



Ottaray Phase II Sewer, Drainage and Road Improvements | City of Union, SC

Project Highlights

- Roadway Improvements (pavement, curbs & gutters)
- Sanitary Sewer Replacement
- Storm Sewer Installation
- Limited Roadway Access and Associated Traffic Management
- Creation of bid documents (drawings, specifications, bid schedule and contract)
- Stakeholder Engagement
- Community Development Block Grant (CDBG) Funding
- SC Department of Health and Environmental Control (DHEC) Permitting

Client

City of Union

Description

This project involved preliminary and detailed design, bidding support and construction oversight for this streetscape project that focused on installation of curb, gutter, stormwater drainage, asphalt replacement and sewer improvements. This streetscape project improved 1,404 linear feet of road spread over 2 blocks of Ottaray Mill Village.

The existing streets were upgraded to modern standards. In addition to roadway improvements, a storm sewer system was incorporated into the street design, consisting of pipes, catch basins, and manholes, which channeled into a nearby existing storm system. Sanitary sewer system improvements were made to reduce inflow and infiltration into the system. The new lines were installed within the roads to facilitate operation and maintenance. Work consisted of installation of 1,410 linear feet of 8-inch gravity sewer eastward to the existing sewer line.

Roadway was expanded to accommodate two way traffic. Additionally, portions of driveways within the right-of-way were replaced. Existing municipal covers (manholes, valve boxes and grates) were adjusted to new roadway grade.

Permits were obtained, including assisting with right-of way encroachment permit which required a traffic control plan.

Construction services involved: shop drawing review, construction observation, monthly contractor pay request review, final inspections with regulatory agencies and final certificates for agency approval to operate and contract closure.

Unique Aspects

The street cross section at certain locations was difficult to achieve due to property constraints or obstacles (trees, poles, etc.). In having the proper road geometry and cross section, a comprehensive topographical survey with utilities and obstacles, including driveways types is critical. This allows a site walk with the project team to discuss potential issues and possible solutions before design commences.

Lessons Learned

Community outreach programs that inform the neighborhood about the project is vital to obtaining their support. Most residents and businesses which will be impacted by street reconstructing realize the benefits of an improved road surface and upgraded drainage. During design, we should be mindful of their discomfort and listen to their concerns. People want to know their input is valued and an Open House is a good forum to solicit community feedback. The importance of involving the community in the project is key to obtaining their support.

Challenges and Solutions

Challenge #1: The proposed storm sewer lacked an outlet, as the existing streets were not serviced with a drainage system.

Solution #1: The City acquired a permanent utility easement from the end of 2nd Street to a nearby gravity sewer. This allowed connection of the proposed sanitary system to an existing one that was able to handle the increased capacity.

Challenge #2: Matching existing elevations at the right-of-way line proved challenging for some properties. Due to the lack of distance from the proposed road surface, it was difficult to tie restored driveways into the existing elevations where they matched.

Solution #2: Grading for properties, especially driveways, was an iterative process, which sometimes required multiple scenarios. This allowed homeowners to review and understand the proposed changes to their driveway or property. Using a minimum slope of 1% and maximum slope of 5% for new driveways allowed us to tie into the elevation where the existing and proposed asphalt met.

Outcome

The roadway improvements were completed and raised the neighborhood's profile. The curb appeal has improved the area, thereby increasing home values. Having a property drainage system reduces the likelihood of localized flooding, which also increases property values.