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Project Summary

Peppertree Trunk Sewer | City of Taylors, South Carolina

Project Highlights

- Gravity Sanitary Sewer Replacement
- Near and In-stream Construction Work (aerial stream crossings)
- Roadway Crossings and Associated Traffic Management
- Permitting (SC DEHC, US ACOE, Greenville County)
- Creation of bid documents (drawings, specifications, bid schedule, and contract)
- Permanent Utility Easement and Temporary Construction Easements

Client

ReWa

Description

This project involved preliminary and detailed design, bidding support, and construction oversight for the installation of approximately 4,000-LF of mainly 18" and 16" gravity sewer with three aerial stream crossings (one with a pipe bridge over the Enoree River) and the abandonment of two existing ReWa pump stations, along with associated force main.

Pump Station No. 1 was approximately 40 years old, and at the end of its life cycle. The maintenance costs were increasing due to difficulty of locating replacement parts. Within the near future, it was expected that various pieces of the system would need complete replacement, especially in the lift stations.

Project included installation of sewer along a low-lying area and entailed the design and permitting to be coordinated with Greenville County Land Development Division, Greenville County Floodplain Office, and the

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US Army Corps of Engineers, all of which will have to be addressed for the majority of large capital conveyance projects.

The total disturbed area for this project is 6.35 acres. Best Management Practices will be deployed to control erosion during construction. Reinforced silt fencing and Erosion Eels will be used to control sediment displacement. For areas with extreme slopes, Erosion Eels will be used to direct runoff to a trapezoidal channel that will transport water through the disturbed area with minimal sediment displacement.

Unique Aspects

The project required acquisition of easements on private properties along the route, along with Army Corps of Engineers Wetland permit, FEMA Navigable Waters permit, and a "SC DHEC Permit to Construct" permit for the proposed improvements. Additionally, right-of-way acquisition was required by ReWa.

Lessons Learned

The proposed 18" sanitary sewer eliminated the existing pump station that served 424 homes in Peppertree Subdivision. It can serve another 425 future homes in the remaining service area. Looking to the future is always advisable. However, considering the short term flow that will be conveyed by this trunk sewer extension, problems may arise from too little flow in such a large diameter pipe.

Challenges and Solutions

Challenge #1: First floor plumbing should not have a problem tying into a slightly higher gravity main due to existing topography, but finish basements requiring sanitary service are problematic.

Solution #1: During preliminary design, accurate surveying of home's finish floor is essential, along with confirming sanitary service for basements.

Challenge #2: Since multiple homeowners would be impacted by this project, there was a risk that they would raise concerns to regulatory agencies with respect to the work being undertaken, resulting in work delays, stoppage, or additional costs

Solution #2: During the planning stages Rogers & Callcott proactively communicated with homeowners concerning the project to solicit their input into the project. This engagement ensured that homeowners were informed and understood the work undertaken, allowing for the management of their expectations and satisfaction.

Outcome

The existing pump stations were taken offline and removed from service, thereby aving $25,000 annually on maintenance and operational costs.