



## **Enoree Trunk Sewer | Greenville County, South Carolina**

### **Project Highlights**

- Sanitary Sewer Replacement
- Near and In-stream Construction Work (navigable water crossing)
- Roadway Crossing and Associated Traffic Management
- Trenchless Construction (jack and bore) under Navigable Waterway
- Permitting (SC DEHC, SC DOT, US ACOE)
- Creation of bid documents (drawings, specifications, bid schedule, and contract)

### **Client**

ReWa

### **Description**

Greenville County, SC has experienced tremendous growth with residential development since the late 1990s. The majority of this growth being within the Enoree River Basin. Wastewater from the Upper Enoree Basin, which includes the Taylors area, receives secondary treatment from an aerated lagoon system constructed in the 1970s. In keeping with ReWa's long-term plan to consolidate wastewater flows for treatment at its larger and more technically advanced WWTFs, a large diameter gravity sewer was proposed to handle long-term growth in this basin and to

convey wastewater from an outdated facility to a recently upgraded state-of-the-art facility.

The Enoree Sewer project consisted of constructing approximately 17,000 L.F. of 60" gravity sewer with approximately 1,600 L.F. of smaller gravity sewers for connecting the existing system to the new sewer. This project involved navigable water crossings and the crossing of an interstate highway.

Rogers & Callcott (R&C) was engaged by ReWa (formerly Western Carolina Regional Sewer Authority) to conduct a basin study to size the proposed gravity sewer, identify a preliminary route, and prepare a preliminary construction cost estimate.

Work included field survey, coordination with property owners, highway engineers, and other utilities affected by this project for final sewer routing, preparation of construction drawings and technical specifications for agency permitting, bidding, and construction.

R&C prepared bid documents and coordinated advertising for bids. During the bid phase, R&C responded to bidder questions, issued addenda as required, received bids, reviewed bids, and issued letters recommending ReWa award to the most favorable bidder.

## Unique Aspects

The proposed sanitary trunk sewer's alignment crossed into multiple jurisdictions, including tunneling under a highway, and navigable waterways. These permitting agencies have strict technical

criteria which must be applied when designing the sanitary sewer.

## Lessons Learned

A portion of the trunk sewer was excavated via blasting, which became problematic to local residents. The use of blasting excavation should be avoided on all construction projects due to the unknown consequences of ground and air shock waves.

## Challenges and Solutions

**Challenge:** Project required numerous approvals, including: SCDHEC construction permitting, stormwater permitting, SCDOT encroachment permitting, SC navigable waters, floodplain development, and coordination of wetlands permitting.

**Solution:** By proactively engaging approving agencies early in the design phase, along with open dialog during the review process, permits were approved in a timely manner, without project delay.

## Outcome

The trunk sewer was constructed and is actively in use by ReWa, which has allowed the development of additional areas which previously did not have sewer capacity.

