

A photograph of a Miami Beach skyline featuring a prominent lighthouse sculpture with black and white spiral bands. In the background, there are several modern high-rise buildings with glass facades. The foreground shows palm trees and a waterfront area with a marina. The sky is blue with scattered white clouds.

MIAMIBEACH
RISING
ABOVE

April 21, 2021

Road Raising & South Pointe Neighborhood Drainage Improvements

MIAMIBEACH RISING ABOVE

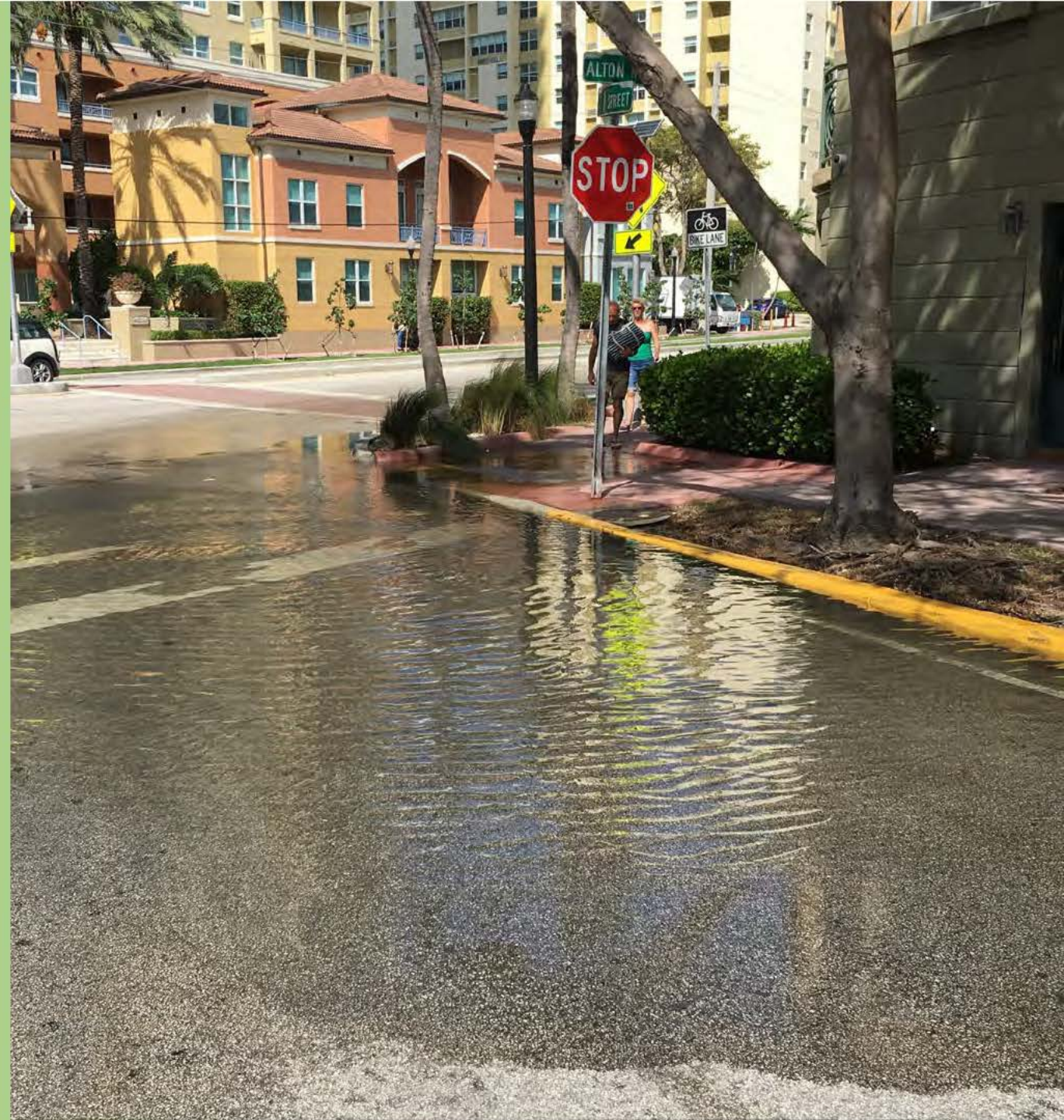
- 1 Background
- 2 Proposed Work
- 3 Alternatives Analysis
- 4 Staff Recommendation
- 5 Questions/Comments



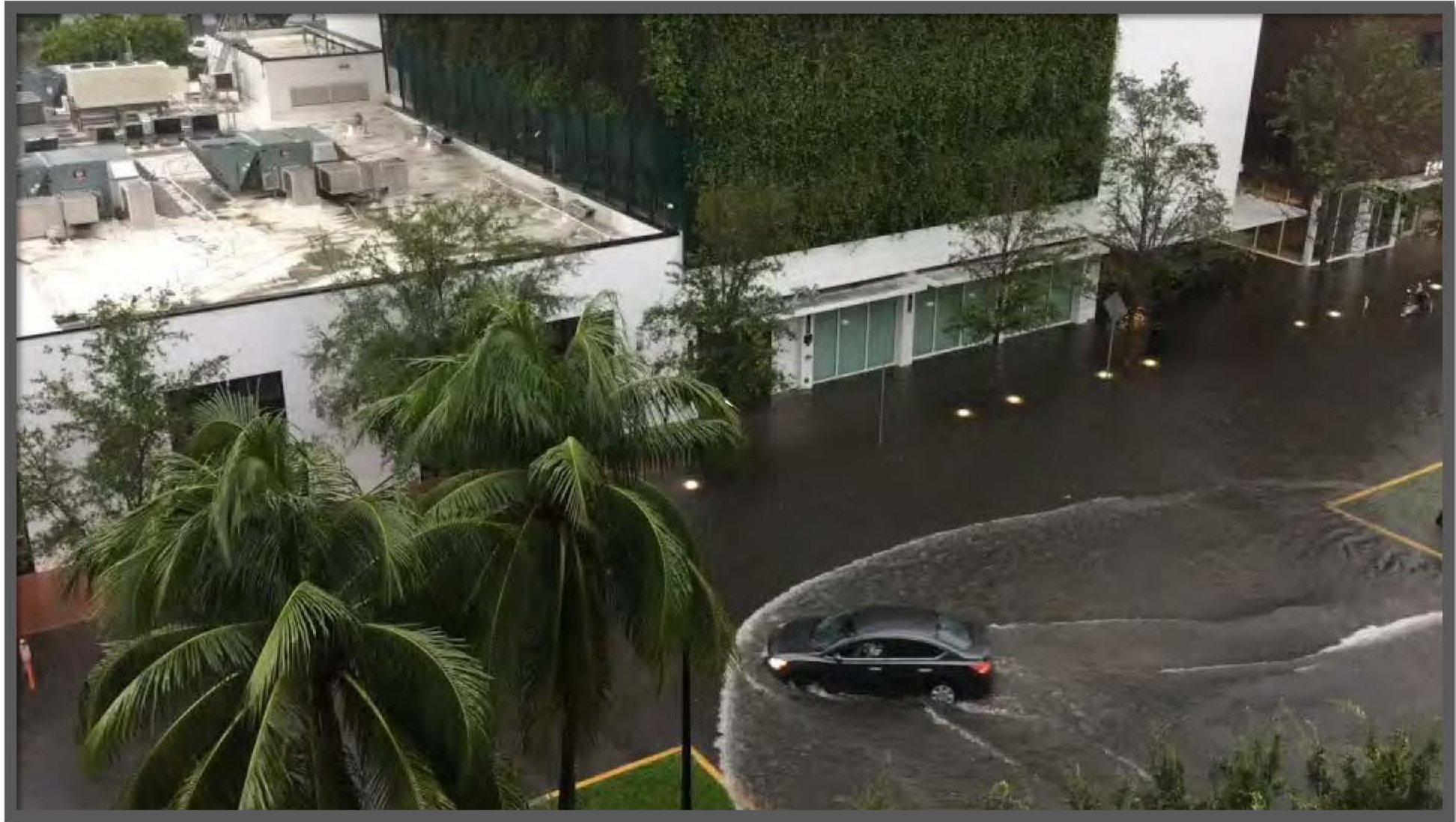
MIAMI BEACH
RISING
ABOVE

1

Background



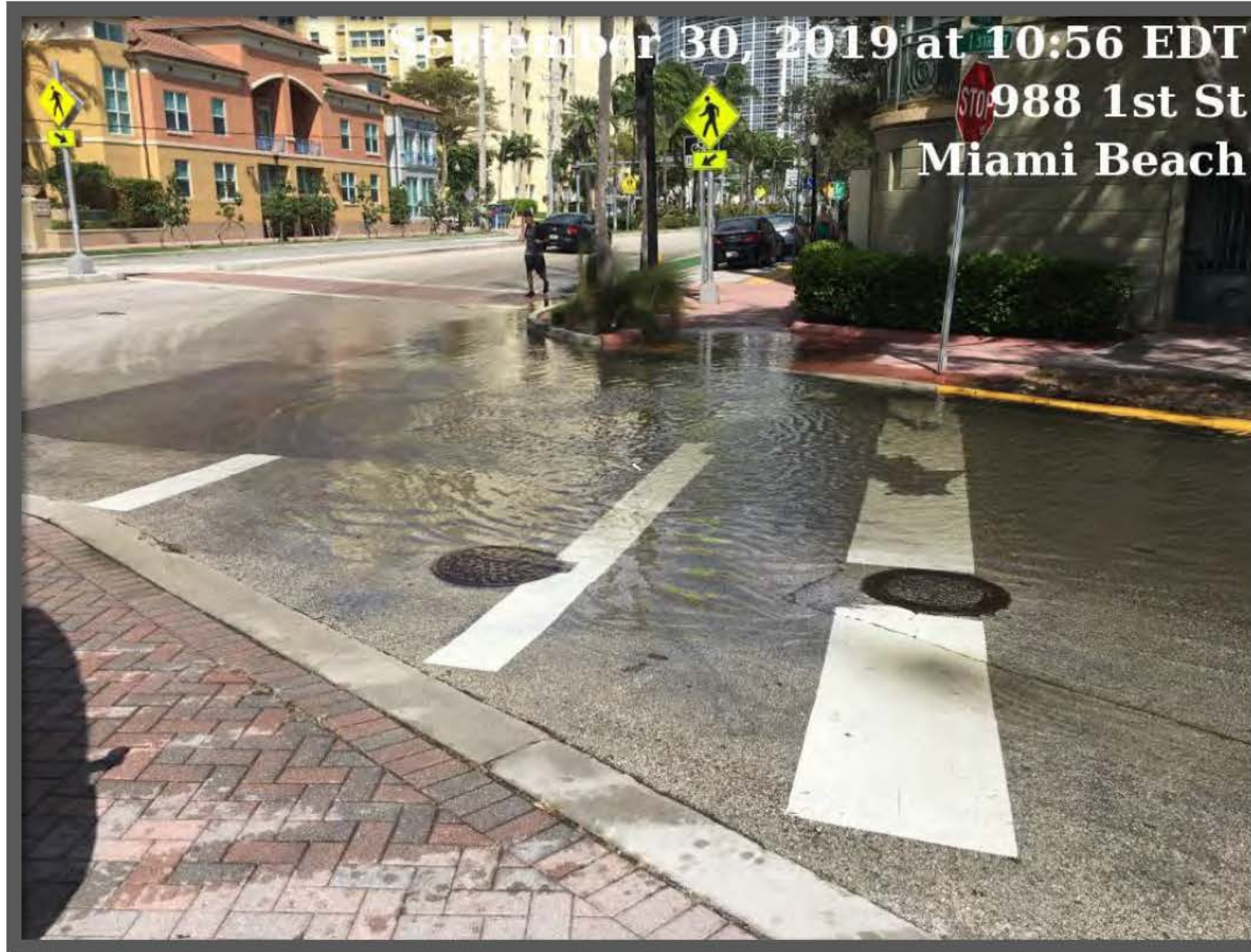
Rain Flooding



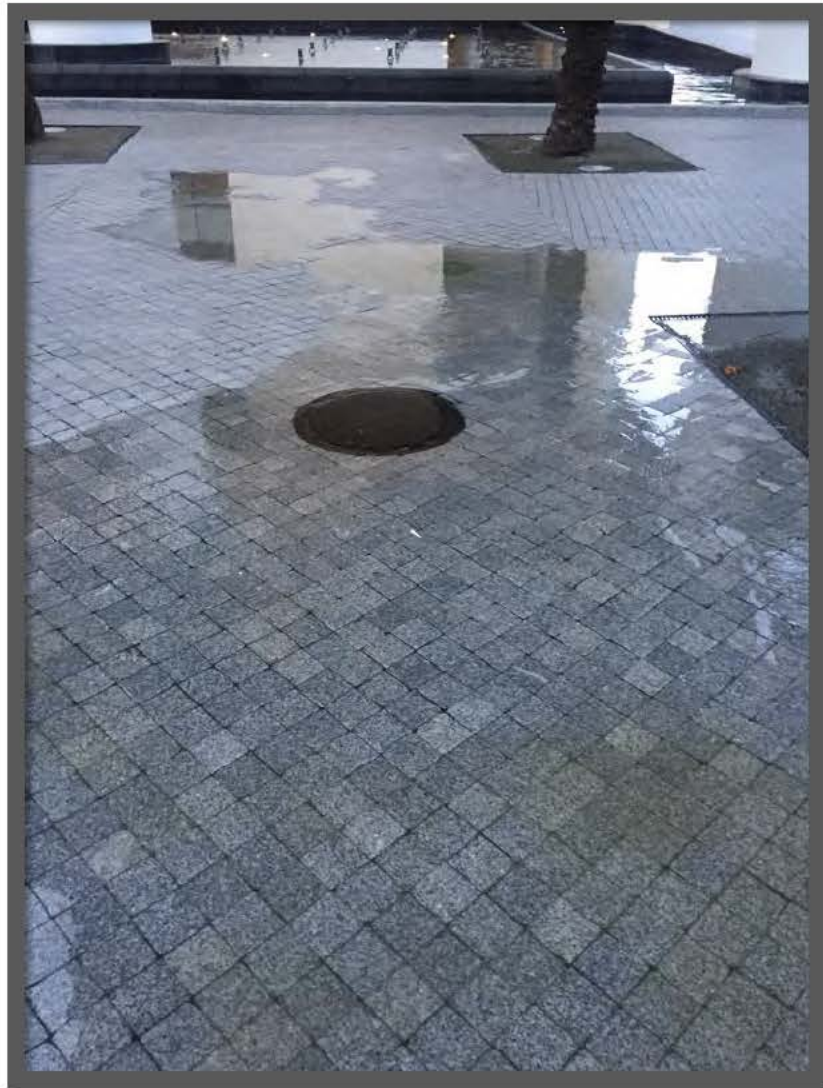
Rain Flooding



King Tide Flooding – 09/30/2019



Artesian Wells



MIAMIBEACH
RISING
ABOVE

2

Proposed Work



Proposed Gravity Stormwater System



1st Street Typical Section- Option 2

Pros

- Ample greenspace and sidewalk

Cons:

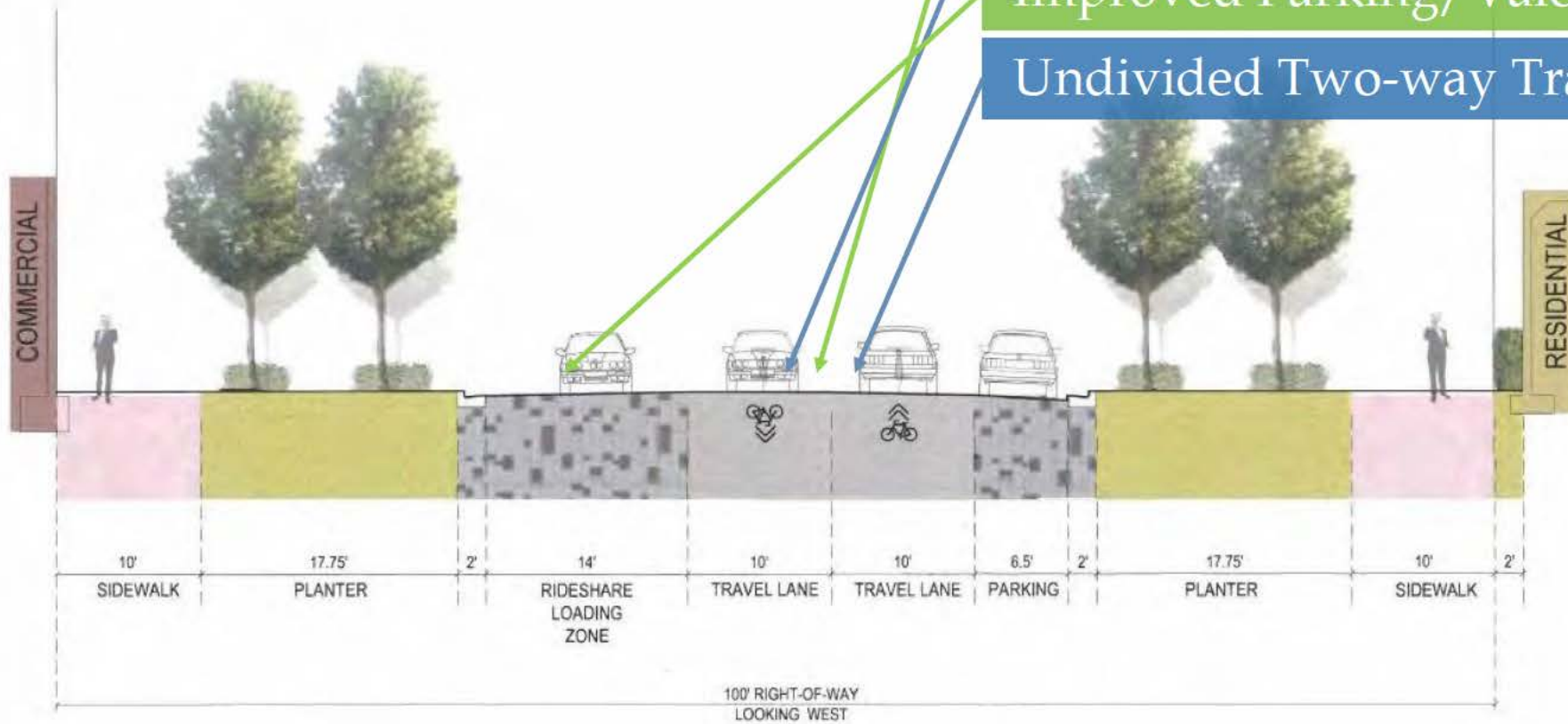
- Loss of parking

Road elevation raised to 3.7' NAVD

Shared Bicycle Lanes

Improved Parking/Valet Arrangement

Undivided Two-way Traffic



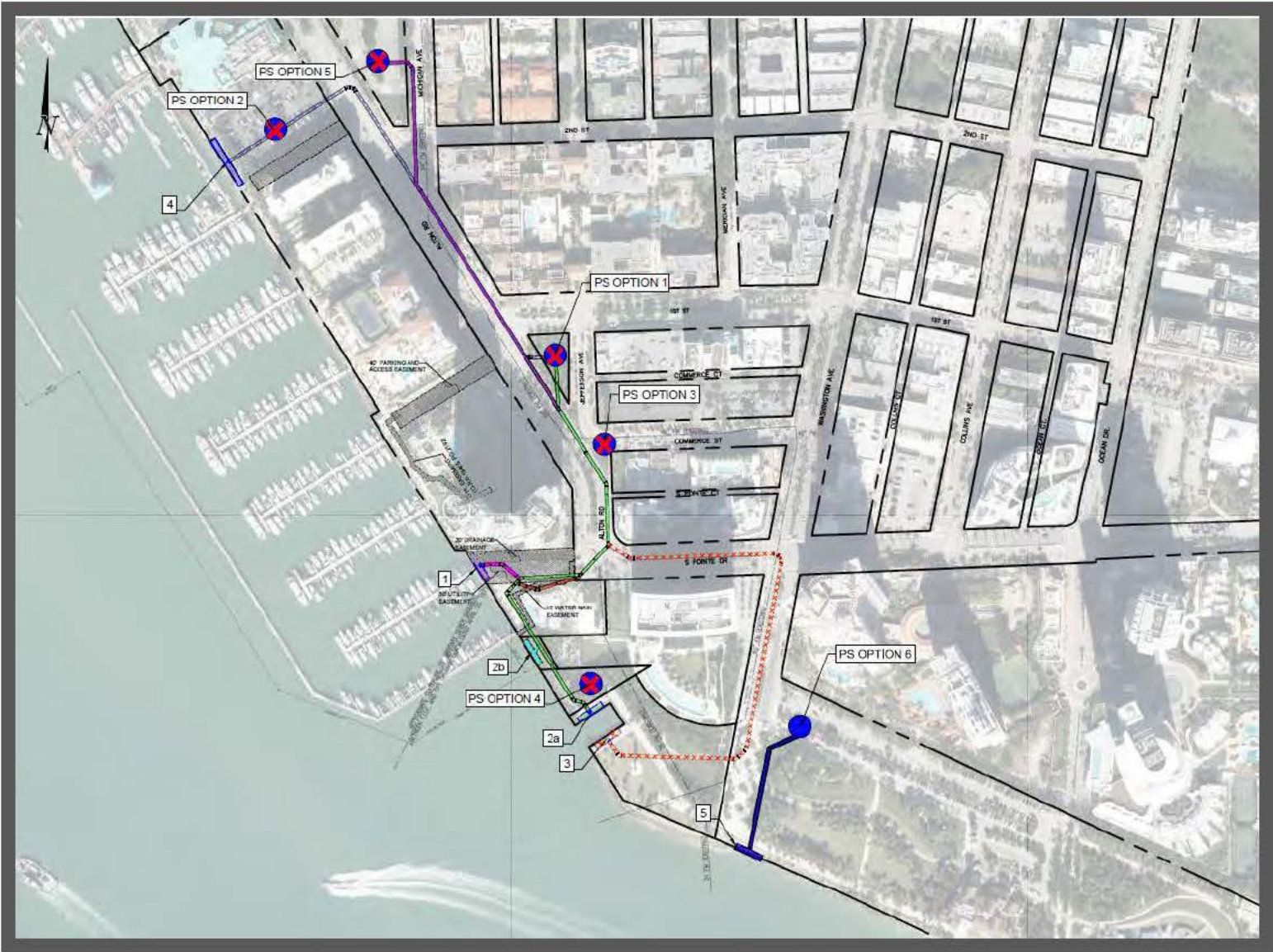
MIAMIBEACH
RISING
ABOVE

3

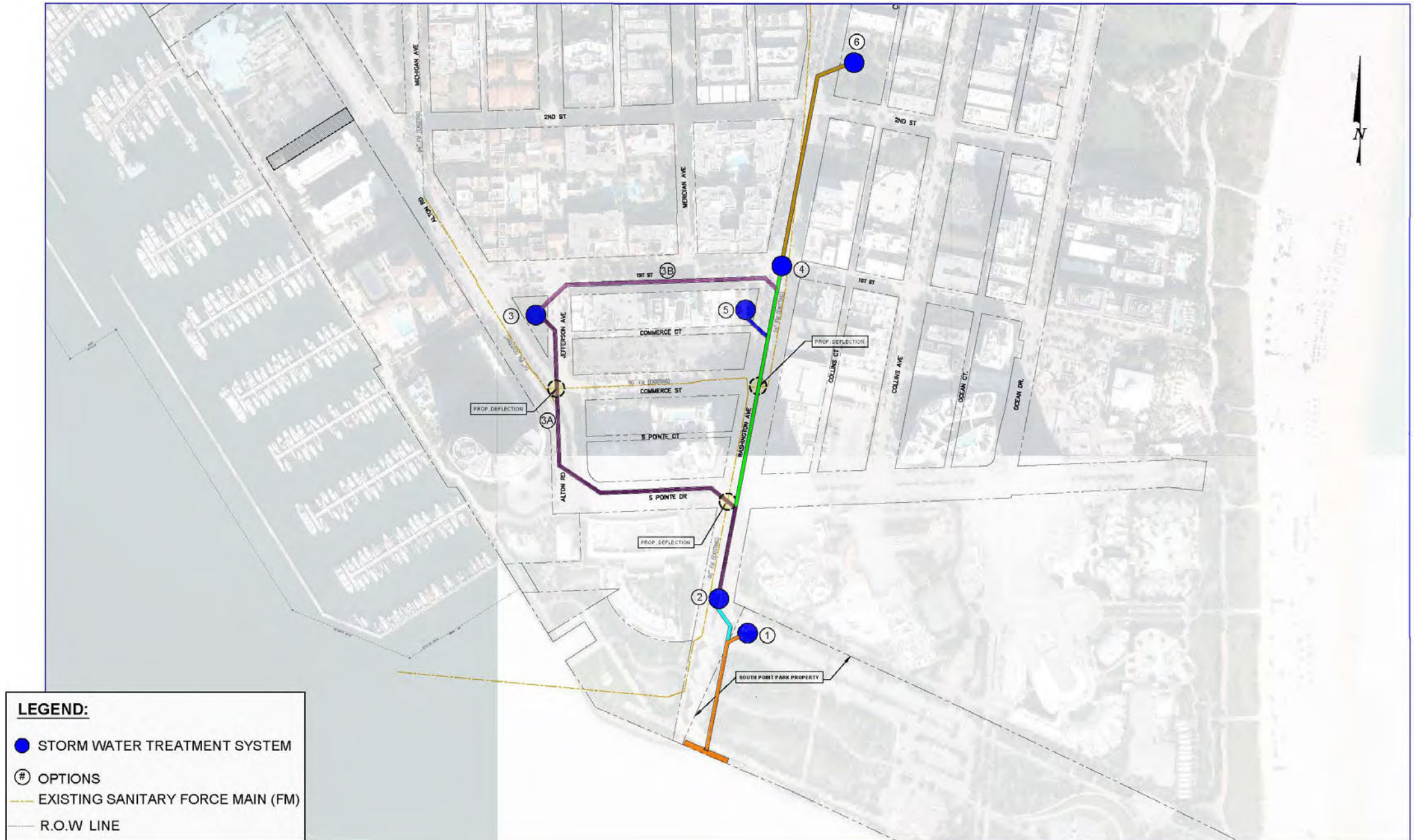
Alternatives Analysis





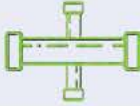
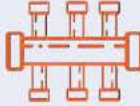












Original Alternatives Considered



First Street NIP Alternatives



Characteristics We Evaluated

Category	Best Case Description	Worst Case Description
Hydraulics	 Most efficient, least stormwater conveyance redundancy	 Least efficient, conveyance by gravity to the SWTS then pumped back to outfall through same route
Utility Conflicts	 Least number of major utility conflicts	 Greatest number of major utility conflicts, due to extended FM
Greenspace Impacts	 Least greenspace area loss	 Most greenspace area loss
Traffic Impacts	 Least traffic impacts, long term	 Most traffic impacts, long term
Maintenance Accessibility	 Easy access for maintenance, with lowest impacts to residents	 Restricted access for maintenance, with traffic and/or parking impacts to residents
Parking Loss	 Least parking spaces lost	 Most parking spaces lost
Schedule	 Shortest project schedule	 Longest schedule, due to longer FM construction or additional traffic study requirements
Cost	 Lowest construction cost	 Highest construction cost

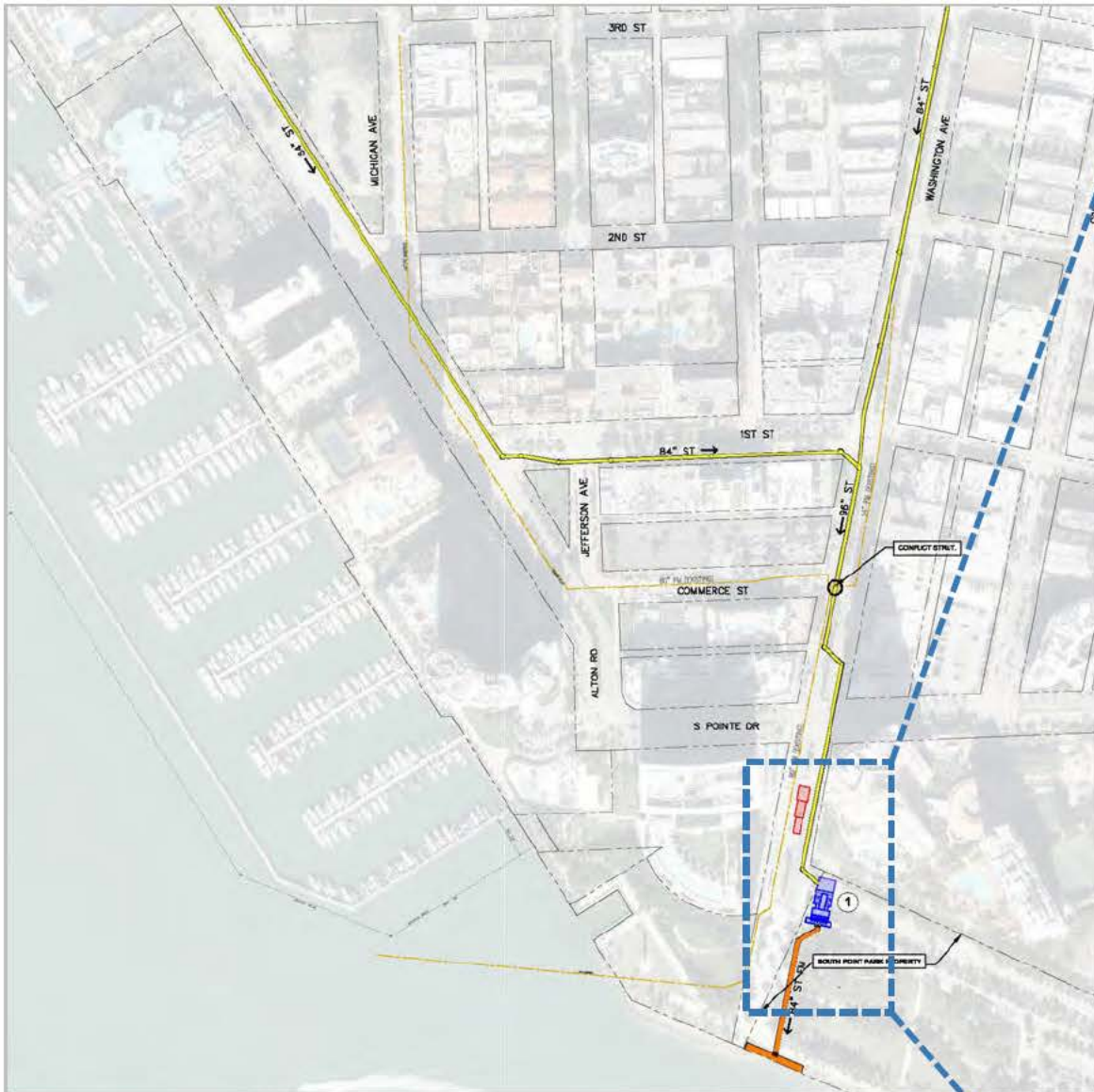
Three Levels of Impact:

 Best Case / Lowest Impact

 Moderate Impact

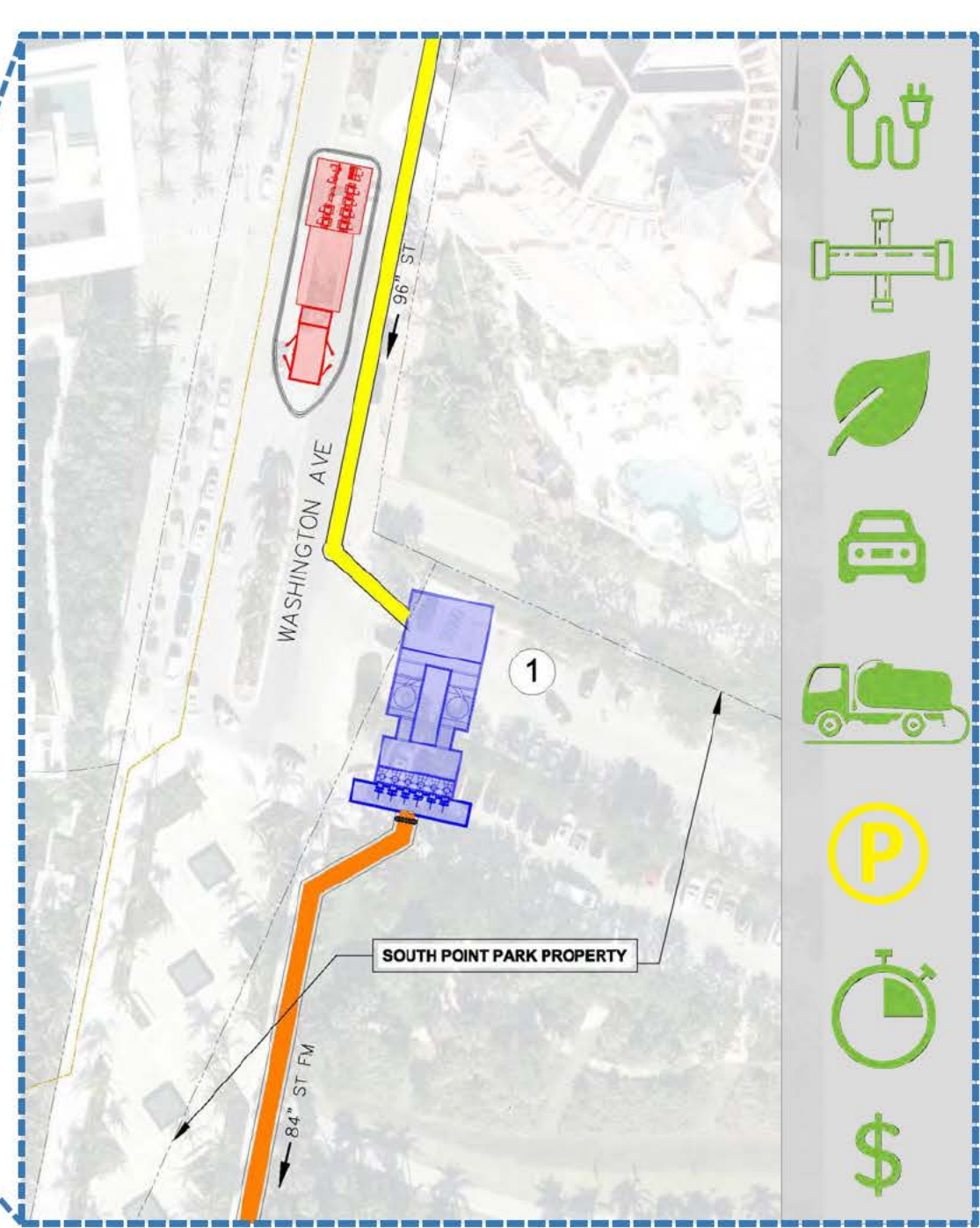
 Worst Case / Highest Impact

1 - SWTS @ South Pointe Parking Lot



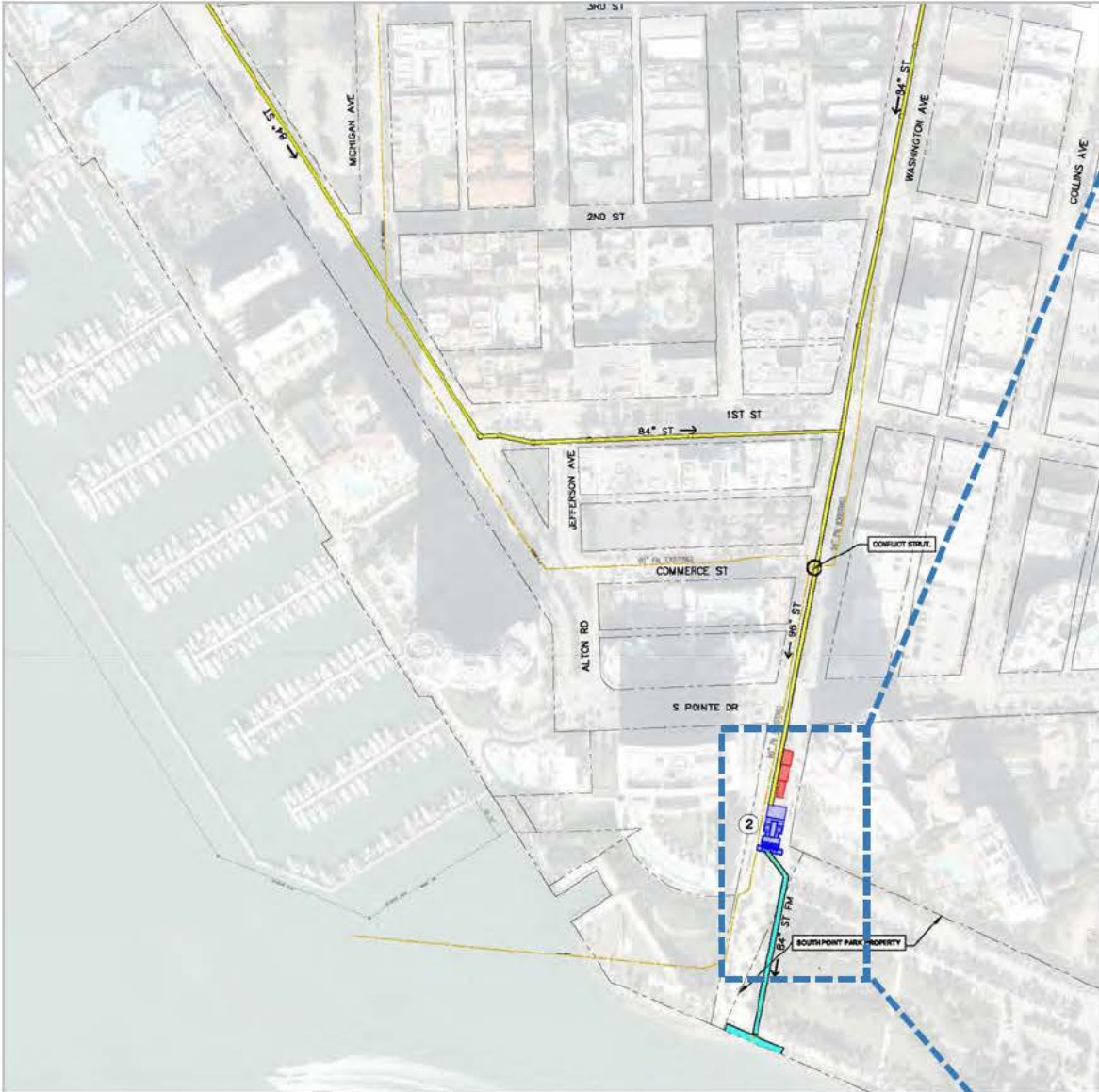
OPTION 1

- LEGEND:**
- UNDERGROUND WATER TREATMENT SYSTEM
 - ABOVE GROUND COMPONENTS
 - OUTFALL STORM WATER FORCE MAIN (ST-FM)
 - OPTION
 - PROPOSED STORM SEWER
 - EXISTING SANITARY FORCE MAIN (FM)
 - R.O.W LINE










-
-
-
-
-
-
-

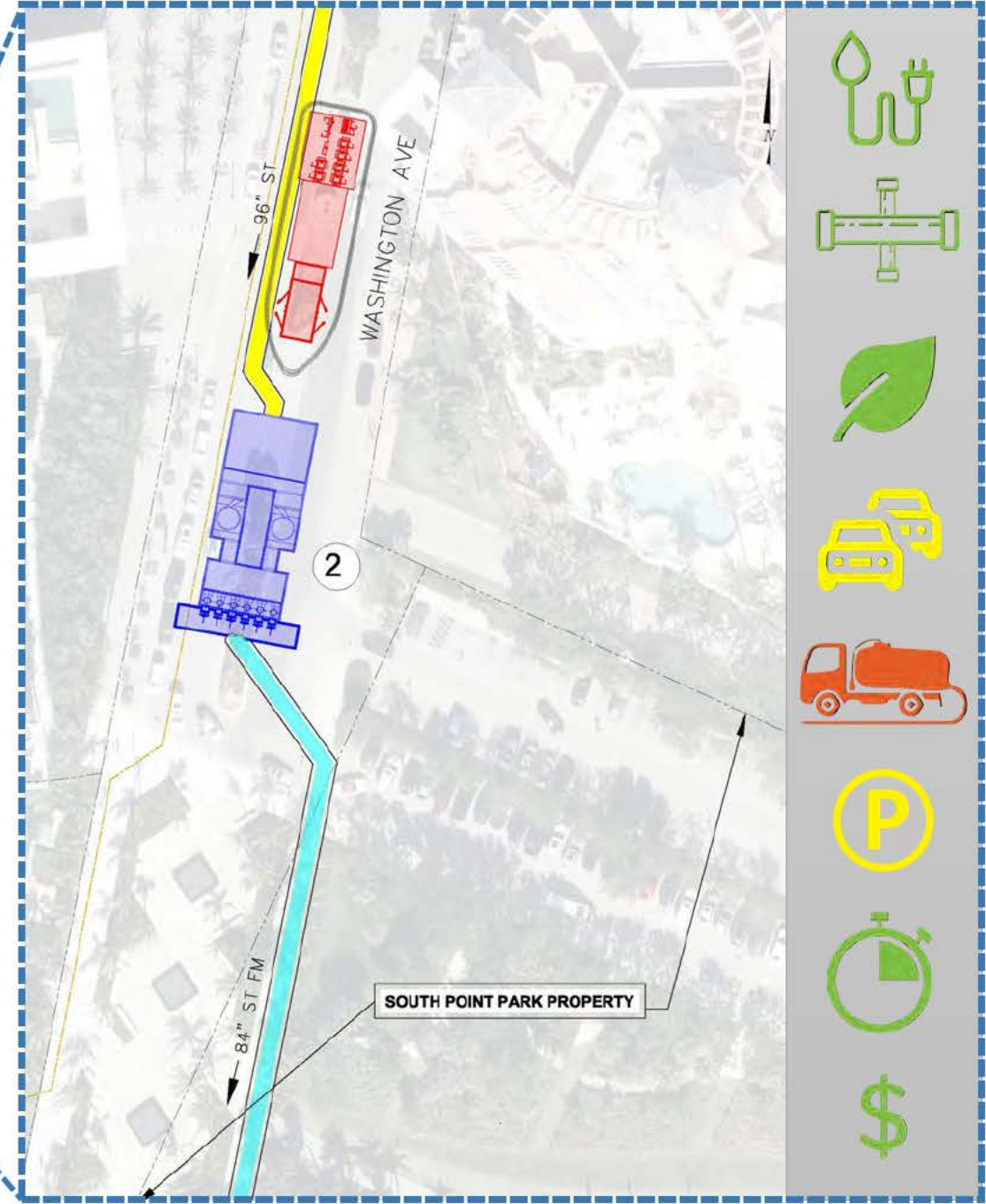
2 - SWTS @ Washington St. End Median


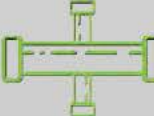








OPTION 2

LEGEND:

-  UNDERGROUND WATER TREATMENT SYSTEM
-  ABOVE GROUND COMPONENTS
-  OUTFALL STORM WATER FORCE MAIN (ST-FM)
-  OPTION
-  PROPOSED STORM SEWER
-  EXISTING SANITARY FORCE MAIN (FM)
-  R.O.W LINE










- 
- 
- 
- 
- 
- 
- 
- 

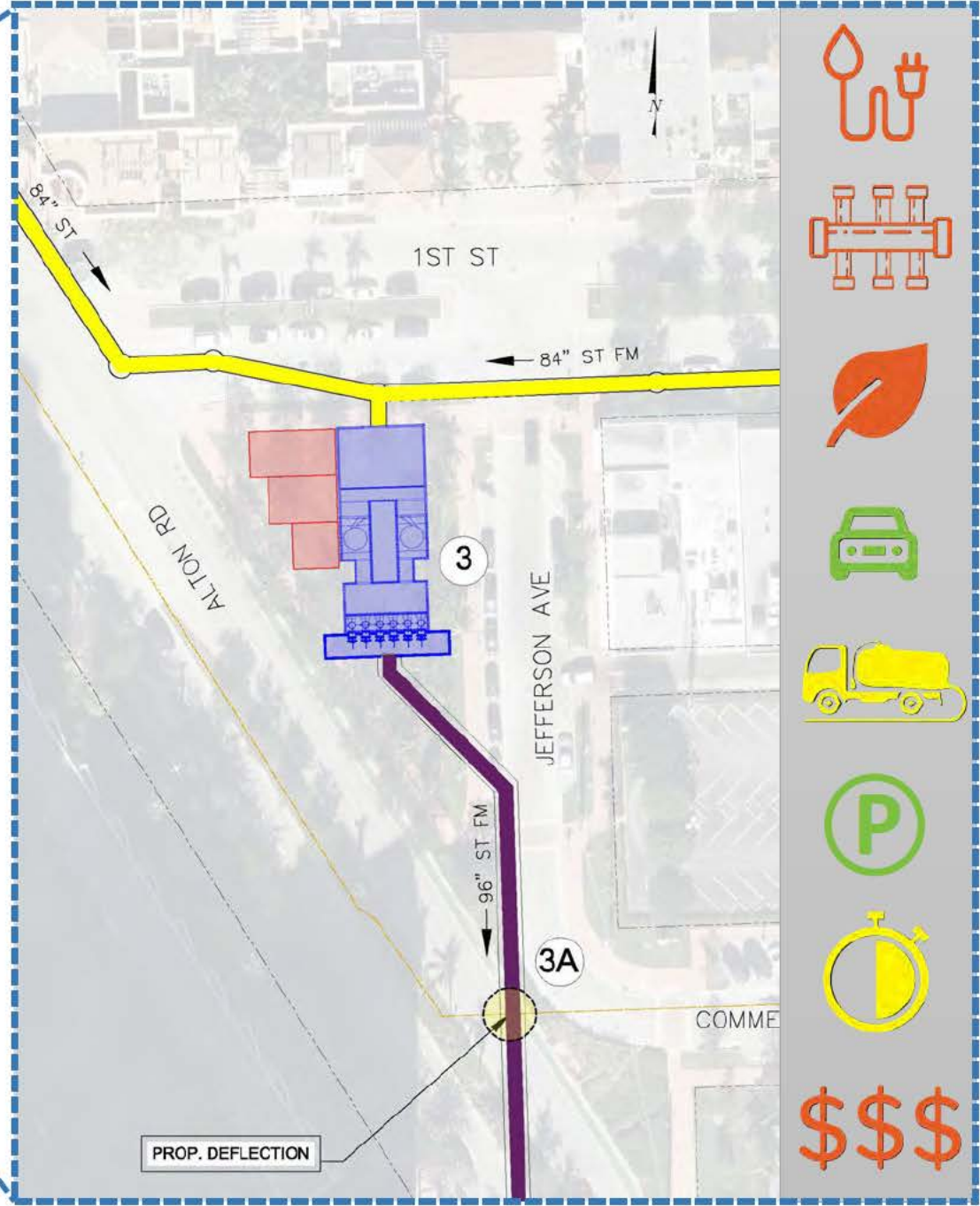
3A - SWTS @ Triangular Park & Pipe through South Pointe Dr.










OPTION 3 (3A)

LEGEND:

-  UNDERGROUND WATER TREATMENT SYSTEM
-  ABOVE GROUND COMPONENTS
-  OUTFALL STORM WATER FORCE MAIN (ST-FM)
-  OPTION
-  PROPOSED STORM SEWER
-  EXISTING SANITARY FORCE MAIN (FM)
-  R.O.W LINE










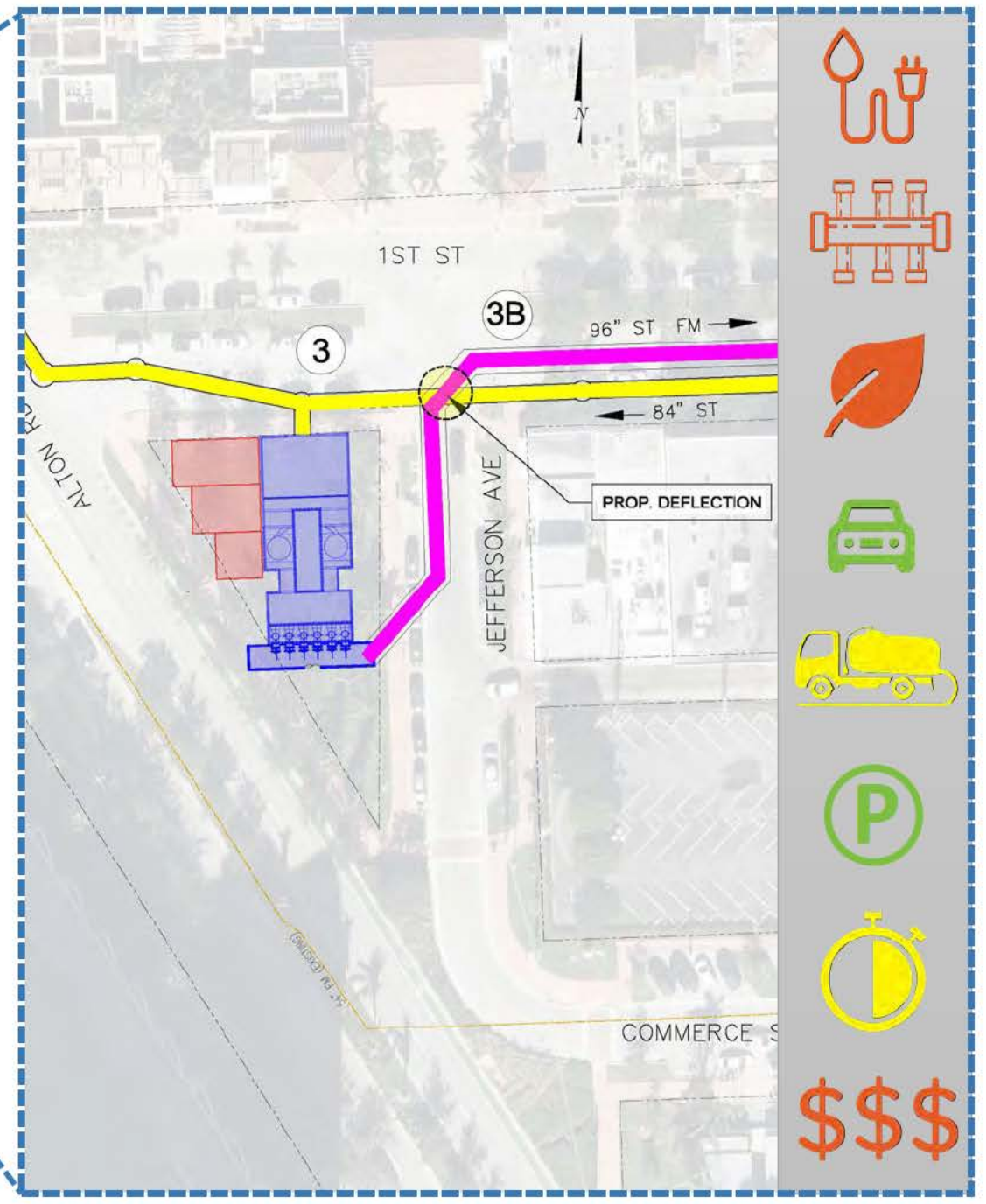
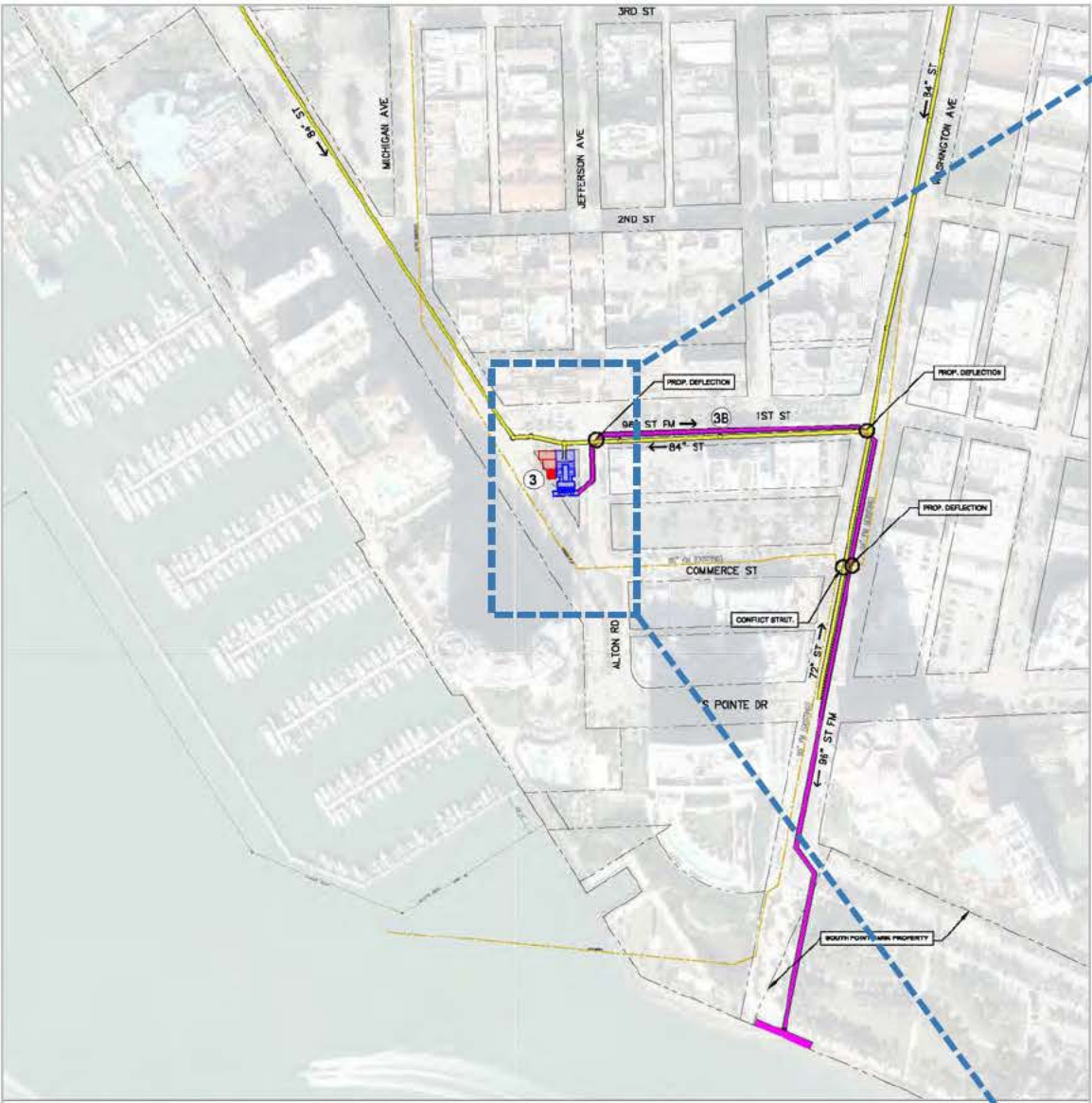
- 
- 
- 
- 
- 
- 
- 
- 


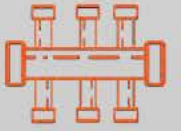






3B – SWTS @ Triangular Park & Pipe through First St. & Washington Ave.

OPTION 3 (3B)

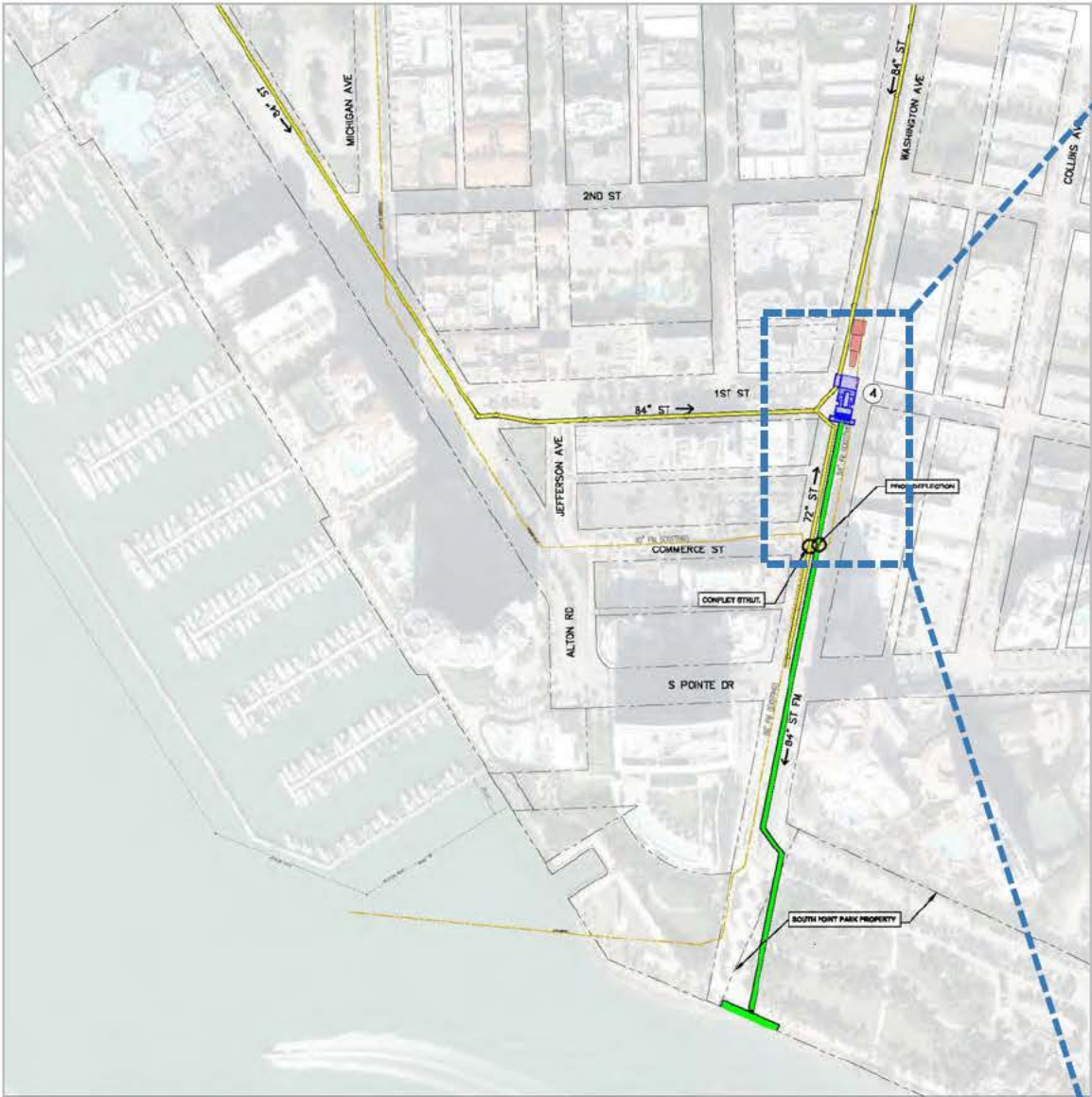
LEGEND:

-  UNDERGROUND WATER TREATMENT SYSTEM
-  ABOVE GROUND COMPONENTS
-  OUTFALL STORM WATER FORCE MAIN (ST-FM)
-  OPTION
-  PROPOSED STORM SEWER
-  EXISTING SANITARY FORCE MAIN (FM)
-  R.O.W LINE










- 
- 
- 
- 
- 
- 
- 
- 

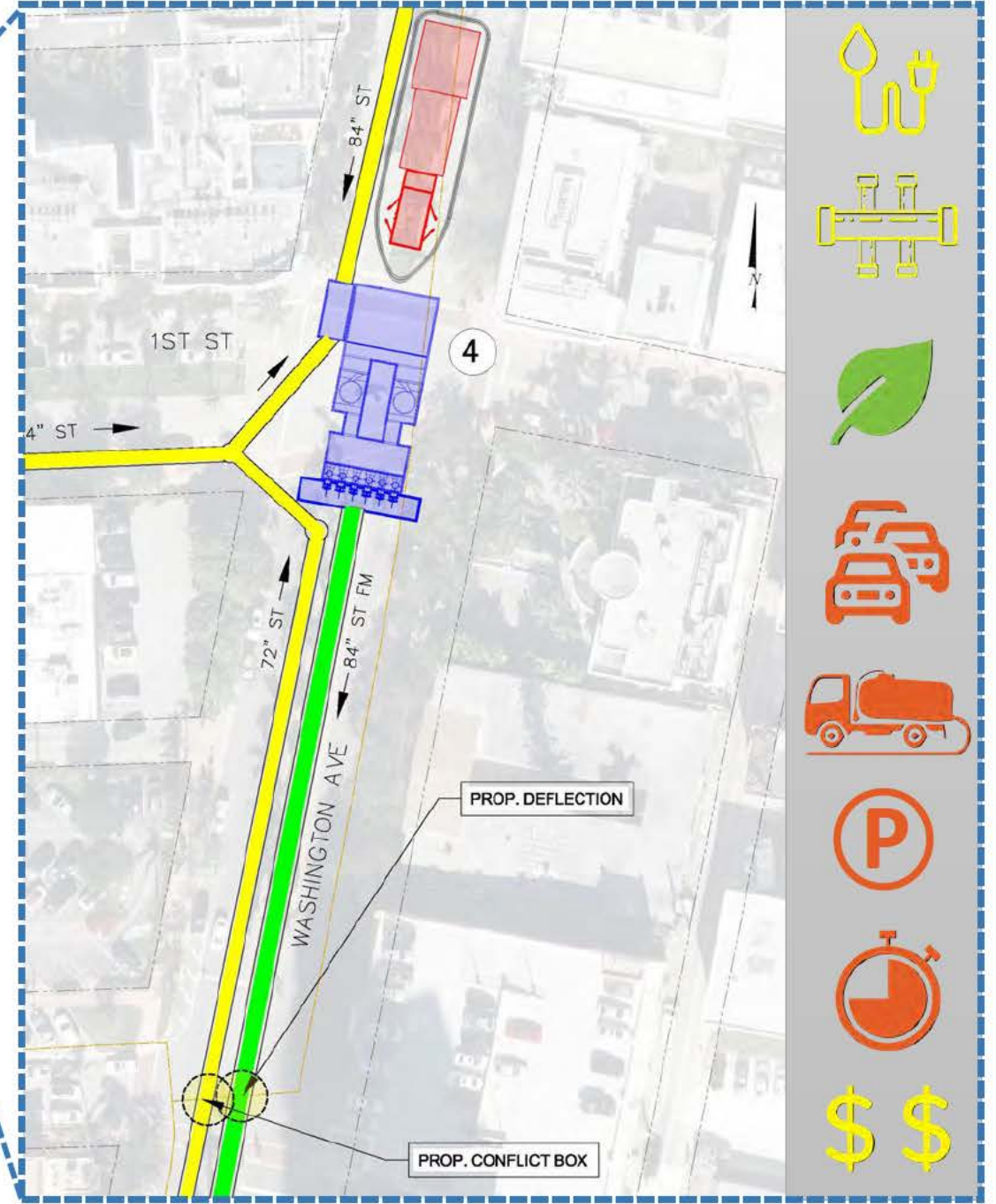
4 – SWTS @ Roundabout Washington & First St. & Pipe through Washington



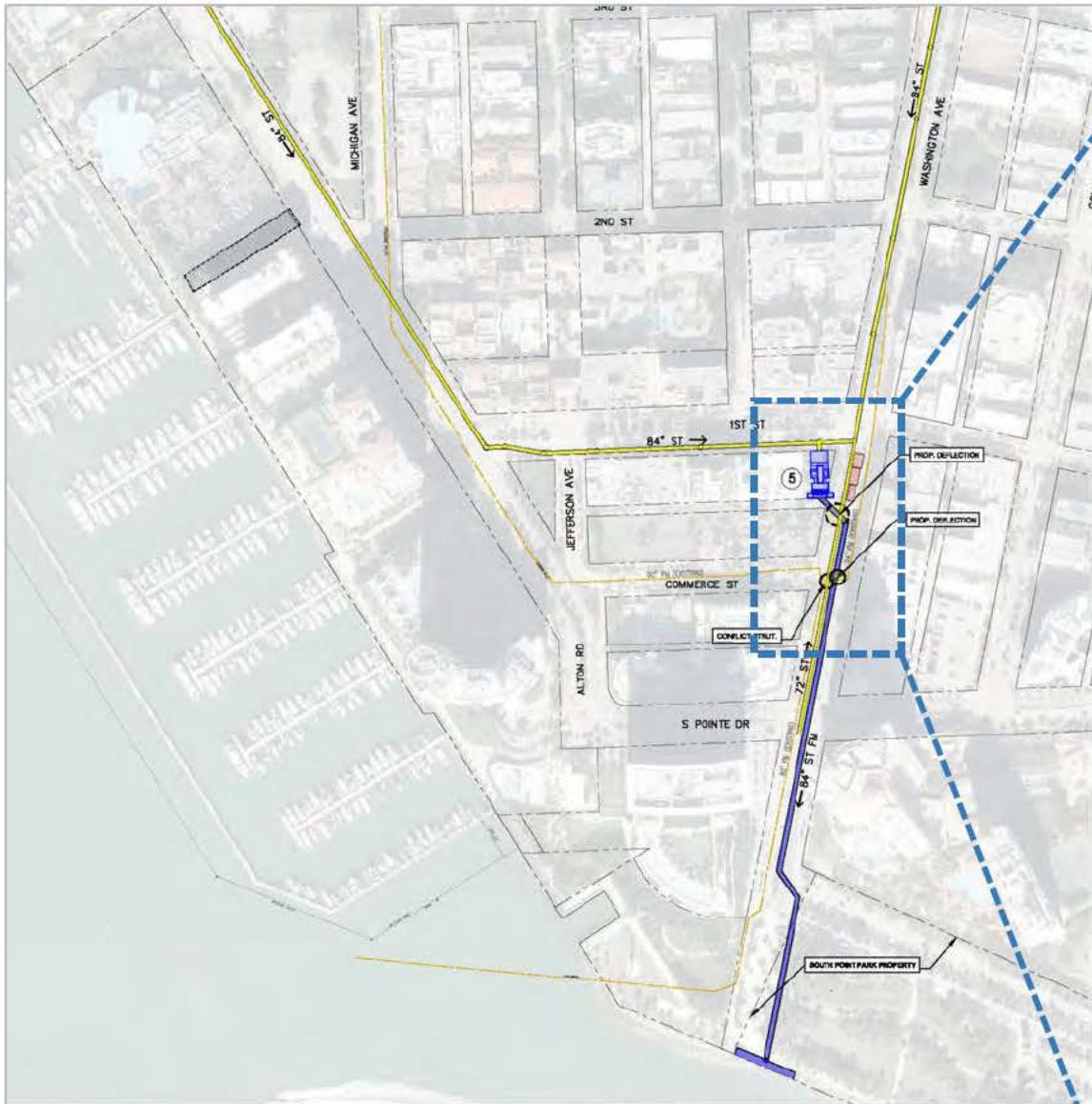
OPTION 4

LEGEND:








-  UNDERGROUND WATER TREATMENT SYSTEM
-  ABOVE GROUND COMPONENTS
-  OUTFALL STORM WATER FORCE MAIN (ST-FM)
-  OPTION
-  PROPOSED STORM SEWER
-  EXISTING SANITARY FORCE MAIN (FM)
-  R.O.W LINE

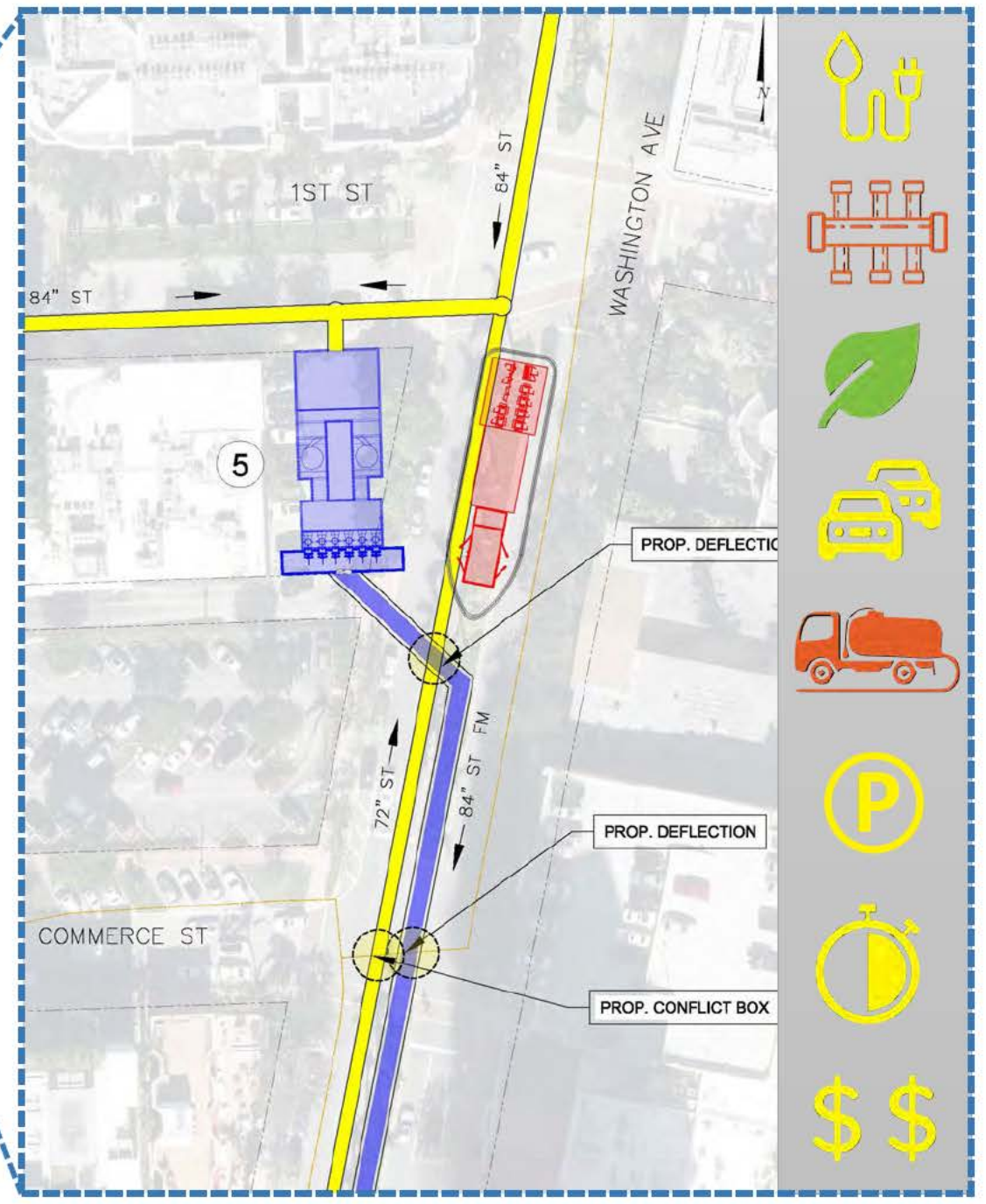


5 – SWTS @ City Parking Lot on Washington & First St., & Pipe through Washington



OPTION 5

- LEGEND:**
-  UNDERGROUND WATER TREATMENT SYSTEM
 -  ABOVE GROUND COMPONENTS
 -  OUTFALL STORM WATER FORCE MAIN (ST-FM)
 -  OPTION
 -  PROPOSED STORM SEWER
 -  EXISTING SANITARY FORCE MAIN (FM)
 -  R.O.W LINE









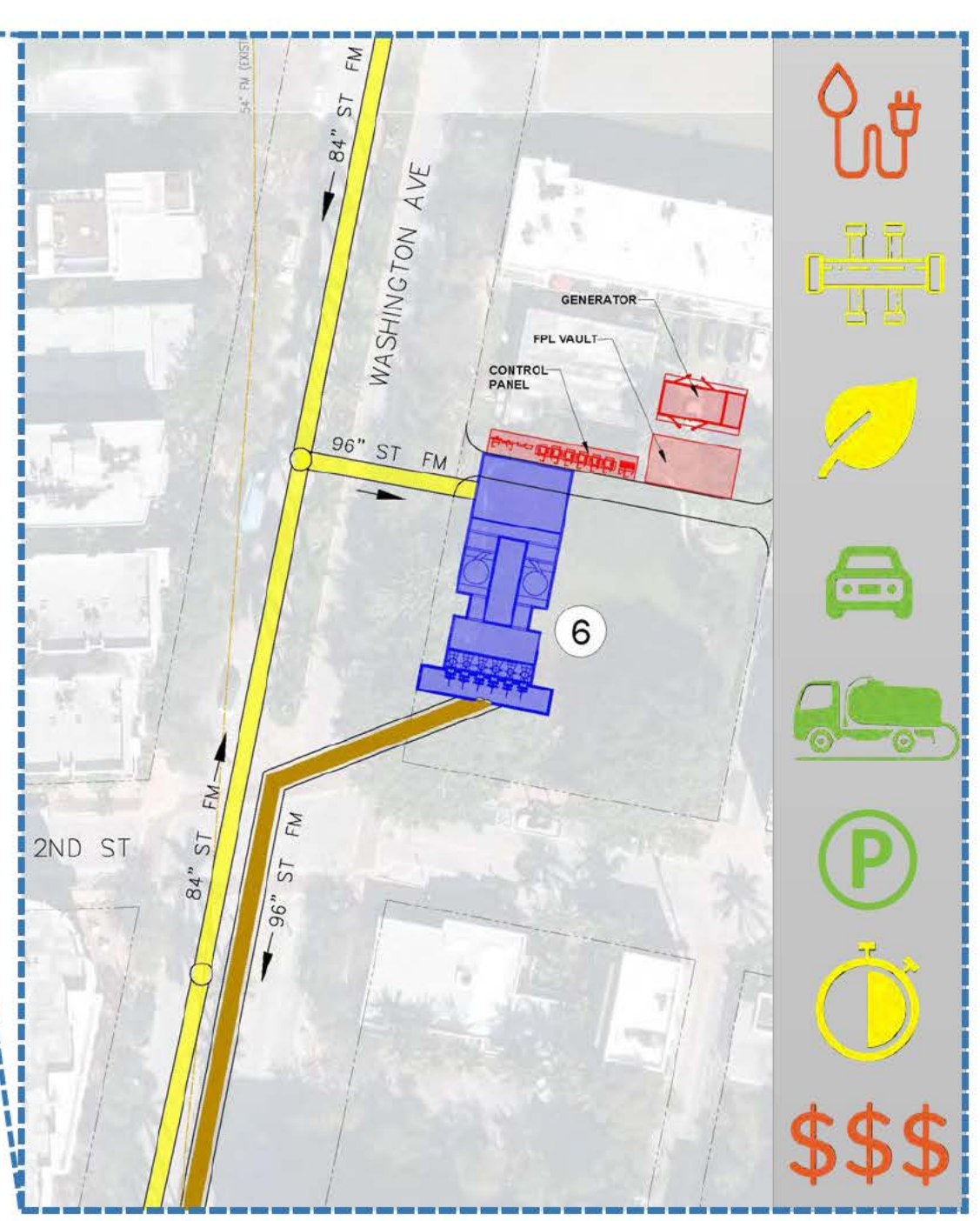
6 – SWTS @ Dog Park on Washington & Second St. & Pipe through Washington




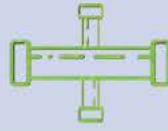







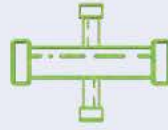







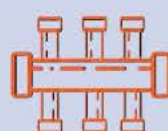






































OPTION 6

LEGEND:

-  UNDERGROUND WATER TREATMENT SYSTEM
-  ABOVE GROUND COMPONENTS
-  OUTFALL STORM WATER FORCE MAIN (ST-FM)
-  OPTION
-  PROPOSED STORM SEWER
-  EXISTING SANITARY FORCE MAIN (FM)
- R.O.W LINE



- 
- 
- 
- 
- 
- 
- 
- 

Option	Hydraulics	Utility Conflicts	Greenspace Impacts	Traffic Impacts	Maintenance Accessibility	Parking Loss	Schedule	Cost
1 - SWTS @ South Pointe Parking Lot								
2 - SWTS @ Washington St. End Median								
3A - SWTS @ Triangular Park & Pipe through South Pointe Dr.								
3B – SWTS @ Triangular Park & Pipe through First St. & Washington Ave.								
4 – SWTS @ Roundabout Washington & First St. & Pipe through Washington								
5 – SWTS @ City Parking Lot on Washington & First St., & Pipe through Washington								
6 – SWTS @ Dog Park on Washington & Second St. & Pipe through Washington								

Level of Impact:



Best Case / Lowest Impact



Moderate Impact



Worst Case / Highest Impact

Category	1 – SWTS @ South Pointe Parking Lot	2 – SWTS @ Washington St. End Median	3A – SWTS @ Triangular Park & Pipe through South Pointe Dr.	3B – SWTS @ Triangular Park & Pipe through First St. & Washington Ave.	4 – SWTS @ Roundabout Washington & First St. & Pipe through Washington	5 – SWTS @ City Parking Lot on Washington & First St.	6 – SWTS @ Dog Park on Washington & Second St. & Pipe through Washington
Hydraulics	No conveyance redundancy.	No conveyance redundancy.	1,300 ft of redundant gravity and FM pipe.	1,300 ft of redundant gravity and FM pipe.	600 ft of redundant gravity and FM pipe.	550 ft of redundant gravity and FM pipe.	1,200 ft of redundant gravity and FM pipe.
FM Length	400 LF	400 LF	1,800 LF	2000 LF	1,350 LF	1,300 LF	1,950 LF
Major Utility Conflicts	1	1	3	4	2	3	2
Greenspace Impacts	None	None	2,500 SqFt	2,500 SqFt	None	None	2,000 SqFt
Traffic Impacts	Minimal traffic impacts.	Moderate impacts due to equipment on median.	Minimal traffic impacts.	Minimal traffic impacts.	Greatest impacts due to reduced number of lanes at busy intersection.	Moderate impacts due to equipment on median.	Minimal traffic impacts.
Maintenance Accessibility	Easy access to SWTS at parking lot.	Restricted access to SWTS at median.	Moderate access to SWTS at Triangular Park on busy street.	Moderate access to SWTS at Triangular Park on busy street.	Restricted access to SWTS at roundabout on busy intersection.	Restricted access to SWTS at small parking lot and equipment on median on busy intersection.	Easy access to SWTS at park.
Parking Spaces Lost	10	12	2	2	25	15	2
Schedule	24 months Shortest FM.	25 months Shortest FM.	27 months Longer FM.	28 months Longer FM.	30 months Longer FM, and requires additional traffic study.	26 months Longer FM.	27 months Longer FM.
Cost	\$ 44 M	\$ 45 M	\$ 48 M	\$ 49 M	\$ 47 M	\$ 46 M	\$ 48 M

Level of Impact:



Best Case / Lowest Impact



Moderate Impact



Worst Case / Highest Impact

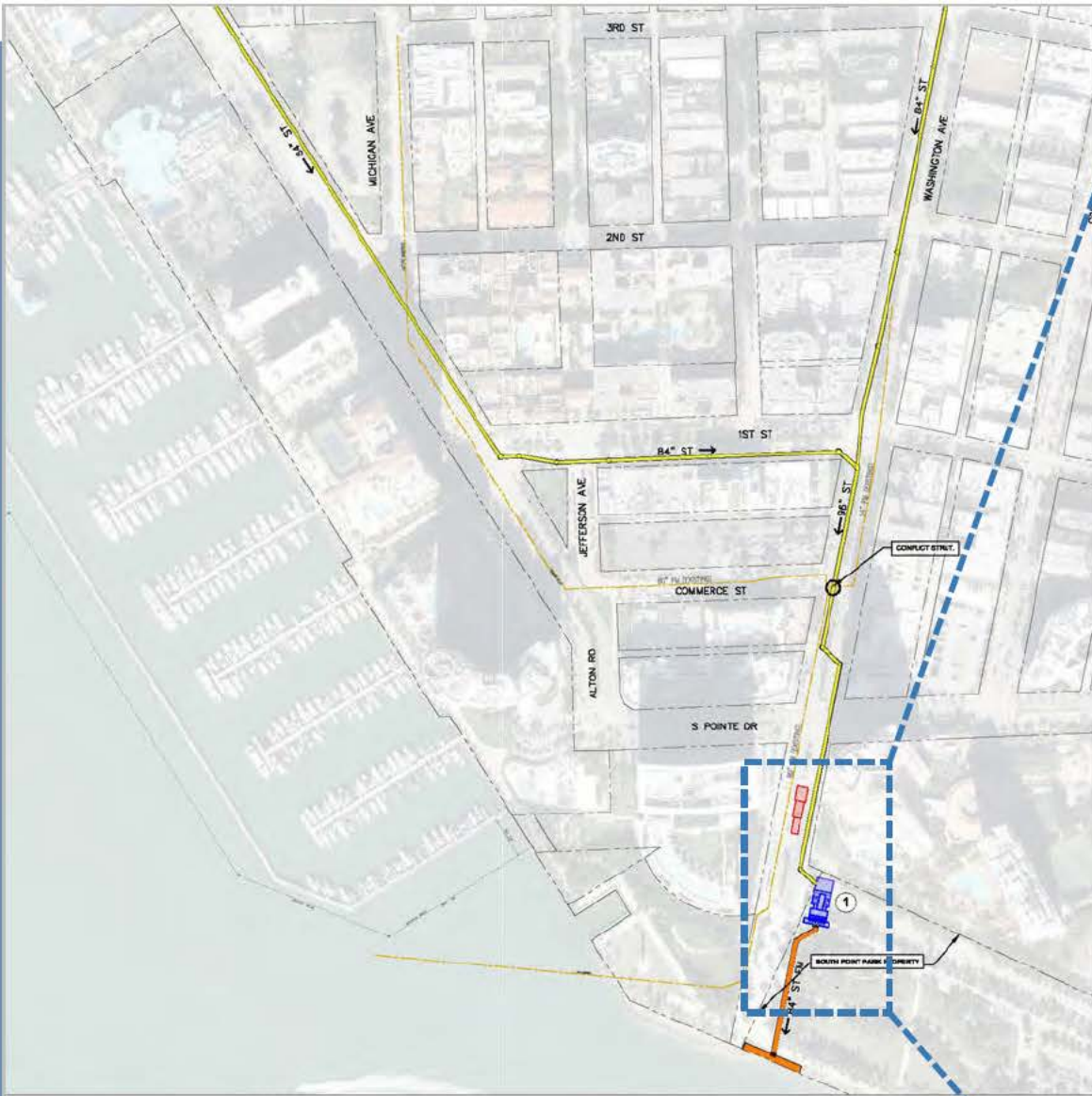
MIAMIBEACH
RISING
ABOVE

4








Staff
Recommendation

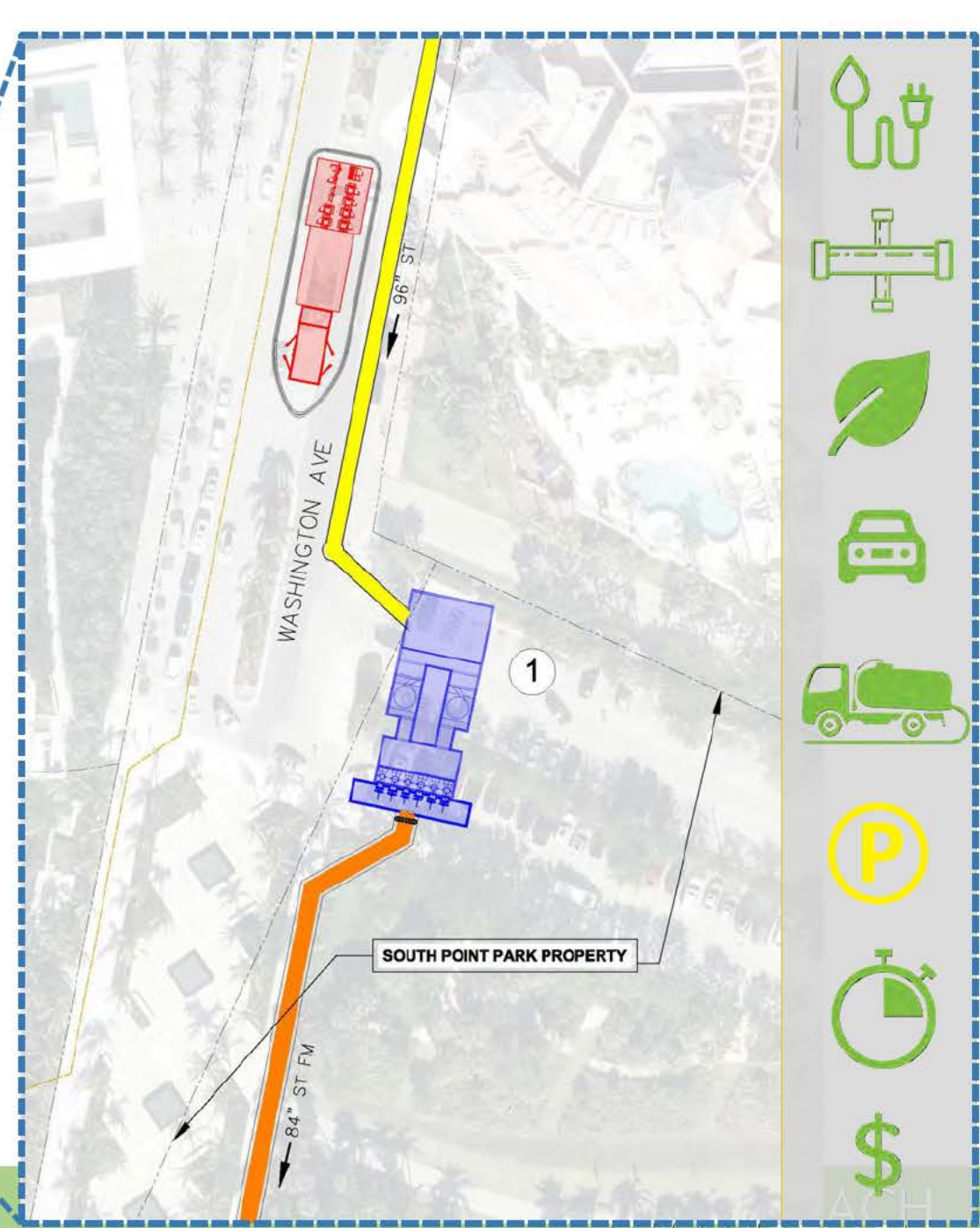


1 - SWTS @ South Pointe Parking Lot



OPTION 1

- LEGEND:**
-  UNDERGROUND WATER TREATMENT SYSTEM
 -  ABOVE GROUND COMPONENTS
 -  OUTFALL STORM WATER FORCE MAIN (ST-FM)
 -  OPTION
 -  PROPOSED STORM SEWER
 -  EXISTING SANITARY FORCE MAIN (FM)
 -  R.O.W LINE



MIAMIBEACH
RISING
ABOVE

5

Questions

