

Lift Station 87 in St. Petersburg Earns DBIA National Award of Merit

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As the City of St. Petersburg faces resiliency and sustainability challenges like many Florida coastal communities, the City continues to invest in new infrastructure to move wastewater more efficiently through the system, minimize the potential for wet weather overflows and protect the environment.

Such is the case with the Lift Station 87 Wet Weather Flow Transfer project, which consisted of the design and construction of a new 3.5 millions of gallons per day (MGD) lift station, 3 miles of 16-inch force main, modifications to an existing pump station to connect the new force main and replacement of aging utility access holes and 460 feet of degrading sanitary sewer pipe.

This project addressed a Florida Department of Environmental Protection (FDEP) provision to construct a system allowing city personnel to transfer sanitary sewer flows during heavy rain events between regional sanitary collection basins, balancing wet weather flows between the Southwest and Northwest Sanitary Service areas.

The lift station is housed in a 12-foot-tall acoustical enclosure that features a mural reflective of the community, created by local artist Jabari Reed-Diop in partnership with the city, the St. Pete Arts Alliance and the Childs Park Neighborhood Association. Residents also assisted the project team with the design and assembly of the surrounding landscaping, further inspiring the partnership between the project team, the city and the local community.

EMBRACING PROGRESSIVE DESIGN-BUILD EFFICIENCIES

The City of St. Petersburg chose progressive design-build (PDB) as the project delivery method to meet a demanding 13-month schedule to ensure the project was completed prior to the 2022 wet weather flow season. PDB allowed the project team to procure long lead materials and

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equipment at 30-percent design, accelerate the design phase to establish a guaranteed maximum price (GMP) at 60-percent design, and utilize multiple crews and shifts to accelerate construction.

The Wade-Trim/Archer Western team was able to expand the sanitary sewer replacements beyond the original scope while remaining within the budget. During the early design phase, the owner identified several sections of existing sanitary sewer, previously slip-lined and failed, to be replaced. The project team evaluated, budgeted and scheduled this work to be completed concurrently with the wet weather flow transfer facility while staying within the original budget.

Hydraulic modeling was used to optimize the location of the lift station and to size the pumps and pipeline. Additionally, the force main route allowed for horizontal directional drilling (HDD) installation, which saved time, minimized safety issues, and mitigated impacts to public roads, bike lanes, and bus routes.

Use of the Institute for Sustainable Infrastructure (ISI) Envision framework also led to the project's heightened community involvement and sustainable design. The PDB team worked closely with the City's Building Department, FDEP, Pinellas County, and the Florida Department of Transportation, and hosted workshops for residents and community groups. Input was gathered from



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Left: The Lift Station 87 Wet Weather Flow Transfer project consisted of the design and construction of a new 3.5 millions of gallons per day (MGD) lift station, 3 miles of 16-inch force main, modifications to an existing pump station to connect the new force main and replacement of aging utility access holes and 460 feet of degrading sanitary sewer pipe. Photo source: Wade Trim.

representatives of local businesses, churches, and schools along the project limits.

Wade-Trim's final design and Archer Western's construction addressed flexibility and capacity challenges, as well as odor and noise concerns. They reduced impacts to the traveling public and supported the community's desire to improve the neighborhood appearance with a custom-designed mural and landscaping.

In a first for the city and honoring its commitment to the community, the project anticipates achieving the sustainability and resiliency goal of Envision certification.

DESIGN-BUILD TEAM

- Client/Owner:** City of St. Petersburg
- Design-Build Firm:** Archer Western Construction, LLC
- Engineer:** Wade Trim
- Project Cost:** \$11.5 Million
- Construction Duration:** 7 Months

