

Drainage Design Documentation

75% PLANS

Stormwater Ponding Assignment – North Glen Avenue

HILLSBOROUGH COUNTY

Contract: 18-D-57101

Prepared For:
City of Tampa
Transportation and Stormwater Services Department
306 E. Jackson Street, 6E
Tampa, FL 33602



Prepared By:
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12570 Telecom Drive
Temple Terrace, FL 33637

January 2022



Executive Summary

The City of Tampa (CITY) proposes safety improvements to North Glen Avenue between North Green Street and Beach Street. The proposed safety improvements will consist of enclosing roadside ditches with substandard side slopes that are safety hazards for motorists and adding sidewalk to the west side of the corridor. The CITY also proposes to widen the roadway between W. Palmetto St. and W. Cherry St. The widening is to provide a safer corridor for motorists due to an existing jog in the existing edge of pavement in this location that decreases lane width and is contributing to vehicles running off the roadway. The existing ditches have unsafe front slopes for large portions of the corridor. This, along with the narrow road width, has led to cars departing the roadway and becoming stuck in the roadside ditches. The proposed condition will prove a safer corridor with recoverable roadside terrain and shallow swales with an enclosed storm sewer system.

This project is located in the Lemon Street Ditch and Fish Creek Watersheds. These watersheds have waterbody identification (WBID) number 1606 and 1594 respectively. The WBIDs are not impaired for nutrients.

The existing drainage along North Glen Ave. consists of open ditches and side drains, along with small segments of closed storm sewer systems. From N. Green St. to W. Spruce Street, runoff is directed into roadside ditches where it is then conveyed south to an existing storm sewer system on N. Green St. that conveys runoff west and eventually discharges to Old Tampa Bay. From W. Spruce St. north to W. Palmetto St., runoff is directed into roadside ditches where it is then conveyed to an existing drainage system that runs west along W. Beach St. and eventually discharges into Old Tampa Bay. Please refer to **Appendix A** for existing drainage maps of this area.

The proposed drainage improvements are detailed in the project plans. The proposed improvements will maintain existing drainage patterns.

This report addresses the existing conditions within the project limits, proposed safety improvements to the corridor, and the impacts to the existing drainage facilities within the project limits. The total estimated drainage cost, which also includes erosion control items, is estimated to be **\$331,285**. Please refer to **Appendix A** for the construction cost estimate.



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Appendices

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| Appendix B | Project Scope |
| Appendix C | Drainage Calculations <ul style="list-style-type: none">• StormTABS |
| Appendix D | Field Review Photos and Notes |
| Appendix E | Project Correspondence <ul style="list-style-type: none">• SWFWMD Pre-Application Meeting Notes |



1.0 PROJECT OVERVIEW

The CITY proposes safety improvements to N. Glen Avenue from N. Green Street to W. Beach Street. N. Glen Ave is a two-lane undivided residential roadway. From W. Beach Street to W. Palmetto Street the existing typical section consists of two 10-foot lanes with shallow swales adjacent to the roadway. At W. Palmetto Street, the existing southbound edge of pavement shifts 6.5-feet to the east and the roadway narrows to two 7.5' lanes. The lane width is substandard from W. Palmetto Street to W. Spruce Street. South of the W. Palmetto Street and N. Glen Avenue intersection, the existing roadside ditches have dangerously steep front slopes. The steep front slopes combined with the roadway narrowing has created an unsafe condition where it is easy for vehicles to depart from the roadway onto unrecoverable terrain. The CITY proposes to enclose the roadside ditches, provide widening from W. Palmetto St. to W. Cherry St. and provide a sidewalk on the west side of the corridor to provide a safer corridor for vehicles and pedestrians.

Glen Ave. is located northeast of the I-275 and Himes Avenue interchange and Southeast of Raymond James Stadium, at 27.96236 N, 82.49936 W within Section 15, Township 29 South, Range 18 East. Please refer to **Figure 1** for the Project Location Map and **Figure 2** for the Gandy Bridge Quadrangle Location Map. The vertical datum of this map is NAVD 1988. The 1929 NGVD vertical datum is converted to the 1988 NAVD vertical datum at this location by subtracting 0.860-ft from the NGVD elevation. See **Appendix A** for the vertical datum conversion.

1.1 RESOURCES FOR ANALYSIS

The following resources were used in the analyses performed for this report.

- City of Tampa Department of Public Works – Transportation Technical Manual, 2009 Edition
- City of Tampa Stormwater Technical Standards Manual for Public Development
- SWFWMD ERP Applicants Handbook, Vol. II
- FDOT Drainage Manual, 2022
- FDOT Drainage Design Guide, 2022
- Field Reviews
- Topographic Survey
- LiDAR Contours
- NRCS Soil Survey
- USGS Quad Map

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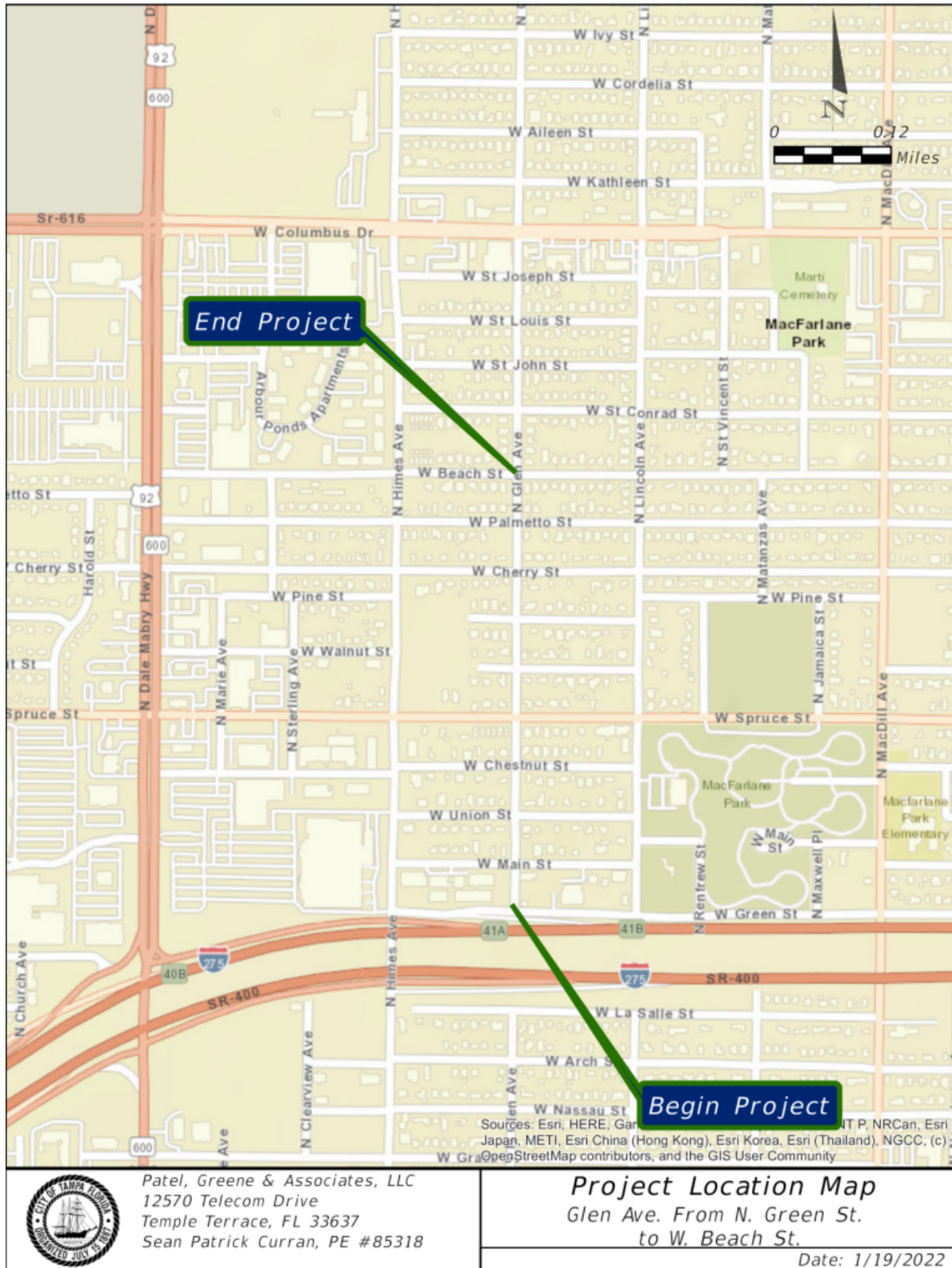


Figure 1 – Project Location

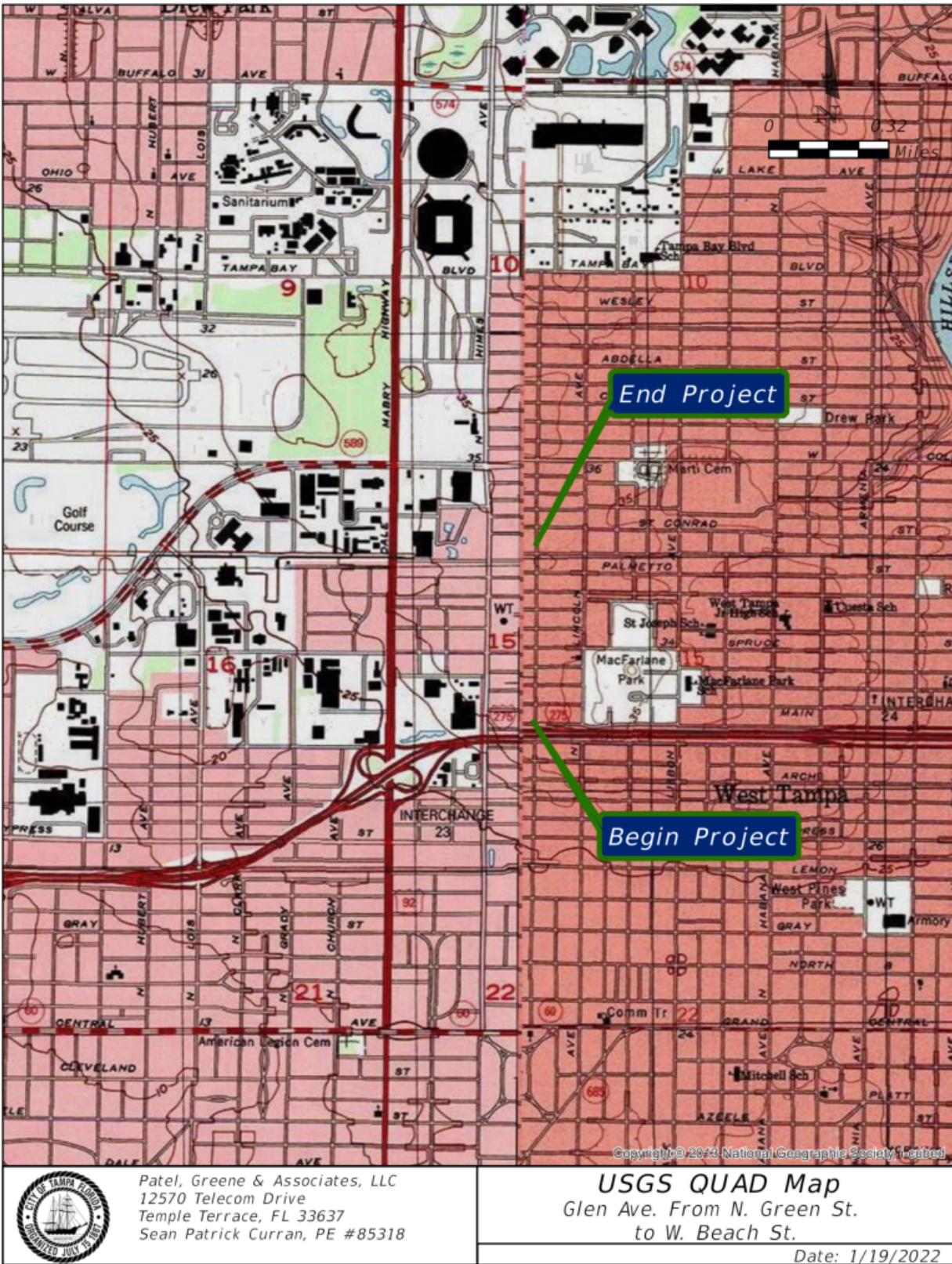


Figure 2 – USGS Quad Map



2.0 SCOPE OF WORK

The drainage related scope of services for this project includes the following tasks (See **Appendix B** for the scope of services for drainage analysis and permitting):

- Identify existing drainage issues and provide the most cost-effective solutions that are commensurate with the scope of the project.
- Enhance the safety level of the drainage structures and replace or repair structurally defective drainage features.
- Perform wet weather field review.
- Perform visual inspection of existing drainage systems.
- Enclose ditches within corridor where unsafe roadside slopes exist.

2.1 DRAINAGE DESIGN CRITERIA

The following table shows the drainage design criteria for this project:

Table 1 – Drainage Criteria

| Design Element | Criteria | Reference |
|----------------|---|--|
| Ditch | <ul style="list-style-type: none"> • Roadside ditch designed for 10-year frequency • Outfall ditch designed for 25-year frequency • Provide minimum physical slope of 0.0005 ft./ft. • Maximum velocity allowed for grass lined ditches is 4 fps | FDOT Drainage Manual |
| | <ul style="list-style-type: none"> • Steepest side slopes are 1V:2H, 1V:4H is preferred. No slopes steeper than 1V:4H shall be placed inside of the clear zone • Minimum ditch bottom width is 2-feet | City of Tampa Stormwater Technical Standards Manual for Public Development |
| Storm Drain | <ul style="list-style-type: none"> • Minimum time of concentration of 15 minutes • 15-inch minimum pipe size, or equivalent elliptical • General design on work 5-year frequency • Minimum physical slope shall be that which will produce a minimum velocity of 2.5 feet per second • A minimum 1-foot of cover is required for residential streets | City of Tampa Stormwater Technical Standards Manual for Public Development |

3.0 EXISTING DRAINAGE CONDITIONS

3.1 DRAINAGE PATTERNS

There are two basins along this segment of N. Glen Ave. The two basins are separated by W. Spruce St and flow north and south, respectively, from there. The existing conveyance along N. Glen Ave. consists mainly of an open drainage system where stormwater sheet flows from the roadway into existing roadside ditches. There is no formal treatment or attenuation for runoff from N. Glen Ave.



- Existing Basin 1 – W. Spruce St. to W. Green St.**
From W. Spruce St. to W. Main St. runoff from the corridor is conveyed via shallow swales and open ditches. From W. Main St. to W. Green St., the system is a closed storm sewer system with ditch bottom inlets. The stormwater is conveyed to a trunkline running west along W. Green St. This trunkline conveys the runoff to Himes Ave. where it is routed south. The storm sewer continues along N. Himes Ave. until it reaches the Lemon Street Ditch, just south of W. Cypress St. Runoff is then conveyed via open channel to the west until it is eventually discharged into Old Tampa Bay.
- Existing Basin 2 - Spruce St. to W. Beach St.**– From W. Spruce to W. Beach St. runoff from the corridor is conveyed via shallow swales and roadside ditches to the north. The system then connects to a closed storm sewer system that runs west along W. Beach St. before connecting to a trunkline on N. Himes Ave. From N. Himes Ave., the runoff is conveyed west, where it reaches an open ditch that runs along the north side of W. Boy Scout Blvd. and eventually discharges into Old Tampa Bay.

Refer to **Appendix A** for existing Drainage Maps.

3.1.1 EXISTING DRAINAGE BASINS

The project is located within two waterbody identification (WBID) numbers. One of the WBID's is considered impaired. **Table 2** shows the WBID number, status of impairment, and pollutant of concern. Please refer to **Appendix A** for WBID map for the project limits.

Table 2 – WBID

| WBID | Impaired | Pollutant(s) of Concern |
|---------------------------|----------|-------------------------|
| 1594 – Fish Creek | Yes | Fecal Coliform |
| 1606 – Lemon Street Ditch | No | N/A |

3.1.2 FLOODPLAIN INFORMATION

There are no floodplain impacts associated with the proposed improvements to N. Glen Ave., see **Figure 3**. The project site is located on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Community Panel Number 12057C0353H dated August 28, 2008. Please refer to **Appendix A** for the FEMA Maps.

3.1.3 SOIL CHARACTERISTICS

The Natural Resource Conservation Service (NRCS) soil survey for Hillsborough County was reviewed to determine the general soil characteristics within the project limits. Refer to **Figure 4** for the NRCS soils map, with soils groups shaded by the map unit symbol number. The soils within this drainage area on this project are primarily Myakka-Urban soils with a hydrologic soil group of A/D. Refer to **Appendix D** for a complete breakdown of soils within the project limits. **Table 3** shows the primary soil types and characteristics identified within the project corridor:

Table 3 – Soils

| Map Unit Symbol | Soil Name | Hydrologic Soil Group | Depth to water table (ft.) |
|-----------------|-------------------------------|-----------------------|----------------------------|
| 32 | Myakka-Urban land complex | A/D | 0.5' – 1.5' |
| 55 | Tavares-Urban land complex, 0 | A | 3.5' – 6.0' |

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Figure 3 – FEMA Map

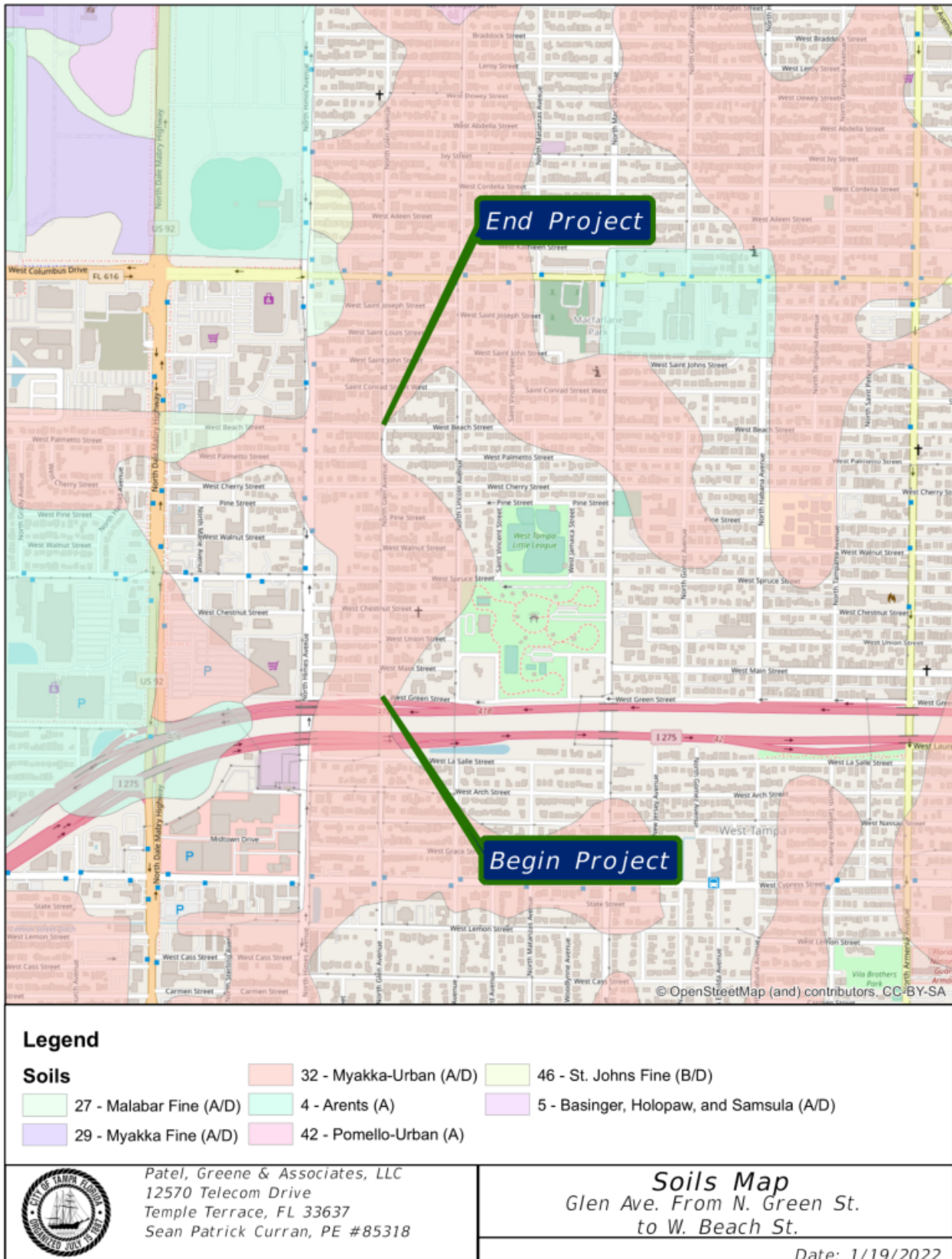


Figure 4 – Soils Map



3.2 OPERATIONAL CONDITIONS OF DRAINAGE INFRASTRUCTURE

A field inspection was performed on August 15th, 2019 to document the condition and functionality of the existing drainage systems and summarize the need to repair, replace, or desilt them. The flattening of the roadside slopes through the corridor will require a proposed storm sewer system to be installed.

3.3 DRAINAGE ISSUES

During the field review held on August 15th, 2019, multiple existing drainage issues were discovered and are listed below.

- Existing pipe broken or clogged at Sta. 104+00 under existing driveway.
- Stormwater ponding throughout the corridor.
- Flooding at locations along the corridor.
- Substandard pipe size throughout corridor.
- Limited elevation to provide adequate pipe slope within the project limits

The scope of this project does not include proposed improvements for all observed drainage issues.

The broken pipe at Sta. 104+00 will be replaced with a larger pipe than the existing condition. The existing pipe size is substandard and is not permitted with current design standards. Some ponding will be addressed due to regrading of side slopes off the existing edges of pavement. Any substandard pipe within areas of proposed storm sewer improvements will be replaced with a pipe size that meets current design standards.

4.0 PROPOSED CONDITIONS

4.1 STORMWATER QUALITY/QUANTITY

There are no existing stormwater treatment facilities within the corridor. In the existing condition, stormwater sheet flows into roadside ditches where it is conveyed off site. No formal treatment is proposed with this project.

4.1.1 STORMWATER QUALITY

There is no additional impervious area being added with the improvements associated with this project and no formal treatment is required by SWFWMD. During a Pre-Application meeting held with SWFWMD, it was determined that the existing ditches provided a certain level of treatment for the runoff. SWFWMD determined that even though treatment was being achieved in the existing ditches, no treatment calculations will be required for this project. SWFWMD prefers to place the proposed inlets at locations near the existing side drains, or to raise the grate on proposed inlets above the ditch bottom to allow for treatment within the swales. Refer to **Appendix E** for Pre-Application meeting minutes.

4.1.2 STORMWATER QUANTITY

The project is adding impervious area within the project corridor with the proposed sidewalk and the small segment of widening. During a Pre-Application meeting with SWFWMD, it was



determined that water quantity calculations will not be required as these safety improvements are exempt. Refer to **Appendix E** for Pre-Application meeting minutes.

4.2 STORM DRAINAGE SYSTEM IMPROVEMENTS

Storm sewer system has been added to N. Glen Ave. to collect and convey all roadway runoff. There are two existing drainage systems that will be modified with the proposed improvements associated with this project. The HGL for the 5-year design storm is designed to be below the edge of pavement elevations along Glen Ave. Minor losses have been modeled.

4.2.1 SOUTH SYSTEM

The existing open ditches will be replaced with a closed storm sewer system. This system will consist of ditch bottom inlets and storm sewer pipe. Runoff will be collected via sheet flow into roadside swales where it will enter the storm sewer system. In the existing condition, the roadside ditches are providing some nutrient removal for the stormwater runoff. To avoid creating runoff with a higher pollutant loading in the post condition, inlets were placed as close to existing side drain locations as possible. Along with the placement of inlets, the inlet grates have been set two inches above the proposed ditch grade in order to provide additional contact time with the sod and improve runoff quality. The proposed system will tie into the existing storm sewer system south of W. Main St. The HGL for the 5-year design storm is designed to be below the edge of pavement elevations of the storm system. The proposed system does not meet the minimum flow velocity set forth in the City of Tampa Stormwater Technical Standards Manual for Public Development due to the shallow existing pipes that are the outlets for the proposed system. Please refer to **Appendix C** for the storm tabulations.

4.2.2 NORTH SYSTEM

The existing open ditches will be replaced with a closed storm sewer system. This system will consist of ditch bottom inlets and storm sewer pipe. Runoff will be collected via sheet flow into roadside swales where it will enter the storm sewer system. In the existing condition, the roadside ditches are providing some nutrient removal for the stormwater runoff. To avoid creating runoff with a higher pollutant loading in the post condition, inlets were placed as close to existing side drain locations as possible. Along with the placement of inlets, the inlet grates have been set two inches above the proposed ditch grade in order to provide additional contact time with the sod and improve runoff quality. The proposed system will discharge via mitered end section into a proposed roadside ditch north of W. Palmetto St. In the proposed condition, this outfall ditch been excavated to provide additional storage volume from the existing condition. From this location, runoff will enter an existing stormwater system that runs north along W. Beach St. The HGL for the 5-year design storm is designed to be below the edge of pavement elevations of the storm system. The proposed system does not meet the minimum flow velocity set forth in the City of Tampa Stormwater Technical Standards Manual for Public Development due to the shallow existing pipes that are the outlets for the proposed system. Please refer to **Appendix C** for the storm tabulations.



4.3 TAILWATER

The tailwater elevation for the South System was set at the crown of the pipe in existing structure 2 (EX-2). The tailwater elevation for the North System was set at the crown of the pipe in existing structure 59 (EX-59). Refer to **Appendix A** for existing structure data and **Appendix C** for proposed Storm sewer calculations.

4.4 FLOODPLAIN IMPACTS/MITIGATION

As discussed in **Section 3.1.2**, there are no impacts to the FEMA floodplain within the project site. Refer to **Appendix A** for FEMA FIRM Map.

4.5 WETLAND IMPACTS

There are no wetlands located within the project limits. During a Pre-Application meeting with SWFWMD, it was determined that the existing ditches would be classified as surface waters and a permit will be required. No mitigation is required for the impact to these surface waters. Refer to **Appendix E** for Pre-Application meeting minutes.

4.6 PERMIT REQUIREMENTS

It is anticipated an Environmental Resource Permit (ERP) from the Southwest Florida Water Management District (SWFWMD) will be required for this project. A Pre-Application meeting was held with SWFWMD on November 6, 2019. An additional Pre-Application meeting was held on January 11, 2022 for the addition of sidewalk and minor widening to the project. Refer to **Appendix E** for meeting minutes. The project will not disturb more than an acre of soil and will not require a NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities during construction.

5.0 RECOMMENDATIONS

The drainage improvements are detailed in the project plans and are required due to the proposed roadside safety improvements. The total estimated drainage cost, which also includes erosion control items, is estimated to be **\$331,285**. Please refer to **Appendix A** for the construction cost estimate.

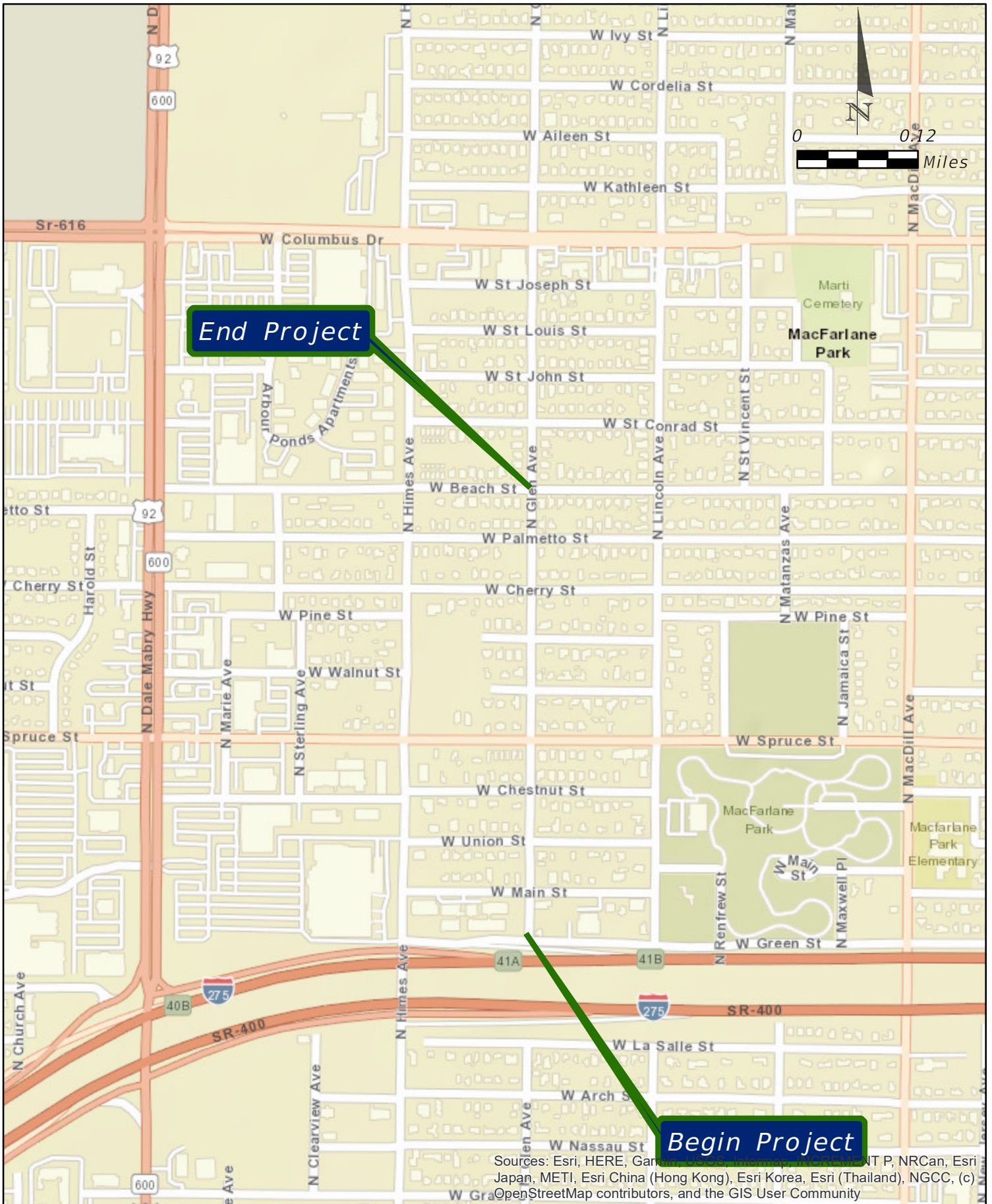


APPENDIX A

Design Documents



Project Location Map



Patel, Greene & Associates, LLC
 12570 Telecom Drive
 Temple Terrace, FL 33637
 Sean Patrick Curran, PE #85318

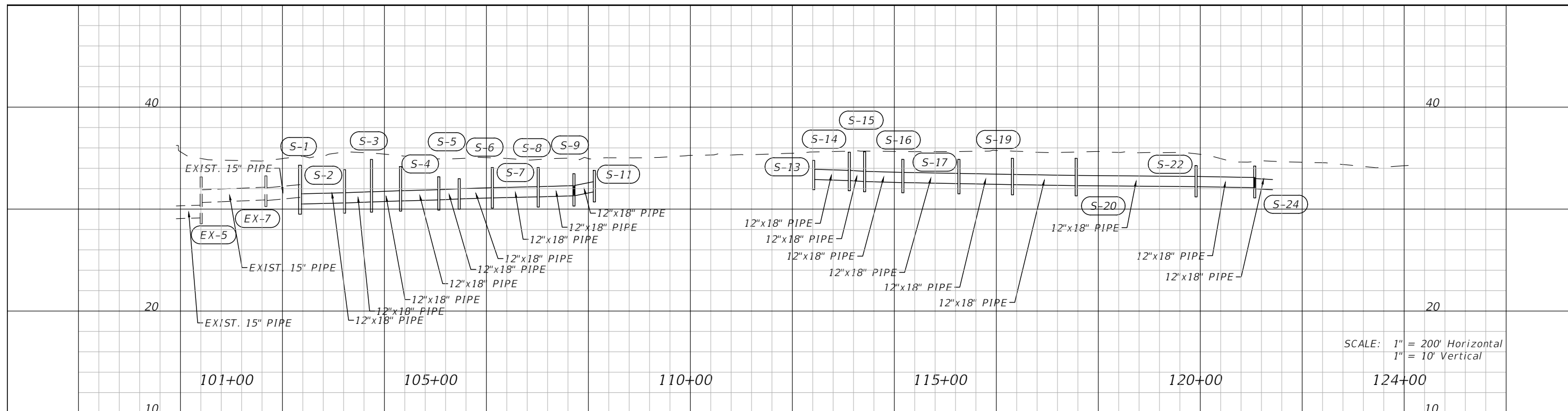
Project Location Map

Glen Ave. From N. Green St.
 to W. Beach St.

Date: 1/19/2022



Proposed Drainage Maps and Existing Structure Data



SCALE: 1" = 200' Horizontal
1" = 10' Vertical



DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. THIS SHEET IS IN THE PLANS FOR DOCUMENTATION AND TO ASSIST CONSTRUCTION PERSONNEL WITH DRAINAGE CONCERNS.

BACKGROUND AERIAL IMAGE DATE: 2017

| REVISIONS | | | | SEAN PATRICK CURRAN, P.E. P.E. LICENSE NUMBER 85318 PATEL, GREENE & ASSOCIATES, LLC 12570 TELECOM DRIVE TEMPLE TERRACE, FLORIDA 33637 | CITY OF TAMPA TRANSPORTATION DEPARTMENT | | | SHEET NO. |
|-----------|-------------|------|-------------|---|--|--------------|-------------------|-----------|
| DATE | DESCRIPTION | DATE | DESCRIPTION | | ROAD NO. | COUNTY | CITY CONTRACT NO. | |
| | | | | | N/A | HILLSBOROUGH | 18-D-57101 | |

PROPOSED DRAINAGE MAP

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

EX-1 MANHOLE
RIM EL. = 35.58
E INVERT (48" RCP) = 21.53
W INVERT (48" RCP) = 21.29

EX-2 MANHOLE
RIM EL. = 36.08
E INVERT (48" RCP) = 21.93
W INVERT (48" RCP) = 21.93
N INVERT (15" RCP) = 29.14
NE INVERT (15" RCP) = 28.98

EX-3 MANHOLE
RIM EL. = 36.13
E INVERT (48" RCP) = 22.34
W INVERT (48" RCP) = 22.43
N INVERT (18" RCP) = 26.98

EX-4 CURB INLET
TOP EL = 35.16
SW INVERT (15" RCP) = 29.57

EX-5 GRATE INLET
GRATE EL = 33.07
S INVERT (15" RCP) = 29.06
N INVERT (15" RCP) = 30.64

EX-6 GRATE INLET
GRATE EL = 32.59
E INVERT (15" RCP) = 30.68

EX-7 GRATE INLET
GRATE EL = 33.40
S INVERT (15" RCP) = 30.90
N INVERT (15" RCP) = 30.83
W INVERT (15" RCP) = 30.67

EX-8 GRATE INLET
GRATE EL = 34.30
S INVERT (15" RCP) = 31.15
N INVERT (12" RCP) = 31.07

EX-9 12" RCP
N INVERT (12" RCP) = 31.27

EX-10 12" PVC
S INVERT (12" PVC) = 31.89
N INVERT (12" PVC) = 32.16

EX-11 12" RCP
S INVERT (12" RCP) = 31.84
N INVERT (12" RCP) = 31.55

EX-12 12" RCP
E INVERT (12" RCP) = 32.88
W INVERT (12" RCP) = 32.74

EX-13 12" RCP
E INVERT (12" RCP) = 32.57
W INVERT (12" RCP) = 32.68

EX-14 12" RCP
S INVERT (12" RCP) = 32.08
N INVERT (12" RCP) = 32.23

EX-15 12" RCP
E INVERT (12" RCP) = 32.95
W INVERT (12" RCP) = 32.92

EX-16 12" RCP
E INVERT (12" RCP) = 32.24
W INVERT (12" RCP) = 33.15

EX-17 14"x23" RCP
S INVERT = 33.34
N INVERT = 32.24

EX-18 12" RCP
S INVERT = 32.60
N INVERT = 32.67

EX-19 12" RCP
E INVERT = 32.53

EX-20 12" RCP
E INVERT = 33.02
W INVERT = 32.89

EX-21 12"x18" RCP
S INVERT = 32.90
N INVERT = 32.91

EX-22 12" RCP
S INVERT = 32.02
N INVERT = 32.89

EX-23 12"x18" RCP
E INVERT = 33.77
W INVERT = 33.63

EX-24 GRATE INLET
GRATE EL = 35.33
N INVERT (15" RCP) = 28.73

EX-25 MANHOLE
RIM EL. = 35.83
S INVERT (15" RCP) = 28.23
W INVERT (18" RCP) = 28.13
NE INVERT (15" RCP) = 30.43

EX-26 GRATE INLET
GRATE EL = 35.27
N INVERT (15" RCP) = 30.87

EX-27 12" RCP
E INVERT = 33.88
W INVERT = 34.09

EX-28 12" RCP
E INVERT = 33.80
W INVERT = 33.88

EX-29 18" HDPE
S INVERT = 34.23
N INVERT = 34.16

EX-30 12" RCP
S INVERT = 34.01
N INVERT = 33.79

EX-31 12" RCP
S INVERT = 33.79
N INVERT = 33.57

EX-32 12" RCP
S INVERT = 33.62
N INVERT = 33.30

EX-33 12" RCP
S INVERT = 33.49
N INVERT = 33.69

EX-34 12" RCP
S INVERT = 33.77
N INVERT = 33.61

EX-35 12" RCP
S INVERT = 33.49
N INVERT = 33.38

EX-36 12" RCP
S INVERT = 33.53
N INVERT = 33.55

EX-37 12" RCP
S INVERT = 33.57
N INVERT = 33.64

EX-38 12" RCP
S INVERT = 33.24
N INVERT = 32.83

EX-39 12" RCP
S INVERT = 33.39
N INVERT = 33.22

| REVISIONS | | | | SEAN PATRICK CURRAN, P.E. P.E. LICENSE NUMBER 85318 PATEL, GREENE & ASSOCIATES, LLC 12570 TELECOM DRIVE TEMPLE TERRACE, FLORIDA 33637 | CITY OF TAMPA TRANSPORTATION DEPARTMENT | | | EXISTING STRUCTURE DATA (1) | SHEET NO. |
|-----------|-------------|------|-------------|---|--|--------------|-------------------|-----------------------------|-----------|
| DATE | DESCRIPTION | DATE | DESCRIPTION | | ROAD NO. | COUNTY | CITY CONTRACT NO. | | |
| | | | | | N/A | HILLSBOROUGH | 18-D-57101 | | |

| | | | |
|-------|---|-------|---|
| EX-39 | 12" RCP S INVERT = 33.39 N INVERT = 33.22 | V | 12" RCP E INVERT = 32.06 |
| EX-40 | 12" CMP S INVERT = 33.47 N INVERT = 33.49 | EX-51 | GRATE INLET GRATE EL = 33.69 E INVERT (12" RCP) = 32.06 W INVERT (12" RCP) = 32.20 |
| EX-41 | 12" RCP W INVERT = 32.99 E INVERT = 32.57 | EX-52 | 12" RCP E INVERT = 32.02 |
| EX-42 | MES, 15" HDPE, MES W INVERT = 32.29 E INVERT = 32.26 | EX-53 | 12" RCP E INVERT = 32.90 W INVERT = 32.14 |
| EX-43 | MES, 15" HDPE, MES W INVERT = 32.29 E INVERT = 32.09 | EX-54 | GRATE INLET GRATE EL = 34.30 E INVERT (18" RCP) = 32.06 W INVERT (18" RCP) = 32.10 |
| EX-44 | 12"x18" RCP W INVERT = 32.14 E INVERT = 31.92 | EX-55 | GRATE INLET GRATE EL = 34.11 E INVERT (18" RCP) = 32.07 W INVERT (18" RCP) = 32.02 |
| EX-45 | 12" RCP E INVERT = 32.40 W INVERT = 32.07 | EX-56 | GRATE INLET GRATE EL = 34.04 E INVERT (18" RCP) = 31.96 W INVERT (18" RCP) = 32.04 |
| EX-46 | 12" RCP (E END), 12" PVC (W END) E INVERT = 32.07 W INVERT = 32.40 | EX-57 | GRATE INLET GRATE EL = 34.13 E INVERT (18" RCP) = 31.60 W INVERT (18" RCP) = 31.82 |
| EX-47 | 15" RCP S INVERT = 32.29 N INVERT = 32.19 | EX-58 | GRATE INLET GRATE EL = 33.77 E INVERT (18" RCP) = 31.74 W INVERT (18" RCP) = 31.84 |
| EX-48 | 12" RCP W INVERT = 31.94 | EX-59 | 18" RCP E INVERT (18" RCP) = 31.75 |
| EX-49 | GRATE INLET GRATE EL = 33.95 E INVERT (12" RCP) = 32.30 W INVERT (12" RCP) = 31.95 | | |

| REVISIONS | | | | SEAN PATRICK CURRAN, P.E. P.E. LICENSE NUMBER 85318 PATEL, GREENE & ASSOCIATES, LLC 12570 TELECOM DRIVE TEMPLE TERRACE, FLORIDA 33637 | CITY OF TAMPA TRANSPORTATION DEPARTMENT | | | EXISTING STRUCTURE DATA (2) | SHEET NO. |
|-----------|-------------|------|-------------|---|--|--------------|-------------------|-----------------------------|--------------|
| DATE | DESCRIPTION | DATE | DESCRIPTION | | ROAD NO. | COUNTY | CITY CONTRACT NO. | | |
| | | | | | N/A | HILLSBOROUGH | 18-D-57101 | | |



Historic Drainage Maps

DRAINAGE ATLAS
LEGEND

- Existing City Street
- Existing D.O.T. Street
- Future Proposed Street
- Existing Ditches
- Direction of Run-Off
- Denotes Southwest Tampa Drainage District, Storm Sewers and Ditches
- City Drainage Area Boundary
- City Drainage Sub Area Boundary
- D.O.T. Drainage Area Boundary
- D.O.T. Drainage Sub Area Boundary
- City Limit
- Existing Retention Pond
- Future Retention Pond
- Existing Manhole
- Future Proposed Manhole
- Existing Inlet
- Future Proposed Inlet
- Existing Street Elevation
- Future Proposed Street Elevation
- Area Vacated
- Adjacent Section Number



SEC. 16, T29S, R18E

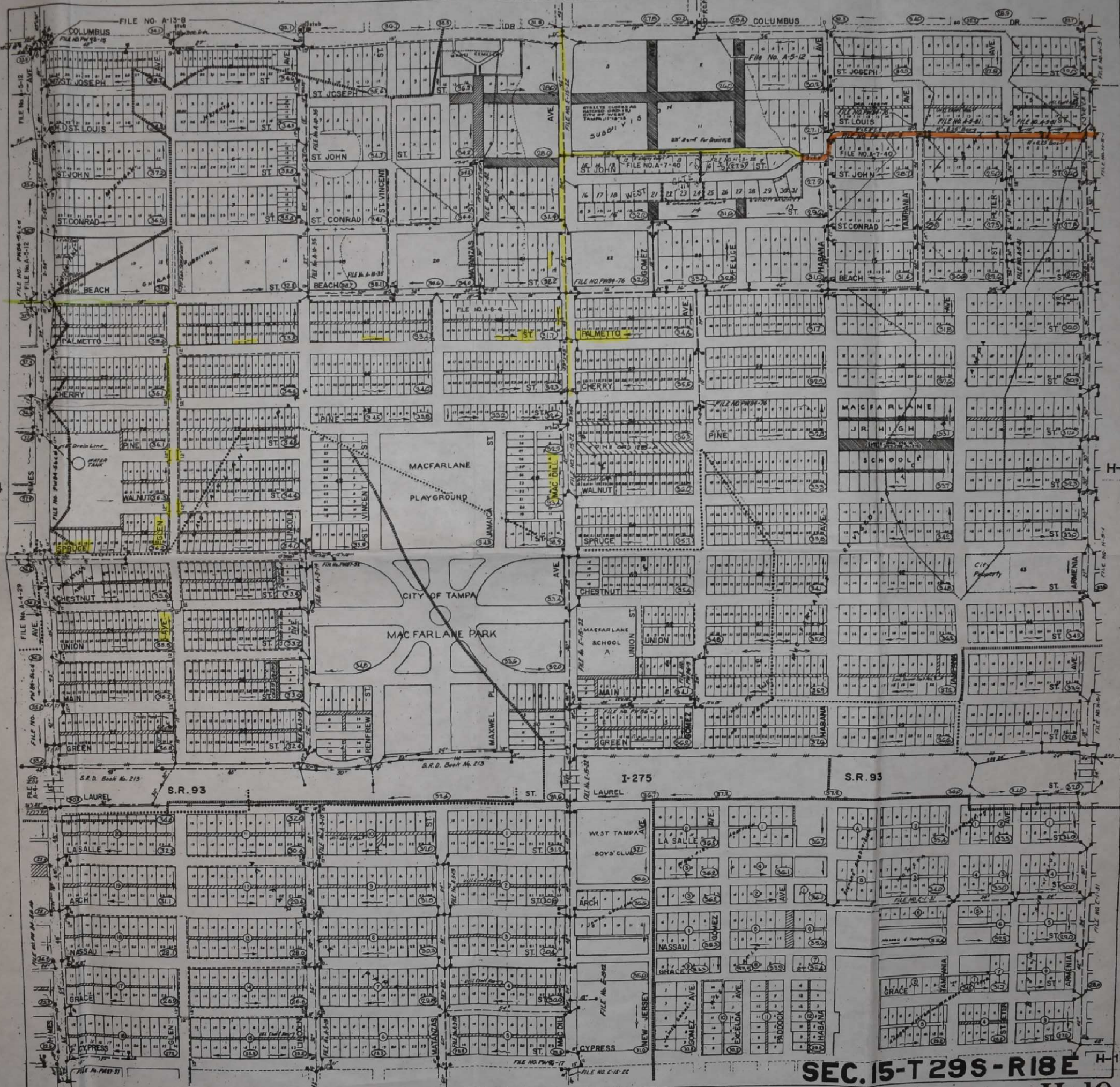
H-94

H-91

H-93

H-92

H-9



H-10 4

H-10 1

- DRAINAGE ATLAS**
LEGEND
- Existing City Storm Sewers
 - Existing S.R.D. Storm Sewer
 - Future & Proposed Storm Sewers
 - Existing Ditches
 - Direction of Run-Off
 - Denotes Southwest Tampa Drainage District
 - Storm Sewers and Ditches
 - City Drainage Area Boundary
 - City Drainage Sub Area Boundary
 - S.R.D. Drainage Area Boundary
 - S.R.D. Drainage Sub Area Boundary
 - City Limits
 - Existing Retention Ponds
 - Future Retention Ponds
 - Existing Manholes
 - Future & Proposed Manholes
 - Existing Alleys
 - Future & Proposed Inlets
 - Existing Street Elevations
 - Future & Proposed Street Elevations

H-10 3

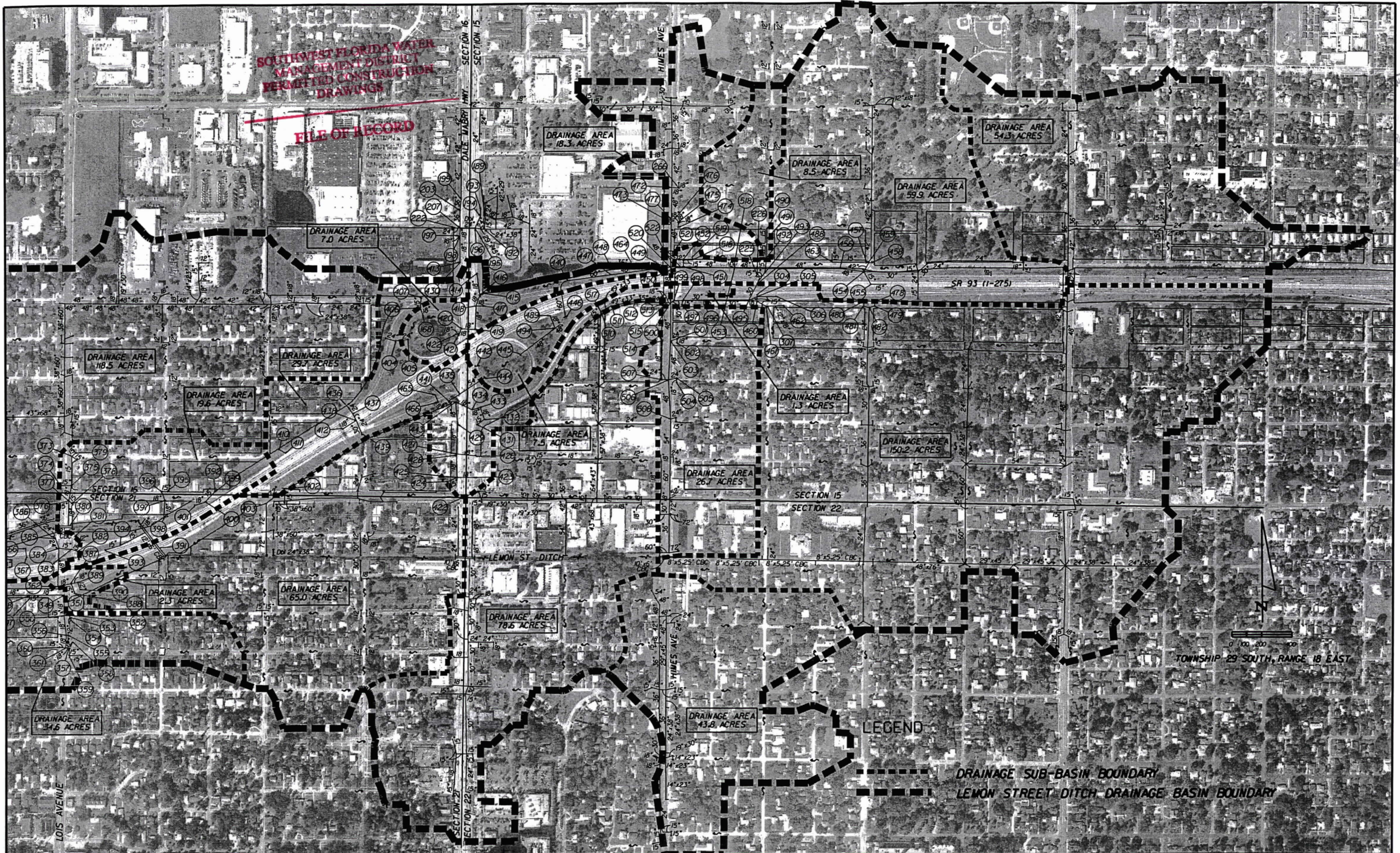
SEC. 15-T 29S-R18E

H-10 2

H-10

**SOUTHWEST FLORIDA WATER
MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION
DRAWINGS**

FILE OF RECORD



SWFWMD
TAMPA
DISTRICT

SWFWMD PERMIT SUBMITTAL - MARCH 2005

| REVISIONS | | | | | |
|-----------|----|-------------|------|----|-------------|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
| | | | | | |

HNTB
10210 HIGHLAND MANOR DR.
SUITE 140
TAMPA, FL. 33610
(813) 246-5527
CERT. OF AUTH. No. 6500
ALPHONSE J. STEWART, P.E., No. 38838

| STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION | | |
|--|--------------|----------------------|
| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
| S.R. 93 | HILLSBOROUGH | 258398-1-52-01 |

**I-275 SEGMENT 1A, STAGE 2
EXISTING DRAINAGE MAP (2)**

44002958 005

SHEET NO.
21

- 1 ENDWALL
24" RCP S. FL. = 0.00
- 2 ENDWALL
24" RCP N. FL. = 0.00
- 3* ENDWALL
24" RCP S. FL. = 0.00
- 4* JUNCTION BOX
TOP EL. = NO INFO
24" RCP N. FL. = 0.37
48" RCP E. FL. = -1.02
48" RCP W. FL. = -1.02
- 5 ENDWALL
24" RCP S. FL. = 3.03
- 6 ENDWALL
24" RCP E. FL. = 0.00
- 7 BARRIER WALL INLET
GRATE EL. = 10.75
15" RCP SW. FL. = 6.70
- 8 ENDWALL
24" RCP W. FL. = 0.20
- 9 SHOULDER GUTTER INLET
GRATE EL. = 23.90
15" CMP N. FL. = 21.00
- 10 ENDWALL
15" CMP S. FL. = 13.40
- 11 NOT USED
- 12 ENDWALL
15" RCP NE. FL. = 6.20
- 13 GRATE INLET
GRATE EL. = 5.20
18" RCP S. FL. = 3.20
- 14 ENDWALL
18" RCP N. FL. = 2.60
- 15 SHOULDER GUTTER INLET
GRATE EL. = 13.06
15" RCP S. FL. = 9.63
- 16 ENDWALL
15" CMP N. FL. = 4.00
- 17 SHOULDER GUTTER INLET
GRATE EL. = 22.19
15" RCP S. FL. = 19.40
- 18 ENDWALL
15" CMP N. FL. = 4.00
- 19 JUNCTION BOX
TOP EL. = 5.77
24" RCP N. FL. = NO INFO
48" RCP E. FL. = NO INFO
48" RCP W. FL. = NO INFO
- 20 ENDWALL
24" RCP S. FL. = 1.69
- 21 ENDWALL
18" RCP E. FL. = 1.65
- 22* GRATE INLET
GRATE EL. = 5.48
15" RCP E. FL. = 2.41
18" RCP W. FL. = 2.64
- 23 GRATE INLET
GRATE EL. = 6.06
15" RCP E. FL. = 3.15
15" RCP W. FL. = 3.16
10" RCP N. FL. = 3.14
- 24 GRATE INLET
GRATE EL. = 6.10
15" RCP NE. FL. = 3.79
15" RCP SE. FL. = 3.12
15" RCP W. FL. = 3.84
- 25 ENDWALL
30" RCP N. FL. = -0.20
- 26 ENDWALL
30" RCP S. FL. = 0.20
- 27 ENDWALL
15" CMP S. FL. = 4.20
- 28 GRATE INLET
GRATE EL. = 8.70
15" CMP N. FL. = 6.90
- 29 GRATE INLET
GRATE EL. = 3.60
36" RCP E. FL. = 0.00
36" RCP W. FL. = 0.00
- 30 GRATE INLET
GRATE EL. = 6.06
12" RCP SW FL. = 3.25
- 31 ENDWALL
42" RCP E. FL. = -1.10
- 32 GRATE INLET
GRATE EL. = 5.70
30" RCP N. FL. = 0.27
42" RCP SE. FL. = -0.90
42" RCP W. FL. = -0.90
- 33 GRATE INLET
GRATE EL. = 4.50
42" RCP NW. FL. = -0.80
42" RCP E. FL. = -0.80
- 34 MANHOLE
RIM EL. = 4.80
18" RCP N. FL. = 1.30
36" RCP E. FL. = -0.20
42" RCP W. FL. = -0.50
- 35 GRATE INLET
GRATE EL. = 5.99
15" RCP SE. FL. = 2.61
- 36 GRATE INLET
GRATE EL. = 4.60
36" RCP N. FL. = 0.30
24" RCP S. FL. = 1.30
36" RCP W. FL. = 0.30
- 37 ENDWALL
36" RCP S. FL. = 0.40
- 38 ENDWALL
24" RCP N. FL. = 1.40
- 39 MANHOLE
RIM EL. = 6.39
30" RCP N. FL. = 0.79
30" RCP S. FL. = 0.66
- 40 CURB INLET
GUTTER EL. = 6.22
15" RCP N. FL. = 1.54
30" RCP S. FL. = 1.54
24" RCP E. FL. = 1.79
- 41 CURB INLET
GUTTER EL. = 6.23
18" RCP N. FL. = 1.92
15" RCP S. FL. = 1.77
- 42 CURB INLET
GUTTER EL. = 6.95
24" RCP N. FL. = 2.08
24" RCP W. FL. = 1.90
- 43 CURB INLET
GUTTER EL. = 6.69
12" RCP NE. FL. = 2.47
24" RCP S. FL. = 1.91
- 44 GRATE INLET
GRATE EL. = 6.80
18" RCP N. FL. = 2.80
18" RCP S. FL. = 2.80
- 45 GRATE INLET
GRATE EL. = 7.06
18" RCP N. FL. = 3.00
18" RCP S. FL. = 3.00
- 46 GRATE INLET
GRATE EL. = 7.11
18" RCP S. FL. = 3.19
- 47 ENDWALL
15" RCP S. FL. = 4.00
- 48 SHOULDER GUTTER INLET
GRATE EL. = 9.18
15" RCP N. FL. = 5.99
- 49 ENDWALL
15" CMP SW. FL. = 4.00
- 50 SHOULDER GUTTER INLET
GRATE EL. = 14.61
15" CMP NE. FL. = 11.20
- 51 WEIR INLET
GRATE EL. = 5.00
WEIR E. EL. = 3.20
24" RCP W. FL. = 1.00
- 52 ENDWALL
24" RCP E. FL. = 0.90
- 53 ENDWALL
15" CMP NW. FL. = 4.00
- 54 SHOULDER GUTTER INLET
GRATE EL. = 21.00
15" CMP SE. FL. = 18.00
- 55 ENDWALL
24" RCP W. FL. = 1.50
- 56 MANHOLE
RIM EL. = 6.93
24" RCP N. FL. = 1.60
24" RCP SW. FL. = 1.60
- 57 ENDWALL
24" RCP NE. FL. = 1.08
- 58 ENDWALL
24" RCP SW. FL. = 2.00
- 59 ENDWALL
24" RCP N. FL. = 2.41
- 60 ENDWALL
24" RCP S. FL. = 2.46
- 61 MANHOLE
RIM EL. = 6.80
24" RCP NE. FL. = 1.78
24" RCP NW. FL. = 1.78
24" RCP S. FL. = 1.78
- 62 ENDWALL
24" RCP SE. FL. = 2.34
- 63 BARRIER WALL INLET
GRATE EL. = 7.80
24" RCP NE. FL. = 1.90
24" RCP SW. FL. = 1.90
- 64 ENDWALL
24" RCP SW. FL. = 2.00
- 65 ENDWALL
24" RCP E. FL. = 3.60
- 66 GRATE INLET
GRATE EL. = 6.20
15" CMP S. FL. = 3.61
24" RCP E. FL. = 3.61
24" RCP W. FL. = 3.61
- 67 GRATE INLET
GRATE EL. = 24.30
15" CMP N. FL. = 20.00
- 68 MANHOLE
RIM EL. = 7.80
24" RCP NE. FL. = 3.95
15" CMP SE. FL. = 3.95
24" RCP W. FL. = 3.95
- 69 SHOULDER GUTTER INLET
GRATE EL. = 16.50
15" CMP NW. FL. = 14.70
- 70 ENDWALL
24" RCP SW. FL. = 4.02
- 71 ENDWALL
15" CMP N. FL. = 5.60
- 72 SHOULDER GUTTER INLET
GRATE EL. = 22.40
15" CMP S. FL. = 19.40
- 73 ENDWALL
15" CMP N. FL. = 6.60
- 74 SHOULDER GUTTER INLET
GRATE EL. = 14.90
15" CMP S. FL. = 11.50
- 75 ENDWALL
15" CMP E. FL. = 11.70
- 76 SHOULDER GUTTER INLET
GRATE EL. = 42.50
15" CMP W. FL. = 38.00
- 77 ENDWALL
24" RCP E. FL. = 12.60
- 78 ENDWALL
24" RCP W. FL. = 13.00
- 79 ENDWALL
15" CMP E. FL. = 14.50
- 80 SHOULDER GUTTER INLET
GRATE EL. = 40.50
15" CMP W. FL. = 36.10
- 81 ENDWALL
15" CMP NE. FL. = 13.30
- 82 SHOULDER GUTTER INLET
GRATE EL. = 23.90
15" CMP SW. FL. = 19.20
- 83 CURB INLET
GUTTER EL. = 9.08
36" RCP N. FL. = 2.30
36" RCP S. FL. = 2.30
- 84 NOT USED
- 85 ENDWALL
15" RCP NE. FL. = 4.80
- 86 GRATE INLET
GRATE EL. = 10.80
15" RCP NE. FL. = 6.30
15" RCP SW. FL. = 6.30
- 87 SHOULDER GUTTER INLET
GRATE EL. = 13.10
15" RCP NE. FL. = 6.40
15" RCP SW. FL. = 6.40
- 88 GRATE INLET
GRATE EL. = 5.76
14"x23" RCP SE. FL. = 3.08
- 89 ENDWALL
14"x23" RCP NW. FL. = 2.88
- 90 ENDWALL
24" RCP NW. FL. = 4.40
- 91 ENDWALL
24" RCP SE. FL. = 4.20
- 92 ENDWALL
15" RCP E. FL. = 4.40
- 93 CURB INLET
GUTTER EL. = 9.25
15" RCP E. FL. = 5.11
15" RCP W. FL. = 5.11
- 94 BARRIER WALL INLET
GRATE EL. = 16.26
15" RCP W. FL. = 12.56
- 95 ENDWALL
DBL 10'x6' CBC W. FL. = 0.00
- 96 JUNCTION BOX
TOP EL. = 4.28
24" RCP NE. FL. = NO INFO
24" RCP S. FL. = NO INFO
- 97 ENDWALL
24" RCP N. FL. = 0.42
- 98 GRATE INLET
GRATE EL. = 6.30
36" RCP N. FL. = 2.40
24" RCP S. FL. = 2.40
24" RCP W. FL. = 3.80
- 99 ENDWALL
24" RCP E. FL. = 4.10
- 100 CURB INLET
GUTTER EL. = 8.20
24" RCP S. FL. = 2.90
- 101 CURB INLET
GUTTER EL. = 7.60
24" RCP N. FL. = 3.30
24" RCP SE. FL. = 3.30
- 102 BARRIER WALL INLET
GRATE EL. = 7.97
18" RCP E. FL. = 4.59
- 103 GRATE INLET
GRATE EL. = 6.00
24" RCP NW. FL. = 3.50
18" RCP E. FL. = 4.00
- 104 CURB INLET
GUTTER EL. = 7.22
18" RCP W. FL. = 4.30
- 105 ENDWALL
18" RCP SW. FL. = 4.40
- 106 CURB INLET
GUTTER EL. = 11.85
18" RCP N. FL. = 5.50
- 107 GRATE INLET
GRATE EL. = 10.20
18" RCP E. FL. = 6.00
- 108 BARRIER WALL INLET
GRATE EL. = 9.91
18" RCP NE. FL. = 4.60
18" RCP S. FL. = 4.60
18" RCP W. FL. = 4.60
- 109 ENDWALL
24" RCP NW. FL. = 4.30
- 110 ENDWALL
24" RCP SE. FL. = 4.50
- 111 SHOULDER GUTTER INLET
GRATE EL. = 25.74
15" CMP SW. FL. = 21.10
- 112 ENDWALL
15" CMP NE. FL. = 6.50
- 113 SHOULDER GUTTER INLET
GRATE EL. = 23.01
15" CMP SW. FL. = 18.10
- 114 ENDWALL
15" CMP NE. FL. = 13.30
- 115 CURB INLET
GUTTER EL. = 6.31
15" RCP NW. FL. = NO INFO
18" RCP S. FL. = NO INFO
- 116 ENDWALL
15" RCP NE. FL. = 4.00
- 117 CURB INLET
GUTTER EL. = 7.90
15" RCP SW. FL. = 4.20
- 118 ENDWALL
DBL 10'x6' CBC E. FL. = 0.00
- 119 CURB INLET
GUTTER EL. = 7.90
15" RCP NE. FL. = 4.10
15" RCP SW. FL. = 4.10



SWFWMD PERMIT SUBMITTAL - MARCH 2005

SOUTH FLORIDA WATER MANAGEMENT DISTRICT PERMITTED CONSTRUCTION DRAWINGS

FILE OF RECORD

44 002958.006

*NOTE: UNABLE TO VERIFY ** CURRENTLY UNDER CONSTRUCTION

| REVISIONS | | | | STATE OF FLORIDA | | | SHEET NO. | |
|--------------|----|-------------|------|--|-------------|-----|---|--|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION | NO. | | |
| | | | | | | | | |
| | | | | 10210 HIGHLAND MANOR DR. SUITE 140 TAMPA, FL. 33610 (813) 246-5527 CERT. OF AUTH. No. 6500 ALPHONSE J. STEWART, P.E., No. 38838 | | | DEPARTMENT OF TRANSPORTATION ROAD NO. COUNTY FINANCIAL PROJECT ID S.R. 93 HILLSBOROUGH 258398-1-52-01 | I-275 SEGMENT 1A, STAGE 2 EXISTING DRAINAGE MAP (3) |
| Imaged As Is | | | | | | | 22 | |

- 120 WEIR INLET
GRATE EL. = 3.70
WEIR EL. = 2.70
15" RCP E. FL. = 1.35
- 121 MANHOLE
RIM EL. = 6.40
48" RCP N. FL. = 0.10
48" RCP S. FL. = 0.10
- 122 CURB INLET
GUTTER EL. = 5.50
24" RCP N. FL. = 0.60
15" RCP E. FL. = 1.35
15" RCP W. FL. = 1.25
- 123 SHOULDER GUTTER INLET
GRATE EL. = 25.90
15" RCP NE. FL. = 21.80
15" RCP SW. FL. = 21.80
- 124 BARRIER WALL INLET
GRATE EL. = 26.90
15" RCP SW. FL. = 22.10
- 125 CURB INLET
GUTTER EL. = 6.54
15" RCP SW. FL. = 4.70
- 126 ENDWALL
15" RCP NE. FL. = 4.60
- 127 MANHOLE
RIM EL. = 6.60
18" RCP N. FL. = 0.30
48" RCP S. FL. = 0.30
48" RCP E. FL. = 0.30
18" RCP W. FL. = 1.80
- 128 CURB INLET
GUTTER EL. = 5.50
15" RCP E. FL. = 1.65
15" RCP W. FL. = 1.65
- 129 WEIR INLET
GRATE EL. = 4.00
WEIR EL. = 3.00
15" RCP E. FL. = 1.75
- 130 CURB INLET
GUTTER EL. = 4.90
48" RCP N. FL. = -1.50
24" RCP S. FL. = -0.30
- 131 GRATE INLET
GRATE EL. = 6.00
18" RCP N. FL. = 2.90
18" RCP S. FL. = 1.90
15" RCP SW. FL. = 1.90
- 132 SHOULDER GUTTER INLET
GRATE EL. = 24.50
18" RCP N. FL. = 20.20
18" RCP S. FL. = 20.20
- 133 BARRIER WALL INLET
GRATE EL. = 24.00
18" RCP S. FL. = 20.50
- 134 CURB INLET
GUTTER EL. = 5.90
18" RCP E. FL. = 0.80
18" RCP W. FL. = 0.80
- 135 GRATE INLET
GRATE EL. = 5.00
18" RCP E. FL. = 0.90
18" RCP W. FL. = 0.90
- 136 MANHOLE
RIM EL. = 6.80
38"x60" RCP N. FL. = 0.40
15" RCP SE. FL. = 2.85
18" RCP E. FL. = 0.70
48" RCP W. FL. = 0.40
- 137 CURB INLET
GUTTER EL. = 6.00
15" RCP E. FL. = 1.90
15" RCP W. FL. = 1.90
- 138 MANHOLE
RIM EL. = 7.00
48" RCP N. FL. = 0.50
38"x60" RCP S. FL. = 0.50
15" RCP E. FL. = 1.80
- 139 MANHOLE
RIM EL. = 7.20
36" RCP NE. FL. = 2.70
24"x38" RCP NW. FL. = 2.70
48" RCP SE. FL. = 0.70
- 140 CURB INLET
GUTTER EL. = 6.86
36" RCP NE. FL. = 2.80
36" RCP SW. FL. = 2.80
- 141 CURB INLET
GUTTER EL. = 7.10
24"x38" RCP NW. FL. = 2.90
24" RCP NE. FL. = 2.90
24"x38" RCP SW. FL. = 2.90
- 142 ENDWALL
24" RCP SW. FL. = 3.93
- 143 ENDWALL
36" RCP SW. FL. = 3.00
- 144 GRATE INLET
GRATE EL. = 6.20
18" RCP SE. FL. = 3.50
18" RCP E. FL. = 3.50
- 145 SHOULDER GUTTER INLET
GRATE EL. = 8.10
18" RCP NW. FL. = 3.60
18" RCP SE. FL. = 3.60
18" RCP SW. FL. = 3.60
- 146 CURB INLET
GUTTER EL. = 6.95
24" RCP NW. FL. = 3.43
24"x38" RCP SE. FL. = 3.43
18" RCP W. FL. = 3.43
- 147 CURB INLET
GUTTER EL. = 7.28
24" RCP SE. FL. = 3.60
- 148 CURB INLET
GUTTER EL. = 8.30
18" RCP S. FL. = 4.40
- 149 CURB INLET
GUTTER EL. = 6.35
18" RCP N. FL. = NO INFO
24" RCP SW. FL. = NO INFO
- 150 SHOULDER GUTTER INLET
GRATE EL. = 14.30
18" RCP NE. FL. = 9.50
- 151 BARRIER WALL INLET
GRATE EL. = 8.23
18" RCP N. FL. = 4.96
- 152 BARRIER WALL INLET
GRATE EL. = 8.25
18" RCP N. FL. = 4.28
18" RCP S. FL. = 4.48
- 153 PIPE INLET
14"x23" RCP NW. FL. = 5.17
- 154 PIPE INLET
14"x23" RCP SE. FL. = 5.34
- 155 CURB INLET
GUTTER EL. = 10.17
18" RCP S. FL. = 5.25
- 156* CURB INLET
GUTTER EL. = 7.73
18" RCP E. FL. = 3.42
- 157* CURB INLET
GUTTER EL. = 7.57
24" RCP N. FL. = 3.10
30" RCP S. FL. = 3.10
18" RCP W. FL. = 3.10
- 158 CURB INLET
GUTTER EL. = 8.77
18" RCP N. FL. = 4.20
- 159 GRATE INLET
GRATE EL. = 8.42
18" RCP S. FL. = 4.13
24" RCP E. FL. = 3.48
24" RCP W. FL. = 3.27
- 160 MANHOLE
RIM EL. = 8.09
18" RCP N. FL. = 3.20
24" RCP S. FL. = 3.20
24" RCP E. FL. = 3.20
- 161 CURB INLET
GUTTER EL. = 8.58
18" RCP S. FL. = 3.24
15" RCP W. FL. = 3.24
- 162 CURB INLET
GUTTER EL. = 8.51
15" RCP E. FL. = 4.01
- 163 MANHOLE
RIM EL. = 8.73
15" RCP E. FL. = 3.27
15" RCP W. FL. = 3.27
- 164 ENDWALL
36" RCP S. FL. = 3.00
- 165 BARRIER WALL INLET
GRATE EL. = 16.40
36" RCP N. FL. = 2.97
36" RCP S. FL. = 2.97
- 166 GRATE INLET
GRATE EL. = 14.09
18" RCP N. FL. = 9.26
18" RCP S. FL. = 9.19
- 167 GRATE INLET
GRATE EL. = 14.07
18" RCP N. FL. = 9.18
18" RCP S. FL. = 9.26
- 168 ENDWALL
18" RCP N. FL. = 20.24
- 169 MANHOLE
RIM EL. = 10.50
18" RCP N. FL. = 4.66
18" RCP S. FL. = 4.66
14"x23" RCP E. FL. = 4.66
- 170 ENDWALL
36" RCP S. FL. = 2.20
- 171 MANHOLE
RIM EL. = 6.00
36" RCP N. FL. = 1.40
36" RCP W. FL. = -0.40
- 172 CURB INLET
GUTTER EL. = 5.20
15" RCP S. FL. = 0.50
36" RCP E. FL. = -0.60
36" RCP W. FL. = -0.60
- 173 CURB INLET
GUTTER EL. = 5.10
15" RCP N. FL. = 0.60
- 174 MANHOLE
RIM EL. = 5.58
42" RCP S. FL. = -0.80
36" RCP E. FL. = -0.80
30" RCP W. FL. = 0.00
- 175 CURB INLET
GUTTER EL. = 5.20
42" RCP N. FL. = -0.90
42" RCP S. FL. = -0.90
15" RCP E. FL. = 0.80
- 176 CURB INLET
GUTTER EL. = 5.20
15" RCP W. FL. = 1.00
- 177 ENDWALL
18" RCP NE. FL. = 3.94
- 178 CURB INLET
GUTTER EL. = 9.19
18" RCP NW. FL. = 4.17
18" RCP SW. FL. = 4.17
14"x23" RCP E. FL. = 4.17
- 179 CURB INLET
GUTTER EL. = 7.80
14"x23" RCP E. FL. = 4.36
14"x23" RCP W. FL. = 4.36
- 180 ENDWALL
15" RCP N. FL. = 7.95
- 181 SHOULDER GUTTER INLET
GRATE EL. = 12.80
15" RCP S. FL. = 7.98
- 182 ENDWALL
15" CMP N. FL. = 7.00
- 183 SHOULDER GUTTER INLET
GRATE EL. = 21.23
15" CMP S. FL. = 17.40
- 184 ENDWALL
15" CMP S. FL. = 8.90
- 185 BARRIER WALL INLET
GRATE EL. = 22.00
15" CMP N. FL. = 17.37
- 186 NOT USED
- 187 ENDWALL
18" RCP N. FL. = 9.10
- 188 ENDWALL
36" RCP N. FL. = 3.63
- 189** CURB INLET
GUTTER EL. = 28.70
15" RCP S. FL. = 24.94
- 190 ENDWALL
24" RCP S. FL. = 4.80
- 191 GRATE INLET
GRATE EL. = 7.74
24" RCP N. FL. = 4.90
- 192** CURB INLET
GUTTER EL. = 28.62
15" RCP N. FL. = 23.80
24"x38" CMP E. FL. = 23.38
29"x45" CMP W. FL. = 23.18
- 193** GRATE INLET
GRATE EL. = 27.04
24" RCP S. FL. = 24.28
- 194** MANHOLE
RIM EL. = 27.80
24" RCP N. FL. = 24.25
24" RCP S. FL. = 24.28
- 195** GRATE INLET
GRATE EL. = 27.57
19"x30" RCP N. FL. = 24.62
- 196** JUNCTION BOX
TOP EL. = NO INFO
24" RCP N. FL. = 23.20
19"x30" RCP S. FL. = 23.60
30"x42" RCP E. FL. = 22.80
DBL. 24" RCP W. FL. = 22.80
- 197** WEIR INLET
GRATE EL. = 25.94
WEIR EL. = 23.82
18" RCP E. FL. = 23.43
- 198** MANHOLE
RIM EL. = 27.08
18" RCP N. FL. = 21.48
18" RCP S. FL. = 21.78
18" RCP E. FL. = 22.80
- 199** MANHOLE
RIM EL. = 27.88
36" RCP N. FL. = 21.18
36" RCP S. FL. = 21.02
- 200 MANHOLE
RIM EL. = 7.69
18" RCP N. FL. = 2.50
18" RCP S. FL. = 2.50
24" RCP W. FL. = 2.50
- 201 CURB INLET
GUTTER EL. = 7.81
18" RCP N. FL. = 2.62
- 202 CURB INLET
GUTTER EL. = 7.79
15" RCP N. FL. = 2.63
14"x23" RCP S. FL. = 2.65
- 203** CURB INLET
GUTTER EL. = 28.05
36" RCP N. FL. = 21.17
36" RCP S. FL. = 21.18
- 204 MANHOLE
RIM EL. = 7.55
18" RCP N. FL. = 2.14
18" RCP S. FL. = 2.10
24" RCP E. FL. = 2.00
29"x45" RCP W. FL. = 2.00
- 205 CURB INLET
GUTTER EL. = 7.39
18" RCP S. FL. = 2.19
- 206 CURB INLET
GUTTER EL. = 7.19
18" RCP N. FL. = 2.75
- 207** JUNCTION BOX
TOP EL. = 27.20
36" RCP N. FL. = 21.33
18" RCP S. FL. = 21.40
DBL. 24" RCP E. FL. = 22.70
24" RCP W. FL. = 22.85
- 208 MANHOLE
RIM EL. = 8.69
29"x45" RCP S. FL. = 1.64
29"x45" RCP E. FL. = 2.24
18" RCP W. FL. = 1.54
- 209 CURB INLET
GUTTER EL. = 7.00
12"x18" RCP S. FL. = 1.90
- 210 CURB INLET
GUTTER EL. = 7.55
12" RCP N. FL. = 2.64
- 211 MANHOLE
RIM EL. = 7.69
12"x18" RCP N. FL. = 1.80
12" RCP S. FL. = 2.61
18" RCP E. FL. = 1.80
- 212 MANHOLE
RIM EL. = 7.96
18" RCP N. FL. = 1.36
36" RCP S. FL. = 2.56
24"x38" RCP E. FL. = 1.48
- 213 MANHOLE
RIM EL. = 7.76
36" RCP N. FL. = 0.70
36" RCP S. FL. = 0.90
30" RCP E. FL. = 0.90
- 214 ENDWALL
36" RCP N. FL. = 0.80
- 215 MANHOLE
RIM EL. = 7.43
24"x38" RCP S. FL. = 0.93
24"x38" RCP W. FL. = 0.68
- 216 MANHOLE
RIM EL. = 7.89
24"x38" RCP N. FL. = 0.60
30" RCP W. FL. = 0.80
- 217 MANHOLE
RIM EL. = 9.34
24" RCP N. FL. = 2.50
24" RCP E. FL. = 2.50
- 218 GRATE INLET
GRATE EL. = 8.29
34"x53" RCP N. FL. = 2.40
34"x53" RCP S. FL. = 2.40
24" RCP W. FL. = 2.40
- 219 ENDWALL
34"x53" RCP N. FL. = 2.61
- 220 CURB INLET
GUTTER EL. = 8.85
14"x23" RCP S. FL. = 5.00
- 221 MANHOLE
RIM EL. = 9.01
14"x23" RCP N. FL. = 4.80
34"x53" RCP S. FL. = 4.80
36" RCP E. FL. = 4.80
36" RCP W. FL. = 4.80
- 222** ENDWALL
24" RCP E. FL. = 22.50
- 223 MANHOLE
RIM EL. = 9.32
34"x53" RCP N. FL. = 3.17
34"x53" RCP S. FL. = 2.58
24" RCP W. FL. = 2.70

*NOTE: UNABLE TO VERIFY **CURRENTLY UNDER CONSTRUCTION



SWFWMD PERMIT SUBMITTAL - MARCH 2005

FILE OF RECORD
44002958.006

| REVISIONS | | | | | |
|-----------|----|-------------|------|----|-------------|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
| | | | | | |

HNTB 10210 HIGHLAND MANOR DR. SUITE 140 TAMPA, FL. 33610 (813) 246-5527 CERT. OF AUTH. No. 6500 ALPHONSE J. STEWART, P.E., No. 38838

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

| | | |
|----------|--------------|----------------------|
| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
| S.R. 93 | HILLSBOROUGH | 258398-1-52-01 |

I-275 SEGMENT 1A, STAGE 2 EXISTING DRAINAGE MAP (4)

SHEET NO. **23**

- 224 GRATE INLET
GRATE EL. = 8.78
34"x53" RCP N. FL. = 2.70
34"x53" RCP S. FL. = 2.70
- 225 CURB INLET
GUTTER EL. = 38.18
15" RCP N. FL. = NO INFO
- 226 MANHOLE
RIM EL. = 33.97
15" CMP S. FL. = 26.94
48" RCP E. FL. = 21.72
48" RCP W. FL. = 21.61
- 227 MANHOLE
RIM EL. = 8.88
60" RCP N. FL. = 1.05
60" RCP SW. FL. = 1.05
- 228 MANHOLE
RIM EL. = 8.75
60" RCP NE. FL. = 0.90
60" RCP SE. FL. = 0.90
- 229 MANHOLE
RIM EL. = 8.97
60" RCP NW. FL. = 1.02
36" RCP E. FL. = 2.50
- 230 MANHOLE
RIM EL. = 9.12
24" RCP S. FL. = 2.60
24" RCP E. FL. = 2.34
- 231 GRATE INLET
GRATE EL. = 6.56
15"x23" RCP W. FL. = 4.46
- 232 CURB INLET
GUTTER EL. = 11.44
42" RCP N. FL. = 3.55
42" RCP S. FL. = 3.55
24" RCP E. FL. = 3.55
- 233 GRATE INLET
GRATE EL. = 11.91
24" RCP E. FL. = 8.13
- 234 MANHOLE
RIM EL. = 10.95
42" RCP N. FL. = 2.95
42" RCP S. FL. = 2.95
- 235 MANHOLE
RIM EL. = 11.29
42" RCP N. FL. = 2.91
54" RCP S. FL. = 2.74
54" RCP E. FL. = 2.74
- 236 CURB INLET
GUTTER EL. = 11.31
54" RCP E. FL. = 2.61
54" RCP W. FL. = 3.21
- 237 MANHOLE
RIM EL. = 11.63
18" RCP S. FL. = 6.20
54" RCP E. FL. = 2.65
54" RCP W. FL. = 2.65
- 238 CURB INLET
GUTTER EL. = 11.40
18" RCP E. FL. = 6.70
24" RCP W. FL. = 6.70
- 239 GRATE INLET
GRATE EL. = 6.62
15"x23" RCP SW. FL. = 4.50
- 240 CURB INLET
GUTTER EL. = 10.77
54" RCP N. FL. = 2.83
48"x76" RCP S. FL. = 2.92
15" RCP E. FL. = 3.64
- 241 CURB INLET
GUTTER EL. = 10.75
15" RCP W. FL. = 3.80
- 242 CURB INLET
GUTTER EL. = 9.86
48"x76" RCP N. FL. = 2.47
48"x76" RCP S. FL. = 2.60
36" RCP E. FL. = 2.43
- 243 CURB INLET
GUTTER EL. = 10.11
36" RCP E. FL. = 2.90
36" RCP W. FL. = 2.80
- 244 MANHOLE
RIM EL. = 10.39
24" RCP E. FL. = 3.40
36" RCP W. FL. = 3.05
- 245 GRATE INLET
GRATE EL. = 10.16
24" RCP N. FL. = 4.50
36" RCP W. FL. = 4.50
- 246 GRATE INLET
GRATE EL. = 10.34
24" RCP N. FL. = 5.00
24" RCP S. FL. = 5.00
- 247 GRATE INLET
GRATE EL. = 10.65
24" RCP N. FL. = 4.90
24" RCP S. FL. = 4.90
- 248 MANHOLE
RIM EL. = 10.63
48"x76" RCP N. FL. = 2.40
48"x76" RCP S. FL. = 2.40
18" RCP NW. FL. = 7.50
- 249 NOT USED
- 250 ENDWALL
24" RCP SE. FL. = 4.11
- 251 GRATE INLET
GRATE EL. = 6.94
15" RCP SE. FL. = 4.54
18" RCP SW. FL. = 4.47
- 252 ENDWALL
15" RCP SW. FL. = 6.10
- 253 ENDWALL
18" RCP S. FL. = 6.00
- 254 GRATE INLET
GRATE EL. = 9.28
36" RCP E. FL. = 2.55
36" RCP W. FL. = 2.50
- 255 CURB INLET
GUTTER EL. = 9.84
18" RCP E. FL. = 7.22
- 256 MANHOLE
RIM EL. = 9.95
48"x76" RCP N. FL. = 2.24
48"x76" RCP S. FL. = 2.25
18" RCP E. FL. = 5.76
15" RCP W. FL. = 5.93
- 257 ENDWALL
12" CMP W. FL. = 8.85
- 258 CONCRETE BOX CULVERT
12"x6' E. & W. FL. = 1.80
- 259 MANHOLE
RIM EL. = 10.45
Dbl. 43"x68" RCP N. FL. = 1.85
8'x4' CBC SW. FL. = 1.85
- 260 CONCRETE BOX CULVERT
26.4'x7.5' E. & W. FL. = 1.80
- 261 MANHOLE
RIM EL. = 10.09
15" RCP S. FL. = 5.34
15" RCP W. FL. = 4.19
- 262 CURB INLET
GUTTER EL. = 9.66
15" RCP N. FL. = 6.06
- 263 ENDWALL
30" RCP N. FL. = 5.20
- 264 GRATE INLET
GRATE EL. = 10.71
30" RCP N. FL. = 5.50
30" RCP S. FL. = 5.50
- 265 CURB INLET
GUTTER EL. = 9.70
48"x76" RCP N. FL. = 2.30
48"x76" RCP S. FL. = 2.30
36" RCP E. FL. = 3.40
- 266 CURB INLET
GUTTER EL. = 35.88
18" RCP N. FL. = 31.10
18" RCP W. FL. = 31.10
- 267 CURB INLET
GUTTER EL. = 10.99
12" CMP W. FL. = 8.71
- 268 GRATE INLET
GRATE EL. = 12.04
36" RCP S. FL. = 1.91
- 269 ENDWALL
12" CMP E. FL. = 8.60
- 270 CURB INLET
GUTTER EL. = 10.31
18" RCP N. FL. = 6.41
- 271 ENDWALL
12" CMP E. FL. = 8.78
- 272 GRATE INLET
GRATE EL. = 10.05
12" RCP E. FL. = 8.22
15" RCP W. FL. = 8.15
- 273 CURB INLET
GUTTER EL. = 9.66
12" RCP N. FL. = 8.67
15" RCP SW. FL. = 7.51
48" RCP E. FL. = 8.27
- 274 CURB INLET
GUTTER EL. = 10.45
15" RCP NE. FL. = 6.46
15" RCP S. FL. = 6.35
- 275 MANHOLE
RIM EL. = 9.28
15" RCP NE. FL. = 6.77
29"x45" RCP S. FL. = 7.09
15" RCP W. FL. = 7.40
- 276 CURB INLET
GUTTER EL. = 10.51
18" RCP W. FL. = 4.60
- 277 MANHOLE
RIM EL. = 10.90
24" RCP N. FL. = 4.18
24" RCP S. FL. = 4.21
24" RCP E. FL. = 4.36
- 278 CURB INLET
GUTTER EL. = 8.47
24" RCP N. FL. = 4.45
15" RCP E. FL. = 5.40
15" RCP W. FL. = 5.92
- 279 MANHOLE
RIM EL. = 8.60
15" RCP S. FL. = 5.11
18" RCP E. FL. = 5.11
- 280 WEIR INLET
GRATE EL. = 7.40
WEIR EL. = 6.79
15" RCP N. FL. = 5.25
- 281 CURB INLET
GUTTER EL. = 8.41
18" RCP S. FL. = 5.20
15" RCP E. FL. = 5.24
15" RCP W. FL. = 5.17
- 282 WEIR INLET
GRATE EL. = 7.05
WEIR EL. = 6.41
15" RCP NW. FL. = 4.95
- 283 CURB INLET
GUTTER EL. = 9.26
18" RCP N. FL. = 4.68
18" RCP S. FL. = 5.22
15" RCP W. FL. = 4.92
- 284 CURB INLET
GUTTER EL. = 9.40
15" RCP E. FL. = 5.60
- 285 CURB INLET
GUTTER EL. = 8.81
18" RCP N. FL. = 5.12
15" RCP W. FL. = 5.19
- 286 CURB INLET
GUTTER EL. = 8.84
15" RCP E. FL. = 5.00
- 287 CONCRETE BOX CULVERT
12"x6' E. & W. FL. = 1.80
- 288 CURB INLET
GUTTER EL. = 10.50
18" RCP E. FL. = 7.75
- 289 GRATE INLET
GRATE EL. = 10.38
18" RCP S. FL. = 7.16
18" RCP E. FL. = 7.16
- 290 CURB INLET
GUTTER EL. = 10.70
15" RCP E. FL. = 7.21
- 291 CURB INLET
GUTTER EL. = 10.12
15" RCP W. FL. = 7.02
- 292 MANHOLE
RIM EL. = 10.63
18" RCP N. FL. = 6.68
18" RCP S. FL. = 6.73
15" RCP E. FL. = 6.63
15" RCP W. FL. = 6.68
- 293 GRATE INLET
GRATE EL. = 8.91
15" RCP E. FL. = 6.31
- 294 CURB INLET
GUTTER EL. = 9.57
15" RCP SW. FL. = 6.30
12" RCP E. FL. = 7.33
- 295 GRATE INLET
GRATE EL. = 8.28
15" RCP SE. FL. = 6.26
- 296 MANHOLE
RIM EL. = 8.63
15" RCP NW. FL. = 6.16
15" RCP S. FL. = 4.94
- 297 MANHOLE
RIM EL. = 8.34
15" RCP N. FL. = 4.44
19"x30" RCP E. FL. = 4.50
19"x30" RCP W. FL. = 4.36
- 298 ENDWALL
15" RCP N. FL. = 6.90
- 299 MANHOLE
RIM EL. = 10.75
18" RCP N. FL. = 6.35
18" RCP S. FL. = 6.35
15" RCP E. FL. = 7.47
- 300 GRATE INLET
GRATE EL. = 10.60
15" RCP S. FL. = 6.30
18" RCP W. FL. = 6.30
- 301 GRATE INLET
GRATE EL. = 11.51
15" RCP N. FL. = 6.41
15" RCP S. FL. = 6.59
18" RCP W. FL. = 7.28
- 302 MANHOLE
RIM EL. = 10.40
18" RCP N. FL. = 5.38
18" RCP S. FL. = 5.20
18" RCP E. FL. = 5.86
- 303 WEIR INLET
GRATE EL. = 9.44
WEIR EL. = 8.75
15" RCP N. FL. = 7.00
- 304 CURB INLET
GUTTER EL. = 37.95
15" RCP S. FL. = 35.27
- 305 GRATE INLET
GRATE EL. = 32.84
15" RCP N. FL. = 29.54
15" RCP S. FL. = 28.59
15" RCP E. FL. = 30.24
15" RCP W. FL. = 28.84
- 306 ENDWALL
15" RCP W. FL. = 30.60
- 307 MANHOLE
RIM EL. = 33.63
12"x18" RCP S. FL. = 29.21
12"x18" RCP E. FL. = 29.21
- 308 CURB INLET
GUTTER EL. = 9.05
18" RCP SE. FL. = 5.78
- 309 CURB INLET
GUTTER EL. = 8.60
18" RCP NW. FL. = 5.39
14"x23" RCP E. FL. = 5.48
- 310 MANHOLE
RIM EL. = 8.69
29"x45" RCP N. FL. = 4.19
29"x45" RCP S. FL. = 4.02
14"x23" RCP SW. FL. = 5.43
19"x30" RCP E. FL. = 4.05
- 311 ENDWALL
24" RCP S. FL. = 0.00
- 312 MANHOLE
RIM EL. = 11.85
18" RCP N. FL. = 5.72
30" RCP S. FL. = 5.14
18" RCP E. FL. = 5.88
18" RCP W. FL. = 5.30
- 313 CURB INLET
GUTTER EL. = 11.54
18" RCP S. FL. = 7.69
- 314 NOT USED
- 315 MANHOLE
RIM EL. = 11.72
30" RCP N. FL. = 7.26
30" RCP S. FL. = 8.26
18" RCP E. FL. = 7.15
- 316 CURB INLET
GUTTER EL. = 11.83
18" RCP N. FL. = NO INFO
18" RCP W. FL. = NO INFO
- 317 MANHOLE
RIM EL. = 8.63
18" RCP N. FL. = 5.00
18" RCP SE. FL. = 5.00
19"x30" RCP W. FL. = 5.00
- 318 GRATE INLET
GRATE EL. = 7.68
18" RCP SW. FL. = 5.30
- 319 GRATE INLET
GRATE EL. = 8.31
18" RCP NW. FL. = 5.61
- 320 GRATE INLET
GRATE EL. = 8.50
18" RCP N. FL. = 6.41
- 321 BARRIER WALL INLET
GRATE EL. = 11.80
18" RCP N. FL. = 6.20
18" RCP S. FL. = 6.20
- 322 BARRIER WALL INLET
GRATE EL. = 12.00
18" RCP NW. FL. = 7.10
- 323 SPECIAL INLET
TOP EL. = 10.00
18" RCP SE. FL. = 6.85
Dbl. 84" CMP E. FL. = 2.10
- 324 SPECIAL INLET
TOP EL. = 11.00
48"x76" RCP N. FL. = 4.17
Dbl. 84" CMP W. FL. = 3.30
- 325 MANHOLE
RIM EL. = 12.43
18" RCP N. FL. = 4.93
48" RCP NW. FL. = 4.93
48" RCP NE. FL. = 4.93
48"x76" RCP S. FL. = 4.93



SWFWMD PERMIT SUBMITTAL - MARCH 2005

SOUTH WEST FLORIDA WATER MANAGEMENT DISTRICT
PROHIBITED CONSTRUCTION
DRAWINGS
FILE OF RECORD

4 002958.006

Imaged As is

* UNABLE TO VERIFY **CURRENTLY UNDER CONSTRUCTION

| REVISIONS | | | | | | DATE | BY | DESCRIPTION | DR. | STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION | | | SHEET NO. |
|-----------|----|-------------|------|----|-------------|------|----|-------------|-----|--|--------|----------------------|-----------|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION | | | | | ROAD NO. | COUNTY | FINANCIAL PROJECT ID | |
| | | | | | | | | | | | | | 24 |

ALPHONSE J. STEWART, P.E., No. 38838

Received
2005
SOUTH FLORIDA WATER
MANAGEMENT DISTRICT
TAMPA

SWFWMD PERMIT SUBMITTAL - MARCH 2005

- 326 GRATE INLET
GRATE EL. = 11.63
48" RCP SE. FL. = 5.33
48" RCP W. FL. = 5.33
- 327 GRATE INLET
GRATE EL. = 11.19
18" RCP S. FL. = 6.59
- 328 GRATE INLET
GRATE EL. = 11.80
48" RCP SW. FL. = 5.21
48" RCP E. FL. = 5.23
- 329 CURB INLET
GUTTER EL. = 11.76
18" RCP W. FL. = 7.53
- 330 CURB INLET
GUTTER EL. = 12.21
15" RCP W. FL. = 7.71
- 331 MANHOLE
RIM EL. = 11.87
48"x76" RCP N. FL. = 4.95
48"x76" RCP S. FL. = 4.37
15" RCP E. FL. = 6.55
- 332 BARRIER WALL INLET
GRATE EL. = 11.25
18" RCP N. FL. = 9.20
- 333 NOT USED
- 334 CURB INLET
GUTTER EL. = 13.68
15" RCP NE. FL. = 10.49
18" RCP W. FL. = 10.05
- 335 MANHOLE
RIM EL. = 13.82
36" RCP N. FL. = 7.40
34"x53" RCP S. FL. = 7.40
18" RCP E. FL. = 8.50
- 336 CURB INLET
GUTTER EL. = 13.62
18" RCP W. FL. = 9.32
- 337 CURB INLET
GUTTER EL. = 13.86
18" RCP NE. FL. = 8.94
- 338 MANHOLE
RIM EL. = 14.01
38"x60" RCP N. FL. = 7.25
38"x60" RCP S. FL. = 6.92
18" RCP SW. FL. = 8.16
- 339 MANHOLE
RIM EL. = 14.14
34"x53" RCP N. FL. = 7.05
38"x60" RCP S. FL. = 6.87
- 340 NOT USED
- 341 NOT USED
- 342 GRATE INLET
GRATE EL. = 13.61
36" RCP N. FL. = 7.87
18" RCP S. FL. = 8.47
18" RCP E. FL. = 7.84
- 343 NOT USED
- 344 NOT USED
- 345 CURB INLET
GUTTER EL. = 14.63
18" RCP N. FL. = 9.30
18" RCP E. FL. = 9.27
18" RCP W. FL. = 9.43
- 346 CURB INLET
GUTTER EL. = 14.73
18" RCP S. FL. = 9.70
- 347 WEIR INLET
GRATE EL. = 17.33
WEIR EL. = 16.36
15" RCP N. FL. = 12.83
- 348 MANHOLE
RIM EL. = 15.30
15" RCP S. FL. = 11.01
18" RCP E. FL. = 11.01
18" RCP W. FL. = 11.01
- 349 MANHOLE
RIM EL. = 17.69
18" RCP S. FL. = 12.55
18" RCP W. FL. = 12.48
- 350 MANHOLE
RIM EL. = 17.53
18" RCP N. FL. = 13.39
18" RCP S. FL. = 13.40
15" RCP E. FL. = 13.50
- 351 JUNCTION BOX
NOT ACCESSIBLE
- 352 WEIR INLET
GRATE EL. = 17.69
WEIR EL. = 17.02
15" RCP W. FL. = 14.19
- 353 CURB INLET
GUTTER EL. = 17.46
12" RCP NW. FL. = 14.25
12" RCP SE. FL. = 14.64
- 354 GRATE INLET
GRATE EL. = 17.37
12" RCP NW. FL. = 15.18
- 355 CURB INLET
GUTTER EL. = 17.77
15" RCP W. FL. = 14.29
- 356 MANHOLE
RIM EL. = 17.46
18" RCP N. FL. = 13.63
18" RCP S. FL. = 13.70
15" RCP E. FL. = 13.68
- 357 CURB INLET
GUTTER EL. = 17.81
12" RCP N. FL. = 14.60
15" RCP S. FL. = 14.18
18" RCP W. FL. = 13.99
- 358 GRATE INLET
GRATE EL. = 17.34
12" RCP S. FL. = 15.21
- 359 CURB INLET
GUTTER EL. = 18.02
15" RCP N. FL. = 14.62
15" RCP E. FL. = 14.78
- 360 CURB INLET
GUTTER EL. = 17.85
15" RCP E. FL. = 14.27
- 361 MANHOLE
RIM EL. = 17.60
18" RCP N. FL. = 13.91
15" RCP E. FL. = 13.95
15" RCP W. FL. = 13.94
- 362 CURB INLET
GUTTER EL. = 16.98
18" RCP N. FL. = 12.13
18" RCP E. FL. = 12.17
- 363 ENDWALL
54" RCP N. FL. = 8.40
- 364 ENDWALL
18" RCP S. FL. = 17.20
- 365 SHOULDER GUTTER INLET
GRATE EL. = 28.30
18" RCP N. FL. = 24.30
- 366 ENDWALL
18" RCP S. FL. = 12.51
- 367 GRATE INLET
GRATE EL. = 14.75
18" RCP N. FL. = 12.55
- 368 MANHOLE
RIM EL. = 17.11
54" RCP N. FL. = 9.28
54" RCP S. FL. = 9.28
- 369 CURB INLET
GUTTER EL. = 17.19
15" RCP SW. FL. = 12.50
- 370 CURB INLET
GUTTER EL. = 16.74
15" RCP SE. FL. = 11.33
- 371 WEIR INLET
GRATE EL. = 16.58
WEIR EL. = 14.38
15" RCP NW. FL. = 10.35
24" CMP E. FL. = 11.93
6" PVC E. FL. = 10.84
- 372 MANHOLE
RIM EL. = 16.93
54" RCP N. FL. = 9.21
15" RCP NE. FL. = 9.25
15" RCP NW. FL. = 9.94
54" RCP S. FL. = 8.85
15" RCP SE. FL. = 9.25
- 373 MANHOLE
RIM EL. = 18.51
15" RCP NE. FL. = 14.85
15" RCP SE. FL. = 14.79
15" RCP S. FL. = 14.66
- 374 CURB INLET
GUTTER EL. = 18.33
15" RCP E. FL. = 14.41
- 375 CURB INLET
GUTTER EL. = 18.32
15" RCP N. FL. = 14.07
18" RCP S. FL. = 14.11
15" RCP W. FL. = 13.93
- 376 CURB INLET
GUTTER EL. = 17.88
15" RCP E. FL. = 14.23
- 377 MANHOLE
RIM EL. = 18.27
18" RCP N. FL. = 13.96
18" RCP S. FL. = 13.73
15" RCP E. FL. = 13.92
15" RCP W. FL. = 13.78
- 378 CURB INLET
GUTTER EL. = 18.24
15" RCP NW. FL. = 13.82
- 379 CURB INLET
GUTTER EL. = 18.80
15" RCP SW. FL. = 15.00
- 380 CONCRETE BOX CULVERT
12'x6' E. FL. = 7.84
12'x6' W. FL. = 7.62
- 381 CURB INLET & ENDWALL
GUTTER EL. = 17.19
12" RCP NE. FL. = 14.17
12" EW SW. FL. = 13.99
- 382 CURB INLET
GUTTER EL. = 17.09
15" RCP W. FL. = 12.99
- 383 CURB INLET
GUTTER EL. = 17.43
15" RCP E. FL. = 12.89
15" RCP W. FL. = 12.85
- 384 CURB INLET
GUTTER EL. = 17.47
24" RCP N. FL. = 11.97
18" RCP S. FL. = 12.07
15" RCP E. FL. = 12.02
- 385 CURB INLET
GUTTER EL. = 16.84
24" RCP NW. FL. = 11.79
24" RCP S. FL. = 11.79
- 386 ENDWALL
24" RCP SE. FL. = 11.60
- 387 CURB INLET
GUTTER EL. = 17.03
15" RCP S. FL. = 12.62
18" RCP E. FL. = 12.23
18" RCP W. FL. = 12.10
- 388 CURB INLET
GUTTER EL. = 16.36
15" RCP N. FL. = 12.81
- 389 WEIR INLET
GRATE EL. = 15.08
WEIR EL. = 14.43
12" RCP S. FL. = 12.68
18" RCP W. FL. = 12.63
- 390 WEIR INLET
GRATE EL. = 14.87
WEIR EL. = 14.02
12" RCP N. FL. = 12.56
- 391 CONCRETE BOX CULVERT
12'x6' CBC NW. FL. = 8.41
12'x6' CBC SE. FL. = 8.77
- 392 GRATE INLET
GRATE EL. = 21.02
15" RCP S. FL. = 17.18
- 393 SHOULDER GUTTER INLET
GRATE EL. = 30.20
15" RCP E. FL. = 24.00
- 394* SHOULDER GUTTER INLET
GRATE EL. = 27.50
15" RCP E. FL. = 20.50
15" RCP W. FL. = 20.50
- 395 CURB INLET
GUTTER EL. = 19.66
15" RCP W. FL. = 16.36
- 396 CURB INLET
GUTTER EL. = 19.57
18" RCP S. FL. = 15.44
15" RCP E. FL. = 16.28
- 397 CURB INLET
GUTTER EL. = 19.51
18" RCP N. FL. = 14.95
18" RCP S. FL. = 14.68
- 398 CURB INLET
GUTTER EL. = 16.58
18" RCP N. FL. = 14.44
18" RCP E. FL. = 14.26
- 399 CURB INLET
GUTTER EL. = 20.14
15" RCP N. FL. = 17.75
15" RCP S. FL. = 16.18
- 400 CURB INLET
GUTTER EL. = 20.04
15" RCP NE. FL. = 16.15
18" RCP W. FL. = 16.16
- 401 ENDWALL
18" RCP NE. FL. = 16.11
- 402 ENDWALL
72" RCP SW. FL. = 11.13
- 403 MANHOLE
RIM EL. = 21.30
72" RCP NE. FL. = 11.00
72" RCP S. FL. = 11.00
- 404 GRATE INLET
GRATE EL. = 22.98
24" RCP E. FL. = 19.70
24" RCP W. FL. = 19.70
- 405 ENDWALL
24" RCP W. FL. = 19.82
- 406 GRATE INLET
GRATE EL. = 24.07
15" RCP N. FL. = 20.98
18" RCP S. FL. = 20.74
- 407 CURB INLET
GUTTER EL. = 25.92
15" RCP S. FL. = 21.92
- 408 NOT USED
- 409 NOT USED
- 410 ENDWALL
15" CMP SE. FL. = 19.82
- 411 SHOULDER GUTTER INLET
GRATE EL. = 32.51
15" CMP NW. FL. = 28.10
- 412 BARRIER WALL INLET
GRATE EL. = 22.32
18" RCP NE. FL. = 17.63
- 413** GRATE INLET
GRATE EL. = 25.38
18" RCP E. FL. = 20.87
- 414 CURB INLET
GUTTER EL. = 26.14
18" RCP S. FL. = 24.30
- 415 GRATE INLET
GRATE EL. = 28.58
18" RCP W. FL. = 23.69
- 416 CURB INLET
GUTTER EL. = 27.57
18" RCP N. FL. = 23.35
18" RCP S. FL. = 23.30
18" RCP E. FL. = 23.45
- 417 WEIR INLET
GRATE EL. = 26.88
WEIR EL. = 25.88
15" RCP W. FL. = 23.71
- 418 MANHOLE
RIM EL. = 26.94
15" RCP N. FL. = 22.69
18" RCP S. FL. = 22.49
15" RCP E. FL. = 22.80
- 419 CURB INLET
GUTTER EL. = 27.57
18" RCP N. FL. = 22.00
18" RCP W. FL. = 21.94
- 420 CURB INLET
GUTTER EL. = 25.93
18" RCP S. FL. = 22.15
18" RCP E. FL. = 22.15
- 421* CURB INLET
GUTTER EL. = 24.66
18" RCP N. FL. = 21.67
18" RCP W. FL. = 21.67
- 422 ENDWALL
18" RCP E. FL. = 20.60
- 423 GRATE INLET
GRATE EL. = 20.94
18" RCP W. FL. = 17.38
- 424 GRATE INLET
GRATE EL. = 22.40
15" RCP NE. FL. = 19.71
- 425 CURB INLET
GUTTER EL. = 21.65
18" RCP N. FL. = 17.24
15" RCP SW. FL. = 18.69
18" RCP E. FL. = 17.03
- 426 CURB INLET
GUTTER EL. = 21.85
18" RCP W. FL. = 17.71
- 427 GRATE INLET
GRATE EL. = 21.30
18" RCP N. FL. = 17.20
18" RCP S. FL. = 17.23
18" RCP E. FL. = 17.01
- 428 CURB INLET
GUTTER EL. = 22.05
18" RCP N. FL. = 16.87
18" RCP S. FL. = 17.14
- 429 CURB INLET
GUTTER EL. = 22.42
18" RCP N. FL. = 16.87
18" RCP S. FL. = 16.95
- 430** CURB INLET
GUTTER EL. = 27.22
18" RCP W. FL. = 24.03
- 431 CURB INLET
GUTTER EL. = 21.42
15" RCP NE. FL. = 18.42
- 432 GRATE INLET
GRATE EL. = 20.31
18" RCP N. FL. = 17.92
15" RCP SW. FL. = 18.09

SOUTH FLORIDA WATER
MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION
DRAWINGS

FILE OF RECORD

44 002958.006

Imaged As Is

*NOTE: UNABLE TO VERIFY ** CURRENTLY UNDER CONSTRUCTION

| REVISIONS | | | | | | 10210 HIGHLAND MANOR DR. SUITE 140 TAMPA, FL. 33610 (813) 246-5527 CERT. OF AUTH. No. 6500 ALPHONSE J. STEWART, P.E., No. 38838 | STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION | | | I-275 SEGMENT 1A, STAGE 2 EXISTING DRAINAGE MAP (6) | SHEET NO. 25 |
|-----------|----|-------------|------|----|-------------|--|--|----------------|----------------------|--|---------------------|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION | | ROAD NO. | COUNTY | FINANCIAL PROJECT ID | | |
| | | | | | | S.R. 93 | HILLSBOROUGH | 258398-1-52-01 | | | |

- 433 GRATE INLET
GRATE EL. = 20.95
18" RCP S. FL. = 17.83
18" RCP W. FL. = 17.74
- 434 CURB INLET
GUTTER EL. = 23.25
18" RCP E. FL. = 17.60
18" RCP W. FL. = 17.44
- 435 CURB INLET
GUTTER EL. = 23.75
18" RCP SE. FL. = 18.70
- 436 GRATE INLET
GRATE EL. = 19.50
24" RCP S. FL. = 16.50
- 437 GRATE INLET
GRATE EL. = 23.30
24" RCP N. FL. = 16.40
24" RCP S. FL. = 16.40
- 438 BARRIER WALL INLET
GRATE EL. = 23.30
24" RCP N. FL. = 16.30
30" RCP S. FL. = 16.30
18" RCP W. FL. = 17.50
- 439 ENDWALL
30" RCP N. FL. = 16.20
- 440 MANHOLE
RIM EL. = 25.83
60" RCP S. FL. = 18.25
60" RCP E. FL. = 18.25
- 441 ENDWALL
54" RCP W. FL. = 15.26
24" RCP W. FL. = 15.54
- 442 CURB INLET & ENDWALL
GUTTER EL. = 22.65
24" RCP E. FL. = 19.62
24" EW W. FL. = 19.22
- 443 MANHOLE
RIM EL. = 23.50
18" RCP S. FL. = 16.90
18" RCP E. FL. = 17.30
24" RCP W. FL. = 16.40
- 444 ENDWALL
54" RCP E. FL. = 15.62
- 445 ENDWALL
48" RCP NE. FL. = 17.08
- 446 ENDWALL
60" RCP N. FL. = 17.99
- 447 MANHOLE
RIM EL. = 28.68
48" RCP E. FL. = 19.00
60" RCP W. FL. = 18.00
- 448 CURB INLET
GUTTER EL. = 33.04
DBI. 24" RCP S. FL. = 26.94
36" RCP E. FL. = 26.94
- 449 CURB INLET
GUTTER EL. = 32.89
48" RCP E. FL. = 20.67
48" RCP W. FL. = 19.56
- 450 MANHOLE
RIM EL. = 32.94
48" RCP E. FL. = 20.81
48" RCP W. FL. = 20.76
- 451 CURB INLET
GUTTER EL. = 32.79
15" RCP N. FL. = 27.73
48" RCP E. FL. = 20.69
48" RCP W. FL. = 20.70
- 452 MANHOLE
RIM EL. = 34.15
15" RCP S. FL. = 29.86
15" RCP E. FL. = 30.65
- 453 CURB INLET
GUTTER EL. = 32.74
15" RCP N. FL. = 28.31
48" RCP E. FL. = 21.55
48" RCP W. FL. = 21.47
- 454 MANHOLE
RIM EL. = 33.49
42" RCP NE. FL. = 23.20
15" RCP SE. FL. = 27.04
30" RCP E. FL. = 25.00
15" RCP W. FL. = 28.96
48" RCP W. FL. = 23.15
- 455 BARRIER WALL INLET
GRATE EL. = 36.26
15" RCP NW. FL. = 31.21
15" RCP E. FL. = 32.02
- 456 GRATE INLET
GRATE EL. = 30.82
15" RCP E. FL. = 28.12
15" RCP W. FL. = 28.13
- 457 CURB INLET
GUTTER EL. = 32.40
18" RCP E. FL. = 27.90
15" RCP W. FL. = 28.15
- 458 CURB INLET
GUTTER EL. = 32.39
18" RCP W. FL. = 28.16
- 459 MANHOLE
RIM EL. = 32.27
42" RCP N. FL. = 24.24
42" RCP SW. FL. = 24.11
- 460 CURB INLET
GUTTER EL. = 33.93
15" RCP N. FL. = 29.03
15" RCP SE. FL. = 29.00
- 461 MANHOLE
RIM EL. = 33.54
12"x18" RCP NE. FL. = 29.21
15" RCP NW. FL. = 29.23
- 462 CURB INLET
GUTTER EL. = 30.63
12"x18" RCP SW. FL. = 29.21
12"x18" RCP E. FL. = 29.21
- 463 GRATE INLET
GRATE EL. = 32.45
15" RCP N. FL. = 29.85
15" RCP E. FL. = 29.83
- 464 CURB INLET
GUTTER EL. = 33.50
36" RCP E. FL. = 27.30
36" RCP W. FL. = 27.14
- 465 GRATE INLET
GRATE EL. = 21.73
15" RCP S. FL. = 19.41
- 466 ENDWALL
15" RCP N. FL. = 19.40
- 467 NOT USED
- 468 NOT USED
- 469 NOT USED
- 470 NOT USED
- 471 NOT USED
- 472 MANHOLE
RIM EL. = 36.38
42" RCP N. FL. = 30.76
48" RCP S. FL. = 28.81
18" RCP E. FL. = 31.00
- 473 CURB INLET
GUTTER EL. = 35.35
18" RCP E. FL. = 27.54
- 474 CURB INLET
GUTTER EL. = 34.77
18" RCP N. FL. = 29.58
- 475 CURB INLET
GUTTER EL. = 34.98
18" RCP NW. FL. = 29.44
18" RCP S. FL. = 29.33
- 476 CURB INLET
GUTTER EL. = 35.41
15" RCP SE. FL. = 29.38
15" RCP W. FL. = 29.35
- 477 MANHOLE
RIM EL. = 35.55
48" RCP N. FL. = 26.55
48" RCP S. FL. = 26.72
- 478 CURB INLET
GUTTER EL. = 30.90
15" RCP S. FL. = 26.65
- 479 CURB INLET
GUTTER EL. = 30.96
15" RCP N. FL. = 26.01
18" RCP SW. FL. = 25.91
- 480 CURB INLET
GUTTER EL. = 30.96
15" RCP S. FL. = 26.21
- 481 CURB INLET
GUTTER EL. = 31.09
15" RCP N. FL. = 25.84
18" RCP SE. FL. = 25.64
- 482 MANHOLE
RIM EL. = 30.63
18" RCP N. FL. = 25.73
18" RCP NW. FL. = 25.71
24" RCP S. FL. = 22.97
- 483 NOT USED
- 484 NOT USED
- 485 NOT USED
- 486 NOT USED
- 487 NOT USED
- 488 CURB INLET
GUTTER EL. = 39.09
30" RCP NE. FL. = 29.81
30" RCP SW. FL. = 30.42
- 489 SHOULDER GUTTER INLET
GRATE EL. = 34.33
18" RCP N. FL. = 27.44
18" CMP S. FL. = 27.16
- 490 CURB INLET
GUTTER EL. = 35.08
12" RCP N. FL. = 31.90
15" RCP S. FL. = 31.97
- 491 CURB INLET
GUTTER EL. = 35.23
15" RCP N. FL. = 31.77
15" RCP S. FL. = 31.73
15" RCP E. FL. = 31.59
- 492 GRATE INLET
GRATE EL. = 33.85
15" RCP N. FL. = 31.37
15" RCP S. FL. = 29.95
- 493 MANHOLE
RIM EL. = 36.27
15" RCP N. FL. = 29.75
30" RCP SW. FL. = 29.61
- 494 GRATE INLET
GRATE EL. = 23.57
48" RCP NE. FL. = 17.77
18" CMP NW. FL. = 17.87
48" RCP SW. FL. = 17.57
- 495 MANHOLE
RIM EL. = 34.08
30" RCP N. FL. = 28.46
18" RCP NE. FL. = 30.12
30" RCP W. FL. = 28.63
- 496 MANHOLE
RIM EL. = 32.10
15" RCP N. FL. = 28.92
- 497 MANHOLE
RIM EL. = 29.96
15" RCP N. FL. = 25.67
- 498 CURB INLET
GUTTER EL. = 30.31
15" RCP S. FL. = 24.77
30" RCP E. FL. = 24.60
30" RCP W. FL. = 24.56
- 499 CURB INLET
GUTTER EL. = 30.49
30" RCP SW. FL. = 24.28
30" RCP E. FL. = 23.78
- 500 MANHOLE
RIM EL. = 30.10
48" RCP N. FL. = 24.32
48" RCP S. FL. = 23.68
30" RCP E. FL. = 23.77
18" RCP W. FL. = 24.10
- 501 CURB INLET
GUTTER EL. = 28.03
18" RCP S. FL. = 23.69
24" RCP SW. FL. = 23.80
- 502 CURB INLET
GUTTER EL. = 28.17
18" RCP N. FL. = 24.03
- 503 MANHOLE
RIM EL. = 28.35
42" RCP N. FL. = 22.42
48" RCP S. FL. = 22.17
24" RCP NE. FL. = 22.42
- 504 CURB INLET
GUTTER EL. = 26.92
15" RCP N. FL. = 23.45
- 505 CURB INLET
GUTTER EL. = 26.92
18" RCP S. FL. = 23.09
24" RCP W. FL. = 23.11
- 506 MANHOLE
RIM EL. = 27.36
48" RCP N. FL. = 19.00
48" RCP S. FL. = 19.00
24" RCP E. FL. = 23.00
24" RCP W. FL. = 19.36
- 507 CURB INLET
GUTTER EL. = 26.11
18" RCP N. FL. = 19.80
24" RCP E. FL. = 19.85
- 508 MANHOLE
RIM EL. = 25.89
48" RCP N. FL. = 18.25
48" RCP S. FL. = 17.75
24" RCP E. FL. = 21.48
- 509 NOT USED
- 510 MANHOLE
RIM EL. = 27.16
15" RCP N. FL. = 23.07
49"x33" CMP S. FL. = 20.80
49"x33" CMP E. FL. = 20.83
- 511 MANHOLE
RIM EL. = 30.34
49"x33" CMP E. FL. = 22.53
49"x33" CMP W. FL. = 22.40
- 512 MANHOLE
RIM EL. = 30.00
35"x24" CMP E. FL. = 23.20
49"x33" CMP W. FL. = 23.00
- 513 CURB INLET
GUTTER EL. = 30.77
18" RCP E. FL. = 24.19
35"x24" CMP W. FL. = 24.00
- 514 CURB INLET
GUTTER EL. = 28.72
18" RCP S. FL. = 24.69
- 515 MANHOLE
RIM EL. = 30.50
18" RCP E. FL. = 24.18
18" RCP W. FL. = NO INFO
- 516 CURB INLET
GUTTER EL. = 34.80
10" CMP N. FL. = 30.88
15" RCP E. FL. = 29.98
15" RCP W. FL. = 30.28
- 517 GRATE INLET
GRATE EL. = 38.11
15" RCP S. FL. = NO INFO
- 518 CURB INLET
GUTTER EL. = 34.92
15" RCP S. FL. = 30.17
- 519 CURB INLET
GUTTER EL. = 34.49
6" PVC N. FL. = 32.04
10" PVC S. FL. = 32.10
- 520 MANHOLE
RIM EL. = 32.95
42" RCP N. FL. = 25.13
42" RCP S. FL. = 25.12
- 521 GRATE INLET
GRATE EL. = 34.23
12" RCP W. FL. = 30.01
- 522 CURB INLET
GUTTER EL. = 34.31
12" RCP E. FL. = 26.54



SOUTHWEST FLORIDA WATER
MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION
DRAWINGS

FILE OF RECORD

44002958.006

Imaged As Is

*UNABLE TO VERIFY **CURRENTLY UNDER CONSTRUCTION

| REVISIONS | | | | | | STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION | | | I-275 SEGMENT 1A, STAGE 2 EXISTING DRAINAGE MAP (7) | | SHEET NO. |
|-----------|----|-------------|------|----|-------------|--|--------------|----------------------|--|--|--------------|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION | ROAD NO. | COUNTY | FINANCIAL PROJECT ID | | | |
| | | | | | | S.R. 93 | HILLSBOROUGH | 258398-1-52-01 | | | |

ALNTB
10210 HIGHLAND MANOR DR.
SUITE 140
TAMPA, FL. 33610
(813) 246-5527
CERT. OF AUTH. No. 6500
ALPHONSE J. STEWART, P.E., No. 38838

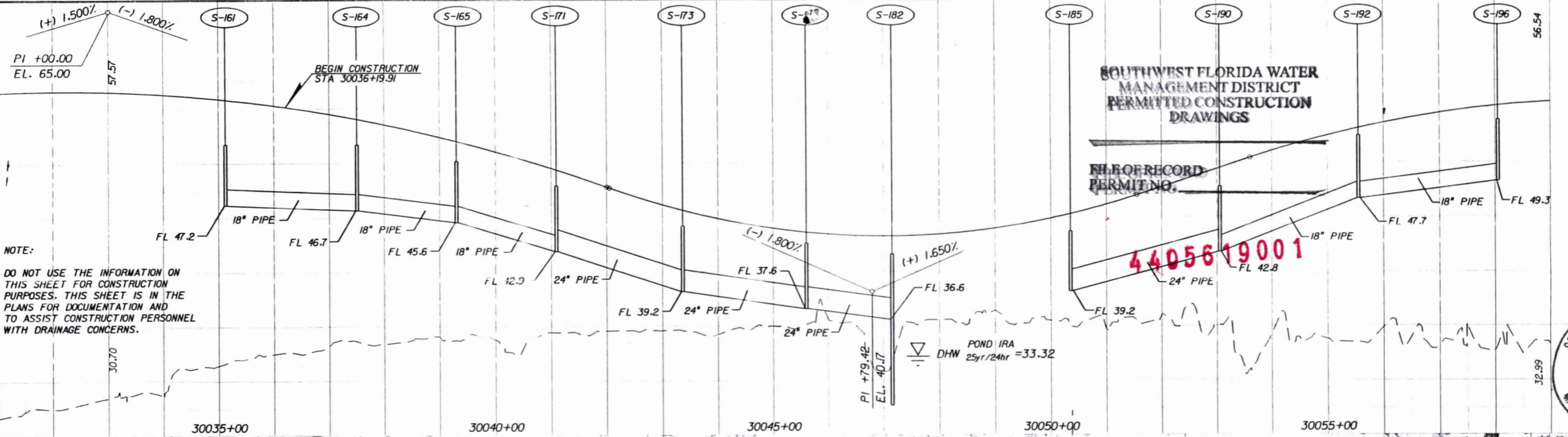
SWFWM PERMIT SUBMITTAL - MARCH 2005

26

**SOUTHWEST FLORIDA WATER
MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION
DRAWINGS**

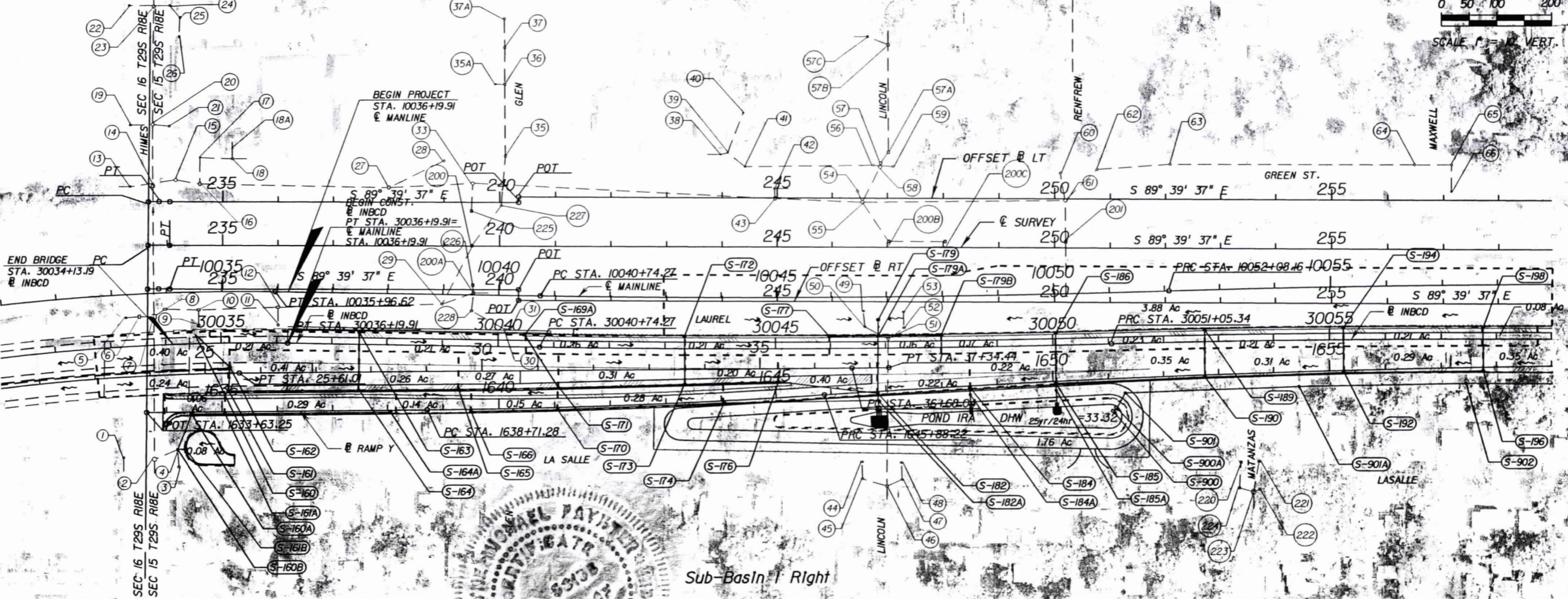
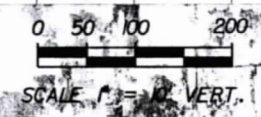
FILE OF RECORD
PERMIT NO.

4405619001

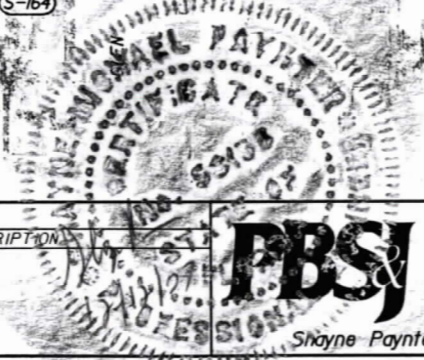


NOTE:
DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. THIS SHEET IS IN THE PLANS FOR DOCUMENTATION AND TO ASSIST CONSTRUCTION PERSONNEL WITH DRAINAGE CONCERNS.

POND IRA
DHW 25yr/24hr = 33.32

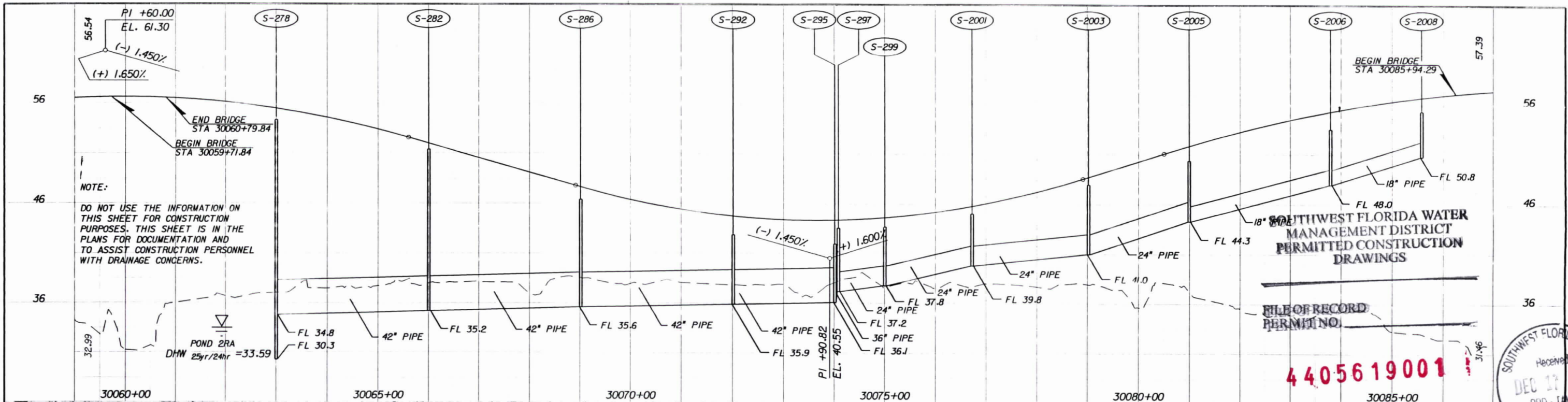


Sub-Basin 1 Right



| REVISIONS | | | | STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION | | | STAGE 2 DRAINAGE MAP (SHEET 1 OF 5) | SHEET NO. 2 |
|-----------|----|-------------|------|--|-------------|-------------------------------------|--|-------------------|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION | | | |
| | | | | | | ROAD NO. S.R. 93 | | |
| | | | | | | COUNTY HILLSBOROUGH | | |
| | | | | | | FINANCIAL PROJECT ID 258399-1-52-01 | | |

5300 West Cypress Street
Suite 300
Tampa, Florida 33607-1768
FBPR Certificate of
Authorization No. 24
Shayne Paynter, P.E. #58136

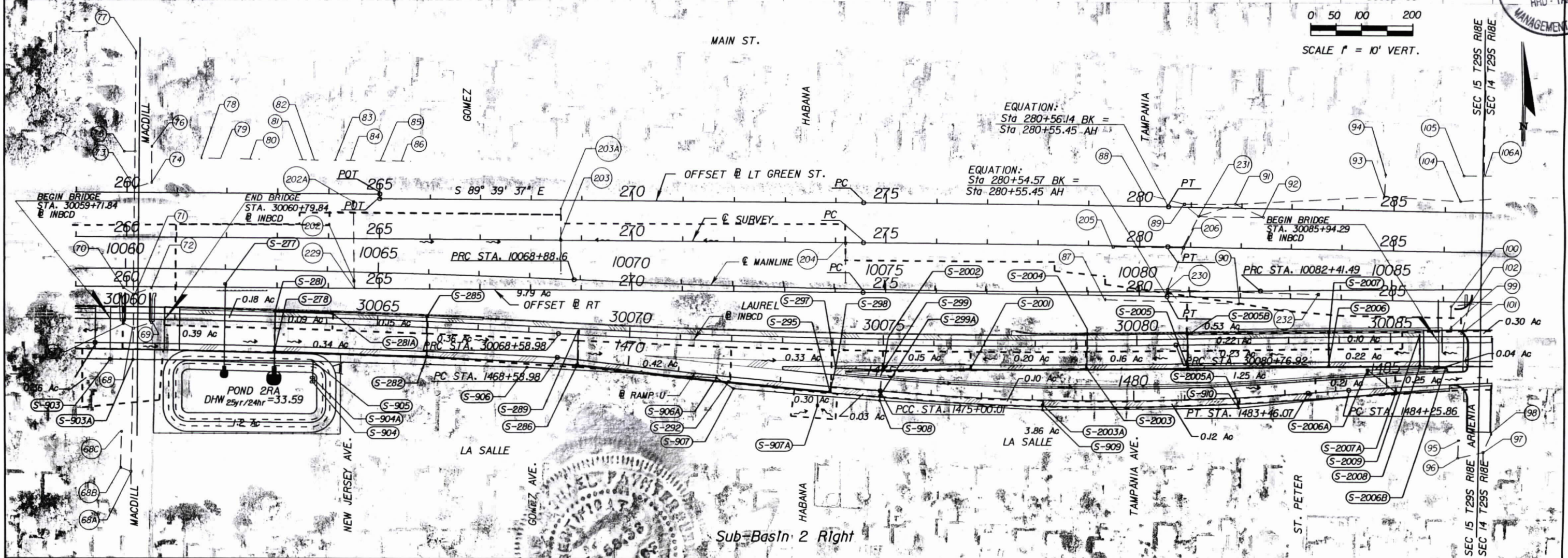
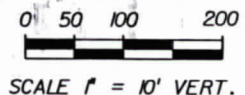


NOTE:
DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. THIS SHEET IS IN THE PLANS FOR DOCUMENTATION AND TO ASSIST CONSTRUCTION PERSONNEL WITH DRAINAGE CONCERNS.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION DRAWINGS

FILE OF RECORD
PERMIT NO.

4405619001



Sub-Basin 2 Right

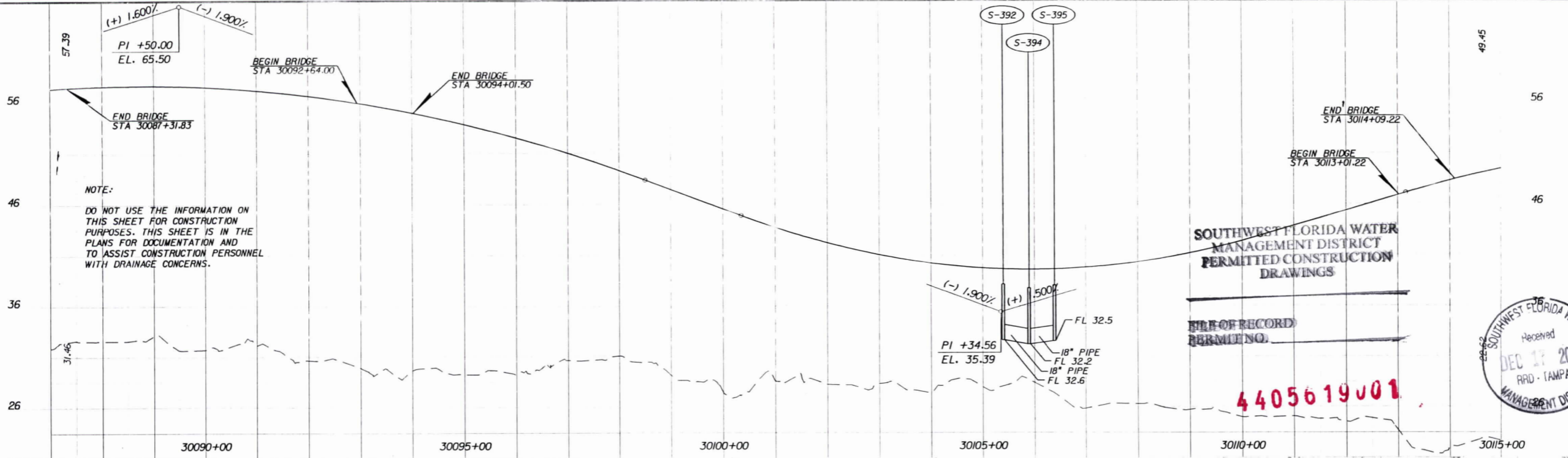
| REVISIONS | | | | | |
|-----------|----|-------------|------|----|-------------|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
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| | | | | | |

PBS
5300 West Cypress Street
Suite 300
Tampa, Florida 33607-1768
FBPR Certificate of Authorization No. 24
Shayne Paynter, P.E. #58136

| STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION | | |
|--|--------------|----------------------|
| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
| S.R. 93 | HILLSBOROUGH | 258399-1-52-01 |

**STAGE 2 DRAINAGE MAP
(SHEET 2 OF 5)**

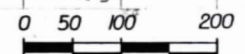
SHEET NO.
3



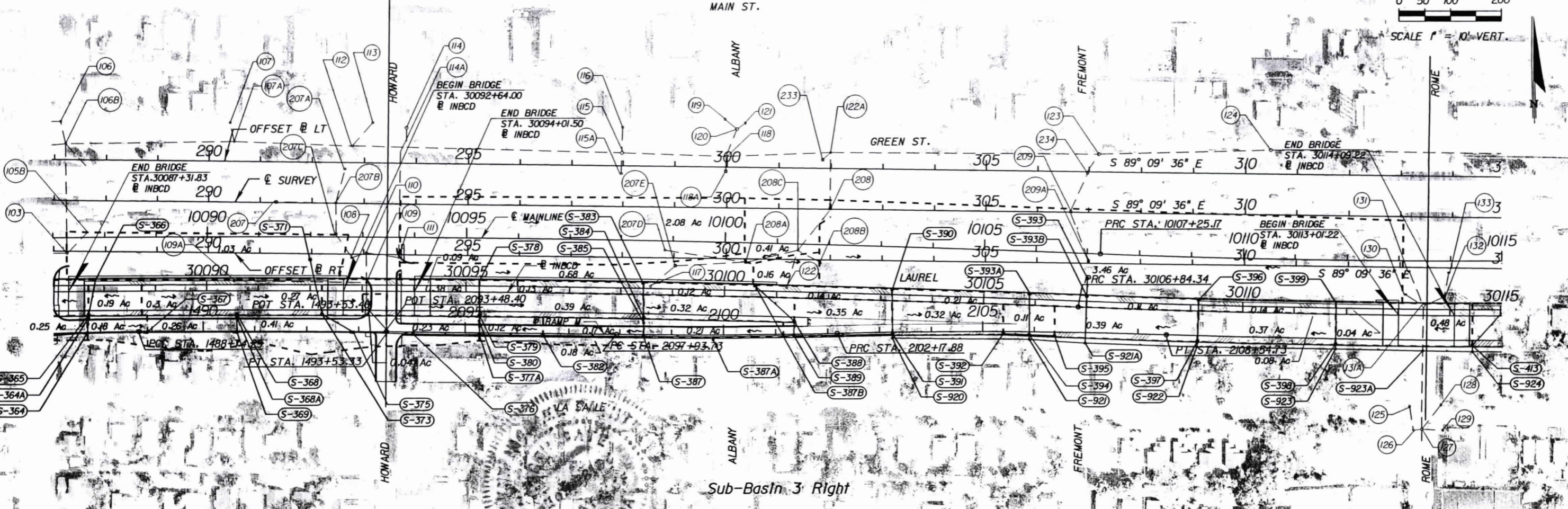
SOUTHWEST FLORIDA WATER
MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION
DRAWINGS

FILE OF RECORD
PERM NO.

4405619J01



SCALE 1" = 10' VERT.



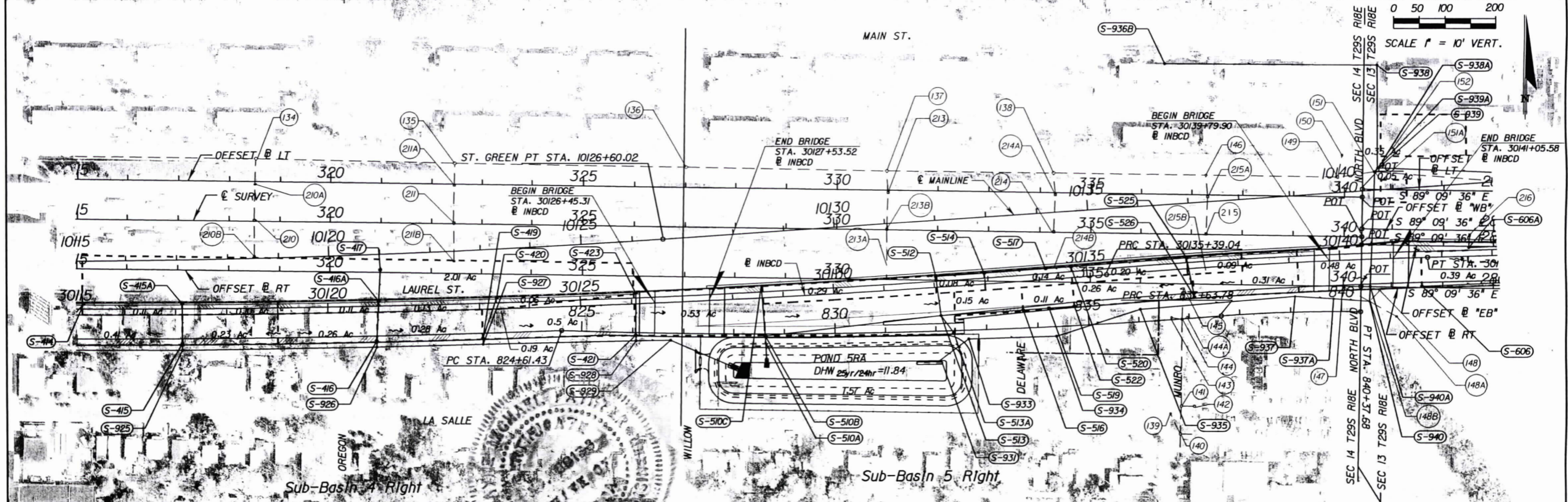
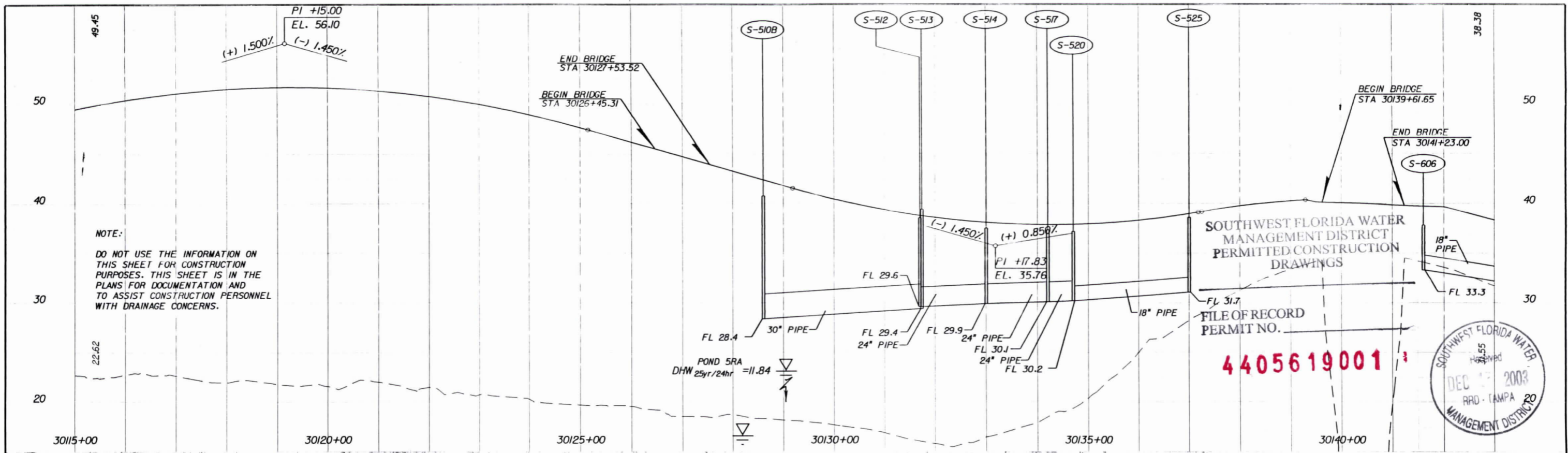
| REVISIONS | | | | | |
|-----------|----|-------------|------|----|-------------|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
| | | | | | |

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Authorization No. 24
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| STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION | | |
|--|--------------|----------------------|
| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
| S.R. 93 | HILLSBOROUGH | 258399-1-52-01 |

**STAGE 2 DRAINAGE MAP
(SHEET 3 OF 5)**

SHEET NO.
4



| REVISIONS | | | | | |
|-----------|----|-------------|------|----|-------------|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
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5300 West Cypress Street
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Authorization No. 24
Shayne Paynter, P.E. #58136

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
|----------|--------------|----------------------|
| S.R. 93 | HILLSBOROUGH | 258399-1-52-01 |

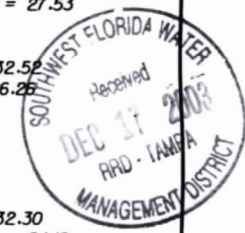
STAGE 2 DRAINAGE MAP
(SHEET 4 OF 5)

SHEET NO.
5

- 1 CURB INLET
GUTTER EL. = 28.68
18" RCP S. FL. = 24.63
- 2 MANHOLE
RIM EL. = 28.40
48" RCP S. FL. = 22.17
42" RCP N. FL. = 22.42
24" RCP NE. FL. = 24.42
- 3 CURB INLET
GUTTER EL. = 28.17
18" RCP N. FL. = 24.03
- 4 CURB INLET
GUTTER EL. = 28.03
24" RCP SW. FL. = 23.80
18" RCP S. FL. = 23.69
- 5 CURB INLET
GUTTER EL. = 30.77
18" RCP E. FL. = 24.19
- 6 BARRIER WALL INLET
GRATE EL. = 30.50
18" RCP E. FL. = 24.18
W. FL. NOT SURVEYED
- 7 MANHOLE
RIM EL. = 30.10
42" RCP N. FL. = 24.32
48" RCP S. FL. = 23.68
18" RCP W. FL. = 24.10
30" RCP E. FL. = 23.77
- 8 GRATE INLET
GRATE EL. = 30.49
30" RCP SW. FL. = 24.38
30" RCP E. FL. = 24.42
- 9 CURB INLET
GUTTER EL. = 29.96
15" RCP N. FL. = 25.67
- 10 CURB INLET
GUTTER EL. = 30.35
15" RCP S. FL. = 25.29
30" RCP W. FL. = 24.77
30" RCP E. FL. = 24.77
- 11 CURB INLET
GUTTER EL. = 32.10
15" RCP N. FL. = 28.92
- 12 CURB INLET
GUTTER EL. = 32.45
15" RCP S. FL. = 27.95
30" RCP E. FL. = 25.95
30" RCP W. FL. = 26.00
- 13 CURB INLET
GUTTER EL. = 32.89
48" RCP E. FL. = 20.67
48" RCP W. FL. = 19.56
- 14 MANHOLE
RIM EL. = 32.95
42" RCP N. FL. = 25.13
42" RCP S. FL. = 25.12
- 15 MANHOLE
RIM EL. = 32.94
48" RCP E. FL. = 20.81
48" RCP W. FL. = 20.76
- 16 CURB INLET
GUTTER EL. = 32.83
15" RCP N. FL. = 28.69
48" RCP E. FL. = 20.83
48" RCP W. FL. = 20.80
- 17 MANHOLE
RIM EL. = 33.15
15" RCP E. FL. = 29.77
15" RCP S. FL. = 28.84
- 18 CURB INLET
GUTTER EL. = 34.80
15" RCP E. FL. = 29.98
10" CMP N. FL. = 30.88
15" RCP W. FL. = 30.28
- 18A DBI
GRATE EL. = 34.49
6" PVC N. FL. = 32.04
10" CMP S. FL. = 32.10
- 19 CURB INLET
GUTTER EL. = 33.98
15" RCP E. FL. = 26.51
- 20 MANHOLE
WEIR EL. = 27.23
42" RCP N. FL. = 25.95
42" RCP S. FL. = 25.92
15" RCP E. & W. = 29.46
- 21 CURB INLET
GUTTER EL. = 34.21
15" RCP W. FL. = 29.93
- 22 CURB INLET
GUTTER EL. = 35.35
15" RCP E. FL. = 27.80
- 23 MANHOLE
RIM EL. = 35.52
42" RCP N. FL. = 27.52
42" RCP S. FL. = 26.56
- 24 CURB INLET
GUTTER EL. = 35.38
15" RCP SE. FL. = 29.38
15" RCP W. FL. = 29.35
- 25 CURB INLET
GUTTER EL. = 34.98
15" RCP NW. FL. = 29.44
15" RCP S. FL. = 29.46
- 26 CURB INLET
GUTTER EL. = 34.92
15" RCP N. FL. = 29.82
- 27 MANHOLE
RIM EL. = 32.85
15" RCP NE. FL. = 28.23
48" RCP E. FL. = 21.63
48" RCP W. FL. = 21.57
- 28 CURB INLET
GUTTER EL. = 34.94
15" RCP SW. FL. = 30.64
- 29 CURB INLET
GUTTER EL. = 34.10
15" RCP E. FL. = 28.81
30" RCP W. FL. = 28.80
36" RCP N. FL. = 28.80
- 30 CURB INLET
GUTTER EL. = 33.54
15" RCP N. FL. = 29.23
18" x 12" ERCP E. FL. = 29.21
- 31 MANHOLE
RIM EL. = 33.63
18" x 12" ERCP W. FL. = 29.21
18" x 12" ERCP E. FL. = 29.21
- 32 CURB INLET
GUTTER EL. = 33.71
18" x 12" ERCP W. & E. FL. = 29.48
- 33 MANHOLE
RIM EL. = 33.99
15" RCP S. FL. = 28.38
48" RCP E. FL. = 21.90
48" RCP W. FL. = 21.75
- 34 NOT USED
- 35 DBI
GRATE EL. = 33.83
15" RCP N. FL. = 30.49
15" RCP S. FL. = 30.07
- 35A DBI
GRATE EL. = 33.38
15" RCP E. FL. = 31.48
- 36 DBI
GRATE EL. = 35.23
15" RCP N. FL. = 31.77
15" RCP S. FL. = 31.73
15" RCP W. FL. = 31.59
- 37 DBI
GRATE EL. = 35.08
12" RCP N. FL. = 31.90
15" RCP S. FL. = 31.97
- 37A DBI
GRATE EL. 36.30
12" RCP S. FL. = 32.16
- 38 DBI
GRATE EL. = 35.00
15" CMP E. FL. = 30.00
15" RCP W. FL. = 30.00
- 39 DBI
GRATE EL. = 34.44
12" CMP N. FL. 29.74
15" RCP SE. FL. = 29.68
15" CMP SW. FL. = 29.79
- 40 DBI
NOT SURVEYED
- 41 DBI
GRATE EL. = 34.11
15" RCP N. FL. = 31.44
15" RCP E. FL. = 31.46
- 42 CURB INLET
GUTTER EL. = 31.48
15" RCP S. FL. = 27.02
6" PVC E. FL. = 27.17
- 43 DBI
GRATE EL. = 34.08
48" RCP E. FL. = 23.43
48" RCP W. FL. = 23.50
15" RCP N. FL. = 26.82
- 44 CURB INLET
GUTTER EL. = 30.96
FL. 15" S. = 26.21
- 45 CURB INLET
GUTTER EL. = 31.09
15" RCP N. FL. = 25.84
18" RCP SE. FL. = 25.64
- 46 MANHOLE
RIM EL. = 30.63
18" RCP NW. FL. = 25.71
18" RCP NE. FL. = 25.73
24" RCP N. FL. = 22.97
30" RCP S. FL. = 22.53
- 47 CURB INLET
GUTTER EL. = 30.96
18" RCP SW. FL. = 25.91
15" RCP N. FL. = 26.01
- 48 CURB INLET
GUTTER EL. = 30.90
15" RCP S. FL. = 26.65
- 49 CURB INLET
GUTTER EL. = 32.39
15" RCP S. FL. = 27.02
- 50 CURB INLET
GUTTER EL. = 32.27
15" RCP N. FL. = 26.84
18" RCP S. FL. = 26.71
- 51 GRATE INLET
GRATE EL. = 31.94
18" RCP NE. FL. = 27.02
18" RCP NW. FL. = 26.07
24" RCP S. FL. = 23.80
- 52 CURB INLET
GUTTER EL. = 32.21
15" RCP N. FL. = 27.44
18" RCP FL. SW. = 27.22
- 53 CURB INLET
GUTTER EL. = 32.23
15" RCP S. FL. = 27.57
- 54 CURB INLET
GUTTER EL. = 32.78
15" RCP S. FL. = 29.49
- 55 MANHOLE
RIM EL. = 34.16
15" RCP NW. FL. = 29.99
42" RCP NE. FL. = 23.99
30" RCP E. FL. = 25.44
15" RCP SE. FL. = 27.95
48" RCP W. FL. = 23.93
- 56 MANHOLE
RIM EL. = 32.33
18" RCP E. FL. = 28.02
15" RCP W. FL. = 28.27
- 57 CURB INLET
GUTTER EL. = 32.40
42" RCP N. FL. = 24.07
42" RCP S. FL. = 24.06
- 57A MANHOLE
RIM EL. = 32.27
42" RCP N. FL. = 24.24
42" RCP SW. FL. = 24.11
- 57B MANHOLE
RIM EL. = 33.23
42" RCP N. FL. = 24.85
42" RCP S. FL. = 24.79
15" RCP NW. FL. = 27.91
- 57C CURB INLET
GUTTER EL. = 32.94
12" RCP W. FL. = 30.89
15" RCP SE. FL. = 29.08
- 58 CURB INLET
GUTTER EL. = 32.25
18" RCP NE. FL. = 24.02
42" RCP SW. FL. 27.62
- 59 CURB INLET
GUTTER EL. = 32.39
18" RCP W. FL. = 28.16
- 60 CURB INLET
GUTTER EL. = 33.78
15" RCP S. FL. = 28.22
- 61 MANHOLE
RIM EL. = 30.98
15" NW. FL. = 27.26
30" NE. FL. = 25.73
24" RCP S. FL. = 27.78
30" RCP W. FL. = 25.61
- 62 MANHOLE
RIM EL. = 33.92
24" RCP E. FL. = 26.16
30" RCP SW. FL. = 25.86
- 63 MANHOLE
RIM EL. = 34.48
24" RCP E. & W. FL. = 26.70
- 64 CURB INLET
GUTTER EL. = 32.46
18" RCP E. FL. = 28.06
24" RCP W. FL. = 27.22
- 65 CURB INLET
GUTTER EL. = 32.38
15" RCP S. FL. = 28.32
18" RCP W. FL. = 28.30
- 66 CURB INLET
GUTTER EL. = 30.31
15" RCP N. FL. = 28.41
- 67 CURB INLET
GUTTER EL. = 31.12
18" RCP SE. FL. = 27.10
- 68 MANHOLE
RIM EL. = 31.23
42" RCP N. FL. = 24.08
48" RCP S. FL. = 23.48
15" RCP NE. FL. = 24.33
15" RCP NW. FL. = 25.83
- 68A MANHOLE
RIM EL. = 33.12
48" RCP N. FL. = 22.79
48" RCP S. FL. = 22.69
18" RCP NW. FL. = 25.42
- 68B CURB INLET
GUTTER EL. = 32.95
15" RCP N. FL. = 27.08
18" RCP SE. FL. = 26.79
- 68C CURB INLET
GUTTER EL. = 32.49
15" RCP S. FL. = 27.33
- 69 CURB INLET
GUTTER EL. = 31.12
15" RCP SW. FL. = 26.65
- 70 CURB INLET
GUTTER EL. = 30.76
15" RCP SE. FL. = 27.51
- 71 MANHOLE
RIM EL. = 30.96
42" RCP N. FL. = 24.43
42" RCP S. FL. = 24.39
15" RCP NE. FL. = 25.47
15" RCP NW. FL. = 26.63
- 72 CURB INLET
GUTTER EL. = 30.81
15" RCP FL. SW. = 27.11
- 73 MANHOLE
RIM EL. = 31.31
42" RCP N. FL. = 25.22
42" RCP S. FL. = 25.06
18" RCP NE. FL. = 25.70
- 74 CURB INLET
GUTTER EL. = 31.29
15" RCP N. FL. = 27.56
18" RCP SW. FL. = 26.97
- 75 CURB INLET
GUTTER EL. = 31.29
15" RCP E. FL. = 28.22
- 76 CURB INLET
GUTTER EL. = 31.35
15" S. FL. = 28.43
- 77 MANHOLE
RIM EL. 32.07
FLOW LINES NOT SURVEYED
- 78 12" SIDE DRAIN
FL. = 31.86
- 79 12" SIDE DRAIN
FL. = 32.02
- 80 12" SIDE DRAIN
INLET FL. = 32.35
OUTLET FL. = 32.15
- 81 12" SIDE DRAIN
INLET FL. = 33.64
OUTLET FL. = 33.52
- 82 12" SIDE DRAIN
INLET FL. = 33.92
OUTLET FL. = 33.71
- 83 12" SIDE DRAIN
INLET FL. = 34.32
OUTLET FL. = 34.28
- 84 12" SIDE DRAIN
INLET FL. = 34.91
OUTLET FL. = 34.82
- 85 12" SIDE DRAIN
INLET FL. = 35.07
OUTLET FL. = 34.83
- 86 12" SIDE DRAIN
INLET FL. = 35.21
OUTLET FL. = 34.99
- 87 EW
15" RCP E. FL. = 33.52
- 88 EW
18" RCP SE. FL. = 32.83
- 89 MANHOLE
RIM EL. = 36.42
18" RCP E. FL. = 31.95
18" RCP W. FL. NOT SURVEYED
- 90 CURB INLET
GUTTER EL. = 34.36
15" RCP W. FL. = 31.35
- 91 MANHOLE
RIM EL. = 37.02
24" RCP E. FL. = 30.70
18" RCP W. FL. = 31.25
15" RCP SE. FL. = 33.45
24" RCP SW. FL. = 30.45
- 92 GRATE INLET
GRATE EL. = 40.24
18" RCP W. FL. = 33.92
15" RCP NW. FL. = 33.92
- 93 MANHOLE
RIM EL. = 33.90
15" RCP N. FL. = 29.46
24" RCP E. FL. = 28.36
24" RCP W. FL. = 28.41
- 94 CURB INLET
GUTTER EL. = 33.84
15" RCP S. FL. = 29.64
- 95 CURB INLET
GUTTER EL. = 30.70
15" RCP S. FL. = 26.57
- 96 CURB INLET
GUTTER EL. = 30.75
15" RCP N. FL. = 25.81
18" RCP NE. FL. = 25.49
- 97 MANHOLE
RIM EL. = 30.96
15" RCP FL. = 24.81
30" RCP S. FL. = 23.88
18" RCP SW. FL. = 25.14
- 98 CURB INLET
GUTTER EL. = 31.10
15" RCP SW. FL. = 25.72
- 99 CURB INLET
GUTTER EL. = 33.39
15" RCP N. FL. = 28.31
- 100 MANHOLE
RIM EL. = 33.39
18" RCP E. FL. = 27.94
15" RCP S. FL. = 28.15
- 101 CURB INLET
GUTTER EL. = 31.48
15" RCP NE. FL. = 27.35
- 102 MANHOLE
RIM EL. = 31.83
24" RCP E. FL. = 25.83
18" RCP W. FL. = 26.63
15" RCP SW. FL. = 25.86
- 103 MANHOLE
RIM EL. = 31.66
24" RCP W. FL. = 25.90
15" CMP NE. FL. = 28.56
24" RCP N. FL. = 25.46
- 104 MANHOLE
RIM EL. = 32.67
24" RCP E. FL. = 26.63
24" RCP W. FL. = 27.53
- 105 CURB INLET
GUTTER EL. = 32.52
24" RCP E. = 26.26
- 105B CURB INLET
NOT SURVEYED
- 106 CURB INLET
GUTTER EL. = 32.30
24" RCP S. FL. = 24.10
24" RCP W. FL. = 25.44
- 106A MANHOLE
NOT SURVEYED
- 106B MANHOLE
RIM EL. = 32.22
24" RCP N. FL. = 23.76
24" RCP S. FL. = 23.96
24" RCP E. FL. = 23.68
24" RCP W. FL. = 25.55
- 107 CURB INLET
GUTTER EL. = 31.71
15" RCP S. FL. = 27.81
- 107A MANHOLE
RIM EL. = 31.77
15" RCP N. FL. = 25.97
36" RCP E. FL. = 23.57
24" RCP W. FL. = 23.65
- 108 GRATE INLET
GRATE EL. = 29.84
18" RCP NE. FL. = 26.72
15" CMP NW. FL. = 26.72
- 109 CURB INLET
GUTTER EL. = 29.74
18" RCP N. & W. FL. = 25.27
- 109A CURB INLET
GUTTER EL. = 31.32
18" RCP E. FL. = 26.85
- 110 CURB INLET
GUTTER EL. = 29.96
18" RCP S. FL. = 25.56
18" RCP SW. FL. = 26.36
24" RCP SE. FL. = 24.09
- 111 CURB INLET
GUTTER EL. = 30.07
24" RCP N. & NW. FL. = 23.37

SOUTHWEST FLORIDA WATER
MANAGEMENT DISTRICT
UNAPPROVED CONSTRUCTION
DRAWINGS

4405619001



| DATE | | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
|--|--------------|----------------------|-------------|------|----|-------------|
| REVISIONS | | | | | | |
| EXDASTO | | | | | | |
| | | | | | | |
| 5300 West Cypress Street Suite 300 Tampa, Florida 33607-1768 FBPR Certificate of Authorization No. 24 Shayne Paynter, P.E. #58136 | | | | | | |
| STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION | | | | | | |
| ROAD NO. | COUNTY | FINANCIAL PROJECT ID | | | | |
| S.R. 93 | HILLSBOROUGH | 258399-1-52-01 | | | | |

**EXISTING STAGE 2
DRAINAGE STRUCTURES
(SHEET 1 OF 2)**

SHEET
NO.
7

- 112 CURB INLET
GUTTER EL. = 30.59
24" RCP NE. FL. = 26.37
36" RCP E. FL. = 23.20
36" RCP W. FL. = 23.28
- 113 CURB INLET
GUTTER EL. = 30.50
24" RCP S. FL. = 25.91
- 114 CURB INLET
GUTTER EL. = 30.16
18" RCP S. FL. = 26.63
- 114A JUNCTION BOX
NOT SURVEYED
- 115 MANHOLE
RIM EL. = 28.09
15" RCP N. FL. = 23.87
18" RCP S. FL. = 24.80
36" RCP E. FL. = 22.52
36" RCP W. FL. = 22.44
- 115A SHOULDER GUTTER INLET
NOT SURVEYED
- 116 CURB INLET
GUTTER EL. = 28.74
15" RCP S. FL. = 25.17
- 117 DBI
GRATE EL. = 27.93
15" RCP NE. FL. = 23.16
- 118 CURB INLET
GUTTER EL. = 28.28
18" RCP NE. FL. = 23.77
15" CMP S. FL. = 24.71
36" RCP E. FL. = 20.10
36" RCP W. FL. = 21.80
- 118A SHOULDER GUTTER INLET
GRATE EL. = 31.46
18" CMP N. FL. = 26.96
- 119 CURB INLET
GUTTER EL. = 27.85
15" x 12" ERCP SE. FL. = 24.50
- 120 MANHOLE
RIM EL. = 27.68
16" x 12" ERCP NE. FL. = 23.51
16" x 12" ERCP NW. FL. = 23.51
18" RCP SW. FL. = 23.17
- 121 CURB INLET
GUTTER EL. = 27.76
16" x 12" ERCP SW. FL. = 24.69
- 122 CURB INLET
GUTTER EL. = 26.82
15" RCP N. FL. = 24.42
- 122A MANHOLE
RIM EL. = 27.91
36" RCP E. FL. = 19.38
24" RCP S. FL. = 20.45
18" RCP SW. FL. = 24.10
36" RCP W. FL. = 19.37
- 123 MANHOLE
RIM EL. = 25.25
18" RCP S. FL. = 21.13
36" RCP E. FL. = 16.75
36" RCP W. FL. = 18.04
- 124 MANHOLE
RIM EL. = 23.29
36" RCP E. FL. = 14.71
36" RCP W. FL. = 14.75
- 125 CURB INLET
GUTTER EL. = 21.42
15" RCP S. FL. = 17.53
- 126 CURB INLET
GUTTER EL. = 21.32
15" RCP N. FL. = 17.12
15" RCP E. FL. = 16.89
- 127 MANHOLE
RIM EL. = 21.29
15" RCP NE. FL. = 16.43
24" RCP N. FL. = 16.43
24" RCP S. FL. = 16.43
15" RCP E. FL. = 16.43
15" RCP W. FL. = 16.43
- 128 CURB INLET
GUTTER EL. = 21.22
15" RCP SW. FL. = 17.63
- 129 CURB INLET
GUTTER EL. = 21.64
NO FLOW LINE SURVEYED
- 130 CURB INLET
GUTTER EL. = 21.92
18" RCP SE. FL. = 17.40
- 131 CURB INLET
GUTTER EL. = 21.51
18" RCP SE. FL. = 17.41
- 131A MANHOLE
NOT SURVEYED
- 132 CURB INLET
GUTTER EL. = 22.02
NO FLOW LINE SURVEYED
- 133 CURB INLET
GUTTER EL. = 21.29
15" RCP S. FL. = 17.99
- 134 MANHOLE
RIM EL. = 20.27
18" RCP S. FL. = 13.87
42" RCP E. FL. = 9.73
36" RCP W. FL. = 10.17
- 135 MANHOLE
RIM EL. = 19.62
24" CMP S. FL. = 13.99
42" RCP E. FL. = 8.88
42" RCP W. FL. = 8.95
- 136 MANHOLE
RIM EL. = 18.19
42" RCP E. FL. = 7.72
42" RCP W. FL. = 7.85
- 137 MANHOLE
RIM EL. = 18.73
18" CMP S. FL. = 11.87
42" RCP E. FL. = 6.48
42" RCP W. FL. = 6.63
- 138 MANHOLE
RIM EL. = 16.79
18" CMP S. FL. = 11.31
42" RCP E. FL. = 5.68
42" RCP W. FL. = 5.72
- 139 CURB INLET
GUTTER EL. = 11.54
15" RCP SE. FL. = 8.27
- 140 CURB INLET
GUTTER EL. = 11.48
24" RCP N. FL. = 6.96
30" RCP S. FL. = 6.96
24" RCP E. FL. = 6.96
15" RCP NW. FL. = 7.07
- 141 CURB INLET
GUTTER EL. = 11.60
24" RCP N. FL. = 7.30
24" RCP S. FL. = 7.30
18" RCP E. FL. = 7.30
- 142 CURB INLET
GUTTER EL. = 11.50
18" RCP W. FL. = 7.70
- 143 CURB INLET
GUTTER EL. = 12.83
15" RCP E. FL. = 8.78
- 144 MANHOLE
RIM EL. = 12.47
18" RCP N. FL. = 7.73
24" RCP S. FL. = 7.73
15" RCP E. FL. = 8.39
15" RCP W. FL. = 8.38
- 144A CURB INLET
GUTTER EL. = 12.85
15" RCP FL. W. = 8.82
- 145 CURB INLET
GUTTER EL. = 13.00
18" RCP S. FL. = 8.46
- 146 MANHOLE
RIM EL. = 15.25
42" RCP W. FL. = 4.90
42" RCP E. FL. = 4.80
18" RCP S. FL. = 9.20
- 147 CURB INLET
GUTTER EL. = 14.25
15" RCP SE. FL. = 8.85
- 148 CURB INLET
GUTTER EL. = 14.14
15" RCP SW. FL. = 9.32
- 148A CURB INLET
GUTTER EL. = 13.82
15" RCP NW. FL. = 7.93
- 148B MANHOLE
NOT SURVEYED
- 149 CURB INLET
GUTTER EL. = 14.77
15" RCP N. FL. = 10.83
42" RCP NE. FL. = 3.77
42" RCP W. FL. = 3.77
- 150 CURB INLET
GUTTER EL. = 14.34
NO FLOW LINE SURVEYED
- 151 MANHOLE
RIM EL. = 14.42
24" RCP S. FL. = 5.26
18" RCP NE. FL. = 5.91
15" RCP SE. FL. = 8.51
42" RCP E. FL. = 3.66
42" RCP W. FL. = 3.76
- 151A GRATE INLET
GRATE EL. = 14.72
15" RCP NW. FL. = 8.14
- 152 GRATE INLET
GRATE EL. = 14.38
18" RCP SW. FL. = 6.31
- 153 MANHOLE
RIM EL. = 16.52
15" CMP S. FL. = 11.00
48" RCP E. FL. = 2.70
42" RCP W. FL. = 3.20
- 154 DBI
GRATE EL. = 13.22
15" RCP SE. FL. = 10.26
- 155 DBI
GRATE EL. = 13.12
15" RCP NW. FL. = 8.81
15" RCP E. FL. = 8.75
- 156 DBI
GRATE EL. = 13.23
15" RCP E. & W. FL. = 6.78
- 157 MANHOLE
RIM EL. = 13.50
30" RCP N. FL. = 5.92
30" RCP E. FL. = 5.76
15" RCP W. FL. = 6.67
- 157A CURB INLET
GUTTER EL. = 13.36
24" RCP N. FL. = 7.52
30" RCP S. FL. = 7.52
15" RCP SE. FL. = 7.52
- 158 DBI
GRATE EL. = 12.72
30" RCP E. FL. = 4.48
30" RCP W. FL. = 4.49
- 159 DBI
GRATE EL. = 12.77
36" RCP NE. FL. = 3.32
30" RCP W. FL. = 4.00
- 160 MANHOLE
RIM EL. = 8.08
48" RCP SE. FL. = 1.68
48" RCP W. FL. = 1.92
- 161 GRATE INLET
GRATE EL. = 6.82
18" RCP S. FL. = 3.80
18" RCP W. FL. = 3.91
- 162 DBI
GRATE EL. = 8.72
18" RCP N. FL. = 3.14
18" RCP SE. FL. = 3.17
- 162A DBI
GRATE EL. 3.39
18" RCP NW. FL. = -0.07
15" RCP NE. FL. = -0.35
36" RCP SE. FL. = -1.82
36" RCP W. FL. = -1.96
- 163 CURB INLET
GUTTER EL. = 8.05
18" RCP S. FL. = 3.03
15" RCP W. FL. = 3.29
- 163A ENDWALL
15" RCP E. FL. = 3.41
- 164 CURB INLET
GUTTER EL. = 8.18
18" RCP N. FL. = 2.59
24" RCP E. FL. = 2.41
- 165 24" RCP AT SEAWALL FL. = 0.84
- 166 48" RCP AT SEAWALL FL. = (-) 3.24
- 167 36" RCP AT SEAWALL FL. = 0.47
- 200 MEDIAN BARRIER WALL INLET
GRATE EL. = 39.12
36" RCP NE. FL. = 29.40
36" RCP SW. FL. = 29.95
- 200A GRATE INLET
GRATE EL. = 32.84
15" RCP W. FL. = 28.84
15" RCP S. FL. = 28.74
15" RCP E. FL. = 30.24
15" RCP NW. FL. = 29.54
- 200B CURB INLET
GUTTER EL. = 36.26
15" RCP NW. FL. = 31.21
15" RCP E. FL. = 32.02
- 200C CURB INLET
GUTTER EL. = 36.17
15" RCP W. FL. = 32.32
- 201 CURB INLET
GUTTER EL. = 36.49
24" RCP N. & S. FL. = 28.36
- 202 CURB INLET
GUTTER EL. = 41.45
15" RCP N. FL. = 37.05
15" RCP S. FL. = 34.96
- 202A CURB INLET
GUTTER EL. = 41.55
15" RCP S. FL. = 37.55
- 203 MEDIAN BARRIER WALL INLET
GRATE EL. = 39.90
15" RCP FL N. & S. = 35.78
- 203A CURB INLET
NOT SURVEYED
- 204 MEDIAN BARRIER WALL INLET
GRATE EL. = 38.77
15" RCP S. FL. = 34.67
- 205 BARRIER WALL INLET
GRATE EL. = 37.67
15" RCP E. FL. = 33.97
- 206 BARRIER WALL INLET
GRATE EL. = 38.15
24" RCP NE. FL. = 30.03
24" RCP SW. FL. = 30.00
15" RCP W. FL. = 30.06
- 207 CURB INLET
GUTTER EL. = 51.80
15" RCP E. FL. = 47.79
- 207A SHOULDER GUTTER INLET
NOT SURVEYED
- 207B CURB INLET
GUTTER EL. NOT SURVEYED
15" RCP N. FL. = 45.88
15" RCP S. FL. = 45.88
15" RCP W. FL. = 46.15
- 207C MEDIAN BARRIER WALL INLET
NOT SURVEYED
- 207D CURB INLET
GUTTER EL. = 34.69
15" RCP E. FL. = 29.09
- 207E GRATE INLET
GRATE EL. = 27.36
18" RCP E. FL. = 22.76
- 208 CURB INLET
GUTTER EL. = 29.77
24" RCP N. & SW. FL. = 25.32
- 208A CURB INLET
GUTTER EL. = 27.20
15" RCP NE. FL. = 22.70
18" RCP E. FL. = 22.76
15" RCP SW. FL. = 22.91
- 208B CURB INLET
GUTTER EL. = 28.53
15" RCP NW. FL. = 23.23
- 208C MANHOLE
RIM EL. = 29.33
24" RCP NE. FL. = 21.45
15" RCP SE. FL. = 22.33
15" RCP SW. FL. = 21.63
18" RCP W. FL. = 22.03
- 209 CURB INLET
GRATE EL. = 32.80
15" RCP N. FL. = 28.80
15" RCP S. FL. = 29.12
- 209A CURB INLET
GUTTER EL. = 30.09
15" RCP NW. FL. = 29.44
- 210 CURB INLET
GUTTER EL. = 37.41
15" RCP N. FL. = 34.57
15" RCP S. FL. = 34.56
- 210A CURB INLET
GUTTER EL. = 37.07
18" RCP N. FL. = 32.73
15" RCP S. FL. = 32.93
- 210B CURB INLET
GUTTER EL. = 36.85
15" RCP N. FL. = 33.85
- 211 MEDIAN BARRIER WALL INLET
GRATE EL. = 28.91
18" RCP N. FL. = 24.63
18" RCP S. FL. = 24.61
- 211A CURB INLET
GUTTER EL. = 28.65
24" CMP N. FL. = 23.91
18" RCP S. FL. = 24.02
- 211B CURB INLET
GUTTER EL. = 29.17
18" RCP N. FL. = 25.44
- 213 CURB INLET
GUTTER EL. = 30.01
18" CMP N. FL. = 26.68
15" RCP S. EL. = 26.15
- 213A CURB INLET
GUTTER EL. = 29.78
18" RCP N. FL. = 26.43
- 213B MEDIAN BARRIER WALL INLET
GRATE EL. = 30.08
FLOW LINES NOT SURVEYED
- 214 MEDIAN BARRIER WALL INLET
GRATE EL. = 23.60
15" RCP N. FL. = 19.62
15" RCP S. FL. = 19.65
- 214A CURB INLET
GUTTER EL. 23.58
15" RCP N. FL. = 19.26
15" RCP S. FL. = 19.25
- 214B CURB INLET
GUTTER INLET EL. = 23.35
15" RCP N. FL. = 20.00
- 215 MEDIAN BARRIER WALL INLET
GRATE EL. = 29.12
18" RCP N. FL. = 25.54
18" RCP S. FL. = 25.41
- 215A CURB INLET
GUTTER EL. = 29.01
18" RCP N. FL. = 25.13
18" RCP S. FL. = 25.21
- 215B CURB INLET
GUTTER EL. = 28.87
18" RCP N. FL. = 25.47
- 216 MEDIAN BARRIER WALL INLET
GRATE EL. = 31.70
NO FLOW LINE SURVEYED
- 216A CURB INLET
GUTTER EL. = 29.22
15" CMP N. FL. = 26.13
15" CMP SW. FL. = 26.03
- 216B CURB INLET
GUTTER EL. = 31.42
15" RCP NE. FL. = 26.85
- 217 MEDIAN BARRIER WALL INLET
GRATE EL. = 28.66
15" RCP NW. FL. = 24.82
15" RCP SW. FL. = 24.66
- 217A CURB INLET
GUTTER EL. = 31.42
15" RCP NE. FL. = 26.85
- 217B CURB INLET
GUTTER EL. = 15.81
15" RCP S. FL. = 10.21
48" RCP E. FL. = 2.41
48" RCP W. FL. = 2.51
- 218 MEDIAN BARRIER WALL INLET
GRATE EL. = 31.41
NO FLOW LINE SURVEYED
- 219 MANHOLE
RIM EL. = 12.39
15" RCP S. FL. = 7.73
48" RCP E. FL. = 2.34
48" RCP W. FL. = 2.26
- 219A CURB INLET
GUTTER EL. = 28.87
15" RCP N. FL. = 25.51
15" RCP S. FL. = 25.42
- 220 CURB INLET
GUTTER EL. = 31.59
15" RCP S. FL. = 28.16
- 221 CURB INLET
GUTTER EL. = 31.66
15" RCP S. FL. = 28.55
- 222 CURB INLET
GUTTER EL. = 31.49
15" RCP W. FL. = 27.56
- 223 MANHOLE
RIM EL. = 31.21
15" RCP N. FL. = 27.33
15" RCP NE. FL. = 27.14
18" RCP NW. FL. = 27.06
24" RCP S. FL. = 26.71
- 224 CURB INLET
GUTTER EL. = 31.59
15" RCP N. FL. = 27.96
18" RCP SE. FL. = 27.25
- 225 CURB INLET
GUTTER EL. = 38.15
15" RCP N. FL. = 34.80
- 226 CURB INLET
GUTTER EL. = 37.95
15" RCP S. FL. = 35.27
- 227 MANHOLE
RIM EL. = 36.37
15" RCP N. FL. = 29.62
36" RCP S. FL. = 29.66
- 228 GRATE INLET
RIM EL. = 33.93
15" RCP N. FL. = 29.03
15" RCP SE. FL. = 29.00
- 229 END WALL
15" RCP N. FL. = 34.96
- 230 MEDIAN BARRIER WALL INLET
GRATE EL. = 37.11
24" RCP NE. FL. = 30.81
24" RCP SE. FL. = 31.00
18" RCP E. FL. = 32.86
18" RCP W. FL. = 32.77
- 231 MANHOLE
RIM EL. = 37.00
24" RCP NE. FL. = 30.82
24" RCP SW. FL. = 30.49
18" RCP E. FL. = 33.49
18" RCP NW. FL. = 30.49
- 232 CURB INLET
GUTTER EL. = 43.02
18" RCP NW. FL. = 37.67
- 233 CURB INLET
GUTTER EL. = 28.96
18" RCP NE. FL. = 25.81
18" RCP SW. FL. = 24.76
- 234 CURB INLET
GUTTER EL. = 32.24
18" RCP NE. FL. = 27.96
15" RCP S. FL. = 28.41



SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
UNLIMITED CONSTRUCTION DRAWINGS

OFFICE OF RECORD
PERMIT NO.

4405619001

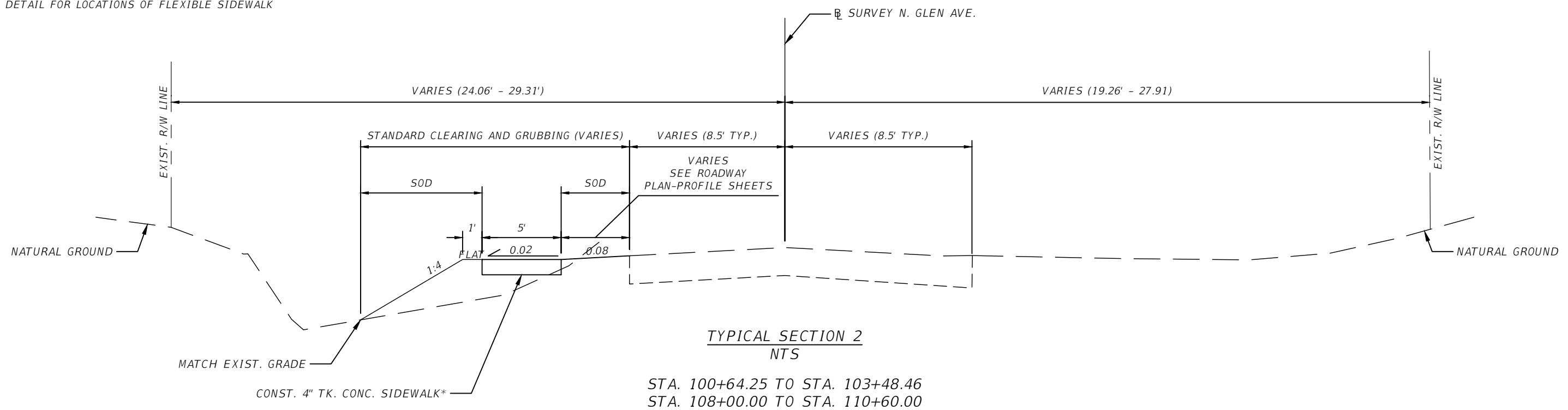
| | | | | | | | | | | | |
|--|----|-------------|------|----------|-------------|--|--------------|----------------------|---|--|----------------|
| 06-DEC-2003 10:46 P:\275\source\stg\stage2\06.dgn | | REVISIONS | | EXDRSTON | | STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION | | | EXISTING STAGE 2 DRAINAGE STRUCTURES (SHEET 2 OF 2) | | SHEET NO. 8 |
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION | ROAD NO. | COUNTY | FINANCIAL PROJECT ID | | | |
| | | | | | | S.R. 93 | HILLSBOROUGH | 258399-1-52-01 | | | |

FBSI
5300 West Cypress Street
Suite 300
Tampa, Florida 33607-1768
FBPR Certificate of Authorization No. 24
Shayne Paynter, P.E. #58136



Typical Sections

*CONC. SIDEWALK TYPICAL, SEE TYPICAL SECTION
DETAIL FOR LOCATIONS OF FLEXIBLE SIDEWALK

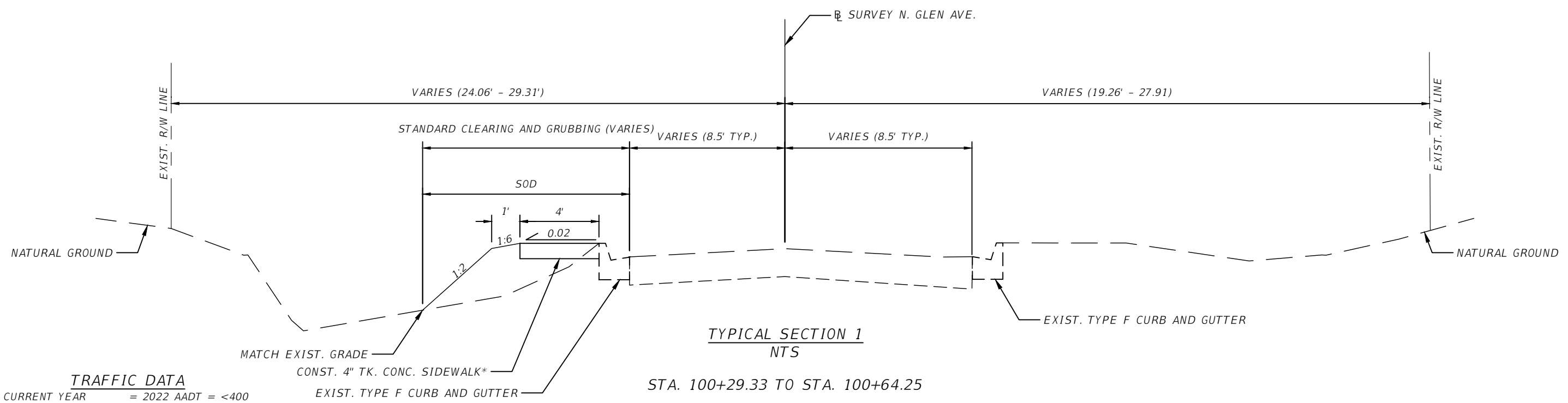


TYPICAL SECTION 2
NTS

STA. 100+64.25 TO STA. 103+48.46
STA. 108+00.00 TO STA. 110+60.00

TRAFFIC DATA

CURRENT YEAR = 2022 AADT = <400
K = N/A D=50% T=N/A
DESIGN SPEED = 25 MPH



TYPICAL SECTION 1
NTS

STA. 100+29.33 TO STA. 100+64.25

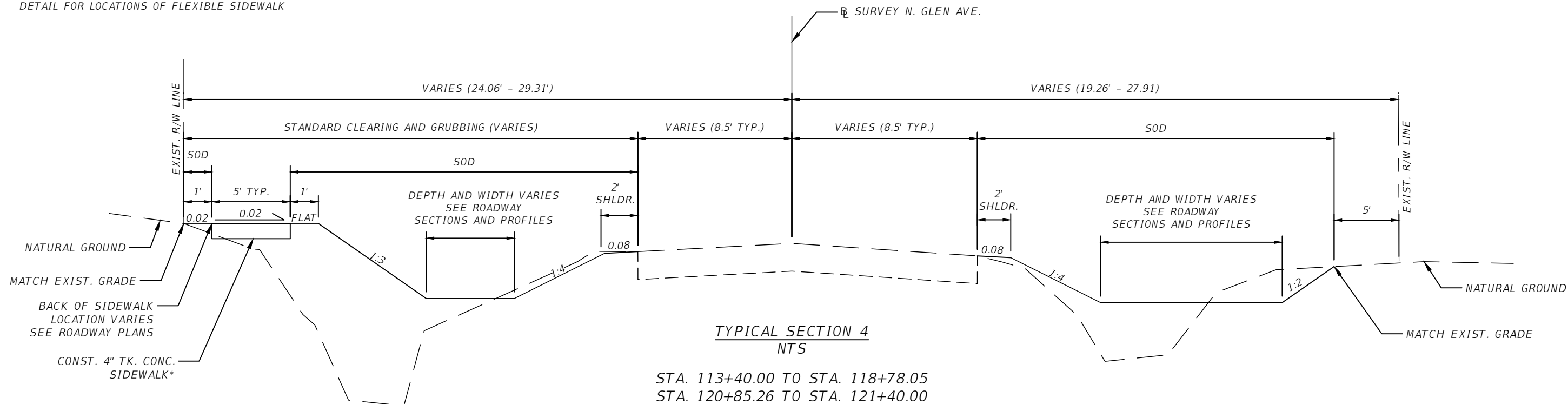
TRAFFIC DATA

CURRENT YEAR = 2022 AADT = <400
K = N/A D=50% T=N/A
DESIGN SPEED = 25 MPH

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

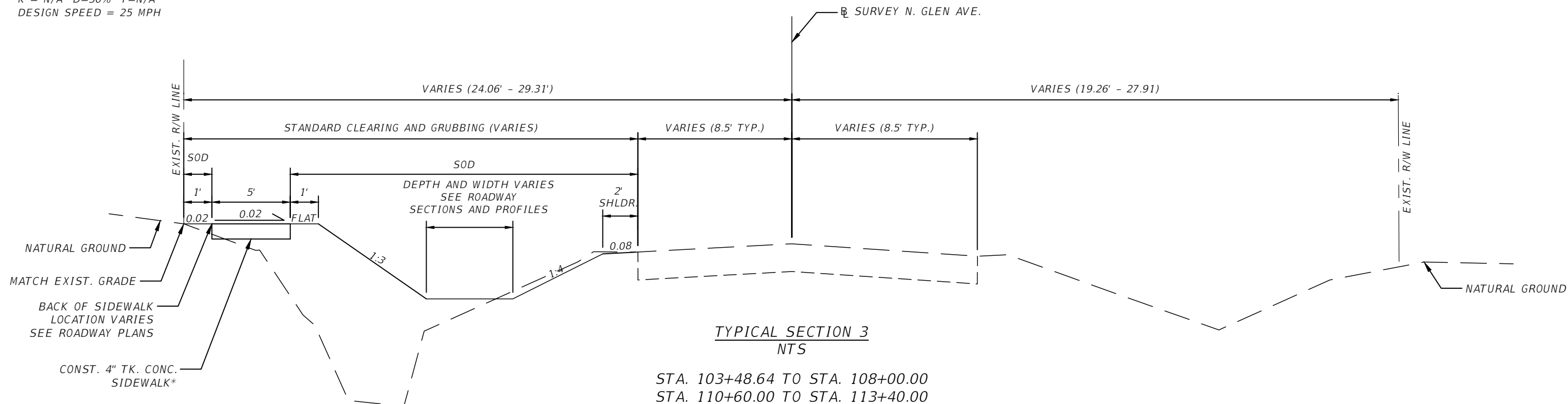
| REVISIONS | | | | SEAN PATRICK CURRAN, P.E. P.E. LICENSE NUMBER 85318 PATEL, GREENE & ASSOCIATES, LLC 12570 TELECOM DRIVE TEMPLE TERRACE, FLORIDA 33637 | CITY OF TAMPA TRANSPORTATION DEPARTMENT | | | SHEET NO. |
|-----------|-------------|------|-------------|---|--|--------------|------------------|--------------|
| DATE | DESCRIPTION | DATE | DESCRIPTION | | ROAD NO. | COUNTY | CITY PROJECT NO. | |
| | | | | | N/A | HILLSBOROUGH | 18-D-57101 | |

*CONC. SIDEWALK TYPICAL, SEE TYPICAL SECTION
DETAIL FOR LOCATIONS OF FLEXIBLE SIDEWALK



TRAFFIC DATA

CURRENT YEAR = 2022 AADT = <400
K = N/A D=50% T=N/A
DESIGN SPEED = 25 MPH



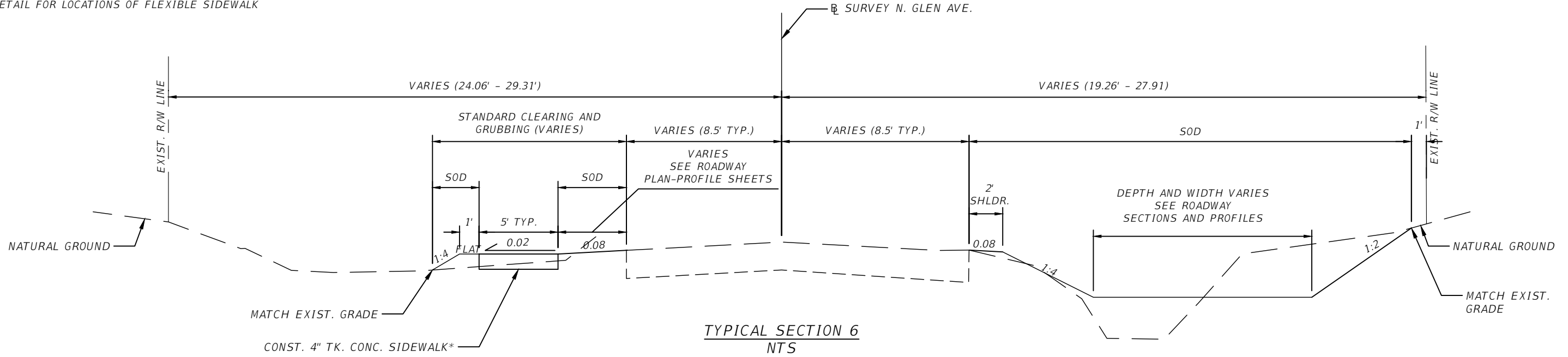
TRAFFIC DATA

CURRENT YEAR = 2022 AADT = <400
K = N/A D=50% T=N/A
DESIGN SPEED = 25 MPH

| REVISIONS | | | | SEAN PATRICK CURRAN, P.E. P.E. LICENSE NUMBER 85318 PATEL, GREENE & ASSOCIATES, LLC 12570 TELECOM DRIVE TEMPLE TERRACE, FLORIDA 33637 | CITY OF TAMPA TRANSPORTATION DEPARTMENT | | | TYPICAL SECTIONS (2) | SHEET NO. |
|-----------|-------------|------|-------------|---|--|--------|------------------|-----------------------------|------------|
| DATE | DESCRIPTION | DATE | DESCRIPTION | | ROAD NO. | COUNTY | CITY PROJECT NO. | | |
| | | | | | | N/A | HILLSBOROUGH | | 18-D-57101 |

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

*CONC. SIDEWALK TYPICAL, SEE TYPICAL SECTION
DETAIL FOR LOCATIONS OF FLEXIBLE SIDEWALK

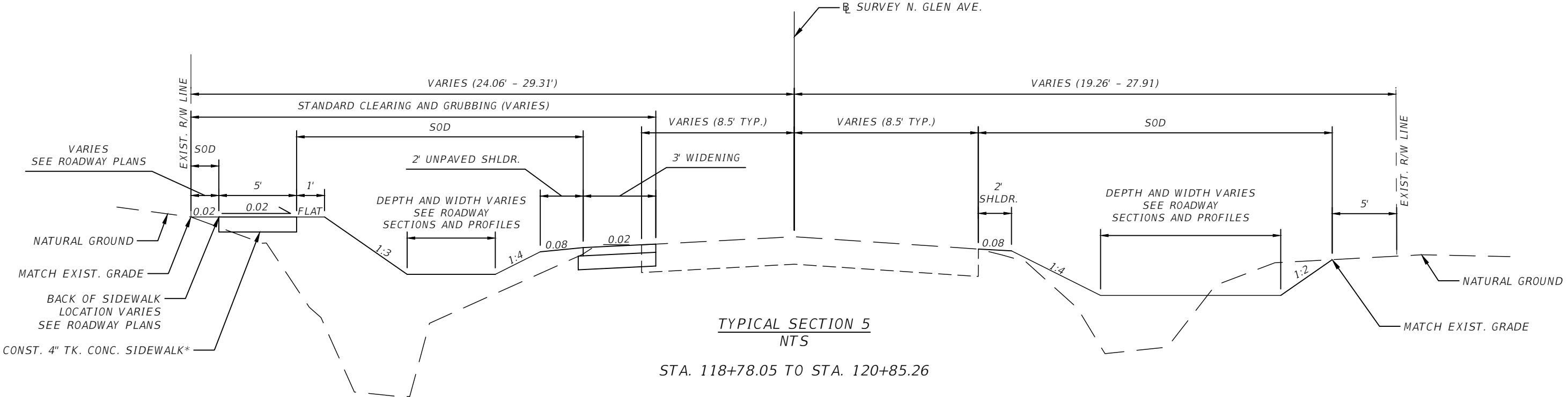


TYPICAL SECTION 6
NTS

STA. 121+40.00 TO STA. 123+79.93

TRAFFIC DATA

CURRENT YEAR = 2022 AADT = <400
K = N/A D=50% T=N/A
DESIGN SPEED = 25 MPH



TYPICAL SECTION 5
NTS

STA. 118+78.05 TO STA. 120+85.26

MAINLINE WIDENING

OPTIONAL BASE GROUP 3 (TYPE B-12.5 ONLY) (5.5")
1.5" SP TRAFFIC B

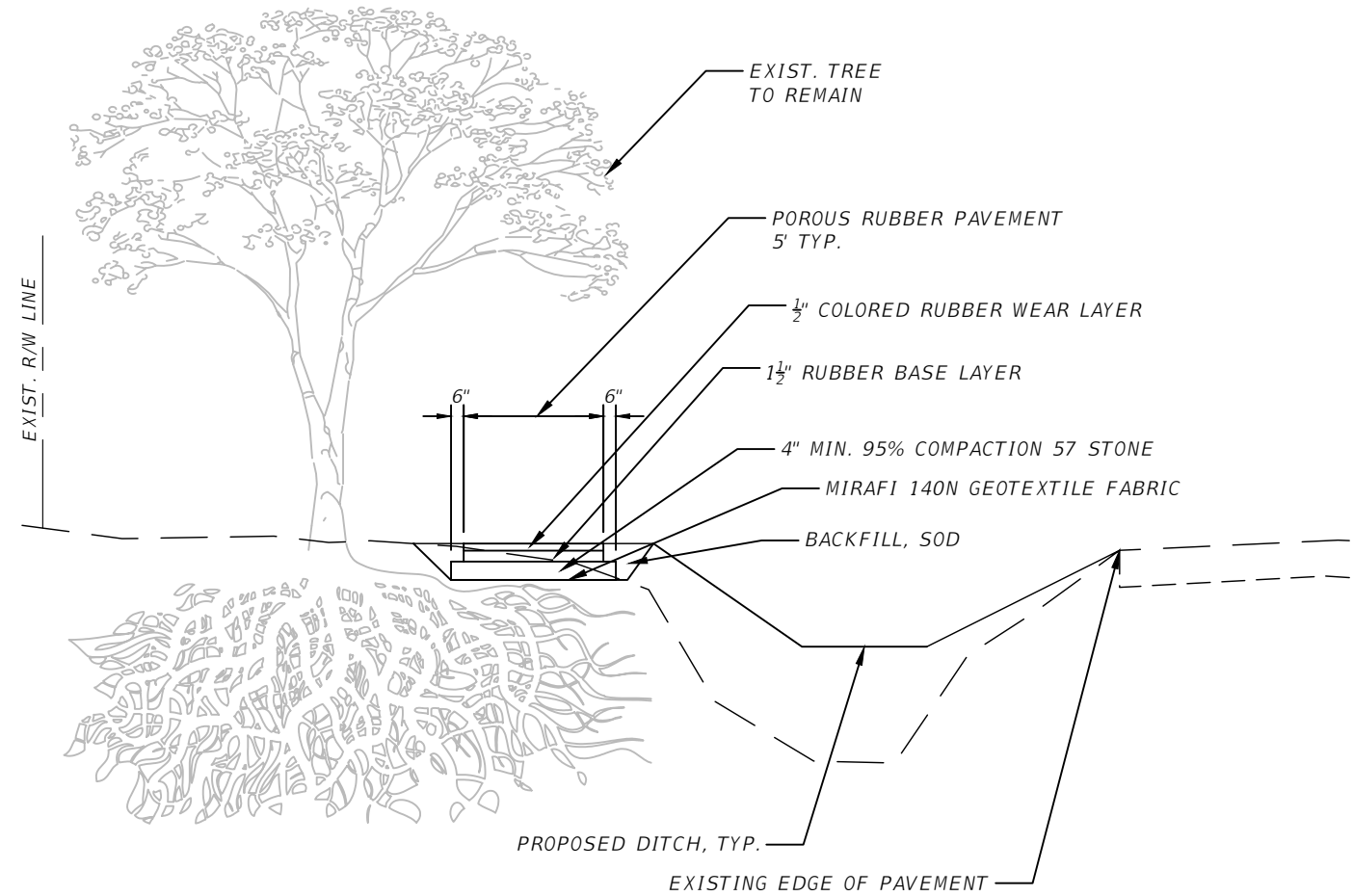
TRAFFIC DATA

CURRENT YEAR = 2022 AADT = <400
K = N/A D=50% T=N/A
DESIGN SPEED = 25 MPH

| REVISIONS | | | | SEAN PATRICK CURRAN, P.E. P.E. LICENSE NUMBER 85318 PATEL, GREENE & ASSOCIATES, LLC 12570 TELECOM DRIVE TEMPLE TERRACE, FLORIDA 33637 | CITY OF TAMPA TRANSPORTATION DEPARTMENT | | | SHEET NO. |
|-----------|-------------|------|-------------|---|--|--------------|------------------|-----------|
| DATE | DESCRIPTION | DATE | DESCRIPTION | | ROAD NO. | COUNTY | CITY PROJECT NO. | |
| | | | | | N/A | HILLSBOROUGH | 18-D-57101 | |

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

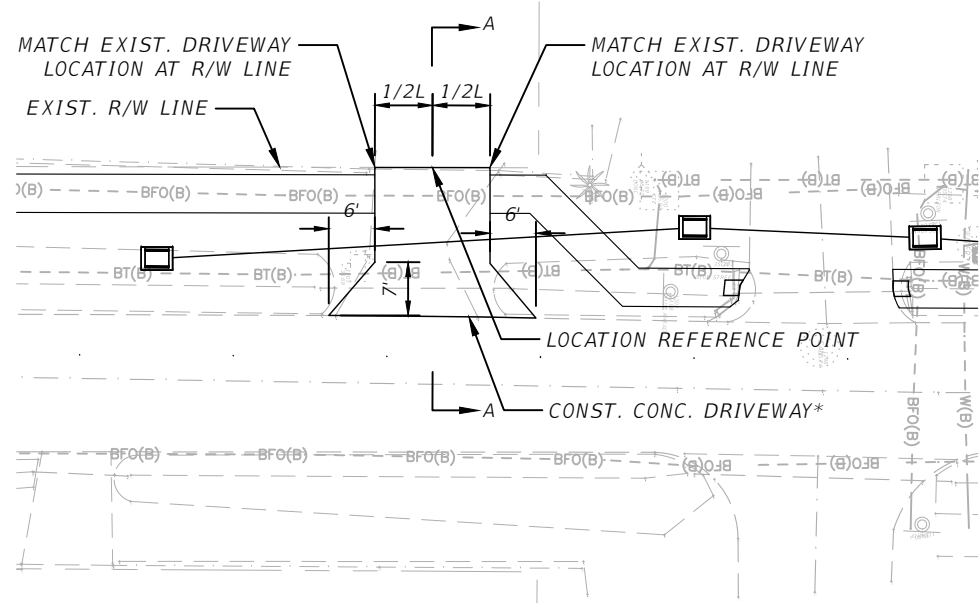
| TREES RETAINED | # OF TREES | MULTIPLIER FOR | TOTAL CREDITS |
|--|------------|----------------|---------------|
| 5" TO 7" | 1 | 0 | 0 |
| 8" TO 12" | 9 | 1 | 9 |
| 13" TO 19" | 13 | 2 | 26 |
| 20" TO 29" | 7 | 4 | 28 |
| 30" OR MORE | 8 | 10 | 80 |
| ALL PALMS | 25 | 1 | 25 |
| TOTAL | 63 | | 168 |
| TREES REMOVED | # OF TREES | MULTIPLIER FOR | TOTAL CREDITS |
| 5" TO 7" | 1 | 0 | 0 |
| 8" TO 12" | 0 | 1 | 0 |
| 13" TO 19" | 1 | 2 | 2 |
| 20" TO 29" | 4 | 4 | 16 |
| 30" OR MORE | 0 | 10 | 0 |
| ALL PALMS | 1 | 1 | 1 |
| TOTAL | 7 | | 19 |
| % REMOVED | 10.00% | | |
| VUA TREE REQUIREMENTS | LF/SF | TREES REQUIRED | VUA TREES |
| LINEAR FEET VUA ADJACENT STREET FRONTAGE | 2350.6 | 1 PER 40 LF | 59 |
| TOTAL SQUARE FOOTAGE OF VUA | 42310.8 | 1 PER 1500 SF | 28 |
| VEHICLE USE AREA GREENSPACE | 8462.16 | 20% OF VUA | |
| USE TREE REQUIREMENTS | | | |
| INSERT PROPOSED USE HERE...IF APPLICABLE | | 1 PER 2000 | 0 |
| MUST PLACE "0" IF NO TREES REQUIRED | 0 | 1 PER 4000 | 0 |
| TOTAL 2" TREES REQUIRED | | | 0 |



FLEXIBLE SIDEWALK DETAIL AND LOCATIONS
NTS

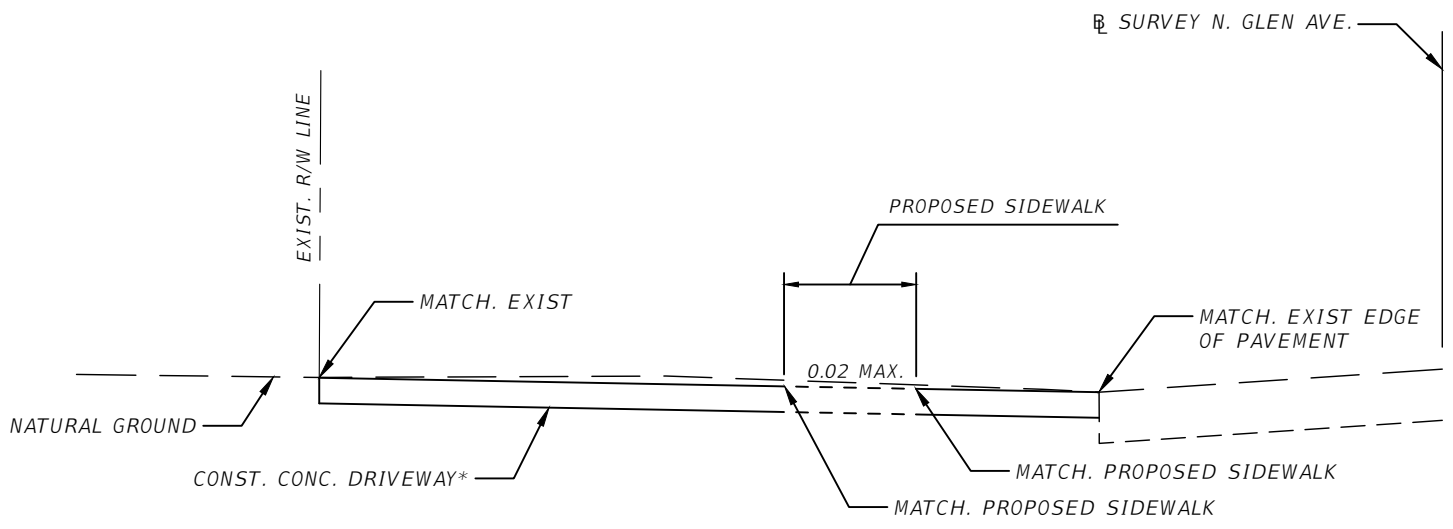
- STA. 103+48.46 TO STA. 103+59.04
- STA. 104+68.58 TO STA. 104+82.06
- STA. 105+62.75 TO STA. 106+84.05
- STA. 111+18.21 TO STA. 111+66.93
- STA. 114+15.00 TO STA. 114+30.00
- STA. 115+78.28 TO STA. 115+93.86

| REVISIONS | | | | SEAN PATRICK CURRAN, P.E. P.E. LICENSE NUMBER 85318 PATEL, GREENE & ASSOCIATES, LLC 12570 TELECOM DRIVE TEMPLE TERRACE, FLORIDA 33637 | CITY OF TAMPA TRANSPORTATION DEPARTMENT | | | SHEET NO. |
|-----------|-------------|------|-------------|---|--|--------------|------------------|-----------|
| DATE | DESCRIPTION | DATE | DESCRIPTION | | ROAD NO. | COUNTY | CITY PROJECT NO. | |
| | | | | | N/A | HILLSBOROUGH | 18-D-57101 | |



*6" THICK, 3,000 PSI CONCRETE
 SEE ROADWAY PLAN - PROFILE FOR DRIVEWAY LOCATION
 AND SUMMARY OF QUANTITIES FOR MORE INFORMATION

PLAN VIEW
 NTS



SECTION A-A
 NTS

DRIVEWAY DETAIL
 NTS

| REVISIONS | | | |
|-----------|-------------|------|-------------|
| DATE | DESCRIPTION | DATE | DESCRIPTION |
| | | | |

SEAN PATRICK CURRAN, P.E.
 P.E. LICENSE NUMBER 85318
 PATEL, GREENE & ASSOCIATES, LLC
 12570 TELECOM DRIVE
 TEMPLE TERRACE, FLORIDA 33637

| CITY OF TAMPA TRANSPORTATION DEPARTMENT | | |
|--|--------------|-------------------|
| ROAD NO. | COUNTY | CITY CONTRACT NO. |
| N/A | HILLSBOROUGH | 18-D-57101 |

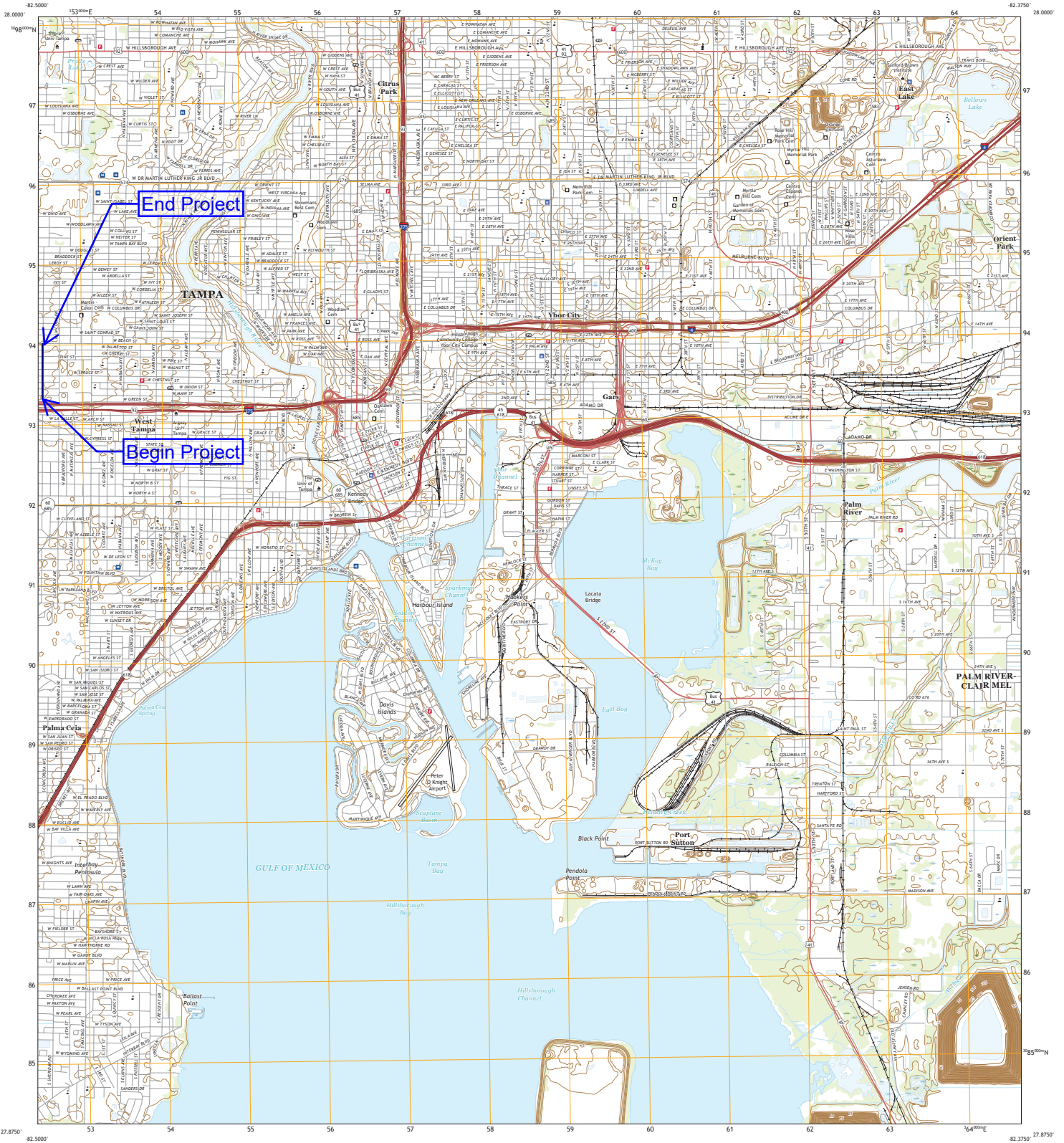
TYPICAL SECTION DETAILS (2)

SHEET NO.

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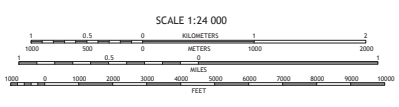


USGS Quadrangle Map



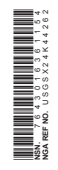
Produced by the United States Geological Survey
 North American Datum of 1983 (NAD83)
 World Geodetic System of 1984 (WGS84) Projection and
 1 000-meter grid/Universal Transverse Mercator, Zone 17R
 This map is not a legal document. Boundaries may be
 generalized for this map scale. Private lands within government
 reservations may not be shown. Obtain permission before
 entering private lands.

| | | | | |
|---------------------------|-------|-------------------------------------|----------|---------------|
| Imagery | | NAP | May 2015 | February 2016 |
| Base | | U.S. Census Bureau | 2010 | 2016 |
| Hydrography | | National Hydrography Dataset | 2002 | 2018 |
| Contours | | National Elevation Dataset | 2010 | 2011 |
| Boundaries | | Multiple sources; see metadata file | 2014 | 2016 |
| Public Land Survey System | | BLM | 2007 | |
| Wetlands | | FWS National Wetlands Inventory | 2010 | |



| | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | 6 |
| 7 | 8 | 9 |

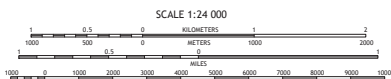
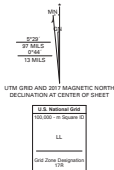
Adjacent quadrangles





Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84), Projection and
1 000-meter grid/Universal Transverse Mercator, Zone 17R
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands with government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery:.....NAP, May 2015, February 2016
Banks:.....U.S. Census Bureau, 2016
Names:.....GNIS, 1979
Hydrography:.....National Hydrography Dataset, 2002
Contours:.....National Elevation Dataset, 2011
Boundaries:.....Multiple sources; see metadata file 2014
Public Land Survey System:.....BLM, 2017
Wetlands:.....FWS National Wetlands Inventory 2010



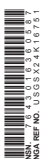
| | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | 6 |
| 7 | 8 | 9 |

Adjacent quadrangles



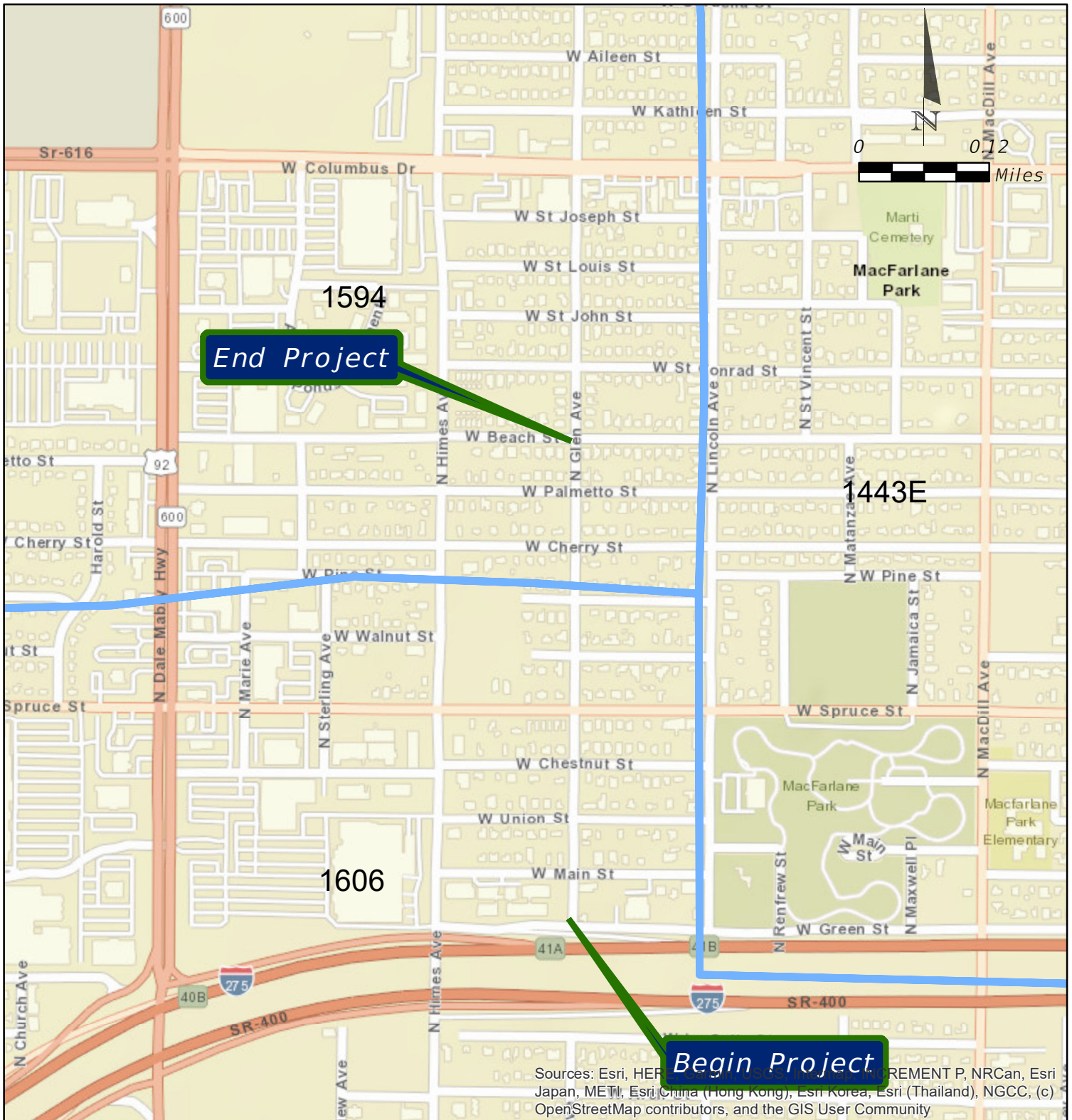
CONTOUR INTERVAL: 5 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product in draft version 0.18

GANDY BRIDGE, FL
2018






WBID Map



Legend

 Waterbody_IDs_WBIDs



Patel, Greene & Associates, LLC
 12570 Telecom Drive
 Temple Terrace, FL 33637
 Sean Patrick Curran, PE #85318

WBID Map
 Glen Ave. From N. Green St.
 to W. Beach St.

Date: 1/19/2022



FEMA Maps

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Coastal Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Coastal Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on cross sections with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Florida State Plane west zone (FIPSZONE 9902). The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NGS12
National Geodetic Survey
SSM3-3, #0202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at www.ngs.noaa.gov. Information on elevation reference marks is readily available through a variety of sources: the NGS website, www.ngs.noaa.gov/cgibin/datasheet.cgi, the Land Boundary Information System (LBINS) maintained by the Florida Department of Environmental Protection www.lbins.org and the Hillsborough County Survey Division www.hillsboroughcounty.org/realstate/surveying/.

Base map information shown on this FIRM was derived from multiple sources. Road centerlines were provided by the City of Tampa Geographic Information System (GIS) group. These data were aligned to aerial imagery at 6-inch pixel resolution dated 2004. Surface water features were provided by the Hillsborough County Information Technology & Services GIS Section. These data were digitized from aerial imagery at 1-foot and 6-inch pixel resolution dated February 2000 and April 2004. Political boundaries were provided by the Hillsborough County Real Estate Department, Survey Division, GIS Section. These data were compiled in 2003. Public Land Survey System (range, township, and section) were provided by the Florida Geographic Data Library. These data were produced at a scale of 1:24,000.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

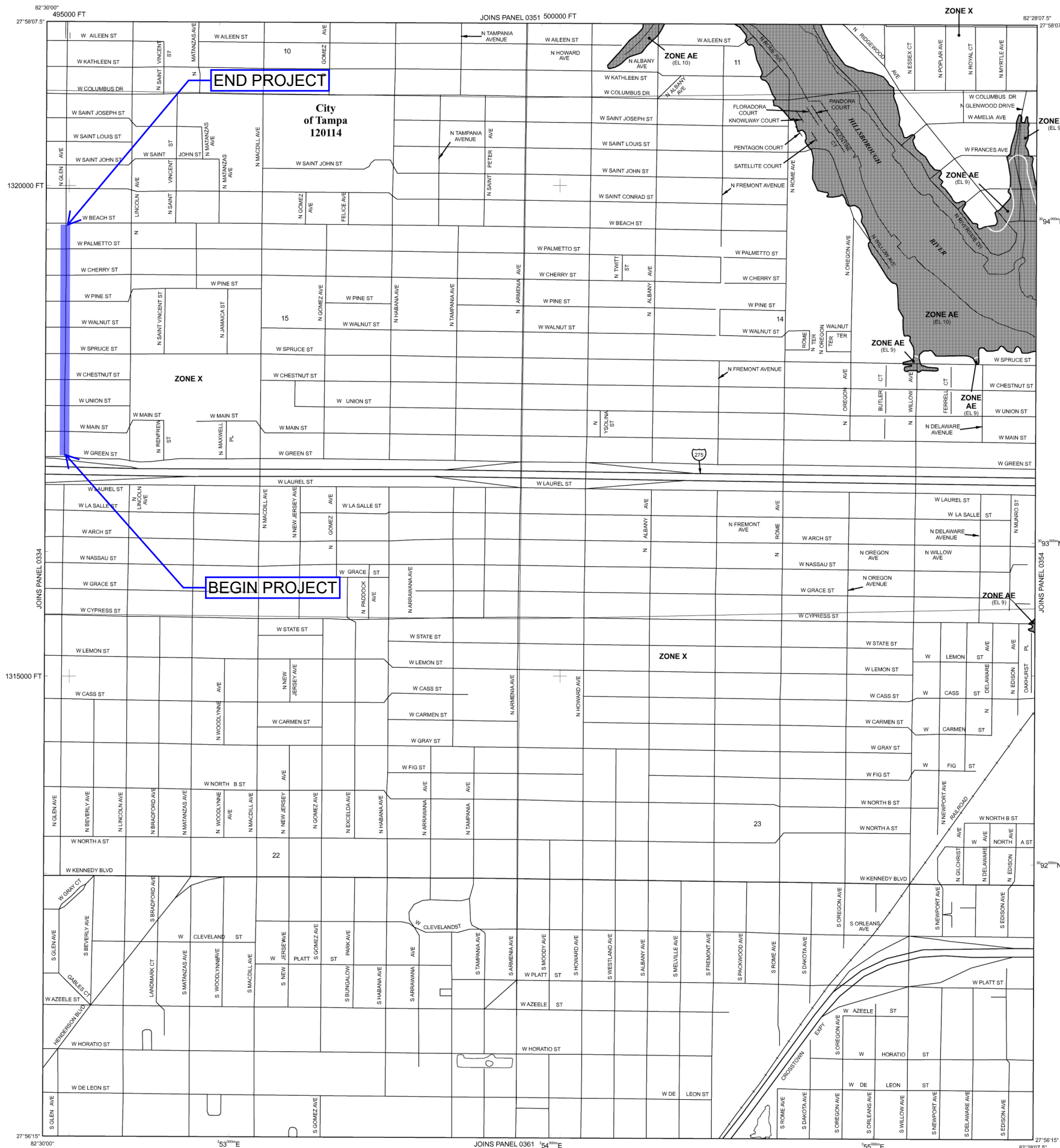
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://msc.fema.gov/>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/>.



In cooperation with the Federal Emergency Management Agency (FEMA), Hillsborough County developed this Flood Insurance Rate Map in a digital countywide format to assist communities in their efforts to minimize the loss of property and life through effective management development in floodprone areas. Hillsborough County has implemented a long term approach to floodplain management to reduce the impacts of flooding. This is demonstrated by the County's commitment to map floodplain areas at the local level. As part of this effort, Hillsborough County is working closely with FEMA as a Cooperating Technical Partner to produce and maintain this digital FIRM.



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, A99, 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 A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); 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 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 1988

⊕ Cross section line
⊖ Transect line

87°07'45", 32°22'30"

776°N

600000 FT

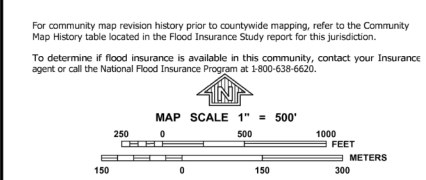
DX5510 x

- M1.5 River Mile
- ◆ 410285 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



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0353H

FIRM

FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 353 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|----------------|--------|-------|--------|
| TAMPA, CITY OF | 120114 | 0353 | 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
12057C0353H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency



NRCS Soil Survey



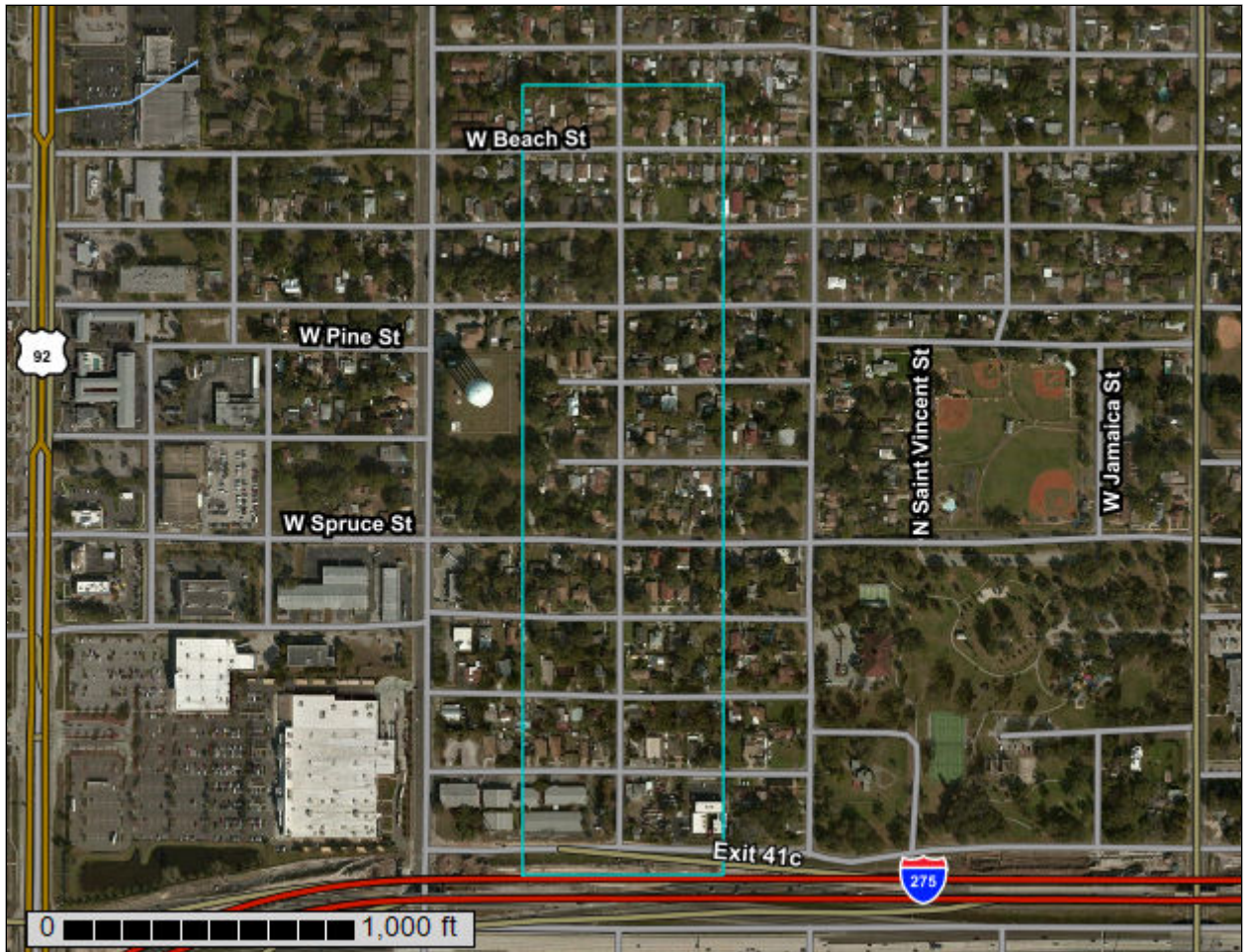
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Hillsborough County, Florida



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

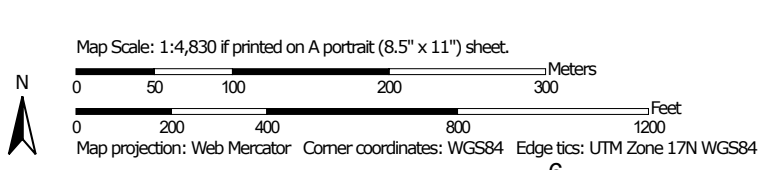
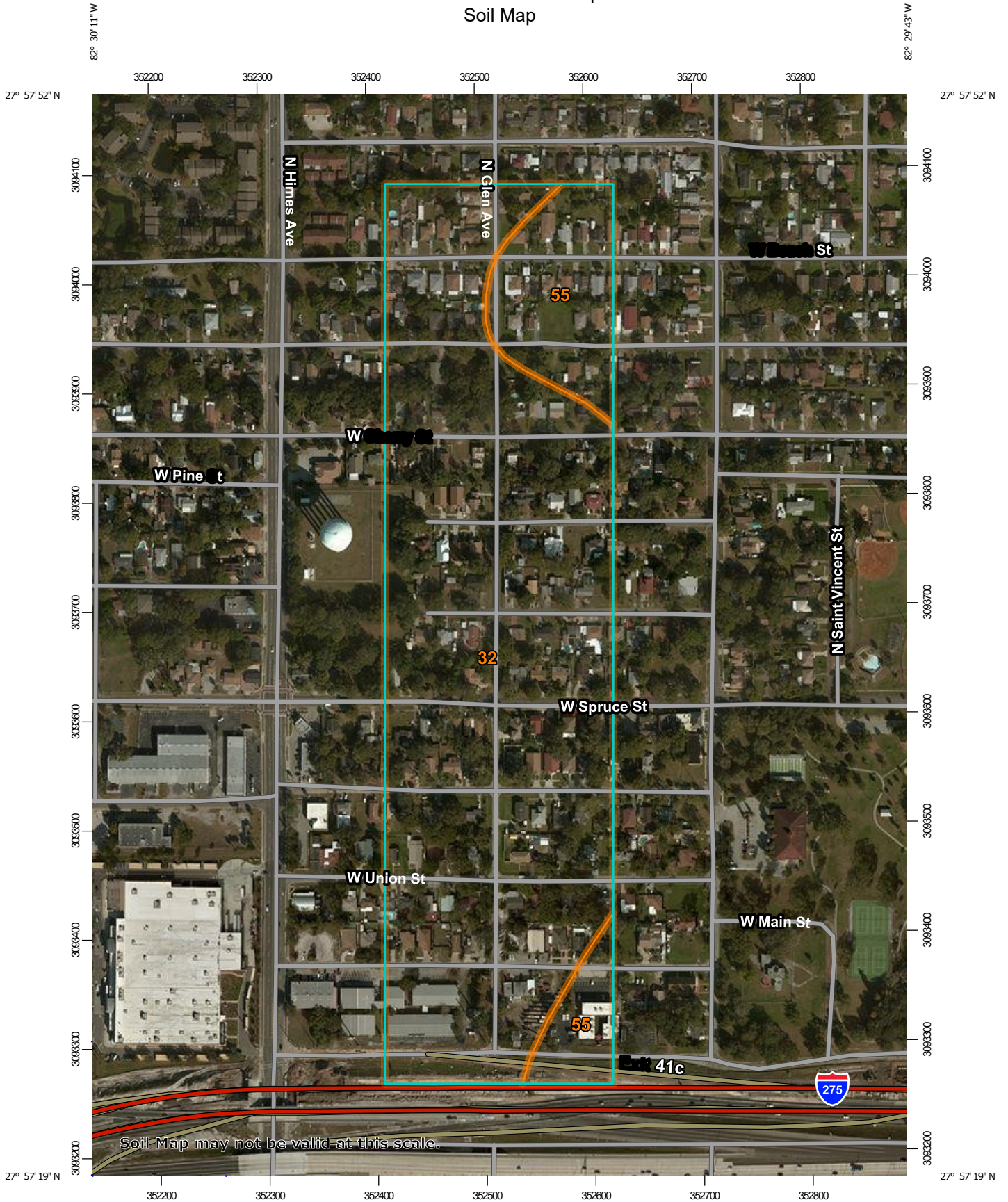
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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hillsborough County, Florida
 Survey Area Data: Version 17, Sep 14, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 19, 2013—Jan 17, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|------------------------------------|---|--------------|----------------|
| 32 | Myakka-Urban land complex | 36.5 | 84.9% |
| 55 | Tavares-Urban land complex, 0 to 5 percent slopes | 6.5 | 15.1% |
| Totals for Area of Interest | | 42.9 | 100.0% |

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Hillsborough County, Florida

32—Myakka-Urban land complex

Map Unit Setting

National map unit symbol: 1j72j
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 324 to 354 days
Farmland classification: Not prime farmland

Map Unit Composition

Myakka and similar soils: 50 percent
Urban land: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myakka

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 20 inches: fine sand
Bh - 20 to 30 inches: fine sand
C - 30 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: No parent material

Minor Components

Basinger

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Wabasso

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Zolfo

Percent of map unit: 3 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Upland Hardwood Hammock (R155XY008FL)
Hydric soil rating: No

55—Tavares-Urban land complex, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1j737
Elevation: 20 to 150 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 324 to 354 days
Farmland classification: Not prime farmland

Map Unit Composition

Tavares and similar soils: 50 percent

Urban land: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tavares

Setting

Landform: Ridges on marine terraces, flats on marine terraces

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Eolian or sandy marine deposits

Typical profile

A - 0 to 6 inches: fine sand

C - 6 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 5 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 50.02 in/hr)

Depth to water table: About 42 to 72 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 4.0

Available water storage in profile: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: A

Forage suitability group: Forage suitability group not assigned (G155XB999FL)

Hydric soil rating: No

Description of Urban Land

Setting

Landform: Marine terraces

Landform position (three-dimensional): Interfluve, talf

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: No parent material

Minor Components

Candler

Percent of map unit: 5 percent

Landform: Ridges on marine terraces, knolls on marine terraces

Landform position (three-dimensional): Interfluve

Custom Soil Resource Report

Down-slope shape: Convex
Across-slope shape: Convex
Other vegetative classification: Longleaf Pine-Turkey Oak Hills (R155XY002FL)
Hydric soil rating: No

Millhopper

Percent of map unit: 5 percent
Landform: Rises on marine terraces, flats on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Longleaf Pine-Turkey Oak Hills (R155XY002FL)
Hydric soil rating: No

Myakka

Percent of map unit: 5 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

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Custom Soil Resource Report

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Datum Conversion

Questions concerning the VERTCON process may be mailed to [NGS](#)

Latitude: 27 57 44.480

Longitude: 082 29 57.68

NGVD 29 height: 0.00 ft

Datum shift(NAVD 88 minus NGVD 29): -0.860 feet

Converted to NAVD 88 height: -0.860 feet



Cost Estimate

ENGINEER'S ESTIMATE
CITY OF TAMPA TRANSPORTATION AND STORMWATER SERVICES DEPARTMENT

| | | |
|-----------------------------|---|----------------------------|
| | CONTRACT NO.: | 18-D-57101 |
| PROJECT DESCRIPTION: | CITY OF TAMPA STORMWATER PONDING ASSIGNMENT - FLEN AVENUE DITCH ENCLOSURE | |
| | PAY ITEM SPEC YEAR: | January 2022 |
| | SUBMITTAL TYPE: | 75% PLANS ESTIMATE |
| | COUNTY: | Hillsborough |
| | DATE: | January 19, 2022 |
| | ENGINEERING CONSULTANT FIRM: | PATEL, GREENE & ASSOCIATES |
| | CONTACT NAME: | SEAN CURRAN |
| | PHONE NUMBER: | (813) 978-3100 |
| | FILE VERSION: | EE_11-05_Rev29 |
| | PAGE NUMBER: | 1 of 1 |

COMPONENT GROUPS

| | | |
|---|-----------------|---------------------|
| 100 - STRUCTURES | <i>NOT USED</i> | |
| 200 - ROADWAY | | \$331,285.65 |
| 300 - SIGNING & PAVEMENT MARKINGS | <i>NOT USED</i> | |
| 400 - LIGHTING | <i>NOT USED</i> | |
| 500 - SIGNALIZATION | <i>NOT USED</i> | |
| 550 - ITS | <i>NOT USED</i> | |
| 600 - LANDSCAPE / PERIPHERALS | <i>NOT USED</i> | |
| 700 - UTILITIES | <i>NOT USED</i> | |
| 800 - ARCHITECTURAL | <i>NOT USED</i> | |
| 900 - MASS TRANSIT | <i>NOT USED</i> | |
| 1000 - INVALID & OTHER ITEMS | <i>NOT USED</i> | |
| COMPONENT SUB-TOTAL | | \$331,285.65 |
| (102-1) MOT (Maintenance of Traffic) | 3% | \$9,938.57 |
| SUB-TOTAL | | \$341,224.22 |
| (101-1) MOB (Mobilization) | 5% | \$17,061.21 |
| SUB-TOTAL | | \$358,285.43 |
| PU (Project Unknowns) | 10% | \$35,828.54 |
| SUB-TOTAL | | \$394,113.97 |
| (999-25) Initial Contingency (Do Not Bid) | | \$20,000.00 |
| PROJECT GRAND TOTAL | | \$414,113.97 |

NOTES:



APPENDIX B

Project Scope



EXHIBIT A
STORMWATER PONDING ASSIGNMENT FOR N. GLEN AVE.
SCOPE OF SERVICES
ENGINEERING CONSULTANT SERVICES

I. PROJECT DESCRIPTION:

Transportation engineering services will be provided by Patel, Greene and Associates (FIRM) to the City of Tampa (CITY) for the elimination of the roadside ditches along N. Glen Ave. from W. Green St. to W. Beach St. and may include but is not limited to roadway/drainage analysis, roadway and stormwater design, utilities coordination, environmental permitting, surveying and mapping, and post-design services.

A. Project Development/Preliminary Engineering

1. Design Survey – Element will perform design survey and data collection along N. Glen Ave. from W. Green St. to W. Beach Street and additional drainage as described below.
 - i. Establish horizontal control in NAD 83 and vertical control in NAVD 88 using CITY control points and NGS.
 - ii. Establish alignment along N. Glen Street using pavement splits for the design survey limits. Create Project Control Sheets with Horizontal and Vertical Datum tied to the project alignment. XY coordinates will be shown on alignment with no references set.
 - iii. Existing right of way along N. Glen Ave. for Design Survey Limits will be based on CITY GIS location of lines.
 - iv. Design survey (Topography) for 2400± linear feet along N. Glen Ave. from the intersection of W. Green Street to the north returns of W. Beach Street. Lateral limits will be from right of way to right of way and will include all visible surface features enough to build a 3D DTM. Includes above ground utilities.
 - v. Locate drainage information for existing structures on both sides of N. Glen Ave. from W. Green Street to W. Beach Street. Additionally, Element will locate drainage information westerly from N. Glen Ave. along W. Beach Street for approximately 200', easterly from N. Glen Ave. along W. Palmetto Street for approximately 350' and westerly from N. Glen Ave. along W. Spruce Street for approximately 300'.
 - vi. Information will be provided in AutoCAD format.

B. Design

1. Final construction plans development with appropriate roadway, drainage, miscellaneous structures, signing and pavement marking and landscape architecture components as necessary in support of the drainage improvements.



Scope of Services

Stormwater Ponding – N. Glen Avenue, Engineering Consultant Services

The following submittals will be provided to the CITY in AutoCAD format as appropriate:

- a. Survey Files
- b. 60% Plans
- c. 100% Plans
- d. Final Plans
- e. Utility Leve B location incorporated in the CITY's existing files
- f. SUE - Utility Test Hole Data Sheet
- g. Drainage Design Documentation
- h. Construction Cost Estimate
- i. Constructability Reviews

2. Drainage Analysis

The existing rural two-lane roadway utilizes drainage by ditches. There are a number of driveways with side drains. The soils in this area are predominately moderately well drained sand and are not anticipated to have high water tables. There are no known flooding complaints within the project limits. There are no areas of FEMA floodplain located within the project limits.

The project lies within WBIDs 1606 (Lemon Street Ditch, Not Impaired) and 1594 (Fish Creek, Impaired for Fecal Coliform). Within and adjacent to the project limits there are no permitted water management systems. The FIRM is responsible for the final determination of the number and size of cross drains, side drains, WBIDs, and permitting requirements within the project limits.

The Project Issues are:

- Limited Right-of-Way to accommodate proposed ditch conveyance and storm sewer system.
- Native trees within proposed ditches that will require permitting/certified experts to work in vicinity.
- Limited ground cover for proposed storm sewer system.

As part of the stormwater management design, the design shall provide documented assurance that there are no adverse impacts to adjacent property owners both upstream and downstream. As part of the design, the proposed design shall evaluate any potential increase in discharge rates and water surface elevations. The design shall evaluate any potential increase in discharge rate and volume to the outfalls and determine if this increase could have an adverse impact to adjacent properties. Impacts identified by the Designer as not causing an adverse impact shall be well documented and will require approval from the CITY. If the impact is identified as an



Scope of Services

Stormwater Ponding – N. Glen Avenue, Engineering Consultant Services

adverse impact, the design shall evaluate providing additional storage within the existing right-of-way or other potential solutions (i.e. exfiltration trenches) to eliminate or reduce the adverse impact. This shall be clearly documented in the drainage documentation so that the design can easily be defended should any property owner have a concern of increased flows or water surface elevations due to the multi-use trail. This evaluation and documentation is required for all stormwater improvement projects, including those that may be identified as exempt from water management district permitting requirements. The level of evaluation effort should be commensurate with the risk associated with the project.

The drainage documentation shall report on the operation of the existing drainage system and document the proposed project actions that are intended to improve or maintain the existing drainage conditions. All drainage structures that are damaged at flooding locations, or where work is proposed should be addressed in the report.

The FIRM shall notify the CITY if video inspection of the storm sewer system is recommended. Video inspection services will be performed by others under the CITY's maintenance department. Within three weeks following the Notice-To-Proceed, the FIRM shall provide to the CITY figures showing the locations of the pipes to be inspected and shall quantify the length and pipe sizes for the required work. Prior to the first phase submittal of plans, the FIRM shall review the inspection report and provide to the CITY recommendations and construction cost estimates for any pipe repair. The design implementation of any approved recommendations not included in this Scope of Services may be added to the Agreement as an Optional Service.

3. Utility Locations and Coordination

- Utility Location - WGI will provide an ASCE 38-02 Quality Level B utility investigation, in order to determine the horizontal location of existing utilities for purposes of QLA Investigation within the project limits – 6.5 utility miles, based on Sunshine 811. This includes direct induction of toneable subsurface utility facilities from surface accessible features, and Ground Penetrating Radar sweep for non-toneable facilities. Mark detected facilities with American Public Works Association (APWA) compliant colors; flags on soft ground and washable chalk on hard surfaces. Drafting and/or other CADD services are included and will be incorporated into existing CADD files provided by the CITY.
- WGI will provide an ASCE 38-02 Quality Level A field investigation within the project limits (Exhibit A) as verification of the existing utilities, up to thirteen (13) test holes are anticipated. Generally, utility facilities found by vacuum excavation can be visually exposed to a depth equal to the water table; an air lance probe will be used for deeper facilities; however, visual



Scope of Services

Stormwater Ponding – N. Glen Avenue, Engineering Consultant Services

confirmation will not be possible for facilities lying below the water table. Geophysical designating techniques, although highly reliable, are subject to outside interference with are beyond the control of WGI and may impede the effectiveness of subsurface utility investigations. Soil conditions, utility materials, size, depth, saltwater and conductivity may prevent the location of some subsurface utilities. WGI utilizes state of the art equipment and methodology during all phases of utility investigations, but no guarantee is hereby expressed that all facilities will be detected. Utility records research is included. Basic work zone safety includes safety road signs and traffic cones. WGI will provide test-hole data sheet with the obtainable data; digital photos, utility description, depth, size, type, direction, and material of the facility. WGI will provide survey and location of utility test holes using network corrected GNSS surveying methods. Exclusions: Permits and permit fees, MOT road closures or off duty policy traffic control if needed, are not included.

C. Permitting

There are no existing wetlands or surface waters that will be impacted, and no additional traffic lanes are proposed. We anticipate that this project is exempt from permitting.

D. Post-Design Services

1. Attend pre-construction meetings
2. Review bid documents
3. Review shop drawings
4. Respond to CEI's and Contractor's RFIs and RFCs
5. Prepare as-built/record drawings
6. Plans revisions

II. SCHEDULE:

The FIRM should be prepared to commence work on the assignment upon issuance of the authorization by the CITY. All services shall be completed as defined in the individual task work authorization. In the event that this assignment is expected to exceed the time period specified, the FIRM will provide a written status report to the CITY identifying the reasons for exceeding the specified time period and a revised schedule for completing the assignment.

III. COMPENSATION:

The CITY shall compensate the FIRM for performing services identified within this Scope of Services. Total compensation for all services and reimbursable expenses shall be the



Scope of Services

Stormwater Ponding – N. Glen Avenue, Engineering Consultant Services

Lump Sum amount of \$145,879.59. The FIRM shall submit invoices supported by a progress report. The required DMI “Payment” form will also be submitted with each monthly invoice.

IV. OPTIONAL SERVICES:

PGA will provide optional services as requested by the CITY. Those services may include but are not limited to the following.

- A. Documentation and coordination efforts if permits are required (SWFWMD, FDEP, ACOE, etc.).
- B. Permitting fees.
- C. Geotechnical support (soil borings and asphalt cores).

Any optional services shall be negotiated on an individual basis in writing, and shall include a specific scope of service, a proposed fee and a timeline for delivery.

Date

Chris Smith
PGA Project Manager



APPENDIX C

Drainage Calculations



Storm Tabulations

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

STORM DRAIN TABULATION FORM

PROJECT: Glen Avenue Ditch Enclosure
PROJECT NUMBER: 18-D-57101

SYSTEM: South System
LOCATION: W. Green St. to Spruce St.

PREPARED BY: SC
CHECKED BY: KY

DATE: 13-Jan-22
DATE: 19-Jan-21

| LOCATION OF UPPER END | | | STRUCTURE NO. | TYPE OF STRUCTURE | MAINLINE (M) OR LATERAL (L) | LENGTH (ft) | DRAINAGE AREA (Ac) | | | INLET PIPE | TIME OF CONCENTRATION (min.) | TIME OF FLOW IN SECTION (min.) | INTENSITY (in./hr.) | INCREMENTAL INFLOW (CFS) | TOTAL (C*A) | TOTAL RUNOFF (cfs) | THERO GUTTER OR GRATE ELEV. (ft) | HYDRAULIC GRADIENT | | | | | NUMBER OF BARRELS | PIPE SIZE (in.) | PIPE RISE | HYD. GRAD. | PHYSICAL MIN. PHYS. | ZONE OR COUNTY: | FREQUENCY (YR) |
|----------------------------|------------------|--------------|---------------|-------------------|-----------------------------|-------------|--------------------|-------------|-----------------|--------------|------------------------------|--------------------------------|---------------------|--------------------------|-------------|--------------------|----------------------------------|--------------------|--------------|-------------|-------------|--------------|-------------------|-----------------|-------------|------------|---------------------|-----------------|---|
| | | | | | | | INCREMENTAL | SUBTOTAL | SUB-TOTAL (C*A) | | | | | | | | | CROWN FLOW LINE | | TOTAL | MINOR | MINOR | | | | | | | |
| <u>Bl Const. Glen Ave.</u> | <u>108+20.00</u> | <u>23.58</u> | <u>RT</u> | <u>S-12</u> | <u>DBI C</u> | <u>L</u> | <u>40</u> | <u>0.17</u> | <u>0.17</u> | <u>0.162</u> | <u>15.00</u> | <u>0.12</u> | <u>5.78</u> | <u>0.00</u> | <u>0.20</u> | <u>1.15</u> | <u>34.01</u> | <u>34.30</u> | <u>34.28</u> | <u>0.02</u> | <u>0.02</u> | <u>0.50</u> | <u>1</u> | <u>Ellip.?</u> | <u>0.03</u> | <u>0.9</u> | <u>16.74</u> | <u>6</u> | <u>5</u> |
| | <u>107+80.00</u> | <u>21.69</u> | <u>RT</u> | <u>S-10</u> | <u>DBI C</u> | <u>L</u> | <u>34</u> | <u>0.00</u> | <u>0.00</u> | <u>0.000</u> | <u>15.00</u> | <u>0.19</u> | <u>4.98</u> | <u>0.00</u> | <u>0.40</u> | <u>1.98</u> | <u>33.60</u> | <u>32.80</u> | <u>32.40</u> | <u>0.01</u> | <u>0.01</u> | <u>0.50</u> | <u>1</u> | <u>12</u> | <u>1.00</u> | <u>5.7</u> | <u>12.30</u> | <u>1.00</u> | |
| | <u>107+80.00</u> | <u>21.69</u> | <u>RT</u> | <u>S-9</u> | <u>DBI C</u> | <u>L</u> | <u>34</u> | <u>0.15</u> | <u>0.15</u> | <u>0.038</u> | <u>15.00</u> | <u>0.19</u> | <u>4.98</u> | <u>0.00</u> | <u>0.40</u> | <u>1.98</u> | <u>33.60</u> | <u>31.80</u> | <u>31.40</u> | <u>0.40</u> | <u>0.01</u> | <u>0.012</u> | <u>1</u> | <u>15</u> | <u>0.19</u> | <u>2.5</u> | <u>12.30</u> | <u>1.00</u> | |
| <u>Bl Const. Glen Ave.</u> | <u>108+20.00</u> | <u>22.00</u> | <u>LT</u> | <u>S-11</u> | <u>DBI C</u> | <u>M</u> | <u>41</u> | <u>0.17</u> | <u>0.17</u> | <u>0.162</u> | <u>15.00</u> | <u>0.12</u> | <u>5.78</u> | <u>0.00</u> | <u>0.20</u> | <u>1.15</u> | <u>33.79</u> | <u>34.28</u> | <u>34.23</u> | <u>0.05</u> | <u>0.05</u> | <u>0.50</u> | <u>1</u> | <u>Ellip.?</u> | <u>0.08</u> | <u>1.6</u> | <u>16.64</u> | <u>6</u> | <u>5</u> |
| | <u>107+80.00</u> | <u>12.82</u> | <u>LT</u> | <u>S-9</u> | <u>DBI C</u> | <u>M</u> | <u>70</u> | <u>0.00</u> | <u>0.00</u> | <u>0.000</u> | <u>15.00</u> | <u>0.40</u> | <u>4.49</u> | <u>0.00</u> | <u>0.80</u> | <u>3.58</u> | <u>33.47</u> | <u>32.40</u> | <u>32.30</u> | <u>0.02</u> | <u>0.02</u> | <u>0.50</u> | <u>1</u> | <u>12</u> | <u>0.29</u> | <u>3.1</u> | <u>10.29</u> | <u>1.00</u> | |
| | <u>107+80.00</u> | <u>12.82</u> | <u>LT</u> | <u>S-7</u> | <u>DBI C</u> | <u>M</u> | <u>70</u> | <u>0.15</u> | <u>0.60</u> | <u>0.150</u> | <u>25.76</u> | <u>0.40</u> | <u>4.49</u> | <u>0.00</u> | <u>0.80</u> | <u>3.58</u> | <u>33.47</u> | <u>31.40</u> | <u>31.30</u> | <u>0.10</u> | <u>0.03</u> | <u>0.012</u> | <u>1</u> | <u>15</u> | <u>0.19</u> | <u>2.5</u> | <u>10.29</u> | <u>1.00</u> | <u>Unable to meet minimum velocity due to existing topography</u> |
| <u>Bl Const. Glen Ave.</u> | <u>107+10.00</u> | <u>15.00</u> | <u>LT</u> | <u>S-8</u> | <u>DBI C</u> | <u>M</u> | <u>90</u> | <u>0.07</u> | <u>0.75</u> | <u>0.713</u> | <u>15.00</u> | <u>0.50</u> | <u>4.14</u> | <u>0.00</u> | <u>0.89</u> | <u>3.68</u> | <u>34.07</u> | <u>34.02</u> | <u>33.70</u> | <u>0.32</u> | <u>0.32</u> | <u>0.50</u> | <u>1</u> | <u>Ellip.?</u> | <u>0.27</u> | <u>3.0</u> | <u>9.66</u> | <u>6</u> | <u>5</u> |
| | <u>106+20.00</u> | <u>15.00</u> | <u>LT</u> | <u>S-6</u> | <u>DBI C</u> | <u>M</u> | <u>60</u> | <u>0.00</u> | <u>0.00</u> | <u>0.000</u> | <u>30.25</u> | <u>0.30</u> | <u>3.87</u> | <u>0.00</u> | <u>1.04</u> | <u>4.04</u> | <u>34.07</u> | <u>32.20</u> | <u>32.10</u> | <u>0.07</u> | <u>0.07</u> | <u>0.50</u> | <u>1</u> | <u>12</u> | <u>0.11</u> | <u>1.9</u> | <u>10.70</u> | <u>1.00</u> | <u>Unable to meet minimum velocity due to existing topography</u> |
| | <u>106+20.00</u> | <u>15.00</u> | <u>LT</u> | <u>S-7</u> | <u>DBI C</u> | <u>M</u> | <u>60</u> | <u>0.13</u> | <u>0.88</u> | <u>0.836</u> | <u>15.00</u> | <u>0.30</u> | <u>3.87</u> | <u>0.00</u> | <u>1.04</u> | <u>4.04</u> | <u>34.07</u> | <u>0.10</u> | <u>0.10</u> | <u>0.25</u> | <u>0.25</u> | <u>0.012</u> | <u>1</u> | <u>15</u> | <u>0.19</u> | <u>2.5</u> | <u>10.70</u> | <u>1.00</u> | <u>Unable to meet minimum velocity due to existing topography</u> |
| | <u>105+60.00</u> | <u>14.12</u> | <u>LT</u> | <u>S-6</u> | <u>DBI C</u> | <u>M</u> | <u>48</u> | <u>0.00</u> | <u>0.00</u> | <u>0.000</u> | <u>38.27</u> | <u>0.24</u> | <u>3.66</u> | <u>0.00</u> | <u>1.10</u> | <u>4.01</u> | <u>32.98</u> | <u>32.10</u> | <u>32.00</u> | <u>0.08</u> | <u>0.08</u> | <u>0.50</u> | <u>1</u> | <u>Ellip.?</u> | <u>0.33</u> | <u>3.3</u> | <u>11.31</u> | <u>6</u> | <u>5</u> |
| | <u>105+60.00</u> | <u>14.12</u> | <u>LT</u> | <u>S-5</u> | <u>DBI C</u> | <u>M</u> | <u>48</u> | <u>0.04</u> | <u>0.89</u> | <u>0.223</u> | <u>15.00</u> | <u>0.37</u> | <u>3.48</u> | <u>0.00</u> | <u>1.15</u> | <u>4.00</u> | <u>33.17</u> | <u>0.10</u> | <u>0.10</u> | <u>0.16</u> | <u>0.16</u> | <u>0.012</u> | <u>1</u> | <u>12</u> | <u>0.21</u> | <u>2.6</u> | <u>10.22</u> | <u>1.00</u> | <u>Unable to meet minimum velocity due to existing topography</u> |
| <u>Bl Const. Glen Ave.</u> | <u>105+12.00</u> | <u>13.87</u> | <u>LT</u> | <u>S-5</u> | <u>DBI C</u> | <u>M</u> | <u>72</u> | <u>0.04</u> | <u>0.96</u> | <u>0.912</u> | <u>15.00</u> | <u>0.37</u> | <u>3.48</u> | <u>0.00</u> | <u>1.15</u> | <u>4.00</u> | <u>33.17</u> | <u>33.46</u> | <u>33.15</u> | <u>0.32</u> | <u>0.32</u> | <u>0.50</u> | <u>1</u> | <u>Ellip.?</u> | <u>0.33</u> | <u>3.3</u> | <u>10.22</u> | <u>6</u> | <u>5</u> |
| | <u>104+40.00</u> | <u>15.06</u> | <u>LT</u> | <u>S-4</u> | <u>DBI C</u> | <u>M</u> | <u>57</u> | <u>0.00</u> | <u>0.00</u> | <u>0.000</u> | <u>41.93</u> | <u>0.29</u> | <u>3.33</u> | <u>0.00</u> | <u>1.21</u> | <u>4.01</u> | <u>34.17</u> | <u>0.08</u> | <u>0.08</u> | <u>0.16</u> | <u>0.16</u> | <u>0.012</u> | <u>1</u> | <u>12</u> | <u>0.14</u> | <u>2.1</u> | <u>10.83</u> | <u>1.00</u> | <u>Unable to meet minimum velocity due to existing topography</u> |
| | <u>104+40.00</u> | <u>15.06</u> | <u>LT</u> | <u>S-3</u> | <u>DBI C</u> | <u>M</u> | <u>57</u> | <u>0.06</u> | <u>0.95</u> | <u>0.238</u> | <u>45.41</u> | <u>0.29</u> | <u>3.33</u> | <u>0.00</u> | <u>1.21</u> | <u>4.01</u> | <u>34.17</u> | <u>31.90</u> | <u>31.90</u> | <u>0.10</u> | <u>0.16</u> | <u>0.012</u> | <u>1</u> | <u>15</u> | <u>0.19</u> | <u>2.5</u> | <u>10.83</u> | <u>1.00</u> | <u>Unable to meet minimum velocity due to existing topography</u> |
| <u>Bl Const. Glen Ave.</u> | <u>103+83.00</u> | <u>16.86</u> | <u>LT</u> | <u>S-3</u> | <u>DBI C</u> | <u>M</u> | <u>53</u> | <u>0.04</u> | <u>1.00</u> | <u>0.950</u> | <u>15.00</u> | <u>0.28</u> | <u>3.20</u> | <u>0.00</u> | <u>1.22</u> | <u>3.89</u> | <u>34.87</u> | <u>33.15</u> | <u>32.88</u> | <u>0.27</u> | <u>0.27</u> | <u>0.50</u> | <u>1</u> | <u>Ellip.?</u> | <u>0.33</u> | <u>3.3</u> | <u>11.01</u> | <u>6</u> | <u>5</u> |
| | <u>103+83.00</u> | <u>16.86</u> | <u>LT</u> | <u>S-2</u> | <u>DBI C</u> | <u>M</u> | <u>53</u> | <u>0.00</u> | <u>0.00</u> | <u>0.000</u> | <u>48.74</u> | <u>0.28</u> | <u>3.20</u> | <u>0.00</u> | <u>1.22</u> | <u>3.89</u> | <u>34.87</u> | <u>31.80</u> | <u>31.70</u> | <u>0.10</u> | <u>0.16</u> | <u>0.012</u> | <u>1</u> | <u>12</u> | <u>0.19</u> | <u>2.5</u> | <u>11.01</u> | <u>1.00</u> | <u>Unable to meet minimum velocity due to existing topography</u> |
| | <u>103+83.00</u> | <u>16.86</u> | <u>LT</u> | <u>S-2</u> | <u>DBI C</u> | <u>M</u> | <u>53</u> | <u>0.01</u> | <u>1.03</u> | <u>0.258</u> | <u>48.74</u> | <u>0.28</u> | <u>3.20</u> | <u>0.00</u> | <u>1.22</u> | <u>3.89</u> | <u>34.87</u> | <u>32.88</u> | <u>32.64</u> | <u>0.24</u> | <u>0.24</u> | <u>0.50</u> | <u>1</u> | <u>15</u> | <u>0.19</u> | <u>2.5</u> | <u>11.01</u> | <u>1.00</u> | <u>Unable to meet minimum velocity due to existing topography</u> |
| <u>Bl Const. Glen Ave.</u> | <u>103+30.00</u> | <u>22.33</u> | <u>LT</u> | <u>S-2</u> | <u>DBI C</u> | <u>M</u> | <u>87</u> | <u>0.03</u> | <u>1.04</u> | <u>0.988</u> | <u>15.00</u> | <u>0.46</u> | <u>3.08</u> | <u>0.00</u> | <u>1.26</u> | <u>3.88</u> | <u>33.87</u> | <u>32.64</u> | <u>32.29</u> | <u>0.34</u> | <u>0.34</u> | <u>0.50</u> | <u>1</u> | <u>Ellip.?</u> | <u>0.31</u> | <u>3.2</u> | <u>9.74</u> | <u>6</u> | <u>5</u> |
| | <u>103+30.00</u> | <u>22.33</u> | <u>LT</u> | <u>S-1</u> | <u>DBI C</u> | <u>M</u> | <u>87</u> | <u>0.00</u> | <u>0.00</u> | <u>0.000</u> | <u>51.93</u> | <u>0.46</u> | <u>3.08</u> | <u>0.00</u> | <u>1.26</u> | <u>3.88</u> | <u>33.87</u> | <u>31.60</u> | <u>31.50</u> | <u>0.08</u> | <u>0.08</u> | <u>0.50</u> | <u>1</u> | <u>12</u> | <u>0.11</u> | <u>1.9</u> | <u>9.74</u> | <u>1.00</u> | <u>Unable to meet minimum velocity due to existing topography</u> |
| | <u>103+30.00</u> | <u>22.33</u> | <u>LT</u> | <u>S-1</u> | <u>DBI C</u> | <u>M</u> | <u>87</u> | <u>0.05</u> | <u>1.08</u> | <u>0.270</u> | <u>51.93</u> | <u>0.46</u> | <u>3.08</u> | <u>0.00</u> | <u>1.26</u> | <u>3.88</u> | <u>33.87</u> | <u>30.60</u> | <u>30.50</u> | <u>0.10</u> | <u>0.27</u> | <u>0.012</u> | <u>1</u> | <u>15</u> | <u>0.19</u> | <u>2.5</u> | <u>9.74</u> | <u>1.00</u> | <u>Unable to meet minimum velocity due to existing topography</u> |
| <u>Bl Const. Glen Ave.</u> | <u>102+42.83</u> | <u>20.69</u> | <u>LT</u> | <u>S-1</u> | <u>DBI C</u> | <u>M</u> | <u>68</u> | <u>0.03</u> | <u>1.07</u> | <u>1.017</u> | <u>15.00</u> | <u>0.36</u> | <u>2.98</u> | <u>0.00</u> | <u>1.30</u> | <u>3.86</u> | <u>34.30</u> | <u>32.29</u> | <u>32.01</u> | <u>0.28</u> | <u>0.28</u> | <u>0.50</u> | <u>1</u> | <u>Ellip.?</u> | <u>0.30</u> | <u>3.1</u> | <u>10.36</u> | <u>6</u> | <u>5</u> |
| | <u>102+42.83</u> | <u>20.69</u> | <u>LT</u> | <u>EX-7</u> | <u>DBI C</u> | <u>M</u> | <u>68</u> | <u>0.00</u> | <u>0.00</u> | <u>0.000</u> | <u>55.02</u> | <u>0.36</u> | <u>2.98</u> | <u>0.00</u> | <u>1.30</u> | <u>3.86</u> | <u>34.30</u> | <u>31.50</u> | <u>31.40</u> | <u>0.08</u> | <u>0.08</u> | <u>0.50</u> | <u>1</u> | <u>12</u> | <u>0.15</u> | <u>2.2</u> | <u>10.36</u> | <u>1.00</u> | <u>Unable to meet minimum velocity due to existing topography</u> |
| | <u>102+42.83</u> | <u>20.69</u> | <u>LT</u> | <u>EX-7</u> | <u>DBI C</u> | <u>M</u> | <u>68</u> | <u>0.04</u> | <u>1.12</u> | <u>0.280</u> | <u>55.02</u> | <u>0.36</u> | <u>2.98</u> | <u>0.00</u> | <u>1.30</u> | <u>3.86</u> | <u>34.30</u> | <u>30.50</u> | <u>30.40</u> | <u>0.10</u> | <u>0.21</u> | <u>0.012</u> | <u>1</u> | <u>15</u> | <u>0.19</u> | <u>2.5</u> | <u>10.36</u> | <u>1.00</u> | <u>Unable to meet minimum velocity due to existing topography</u> |

NOTES:
 MIN. HGL COVER = 0.00
 MIN. PIPE COVER = 1.00
 Contained within ditch
 Unable to meet minimum velocity due to existing topography

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STORM DRAIN TABULATION FORM

PROJECT: Glen Avenue Ditch Enclosure
PROJECT NUMBER: 18-D-57101

SYSTEM: North System
LOCATION: Spruce St. to W. Palmetto St.

PREPARED BY: SC
CHECKED BY: KY

DATE: 13-Jan-22
DATE: 19-Jan-21

| STATION | DISTANCE (ft) | SIDE | STRUCTURE NO. | TYPE OF STRUCTURE | MAINLINE (M) OR LATERAL (L) | LENGTH (ft) | DRAINAGE AREA (Ac) | | | INLET PIPE | TIME OF CONCENTRATION (min.) | TIME OF FLOW IN SECTION (min.) | INTENSITY (in./hr.) | INCREMENTAL INFLOW (CFS) | TOTAL (C*A) | TOTAL RUNOFF (cfs) | THERO GUTTER OR GRATE ELEV. (ft) | HYDRAULIC GRADIENT | | | | NUMBER OF BARRELS | PIPE SIZE (in.) | PIPE RISE | HYD. GRAD. | SLOPE (%) | VELOCITY (FPS) | FULL FLOW CAPACITY (cfs) | ZONE OR COUNTY: | FREQUENCY (YR) | | | | | | | | | |
|--|---------------|------|---------------|-------------------|-----------------------------|-------------|--------------------|----------|-----------------|------------|------------------------------|--------------------------------|---------------------|--------------------------|-------------|--------------------|----------------------------------|--------------------|-------|-------|-------------|-------------------|-----------------|-----------|------------|-----------|----------------|--------------------------|-----------------|----------------|--------------------------------|-----------|----------------|-------|-------|------------|-----------------------|------------------------|--------|
| | | | | | | | INCREMENTAL | SUBTOTAL | SUB-TOTAL (C*A) | | | | | | | | | CROWN | | TOTAL | LOSS COEFF. | | | | | | | | | | SPAN (ROUND) OR (ROUND EQUIV.) | SLOPE (%) | VELOCITY (FPS) | MINOR | MINOR | MIN. PHYS. | MIN. HGL COVER = 0.00 | MIN. PIPE COVER = 1.00 | NOTES: |
| | | | | | | | | | | | | | | | | | | UPPER | LOWER | | | | | | | | | | | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 112+50.00 | 12.62 | LT | S-13 | DBI | M | 70 | 0.08 | 0.08 | 0.076 | | 15.00 | 0.54 | 5.78 | 0.00 | 0.10 | 0.57 | 34.77 | 36.25 | 36.24 | 0.01 | 0.01 | 0.50 | 1 | 12 | 0.01 | 0.5 | 10.29 | 6 | 5 | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 113+20.00 | 17.00 | LT | S-14 | DBI | M | 31 | 0.05 | 0.13 | 0.124 | | 15.00 | 0.16 | 5.69 | 0.00 | 0.17 | 0.96 | 35.59 | 36.24 | 36.23 | 0.01 | 0.01 | 0.50 | 1 | 12 | 0.02 | 0.8 | 12.63 | 6 | 5 | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 113+50.00 | 9.50 | LT | S-15 | DBI | M | 75 | 0.07 | 0.20 | 0.190 | | 15.00 | 0.60 | 5.66 | 0.00 | 0.27 | 1.50 | 35.63 | 36.23 | 36.18 | 0.05 | 0.05 | 0.50 | 1 | 12 | 0.05 | 1.2 | 10.11 | 6 | 5 | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 114+25.00 | 11.00 | LT | S-16 | DBI | M | 110 | 0.04 | 0.24 | 0.228 | | 15.00 | 1.06 | 5.57 | 0.00 | 0.32 | 1.76 | 34.87 | 36.18 | 36.10 | 0.08 | 0.08 | 0.50 | 1 | 12 | 0.06 | 1.4 | 9.19 | 6 | 5 | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 115+35.00 | 10.00 | LT | S-17 | DBI | M | 105 | 0.05 | 0.29 | 0.276 | | 15.00 | 0.99 | 5.41 | 0.00 | 0.39 | 2.11 | 34.87 | 36.10 | 35.98 | 0.12 | 0.12 | 0.50 | 1 | 12 | 0.09 | 1.7 | 9.30 | 6 | 5 | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 116+40.00 | 10.00 | LT | S-19 | DBI | M | 125 | 0.10 | 0.39 | 0.371 | | 15.00 | 0.90 | 5.28 | 0.00 | 0.54 | 2.85 | 34.97 | 36.10 | 35.98 | 0.12 | 0.12 | 0.50 | 1 | 12 | 0.09 | 1.7 | 8.90 | 6 | 5 | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 117+65.00 | 10.00 | LT | S-20 | DBI | M | 235 | 0.18 | 0.57 | 0.542 | | 15.00 | 1.21 | 5.16 | 0.00 | 0.77 | 3.96 | 34.97 | 36.10 | 35.98 | 0.12 | 0.12 | 0.50 | 1 | 12 | 0.09 | 1.7 | 7.60 | 6 | 5 | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120+00.00 | 11.00 | LT | S-22 | DBI | M | 116 | 0.09 | 0.66 | 0.627 | | 15.00 | 0.54 | 5.02 | 0.00 | 0.88 | 4.43 | 34.27 | 36.10 | 35.98 | 0.12 | 0.12 | 0.50 | 1 | 12 | 0.09 | 1.7 | 9.07 | 6 | 5 | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 121+15.00 | 12.53 | LT | S-24 | DBI | M | 32 | 0.09 | 0.75 | 0.713 | | 15.00 | 0.13 | 4.96 | 0.00 | 1.00 | 4.95 | 34.22 | 36.10 | 35.98 | 0.12 | 0.12 | 0.50 | 1 | 12 | 0.09 | 1.7 | 12.51 | 6 | 5 | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 115+75.00 | 17.24 | RT | S-18 | DBI | L | 255 | 0.09 | 0.09 | 0.086 | | 15.00 | 3.75 | 5.78 | 0.00 | 0.12 | 0.67 | 34.57 | 36.10 | 35.98 | 0.12 | 0.12 | 0.50 | 1 | 12 | 0.09 | 1.7 | 7.45 | 6 | 5 | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 118+30.00 | 18.62 | RT | S-21 | DBI | L | 170 | 0.09 | 0.18 | 0.171 | | 15.00 | 2.04 | 5.23 | 0.00 | 0.23 | 1.21 | 34.67 | 36.10 | 35.98 | 0.12 | 0.12 | 0.50 | 1 | 12 | 0.09 | 1.7 | 8.24 | 6 | 5 | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120+00.00 | 19.00 | RT | S-23 | DBI | L | 113 | 0.09 | 0.27 | 0.257 | | 15.00 | 1.11 | 4.98 | 0.00 | 0.35 | 1.73 | 34.27 | 36.10 | 35.98 | 0.12 | 0.12 | 0.50 | 1 | 12 | 0.09 | 1.7 | 9.13 | 6 | 5 | | | | | | | | | | |
| <p align="center">BL Const. Glen Ave.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 121+14.15 | 41.83 | RT | S-25 | DBI | L | 23 | 0.09 | 0.09 | 0.086 | | 15.00 | 0.06 | 5.78 | 0.00 | 0.12 | 0.67 | 34.64 | 36.10 | 35.98 | 0.12 | 0.12 | 0.50 | 1 | 12 | 0.09 | 1.7 | 17.73 | 6 | 5 | | | | | | | | | | |

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

STORM DRAIN TABULATION FORM

PROJECT: Glen Avenue Ditch Enclosure
PROJECT NUMBER: 18-D-57101

SYSTEM: North System
LOCATION: Spruce St. to W. Palmetto St.

PREPARED BY: SC
CHECKED BY: KY

DATE: 13-Jan-22
DATE: 19-Jan-21

| LOCATION OF UPPER END | | | STRUCTURE NO. | TYPE OF STRUCTURE | MAINLINE (M) OR LATERAL (L) | LENGTH (ft) | DRAINAGE AREA (Ac) | | | INLET PIPE | TIME OF CONCENTRATION (min.) | TIME OF FLOW IN SECTION (min.) | INTENSITY (in./hr.) | INCREMENTAL TOTAL | TOTAL (C*A) | TOTAL RUNOFF (cfs) | THERO GUTTER OR GRATE ELEV. (ft) | HYDRAULIC GRADIENT | | | | PIPE SIZE (in.) | FULL FLOW CAPACITY (cfs) | ZONE OR COUNTY: | FREQUENCY (YR) | | |
|--------------------------|---------------|------|---------------|-------------------|-----------------------------|-------------|--------------------|----------|-----------------|------------|------------------------------|--------------------------------|---------------------|-------------------|-------------|--------------------|----------------------------------|---------------------------|-----------|----------------|-------------|-------------------|--------------------------------|-----------------|----------------|-------|-------|
| | | | | | | | INCREMENTAL | SUBTOTAL | SUB-TOTAL (C*A) | | | | | | | | | CROWN | | TOTAL | FLOW LINE | | | | | MINOR | MINOR |
| STATION | DISTANCE (ft) | SIDE | UPPER | LOWER | | | | | | | | | | | | | UPPER END ELEVATION (ft.) | LOWER END ELEVATION (ft.) | FALL (ft) | HEAD LOSS (FT) | LOSS COEFF. | NUMBER OF BARRELS | SPAN (ROUND) OR (ROUND EQUIV.) | SLOPE (%) | VELOCITY (FPS) | | |
| BL Const. Glen Ave. | | | S-25 | DBI | | | 0.10 | 1.21 | 1.150 | | | | | | | | 34.06 | 33.25 | 0.81 | 0.81 | | 1 | Ellip. | 1.22 | 6.3 | | |
| 121+14.00 | 18.44 | RT | S-27 | MES | M | 41 | 0.00 | 0.00 | 0.000 | 15.00 | 0.11 | 4.86 | 0.00 | 1.59 | 7.74 | 34.40 | 33.00 | 32.90 | | 0.31 | 0.50 | | 12 | 0.24 | 2.8 | 11.76 | |
| | | | | | | | 0.15 | 1.77 | 0.443 | 21.90 | | | 0.00 | | | | 32.00 | 31.90 | 0.10 | 0.50 | 0.012 | | 15 | 0.19 | 2.5 | | |
| NOTES: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MIN. HGL COVER = 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MIN. PIPE COVER = 1.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TAILWATER EL (ft.) 33.25 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FREQ. FACTOR: 1.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STORM DRAIN TABULATION FORM

PROJECT: Glen Avenue Ditch Enclosure
PROJECT NUMBER: 18-D-57101

SYSTEM: South System
LOCATION: W. Green St. to Spruce St.

PREPARED BY: SC
CHECKED BY: KY

DATE: 13-Jan-22
DATE: 19-Jan-21

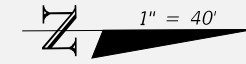
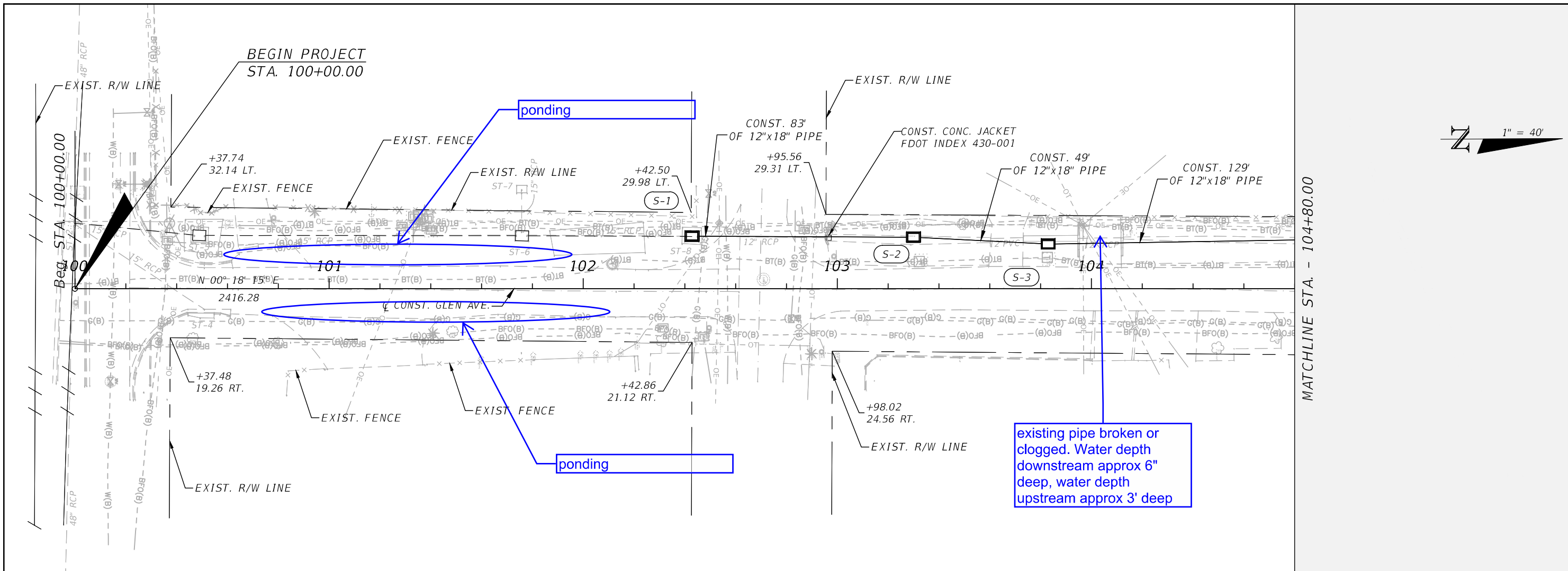
| STATION | DISTANCE (ft) | SIDE | STRUCTURE NO. | TYPE OF STRUCTURE | MAINLINE (M) OR LATERAL (L) | LENGTH (ft) | DRAINAGE AREA (Ac) | | | INLET PIPE | TIME OF CONCENTRATION (min.) | TIME OF FLOW IN SECTION (min.) | INTENSITY (in./hr.) | INCREMENTAL INFLOW (CFS) | TOTAL (C*A) | TOTAL RUNOFF (cfs) | THERO GUTTER OR GRATE ELEV. (ft) | HYDRAULIC GRADIENT | | | | NUMBER OF BARRELS | SPAN (ROUND) OR (ROUND EQUIV.) | SLOPE (%) | VELOCITY (FPS) | FULL FLOW CAPACITY (cfs) | ZONE OR COUNTY: | FREQUENCY (YR) |
|---------------------|---------------|------|---------------|-------------------|-----------------------------|-------------|--------------------|----------|-----------------|------------|------------------------------|--------------------------------|---------------------|--------------------------|-------------|--------------------|----------------------------------|---------------------------|-----------|----------------|-------------|-------------------|--------------------------------|-----------|----------------|--------------------------|-----------------------|----------------|
| | | | | | | | c = 0.95 | c = 0.50 | c = 0.25 | | | | | | | | | CROWN | | TOTAL | FLOW LINE | | | | | | | |
| ALIGNMENT NAME | | | UPPER | | | | INCREMENTAL | SUBTOTAL | SUB-TOTAL (C*A) | | | | | | | | UPPER END ELEVATION (ft.) | LOWER END ELEVATION (ft.) | FALL (ft) | HEAD LOSS (FT) | LOSS COEFF. | | | | | | | |
| BL Const. Glen Ave. | | | EX-7 | DBI | | | 0.03 | 1.10 | 1.045 | | | | | | | | 32.01 | 31.55 | 0.46 | 0.46 | | 1 | No | 0.30 | 3.2 | 8.87 | | |
| 101+75.90 | 20.35 | LT | EX-5 | E | M | 127 | 0.00 | 0.00 | 0.000 | 15.00 | 0.67 | 2.89 | 0.00 | 1.34 | 3.87 | 33.40 | 31.65 | 31.55 | | 0.08 | 0.50 | | 0 | 0.08 | 1.6 | | | |
| BL Const. Glen Ave. | | | EX-5 | DBI | | | 0.06 | 1.18 | 0.295 | 57.99 | | | | | | | 30.40 | 30.30 | 0.10 | 0.38 | 0.012 | | 15 | 0.19 | 2.5 | | Exist. Pipe to remain | |
| BL Const. Glen Ave. | | | EX-5 | DBI | | | 0.01 | 1.11 | 1.055 | | | | | | | | 31.55 | 25.93 | 5.62 | 0.25 | | 1 | No | 0.29 | 3.1 | 19.58 | | |
| 100+49.00 | 231.11 | LT | EX-2 | E | M | 62 | 0.00 | 0.00 | 0.000 | 15.00 | 0.13 | 2.80 | 0.00 | 1.35 | 3.79 | 33.07 | 31.55 | 30.39 | | 0.07 | 0.50 | | 0 | 1.87 | 7.8 | | | |
| | | | EX-2 | MH | | | 0.01 | 1.19 | 0.298 | 60.88 | | | | | | | 30.30 | 29.14 | 1.16 | 0.18 | 0.012 | | 15 | 0.19 | 2.5 | | | |

MIN. HGL COVER = 0.00
MIN. PIPE COVER = 1.00
NOTES:

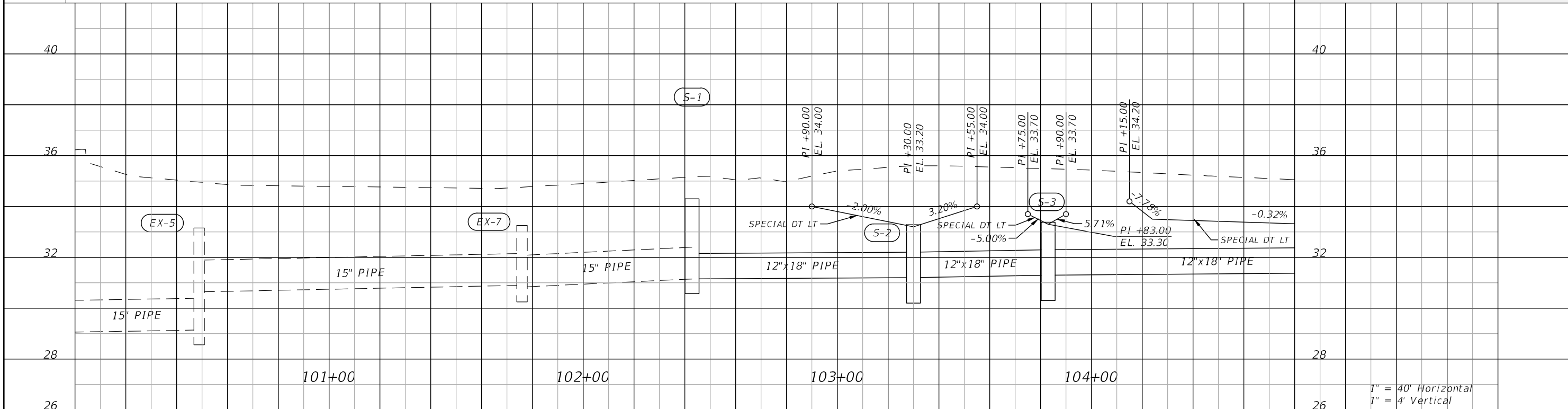


APPENDIX D

Field Review Photos and Notes



existing pipe broken or clogged. Water depth downstream approx 6" deep, water depth upstream approx 3' deep



1" = 40' Horizontal
1" = 4' Vertical

| REVISIONS | | | |
|-----------|-------------|------|-------------|
| DATE | DESCRIPTION | DATE | DESCRIPTION |
| | | | |

SEAN CURRAN, P.E.
P.E. LICENSE NUMBER 85318
PATEL, GREENE & ASSOCIATES, PLLC
12570 TELECOM DRIVE
TEMPLE TERRACE, FLORIDA 33637
CERTIFICATE OF AUTHORIZATION 29562

| CITY OF TAMPA TRANSPORTATION DEPARTMENT | | |
|--|--------------|-------------------|
| ROAD NO. | COUNTY | CITY CONTRACT NO. |
| N/A | HILLSBOROUGH | 18-D-57101 |

ROADWAY PLAN-PROFILE (1)

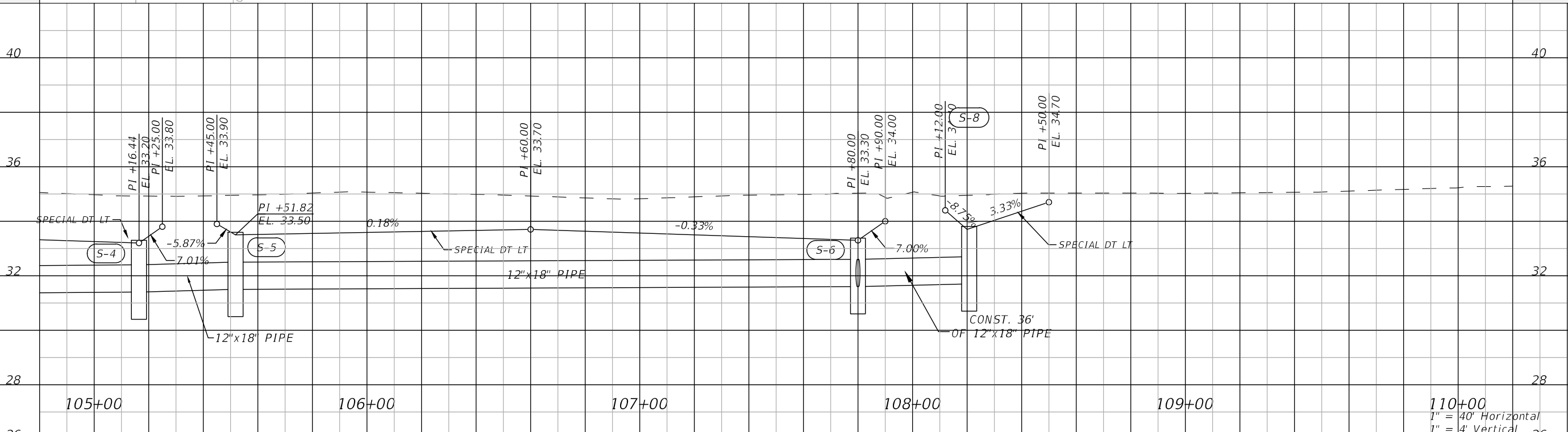
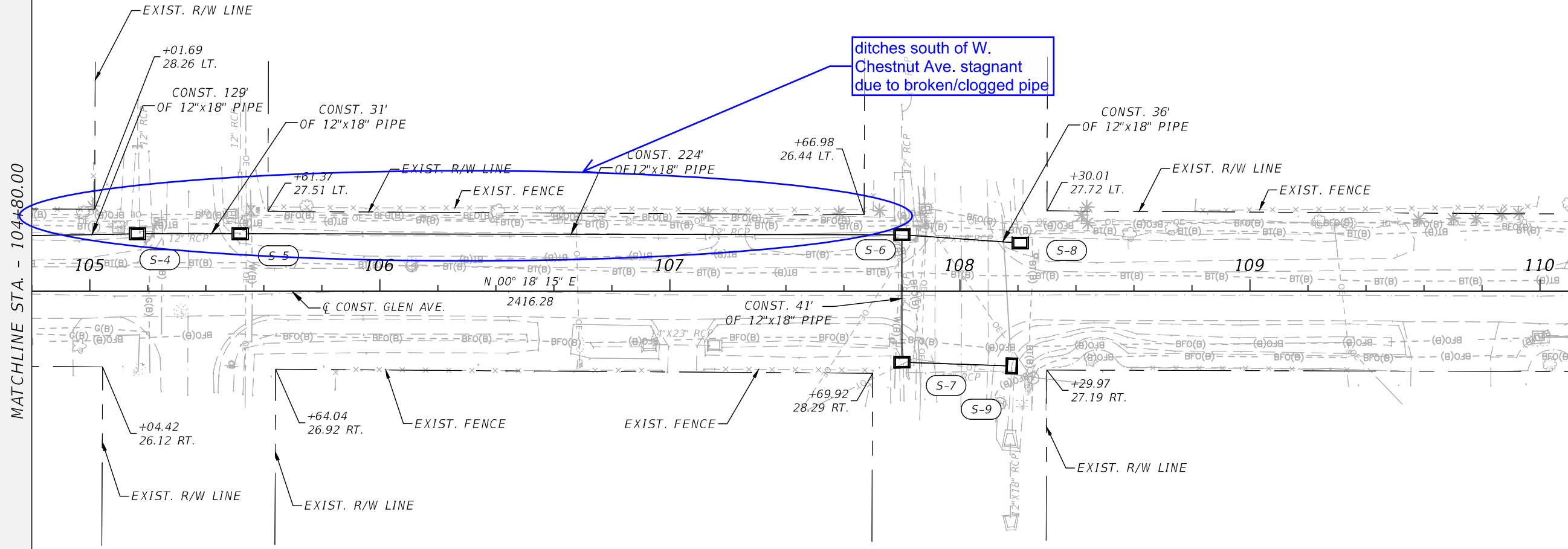
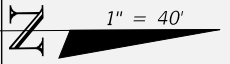
SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

MATCHLINE STA. - 104+80.00

MATCHLINE STA. - 110+20.00

ditches south of W. Chestnut Ave. stagnant due to broken/clogged pipe



110+00
1" = 40' Horizontal
1" = 4' Vertical

| REVISIONS | | | |
|-----------|-------------|------|-------------|
| DATE | DESCRIPTION | DATE | DESCRIPTION |
| | | | |

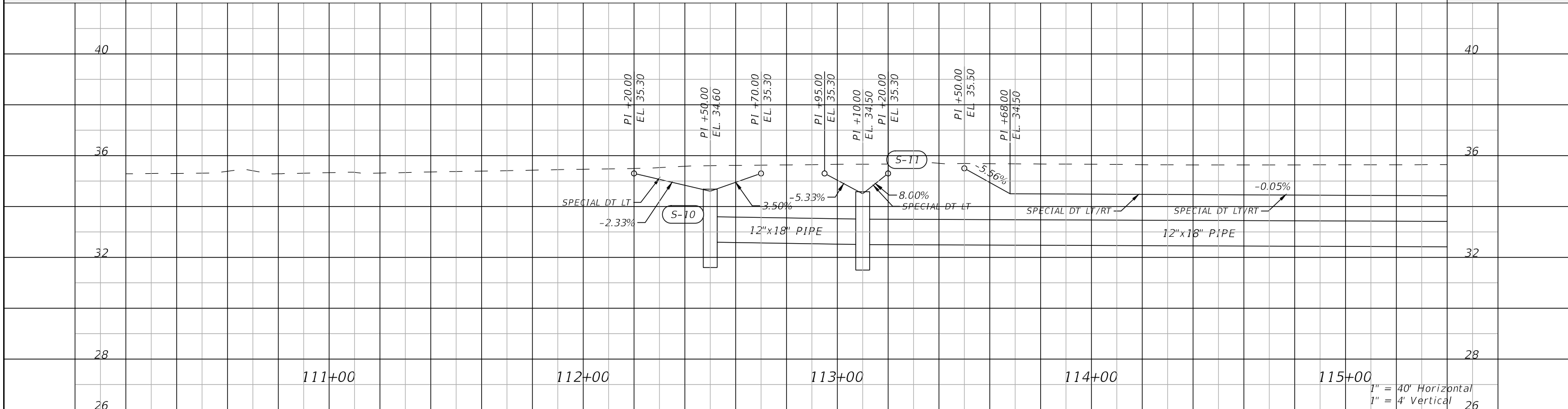
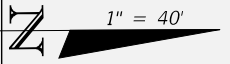
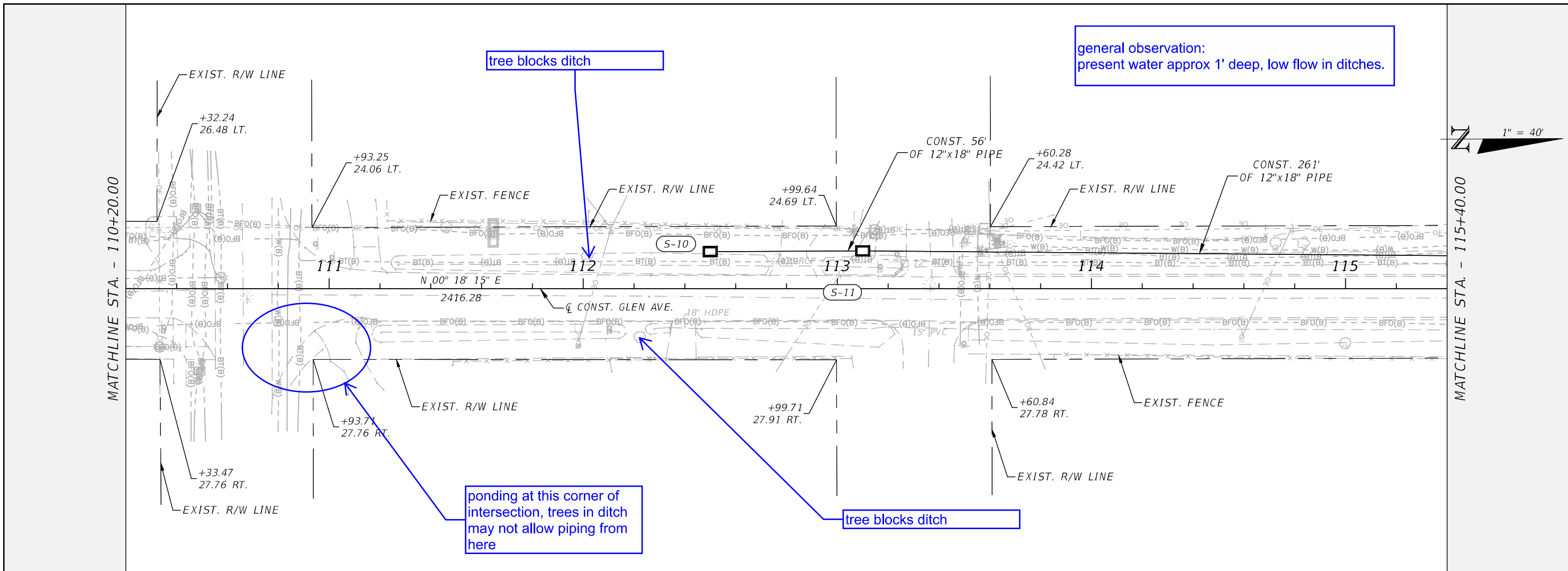
SEAN CURRAN, P.E.
P.E. LICENSE NUMBER 85318
PATEL, GREENE & ASSOCIATES, PLLC
12570 TELECOM DRIVE
TEMPLE TERRACE, FLORIDA 33637
CERTIFICATE OF AUTHORIZATION 29562

| CITY OF TAMPA TRANSPORTATION DEPARTMENT | | |
|--|--------------|-------------------|
| ROAD NO. | COUNTY | CITY CONTRACT NO. |
| N/A | HILLSBOROUGH | 18-D-57101 |

ROADWAY PLAN-PROFILE (2)

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



| REVISIONS | | | |
|-----------|-------------|------|-------------|
| DATE | DESCRIPTION | DATE | DESCRIPTION |
| | | | |

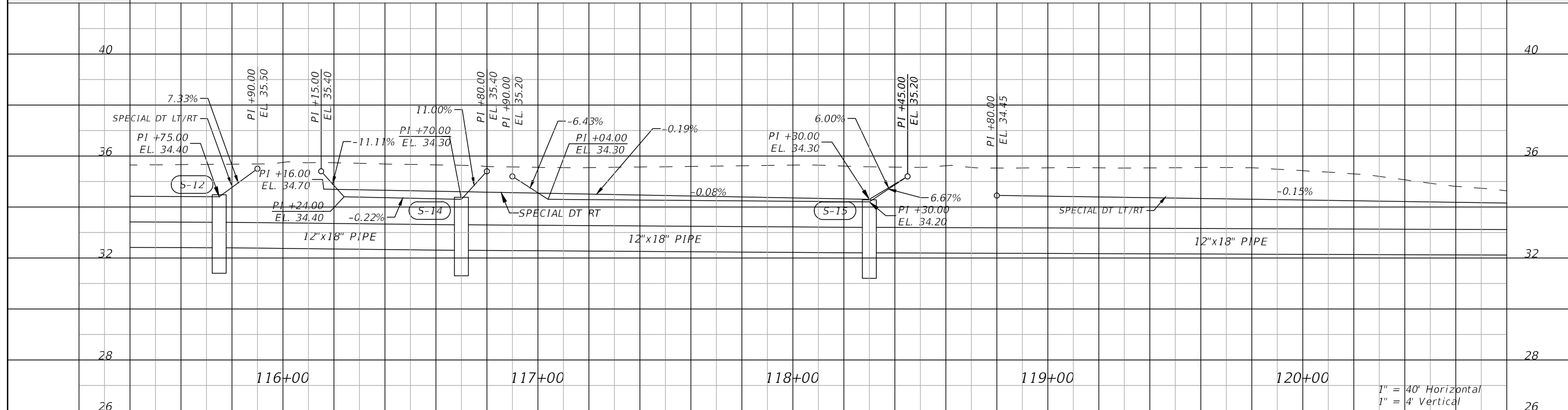
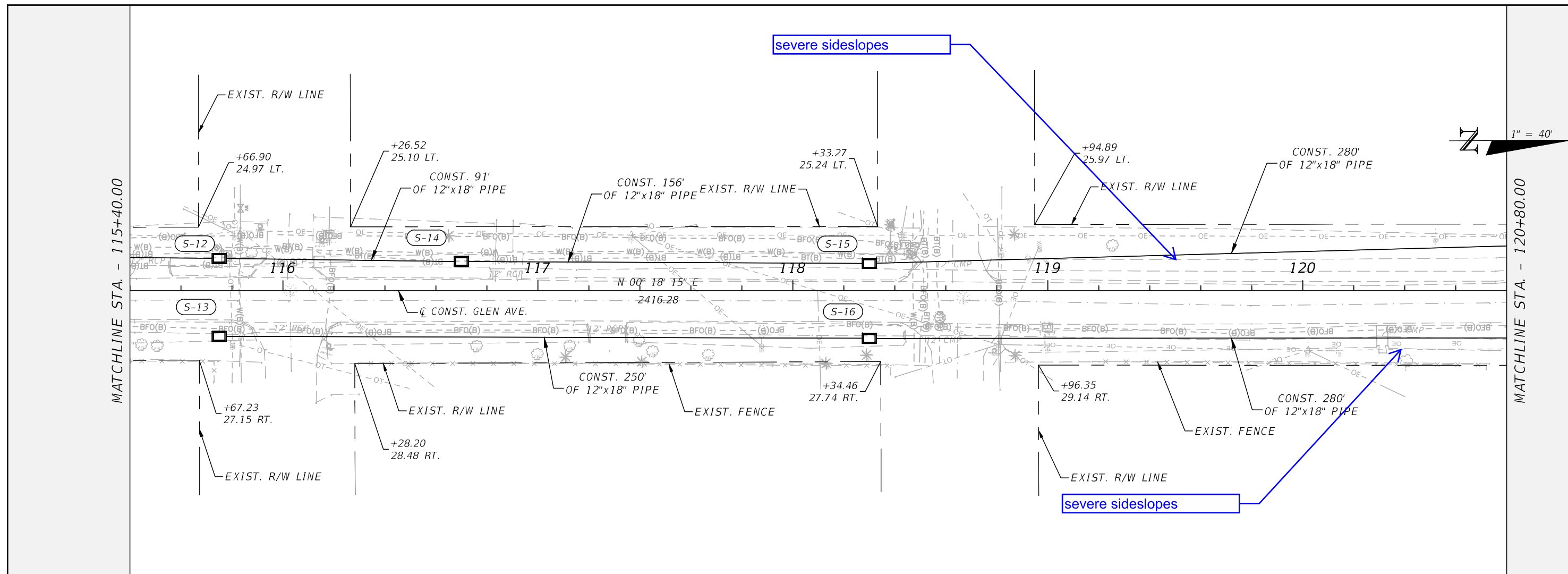
SEAN CURRAN, P.E.
P.E. LICENSE NUMBER 85318
PATEL, GREENE & ASSOCIATES, PLLC
12570 TELECOM DRIVE
TEMPLE TERRACE, FLORIDA 33637
CERTIFICATE OF AUTHORIZATION 29562

| CITY OF TAMPA TRANSPORTATION DEPARTMENT | | |
|--|--------------|-------------------|
| ROAD NO. | COUNTY | CITY CONTRACT NO. |
| N/A | HILLSBOROUGH | 18-D-57101 |

ROADWAY PLAN-PROFILE (3)

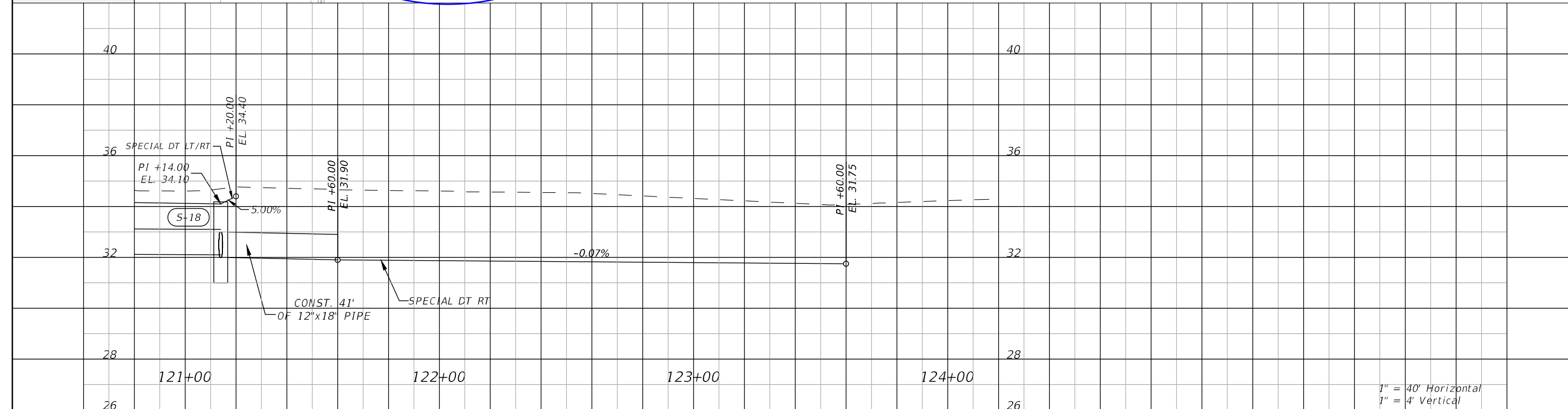
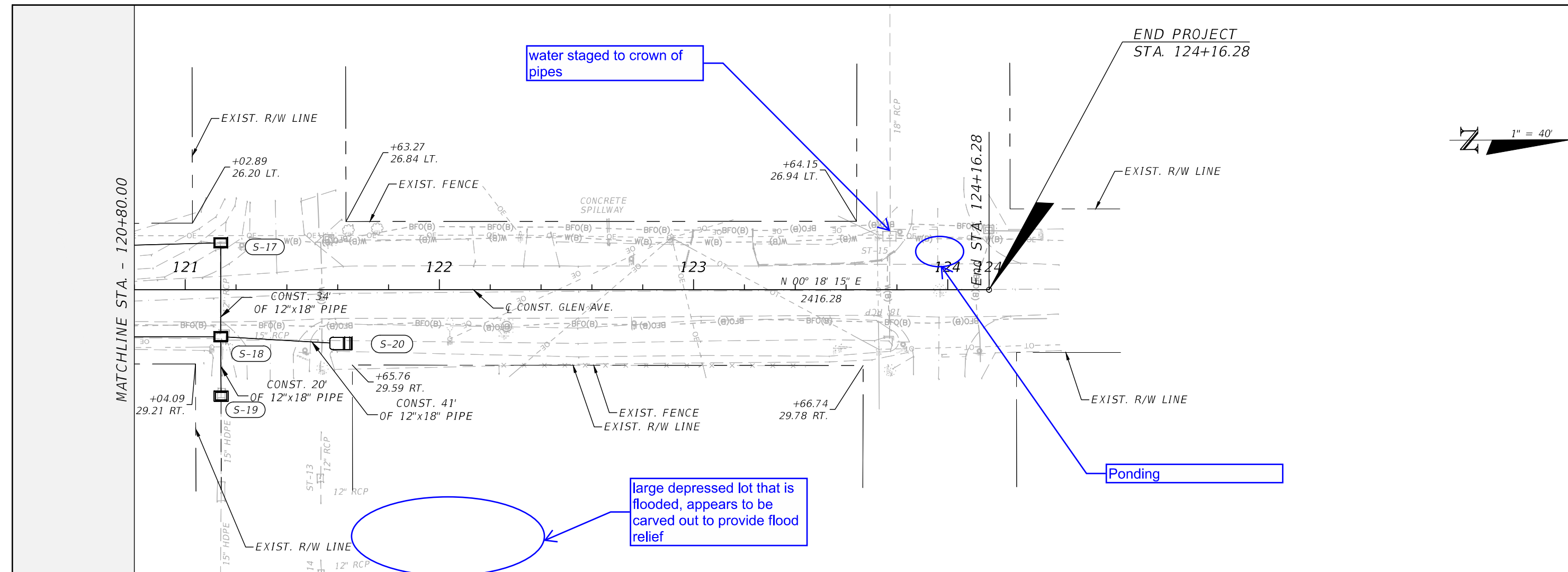
SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



| REVISIONS | | | | SEAN CURRAN, P.E. P.E. LICENSE NUMBER 85318 PATEL, GREENE & ASSOCIATES, PLLC 12570 TELECOM DRIVE TEMPLE TERRACE, FLORIDA 33637 CERTIFICATE OF AUTHORIZATION 29562 | CITY OF TAMPA TRANSPORTATION DEPARTMENT | | | ROADWAY PLAN-PROFILE (4) | SHEET NO. |
|-----------|-------------|------|-------------|--|--|--------------|-------------------|--------------------------|-----------|
| DATE | DESCRIPTION | DATE | DESCRIPTION | | ROAD NO. | COUNTY | CITY CONTRACT NO. | | |
| | | | | | N/A | HILLSBOROUGH | 18-D-57101 | | |

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



| REVISIONS | | | |
|-----------|-------------|------|-------------|
| DATE | DESCRIPTION | DATE | DESCRIPTION |
| | | | |

SEAN CURRAN, P.E.
 P.E. LICENSE NUMBER 85318
 PATEL, GREENE & ASSOCIATES, PLLC
 12570 TELECOM DRIVE
 TEMPLE TERRACE, FLORIDA 33637
 CERTIFICATE OF AUTHORIZATION 29562

| CITY OF TAMPA TRANSPORTATION DEPARTMENT | | |
|--|--------------|-------------------|
| ROAD NO. | COUNTY | CITY CONTRACT NO. |
| N/A | HILLSBOROUGH | 18-D-57101 |

ROADWAY PLAN-PROFILE (5)

SHEET NO.

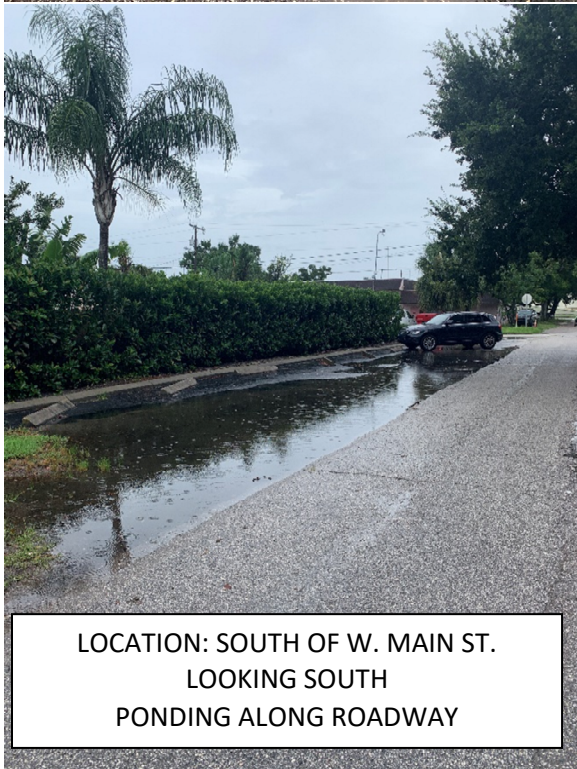
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



LOCATION: W. MAIN ST. LOOKING SOUTH
PONDING ALONG ROADWAY



LOCATION: SOUTH OF W. MAIN ST.
LOOKING SOUTH
UPSTREAM OF BROKEN PIPE UNDER
DRIVEWAY



LOCATION: SOUTH OF W. MAIN ST.
LOOKING SOUTH
PONDING ALONG ROADWAY



LOCATION: SOUTH OF W. UNION ST.
LOOKING SOUTH
EXISTING DITCH



LOCATION: NORTH OF W. SPRUCE ST./ N. GLEN AVE INTERSECTION LOOKING SOUTH
PONDING



LOCATION: NORTH OF W. WALNUT ST. LOOKING SOUTH
EXISTING OAK IN SWALE



LOCATION: W. WALNUT ST. LOOKING SOUTH
EXISTING OAK IN SWALE



LOCATION: W. PINE ST. LOOKING NORTH
EXISTING SWALE



LOCATION: W. CHERRY ST. LOOKING SOUTH
EXISTING SWALE WITH UNSAFE SLOPES



LOCATION: W. PALMETTO ST. LOOKING SOUTH
EXISTING SWALE WITH UNSAFE SLOPES



LOCATION: W. PALMETTO ST./ N. GLEN AVE. INTERSECTION LOOKING EAST
EXISTING FLOODING



LOCATION: W. BEACH ST./ N. GLEN AVE. INTERSECTION LOOKING SOUTH
EXISTING OUTFALL DITCH

LOCATION: W. PALMETTO ST. LOOKING SOUTH.
EXISTING ROADWAY WIDTH AND SEVERE SIDE SLOPES MAKES CORRIDOR UNSAFE FOR VEHICLES



LOCATION: W. PALMETTO ST. LOOKING SOUTH.
PHOTO FROM PROPERTY OWNER,
VEHICLE HAS DEPARTED THE ROADWAY
AND BECOME STUCK IN STEEP ROADSIDE
DITCH



LOCATION: W. PALMETTO ST. LOOKING SOUTH.
PHOTO FROM PROPERTY OWNER,
VEHICLE HAS DEPARTED THE ROADWAY
AND BECOME STUCK IN STEEP ROADSIDE
DITCH



LOCATION: W. PALMETTO ST. LOOKING SOUTH.
PHOTO FROM PROPERTY OWNER,
VEHICLE HAS DEPARTED THE ROADWAY
AND BECOME STUCK IN STEEP ROADSIDE
DITCH



APPENDIX E

Project Correspondence



SWFWMD Pre-Application Meeting Notes

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 407247

| | | | |
|----------------------------|--------------------------------|-------------------------|------------|
| Date: | 11/06/2019 | | |
| Time: | 10:00 | | |
| Project Name: | Glen Avenue Stormwater Ponding | | |
| District Engineer: | Scott VanOrsdale | | |
| District ES: | Lauren Greenawalt | | |
| Attendees: | Sean Curran, John Sword | | |
| County: | Hillsborough | Sec/Twp/Rge: | 15/29/18 |
| Total Land Acreage: | N/A | Project Acreage: | < 10 acres |

Prior On-Site/Off-Site Permit Activity:

- N/A

Project Overview:

- Drainage improvements beginning at the intersection of W. Glen Ave. and N. Green St. to the intersection of W. Glen Ave. and W. Beach St.
- Piping several hundred feet of existing drainage ditches along Glen Street to eliminate the steep slopes along the roadway and the intersections.

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.)

- Provide the limits of jurisdictional wetlands and surface waters. Roadside ditches or other water conveyances, including permitted and constructed water conveyance features, can be claimed as surface waters per Chapter 62-340 F.A.C. if they do not meet the definition of a swale as stated under Rule 403.803 (14) F.S. Quantify surface water impacts.
- As of October 1, 2017, the District will no longer send a copy of an application that does not qualify for a State Programmatic General Permit (SPGP) to the U.S. Army Corps of Engineers. If a project does not qualify for a SPGP, you will need to apply separately to the Corps using the appropriate federal application form for activities under federal jurisdiction. Please see the Corps' Jacksonville District Regulatory Division Sourcebook for more information about federal permitting. Please call your local Corps office if you have questions about federal permitting. Link: <http://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/>

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

- Existing roadway/intersections – Intersection of W. Glen Ave. and N. Green St. to the intersection of W. Glen Ave. and W. Beach St.
- Watersheds – Fish Creek / Lemon Street Ditch
- WBIDs need to be independently verified by the consultant - WBID 1594 – Fish Creek; impaired for Fecal Coliform and Iron. WBID 1606 – Lemon Street Ditch; not impaired.
- Provide documentation to support tailwater conditions for quality and quantity design
- Minimum flows and levels of receiving waters shall not be disrupted.

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

- Demonstrate that post development peak 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. Providing cup-for-cup storage in dedicated areas of excavation is the preferred method of compensation- if no impacts to flood conveyance are proposed and storage impacts and compensation occur within the same basin. In this case, tabulations should be provided at 0.5-foot increments to demonstrate encroachment and compensation occur at the same levels. Otherwise, storage modeling will be required to demonstrate no

increase in flood stages will occur on off-site properties, using the mean annual, 10-year, 25-year, and 100-year storm events for the pre- and post-development conditions.

- Please be aware that if there is credible historical evidence of past flooding or the physical capacity of the downstream conveyance or receiving waters indicates that the conditions for issuance will not be met without consideration of storm events of different frequency or duration, applicants shall be required to provide additional analyses using storm events of different duration or frequency than the 25-year 24-hour storm event, or to adjust the volume, rate or timing of discharges. [Section 3.0 Applicant's Handbook Volume II]

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

- Replace treatment function of existing ditches to be filled.
- Presumptive will not be required.

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 entity that owns or controls the property.

Application Type and Fee Required:

- SWERP – Sections A, C, and E of the ERP Application.
- < 40 acres of project area and < 3 acres wetland or surface water impacts - \$2,491.50 Online Submittal
- < 10 acres of project area and < 1 acre of wetland or surface water impacts - \$2,184.00
- Consult the [fee schedule](#) for different thresholds.

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

- Provide a copy of the legal description (of all applicable parcels within the project area) in one of the following forms:
 - a. Deed with complete Legal Description attachment.
 - b. Plat.
 - c. Boundary survey of the property(ies) with a sketch.
- The plans and drainage report submitted electronically must include the appropriate information required under Rules 61G15-23.005 and 61G15-23.004 (Digital), F.A.C. The following text is required by the Florida Board of Professional Engineers (FBPE) to meet this requirement when a digitally created seal is not used and must appear where the signature would normally appear:

ELECTRONIC (Manifest): *[NAME] State of Florida, Professional Engineer, License No. [NUMBER] This item has been electronically signed and sealed by [NAME] on the date indicated here using a SHA authentication code. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies*

DIGITAL: *[NAME] State of Florida, Professional Engineer, License No. [NUMBER]; This item has been digitally signed and sealed by [NAME] on the date indicated here using a Digital Signature; Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.*

- Provide soil erosion and sediment control measures for use during construction. Refer to ERP Applicant's Handbook Vol. 1 Part IV Erosion and Sediment Control.
- Demonstrate that excavation of any stormwater ponds does not breach an aquitard (see Subsection 2.1.1, A.H.V.II) such that it would allow for lesser quality water to pass, either way, between the two systems. In those geographical areas of the District where there is not an aquitard present, the depth of the pond(s) shall not be excavated to within two (2) feet of the underlying limestone which is part of a drinking water aquifer. [Refer to Subsection 5.4.1(b), A.H.V.II]
- If lowering of SHWE is proposed, then burden is on Applicant to demonstrate no adverse onsite or offsite impacts as per Subsection 3.6, A.H.V.II. Groundwater drawdown 'radius of influence' computations may be required to demonstrate no adverse onsite or offsite impacts. Please note that new roadside swales or

deepening of existing roadside swales may result in lowering of SHWE. Proposed ponds with control elevation less than SHWE may result in adverse lowering of onsite or offsite groundwater.

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.

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 409123**

| | | | |
|----------------------------|--|-------------------------|------------|
| Date: | 01/11/2022 | | |
| Time: | 09:00 | | |
| Project Name: | Glen Avenue Stormwater Ponding and Sidewalk Improvements | | |
| District Engineer: | Rob McDaniel | | |
| District ES: | Al Gagne | | |
| Attendees: | Sean Curran, Kenny Yinger, Mark Lauckner | | |
| County: | Hillsborough | Sec/Twp/Rge: | 15/29/18 |
| Total Land Acreage: | 2,200 feet | Project Acreage: | 2,200 feet |

Prior On-Site/Off-Site Permit Activity:

- PA 407247 held Nov 2019.

Project Overview:

- Piping of ditches as previously discussed. Project now includes addition of sidewalk and a 2-foot widening of a portion of roadway.

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.)

- Project includes impacts to upland cut roadside ditches. Mitigation will likely not be required for these surface water impacts. Refer to subsection 10.2.2.2 of Applicant's Handbook Volume 1.
- Provide the limits of jurisdictional wetlands and surface waters. Roadside ditches or other water conveyances, including permitted and constructed water conveyance features, can be claimed as surface waters per Chapter 62-340 F.A.C. if they do not meet the definition of a swale as stated under Rule 403.803 (14) F.S.
- Provide appropriate mitigation using UMAM for impacts, if applicable.
- The site is located in the Tampa Bay and Coastal Areas ERP Basin. Mitigation Banks that serve this area include the Big Bullfrog Creek, Tampa Bay, and Mangrove Point mitigation banks. For an interactive map of permitted mitigation banks and their service areas, use this [LINK](#). Be advised that use of a bank with a modified service area (i.e. a service area that is larger than the basin the bank is located in), may require the submittal of a cumulative impact analysis pursuant to subsection 10.2.8 of Applicant's Handbook volume 1.
- If the wetland mitigation is appropriate and the applicant is proposing to utilize mitigation bank credit as wetland mitigation, the following applies: Provide letter or credit availability or, if applicable, a letter of reservation from the wetland mitigation bank. The wetland mitigation bank current credit ledgers can be found out the following link: <https://www.swfwmd.state.fl.us/business/epermitting/environmental-resource-permit>, Go to "ERP Mitigation Bank Wetland Credit Ledgers"
- Please note, the Florida Department of Environmental Protection (FDEP) has assumed the Federal dredge and fill permitting program under section 404 of the Federal Clean Water Act within certain waters. State 404 Program streamlining intentions direct Agency staff to coordinate joint site visits for overall consistency between the two State programs. As such, District staff and the FDEP will need to conduct a joint site visit for evaluation of the wetland/surface water systems proposed for impact. District staff will coordinate with FDEP staff on determining dates/times of joint Agency availability. Upon determination of joint availability, staff will provide the applicant's representative with site visit scheduling options.

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

- Provide documentation to support tailwater conditions for quality and quantity design
- Any wells on site should be identified and their future use/abandonment must be designated.

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

- Demonstrate that post development peak 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) up to the 100-year event.
- Delineate the area and quantify the volume of any fill placement within the floodplain.
- Provide equivalent compensating storage for all 100-year, 24-hour riverine floodplain impacts if applicable. Providing cup-for-cup storage in dedicated areas of excavation is the preferred method of compensation; if no impacts to flood conveyance are proposed and storage impacts and compensation occur within the same basin. In this case, tabulations should be provided at 0.5-foot increments to demonstrate encroachment and compensation occur at the same levels. Otherwise, storage modeling will be required to demonstrate no increase in flood stages will occur on off-site properties, using the mean annual, 10-year, 25-year, and 100-year storm events for the pre- and post-development conditions.
- Please be aware that if there is credible historical evidence of past flooding or the physical capacity of the downstream conveyance or receiving waters indicates that the conditions for issuance will not be met without consideration of storm events of different frequency or duration, applicants shall be required to provide additional analyses using storm events of different duration or frequency than the 25-year 24-hour storm event, or to adjust the volume, rate or timing of discharges. [Section 3.0 Applicant's Handbook Volume II]

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

- Formal water quality treatment is not required for runoff from the new sidewalks and roadway widening, as they meet the language of exemption Rule 62-330.051(4), F.A.C.
- Open ditches will be replaced with closed pipe conveyances: 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 entity that owns or controls the property.

Application Type and Fee Required:

- SWERP – Sections A, C, and E of the ERP Application.
- < 10 acres of project area or between 0 and 1 acre of wetland or surface water impacts - \$2,184

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

- Provide a copy of the legal description (of all applicable parcels within the project area) in one of the following forms:
 - a. Deed with complete Legal Description attachment.
 - b. Plat.
 - c. Boundary survey of the property(ies) with a sketch.
- The plans and drainage report submitted electronically must include the appropriate information required under Rules 61G15-23.005 and 61G15-23.004 (Digital), F.A.C. The following text is required by the Florida Board of Professional Engineers (FBPE) to meet this requirement when a digitally created seal is not used and must appear where the signature would normally appear:

ELECTRONIC (Manifest): *[NAME] State of Florida, Professional Engineer, License No. [NUMBER] This item has been electronically signed and sealed by [NAME] on the date indicated here using a SHA authentication code. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies*

DIGITAL: *[NAME] State of Florida, Professional Engineer, License No. [NUMBER]; This item has been digitally signed and sealed by [NAME] on the date indicated here; Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.*

- Provide soil erosion and sediment control measures for use during construction. Refer to ERP Applicant's Handbook Vol. 1 Part IV Erosion and Sediment Control.
- On December 17, 2020, the Environmental Protection Agency (EPA) formally transferred permitting authority under CWA Section 404 from the U.S. Army Corps of Engineers (Corps) to the State of Florida for

a broad range of water resources within the State. The primary State 404 Program rules are adopted by the Florida Department of Environmental Protection (FDEP) as Chapter 62-331 of the Florida Administrative Code (F.A.C.). While the State 404 Program is a separate permitting program from the Environmental Resource Permitting program (ERP) under Chapter 62-330, F.A.C., and agency action for State 404 Program verifications, notices, or permits shall be taken independently from ERP agency action, the FDEP and the Southwest Florida Water Management District (SWFWMD) will be participating in a Joint application Process. Upon submittal of an ERP application that proposes dredge/fill activities in wetlands or surface waters within state assumed waters, the SWFWMD will forward a copy of your application to the FDEP for activities under State 404 jurisdiction. The applicant may choose to have the State 404 Program and ERP agency actions issued concurrently to help ensure consistency and reduce the need for project modifications that may occur when the agency actions are issued at different times. Additional information on the FDEP's 404 delegation can be found at: <https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/state-404-program>

Additionally, for those projects located in areas where the Corps retains jurisdiction, the applicant is advised that the District will not send a copy of an application that does not qualify for a State Programmatic General Permit (SPGP) to the U.S. Army Corps of Engineers. If a project does not qualify for a SPGP, you will need to apply separately to the Corps using the appropriate federal application form for activities under federal jurisdiction. Please see the Corps' Jacksonville District Regulatory Division Sourcebook for more information about federal permitting. Please call your local Corps office if you have questions about federal permitting. Link: <http://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/>

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.