Bedford Regional Water Authority

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Smith Mountain Lake - Water Treatment Plant

Benefits of the Project

1) **Cost of Water:** The Bedford County Public Service Authority (BCPSA) has been working for over five years to negotiate better rates with the City of Lynchburg. Over that period, as the production increased at the Authority's Smith Mountain Lake (SML) Water Treatment Plant (WTP), the cost of production dropped considerably lower than the purchase price from Lynchburg.
   A) The Authority purchases approximately 550 million gallons per year from Lynchburg; the current purchase rate is set at $2.65 per 1000 gallons. This equates to the BCPSA making annual payments to Lynchburg of approximately $1.5million.
   B) The Authority is currently producing water as SML WTP for $2.25 per 1000. Including debt service on a $30million capital project, an engineering report shows the projected cost at $2.43.
   C) Financial evaluations have shown a present value savings of $28million over a 50 years period.
   D) Negotiations for a better rate with Lynchburg have not been successful.

2) **Water Quality / Backup Source:** The consolidation agreement executed in October 2012 between Bedford City, Bedford County, and the BCPSA states that a backup source of water must be in place for the Center service area (in which the City/Town is situated) by December 2016.
   A) If the waterline is brought from SML to Forest, a constant flow of water would pass through the pipes to serve a large customer base in Forest. This would keep the water in the pipe fresh with no need to flush the waterlines.
      1) The SML system has a hydraulic grade line of 1220 feet. Water would flow downhill by gravity from SML to the Town system with a grade line of 1200, and then downhill from the Town to Forest at 1075; this means that there wouldn't be increased pumping costs.
   B) If the waterline is brought from Forest to the Town of Bedford, then approximately 1 million gallons would need to flow through the pipe on a daily basis to keep the water in the pipe fresh.
      1) The Center service area can treat up to 3.0 million gallons per day when water is in the reservoir. The plant operates efficiently, and produces relatively soft water; this soft water is preferable to several industries in the Town. Without large routine customer demand at the end of the pipe from Forest to the Town, significant flushing would be needed. The flushed water would cost approximately $1.0million a year at current Lynchburg rates.
      2) It is uphill from Forest to Bedford and from Bedford to SML; therefore, about $40k of additional operating costs would be incurred in order to pump the water from Lynchburg.

3) **Ability to provide additional service:** There are a number of homes and businesses along the proposed waterline route from SML to Forest that have previously requested water service from the BCPSA. This project would allow for providing this service, and for any potential future needs in the Forest, Central, and Lakes service areas.

4) **Existing Need to Expand at SML:** The existing SML plant is rated at 1.0 million gallons per day. There is a need to expand this existing plant, as it is nearing its capacity during peak periods. If the waterline to Forest is not completed, there needs to be an investment of approximately $8 million in a new water treatment plant and intake structure at Smith Mountain Lake.