest	TRUE TRUE	1.00 1.00	1,371.81 1,371.81	1.08 1.28	1,371.88 1,372.08	20.00 20.00	21.39 21.45	20.00 20.00	20.00 20.00	J-3174 J-3174	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7543	J-4045	Forest	TRUE	1.00	1,371.81	1.08	1,371.88	20.00	22.02	20.00	20.00	J-3174	(N/A)	17.28	J-1198
7196 6779	J-3908 J-3674	Forest Forest	TRUE TRUE	1.00 1.00	1,371.81 1,371.81	1.08 1.08	1,371.88 1,371.88	20.00 20.00	21.75 20.80	20.00 20.00	20.00 20.00	J-3174 J-3174	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4552	J-2388	Forest	TRUE	1.00	1,371.81	1.08	1,371.88	20.00	21.20	20.00	20.00	J-3174	(N/A)	17.28	J-1198
7016 7861	J-3813 J-4133	Forest Forest	TRUE TRUE	1.00 1.00	1,371.88 1,372.08	1.08 2.08	1,371.96 1,373.16	20.00 20.00	107.95 28.24	20.00 20.00	20.04 20.00	J-3438 J-2766	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5201	J-2755	Forest	TRUE	1.00	1,372.10	1.88	1,372.98	20.00	20.01	20.00	20.60	J-2756	(N/A)	17.28	J-1198
1212 4093	J-635 J-2205	Forest Forest	TRUE TRUE	1.00 1.00	1,372.26 1,372.74	1.08 1.68	1,372.34 1,373.42	20.00 20.00	111.76 20.02	20.00 20.00	20.02 24.36	J-3438 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3219	J-1746	Forest	TRUE	1.00	1,373.07	1.28	1,373.35	20.00	25.98	20.00	20.00	J-1206	(N/A)	15.80	J-1198
4496	J-2355	Forest	TRUE	1.00	1,373.07	1.08	1,373.15	20.00	25.63	20.00	20.00	J-1206	(N/A)	15.80	J-1198
4382 2810	J-2307 J-1521	Forest Forest	TRUE TRUE	1.00 1.00	1,373.11 1,375.09	2.08 1.88	1,374.19 1,375.97	20.00 20.00	34.44 20.00	20.00 20.00	20.01 21.18	J-2324 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
444	J-247	Forest	TRUE	1.00	1,375.09	1.08	1,375.17	20.00	36.30	20.00	20.01	J-941	(N/A)	17.28	J-1198
6024 3680	J-3226 J-2007	Forest Forest	TRUE TRUE	1.00 1.00	1,375.13 1,375.22	1.88 1.48	1,376.01 1,375.70	20.00 20.00	35.65 21.85	20.00 20.00	20.01 20.00	J-941 J-2208	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
443	J-246	Forest	TRUE	1.00	1,375.71	1.88	1,376.59	20.00	36.93	20.00	20.01	J-941	(N/A)	17.28	J-1198
1613 3522	J-805 J-1920	Forest Forest	TRUE TRUE	1.00 1.00	1,377.02 1,381.38	1.08 1.48	1,377.09 1,381.86	20.00 20.00	20.35 44.47	20.00 20.00	20.04 20.01	J-806 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6687	J-3620	Forest	TRUE	1.00	1,381.39	1.68	1,382.07	20.00	49.14	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6688	J-3621	Forest	TRUE	1.00	1,381.39	1.68	1,382.07	20.00	48.57	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5856 877	J-3133 J-493	Forest Forest	TRUE TRUE	1.00 1.00	1,381.41 1,381.60	1.88 1.08	1,382.29 1,381.68	20.00 20.00	43.66 49.37	20.00 20.00	20.01 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4399	J-2313	Forest	TRUE	1.00	1,381.71	1.08	1,381.79	20.00	49.25	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3290 4296	J-1790 J-2280	Forest Forest	TRUE TRUE	1.00 1.00	1,382.02 1,382.56	1.28 1.28	1,382.30 1,382.84	20.00 20.00	20.00 20.00	20.00 20.00	20.77 20.70	J-941 J-3964	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4936	J-2605	Forest	TRUE	1.00	1,382.60	1.28	1,382.88	20.00	21.78	20.00	20.00	J-3204	(N/A)	17.28	J-1198
4937	J-2606	Forest	TRUE TRUE	1.00	1,382.62	1.08	1,382.69	20.00	21.48	20.00 20.00	20.00	J-3204	(N/A) (N/A)	17.28 17.28	J-1198
4267 6802	J-2270 J-3688	Forest Forest	TRUE	1.00 1.00	1,382.73 1,382.85	2.08 2.88	1,383.81 1,384.73	20.00 20.00	27.73 26.23	20.00	20.01 20.01	J-3174 J-3174	(N/A) (N/A)	17.28	J-1198 J-1198
5343	J-2839	Forest	TRUE	1.00	1,383.34	1.08	1,383.42	20.00	20.00	20.00	20.48	J-2838	(N/A)	17.28	J-1198
4184 3843	J-2243 J-2090	Forest Forest	TRUE TRUE	1.00 1.00	1,383.60 1,385.45	2.28 1.48	1,384.89 1,385.93	20.00 20.00	23.86 20.00	20.00 20.00	20.00 21.19	J-3174 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7295	J-3953	Forest	TRUE	1.00	1,385.65	1.08	1,385.72	20.00	20.00	20.00	20.62	J-1623	(N/A)	17.28	J-1198
6103	J-3274	Forest	TRUE	1.00	1,386.20	1.68	1,386.88	20.00	25.43	20.00	20.01	J-3174	(N/A)	17.28	J-1198

Node	Node	Pressure	Fire Flow Constraints Satisfied	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	TRUE	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
6104	J-3275	Forest		1.00	1,386.29	1.48	1,386.77	20.00	24.70	20.00	20.01	J-3174	(N/A)	17.28	J-1198
2575	J-1383	Forest	TRUE	1.00	1,386.30	4.29	1,389.59	20.00	20.86	20.00	20.00	J-1382	(N/A)	17.28	J-1198
7325	J-3964	Forest	TRUE	1.00	1,386.37	1.08	1,386.44	20.00	20.44	20.00	20.00	J-2280	(N/A)	17.28	J-1198
6273	J-3376	Lakes	TRUE	1.00	1,387.13	1.37	1,387.50	20.00	20.91	20.00	20.09	J-3377	(N/A)	17.28	J-1198
6274	J-3377	Lakes	TRUE	1.00	1,387.62	2.52	1,389.14	20.00	20.00	20.00	20.46	J-2323	(N/A)	17.28	J-1198
1016	J-554	Forest	TRUE	1.00	1,388.02	1.08	1,388.09	20.00	32.96	20.00	20.01	J-941	(N/A)	17.28	J-1198
5286	J-2805	Forest	TRUE	1.00	1,388.07	1.28	1,388.35	20.00	32.65	20.00	20.01	J-941	(N/A)	17.28	J-1198
3019	J-1623	Forest	TRUE	1.00	1,388.27	1.08	1,388.34	20.00	20.43	20.00	20.01	J-3953	(N/A)	17.28	J-1198
8487	J-4195	Forest	TRUE	1.00	1,388.40	2.68	1,390.08	20.00	49.78	20.00	20.00	J-941	(N/A)	17.28	J-1198
8488	J-4196	Forest	TRUE	1.00	1,388.40	2.08	1,389.48	20.00	49.19	20.00	20.00	J-941	(N/A)	17.28	J-1198
872	J-490	Forest	TRUE	1.00	1,388.65	1.08	1,388.72	20.00	59.63	20.00	20.00	J-941	(N/A)	17.28	J-1198
5342	J-2838	Forest	TRUE	1.00	1,388.68	1.08	1,388.76	20.00	20.09	20.00	20.05	J-2839	(N/A)	17.28	J-1198
1958	J-1027	Forest	TRUE	1.00	1,390.04	1.08	1,390.12	20.00	21.61	20.00	20.10	J-1028	(N/A)	17.07	J-1198
4268	J-2271	Forest	TRUE	1.00	1,390.71	2.68	1,392.40	20.00	41.31	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3637	J-1983	Lakes	TRUE	1.00	1,391.52	1.29	1,391.81	20.00	50.42	20.00	20.08	J-2323	(N/A)	17.28	J-1198
6073	J-3257	Lakes	TRUE	1.00	1,391.54	1.20	1,391.74	20.00	57.03	20.00	20.08	J-2323	(N/A)	17.28	J-1198
712	J-409	Lakes	TRUE	1.00	1,391.55	1.20	1,391.75	20.00	48.47	20.00	20.08	J-2323	(N/A)	17.28	J-1198
6072	J-3256	Lakes	TRUE	1.00	1,391.56	1.20	1,391.76	20.00	56.77	20.00	20.08	J-2323	(N/A)	17.28	J-1198
6277	J-3379	Lakes	TRUE	1.00	1,391.74	1.20	1,391.94	20.00	38.38	20.00	20.06	J-2323	(N/A)	17.28	J-1198
6276	J-3378	Lakes	TRUE	1.00	1,391.79	1.20	1,391.99	20.00	37.67	20.00	20.05	J-2323	(N/A)	17.28	J-1198
7243	J-3931	Lakes	TRUE	1.00	1,391.90	1.37	1,392.27	20.00	30.82	20.00	20.04	J-2323	(N/A)	17.28	J-1198
7244	J-3932	Lakes	TRUE	1.00	1,391.90	1.20	1,392.10	20.00	30.82	20.00	20.04	J-2323	(N/A)	17.28	J-1198
713	J-410	Lakes	TRUE	1.00	1,391.92	1.20	1,392.12	20.00	53.15	20.00	20.04	J-2323	(N/A)	17.28	J-1198
5035	J-2663	Lakes	TRUE	1.00	1,391.92	1.20	1,392.12	20.00	52.84	20.00	20.04	J-2323	(N/A)	17.28	J-1198
5773	J-3086	Forest	TRUE	1.00	1,392.11	1.28	1,392.39	20.00	20.00	20.00	20.35	J-3087	(N/A)	17.28	J-1198
6010	J-3218	Forest	TRUE	1.00	1,392.22	1.88	1,393.10	20.00	21.50	20.00	20.00	J-3953	(N/A)	17.28	J-1198
6011	J-3219	Forest	TRUE	1.00	1,392.22	1.08	1,392.30	20.00	21.14	20.00	20.00	J-3953	(N/A)	17.28	J-1198
2473	J-1327	Lakes	TRUE	1.00	1,392.32	1.63	1,392.95	20.00	42.02	20.00	20.00	J-2323	(N/A)	17.28	J-1198
4733	J-2490	Lakes	TRUE	1.00	1,392.33	1.20	1,392.53	20.00	41.56	20.00	20.00	J-2323	(N/A)	17.28	J-1198
1313	J-679	Lakes	TRUE	1.00	1,392.33	1.20	1,392.53	20.00	68.57	20.00	20.00	J-2323	(N/A)	17.28	J-1198
5569	J-2968	Lakes	TRUE	1.00	1,392.33	1.20	1,392.53	20.00	67.96	20.00	20.00	J-2323	(N/A)	17.28	J-1198
7597	J-4060	Lakes	TRUE	1.00	1,392.34	1.20	1,392.54	20.00	66.50	20.00	20.00	J-2323	(N/A)	17.28	J-1198
5257	J-2789	Lakes	TRUE	1.00	1,392.34	1.29	1,392.62	20.00	39.72	20.00	20.00	J-2323	(N/A)	17.28	J-1198
5256	J-2788	Lakes	TRUE	1.00	1,392.34	1.20	1,392.54	20.00	39.42	20.00	20.00	J-2323	(N/A)	17.28	J-1198
1312	J-678	Lakes	TRUE	1.00	1,392.34	1.29	1,392.62	20.00	64.02	20.00	20.00	J-2323	(N/A)	17.28	J-1198
6267	J-3373	Lakes	TRUE	1.00	1,392.34	1.20	1,392.54	20.00	63.51	20.00	20.00	J-2323	(N/A)	17.28	J-1198
6070	J-3255	Lakes	TRUE	1.00	1,392.34	1.20	1,392.54	20.00	25.90	20.00	20.00	J-2323	(N/A)	17.28	J-1198
2947	J-1593	Lakes	TRUE	1.00	1,392.34	1.20	1,392.54	20.00	25.88	20.00	20.00	J-2323	(N/A)	17.28	J-1198
6069	J-3254	Lakes	TRUE	1.00	1,392.34	1.46	1,392.80	20.00	25.28	20.00	20.00	J-2323	(N/A)	17.28	J-1198
3006	J-1619	Lakes	TRUE	1.00	1,392.34	1.46	1,392.80	20.00	25.24	20.00	20.00	J-2323	(N/A)	17.28	J-1198
4717	J-2480	Lakes	TRUE	1.00	1,392.34	1.29	1,392.63	20.00	27.93	20.00	20.00	J-2323	(N/A)	17.28	J-1198
4718	J-2481	Lakes	TRUE	1.00	1,392.34	1.29	1,392.63	20.00	28.29	20.00	20.00	J-2323	(N/A)	17.28	J-1198
3478	J-1895	Forest	TRUE	1.00	1,392.38	1.88	1,393.26	20.00	25.87	20.00	20.00	J-2274	(N/A)	17.28	J-1198
3325 4777	J-1809	Forest	TRUE TRUE	1.00 1.00	1,392.39	1.08 1.08	1,392.47	20.00 20.00	21.99	20.00 20.00	20.00 20.00	J-2274 J-2274	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3324	J-2514 J-1808	Forest Forest	TRUE	1.00	1,392.39 1,392.40	1.48	1,392.47 1,392.87	20.00	21.62 20.56	20.00	20.00	J-2274 J-2274	(N/A)	17.28	J-1198
607	J-347	Forest	TRUE	1.00	1,394.07	1.28	1,394.34	20.00	58.13	20.00	20.00	J-941	(N/A)	17.28	J-1198
4957	J-2617	Forest	TRUE	1.00	1,394.13	1.28	1,394.41	20.00	31.92	20.00	20.00	J-3063	(N/A)	17.28	J-1198
4958	J-2618	Forest	TRUE	1.00	1,394.14	1.28	1,394.41	20.00	31.33	20.00	20.00	J-3063	(N/A)	17.28	J-1198
3367	J-1832	Forest	TRUE	1.00	1,394.81	1.08	1,394.89	20.00	29.75	20.00	20.00	J-610	(N/A)	17.28	J-1198
2437	J-1306	Forest	TRUE	1.00	1,394.83	1.08	1,394.91	20.00	26.85	20.00	20.00	J-610	(N/A)	17.28	J-1198
5088	J-2693	Forest	TRUE	1.00	1,394.84	1.08	1,394.91	20.00	26.63	20.00	20.00	J-610	(N/A)	17.28	J-1198
2438	J-1307	Forest	TRUE	1.00	1,394.86	1.28	1,395.13	20.00	22.99	20.00	20.00	J-610	(N/A)	17.28	J-1198
5021	J-2654	Forest	TRUE	1.00	1,395.15	1.48	1,395.63	20.00	38.93	20.00	20.01	J-2324	(N/A)	17.28	J-1198
5022	J-2655	Forest	TRUE	1.00	1,395.15	1.68	1,395.83	20.00	38.83	20.00	20.01	J-2324	(N/A)	17.28	J-1198
5540	J-2951	Forest	TRUE	1.00	1,395.20	2.28	1,396.48	20.00	20.00	20.00	20.60	J-2107	(N/A)	17.28	J-1198
2169	J-1153	Forest	TRUE	1.00	1,396.01	1.48	1,396.48	20.00	20.13	20.00	20.05	J-3087	(N/A)	17.28	J-1198
608	J-348	Forest	TRUE	1.00	1,396.16	1.08	1,396.24	20.00	56.78	20.00	20.00	J-941	(N/A)	17.28	J-1198
7860	J-4132	Forest	TRUE	1.00	1,396.43	1.88	1,397.31	20.00	23.73	20.00	20.00	J-941	(N/A)	17.28	J-1198
5385	J-2864	Forest	TRUE	1.00	1,396.44	1.88	1,397.32	20.00	37.69	20.00	20.00	J-941	(N/A)	17.28	J-1198
5386	J-2865	Forest	TRUE	1.00	1,396.44	1.88	1,397.32	20.00	38.37	20.00	20.00	J-941	(N/A)	17.28	J-1198
5774	J-3087	Forest	TRUE	1.00	1,396.61	1.48	1,397.08	20.00	20.00	20.00	20.14	J-3086	(N/A)	17.28	J-1198
4964	J-2621	Forest	TRUE	1.00	1,397.78	1.28	1,398.06	20.00	21.65	20.00	20.00	J-2840	(N/A)	17.28	J-1198
4965	J-2622	Forest	TRUE	1.00	1,397.78	1.48	1,398.26	20.00	21.80	20.00	20.00	J-2840	(N/A)	17.28	J-1198
4930	J-2601	Forest	TRUE	1.00	1,398.14	1.08	1,398.22	20.00	21.88	20.00	20.00	J-2280	(N/A)	17.28	J-1198
4931	J-2602	Forest	TRUE	1.00	1,398.14	1.08	1,398.22	20.00	21.46	20.00	20.00	J-2280	(N/A)	17.28	J-1198
6248	J-3362	Forest	TRUE	1.00	1,400.51	1.28	1,400.79	20.00	20.00	20.00	21.35	J-3363	(N/A)	17.28	J-1198
7576	J-4054	Forest	TRUE	1.00	1,401.59	1.08	1,401.67	20.00	21.25	20.00	20.00	J-3204	(N/A)	17.28	J-1198
558	J-318	Forest	TRUE	1.00	1,401.87	1.08	1,401.95	20.00	47.42	20.00	20.00	J-941	(N/A)	17.28	J-1198
3878	J-2107	Forest	TRUE	1.00	1,402.84	2.08	1,403.92	20.00	20.18	20.00	20.02	J-2951	(N/A)	17.28	J-1198
559	J-319	Forest	TRUE	1.00	1,402.88	1.08	1,402.96	20.00	45.29	20.00	20.01	J-941	(N/A)	17.28	J-1198
5033	J-2662	Forest	TRUE	1.00	1,404.22	2.08	1,405.30	20.00	53.49	20.00	20.00	J-1197	(N/A)	12.92	J-1198
5032	J-2661	Forest	TRUE	1.00	1,404.22	1.68	1,404.90	20.00	53.52	20.00	20.00	J-1197	(N/A)	12.92	J-1198
5504	J-2930	Forest	TRUE	1.00	1,405.08	2.48	1,406.56	20.00	20.00	20.00	20.53	J-1672	(N/A)	17.28	J-1198
3097	J-1672	Forest	TRUE	1.00	1,405.77	1.48	1,406.25	20.00	20.00	20.00	20.34	J-2930	(N/A)	17.28	J-1198
3096	J-1671	Forest	TRUE	1.00	1,407.44	1.48	1,407.92	20.00	20.23	20.00	20.10	J-2930	(N/A)	17.28	J-1198
1211	J-634	Forest	TRUE	1.00	1,407.48	1.08	1,407.56	20.00	96.97	20.00	20.04	J-3438	(N/A)	17.28	J-1198
5858	J-3134	Forest	TRUE	1.00	1,407.50	1.48	1,407.98	20.00	96.79	20.00	20.04	J-3438	(N/A)	17.28	J-1198
4747	J-2498	Forest	TRUE	1.00	1,407.96	2.08	1,409.05	20.00	20.00	20.00	20.33	J-2171	(N/A)	17.07	J-1198
2435	J-1305	Forest	TRUE	1.00	1,408.51	1.08	1,408.58	20.00	20.58	20.00	20.00	J-806	(N/A)	17.28	J-1198
4244	J-2262	Forest	TRUE	1.00	1,408.83	3.49	1,411.32	20.00	24.71	20.00	20.00	J-2261	(N/A)	17.28	J-1198
4923	J-2597	Forest	TRUE	1.00	1,408.83	1.08	1,408.91	20.00	24.57	20.00	20.00	J-2261	(N/A)	17.28	J-1198
5364	J-2851	Forest	TRUE	1.00	1,408.96	1.08	1,409.04	20.00	20.03	20.00	20.11	J-1224	(N/A)	17.28	J-1198
6932	J-3765	Lakes	TRUE	1.00	1,409.34	1.20	1,409.54	20.00	26.58	20.00	20.08	J-2323	(N/A)	17.28	J-1198
1171	J-615	Lakes	TRUE	1.00	1,409.68	1.81	1,410.49	20.00	27.01	20.00	20.05	J-2323	(N/A)	17.28	J-1198
6022	J-3225	Forest	TRUE	1.00	1,409.70	1.28	1,409.98	20.00	20.03	20.00	20.55	J-2220	(N/A)	17.28	J-1198
2287	J-1224	Forest	TRUE	1.00	1,410.35	2.08	1,411.43	20.00	20.01	20.00	20.37	J-2851	(N/A)	17.28	J-1198
4820	J-2537	Forest	TRUE	1.00	1,411.19	1.28	1,411.47	20.00	21.15	20.00	20.00	J-3204	(N/A)	17.28	J-1198
4821	J-2538	Forest	TRUE	1.00	1,411.20	1.08	1,411.27	20.00	20.74	20.00	20.00	J-3204	(N/A)	17.28	J-1198
2175	J-1157	Forest	TRUE	1.00	1,411.31	1.48	1,411.79	20.00	20.00	20.00	22.27	J-2913	(N/A)	17.28	J-1198
4019	J-2171	Forest	TRUE	1.00	1,411.88	1.88	1,412.76	20.00	20.04	20.00	20.00	J-2498	(N/A)	17.07	J-1198
5097	J-2698	Forest	TRUE	1.00	1,412.30	1.48	1,412.77	20.00	20.00	20.00	20.59	J-1482	(N/A)	17.28	J-1198
3456	J-1882	Forest	TRUE	1.00	1,412.74	1.08	1,412.82	20.00	20.00	20.00	21.60	J-2113	(N/A)	15.72	J-1198
891	J-500	Forest	TRUE	1.00	1,413.40	1.88	1,414.28	20.00	21.72	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5874	J-3143	Forest	TRUE	1.00	1,413.61	1.08	1,413.68	20.00	20.01	20.00	20.57	J-2919	(N/A)	17.28	J-1198
3269	J-1777	Forest	TRUE	1.00	1,413.68	1.08	1,413.76	20.00	22.89	20.00	20.00	J-3953	(N/A)	17.28	J-1198
3270	J-1778	Forest	TRUE	1.00	1,413.68	1.08	1,413.76	20.00	21.49	20.00	20.00	J-3953	(N/A)	17.28	J-1198
0210	5 1776	1 01031	INOL	1.00	1,-13.00	1.00	1,713.70	20.00	21.40	20.00	20.00	0 0000	(14/A)	17.20	0 1130

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow	Available Fire Flow (gpm)	Total Flow Desired	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
				(gpm)		(gpm)									
4508 4509	J-2362 J-2363	Forest Forest	TRUE TRUE	1.00 1.00	1,413.75 1,413.75	2.68 3.49	1,415.44 1,416.24	20.00 20.00	25.57 25.26	20.00 20.00	20.00 20.00	J-858 J-858	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2729	J-1473	Forest	TRUE	1.00	1,414.46	2.08	1,415.54	20.00	30.24	20.00	20.00	J-3362	(N/A)	17.28	J-1198
6358 6573	J-3427 J-3553	Forest Forest	TRUE TRUE	1.00 1.00	1,414.47 1,414.48	1.88 2.68	1,415.35 1,416.16	20.00 20.00	29.18 26.85	20.00 20.00	20.00 20.00	J-3362 J-3362	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6572	J-3552	Forest	TRUE	1.00	1,414.49	1.08	1,414.56	20.00	26.12	20.00	20.00	J-3362	(N/A)	17.28	J-1198
6249 3984	J-3363	Forest	TRUE TRUE	1.00 1.00	1,414.53	1.68 2.88	1,415.21	20.00 20.00	20.74 20.00	20.00 20.00	20.00 20.52	J-3362 J-2919	(N/A) (N/A)	17.28 17.28	J-1198
6559	J-2156 J-3544	Forest Forest	TRUE	1.00	1,414.74 1,415.61	3.89	1,416.63 1,418.50	20.00	22.83	20.00	20.52	J-2919 J-1382	(N/A) (N/A)	17.28	J-1198 J-1198
6560	J-3545	Forest	TRUE	1.00	1,415.62	1.28	1,415.90	20.00	22.17	20.00	20.00	J-1382	(N/A)	17.28	J-1198
2743 4130	J-1482 J-2220	Forest Forest	TRUE TRUE	1.00 1.00	1,416.63 1,416.90	2.48 1.88	1,418.11 1,417.78	20.00 20.00	20.24 20.02	20.00 20.00	20.04 20.07	J-2698 J-3225	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3289	J-1789	Forest	TRUE	1.00	1,417.50	1.48	1,417.98	20.00	20.00	20.00	20.04	J-1790	(N/A)	17.28	J-1198
620 5709	J-355 J-3049	Forest Forest	TRUE TRUE	1.00 1.00	1,418.41 1,418.50	1.08 1.08	1,418.49 1,418.57	20.00 20.00	30.11 29.60	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3907	J-2121	Forest	TRUE	1.00	1,418.99	2.28	1,420.27	20.00	20.01	20.00	24.36	J-1197	(N/A)	17.28	J-1198
4118 7644	J-2215 J-4077	Forest	TRUE TRUE	1.00 1.00	1,419.31 1,420.98	2.48 1.28	1,420.79	20.00 20.00	47.46 20.03	20.00 20.00	20.00 21.23	J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5632	J-3004	Forest Forest	TRUE	1.00	1,420.98	1.28	1,421.26 1,421.11	20.00	20.03	20.00	20.58	J-1467 J-1483	(N/A) (N/A)	17.28	J-1198 J-1198
6114	J-3281	Lakes	TRUE	1.00	1,422.28	1.20	1,422.48	20.00	20.00	20.00	20.14	J-2010	(N/A)	17.28	J-1198
6113 5717	J-3280 J-3054	Lakes Forest	TRUE TRUE	1.00 1.00	1,422.69 1,423.40	1.20 2.08	1,422.89 1,424.48	20.00 20.00	20.47 20.02	20.00 20.00	20.09 20.68	J-2010 J-3053	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5571	J-2969	Forest	TRUE	1.00	1,423.69	1.08	1,423.76	20.00	25.77	20.00	20.00	J-2919	(N/A)	17.28	J-1198
879 2033	J-494 J-1075	Forest Forest	TRUE TRUE	1.00 1.00	1,423.69 1,424.28	1.88 2.08	1,424.57 1,425.36	20.00 20.00	25.95 20.74	20.00 20.00	20.00 20.00	J-2919 J-3204	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7878	J-4137	Forest	TRUE	1.00	1,424.34	1.88	1,425.22	20.00	20.01	20.00	21.38	J-1370	(N/A)	17.28	J-1198
2889	J-1565	Forest	TRUE TRUE	1.00	1,425.06	2.08	1,426.14	20.00	20.36	20.00	20.00	J-3362	(N/A)	17.28	J-1198
7194 7193	J-3907 J-3906	Lakes Lakes	TRUE	1.00 1.00	1,425.29 1,426.41	1.20 1.20	1,425.49 1,426.61	20.00 20.00	20.00 20.00	20.00 20.00	20.13 20.01	J-3906 J-3907	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6205	J-3335	Lakes	TRUE	1.00	1,426.42	1.20	1,426.62	20.00	26.06	20.00	20.00	J-3906	(N/A)	17.28	J-1198
6206 621	J-3336 J-356	Lakes Forest	TRUE TRUE	1.00 1.00	1,426.42 1,426.64	1.20 1.08	1,426.62 1,426.72	20.00 20.00	25.73 30.97	20.00 20.00	20.00 20.01	J-3906 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2745	J-1483	Forest	TRUE	1.00	1,427.30	2.08	1,428.38	20.00	20.11	20.00	20.05	J-3004	(N/A)	17.28	J-1198
6880 6563	J-3734 J-3547	Stewartsville Forest	TRUE TRUE	1.00 1.00	1,427.53 1,428.27	2.99 1.48	1,429.52 1,428.74	20.00 20.00	20.01 20.00	20.00 20.00	20.62 20.62	J-1397 J-3546	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6550	J-3538	Forest	TRUE	1.00	1,428.36	2.68	1,430.04	20.00	33.41	20.00	20.02	J-2366	(N/A)	17.28	J-1198
6551	J-3539	Forest	TRUE	1.00	1,428.39	1.68	1,429.07	20.00	32.81	20.00	20.02	J-2366	(N/A)	17.28	J-1198
3494 6391	J-1904 J-3446	Forest Forest	TRUE TRUE	1.00 1.00	1,428.43 1,428.45	2.48 1.08	1,429.91 1,428.53	20.00 20.00	20.16 20.00	20.00 20.00	20.00 20.98	J-3143 J-3447	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5229	J-2772	Forest	TRUE	1.00	1,429.40	1.08	1,429.47	20.00	22.75	20.00	20.00	J-2839	(N/A)	17.28	J-1198
5230 1201	J-2773 J-629	Forest Lakes	TRUE TRUE	1.00 1.00	1,429.40 1,429.68	1.08 1.20	1,429.47 1,429.88	20.00 20.00	22.09 36.54	20.00 20.00	20.00 20.01	J-2839 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6251	J-3364	Lakes	TRUE	1.00	1,429.69	1.20	1,429.89	20.00	36.25	20.00	20.01	J-2323	(N/A)	17.28	J-1198
4859 4860	J-2560 J-2561	Forest Forest	TRUE TRUE	1.00 1.00	1,429.73 1,429.74	1.28 1.08	1,430.01 1,429.81	20.00 20.00	34.17 33.72	20.00 20.00	20.00 20.00	J-3063 J-3063	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5716	J-3053	Forest	TRUE	1.00	1,430.59	1.68	1,431.27	20.00	20.19	20.00	20.04	J-3054	(N/A)	17.28	J-1198
5302 6146	J-2814 J-3300	Forest Forest	TRUE TRUE	1.00 1.00	1,430.68 1,430.95	1.48 1.48	1,431.16 1,431.43	20.00 20.00	20.00 20.00	20.00 20.00	20.97 20.25	J-1754 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2720	J-1468	Forest	TRUE	1.00	1,431.65	1.08	1,431.72	20.00	23.59	20.00	20.00	J-1467	(N/A)	17.28	J-1198
2550	J-1369	Forest	TRUE	1.00	1,431.78	1.28	1,432.06	20.00	20.45	20.00	20.02	J-1370	(N/A)	17.28	J-1198
532 3393	J-302 J-1846	Forest Forest	TRUE TRUE	1.00 1.00	1,432.29 1,432.31	1.28 1.48	1,432.57 1,432.79	20.00 20.00	33.90 20.00	20.00 20.00	20.01 20.23	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2599	J-1397	Stewartsville	TRUE	1.00	1,432.69	3.34	1,435.03	20.00	20.01	20.00	20.31	J-3734	(N/A)	17.28	J-1198
5139 1892	J-2721 J-984	Forest Lakes	TRUE TRUE	1.00 1.00	1,432.69 1,432.74	1.08 1.55	1,432.77 1,433.29	20.00 20.00	20.00 20.00	20.00 20.00	20.06 26.13	J-1370 J-1587	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7381	J-3986	Forest	TRUE	1.00	1,433.17	1.08	1,433.24	20.00	20.00	20.00	20.53	J-3985	(N/A)	17.28	J-1198
5138 3482	J-2720 J-1897	Forest Forest	TRUE TRUE	1.00 1.00	1,433.29 1,433.33	1.08 1.48	1,433.37 1,433.81	20.00 20.00	20.43 23.33	20.00 20.00	20.02 20.00	J-1370 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
531	J-301	Forest	TRUE	1.00	1,433.36	1.48	1,433.83	20.00	32.64	20.00	20.01	J-2919	(N/A)	17.28	J-1198
4565 4566	J-2395 J-2396	Forest Forest	TRUE TRUE	1.00 1.00	1,433.38 1,433.38	1.08 1.48	1,433.46 1,433.86	20.00 20.00	23.79 24.10	20.00 20.00	20.00 20.00	J-1467 J-1467	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2331	J-1250	Forest	TRUE	1.00	1,435.01	2.28	1,436.29	20.00	20.00	20.00	20.04	J-2814	(N/A)	17.28	J-1198
3232	J-1754	Forest	TRUE	1.00	1,435.13 1,435.15	1.28	1,435.40	20.00	20.60	20.00	20.03	J-2814	(N/A)	17.28	J-1198
6362 2530	J-3429 J-1358	Forest Forest	TRUE TRUE	1.00 1.00	1,435.15	3.09 1.48	1,437.23 1,436.22	20.00 20.00	20.00 20.00	20.00 20.00	20.13 24.36	J-2919 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2578	J-1385	Forest	TRUE	1.00	1,437.15	2.08	1,438.23	20.00	20.00	20.00	24.14	J-1197	(N/A)	17.06	J-1198
6153 7380	J-3304 J-3985	Forest Forest	TRUE TRUE	1.00 1.00	1,438.09 1,438.09	1.68 2.08	1,438.77 1,439.17	20.00 20.00	20.00 20.16	20.00 20.00	20.12 20.04	J-2919 J-3986	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3392	J-1845	Forest	TRUE	1.00	1,438.45	1.08	1,438.53	20.00	20.00	20.00	20.13	J-2919	(N/A)	17.28	J-1198
6603 1152	J-3570 J-608	Forest Forest	TRUE TRUE	1.00 1.00	1,439.48 1,439.49	1.08 1.28	1,439.56 1,439.77	20.00 20.00	24.84 25.81	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3407	J-1853	Forest	TRUE	1.00	1,439.74	1.08	1,439.81	20.00	24.49	20.00	20.02	J-2113	(N/A)	15.67	J-1198
5472 6575	J-2913 J-3554	Forest Forest	TRUE TRUE	1.00 1.00	1,440.35 1,440.59	1.08 1.68	1,440.43 1,441.27	20.00 20.00	20.00 25.31	20.00 20.00	20.55 20.00	J-1883 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1121	J-597	Forest	TRUE	1.00	1,440.60	1.28	1,440.88	20.00	26.07	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7693	J-4090	Forest	TRUE	1.00	1,441.62	1.08	1,441.70	20.00	20.00	20.00	20.31	J-4089	(N/A)	17.28	J-1198
704 705	J-405 J-406	Forest Forest	TRUE TRUE	1.00 1.00	1,441.76 1,442.00	1.08 2.68	1,441.83 1,443.69	20.00 20.00	22.84 22.51	20.00 20.00	20.01 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8519	J-4211	Forest	TRUE	1.00	1,442.34	1.08	1,442.42	20.00	26.70	20.00	20.00	J-2919	(N/A)	17.28	J-1198
810 5951	J-459 J-3186	Forest Forest	TRUE TRUE	1.00 1.00	1,442.35 1,442.37	1.28 1.48	1,442.62 1,442.85	20.00 20.00	26.57 23.63	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
307	J-159	Forest	TRUE	1.00	1,442.38	1.08	1,442.45	20.00	23.90	20.00	20.00	J-2919	(N/A)	17.28	J-1198
217 216	J-101 J-100	Forest Forest	TRUE TRUE	1.00 1.00	1,442.38 1,442.38	1.08 1.08	1,442.45 1,442.46	20.00 20.00	23.90 23.90	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
290	J-149	Forest	TRUE	1.00	1,442.38	1.08	1,442.46	20.00	24.04	20.00	20.00	J-2919	(N/A)	17.28	J-1198
214	J-99	Forest	TRUE	1.00	1,442.38	1.08	1,442.46	20.00	23.87	20.00	20.00	J-2919	(N/A)	17.28	J-1198
213 775	J-98 J-442	Forest Forest	TRUE TRUE	1.00 1.00	1,442.38 1,442.42	1.08 1.68	1,442.46 1,443.10	20.00 20.00	23.87 24.04	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7137	J-3880	Forest	TRUE	1.00	1,442.55	1.08	1,442.63	20.00	20.32	20.00	20.00	J-3446	(N/A)	17.28	J-1198
6392 4089	J-3447 J-2204	Forest Forest	TRUE TRUE	1.00 1.00	1,442.55 1,443.00	2.28 2.28	1,443.84 1,444.29	20.00 20.00	20.30 20.29	20.00 20.00	20.00 20.00	J-3446 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
802	J-455	Forest	TRUE	1.00	1,443.18	1.88	1,444.06	20.00	26.11	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6349 7481	J-3421 J-4022	Forest Forest	TRUE TRUE	1.00 1.00	1,443.27 1,443.38	3.49 2.28	1,445.76 1,444.66	20.00 20.00	23.52 20.31	20.00 20.00	20.01 20.03	J-2919 J-1370	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6350	J-3422	Forest	TRUE	1.00	1,443.40	2.28	1,444.68	20.00	22.99	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3587 3348	J-1956 J-1822	Forest Lakes	TRUE TRUE	1.00 1.00	1,443.58 1,443.62	2.28 1.55	1,444.86 1,444.17	20.00 20.00	33.25 20.00	20.00 20.00	20.00 22.51	J-2919 J-1821	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
55-10	0 1022	Lanco	. NOL	1.00	.,++0.02	1.00	., +11	20.00	20.00	20.00	22.01	5 1021	(14/1)	11.20	5 1130

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
3588	J-1957	Forest	TRUE	1.00	1,443.70	1.08	1,443.78	20.00	26.22	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4040	J-2180	Forest	TRUE	1.00	1,443.73	1.68	1,444.41	20.00	30.93	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6337 6338	J-3414 J-3415	Forest Forest	TRUE TRUE	1.00 1.00	1,443.75 1,443.75	1.48 2.68	1,444.22 1,445.43	20.00 20.00	30.57 29.76	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8069	J-4165	Forest	TRUE	1.00	1,444.24	3.89	1,447.13	20.00	37.39	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3786	J-2062	Forest	TRUE	1.00	1,444.40	1.28	1,444.67	20.00	24.65	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4120 6442	J-2216 J-3476	Forest Forest	TRUE TRUE	1.00 1.00	1,444.46 1,444.57	1.88 1.68	1,445.34 1,445.25	20.00 20.00	24.69 23.34	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5602	J-2987	Forest	TRUE	1.00	1,444.63	1.48	1,445.11	20.00	20.00	20.00	20.22	J-2919	(N/A)	17.28	J-1198
5835 5836	J-3121 J-3122	Forest Forest	TRUE TRUE	1.00 1.00	1,444.70 1,444.70	1.08 1.08	1,444.78 1,444.78	20.00 20.00	21.59 21.07	20.00 20.00	20.00 20.00	J-2280 J-2280	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7132	J-3877	Forest	TRUE	1.00	1,444.80	1.48	1,445.28	20.00	35.72	20.00	20.00	J-2200 J-2919	(N/A)	17.28	J-1198
7133	J-3878	Forest	TRUE	1.00	1,444.80	1.08	1,444.88	20.00	35.94	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4516 2724	J-2367 J-1470	Forest Forest	TRUE TRUE	1.00 1.00	1,444.85 1,444.85	1.88 2.68	1,445.73 1,446.54	20.00 20.00	25.93 25.81	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5623	J-2998	Forest	TRUE	1.00	1,444.87	1.88	1,445.75	20.00	29.78	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5624 7501	J-2999 J-4028	Forest Forest	TRUE TRUE	1.00 1.00	1,444.87 1,444.87	1.88 3.09	1,445.75 1,446.96	20.00 20.00	29.47 33.92	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3753	J-2047	Forest	TRUE	1.00	1,444.88	2.08	1,445.96	20.00	36.82	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3754 7614	J-2048 J-4067	Forest Forest	TRUE TRUE	1.00 1.00	1,445.04 1,445.04	2.28 1.48	1,446.32 1,445.52	20.00 20.00	20.41 34.51	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5039	J-2665	Forest	TRUE	1.00	1,445.04	3.89	1,447.93	20.00	37.93	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7528	J-4039 J-2666	Forest	TRUE TRUE	1.00 1.00	1,445.04	1.08	1,445.12	20.00 20.00	36.33	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A)	17.28 17.28	J-1198
5040 5840	J-2000 J-3124	Forest Forest	TRUE	1.00	1,445.04 1,445.04	1.48 1.48	1,445.52 1,445.52	20.00	37.71 37.19	20.00	20.00	J-2919 J-2919	(N/A) (N/A)	17.28	J-1198 J-1198
5841	J-3125	Forest	TRUE	1.00	1,445.04	3.09	1,447.13	20.00	36.90	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6127 7529	J-3289 J-4040	Forest Forest	TRUE TRUE	1.00 1.00	1,445.04 1,445.04	3.09 1.08	1,447.13 1,445.12	20.00 20.00	34.78 35.83	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5382	J-2862	Forest	TRUE	1.00	1,445.04	1.08	1,445.12	20.00	32.62	20.00	20.00	J-2919	(N/A)	17.28	J-1198
2633 5383	J-1417 J-2863	Forest Forest	TRUE TRUE	1.00 1.00	1,445.04 1,445.04	1.88 1.88	1,445.92 1,445.92	20.00 20.00	32.03 32.01	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7852	J-4131	Forest	TRUE	1.00	1,445.05	1.68	1,445.73	20.00	44.04	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6128 6202	J-3290 J-3333	Forest Forest	TRUE TRUE	1.00 1.00	1,445.05 1,445.10	1.08 1.68	1,445.13 1,445.78	20.00 20.00	34.66 30.06	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1018	J-555	Forest	TRUE	1.00	1,445.11	1.48	1,445.59	20.00	27.30	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7941 7975	J-4147 J-4153	Forest Forest	TRUE TRUE	1.00 1.00	1,445.18 1,445.24	2.48 2.68	1,446.66 1,446.93	20.00 20.00	30.21 38.65	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6472	J-3493	Forest	TRUE	1.00	1,445.24	2.08	1,446.34	20.00	24.03	20.00	20.00	J-2919 J-2919	(N/A)	17.28	J-1198
6471 6203	J-3492	Forest	TRUE	1.00	1,445.26	2.08	1,446.35	20.00	24.68	20.00	20.00	J-2919	(N/A) (N/A)	17.28	J-1198
6506	J-3334 J-3512	Forest Forest	TRUE TRUE	1.00 1.00	1,445.28 1,445.29	1.88 1.88	1,446.16 1,446.17	20.00 20.00	29.10 39.67	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A)	17.28 17.28	J-1198 J-1198
6507	J-3513	Forest	TRUE	1.00	1,445.29	1.28	1,445.57	20.00	39.06	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3761 6959	J-2050 J-3780	Forest Forest	TRUE TRUE	1.00 1.00	1,445.58 1,445.78	3.09 1.88	1,447.66 1,446.66	20.00 20.00	23.26 24.70	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6958	J-3779	Forest	TRUE	1.00	1,445.78	2.88	1,447.66	20.00	26.00	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4340 7546	J-2292 J-4046	Forest Forest	TRUE TRUE	1.00 1.00	1,445.80 1,445.84	2.28 1.08	1,447.09 1,445.92	20.00 20.00	27.93 20.00	20.00 20.00	20.00 20.17	J-2919 J-3922	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7692	J-4089	Forest	TRUE	1.00	1,445.89	1.48	1,446.37	20.00	20.03	20.00	20.07	J-4116	(N/A)	17.28	J-1198
3438 5721	J-1871 J-3056	Forest Forest	TRUE TRUE	1.00 1.00	1,446.15 1,446.16	1.48 1.48	1,446.63 1,446.64	20.00 20.00	28.72 28.35	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7938	J-4146	Forest	TRUE	1.00	1,446.19	2.08	1,447.27	20.00	25.76	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3439 7784	J-1872 J-4116	Forest Forest	TRUE TRUE	1.00 1.00	1,446.20 1,447.01	2.08 1.28	1,447.28 1,447.29	20.00 20.00	29.12 20.00	20.00 20.00	20.00 23.20	J-2919 J-4089	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3458	J-1883	Forest	TRUE	1.00	1,447.20	1.08	1,447.27	20.00	20.12	20.00	20.04	J-2913	(N/A)	17.28	J-1198
5689 3495	J-3037 J-1905	Forest Forest	TRUE TRUE	1.00 1.00	1,447.23 1,447.70	3.09 2.08	1,449.31 1,448.78	20.00 20.00	20.00 21.21	20.00 20.00	20.23 20.00	J-3922 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7069	J-3842	Forest	TRUE	1.00	1,447.80	2.68	1,449.48	20.00	20.00	20.00	20.45	J-3546	(N/A)	17.28	J-1198
5703 7272	J-3046 J-3945	Forest Forest	TRUE TRUE	1.00 1.00	1,447.98 1,447.98	1.28 2.08	1,448.26 1,449.06	20.00 20.00	24.92 24.62	20.00 20.00	20.00 20.00	J-3063 J-3063	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5702	J-3045	Forest	TRUE	1.00	1,447.98	1.28	1,448.26	20.00	24.41	20.00	20.00	J-3063	(N/A)	17.28	J-1198
7223 4925	J-3922 J-2598	Forest Forest	TRUE TRUE	1.00 1.00	1,448.12 1,448.16	1.88 1.08	1,449.00 1,448.24	20.00 20.00	20.00 38.92	20.00 20.00	20.26 20.00	J-3038 J-3953	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4926	J-2599	Forest	TRUE	1.00	1,448.16	1.08	1,448.24	20.00	38.58	20.00	20.00	J-3953	(N/A)	17.28	J-1198
6562	J-3546	Forest	TRUE	1.00	1,448.53	1.28	1,448.81	20.00	20.01	20.00	20.14	J-3547	(N/A)	17.28	J-1198
5690 3508	J-3038 J-1913	Forest Forest	TRUE TRUE	1.00 1.00	1,449.70 1,449.72	1.48 1.28	1,450.18 1,450.00	20.00 20.00	20.14 32.11	20.00 20.00	20.05 20.01	J-3922 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3649 3507	J-1990	Forest	TRUE TRUE	1.00	1,450.17	1.28	1,450.45	20.00	20.03 29.82	20.00	20.68	J-1599	(N/A)	17.28	J-1198
4702	J-1912 J-2472	Forest Forest	TRUE	1.00 1.00	1,450.29 1,450.29	1.48 1.88	1,450.77 1,451.17	20.00 20.00	29.41	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
294	J-151	Lakes	TRUE	1.00	1,450.30	1.20	1,450.49	20.00	43.78	20.00	20.05	J-2323	(N/A)	17.28	J-1198
293 4985	J-150 J-2633	Lakes Forest	TRUE TRUE	1.00 1.00	1,450.31 1,450.46	1.20 2.28	1,450.50 1,451.74	20.00 20.00	43.64 29.00	20.00 20.00	20.05 20.01	J-2323 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7728	J-4101	Forest	TRUE	1.00	1,450.53	1.28	1,450.80	20.00	29.18	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3115 3114	J-1684 J-1683	Forest Forest	TRUE TRUE	1.00 1.00	1,450.53 1,450.54	1.08 1.08	1,450.61 1,450.61	20.00 20.00	30.43 30.95	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7413	J-3997	Forest	TRUE	1.00	1,450.59	2.88	1,452.47	20.00	20.08	20.00	20.01	J-3546	(N/A)	17.28	J-1198
4984 675	J-2632 J-390	Forest Forest	TRUE TRUE	1.00 1.00	1,450.87 1,450.91	1.28 1.08	1,451.15 1,450.99	20.00 20.00	29.27 29.78	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1688	J-852	Forest	TRUE	1.00	1,450.92	1.08	1,451.00	20.00	20.00	20.00	21.22	J-853	(N/A)	17.28	J-1198
4288 674	J-2277 J-389	Forest Forest	TRUE TRUE	1.00 1.00	1,450.94 1,452.09	3.09 1.28	1,453.03 1,452.37	20.00 20.00	29.58 31.24	20.00 20.00	20.00 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5397	J-2871	Forest	TRUE	1.00	1,452.73	4.49	1,456.22	20.00	28.02	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5396 605	J-2870 J-346	Forest Lakes	TRUE TRUE	1.00 1.00	1,452.73 1,453.18	3.89 1.20	1,455.62 1,453.38	20.00 20.00	28.64 44.46	20.00 20.00	20.00 20.05	J-2919 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5606	J-2989	Lakes	TRUE	1.00	1,453.23	5.42	1,457.64	20.00	43.90	20.00	20.05	J-2323	(N/A)	17.28	J-1198
3076 3074	J-1659	Forest	TRUE	1.00	1,454.69	1.08	1,454.77	20.00	20.01	20.00	20.25	J-1657	(N/A)	17.06	J-1198
3074 6565	J-1658 J-3548	Forest Forest	TRUE TRUE	1.00 1.00	1,455.13 1,456.32	2.08 1.08	1,456.21 1,456.40	20.00 20.00	20.00 71.59	20.00 20.00	20.22 20.00	J-1657 J-3438	(N/A) (N/A)	17.06 17.28	J-1198 J-1198
1293	J-672	Forest	TRUE	1.00	1,456.32	1.08	1,456.40	20.00	72.18	20.00	20.00	J-3438	(N/A)	17.28	J-1198
3490 1063	J-1902 J-575	Forest Forest	TRUE TRUE	1.00 1.00	1,456.39 1,456.98	1.48 1.68	1,456.87 1,457.66	20.00 20.00	20.03 30.70	20.00 20.00	21.20 20.01	J-2280 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4476	J-2344	Forest	TRUE	1.00	1,457.02	1.48	1,457.50	20.00	20.00	20.00	20.13	J-1163	(N/A)	17.28	J-1198
985 4928	J-540 J-2600	Forest Forest	TRUE TRUE	1.00 1.00	1,457.34 1,457.36	1.88 1.08	1,458.22 1,457.43	20.00 20.00	37.32 37.48	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5601	J-2986	Forest	TRUE	1.00	1,457.61	1.88	1,458.49	20.00	20.12	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3073 3313	J-1657 J-1802	Forest Forest	TRUE TRUE	1.00 1.00	1,458.25 1,458.50	2.28 1.08	1,459.54 1,458.57	20.00 20.00	20.00 25.13	20.00 20.00	20.08 20.06	J-1659 J-1599	(N/A) (N/A)	17.06 17.28	J-1198 J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
4962	J-2620		TRUE	1.00				20.00	24.77		20.06	J-1599		-	J-1198
2184	J-2620 J-1163	Forest Forest	TRUE	1.00	1,458.55 1,458.65	1.48 1.48	1,459.02 1,459.13	20.00	20.00	20.00 20.00	20.05	J-1599 J-2344	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2967	J-1600	Forest	TRUE	1.00	1,458.88	2.48	1,460.36	20.00	25.93	20.00	20.03	J-1599	(N/A)	17.28	J-1198
5563 5564	J-2964 J-2965	Forest Forest	TRUE TRUE	1.00 1.00	1,459.15 1,459.19	2.28 2.88	1,460.43 1,461.07	20.00 20.00	24.57 23.94	20.00 20.00	20.00 20.00	J-3546 J-3546	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1057	J-572	Forest	TRUE	1.00	1,460.15	1.28	1,460.43	20.00	29.88	20.00	20.01	J-2919	(N/A)	17.28	J-1198
6085 3679	J-3264 J-2006	Forest Forest	TRUE TRUE	1.00 1.00	1,460.25 1,460.61	1.08 2.28	1,460.33 1,461.89	20.00 20.00	29.28 22.50	20.00 20.00	20.01 20.00	J-2919 J-2208	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7682	J-4086	Lakes	TRUE	1.00	1,462.22	1.29	1,462.51	20.00	20.00	20.00	21.68	J-3250	(N/A)	17.28	J-1198
4888 4889	J-2577 J-2578	Forest Forest	TRUE TRUE	1.00 1.00	1,462.36 1,462.37	1.08 1.28	1,462.44 1,462.64	20.00 20.00	44.07 43.63	20.00 20.00	20.01 20.01	J-3063 J-3063	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6639	J-3592	Forest	TRUE	1.00	1,462.62	1.48	1,463.10	20.00	38.33	20.00	20.00	J-2070	(N/A)	17.06	J-1198
4161 7068	J-2234 J-3841	Forest Forest	TRUE TRUE	1.00 1.00	1,462.62 1,462.69	1.48 1.88	1,463.10 1,463.57	20.00 20.00	40.13 22.21	20.00 20.00	20.00 20.00	J-2070 J-3546	(N/A) (N/A)	17.06 17.28	J-1198 J-1198
2821	J-1528	Forest	TRUE	1.00	1,463.63	2.68	1,465.31	20.00	23.69	20.00	20.00	J-3546	(N/A)	17.28	J-1198
1846 447	J-954 J-249	Forest Forest	TRUE TRUE	1.00 1.00	1,464.42 1,465.66	1.08 1.28	1,464.49 1,465.93	20.00 20.00	20.02 34.93	20.00 20.00	20.55 20.01	J-1787 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5575	J-2971	Forest	TRUE	1.00	1,465.70	1.28	1,465.98	20.00	34.45	20.00	20.01	J-2919	(N/A)	17.28	J-1198
2192 7100	J-1168 J-3859	Forest Forest	TRUE TRUE	1.00 1.00	1,466.15 1,467.07	1.88 1.68	1,467.03 1,467.75	20.00 20.00	21.51 38.75	20.00 20.00	20.00 20.01	J-1167 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7101	J-3860	Forest	TRUE	1.00	1,467.07	1.48	1,467.55	20.00	38.73	20.00	20.01	J-2919	(N/A)	17.28	J-1198
6892 5897	J-3741 J-3155	Forest Forest	TRUE TRUE	1.00 1.00	1,467.10 1,467.13	3.09 1.88	1,469.18 1,468.01	20.00 20.00	42.74 37.79	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6893	J-3742	Forest	TRUE	1.00	1,467.15	1.08	1,467.23	20.00	41.49	20.00	20.01	J-2919	(N/A)	17.28	J-1198
5898 446	J-3156 J-248	Forest Forest	TRUE TRUE	1.00 1.00	1,467.17 1,467.38	1.08 1.28	1,467.25 1,467.66	20.00 20.00	36.98 35.17	20.00 20.00	20.01 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4579	J-2404	Forest	TRUE	1.00	1,467.58	2.08	1,468.66	20.00	46.78	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4578 4948	J-2403 J-2612	Forest Forest	TRUE TRUE	1.00 1.00	1,467.58 1,467.88	1.68 2.28	1,468.26 1,469.16	20.00 20.00	47.06 29.85	20.00 20.00	20.00 20.00	J-2919 J-3546	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4947	J-2611	Forest	TRUE	1.00	1,467.88	2.28	1,469.16	20.00	29.98	20.00	20.00	J-3546	(N/A)	17.28	J-1198
5290 5639	J-2807 J-3008	Forest Forest	TRUE TRUE	1.00 1.00	1,468.15 1,468.66	1.28 1.08	1,468.43 1,468.74	20.00 20.00	20.01 20.00	20.00 20.00	20.20 20.87	J-1787 J-3007	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1058	J-573	Forest	TRUE	1.00	1,468.80	2.48	1,470.28	20.00	27.36	20.00	20.01	J-2919	(N/A)	17.28	J-1198
5506 5507	J-2931 J-2932	Forest Forest	TRUE TRUE	1.00 1.00	1,469.61 1,469.61	2.08 1.68	1,470.69 1,470.29	20.00 20.00	26.77 26.46	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3285	J-1787	Forest	TRUE	1.00	1,470.27	2.68	1,471.95	20.00	20.00	20.00	20.24	J-2807	(N/A)	17.28	J-1198
6984 6862	J-3794 J-3723	Forest Forest	TRUE TRUE	1.00 1.00	1,470.66 1,471.94	1.68 1.28	1,471.34 1,472.22	20.00 20.00	20.00 20.04	20.00 20.00	20.88 20.26	J-1635 J-3722	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7721	J-4098	Forest	TRUE	1.00	1,471.34	1.88	1,473.22	20.00	20.00	20.00	20.36	J-3008	(N/A)	17.28	J-1198
3751 2924	J-2046 J-1582	Forest Forest	TRUE TRUE	1.00 1.00	1,473.07 1,473.18	1.48 2.68	1,473.54 1,474.87	20.00 20.00	20.01 20.00	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5654	J-3017	Forest	TRUE	1.00	1,473.48	1.48	1,473.96	20.00	21.68	20.00	20.00	J-1167	(N/A)	17.28	J-1198
5655 6861	J-3018 J-3722	Forest Forest	TRUE TRUE	1.00 1.00	1,473.48 1,474.63	1.48 1.08	1,473.96 1,474.70	20.00 20.00	21.28 20.00	20.00 20.00	20.00 20.75	J-1167 J-3723	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3489	J-1901	Forest	TRUE	1.00	1,474.94	1.08	1,475.01	20.00	23.64	20.00	20.00	J-2280	(N/A)	17.28	J-1198
6553 6554	J-3540 J-3541	Forest Forest	TRUE TRUE	1.00 1.00	1,475.25 1,475.25	2.68 1.28	1,476.93 1,475.53	20.00 20.00	38.87 38.22	20.00 20.00	20.00 20.00	J-3546 J-3546	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6854	J-3718	Forest	TRUE	1.00	1,475.71	2.48	1,477.20	20.00	20.01	20.00	20.60	J-2153	(N/A)	17.28	J-1198
8088 3347	J-4167 J-1821	Forest Lakes	TRUE TRUE	1.00 1.00	1,476.99 1,477.43	1.88 1.72	1,477.87 1,478.14	20.00 20.00	20.04 20.65	20.00 20.00	24.36 20.04	J-1197 J-1822	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3194	J-1731	Forest	TRUE	1.00	1,477.46	1.08	1,477.54	20.00	20.03	20.00	20.58	J-1730	(N/A)	17.28	J-1198
7709 5638	J-4094 J-3007	Forest Forest	TRUE TRUE	1.00 1.00	1,477.63 1,479.74	1.08 1.48	1,477.71 1,480.22	20.00 20.00	43.62 20.33	20.00 20.00	20.00 20.00	J-3546 J-3008	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2538	J-1362	Stewartsville	TRUE	1.00	1,480.31	1.26	1,480.57	20.00	20.03	20.00	28.65	J-676	(N/A)	17.28	J-1198
1290 6269	J-670 J-3374	Lakes Lakes	TRUE TRUE	1.00 1.00	1,481.68 1,481.69	1.20 1.20	1,481.88 1,481.89	20.00 20.00	51.84 50.95	20.00 20.00	20.04 20.04	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3038	J-1634	Forest	TRUE	1.00	1,482.17	1.08	1,482.25	20.00	20.00	20.00	20.17	J-1635	(N/A)	17.28	J-1198
5426 5697	J-2887 J-3042	Forest Forest	TRUE TRUE	1.00 1.00	1,483.58 1,483.80	1.08 1.48	1,483.65 1,484.28	20.00 20.00	20.03 20.00	20.00 20.00	20.58 20.58	J-1770 J-996	(N/A) (N/A)	17.28 17.13	J-1198 J-1198
6226	J-3348	Lakes	TRUE	1.00	1,484.05	1.20	1,484.25	20.00	20.00	20.00	20.12	J-3906	(N/A)	17.28	J-1198
2158 3974	J-1146 J-2153	Forest Forest	TRUE TRUE	1.00 1.00	1,484.18 1,484.35	1.08 1.88	1,484.26 1,485.23	20.00 20.00	20.03 20.01	20.00 20.00	20.47 20.33	J-2887 J-3718	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6225	J-3347	Lakes	TRUE	1.00	1,484.62	1.20	1,484.82	20.00	20.95	20.00	20.06	J-3906	(N/A)	17.28	J-1198
3039 772	J-1635 J-440	Forest Forest	TRUE TRUE	1.00 1.00	1,484.89 1,484.95	1.28 1.28	1,485.17 1,485.23	20.00 20.00	20.00 29.47	20.00 20.00	20.03 20.01	J-1634 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5498	J-2927	Forest	TRUE	1.00	1,485.05	1.68	1,485.73	20.00	28.78	20.00	20.01	J-2919	(N/A)	17.28	J-1198
3193 6061	J-1730 J-3249	Forest Lakes	TRUE TRUE	1.00 1.00	1,485.21 1,486.06	1.08 1.63	1,485.29 1,486.69	20.00 20.00	20.03 20.00	20.00 20.00	20.27 20.62	J-1731 J-3250	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6850	J-3716	Forest	TRUE	1.00	1,486.30	1.88	1,487.18	20.00	20.01	20.00	21.02	J-2223	(N/A)	17.28	J-1198
5448 3257	J-2899 J-1770	Forest Forest	TRUE TRUE	1.00 1.00	1,486.40 1,489.32	1.48 2.68	1,486.88 1,491.00	20.00 20.00	20.03 20.12	20.00 20.00	20.76 20.06	J-1511 J-2887	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4679	J-2460	Forest	TRUE	1.00	1,490.20	1.48	1,490.68	20.00	47.04	20.00	20.00	J-3546	(N/A)	17.28	J-1198
4680 6956	J-2461 J-3778	Forest Forest	TRUE TRUE	1.00 1.00	1,490.20 1,490.27	1.48 1.68	1,490.68 1,490.95	20.00 20.00	46.53 24.99	20.00 20.00	20.00 20.02	J-3546 J-2113	(N/A) (N/A)	17.28 15.57	J-1198 J-1198
3408	J-1854	Forest	TRUE	1.00	1,490.63	1.28	1,490.91	20.00	25.86	20.00	20.00	J-2113	(N/A)	15.57	J-1198
2698 773	J-1455 J-441	Forest Forest	TRUE TRUE	1.00 1.00	1,491.55 1,491.66	1.48 2.88	1,492.03 1,493.54	20.00 20.00	21.47 31.63	20.00 20.00	20.00 20.01	J-1454 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1670	J-840	Stewartsville	TRUE	1.00	1,491.79	1.26	1,492.05	20.00	25.32	20.00	20.05	J-2326	(N/A)	17.28	J-1198
6977 6161	J-3790 J-3309	Forest Forest	TRUE TRUE	1.00 1.00	1,491.97 1,491.98	2.28 1.88	1,493.25 1,492.86	20.00 20.00	21.33 33.92	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6160	J-3308	Forest	TRUE	1.00	1,491.99	2.28	1,493.27	20.00	34.44	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3450 5460	J-1878 J-2906	Forest Forest	TRUE TRUE	1.00 1.00	1,492.00 1,492.00	1.48 2.48	1,492.48 1,493.48	20.00 20.00	28.65 25.31	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6976	J-3789	Forest	TRUE	1.00	1,492.00	1.88	1,492.88	20.00	22.58	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3451 7886	J-1879 J-4139	Forest Forest	TRUE TRUE	1.00 1.00	1,492.00 1,492.00	1.48 2.28	1,492.48 1,493.28	20.00 20.00	25.91 20.59	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7448	J-4008	Forest	TRUE	1.00	1,492.01	2.68	1,493.69	20.00	36.13	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7911 6239	J-4144 J-3356	Forest Forest	TRUE TRUE	1.00 1.00	1,492.01 1,492.01	1.88 1.48	1,492.89 1,492.49	20.00 20.00	26.60 36.66	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6240	J-3357	Forest	TRUE	1.00	1,492.01	1.48	1,492.49	20.00	35.79	20.00	20.00	J-2919	(N/A)	17.28	J-1198
2791 3819	J-1511 J-2078	Forest Stewartsville	TRUE TRUE	1.00 1.00	1,492.14 1,492.17	1.08 2.41	1,492.22 1,493.58	20.00 20.00	20.27 32.79	20.00 20.00	20.04 20.00	J-2899 J-2326	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3387	J-1842	Forest	TRUE	1.00	1,492.63	1.08	1,492.71	20.00	38.76	20.00	20.00	J-2919	(N/A)	17.28	J-1198
954 5295	J-526 J-2810	Forest Forest	TRUE TRUE	1.00 1.00	1,492.82 1,492.82	1.28 1.48	1,493.10 1,493.30	20.00 20.00	42.26 41.49	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3053	J-1644	Forest	TRUE	1.00	1,492.82	1.28	1,493.10	20.00	41.92	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1658	J-833	Forest	TRUE	1.00	1,492.94	1.88	1,493.82	20.00	20.92	20.00	20.00	J-832	(N/A)	17.28	J-1198

			Fire Flow	Desired	Available	Total Flow	Total Flow	Desired Residual	Calculated Residual	Desired Minimum Zone	Calculated Minimum Zone	Minimum Zone	Desired Minimum System	Calculated Minimum System	Minimum System
Node ID	Node Label	Pressure Zone	Constraints Satisfied	Fire Flow (gpm)	Fire Flow (gpm)	Desired (gpm)	Available (gpm)	Pressure (psi)	Pressure (psi)	Pressure (psi)	Pressure (psi)	Pressure Node	Pressure (psi)	Pressure (psi)	Pressure Node
4470	J-2340	Forest	TRUE	1.00	1,493.79	1.48	1,494.27	20.00	21.11	20.00	20.00	J-1454	(N/A)	17.28	J-1198
4471 6347	J-2341 J-3420	Forest Forest	TRUE TRUE	1.00 1.00	1,493.79 1,494.16	2.28 1.68	1,495.08 1,494.84	20.00 20.00	21.22 20.00	20.00 20.00	20.00 20.55	J-1454 J-899	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1911	J-996	Forest	TRUE	1.00	1,494.85	2.08	1,495.93	20.00	20.03	20.00	20.00	J-3042	(N/A)	17.13	J-1198
4157 5437	J-2232 J-2893	Stewartsville Stewartsville	TRUE TRUE	1.00 1.00	1,495.21 1,495.21	1.69 1.40	1,495.90 1,495.61	20.00 20.00	30.75 29.77	20.00 20.00	20.00 20.00	J-1022 J-1022	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4136	J-2223	Forest	TRUE	1.00	1,497.31	2.48	1,498.79	20.00	20.14	20.00	20.05	J-3716	(N/A)	17.28	J-1198
7188 6483	J-3904 J-3499	Forest Forest	TRUE TRUE	1.00 1.00	1,498.47 1,498.58	1.08 1.08	1,498.55 1,498.66	20.00 20.00	20.01 44.70	20.00 20.00	20.62 20.00	J-2910 J-3090	(N/A) (N/A)	17.05 17.05	J-1198 J-1198
6484	J-3500	Forest	TRUE	1.00	1,498.58	1.08	1,498.66	20.00	44.91	20.00	20.00	J-3090	(N/A)	17.05	J-1198
1758 6062	J-898 J-3250	Forest Lakes	TRUE TRUE	1.00 1.00	1,499.02 1,499.76	2.28 1.20	1,500.30 1,499.96	20.00 20.00	20.61 20.00	20.00 20.00	20.05 20.00	J-899 J-3249	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5465	J-2909	Forest	TRUE	1.00	1,500.17	1.68	1,500.85	20.00	20.17	20.00	20.04	J-3904	(N/A)	17.05	J-1198
4255 5538	J-2265 J-2950	Forest Forest	TRUE TRUE	1.00 1.00	1,500.17 1,500.18	2.48 1.48	1,501.65 1,500.65	20.00 20.00	20.02 20.00	20.00 20.00	24.36 20.79	J-1197 J-1414	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5466	J-2910	Forest	TRUE	1.00	1,500.22	1.68	1,500.90	20.00	20.51	20.00	20.04	J-3904	(N/A)	17.05	J-1198
2362 6220	J-1266 J-3344	Forest Forest	TRUE TRUE	1.00 1.00	1,500.46 1,501.36	1.48 1.48	1,500.93 1,501.83	20.00 20.00	27.35 20.00	20.00 20.00	20.00 20.62	J-1267 J-1398	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4319	J-2286	Lakes	TRUE	1.00	1,502.85	1.20	1,503.05	20.00	20.00	20.00	20.21	J-3250	(N/A)	17.28	J-1198
1292 6591	J-671 J-3563	Forest Forest	TRUE TRUE	1.00 1.00	1,503.06 1,503.08	1.08 1.08	1,503.13 1,503.16	20.00 20.00	76.64 76.03	20.00 20.00	20.03 20.03	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2935	J-1587	Lakes	TRUE	1.00	1,503.52	1.20	1,503.72	20.00	20.00	20.00	25.51	J-1304	(N/A)	17.28	J-1198
6321 2601	J-3404 J-1398	Forest Forest	TRUE TRUE	1.00 1.00	1,504.63 1,505.70	1.88 1.68	1,505.51 1,506.38	20.00 20.00	20.00 20.00	20.00 20.00	20.42 20.08	J-3405 J-3344	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3721	J-2030	Forest	TRUE	1.00	1,505.73	1.88	1,506.61	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
3758 6019	J-2049 J-3223	Forest Forest	TRUE TRUE	1.00 1.00	1,505.96 1,507.06	1.28 1.08	1,506.24 1,507.14	20.00 20.00	20.04 51.48	20.00 20.00	24.36 20.00	J-1197 J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6020	J-3224	Forest	TRUE	1.00	1,507.06	1.08	1,507.14	20.00	51.13	20.00	20.00	J-3200	(N/A)	17.28	J-1198
1864 2629	J-966 J-1414	Forest Forest	TRUE TRUE	1.00 1.00	1,507.57	2.48 1.48	1,509.05	20.00 20.00	20.93 20.31	20.00 20.00	20.00 20.02	J-967 J-2950	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1289	J-669	Lakes	TRUE	1.00	1,507.70 1,508.42	1.20	1,508.18 1,508.62	20.00	45.05	20.00	20.02	J-2323	(N/A)	17.28	J-1198
5915	J-3165	Lakes	TRUE	1.00	1,508.47	1.20	1,508.67	20.00 20.00	44.49	20.00	20.05	J-2323	(N/A) (N/A)	17.28	J-1198
518 729	J-293 J-419	Forest Forest	TRUE TRUE	1.00 1.00	1,509.39 1,510.32	1.48 2.28	1,509.87 1,511.60	20.00	42.44 40.45	20.00 20.00	20.00 20.00	J-2919 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6753	J-3659	Forest	TRUE	1.00	1,510.32	1.48	1,510.80	20.00	39.75	20.00	20.00	J-941	(N/A)	17.28	J-1198
5549 5548	J-2956 J-2955	Forest Forest	TRUE TRUE	1.00 1.00	1,511.22 1,511.22	1.48 1.68	1,511.70 1,511.90	20.00 20.00	27.91 28.53	20.00 20.00	20.00 20.00	J-3204 J-3204	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7160	J-3893	Forest	TRUE	1.00	1,511.91	1.08	1,511.98	20.00	30.86	20.00	20.00	J-1512	(N/A)	17.28	J-1198
3527 6526	J-1923 J-3524	Forest Forest	TRUE TRUE	1.00 1.00	1,511.91 1,511.91	1.28 2.48	1,512.19 1,513.39	20.00 20.00	30.63 30.18	20.00 20.00	20.00 20.00	J-1512 J-1512	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3528	J-1924	Forest	TRUE	1.00	1,511.93	1.48	1,512.41	20.00	26.86	20.00	20.00	J-1512	(N/A)	17.28	J-1198
2793 6982	J-1512 J-3793	Forest Forest	TRUE TRUE	1.00 1.00	1,511.95 1,512.08	2.08 1.08	1,513.03 1,512.16	20.00 20.00	20.00 42.07	20.00 20.00	20.07 20.00	J-3405 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
517	J-292	Forest	TRUE	1.00	1,512.08	1.08	1,512.16	20.00	43.03	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6322 2892	J-3405 J-1567	Forest Forest	TRUE TRUE	1.00 1.00	1,513.51 1,515.83	1.08 5.28	1,513.58 1,520.11	20.00 20.00	20.00 20.92	20.00 20.00	20.08 20.07	J-1512 J-2758	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5907	J-3161	Forest	TRUE	1.00	1,517.63	3.49	1,520.12	20.00	20.01	20.00	20.57	J-2032	(N/A)	17.28	J-1198
4784 5446	J-2518 J-2898	Forest Forest	TRUE TRUE	1.00 1.00	1,518.24 1,518.74	1.88 1.28	1,519.12 1,519.02	20.00 20.00	20.00 20.11	20.00 20.00	20.39 20.06	J-2099 J-887	(N/A) (N/A)	17.04 17.28	J-1198 J-1198
2260	J-1208	Forest	TRUE	1.00	1,519.45	2.08	1,520.53	20.00	20.68	20.00	20.00	J-887	(N/A)	17.28	J-1198
5741 7505	J-3068 J-4029	Forest Forest	TRUE TRUE	1.00 1.00	1,521.53 1,523.55	1.48 5.32	1,522.01 1,527.87	20.00 20.00	20.00 48.00	20.00 20.00	21.26 20.00	J-2225 J-2919	(N/A) (N/A)	17.04 17.28	J-1198 J-1198
808	J-458	Forest	TRUE	1.00	1,523.55	1.08	1,523.63	20.00	48.68	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4139 2732	J-2225 J-1475	Forest Forest	TRUE TRUE	1.00 1.00	1,524.96 1,525.48	1.28 1.68	1,525.23 1,526.16	20.00 20.00	20.78 32.91	20.00 20.00	20.10 20.01	J-3068 J-2919	(N/A) (N/A)	17.04 17.28	J-1198 J-1198
5641	J-3009	Forest	TRUE	1.00	1,525.52	1.48	1,526.00	20.00	32.47	20.00	20.01	J-2919	(N/A)	17.28	J-1198
3725 1347	J-2032 J-686	Forest Forest	TRUE TRUE	1.00 1.00	1,525.57 1,525.74	1.08 3.49	1,525.64 1,528.23	20.00 20.00	20.00 37.58	20.00 20.00	20.02 20.00	J-3161 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
634	J-364	Forest	TRUE	1.00	1,525.75	1.88	1,526.63	20.00	38.94	20.00	20.00	J-941	(N/A)	17.28	J-1198
3863 389	J-2099 J-212	Forest Forest	TRUE TRUE	1.00 1.00	1,527.05 1,528.92	1.68 1.08	1,527.73 1,529.00	20.00 20.00	20.01 52.22	20.00 20.00	20.00 20.00	J-2518 J-3200	(N/A) (N/A)	17.04 17.28	J-1198 J-1198
390	J-213	Forest	TRUE	1.00	1,528.92	1.08	1,529.00	20.00	52.55	20.00	20.00	J-3200	(N/A)	17.28	J-1198
3702 7010	J-2020 J-3810	Forest Forest	TRUE TRUE	1.00 1.00	1,530.91 1,534.57	1.48 1.68	1,531.39 1,535.25	20.00 20.00	20.00 20.00	20.00 20.00	24.36 20.30	J-1197 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
753	J-431	Forest	TRUE	1.00	1,534.98	1.08	1,535.06	20.00	51.08	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5082 7476	J-2690 J-4020	Forest Stewartsville	TRUE TRUE	1.00 1.00	1,534.98 1,536.02	1.48 4.28	1,535.46 1,539.30	20.00 20.00	50.68 20.00	20.00 20.00	20.00 21.42	J-2919 J-2374	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3401	J-1850	Forest	TRUE	1.00	1,536.55	1.48	1,537.03	20.00	57.03	20.00	20.00	J-1197	(N/A)	12.92	J-1198
2292 5496	J-1227 J-2926	Forest Forest	TRUE TRUE	1.00 1.00	1,536.56 1,536.56	1.28 1.28	1,536.84 1,536.84	20.00 20.00	53.10 52.38	20.00 20.00	20.00 20.00	J-1197 J-1197	(N/A) (N/A)	12.92 12.92	J-1198 J-1198
383	J-208	Forest	TRUE	1.00	1,536.95	1.08	1,537.03	20.00	38.39	20.00	20.00	J-941	(N/A)	17.28	J-1198
8064 7724	J-4164 J-4099	Forest Forest	TRUE TRUE	1.00 1.00	1,537.04 1,537.06	2.28 2.28	1,538.32 1,538.34	20.00 20.00	25.82 23.08	20.00 20.00	20.00 20.00	J-3008 J-3008	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3436	J-1870	Forest	TRUE	1.00	1,537.43	2.88	1,539.31	20.00	20.02	20.00	20.40	J-1635	(N/A)	17.28	J-1198
2795 384	J-1513 J-209	Forest Forest	TRUE TRUE	1.00 1.00	1,537.66 1,537.94	1.08 1.08	1,537.74 1,538.02	20.00 20.00	20.00 38.23	20.00 20.00	20.62 20.00	J-1714 J-941	(N/A) (N/A)	17.04 17.28	J-1198 J-1198
1401	J-698	Forest	TRUE	1.00	1,537.95	1.28	1,538.22	20.00	37.67	20.00	20.00	J-941	(N/A)	17.28	J-1198
1257 6271	J-653 J-3375	Lakes Lakes	TRUE TRUE	1.00 1.00	1,538.04 1,538.14	1.20 1.20	1,538.24 1,538.34	20.00 20.00	44.80 43.63	20.00 20.00	20.06 20.05	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2346	J-1258	Forest	TRUE	1.00	1,538.30	1.08	1,538.37	20.00	38.09	20.00	20.00	J-941	(N/A)	17.28	J-1198
6469 6719	J-3491 J-3639	Forest Forest	TRUE TRUE	1.00 1.00	1,538.78 1,539.97	1.28 1.08	1,539.06 1,540.05	20.00 20.00	20.00 20.00	20.00 20.00	20.23 20.29	J-941 J-1714	(N/A) (N/A)	17.28 17.04	J-1198 J-1198
7088	J-3853	Forest	TRUE	1.00	1,540.67	1.28	1,540.94	20.00	30.40	20.00	20.01	J-941	(N/A)	17.28	J-1198
1452 3166	J-728 J-1714	Forest Forest	TRUE TRUE	1.00 1.00	1,541.00 1,541.97	1.08 1.28	1,541.08 1,542.25	20.00 20.00	37.63 20.00	20.00 20.00	20.00 20.09	J-941 J-1513	(N/A) (N/A)	17.28 17.04	J-1198 J-1198
4529	J-2374	Stewartsville	TRUE	1.00	1,542.69	1.11	1,542.81	20.00	20.40	20.00	20.08	J-4020	(N/A)	17.28	J-1198
4530 490	J-2375 J-275	Stewartsville Forest	TRUE TRUE	1.00 1.00	1,542.72 1,544.31	1.11 1.08	1,542.84 1,544.39	20.00 20.00	20.69 51.83	20.00 20.00	20.08 20.00	J-4020 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4492	J-2353	Forest	TRUE	1.00	1,544.32	1.28	1,544.59	20.00	31.15	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3966 5743	J-2148 J-3069	Forest Forest	TRUE TRUE	1.00 1.00	1,544.32 1,545.08	1.08 1.08	1,544.39 1,545.15	20.00 20.00	31.32 20.00	20.00 20.00	20.00 20.65	J-2919 J-1982	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
489	J-274	Forest	TRUE	1.00	1,546.82	1.48	1,547.30	20.00	51.94	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5369 2568	J-2854 J-1379	Forest Forest	TRUE TRUE	1.00 1.00	1,547.58 1,547.58	1.08 1.08	1,547.66 1,547.66	20.00 20.00	21.29 21.55	20.00 20.00	20.00 20.00	J-1378 J-1378	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1482	J-743	Forest	TRUE	1.00	1,549.11	1.28	1,549.39	20.00	27.66	20.00	20.01	J-941	(N/A)	17.28	J-1198
5494 4424	J-2925 J-2321	Forest Forest	TRUE TRUE	1.00 1.00	1,549.21 1,550.45	1.28 1.88	1,549.48 1,551.33	20.00 20.00	27.13 20.11	20.00 20.00	20.01 20.00	J-941 J-3204	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
. 14-7	5 2021	, ordat	. NOL	1.00	.,550.45	1.00	.,501.00	20.00	20.11	20.00	20.00	5 0204	(14/1)	11.20	0 1130

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
4738	J-2493	Forest	TRUE	1.00	1,550.53	1.88	1,551.41	20.00	20.00	20.00	20.35	J-638	(N/A)	17.28	J-1198
3424	J-1863	Forest	TRUE	1.00	1,550.61	1.28	1,550.88	20.00	27.80	20.00	20.00	J-2113	(N/A)	15.44	J-1198
6791 3634	J-3682 J-1982	Lakes Forest	TRUE TRUE	1.00 1.00	1,550.71 1,550.94	1.20 2.88	1,550.91 1,552.82	20.00 20.00	20.28 20.12	20.00 20.00	20.01 20.07	J-1586 J-3069	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6790	J-3681	Lakes	TRUE	1.00	1,551.21	1.20	1,551.41	20.00	20.12	20.00	20.00	J-1586	(N/A)	17.28	J-1198
7009	J-3809	Forest	TRUE	1.00	1,553.71	1.68	1,554.39	20.00	20.42	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5234 3119	J-2775 J-1686	Forest Forest	TRUE TRUE	1.00 1.00	1,554.36 1,554.73	1.28 1.08	1,554.64 1,554.81	20.00 20.00	20.53 21.41	20.00 20.00	20.03 20.00	J-3722 J-3722	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3120	J-1687	Forest	TRUE	1.00	1,554.73	1.08	1,554.81	20.00	21.00	20.00	20.00	J-3722	(N/A)	17.28	J-1198
962 6945	J-529 J-3772	Forest Forest	TRUE TRUE	1.00 1.00	1,555.29 1,555.68	1.28 1.08	1,555.57 1,555.76	20.00 20.00	50.80 22.34	20.00 20.00	20.00 20.00	J-3200 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3434	J-1869	Forest	TRUE	1.00	1,555.76	1.48	1,556.24	20.00	23.29	20.00	20.00	J-941	(N/A)	17.28	J-1198
2748	J-1485	Forest	TRUE	1.00	1,556.05	1.28	1,556.33	20.00	20.22	20.00	20.00	J-941	(N/A)	17.28	J-1198
6946 1483	J-3773 J-744	Forest Forest	TRUE TRUE	1.00 1.00	1,556.05 1,556.06	1.08 1.48	1,556.13 1,556.54	20.00 20.00	23.84 24.53	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1303	J-675	Forest	TRUE	1.00	1,557.20	2.48	1,558.68	20.00	39.74	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7056 2765	J-3835 J-1495	Forest Forest	TRUE TRUE	1.00 1.00	1,557.20 1,557.21	2.28 2.28	1,558.48 1,558.49	20.00 20.00	27.11 29.83	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4800	J-2527	Forest	TRUE	1.00	1,559.25	1.08	1,559.33	20.00	20.00	20.00	20.19	J-2127	(N/A)	17.28	J-1198
2487 6319	J-1334 J-3403	Forest Forest	TRUE TRUE	1.00 1.00	1,559.72 1,559.72	1.08 1.28	1,559.79 1,560.00	20.00 20.00	29.90 29.30	20.00 20.00	20.00 20.00	J-1446 J-1446	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1850	J-957	Forest	TRUE	1.00	1,562.05	1.88	1,562.93	20.00	20.15	20.00	20.05	J-956	(N/A)	17.28	J-1198
5803	J-3104 J-3103	Forest	TRUE TRUE	1.00 1.00	1,562.17	1.68	1,562.85	20.00	48.12	20.00 20.00	20.00 20.00	J-3200 J-3200	(N/A) (N/A)	17.28 17.28	J-1198
5802 2737	J-3103 J-1478	Forest Forest	TRUE	1.00	1,562.17 1,562.43	1.48 4.09	1,562.65 1,565.52	20.00 20.00	48.74 20.02	20.00	21.43	J-3200 J-941	(N/A) (N/A)	17.28	J-1198 J-1198
921	J-511	Forest	TRUE	1.00	1,562.87	1.08	1,562.95	20.00	25.10	20.00	20.01	J-2493	(N/A)	17.28	J-1198
5444 1221	J-2897 J-638	Forest Forest	TRUE TRUE	1.00 1.00	1,562.92 1,563.02	1.48 1.28	1,563.40 1,563.29	20.00 20.00	24.67 20.01	20.00 20.00	20.00 20.00	J-2493 J-2493	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
930	J-514	Forest	TRUE	1.00	1,563.07	1.08	1,563.15	20.00	21.95	20.00	20.00	J-2493	(N/A)	17.28	J-1198
5037 5267	J-2664 J-2794	Forest Forest	TRUE TRUE	1.00 1.00	1,563.09 1,563.11	1.68 2.08	1,563.77 1,564.19	20.00 20.00	21.54 27.76	20.00 20.00	20.00 20.00	J-2493 J-2493	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
400	J-219	Forest	TRUE	1.00	1,563.11	1.88	1,563.99	20.00	28.54	20.00	20.00	J-2493	(N/A)	17.28	J-1198
401 3919	J-220 J-2127	Forest Forest	TRUE TRUE	1.00 1.00	1,563.11 1,563.20	1.48 2.88	1,563.59 1,565.08	20.00 20.00	28.31 20.00	20.00 20.00	20.00 20.21	J-2493 J-2527	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1498	J-749	Forest	TRUE	1.00	1,564.83	1.28	1,565.11	20.00	33.73	20.00	20.01	J-941	(N/A)	17.28	J-1198
6109 4633	J-3278 J-2435	Forest Forest	TRUE TRUE	1.00 1.00	1,564.89 1,567.48	1.08 1.48	1,564.96 1,567.96	20.00 20.00	33.35 22.65	20.00 20.00	20.01 20.00	J-941 J-4167	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4634	J-2436	Forest	TRUE	1.00	1,567.48	1.68	1,568.16	20.00	22.62	20.00	20.00	J-4167 J-4167	(N/A)	17.28	J-1198
7426	J-4002	Forest	TRUE	1.00	1,567.48	2.68	1,569.16	20.00	22.54	20.00	20.00	J-4167	(N/A)	17.28	J-1198
594 6265	J-340 J-3372	Lakes Lakes	TRUE TRUE	1.00 1.00	1,567.51 1,567.54	1.20 1.20	1,567.70 1,567.74	20.00 20.00	50.16 48.63	20.00 20.00	20.04 20.04	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
356	J-191	Lakes	TRUE	1.00	1,571.07	1.20	1,571.27	20.00	48.88	20.00	20.04	J-2323	(N/A)	17.28	J-1198
355 2802	J-190 J-1517	Lakes Forest	TRUE TRUE	1.00 1.00	1,571.08 1,571.58	1.20 2.88	1,571.28 1,573.47	20.00 20.00	48.73 24.27	20.00 20.00	20.04 20.05	J-2323 J-1516	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1468	J-736	Forest	TRUE	1.00	1,573.00	1.28	1,573.27	20.00	37.58	20.00	20.00	J-941	(N/A)	17.28	J-1198
5269 3779	J-2795 J-2059	Forest Forest	TRUE TRUE	1.00 1.00	1,573.00 1,575.00	1.48 5.50	1,573.48 1,579.49	20.00 20.00	37.24 20.00	20.00 20.00	20.00 24.36	J-941 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3633	J-1981	Forest	TRUE	1.00	1,575.84	1.88	1,576.72	20.00	26.63	20.00	20.00	J-2108	(N/A)	17.28	J-1198
1445 5145	J-724 J-2724	Forest Forest	TRUE TRUE	1.00 1.00	1,577.98 1,579.85	1.28 1.08	1,578.26 1,579.93	20.00 20.00	39.74 41.03	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1446	J-725	Forest	TRUE	1.00	1,580.07	1.08	1,580.15	20.00	41.70	20.00	20.00	J-941	(N/A)	17.28	J-1198
7946 6122	J-4148 J-3286	Forest Forest	TRUE TRUE	1.00 1.00	1,580.27 1,580.53	1.48 1.88	1,580.75 1,581.41	20.00 20.00	32.03 37.83	20.00 20.00	20.00 20.01	J-3204 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6121	J-3285	Forest	TRUE	1.00	1,580.59	1.48	1,581.07	20.00	37.14	20.00	20.01	J-941	(N/A)	17.28	J-1198
3918 3716	J-2126 J-2027	Forest Forest	TRUE TRUE	1.00 1.00	1,581.19 1,582.87	2.68 1.88	1,582.88 1,583.75	20.00 20.00	39.33 20.02	20.00 20.00	20.01 24.35	J-941 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6589	J-3562	Forest	TRUE	1.00	1,583.57	1.08	1,583.65	20.00	53.70	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1046 4449	J-568 J-2328	Forest Stewartsville	TRUE TRUE	1.00 1.00	1,583.58 1,584.37	2.08 1.26	1,584.66 1,584.62	20.00 20.00	54.21 20.00	20.00 20.00	20.00 20.03	J-2919 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5372	J-2856	Forest	TRUE	1.00	1,584.79	1.88	1,585.68	20.00	46.67	20.00	20.00	J-941	(N/A)	17.28	J-1198
5371 1305	J-2855 J-676	Forest Stewartsville	TRUE TRUE	1.00 1.00	1,584.80 1,585.11	1.48 1.69	1,585.28 1,585.80	20.00 20.00	46.25 20.00	20.00 20.00	20.00 20.03	J-941 J-2328	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1488	J-745	Forest	TRUE	1.00	1,585.65	1.08	1,585.72	20.00	45.50	20.00	20.00	J-941	(N/A)	17.28	J-1198
5252	J-2786	Forest Forest	TRUE TRUE	1.00 1.00	1,585.65	1.28 1.48	1,585.92 1,586.38	20.00 20.00	44.96 47.45	20.00 20.00	20.00 20.00	J-941 J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1167 5074	J-613 J-2686	Forest	TRUE	1.00	1,585.90 1,586.04	3.09	1,588.13	20.00	26.35	20.00	20.00	J-2919	(N/A)	17.28	J-1198
539 3292	J-306 J-1791	Forest Forest	TRUE TRUE	1.00 1.00	1,586.05 1,586.48	1.48 1.88	1,586.53 1,587.36	20.00 20.00	26.90 47.21	20.00 20.00	20.00 20.00	J-2919 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3293	J-1792	Forest	TRUE	1.00	1,586.49	1.08	1,586.57	20.00	45.81	20.00	20.00	J-941	(N/A)	17.28	J-1198
4078	J-2198	Forest	TRUE	1.00	1,586.51	1.28	1,586.79	20.00	43.87	20.00	20.00	J-2240	(N/A)	17.28	J-1198
5813 3790	J-3109 J-2064	Forest Forest	TRUE TRUE	1.00 1.00	1,586.51 1,586.77	1.48 1.68	1,586.99 1,587.45	20.00 20.00	43.42 23.57	20.00 20.00	20.00 20.00	J-2240 J-1044	(N/A) (N/A)	17.28 17.02	J-1198 J-1198
7612	J-4066	Forest	TRUE	1.00	1,587.22	1.68	1,587.90	20.00	47.29	20.00	20.00	J-941	(N/A)	17.28	J-1198
540 3252	J-307 J-1767	Forest Forest	TRUE TRUE	1.00 1.00	1,587.46 1,588.79	1.88 1.68	1,588.34 1,589.47	20.00 20.00	27.17 46.48	20.00 20.00	20.01 20.01	J-2919 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4845	J-2552	Forest	TRUE	1.00	1,588.80	2.08	1,589.88	20.00	52.75	20.00	20.00	J-941	(N/A)	17.28	J-1198
4846 5300	J-2553 J-2813	Forest Forest	TRUE TRUE	1.00 1.00	1,589.01 1,589.17	2.28 2.28	1,590.30 1,590.46	20.00 20.00	53.40 47.76	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5299	J-2812	Forest	TRUE	1.00	1,589.18	1.08	1,589.26	20.00	47.17	20.00	20.00	J-941	(N/A)	17.28	J-1198
3251 1489	J-1766 J-746	Forest Forest	TRUE TRUE	1.00 1.00	1,589.23 1,590.77	1.68 51.32	1,589.91 1,641.09	20.00 20.00	47.87 48.94	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5428	J-2888	Forest	TRUE	1.00	1,590.77	1.08	1,590.85	20.00	48.60	20.00	20.00	J-941	(N/A)	17.28	J-1198
3216 3217	J-1744 J-1745	Forest Forest	TRUE TRUE	1.00 1.00	1,590.78 1,590.84	1.88 1.68	1,591.66 1,591.52	20.00 20.00	50.19 49.36	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6666	J-1745 J-3608	Forest	TRUE	1.00	1,590.84	1.28	1,591.52	20.00	20.01	20.00	20.61	J-3926	(N/A) (N/A)	17.28	J-1198 J-1198
5010	J-2648	Forest	TRUE	1.00	1,591.01	2.08	1,592.10	20.00	45.20	20.00	20.01	J-941	(N/A)	17.28	J-1198
5009 3178	J-2647 J-1721	Forest Forest	TRUE TRUE	1.00 1.00	1,591.04 1,591.04	1.28 1.08	1,591.32 1,591.12	20.00 20.00	44.77 45.13	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7533	J-4041	Forest	TRUE	1.00	1,591.05	1.08	1,591.12	20.00	44.80	20.00	20.01	J-941	(N/A)	17.28	J-1198
3177 6614	J-1720 J-3577	Forest Forest	TRUE TRUE	1.00 1.00	1,591.08 1,591.12	1.68 1.88	1,591.76 1,592.00	20.00 20.00	44.29 49.38	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3332	J-1813	Forest	TRUE	1.00	1,591.12	1.88	1,592.00	20.00	49.15	20.00	20.01	J-941	(N/A)	17.28	J-1198
6613 3333	J-3576 J-1814	Forest Forest	TRUE TRUE	1.00 1.00	1,591.15 1,591.19	1.08 1.08	1,591.22 1,591.26	20.00 20.00	48.45 47.34	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7863	J-4134	Forest	TRUE	1.00	1,591.22	1.68	1,591.90	20.00	31.14	20.00	20.00	J-941	(N/A)	17.28	J-1198
7146 4549	J-3885 J-2386	Forest Forest	TRUE TRUE	1.00 1.00	1,591.27 1,591.27	2.08 1.48	1,592.35 1,591.75	20.00 20.00	29.48 29.51	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
4548	J-2385	Forest	TRUE	1.00	1,591.28	1.28	1,591.56	20.00	29.42	20.00	20.00	J-941	(N/A)	17.28	J-1198
4037	J-2178	Forest	TRUE	1.00	1,591.35	1.68	1,592.03	20.00	56.29	20.00	20.00	J-941	(N/A)	17.28	J-1198
7821 1752	J-4126 J-894	Forest Forest	TRUE TRUE	1.00 1.00	1,591.46 1,591.53	1.48 1.88	1,591.94 1,592.41	20.00 20.00	25.54 21.12	20.00 20.00	20.00 20.00	J-941 J-895	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4667	J-2453	Forest	TRUE	1.00	1,591.55	3.09	1,593.64	20.00	31.87	20.00	20.00	J-941	(N/A)	17.28	J-1198
8015	J-4158	Forest	TRUE	1.00	1,591.55	2.88	1,593.44	20.00	58.47	20.00	20.00	J-941	(N/A)	17.28	J-1198
4668 4581	J-2454 J-2405	Forest Forest	TRUE TRUE	1.00 1.00	1,591.56 1,591.56	1.88 2.08	1,592.44 1,592.64	20.00 20.00	31.52 33.10	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4582	J-2406	Forest	TRUE	1.00	1,591.56	2.28	1,592.84	20.00	32.86	20.00	20.00	J-941	(N/A)	17.28	J-1198
5160 3848	J-2733 J-2093	Forest Forest	TRUE TRUE	1.00 1.00	1,591.56 1,591.56	1.48 2.68	1,592.04 1,593.25	20.00 20.00	34.40 34.88	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4299	J-2093 J-2282	Forest	TRUE	1.00	1,591.50	3.49	1,593.25	20.00	41.21	20.00	20.00	J-941 J-941	(N/A)	17.28	J-1198
5310	J-2819	Forest	TRUE	1.00	1,591.57	1.68	1,592.25	20.00	40.92	20.00	20.00	J-941	(N/A)	17.28	J-1198
4038 5265	J-2179 J-2793	Forest Forest	TRUE TRUE	1.00 1.00	1,591.57 1,591.57	3.09 1.08	1,593.66 1,591.65	20.00 20.00	40.48 40.37	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4918	J-2594	Forest	TRUE	1.00	1,591.58	3.09	1,593.67	20.00	65.60	20.00	20.00	J-941	(N/A)	17.28	J-1198
4919 6234	J-2595 J-3353	Forest Lakes	TRUE TRUE	1.00 1.00	1,591.58 1,591.88	4.29 1.20	1,594.88 1,592.08	20.00 20.00	64.87 21.88	20.00 20.00	20.00 20.04	J-941 J-3906	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6233	J-3352	Lakes	TRUE	1.00	1,592.22	1.20	1,592.42	20.00	22.43	20.00	20.00	J-3906	(N/A)	17.28	J-1198
2519 5043	J-1351 J-2668	Forest Forest	TRUE TRUE	1.00 1.00	1,593.01 1,593.29	1.08 2.08	1,593.09 1,594.37	20.00 20.00	36.66 58.32	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5043	J-2667	Forest	TRUE	1.00	1,593.29	2.88	1,595.17	20.00	58.72	20.00	20.00	J-941	(N/A)	17.28	J-1198
1264 6934	J-656	Forest	TRUE TRUE	1.00 1.00	1,593.96	1.88	1,594.84	20.00 20.00	63.30	20.00 20.00	20.00 20.01	J-941 J-941	(N/A)	17.28 17.28	J-1198
6935	J-3766 J-3767	Forest Forest	TRUE	1.00	1,594.23 1,594.58	1.48 1.08	1,594.70 1,594.65	20.00	35.35 36.81	20.00	20.01	J-941 J-941	(N/A) (N/A)	17.28	J-1198 J-1198
8203	J-4170	Forest	TRUE	1.00	1,594.64	3.29	1,596.93	20.00	56.84	20.00	20.01	J-941	(N/A)	17.28	J-1198
4541 4540	J-2381 J-2380	Forest Forest	TRUE TRUE	1.00 1.00	1,594.77 1,594.77	1.28 3.69	1,595.05 1,597.46	20.00 20.00	80.40 80.56	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4506	J-2361	Forest	TRUE	1.00	1,595.18	4.09	1,598.27	20.00	77.54	20.00	20.00	J-941	(N/A)	17.28	J-1198
1177 4505	J-617 J-2360	Forest Forest	TRUE TRUE	1.00 1.00	1,595.18 1,595.18	1.28 2.68	1,595.46 1,596.86	20.00 20.00	80.81 77.14	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3537	J-1928	Forest	TRUE	1.00	1,596.60	1.28	1,596.88	20.00	50.53	20.00	20.00	J-941	(N/A)	17.28	J-1198
4623 1495	J-2429 J-748	Forest Forest	TRUE TRUE	1.00 1.00	1,596.61 1,596.82	1.08 1.08	1,596.68 1,596.90	20.00 20.00	49.99 54.04	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2481	J-1331	Forest	TRUE	1.00	1,598.13	2.08	1,599.21	20.00	43.56	20.00	20.01	J-941	(N/A)	17.28	J-1198
2500 2458	J-1341 J-1318	Forest Forest	TRUE TRUE	1.00 1.00	1,598.31 1,598.36	2.68 2.08	1,599.99 1,599.44	20.00 20.00	46.19 48.25	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2457	J-1317	Forest	TRUE	1.00	1,598.62	2.08	1,599.70	20.00	55.08	20.00	20.00	J-941	(N/A)	17.28	J-1198
7517 2461	J-4034	Forest	TRUE	1.00	1,598.63	1.08	1,598.70	20.00	52.61	20.00	20.00	J-941	(N/A) (N/A)	17.28	J-1198
5412	J-1320 J-2879	Forest Forest	TRUE TRUE	1.00 1.00	1,598.63 1,598.78	1.88 1.28	1,599.51 1,599.06	20.00 20.00	60.74 75.55	20.00 20.00	20.00 20.00	J-941 J-941	(N/A)	17.28 17.28	J-1198 J-1198
325	J-171	Forest	TRUE	1.00	1,598.78	1.08	1,598.86	20.00	76.79	20.00	20.00	J-941	(N/A)	17.28	J-1198
7225 7190	J-3923 J-3905	Forest Forest	TRUE TRUE	1.00 1.00	1,598.84 1,598.84	1.08 1.08	1,598.91 1,598.91	20.00 20.00	68.39 61.43	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4723	J-2484	Forest	TRUE	1.00	1,598.84	1.08	1,598.91	20.00	61.69	20.00	20.00	J-941	(N/A)	17.28	J-1198
2460 4722	J-1319 J-2483	Forest Forest	TRUE TRUE	1.00 1.00	1,598.84 1,598.84	1.68 1.08	1,599.52 1,598.92	20.00 20.00	67.85 61.11	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
324	J-170	Forest	TRUE	1.00	1,598.84	1.08	1,598.92	20.00	76.97	20.00	20.00	J-941	(N/A)	17.28	J-1198
7232 941	J-3926 J-519	Forest Forest	TRUE TRUE	1.00 1.00	1,598.94 1,600.12	1.28 1.08	1,599.22 1,600.20	20.00 20.00	20.02 30.91	20.00 20.00	20.53 20.01	J-3608 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
948	J-523	Forest	TRUE	1.00	1,600.14	1.08	1,600.22	20.00	31.66	20.00	20.01	J-2919	(N/A)	17.28	J-1198
5824 1840	J-3115 J-950	Forest Forest	TRUE TRUE	1.00 1.00	1,600.29 1,600.66	1.88 1.48	1,601.17 1,601.14	20.00 20.00	30.47 20.06	20.00 20.00	20.01 21.49	J-2919 J-951	(N/A) (N/A)	17.28 17.02	J-1198 J-1198
6197	J-3330	Forest	TRUE	1.00	1,600.72	1.28	1,601.00	20.00	20.00	20.00	21.00	J-937	(N/A)	17.28	J-1198
6490 1222	J-3503 J-639	Forest Forest	TRUE TRUE	1.00 1.00	1,600.76 1,600.76	1.48 1.68	1,601.24 1,601.44	20.00 20.00	29.27 29.97	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1245	J-650	Lakes	TRUE	1.00	1,601.40	1.20	1,601.60	20.00	49.36	20.00	20.04	J-2323	(N/A)	17.28	J-1198
5331 4670	J-2832 J-2455	Lakes Forest	TRUE TRUE	1.00 1.00	1,601.42 1,602.11	1.20 1.08	1,601.62 1,602.19	20.00 20.00	48.96 55.58	20.00 20.00	20.04 20.00	J-2323 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1425	J-712	Forest	TRUE	1.00	1,602.11	1.88	1,603.00	20.00	56.04	20.00	20.00	J-941	(N/A)	17.28	J-1198
2490 1026	J-1336 J-558	Forest Forest	TRUE TRUE	1.00 1.00	1,602.63 1,602.91	4.88 1.08	1,606.51 1,602.99	20.00 20.00	39.52 56.25	20.00 20.00	20.01 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1408	J-702	Forest	TRUE	1.00	1,603.22	1.68	1,603.90	20.00	56.32	20.00	20.00	J-941	(N/A)	17.28	J-1198
6665 1041	J-3607 J-565	Forest Forest	TRUE TRUE	1.00 1.00	1,603.52 1,605.67	1.08 1.08	1,603.60 1,605.74	20.00 20.00	20.44 35.47	20.00 20.00	20.00 20.00	J-3926 J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6698	J-3627	Forest	TRUE	1.00	1,605.67	1.08	1,605.75	20.00	34.99	20.00	20.00	J-3200	(N/A)	17.28	J-1198
3561 5665	J-1942 J-3024	Forest Forest	TRUE TRUE	1.00 1.00	1,607.62 1,608.99	1.48 1.48	1,608.10 1,609.47	20.00 20.00	20.00 20.01	20.00 20.00	22.40 20.52	J-1197 J-2193	(N/A) (N/A)	15.32 17.28	J-1198 J-1198
1480	J-742	Forest	TRUE	1.00	1,608.99	1.48	1,609.47	20.00	57.60	20.00	20.00	J-941	(N/A)	17.28	J-1198
4586	J-2408	Forest	TRUE	1.00	1,608.99	1.48	1,609.47	20.00	57.19	20.00	20.00	J-941	(N/A)	17.28	J-1198
6961 6962	J-3781 J-3782	Forest Forest	TRUE TRUE	1.00 1.00	1,610.51 1,610.52	1.08 1.08	1,610.58 1,610.59	20.00 20.00	27.35 25.54	20.00 20.00	20.00 20.00	J-2280 J-2280	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1819	J-937	Forest	TRUE	1.00	1,612.47	1.08	1,612.54	20.00	20.06	20.00	20.05	J-3330	(N/A)	17.28	J-1198
4558 6196	J-2391 J-3329	Forest Forest	TRUE TRUE	1.00 1.00	1,613.16 1,613.24	1.48 1.28	1,613.64 1,613.52	20.00 20.00	20.66 20.41	20.00 20.00	20.05 20.00	J-2121 J-3330	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3742	J-2042	Forest	TRUE	1.00	1,613.62	1.48	1,614.09	20.00	21.01	20.00	20.00	J-2121	(N/A)	17.28	J-1198
4068 561	J-2193 J-320	Forest Forest	TRUE TRUE	1.00 1.00	1,614.86 1,615.07	1.08 1.08	1,614.94 1,615.14	20.00 20.00	20.01 56.45	20.00 20.00	20.14 20.00	J-3024 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6497	J-3507	Forest	TRUE	1.00	1,615.07	1.08	1,615.14	20.00	55.95	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5099 1492	J-2699 J-747	Forest Forest	TRUE TRUE	1.00 1.00	1,615.59 1,615.59	1.48 1.88	1,616.07 1,616.47	20.00 20.00	54.85 55.43	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6925	J-3761	Forest	TRUE	1.00	1,615.91	1.48	1,616.38	20.00	20.00	20.00	21.45	J-941	(N/A)	17.28	J-1198
5829 5828	J-3118 J-3117	Forest Forest	TRUE TRUE	1.00 1.00	1,615.97 1,615.97	1.28 1.08	1,616.25 1,616.05	20.00 20.00	27.85 28.29	20.00 20.00	20.00 20.00	J-3204 J-3204	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4617	J-2426	Forest	TRUE	1.00	1,616.32	1.88	1,617.20	20.00	20.84	20.00	20.00	J-2046	(N/A)	17.28	J-1198
3737 3955	J-2039	Forest	TRUE	1.00	1,616.32	1.68	1,617.00	20.00	21.21	20.00	20.00	J-2046	(N/A)	17.28	J-1198
3955 1156	J-2143 J-609	Forest Forest	TRUE TRUE	1.00 1.00	1,616.84 1,617.15	1.68 1.68	1,617.52 1,617.83	20.00 20.00	20.00 35.11	20.00 20.00	24.36 20.00	J-1197 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7437	J-4006	Forest	TRUE	1.00	1,618.53	3.29	1,620.82	20.00	21.20	20.00	20.00	J-3926	(N/A)	17.28	J-1198
6669 6668	J-3610 J-3609	Forest Forest	TRUE TRUE	1.00 1.00	1,618.85 1,619.27	1.08 1.48	1,618.93 1,619.75	20.00 20.00	34.38 35.24	20.00 20.00	20.02 20.00	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
998	J-546	Forest	TRUE	1.00	1,619.48	1.68	1,620.16	20.00	21.80	20.00	20.00	J-3200	(N/A)	17.28	J-1198
284 285	J-145 J-146	Forest Forest	TRUE TRUE	1.00 1.00	1,619.53 1,619.53	1.08 1.08	1,619.60 1,619.61	20.00 20.00	56.65 56.62	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5189	J-2749	Forest	TRUE	1.00	1,622.21	1.08	1,622.29	20.00	53.26	20.00	20.00	J-941	(N/A)	17.28	J-1198
1470 163	J-737 J-80	Forest Forest	TRUE TRUE	1.00 1.00	1,622.22 1,624.03	1.28 1.08	1,622.49 1,624.11	20.00 20.00	53.66 40.66	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
2485	J-1333	Forest	TRUE	1.00	1,624.04	1.48	1,624.52	20.00	39.86	20.00	20.00	J-941	(N/A)	17.28	J-1198
5989	J-3207	Forest	TRUE	1.00	1,625.70	1.88	1,626.58	20.00	31.44	20.00	20.00	J-3204	(N/A)	17.28	J-1198
5988 6312	J-3206 J-3399	Forest Forest	TRUE TRUE	1.00 1.00	1,625.70 1,625.88	1.08 1.08	1,625.78 1,625.96	20.00 20.00	32.17 20.00	20.00 20.00	20.00 21.04	J-3204 J-2181	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1440	J-721	Forest	TRUE	1.00	1,626.99	1.08	1,627.07	20.00	56.82	20.00	20.00	J-941	(N/A)	17.28	J-1198
4880	J-2572	Forest	TRUE	1.00	1,626.99	1.08	1,627.07	20.00	57.14	20.00	20.00	J-941	(N/A)	17.28	J-1198
7376 4879	J-3983 J-2571	Forest Forest	TRUE TRUE	1.00 1.00	1,626.99 1,626.99	1.48 1.08	1,627.47 1,627.07	20.00 20.00	57.48 56.72	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2597	J-1396	Forest	TRUE	1.00	1,627.57	1.48	1,628.05	20.00	20.02	20.00	21.75	J-1395	(N/A)	17.28	J-1198
2527 1441	J-1356 J-722	Forest Forest	TRUE TRUE	1.00 1.00	1,628.32 1,628.87	1.48 1.08	1,628.80 1,628.95	20.00 20.00	20.00 55.60	20.00 20.00	21.10 20.00	J-2919 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5080	J-2689	Forest	TRUE	1.00	1,628.87	1.08	1,628.95	20.00	55.17	20.00	20.00	J-941	(N/A)	17.28	J-1198
5843	J-3126	Forest	TRUE	1.00	1,629.48	1.28	1,629.76	20.00	20.00	20.00	20.13	J-3200	(N/A)	17.28	J-1198
596 6492	J-341 J-3504	Forest Forest	TRUE TRUE	1.00 1.00	1,630.63 1,631.19	1.08 2.28	1,630.70 1,632.48	20.00 20.00	62.17 36.14	20.00 20.00	20.00 20.00	J-2919 J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6493	J-3505	Forest	TRUE	1.00	1,631.19	1.68	1,631.87	20.00	35.31	20.00	20.00	J-3200	(N/A)	17.28	J-1198
2863 602	J-1552 J-345	Forest Forest	TRUE TRUE	1.00 1.00	1,632.56 1,632.82	1.88 1.08	1,633.44 1,632.90	20.00 20.00	20.03 20.62	20.00 20.00	20.64 20.00	J-1717 J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2655	J-1430	Forest	TRUE	1.00	1,632.94	1.68	1,633.62	20.00	31.79	20.00	20.00	J-3425	(N/A)	17.28	J-1198
4042	J-2181	Forest	TRUE	1.00	1,634.10	2.48	1,635.58	20.00	20.29	20.00	20.06	J-3399	(N/A)	17.28	J-1198
262 261	J-131 J-130	Forest Forest	TRUE TRUE	1.00 1.00	1,634.52 1,634.52	1.28 1.08	1,634.80 1,634.60	20.00 20.00	61.19 61.31	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3111	J-1681	Forest	TRUE	1.00	1,635.31	1.08	1,635.38	20.00	45.71	20.00	20.01	J-941	(N/A)	17.28	J-1198
4980 3112	J-2630 J-1682	Forest Forest	TRUE TRUE	1.00 1.00	1,635.33 1,635.34	1.08 1.08	1,635.41 1,635.42	20.00 20.00	45.26 45.11	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
250	J-123	Forest	TRUE	1.00	1,635.63	1.48	1,636.10	20.00	27.16	20.00	20.01	J-3438	(N/A)	17.28	J-1198
249 5210	J-122 J-2760	Forest Forest	TRUE TRUE	1.00 1.00	1,635.75 1,635.76	1.08 1.28	1,635.82 1,636.04	20.00 20.00	27.22 26.95	20.00 20.00	20.01 20.00	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3539	J-1929	Forest	TRUE	1.00	1,635.94	1.08	1,636.01	20.00	51.68	20.00	20.00	J-941	(N/A)	17.28	J-1198
7397	J-3992	Forest	TRUE	1.00	1,635.94	10.60	1,645.53	20.00	51.10	20.00	20.00	J-941	(N/A)	17.28	J-1198
1422 3109	J-710 J-1680	Forest Forest	TRUE TRUE	1.00 1.00	1,635.94 1,635.95	1.08 1.08	1,636.01 1,636.03	20.00 20.00	52.43 33.54	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5060	J-2678	Forest	TRUE	1.00	1,635.95	1.08	1,636.03	20.00	33.34	20.00	20.00	J-941	(N/A)	17.28	J-1198
3108 5261	J-1679 J-2791	Forest Forest	TRUE TRUE	1.00 1.00	1,635.96 1,636.21	1.08 1.68	1,636.03 1,636.89	20.00 20.00	34.05 20.04	20.00 20.00	20.00 20.25	J-941 J-1717	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
928	J-513	Forest	TRUE	1.00	1,636.56	1.08	1,636.64	20.00	62.47	20.00	20.23	J-2919	(N/A)	17.28	J-1198
5404	J-2875	Forest	TRUE	1.00	1,636.78	1.28	1,637.06	20.00	50.70	20.00	20.00	J-941	(N/A)	17.28	J-1198
1423 6759	J-711 J-3662	Forest Forest	TRUE TRUE	1.00 1.00	1,636.78 1,637.02	1.08 1.48	1,636.86 1,637.49	20.00 20.00	51.14 40.02	20.00 20.00	20.00 20.02	J-941 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
601	J-344	Forest	TRUE	1.00	1,637.04	1.68	1,637.72	20.00	21.58	20.00	20.00	J-3200	(N/A)	17.28	J-1198
7350 6760	J-3976 J-3663	Forest Forest	TRUE TRUE	1.00 1.00	1,637.05 1,637.07	1.08 1.08	1,637.13 1,637.15	20.00 20.00	39.20 38.71	20.00 20.00	20.02 20.02	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7417	J-3999	Forest	TRUE	1.00	1,637.44	1.08	1,637.52	20.00	41.60	20.00	20.00	J-3438	(N/A)	17.28	J-1198
7416 7797	J-3998 J-4120	Forest Forest	TRUE TRUE	1.00 1.00	1,637.44 1,637.44	1.48 3.29	1,637.92 1,639.73	20.00 20.00	42.03 37.01	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3172	J-1717	Forest	TRUE	1.00	1,638.56	1.08	1,638.64	20.00	20.00	20.00	20.27	J-1552	(N/A)	17.28	J-1198
3791	J-2065	Forest	TRUE	1.00	1,639.77	1.48	1,640.25	20.00	21.93	20.00	20.03	J-1044	(N/A)	17.01	J-1198
5172 575	J-2740 J-329	Forest Forest	TRUE TRUE	1.00 1.00	1,639.78 1,640.89	1.48 1.08	1,640.26 1,640.96	20.00 20.00	22.03 23.55	20.00 20.00	20.03 20.00	J-1044 J-3200	(N/A) (N/A)	17.01 17.28	J-1198 J-1198
5333	J-2833	Forest	TRUE	1.00	1,640.90	1.08	1,640.98	20.00	22.98	20.00	20.00	J-3200	(N/A)	17.28	J-1198
5049 5048	J-2672 J-2671	Forest Forest	TRUE TRUE	1.00 1.00	1,640.99 1,640.99	1.08 1.68	1,641.07 1,641.67	20.00 20.00	64.86 64.97	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3683	J-2008	Forest	TRUE	1.00	1,641.75	1.68	1,642.43	20.00	20.01	20.00	22.15	J-2913	(N/A)	17.28	J-1198
576	J-330	Forest	TRUE	1.00	1,642.15	1.88	1,643.03	20.00	23.66	20.00	20.00	J-3200	(N/A)	17.28	J-1198
6842 5337	J-3712 J-2835	Forest Forest	TRUE TRUE	1.00 1.00	1,642.21 1,644.82	1.48 1.88	1,642.69 1,645.70	20.00 20.00	20.00 20.00	20.00 20.00	20.69 20.38	J-2029 J-2836	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5734	J-3064	Forest	TRUE	1.00	1,644.85	1.28	1,645.13	20.00	29.46	20.00	20.00	J-941	(N/A)	17.28	J-1198
1460 3850	J-732 J-2094	Forest Forest	TRUE TRUE	1.00 1.00	1,644.85 1,644.86	1.08 1.08	1,644.93 1,644.93	20.00 20.00	58.15 30.10	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6609	J-3574	Forest	TRUE	1.00	1,645.80	1.28	1,646.08	20.00	31.48	20.00	20.00	J-3425	(N/A)	17.28	J-1198
6608 4728	J-3573 J-2487	Forest Stewartsville	TRUE TRUE	1.00 1.00	1,645.81 1,645.83	1.08 1.11	1,645.88 1,645.95	20.00 20.00	30.23 21.92	20.00 20.00	20.00 20.06	J-3425 J-4020	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4729	J-2488	Stewartsville	TRUE	1.00	1,645.87	1.40	1,646.27	20.00	22.29	20.00	20.06	J-4020	(N/A)	17.28	J-1198
6292 6293	J-3387 J-3388	Forest Forest	TRUE TRUE	1.00 1.00	1,647.92 1,647.92	2.68 2.28	1,649.60 1,649.20	20.00 20.00	23.47 22.90	20.00 20.00	20.00 20.00	J-1167 J-1167	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6840	J-3711	Forest	TRUE	1.00	1,648.53	1.48	1,649.01	20.00	55.58	20.00	20.00	J-941	(N/A)	17.28	J-1198
7610 6839	J-4065 J-3710	Forest Forest	TRUE TRUE	1.00 1.00	1,648.54 1,648.75	8.61 1.08	1,656.14 1,648.83	20.00 20.00	53.90 57.00	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1432	J-716	Forest	TRUE	1.00	1,648.75	1.08	1,648.83	20.00	61.53	20.00	20.00	J-941 J-941	(N/A)	17.28	J-1198
6693	J-3624	Forest	TRUE	1.00	1,649.83	1.08	1,649.91	20.00	20.02	20.00	21.07	J-1867	(N/A)	17.28	J-1198
3646 1433	J-1988 J-717	Forest Forest	TRUE TRUE	1.00 1.00	1,649.94 1,650.01	1.48 1.08	1,650.42 1,650.09	20.00 20.00	64.78 61.09	20.00 20.00	20.00 20.00	J-2045 J-941	(N/A) (N/A)	14.79 17.28	J-1198 J-1198
5893	J-3153	Forest	TRUE	1.00	1,650.02	1.48	1,650.49	20.00	60.54	20.00	20.00	J-941	(N/A)	17.28	J-1198
7617 5338	J-4068 J-2836	Forest Forest	TRUE TRUE	1.00 1.00	1,650.85 1,651.57	1.48 1.48	1,651.33 1,652.04	20.00 20.00	20.11 20.00	20.00 20.00	20.04 20.22	J-2836 J-2835	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1163	J-611	Forest	TRUE	1.00	1,651.76	1.48	1,652.24	20.00	28.51	20.00	20.01	J-3200	(N/A)	17.28	J-1198
5051	J-2673	Forest	TRUE	1.00	1,651.79	1.28	1,652.07 1,652.31	20.00	28.01	20.00	20.01	J-3200	(N/A)	17.28	J-1198
4498 377	J-2356 J-204	Forest Forest	TRUE TRUE	1.00 1.00	1,652.24 1,652.24	1.08 1.28	1,652.52	20.00 20.00	62.95 63.49	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
378	J-205	Forest	TRUE	1.00	1,652.76	1.48	1,653.24	20.00	63.74	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3720 1000	J-2029 J-547	Forest Stewartsville	TRUE TRUE	1.00 1.00	1,652.87 1,653.08	1.68 1.58	1,653.55 1,653.66	20.00 20.00	20.00 83.45	20.00 20.00	20.43 20.00	J-3712 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4759	J-2504	Stewartsville	TRUE	1.00	1,653.08	1.11	1,653.20	20.00	82.73	20.00	20.00	J-676	(N/A)	17.28	J-1198
5165 473	J-2736 J-265	Forest Forest	TRUE TRUE	1.00 1.00	1,653.14 1,653.31	1.08 1.28	1,653.22 1,653.58	20.00 20.00	20.00 31.36	20.00 20.00	20.07 20.01	J-1966 J-3438	(N/A) (N/A)	17.01 17.28	J-1198 J-1198
5178	J-2743	Forest	TRUE	1.00	1,653.32	1.08	1,653.40	20.00	31.08	20.00	20.01	J-3438	(N/A)	17.28	J-1198
3603	J-1966	Forest	TRUE	1.00	1,653.46	2.88	1,655.34	20.00	20.02	20.00	20.48	J-2736	(N/A)	17.01	J-1198
472 7237	J-264 J-3929	Forest Forest	TRUE TRUE	1.00 1.00	1,654.54 1,654.57	1.08 1.68	1,654.62 1,655.25	20.00 20.00	30.91 30.46	20.00 20.00	20.01 20.01	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3566	J-1944	Forest	TRUE	1.00	1,655.91	1.48	1,656.39	20.00	33.12	20.00	20.00	J-2212	(N/A)	17.28	J-1198
4993 3639	J-2638 J-1984	Forest Forest	TRUE TRUE	1.00 1.00	1,655.91 1,656.20	1.88 1.28	1,656.79 1,656.48	20.00 20.00	32.10 49.81	20.00 20.00	20.00 20.01	J-2212 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8529	J-4216	Forest	TRUE	1.00	1,656.32	1.48	1,656.80	20.00	50.35	20.00	20.01	J-941	(N/A)	17.28	J-1198
6773 1417	J-3670 J-707	Forest Forest	TRUE TRUE	1.00 1.00	1,656.33 1,656.34	1.08 1.08	1,656.41 1,656.42	20.00 20.00	40.48 62.82	20.00 20.00	20.01 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5362	J-2850	Forest	TRUE	1.00	1,656.34	1.08	1,656.42	20.00	62.25	20.00	20.00	J-941	(N/A)	17.28	J-1198
8485	J-4194	Forest	TRUE	1.00	1,656.39	1.48	1,656.86	20.00	39.71	20.00	20.01	J-941	(N/A)	17.28	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow	Available Fire Flow (gpm)	Total Flow Desired	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
				(gpm)		(gpm)								-	
7890 7792	J-4140 J-4118	Forest Forest	TRUE TRUE	1.00 1.00	1,656.44 1,656.82	1.28 1.48	1,656.72 1,657.30	20.00 20.00	44.52 32.09	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
915	J-509	Forest	TRUE	1.00	1,656.82	1.48	1,657.30 1,657.10	20.00	63.08	20.00	20.00	J-941	(N/A)	17.28	J-1198
8114 8475	J-4168 J-4189	Forest Forest	TRUE TRUE	1.00 1.00	1,656.82 1,656.82	1.28 1.28	1,657.10	20.00 20.00	30.97 32.66	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6332	J-3411	Forest	TRUE	1.00	1,656.82	1.08	1,656.90	20.00	33.00	20.00	20.00	J-941	(N/A)	17.28	J-1198
6331 7578	J-3410 J-4055	Forest Forest	TRUE TRUE	1.00 1.00	1,656.83 1,656.85	1.28 1.08	1,657.11 1,656.93	20.00 20.00	33.59 39.01	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6774	J-3671	Forest	TRUE	1.00	1,656.85	1.28	1,657.13	20.00	39.25	20.00	20.00	J-941	(N/A)	17.28	J-1198
7092 4159	J-3855 J-2233	Forest Forest	TRUE TRUE	1.00 1.00	1,656.97 1,658.33	1.28 2.28	1,657.25 1,659.61	20.00 20.00	20.02 20.88	20.00 20.00	24.36 20.00	J-1197 J-3761	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3430	J-1867	Forest	TRUE	1.00	1,659.36	1.28	1,659.64	20.00	20.01	20.00	20.01	J-3624	(N/A)	17.28	J-1198
6816 3555	J-3696 J-1938	Lakes Lakes	TRUE TRUE	1.00 1.00	1,659.74 1,659.80	1.20 1.20	1,659.94 1,660.00	20.00 20.00	20.54 21.27	20.00 20.00	20.03 20.03	J-1587 J-1587	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5997	J-3211	Forest	TRUE	1.00	1,661.30	1.68	1,661.98	20.00	52.88	20.00	20.00	J-2919	(N/A)	17.28	J-1198
897 5349	J-503 J-2842	Forest Forest	TRUE TRUE	1.00 1.00	1,661.31 1,661.86	1.28 1.88	1,661.59 1,662.74	20.00 20.00	54.55 20.01	20.00 20.00	20.00 20.68	J-2919 J-2843	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4057	J-2188	Lakes	TRUE	1.00	1,663.66	1.72	1,664.38	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.28	J-1198
6255 6256	J-3366 J-3367	Forest Forest	TRUE TRUE	1.00 1.00	1,664.02 1,664.02	1.68 1.28	1,664.70 1,664.29	20.00 20.00	30.39 29.56	20.00 20.00	20.00 20.00	J-3200 J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1033	J-561	Forest	TRUE	1.00	1,664.02	1.68	1,664.70	20.00	31.57	20.00	20.00	J-3200	(N/A)	17.28	J-1198
724 555	J-417 J-316	Forest Forest	TRUE TRUE	1.00 1.00	1,665.11 1,666.97	1.88 1.48	1,665.99 1,667.45	20.00 20.00	30.26 32.06	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4709	J-2476	Forest	TRUE	1.00	1,666.99	1.08	1,667.07	20.00	31.57	20.00	20.00	J-2919	(N/A)	17.28	J-1198
556 50	J-317 J-15	Forest Forest	TRUE TRUE	1.00 1.00	1,667.86 1,668.14	1.68 1.08	1,668.53 1,668.22	20.00 20.00	32.26 55.82	20.00 20.00	20.00 20.00	J-2919 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5700	J-3044	Forest	TRUE	1.00	1,668.47	1.48	1,668.95	20.00	32.61	20.00	20.00	J-3204	(N/A)	17.28	J-1198
5699 5634	J-3043 J-3005	Forest Forest	TRUE TRUE	1.00 1.00	1,668.48 1,669.48	1.08 1.08	1,668.55 1,669.56	20.00 20.00	33.61 55.93	20.00 20.00	20.00 20.00	J-3204 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
51	J-16	Forest	TRUE	1.00	1,669.49	1.08	1,669.56	20.00	56.23	20.00	20.00	J-941	(N/A)	17.28	J-1198
5959 2689	J-3190 J-1449	Forest Forest	TRUE TRUE	1.00 1.00	1,669.96 1,670.51	1.08 3.29	1,670.04 1,672.80	20.00 20.00	20.01 20.00	20.00 20.00	20.65 20.16	J-2087 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
278	J-141	Forest	TRUE	1.00	1,670.62	1.68	1,671.30	20.00	52.90	20.00	20.00	J-2919	(N/A)	17.28	J-1198
279 5350	J-142 J-2843	Forest Forest	TRUE TRUE	1.00 1.00	1,670.62 1,671.26	1.28 3.49	1,670.90 1,673.75	20.00 20.00	52.85 20.11	20.00 20.00	20.00 20.05	J-2919 J-2842	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5227	J-2771	Forest	TRUE	1.00	1,672.71	2.08	1,673.79	20.00	37.91	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5226 6682	J-2770 J-3617	Forest Forest	TRUE TRUE	1.00 1.00	1,672.73 1,673.60	2.08 1.88	1,673.81 1,674.48	20.00 20.00	36.89 41.83	20.00 20.00	20.00 20.00	J-2919 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2645	J-1424	Forest	TRUE	1.00	1,673.60	1.48	1,674.08	20.00	43.26	20.00	20.00	J-3438	(N/A)	17.28	J-1198
7538 4915	J-4043 J-2592	Forest Forest	TRUE TRUE	1.00 1.00	1,673.60 1,673.70	1.48 1.88	1,674.08 1,674.58	20.00 20.00	40.17 50.21	20.00 20.00	20.00 20.00	J-3438 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4916	J-2593	Forest	TRUE	1.00	1,673.70	1.28	1,673.98	20.00	49.75	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5822 1119	J-3114 J-596	Forest Forest	TRUE TRUE	1.00 1.00	1,674.51 1,674.90	1.68 2.28	1,675.19 1,676.18	20.00 20.00	41.78 43.03	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7460	J-4013	Forest	TRUE	1.00	1,675.14	2.08	1,676.22	20.00	25.52	20.00	20.00	J-2280	(N/A)	17.28	J-1198
7461 3712	J-4014 J-2025	Forest Forest	TRUE TRUE	1.00 1.00	1,675.14 1,675.54	1.08 2.88	1,675.22 1,677.43	20.00 20.00	24.32 21.23	20.00 20.00	20.00 20.00	J-2280 J-1378	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4638	J-2438	Stewartsville	TRUE	1.00	1,675.67	1.26	1,675.93	20.00	20.00	20.00	20.42	J-676	(N/A)	17.28	J-1198
5069 5070	J-2683 J-2684	Forest Forest	TRUE TRUE	1.00 1.00	1,675.99 1,675.99	3.49 1.48	1,678.48 1,676.47	20.00 20.00	39.77 39.11	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3470	J-1890	Forest	TRUE	1.00	1,676.40	4.69	1,680.09	20.00	21.78	20.00	20.00	J-2033	(N/A)	17.28	J-1198
5902 3551	J-3158 J-1935	Forest Forest	TRUE TRUE	1.00 1.00	1,676.42 1,677.88	1.48 1.88	1,676.90 1,678.76	20.00 20.00	20.00 59.37	20.00 20.00	21.18 20.00	J-923 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3552	J-1936	Forest	TRUE	1.00	1,678.06	1.28	1,678.34	20.00	50.76	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5065 3838	J-2681 J-2087	Forest Forest	TRUE TRUE	1.00 1.00	1,678.06 1,678.28	3.09 1.48	1,680.15 1,678.76	20.00 20.00	50.22 20.00	20.00 20.00	20.00 20.13	J-2919 J-3190	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5167	J-2737	Forest	TRUE	1.00	1,678.55	1.08	1,678.62	20.00	40.30	20.00	20.01	J-941	(N/A)	17.28	J-1198
5168 2541	J-2738 J-1364	Forest Forest	TRUE TRUE	1.00 1.00	1,678.59 1,678.60	1.08 3.49	1,678.67 1,681.09	20.00 20.00	39.78 23.60	20.00 20.00	20.01 20.00	J-941 J-3722	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2617	J-1408	Forest	TRUE	1.00	1,678.63	1.08	1,678.71	20.00	39.58	20.00	20.01	J-941	(N/A)	17.28	J-1198
6705 6704	J-3631 J-3630	Forest Forest	TRUE TRUE	1.00 1.00	1,678.70 1,678.70	1.08 1.48	1,678.78 1,679.18	20.00 20.00	40.98 41.71	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3583	J-1954	Forest	TRUE	1.00	1,678.75	1.08	1,678.83	20.00	44.86	20.00	20.01	J-941	(N/A)	17.28	J-1198
3469 1141	J-1889 J-603	Forest Forest	TRUE TRUE	1.00 1.00	1,678.93 1,679.10	2.28 1.08	1,680.21 1,679.18	20.00 20.00	25.63 80.69	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
914	J-508	Forest	TRUE	1.00	1,679.11	1.88	1,679.99	20.00	69.68	20.00	20.00	J-941	(N/A)	17.28	J-1198
281 1466	J-143 J-735	Forest Forest	TRUE TRUE	1.00 1.00	1,679.11 1,679.11	1.28 5.36	1,679.38 1,683.47	20.00 20.00	85.18 77.61	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4850	J-2555	Forest	TRUE	1.00	1,679.11	1.28	1,679.39	20.00	84.97	20.00	20.00	J-941	(N/A)	17.28	J-1198
375 282	J-203 J-144	Forest Forest	TRUE TRUE	1.00 1.00	1,679.11 1,679.11	1.08 1.28	1,679.19 1,679.39	20.00 20.00	85.42 84.96	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6633	J-3589	Forest	TRUE	1.00	1,679.22	1.08	1,679.30	20.00	29.15	20.00	20.00	J-941	(N/A)	17.28	J-1198
6632 8062	J-3588 J-4163	Forest Forest	TRUE TRUE	1.00 1.00	1,679.22 1,679.22	1.28 4.32	1,679.50 1,682.54	20.00 20.00	29.88 64.04	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2900	J-1571	Forest	TRUE	1.00	1,679.25	3.09	1,681.33	20.00	36.82	20.00	20.00	J-941	(N/A)	17.28	J-1198
3511 2868	J-1915 J-1554	Forest Forest	TRUE TRUE	1.00 1.00	1,679.27 1,679.93	1.48 2.28	1,679.74 1,681.21	20.00 20.00	62.23 61.69	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5402	J-2874	Forest	TRUE	1.00	1,679.96	1.48	1,680.44	20.00	20.00	20.00	20.69	J-2873	(N/A)	17.28	J-1198
234 235	J-112 J-113	Stewartsville Stewartsville		1.00 1.00	1,679.99 1,680.00	1.11 1.11	1,680.10 1,680.11	20.00 20.00	20.47 20.51	20.00 20.00	20.06 20.06	J-2438 J-2438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6002	J-3214	Forest	TRUE	1.00	1,680.31	1.68	1,680.98	20.00	33.43	20.00	20.00	J-3204	(N/A)	17.28	J-1198
6001 3510	J-3213 J-1914	Forest Forest	TRUE TRUE	1.00 1.00	1,680.31 1,680.65	1.08 1.48	1,680.38 1,681.12	20.00 20.00	34.47 59.22	20.00 20.00	20.00 20.00	J-3204 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4640	J-2439	Forest	TRUE	1.00	1,680.65	1.48	1,681.13	20.00	58.74	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4016 467	J-2170 J-261	Forest Forest	TRUE TRUE	1.00 1.00	1,680.78 1,681.35	2.48 2.48	1,682.26 1,682.83	20.00 20.00	51.77 54.06	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2876	J-1558	Forest	TRUE	1.00	1,681.74	1.48	1,682.22	20.00	20.00	20.00	20.70	J-2456	(N/A)	17.28	J-1198
5953 468	J-3187 J-262	Forest Forest	TRUE TRUE	1.00 1.00	1,681.87 1,681.87	1.48 1.08	1,682.35 1,681.95	20.00 20.00	53.12 53.89	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7688	J-4087	Forest	TRUE	1.00	1,681.89	2.08	1,682.97	20.00	33.94	20.00	20.00	J-895	(N/A)	17.28	J-1198
6623 1784	J-3582 J-914	Forest Forest	TRUE TRUE	1.00 1.00	1,681.91 1,681.91	1.88 1.48	1,682.79 1,682.39	20.00 20.00	22.68 21.69	20.00 20.00	20.00 20.00	J-895 J-895	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6624	J-3583	Forest	TRUE	1.00	1,681.91	1.48	1,682.39	20.00	21.24	20.00	20.00	J-895	(N/A)	17.28	J-1198
2709 2652	J-1462 J-1428	Forest Forest	TRUE TRUE	1.00 1.00	1,682.57 1,682.58	1.48 1.88	1,683.05 1,683.46	20.00 20.00	35.46 43.85	20.00 20.00	20.00 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5529	J-2945	Forest	TRUE	1.00	1,682.61	1.28	1,682.89	20.00	71.64	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5530	J-2946	Forest	TRUE	1.00	1,682.61	1.08	1,682.68	20.00	71.45	20.00	20.00	J-2919	(N/A)	17.28	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
2674	J-1440	Forest	TRUE	1.00	1,683.10	1.28	1,683.37	20.00	30.93	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4771	J-2511	Forest	TRUE	1.00	1,683.38	1.08	1,683.45	20.00	28.60	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3497	J-1906	Forest	TRUE	1.00	1,683.38	1.28	1,683.65	20.00	28.66	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7246 7439	J-3933 J-4007	Forest Forest	TRUE TRUE	1.00 1.00	1,684.43 1,684.44	1.08 1.48	1,684.51 1,684.92	20.00 20.00	33.73 32.04	20.00 20.00	20.00 20.00	J-3926 J-3926	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7524	J-4037	Forest	TRUE	1.00	1,684.44	1.08	1,684.52	20.00	32.01	20.00	20.00	J-3926	(N/A)	17.28	J-1198
7520 7519	J-4036 J-4035	Forest Forest	TRUE TRUE	1.00 1.00	1,684.47 1,684.47	1.08 1.08	1,684.54 1,684.54	20.00 20.00	27.85 27.52	20.00 20.00	20.00 20.00	J-3926 J-3926	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
229	J-109	Forest	TRUE	1.00	1,684.62	1.08	1,684.69	20.00	50.92	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4802	J-2528	Forest	TRUE	1.00	1,684.62	1.08	1,684.70	20.00	50.26	20.00	20.01	J-2919	(N/A)	17.28	J-1198
228 4672	J-108 J-2456	Forest Forest	TRUE TRUE	1.00 1.00	1,684.62 1,684.78	1.08 2.68	1,684.70 1,686.47	20.00 20.00	50.90 20.02	20.00 20.00	20.01 20.42	J-2919 J-1773	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
684	J-394	Stewartsville		1.00	1,684.99	1.11	1,685.11	20.00	106.88	20.00	20.00	J-676	(N/A)	17.28	J-1198
671 6535	J-387 J-3529	Stewartsville Stewartsville		1.00 1.00	1,684.99 1,685.00	1.11 1.11	1,685.11 1,685.11	20.00 20.00	105.46 105.74	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1022	J-556	Stewartsville	TRUE	1.00	1,685.00	1.26	1,685.26	20.00	99.83	20.00	20.00	J-676	(N/A)	17.28	J-1198
4625 815	J-2430 J-461	Stewartsville Stewartsville		1.00 1.00	1,685.00 1,685.00	1.11 1.26	1,685.11 1,685.26	20.00 20.00	99.29 94.83	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
672	J-388	Stewartsville		1.00	1,685.00	1.69	1,685.69	20.00	104.32	20.00	20.00	J-676	(N/A)	17.28	J-1198
1261	J-655	Stewartsville		1.00	1,685.02	1.26	1,685.28	20.00	90.98	20.00	20.00	J-676	(N/A)	17.28	J-1198
4644 6857	J-2441 J-3720	Stewartsville Stewartsville		1.00 1.00	1,685.02 1,685.05	1.11 2.36	1,685.13 1,686.41	20.00 20.00	90.74 74.82	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6856	J-3719	Stewartsville	TRUE	1.00	1,685.05	1.40	1,685.45	20.00	73.59	20.00	20.00	J-676	(N/A)	17.28	J-1198
4488 846	J-2351 J-477	Stewartsville Stewartsville		1.00 1.00	1,685.05 1,685.05	1.11 1.40	1,685.16 1,685.45	20.00 20.00	64.42 64.64	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4156	J-2231	Stewartsville	TRUE	1.00	1,685.05	1.42	1,685.47	20.00	70.41	20.00	20.00	J-676	(N/A)	17.28	J-1198
1039 623	J-564 J-357	Forest Stewartsville	TRUE TRUE	1.00 1.00	1,685.05 1,685.06	1.08 1.26	1,685.13 1,685.32	20.00 20.00	36.77 56.40	20.00 20.00	20.00 20.00	J-2919 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
624	J-358	Stewartsville	TRUE	1.00	1,685.06	1.11	1,685.17	20.00	55.74	20.00	20.00	J-676	(N/A)	17.28	J-1198
4309 223	J-2284 J-105	Stewartsville Stewartsville		1.00 1.00	1,685.07 1,685.07	2.12 1.11	1,686.19 1,685.19	20.00 20.00	56.85 46.36	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
341	J-181	Stewartsville		1.00	1,685.07	1.11	1,685.19	20.00	44.23	20.00	20.00	J-676	(N/A)	17.28	J-1198
340 222	J-180	Stewartsville Stewartsville		1.00 1.00	1,685.07 1,685.07	1.11	1,685.19	20.00 20.00	44.24	20.00 20.00	20.00 20.00	J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
586	J-104 J-335	Stewartsville		1.00	1,685.07	1.11 1.11	1,685.19 1,685.19	20.00	46.37 44.17	20.00	20.00	J-676 J-676	(N/A)	17.28	J-1198
4619	J-2427	Stewartsville		1.00	1,685.08	4.28	1,688.36	20.00	43.73	20.00	20.00	J-676	(N/A)	17.28	J-1198
526 527	J-298 J-299	Stewartsville Stewartsville		1.00 1.00	1,685.08 1,685.08	1.26 1.11	1,685.33 1,685.19	20.00 20.00	39.90 39.40	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7054	J-3834	Stewartsville	TRUE	1.00	1,685.08	1.11	1,685.19	20.00	35.74	20.00	20.00	J-676	(N/A)	17.28	J-1198
1087 827	J-584 J-468	Stewartsville Stewartsville		1.00 1.00	1,685.08 1,685.08	1.55 1.11	1,685.63 1,685.19	20.00 20.00	34.34 34.25	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4520	J-2369	Stewartsville	TRUE	1.00	1,685.08	1.40	1,685.48	20.00	33.82	20.00	20.00	J-676	(N/A)	17.28	J-1198
321 322	J-168 J-169	Stewartsville Stewartsville		1.00 1.00	1,685.08 1,685.08	1.11 1.40	1,685.19 1,685.48	20.00 20.00	32.48 33.00	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5965	J-3193	Stewartsville	TRUE	1.00	1,685.08	1.26	1,685.34	20.00	33.48	20.00	20.00	J-676	(N/A)	17.28	J-1198
4943 1055	J-2609 J-571	Stewartsville Stewartsville		1.00 1.00	1,685.08 1,685.08	1.11 1.55	1,685.20 1,685.63	20.00 20.00	30.58 30.83	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
799	J-454	Stewartsville	TRUE	1.00	1,685.08	1.40	1,685.49	20.00	35.98	20.00	20.00	J-676	(N/A)	17.28	J-1198
798 4911	J-453 J-2590	Stewartsville Stewartsville		1.00 1.00	1,685.08 1,685.08	1.55 1.11	1,685.63 1,685.20	20.00 20.00	29.64 38.61	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4543	J-2382	Stewartsville		1.00	1,685.08	1.11	1,685.20	20.00	51.33	20.00	20.00	J-676	(N/A)	17.28	J-1198
509 4544	J-287 J-2383	Stewartsville Stewartsville		1.00 1.00	1,685.08 1,685.08	1.26 1.11	1,685.34 1,685.20	20.00 20.00	50.41 51.07	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
508	J-286	Stewartsville		1.00	1,685.09	1.26	1,685.34	20.00	51.51	20.00	20.00	J-676	(N/A)	17.28	J-1198
1098 5546	J-589 J-2954	Stewartsville Stewartsville		1.00 1.00	1,685.09 1,685.09	1.26 1.11	1,685.34 1,685.20	20.00 20.00	39.21 35.39	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2662	J-1434	Forest	TRUE	1.00	1,685.11	1.88	1,685.99	20.00	36.05	20.00	20.00	J-2919	(N/A)	17.28	J-1198
470 6568	J-263 J-3550	Forest	TRUE TRUE	1.00 1.00	1,685.20 1,685.40	1.68	1,685.87	20.00 20.00	49.52	20.00 20.00	20.01 20.00	J-2919 J-3926	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6567	J-3549	Forest Forest	TRUE	1.00	1,685.42	1.08 2.88	1,685.48 1,687.30	20.00	33.96 32.39	20.00	20.00	J-3926	(N/A)	17.28	J-1198
4974 1476	J-2627 J-740	Forest Forest	TRUE TRUE	1.00 1.00	1,685.42 1,685.43	1.08 1.08	1,685.50 1,685.50	20.00 20.00	63.75 64.22	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4538	J-2379	Forest	TRUE	1.00	1,686.21	1.68	1,686.89	20.00	41.41	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3352	J-1824	Forest	TRUE	1.00	1,686.22	1.48	1,686.70	20.00	41.33	20.00	20.00	J-2919	(N/A)	17.28	J-1198
995 5791	J-545 J-3096	Forest Forest	TRUE TRUE	1.00 1.00	1,686.22 1,686.22	1.48 2.48	1,686.70 1,687.71	20.00 20.00	54.57 53.96	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1885 3351	J-980 J-1823	Forest Forest	TRUE TRUE	1.00 1.00	1,686.40 1,686.56	1.48 2.28	1,686.88 1,687.84	20.00 20.00	20.01 42.28	20.00 20.00	20.93 20.01	J-1739 J-2919	(N/A) (N/A)	17.00 17.28	J-1198 J-1198
3735	J-1023 J-2038	Forest	TRUE	1.00	1,686.91	2.28	1,688.00	20.00	20.01	20.00	23.38	J-1776	(N/A)	17.28	J-1198
1797	J-923	Forest	TRUE	1.00	1,687.15	1.28	1,687.43	20.00	20.48	20.00	20.00	J-3158	(N/A)	17.28	J-1198
3262 3901	J-1773 J-2118	Forest Forest	TRUE TRUE	1.00 1.00	1,689.28 1,690.05	1.08 2.88	1,689.36 1,691.94	20.00 20.00	20.00 39.27	20.00 20.00	20.00 20.00	J-2456 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1390	J-694	Forest	TRUE	1.00	1,690.55	3.29	1,692.83	20.00	35.02	20.00	20.01	J-2919	(N/A)	17.28	J-1198
6731 8496	J-3646 J-4201	Forest Forest	TRUE TRUE	1.00 1.00	1,690.63 1,690.86	1.28 1.28	1,690.91 1,691.14	20.00 20.00	33.92 66.31	20.00 20.00	20.01 20.00	J-2919 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1464	J-734	Forest	TRUE	1.00	1,690.86	1.28	1,691.14	20.00	63.46	20.00	20.00	J-941	(N/A)	17.28	J-1198
6341 8495	J-3417 J-4200	Forest Forest	TRUE TRUE	1.00 1.00	1,690.86 1,690.86	1.08 1.48	1,690.94 1,691.34	20.00 20.00	61.70 66.09	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6340	J-3416	Forest	TRUE	1.00	1,690.86	1.28	1,691.14	20.00	62.48	20.00	20.00	J-941	(N/A)	17.28	J-1198
8491 6593	J-4198 J-3564	Forest Forest	TRUE TRUE	1.00 1.00	1,690.86 1,690.86	1.08 1.08	1,690.94 1,690.94	20.00 20.00	69.46 73.26	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8511	J-4208	Forest	TRUE	1.00	1,690.86	1.08	1,690.94	20.00	74.50	20.00	20.00	J-941	(N/A)	17.28	J-1198
6594 8490	J-3565	Forest	TRUE	1.00	1,690.87	1.28	1,691.14	20.00 20.00	72.50 70.25	20.00	20.00 20.00	J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4769	J-4197 J-2510	Forest Forest	TRUE TRUE	1.00 1.00	1,690.87 1,690.99	1.48 1.68	1,691.35 1,691.67	20.00	70.25 69.78	20.00 20.00	20.00	J-941 J-1197	(N/A) (N/A)	17.28 12.92	J-1198 J-1198
4768	J-2509	Forest	TRUE	1.00	1,690.99	1.28	1,691.27	20.00	70.33	20.00	20.00	J-1197	(N/A)	12.92	J-1198
478 4818	J-268 J-2536	Forest Forest	TRUE TRUE	1.00 1.00	1,691.24 1,691.24	1.08 1.08	1,691.32 1,691.32	20.00 20.00	49.64 49.02	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
318	J-166	Forest	TRUE	1.00	1,691.37	1.28	1,691.64	20.00	50.36	20.00	20.00	J-2919	(N/A)	17.28	J-1198
319 959	J-167 J-528	Forest Forest	TRUE TRUE	1.00 1.00	1,691.37 1,691.92	1.08 1.08	1,691.44 1,692.00	20.00 20.00	50.22 45.58	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4806	J-2530	Forest	TRUE	1.00	1,691.92	1.88	1,692.81	20.00	44.97	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5401 2625	J-2873 J-1413	Forest Forest	TRUE TRUE	1.00 1.00	1,692.82 1,692.89	1.68 2.08	1,693.50 1,693.97	20.00 20.00	20.10 43.84	20.00 20.00	20.03 20.00	J-2874 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5924	J-3170	Forest	TRUE	1.00	1,693.58	1.68	1,694.26	20.00	20.04	20.00	20.75	J-3171	(N/A)	17.28	J-1198
4798 636	J-2526 J-365	Forest Forest	TRUE TRUE	1.00 1.00	1,694.36 1,694.37	1.28 1.08	1,694.64 1,694.44	20.00 20.00	45.92 46.57	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
3968	J-2149	Forest	TRUE	1.00	1,694.46	1.68	1,695.14	20.00	43.20	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6748	J-3656	Forest	TRUE	1.00	1,694.54	1.08	1,694.62	20.00	42.10	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6747	J-3655	Forest	TRUE	1.00	1,694.55	2.08	1,695.63	20.00	40.75	20.00	20.00	J-2919	(N/A)	17.28	J-1198
884 637	J-497 J-366	Forest Forest	TRUE TRUE	1.00 1.00	1,694.60 1,694.82	1.88 1.28	1,695.48 1,695.09	20.00 20.00	53.57 47.77	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8483	J-4193	Forest	TRUE	1.00	1,694.82	1.48	1,695.30	20.00	49.72	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7742 4571	J-4106 J-2399	Forest Forest	TRUE TRUE	1.00 1.00	1,695.08 1,695.20	1.88 1.08	1,695.96 1,695.28	20.00 20.00	31.95 57.64	20.00 20.00	20.01 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4570	J-2398	Forest	TRUE	1.00	1,695.20	1.48	1,695.68	20.00	57.95	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1457	J-730	Forest	TRUE	1.00	1,695.44	1.28	1,695.72	20.00	64.89	20.00	20.00	J-941	(N/A)	17.28	J-1198
4995 4996	J-2639 J-2640	Forest Forest	TRUE TRUE	1.00 1.00	1,695.45 1,695.45	1.28 1.28	1,695.72 1,695.73	20.00 20.00	61.50 61.21	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3243	J-1761	Forest	TRUE	1.00	1,695.70	1.28	1,695.98	20.00	20.01	20.00	21.09	J-2339	(N/A)	16.99	J-1198
5104 5103	J-2702 J-2701	Forest Forest	TRUE TRUE	1.00 1.00	1,695.77 1,695.77	1.68 1.68	1,696.45 1,696.45	20.00 20.00	27.48 28.09	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7909	J-4143	Forest	TRUE	1.00	1,695.78	1.68	1,696.46	20.00	23.69	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7741 4836	J-4105 J-2547	Forest Forest	TRUE TRUE	1.00 1.00	1,695.80 1,695.83	1.68 1.08	1,696.48 1,695.91	20.00 20.00	37.10 51.75	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
907	J-507	Forest	TRUE	1.00	1,695.83	1.08	1,695.91	20.00	52.11	20.00	20.00	J-2919	(N/A)	17.28	J-1198
939	J-518	Forest	TRUE	1.00	1,696.72	1.28	1,697.00	20.00	57.53	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3429 2522	J-1866 J-1353	Forest Forest	TRUE TRUE	1.00 1.00	1,697.37 1,697.50	1.28 5.09	1,697.65 1,701.59	20.00 20.00	21.11 20.01	20.00 20.00	20.04 20.23	J-3624 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
481	J-270	Forest	TRUE	1.00	1,697.69	1.08	1,697.77	20.00	45.72	20.00	20.01	J-2919	(N/A)	17.28	J-1198
480 5490	J-269 J-2923	Forest Forest	TRUE TRUE	1.00 1.00	1,697.79 1,697.99	1.08 1.68	1,697.87 1,698.67	20.00 20.00	46.09 56.13	20.00 20.00	20.01 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1474	J-739	Forest	TRUE	1.00	1,698.00	1.08	1,698.07	20.00	56.57	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3207 5544	J-1739 J-2953	Forest Forest	TRUE TRUE	1.00 1.00	1,698.62 1,699.19	1.08 1.08	1,698.69 1,699.27	20.00 20.00	20.02 66.43	20.00 20.00	20.11 20.00	J-980 J-941	(N/A) (N/A)	16.99 17.28	J-1198 J-1198
1458	J-731	Forest	TRUE	1.00	1,699.19	1.48	1,699.67	20.00	67.06	20.00	20.00	J-941	(N/A)	17.28	J-1198
5925 4014	J-3171 J-2169	Forest Forest	TRUE TRUE	1.00 1.00	1,700.63 1,700.83	1.88 2.08	1,701.51 1,701.91	20.00 20.00	20.04 33.68	20.00 20.00	20.11 20.01	J-3170 J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3717	J-2028	Forest	TRUE	1.00	1,700.03	1.48	1,701.46	20.00	22.58	20.00	20.00	J-3171	(N/A)	17.28	J-1198
8513	J-4209	Forest	TRUE	1.00	1,700.98	1.68	1,701.66	20.00	23.03	20.00	20.00	J-3171	(N/A)	17.28	J-1198
4763 416	J-2506 J-230	Forest Forest	TRUE TRUE	1.00 1.00	1,701.15 1,701.56	1.28 1.28	1,701.42 1,701.84	20.00 20.00	51.64 51.65	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8502	J-4204	Forest	TRUE	1.00	1,701.83	1.08	1,701.91	20.00	63.79	20.00	20.00	J-2919	(N/A)	17.28	J-1198
850 415	J-479 J-229	Forest Forest	TRUE TRUE	1.00 1.00	1,701.83 1,701.95	1.28 1.28	1,702.11 1,702.23	20.00 20.00	61.54 52.22	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1478	J-741	Forest	TRUE	1.00	1,702.24	1.08	1,702.31	20.00	59.01	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4654 7072	J-2446 J-3844	Forest Forest	TRUE TRUE	1.00 1.00	1,702.24 1,704.19	1.48 2.08	1,702.72 1,705.27	20.00 20.00	58.61 73.01	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7071	J-3843	Forest	TRUE	1.00	1,704.21	1.68	1,704.89	20.00	76.71	20.00	20.00	J-2919	(N/A)	17.28	J-1198
413 412	J-228 J-227	Lakes Lakes	TRUE TRUE	1.00 1.00	1,704.23 1,704.23	1.20 1.20	1,704.43 1,704.43	20.00 20.00	84.66 85.21	20.00 20.00	20.00 20.00	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
814	J-460	Stewartsville	TRUE	1.00	1,705.10	1.26	1,705.36	20.00	92.17	20.00	20.00	J-676	(N/A)	17.28	J-1198
4970 851	J-2625 J-480	Stewartsville Forest	TRUE TRUE	1.00 1.00	1,705.11 1,705.34	1.11 1.08	1,705.22 1,705.41	20.00 20.00	91.09 63.85	20.00 20.00	20.00 20.00	J-676 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5170	J-2739	Forest	TRUE	1.00	1,705.34	1.08	1,705.41	20.00	63.38	20.00	20.00	J-2919 J-2919	(N/A)	17.28	J-1198
5767	J-3083	Forest	TRUE	1.00	1,705.80	1.28	1,706.07	20.00	20.00	20.00	20.82	J-2142	(N/A)	17.28	J-1198
1414 1462	J-705 J-733	Forest Forest	TRUE TRUE	1.00 1.00	1,705.92 1,705.98	1.08 1.08	1,705.99 1,706.06	20.00 20.00	67.28 59.68	20.00 20.00	20.00 20.00	J-941 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4593	J-2412	Forest	TRUE	1.00	1,705.98	1.08	1,706.06	20.00	59.36	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1415 5776	J-706 J-3088	Forest Forest	TRUE TRUE	1.00 1.00	1,706.03 1,706.03	1.48 1.08	1,706.51 1,706.11	20.00 20.00	67.27 66.55	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5120	J-2710	Forest	TRUE	1.00	1,706.04	1.08	1,706.12	20.00	22.71	20.00	20.00	J-3200	(N/A)	17.28	J-1198
5121 6474	J-2711 J-3494	Forest Forest	TRUE TRUE	1.00 1.00	1,706.05 1,706.26	1.28 1.68	1,706.32 1,706.94	20.00 20.00	22.46 20.05	20.00 20.00	20.00 20.76	J-3200 J-1425	(N/A) (N/A)	17.28 16.99	J-1198 J-1198
550	J-313	Lakes	TRUE	1.00	1,706.90	1.72	1,707.62	20.00	88.48	20.00	20.05	J-2323	(N/A)	17.28	J-1198
6111 5328	J-3279 J-2830	Lakes Forest	TRUE TRUE	1.00 1.00	1,706.97 1,707.66	1.29 1.08	1,707.25 1,707.74	20.00 20.00	87.17 65.83	20.00 20.00	20.05 20.00	J-2323 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5329	J-2831	Forest	TRUE	1.00	1,707.66	1.08	1,707.74	20.00	64.73	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1472 8523	J-738 J-4213	Forest Forest	TRUE TRUE	1.00 1.00	1,708.44 1,708.44	1.08 7.12	1,708.52 1,714.56	20.00 20.00	71.62 64.81	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5216	J-2764	Forest	TRUE	1.00	1,708.55	1.08	1,708.63	20.00	67.46	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5215	J-2763	Forest	TRUE TRUE	1.00	1,708.55	1.28	1,708.83	20.00	68.21	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6948 1420	J-3774 J-709	Forest Forest	TRUE	1.00 1.00	1,708.65 1,708.65	1.28 1.08	1,708.92 1,708.73	20.00 20.00	55.85 57.46	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1419	J-708	Forest	TRUE	1.00	1,709.09	1.28	1,709.37	20.00	57.11	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1428 1427	J-714 J-713	Forest Forest	TRUE TRUE	1.00 1.00	1,709.88 1,709.88	1.08 1.08	1,709.96 1,709.96	20.00 20.00	64.72 66.71	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5809	J-3107	Forest	TRUE	1.00	1,709.88	1.08	1,709.96	20.00	66.02	20.00	20.00	J-941	(N/A)	17.28	J-1198
1438 968	J-720 J-532	Forest Forest	TRUE TRUE	1.00 1.00	1,709.89 1,710.38	1.28 1.28	1,710.16 1,710.66	20.00 20.00	69.12 67.88	20.00 20.00	20.00 20.00	J-941 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2512	J-1347	Forest	TRUE	1.00	1,710.89	1.28	1,711.16	20.00	25.97	20.00	20.01	J-2919	(N/A)	17.28	J-1198
7369 1436	J-3981 J-719	Forest Forest	TRUE TRUE	1.00 1.00	1,711.25 1,711.30	1.08 1.28	1,711.32 1,711.58	20.00 20.00	48.98 58.42	20.00 20.00	20.00 20.00	J-3904 J-2919	(N/A) (N/A)	16.99 17.28	J-1198 J-1198
2647	J-1425	Forest	TRUE	1.00	1,711.96	1.88	1,712.84	20.00	20.04	20.00	20.29	J-3494	(N/A)	16.99	J-1198
1435 6036	J-718 J-3233	Forest Forest	TRUE TRUE	1.00 1.00	1,712.47 1,712.47	1.28 1.28	1,712.75 1,712.75	20.00 20.00	58.78 58.08	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5439	J-3233 J-2894	Forest	TRUE	1.00	1,713.19	1.48	1,712.75	20.00	36.18	20.00	20.00	J-3200	(N/A)	17.28	J-1198
5440	J-2895	Forest	TRUE	1.00	1,713.19	1.28	1,713.47	20.00	35.88	20.00	20.00	J-3200	(N/A)	17.28	J-1198
1403 5516	J-699 J-2937	Forest Forest	TRUE TRUE	1.00 1.00	1,713.72 1,713.72	1.08 1.48	1,713.79 1,714.20	20.00 20.00	60.79 60.15	20.00 20.00	20.01 20.01	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1443	J-723	Forest	TRUE	1.00	1,713.92	2.08	1,715.00	20.00	59.48	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1404 4468	J-700 J-2339	Forest Forest	TRUE TRUE	1.00 1.00	1,714.00 1,715.44	1.48 1.08	1,714.48 1,715.51	20.00 20.00	60.94 20.01	20.00 20.00	20.00 20.27	J-941 J-1760	(N/A) (N/A)	17.28 16.99	J-1198 J-1198
6764	J-3665	Forest	TRUE	1.00	1,717.35	1.88	1,718.23	20.00	33.95	20.00	20.00	J-895	(N/A)	17.28	J-1198
6765 6654	J-3666 J-3601	Forest Forest	TRUE TRUE	1.00 1.00	1,717.36 1,717.81	1.48 1.48	1,717.84 1,718.28	20.00 20.00	32.38 20.01	20.00 20.00	20.00 20.53	J-895 J-2026	(N/A) (N/A)	17.28 16.99	J-1198 J-1198
5905	J-3160	Forest	TRUE	1.00	1,718.64	1.08	1,718.72	20.00	34.31	20.00	20.00	J-3926	(N/A)	17.28	J-1198
5904	J-3159	Forest	TRUE	1.00	1,718.66	1.68	1,719.34	20.00	33.09	20.00	20.00	J-3926	(N/A)	17.28	J-1198
6088 6087	J-3266 J-3265	Lakes Lakes	TRUE TRUE	1.00 1.00	1,718.81 1,718.81	1.20 1.20	1,719.01 1,719.01	20.00 20.00	25.40 26.35	20.00 20.00	20.00 20.00	J-3906 J-3906	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3279 3278	J-1784	Forest	TRUE	1.00	1,719.01	1.28	1,719.29	20.00	35.89	20.00	20.00	J-2919	(N/A)	17.28	J-1198 J-1198
3278 3952	J-1783 J-2142	Forest Forest	TRUE TRUE	1.00 1.00	1,719.14 1,719.32	1.48 2.08	1,719.62 1,720.40	20.00 20.00	36.19 20.14	20.00 20.00	20.00 20.03	J-2919 J-3083	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5755	J-3076	Forest	TRUE	1.00	1,720.88	1.88	1,721.76	20.00	20.01	20.00	20.54	J-2123	(N/A)	17.28	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
				(gpm)											
3242 2577	J-1760 J-1384	Forest Forest	TRUE TRUE	1.00 1.00	1,721.42 1,721.48	1.08 1.08	1,721.50 1,721.56	20.00 20.00	20.01 62.27	20.00 20.00	20.00 20.00	J-2339 J-3904	(N/A) (N/A)	16.99 16.99	J-1198 J-1198
7368	J-3980	Forest	TRUE TRUE	1.00	1,721.48	1.08	1,721.56	20.00	49.90	20.00	20.00	J-3904	(N/A)	16.99	J-1198
6243 7365	J-3359 J-3979	Forest Forest	TRUE	1.00 1.00	1,721.48 1,721.48	1.08 1.08	1,721.56 1,721.56	20.00 20.00	57.92 58.93	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.99 16.99	J-1198 J-1198
7827	J-4127	Forest	TRUE	1.00	1,721.48	1.68	1,722.16	20.00	54.95	20.00	20.00	J-3904	(N/A)	16.99	J-1198
7828 6242	J-4128 J-3358	Forest Forest	TRUE TRUE	1.00 1.00	1,721.48 1,721.49	1.28 1.28	1,721.76 1,721.76	20.00 20.00	56.79 58.45	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.99 16.99	J-1198 J-1198
7066	J-3840	Forest	TRUE	1.00	1,721.49	1.08	1,721.56	20.00	58.65	20.00	20.00	J-3904	(N/A)	16.99	J-1198
2753 4503	J-1488 J-2359	Forest Forest	TRUE TRUE	1.00 1.00	1,721.49 1,721.49	1.28 1.08	1,721.76 1,721.56	20.00 20.00	55.32 54.93	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.99 16.99	J-1198 J-1198
4127	J-2218	Forest	TRUE	1.00	1,722.16	2.28	1,723.44	20.00	26.84	20.00	20.00	J-2219	(N/A)	17.28	J-1198
5736 7374	J-3065 J-3982	Forest Forest	TRUE TRUE	1.00 1.00	1,722.22 1,722.84	1.88 1.28	1,723.10 1,723.12	20.00 20.00	20.00 34.00	20.00 20.00	20.70 20.00	J-3066 J-3926	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6787	J-3679	Forest	TRUE	1.00	1,722.88	1.08	1,722.95	20.00	26.72	20.00	20.00	J-2219	(N/A)	17.28	J-1198
6788 6685	J-3680 J-3619	Forest Forest	TRUE TRUE	1.00 1.00	1,722.88 1,723.60	1.48 1.28	1,723.36 1,723.88	20.00 20.00	25.58 33.05	20.00 20.00	20.00 20.00	J-2219 J-3204	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6684	J-3618	Forest	TRUE	1.00	1,723.60	1.28	1,723.88	20.00	33.86	20.00	20.00	J-3204	(N/A)	17.28	J-1198
1031 5076	J-560 J-2687	Forest Forest	TRUE TRUE	1.00 1.00	1,723.97 1,723.97	1.28 1.28	1,724.25 1,724.25	20.00 20.00	71.98 71.50	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3714	J-2026	Forest	TRUE	1.00	1,724.90	1.48	1,725.38	20.00	20.01	20.00	20.54	J-3601	(N/A)	16.99	J-1198
5833 2607	J-3120 J-1402	Forest Forest	TRUE TRUE	1.00 1.00	1,728.27 1,728.81	1.48 1.88	1,728.75 1,729.69	20.00 20.00	20.00 45.88	20.00 20.00	20.83 20.00	J-2203 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6557	J-3543	Forest	TRUE	1.00	1,728.81	1.48	1,729.29	20.00	43.04	20.00	20.00	J-3438	(N/A)	17.28	J-1198
7619 6673	J-4069 J-3612	Forest Forest	TRUE TRUE	1.00 1.00	1,728.81 1,728.81	1.88 1.08	1,729.69 1,728.88	20.00 20.00	41.81 44.74	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6556	J-3542	Forest	TRUE	1.00	1,728.81	1.68	1,729.49	20.00	44.48	20.00	20.00	J-3438	(N/A)	17.28	J-1198
5737 6905	J-3066 J-3749	Forest Forest	TRUE TRUE	1.00 1.00	1,730.77 1,730.92	1.88 3.09	1,731.65 1,733.01	20.00 20.00	20.00 20.00	20.00 20.00	20.03 21.28	J-3065 J-3914	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7357	J-3977	Forest	TRUE	1.00	1,731.50	1.08	1,731.58	20.00	23.09	20.00	20.03	J-1942	(N/A)	15.04	J-1198
3560 3911	J-1941 J-2123	Forest Forest	TRUE TRUE	1.00 1.00	1,731.53 1,732.37	1.08 1.48	1,731.61 1,732.85	20.00 20.00	23.47 20.02	20.00 20.00	20.03 20.22	J-1942 J-3076	(N/A) (N/A)	15.04 17.28	J-1198 J-1198
3655	J-1994	Forest	TRUE	1.00	1,736.04	1.48	1,736.52	20.00	20.00	20.00	24.06	J-1197	(N/A)	16.98	J-1198
6878 6877	J-3733 J-3732	Forest Forest	TRUE TRUE	1.00 1.00	1,736.27 1,736.27	1.48 2.28	1,736.75 1,737.55	20.00 20.00	38.87 40.18	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3322	J-1807	Forest	TRUE	1.00	1,738.37	1.28	1,738.65	20.00	20.01	20.00	21.63	J-1806	(N/A)	16.98	J-1198
2735 4087	J-1477 J-2203	Forest Forest	TRUE TRUE	1.00 1.00	1,738.55 1,738.81	1.48 1.88	1,739.03 1,739.69	20.00 20.00	20.00 20.15	20.00 20.00	21.13 20.05	J-1786 J-3120	(N/A) (N/A)	16.98 17.28	J-1198 J-1198
6771	J-3669	Forest	TRUE	1.00	1,739.25	2.08	1,740.33	20.00	20.13	20.00	20.98	J-2114	(N/A)	17.28	J-1198
1085 4855	J-583 J-2558	Forest Forest	TRUE TRUE	1.00 1.00	1,739.77 1,739.78	1.08 1.28	1,739.85 1,740.05	20.00 20.00	78.97 78.57	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7431	J-4004	Forest	TRUE	1.00	1,740.63	1.48	1,741.11	20.00	33.49	20.00	20.00	J-3926	(N/A)	17.28	J-1198
7574 6427	J-4053 J-3467	Forest	TRUE TRUE	1.00 1.00	1,740.64 1,742.05	1.08 1.08	1,740.72 1,742.13	20.00 20.00	32.93 22.14	20.00 20.00	20.00 20.04	J-3926 J-2113	(N/A) (N/A)	17.28 15.01	J-1198 J-1198
6426	J-3466	Forest Forest	TRUE	1.00	1,742.05	1.08	1,742.13	20.00	23.44	20.00	20.04	J-2113	(N/A)	15.01	J-1198
3613	J-1970	Forest Forest	TRUE	1.00	1,742.89	1.28	1,743.17	20.00 20.00	32.42	20.00	20.00	J-2113	(N/A)	15.01	J-1198
3764 5435	J-2051 J-2892	Forest	TRUE TRUE	1.00 1.00	1,745.86 1,747.78	1.28 1.68	1,746.14 1,748.46	20.00	20.00 20.00	20.00 20.00	24.36 20.14	J-1197 J-1786	(N/A) (N/A)	17.28 16.98	J-1198 J-1198
3283	J-1786	Forest	TRUE	1.00	1,749.11	1.48	1,749.59	20.00	20.00	20.00	20.48	J-1477	(N/A)	16.98	J-1198
6605 3044	J-3571 J-1638	Forest Forest	TRUE TRUE	1.00 1.00	1,750.46 1,750.68	1.48 1.48	1,750.94 1,751.16	20.00 20.00	20.00 63.81	20.00 20.00	21.10 20.00	J-3572 J-941	(N/A) (N/A)	16.98 17.28	J-1198 J-1198
3045	J-1639	Forest	TRUE	1.00	1,750.68	1.08	1,750.76	20.00	63.44	20.00	20.00	J-941	(N/A)	17.28	J-1198
44 6004	J-11 J-3215	Forest Forest	TRUE TRUE	1.00 1.00	1,750.68 1,750.68	1.28 1.08	1,750.96 1,750.76	20.00 20.00	67.12 62.73	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
45 5058	J-12	Forest Forest	TRUE TRUE	1.00 1.00	1,752.11	1.48 1.08	1,752.59	20.00 20.00	66.96 82.84	20.00 20.00	20.00 20.00	J-941 J-2919	(N/A) (N/A)	17.28	J-1198 J-1198
987	J-2677 J-541	Forest	TRUE	1.00	1,755.49 1,755.50	1.08	1,755.57 1,755.58	20.00	83.43	20.00	20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6514	J-3517	Forest	TRUE	1.00	1,756.12	1.48	1,756.60	20.00	20.01	20.00	20.32	J-2236	(N/A)	17.28	J-1198
2622 7209	J-1411 J-3914	Forest Forest	TRUE TRUE	1.00 1.00	1,758.20 1,758.26	1.68 1.28	1,758.88 1,758.54	20.00 20.00	20.22 20.00	20.00 20.00	20.11 20.26	J-3571 J-3749	(N/A) (N/A)	16.98 17.28	J-1198 J-1198
2488 6828	J-1335 J-3703	Forest Forest	TRUE TRUE	1.00 1.00	1,758.79 1,758.80	1.68 1.68	1,759.47	20.00 20.00	32.77 44.47	20.00 20.00	20.00 20.00	J-3200 J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6829	J-3703	Forest	TRUE	1.00	1,758.80	1.28	1,759.48 1,759.08	20.00	43.51	20.00	20.00	J-3200	(N/A)	17.28	J-1198
7606	J-4063	Forest	TRUE	1.00	1,758.80	1.48	1,759.28	20.00	46.91	20.00	20.00	J-3200	(N/A)	17.28	J-1198
6606 7932	J-3572 J-4145	Forest Forest	TRUE TRUE	1.00 1.00	1,758.88 1,759.48	2.68 1.08	1,760.57 1,759.55	20.00 20.00	20.04 45.08	20.00 20.00	20.02 20.01	J-3571 J-4116	(N/A) (N/A)	16.98 17.28	J-1198 J-1198
8415 4166	J-4177 J-2236	Forest Forest	TRUE TRUE	1.00 1.00	1,759.72 1,761.30	1.68 2.68	1,760.40 1,762.98	20.00 20.00	26.75 20.00	20.00 20.00	20.00 20.70	J-4116 J-3517	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3892	J-2114	Forest	TRUE	1.00	1,761.68	1.88	1,762.56	20.00	20.00	20.00	20.20	J-3669	(N/A)	17.28	J-1198
5521 6208	J-2940 J-3337	Forest	TRUE TRUE	1.00 1.00	1,761.83	1.28 1.20	1,762.11	20.00 20.00	20.00 78.70	20.00 20.00	20.57 20.00	J-2939 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1180	J-618	Lakes Lakes	TRUE	1.00	1,762.03 1,762.03	1.55	1,762.23 1,762.57	20.00	80.16	20.00	20.00	J-2323	(N/A)	17.28	J-1198
6906	J-3750	Forest	TRUE	1.00	1,763.70	1.08	1,763.77	20.00	20.18	20.00	20.02	J-3914	(N/A)	17.28	J-1198
4682 4212	J-2462 J-2253	Forest Forest	TRUE TRUE	1.00 1.00	1,764.69 1,766.86	1.88 2.68	1,765.57 1,768.55	20.00 20.00	20.00 20.00	20.00 20.00	20.42 20.18	J-1934 J-2939	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
988	J-542	Forest	TRUE	1.00	1,767.86	1.08	1,767.94	20.00	74.63	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4751 5520	J-2500 J-2939	Forest Forest	TRUE TRUE	1.00 1.00	1,767.86 1,768.26	1.08 1.68	1,767.94 1,768.94	20.00 20.00	74.17 20.00	20.00 20.00	20.00 20.06	J-2919 J-2253	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3547	J-1934	Forest	TRUE	1.00	1,768.50	1.88	1,769.38	20.00	20.00	20.00	20.00	J-2462	(N/A)	17.28	J-1198
3321 3990	J-1806 J-2158	Forest Forest	TRUE TRUE	1.00 1.00	1,772.33 1,773.65	1.48 2.88	1,772.81 1,775.53	20.00 20.00	20.01 21.08	20.00 20.00	20.54 20.00	J-1807 J-2008	(N/A) (N/A)	16.97 17.28	J-1198 J-1198
5312	J-2820	Forest	TRUE	1.00	1,774.92	1.08	1,775.00	20.00	20.00	20.00	20.57	J-1217	(N/A)	17.28	J-1198
7036 1576	J-3824 J-781	Forest Lakes	TRUE TRUE	1.00 1.00	1,777.37 1,777.77	1.68 1.20	1,778.04 1,777.97	20.00 20.00	20.00 20.00	20.00 20.00	20.89 20.70	J-2919 J-826	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
882	J-496	Stewartsville	TRUE	1.00	1,778.47	1.11	1,778.58	20.00	76.02	20.00	20.00	J-676	(N/A)	17.28	J-1198
5187 7831	J-2748 J-4129	Stewartsville Forest	TRUE TRUE	1.00 1.00	1,778.47 1,779.36	1.26 1.68	1,778.73 1,780.04	20.00 20.00	75.24 20.00	20.00 20.00	20.00 20.86	J-676 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5308	J-2818	Forest	TRUE	1.00	1,780.35	1.08	1,780.43	20.00	20.00	20.00	20.59	J-2817	(N/A)	17.28	J-1198
6596 762	J-3566 J-435	Forest Forest	TRUE TRUE	1.00 1.00	1,780.57 1,780.57	1.28 1.28	1,780.85 1,780.85	20.00 20.00	64.06 65.00	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3554	J-1937	Lakes	TRUE	1.00	1,783.32	1.20	1,783.52	20.00	22.82	20.00	20.02	J-2286	(N/A)	17.28	J-1198
6644 6645	J-3595 J-3596	Forest Forest	TRUE TRUE	1.00 1.00	1,783.35 1,783.35	1.08 1.08	1,783.43 1,783.43	20.00 20.00	75.19 72.77	20.00 20.00	20.00 20.00	J-3090 J-3090	(N/A) (N/A)	16.97 16.97	J-1198 J-1198
7966	J-4152	Forest	TRUE	1.00	1,786.65	20.88	1,806.53	20.00	51.32	20.00	20.00	J-2919	(N/A)	17.28	J-1198
763 4466	J-436 J-2338	Forest Forest	TRUE TRUE	1.00 1.00	1,786.82 1,787.11	1.08 1.48	1,786.90 1,787.59	20.00 20.00	60.93 24.88	20.00 20.00	20.00 20.00	J-2919 J-2253	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7130	J-3876	Forest	TRUE	1.00	1,787.11	2.28	1,788.39	20.00	25.09	20.00	20.00	J-2253	(N/A)	17.28	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow	Available Fire Flow	Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
				(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)				(psi)		
2837 123	J-1537 J-59	Forest Forest	TRUE TRUE	1.00 1.00	1,787.11 1,788.92	1.48 1.48	1,787.59 1,789.39	20.00 20.00	25.07 60.94	20.00 20.00	20.00 20.00	J-2253 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3154	J-1707	Forest	TRUE	1.00	1,788.92	1.48	1,789.39	20.00	60.36	20.00	20.00	J-941	(N/A)	17.28	J-1198
2498 5236	J-1340 J-2776	Forest Forest	TRUE TRUE	1.00 1.00	1,789.30 1,790.39	1.08 1.88	1,789.38 1,791.27	20.00 20.00	20.01 23.18	20.00 20.00	24.36 20.00	J-1197 J-2874	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5237	J-2777	Forest	TRUE	1.00	1,790.40	1.68	1,791.08	20.00	22.75	20.00	20.00	J-2874	(N/A)	17.28	J-1198
8039 5667	J-4161 J-3025	Forest Forest	TRUE TRUE	1.00 1.00	1,791.15 1,791.38	1.28 1.28	1,791.43 1,791.65	20.00 20.00	20.00 20.00	20.00 20.00	22.30 20.90	J-2919 J-2019	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6807	J-3691	Forest	TRUE	1.00	1,791.38	1.88	1,792.26	20.00	20.01	20.00	21.73	J-1932	(N/A)	17.28	J-1198
643 642	J-370 J-369	Forest Forest	TRUE TRUE	1.00 1.00	1,792.52 1,792.52	1.28 1.08	1,792.79 1,792.60	20.00 20.00	23.12 21.30	20.00 20.00	20.00 20.00	J-3855 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4713	J-2478	Forest	TRUE	1.00	1,793.76	1.08	1,793.84	20.00	54.56	20.00	20.00	J-2919	(N/A)	17.28	J-1198
777 5652	J-443 J-3016	Forest Lakes	TRUE TRUE	1.00 1.00	1,793.77 1,794.50	1.08 1.20	1,793.84 1,794.69	20.00 20.00	55.03 20.00	20.00 20.00	20.00 20.83	J-2919 J-3015	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7593	J-4058	Forest	TRUE	1.00	1,794.95 1,794.95	2.28	1,796.23	20.00	26.65	20.00	20.00	J-2253	(N/A)	17.28	J-1198
6315 6314	J-3401 J-3400	Forest Forest	TRUE TRUE	1.00 1.00	1,794.95	2.48 1.68	1,796.43 1,795.63	20.00 20.00	26.21 26.30	20.00 20.00	20.00 20.00	J-2253 J-2253	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7046 3480	J-3829 J-1896	Forest Lakes	TRUE TRUE	1.00 1.00	1,795.33 1,796.75	2.28 2.32	1,796.61 1,798.07	20.00 20.00	20.00 20.00	20.00 20.00	23.60 26.49	J-2083 J-1642	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3567	J-1945	Forest	TRUE	1.00	1,796.75	2.88	1,798.75	20.00	33.98	20.00	20.49	J-1042 J-2212	(N/A)	17.28	J-1198
564 5887	J-322 J-3150	Lakes Lakes	TRUE TRUE	1.00 1.00	1,797.36 1,797.42	1.46 1.20	1,797.82 1,797.62	20.00 20.00	87.29 86.20	20.00 20.00	20.05 20.04	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7561	J-4051	Forest	TRUE	1.00	1,798.04	1.48	1,798.52	20.00	27.91	20.00	20.00	J-3330	(N/A)	17.28	J-1198
6352 6353	J-3423 J-3424	Forest Forest	TRUE TRUE	1.00 1.00	1,798.05 1,798.06	1.08 1.48	1,798.13 1,798.53	20.00 20.00	26.48 25.34	20.00 20.00	20.00 20.00	J-3330 J-3330	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3738	J-2040	Forest	TRUE	1.00	1,798.71	1.68	1,799.39	20.00	20.03	20.00	20.16	J-2121	(N/A)	17.28	J-1198
6150 6151	J-3302 J-3303	Forest Forest	TRUE TRUE	1.00 1.00	1,799.05 1,799.83	2.48 1.88	1,800.54 1,800.71	20.00 20.00	20.09 20.38	20.00 20.00	21.34 20.00	J-3303 J-3302	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5307	J-2817	Forest	TRUE	1.00	1,800.12	1.68	1,800.80	20.00	20.00	20.00	20.02	J-2818	(N/A)	17.28	J-1198
613 2503	J-351 J-1343	Forest Forest	TRUE TRUE	1.00 1.00	1,800.21 1,800.46	1.48 1.28	1,800.68 1,800.74	20.00 20.00	49.34 20.00	20.00 20.00	20.00 24.04	J-2919 J-1197	(N/A) (N/A)	17.28 16.96	J-1198 J-1198
7035	J-3823	Forest	TRUE	1.00	1,800.75	1.08	1,800.83	20.00	20.00	20.00	20.60	J-2919	(N/A)	17.28	J-1198
3180 563	J-1722 J-321	Lakes Lakes	TRUE TRUE	1.00 1.00	1,800.90 1,801.32	1.20 1.20	1,801.10 1,801.52	20.00 20.00	20.00 90.01	20.00 20.00	21.12 20.05	J-1723 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2425	J-1299	Lakes	TRUE	1.00	1,801.39	1.29	1,801.68	20.00	59.14	20.00	20.05	J-2323	(N/A)	17.28	J-1198
2424 2275	J-1298 J-1217	Lakes Forest	TRUE TRUE	1.00 1.00	1,802.05 1,802.46	1.20 1.88	1,802.25 1,803.35	20.00 20.00	55.01 20.00	20.00 20.00	20.00 20.12	J-2323 J-2820	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3701	J-2019	Forest	TRUE	1.00	1,802.96	1.08	1,803.03	20.00	20.16	20.00	20.04	J-3025	(N/A)	17.28	J-1198
8517 614	J-4210 J-352	Forest Forest	TRUE TRUE	1.00 1.00	1,803.16 1,803.32	1.48 1.28	1,803.64 1,803.59	20.00 20.00	44.51 47.14	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5651	J-3015	Lakes	TRUE	1.00	1,803.55	1.37	1,803.92	20.00	20.11	20.00	20.07	J-3016	(N/A)	17.28	J-1198
5526 5527	J-2943 J-2944	Forest Forest	TRUE TRUE	1.00 1.00	1,804.05 1,804.05	2.48 1.48	1,805.54 1,804.53	20.00 20.00	22.49 21.97	20.00 20.00	20.00 20.00	J-2253 J-2253	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3544	J-1932	Forest	TRUE	1.00	1,804.84	1.88	1,805.72	20.00	20.47	20.00	20.06	J-3691	(N/A)	17.28	J-1198
2572 6424	J-1381 J-3465	Forest Forest	TRUE TRUE	1.00 1.00	1,805.43 1,805.44	1.08 1.08	1,805.51 1,805.51	20.00 20.00	24.04 23.20	20.00 20.00	20.00 20.00	J-1115 J-1115	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
881	J-495	Stewartsville	TRUE	1.00	1,806.14	1.11	1,806.25	20.00	70.99	20.00	20.00	J-676	(N/A)	17.28	J-1198
4694 5760	J-2468 J-3079	Lakes Forest	TRUE TRUE	1.00 1.00	1,806.53 1,806.53	1.37 1.88	1,806.90 1,807.41	20.00 20.00	20.00 56.31	20.00 20.00	20.31 20.00	J-1722 J-3200	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5761 3181	J-3080 J-1723	Forest Lakes	TRUE TRUE	1.00 1.00	1,806.53	1.48 2.06	1,807.01	20.00 20.00	55.68	20.00 20.00	20.00 20.11	J-3200 J-1722	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4642	J-1723 J-2440	Forest	TRUE	1.00	1,807.98 1,808.57	1.08	1,809.05 1,808.64	20.00	20.19 45.63	20.00	20.11	J-1722 J-2919	(N/A)	17.28	J-1198
744 6642	J-426 J-3594	Forest Forest	TRUE TRUE	1.00 1.00	1,808.73 1,810.59	1.08 2.48	1,808.81 1,812.07	20.00 20.00	46.20 56.53	20.00 20.00	20.00 20.00	J-2919 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6641	J-3593	Forest	TRUE	1.00	1,810.59	2.48	1,812.07	20.00	56.48	20.00	20.00	J-3438	(N/A)	17.28	J-1198
5155 515	J-2730 J-291	Forest Lakes	TRUE TRUE	1.00 1.00	1,811.06 1,811.83	1.88 1.20	1,811.94 1,812.03	20.00 20.00	20.05 83.48	20.00 20.00	20.54 20.00	J-2729 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3492	J-1903	Lakes	TRUE	1.00	1,812.00	2.41	1,813.41	20.00	20.00	20.00	25.21	J-1896	(N/A)	17.28	J-1198
7770 6700	J-4112 J-3628	Forest Forest	TRUE TRUE	1.00 1.00	1,814.20 1,814.32	1.88 1.08	1,815.08 1,814.40	20.00 20.00	20.96 61.11	20.00 20.00	20.00 20.00	J-2939 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
124	J-60	Forest	TRUE	1.00	1,814.33	1.28	1,814.60	20.00	61.99	20.00	20.00	J-941	(N/A)	17.28	J-1198
514 6821	J-290 J-3699	Lakes Forest	TRUE TRUE	1.00 1.00	1,814.51 1,814.99	1.20 1.68	1,814.70 1,815.67	20.00 20.00	85.32 20.00	20.00 20.00	20.04 21.36	J-2323 J-1993	(N/A) (N/A)	17.28 16.96	J-1198 J-1198
6658	J-3603	Lakes	TRUE	1.00	1,815.09	1.20	1,815.29	20.00	83.35	20.00	20.00	J-2323	(N/A)	17.28	J-1198
7726 3909	J-4100 J-2122	Forest Forest	TRUE TRUE	1.00 1.00	1,815.82 1,815.82	1.28 1.48	1,816.09 1,816.30	20.00 20.00	60.20 62.91	20.00 20.00	20.00 20.00	J-1197 J-1197	(N/A) (N/A)	12.92 12.92	J-1198 J-1198
5154 6199	J-2729 J-3331	Forest Forest	TRUE TRUE	1.00 1.00	1,816.35 1,817.23	1.48 2.08	1,816.83 1,818.31	20.00 20.00	20.04 26.18	20.00 20.00	20.18 20.00	J-2730 J-4167	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6200	J-3332	Forest	TRUE	1.00	1,817.23	1.88	1,818.11	20.00	25.60	20.00	20.00	J-4167	(N/A)	17.28	J-1198
6410 4868	J-3457 J-2565	Forest Forest	TRUE TRUE	1.00 1.00	1,817.89 1,818.00	1.48 1.28	1,818.37 1,818.27	20.00 20.00	20.01 20.03	20.00 20.00	21.09 20.58	J-1674 J-1463	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3828	J-2082	Forest	TRUE	1.00	1,820.28	2.28	1,821.56	20.00	20.07	20.00	20.32	J-2729	(N/A)	17.28	J-1198
667 6078	J-385 J-3260	Forest Forest	TRUE TRUE	1.00 1.00	1,822.07 1,822.08	1.48 1.08	1,822.55 1,822.16	20.00 20.00	28.29 27.38	20.00 20.00	20.00 20.00	J-3855 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1787	J-916	Forest	TRUE	1.00	1,822.20	1.08	1,822.28	20.00	21.27	20.00	20.00	J-917	(N/A)	17.28	J-1198
3100 7761	J-1674 J-4108	Forest Forest	TRUE TRUE	1.00 1.00	1,822.41 1,823.43	1.48 2.08	1,822.89 1,824.51	20.00 20.00	20.01 34.96	20.00 20.00	20.70 20.01	J-3457 J-4116	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6818	J-3697	Forest	TRUE	1.00	1,823.45	1.48	1,823.93	20.00	33.90	20.00	20.00	J-4116	(N/A)	17.28	J-1198
7473 6819	J-4018 J-3698	Forest Forest	TRUE TRUE	1.00 1.00	1,823.47 1,823.47	1.68 1.48	1,824.15 1,823.95	20.00 20.00	33.71 32.55	20.00 20.00	20.00 20.00	J-4116 J-4116	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7474	J-4019	Forest	TRUE	1.00	1,823.47	1.48	1,823.95	20.00	32.96	20.00	20.00	J-4116	(N/A)	17.28	J-1198
6713 6714	J-3635 J-3636	Forest Forest	TRUE TRUE	1.00 1.00	1,823.48 1,823.49	1.88 1.48	1,824.36 1,823.97	20.00 20.00	33.61 32.33	20.00 20.00	20.00 20.00	J-4116 J-4116	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7716	J-4097	Forest	TRUE	1.00	1,823.50	1.68	1,824.18	20.00	31.64	20.00	20.00	J-4116	(N/A)	17.28	J-1198
3829 4715	J-2083 J-2479	Forest Forest	TRUE TRUE	1.00 1.00	1,824.98 1,825.42	1.88 1.08	1,825.86 1,825.50	20.00 20.00	20.44 53.90	20.00 20.00	20.00 20.00	J-3829 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
903 6999	J-505	Forest	TRUE	1.00 1.00	1,825.42	1.08	1,825.50	20.00 20.00	54.50	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3654	J-3803 J-1993	Forest Forest	TRUE TRUE	1.00	1,826.67 1,828.42	1.68 1.68	1,827.35 1,829.10	20.00	20.00 20.02	20.00 20.00	21.75 20.00	J-3804 J-3699	(N/A) (N/A)	16.96 16.96	J-1198 J-1198
3099 8413	J-1673 J-4176	Forest Forest	TRUE TRUE	1.00 1.00	1,830.27 1,830.84	1.48 1.08	1,830.75 1,830.91	20.00 20.00	20.02 20.01	20.00 20.00	20.02 24.36	J-3457 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2711	J-1463	Forest	TRUE	1.00	1,831.14	1.48	1,831.62	20.00	20.03	20.00	20.01	J-2565	(N/A)	17.28	J-1198
5450 423	J-2900 J-234	Forest Forest	TRUE TRUE	1.00 1.00	1,831.22 1,831.22	1.08 1.08	1,831.30 1,831.30	20.00 20.00	53.56 54.68	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3546	J-1933	Forest	TRUE	1.00	1,831.97	3.69	1,834.65	20.00	20.07	20.00	20.93	J-2462	(N/A)	17.28	J-1198
424 580	J-235 J-332	Forest Forest	TRUE TRUE	1.00 1.00	1,832.28 1,833.84	1.08 1.08	1,832.35 1,833.92	20.00 20.00	55.89 40.89	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
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Node	Node		Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
5016 301	J-2651 J-155	Forest Forest	TRUE TRUE	1.00 1.00	1,833.87 1,833.90	1.08 1.08	1,833.95 1,833.98	20.00 20.00	40.22 39.32	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
302	J-156	Forest	TRUE	1.00	1,833.92	1.28	1,834.19	20.00	38.72	20.00	20.01	J-2919	(N/A)	17.28	J-1198
904 666	J-506 J-384	Forest Forest	TRUE TRUE	1.00 1.00	1,834.19 1,834.49	1.28 1.28	1,834.47 1,834.77	20.00 20.00	46.97 31.89	20.00 20.00	20.00 20.00	J-2919 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
534	J-303	Forest	TRUE	1.00	1,836.87	1.28	1,837.15	20.00	57.56	20.00	20.01	J-2919	(N/A)	17.28	J-1198
4816 3240	J-2535 J-1759	Forest Forest	TRUE TRUE	1.00 1.00	1,837.56 1,837.56	1.68 1.48	1,838.23 1,838.03	20.00 20.00	21.00 21.51	20.00 20.00	20.00 20.00	J-917 J-917	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6467	J-3490	Forest	TRUE	1.00	1,839.39	1.08	1,839.47	20.00	45.91	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6466 2677	J-3489 J-1442	Forest Forest	TRUE TRUE	1.00 1.00	1,839.39 1,839.46	1.48 1.88	1,839.87 1,840.34	20.00 20.00	46.64 45.94	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2593	J-1393	Forest	TRUE	1.00	1,840.16	1.48	1,840.64	20.00	22.11	20.00	20.00	J-1394	(N/A)	17.28	J-1198
1593 4892	J-792 J-2580	Forest Forest	TRUE TRUE	1.00 1.00	1,840.41 1,840.52	1.08 1.48	1,840.49 1,841.00	20.00 20.00	25.67 25.62	20.00 20.00	20.00 20.00	J-1115 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4891	J-2579	Forest	TRUE	1.00	1,840.52	1.08	1,840.60	20.00	26.27	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4010 238	J-2168 J-115	Forest Forest	TRUE TRUE	1.00 1.00	1,840.96 1,845.73	2.68 1.08	1,842.65 1,845.81	20.00 20.00	27.34 50.69	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
237 7658	J-114 J-4080	Forest Forest	TRUE TRUE	1.00 1.00	1,845.83 1,846.14	1.08 1.08	1,845.90 1,846.21	20.00 20.00	50.74 21.01	20.00 20.00	20.00 20.02	J-2919 J-3804	(N/A) (N/A)	17.28 16.95	J-1198 J-1198
7690	J-4088	Forest	TRUE	1.00	1,846.21	2.88	1,848.10	20.00	20.03	20.00	22.73	J-3804 J-2919	(N/A) (N/A)	17.28	J-1198 J-1198
5757 5758	J-3077	Forest	TRUE TRUE	1.00	1,846.22	1.48	1,846.70	20.00	21.67 22.16	20.00	20.00	J-1394	(N/A)	17.28	J-1198
7000	J-3078 J-3804	Forest Forest	TRUE	1.00 1.00	1,846.22 1,846.41	1.68 1.08	1,846.90 1,846.48	20.00 20.00	20.00	20.00 20.00	20.00 20.42	J-1394 J-3803	(N/A) (N/A)	17.28 16.95	J-1198 J-1198
2536 89	J-1361 J-40	Forest Forest	TRUE TRUE	1.00 1.00	1,846.69 1,847.51	1.08 1.08	1,846.77 1,847.59	20.00 20.00	26.08 66.87	20.00 20.00	20.00 20.00	J-1115 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3186	J-1726	Forest	TRUE	1.00	1,847.52	1.48	1,848.00	20.00	65.44	20.00	20.00	J-941	(N/A)	17.28	J-1198
7049 7048	J-3831 J-3830	Forest Forest	TRUE TRUE	1.00 1.00	1,847.66 1,847.87	2.08 1.88	1,848.75 1,848.75	20.00 20.00	46.14 43.12	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
726	J-418	Forest	TRUE	1.00	1,848.44	1.08	1,848.52	20.00	51.08	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7052 7051	J-3833 J-3832	Forest Forest	TRUE TRUE	1.00 1.00	1,848.44 1,848.44	1.68 3.29	1,849.12 1,850.73	20.00 20.00	33.41 35.63	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4138	J-2224	Forest	TRUE	1.00	1,849.28	1.08	1,849.35	20.00	20.01	20.00	20.86	J-2239	(N/A)	16.95	J-1198
7732 7733	J-4102 J-4103	Forest Forest	TRUE TRUE	1.00 1.00	1,851.89 1,852.03	1.28 1.08	1,852.17 1,852.11	20.00 20.00	20.24 32.12	20.00 20.00	20.01 20.00	J-3066 J-3066	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4839	J-2549	Forest	TRUE	1.00	1,852.35	1.28	1,852.63	20.00	49.43	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4838 7786	J-2548 J-4117	Forest Forest	TRUE TRUE	1.00 1.00	1,852.36 1,853.65	1.08 2.48	1,852.43 1,855.13	20.00 20.00	49.80 45.45	20.00 20.00	20.00 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7450	J-4009	Forest	TRUE	1.00	1,853.93	3.09	1,856.02	20.00	50.08	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3504 1148	J-1910 J-607	Forest Lakes	TRUE TRUE	1.00 1.00	1,854.52 1,854.76	1.08 1.20	1,854.59 1,854.96	20.00 20.00	41.85 86.15	20.00 20.00	20.01 20.05	J-2919 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6988	J-3796	Forest	TRUE	1.00	1,854.96	3.09	1,857.04	20.00	25.04	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3505 6989	J-1911 J-3797	Forest Forest	TRUE TRUE	1.00 1.00	1,855.02 1,855.25	1.68 1.68	1,855.70 1,855.93	20.00 20.00	32.33 22.47	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6656	J-3602	Lakes	TRUE	1.00	1,855.40	1.20	1,855.60	20.00	85.35	20.00	20.00	J-2323	(N/A)	17.28	J-1198
6785 6784	J-3678 J-3677	Forest Forest	TRUE TRUE	1.00 1.00	1,856.18 1,856.19	1.28 1.68	1,856.46 1,856.87	20.00 20.00	45.54 47.44	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4174	J-2239	Forest	TRUE	1.00	1,856.59	1.08	1,856.66	20.00	20.04	20.00	20.00	J-2224	(N/A)	16.95	J-1198
90 3122	J-41 J-1688	Forest Forest	TRUE TRUE	1.00 1.00	1,856.91 1,856.91	1.28 1.28	1,857.19 1,857.19	20.00 20.00	69.81 68.72	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7234 7235	J-3927	Forest	TRUE TRUE	1.00 1.00	1,858.38	1.28 1.08	1,858.66	20.00 20.00	22.96	20.00	20.00 20.00	J-2919	(N/A)	17.28 17.28	J-1198
7235 7671	J-3928 J-4084	Forest Forest	TRUE	1.00	1,858.42 1,859.24	3.49	1,858.50 1,861.73	20.00	22.36 25.66	20.00 20.00	20.00	J-2919 J-1167	(N/A) (N/A)	17.28	J-1198 J-1198
6530	J-3526	Forest	TRUE TRUE	1.00	1,859.26	1.48	1,859.73	20.00	24.73	20.00	20.00	J-1167	(N/A) (N/A)	17.28	J-1198
2163 6531	J-1149 J-3527	Forest Forest	TRUE	1.00 1.00	1,859.27 1,859.27	1.88 1.48	1,860.15 1,859.75	20.00 20.00	23.94 23.11	20.00 20.00	20.00 20.00	J-1167 J-1167	(N/A)	17.28 17.28	J-1198 J-1198
5419 5406	J-2883 J-2876	Forest Lakes	TRUE TRUE	1.00 1.00	1,860.30 1,861.41	1.48 1.20	1,860.78 1,861.61	20.00 20.00	20.00 20.00	20.00 20.00	20.26 20.34	J-2919 J-1896	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7600	J-4061	Forest	TRUE	1.00	1,863.65	1.08	1,863.73	20.00	20.03	20.00	21.55	J-3946	(N/A)	17.28	J-1198
3050 5315	J-1642 J-2822	Lakes Forest	TRUE TRUE	1.00 1.00	1,864.74 1,867.19	1.20 1.88	1,864.94 1,868.07	20.00 20.00	20.34 20.00	20.00 20.00	20.04 20.84	J-1896 J-2821	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3051	J-1643	Lakes	TRUE	1.00	1,869.19	1.89	1,870.08	20.00	20.29	20.00	20.04	J-1896	(N/A)	17.28	J-1198
3998 5692	J-2162 J-3039	Forest Forest	TRUE TRUE	1.00 1.00	1,869.28 1,870.16	1.48 1.68	1,869.75 1,870.83	20.00 20.00	21.87 22.69	20.00 20.00	20.00 20.00	J-2729 J-2939	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5693	J-3040	Forest	TRUE	1.00	1,870.16	1.28	1,870.43	20.00	22.20	20.00	20.00	J-2939	(N/A)	17.28	J-1198
3372 5418	J-1835 J-2882	Forest Forest	TRUE TRUE	1.00 1.00	1,870.83 1,871.35	2.08 1.68	1,871.91 1,872.03	20.00 20.00	33.47 20.00	20.00 20.00	20.00 20.11	J-1044 J-2919	(N/A) (N/A)	16.94 17.28	J-1198 J-1198
956	J-527	Forest	TRUE	1.00	1,871.76	1.08	1,871.84	20.00	40.27	20.00	20.01	J-3855	(N/A)	17.28	J-1198
5128 4588	J-2715 J-2409	Forest Forest	TRUE TRUE	1.00 1.00	1,871.78 1,872.18	1.08 1.48	1,871.85 1,872.66	20.00 20.00	39.42 37.77	20.00 20.00	20.01 20.01	J-3855 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4589	J-2410 J-2979	Forest	TRUE	1.00 1.00	1,872.23	1.08	1,872.30	20.00	37.34	20.00 20.00	20.01 20.00	J-2919	(N/A)	17.28 17.28	J-1198
5589 5588	J-2979 J-2978	Forest Forest	TRUE TRUE	1.00	1,874.85 1,874.85	1.48 1.48	1,875.33 1,875.33	20.00 20.00	68.64 68.82	20.00	20.00	J-3200 J-3200	(N/A) (N/A)	17.28	J-1198 J-1198
106 3345	J-51 J-1820	Forest Forest	TRUE TRUE	1.00 1.00	1,875.30 1,875.31	1.08 1.28	1,875.38 1,875.59	20.00 20.00	76.18 72.98	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1190	J-623	Stewartsville		1.00	1,876.44	1.11	1,876.55	20.00	61.97	20.00	20.00	J-941 J-676	(N/A)	17.28	J-1198
4894 5208	J-2581 J-2759	Stewartsville Forest	TRUE TRUE	1.00 1.00	1,876.44 1,876.76	1.11 1.88	1,876.55 1,877.64	20.00 20.00	62.09 20.01	20.00 20.00	20.00 20.45	J-676 J-2116	(N/A) (N/A)	17.28 16.94	J-1198 J-1198
2529	J-1357	Forest	TRUE	1.00	1,876.77	1.08	1,876.85	20.00	38.15	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5314 3543	J-2821 J-1931	Forest Forest	TRUE TRUE	1.00 1.00	1,879.19 1,880.52	2.28 1.48	1,880.47 1,880.99	20.00 20.00	20.10 20.02	20.00 20.00	20.02 20.07	J-2822 J-3946	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7277	J-3946	Forest	TRUE	1.00	1,881.28	2.68	1,882.96	20.00	20.01	20.00	20.28	J-1931	(N/A)	17.28	J-1198
5136 1129	J-2719 J-598	Forest Forest	TRUE TRUE	1.00 1.00	1,882.82 1,882.82	1.08 1.48	1,882.90 1,883.30	20.00 20.00	68.89 69.56	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4907	J-2588	Forest	TRUE	1.00	1,884.79	1.08	1,884.86	20.00	21.08	20.00	20.00	J-1388	(N/A)	17.28	J-1198
2583 6809	J-1387 J-3692	Forest Forest	TRUE TRUE	1.00 1.00	1,884.79 1,885.13	2.68 1.68	1,886.47 1,885.80	20.00 20.00	21.45 22.82	20.00 20.00	20.00 20.00	J-1388 J-4088	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6810	J-3693	Forest	TRUE	1.00	1,885.13	1.68	1,885.81	20.00	20.94	20.00	20.00	J-4088	(N/A)	17.28	J-1198
3896 1700	J-2116 J-860	Forest Forest	TRUE TRUE	1.00 1.00	1,885.20 1,893.76	1.88 1.08	1,886.08 1,893.84	20.00 20.00	20.01 28.55	20.00 20.00	20.23 20.00	J-2759 J-1115	(N/A) (N/A)	16.94 17.28	J-1198 J-1198
6728	J-3644	Forest	TRUE	1.00	1,894.37	1.28	1,894.65	20.00	20.22	20.00	20.04	J-4119	(N/A)	16.94	J-1198
578 6729	J-331 J-3645	Forest Forest	TRUE TRUE	1.00 1.00	1,894.54 1,894.56	3.29 1.88	1,896.83 1,895.44	20.00 20.00	40.00 21.30	20.00 20.00	20.00 20.02	J-2919 J-4119	(N/A) (N/A)	17.28 16.94	J-1198 J-1198
7115	J-3868	Forest	TRUE	1.00	1,894.57	1.08	1,894.65	20.00	21.34	20.00	20.02	J-4119	(N/A)	16.94	J-1198
7795 455	J-4119 J-254	Forest Forest	TRUE TRUE	1.00 1.00	1,894.80 1,895.60	2.28 1.08	1,896.08 1,895.67	20.00 20.00	20.00 41.29	20.00 20.00	21.33 20.01	J-3804 J-2919	(N/A) (N/A)	16.94 17.28	J-1198 J-1198
4982 456	J-2631 J-255	Forest Forest	TRUE TRUE	1.00 1.00	1,895.64 1,895.99	1.08 1.28	1,895.71 1,896.27	20.00 20.00	40.46 42.94	20.00 20.00	20.00 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
.00	3 230	. 0.000			.,500.00	0	.,500.21	_0.00	.2.07	_0.00	_0.01	- 2010	()	0	

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
3941 616	J-2137 J-353	Forest Forest	TRUE TRUE	1.00 1.00	1,896.48 1,898.90	2.28 1.88	1,897.76 1,899.78	20.00 20.00	22.02 44.90	20.00 20.00	20.00 20.01	J-1163 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7419	J-4000	Forest	TRUE	1.00	1,899.00	1.08	1,899.08	20.00	43.74	20.00	20.01	J-2919	(N/A)	17.28	J-1198
4524 4525	J-2371 J-2372	Forest Forest	TRUE TRUE	1.00 1.00	1,899.09 1,899.10	2.28 1.08	1,900.37 1,899.18	20.00 20.00	45.44 45.05	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2123	J-1124	Forest	TRUE	1.00	1,899.14	1.88	1,900.02	20.00	44.85	20.00	20.00	J-2919	(N/A)	17.28	J-1198
117 6422	J-56 J-3464	Forest Forest	TRUE TRUE	1.00 1.00	1,901.21 1,901.21	1.08 1.28	1,901.29 1,901.49	20.00 20.00	76.72 75.24	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2308	J-1237	Forest	TRUE	1.00	1,901.60	2.48	1,903.08	20.00	22.87	20.00	20.00	J-1238	(N/A)	17.28	J-1198
5883 6139	J-3148 J-3296	Forest Forest	TRUE TRUE	1.00 1.00	1,901.60 1,901.90	1.48 3.49	1,902.07 1,904.38	20.00 20.00	21.80 25.44	20.00 20.00	20.00 20.00	J-1238 J-2219	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6140	J-3297	Forest	TRUE	1.00	1,901.90	1.08	1,901.98	20.00	24.17	20.00	20.00	J-2219	(N/A)	17.28	J-1198
8373 5455	J-4174 J-2903	Forest Forest	TRUE TRUE	1.00 1.00	1,906.52 1,907.41	2.68 1.28	1,908.20 1,907.69	20.00 20.00	20.00 20.00	20.00 20.00	20.40 20.70	J-2919 J-3901	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3992	J-2159	Forest	TRUE	1.00	1,908.31	2.08	1,909.39	20.00	20.29	20.00	20.00	J-1224	(N/A)	17.28	J-1198
3932 7774	J-2134 J-4113	Forest Forest	TRUE TRUE	1.00 1.00	1,908.39 1,908.50	1.68 1.28	1,909.07 1,908.78	20.00 20.00	25.93 24.49	20.00 20.00	20.03 20.02	J-1599 J-1599	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4877	J-2570	Forest	TRUE	1.00	1,910.62	1.08	1,910.70	20.00	33.36	20.00	20.00	J-3066	(N/A)	17.28	J-1198
4876 1266	J-2569 J-657	Forest Lakes	TRUE TRUE	1.00 1.00	1,910.62 1,911.21	1.08 1.20	1,910.70 1,911.41	20.00 20.00	33.47 96.29	20.00 20.00	20.00 20.03	J-3066 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5579	J-2973	Lakes	TRUE	1.00	1,911.22	1.20	1,911.42	20.00	95.89	20.00	20.03	J-2323	(N/A)	17.28	J-1198
7953 1010	J-4151 J-552	Forest Forest	TRUE TRUE	1.00 1.00	1,914.05 1,916.55	2.68 1.48	1,915.73 1,917.03	20.00 20.00	22.83 37.09	20.00 20.00	20.00 20.00	J-2822 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5118	J-2709	Forest	TRUE	1.00	1,916.56	1.08	1,916.64	20.00	36.16	20.00	20.00	J-3855	(N/A)	17.28	J-1198
7182 5454	J-3901 J-2902	Forest Forest	TRUE TRUE	1.00 1.00	1,916.74 1,920.51	1.28 1.28	1,917.02 1,920.78	20.00 20.00	20.00 20.13	20.00 20.00	20.30 20.01	J-2903 J-3901	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5561	J-2963	Forest	TRUE	1.00	1,921.16	1.48	1,921.64	20.00	60.14	20.00	20.00	J-3904	(N/A)	16.93	J-1198
5560 6755	J-2962 J-3660	Forest Forest	TRUE TRUE	1.00 1.00	1,921.16 1,922.44	1.08 1.88	1,921.23 1,923.32	20.00 20.00	59.89 20.01	20.00 20.00	20.00 21.22	J-3904 J-1715	(N/A) (N/A)	16.93 17.28	J-1198 J-1198
207	J-95	Forest	TRUE	1.00	1,924.05	1.08	1,924.13	20.00	59.20	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1831 5046	J-944 J-2670	Forest Forest	TRUE TRUE	1.00 1.00	1,925.57 1,929.79	1.08 1.28	1,925.65 1,930.07	20.00 20.00	20.02 20.00	20.00 20.00	20.98 20.40	J-1715 J-1163	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1981	J-1042	Forest	TRUE	1.00	1,932.88	1.08	1,932.96	20.00	23.43	20.00	20.02	J-3	(N/A)	16.92	J-1198
6285 7986	J-3383 J-4156	Forest Forest	TRUE TRUE	1.00 1.00	1,933.97 1,934.19	1.08 3.09	1,934.05 1,936.28	20.00 20.00	20.00 20.00	20.00 20.00	21.03 21.35	J-2817 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5045	J-2669	Forest	TRUE	1.00	1,936.90	2.08	1,937.98	20.00	20.49	20.00	20.00	J-1163	(N/A)	17.28	J-1198
3168 768	J-1715 J-438	Forest Forest	TRUE TRUE	1.00 1.00	1,938.04 1,938.89	1.48 1.08	1,938.51 1,938.97	20.00 20.00	20.01 41.48	20.00 20.00	20.19 20.00	J-3660 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3371	J-1834	Forest	TRUE	1.00	1,939.48	1.08	1,939.56	20.00	32.72	20.00	20.00	J-1044	(N/A)	16.92	J-1198
6793 6889	J-3683 J-3739	Forest Forest	TRUE TRUE	1.00 1.00	1,939.48 1,939.71	1.08 3.09	1,939.56 1,941.80	20.00 20.00	32.24 29.58	20.00 20.00	20.00 20.00	J-1044 J-4116	(N/A) (N/A)	16.92 17.28	J-1198 J-1198
6890	J-3740	Forest	TRUE	1.00	1,939.73	1.48	1,940.21	20.00	27.89	20.00	20.00	J-4116	(N/A)	17.28	J-1198
5869 5870	J-3140 J-3141	Forest Forest	TRUE TRUE	1.00 1.00	1,939.80 1,939.84	2.08 1.48	1,940.88 1,940.32	20.00 20.00	21.20 20.10	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7465	J-4016	Forest	TRUE	1.00	1,939.84	1.08	1,939.92	20.00	30.85	20.00	20.00	J-1115	(N/A)	17.28	J-1198
432 7701	J-240 J-4092	Forest Forest	TRUE TRUE	1.00 1.00	1,939.85 1,939.85	1.48 1.88	1,940.32 1,940.73	20.00 20.00	48.34 26.97	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
866	J-487	Forest	TRUE	1.00	1,940.14	1.28	1,940.42	20.00	43.50	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6735 392	J-3648 J-214	Forest Forest	TRUE TRUE	1.00 1.00	1,940.14 1,940.49	1.28 1.08	1,940.42 1,940.56	20.00 20.00	42.29 47.78	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5354	J-2845	Forest	TRUE	1.00	1,940.49	1.28	1,940.76	20.00	46.88	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6898 6897	J-3745 J-3744	Forest Forest	TRUE TRUE	1.00 1.00	1,940.67 1,940.68	1.28 1.08	1,940.95 1,940.76	20.00 20.00	32.18 31.40	20.00 20.00	20.03 20.03	J-2729 J-2729	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
393 7389	J-215 J-3989	Forest	TRUE TRUE	1.00 1.00	1,940.83 1,941.14	1.48	1,941.31 1.941.41	20.00 20.00	47.48	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
781	J-3989 J-445	Forest Forest	TRUE	1.00	1,941.14	1.28 1.28	1,941.41	20.00	44.68 45.46	20.00	20.00	J-2919 J-2919	(N/A) (N/A)	17.28	J-1198 J-1198
492	J-276	Forest	TRUE	1.00	1,941.45	1.28	1,941.72	20.00	41.58	20.00	20.00	J-2919	(N/A)	17.28	J-1198
780 6954	J-444 J-3777	Forest Forest	TRUE TRUE	1.00 1.00	1,941.83 1,941.84	1.08 1.08	1,941.91 1,941.91	20.00 20.00	48.40 48.73	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4554 3461	J-2389 J-1885	Forest Forest	TRUE TRUE	1.00 1.00	1,941.85 1,941.86	1.08 1.48	1,941.93 1,942.33	20.00 20.00	23.63 23.97	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8215	J-4171	Forest	TRUE	1.00	1,941.92	2.08	1,943.00	20.00	21.88	20.00	20.00	J-2919	(N/A)	17.28	J-1198
950 1093	J-524 J-586	Forest Forest	TRUE TRUE	1.00 1.00	1,941.96 1,941.96	1.28 8.00	1,942.24 1,948.96	20.00 20.00	32.62 36.42	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3460	J-1884	Forest	TRUE	1.00	1,941.97	1.68	1,942.65	20.00	31.43	20.00	20.00	J-2919	(N/A)	17.28	J-1198
493 304	J-277 J-157	Forest Forest	TRUE TRUE	1.00 1.00	1,941.97 1,941.98	1.08 1.28	1,942.05 1,942.25	20.00 20.00	41.09 32.38	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
305	J-158	Forest	TRUE	1.00	1,941.98	1.88	1,942.86	20.00	32.23	20.00	20.00	J-2919	(N/A)	17.28	J-1198
722 721	J-416 J-415	Forest Forest	TRUE TRUE	1.00 1.00	1,942.13 1,942.63	1.08 1.08	1,942.21 1,942.71	20.00 20.00	47.49 41.93	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
567	J-324	Forest	TRUE	1.00	1,942.70	1.08	1,942.78	20.00	43.48	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6570 8493	J-3551 J-4199	Forest Forest	TRUE TRUE	1.00 1.00	1,942.70 1,942.91	1.08 1.68	1,942.78 1,943.59	20.00 20.00	42.07 44.50	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
566	J-323	Forest	TRUE	1.00	1,942.92	1.08	1,942.99	20.00	44.83	20.00	20.00	J-2919	(N/A)	17.28	J-1198
785 8506	J-447 J-4206	Forest Forest	TRUE TRUE	1.00 1.00	1,943.58 1,943.58	1.08 1.48	1,943.66 1,944.06	20.00 20.00	54.07 52.21	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6831	J-3705	Forest	TRUE	1.00	1,944.11	1.08	1,944.19	20.00	60.91	20.00	20.00	J-2919	(N/A)	17.28	J-1198
792 1325	J-451 J-681	Forest Forest	TRUE TRUE	1.00 1.00	1,944.11 1,944.85	1.28 1.48	1,944.39 1,945.33	20.00 20.00	63.36 42.01	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1116	J-595	Forest	TRUE	1.00	1,944.85	1.28	1,945.13	20.00	43.23	20.00	20.00	J-2919	(N/A)	17.28	J-1198
836 6795	J-472 J-3684	Forest Forest	TRUE TRUE	1.00 1.00	1,944.92 1,945.18	1.28 1.08	1,945.20 1,945.26	20.00 20.00	68.48 31.20	20.00 20.00	20.00 20.00	J-2919 J-1115	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6796	J-3685	Forest	TRUE	1.00	1,945.19	1.08	1,945.26	20.00	30.84	20.00	20.00	J-1115	(N/A)	17.28	J-1198
6972 823	J-3787 J-466	Forest Forest	TRUE TRUE	1.00 1.00	1,947.30 1,947.31	1.28 1.08	1,947.58 1,947.38	20.00 20.00	62.84 65.17	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3949	J-2141	Forest	TRUE	1.00	1,949.25	2.68	1,950.93	20.00	25.88	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1024 6966	J-557 J-3784	Forest Forest	TRUE TRUE	1.00 1.00	1,949.42 1,949.48	2.08 1.28	1,950.50 1,949.75	20.00 20.00	44.22 55.18	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
822	J-465	Forest	TRUE	1.00	1,949.48	1.28	1,949.76	20.00	58.82	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6649 2103	J-3598 J-1111	Forest Forest	TRUE TRUE	1.00 1.00	1,949.49 1,949.53	1.48 1.48	1,949.97 1,950.01	20.00 20.00	20.00 28.70	20.00 20.00	20.78 20.00	J-3571 J-1115	(N/A) (N/A)	16.92 17.28	J-1198 J-1198
1852	J-958	Forest	TRUE	1.00	1,949.67	1.08	1,949.75	20.00	20.00	20.00	21.73	J-959	(N/A)	17.28	J-1198
820 7454	J-464 J-4011	Forest Forest	TRUE TRUE	1.00 1.00	1,952.17 1,953.10	1.28 1.48	1,952.45 1,953.58	20.00 20.00	46.01 26.66	20.00 20.00	20.00 20.00	J-2919 J-1163	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7812 1604	J-4123 J-799	Forest Forest	TRUE TRUE	1.00 1.00	1,953.13 1,953.80	1.48 1.08	1,953.60 1,953.88	20.00 20.00	22.49 30.69	20.00 20.00	20.00 20.00	J-1163 J-1115	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
421	J-233	Forest	TRUE	1.00	1,954.04	1.28	1,954.31	20.00	46.13	20.00	20.00	J-2919	(N/A)	17.28	J-1198

420 J-232 Forest TRUE 1.00 1,954.16 1.08 1,954.24 20.00 46.22 20.00 20.00 J-2919 (1 6852 J-3717 Forest TRUE 1.00 1,954.16 1.28 1,954.44 20.00 44.80 20.00 20.00 J-2919 (1 783 J-446 Forest TRUE 1.00 1,955.07 1.08 1,955.15 20.00 62.11 20.00 20.00 J-2919 (1 7075 J-3846 Forest TRUE 1.00 1,955.07 1.08 1,955.34 20.00 27.61 20.00 20.00 J-2919 (1 806 J-457 Forest TRUE 1.00 1,955.61 1.48 1,956.09 20.00 47.44 20.00 20.00 J-2919 (1 7074 J-3845 Forest TRUE 1.00 1,955.61 1.48 1,956.09 20.00 47.44 20.00 20.00 J-2919 (1 7074 J-3845 Forest TRUE 1.00 1,955.69 1.08 1,955.77 20.00 33.16 20.00 20.00 J-2919 (1 7074 J-3845 Forest TRUE 1.00 1,955.69 1.08 1,955.78 20.00 37.36 20.00 20.00 J-2919 (1 7074 J-4076 Forest TRUE 1.00 1,955.70 1.08 1,955.78 20.00 37.36 20.00 20.00 J-2919 (1 7074 J-4121 Forest TRUE 1.00 1,955.70 1.28 1,955.98 20.00 45.58 20.00 20.00 J-2919 (1 7074 J-4121 Forest TRUE 1.00 1,955.70 1.28 1,955.98 20.00 45.58 20.00 20.00 J-2919 (1 7074 J-4121 Forest TRUE 1.00 1,955.80 1.11 1,955.91 20.00 58.62 20.00 20.00 J-2919 (1 7074 J-3899 Forest TRUE 1.00 1,955.80 1.11 1,955.91 20.00 58.62 20.00 20.00 J-676 (1 7074 J-3599 Forest TRUE 1.00 1,955.96 2.68 1,957.64 20.00 20.00 20.00 J-2919 (1 7074 J-3599 Forest TRUE 1.00 1,955.60 1.48 1,956.52 20.00 20.00 20.00 J-2919 (1 7074 J-3599 Forest TRUE 1.00 1,956.04 1.48 1,956.52 20.00 20.00 20.00 J-2919 (1 7074 J-3599 Forest TRUE 1.00 1,956.04 1.48 1,956.52 20.00 20.00 20.00 J-2919 (1 7074 J-3599 Forest TRUE 1.00 1,956.04 1.48 1,956.52 20.00 46.26 20.00 20.00 J-2919 (1 7074 J-3599 Forest TRUE 1.00 1,956.43 1.28 1,956.51 20.00 47.83 20.00 20.00 J-2919 (1 7074 J-3599 Forest TRUE 1.00 1,956.43 1.28 1,956.51 20.00 47.83 20.00 20.00 J-2919 (1 7074 J-3599 Forest TRUE 1.00 1,956.45 1.08 1,956.51 20.00 47.83 20.00 20.00 J-2919 (1 7074 J-3599 Forest TRUE 1.00 1,956.45 1.08 1,956.51 20.00 47.83 20.00 20.00 J-2919 (1 7074 J-3599 Forest TRUE 1.00 1,956.45 1.08 1,956.51 20.00 46.66 20.00 20.00 J-2919 (1 7074 J-3599 Forest TRUE 1.00 1,956.45 1.08 1,956.55 20.00 46.66 20.00 20.00 J-2919 (1 7074 J-3599 F	(psi) (psi) (psi) (psi) (N/A) 17.28 (N/A)	J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198
6852 J-3717 Forest TRUE 1.00 1,954.16 1.28 1,954.44 20.00 44.80 20.00 20.00 J-2919 (1,783) 783 J-446 Forest TRUE 1.00 1,955.07 1.08 1,955.34 20.00 20.00 20.00 J-2919 (1,702) 806 J-457 Forest TRUE 1.00 1,955.61 1.48 1,956.77 20.00 27.61 20.00 20.00 J-2919 (1,707) 7074 J-3845 Forest TRUE 1.00 1,955.69 1.08 1,955.77 20.00 27.41 20.00 20.00 J-2919 (1,707) 7074 J-3845 Forest TRUE 1.00 1,955.69 1.08 1,955.77 20.00 33.16 20.00 20.00 J-2919 (1,702) 8481 J-4192 Forest TRUE 1.00 1,955.70 1.68 1,956.38 20.00 33.16 20.00 20.00 J-2919 (1,702	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198
7075 J-3846 Forest TRUE 1.00 1,955.27 1.08 1,955.34 20.00 27.61 20.00 20.00 J-2919 (I 806 J-457 Forest TRUE 1.00 1,955.61 1.48 1,956.77 20.00 47.44 20.00 20.00 J-2919 (I 7074 J-3845 Forest TRUE 1.00 1,955.70 1.08 1,955.77 20.00 33.16 20.00 20.00 J-2919 (I 7641 J-4076 Forest TRUE 1.00 1,955.70 1.08 1,955.78 20.00 36.61 20.00 20.00 J-2919 (I 7802 J-4121 Forest TRUE 1.00 1,955.70 1.28 1,955.98 20.00 36.61 20.00 20.00 J-2919 (I 1196 J-626 Stewartsville TRUE 1.00 1,955.80 1.11 1,955.91 20.00 56.62 20.00 20.00 J-676 ((N/A) 17.28 (N/A) 17.28	J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198
806 J-457 Forest TRUE 1.00 1,955.61 1.48 1,956.09 20.00 47.44 20.00 20.00 J-2919 (I 7074 J-3845 Forest TRUE 1.00 1,955.69 1.08 1,955.77 20.00 33.16 20.00 20.00 J-2919 (I 7641 J-4076 Forest TRUE 1.00 1,955.70 1.08 1,955.78 20.00 37.36 20.00 20.00 J-2919 (I 8481 J-4129 Forest TRUE 1.00 1,955.70 1.68 1,955.98 20.00 36.61 20.00 20.00 J-2919 (I 7802 J-4121 Forest TRUE 1.00 1,955.70 1.28 1,955.98 20.00 45.58 20.00 20.00 J-2919 (I 1196 J-626 Stewartsville TRUE 1.00 1,955.80 1.11 1,955.91 20.00 40.00 20.00 20.00 20.00 2	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198
7641 J-4076 Forest TRUE 1.00 1,955.70 1.08 1,955.78 20.00 37.36 20.00 20.00 J-2919 (I 8481 J-4192 Forest TRUE 1.00 1,955.70 1.68 1,956.38 20.00 33.661 20.00 20.00 J-2919 (I 7802 J-4121 Forest TRUE 1.00 1,955.70 1.28 1,955.98 20.00 45.58 20.00 20.00 20.00 J-2919 (I 1196 J-2626 Stewartsville TRUE 1.00 1,955.80 1.11 1,955.91 20.00 58.62 20.00 20.00 J-676 (I 6650 J-3599 Forest TRUE 1.00 1,955.96 2.68 1,957.64 20.00 20.02 20.00 J-3676 (I 3385 J-1841 Forest TRUE 1.00 1,956.04 1.48 1,956.52 20.00 52.48 20.00 20.00 J-2919 <	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198
8481 J-4192 Forest TRUE 1.00 1,955.70 1.68 1,956.38 20.00 36.61 20.00 20.00 J-2919 (I 7802 J-4121 Forest TRUE 1.00 1,955.70 1.28 1,955.98 20.00 45.58 20.00 20.00 20.00 J-2919 (I 1196 J-626 Stewartsville TRUE 1.00 1,955.80 1.11 1,955.91 20.00 58.62 20.00 20.00 J-676 (I 5263 J-2792 Stewartsville TRUE 1.00 1,955.80 1.11 1,955.91 20.00 20.00 20.00 20.00 J-676 (I 6660 J-3599 Forest TRUE 1.00 1,955.96 2.68 1,957.64 20.00 20.92 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198
1196 J-626 Stewartsville TRUE 1.00 1,955.80 1.11 1,955.91 20.00 58.62 20.00 20.00 J-676 (1 5263 J-2792 Stewartsville TRUE 1.00 1,955.80 1.11 1,955.91 20.00 57.79 20.00 20.00 20.00 J-676 (1 6650 J-3599 Forest TRUE 1.00 1,955.96 2.68 1,957.64 20.00 20.92 20.00 20.04 J-3571 (1 626 J-3599 Forest TRUE 1.00 1,956.04 1.48 1,956.52 20.00 52.48 20.00 20.00 J-2919 (1 4786 J-2519 Forest TRUE 1.00 1,956.43 1.08 1,956.51 20.00 48.31 20.00 20.00 J-2919 (1 4787 J-2520 Forest TRUE 1.00 1,956.43 1.28 1,956.51 20.00 48.31 20.00 20.00	(N/A) 17.28 (N/A) 17.28 (N/A) 16.92 (N/A) 16.92 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28	J-1198 J-1198 J-1198 J-1198 J-1198 J-1198 J-1198
5263 J-2792 Stewartsville TRUE 1.00 1,955,80 1.11 1,955,91 20.00 57,79 20.00 20.00 J-676 (1,956,91 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 32.00 32.00 20.00 32.00 </td <td>(N/A) 17.28 (N/A) 16.92 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28</td> <td>J-1198 J-1198 J-1198 J-1198 J-1198 J-1198</td>	(N/A) 17.28 (N/A) 16.92 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28	J-1198 J-1198 J-1198 J-1198 J-1198 J-1198
626 J-359 Forest TRUE 1.00 1,956.04 1.48 1,956.52 20.00 52.48 20.00 20.00 J-2919 (I 3385 J-1841 Forest TRUE 1.00 1,956.04 1.48 1,956.52 20.00 46.26 20.00 20.00 J-2919 (I 4786 J-2519 Forest TRUE 1.00 1,956.43 1.08 1,956.51 20.00 48.31 20.00 20.00 J-2919 (I 4787 J-2520 Forest TRUE 1.00 1,956.43 1.28 1,956.51 20.00 47.83 20.00 20.00 J-2919 (I 1691 J-854 Forest TRUE 1.00 1,956.45 1.08 1,956.52 20.00 30.39 20.00 20.00 J-2115 (I 627 J-360 Forest TRUE 1.00 1,956.57 1.08 1,956.64 20.00 48.57 20.00 20.00 J-21163 (I	(N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28	J-1198 J-1198 J-1198 J-1198
3385 J-1841 Forest TRUE 1.00 1,956.04 1.48 1,956.52 20.00 46.26 20.00 20.00 J-2919 (1 4786 J-2519 Forest TRUE 1.00 1,956.43 1.08 1,956.51 20.00 48.31 20.00 20.00 J-2919 (1 4787 J-2520 Forest TRUE 1.00 1,956.43 1.28 1,956.71 20.00 48.31 20.00 20.00 J-2919 (1 1691 J-854 Forest TRUE 1.00 1,956.45 1.28 1,956.71 20.00 47.83 20.00 20.00 J-2919 (1 1691 J-854 Forest TRUE 1.00 1,956.45 1.08 1,956.57 20.00 30.39 20.00 20.00 J-1115 (1 1691 J-854 Forest TRUE 1.00 1,956.57 1.08 1,956.64 20.00 48.57 20.00 20.00 J-2919 (1 1691 J-856 J-2002 J-2	(N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28 (N/A) 17.28	J-1198 J-1198 J-1198
4787 J-2520 Forest TRUE 1.00 1,956.43 1.28 1,956.71 20.00 47.83 20.00 20.00 J-2219 (I 1691 J-854 Forest TRUE 1.00 1,956.45 1.08 1,956.52 20.00 30.39 20.00 20.00 J-1115 (I 627 J-360 Forest TRUE 1.00 1,956.57 1.08 1,956.64 20.00 48.57 20.00 20.00 J-2919 (I 5660 J-3021 Forest TRUE 1.00 1,957.06 1.68 1,957.74 20.00 26.63 20.00 20.00 J-1163 (I 5661 J-3022 Forest TRUE 1.00 1,957.06 2.48 1,958.55 20.00 25.93 20.00 20.00 J-1163 (I 7948 J-4149 Forest TRUE 1.00 1,957.28 1.28 1,957.56 20.00 54.09 20.00 20.00 J-2919 (I	(N/A) 17.28 (N/A) 17.28 (N/A) 17.28	J-1198
1691 J-854 Forest TRUE 1.00 1,956.45 1.08 1,956.52 20.00 30.39 20.00 20.00 J-1115 (1 627 J-360 Forest TRUE 1.00 1,956.67 1.08 1,956.64 20.00 48.57 20.00 20.00 J-2919 (1 5660 J-3021 Forest TRUE 1.00 1,957.06 1.68 1,957.74 20.00 26.63 20.00 20.00 J-1163 (1 5661 J-3022 Forest TRUE 1.00 1,957.06 2.48 1,958.55 20.00 25.93 20.00 20.00 J-1163 (1 7948 J-4149 Forest TRUE 1.00 1,957.28 1.28 1,957.56 20.00 54.09 20.00 20.00 J-2919 (1	(N/A) 17.28 (N/A) 17.28	
5660 J-3021 Forest TRUE 1.00 1,957.06 1.68 1,957.74 20.00 26.63 20.00 20.00 J-1163 (I 5661 J-3022 Forest TRUE 1.00 1,957.06 2.48 1,958.55 20.00 25.93 20.00 20.00 J-1163 (I 7948 J-4149 Forest TRUE 1.00 1,957.28 1.28 1,957.56 20.00 54.09 20.00 20.00 J-2919 (I		J-1198
5661 J-3022 Forest TRUE 1.00 1,957.06 2.48 1,958.55 20.00 25.93 20.00 20.00 J-1163 (1 7948 J-4149 Forest TRUE 1.00 1,957.28 1.28 1,957.56 20.00 54.09 20.00 20.00 J-2919 (1		J-1198 J-1198
	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
6429 J-3468 Forest TRUE 1.00 1,957.48 1.28 1,957.75 20.00 46.22 20.00 20.00 J-2919 (I	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
6872 J-3729 Forest TRUE 1.00 1,957.50 1.28 1,957.78 20.00 48.50 20.00 20.00 J-2919 (I	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
4599 J-2416 Forest TRUE 1.00 1,960.48 2.28 1,961.76 20.00 26.86 20.00 20.00 J-2822 (I	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
370 J-200 Forest TRUE 1.00 1,960.62 1.08 1,960.70 20.00 70.96 20.00 20.00 J-2919 (I	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
369 J-199 Forest TRUE 1.00 1,960.72 1.68 1,961.40 20.00 70.94 20.00 20.00 J-2919 (1	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
5596 J-2983 Forest TRUE 1.00 1,960.72 1.08 1,960.80 20.00 72.25 20.00 20.00 J-2919 (I	(N/A) 17.28	J-1198
	(N/A) 16.91 (N/A) 16.91	J-1198 J-1198
6228 J-3349 Forest TRUE 1.00 1,963.06 2.48 1,964.54 20.00 20.02 20.00 20.84 J-3350 (I	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
7872 J-4135 Forest TRUE 1.00 1,964.84 1.68 1,965.52 20.00 20.00 20.00 20.44 J-2919 (I	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
4056 J-2187 Lakes TRUE 1.00 1,965.72 2.41 1,967.13 20.00 22.27 20.00 20.00 J-2188 (I	(N/A) 17.28	J-1198
	(N/A) 16.91 (N/A) 16.91	J-1198 J-1198
6512 J-3516 Forest TRUE 1.00 1,967.35 1.88 1,968.23 20.00 24.80 20.00 20.00 J-3425 (I	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
4796 J-2525 Forest TRUE 1.00 1,967.48 1.48 1,967.96 20.00 72.67 20.00 20.00 J-2919 (I	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
631 J-362 Forest TRUE 1.00 1,969.83 1.68 1,970.51 20.00 43.66 20.00 20.00 J-2919 (I	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
	(N/A) 17.28	J-1198
4726 J-2486 Forest TRUE 1.00 1,971.17 1.28 1,971.45 20.00 76.84 20.00 20.01 J-2919 (I 5739 J-3067 Forest TRUE 1.00 1,971.35 1.48 1,971.83 20.00 27.54 20.00 20.00 J-2919 (I	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
4002 J-2164 Forest TRUE 1.00 1,971.70 1.88 1,972.58 20.00 22.40 20.00 20.00 J-2919 (I	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
3472 J-1891 Forest TRUE 1.00 1,971.71 1.28 1,971.99 20.00 57.86 20.00 20.00 J-2919 (I	(N/A) 17.28	J-1198
5577 J-2972 Forest TRUE 1.00 1,971.72 1.48 1,972.20 20.00 56.72 20.00 20.00 J-2919 (I	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
5248 J-2784 Forest TRUE 1.00 1,971.72 1.48 1,972.20 20.00 51.76 20.00 20.00 J-2919 (I	(N/A) 17.28	J-1198
5247 J-2783 Forest TRUE 1.00 1,971.73 2.48 1,973.21 20.00 52.05 20.00 20.00 J-2919 (I	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
4766 J-2508 Forest TRUE 1.00 1,971.75 1.88 1,972.63 20.00 45.92 20.00 20.00 J-2919 (I	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
2252 J-1203 Forest TRUE 1.00 1,971.75 1.68 1,972.43 20.00 47.33 20.00 20.00 J-2919 (I	(N/A) 17.28	J-1198
	(N/A) 17.28 (N/A) 17.28	J-1198 J-1198
7452 J-4010 Forest TRUE 1.00 1,971.76 1.08 1,971.84 20.00 34.66 20.00 20.00 J-2919 (I	(N/A) 17.28	J-1198
		J-1198 J-1198
3840 J-2088 Forest TRUE 1.00 1,971.80 1.88 1,972.68 20.00 35.01 20.00 20.00 J-2919 (I	(N/A) 17.28 (N/A) 17.28	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
4486	J-2350	Forest	TRUE	1.00	1,971.83	1.28	1,972.11	20.00	26.69	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7206	J-3913	Forest	TRUE	1.00	1,971.84	2.28	1,973.12	20.00	26.64	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4595 4596	J-2413	Forest	TRUE TRUE	1.00	1,971.95	1.48	1,972.43 1,972.43	20.00	32.39	20.00	20.00	J-2919	(N/A) (N/A)	17.28	J-1198
4596 2727	J-2414 J-1472	Forest Forest	TRUE	1.00 1.00	1,971.95 1,971.95	1.48 1.48	1,972.43	20.00 20.00	31.87 32.41	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4700	J-2471	Forest	TRUE	1.00	1,972.02	1.68	1,972.70	20.00	71.27	20.00	20.01	J-2919	(N/A)	17.28	J-1198
256	J-127	Forest	TRUE	1.00	1,972.02	1.68	1,972.70	20.00	71.94	20.00	20.01	J-2919	(N/A)	17.28	J-1198
255 4033	J-126 J-2177	Forest Forest	TRUE TRUE	1.00 1.00	1,972.04 1,972.05	1.48 1.88	1,972.52 1,972.93	20.00 20.00	71.81 25.21	20.00 20.00	20.01 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4736	J-2492	Forest	TRUE	1.00	1,972.08	1.88	1,972.96	20.00	34.43	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7493	J-4026	Forest	TRUE	1.00	1,972.08	1.48	1,972.56	20.00	35.28	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4735 4614	J-2491 J-2424	Forest Forest	TRUE TRUE	1.00 1.00	1,972.08 1,972.08	1.08 1.28	1,972.16 1,972.36	20.00 20.00	33.76 42.76	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4615	J-2425	Forest	TRUE	1.00	1,972.08	1.88	1,972.96	20.00	42.15	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7359	J-3978	Forest	TRUE	1.00	1,972.10	1.48	1,972.57	20.00	43.22	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4163 5475	J-2235 J-2915	Forest Forest	TRUE TRUE	1.00 1.00	1,972.21 1,972.50	1.48 1.68	1,972.69 1,973.17	20.00 20.00	52.83 20.00	20.00 20.00	20.00 20.26	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5090	J-2694	Forest	TRUE	1.00	1,973.02	1.48	1,973.50	20.00	20.03	20.00	20.88	J-1827	(N/A)	17.28	J-1198
934 6479	J-516	Forest	TRUE TRUE	1.00 1.00	1,973.22	2.28 1.08	1,974.51	20.00 20.00	44.87 43.23	20.00 20.00	20.01 20.01	J-3855	(N/A)	17.28	J-1198 J-1198
2785	J-3497 J-1507	Forest Forest	TRUE	1.00	1,973.25 1,975.08	1.48	1,973.33 1,975.55	20.00	20.03	20.00	23.51	J-3855 J-1508	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6229	J-3350	Forest	TRUE	1.00	1,975.09	1.08	1,975.17	20.00	20.00	20.00	20.31	J-3349	(N/A)	17.28	J-1198
1607	J-801	Forest	TRUE	1.00	1,975.88	1.08	1,975.96	20.00	28.15	20.00	20.00	J-1115	(N/A)	17.28	J-1198
7124 4833	J-3873 J-2545	Forest Forest	TRUE TRUE	1.00 1.00	1,976.39 1,976.43	1.08 1.08	1,976.47 1,976.50	20.00 20.00	28.13 23.70	20.00 20.00	20.00 20.00	J-1115 J-1115	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4834	J-2546	Forest	TRUE	1.00	1,976.43	1.08	1,976.51	20.00	23.15	20.00	20.00	J-1115	(N/A)	17.28	J-1198
2514	J-1348	Forest	TRUE	1.00	1,976.43 1,979.16	1.08	1,976.51 1,980.04	20.00	22.82	20.00	20.00	J-1115	(N/A)	17.28	J-1198
861 5486	J-485 J-2921	Forest Forest	TRUE TRUE	1.00 1.00	1,979.16	1.88 1.68	1,980.04	20.00 20.00	36.69 35.95	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1599	J-796	Forest	TRUE	1.00	1,981.28	1.08	1,981.35	20.00	27.88	20.00	20.00	J-1115	(N/A)	17.28	J-1198
5442 6725	J-2896 J-3642	Forest Forest	TRUE TRUE	1.00 1.00	1,982.43 1,982.94	2.28 1.88	1,983.71 1,983.82	20.00 20.00	20.01 81.08	20.00 20.00	20.89 20.01	J-2256 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6726	J-3643	Forest	TRUE	1.00	1,982.95	1.68	1,983.62	20.00	81.86	20.00	20.01	J-2919	(N/A)	17.28	J-1198
860	J-484	Forest	TRUE	1.00	1,983.19	1.88	1,984.07	20.00	34.60	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6059 7251	J-3248 J-3936	Forest Forest	TRUE TRUE	1.00 1.00	1,983.64 1.983.65	1.08 1.08	1,983.72 1,983.72	20.00 20.00	30.14 29.84	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6058	J-3247	Forest	TRUE	1.00	1,983.65	1.08	1,983.72	20.00	30.02	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3357 5474	J-1827 J-2914	Forest Forest	TRUE TRUE	1.00 1.00	1,983.65 1,985.95	2.68 1.68	1,985.33 1,986.63	20.00 20.00	20.15 20.00	20.00 20.00	20.03 20.10	J-2694 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5593	J-2981	Forest	TRUE	1.00	1,987.24	1.48	1,987.72	20.00	33.21	20.00	20.00	J-2919	(N/A)	17.28	J-1198
864	J-486	Forest	TRUE	1.00	1,987.24	1.48	1,987.72	20.00	34.06	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1683 8477	J-849 J-4190	Forest Forest	TRUE TRUE	1.00 1.00	1,990.06 1,990.87	1.08 1.68	1,990.14 1,991.55	20.00 20.00	28.50 32.33	20.00 20.00	20.00 20.00	J-1115 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
708	J-407	Forest	TRUE	1.00	1,990.88	1.08	1,990.96	20.00	33.75	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3336	J-1815 J-368	Forest	TRUE TRUE	1.00 1.00	1,991.36	1.48 1.08	1,991.83	20.00 20.00	20.03	20.00 20.00	20.06 20.00	J-958 J-2919	(N/A) (N/A)	17.28 17.28	J-1198
640 3071	J-1656	Forest Forest	TRUE	1.00	1,991.82 1,991.83	1.08	1,991.90 1,991.91	20.00	34.79 25.57	20.00	20.00	J-2919 J-2919	(N/A)	17.28	J-1198 J-1198
4501	J-2358	Forest	TRUE	1.00	1,991.91	2.28	1,993.19	20.00	52.27	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4500 3070	J-2357 J-1655	Forest Forest	TRUE TRUE	1.00 1.00	1,991.91 1,991.92	1.48 8.88	1,992.39 1,999.80	20.00 20.00	52.62 25.01	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4814	J-2534	Forest	TRUE	1.00	1,991.92	1.08	1,992.00	20.00	24.95	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7157	J-3891	Forest	TRUE	1.00	1,991.95	1.28	1,992.23	20.00	52.42	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7158 639	J-3892 J-367	Forest Forest	TRUE TRUE	1.00 1.00	1,991.95 1,992.70	1.48 1.08	1,992.43 1,992.78	20.00 20.00	52.28 34.91	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
8469	J-4186	Forest	TRUE	1.00	1,992.71	1.48	1,993.19	20.00	34.85	20.00	20.00	J-2919	(N/A)	17.28	J-1198
2532 2780	J-1359 J-1504	Lakes Forest	TRUE TRUE	1.00 1.00	1,992.79 1,993.65	1.20 1.68	1,992.99 1,994.33	20.00 20.00	20.02 43.49	20.00 20.00	32.62 20.00	J-2323 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6866	J-3725	Forest	TRUE	1.00	1,993.83	1.48	1,994.31	20.00	43.43	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6867	J-3726	Forest	TRUE	1.00	1,993.84	1.48	1,994.31	20.00	42.00	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7559 225	J-4050 J-106	Forest Forest	TRUE TRUE	1.00 1.00	1,994.03 1,994.55	1.88 1.28	1,994.91 1.994.83	20.00 20.00	42.60 36.05	20.00 20.00	20.00 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
226	J-107	Forest	TRUE	1.00	1,994.57	1.28	1,994.84	20.00	35.81	20.00	20.01	J-2919	(N/A)	17.28	J-1198
654 4686	J-377 J-2464	Forest	TRUE TRUE	1.00 1.00	1,994.59 1,994.62	1.48 1.28	1,995.07 1,994.90	20.00 20.00	35.89 34.98	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1410	J-703	Forest Forest	TRUE	1.00	1,995.05	1.08	1,995.12	20.00	33.43	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1008	J-551	Forest	TRUE	1.00	1,995.05	1.88	1,995.93	20.00	27.95	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7639 1007	J-4075 J-550	Forest Forest	TRUE TRUE	1.00 1.00	1,995.05 1,995.05	1.08 1.48	1,995.13 1,995.53	20.00 20.00	32.08 33.23	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3996	J-2161	Forest	TRUE	1.00	1,995.05	3.09	1,997.14	20.00	33.51	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6458 2975	J-3485 J-1604	Forest	TRUE TRUE	1.00 1.00	1,995.05 1,995.05	1.08 2.08	1,995.13 1,996.13	20.00 20.00	28.76 29.80	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
697	J-401	Forest Forest	TRUE	1.00	1,995.06	2.08	1,996.14	20.00	30.14	20.00	20.00	J-2919	(N/A)	17.28	J-1198
698	J-402	Forest	TRUE	1.00	1,995.06	1.88	1,995.94	20.00	31.96	20.00	20.00	J-2919	(N/A)	17.28	J-1198
552 653	J-314 J-376	Forest Forest	TRUE TRUE	1.00 1.00	1,995.06 1,995.06	1.88 1.28	1,995.94 1,995.34	20.00 20.00	40.70 37.22	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3410	J-1855	Forest	TRUE	1.00	1,995.07	1.08	1,995.14	20.00	39.20	20.00	20.00	J-2919	(N/A)	17.28	J-1198
553	J-315	Forest	TRUE	1.00	1,995.07 1,995.07	2.88	1,996.95 1,995.34	20.00	39.57	20.00	20.00	J-2919	(N/A)	17.28	J-1198
980 4826	J-537 J-2541	Forest Forest	TRUE TRUE	1.00 1.00	1,995.07	1.28 1.08	1,995.34	20.00 20.00	44.02 34.33	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4825	J-2540	Forest	TRUE	1.00	1,995.08	2.68	1,996.77	20.00	35.03	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4688 268	J-2465 J-135	Forest Lakes	TRUE TRUE	1.00 1.00	1,995.08 1,995.77	1.48 1.20	1,995.56 1,995.97	20.00 20.00	38.70 63.90	20.00 20.00	20.00 20.00	J-2919 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
267	J-134	Lakes	TRUE	1.00	1,995.77	1.20	1,995.97	20.00	63.92	20.00	20.00	J-2323	(N/A)	17.28	J-1198
270	J-136	Lakes	TRUE	1.00	1,995.77	1.20	1,995.97	20.00	63.88	20.00	20.00	J-2323	(N/A)	17.28	J-1198
5889 1707	J-3151 J-865	Lakes Forest	TRUE TRUE	1.00 1.00	1,995.77 1,996.61	1.20 2.28	1,995.97 1,997.89	20.00 20.00	63.58 33.92	20.00 20.00	20.00 20.00	J-2323 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1625	J-813	Forest	TRUE	1.00	1,996.81	1.08	1,996.89	20.00	32.19	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4221 1254	J-2256 J-652	Forest Forest	TRUE TRUE	1.00 1.00	1,998.57 2,000.72	2.28 1.68	1,999.85 2,001.40	20.00 20.00	20.06 36.74	20.00 20.00	20.02 20.01	J-2896 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7653	J-652 J-4079	Forest	TRUE	1.00	2,000.72	1.08	2,001.40	20.00	31.22	20.00	20.01	J-2919 J-2919	(N/A) (N/A)	17.28	J-1198 J-1198
7553	J-4049	Forest	TRUE	1.00	2,003.57	1.68	2,004.25	20.00	25.96	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5271 5272	J-2796 J-2797	Forest Forest	TRUE TRUE	1.00 1.00	2,004.29 2,004.29	1.88 1.48	2,005.17 2,004.77	20.00 20.00	23.99 23.11	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2427	J-1300	Lakes	TRUE	1.00	2,006.72	1.20	2,006.92	20.00	21.36	20.00	20.00	J-1575	(N/A)	17.28	J-1198
6042 933	J-3237 J-515	Forest Forest	TRUE TRUE	1.00 1.00	2,010.60 2,016.18	1.88 1.48	2,011.48 2,016.66	20.00 20.00	20.00 51.60	20.00 20.00	20.83 20.01	J-3236 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5126	J-2714	Forest	TRUE	1.00	2,016.20	1.08	2,016.28	20.00	50.82	20.00	20.01	J-3855	(N/A)	17.28	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
2210	J-1178	Forest	TRUE	1.00	2,019.07	1.08	2,019.15	20.00	20.04	20.00	20.40	J-1507	(N/A)	17.28	J-1198
6837	J-3709	Forest	TRUE	1.00	2,019.86	2.28	2,019.13	20.00	20.00	20.00	20.00	J-3708	(N/A)	17.28	J-1198
6836	J-3708	Forest	TRUE	1.00	2,019.86	2.48	2,021.35	20.00	20.00	20.00	20.59	J-4088	(N/A)	17.28	J-1198
6041 6739	J-3236 J-3650	Forest Forest	TRUE TRUE	1.00 1.00	2,023.72 2,024.92	1.48 1.08	2,024.20 2,024.99	20.00 20.00	20.00 21.97	20.00 20.00	20.25 20.04	J-3237 J-2224	(N/A) (N/A)	17.28 16.90	J-1198 J-1198
6740	J-3651	Forest	TRUE	1.00	2,024.98	1.88	2,025.86	20.00	23.50	20.00	20.03	J-2224	(N/A)	16.90	J-1198
6952 2897	J-3776 J-1570	Lakes Forest	TRUE TRUE	1.00 1.00	2,025.95 2,032.60	1.29 1.48	2,026.24 2,033.08	20.00 20.00	20.00 24.43	20.00 20.00	22.32 20.07	J-1916 J-2729	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5523	J-2941	Forest	TRUE	1.00	2,034.76	2.48	2,036.24	20.00	24.90	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5524	J-2942	Forest	TRUE	1.00	2,034.76	1.48	2,035.24	20.00	23.92	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6994 6993	J-3800 J-3799	Forest Forest	TRUE TRUE	1.00 1.00	2,038.83 2,038.84	1.08 3.09	2,038.91 2,040.92	20.00 20.00	35.33 37.87	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6412	J-3458	Forest	TRUE	1.00	2,039.06	1.48	2,039.54	20.00	20.01	20.00	20.99	J-3459	(N/A)	17.28	J-1198
4991 3514	J-2637 J-1916	Forest Lakes	TRUE TRUE	1.00 1.00	2,039.54 2,044.00	1.68 1.20	2,040.22 2,044.20	20.00 20.00	20.00 20.40	20.00 20.00	20.59 20.05	J-2636 J-3776	(N/A) (N/A)	16.89 17.28	J-1198 J-1198
4990	J-2636	Forest	TRUE	1.00	2,045.12	1.08	2,045.20	20.00	20.00	20.00	20.07	J-2637	(N/A)	16.89	J-1198
4045 6675	J-2183 J-3613	Lakes Forest	TRUE TRUE	1.00 1.00	2,047.45 2,050.91	1.20 1.48	2,047.65 2,051.39	20.00 20.00	23.12 36.40	20.00 20.00	20.00 20.01	J-1586 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
76	J-32	Forest	TRUE	1.00	2,051.31	1.08	2,051.38	20.00	37.64	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7215	J-3917	Lakes	TRUE	1.00	2,052.14	1.20	2,052.33	20.00	39.66	20.00	20.05	J-2323	(N/A)	17.28	J-1198
7216 4677	J-3918 J-2459	Lakes Lakes	TRUE TRUE	1.00 1.00	2,052.20 2,052.24	1.20 1.20	2,052.40 2,052.44	20.00 20.00	39.01 38.67	20.00 20.00	20.05 20.05	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4676	J-2458	Lakes	TRUE	1.00	2,052.32	1.20	2,052.52	20.00	37.92	20.00	20.04	J-2323	(N/A)	17.28	J-1198
2590 7263	J-1391 J-3941	Forest Lakes	TRUE TRUE	1.00 1.00	2,052.54 2,052.94	1.48 1.20	2,053.02 2,053.14	20.00 20.00	20.01 31.37	20.00 20.00	20.17 20.00	J-3459 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
211	J-97	Lakes	TRUE	1.00	2,052.94	1.20	2,053.14	20.00	66.18	20.00	20.00	J-2323	(N/A)	17.28	J-1198
6076 7262	J-3259 J-3940	Lakes Lakes	TRUE TRUE	1.00 1.00	2,052.94 2,052.94	1.20 1.37	2,053.14 2,053.31	20.00 20.00	31.21 31.16	20.00 20.00	20.00 20.00	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6075	J-3258	Lakes	TRUE	1.00	2,052.94	1.20	2,053.14	20.00	30.42	20.00	20.00	J-2323	(N/A)	17.28	J-1198
210 5617	J-96 J-2995	Lakes Forest	TRUE TRUE	1.00 1.00	2,053.01 2,053.41	1.20 1.88	2,053.21 2,054.29	20.00 20.00	66.20 20.02	20.00 20.00	20.00 21.41	J-2323 J-2246	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1108	J-593	Stewartsville	TRUE	1.00	2,054.09	1.11	2,054.20	20.00	71.91	20.00	20.00	J-676	(N/A)	17.28	J-1198
4898 6413	J-2583 J-3459	Stewartsville	TRUE TRUE	1.00 1.00	2,054.09 2,055.25	1.11 1.08	2,054.21 2,055.33	20.00 20.00	71.46 20.01	20.00 20.00	20.00 20.26	J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
75	J-3439 J-31	Forest Forest	TRUE	1.00	2,056.01	1.28	2,055.33	20.00	37.83	20.00	20.20	J-1391 J-2919	(N/A)	17.28	J-1198
7900	J-4141	Forest	TRUE	1.00	2,056.13	1.88	2,057.01	20.00	21.33	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7632 5360	J-4072 J-2849	Forest Forest	TRUE TRUE	1.00 1.00	2,056.16 2,056.17	1.48 1.08	2,056.64 2,056.25	20.00 20.00	31.63 33.80	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5359	J-2848	Forest	TRUE	1.00	2,056.17	1.08	2,056.25	20.00	32.79	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4124 545	J-2217 J-310	Forest Lakes	TRUE TRUE	1.00 1.00	2,057.60 2,058.41	2.88 1.20	2,059.48 2,058.61	20.00 20.00	39.10 68.42	20.00 20.00	20.01 20.00	J-2698 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6587	J-3561	Lakes	TRUE	1.00	2,058.41	1.20	2,058.61	20.00	67.00	20.00	20.00	J-2323	(N/A)	17.28	J-1198
1861 5815	J-964 J-3110	Forest Forest	TRUE TRUE	1.00 1.00	2,062.19 2,062.56	1.48 2.28	2,062.67 2,063.84	20.00 20.00	20.00 39.73	20.00 20.00	21.97 20.00	J-965 J-2919	(N/A) (N/A)	16.88 17.28	J-1198 J-1198
5816	J-3111	Forest	TRUE	1.00	2,062.56	1.48	2,063.04	20.00	38.40	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5067 1013	J-2682 J-553	Forest Forest	TRUE TRUE	1.00 1.00	2,072.82 2,072.82	1.08 1.28	2,072.90 2,073.10	20.00 20.00	61.89 62.78	20.00 20.00	20.00 20.00	J-3855 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5629	J-3002	Forest	TRUE	1.00	2,073.25	1.68	2,073.93	20.00	42.40	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5630 4208	J-3003 J-2251	Forest Forest	TRUE TRUE	1.00 1.00	2,073.25 2,073.43	1.08 1.88	2,073.33 2,074.31	20.00 20.00	41.56 37.88	20.00 20.00	20.00 20.00	J-2919 J-895	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4190	J-2246	Forest	TRUE	1.00	2,075.69	2.68	2,077.37	20.00	20.38	20.00	20.00	J-2995	(N/A)	17.28	J-1198
6365 6364	J-3431 J-3430	Forest Forest	TRUE TRUE	1.00 1.00	2,075.99 2,075.99	2.28 1.08	2,077.28 2,076.07	20.00 20.00	28.51 27.52	20.00 20.00	20.00 20.00	J-4119 J-4119	(N/A) (N/A)	16.88 16.88	J-1198 J-1198
6696	J-3626	Forest	TRUE	1.00	2,076.01	2.88	2,077.90	20.00	20.07	20.00	20.03	J-967	(N/A)	17.28	J-1198
4048 6695	J-2185 J-3625	Forest Forest	TRUE TRUE	1.00 1.00	2,076.47 2,076.47	1.88 1.08	2,077.35 2,076.54	20.00 20.00	22.04 21.71	20.00 20.00	20.00 20.00	J-967 J-967	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7548	J-4047	Forest	TRUE	1.00	2,080.47	1.48	2,080.95	20.00	42.69	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7227 6620	J-3924 J-3580	Forest	TRUE TRUE	1.00 1.00	2,080.65 2,080.65	1.28 1.08	2,080.93 2,080.73	20.00 20.00	29.09 29.02	20.00 20.00	20.00 20.00	J-3438 J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7402	J-3994	Forest Forest	TRUE	1.00	2,080.65	1.28	2,080.93	20.00	29.11	20.00	20.00	J-3438	(N/A)	17.28	J-1198
6621 3973	J-3581 J-2152	Forest Forest	TRUE TRUE	1.00 1.00	2,080.68 2,081.49	1.08 2.28	2,080.75	20.00 20.00	27.93 22.90	20.00 20.00	20.00 20.00	J-3438	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7551	J-4048	Forest	TRUE	1.00	2,083.02	1.88	2,082.77 2,083.90	20.00	42.53	20.00	20.00	J-2153 J-2919	(N/A)	17.28	J-1198
137	J-67	Forest	TRUE	1.00	2,086.98	1.88	2,087.86	20.00	57.50	20.00	20.00	J-941	(N/A)	17.28	J-1198
6263 4779	J-3371 J-2515	Forest Forest	TRUE TRUE	1.00 1.00	2,086.98 2,088.67	1.88 2.08	2,087.86 2,089.75	20.00 20.00	55.75 37.29	20.00 20.00	20.00 20.00	J-941 J-895	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4780 5750	J-2516	Forest	TRUE TRUE	1.00	2,088.68	1.48 1.20	2,089.15	20.00	36.73	20.00	20.00	J-895 J-1586	(N/A)	17.28	J-1198
5750 5751	J-3073 J-3074	Lakes Lakes	TRUE	1.00 1.00	2,089.87 2,090.54	1.20	2,090.07 2,090.74	20.00 20.00	21.43 20.19	20.00 20.00	20.06 20.00	J-1586 J-1586	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7768	J-4111	Forest	TRUE	1.00	2,091.27	1.88	2,092.15	20.00	33.75	20.00	20.00	J-2219	(N/A)	17.28	J-1198
2928 4882	J-1584 J-2573	Forest Forest	TRUE TRUE	1.00 1.00	2,101.38 2,102.44	2.28 1.08	2,102.66 2,102.51	20.00 20.00	42.58 42.06	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4883	J-2574	Forest	TRUE	1.00	2,102.48	1.88	2,103.36	20.00	41.42	20.00	20.01	J-2919	(N/A)	17.28	J-1198
2722 5014	J-1469 J-2650	Forest Forest	TRUE TRUE	1.00 1.00	2,104.77 2,104.96	1.08 3.29	2,104.84 2,107.25	20.00 20.00	20.00 20.01	20.00 20.00	22.88 20.45	J-1816 J-2055	(N/A) (N/A)	16.87 17.28	J-1198 J-1198
7608	J-4064	Forest	TRUE	1.00	2,105.07	1.48	2,105.55	20.00	39.47	20.00	20.01	J-2919	(N/A)	17.28	J-1198
6997 7996	J-3802 J-4157	Forest Forest	TRUE TRUE	1.00 1.00	2,105.32 2,105.60	1.48 1.48	2,105.80 2,106.08	20.00 20.00	25.96 34.47	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5794	J-3098	Forest	TRUE	1.00	2,105.60	1.28	2,105.88	20.00	47.79	20.00	20.00	J-2919	(N/A)	17.28	J-1198
2841 5793	J-1540 J-3097	Forest Forest	TRUE TRUE	1.00 1.00	2,105.61 2,105.61	1.88 1.08	2,106.49 2,105.68	20.00 20.00	47.10 48.42	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1772	J-907	Forest	TRUE	1.00	2,105.62	1.08	2,105.70	20.00	28.74	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6996	J-3801	Forest	TRUE	1.00	2,105.62	1.08	2,105.70	20.00	28.66	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1810 7983	J-931 J-4155	Forest Forest	TRUE TRUE	1.00 1.00	2,105.62 2,105.63	1.48 2.28	2,106.10 2,106.91	20.00 20.00	30.55 48.76	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1889	J-982	Forest	TRUE	1.00	2,105.64	1.68	2,106.32	20.00	36.08	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5162 5163	J-2734 J-2735	Forest Forest	TRUE TRUE	1.00 1.00	2,106.96 2,107.01	1.68 1.28	2,107.64 2,107.29	20.00 20.00	39.78 39.03	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7299	J-3955	Forest	TRUE	1.00	2,108.39	1.68	2,109.07	20.00	52.11	20.00	20.00	J-2919	(N/A)	17.28	J-1198
2686 5424	J-1447 J-2886	Forest Forest	TRUE TRUE	1.00 1.00	2,108.39 2,108.50	1.28 1.08	2,108.67 2,108.58	20.00 20.00	51.28 50.80	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5423	J-2885	Forest	TRUE	1.00	2,108.50	1.68	2,109.18	20.00	51.88	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5366 5367	J-2852 J-2853	Forest Forest	TRUE TRUE	1.00 1.00	2,110.95 2,110.96	1.08 1.08	2,111.03 2,111.04	20.00 20.00	29.71 28.69	20.00 20.00	20.00 20.00	J-2219 J-2219	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3770	J-2055	Forest	TRUE	1.00	2,111.12	2.68	2,112.81	20.00	20.01	20.00	20.27	J-2650	(N/A)	17.28	J-1198
4256 5322	J-2266 J-2826	Forest Forest	TRUE TRUE	1.00 1.00	2,116.63 2,117.66	3.29 1.08	2,118.91 2,117.74	20.00 20.00	45.65 20.35	20.00 20.00	20.00 20.02	J-2919 J-2113	(N/A) (N/A)	17.28 14.06	J-1198 J-1198

Color Colo	Node	Node	Pressure	Fire Flow Constraints Satisfied	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
	ID	Label	Zone		(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
140																
1-286 1-296																
Section Sect																
\$\frac{1}{2} \overline{1}{2}																
6915 1-3776 Forest TRUE 1.00 2-19489 1.00																
	6913	J-3754	Forest	TRUE	1.00	2,124.59	1.08	2,124.67	20.00	22.69	20.00	20.04	J-2729	(N/A)	17.28	J-1198
6431 1.4400 1.4																
Sementical Tell 100 2.13367 1.01 2.13369 2.00 2.01 2.00 2.00 2.07 0.00 1.72 0.00 1.72 0.00 1.73 0.00 1.73 0.00 0.00 1.72 0.00 0.00 1.73 0.00 0.0	6433	J-3470	Lakes	TRUE	1.00	2,131.73	1.20	2,131.93	20.00	20.00	20.00	21.23	J-3471	(N/A)	17.28	J-1198
4966 1,2469 98serffind TRUE 100 2,133.07 1.46 2,133.48 2,100 2,00 2,00 2,147 1,768 1,478 1,418																
1.486	4696	J-2469	Stewartsville	TRUE	1.00	2,133.07	1.40	2,133.48	20.00	86.51	20.00	20.00	J-676	(N/A)	17.28	J-1198
2467																
4686	2497	J-1339	Forest	TRUE	1.00	2,134.26	1.08	2,134.33	20.00	21.14	20.00	20.00	J-4176	(N/A)	17.28	J-1198
Tell																
1-256	7141	J-3882	Forest	TRUE	1.00	2,136.12	1.28	2,136.39	20.00	27.91	20.00	20.00	J-3914	(N/A)	17.28	J-1198
647 J-5967																
Forest TRUE 1.00	6647	J-3597	Lakes	TRUE	1.00	2,136.56	1.20	2,136.76	20.00	95.18	20.00	20.03	J-2323	(N/A)	17.28	J-1198
7448 J-3867 From the TRUE 1.00 Z-141-54 1.88 Z-14-252 20.00 38.66 Z-20.00 Z-20.00 J-2919 N/N 17.28 J-1988 J-																
7490 7490				TRUE												
2085																
6966 4,3246				TRUE		2,144.87		2,145.51			20.00		J-1101	(N/A)		
644 1,5477 1,148																
1982 J-582														(N/A)		
5284 J-2804 Frest TRUE 1,00 2,149.99 1,02 2,149.99 1,02 2,149.99 1,02 2,149.99 1,02 2,150.70 2,00 2,00 2,00 3,00																
1.5994 1.5994 1.5995 1																
Sept J-338 September TRUE 1.00 2.156.07 1.11 2.156.18 20.00 92.78 20.00 20.00 J-676 N/A) 17.28 J-1198 1.198																
6825 J-3701 Forest TRUE 1.00 2,155.53 1.08 2,155.60 20.00 23.65 20.00 20.00 J-2919 (NA) 17.28 J-1198 4.128 J-1286 J-2257 Forest TRUE 1.00 2,155.63 1.08 2,155.61 20.00 22.04 20.00 20.00 J-2919 (NA) 17.28 J-1198 4.228 J-2257 Forest TRUE 1.00 2,155.63 1.08 2,155.63 20.00 20.00 J-2010 20.00 J-2919 (NA) 17.28 J-1198 4.228 J-2257 Forest TRUE 1.00 2,165.67 1.28 2,159.64 20.00 20.10 20.00 J-2916 (NA) 17.28 J-1198 4.288 J-225.67 20.00 33.01 20.00 J-2016 (NA) 17.28 J-1198 4.288 J-225.67 20.00 3.20 3.20 20.00 J-2016 (NA) 17.28 J-1198 4.288 J-225.67 20.00 J-225.67 20.00 3.20 20.00 J-2016 (NA) 17.28 J-1198 4.288 J-225.67 20.00 3.20 J-225.67 20.00 3.20 J-225.67 20.00																
1.198																
Sept J-3586 Forest TRUE 1.00 2,162.86 2.00 2.00 2.00 2.00 2.00 2.00 3.31 4.024 (NA) 17.28 J-1198 6090 J-3267 Lakes TRUE 1.00 2,162.59 1.20 2,162.79 2.000 3.391 2.00 2.00 J-3016 (NA) 17.28 J-1198 6090 J-3267 Lakes TRUE 1.00 2,162.59 1.20 2.162.79 2.000 3.391 2.00 2.00 J-3016 (NA) 17.28 J-1198 6090 J-3267 Lakes TRUE 1.00 2,162.59 1.20 2.162.79 2.000 3.241 2.000 2.000 J-3016 (NA) 17.28 J-1198 6090 J-416 Control Contro																
1996 J-3268 Lakes TRUE 1.00 2,162.58 1.20 2,162.78 2.000 33.91 20.00 20.00 J-3016 (WA) 17.28 J-1198 1.700 J-326.77 Lakes TRUE 1.00 2,162.67 1.48 2,163.15 20.00 44.56 20.00 20.00 J-3016 (WA) 17.28 J-1198 1.700 J-326.77 J-326.77 Lakes TRUE 1.00 2,162.67 1.48 2,163.15 20.00 44.56 20.00 20.00 J-341 (WA) 17.28 J-1198 1.700 J-326.77 J-326.87 J-326.8																
Section Sect						2,162.59		2,162.79								
5851 J-1953 Forest TRUE 1.00 2,172.14 1.88 2,173.02 20.00 30.04 20.00 20.00 J-1044 (NA) 17.28 J-1198 71.51 J-3888 Forest TRUE 1.00 2,172.84 1.48 2,173.02 20.00 27.71 20.00 20.00 J-1394 (NA) 17.28 J-1198 71.54 7																
1.00 1.00		J-4160	Forest	TRUE	1.00	2,165.01	1.08	2,165.09	20.00	20.01	20.00	23.93	J-1197	(N/A)	16.85	J-1198
1752 J-3888 Forest TRUE 1.00 2,172.84 1.08 2,172.91 2.000 2.771 2.000 2.000 J-1394 (IVA) 17.28 J-1198 17.28 J-1198 2.000 2.000 J-1394 (IVA) 17.28 J-1198 1.000 J-1394 (IVA) J-1294																
Forest Free		J-3888	Forest		1.00	2,172.84	1.08	2,172.91		27.71	20.00	20.00	J-1394	(N/A)	17.28	J-1198
Forest TRUE 1.00 2,175.80 1.08 2,175.89 2,000 20.00 20.00 22.07 J.3060 (NA) 16.85 J.1198 1.07 1.08 2,188.99 1.28 2,188.97 20.00 20.00 20.00 20.00 2.245 J.691 (NA) 17.28 J.1198 1.07 2.120 Forest TRUE 1.00 2,190.00 1.48 2,193.81 20.00 20.01 20.00 20.02 J.3059 (NA) 16.84 J.1198 1.07 2.120 Forest TRUE 1.00 2,203.05 1.88 2,203.93 20.00 23.55 20.00 20.00 J.969 (NA) 16.84 J.1198 1.00 2.203.05 1.88 2,203.93 20.00 23.55 20.00 20.00 J.969 (NA) 16.84 J.1198 1.00 2.203.05 1.88 2,203.93 20.00 23.55 20.00 20.00 J.969 (NA) 16.84 J.1198 1.00 2.203.05 1.88 2.203.93 20.00 23.55 20.00 20.00 J.969 (NA) 16.84 J.1198 1.00 2.203.05 1.88 2.203.93 20.00 23.55 20.00 20.00 J.969 (NA) 16.84 J.1198 1.00 2.203.05 1.88 2.203.93 20.00 23.55 20.00 20.00 J.969 (NA) 16.84 J.1198 1.00 2.203.05 1.08 2.203.12 20.00 20.00 2.000 J.969 (NA) 16.84 J.1198 J.1	7218	J-3919	Forest	TRUE	1.00	2,172.96	1.48	2,173.44	20.00	26.61	20.00	20.00	J-3914	(N/A)	17.28	J-1198
Fig. 22 J. 3735																
9905 J-2120 Forest TRUE 1.00 2.193.33 1.48 2.193.81 2.00 2.09 2.00 2.00 J-3059 (NA) 16.84 J-1198 1867 J-986 Forest TRUE 1.00 2.203.05 1.88 2.203.93 2.00 2.3.66 2.00 2.00 J-969 (NA) 16.84 J-1198 1.5534 J-2948 Forest TRUE 1.00 2.203.05 1.88 2.203.93 2.00 2.3.66 2.00 2.00 J-969 (NA) 16.84 J-1198 1.523 J-2256 Forest TRUE 1.00 2.203.05 1.08 2.203.12 2.00 2.00 2.00 2.00 J-969 (NA) 16.84 J-1198 2.008 J-1101 Lakes TRUE 1.00 2.203.05 1.08 2.203.12 2.00 2.00 2.00 2.00 J-969 (NA) 16.84 J-1198 3.008 J-1101 Lakes TRUE 1.00 2.203.05 1.08 2.203.12 2.00 2.00 2.00 2.00 J-1100 (NA) 17.28 J-1198 3.008 J-1101 J-1102 J-1198 J-1198 3.008 J-1101 J-1102 J-1198 J	6882	J-3735	Forest	TRUE	1.00	2,188.69	1.28	2,188.97	20.00	20.00	20.00	22.45	J-691	(N/A)	17.28	J-1198
1867 J-968 Forest TRUE 1.00 2,203.05 1.88 2,203.93 20.00 24.80 20.00 2.000 J-969 (NA) 16.84 J-11198 5534 J-2948 Forest TRUE 1.00 2,203.05 1.08 2,203.12 20.00 22.00 20.00 J-969 (NA) 16.84 J-1198 1.00 2,203.05 1.08 2,203.12 20.00 22.00 20.00 20.00 J-969 (NA) 16.84 J-1198 2.008 J-1101 Lakes TRUE 1.00 2,207.68 1.08 2,203.12 20.00 22.00 20.00 20.00 J-100 (NA) 17.28 J-1198 2.008 J-1101 Lakes TRUE 1.00 2,207.68 1.08 2,205.14 20.00 20.00 20.00 20.00 J-1100 (NA) 17.28 J-1198 2.008 J-1101 Lakes TRUE 1.00 2,214.64 1.08 2,214.71 20.00 20.00 20.00 20.00 J-2106 (NA) 17.28 J-1198 3.008 3.009 3.																
1.5534 J.2948		J-968	Forest	TRUE	1.00		1.88	2,203.93	20.00	24.80	20.00	20.00	J-969	(N/A)	16.84	J-1198
2086																
Secondary Seco	2086	J-1101	Lakes	TRUE	1.00	2,207.68	1.46	2,208.14	20.00	20.00	20.00	20.00	J-1100	(N/A)	17.28	J-1198
3744 J-2043																
Table Transfer T	3744	J-2043	Forest	TRUE	1.00		1.08		20.00	35.43	20.00	20.00	J-1206	(N/A)	13.79	J-1198
Bessel Forest TRUE 1.00 2,222.79 1.08 2,222.87 20.00 21.30 20.00 20.00 J-4 (IVA) 17.28 J-1198 87 J-39 Forest TRUE 1.00 2,232.98 2.48 2,225.87 20.00 39.72 20.00 20.00 J-2 (IVA) 17.28 J-1198 1214 J-636 Lakes TRUE 1.00 2,232.44 1.55 2,232.99 20.00 94.33 20.00 20.00 J-2919 (IVA) 17.28 J-1198 1214 J-636 Lakes TRUE 1.00 2,232.47 1.20 2,232.67 20.00 94.33 20.00 20.03 J-2323 (IVA) 17.28 J-1198 1.00 2,232.47 1.20 2,232.67 20.00 93.90 20.00 20.03 J-2323 (IVA) 17.28 J-1198 1.00 2,233.94 1.48 2,234.42 20.00 20.00 20.00 20.03 J-2323 (IVA) 17.28 J-1198 1.00 2,235.92 1.48 2,234.42 20.00 20.00 20.00 20.05 J-3231 (IVA) 16.83 J-1198 1.00 2,235.92 1.48 2,235.42 20.00 20.																
87	6804	J-3689	Forest	TRUE	1.00	2,222.79	1.08	2,222.87	20.00	21.30	20.00	20.00	J-4176	(N/A)	17.28	J-1198
1214																
6031 J-3230 Forest TRUE 1.00 2,233.94 1.48 2,234.42 20.00 20.00 20.00 20.00 20.02 J-3231 (N/A) 16.83 J-1198 3087 J-3952 Forest TRUE 1.00 2,235.96 2.28 2,237.24 20.00 38.99 20.00 20.00 J-2919 (N/A) 17.28 J-1198 3087 J-666 Forest TRUE 1.00 2,235.96 2.28 2,237.24 20.00 38.99 20.00 20.00 J-2919 (N/A) 17.28 J-1198 3087 J-666 Forest TRUE 1.00 2,236.69 1.48 2,237.87 20.00 20.00 20.00 20.00 J-266 (N/A) 17.28 J-1198 6630 J-3587 Forest TRUE 1.00 2,237.91 1.68 2,237.87 20.00 37.34 20.00 20.00 J-2919 (N/A) 17.28 J-1198 6629 J-3586 Forest TRUE 1.00 2,237.40 1.68 2,237.87 20.00 38.98 20.00 20.00 J-2919 (N/A) 17.28 J-1198 5319 J-2824 Forest TRUE 1.00 2,237.44 1.68 2,238.12 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.28 J-1198 J-1	1214	J-636	Lakes	TRUE	1.00	2,232.44	1.55	2,232.99	20.00	94.33	20.00	20.03	J-2323	(N/A)	17.28	J-1198
7289																
3087	7289	J-3952	Forest	TRUE	1.00	2,235.32	1.48	2,235.80	20.00	20.03	20.00	20.02	J-3951	(N/A)	17.28	J-1198
6630 J-3586 Forest TRUE 1.00 2,237.19 1.68 2,237.87 20.00 37.34 20.00 20.00 J-2919 (N/A) 17.28 J-1198 (519 J-2824 Forest TRUE 1.00 2,237.20 1.48 2,237.68 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.28 J-1198 (519 J-2824 Forest TRUE 1.00 2,237.44 1.68 2,238.12 20.00 20.00 20.00 20.00 J-2919 (N/A) 17.28 J-1198 (5462 J-2907 Forest TRUE 1.00 2,238.60 1.88 2,239.48 20.00 23.45 20.00 20.00 J-969 (N/A) 16.82 J-1198 (5463 J-2908 Forest TRUE 1.00 2,238.60 1.88 2,239.48 20.00 23.45 20.00 20.00 J-969 (N/A) 16.82 J-1198 (7758 J-4107 Forest TRUE 1.00 2,238.60 1.88 2,239.48 20.00 24.39 20.00 20.00 J-969 (N/A) 16.82 J-1198 (7758 J-4107 Forest TRUE 1.00 2,238.60 1.88 2,239.48 20.00 24.39 20.00 20.00 J-969 (N/A) 16.82 J-1198 (7758 J-1107 Forest TRUE 1.00 2,245.01 1.08 2,245.09 20.00 20.00 20.00 J-4119 (N/A) 16.82 J-1198 (6032 J-3231 Forest TRUE 1.00 2,245.01 1.08 2,245.09 20.00 20.00 20.00 20.00 J-2145 (N/A) 16.82 J-1198 (9032 J-3231 Forest TRUE 1.00 2,245.03 3.09 2,247.12 20.00 20.00 20.00 20.00 J-2145 (N/A) 17.28 J-1198 (9032 J-2732 Forest TRUE 1.00 2,245.38 1.48 2,247.86 20.00 99.16 20.00 20.00 J-3855 (N/A) 17.28 J-1198 (9032 J-2732 Forest TRUE 1.00 2,247.38 1.48 2,247.86 20.00 99.16 20.00 20.00 J-3855 (N/A) 17.28 J-1198 (9032 J-2825 Forest TRUE 1.00 2,247.73 1.48 2,248.32 20.00 20.00 20.00 20.24 J-2824 (N/A) 16.82 J-1198 (9032 J-2944 Forest TRUE 1.00 2,247.73 1.48 2,248.32 20.00 20.00 20.00 20.25 J-1666 (N/A) 17.28 J-1198 (903 J-293 Forest TRUE 1.00 2,245.14 1.28 2,248.32 20.00 20.00 20.00 20.00 J-3761 (N/A) 16.82 J-1198 (903 J-2732 Forest TRUE 1.00 2,245.14 1.48 2,248.32 20.00 20.00 20.00 20.00 J-3761 (N/A) 16.82 J-1198 (903 J-3622 Forest TRUE 1.00 2,251.48 1.48 2,525.16 20.00 28.43 20.00 20.00 J-3761 (N/A) 16.82 J-1198 (903 J-3622 Forest TRUE 1.00 2,251.48 1.48 2,525.16 20.00 20.00 20.00 20.00 J-4119 (N/A) 16.82 J-1198 (903 J-3622 Forest TRUE 1.00 2,251.48 1.48 2,525.16 20.00 20.00 20.00 20.00 J-4119 (N/A) 16.82 J-1198 (903 J-3622 Forest TRUE 1.00 2,251.48 1.48 2,552.16 20.00 20.00 20.00 20.00 J-4119 (N/A) 16.82 J-1198 (903 J																
5319 J-2824 Forest TRUE 1.00 2,237.44 1.68 2,238.12 20.00 20.00 20.00 20.00 J-261.45 (N/A) 16.82 J-1198	6630	J-3587	Forest	TRUE	1.00	2,237.19	1.68	2,237.87	20.00	37.34	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5462 J-2907 Forest TRUE 1.00 2,238.60 1.88 2,239.48 20.00 23.45 20.00 20.00 J-969 (N/A) 16.82 J-1198 5463 J-2908 Forest TRUE 1.00 2,238.60 2.68 2,240.28 20.00 24.39 20.00 20.00 J-969 (N/A) 16.82 J-1198 5157 J-2731 Forest TRUE 1.00 2,245.01 1.08 2,245.09 20.00 20.00 20.00 J-2732 (N/A) 16.82 J-1198 6032 J-3231 Forest TRUE 1.00 2,245.03 3.09 2,247.12 20.00 20.00 20.00 20.37 J-3230 (N/A) 16.82 J-1198 3935 J-2135 Forest TRUE 1.00 2,246.54 1.08 2,246.62 20.00 20.00 20.00 20.00 1.04/A) 16.82 J-1198 1089 J-5855 Forest TRUE 1.00																
7758	5462	J-2907	Forest	TRUE	1.00	2,238.60	1.88	2,239.48	20.00	23.45	20.00	20.00	J-969	(N/A)	16.82	J-1198
5157 J-2731 Forest TRUE 1.00 2,245.01 1.08 2,245.09 20.00 20.00 20.00 20.93 J-2732 (N/A) 16.82 J-1198 3935 J-2331 Forest TRUE 1.00 2,245.03 3.09 2,247.12 20.00 20.00 20.00 20.37 J-3230 (N/A) 16.82 J-1198 3935 J-2135 Forest TRUE 1.00 2,246.54 1.08 2,246.62 20.00 48.97 20.00 20.00 J-2145 (N/A) 17.28 J-1198 1089 J-585 Forest TRUE 1.00 2,247.38 1.48 2,247.86 20.00 99.16 20.00 20.00 J-3855 (N/A) 17.28 J-1198 5176 J-2742 Forest TRUE 1.00 2,247.38 1.48 2,244.21 20.00 20.00 20.00 J-3855 (N/A) 17.28 J-1198 4069 J-2814 Forest TRUE																
3935 J-2135 Forest TRUE 1.00 2,246.54 1.08 2,246.26 20.00 48.97 20.00 20.00 J-2145 (NIA) 17.28 J-1198	5157	J-2731	Forest	TRUE	1.00	2,245.01	1.08	2,245.09	20.00	20.00	20.00	20.93	J-2732	(N/A)	16.82	J-1198
1089																
5176 J-2742 Forest TRUE 1.00 2,247.38 1.08 2,247.48 2 2.000 98.23 20.00 20.00 J-3855 (N/A) 17.28 J-1198 1.069 J-2194 Forest TRUE 1.00 2,247.73 1.48 2,248.21 20.00 20.00 20.00 20.00 20.24 J-2824 (N/A) 16.82 J-1198 1.069 J-2194 Forest TRUE 1.00 2,248.04 1.28 2,248.32 20.00 20.00 20.00 20.00 20.25 J-1666 (N/A) 17.28 J-1198 1.09 J-3623 Forest TRUE 1.00 2,251.19 2.08 2,252.27 20.00 25.17 20.00 20.00 J-3761 (N/A) 17.28 J-1198 1.09 J-3623 Forest TRUE 1.00 2,251.48 1.48 2,251.96 20.00 30.29 20.00 20.00 J-3761 (N/A) 17.28 J-1198 1.09 J-3622 Forest TRUE 1.00 2,251.48 1.68 2,252.16 20.00 30.29 20.00 20.00 J-4119 (N/A) 16.82 J-1198 1.09 J-3623 Forest TRUE 1.00 2,251.48 1.68 2,252.16 20.00 28.43 20.00 20.00 J-4119 (N/A) 16.82 J-1198 1.09 J-2278 Forest TRUE 1.00 2,254.95 2.28 2,256.23 20.00 20.00 20.00 20.00 J-3666 (N/A) 17.28 J-1198 1.09 J-2278 Forest TRUE 1.00 1,254.95 2.28 2,256.23 20.00 20.00 20.00 20.00 J-3666 (N/A) 17.28 J-1198 1.09 J-2278 Forest TRUE 1.00 1,254.95 2.28 2,256.23 20.00 20.00 20.00 20.00 J-3666 (N/A) 17.28 J-1198 1.09 J-2278 Forest TRUE 1.00 1,254.95 2.28 2,256.26 20.00 20.00 20.00 20.00 20.00 J-3666 (N/A) 17.28 J-1198 1.09 J-2278 Forest TRUE 1.00 1,254.95 2.28 2,256.23 20.00 20.00 20.00 20.00 20.00 J-3666 (N/A) 17.28 J-1198 1.09 J-2278 Forest TRUE 1.00 1,254.95 2.28 2,256.23 20.00 20.0	1089	J-585	Forest	TRUE	1.00	2,247.38	1.48	2,247.86	20.00	99.16	20.00	20.00	J-3855	(N/A)	17.28	J-1198
4069 J-2194 Forest TRUE 1.00 2,248.04 12.8 2,248.32 20.00 20.00 20.00 20.25 J-1666 (N/A) 17.28 J-1198 196 J-93 Forest TRUE 1.00 2,251.19 2.08 2,252.27 20.00 25.17 20.00 20.00 J-3761 (N/A) 17.28 J-1198 6691 J-3623 Forest TRUE 1.00 2,251.48 1.48 2,251.96 20.00 30.29 20.00 20.00 J-4119 (N/A) 16.82 J-1198 6690 J-3622 Forest TRUE 1.00 2,251.48 1.68 2,252.16 20.00 28.43 20.00 20.00 J-4119 (N/A) 16.82 J-1198 3086 J-1665 Forest TRUE 1.00 2,251.48 1.68 2,252.16 20.00 20.00 20.00 J-4119 (N/A) 16.82 J-1198 4292 J-2278 Forest TRUE 1.00 2,254.95 2.28 2,256.23 20.00 20.00 20.00 20.00 20.00 (N/A) 17.28 J-1198 3086 J-1665 Forest TRUE 1.00 2,254.95 2.28 2,256.23 20.00 20.00 20.00 20.00 20.00 (N/A) 17.28 J-1198 3086 J-1665 Forest TRUE 1.00 2,254.95 2.28 2,256.23 20.00 20.00 20.00 20.00 20.00 (N/A) 17.28 J-1198 30.00 20.00																J-1198
6691 J-3623 Forest TRUE 1.00 2,251.48 1.48 2,251.96 20.00 30.29 20.00 20.00 J-4119 (N/A) 16.82 J-1198 6690 J-3622 Forest TRUE 1.00 2,251.48 1.68 2,252.16 20.00 28.43 20.00 20.00 J-4119 (N/A) 16.82 J-1198 3086 J-1665 Forest TRUE 1.00 2,252.33 1.48 2,252.81 20.00 20.00 20.00 20.00 J-4119 (N/A) 16.82 J-1198 4292 J-2278 Forest TRUE 1.00 2,254.95 2.28 2,256.23 20.00 20.00 20.00 20.00 20.64 J-3963 (N/A) 16.82 J-1198	4069	J-2194	Forest	TRUE	1.00	2,248.04	1.28	2,248.32	20.00	20.00	20.00	20.25	J-1666	(N/A)	17.28	J-1198
6690 J-3622 Forest TRUE 1.00 2,251.48 1.68 2,252.16 20.00 28.43 20.00 20.00 J-4119 (N/A) 16.82 J-1198 3086 J-1665 Forest TRUE 1.00 2,252.33 1.48 2,252.81 20.00 20.06 20.00 20.02 J-1666 (N/A) 17.28 J-1198 4292 J-2278 Forest TRUE 1.00 2,254.95 2.28 2,256.23 20.00 20.00 20.00 20.00 20.64 J-3963 (N/A) 16.82 J-1198																
3086 J-1665 Forest TRUE 1.00 2,252.33 1.48 2,252.81 20.00 20.16 20.00 20.02 J-1666 (N/A) 17.28 J-1198 4292 J-2278 Forest TRUE 1.00 2,254.95 2.28 2,256.23 20.00 20.00 20.00 20.00 20.64 J-3963 (N/A) 16.82 J-1198	6690	J-3622		TRUE	1.00	2,251.48	1.68	2,252.16	20.00	28.43	20.00	20.00	J-4119	(N/A)	16.82	J-1198
			Forest			2,252.33		2,252.81			20.00	20.02		(N/A)	17.28	

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
7249 6777	J-3935 J-3673	Forest Forest	TRUE TRUE	1.00 1.00	2,257.12 2,257.31	1.08 1.88	2,257.19 2,258.19	20.00 20.00	20.43 29.88	20.00 20.00	20.02 20.00	J-4176 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6776	J-3672	Forest	TRUE	1.00	2,257.31 2,257.43	1.88	2,258.19	20.00	31.84	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7248 5845	J-3934 J-3127	Forest Forest	TRUE TRUE	1.00 1.00	2,257.43	1.08 1.48	2,257.51 2,258.09	20.00 20.00	20.97 21.82	20.00 20.00	20.00 20.01	J-4176 J-3059	(N/A) (N/A)	17.28 16.82	J-1198 J-1198
3607	J-1967	Forest	TRUE	1.00	2,257.72	1.08	2,257.80	20.00	20.09	20.00	20.04	J-964	(N/A)	16.82	J-1198
3453 3454	J-1880 J-1881	Forest Forest	TRUE TRUE	1.00 1.00	2,257.79 2,257.79	2.28 1.28	2,259.08 2,258.07	20.00 20.00	30.46 22.78	20.00 20.00	20.00 20.00	J-3059 J-3059	(N/A) (N/A)	16.82 16.82	J-1198 J-1198
5185	J-2747	Forest	TRUE	1.00	2,258.85	1.88	2,259.73	20.00	20.00	20.00	21.08	J-2919	(N/A)	17.28	J-1198
7007 7378	J-3808 J-3984	Forest Forest	TRUE TRUE	1.00 1.00	2,259.02 2,260.01	1.88 1.08	2,259.90 2,260.08	20.00 20.00	20.00 20.00	20.00 20.00	21.86 20.04	J-2919 J-964	(N/A) (N/A)	17.28 16.82	J-1198 J-1198
7323	J-3963	Forest	TRUE	1.00	2,262.73	1.48	2,263.20	20.00	20.00	20.00	20.00	J-2278	(N/A)	16.82	J-1198
1577 6168	J-782 J-3313	Lakes Forest	TRUE TRUE	1.00 1.00	2,266.85 2,268.81	1.20 2.68	2,267.05 2,270.50	20.00 20.00	20.01 25.15	20.00 20.00	20.05 20.00	J-781 J-2280	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6169	J-3314	Forest	TRUE	1.00	2,268.82	1.28	2,269.09	20.00	23.80	20.00	20.00	J-2280	(N/A)	17.28	J-1198
887 1105	J-498 J-592	Forest Forest	TRUE TRUE	1.00 1.00	2,271.83 2,271.95	1.88 1.08	2,272.71 2,272.03	20.00 20.00	23.74 34.89	20.00 20.00	20.00 20.00	J-1217 J-1217	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5712	J-3051	Forest	TRUE	1.00	2,271.95	1.28	2,272.23	20.00	43.08	20.00	20.00	J-1217	(N/A)	17.28	J-1198
6611 5711	J-3575 J-3050	Forest Forest	TRUE TRUE	1.00 1.00	2,271.95 2,271.95	1.28 1.48	2,272.23 2,272.43	20.00 20.00	33.95 44.20	20.00 20.00	20.00 20.00	J-1217 J-1217	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
349	J-186	Forest	TRUE	1.00	2,271.95	1.08	2,272.03	20.00	48.77	20.00	20.00	J-1217	(N/A)	17.28	J-1198
350 4392	J-187 J-2310	Forest Forest	TRUE TRUE	1.00 1.00	2,271.95 2,273.22	1.08 2.48	2,272.03 2,274.70	20.00 20.00	48.91 28.80	20.00 20.00	20.00 20.00	J-1217 J-1525	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5184	J-2746	Forest	TRUE	1.00	2,274.06	1.68	2,274.74	20.00	20.23	20.00	20.02	J-2747	(N/A)	17.28	J-1198
6027 6134	J-3228 J-3293	Forest Forest	TRUE TRUE	1.00 1.00	2,275.62 2,278.48	1.48 1.88	2,276.09 2,279.36	20.00 20.00	20.00 36.47	20.00 20.00	21.08 20.00	J-3972 J-1206	(N/A) (N/A)	17.28 13.60	J-1198 J-1198
6135	J-3294	Forest	TRUE	1.00	2,278.48	1.28	2,278.76	20.00	35.95	20.00	20.00	J-1206	(N/A)	13.60	J-1198
734 <u>2</u> 3697	J-3971 J-2017	Forest Forest	TRUE TRUE	1.00 1.00	2,279.60 2,279.72	1.08 1.08	2,279.67 2,279.80	20.00 20.00	20.00 20.00	20.00 20.00	20.63 22.32	J-3972 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4745	J-2497	Stewartsville	TRUE	1.00	2,279.72	1.11	2,279.83	20.00	105.54	20.00	20.00	J-676	(N/A)	17.28	J-1198
1199 7384	J-628 J-3987	Stewartsville Lakes	TRUE	1.00 1.00	2,279.72 2,281.54	1.11 1.29	2,279.84 2,281.82	20.00 20.00	106.97 20.00	20.00 20.00	20.00 22.43	J-676 J-2657	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3769	J-2054	Forest	TRUE	1.00	2,281.74	2.88	2,283.63	20.00	20.02	20.00	20.45	J-2747	(N/A)	17.28	J-1198
5151 5152	J-2727 J-2728	Forest Forest	TRUE TRUE	1.00 1.00	2,283.80 2,284.03	1.48 1.88	2,284.28 2,284.91	20.00 20.00	20.43 21.40	20.00 20.00	20.04 20.02	J-964 J-964	(N/A) (N/A)	16.81 16.81	J-1198 J-1198
4999	J-2642	Forest	TRUE	1.00	2,286.14	1.48	2,286.62	20.00	28.43	20.00	20.00	J-1525	(N/A)	17.28	J-1198
4998 5379	J-2641 J-2860	Forest Forest	TRUE TRUE	1.00 1.00	2,286.14 2,290.58	1.48 1.88	2,286.62 2,291.46	20.00 20.00	27.67 22.61	20.00 20.00	20.00 20.00	J-1525 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5380	J-2861	Forest	TRUE	1.00	2,290.71	1.08	2,290.78	20.00	21.42	20.00	20.00	J-2919	(N/A)	17.28	J-1198
719 5778	J-414 J-3089	Forest Forest	TRUE TRUE	1.00 1.00	2,290.87 2,292.48	1.08 1.08	2,290.94 2,292.55	20.00 20.00	77.55 60.56	20.00 20.00	20.00 20.00	J-3090 J-941	(N/A) (N/A)	16.81 17.28	J-1198 J-1198
161	J-79	Forest	TRUE	1.00	2,292.48	1.28	2,292.76	20.00	60.21	20.00	20.00	J-941	(N/A)	17.28	J-1198
7343 5025	J-3972 J-2657	Forest Lakes	TRUE TRUE	1.00 1.00	2,295.52 2,296.57	1.08 1.63	2,295.60 2,297.20	20.00 20.00	20.00 20.60	20.00 20.00	20.09 20.02	J-3971 J-3987	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5024	J-2656	Lakes	TRUE	1.00	2,296.93	1.29	2,297.21	20.00	21.43	20.00	20.00	J-3987	(N/A)	17.28	J-1198
6751 7301	J-3658 J-3956	Forest Forest	TRUE TRUE	1.00 1.00	2,300.14 2,300.50	1.28 1.08	2,300.42 2,300.57	20.00 20.00	25.35 26.92	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6750	J-3657	Forest	TRUE	1.00	2,300.50	1.08	2,300.58	20.00	27.12	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7508 5854	J-4030 J-3132	Forest Forest	TRUE TRUE	1.00 1.00	2,300.50 2,301.86	2.28 1.08	2,301.78 2,301.93	20.00 20.00	27.88 38.84	20.00 20.00	20.00 20.00	J-2919 J-3059	(N/A) (N/A)	17.28 16.80	J-1198 J-1198
5853	J-3131	Forest	TRUE	1.00	2,301.86	2.88	2,301.93	20.00	37.35	20.00	20.00	J-3059	(N/A)	16.80	J-1198
6026 4987	J-3227 J-2634	Forest Forest	TRUE TRUE	1.00 1.00	2,302.60 2,303.01	1.28 1.48	2,302.88 2,303.48	20.00 20.00	20.13 20.00	20.00 20.00	20.01 20.82	J-3972 J-2635	(N/A) (N/A)	17.28 16.80	J-1198 J-1198
5920	J-3168	Forest	TRUE	1.00	2,304.94	1.88	2,305.82	20.00	20.02	20.00	22.04	J-3167	(N/A)	17.28	J-1198
7677 4988	J-4085 J-2635	Forest Forest	TRUE TRUE	1.00 1.00	2,306.75 2,314.29	1.48 1.88	2,307.23 2,315.18	20.00 20.00	20.02 20.00	20.00 20.00	22.65 20.01	J-3360 J-2634	(N/A) (N/A)	17.28 16.80	J-1198 J-1198
718	J-413	Forest	TRUE	1.00	2,314.80	1.08	2,314.88	20.00	73.74	20.00	20.00	J-3090	(N/A)	16.80	J-1198
5769 6261	J-3084 J-3370	Forest Forest	TRUE TRUE	1.00 1.00	2,314.81 2,318.63	1.08 2.08	2,314.88 2,319.71	20.00 20.00	71.97 20.02	20.00 20.00	20.00 21.42	J-3090 J-3369	(N/A) (N/A)	16.80 17.28	J-1198 J-1198
3957	J-2144	Forest	TRUE	1.00	2,322.19	3.49	2,324.68	20.00	20.02	20.00	20.44	J-2919	(N/A)	17.28	J-1198
7582 5627	J-4056 J-3001	Forest Forest	TRUE TRUE	1.00 1.00	2,323.54 2,323.86	1.48 1.48	2,324.02 2,324.33	20.00 20.00	30.14 23.65	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5626	J-3000	Forest	TRUE	1.00	2,323.86	1.08	2,323.93	20.00	25.39	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4209 4461	J-2252 J-2335	Forest Lakes	TRUE TRUE	1.00 1.00	2,324.22 2,324.46	2.28 2.93	2,325.50 2,326.39	20.00 20.00	21.92 20.00	20.00 20.00	20.00 20.28	J-895 J-2336	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7486	J-4023	Lakes	TRUE	1.00	2,326.17	1.20	2,326.37	20.00	20.00	20.00	20.09	J-2335	(N/A)	17.28	J-1198
4146 7713	J-2227 J-4096	Forest Forest	TRUE TRUE	1.00 1.00	2,326.49 2,326.84	1.48 1.08	2,326.96 2,326.91	20.00 20.00	20.00 21.60	20.00 20.00	20.14 20.00	J-2635 J-3168	(N/A) (N/A)	16.79 17.28	J-1198 J-1198
5919	J-3167	Forest	TRUE	1.00	2,326.84	2.08	2,327.92	20.00	20.63	20.00	20.00	J-3168	(N/A)	17.28	J-1198
4462 6119	J-2336 J-3284	Lakes Lakes	TRUE TRUE	1.00 1.00	2,326.93 2,327.14	1.20 1.20	2,327.13 2,327.33	20.00 20.00	20.00 75.96	20.00 20.00	20.00 20.00	J-2335 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
829	J-469	Lakes	TRUE	1.00	2,327.14	1.20	2,327.34	20.00	79.17	20.00	20.00	J-2323	(N/A)	17.28	J-1198
5276 5277	J-2799 J-2800	Forest Forest	TRUE TRUE	1.00 1.00	2,327.42 2,327.42	2.08 1.68	2,328.50 2,328.10	20.00 20.00	22.12 21.17	20.00 20.00	20.00 20.00	J-895 J-895	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7394	J-3990	Forest	TRUE	1.00	2,328.80	1.08	2,328.88	20.00	45.30	20.00	20.00	J-3904	(N/A)	16.79	J-1198
7395 6246	J-3991 J-3361	Forest Forest	TRUE TRUE	1.00 1.00	2,328.80 2,330.07	1.48 1.08	2,329.28 2,330.15	20.00 20.00	46.39 20.00	20.00 20.00	20.00 21.23	J-3904 J-3360	(N/A) (N/A)	16.79 17.28	J-1198 J-1198
2156	J-1145	Forest	TRUE	1.00	2,339.51	1.08	2,339.59	20.00	20.00	20.00	20.19	J-3369	(N/A)	17.28	J-1198
4077 73	J-2197 J-30	Forest Forest	TRUE TRUE	1.00 1.00	2,341.34 2,341.42	1.28 1.28	2,341.62 2,341.69	20.00 20.00	52.49 24.80	20.00 20.00	20.01 20.00	J-2212 J-2114	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
72	J-29	Forest	TRUE	1.00	2,341.42	1.08	2,341.50	20.00	23.89	20.00	20.00	J-2114	(N/A)	17.28	J-1198
6260 651	J-3369 J-375	Forest Forest	TRUE TRUE	1.00 1.00	2,342.79 2,345.51	1.48 1.28	2,343.27 2,345.79	20.00 20.00	20.00 66.40	20.00 20.00	20.15 20.00	J-3370 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5134	J-2718	Forest	TRUE	1.00	2,345.51	1.28	2,345.79	20.00	65.25	20.00	20.00	J-3855	(N/A)	17.28	J-1198
6245 5934	J-3360 J-3176	Forest Forest	TRUE TRUE	1.00 1.00	2,349.89 2,350.77	2.08 1.88	2,350.97 2,351.65	20.00 20.00	20.01 20.00	20.00 20.00	20.35 20.68	J-3361 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1229	J-643	Forest	TRUE	1.00	2,355.69	1.28	2,355.97	20.00	51.43	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7006 6864	J-3807 J-3724	Forest Forest	TRUE TRUE	1.00 1.00	2,355.78 2,356.65	2.08 1.28	2,356.86 2,356.93	20.00 20.00	20.00 41.82	20.00 20.00	20.05 20.00	J-3808 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
461	J-258	Lakes	TRUE	1.00	2,356.70	1.20	2,356.90	20.00	86.89	20.00	20.05	J-2323	(N/A)	17.28	J-1198
4674 1206	J-2457 J-632	Lakes Forest	TRUE TRUE	1.00 1.00	2,356.72 2,356.90	1.20 1.88	2,356.92 2,357.78	20.00 20.00	87.45 43.86	20.00 20.00	20.05 20.00	J-2323 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
312	J-162	Lakes	TRUE	1.00	2,357.14	1.20	2,357.34	20.00	87.83	20.00	20.03	J-2323	(N/A)	17.28	J-1198
313 854	J-163 J-482	Lakes Forest	TRUE TRUE	1.00 1.00	2,357.14 2,358.52	1.29 2.08	2,357.43 2,359.60	20.00 20.00	87.86 51.70	20.00 20.00	20.03 20.00	J-2323 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5807	J-3106	Forest	TRUE	1.00	2,358.52	1.28	2,358.80	20.00	50.62	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4395	J-2311	Forest	TRUE	1.00	2,361.26	3.09	2,363.35	20.00	38.77	20.00	20.01	J-2919	(N/A)	17.28	J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
6900 6901	J-3746 J-3747	Forest Forest	TRUE TRUE	1.00 1.00	2,361.55 2,361.66	1.08	2,361.62	20.00 20.00	41.69	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198
6915	J-3747 J-3755	Forest	TRUE	1.00	2,362.00	1.28 1.88	2,361.94 2,362.88	20.00	39.58 29.44	20.00	20.00	J-2919 J-2919	(N/A) (N/A)	17.28	J-1198 J-1198
6916	J-3756	Forest	TRUE	1.00	2,362.00	1.28	2,362.28	20.00	28.73	20.00	20.00	J-2919	(N/A)	17.28	J-1198
853 3765	J-481 J-2052	Forest Forest	TRUE TRUE	1.00 1.00	2,362.05 2,363.03	1.28 1.48	2,362.33 2,363.51	20.00 20.00	57.56 20.00	20.00 20.00	20.00 21.23	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1228	J-642	Forest	TRUE	1.00	2,363.88	1.08	2,363.96	20.00	42.16	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5232 5243	J-2774 J-2781	Forest Forest	TRUE TRUE	1.00 1.00	2,363.89 2,365.28	1.08 2.88	2,363.96 2,367.17	20.00 20.00	41.28 41.84	20.00 20.00	20.00 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5242	J-2780	Forest	TRUE	1.00	2,365.67	2.68	2,367.35	20.00	42.87	20.00	20.00	J-2919	(N/A)	17.28	J-1198
662 7019	J-382 J-3815	Forest Forest	TRUE TRUE	1.00 1.00	2,366.06 2,367.23	2.48 1.48	2,367.54 2,367.71	20.00 20.00	67.78 20.01	20.00 20.00	20.00 22.96	J-2919 J-3814	(N/A) (N/A)	17.28 16.78	J-1198 J-1198
6929	J-3763	Forest	TRUE	1.00	2,367.73	1.08	2,367.80	20.00	35.47	20.00	20.03	J-2729	(N/A)	17.28	J-1198
6930 4490	J-3764 J-2352	Forest Forest	TRUE TRUE	1.00 1.00	2,367.74 2,367.75	1.08 1.68	2,367.82 2,368.43	20.00 20.00	34.17 57.81	20.00 20.00	20.03 20.00	J-2729 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1283	J-666	Forest	TRUE	1.00	2,367.76	1.68	2,368.44	20.00	58.37	20.00	20.00	J-2919	(N/A)	17.28	J-1198
661 4692	J-381 J-2467	Forest Forest	TRUE TRUE	1.00 1.00	2,368.02 2,368.03	1.08 1.08	2,368.10 2,368.10	20.00 20.00	70.63 70.72	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7064	J-3839	Forest	TRUE	1.00	2,369.58	1.08	2,369.66	20.00	46.80	20.00	20.01	J-3855	(N/A)	17.28	J-1198
2706 650	J-1460 J-374	Forest Forest	TRUE TRUE	1.00 1.00	2,369.83 2,369.83	1.28 1.08	2,370.11 2,369.91	20.00 20.00	54.42 63.31	20.00 20.00	20.00 20.00	J-3855 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
682	J-393	Forest	TRUE	1.00	2,370.40	2.28	2,371.68	20.00	65.65	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6420 6419	J-3463 J-3462	Forest Forest	TRUE TRUE	1.00 1.00	2,375.08 2,375.08	1.28 1.28	2,375.36 2,375.36	20.00 20.00	32.95 30.88	20.00 20.00	20.00 20.00	J-4119 J-4119	(N/A) (N/A)	16.78 16.78	J-1198 J-1198
203 1355	J-94	Forest	TRUE TRUE	1.00 1.00	2,375.62 2,375.75	2.28 1.08	2,376.90	20.00 20.00	45.59	20.00 20.00	20.00 20.00	J-2919	(N/A)	17.28	J-1198
6680	J-688 J-3616	Forest Forest	TRUE	1.00	2,375.75	1.08	2,375.83 2,375.96	20.00	37.79 35.58	20.00	20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1374	J-691	Forest	TRUE	1.00	2,378.24	1.68	2,378.92	20.00	20.43	20.00	20.00	J-3735	(N/A)	17.28	J-1198
395 366	J-216 J-197	Forest Forest	TRUE TRUE	1.00 1.00	2,378.25 2,378.25	1.48 1.08	2,378.73 2,378.33	20.00 20.00	35.84 35.74	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
367	J-198	Forest	TRUE	1.00	2,378.26	1.68	2,378.94	20.00	35.58	20.00	20.01	J-2919	(N/A)	17.28	J-1198
4556 5939	J-2390 J-3179	Forest Forest	TRUE TRUE	1.00 1.00	2,378.88 2,379.92	1.08 1.08	2,378.96 2,379.99	20.00 20.00	35.16 20.00	20.00 20.00	20.00 21.99	J-2919 J-3178	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5933	J-3175	Forest	TRUE	1.00	2,380.43	1.68	2,381.11	20.00	20.06	20.00	20.02	J-3176	(N/A)	17.28	J-1198
1037 5084	J-563 J-2691	Forest Forest	TRUE TRUE	1.00 1.00	2,380.72 2,380.72	1.48 1.08	2,381.20 2,380.80	20.00 20.00	58.52 57.05	20.00 20.00	20.00 20.00	J-3090 J-3090	(N/A) (N/A)	16.77 16.77	J-1198 J-1198
1225	J-641	Forest	TRUE	1.00	2,391.00	1.48	2,391.48	20.00	46.88	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3618 5687	J-1973 J-3036	Forest Forest	TRUE TRUE	1.00 1.00	2,391.21 2,392.57	1.28 1.88	2,391.48 2,393.45	20.00 20.00	26.20 47.48	20.00 20.00	20.00 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
840	J-474	Forest	TRUE	1.00	2,392.83	1.28	2,393.10	20.00	48.90	20.00	20.00	J-2919	(N/A)	17.28	J-1198
2881 4481	J-1561 J-2347	Forest Forest	TRUE TRUE	1.00 1.00	2,394.29 2,396.67	1.08 1.68	2,394.37 2,397.35	20.00 20.00	20.06 20.03	20.00 20.00	20.00 20.30	J-4160 J-2272	(N/A) (N/A)	16.77 17.28	J-1198 J-1198
3126	J-1690	Forest	TRUE	1.00	2,397.97	1.08	2,398.05	20.00	46.95	20.00	20.01	J-2919	(N/A)	17.28	J-1198
841 1224	J-475 J-640	Forest Forest	TRUE TRUE	1.00 1.00	2,398.40 2,399.70	1.88 1.48	2,399.28 2,400.17	20.00 20.00	48.22 54.03	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6577	J-3555	Forest	TRUE	1.00	2,399.70	1.68	2,400.38	20.00	52.27	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4270 536	J-2272 J-304	Forest Forest	TRUE TRUE	1.00 1.00	2,399.82 2,400.08	2.88 1.08	2,401.71 2,400.16	20.00 20.00	20.02 27.95	20.00 20.00	20.20 20.00	J-2347 J-1217	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7541	J-4044	Forest	TRUE	1.00	2,404.37	1.88	2,405.25	20.00	35.16	20.00	20.00	J-4119	(N/A)	16.77	J-1198
537 6398	J-305 J-3450	Forest Forest	TRUE TRUE	1.00 1.00	2,406.47 2,406.56	1.28 1.08	2,406.74 2,406.64	20.00 20.00	24.38 23.11	20.00 20.00	20.00 20.00	J-1217 J-1217	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
104	J-50	Forest	TRUE	1.00	2,407.80	1.48	2,408.28	20.00	23.22	20.00	20.00	J-2114	(N/A)	17.28	J-1198
5838 2141	J-3123 J-1136	Forest Forest	TRUE TRUE	1.00 1.00	2,407.80 2,410.03	1.08 1.48	2,407.88 2,410.51	20.00 20.00	21.79 20.62	20.00 20.00	20.00 20.00	J-2114 J-3179	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5938	J-3178	Forest	TRUE	1.00	2,410.03	1.08	2,410.11 2.410.89	20.00	20.52	20.00	20.00	J-3179	(N/A)	17.28	J-1198
143 7018	J-70 J-3814	Forest Forest	TRUE TRUE	1.00 1.00	2,410.41 2,411.32	1.48 1.08	2,410.89	20.00 20.00	41.15 20.01	20.00 20.00	20.00 20.45	J-941 J-4160	(N/A) (N/A)	17.28 16.76	J-1198 J-1198
5555	J-2959	Forest	TRUE	1.00	2,411.51	2.28	2,412.79 2,412.36	20.00	36.48	20.00	20.01	J-2919	(N/A) (N/A)	17.28	J-1198
1146 3363	J-606 J-1831	Forest Lakes	TRUE TRUE	1.00 1.00	2,411.88 2,418.97	1.48 2.15	2,412.30	20.00 20.00	37.76 20.00	20.00 20.00	20.00 24.74	J-2919 J-1896	(N/A)	17.28 17.28	J-1198 J-1198
187 4456	J-90 J-2332	Forest Stewartsville	TRUE TRUE	1.00 1.00	2,421.29 2,421.40	2.48 1.26	2,422.77 2,421.65	20.00 20.00	21.49 96.30	20.00 20.00	20.00 20.00	J-3176 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1198	J-627	Stewartsville		1.00	2,421.40	2.55	2,421.05	20.00	96.65	20.00	20.00	J-676	(N/A)	17.28	J-1198
1169 4684	J-614	Forest Forest	TRUE	1.00 1.00	2,427.78	1.48 2.48	2,428.26	20.00 20.00	43.99 43.32	20.00	20.00	J-2919 J-2919	(N/A)	17.28	J-1198
5053	J-2463 J-2674	Forest	TRUE	1.00	2,427.79 2,427.88	2.28	2,429.27 2,429.16	20.00	30.43	20.00 20.00	20.00 20.00	J-895	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5054 5612	J-2675 J-2992	Forest Forest	TRUE TRUE	1.00 1.00	2,427.88 2,430.01	1.48 1.48	2,428.36 2,430.49	20.00 20.00	29.52 31.04	20.00 20.00	20.00 20.00	J-895 J-2224	(N/A) (N/A)	17.28 16.76	J-1198 J-1198
5613	J-2993	Forest	TRUE	1.00	2,430.01	1.48	2,430.49	20.00	31.45	20.00	20.00	J-2224	(N/A)	16.76	J-1198
194 3287	J-9 <u>2</u> J-1788	Forest Forest	TRUE TRUE	1.00 1.00	2,431.46 2,431.49	1.08 1.08	2,431.54 2,431.57	20.00 20.00	28.94 25.80	20.00 20.00	20.00 20.00	J-2038 J-2038	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5581	J-2974	Forest	TRUE	1.00	2,431.50	2.28	2,431.37	20.00	24.82	20.00	20.00	J-2038	(N/A)	17.28	J-1198
669 5591	J-386 J-2980	Forest Forest	TRUE TRUE	1.00 1.00	2,431.76 2,431.95	2.08 1.48	2,432.85 2,432.43	20.00 20.00	47.31 45.88	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
695	J-400	Forest	TRUE	1.00	2,432.40	2.48	2,433.88	20.00	28.63	20.00	20.00	J-1217	(N/A)	17.28	J-1198
3390 4934	J-1844 J-2604	Lakes Forest	TRUE TRUE	1.00 1.00	2,434.13 2,434.58	1.20 1.48	2,434.33 2,435.05	20.00 20.00	20.01 20.00	20.00 20.00	24.91 20.19	J-2433 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
347	J-185	Forest	TRUE	1.00	2,434.56	1.48	2,435.75	20.00	47.16	20.00	20.19	J-2919 J-2919	(N/A)	17.28	J-1198
346 7400	J-184 J-3993	Forest Forest	TRUE TRUE	1.00 1.00	2,435.39 2,435.45	1.08 1.48	2,435.47 2,435.93	20.00 20.00	47.24 45.41	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
901	J-504	Forest	TRUE	1.00	2,435.48	1.08	2,435.55	20.00	55.32	20.00	20.00	J-3855	(N/A)	17.28	J-1198
5027 6047	J-2658 J-3240	Forest Forest	TRUE TRUE	1.00 1.00	2,435.48 2,437.02	1.48 1.28	2,435.96 2,437.30	20.00 20.00	54.39 20.00	20.00 20.00	20.00 21.73	J-3855 J-3241	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
475	J-266	Forest	TRUE	1.00	2,438.08	1.68	2,438.76	20.00	51.90	20.00	20.00	J-2145	(N/A)	17.28	J-1198
3994 6053	J-2160 J-3244	Forest	TRUE TRUE	1.00 1.00	2,438.73	2.48 2.88	2,440.22 2,444.37	20.00 20.00	28.62 34.03	20.00 20.00	20.00 20.00	J-2280 J-2280	(N/A) (N/A)	17.28	J-1198 J-1198
6052	J-3243	Forest Forest	TRUE	1.00	2,442.49 2,442.49	1.48	2,442.97	20.00	35.83	20.00	20.00	J-2280	(N/A)	17.28 17.28	J-1198
4664 4933	J-2451 J-2603	Lakes	TRUE TRUE	1.00 1.00	2,442.97	1.20	2,443.17	20.00 20.00	20.00 20.23	20.00	20.88	J-2452 J-3972	(N/A)	17.28 17.28	J-1198 J-1198
5335	J-2603 J-2834	Forest Forest	TRUE	1.00	2,448.02 2,449.73	1.88 1.08	2,448.90 2,449.80	20.00	51.07	20.00 20.00	20.00 20.00	J-3972 J-2145	(N/A) (N/A)	17.28	J-1198 J-1198
476 4665	J-267 J-2452	Forest	TRUE TRUE	1.00 1.00	2,449.73 2,453.45	1.88	2,450.61	20.00 20.00	52.26 20.14	20.00 20.00	20.00 20.04	J-2145 J-2451	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
232	J-111	Lakes Forest	TRUE	1.00	2,453.64	1.20 1.68	2,453.65 2,454.31	20.00	48.72	20.00	20.01	J-2919	(N/A)	17.28	J-1198
5279 231	J-2801 J-110	Forest Forest	TRUE TRUE	1.00 1.00	2,453.73 2,453.74	1.68 1.68	2,454.41 2,454.42	20.00 20.00	47.67 48.86	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6919	J-3758	Forest	TRUE	1.00	2,454.27	1.08	2,454.35	20.00	28.94	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7280	J-3948	Forest	TRUE	1.00	2,454.27	1.48	2,454.75	20.00	29.73	20.00	20.00	J-2919	(N/A)	17.28	J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
7279	J-3947	Forest	TRUE	1.00	2,454.28	1.08	2,454.35	20.00	29.57	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6918	J-3757	Forest	TRUE	1.00	2,454.28	1.68	2,454.96	20.00	31.29	20.00	20.00	J-2919	(N/A)	17.28	J-1198
103 6601	J-49 J-3569	Forest Lakes	TRUE TRUE	1.00 1.00	2,464.33 2,464.37	2.28 1.20	2,465.61 2,464.57	20.00 20.00	26.40 20.00	20.00 20.00	20.00 22.05	J-2114 J-3568	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
64	J-3369 J-24	Forest	TRUE	1.00	2,404.37	1.68	2,480.43	20.00	30.72	20.00	20.00	J-3306 J-3176	(N/A)	17.28	J-1198
4945	J-2610	Forest	TRUE	1.00	2,479.77	1.08	2,479.85	20.00	29.80	20.00	20.00	J-3176	(N/A)	17.28	J-1198
952 7014	J-525 J-3812	Lakes Lakes	TRUE TRUE	1.00 1.00	2,481.53 2,482.39	1.20 1.20	2,481.73 2,482.58	20.00 20.00	85.03 81.59	20.00 20.00	20.05 20.00	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3868	J-2101	Forest	TRUE	1.00	2,483.48	1.08	2,483.55	20.00	27.93	20.00	20.01	J-3176	(N/A)	17.28	J-1198
41	J-9	Forest	TRUE	1.00	2,483.55	1.08	2,483.62	20.00	36.60	20.00	20.01	J-3176	(N/A)	17.28	J-1198
42 47	J-10 J-13	Forest Forest	TRUE TRUE	1.00 1.00	2,483.55 2,483.61	1.48 1.68	2,484.03 2,484.29	20.00 20.00	36.50 30.99	20.00 20.00	20.01 20.00	J-3176 J-3176	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4630	J-2433	Lakes	TRUE	1.00	2,484.40	1.20	2,484.60	20.00	20.01	20.00	20.88	J-2434	(N/A)	17.28	J-1198
648 6182	J-373 J-3321	Forest Forest	TRUE TRUE	1.00 1.00	2,484.86 2,484.86	1.68 1.48	2,485.54 2,485.34	20.00 20.00	72.08 73.10	20.00 20.00	20.00 20.00	J-2145 J-2145	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4098	J-2207	Lakes	TRUE	1.00	2,487.09	2.24	2,488.33	20.00	28.58	20.00	20.00	J-1722	(N/A)	17.28	J-1198
4186 5223	J-2244 J-2768	Lakes Forest	TRUE TRUE	1.00 1.00	2,487.09 2,487.40	1.72 2.08	2,487.81 2,488.48	20.00 20.00	28.30 27.76	20.00 20.00	20.00 20.00	J-1722 J-2280	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5224	J-2769	Forest	TRUE	1.00	2,487.40	2.48	2,488.89	20.00	26.70	20.00	20.00	J-2280	(N/A)	17.28	J-1198
344	J-183	Forest	TRUE	1.00	2,488.32	1.08	2,488.39	20.00	48.32	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7094 3362	J-3856 J-1830	Forest Lakes	TRUE TRUE	1.00 1.00	2,488.55 2,488.67	1.88 1.29	2,489.43 2,488.96	20.00 20.00	32.97 20.88	20.00 20.00	20.00 20.02	J-2919 J-1896	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4132	J-2221	Forest	TRUE	1.00	2,488.98	2.08	2,490.06	20.00	46.14	20.00	20.01	J-2212	(N/A)	17.28	J-1198
343 6048	J-182 J-3241	Forest Forest	TRUE TRUE	1.00 1.00	2,489.06 2,489.47	1.08 2.28	2,489.14 2,490.75	20.00 20.00	48.28 20.19	20.00 20.00	20.00 20.00	J-2919 J-3240	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6600	J-3568	Lakes	TRUE	1.00	2,490.05	1.29	2,490.34	20.00	20.00	20.00	20.00	J-3569	(N/A)	17.28	J-1198
5621 276	J-2997 J-140	Forest Forest	TRUE TRUE	1.00 1.00	2,490.13 2,490.14	1.08 3.09	2,490.21 2,492.22	20.00 20.00	52.41 53.79	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
275	J-139	Forest	TRUE	1.00	2,490.14	1.88	2,491.16	20.00	53.95	20.00	20.01	J-2919	(N/A)	17.28	J-1198
747	J-428	Forest	TRUE	1.00	2,492.61	1.28	2,492.89	20.00	41.23	20.00	20.00	J-2919	(N/A)	17.28	J-1198
746 3204	J-427 J-1737	Forest Forest	TRUE TRUE	1.00 1.00	2,493.34 2,493.53	1.08 1.48	2,493.42 2,494.01	20.00 20.00	38.08 31.34	20.00 20.00	20.01 20.00	J-2919 J-3	(N/A) (N/A)	17.28 16.73	J-1198 J-1198
2870	J-1555	Forest	TRUE	1.00	2,493.53	1.08	2,493.61	20.00	26.72	20.00	20.00	J-3	(N/A)	16.73	J-1198
3205 6178	J-1738 J-3319	Forest Forest	TRUE TRUE	1.00 1.00	2,493.53 2,493.53	1.08 1.08	2,493.61 2,493.61	20.00 20.00	28.99 27.20	20.00 20.00	20.00 20.00	J-3 J-3	(N/A) (N/A)	16.73 16.73	J-1198 J-1198
4631	J-2434	Lakes	TRUE	1.00	2,493.64	1.20	2,493.83	20.00	20.12	20.00	20.05	J-2433	(N/A)	17.28	J-1198
7308 121	J-3958 J-58	Lakes Forest	TRUE TRUE	1.00 1.00	2,493.79 2,493.94	1.20 1.08	2,493.99 2,494.01	20.00 20.00	20.42 69.67	20.00 20.00	20.03 20.00	J-2433 J-2145	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6306	J-3396	Forest	TRUE	1.00	2,493.94	1.08	2,494.01	20.00	29.62	20.00	20.00	J-2143 J-2919	(N/A)	17.28	J-1198
6305	J-3395	Forest	TRUE	1.00	2,493.98	1.28	2,494.26	20.00	31.43	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4743 4742	J-2496 J-2495	Lakes Lakes	TRUE TRUE	1.00 1.00	2,494.21 2,494.21	1.55 1.72	2,494.76 2,494.93	20.00 20.00	26.75 25.66	20.00 20.00	20.00 20.00	J-2433 J-2433	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5357	J-2847	Lakes	TRUE	1.00	2,494.21	1.20	2,494.41	20.00	24.68	20.00	20.00	J-2433	(N/A)	17.28	J-1198
5356 3389	J-2846 J-1843	Lakes Lakes	TRUE TRUE	1.00 1.00	2,494.21 2,494.21	1.20 1.20	2,494.41 2,494.41	20.00 20.00	23.09 21.17	20.00 20.00	20.00 20.00	J-2433 J-2433	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
751	J-430	Forest	TRUE	1.00	2,494.58	1.08	2,494.66	20.00	34.27	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6986 1208	J-3795 J-633	Forest Forest	TRUE TRUE	1.00 1.00	2,495.03 2,497.57	1.48 1.28	2,495.51 2,497.85	20.00 20.00	30.14 34.47	20.00 20.00	20.00 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6908	J-3751	Forest	TRUE	1.00	2,498.39	1.88	2,499.27	20.00	31.75	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1005	J-549	Forest	TRUE	1.00	2,499.32	1.68	2,500.00	20.00	41.15	20.00	20.00	J-3090	(N/A)	16.73	J-1198
4690 5676	J-2466 J-3030	Forest Forest	TRUE TRUE	1.00 1.00	2,499.32 2,499.65	1.28 1.08	2,499.60 2,499.73	20.00 20.00	40.10 27.35	20.00 20.00	20.00 20.00	J-3090 J-941	(N/A) (N/A)	16.73 17.28	J-1198 J-1198
84	J-37	Forest	TRUE	1.00	2,499.66	1.08	2,499.73	20.00	29.05	20.00	20.00	J-941	(N/A)	17.28	J-1198
397 398	J-217 J-218	Forest Forest	TRUE TRUE	1.00 1.00	2,501.52 2,501.52	1.28 1.48	2,501.80 2,502.00	20.00 20.00	46.01 45.73	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
966	J-531	Forest	TRUE	1.00	2,501.83	1.28	2,502.11	20.00	42.08	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6769 7269	J-3668 J-3944	Forest Forest	TRUE TRUE	1.00 1.00	2,501.93 2,502.95	1.48 1.88	2,502.41 2,503.83	20.00 20.00	39.76 48.97	20.00 20.00	20.00 20.00	J-2919 J-1197	(N/A) (N/A)	17.28 12.92	J-1198 J-1198
5399	J-2872	Forest	TRUE	1.00	2,503.00	1.08	2,503.07	20.00	65.46	20.00	20.01	J-2919	(N/A)	17.28	J-1198
440 1317	J-245 J-680	Forest Forest	TRUE TRUE	1.00 1.00	2,503.00 2,503.00	1.48 1.08	2,503.48 2,503.08	20.00 20.00	46.67 66.50	20.00 20.00	20.00 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
439	J-244	Forest	TRUE	1.00	2,503.00	1.08	2,503.08	20.00	46.62	20.00	20.00	J-2919 J-2919	(N/A)	17.28	J-1198
258	J-128	Forest	TRUE	1.00	2,503.19	1.08	2,503.27	20.00	46.77	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7204 1349	J-3912 J-687	Forest Forest	TRUE TRUE	1.00 1.00	2,503.70 2,503.71	1.48 1.08	2,504.18 2,503.79	20.00 20.00	33.59 34.15	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
299	J-154	Forest	TRUE	1.00	2,503.72	1.08	2,503.79	20.00	46.83	20.00	20.00	J-2919	(N/A)	17.28	J-1198
259 1071	J-129 J-578	Forest Forest	TRUE TRUE	1.00 1.00	2,503.72 2,503.73	1.08 1.28	2,503.80 2,504.01	20.00 20.00	46.81 54.27	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5416	J-2881	Forest	TRUE	1.00	2,503.74	1.08	2,503.81	20.00	51.18	20.00	20.00	J-2919	(N/A)	17.28	J-1198
656 7283	J-378 J-3949	Forest Forest	TRUE TRUE	1.00 1.00	2,504.10 2,505.78	1.08 1.08	2,504.18 2,505.86	20.00 20.00	49.03 39.53	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7649	J-4078	Forest	TRUE	1.00	2,505.79	1.08	2,505.86	20.00	47.55	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6580 7284	J-3557 J-3950	Forest Forest	TRUE TRUE	1.00 1.00	2,505.79 2,505.81	1.08 1.08	2,505.87 2,505.88	20.00 20.00	36.65 38.71	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6579	J-3556	Forest	TRUE	1.00	2,505.81	1.08	2,505.89	20.00	39.38	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5826	J-3116	Forest	TRUE	1.00	2,516.83	1.08	2,516.90	20.00	48.39	20.00	20.00	J-941	(N/A)	17.28	J-1198
36 156	J-6 J-76	Forest Forest	TRUE TRUE	1.00 1.00	2,516.83 2,516.84	2.08 1.08	2,517.91 2,516.92	20.00 20.00	29.82 48.84	20.00 20.00	20.00 20.00	J-941 J-941	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
35	J-5	Forest	TRUE	1.00	2,516.95	1.08	2,517.02	20.00	29.72	20.00	20.00	J-941	(N/A)	17.28	J-1198
1333 5719	J-684 J-3055	Forest Forest	TRUE TRUE	1.00 1.00	2,524.28 2,524.29	1.48 1.48	2,524.76 2,524.76	20.00 20.00	62.06 60.33	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
129	J-63	Forest	TRUE	1.00	2,527.00	1.48	2,527.48	20.00	30.50	20.00	20.00	J-2267	(N/A)	16.91	J-1198
8504 120	J-4205 J-57	Forest Forest	TRUE TRUE	1.00 1.00	2,527.00 2,530.69	1.28 1.48	2,527.28 2,531.17	20.00 20.00	34.96 61.93	20.00 20.00	20.00 20.00	J-2267 J-2145	(N/A) (N/A)	16.91 17.28	J-1198 J-1198
6008	J-3217	Forest	TRUE	1.00	2,530.69	1.48	2,531.17	20.00	60.83	20.00	20.00	J-2145	(N/A)	17.28	J-1198
611	J-350	Forest	TRUE	1.00	2,531.05	1.08	2,531.13	20.00	51.08	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5003 991	J-2644 J-543	Forest Forest	TRUE TRUE	1.00 1.00	2,532.02 2,532.45	1.08 1.68	2,532.10 2,533.13	20.00 20.00	44.69 46.06	20.00 20.00	20.01 20.00	J-3855 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
463	J-259	Lakes	TRUE	1.00	2,532.93	1.20	2,533.13	20.00	92.50	20.00	20.00	J-2323	(N/A)	17.28	J-1198
6329 610	J-3409 J-349	Lakes Forest	TRUE TRUE	1.00 1.00	2,532.93 2,536.94	1.20 1.28	2,533.13 2,537.21	20.00 20.00	89.25 51.44	20.00 20.00	20.00 20.01	J-2323 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6015	J-3221	Forest	TRUE	1.00	2,536.94	1.08	2,537.02	20.00	49.06	20.00	20.01	J-2919	(N/A)	17.28	J-1198
241 240	J-117 J-116	Lakes Lakes	TRUE TRUE	1.00 1.00	2,538.38 2,538.38	1.37 1.37	2,538.75 2,538.75	20.00 20.00	94.28 94.33	20.00 20.00	20.00 20.00	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5062	J-2679	Lakes	TRUE	1.00	2,542.75	1.89	2,543.64	20.00	31.68	20.00	20.00	J-3987	(N/A)	17.28	J-1198
5063 1518	J-2680 J-756	Lakes Forest	TRUE TRUE	1.00 1.00	2,542.75 2,545.20	1.37 1.48	2,543.13 2,545.68	20.00 20.00	30.51 55.59	20.00 20.00	20.00 20.00	J-3987 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
.010	0.700	. 01031	. NOL	1.00	2,040.20	1.70	2,040.00	20.00	30.03	20.00	20.00	5 2515	(14/1)	20	5 1150

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
7023	J-3817	Forest	TRUE	1.00	2,545.20	1.08	2,545.28	20.00	49.81	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6823	J-3700	Forest	TRUE	1.00	2,546.34	1.28	2,546.62	20.00	35.06	20.00	20.00	J-1217	(N/A)	17.28	J-1198
1076 7162	J-579 J-3894	Forest Lakes	TRUE TRUE	1.00 1.00	2,546.34 2,547.98	1.08 2.67	2,546.42 2,549.65	20.00 20.00	37.18 31.81	20.00 20.00	20.00 20.00	J-1217 J-3987	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4852	J-2556	Lakes	TRUE	1.00	2,547.98	2.24	2,549.05	20.00	25.26	20.00	20.00	J-3987	(N/A)	17.28	J-1198
4853	J-2557	Lakes	TRUE	1.00	2,547.98	1.63	2,548.61	20.00	24.22	20.00	20.00	J-3987	(N/A)	17.28	J-1198
7875 6937	J-4136 J-3768	Lakes Forest	TRUE TRUE	1.00 1.00	2,547.98 2,549.56	1.46 1.48	2,548.44 2,550.03	20.00 20.00	22.43 90.55	20.00 20.00	20.00 20.00	J-3987 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1281	J-665	Forest	TRUE	1.00	2,549.56	1.48	2,550.04	20.00	93.67	20.00	20.00	J-2919	(N/A)	17.28	J-1198
4885 4886	J-2575 J-2576	Forest Forest	TRUE TRUE	1.00 1.00	2,549.99 2,550.00	3.89 1.88	2,552.88 2,550.88	20.00 20.00	34.50 33.58	20.00 20.00	20.00 20.00	J-2280 J-2280	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1280	J-664	Forest	TRUE	1.00	2,573.11	1.48	2,573.58	20.00	75.62	20.00	20.00	J-2200 J-2919	(N/A)	17.28	J-1198
5511	J-2934	Forest	TRUE	1.00	2,573.11	1.08	2,573.18	20.00	74.06	20.00	20.01	J-2919	(N/A)	17.28	J-1198
7595 147	J-4059 J-72	Forest Forest	TRUE TRUE	1.00 1.00	2,573.20 2,573.23	1.88 1.48	2,574.08 2,573.71	20.00 20.00	46.51 44.36	20.00 20.00	20.00 20.02	J-2919 J-3176	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6038	J-3234	Forest	TRUE	1.00	2,573.23	1.48	2,573.71	20.00	41.52	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6039 5481	J-3235 J-2918	Forest Forest	TRUE TRUE	1.00 1.00	2,573.24 2,573.28	1.68 2.28	2,573.91 2,574.56	20.00 20.00	43.04 43.00	20.00 20.00	20.00 20.01	J-2919 J-3176	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5094	J-2696	Forest	TRUE	1.00	2,575.72	1.08	2,575.80	20.00	80.32	20.00	20.00	J-2919	(N/A)	17.28	J-1198
5095 1004	J-2697 J-548	Forest Forest	TRUE TRUE	1.00 1.00	2,575.72 2,576.14	1.08 1.48	2,575.80 2,576.62	20.00 20.00	78.79 29.04	20.00 20.00	20.00 20.00	J-2919 J-3090	(N/A) (N/A)	17.28 16.70	J-1198 J-1198
4862	J-2562	Forest	TRUE	1.00	2,576.14	1.48	2,576.62	20.00	27.82	20.00	20.00	J-3090	(N/A)	16.70	J-1198
1450	J-727 J-3316	Forest	TRUE TRUE	1.00 1.00	2,576.58	1.08	2,576.66	20.00 20.00	89.18	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A)	17.28 17.28	J-1198
6173 1449	J-3316 J-726	Forest Forest	TRUE	1.00	2,576.58 2,580.79	1.28 1.28	2,576.86 2,581.06	20.00	87.47 88.83	20.00	20.00	J-2919 J-2919	(N/A) (N/A)	17.28	J-1198 J-1198
5250	J-2785	Forest	TRUE	1.00	2,591.01	1.48	2,591.49	20.00	20.00	20.00	21.21	J-2222	(N/A)	17.28	J-1198
4095 359	J-2206 J-193	Forest Forest	TRUE TRUE	1.00 1.00	2,595.28 2,597.24	2.28 1.08	2,596.56 2,597.32	20.00 20.00	20.00 58.38	20.00 20.00	20.22 20.01	J-3350 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
529	J-300	Forest	TRUE	1.00	2,597.24	1.08	2,597.32	20.00	57.88	20.00	20.01	J-2919	(N/A)	17.28	J-1198
5705 358	J-3047 J-192	Forest Forest	TRUE TRUE	1.00 1.00	2,597.55 2,597.55	1.08 1.08	2,597.63 2,597.63	20.00 20.00	56.75 58.44	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
857	J-483	Stewartsville	TRUE	1.00	2,608.74	1.11	2,608.85	20.00	81.31	20.00	20.00	J-676	(N/A)	17.28	J-1198
5729 1028	J-3061 J-559	Stewartsville Forest	TRUE TRUE	1.00 1.00	2,608.74 2,610.23	1.11 1.88	2,608.85 2,611.11	20.00 20.00	79.18 57.79	20.00 20.00	20.00 20.00	J-676 J-2145	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5254	J-2787	Forest	TRUE	1.00	2,610.23	1.08	2,610.31	20.00	57.07	20.00	20.00	J-2145	(N/A)	17.28	J-1198
145 70	J-71 J-28	Forest Forest	TRUE TRUE	1.00 1.00	2,611.83 2,612.12	2.48 1.08	2,613.31 2,612.20	20.00 20.00	45.06 50.49	20.00 20.00	20.00 20.00	J-2145 J-3176	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1100	J-590	Forest	TRUE	1.00	2,612.12	2.08	2,613.32	20.00	50.49	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6757	J-3661	Forest	TRUE	1.00	2,612.24	1.68	2,612.92	20.00	47.77	20.00	20.01	J-2919	(N/A)	17.28	J-1198
1520 5765	J-757 J-3082	Forest Forest	TRUE TRUE	1.00 1.00	2,613.03 2,613.03	1.08 1.08	2,613.10 2,613.10	20.00 20.00	96.75 93.47	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4454	J-2331	Forest	TRUE	1.00	2,614.84	1.48	2,615.32	20.00	20.00	20.00	20.13	J-2919	(N/A)	17.28	J-1198
4133 7090	J-2222 J-3854	Forest Forest	TRUE TRUE	1.00 1.00	2,615.05 2,616.04	3.69 1.08	2,617.74 2,616.12	20.00 20.00	20.01 38.23	20.00 20.00	20.01 20.01	J-2785 J-3176	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
69	J-27	Forest	TRUE	1.00	2,616.22	1.08	2,616.29	20.00	51.50	20.00	20.00	J-3176	(N/A)	17.28	J-1198
4453 7113	J-2330 J-3867	Forest Forest	TRUE TRUE	1.00 1.00	2,618.17 2,619.47	1.48 1.28	2,618.65 2,619.75	20.00 20.00	20.00 20.00	20.00 20.00	20.02 20.08	J-2331 J-2330	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
98	J-46	Lakes	TRUE	1.00	2,624.77	1.20	2,624.97	20.00	20.01	20.00	20.13	J-782	(N/A)	17.28	J-1198
945 5944	J-521 J-3182	Forest Forest	TRUE TRUE	1.00 1.00	2,628.83 2,628.83	1.48 1.48	2,629.30 2,629.31	20.00 20.00	44.30 43.96	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5945	J-3183	Forest	TRUE	1.00	2,628.90	1.48	2,629.38	20.00	42.25	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7706 4955	J-4093 J-2616	Forest Forest	TRUE TRUE	1.00 1.00	2,629.41 2,631.90	2.08 1.88	2,630.49 2,632.78	20.00 20.00	21.88 20.03	20.00 20.00	20.00 20.89	J-2919 J-2012	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
190	J-91	Forest	TRUE	1.00	2,636.98	1.08	2,637.06	20.00	60.03	20.00	20.01	J-2038	(N/A)	17.28	J-1198
5820 5518	J-3113 J-2938	Forest Forest	TRUE TRUE	1.00 1.00	2,636.98 2,638.99	1.88 1.48	2,637.86 2,639.46	20.00 20.00	59.32 49.24	20.00 20.00	20.01 20.01	J-2038 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
946	J-522	Forest	TRUE	1.00	2,638.99	2.08	2,640.07	20.00	50.21	20.00	20.01	J-2919	(N/A)	17.28	J-1198
936 4864	J-517 J-2563	Forest Forest	TRUE TRUE	1.00 1.00	2,640.62 2,640.67	1.28 1.48	2,640.90 2,641.15	20.00 20.00	42.15 41.04	20.00 20.00	20.01 20.01	J-3855 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3689	J-2012	Forest	TRUE	1.00	2,641.79	2.08	2,642.87	20.00	20.03	20.00	20.23	J-2616	(N/A)	17.28	J-1198
5657 5658	J-3019 J-3020	Forest Forest	TRUE TRUE	1.00 1.00	2,642.50 2,642.52	2.28 1.68	2,643.78 2,643.20	20.00 20.00	38.40 36.97	20.00 20.00	20.00 20.00	J-2212 J-2212	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7268	J-3943	Forest	TRUE	1.00	2,645.26	1.28	2,645.54	20.00	48.52	20.00	20.00	J-1197	(N/A)	12.92	J-1198
4939 7241	J-2607 J-3930	Lakes	TRUE TRUE	1.00 1.00	2,652.43 2,653.04	1.20 1.88	2,652.63 2,653.93	20.00 20.00	20.01 20.00	20.00 20.00	20.11 20.53	J-46 J-576	(N/A) (N/A)	17.28	J-1198 J-1198
97	J-45	Forest Lakes	TRUE	1.00	2,653.89	1.37	2,654.26	20.00	21.03	20.00	20.00	J-46	(N/A)	16.67 17.28	J-1198
6495 150	J-3506 J-73	Forest Forest	TRUE TRUE	1.00 1.00	2,658.81 2,658.81	1.08 1.08	2,658.88 2,658.89	20.00 20.00	56.46 57.55	20.00 20.00	20.00 20.00	J-3176 J-3176	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6142	J-3298	Forest	TRUE	1.00	2,660.63	1.28	2,660.90	20.00	90.64	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1513	J-755	Forest	TRUE	1.00	2,660.63	1.08	2,660.71	20.00	92.43	20.00	20.00	J-2919	(N/A)	17.28	J-1198
126 6288	J-61 J-3385	Forest Forest	TRUE TRUE	1.00 1.00	2,663.88 2,663.88	1.48 1.08	2,664.36 2,663.96	20.00 20.00	35.20 33.36	20.00 20.00	20.00 20.00	J-2145 J-2145	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1066	J-576	Forest	TRUE	1.00	2,667.66	1.08	2,667.73	20.00	20.00	20.00	20.00	J-3930	(N/A)	16.66	J-1198
409 410	J-225 J-226	Forest Forest	TRUE TRUE	1.00 1.00	2,669.55 2,670.14	1.28 1.08	2,669.83 2,670.22	20.00 20.00	42.24 41.85	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4451	J-2329	Forest	TRUE	1.00	2,670.15	1.48	2,670.62	20.00	41.65	20.00	20.01	J-2919	(N/A)	17.28	J-1198
6171 1512	J-3315 J-754	Forest Forest	TRUE TRUE	1.00 1.00	2,685.64 2,685.65	1.08 1.48	2,685.72 2,686.13	20.00 20.00	79.39 81.01	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
130	J-64	Forest	TRUE	1.00	2,686.06	1.48	2,686.54	20.00	22.70	20.00	20.00	J-2267	(N/A)	16.87	J-1198
700 701	J-403 J-404	Stewartsville Stewartsville		1.00 1.00	2,687.23 2,687.23	1.11 1.11	2,687.34 2,687.34	20.00 20.00	75.84 77.82	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4261	J-2268	Forest	TRUE	1.00	2,689.39	1.08	2,689.47	20.00	47.45	20.00	20.00	J-1519	(N/A)	17.28	J-1198
127 5558	J-62 J-2961	Forest Forest	TRUE TRUE	1.00 1.00	2,696.87 2,704.32	2.28 2.28	2,698.16 2,705.60	20.00 20.00	34.76 20.00	20.00 20.00	20.00 21.38	J-2145 J-2960	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1296	J-673	Forest	TRUE	1.00	2,705.18	1.68	2,705.86	20.00	35.68	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6253	J-3365	Forest	TRUE TRUE	1.00	2,705.33	1.48	2,705.80	20.00	33.44 47.15	20.00	20.00	J-2919	(N/A)	17.28	J-1198
6283 78	J-338 <u>2</u> J-33	Forest Forest	TRUE	1.00 1.00	2,718.17 2,718.17	1.08 1.48	2,718.25 2,718.65	20.00 20.00	47.15 49.92	20.00 20.00	20.00 20.00	J-1624 J-1624	(N/A) (N/A)	16.86 16.86	J-1198 J-1198
79	J-34	Forest	TRUE	1.00	2,718.17	1.28	2,718.45	20.00	48.84	20.00	20.00	J-1624	(N/A)	16.86	J-1198
5615 175	J-2994 J-86	Forest Forest	TRUE TRUE	1.00 1.00	2,721.08 2,721.08	1.28 1.08	2,721.36 2,721.16	20.00 20.00	54.57 57.24	20.00 20.00	20.00 20.00	J-3176 J-3176	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5936	J-3177	Forest	TRUE	1.00	2,729.10	1.08	2,729.18	20.00	62.54	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1510 5557	J-753 J-2960	Forest Forest	TRUE TRUE	1.00 1.00	2,729.10 2,734.80	1.48 3.09	2,729.58 2,736.89	20.00 20.00	64.52 20.00	20.00 20.00	20.00 20.11	J-2919 J-2961	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1430	J-715	Forest	TRUE	1.00	2,736.89	1.28	2,737.16	20.00	55.62	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1297 1406	J-674 J-701	Forest Forest	TRUE TRUE	1.00 1.00	2,736.89 2,737.03	1.08 1.08	2,736.97 2,737.11	20.00 20.00	56.27 56.80	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
5885	J-3149	Forest	TRUE	1.00	2,737.04	1.08	2,737.11	20.00	54.65	20.00	20.00	J-2919	(N/A)	17.28	J-1198
3609	J-1968	Lakes	TRUE	1.00	2,739.88	1.20	2,740.08	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.28	J-1198
5012 1526	J-2649 J-760	Forest Forest	TRUE TRUE	1.00 1.00	2,745.58 2,747.66	1.08 1.08	2,745.66 2,747.73	20.00 20.00	20.00 44.87	20.00 20.00	21.26 20.00	J-194 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6814	J-3695	Forest	TRUE	1.00	2,747.66	1.28	2,747.94	20.00	41.68	20.00	20.00	J-2919	(N/A)	17.28	J-1198
166 5297	J-82 J-2811	Forest Forest	TRUE TRUE	1.00 1.00	2,752.08 2,752.95	2.08 1.48	2,753.17 2,753.43	20.00 20.00	40.59 20.00	20.00 20.00	20.01 21.19	J-3855 J-55	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6439	J-3474	Lakes	TRUE	1.00	2,755.39	1.20	2,755.59	20.00	24.26	20.00	20.00	J-3016	(N/A)	17.28	J-1198
6440 4518	J-3475 J-2368	Lakes Forest	TRUE TRUE	1.00 1.00	2,755.39 2,755.85	1.20 1.48	2,755.59 2,756.33	20.00 20.00	21.71 20.00	20.00 20.00	20.00 20.64	J-3016 J-2011	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2112	J-1117	Forest	TRUE	1.00	2,756.12	1.48	2,756.60	20.00	21.72	20.00	20.00	J-1116	(N/A)	17.28	J-1198
6210 1522	J-3338 J-758	Forest Forest	TRUE TRUE	1.00 1.00	2,757.29 2,757.30	1.28 1.28	2,757.57 2,757.58	20.00 20.00	41.01 43.30	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1509	J-756 J-752	Forest	TRUE	1.00	2,759.68	1.48	2,760.16	20.00	57.77	20.00	20.00	J-2919 J-2919	(N/A)	17.28	J-1198
6386 483	J-3443 J-271	Forest Forest	TRUE TRUE	1.00 1.00	2,759.68 2,760.05	1.08 1.88	2,759.76 2,760.93	20.00 20.00	55.16 40.93	20.00 20.00	20.00 20.01	J-2919 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4591	J-2411	Forest	TRUE	1.00	2,760.09	1.08	2,760.17	20.00	40.10	20.00	20.01	J-3855	(N/A)	17.28	J-1198
113 3688	J-54 J-2011	Forest Forest	TRUE TRUE	1.00 1.00	2,760.77 2,763.44	1.08 1.88	2,760.84 2,764.32	20.00 20.00	20.00 20.00	20.00 20.00	21.71 20.13	J-55 J-2368	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5891	J-3152	Forest	TRUE	1.00	2,766.85	1.08	2,766.92	20.00	40.00	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1523 1051	J-759 J-570	Forest Forest	TRUE TRUE	1.00 1.00	2,766.85 2,776.57	1.08 1.08	2,766.93 2,776.65	20.00 20.00	42.19 28.42	20.00 20.00	20.00 20.00	J-2919 J-3930	(N/A) (N/A)	17.28 16.62	J-1198 J-1198
4812	J-2533	Forest	TRUE	1.00	2,776.57	1.68	2,777.25	20.00	27.63	20.00	20.00	J-3930	(N/A)	16.62	J-1198
1505 6095	J-750 J-3270	Forest Forest	TRUE TRUE	1.00 1.00	2,777.77 2,777.77	1.08 1.08	2,777.85 2,777.85	20.00 20.00	45.39 43.01	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
686	J-395	Forest	TRUE	1.00	2,782.76	1.08	2,782.83	20.00	43.33	20.00	20.00	J-2145	(N/A)	17.28	J-1198
5672 114	J-3028 J-55	Forest Forest	TRUE TRUE	1.00 1.00	2,783.03 2,783.07	1.88 2.68	2,783.91 2,784.75	20.00 20.00	29.24 20.00	20.00 20.00	20.00 20.16	J-2145 J-2811	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5671	J-3027	Forest	TRUE	1.00	2,783.08	1.88	2,783.96	20.00	27.58	20.00	20.10	J-2145	(N/A)	17.28	J-1198
6637 1506	J-3591 J-751	Forest Forest	TRUE TRUE	1.00 1.00	2,784.17 2,784.17	1.08 1.08	2,784.25 2,784.25	20.00 20.00	46.89 49.77	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6310	J-3398	Forest	TRUE	1.00	2,796.13	1.08	2,796.21	20.00	58.82	20.00	20.00	J-2919	(N/A)	17.28	J-1198
1455 677	J-729 J-391	Forest Forest	TRUE TRUE	1.00 1.00	2,796.13 2,800.58	1.08 1.08	2,796.21 2,800.66	20.00 20.00	59.56 59.01	20.00 20.00	20.00 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
152	J-74	Forest	TRUE	1.00	2,807.68	1.48	2,808.15	20.00	24.09	20.00	20.00	J-54	(N/A)	17.28	J-1198
5748 4441	J-3072 J-2325	Forest Forest	TRUE TRUE	1.00 1.00	2,807.68 2,807.86	1.08 3.29	2,807.76 2,810.15	20.00 20.00	22.06 20.00	20.00 20.00	20.00 22.86	J-54 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2502	J-1342	Forest	TRUE	1.00	2,815.46	1.08	2,815.54	20.00	22.30	20.00	20.00	J-1806	(N/A)	16.60	J-1198
993 6509	J-544 J-3514	Stewartsville Stewartsville		1.00 1.00	2,815.48 2,815.48	1.11	2,815.59 2,815.59	20.00 20.00	68.63 65.52	20.00 20.00	20.00 20.00	J-676 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1287	J-668	Forest	TRUE	1.00	2,815.61	1.11 1.68	2,816.29	20.00	20.00	20.00	24.36	J-1197	(N/A)	17.28	J-1198
6132 1096	J-3292 J-588	Lakes Lakes	TRUE TRUE	1.00 1.00	2,819.38 2,819.70	1.20 1.20	2,819.58 2,819.90	20.00 20.00	53.86 55.64	20.00 20.00	20.02 20.00	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
178	J-366 J-87	Lakes	TRUE	1.00	2,820.72	1.20	2,820.92	20.00	48.76	20.00	20.00	J-2323 J-46	(N/A)	17.28	J-1198
4652	J-2445	Lakes	TRUE TRUE	1.00 1.00	2,820.72 2,823.22	1.20	2,820.92	20.00 20.00	47.81	20.00 20.00	20.00 20.01	J-46 J-3855	(N/A) (N/A)	17.28 17.28	J-1198
165 361	J-81 J-194	Forest Forest	TRUE	1.00	2,826.52	2.28 1.08	2,824.50 2,826.60	20.00	40.07 20.11	20.00	20.00	J-2649	(N/A)	17.28	J-1198 J-1198
332 333	J-175 J-176	Forest Forest	TRUE TRUE	1.00 1.00	2,827.71 2,827.71	1.08 1.08	2,827.79 2,827.79	20.00 20.00	20.13 20.17	20.00 20.00	20.00 20.00	J-2649 J-2649	(N/A) (N/A)	17.28 17.28	J-1198
4704	J-176 J-2473	Forest	TRUE	1.00	2,833.19	1.08	2,833.27	20.00	40.78	20.00	20.00	J-2649 J-3855	(N/A) (N/A)	17.28	J-1198 J-1198
589	J-337	Forest	TRUE TRUE	1.00 1.00	2,833.19	1.48	2,833.67	20.00	41.89 20.00	20.00 20.00	20.01	J-3855 J-2977	(N/A) (N/A)	17.28	J-1198
5585 588	J-2976 J-336	Forest Forest	TRUE	1.00	2,834.72 2,849.92	1.48 1.68	2,835.20 2,850.60	20.00 20.00	41.59	20.00	21.65 20.01	J-3855	(N/A)	16.60 17.28	J-1198 J-1198
687 154	J-396 J-75	Forest Forest	TRUE TRUE	1.00 1.00	2,850.65 2,855.23	1.08 2.48	2,850.73 2,856.71	20.00 20.00	38.85 26.48	20.00 20.00	20.00 20.00	J-2145 J-54	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
848	J-478	Forest	TRUE	1.00	2,856.96	1.08	2,857.03	20.00	25.44	20.00	20.00	J-2649	(N/A)	17.28	J-1198
4857 5110	J-2559 J-2705	Forest Forest	TRUE TRUE	1.00 1.00	2,857.00 2,863.94	1.08 1.08	2,857.08 2,864.02	20.00 20.00	24.26 58.51	20.00 20.00	20.00 20.00	J-2649 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
599	J-343	Forest	TRUE	1.00	2,863.95	1.08	2,864.02	20.00	60.54	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7098 5532	J-3858 J-2947	Forest Forest	TRUE TRUE	1.00 1.00	2,864.18 2.864.40	1.48 1.08	2,864.65 2,864.48	20.00 20.00	23.23 20.00	20.00 20.00	20.00 20.97	J-2919 J-3930	(N/A) (N/A)	17.28 16.58	J-1198 J-1198
168	J-83	Forest	TRUE	1.00	2,864.43	1.08	2,864.50	20.00	80.99	20.00	20.00	J-3176	(N/A)	17.28	J-1198
6652 5305	J-3600 J-2816	Forest Forest	TRUE TRUE	1.00 1.00	2,864.43 2,878.13	1.08 2.28	2,864.50 2,879.41	20.00 20.00	78.41 24.13	20.00 20.00	20.00 20.00	J-3176 J-54	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5304	J-2815	Forest	TRUE	1.00	2,878.13	1.88	2,879.01	20.00	23.14	20.00	20.00	J-54	(N/A)	17.28	J-1198
7526 7602	J-4038 J-4062	Forest Lakes	TRUE TRUE	1.00 1.00	2,880.08 2,884.29	11.28 1.37	2,890.35 2,884.66	20.00 20.00	20.00 20.00	20.00 20.00	22.18 26.02	J-35 J-1102	(N/A) (N/A)	16.58 17.28	J-1198 J-1198
3628	J-1978	Forest	TRUE	1.00	2,890.87	1.28	2,891.15	20.00	36.83	20.00	20.00	J-3	(N/A)	16.57	J-1198
895 5586	J-502 J-2977	Forest Forest	TRUE TRUE	1.00 1.00	2,893.16 2,897.31	1.08 1.48	2,893.24 2,897.78	20.00 20.00	20.80 20.02	20.00 20.00	20.01 20.00	J-3930 J-2976	(N/A) (N/A)	16.57 16.57	J-1198 J-1198
971	J-533	Forest	TRUE	1.00	2,897.86	1.08	2,897.94	20.00	27.45	20.00	20.00	J-2649	(N/A)	17.28	J-1198
4900 788	J-2584 J-449	Forest Forest	TRUE TRUE	1.00 1.00	2,897.92 2,901.17	1.28 1.88	2,898.19 2,902.05	20.00 20.00	26.05 36.40	20.00 20.00	20.00 20.01	J-2649 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4605	J-2419	Forest	TRUE	1.00	2,901.20	1.08	2,901.28	20.00	35.45	20.00	20.01	J-3855	(N/A)	17.28	J-1198
171 6408	J-85 J-3456	Forest Forest	TRUE TRUE	1.00 1.00	2,901.53 2,901.59	1.08 1.48	2,901.61 2,902.07	20.00 20.00	36.22 33.61	20.00 20.00	20.00 20.00	J-3855 J-3855	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3226	J-1750	Forest	TRUE	1.00	2,910.73	1.08	2,910.81	20.00	49.44	20.00	20.01	J-2919	(N/A)	17.28	J-1198
3227 7337	J-1751 J-3968	Forest Forest	TRUE TRUE	1.00 1.00	2,910.73 2,910.73	1.28 1.08	2,911.01 2,910.81	20.00 20.00	46.22 44.84	20.00 20.00	20.01 20.01	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7336	J-3967	Forest	TRUE	1.00	2,910.74	1.48	2,911.21	20.00	43.97	20.00	20.01	J-2919	(N/A)	17.28	J-1198
598 3585	J-342 J-1955	Forest Forest	TRUE TRUE	1.00 1.00	2,910.74 2,911.42	1.08 1.08	2,910.81 2,911.50	20.00 20.00	63.69 22.30	20.00 20.00	20.01 20.00	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6456	J-3484	Forest	TRUE	1.00	2,912.19	1.08	2,912.26	20.00	20.00	20.00	21.51	J-2919	(N/A)	17.28	J-1198
180 6762	J-88 J-3664	Forest Forest	TRUE TRUE	1.00 1.00	2,912.31 2,912.32	1.08 2.08	2,912.39 2,913.40	20.00 20.00	24.27 20.56	20.00 20.00	20.00 20.00	J-54 J-54	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4775	J-2513	Forest	TRUE	1.00	2,916.81	1.28	2,917.09	20.00	20.00	20.00	20.87	J-36	(N/A)	16.56	J-1198
3621 5259	J-1974 J-2790	Lakes Lakes	TRUE TRUE	1.00 1.00	2,920.01 2,920.01	1.20 1.63	2,920.20 2,920.64	20.00 20.00	25.11 23.43	20.00 20.00	20.00 20.00	J-1896 J-1896	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1095	J-587	Lakes	TRUE	1.00	2,922.45	1.20	2,922.65	20.00	61.02	20.00	20.02	J-2323	(N/A)	17.28	J-1198
5492 139	J-2924 J-68	Lakes Forest	TRUE TRUE	1.00 1.00	2,922.45 2,934.97	1.20 1.48	2,922.65 2,935.45	20.00 20.00	59.49 69.82	20.00 20.00	20.02 20.00	J-2323 J-3176	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
972	J-534	Forest	TRUE	1.00	2,938.00	1.28	2,938.27	20.00	28.29	20.00	20.00	J-2649	(N/A)	17.28	J-1198
5197 449	J-2753 J-250	Forest Forest	TRUE TRUE	1.00 1.00	2,938.06 2,939.08	1.08 1.08	2,938.13 2,939.15	20.00 20.00	26.48 32.74	20.00 20.00	20.00 20.00	J-2649 J-2145	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5317	J-2823	Forest	TRUE	1.00	2,939.08	1.08	2,939.15	20.00	30.28	20.00	20.00	J-2145	(N/A)	17.28	J-1198
787 5678	J-448 J-3031	Forest Forest	TRUE TRUE	1.00 1.00	2,939.21 2,939.32	1.68 1.08	2,939.89 2,939.40	20.00 20.00	34.09 52.86	20.00 20.00	20.01 20.00	J-3855 J-4119	(N/A) (N/A)	17.28 16.55	J-1198 J-1198

Node	Node	Pressure	Fire Flow Constraints	Desired Fire Flow	Available Fire Flow	Total Flow Desired	Total Flow Available	Desired Residual Pressure	Calculated Residual Pressure	Desired Minimum Zone Pressure	Calculated Minimum Zone Pressure	Minimum Zone Pressure	Desired Minimum System Pressure	Calculated Minimum System Pressure	Minimum System Pressure
ID	Label	Zone	Satisfied	(gpm)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(psi)	Node	(psi)	(psi)	Node
5679 335	J-3032 J-177	Forest Forest	TRUE TRUE	1.00 1.00	2,939.32 2,947.77	1.88 1.08	2,940.20 2,947.84	20.00 20.00	54.61 20.16	20.00 20.00	20.00 20.02	J-4119 J-36	(N/A) (N/A)	16.55 16.55	J-1198 J-1198
82	J-36	Forest	TRUE	1.00	2,948.41	1.08	2,948.48	20.00	20.00	20.00	20.23	J-177	(N/A)	16.55	J-1198
894 62	J-501 J-23	Forest Forest	TRUE TRUE	1.00 1.00	2,948.41 2,951.00	1.48 1.08	2,948.89 2,951.08	20.00 20.00	22.53 26.31	20.00 20.00	20.00 20.00	J-36 J-54	(N/A) (N/A)	16.55 17.28	J-1198 J-1198
8509 6188	J-4207 J-3324	Forest Forest	TRUE TRUE	1.00 1.00	2,951.01 2,952.10	1.68 1.88	2,951.69 2,952.98	20.00 20.00	23.09 25.04	20.00 20.00	20.00 20.00	J-54 J-1044	(N/A) (N/A)	17.28 16.55	J-1198 J-1198
6189	J-3324 J-3325	Forest	TRUE	1.00	2,952.10	2.28	2,953.38	20.00	22.30	20.00	20.00	J-1044 J-1044	(N/A)	16.55	J-1198 J-1198
61 6455	J-22 J-3483	Forest Forest	TRUE TRUE	1.00 1.00	2,952.51 2,952.52	1.08 1.48	2,952.59 2,953.00	20.00 20.00	26.02 20.49	20.00 20.00	20.00 20.00	J-54 J-54	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
450	J-251	Forest	TRUE	1.00	2,957.23	1.08	2,957.31	20.00	32.27	20.00	20.00	J-2145	(N/A)	17.28	J-1198
81 170	J-35 J-84	Forest Forest	TRUE TRUE	1.00 1.00	2,961.11 2,966.86	1.08 1.08	2,961.18 2,966.94	20.00 20.00	20.00 30.55	20.00 20.00	20.79 20.00	J-36 J-3855	(N/A) (N/A)	16.54 17.28	J-1198 J-1198
5001	J-2643	Forest	TRUE	1.00	2,966.86	2.68	2,968.54	20.00	29.27	20.00	20.00	J-3855	(N/A)	17.28	J-1198
140 4660	J-69 J-2449	Forest Forest	TRUE TRUE	1.00 1.00	2,966.94 2,966.94	2.28 1.48	2,968.22 2,967.41	20.00 20.00	52.92 51.66	20.00 20.00	20.00 20.00	J-3176 J-3176	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
54	J-18	Forest	TRUE	1.00	2,971.11	1.08	2,971.19	20.00	29.77	20.00	20.00	J-54	(N/A)	17.28	J-1198
6543 5797	J-3534 J-3100	Forest Forest	TRUE TRUE	1.00 1.00	2,971.13 2,972.03	1.68 1.08	2,971.80 2,972.11	20.00 20.00	27.51 36.21	20.00 20.00	20.00 20.00	J-54 J-1519	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5796	J-3099	Forest	TRUE TRUE	1.00 1.00	2,972.03 2,972.21	1.48	2,972.51	20.00 20.00	34.14	20.00 20.00	20.00 20.00	J-1519	(N/A) (N/A)	17.28 17.28	J-1198
53 1035	J-17 J-562	Forest Forest	TRUE	1.00	2,976.31	2.08 1.08	2,973.29 2,976.39	20.00	29.80 33.72	20.00	20.00	J-54 J-2649	(N/A)	17.28	J-1198 J-1198
4950 1610	J-2613 J-803	Forest Forest	TRUE TRUE	1.00 1.00	2,976.31 2,986.97	2.08 2.08	2,977.39 2,988.05	20.00 20.00	32.24 23.97	20.00 20.00	20.00 20.02	J-2649 J-3904	(N/A) (N/A)	17.28 16.53	J-1198 J-1198
1192	J-624	Forest	TRUE	1.00	2,987.65	1.08	2,987.73	20.00	46.14	20.00	20.00	J-3904	(N/A)	16.53	J-1198
874 1591	J-491 J-791	Forest Forest	TRUE TRUE	1.00 1.00	2,987.66 2,987.66	1.48 1.08	2,988.13 2,987.73	20.00 20.00	50.39 43.24	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.53 16.53	J-1198 J-1198
796	J-452	Forest	TRUE	1.00	2,987.70	1.48	2,988.18	20.00	31.00	20.00	20.00	J-3855	(N/A)	17.28	J-1198
4740 4323	J-2494 J-2287	Forest Forest	TRUE TRUE	1.00 1.00	2,987.73 2,992.80	1.48 1.88	2,988.21 2,993.68	20.00 20.00	29.85 35.28	20.00 20.00	20.00 20.00	J-3855 J-1519	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
569	J-325	Forest	TRUE	1.00	3,001.76	1.68	3,002.44	20.00	23.12	20.00	20.00	J-3240	(N/A)	17.28	J-1198
4560 2089	J-2392 J-1102	Lakes Lakes	TRUE TRUE	1.00 1.00	3,005.69 3,006.11	1.20 1.46	3,005.89 3,006.57	20.00 20.00	20.00 20.64	20.00 20.00	20.28 20.01	J-4062 J-4062	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
570	J-326	Forest	TRUE	1.00	3,007.67	1.68	3,008.34	20.00	24.73	20.00	20.00	J-3240	(N/A)	17.28	J-1198
4804 59	J-2529 J-21	Forest Lakes	TRUE TRUE	1.00 1.00	3,007.68 3,009.26	1.08 1.37	3,007.75 3,009.63	20.00 20.00	23.78 53.64	20.00 20.00	20.00 20.00	J-3240 J-46	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4561 3611	J-2393 J-1969	Lakes	TRUE TRUE	1.00 1.00	3,011.85	1.20 1.08	3,012.04 3,014.04	20.00 20.00	20.67 63.57	20.00 20.00	20.00 20.00	J-4062 J-2045	(N/A) (N/A)	17.28 14.36	J-1198
58	J-1909 J-20	Forest Lakes	TRUE	1.00	3,013.97 3,016.22	1.20	3,016.42	20.00	53.58	20.00	20.00	J-46	(N/A)	17.28	J-1198 J-1198
4658 4284	J-2448 J-2276	Lakes Forest	TRUE TRUE	1.00 1.00	3,016.22 3,018.21	1.20 1.08	3,016.42 3,018.29	20.00 20.00	52.43 24.54	20.00 20.00	20.00 20.00	J-46 J-1044	(N/A) (N/A)	17.28 16.52	J-1198 J-1198
452	J-252	Forest	TRUE	1.00	3,018.72	1.48	3,019.20	20.00	35.61	20.00	20.00	J-2649	(N/A)	17.28	J-1198
5072 453	J-2685 J-253	Forest Forest	TRUE TRUE	1.00 1.00	3,018.72 3,021.58	1.08 1.28	3,018.79 3,021.85	20.00 20.00	33.96 34.59	20.00 20.00	20.00 20.00	J-2649 J-2649	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3152	J-1706	Forest	TRUE	1.00	3,021.58	1.28	3,021.85	20.00	32.20	20.00	20.00	J-2649	(N/A)	17.28	J-1198
111 4568	J-53 J-2397	Forest Forest	TRUE TRUE	1.00 1.00	3,032.50 3,043.86	1.08 1.28	3,032.58 3,044.13	20.00 20.00	20.00 24.62	20.00 20.00	20.52 20.00	J-2976 J-2649	(N/A) (N/A)	16.51 17.28	J-1198 J-1198
844	J-476	Forest	TRUE	1.00	3,043.86	1.48	3,044.33	20.00	25.42	20.00	20.00	J-2649	(N/A)	17.28	J-1198
3376 716	J-1837 J-412	Lakes Stewartsville	TRUE TRUE	1.00 1.00	3,053.89 3,075.41	1.55 1.11	3,054.44 3,075.52	20.00 20.00	20.00 57.92	20.00 20.00	29.49 20.00	J-1804 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7155	J-3890	Stewartsville	TRUE	1.00	3,075.41	1.11	3,075.52	20.00	57.67	20.00	20.00	J-676	(N/A)	17.28	J-1198
3093 3094	J-1669 J-1670	Forest Forest	TRUE TRUE	1.00 1.00	3,085.04 3,085.04	1.48 1.08	3,085.52 3,085.12	20.00 20.00	23.89 21.91	20.00 20.00	20.00 20.00	J-1044 J-1044	(N/A) (N/A)	16.49 16.49	J-1198 J-1198
5583 875	J-2975 J-492	Forest Forest	TRUE TRUE	1.00 1.00	3,093.87 3,093.87	1.28 1.08	3,094.14 3,093.94	20.00 20.00	53.07 54.82	20.00 20.00	20.00 20.00	J-3904 J-3904	(N/A) (N/A)	16.49 16.49	J-1198 J-1198
3317	J-1804	Lakes	TRUE	1.00	3,103.77	4.35	3,107.12	20.00	20.00	20.00	26.18	J-1837	(N/A)	17.28	J-1198
5056 765	J-2676 J-437	Forest Forest	TRUE TRUE	1.00 1.00	3,111.63 3,111.63	1.08 1.48	3,111.70 3,112.11	20.00 20.00	28.14 29.69	20.00 20.00	20.00 20.00	J-2145 J-2145	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6222	J-3345	Lakes	TRUE	1.00	3,117.67	1.20	3,117.87	20.00	29.47	20.00	20.03	J-2323	(N/A)	17.28	J-1198
8463 297	J-4183 J-153	Lakes Lakes	TRUE TRUE	1.00 1.00	3,117.96 3,118.43	1.20 1.29	3,118.16 3,118.71	20.00 20.00	37.55 36.27	20.00 20.00	20.02 20.00	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
296	J-152	Lakes	TRUE	1.00	3,118.43	1.20	3,118.63	20.00	36.32	20.00	20.00	J-2323	(N/A)	17.28	J-1198
749 6223	J-429 J-3346	Lakes Lakes	TRUE TRUE	1.00 1.00	3,118.43 3,118.43	1.20 1.20	3,118.63 3,118.63	20.00 20.00	37.41 26.55	20.00 20.00	20.00 20.00	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7079 715	J-3848 J-411	Lakes Stewartsville	TRUE TRUE	1.00 1.00	3,141.49	1.29 1.26	3,141.77	20.00 20.00	20.00 55.41	20.00 20.00	32.62 20.00	J-2323 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6462	J-3487	Stewartsville	TRUE	1.00	3,147.23 3,147.23	1.26	3,147.49 3,147.49	20.00	52.26	20.00	20.00	J-676	(N/A)	17.28	J-1198
4483 38	J-2348 J-7	Forest Forest	TRUE TRUE	1.00 1.00	3,160.49 3,160.93	1.08 1.48	3,160.57 3,161.41	20.00 20.00	20.50 21.46	20.00 20.00	20.01 20.00	J-2339 J-2339	(N/A) (N/A)	16.46 16.45	J-1198 J-1198
39	J-8	Forest	TRUE	1.00	3,160.93	1.08	3,161.01	20.00	21.14	20.00	20.00	J-2339	(N/A)	16.45	J-1198
2428 8060	J-1301 J-4162	Lakes Lakes	TRUE TRUE	1.00 1.00	3,168.85 3,176.15	1.20 1.20	3,169.04 3,176.35	20.00 20.00	20.00 20.00	20.00 20.00	21.66 31.77	J-1359 J-4062	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1069	J-577	Forest	TRUE	1.00	3,185.39	1.08	3,185.46	20.00	72.95	20.00	20.00	J-2919	(N/A)	17.28	J-1198
7096 3273	J-3857 J-1780	Forest Lakes	TRUE TRUE	1.00 1.00	3,185.39 3,189.15	1.08 1.55	3,185.46 3,189.70	20.00 20.00	46.52 20.00	20.00 20.00	20.00 24.67	J-2919 J-3759	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6921	J-3759	Lakes	TRUE	1.00	3,194.55	1.20	3,194.75	20.00	20.00	20.00	24.33	J-1780	(N/A)	17.28	J-1198
3316 6545	J-1803 J-3535	Lakes Lakes	TRUE TRUE	1.00 1.00	3,197.40 3,199.44	1.29 1.29	3,197.69 3,199.72	20.00 20.00	20.42 20.00	20.00 20.00	20.04 23.69	J-1837 J-601	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
731	J-420	Lakes	TRUE	1.00	3,203.73	1.20	3,203.93	20.00	38.87	20.00	20.00	J-2323	(N/A)	17.28	J-1198
6488 5724	J-3502 J-3058	Lakes Lakes	TRUE TRUE	1.00 1.00	3,203.73 3,208.32	1.20 1.20	3,203.93 3,208.52	20.00 20.00	35.76 31.36	20.00 20.00	20.00 20.00	J-2323 J-2451	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5723	J-3057	Lakes	TRUE	1.00	3,208.32	1.20	3,208.52	20.00	29.09	20.00	20.00	J-2451	(N/A)	17.28	J-1198
6384 2483	J-3442 J-1332	Lakes Lakes	TRUE TRUE	1.00 1.00	3,219.89 3,224.93	1.29 1.20	3,220.17 3,225.13	20.00 20.00	20.00 23.23	20.00 20.00	22.84 20.00	J-1968 J-1575	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3341 7711	J-1818 J-4095	Lakes Lakes	TRUE TRUE	1.00 1.00	3,228.83 3,231.93	1.46 1.20	3,229.29 3,232.13	20.00 20.00	22.49 20.00	20.00 20.00	20.00 28.97	J-1968 J-3848	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
496	J-279	Lakes	TRUE	1.00	3,239.61	1.20	3,239.81	20.00	21.33	20.00	20.00	J-3535	(N/A)	17.28	J-1198
381 495	J-207 J-278	Lakes Lakes	TRUE TRUE	1.00 1.00	3,239.61 3,239.61	258.22 1.29	3,496.83 3,239.90	20.00 20.00	25.68 20.58	20.00 20.00	20.00 20.00	J-3535 J-3535	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1136	J-601	Lakes	TRUE	1.00	3,239.61	1.55	3,240.15	20.00	20.63	20.00	20.00	J-3535	(N/A)	17.28	J-1198
758 327	J-433 J-172	Forest Lakes	TRUE TRUE	1.00 1.00	3,252.66 3,253.60	1.88 1.20	3,253.54 3,253.80	20.00 20.00	29.00 41.64	20.00 20.00	20.00 20.02	J-2145 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
328	J-173	Lakes	TRUE	1.00	3,253.60	1.29	3,253.88	20.00	41.01	20.00	20.02	J-2323	(N/A)	17.28	J-1198
3191 3036	J-1729 J-1633	Lakes Lakes	TRUE TRUE	1.00 1.00	3,256.10 3,256.11	1.20 1.20	3,256.30 3,256.31	20.00 20.00	20.11 23.26	20.00 20.00	20.00 20.00	J-1575 J-1575	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3272	J-1779	Lakes	TRUE	1.00	3,260.58	1.20	3,260.78	20.00	20.20	20.00	20.05	J-3759	(N/A)	17.28	J-1198
6533	J-3528	Lakes	TRUE	1.00	3,268.99	1.20	3,269.19	20.00	20.00	20.00	22.97	J-661	(N/A)	17.28	J-1198

								Desired	Calculated	Desired Minimum	Calculated Minimum	Minimum	Desired Minimum	Calculated Minimum	Minimum
Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Residual Pressure (psi)	Residual Pressure (psi)	Zone Pressure (psi)	Zone Pressure (psi)	Zone Pressure Node	System Pressure (psi)	System Pressure (psi)	System Pressure Node
690	J-397	Lakes	TRUE	1.00	3,272.02	1.20	3,272.22	20.00	23.18	20.00	20.00	J-1575	(N/A)	17.28	J-1198
4648 3340	J-2443 J-1817	Lakes Lakes	TRUE TRUE	1.00 1.00	3,272.10 3,272.52	1.72 1.37	3,272.82 3,272.89	20.00 20.00	20.00 20.30	20.00 20.00	21.33 20.04	J-658 J-1968	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
185	J-89	Lakes	TRUE	1.00	3,276.11	1.20	3,276.31	20.00	42.08	20.00	20.00	J-46	(N/A)	17.28	J-1198
4810 1268	J-2532 J-658	Lakes Lakes	TRUE TRUE	1.00 1.00	3,276.11 3,290.68	1.20 1.29	3,276.31 3,290.97	20.00 20.00	40.37 20.00	20.00 20.00	20.00 20.00	J-46 J-2443	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5972	J-3197	Lakes	TRUE	1.00	3,306.12	1.20	3,306.32	20.00	22.88	20.00	20.00	J-1575	(N/A)	17.28	J-1198
691 5281	J-398 J-2802	Lakes Lakes	TRUE TRUE	1.00 1.00	3,306.13 3,309.59	1.29 2.41	3,306.41 3,311.00	20.00 20.00	25.15 27.20	20.00 20.00	20.00 20.00	J-1575 J-3987	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5282	J-2803	Lakes	TRUE	1.00	3,309.59	1.81	3,310.39	20.00	25.30	20.00	20.00	J-3987	(N/A)	17.28	J-1198
1274 7636	J-661 J-4074	Lakes Lakes	TRUE TRUE	1.00 1.00	3,314.10 3,330.73	1.20 1.20	3,314.30 3,330.92	20.00 20.00	20.00 20.00	20.00 20.00	20.21 24.61	J-3528 J-3965	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7084	J-3851	Lakes	TRUE	1.00	3,351.10	1.20	3,351.30	20.00	20.00	20.00	32.62	J-2323	(N/A)	17.28	J-1198
6452	J-3481	Lakes	TRUE	1.00	3,358.60	1.20	3,358.80	20.00	20.00	20.00	23.57	J-3482	(N/A)	17.28	J-1198
804 7536	J-456 J-4042	Lakes Lakes	TRUE TRUE	1.00 1.00	3,360.54 3,382.26	1.20 1.20	3,360.74 3,382.46	20.00 20.00	30.42 20.00	20.00 20.00	20.02 24.39	J-1575 J-2016	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5911	J-3163	Lakes	TRUE	1.00	3,389.10	1.20	3,389.30	20.00	20.00	20.00	23.25	J-637	(N/A) (N/A)	17.28	J-1198
7327 5763	J-3965 J-3081	Lakes Lakes	TRUE TRUE	1.00 1.00	3,393.72 3,398.98	1.20 1.46	3,393.92 3,399.44	20.00 20.00	20.00 20.00	20.00 20.00	21.50 22.07	J-3961 J-3163	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1286	J-667	Forest	TRUE	1.00	3,401.44	1.08	3,401.52	20.00	29.28	20.00	20.00	J-668	(N/A)	17.28	J-1198
6742 759	J-3652 J-434	Forest Forest	TRUE TRUE	1.00 1.00	3,401.44 3,410.55	1.48 1.28	3,401.92 3,410.83	20.00 20.00	25.08 26.99	20.00 20.00	20.00 20.00	J-668 J-2145	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4773	J-2512	Forest	TRUE	1.00	3,410.56	1.08	3,410.63	20.00	25.48	20.00	20.00	J-2145	(N/A)	17.28	J-1198
7080 3374	J-3849 J-1836	Lakes Lakes	TRUE TRUE	1.00 1.00	3,412.55 3,417.77	1.20 1.55	3,412.75 3,418.32	20.00 20.00	20.96 20.83	20.00 20.00	20.00 20.03	J-3848 J-1837	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
7316	J-3961	Lakes	TRUE	1.00	3,419.23	1.20	3,419.43	20.00	20.18	20.00	20.04	J-3965	(N/A)	17.28	J-1198
6453 1232	J-3482 J-645	Lakes Lakes	TRUE TRUE	1.00 1.00	3,422.79 3,434.36	1.37 1.20	3,423.16 3,434.56	20.00 20.00	20.26 20.00	20.00 20.00	20.04 20.34	J-3481 J-3163	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1231	J-644	Lakes	TRUE	1.00	3,441.19	1.20	3,441.39	20.00	31.42	20.00	20.00	J-3163	(N/A)	17.28	J-1198
5288 1216	J-2806 J-637	Lakes Lakes	TRUE TRUE	1.00 1.00	3,441.19 3,441.19	1.20 1.29	3,441.39 3,441.47	20.00 20.00	29.31 20.70	20.00 20.00	20.00 20.00	J-3163 J-3163	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1276	J-662	Forest	TRUE	1.00	3,460.72	1.28	3,460.99	20.00	42.93	20.00	20.00	J-3904	(N/A)	16.31	J-1198
5468 3695	J-2911 J-2016	Forest Lakes	TRUE TRUE	1.00 1.00	3,460.72 3,460.81	1.08 1.37	3,460.79 3,461.19	20.00 20.00	40.57 20.00	20.00 20.00	20.00 20.14	J-3904 J-4042	(N/A) (N/A)	16.31 17.28	J-1198 J-1198
6733	J-3647	Lakes	TRUE	1.00	3,478.94	1.20	3,479.14	20.00	25.79	20.00	20.00	J-2323	(N/A)	17.28	J-1198
1194 3028	J-625 J-1628	Lakes Lakes	TRUE TRUE	1.00 1.00	3,478.94 3,486.39	1.29 1.20	3,479.23 3,486.59	20.00 20.00	29.95 20.00	20.00 20.00	20.00 20.33	J-2323 J-1629	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3694	J-2015	Lakes	TRUE	1.00	3,487.82	1.98	3,488.80	20.00	20.00	20.00	27.09	J-1968	(N/A)	17.28	J-1198
3029 7629	J-1629 J-4071	Lakes Lakes	TRUE TRUE	1.00 1.00	3,492.87 3,493.08	1.20 1.20	3,493.07 3,493.28	20.00 20.00	20.00 27.99	20.00 20.00	20.00 20.02	J-1628 J-4062	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5986	J-3205	Lakes	TRUE	1.00	3,494.47	1.20	3,494.67	20.00	21.61	20.00	20.00	J-1575	(N/A)	17.28	J-1198
1102 92	J-591 J-42	Lakes Forest	TRUE TRUE	1.00 1.00	3,494.48 3,500.00	1.20 1.48	3,494.67 3,500.48	20.00 20.00	25.17 40.11	20.00 20.00	20.00 23.37	J-1575 J-1197	(N/A) (N/A)	17.28 16.29	J-1198 J-1198
93	J-43	Forest	TRUE	1.00	3,500.00	1.48	3,500.48	20.00	38.38	20.00	23.37	J-1197	(N/A)	16.29	J-1198
100 101	J-47 J-48	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.68 1.08	3,500.68 3,500.08	20.00 20.00	47.18 43.03	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
109	J-52	Forest	TRUE	1.00	3,500.00	1.28	3,500.28	20.00	52.17	20.00	23.37	J-1197	(N/A)	16.29	J-1198
133 134	J-65 J-66	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.48 1.08	3,500.48 3,500.08	20.00 20.00	44.46 33.79	20.00 20.00	23.71 23.71	J-1197 J-1197	(N/A) (N/A)	16.63 16.63	J-1198 J-1198
158	J-77	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	35.87	20.00	31.78	J-3851	(N/A)	17.28	J-1198
159 219	J-78 J-102	Lakes Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.08	3,500.20 3,500.08	20.00 20.00	31.59 21.66	20.00 20.00	31.78 21.56	J-3851 J-103	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
220	J-103	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	21.56	20.00	21.63	J-2373	(N/A)	17.28	J-1198
243 244	J-118 J-119	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	100.19 100.01	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
252	J-124	Forest	TRUE	1.00	3,500.00	1.28	3,500.28	20.00	22.93	20.00	21.59	J-103	(N/A)	17.28	J-1198
253 264	J-125 J-132	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.08	3,500.08 3,500.08	20.00 20.00	22.75 57.30	20.00 20.00	21.59 24.36	J-103 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
265	J-133	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	57.19	20.00	24.36	J-1197	(N/A)	17.28	J-1198
272 273	J-137 J-138	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	60.26 60.28	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
309	J-160	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	79.74	20.00	32.62	J-2323	(N/A)	17.28	J-1198
310 352	J-161 J-188	Lakes Stewartsville	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.11	3,500.20 3,500.11	20.00 20.00	79.36 53.32	20.00 20.00	32.62 21.37	J-2323 J-676	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
353	J-189	Stewartsville	TRUE	1.00	3,500.00	1.40	3,500.40	20.00	53.15	20.00	21.24	J-676	(N/A)	17.28	J-1198
363 364	J-195 J-196	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.08	3,500.08 3,500.08	20.00 20.00	62.42 62.59	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
372	J-201	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	69.25	20.00	32.62	J-2323	(N/A)	17.28	J-1198
373 403	J-202 J-221	Lakes Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.08	3,500.20 3,500.08	20.00 20.00	69.32 23.36	20.00 20.00	32.62 22.42	J-2323 J-103	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
404	J-222	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	23.47	20.00	22.42	J-103	(N/A)	17.28	J-1198
406 407	J-223 J-224	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.08	3,500.08 3,500.08	20.00 20.00	60.89 60.73	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
418	J-231	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	35.80	20.00	31.78	J-3851	(N/A)	17.28	J-1198
429 430	J-238 J-239	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.08	3,500.08 3,500.08	20.00 20.00	62.14 62.12	20.00 20.00	22.80 22.80	J-2919 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
437	J-243	Forest	TRUE	1.00	3,500.00	1.48	3,500.48	20.00	23.24	20.00	22.43	J-103	(N/A)	17.28	J-1198
458 459	J-256 J-257	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.29	3,500.20 3,500.29	20.00 20.00	62.17 60.72	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
498	J-280	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	62.71	20.00	24.36	J-1197	(N/A)	17.28	J-1198
511 512	J-288 J-289	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	61.79 58.91	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
542	J-308	Forest	TRUE	1.00	3,500.00	1.48	3,500.48	20.00	50.42	20.00	23.37	J-1197	(N/A)	16.29	J-1198
543 547	J-309 J-311	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 2.68	3,500.08 3,501.68	20.00 20.00	53.11 25.32	20.00 20.00	23.37 22.19	J-1197 J-103	(N/A) (N/A)	16.29 17.28	J-1198 J-1198
548	J-312	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	24.68	20.00	22.17	J-103	(N/A)	17.28	J-1198
572 573	J-327 J-328	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.55	3,500.20 3,500.54	20.00 20.00	71.07 67.93	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
645	J-371	Forest	TRUE	1.00	3,500.00	1.48	3,500.48	20.00	26.37	20.00	21.96	J-103	(N/A)	17.28	J-1198
646 664	J-372 J-383	Forest Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.37	3,500.08 3,500.37	20.00 20.00	27.50 104.09	20.00 20.00	21.87 32.62	J-103 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
693	J-399	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	71.32	20.00	32.62	J-2323	(N/A)	17.28	J-1198
770 831	J-439 J-470	Lakes Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.29 1.08	3,500.29 3,500.08	20.00 20.00	112.27 58.80	20.00 20.00	32.62 22.80	J-2323 J-2919	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
832	J-471	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	57.86	20.00	24.36	J-1197	(N/A)	17.28	J-1198
870 919	J-489 J-510	Lakes Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.08	3,500.20 3,500.08	20.00 20.00	53.84 59.95	20.00 20.00	32.62 24.36	J-2323 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
515	J-J 1U	1 01621	INCE	1.00	0,000.00	1.00	0,000.00	20.00	J3.33	20.00	24.00	0.1191	(14/74)	11.20	0 1130

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
925	J-512	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	34.79	20.00	31.78	J-3851	(N/A)	17.28	J-1198
943	J-520	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	43.64	20.00	32.62	J-2323	(N/A)	17.28	J-1198
964	J-530	Lakes	TRUE	1.00	3,500.00	1.37	3,500.37	20.00	28.11	20.00	27.84	J-3163	(N/A)	17.28	J-1198
974 1043	J-535 J-566	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	78.28 64.72	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1044	J-567	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	74.46	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1048 1079	J-569 J-580	Forest Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.20	3,500.08 3,500.20	20.00 20.00	56.93 66.47	20.00 20.00	22.80 32.62	J-2919 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1080	J-581	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	68.49	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1131	J-599	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	54.19	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1132 1139	J-600 J-602	Lakes Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	3.24 1.08	3,502.24 3,500.08	20.00 20.00	40.70 58.33	20.00 20.00	32.62 24.36	J-2323 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1182	J-619	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	28.81	20.00	29.39	J-3189	(N/A)	17.28	J-1198
1185 1186	J-620 J-621	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.08	3,500.08 3,500.08	20.00 20.00	20.84 37.00	20.00 20.00	24.36 24.36	J-1197 J-1197	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1234	J-646	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	44.38	20.00	24.36	J-1197	(N/A)	17.28	J-1198
1239 1240	J-647 J-648	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	62.97 47.91	20.00 20.00	32.62 31.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1250	J-651	Lakes	TRUE	1.00	3,500.00	1.29	3,500.29	20.00	48.89	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1271	J-659	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	60.55	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1272 1277	J-660 J-663	Lakes Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.28	3,500.20 3,500.28	20.00 20.00	62.50 69.29	20.00 20.00	32.62 23.37	J-2323 J-1197	(N/A) (N/A)	17.28 16.29	J-1198 J-1198
1307	J-677	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	58.97	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1340 1358	J-685 J-689	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	79.25 65.40	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1396	J-695	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	62.25	20.00	23.37	J-1197	(N/A)	16.29	J-1198
1397 1399	J-696 J-697	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.28	3,500.08 3,500.28	20.00 20.00	62.28 52.12	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
1412	J-704	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	61.83	20.00	23.37	J-1197	(N/A)	16.29	J-1198
1532 1535	J-761 J-762	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.08	3,500.08 3,500.08	20.00 20.00	49.48 66.25	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
1538	J-763	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	79.19	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1542 1544	J-765 J-766	Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	76.43 72.99	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1545	J-767	Lakes Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	70.72	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1547	J-768	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	75.83	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1549 1550	J-769 J-770	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	99.82 95.02	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1552	J-771	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	66.76	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1554 1556	J-772 J-773	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	5.18 1.20	3,504.18 3,500.20	20.00 20.00	71.58 74.48	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1558	J-774	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	76.41	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1560 1562	J-775 J-776	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	80.57 75.96	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
1565	J-777	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	78.86	20.00	32.62	J-2323	(N/A)	17.28	J-1198
1570 1935	J-778 J-1012	Lakes Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.68	3,500.20 3,500.68	20.00 20.00	84.19 46.01	20.00 20.00	32.62 23.37	J-2323 J-1197	(N/A) (N/A)	17.28 16.29	J-1198 J-1198
2038	J-1078	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	117.34	20.00	32.62	J-2323	(N/A)	17.28	J-1198
2039 2041	J-1079 J-1080	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	117.51 118.03	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2043	J-1081	Lakes	TRUE	1.00	3,500.00	1.29	3,500.29	20.00	90.75	20.00	32.62	J-2323	(N/A)	17.28	J-1198
2044 2046	J-1082 J-1083	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	90.87 117.97	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2048	J-1084	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	118.37	20.00	32.62	J-2323	(N/A)	17.28	J-1198
2050 2052	J-1085 J-1086	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.29	3,500.20 3,500.29	20.00 20.00	116.71 69.44	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2053	J-1087	Lakes	TRUE	1.00	3,500.00	2.09	3,501.09	20.00	68.04	20.00	32.62	J-2323	(N/A)	17.28	J-1198
2055 2059	J-1088 J-1089	Forest Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.20	3,500.08 3,500.20	20.00 20.00	50.33	20.00 20.00	23.38 32.62	J-1197 J-2323	(N/A) (N/A)	16.30 17.28	J-1198 J-1198
2061	J-1009	Forest	TRUE	1.00	3,500.00	1.08	3,500.20	20.00	93.38 101.43	20.00	23.37	J-1197	(N/A)	16.29	J-1198
2062 2064	J-1091 J-1092	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.68	3,500.08	20.00 20.00	102.04 46.12	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
2064	J-1092 J-1093	Forest	TRUE	1.00	3,500.00	1.28	3,500.68 3,500.28	20.00	52.92	20.00	23.37	J-1197 J-1197	(N/A)	16.29	J-1198
2068	J-1094	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	82.24	20.00	32.62	J-2323	(N/A)	17.28	J-1198
2069 2072	J-1095 J-1096	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.37	3,500.20 3,500.37	20.00 20.00	83.66 57.57	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
2074 2078	J-1097	Forest	TRUE TRUE	1.00	3,500.00	1.08	3,500.08	20.00	100.98	20.00	23.37	J-1197	(N/A)	16.29	J-1198
2078	J-1098 J-1099	Lakes Forest	TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.08	3,500.20 3,500.08	20.00 20.00	74.58 85.41	20.00 20.00	32.62 23.37	J-2323 J-1197	(N/A) (N/A)	17.28 16.29	J-1198 J-1198
2134	J-1131	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	69.97	20.00	32.62	J-2323	(N/A)	17.28	J-1198
2247 2365	J-1200 J-1268	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.68 1.08	3,500.68 3,500.08	20.00 20.00	25.34 106.82	20.00 20.00	21.11 23.37	J-1519 J-1197	(N/A) (N/A)	17.28 16.29	J-1198 J-1198
2366	J-1269	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	106.82	20.00	23.37	J-1197	(N/A)	16.29	J-1198
2368 2369	J-1270 J-1271	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.48	3,500.08 3,500.48	20.00 20.00	164.61 160.62	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
2371	J-1272	Forest	TRUE	1.00	3,500.00	1.88	3,500.88	20.00	75.24	20.00	23.37	J-1197	(N/A)	16.29	J-1198
2372 2374	J-1273 J-1274	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.28	3,500.08 3,500.28	20.00 20.00	72.31 49.01	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
2375	J-1275	Forest	TRUE	1.00	3,500.00	1.48	3,500.48	20.00	53.05	20.00	23.37	J-1197	(N/A)	16.29	J-1198
2378 2379	J-1276 J-1277	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.48	3,500.08 3,500.48	20.00 20.00	93.32 89.95	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
2381	J-1278	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	67.45	20.00	23.37	J-1197	(N/A)	16.29	J-1198
2382	J-1279	Forest	TRUE	1.00	3,500.00 3,500.00	1.48 1.28	3,500.48	20.00 20.00	70.51	20.00	23.37	J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
2384 2385	J-1280 J-1281	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00	1.28	3,500.28 3,500.08	20.00	74.11 67.40	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29	J-1198 J-1198
2387	J-1282	Forest	TRUE	1.00	3,500.00	1.68	3,500.68	20.00	75.57	20.00	23.37	J-1197	(N/A)	16.29	J-1198
2389 2391	J-1283 J-1284	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.08	3,500.08 3,500.08	20.00 20.00	73.61 89.47	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
2393	J-1285	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	62.75	20.00	23.37	J-1197	(N/A)	16.29	J-1198
2395 2397	J-1286 J-1287	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.08	3,500.08 3,500.08	20.00 20.00	84.30 84.00	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
2398	J-1288	Forest	TRUE	1.00	3,500.00	1.68	3,500.68	20.00	95.69	20.00	23.37	J-1197	(N/A)	16.29	J-1198
2400 2402	J-1289 J-1290	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.28	3,500.08 3,500.28	20.00 20.00	84.07 80.37	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
2404	J-1291	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	62.42	20.00	23.37	J-1197	(N/A)	16.29	J-1198
2453 2714	J-1315 J-1465	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.28 1.28	3,500.28 3,500.28	20.00 20.00	75.24 106.04	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
2774	J-1500	Forest	TRUE	1.00	3,500.00	1.28	3,500.28	20.00	86.90	20.00	23.37	J-1197	(N/A)	16.29	J-1198
2902	J-1572	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	80.57	20.00	23.37	J-1197	(N/A)	16.29	J-1198
3034 3047	J-1632 J-1640	Forest Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.20	3,500.08 3,500.20	20.00 20.00	105.17 27.76	20.00 20.00	23.37 27.80	J-1197 J-2470	(N/A) (N/A)	16.29 17.28	J-1198 J-1198
3047	J-1640 J-1641	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	26.50	20.00	27.76	J-1640	(N/A)	17.28	J-1198
3055	J-1645	Lakes	TRUE	1.00	3,500.00	1.29	3,500.29	20.00	63.02	20.00	32.62	J-2323	(N/A)	17.28	J-1198
3056 3150	J-1646 J-1705	Lakes Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.46 1.08	3,500.46 3,500.08	20.00 20.00	61.39 81.55	20.00 20.00	32.62 23.37	J-2323 J-1197	(N/A) (N/A)	17.28 16.29	J-1198 J-1198
3159	J-1710	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	85.43	20.00	32.62	J-2323	(N/A)	17.28	J-1198
3160	J-1711	Lakes	TRUE TRUE	1.00 1.00	3,500.00	1.37	3,500.37	20.00 20.00	81.79 23.31	20.00 20.00	32.62 27.68	J-2323 J-3477	(N/A)	17.28	J-1198
3213 3214	J-1742 J-1743	Lakes Lakes	TRUE	1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00	27.70	20.00	27.55	J-3477 J-1742	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3221	J-1747	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	57.89	20.00	32.62	J-2323	(N/A)	17.28	J-1198
3281 3307	J-1785 J-1799	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.63 1.20	3,500.63 3,500.20	20.00 20.00	25.65 34.76	20.00 20.00	25.52 32.62	J-1628 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3426	J-1864	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	59.32	20.00	32.62	J-2323	(N/A)	17.28	J-1198
3427 3563	J-1865 J-1943	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 2.81	3,500.20 3,501.81	20.00 20.00	43.67 40.44	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
3571	J-1947	Lakes	TRUE	1.00	3,500.00	2.24	3,501.24	20.00	68.10	20.00	32.62	J-2323	(N/A)	17.28	J-1198
3590	J-1958	Lakes	TRUE TRUE	1.00	3,500.00	1.29	3,500.29	20.00 20.00	72.72	20.00 20.00	32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198
3591 3913	J-1959 J-2124	Lakes Lakes	TRUE	1.00 1.00	3,500.00 3,500.00	3.97 1.72	3,502.96 3,500.72	20.00	28.53 39.55	20.00	32.62 32.62	J-2323	(N/A)	17.28	J-1198 J-1198
3943	J-2138	Forest	TRUE	1.00	3,500.00	2.28	3,501.28	20.00	24.22	20.00	22.17	J-2116	(N/A)	16.29	J-1198
4464 4511	J-2337 J-2364	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.48 1.48	3,500.48 3,500.48	20.00 20.00	79.88 23.48	20.00 20.00	23.37 22.17	J-1197 J-103	(N/A) (N/A)	16.29 17.28	J-1198 J-1198
4522	J-2370	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	85.79	20.00	23.37	J-1197	(N/A)	16.29	J-1198
4527 4534	J-2373 J-2377	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.28 1.08	3,500.28 3,500.08	20.00 20.00	20.40 50.97	20.00 20.00	21.56 23.37	J-103 J-1197	(N/A) (N/A)	17.28 16.29	J-1198 J-1198
4584	J-2407	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	30.91	20.00	31.59	J-78	(N/A)	17.28	J-1198
4612 4636	J-2423 J-2437	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	57.74 111.07	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4698	J-2470	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	26.29	20.00	27.76	J-1640	(N/A)	17.28	J-1198
4731 4789	J-2489 J-2521	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	2.08 1.08	3,501.08 3,500.08	20.00 20.00	21.90 22.95	20.00 20.00	22.42 21.61	J-103 J-1519	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
4790	J-2522	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	25.20	20.00	21.61	J-1519	(N/A)	17.28	J-1198
4808	J-2531	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	59.19	20.00	24.36	J-1197	(N/A)	17.28	J-1198
4841 4870	J-2550 J-2566	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.88	3,500.08 3,500.88	20.00 20.00	60.64 24.76	20.00 20.00	23.37 21.96	J-1197 J-103	(N/A) (N/A)	16.29 17.28	J-1198 J-1198
5123	J-2712	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	93.53	20.00	23.37	J-1197	(N/A)	16.29	J-1198
5124 5174	J-2713 J-2741	Forest Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.88 1.37	3,500.88 3,500.37	20.00 20.00	96.07 65.99	20.00 20.00	23.37 32.62	J-1197 J-2323	(N/A) (N/A)	16.29 17.28	J-1198 J-1198
5199	J-2754	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	67.11	20.00	23.37	J-1197	(N/A)	16.29	J-1198
5221 5245	J-2767 J-2782	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	77.59 52.44	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5374	J-2857	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	40.62	20.00	23.37	J-1197	(N/A)	16.29	J-1198
5388 5432	J-2866 J-2890	Forest Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.28	3,500.08 3,500.28	20.00 20.00	36.15 45.61	20.00 20.00	23.37 23.37	J-1197 J-1197	(N/A) (N/A)	16.29 16.29	J-1198 J-1198
5433	J-2891	Forest	TRUE	1.00	3,500.00	1.48	3,500.48	20.00	43.38	20.00	23.37	J-1197	(N/A)	16.29	J-1198
5509 5604	J-2933 J-2988	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.29 1.46	3,500.29 3,500.46	20.00 20.00	64.18 112.91	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5643	J-3010	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	26.69	20.00	27.09	J-4062	(N/A)	17.28	J-1198
5644	J-3011	Lakes	TRUE TRUE	1.00	3,500.00	1.20	3,500.20	20.00 20.00	30.00	20.00	27.09	J-4062	(N/A)	17.28	J-1198
5669 5805	J-3026 J-3105	Lakes Lakes	TRUE	1.00 1.00	3,500.00 3,500.00	1.29 1.20	3,500.29 3,500.20	20.00	79.81 76.38	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5847 5849	J-3128 J-3129	Forest Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.08 1.20	3,500.08 3,500.20	20.00 20.00	60.03 77.59	20.00 20.00	24.36 32.62	J-1197 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5860	J-3129 J-3135	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	92.05	20.00	32.62	J-2323	(N/A)	17.28	J-1198
5872	J-3142	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	58.15	20.00	32.62	J-2323	(N/A)	17.28	J-1198
5881 5900	J-3147 J-3157	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	73.83 73.70	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5909	J-3162	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	69.94	20.00	32.62	J-2323	(N/A)	17.28	J-1198
5913 5917	J-3164 J-3166	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.29 1.20	3,500.29 3,500.20	20.00 20.00	75.78 71.13	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5922	J-3169	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	81.02	20.00	32.62	J-2323	(N/A)	17.28	J-1198
5929 5947	J-3173 J-3184	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.29	3,500.20 3,500.29	20.00 20.00	73.13 37.48	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5949	J-3185	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	66.55	20.00	32.62	J-2323	(N/A)	17.28	J-1198
5957 5963	J-3189 J-3192	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	26.38 63.91	20.00 20.00	28.81 32.62	J-619 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5974	J-3198	Lakes	TRUE	1.00	3,500.00	1.37	3,500.37	20.00	72.77	20.00	32.62	J-2323	(N/A)	17.28	J-1198
5981 5991	J-3202 J-3208	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	40.39 59.62	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
5993	J-3209	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	75.11	20.00	32.62	J-2323	(N/A)	17.28	J-1198
5995 5999	J-3210 J-3212	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	56.02 61.96	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6013	J-3212 J-3220	Lakes	TRUE	1.00	3,500.00	1.37	3,500.20	20.00	80.09	20.00	32.62	J-2323	(N/A)	17.28	J-1198
6044	J-3238	Forest	TRUE	1.00	3,500.00	1.68	3,500.68	20.00	27.79	20.00	23.37	J-1197	(N/A)	16.29	J-1198
6045 6093	J-3239 J-3269	Forest Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.28 1.37	3,500.28 3,500.37	20.00 20.00	31.07 71.38	20.00 20.00	23.37 32.62	J-1197 J-2323	(N/A) (N/A)	16.29 17.28	J-1198 J-1198
6101	J-3273	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	54.66	20.00	32.62	J-2323	(N/A)	17.28	J-1198
6116 6117	J-3282 J-3283	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	32.40 29.17	20.00 20.00	32.19 32.40	J-3283 J-3282	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6144	J-3299	Lakes	TRUE	1.00	3,500.00	1.29	3,500.29	20.00	90.20	20.00	32.62	J-2323	(N/A)	17.28	J-1198
6184 6308	J-3322 J-3397	Stewartsville Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.11 1.20	3,500.11 3,500.20	20.00 20.00	49.41 58.21	20.00 20.00	21.24 32.62	J-676 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6343	J-3418	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	24.95	20.00	27.84	J-3163	(N/A)	17.28	J-1198
6372 6388	J-3435 J-3444	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	45.54 57.03	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6389	J-3445	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	60.16	20.00	32.62	J-2323	(N/A)	17.28	J-1198
6403 6417	J-3453 J-3461	Lakes Forest	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.28	3,500.20 3,500.28	20.00 20.00	43.82 30.36	20.00 20.00	31.62 23.71	J-2323 J-1197	(N/A) (N/A)	17.28 16.63	J-1198 J-1198
6436	J-3472	Lakes	TRUE	1.00	3,500.00	1.37	3,500.37	20.00	22.50	20.00	26.02	J-3473	(N/A)	17.28	J-1198
6437 6444	J-3473 J-3477	Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.37 1.20	3,500.37 3,500.20	20.00 20.00	26.02 24.06	20.00 20.00	26.12 27.55	J-3472 J-1742	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
6464	J-3488	Lakes Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	61.31	20.00	32.62	J-2323	(N/A)	17.28	J-1198
6528 6721	J-3525 J-3640	Lakes Lakes	TRUE TRUE	1.00 1.00	3,500.00 3,500.00	1.20 1.20	3,500.20 3,500.20	20.00 20.00	65.08 67.54	20.00 20.00	32.62 32.62	J-2323 J-2323	(N/A) (N/A)	17.28 17.28	J-1198 J-1198
0121	0 0040	Lunco	INOL	1.00	5,550.00	1.20	0,000.20	20.00	07.04	20.00	02.02	0 2020	(14/7)	17.20	0 1130

Node ID	Node Label	Pressure Zone	Fire Flow Constraints Satisfied	Desired Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Desired (gpm)	Total Flow Available (gpm)	Desired Residual Pressure (psi)	Calculated Residual Pressure (psi)	Desired Minimum Zone Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Pressure Node	Desired Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Pressure Node
6833	J-3706	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	96.57	20.00	32.62	J-2323	(N/A)	17.28	J-1198
6834	J-3707	Lakes	TRUE	1.00	3,500.00	1.29	3,500.29	20.00	101.39	20.00	32.62	J-2323	(N/A)	17.28	J-1198
6875	J-3731	Lakes	TRUE	1.00	3,500.00	1.37	3,500.37	20.00	57.96	20.00	32.62	J-2323	(N/A)	17.28	J-1198
6941	J-3770	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	53.04	20.00	24.36	J-1197	(N/A)	17.28	J-1198
6974	J-3788	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	51.28	20.00	24.36	J-1197	(N/A)	17.28	J-1198
7025	J-3818	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	63.61	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7033	J-3822	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	52.57	20.00	22.80	J-2919	(N/A)	17.28	J-1198
7038	J-3825	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	39.59	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7040	J-3826	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	56.98	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7042	J-3827	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	84.16	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7044	J-3828	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	54.10	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7077	J-3847	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	41.60	20.00	22.80	J-2919	(N/A)	17.28	J-1198
7082	J-3850	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	43.07	20.00	24.36	J-1197	(N/A)	17.28	J-1198
7086	J-3852	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	40.03	20.00	24.36	J-1197	(N/A)	17.28	J-1198
7165	J-3895	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	116.09	20.00	32.62	J-2323	(N/A)	17.28	J-1198
7169	J-3896	Forest	TRUE	1.00	3,500.00	1.28	3,500.28	20.00	83.80	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7175	J-3899	Forest	TRUE	1.00	3,500.00	1.48	3,500.48	20.00	69.90	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7184	J-3902	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	61.59	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7186	J-3903	Forest	TRUE	1.00	3,500.00	1.28	3,500.28	20.00	71.37	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7199	J-3910	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	95.60	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7202	J-3911	Forest	TRUE	1.00	3,500.00	1.28	3,500.28	20.00	79.39	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7211	J-3915	Forest	TRUE	1.00	3,500.00	1.28	3,500.28	20.00	66.21	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7229	J-3925	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	73.80	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7258	J-3939	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	74.92	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7348	J-3975	Lakes	TRUE	1.00	3,500.00	1.20	3,500.20	20.00	77.76	20.00	32.62	J-2323	(N/A)	17.28	J-1198
7569	J-4052	Lakes	TRUE	1.00	3,500.00	1.37	3,500.37	20.00	73.09	20.00	32.62	J-2323	(N/A)	17.28	J-1198
7763	J-4109	Forest	TRUE	1.00	3,500.00	2.48	3,501.48	20.00	89.97	20.00	23.37	J-1197	(N/A)	16.29	J-1198
7808	J-4122	Forest	TRUE	1.00	3,500.00	1.48	3,500.48	20.00	134.45	20.00	23.37	J-1197	(N/A)	16.29	J-1198
8534	J-4217	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	40.08	20.00	24.36	J-1197	(N/A)	17.28	J-1198
8536	J-4218	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	27.95	20.00	24.36	J-1197	(N/A)	17.28	J-1198
8538	J-4219	Forest	TRUE	1.00	3,500.00	1.48	3,500.48	20.00	85.98	20.00	23.37	J-1197	(N/A)	16.29	J-1198
8540	J-4220	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	47.57	20.00	24.36	J-1197	(N/A)	17.28	J-1198
8542	J-4221	Forest	TRUE	1.00	3,500.00	1.08	3,500.08	20.00	55.40	20.00	24.36	J-1197	(N/A)	17.28	J-1198
8614	J-4223	Forest	TRUE	1.00	3,500.00	1.00	3,500.00	20.00	67.52	20.00	23.37	J-1197	(N/A)	16.29	J-1198
8617	J-4224	Forest	TRUE	1.00	3,500.00	1.00	3,500.00	20.00	67.52	20.00	23.37	J-1197	(N/A)	16.29	J-1198
8679	J-4225	Forest	TRUE	1.00	3,500.00	1.00	3,500.00	20.00	85.99	20.00	23.37	J-1197	(N/A)	16.29	J-1198

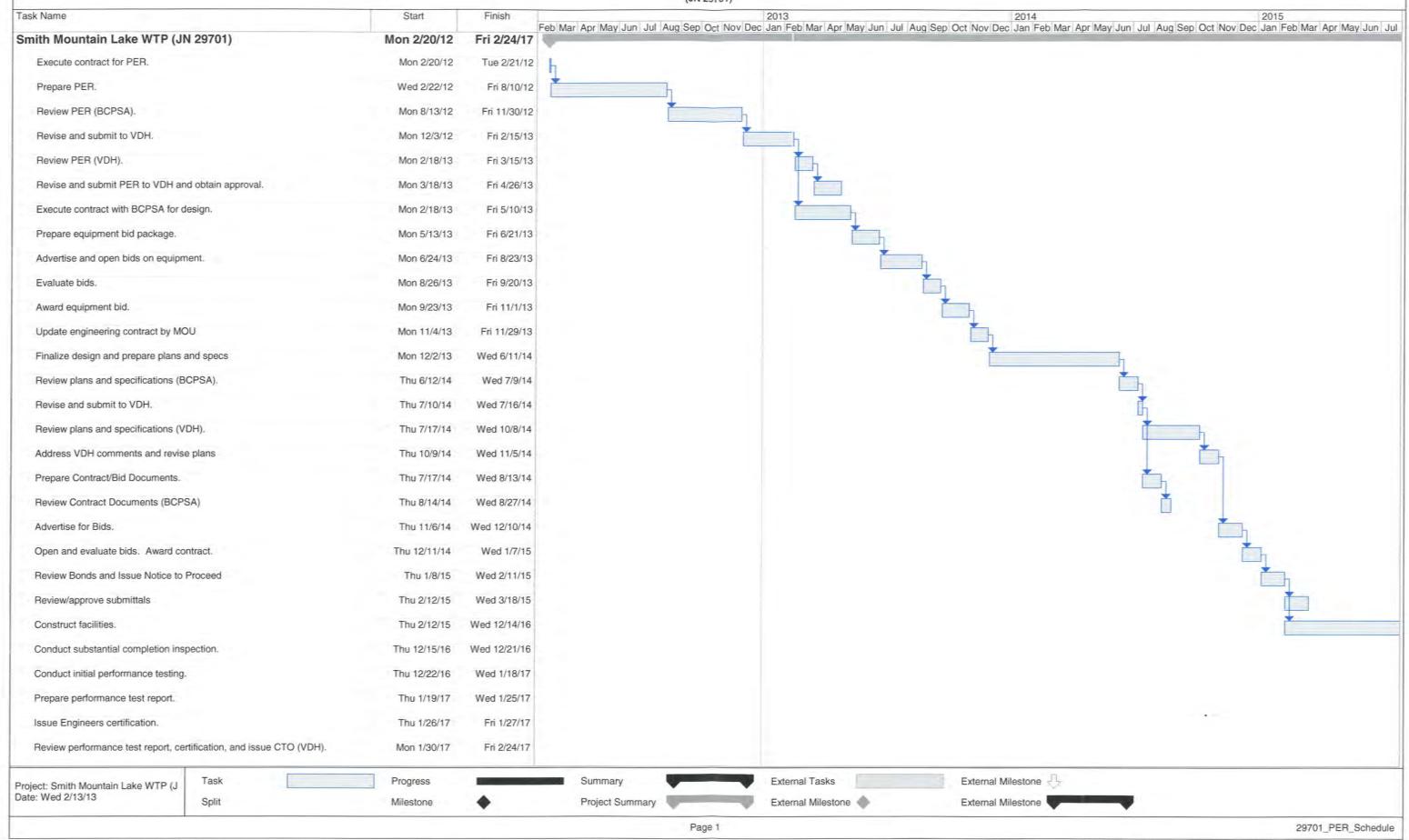
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APPENDIX E

PROJECT SCHEDULE

SMITH MOUNTAIN LAKE WATER TREATMENT PLANT (JN 29701)



APPENDIX F

DRAFT WATER WITHDRAWAL PERMIT (UNOFFICIAL COPY)

DATE

FACT SHEET

Modification of Virginia Water Protection Individual Permit No. 96-0707 Bedford County Public Service Authority, Smith Mountain Lake Water Treatment Plant Withdrawal Project, Bedford County, VA

DEQ has reviewed the application for a modification to Virginia Water Protection (VWP) Individual Permit Number 96-0707 and has determined that the project qualifies for major permit modification. Based on the information provided in the application and in compliance with § 401 of the Clean Water Act as amended (33 USC 1341 et seq.) and the State Water Control Law and regulations, DEQ has determined that there is a reasonable assurance that the activity authorized by this permit will protect in-stream beneficial uses, will not violate applicable water quality standards, and will not cause or contribute to significant impairment of state waters or fish and wildlife resources, provided the permittee complies with all permit conditions.

Surface water impacts have been avoided and minimized to the maximum extent practicable. The proposed permit also addresses protection of in-stream beneficial uses via flow monitoring and reporting and implementation of operating procedures that promote conservation.

The following details the application review process and summarizes relevant information for developing the Part I - Special Conditions for permit issuance.

1. Contact Information:

Permittee Legal Name and Address:

Bedford County Public Service Authority Attn: Mr. Brian Key, PE 1723 Falling Creek Road Bedford, VA 24523 540-586-7679 Email: b.key@bcpsa.com

Owner Legal Name and Address:

American Electric Power (dba Appalachian Power Company) P. O. Box 2021 Roanoke VA 240022-2121

Attn: Mr. Frank M. Simms

Agent Legal Name and Address:

Anderson & Associates, Inc 100 Ardmore Street Blacksburg VA 24060 Attn: Mr. David Inman 540-552-5592 800-763-5596

2. Joint Permit Application (JPA) Processing Dates:

3/16/11 Received Application: Joint Publication with VMRC of Received JPA: did not post* SPGP Determination letter sent to USACE: 3/25/11 Notice from VMRC re: no permit required: 3/28/11* 1st Request for Additional Information Sent: 5/10/11 Response to 1st Request for Additional Information Received: 6/24/11 2nd Request for Additional Information Sent: 5/4/12 Response to 2nd Request for Additional Information Received: 5/24/12 Letter sent to Bedford County Commissioner of Revenue: 7/11/12

Letter sent to Franklin County Commissioner of Revenue: not applicable (used county website)

Letters sent to VDH, VDGIF, VDCR: 7/24/12 Letters sent to VMRC: 3/25/11 & 9/26/12 Letters sent to Riparian Land Owners: 8/17/12 3rd Request for Additional Information Sent: 8/28/12 Letter(s) sent to Local Government(s): 9/4/12 Response to 3rd Request for Additional Information Received: 9/13/12 **Application Complete:** 9/13/12 Processing Deadline (120 days from Complete Application): 1/13/13 Permit Fee request sent to BCPSA: 10/9/12 Permit Fee Deposited by Accounting: 10/23/12

Draft Permit Package Issued:

Copy of Public Notice sent to DEQ Central Office:

Copy of Public Notice sent to Admin. Board. Planning:

Public Notice Published:

End of 30-Day Public Comment Period:

Received Verification of Publication:

Public Meeting or Hearing (if applicable):

*: VMRC notified staff via email on 3/28/11 that because the new intake structures would not encroach upon the historic channel, VMRC would not require a permit.

3. Project Location:

County: Bedford

Waterbody: Smith Mountain Lake

Basin: Roanoke River

Subbasin: Upper Roanoke River

HUC: 03010101

Section/Class/Sp Stds: 6i / IV / PWS; designated as nutrient rich waters under 9VAC25-

260-350.

Latitude & Longitude: Existing Raw Water Intake: 37°07'16" N -79°38'46" W

U.S.G.S. Quadrangle: Moneta SW State Watershed No.: 03010101RU19

TMDL Status: No TMDL segments exist at the reservoir or intake sites.

4. Project Description:

The Bedford County Public Service Authority (BCPSA) proposes to expand the existing intake structure at the High Point water intake site on Smith Mountain Lake (SML) in Bedford County from its currently permitted, maximum daily rate of 2.99 million gallons to a maximum daily rate of 12 million gallons. The intake supplies the nearby High Point Water Treatment Plant (WTP), which has a current VDH waterworks operation permit allowing a treatment capacity up to 0.770 mgd. The JPA states that the expansion is needed to provide a reliable source of water to growing communities in both Bedford and Franklin Counties. This includes growth in both the amount of water used within the current Lakes-High Point service area and expansion to additional service areas by waterline extensions. The new waterlines would allow water withdrawn in the Lakes-High Point area to be sent to the Forest and Bedford City water systems. BCPSA currently provides water to the Forest water system via a purchase agreement with the City of Lynchburg that is in effect until 6/30/2022. The JPA states that the purchase agreement between Lynchburg and BCPSA does not have a limit on the volume that is sent to BCPSA.

BCPSA sells water withdrawn from the High Point water intake to the Western Virginia Water Authority (WVWA) via a purchase agreement for up to 0.4 mgd. The WVWA provides water to the Westlake service area on the Franklin County side of Smith Mountain Lake. The applicant states that new waterline extensions in Franklin County would provide service between the Westlake system and Route 220 North. However, the Franklin County Summary of Capital Improvement Projects contained within its FY 2011-2012 Capital Improvement Program does not list any planned waterline extensions through FY2015-2016.

Future proposed demands for the City of Bedford were not originally included in the JPA. However, the City is in the process of reverting to a Town within Bedford County. The Bedford County Board of Supervisors approved an amended reversion agreement in August, 2012 and, according to a response to a request for additional information received September 13, 2012, the reversion process is expected to be complete within the next year. The reversion agreement states that a new joint water and sewer authority will be created to consolidate the services currently provided by the City and County, provided that the two entities enter into a Utility Consolidation Agreement by November 30, 2012. As of December 31, 2012, both the City and County had ratified the agreement. The reversion agreement also includes a provision that an interconnection between the City and County (BCPSA) water systems must be in place by December, 2016. BCPSA views the interconnection initially as serving as an emergency water supply for the City and that it may become the permanent supply if the City's existing infrastructure requires significant upgrades or repairs. The addition of the City of Bedford's future demands did not, however, increase the volume of the proposed withdrawals that were originally included within the JPA.

5. Major Modification Description

This action is a major modification to the permit originally issued on September 12, 1997 and reissued on November 30, 2007. This major modification is predicated on the proposed increase in maximum daily withdrawal rate from the current value of 2.99 million gallons to 12 million gallons per day (mgd), with a proposed average annual daily flow (AADF) of 6.0 mgd. A Preliminary Engineering Report (PER) provided with the JPA that analyzes various water supply alternatives recommends expansion of the current Lakes-High Point WTP capacity to 1.0 mgd and construction of a new, regional WTP near the existing Lakes-High Point WTP with a 5.0 mgd capacity. Staff reviewed the proposed withdrawal increase for the demand anticipated over a 30-year planning period and over the 15-year permit term to 2028.

This modification is intended for the expansion of the existing intake only. Any potential impacts related to future waterline extensions and/or water treatment plant expansion or construction are not part of this modification and would be permitted separately.

6. Water Withdrawal Use, Need and Demand:

Purpose of Water Uses

The proposed system is a public water supply for parts of Bedford County and Franklin County near Smith Mountain Lake. The predominant types of water use are residential and commercial.

Basis of Need

The applicant statement of need is to support expected future growth in several service areas within both Bedford County and Franklin County. The application provided projected future demand estimates taken from several consultant studies to support water supply needs:

- A Preliminary Engineering Report (PER) by Thompson & Litton (2003) for the Burnt Chimney/SML area that provided projected use rates near SML in Franklin County.
- U. S. Rte 220 North Water System Evaluation by Thompson & Litton (2004) that provided projected use rates for areas west of SML in Franklin County.
- A PER by Anderson & Associates (2011) that provided projected use rates for the Lakes-SML and Forest service areas in Bedford County. This report contains an alternatives analysis to for expanding water service across Bedford County.
- Water and Sewer Master Plan for BCPSA (2009) by Draper-Aden Associates
- Two regional water supply plans: 1) Region 2000 (2009) by Draper-Aden Assoc & Malcolm Pirnie; and 2) Roanoke Valley-Alleghany Regional Commission Regional Water Supply Plan (2010) by Draper-Aden Assoc.

The projected future Bedford County demands in the JPA and associated add-info responses for 15 to 30year periods derived from the above consultant reports generally agree with demands listed in the water supply plans. In Section 27 of the JPA, the applicant reported a statistical population (growth) trend for Bedford County as currently 4% and in the future as 1.1%; and for Franklin County as currently 0.9%. The Documentation of Need in the JPA (Tab 7) refers to the BCPSA Water and Sewer Master Plan (2009) as its source for population growth trends. That document, however, reports population projections only for 2010, 2020 & 2030 as reported by VEC (Table 3 of BCPSA Water and Sewer Master Plan (2009). The VEC projections indicate population growth of approximately 1.7% per year from 2006 to 2010, followed by approximately 1% per year from 2010 to 2030. The same document then goes on to present BCPSA water demand projections that equal 4% per year for 2008-2018 and 1.1% per year for 2018 to 2028 (Table 5 of same document). (The same annual breakdown of residential demand projections is included in Appendix D-3 of the Region 2000 Water Supply Plan.) These projections were based on the assumption that "...water infrastructure will inevitably be expanded to provide service to many of the existing residents currently on individual wells or within privately supplied systems". Therefore, staff could not find support in the application for a current Bedford County population growth trend of 4% per year.

Staff compared the projected future population growth rates that were supplied for the proposed BCPSA and WVWA service areas with separate estimates of 2010 and future (2028) population estimates

determined by interpolation of the VEC population projections. The two projected population estimates were similar. Projected residential demand rates for 2028 based on the interpolated VEC population estimate (using a 75 gpd per capita use rate) were, however, less than the requested average annual daily flows (AADF) for the six BCPSA and WVWA service areas (5.59 mgd vs. 6.62 mgd). Most of the difference between the population-based projected 2028 residential demand of 5.59 mgd and the applicant's total projected demand is due to projected commercial, institutional, industrial and unaccounted uses for the City of Bedford that total 0.89 mgd (Region 2000 Water Supply Plan, Appendix D-3).

Water Demand Projection

A major assumption supporting the projected future demand is that both BCPSA and the Western Virginia Water Authority (WVWA) will extend service to a significant number of previously self-supplied users within their projected service areas by the end of the 15-year permit term, especially within Franklin County. The table below lists recent and projected AADF by service area:

Table 1: Water Withdrawals and Projected Demands in BCPSA and WVWA in Franklin County:

County	Service Area	2009 ADF mgd ¹	2010 ADF mgd ¹	2011 ADF mgd ¹	AADF projected over permit (mgd) ²	AADF 20- 35 year projection (mgd) ³
Bedford	Bedford City	1.01	0.93	0.89	1.31	1.95
Bedford	BCPSA Forest	1.56	1.50	1.38	2.14	2.71
Bedford	BCPSA Lakes-High Point (used in Bedford County)	0.28	0.39	0.30	0.54	0.74
	Bedford County use/demand subtotals	2.85	2.82	2.57	3.99	5.40
Franklin	WVWA-Westlake (Purchased by WVWA from BCPSA Lakes- High Point)	0.11	0.17	0.18	1.65	1.6
Franklin	WVWA 220 North	n/a ⁴	n/a ⁴	0.03	0.85	0.83
Franklin	WVWA Boones Mill	0.07	0.08	0.07	0.13	0.13
	Franklin County WVWA use/demand subtotals	0.18	0.25	0.28	2.63	2.56
N	Totals (BCPSA + WVWA)	3.03	3.08	2.85	6.62	7.96

Notes:

- 1. reported 2009-2011 flows: VWUDS and add info responses 5/2012 & 9/2012
- 2. projected flows for permit duration: add info responses 6/2011 & 9/13/12
- 3. projected 20-35 yr demands:
 - o Bedford service areas: (2048) Table 1 from Anderson & Assoc., (1/2011, JPA, Tab 7)

- Franklin 220 North & Boones Mill service areas: from PER for U.S. 220 North Water System Evaluation (Thompson & Litton, 2004; JPA Tab 7)
- Franklin WVWA-Westlake service area: from PER for SR 122/Burnt Chimney/Smith Mountain Lake Water Distribution System (Thompson & Litton, 2003; JPA Tab 7)
- 4. n/a = not reported by WVWA

Approximately 40% (2.63 mgd) of the projected AADF of 6.62 mgd total demand over the permit duration would be needed for service areas within Franklin County. Recent (2011) reported AADF demand for water within WVWA service areas supplied by BCPSA was approximately 0.18 mgd. Therefore, future service area expansions and connections that would provide approximately 2.63 mgd (44%) of the requested 6.0 mgd AADF are required by an entity that is not party to the permit application. Within Section 3 (Project Purpose) of the JPA it was stated that the expansion of the surface water intake is "... needed to provide a reliable source of water to the growing communities in both Bedford and Franklin Counties (WVWA)." In Section 27 of the JPA (Water Withdrawal Use, Need, and Alternatives) the project was identified as a "... continued regional effort between the BCPSA and the WVWA."

DEQ has had a number of recent "regional" permit applications involving demand from multiple parties that were not firmed up prior to issuance of the permit. In these instances the parties failed to reach agreement and the permit ultimately allocated more water than justified during the permit term. Therefore, in response, DEQ believes that allocation of additional water from Smith Mountain Lake will only be made to those who are parties to the permit. Bedford County PSA however, in response to a request for additional information in June, 2012, opted to remain the sole applicant. Therefore, only the applicant's direct needs will be considered.

Expansion of service throughout most of the BCPSA-Lakes-SML service area is planned for completion within the next few years. The BCPSA Summary of Projects table submitted with the May 2012 response to DEQ's request for additional information indicates that the planned 5.0 mgd WTP and waterline extensions to near Bedford City and the Forest service area may potentially be completed within the term of the permit. Expansion of service to new areas outside of Bedford County (within WVWA service areas) would depend upon expenditures by an entity that is not party to the permit.

The JPA contains peak day factors (projected peak day to AADF ratio) of 2.0 for each service area. Reported metered information regarding peak day and peak month flows is very limited. The reported BCPSA Lakes-High Point service area peak day factor ranged from 1.8 to 3.5 for 2007 and 2009-2011 (2008 peak day flow wasn't reported). Reported peak day factors for 2007 -2011 for the City of Bedford ranged from 1.7 to 2.1 and averaged 1.8. Neither Lynchburg nor BCPSA has reported peak day flows for the water delivered by Lynchburg to BCPSA for the Forest service area. Peak day flows for water sold to 1) WVWA's SML-Westlake service area from the BCPSA Lakes/SML service area and 2) BCPSA from the City of Lynchburg are not measured daily (meters read on a monthly basis only). For the BCPSA Lakes-High Point WTP service area the peak month factor (ratio of average flow during the peak month to the AADF) reported to DEQ ranged from 1.3 to 1.8 since 2007 and averaged 1.6. Peak month factors for the Forest Service area for the same period ranged from 1.2 to 1.4, and those for Bedford City were similar.

Table 2: Peak Day/AADF and Peak Month Average/AADF factors for BCPSA Service Areas

Service Area	Minimum Peak Day Factor	Maximum Peak Day Factor	Average Peak Day Factor (2007-2011)	Minimum Peak Month Factor	Maximum Peak Month Factor	Average Peak Month Factor (2007-2011)
Lakes- (High Point WTP)	1.8	3.5	2.8	1.3	1.8	1.6
Forest	nd	nd	nd	1.2	1.4	1.2
Bedford City	1.7	2.1	1.8	1.1	1.3	1.2
WVWA - Westlake	nd	nd	nd	1.3	2.6	1.8

nd: not determined (daily flows not measured)

The relatively high reported peak day and peak month factors for the BCPSA Lakes (High Point WTP) service area may be due to the large percentage of water transferred to the WVWA-SML service area for seasonal and holiday use. The smaller peak day and peak month factors representing demands from the Bedford City and Forest service areas may indicate smaller seasonal/holiday fluctuations due to a higher percentage of permanent residents. Because the majority (83%) of the future AADF demand would represent the Forest and Bedford City service areas, the overall peak day factor should reflect demands from these areas. Because the 2007-2011 peak month factors for both Bedford City and Forest are very similar, it is reasonable to assume that the peak day factors for these service areas may also be similar. Given the range of reported data on peak day factors from recent years, use of a peak day factor of 1.8 for the Forest and Bedford City service areas and 2.0 for the Lakes-High Point and Westlake service areas was considered reasonable.

Demands confirmed for this permit are listed below for the Bedford County service areas and for the existing demand in Franklin County that is currently supplied by BCPSA.

Table 3: Projected Demands Justified for BCPSA

Service Area	End of Permit AADF Demand (mgd)	End of Permit Peak Day Demand (mgd)
BCPSA-Forest	2.14	3.85
BCPSA Lakes- High Point	0.54	1.08
BCPSA-Bedford City	1.31	2.36
WVWA- Westlake	0.18	0.36
Total:	4.17	7.65

7. Alternatives Reviewed:

BCPSA included a Preliminary Engineering Report entitled "Lakes-Bedford-Forest Water Supply Evaluation, Bedford County, Virginia" by Anderson & Associates (January 13, 2011) within Tab 7 of the JPA (Documentation of Need) that analyzed the technical and financial feasibility of several alternative approaches to providing water service throughout all of BCPSA's service areas. The alternatives that were evaluated included two approaches to providing service to the Forest service area and three alternatives to providing service to Bedford City.

Table 4: Alternatives Considered by BCPSA for Providing Water to the Forest and Bedford City areas

Alternative	Purpose	Description
A1	Service to Forest	Continue to purchase from City of Lynchburg
A2	Service to Forest	Deliver water from the Lakes service area along Rtes 122 and 460
B1	Service to Bedford City	Bedford City continues to supply & maintain its own system
B2	Service to Bedford City	Deliver water from the Lakes service area along Rte 122
В3	Service to Bedford City	Purchase water from City of Lynchburg and deliver along Rte 460

The report recommended implementation of alternatives A2 and B2 as the most cost effective approach to a regional water system in the long term.

BCPSA also included a site selection study for an expanded water treatment plant in the Lakes-High Point service area within Tab 6 of the JPA entitled "Smith Mountain Lake, Withdrawal Site Selection Study," for Bedford County Public Service Authority & Western Virginia Water Authority, dated December 13, 2010, by Anderson & Associates, Inc. This study compared five potential locations and ranked them based on six primary criteria; environmental, site availability, site access, site development, water quality, and zoning. Sites 1, 2, and 3 were located on the Franklin County side of Smith Mountain Lake and would have required construction of new intakes and water treatment plants. Site 4 includes the existing intake location with a proposed treatment plant site on currently private property. Site 5 includes the existing intake location with a proposed treatment plant site on Bedford County property. Sites 4 and 5 (existing intake location) scored the highest in the environmental category and Site 5 was ranked the highest among all categories. The report recommended that Site 5 should be used for the intake and plant expansion project.

Both the Region 2000 and Roanoke Valley Alleghany Regional Commission (RVARC) Water Supply Plans contained recommendations for expansion of the current Smith Mountain Lake intake and water treatment plant capacity in the Lakes-High Point service area in a fashion similar to the Site 5 alternative.

Based upon staff's review of the alternatives analysis and site selection study conducted by the applicant, use of the existing intake site is the least environmentally damaging, practicable alternative in light of the overall project purpose.

8. Water Withdrawal Volumes:

Water Withdrawal Volumes Requested in JPA

The applicant requested authorization of the following withdrawal volumes based upon the water demand projected for the Year 2028:

- Proposed maximum instantaneous withdrawal: 12,500 gpm (2*average daily*(24/16))
- Proposed average daily withdrawal: 6 mgd
- Proposed maximum daily withdrawal: 12 mgd (2*average daily)
- Proposed maximum monthly withdrawal: 270 MG (1.5*average daily*30)
- Proposed maximum annual withdrawal: 2190 MG (average daily*365)

Return Flow / Consumptive Use

A significant portion of the BCPSA Lakes-High Point service area and all of the WVWA-Westlake service area are located within the drainage area of Smith Mountain Lake. However, all of the wastewater associated with the proposed demand would serve areas with either septic tanks or non-discharging wastewater plants. Although a significant percentage of this wastewater would ultimately discharge as ground water baseflow to the lake or to streams that drain to the lake, the time lag between withdrawal, recharge and ultimate discharge to surface water would be very large. It is not likely that water withdrawn from the lake during the summer dry season or a significant drought period would return to the lake as ground water baseflow during the same season or drought period.

The remaining portion of the BCPSA Lakes-High Point service area, all of the Bedford City service area and approximately two-thirds of the Forest service areas are located in the Goose Creek or Big Otter River drainage basins, which discharge to the Roanoke River downstream of Smith Mountain Lake. The Bedford City wastewater system, which covers most of the Bedford City BCPSA service area, discharges to the Big Otter River. The Bedford City wastewater service area generally coincides with the area covered by the Bedford City water service area.

Approximately one-third of the Forest service area is located within the James River basin. Water supplied from SML to the Forest service area would presumably end the purchase of water from Lynchburg, which withdraws from the James River. This could result in a net decrease of water withdrawn from the James River basin. Wastewater within the Forest service area is discharged via septic systems or, in some areas, via sewers to Lynchburg's wastewater system and ultimately to the James River.

Therefore, except for the amount of flow sent to the City of Bedford's wastewater discharge, the proposed BCPSA withdrawals (as well as other withdrawals from the lake) should be considered 100% consumptive for the purposes of evaluating the effects of the water withdrawal during the drought of record period.

The water sent from SML to the portion of the Forest service area located within the James River basin represents an inter-basin transfer pursuant to § 62.1-44.15 because 1) it involves the transfer of water out of the Roanoke River basin, which flows to another state (North Carolina), and 2) all of the transferred water represents an expanded withdrawal from SML. In the case of inter-basin transfers, the statute requires the applicant to supply the following information in support of the transfer:

1. an analysis of alternatives to such a transfer

- 2. a comprehensive analysis of the impacts that would occur in the source and receiving basins
- 3. a description of measures to mitigate any adverse impacts that may arise
- 4. a description of how notice shall be provided to interested parties

BCPSA provided a description of the alternatives considered (see above).

Smith Mountain Lake is part of the Smith Mountain Hydroelectric Project (Smith Mountain Project). The Smith Mountain Project (SMP) is currently licensed by the Federal Energy Regulatory Commission (FERC) as a hydropower generation facility owned by American Electric Power (dba Appalachian Power Company, or APCO). A cumulative impact analysis of the potential effects of water withdrawals upon Smith Mountain lake levels and SMP release rates (and therefore downstream flows) was conducted as part of the SMP FERC relicensing effort. The current FERC license was issued on December 15, 2009 (FERC No P-2210). The SMP also has a current VWP permit (VWP #08-0572) that has special conditions that are consistent with the conditions of the FERC license. It was determined during the relicensing and repermitting process that consumptive public supply withdrawals from the project (Smith Mountain and Leesville lakes) totaling 12.5 mgd would not have a significant effect upon the operation of the SMP. Because approximately two-thirds of the Forest service area lies within the Roanoke River basin, the portion of the 2.14 mgd AADF justified for the Forest service area that would be effectively transferred to the James River basin would probably be less than the 2.0 mgd criterion for a North Carolina Interbasin Transfer Certificate.

The effects upon the receiving basin (James River) would consist of a decrease in direct withdrawals by the City of Lynchburg to supply the Forest service area. Because there would be no overall change to the wastewater flow within the sewered areas within this water service area, the existing WWTP discharge to the James River would presumably remain the same, causing a net benefit to the receiving basin. Therefore, no adverse impacts are anticipated to either basin.

Notice to interested parties will be incorporated into the public noticing for the application.

Conservation/drought operations

During the last BCPSA permit reissuance cycle, staff noted that Part I.D.11 in current permit 96-0707 is a condition that would allow DEQ to reopen the permit to require implementation of specific conservation measures when minimum releases from the SMP are reduced. The triggers that reduce downstream releases to the Roanoke River during drought conditions were finalized in the reissued FERC license for the SMP. At the time of reissuance, it was premature to assume that the same triggers would be appropriate for implementing conservation. The reopener condition would allow DEQ to revisit the issue after the FERC license was issued, if necessary.

The Region 2000 Water Supply Plan includes a description of the Bedford County Drought Response and Water Conservation Plan. The purpose of the plan is to provide for the declaration of the official stages of water supply shortages and for the implementation of voluntary and mandatory water conservation measures by BCPSA. The BCPSA Drought Response and Water Conservation Plan was approved on December 16, 2008 (from BCPSA website, accessed October 26, 2012).

Cumulative Impact Analysis

The applicant stated in the JPA that the proposed withdrawal rate would comprise a small percentage of both the summer monthly median and annual average daily stream flow rates (as measured prior to installation of the SMP at gauging station 02057500 just downstream of Smith Mountain dam on the Roanoke River). The estimated one-day averaged, adjusted low flow rate at this site (using the same

data), with a 200 year return period, is 51.7 cfs (Austin, Samuel H, et al, *Low-Flow Characteristics of Virginia Streams*, USGS SIR 2011-5143). Therefore, the accepted end-of-permit peak day flow demand of 7.65 mgd (11.8 cfs) is about 23% of the lowest estimated flow rate for the basin.

A cumulative impact analysis of the potential effects of water withdrawals upon Smith Mountain lake levels and SMP release rates (and therefore downstream flows) was conducted as part of the SMP FERC relicensing effort. The current FERC license was issued on December 15, 2009 (FERC No P-2210). The SMP also has a current VWP permit (VWP #08-0572) that has special conditions that are consistent with the conditions of the FERC license. It was determined during the relicensing and repermitting process that consumptive public water supply withdrawals from the project (Smith Mountain and Leesville lakes) totaling 12.5 mgd would not have a significant effect upon the operation of the SMP according to the new FERC license.

The Water Management Plan developed during relicensing by APCO for the SMP was based upon a hydrologic model that forecasts SML lake levels based upon the historic record of inflows, as well as other inputs, including withdrawals. The model input was set up so that the input daily withdrawal rate was unchanged throughout the simulation period of more than 40 years. The same withdrawal rate was used for each season through both wet and dry (drought) years and therefore no adjustment for seasonal variations in withdrawal rates was made. The effects of water withdrawals upon lake levels and downstream flows were examined during this process by determining the number of "trigger events" that occurred during a group of simulations with withdrawal inputs that varied from zero to 25 mgd. All of the water withdrawn was considered to be for consumptive and for public supply uses. A "trigger event" is a low SML lake level condition that represents drought periods. Increases in total net withdrawals did not result in significant differences in lake elevations in simulated normal and wet periods, but did cause noticeable lake elevation differences during dry periods (see graph on page 433 of P-2210 Flood & Drought Management Low Flow Operating Protocol Report). The evaluation process resulted in a modeling protocol (HL-8) that allowed for a net withdrawal from the project waters (Smith Mountain Lake and Leesville Lake) of 12.5 mgd. Because the evaluation process determined that a total net withdrawal of 12.5 mgd was protective of lake levels and ultimately downstream flows during drought periods, this total net withdrawal rate must be considered to represent the lake withdrawal that would occur during a drought. Staff believe that actual lake withdrawal rates will fluctuate between wet, normal and dry conditions and that withdrawal rates during dry periods will be greater than normal. Therefore the SMP allowable total net withdrawal rate of 12.5 mgd represents the total net (peak) withdrawal rate during drought conditions and is not an average annual rate.

The total reported and permitted maximum daily withdrawals from the SMP lakes (Smith Mountain and Leesville) are currently less than 12.5 mgd (Table 4). Applying a peak month factor of 1.5 to the justified BCPSA AADF of 4.17 mgd (plus 5% for plant losses) and assuming that the other existing or permitted SML withdrawals would operate at maximum daily rates results in a potential total withdrawal from the SMP of 8.71 mgd during a drought period, which is less than the 12.5 net withdrawal limit.

Therefore the cumulative impact analysis that was conducted for the SMP relicensing process was considered to be sufficient to estimate the potential cumulative impacts to existing beneficial uses and existing water users. However, staff conducted a simplified analysis of the potential effects of total net withdrawals during a drought period upon SMP lake levels. Staff included withdrawals from two unpermitted golf course facilities (Waterfront and Mariners Landing) because much of their withdrawals are used to irrigate and promote consumptive transpiration of turf grass, particularly during dry periods. The staff modeling analysis is attached to this fact sheet (Attachment A).

Table 5: Recent reported and current permitted maximum daily withdrawals from SMP lakes

(Smith Mountain and Leesville)

Facility	Highest Recent (2007- 2011) Max Daily Flow (mgd)	Highest Recent (2007-2011) Max Monthly Flow (MG)	Avg over Highest Recent Max Month (mgd)	Permitted Max Daily Flow (mgd)	Potential Max Daily Flow during a Drought (mgd)
BCPSA Lakes- High Point	0.84	14.85	0.48	2.99	6.57
Waterfront GC	1.00	8.00	0.26	Not permitted	1.00
Mariners Landing	0.24	3.10	0.10	Not permitted	0.24
Pittsylvania County- Leesville intake (not yet installed)	0.00	0.00	0.00	0.90	0.90
Total:	2.08	25.95	0.84	3.89	8.71

Based upon the results of the analysis, staff determined the proposed project as limited in the draft permit, will protect existing beneficial uses while meeting the applicant's statement of need.

Permit Withdrawal Limitations

The permit limits surface water withdrawals to the volume justified for the term of the permit based upon the application materials submitted and staff modeling analyses. Based upon this information, the permit proposes the following limits on the withdrawal volumes:

AADF: 4.17 mgd + 5% for plant and other unaccounted loss:
Peak day: 4.38 mgd * 1.8 + 10% MOS:
Maximum annual withdrawal: 4.38 * 366 days:
Maximum monthly withdrawal: 4.38 mgd*1.5*30.5:
4.38 mgd
8.67 mgd
1603 MG/year
200 MG/month

9. Water Supply Plan Review:

The JPA was coordinated with Water Supply Planning staff on October 24, 2012, who responded on the same day. The project is located within the area covered by both the RVARC and the Region 2000 Water Supply Plans. Both of these plans were developed in accordance with the Local and Regional Water Supply Planning Regulation 9VAC25-780.

The proposed project was identified as the preferred alternative for Bedford County, the City of Bedford and Franklin County in the RVARC Water Supply Plan. The Region 2000 Water Supply Plan also considered expansion of the BCPSA intake and water treatment capacity as a preferred alternative for Bedford County. The information submitted in the JPA is consistent with these plans. The applicable sections of the plans were considered in staff's evaluation of the proposed project.

10. Surface Water Impacts:

Impacts associated with the major modification

The permit authorizes a permanent impact to 30,000 square ft (0.69 acre) of open water due to the construction of two new surface water intakes within the existing easement. Any potential impacts related to the construction of the planned new regional water treatment plant were not considered in the application and are not authorized as part of this permit.

Water quality impacts are expected to be temporary and minimal provided the permittee abides by the conditions of the permit. A loss of state waters shall occur. However, the impacts have been avoided and minimized to the greatest extent practicable.

11. Compensation for Unavoidable Impacts:

Because there will be no loss of surface water area, and a minimal amount of anticipated open water impacts, and considering all avoidance and minimization measures provided, staff does not recommend requiring compensatory mitigation for such impacts in the VWP permit.

12. Site Inspection:

A site visit was conducted for this project on September 14, 2012. A summary of the site inspection is located in VWP Permit File No. 97-0707.

13. Relevant Regulatory Agency Comments:

As part of the application review process, DEQ contacted the appropriate state regulatory agencies. Any relevant agency comments were addressed in the VWP individual permit Part I - Special Conditions. Therefore, the staff anticipates no adverse effect on water quality or fish and wildlife resources provided the applicant adheres to the permit conditions.

Summary of State Agency Comments and Actions

By email dated July 24, 2012 and September 26, 2012, comments were requested from the following state agencies: Virginia Department of Game and Inland Fisheries (DGIF), Virginia Department of Conservation and Recreation (DCR), Virginia Department of Health (VDH) and the Virginia Marine Resources Commission (VMRC). Failure to provide comments within 45 calendar days of the DEQ request for comments infers that the agency has no comments on the project activities.

VDH: The Office of Drinking Water responded on August 20, 2012 with no comments.

<u>VMRC</u>: VMRC responded on November 1, 2012 that the intake location is located over a man-made area of Smith Mountain lake and does not fall within their jurisdiction.

<u>DGIF:</u> DGIF responded on September 24, 2012 with several comments. No listed wildlife species or resources are currently documented under DGIF jurisdiction from the project area. Therefore, no adverse impacts upon such species or resources are expected. DGIF supports the proposal to install a 1mm mesh screen on the intake. However, DGIF recommended that in order to best protect aquatic residents from impingement and entrainment associated with the intake, that the intake velocities not exceed 0.25 fps. Modeling data concerning the potential impacts upon flows downstream of SMP were initially requested. However this request was rescinded via email on October 24, 2012 after it was documented that the

modeling during SMP FERC relicensing was sufficient as long as total project consumptive withdrawals remain less than 12.5 mgd.

<u>DCR:</u> <u>DCR responded on September 4, 2012 with comments from the DCR Divisions of Natural Heritage and Stormwater Management.</u>

The Division of Natural Heritage searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in DCR's files, natural heritage resources have not been documented in the project area. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources. Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The Division commented that the current activity will not affect any documented state-listed plants or insects and that there are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

The Division of Stormwater Management commented that projects involving land-disturbing activities equal to or greater than 10,000 square feet must comply with the Virginia Erosion and Sediment Control Law and all applicable regulations adopted in accordance with that law.

Staff coordinated the comments from DGIF and DCR with the applicant and the applicant's consultant via email on October 9, 2012.

Summary of Federal Agency Comments and Actions

U.S. Army Corps of Engineers (USACE):

The project qualifies for a U.S. Army Corps of Engineers (USACE) individual permit, which the USACE public noticed on XXXXX.

The USACE requested additional information from the applicant via an email dated March 31, 2011 to Anderson & Associates, Inc (copy to DEQ). Information regarding wetlands and streams along proposed waterline extensions was requested, along with color exhibits of JPA figures 1 and 3. This information was also requested by DEQ via letter to Anderson & Associates, Inc on May 10, 2011. The applicant responded that the waterline extensions are not being requested as part of this JPA and therefore the only surface water area that will be affected is that within the existing intake buoy area (150 ft by 300 ft).

Federal Energy Regulatory Commission (FERC):

Smith Mountain Lake is part of the Smith Mountain Hydroelectric Project (Smith Mountain Project). The Smith Mountain Project (SMP) is currently licensed by FERC as a hydropower generation facility owned by APCO. FERC must approve any request made by BCPSA to utilize project waters for non-project activities (e.g., public water supply). APCO leads the process of requesting such approval from FERC. On October 3rd, 2012 staff met with APCO and BCPSA representatives to discuss BCPSA's application to FERC through APCO to utilize project waters. During this meeting Appalachian Power staff expressed their opinion that FERC will require inclusion of all interested stakeholders in their approval process. The FERC approval process can be concurrent with the VWP permitting process.

14. Public Involvement during Application Process:

Pre-Application

In accordance with 9 VAC 25-210-75.B.3 of the VWP Permit Program regulations, those who intend on submitting an application for a new or expanded major surface water withdrawal provide an opportunity for public comment on the proposed project, and shall assist in identifying public concerns or issues prior to filing a VWP individual permit application. The regulation also says that if the potential applicant receives a request for a public information meeting, at least one meeting must be held.

The applicant published a public notice regarding the application in February 2011, sent letters describing the project to 18 adjacent landowners, and held a public meeting regarding the project on February 15, 2011. A summary of the public comments received during this hearing was provided in the JPA (Tab 3). Several responses from adjacent landowners were also included in the JPA.

Riparian/Adjacent Landowner and Local Government Notification

Tab 5A of the JPA dated September 12, 2011, and revised October 11, 2011, provides information parcels, ownership, and mailing address for the properties on which the project falls. Staff verified the information provided for landowners and concurred that the information provided meets the requirements for obtaining landowner information from the local government tax roles.

Staff obtained information regarding approximately 200 riparian landowners located adjacent to the impact area and within one-half mile downstream of the proposed intake expansion from the Bedford County GIS Coordinator and from the Franklin County Commissioner of Revenue GIS website during August, 2012. Staff notified these landowners by letter dated August 17, 2012. Local governments (Bedford County and Franklin County) were notified by letter dated September 4, 2012.

Notifications of riparian and adjacent landowners and local governments were conducted in accordance with DEQ's Guidance Memorandum No. 11-2005 (Revised Local Government, Riparian Property Owner, Adjacent Property Owner or Resident, and General Public Notification Procedures for VPDES, VPSA and VWP Permit Applications and Draft Permits).

Staff received responses to the notification letter from 12 individuals between August 22, 2012 and October 6, 2012. Staff returned calls and emails to all respondents as soon as possible after receipt. Most of those who responded were concerned about future opportunities for public input. Several commented on their concern regarding the effect of more withdrawals upon already low lake levels. One respondent requested that staff visit the site and their property with them. Staff accepted and included the location into the site visit that was conducted on September 14, 2012.

Staff received 7 letters returned by the U.S. Postal Service that were marked undeliverable.

Public Meetings

- 15. Public Comments received during Comment Period: AND/OR
- 15. Changes in Permit Part I Special Conditions Due to Public Comments:

The public notice was published in XXX on XXX. The public comment period ran from XXX to XXX.

[No public comments were received during the public comment period. Therefore, no changes have been made to the permit conditions.]

XX. State Water Control Board Meeting Summary:

The project was presented before the State Water Control Board (SWCB) on XXX.....

16. **Special Conditions**:

The following conditions were developed to protect instream beneficial uses, to ensure compliance with applicable water quality standards, to prevent significant impairment of state waters or fish and wildlife resources, and to provide for no net loss of wetland acreage and function through compensatory mitigation and success monitoring and reporting.

Section A Authorized Activities

Nos. 1 through 3 address the activities authorized by this permit, including impact types and limits.

Section B Permit Term

Nos. 1 and 2 address the permit term and reissuance process to ensure that all permit conditions are completed.

Section C Standard Project Conditions

- No. 1 addresses the requirement for the minimization of adverse impacts to in-stream and off-stream beneficial uses.
- No. 2 addresses the minimization of adverse effects on navigation.
- No. 3 is a time of year condition recommended by DGIF to minimize potential adverse impacts to fish during spawning season.
- No. 4 ensures that dredging and filling operations during intake expansion will minimize stream bottom disturbances and turbidity.
- No. 5 through 7 provide requirements and limitations on the entry of various materials (including concrete, fill, fuels, lubricants, and untreated stormwater runoff) into state waters.
- No. 8 requires temporary disturbances to surface waters during construction to be avoided and minimized to the maximum extent practicable and the restoration of such temporary disturbances.
- No. 9 prohibits the violation of Water Quality Standards in surface waters as a result of project activities
- Nos. 10 through 15 set forth all reporting requirements concerning construction, monitoring, compensation, and restoration as required by current law and regulations.

Section D Water Withdrawal, Water Intake, Water Conservation, Monitoring and Reporting Conditions

- No. 1 establishes the maximum allowable withdrawal rates to protect instream and offstream beneficial uses.
- Nos. 2 and 3 assign reduced allocations if the waterline extensions are not completed by a designated time period to ensure that the allocations are used for their stated purposes during the time period of the permit. Completion of the Rte 122 South waterline extension is required in order for the permittee to

supply the Bedford City service area with water from SML. Completion of both the Rte 122 South waterline extension and the Rte 460 East waterline extension is required for the permittee to supply the Forest service area with water from SML. The date of December 31, 2016 was chosen as the deadline for completion of waterline extensions because the reversion agreement between the City of Bedford and Bedford County requires that the City and County complete an interconnection of their water systems by December, 2016. If the Rte 460 East extension is not completed by the December, 2016 deadline (Case 2), the allocations are reduced by the amount equal to the Forest service area allocation. If neither waterline extension is completed by the December, 2016 deadline (Case 3), the maximum allowable withdrawals are reduced to levels equal to those in the permit issued on November 30, 2007.

- No. 4 contains the screen size and intake velocity limits which reduce impingement and entrainment of aquatic organisms.
- No. 5 requires the permittee to mark the intake location to avoid a hazard to boats.
- Nos. 6 through 9, 11 and 12 require monitoring and reporting to protect all beneficial uses and to monitor peak water use within the Forest and Bedford City service areas.
- No. 10 requires conservation measures to protect minimum instream flows during declared drought emergencies.
- No. 13 requires specific conservation measures to be taken during Trigger 3 drought conditions that affect the operation of the Smith Mountain Project.

16. General Conditions:

General Conditions are applied to all VWP individual permits, as stated in the VWP Permit Program regulation.

17. General Standard:

This project may result in minimal, temporary impacts to beneficial uses related to the propagation and growth of aquatic life as defined in the General Standard. Provided the permittee abides by the conditions of the permit, no substances shall enter state waters in concentrations, amounts or combinations that would contravene established standards or interfere with beneficial uses or are inimical or harmful to human, animal, plant, or aquatic life.

18. Staff Findings and Recommendations:

- The proposed activity is consistent with the provisions of the Clean Water Act and State Water Control Law, and will protect beneficial uses.
- The proposed permit addresses avoidance and minimization of wetland impacts to the maximum extent practicable.
- The effect of the impact will not cause or contribute to significant impairment of state waters or fish and wildlife resources.
- The proposed permit conditions address no net loss of wetland acreage and function through compensatory mitigation.
- This permit is proposed to prevent unpermitted impacts.
- The draft permit reflects the required consultation with and full consideration of the written recommendations of VMRC, VDH, DCR and DGIF.

Staff recommends VWP Individual Permit Number 96-0707 be modified as proposed.

Approved:	
D:	
Director, Water Division	
Date	



Attachment A

Virginia DEQ Modeling Support Document Request to Modify VWP Permit 96-0707

JPA 11-0359 Bedford County PSA Smith Mountain Lake Project

Background

The Bedford County Public Service Authority (BCPSA) proposes to expand the existing intake structure at the High Point Water Intake site on Smith Mountain Lake (SML) in Bedford County from its currently permitted, maximum daily rate of 2.99 million gallons to a maximum daily rate of 12 million gallons. Smith Mountain Lake is part of the Smith Mountain Hydroelectric Project (Smith Mountain Project). The Smith Mountain Project (SMP) is currently licensed by the Federal Energy Regulatory Commission (FERC) as a hydropower generation facility owned by American Electric Power (dba Appalachian Power Company). A cumulative impact analysis of the potential effects of water withdrawals upon Smith Mountain lake levels and SMP release rates (and therefore downstream flows) was conducted during 2008 as part of the SMP FERC relicensing effort. It was determined during the relicensing process (concluded in 2009) that consumptive withdrawals from the lake totaling 12.5 mgd would not have a significant effect upon operation of the SMP according to the new FERC license. SMP operations in accordance with the current FERC license and VWP permit conditions are therefore protective of downstream beneficial uses.

The modeling conducted during this process demonstrated that lake withdrawals up to 25 mgd did not significantly affect SMP operations during normal and wet conditions, but did have some effect during drought conditions. The available information indicates that the model input was set up so that the daily withdrawal rate was unchanged throughout the simulation period of more than 40 years. The same withdrawal rate was used for each season through both wet and dry (drought) years and therefore no adjustment for seasonal variations in withdrawal rates was made. It is a reasonable assumption that actual lake withdrawal rates would fluctuate between wet, normal and dry conditions and that withdrawal rates during dry periods would be greater than normal. Therefore the SMP allowable total net withdrawal rate of 12.5 mgd represents the total net withdrawal rate during drought conditions and is not an average annual rate.

The total reported and permitted maximum daily withdrawals from the SMP lakes (Smith Mountain and Leesville) are currently less than 12.5 mgd (Table 1). The SMP modeling analysis included only public water supply withdrawals. However, withdrawals from two unpermitted golf course facilities (Waterfront and Mariners Landing) were included in this analysis because much of their withdrawals are used to irrigate and promote consumptive transpiration of turf grass, particularly during dry periods.

Table 1: Recent reported and current permitted and proposed maximum daily withdrawals from SMP lakes (Smith Mountain and Leesville)

Facility	Highest Recent (2007-2011) Max Daily Flow (mgd)	Highest Recent (2007-2011) Max Monthly Flow (MG)	Avg over Highest Recent Max Month (mgd)	Permitted Max Daily Flow (mgd)
BCPSA Lakes- High Point	0.84	14.85	0.48	2.99
Waterfront GC	1.00	8.00	0.26	Not permitted
Mariners Landing	0.24	3.10	0.10	Not permitted
Pittsylvania County-Leesville intake (not yet installed)	0.00	0.00	0.00	0.90
Total:	2.08	25.95	0.84	3.89

Analysis

Staff conducted a simplified analysis of the potential effects of total net consumptive withdrawals upon Smith Mountain Lake elevations during a severe drought period. Assumptions made for the analysis were:

- SML and Leesville Lake act as a single "run of river" impoundment, without pump-back from Leesville Lake to SML
- releases equal inflows
- a four month (120-day) drought period
- the stage-storage data provided by AEP for the SMP provides an acceptably accurate estimate of lake area for each foot of lake elevation

The drop in lake elevation due solely to net withdrawals was estimated for each of a series of starting lake elevations using the following equation:

$X*Y*{3.07ac-ft/million gallons} / {Z}*{12 inches/ft};$ where

- X = the number of days during the drought period
- Y = the total net withdrawal rate in million gallons per day
- Z = the surface area of the lake that corresponds to the starting elevation based upon the stagestorage relationship (acres)

This equation was solved for each one-foot increment in SML pool elevation (and therefore lake surface area) between a maximum of 795 ft NGVD and a minimum of 785 ft NGVD, using the available stage-storage relationship. The calculation was carried out for several withdrawal scenarios. Results are listed in Table 2.

Table 2: Smith Mt Lake elevation drops due to direct lake withdrawals during a 120-day drought period.

Scenario	Total Net Withdrawals (mgd)	Minimum Drop (inches)	Maximum Drop (inches)
1: Highest Reported Recent Max Daily Withdrawals	2.08	0.45	0.54
2: Current Permitted / Reported Max Daily Withdrawals	5.13	1.12	1.33
3: Potential Max Monthly Allocations + Reported Max Daily Withdrawals	8.70	1.90	2.25
4: Total Allowable Net Withdrawals	12.5	2.73	3.23

Description of scenarios:

Scenario 1: Highest Reported Recent Maximum Daily withdrawals from 2007-2011:

- BCPSA: 0.835mgd
- Waterfront golf course (non-permitted): 1.0 mgd
- Mariners Landing (non-permitted): 0.24 mgd
- Pittsylvania Leesville intake: 0.00 mgd
- Total = 2.08 mgd.

<u>Scenario 2</u>: Current Permitted Max Daily withdrawals+ Highest Reported Recent Maximum Daily withdrawals from 2007-2011 for non-permitted facilities:

- BCPSA: 2.99 mgd
- Pittsylvania Leesville intake: 0.90 mgd
- Waterfront golf course (non-permitted): 1.00 mgd
- Mariners Landing (non-permitted): 0.24 mgd
- Total = 5.13 mgd.

<u>Scenario 3</u>: Potential Maximum Monthly allocated withdrawals + Highest Reported Recent Maximum Daily withdrawals from 2007-2011 for non-permitted facilities:

- BCPSA: Max monthly allocation of 200 MG/month / 30.5 days/month = 6.56 mgd
- Pittsylvania Leesville intake: 0.90 mgd
- Waterfront golf course (non-permitted): 1.00 mgd
- Mariners Landing (non-permitted): 0.24 mgd
- Total = 8.70 mgd

Scenario 4: Total SML project withdrawals due to consumptive use incorporated into SML Project Water Management Plan over period of FERC license: 12.5 mgd

The maximum drop of 3.23 inches (0.27 ft) would occur due to a total net withdrawal rate of 12.5 mgd if the 120-day drought period began when the SML lake level was already at an extremely low (and previously unreached) elevation of 785 ft NGVD (see appendix below containing all calculations). If the SML elevation was at full pool (795 ft NGVD) at the beginning of the 120-day drought period, the drop due to a 12.5 mgd total net withdrawal rate would be 2.73 inches (about 0.23 ft).

Based on this analysis, current facilities have the potential to drop lake levels between 0.45 to 0.54 inches (approximately 0.05 ft) over an extended drought period. If the total net withdrawals reached 12.5 mgd over the same drought period, the affect upon lake levels could be between 2.73 and 3.23 inches (approximately 0.25 ft). These results are consistent with those from the sensitivity analysis of total net

withdrawals conducted by AEP during the SMP FERC relicensing process (see graph on page 433 of P-2210 Flood & Drought Management Low Flow Operating Protocol Report).

If the same analysis is conducted assuming a constant net evaporation rate from the lake of 7 inches/month (0.23 inches/day) over the same 120 day period, the following ranges of lake elevation drop due to both evaporation and net withdrawals would be, not surprisingly, significantly greater.

Table 3: Smith Mt Lake elevation drops due to both lake evaporation at a constant rate of 7

inches/month and direct lake withdrawals during a 120-day drought period.

Scenario	Total Net Withdrawals (mgd)	Minimum Drop (inches)	Maximum Drop (inches)
Highest Reported Recent Max Daily Withdrawals	2.08	28.05	28.14
Current Permitted / Reported Max Daily Withdrawals	5.13	28.72	28.93
Potential Max Monthly Allocations + Reported Max Daily Withdrawals	8.70	29.50	29.85
Total Allowable Net Withdrawals	12.5	30.33	30.83

Appendix: Calculations to estimate potential SMP lake elevation drop due to total net consumptive withdrawals and estimated evaporation:

Equation:

 $X*Y*{3.07ac-ft/million gallons} / {Z}*{12 inches/ft};$ where

- X = the number of days during the drought period
- Y = the total net withdrawal rate in million gallons per day
- Z = the surface area of the lake that corresponds to the starting elevation based upon the stagestorage relationship (acres)

Calculations:

A. Drop due only to lake withdrawals:

Beginning Elevation (ft	Beginning Lake Area	Scenario	Scenario	Scenario	Scenario
NGVD)	(ac)	1	2	3	4
795	20260	0.45	1.12	1.90	2.73
794	19803	0.46	1.15	1.94	2.79
793	19514	0.47	1.16	1.97	2.83
792	19229	0.48	1.18	2.00	2.87
791.5	19087	0.48	1.19	2.02	2.90
791	18945	0.49	1.20	2.03	2.92
790	18540	0.50	1.22	2.07	2.98
789	18387	0.50	1.23	2.09	3.01
788	18112	0.51	1.25	2.12	3.05
787	17640	0.52	1.29	2.18	3.13
786	17570	0.52	1.29	2.19	3.15
785	17100	0.54	1.33	2.25	3.23

B. Drop due to both lake evaporation at constant rate of 0.23 inches/day plus lake withdrawals:

Beginning Elevation (ft	Beginning Lake Area	Scenario	Scenario	Scenario	Scenario
NGVD)	(ac)	1	2	3	4
795	20260	28.05	28.72	29.50	30.33
794	19803	28.06	28.75	29.54	30.39
793	19514	28.07	28.76	29.57	30.43
792	19229	28.08	28.78	29.60	30.47
791.5	19087	28.08	28.79	29.62	30.50
791	18945	28.09	28.80	29.63	30.52
790	18540	28.10	28.82	29.67	30.58
789	18387	28.10	28.83	29.69	30.61
788	18112	28.11	28.85	29.72	30.65
787	17640	28.12	28.89	29.78	30.73
786	17570	28.12	28.89	29.79	30.75
785	17100	28.14	28.93	29.85	30.83

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Part II – General Conditions

A. Duty to Comply

The permittee shall comply with all conditions of the VWP permit. Nothing in the VWP permit regulations shall be construed to relieve the permittee of the duty to comply with all applicable federal and state statutes, regulations and prohibitions. Any VWP permit violation is a violation of the law, and is grounds for enforcement action, VWP permit termination, revocation, modification, or denial of an application for a VWP permit extension or reissuance.

B. Duty to Cease or Confine Activity

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the activity for which a VWP permit has been granted in order to maintain compliance with the conditions of the VWP permit.

C. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any impacts in violation of the permit which may have a reasonable likelihood of adversely affecting human health or the environment.

D. VWP Permit Action

- 1. A VWP permit may be modified, revoked and reissued, or terminated as set forth in 9 VAC 25-210 et seq.
- 2. If a permittee files a request for VWP permit modification, revocation, or termination, or files a notification of planned changes, or anticipated noncompliance, the VWP permit terms and conditions shall remain effective until the request is acted upon by the board. This provision shall not be used to extend the expiration date of the effective VWP permit. If the permittee wishes to continue an activity regulated by the VWP permit after the expiration date of the VWP permit, the permittee must apply for and obtain a new VWP permit or comply with the provisions of 9 VAC 25-210-185 (VWP Permit Extension).

VWP permits may be modified, revoked and reissued or terminated upon the request of the permittee or other person at the board's discretion, or upon board initiative to reflect the requirements of any changes in the statutes or regulations, or as a result of VWP permit noncompliance as indicated in the Duty to Comply subsection above, or for other reasons listed in 9 VAC 25-210-180 (Rules for Modification, Revocation and Reissuance, and Termination of VWP permits).

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E. Inspection and Entry

Upon presentation of credentials, any duly authorized agent of the board may, at reasonable times and under reasonable circumstances:

- 1. Enter upon any permittee's property, public or private, and have access to, inspect and copy any records that must be kept as part of the VWP permit conditions;
- 2. Inspect any facilities, operations or practices (including monitoring and control equipment) regulated or required under the VWP permit; and
- 3. Sample or monitor any substance, parameter or activity for the purpose of ensuring compliance with the conditions of the VWP permit or as otherwise authorized by law.

F. Duty to Provide Information

- 1. The permittee shall furnish to the board any information which the board may request to determine whether cause exists for modifying, revoking, reissuing or terminating the VWP permit, or to determine compliance with the VWP permit. The permittee shall also furnish to the board, upon request, copies of records required to be kept by the permittee.
- 2. Plans, specifications, maps, conceptual reports and other relevant information shall be submitted as required by the board prior to commencing construction.

G. Monitoring and Records Requirements

- 1. Monitoring of parameters, other than pollutants, shall be conducted according to approved analytical methods as specified in the VWP permit. Analysis of pollutants will be conducted according to 40 CFR Part 136 (2000), Guidelines Establishing Test Procedures for the Analysis of Pollutants.
- 2. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- 3. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart or electronic recordings for continuous monitoring instrumentation, copies of all reports required by the VWP permit, and records of all data used to complete the application for the VWP permit, for a period of at least three years from the date of the expiration of a granted VWP permit. This period may be extended by request of the board at any time.
- 4. Records of monitoring information shall include:
 - a. The date, exact place and time of sampling or measurements;

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- b. The name of the individuals who performed the sampling or measurements;
- c. The date and time the analyses were performed;
- d. The name of the individuals who performed the analyses;
- e. The analytical techniques or methods supporting the information such as observations, readings, calculations and bench data used;
- f. The results of such analyses; and
- g. Chain of custody documentation.

H. Transferability

This VWP permit may be transferred to a new permittee only by modification to reflect the transfer, by revoking and reissuing the permit, or by automatic transfer. Automatic transfer to a new permittee shall occur if:

- 1. The current permittee notifies the board within 30 days of the proposed transfer of the title to the facility or property;
- 2. The notice to the board includes a written agreement between the existing and proposed permittee containing a specific date of transfer of VWP permit responsibility, coverage and liability to the new permittee, or that the existing permittee will retain such responsibility, coverage, or liability, including liability for compliance with the requirements of any enforcement activities related to the permitted activity; and
- 3. The board does not within the 30-day time period notify the existing permittee and the new permittee of its intent to modify or revoke and reissue the VWP permit.

I. Property rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize injury to private property or any invasion of personal rights or any infringement of federal, state or local law or regulation.

J. Reopener

Each VWP permit shall have a condition allowing the reopening of the VWP permit for the purpose of modifying the conditions of the VWP permit to meet new regulatory standards duly adopted by the board. Cause for reopening VWP permits includes, but is not limited to when the circumstances on which the previous VWP permit was based have materially and substantially changed, or special

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studies conducted by the board or the permittee show material and substantial change, since the time the VWP permit was issued and thereby constitute cause for VWP permit modification or revocation and reissuance.

K. Compliance with State and Federal Law

Compliance with this VWP permit constitutes compliance with the VWP permit requirements of the State Water Control Law. Nothing in this VWP permit shall be construed to preclude the institution of any legal action under or relieve the permittee from any responsibilities, liabilities, or other penalties established pursuant to any other state law or regulation or under the authority preserved by § 510 of the Clean Water Act.

L. Severability

The provisions of this VWP permit are severable.

M. Permit Modification

A VWP permit may be modified, but not revoked and reissued except when the permittee agrees or requests, when any of the following developments occur:

- 1. When additions or alterations have been made to the affected facility or activity which require the application of VWP permit conditions that differ from those of the existing VWP permit or are absent from it;
- 2. When new information becomes available about the operation or activity covered by the VWP permit which was not available at VWP permit issuance and would have justified the application of different VWP permit conditions at the time of VWP permit issuance;
- 3. When a change is made in the promulgated standards or regulations on which the VWP permit was based;
- 4. When it becomes necessary to change final dates in schedules due to circumstances over which the permittee has little or no control such as acts of God, materials shortages, etc. However, in no case may a compliance schedule be modified to extend beyond any applicable statutory deadline of the Act;
- 5. When changes occur which are subject to "reopener clauses" in the VWP permit; or
- 6. When the board determines that minimum instream flow levels resulting from the permittee's withdrawal of water are detrimental to the instream beneficial use and the withdrawal of water should be subject to further net limitations or when an area is declared a Surface Water Management Area pursuant to §§ 62.1-242 through 62.1-253 of the Code of Virginia, during the term of the VWP permit.

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N. Permit Termination

After notice and opportunity for a formal hearing pursuant to Procedural Rule No. 1 (9 VAC 25-230-100) a VWP permit can be terminated for cause. Causes for termination are as follows:

- 1. Noncompliance by the permittee with any condition of the VWP permit;
- 2. The permittee's failure in the application or during the VWP permit issuance process to disclose fully all relevant facts or the permittee's misrepresentation of any relevant facts at any time;
- 3. The permittee's violation of a special or judicial order;
- 4. A determination by the board that the permitted activity endangers human health or the environment and can be regulated to acceptable levels by VWP permit modification or termination;
- 5. A change in any condition that requires either a temporary or permanent reduction or elimination of any activity controlled by the VWP permit; and
- 6. A determination that the permitted activity has ceased and that the compensatory mitigation for unavoidable adverse impacts has been successfully completed.

O. Civil and Criminal Liability

Nothing in this VWP permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability

Nothing in this VWP permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under § 311 of the Clean Water Act or §§ 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Unauthorized Discharge of Pollutants

Except in compliance with this VWP permit, it shall be unlawful for the permittee to:

- 1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances;
- 2. Excavate in a wetland;

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- 3. Otherwise alter the physical, chemical, or biological properties of state waters and make them detrimental to the public health, to animal or aquatic life, to the uses of such waters for domestic or industrial consumption, for recreation, or for other uses;
- 4. On or after October 1, 2001 conduct the following activities in a wetland:
 - a. New activities to cause draining that significantly alters or degrades existing wetland acreage or functions;
 - b. Filling or dumping;
 - c. Permanent flooding or impounding;
 - d. New activities that cause significant alteration or degradation of existing wetland acreage or functions

R. Permit Extension

Any permittee with an effective VWP permit for an activity that is expected to continue after the expiration date of the VWP permit, without any change in the activity authorized by the VWP permit, shall submit written notification requesting an extension. The permittee must file the request prior to the expiration date of the VWP permit. Under no circumstances will the extension be granted for more than 15 years beyond the original effective date of the VWP permit. If the request for extension is denied, the VWP permit will still expire on its original date and, therefore, care should be taken to allow for sufficient time for the board to evaluate the extension request and to process a full VWP permit modification, if required.

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Part I – Special Conditions

A. Authorized Activities

- 1. This permit authorizes the withdrawal of surface water from Smith Mountain Lake in Bedford County.
- 2. This permit authorizes the total permanent impact to 0.69 acres of open water, resulting from the construction of a new pump station. The authorized impact area shall be as depicted on "Figure 2 Plan and Cross Section" dated and received on June 11, 2011.
- 3. Authorized activities shall be conducted as described in the Joint Permit Application (JPA) dated March 11, 2011 and received by DEQ on March 16, 2011, and supplemental materials, revisions and clarifications received through November 14, 2012. The permit authorization and conditions are also based on additional submittals approved by DEQ.

B. Permit Term

- 1. This permit is valid for **fifteen (15) years** from the date of issuance. A new permit may be necessary for the continuance of the authorized activities, including water withdrawals, or any permit requirement that has not been completed, including compensation provisions. The permit term, including any granted extensions, shall not exceed 15 years.
- 2. The permittee shall notify DEQ in writing at least 270 calendar days prior to the expiration of this permit if an extension of the permit term is required.

C. Standard Project Conditions

- 1. The activities authorized by this permit shall be executed in such a manner that any impacts to beneficial uses are minimized. As defined in § 62.1-10(b) of the Code, "beneficial use" means both instream and offstream uses. Instream beneficial uses include, but are not limited to, the protection of fish and wildlife habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values. Offstream beneficial uses include, but are not limited to, domestic (including public water supply), agricultural, electric power generation, commercial, and industrial uses. Public water supply uses for human consumption shall be considered the highest priority.
- 2. No maintenance activity shall cause more than minimal adverse effect on navigation.
- 3. Construction of the new intake structures, or any alterations of the existing intake structure or any appurtenant pilings and supports must take place between June 16 and February 14.
- 4. All excavation, dredging, or filling in surface waters shall be accomplished in a manner that minimizes bottom disturbance and turbidity.

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- 5. Any construction, construction access, and demolition activities associated with this project shall be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by this permit. Wet, excess, or waste concrete shall be prohibited from entering surface waters.
- 6. Any fill material placed in surface waters shall be clean and free of contaminants in toxic concentrations or amounts in accordance with all applicable laws and regulations.
- 7. Measures shall be employed at all times to prevent and contain spills of fuels, lubricants, or other pollutants into surface waters.
- 8. Temporary in-stream construction features such as cofferdams shall be made of non-erodible materials.
- 9. Virginia Water Quality Standards shall not be violated in any surface waters as a result of the project activities.
- 10. All required notifications and submittals shall be submitted to the DEQ office stated below, to the attention of the VWP permit manager, unless directed in writing by DEQ subsequent to the issuance of this permit:

Office of Water Supply P.O. Box 1105 Richmond, Virginia 23218

- 11. All reports required by this permit and other information requested by DEQ shall be signed by the permittee or a person acting in the permittee's behalf, with the authority to bind the permittee. A person is a duly authorized representative only if both criteria below are met. If a representative authorization is no longer valid because of a change in responsibility for the overall operation of the facility, a new authorization shall be immediately submitted to DEQ.
 - a. The authorization is made in writing by the permittee.
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
- 12. All submittals shall contain the following signed certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate,

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and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- 13. Any fish kills or spills of fuels or oils shall be reported to DEQ immediately upon discovery at (540) 562-6814. If DEQ cannot be reached, the spill shall be reported to the Virginia Department of Emergency Management (DEM) at 1-800-468-8892 or the National Response Center (NRC) at 1-800-424-8802.
- 14. DEQ shall be notified in writing within 24 hours or as soon as possible on the next business day when potential environmentally threatening conditions are encountered which require debris removal or involve potentially toxic substances. Measures to remove the obstruction, material, or toxic substance or to change the location of any structure are prohibited until approved by DEQ.
- 15. The permittee shall notify the DEQ of any of any modifications of the intake structure. Any additional impacts, modifications, or changes shall be subject to individual permit review and/or modification of this permit.

D. Water Withdrawal, Water Intake, Water Conservation, Monitoring and Reporting Conditions

- 1. The maximum allowable withdrawal rates from Smith Mountain Lake are as follows (see Schedule A, Case 1 below):
 - a. The maximum daily water withdrawal shall not exceed 8.67 million gallons
 - b. The maximum monthly withdrawal shall not exceed 200 million gallons
 - c. The maximum annual water withdrawal shall not exceed 1603 million gallons
- 2. If the permittee has completed construction of the Route 122 South Waterline (Moneta to Bedford) Extension by December 31, 2016, but has not completed construction of the Route 460 East Waterline (New London to Bedford) Extension by December 31, 2016, then the maximum allowable withdrawal rates in Part I.D.1 will automatically be reduced. For the purposes of this permit, the maximum allowable withdrawal rates will be as listed in Schedule A, Case 2 below.
- 3. If the permittee has not completed construction of the Route 122 South Waterline (Moneta to Bedford) and the Route 460 East Waterline (New London to Bedford) Extensions by December 31, 2016, then the maximum allowable withdrawal rates in Part I.D.1 will automatically be reduced. For the purposes of this permit, the maximum allowable withdrawal rates will be as listed in Schedule A, Case 3 below.

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Schedule A: Maximum Allowable Withdrawal Rates from Smith Mountain Lake.

	Case 1	Case 2	Case 3
Maximum Annual Withdrawal (Million Gallons)	1603	780 ^(a)	730 ^(d)
Maximum Monthly Withdrawal (Million Gallons)	200	98 ^(b)	91.25 ^(e)
Maximum Daily Withdrawal (Million Gallons)	8.67	4.22 ^(c)	2.99 ^(f)

Cases:

- 1. Prior to December 31, 2016 and/or the Route 122 South (Moneta to Bedford) & Route 460 East (New London to Bedford) Waterline Extensions have both been completed.
- 2. After December 31, 2016, if the Route 122 South (Moneta to Bedford) Waterline Extension has been completed, but the Route 460 East (New London to Bedford) Waterline Extension has not been completed.
- 3. After December 31, 2016, if the Route 122 South (Moneta to Bedford) Waterline Extension has not been completed, and the Route 460 East (New London to Bedford) Waterline Extension has not been completed.

Notes:

- a) (Combined Lakes-High Point, WVWA-Westlake and Bedford City service areas average daily demand + 5%) * 366 days/year
- b) (Combined Lakes-High Point, WVWA-Westlake and Bedford City service areas average daily demand + 5%) * 1.5*30.5 days/month
- c) (Combined Lakes-High Point, WVWA-Westlake and Bedford City service areas average daily demand + 5%) * 1.8+10%
- d) Currently permitted maximum annual withdrawal rate
- e) (730 million gallons/366 days/year) * 1.5*30.5 days/month
- f) Currently permitted maximum daily withdrawal rate
- 4. To minimize the impingement and entrainment of fish eggs, larvae and other aquatic life, the maximum through screen intake velocity shall not exceed 0.25 feet per second and the intake screens shall be designed so that the screen openings are not wider than one millimeter.
- 5. The location of the intake structure shall be clearly marked to avoid a hazard to boaters and other recreational users of Smith Mountain Lake

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- 6. The permittee shall meter withdrawals from Smith Mountain Lake on a daily basis using flow totalizer technology to confirm that the withdrawals are in compliance with special conditions of this permit. Such meters shall produce volume determinations within plus or minus 10% of actual flows. A defective meter or other device must be repaired or replaced within 30 days. A defective meter is not grounds for not reporting the withdrawals. During any period when a meter is defective, generally accepted engineering practice shall be used to estimate withdrawals and the period during which the meter was defective must be clearly identified in the report.
- 7. The permittee shall meter the daily flow of water sent from Smith Mountain Lake to the Bedford City service area as soon as the Route 122 South Waterline (Moneta to Bedford) Extension is constructed and operational. For each day that water is sent, the permittee shall monitor and record the date and the volume of water sent that day. The permittee shall make the records available to DEQ within 96 hours of receiving a request for those records
- 8. The permittee shall meter the daily flow of water sent from Smith Mountain Lake to the Forest service area or for use within the Bedford City service area as soon as the Route 460 East Waterline (New London to Bedford) Extension is constructed and operational. For each day that water is sent, the permittee shall monitor and record the date and the volume of water sent that day. The permittee shall make the records available to DEQ within 96 hours of receiving a request for those records
- 9. The permittee shall meter the daily flow of water purchased from the City of Lynchburg for use within the Forest service area or for use within the Bedford City service area. For each day that water is purchased, the permittee shall monitor and record the date and the volume of water purchased that day. The permittee shall make the records available to DEQ within 96 hours of receiving a request for those records.
- 10. When a drought emergency is declared by the Commonwealth of Virginia in the Bedford or Franklin County portion of the Roanoke River Drought Evaluation Region, or by Bedford or Franklin Counties in accordance with either County's Drought Management Ordinance, the permittee shall implement either the provisions directed by the Commonwealth, the declaring County's Drought Management Ordinance or the mandatory conservation measures, as detailed in Attachment A of this permit, whichever is most restrictive. The permittee shall be responsible for determining when drought emergencies are declared. DEQ may require documentation that mandatory conservation measures were implemented during declared drought emergencies.
- 11. Water withdrawal monitoring and reporting activities shall comply with this section, Part I.C, and Part II. All records and information that result from the monitoring and reporting activities required by this permit, including any records of maintenance activities to the withdrawal system, shall be retained for the life of the permit. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or as requested by the State Water Control Board.

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- 12. For each day that water is withdrawn, the permittee shall monitor and record the date and the volume of water withdrawn that day. The permittee shall retain those records in accordance with General Condition G.3. All permittees whose average daily withdrawal during any single month exceeds 10,000 gallons per day, the water withdrawals shall be reported to DEQ by January 31st of the next year, as required under State Water Control Board (SWCB) Water Withdrawal Reporting Regulation (9 VAC 25-200 et seq.). The annual monitoring report shall contain the following information: the permittee's name and address, the sources and locations of water withdrawal, the cumulative volume of water withdrawn each month of the calendar year, the maximum day withdrawal and the month in which it occurred, and the method of withdrawal measurement. For permittees subject to the Virginia Department of Health (VDH) Waterworks Regulations, the annual reports to DEQ may include, as an alternative, the source and location of water withdrawals, the type of use for the water withdrawn, and reference to the reports filed with VDH that contain the monthly withdrawal data and maximum day withdrawal data.
- 13. Whenever a Trigger 3 drought event is declared at Appalachian Power Company's Smith Mountain Project, as defined within the Water Management Plan portion of that Project's Federal Energy Regulatory Commission (FERC) license P-2210, the permittee must initiate conservation measures as listed below:
 - a. Review and be prepared to implement Drought Response and Contingency Plans at the appropriate time.
 - b. Participate, as appropriate, in regional and local coordination for the management of water resources.
 - c. Stay informed on drought conditions and advisories
 - d. Participate, as appropriate, in regional and local coordination for the management of water resources.
 - e. Stay informed on drought conditions and advisories
 - f. Project water needs and available water supply for a ninety-day period from the declaration of the Trigger 3 event
 - g. Assess vulnerability to the drought conditions and adjust water usage to prolong available supply.
 - h. Inspect water delivery system components

It is the permittee's responsibility to coordinate with Appalachian Power Company regarding the initiation and cessation of Trigger 3 drought events.

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Attachment A- Water Conservation

Mandatory Non-essential Water Use Restrictions

The following non-essential water uses will be prohibited during periods of declared drought emergencies. Please note the exceptions that follow each prohibited use. These prohibitions and exceptions will apply to uses from all sources of water and will only be effective when the Governor of Virginia or the Virginia Drought coordinator declares a Drought Emergency. Water use restrictions shall not apply to the agricultural production of food or fiber, the maintenance of livestock including poultry, nor the commercial production of plant materials so long as best management practices are applied to assure the minimum amount of water is utilized.

Unrestricted irrigation of lawns is prohibited.

- Newly sodded and seeded areas may be irrigated to establish cover on bare ground at the minimum rate necessary for no more than a period of 60 days. Irrigation rates may not exceed one inch of applied water in any 7-day period.
- Gardens, bedding plants, trees, shrubs and other landscape materials may be watered with hand held containers, hand held hoses equipped with an automatic shutoff device, sprinklers or other automated watering devices at the minimum rate necessary but in no case more frequently than twice per week. Irrigation should not occur during the heat of the day.
- All allowed lawn irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
- Irrigation systems may be tested after installation, routine maintenance or repair for no more than ten minutes per zone.

Unrestricted irrigation of athletic fields is prohibited.

- Athletic fields may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at a rate not to exceed one inch per application or more than a total of one inch in multiple applications during any ten-day period. All irrigation water must fall on playing surfaces with no outlying areas receiving irrigation water directly from irrigation heads.
- Localized dry areas that show signs of drought stress and wilt (curled leaves, foot-printing, purpling) may be syringed by the application of water for a cumulative time not to exceed fifteen minutes during any twenty four hour period. Syringing may be accomplished with an automated irrigation system or with a hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Athletic fields may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. during necessary overseeding, sprigging or resodding operations at the minimum rate necessary for a period that does not exceed 60 days. Irrigation rates during this restoration period may not exceed one inch of applied water in any seven-day period. Syringing is permitted during signs of drought stress and wilt (curled leaves, foot-printing, purpling).
- All allowed athletic field irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
- Irrigation is prohibited on athletic fields that are not scheduled for use within the next 120-day period.

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- Water may be used for the daily maintenance of pitching mounds, home plate areas and base areas with the use of hand held containers or hand held hoses equipped with an automatic shutoff device at the minimum rate necessary.
- Skinned infield areas may utilize water to control dust and improve playing surface conditions utilizing hand held containers or hand held hoses equipped with an automatic shutoff device at the minimum rate necessary no earlier than two hours prior to official game time.

Washing paved surfaces such as streets, roads, sidewalks, driveways, garages, parking areas, tennis courts, and patios is prohibited.

- Driveways and roadways may be pre-washed in preparation for recoating and sealing.
- Tennis courts composed of clay or similar materials may be wetted by means of a hand-held hose equipped with an automatic shutoff device at the minimum rate necessary for maintenance. Automatic wetting systems may be used between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary.
- Public eating and drinking areas may be washed using the minimum amount of water required to assure sanitation and public health.
- Water may be used at the minimum rate necessary to maintain effective dust control during the construction of highways and roads.

Use of water for washing or cleaning of mobile equipment including automobiles, trucks, trailers and boats is prohibited.

- Mobile equipment may be washed using hand held containers or hand held hoses equipped
 with automatic shutoff devices provided that no mobile equipment is washed more than once
 per calendar month and the minimum amount of water is utilized.
- Construction, emergency or public transportation vehicles may be washed as necessary to preserve the proper functioning and safe operation of the vehicle.
- Mobile equipment may be washed at car washes that utilize reclaimed water as part of the wash process or reduce water consumption by at least 10% when compared to a similar period when water use restrictions were not in effect.
- Automobile dealers may wash cars that are in inventory no more than once per week utilizing
 hand held containers and hoses equipped with automatic shutoff devices, automated equipment
 that utilizes reclaimed water as part of the wash process, or automated equipment where water
 consumption is reduced by at least 10% when compared to a similar period when water use
 restrictions were not in effect.
- Automobile rental agencies may wash cars no more than once per week utilizing hand held containers and hoses equipped with automatic shutoff devices, automated equipment that utilizes reclaimed water as part of the wash process, or automated equipment where water consumption is reduced by at least 10% when compared to a similar period when water use restrictions were not in effect.
- Marine engines may be flushed with water for a period that does not exceed 5 minutes after each use.

Use of water for the operation of ornamental fountains, artificial waterfalls, misting machines, and reflecting pools is prohibited.

• Fountains and other means of aeration necessary to support aquatic life are permitted.

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Use of water to fill and top off outdoor swimming pools is prohibited.

- Newly built or repaired pools may be filled to protect their structural integrity.
- Outdoor pools operated by commercial ventures, community associations, recreation associations, and similar institutions open to the public may be refilled as long as:
 - o Levels are maintained at mid-skimmer depth or lower,
 - o Any visible leaks are immediately repaired,
 - o Backwashing occurs only when necessary to assure proper filter operation,
 - o Deck areas are washed no more than once per calendar month (except where chemical spills or other health hazards occur),
 - All water features (other than slides) that increase losses due to evaporation are eliminated, and
 - O Slides are turned off when the pool is not in operation.
- Swimming pools operated by health care facilities used in relation to patient care and rehabilitation may be filled or topped off.
- Indoor pools may be filled or topped off.
- Residential swimming pools may be filled only to protect structural integrity, public welfare, safety and health and may not be filled to allow the continued operation of such pools.

Water may be served in restaurants, clubs, or eating-places only at the request of customers.