

# Developing and Managing Your Stormwater Capital Improvement Plan

FLORIDA STORMWATER ASSOCIATION

2021 Winter Conference

Friday, December 3, 2021



**BURGESS & NIPLE**



# City of Tarpon Springs Stormwater Program



- Located on Florida's Gulf Coast, within Pinellas County
- Encompasses 8.5 square miles
- 25,000+ residents
- Waterbodies on three sides: the Gulf of Mexico, Anclote River and Lake Tarpon
- Many waterfront communities
- Known for early settlers of Greek heritage; thriving sponge industry



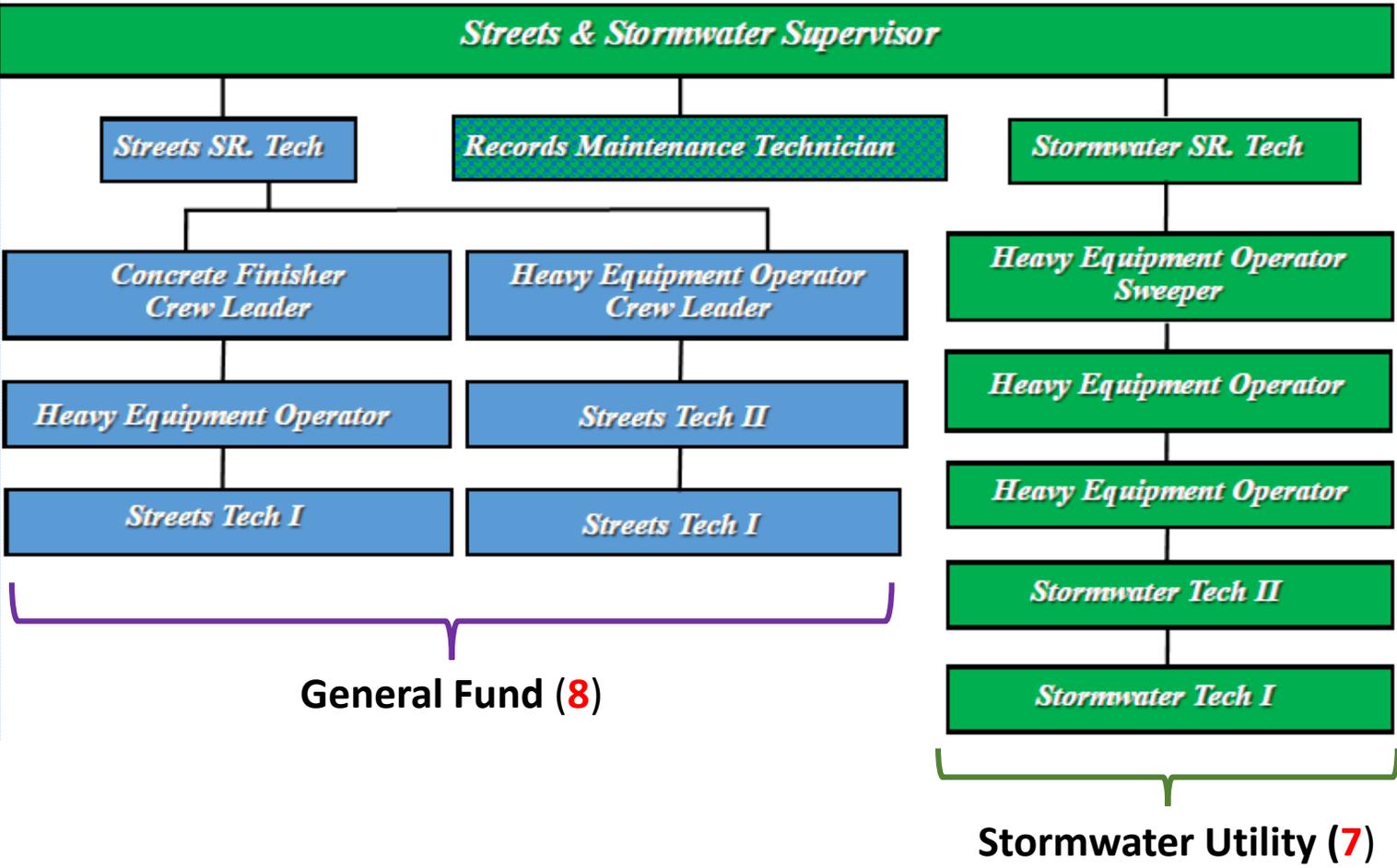
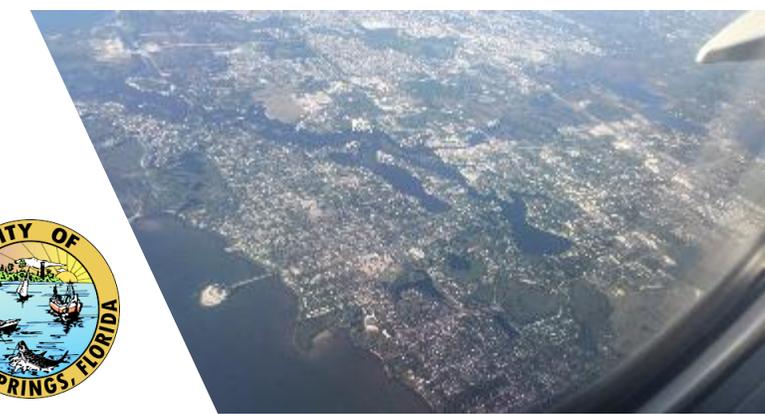
**Anthony "Tony" Mannello**  
*Streets & Stormwater Supervisor*  
*City of Tarpon Springs*  
*Public Works*



**BURGESS & NIPLE**

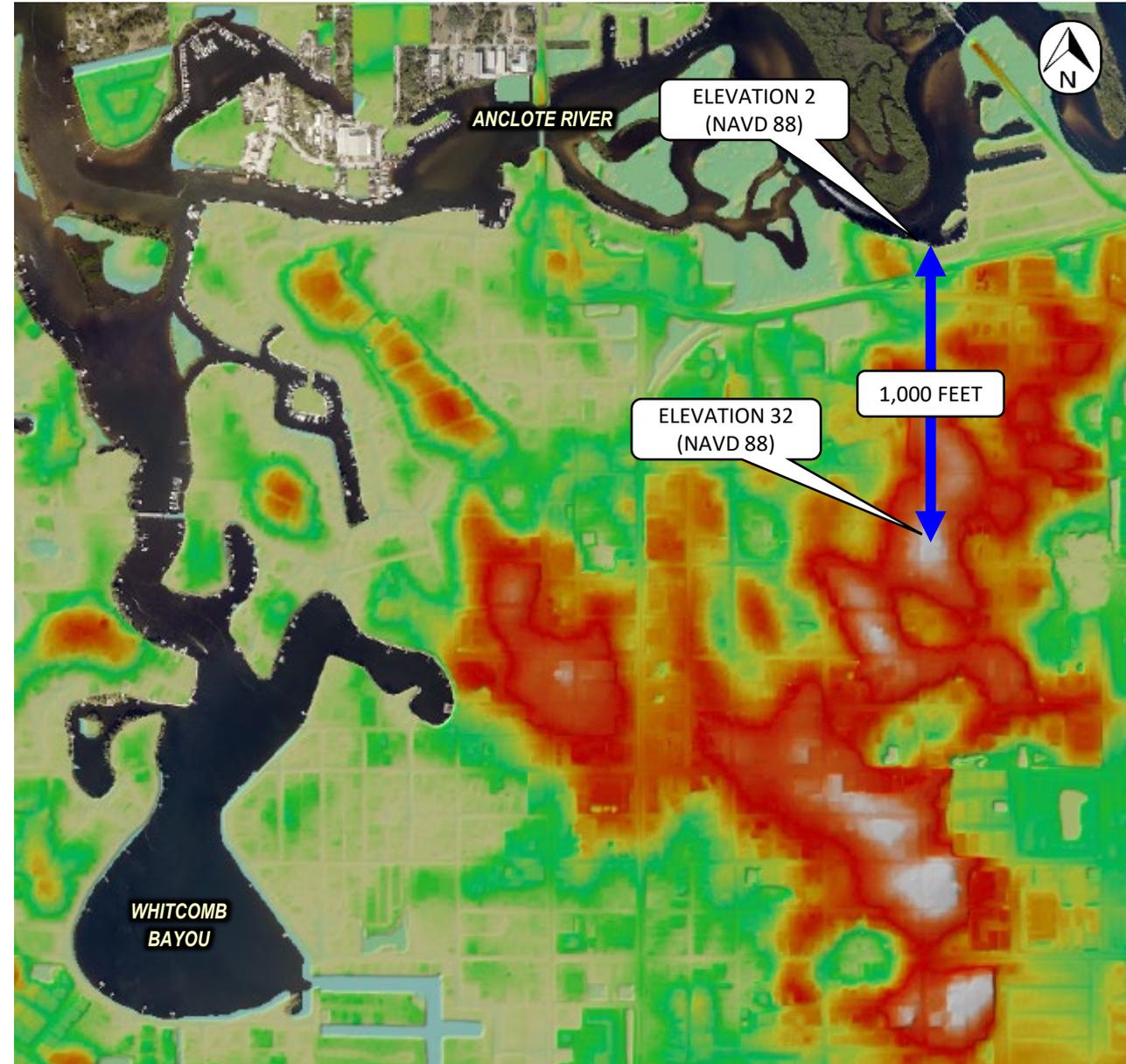
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# Tarpon Springs Organizational Chart



# City of Tarpon Springs Stormwater Challenges

- Unique topography
- Localized closed basins
- Coastal outfalls



# City of Tarpon Springs Stormwater Program



- *All Streets & Stormwater staff is certified and trained annually for Illicit Discharge and Sediment & Erosion Control)*
- Maintain **32** major outfalls, **132** miles of roadway , and **40** STF's



## City of Tarpon Springs Stormwater Program Goals

- Goal 1: Mitigate the potential for flooding and improve water quality
  - Continue stormwater project capital improvement program
  - Continue an active maintenance program of stormwater facilities
  - Street sweeper program
  - Fertilizer Ordinance; includes retail sales and application restrictions
  - Monthly reviews and treatment of aquatic growth control
  - NPDES Permit Compliance with Pinellas County
- Goal 2: Inform the public of their part in protecting the stormwater system and surrounding waterbodies
  - Perform regular stormwater educational programs, events and/or activities



# City of Tarpon Springs Stormwater Program



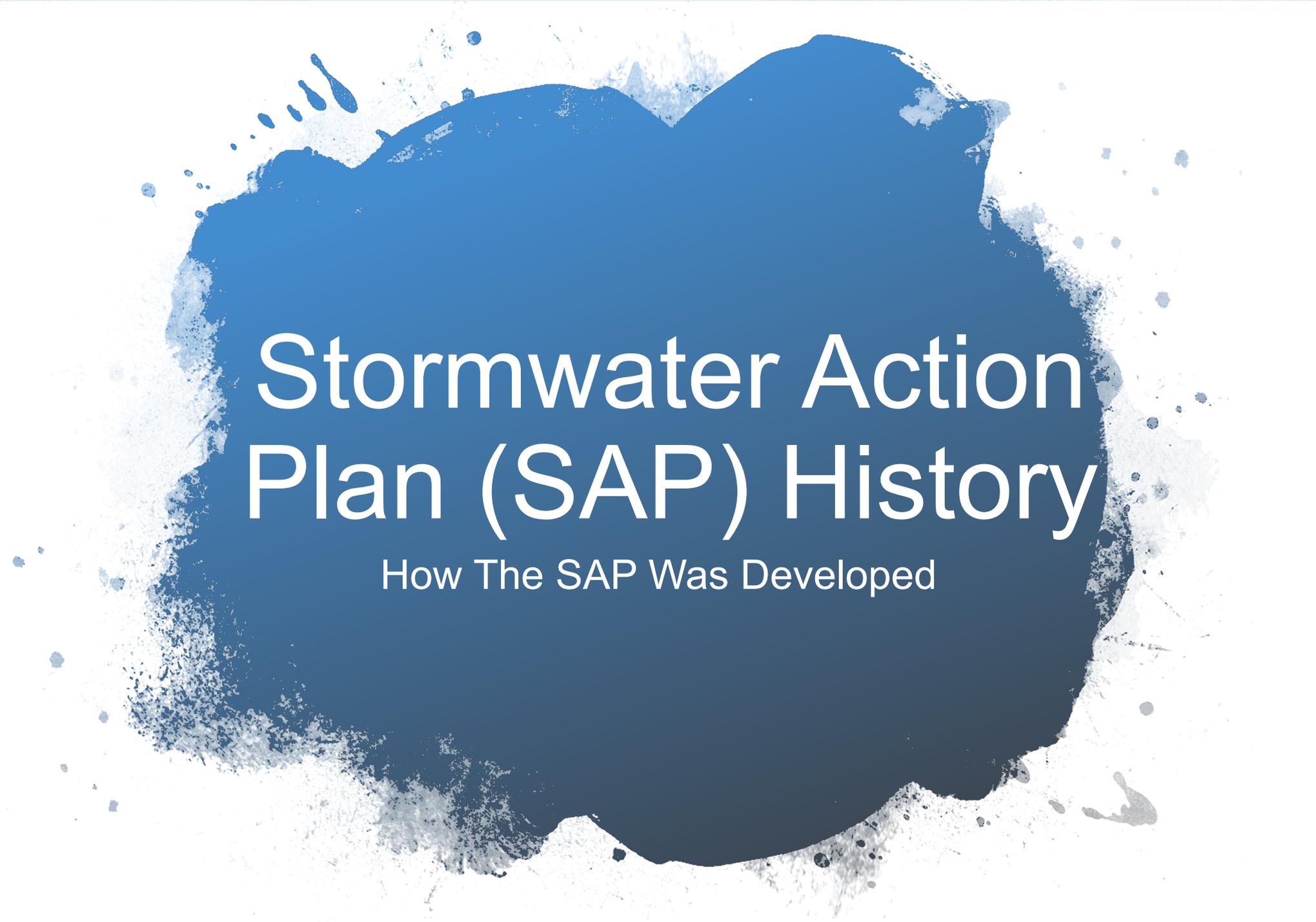
**Bryan Anderson, PE, ENV SP**  
*Section Director*  
*Stormwater/Environmental*  
*Burgess & Niple, Inc.*

- Bryan Anderson, PE, ENV SP
- Section Director/Senior Project Manager
- Graduate from University of Central Florida
- 21 years of experience
- Since 2009 has served as the Stormwater Engineer for the City of Tarpon Springs



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# Stormwater Action Plan (SAP) History

How The SAP Was Developed

# Historical Stormwater Master Plan



- 1993 – Dames and Moore Stormwater Master Plan
  - Developing Inventory of City Drainage Facilities
  - Delineating Overall City Watershed and Drainage Basin Boundaries
  - Evaluating Existing Drainage Systems
  - Generating Overall Master Drainage Plan



# Stormwater Action Plan (SAP) Vision



- Documenting Existing Problems
- Eliminate Non-Jurisdictional Work
- Develop Scoring Criteria
- Data Collection and Conduct Field Investigations
- Develop Conceptual Solutions with Preliminary Cost Estimates
- Conduct Cost/Benefit Analysis and Rank Projects = CIP



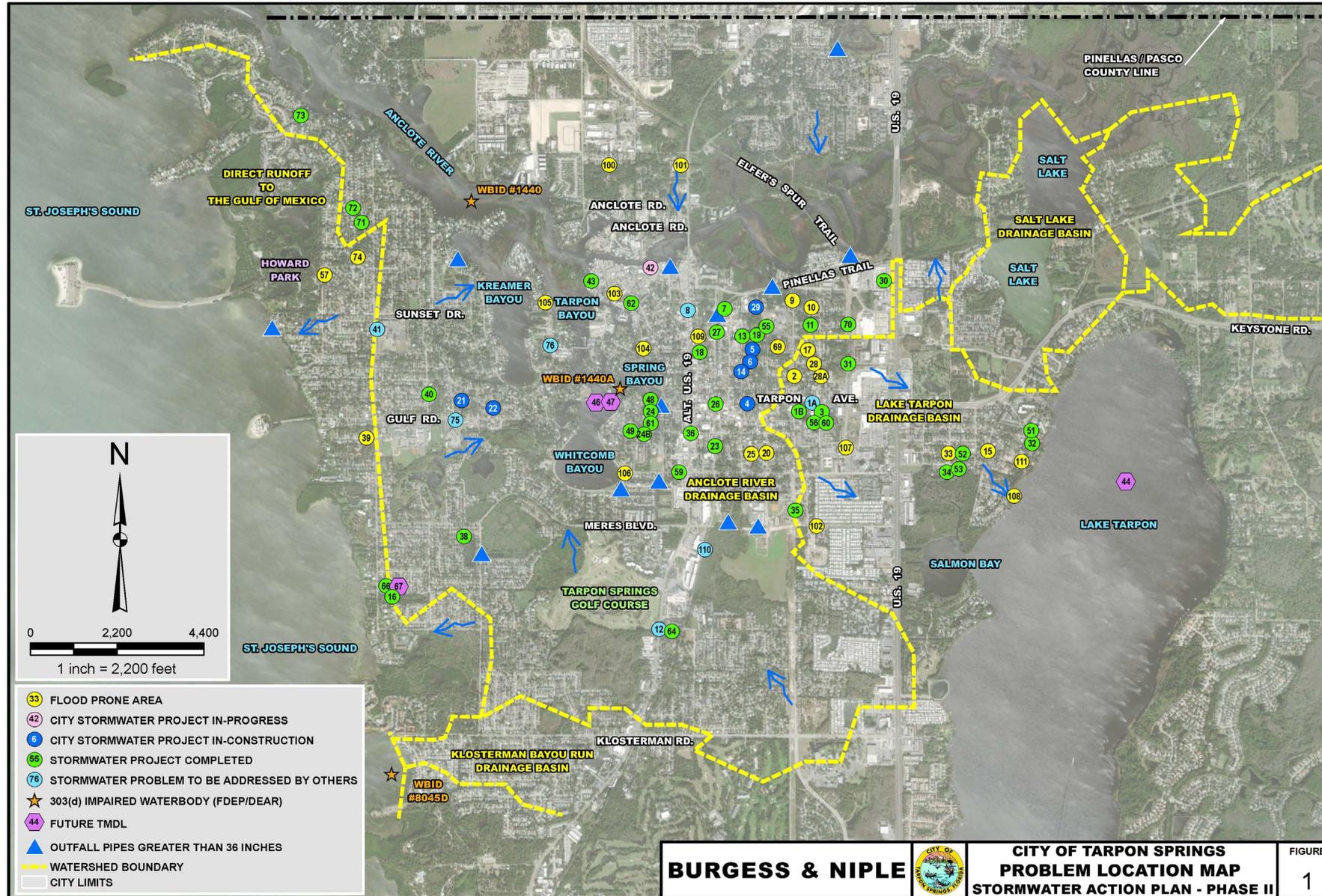
# Documenting/Locating Problem Areas



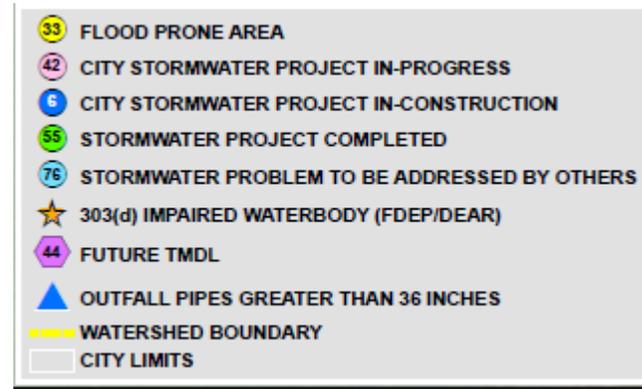
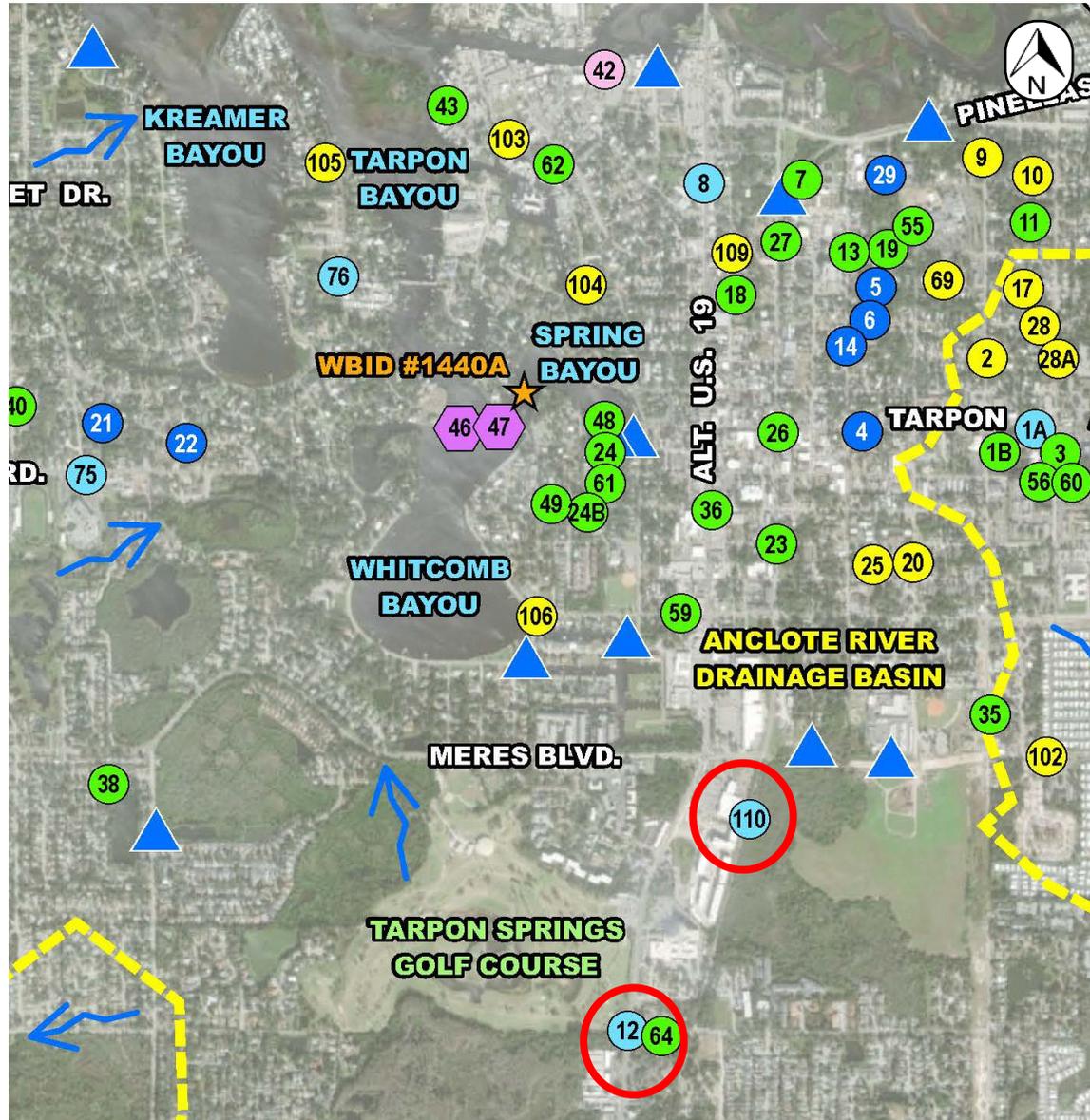
**Table 1: Summary of Stormwater Map ID Areas**

Map ID No.	SAP Total Score	Stormwater Focus Area	Problem	Reference
1B	34	Disston Ave. (south of Tarpon Ave.)	Street and private property flooding; roadway impassable	No. 1 CIP - Utility Element Table 9
2	23	Disston Ave. & Center St.	Street and private property flooding	No. 9 CIP - Utility Element Table 8/No. 5 Dames & Moore Master Drainage Study - Phase 1
3	26	Walton Ave. between Tarpon Ave. & Lime St. Phase III	Street flooding; impassable road	No. 10 CIP - Utility Element Table 8/No. 23 Dames & Moore Master Drainage Study - Phase 1
4	6	Tarpon Ave. 100' east of Grosse Ave.	Street flooding	No. 4 CIP - Utility Element Table 8/No. 1 Dames & Moore Master Drainage Study - Phase 1
5	60	Pent St. 200' east of Grosse Ave.	Street and private property flooding	No. 7 CIP - Utility Element Table 8/No. 15 Dames & Moore Master Drainage Study - Phase 1
6	5	Cypress St. 200' east of Grosse Ave.	Street & yard flooding	No. 6 CIP - Utility Element Table 8/No. 16 Dames & Moore Master Drainage Study - Phase 1
7	5	Outfall @ Pinellas Trail & Spruce St.	Needs maintenance/obstructing flow	Stormwater Consultant
9	9	Disston Ave. between Spruce St. & Live Oak St.	Street and yard flooding	No. 12 Dames & Moore Master Drainage Study -Phase 1
10	2	Spruce St. between Disston Ave. & Walton Ave.	Street and yard flooding	No. 12 CIP - Utility Element Table 8/No. 8 Dames & Moore Master Drainage Study - Phase 1
11	13	Boston St. between Disston Ave. & Walton Ave.	Street and private property flooding	No. 13 CIP - Utility Element Table 8/No. 10 Dames & Moore Master Drainage Study - Phase 1
14	9	Grosse Ave. between Pine St. & Orange St.	Street & yard flooding	No. 5 CIP - Utility Element Table 8/No. 6 Dames & Moore Master Drainage Study - Phase 1
15	60	Highland Ave. and Vista Place	Street and private property flooding; roadway impassable	No. 8 CIP - Utility Element Table 8/No. 20 Dames & Moore Master Drainage Study - Phase 1
17	8	Pent St. between Disston Ave. & Walton Ave.	Street & yard flooding	No. 14 CIP - Utility Element Table 8/No. 9 Dames & Moore Master Drainage Study - Phase 1
18	11	Hibiscus St. & Park St.	Street & yard flooding	No. 15 CIP - Utility Element Table 8/No. 2 Dames & Moore Master Drainage Study - Phase 1
20	4	Levis Ave. between Lime St. & Oakwood St.	Minor street flooding	No. 17 CIP - Utility Element Table 8/No. 24 Dames & Moore Master Drainage Study - Phase 1
21	10	Palm Ave. between Tarpon Dr. & Glades Ave.	Street & private property flooding	No. 18 CIP - Utility Element Table 8/No. 33 Dames & Moore Master Drainage Study - Phase 1
22	5	Palm Ave. between Tarpon Dr. & Gulf Rd.	Private property flooding	No. 19 CIP - Utility Element Table 8/No. 32 Dames & Moore Master Drainage Study - Phase 1
24B	8	Bath St./Shaddock Ave. Alley	Private property flooding	Staff recommendation
25	8	Levis Ave. Alleyway	Rear yard flooding	No. 3 CIP - Utility Element Table 9
28	7	Cypress St. between Disston Ave. and Walton Ave.	Street and private property flooding	No. 11 Dames & Moore Master Drainage Study - Phase 1
28A	10	Walton Ave. & Center St.	Street and private property flooding	Staff recommendation
29	5	Spruce St. between Levis Ave. & Grosse Ave.	Street and private property flooding	No. 14 Dames & Moore Master Drainage Study - Phase 1
31	3	Huey Ave. north of Tarpon Ave.	Roadside flooding; ditch along Huey Ave. floods	No. 18 Dames & Moore Master Drainage Study - Phase 1
33	60	Jasmine Ave. & Lime St.	Street and private property flooding	No. 21 Dames & Moore Master Drainage Study - Phase 1
35	6	Disston Ave. south of Harrison St.	Street flooding	No. 25 Dames & Moore Master Drainage Study - Phase 1
39	12	Coburn Dr. 100' west of Florida Ave.	Street and yard flooding	No. 31 Dames & Moore Master Drainage Study - Phase 1
42	9	Intersection of Athens St. & Dodecanese Blvd.	Street flooding; inadequate infrastructure/backwater	No. 37 Dames & Moore Master Drainage Study - Phase 1
43	7	Island Dr. near Hill St.	Street and private property flooding	No. 38 Dames & Moore Master Drainage Study - Phase 1
57	30	Kenneth Way @ Seaside Dr.	Street flooding	Staff recommendation
62	7	Roosevelt Blvd.	Street flooding/water quality/property flooding	Staff recommendation
69	10	Pent St. 100' east of Levis Ave.	Street and private property flooding	Staff recommendation
70	6	East end of Boston St.	Street and private property flooding	Staff recommendation
71	18	Riverside Dr. at Hillside Dr.	Low spot - street flooding	Staff recommendation
72	3	1314 Riverside Dr.	Low spot - street flooding	Staff recommendation
73	6	Riverside Dr. at Seabreeze Dr.	Low spot - street flooding	Staff recommendation
74	6	Avoca Dr. 500' west of Florida Dr.	Low spot - street and property flooding	Staff recommendation
100	N/A	Marina Dr. & Anclote Rd.	Non-Jurisdictional Street flooding	Stormwater Consultant

# SAP Project Location Map



# Eliminate Non-Jurisdictional Areas



# Develop Scoring Criteria

- Grading/scoring criteria
  - Traffic Safety
  - Emergency Access
  - Property Impacts
  - Environmental
  - Problem Documentation
  - Maintenance
  - City Score



CITY OF TARPON SPRINGS  
STORMWATER ACTION PLAN (SAP)  
STORMWATER FOCUS AREA SCORING CRITERIA

**BURGESS & NIPLE**  
Engineers ■ Architects ■ Planners

<u>CONSULTANT GRADING CRITERIA</u>	<u>MAX POINTS</u>
TRAFFIC SAFETY	10
EMERGENCY ACCESS/ROUTE	10
PROPERTY IMPACTS	10
ENVIRONMENTAL	10
PROBLEM DOCUMENTATION	5
MAINTENANCE	5
CITY SCORE	<u>10</u>
TOTAL POSSIBLE POINTS	60

#### Traffic Safety

0-5 points for a problem that impedes standard traffic flow rates. These locations are more of a nuisance due to partial roadside flooding.  
6-10 points for a problem that poses a threat to life, impedence to major arterial road or hurricane evacuation route, or flooding near electrical equipment.

#### Emergency Access/Route

0-3 points for a problem that may cause an emergency vehicle some delay  
4-7 point for a problem that may cause an emergency vehicle to change course while responding to an emergency.  
8-10 points for a problem that impedes an evacuation route or route to emergency shelter.

#### Property Impacts

0-3 points for a problem that is primarily minor street and private property ponding.  
4-7 points for a problem that impedes access to or from private property or causes flooding on more than one property; for a problem that occurs no more than 6 times a year and has a duration of less than 48 hours.  
8-10 points for a problem that poses threat to flooding a structure or causing erosion threatening a structure; for a problem that occurs at least 6 times a year and has a duration of more than 48 hours.

# Develop Scoring Criteria



## Traffic Safety

0-5 points for a problem that impedes standard traffic flow rates. These locations are more of a nuisance due to partial roadside flooding.

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8-10 points for a problem that poses threat to flooding a structure or causing erosion threatening a structure; for a problem that occurs at least 6 times a year and has a duration of more than 48 hours.

## Environmental

0-3 points for a problem that impacts the local proximity.

4-7 points for a problem that has potential water quality impacts to impaired waterbody.

8-10 points for a problem that is mandated by the FDEP or EPA and/or discharges to an impaired waterbody.

## Problem Area Documentation

0-2 points for a problem that has been identified by City Staff and/or the Dames and Moore Master Drainage Study.

3-5 points for a problem that has public complaints and/or photographs filed with the City.

## Maintenance

0-2 points for a problem that in the past has cost the City to maintain or retrofit.

3-5 points for a problem that annually costs the City to maintain or for a problem that if not properly maintained causes flooding.

# Develop Scoring Criteria



## City Score

### Level A (10 points)

- Represent a **significant and immediate** threat to life, health, and/or property.
- Completely blocks the flow of traffic through **main thoroughfares** (traffic cannot safely pass and must be re-routed). Blocks access to neighborhoods or areas of the City.
- Water enters a structure.
- Represents a significant and severe contribution to surface water pollution.

### Level B (8 points)

- Represent a **potential** threat to life, health, and/or property.
- Blocks the flow of traffic **on a single street**, several structures, or business access.
- Water surrounds but does not enter a structure.
- Represents a potential contribution to surface water pollution.

### Level C (6 points)

- Represent a **possible** threat to life, health, and/or property.
- Blocks traffic access to a **single home**.
- Water surrounds or pools on a portion of a homeowner's or business owner's property.
- Represents a possible contribution to surface water pollution.

### Level D (4 points)

- **Nuisance flooding** that does not pose any threat to life, health, and/or property.
- Does not block traffic access to homes, businesses, or streets.
- Water does not threaten a structure.
- Does not contribute to surface water pollution.

### Level E (2 points)

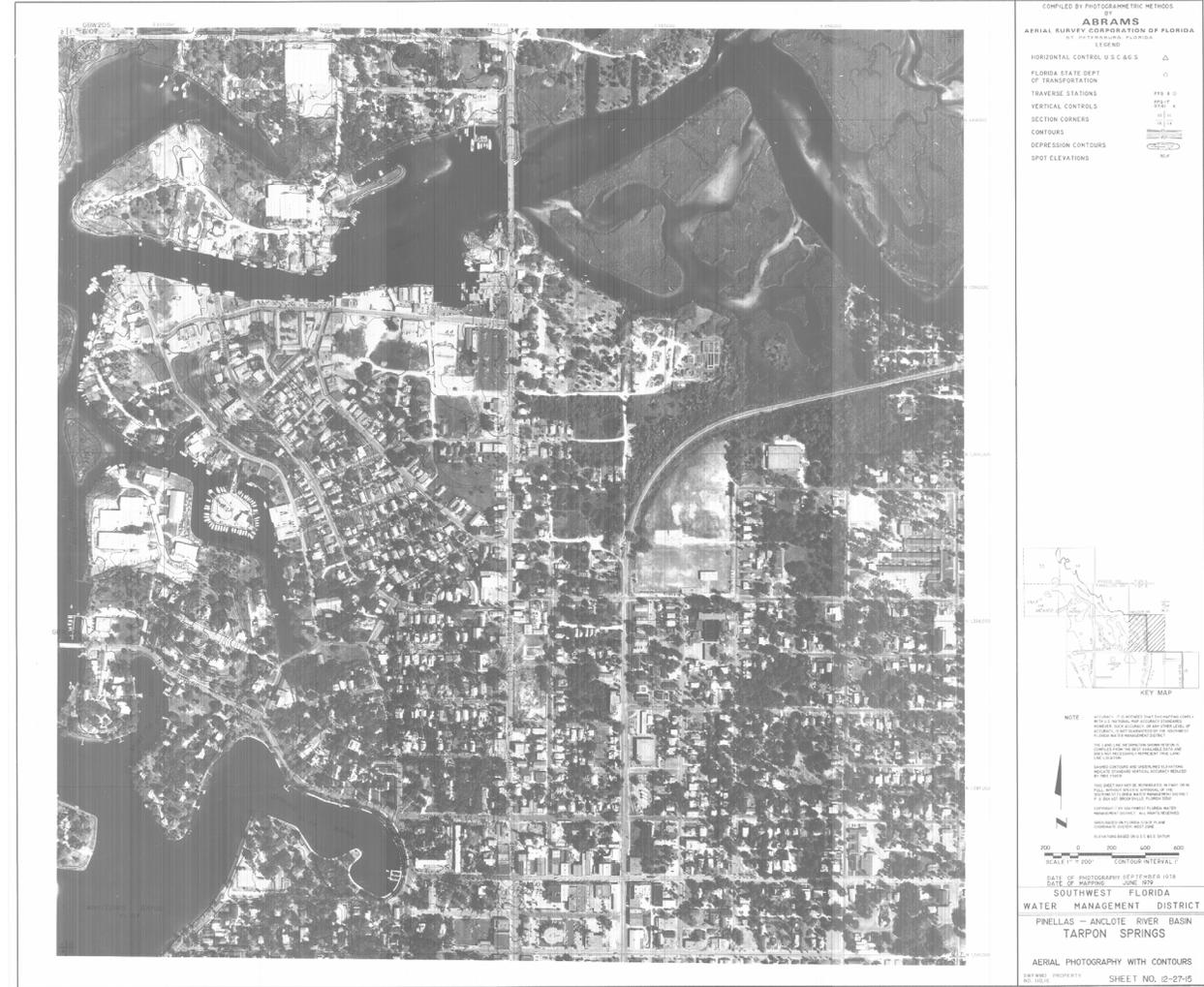
- Project is complete or remedy is underway (currently undergoing design or construction).

### Level F (0 points)

- Non-jurisdictional

# Data Collection & Research

- Historic Contoured Aerials
- Current Aerial Imagery
- Current LiDAR data
- FEMA Flood Maps
- NRCS Soils Data
- Existing permitted projects design information
- City/Pinellas County/FDOT Flood Complaints



# Data Collection & Research

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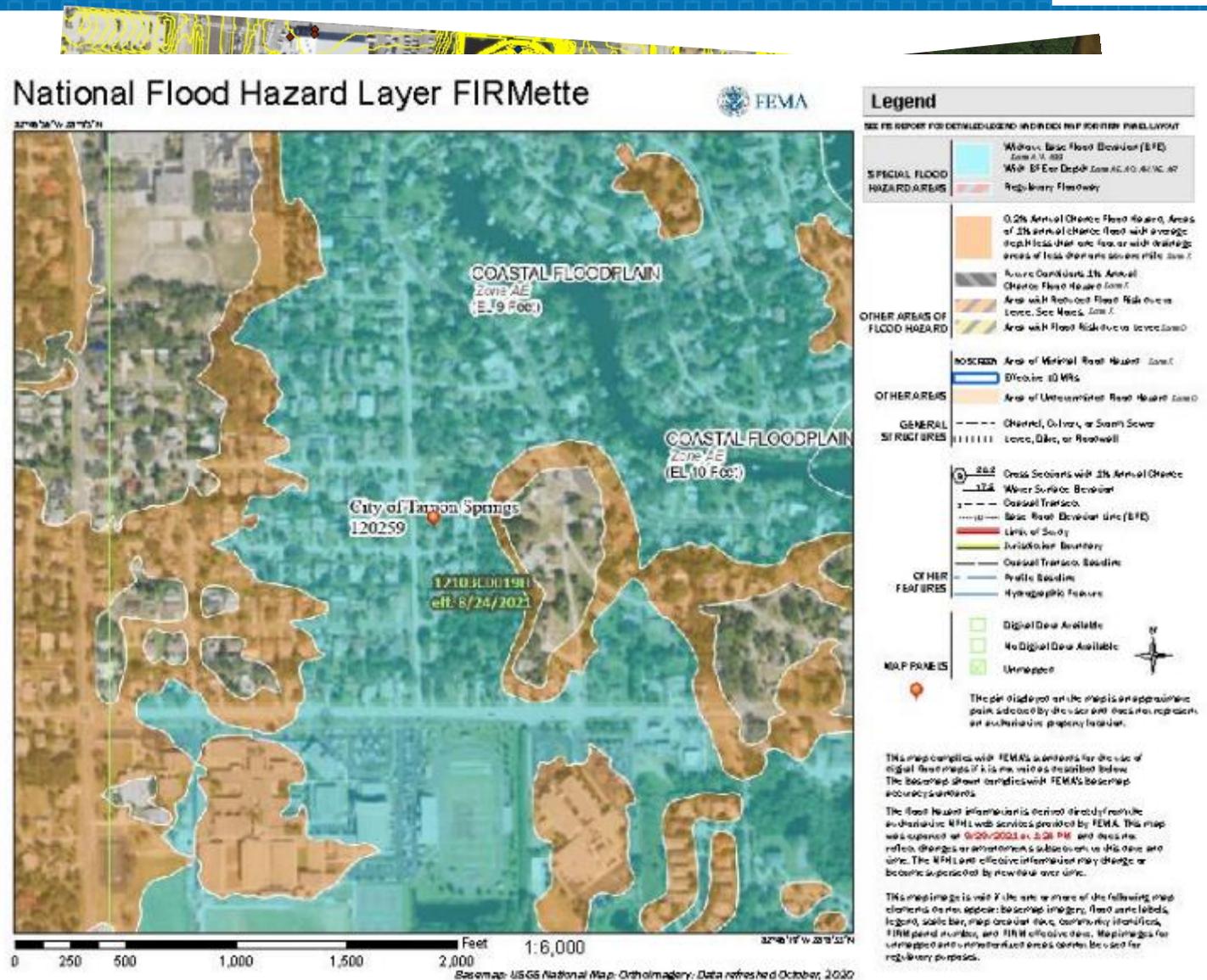
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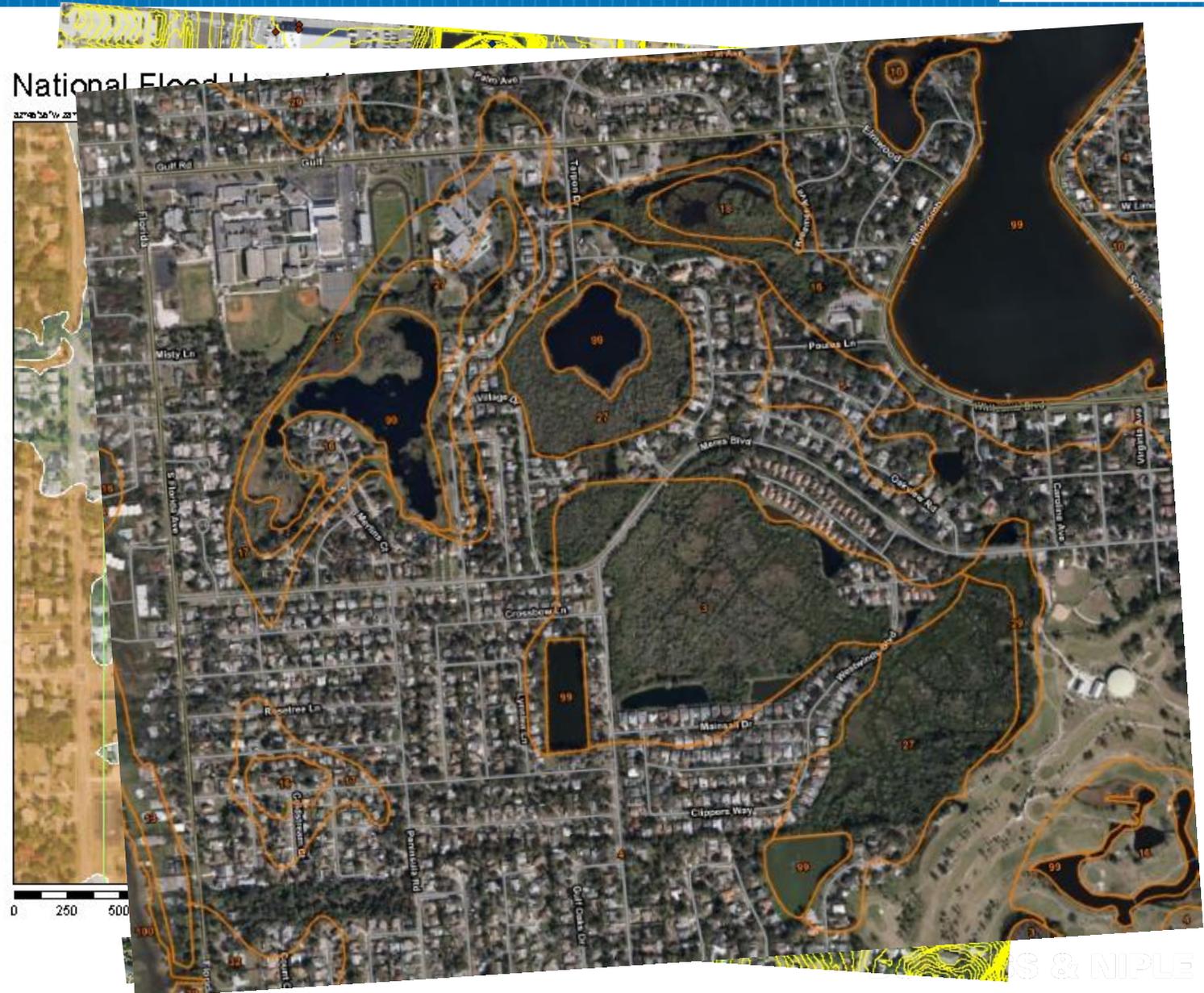
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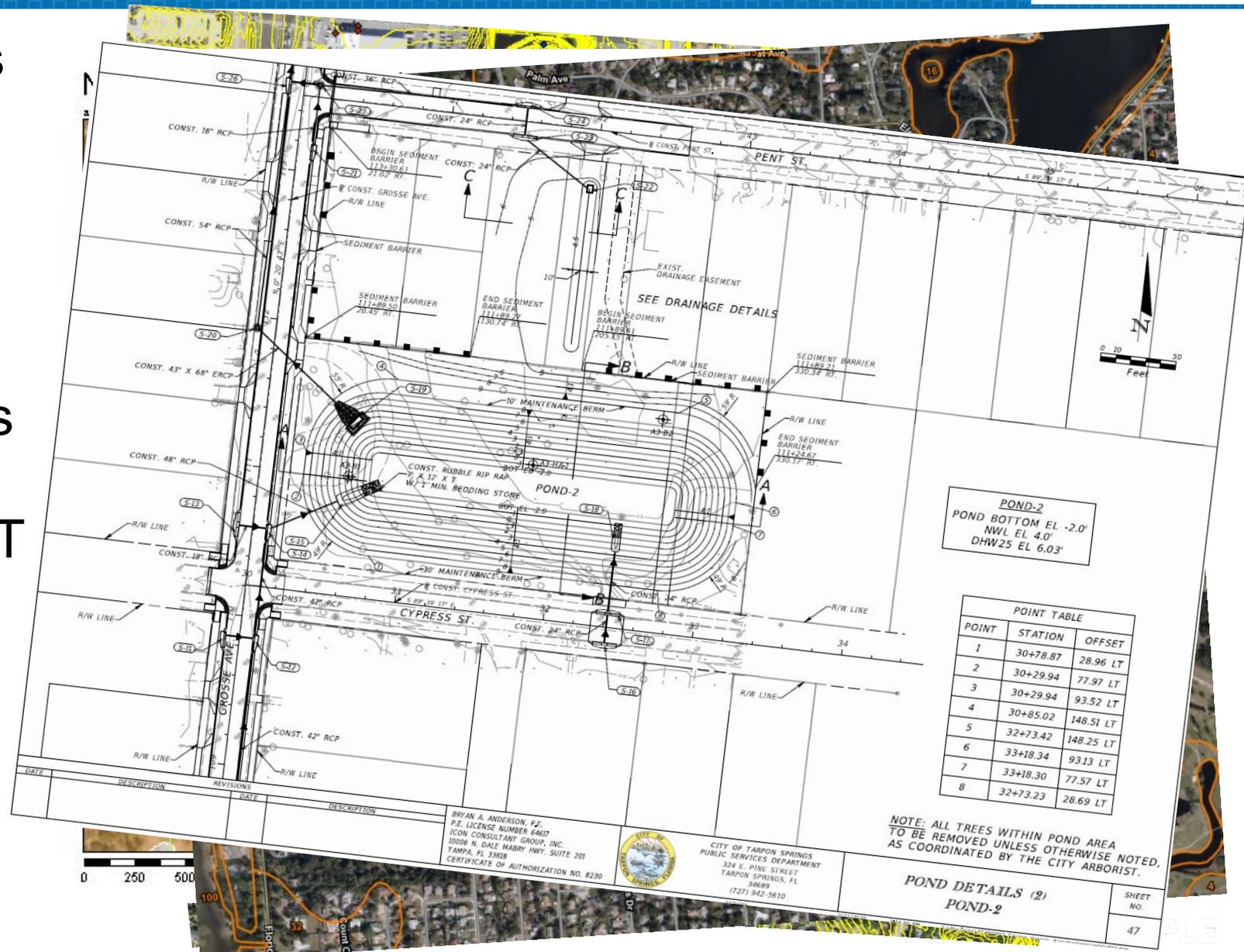
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## MAINTENANCE REQUEST

**SITE NAME:** SR 400 (I-4) -Weigh-In-Motion

**SPN:** 10190

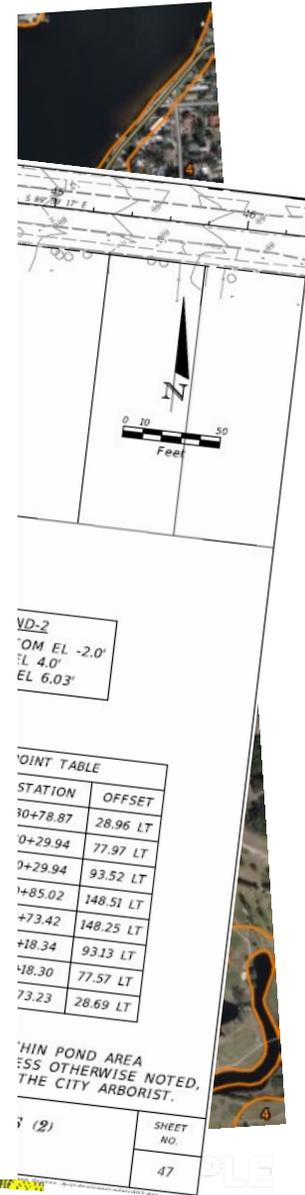
**COUNTY:** Hillsborough

**DATE:** 1/17/19

**MAINTNENACE ISSUE:** The culvert located in the northwest corner of the mitigation site is eroding and posing a safety issue. Maintenance vehicles are having trouble accessing the full length of the berm due to the erosion. Erosion in this area will be a recurring problem, especially during heavy rain events. Attached are a location map, an aerial, and photos of the erosion.



Figure 1 Outfall facing southeast.



## 3 Categories For Flooding Problems in the City

- Insufficient or No Current Drainage Infrastructure
- Closed Basin/Volume Sensitive
- Low Lying Coastal Areas Subject to Tidal Flooding



# Insufficient or No Drainage Facilities



# Closed Basin/Volume Sensitive



# Tidal Flooding



# Developing Conceptual Solutions & Cost Estimates



## Case Study: Palm Avenue (SAP No. 22)

- No drainage infrastructure
- Roadway and private property flooding

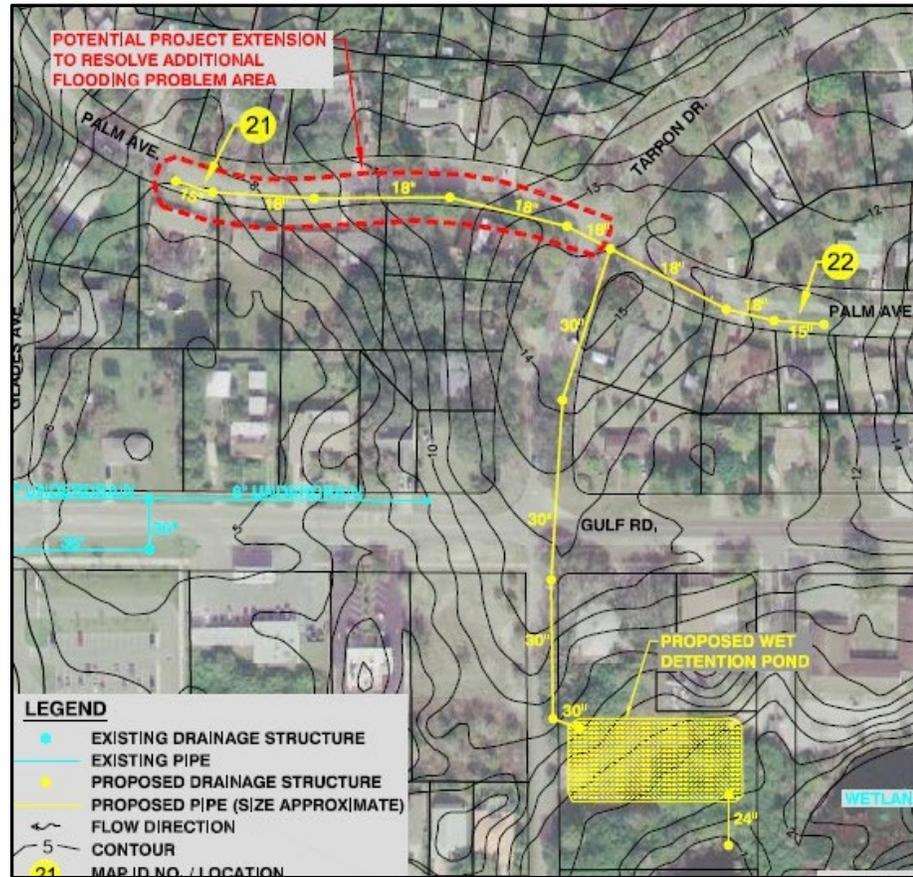


WET FIELD INVESTIGATION

Location:	SAP No. 22: Palm Avenue	Date:	5/2/2016
<b>CRITERIA</b>		<b>MAX POINTS</b>	
TRAFFIC SAFETY		10	
EMERGENCY ACCESS/ROUTE		10	
PROPERTY IMPACTS		10	
ENVIRONMENTAL		10	
PROBLEM DOCUMENTATION		5	
MAINTENANCE		5	
CITY SCORE		10	
<b>TOTAL POSSIBLE POINTS</b>		<b>60</b>	
TRAFFIC SAFETY		3	
EMERGENCY ACCESS/ROUTE		3	
PROPERTY IMPACTS		9	
ENVIRONMENTAL		0	
PROBLEM DOCUMENTATION		5	
MAINTENANCE		0	
CITY SCORE		2	
<b>TOTAL POSSIBLE POINTS</b>		<b>25</b>	
City Reviewer:	Anthony "Tony" Mannello		
Review Date:	5/11/2016		
Consultant Reviewer:	Anderson		
Review Date:	5/27/2016		

TOTAL SAP SCORE

## Case Study: Palm Avenue (SAP No. 22)



CONCEPTUAL SOLUTION

**Stormwater Action Plan - Phase II**

**Preliminary Construction Cost Estimate**

MAP ID NO. 22 (OPTION 2): PALM AVE. BETWEEN TARPON DR. & GULF RD. 09/04/2014

Bid Item No.	Description	Quantity	Units	Unit Price	Amount
1	SYNTHETIC BALES	64	LF	\$16.00	\$1,024.00
2	STAKED SILT FENCE, TYPE III	1,598	LF	\$1.00	\$1,598.00
3	CLEARING & GRUBBING	0.791	AC	\$23,362.09	\$18,479.00
4	POND EXCAVATION	3,377	CY	\$3.82	\$12,900.00
5	ROADWAY RECONSTRUCTION	10,464	SF	\$4.75	\$49,704.00
6	MANHOLE	5	EA	\$4,200.00	\$21,000.00
7	DITCH BOTTOM INLET	3	EA	\$2,862.52	\$8,588.00
8	MITERED END SECTION	2	EA	\$2,000.00	\$4,000.00
9	PIPE CULVERT REINFORCED CONCRETE, 0-24"	270	LF	\$67.08	\$18,112.00
10	PIPE CULVERT REINFORCED CONCRETE, 25-36"	701	LF	\$138.14	\$96,836.00
11	SIDEWALK CONCRETE	80	SY	\$40.71	\$3,257.00
12	PERFORMANCE TURF, SOD	3,180	SY	\$3.13	\$9,953.00
<b>MAP ID NO. 22 (OPTION 2) CONSTRUCTION SUBTOTAL</b>					<b>\$245,451.00</b>

MAP ID NO. 21 (OPTION 2): PALM AVE. BETWEEN TARPON DR. & GLADES AVE. 09/04/2014

Bid Item No.	Description	Quantity	Units	Unit Price	Amount
1	SYNTHETIC BALES	64	LF	\$16.00	\$1,024.00
2	STAKED SILT FENCE, TYPE III	500	LF	\$1.00	\$500.00
3	CLEARING & GRUBBING	0.152	AC	\$23,362.09	\$3,551.00
4	ROADWAY RECONSTRUCTION	6,624	SF	\$4.75	\$31,464.00
5	MANHOLE	2	EA	\$4,200.00	\$8,400.00
6	DITCH BOTTOM INLET	2	EA	\$2,862.52	\$5,725.00
7	PIPE CULVERT REINFORCED CONCRETE, 0-24"	552	LF	\$67.08	\$37,028.00
8	SIDEWALK CONCRETE	64	SY	\$40.71	\$2,605.00
9	PERFORMANCE TURF, SOD	333	SY	\$3.13	\$1,042.00
<b>MAP ID NO. 21 (OPTION 2) CONSTRUCTION SUBTOTAL</b>					<b>\$91,339.00</b>

<b>CONSTRUCTION SUBTOTAL</b>	<b>\$336,790.00</b>
<b>MOBILIZATION</b>	<b>\$20,208.00</b>
<b>25% CONTINGENCY</b>	<b>\$84,197.50</b>
<b>CONSTRUCTION TOTAL</b>	<b>\$441,196.00</b>
<b>SURVEY</b>	<b>\$15,442.00</b>
<b>GEOTECHNICAL</b>	<b>\$8,824.00</b>
<b>ENGINEERING</b>	<b>\$35,296.00</b>
<b>ROW</b>	<b>\$350,000.00</b>
<b>GRAND TOTAL</b>	<b>\$850,758.00</b>

**Notes:**

- Unit Prices based on FDOT Item Average Unit Costs for Area 08 from 10/01/2013 to 09/30/2014.
- Conceptual Cost Estimate does not include the costs of Right-of-Way Acquisition or Permitting.

CONCEPTUAL COST ESTIMATE

# Developing Conceptual Solutions & Cost Estimates



## Case Study: Palm Avenue (SAP No. 22)

**Stormwater Action Plan - Phase II**  
**Preliminary Construction Cost Estimate**

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GEOTECHNICAL	\$8,824.00
ENGINEERING	\$35,296.00
ROW	\$350,000.00
<b>GRAND TOTAL</b>	<b>\$850,758</b>

Notes:  
1. Unit Prices based on FDOT Item Average Unit Costs for Area 08 from 10/01/2013 to 09/30/2014.  
2. Conceptual Cost Estimate does not include the costs of Right-of-Way Acquisition or Permitting.

**2 (OPTION 2): PALM AVE. BETWEEN TARPON DR. & GULF RD.**

Description	Quantity
SYNTHETIC BALES	64
STAKED SILT FENCE, TYPE III	1,598
CLEARING & GRUBBING	0.791
POND EXCAVATION	3,377
ROADWAY RECONSTRUCTION	10,484
MANHOLE	5
DITCH BOTTOM INLET	3
MITERED END SECTION	2
PIPE CULVERT REINFORCED CONCRETE, 0-24"	270
PIPE CULVERT REINFORCED CONCRETE, 25-36"	701
SIDEWALK CONCRETE	80
PERFORMANCE TURF, SOD	3,180

CONSTRUCTION TOTAL	\$441,196		
SURVEY	\$15,442	4%	CONST. TOTAL
GEOTECHNICAL	\$8,824	2%	CONST. TOTAL
ENGINEERING	\$35,296	8%	CONST. TOTAL
RIGHT-OF-WAY	\$350,000		ESTIMATED
<b>GRAND TOTAL</b>	<b>\$850,758</b>		

### CONCEPTUAL COST ESTIMATE

$$\frac{\text{Conceptual Cost (Grand Total)}}{\text{SAP Score}} = \text{Total Cost/SAP Point}$$

**Table 3: Cost/Benefit Summary of Recommended Conceptual Solutions**

Last Update: Sept. 2020

Project Ranking	Map ID No.	Option No.	Project Location	Resolved Map ID No.	Design & Construction Cost	ROW Acquisition Estimate	Total Cost	Total SAP Score	Total Cost/SAP Point	Level of Permitting
10	102	1	Mango St. & Mango Cl.	102	\$182,897	\$0	\$182,897	12	15,241	LOW
11	39	1	Coburn Dr. 100' west of Florida Ave.	39	\$292,328	\$0	\$292,328	18	16,240	MEDIUM
12	2	2	Disston Ave. & Center St.	2, 17, 28, 28A	\$1,094,734	0	\$1,094,734	60	18,246	HIGH
13	15	1	Highland Ave. & Vista Pl.	15, 33	\$1,198,939	\$0	\$1,198,939	60	19,982	MEDIUM
14	9	3	Disston Ave. between Spruce St. & Live Oak St.	9, 10, 11	\$957,244	\$0	\$957,244	38	25,191	MEDIUM
15	57	2	Kenneth Way at Seaside Dr.	57, 74	\$771,208	\$30,000	\$801,208	30	26,707	MEDIUM
16	25	2	Levis Ave. Alleyway/Levis Ave. between Lime St. & Oakwood St.	20, 25	\$756,594	\$0	\$756,594	20	37,830	MEDIUM
17	22	2	Palm Ave. between Tarpon Dr. & Gulf Rd.	21, 22	\$884,592	\$77,136	\$961,728	25	38,469	MEDIUM
18	42	2	Sponge Docks Flooding - Phase 2: Pipe Upgrade and Stormwater Vault Pump Station	42	\$2,031,516	\$0	\$2,031,516	52	39,068	MEDIUM
19	5	1	Pent St. 200' east of Grosse Ave.	4, 5, 6, 14, 29	\$2,539,485	\$0	\$2,539,485	60	42,325	HIGH

# Stormwater Capital Improvement Program



Map ID No.	Project Location	FY 2020			FY 2021		
		Design	Const.	R/W	Design	Const.	R/W
5	Pent St. 200' east of Grosse Ave. (Costs	\$254,704	\$389,771			\$389,770	
21 & 22	Palm Ave. between Tarpon Dr. & Gulf	\$88,197	\$546,416				
42	Sponge Docks Flooding - Phase 1:		\$365,561				
NA	City Golf Course (Phase 2)	\$41,485				\$181,817	
105	Chesapeake Dr. Tidal Valve		\$6,034				
109	Hibiscus Ave. & Pine St.					\$100,000	
110	Pinellas Trail Culvert				\$42,464		
102	Mango St. & Mango Cl. (Being					\$182,897	
104	Roosevelt Blvd. & Canal St. Tidal Valve				\$51,379		
111	Grandview Drive				\$62,242		
		\$384,386	\$1,307,782	\$0	\$156,085	\$854,484	\$0
	Fiscal Year Budget		\$3,500,000			\$2,307,833	
	Annual Expenditures		\$1,692,168			\$1,010,569	
	Balance Available For Next Fiscal Year		\$1,807,833			\$1,297,264	
	Cumulative Expenditures in the CIP		\$1,692,168			\$2,702,737	
	Initial Stormwater Account Balance						
	\$3,000,000						
	Annual Stormwater Fee						
	\$500,000						

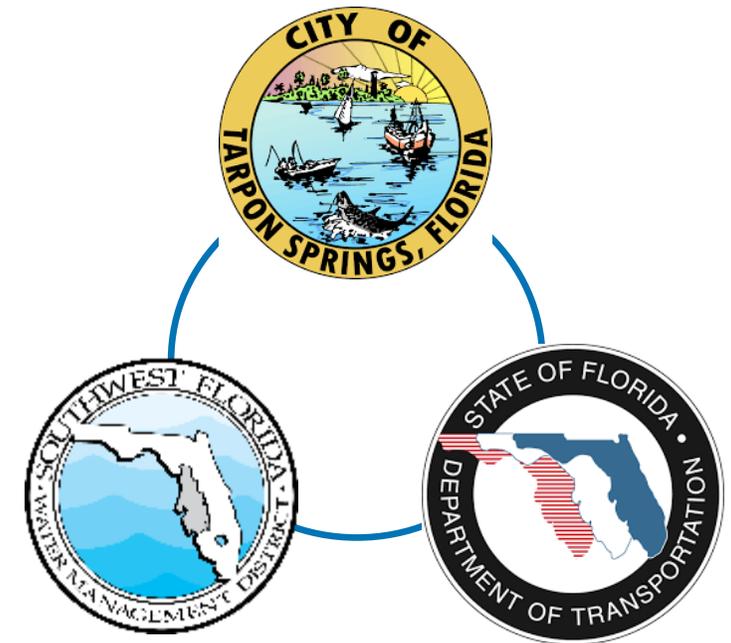
# Stormwater Action Plan Success



- 32 completed projects totaling in \$3.5M in construction
- 5 successful grant applications through SWFWMD Cooperative Funding Initiative (CFI) and FDOT Highway Safety Improvement Program
  - Improving flood abatement and water quality
  - Totaling \$2,743,889 for design and construction

## Summary of Successful Grant Applications

Project ID	Grant Funding Agency	Agency Project ID	Total Grant Funding to City
Pent Street / Grosse Avenue	SWFWMD	Q053	\$1,505,240
Palm Avenue	SWFWMD	N867	\$249,979
Highland / Jasmine	SWFWMD	N782	\$138,670
GIS Stormwater Inventory	SWFWMD	N923	\$100,000
Tarpon Avenue HSIP	FDOT / FHWA	443580-1	\$750,000
			\$2,743,889



# Stormwater Action Plan Success



- At your finger tips documentation – Where’s My Money Going?

**Table 7: Summary of Completed Projects**

Map ID No.	Project Location	Fiscal Year Completed	Total Cost	Notes
105	Chesapeake Drive	2020	\$8,750	Work Performed by City staff
42	Sponge Docks Flooding - Phase 1: Check Valves	2020	\$116,824	First of three possible improvement phases
21	Palm Avenue Drainage Improvements Design	2019	\$131,592	\$43,395 SWFWMD CFI Grant (design); \$206,584 SWFWMD CFI Grant (const.)
5	Pent/Grosse Drainage Improvements Design	2019	\$254,704	\$1,505,240 SWFWMD CFI Grant for construction
42	Dodecanese Blvd/Athens Street Phase 1	2019	\$38,879	Update SAP Map ID No. 42
NA	GIS Stormwater Infrastructure Inventory	2019	\$200,000	\$100,000 SWFWMD CFI Grant
NA	HSIP Grant Funding - Tarpon Avenue	2019	\$10,000	\$750,000 FDOT Construction Grant
NA	Bayshore Sunset Tidal Flooding	2018	\$19,644	City Installed TideFlex Valve
71	Riverside Dr. & Hillside Dr.	2017	\$114,725	
NA	Chesapeake Drive Tidal Flooding Evaluation	2017	\$3,500	
NA	Golf Course Phase 1	2017	\$45,127	
15/33	Jasmine/Highland 60% Design & Permit	2017	\$101,743	SWFWMD Permit expires 10/05/22
25	Mt. Hermon Baptist Curch Drainage Evaluation	2017	\$8,000	Update SAP Map ID No. 25

# Stormwater Action Plan Success



- When will my flooding be resolved?



## City of Tarpon Springs - Stormwater Capital Improvement Program

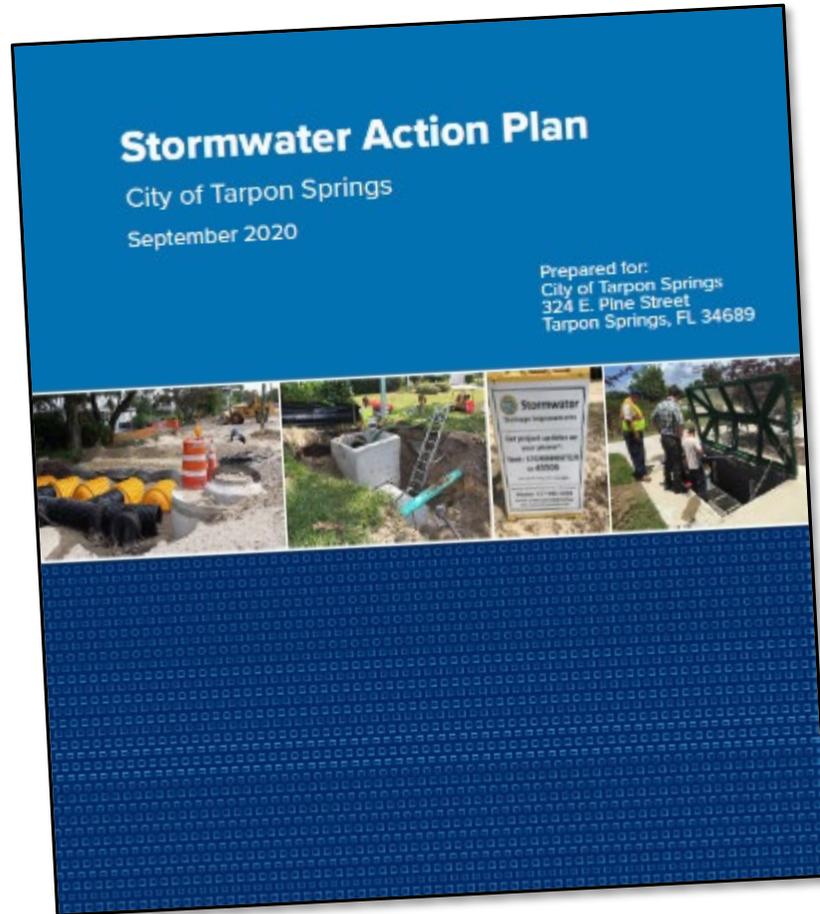
Updated June 2021

Map ID No.	Project Location	Design Start Date	Land Purchase Date	Construction Start Date	Construction Finish Date
21 & 22	Palm Ave. between Tarpon Dr. & Gulf Rd. (Street and private property flooding)	COMPLETED	2018	2020	2021
42	Sponge Docks Flooding - Phase 1: Check Valves (Street and private property flooding)	COMPLETED	NOT REQUIRED	2020	2021
105	Chesapeake Dr. Tidal Valve (Tidal street and private property flooding)	COMPLETED	NOT REQUIRED	2020	2020
5	Pent St. 200' east of Grosse Ave. (Street and private property flooding)	COMPLETED	NOT REQUIRED	2020	2021
NA	City Golf Course (Phase 2) (Long duration flooding)	COMPLETED	NOT REQUIRED	2021	2021
109	Hibiscus Ave. & Pine St. (Street flooding)	COMPLETED	NOT REQUIRED	2021	2021
110	Pinellas Trail Culvert (Street and private property flooding)	2021	NOT REQUIRED	2022	2022
102	Mango St. & Mango Cl. (Street flooding)	COMPLETED	2019	2021	2022
104	Roosevelt Blvd. & Canal St. Tidal Valve (Tidal street flooding)	2021	NOT REQUIRED	2022	2023
111	Grandview Drive (Street and private property flooding)	2021	NOT REQUIRED	2022	2023
42	Sponge Docks Flooding - Phase 2: Pipe Upgrades & Stormwater Vault Pump Station (Street and private property flooding)	2022	NOT REQUIRED	2023	2024
103	Roosevelt Blvd. & Island Dr. Tidal Valve (Tidal street flooding)	2023	NOT REQUIRED	2023	2023
106	Spring Dr. & MLK Jr. Dr. (Tidal street and private property flooding)	2022	NOT REQUIRED	2023	2024

# Stormwater Action Plan – It’s a Living Document



- Annual updates
  - Updates to the project’s unit cost
  - Capture new flooding or water quality projects



**Stormwater Action Plan - Phase II**  
**Preliminary Construction Cost Estimate**

MAP ID NO. 22 (OPTION 2): PALM AVE. BETWEEN TARPON DR. & GULF RD. 09/04/2014

Bid Item No.	Description	Quantity	Units	Unit Price	Amount
1	SYNTHETIC BALES	64	LF	\$16.00	\$1,024.00
2	STAKED SILT FENCE, TYPE III	1,598	LF	\$1.00	\$1,598.00
3	CLEARING & GRUBBING	0.791	AC	\$23,362.09	\$18,479.00
4	POND EXCAVATION	3,377	CY	\$3.82	\$12,900.00
5	ROADWAY RECONSTRUCTION	10,464	SF	\$4.75	\$49,704.00
6	MANHOLE	5	EA	\$4,200.00	\$21,000.00
7	DITCH BOTTOM INLET	3	EA	\$2,862.52	\$8,588.00
8	MITERED END SECTION	2	EA	\$2,000.00	\$4,000.00
9	PIPE CULVERT REINFORCED CONCRETE, 0-24"	270	LF	\$67.08	\$18,112.00
10	PIPE CULVERT REINFORCED CONCRETE, 25-36"	701	LF	\$138.14	\$96,836.00
11	SIDEWALK CONCRETE	80	SY	\$40.71	\$3,257.00
12	PERFORMANCE TURF, SOD	3,180	SY	\$3.13	\$9,953.00
<b>MAP ID NO. 22 (OPTION 2) CONSTRUCTION SUBTOTAL</b>					<b>245,451.00</b>

MAP ID NO. 21 (OPTION 2): PALM AVE. BETWEEN TARPON DR. & GLADES AVE. 09/04/2014

Bid Item No.	Description	Quantity	Units	Unit Price	Amount
1	SYNTHETIC BALES	64	LF	\$16.00	\$1,024.00
2	STAKED SILT FENCE, TYPE III	500	LF	\$1.00	\$500.00
3	CLEARING & GRUBBING	0.152	AC	\$23,362.09	\$3,551.00
4	ROADWAY RECONSTRUCTION	6,624	SF	\$4.75	\$31,464.00
5	MANHOLE	2	EA	\$4,200.00	\$8,400.00
6	DITCH BOTTOM INLET	2	EA	\$2,862.52	\$5,725.00
7	PIPE CULVERT REINFORCED CONCRETE, 0-24"	552	LF	\$67.08	\$37,028.00
8	SIDEWALK CONCRETE	64	SY	\$40.71	\$2,605.00
9	PERFORMANCE TURF, SOD	333	SY	\$3.13	\$1,042.00
<b>MAP ID NO. 21 (OPTION 2) CONSTRUCTION SUBTOTAL</b>					<b>\$91,339.00</b>

<b>CONSTRUCTION SUBTOTAL</b>	<b>\$336,790.00</b>
<b>MOBILIZATION</b>	<b>\$20,208.00</b>
<b>25% CONTINGENCY</b>	<b>\$84,197.50</b>
<b>CONSTRUCTION TOTAL</b>	<b>\$441,196</b>
<b>SURVEY</b>	<b>\$15,442.00</b>
<b>GEOTECHNICAL</b>	<b>\$8,824.00</b>
<b>ENGINEERING</b>	<b>\$35,296.00</b>
<b>ROW</b>	<b>\$350,000.00</b>
<b>GRAND TOTAL</b>	<b>\$850,758</b>

Notes:  
 1. Unit Prices based on FDOT Item Average Unit Costs for Area 08 from 10/01/2013 to 09/30/2014.  
 2. Conceptual Cost Estimate does not include the costs of Right-of-Way Acquisition or Permitting.



**THANK YOU FOR ATTENDING!!!**

**ANY QUESTIONS?**



CIP Project Constructed:  
Sponge Docks Phase-1

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# CIP Project Constructed: Bayshore and Sunset Check Valve Install

