

BURNT STORE WATER RECLAMATION FACILITY REPLACEMENT/EXPANSION

Technical Memorandum #1
Site Evaluation & Recommendations

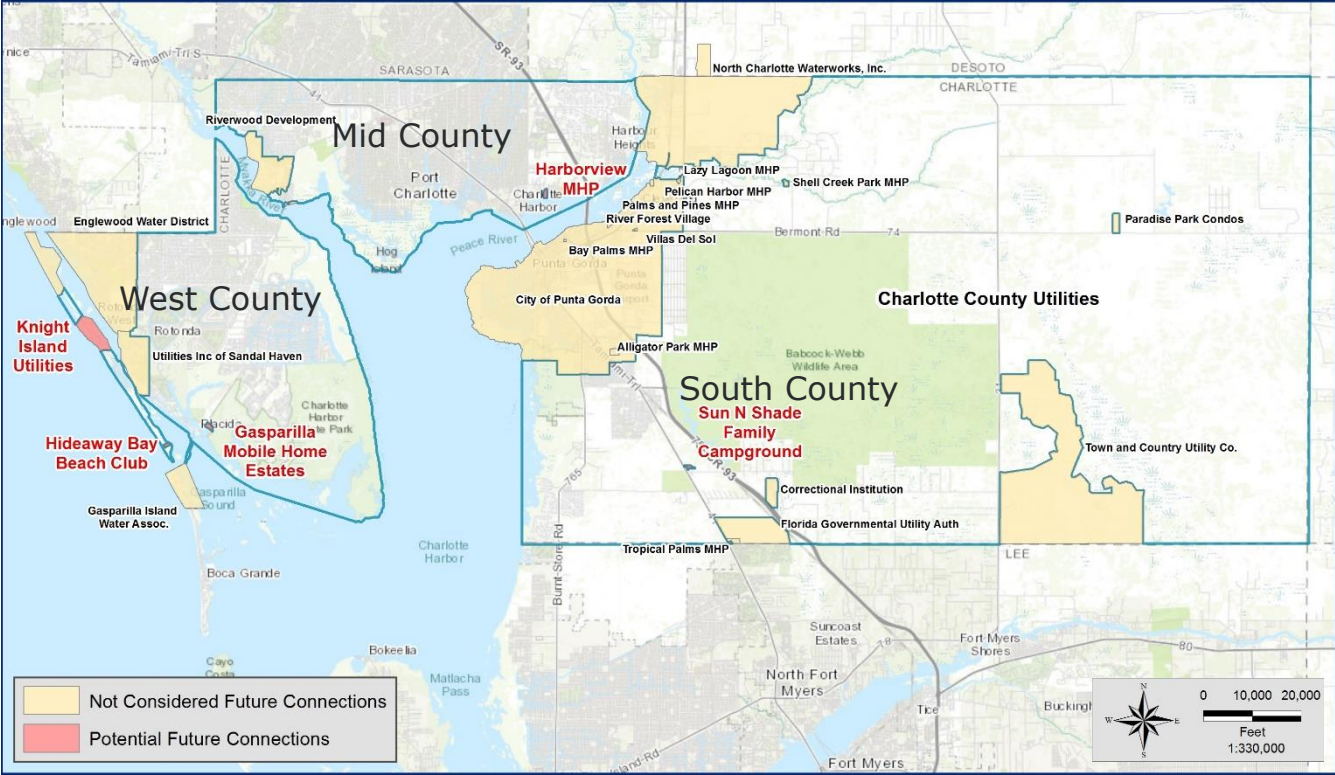


PROGRAM OVERVIEW

- ✓ Increase Treatment Capacity for South County Service Area
- ✓ Expand Reclaimed Water Usage
- ✓ Provide Operational and Regulatory Flexibility
- ✓ Implement Resilient and Sustainable Practices



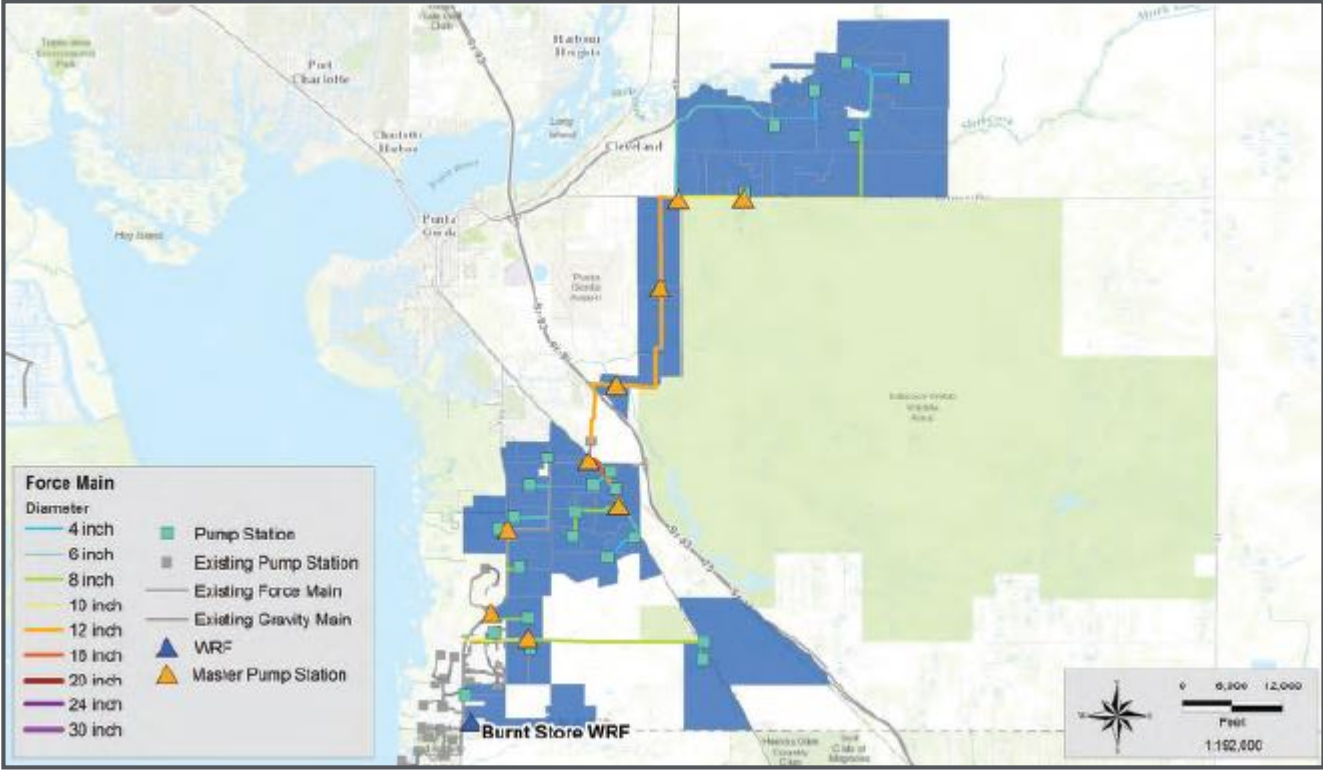
COUNTY SERVICE AREA



Source:
2017 Charlotte County Sewer Master Plan



SOUTH COUNTY SERVICE AREA



Source:
2017 Charlotte County
Sewer Master Plan

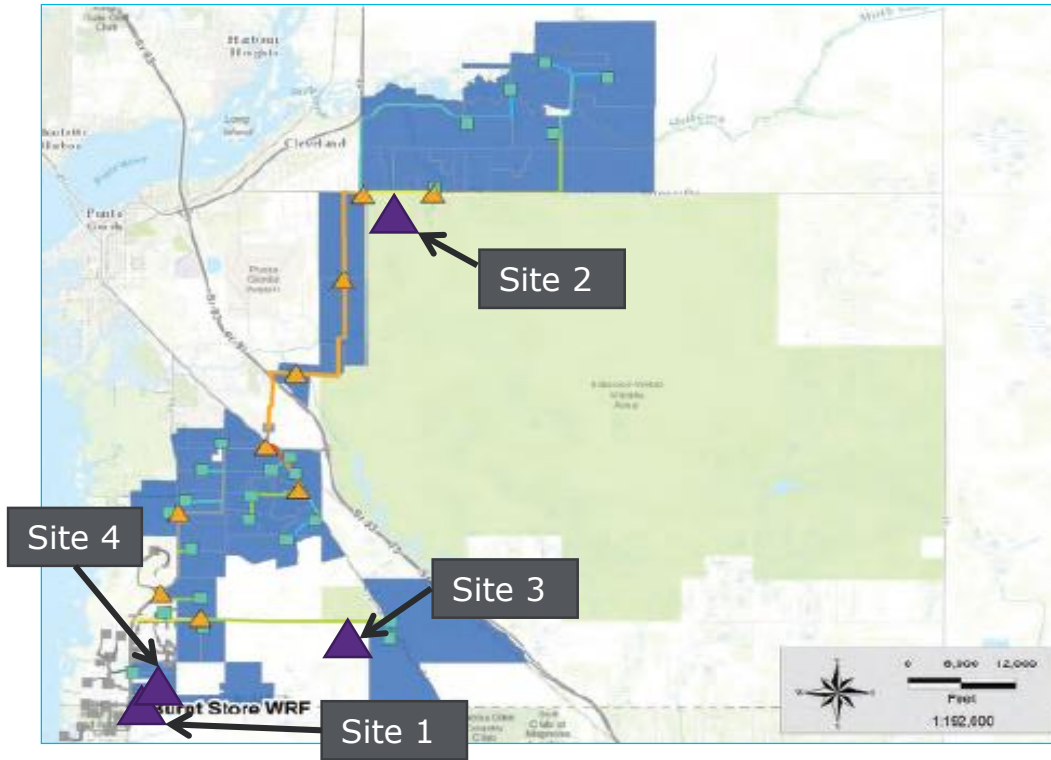


SITE EVALUATION CRITERIA

- ✓ Undeveloped or County Owned Lands
 - 5-Mile radius of existing treatment plant (WRF)
- ✓ Regionalization
 - City of Punta Gorda
- ✓ Life Cycle Costs



SITES IDENTIFIED



Site 1
Expand Burnt Store Plant (WRF)
- County Owned Site

Site 2
Regionalization
- City of Punta Gorda's WWTP

Site 3
Solid Waste Management Facility
- County Owned Site

Site 4
Adjacent to Burnt Store Plant
- Private Property

CONSTRUCTION COST ANALYSIS

Alternative	Site Location	Treatment Plant Construction Cost	Transmission Construction Cost	Total Construction Cost
1	Existing Site	\$44,300,000	\$0	\$44,300,000
2	Punta Gorda WWTP	\$39,100,000	\$57,380,000	\$96,480,000
3	Solid Waste Facility Site	\$45,300,000	\$24,210,000	\$69,510,000
4	Adjacent Site	\$45,800,000	\$1,960,000	\$47,760,000

Costs shown are project FY2022 construction costs using an annual 5% inflation rate.



REGULATORY FLEXIBILITY

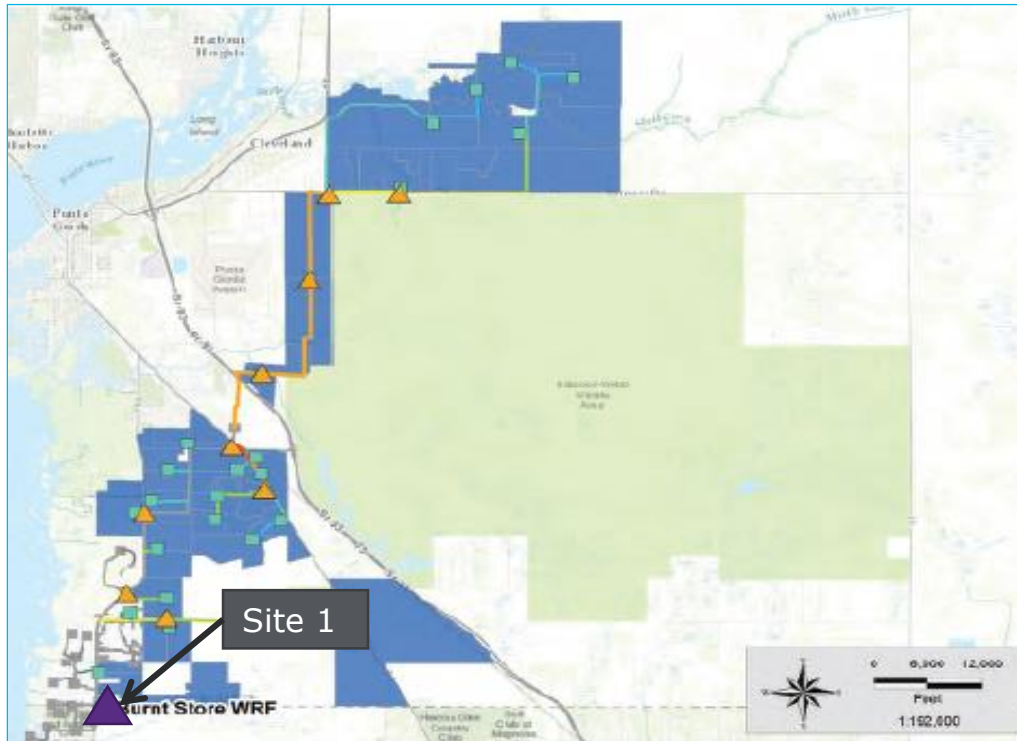
Parameters	Current Effluent Limits (Reclaimed Water Reuse)				FL Most Stringent Limits (*)			
	Existing Burnt Store WRF				When Discharged to a Water Body			
	Units	Max	Limit	Basis	Units	Max	Limit	Basis
Flow	MGD	Max	0.5	Annual Ave.	MGD	Max	7.5 (**)	Annual Ave.
BOD5	mg/L	Max	20	Annual Ave.	mg/L	Max	5.0	Annual Ave.
TSS	mg/L	Max	5.0	Annual Ave.	mg/L	Max	5.0	Single Sample
Total Nitrate as N	mg/L, as N	Max	12.0	Single Sample	mg/L, as N	Max	N/A	Single Sample
Total Nitrogen as N	mg/L, as N	Max	N/A	Single Sample	mg/L, as N	Max	3.0	Single Sample
Total Phosphorus	mg/L, as P	Max	N/A	Single Sample	mg/L, as P	Max	1.0	Single Sample

(*) Approximately 30% more land required with more stringent limit
Will increase capital costs by approximately \$13M

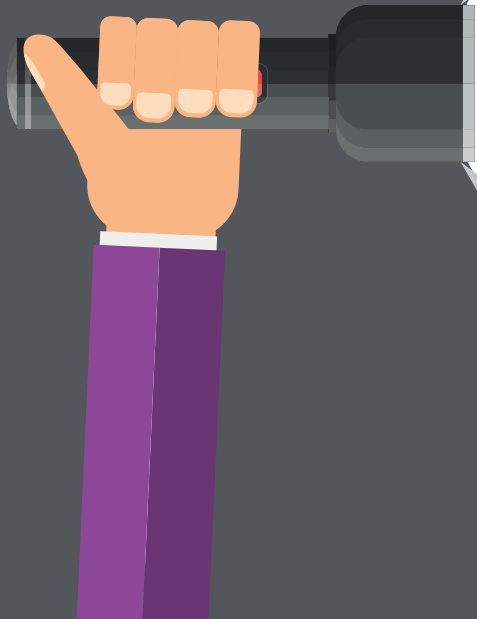
(**) Estimated Build-Out flow



RECOMMENDATIONS



- ✓ Expand at Existing Site (Site 1)
- ✓ Purchase Adjacent Property
 - Inadequate Room for Advanced Treatment
 - Buffer
 - Flexibility
- ✓ Evaluate Directing Future Flows (North of I-75) to Punta Gorda WWTP



NEXT STEPS

Board of County Commissioners

- ✓ Consensus to Accept Recommendations

Staff and Consultants

- ✓ Initiate Land Acquisition Negotiations
- ✓ Update Master Planning Documents
- ✓ Develop Design for Expansion