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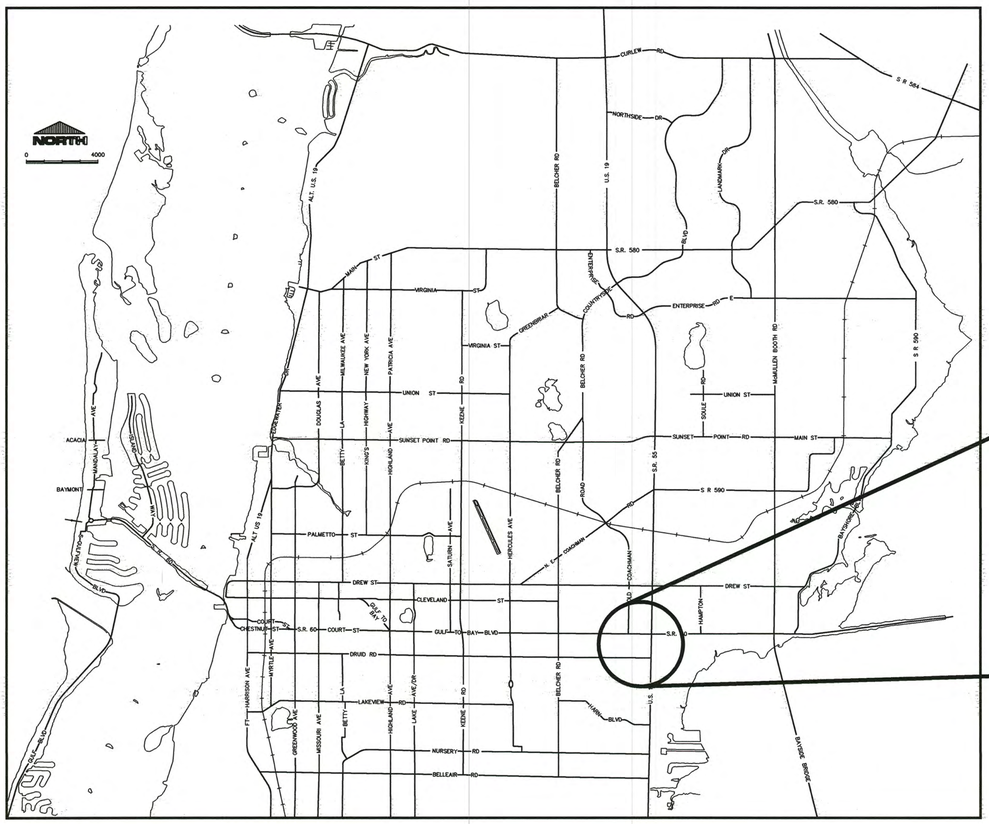
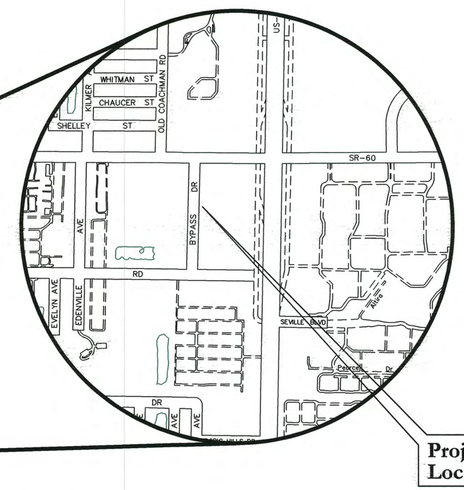
CLEARWATER

BRIGHT AND BEAUTIFUL · BAY TO BEACH

CITY OF CLEARWATER, FLORIDA ESTABLISHED 1915

Bypass Drive Improvements





CITY OFFICIALS

Frank Hibbard	Mayor
Mark Bunker	Councilmember
Kathleen Beckman	Councilmember
David Allbritton	Councilmember
Hoyt Hamilton	Councilmember
William B. Horne II	City Manager

Tara L. Kivett, P.E.
City Engineer

Approved For Construction Tara L. Kivett
CITY ENGINEER Tara L. Kivett, P.E. #86611

Date Approved 3/1/2021

100% BID PLANS

Contract No. 15-0021-EN
City Project No. 2015030

GENERAL NOTES

1. All work performed shall comply with the regulations and ordinances of the various governmental agencies having jurisdiction over the work.
2. All workmanship and materials used in the construction of this project shall conform to the latest City of Clearwater standards, contract documents and specifications unless otherwise noted.
3. Specific requirements of the Florida Department of Transportation (FDOT) "Design Standards" and "Standard Specifications for Road and Bridge Construction", most current editions, are incorporated into the contract documents by reference.
4. The Contractor shall obtain all required permits prior to construction.
5. The Contractor shall notify all utility companies at least forty eight (48) hours prior to start of construction, demolition and/or excavation in accordance with Florida Statutes.
6. The Contractor shall call Sunshine 811, previously known as Sunshine State One Call of Florida, at 1-800-432-4770 or 811, a minimum of two (2) days and a maximum of five (5) days prior to start of construction.
7. Locations, elevations and dimensions of existing utilities, structures and other features are shown according to the best information available at the time of the preparation of these plans, but do not purport to be absolutely correct. The Contractor shall verify the location, elevations and dimensions of all existing utilities, structures and other features affecting the work prior to construction.
8. The Contractor shall be responsible to review the site to determine existing conditions. Anything not shown on these plans shall be brought to the attention of the City's Engineering Representative and shall not constitute additional scope of work approved by the Engineer.
9. The Contractor shall contact the City's Engineering Representative immediately concerning any conflicts arising during construction.
10. All construction activities must conform to the local noise ordinance.
11. Hours of work shall be in accordance with the local governmental agency.
12. These drawings do not include necessary components for construction safety. The Contractor is solely responsible for construction safety. Special precautions may be required in the vicinity of power lines and other utilities.
13. The Contractor shall furnish, erect and maintain all necessary traffic control and safety devices in accordance with the U.S. Department of Transportation, "Manual on Uniform Traffic Control Devices" and the latest Florida Department of Transportation "Design Standards".
14. The Contractor shall provide, erect and maintain effective barricades, danger signals, signs and pedestrian detours in all areas where required for the protection of the work and the safety of the public.
15. Maintenance of Traffic (MOT): if it becomes necessary for the Contractor to close any street to through traffic within the limits of construction, access for local traffic with destination within the project limits of construction shall be maintained. If during construction, access for local traffic is changed, the property owners affected shall be given at least three (3) days advance notice. The Contractor shall submit to the City's Engineering Representative the Traffic Control Plan for approval prior to implementation.
16. A registered Land Surveyor, at the Contractor's expense, shall reset all section corners or property corners dislocated or disturbed by any construction related activities.
17. Any National Geodetic Survey (NGS) Monument within the limits of construction is to be protected. If in danger of damage, contractor shall notify the city's field representative immediately and contact the National Geodetic Survey information center.
18. Unless noted on the plans, final grade is to generally be the same as existing grade. Restore uniformly and for proper yard drainage grade toward roadway.
19. All new utilities shall be installed with the minimum thirty six (36) inches of cover.
20. Where utilities cross the lowest pipe shall be installed first.
21. The Contractor shall be responsible for testing of all newly constructed utilities in accordance with current standards of local jurisdiction. The Contractor shall notify the local jurisdiction and the Owner or an authorized representative at least forty eight (48) hours in advance of performing tests.
22. The Contractor shall provide all sheeting, shoring and bracing required to protect adjacent structures or to minimize trench width. Where a separate pay item is not provided, the cost of all sheeting and bracing required shall be included in the contract price for the item of work for which sheeting, shoring and bracing is anticipated to be required in accordance with local, state, or federal regulations for construction.
23. All concrete shall have a minimum compressive strength of 3,000 psi (28-day strength), unless otherwise noted on drawings.
24. No surfacing material is to be applied to any manhole covers, frames, valve boxes, gas drops, etc. All existing and proposed utility and storm sewer structures whose tops will be exposed within any paved area shall be adjusted so that the top surface of covers or frames shall be flush with the pavement surface.
25. Materials interfering with construction shall be disposed of as directed by the City's Engineering Representative, unless otherwise noted on plans.
26. All excess soil resulting from construction activities that is not claimed by the Owner shall become the property of the Contractor and disposed of by the Contractor.
27. All disturbed landscaped and/or grassed areas shall be restored uniformly and be generally at the same elevation as existing grades.
28. All disturbed areas shall be replaced within fifteen (15) days to a condition equal to or better than existing conditions.
29. All voids after placement of sod shall be filled with prepared soil mix. The sod shall be rolled to meet the proposed grades. Sod placed on slopes 3:1 or steeper shall be pegged.
30. Areas of exposed earth resulting from construction shall be sodded in kind as directed by the City's Engineering Representative unless otherwise noted on plans.
31. The Contractor shall maintain an accurate set of marked-up drawings (As-Builts) at the construction site.
32. A CCTV inspection of the new sewer system in digital format utilizing the industry standard Pipeline Assessment and Certification Program (PACP) coding system shall be provided to the City. The video shall be taken prior to placing the new sewer system into service. Data will be collected utilizing CUES Granite software.
33. Installation of gravity sewer pipe shall be in conformance with recommended practices contained in Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications ASTM D2321. Connections to manholes with sanitary pipe shall use a joint two (2) feet in length and shall use an approved water stop around pipe joint entry.
34. The bottom trench width in an unsupported trench shall be limited to the minimum practicable width allowing working space to place and compact the hunching material. The use of trench boxes and movable sheeting shall be performed in such a manner that removal, backfill and compaction will not disturb compacted haunching material or pipe alignment. Dewatering of the trench bottom shall be accomplished using adequate means to allow preparation of bedding, placement of the haunching material and pipe in the trench without standing water. Dewatering shall continue until sufficient backfill is placed above the pipe to prevent flotation or misalignment.
35. The Contractor shall dispose of all unsuitable materials, construction debris, and other waste materials offsite in accordance with applicable regulatory agency requirements at the Contractor's expense. All backfill shall be free of unsuitable materials.
36. The Contractor shall be responsible for providing a Hurricane Preparation Plan to the City's Engineering Representative for review and approval prior to commencing construction activities.
37. Any damage to city, county, or state roads caused by the Contractor shall be repaired by the Contractor in a timely manner and to the satisfaction of the City's Engineering Representative. Payment shall not be made for this work.
38. The Contractor shall protect private property.

SURVEY NOTES

1. The City of Clearwater Control Network's Horizontal Datum is: North American Datum (N.A.D.), Florida State Plane Coordinates, Florida West Zone 83(1999).
2. The City of Clearwater Control Network's Vertical Datum is: North American Vertical Datum (N.A.V.D.) 1988.
3. The survey was provided by the City of Clearwater Land Survey Division. The last date of field survey is 07-17-2015.
4. The City Benchmark referenced is located on the Southeast corner of the intersection of Gulf-to-Bay Boulevard and U.S. Highway 19 North, having an elevation of 47.38'.

TREE PROTECTION

1. The Contractor will be responsible for adhering to all Tree Protection measures required by the City of Clearwater codes, ordinances and Standard Specifications. This will include all tree barricades, root pruning and tree trimming/pruning activities. These requirements will apply within the specified "limits of work" and will also be applicable in all areas where the Contractor and/or his subcontractors stage, store or park vehicles, equipment, materials and debris.
2. All tree pruning and/or root pruning on existing trees to be preserved will only be performed by or under the direct supervision of an International Society of Arboriculture (ISA) Certified Arborist. Furthermore, all tree work shall conform to the American National Standards Institute (ANSI) 2001, American National Standard for Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices (Pruning) ANSI A-300.
3. Where called for on the plans, install tree barricades, erosion control/silt fencing or other approved protective barriers around all trees to be preserved, per City Standard Detail. Where applicable, and specifically approved by the City's Engineering Representative protective barriers may be placed in root prune trenches.
4. Prior to any field changes taking place, it will be the Contractor's responsibility to review the potential impacts to existing trees with his Certified Arborist, and include any and all recommended tree protection measures in his proposal to modify the approved design. The City's Engineering Representative must approve, in writing, any changes to the approved design prior to implementation of said change.
5. The Contractor will avoid any open excavations, fill or other construction activities whenever possible within the "critical root zone" of any existing tree (i.e., under the drip line/canopy).
6. No vehicles, equipment or materials shall be parked or stored under/within the drip line/protective barrier area of any tree.
7. Where construction activities are anticipated to last for an extended period of time near existing trees, the Contractor shall install and maintain City approved tree barricades as shown in the Standard Details and as approved by the City's Engineering Representative.
8. Woodchips, mulch or another cushioning surface material approved by the City's Engineering Representative shall be placed to a minimum depth of ten (10) inches over areas where roots are present and construction traffic occurs.
9. All tree protection measures shall remain in place at all times during construction until the City's Engineering Representative authorizes removal.
10. The Contractor will coordinate with the City's Engineering Representative, Tim Kurtz, at (727) 562-4737, to obtain approval in advance of any and all work within the critical root zone of any existing tree.

SEDIMENT & EROSION CONTROL

1. It is the responsibility of the Contractor to control and prevent erosion and the transportation of sediment to surface drains and outfalls.
2. The Contractor shall prepare and submit a Stormwater Pollution Prevention Plan (SWPPP) in accordance with Florida Department of Environmental Protection (FDEP) Criteria for a National Pollution Discharge Elimination System (NPDES) Activities Permit.
3. The Contractor must obtain a FDEP Generic Permit for The Discharge of Produced Ground Water, if dewatering with offsite discharge will be required. The Contractor is responsible for all required preliminary water samples to satisfy the FDEP Generic Permit for the Discharge of Produced Ground Water. Sampling shall occur thirty (30) days prior to the start of dewatering.
4. Construction operations shall be carried out in such a manner that erosion and pollution shall be minimized. The submitted SWPPP shall be complied with. All applicable federal, state, and local laws shall be complied with at all times. Please note that no hay bales are allowed on City of Clearwater projects.

ROOT PRUNING

1. Root pruning shall only be performed by or under the direct supervision of an International Society of Arboriculture (ISA) Certified Arborist.
2. Any proposed root pruning trenches shall be identified (i.e., staked or painted) on site, inspected and approved by the City's Engineering Representative prior to actual root pruning.
3. Root pruning shall be performed as far in advance of other construction activities as is feasible, but at a minimum shall be performed prior to any impacts to the soil. Associated tree protection measures should be implemented upon completion of said root pruning.
4. If there is a likelihood of excessive wind and/or rain, an exceptional care shall be taken on any root pruning activities.
5. Root pruning shall be limited to a minimum of ten inches per one inch trunk diameter from the tree base. Any exception must be approved by the City's Engineering Representative prior to said root pruning.
6. Roots shall be cut cleanly, as far from the trunk of the tree as possible. Root pruning shall be done to a minimum depth of eighteen (18) inches from existing grade, or to the depth of the disturbance if less than eighteen (18) inches.
7. Root pruning shall be performed using a root cutting machine designed specifically for this purpose. Alternate equipment or techniques must be approved by the City's Engineering Representative, prior to any work adjacent to trees to be preserved.
8. Root pruning shall be completed, inspected and accepted prior to the commencement of any excavation or other impacts to the critical root zones of trees to be protected.
9. Excavations in an area where root are present shall not cause the tearing or ripping of tree roots. Roots must first be cleanly severed prior to continuing with the excavation, or tunneled around to prevent damage to the root.
10. Tree roots shall not be exposed to drying out. Root ends shall be covered with native soil or burlap and kept moist until final backfill or final grades have been established.
11. When deemed appropriate (e.g. during periods of drought) the city representative may require a temporary irrigation system be utilized in the remaining critical root zones of root pruned trees
12. Contractor to properly root prune, as needed, for new sidewalk and underdrain construction.

DEWATERING

1. Unless specifically authorized by the Engineer, all pipe, except subdrains, shall be laid "in the dry". The Contractor shall dewater trench excavation as required for the proper execution of the work, using one or more of the following approved methods: well point system, trenched gravity underdrain system, or sumps with pumps.
2. Well point systems must be efficient enough to lower the water level in advance of the excavation and maintain it continuously in order that the trench bottom and sides shall remain firm and reasonably dry. The well points shall be designed especially for this type of service, and the pumping unit used shall be capable of maintaining a high vacuum, and at the same time, of handling large volumes of air as well as of water.
3. The Contractor shall be responsible for disposing of all water resulting from trench dewatering operations, and shall dispose of the water without damage or undue inconvenience to the work, the surrounding area, or the general public. Contractor shall not dam, divert, or cause water to flow in excess in existing gutters, pavements or other structures: and to do this Contractor may be required to divert the water to a suitable place of discharge as may be determined by the Engineer. Where possible, Contractor may contain produced groundwater on the project site, a dewatering plan must be submitted to the City for approval if a discharge permit is not obtained or require
4. The Contractor shall be responsible for submitting the Notice of Intent to use the Generic Permit for the Discharge of Groundwater from Dewatering Operations and associated fee in accordance with Florida DEP Requirements, F.A.C. 62-621.300(2)(b) prior to discharging of produced groundwater into the City's streets, storm sewers or waterways.
5. Prior to construction, a dewatering plan must be prepared and submitted to the City for review. It shall include site-specific notes and details presenting the Contractor's proposed dewatering and disposal methods. The City will field-inspect the dewatering operation throughout construction.

UTILITY OWNERS

Spectrum
Attention: Mr. Ted Bingham
700 Carillon Parkway, Suite 6
St. Petersburg, Florida 33716-1123
Phone: (727) 329-2847

Frontier Communications, Inc.
Attention: Mr. Chris Blauvelt
MC: FLCW5033
1280 Cleveland Street
Clearwater, Florida 33782
Phone: (727) 562-1130

Wide Open West (WOW!)
FLSP2144
Attention: Mr. James Sandman – Construction Project Coordinator
3001 Gandy Boulevard North
Pinellas Park, Florida 33782
Phone: (727) 239-0224 Office

Duke Energy
Attention: Mr. Rico Ashley
2166 Palmetto Street, Bldg. F
Clearwater, Florida 33765
Phone: (727) 562-5767
City of Clearwater

Clearwater Gas System
Attention: Mr. Robert Jaeger
401 North Myrtle Avenue
Clearwater, Florida 33755
Phone: (727) 562-4900 Ext. 7438

City of Clearwater
Engineering Department – Traffic Division
Attention: Mr. Paul Bertels
100 South Myrtle Avenue, Room 220
Clearwater, Florida 33756-4748
Phone: (727) 562-4794

City of Clearwater
Engineering Department – Survey Division
Attention: Mr. Tom Mahony
100 South Myrtle Avenue, Room 220
Clearwater, Florida 33756-4748
Phone: (727) 562-4762

City of Clearwater
Engineering Department – Construction Management
Attention: Mr. Tim Kurtz
100 South Myrtle Avenue, Room 220
Clearwater, Florida 33756
Phone: (727) 562-4737

City of Clearwater
Public Utilities
Attention: Mr. Glenn Daniel
1650 North Arcturas Avenue
Clearwater, Florida 33755
Phone: (727) 562-4960 Ext. 7249

REVISION	BY	DATE

ELLIOT SHOGREN
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 58746
STATE OF FLORIDA

3/11/14 DATE SIGNED 3/11/14

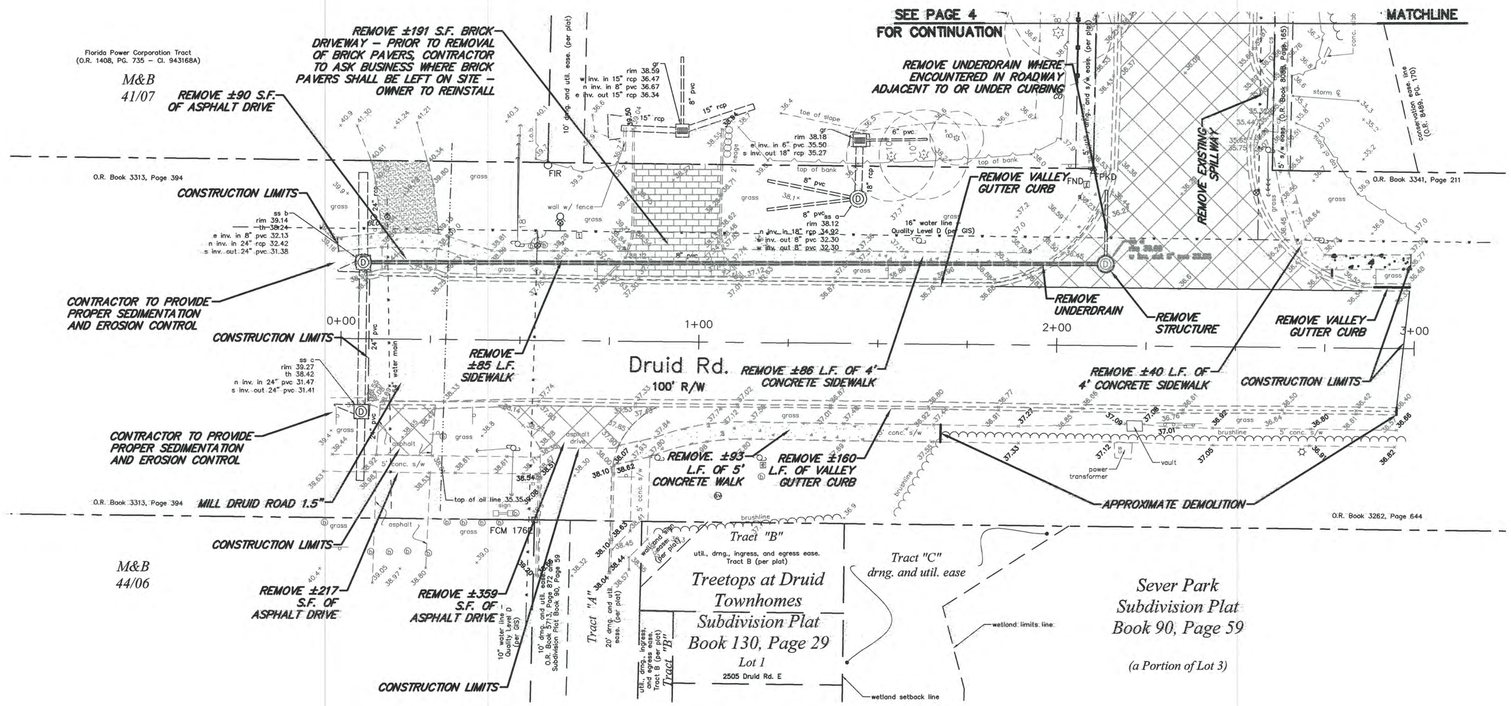
CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. MYRTLE AVE.
CLEARWATER, FL 33756

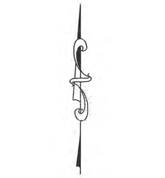
INVESTIGATE BEFORE YOU EXCAVATE
CALL 811
SUNSHINE STATE ONE CALL OF FLORIDA
www.callsunshine.com
(800) 432-4770
MIN. 48 HOURS BEFORE YOU EXCAVATE

Bypass Drive Improvements
General Notes

DWG NAME: 2015030-CVRSHT	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. N/A
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-11-2016	DRAWN BY: DDM, JR	HORIZ. N/A
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 2 OF 27

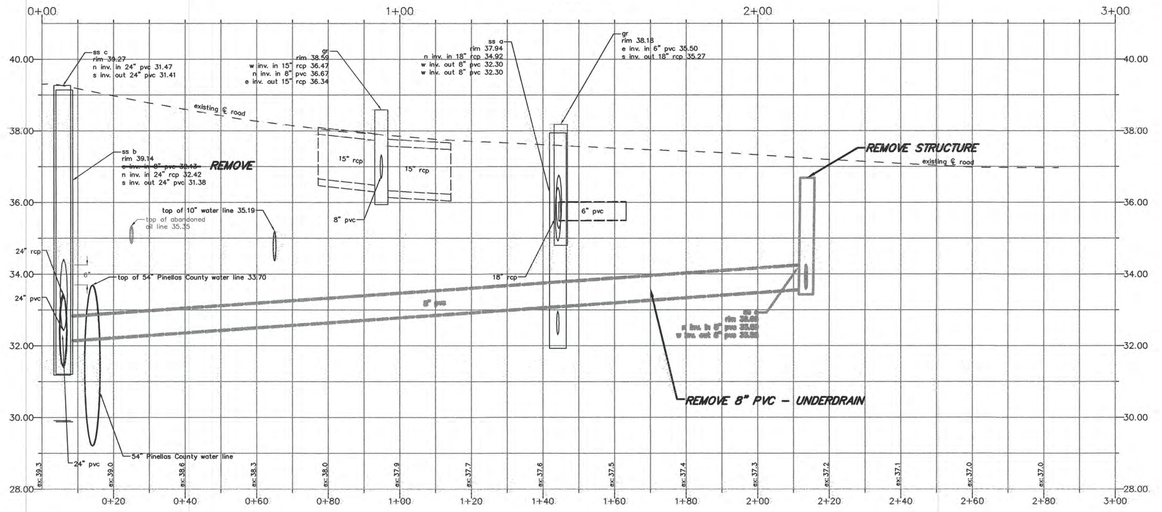
APPROVED BY _____ DATE





Profile View: Druid Road

Stations



NOTE: Contractor shall hold and protect the gas main.

NOTE: Contractor must exercise care when working around any existing trees and/or palms. Any trimming that is required to perform the work must comply with the City of Clearwater's "Proper Tree Pruning Specifications" (Section IV, 900 Series; 910–3; page 105 and 106)

SURVEY NOTES:

- *The Horizontal Datum is Florida State Plane Coordinates, N.A.D. 83–99, Florida West Zone.*
- *The Vertical Datum is the new City Benchmark network, N.A.V.D. 1988.*
- *Underground utility locations (potable water, reclaimed water, and gas) are derived from survey data (submitted on 07–17–2015 as spotted by Sunshine State One–Call of Florida), together with the best available GIS data as of 08–05–2015.*
- *Property lines are derived from the best available GIS Parcel data as of 08–05–2015.*

100% PLANS BID SET

REVISION	BY	DATE

ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 56746
STATE OF FLORIDA
3/11/21
DATE SIGNED

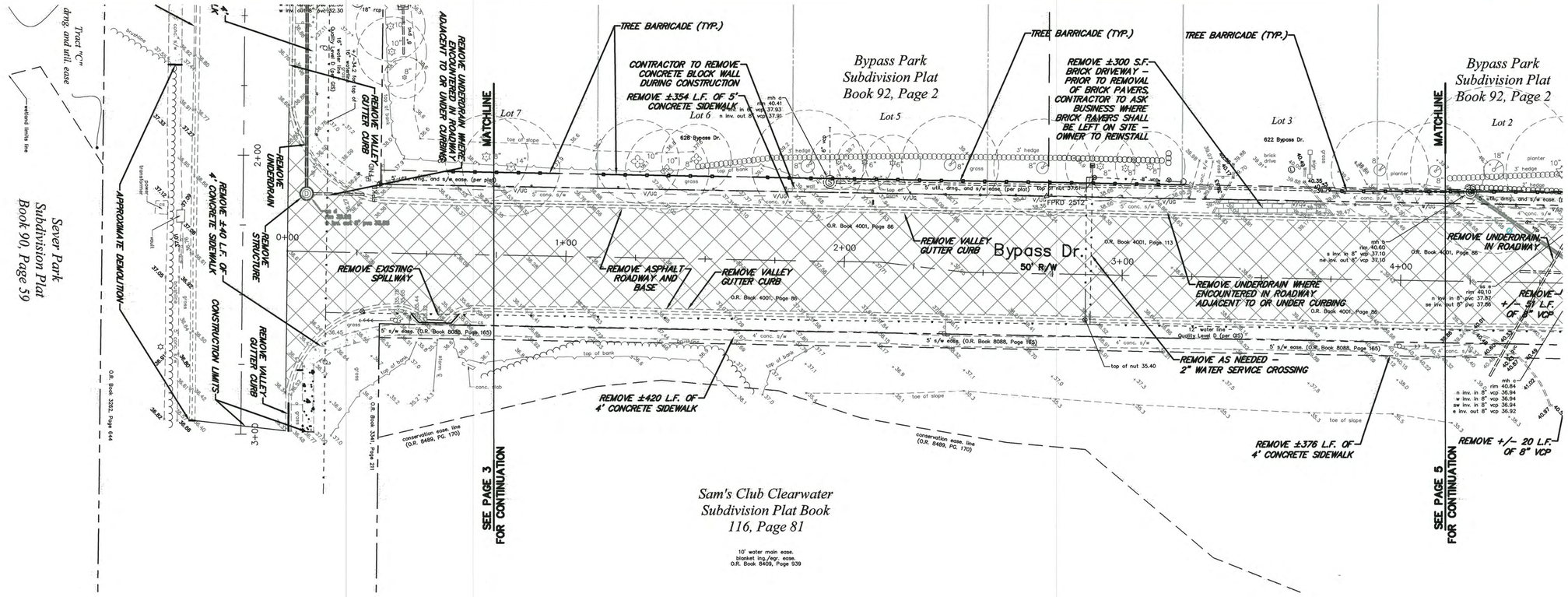
CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

UNDERGROUND BEFORE YOU EXCAVATE
CALL 811
SUNSHINE STATE ONE CALL OF FLORIDA
www.callsunshine.com
(800) 432-4770
MIN. 48 HOURS BEFORE YOU EXCAVATE

Bypass Drive Improvements
Existing Conditions and Demolition
Druid Road Alignment 0+00 Through 3+00

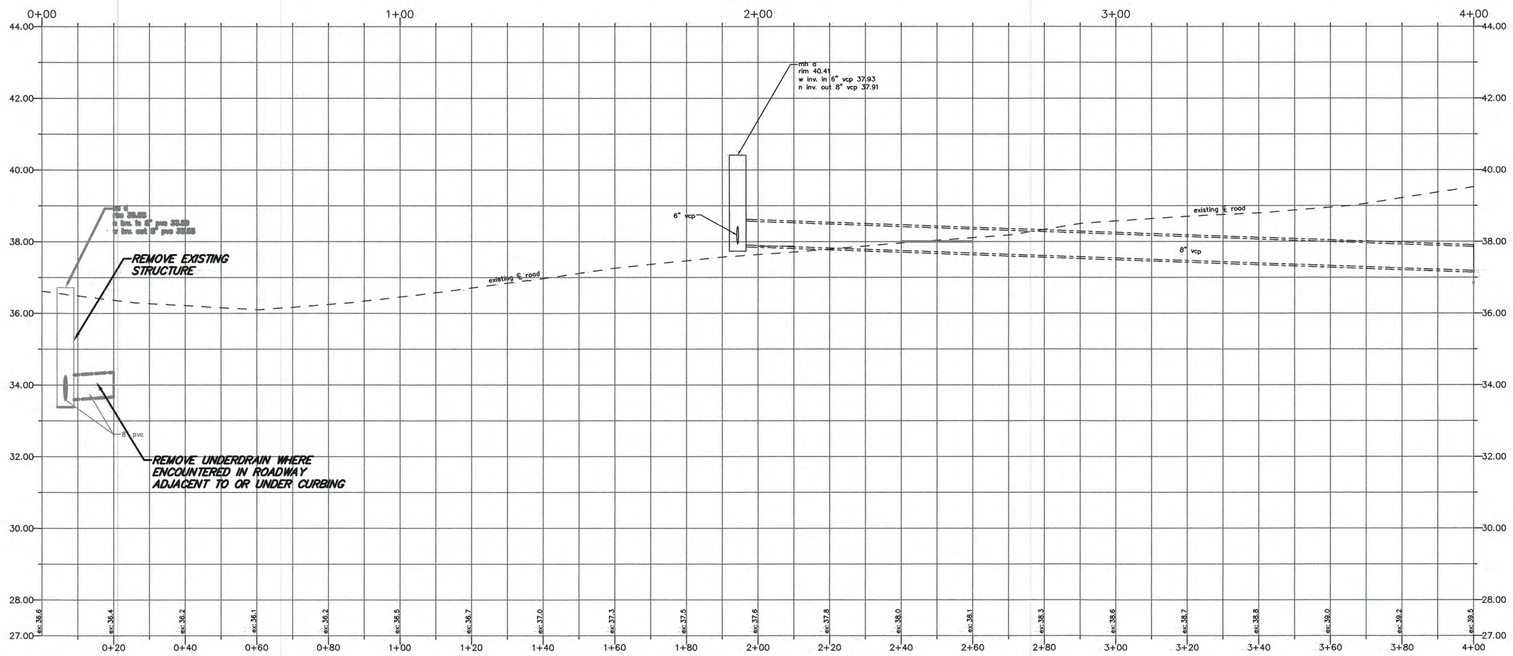
DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 3 OF 27

APPROVED BY _____ DATE



Profile View: Bypass Drive

Stations



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ELLIOT SHOBERG
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PROFESSIONAL ENGINEER NUMBER PE 58746
STATE OF FLORIDA

3/1/21
DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

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Bypass Drive Improvements
Existing Conditions and Demolition
Bypass Drive Alignment 0+00 Through 4+00

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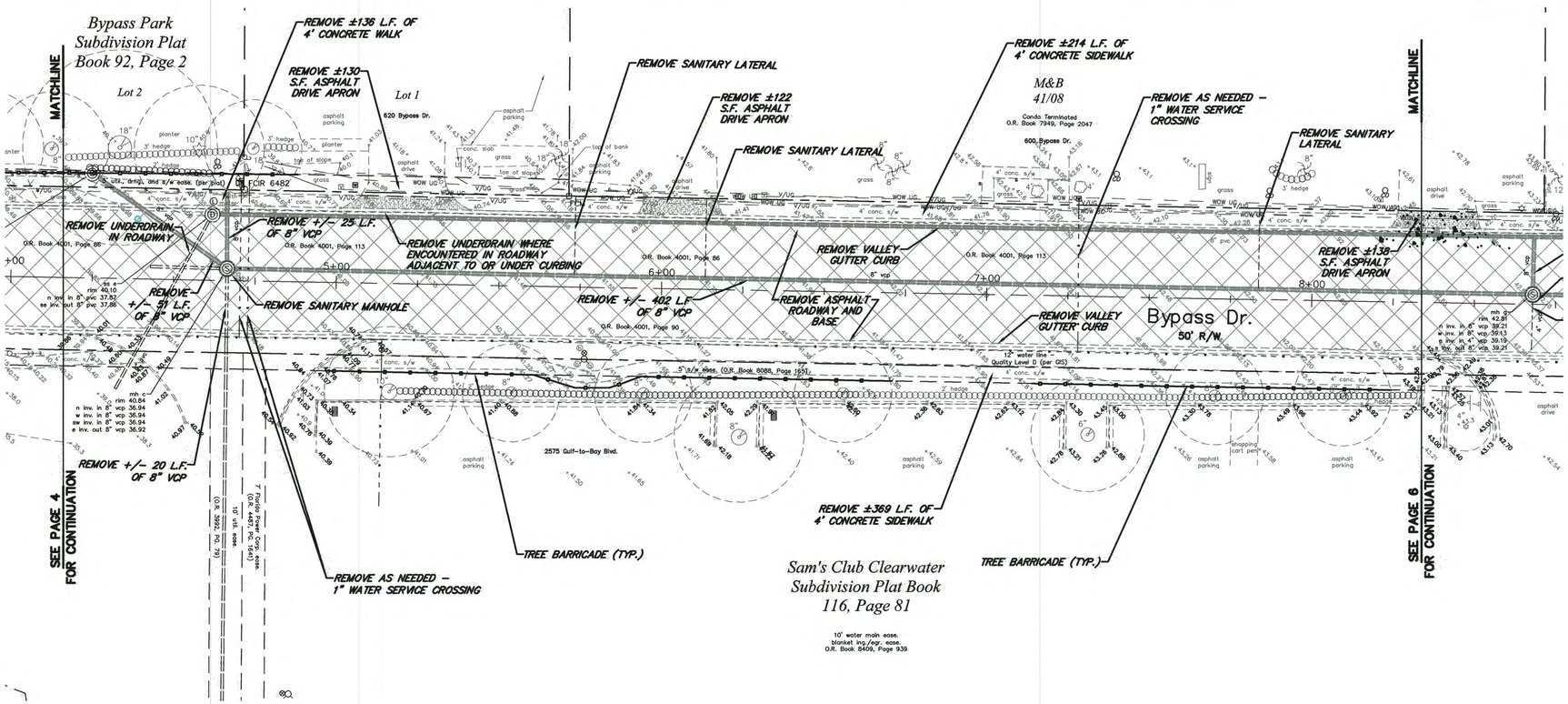
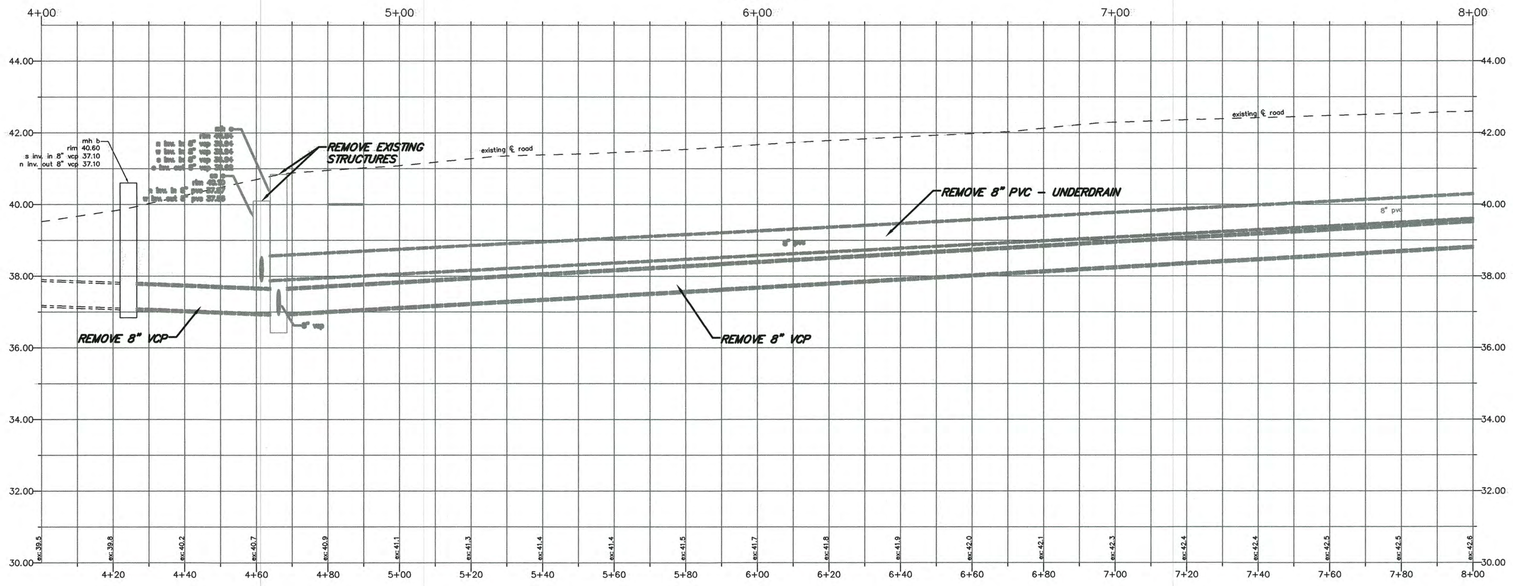
CONTRACT NO.: 15–0021–EN	DATE DRAWN: 05–27–2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 4 OF 27

APPROVED BY _____ DATE



Profile View: Bypass Drive



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ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
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STATE OF FLORIDA
3/1/21 — DATE SIGNED

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Clearwater, Fl 33756

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Bypass Drive Improvements
Existing Conditions and Demolition
Bypass Drive Alignment 4+00 Through 8+00

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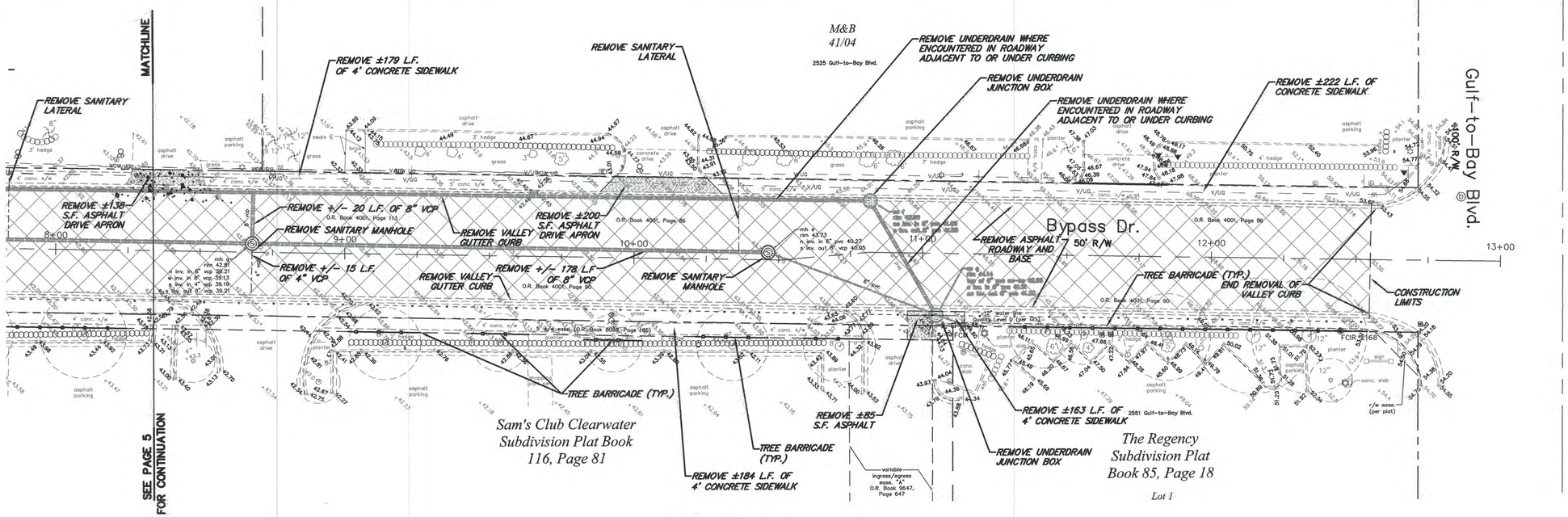
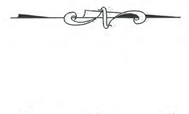
CONTRACT NO.: 15–0021–EN	DATE DRAWN: 05–27–2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 5 OF 29

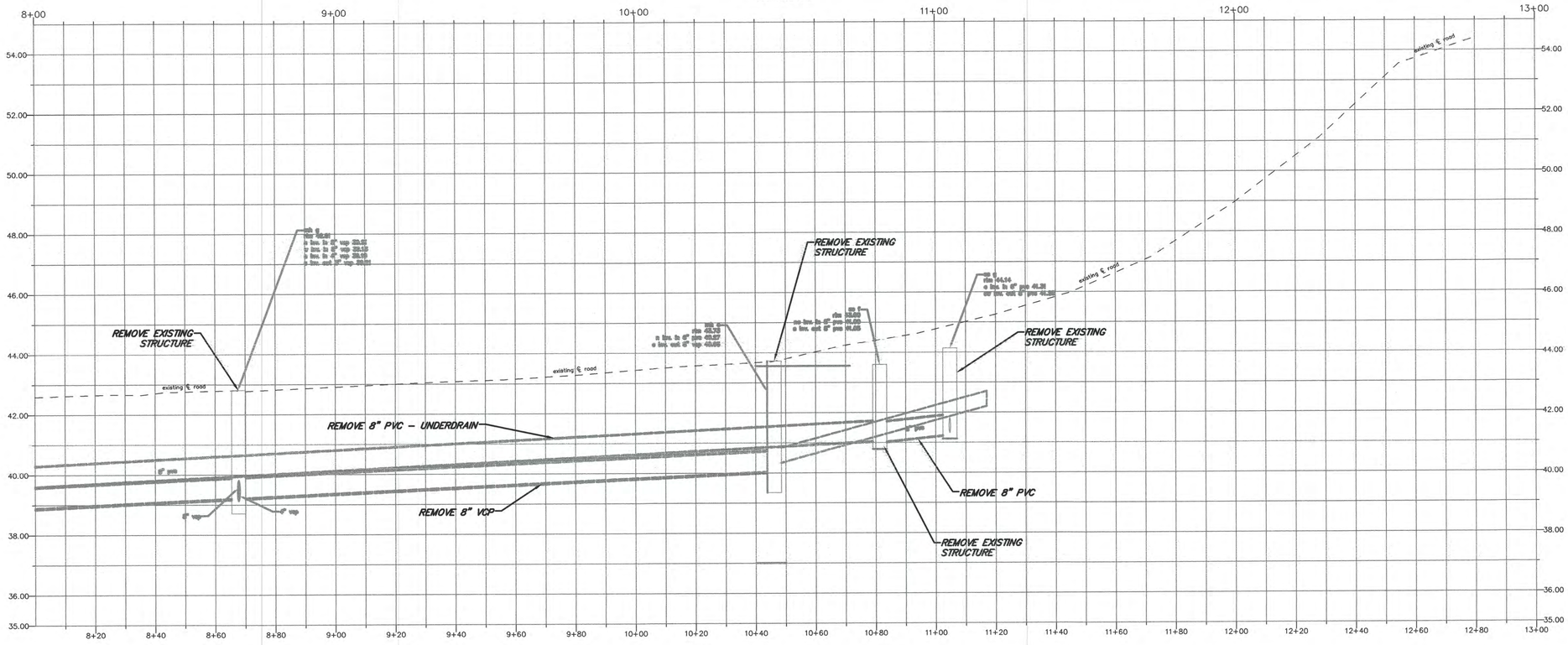
APPROVED BY _____ DATE





Profile View: Bypass Drive

Stations



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100% PLANS BID SET

REVISION	BY	DATE

ELLIOTT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 56746
STATE OF FLORIDA
3/11/16
DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

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SUNSHINE STATE ONE CALL OF FLORIDA
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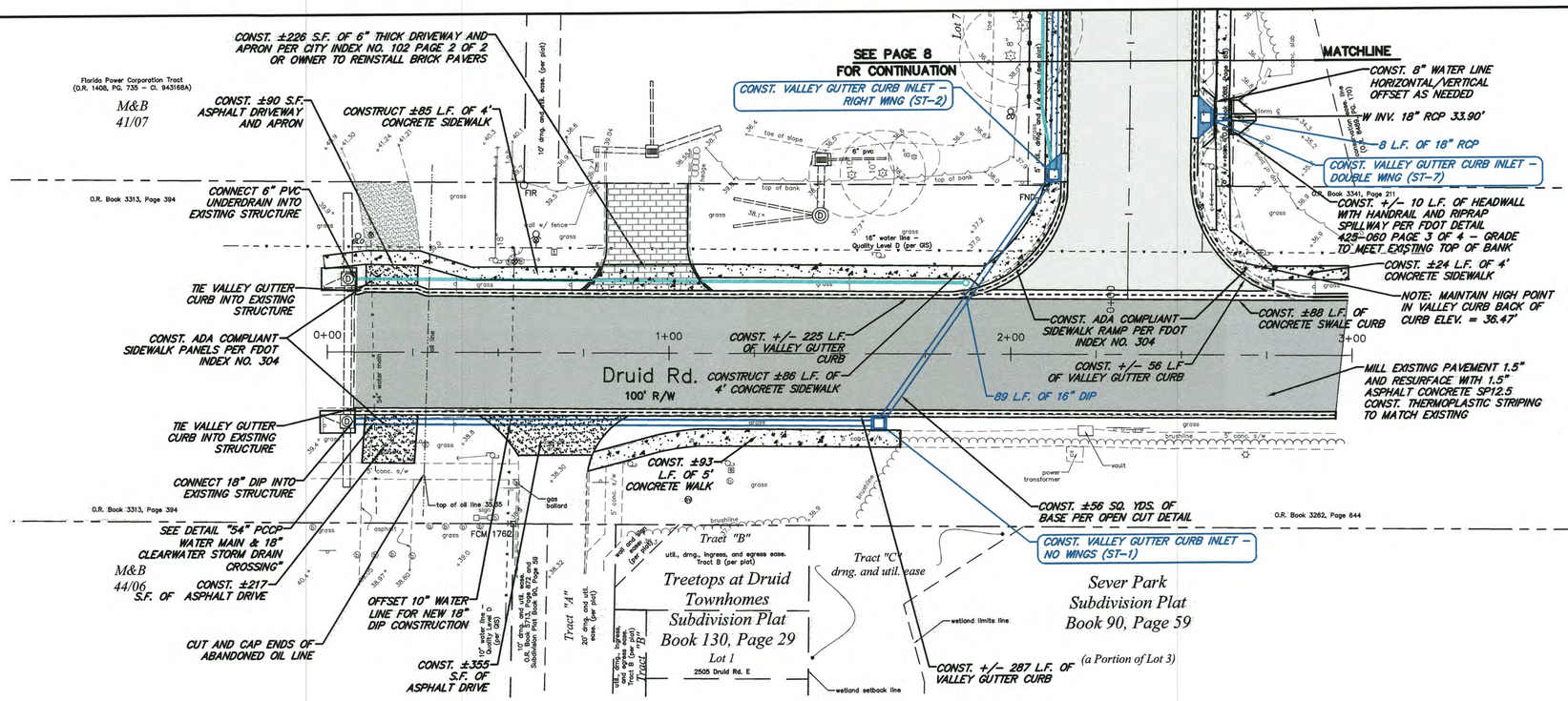
(800) 432-4770
MIN. 48 HOURS BEFORE YOU EXCAVATE

Bypass Drive Improvements
Existing Conditions and Demolition
Bypass Drive Alignment 8+00 through 13+00

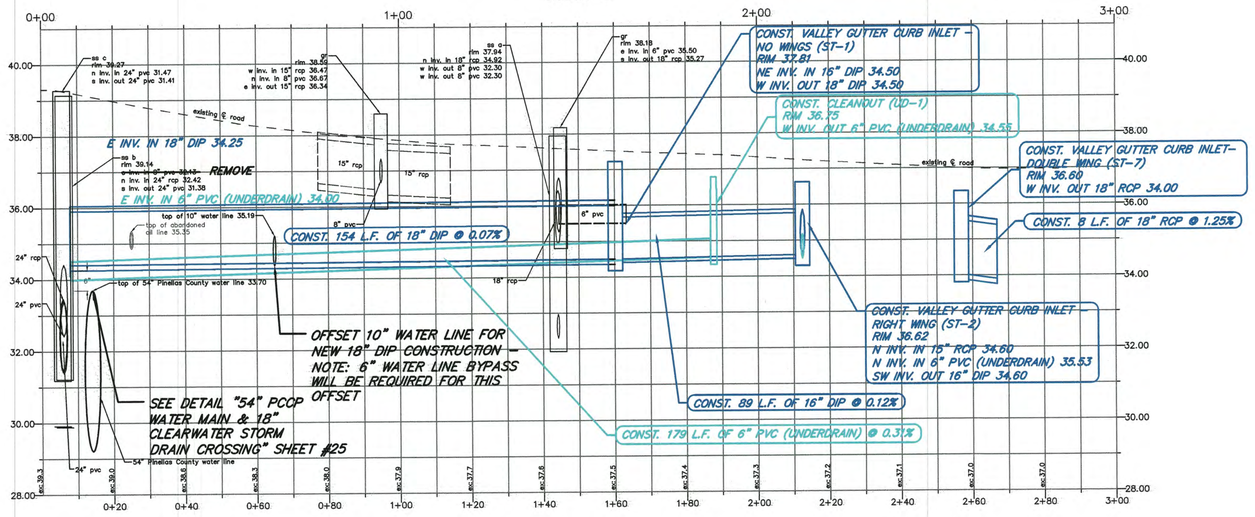
DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 6 OF 27

APPROVED BY _____ DATE



Profile View: Druid Road

Stations



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100% PLANS BID SET

REVISION	BY	DATE

ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 58746
STATE OF FLORIDA
3/11/21
DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

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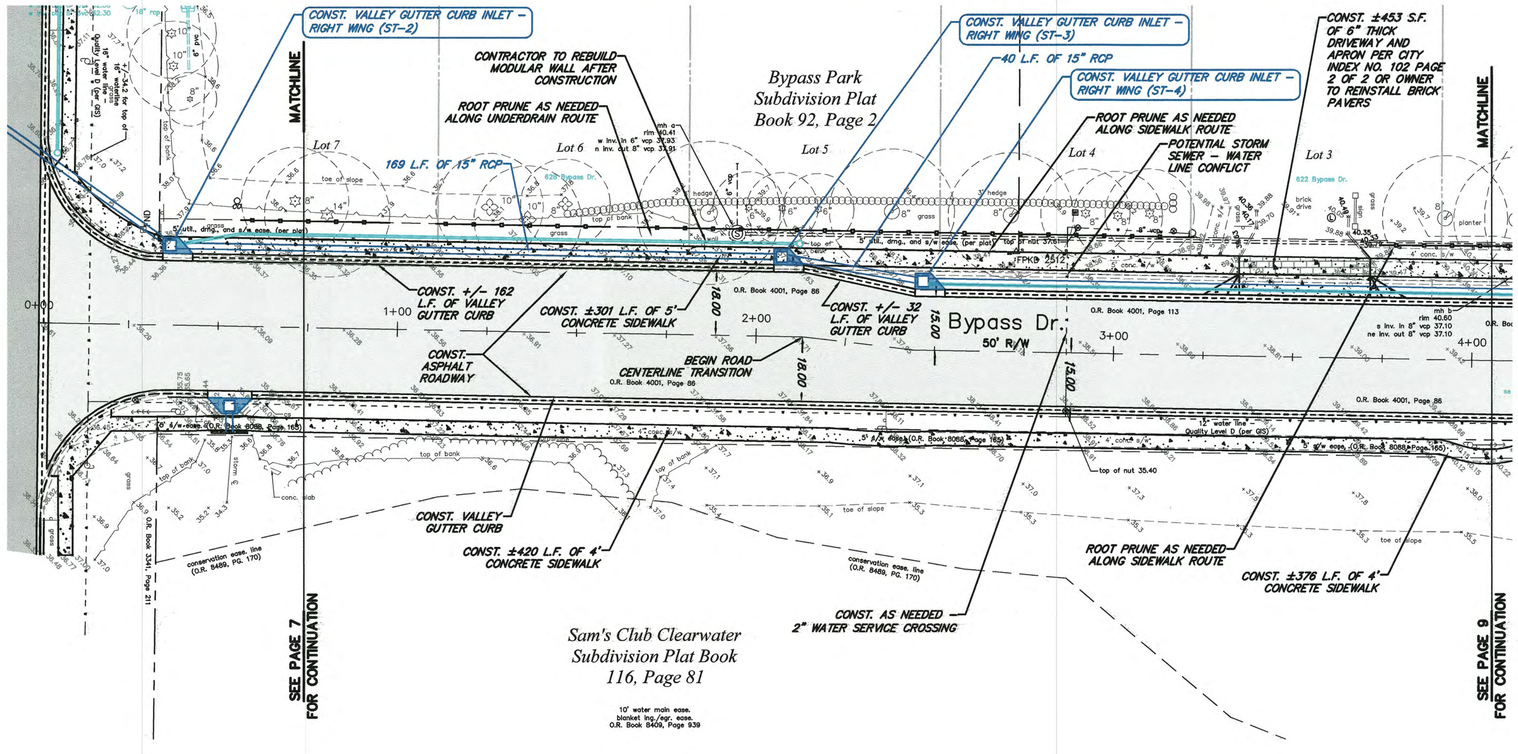
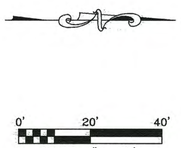
Bypass Drive Improvements
Plan and Profile
Druid Road Alignment 0+00 Through 3+00

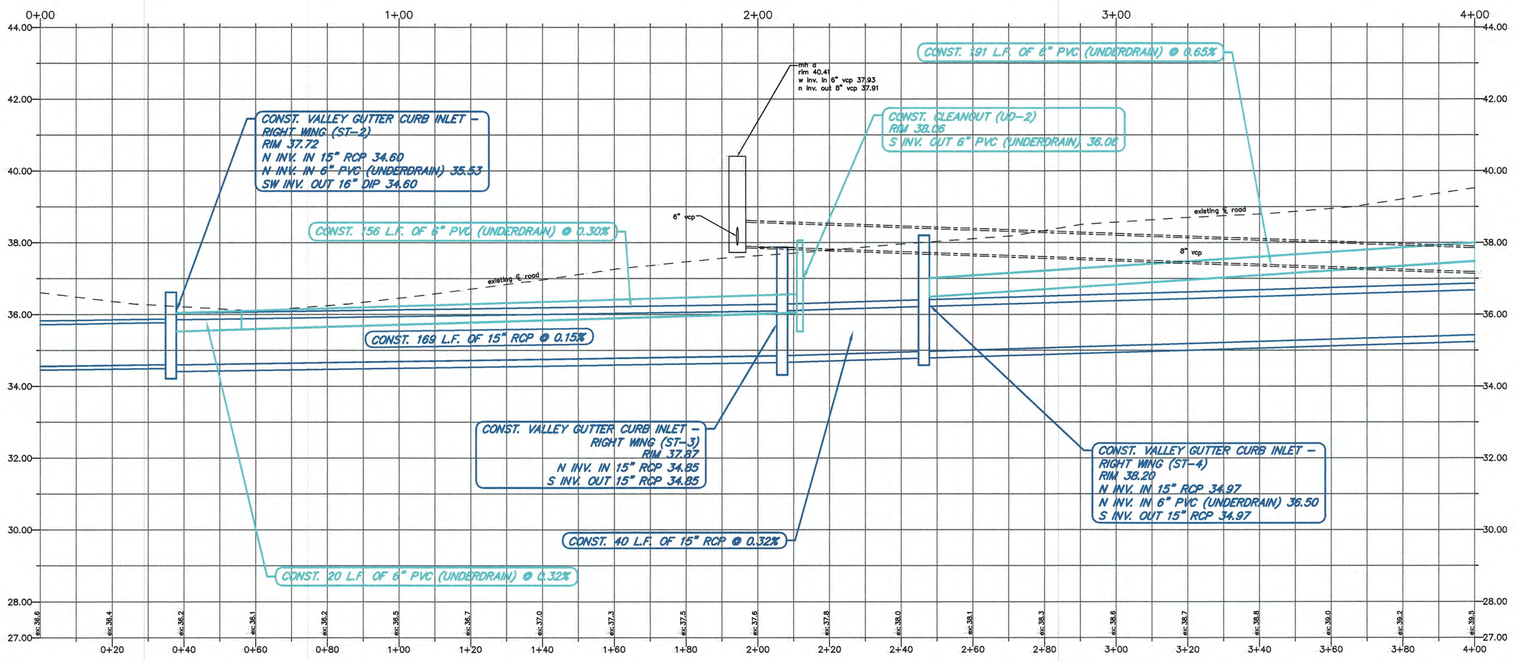
DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 7 OF 27

APPROVED BY _____ DATE





Profile View: Bypass Drive



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100% PLANS BID SET

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ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 56746
STATE OF FLORIDA

3/11/21 — DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

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(800) 432–4770
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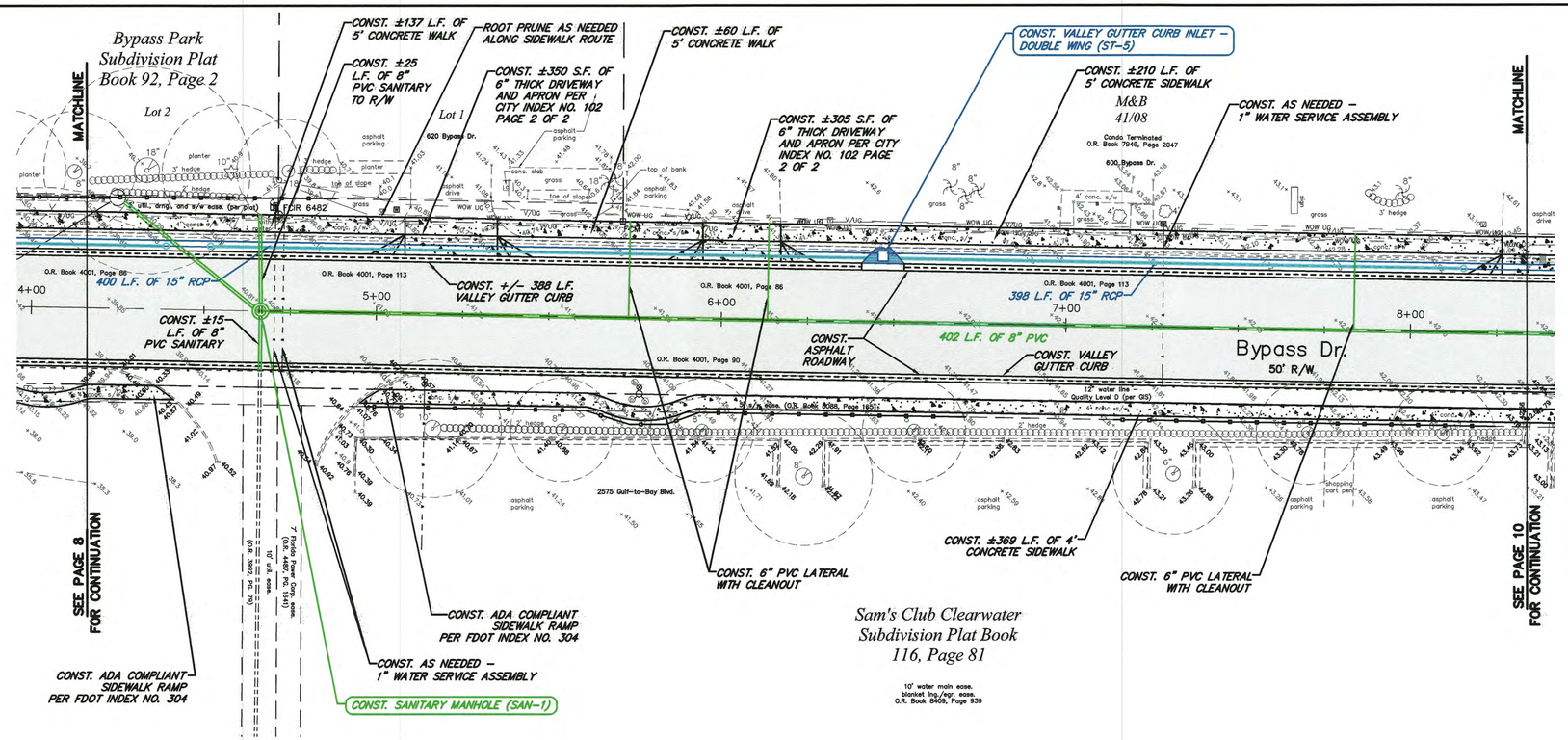
Bypass Drive Improvements
Plan and Profile
Bypass Drive Alignment 0+00 Through 4+00

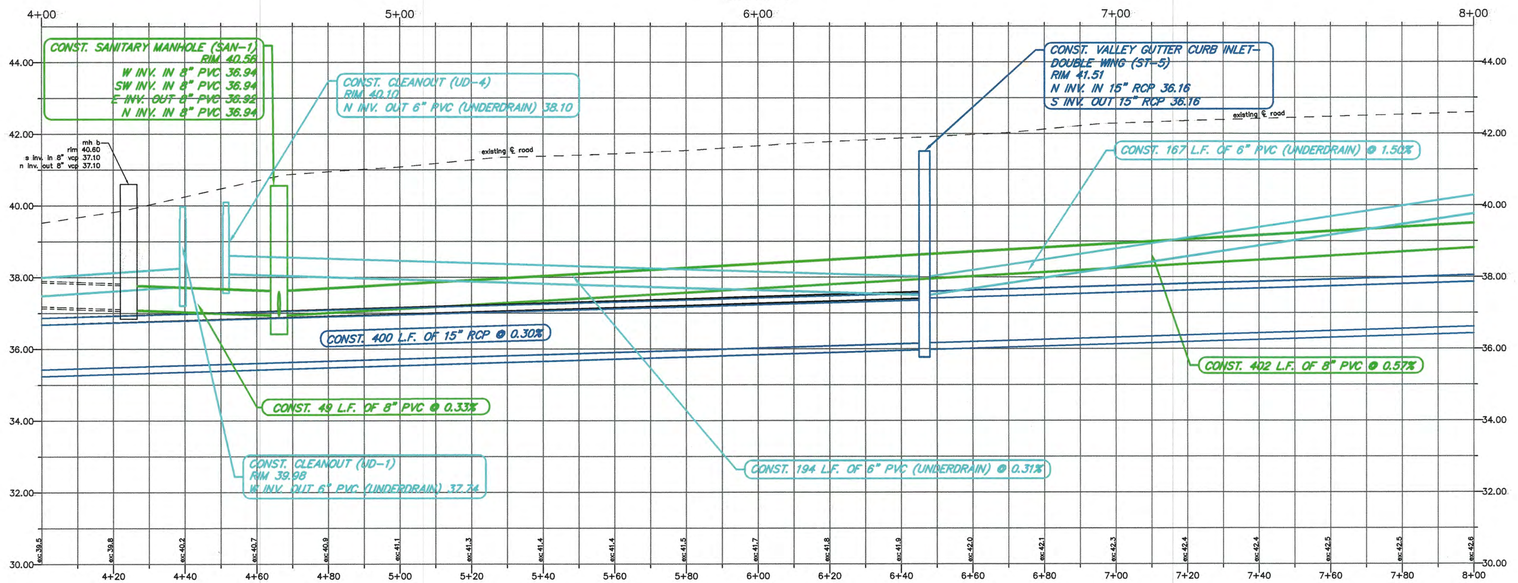
DWG NAME: 2015030–DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15–0021–EN	DATE DRAWN: 05–27–2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 8 OF 27

APPROVED BY _____ DATE _____



0' 20' 40'
SCALE: 1" = 20'
GRAPHIC SCALE (IN FEET)

Profile View: Bypass Drive



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100% PLANS BID SET

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ELIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 56746
STATE OF FLORIDA
3/1/21
DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

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SUNSHINE STATE ONE CALL OF FLORIDA
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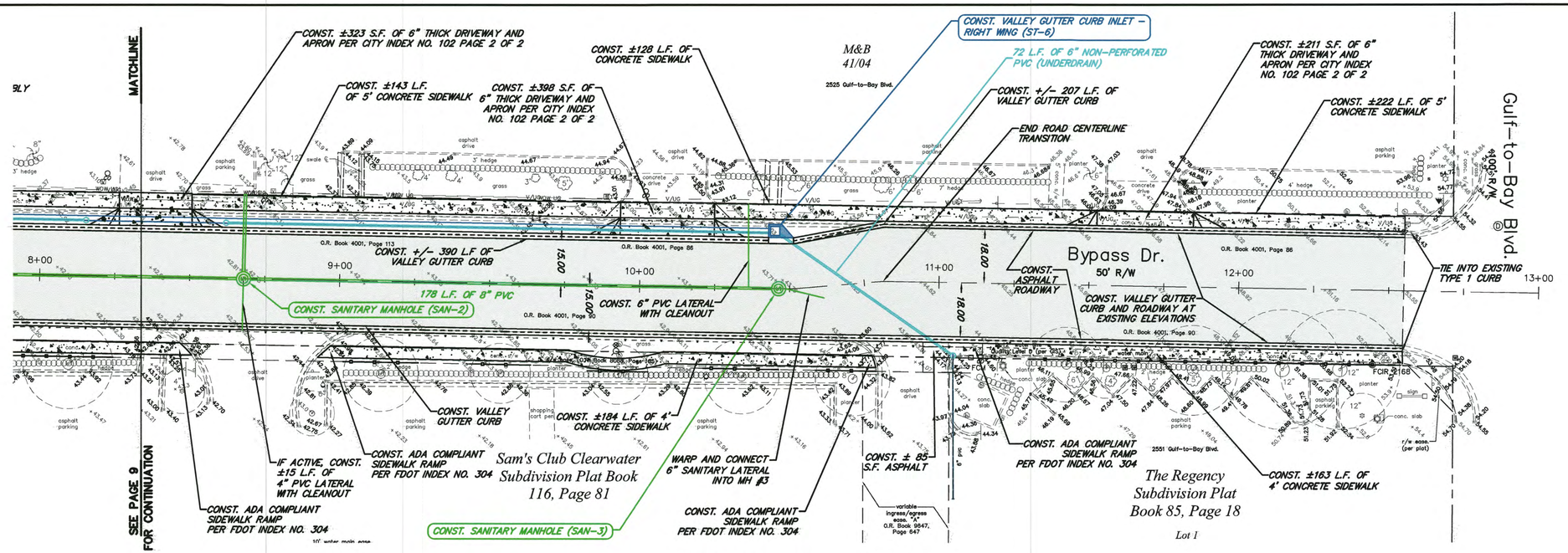
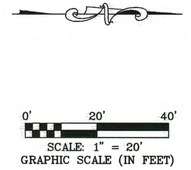
(800) 432-4770
MIN. 48 HOURS BEFORE YOU EXCAVATE

Bypass Drive Improvements
Plan and Profile
Bypass Drive Alignment 4+00 Through 8+00

DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 9 OF 27

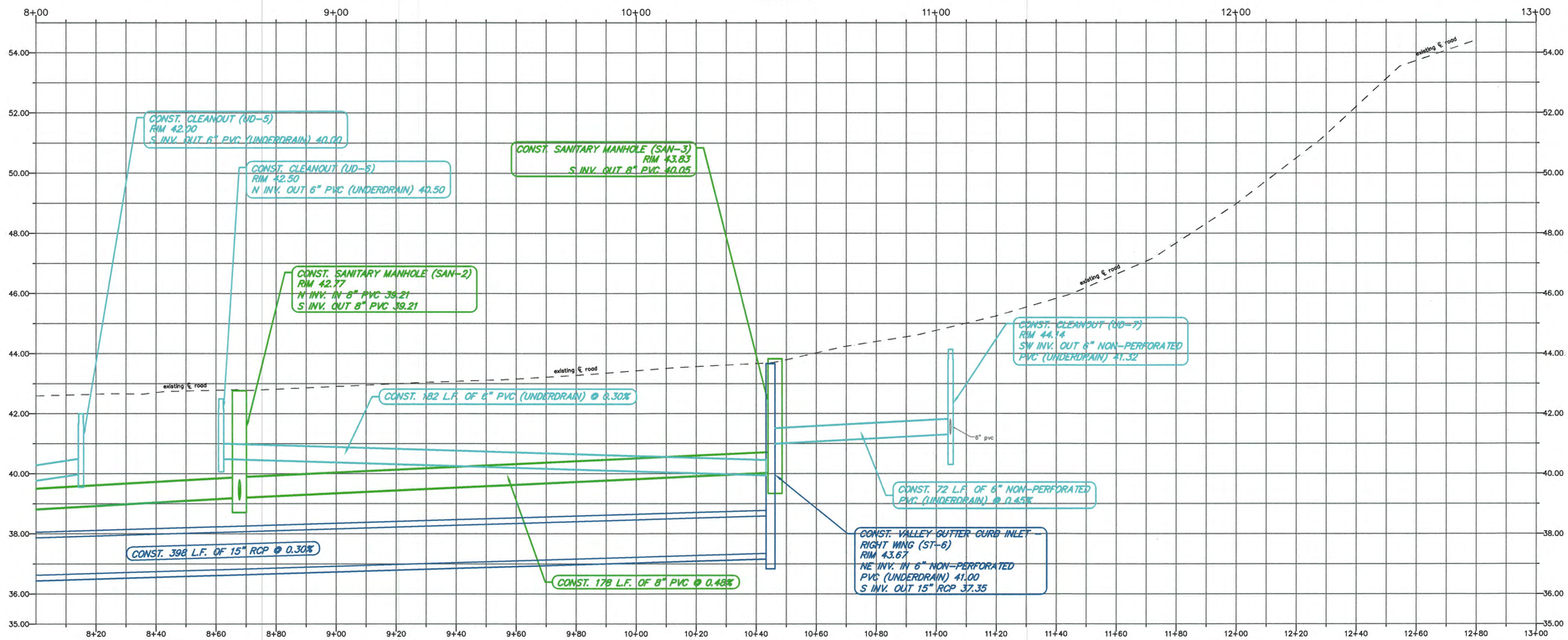
APPROVED BY _____ DATE _____





Profile View: Bypass Drive

Stations



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100% PLANS BID SET

REVISION	BY	DATE

Elliot Shoberg 3/11/21
3/11/21
ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 58746
STATE OF FLORIDA
DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

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(800) 432-4770
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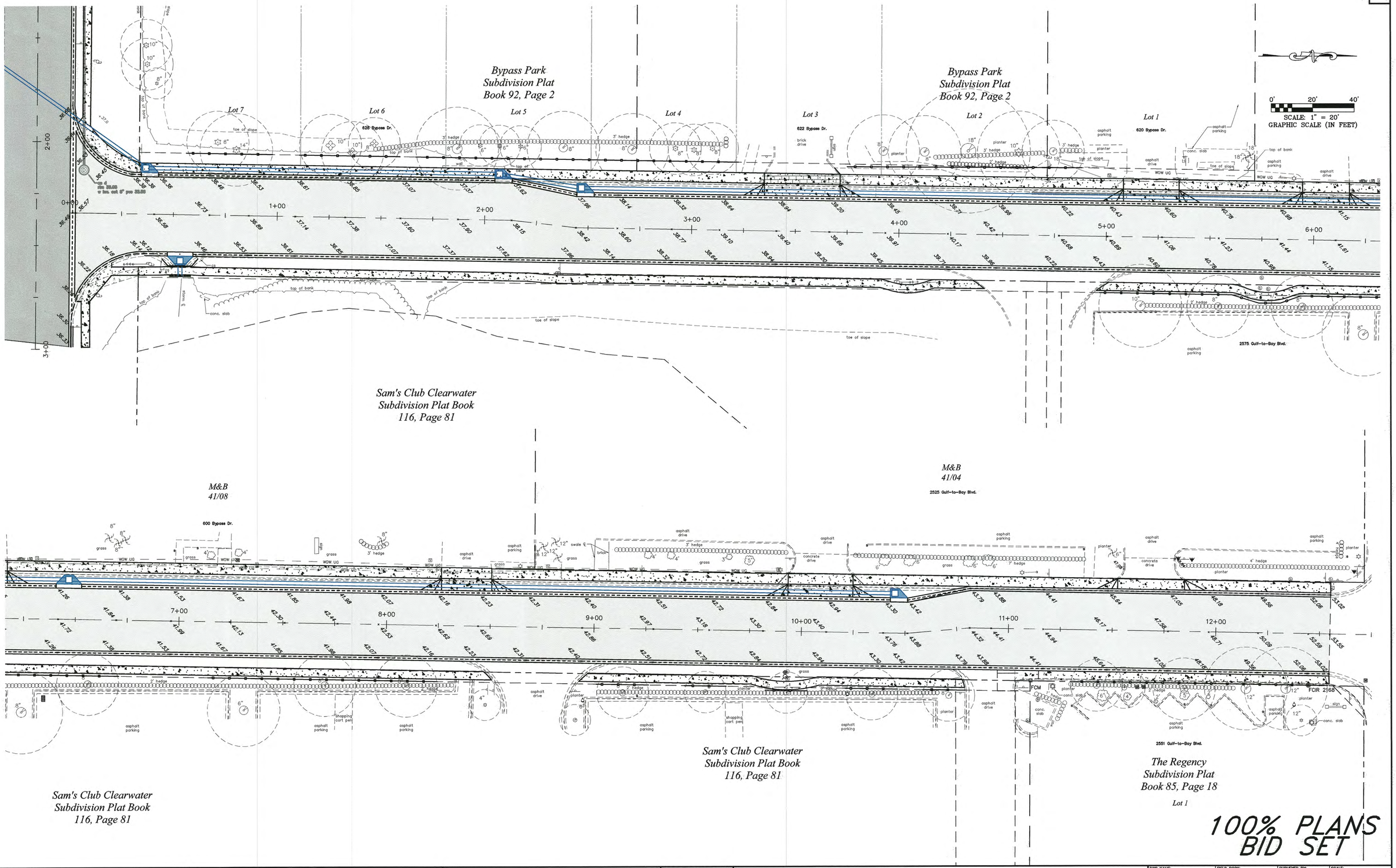
Bypass Drive Improvements
Plan and Profile
Bypass Drive Alignment 8+00 Through 13+00

DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 10 OF 27

APPROVED BY _____ DATE



100% PLANS
BID SET

REVISION	BY	DATE

Elliot Shoberg 3/11/21
ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER: PE 58746
STATE OF FLORIDA
3/11/21
DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

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(800) 432-4770
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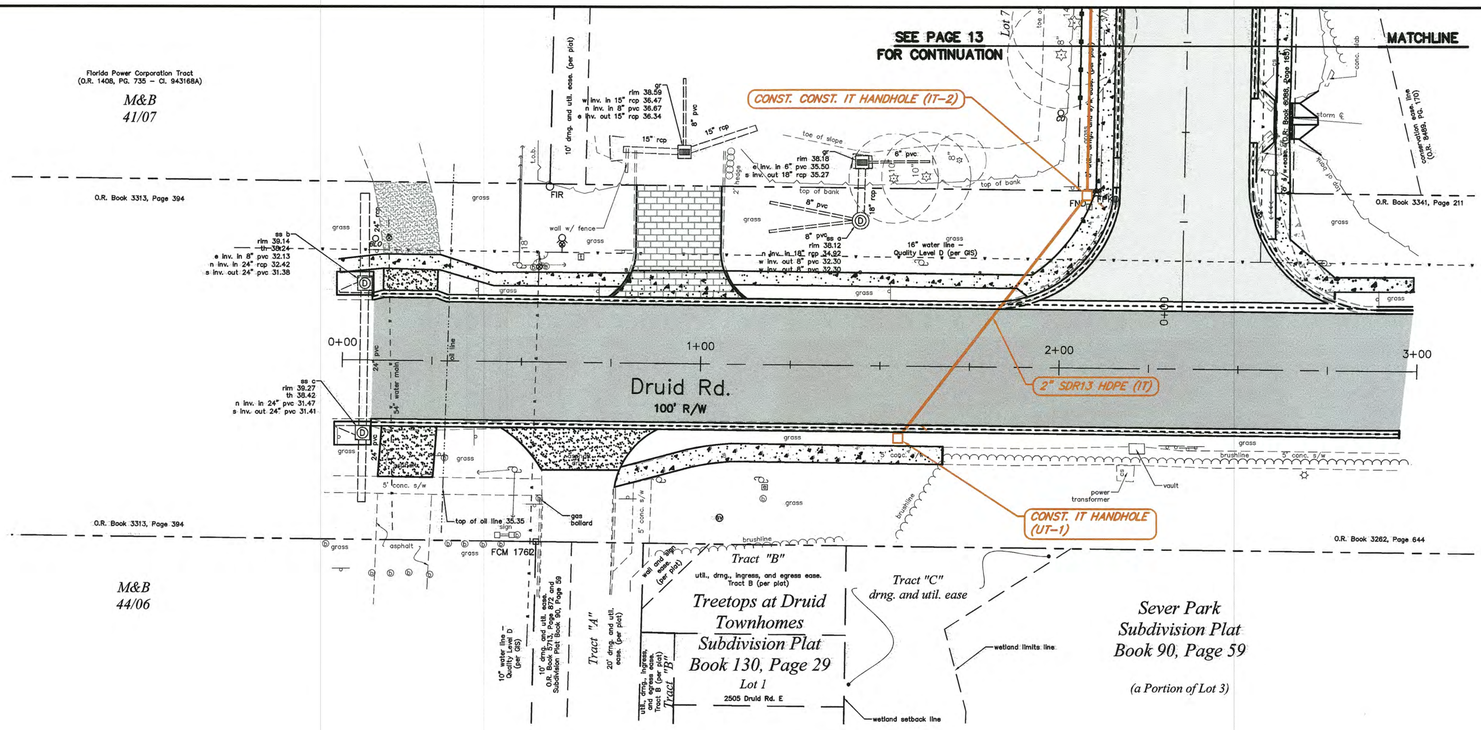
Bypass Drive Improvements
Centerline/Flowline Grading Plan
Bypass Drive Alignment 0+00 Through 13+25

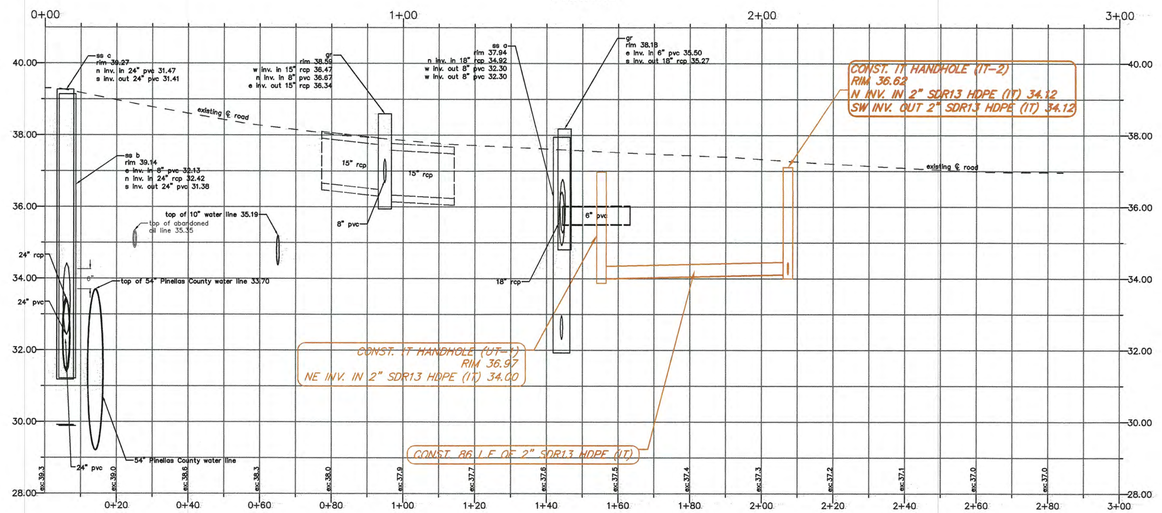
DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 11 OF 27

APPROVED BY _____ DATE



Profile View: Druid Road

Stations



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STATE OF FLORIDA
3/1/21
DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

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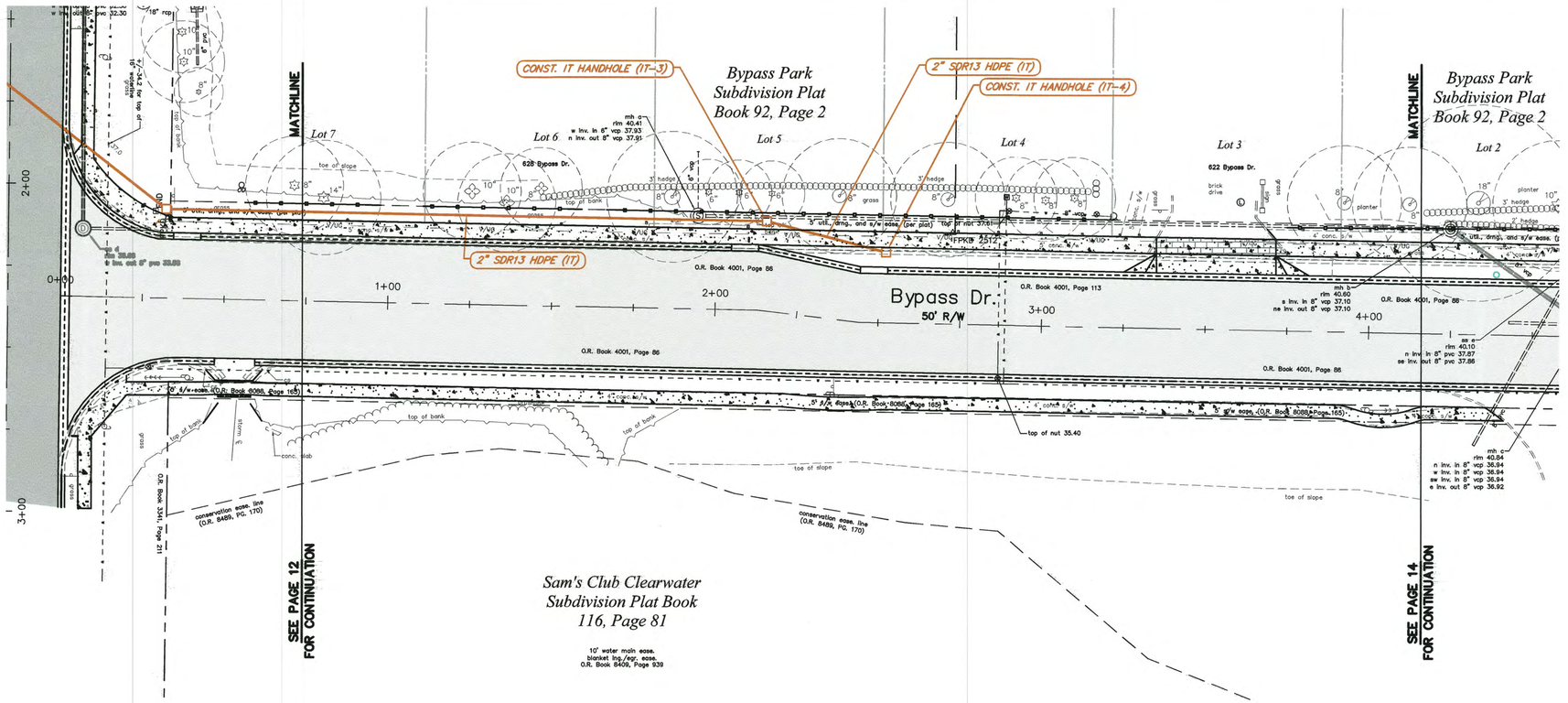
Bypass Drive Improvements
Plan and Profile – IT Conduit
Druid Road Alignment 0+00 Through 3+00

DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 12 OF 27

APPROVED BY _____ DATE

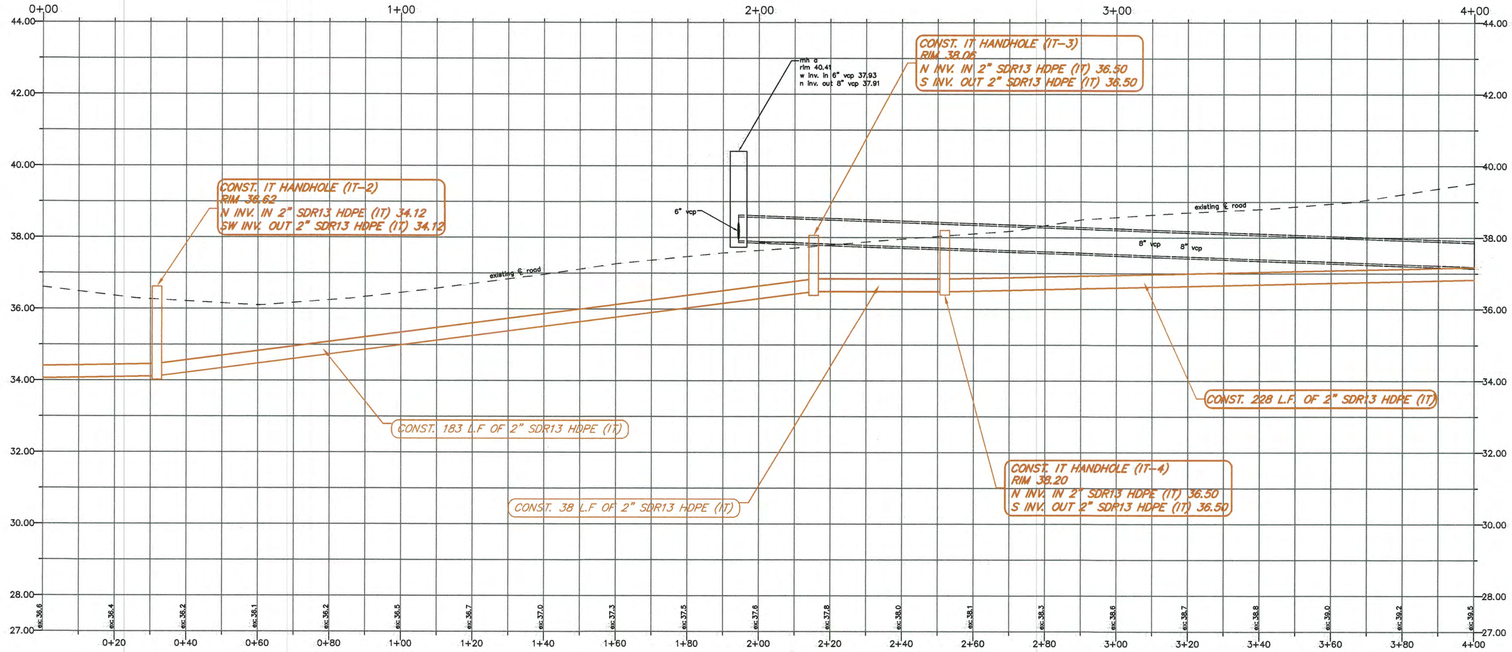


0' 20' 40'

SCALE: 1" = 20'
GRAPHIC SCALE (IN FEET)

Profile View: Bypass Drive

Stations



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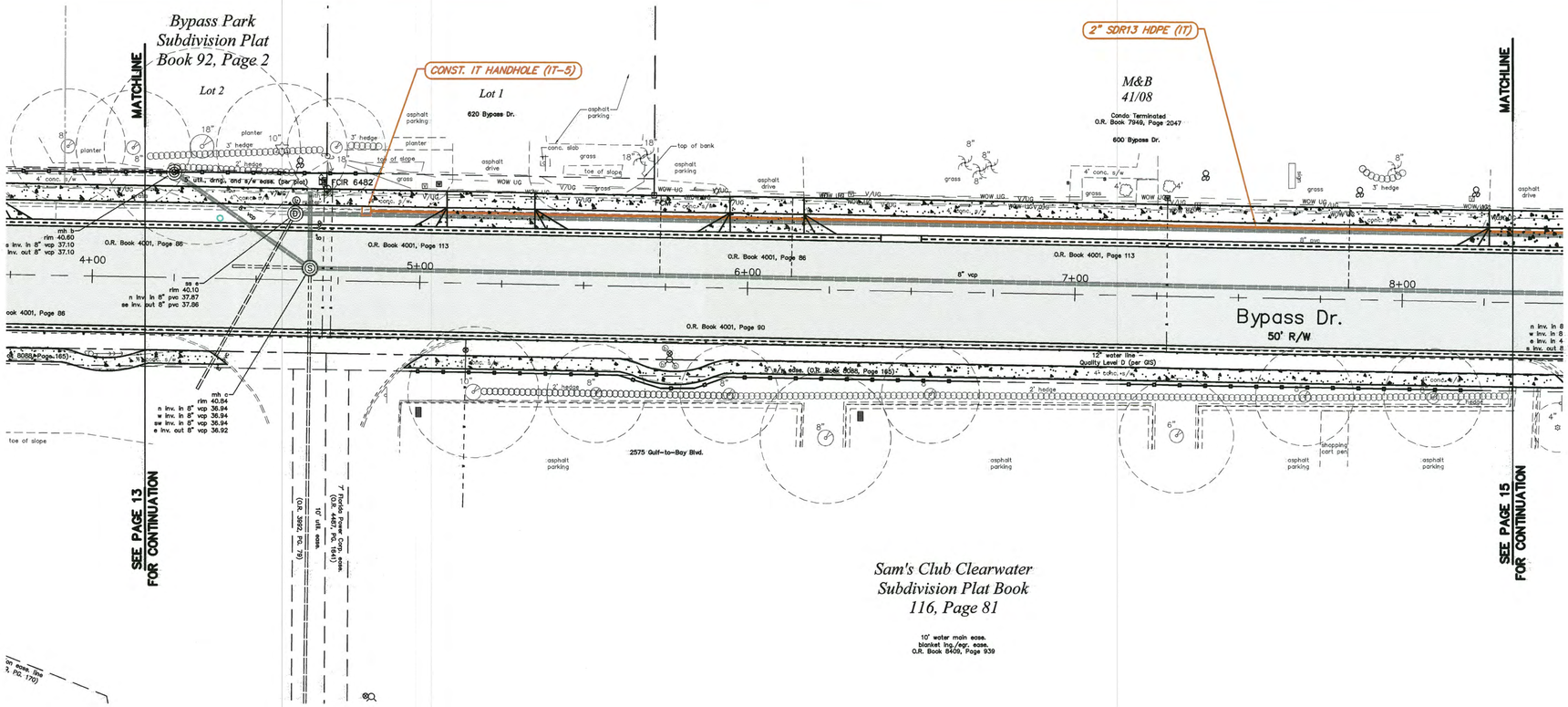
Bypass Drive Improvements
Plan and Profile – IT Conduit
Bypass Drive Alignment 0+00 Through 4+00

DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 13 OF 27

APPROVED BY _____ DATE



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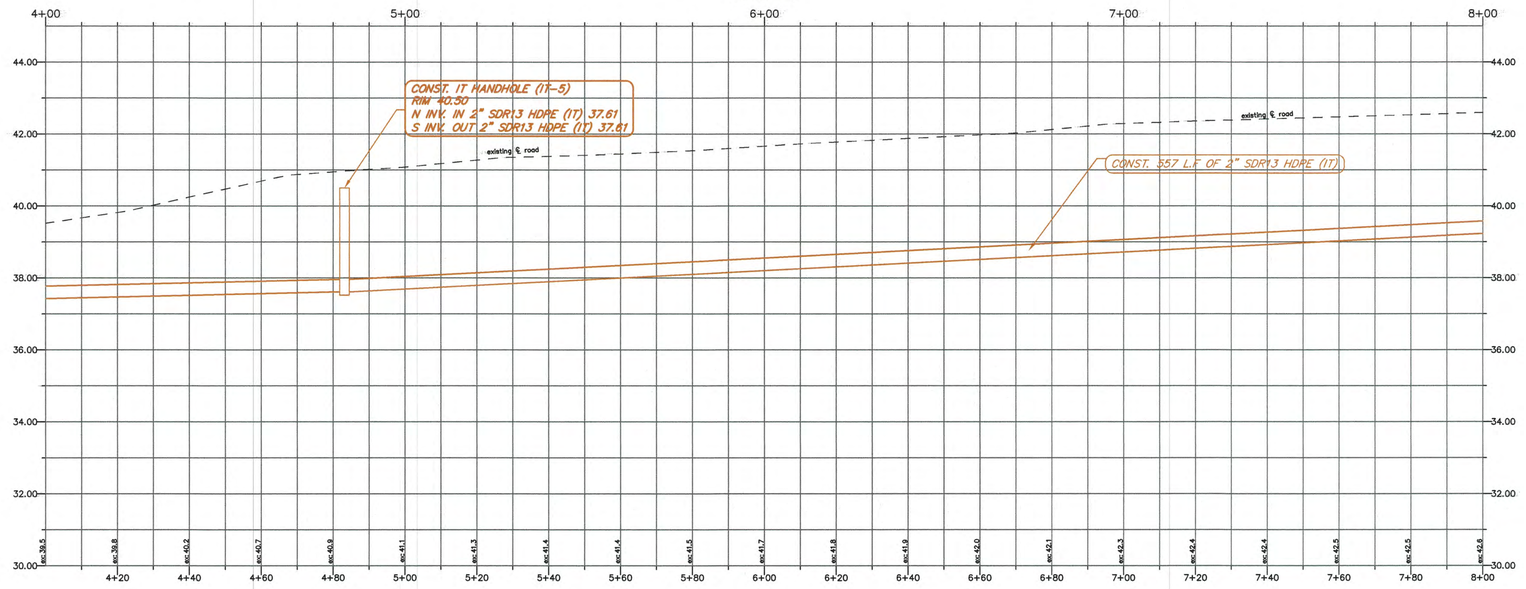
SCALE: 1" = 20'
GRAPHIC SCALE (IN FEET)

Profile View: Bypass Drive



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PROFESSIONAL ENGINEER NUMBER PE 56746
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3/1/21 — DATE SIGNED

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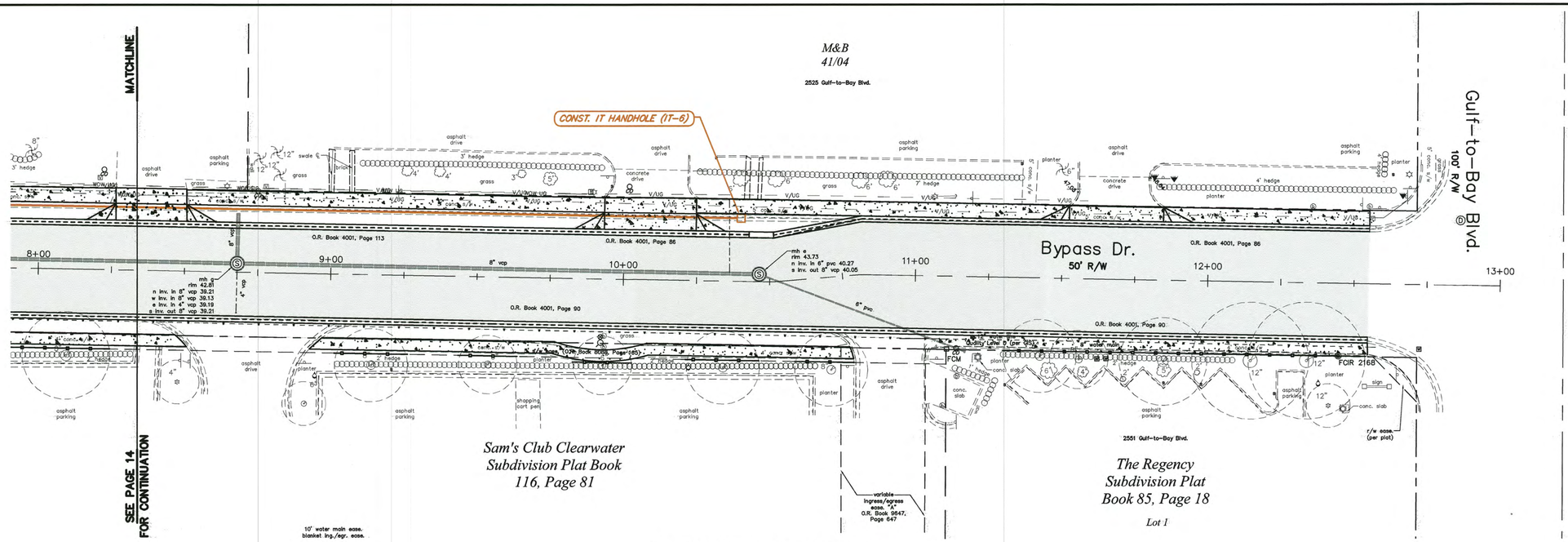
Plan and Profile – IT Conduit
Bypass Drive Alignment 4+00 Through 8+00

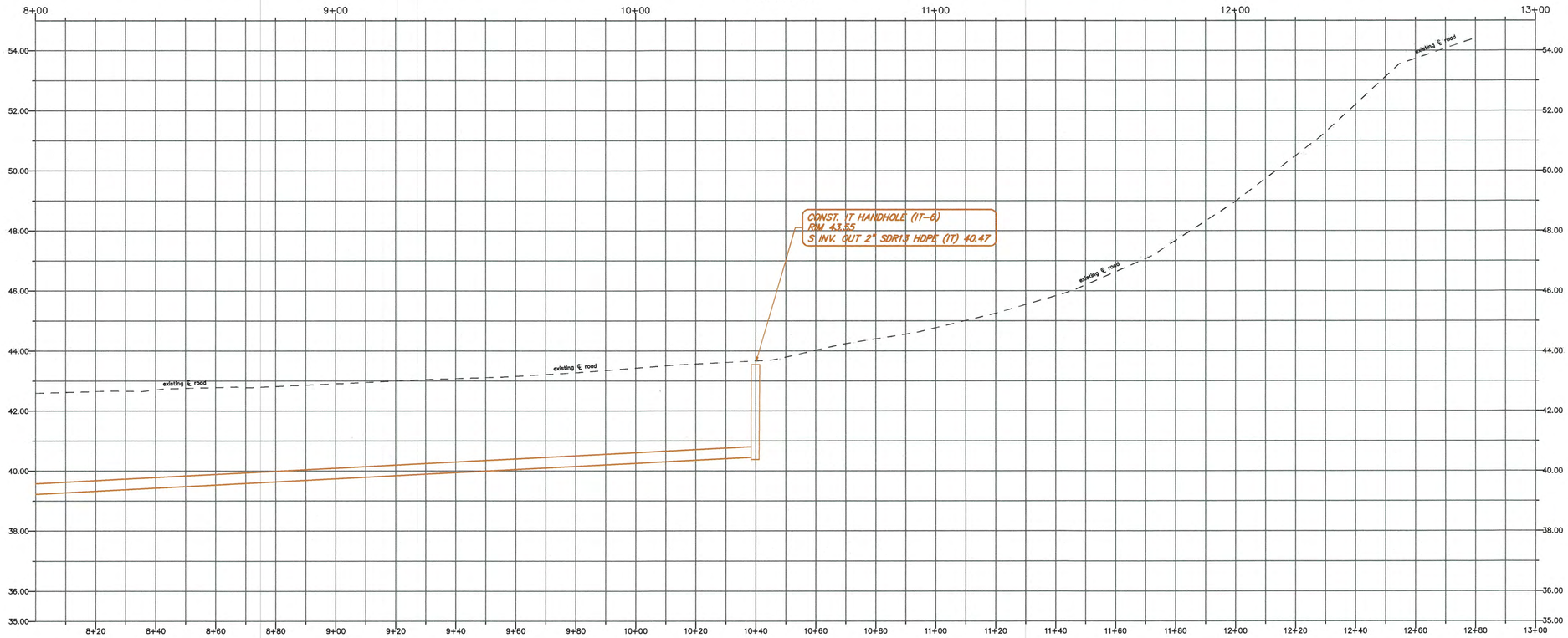
DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 14 OF 27

APPROVED BY _____ DATE



Profile View: Bypass Drive

Stations



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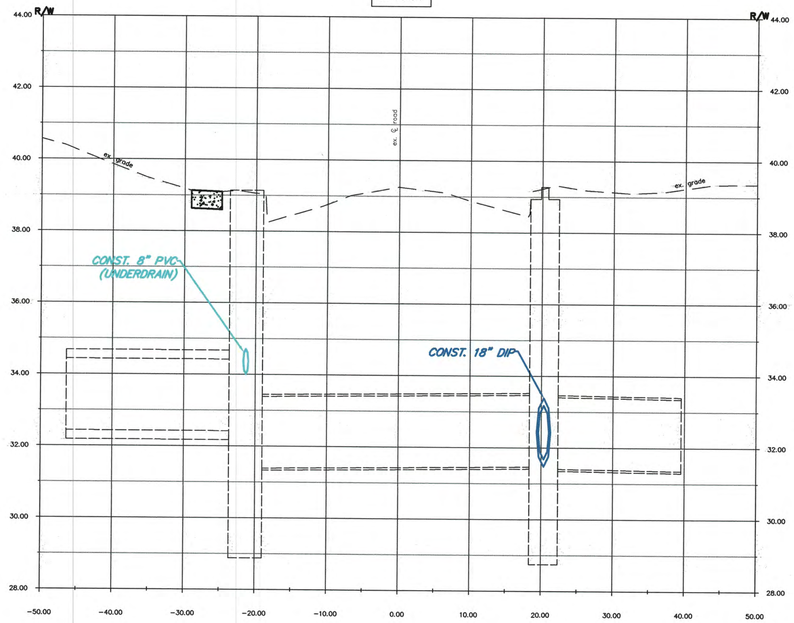
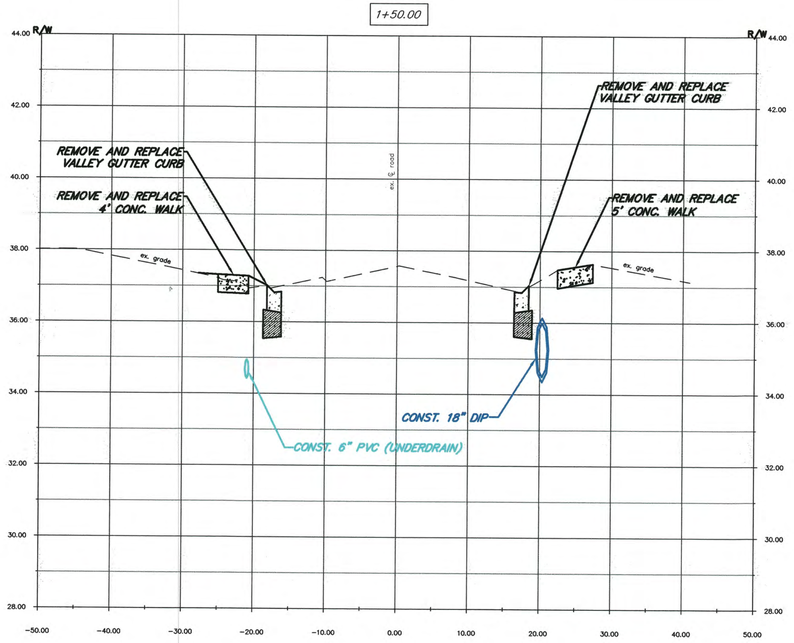
DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 15 OF 27

APPROVED BY _____ DATE _____

0+05.94



1+50.00



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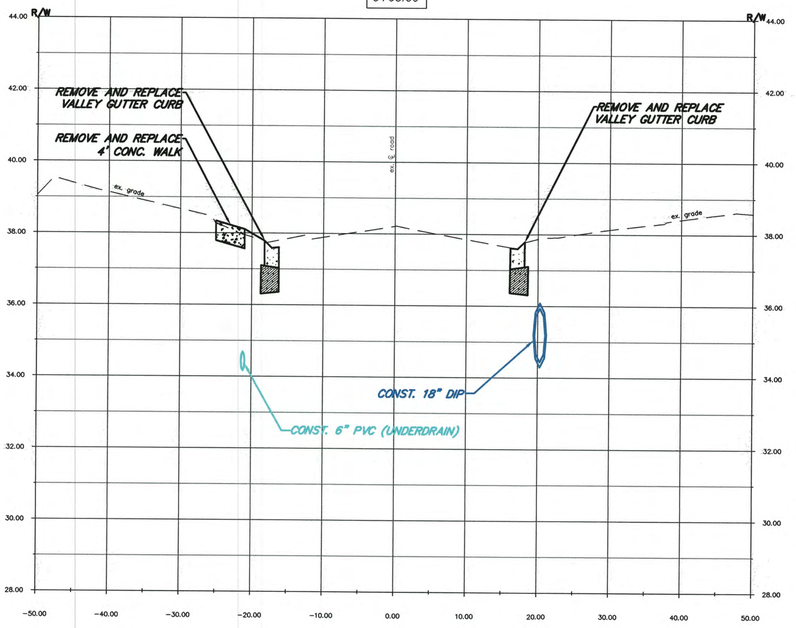

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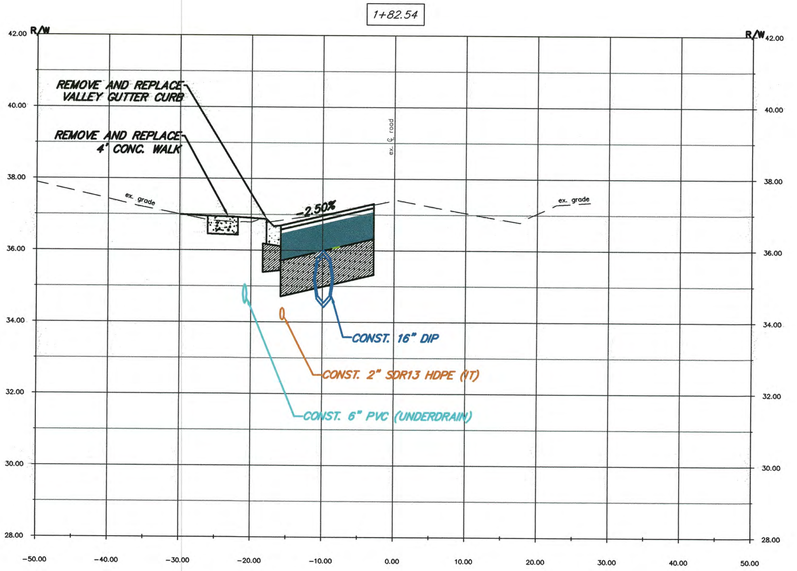

NOTE: Fill not anticipated.

100% PLANS
BID SET

REVISION	BY	DATE

ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 56746
STATE OF FLORIDA

3/11/21
DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

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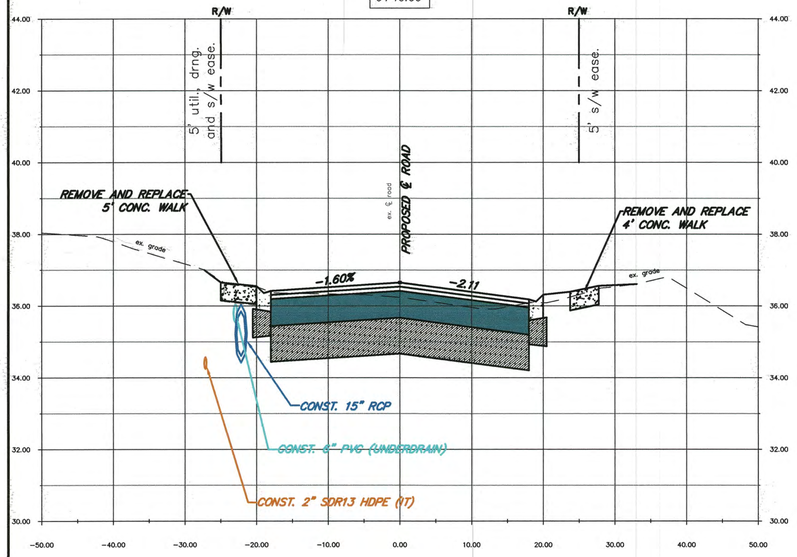
Bypass Drive Improvements
Cross Sections
Druid Road Alignment 0+00 Through 2+75

DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 10'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 16 OF 27

APPROVED BY _____ DATE

0+40.69



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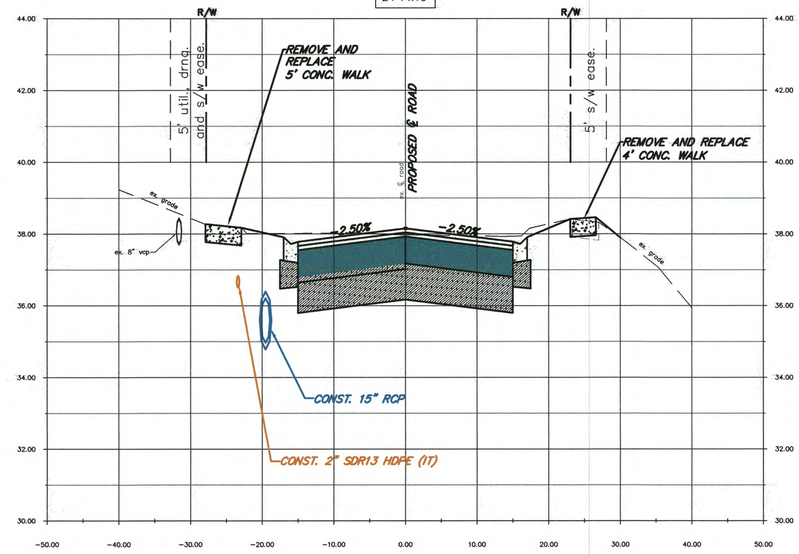

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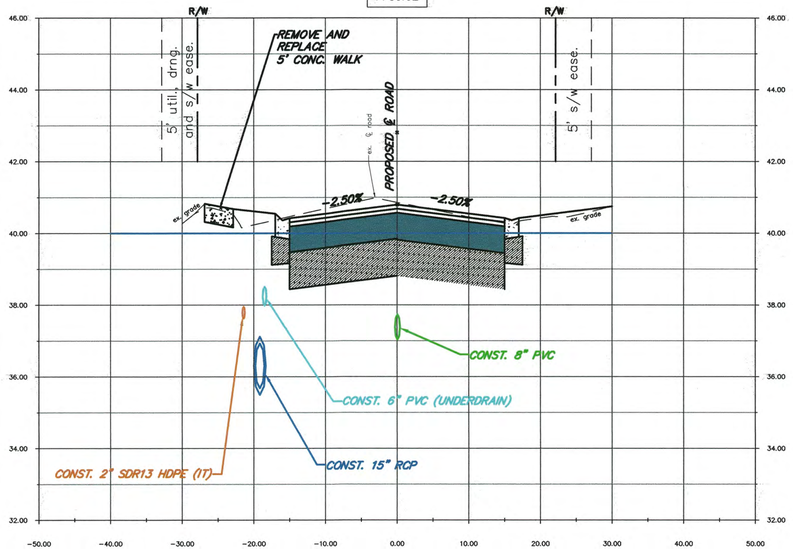
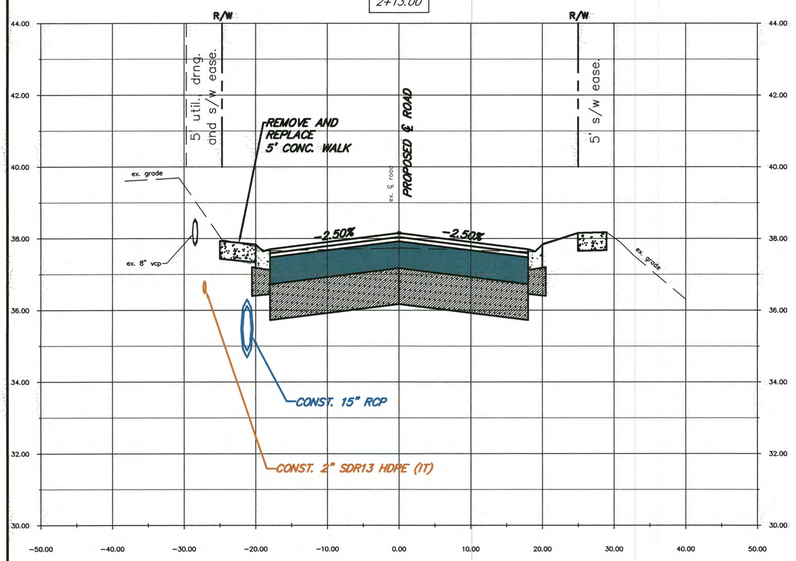


2+13.00



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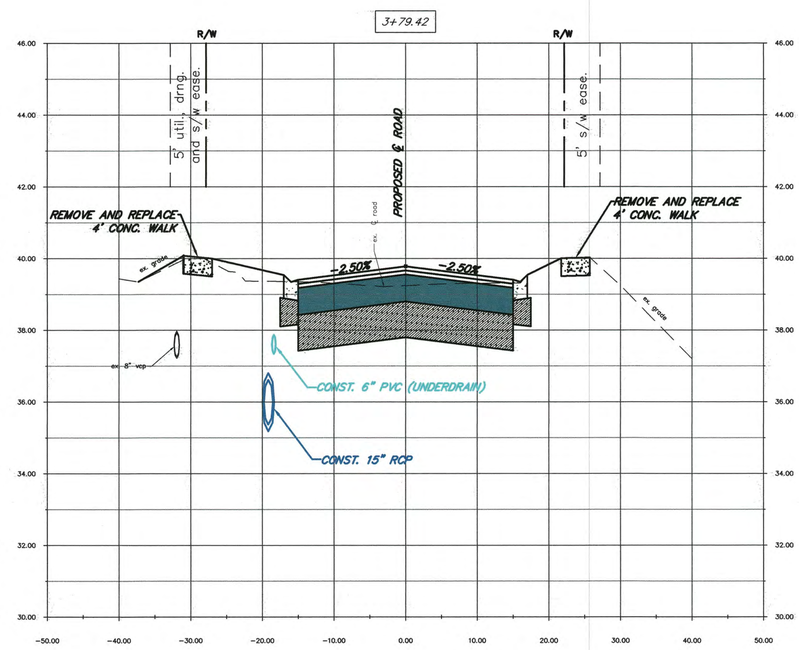
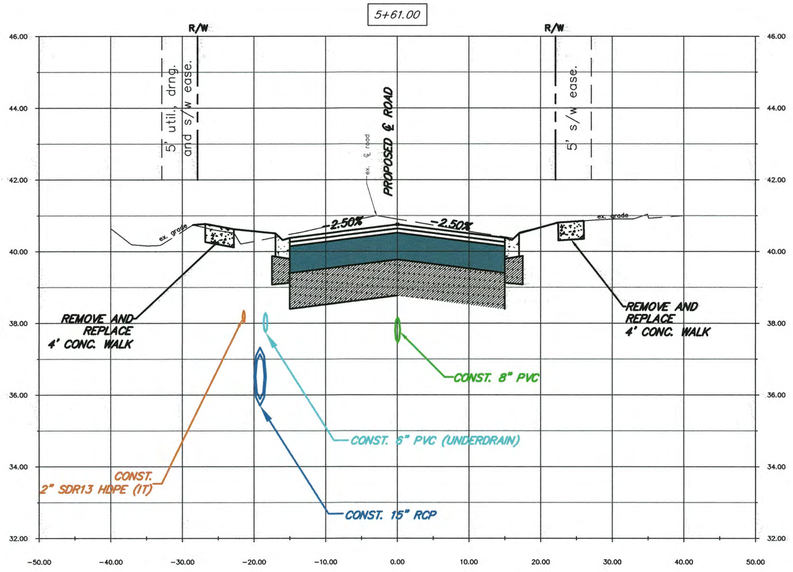


5+61.00



NOTE: Fill not anticipated.

100% PLANS
BID SET

REVISION	BY	DATE

ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 58746
STATE OF FLORIDA

3/1/21
DATE SIGNED

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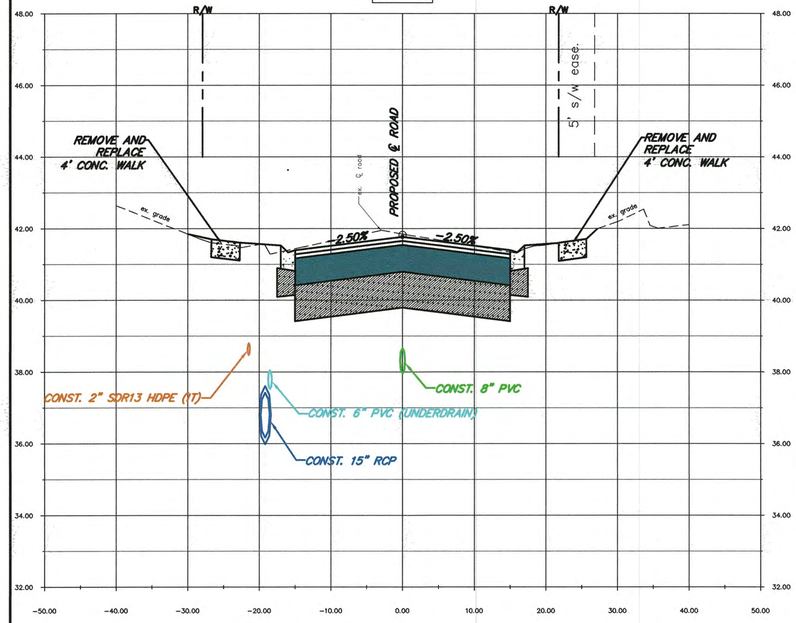
Bypass Drive Improvements
Cross Sections
Bypass Drive Alignment 0+06 Through 5+61

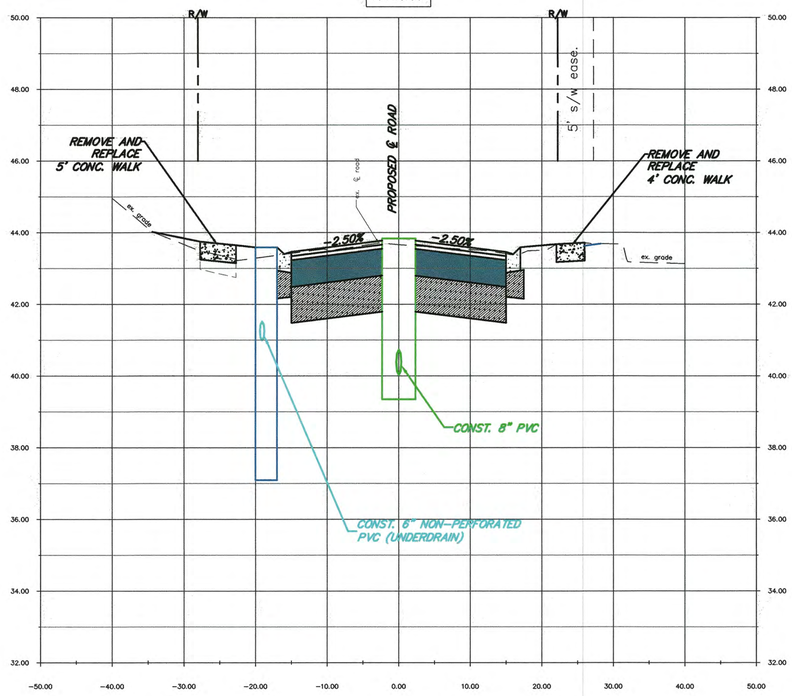
DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 10'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 17 OF 27

APPROVED BY _____ DATE

6+50.00



10+45.00



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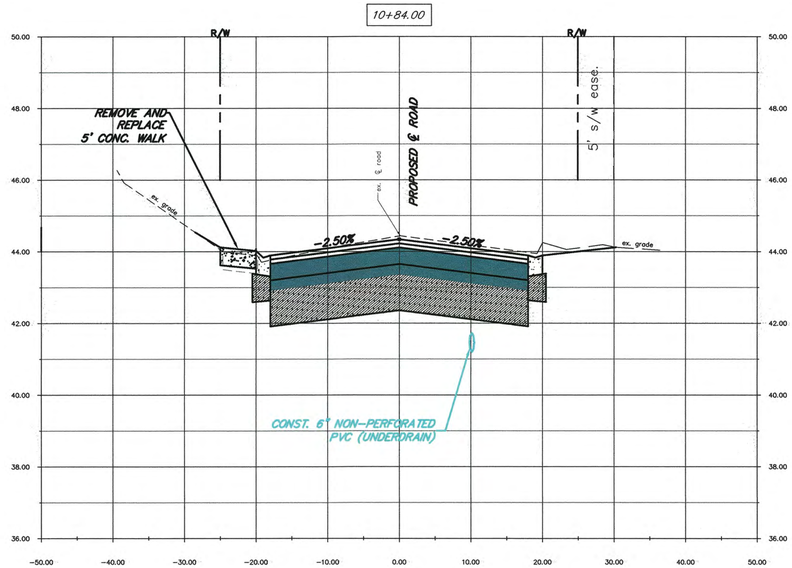
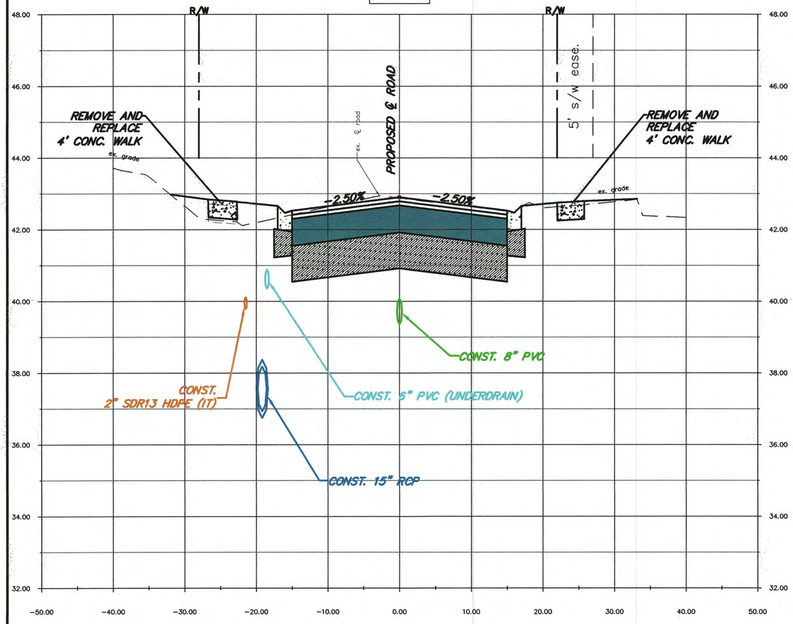
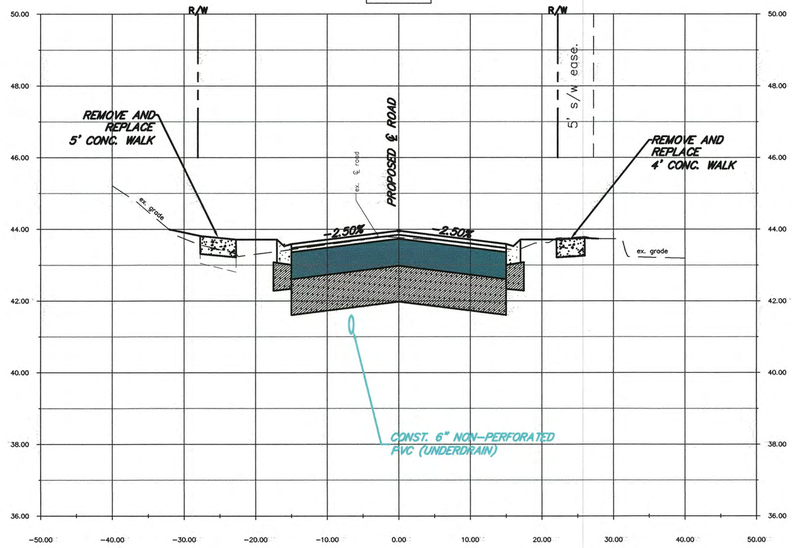


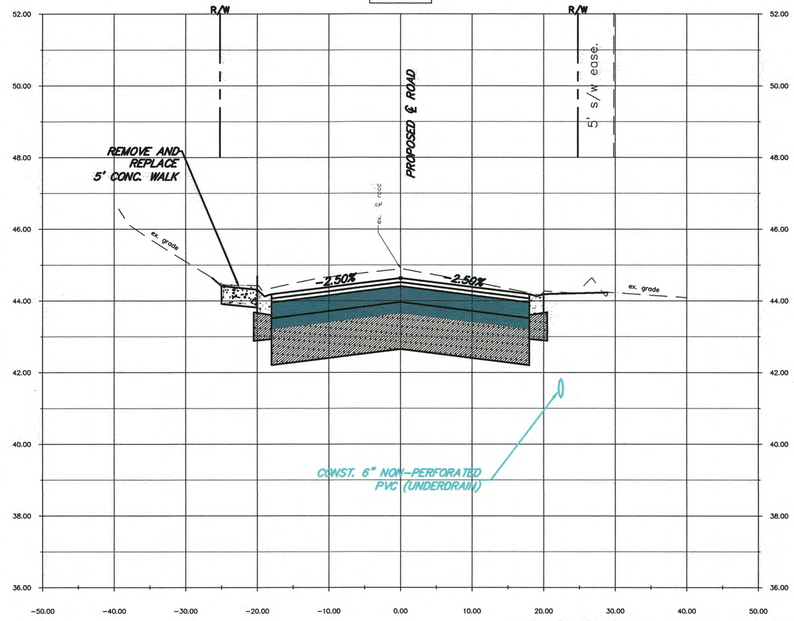
9+05.00



10+62.55



11+02.18



100% PLANS
BID SET

NOTE: Fill not anticipated.

REVISION	BY	DATE

ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 56746
STATE OF FLORIDA

Elliot Shoberg 3/1/21 — 3/1/21 DATE SIGNED

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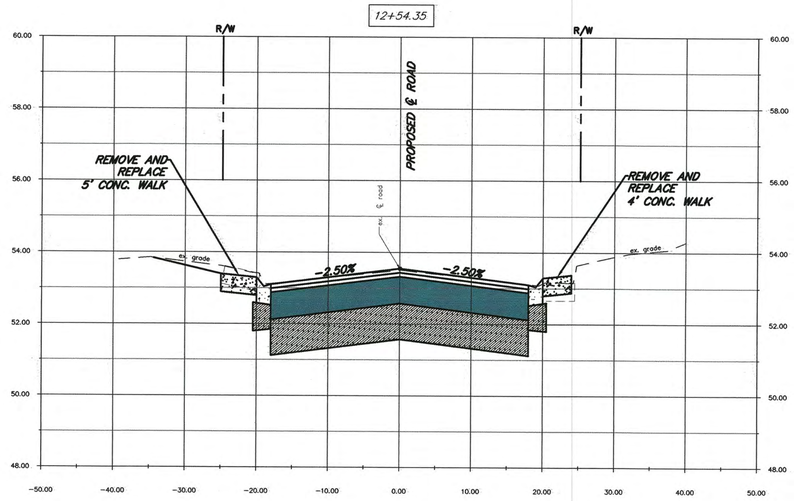
Bypass Drive Improvements
Cross Sections
Bypass Drive Alignment 6+50 Through 11+05

DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 18 OF 27

APPROVED BY _____ DATE



NOTE: Fill not anticipated.

REVISION	BY	DATE

ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 56746
STATE OF FLORIDA

3/11/21 — DATE SIGNED

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Bypass Drive Improvements
Cross Sections
Bypass Drive Alignment 12+54 Through 12+75

DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 19 OF 27

APPROVED BY _____ DATE

100% PLANS
BID SET

GENERAL NOTES:

1. Cross Slopes and Grades:

   A. Sidewalk, ramp, and landing slopes (i.e. 0.02, 0.05, and 1:12) shown in this Index are maximums. With approval of the Engineer, provide the minimum feasible slope where the requirements cannot be met.

   B. Landings must have cross-slopes less than or equal to 0.02 in any direction.

   C. Maintain a single longitudinal slope along each side of the curb ramp. Ramp slopes are not required to exceed 15 feet in length.

   D. Joints permitted at the location of Slope Breaks. Otherwise locate joints in accordance with Index 522-001. No joints are permitted within the ramp portion of the Curb Ramp.

2. Curb, Curb and Gutter and/or Sidewalk:

   A. Refer to Index 522-001 for concrete thickness and sidewalk details.

   B. Remove any existing curb, curb and gutter, or sidewalk to the nearest joint beyond the curb transition or to the extent that no remaining section is less than 5 feet long.

3. Curb Ramp Alpha-Identification:

   A. Sidewalk curb ramp alpha-identifications (e.g. CR-A) are provided for reference purposes in the Plans.

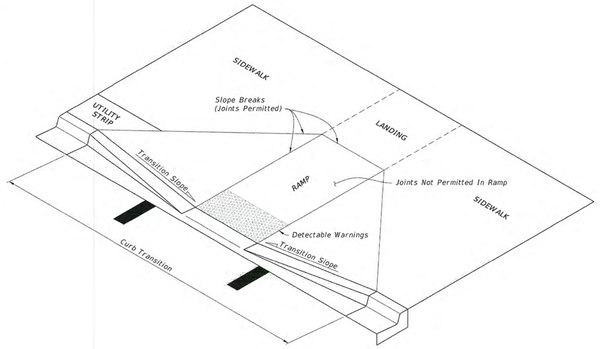
   B. Alpha-identifications CR-I and CR-J are intentionally omitted.

4. Detectable Warnings:

   A. Install detectable warnings in accordance with Specification 527.

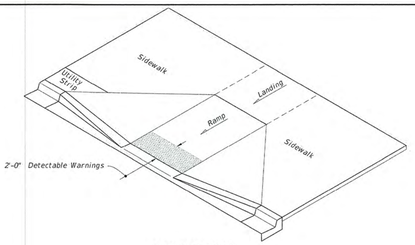
   B. Place detectable warnings across the full width of the ramp or landing, to a minimum depth of 2 feet measured perpendicular to the curb line and no greater than 5 feet from the back of the curb or edge of pavement.

   C. If detectable warnings are shown in the Plans on slopes greater than 5%, align the truncated domes with the centerline of the ramp; otherwise, the truncated domes are not required to be aligned.

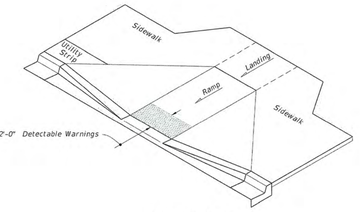


CURB RAMP NOMENCLATURE

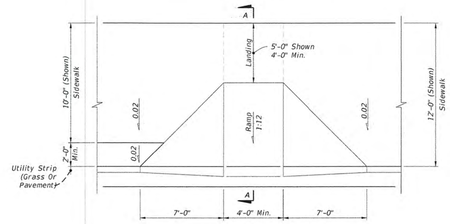
LAST REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
11/01/20					522-002	1 of 7



ISOMETRIC VIEW



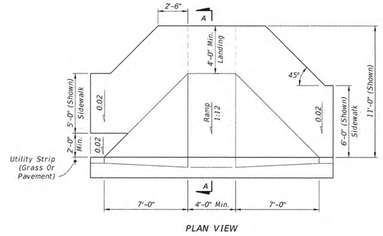
ISOMETRIC VIEW



PLAN VIEW

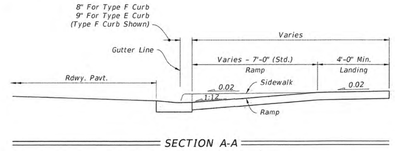
NOTE: For Example of CR-A used in Radial Curb Returns, See Sheet 8.

CR-A



PLAN VIEW

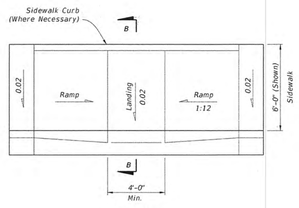
CR-B



SECTION A-A

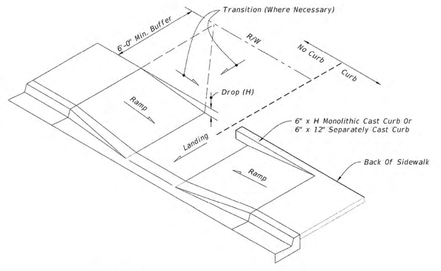
SIDEWALK CURB RAMPS CR-A AND CR-B

LAST REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
11/01/20					522-002	2 of 7

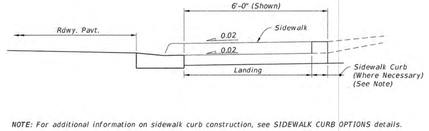


PLAN VIEW

CR-C

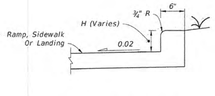


CONSTRUCTION OF SIDEWALK CURB IN CUT SECTIONS

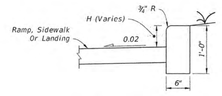


NOTE: For additional information on sidewalk curb construction, see SIDEWALK CURB OPTIONS details.

SECTION B-B



MONOLITHIC CAST CURB

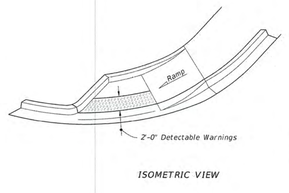


SEPARATELY CAST CURB

SIDEWALK CURB OPTIONS

SIDEWALK CURB RAMPS CR-C AND SIDEWALK CURB

LAST REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
11/01/20					522-002	3 of 7



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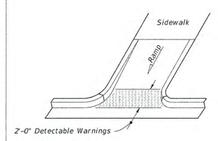

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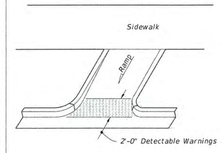

OPTION B

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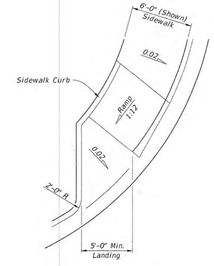
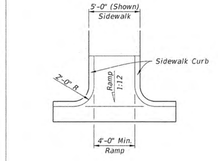


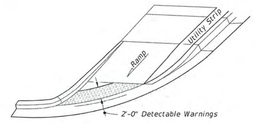
PLAN VIEW

CR-D



PLAN VIEW

CR-E



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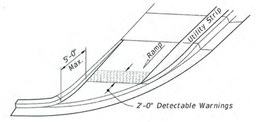
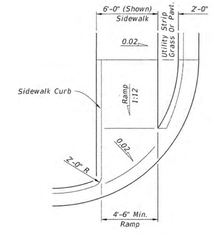


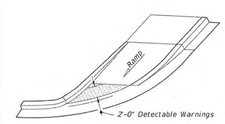
OPTION B

ISOMETRIC VIEW



PLAN VIEW

CR-F



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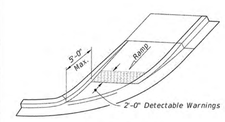

OPTION B

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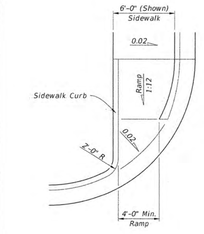

PLAN VIEW

CR-G

SIDEWALK CURB RAMPS CR-D, CR-E, CR-F & CR-G

LAST REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
11/01/20					522-002	4 of 7

REVISION	BY	DATE

ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER 56746
STATE OF FLORIDA

3/11/21 — DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
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CLEARWATER, FL 33756

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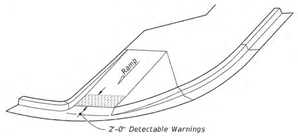
Bypass Drive Improvements
FDOT Details

DWG NAME:	FIELD BOOK:	SURVEYED BY:	SCALE:
2015030-DTLS	580	SR	VERT. N/A
CONTRACT NO.:	DATE DRAWN:	DRAWN BY:	HORIZ. 1" = 20'
15-0021-EN	04-18-2016	DDM, JR	
JOB NO.:	DESIGNED BY:	CHECKED BY:	SHEET NO.:
2015030	JWS	PWD	20 OF 27

APPROVED BY _____ DATE



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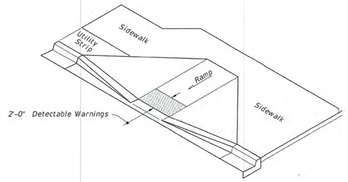

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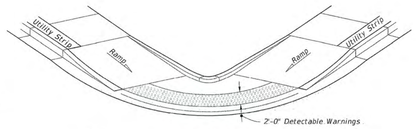
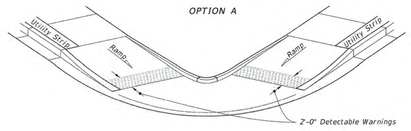
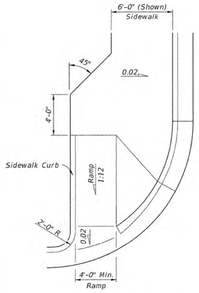


OPTION A



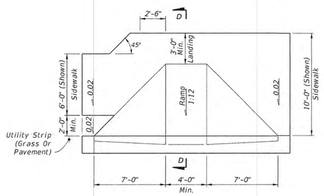
OPTION B

ISOMETRIC VIEW



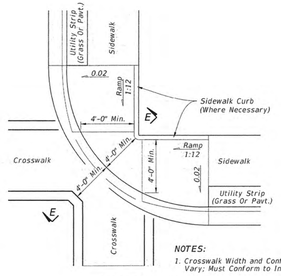
PLAN VIEW

CR-H



PLAN VIEW

CR-K

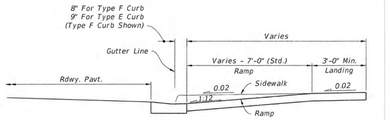


PLAN VIEW

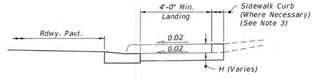
CR-L

NOTES:

1. Crosswalk Width and Configuration Vary; Must Conform to Index 711-001.
2. 15' Radius Curve Shown for CR-L.
3. For additional information on sidewalk curb construction, see SIDEWALK CURB OPTIONS details, on Sheet 3.



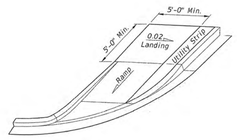
SECTION D-D

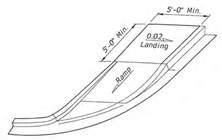


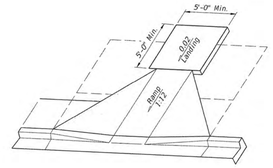
SECTION E-E

SIDEWALK CURB RAMPS CR-H, CR-K & CR-L

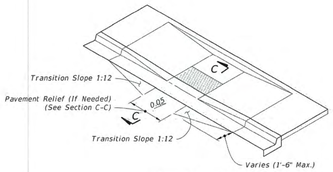
LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 5 of 7



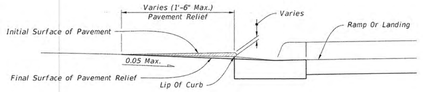




LANDINGS FOR CURB RAMPS WITHOUT SIDEWALKS
(See CR-F, CR-G & CR-K Respectively For Detectable Warning Details/Options)



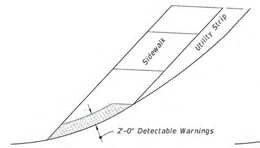
ISOMETRIC VIEW
(CR-C Shown, Other Similar)



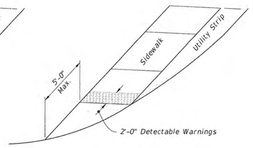
NOTE: Remove Elevated Pavement By Spading And Rolling, Smooth Milling, or Grinding.

SECTION C-C

PAVEMENT RELIEF DETAILS



OPTION A



OPTION B

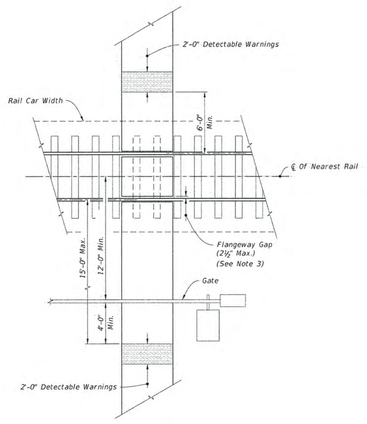
DETECTABLE WARNING ON FLUSH SHOULDER SIDEWALKS

CURB RAMPS WITHOUT SIDEWALKS AND FLUSH SHOULDER SIDEWALKS

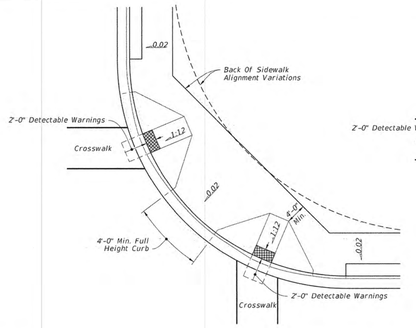
LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 6 of 7

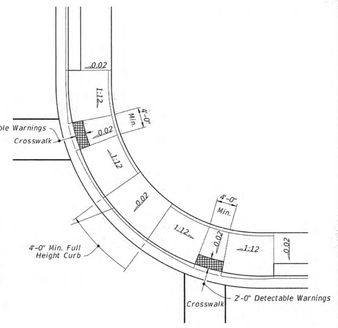
NOTES:

1. Where crosswalk markings are used, ramps must fall within the crosswalk limits. A clear space of 48" minimum is required at the bottom of the ramp within a marked crosswalk. If crosswalk markings are not present, a clear space of 48" minimum is required at the bottom of the ramp outside of active travel lanes.
2. Crosswalk widths and configurations vary; must conform to Index 711-001.
3. Flangeway Gap may be up to 3" for Freight-only Railways.

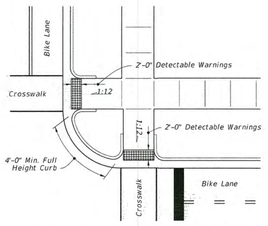


RAILROAD CROSSING

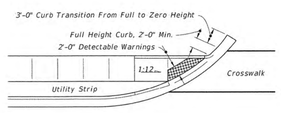




CURB RAMPS WITHIN RADIAL RETURN



CURB RAMPS OUTSIDE RADIAL RETURN

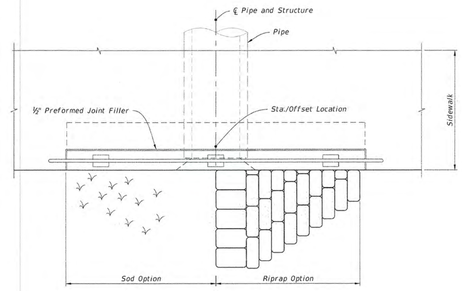


LINEAR SIDEWALK RAMPS

PLACEMENT OF SIDEWALK CURB RAMPS AT CURBED RETURNS (TYP.)

RAILROAD CROSSING AND CURB RAMPS AT CURBED RETURNS

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 7 of 7



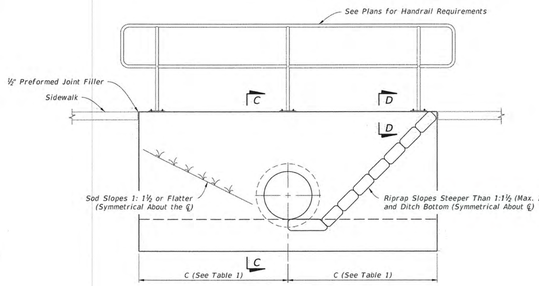
PLAN

NOTES:

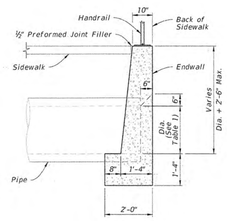
1. Grading back of sidewalk as directed in the Plans.
2. Concrete quantities shown are for maximum wall heights and for information only.
3. Riprap quantities are for informational and estimating purposes only.

TABLE - 1

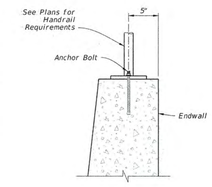
Pipe Size Dia. (in)	C	Concrete Class I (CY)	Sand-Cement Riprap (CY)
15	4'-9"	2.3	1.1
18	5'-3"	2.6	1.3
24	6'-3"	3.3	1.8



ELEVATION



SECTION C-C



SECTION D-D

SPECIAL CONCRETE ENDWALL

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	BACK OF SIDEWALK DRAINAGE	INDEX 425-060	SHEET 3 of 4

REVISION	BY	DATE

ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER: 56746
STATE OF FLORIDA
3/11/21 — DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. MYRTLE AVE.
CLEARWATER, FL 33756

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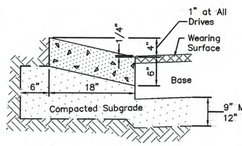
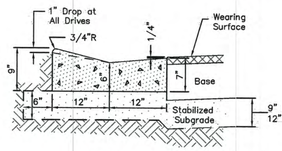
FDOT Details

DWG NAME: 20150030-DTLS	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. N/A
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 04-18-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 20150030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 21 OF 27

APPROVED BY _____ DATE _____

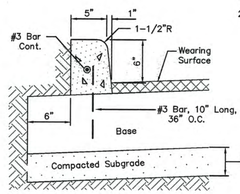


MODIFIED CURB

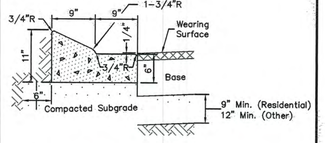


VALLEY GUTTER CURB
(Modified Standard)

NOTES:
1. There shall be a 1/2" seal joint between back of curb and driveway. Concrete in curbs shall be 3000 psi, with fiber mesh reinforcing.



PIN / DOWELLED CURB



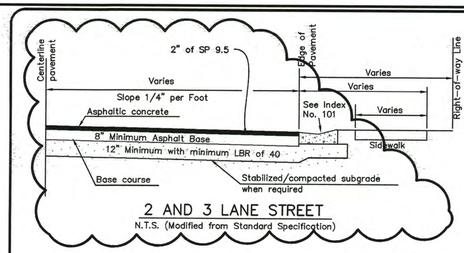
MEDIAN CURB

DATE	REVISION DESCRIPTION	APP
5/18/15	COMPACTION THICKNESS	S.R.

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STREET SECTIONS AND DETAILS

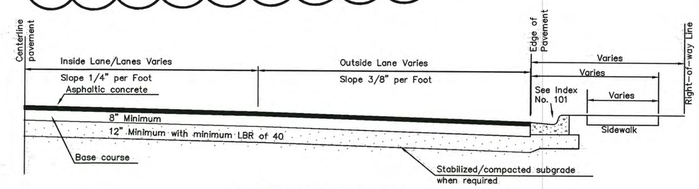
TYPICAL CURB CROSS SECTIONS

INDEX NO. 101 | PAGE NO. 2 OF 2
LATEST REVISION 2/22/2016



2 AND 3 LANE STREET
N.T.S. (Modified from Standard Specification)

NOTES:
1. Pavement materials and thickness, and base materials and thickness will be stated in construction drawings and scope of the work.
2. See construction drawings for curb type and lane widths.
3. See Section IV, 702 for acceptable base and subgrade materials
4. Refer to Index No. 109 and/or FDOT Detail 304 for Sidewalk criteria. The more stringent criteria will be required.



4 AND 5 LANE STREET
N.T.S.

DATE	REVISION DESCRIPTION	APP
8/9/15	ADDED SIDEWALKS & ROW DETAIL TO DRAWING	J.S.
5/18/15	ADDED/EDITED NOTES	S.R.

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STREET SECTIONS AND DETAILS

TYPICAL STREET SECTION

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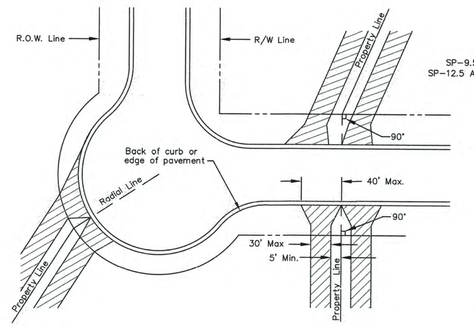
LATEST REVISION 2/22/2016



TYPICAL CROSS SECTION IN R.O.W.

NOTE:
No driveway may be configured to result in construction in front of adjacent property as property line is extended to curb or pavement.

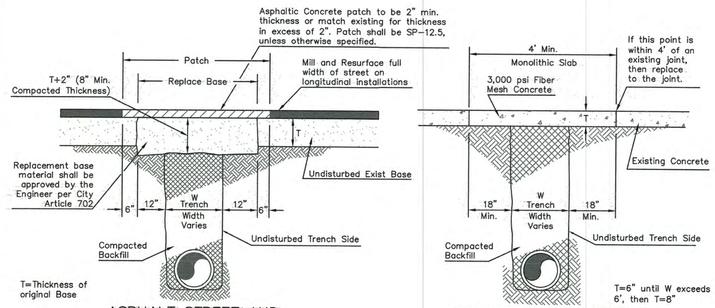
N.T.S.

DATE	REVISION DESCRIPTION	APP
1/31/12	CONCRETE THICKNESS	R.J.M.

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STREET SECTIONS AND DETAILS

STANDARD DRIVEWAY LOCATIONS RESIDENTIAL

INDEX NO. 103 | PAGE NO. 2 OF 2
LATEST REVISION 2/22/2016



ASPHALT STREET AND DRIVEWAY REPLACEMENT REQUIRED FOR UTILITY CONSTRUCTION
N.T.S.

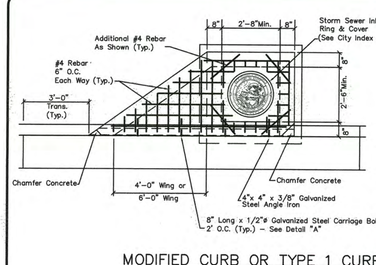
CONCRETE REPLACEMENT REQUIRED FOR UTILITY CONSTRUCTION
N.T.S.

DATE	REVISION DESCRIPTION	APP
3/17/11	ASPHALTIC CONC. PATCH & RESURFACE NOTE	D.S.R.

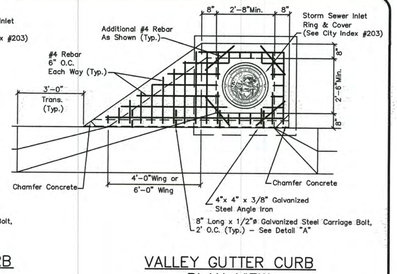
CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STORM DETAILS

STREET AND DRIVEWAY REPLACEMENT FOR CONCRETE & ASPHALTIC CONCRETE SURFACES

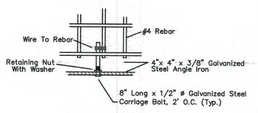
INDEX NO. 104 | PAGE NO. 1 OF 1
LATEST REVISION 2/22/2016



MODIFIED CURB OR TYPE 1 CURB
PLAN VIEW
N.T.S.



VALLEY GUTTER CURB
PLAN VIEW
N.T.S.



DETAIL "A"
N.T.S.

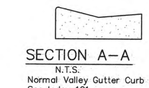
NOTES:
1. Non traffic bearing.
2. When pipe diameter exceeds 30", inlets shall not be used as junction boxes, limit 3 pipes per inlet.
3. Chamfer all exposed edges ¾".
4. All concrete shall be 3,000 psi, with fiber mesh reinforcing.
5. Center support shall be used on double wing inlets. (See INDEX 209, PAGE 2 of 2, DETAIL B).

DATE	REVISION DESCRIPTION	APP
6/5/15	COMBINED PLAN VIEWS	S.R.

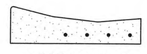
CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STORM DETAILS

WING INLETS FOR MODIFIED, TYPE I & VALLEY GUTTER CURB PLAN VIEW

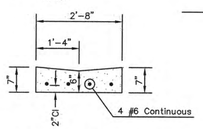
INDEX NO. 209 | PAGE NO. 1 OF 2
LATEST REVISION 2/22/2016



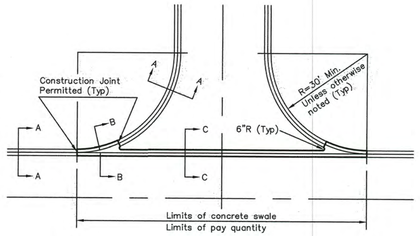
SECTION A–A
N.T.S.
Normal Valley Gutter Curb Section See Index 101



SECTION B–B
N.T.S.



SECTION C–C
N.T.S.



PLAN
N.T.S.

NOTE:
Subject to City Engineer's approval. To be used only in unique situations.

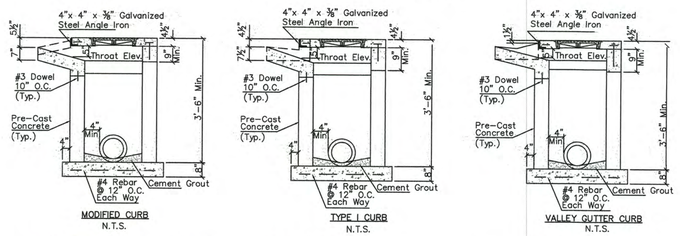
DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STORM DETAILS

CONCRETE SWALE DETAIL
VALLEY GUTTER CURB

INDEX NO. 107 | PAGE NO. 1 OF 1
LATEST REVISION 2/22/2016

TYPICAL CROSS–SECTIONS



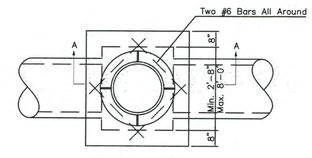
N.T.S.

DATE	REVISION DESCRIPTION	APP
6/5/15	COMBINED CROSS SECTIONS	S.R.

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STORM DETAILS

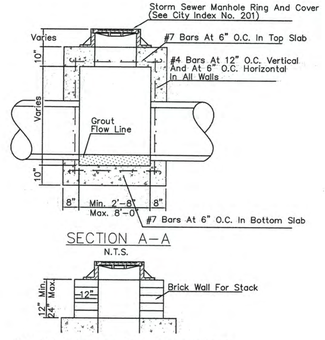
WING INLETS FOR MODIFIED, TYPE I & VALLEY GUTTER CURB CROSS SECTIONS

INDEX NO. 209 | PAGE NO. 2 OF 2
LATEST REVISION 2/22/2016



PLAN VIEW
N.T.S.

NOTES:
1. Storm sewers and manhole to be centered in junction box unless otherwise specified in plans.
2. All concrete to be 3,000 psi, with fiber mesh reinforcing.
3. All steel bars shall have 1 1/4" minimum cover unless otherwise shown and shall be hooked where indicated. Horizontal steel shall be lapped a minimum of 24 bar diameters at corners. On precast units, floor slabs may be secured to structure walls by no. 4 dowel bars (a minimum of 6 dowels) pushed into the wet concrete after the floor slab is placed.
4. Chamfer all exposed edges 3/4".



SECTION A–A
N.T.S.

BRICK STACK (IF REQUIRED)
N.T.S.

DATE	REVISION DESCRIPTION	APP
6/3/15	EDITED NOTES	S.R.

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STORM DETAILS

JUNCTION BOX – TRAFFIC TYPE POURED CONCRETE

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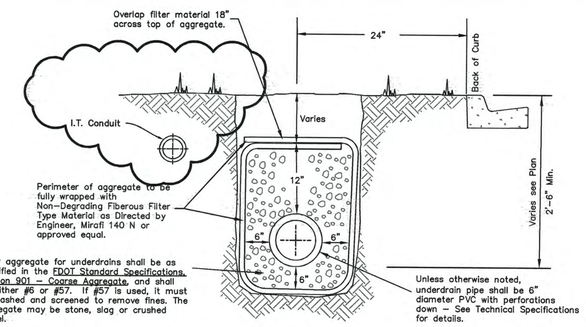
LATEST REVISION 2/22/2016



N.T.S. (Modified from Standard Specification)

DATE	REVISION DESCRIPTION	APP
6/3/15	CORRECTED TEXT/COMBINED SERIES	S.R.

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STORM DETAILS

UNDERDRAIN DETAIL

INDEX NO. 218 | PAGE NO. 1 OF 4
LATEST REVISION 2/22/2016

REVISION	BY	DATE

ELLIOT SROBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER 56746
STATE OF FLORIDA

3/11/24
DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. MYRTLE AVE.
CLEARWATER, FL 33756

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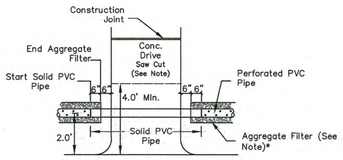
Bypass Drive Improvements
City of Clearwater Details

DWG NAME: 2015030-DTLS	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. N/A
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 04-18-2016	DRAWN BY: DDM, JR	HORIZ. N/A
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 22 OF 27

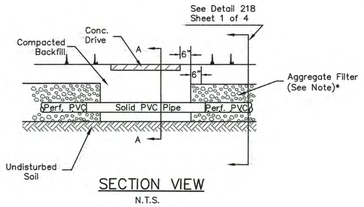
APPROVED BY _____ DATE _____



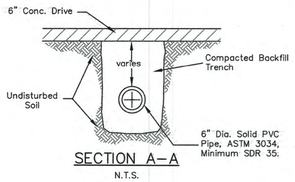
PLAN VIEW
N.T.S.

NOTE:
Saw Cut Drive if Nearest Const. Joint Over 7' from Back of Curb.

* Filter aggregate for underdrains shall be as specified in the FDOT Standard Specifications, Section 901 – Coarse Aggregate, and shall be either #6 or #57. If #57 is used, it must be washed and screened to remove fines. The aggregate may be stone, slag, or crushed gravel.



SECTION VIEW
N.T.S.



SECTION A–A
N.T.S.

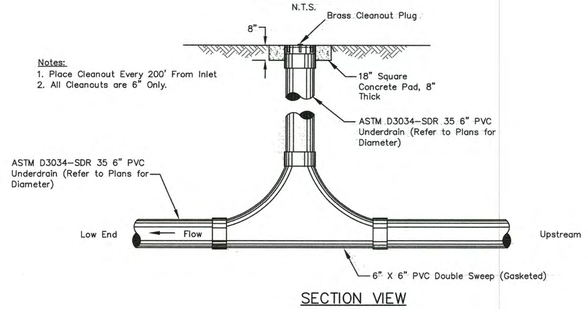
6/3/15	CORRECTION TO NOTES	S.R.	
DATE	REVISION DESCRIPTION	APP	

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STORM DETAILS

UNDERDRAIN AT DRIVEWAYS

INDEX NO. 218 | PAGE NO. 2 of 4
LATEST REVISION 8/13/2020

PLAN VIEW
N.T.S.



Notes:
1. Place Cleanout Every 200' From Inlet
2. All Cleanouts are 6" Only.

SECTION VIEW
N.T.S.

DATE	REVISION DESCRIPTION	APP	

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STORM DETAILS

DOUBLE SWEEP UNDERDRAIN CLEANOUT (STORM)

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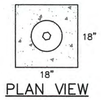
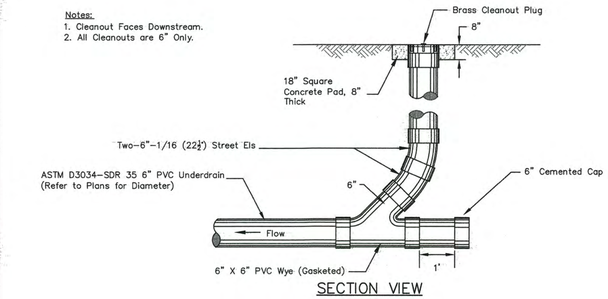
LATEST REVISION 7/15/2020



PLAN VIEW
N.T.S.

Notes:
1. Cleanout Faces Downstream.
2. All Cleanouts are 6" Only.



SECTION VIEW
N.T.S.

DATE	REVISION DESCRIPTION	APP	

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STORM DETAILS

TERMINAL END UNDERDRAIN CLEANOUT (STORM)

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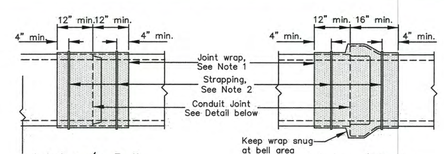
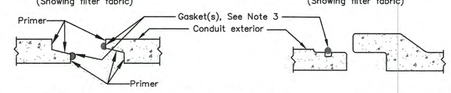


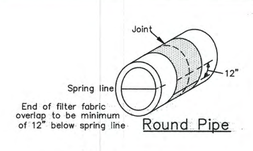
Joint w/o Bell
(Showing filter fabric)

Joint w/ Bell
(Showing filter fabric)

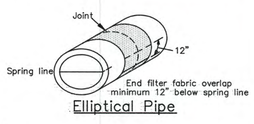


Tongue and Groove type joint with Double Gasket
(Prior to pull–up)

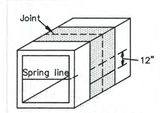
Bell and Spigot type joint with "O Ring" Gasket
(Prior to pull–up)



Round Pipe



Elliptical Pipe



Box Culvert

Isometric Views
(Showing filter fabric)

NOTES:
1. Joint wrap shall conform to one of the following: Filter Fabric–Mirafi 140–N as manufactured by Mirafi Inc., or approved equal. Minimum width(s) as shown above. Elastic band as manufactured by Cadillac External Pipe Joint, Inc., or approved equal. Width(s) as per ASTM C 877.
2. Joint wrap shall be held in place as follows: Filter Fabric–minimum 2 straps as shown or as required by the manufacturer.
3. Gasket type shall conform to pipe manufacturer specifications.

6/3/15	REV. NOTES	S.R.	
DATE	REVISION DESCRIPTION	APP	

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STORM DETAILS

CONDUIT JOINT WRAP DETAIL

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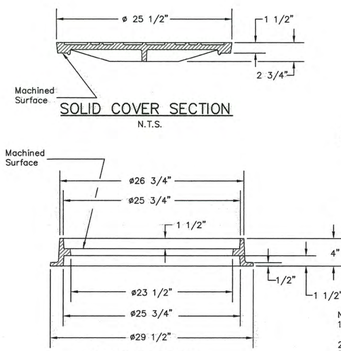
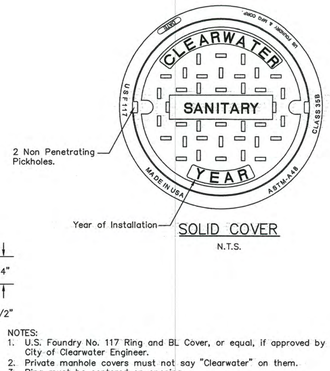
LATEST REVISION 2/22/2016



SOLID COVER SECTION
N.T.S.

RING SECTION
N.T.S.



SOLID COVER
N.T.S.

NOTES:
1. U.S. Foundry No. 117 Ring and BL Cover, or equal, if approved by City of Clearwater Engineer.
2. Private manhole covers must not say "Clearwater" on them.
3. Ring must be centered on opening.
4. Install 18 gauge 304 stainless steel manhole storm water inflow abatement insert (dish/pan).
5. See also City of Clearwater's Technical Specification Section IV.

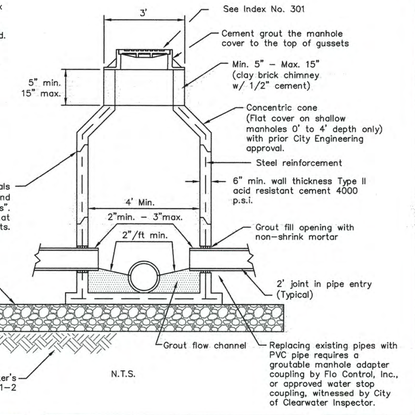
DATE	REVISION DESCRIPTION	APP	

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER DETAILS

SANITARY SEWER MANHOLE COVER NON–ROADWAY APPLICATION

INDEX NO. 301 | PAGE NO. 1 of 3
LATEST REVISION 10/21/2019

NOTES:
1. All new manholes must be AASHTO M85 Type II cement with Xypex Admix C–1000R.
2. All pipe penetrations into manhole shall be precast or core drilled with a flexible Kor–N–Seal rubber boot or approved equal, installed.
3. All pipes must be color coded "Safety Green."
4. Doghouse manholes are not permitted.
5. Flat top manholes are not permitted unless pre–approved by City Engineer.
6. All connections to manhole shall be water tight.
7. All manhole coring must be witnessed by City Inspector.
8. Install 18 gauge 304 stainless steel manhole storm water inflow abatement insert (dish/pan).
9. See also City of Clearwater's Technical Specification Section IV.



N.T.S.

DATE	REVISION DESCRIPTION	APP	

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER DETAILS

NEW PRECAST SANITARY MANHOLE DETAIL

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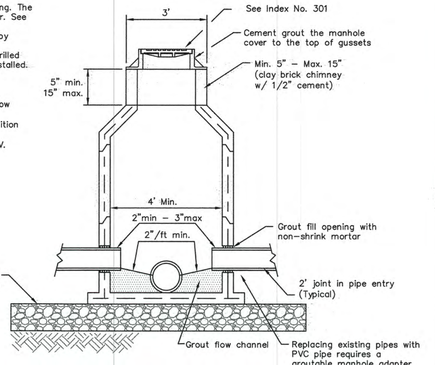
NOTES:
1. Any new manhole cores/connections may require a new coating. The new coating will be determined by City of Clearwater Inspector. See Note 2.
2. Interior shall be Strong Seal MS 2C, Raven 405 or Spraywall by Sprayroq.
3. All pipe penetrations into manhole shall be precast or core drilled with a flexible Kor–N–Seal rubber boot or approved equal, installed.
4. All pipes must be color coded "Safety Green."
5. All connections to manhole shall be water tight.
6. All manhole coring must be witnessed by City Inspector.
7. Install 18 gauge 304 stainless steel manhole storm water inflow abatement insert (dish/pan).
8. Contractor to replace ring & cover if existing is in poor condition which will be determined by City of Clearwater Inspector.
9. See also City of Clearwater's Technical Specification Section IV.



N.T.S.

DATE	REVISION DESCRIPTION	APP	

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER DETAILS

EXISTING SANITARY MANHOLE DETAIL

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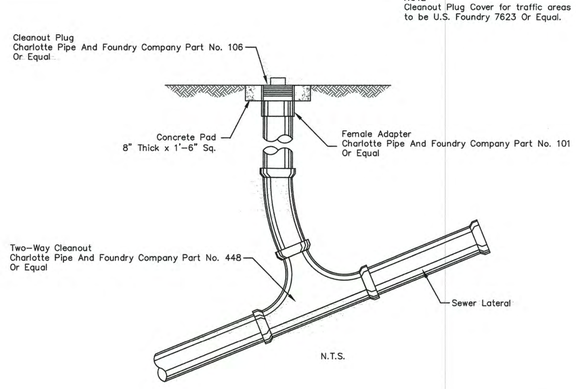
LATEST REVISION 10/21/2019

NOTE
Cleanout Plug Cover for traffic areas to be U.S. Foundry 7823 Or Equal.



N.T.S.

DATE	REVISION DESCRIPTION	APP	

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER DETAILS

STANDARD CLEANOUT (SANITARY)

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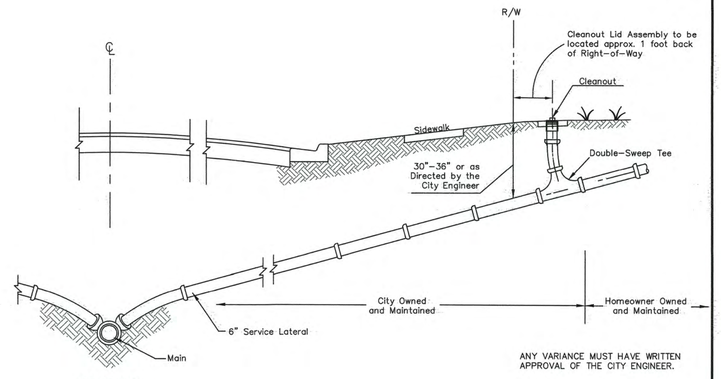

SECTION
N.T.S.

ANY VARIANCE MUST HAVE WRITTEN APPROVAL OF THE CITY ENGINEER.

8/17/2015	CLEANOUT LOCATION REVISED	PEND.	
DATE	REVISION DESCRIPTION	APP	

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER DETAILS

STREET LATERAL DETAIL

INDEX NO. 305 | PAGE NO. 1 of 3
LATEST REVISION 2/22/2016

REVISION	BY	DATE

ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER 56746
STATE OF FLORIDA

3/11/21
DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. MYRTLE AVE.
CLEARWATER, FL 33756

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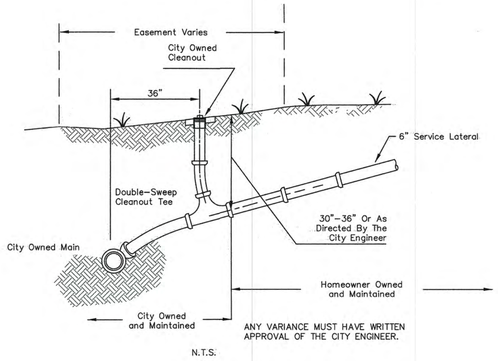
CALL 811
SUNSHINE STATE ONE CALL OF FLORIDA
www.callsunshine.com
(800) 432–4770
MIN. 48 HOURS BEFORE YOU EXCAVATE

Bypass Drive Improvements
Details

DWG NAME: 2015030–DTLS	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. N/A
CONTRACT NO.: 15–0021–EN	DATE DRAWN: 04–18–2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 23 OF 27

APPROVED BY _____ DATE



DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER, ENGINEERING DEPARTMENT, SANITARY SEWER DETAILS

EASEMENT AREA LATERAL DETAIL

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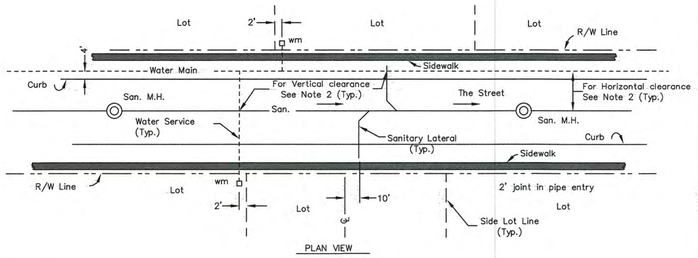

NOTES:
1. Sanitary laterals to be within 10' of center of lot on downhill side of center of lot.
2. Vertical and horizontal clearance between potable water main and sanitary sewer lateral at each intersection to be per FDEP requirements. (See F.A.C. Rule 62-555)

DATE	REVISION DESCRIPTION	APP
6/27/16	Revised Note 2	R.F.

CITY OF CLEARWATER, ENGINEERING DEPARTMENT, SANITARY SEWER DETAILS

SANITARY LATERAL LOCATIONS

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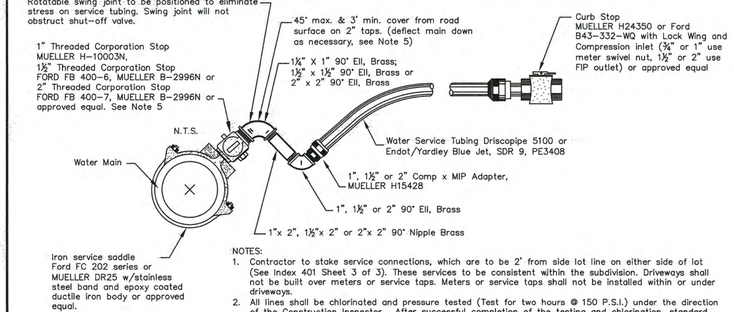

NOTES:
1. Contractor to stake service connections, which are to be 2' from side lot line on either side of lot (See Index 401 Sheet 3 of 3). These services to be consistent within the subdivision. Driveways shall not be built over meters or service taps. Meters or service taps shall not be installed within or under driveways.
2. All lines shall be chlorinated and pressure tested (Test for two hours @ 150 P.S.I.) under the direction of the Construction Inspector. After successful completion of the testing and chlorination, standard operating pressure shall remain on the system at all times.
3. Ten (10) FT. separation required between parallel water & sanitary sewer lines.
4. Saddle is required for all service connections to mains.
5. Taps should be made on a 45° angle from top of pipe. For cover less than 30", City of Clearwater Engineering Department approval is required.
6. Minimum distance between service taps to be not less than 36".
7. Minimum 5' separation between potable & reclaim services. See Index. No. 501.
8. Curb Stop to be located approx. 1 foot back of Right-of-Way.
9. Insert stiffeners at corporation stop and curb stop. Stiffeners shall be manufactured by Mars Company P.O. Box 830340, Ocala, FL 34483.
10. See also City of Clearwater's Technical Specification Section IV.

DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER, ENGINEERING DEPARTMENT, POTABLE WATER DETAILS

POTABLE WATER MAIN SERVICE CONNECTION DETAIL

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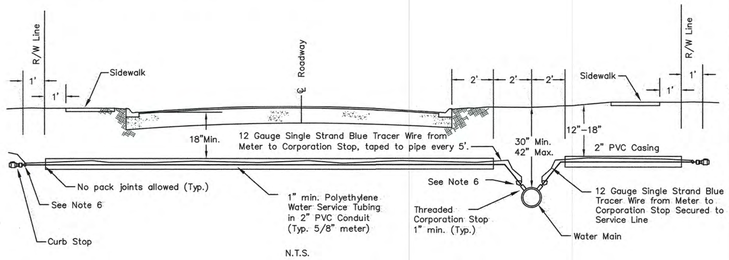
NOTES:
1. PVC casing shall be 2x the size of the service line and appropriately color coded.
2. PVC conduit to be between 18"-24" below the surface measured from the top of face of curb.
3. Water Mains to be min. 30" below grade and approx. 4' back of curb.
4. Curb Stop to be located approx. 1 foot back of Right-of-Way.
5. Casing to be continuous, 2' from tap to 2' to curb stop.
6. Connect 12 gauge Tracer Wire with tie wraps at Corporation Stop and at Curb Stop. Provide 1 foot minimum excess length of Tracer Wire in Meter Box.
7. Insert stiffeners at Corporation Stop and Curb Stop. Stiffeners shall be manufactured by Mars Company P.O. Box 830340, Ocala, FL 34483
8. Service lines 90° from main to meter.
9. See also City of Clearwater's Technical Specifications Section IV.



DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER, ENGINEERING DEPARTMENT, POTABLE WATER DETAILS

1"-2" WATER MAIN SERVICE LINE TYPICAL SECTION

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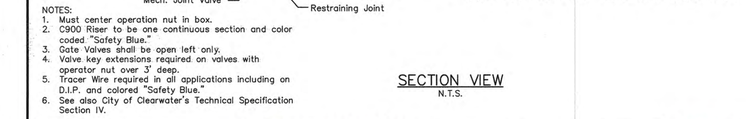

NOTES:
1. Must center operation nut in box.
2. C900 Riser to be one continuous section and color coded "Safety Blue."
3. Gate Valves shall be open left only.
4. Valve key extensions required on valves with operator nut over 3' deep.
5. Tracer Wire required in all applications including on D.I.P. and colored "Safety Blue."
6. See also City of Clearwater's Technical Specification Section IV.

DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER, ENGINEERING DEPARTMENT, POTABLE WATER DETAILS

TYPICAL VALVE AND BOX SETTING

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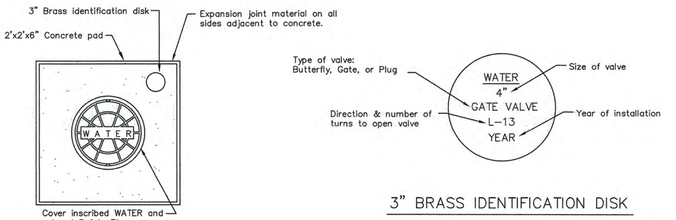
NOTES:
1. Extension on valve box shall be set so as to reserve 1/2 of the adjustment length for future use.
2. Valve key extension required on valves with operator nut over 3' deep.
3. Install 3" brass identification disk in concrete, per detail below.
4. Terminate insulated, solid 12 gauge copper tracer wire at 12" above box cover.
5. Valve Box to be centered in concrete slab in green space only.
6. See also City of Clearwater's Technical Specification Section IV.



DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER, ENGINEERING DEPARTMENT, POTABLE WATER DETAILS

POTABLE WATER VALVE BOX CONCRETE PAD PLAN VIEW GREEN SPACE ONLY

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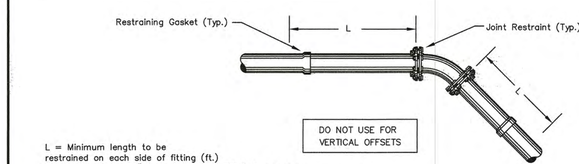

L = Minimum length to be restrained on each side of fitting (ft.)
Figures based on 30" bury depth, 150 PSI test pressure
Figures apply to poly wrapped pipe

NOM. PIPE SIZE	ELBOWS (deg.)				VALVES TEES	DEAD END
	11.25	22.50	45	90		
	LENGTH IN FEET (L)					
4"	22	22	22	42	50	50
6"	22	22	25	50	67	67
8"	22	22	35	60	85	85
12"	22	22	42	100	125	125
16"	22	30	55	130	150	150
20"	22	33	65	150	160	160

The following joints must be restrained in all applications:
1. Bend - inlet and outlet
2. Tee - inlet and outlets
3. Offsets - inlet and outlet
4. Caps
5. Plugs
6. Dead ends
7. Hydrant runouts shall be restrained as dead ends

NOTES:
1. Water mains larger than 8" will be ductile iron pipe only.
2. Thrust restraint on slipjoint ductile iron pipe shall be U.S. Pipe Field Lock Gaskets for Tyton Joint Pipe or American Fast-Grip Gaskets for American Fastite Pipe, witnessed by Construction Inspector.
3. Thrust restraints on slip joint PVC pipe shall be EBBA iron 1500 Series restrainers, or approved equal.
4. Thrust restraint on Ductile Iron Fittings shall be provided by the use of Megalug Retainers and mechanical joint fittings.
5. No thrust blocks allowed.
6. See also City of Clearwater's Technical Specification Section IV.

DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER, ENGINEERING DEPARTMENT, POTABLE WATER DETAILS

RESTRAINED JOINT DETAIL (PVC & DIP)

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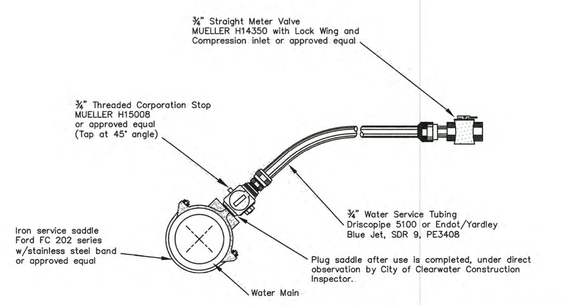

NOTES:
1. Insert stiffeners at Corporation Stop and Curb Stop. Stiffeners shall be manufactured by Mars Company P.O. Box 830340, Ocala, FL 34483
2. See also City of Clearwater's Technical Specification Section IV.

DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER, ENGINEERING DEPARTMENT, POTABLE WATER DETAILS

CHLORINATION / SAMPLE POINT

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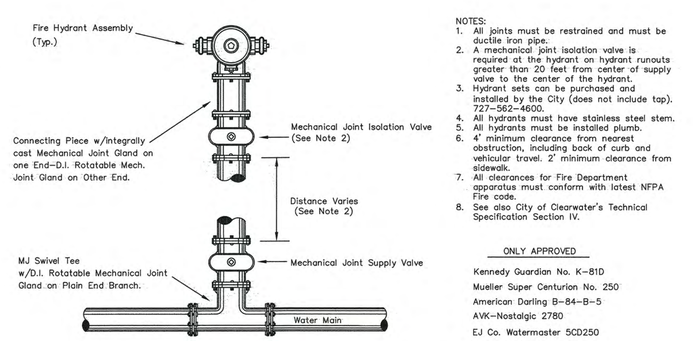

NOTES:
1. All joints must be restrained and must be ductile iron pipe.
2. A mechanical joint isolation valve is required at the hydrant on hydrant runouts greater than 20 feet from center of supply valve to the center of the hydrant.
3. Hydrant sets can be purchased and installed by the City (does not include tap). 727-562-4600.
4. All hydrants must have stainless steel stem.
5. All hydrants must be installed plumb.
6. 4' minimum clearance from nearest obstruction, including back of curb and vehicular travel. 2' minimum clearance from sidewalk.
7. All clearances for Fire Department apparatus must conform with latest NFPA Fire code.
8. See also City of Clearwater's Technical Specification Section IV.

ONLY APPROVED

Kennedy Guardian No. K-81D

Mueller Super Centurion No. 250

American Darling B-84-B-5

AVK-Nostalgic 2780

EJ Co. Watermaster 5CD250

DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER, ENGINEERING DEPARTMENT, POTABLE WATER DETAILS

TYPICAL FIRE HYDRANT SETTING PLAN VIEW

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REVISION	BY	DATE

ELLIOT SHOBERG, REGISTERED PROFESSIONAL ENGINEER, PROFESSIONAL ENGINEER NUMBER 56746, STATE OF FLORIDA

3/11/21 — DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. MYRTLE AVE.
CLEARWATER, FL 33756

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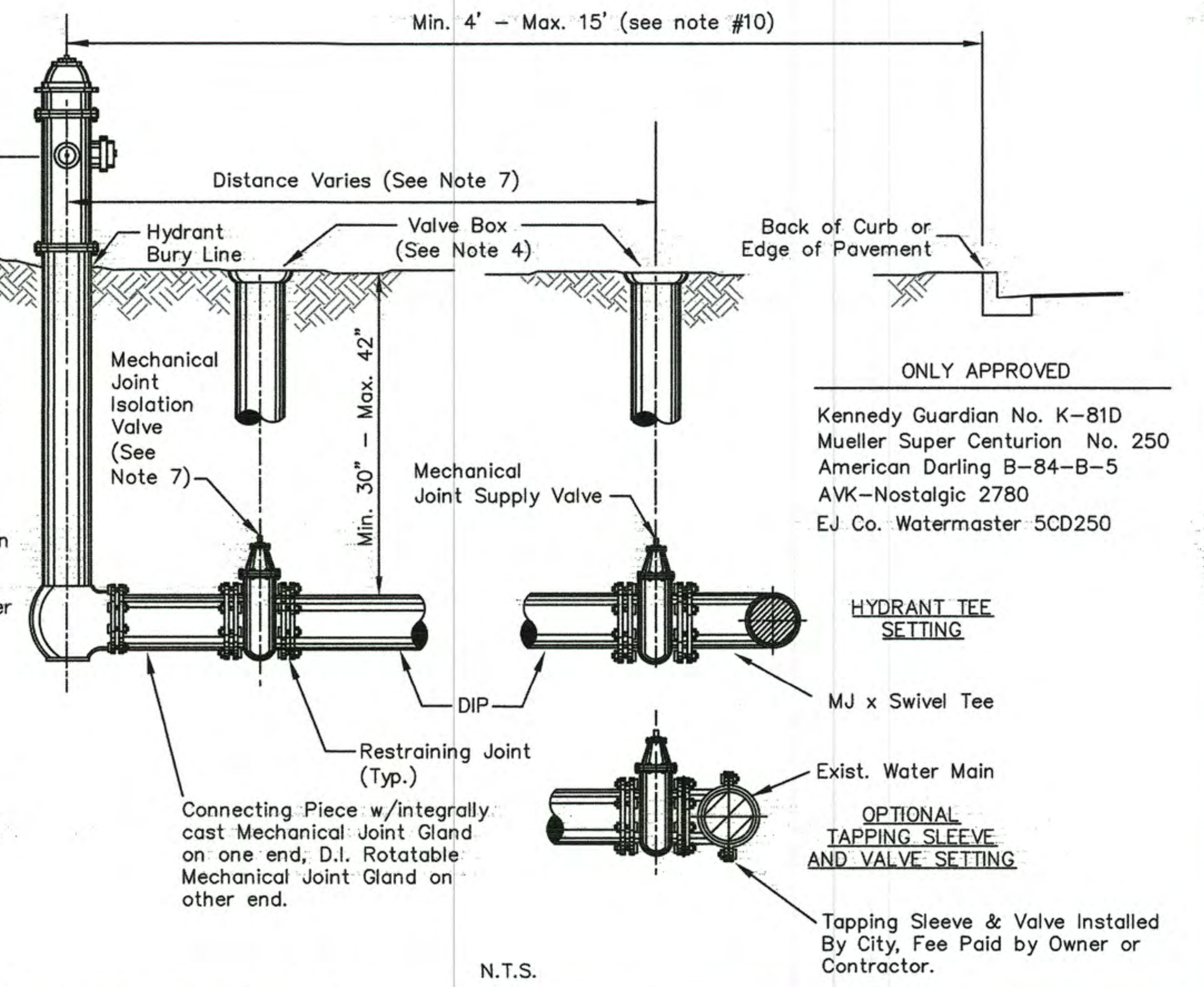
Bypass Drive Improvements Details

DWG NAME: 20150030-DTLS	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. N/A
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 04-18-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 24 OF 27

APPROVED BY _____ DATE

Typical Fire Hydrant Setting – Section View

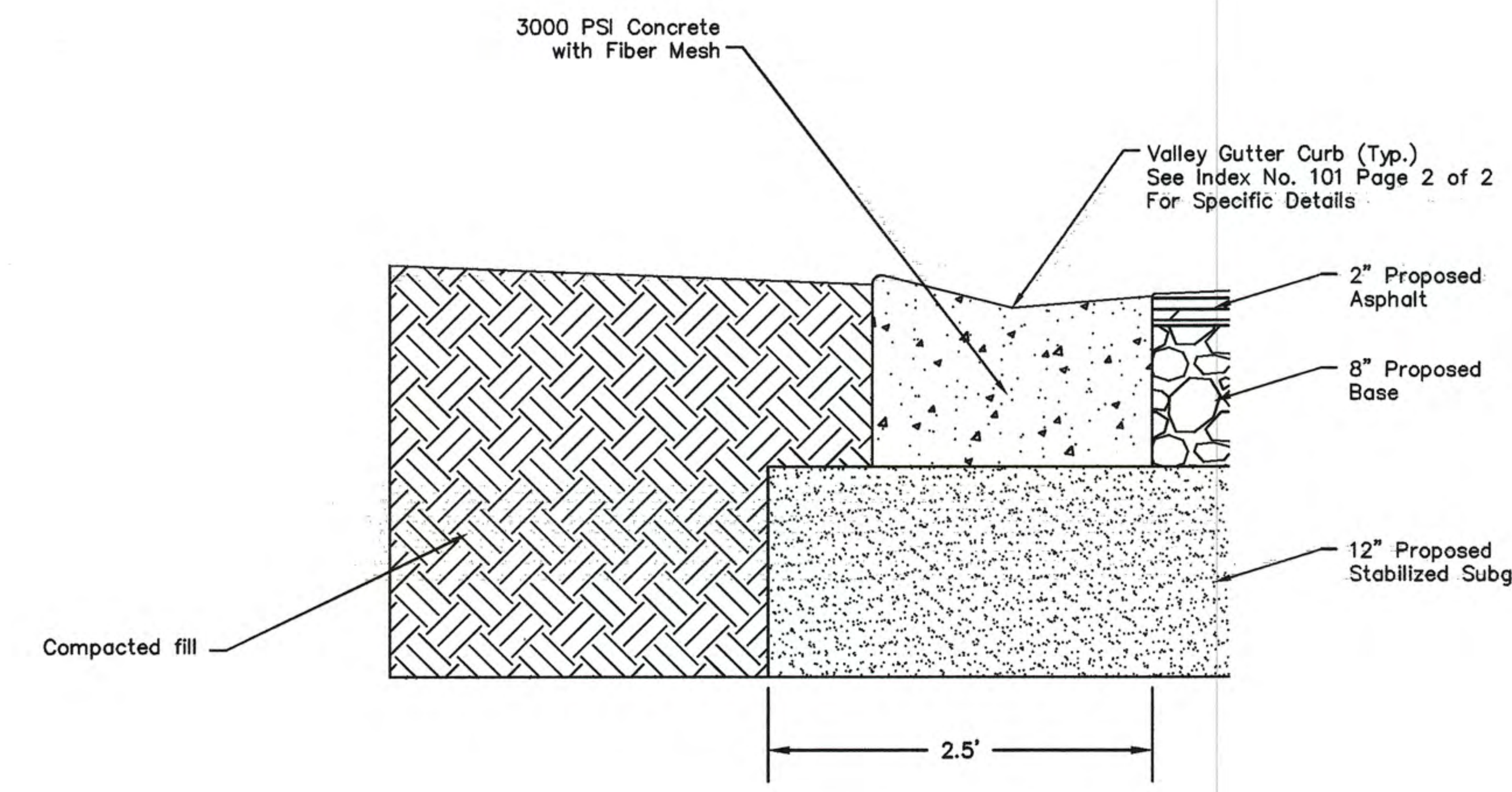


NOTES:
1. Steamer connection to face street
2. All fire hydrants to have 5 1/4" valve seat.
3. Fire hydrants shall be placed at street corners or in the R.O.W. adjacent to side lot lines whenever possible.
4. See Index 402, Sheet 1 of 3 for valve box settings.
5. See Index 409, Sheet 1 of 3 for typical connections & fittings.
6. Hydrant runouts shall be made of ductile iron pipe. All joints will be restrained.
7. On hydrant runouts greater than 20 feet from the center of supply valve to the center of hydrant requires a mechanical joint isolation valve at the hydrant.
8. See Index 407, for jack & bore details.
9. No lift kits allowed on new assemblies.
10. 4' minimum clearance from nearest obstruction, including back of curb and vehicular travel. 2' minimum clearance from sidewalk.
11. All hydrants must have stainless steel stem.
12. All clearances for Fire Department apparatus must conform with latest NFPA Fire code.
13. Gate Valves shall be open left only.
14. Hydrant must be installed plumb.
15. See also City of Clearwater's Technical Specification Section IV.

ONLY APPROVED
- Kennedy Guardian No. K-81D
- Mueller Super Centurion No. 250
- American Darling B-84-B-5
- AVK-Nostalgic 2780
- EJ Co. Watermaster 5CD250

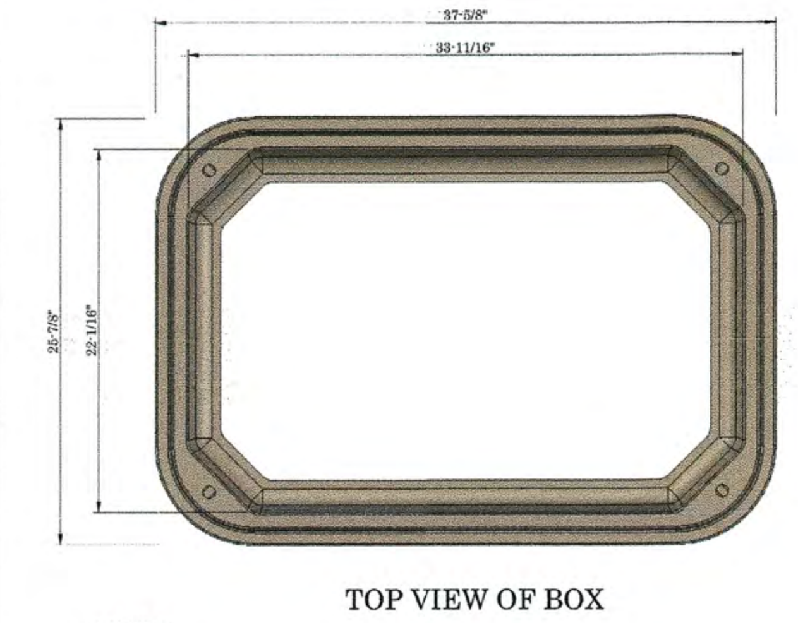
DATE	REVISION DESCRIPTION	APP	CITY OF CLEARWATER ENGINEERING DEPARTMENT POTABLE WATER DETAILS	TYPICAL FIRE HYDRANT SETTING SECTION VIEW	INDEX NO. 409	PAGE NO. 2 OF 3
					LATEST REVISION	10/22/2019

Typical Asphalt Section

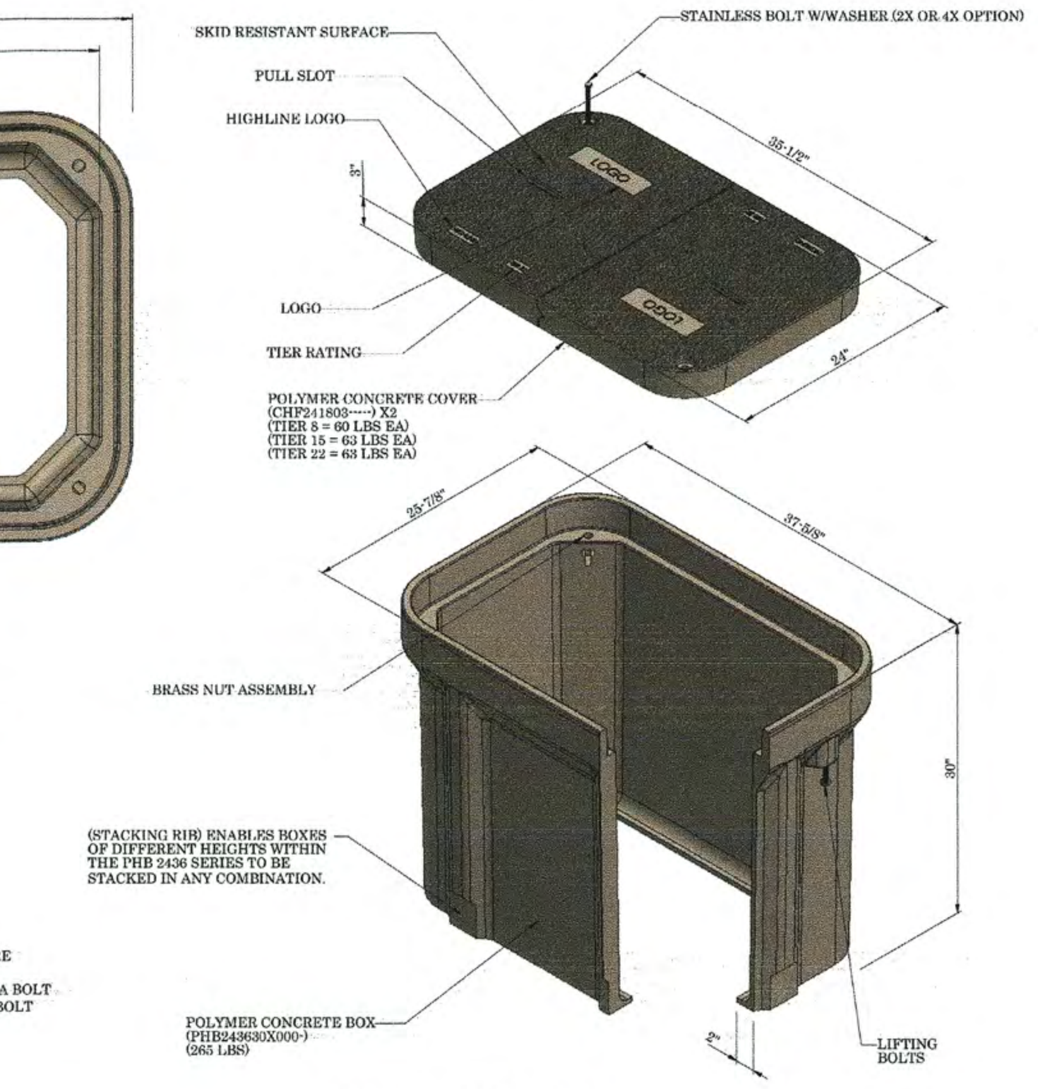


DATE	REVISION DESCRIPTION	APP	CITY OF CLEARWATER ENGINEERING DEPARTMENT STREET SECTIONS AND DETAILS	TYPICAL ASPHALT SECTION	INDEX NO. 1	PAGE NO. 1 OF 1
					LATEST REVISION	7/31/2017

MacLean Highline Box



TOP VIEW OF BOX



ISOMETRIC VIEW

NOTES:
1. LOGO: COMES IN A VARIETY OF STANDARD LOGOS. IE: "ELECTRIC", "WATER", "COMMUNICATIONS". CUSTOM LOGOS CAN BE PRODUCED. CONTACT CUSTOMER SERVICE FOR MORE LOGO INFORMATION (ORDERS@MACLEANHIGHLINE.COM)
2. FOR KNOCKOUTS, MOUSE HOLES, OR ANY OTHER SPECIAL REQUESTS. PLEASE CONTACT CUSTOMER SERVICE. (ORDERS@MACLEANHIGHLINE.COM)
3. CUSTOM PART NUMBER SHALL BE ASSIGNED FOR CUSTOMER SPECIFIC REQUIREMENTS.
4. ALL WEIGHTS ARE APPROXIMATE.
5. PRODUCT ASSEMBLY LABELING LISTED BELOW:

SIZE	TIER RATING	LOGO	HARDWARE
PHG243630 24" WIDTH x 36" LENGTH x 30" DEPTH	S = TIER 8 H = TIER 15 X = TIER 22	B00 = BLANK FLAT TOP E00 = ELECTRIC M00 = COMMUNICATIONS 300 = 2"x8"x1/4" DEEP BLANK ??? = CUSTOM LOGO OPTION	1 = 3/8" PENTA BOLT 2 = 3/8" HEX BOLT

PHG243630 X E00 2

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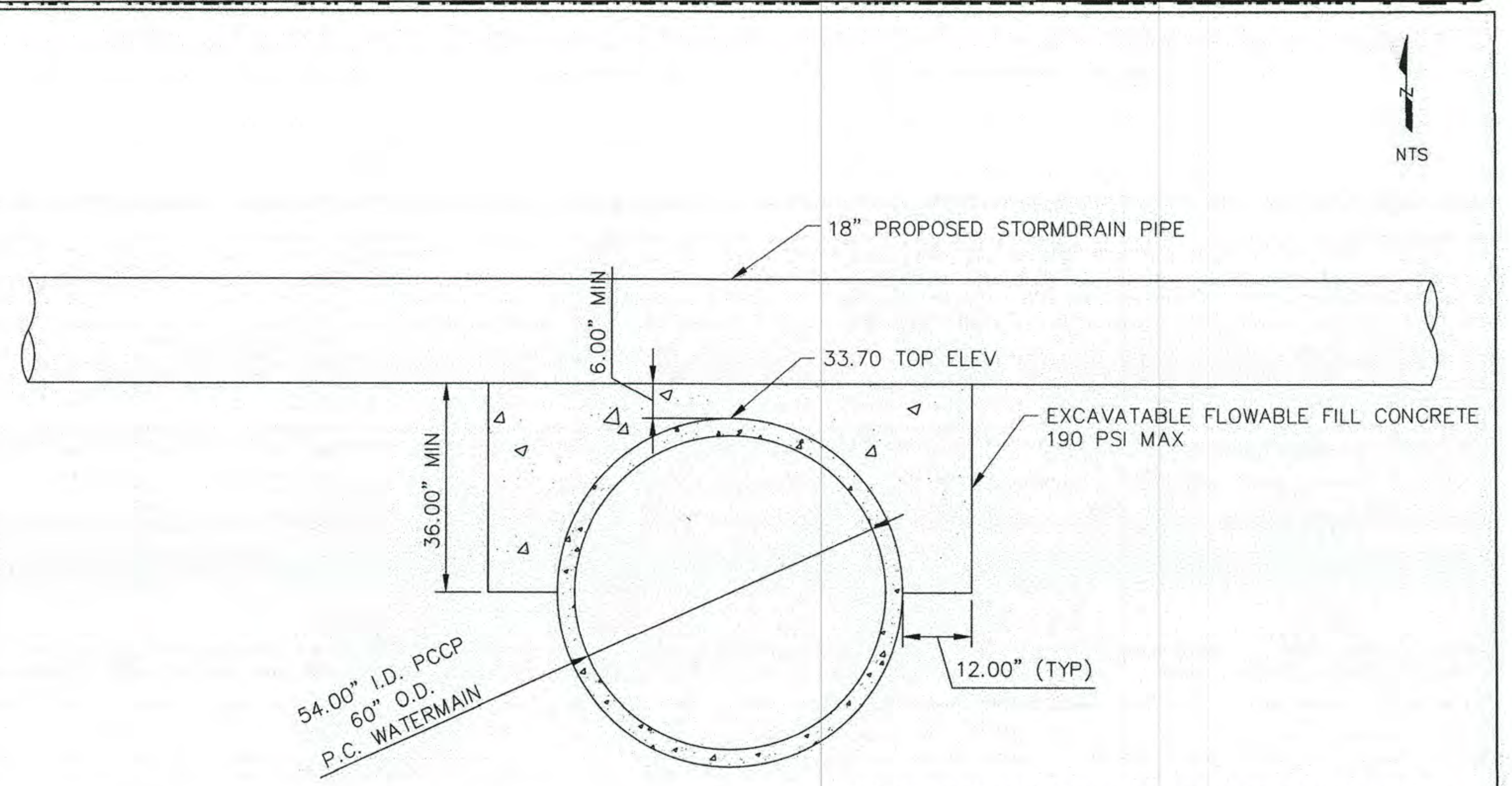
MacLean HIGHLINE
2300 HIGHWAY 11 NORTH, SWEETWATER, TN. 37874
TEL: (803) 628-4380

DRAWING NUMBER:	PHG243630-----
SHEET NAME:	1 OF 1
DRAWING DESCRIPTION:	TIER 8 (S) 8,000lbs TIER 15 (H) 15,000lbs TIER 22 (X) 22,500lbs
DRAWING SCALE:	NTS
DO NOT SCALE DRAWING	
CAD GENERATED DRAWING DO NOT MANUALLY UPDATE	
DESIGN DATE:	10/6/17
DRAWN BY:	CB
CHECKED	WHO
APPROVED	WHO
REV	A
REV DATE	10/6/17

54" PCCP Water Main & 18" Clearwater Stormdrain Crossing Detail



***NOTE - FLOWABLE FILL WIDTH TO BE 5' CENTERED ON CARRIER PIPE.

CONTRACTOR SHALL CONTACT CARLOS SOLIS OF PINELLAS COUNTY UTILITIES ENGINEERING (727-637-4146) FOR SCHEDULING OF FLOWABLE FILL INSTALLATION.

REV. NO.	DATE	DESCRIPTION	REV. BY	DESIGNED C.S. / DRAWN C.S.O. / CHECKED D.M.S.	Pinellas County Utilities	PROJECT: CLEARWATER BYPAS DR IMPROVEMENTS DRUID RD ALIGNMENT	DESCRIPTION: 54" PCCP WATER MAIN & 18" CLEARWATER STORMDRAIN CROSSING DETAIL	UTILITIES 14 S. FT. HARRISON AVE., CLEARWATER, FL 33756	APPROVED BY: [signature] 3/5/19 DENNIS M. SIMPSON, P.E. FLA. LIC. NO 44143	DATE: 03-04-2019 / PROJECT NO. XXXX / SHEET: 1 OF 1

REVISION	BY	DATE

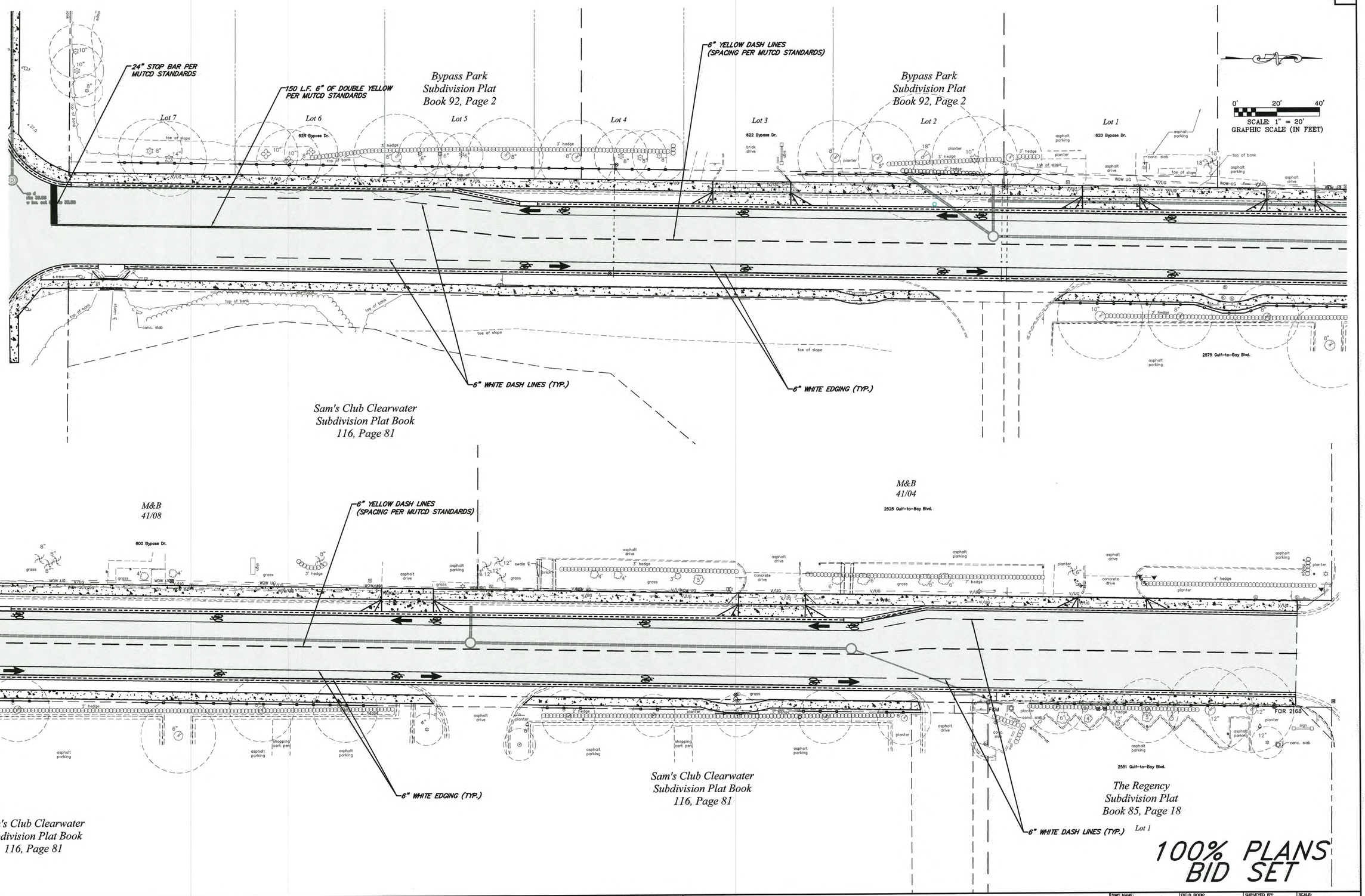
[signature] 3/1/21 — 3/1/21 DATE SIGNED
ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER 56746
STATE OF FLORIDA

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. MYRTLE AVE.
CLEARWATER, FL 33756

INVESTIGATE BEFORE YOU EXCAVATE
CALL 811
SUNSHINE STATE ONE CALL OF FLORIDA
www.callsunshine.com
(800) 432-4770
MIN. 48 HOURS BEFORE YOU EXCAVATE

Bypass Drive Improvements Details

DWG NAME: 2015030-DTLS	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. N/A
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 04-18-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 25 OF 27
APPROVED BY			DATE



100% PLANS
BID SET

REVISION	BY	DATE

ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 58746
STATE OF FLORIDA

3/11/21
DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

INVESTIGATE BEFORE YOU EXCAVATE
CALL 811
SUNSHINE STATE ONE CALL OF FLORIDA
www.callsunshine.com
(800) 432-4770
MIN. 48 HOURS BEFORE YOU EXCAVATE

Bypass Drive Improvements
Traffic Striping Plan
Bypass Drive Alignment 0+00 Through 13+25

DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. 1" = 2'
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. 1" = 20'
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 26 OF 27

APPROVED BY _____ DATE

I. SITE DESCRIPTION

A. CONSTRUCTION ACTIVITY

CLEARING AND GRUBBING, DEMOLITION OF ROADWAY, CONSTRUCTION OF STORMWATER PIPES, UNDERDRAIN AND CURBING, CONSTRUCTION OF ROADWAY AND SIDEWALKS.

PROJECT LIMITS

BYPASS DRIVE FROM GULF-TO-BAY TO DRUID ROAD.
DRUID ROAD FROM DUKE ENERGY TRAIL TO BYPASS DRIVE,

B. PROJECT DESCRIPTION

REMOVAL AND REPLACEMENT OF UNDERDRAIN, ROADWAY AND SIDEWALK
INSTALLATION OF STORMWATER PIPES

- MAJOR SOIL DISTURBING ACTIVITIES

CLEARING AND GRUBBING, DEMOLITION OF ROADWAY, CONSTRUCTION OF STORMWATER PIPES, UNDERDRAIN AND CURBING, CONSTRUCTION OF ROADWAY AND SIDEWALKS

- TOTAL PROJECT AREA: 2.00 ACRES
  TOTAL AREA TO BE DISTURBED: 1.50 ACRES
- RUNOFF DATA

NOT APPLICABLE

- SOIL DATA

GEOTECHNICAL REPORT INCLUDED IN SPECIFICATIONS

- DRAINAGE AREA (ATTACH DRAINAGE MAP OR PROVIDE DRAINAGE AREA IN ACRES)

2.00 ACRES

- RECEIVING WATERS

THE PROJECT IS LOCATED IN COASTAL ZONE 2, ULTIMATELY DRAINING TO TAMPA BAY.

- WETLANDS AREAS

NO ALTERATIONS

II. CONTROLS

ALL CONTROLS SHALL BE CONSISTENT WITH PERFORMANCE STANDARDS FOR EROSION AND SEDIMENT CONTROL AND STORM-WATER TREATMENT SET FORTH IN s.62-40.432, F.A.C., THE APPLICABLE STORM-WATER OR ENVIRONMENTAL RESOURCE PERMITTING REQUIREMENTS OF THE DEPARTMENT OR A WATER MANAGEMENT DISTRICT AND THE GUIDELINES CONTAINED IN THE FLORIDA DEVELOPMENT MANUAL: A GUIDE TO SOUND LAND AND WATER MANAGEMENT (DEP, 1988) AND ANY SUBSEQUENT AMENDMENTS.

A. SEQUENCE OF MAJOR ACTIVITIES

DEMOLITION

CONSTRUCTION OF CURB AND GUTTER, STORMWATER COLLECTION SYSTEM UNDERDRAIN, ROADWAY AND SANITARY SEWER.

RESTORATION OF THE RIGHT-OF-WAY

WHEN CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE EROSION PROTECTION DEVICES AND CONSTRUCTION ENTRANCE AS REQUIRED.

B. EROSION AND SEDIMENT CONTROL CONSTRUCTION ACTIVITIES

THE CONTRACTOR IS REQUIRED TO REVIEW THE SITE SPECIFIC EROSION CONTROL PLAN. THE CONTRACTOR MAY ALSO BE REQUIRED TO MODIFY THE PLAN OR MATERIALS TO ADAPT TO SEASONAL VARIATIONS OR SITE CONDITIONS. CONTRACTOR WILL COMPLY WITH THE EROSION AND SEDIMENTATION CONTROL PLAN. ANY MODIFICATIONS TO THIS PLAN MUST BE SIGNED BY A PROFESSIONAL ENGINEER REPRESENTING THE CONTRACTOR. THE EROSION CONTROL DEVICES, DETAILS, AND NOTES APPLICABLE TO THESE ACTIVITIES ARE SPECIFIED IN THE PLANS. THE PROJECT ENGINEER MAY REQUIRE ADDITIONAL CONTROLS TO MEET STANDARDS AND REGULATIONS.

PERFORM DAILY INSPECTION OF EROSION AND SEDIMENT CONTROLS AFTER EVERY ½" RAINFALL

REMOVE ALL SEDIMENTS THAT HAVE MIGRATED OFF SITE AS DIRECTED BY THE ENGINEER

C. STABILIZATION PRACTICES

DURING CONSTRUCTION THE CONTRACTOR WILL PROVIDE STABILIZATION FOR AREAS WHICH HAVE BEEN CLEARED AND NOT REWORKED WITHIN FOURTEEN (14) CALENDAR DAYS. THE CONTRACTOR MAY UTILIZE TEMPORARY SEEDING OR TEMPORARY SODDING IN ACCORDANCE WITH SECTION 570 OF THE "FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION".

- ____ TEMPORARY SODDING
- ____ TEMPORARY GRASSING
- _X_ PERMANENT SODDING OR SEEDING
- ____ PRESERVATION OF NATURAL RESOURCES
- _X_ BUFFER ZONES

D. STRUCTURAL PRACTICES

- _X_ SYNTHETIC BALES (LF)
- ____ ARTIFICIAL COVERINGS/ ROLLED EROSION CONTROL PRODUCTS (SY)
- _X_ INLET PROTECTION SYSTEM (EA)
- ____ LITTER REMOVAL AND DISPOSAL (AC)
- ____ MOWING (AC)
- ____ SLOPE DRAINS (TEMPORARY)/ RUNOFF CONTROL STRUCTURES (LF)
- ____ SOIL TRACKING PREVENTION DEVICE (EA)
- ____ SEDIMENT BASINS/CONTAINMENT SYSTEMS (EA)
- ____ SEDIMENT BASIN/ CONTAINMENT SYSTEM CLEANOUT (EA)
- ____ FLOATING TURBIDITY BARRIER (LF)
- _X_ STAKED SILT FENCE (LF)
- ____ CHEMICAL TREATMENT - POWDERED (SY)
- ____ CHEMICAL TREATMENT (FLOC LOGS, DRUMS OF PRODUCT) (EA)
- ____ OTHER

E. DESCRIPTION OF STORM WATER MANAGEMENT

THE STORMWATER MANAGEMENT SYSTEM CONSISTS OF STORMWATER PIPES, UNDERDRAIN, AND PROPOSED SWALE TO CONVEY STORMWATER TO EXISTING OFFSITE SYSTEM.

F. WASTE DISPOSAL

THE CONTRACTOR SHALL PROVIDE LITTER CONTROL AND COLLECTION WITHIN THE PROJECT BOUNDARIES DURING CONSTRUCTION ACTIVITIES. ANY CHEMICAL CONTAINERS SHALL BE DISPOSED OF BY THE CONTRACTOR ACCORDING TO EPA'S STANDARD PRACTICES AS DETAILED BY THE MANUFACTURER. NO SOLID MATERIALS INCLUDING BUILDING & CONSTRUCTION MATERIALS SHALL BE DISCHARGED TO WETLANDS OR BURIED ON SITE. ALL WASTE MATERIAL WILL BE COLLECTED AND STORED IN DUMPSTERS PER LOCAL SOLID WASTE REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED A MINIMUM OF TWICE A WEEK OR MORE OFTEN IF NECESSARY, AND THE TRASH WILL BE HAULED TO THE APPROPRIATE COUNTY LOCATION FOR DUMPING.

G. OFFSITE VEHICLE TRACKING

STABILIZED CONSTRUCTION ENTRANCES SHALL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREETS WILL BE CLEANED AS DIRECTED BY THE CONSTRUCTION INSPECTOR AND ENGINEER TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM OR TO THE SITE WILL BE COVERED WITH A TARPAULIN AT ALL TIMES.

H. SANITARY WASTE

FDOT STANDARD SPEC. FOR ROAD AND BRIDGE CONSTRUCTION" SECTION 7 - 6 "SANITARY PROVISIONS. "THE CONTRACTOR SHALL PROVIDE AND MAINTAIN, IN A NEAT AND SANITARY CONDITION, SUCH ACCOMMODATION FOR THE USE OF HIS EMPLOYEES AS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS AND REGULATIONS OF THE STATE AND LOCAL BOARDS OF HEALTH. COMMIT NO PUBLIC NUISANCE."

I. HAZARDOUS WASTE

THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CITY IN WRITING IF ANY HAZARDOUS WASTE MATERIAL IS ENCOUNTERED DURING SITE INVESTIGATION OR CONSTRUCTION.

THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR NOTIFYING THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) WITHIN 24 HOURS OF THE DISCOVERY.

ALL HAZARDOUS WASTE MATERIALS, IF ENCOUNTERED, WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL, STATE, AND FEDERAL REGULATIONS. THE CONTRACTOR WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

IN CASE OF DISPOSING ANY HAZARDOUS WASTE MATERIAL FOLLOWING LOCAL, STATE, AND FEDERAL REGULATIONS, A COPY OF DISPOSAL MANIFEST HAS TO BE PROVIDED TO THE COUNTY IN TIMELY FASHION.

J. WATER QUALITY MONITORING (MIXING ZONES)

THE WATER THAT WILL BE SAMPLED FOR STATE WATER QUALITY STANDARDS FOR CONSTRUCTION ACTIVITIES PROHIBIT A TURBIDITY INCREASE OF GREATER THAN 29 NTU'S ABOVE AMBIENT CONDITIONS AT THE COMPLIANCE LOCATION OF THE MIXING ZONES. TO MAINTAIN THIS STANDARD, TURBIDITY MONITORING SHALL OCCUR DURING ALL IN-WATER CONSTRUCTION ACTIVITIES AT EACH COMPLIANCE AND BACKGROUND STATION. THE FOLLOWING PROCEDURE SHALL BE USED:

FREQUENCY: TWICE A DAY, AT LEAST 4 HOURS APART DURING FREQUENCY OF ACTUAL CONSTRUCTION OPERATIONS.
LOCATIONS: ALL STATIONS SHALL BE SAMPLED AT 2 FEET ABOVE LOCATIONS THE BOTTOM, AT MID-DEPTH, AND AT THE SURFACE, OR AS DIRECTED BY PERMITTING AGENCIES. IF WATER IS LESS THAN THREE FEET DEEP, ONLY MID-DEPTH SAMPLES ARE REQUIRED.

BACKGROUND: 500 FEET UP-CURRENT FROM THE CONSTRUCTION BACKGROUND ACTIVITY AND OUTSIDE OF ANY TURBIDITY PLUME FROM THE CONSTRUCTION ACTIVITY.

COMPLIANCE: 300 FEET DOWN CURRENT FROM THE CONSTRUCTION COMPLIANCE ACTIVITY WITHIN ANY VISIBLE TURBIDITY PLUME, OR AS DIRECTED BY PERMITTING AGENCIES.

METHOD: ALL SAMPLES SHALL BE COLLECTED WITH A KEMMERER, VAN DORN METHOD, OR SIMILAR SAMPLER WHICH IS DESIGNED TO COLLECT IN SITU WATER SAMPLES.

REPORTING: ALL MONITORING DATA SHALL BE SUBMITTED WITHIN ONE REPORTING WEEK OF ANALYSIS WITH DOCUMENTS CONTAINING THE FOLLOWING INFORMATION:

1. PERMIT NUMBER
2. DATES OF SAMPLING AND ANALYSIS
3. LOCATION OF SAMPLE (I.E., STATION AND WATER COLUMN LOCATION)
4. A STATEMENT DESCRIBING THE METHODS USED IN COLLECTION, HANDLING,
5. STORAGE, AND ANALYSIS OF THE SAMPLES
6. A MAP INDICATING THE SAMPLING LOCATIONS
7. STATEMENT, BY THE INDIVIDUAL RESPONSIBLE FOR IMPLEMENTATION OF THE SAMPLING PROGRAM, CONCERNING THE AUTHENTICITY, PRECISION, LIMITS OF DETECTION AND ACCURACY OF DATA.

MONITORING REPORTS SHALL INCLUDE INFORMATION ON THE GENERAL ANTECEDENT WEATHER CONDITIONS.

IF MONITORING REVEALS VIOLATIONS OF THE STATE WATER QUALITY STANDARD FOR TURBIDITY, CONSTRUCTION ACTIVITIES SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL CORRECTIVE MEASURES HAVE BEEN TAKEN AND TURBIDITY HAS RETURNED TO ACCEPTABLE LEVELS. ANY SUCH OCCURRENCE SHALL ALSO BE IMMEDIATELY REPORTED TO THE REGULATORY AGENCIES. IN THE EVENT THAT STATE WATER QUALITY STANDARDS ARE NOT ATTAINED, THE CONTRACTOR SHALL IMPLEMENT A CONTINGENCY PLAN WHICH COMPLIES WITH THE PROJECT SWFWMD/FDEP ERP AND PINELLAS COUNTY NPDES REQUIREMENTS AT NO ADDITIONAL COST TO THE COUNTY. ANY FINES SHALL BE RESPONSIBILITY OF THE CONTRACTORS.

K. APPROVED STATE, LOCAL PLANS, OR STORM WATER PERMITS

NONE AT THE TIME OF PERMITTING

III. MAINTENANCE

A. ALL OF THE CONTROLS SHALL BE MAINTAINED AT ALL TIMES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTION AND MAINTENANCE OF ALL PERMANENT AND TEMPORARY EROSION CONTROL DEVICES THROUGHOUT ALL CONSTRUCTION PHASES OF THE PROJECT. MAINTENANCE SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND THE PROJECT CONSTRUCTION CONTRACT.

B. INSPECTION

THE CITY INSPECTOR SHALL BE RESPONSIBLE FOR COMPLETING THE CITY'S NPDES / SWPPP CONSTRUCTION INSPECTION REPORT AFTER ANY ½" RAINFALL OR WEEKLY, IF NO RAIN EVENT OCCURRED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN RAIN GAUGES ON THE PROJECT SITE AND RECORD WEEKLY RAIN FALL. THE CITY INSPECTOR SHALL ALSO COMPLETE THE CITY'S NPDES COMPLIANCE CHECKLIST FOR CONSTRUCTION SITES AND NOTE ANY ISSUES ON THEIR DAILY REPORT.

C. NON-STORM WATER DISCHARGES

IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES MAY OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:

- WATER FROM WATER LINE FLUSHING
- PAVEMENT WASH WATERS (WHERE NO SPILL OR LEAKS OF VEHICLE AND HAZARDOUS MATERIALS HAVE OCCURRED)
- UNCONTAMINATED GROUNDWATER FROM DE-WATERING ACTIVITIES

ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE OR AS DIRECTED BY THE ENGINEER. IF CONTAMINATED SOIL OR GROUNDWATER IS ENCOUNTERED, DEWATERING SHOULD CEASE IMMEDIATELY AND THE ENGINEER WILL BE CONTACTED.

D. MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL HANDLING PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF:

1. THE FOLLOWING GOOD HOUSEKEEPING PRACTICES SHALL BE FOLLOWED ON-SITE DURING THE CONSTRUCTION PROJECT.
   - STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB ON SITE.
   - ALL MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR ORIGINAL MANUFACTURER'S LABELED CONTAINERS UNDER A ROOF OR OTHER CONTAINED ENCLOSURE.
   - SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
   - WHENEVER POSSIBLE, ALL OF A PRODUCT SHALL BE USED BEFORE DISPOSING OF THE CONTAINER. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.
   - THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ON-SITE.
2. THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.
   - PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RE-SEALABLE.
   - SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL OPENED CONTAINERS. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE KEPT ON-SITE ON THE CONSTRUCTION OFFICE TRAILER.
   - IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURERS OR LOCAL STATE RECOMMENDED METHODS OF PROPER DISPOSAL SHALL BE FOLLOWED.
   - THE CONTRACTOR MUST IDENTIFY A DESIGNATED FUEL TANK STORAGE AREA, AWAY FROM DRAINAGE STRUCTURES, PONDS, BASINS, AND WETLANDS, WITH SECONDARY CONTAINMENT (SPILL COLLECTION).
3. CONCRETE TRUCKS
   - CONTRACTOR SHALL DESIGNATE AN AREA AWAY FROM DRAINAGE STRUCTURES, PONDS, BASINS, AND WETLANDS FOR DISCHARGE OF SURPLUS CONCRETE OR DRUM WASH WATER AND SHALL INSTALL A CONTAINMENT BERM AROUND THIS AREA TO PREVENT RUNOFF TO THE REMAINDER OF THE SITE.
   - HARD DEBRIS SHALL BE DISPOSED OF BY CONTRACTOR UPON COMPLETION OF THE PROJECT.
   - DISPOSAL OF CONCRETE SLURRY DIRECTLY INTO PUBLIC DRAINAGE SYSTEMS IS A VIOLATION OF THE "ILLICIT DISCHARGE" PROVISION OF THE CITY OF CLEARWATER CODE OF ORDINANCES, SECTION 32.394 – ILLICIT DISCHARGE.
4. SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIALS MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP.

- MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION CLEANUP SUPPLIES.
- ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
- THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
- SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
- THE SPILL PREVENTION PLAN WILL BE PREPARED BY THE CONTRACTOR AND KEPT IN THE CONSTRUCTION OFFICE TRAILER AND WILL INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL. IF THERE ARE OTHERS, A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED. ALL SPILLS AND RESPONSES WILL BE REPORTED TO THE APPROPRIATE AGENCY.
- THE SITE SUPERINTENDENT WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE WILL DESIGNATE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ON SITE.
- USE AND CHARACTERISTICS OF FUEL OR CHEMICAL STORAGE TANK ON SITE SHALL COMPLY WITH ALL RELATED FEDERAL, STATE, AND LOCAL REGULATIONS. STORAGE TANKS MUST BE LOCATED AS FAR AS POSSIBLE FROM ANY DRAINAGE STRUCTURES, DITCHES, AND/OR SURFACE WATERS. IN ADDITION, THE CONTRACTOR MUST PROVIDE A SECONDARY CONTAINMENT WITH A LINER CHEMICALLY RESISTANT TO THE FUEL OR CHEMICAL STORED ON SITE. THE SECONDARY CONTAINMENT MUST BE SIZED TO CONTAIN MINIMUM OF ONE AND A HALF TIME THE TOTAL CAPACITY OF STORAGE TANK BEING USED. CONTRACTOR HAS TO PROVIDE A DAILY INSPECTION LOG FOR THE SECONDARY CONTAINMENT WITH INDICATION OF DATE, INSPECTORS NAME AND INSPECTION REPORT. FURTHERMORE, ANY CONTAMINATION HAS TO BE IMMEDIATELY CONTAINED AND THE COUNTY INSPECTOR MUST BE NOTIFIED OF THE NATURE AND EXTEND OF THE CONTAMINATION.

PERMITTEE CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

D. SCOTT RICE, P.E. — DATE
CITY ENGINEER
CITY OF CLEARWATER

CONTRACTOR CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND, AND SHALL COMPLY WITH , THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORMWATER POLLUTION PREVENTION PLAN PREPARED THEREUNDER.

GENERAL CONTRACTOR NAME & TITLE — DATE

COMPANY NAME

COMPANY STREET ADDRESS

CITY, STATE, ZIP CODE

100% PLANS
BID SET

REVISION	BY	DATE

ELLIOT SHOBERG
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER NUMBER PE 56746
STATE OF FLORIDA
3/11/21 — DATE SIGNED

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

INVESTIGATE BEFORE YOU EXCAVATE
CALL 811
SUNSHINE STATE ONE CALL OF FLORIDA
www.callsunshine.com
(800) 432-4770
MIN. 48 HOURS BEFORE YOU EXCAVATE

Bypass Drive Improvements
Stormwater Pollution Prevention Plan (SWPPP)

DWG NAME: 2015030-DSGN	FIELD BOOK: 580	SURVEYED BY: SR	SCALE: VERT. N/A
CONTRACT NO.: 15-0021-EN	DATE DRAWN: 05-27-2016	DRAWN BY: DDM, JR	HORIZ. N/A
JOB NO.: 2015030	DESIGNED BY: JWS	CHECKED BY: PWD	SHEET NO.: 27 OF 27

APPROVED BY: _____ DATE