



FLORIDA DEPARTMENT OF Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Interim Secretary

August 12, 2021

STATE 404 PROGRAM PUBLIC NOTICE

Permit Application No. 0397014-001-SFI

TO WHOM IT MAY CONCERN: The Department of Environmental Protection has received an application for a State 404 Program permit pursuant to 62-331, Florida Administrative Code, as described below:

APPLICANT: South Florida Water Management District
Nirmala Jeyakumar
3301 Gun Club Road, West Palm Beach, FL 33406
(561) 682-6471

LOCATION: The project is located at the western end of the C-11 Canal in the alignment of Levee 37, adjacent to Griffin Road. The project lies within Section 28, Township 50 South, Range 39 East in Broward County.

APPROXIMATE CENTRAL COORDINATES: Latitude 26.061491° Longitude -80.442614°

LINK TO ATTACHMENTS: <https://ftpportal.dep.state.fl.us/public/folder/3A1mlxSTK0ezVKxOgfmeew/0397014-001-SFI>
(Password: S9S9A!)

PROJECT PURPOSE: The overall project purpose is trash rake installation and pump station maintenance at the existing S-9 and S-9A water control facilities on the C-11 Canal.

PROPOSED WORK: The applicant seeks authorization to conduct maintenance work at the S-9 and S-9A water control facilities. The applicant proposes to use 767 cubic yards of riprap and associated bedding stone to replace the riprap located between S-9 and S-9A. Additional repairs of the associated seepage and wingwall sheet piles are proposed, 625 cubic yards will be used to level the land behind the sheet piling walls.

The applicant also proposes to install an automated trash removal system. The automated trash removal system will require the design and construction of an upstream bridge with an approximate length of 124 feet and width of 25 feet. The trash rake system will be attached to the bridge. The applicant proposes to dredge 1,520 cubic yards from the C-11 canal to have a flat bottom for the construction of the bridge. The dredge material cannot be reused for the project and will be disposed at an appropriate offsite facility. Trash collected from the C-11 Canal will be hauled to an appropriate offsite waste disposal facility.

The proposed work will not take more than five years to complete.

EXISTING CONDITIONS: The 3.81-acre project site is comprised of Waters of the United States (WOTUS) associated with the C-11 Canal and the adjacent uplands. The upland consists of various access roads and parking area. There is also an existing spillway and pump station on the east edge of the project area known as the S-9 structure and it is currently in operation. The proposed project activity will occur in surface water only.

AVOIDANCE AND MINIMIZATION INFORMATION: Based on information provided by the applicant it is believed that the proposed plan is the least environmentally damaging practicable alternative. Best management practices will be used to eliminate and minimize impacts to wetlands and other surface waters:

“Effective means of sedimentation and erosion control devices shall be employed during all activities that may create turbidity within the work zone and shall remain in place until the area is stabilized. Turbidity monitoring will be conducted during activities that could result in project generated turbidity levels beyond the work area that have the potential to be discharged to the receiving water body. All construction activities will be scheduled, coordinated and completed to avoid any impacts to State & Federally Threatened and Endangered Species. All construction staff will have Threatened and Endangered Species Training, Qualified Eastern Indigo Snake Training and Ground Nester Training through the SFWMD.”

COMPENSATORY MITIGATION: The project activity will not result in more than minimal individual and cumulative effects which are minor and to surface water only. The proposed work does not result in impacts to special aquatic sites such as wetlands and will not result in a net loss of waters of the US. Therefore, no compensatory mitigation is proposed.

CULTURAL RESOURCES: The Department has requested review from the State Historic Preservation Officer (SHPO) and those federally recognized Tribes with concerns in Florida and the permit area. No comments have been received from the federally recognized Tribes.

On February 10, 2021, SHPO reviewed the project site and determined that the proposed project is unlikely to affect historic properties. However, unexpected finds may occur during ground disturbance activities, and we request that the permit, if used, include the following specific conditions:

1. All ground disturbing project activities, including staging, shall avoid the culturally sensitive areas. If avoidance is not possible, further consultation with SHPO will be necessary.
2. If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The applicant shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section at (850)-245-6333. Project activities shall not resume without verbal and/or written authorization. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately, and the proper authorities notified in accordance with Section 872.05, F. S.

FEDERALLY AND STATE-LISTED SPECIES: The Department requested review from the Florida Fish and Wildlife Conservation Commission (FWC) and the US Fish and Wildlife Service (USFWS), and comments have been received.

On March 31, 2021, FWC and USFWS reviewed the project and provided the following comments:

1. FWC staff have determined the project will have no reasonable potential to affect federally listed species of fish or wildlife and therefore, no State 404 permit conditions are proposed for federally listed fish or wildlife species.
2. FWC staff also do not have State 404 permit conditions or technical assistance to provide for state-listed species.

COMMENTS regarding the potential authorization of the work proposed should be submitted in writing to the Department’s Office of Water Policy and Ecosystems Restoration at 3900 Commonwealth Blvd., Tallahassee, FL 32399, or by electronic mail at Kristyn.McClure@FloridaDEP.gov, within 30 days from the date of this notice. Written comments will be made part of the record and should reference the above permit application number. Objections must be factual, specific, and fully describe the reasons upon which any objection is founded. Any comments received will be considered by the Department to determine whether to issue, modify, condition, or deny a permit for this proposal. Unless a written request is filed with the Department within the 30-day public comment period, the Department may decide on the application without a public meeting.

EVALUATION: The determination as to whether a permit will be issued, or a public meeting held, will be based on an evaluation of all relevant factors, including the public comments received and the effect of the proposed work on the public

Permittee: South Florida Water Management District
Project: S-9 and S-9A Pump Stations
File No.: 0397014-001-SFI
Page 3 of 3

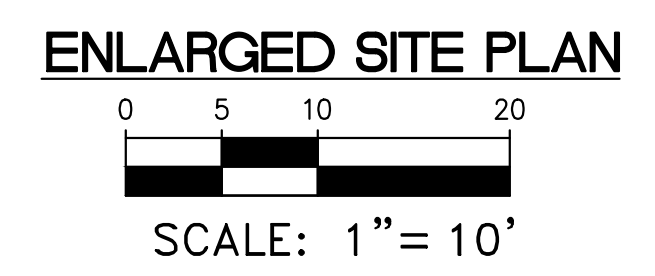
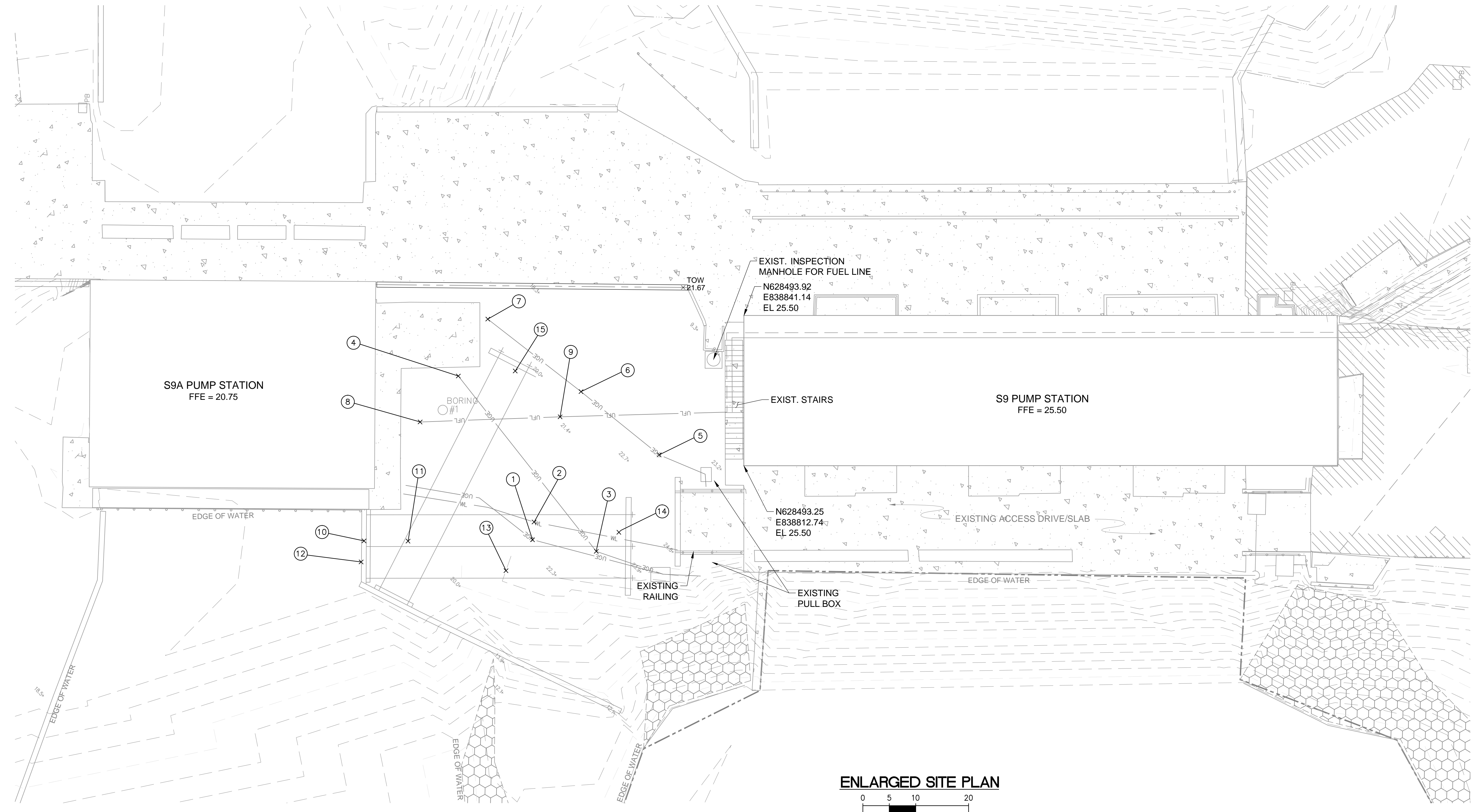
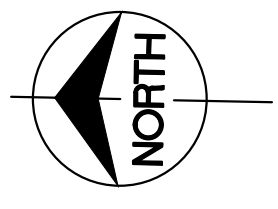
interest, including, but not limited to, fish, wildlife, historical resources, and pollution. The specific permit decision criteria can be found in Chapter 62-331, Florida Administrative Code.

The Department is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. To make this consideration, comments are used to assess impacts to endangered species, historic properties, water quality, general environmental effects, and other public interest factors. Comments are also used to determine the need for a public meeting and to determine the overall public interest of the proposed activity.

FOR FURTHER INFORMATION regarding this application, contact the project manager, Kristyn McClure, in writing at 3900 Commonwealth Blvd., Tallahassee, FL 32399; by electronic mail at Kristyn.McClure@FloridaDEP.gov; or by telephone at (850) 245-2974. Please include the permit application number referenced at the top of this page in any correspondence.

REQUEST FOR PUBLIC MEETING: Any person may request a public meeting. The request must be submitted to Kristyn McClure within the designated comment period of the notice and must state the specific reasons for requesting the public meeting.

POINT TABLE					
POINT #	NORTHING	EASTING	EXIST GROUND ELEVATION	TOP OF UTILITY ELEVATION	REMARKS
①	628532.86	838797.76	22.14	20.62	1" ELEC; REVEALED 1" COPPER GROUND WIRE
②	628532.65	838801.11	22.21	21.01	4" PVC WATER
③	628520.75	838795.86	23.49	20.59	THREE 4" PVC ELECTRIC
④	628547.65	838828.36	19.64	16.64	THREE 4" PVC ELECTRIC
⑤	628509.31	838814.40	22.37	20.32	1.5" ELECTRIC W/ STEEL LINE
⑥	628524.38	838825.99	19.46	15.76	2" PVC ELECTRIC/COMM LINE
⑦	628542.35	838839.27	18.99	15.89	2" ELECTRIC/COMM LINE
⑧	628554.66	838819.50	19.81	17.01	4" PVC ENCASING FOR FUEL LINE
⑨	628528.22	838821.13	21.14	17.24	2" RUBBER FUEL LINE
⑩	628564.72	838796.76	19.32	15.91	1 1/2" STEEL ROD
⑪	628556.39	838796.92	19.65	15.46	1 1/2" STEEL ROD
⑫	628565.17	838792.36	19.43	15.64	1 1/2" STEEL ROD
⑬	628537.74	838791.78	21.23	NA	DEADMAN LOCATION TEST HOLE. DEEPER THAN 8' NOT FOUND. ENCOUNTERED SOLID ROCK
⑭	628516.56	838799.56	23.99	NA	DEADMAN LOCATION TEST HOLE. DEEPER THAN 8' NOT FOUND. ENCOUNTERED SOLID ROCK
⑮	628535.92	838829.58	19.60	17.00	DEADMAN WALL



Always call 811 two full business days before you dig to have underground utilities located and marked.

NOTE:
THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BENCH MARK NO. "FCE 1567", (PID: AD8106) ELEVATION 25.41 NAVD88, THE NATIONAL GEODETIC VERTICAL DATUM OF 29 (NGVD29) = NAVD88 + 1.50' FOR THIS LOCATION.

The consultant, contractor or other parties associated with this project shall comply with Florida Statutes Chapter 119. These plans are the property of the District and must be secured and maintained in a confidential manner. Review by any unauthorized individual or outside/third party not performing work necessary for this project is prohibited.

DATE	DRAWN	REF #	REVISION DESCRIPTION

ENGINEER: S. HOYOS
 DRAWN: S. FERRER
 CHECKED: L. GUNDEL
 DATE: 12/2019
 SCALE: AS SHOWN

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
 OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION
 ENGINEERING & CONSTRUCTION BUREAU
 PHONE: 561-686-8800
 3301 GUN CLUB ROAD
 WEST PALM BEACH, FLORIDA 33406

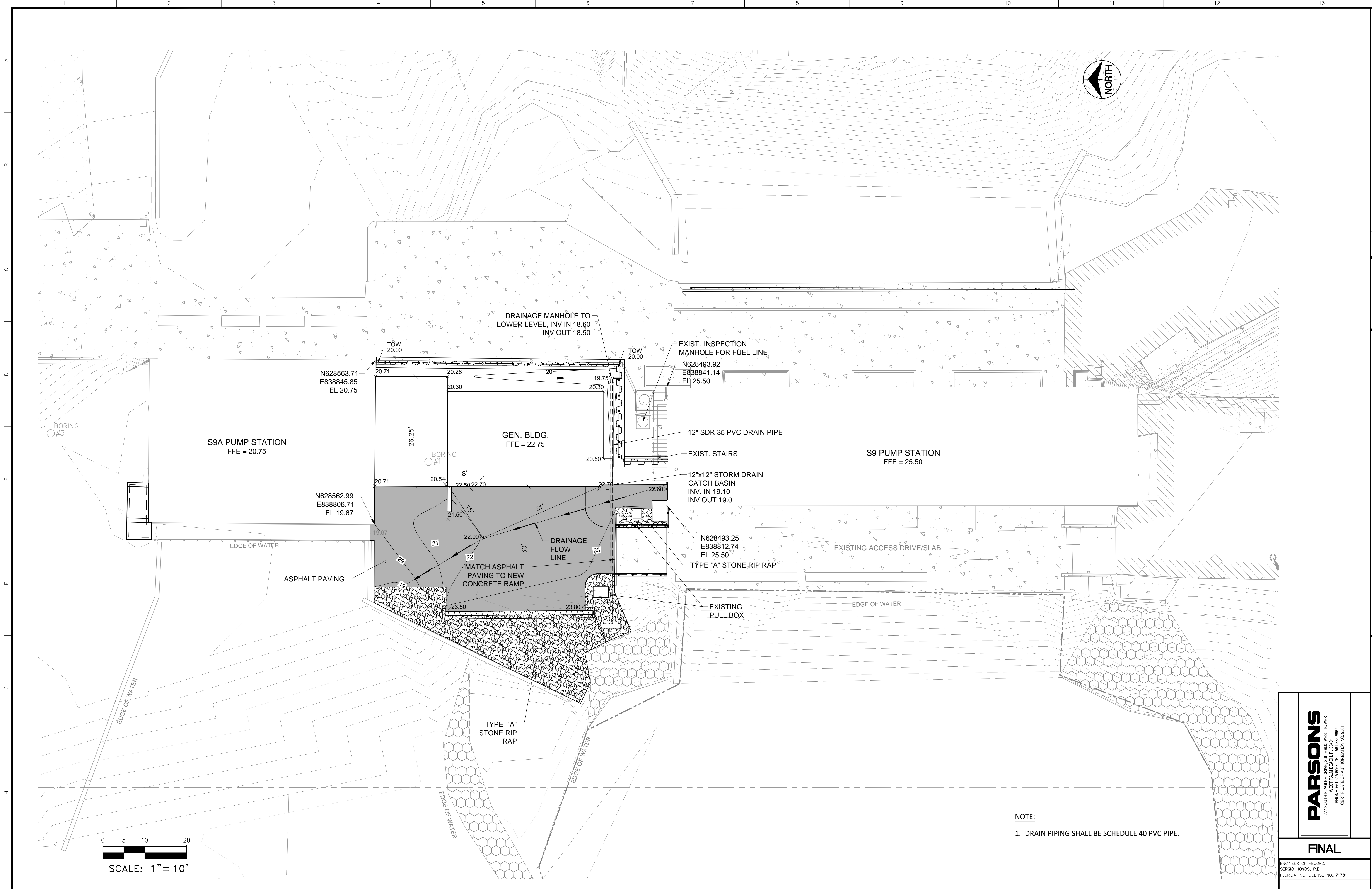
PARSONS
 771 SOUTH FLAGLER DRIVE, SUITE 800, WEST TOWER
 WEST PALM BEACH, FL 33411-4607
 LICENSE NO. 100884
 CERTIFICATE OF AUTHORIZATION NO. 981

FINAL

ENGINEER OF RECORD:
 SERGIO HOYOS, P.E.
 FLORIDA P.E. LICENSE NO.: 71781

S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS
PUMP STATION EXISTING CONDITIONS PLAN

PROJECT ID NO. 100884
 DRAWING NUMBER **C003**
 SHEET **16 of 109**



NOTE:
 1. DRAIN PIPING SHALL BE SCHEDULE 40 PVC PIPE.

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PARSONS
 777 SOUTH FLAGLER DRIVE, SUITE 800, WEST TOWER
 WEST PALM BEACH, FL 33411-4607
 PHONE: 561-686-8800
 CERTIFICATE OF AUTHORIZATION NO. 981

FINAL

ENGINEER OF RECORD:
 SERGIO HOYOS, P.E.
 FLORIDA P.E. LICENSE NO.: 71781

S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS CIVIL GENERATOR BLDG PLAN

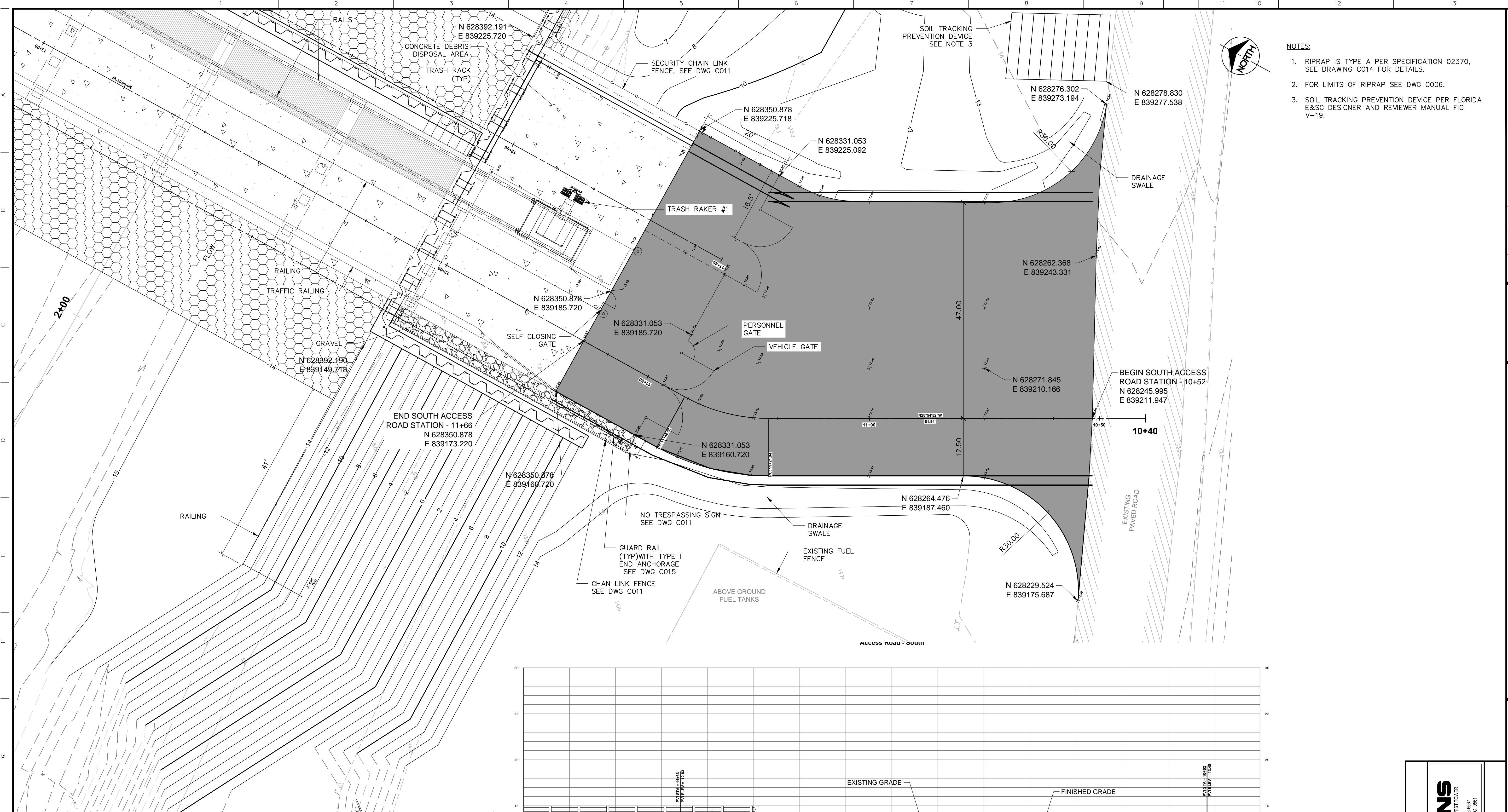
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 DRAWING NUMBER C005
 SHEET 18 of 109

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
 OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION
 ENGINEERING & CONSTRUCTION BUREAU

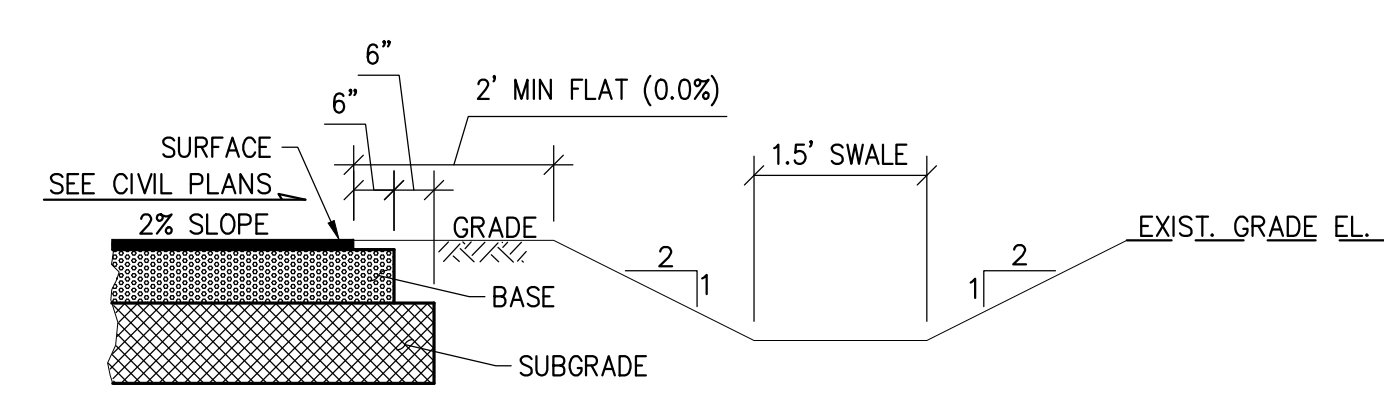
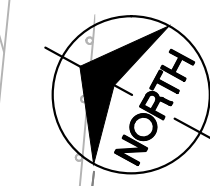
PHONE: 561-686-8800
 3301 GUN CLUB ROAD
 WEST PALM BEACH, FLORIDA 33406

ENGINEER: S. HOYOS
 DRAWN: S. FERRER
 CHECKED: L. GUNDEL
 DATE: 12/2019
 SCALE: AS SHOWN

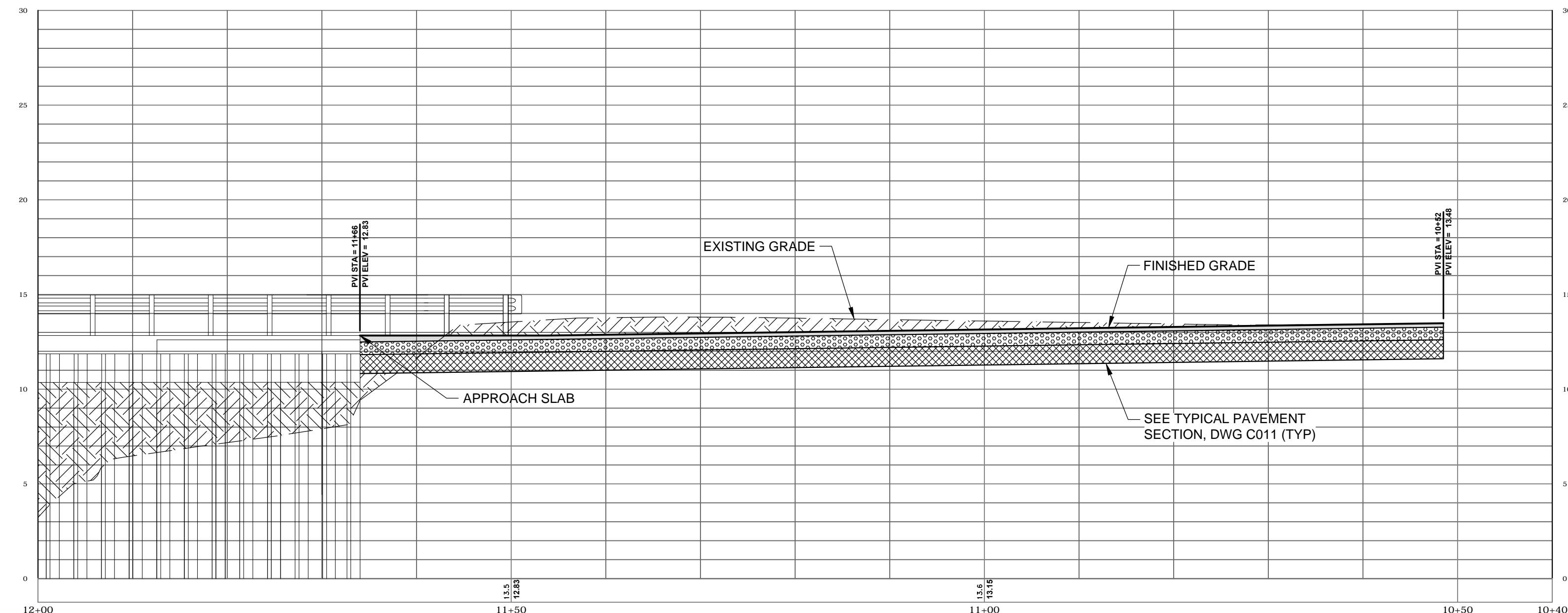
REVISION DESCRIPTION	DATE	DRAWN	REF #



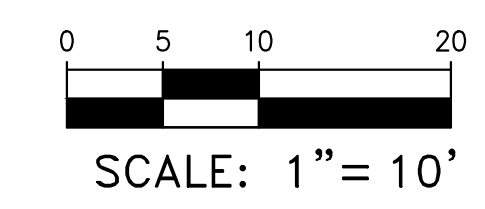
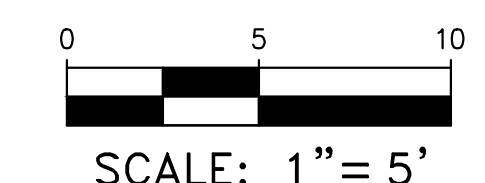
- NOTES:
- RIPRAP IS TYPE A PER SPECIFICATION 02370, SEE DRAWING C014 FOR DETAILS.
 - FOR LIMITS OF RIPRAP SEE DWG C006.
 - SOIL TRACKING PREVENTION DEVICE PER FLORIDA E&SC DESIGNER AND REVIEWER MANUAL FIG V-19.



TYPICAL DRAINAGE SWALE
NOT TO SCALE



VERTICAL SCALE 1" = 5'
HORIZONTAL SCALE 1" = 10'



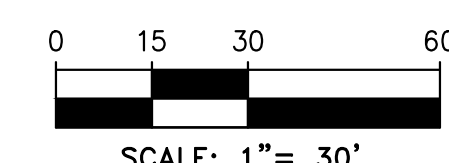
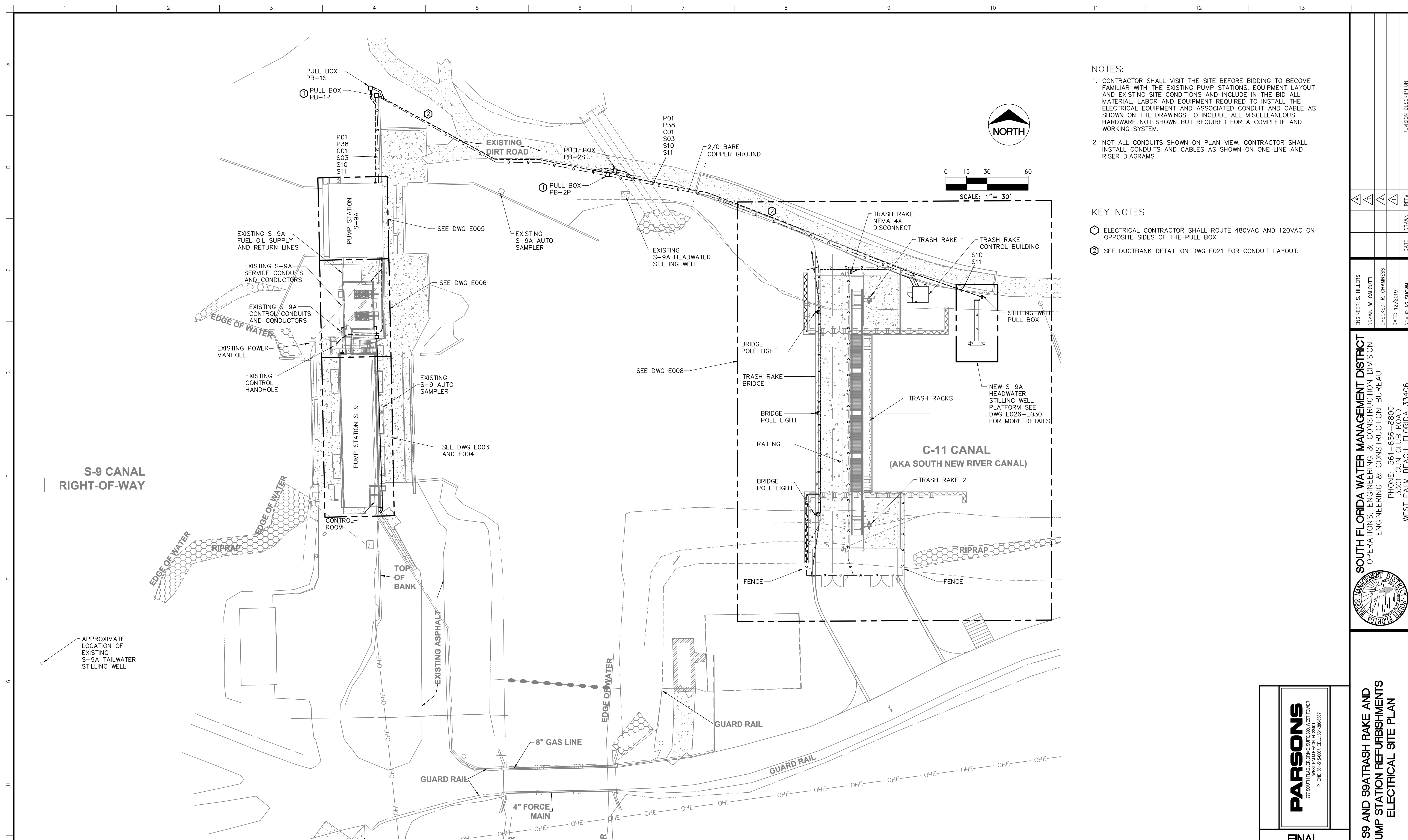
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NOTE:
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ENGINEER: S. HOYOS	DATE: 12/2019	SCALE: AS SHOWN
DRAWN: D. HEAR	CHECKED: L. GUNDEL	DATE: 12/2019
<p>SOUTH FLORIDA WATER MANAGEMENT DISTRICT OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION ENGINEERING & CONSTRUCTION BUREAU PHONE: 561-686-8800 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406</p>		
<p>S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS SOUTH ACCESS ROAD PLAN AND PROFILE</p>		
PROJECT ID NO. 100884	DRAWING NUMBER C007	SHEET 20 of 109
<p>ENGINEER OF RECORD: SERGIO HOYOS, P.E. FLORIDA P.E. LICENSE NO. 71781</p>		
<p>DATE:</p>		



- NOTES:**
- CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING TO BECOME FAMILIAR WITH THE EXISTING PUMP STATIONS, EQUIPMENT LAYOUT AND EXISTING SITE CONDITIONS AND INCLUDE IN THE BID ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO INSTALL THE ELECTRICAL EQUIPMENT AND ASSOCIATED CONDUIT AND CABLE AS SHOWN ON THE DRAWINGS TO INCLUDE ALL MISCELLANEOUS HARDWARE NOT SHOWN BUT REQUIRED FOR A COMPLETE AND WORKING SYSTEM.
 - NOT ALL CONDUITS SHOWN ON PLAN VIEW. CONTRACTOR SHALL INSTALL CONDUITS AND CABLES AS SHOWN ON ONE LINE AND RISER DIAGRAMS

- KEY NOTES**
- ELECTRICAL CONTRACTOR SHALL ROUTE 480VAC AND 120VAC ON OPPOSITE SIDES OF THE PULL BOX.
 - SEE DUCTBANK DETAIL ON DWG E021 FOR CONDUIT LAYOUT.

ELECTRICAL SITE PLAN
SCALE: 1" = 30.0'

HILLERS ELECTRICAL ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4886 FAX
LICENSE NO: EB 0006877

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ENGINEER: S. HILLERS	DATE: 12/2019	SCALE: AS SHOWN
DRAWN: W. CALOUTI	CHECKED: R. CHAMNESS	DATE: 12/2019
SOUTH FLORIDA WATER MANAGEMENT DISTRICT OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION ENGINEERING & CONSTRUCTION BUREAU PHONE: 561-686-8800 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		

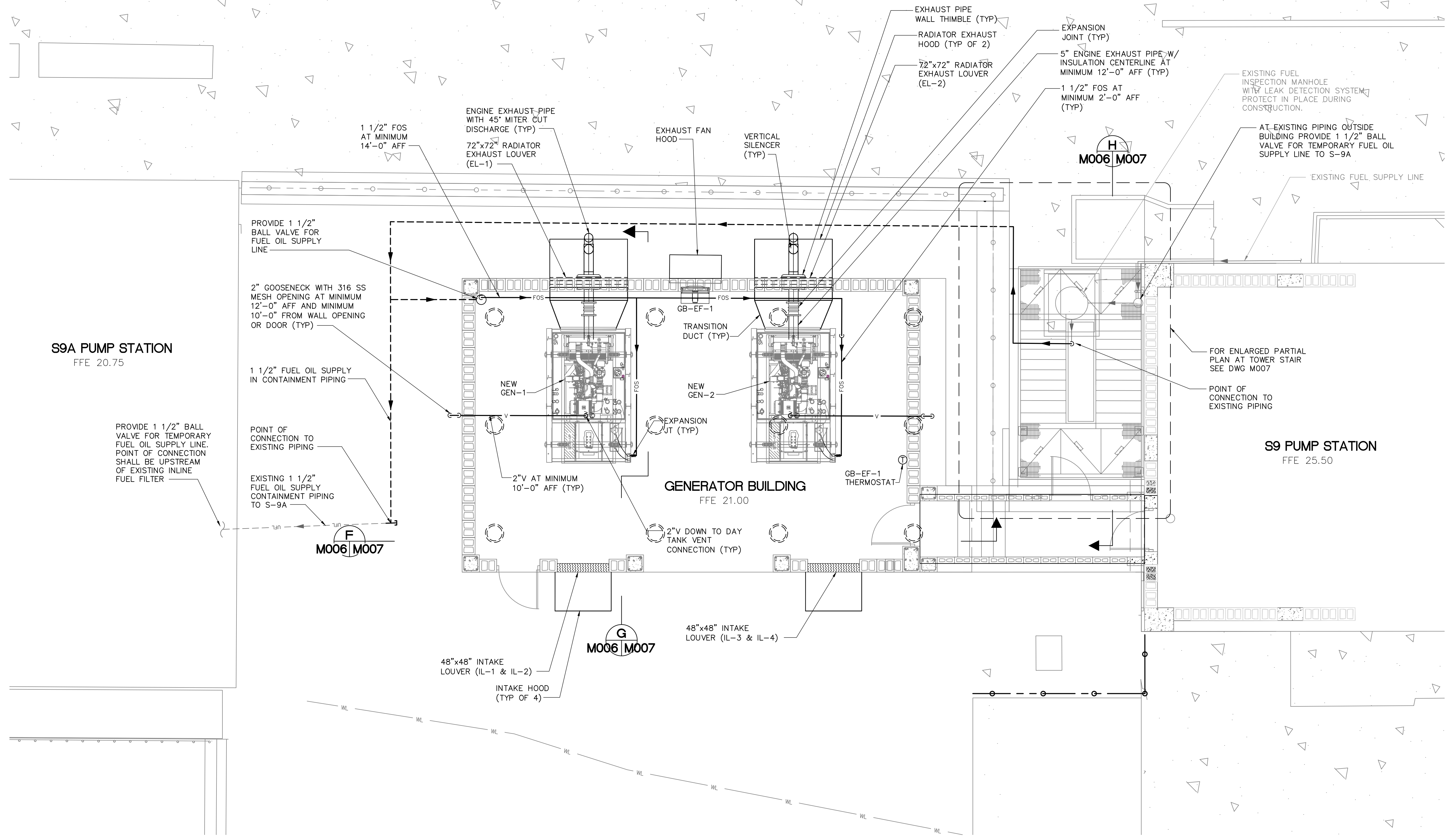
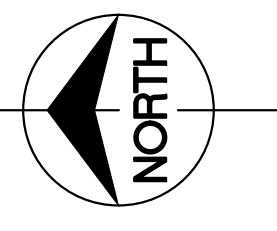
777 SOUTH FLAGLER DRIVE, SUITE 800, WEST TOWER
BOCA RATON, FLORIDA 33432
PHONE: 561-575-6607, CELL: 561-586-6867

FINAL

ENGINEER OF RECORD: SHAWN P. HILLERS
FLORIDA P.E. LICENSE NO: 69766

S9 AND S9A TRASH RAKE AND PUMP STATION REFRUBISHMENTS ELECTRICAL SITE PLAN

PROJECT ID NO. 100884
DRAWING NUMBER **E002**
SHEET **82** OF **110**



S9A PUMP STATION
FFE 20.75

S9 PUMP STATION
FFE 25.50

GENERATOR BUILDING
FFE 21.00

GENERATOR BLDG MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

NOTES:


1. DAY TANK VENT PIPING SHALL HAVE A MINIMUM 1/4" PER FOOT DESCENDING SLOPE TOWARD DAY TANK.
2. GENERATOR EXHAUST PIPING SHALL HAVE A MINIMUM 1/4" PER FOOT DESCENDING SLOPE TOWARD SILENCER INLET.
3. NEW CONTAINMENT PIPING SHALL HAVE A MINIMUM 1/4" PER FOOT DESCENDING SLOPE TOWARD EXISTING FUEL INSPECTION MANHOLE.
4. PROVIDE MANUAL AIR VENT AT HIGH POINTS OF FUEL OIL SUPPLY PIPING.
5. RE-USE EXISTING LEAK DETECTION SYSTEM IN FUEL INSPECTION MANHOLE AT BOTTOM OF STAIRS BETWEEN S9 PUMP STATION AND NEW GENERATOR BUILDING.
6. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DISTRICT STAFF TO WITNESS FINAL ALIGNMENT AND TERMINATION OF GENERATOR EXHAUST PIPING.
7. EXISTING GENERATOR FUEL LINES AT S9 AND S9A SHALL BE CAPPED OFF AFTER NEW GENERATORS ARE FULLY OPERATIONAL.

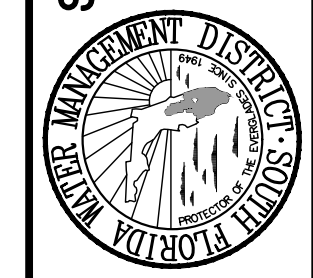
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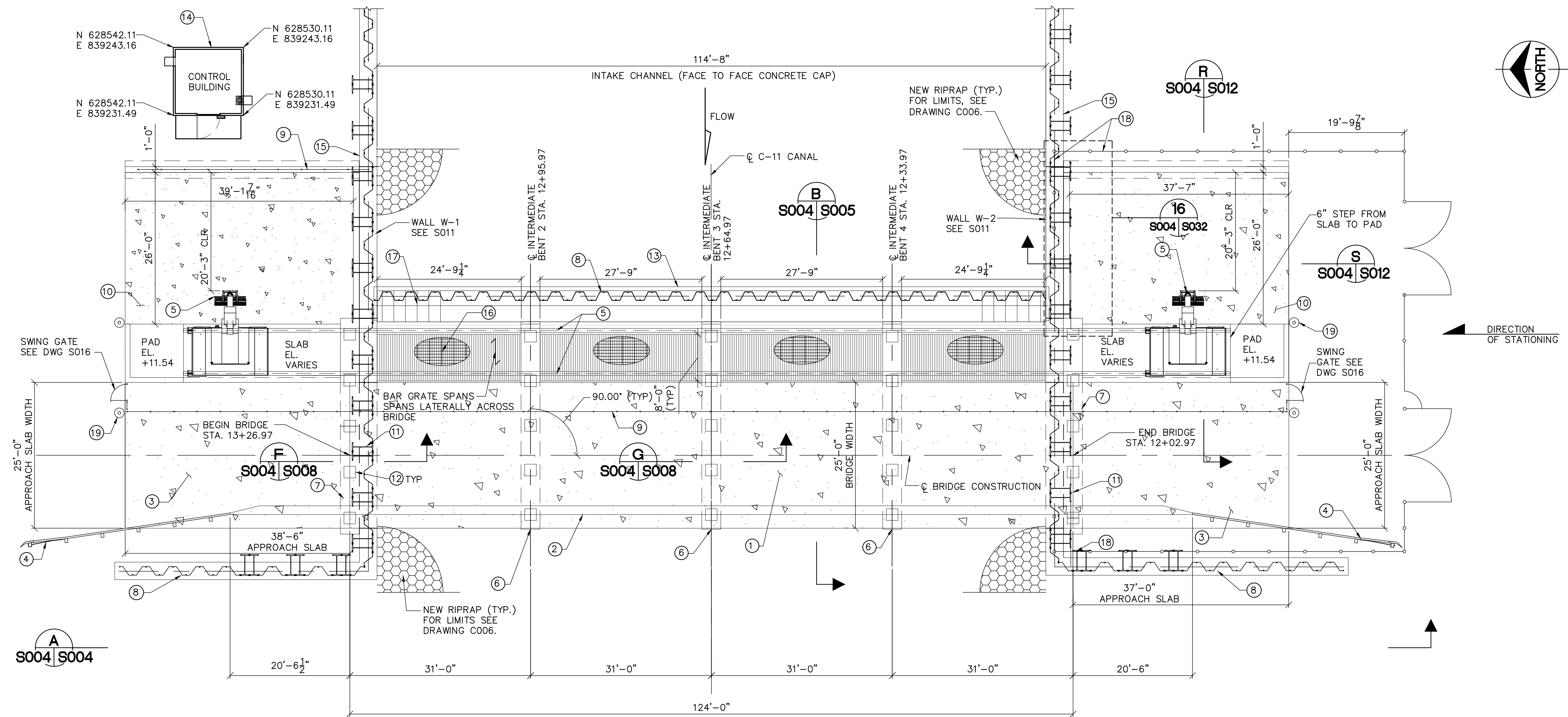
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ENGINEER: T. PERALTA	ENGINEER OF RECORD:	 <p>PARSONS 777 SOUTH FLAGLER DRIVE, SUITE 600, WEST TOWER WEST PALM BEACH, FL 33411 PHONE: 561-686-8800 FAX: 561-686-8807 CERTIFICATE OF AUTHORIZATION NO. 9891</p>	<p>FINAL</p>
DRAWN: S. FERRER	TROY PERALTA, P.E. FLORIDA P.E. LICENSE NO. 58138		
CHECKED: M. COLLARIN	PROJECT ID NO.	S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS GENERATOR BUILDING PLAN	
DATE: 12/2019	100884	DRAWING NUMBER	
SCALE: AS SHOWN	M006	SHEET	
REVISION DESCRIPTION	74 of 109	DATE:	



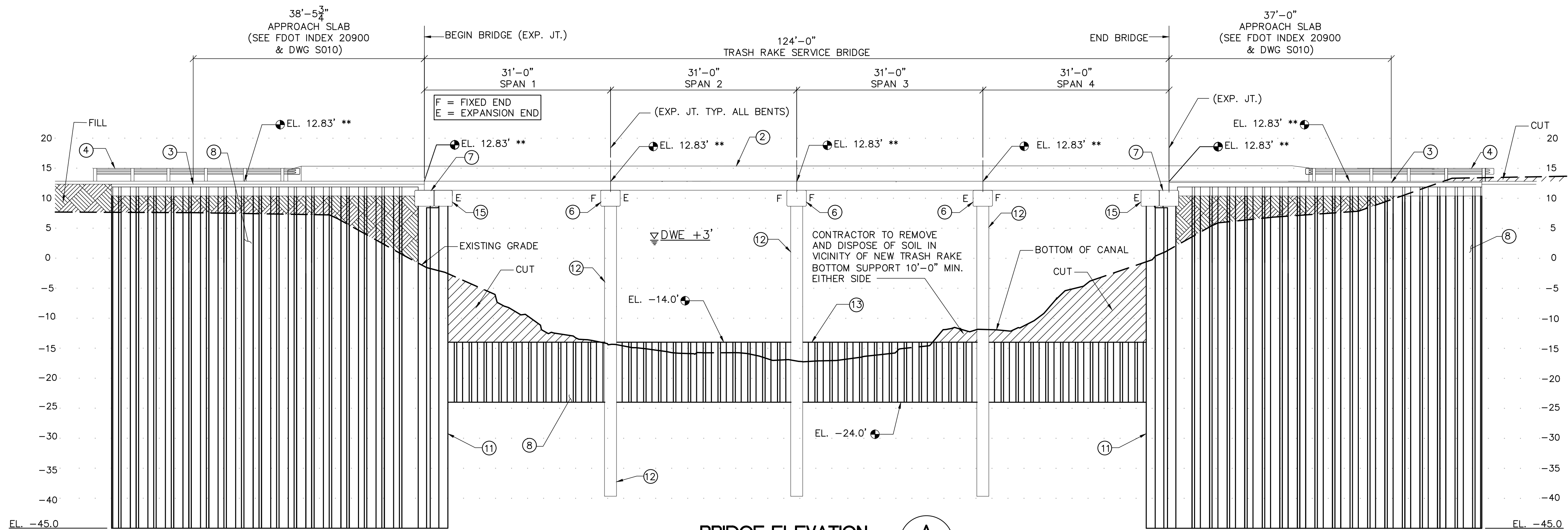
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ECOSYSTEM RESTORATION AND CAPITAL PROJECTS DIVISION
ENGINEERING & CONSTRUCTION BUREAU
PHONE: 561-686-8800
3301 GUN CLUB ROAD
WEST PALM BEACH, FLORIDA 33406

PROJECT ID NO. 100884
DRAWING NUMBER M006
SHEET 74 of 109



BRIDGE PLAN VIEW
SCALE: 3/32" = 1'-0"

- KEY NOTES**
- 1 SERVICE BRIDGE
 - 2 TRAFFIC RAILING (FDOT INDEX 420)
 - 3 APPROACH SLAB (FDOT INDEX 20900)
 - 4 GUARDRAIL (FDOT INDEX 400)
 - 5 HCS TRASH RACK & RAKE SYSTEM
 - 6 INTERMEDIATE BENT CAP
 - 7 END BENT
 - 8 AZ SHEET PILE WALL
 - 9 RAILING (SEE DWG S016)
 - 10 DISPOSAL AREA - CONC. SLAB
 - 11 HZM-AZ SHEET PILE WALL
 - 12 24" SQ. CONC. PILE, (SEE SPECIFICATIONS & FDOT INDEX 20624)
 - 13 TRASH RAKE UNIT BOTTOM SUPPORT
 - 14 PRECAST CONC. CONTROL BLDG.
 - 15 HZM-AZ SHEET PILE WALL CAP
 - 16 2" FALL PROTECTION GRATING
 - 17 BAR SCREEN FOR TRASH RAKE SYSTEM
 - 18 CHAIN LINK FENCE (SEE DWG C011)
 - 19 BOLLARD (DETAIL 62/S016)



BRIDGE ELEVATION
SCALE: 3/32" = 1'-0" **A**
S004 S004

TRASH RACKS ON OPPOSITE SIDE (NOT SHOWN FOR CLARITY)
** CENTERLINE BRIDGE CONSTRUCTION ELEVATION

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Sunshine811.com

PARSONS
777 SOUTH FLAGLER DRIVE, SUITE 600, WEST TOWER
WEST PALM BEACH, FL 33411
PHONE: 561-686-8800
FAX: 561-686-8807
CERTIFICATE OF AUTHORIZATION NO. 9891

FINAL

ENGINEER OF RECORD:
SAM PHAN, P.E.
FLORIDA P.E. LICENSE NO. 54072

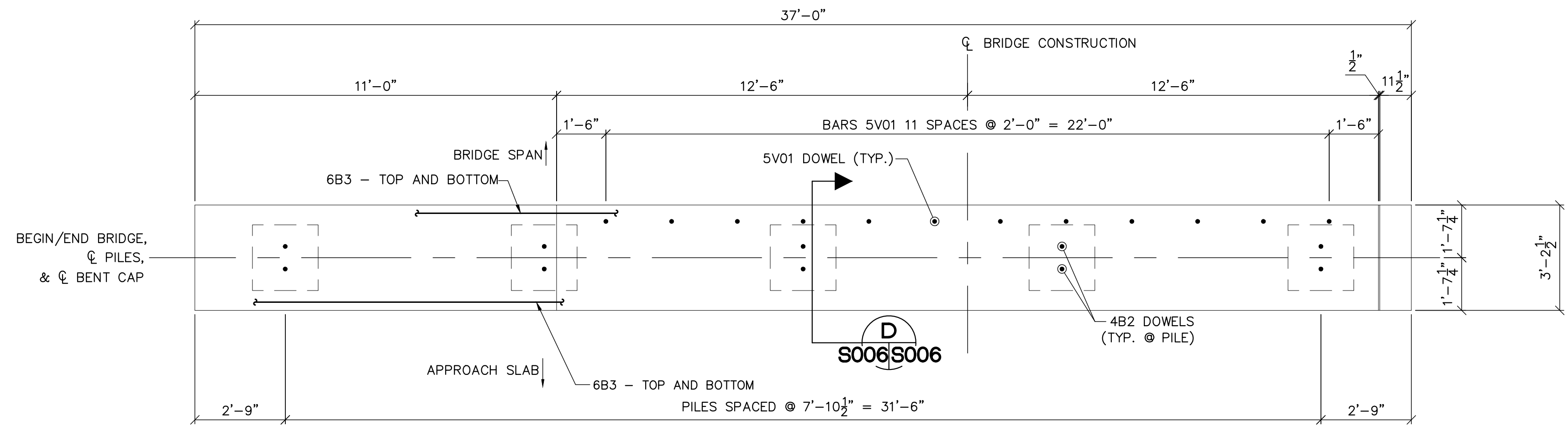
S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS BRIDGE PLAN AND ELEVATION

PROJECT ID NO. 100884
DRAWING NUMBER **S004**
SHEET **33 of 109**

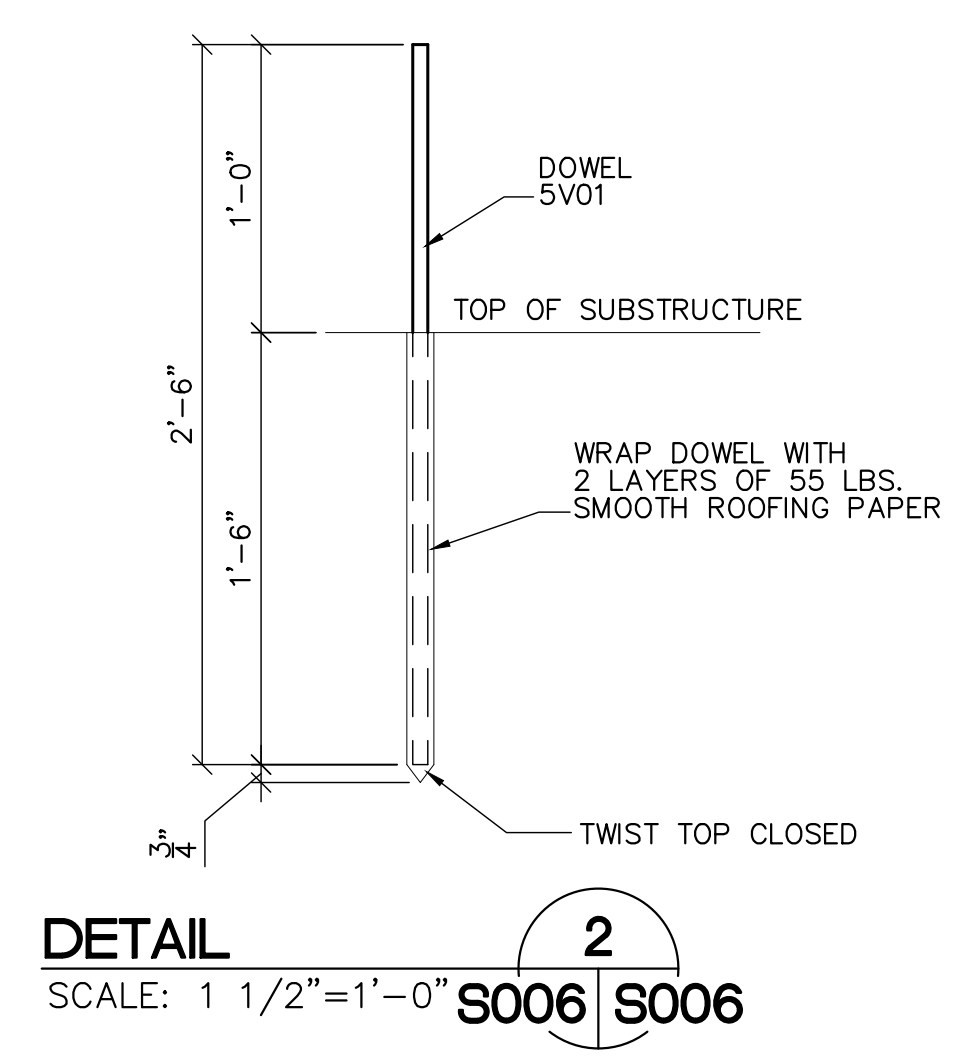
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING & CONSTRUCTION BUREAU
PHONE: 561-686-8800
3301 GUN CLUB ROAD
WEST PALM BEACH, FLORIDA 33406

ENGINEER: D. DELK
DRAWN: D. DELK
CHECKED: S. PHAN
DATE: 12/2019
SCALE: AS SHOWN

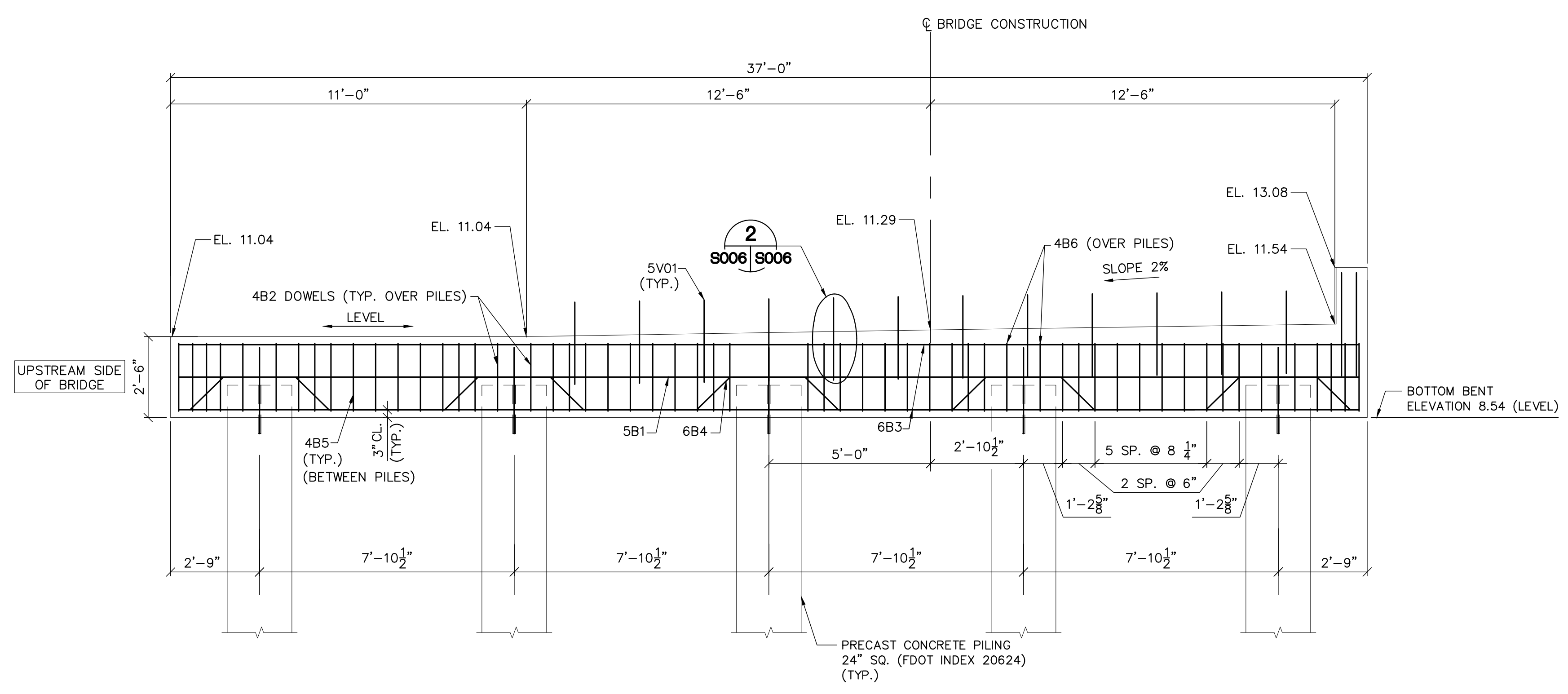
REVISION DESCRIPTION
REF #
DATE
DRAWN



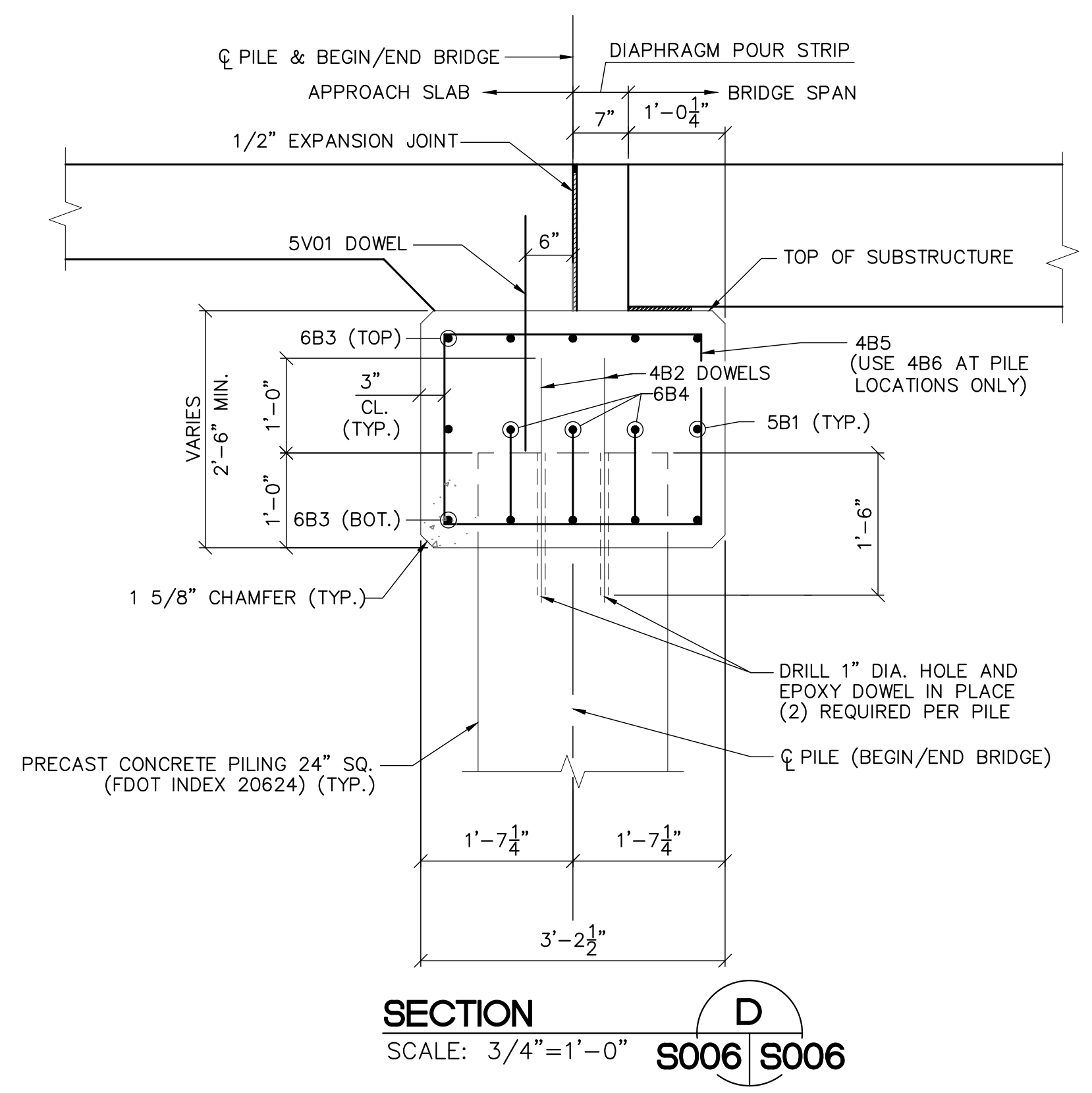
PLAN - END BENTS
SCALE: 3/8"=1'-0"



DETAIL 2
SCALE: 1 1/2"=1'-0" S006/S006



ELEVATION - END BENTS
SCALE: 3/8"=1'-0"
LOOKING SOUTH



SECTION D
SCALE: 3/4"=1'-0" S006/S006

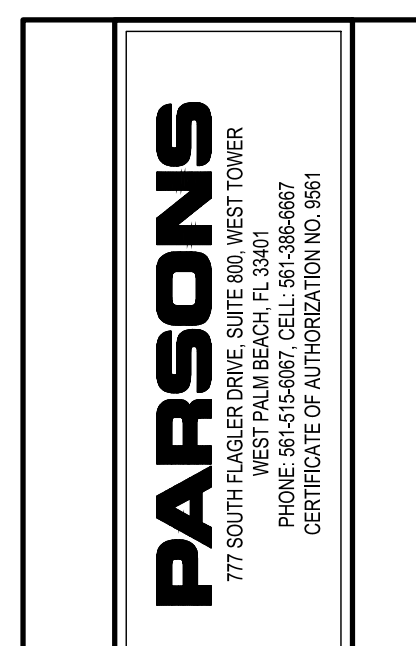


NOTE:
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ENGINEER: D. DELK	OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION
DRAWN: D. DELK	ENGINEERING & CONSTRUCTION BUREAU
CHECKED: S. PHAN	PHONE: 561-686-8800
DATE: 12/2019	3301 GUN CLUB ROAD
SCALE: AS SHOWN	WEST PALM BEACH, FLORIDA 33406

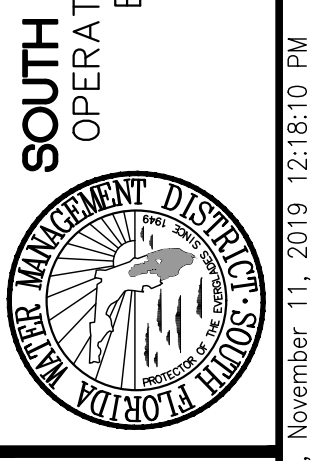
PROJECT ID NO. 100884	DRAWING NUMBER S006
SHEET 35 OF 109	DATE:



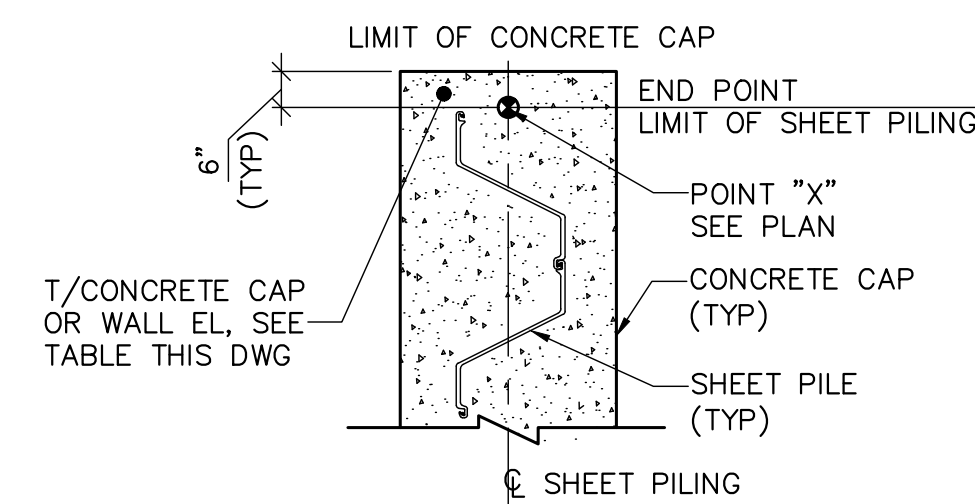
FINAL

ENGINEER OF RECORD:
SAM PHAN, P.E.
FLORIDA P.E. LICENSE NO. 54072

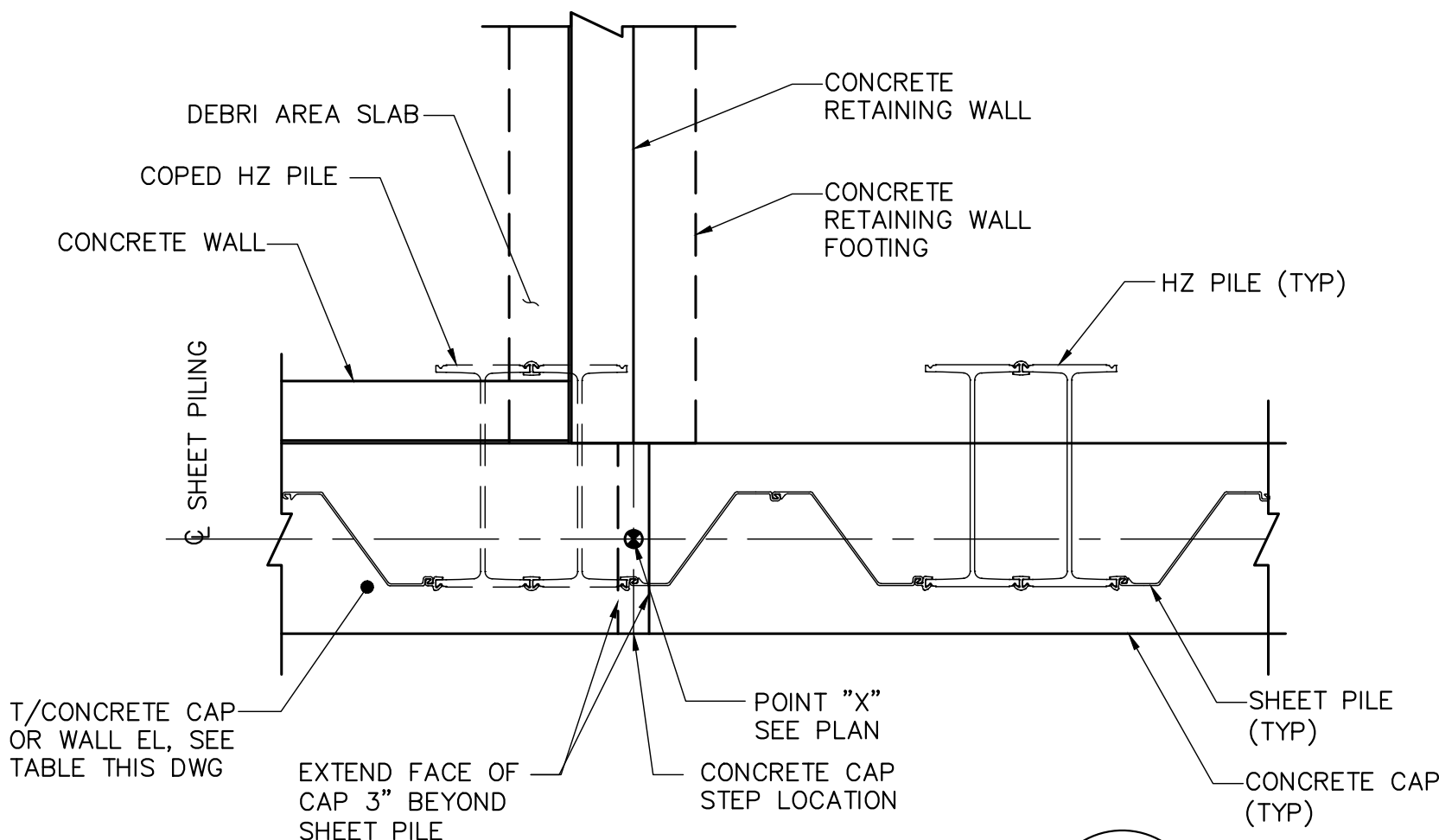
S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS
END BENT PLAN, ELEVATION AND SECTIONS



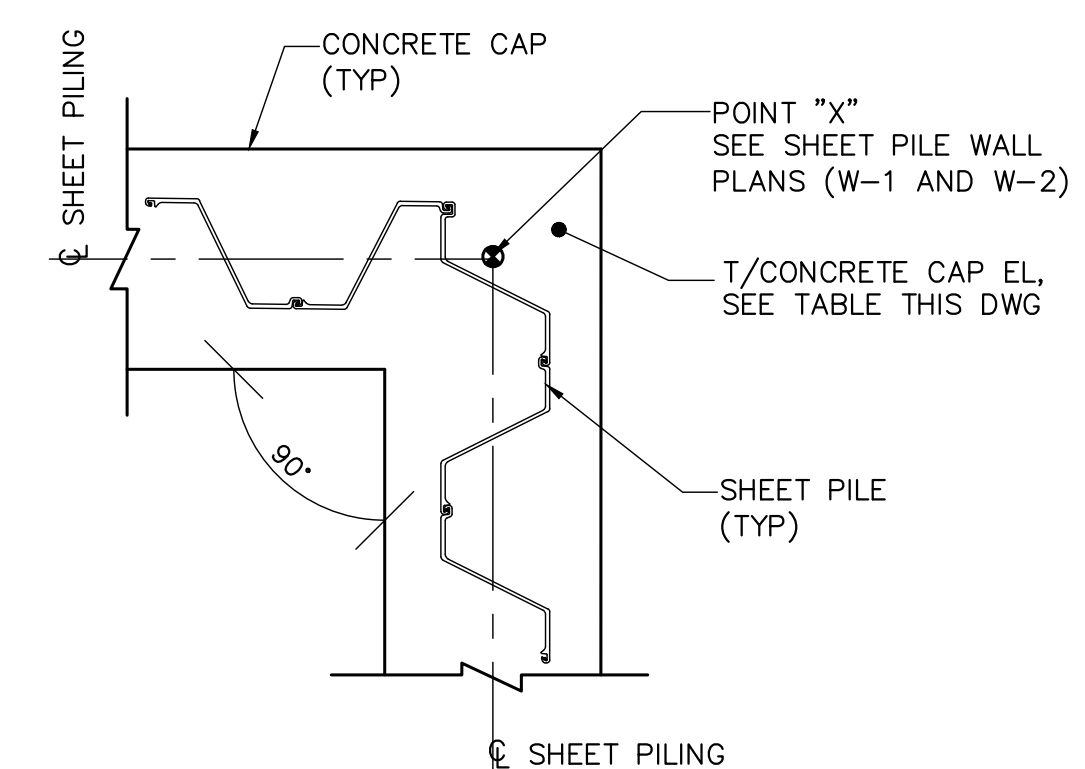
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING & CONSTRUCTION BUREAU



TYPICAL END DETAIL 59
NOT TO SCALE



TYPICAL INTERSECTION DETAIL 61
NOT TO SCALE



TYPICAL CORNER DETAIL 60
NOT TO SCALE

SHEET PILE WALL TIP ELEVATIONS

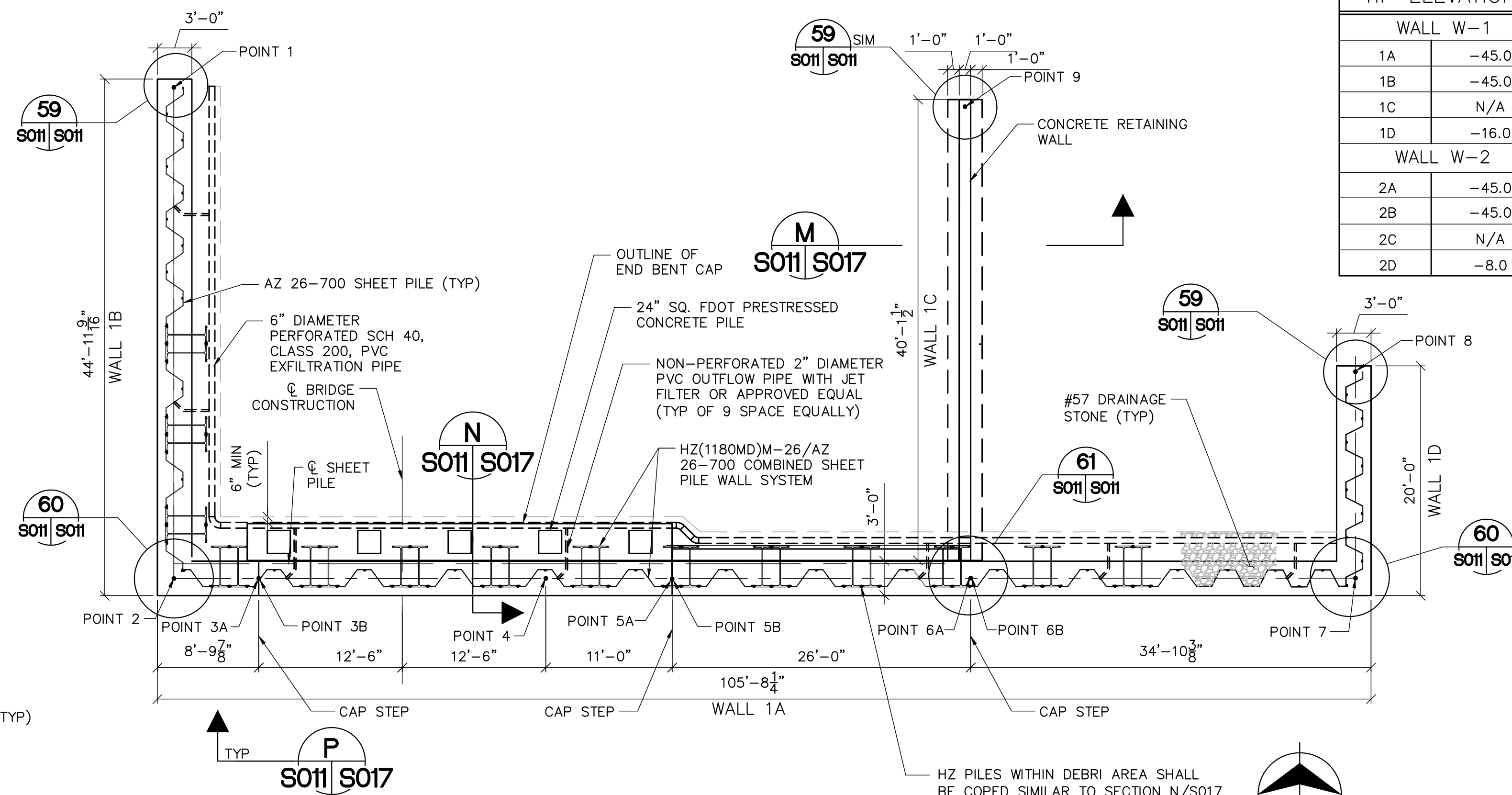
WALL W-1	
1A	-45.0
1B	-45.0
1C	N/A
1D	-16.0
WALL W-2	
2A	-45.0
2B	-45.0
2C	N/A
2D	-8.0

SHEET PILE NOTES:

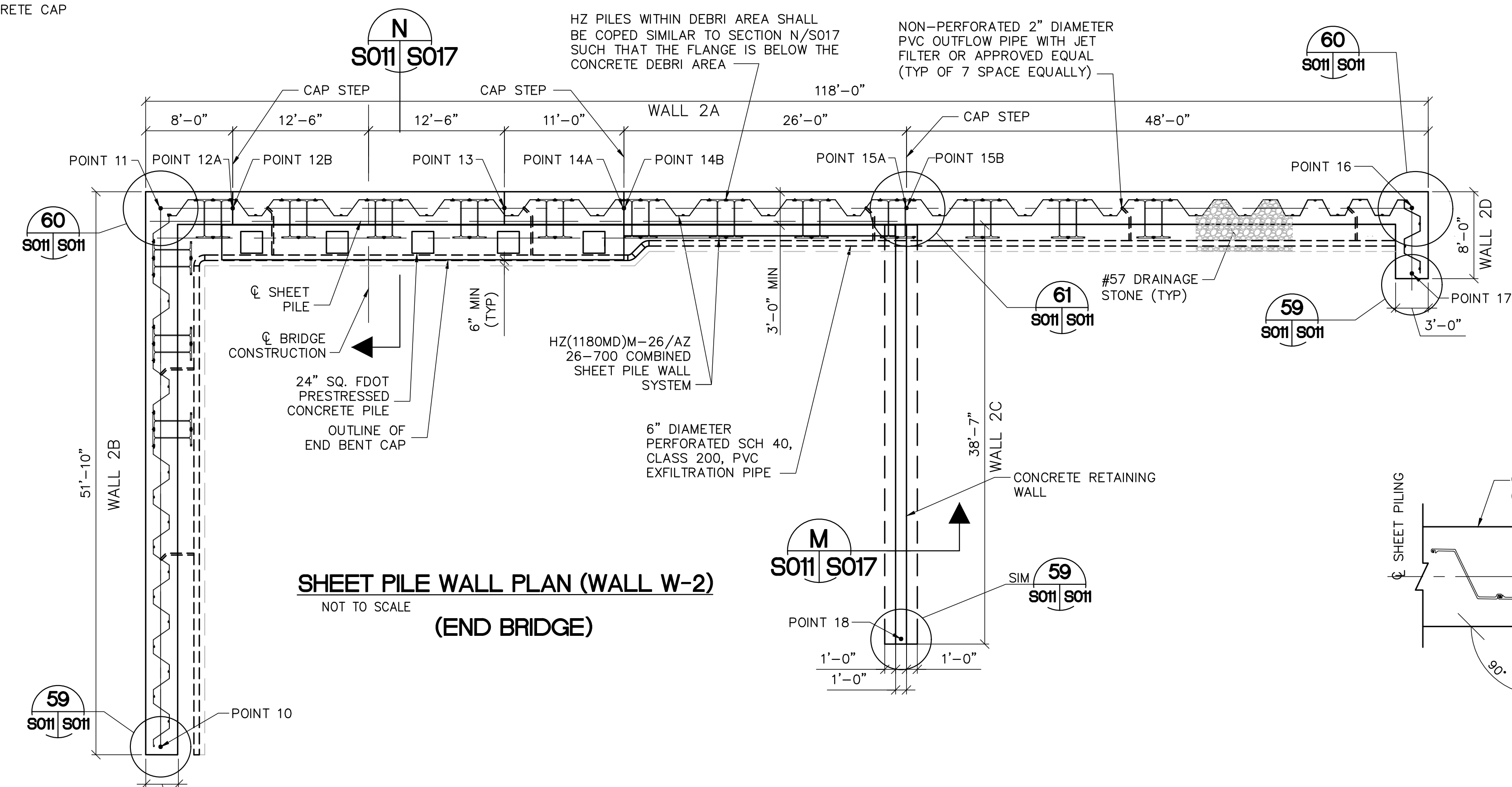
- 1) SHEET PILES SHALL BE OR EQUAL.
 - A) HZ(1180M)M-26/AZ 26-700 COMBINED SHEET PILE WALL SYSTEM
 - B) AZ 26-700 SHEET PILE
- 2) PREFORMING WILL BE NEEDED IN ORDER TO FACILITATE THE INSTALLATION OF SHEETING. THE CONTRACTOR SHALL HAVE SPECIAL EQUIPMENT AND/OR METHODS (I.E. CORE BARRELS, ROCK AUGERS, PUNCHES, DRILL BITS, ETC.) AS NEEDED TO FACILITATE SHEET PILE PREFORMING.
- 3) ALL ELEVATIONS ARE AT TOP OF CONCRETE CAP.
- 4) SHEET PILE WALL CUT-OFF ELEVATION IS 1'-6" BELOW TOP OF CAP ELEVATION.
- 5) #57 DRAINAGE STONE SHALL BE PER DISTRICT STANDARD.
- 6) SHEET PILE SHALL PROVIDE CONSTANT INTERLOCK THROUGHOUT THE ENTIRE LENGTH OF THE WALL WHEN IN PLACE.
- 7) PROVIDE TEMPORARY BRACING FOR SHEET PILING WALL PRIOR TO START OF BACKFILLING OPERATION. BRACING SHALL REMAIN IN PLACE UNTIL BACKFILLING IS IN PLACE.
- 8) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DATA FOR THE LAYOUT, TYPE AND DIMENSIONS OF THE SELECTED PILING. CONTRACTOR SHALL NOT ORDER DELIVERY PRIOR TO RECEIVING WRITTEN APPROVAL FROM THE ENGINEER.
- 9) SHEET PILE WALLS DESIGNED FOR 500 PSF SURCHARGE LOADING.

SHEET PILE WALL LAYOUT

CENTERLINE WORK POINT	NORTHING	EASTING	TOP OF CONCRETE CAP EL.
WALL W-1			
1	628551.43	839153.33	11.54
2	628508.68	839153.33	11.54
3A	628508.68	839160.72	11.54
3B	628508.68	839160.72	11.04
4	628508.68	839185.72	11.04
5A	628508.68	839196.72	12.58
5B	628508.68	839196.72	12.58
6A	628508.68	839222.72	12.58
6B	628508.68	839222.72	8.50
7	628508.68	839256.22	8.50
8	628526.69	839256.22	8.50
9	628549.88	839222.22	12.58
WALL W-2			
10	628341.43	839154.09	13.08
11	628391.01	839154.09	13.08
12A	628391.01	839160.72	13.08
12B	628391.01	839160.72	11.54
13	628391.01	839185.72	11.04
14A	628391.01	839196.72	11.04
14B	628391.01	839196.72	12.58
15A	628391.01	839222.72	12.58
15B	628391.01	839222.72	8.50
16	628391.01	839269.22	8.50
17	628385.02	839269.22	8.50
18	628351.38	839222.22	12.58



SHEET PILE WALL PLAN (WALL W-1)
NOT TO SCALE
(BEGIN BRIDGE)



SHEET PILE WALL PLAN (WALL W-2)
NOT TO SCALE
(END BRIDGE)

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PARSONS
777 SOUTH FLAGLER DRIVE, SUITE 800, WEST TOWER
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PHONE: 561-686-8800
FAX: 561-686-8801
CERTIFICATE OF AUTHORIZATION NO. 9891

FINAL

ENGINEER OF RECORD:
SAM PHAN, P.E.
FLORIDA P.E. LICENSE NO. 54072

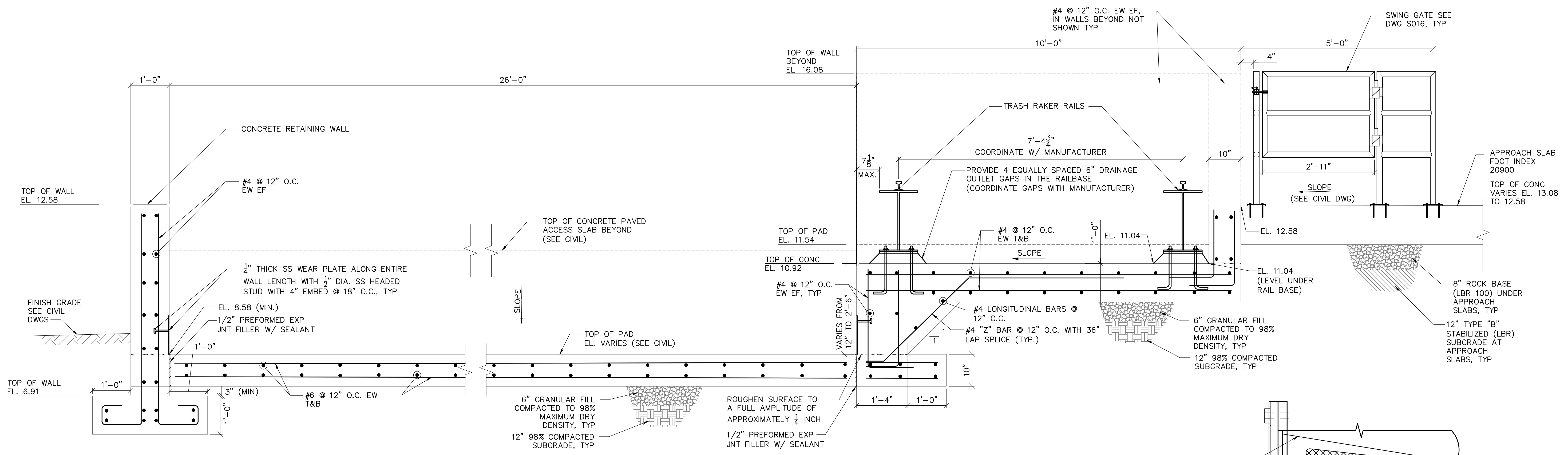
S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS SHEET PILE WALL DETAILS

PROJECT ID NO. 100884
DRAWING NUMBER **S011**
SHEET **40 of 109**

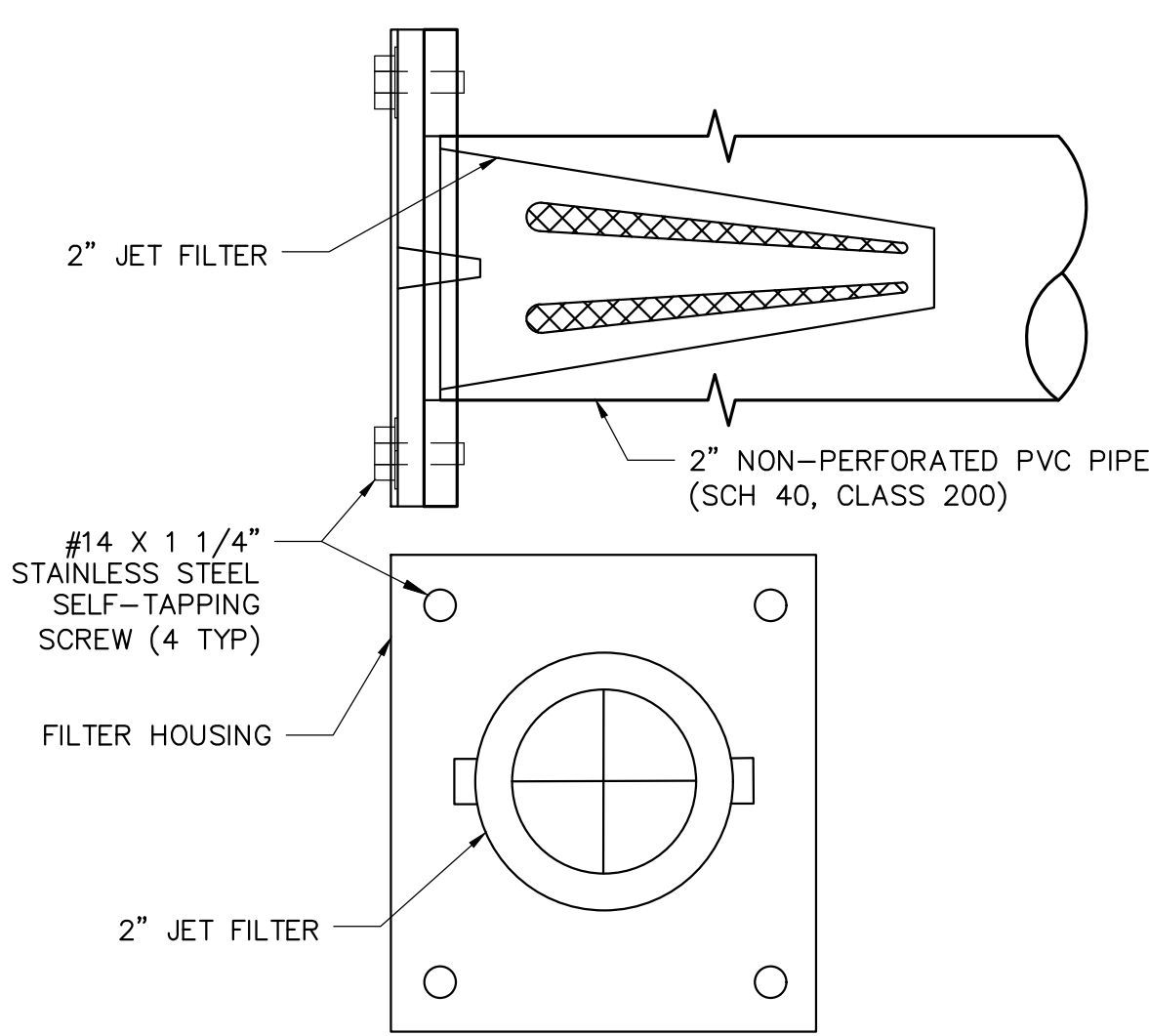
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING & CONSTRUCTION BUREAU
PHONE: 561-686-8800
3301 GUN CLUB ROAD
WEST PALM BEACH, FLORIDA 33406

ENGINEER: D. DELK
DRAWN: D. DELK
CHECKED: S. PHAN
DATE: 12/2019
SCALE: AS SHOWN

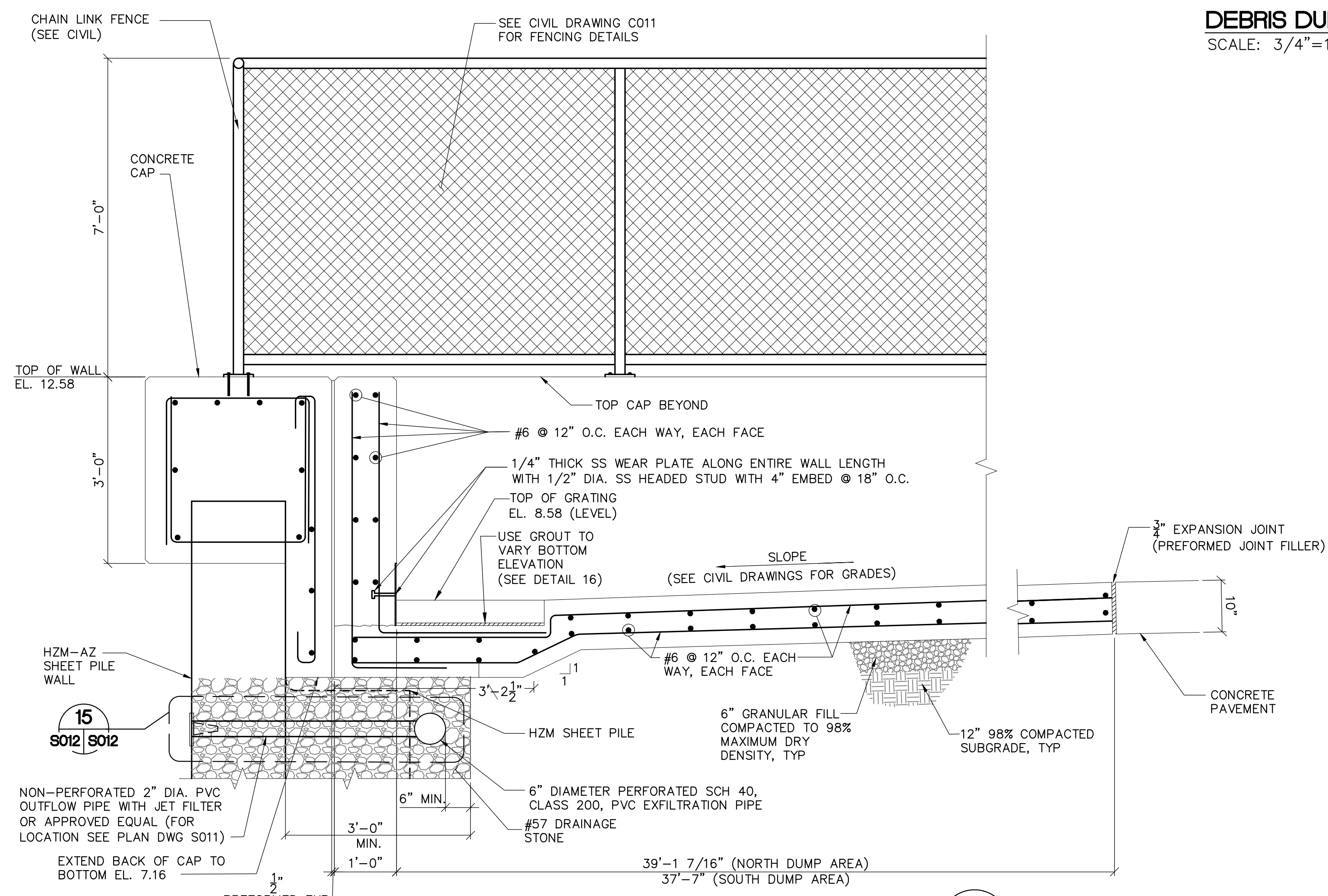
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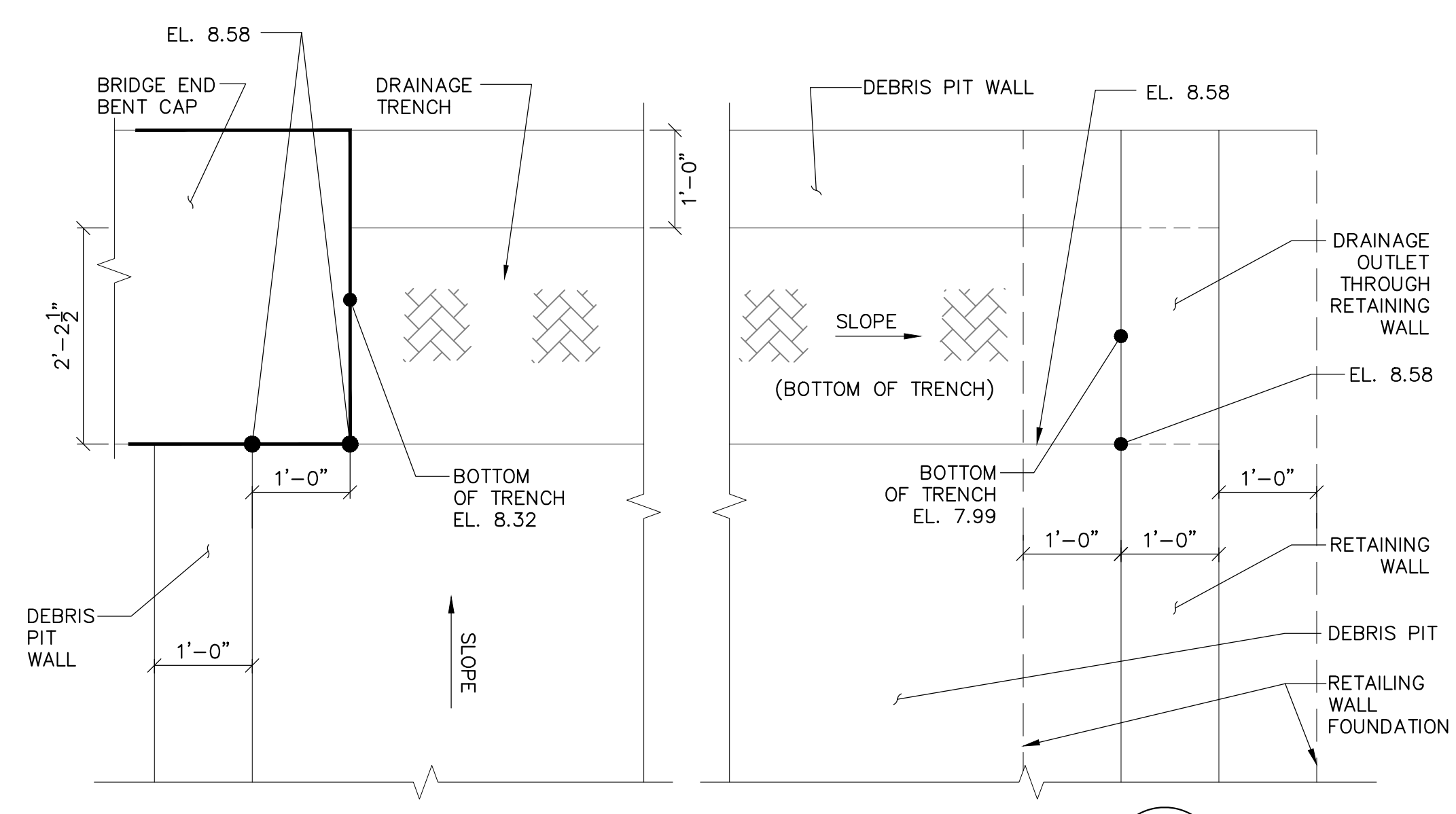
DEBRIS DUMP AREA TYPICAL SECTION
SCALE: 3/4"=1'-0"
R
S004 S012



PIPE WALL PENETRATION DETAIL
NOT TO SCALE
15
S012 S012



DEBRIS DUMP AREA LONGITUDINAL SECTION
SCALE: 3/4"=1'-0"
S
S004 S012



DEBRIS PIT DRAINAGE DETAIL
SCALE: 3/4"=1'-0"
16
S004 S012

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DRAWN: D. BELK	ENGINEERING & CONSTRUCTION BUREAU
CHECKED: S. PHAN	PHONE: 561-686-8800
DATE: 12/2019	3301 GUN CLUB ROAD
SCALE: AS SHOWN	WEST PALM BEACH, FLORIDA 33406

PROJECT ID NO. 100884
DRAWING NUMBER S012
SHEET 41 of 109

REVISION DESCRIPTION



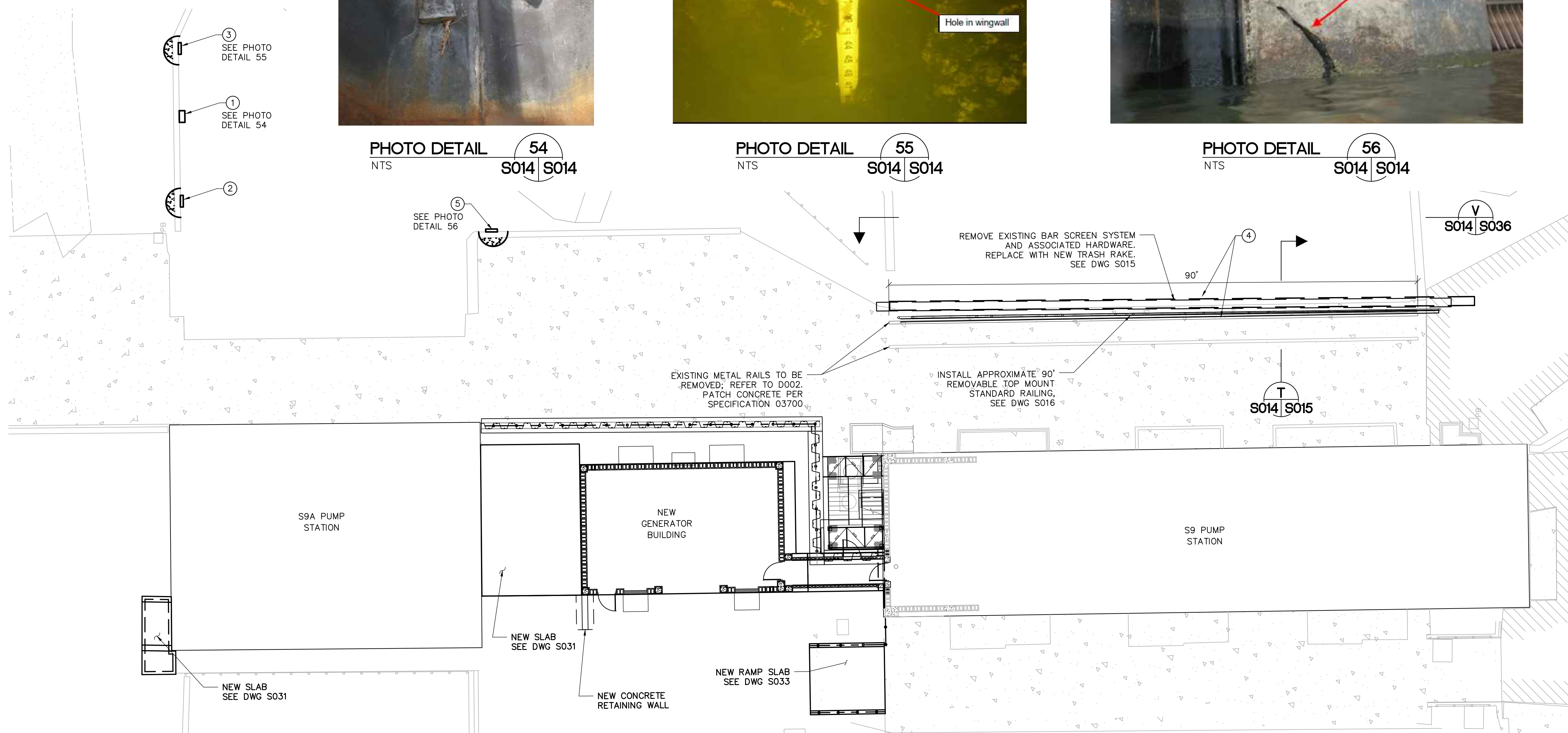
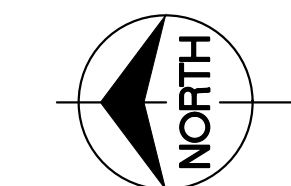
PHOTO DETAIL 54
NTS S014 S014



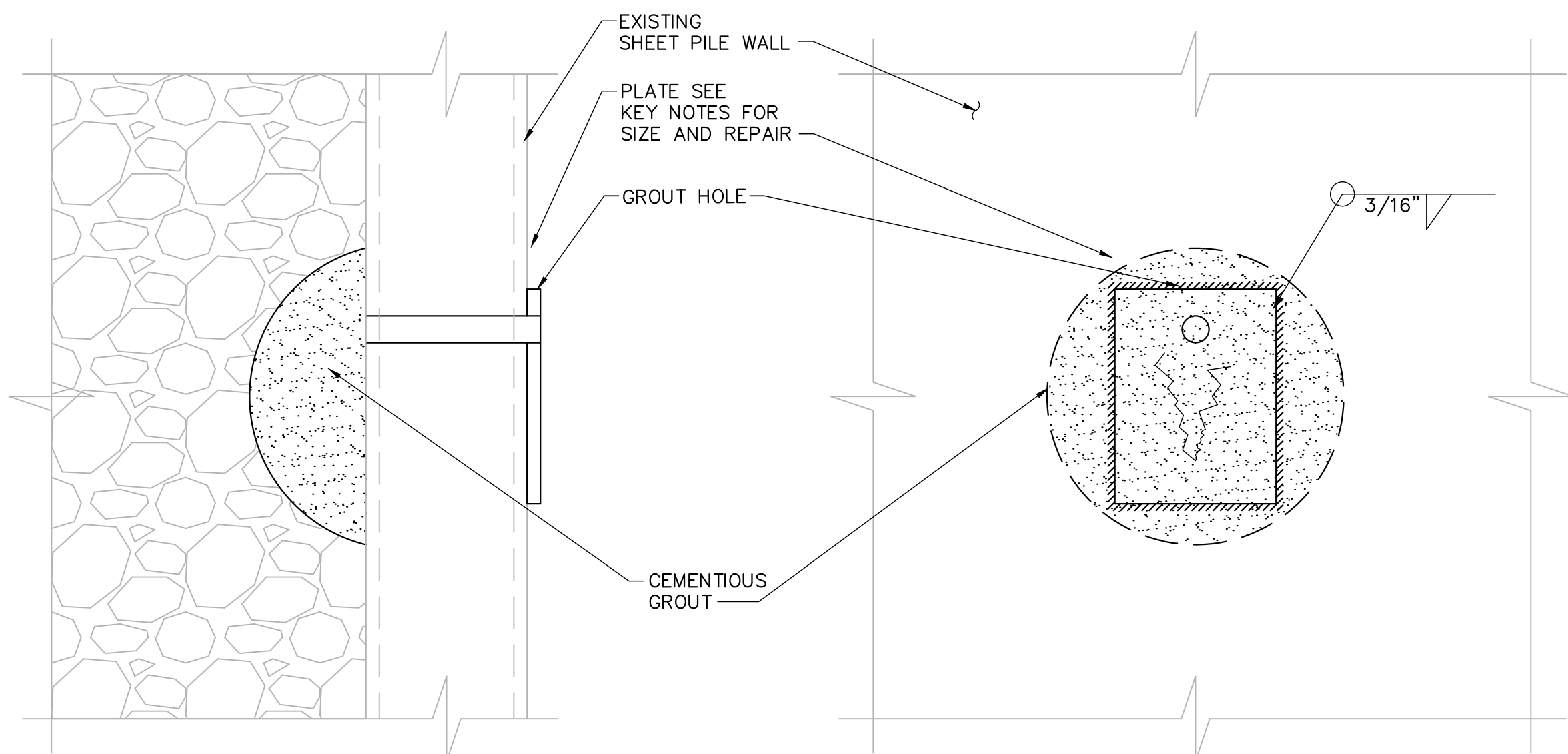
PHOTO DETAIL 55
NTS S014 S014



PHOTO DETAIL 56
NTS S014 S014



STRUCTURAL REHABILITATION PLAN
SCALE: 1" = 20'



SHEET PILE WALL CRACK AND SEEPAGE REPAIR DETAIL 57
SCALE: NTS S014 S014

KEY NOTES		
MARK	DESCRIPTION	REMARKS
①	MISSING WALER TIE BACK PLATE (HARDWARE) SEE PHOTO DETAIL 54/S014 THIS SHEET	CONTRACTOR SHALL REPLACE MISSING TIE BACK WALER SEPARATOR PLATE; RECORD DRAWINGS INDICATE THE MISSING WALER PLATE IS A GALVANIZED BAR 3"x3/4"x8" WITH A CENTER HOLE TO PASS A 1 1/8" DIAMETER BOLT. THE BOLT WITHOUT THE ANCHOR SEPARATOR PLATE IS APPROXIMATELY 20' EAST OF THE SHEET PILE ABUTMENT WALL AND APPROXIMATELY 5' ABOVE THE WATERLINE. RECORD DRAWINGS INDICATE THE BOLT TO BE APPROXIMATELY 4' BELOW GRADE ON THE LAND SIDE; POTHOLE AT THE BOLT LOCATION FROM LAND SIDE TO PLACE A NEW 1 1/8" BOLT WITH SUFFICIENT LENGTH TO INSTALL THE NEW 3/4" SEPARATOR PLATE.
②	SEAL SHEET PILE WALL CRACK AND SEEPAGE (PHOTO NOT AVAILABLE) SEE DETAIL 57/S014 THIS SHEET	CONTRACTOR SHALL REPAIR A 9/16"x13" CRACK AT THE BASE OF THE SHEET PILE WALL (PZ-27) LOCATED APPROXIMATELY 65' EAST OF THE SHEET PILE ABUTMENT. THE REPAIR SHALL CONSIST OF WELDING A NEW 12"x16"x3/4" PLATE OVER CRACK POST THE FILLING THE VOID BEHIND THE SHEET PILE WALL WITH MASTERRC MP 355 1K CEMENTITIOUS UNDERWATER PUMPED GROUT
③	SEAL SHEET PILE WALL CRACK AND SEEPAGE SEE PHOTO DETAIL 55 AND DETAIL 57/S014 THIS SHEET	CONTRACTOR SHALL A FLAME CUT 8" HIGH X 1SSP SHEET LONG HOLE AT THE BASE OF THE SHEET PILE WALL (PZ-27) LOCATED APPROXIMATELY 30' EAST OF THE SHEET PILE ABUTMENT. THE REPAIR SHALL CONSIST OF WELDING A NEW 12" HIGH X1SSP SHEET PILE OVER THE FLAME CUT SECTION POST THE FILLING THE VOID BEHIND THE SHEET PILE WALL WITH MASTERRC MP 355 1K CEMENTITIOUS UNDERWATER PUMPED GROUT
④	CONCRETE SURFACE REPAIRS (PHOTO NOT AVAILABLE)	THE EXISTING METAL RAILS TO BE REMOVED FROM THE TOP SURFACE SHALL BE REPAIR PER SPECIFICATION 03700; SEE ALSO CONCRETE SURFACE REPAIR DETAIL 20/S023
⑤	SEAL SHEET PILE WALL CRACK AND SEEPAGE SEE PHOTO DETAIL 56/S014 THIS SHEET	THE CONTRACTOR SHALL REMOVE THE CRACKED PORTION OF THE CONCRETE BACK TO A SOUND SURFACE AND REPAIR SIMILAR TO DETAIL 20 DRAWING S023. CONTRACTOR SHALL SUBMIT A REPAIR SHOP DRAWING AND DETAIL FOR REVIEW AND APPROVAL PRIOR TO MAKING THE REPAIR WITH FIELD VERIFIED DIMENSIONS. THE EXTENT OF THE REPAIR AS THE BASIS OF DESIGN IS 16"x36"x4".

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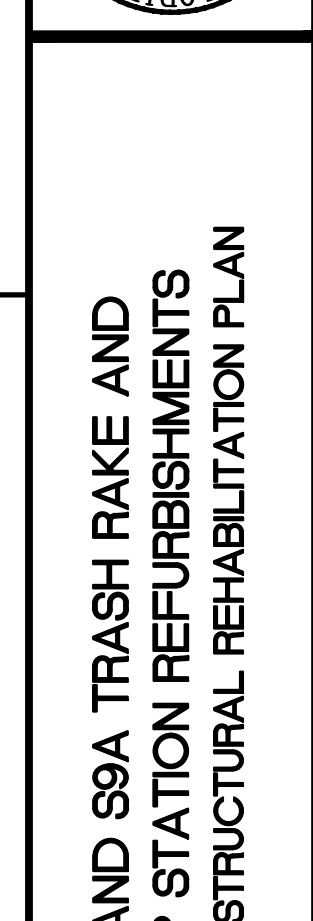
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REVISION	DESCRIPTION	DATE	DRAWN	REF#

ENGINEER: D. DELK
DRAWN: D. DELK
CHECKED: S. PHAN
DATE: 12/2019
SCALE: AS SHOWN

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING & CONSTRUCTION BUREAU
PHONE: 561-686-8800
3301 GUN CLUB ROAD
WEST PALM BEACH, FLORIDA 33406

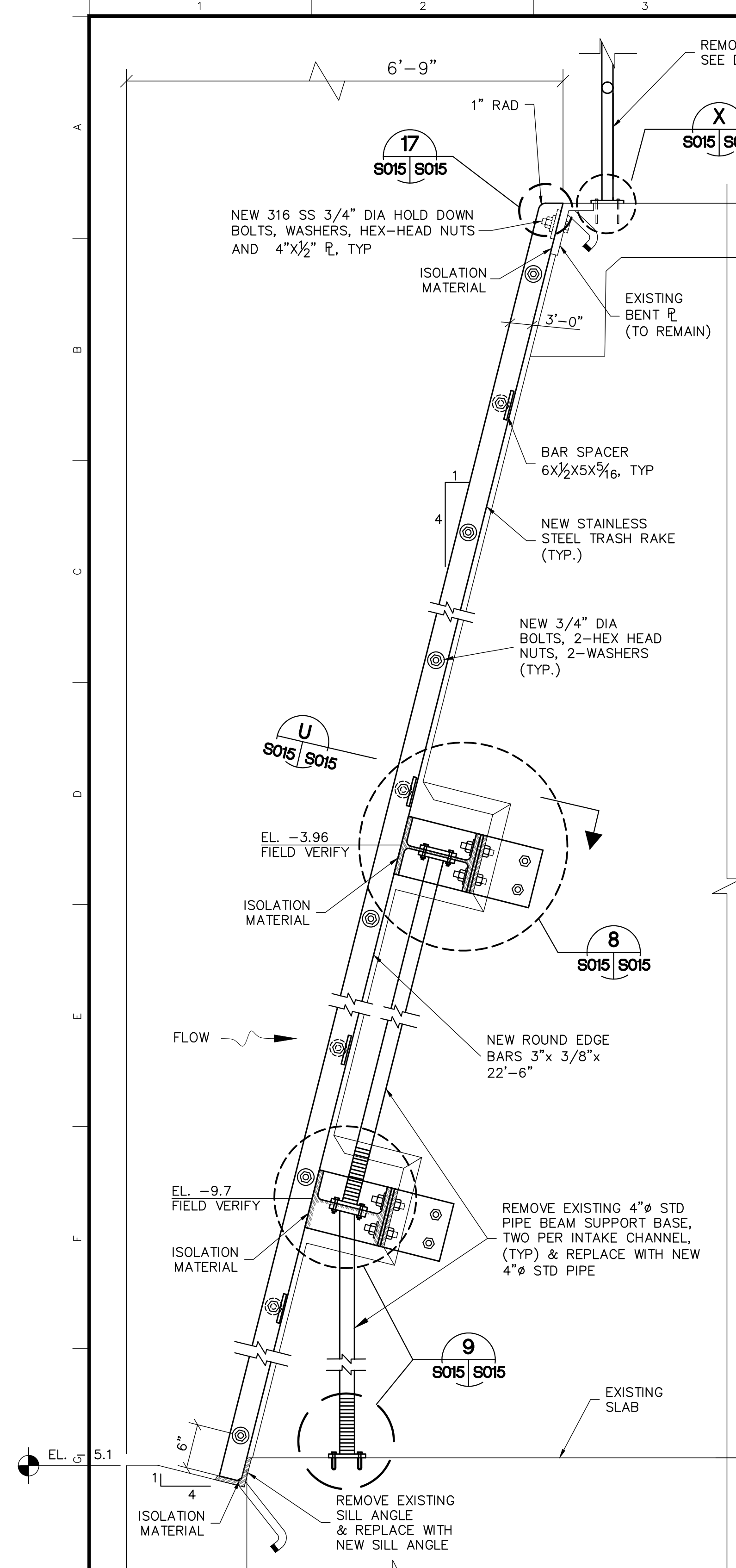


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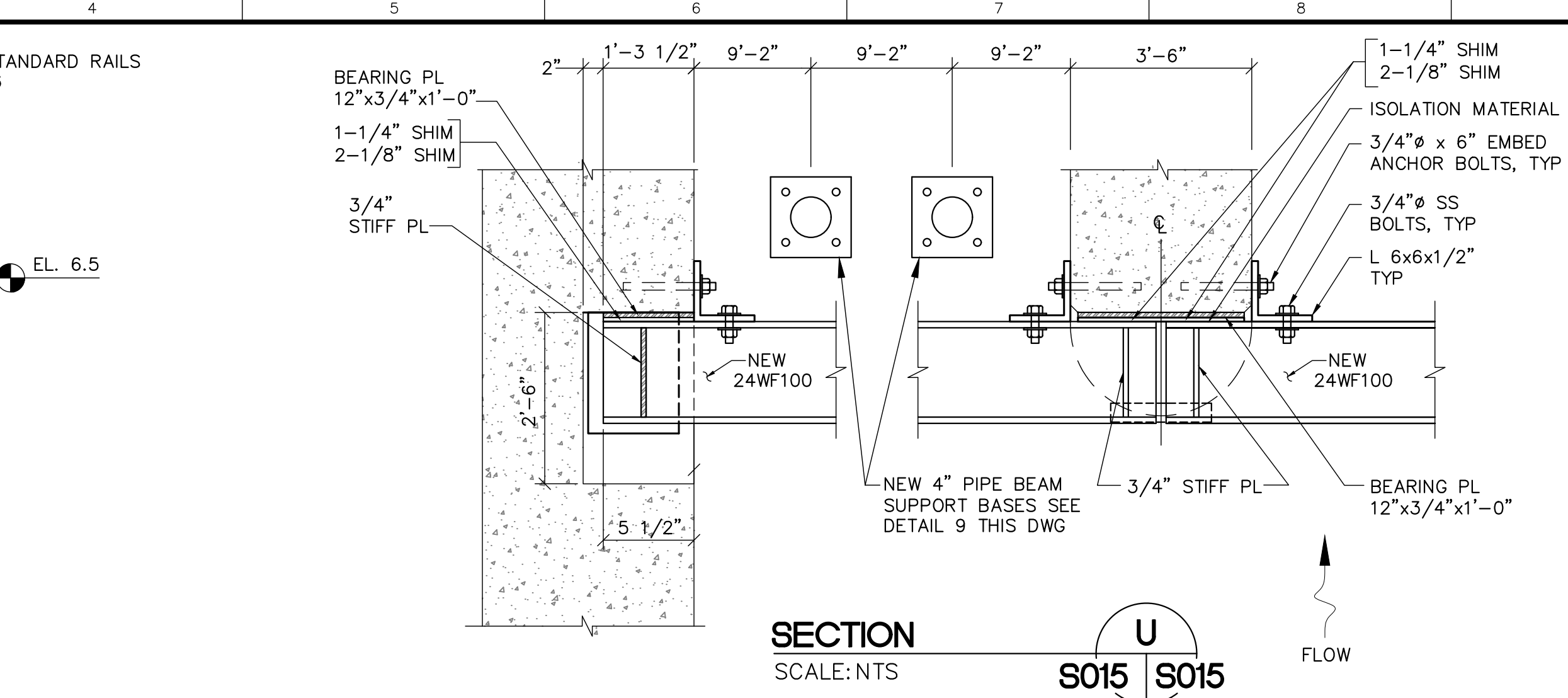
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ENGINEER OF RECORD:
SAM PHAN, P.E.
FLORIDA P.E. LICENSE NO.: 54072

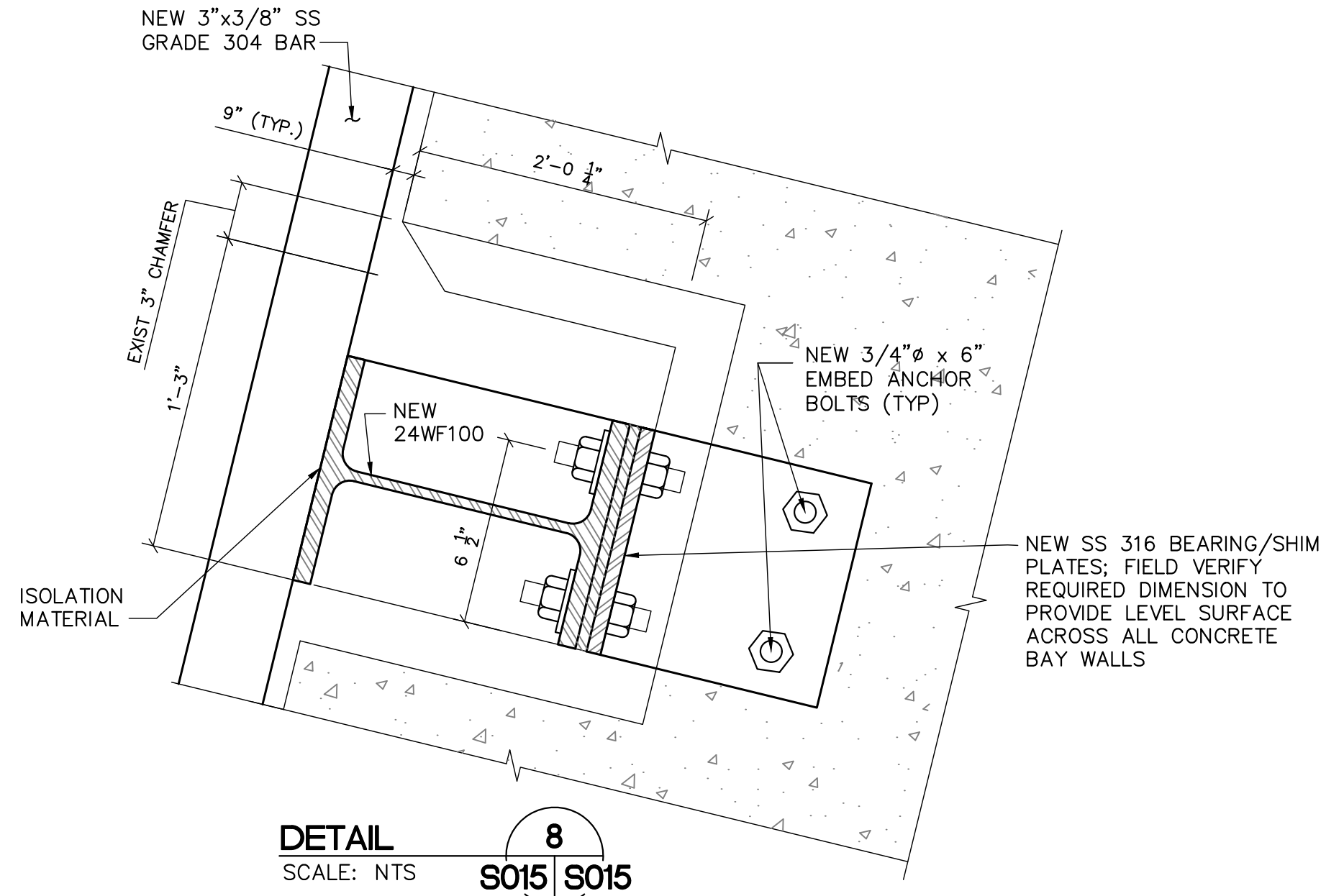
PROJECT ID NO. 100884
DRAWING NUMBER S014
SHEET 43 OF 109



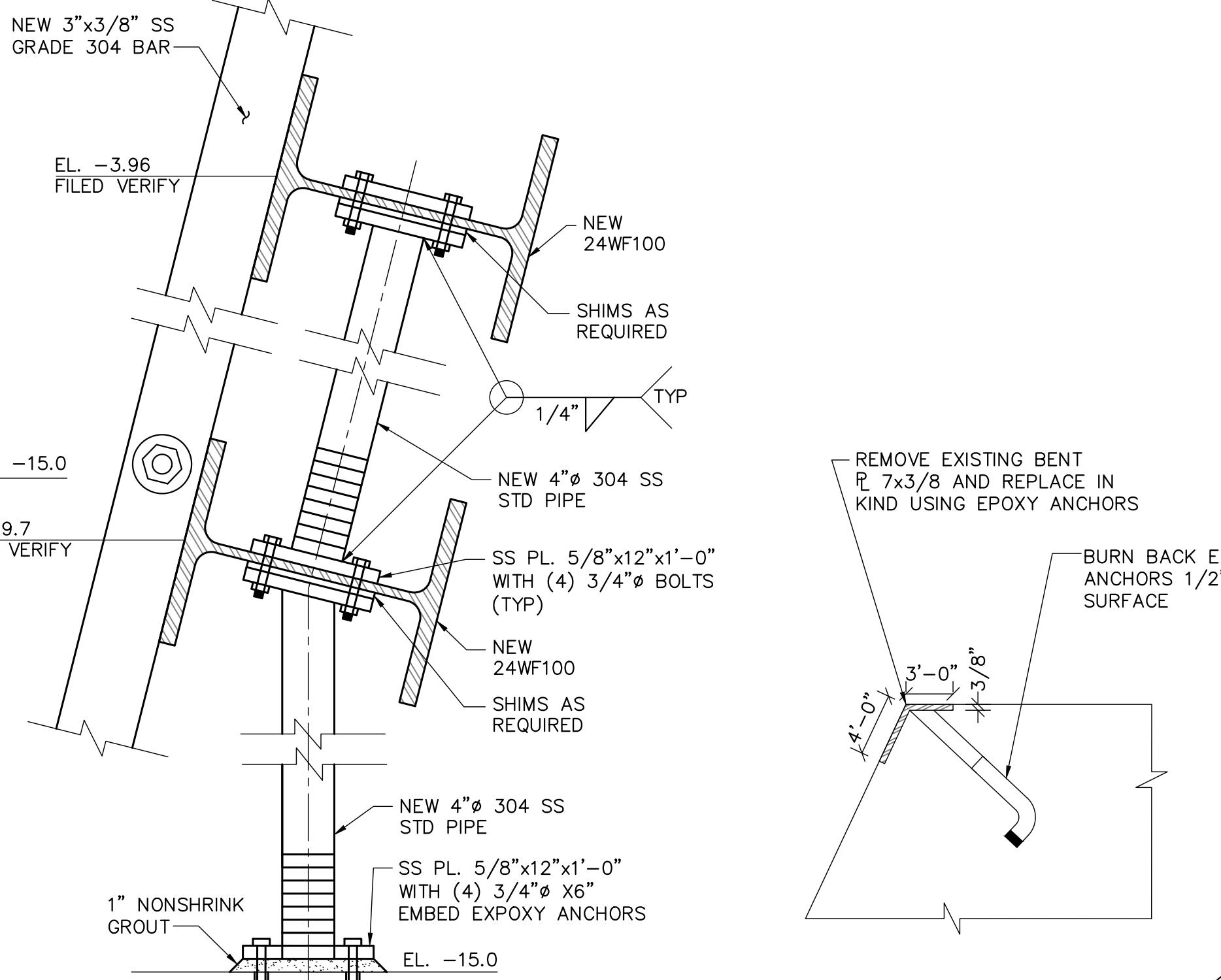
BAR SCREEN SECTION
SCALE: NTS
S014 S015



SECTION U
SCALE: NTS
S015 S015

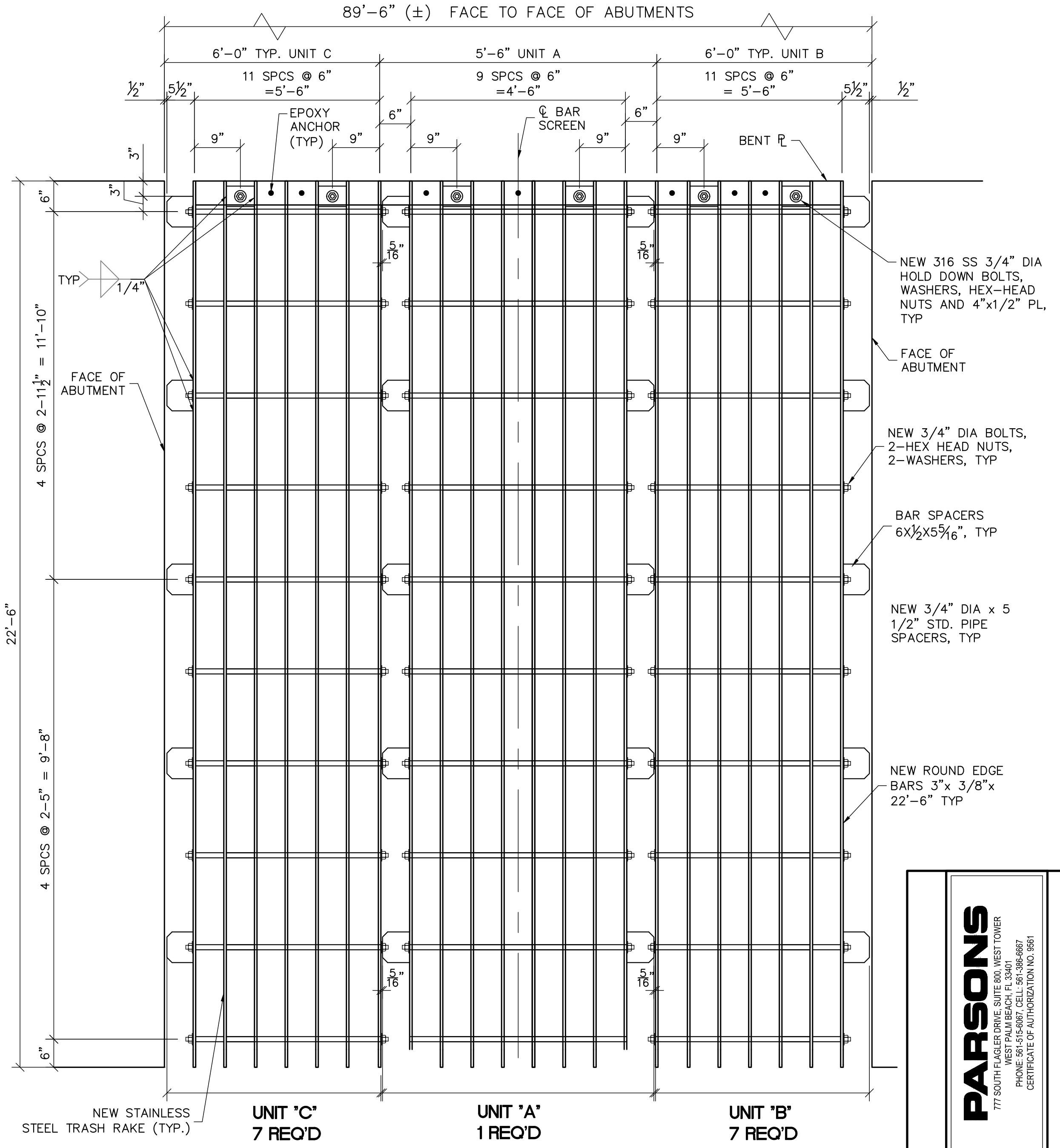


DETAIL 8
SCALE: NTS
S015 S015



DETAIL 9
SCALE: NTS
S015 S015

SILL ANGLE REPAIR DETAIL
SCALE: NTS
S015 S015



NEW BAR SCREEN SECTION
SCALE: NTS
S014 S015

NOTES:

- REMOVE AND REPLACE EXISTING BAR SCREEN AND 4" STD VERTICAL PIPE SUPPORTS.
- NEW SCREENS AND SUPPORT MEMBERS SHALL MATCH THE DIMENSIONS OF THE EXISTING SCREENS AND THIS PLAN SHEET.
- ALL STEEL USED IN THE FABRICATION OF THE NEW BAR SCREENS SHALL BE STAINLESS STEEL:
 - A. BARS, PLATES, PIPES, AND STRUCTURAL SHAPES SHALL BE STAINLESS STEEL GRADE 304L
 - B. BOLTS, NUTS, AND WASHERS SHALL BE STAINLESS STEEL GRADE 316
- STRUCTURAL SHAPES MAY CONSIST OF PLATES WELDED TOGETHER WITH FULL PENETRATION WELDS OR EQUIVALENT STRENGTH FILET WELDS.
- ONE OF EACH TYPE OF BAR SCREEN UNIT SHALL BE REMOVED, FIELD MEASURED, AND REINSTALLED PRIOR TO THE SHOP DRAWING SUBMITTAL AND FABRICATION OF THE NEW BAR SCREENS.
- THE EXISTING BAR SCREENS SHALL NOT BE REPLACED UNTIL THE NEW STEEL SHEET PILE WALLS AND THE NEW TRASH RAKE UNITS ARE CONSTRUCTED TO THE EXTENT TO SERVE AS A SCREENING SYSTEM. REPLACE THE BAR SCREENS ONE BAY AT A TIME.
- FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION; NOTIFY ENGINEER OF ANY INCONSISTENCIES WITH THE RECORD DRAWING AND THE AS-BUILT CONFIGURATION.

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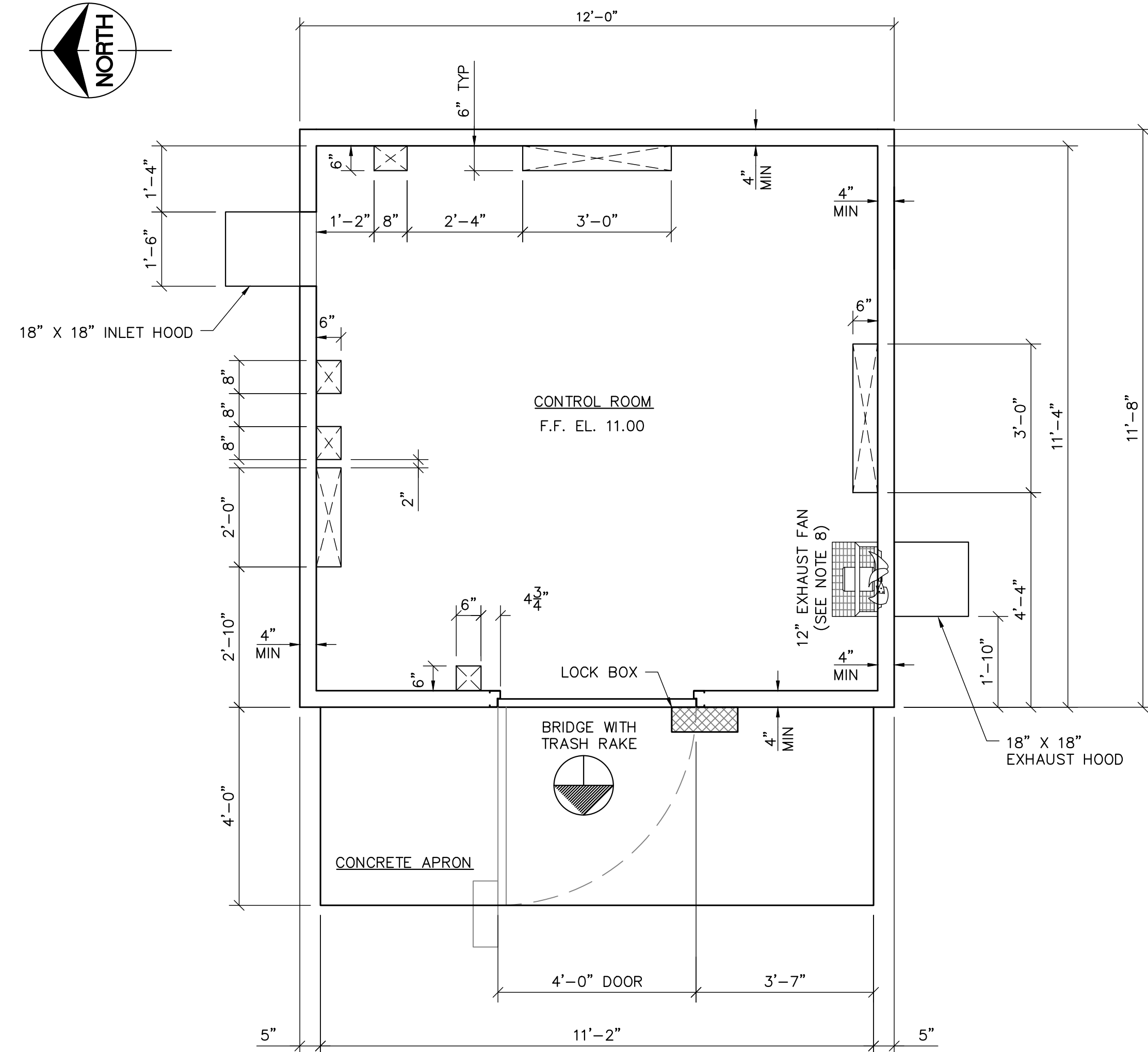
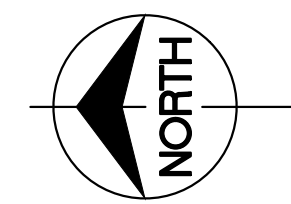
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ENGINEER OF RECORD:
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FLORIDA P.E. LICENSE NO. 54072

S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS
S9-S9A STRUCTURAL SECTIONS AND DETAILS

PROJECT ID NO. 100884
DRAWING NUMBER **S015**
SHEET **44 of 109**

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION
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PHONE: 561-686-8800
3301 GUN CLUB ROAD
WEST PALM BEACH, FLORIDA 33406

ENGINEER: D. DELK
DRAWN: D. DELK
CHECKED: S. PHAN
DATE: 12/2019
SCALE: AS SHOWN



CONTROL BUILDING FLOOR PLAN
SCALE: 1/2" = 1'-0"

STRUCTURAL DESIGN CRITERIA		
ITEM	VALUE	REMARKS
ULTIMATE DESIGN WIND SPEED (Vult)	180	FBC 2017 AND ASCE 7-10
NOMINAL DESIGN WIND SPEED (Vasd)	140	
RISK CATEGORY	III	ADJUSTED FOR 200-YR MRI
WIND EXPOSURE CATEGORY	C	
ENCLOSURE CLASSIFICATION	PARTIALLY ENCLOSED	
INTERNAL PRESSURE COEFFICIENT (Gcpi)	±0.55	
ROOF LIVE LOAD	60 PSF	
FLOOR LIVE LOAD	150 PSF	
FLOOR DEAD LOAD	75 PSF	BASED ON MINIMUM 6" THICK FLOOR SLAB
ALLOWABLE SOIL BEARING PRESSURE	2500 PSF	

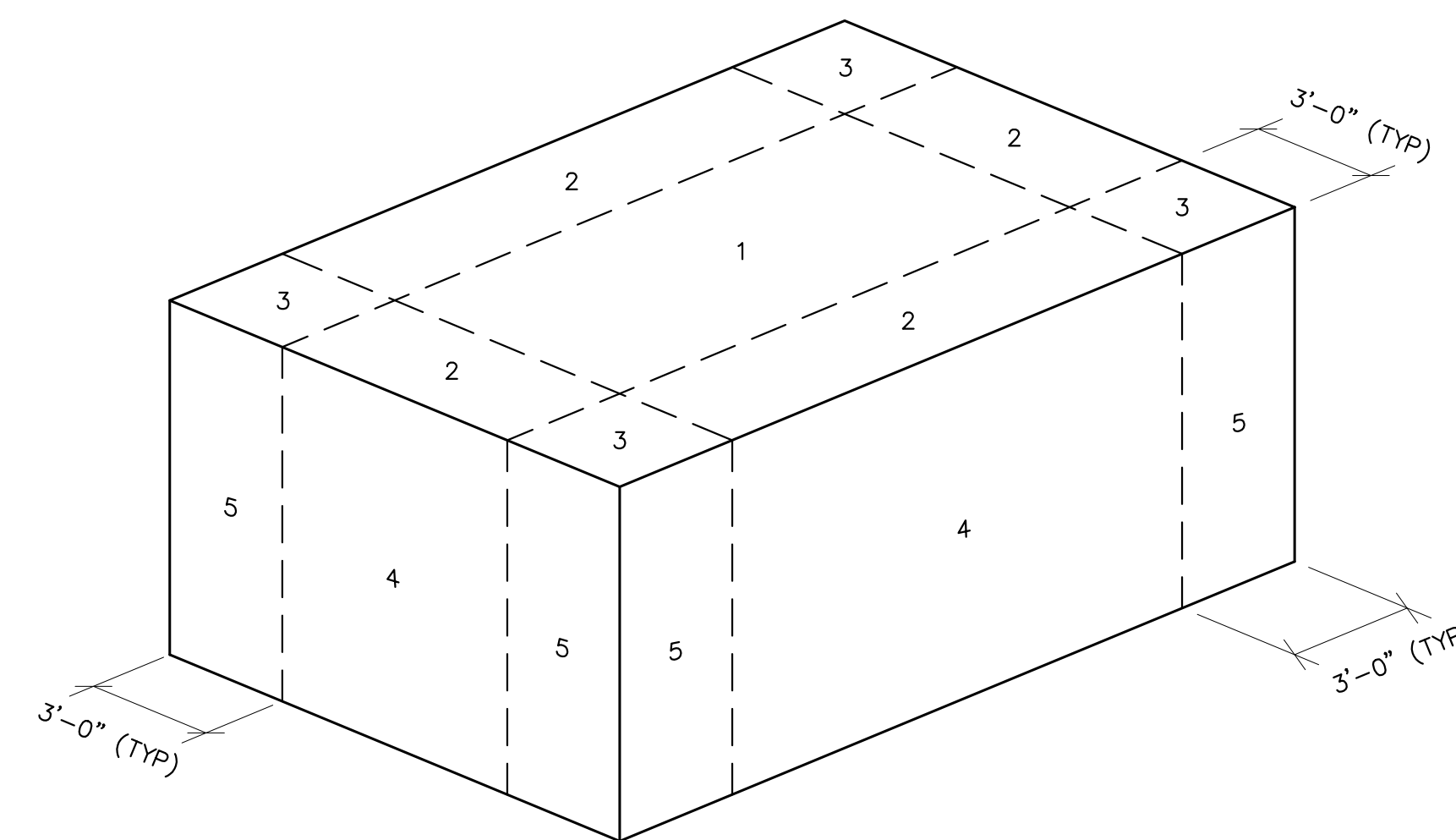
CONTROL BUILDING WIND PRESSURES - COMPONENTS AND CLADDING												
	NOMINAL DESIGN WIND PRESSURES (PSF)						ULTIMATE DESIGN WIND PRESSURES (PSF)					
	TRIBUTARY AREA						TRIBUTARY AREA					
	10 SF	50 SF	100 SF	10 SF	50 SF	100 SF	10 SF	50 SF	100 SF			
ROOF ZONE												
1	+35	-64	+32	-61	+31	-60	+58	-106	+53	-101	+51	-99
2	+35	-96	+32	-76	+31	-68	+58	-160	+53	-127	+51	-113
3	+35	-137	+32	-116	+31	-67	+58	-228	+56	-194	+51	-112
WALL ZONE												
4	+60	-63	+55	-60	+53	-57	+99	-105	+92	-98	+88	-94
5	+60	-75	+55	-65	+53	-61	+98	-124	+92	-108	+88	-102

WIND PRESSURE TABLE NOTES:

- DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
- (+) POSITIVE VALUES ARE WIND TOWARDS THE SURFACE; (-) NEGATIVE VALUES ARE WIND AWAY FROM SURFACE.
- WIND PRESSURES ARE IN COMPLIANCE WITH THE SFWMD DESIGN GUIDE G-G1. THE CALCULATED VELOCITY PRESSURES ARE MULTIPLIED BY 1.14 TO INCREASE THE NOMINAL MEAN RECURRENCE INTERVAL TO 200 YEARS.

GENERAL NOTES

- DESIGN REQUIREMENTS:
 - CONTRACTOR SHALL PROVIDE A PRECAST CONCRETE BUILDING IN ACCORDANCE WITH SPECIFICATION SECTION 13120. STRUCTURE SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF THE 2017 FLORIDA BUILDING CODE (FBC).
 - SEE STRUCTURAL DESIGN CRITERIA ON THIS SHEET FOR MINIMUM DESIGN LOADS.
 - WIND LOADS SHALL BE CALCULATED IN ACCORDANCE WITH ASCE 7 (LATEST EDITION) AS WELL AS THE SFWMD DESIGN GUIDELINES G-G1.
 - BUILDING SHALL BE DESIGNED FOR MAINTENANCE-FREE USE.
 - BUILDING SHALL BE DESIGNED TO BE TRANSPORTED AND PLACED USING STANDARD LIFT POINTS IN THE OUTSIDE WALLS.
- COMPONENTS:
 - WALLS, ROOF AND FLOOR:
 - WALL, ROOF AND FLOOR PANELS SHALL BE MANUFACTURED AS SINGLE-COMPONENT MONOLITHIC PANELS. NO WALL, ROOF OR FLOOR JOINTS ARE PERMITTED, EXCEPT AT CORNERS.
 - WALLS, INCLUDING PARTITIONS, SHALL BE FOUR INCHES (4") MINIMUM THICKNESS. ADJUST OVERALL BUILDING DIMENSIONS AS REQUIRED TO ACCOMMODATE INCREASED WALL THICKNESS.
 - FLOOR SHALL BE SIX INCHES (6") MINIMUM THICKNESS.
 - ROOF SYSTEM SHALL BE DESIGNED TO PROTECT EQUIPMENT IN BUILDING FROM FALLING DEBRIS.
 - ROOF SHALL BE DESIGNED CLEAR SPAN WITHOUT THE USE OF INTERIOR SUPPORTS OF ANY TYPE.
 - ROOF SHALL BE FIVE INCHES (5") MINIMUM THICKNESS.
 - ROOF SHALL BE PITCHED 1/4 INCH PER FOOT.
 - ROOF SHALL HAVE AN OVERHANG OF 1 1/2" ON ALL SIDES.
 - BUILDING INTERIOR:
 - CEILING FINISHED HEIGHT SHALL BE TEN FEET (10') MINIMUM.
 - INTERIOR FINAL COATING COLOR SHALL BE WHITE.
 - INTERIOR COATINGS SHALL CONFORM TO COATING SYSTEM C-1 IN SPECIFICATION SECTION 09900.
 - BUILDING EXTERIOR:
 - EXTERIOR FINISH SHALL BE SMOOTH AND FREE OF VOIDS AND CRACKS.
 - EXTERIOR FINAL COATING COLOR SHALL BE BEIGE.
 - EXTERIOR COATINGS SHALL CONFORM TO COATING SYSTEM C-1 IN SPECIFICATION SECTION 09900.
 - BUILDING SHALL BE DESIGNED TO BE HIGHLY VANDAL RESISTANT. BUILDING ENVELOPE SHALL BE DESIGNED AND CONSTRUCTED TO BE BULLET RESISTANT TO UL 752, LEVEL 4.
 - ANY EXPOSED FASTENERS SHALL BE TAMPER RESISTANT TYPE.
 - DOORS:
 - DOORS AND DOOR FRAMES SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATION SECTION 08110. DOORS SHALL BE 4'-0" X 7'-0".
 - DOORS SHALL HAVE A FLORIDA PRODUCT APPROVAL (FPA) OR MIAMI-DADE NOTICE OF ACCEPTANCE (NOA), INCLUDING MISSILE IMPACT RATING.
 - IN ALL CASES, DOORS, FRAMES AND CONNECTIONS SHALL HAVE A PRESSURE RATING THAT MEETS OR EXCEEDS SPECIFIED DESIGN PRESSURES.
 - DOOR HARDWARE: EACH DOOR SHALL BE EQUIPPED WITH A MINIMUM OF 1 AND 1/2 PAIR OF HEAVY DUTY SECURITY HINGES, DOOR CLOSER, THRESHOLD, BOTTOM SEAL AND A LOCK-SET WITH A LOCK BOX. DOOR HARDWARE SHALL CONFORM TO SPECIFICATION SECTION 08700.
 - PROVIDE CAST-IN JUNCTION BOXES AND CAST-IN CONDUIT FOR FUTURE CARD READER ACCESS CONTROL SYSTEM AND CCTV.
- THE BUILDING SHALL BE MANUFACTURED WITH CONCRETE FLOOR BLOCKOUTS FOR CONDUIT PENETRATIONS. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, LOCATIONS, SPACING AND DIMENSIONS OF FLOOR BLOCKOUTS SHALL BE DETERMINED BY THE CONTRACTOR IN CONSULTATION WITH THE SUBCONTRACTOR AND COORDINATED WITH THE PRECAST BUILDING MANUFACTURER. FLOOR BLOCKOUTS SHALL BE FILLED ON SITE WITH NON-SHRINK GROUT AFTER COMPLETION OF CONDUIT INSTALLATION.
- ALL METAL EQUIPMENT SHALL HAVE A #4 STRANDED COPPER EQUIPMENT GROUND WITH APPROVED LUG AND TIE-BACK TO THE STRUCTURE GROUNDING GRID. SEE ELECTRICAL DRAWINGS FOR GROUNDING LOOP AND DETAILS.
- THE MANUFACTURER SHALL COORDINATE DESIGN OF FAN OPENINGS WITH EXHAUST FAN SUPPLIER. FANS SHALL BE ACTIVATED BY THERMOSTATS (WIRED PER MANUFACTURER).
- PROVIDE TWO (2) PORTABLE FIRE EXTINGUISHER MOUNT ON BUILDING WALL WITH MANUFACTURER'S STANDARD BRACKETS.
 - GENERATOR ROOM: ONE (1) MULTIPURPOSE, DRY CHEMICAL, TYP: UL RATE 4-A: 60-8: AB.
 - CONTROL ROOM: ONE (1) CARBON DIOXIDE OR CLEAN AGENT, 10-LB NOMINAL CAPACITY.
- HOODS:
 - HOODS SHALL BE PROVIDED AT EACH AIR INTAKE AND EXHAUST FAN OPENING AND AT THE GENERATOR EXHAUST OPENING.
 - HOOD MATERIAL SHALL BE 3/8" THICK, TYPE 304 STAINLESS STEEL.
 - HOODS SHALL BE PROVIDED WITH REMOVABLE INSECT SCREENS (INTAKE AIR OPENINGS) OR REMOVABLE EXPANDED METAL SCREENS (EXHAUST FAN OPENINGS).
 - SEE MECHANICAL DRAWINGS FOR HOOD DETAILS.
- FANS:
 - 12" EXHAUST FAN (CONTROL ROOM) SHALL BE COOLAIR CDU12F17, 1/6 HP, 1210 CFM @ 1/4" SP, OR APPROVED EQUAL.
 - PROVIDE EACH FAN WITH A BASKET TYPE, PVC COATED STEEL WIRE, SAFETY GUARD, COOLAIR TYPE SG OR APPROVED EQUAL.



COMPONENT AND CLADDING PRESSURE ZONES
NOT TO SCALE

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SOUTH FLORIDA WATER MANAGEMENT DISTRICT
OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING & CONSTRUCTION BUREAU
PHONE: 561-686-8800
3301 GUN CLUB ROAD
WEST PALM BEACH, FLORIDA 33406

ENGINEER: D. DELK
DRAWN: D. DELK
CHECKED: S. PHAN
DATE: 12/2019
SCALE: AS SHOWN

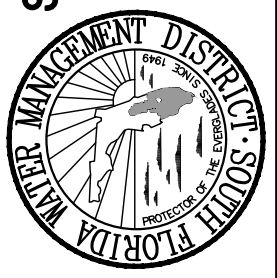
PROJECT ID NO. 100884
DRAWING NUMBER **5020**
SHEET **47** OF **109**

PARSONS
777 SOUTH FLAGLER DRIVE, SUITE 600, WEST TOWER
WEST PALM BEACH, FL 33411
PHONE: 561-686-8800
CERTIFICATE OF AUTHORIZATION NO. 9891

FINAL

ENGINEER OF RECORD:
SAM PHAN, P.E.
FLORIDA P.E. LICENSE NO. 54072

S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS CONTROL BUILDING PLAN AND NOTES



GENERAL NOTES:

- ELEVATIONS ARE IN FEET AND REFER TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
- DIMENSIONS AND / OR ELEVATIONS MARKED THUS (NTS) ARE NOT DRAWN TO SCALE.
- CONTRACTOR TO VERIFY ALL DIMENSIONS IN THE FIELD WITH SHOP, STRUCTURAL AND MECHANICAL DRAWINGS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- CONTRACTOR SHALL VERIFY PRIOR TO FABRICATION, SIZE AND LOCATIONS OF SLAB AND WALL PENETRATIONS SHOWN ON THE DRAWINGS AND ACTUAL EQUIPMENT TO BE FURNISHED.
- THE STRUCTURES SHOWN ON THESE DRAWINGS ARE STRUCTURALLY SOUND ONLY IN COMPLETE FORM. THE CONTRACTOR SHALL TEMPORARILY BRACE ALL EARTH, FORMS CONCRETE, STEEL, WOOD, MASONRY, TO RESIST GRAVITY, EARTH, WIND AND CONSTRUCTION LOADS.
- THE CONTRACTOR SHALL USE CONSTRUCTION METHODS THAT WILL COMPLY WITH THE DRAWINGS AND SPECIFICATIONS. ANY DEVIATION MUST BE APPROVED BY THE ENGINEER IN WRITING.

STEEL NOTES:

- FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO A.I.S.C. "MANUAL OF STEEL CONSTRUCTION", THIRTEENTH EDITION.
- ALL STRUCTURAL STEEL WIDE FLANGE AND CHANNEL SHAPES SHALL BE ASTM A572, YIELD STRENGTH 50 KSI, UNLESS NOTED OTHERWISE.
- ALL RODS AND PLATES SHALL BE ASTM A36, YIELD STRENGTH 36 KSI, UNLESS NOTED OTHERWISE.
- ALL STRUCTURAL STEEL TUBES SHALL BE ASTM A500, GRADE B, UNLESS NOTED OTHERWISE.
- ALL STRUCTURAL STEEL PIPES SHALL BE ASTM A53, GRADE B, UNLESS NOTED OTHERWISE.
- ALL STRUCTURAL BOLTS SHALL BE HIGH STRENGTH ASTM A325 TYPE N, UNLESS NOTED OTHERWISE.
- ANCHOR BOLTS SHALL BE ASTM TYPE 316SS, UNLESS NOTED OTHERWISE.
- ALL STRUCTURAL WELDING SHALL USE E70XX ELECTRODES AS SPECIFIED IN AWS D1.1, UNLESS NOTED OTHERWISE.

ALUMINUM ALLOY SHAPES:

- ALL ALUMINUM SHAPES SHALL HAVE STRENGTH OF 6061-T6 ALLOY UNLESS NOTED OTHERWISE.
- ALUMINUM DESIGN SHALL BE IN ACCORDANCE WITH THE STANDARD AND PRACTICE OF "THE ALUMINUM ASSOCIATION INCORPORATED".
- ALUMINUM STRUCTURES SHALL CONFORM TO "THE ALUMINUM ASSOCIATION, INCORPORATED" SPECIFICATIONS FOR ALUMINUM STRUCTURES.
- FABRICATION AND INSTALLATION OF ALUMINUM MEMBERS SHALL CONFORM TO THE STANDARD AND PRACTICE OF "THE ALUMINUM ASSOCIATION INCORPORATED".

WATERSTOPS / JOINTS:

- ALL JOINTS BELOW GRADE LEVEL AND IN WATER BEARING STRUCTURES SHALL HAVE WATERSTOP AS DESCRIBED BELOW, UNLESS NOTED OTHERWISE:
 - CONSTRUCTION JOINTS: 6" x 3/8" THICK - FLAT RIBBED PVC (PUMP STATION ONLY) SF302 SYNKO-FLEX WATERSTOP STRIP OR EQUAL (ALL OTHER STRUCTURES)
 - EXPANSION JOINTS: CENTERBULB TYPE, 9" WIDE x 3/8" THICK - SERRATED

COATINGS:

- CONTRACTOR SHALL REPAINT/COAT THE EXTERIOR OF S9 OFFICE BUILDING, S9, S9A AND THE EXISTING DIESEL STORAGE TANK AS SCHEDULED IN SPECIFICATION SECTION 0990.

GRADE:

- GRADE ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE AND ARE INTENDED TO SHOW MINIMUM COVER OVER FOOTINGS / FOUNDATIONS. FOR EXACT FINAL GRADE ELEVATIONS, SEE CIVIL DRAWINGS.

MECHANICAL, VENTILATION AND ELECTRICAL EQUIPMENT:

- CONTRACTOR SHALL CONSULT WITH MANUFACTURER'S CERTIFIED SHOP DRAWINGS FOR PLACEMENT AND INSTALLATION OF ALL EQUIPMENT, LOCATION, QUANTITY AND SIZES OF ANCHOR BOLTS AND SOLE PLATES, IF ANY, TO STRUCTURES.

PRECAST CONCRETE ROOF JOISTS:

- CONCRETE FOR PRECAST ROOF JOISTS SHALL BE DESIGNED TO ATTAIN A MINIMUM 28 - DAY COMPRESSIVE STRENGTH OF $f'(c) = 5000$ P.S.I.
- MANUFACTURER SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER PRIOR TO FABRICATION.
- ALL SHOP DRAWINGS FOR PRECAST ROOF JOISTS SHALL SHOW ELEMENTS, LAYOUT, SIZES, BEARING DISTANCES, OPENINGS, INSERTS, ETC. AND SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.
- ALL STRUCTURAL PRECAST UNITS SHALL BE INSPECTED FOR QUALITY CONTROL BY AN ARCHITECT OR PROFESSIONAL ENGINEER QUALIFIED TO PERFORM THESE INSPECTIONS PRIOR TO THE CONCRETE PLACEMENT AT THE CASTING YARD. ALL STRUCTURAL PRECAST UNITS AND THEIR ATTACHMENTS TO THE MAIN STRUCTURE SHALL BE INSPECTED AFTER ERECTION, BUT BEFORE CONCEALMENT. SUCH INSPECTION SHALL BE PERFORMED BY A FLORIDA REGISTERED ARCHITECT OR PROFESSIONAL ENGINEER.
- SEE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- ALL CAST-IN-PLACE CONCRETE SHALL CONFORM TO SECTION 03300 OF THE SPECIFICATIONS.

EXCAVATION AND SUBSURFACE PREPARATION:

- EXCAVATION AND SUBSURFACE PREPARATION SHALL BE PER SPECIFICATIONS. SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY PER ASTM D1557.
- FILL SUPPORTING SUCH SLABS SHALL BE COMPACTED UNDER THE SUPERVISION OF A SPECIAL INSPECTOR TO A MINIMUM OF 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR ALL LAYERS, AS VERIFIED BY FIELD DENSITY TEST, ASTM D1556, AS SPECIFIED IN THE FBC SECTION 1820.3.2.
- ADDITIONAL REQUIREMENTS FOR EXCAVATION AND COMPACTION CAN BE FOUND IN THE GEOTECHNICAL REPORT TITLED "SUPPLEMENTAL GEOTECHNICAL MEMORANDUM ACIP PILE RECOMMENDATIONS FOR THE PUMP STATION S9A BUILDING, S9 & S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS, BROWARD COUNTY, FLORIDA" REPORT PROVIDED BY RADISE INTERNATIONAL, L.C. DATED MARCH 2017.

FOOTINGS, MAT FOUNDATIONS AND DEEP FOUNDATIONS:

- FOOTING AND MAT FOUNDATIONS ARE DESIGNED FOR A DESIGN BEARING PRESSURE OF 2500 PSF.
- SET TOP OF ALL FOOTINGS AND MATS AS SHOWN ON PLANS.
- ALL FOOTINGS SHALL BE EXCAVATED TO CLEAN SOIL, FREE OF VEGETATION AND DELETERIOUS MATTER, AND CONCRETE SHALL BE PLACED ON UNDISTURBED BASE OR WELL COMPACTED FILL.
- SEE PROJECT SPECIFICATIONS FOR COMPLETE INFORMATION OF COMPACTED BACKFILL, SOIL COMPACTION OF STRUCTURAL FILL, AND OTHER NECESSARY PREPARATION OF SOIL.
- GEOTEXTILE SHALL BE PLACED BETWEEN THE STRUCTURAL FILL AND UNDERLYING SUBGRADE OR GRANULAR FILL. SEE SPEC. SECTION 02200.

CONCRETE NOTES:

- CONCRETE DESIGN AND PLACEMENT SHALL BE IN STRICT ACCORDANCE WITH ACI 350-06, "CODE REQUIREMENT FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES AND COMMENTARY"
- CAST-IN-PLACE CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH ($f'c$) OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. CAST-IN-PLACE CONCRETE USED FOR THE FOUNDATIONS OF THE GENERATOR BUILDING AND STAIR TOWER SHALL HAVE A $f'c$ OF 5500 PSI AT 28 DAYS.
- CONCRETE SHALL BE READY-MIX, REGULAR WEIGHT FOR ALL STRUCTURAL USES, WITH MINIMUM DRY DENSITY OF 144 LBS PER CUBIC FOOT.
- REINFORCING STEEL SHALL BE DEFORMED BARS, FREE OF RUST, SCALE AND OIL, CONFORMING TO ASTM A615 GRADE 60.
- REINFORCING STEEL SHALL BE DETAILED, FABRICATED AND INSTALLED IN ACCORDANCE WITH ACI 350-06 AND THE ACI DETAILING MANUAL, ACI 315.
- TERMINATE ALL DISCONTINUOUS ENDS OF TOP BARS WITH STANDARD ACI HOOKS. TURN HOOKS UP OR DOWN INTO SUPPORT STRUCTURE.
- CONSTRUCTION JOINTS SHALL BE PROVIDED NO MORE THAN 30'-0" IN ANY DIRECTION. LOCATIONS OF CONSTRUCTION JOINTS SHOWN ON PLANS MAY BE RELOCATED BY THE CONTRACTOR WITH WRITTEN APPROVAL FROM THE ENGINEER. WHERE NOT SHOWN, CONSTRUCTION JOINTS SHALL BE PLACED AT LOCATIONS LEAST LIKELY TO IMPAIR THE INTEGRITY OF THE CONCRETE STRUCTURE. THESE ADDITIONAL CONSTRUCTION JOINT LOCATIONS SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER.
- UNLESS NOTED OTHERWISE, PROVIDE 3/4" CHAMFER AT ALL EXPOSED JOINTS, EDGES, EXTERNAL CORNERS, AND VERTICAL EXPANSION JOINTS.
- ALL REINFORCEMENT SHALL HAVE A MINIMUM COVER AS FOLLOWS UNLESS NOTED OTHERWISE:

CAST-IN-PLACE CONCRETE: (NON-PRESTRESSED)		MINIMUM CLEAR COVER (INCHES)
(a) CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO EARTH.....	3	
(b) CONCRETE EXPOSED TO EARTH, LIQUID, WEATHER, OR CAST AGAINST A CONCRETE WORK MAT:		
SLABS & JOISTS.....	2	
BEAMS & COLUMNS.....	2	
WALLS.....	2	
FOOTINGS & BASE SLABS.....	2	

MASONRY NOTES:

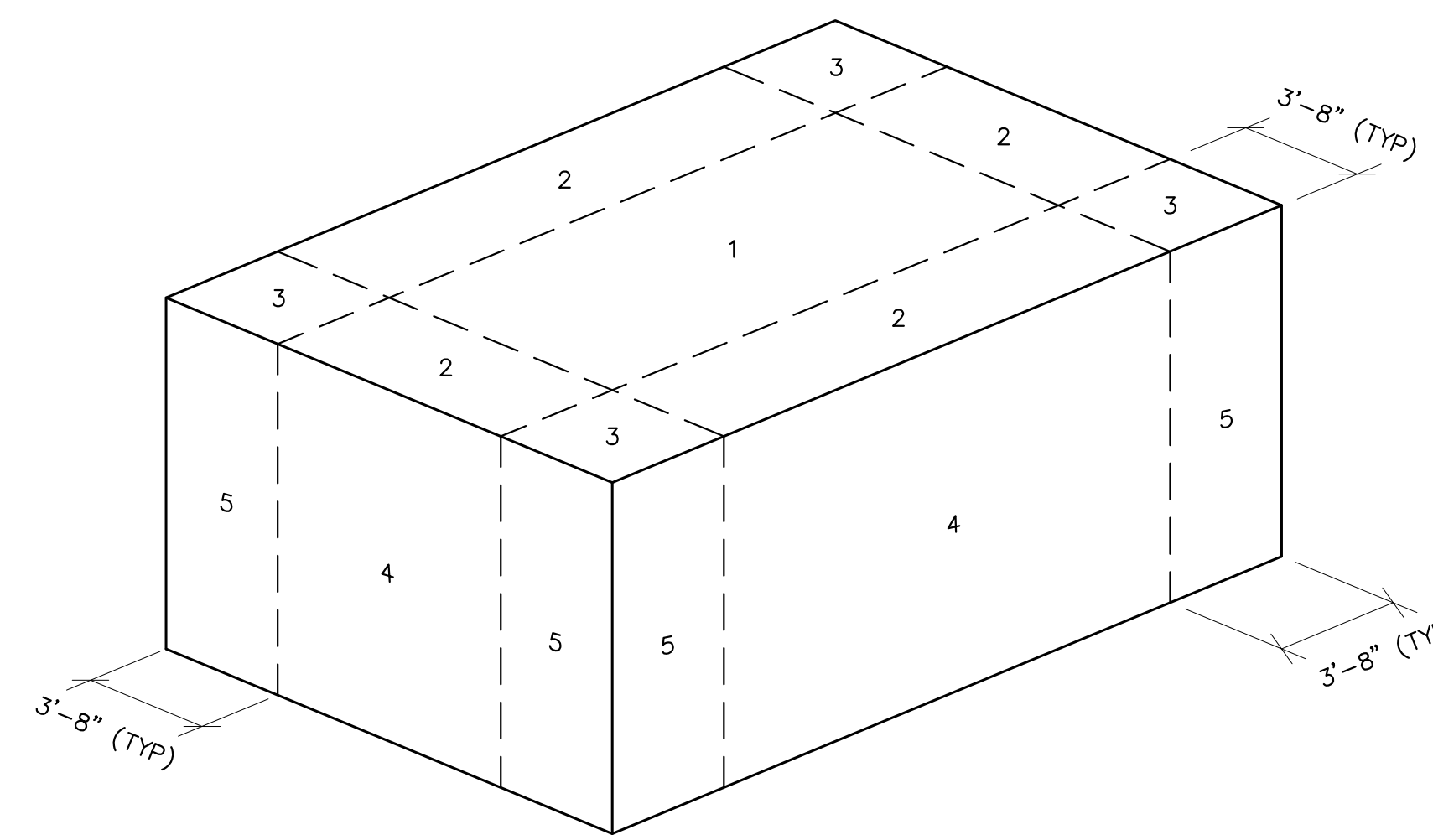
- MASONRY CONSTRUCTION SHALL CONFORM TO ACI "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (ACI 530-05/ASCE 5-05/ TMS 402-05), SPECIFICATIONS FOR STRUCTURES (ACI 530.1-05/ ASCE 6-05/TMS 602-05), AND COMMENTARIES RESPECTIVELY, UNLESS NOTED OTHERWISE HEREIN.
- CONCRETE BLOCK SHALL BE MEDIUM WEIGHT, GRADE N TYPE I, HOLLOW, LOAD-BEARING UNITS, WITH COMPRESSIVE STRENGTH $f'm=1500$ PSI AND SHALL CONFORM TO ASTM C90.
- MORTAR SHALL BE TYPE M, 2,500 psi MINIMUM COMPRESSIVE STRENGTH.
- PROVIDE FULL MORTAR BEDDING AROUND ALL REINFORCING MASONRY CELLS TO BE GROUTED. "ADDITIONALLY, GROUT SOLID FIRST COURSE AT BASE TYPICAL".
- GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. SUFFICIENT WATER SHALL BE ADDED TO ALLOW THE GROUT TO FLOW INTO ALL CAVITIES, CELLS AND INTERSTICES.
- GROUT SOLID ALL CELLS. ALL GROUT SHALL BE VIBRATED IN PLACE.
- INSTALL MASONRY JOINT REINFORCEMENT PER PLANS. JOINT REINFORCEMENT SHALL BE GALVANIZED PER ASTM A153, CLASS B.
- LINTELS SHALL BE CMU TYPE, THE USE OF PRE-CAST LINTELS IS PROHIBITED.
- PLACE GROUT IN 5' LIFTS MAXIMUM OR PROVIDE CLEANOUTS FOR LIFTS GREATER THAN 5'.
- CMU SHALL BE PLACED IN A RUNNING BOND PATTERN UNLESS NOTED OTHERWISE.

STRUCTURAL DESIGN CRITERIA		
ITEM	VALUE	REMARKS
ULTIMATE DESIGN WIND SPEED (V_{ult})	180	FBC 2017 AND ASCE 7-10
NOMINAL DESIGN WIND SPEED (V_{asd})	140	
RISK CATEGORY	III	ADJUSTED FOR 200-YR MRI
WIND EXPOSURE CATEGORY	C	
ENCLOSURE CLASSIFICATION	PARTIALLY ENCLOSED	
INTERNAL PRESSURE COEFFICIENT (G_{cpi})	± 0.55	
PLATFORM/STAIR LIVE LOAD	100 PSF	
ROOF LIVE LOAD	20 PSF	
FLOOR LIVE LOAD	250 PSF	
FLOOR DEAD LOAD	20 PSF	ACTUAL EQUIPMENT LOADS; 20 PSF SUPERIMPOSED
ALLOWABLE SOIL BEARING PRESSURE	N/A	PILE SUPPORTED

GENERATOR BUILDING WIND PRESSURES - COMPONENTS AND CLADDING												
ROOF ZONE	NOMINAL DESIGN WIND PRESSURES (PSF)			ULTIMATE DESIGN WIND PRESSURES (PSF)								
	TRIBUTARY AREA			TRIBUTARY AREA								
	10 SF	50 SF	100 SF	10 SF	50 SF	100 SF						
1	+36	-66	+33	-63	+32	-61	+60	-109	+55	-104	+53	-102
2	+36	-88	+33	-78	+32	-70	+60	-147	+55	-130	+53	-116
3	+36	-141	+33	-91	+32	-70	+60	-235	+55	-151	+53	-116
WALL ZONE												
4	+61	-65	+60	-60	+54	-58	+102	-108	+98	-100	+90	-96
5	+61	-72	+60	-67	+54	-63	+102	-120	+98	-111	+90	-105

WIND PRESSURE TABLE NOTES:

- DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
- (+) POSITIVE VALUES ARE WIND TOWARDS THE SURFACE; (-) NEGATIVE VALUES ARE WIND AWAY FROM SURFACE.
- WIND PRESSURES ARE IN COMPLIANCE WITH SFWMD DESIGN GUIDELINES G-G1. THE CALCULATED VELOCITY PRESSURES ARE MULTIPLIED BY 1.14 TO INCREASE THE NOMINAL MEAN RECURRENCE INTERVAL TO 200 YEARS.



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NOT TO SCALE

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PARSONS
777 SOUTH FLAGLER DRIVE, SUITE 600, WEST TOWER
WEST PALM BEACH, FL 33411
PHONE: 561-686-8800
FAX: 561-686-8800
CERTIFICATE OF AUTHORIZATION NO. 9891

FINAL

ENGINEER OF RECORD:
SAM PHAN, P.E.
FLORIDA P.E. LICENSE NO.: 54072

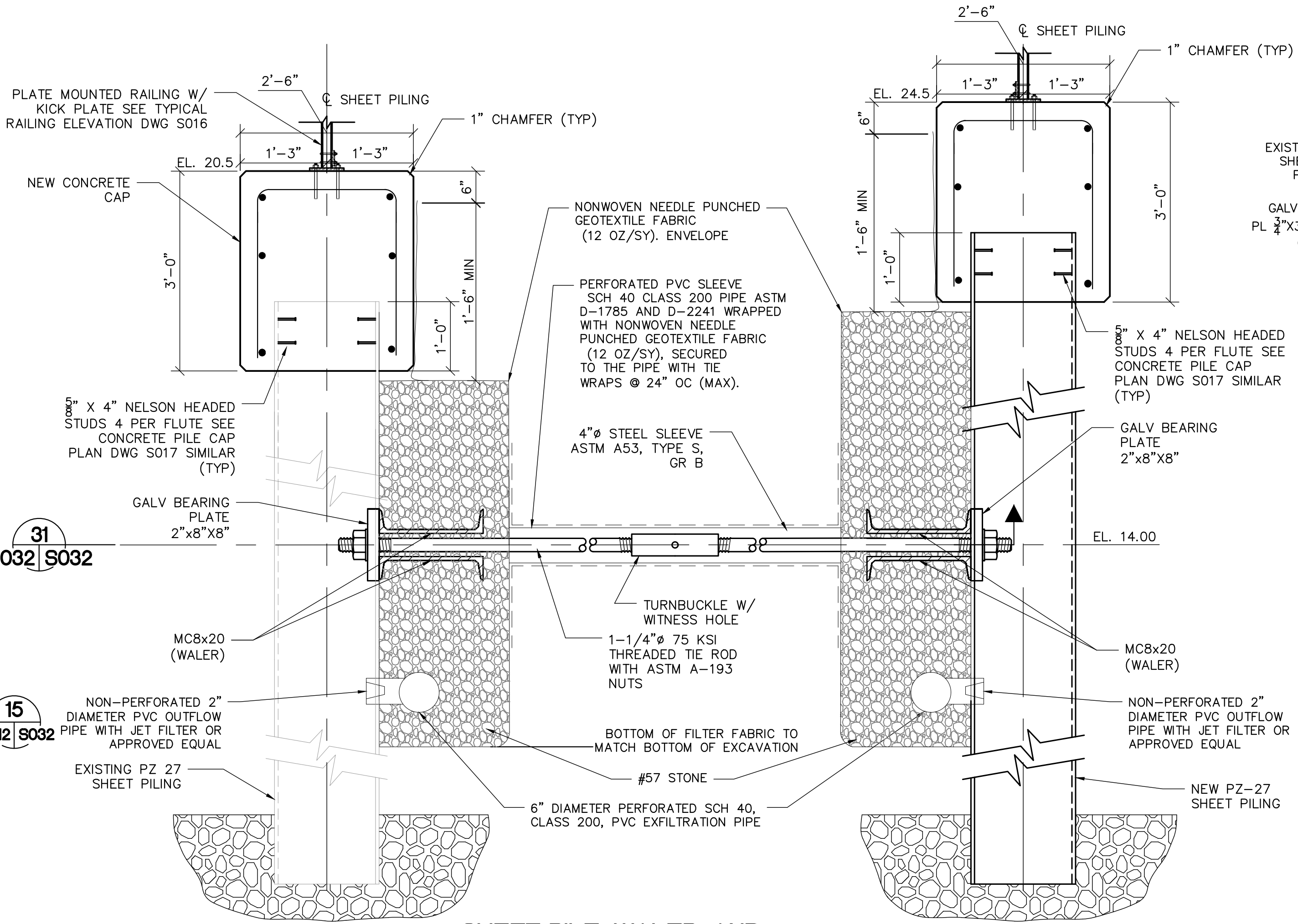
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DRAWING NUMBER
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SHEET
51 of 109

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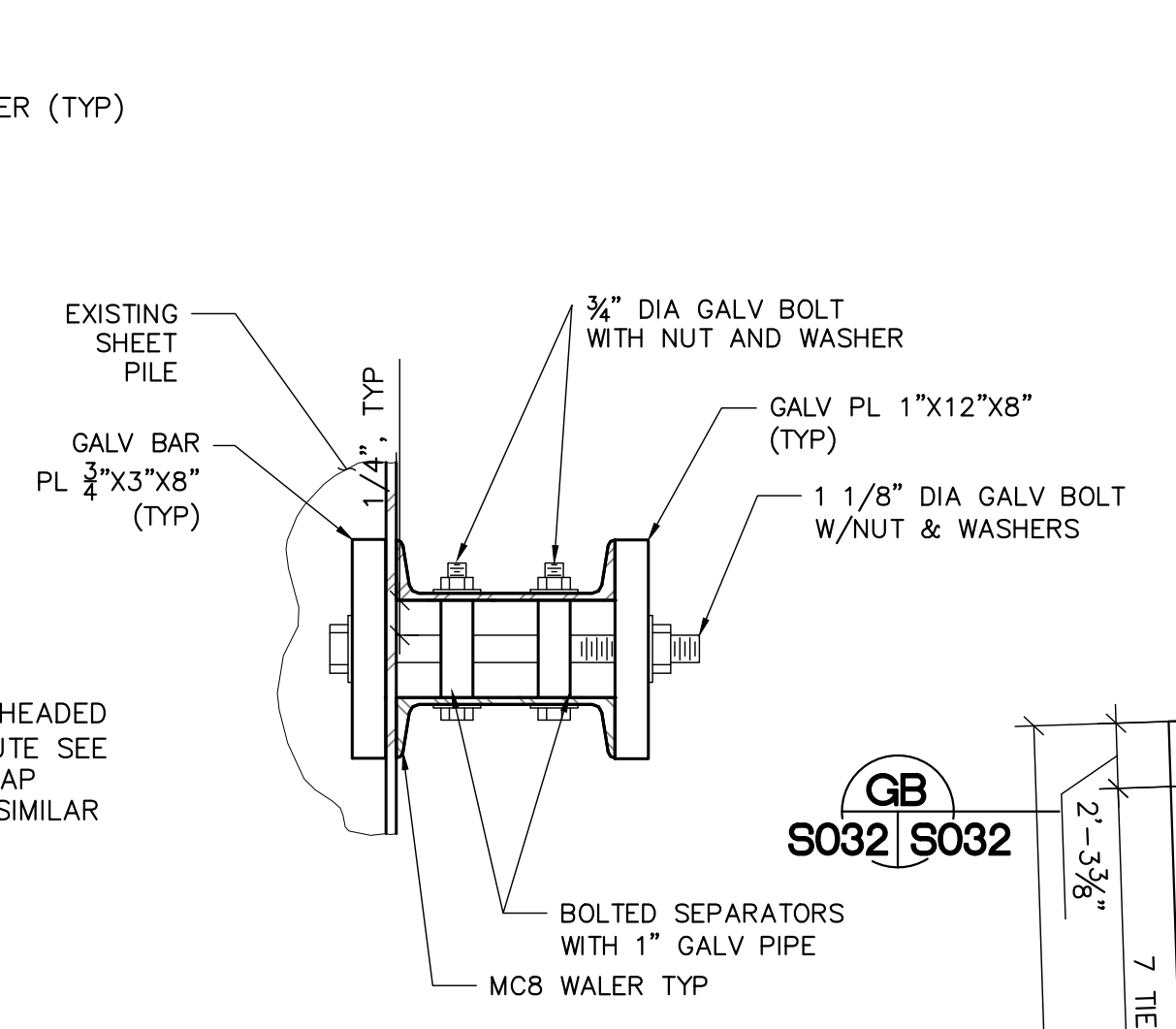
S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS GENERATOR BUILDING DESIGN NOTES AND CRITERIA

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
 OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION
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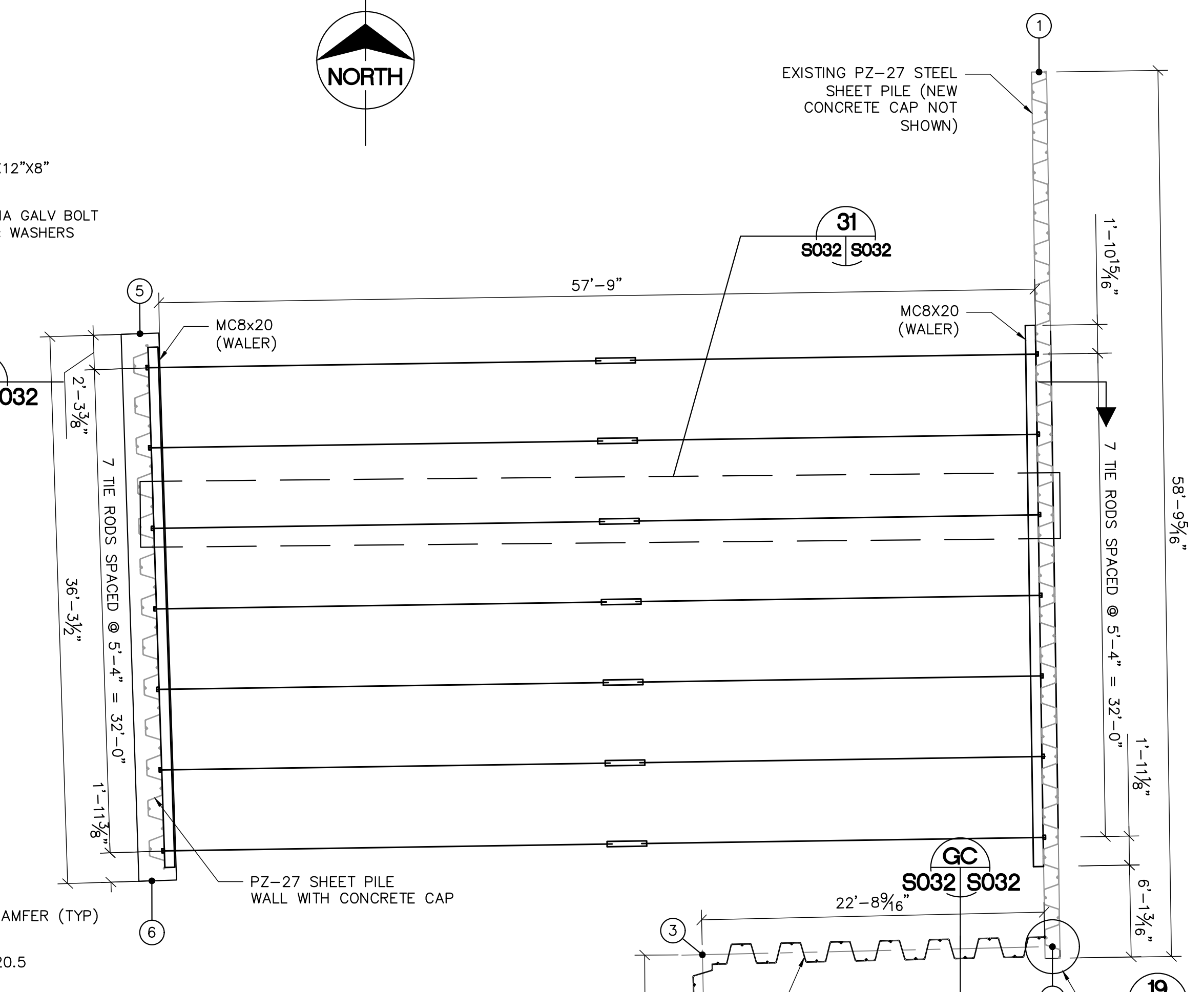
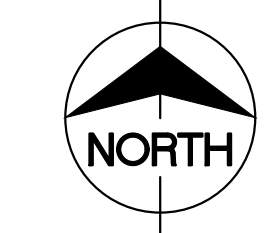
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CHECKED: S. PHAN	DATE	SCALE: AS SHOWN
REVISION DESCRIPTION	REF #	



SHEET PILE, WALER, AND TIE ROD SECTION
SCALE: NTS



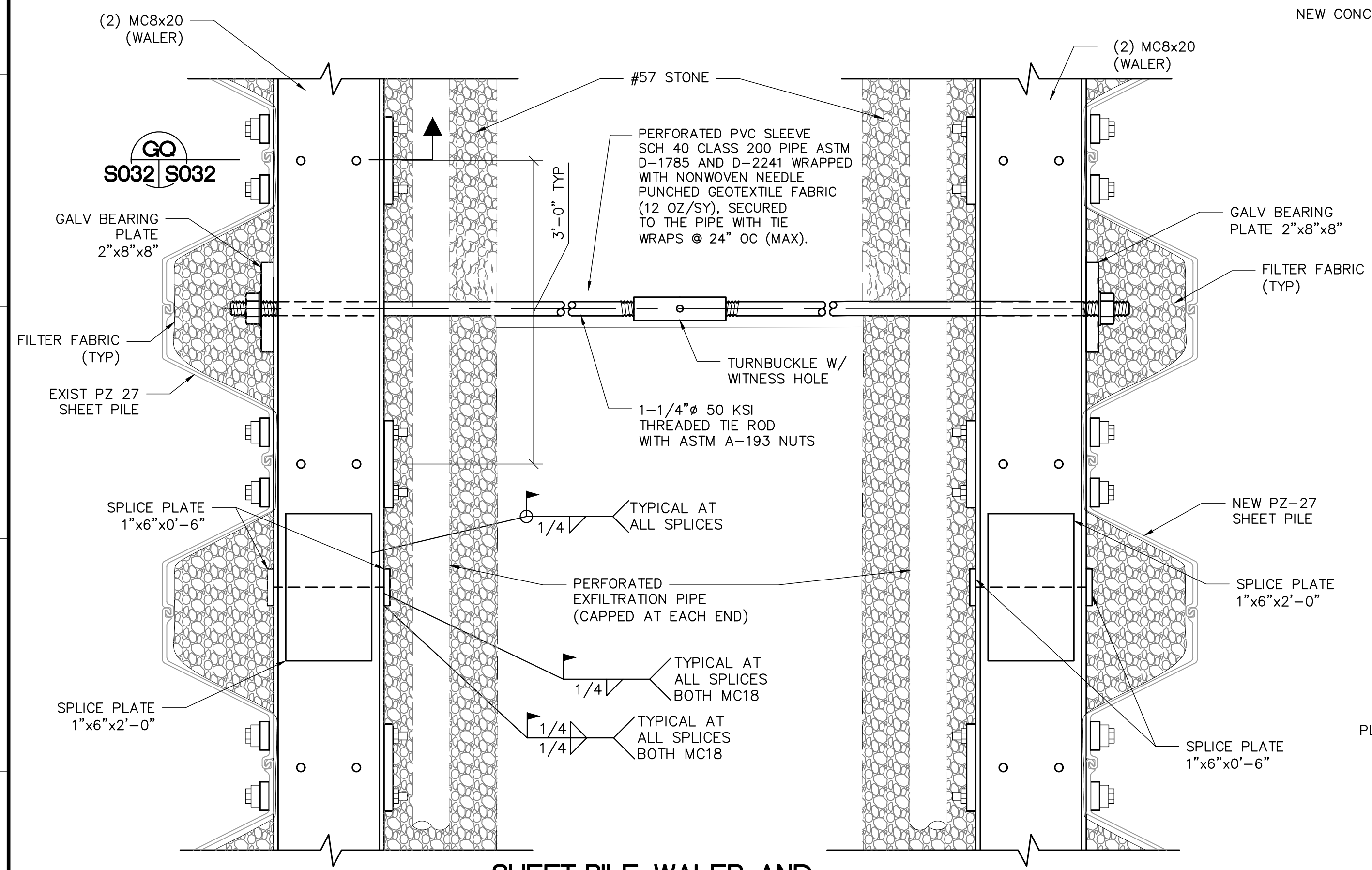
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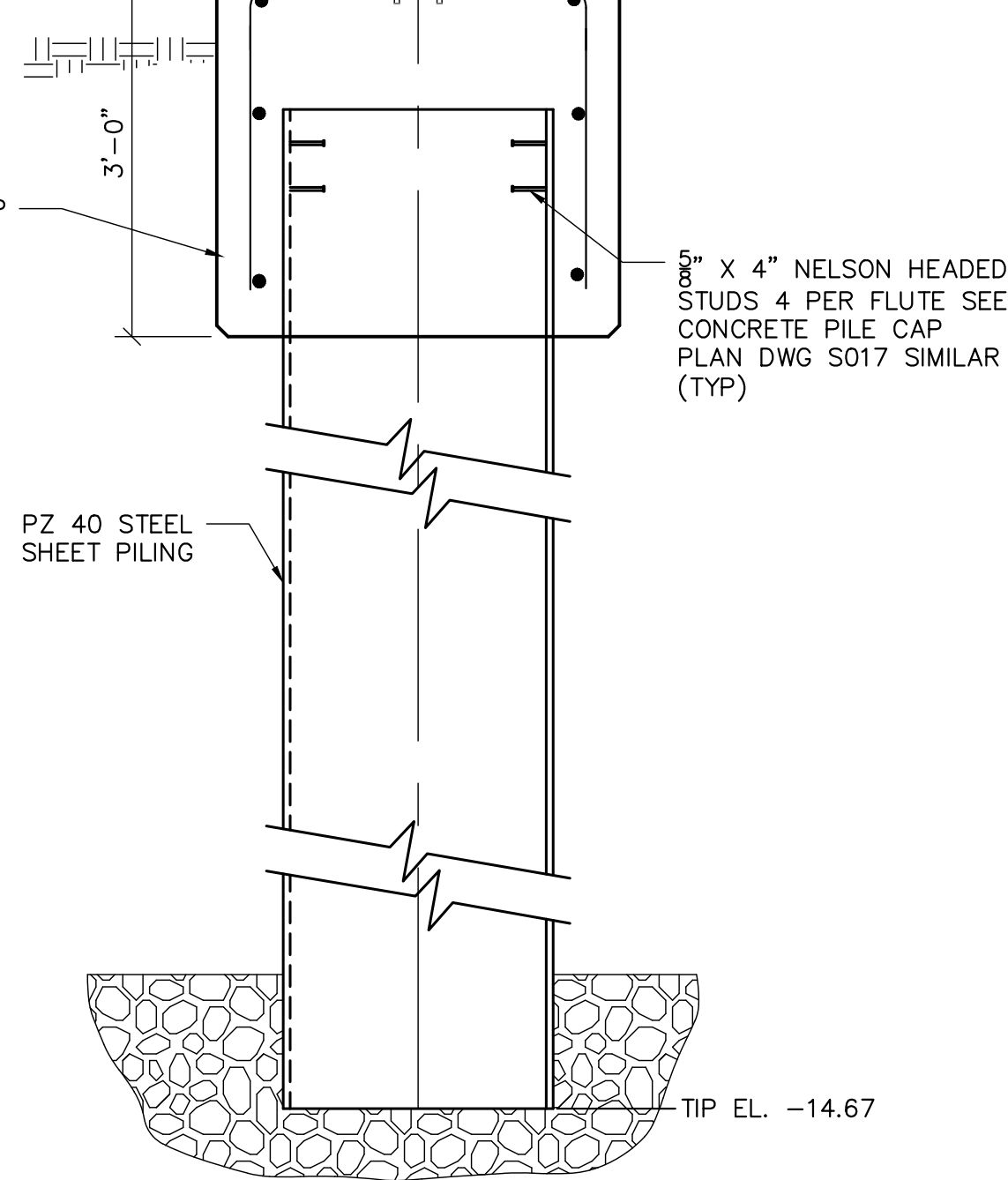
SHEET PILE PLAN VIEW
SCALE: 3/16" = 1'-0"

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION*	REMARKS
1	628563.61	838844.84	20.50	EXISTING PZ-27 SHEET PILE WALL NORTH-MOST POINT
2	628505.64	838846.91	20.50	EXISTING PZ-27 SHEET PILE WALL SOUTH-MOST POINT
3	628505.11	838823.70	20.50	NEW PZ-40 SHEET PILE WALL CORNER
4	628493.66	838823.96	20.50	NEW PZ-40 SHEET PILE WALL BUILDING CONNECTION
5	628546.26	838785.23	24.50	NEW PZ-27 SHEET PILE WALL NORTH END
6	628509.98	838786.41	24.50	NEW PZ-27 SHEET PILE WALL SOUTH END

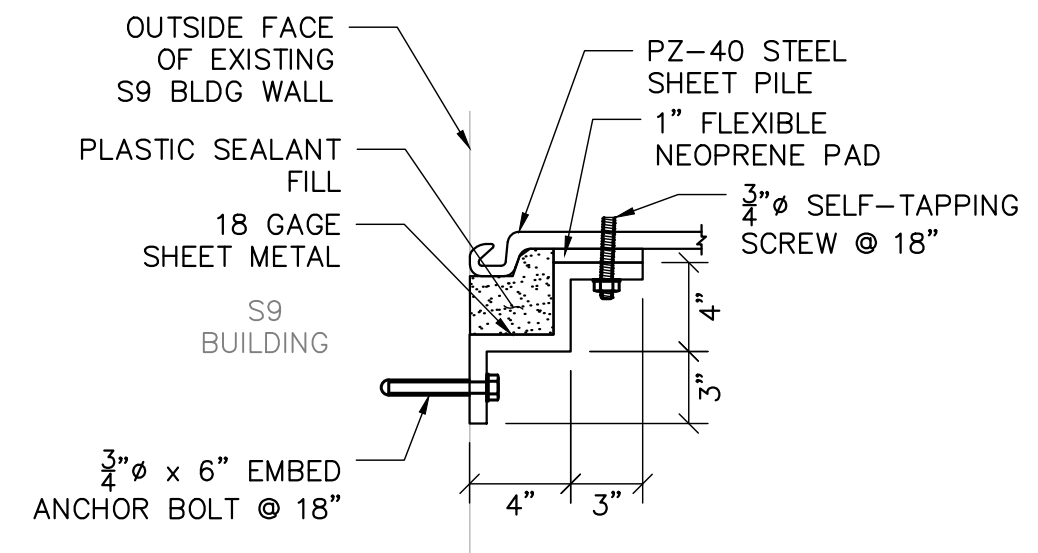
*NOTE: ELEVATION IS ON TOP OF THE CAP



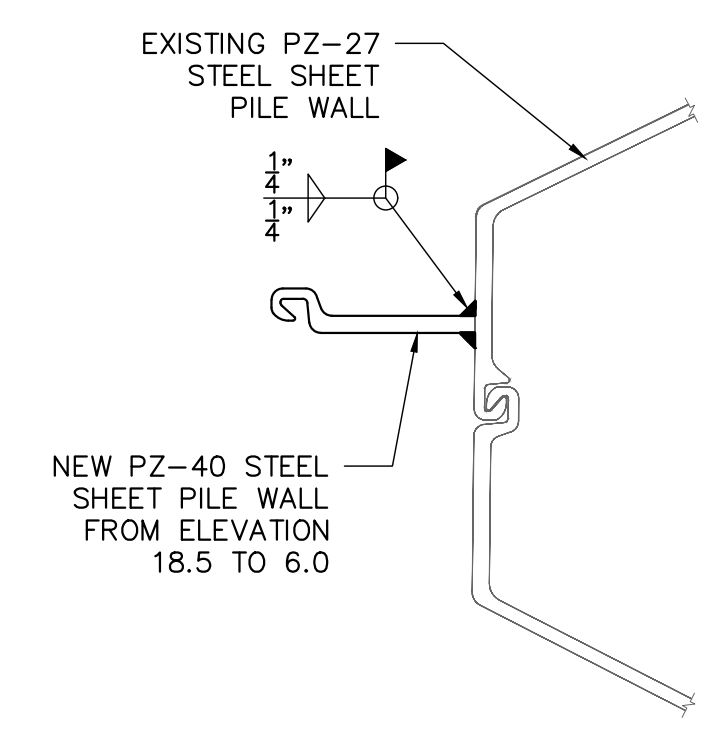
SHEET PILE, WALER, AND TIE ROD PLAN DETAIL
SCALE: NTS



SHEET PILE WALL WITH CONCRETE CAP SECTION
SCALE: NTS



SHEET PILE WALL CLOSURE DETAIL TO EXISTING S9 BUILDING
SCALE: NTS



NEW SHEET PILE WALL CLOSURE DETAIL TO EXISTING SHEET PILE
SCALE: NTS

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Sunshine 811.com

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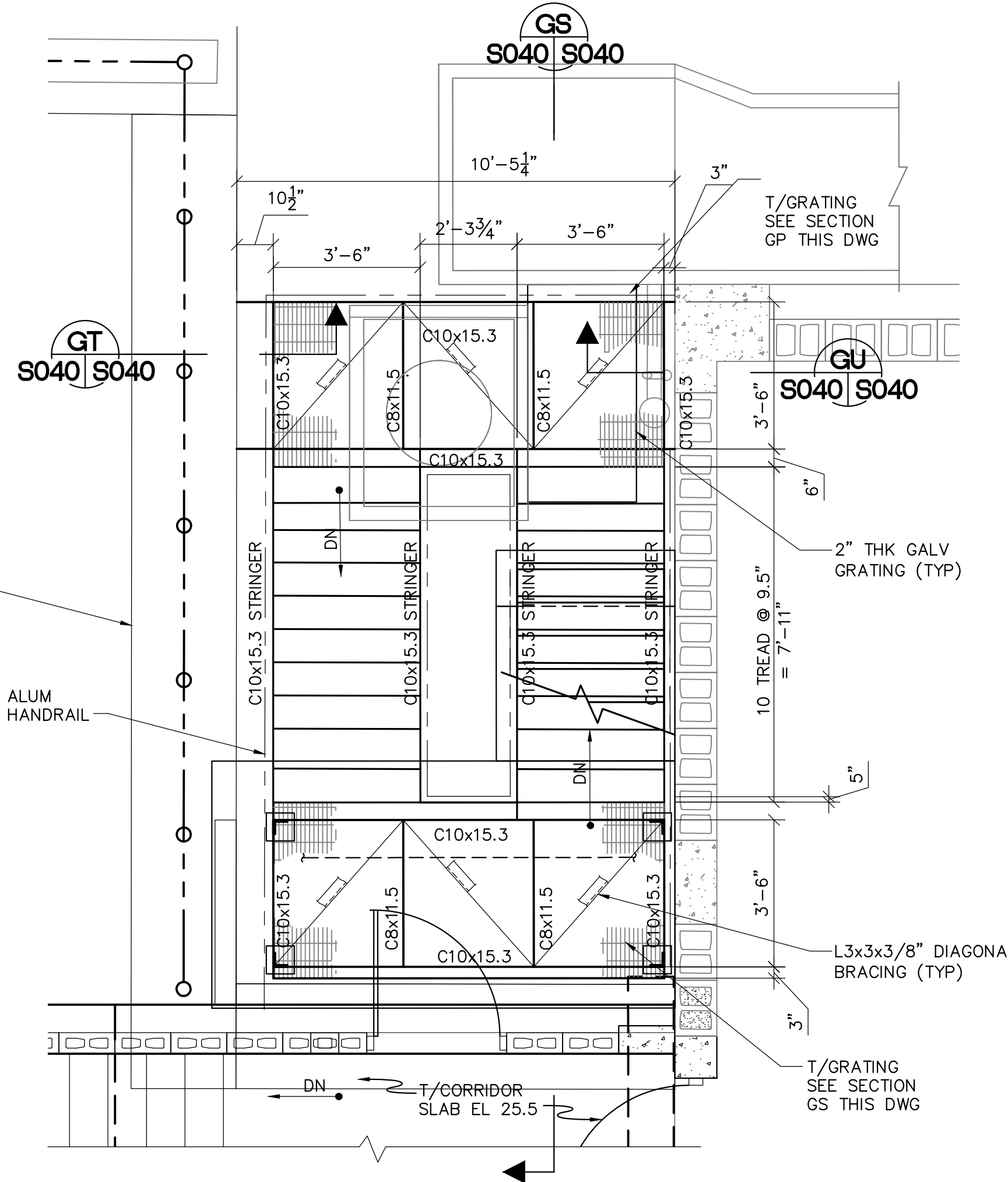
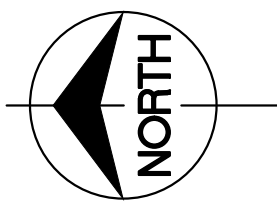
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING & CONSTRUCTION BUREAU

ENGINEER: D. DELK
DRAWN: D. DELK
CHECKED: S. PHAN
DATE: 12/2019
SCALE: AS SHOWN

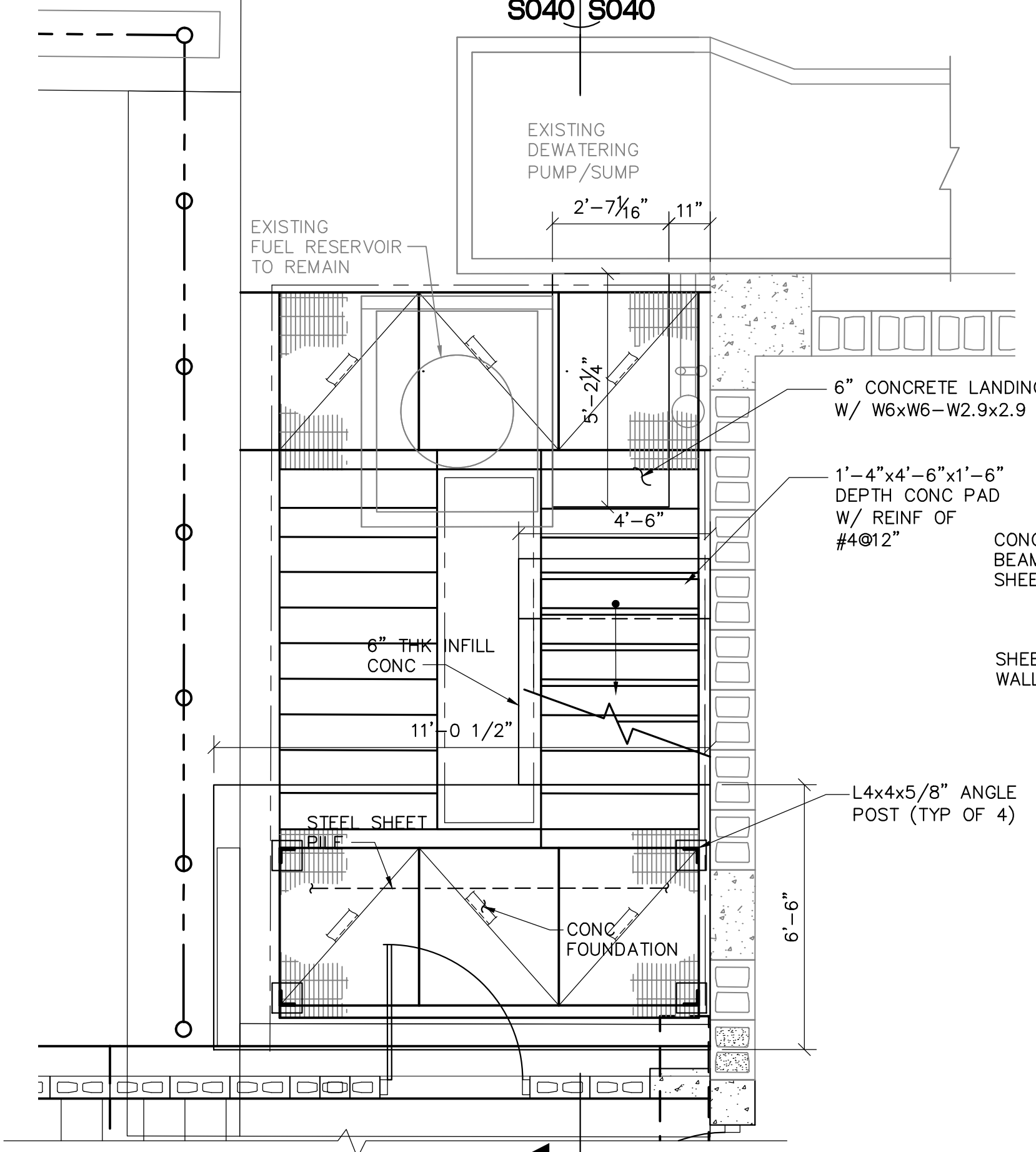
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SHEET **53 of 109**

S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS
GENERATOR BUILDING SHEET PILE WALLS AND DETAILS

REVISION DESCRIPTION

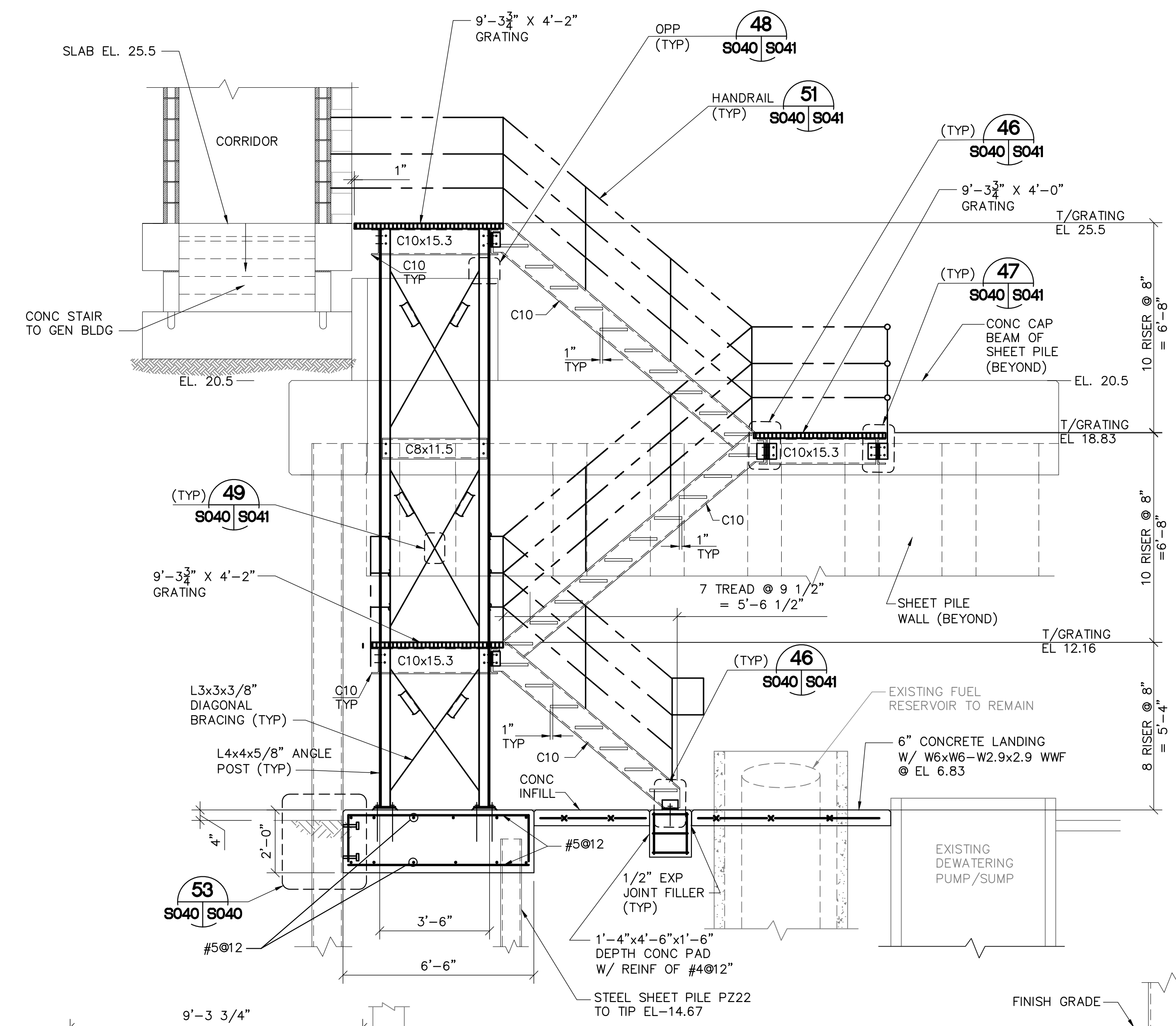


ENLARGED TOWER STAIR PLAN
SCALE: 3/8" = 1'-0"

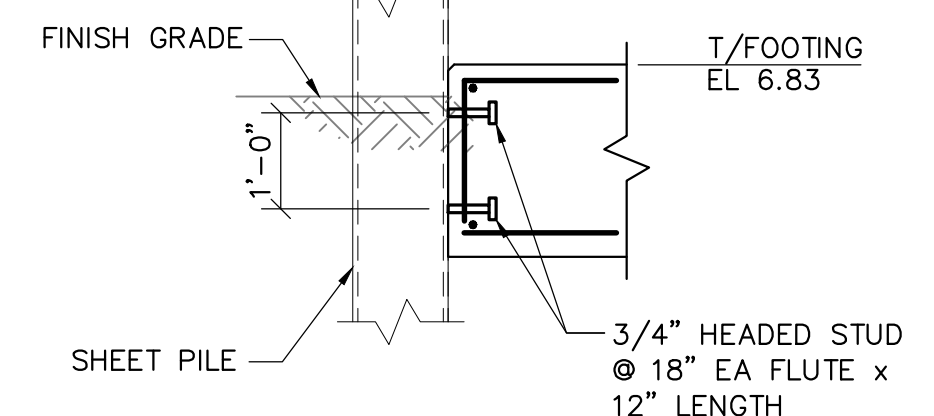


ENLARGED TOWER STAIR FOUNDATION PLAN
SCALE: 3/8" = 1'-0"

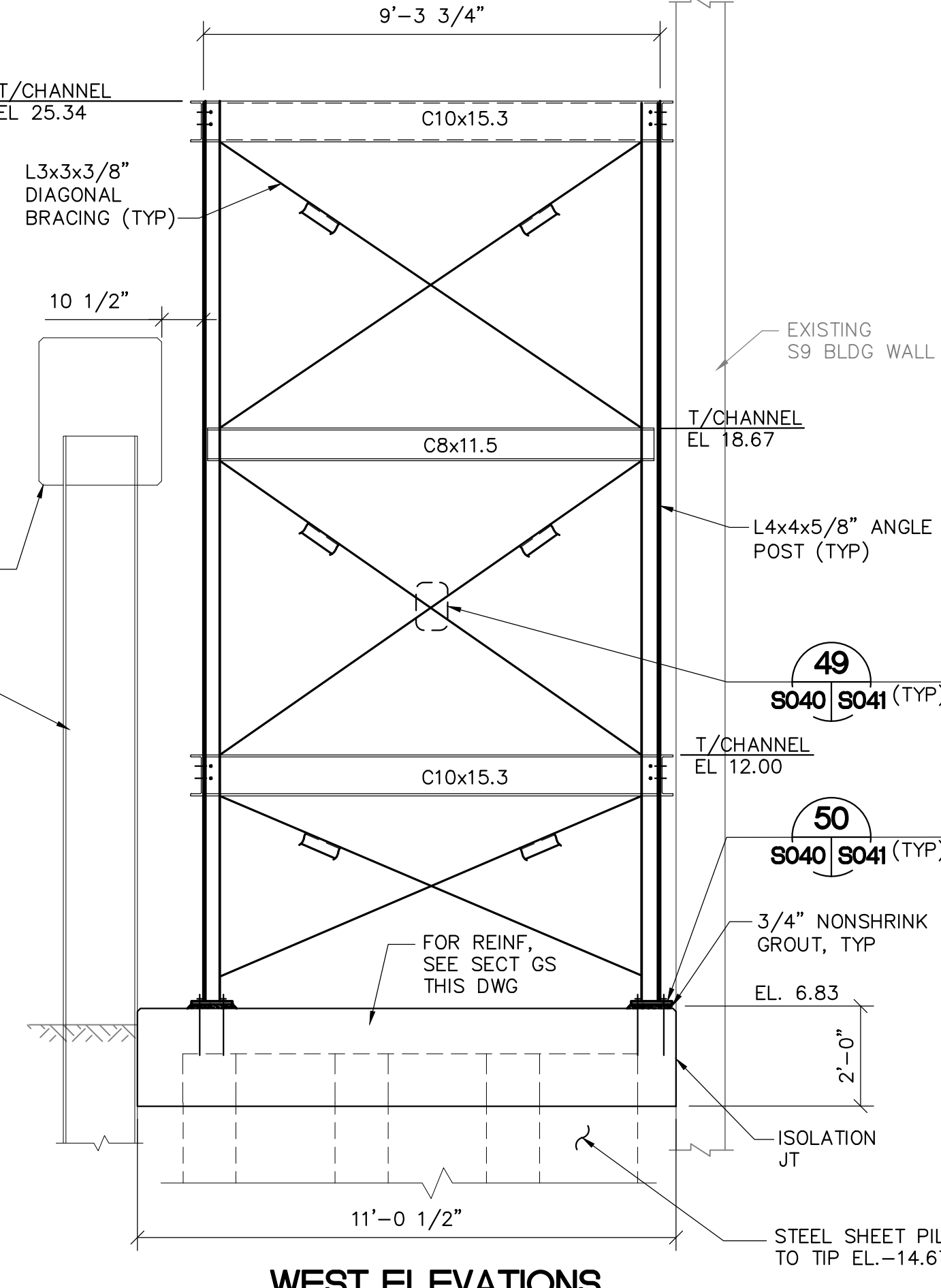
NOTE:
THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). BENCH MARK NO. "FCE 1567", (PID: AD8106) ELEVATION 25.41 NAVD88. THE NATIONAL GEODETIC VERTICAL DATUM OF 29 (NGVD29) = NAVD88 + 1.50' FOR THIS LOCATION.



SECTION GS S040 S041
3/8" = 1'-0"

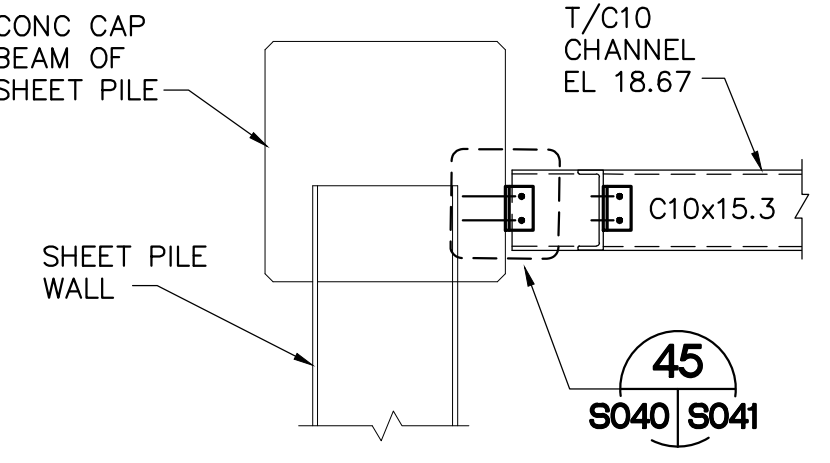


STAIR TOWER FOUNDATION CONNECTION TO SHEET PILE WALL DETAIL 53
1/2" = 1'-0"

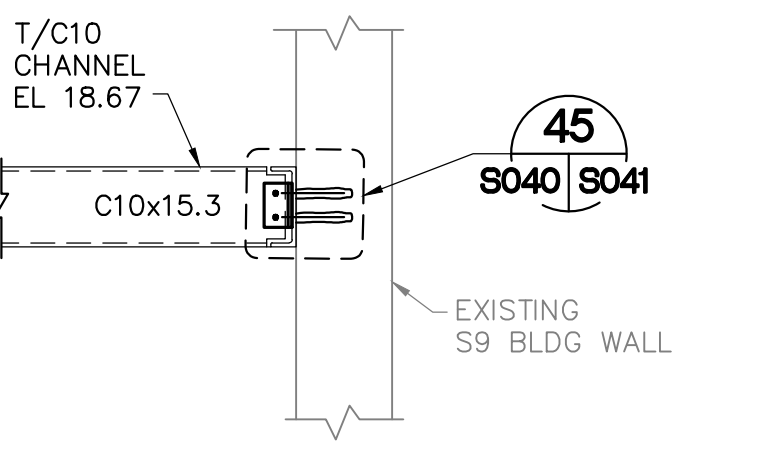


WEST ELEVATIONS

BRACING ELEVATIONS
SCALE: 3/8" = 1'-0"



SECTION GT S040 S041
3/8" = 1'-0"



SECTION GU S040 S041
3/8" = 1'-0"

Always call 811 two full business days before you dig to have underground utilities located and marked.



FINAL

ENGINEER OF RECORD:
SAM PHAN, P.E.
FLORIDA P.E. LICENSE NO: 54072

S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS STAIR TOWER PLAN AND SECTIONS

PROJECT ID NO. 100884
DRAWING NUMBER **S040**
SHEET **61 of 109**

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING & CONSTRUCTION BUREAU
PHONE: 561-686-8800
3301 GUN CLUB ROAD
WEST PALM BEACH, FLORIDA 33406

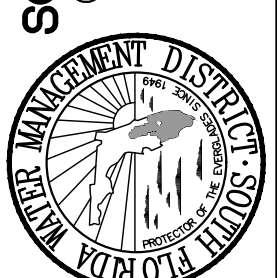


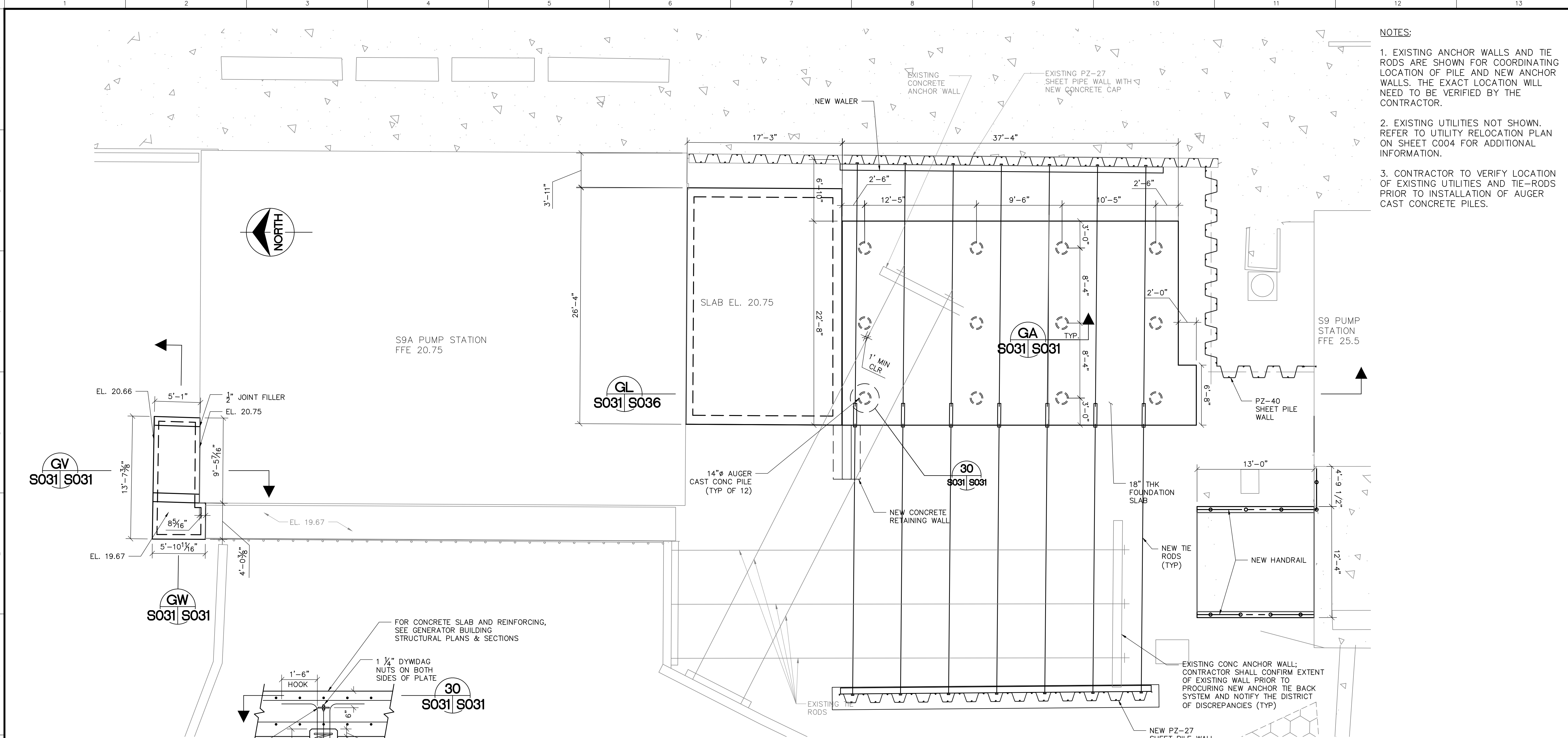
ENGINEER: D. DELK
DRAWN: D. DELK
CHECKED: S. PHAN
DATE: 12/2019
SCALE: AS SHOWN

REVISION DESCRIPTION	DATE	DRAWN	REF#

The consultant, contractor or other parties associated with this project shall comply with Florida Statutes Chapter 119. These plans are the property of the District and must be secured and maintained in a confidential manner. Review by any unauthorized individual or outside third party not performing work necessary for this project is prohibited.

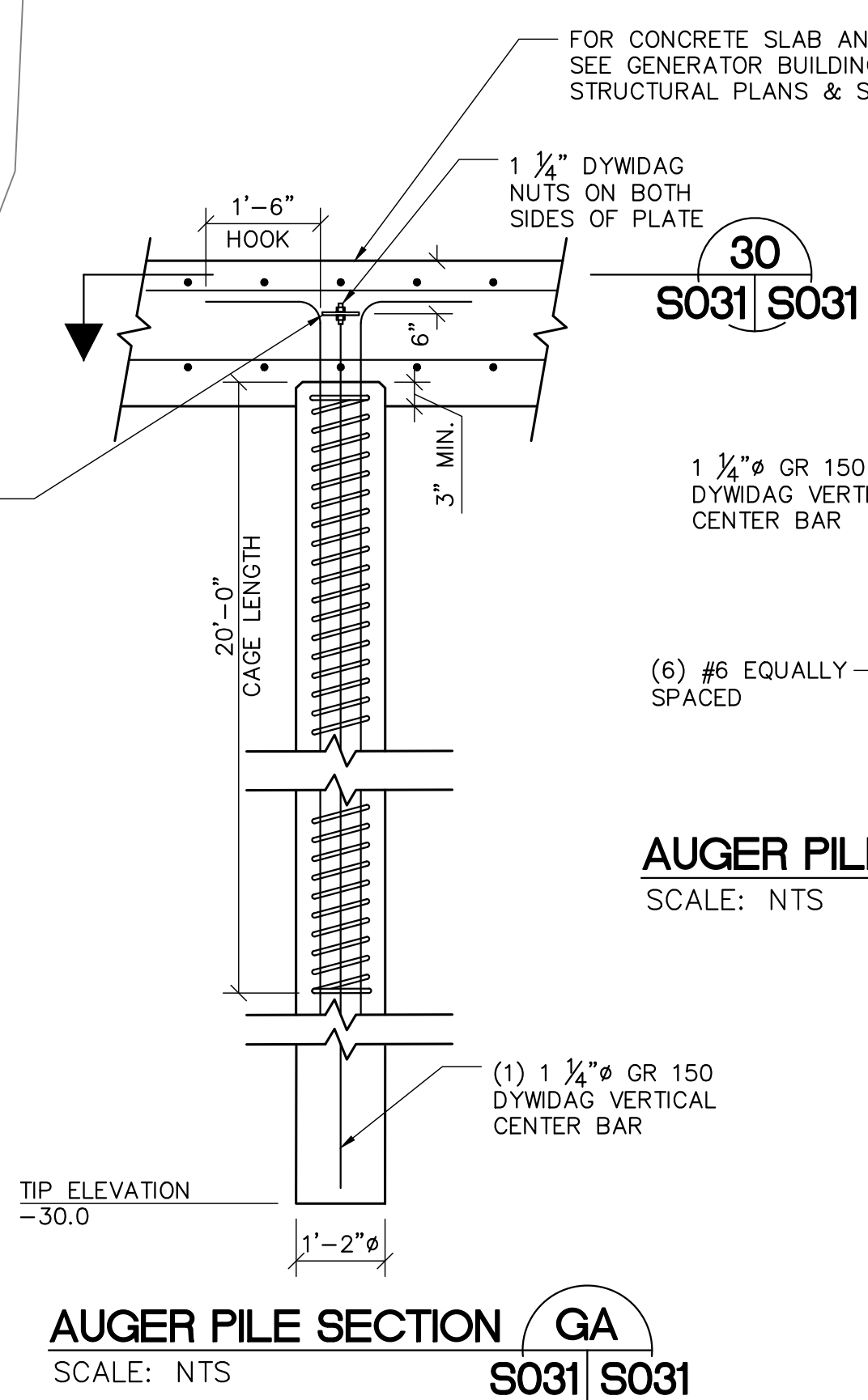
- NOTES:**
- EXISTING ANCHOR WALLS AND TIE RODS ARE SHOWN FOR COORDINATING LOCATION OF PILE AND NEW ANCHOR WALLS. THE EXACT LOCATION WILL NEED TO BE VERIFIED BY THE CONTRACTOR.
 - EXISTING UTILITIES NOT SHOWN. REFER TO UTILITY RELOCATION PLAN ON SHEET C004 FOR ADDITIONAL INFORMATION.
 - CONTRACTOR TO VERIFY LOCATION OF EXISTING UTILITIES AND TIE-RODS PRIOR TO INSTALLATION OF AUGER CAST CONCRETE PILES.

ENGINEER: D. DELK	DATE	REVISION DESCRIPTION
DRAWN: D. DELK	DATE	REF #
CHECKED: S. PHAN	DATE	
DATE: 12/2019	SCALE: AS SHOWN	
SOUTH FLORIDA WATER MANAGEMENT DISTRICT OPERATIONS, ENGINEERING & CONSTRUCTION DIVISION ENGINEERING & CONSTRUCTION BUREAU PHONE: 561-686-8800 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		
		
S9 AND S9A TRASH RAKE AND PUMP STATION REFURBISHMENTS GENERATOR BUILDING FOUNDATION AND PILING PLAN		
PROJECT ID NO. 100884 DRAWING NUMBER S031 SHEET 52 of 109		



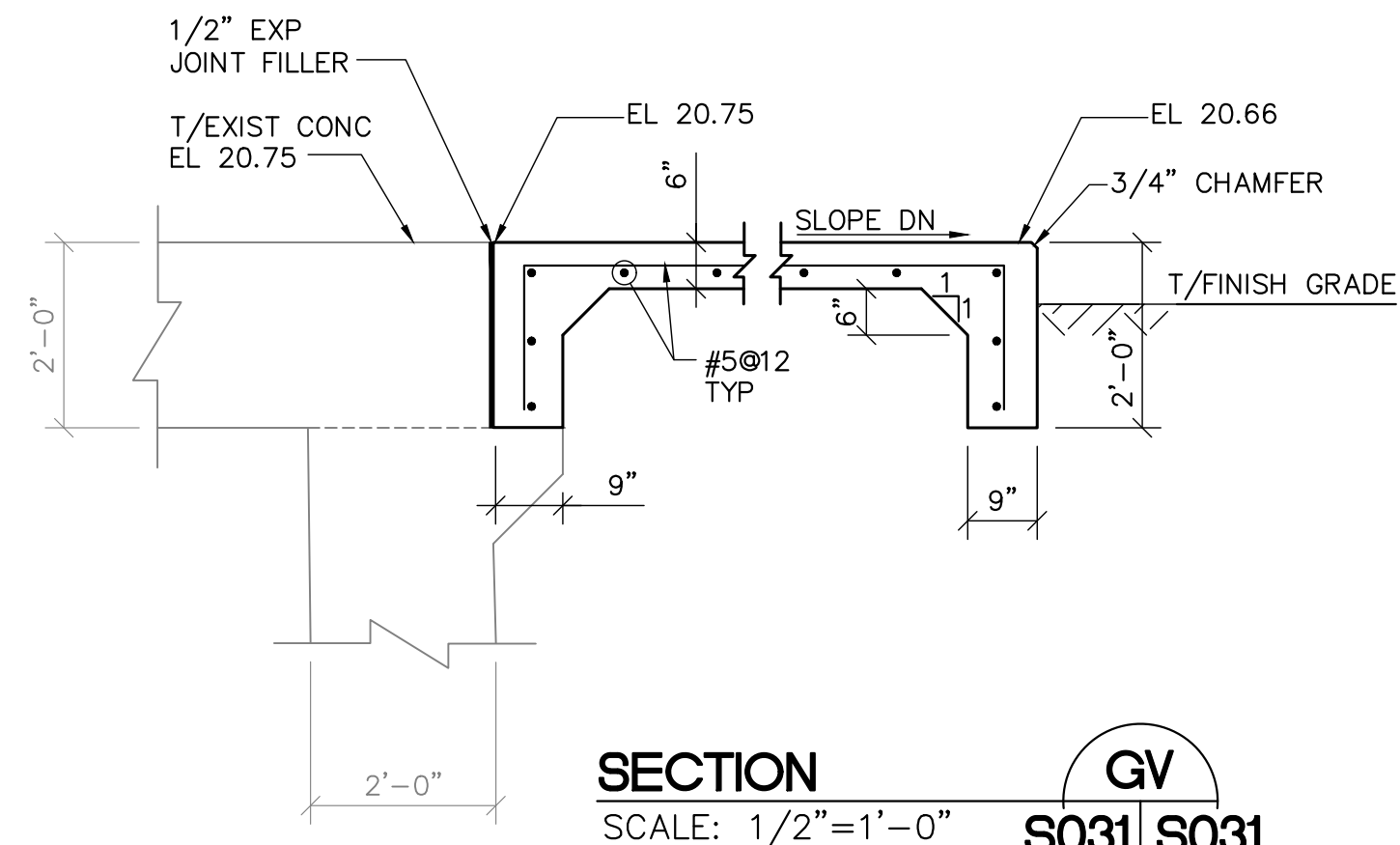
GENERATOR BLDG FOUNDATION PLAN
SCALE: 3/16" = 1'-0"

- AUGER CAST PILE NOTES:**
- AUGER CAST PILES ARE DESIGNED FOR:
 - ALLOWABLE COMPRESSION CAPACITY = 60 TONS
 - ALLOWABLE TENSION CAPACITY = 30 TONS
 - REFER TO SUPPLEMENTAL GEOTECHNICAL MEMORANDUM BY RADISE, MARCH 2017 FOR ADDITIONAL INFORMATION.

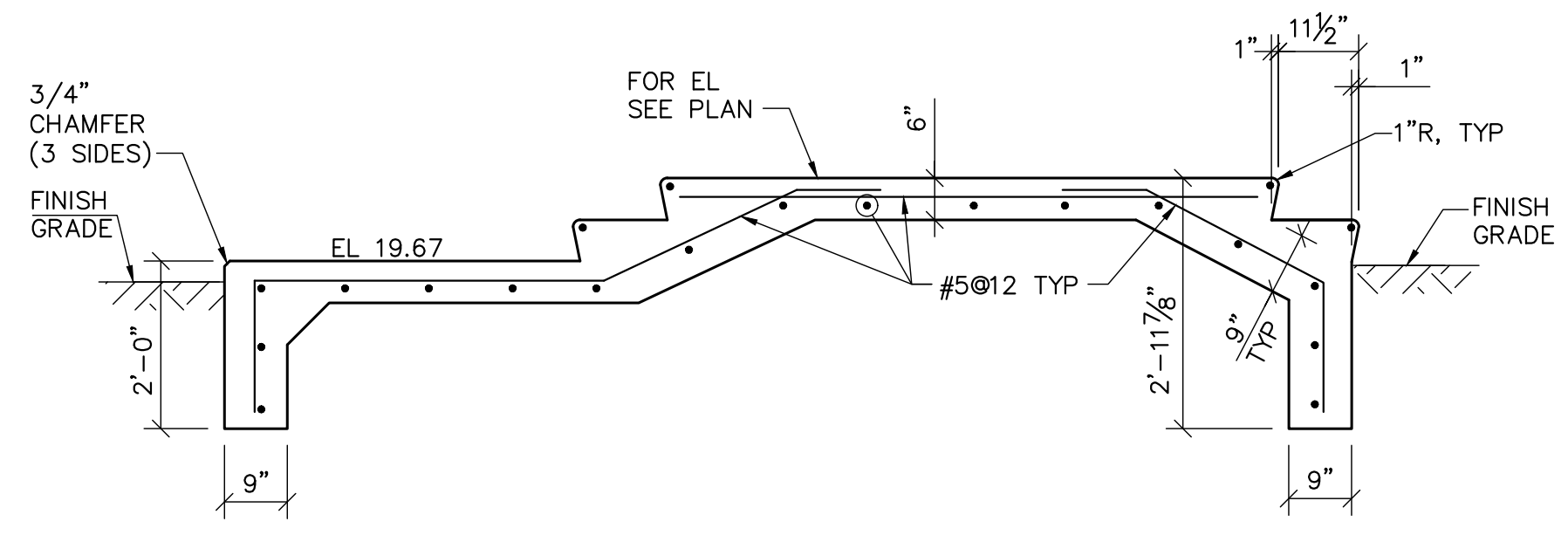


AUGER PILE DETAIL 30 S031 S031
SCALE: NTS

AUGER PILE SECTION GA S031 S031
SCALE: NTS



SECTION GV S031 S031
SCALE: 1/2" = 1'-0"



SECTION GW S031 S031
SCALE: 1/2" = 1'-0"

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