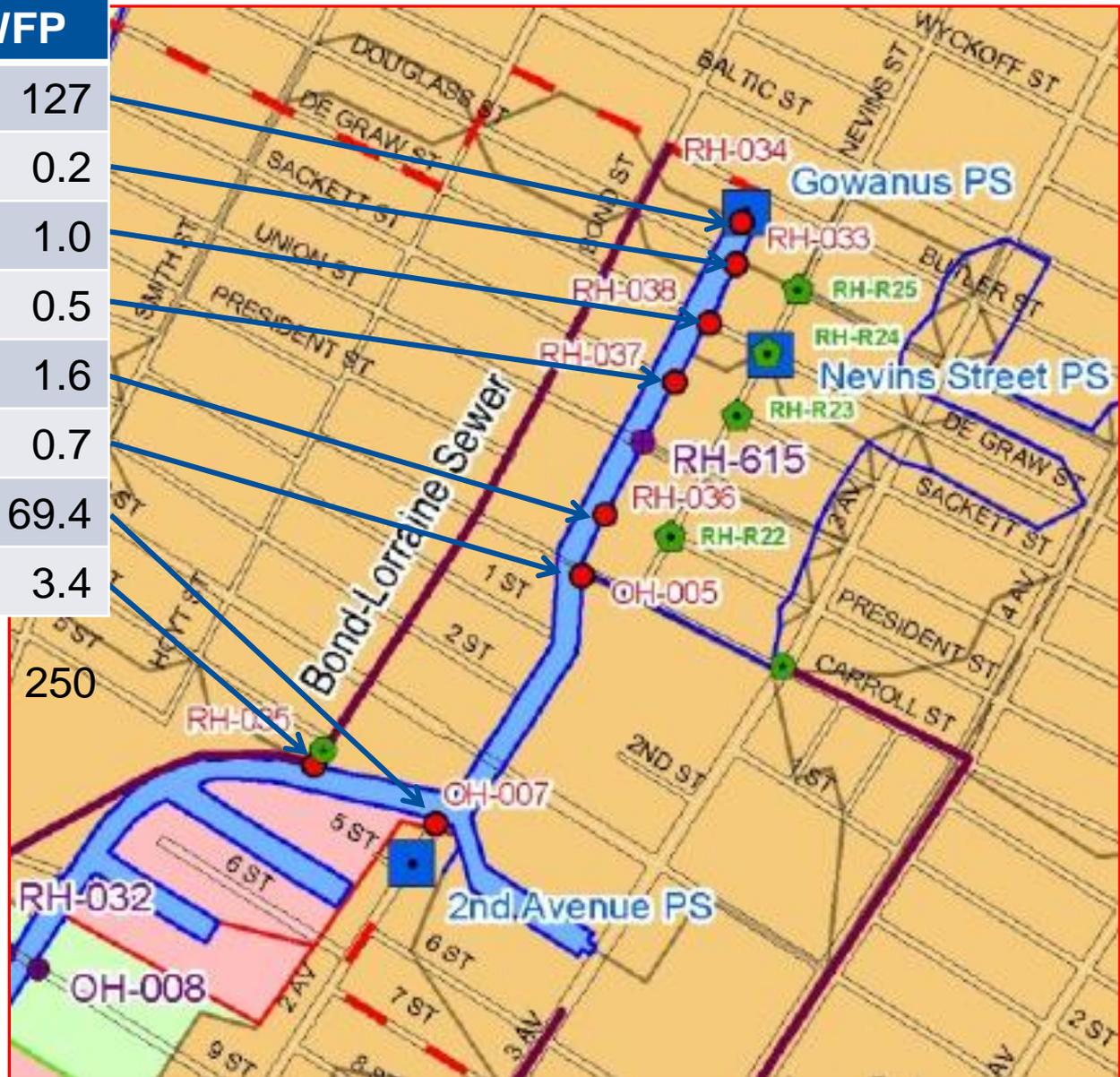


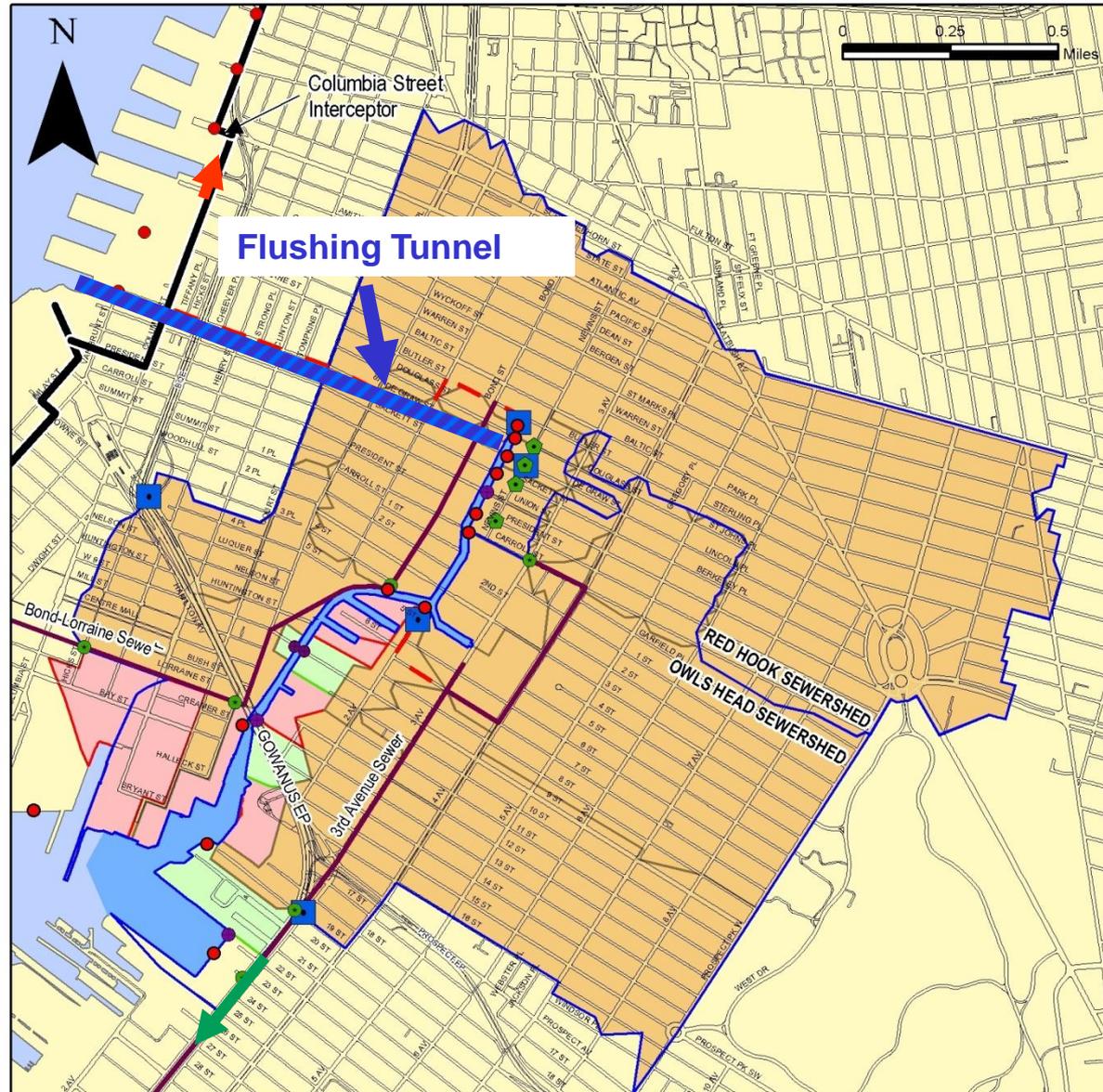
CSO Discharges to Gowanus Canal (MG)

Outfall	Baseline	WWFP
RH-034	121	127
RH-033	0.2	0.2
RH-038	0.9	1.0
RH-037	0.5	0.5
RH-036	1.6	1.6
OH-005	0.7	0.7
OH-007	69.4	69.4
RH-035	111.3	3.4
Total	377	250



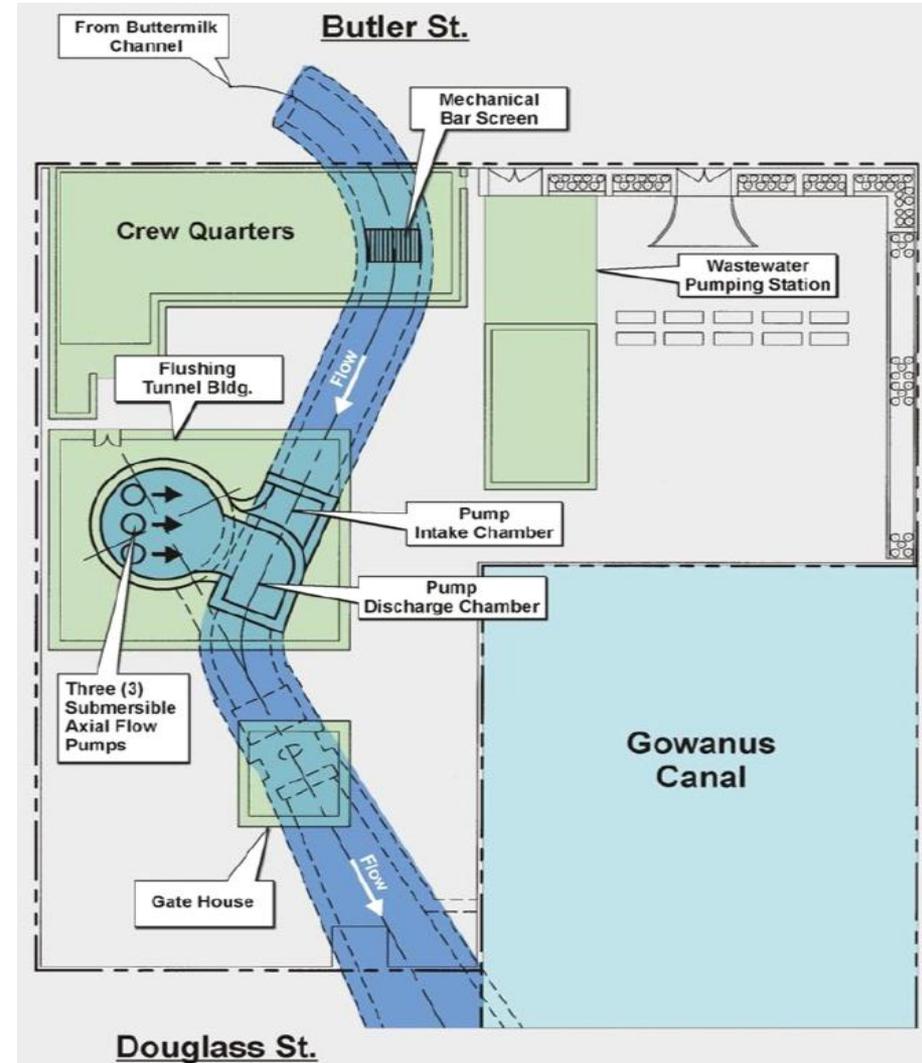
Flushing Tunnel

- Flushing Tunnel (FT)
Dimensions and Elevations
 - 12-ft diameter pipe
 - 6,070 linear feet
 - Constant Invert Elevation = -19.34
- FT will provide 6,500 lbs/day of oxygen via upgraded 215 mgd Flushing Tunnel Pumping Station
- FT Operation will Result in Compliance with Current State Water Quality Standards
- \$60M upgrade of FT underway

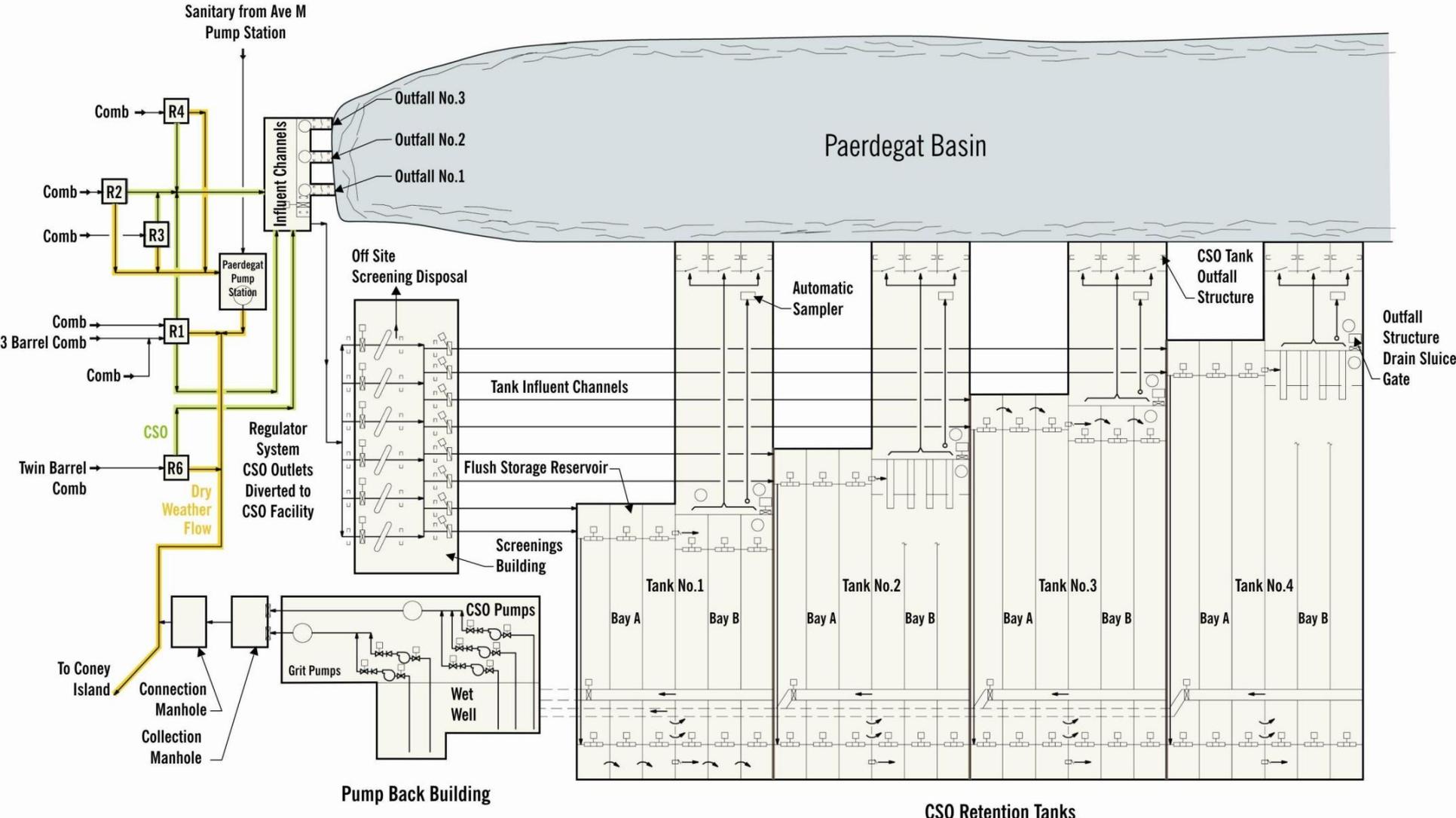


CSO Storage Concept

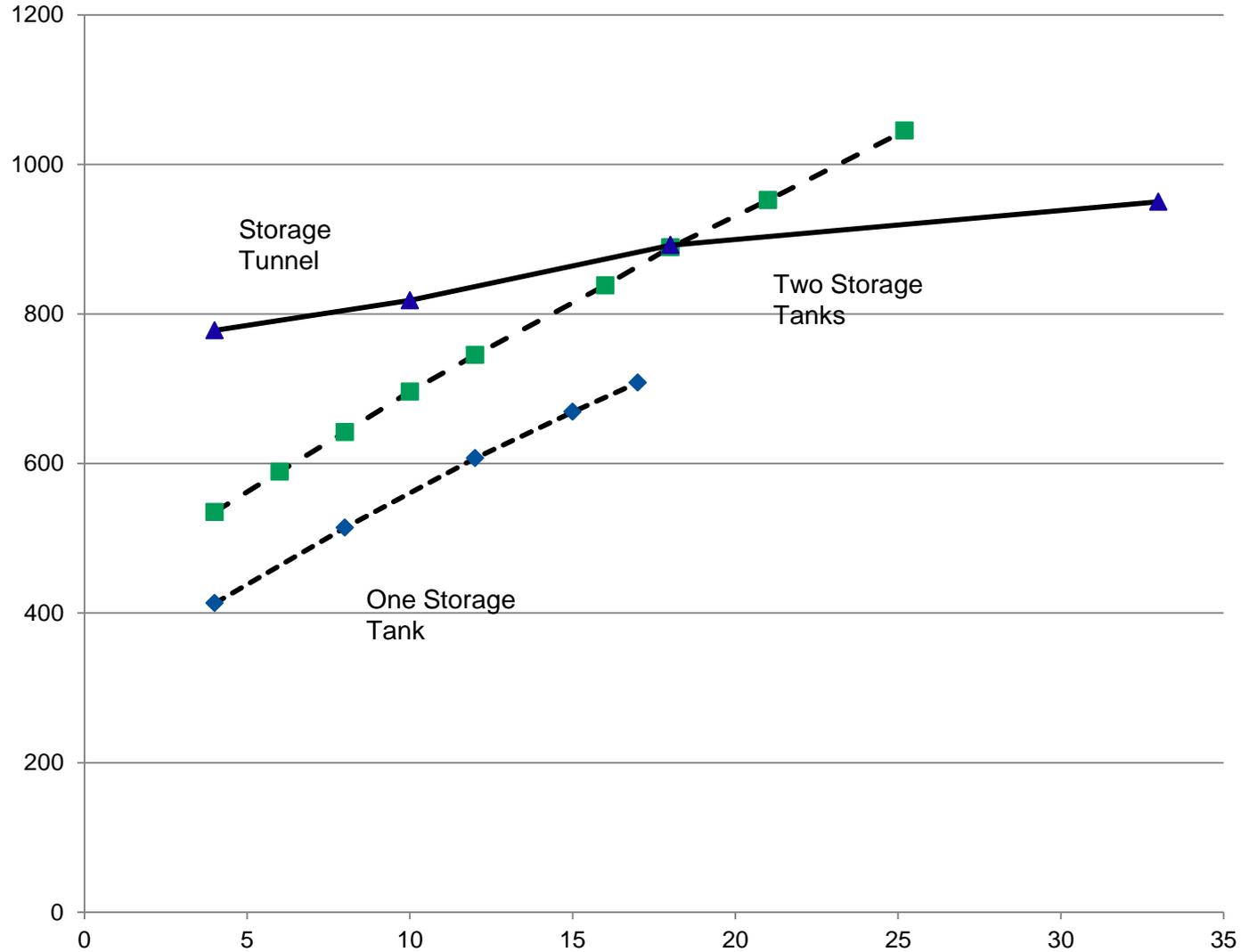
- Flushing Tunnel (FT) Storage : 5.1 MG
 - 60 MG/yr reduction of CSOs
 - 50 % reduction of CSOs from RH-034
 - 25% reduction of CSOs to Gowanus Canal
- **Engineering & Construction Issues:**
 - Must bulkhead both ends of tunnel
 - No potential for dual use
 - No slope to drain and scour stored CSO
 - Invert of GPS CSO 6" below Tunnel Crown (may need to pump into Tunnel)
 - Major Ventilation required for odor control, confined space access, and air release required
 - Lack of available space at GPS site
 - Up to two new pumps stations needed (dewatering and tunnel fill)
- **Water Quality/Regulatory Issues:**
 - Reduction in WQ compliance
 - More Difficult to Upgrade WQ Classifications w/o Flushing Tunnel
 - Operation of FT part of Approved DEC WWFP
- **Cost Issues:**
 - \$60 M in sunk costs becomes obsolete



Paerdegat Basin PFD

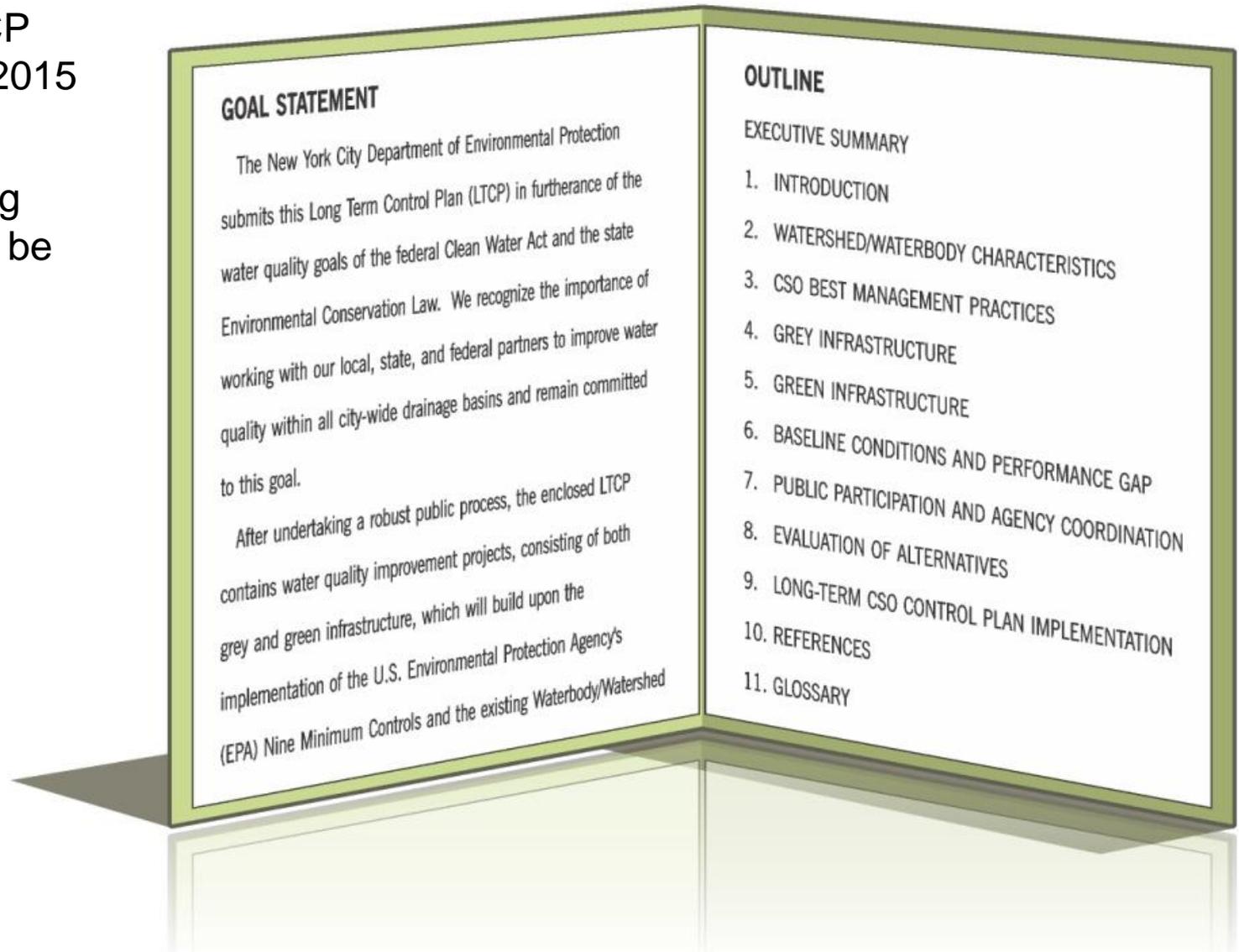


Other Alternatives Considered (Conceptual)



- Additional Detailed Technical Analyses Required for Engineering Alternatives :
 - ❖ Siting
 - ❖ Geotechnical
 - ❖ Hydraulics
 - ❖ Costs
 - ❖ Water Quality Compliance
 - ❖ Community Impacts

- Gowanus Canal LTCP due June 2015
- Additional engineering controls to be evaluated



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Ongoing Construction for CSO Abatement
- Pumping Station/Force Main Upgrade
- Flushing Tunnel Activation

Registration of Consultant Contracts
1) CSO LTCP Analyses – initiate baseline modeling; engineering alternatives analysis
2) Superfund Analyses – (see below)

Identification of Applicable Solids Control for Superfund Technologies for Pilot Program
- Identify specific engineering expertise to develop pilots

Initiate Sampling Program for Superfund Contaminants of Concern

Pursue DEC-Facilitated Roundtable with DEC/EPA Superfund/Water Groups to Agree Upon Integrated Planning Approach

Establish Regulatory Framework ; Sampling Approach; and Modeling Baseline as Foundation for Integrated Planning Effort

2012

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