TOWN OF SURFSIDE UTILITY UPGRADE PROJECT

Project Completion

Calvin, Giordano & Associates, Inc.
EXCEPTIONAL SOLUTIONS
Project Overview

Storm Water System
Storm Water Improvements

Itemized Improvements

- Construct three (3) new drainage pump stations including 6 new control structures
  - Decrease pollutants entering Bay by 90%
  - Increase level of service
- Install 5,500 LF of drainage piping & structures
  - Increase level of service and interconnect backbone with wells
- Replace 38,000 LF of curb & gutter (7.2 miles)
  - Savings of $170,000 over standard pricing
  - Adjust elevations to reduce ponding
- Mill & Resurface 167,000 SY of asphalt
  - Adjust elevations to reduce ponding
  - Increase aesthetic appearance
- Install 7 new flap gates
  - Reduce impacts of high tide on drainage system
- Install 4 manatee grates
  - Reduce potential for wildlife entrapment
- Total Drainage related Tax Savings Purchases
  - $297,400

Town of Surfside
Storm Water Improvements

Drainage Images
Potable Water System Improvements

**Itemized Improvements**

- **Install 37,050 LF of new water main (7 miles)**
  - Increased flow
  - Replaced tuberculated/calcified lines
  - Removed existing lead joints
- **Install 47 Fire Hydrants**
  - Increase fire department access points
  - Increase Towns ability to maintain/flush the water system

- **Installed 1,278 new water services**
  - Replaced tuberculated/calcified services
  - Increased existing undersized services
  - Allowed for installation of irrigation meters
- **Installed 1,603 meters with wireless transmitters**
  - Calibrated meters for accurate readings
  - Relocated to front of yard per code
  - Wireless meter readings-reduced labor costs
  - Early warning leak detection for residents
- **Total water system related Tax Savings Purchases**
  - $920,000
Potable Water System Improvements

Potable Water System Images
Gravity Sanitary Sewer Improvements

Itemized Improvements

- **Clean and Inspect 52,000 LF of existing Sewer Main**
  - Work performed to ensure Town in compliance with Consent Decree
  - Identify areas of Inflow/Infiltration (I/I)
  - Identify areas of utility conflicts
  - Allow determination of rehab (line vs. replace)
- **Install CIP Liner in 46,600 LF of existing Sewer Main**
  - Reduced cost vs. replacement-Reduction of $3.2 Million in project costs
  - Installed from man holes, greatly reducing impact to residents
- **Replace 5,400 LF of existing Sewer Main**
  - Only performed in areas too damaged to line
- **CIP line or replace 1,453 sewer laterals (services)**
  - Addressed leaking services
  - Removed blockages in existing services
- **Install 1,453 locking lid cleanouts**
  - Tamper resistant/lower maintenance
  - Reduce I/I via watertight seal
- **Replace sanitary sewer bridge crossing to Biscaya**
  - Existing joints were severely misaligned
- **Total value held from contractor due to missed milestones**
  - $25,000
Gravity Sanitary Sewer Improvements

Gravity Sanitary System Images

1. Camera blocked, inspection abandoned.
2. Infiltration running at joint at 04 o'clock.
3. Additional image showing the system.
Pumped Sanitary Sewer Improvements

Itemized Improvements

- **Complete rehabilitation of existing pump stations**
  - Constructed above 100 year flood plain
  - Work performed to ensure Town in compliance with Consent Decree
  - Installation of 4 new pumps (2 per station)
  - Installation of 2 new backup generators
    - In case of power loss
  - Installation of new SCADA and Mission 800 intelligent communications systems
    - Reporting of pump run times
    - Auto dialer in event of high water alarms
    - Reduce Sanitary Sewer Overflows (SSO)

- **Installation of 2 new force mains**
  - FM run from both Surfside pump stations to newly installed FM on Collins Ave.
  - FM lines are valved to allow use of Byron Ave FM in case of emergency
What did the Project Accomplish?

Sanitary Sewer System

Reduced Inflow/Infiltration = Cost Savings

- Lower Town Sewer Charges from Miami Beach and MD County
- Reduced the load placed on the sewer treatment facility
- Reduced electrical costs by reducing sewage volume
- Reduced the amount of treated sewage being disposed of in the deep injection wells and ocean outfalls.
- Reduced sewage leaking into the groundwater/Biscayne Bay
- Comply with Consent Decree / Consent Agreement requirements
- 30 to 50 year service expectancy
What did the Project Accomplish?

Sanitary Sewer System

Pump Station Reconstruction

• Lower Town electric charges from Town pump stations by installing more efficient pumps
• Reduce maintenance costs by installing new pumps and generators
• Adding green park space to the Town by installing Town Dog Park
• Increased level of service and improved reliability
• Comply with Consent Decree /Consent Agreement requirements
• Emergency preparedness with stand-by generator
• 30 year life expectancy
What did the Project Help Avoid?

**Water & Sewer Breaks**
- Property Damage
- Loss of Service
- Environmental Impacts
- Road Closures
- Expensive Repairs
What did the Project Help Avoid?

Potential Fines and Fees

• We are working in compliance with the consent agreement

• To avoid fines and fees which can be levied by the consent decree
What did the Project Help Avoid?

**Wireless Water Meters**
- Alert Town of potential leaks within an hour thus reducing water bills.
- Remove the need for a meter reader-reducing costs.
- Meters located in front of yard to comply with MD County Codes
What did the Project Help Avoid?

Sanitary Sewer Overflows
- Environmental Impacts
- Recreational Area Closures
- Fines and Fees
- Health Risks
Current Status

- **Potable Water System (new mains, services, meters, valves)**
  - Completed and as-builts received

- **Roadway Milling and Resurfacing & Permanent Striping**
  - Completed (except portion held up by FDOT)
  - 88th St traffic median installed

- **Pumped Sanitary Sewer System**
  - Houses demolished – new wet and dry wells installed
  - Pumps & generator complete
  - Dog Park installed (93rd St only)
  - Pending final inspection for controls and data collector
  - Pending final as-builts
  - Pending final punch list

- **Gravity Sanitary Sewer System**
  - All point repairs completed
  - All main liners installed
  - All service laterals replaced or lined (pending grouting)
  - All new cleanouts installed

- **Gravity Drainage**
  - Completed and as-builts received

- **Pumped Drainage**
  - Pumps installed and tested
  - Pending final inspection of controls and data collectors
  - Pending final punch list
Current Status

- **Drainage Systems**
  - FDOT System was not functioning from April – June 26th
  - FDOT System was down for June 7 heavy rainfall
  - All Coastal Cities flooded – Surfside streets were passable hours before other municipalities.

- **Recent Rain Activity/Flooding**
  - April Average Monthly Rainfall - 3.14”
  - April 2013 Monthly Rainfall - 5.14”
  - Increase of 2” over average
  - Of the 5.14” that fell in the month, 2.33” fell in only 12 hours
  - High intensity rainfall coupled with high spring tides
Grant Money Awarded

- **FDEP Grants**
  - SO374 - $873,500
  - LP6787 - $125,000
  - LP8979 - $100,000

- **Building Better Communities Bond (BBC)**
  - $859,000

- **State Revolving Fund (SRF)**
  - $9,312,881

- **Grand Total** = $11,270,381
Warranties & Guarantees

Contractors Responsibility/ Obligations

• 100% Performance Bond

• 100% Payment Bond

• 1 Year Warranty Bond

• 1 year after final completion, Contractor must perform warranty video of the gravity sewer system and make any required warranty corrections