

## Pugh, Jeff

---

**From:** Pugh, Jeff  
**Sent:** Tuesday, March 02, 2010 3:18 PM  
**To:** Tom Traciak (E-mail)  
**Cc:** Brad Smith (E-mail); Stump Heather (E-mail); Roger Pitts (E-mail); Sam Brown (E-mail)  
**Subject:** Amboy Township Merry Lake Sewer System

Tom,

Attached are several documents that will help explain the project financials. We are planning to meet with the residents of Merry Lake at 7PM on March 9, 2010 to present our findings to date on the sewer system and to provide our best estimate of the financial impact of the project. Any insight that you can provide would be greatly appreciated.

The Preliminary Engineering Report was completed in June 2009. At that time the sewer pipe had not yet been televised and a reasonable estimate of its condition was developed to project costs. In late December, the results of the sewer televising became available and it was apparent that the early estimates of condition were off by nearly a factor of three. This had a huge impact on the total project cost.

In early January, the Township's bonding attorney, Steve Mann, informed the Township that it did not have the legal authority to charge non-users of the system for any wastewater system costs. The Township had historically been charging the property owners \$40.00 per year to defray the costs related to the sewer system. Eliminating the \$40.00 per non-connected parcel put a large hole in the sewer budget. Attorney Mann followed up his statement with a written opinion in a letter dated February 1, 2010, copy attached.

Attached is a histogram showing project costs. The left-most bar is labeled "Preliminary Cost Projections." These were the costs identified in the Preliminary Engineering Report (PER) in June 2009. The project at that time consisted of Lift Station Improvements (\$390,370), Sewer Rehabilitation (\$191,020) and WWTP Effluent Metering (\$45,890). The total (\$627,280) includes the \$621,000 figure used to seek Rural Development assistance and approximately \$6,000 of local funds for sewer smoke testing.

Rural Development issued a Letter of Conditions to the Township offering \$521,000 in a 3.5% loan and the Township was to use \$100,000 from their sewer fund to make up the balance. Other issues and costs were identified in the PER but the Township wished to defer these cost to keep the amount of loan as low as possible. The additional costs included ½ of the total estimated sewer rehabilitation work (\$191,020) and improvements to the wastewater lagoon treatment system (\$331,570). The total deferred costs (\$522,590) were to be incurred as funds allowed or when the need arose. So, while only \$627,280 was to be incurred on the current project, \$1,149,870 in needed repairs and improvements were identified in the PER.

At the time of the PER, a 91% rate increase was projected. It was believed that 163 users paid \$260 annually for service for a total of \$42,380 and 309 vacant property owners paid \$40 annually to the sewer fund for a total of \$12,360. So the total annual fees collected were estimated at \$54,740. The projected budget for the first full year of operation in the PER showed a need for \$104,300 in revenue. It was assumed that \$4000 would come from connection fees and the rest from the users and property owners. The Township is currently reviewing these assumptions but it appears as though there are only 157 system users and the non-connected property owners will not be charged the \$40 per year moving forward.

With only 157 users, the Township has a good shot at getting a Rural Development grant. The offer of grant money is based on Rural Development's calculation of the ability of a resident of Amboy Township to pay for wastewater service. The median household income in the Township is \$42,250 and Rural Development will contribute grant funds if the annual sewer charge exceeds 1½ % of the median household income. The annual fee threshold would be 1½% of \$42,250 or \$633.75 per user. At 157 users,

the annual budget is approximately \$99,500. Attached is breakdown of what that budget might look like.

The Township could afford a loan payment of \$33,500. Backing into the bond schedule at 3.5% for 40 years, the value of the threshold project is \$815,400. The middle bar in the attached histogram the potential financing scenario graphically. Rural Development could provide up to a 45% grant (\$667,100) to hold the sewer fee at \$633.75. In addition, any money above the \$1,482,500 project could be funded through a grant/loan combination with up to a 45% grant component. We may not be able to capture a 45% grant as Rural Development is receiving many requests for assistance and they must rank their projects as to need.

The right-most bar on the histogram summarizes the current projected costs. Note that the lift station improvements, WWTP effluent metering and additional WWTP improvements were only adjusted up approximately 3%. The major cost increase is in the sewer rehabilitation. It went from \$382,040 to \$926,860, a 143% increase.

The total project cost is now projected to be \$1,718,100. That projected cost is based on very conservative estimates of construction costs with 10% contingencies included. It is also based on the assumption that the problems we will find in the upper 1/2 of the collection system will be as bad as those in the lower half that we have already televised. With the competitive bidding climate and a little luck, the total project cost will likely come in closer to \$1,500,000. If we are going to seek grant funding, I would recommend going in with the conservative number.

Attached is an annual operating budget for the \$1.72 million dollar project. It shows annual assessments of \$106,200 required or \$676.43 per user. The \$1000 line item for connection fees was in the budget already approved by Rural Development so I left it in this new budget.

I received a preliminary budget from the Township a couple of weeks ago showing \$52,000 in assessments and \$0 in connection fees, copy attached. Assuming 157 users the annual sewer fee would need to be \$331.21 ( $\$52,000 / 157$ ) in this budget. Note, that this budget does not include any money for system improvements. There is \$6000 for Repair/Maintenance but this will be spent on just keeping the system running. The Township had a budget meeting early last week so things may have changed since I received this.

In the \$676.43 budget there is \$16,657 going to the Repair, Replacement & Improvement Fund, \$5,631 going toward annual Gravity Sewer System Rehabilitation and, for the first 10 years, \$3,957 going to the Bond Reserve Fund. After 10 years, the Township continues to collect the \$3,957 but it is deposited in the Repair, Replacement & Improvement Fund with the \$16,657. That is, after 10 years, the annual contribution to the Repair, Replacement & Improvement Fund is \$20,614. So, the total of the three items going toward improvements and building fund balances in the \$676.43 budget is \$167.17 per connected user (or \$26,245 annual total).

Originally, the primary need for the project was the age and condition of the lift station equipment. During the course of the investigation leading up to design, it was discovered that the lift stations have overflow pipes that allow for the diversion of high flows to the lake and to the outlet channel. These sanitary sewer overflows (SSO's) may occur during periods of wet weather when groundwater infiltrates into the sewer pipe and manholes. Inflow to the pipe and manholes from surface water sources and footing and roof drains has also been documented. If the lift station overflow pipes are removed, it is likely that overflows will occur at the manholes. The infiltration and inflow must be corrected to address the issue of SSO's in the Merry Lake system.

While no flow data exists, it is apparent from the sewer televising that extensive sewer system repair work will be necessary to minimize the potential for SSO's in the future. With the overflow pipes eliminated, the SSO's will occur at manholes and be more visible to the public and more difficult to deal with operationally. The more work that we are able to do, the better off the Township will be. The financial impact of this project is huge and we are very hopeful that we can obtain a significant grant from Rural Development to hold costs down for the system users.

Thank you for your offer to help the Township with the financial planning for this project.

Jeff



Miller Canfield  
Letter.pdf



Merry Lake Cost  
Chart New.pdf



Budget 633.pdf



Amboy Budget  
100209.pdf



Merry Lake  
Budget.pdf

Jeff Pugh, P.E.

(616) 988-3559 Direct Dial

(616) 460-9685 Mobile

### Williams & Works

(616) 224-1500 Phone      (800) 224-1590 Toll Free      (616) 224-1501 FAX  
549 Ottawa Avenue, NW      Grand Rapids, MI 49503

---