

O'Brien Street

From Cypress Street to Spruce Street

Drainage and Wetland Mitigation Study

City of Tampa Project # TR0112

Prepared for

City of Tampa, Florida

Transportation Division

Prepared By

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June 2012

FINAL REPORT

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EXECUTIVE SUMMARY

The City of Tampa Transportation Division is studying the feasibility of reconstructing O'Brien Street from Cypress Street to Spruce Street. The existing roadway consists of two separate typical sections: a 2-lane rural road from Cypress Street to 330 feet south of Laurel Street, and a 2-lane rural road with continuous bi-directional left-turn lane from 330 feet south of Laurel Street to Spruce Street. The proposed roadway consists of a 4-lane urban road with a continuous bi-directional left-turn lane throughout the entire project. The proposed roadway will also feature sidewalks along both sides of the road from Cypress Street to Laurel Street, and sidewalk along the west side of the road from Laurel Street to Spruce Street.

There are two drainage basins associated with O'Brien Street. The runoff from the northern basin drains towards the existing stormwater pond at the northeast corner of O'Brien Street and Laurel Street. The runoff from the southern basin is collected by roadside ditches and cross drains, and it is conveyed to an existing outfall ditch system draining westerly near the intersection of O'Brien Street and Nassau Street.

To accommodate the proposed improvements, runoff from O'Brien Street will be collected through a closed storm drain system and conveyed to a stormwater facility for treatment and attenuation. Treatment will be provided for the first one inch of runoff and attenuation will be determined by the SWFWMD 25-year/24-hour event for open basin systems.

Four alternative pond sites have been evaluated and are briefly discussed below.

Pond 1 is located along the east side of O'Brien Street between Grace Street and Nassau Street. This proposed pond has an area of 1.32 acres and covers 8 parcels.

Pond 2 is located along the south side of Nassau Street between O'Brien Street and Sherrill Street. The proposed pond has an area of 1.32 acres and covers 5 parcels.

Pond 3 is the existing pond at the northeast corner of O'Brien Street and Laurel Street. The current pond area is 2.31 acres.

Pond 4 is located at the northwest corner of O'Brien Street and Laurel Street. The proposed pond has an area of 0.80 acres and is located in the parcel currently owned by MHG Tampa LLC.

INTRODUCTION

The proposed project involves reconstructing O'Brien Street in Hillsborough County, Florida. The project begins at Cypress Street and extends north to Spruce Street. The existing rural roadway consists of two separate sections. From Cypress Street to 330 feet south of Laurel Street, the existing roadway consists of one northbound lane and one southbound lane and no paved shoulders. From 330 feet south of Laurel Street to Spruce Street, the existing roadway consists of one northbound lane, one southbound lane and a continuous bi-directional left-turn lane. Curb and gutter is present at the intersection of O'Brien Street and Laurel Street.

Drainage of the existing rural roadway is accomplished by a combination of curb inlets, ditch bottom inlets, concrete flumes, and roadside ditches. The existing roadway has one outfall which is the existing outfall ditch system to the west of the intersection of O'Brien Street and Nassau Street.

In the proposed condition, curb inlets will collect the roadway runoff from the widened roadway. Stormwater ponds will be utilized to meet City of Tampa and Southwest Florida Water Management District (SWFWMD) water quality and quantity requirements.

The purpose of this report is to document the evaluation of alternative pond sites and their ability to provide stormwater quality treatment and peak flow rate attenuation for each basin within the project as required by the design criteria of SWFWMD and the City of Tampa Stormwater Technical Standards Manual for Public Development. This report will also identify and evaluate the mitigation alternatives for the proposed wetland impacts along the east side of O'Brien Street, south of Laurel Street.

1.0 EXISTING CONDITIONS

1.1 Location

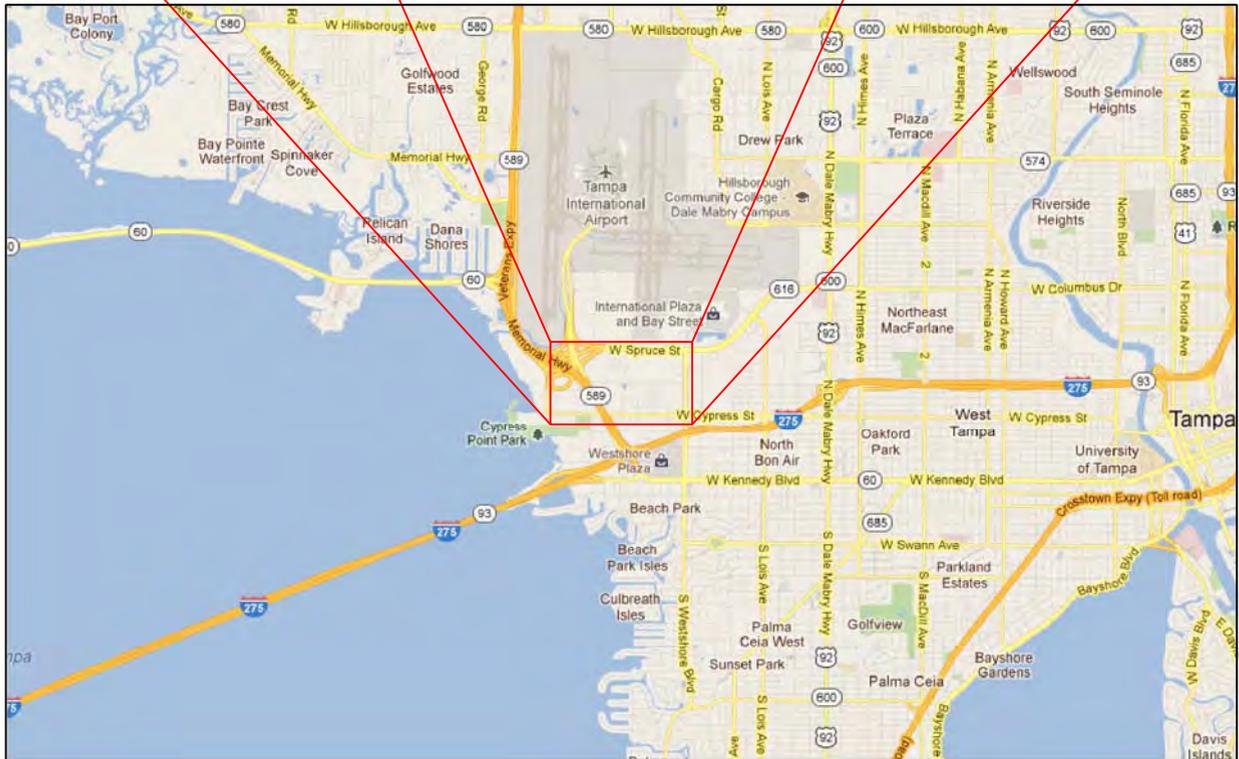
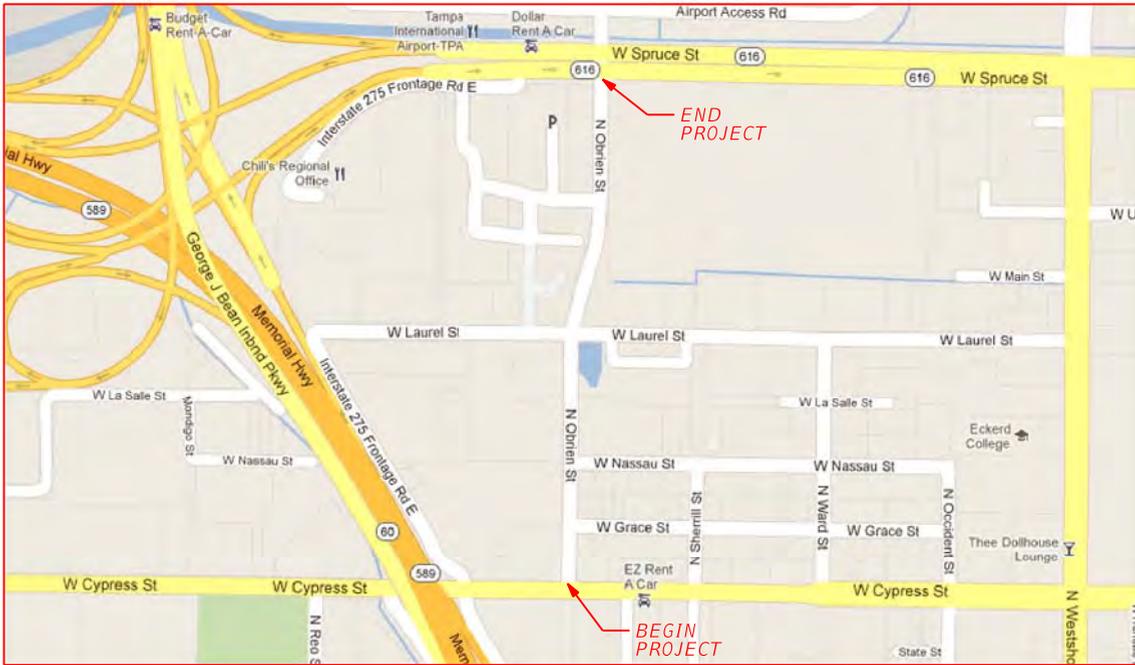
The O'Brien Street alignment in this area runs from Cypress Street to Spruce Street. It is located in Section 17 in Township 29 South and Range 18 East. For the Project Location Map, see Figure 1.1

1.2 Existing Typical Section

The existing rural typical section consists of two segments. From Cypress Street to 330 feet south of Laurel Street, O'Brien Street consists of one northbound travel lane and one southbound travel lane. From 330 feet south of Laurel Street to Spruce Street, O'Brien Street consists of one northbound lane, one southbound lane, and a continuous bi-directional left-turn lane. For the existing typical section, see Figure 1.2

1.3 Existing Drainage

O'Brien Street from Cypress Street to Laurel Street consists of two separate drainage basins. The southern drainage basin runoff is currently collected by roadside swales, ditches and cross drains. This system is conveyed to an existing outfall ditch system draining westerly from the intersection of O'Brien Street and Nassau Street to the Lemon Street Ditch Outfall, which ultimately discharges into Tampa Bay. The northern drainage basin runoff is collected by a series of ditches, curb inlets and ditch bottom inlets, and it is conveyed to the existing stormwater detention pond at the northeast corner of O'Brien Street and Laurel Street. The outfall for this pond is also the existing ditch system which outfalls to the Lemon Street Ditch Outfall, which ultimately discharges into Tampa Bay. For the existing drainage map, see Figure 1.3. For the Tampa Bay and Coastal Areas Watershed Map, see Figure 1.4

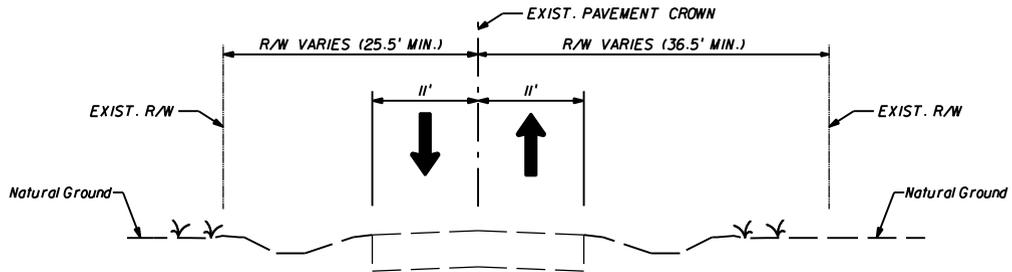


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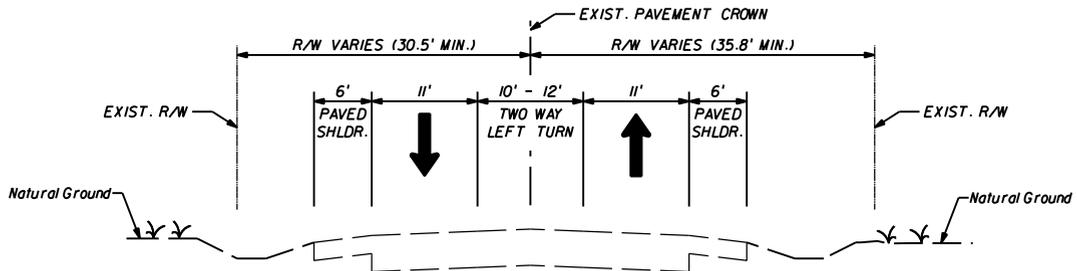
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 FROM CYPRESS STREET TO SPRUCE STREET
 DRAINAGE AND WETLAND MITIGATION REPORT

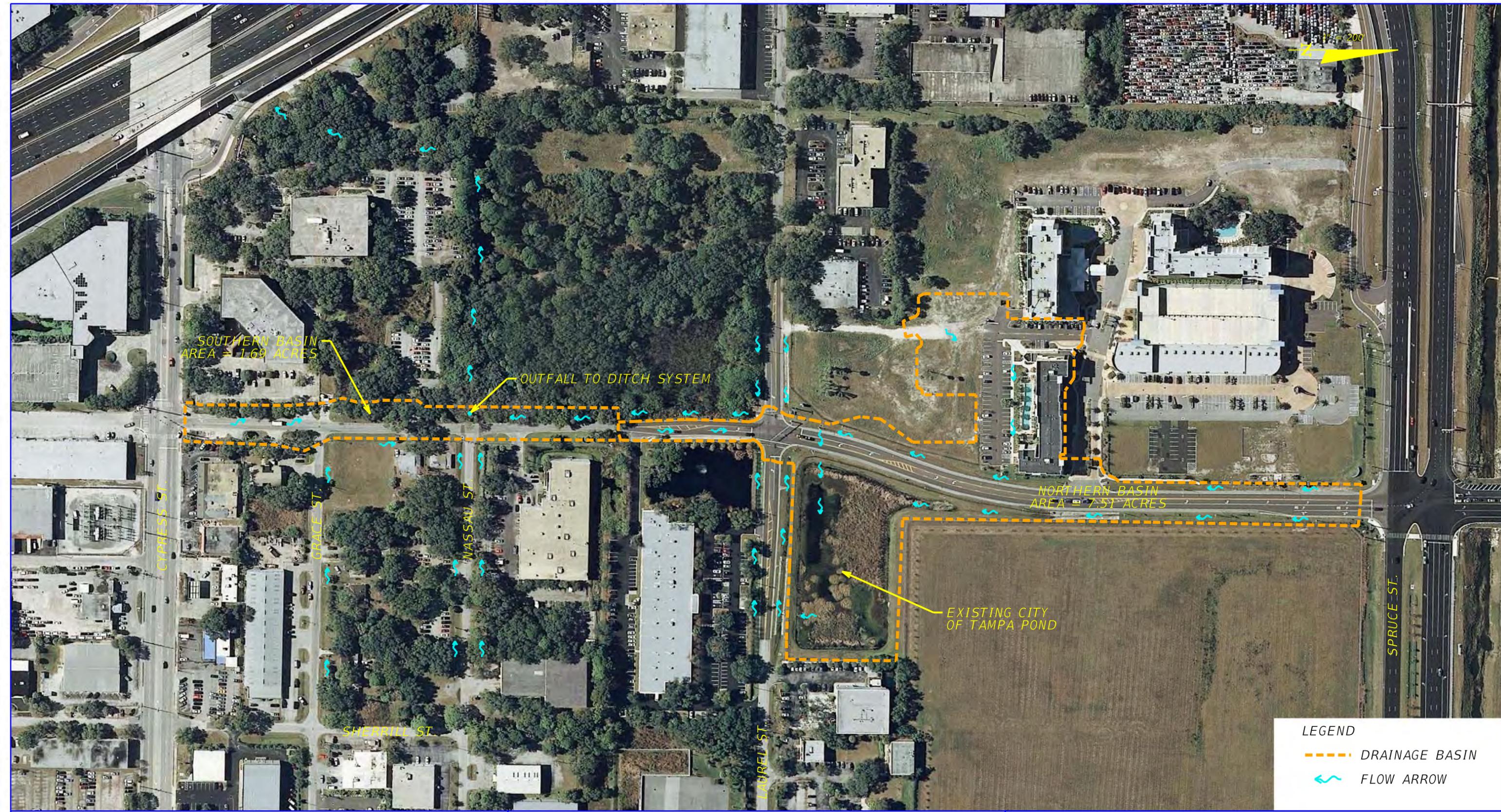
FIGURE 1.1
 LOCATION MAP



TYPICAL SECTION
O'BRIEN STREET
FROM CYPRESS STREET TO LAUREL STREET



TYPICAL SECTION
O'BRIEN STREET
FROM LAUREL STREET TO SPRUCE STREET



LEGEND

- - - DRAINAGE BASIN
- ~ FLOW ARROW

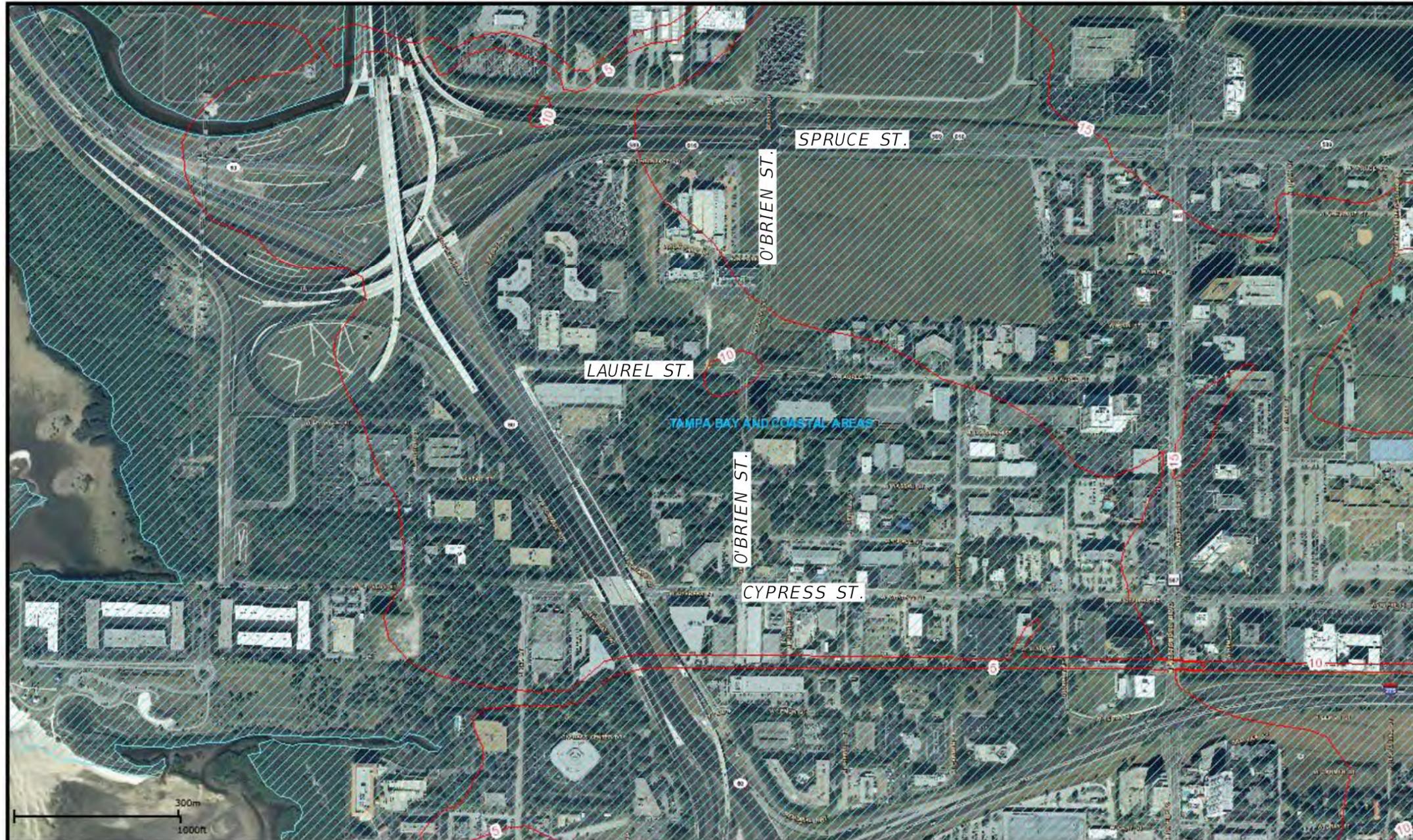
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FIGURE 1.3
 EXISTING DRAINAGE MAP

O'Brien St. from Cypress St. to Spruce St.



Legend

- USGS Contours
- USGS Contours
- ERP Watersheds
- ERP Watersheds

This information is preliminary and is not to be used for flood insurance determinations.

Please refer to the full disclaimer for your watershed at http://www.swfwmd.state.fl.us/projects/floodplain_meetings/.



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FIGURE 1.4
TAMPA BAY AND COASTAL AREAS WATERSHED MAP

2.0 PROPOSED CONDITIONS

2.1 Proposed Typical Section

The proposed urban typical section will consist of two travel lanes in each direction separated by a continuous bi-directional left-turn lane. There will be curb and gutter along the length of the entire project. There will be sidewalk along both sides of the road from Cypress Street to Laurel Street, and there will be sidewalk along the west side of the road from Laurel Street to Spruce Street. For the proposed typical section, see Figure 2.1.

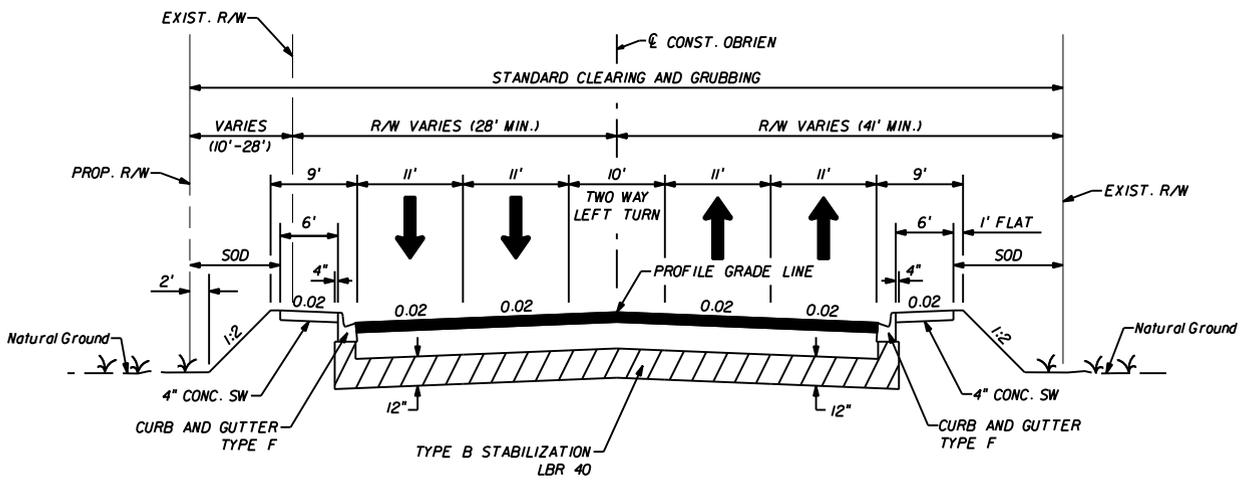
2.2 Proposed Drainage

The existing drainage area of the southern basin consists of approximately 2.94 acres of which 0.46 acres are impervious area. The proposed drainage area for the southern basin consists of approximately 2.94 acres of which 1.39 acres are impervious area.

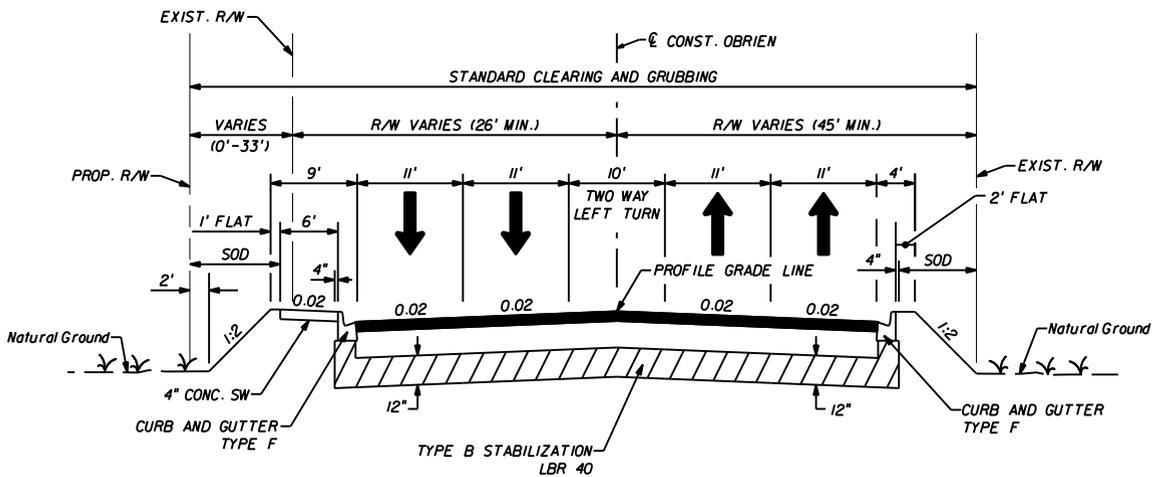
The existing drainage area of the northern basin consists of approximately 7.51 acres of which 4.46 acres are impervious area. The proposed drainage area for the northern basin consists of approximately 7.70 acres of which 4.32 acres are impervious area.

For the Proposed Drainage Map, see Figure 2.2.

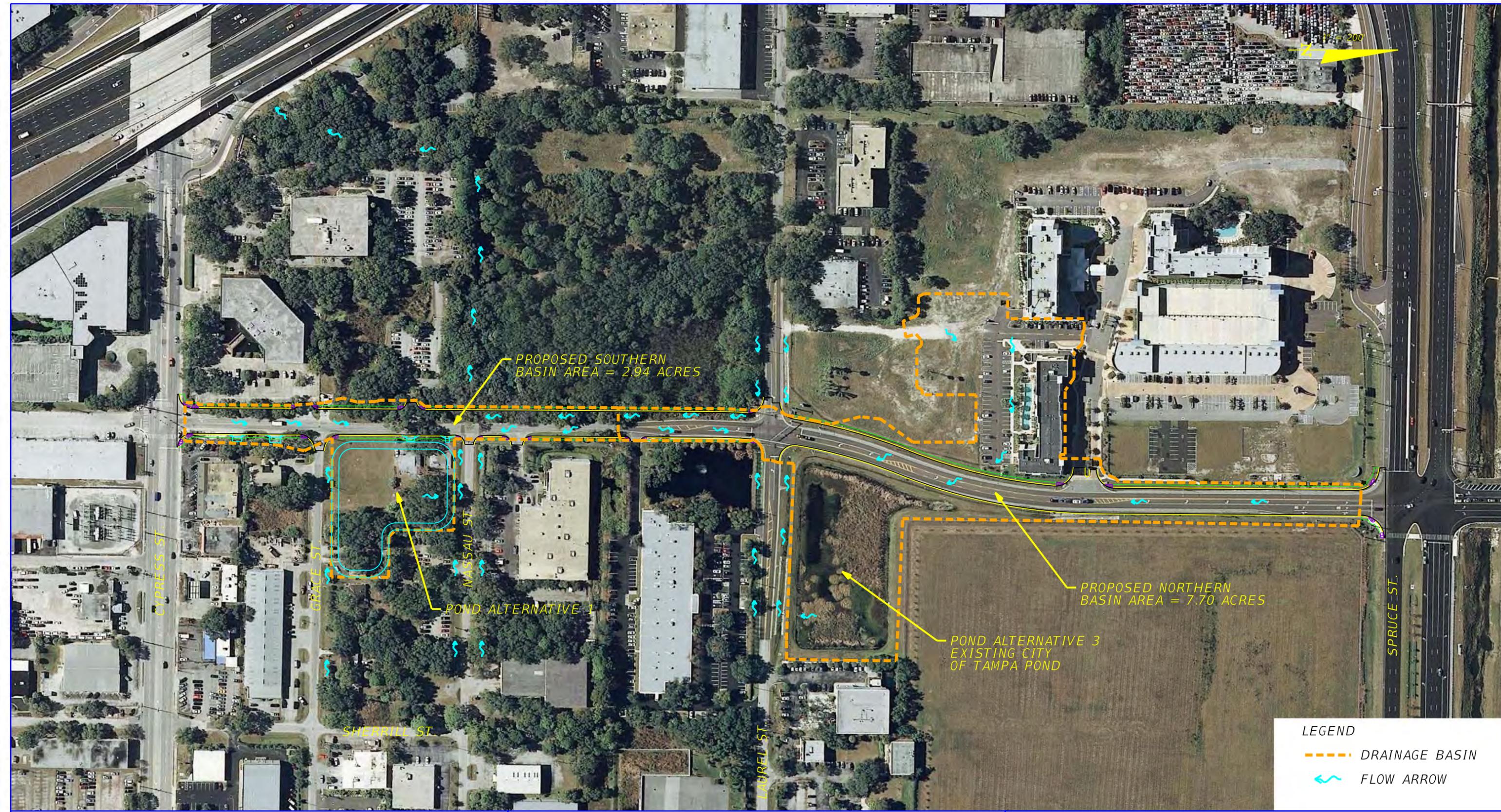
Rainfall runoff will be collected by curb inlets into a closed storm drain system, and it will be conveyed to stormwater management facilities for treatment and attenuation. Four potential stormwater management facilities were evaluated and are discussed in Section 4.0.



TYPICAL SECTION
O'BRIEN STREET
FROM CYPRESS STREET TO LAUREL STREET



TYPICAL SECTION
O'BRIEN STREET
FROM LAUREL STREET TO SPRUCE STREET



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FIGURE 2.2
 PROPOSED DRAINAGE MAP

3.0 DESIGN INFORMATION

3.1 Design Criteria

3.1.1 Stormwater Quality (Treatment Volume)

According to the City of Tampa Stormwater Technical Standards Manual for Public Development and the SWFWMD Basis of Review, the criteria for water treatment should equal one inch of runoff from the contributing area for a wet detention pond.

3.1.2 Stormwater Quantity (Attenuation Volume)

This project is in an open drainage basin. It outfalls to the Lemon Street Ditch which ultimately outfalls to Tampa Bay. The stormwater management facility will be designed to provide water quantity attenuation for a 25-year, 24-hour storm by comparing pre-developed and post-developed runoff conditions using the NRCS equation for runoff.

3.1.3 Flood Plain Compensation

The 100-year Floodplain in this area is the result of tidal storms and hurricanes. Floodplain compensation is not required for this project. For the Federal Emergency Management Agency (FEMA) map, see Figure 3.1.

3.2 Design Assumptions

3.2.1 Seasonal High Water Table (SHWT) Determination

The SHWT determination is critical for the design of stormwater management facilities. Seasonal high water elevations for design have been determined by geotechnical investigation, ecological investigation, and information from previous projects. The SHWT elevation used for each proposed pond location is shown below:

Pond Site 1 (East side of O'Brien Street between Grace Street and Nassau Street)

SHWT Elevation: 7.4' NGVD1929 (From Geotechnical Borings)

Pond Site 2 (South Side of Nassau Street between O'Brien Street and Sherrill Street)

SHWT Elevation: 7.4' NGVD1929 (From Geotechnical Borings)

Pond Site 3 (Northeast corner of O'Brien Street and Laurel Street)

SHWT Elevation: 7.7' NGVD1929 (Existing Pond)

Pond Site 4 (Northwest corner of O'Brien Street and Laurel Street)

SHWT Elevation: 6.8' NGVD1929 (From Biological Indicators)

3.2.2 Treatment Method

The method of stormwater treatment for this project will be wet detention.

3.2.3 Attenuation Method

The method of attenuation identified in this study is detention with discharge to the Lemon Street Ditch.

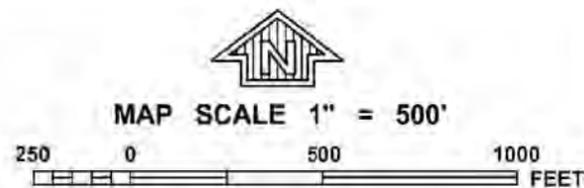
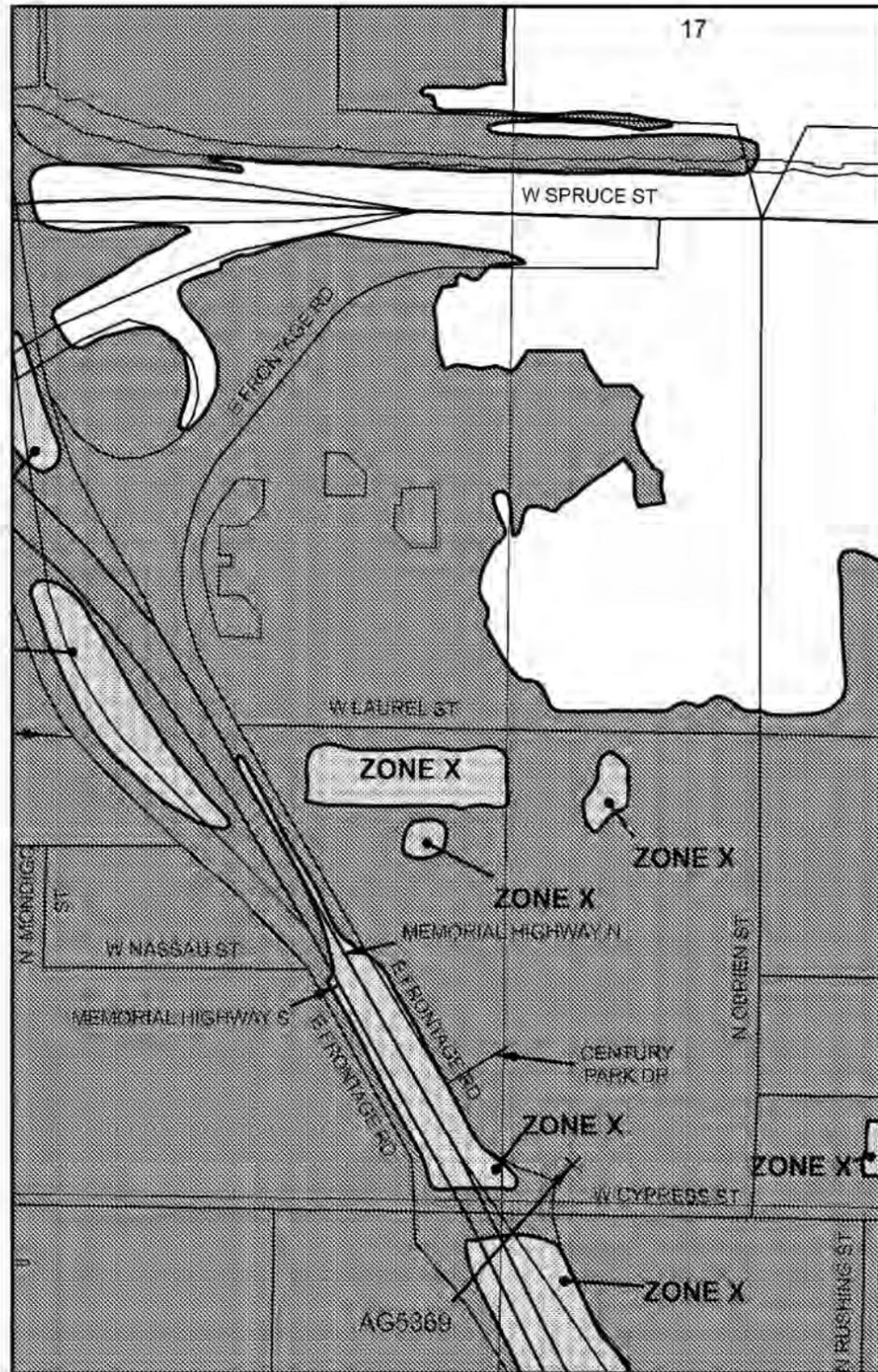
3.2.4 Pond Site Configuration

The proposed ponds identified were designed with 15 foot maintenance berms and 1:4 side slopes.

3.3 Soil Survey Information

The Soil Survey of Hillsborough County, Florida was reviewed for general near ground surface soil information within the vicinity of the project. Based on the review, there are three primary mapping units within the proposed project limits as shown in the Geotechnical Documentation in Appendix A. The soils encountered consist of shallow fine sands and loamy fine sands.

Site-specific geotechnical data was obtained in order to properly evaluate each of the alternate pond sites. The Soils Map along with additional data can be found in the Geotechnical Documentation in Appendix A.



NFIP

PANEL 0333H

FIRM
FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY,
FLORIDA
AND INCORPORATED AREAS

PANEL 333 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HILLSBOROUGH COUNTY	20112	0333	H
TAMPA, CITY OF	120114	0333	H

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
12057C0333H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
- The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AV, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE AV** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE**
- The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS**
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- Floodplain boundary
 - Floodway boundary
 - Zone D boundary
 - CBRS and OPA boundary
 - Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different base Flood Elevations, flood depths or flood velocities.
 - Base Flood Elevation line and value; elevation in feet*
 - Base Flood Elevation value where uniform within zone; elevation in feet*
- * Referenced to the North American Vertical Datum of 1985
- Cross section line
 - Transect line
 - Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere: 87° 07' 45", 32° 22' 30"
 - 1000-meter Universal Transverse Mercator grid values; zone: NAD 83 UTM Zone 17
 - 5000-foot grid ticks: Florida State Plane coordinate system, West zone (FIPS202/83), Transverse Mercator projection
 - Bench mark (see explanation in Notes to User's section of title: FIRM panel)
 - River Mile
 - Junction
- MAP REPOSITORY
Refer to listing of Map Repositories on Map Index
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 28, 2008
- EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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FIGURE 3.1
FEMA MAP

4.0 ALTERNATIVE POND SITE LOCATIONS

4.1 Site Selection Methodology

Hillsborough County Aerial Photography, past project data and field reviews were used to identify four pond alternatives. For a complete set of pond calculations refer to Appendix B. For the locations of the proposed pond sites, see Figure 4.1.

4.2 Evaluated Sites

Pond Alternative 1

The proposed pond site is located on the east side of O'Brien Street between Grace Street and Nassau Street. The total pond site area is 1.32 acres and it is located on 8 parcels. The proposed outfall will be the Lemon Street Ditch which ultimately discharges to Tampa Bay.

The soils in this area are Myakka-Urban Land. The seasonal high water table elevation is 7.4 feet.

Runoff from the roadway and offsite areas will be conveyed to the stormwater facility where it will provide treatment and attenuation for 2.94 acres between the offsite and proposed O'Brien Street runoff.

Pond Alternative 2

The proposed pond site is located on the south side of Nassau Street between O'Brien Street and Sherrill Street. The total pond site area is 1.32 acres, and it is located on 5 parcels. The proposed outfall will be the Lemon Street Ditch which ultimately outfalls to Tampa Bay.

The soils in this area are Myakka-Urban Land. The seasonal high water table elevation is 7.4 feet.

Runoff from the roadway and offsite areas will be conveyed to the stormwater facility where it will provide treatment and attenuation for 2.94 acres between the offsite and proposed O'Brien Street runoff.

Pond Alternative 3

This proposed pond site involves utilizing the existing pond at the northeast corner of O'Brien Street and Laurel Street. This pond was constructed as part of City of Tampa Project Number 4913 and was permitted under SWFWMD Permit Number 44024306.000. This pond was designed to treat and attenuate the north portion of O'Brien Street from 330 feet south of Laurel Street to Spruce Street. The drainage basin was originally designed to treat and attenuate 7.84 acres, of which 2.39 acres was offsite from MHG Tampa LLC's property which is located on the west side of O'Brien Street from Laurel Street to Spruce Street.

After the original project was constructed, MHG Tampa LLC Modified the SWFWMD Permit Number 44024306.000 with Permit Modification 44015474.003 which lowered the drainage area being treated and attenuated in the existing City of Tampa Pond. This was accomplished by the MHG Tampa LLC property accounting for a portion of the offsite area previously draining to O'Brien Street. The proposed drainage area for Pond 3 is 7.70 acres, which includes 0.19 acres of proposed right-of-way at the southwest corner of O'Brien Street and Laurel Street.

This alternative involves utilizing the available capacity created by the MHG Tampa LLC's modification of the original drainage area being accounted for in the existing City of Tampa Pond (Pond 3).

Pond Alternative 4

This proposed pond site is at the northwest corner of O'Brien Street and Laurel Street. The total site is 0.81 acres, and it is located on one parcel owned by MHG Tampa LLC. The proposed outfall will be the Lemon Street Ditch which ultimately outfalls to Tampa Bay.

The soils in this area are Myakka-Urban Land. Due to the fact that this area is mainly debris, the geotechnical engineering report recommends using a seasonal high water elevation equal to that of the seasonal high water elevation of the wetlands along the west side of O'Brien Street and south of Laurel Street. The seasonal high water elevation is 6.8 feet.

Runoff from the roadway and offsite areas will be conveyed to the proposed stormwater facility where it and the existing pond at the northwest corner of O'Brien Street and Laurel Street will provide treatment and attenuation for 8.43 acres between the offsite and proposed O'Brien Street runoff.



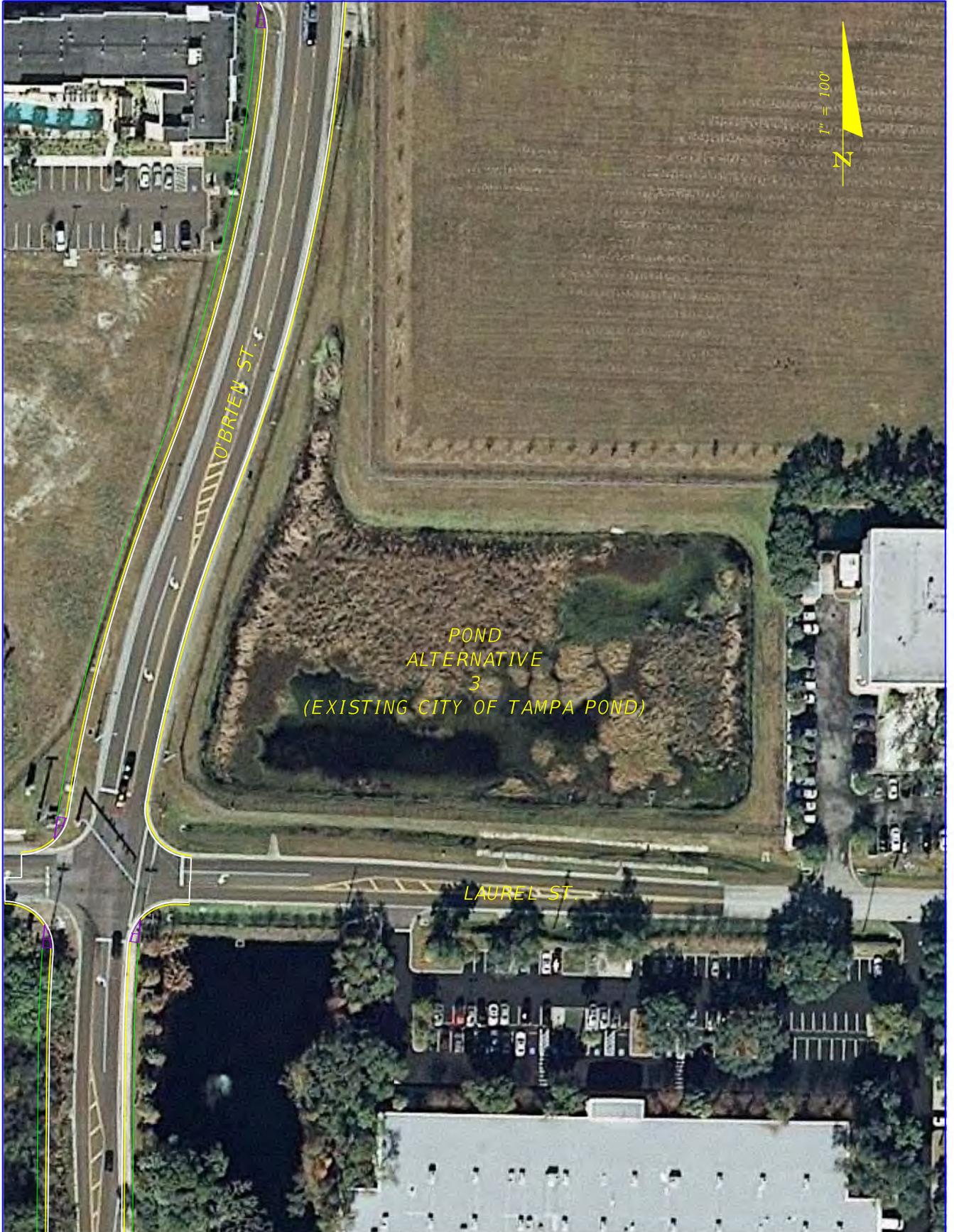


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FIGURE 4.1.2
 POND ALTERNATIVE 2 LOCATION

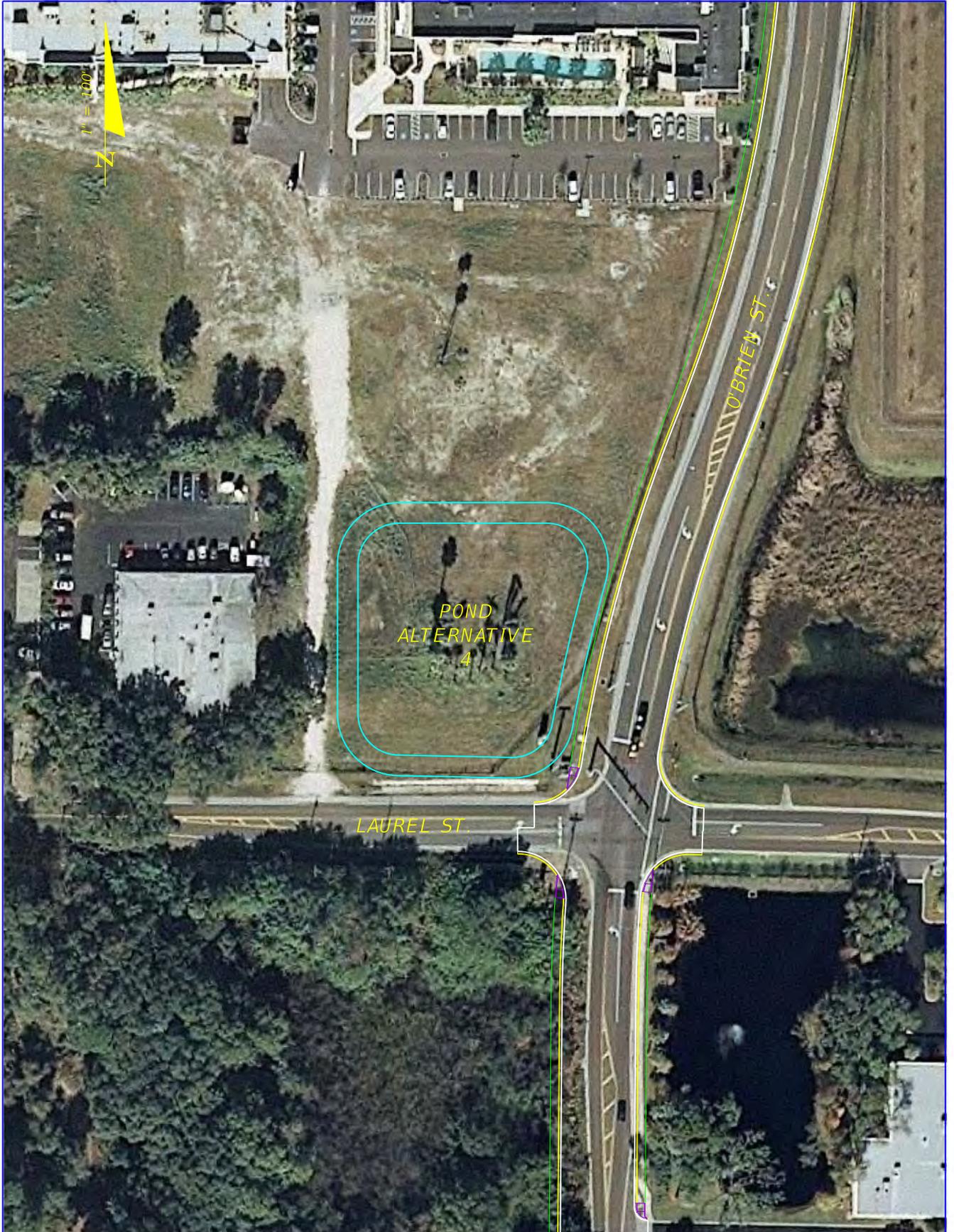


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FIGURE 4.1.3
POND ALTERNATIVE 3 LOCATION



1" = 100'



POND
ALTERNATIVE
4

LAUREL ST.

O'BRIEN ST.

5.0 ENVIRONMENTAL EVALUATION

5.1 Wetland Mitigation

Scheda Ecological Associates, Inc. conducted a Wetland Mitigation Alternative assessment. Based on their assessment, no wetland mitigation is expected as part of this project. However, there is the possibility that U.S. Army Corps of Engineers (USACE) may require wood stork foraging habitat mitigation. If USACE does require mitigation there are three alternatives:

1. Credit Purchase from a Private Mitigation Bank
2. On-Site Wetland Creation
3. Off-Site Wetland Mitigation

For more information about each of these mitigation alternatives, see Appendix C. For the location of the proposed wetland impacts, see Figure 5.1

5.2 Impaired Waters

The corridor falls within two FDEP Water Body Identifiers (WBID's): 1606 and 1607. After reviewing the TMDL Reports, it has been identified that these two WBID's are impaired for mercury only. Roadway projects are not required to provide net improvement for this pollutant. See Figure 5.2 and Figure 5.3 for more information.

5.3 Environmental Assessment

An environmental site assessment was not performed in conjunction with this report. Before any property is purchased for stormwater management facilities, it is recommended that an environmental site assessment be completed at all potential sites.

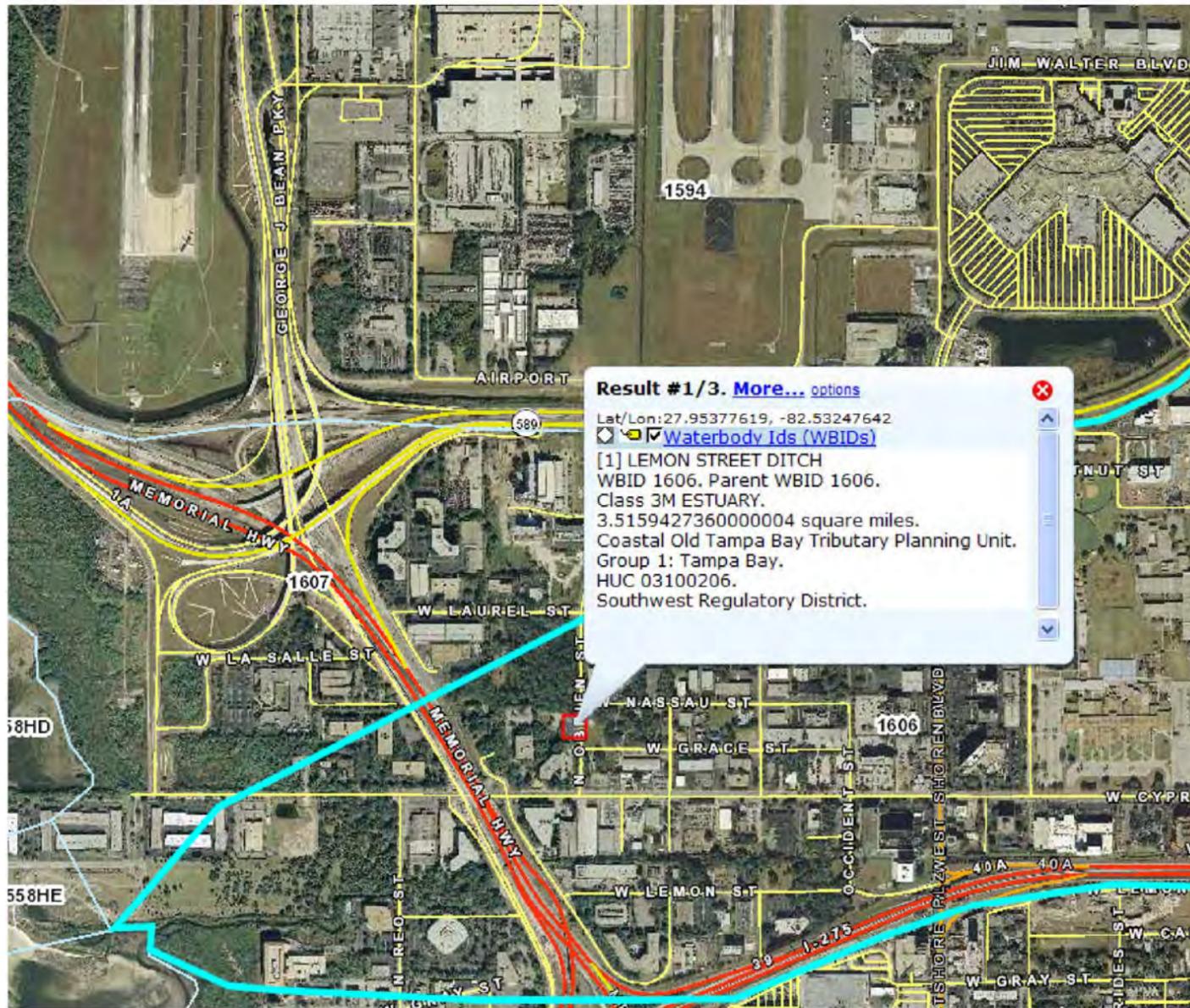


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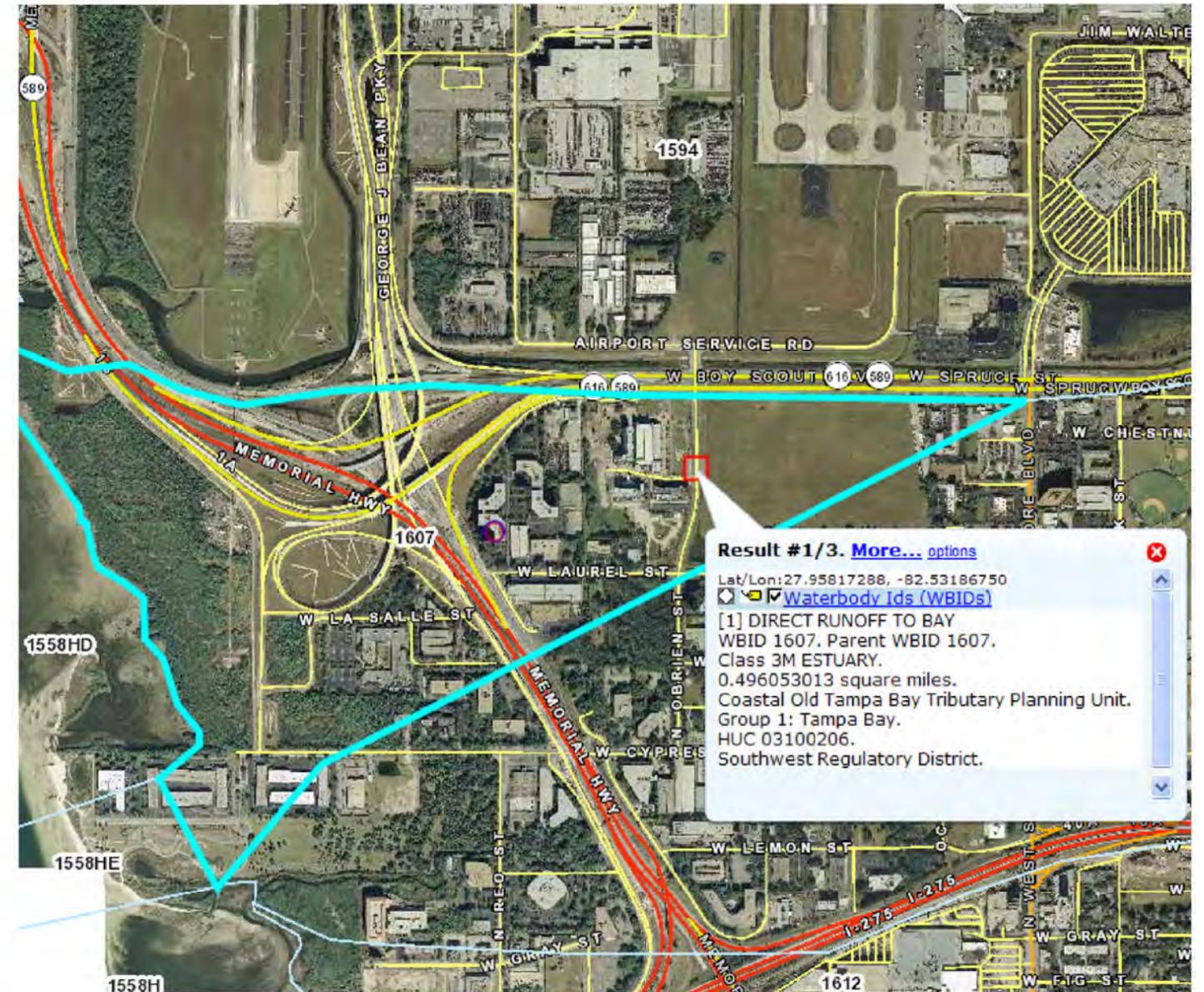
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FIGURE 5.1
 PROPOSED WETLAND IMPACTS



WBID 1606



WBID 1607

Tampa Bay Group 1 Basin - Southwest District - Verified List (Cycle 2 Revised and Readopted May 2009)

Hydrologic Unit: Tampa Bay

OGC Case Number	Planning Unit	WBID	Waterbody Segment	Waterbody Type	Waterbody Class ¹	1998 303(d) Parameters of Concern	Parameters Assessed Using the Impaired Waters Rule (IWR)	Concentration Causing Impairment ²	Priority for TMDL Development ³	Comment (#Exceedances/# Samples) pp=Planning Period vp=Verified Period ⁴
09-2512	Tampa Bay Planning Units	8999	TAMPA BAY	ESTUARY	3M		Mercury (based on fish consumption advisory)	Exceeds DoH Threshold (>0.3 mg/kg)	High*	Data collected within the last 7.5 years indicate the following WBIDs are verified impaired. Confirmed recent data (2002, 2003 and 2004) for coastal and associated estuary fish advisories for king mackerel (n=87) and bull shark (n=28). Average Hg levels were 0.67 mg/kg in king mackerel and 1.85 mg/kg in bull shark which exceeded the threshold of 0.3 mg/kg of mercury. This includes the following WBIDs: 1599, 1609, 1615, 1632, 1637, 1648, 1664, 1676, 1691, 1536E, 1584A, 1584B, 1584C, 1605D, 1628A, 1666A, 1797A, 1797B, 1683, 1687, 1693, 1700, 1708, 1709, 1726, 1733, 1756, 1778, 1661A, 1661C, 1661F, 1661G, 1709B, 1709D, 1709E, 1731B, 1513, 1530, 1546, 1557, 1559, 1563, 1566, 1569, 1572, 1575, 1581, 1585, 1593, 1600, 1601, 1603, 1604, 1606, 1607, 1612, 1620, 1625, 1654, 1656, 1507A, 1570A, 1627B, 1558D, 1558E, 8049, 1558A, 1558N, 1558B, 1558BZ, 1558C, 1558F, 1558G, 1558H, 1558I, 1558IA

¹ 1 - Potable water supplies, 2 - Shellfish propagation or harvesting, 3F - Recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife in fresh water,

3M - Recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife in marine waters

² The nutrient concentrations represent the 75th percentiles of data from the Verified Period. The target nutrient concentration used in the subsequent TMDL will be determined during the TMDL process.

* A statewide TMDL for mercury, that will address this waterbody, is scheduled to be completed in 2012.

³ Where a parameter was 1998 303(d) listed, the priority for TMDL development is the year provided and is assigned based on the consent decree schedule. Where a parameter was only identified as impaired under the IWR, a priority of "medium" was assigned. Exceptions are waters where the impairment poses a threat to potable water or human health, which have been assigned a "high" priority, and fecal coliform impairments, which have been assigned a "low" priority. All other listings as of this cycle are prioritized based on the following: it is the Department's intent that listings with a "High" priority be addressed within the next 5 years, listings with a "Medium" priority be addressed within 5-10 years as resources allow, and listings with a "Low" priority be addressed within the next 10 years.

⁴ Planning Period (PP) January 1, 1995–December 31, 2004 ; Verified Period (VP) January 1, 2000–June 30, 2007.

The Tampa Bay Basin Cycle 2 Verified List is based primarily on IWR Run 31 with additional data from Run 32.

6.0 SUMMARY OF RECOMMENDATIONS

6.1 Pond Site Selection Summary

After the pond sites were identified, additional analyses of the sites were performed to include pond feasibility, right-of-way acquisition costs, right-of-way feasibility, construction costs, and hydraulics. The pond assessments in this report were based on the information summarized in the Pond Site Evaluation Matrix. See Figure 6.1 for the matrix. For a detailed right-of-way acquisition cost estimate, see Appendix D. For a detailed construction cost estimate, see Appendix E.

6.2 Comparison Matrix and Recommendations

Based on the pond site comparison matrix, the preferred alternative involves utilizing Pond Alternative 3 (the existing pond at the northeast corner of O'Brien Street and Laurel Street) and Pond Alternative 1 (the proposed pond along O'Brien Street between Grace Street and Nassau Street).

Pond Alternative 3 can accommodate the run-off from the northern portion of the project from 330 feet south of Laurel Street to Spruce Street. This is made possible by the extra capacity created in Permit modification number 44015474.003. The proposed alternative will be treating and attenuating for 7.70 acres at a curve number of 93.89, which is a smaller area at a lower curve number than the existing City of Tampa Pond is designed to accommodate. Therefore, no modifications to the pond will be required. This alternative is preferred over Pond Alternative 4 because it involves no additional land acquisition. The construction cost for this alternative is also much lower.

Pond Alternative 1 can accommodate the additional run-off from the southern portion of the project. This alternative is preferred over Pond Alternative 2 because of the lower construction cost and the closer proximity to O'Brien Street. Even though the right of way cost for Pond Alternative 2 is less than that of Pond Alternative 1, it is anticipated that the land acquisition would be more feasible for Pond Alternative 1. The reason is that half of the necessary land for Pond Alternative 2 is currently occupied by a heavily used parking lot for the business on the north side of Nassau Street between O'Brien Street and Sherrill Street. On the other hand, over half of the land needed for Pond Alternative 1 currently resides on vacant parcels.

Figure 6-1: Pond Site Evaluation Matrix

	Pond 1	Pond 2	Pond 3	Pond 4
Location	O'Brien St. b/w Grace St. & Nassau St.	Nassau St. b/w O'Brien St. & Sherrill St.	NE corner of O'Brien St. & Laurel St.	NW corner of O'Brien St. & Laurel St.
Station	204+90	205+05	215+62	214+24
Offset and Side	164' RT	365' RT	227' RT	116' LT
Pond Area (ac)	1.32	1.32	2.31	0.80
Est. Average Ground Elevation (ft) @ Pond Site	8.7	8.8	9	10.1
Est. SHW Elevation	7.4	7.4	7.7	6.8
Treatment System	Wet Detention	Wet Detention	Wet Detention	Wet Detention
Soils Name	Myakka - Urban Land	Myakka - Urban Land	Myakka	Myakka - Urban Land
Land Use	Residential	Residential & Commercial	Existing Pond	Commercial
Construction Cost Estimate	\$74,060	\$105,809	\$7,585	\$143,708
Number of Parcels Needed	7	4	0	1 - Partial
R/W Cost Estimate	\$538,470	\$452,225	\$0	\$209,979
Total Estimated Cost	\$612,530	\$558,034	\$7,585	\$353,687

Notes:

1. Right-of-way (R/W) costs are based on market values from the Hillsborough County Property Appraiser and can be found in Appendix D.
2. Construction cost estimates can be found in Appendix E.

7.0 DESIGN INFORMATION SOURCES

The design information sources used to prepare this Drainage and Wetland Mitigation Report include the following:

- O'Brien Street from Spruce Street to Cypress Street Alignment Study (July 2011)
- O'Brien Street from Spruce Street to Laurel Street Final Roadway Plans (May 2003)
- O'Brien Street from Cypress Street to Laurel Street 60% Roadway Plans (July 2005)
- Geotechnical Report Provided by Tierra (April 2012)
- Wetland Technical Memo provided by Scheda (April 2012)
- Survey Information provided by Bayside (April 2012)
- City of Tampa Stormwater Technical Standards Manual for Public Development (Latest Edition)
- Southwest Florida Water Management District Basis of Review (December 2011)
- SWFWMD Permit No. 44024306.000 (August 2003)
- SWFWMD Permit Modification No. 44024306.001 (February 2004)
- SWFWMD Permit Modification No. 44024306.002 (January 2006)
- SWFWMD Permit Modification No. 44015474.003 (May 2006)



APPENDIX A
GEOTECHNICAL DOCUMENTATION

TIERRA

Revised: June 18, 2012
April 25, 2012

HNTB
One Tampa City Center
201 N. Franklin Street
Tampa, FL 33602

Attention: Mr. Jim Drapp, P.E.

Cc: Zack Sarver, E.I.

**RE: Geotechnical Engineering Services Report
Obrien Street Preliminary Pond Sites
City of Tampa, Florida
Tierra Project Number: 6511-12-074**

Mr. Drapp,

Tierra, Inc. has completed a Geotechnical Engineering Services Report for the above referenced project. The results of our field exploration program and subsequent geotechnical recommendations are presented in this report.

Tierra, Inc. appreciates the opportunity to be of service to HNTB on this project. If you have any questions or comments regarding this report, please contact our office at your earliest convenience.

Sincerely,

TIERRA, INC.



Joseph R. Antinori, P.E.
Geotechnical Engineer
Florida License No. 73176



Larry P. Moore, P.E.
Principal Geotechnical Engineer
Florida License No. 47673

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1.0 PROJECT INFORMATION

The project consists of the design of pond sites in the vicinity of Obrien Street between Cypress Street and Spruce Street in Tampa, Florida. The project area mostly consists of developed commercial and residential sites. Wetlands and wet ponds are present in the vicinity of the project. Based on information provided by HNTB, the following four (4) sites are under consideration for pond sites:

- Location 1: Northeast corner of Obrien Street and Grace Street (Pond Alternative 1)
- Location 2: The south side of Nassau Street approximately half way between Obrien Street and North Sherrill Street (Pond Alternative 2)
- Location 3: Northwest corner of Obrien Street and Laurel Street (Pond Alternative 4)
- Location 4: Northeast corner of Obrien Street and Laurel Street (Pond Alternative 3)

2.0 PURPOSE AND SCOPE OF SERVICES

The geotechnical study was performed to obtain information relating to the existing subsurface conditions and to provide geotechnical (i.e. soils and groundwater) input to the design team to assist in the design of the preliminary pond site alternatives associated with the project. The following services were provided:

1. Reviewed soil information obtained from the "Soil Survey of Hillsborough County, Florida" published by the United States Department of Agriculture (USDA) National Resources Conservation Service (NRCS). Reviewed topographic and potentiometric information obtained from the Gandy Bridge, Florida Quadrangle Map published by the United States Geological Survey (USGS).
2. Conducted a visual reconnaissance of the project site, located/staked proposed borings.
3. Performed a geotechnical field study for the proposed pond sites consisting of borings and subsurface sampling. A total of six (6) auger borings were utilized to obtain information of the subsurface conditions in the vicinity of the proposed pond site alternatives.
4. Visually classified the samples using the American Association of State and Highway Officials (AASHTO) soil classification system.
5. Collected groundwater level measurements and estimated the Seasonal High Groundwater Table levels.
6. Prepared a **Boring Location Plan** and **Soil Profiles** sheets.
7. Prepared this formal engineering report in accordance with the request for proposal, which summarizes the course of study pursued, the data generated and subsurface conditions encountered.

3.0 REVIEW OF AVAILABLE DATA

3.1 Review of USDA Soil Survey

Based on a review of the Hillsborough County Soil Survey, it appears that there are three (3) soil-mapping units noted within the vicinity of the proposed pond alternatives. A USDA Soil Survey Map of the project area is provided in **Appendix A**. The following paragraphs and table provide a general soil description and soil properties as described in the Soil Survey.

Myakka fine sand (29)

The Myakka component makes up 89 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August and September. Organic matter content in the surface horizon is about 1 percent.

Myakka Urban land complex (32)

The Myakka component makes up 50 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August and September. Organic matter content in the surface horizon is about 1 percent.

Winder fine sand (59)

The Winder component makes up 93 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September, October, November and December. Organic matter content in the surface horizon is about 1 percent.

USDA Map Symbol and Soil Name	Depth (in)	Soil Classification		Permeability (in/hr)	pH	Seasonal High Water Table	
		USCS	AASHTO			Depth (feet)	Months
(29) Myakka	0-5	SP, SP-SM	A-3	6.0 - 20.0	3.5-6.5	0.5-1.5	June-Sept
	5-20	SP, SP-SM	A-3	6.0 - 20.0	3.5-6.5		
	20-30	SM, SP-SM	A-2-4, A-3	0.6 - 6.0	3.5-6.5		
	30-80	SP, SP-SM	A-3	6.0 - 20.0	3.5-6.5		
(32) Myakka-Urban Land	0-5	SP, SP-SM	A-3	6.0 - 20.0	3.5-6.5	0.5-1.5	June-Sept
	5-20	SP, SP-SM	A-3	6.0 - 20.0	3.5-6.5		
	20-30	SM, SP-SM	A-2-4, A-3	0.6 - 6.0	3.5-6.5		
	30-80	SP, SP-SM	A-3	6.0 - 20.0	3.5-6.5		
(59) Winder	0-4	SP, SP-SM	A-2-4, A-3	6.0 - 20.0	5.6-7.8	0.5-1.5	June-Dec
	4-10	SP, SP-SM	A-2-4, A-3	6.0 - 20.0	5.6-7.8		
	10-14	SM	A-2-4	0.2 - 0.6	6.1-7.8		
	14-30	SC	A-2-4, A-2-6	0.1 - 0.2	6.6-8.4		
	30-58	SC, SC-SM, SM	A-2-4	0.1 - 0.2	7.4-8.4		
	58-80	SC, SC-SM, SM	A-2-4	6.0 - 20.0	7.4-8.4		

The Urban land component consists of areas where most of the soil surface is covered with impervious materials, such as buildings and paved areas. This land type consists of areas where the original soils have been modified through cutting, grading, filling and shaping or have been generally altered for urban development.

The USDA classifications are based on an interpretation of aerial photographs and widely-spaced hand auger borings. Borders between mapping units are approximate and the transition between soil types may be very gradual. Areas of dissimilar soils can occur within a mapped unit. The soil survey provides a good basis for an initial evaluation of shallow soil conditions in the area and can provide an indication of changes that may have occurred due to land filling, excavation, and other activities at the site. The **USDA Vicinity Map** is included in **Appendix A**.

3.3 Review of USGS Quadrangle Map

Based on a review of the USGS Quadrangle Map for Gandy Bridge, Florida and ground surface elevations obtained from the project surveyors, it appears that the elevations in the vicinity of project sites range from approximately +5 to +10 feet National Geodetic Vertical Datum of 1929 (NGVD 29). A **USGS Vicinity Map** of the project location is provided in **Appendix A**.

4.0 SUBSURFACE EXPLORATION AND RESULTS

4.1 Auger Borings

A total of six (6) hand auger borings were advanced to approximate depths ranging from 3 to 5½ feet below the existing ground surface in the vicinity of the proposed pond sites. The auger borings were performed by manually twisting a bucket auger into the ground typically in 6 inch increments. As each soil type was encountered, samples were collected and visually classified in the field. Soil profiles of the borings performed are provided in **Appendix A**.

The borings were located using plans and MicroStation files provided by HNTB, as well as hand held GPS equipment and/or measuring distances from existing site features. The locations and elevations of the borings performed were surveyed by the project surveyor. The boring locations and station, offset and elevation of each boring are shown on the **Boring Location Plan** and **Soil Profiles** sheets, respectively, in **Appendix A**.

4.2 General Soil Conditions

The following subsections provide a brief description of the soil conditions encountered with the auger borings.

Location 1 (northeast corner of Obrien St. and Grace St., Pond Alternative 1):

Tierra completed two (2) auger borings in the vicinity of Location 1 (AB-1 and AB-2). Fine sand to fine sand with silt was encountered to a depth of approximately 2 to 4 feet below grade. These sandy soils were underlain by sandy clay to clay with limestone fragments to the boring termination depths of about 5 to 5½ feet below grade. Auger Boring AB-2 was terminated at a depth of approximately 5 feet below grade due to very dense/stiff calcareous clay with limestone fragments. The calcareous clay with limestone fragments soil stratum may be an indication of a shallow weathered limestone substratum.

Location 2 (south side of Nassau St., Pond Alternative 2):

Tierra completed one (1) auger boring (AB-3) in the vicinity of Location 2. Fine sand to fine sand with silt occasionally with shell fragments was encountered from the ground surface to the boring termination depth of approximately 5 feet below the ground surface.

Location 3 (northwest corner of Obrien St. and Laurel St., Pond Alternative 4):

As requested by HNTB, Tierra completed one (1) auger boring (AB-4) at the northwest corner of Obrien St. and Laurel St. Fill with debris consisting of sand and/or clayey sand mixed with rock, concrete, asphalt, roots, tree remnants, coal, metal and/or plastic was encountered within the full depth of the Auger Boring AB-4 (from the ground surface to a depth of about 5 feet below the ground surface). Tierra completed an additional auger boring (AB-5) approximately 130 feet northwest of Auger Boring AB-4 to evaluate if the subsurface condition encountered within AB-4 was an anomaly. Debris was also encountered with Auger Boring AB-5 from the ground surface to a depth of approximately 3½ feet below the ground surface. Excavation into and through the fill materials was difficult using handheld tools. Auger Boring AB-5 was terminated at a depth of approximately 3½ feet below grade due to very dense refusal material likely associated with buried debris.

Location 4 (the northeast corner of Obrien St. and Laurel St., Pond Alternative 3):

Tierra completed one (1) auger boring (AB-6) in the vicinity of Location 4. Fine sand to fine sand with silt was encountered to a depth of approximately 3½ feet below grade. These sandy soils were underlain by clayey sand to the boring termination depth of approximately 3½ feet below grade.

The location and depth at which these soil conditions were encountered can be seen on the **Boring Location Plan** and **Soil Profiles** sheets in **Appendix A**. The soil types encountered during exploration have been assigned to a stratum. The stratum descriptions and soil types associated with this project are listed in the following table.

Stratum No.	Typical Soil Description	AASHTO Classification
1	Gray Fine SAND to SAND with Silt	A-3/A-2-4
2	Dark Gray to Black Clayey SAND	A-2-6
3	Light Gray to Pale Brown Sandy CLAY to CLAY	A-7-5/A-6
4	FILL with DEBRIS: Sand and/or Clayey Sand Mixed With Rock, Concrete, Asphalt, Roots, Tree Remnants, Coal, Metal and/or Plastic	--- (1)
⁽¹⁾ AASHTO nomenclature does not include a classification for Fill with Debris.		

The soil stratification was based on a visual review of the recovered samples. The boring stratification lines represent the approximate boundaries between soil types of significantly different engineering properties; however, the actual transition may be gradual. In some cases, small variations in properties not considered pertinent to our engineering evaluation may have been abbreviated or omitted for clarity. The boring profiles represent the conditions at the particular boring location and variations do occur among the borings.

4.3 Groundwater Levels

The groundwater table, when encountered, was measured at depths ranging from 1 to 5 feet below the ground surface. If the groundwater level was not encountered within the depth of the auger boring, GNE (Groundwater Not Encountered) is shown adjacent to the soil profile in **Appendix A**.

Groundwater conditions will vary with environmental variations and seasonal conditions, such as the frequency and magnitude of rainfall patterns, as well as man-made influences (i.e. existing water management canals, swales, drainage ponds, underdrains and areas of covered soils, such as paved parking lots and sidewalks).

The groundwater information is presented on the **Soil Profiles** sheet in **Appendix A** as well as the **Summary of Seasonal High Groundwater Estimates** table in **Appendix B**

4.4 Seasonal High Groundwater Estimates

The Seasonal High Groundwater Table (SHGWT) was estimated in the vicinity of all of the proposed pond alternative locations except Location 3 (northwest corner of Obrien Street and Laurel Street). The seasonal high groundwater table levels at the remaining Locations (1, 2 and 4) were estimated to range from at or above the existing ground surface to a depth 2 feet below the ground surface.

The near surface soils within Location 3 have been modified through cutting, grading, filling and shaping which has altered the subsurface conditions. Due to these conditions natural SHGWT indicators are no longer present within the soil stratigraphy making the determination of the SHGWT difficult.

The land within Location 4 (northeast corner of Obrien St. and Laurel St.) has also been altered by grading. This area is surrounded by a berm which ponds water and appears to display conditions similar to a wetland.

We recommend that seasonal high water table estimates in the vicinity of Locations 3 and 4 be based on data developed by the project biologist for adjacent wetland areas. The SHGWT estimates provided by Tierra should be compared to the SHGWT information provided by the project biologist and the most conservative SHGWT elevations should be utilized for the drainage design considerations.

In general, the seasonal high groundwater table level estimates in the vicinity of the proposed pond alternatives were based on soil stratigraphy, measured groundwater levels and the Hillsborough County, Florida USDA Soil Survey information.

The seasonal high groundwater information is presented on the **Soil Profiles** sheet in **Appendix A** as well as the **Summary of Seasonal High Groundwater Estimates** table in **Appendix B**.

5.0 ENGINEERING EVALUATIONS AND RECOMMENDATIONS

5.1 General

Limited soil borings were performed to explore the general subsurface conditions within the vicinity of the proposed pond alternatives. The primary purpose of this geotechnical exploration was to identify the shallow soil conditions, measure groundwater levels and estimate the SHGWT at locations specified by HNTB. Because of the preliminary nature of the pond design at the time that this report is being submitted, Tierra should be given the opportunity to review the final plans to evaluate the utilization of the geotechnical information and recommendations provided herein. Upon review of the plans, Tierra should be given the opportunity to amend our recommendations if necessary. At this time it may be necessary to completed additional geotechnical services. Therefore, some contingency fund is recommended to accommodate such potential extra costs. Once final pond sites are selected, additional borings should be completed to a minimum depth of 5 feet below the deepest elevation of the pond or to a depth that satisfies local Water Management District criteria to evaluate soil suitability and pond constructability.

5.2 Fill with Buried Debris

As mentioned previously, the borings completed at Location 3 (northwest corner of Obrien St. and Laurel St.) encountered fill with debris consisting of sand and/or clayey sand mixed with rock, concrete, asphalt, roots, tree remnants, coal, metal and/or plastic. Based on the results of the test borings performed, special consideration will need to be given to the use of Location 3 (northwest corner of Obrien St. and Laurel St.) for a pond and/or floodplain mitigation site due to the fill material mixed with debris encountered within the borings completed in this area. If Location 3 is utilized, Tierra recommends that additional borings be completed to determine the vertical and horizontal limits of the fill material. Special considerations should also be given to the potential environmental risks associated with utilizing Location 3 as a pond site. Depending on the limits of the fill material and the decision on whether or not full removal of the deleterious material is feasible, an impermeable pond liner may be required. If so the pond liner must be installed/placed on clean granular fill free of deleterious material which may puncture or damage the liner.

5.3 Depth to Confining Layer

Based on the results of our field exploration and laboratory test results, we anticipate the depth of the confining layer to coincide with the top of Strata 2 and 3. The presence of Strata 2 and 3 is presented on the **Soil Profiles** sheet in **Appendix A**.

5.4 On-Site Soil Suitability

The soils encountered during our geotechnical exploration are presented on the legend presented on the **Soil Profiles** sheet in **Appendix A**. If location 3 (northwest corner of Obrien St. and Laurel St.) is chosen as a pond site, a soils management plan should be developed which outlines the proper excavation, handling and disposal of the material and soils encountered within the auger borings completed in the vicinity of Location 3. The soils management plan should be developed in accordance with County and State specifications.

Indices 500 and 505 of the FDOT Design Standards, City of Tampa and/or Hillsborough County Design Requirements should be consulted to determine the specific use/suitability of the soil types encountered during our geotechnical explorations performed to date.

5.5 Excavations

In Federal Register, Volume 54, No. 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its "Construction Standards for Excavations, 29 CFR, Part 1926, Subpart P". This document was issued to better ensure the safety of workmen entering trenches or excavations. It is mandated by this federal regulation that excavations, whether they be utility trenches, basement excavations or footing excavations, be constructed in accordance with the current OSHA guidelines. It is our understanding that these regulations are being strictly enforced and if they are not closely followed, the owner and the contractor could be liable for substantial penalties.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible

persons”, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor’s safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in all local, state, and federal safety regulations.

We are providing this information solely as a service to our client. Tierra does not assume responsibility for construction site safety or the contractor’s or other party’s compliance with local, state, and federal safety or other regulations.

5.6 Environmental Site Assessments

The scope of services, included herein, did not include any environmental assessment for the presence or absence of hazardous or toxic materials in the soil, surface water, groundwater, air, on the site, below and around the site. Any statements in this report or on the boring logs regarding odors, colors, unusual or suspicious items and conditions are strictly for the information of HNTB.

Prior to purchasing property for stormwater management facilities, it is recommended that an environmental site assessment be completed so that full knowledge of site conditions is available prior to property purchase.

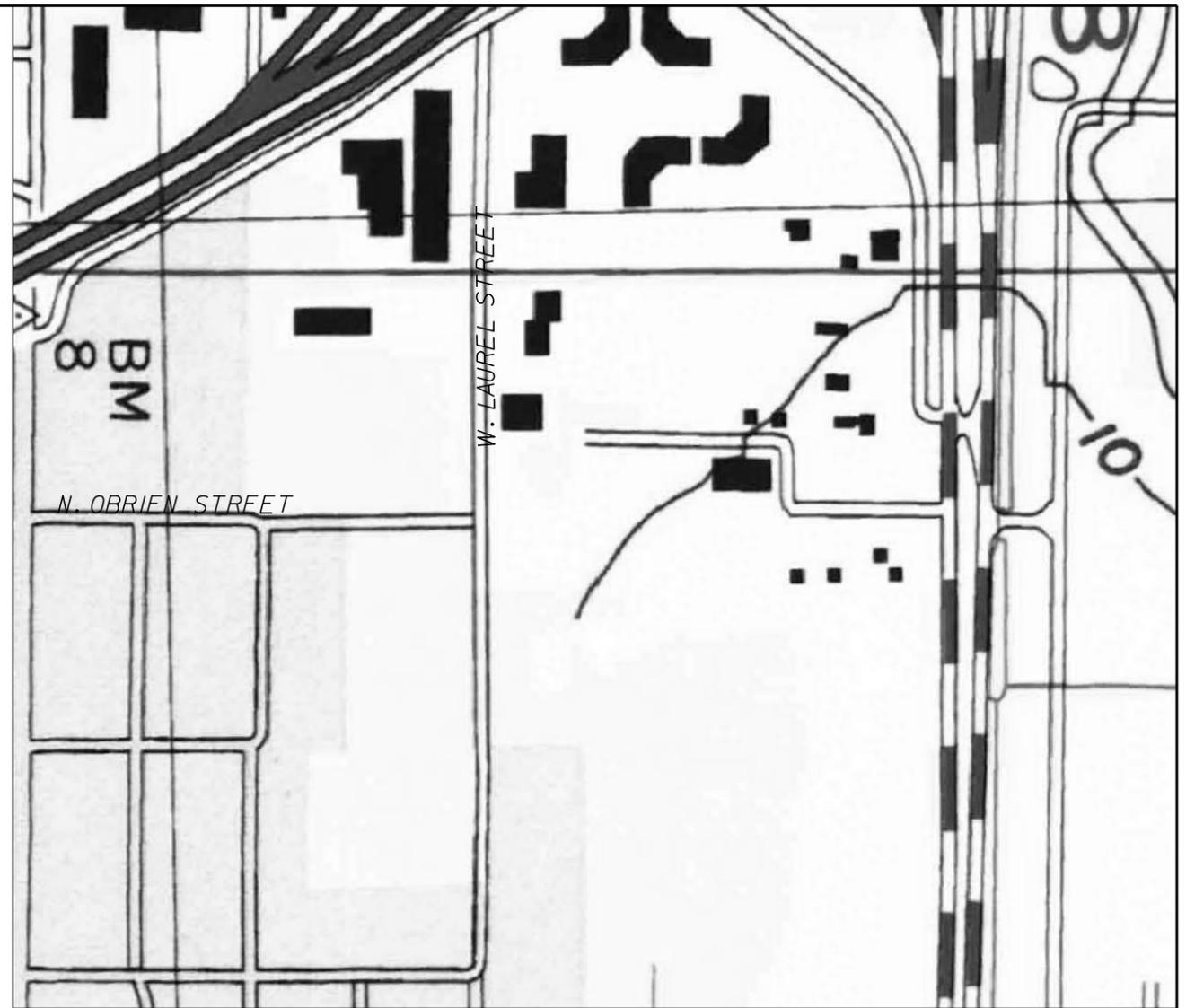
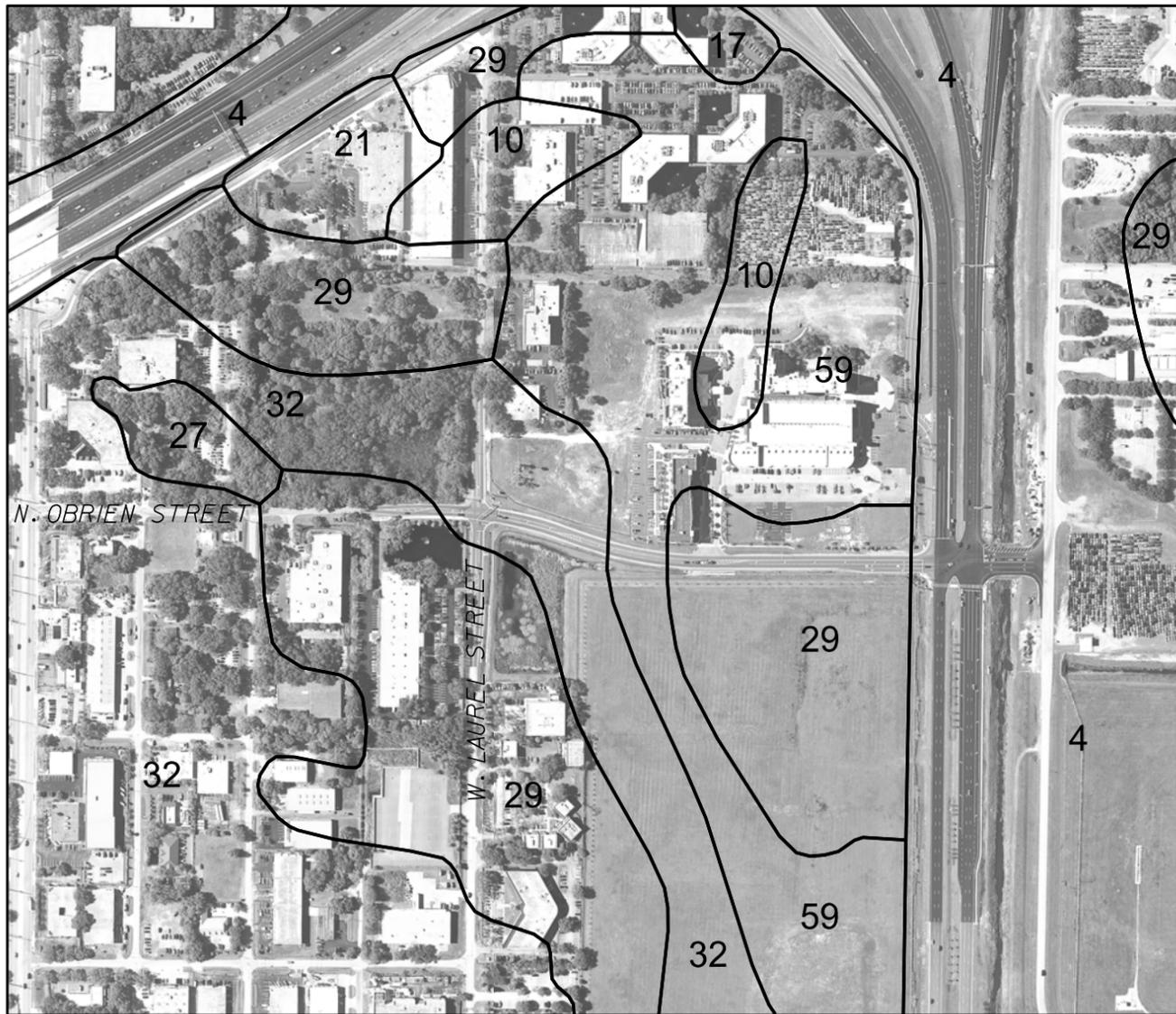
6.0 REPORT LIMITATIONS

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices at the time of this report. Our geotechnical engineering evaluation of the site and subsurface conditions with respect to the planned drainage improvements are based upon the site observations, field exploratory test data obtained during the geotechnical study, and our understanding of the project information as presented in this report. This company is not responsible for the conclusions, opinions or recommendations made by others based on the data presented in this report.

The scope of the exploration was intended to evaluate subsurface conditions in the vicinity of the pond alternative sites. The analyses and recommendations submitted in this report are based upon the anticipated location and type of construction and data obtained from the soil borings performed at the locations indicated and do not reflect any variations which may occur among these locations. If any variations become evident during the course of the design or construction, a re-evaluation of the recommendations contained in this report will be necessary after we have had an opportunity to observe the characteristics of the conditions encountered. Unanticipated soil conditions may require that additional expense be allocated to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

APPENDIX A

USDA & USGS Vicinity Map A-1
Boring Location Plan A-2
Soil Profiles A-3



REFERENCE: USDA "SOIL SURVEY OF HILLSBOROUGH COUNTY, FLORIDA"

TOWNSHIP: 29S
 RANGE: 18E
 SECTION: 17
 SCALE: 1 INCH = 500 FEET

REFERENCE: "GANDY BRIDGE, FLORIDA" USGS QUADRANGLE MAP

TOWNSHIP: 29S
 RANGE: 18E
 SECTION: 17
 SCALE: 1 INCH = 500 FEET

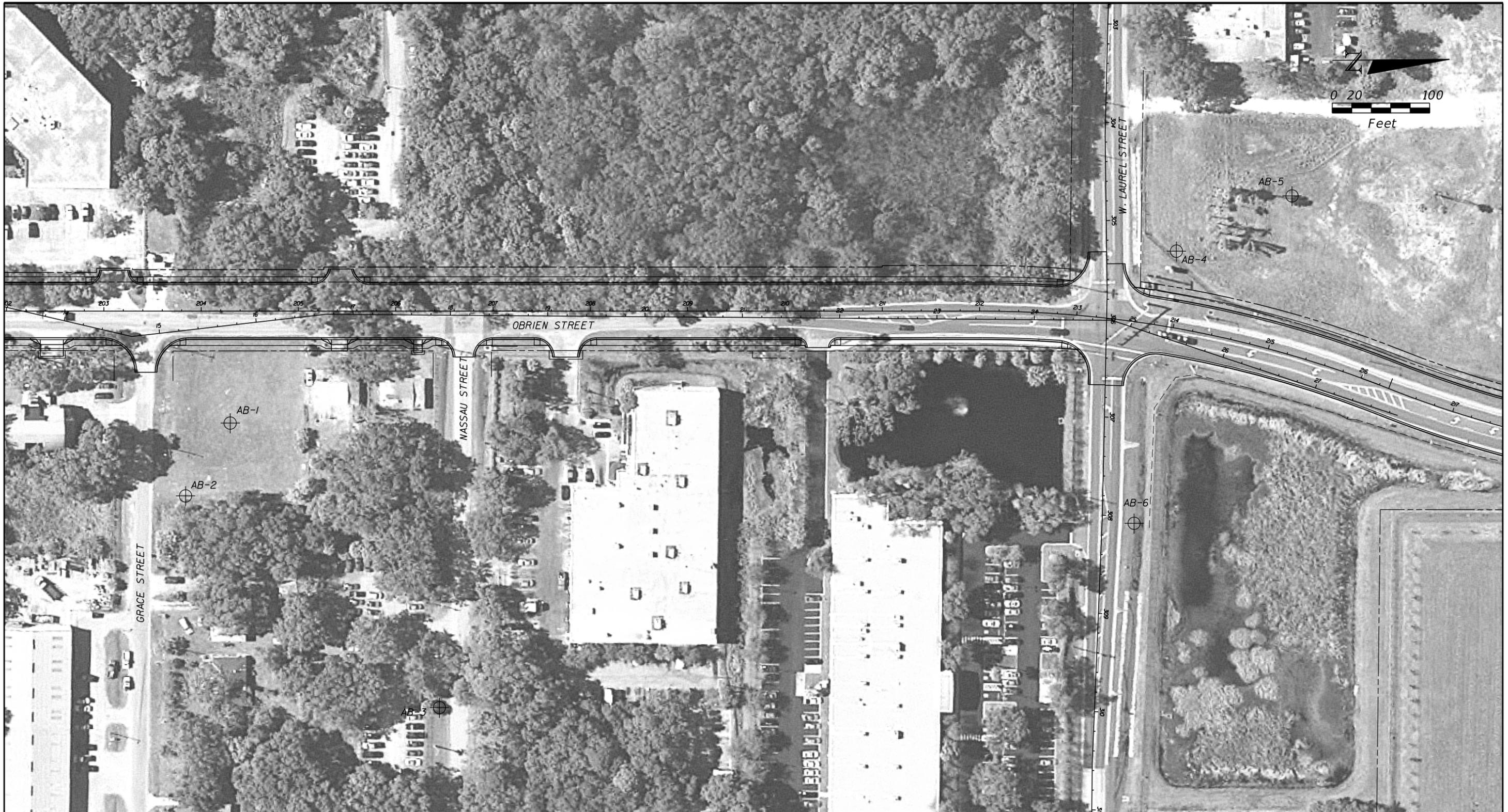
E.O.R.: JOSEPH R. ANTINORI, P.E.
 P.E. LICENSE NUMBER 73176
TIERRA INC
 7351 TEMPLE TERRACE HIGHWAY, TAMPA, FL. 33637
 CERTIFICATE OF AUTHORIZATION: 6486

Drawn: B.J.S. Date: 04/12	△			
Designed: J.R.A. Date: 04/12	△			
Checked: J.R.A. Date: 04/12	△			
Reviewed: L.P.M. Date: 04/12	△			
Approved: J.R.A. Date: 04/12	△			
Approved: --- Date: ---	△	No.	Date:	Revision:
				By:

CITY OF TAMPA
 DEPARTMENT OF PUBLIC WORKS
 TRANSPORTATION DIVISION

USDA & USGS VICINITY MAPS

Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No.	
SCALE:	
SHEET	✓



LEGEND

⊕ APPROXIMATE AUGER BORING LOCATION

E.O.R.: JOSEPH R. ANTINORI, P.E.
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Approved: --- Date: ---	No.	Date:	Revision:	By:

CITY OF TAMPA
 DEPARTMENT OF PUBLIC WORKS
 TRANSPORTATION DIVISION

BORING LOCATION PLAN

Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No.	
SCALE:	
SHEET	

LEGEND

1. GRAY FINE SAND TO SAND WITH SILT (A-3/A-2-4)
 2. DARK GRAY TO BLACK CLAYEY SAND (A-2-6)
 3. LIGHT GRAY TO PALE BROWN SANDY CLAY TO CLAY (A-7-5/A-6)
 4. FILL WITH DEBRIS: SAND AND/OR CLAYEY SAND MIXED WITH ROCK, CONCRETE, ASPHALT, ROOTS, TREE REMNANTS, COAL, METAL AND/OR PLASTIC
 - A. WITH LIMESTONE FRAGMENTS
 - B. WITH SHELL
- A-3 AASHTO GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND/OR LABORATORY TESTING
- NGVD 29 NATIONAL GEODETIC VERTICAL DATUM OF 1929
- ▽ GROUNDWATER LEVEL ENCOUNTERED DURING FIELD EXPLORATIONS
- ▽ ESTIMATED SEASONAL HIGH GROUNDWATER TABLE
- ▽+ ESTIMATED SEASONAL HIGH GROUNDWATER AT OR ABOVE EXISTING GRADES
- GNE GROUNDWATER NOT ENCOUNTERED
- C/L CONST. OBRIEN CENTERLINE CONSTRUCTION OF OBRIEN STREET

NOTE: REFUSAL CLAY WITH LIMESTONE FRAGMENTS AND FILL WITH DEBRIS WERE ENCOUNTERED WITHIN AUGER BORINGS AB-2 AND AB-5, RESPECTIVELY. EXCAVATION INTO AND THROUGH THESE MATERIALS MAY BE DIFFICULT AND MAY REQUIRE SPECIALIZED EQUIPMENT. THE CONTRACTOR SHOULD BE PREPARED FOR EXCAVATION INTO AND THROUGH THESE MATERIALS. VARIATIONS IN THE DEPTH OF THESE MATERIALS SHOULD BE ANTICIPATED.

BOR # AB-1
 STA. 204+30
 REF. C/L CONST. OBRIEN
 OFF. 114' RT
 ELEV. 8.7
 DATE 3/13/2012

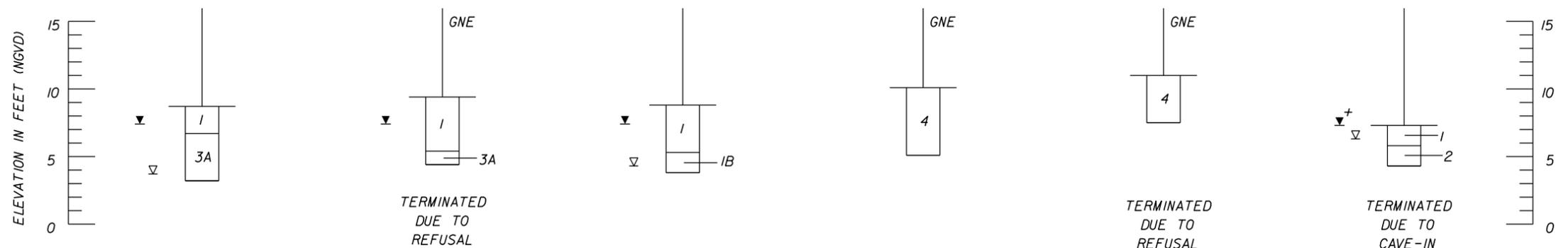
BOR # AB-2
 STA. 203+84
 REF. C/L CONST. OBRIEN
 OFF. 188' RT
 ELEV. 9.4
 DATE 3/13/2012

BOR # AB-3
 STA. 206+45
 REF. C/L CONST. OBRIEN
 OFF. 403' RT
 ELEV. 8.8
 DATE 3/13/2012

BOR # AB-4
 STA. 213+90
 REF. C/L CONST. OBRIEN
 OFF. 77' LT
 ELEV. 10.1
 DATE 3/13/2012

BOR # AB-5
 STA. 214+86
 REF. C/L CONST. OBRIEN
 OFF. 157' LT
 ELEV. 11.0
 DATE 3/13/2012

BOR # AB-6
 STA. 213+93
 REF. C/L CONST. OBRIEN
 OFF. 203' RT
 ELEV. 7.3
 DATE 3/13/2012



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Approved: J.R.A. Date: 04/12	△			
Approved: --- Date: ---	No.	Date:	Revision:	By:

CITY OF TAMPA
 DEPARTMENT OF PUBLIC WORKS
 TRANSPORTATION DIVISION

SOIL PROFILES

Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No.	
SCALE:	
SHEET	

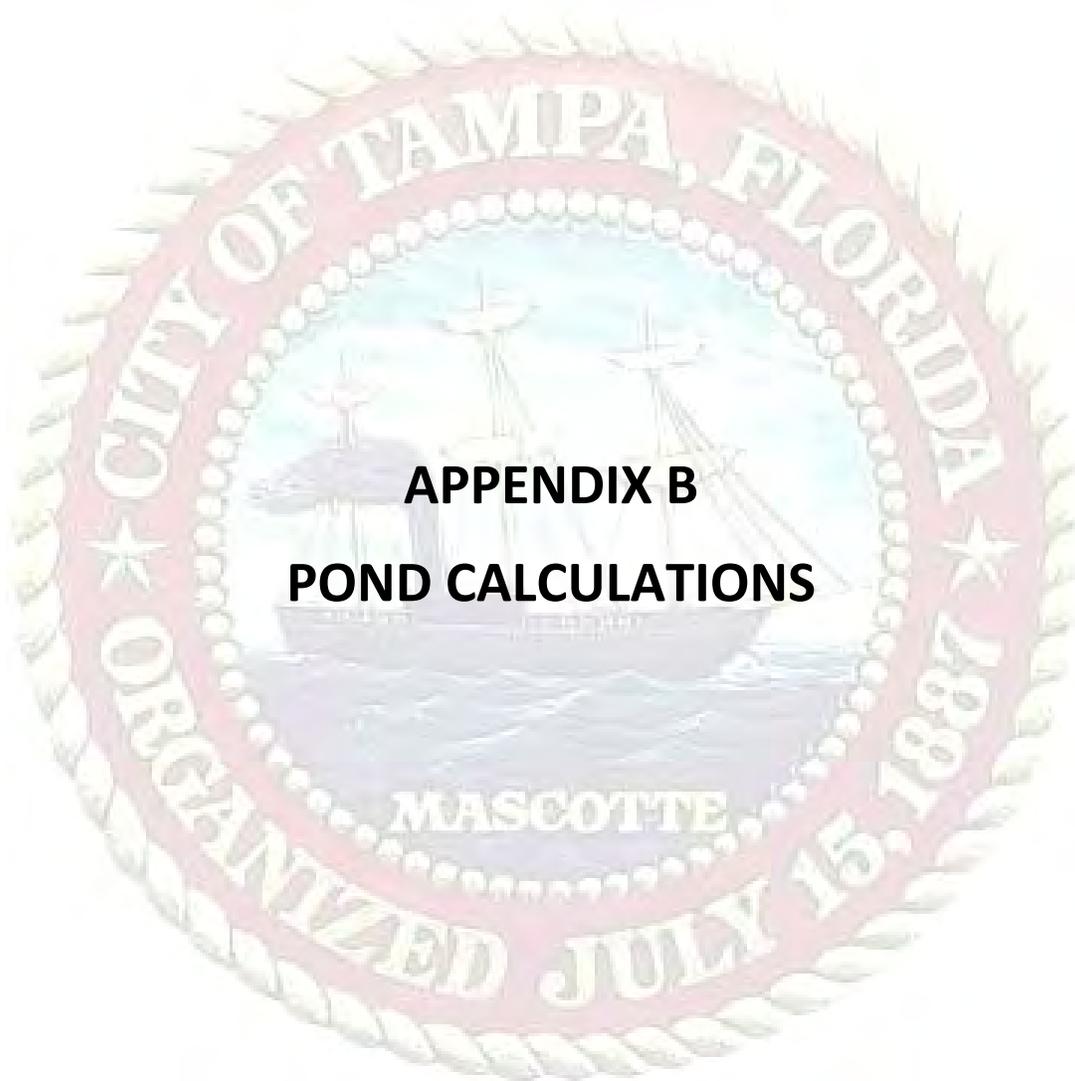
APPENDIX B

Summary of Seasonal High Groundwater Table Estimates B-1

**Summary of Seasonal High Groundwater Table Estimates
Obrien Street Preliminary Pond Alternatives
Hillsborough County, Florida
Tierra Project No. 6511-12-074**

Boring Name	Boring Location ⁽¹⁾		Boring Depth ⁽²⁾ (feet)	Date Recorded	Approximate Ground Elevation ⁽¹⁾ (feet, NGVD29)	Measured Groundwater Table		USDA Soil Survey		Estimated SHGWT ⁽⁴⁾	
	C/L Construction Obrien St.					Depth ⁽²⁾ (feet)	Elevation (feet, NGVD 29)	Map Symbol	SHGWT ⁽³⁾ Depth (feet)	Depth (feet)	Elevation (feet, NGVD 29)
	Station (feet)	Offset (feet)									
AB-1	204 + 30	114 RT	5.5	3/13/2012	8.7	5.0	3.7	32	0.5-1.5	1.3	7.4
AB-2	203 + 84	188 RT	5.0	3/13/2012	9.4	GNE ⁽⁵⁾	<4.4	32	0.5-1.5	2.0	7.4
AB-3	206 + 45	403 RT	5.0	3/13/2012	8.8	4.5	4.3	32	0.5-1.5	1.4	7.4
AB-4	213 + 90	77 LT	5.0	3/13/2012	10.1	GNE ⁽⁵⁾	<5.1	32	0.5-1.5	NA ⁽⁶⁾	NA ⁽⁶⁾
AB-5	214 + 86	157 LT	3.5	3/13/2012	11.0	GNE ⁽⁵⁾	<7.5	32	0.5-1.5	NA ⁽⁶⁾	NA ⁽⁶⁾
AB-6	213 + 93	203 RT	3.0	3/13/2012	7.3	1.0	6.3	29	0.5-1.5	AAG ⁽⁷⁾	≥ 7.3

⁽¹⁾ Boring locations and elevations were surveyed by Bayside Engineering.
⁽²⁾ Depth below existing grades at time of augering.
⁽³⁾ Seasonal high groundwater table depth estimated based on the Hillsborough County, Florida USDA Soil Survey information.
⁽⁴⁾ Seasonal high groundwater table depth estimated based on soil stratigraphy, measured groundwater levels from the borings and the Hillsborough County, Florida USDA Soil Survey information.
⁽⁵⁾ GNE: groundwater table not encountered at boring termination depth.
⁽⁶⁾ NA: Seasonal High Groundwater Table Not Apparent. The near surface land in this area has been modified through cutting, grading, filling and shaping which has altered the subsurface conditions. Due to these conditions and the presence of fill and debris, natural SHGWT indicators are no longer present within the soil stratigraphy. We recommend that the seasonal high water estimates at these locations be estimated by data available elsewhere in this report and data from the project biologist.
⁽⁷⁾ AAG indicates Seasonal High Groundwater Table estimated at or above grade at this location.



APPENDIX B
POND CALCULATIONS

Calculations: Pond Alternative 1 (O'Brien St. b/w Grace St. & Nassau St.)
 & Pond Alternative 2 (Nassau St. b/w O'Brien St. and Sherrill St.)
 Existing 2-Lane Section
 Proposed 4-Lane + Turn Lane Section

Design By: NMP
 Check By: MCG

Date: 4/27/2012
 Date: 5/8/2012

WEIGHTED CN CALCULATIONS
EXISTING

LAND USE	SOILS	AREA (AC)	CN	PRODUCT
Right Of Way				
Impervious		0.46	98	45
Pervious	D	1.23	84	103
Future Pond Site				
		1.25	84	105
	SUBTOTAL	2.94		253
				TOTAL WEIGHTED CN = 86.19

PROPOSED

LAND USE	SOILS	AREA (AC)	CN	PRODUCT
Right Of Way				
Impervious		1.39	98	136
Pervious	D	0.30	84	25
Proposed Pond Site				
		1.05	100	105
Proposed Pond Site				
		0.20	80	16
	SUBTOTAL	2.94		282
				TOTAL WEIGHTED CN = 96

REQUIRED POLLUTION ABATEMENT VOLUME

Pollution Abatement Vol. = (1" Runoff x 1.39 Ac.)*1/12 = 0.12

From SWFWMD 5.2 (a.1) A wet detention treatment system shall treat one inch of runoff from the directly connected impervious area (DCIA).

ESTIMATE OF PEAK ATTENUATION VOLUME

P 8.00 in Assume SWFWMD 25-yr/24-hr storm event

	PRE	POST
Pot. Abstraction, S	1.60	0.41
Runoff Depth, Q (in)	6.35	7.53
Runoff Volume, ac-ft	1.56	1.84

Attenuation Volume 0.29

TOTAL DETENTION (TREATMENT + ATTENUATION) VOLUME

Treatment	0.12
Attenuation	0.29
TOTAL	0.41

STORAGE VOLUME FOR PROPOSED POND

Estimated Seasonal High Water Table (SHWT) = 7.4 ft

Proposed Pond Stage Storage	Area (sf)	Area (ac)	Acu. Volume (cf)	Total Volume (cf)	Total Volume (ac-ft)	
7.40	43080	0.99	0.00	0.00	0.00	
7.52	43279	0.99	5181.57	5181.57	0.12	(Water Quality Treatment Volume)
7.81	43763	1.00	12621.23	17802.80	0.41	(Treatment + Attenuation Volume)
8.00	44082	1.01	8345.32	26148.12	0.60	
9.00	45778	1.05	44929.86	71077.99	1.63	Bottom of Maintenance Berm
10.00	52421	1.20	49099.55	120177.54	2.76	Top of Maintenance Berm

Pond is to have one ft freeboard from bottom of maintenance berm to Design High Water (DHW)
 Slope Maintenance berm = 1:15
 Side Slope of Pond = 1:4

A 10% contingency factor is added to the pond area.
 1.20 x 0.10 = 0.12
Pond Area = 1.32 AC

Calculations: Pond Alternative 3 (NE corner of O'Brien St. and Laurel St.)
 Existing 2-Lane + Turn Lane Section
 Proposed 4-Lane + Turn Lane Section

Design By: NMP
 Check By: MCG

Date: 4/27/2012
 Date: 5/8/2012

WEIGHTED CN CALCULATIONS
Avion Park (Permit No. 44015474.003)

LAND USE	SOILS	AREA (AC)	CN	PRODUCT
Right Of Way				
Impervious (O'Brien St. Existing)		1.68	98	165
Impervious (O'Brien St. Future Widening) *		0.91	98	89
Impervious (Avion Park)		1.87	98	183
Pervious (O'Brien St. Ditches)	D	0.03	80	2
Pervious (Avion Park)	D	0.71	80	57
Existing Pond Site (SHW EL = 7.7')		1.46	100	146
Existing Pond Site (Berm area)	D	0.85	80	68
Information acquired from Avion Park Permit Basin B200POST (Proposed) CN Calcs	SUBTOTAL	7.51		710
				TOTAL WEIGHTED CN = 94.58

PROPOSED

LAND USE	SOILS	AREA (AC)	CN	PRODUCT
Right Of Way				
Impervious (O'Brien St. Existing)		1.68	98	165
Impervious (O'Brien St. Proposed) *		0.58	98	57
Impervious (Additional Area at SW Quad of O'Brien St. and Laurel St.) *		0.19	98	19
Impervious (Avion Park)		1.87	98	183
Pervious	D	0.36	80	29
Pervious (Avion Park)	D	0.71	80	57
Existing Pond Site (SHW EL = 7.7')		1.46	100	146
Existing Pond Site (Berm area)	D	0.85	80	68
	SUBTOTAL	7.70		723
				TOTAL WEIGHTED CN = 93.89

* See included information for proposed HNTB and Permit No. 44015474.003 impervious area calculations

REQUIRED POLLUTION ABATEMENT VOLUME

Existing (Permit No. 4424306.000)	Pollution Abatement Vol.= (1" Runoff x	7.84	Ac.)*1/12 =	0.65
Avion Park (Permit No. 44015474.003)	Pollution Abatement Vol.= (1" Runoff x	7.51	Ac.)*1/12 =	0.63
Proposed Condition	Pollution Abatement Vol.= (1" Runoff x	7.70	Ac.)*1/12 =	0.64

The existing pond N200POST is treating one inch over 7.84 AC from permit No. 4424306.000.
 The approved Avion Park permit No. 44015474.003 reduced the area flowing to existing pond N200POST from 7.84 AC to 7.51 AC.
 There were no modifications to the pond.
 In the proposed condition, the area flowing to existing pond N200POST will be increased from 7.51 AC to 7.70 AC.
 The 7.70 AC in the proposed condition is less total area than the 7.84 AC that is currently being treated in existing pond N200POST.
Therefore no additional treatment is required.

ESTIMATE OF PEAK ATTENUATION VOLUME

P 8.00 in Assume SWFWMD 25-yr/24-hr storm event

	PRE	POST
Pot. Abstraction, S	0.57	0.65
Runoff Depth, Q (in)	7.35	7.27
Runoff Volume, ac-ft	4.60	4.66

Attenuation Volume 0.06

Although the calculations show an additional 0.06 AC-FT of attenuation is needed over the Avion Park Permit No.44015474.003, existing pond N200POST was designed to attenuate for the 7.84 AC at a CN of 94.47 from Permit No. 4424306.000.
 The 7.70 AC at a CN of 93.89 in the proposed condition is less area at a lower CN than is currently being attenuated for in the existing pond N200POST.
Therefore no attenuation is required.

Pond Alternative 3 Permit 44015474.003 Calculations

North Section Proposed Widening (no turn lane)

Existing Condition, Left to Right: 5' SHLDR, 36' Pavement, 5' SHLDR = 46'

Proposed Condition, Left to Right: 5' SWK, 2' C&G, 60' Pavement, 5' SHLDR = 72'

Difference = $72' - 46' = 26'$

Length = 535'

Area = 13910 SF

North Section Proposed Widening (left turn lanes)

Existing Condition, Left to Right: 5' SHLDR, 36' Pavement, 5' SHLDR = 46'

Proposed Condition, Left to Right: 5' SWK, 2' C&G, 72' Pavement, 5' SHLDR = 84'

Difference = $84' - 46' = 38'$

Length = 570'

Area = 21660 SF

North Section Proposed Widening (right turn lane)

Existing Condition, Left to Right: 5' SHLDR, 48' Pavement, 2' C&G = 55'

Proposed Condition, Left to Right: 5' SWK, 2' C&G, 60' Pavement, 5' SHLDR = 72'

Difference = $72' - 55' = 17'$

Length = 240'

Area = 4080 SF

Total Proposed Widening Impervious Area = 39650 SF = .91 Acres

MTPS / O'BRIEN ST. BASIN CALCULATIONS:

BASIN B200 POST (PROPOSED):

SUB-BASIN 1 (MTPS):

<u>AREAS:</u>	<u>SQUARE FEET:</u>	<u>ACREAGE:</u>	<u>CN:</u>
TOTAL BASIN AREA	112,364	2.58	
GREEN SPACE	30,928	0.71	80
✓ IMPERVIOUS AREAS (BUILDING, PARKING, PAVING, S/W, CURB, POOL, ETC.)	81,436	1.87	98

SUB-BASIN 2 (O'BRIEN STREET & POND):

<u>AREAS:</u>	<u>SQUARE FEET:</u>	<u>ACREAGE:</u>	<u>CN:</u>
TOTAL BASIN AREA	214,715	4.93	
IMPERVIOUS AREA			
✓ (EXISTING O'BRIEN ST.)	<u>73,229</u>	1.68	98
✓ (FUTURE O'BRIEN ST. WIDENING)	<u>39,770</u>	0.91	98
✓ POND, SHWT EL = 7.7'	63,598	(1.46)	100
✓ GREEN SPACE (O'BRIEN DITCHES)	1,092	0.03	80
✓ GREEN SPACE (AROUND POND, BERM AREA)	37,026	(0.85)	80

TOTAL AREA OF BASIN B200 POST (PROPOSED)

7.51

WEIGHTED CN =
$$\frac{(1.46) \times 100 + (1.87 + 2.59) \times 98 + (0.71 + 0.03 + 0.85) \times 80}{(2.58 + 4.93)}$$

*CN =

94.59

*(INCLUDES FUTURE O'BRIEN STREET WIDENING)

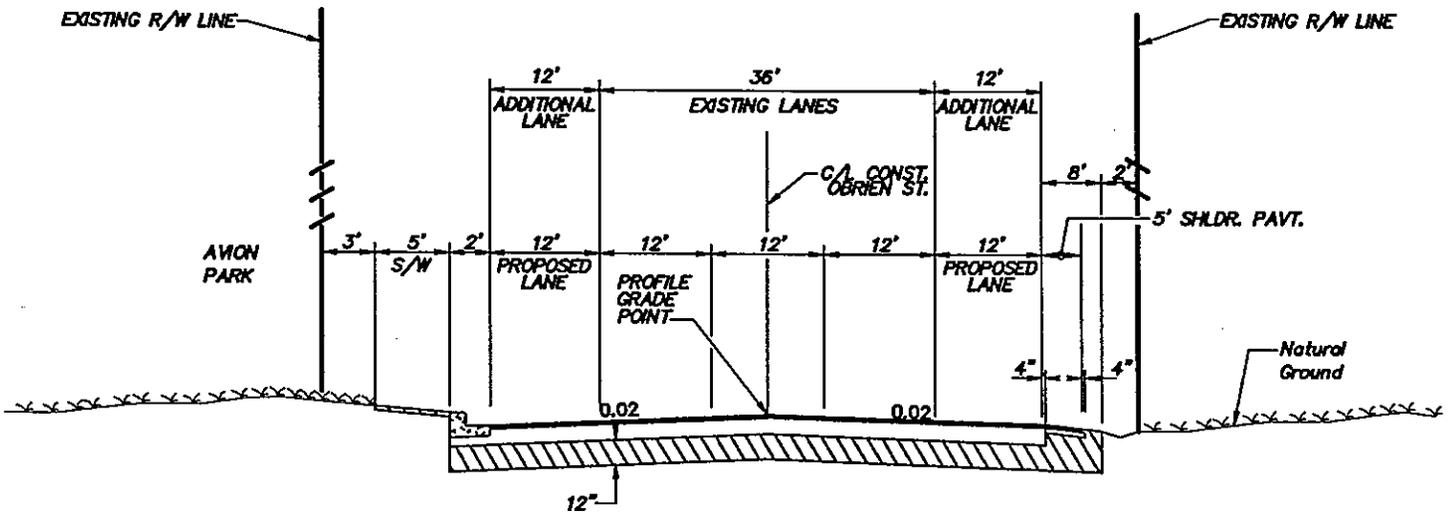
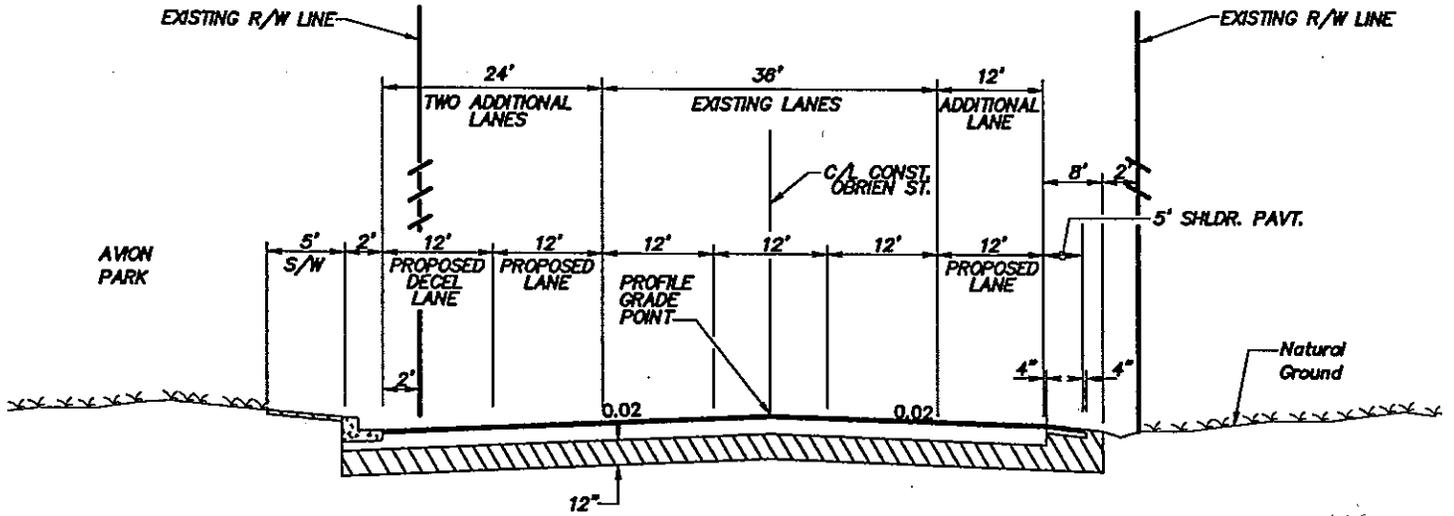
111 = 7.84 = total

we a

7.51

2

PERMIT 44015474.003 TYPICAL SECTIONS



Pond Alternative 3 HNTB Calculations

South Section Proposed Widening

Existing Condition, Left to Right: 2' C&G, 31' Pavement, 2' C&G, 5' SWK = 40'

Proposed Condition, Left to Right: 6' SWK, 2' C&G, 54' Pavement, 2' C&G, 6' SWK = 70'

Difference: $70' - 40' = 30'$

Length: 395'

Area = 11850 SF

North Section Proposed Widening (no turn lane)

Existing Condition, Left to Right: 5' SHLDR, 36' Pavement, 5' SHLDR = 46'

Proposed Condition, Left to Right: 6' SWK, 2' C&G, 54' Pavement, 2' C&G = 64'

Difference: $64' - 46' = 18'$

Length: 1090'

Area = 19620 SF

North Section Proposed Widening (turn lane)

Existing Condition, Left to Right: 5' SHLDR, 48' Pavement, 2' C&G = 55'

Proposed Condition, Left to Right: 6' SWK, 2' C&G, 54' Pavement, 2' C&G = 64'

Difference: $64' - 55' = 9'$

Length: 240'

Area = 2160 SF

Total Proposed Widening Impervious Area = 33630 SF = .77 Acres

New Impervious area within proposed right of way along O'Brien St. south of Laurel St. = .19 Acres

New Impervious area within existing right of way = .77 - .19 = .58 Acres

Pond Alternative 4 (NW Corner of O'Brien St. and Laurel St.)
 Existing 2-Lane + Turn Lane Section
 Proposed 4-Lane + Turn Lane Section

Design By: NMP
 Check By: ZJS

Date: 5/4/2012
 Date: 5/14/2012

WEIGHTED CN CALCULATIONS
EXISTING

LAND USE	SOILS	AREA (AC)	CN	PRODUCT
Right Of Way				
Impervious		0.00	98	0
Pervious		0.00	80	0
Future Pond Site		0.73	80	58
Information acquired from O'Brien St. Extension Drainage And Permitting Narrative				
	SUBTOTAL	0.73		58
		TOTAL WEIGHTED CN =		80.00

PROPOSED

LAND USE	SOILS	AREA (AC)	CN	PRODUCT
Right Of Way				
New Impervious (O'Brien St. Widening)		0.58	98	57
New Impervious (New drainage area at southwest corner of O'Brien and Laurel)		0.19	98	19
New Pervious	D	0.00	80	0
Proposed Pond Site (SHW EL = 6.8')		0.59	100	59
Proposed Pond Site (Berm area)	D	0.14	80	11
	SUBTOTAL	1.50		146
		TOTAL WEIGHTED CN =		97

The total drainage area is being treated and attenuated by the combination of the existing City of Tampa Pond (Pond 3) and Pond 4 for this alternative. The total drainage area is 7.51 acres (existing drainage area including Pond 3) + 0.19 acres (proposed drainage area) + 0.73 acres (proposed pond 4) = 8.43 acres.

REQUIRED POLLUTION ABATEMENT VOLUME

Pollution Abatement Vol. = (1" Runoff x 0.77 Ac.)^{1/12} = 0.06

The existing pond N200POST is treating 1in over the original 7.51 AC for permit No. 44015474.003
 The proposed wet detention system will treat the first 1in of runoff for the new impervious area.
 New impervious area = .58 acres of widening withing the existing drainage basin + .19 acres of additional drainage area, all of which is impervious

ESTIMATE OF PEAK ATTENUATION VOLUME

P 8.00 in Assume SWFWMD 25-yr/24-hr storm event

	PRE	POST
Pot. Abstraction, S	2.50	0.30
Runoff Depth, Q (in)	5.63	7.65
Runoff Volume, ac-ft	0.34	0.96

Attenuation Volume 0.61

TOTAL DETENTION (TREATMENT + ATTENUATION) VOLUME

Treatment	0.06
Attenuation	0.61
TOTAL	0.68

STORAGE VOLUME FOR PROPOSED POND

Estimated Seasonal High Water Table (SHWT) = 6.8 ft

Proposed Pond Stage	Area (sf)	Area (ac)	Acu. Volume (cf)	Total Volume (cf)	Total Volume (ac-ft)	
6.80	24000	0.55	0.00	0.00	0.00	
7.00	24249	0.56	4824.85	4824.85	0.11	(Water Quality Treatment Volume)
8.00	25510	0.59	24879.39	29704.24	0.68	(Treatment + Attenuation Volume)
8.00	25510	0.59	0.00	29704.24	0.68	
9.00	26804	0.62	26157.14	55861.38	1.28	Bottom of Maintenance Berm
10.00	31941	0.73	29372.31	85233.69	1.96	Top of Maintenance Berm

Pond is to have 1 ft freeboard from bottom of maintenance berm
 Slope Maintenance berm = 1:15
 Side Slope of Pond = 1:4

A 10% contingency factor is added to the pond area.
 0.73 x 0.10 = 0.07
Pond Area = 0.80 AC



APPENDIX C
MITIGATION ALTERNATIVES MEMORANDUM

M E M O R A N D U M

TO: Jim Drapp, P.E., HNTB
CC: Zach Sarver, P.E., HNTB

FROM: Kristin Caruso, Scheda Ecological Associates, Inc.

RE: **MITIGATION ALTERNATIVES**

O'Brien Street from Cypress Street to Spruce Street Drainage Study
Hillsborough County, Florida
City of Tampa Project Number TR0112
Scheda Project No. 002339.10.C

DATE: March 23, 2012

Scheda Ecological Associates, Inc. (Scheda) has completed a review of the O'Brien Street project area, including the ditch that runs north-south along the roadway within the existing right-of-way. In addition, the parcel to the west was briefly examined where a branch of the ditch runs towards the west and merges with a small, shrub wetland area in the northeast corner of the parcel. As requested, Scheda established several representative seasonal high water elevations within and adjacent to the proposed ditch impact area.

Our evaluation of the proposed project, to widen the existing road and create a closed drainage system by piping the existing open ditch along O'Brien Street, is that the aquatic resource to be impacted consists of an upland-cut ditch, not a true, natural wetland. We confirmed that this ditch was excavated in upland (non-hydric) soils via a review of Natural Resources Conservation Service (NRCS) soils data and a review of historical aerial photography (1938 and 1957). Therefore, we believe that the Southwest Florida Water Management District (SWFWMD) will consider this ditch impact as a surface water impact, not requiring mitigation. The Environmental Protection Commission of Hillsborough County (EPCHC) will likely consider this system to be a wetland that does not require mitigation (EPCHC does not formally recognize "surface waters") given the likelihood that the proposed project is an exempt activity. The applicable exemption is development within artificially created ditches which were

Mr. Jim Drapp, P.E.
March 23, 2012
Page 2 of 3

excavated within predominantly upland soils within the project limits (excluding streams and creeks) (Section 1-11.11(b), Wetlands, Rules of the EPC).

The permitting agency that we anticipate will be most likely to require mitigation for this project is the U.S. Army Corps of Engineers (USACE). The USACE requires wetland mitigation for any wetland or ditched waterway that is considered to be a water of the U.S. Scheda conducted a preliminary desk-top assessment and determined that this ditch is likely not a water of the U.S. However, the USACE also can require wood stork foraging habitat mitigation (which is accomplished in the same manner as wetland mitigation) for permanent impacts to upland-cut ditches (filling or piping) if they are located within the Core Foraging Area (CFA) of a wood stork colony. Since this project is located within a CFA, the USACE may likely require mitigation for ditch impacts. While we are aware that this is not a Florida Department of Transportation (FDOT) project, the USACE typically does not review or require wood stork mitigation for FDOT projects that impact less than 0.10 acres of wetlands or surface waters. Therefore, depending on the proposed impact acreage to the excavated ditch, this project could possibly avoid the need for wood stork or wetland mitigation.

Should it not be possible to avoid mitigation for this project, there are three potential options for a mitigation plan. These are itemized below in the order of agency preference (particularly the USACE) and likelihood of agency approval.

- Credit Purchase from a Private Mitigation Bank

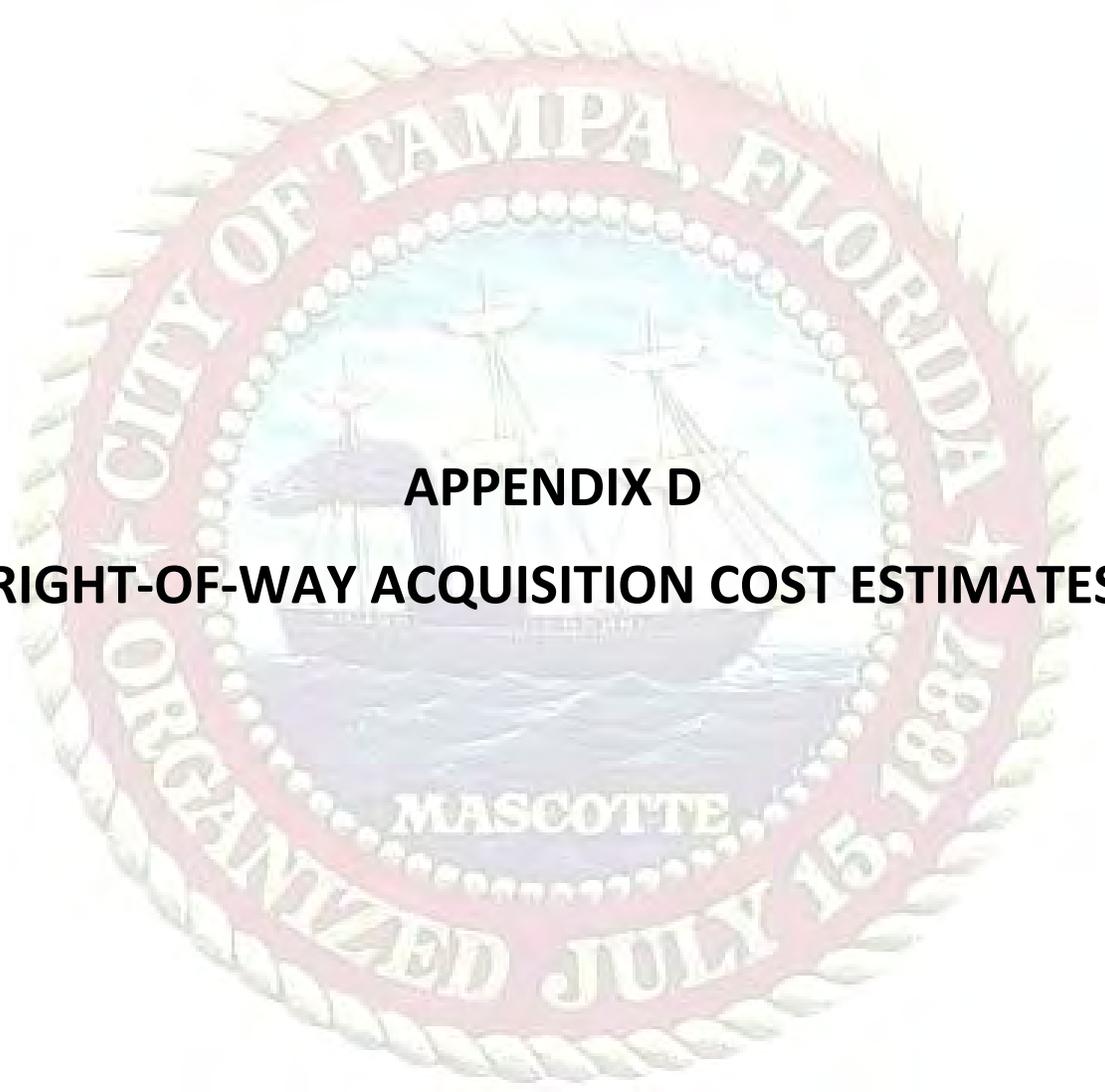
This project is located within the Service Area of the Tampa Bay Mitigation Bank. At this time, SWFWMD-approved estuarine and oligohaline credits, and USACE-approved freshwater credits are available. Freshwater credits are anticipated to be released by the SWFWMD later in 2012. However, since this ditch classifies as a freshwater system, and mitigation is likely only required for the USACE, credit purchase from the Tampa Bay Mitigation Bank is currently a viable option. Credits cost \$100,000 each, and partial credits can be purchased.

- On-Site Wetland Creation

If the City of Tampa purchases the adjacent parcel or a portion thereof, there would be a wetland creation opportunity. A simple wetland creation design could include excavating upland soils adjacent to the existing westward-running ditch and wetland in the northeast corner of the property to essentially enlarge the system. The newly created area would require plantings of native wetland vegetation and a multi-year mitigation monitoring and maintenance program to ultimately get the site “released” from the permit conditions. A conservation easement over the wetland area would likely also be required. It is difficult to assess a cost to on-site wetland creation since it depends on the amount of earthwork, plant design, and maintenance and monitoring duration and cost.

- Off-Site Wetland Mitigation

This is a much more difficult mitigation plan to have approved by the agencies, but can be a good one depending on the off-site option. Off-site mitigation can include collaboration with local or state departments to restore conservation land or land operated for public use (parks, etc.). One hypothetical example would be to provide funds to Hillsborough County to allow them to remove nuisance/exotic species infestation from one of their managed parcels adjacent to the bay and then enact a long-term management plan for the property.

The seal of the City of Tampa, Florida, is a circular emblem. It features a central illustration of a three-masted sailing ship on the water. The ship is surrounded by a decorative border. The text "CITY OF TAMPA, FLORIDA" is written along the top inner edge of the seal, and "ORGANIZED JULY 15, 1887" is written along the bottom inner edge. The word "MASCOTTE" is written across the bottom of the central illustration. The seal is rendered in a light, faded color.

APPENDIX D
RIGHT-OF-WAY ACQUISITION COST ESTIMATES

RIGHT OF WAY SUMMARY

Pond Alternative 1 Right of Way (O'Brien St. between Grace St. and Nassau St.)

Parcel 1:	Folio:	1123830000	Value:	\$35,844
Parcel 2:	Folio:	1123820000	Value:	\$60,223
Parcel 3:	Folio:	1123810000	Value:	\$101,032
Parcel 4:	Folio:	1123840000	Value:	\$83,750
Parcel 5:	Folio:	1123850000	Value:	\$41,875
Parcel 6:	Folio:	1123860000	Value:	\$43,782
Parcel 7:	Folio:	1123870000	Value:	\$116,757
Parcel 8:	Folio:	1123880000	Value:	\$55,207
Total Land Value:				\$538,470

Pond Alternative 2 Right of Way (Nassau St. between O'Brien St. and Sherrill St.)

Parcel 1:	Folio:	1123770000	Value:	\$232,656
Parcel 2:	Folio:	1123870000	Value:	\$116,757
Parcel 3:	Folio:	1123880000	Value:	\$55,207
Parcel 4:	Folio:	1123890000	Value:	\$36,311
Parcel 5:	Folio:	1123900000	Value:	\$11,294
Total Land Value:				\$452,225

Pond Alternative 4 Right of Way (Northwest corner of O'Brien St. and Laurel St.)

Parcel 1:	Folio:	1124060022	Value:	\$632,559
Total Land Value (based on partial parcel take):				\$209,979

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[VIEW PROPERTY RECORD INFORMATION]



FOLIO: 1123830000
 PIN NUMBER: A-17-29-18-3JY-000002-00059.1
 OWNER 1: MIRABELLA ANTHONY
 ADDRESS: 1111 N O'BRIEN ST
 TAMPA
 LEGAL DESC: N 68 FT OF LOTS 59 AND 60 BLOCK 2
 DOR CODE: 1740

VALUE SUMMARY:	
BUILDING VALUE:	\$25,032
EXTRA FEATURE VALUE:	\$1,428
LAND VALUE (MARKET):	\$9,384
LAND VALUE (AGRI.):	\$0
JUST (MARKET) VALUE:	\$35,844
ASSESSED VALUE (A10):	\$35,844
EXEMPT VALUE:	\$0
TAXABLE VALUE:	\$35,844

SALES INFORMATION		NEW!
8/28/2000	\$100.00	
11/9/2005	\$122,000.00	

FOLIO: 1123830000 PIN: A-17-29-18-3JY-000002-00059.1 ACREAGE: 0.14 / SQFT: 6,251

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[VIEW PROPERTY RECORD INFORMATION]



FOLIO: 1123820000
 PIN NUMBER: A-17-29-18-3JY-000002-00059.0
 OWNER 1: FELTON TINA R
 ADDRESS: 1109 N O'BRIEN ST
 TAMPA
 LEGAL DESC: S 66 FT OF LOTS 59 AND 60 BLOCK 2
 DOR CODE: 0100

VALUE SUMMARY:	
BUILDING VALUE:	\$43,400
EXTRA FEATURE VALUE:	\$7,715
LAND VALUE (MARKET):	\$9,108
LAND VALUE (AGRI.):	\$0
JUST (MARKET) VALUE:	\$60,223
ASSESSED VALUE (A10):	\$60,223
EXEMPT VALUE:	\$35,223
TAXABLE VALUE:	\$25,000

SALES INFORMATION		NEW!
1/17/2001	\$84,900.00	
11/1/2000	\$31,000.00	
1/1/1993	\$100.00	
9/1/1991	\$40,000.00	

FOLIO: 1123820000 PIN: A-17-29-18-3JY-000002-00059.0 ACREAGE: 0.15 / SQFT: 6,322

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[VIEW PROPERTY RECORD INFORMATION]



FOLIO: 1123810000
 PIN NUMBER: A-17-29-18-3JY-000002-00057.0
 OWNER 1: MVP CYPRESS LLC
 ADDRESS: 5116 W NASSAU ST
 TAMPA
 LEGAL DESC: LOTS 57 AND 58 BLOCK 2
 DOR CODE: 4000

VALUE SUMMARY:

BUILDING VALUE:	\$0
EXTRA FEATURE VALUE:	\$17,282
LAND VALUE (MARKET):	\$83,750
LAND VALUE (AGRI.):	\$0
JUST (MARKET) VALUE:	\$101,032
ASSESSED VALUE (A10):	\$101,032
EXEMPT VALUE:	\$0
TAXABLE VALUE:	\$101,032

SALES INFORMATION **NEW!**

7/1/1980	\$26,000.00
4/1/1986	\$180,000.00
6/1/1989	\$180,000.00
2/21/2006	\$475,000.00

FOLIO: 1123810000 PIN: A-17-29-18-3JY-000002-00057.0 ACREAGE: 0.30 / SQFT: 13,062

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[VIEW PROPERTY RECORD INFORMATION]



FOLIO: 1123770000
 PIN NUMBER: A-17-29-18-3JY-000002-00052.0
 OWNER 1: BRINKS INCORPORATED
 ADDRESS: 5106 W NASSAU ST
 TAMPA
 LEGAL DESC: LOTS 52 THRU 56 INCL BLOCK 2
 DOR CODE: 2800

VALUE SUMMARY:

BUILDING VALUE:	\$0
EXTRA FEATURE VALUE:	\$23,281
LAND VALUE (MARKET):	\$209,375
LAND VALUE (AGRI.):	\$0
JUST (MARKET) VALUE:	\$232,656
ASSESSED VALUE (A10):	\$232,656
EXEMPT VALUE:	\$0
TAXABLE VALUE:	\$232,656

SALES INFORMATION **NEW!**

9/1/1982	\$17,000.00
6/1/1997	\$21,500.00
6/1/1999	\$140,000.00

FOLIO: 1123770000 PIN: A-17-29-18-3JY-000002-00052.0 ACREAGE: 0.75 / SQFT: 32,825

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[VIEW PROPERTY RECORD INFORMATION]



FOLIO: 1123840000
 PIN NUMBER: A-17-29-18-3JY-000002-00061.0
 OWNER 1: DANDAR KENNAN TRUSTEE
 ADDRESS: 5121 GRACE ST
 TAMPA
 LEGAL DESC: LOTS 61 AND 62 BLOCK 2
 DOR CODE: 4000

VALUE SUMMARY:

BUILDING VALUE:	\$0
EXTRA FEATURE VALUE:	\$0
LAND VALUE (MARKET):	\$83,750
LAND VALUE (AGRI.):	\$0
JUST (MARKET) VALUE:	\$83,750
ASSESSED VALUE (A10):	\$83,750
EXEMPT VALUE:	\$0
TAXABLE VALUE:	\$83,750

SALES INFORMATION NEW!

7/1/1999	\$77,500.00
7/1/1999	\$100.00
1/30/2006	\$100.00
5/15/2006	\$100.00

FOLIO: 1123840000 PIN: A-17-29-18-3JY-000002-00061.0 ACREAGE: 0.30 / SQFT: 13,127

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[VIEW PROPERTY RECORD INFORMATION]



FOLIO: 1123850000
 PIN NUMBER: A-17-29-18-3JY-000002-00063.0
 OWNER 1: DANDAR KENNAN TRUSTEE
 ADDRESS: 5119 W GRACE ST
 TAMPA
 LEGAL DESC: LOT 63 BLOCK 2
 DOR CODE: 4000

VALUE SUMMARY:

BUILDING VALUE:	\$0
EXTRA FEATURE VALUE:	\$0
LAND VALUE (MARKET):	\$41,875
LAND VALUE (AGRI.):	\$0
JUST (MARKET) VALUE:	\$41,875
ASSESSED VALUE (A10):	\$41,875
EXEMPT VALUE:	\$0
TAXABLE VALUE:	\$41,875

SALES INFORMATION **NEW!**

5/15/2006	\$100.00
1/30/2006	\$100.00
10/5/1999	\$35,000.00
1/1/1970	\$11,500.00

FOLIO: 1123850000 PIN: A-17-29-18-3JY-000002-00063.0 ACREAGE: 0.16 / SQFT: 6,817

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[VIEW PROPERTY RECORD INFORMATION]



FOLIO: 1123860000
 PIN NUMBER: A-17-29-18-3JY-000002-00064.0
 OWNER 1: MVP CYPRESS LLC
 ADDRESS: 5117 W GRACE ST
 TAMPA
 LEGAL DESC: LOT 64 BLOCK 2
 DOR CODE: 4000

VALUE SUMMARY:

BUILDING VALUE:	\$0
EXTRA FEATURE VALUE:	\$1,907
LAND VALUE (MARKET):	\$41,875
LAND VALUE (AGRI.):	\$0
JUST (MARKET) VALUE:	\$43,782
ASSESSED VALUE (A10):	\$43,782
EXEMPT VALUE:	\$0
TAXABLE VALUE:	\$43,782

SALES INFORMATION **NEW!**

2/21/2006	\$475,000.00
6/1/1989	\$180,000.00
4/1/1986	\$180,000.00
4/1/1984	\$16,500.00

FOLIO: 1123860000 PIN: A-17-29-18-3JY-000002-00064.0 ACREAGE: 0.16 / SQFT: 6,978

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FOLIO: 1123870000
 PIN NUMBER: A-17-29-18-3JY-000002-00065.0
 OWNER 1: LUHN JOHN H
 ADDRESS: 5115 W GRACE ST
 TAMPA
 LEGAL DESC: LOT 65 BLOCK 2
 DOR CODE: 1730

VALUE SUMMARY:	
BUILDING VALUE:	\$63,987
EXTRA FEATURE VALUE:	\$10,895
LAND VALUE (MARKET):	\$41,875
LAND VALUE (AGRI.):	\$0
JUST (MARKET) VALUE:	\$116,757
ASSESSED VALUE (A10):	\$116,757
EXEMPT VALUE:	\$0
TAXABLE VALUE:	\$116,757

SALES INFORMATION		NEW!
11/1/1993	\$100.00	
11/1/1993	\$100.00	
9/1/1998	\$26,400.00	

FOLIO: 1123870000 PIN: A-17-29-18-3JY-000002-00065.0 ACREAGE: 0.16 / SQFT: 6,786

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[VIEW PROPERTY RECORD INFORMATION]



FOLIO: 1123880000
 PIN NUMBER: A-17-29-18-3JY-000002-00066.0
 OWNER 1: CUSMANO PHILLIP J
 ADDRESS: 5113 W GRACE ST
 TAMPA
 LEGAL DESC: LOT 66 BLOCK 2
 DOR CODE: 0100

VALUE SUMMARY:	
BUILDING VALUE:	\$13,332
EXTRA FEATURE VALUE:	\$0
LAND VALUE (MARKET):	\$41,875
LAND VALUE (AGRI.):	\$0
JUST (MARKET) VALUE:	\$55,207
ASSESSED VALUE (A10):	\$55,207
EXEMPT VALUE:	\$0
TAXABLE VALUE:	\$55,207

SALES INFORMATION		NEW!
8/28/2001	\$51,000.00	
4/1/1984	\$100.00	
6/1/1983	\$20,000.00	
3/1/1983	\$100.00	

FOLIO: 1123880000 PIN: A-17-29-18-3JY-000002-00066.0 ACREAGE: 0.16 / SQFT: 6,962

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[VIEW PROPERTY RECORD INFORMATION]



FOLIO: 1123890000
 PIN NUMBER: A-17-29-18-3JY-000002-00067.0
 OWNER 1: CAPKOVIC JANICE TRUSTEE
 ADDRESS: 5111 W GRACE ST
 TAMPA
 LEGAL DESC: LOTS 67 AND 68 BLOCK 2
 DOR CODE: 0100

VALUE SUMMARY:	
BUILDING VALUE:	\$21,161
EXTRA FEATURE VALUE:	\$0
LAND VALUE (MARKET):	\$15,150
LAND VALUE (AGRI.):	\$0
JUST (MARKET) VALUE:	\$36,311
ASSESSED VALUE (A10):	\$36,311
EXEMPT VALUE:	\$0
TAXABLE VALUE:	\$36,311

SALES INFORMATION	
9/29/2010	\$100.00

FOLIO: 1123890000 PIN: A-17-29-18-3JY-000002-00067.0 ACREAGE: 0.32 / SQFT: 13,790

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 HILLSBOROUGH COUNTY PROPERTY APPRAISER



[VIEW PROPERTY RECORD INFORMATION]



FOLIO: 1123900000
 PIN NUMBER: A-17-29-18-3JY-000002-00069.0
 OWNER 1: CAPKOVIC JANICE J TRUSTEE
 ADDRESS: 5107 GRACE ST
 TAMPA
 LEGAL DESC: LOT 69 BLOCK 2
 DOR CODE: 0100

VALUE SUMMARY:	
BUILDING VALUE:	\$3,719
EXTRA FEATURE VALUE:	\$0
LAND VALUE (MARKET):	\$7,575
LAND VALUE (AGRI.):	\$0
JUST (MARKET) VALUE:	\$11,294
ASSESSED VALUE (A10):	\$11,294
EXEMPT VALUE:	\$0
TAXABLE VALUE:	\$11,294

SALES INFORMATION		NEW!
1/1/1975	\$100.00	
4/1/1988	\$100.00	
4/1/1988	\$25,000.00	
9/29/2010	\$100.00	

FOLIO: 1123900000 PIN: A-17-29-18-3JY-000002-00069.0 ACREAGE: 0.16 / SQFT: 6,865

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[VIEW PROPERTY RECORD INFORMATION]



FOLIO: 1124060022
 PIN NUMBER: A-17-29-18-9PM-000000-00006.0
 OWNER 1: MHG TAMPA LLC

ADDRESS: 0

LEGAL DESC: LOT 6
 DOR CODE: 1000

VALUE SUMMARY:	
BUILDING VALUE:	\$0
EXTRA FEATURE VALUE:	\$0
LAND VALUE (MARKET):	\$632,559
LAND VALUE (AGRI.):	\$0
JUST (MARKET) VALUE:	\$632,559
ASSESSED VALUE (A10):	\$632,559
EXEMPT VALUE:	\$0
TAXABLE VALUE:	\$632,559

SALES INFORMATION		NEW!
9/14/2005	\$2,300,000.00	

FOLIO: 1124060022 PIN: A-17-29-18-9PM-000000-00006.0 ACREAGE: 2.41 / SQFT: 104,815

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APPENDIX E
CONSTRUCTION COST ESTIMATES

Construction Cost Estimates**Pond 1 Construction Estimate (O'Brien St. between Grace St. and Nassau St.)**

Pay Item #	Description	Unit	Unit Cost	Quantity	Cost
0110 1 1	Clearing and Grubbing	AC	\$10,334.04	1.535	\$15,862.75
0110 4	Removal of Existing Concrete Pavement	SY	\$7.05	568	\$4,004.40
0120 1	Regular Excavation	CY	\$2.93	10617	\$31,107.81
0120 6	Embankment	CY	\$2.28	590	\$1,345.20
0425 1521	Inlets, Ditch Bottom, Type C, <10'	EA	\$2,461.69	1	\$2,461.69
0425 2 61	Manholes, P-8, <10'	EA	\$2,565.62	0	\$0.00
0430175124	Pipe Culvert, Optional Material, Round, 24" S/CD	LF	\$47.27	83	\$3,923.41
0430982129	Mitered End Section, Optional Round, 24" CD	EA	\$1,048.59	2	\$2,097.18
0550 10222	Fencing, Type B, 5.1-6.0, W/ Vinyl Coating	LF	\$11.51	1050	\$12,085.50
0550 60223	Fence Gate, Type B, Double, 12.1-18.0' Opening	EA	\$1,171.70	1	\$1,171.70

Pond 1 Construction Estimate: **\$74,060****Pond 2 Construction Estimate (Nassau St. between O'Brien St. and Sherrill St.)**

Pay Item #	Description	Unit	Unit Cost	Quantity	Cost
0110 1 1	Clearing and Grubbing	AC	\$10,334.04	1.535	\$15,862.75
0110 4	Removal of Existing Concrete Pavement	SY	\$7.05	434	\$3,059.70
0120 1	Regular Excavation	CY	\$2.93	11248	\$32,956.64
0120 6	Embankment	CY	\$2.28	461	\$1,051.08
0425 1521	Inlets, Ditch Bottom, Type C, <10'	EA	\$2,461.69	1	\$2,461.69
0425 2 61	Manholes, P-8, <10'	EA	\$2,565.62	4	\$10,262.48
0430175124	Pipe Culvert, Optional Material, Round, 24" S/CD	LF	\$47.27	549	\$25,951.23
0430982129	Mitered End Section, Optional Round, 24" CD	EA	\$1,048.59	2	\$2,097.18
0550 10222	Fencing, Type B, 5.1-6.0, W/ Vinyl Coating	LF	\$11.51	950	\$10,934.50
0550 60223	Fence Gate, Type B, Double, 12.1-18.0' Opening	EA	\$1,171.70	1	\$1,171.70

Pond 2 Construction Estimate: **\$105,809****Pond 3 Construction Estimate (NE corner of O'Brien St. and Laurel St.)**

Pay Item #	Description	Unit	Unit Cost	Quantity	Cost
0110 1 1	Clearing and Grubbing	AC	\$10,334.04	0	\$0.00
0110 4	Removal of Existing Concrete Pavement	SY	\$7.05	0	\$0.00
0120 1	Regular Excavation	CY	\$2.93	0	\$0.00
0120 6	Embankment	CY	\$2.28	0	\$0.00
0425 1521	Inlets, Ditch Bottom, Type C, <10'	EA	\$2,461.69	0	\$0.00
0425 2 61	Manholes, P-8, <10'	EA	\$2,565.62	1	\$2,565.62
0430175124	Pipe Culvert, Optional Material, Round, 24" S/CD	LF	\$47.27	84	\$3,970.68
0430982129	Mitered End Section, Optional Round, 24" CD	EA	\$1,048.59	1	\$1,048.59
0550 10222	Fencing, Type B, 5.1-6.0, W/ Vinyl Coating	LF	\$11.51	0	\$0.00
0550 60223	Fence Gate, Type B, Double, 12.1-18.0' Opening	EA	\$1,171.70	0	\$0.00

Pond 3 Construction Estimate: **\$7,585****Pond 4 Construction Estimate (NW corner of O'Brien St. and Laurel St.)**

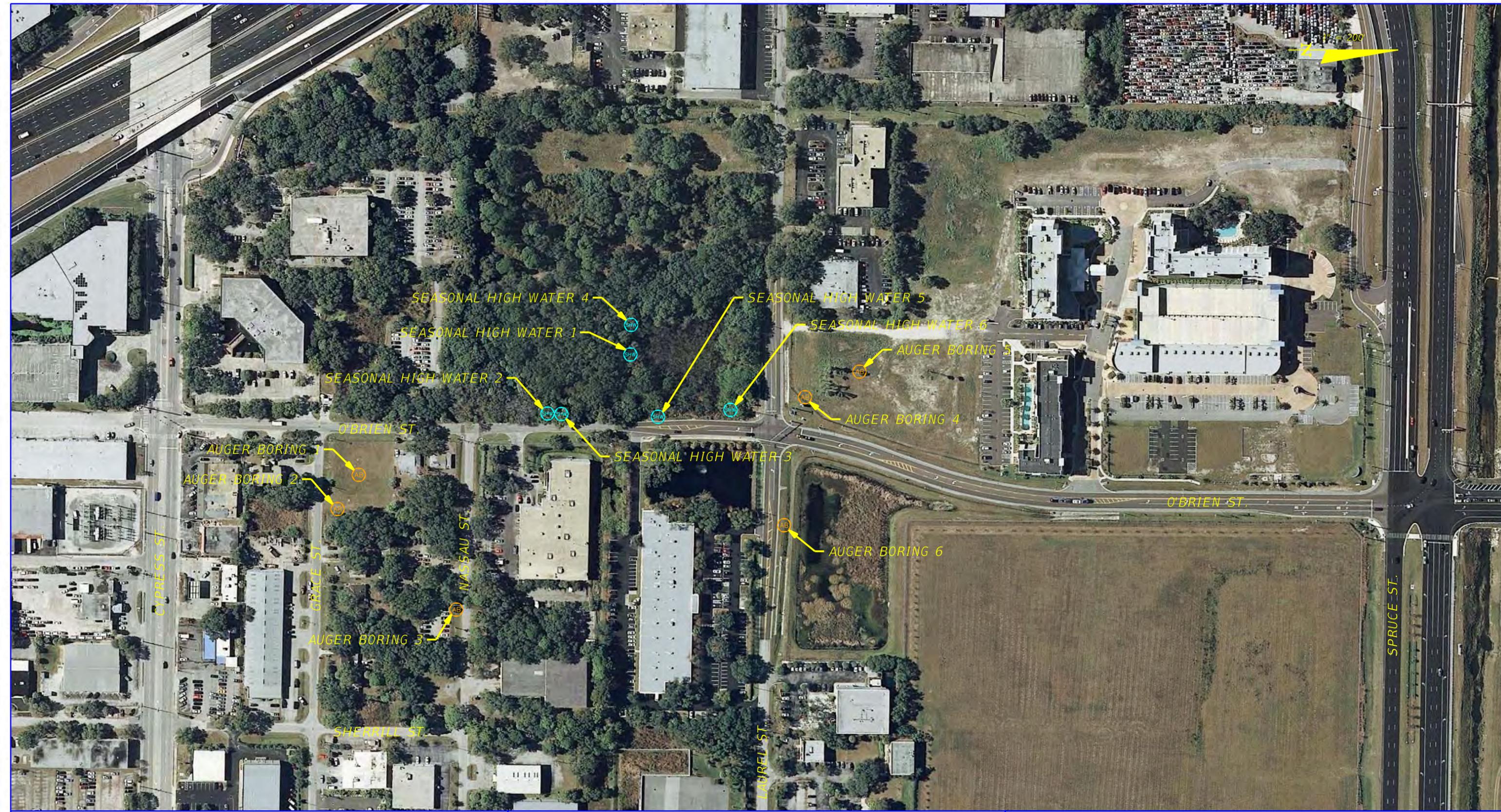
Pay Item #	Description	Unit	Unit Cost	Quantity	Cost
0110 1 1	Clearing and Grubbing	AC	\$10,334.04	0.800	\$8,267.23
0110 4	Removal of Existing Concrete Pavement	SY	\$7.05	0	\$0.00
0120 1	Regular Excavation	CY	\$2.93	12521	\$36,686.53
0120 4	Subsoil Excavation	CY	\$7.41	2623	\$19,436.43
0120 6	Embankment	CY	\$2.28	8522	\$19,430.16
0425 1521	Inlets, Ditch Bottom, Type C, <10'	EA	\$2,461.69	1	\$2,461.69
0425 2 61	Manholes, P-8, <10'	EA	\$2,565.62	2	\$5,131.24
0430175124	Pipe Culvert, Optional Material, Round, 24" S/CD	LF	\$47.27	56	\$2,647.12
0430982129	Mitered End Section, Optional Round, 24" CD	EA	\$1,048.59	2	\$2,097.18
0514 72	Liner Impermeable PVC	SY	\$9.75	3934	\$38,356.50
0550 10222	Fencing, Type B, 5.1-6.0, W/ Vinyl Coating	LF	\$11.51	697	\$8,022.47
0550 60223	Fence Gate, Type B, Double, 12.1-18.0' Opening	EA	\$1,171.70	1	\$1,171.70

Pond 4 Construction Estimate: **\$143,708**

Note: Unit Costs are based on FDOT Area 08 Average Unit Costs for April 2011 thru March 2012



APPENDIX F
EXISTING GROUND ELEVATIONS



201 N. FRANKLIN STREET
 SUITE 550
 TAMPA, FL 33602
 (813) 402-4150
 CERT. OF AUTH. NO. 6500

CITY OF TAMPA
 TRANSPORTATION DIVISION

O'BRIEN STREET
 FROM CYPRESS STREET TO SPRUCE STREET
 DRAINAGE AND WETLAND MITIGATION REPORT

APPENDIX F
 EXISTING GROUND ELEVATIONS

Drawing Name: borings and shw

Project Name: O`BRIAN STREET

Project Path: P:\Projects\023COT\023-102001\Survey\O`BRIAN STREET\

Username: dpuigdomenech

Number	Name	Northing	Easting	Elevation	Raw Desc
3011		1316192.4865	484423.6902	7.80	AB-1
3012		1316146.0921	484497.4643	8.50	AB-2
3013		1316405.3538	484714.8596	7.90	AB-3
3014		1317166.1386	484255.9289	9.20	AB-4
3015		1317285.3410	484200.6008	10.10	AB-5
3016		1317120.5642	484532.5299	6.40	AB-6

Note: All elevations shown are in NAVD 1988. The conversion factor from NAVD 1988 to NGVD 1929 in this geographic area is +0.87'. Example: 7.80' NAVD 1988 = 8.67' NGVD 1929.

Drawing Name: borings and shw

Project Name: O`BRIAN STREET

Project Path: P:\Projects\023COT\023-102001\Survey\O`BRIAN STREET\

Username: dpuigdomenech

Number	Name	Northing	Easting	Elevation	Raw Desc
3001		1316785.3971	484163.6101	5.78	SHW 1
3002		1316604.5331	484291.2323	5.44	SHW 2
3003		1316634.6943	484292.1980	5.92	SHW 3
3004		1316786.8789	484099.6009	5.66	SHW 4
3005		1316845.6556	484298.2355	5.40	SHW 5
3006		1317003.8031	484283.2369	5.81	SHW 6

Note: All elevations shown are in NAVD 1988. The conversion factor from NAVD 1988 to NGVD 1929 in this geographic area is +0.87'. Example: 5.78' NAVD 1988 = 6.65' NGVD 1929.



APPENDIX G
EXISTING SWFWMD PERMITS

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
GENERAL CONSTRUCTION
PERMIT NO. 44024306.000

Expiration Date: August 12, 2008

PERMIT ISSUE DATE: August 12, 2003

This permit is issued under the provisions of Chapter 373, Florida Statutes (F.S.), and the Rules contained in Chapters 40D-4 and 40, Florida Administrative Code (F.A.C.). The permit authorizes the Permittee to proceed with the construction of a surface water management system in accordance with the information outlined herein and shown by the application, approved drawing(s), plans, specifications, and other documents, attached hereto and kept on file at the Southwest Florida Water Management District (District). All construction, operation and maintenance of the surface water management system authorized by this permit shall occur in compliance with Florida Statutes and Administrative Code and the conditions of this permit.

PROJECT NAME: O'Brien Street from Spruce to Laurel Street

GRANTED TO: * City of Tampa Department of Public Works
306 East Jackson Street, Suite 4E
Tampa, FL 33602

ABSTRACT: This roadway improvement project located within the City of Tampa involves construction activities associated with the extension of O'Brien Street from Spruce to Laurel Street. Water quality treatment will be provided by wet detention. Water quantity calculations were provided that demonstrate post-development discharges for the 25-year/24-hour design storm event will be less than existing conditions.

OP. & MAINT. ENTITY: City of Tampa Department of Public Works

COUNTY: Hillsborough

SEC/TWP/RGE: 17/29S/18E

**TOTAL ACRES OWNED
OR UNDER CONTROL:** 7.49

PROJECT SIZE: 7.49 Acres

LAND USE: Government

DATE APPLICATION FILED: October 10, 2002

AMENDED DATE: June 24, 2003

**TRANSFERRED TO
OPERATION PHASE**

I. Water Quantity/Quality

POND NO.	AREA ACRES @ TOP OF BANK	TREATMENT TYPE
1	2.327	Wet Detention
Total	2.327	

Comments: Water quality calculations were provided that demonstrate the required treatment volume is provided, with no more than one half discharged within 60 hours. Water quantity calculations were provided that demonstrate no adverse off-site impacts. Post-development discharges for the 24-hour/24-hour design storm event will be less than existing conditions.

A mixing zone is not required.
 A variance is not required.

II. 100-Year Floodplain

Encroachment (Acre-Feet of fill)	Compensation (Acre-Feet of excavation)	Compensation Type	Encroachment Result (feet)
0.00	0.00	N/A	N/A

III. Environmental Considerations

Wetland Information:				
WETLAND NO.	TOTAL AC.	NOT IMPACTED AC.	TEMPORARILY DISTURBED AC.	PERMANENTLY DESTROYED AC.
2	0.12	0.00	0.07	0.05
TOTAL	0.12	0.00	0.07	0.05

Comments: There is 0.12 acre of highly disturbed wetland within the project area. The construction of the roadway expansion will permanently impact 0.05 acre and temporarily impact 0.07 acre of *Ludwigia peruviana* and *Schinus terebinthifolius* wetlands. The restoration of the temporary wetland impact area will be planted with desirable wetland plant species to preclude the re-establishment of the nuisance species. Mitigation will be to enhance 0.07 acre of the adjacent wetland area and to restore 0.01 acre of upland spoil islands.

Mitigation Information:					
AREA NO.	CREATED/ RESTORED AC.	UPLAND PRESERVED AC.	ENHANCED WETLAND AC.	WETLANDS PRESERVED AC.	MISC. MITI. AC.
WRA	0.01	0.00	0.07	0.00	0.00
TOTAL	0.01	0.00	0.07	0.00	0.00
NET CHANGE	-0.04	OTHER MITIGATION TOTAL			0.07

Watershed Name: Tampa Bay Drainage

A regulatory conservation easement is not required.

A proprietary conservation easement is not required.

SPECIFIC CONDITIONS

1. If the ownership of the project area covered by the subject permit is divided, with someone other than the Permittee becoming the owner of part of the project area, this permit shall terminate, pursuant to Section 40D-1.6105, F.A.C. In such situations, each land owner shall obtain a permit (which may be a modification of this permit) for the land owned by that person. This condition shall not apply to the division and sale of lots or units in residential subdivisions or condominiums.
2. The discharges from this system shall meet state water quality standards as set forth in Chapter 62-302 and Section 62-4.242, F.A.C., for class waters equivalent to the receiving waters.
3. Unless specified otherwise herein, two copies of all information and reports required by this permit shall be submitted to:

Tampa Regulation Department
Southwest Florida Water Management District
7601 U.S. Highway 301 North
Tampa, FL 33637-6759

The permit number, title of report or information and event (for recurring report or information submittal) shall be identified on all information and reports submitted.
4. The Permittee shall retain the design engineer, or other professional engineer registered in Florida, to conduct on-site observations of construction and assist with the as-built certification requirements of this project. The Permittee shall inform the District in writing of the name, address and phone number of the professional engineer so employed. This information shall be submitted prior to construction.
5. Within 30 days after completion of construction of the permitted activity, the Permittee shall submit to the Tampa Service Office a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the required Statement of Completion and Request for Transfer to Operation Entity form identified in Chapter 40D-1, F.A.C., and signed, dated and sealed as-built drawings. The as-built drawings shall identify any deviations from the approved construction drawings.
6. The District reserves the right, upon prior notice to the Permittee, to conduct on-site research to assess the pollutant removal efficiency of the surface water management system. The Permittee may be required to cooperate in this regard by allowing on-site access by District representatives, by allowing the installation and operation of testing and monitoring equipment, and by allowing other assistance measures as needed on site.
7. **WETLAND MITIGATION SUCCESS CRITERIA MITIGATION AREA 1**

Mitigation is expected to offset adverse impacts to wetlands and other surface waters caused by regulated activities and to achieve viable, sustainable ecological and hydrological wetland functions. Wetlands constructed for mitigation purposes will be considered successful and will be released from monitoring and reporting requirements when the following criteria are met continuously for a period of at least one year without intervention in the form of irrigation or the addition or removal of vegetation.

- a. The mitigation area can be reasonably expected to develop into a Palustrine Emergent Wetland as determined by the USFWS Classification of Wetlands and Deepwater Habitats of the United States.
- b. Topography, water depth and water level fluctuation in the mitigation area are characteristic of the wetland/surface water type specified in criterion "a."
- c. The dominant and subdominant species of desirable wetland plants comprising each vegetation zone and stratum of the mitigation area shall be as follows:

ZONE	STRATUM	PERCENT COVER	DOMINANT SPECIES	SUBDOMINANT SPECIES ¹
A	Herbaceous	80	<i>Spartina bakeri</i>	None Specified
B	Herbaceous	85	<i>Scirpus validus</i> <i>Sagittaria lancifolia</i>	None Specified

¹ Plant species providing the same function as those listed may also be considered in determining success.

This criterion must be achieved within 3 years of mitigation area construction. The Permittee shall complete any activities necessary to ensure the successful achievement of the mitigation requirements by the deadline specified. Any request for an extension of the deadline specified shall be accompanied with an explanation and submitted as a permit letter modification to the District for evaluation.

- d. Species composition of recruiting wetland vegetation are indicative of the wetland type specified in criterion "a."
- e. Coverage by nuisance or exotic species does not exceed 10 percent.
- f. The wetland mitigation area can be determined to be a wetland or other surface water according to Chapter 62-340, F.A.C.

The mitigation area may be released from monitoring and reporting requirements and be deemed successful at any time during the monitoring period if the Permittee demonstrates that the conditions in the mitigation area have adequately replaced the wetland and surface water functions affected by the regulated activity and that the site conditions are sustainable.

- 8. The Permittee shall monitor and maintain the wetland mitigation areas until the criteria set forth in the Wetland Mitigation Success Criteria Conditions above are met. The Permittee shall perform corrective actions identified by the District if the District identifies a wetland mitigation deficiency.
- 9. The Permittee shall undertake required maintenance activities within the wetland mitigation areas as needed at any time between mitigation area construction and termination of monitoring, with the exception of the final year. Maintenance shall include the manual removal of all nuisance and exotic species, with sufficient frequency that their combined coverage at no time exceeds the Wetland Mitigation Success Criteria Conditions above. Herbicides shall not be used without the prior written approval of the District.

10. A Wetland Mitigation Completion Report shall be submitted to the District within 30 days of completing construction and planting of the wetland mitigation areas. Upon District inspection and approval of the mitigation areas, the monitoring program shall be initiated with the date of the District field inspection being the construction completion date of the mitigation areas. Monitoring events shall occur between March 1 and November 30 of each year. An Annual Wetland Monitoring Report shall be submitted upon the anniversary date of District approval to initiate monitoring.

Annual reports shall provide documentation that a sufficient number of maintenance inspection/activities were conducted to maintain the mitigation areas in compliance with the Wetland Mitigation Success Criteria Conditions above. Note that the performance of maintenance inspections and maintenance activities will normally need to be conducted more frequently than the collection of other monitoring data to maintain the mitigation areas in compliance with the Wetland Mitigation Success Criteria Conditions above.

Monitoring Data shall be collected semi-annually.

11. Termination of monitoring for the wetland mitigation areas shall be coordinated with the District by:
- a. notifying the District in writing when the criteria set forth in the Wetland Mitigation Success Criteria Conditions have been achieved;
 - b. suspending all maintenance activities in the wetland mitigation areas including, but not limited to, irrigation and addition or removal of vegetation; and,
 - c. submitting a monitoring report to the District one year following the written notification and suspension of maintenance activities.

Upon receipt of the monitoring report, the District will evaluate the wetland mitigation sites to determine if the Mitigation Success Criteria Conditions have been met and maintained. The District will notify the Permittee in writing of the evaluation results. The Permittee shall perform corrective actions for any portions of the wetland mitigation areas that fail to maintain the criteria set forth in the Wetland Mitigation Success Criteria Conditions.

12. Following the District's determination that the wetland mitigation has been successfully completed, the Permittee shall operate and maintain the wetland mitigation areas such that they remain in their current or intended condition for the life of the surface water management facility. The Permittee must perform corrective actions for any portions of the wetland mitigation areas where conditions no longer meet the criteria set forth in the Wetland Mitigation Success Criteria Conditions.
13. The Permittee shall commence construction of the mitigation areas within 30 days of wetland impacts, if wetland impacts occur between February 1 and August 31. If wetland impacts occur between September 1 and January 31, construction of the mitigation areas shall commence by March 1. In either case, construction of the mitigation areas shall be completed within 120 days of the commencement date unless a time extension is approved in writing by the District.
14. The construction of all wetland impacts and wetland mitigation shall be supervised by a qualified environmental scientist/specialist/consultant. The Permittee shall identify, in writing, the environmental professional retained for construction oversight prior to initial clearing and grading activities.

15. Wetland boundaries shown on the approved construction drawings shall be binding upon the Permittee and the District.
16. All construction is prohibited within the permitted project area until the Permittee acquires legal ownership or legal control of the project area as delineated in the permitted construction drawings.
17. The operation and maintenance entity shall submit inspection reports in the form required by the District, in accordance with the following schedule.

For systems utilizing retention or wet detention, the inspections shall be performed two (2) years after operation is authorized and every two (2) years thereafter.

18. The removal of littoral shelf vegetation (including cattails) from wet detention ponds is prohibited unless otherwise approved by the District. Removal includes dredging, the application of herbicide, cutting, and the introduction of grass carp. Any questions regarding authorized activities within the wet detention ponds shall be addressed to the District's Surface Water Regulation Manager, Tampa Service Office.
19. The following boundaries, as shown on the approved construction drawings, shall be clearly delineated on the site prior to initial clearing or grading activities:
 - a. wetland preservation, and
 - b. limits of approved wetland impacts.

The delineation shall endure throughout the construction period and be readily discernible to construction and District personnel.

20. Refer to **GENERAL CONDITIONS** No. 15 herein.

GENERAL CONDITIONS

1. The general conditions attached hereto as Exhibit "A" are hereby incorporated into this permit by reference and the Permittee shall comply with them.



Authorized Signature

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
GENERAL CONSTRUCTION MODIFICATION
PERMIT NO. 44024306.001

Expiration Date: February 4, 2009

PERMIT ISSUE DATE: February 4, 2004

This permit is issued under the provisions of Chapter 373, Florida Statutes (F.S.), and the Rules contained in Chapters 40D-4 and 40, Florida Administrative Code (F.A.C.). The permit authorizes the Permittee to proceed with the construction of a surface water management system in accordance with the information outlined herein and shown by the application, approved drawings, plans, specifications, and other documents, attached hereto and kept on file at the Southwest Florida Water Management District (District). Unless otherwise stated by permit specific, permit issuance constitutes certification of compliance with state water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341. All construction, operation and maintenance of the surface water management system authorized by this permit shall occur in compliance with Florida Statutes and Administrative Code and the conditions of this permit.

PROJECT NAME: O'Brien Street from Spruce to Laurel Street

GRANTED TO: James E. Burnside
City of Tampa, Department of Public Works
306 East Jackson Street, 4E
Tampa, FL 33602

ABSTRACT: This modification involves the reconfiguration of a proposed storm sewer network designed to service a roadway improvement project. Two inlets, S-6 and S-7 will be routed around the pond to eliminate the potential for uncontrolled discharge from the wet detention pond. In addition, the water quality treatment method for the wet detention pond has been changed to the conservation method, and the outfall control structure for the proposed pond has been modified to provide a v-notch allow for the recovery of ½" of runoff within 24 hours. Drainage calculations show that the required permanent pool volume is available to provide a 14-day residence time. Water quantity calculations were provided that demonstrate no adverse off-site impacts.

OP. & MAINT. ENTITY: City of Tampa, Department of Public Works

COUNTY: Hillsborough

SEC/TWP/RGE: 17/29S/18E

**TOTAL ACRES OWNED
OR UNDER CONTROL:** 7.49

PROJECT SIZE: 0.01 Acre

LAND USE: Government

DATE APPLICATION FILED: December 8, 2003

AMENDED DATE: N/A

I. Water Quantity/Quality

The required treatment volume is provided via the wet detention conservation method with volume recovery of 1/2" of runoff occurring within 24 hours. Water quantity calculations were provided that demonstrate post-development discharges for the 25-year/24-hour design storm will be less than existing conditions.

A mixing zone is not required.
A variance is not required.

II. 100-Year Floodplain

Encroachment (Acre-Feet of fill)	Compensation (Acre-Feet of excavation)	Compensation Type	Encroachment Result (feet)
0.00	0.00	N/A	N/A

III. Environmental Considerations

No wetlands or other surface waters exist within the project area.

Watershed Name: Tampa Bay Drainage

A regulatory conservation easement is not required.

A proprietary conservation easement is not required.

SPECIFIC CONDITIONS

1. If the ownership of the project area covered by the subject permit is divided, with someone other than the Permittee becoming the owner of part of the project area, this permit shall terminate, pursuant to Section 40D-1.6105, F.A.C. In such situations, each land owner shall obtain a permit (which may be a modification of this permit) for the land owned by that person. This condition shall not apply to the division and sale of lots or units in residential subdivisions or condominiums.
2. Unless specified otherwise herein, two copies of all information and reports required by this permit shall be submitted to:

Tampa Regulation Department
Southwest Florida Water Management District
7601 U.S. Highway 301 North
Tampa, FL 33637-6759

The permit number, title of report or information and event (for recurring report or information submittal) shall be identified on all information and reports submitted.
3. The Permittee shall retain the design engineer, or other professional engineer registered in Florida, to conduct on-site observations of construction and assist with the as-built certification requirements of this project. The Permittee shall inform the District in writing of the name, address and phone number of the professional engineer so employed. This information shall be submitted prior to construction.

4. Within 30 days after completion of construction of the permitted activity, the Permittee shall submit to the Tampa Service Office a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the required Statement of Completion and Request for Transfer to Operation Entity form identified in Chapter 40D-1, F.A.C., and signed, dated and sealed as-built drawings. The as-built drawings shall identify any deviations from the approved construction drawings.
5. The District reserves the right, upon prior notice to the Permittee, to conduct on-site research to assess the pollutant removal efficiency of the surface water management system. The Permittee may be required to cooperate in this regard by allowing on-site access by District representatives, by allowing the installation and operation of testing and monitoring equipment, and by allowing other assistance measures as needed on site.
6. This modification, Construction Permit No. 44024306.001, amends the previously issued Construction Permit No. 44024306.000, and adds conditions. All other original permit conditions remain in effect.
7. Refer to **GENERAL CONDITIONS** No. 15 herein.

GENERAL CONDITIONS

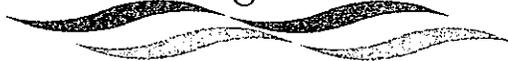
1. The general conditions attached hereto as Exhibit "A" are hereby incorporated into this permit by reference and the Permittee shall comply with them.


Authorized Signature



An Equal Opportunity Employer

Southwest Florida Water Management District



Bartow Service Office
170 Century Boulevard
Bartow, Florida 33830-7700
(863) 534-1448 or
1-800-492-7862 (FL only)
SUNCOM 572-6200

Lecanto Service Office
Suite 226
3600 West Sovereign Path
Lecanto, Florida 34461-8070
(352) 527-8131
SUNCOM 667-3271

2379 Broad Street, Brooksville, Florida 34604-6899
(352) 796-7211 or 1-800-423-1476 (FL only)
SUNCOM 628-4150 TDD only 1-800-231-6103 (FL only)
On the Internet at: WaterMatters.org

Sarasota Service Office
6750 Fruitville Road
Sarasota, Florida 34240-9711
(941) 377-3722 or
1-800-320-3503 (FL only)
SUNCOM 531-6900

Tampa Service Office
7601 Highway 301 North
Tampa, Florida 33637-6759
(813) 985-7481 or
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SUNCOM 578-2070

272 55-01-007-6.2

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- William S. Bilensky**
General Counsel

January 23, 2006

RECEIVED

JAN 24 2006

HNTB - TAMPA

James Burnside, P.E.
City of Tampa Department of Public Works
306 East Jackson Street, 4E
Tampa, FL 33602

Subject: Final Agency Action Transmittal Letter
ERP General Construction
Permit No.: 44024306.002
Project Name: City of Tampa - O'Brien Street from Spruce Street to
Laurel Street
County: Hillsborough
Sec/Twp/Rge: 17/29S/18E

Dear Mr. Burnside:

This letter constitutes notice of Final Agency Action for **approval** of the permit referenced above. Final approval is contingent upon no objection to the District's action being received by the District within the time frames described below.

You or any person whose substantial interests are affected by the District's action regarding a permit may request an administrative hearing in accordance with Sections 120.569 and 120.57, Florida Statute (F.S.), and Chapter 28-106, Florida Administrative Code (F.A.C.), of the Uniform Rules of Procedure. *A request for hearing must: (1) explain how the substantial interests of each person requesting the hearing will be affected by the District's action, or proposed action, (2) state all material facts disputed by the person requesting the hearing or state that there are no disputed facts, and (3) otherwise comply with Chapter 28-106, F.A.C.* Copies of Sections 28-106.201 and 28-106.301, F.A.C. are enclosed for your reference. A request for hearing must be filed with (received by) the Agency Clerk of the District at the District's Brooksville address within 21 days of receipt of this notice. Receipt is deemed to be the fifth day after the date on which this notice is deposited in the United States mail. Failure to file a request for hearing within this time period shall constitute a waiver of any right you or such person may have to request a hearing under Sections 120.569 and 120.57, F.S. Mediation pursuant to Section 120.573, F.S., to settle an administrative dispute regarding the District's action in this matter is not available prior to the filing of a request for hearing.

Enclosed is a "Noticing Packet" that provides information regarding the District Rule 40D-1.1010, F.A.C., which addresses the notification of persons whose substantial interests may be affected by the District's action in this matter. The packet contains guidelines on how to provide notice of the District's action, and a notice that you may use.

The enclosed approved construction plans are part of the permit, and construction must be in accordance with these plans.

If you have questions concerning the permit, please contact Paul R. Yosler, P.E., at the Tampa Service Office, extension 2046. For assistance with environmental concerns, please contact Patricia A. Frantz, extension 2054.

Sincerely,



Alba E. Más, P.E., Director
Tampa Regulation Department

AEM:PRY:PAF:elb

Enclosures: Approved Permit w/Conditions Attached
 Approved Construction Drawings
 Statement of Completion
 Notice of Authorization to Commence Construction
 Noticing Packet (42.00-039)
 Sections 28-106.201 and 28-106.301, F.A.C.

cc/enc: File of Record 44024306.002
 Diana L. Ray, P.E., HNTB Corporation

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
GENERAL CONSTRUCTION MODIFICATION
PERMIT NO. 44024306.002

Expiration Date: January 23, 2011

PERMIT ISSUE DATE: January 23, 2006

This permit is issued under the provisions of Chapter 373, Florida Statutes (F.S.), and the Rules contained in Chapters 40D-4 and 40, Florida Administrative Code (F.A.C.). The permit authorizes the Permittee to proceed with the construction of a surface water management system in accordance with the information outlined herein and shown by the application, approved drawings, plans, specifications, and other documents, attached hereto and kept on file at the Southwest Florida Water Management District (District). Unless otherwise stated by permit specific condition, permit issuance constitutes certification of compliance with state water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341. All construction, operation and maintenance of the surface water management system authorized by this permit shall occur in compliance with Florida Statutes and Administrative Code and the conditions of this permit.

PROJECT NAME: City of Tampa - O'Brien Street from Spruce Street to Laurel Street

GRANTED TO: City of Tampa Department of Public Works
306 East Jackson Street, 4E
Tampa, FL 33602

ABSTRACT: This modification involves design changes to the stormwater management system previously authorized under ERP Permit No. 44024306.000 issued on August 12, 2003 and subsequently modified under ERP Permit No. 44024306.001 issued on February 4, 2004. Proposed alterations will route approximately 9.4 acres of adjacent off-site pervious area owned by the Hillsborough County Aviation Authority through the pond via twin 24" pipes. In addition, the proposed pond bottom was raised to reduce excavation requirements. Drainage calculations show that the required permanent pool volume is available to provide a 14-day residence time and twin v-notches allow for the recovery of 1/2" of mixing volume within 24 hours. Water quantity calculations were provided that demonstrate no adverse off-site impacts.

OP. & MAINT. ENTITY: City of Tampa Department of Public Works

COUNTY: Hillsborough

SEC/TWP/RGE: 17/29S/18E

**TOTAL ACRES OWNED
OR UNDER CONTROL:** 7.49

PROJECT SIZE: 0.02 Acre

LAND USE: Government

DATE APPLICATION FILED: December 8, 2005

AMENDED DATE: N/A

I. Water Quantity/Quality

POND NO.	AREA ACRES @ TOP OF BANK	TREATMENT TYPE
1	2.33	Wet Detention
TOTAL	2.33	

Comments: The required treatment volume is provided via the wet detention conservation method with volume recovery of 1/2" of mixing volume occurring within 24 hours. Water quantity calculations were provided that demonstrate post-development discharges for the 25-year/24-hour design storm will be less than existing conditions.

A mixing zone is not required.
A variance is not required.

II. 100-Year Floodplain

Encroachment (Acre-Feet of fill)	Compensation (Acre-Feet of excavation)	Compensation Type	Encroachment Result (feet)
0.00	0.00	N/A	N/A

III. Environmental Considerations

No wetlands or other surface waters exist within the project area.

Watershed Name: Tampa Bay Drainage

A regulatory conservation easement is not required.

A proprietary conservation easement is not required.

SPECIFIC CONDITIONS

- If the ownership of the project area covered by the subject permit is divided, with someone other than the Permittee becoming the owner of part of the project area, this permit shall terminate, pursuant to Section 40D-1.6105, F.A.C. In such situations, each land owner shall obtain a permit (which may be a modification of this permit) for the land owned by that person. This condition shall not apply to the division and sale of lots or units in residential subdivisions or condominiums.
- Unless specified otherwise herein, two copies of all information and reports required by this permit shall be submitted to:

Tampa Regulation Department
Southwest Florida Water Management District
7601 U.S. Highway 301 North
Tampa, FL 33637-6759

The permit number, title of report or information and event (for recurring report or information submittal) shall be identified on all information and reports submitted.
- The Permittee shall retain the design engineer, or other professional engineer registered in Florida, to conduct on-site observations of construction and assist with the as-built certification requirements of this project. The Permittee shall inform the District in writing of the name, address and phone number of the professional engineer so employed. This information shall be submitted prior to construction.

4. Within 30 days after completion of construction of the permitted activity, the Permittee shall submit to the Tampa Service Office a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the required Statement of Completion and Request for Transfer to Operation Entity form identified in Chapter 40D-1.659, F.A.C., and signed, dated and sealed as-built drawings. The as-built drawings shall identify any deviations from the approved construction drawings.
5. The District reserves the right, upon prior notice to the Permittee, to conduct on-site research to assess the pollutant removal efficiency of the surface water management system. The Permittee may be required to cooperate in this regard by allowing on-site access by District representatives, by allowing the installation and operation of testing and monitoring equipment, and by allowing other assistance measures as needed on site.
6. This permit is issued based upon the design prepared by the Permittee's consultant. If at any time it is determined by the District that the Conditions for Issuance of Permits in Rules 40D-4.301 and 40D-4.302, F.A.C., have not been met, upon written notice by the District, the Permittee shall obtain a permit modification and perform any construction necessary thereunder to correct any deficiencies in the system design or construction to meet District rule criteria. The Permittee is advised that the correction of deficiencies may require re-construction of the surface water management system and/or mitigation areas.
7. This modification, Construction Permit No. 44024306.002, amends the previously issued Construction Permit No. 44024306.000, and adds conditions. All other original permit conditions remain in effect. Also, this modification amends Construction Permit No. 44024306.001, and all conditions are replaced by the conditions herein.

GENERAL CONDITIONS

1. The general conditions attached hereto as Exhibit "A" are hereby incorporated into this permit by reference and the Permittee shall comply with them.



Authorized Signature



An Equal Opportunity Employer

Southwest Florida Water Management District

Bartow Service Office
170 Century Boulevard
Bartow, Florida 33830-7700
(863) 534-1448 or
1-800-492-7862 (FL only)
SUNCOM 572-6200

Lecanto Service Office
Suite 226
3600 West Sovereign Path
Lecanto, Florida 34461-8070
(352) 527-8131
SUNCOM 667-3271

2379 Broad Street, Brooksville, Florida 34604-6899
(352) 796-7211 or 1-800-423-1476 (FL only)
SUNCOM 628-4150 TDD only 1-800-231-6103 (FL only)
On the Internet at: WaterMatters.org

Sarasota Service Office
6750 Fruitville Road
Sarasota, Florida 34240-9711
(941) 377-3722 or
1-800-320-3503 (FL only)
SUNCOM 531-6900

Tampa Service Office
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- Todd Pressman**
Pinellas
- Maritza Rovira-Forino**
Hillsborough

May 12, 2006

Thomas C. Capell, P.E.
City of Tampa Department of Public Works
306 East Jackson Street, 4E
Tampa, FL 33602

David J. Hughes
McKibbin Hotel Group, Inc.
402 Washington Street Southeast, Suite 200
Gainesville, GA 30501

Subject: **Final Agency Action Transmittal Letter**
ERP General Construction
Permit No.: 44015474.003
Project Name: City of Tampa -
Marriott Towneplace Suites and
O'Brien Street Widening
County: Hillsborough
Sec/Twp/Rge: 17/29S/18E

Dear Messrs. Capell and Hughes:

This letter constitutes notice of Final Agency Action for **approval** of the permit referenced above. Final approval is contingent upon no objection to the District's action being received by the District within the time frames described below.

You or any person whose substantial interests are affected by the District's action regarding a permit may request an administrative hearing in accordance with Sections 120.569 and 120.57, Florida Statute (F.S.), and Chapter 28-106, Florida Administrative Code (F.A.C.), of the Uniform Rules of Procedure. *A request for hearing must: (1) explain how the substantial interests of each person requesting the hearing will be affected by the District's action, or proposed action, (2) state all material facts disputed by the person requesting the hearing or state that there are no disputed facts, and (3) otherwise comply with Chapter 28-106, F.A.C.* Copies of Sections 28-106.201 and 28-106.301, F.A.C. are enclosed for your reference. A request for hearing must be filed with (received by) the Agency Clerk of the District at the District's Brooksville address within 21 days of receipt of this notice. Receipt is deemed to be the fifth day after the date on which this notice is deposited in the United States mail. Failure to file a request for hearing within this time period shall constitute a waiver of any right you or such person may have to request a hearing under Sections 120.569 and 120.57, F.S. Mediation pursuant to Section 120.573, F.S., to settle an administrative dispute regarding the District's action in this matter is not available prior to the filing of a request for hearing.

Enclosed is a "Noticing Packet" that provides information regarding the District Rule 40D-1.1010, F.A.C., which addresses the notification of persons whose substantial interests may be affected by the District's action in this matter. The packet contains guidelines on how to provide notice of the District's action, and a notice that you may use.

- David L. Moore**
Executive Director
- Gene A. Heath**
Assistant Executive Director
- William S. Bilonky**
General Counsel

Permit No.: 44015474.003

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May 12, 2006

The enclosed approved construction plans are part of the permit, and construction must be in accordance with these plans.

If you have questions concerning the permit, please contact ~~David G. Smith, P.E.~~ at the Tampa Service Office, extension 2028. For assistance with environmental concerns, please contact Chastity A. LaRiche, extension 2092.

Sincerely,



Alba E. Más, P.E., Director
Tampa Regulation Department

AEM:DGS:CAL:gjn

Enclosures: Approved Permit w/Conditions Attached
Approved Construction Drawings
Statement of Completion
Notice of Authorization to Commence Construction
Noticing Packet (42.00-039)
Sections 28-106.201 and 28-106.301, F.A.C.

cc/enc: File of Record 44015474.003

Dennis W. Syrja, P.E., URS Corporation

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
GENERAL CONSTRUCTION MODIFICATION
PERMIT NO. 44015474.003

Expiration Date: May 12, 2011

PERMIT ISSUE DATE: May 12, 2006

This permit is issued under the provisions of Chapter 373, Florida Statutes (F.S.), and the Rules contained in Chapters 40D-4 and 40, Florida Administrative Code (F.A.C.). The permit authorizes the Permittee to proceed with the construction of a surface water management system in accordance with the information outlined herein and shown by the application, approved drawings, plans, specifications, and other documents, attached hereto and kept on file at the Southwest Florida Water Management District (District). Unless otherwise stated by permit specific condition, permit issuance constitutes certification of compliance with state water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341. All construction, operation and maintenance of the surface water management system authorized by this permit shall occur in compliance with Florida Statutes and Administrative Code and the conditions of this permit.

PROJECT NAME: City of Tampa -
Marriott Towneplace Suites and
O'Brien Street Widening

GRANTED TO: City of Tampa Department of Public Works
306 East Jackson Street, 4E
Tampa, FL 33602

McKibbon Hotel Group, Inc.
402 Washington Street Southeast, Suite 200
Gainesville, GA 30501

ABSTRACT: This modification involves design changes to the stormwater management system previously authorized under ERP Permit No. 44024306.000, issued on August 12, 2003, and subsequently modified under ERP Permit No. 44024306.001, issued on February 4, 2004, and ERP Permit No. 44024306.002, issued on January 23, 2006. The proposed alterations will include reconfiguring the offsite basin from approximately 7.84-acres of existing impervious area to encompass approximately 7.51-acres of proposed impervious area associated with a future commercial development, Avion Park (ERP No. 44015474.004). Water quantity calculations were provided that demonstrate no adverse off-site impacts.

OP. & MAINT. ENTITY: City of Tampa

COUNTY: Hillsborough

SEC/TWP/RGE: 17/29S/18E

**TOTAL ACRES OWNED
OR UNDER CONTROL:** 18.89

PROJECT SIZE: 10.33 Acres

LAND USE: Road Project

DATE APPLICATION FILED: March 13, 2006

AMENDED DATE: N/A

Permit No.: 44015474.003

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May 12, 2006

I. Water Quantity/Quality

Water quantity attenuation and water quality treatment are provided within the stormwater management system permitted under ERP No. 4024306.000.

A mixing zone is not required.
A variance is not required.

II. 100-Year Floodplain

Encroachment (Acre-Feet of fill)	Compensation (Acre-Feet of excavation)	Compensation Type	Encroachment Result (feet)
0.00	0.00	N/A	N/A

III. Environmental Considerations

No wetlands or other surface waters exist within the project area.

Watershed Name: Tampa Bay Drainage

A regulatory conservation easement is not required.

A proprietary conservation easement is not required.

SPECIFIC CONDITIONS

1. If the ownership of the project area covered by the subject permit is divided, with someone other than the Permittee becoming the owner of part of the project area, this permit shall terminate, pursuant to Section 40D-1.6105, F.A.C. In such situations, each land owner shall obtain a permit (which may be a modification of this permit) for the land owned by that person. This condition shall not apply to the division and sale of lots or units in residential subdivisions or condominiums.

2. Unless specified otherwise herein, two copies of all information and reports required by this permit shall be submitted to:

Tampa Regulation Department
Southwest Florida Water Management District
7601 U.S. Highway 301 North
Tampa, FL 33637-6759

The permit number, title of report or information and event (for recurring report or information submittal) shall be identified on all information and reports submitted.

3. The Permittee shall retain the design engineer, or other professional engineer registered in Florida, to conduct on-site observations of construction and assist with the as-built certification requirements of this project. The Permittee shall inform the District in writing of the name, address and phone number of the professional engineer so employed. This information shall be submitted prior to construction.

4. Within 30 days after completion of construction of the permitted activity, the Permittee shall submit to the Tampa Service Office a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the required Statement of Completion and Request for Transfer to Operation Entity form identified in Chapter 40D-1.659, F.A.C., and signed, dated and sealed as-built drawings. The as-built drawings shall identify any deviations from the approved construction drawings.

5. The District reserves the right, upon prior notice to the Permittee, to conduct on-site research to assess the pollutant removal efficiency of the surface water management system. The Permittee may be required to cooperate in this regard by allowing on-site access by District representatives, by allowing the installation and operation of testing and monitoring equipment, and by allowing other assistance measures as needed on site.
6. This modification, Construction Permit No. 44015474.003, amends the previously issued Construction Permit Nos. 44024306.000, 44024306.002, and 44015474.004, and adds conditions. All other original permit conditions remain in effect.
7. This permit is issued based upon the design prepared by the Permittee's consultant. If at any time it is determined by the District that the Conditions for Issuance of Permits in Rules 40D-4.301 and 40D-4.302, F.A.C., have not been met, upon written notice by the District, the Permittee shall obtain a permit modification and perform any construction necessary thereunder to correct any deficiencies in the system design or construction to meet District rule criteria. The Permittee is advised that the correction of deficiencies may require re-construction of the surface water management system and/or mitigation areas.

GENERAL CONDITIONS

1. The general conditions attached hereto as Exhibit "A" are hereby incorporated into this permit by reference and the Permittee shall comply with them.



Authorized Signature



APPENDIX H
SWFWMD MEETING NOTES

Project Name

O'Brien Street from Cypress Street to Spruce Street

Date of Meeting

May 16th, 2012



City of Tampa Project #

TR0112

Location

Southwest Florida Water
Management District (SWFWMD)
TPA Bldg 1 Sweetbay Conf Rm 1008

Purpose of Meeting

O'Brien Street Pre-Application Meeting

Time

11:00am

MEETING AGENDA

1. Project Overview

- Section 17, Township 29 South, Range 18 East in Hillsborough County
- Two open drainage basins
- Typical Section
 - Existing: Two lane rural road from Cypress Street to 330' south of Laurel Street. Two lane rural road with continuous bi-direction left-turn lane from 330' south of Laurel Street to Spruce Street.
 - Proposed: Four lane urban road with continuous bi-directional left-turn lane from Cypress Street to Spruce Street.
- Drainage
 - Northern Section: Runoff drains to existing pond at the northeast corner of O'Brien Street and Laurel Street. It is then routed to the ditch running westerly from the intersection of O'Brien Street and Nassau Street.
 - Southern Section: Runoff is collected by roadside ditches and swales and routed to the ditch running westerly from the intersection of O'Brien Street and Nassau Street.
 - Outfalls: Ditch running westerly from intersection of O'Brien Street and Nassau Street. Ultimately Outfalls to Lemon Street Ditch and discharges into Tampa Bay.

2. Northern Basin Approach - Permit Research

- The northern basin was permitted to treat and attenuate 7.84 acres as part of Permit 44024306.000. The basin was later revised to only treat and attenuate 7.51 acres as part of permit 44015474.003.
- Existing pond at northeast corner of O'Brien Street and Laurel Street. This pond will treat and attenuate for the northern basin. The proposed drainage basin is smaller than what was originally permitted.
- Seasonal High Water Elevation = 7.7' (from original permit)

3. Southern Basin Approach – Wet Detention

- Water Quality: One-inch of runoff from the directly connected impervious area.
- Water Quantity: Pre = Post; open drainage basin; SWFWMD 25-year / 24-hour
- TMDL's (WBID 1606 and 1607)
 - Impaired for mercury only
- Pond Site Locations
 - Proposed pond on east side of O'Brien Street between Grace Street and Nassau Street.
This pond will treat and attenuate for the southern basin.
- Seasonal High Water Elevation = 7.4' (from geotechnical borings)

4. Floodplain Compensation / Wetland Mitigation

- 100-year Floodplain is a result of tidal storms and hurricanes
- 0.22 acres of wetland impacts; surface water impacts only

THIS FORM IS INTENDED TO FACILITATE AND GUIDE THE DIALOGUE DURING A PRE-APPLICATION MEETING BY PROVIDING A PARTIAL "PROMPT LIST" OF DISCUSSION SUBJECTS. IT IS NOT A LIST OF REQUIREMENTS FOR SUBMITTAL BY THE APPLICANT.



**SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
RESOURCE REGULATION DIVISION
PRE-APPLICATION MEETING NOTES**

**FILE NUMBER:
PA 399193**

Date: 5/16/2012
Time: 11:00 AM
Project Name: O'Brien Street Widening – Cypress to Spruce (City of Tampa)
Attendees: Richard Alt, Lisa Cartwright, (SWFWMD) Cristina Gonzalez, Nick Pitsikoulis, Zachary Sarver, (HNTB) Milton Martinez, (City of Tampa)

County: Hillsborough
Total Land Acreage: 10.8 acres
Sec/Twp/Rge: 17/29/18
Project Acreage: 4.4 acres

Prior On-Site/Off-Site Permit Activity:

- ERP 44024306.000, .001, .002
- Developer adjacent to property – ERP 44015474.003 (modified road project 44024306.002)

Project Overview:

- Road widening to 5 lanes from rural to urban section.
- Wetland issues – ponds – alternatives & criteria review
- Northern portion drains to a pond sized for future projects
- Southern portion will drain to proposed pond

Environmental Discussion: (Wetlands On-Site, Wetlands on Adjacent Properties, Delineation, T&E species, Easements, Drawdown Issues, Setbacks, Justification, Elimination/Reduction, Permanent/Temporary Impacts, Secondary and Cumulative Impacts, Mitigation Options, SHWL, Upland Habitats, Site Visit, etc.)

- 0.22 acre wetland impact may include surface water ditch impact.
- Provide the limits of jurisdictional wetlands and surface water ditch TOB boundary.
- Provide appropriate mitigation using UMAM for impacts, if applicable.
- Demonstrate elimination and reduction of wetland impacts.
- Water quality portion for ditch impact addressed in stormwater pond.

Site Information Discussion: (SHW Levels, Floodplain, Tailwater Conditions, Adjacent Off-Site Contributing Sources, Receiving Waterbody, etc.)

- Existing roadway/intersections.

Water Quantity Discussions: (Basin Description, Storm Event, Pre/Post Volume, Pre/Post Discharge, etc.)

- Demonstrate that discharges from proposed project area will not cause an adverse impact for a 25-year, 24-hour storm event.
- Demonstrate that site will not impede the conveyance of contributing off-site flows.
- Demonstrate that the project will not increase flood stages up- or down-stream of the project area(s).
- Provide equivalent compensating storage for all 100-year, 24-hour riverine floodplain impacts if applicable.

Water Quality Discussions: (Type of Treatment, Technical Characteristics, Non-presumptive Alternatives, etc.)

- Provide water quality treatment for entire project area and all contributing off-site flows.
- In addition, if the project discharges to an impaired water body, must provide a net environmental improvement.
- Also replace treatment function of existing ditches to be filled.

Sovereign Lands Discussion: (Determining Location, Correct Form of Authorization, Content of Application, Assessment of Fees, Coordination with FDEP)

- N/A

Operation and Maintenance/Legal Information: (Ownership or Perpetual Control, O&M Entity, O&M Instructions, Homeowner Association Documents, Coastal Zone requirements, etc.)

- The permit must be issued to the property owner(s).
- Provide proof of ownership in the form of a deed or contract for sale.
- Provide appropriate O&M instructions.
- Provide detailed construction surface water management plan.

Application Type and Fee Required:

- General Construction ERP – Sections A, C and E of the ERP Application.
- > 10 acres of project area and/or > 5000 sf of wetland or surface water impacts - \$316.00

Other: (Future Pre-Application Meetings, Fast Track, Submittal Date, Construction Start Date, Required District Permits – WUP, WOD, Well Construction, etc.)

Disclaimer: The District ERP pre-application meeting process is a service made available to the public to assist interested parties in preparing for submittal of a permit application. Information shared at pre-application meetings is superseded by the actual permit application submittal. District permit decisions are based upon information submitted during the application process and Rules in effect at the time the application is complete.

Project Name

O'Brien Street from Cypress Street to
Spruce Street

Date of Meeting

May 16th, 2012



City of Tampa Project #

TR0112

Location

Southwest Florida Water
Management District (SWFWMD)
TPA Bldg 1 Sweetbay Conf Rm 1008

Purpose of Meeting

O'Brien Street Pre-Application
Meeting

Time

11:00am

MEETING NOTES

1. Richard Alt and Lisa Cartwright suggested we start the meeting discussing the Wetland Impacts. Zack stated there are approximately 0.22 acres of wetland impacts and according to Scheda's Memo they are all upland cut ditches and therefore will be considered surface water impacts only. Lisa pulled up old aerials and said it was hard to tell from the aerials and in her opinion it wasn't a clear cut upland ditch. Zack showed her the plans where the wetland lines are delineated and she thought there should be separate lines for the upland area and the rest of the wetland. She asked if the lines had been approved and suggested they may need to be reflagged if one area is to be considered upland ditch and the rest wetlands. Lisa would like to take a look at the ditch in the field to confirm whether it is surface water or wetland. She said that even though it may have all been a wetland in the past if it has been functioning as a ditch then we could consider it separate from the rest of the wetland. She said that if it turns out the impacted area is upland ditch and the impacts stay within the ditch berm then no mitigation is required but if the impacts go past the ditch berm into the wetland side then mitigation will be required. She said that if the impacts are minor even if they are past the ditch berm mitigation might not be required. After reading through Scheda's Memo she agreed that onsite creation/mitigation would be ok within any of City of Tampa's ROW as long as it was within the same watershed. In addition, Lisa confirmed that freshwater herbaceous wetland mitigation credits had been released a week before the meeting and that these credits will be available. However, if the wetland impacts for O'Brien Street are found to be forested, the freshwater herbaceous credits cannot be used.

After the meeting we took a closer look at the plans and it seems that the ditch in question is a created ditch for mitigation of wetland impacts from the previous project. If we Impact the created ditch then we would have to offset that mitigation somewhere else.

2. Zack gave an overview of the project. He discussed the existing and proposed typical sections and mentioned there are two open drainage basins within the project limits. He explained that in the northern section the runoff drains to an existing pond at the northeast corner of O'Brien Street and Laurel Street and that it is then routed to the ditch running westerly from the intersection of O'Brien Street and Nassau Street. In the southern section the runoff is collected by roadside

ditches and swales and routed to the ditch running westerly from the intersection of O'Brien Street and Nassau Street. They share the same outfalls which is the ditch running westerly from intersection of O'Brien Street and Nassau Street which ultimately outfalls to the Lemon Street Ditch and discharges into Tampa Bay.

3. Richard Alt asked if the previous permit already planned for the future widening and Zack agreed. Richard said that there should not be any problem utilizing the existing pond for the northern widening. Nick discussed that the northern basin was permitted to treat and attenuate 7.84 acres as part of Permit 44024306.000. The basin was later revised to only treat and attenuate 7.51 acres as part of permit 44015474.003. He also mentioned that the proposed drainage basin is smaller than what was originally permitted and the curve number is smaller as well.
4. Nick discussed the southern basin approach which would consist of a proposed wet detention pond. Richard agreed that Water Quality will be one-inch of runoff from the directly connected impervious area and that Water Quantity will be Pre = Post; including the SWFWMD 25-year / 24-hour for open basins.
5. Richard mentioned that per new rules we have the option of including a littoral shelf within the proposed wet detention pond or addressing residence time.
6. Richard Alt mentioned there were two WBIDs within our project and suggested we contact Julie Espy and check with the FDEP website to make sure they are not impaired since he seems to think they are in limbo. Cristina mentioned that we have verified the two WBIDs 1606 and 1607 are impaired for mercury only. Richard agreed no net improvement would be required.
7. Richard Alt agreed the FEMA Floodplain classification is due to tidal conditions but asked for the riverine 100-yr flood elevation at the outfall ditch. He said we could find this out from previous studies, models, permits and that we need to ensure any impacts are compensated for and/or we can demonstrate through modeling that there are no impacts to the overall floodplain. Lisa stated that if floodplain compensation is required we could use the floodplain compensation area for mitigation as well.
8. Richard Alt suggested we apply for an ERP using Rule 40D-1.607 (1) (a) 12 "Application for general permit for public highway project, which has less than 10 acres of project area and has less than 2 acres of new impervious and semi-impervious surface area" (\$316 fee). Lisa agreed that the application does not mention a threshold for wetland impacts so even if we have wetland impacts we could still apply using this application. Milton asked if this permit would be a separate permit or if it would be a modification of the previous City of Tampa permit and Richard Alt agreed it would be a modification.

After reviewing the Rule 30D-1.607 (1) (a) it seems that number 13 best applies to our project since it is the same as 12 but it is a permit modification instead of a new general permit and it is only \$158.

9. Milton asked if SWFWMD is familiar with Thirsty Duck and if they have permitted with it before and are ok with using them in wet detention ponds. Richard and Lisa said they have heard of it but have never permitted with them and are not familiar with their functions/capabilities. Milton said he would send them some information on it.

10. Milton mentioned that as part of this study, adjacent developers had asked if it was possible to improve the conveyance at the outfall ditch in order to enhance the connection to the bay and avoid having to do attenuation for discharges to this ditch. Richard Alt said we would be opening a whole can of worms if we propose that. Lisa also added that there is likely to be seagrass around the ditch and if there is it would be considered as wetland impacts not only for the area of the ditch but for any surrounding area as well. Milton agreed he would pass on the information to the adjacent developers.