



Implementation Program

2016 FSAWWA Conference

Tuesday, November 29, 2016

Session 4A Alternative Water Supply

BRAD BAIRD | CITY OF TAMPA

CHUCK WEBER | CITY OF TAMPA

SEUNG PARK | CITY OF TAMPA

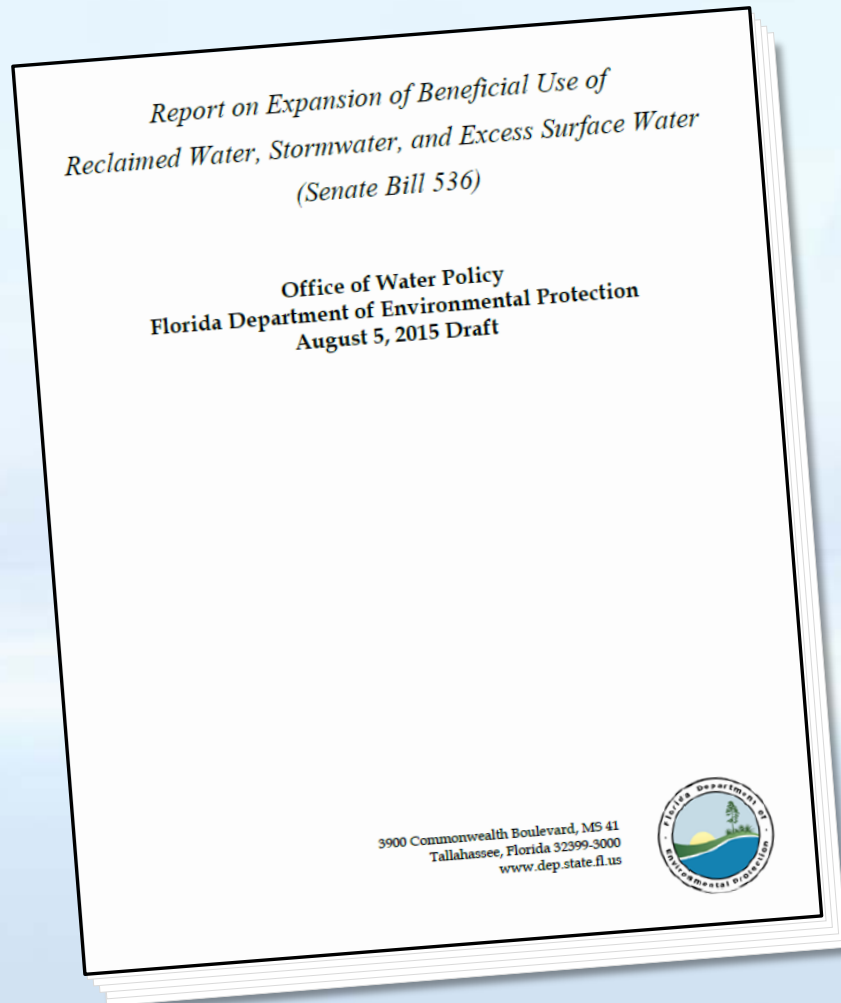
DAVID AMMERMAN | CAROLLO ENGINEERS



Meet the Team

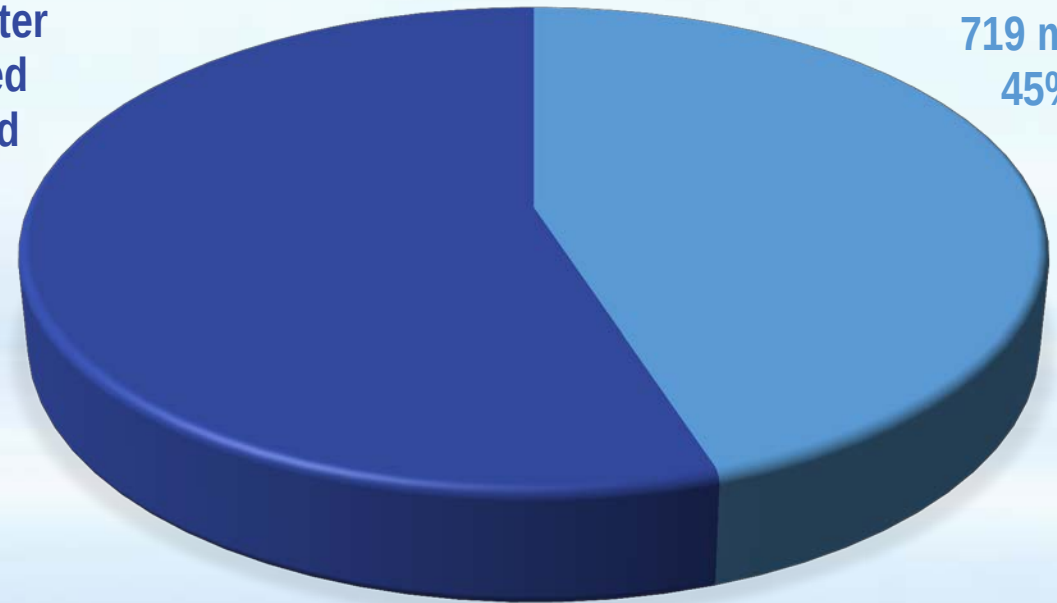


The State of Florida has made optimization of alternative water supplies a *priority*.



Wastewater
Disposed
749 mgd
55%

Total
Reused
719 mgd
45%



TOTAL FLOW 1,468 mgd

Howard F. Curren Advanced Wastewater Treatment Plant

- 96 mgd ADF capacity, 4th Largest Plant in Florida
- Tertiary Treatment Plant (5:5:3:1)
- Current Flows +/- 62 mgd
- Discharges almost 50 mgd to Tampa Bay

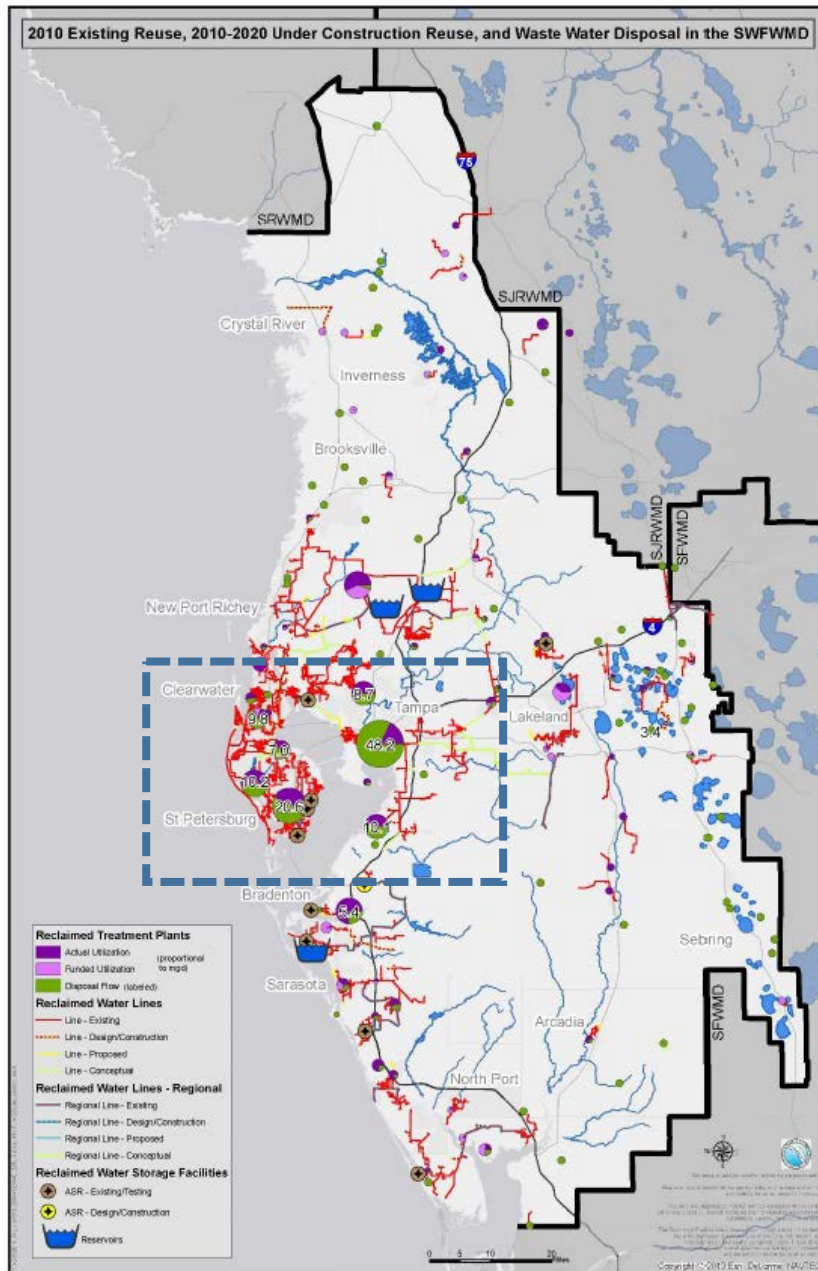
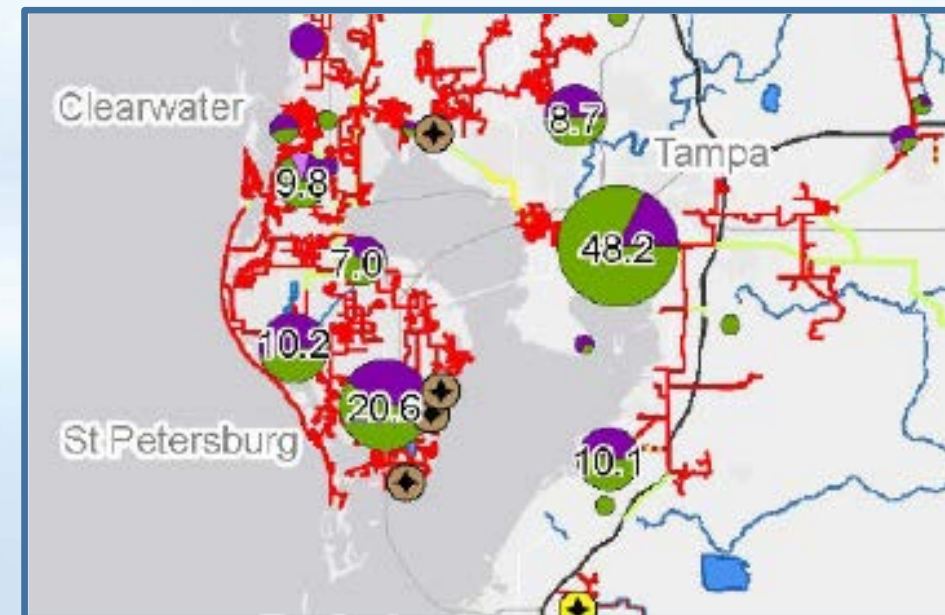


Figure 6.5.3: 2010 Existing Reuse, 2010-2020 under Construction Reuse and Wastewater Disposal in the SWFWMD



Overview

Tampa's Reclaimed Water System

Timeline

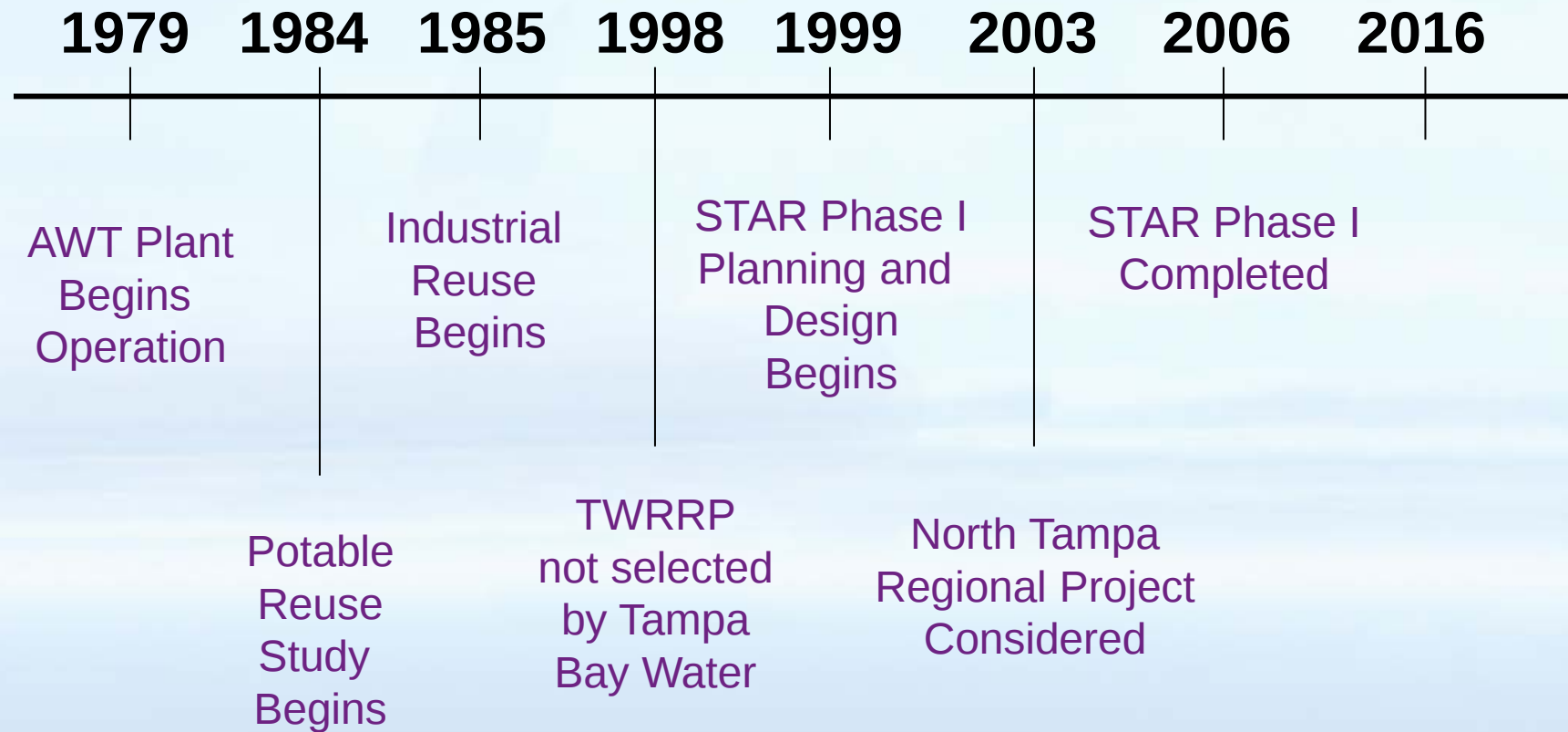
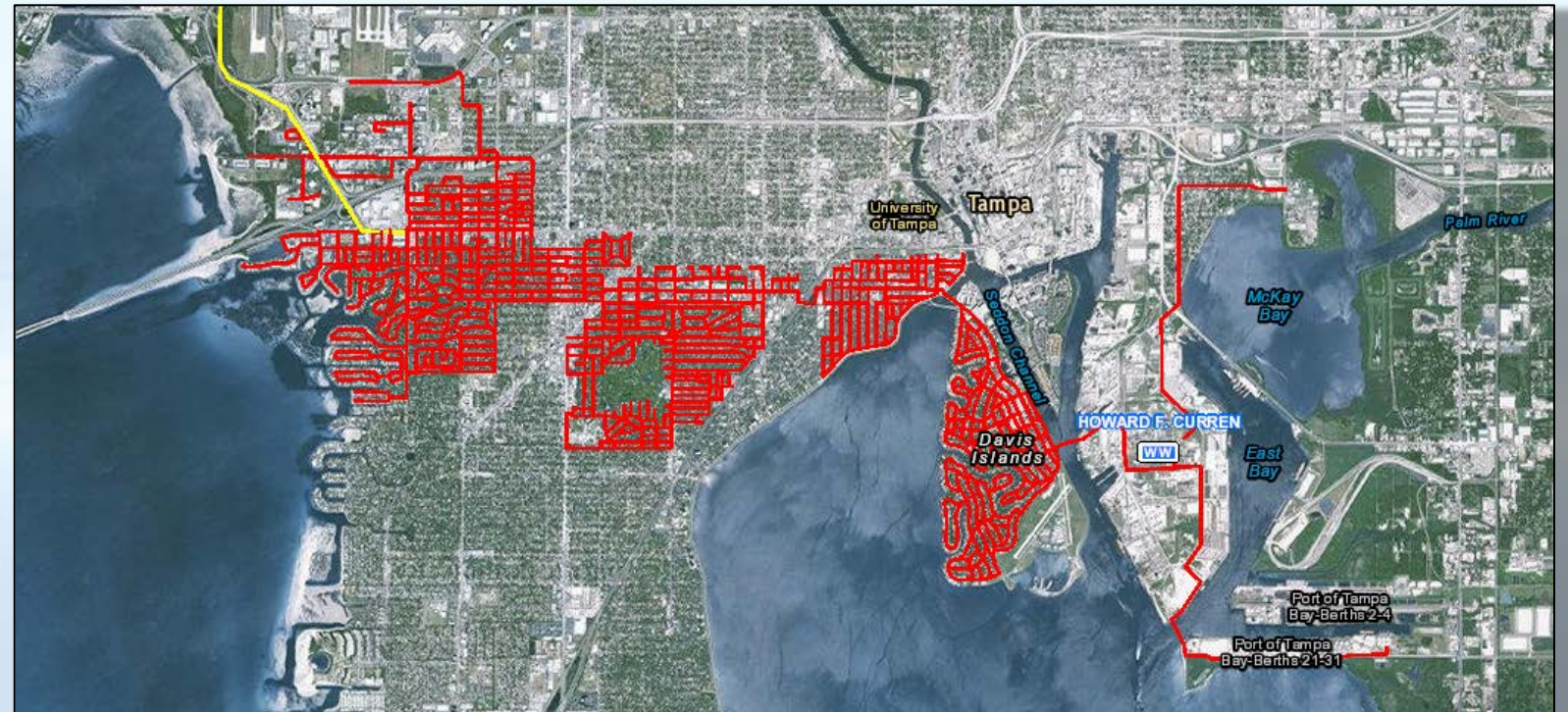
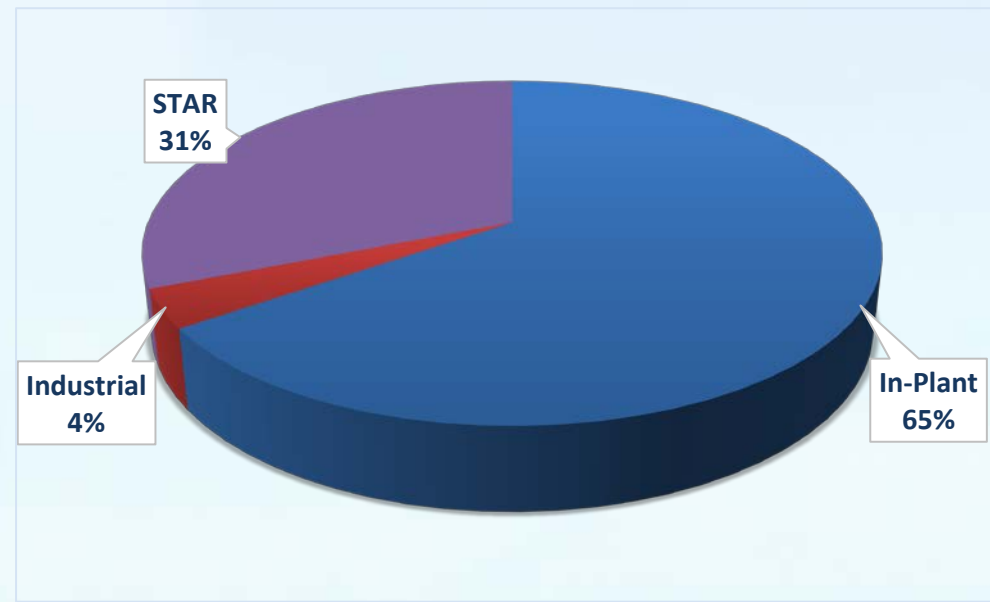
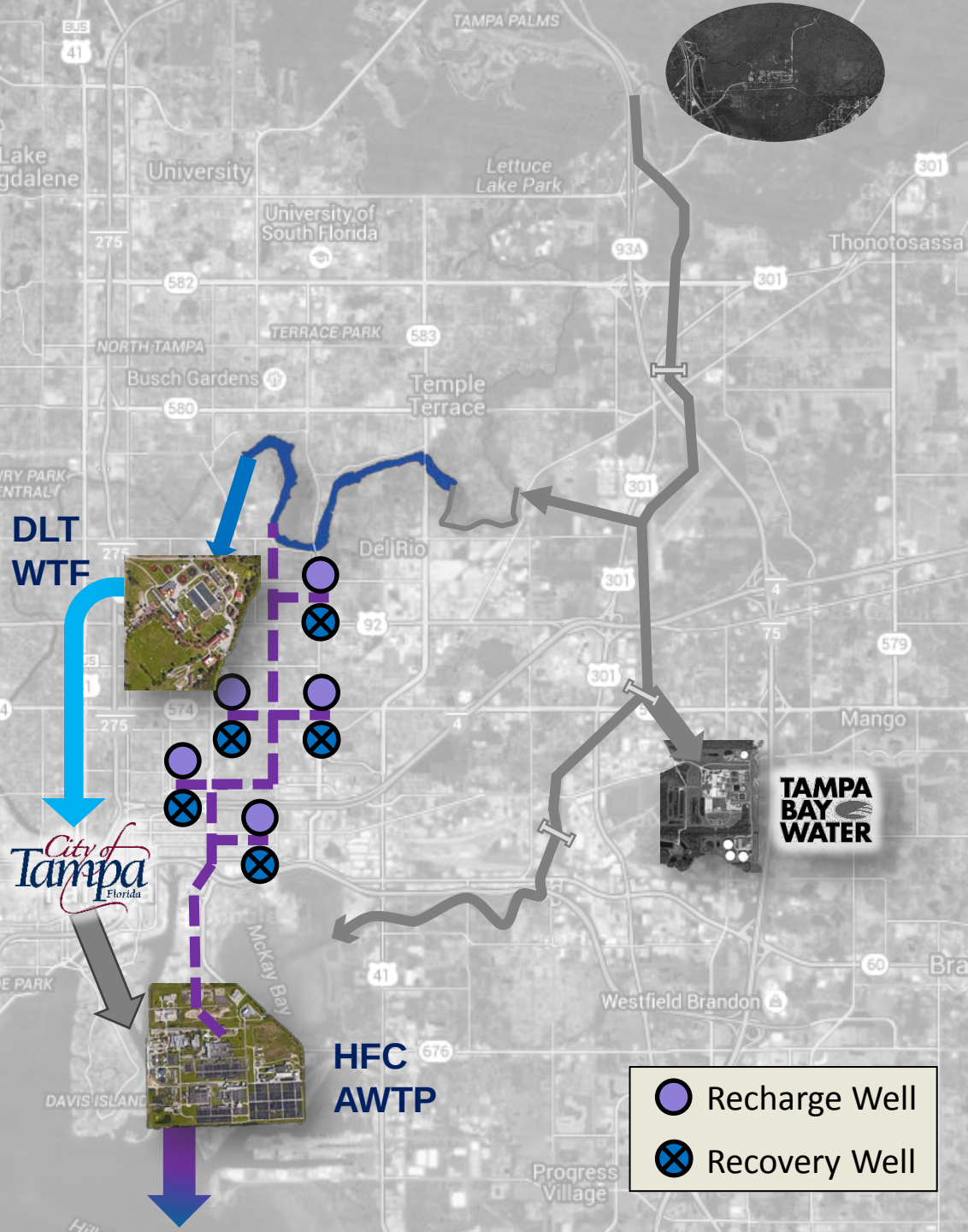


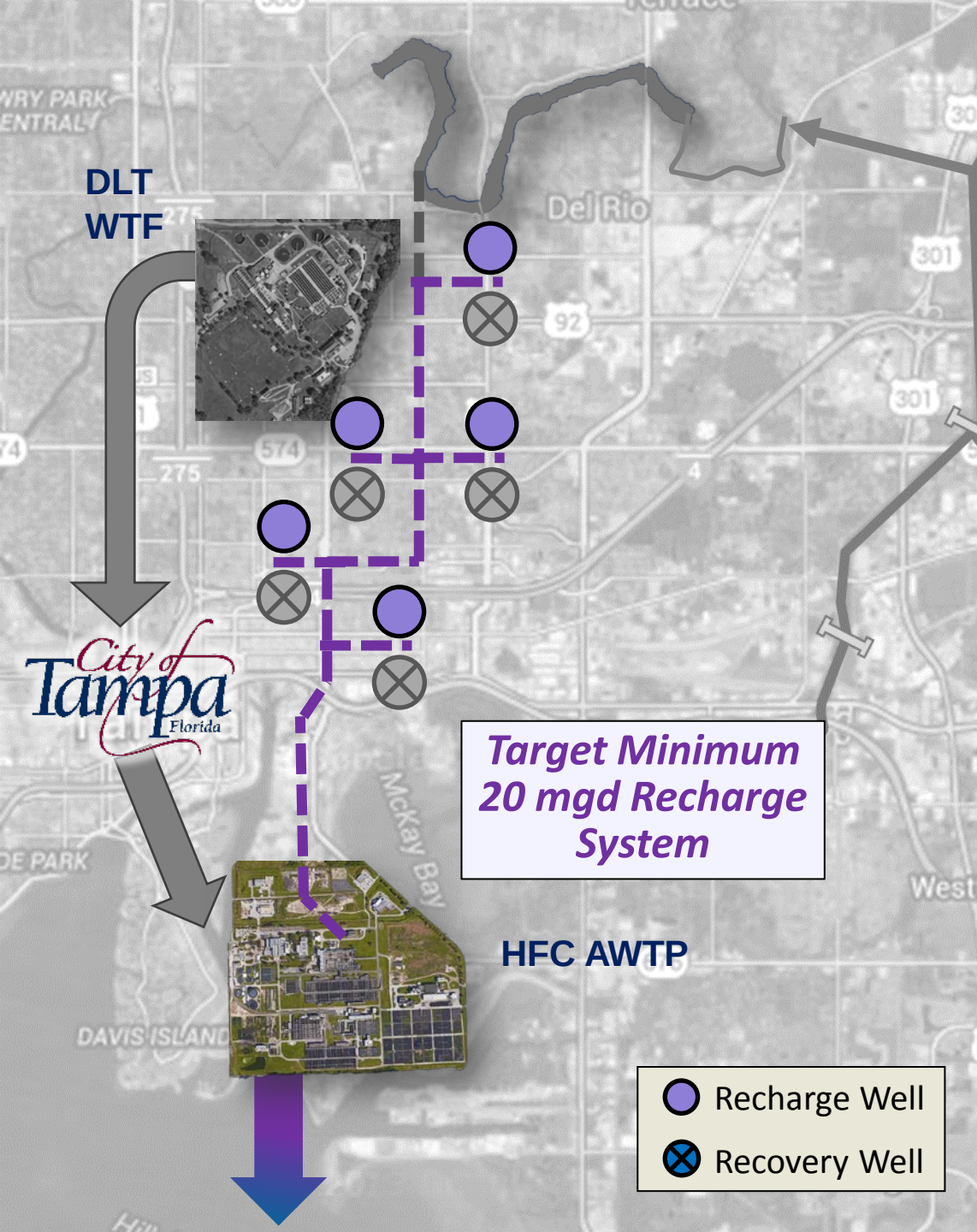
Figure 1 - City of Tampa Existing Direct, Nonpotable Reuse Program – 9.6 mgd



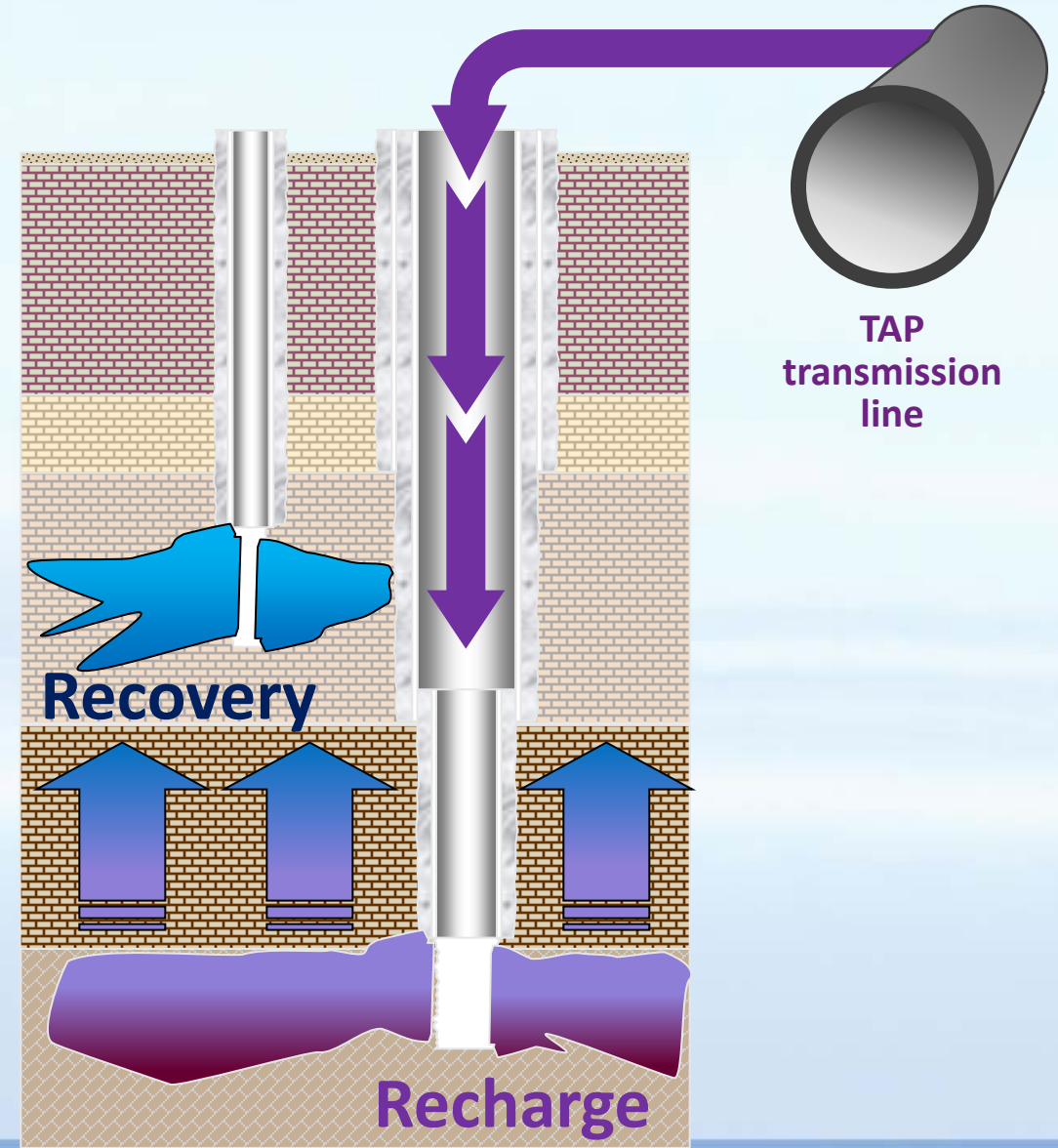


TAP ALTERNATIVE II

- 7 mile pipeline
- Aquifer Recharge/Recovery
- Augment the Hillsborough River Reservoir or to the Raw Water Intake of the David L. Tippin Water Treatment Facility (DLTWTF)
- Sets City up for possible DPR project in the future

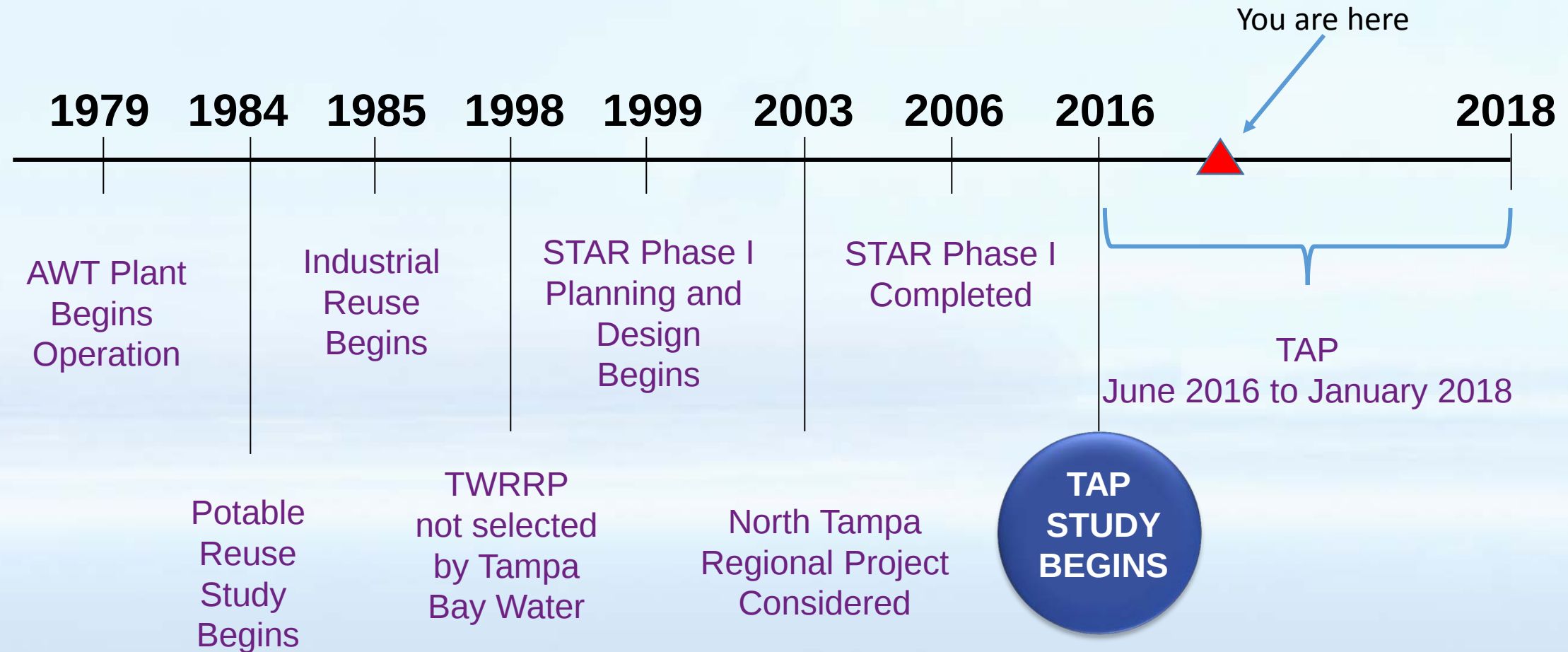


TAP ALTERNATIVE II Aquifer Recharge/Recovery



TAP Update

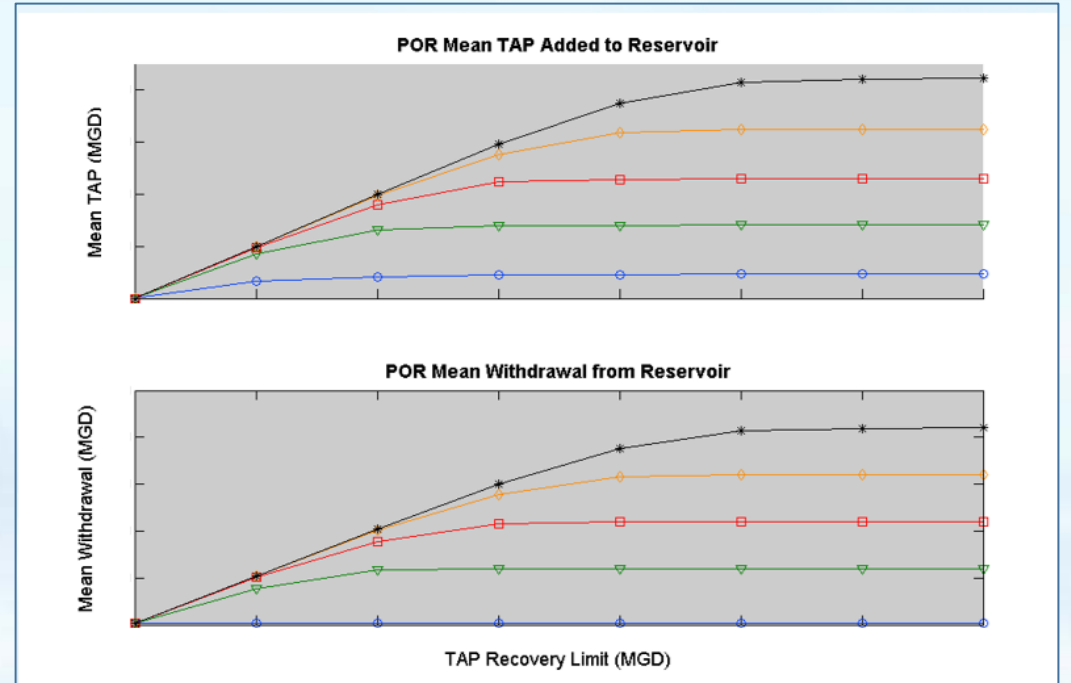
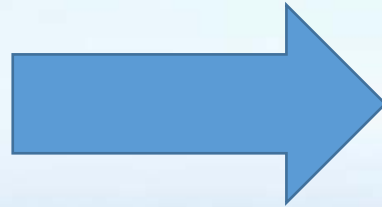
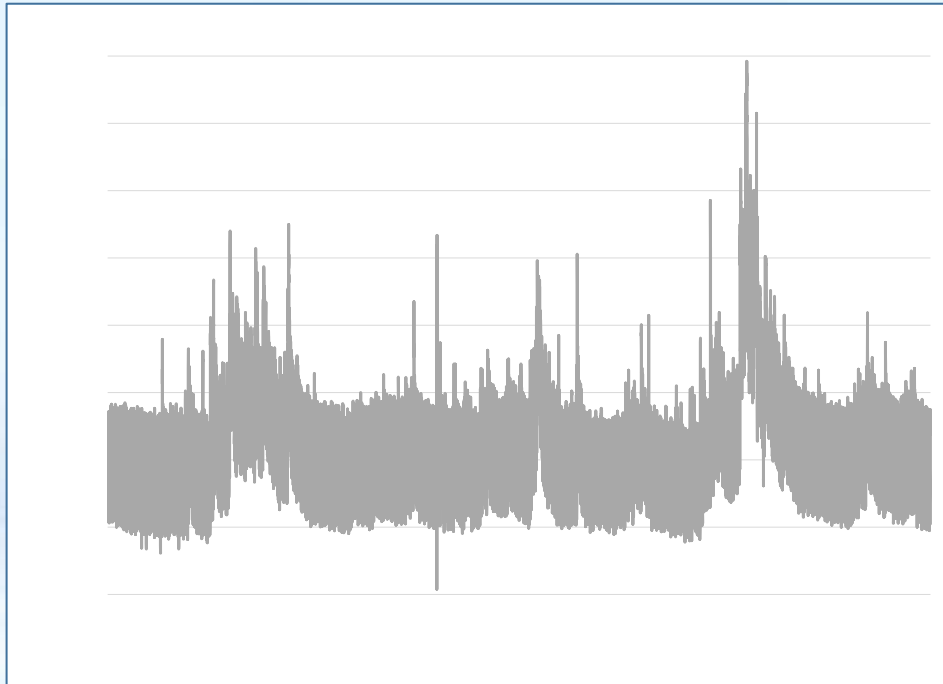
Where things stand in November 2016, 6 months in to a 20 month project



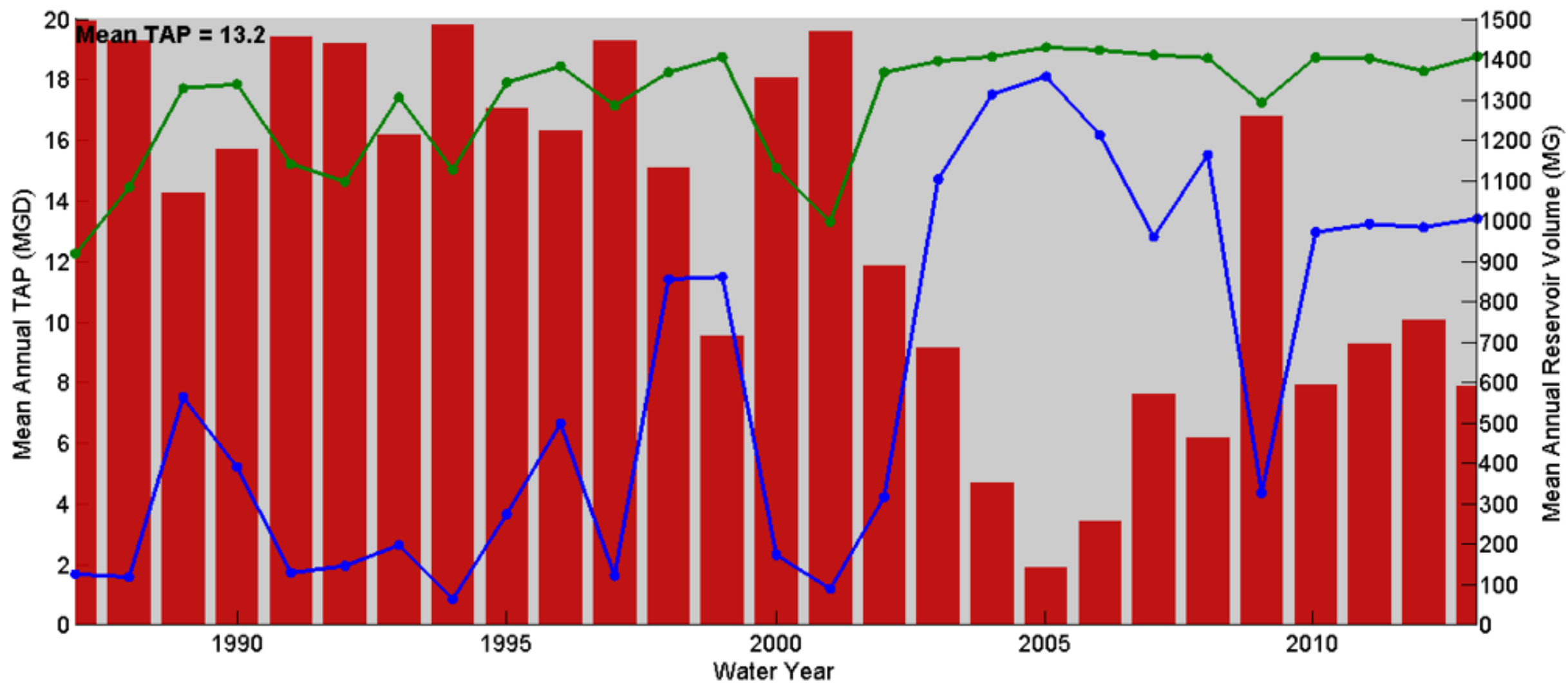
TAP Status Report Project Activities - Introductory Meeting with FDEP in Tampa and Tallahassee



TAP Status Report November 2016 - Available Supplies and Potential Benefits



Gap – Yield/Recovery of Reclaimed Water



TAP Recovered Reservoir Vol. Without TAP Reservoir Vol. With TAP

Important Element of Field Work on District Land – Public Outreach

Building a Better Tampa
Tampa Augmentation Project – Implementation Program

The objective of the Tampa Augmentation Project is to evaluate the cost and feasibility of using natural treatment systems to enhance the quality of the reclaimed water to potentially augment the potable water supplies available for the Tampa Bay region.

Feasibility Study scheduled for completion in January 2018
\$2.8 Million investment

Carollo Engineers, Inc.

Project Contact:
Seung Park
Water Department
City of Tampa
seung.park@tampagov.net

For information call:
(813) 274-7095


Mayor Bob Buckhorn



With funding assistance from the Southwest Florida Water Management District



NOTICE:
SOIL AND GROUNDWATER INVESTIGATION
AUGUST 15 – SEPTEMBER 30, 2016

The City of Tampa, with funding assistance from the Southwest Florida Water Management District, is evaluating the feasibility of using natural treatment systems to further purify reclaimed water currently discharged from the Howard F. Curren Advanced Wastewater Treatment Plant into Tampa Bay. The Tampa Augmentation Project (TAP) will investigate whether this reclaimed water can be included as a source to help meet the region's drinking water needs. The process involves introducing this clean, safe reclaimed water back into the environment where it would undergo additional purification through natural processes.

One of the options being explored as part of the study is sending the reclaimed water onto land and through wetlands owned by the Southwest Florida Water Management District near Morris Bridge, where it would undergo additional purification and may eventually enter the Tampa Bypass Canal. Field crews will perform soil and groundwater investigations during the August 15-September 30 timeframe to understand soil conditions and groundwater levels of the area as a first step in evaluating how the project would work.

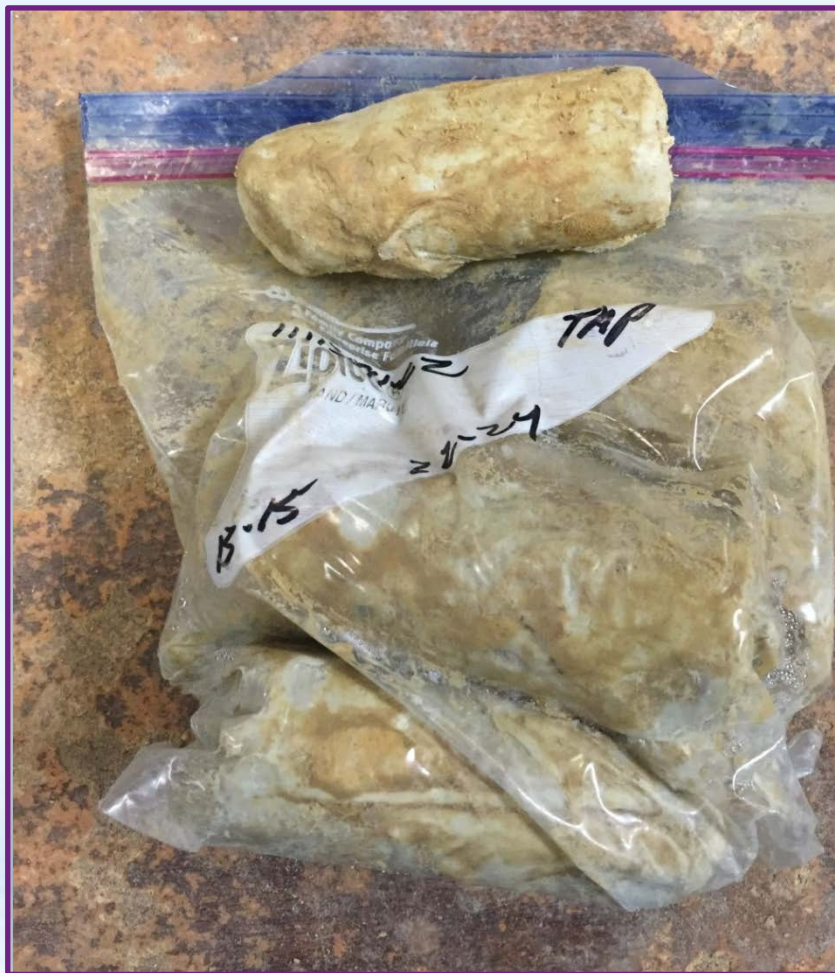
Tampa is currently dependent on rainfall to provide us with our drinking water from the Hillsborough River. Reusing this local water resource will provide a safe, sustainable and resilient source of water and help protect the Hillsborough River.

THANK YOU FOR YOUR UNDERSTANDING.
If you have questions about the soil and groundwater investigation or want more information about TAP, please contact Seung Park at 813-274-7095.

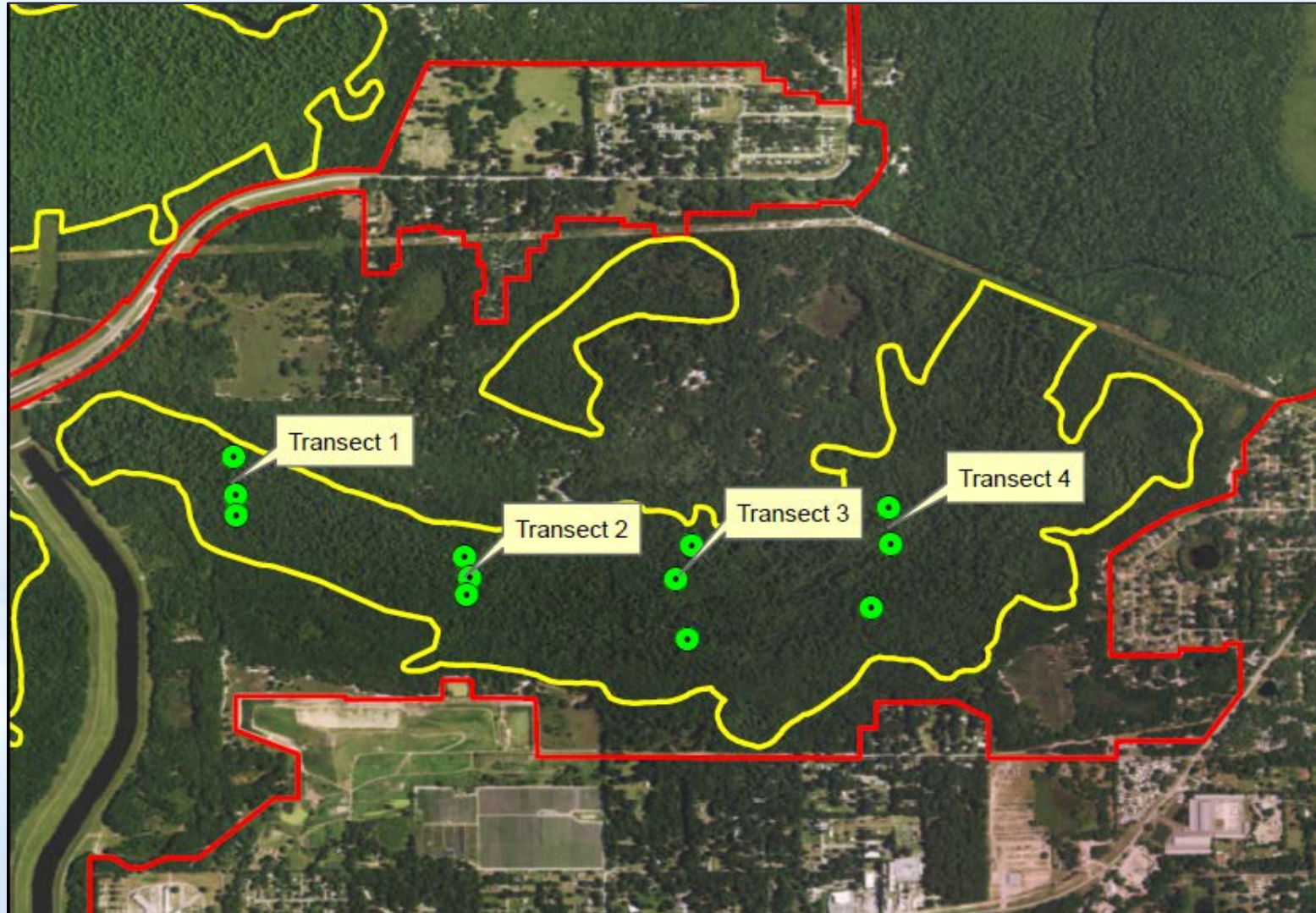



Work on the District Land was noticed and Quick Facts cards were provided to Field Personnel – also held Driller Charm School



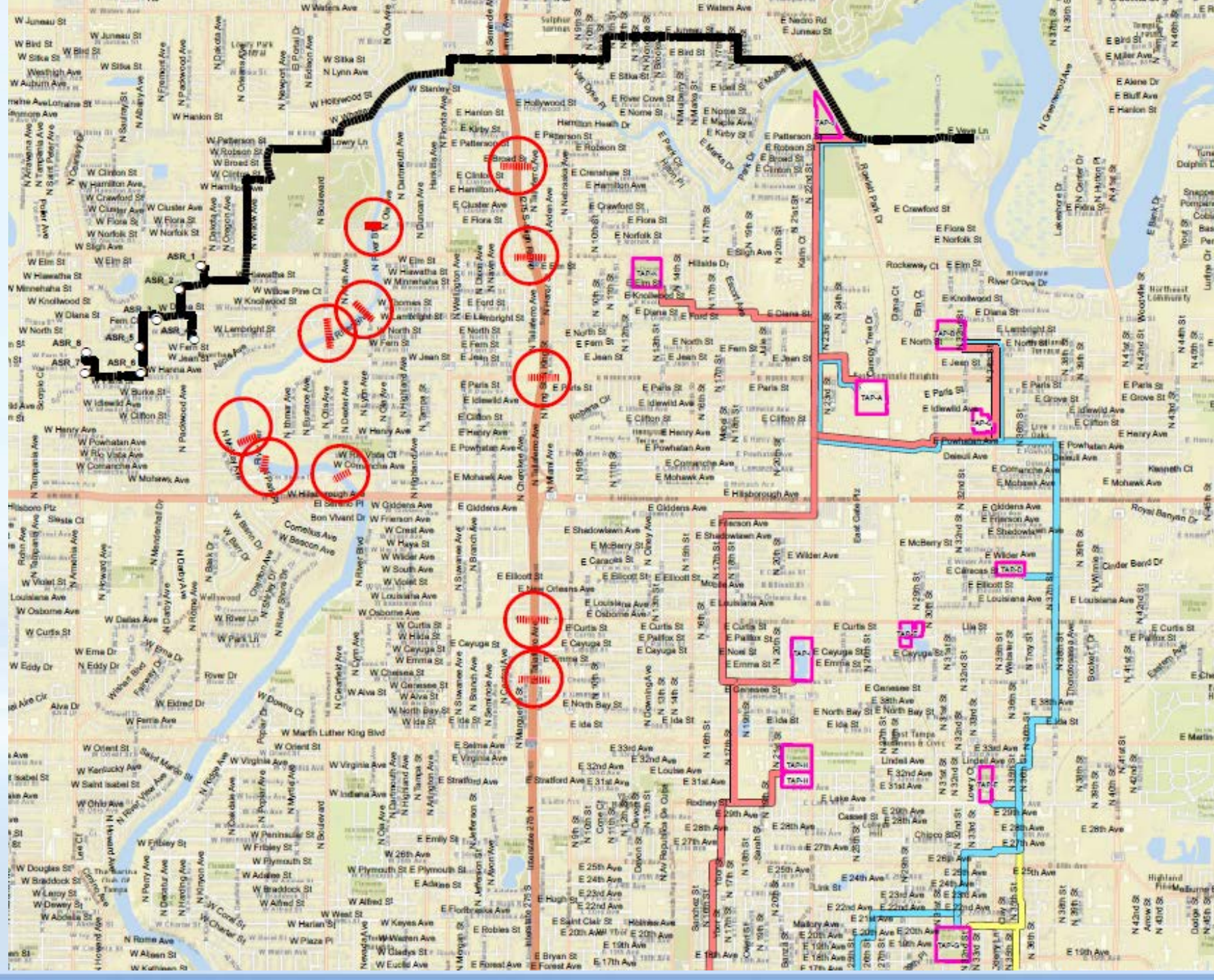


Ecological Assessment of Wetlands



Alternative II Investigations – Cores along the Recharge/Recovery Corridor



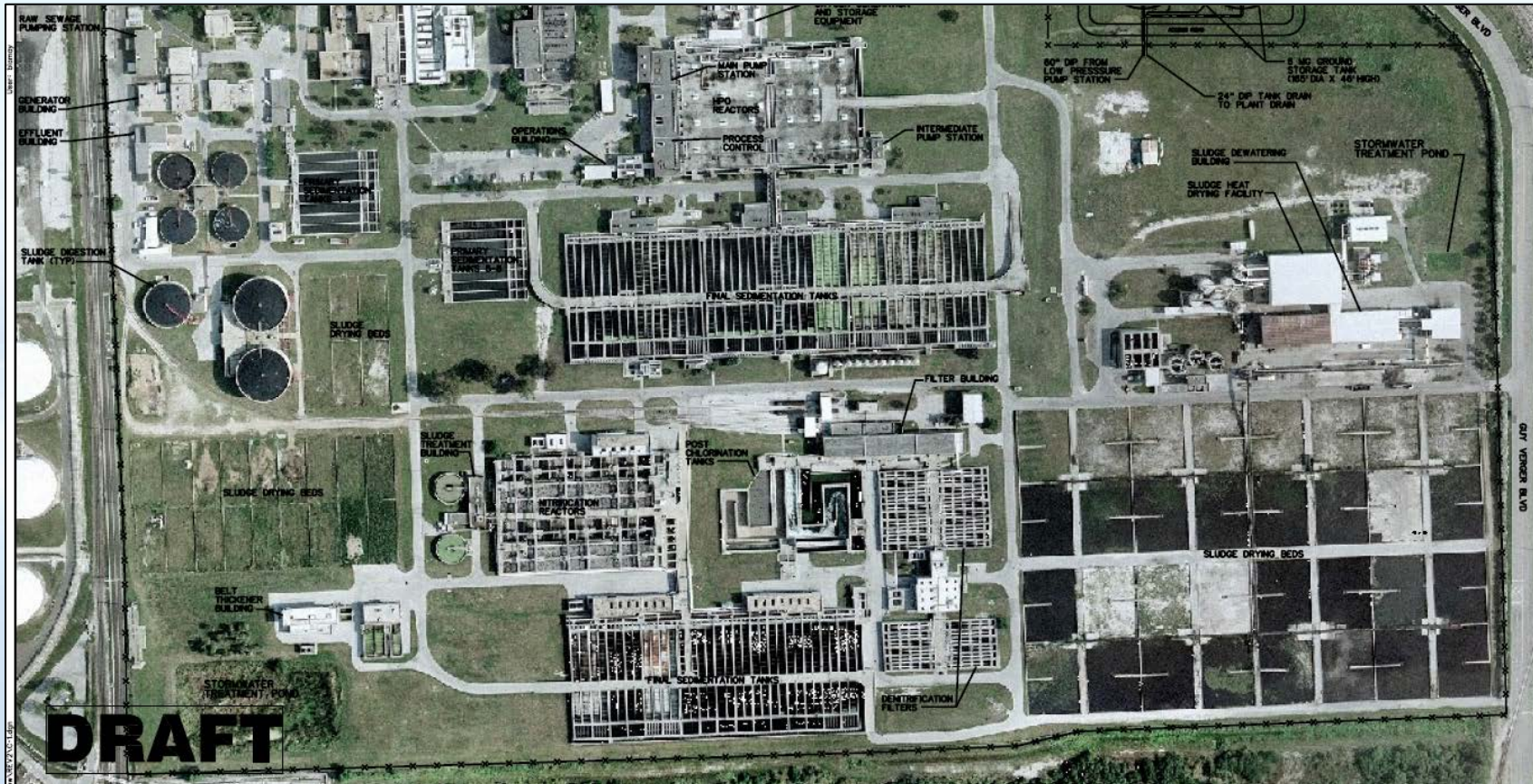


Other Major Project Efforts - Regulatory, Institutional, and Coordination Considerations

Potential Permit and Entity Coordination Matrix					
Permit Agency or Coordination Entity	Potential Permit or Entity Coordination Associated with Major Project Component:				Related Special Issues/Concerns/Other Considerations
	Infrastructure Alteration/Installation/O&M Change at the Howard F. Curren AWTP	Pipeline Routing	Alternative 1 Natural Treatment on District Lands (aka Wetland/RIB Augmentation or Creation)	Alternative 2 Aquifer Recharge/Recovery (including stormwater option)	
SWFWMD	Water Use Permit	Environmental Resource Permit (out of plant only)	Environmental Resource Permit (out of plant only)	Environmental Resource Permit (out of plant only)	Hillsborough River Reservoir-Expanded WUP; credit for reclaimed water
USACOE		Section 404 Dredge and Fill Permit	Section 404 Dredge and Fill Permit		
HCEPC	Petroleum Tank Inspection	Wetland Impact and Mitigation Agreement	Wetland Impact and Mitigation Agreement		
HCEPC	Domestic Wastewater Facility/NPDES Permit				
FDEP	NPDES Permit for Construction and Dewatering	NPDES Permit for Construction and Dewatering	NPDES Permit for Construction and Dewatering	NPDES Permit for Construction and Dewatering	
FDEP	Environmental Resource Permit (in-plant only)				
FDEP	Domestic Wastewater Facility/NPDES Permit		Wetland Impact and Mitigation Agreement	UIC-Tallahassee	Rapid Infiltration basin as addition to NPDES permit; Wastewater to Wetlands Rule; EPA TMDL/RAP; TBEP*/TN 63% N loading in Tampa Bay from stormwater (per Master Plan); receiving additional septage in the future due to landfill septage ban change
City of Temple Terrace		Planning and Growth Management			
City of Tampa	Building Department within Tampa Port Authority Boundary				
City of Tampa	Water Use Permit alteration concurrence				Hillsborough River Reservoir-Expanded WUP; credit for reclaimed water
Tampa Bay Water	Water Use Permit alteration concurrence				Hillsborough River Reservoir-Expanded WUP; credit for reclaimed water
FDOT		Utility Permit			
TECO		Transmission Right of Way Joint Use			
CSX		Utility Installation and Right of Entry			
Private Land Owners		Easement			
Tampa Port Authority	Site alteration concurrence	Route coordination			
Hillsborough County		Planning and Growth Management**	Planning and Growth Management**	Planning and Growth Management**	
Hillsborough County		Building Department***	Building Department***	Building Department***	
Hillsborough County	Water Use Permit alteration concurrence				Hillsborough River Reservoir-Expanded WUP; credit for reclaimed water
Tampa Hillsborough Expressway Authority		Utility Installation and Right of Entry			
FWC	Gopher Tortoise and other Listed Species Permit	Gopher Tortoise and other Listed Species Permit	Gopher Tortoise and other Listed Species Permit	Gopher Tortoise and other Listed Species Permit	
Division of Historical Resources	Concurrence of No Effect	Concurrence of No Effect	Concurrence of No Effect	Concurrence of No Effect	
EPC	Title V Air Permit				no effect expected
EPA	EPA Risk management Plan (Rail Car)				no effect expected
*TBEP (COT, SWFWMD, FDEP, EPA, HC)					
**Depending on location and scale of infrastructure; varying levels of site development plans and associated requirements					
***Tied to PGM site plan; depends on infrastructure					

Other Major Project Efforts – Plant Improvements

- Integration with Other Projects
- Required Facilities



Project Feasibility Metrics

- Water Quality
- Project Costs
- New Water Created
- Permitability
- \$/Gallon of New Water Created