

SDP-23-08 / Site Development Plan /
Tidal Wave Car Wash
APPROVED
Date: December 31, 2024

Meredith J. Underwood

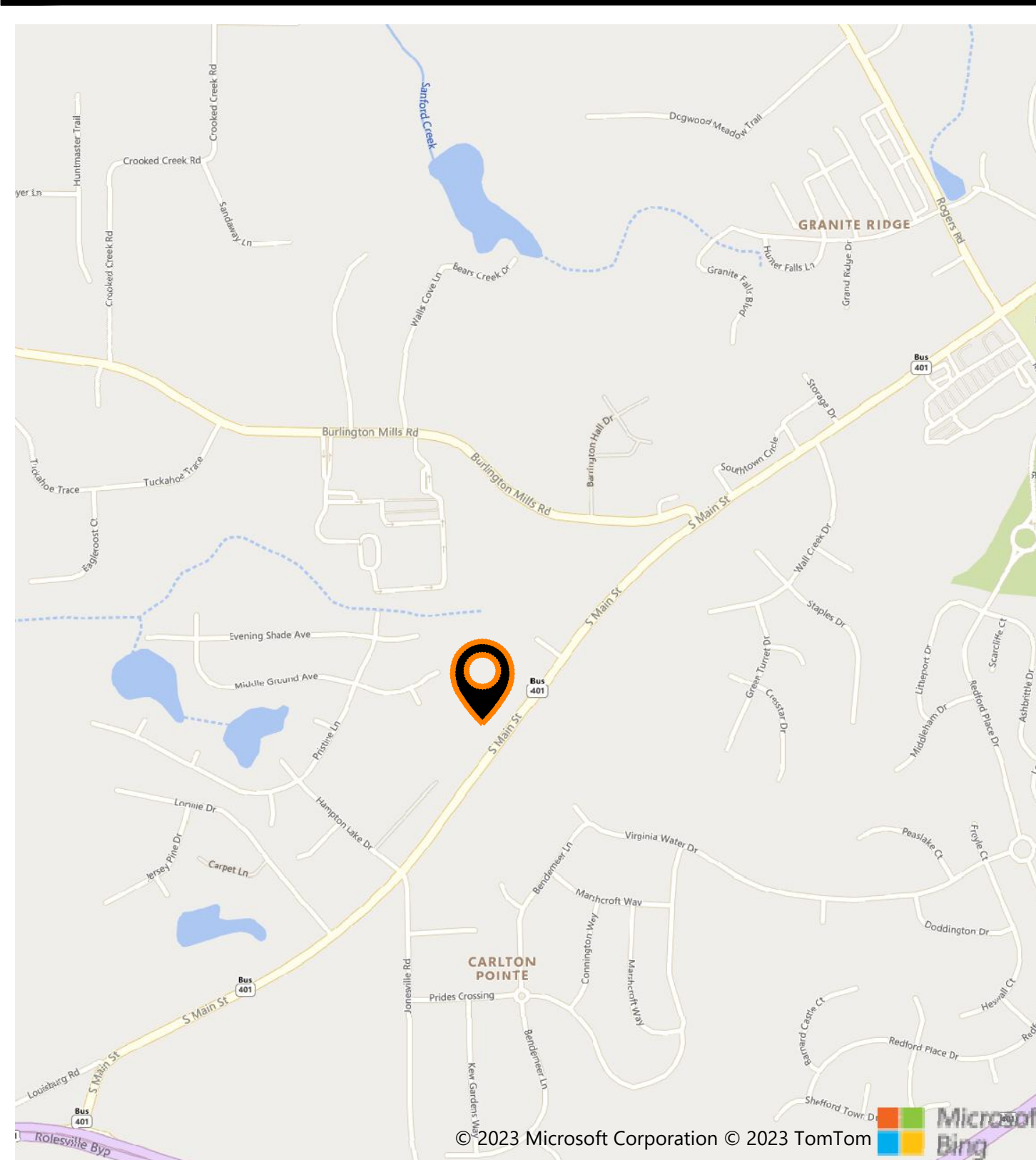
Town of Rolesville Planning Department

TIDAL WAVE AUTO SPA

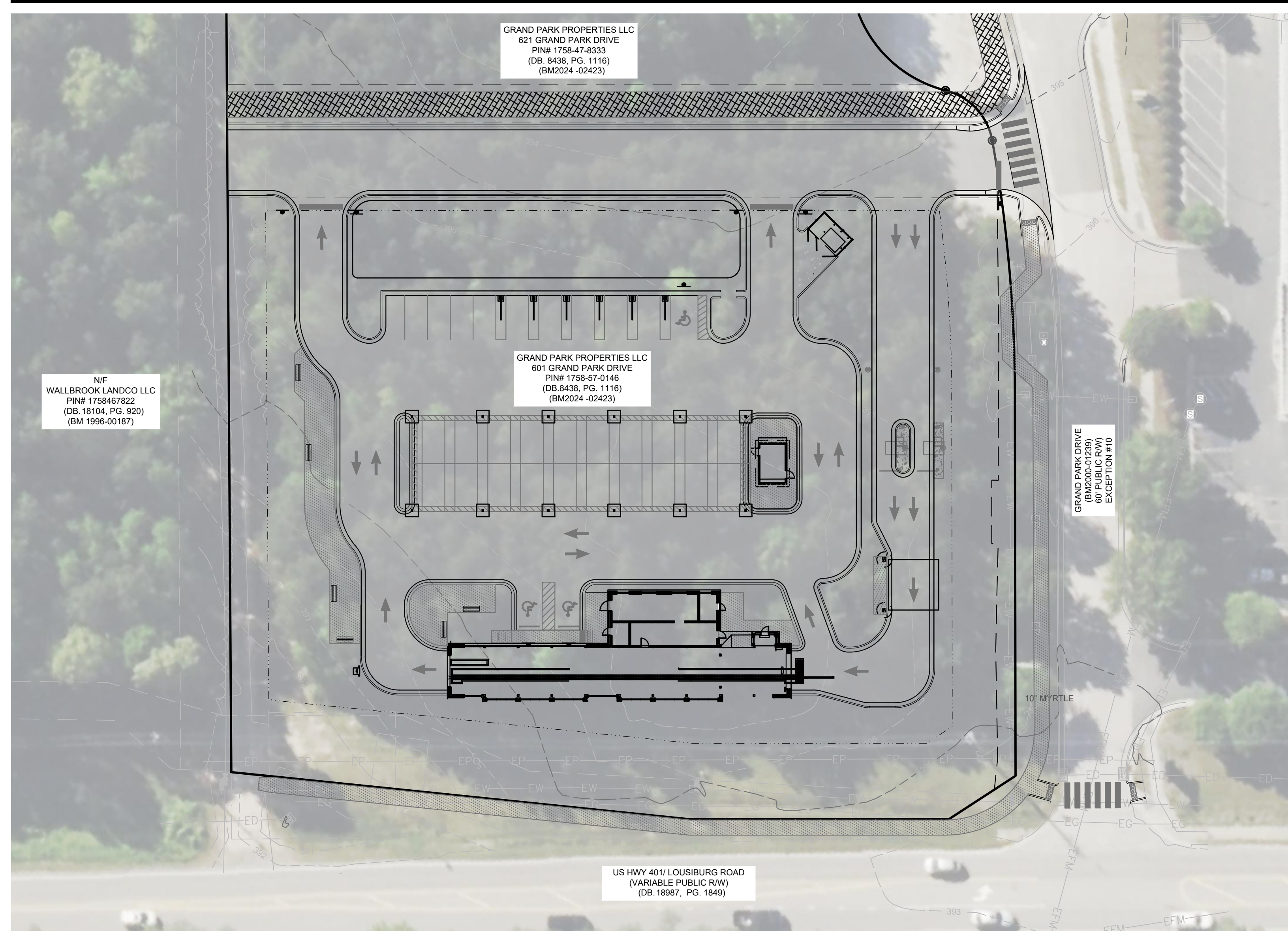
ROLESVILLE, NC, USA

TOWN PROJECT ID # V6-SDP-23-08

SITE LOCATION MAP



SITE OVERVIEW



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PROJECT DESCRIPTION

PROJECT DATA:
THIS PROJECT IS LOCATED ON A 1.92 ACRE SITE, IN ROLESVILLE, NC. THE PROPERTY AS IT EXISTS IS AN UNDEVELOPED LOT. THE PROPOSED DEVELOPMENT WILL BE AN AUTOMATED CAR WASH WITH ASSOCIATED PARKING AND INFRASTRUCTURE.

FLOOD ZONE:
THIS PROPERTY IS LOCATED OUTSIDE OF ANY REGULATED FLOOD ZONES, ZONEX (OTHER AREAS), NAVD88, SCALED FROM THE FIRM THE TOWN OF ROLESVILLE, NORTH CAROLINA PANEL NO. 3720175800K.

PROPERTY INFORMATION:
PARCEL ID: 1758-57-0146
ZONING DISTRICT: GENERAL COMMERCIAL CONDITIONAL ZONING (GC-CZ) PER REZ-24-03

GENERAL NOTES

PROJECT SURVEY INFORMATION AND CONTRACTOR VERIFICATION REQUIREMENTS

- BOUNDARY, TOPOGRAPHIC, TREE, WETLAND DELINEATION, AND OTHER EXISTING CONDITIONS SHOWN ARE FROM SURVEY PREPARED BY MSP & ASSOCIATES LAND SURVEYING, INC.
- ALL ELEVATIONS ARE BASED ON NAVD88 DATUM.
- THE CONTRACTOR SHALL VERIFY THE EXISTING TOPOGRAPHIC WORK, EXISTING UTILITY LINE LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING WORK. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES ON THE DRAWINGS PRIOR TO BEGINNING WORK OR DURING CONSTRUCTION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- THE CONTRACTOR SHALL MAINTAIN AND BE SOLELY RESPONSIBLE FOR JOBSITE SAFETY.
- AN AUTOCAD BASE PLAN OF THIS DRAWINGS CAN BE PROVIDED TO THE CONTRACTOR UPON REQUEST. ENGINEER SHALL NOT BE RESPONSIBLE FOR ERRORS IN ELECTRONIC DATA.
- THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL PLANS AND COORDINATION WITH THE TOWN OF ROLESVILLE AND NCDOT FOR LANE/ROAD CLOSURE AS NEEDED THROUGHOUT CONSTRUCTION.
- ALL SITE WORK TO BE PERFORMED IN CONFORMANCE WITH THE TOWN OF ROLESVILLE CODE OF ORDINANCE. MATERIAL SPECIFICATIONS ARE PROVIDED IN THE SPECIFICATIONS AND SPECIAL PROVISIONS SECTION.
- ALL UTILITY INSTALLATIONS, PUBLIC AND PRIVATE, SHALL BE PERFORMED IN CONFORMANCE WITH THE CITY OF RALEIGH WATER AND SEWER POLICIES, PROCEDURES, STANDARDS AND SPECIFICATIONS.
- THIS DEVELOPMENT IS NOT REQUIRED TO PERFORM A TRAFFIC IMPACT ANALYSIS PER DETERMINATION BY LAND DEVELOPMENT ADMINISTRATOR ON 02/14/2024 PER LDO SECTION 8.C.5.

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT

APPROVED
EROSION CONTROL SEC-113756-2023
STORMWATER MGMT. SWF-113754-2023
FLOOD STUDY SWF-
DATE 01/28/2025

ENVIRONMENTAL CONSULTANT SIGNATURE

PROJECT CONTACTS

DEVELOPER:
SHJ DEVELOPMENT, LLC
124 EAST THOMPSON STREET
POST OFFICE DRAWER 311
THOMASTON, GA 30286
CONTACT: ALEX PERRY
PHONE: 478-972-2418

OWNER:
GRAND PARK PROPERTIES, LLC
2636 WAIT AVENUE
WAKE FOREST, NC 27587
CONTACT: GEORGE M. UPCHURCH, JR.

CIVIL ENGINEER & LANDSCAPE ARCHITECT:
SEAMON WHITESIDE & ASSOCIATES, LLC
230 E PETERSON DR
CHARLOTTE, NC 28217
CONTACT: TOMMIE LITTLE
PHONE: 980-312-5450

UTILITY CONTACTS:
CITY OF RALEIGH PUBLIC UTILITIES
ONE EXCHANGE PLAZA,
RALEIGH, NC 27601
PHONE: 919-996-3245

SOURCES:
SURVEYOR
MSP & ASSOCIATES
LAND SURVEYING INC.
301 E. HILLCREST DR.
GREENVILLE, SC, 29609
PHONE: (864) 370-2232

Public Water Distribution / Extension System
The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh
Public Utilities Department Permit # WI-4162
Authorization to Construct _____
Date _____

ATTENTION CONTRACTORS
The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the *Public Works Department* at (919) 996-2409, and the *Public Utilities Department* at (919) 996-4540 at least *twenty-four hours* prior to beginning any of their construction.
Failure to notify both *City Departments* in advance of beginning construction, will result in the issuance of *monetary fines*, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.
Failure to call for *Inspection, Install a Downstream Plug, have Permitted Plans on the Jobite, or any other Violation of City of Raleigh Standards* will result in a *Fine and Possible Exclusion* from future work in the *City of Raleigh*.

SITE INFORMATION:
ADDRESS: 601 GRAND PARK DRIVE, ROLESVILLE, NC
PROPERTY AREA: 1.92 ACRES
PARCEL: 1758-57-0146
EXISTING USE: UNDEVELOPED
PROPOSED USE: CAR WASH
TOWN CORPORATE ZONING LIMITS PER ANX-24-02:
PROPERTY ZONING: GENERAL COMMERCIAL CONDITIONAL ZONING (GC-CZ) PER REZ-24-03
BUILDING SETBACKS:
FRONT (SE): 30'
CORNER (NE): 25'
REAR (NW): 35'
SIDE (SW): 15'
PERIMETER LANDSCAPE YARDS:
NORTHEAST: 15'
REQUIRED OPEN SPACE (5%) = 0.01 AC (4182 SF)
PRE VS. POST DEVELOPMENT AREA:
SITE AREA: 1.92 AC
PRE-IMPERVIOUS AREA: 0.04 AC (2.08%)
POST-IMPERVIOUS AREA: 1.30 AC (67.7%)
PARKING NOTE:
PARKING REQUIRED:
1 SPACE PER 400 SF GFA OR 5 SPACES MINIMUM = 5 SPACES
PARKING PROVIDED:
EMPLOYEE SPACES: 5 SPACES
(4 MAX ON SHIFT)
VACUUM STALLS: 26 STALLS (1 ADA)
ADA PARKING: 2 SPACES
TOTAL PARKING: 33 SPACES
BIKE PARKING:
REQUIRED: 1 SPACE (1 SPACE PER 5000 SF GFA)
PROVIDED: 4 SPACES

MOUNT PLEASANT, SC 843.884.1667
GREENVILLE, SC 864.298.0534
SUMMERSVILLE, SC 843.972.0710
SPARTANBURG, SC 864.272.1272
CHARLOTTE, NC 980.312.5450
WWW.SEAMONWHITESIDE.COM



TIDAL WAVE AUTO SPA

ROLESVILLE, NC

SW+ PROJECT: 10772
DATE: 1/28/24
DRAWN BY: CPE
CHECKED BY: TLL

REVISION HISTORY

A	12/22/23	F	11/06/24
B	03/01/24	G	12/20/24
C	09/04/24	H	1/03/25
D	10/01/24		
E	11/01/24		

TITLESHEET

501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29566 | JUDSON HALL BUILDING 6008, 3RD FLOOR | GREENVILLE, SC 29614 | 230 PETERSON DR. | CHARLOTTE, NC 28217 | 701 N. GERRARD STREET | SUMMERSVILLE, SC 29086 | 104 N. DANIEL MORGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29301



501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29564 | JUDSON HILL BUILDING GROUP, 3741 BLACK FLORISSANCE, SUITE 600 | GREENVILLE, SC 29614 | 230 PETERSBORO, CHARLOTTE, NC 28217 | 7011 GEMAS STREET | SUMMERVILLE, SC 29585 | 101 N. DANIEL MORGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29301
 COPYRIGHT © SEAMON WHITESIDE & ASSOCIATES, INC. | THIS DRAWING SHALL NOT BE REPRODUCED IN ANY MANNER OR FOR ANY PURPOSE WITHOUT WRITTEN PERMISSION

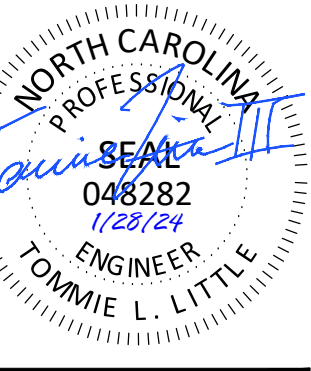
DRAWING LEGEND

NOTE: THIS LEGEND DOES NOT APPLY TO 'EXISTING CONDITIONS' SHEET(S). THOSE ARE SHOWN IN THE ORIGINAL FORMAT AS RECEIVED BY THE SURVEYOR

OBJECTS AND SYMBOLS	EXISTING	NEW	OBJECTS AND SYMBOLS	EXISTING	NEW	HATCH PATTERNS	SWPP PLAN LEGEND
Right of Way			Benchmark		N/A		Turf Reinforcement Mat
Lot Line			Sanitary Sewer Manhole			Demo Existing Gravel	Sodding (See Turf and Grasses Specs)
Adjoining Property Line		N/A	Sanitary Sewer Manhole ID #	N/A			Temporary Seeding (See Schedule in EC Notes)
Easement		N/A	Sanitary Sewer Cleanout			Demo Existing Trees	Permanent Seeding (See Turf and Grasses Specs)
Setback		(Same as Existing)	TYPE 1 Storm Drainage Structure (CI-1)				Erosion Control Blanket (See Turf and Grasses Specs)
Sanitary Sewer (Gravity)			Catch Basin (CB)			Proposed Sidewalk	Concrete Washout Basin
Sanitary Sewer (Force Main)			Storm Drainage Junction Box (JB)				Block & Stone Inlet Protection
Water Line			Yard Inlet (YI)			Heavy Duty Concrete Pavement	Filter Fabric Inlet Protection
Curb & Gutter (Straight)			Control Structure (CS)				Construction Entrance
Curb & Gutter (Roll)			Storm Drainage Structure ID #	N/A		Standard Duty Concrete Pavement	Dandy Sack or Grate Gator Inlet Protection
Previous Phase Storm Drain Pipe		N/A	Telephone Box		N/A	Asphalt Greenway	
Storm Drain Pipe			Telephone Manhole		N/A	Area to be Permanently Stabilized	
Drainage Flow Arrow	N/A		Electrical Box		N/A		
Silt Fence, Standard			Electrical Manhole		N/A		
Match Line	N/A		Power Pole				
Drainage Basin Limits	N/A		Light Pole				
Conduit			Fire Hydrant Assembly				
Natural Gas			Water Line Valve				
Overhead Electrical			Water Line Reducer				
Underground Electrical			Sign				
Underground Telephone			ADA Accessible Parking Space				
Fence			Spot Elevation				
Elevation Contour			Drainage Basin Area	N/A			
Revision Cloud (Encloses Revision)	N/A		Parking Count ID #	N/A			
			Revision ID #	N/A			
			Rip Rap at Pipe Outlet	N/A			



MOUNT PLEASANT, SC 843.884.1667
 GREENVILLE, SC 864.298.0534
 SUMMERVILLE, SC 843.972.0710
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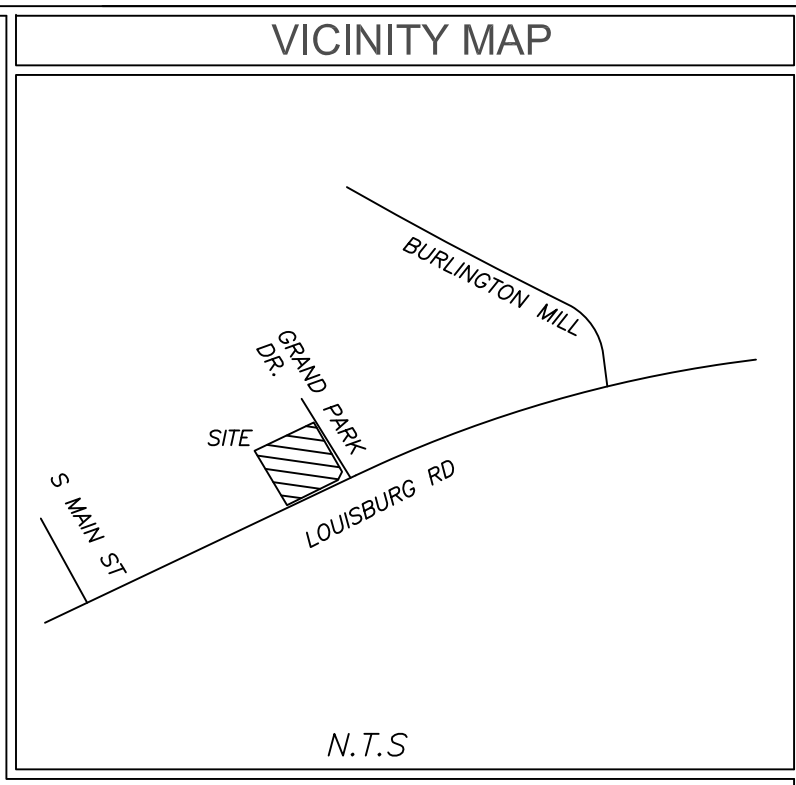


TIDAL WAVE AUTO SPA
 ROLESVILLE, NC

SW+ PROJECT: 10772
 DATE: 1/28/24
 DRAWN BY: CPE
 CHECKED BY: TLL

REVISION HISTORY	
10/30/23	
A 12/22/23	F 11/06/24
B 03/01/24	G 12/20/24
C 09/04/24	H 1/03/25
D 10/01/24	
E 11/01/24	

LEGEND & REVISION NOTES



TITLE EXCEPTIONS

- Schedule B-Section II Title Exceptions
 Fidelity National Title Insurance Company
 Commitment Number: NC252306067V;NACS230520; Effective Date: June 29, 2023
- Easements, rights of ways, boundary lines, and improvements as set forth on Plat recorded in Book of Maps 2000, Page 1239, Book of Maps 1996, Page 1582, Book of Maps 1999, Page 1039, and Book of Maps 2003, Page 614, Wake County Registry. (AFFECTS SITE AS PLOTTED)
 - Deed of Easement Vehicular Access and Utility Services to Elevated Water Tank Facility from Grand Park Properties LLC to the City of Raleigh, dated May 5, 2003 and recorded in Book 10123, Page 2779, Wake County Registry. (AFFECTS SITE AS PLOTTED)
 - Right of way conveyance and easements contained in Deed for Highway Right of Way in favor of the Department of Transportation dated April 1, 2021, recorded April 11, 2022, in Book 18987, Page 1849, Wake County Registry. (AFFECTS SITE AS PLOTTED)
 - Cross Access Easement Agreement between Wallbrook Landco LLC and Grand Park Properties, LLC, dated April 12, 2022 and recorded in Book 18988, Page 1102, Wake County Registry. (AFFECTS SITE: UNABLE TO PLOT; NO DESCRIPTION OR MEASUREMENTS FOR EASEMENT)

SURVEYORS CERTIFICATION

* To: Fidelity National Title Insurance Company and TWAS Properties LLC, a Delaware limited liability company

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1-6a,b,7a,b, 8, 9, 11, 13, 16, 17, 18, 20 and 21 of Table A thereof. The field work was completed on 6/6/23.

NIF
 GRAND PARK PROPERTIES LLC
 PIN# 1758479244
 (BM1999-01039)

6/6/23
 Date

Michael S. Perdue PLS #L-4322

LEGEND

- | | | | |
|--------|--------------------------|---------|------------------------|
| CB CPP | CATCH BASIN | — T — | PHONE LINE |
| CT | CORRUGATED PLASTIC PIPE | — C — | GUY WIRE |
| DI | CRIMPED TOP PIPE | — W — | GAS LINE |
| IE | DROP INLET | — W — | WATER LINE |
| JB | INVERT ELEVATION | — OHP — | POWER LINE |
| MH | JUNCTION BOX | — E — | UNDERGROUND POWER LINE |
| OT | MANHOLE | ● | POWER POLE |
| POB | OPEN TOP PIPE | ● | SANITARY SEWER MANHOLE |
| POC | POINT OF BEGINNING | ● | STORM SEWER MANHOLE |
| POC | POINT OF COMMENCEMENT | ● | CATCH BASIN |
| TBM | TEMPORARY BENCHMARK | ● | GAS METER |
| RCP | REINFORCED CONCRETE PIPE | ● | TRANSFORMER |
| SS | SANITARY SEWER | ● | IRON PIN FOUND |
| OHP | OVERHEAD POWER | ● | IRON PIN SET |
| EIP | IRON PIN FOUND | ● | WATER VALVE |
| NP | IRON PIN SET | ● | WATER METER |
| WV | WATER VALVE | ● | GAS VALVE |
| WM | WATER METER | ● | GAS METER |
| GV | GAS VALVE | ● | TELEPHONE PEDESTAL |
| GM | GAS METER | ● | FIRE HYDRANT |
| TP | TELEPHONE PEDESTAL | ● | LIGHT POLE |
| ● | FIRE HYDRANT | ● | POWER METER |
| ● | LIGHT POLE | ● | BACKFLOW VALVE |
| ● | POWER METER | ● | ELECTRICAL BOX |
| ● | BACKFLOW VALVE | ● | |
| ● | ELECTRICAL BOX | ● | |

GENERAL NOTES

This property is in Zone X based on Flood Insurance Rate Map 3720175800K dated 07/19/2022. This determination was made by graphically determining the position of said site on said FIRM Map.

Contact proper Authorities Before building near utility lines, for easement width and restrictions. Underground Utilities are approximate and should be verified prior to any construction. Locations shown are approximate.

This survey has been prepared for the exclusive use of the person or entities named hereon. No express or implied warranties with respect to the information shown hereon is to be extended to any persons or entities other than those shown hereon.

Elevations based on GPS VRS connected to NC GPS Network. Vertical Datum NAVD 88.

Property Zoned GI-CZ
 Setbacks to be verified by Engineer prior to development.

I, Michael S. Perdue certify that this plat was drawn under my supervision from an actual survey made under my supervision and is a portion property as shown in (DB, 8438, PG. 1116); that the ratio of precision as calculated 1:20,000 + and was not adjusted; that this plat was prepared in accordance with G.S. 47-30 as amended. Witness my original signature, registration # and seal this 6th day of June 2023.

That this survey is of an existing parcel of land, existing structures and buildings and does not create a new street or change existing streets.

Michael S. Perdue, PLS# L-4322

All matters shown on recorded plats are shown on survey, if applicable.

There was evidence of recent earth moving work or construction was observed on the property.

There was no visible evidence of cemeteries or burial grounds found.

No evidence of the site being used as a solid waste dump, sump or sanitary landfill.

No evidence of wetlands being marked on subject property.

Property PIN# 1758479244

Survey Reference
 (DB, 8438, PG. 1116)
 (BM, 2000-01239)

ALTA/NSPS LAND TITLE SURVEY FOR

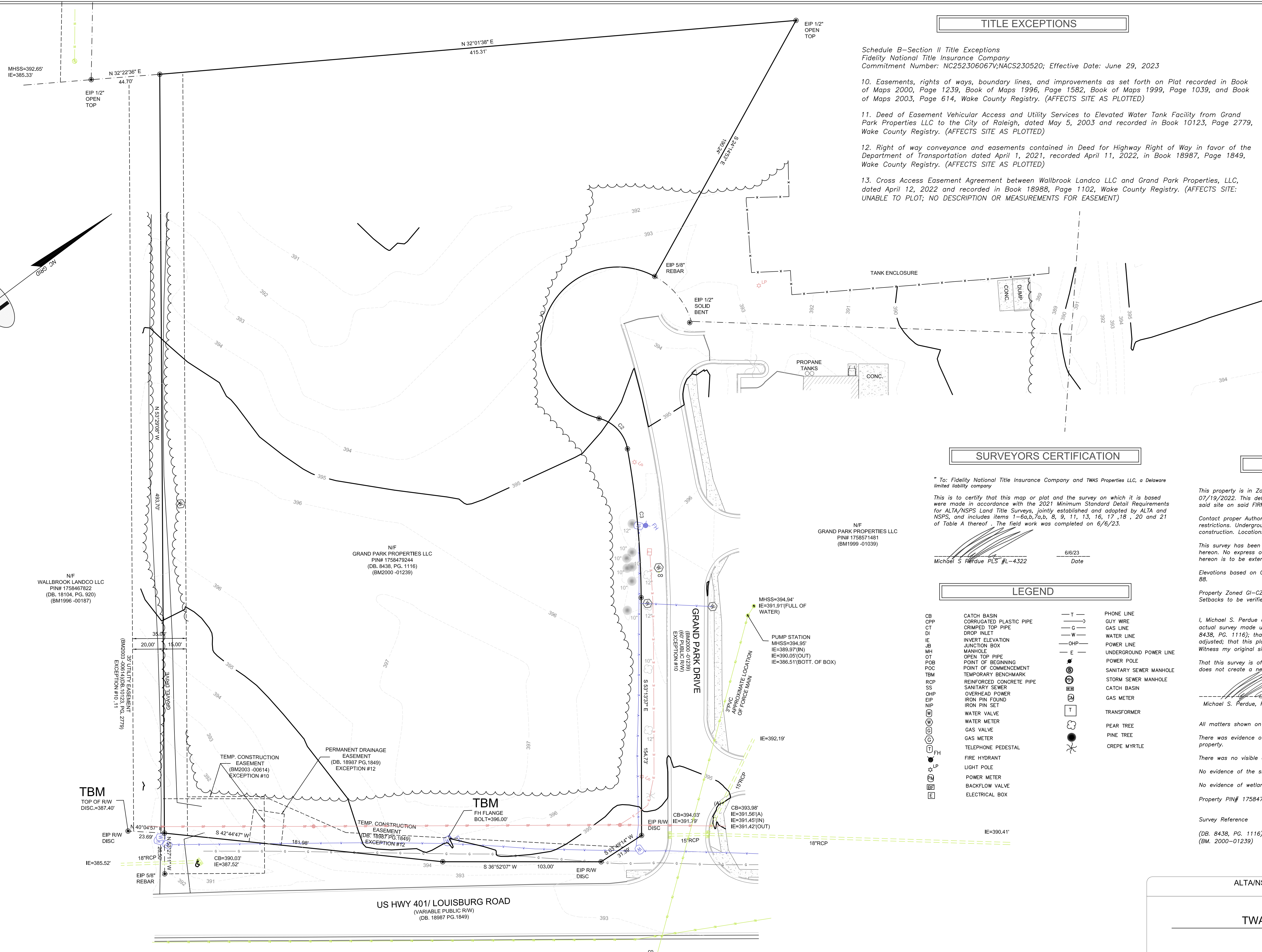
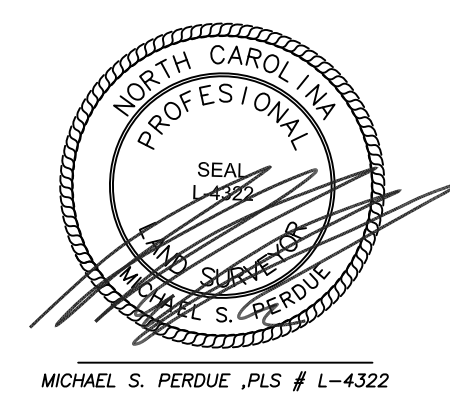
TWAS Properties LLC

TOWN: ROLESVILLE COUNTY: WAKE STATE: NORTH CAROLINA

DATE: 6/6/23 SCALE: 1:30

FIELD WORK: MSP DRAWN BY: MSP REVIEWED BY: MSP

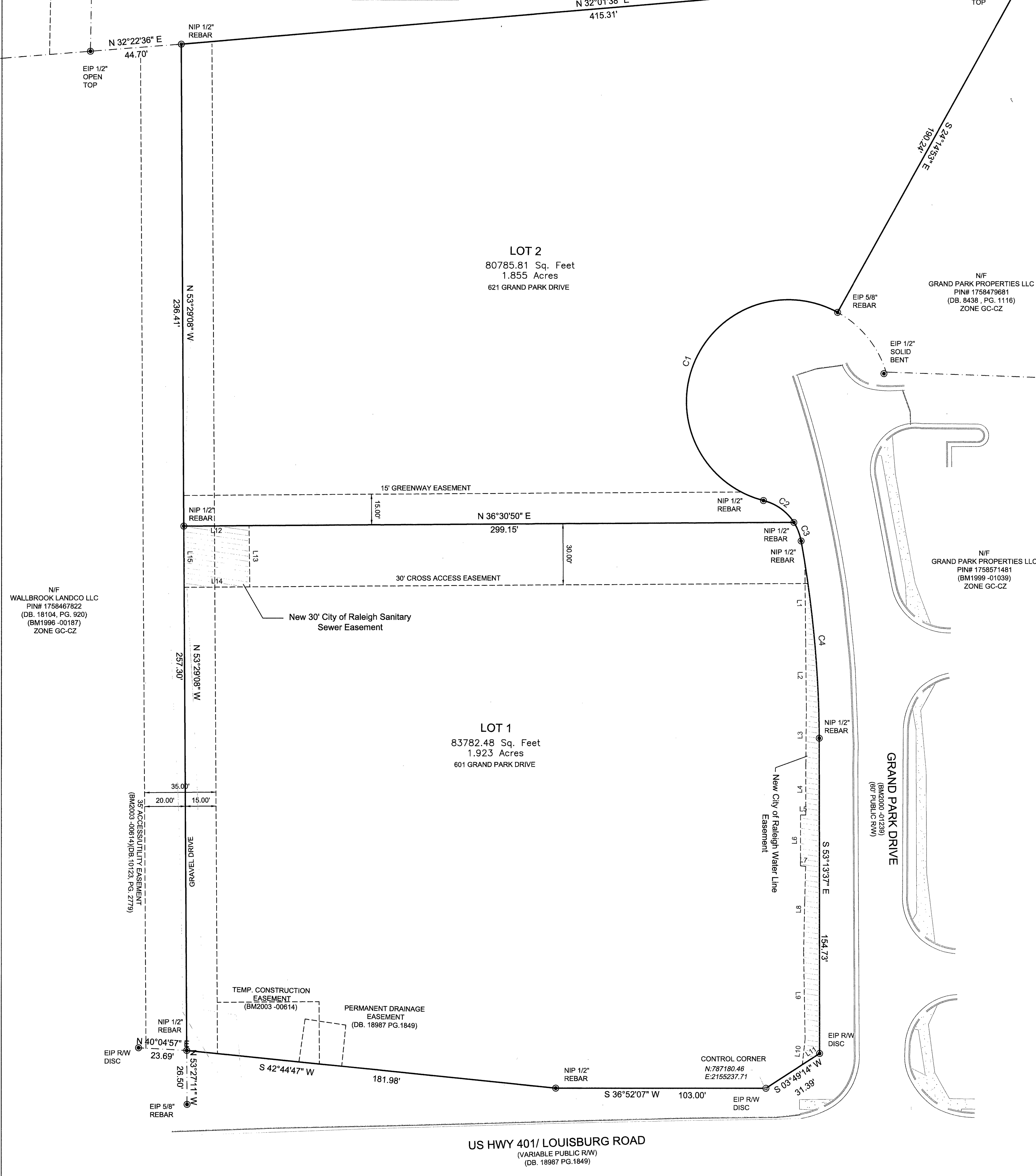
MSP FILE: twrolesville MSP JOB#: 231820



CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
C1	50.00'	1.6977'	99.20'	S 31°42'56" E	119°32'39"	391.83'
C2	25.01'	28.63'	27.05'	N 83°49'48" E	65°34'40"	16.11'
C3	570.00'	197.34'	97.22'	S 58°23'28" E	9°47'04"	48.79'



CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT	LINE BEARING	DISTANCE
C1	50.00'	169.77'	99.20'	S 31°42'55" E	194°32'38"	391.83'	L1 S 53°43'27" E	39.58'
C2	25.01'	18.70'	9.80'	N 72°31'14" E	42°58'30"	9.85'	L2 S 53°43'27" E	31.36'
C3	25.01'	9.87'	9.80'	S 74°40'59" E	22°36'10"	5.00'	L3 S 52°45'23" E	27.75'
C4	570.00'	97.34'	97.22'	S 58°23'28" E	9°47'04"	48.79'	L4 S 53°03'08" E	25.32'
							L5 S 37°07'38" W	2.60'
							L6 S 53°07'31" E	25.00'
							L7 N 42°05'49" E	2.56'
							L8 S 51°46'38" E	42.12'
							L9 S 54°08'13" E	42.71'
							L10 S 47°06'46" E	12.53'
							L11 N 03°48'14" E	10.93'
							L12 N 36°30'50" E	31.97'
							L13 S 53°49'57" E	30.00'
							L14 S 36°30'50" W	32.15'
							L15 N 53°28'10" W	30.00'



Certificate of Ownership and Dedication

I hereby certify that I am the owner of the property shown and describe hereon, which is in the subdivision jurisdiction of the Town of Rolesville and that I hereby adopt this plan of subdivision with my free consent and establish minimum building setback lines as noted.

Geary M. Yehrand Jr.
Owner

12/10/2024
Date

Certificate of Approval for Recording

I hereby certify that the subdivision plat shown hereon has been found to comply with the Subdivision Regulations of the Town of Rolesville, North Carolina and that this plat has been approved by the LDA of the Town of Rolesville for recording in the Office of the Register of Deeds of Wake County.

12/12/2024
Date
Meredith Gruber
LDA, Town of Rolesville
Rolesville, North Carolina

I, *Meredith Gruber*, Review Officer of the Town of Rolesville, Wake County, certify that the map or plat to which this certification is affixed meets all statutory requirements for recording.

Meredith Gruber
Review Officer
12/12/2024
Date

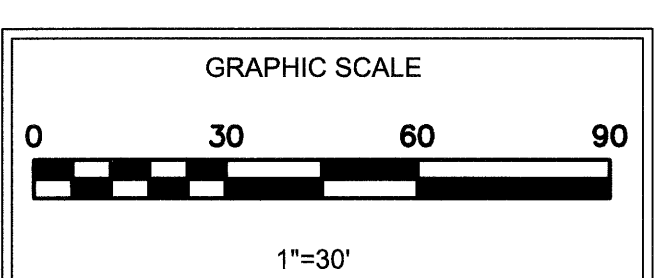
I, *Michael S. Perdue* certify that this plat was drawn under my supervision from an actual survey made under my supervision and is a portion property as shown in (DB. 8438, PG. 1116); that the ratio of precision as calculated 1: 20,000 + and was not adjusted; that this plat was prepared in accordance with G.S. 47-30 as amended. Witness my original signature, registration # and seal this 25th day of Nov. 2024.

That the survey creates a subdivision of land within the area of a county or municipality that has an ordinance that regulates parcels of land.

Michael S. Perdue
Michael S. Perdue, PLS# L-4322

LOT TABLE	
LOT 1	LOT 2
83782.48 Sq. Feet 1.923 Acres	80785.81 Sq. Feet 1.855 Acres
1.30 Acres Impervious Area	0.07 Acres Impervious Area

OWNER INFORMATION
GRAND PARK PROPERTIES LLC
2636 WAIT AVE
WAKE FOREST, NC 27587



MSP
& ASSOCIATES
LAND SURVEYING, INC.
301 E. HILLCREST DR.
GREENVILLE, SC, 29609
864-370-2232
WWW.MSPSURVEYING.COM
FIRM NUMBER (C-2324)



MINOR FINAL SUBDIVISION PLAT

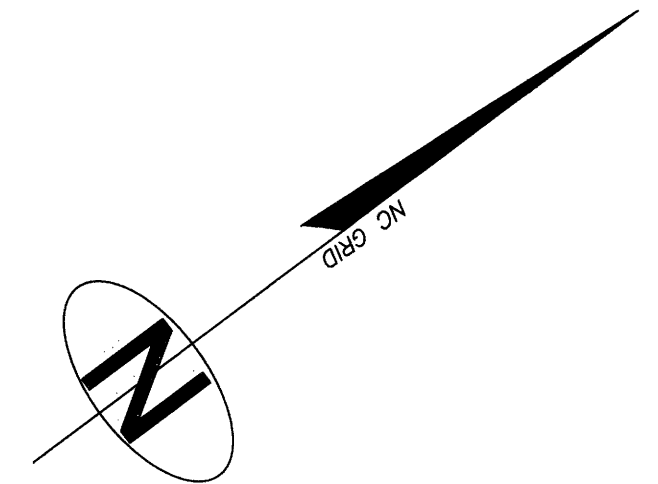
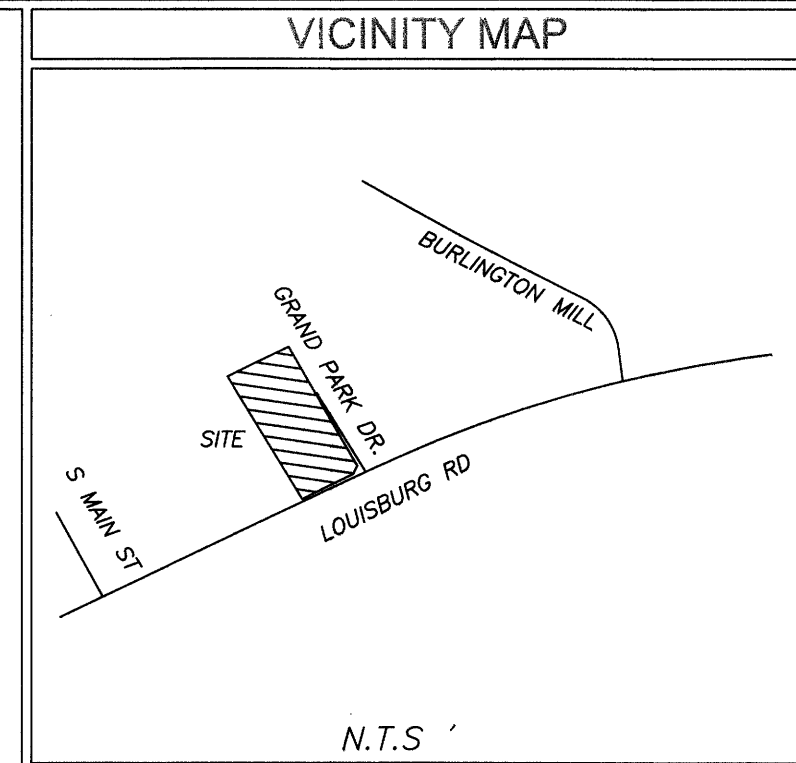
TWAS Properties LLC

TOWN: ROLESVILLE COUNTY: WAKE STATE: NORTH CAROLINA

DATE: 11/25/24 SCALE: 1:30

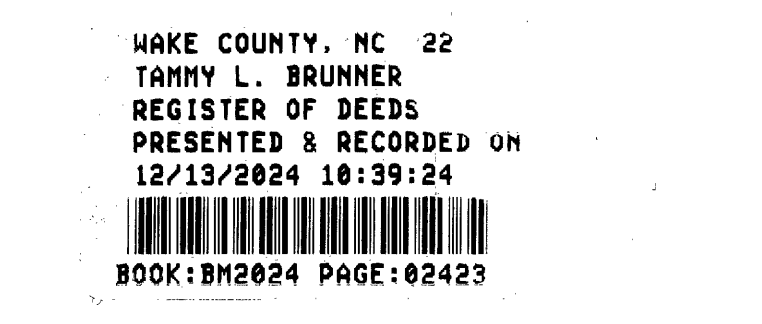
FIELD WORK: MSP DRAWN BY: MSP REVIEWED BY: MSP

MSP FILE: twasrolesville MSP JOB#: 231820



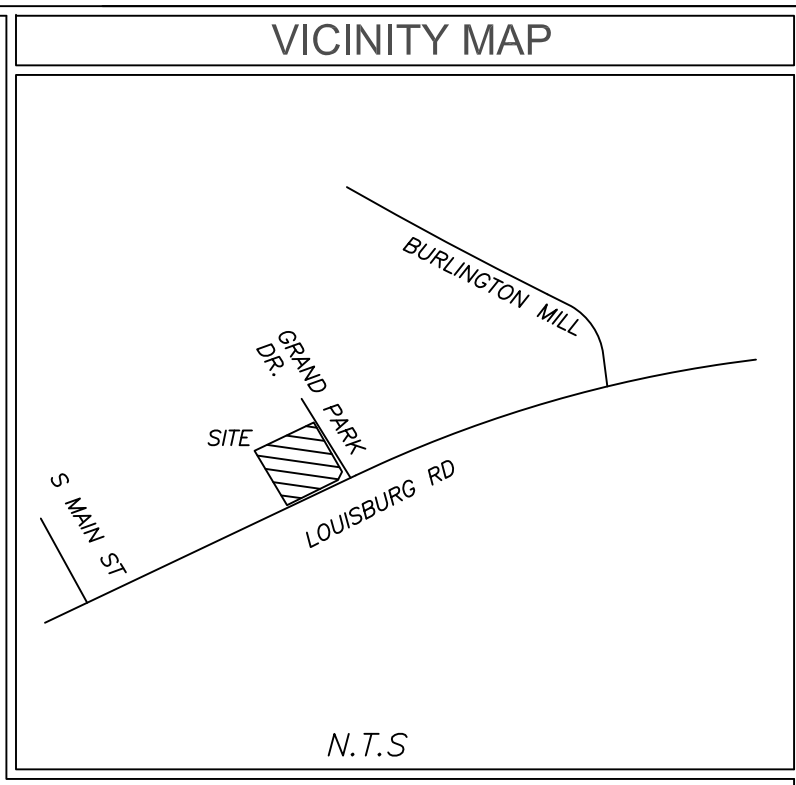
GENERAL NOTES

- 1) This property is in Zone X based on Flood Insurance Rate Map 3720175800K dated 07/19/2022. This determination was made by graphically determining the position of said site on said FIRM Map.
- 2) Property Zoned General Commercial Conditional Zoning (GC-CZ) District per Rezoning Application REZ-24-03, approved on 08-06-2024.
- 3) Property PIN# 1758479244
- 4) Purpose of this plat is to sub divide parcel into two lots as shown hereon.
- 5) Survey Reference (DB. 8438, PG. 1116) (BM. 2000-01239)



LEGEND

- BOUNDARY CORNER
- IRON PIN FOUND
- IRON PIN SET
- EASEMENT LINE
- - - - ADJOINING PROPERTY



TITLE EXCEPTIONS

Schedule B-Section II Title Exceptions
 Fidelity National Title Insurance Company
 Commitment Number: NC252306067V;NACS230520; Effective Date: June 29, 2023

10. Easements, rights of ways, boundary lines, and improvements as set forth on Plat recorded in Book of Maps 2000, Page 1239, Book of Maps 1996, Page 1582, Book of Maps 1999, Page 1039, and Book of Maps 2003, Page 614, Wake County Registry. (AFFECTS SITE AS PLOTTED)

11. Deed of Easement Vehicular Access and Utility Services to Elevated Water Tank Facility from Grand Park Properties LLC to the City of Raleigh, dated May 5, 2003 and recorded in Book 10123, Page 2779, Wake County Registry. (AFFECTS SITE AS PLOTTED)

12. Right of way conveyance and easements contained in Deed for Highway Right of Way in favor of the Department of Transportation dated April 1, 2021, recorded April 11, 2022, in Book 18987, Page 1849, Wake County Registry. (AFFECTS SITE AS PLOTTED)

13. Cross Access Easement Agreement between Wallbrook Landco LLC and Grand Park Properties, LLC, dated April 12, 2022 and recorded in Book 18988, Page 1102, Wake County Registry. (AFFECTS SITE: UNABLE TO PLOT; NO DESCRIPTION OR MEASUREMENTS FOR EASEMENT)

SURVEYORS CERTIFICATION

* To: Fidelity National Title Insurance Company and TWAS Properties LLC, a Delaware limited liability company

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1-6a,b,7a,b, 8, 9, 11, 13, 16, 17, 18, 20 and 21 of Table A thereof. The field work was completed on 6/6/23.

Michael S. Perdue, PLS #L-4322
 Date: 6/6/23

GENERAL NOTES

This property is in Zone X based on Flood Insurance Rate Map 3720175800K dated 07/19/2022. This determination was made by graphically determining the position of said site on said FIRM Map.

Contact proper Authorities Before building near utility lines, for easement width and restrictions. Underground Utilities are approximate and should be verified prior to any construction. Locations shown are approximate.

This survey has been prepared for the exclusive use of the person or entities named hereon. No express or implied warranties with respect to the information shown hereon is to be extended to any persons or entities other than those shown hereon.

Elevations based on GPS VRS connected to NC GPS Network. Vertical Datum NAVD 88.

Property Zoned GI-CZ
 Setbacks to be verified by Engineer prior to development.

I, Michael S. Perdue certify that this plat was drawn under my supervision from an actual survey made under my supervision and is a portion property as shown in (DB, 8438, PG. 1116); that the ratio of precision as calculated 1: 20,000 +/- and was not adjusted; that this plat was prepared in accordance with G.S. 47-30 as amended. Witness my original signature, registration # and seal this 6th day of June 2023.

That this survey is of an existing parcel of land, existing structures and buildings and does not create a new street or change existing streets.

Michael S. Perdue, PLS# L-4322

All matters shown on recorded plats are shown on survey, if applicable.

There was evidence of recent earth moving work or construction was observed on the property.

No evidence of the site being used as a solid waste dump, sump or sanitary landfill.

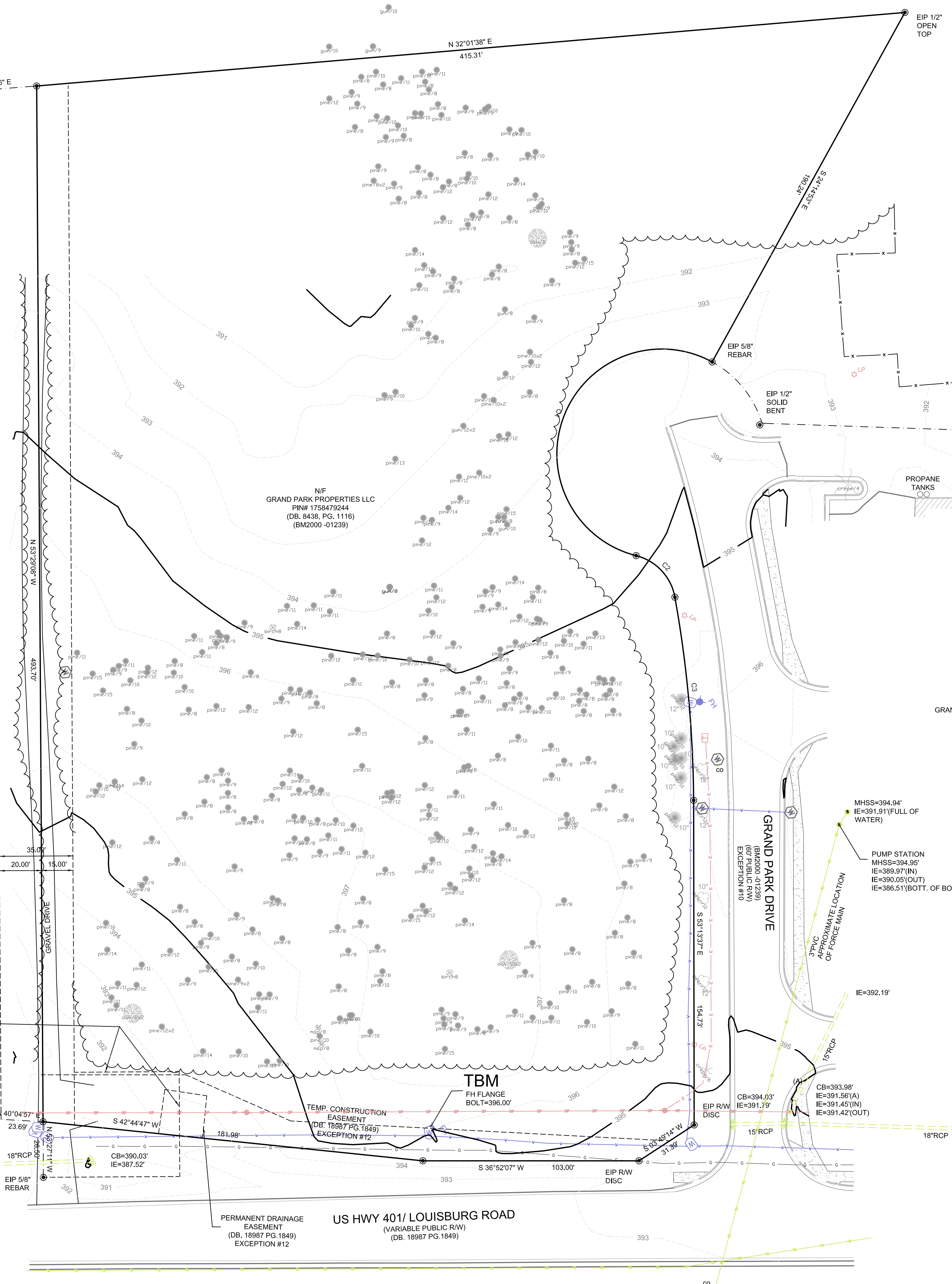
No evidence of wetlands being marked on subject property.

Property PIN# 1758479244

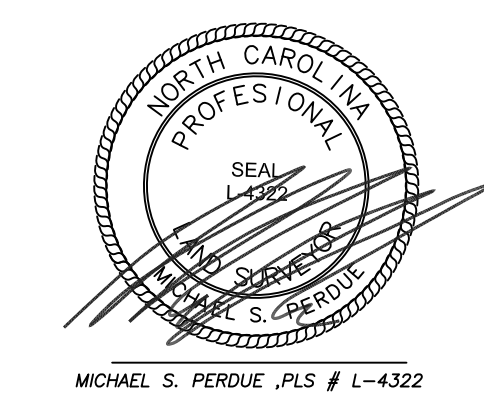
Survey Reference
 (DB, 8438, PG. 1116)
 (BM, 2000-01239)

LEGEND

- CB CPP CORRUGATED PLASTIC PIPE
- CT CRIMPED TOP PIPE
- DI DROP INLET
- IE INVERT ELEVATION
- JB JUNCTION BOX
- MH MANHOLE
- OT OPEN TOP PIPE
- POB POINT OF BEGINNING
- POC POINT OF COMMENCEMENT
- TBM TEMPORARY BENCHMARK
- RCP REINFORCED CONCRETE PIPE
- SS SANITARY SEWER
- OHP OVERHEAD POWER
- IPF IRON PIN FOUND
- IPN IRON PIN SET
- WP WATER VALVE
- WM WATER METER
- GV GAS VALVE
- GM GAS METER
- TP TELEPHONE PEDESTAL
- FR FIRE HYDRANT
- LP LIGHT POLE
- PM POWER METER
- BV BACKFLOW VALVE
- EB ELECTRICAL BOX
- PHONE LINE
- GUY WIRE
- GAS LINE
- WATER LINE
- POWER LINE
- UNDERGROUND POWER LINE
- POWER POLE
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- CATCH BASIN
- GAS METER
- TRANSFORMER
- PEAR TREE
- PINE TREE
- CREPE MYRTLE



CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
C1	50.00'	1.6877'	19.20'	S 31°42'56" E	1194°32'30"	391.83'
C2	25.01'	28.63'	27.05'	N 83°49'48" E	65°34'40"	16.11'
C3	570.00'	197.34'	97.22'	S 58°23'28" E	9°47'04"	48.79'



ALTA/NSPS LAND TITLE SURVEY FOR

TWAS Properties LLC

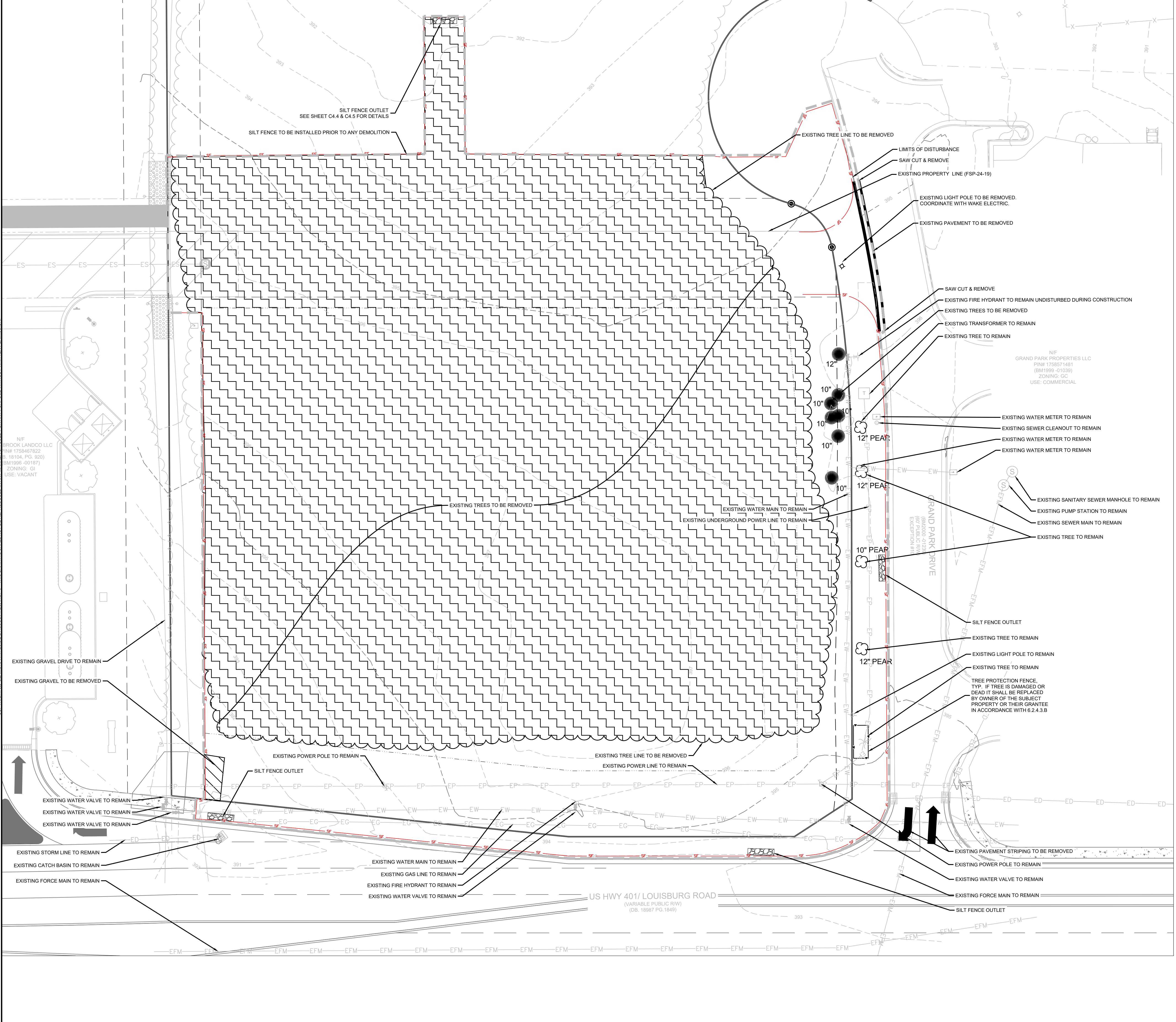
TOWN: ROLESVILLE COUNTY: WAKE STATE: NORTH CAROLINA

DATE: 6/6/23 SCALE: 1:30

FIELD WORK: MSP DRAWN BY: MSP REVIEWED BY: MSP

MSP FILE: twrolesville MSP JOB#: 231820

501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29464 | JUDSON HILLS BUILDING GROUP, 3741 BASKET BRIDGE, SUITE 600 | GREENVILLE, SC 29614 | 270 PETERSBORO | CHARLOTTE, NC 28217 | 701N. CENAR STREET | SUMMERVILLE, SC 29586 | 104N. DANIEL MORGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29301



- DEMOLITION NOTES:**
1. ALL DEMOLITION DEBRIS IS TO BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE COUNTY, STATE, AND FEDERAL REGULATIONS.
 2. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES BEFORE ANY WORK IS STARTED. ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN THE FIELD MARKINGS AND SURVEY.
 3. NO LAND DISTURBING ACTIVITY PRIOR TO APPROVAL OF EROSION AND SEDIMENT CONTROL PLAN AND THE ISSUANCE OF THE LAND-DISTURBING PERMIT AT THE PRECONSTRUCTION MEETING.
 4. CONTRACTOR TO REMOVE ALL TREES WITHIN LIMITS OF DISTURBANCE.

EXISTING UTILITY NOTE:

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING ANY WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

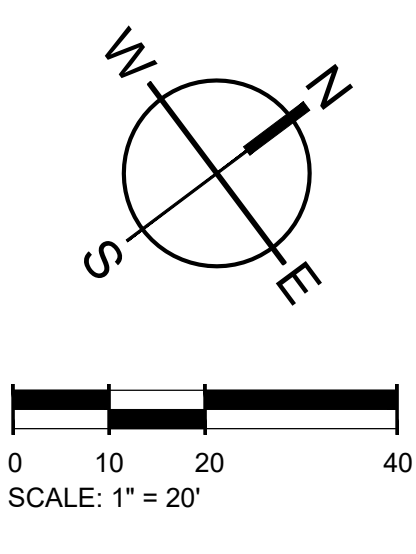
MOUNT PLEASANT, SC 843.884.1667
 GREENVILLE, SC 864.298.0534
 SUMMERVILLE, SC 843.972.0710
 SPARTANBURG, SC 864.272.1272
 CHARLOTTE, NC 980.312.5450
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NORTH CAROLINA
 SEAMON WHITESIDE & ASSOCIATES, INC.
 CERTIFICATE OF AUTHORIZATION
 NO. C-2466

NORTH CAROLINA
 PROFESSIONAL ENGINEER
 048282
 1/29/24
 TOMMIE L. LITTLE

TIDAL WAVE AUTO SPA
ROLESVILLE, NC

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DEMOLITION LEGEND

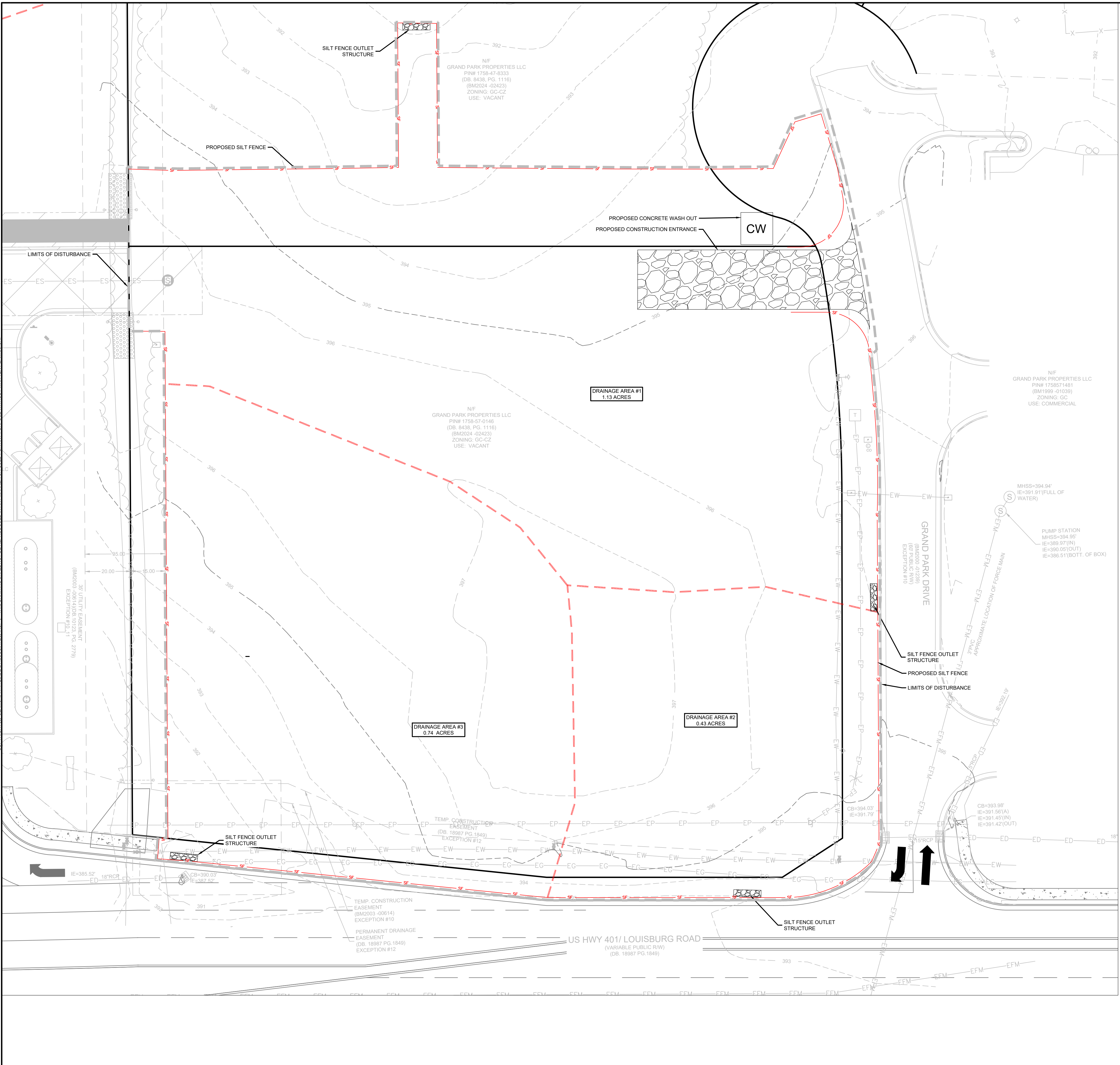
DEMO EXISTING GRAVEL		LIMITS OF DISTURBANCE	
DEMO EXISTING TREES		EXISTING UTILITY TO REMAIN	
SILT FENCE OUTLET		EXISTING CURB TO BE REMOVED	

REVISION HISTORY

A	12/22/23	F	11/06/24
B	03/01/24	G	12/20/24
C	09/04/24	H	1/03/25
D	10/01/24		
E	11/01/24		

EXISTING CONDITIONS AND DEMO PLAN

501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29464 | JUDSON HILL BUILDING GROUP, 300 E. BAKER STREET, SUITE 600 | GREENVILLE, SC 29611 | 250 PETERSBORO | CHARLOTTE, NC 28217 | 701 N. CENAR STREET | SUMMERVILLE, SC 29586 | 104 N. DANIEL MORGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29381



- PHASE I SEQUENCING:**
- DRAFT EROSION AND SEDIMENT CONTROL PLAN MUST BE APPROVED AND A LETTER OF APPROVAL (LOA) MUST BE ISSUED PRIOR TO OBTAINING THE CERTIFICATE OF COVERAGE FROM DEQ
 - RECEIVE NPDES COVERAGE FROM NCDEQ.
 - PRE-CONSTRUCTION CONFERENCE TO BE CONDUCTED WITH THE WAKE COUNTY FIELD CONSULTANT (JEEVAN NEUPANE 919-819-8907) TO DISCUSS EROSION CONTROL MEASURE. FAILURE TO SCHEDULE SUCH CONFERENCE PRIOR TO ANY LAND DISTURBING ACTIVITY IS SUBJECT TO FINE. LDP WILL BE ISSUED AT THE PRECONSTRUCTION MEETING (ON-SITE). SITE SHOULD BE FLAGGED PRIOR TO PRE-CONSTRUCTION MEETING.
 - INSTALL SILT FENCE, INLET PROTECTION, BERMS AND OTHER MEASURES AS SHOWN ON PLANS, CLEARING ONLY AS NECESSARY TO INSTALL THESE DEVICES.
 - CALL FOR ON-SITE INSPECTION BY WAKE COUNTY FIELD CONSULTANT (JEEVAN NEUPANE 919-819-8907). WHEN APPROVED, INSPECTOR GIVES CONTRACTOR THE ABILITY TO CLEAR AND GRUB SITE.
 - THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES.
 - FOR PHASED EROSION CONTROL PLANS, CONTRACTOR SHALL MEET WITH EROSION CONTROL INSPECTOR PRIOR TO COMMENCING WITH EACH PHASE OF EROSION CONTROL MEASURES.
 - CONTRACTOR SHALL NOT ALLOW MORE THAN 0.25 ACRES OF DISTURBED AREA TO DRAIN TOWARDS 100LF OF SILT FENCE OR PERFORM GRADING IN A MANNER THAT ALLOWS SEDIMENT LADEN WATER TO FLOW LONGITUDINALLY ALONG SILT FENCE LINE. IF A LOW SPOT DEVELOPS ALONG GRADING NEAR SILT FENCE, CONTRACTOR SHALL COORDINATE WITH EROSION CONTROL INSPECTOR TO PLACE A SILT FENCE OUTLET IN OUTLET LOCATIONS.
 - CONTACT WAKE COUNTY FIELD CONSULTANT (JEEVAN NEUPANE 919-819-8907) UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS PRIOR TO PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
 - UPON APPROVAL FROM WAKE COUNTY FIELD CONSULTANT (JEEVAN NEUPANE 919-819-8907), COMPLETE DEMOLITION OF ANY SITE FEATURES (PAVEMENT, CURB, ETC.), CLEARING AND GRUBBING, AND STRIP SITE OF TOP SOIL. ALL DEMOLISHED MATERIAL IS TO BE DISPOSED IN ACCORDANCE WITH APPLICABLE NORTH CAROLINA REGULATIONS. CONTRACTOR TO ENSURE ALL APPLICABLE DEMOLITION PERMITS HAVE BEEN ISSUED AND HAVE ORIGINALS OF THE SAME PRIOR TO COMMENCING DEMOLITION ACTIVITIES.
 - CONTACT WAKE COUNTY FIELD CONSULTANT (JEEVAN NEUPANE 919-819-8907) UPON COMPLETION OF STRIPPING, THE STOCKPILING OF TOPSOIL, THE CONSTRUCTION OF TEMPORARY SEDIMENT AND EROSION CONTROL FACILITIES, DISPOSAL OF ALL WASTE MATERIAL, AND PREPARATION OF THE GROUND.

INLET PROTECTION NOTE:
 PROVIDE APPROPRIATE INLET PROTECTION FOR VARIOUS PHASES OF THE CONSTRUCTION. HARDWARE CLOTH AND GRAVEL PROTECTION SHALL BE PROVIDED FOR INLETS IN NON-PAVED AREA. WEEP FILTERS SHALL BE PROVIDED FOR INLETS IN PAVED AREAS.

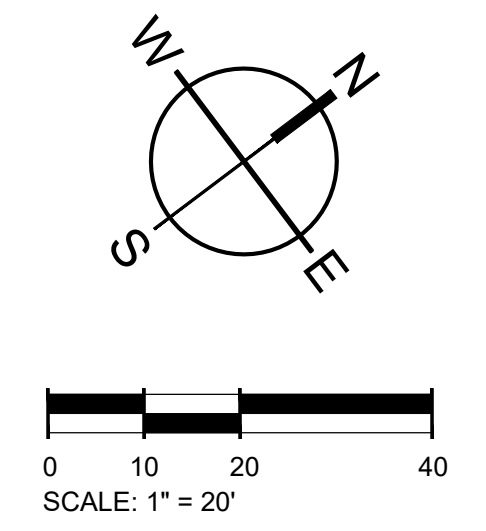
STABILIZATION NOTE:
 PROVIDE FINAL STABILIZATION FOR ALL DISTURBED AREAS. REFER TO THE LANDSCAPE PLAN FOR SPECIFIC MATERIALS / PLANTINGS. ANY DISTURBED AREA NOT ADDRESSED IN THE LANDSCAPE PLANS SHALL BE PERMANENT SEEDDED.

EXISTING UTILITY NOTE:
 THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING ANY WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



Know what's below.
 Call before you dig.

TOTAL SITE ACREAGE	1.92 ACRES
DISTURBED ACREAGE	2.30 ACRES



E&S PLAN LEGEND

LIMITS OF DISTURBANCE	---	CONCRETE WASHOUT BASIN (SEE DETAIL)	CW
SILT FENCE, STANDARD	- - - -	SILT BAG INLET PROTECTION	⊙
SILT FENCE OUTLET/TRIP RAP APRON/RIP RAP BASIN & ROCK SEDIMENT TRAP	⊠	HARDWARE CLOTH AND GRAVEL INLET PROTECTION	⊞
CONSTRUCTION ENTRANCE	⊞	TEMPORARY SEEDING	TS
PERMANENT SOD	⊙		

SW SEAMONWHITESIDE

MOUNT PLEASANT, SC 843.884.1667
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NORTH CAROLINA PROFESSIONAL ENGINEER

SEAMON WHITESIDE & ASSOCIATES, INC.
 NO. C-2466

NORTH CAROLINA PROFESSIONAL ENGINEER

SEAMON WHITESIDE & ASSOCIATES, INC.
 048282
 1/28/24
 JENNIFER L. LITTLE

TIDAL WAVE AUTO SPA
 ROLESVILLE, NC

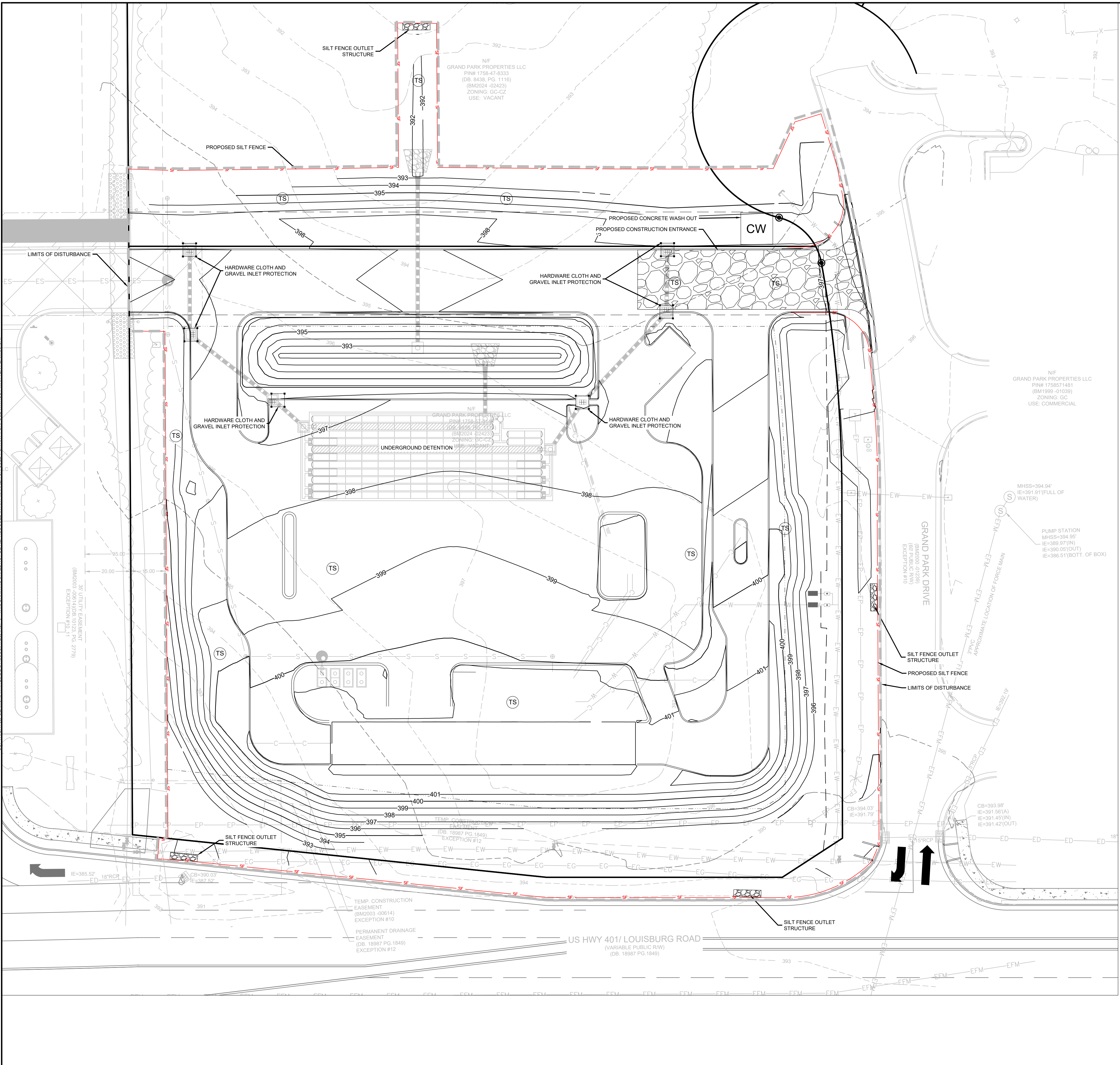
SW+ PROJECT: 10772
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 DRAWN BY: CPE
 CHECKED BY: TLL

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EROSION CONTROL PH I

501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29564 | JUDSON HILL BUILDING GROUP, 374 EAST EBY BRIDGE, SUITE 600 | GREENVILLE, SC 29611 | 270 PETERSBORO | CHARLOTTE, NC 28217 | 701N. CEDAR STREET | SUMMERVILLE, SC 29586 | 104 N. DANIEL MORGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29301



- PHASE II SEQUENCING:**
- CONTACT THE WAKE COUNTY FIELD CONSULTANT (JEEVAN NEUPANE 919-819-8907) FOR APPROVAL TO PROCEED.
 - TEMPORARILY STABILIZE GRADED AREAS (NON-STEEP SLOPES) AS REQUIRED.
 - COMPLETE ROUGH GRADING. COMPLETE THE INSTALLATION OF STORMWATER SYSTEM AND SITE UTILITIES.
 - CONTACT THE WAKE COUNTY FIELD CONSULTANT (JEEVAN NEUPANE 919-819-8907) UPON COMPLETION OF ROUGH GRADING, BUT PRIOR TO PLACING TOPSOIL, PERMANENT DRAINAGE, OR OTHER SITE DEVELOPMENT IMPROVEMENTS AND GROUND COVERS.
 - INSTALL CURB ALONG THE PERIMETER OF THE SITE TO AID IN THE PROTECTION OF THE EXISTING ADJACENT PROPERTIES AND THE ADJACENT ROADWAYS.

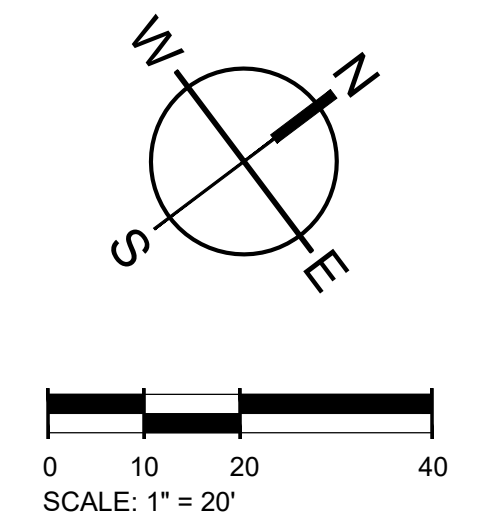
INLET PROTECTION NOTE:
 PROVIDE APPROPRIATE INLET PROTECTION FOR VARIOUS PHASES OF THE CONSTRUCTION. HARDWARE CLOTH AND GRAVEL INLET PROTECTION SHALL BE PROVIDED FOR INLETS IN NON-PAVED AREA. DANDY SACK INLET PROTECTION SHALL BE PROVIDED FOR INLETS IN PAVED AREAS.

STABILIZATION NOTE:
 PROVIDE FINAL STABILIZATION FOR ALL DISTURBED AREAS. REFER TO THE LANDSCAPE PLAN FOR SPECIFIC MATERIALS / PLANTINGS. ANY DISTURBED AREA NOT ADDRESSED IN THE LANDSCAPE PLANS SHALL BE PERMANENT SEEDDED.

EXISTING UTILITY NOTE:
 THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING ANY WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



TOTAL SITE ACREAGE	1.92 ACRES
DISTURBED ACREAGE	2.30 ACRES



E&S PLAN LEGEND	
LIMITS OF DISTURBANCE	CONCRETE WASHOUT BASIN (SEE DETAIL)
SILT FENCE, STANDARD	SILT BAG INLET PROTECTION
SILT FENCE OUTLET/TRIP RAP APRON/RIP RAP BASIN & ROCK SEDIMENT TRAP	HARDWARE CLOTH AND GRAVEL INLET PROTECTION
CONSTRUCTION ENTRANCE	TEMPORARY SEEDING
PERMANENT SOD	

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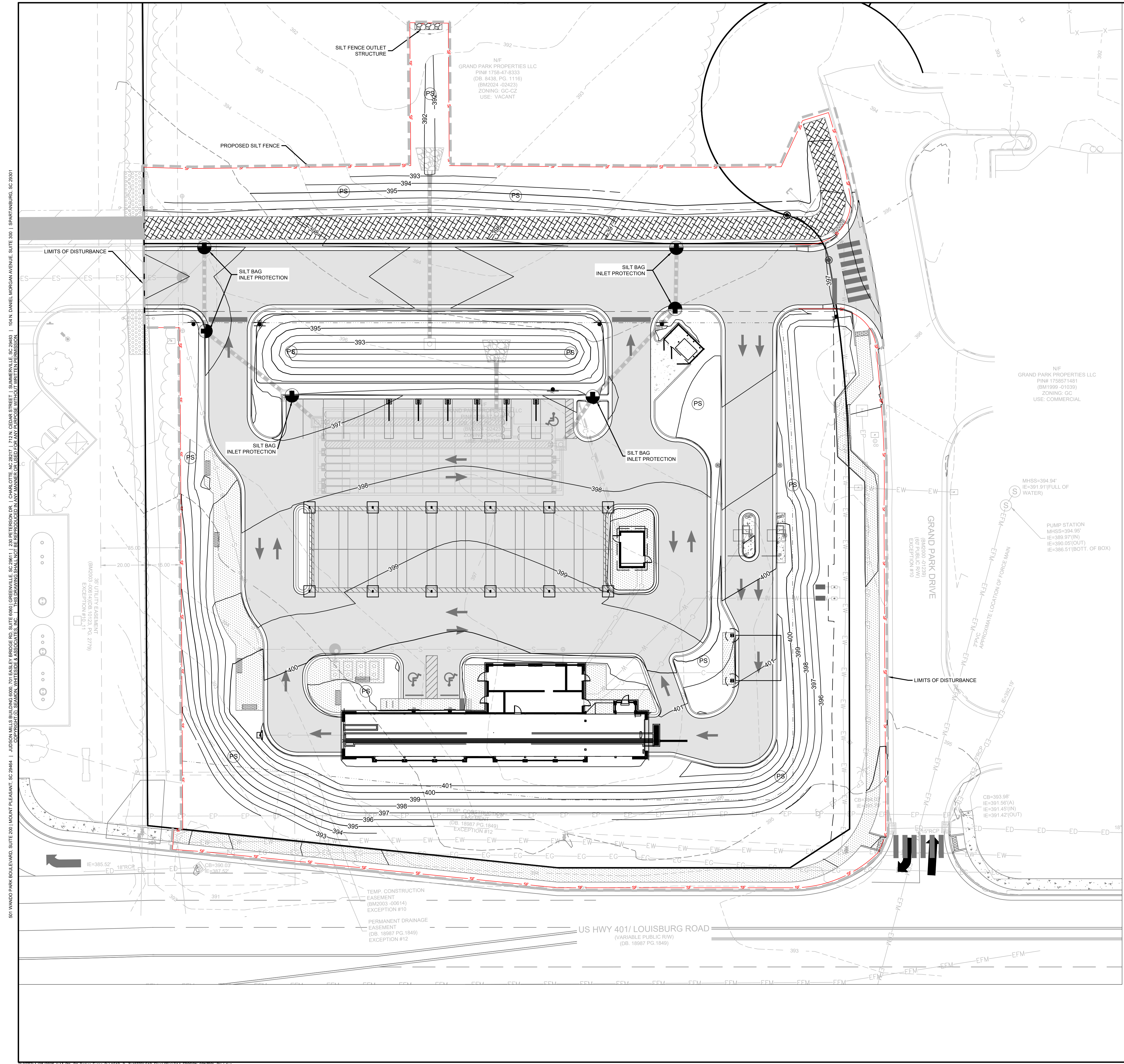
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EROSION CONTROL PH II

501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29564 | JUDSON HILLS BUILDING GROUP, 300 W. BAKER STREET, SUITE 600 | SPARTANBURG, SC 29581 | 104 N. DANIEL MORGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29581



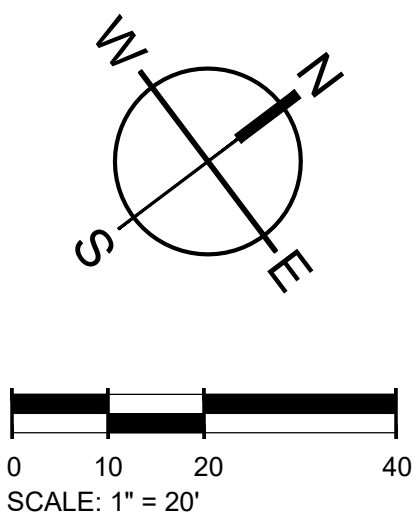
- PHASE III SEQUENCING:**
- CONTACT WAKE COUNTY FIELD CONSULTANT (JEEVAN NEUPANE 919-819-8907) FOR APPROVAL TO PROCEED
 - BEGIN FINE GRADING AND INITIATE FINAL PAVING
 - ONCE BUILDING CONSTRUCTION FOR SITE IS COMPLETE, CONTACT THE WAKE COUNTY FIELD CONSULTANT (JEEVAN NEUPANE 919-819-8907) FOR APPROVAL TO REMOVE APPLICABLE EROSION CONTROL MEASURES.
 - PERMANENTLY STABILIZE ANY REMAINING AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING SCHEDULE AND NOTES. INSTALL FINAL SITE LANDSCAPING
 - REQUEST FINAL APPROVAL FROM THE WAKE COUNTY FIELD CONSULTANT (JEEVAN NEUPANE 919-819-8907) PRIOR TO REMOVING ANY REMAINING SEDIMENT CONTROL MEASURES AND UPON COMPLETION OF FINAL GRADING, PERMANENT DRAINAGE, AND EROSION CONTROL FACILITIES, INCLUDING ESTABLISHED GROUND COVERS AND PLANTINGS, AND ALL OTHER WORK OF THE BUILDING PERMITS.

STABILIZATION NOTE:
 PROVIDE FINAL STABILIZATION FOR ALL DISTURBED AREAS. REFER TO THE LANDSCAPE PLAN FOR SPECIFIC MATERIALS / PLANTINGS. ANY DISTURBED AREA NOT ADDRESSED IN THE LANDSCAPE PLANS SHALL BE PERMANENT SEEDDED.

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SILT FENCE OUTLET/TRIP RAP APRON/RIP RAP BASIN & ROCK SEDIMENT TRAP	HARDWARE CLOTH AND GRAVEL INLET PROTECTION
CONSTRUCTION ENTRANCE	TEMPORARY SEEDING
PERMANENT SOD	

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E	11/01/24

EROSION CONTROL PH III

STANDARD SILT FENCE OUTLET

FRONT VIEW

SECTION VIEW

MAINTENANCE NOTES:

1. INSPECT THE DEVICE PERIODICALLY AND AFTER 1 INCH RAINFALL OVER 24 HOUR PERIOD FOR DAMAGE AND SEDIMENT ACCUMULATION TO CONFIRM THE DEVICE IS FUNCTIONING PROPERLY.
2. AT A MINIMUM, REMOVE SEDIMENT FROM THE DEVICE WHEN ACCUMULATIONS REACH ONE-HALF THE HEIGHT OF THE SEDIMENT CONTROL STONE.
3. REPLACE OR CLEAN THE SEDIMENT CONTROL STONE AS NEEDED TO ALLOW WATER TO DRAIN THROUGH THE DEVICE BETWEEN RAINFALL EVENTS.
4. REPAIR AREAS WHERE OUTLET BECOMES UNDERMINED DUE TO CONCENTRATED FLOWS.

EFFECTIVE: 01/31/08

STANDARD TEMPORARY SILT FENCE

FRONT VIEW

SIDE VIEW

MAINTENANCE NOTES:

1. INSPECT BAG AFTER EACH SIGNIFICANT RAINFALL OF 1 INCHES OR GREATER, OVER A 24-HOUR PERIOD. MAKE ANY REPAIRS IMMEDIATELY.
2. INSPECT THE SILT FENCE TO BE SURE THE BOTTOM OF THE GEOTEXTILE IS KEPT IN PROPERLY.
3. AT A MINIMUM, REMOVE AND DISPOSE OF ALL SILT ACCUMULATIONS WHEN DEPTH REACHES 1/2 THE HEIGHT OF THE GEOTEXTILE. DO NOT UNDERMINE THE FENCE DURING CLEANOUT.
4. DISPOSE OF SEDIMENT BY HAULING IT TO AN APPROVED WASTE SITE WITH APPROPRIATE PERMETER PROTECTION.
5. REMOVE AND REPLACE DETEIORATED OR CLOGGED SILT FENCE.
6. REPLACE SILT FENCE REMOVED FOR ACCESS AT THE END OF EACH DAY'S OPERATION.
7. INSTALL ADDITIONAL POSTS OR WIRE BACKING IF FENCE IS SAGGING.

EFFECTIVE: 01/31/08

STANDARD CONSTRUCTION ENTRANCE

PLAN VIEW

CROSS SECTION

NOTES:

1. INSTALL SILT FENCE OR TREE PROTECTION FENCE TO ENSURE CONSTRUCTION ENTRANCE IS USED BY VEHICLES.
- IF MUD IS NOT REMOVED FROM TIRES AFTER VEHICLE TRAVELS OVER STONE, THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING PUBLIC ROADS.

MAINTENANCE NOTES:

1. THE GRAVEL CONSTRUCTION ENTRANCE MUST BE MAINTAINED IN A CONDITION TO PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO ADJACENT ROADWAYS.
2. REPLACEMENT OF STONE MAY BE NECESSARY TO ENSURE THE GRAVEL ENTRANCE FUNCTIONS PROPERLY.
3. REPLENISHMENT OF STONE MAY BE NECESSARY.
4. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE SHOULD BE COMPLETED.
5. ANY MATERIAL TRACKED ONTO THE ROADWAY SHALL BE CLEANED UP IMMEDIATELY.

EFFECTIVE: 01/31/08

Concrete Washout Basin

PLAN VIEW

SECTION "A-A"

NOTES:

1. PREPARE GROUND & FRAME SUCH THAT SHARP OBJECTS/CORNERS DO NOT DAMAGE THE LINER.
- PROMPTLY REMOVE CONTENTS (AS NOTED BELOW) & REPLACE LINER IF LEAKAGE IS OBSERVED.
- LIQUID & CONCRETE DEBRIS SHALL BE REMOVED BY VACUUM TRUCK & LEGALLY DISPOSED UPON COMPLETION OF PROJECT OR ANYTIME WHEN LIQUID REACHES A LEVEL 8" BELOW THE TOP.

EFFECTIVE: 01/31/08

Hardware Cloth and Gravel Inlet Protection

CONSTRUCTION SPECIFICATIONS:

1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROXIMATING THE INLET.
2. DRIVE 3 FIRST STEEL POSTS 6 FEET INTO THE GROUND SURROUNDING THE INLET. DRAG POSTS EXACTLY AROUND THE PERIMETER OF THE INLET, 4 INCH BY 4 FEET APART.
3. UNIFORM THE FIBER WITH WOVEN WIRE HARDWARE CLOTH. SECURE THE WIRE POSTS TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACE 2" X 2" WELLS OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IT.
4. PLACE CLEAN GRAVEL INLET #5 OR #7 STONE ON A 20 SLOPE WITH A HEIGHT OF 15 INCHES AROUND THE WIRE AND SMOOTH TO AN EVEN GRADE.
5. SUE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, MINOR ACCUMULATED SEDIMENT AND ESTABLISH FIRM, GRADING ELEVATIONS.
6. COMPACT THE AREA PROPERLY AND STABILIZE IT WITH GRASSCOVER.

MAINTENANCE:

INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL. CLEAN THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR OVERFLOW. MAKE SURE NOT TO REMOVE OR UNDERMINE THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.

REFERENCE: NEXT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES

EFFECTIVE: 01/31/08

STANDARD SILT BAG - INLET SEDIMENT CONTROL DEVICE

INSTALLATION DETAIL

BAG DETAIL

MAINTENANCE NOTES:

1. INSPECT BAG AFTER EACH SIGNIFICANT RAINFALL OF 1 INCHES OR GREATER, OVER A 24-HOUR PERIOD.
2. FOLLOW ROAD SAFETY WHILE PERFORMING MAINTENANCE.
3. REPLACE BAG WHEN THEY BECOME CONTAMINATED WITH SEDIMENT AND CONSTRUCTION DEBRIS.
4. WHEN MAINTAINING AND REMOVING INLET PROTECTION DEVICES, EXERCISE CARE TO MINIMIZE SEDIMENT FALLING INTO THE INLET. IMMEDIATELY REMOVE ALL MATERIAL THAT HAS FALLEN INTO INLETS. DEPOSIT SEDIMENT REMOVED FROM THE DEVICE IN A SUITABLE AREA AND STABILIZE.

EFFECTIVE: 01/31/08

STANDARD PIPE OUTLET TO FLAT AREA NO WELL-DEFINED CHANNEL

PLAN VIEW

SECTION "A-A"

NOTES:

1. L = THE LENGTH OF THE RIPRAP APRON.
- d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
- A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

MAINTENANCE NOTES:

1. INSPECT RIPRAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (1 INCH OR GREATER) RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

EFFECTIVE: 01/31/08

Pipe Outlet Riprap Protection with Calculations

PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL:

$L = \text{APRON LENGTH (FEET)}$
 $D = \text{OUTLET PIPE DIAMETER (INCHES)}$
 $d = \text{MINIMUM STONE SIZE (FEET)}$

$L = 1.5 \times \text{DISCHARGE}$

$d = 1.5 \times \text{MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6-INCHES}$

RECOMMENDED MIN d_{50}

RIPRAP #	Q(CFS)	"Do" PIPE DIA (IN)	D ₅₀ (FT)	"3xD ₅₀ " (FT)	"La" LENGTH (MIN 10 FT) (FT)	"W" (FT)	"T" MIN STONE DEPTH (IN)
STORM-7	3.50	30	0.50	7.50	10.00	12.50	13.50
STORM-6	3.50	30	0.50	7.50	10.00	12.50	13.50

EFFECTIVE: 01/31/08

SEEDING PREPARATION

AREAS TO BE SEEDED SHALL BE THOROUGHLY LOOSENEED AND WORKED TO A MINIMUM DEPTH OF AT LEAST 5 INCHES.

THE AREA SHALL THEN BE RACKED OR OTHERWISE CLEARED OF ROCKS, LARGER THAN 2 INCHES IN DIAMETER, STICKS OR OTHER DEBRIS.

SEASON	SEEDING MIXTURE	SOIL AMENDMENTS	MULCH	MAINTENANCE
FOR LATE WINTER AND EARLY SPRING:	RYE (GRASS) - 120 LB/ACRE ANNUAL LESPEDEZA (KOB) - 50 LB/ACRE (A SMALL-STEMMED SUBGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE)	FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER	APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.	REFER FERTILIZER IF GROWTH IS NOT FULLY ADEQUATE. RESEED, FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.
FOR SUMMER:	RYE (GRASS) - 40 LB/ACRE (A SMALL-STEMMED SUBGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE)	FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER	APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.	REFER FERTILIZER IF GROWTH IS NOT FULLY ADEQUATE. RESEED, FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.
FOR FALL:	RYE (GRASS) - 120 LB/ACRE	FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER	APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.	REPAIR AND REFER FERTILIZER DAMAGED AREAS IMMEDIATELY. TOPRESS WITH 50 LB/ACRE OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE KOBIE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

FOR ADDITIONAL INFORMATION, REFER TO NCCNR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL (ESCPDM), SECTION 6.10. FOR PERMANENT SEEDING SPECIFICATIONS, INCLUDING SEED BED PREP, SEASONAL LIMITATIONS FOR SEEDING OPERATIONS, THE KINDS OF GRADES OF FERTILIZERS, THE KINDS OF SEED, AND THE RATES OF APPLICATION OF LIMESTONE, FERTILIZER, AND SEED, REFER TO NCCNR ESCPDM SECTION 6.11 PLEASE CONSULT THE NATURAL RESOURCES CONSERVATION SERVICE FOR ADDITIONAL ALTERNATIVES FOR VEGETATING DENuded AREAS. ☺

Temporary Seeding Schedule

SCALE: NOT TO SCALE

501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29568 | JUDGE HILL BUILDING 6008 | 3N EASLEY AVENUE, SUITE 600 | GREENVILLE, SC 29614 | 230 PETERSBORO | CHARLOTTE, NC 28217 | 70N GERRARD STREET | SUMMERVILLE, SC 29586 | 150N DANIEL MORGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29301

501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29566 | JUDSON HILLIS BUILDING GROUP, INC. | CHARLOTTE, NC 28217 | 704.365.8777 | WWW.SWWHITESIDE.COM | SEAMON WHITESIDE & ASSOCIATES, INC. | THESE DRAWINGS SHALL NOT BE REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF SEAMON WHITESIDE & ASSOCIATES, INC.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be jeopardized, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If on daily gauge observations are made during weekend or holiday periods, and no individual day rainfall information is available, then the cumulative rain measurement for that an attended days (into the will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero". The permittee may use another rain-measuring device approved by the Division.
(2) E&S&C Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, date and time of the inspection. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Evidence of indicators of stormwater pollution such as oil, silt, float, or suspended solids or discoloration. 5. Description of maintenance needs for the measures, description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDO)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfall inspected, date and time of the inspection. 2. Name of the person performing the inspection. 3. Evidence of indicators of stormwater pollution such as oil, silt, float, or suspended solids or discoloration. 4. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Evidence of sedimentation in stormwater discharge outfalls, including the location, volume, and date of corrective actions taken, and a record of the following shall be made: 2. Actions taken to clean up or stabilize the sediment that has left the site limits. 3. Description, evidence, and date of corrective actions taken, and 4. An indication as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 2. Description, evidence and date of corrective actions taken, and 3. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(c) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The plans of grading (including perimeter E&S&C measures, clearing and grubbing, installation of storm drainage facilities, completion of all bare earth disturbing activity, construction or redevelopment, permanent ground covers. 2. Documentation that the required ground stabilization measures have been provided within the required timeframes or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&S&C Plan Documentation

The approved E&S&C plan as well as any approved deviation shall be kept on the site. The approved E&S&C plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&S&C plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&S&C measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&S&C plan.	Initial and date each E&S&C measure on a copy of the approved E&S&C plan or complete, date and sign an inspection report that lists each E&S&C measure shown on the approved E&S&C plan. This documentation is required upon the initial installation of the E&S&C measures or if the E&S&C measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&S&C plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&S&C plan.	Initial and date a copy of the approved E&S&C plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&S&C measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&S&C measures.	Initial and date a copy of the approved E&S&C plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&S&C plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical.

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. (40 CFR 122.41)

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

- Visible sediment deposition in a stream or wetland.
- Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- Anticipated bypasses and unanticipated bypasses.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he should contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determines that additional requirements are needed to assure compliance with the federal or state impaired waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b) (c) above	<ul style="list-style-type: none"> A report at least ten days before the date of the bypass, if possible.
(c) Anticipated bypasses (40 CFR 122.41(m)(5))	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(d) Unanticipated bypasses (40 CFR 122.41(m)(5))	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrences of the noncompliance. (40 CFR 122.41(m)(6)). Division staff may waive the requirement for a written report on a case-by-case basis.

PART II SECTION G, ITEM (4) DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- The E&S&C plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&S&C plan authority has approved these items.
- The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit.
- Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sized, designed and maintained dewatering tanks, weir tanks, and filtration systems.
- Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in item (c) above.
- Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- Sediment removed from the dewatering treatment devices described in item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

TEMPORARY STABILIZATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Roll-on erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	<ul style="list-style-type: none"> Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Roll-on erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the [NC DWR List of Approved PAMS/Flocculants](#).
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the [NC DWR List of Approved PAMS/Flocculants](#) and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCGO1 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCGO1 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed. -7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(d) Slopes 3:1 to 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

NOTE: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind site fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earth-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove loadings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining loadings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials on-site.

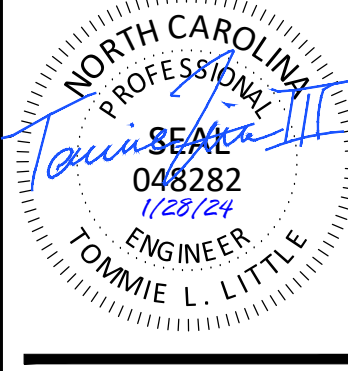
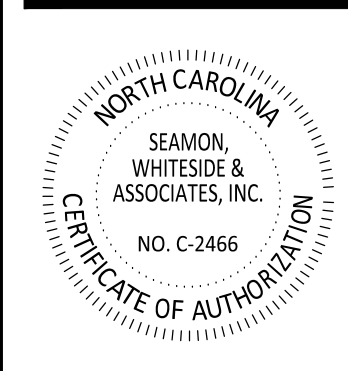
HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCGO1 SELF-INSPECTION, RECORDKEEPING AND REPORTING EFFECTIVE: 04/01/19

NCGO1 GROUND STABILIZATION AND MATERIALS HANDLING EFFECTIVE: 04/01/19

SEAMON WHITESIDE
MOUNT PLEASANT, SC 843.884.1667
GREENVILLE, SC 864.298.0534
SUMMERVILLE, SC 854.972.0710
SPARTANBURG, SC 864.272.1272
CHARLOTTE, NC 980.312.5450
WWW.SEAMONWHITESIDE.COM



TIDAL WAVE AUTO SPA
ROLESVILLE, NC

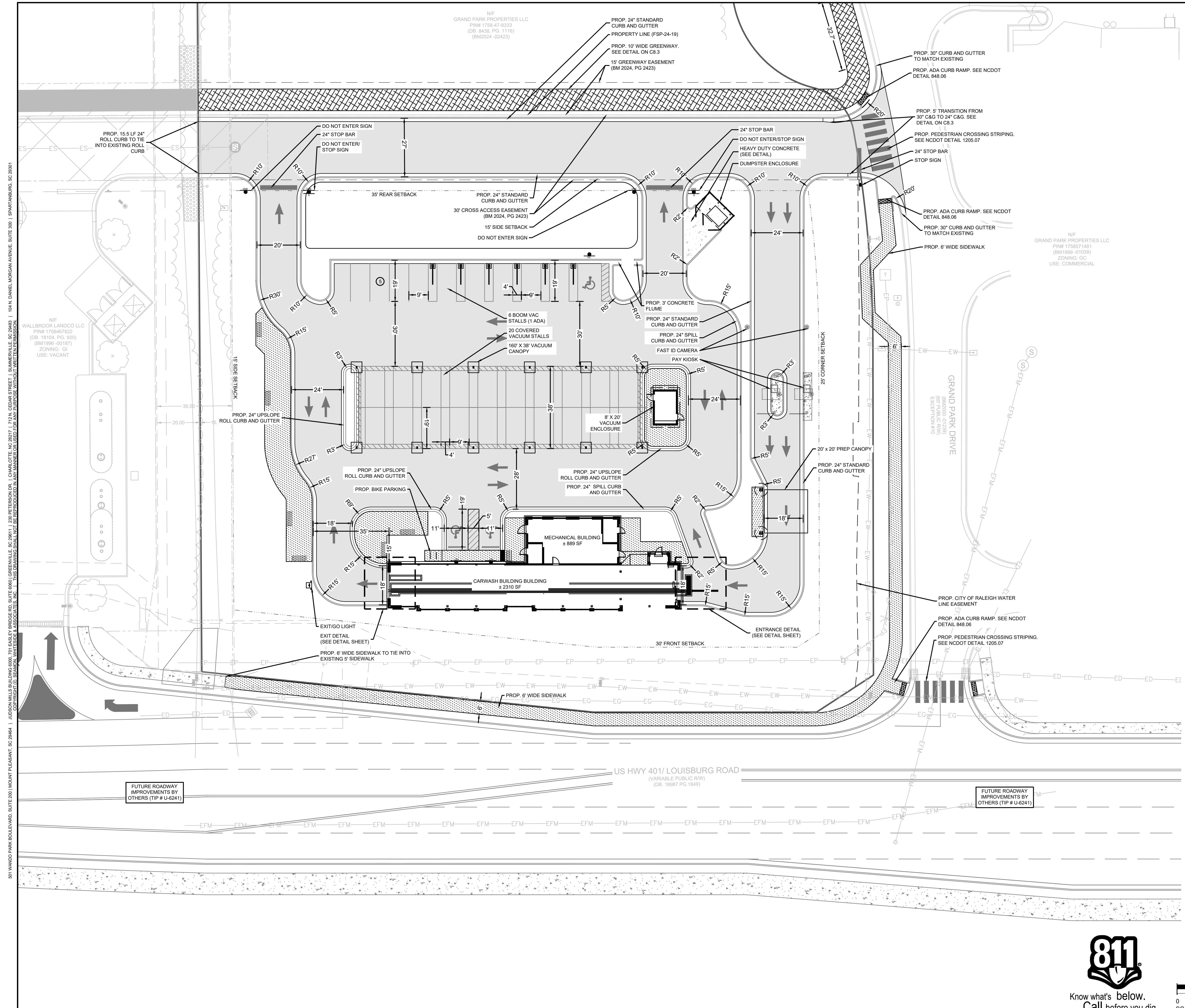
SW+ PROJECT: 10772
DATE: 1/28/24
DRAWN BY: CPE
CHECKED BY: TLL

REVISION HISTORY

NO.	DATE	DESCRIPTION
10/30/23		
A	12/22/23	F 11/06/24
B	03/01/24	G 12/20/24
C	09/04/24	H 1/03/25
D	10/01/24	
E	11/01/24	

EROSION CONTROL DETAILS

C4.5



SITE INFORMATION:
 ADDRESS: 601 GRAND PARK DRIVE, ROLESVILLE, NC
 PROPERTY AREA: 1.92 ACRES
 PARCEL: 1758-57-0146
 EXISTING USE: UNDEVELOPED
 PROPOSED USE: CAR WASH

TOWN CORPORATE ZONING LIMITS PER ANX-24-02:
 PROPERTY ZONING: GENERAL COMMERCIAL CONDITIONAL ZONING (GC-CZ) PER REZ-24-03

BUILDING SETBACKS:
 FRONT (SE): 30'
 CORNER (NE): 25'
 REAR (NW): 35'
 SIDE (SW): 15'

PERIMETER LANDSCAPE YARDS:
 NORTHEAST: 15'

REQUIRED OPEN SPACE (5%) = 0.01 AC (4182 SF)

PRE VS. POST DEVELOPMENT AREA:
 SITE AREA: 1.92 AC
 PRE-IMPERVIOUS AREA: 0.04 AC (2.08%)
 POST-IMPERVIOUS AREA: 1.30 AC (67.7%)

PARKING NOTE:
 PARKING REQUIRED:
 1 SPACE PER 400 SF GFA OR 5 SPACES MINIMUM = 5 SPACES
 PARKING PROVIDED:
 EMPLOYEE SPACES: 5 SPACES (4 MAX ON SHIFT)
 VACUUM STALLS: 26 STALLS (1 ADA)
 ADA PARKING: 2 SPACES
 TOTAL PARKING: 33 SPACES

BIKE PARKING:
 REQUIRED: 1 SPACE (1 SPACE PER 5000 SF GFA)
 PROVIDED: 4 SPACES

SITE LAYOUT AND STAKING NOTES:
 1. CONTRACTOR SHALL CAREFULLY EXAMINE ALL DOCUMENTS AND THE CONSTRUCTION SITE TO OBTAIN FIRST HAND KNOWLEDGE OF EXISTING CONDITIONS.
 2. ENTIRE SITE SHALL BE DRESSED TO UNIFORM, WELL DRAINED AND VISUALLY APPEALING SURFACE WITH A MINIMUM TOPSOIL LAYER OF FOUR INCHES.
 3. ALL STRIPING AND SIGNS SHALL CONFORM WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES LATEST EDITION. PARKING STALL STRIPING TO BE WHITE WITH BLUE HANDICAPPED STRIPING.
 4. ALL HANDICAP PARKING SPACED AND ACCESSIBLE ROUTE SHALL CONFORM WITH THE AMERICAN WITH DISABILITY ACT DESIGN GUIDELINES AND SPECIFICATIONS LATEST EDITION.
 5. DIMENSIONS AND CURVE RADII ARE GIVEN TO FACE OF CURB, WHERE CURB AND GUTTER IS SHOWN. OTHERWISE DIMENSIONS ARE GIVEN TO THE EDGE OF PAVEMENT. CONTRACTOR IS TO COORDINATE WITH THE ARCHITECTURAL PLANS AS TO THE BUILDING LAYOUT AND DIMENSIONS.
 6. THIS DEVELOPMENT IS NOT REQUIRED TO PERFORM A TRAFFIC IMPACT ANALYSIS PER DETERMINATION BY LAND DEVELOPMENT ADMINISTRATOR ON 02/14/2024 PER LDO SECTION 8.C.5.
 7. INTERNAL PEDESTRIAN ACCESS AND FLOW IN ACCORDANCE WITH LDO 8.4.B.3 IS NOT APPLICABLE DUE TO NO PUBLIC BUILDING ACCESS ON SITE AND NECESSITY FOR PATRONS TO BE IN A VEHICLE TO PURCHASE THE SERVICES OF THE ESTABLISHMENT.

501 WANDO PARK BOULEVARD, SUITE 200 MOUNT PLEASANT, SC 29464 | JUDSON MULLS BUILDING GROUP, 3741 BAKER BRIDGE, SUITE 600 GREENVILLE, SC 29611 | 270 PETERSBORO | CHARLOTTE, NC 28217 | 701N. CEDAR STREET | SUMMERVILLE, SC 29581 | 101N. DANIEL MORGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29301
 WALLBROOK LANDCO LLC PINE 1758467822 (DB: 18104, PG: 020) (BM1996-00187) ZONING: G1 USE: VACANT
 GRAND PARK PROPERTIES LLC PINE# 1758571481 (BM1999-01038) ZONING: GC USE: COMMERCIAL
 NIF GRAND PARK PROPERTIES LLC PINE# 1758-47-8333 (DB: 8438, PG: 1116) (BM2024-02423)
 NIF WALLBROOK LANDCO LLC PINE# 1758467822 (DB: 18104, PG: 020) (BM1996-00187) ZONING: G1 USE: VACANT
 NIF GRAND PARK PROPERTIES LLC PINE# 1758571481 (BM1999-01038) ZONING: GC USE: COMMERCIAL
 1/28/24

SITE LEGEND

	PROPOSED SIDEWALK
	HEAVY DUTY CONCRETE PAVEMENT
	STANDARD DUTY CONCRETE PAVEMENT
	ASPHALT GREENWAY
	STOP SIGN
	DO NOT ENTER SIGN
	HANDICAP PARKING SIGN

SW SEAMONWHITESIDE

MOUNT PLEASANT, SC 843.884.1667
 GREENVILLE, SC 864.298.0534
 SUMMERVILLE, SC 843.972.0710
 SPARTANBURG, SC 864.272.1272
 CHARLOTTE, NC 980.312.5450
 WWW.SEAMONWHITESIDE.COM

TIDAL WAVE AUTO SPA
 ROLESVILLE, NC

SW+ PROJECT: 10772
 DATE: 1/28/24
 DRAWN BY: CPE
 CHECKED BY: TLL

REVISION HISTORY

A	12/22/23	F	11/06/24
B	03/01/24	G	12/20/24
C	09/04/24	H	1/03/25
D	10/01/24		
E	11/01/24		

SITE PLAN

C5.1

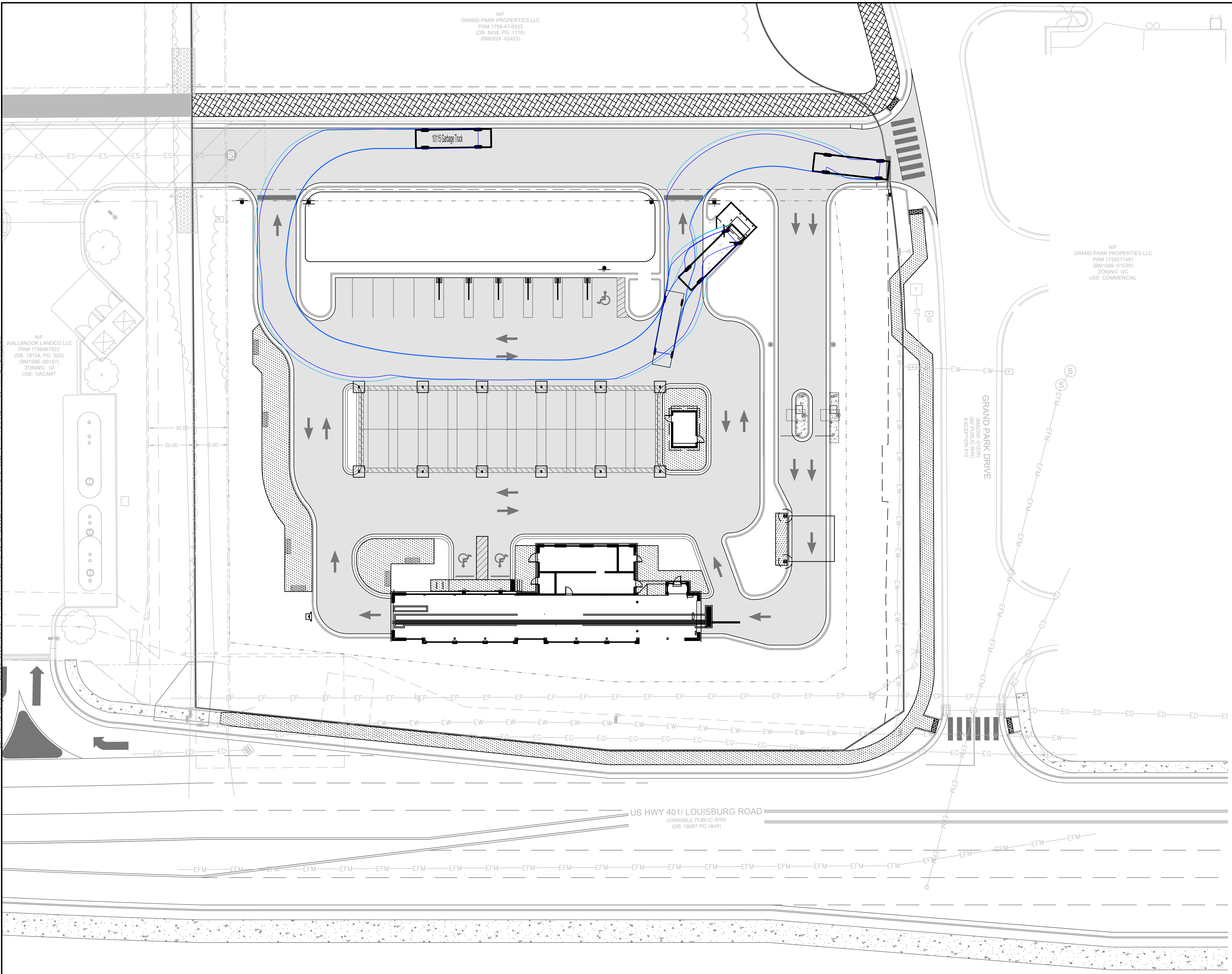
811
 Know what's below.
 Call before you dig.

SCALE: 1" = 20'

0 10 20 40

501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29566 | JUDSON MULLIS BUILDING GROUP, INC. ARCHITECTS | CHARLOTTE, NC 28211 | 370 PETERSBORO | SPARTANBURG, SC 29581 | 104 N. DANIEL MORGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29581
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N/F
 GRAND PARK PROPERTIES LLC
 PIN# 1758-47-8333
 (DB: 8438; PG: 11116)
 (BM2024-02423)



N/F
 GRAND PARK PROPERTIES LLC
 PIN# 1758571481
 (BM1999-01038)
 ZONING: GC
 USE: COMMERCIAL

N/F
 WALLBROOK LANDCO LLC
 PIN# 1758467822
 (DB: 18104; PG: 920)
 (BM1996-00187)
 ZONING: G1
 USE: VACANT

SITE INFORMATION:

ADDRESS: 601 GRAND PARK DRIVE, ROLESVILLE, NC
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FRONT (SE):	30'
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PERIMETER LANDSCAPE YARDS:

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------------	-----

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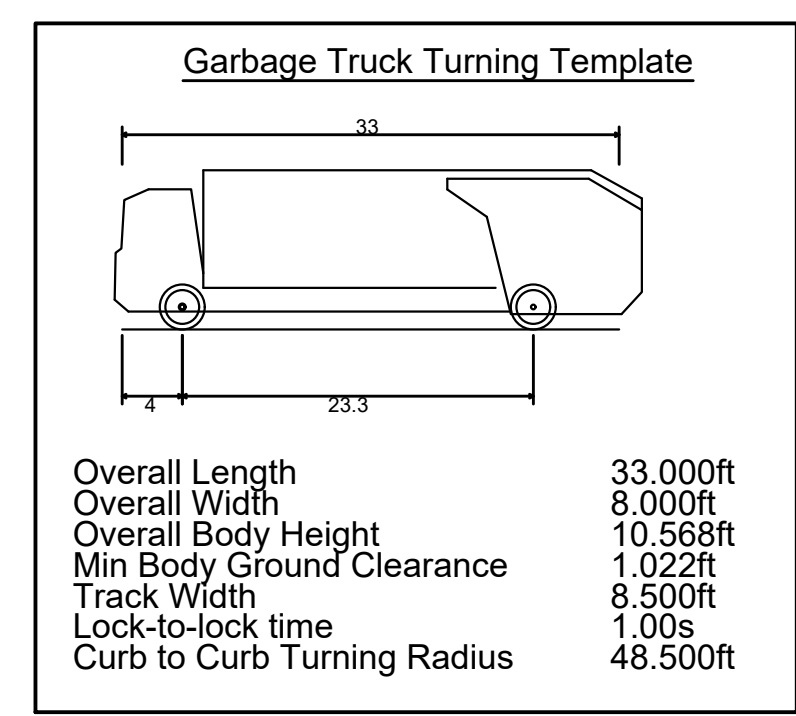
PARKING PROVIDED:

EMPLOYEE SPACES: (4 MAX ON SHIFT)	5 SPACES
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ADA PARKING:	2 SPACES
TOTAL PARKING:	33 SPACES

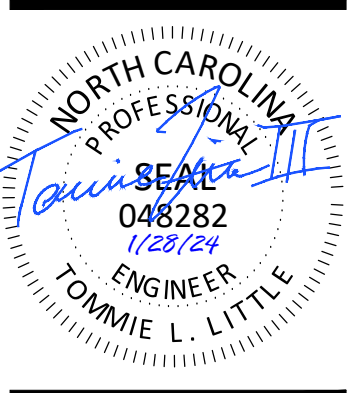
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 843.972.0710
 SPARTANBURG, SC
 864.272.1272
 CHARLOTTE, NC
 980.312.5450
 WWW.SEAMONWHITESIDE.COM



TIDAL WAVE AUTO SPA
 ROLESVILLE, NC

SW+ PROJECT: 10772
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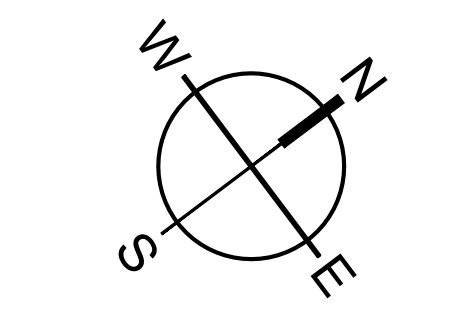
REVISION HISTORY

10/30/23	
A	12/22/23 F 11/06/24
B	03/01/24 G 12/20/24
C	09/04/24 H 1/03/25
D	10/01/24
E	11/01/24

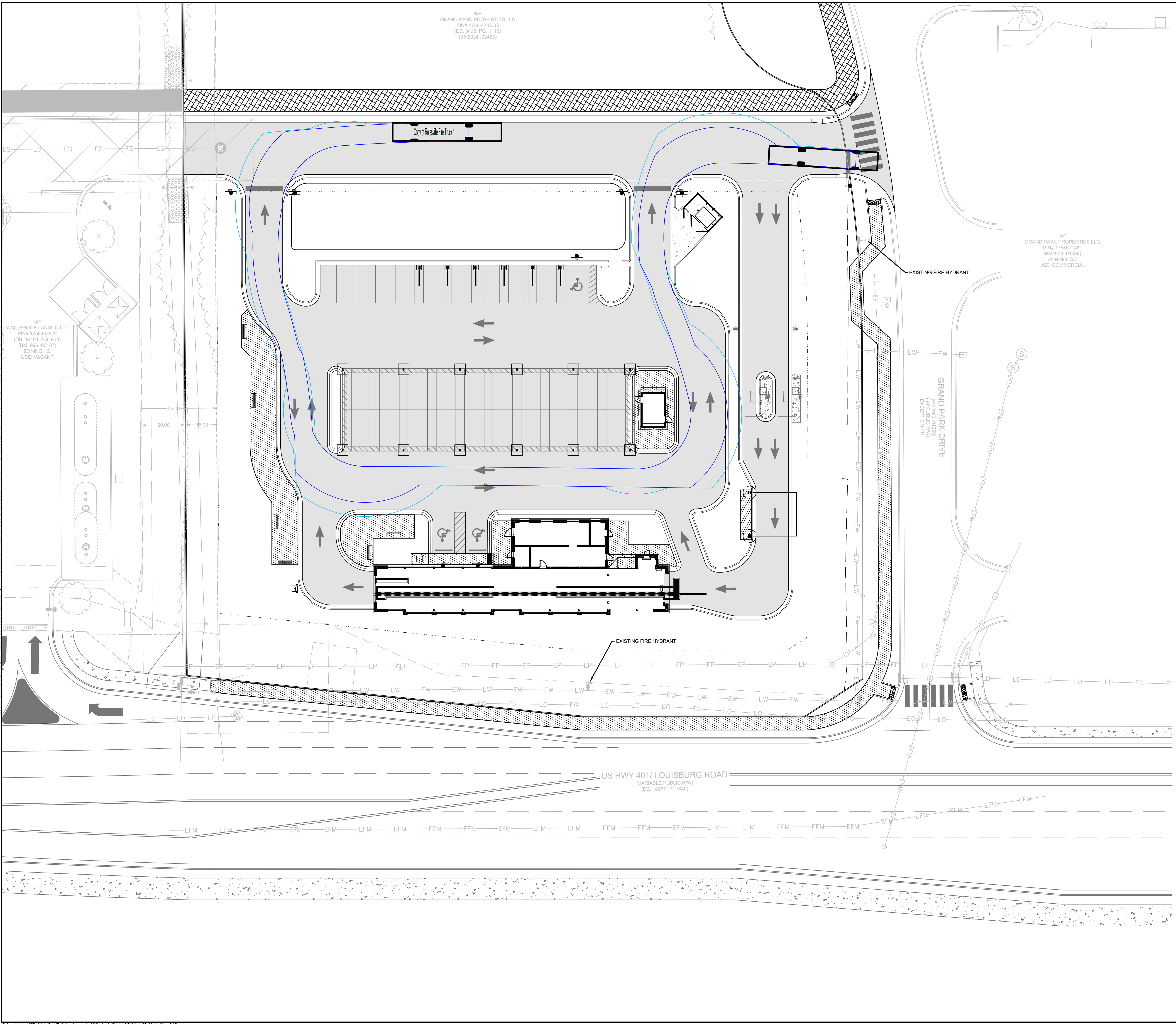
VEHICLE
 STACKING &
 TURNING
 MOVEMENT



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501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29566 | JUDSON MULLIS BUILDING GROUP, 3745 BAKER STREET, SUITE 600 | GREENVILLE, SC 29611 | 250 PETERSBORO | CHARLOTTE, NC 28217 | 701 CENAR STREET | SEAMON WHITESIDE & ASSOCIATES, INC. | 101 N. DANIEL MORGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29301



NF
GRAND PARK PROPERTIES LLC
PIN# 1758-47-8333
(DB: 8438; PG: 11116)
(BM2024-02423)

NF
GRAND PARK PROPERTIES LLC
PIN# 1758571481
(BM1989-01038)
ZONING: GC
USE: COMMERCIAL

NF
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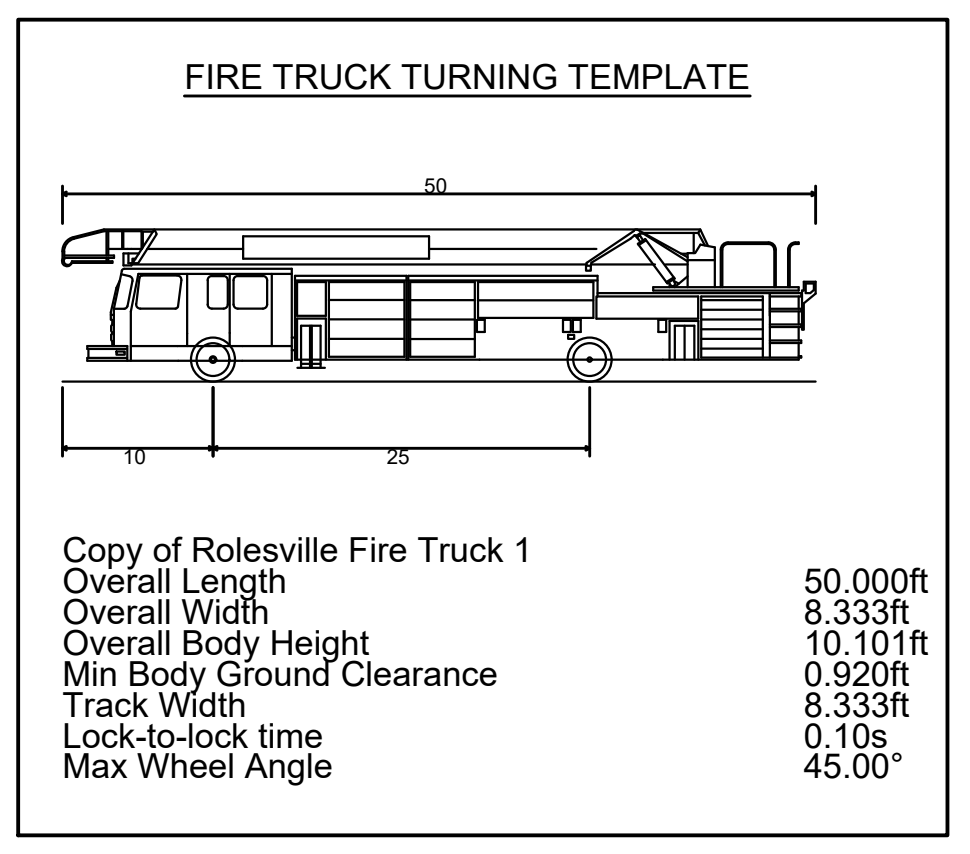
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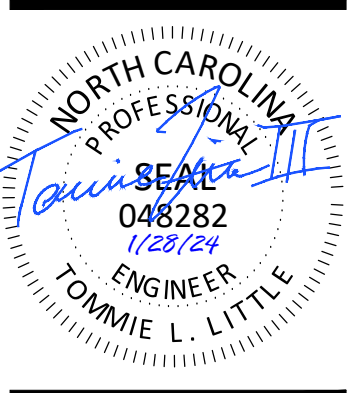
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 SPARTANBURG, SC 864.272.1272
 CHARLOTTE, NC 980.312.5450
 WWW.SEAMONWHITESIDE.COM



TIDAL WAVE AUTO SPA
 ROLESVILLE, NC

SW+ PROJECT: 10772
 DATE: 1/28/24
 DRAWN BY: CPE
 CHECKED BY: TLL

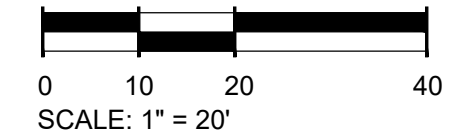
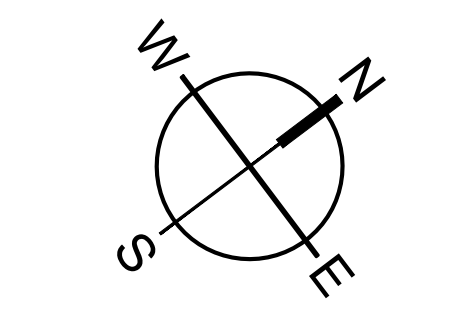
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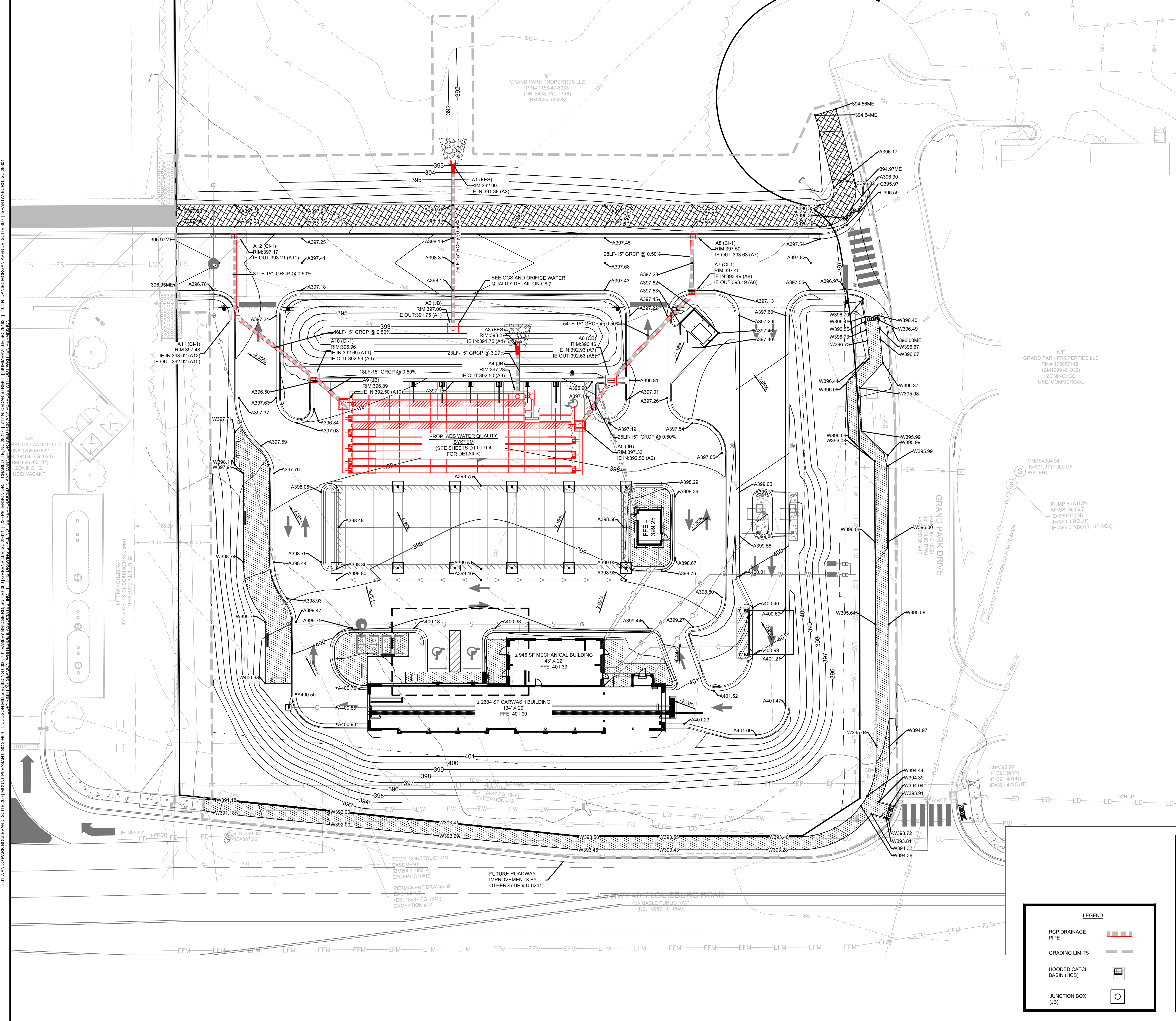
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FIRE PROTECTION PLAN



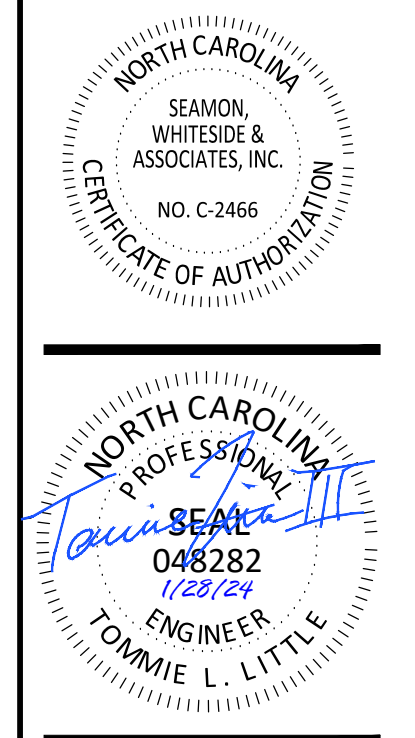
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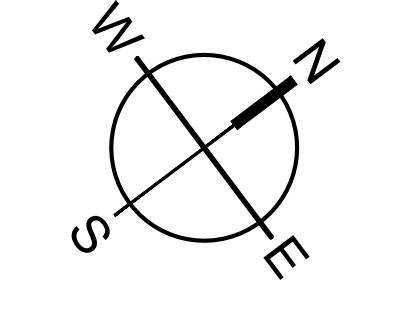


- STANDARD DRAINAGE PLAN NOTES:**
- FOR PROJECT SURVEY INFORMATION INCLUDING VERTICAL DATUM AND BENCHMARK LOCATIONS, SEE "PROJECT SURVEY INFORMATION AND CONTRACTOR VERIFICATION REQUIREMENTS" ON SHEET C1.0.
 - PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS, INCLUDING BUT NOT LIMITED TO TOPOGRAPHIC, TREE, STORM DRAINAGE FACILITIES, AND ALL UTILITIES. EXISTING UTILITIES SHOWN ARE APPROXIMATE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ENGINEER. THEREFORE, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT VERTICAL AND HORIZONTAL LOCATIONS OF ALL EXISTING UTILITIES. ANY DISCREPANCIES OR CONFLICTS IDENTIFIED DURING VERIFICATION OF EXISTING CONDITIONS AND UTILITIES SHALL BE REPORTED TO THE OWNER AND ENGINEER. ANY COSTS ASSOCIATED WITH CORRECTIVE WORK OR DAMAGES THAT ARE A RESULT OF THE CONTRACTOR NOT VERIFYING EXISTING CONDITIONS AND THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UTILITIES WILL BE THE CONTRACTOR'S RESPONSIBILITY.
 - REFER TO DRAINAGE PROFILE SHEETS, ROADWAY PLAN & PROFILE SHEETS, GRADING PLAN SHEETS, AND ROADWAY & DRAINAGE DETAIL SHEETS FOR ADDITIONAL DRAINAGE AND GRADING INFORMATION AND REQUIREMENTS.
 - DRAINAGE PIPE LENGTHS PROVIDED REPRESENT DISTANCES FROM CENTER OF BOX TO CENTER OF BOX. DRAINAGE PIPES ARE TO TERMINATE INSIDE THE DRAINAGE STRUCTURES IN ACCORDANCE WITH GOVERNING AUTHORITY REQUIREMENTS OR IN ACCORDANCE WITH SCOD STANDARD DRAWING 719-000-03 DRAINAGE STRUCTURE GENERAL NOTES.
 - ANY NECESSARY UNDERCUTTING OR MUCK AND FILL OPERATIONS ARE TO BE COORDINATED WITH THE OWNER AND THE PROJECT GEOTECHNICAL CONSULTANT PRIOR TO EXECUTING THE WORK.
 - PRIOR TO BEGINNING WORK WITHIN ANY PUBLIC RIGHT-OF-WAY OR EASEMENT, THE CONTRACTOR SHALL OBTAIN ANY APPLICABLE ENCROACHMENT PERMITS FROM THE OWNER OR ENGINEER AND IS RESPONSIBLE FOR FOLLOWING ALL REQUIREMENTS SPECIFIED IN THESE PERMITS.
 - UNLESS OTHERWISE NOTED, REINFORCED CONCRETE PIPE (RCP) SHALL BE IN ACCORDANCE WITH ASTM C76, CLASS III, WALL B WITH SEALANT JOINTS (ASTM C990) PER NCDOT SPECIFICATIONS. ALL PIPE JOINTS SHALL BE WRAPPED WITH MINIMUM 18" WIDTH OF NON-WOVEN GEOTEXTILE.
 - REFER TO DRAINAGE PROFILE SHEETS FOR ADDITIONAL RIM ELEVATION INFORMATION.
 - GRCP: GASKETED (O-RING) REINFORCED CONCRETE PIPE, ASTM C76, CLASS III, WALL B WITH GASKETED JOINTS (ASTM C443).

SEAMON WHITESIDE
 MOUNT PLEASANT, SC 843.884.1667
 GREENVILLE, SC 864.298.0534
 SUMMERVILLE, SC 843.972.0710
 SPARTANBURG, SC 864.272.1272
 CHARLOTTE, NC 980.312.5450
 WWW.SEAMONWHITESIDE.COM



TIDAL WAVE AUTO SPA
 ROLESVILLE, NC



LEGEND

RCP DRAINAGE PIPE	
GRADING LIMITS	
HOODED CATCH BASIN (HCB)	
JUNCTION BOX (JB)	

SPOT ELEV KEY (FINISHED GRADING)

A-(ASPHALT) SURFACE OF FINISHED ASPHALT ROADWAY OR WALKING PATH
 C-(CONCRETE) CONCRETE PAVING
 D-(DIRT) FINISHED GROUND ELEVATION
 F-(FLOW) ELEVATION AT WHICH SURFACE WATER FLOWS INTO DRAINAGE STRUCTURE
 BC- SURFACE OF ASPHALT ADJACENT TO THROAT OR GRATE AT CURB INLET
 -SURFACE OF ACCESS COVER FOR JUNCTION OR ISOLATION BOX
 -SURFACE OF GRATE AT OUTSIDE EDGE FOR CATCH BASIN, GUTTER INLET, OR GRATED POND STRUCTURE
 FFE - FINISHED FLOOR ELEVATION
 G-(GUTTER) SURFACE OF FINISHED GUTTER AT LOWEST POINT (ALONG WATER FLOW PATH)
 W-(WALK) SURFACE OF FINISHED CONCRETE OR INTERLOCKING PAVER SIDEWALK, PATIO, PLAZA, OR SLAB
 TC - TOP OF CURB ELEVATION
 BC- BOTTOM OF CURB ELEVATION
 TS - TOP OF STAIRS ELEVATION
 BS - BOTTOM OF STAIRS ELEVATION
 TW - FINISHED GRADE ELEVATION AT TOP OF WALL
 BW - FINISHED GRADE ELEVATION AT BOTTOM OF WALL
 ME-(MATCH EXISTING) FOLLOWING ELEVATION NUMBER -
 INDICATES TO MATCH ELEVATION OF EXISTING SURFACE AT POINT OF CONNECTION

EXAMPLE: A12.56ME MEANS THAT THE SURFACE OF NEW ASPHALT IS TO BE AT ELEVATION 12.56 WHICH SHOULD MATCH THE ELEVATION OF THE EXISTING ASPHALT SURFACE AT THE JOINT

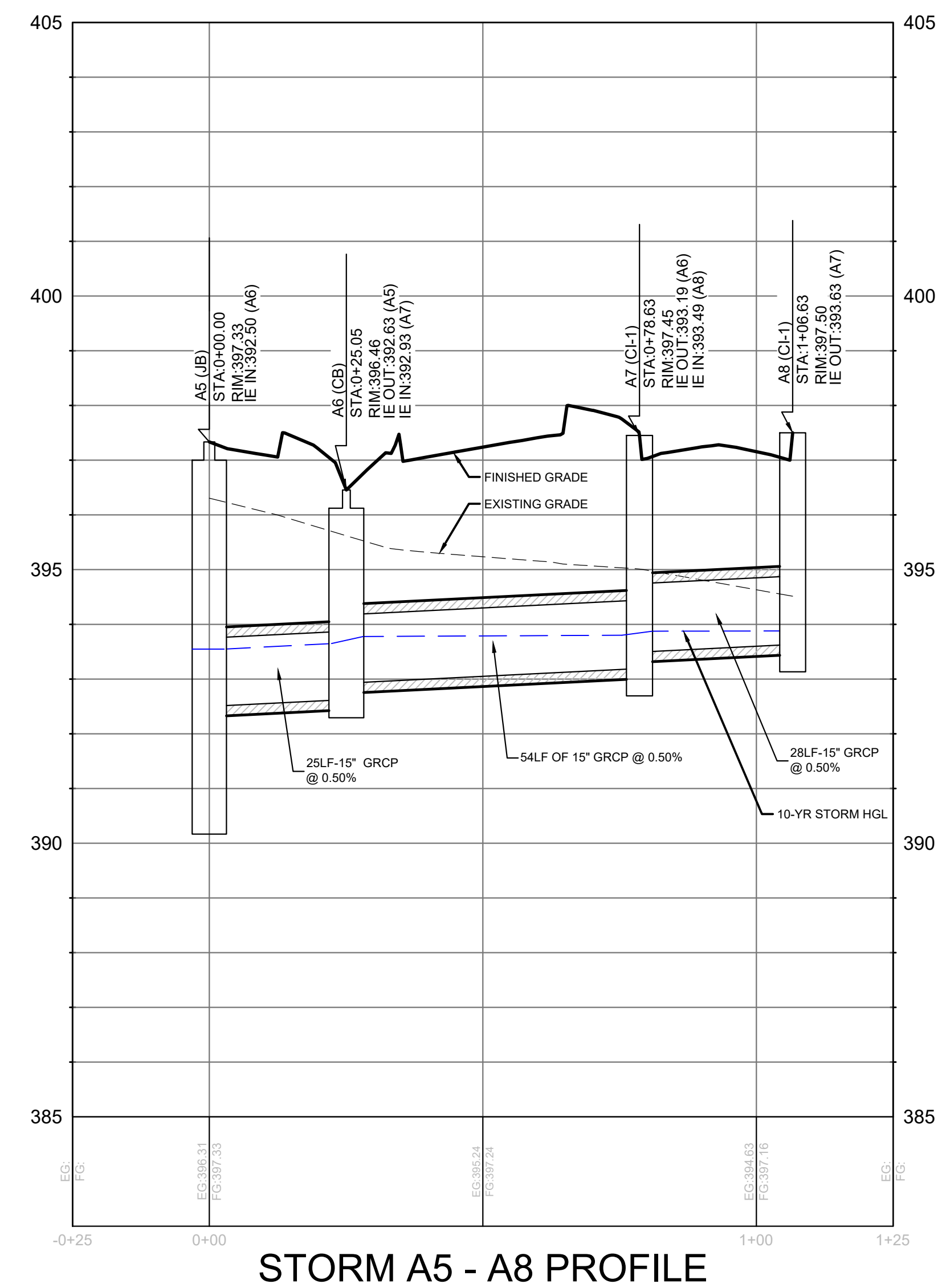
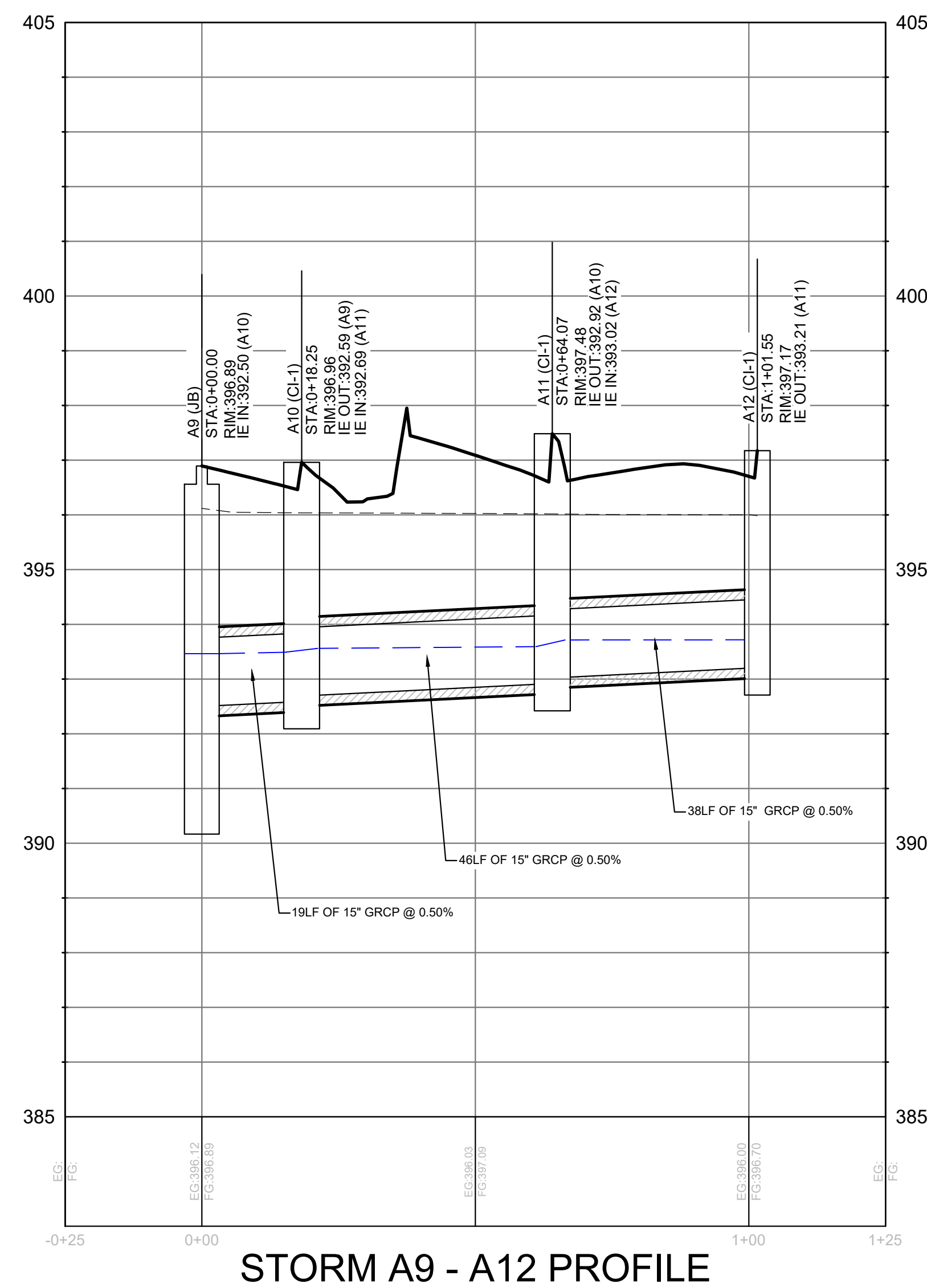
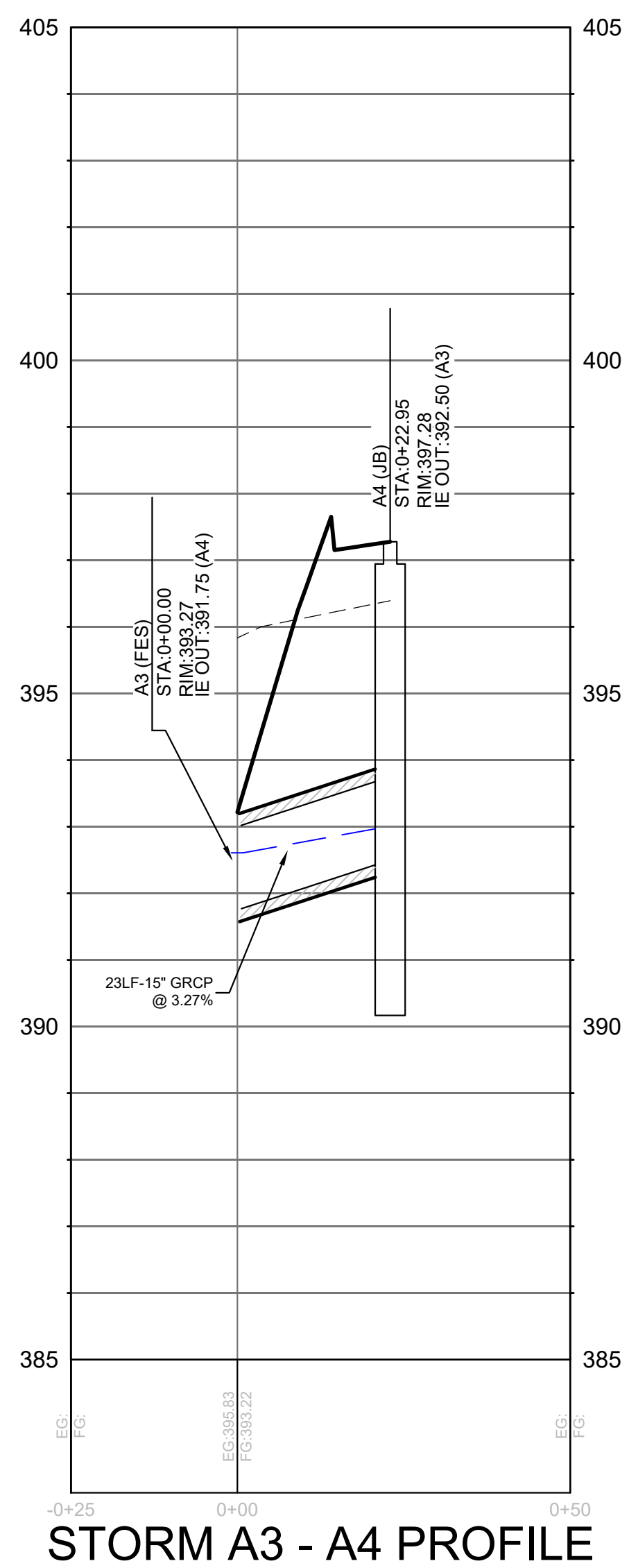
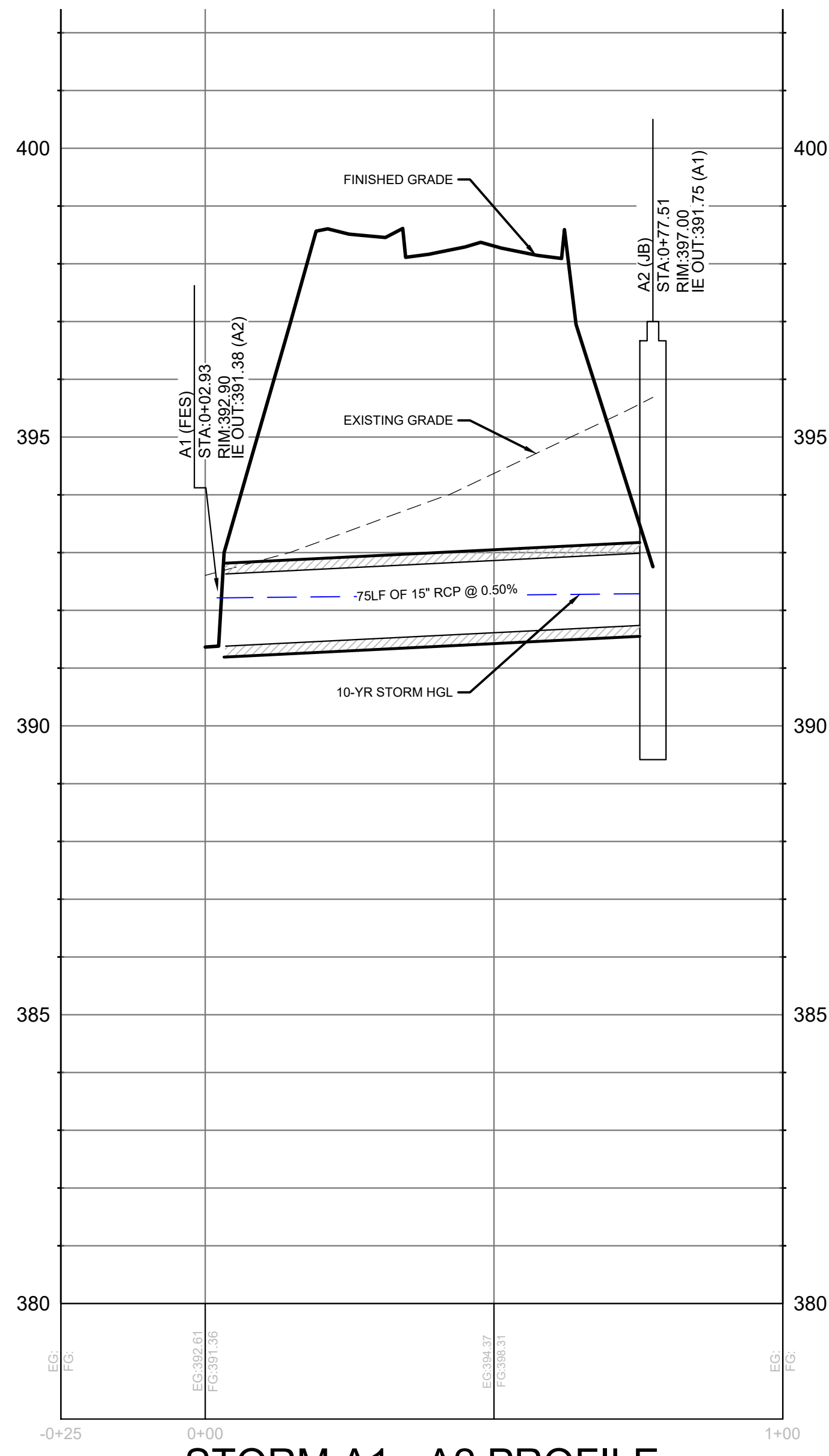
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A	12/22/23	F	11/06/24
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OVERALL GRADING AND DRAINAGE PLAN

501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29464 | JUDSON HILLS BUILDING 6009 7th FLOOR | CHARLOTTE, NC 28217 | 704.365.8700 | WWW.SWWHITESIDE.COM | 10-N DANIEL MORGAN AVENUE SUITE 300 | SPARTANBURG, SC 29301



STORM A1 - A2 PROFILE

STORM A3 - A4 PROFILE

STORM A9 - A12 PROFILE

STORM A5 - A8 PROFILE



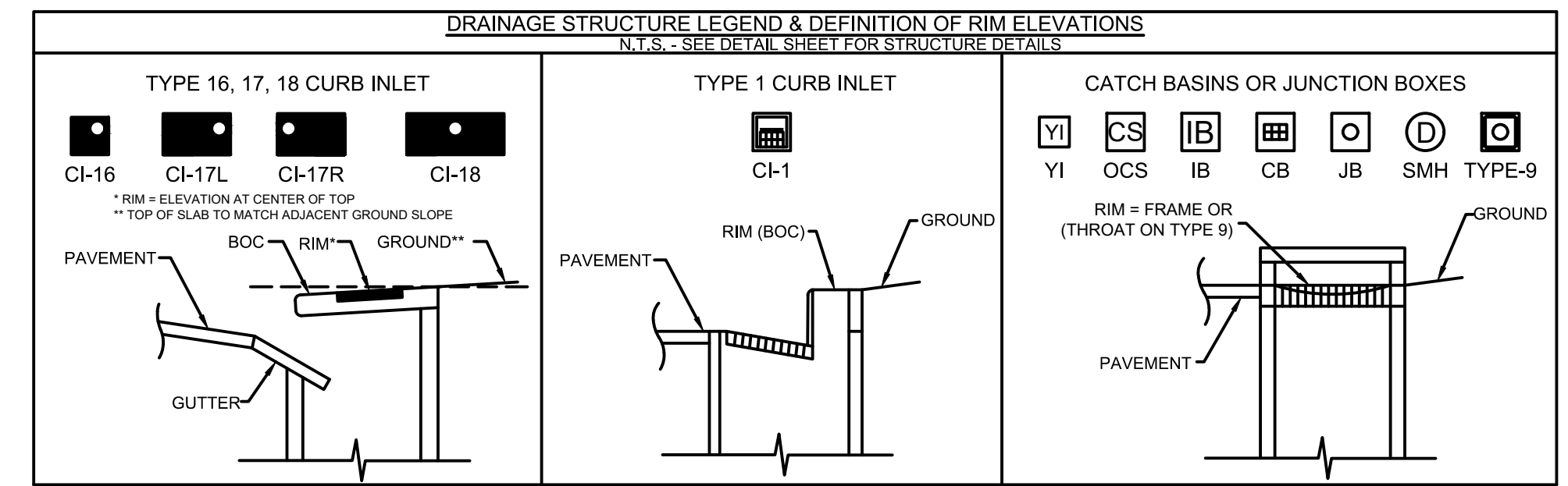
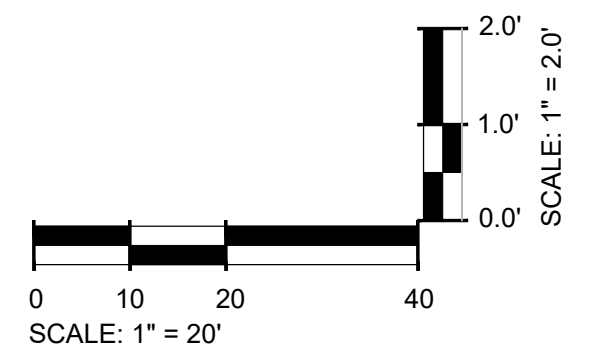
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TIDAL WAVE AUTO SPA
 ROLESVILLE, NC



Know what's below.
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LINETYPE LEGEND

	FINISHED GRADE
	EXISTING GROUND
	HYDRAULIC GRADE LINE 10 YEAR STORM EVENT

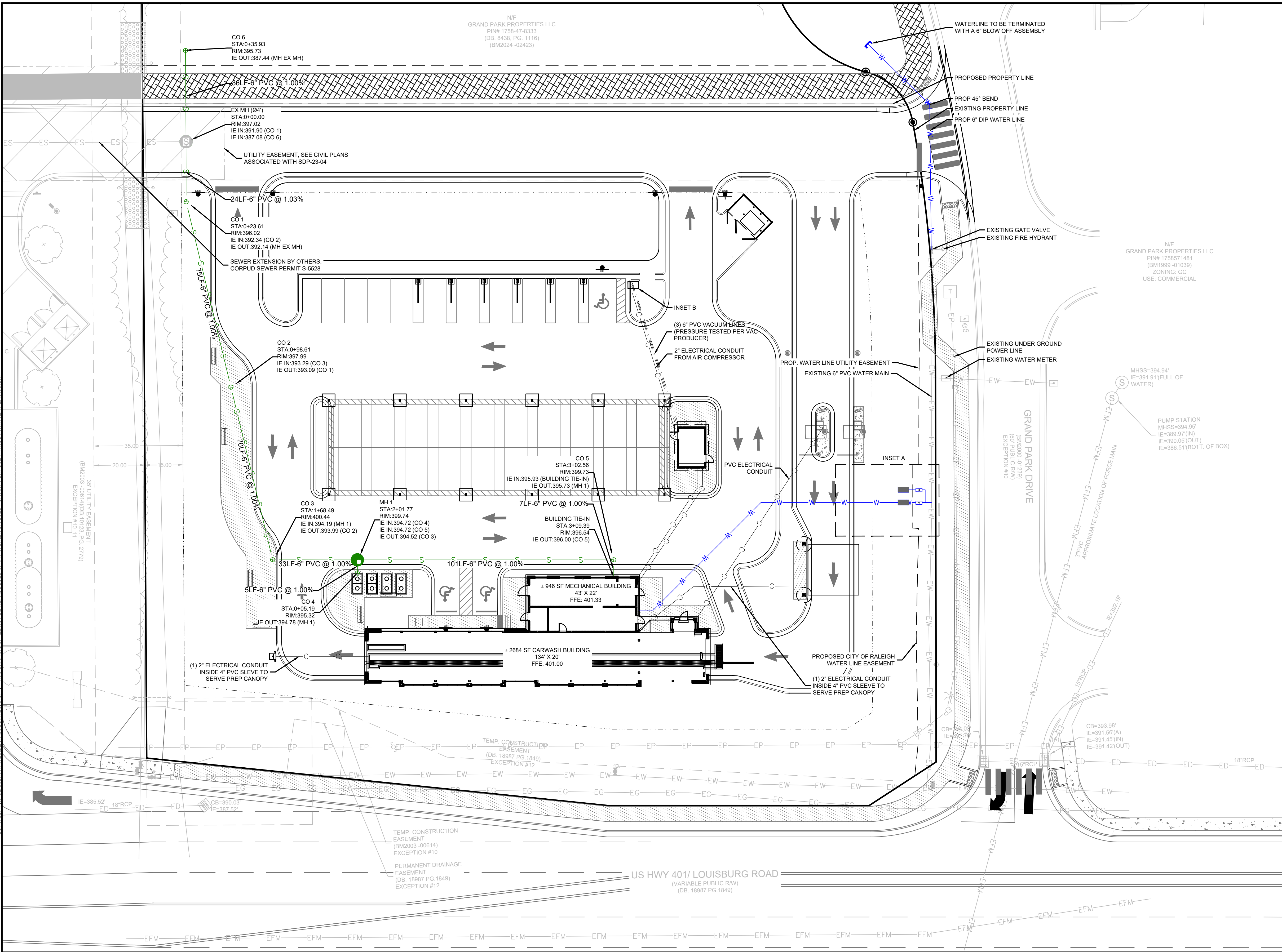
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E	11/01/24	

DRAINAGE PROFILES

501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29564 | JUDGE & ASSOCIATES, INC. | CHARLOTTE, NC 28211 | 310 PETERSBORO | GREENVILLE, SC 29611 | 230 PETERSBORO | SPARTANBURG, SC 29161 | 104 N. DANIEL MORGAN AVENUE, SUITE 200 | SPARTANBURG, SC 29161
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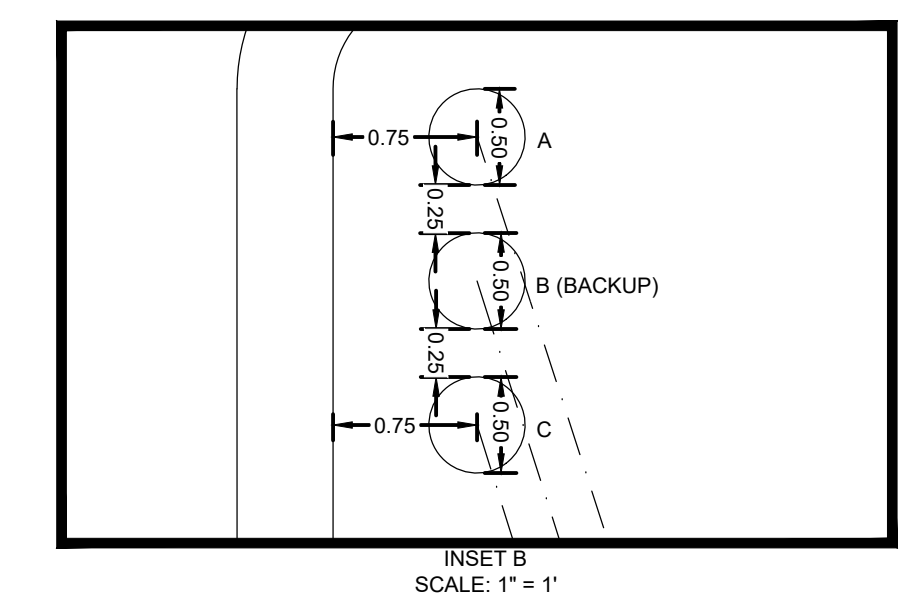
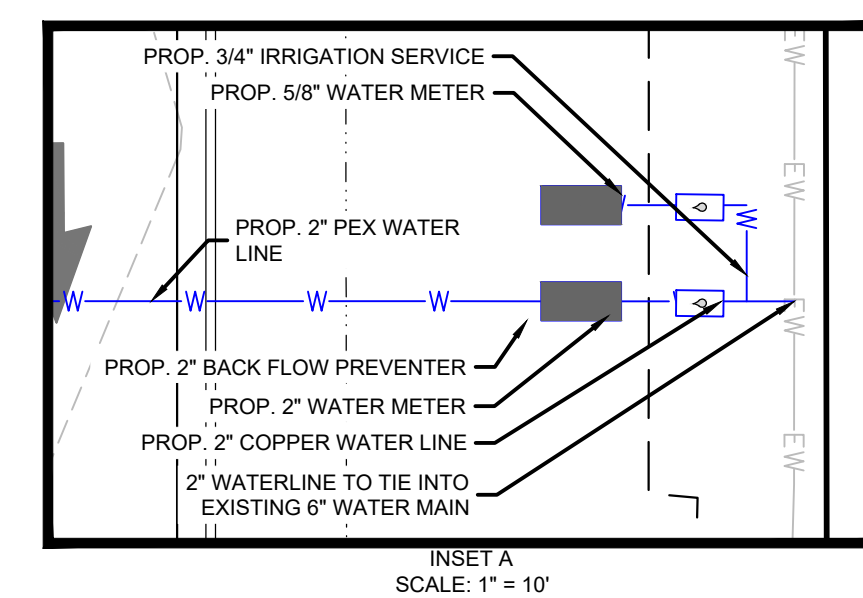


- STANDARD UTILITY NOTES**
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 - WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
 - WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS
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 City of Raleigh
 Public Utilities Department Permit # W-4162
 Authorization to Construct _____
 Date _____

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811
 Know what's below. Call before you dig.
 SCALE: 1" = 20'

SW SEAMONWHITESIDE
 MOUNT PLEASANT, SC 843.884.1667
 GREENVILLE, SC 864.298.0534
 SUMMERVILLE, SC 843.972.0710
 SPARTANBURG, SC 864.272.1272
 CHARLOTTE, NC 980.312.5450
 WWW.SEAMONWHITESIDE.COM

TIDAL WAVE AUTO SPA
 ROLESVILLE, NC

SW+ PROJECT: 10772
 DATE: 1/28/24
 DRAWN BY: CPE
 CHECKED BY: TLL

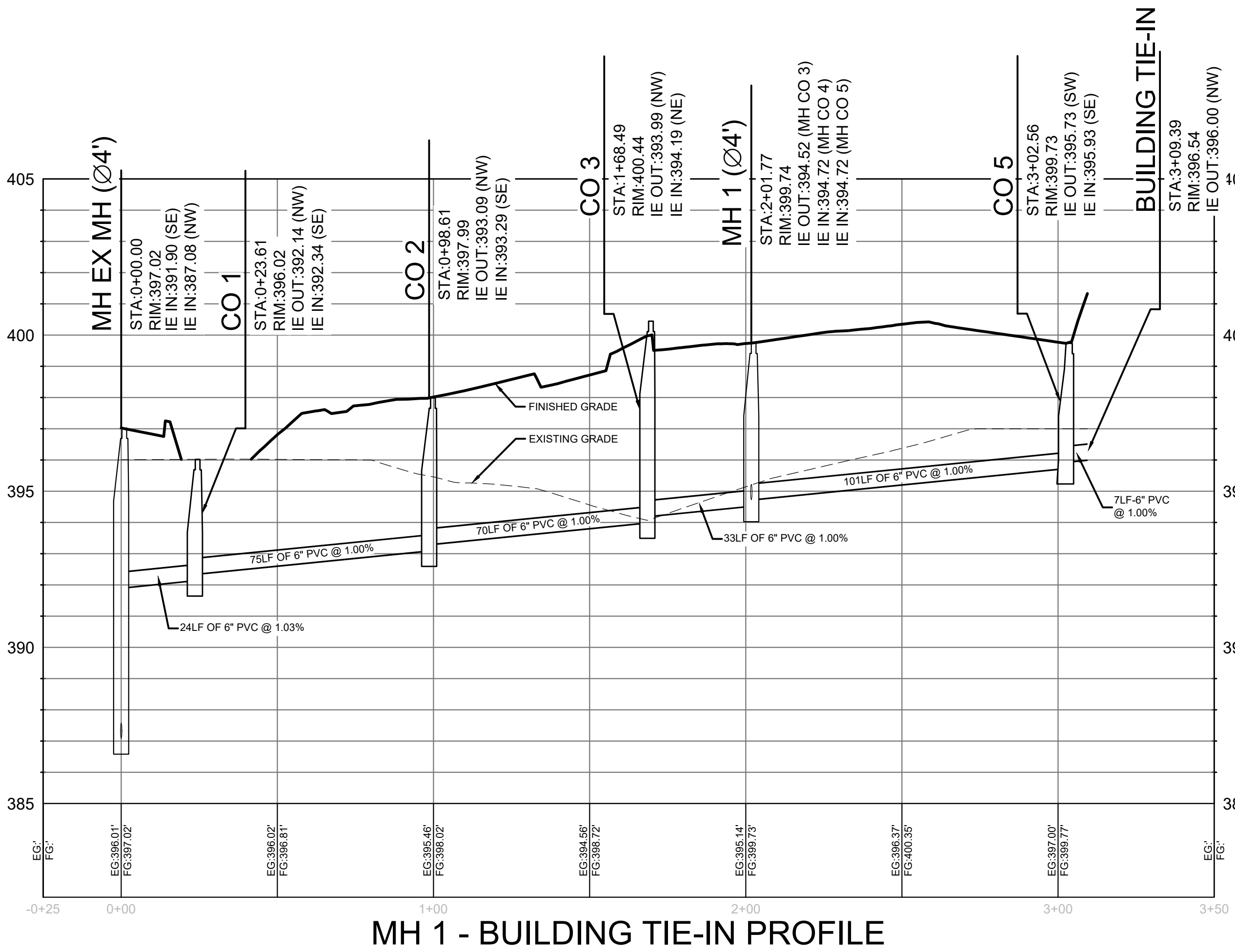
REVISION HISTORY

10/30/23	
A 12/22/23	F 11/06/24
B 03/01/24	G 12/20/24
C 09/04/24	H 1/03/25
D 10/01/24	
E 11/01/24	

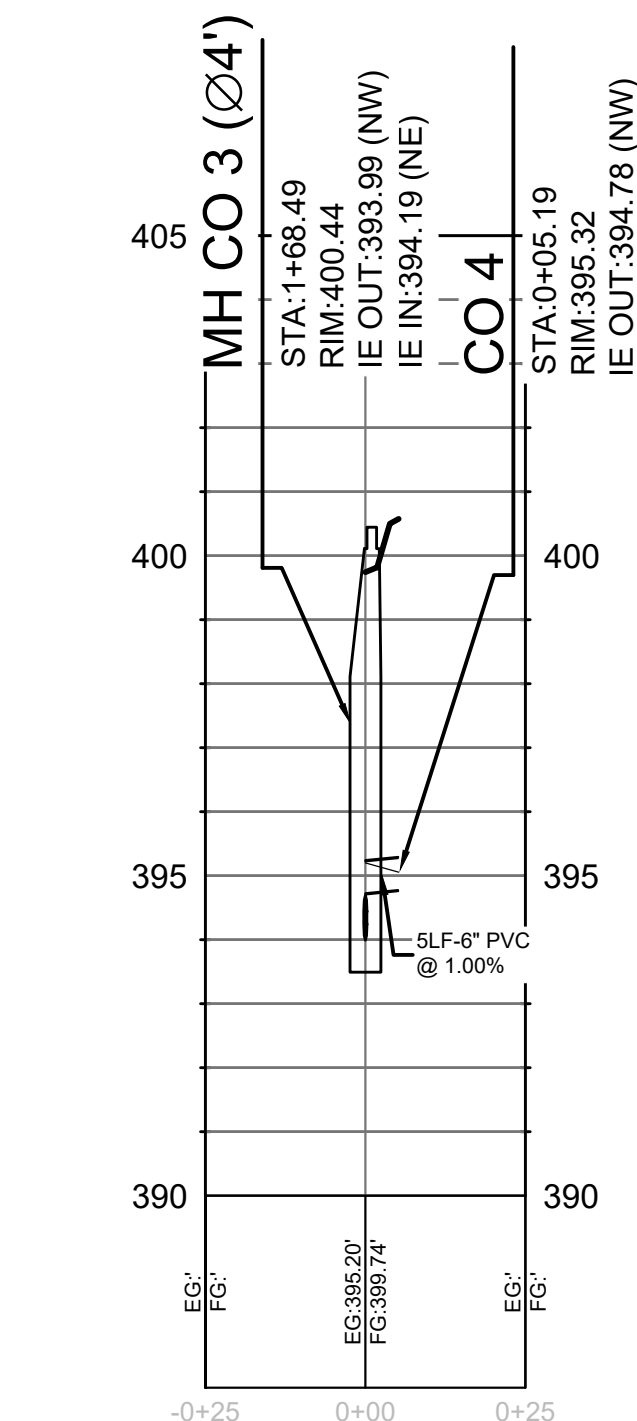
UTILITY PLAN AND PROFILES

C7.1

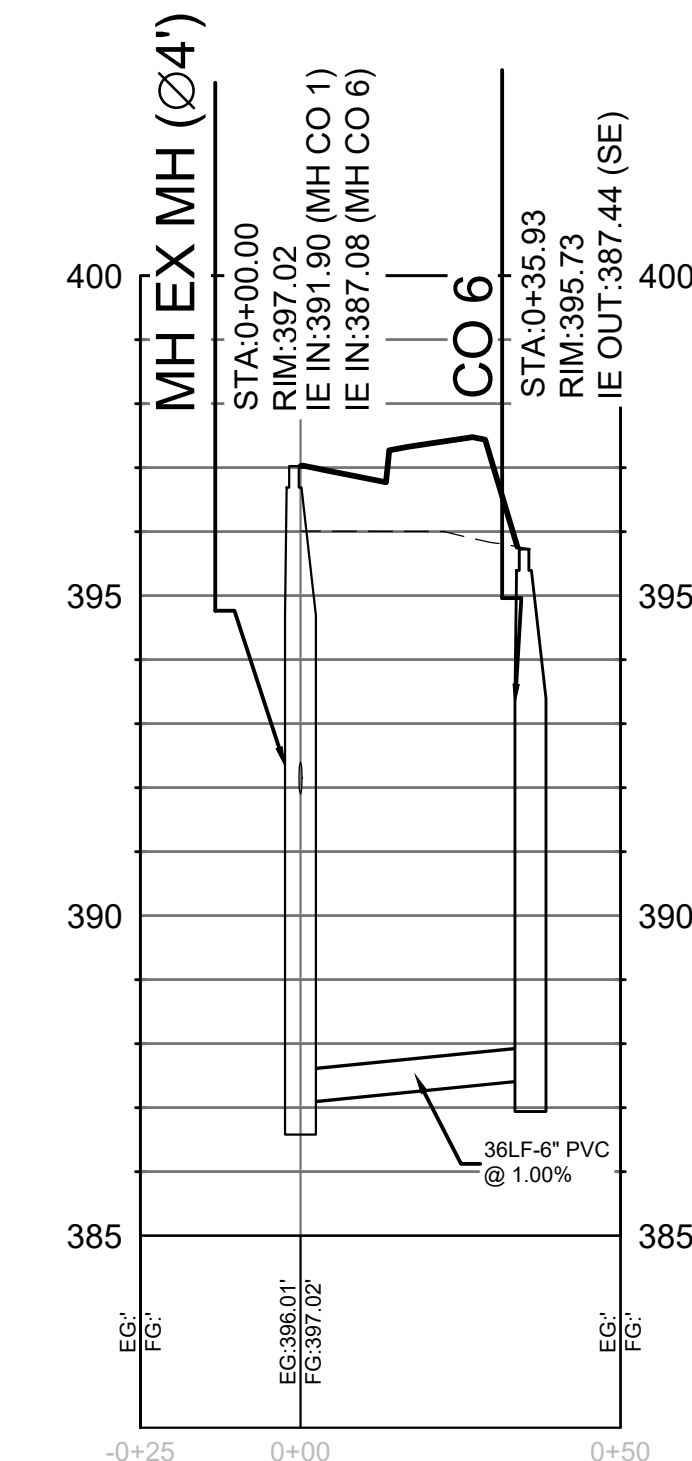
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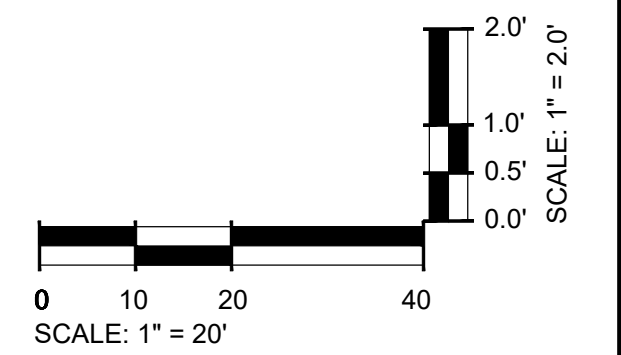
MH 1 - BUILDING TIE-IN PROFILE



MH 2 - CO4 PROFILE



MH 1 - CO6 PROFILE



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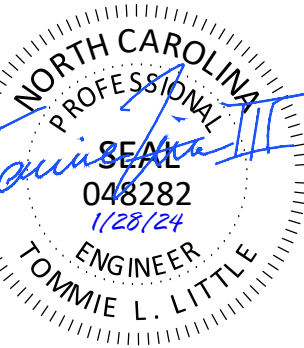
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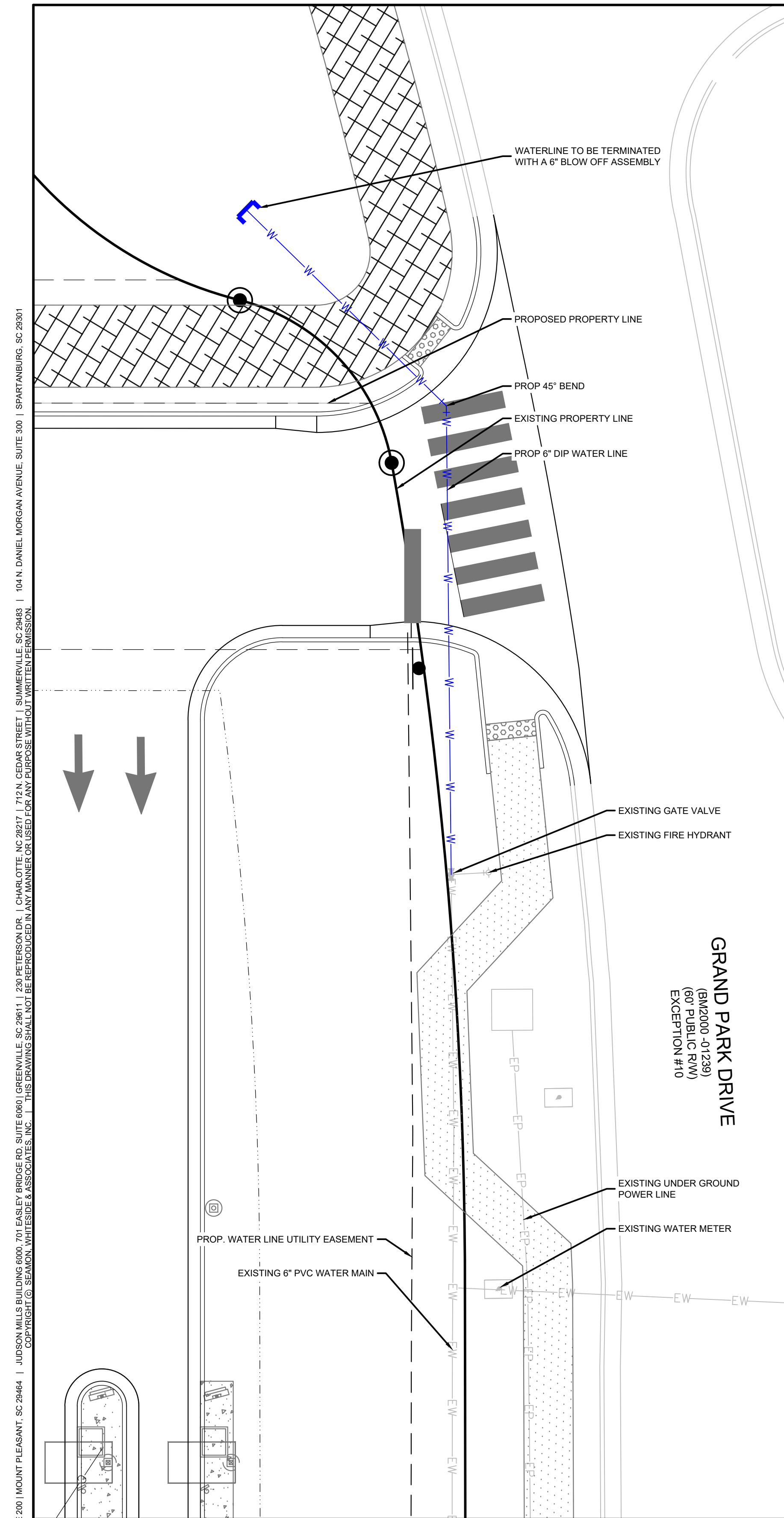


TIDAL WAVE AUTO SPA
ROLESVILLE, NC

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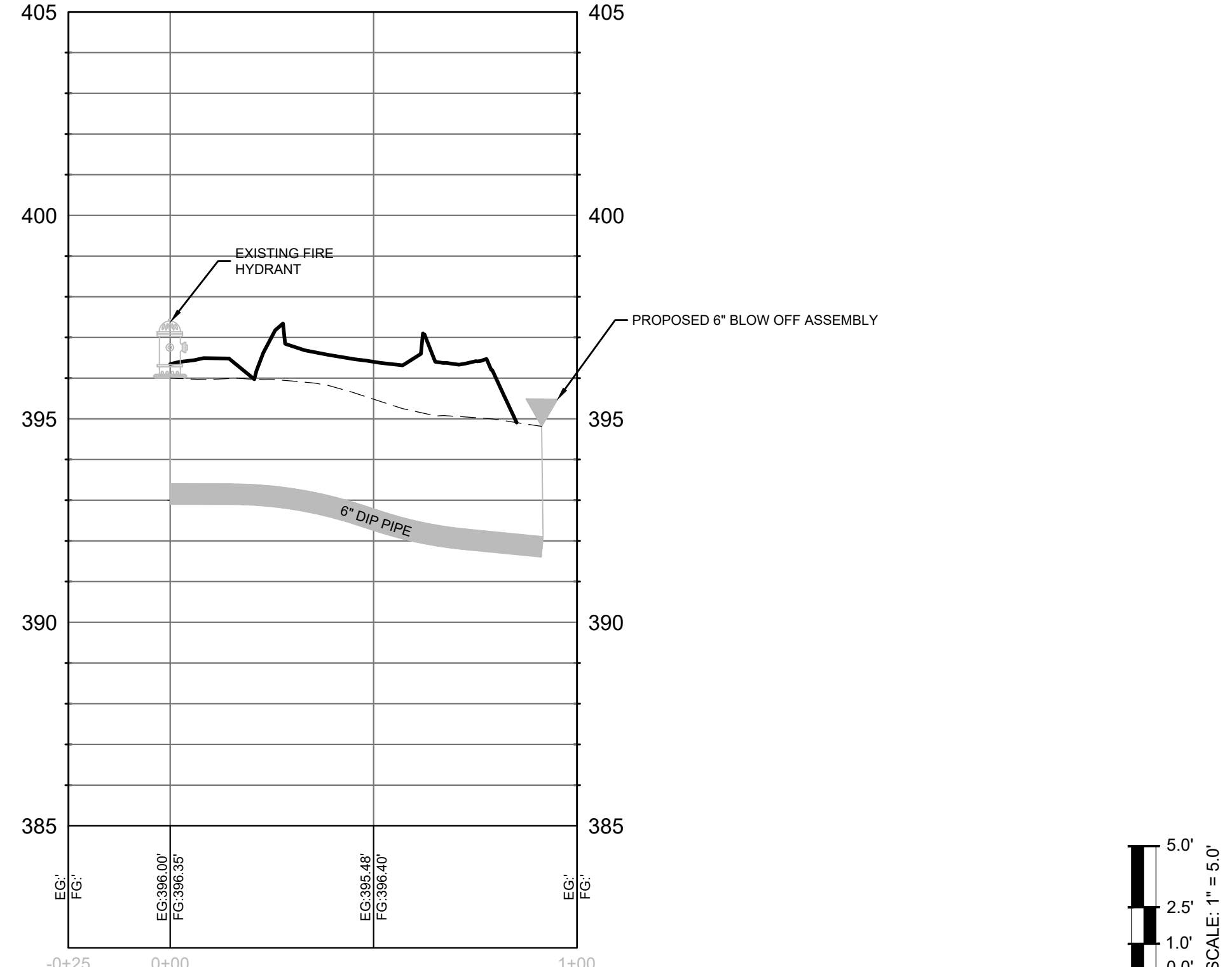
REVISION HISTORY	
A	12/22/23
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C	09/04/24
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UTILITY PROFILES



GRAND PARK DRIVE
 (MAY 2000 - 11/2/20)
 (60" PUBLIC R/W)
 EXCESSION #10

UTILITY (NEW WATERLINE) ALIGNMENT PROFILE



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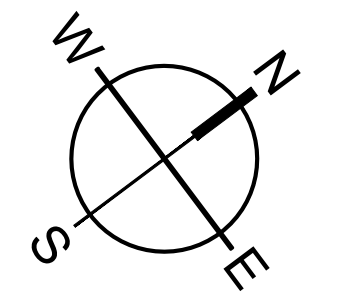
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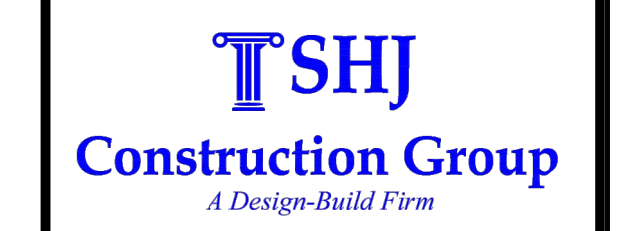
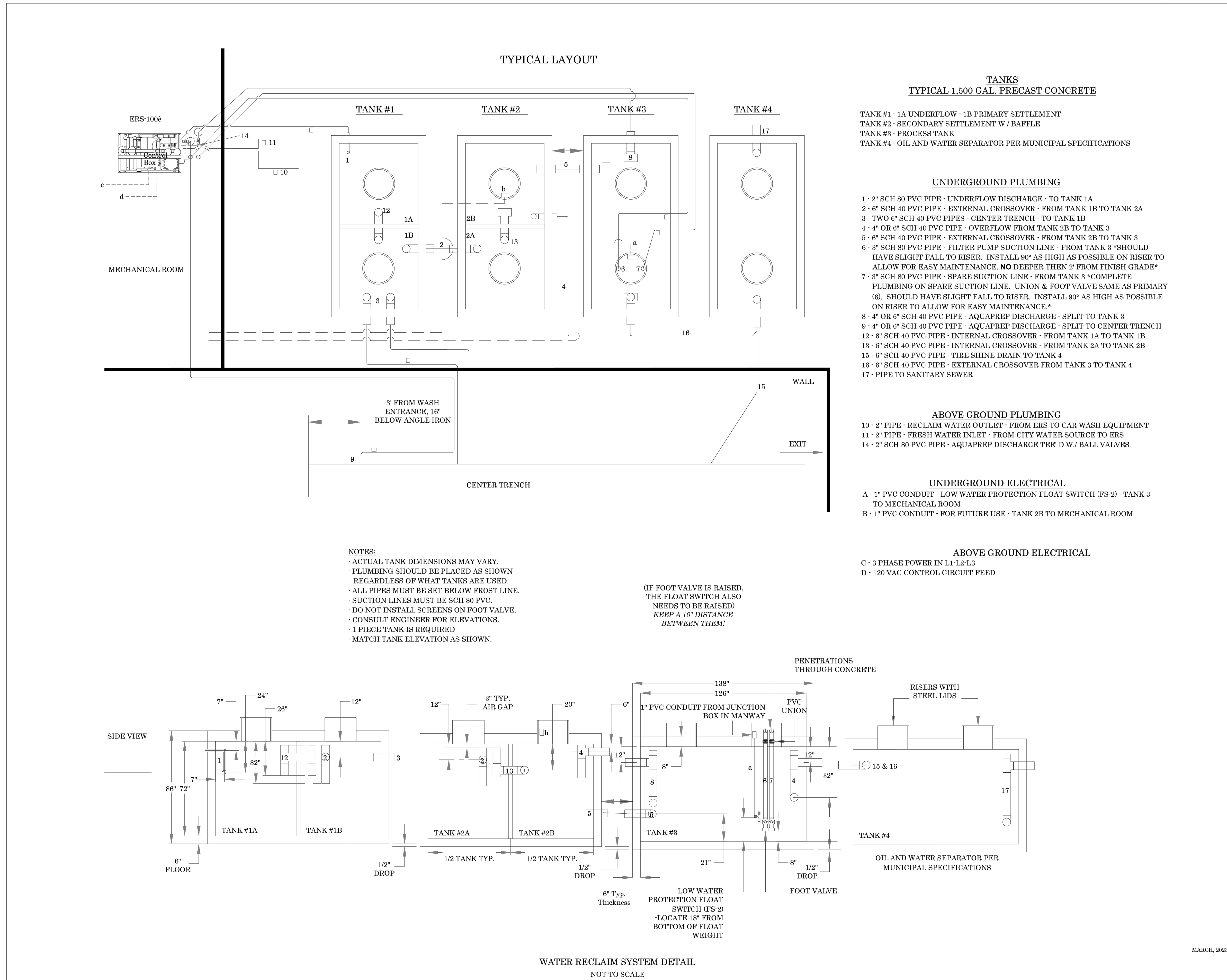
SW+ PROJECT: 10772
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 CHECKED BY: TLL

REVISION HISTORY

10/30/23		
A	12/22/23	F 11/06/24
B	03/01/24	G 12/20/24
C	09/04/24	H 1/03/25
D	10/01/24	
E	11/01/24	

OFFSITE WATER MAIN EXTENSION

501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29564 | JUDGE WILLIAMS BUILDING, 500 W. BAKER STREET, SUITE 600 | GREENVILLE, SC 29611 | 230 PETERSBORO | CHARLOTTE, NC 28217 | 701. CEMAS STREET | SUMMERVILLE, SC 29581 | 101 N. DANIEL MORGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29301
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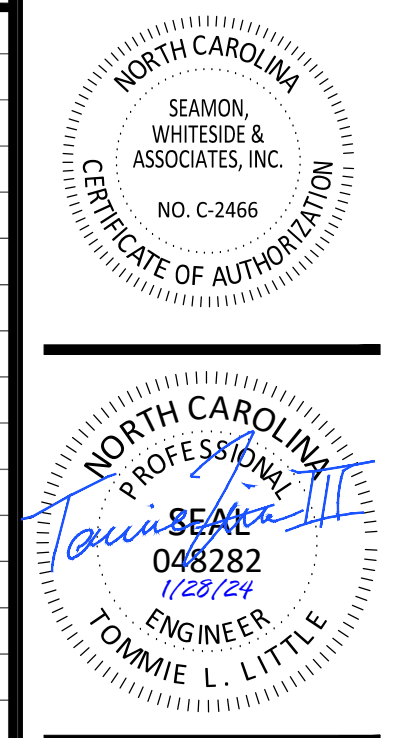


DATE OF PLANS		
03/31/2023		
REVISIONS		
NO.	DATE	DESCRIPTION
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2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-

TECHNICAL CRITERIA
 SHJ CONSTRUCTION GROUP
WATER RECLAIM SYSTEM DETAIL

NOT TO SCALE
SHEET
 1 OF 1

SW
 SEAMON WHITESIDE
 MOUNT PLEASANT, SC 843.884.1667
 GREENVILLE, SC 864.298.0534
 SUMMERVILLE, SC 843.972.0710
 SPARTANBURG, SC 864.272.1272
 CHARLOTTE, NC 980.312.5450
 WWW.SEAMONWHITESIDE.COM



TIDAL WAVE AUTO SPA
 ROLESVILLE, NC

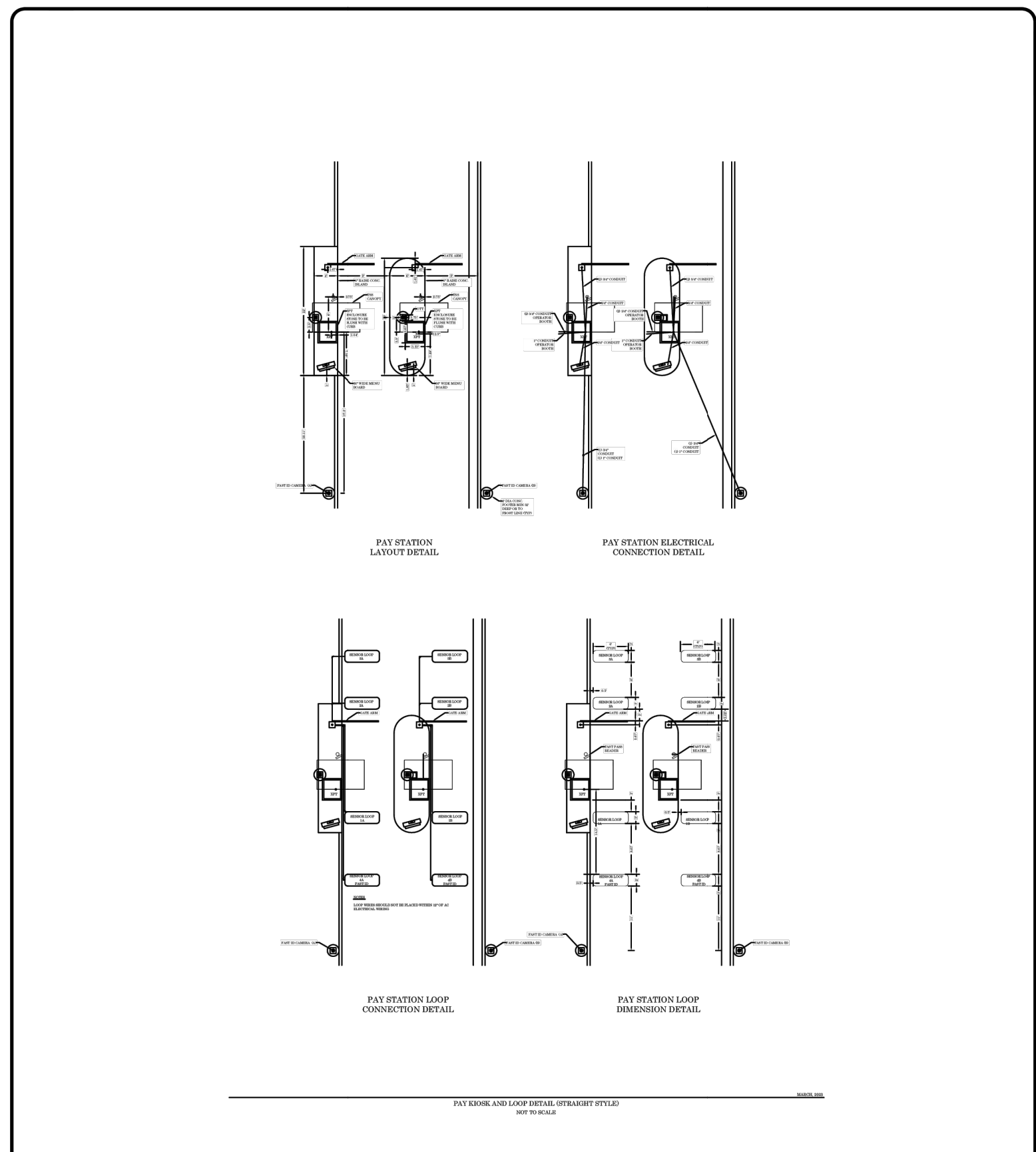
SW+ PROJECT: 10772
 DATE: 1/28/24
 DRAWN BY: CPE
 CHECKED BY: TLL

REVISION HISTORY

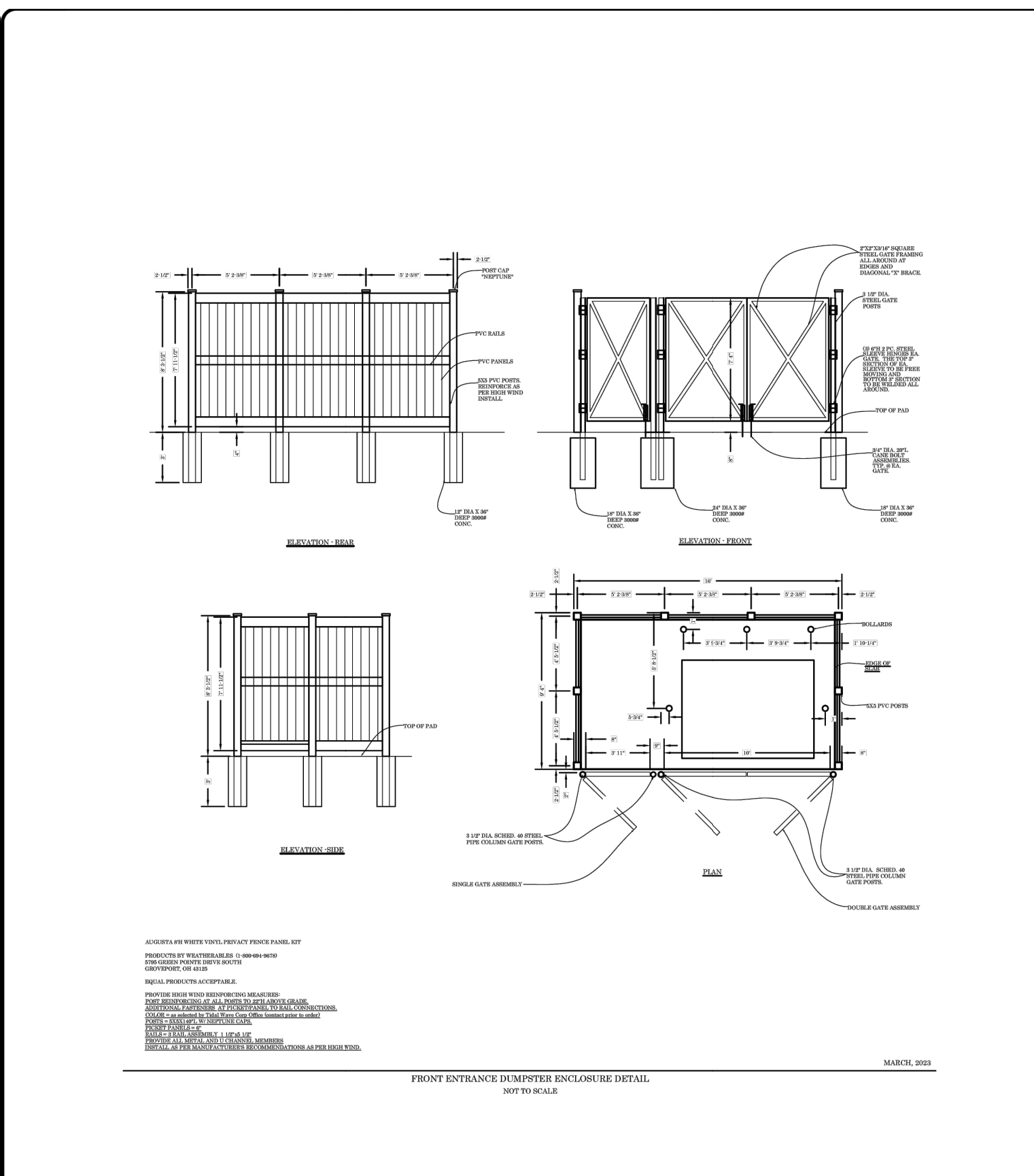
NO.	DATE	DESCRIPTION
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B	03/01/24	G 12/20/24
C	09/04/24	H 1/03/25
D	10/01/24	
E	11/01/24	

CONSTRUCTION DETAILS

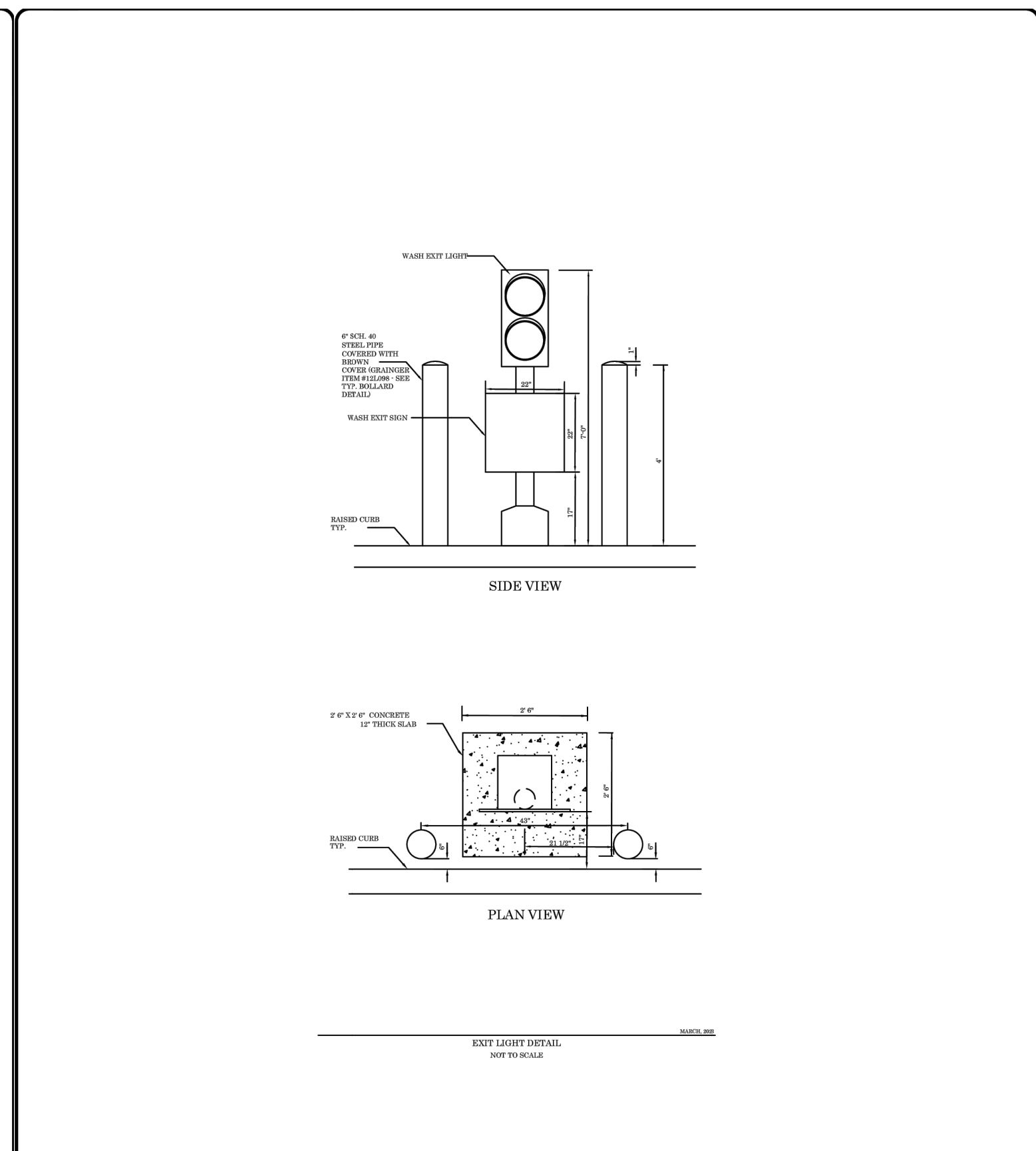
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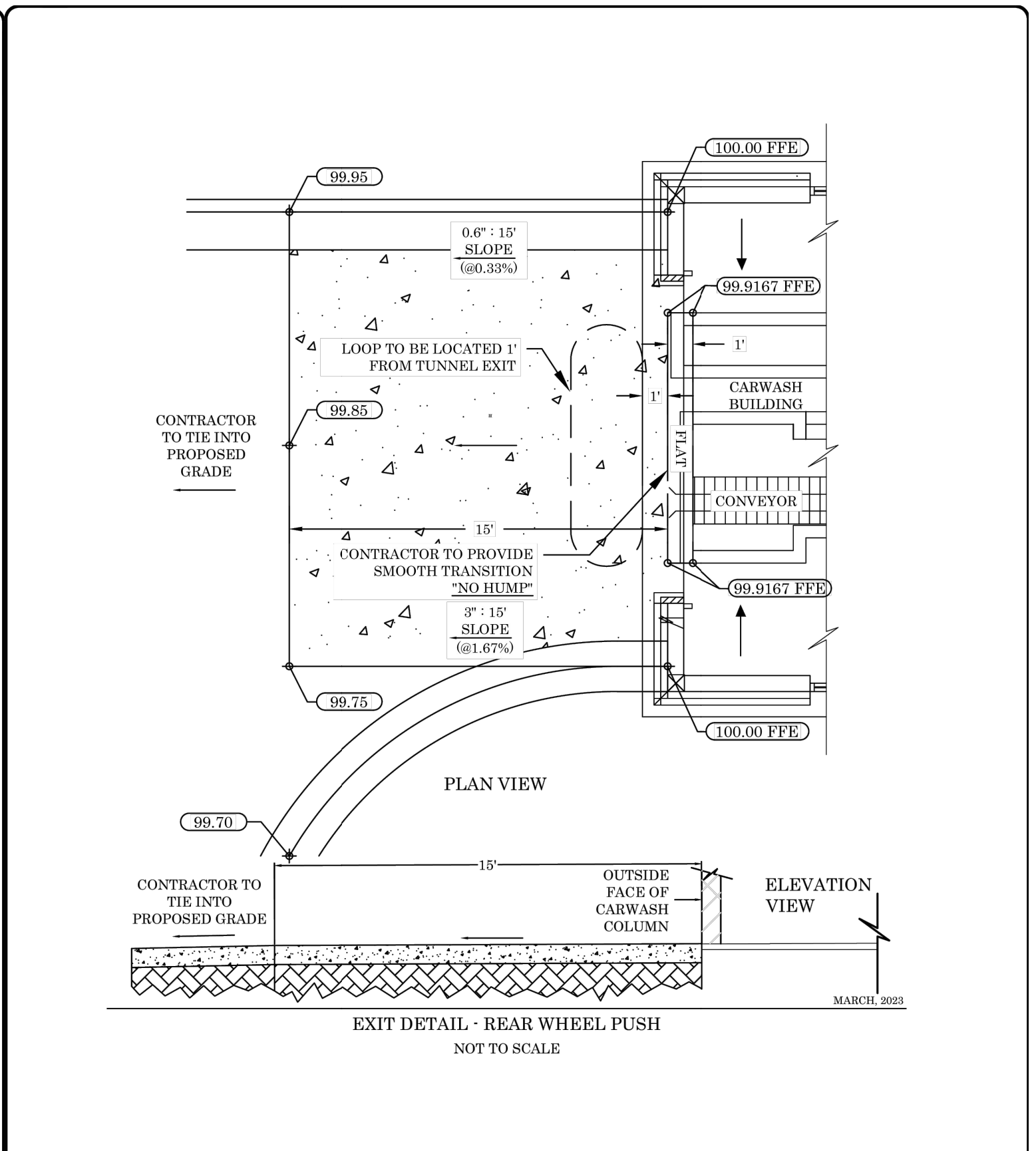
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PAY KIOSK (STRAIGHT) DETAIL	
DATE OF PLANS	SHJ CONSTRUCTION GROUP
03/31/2023	
NOT TO SCALE	



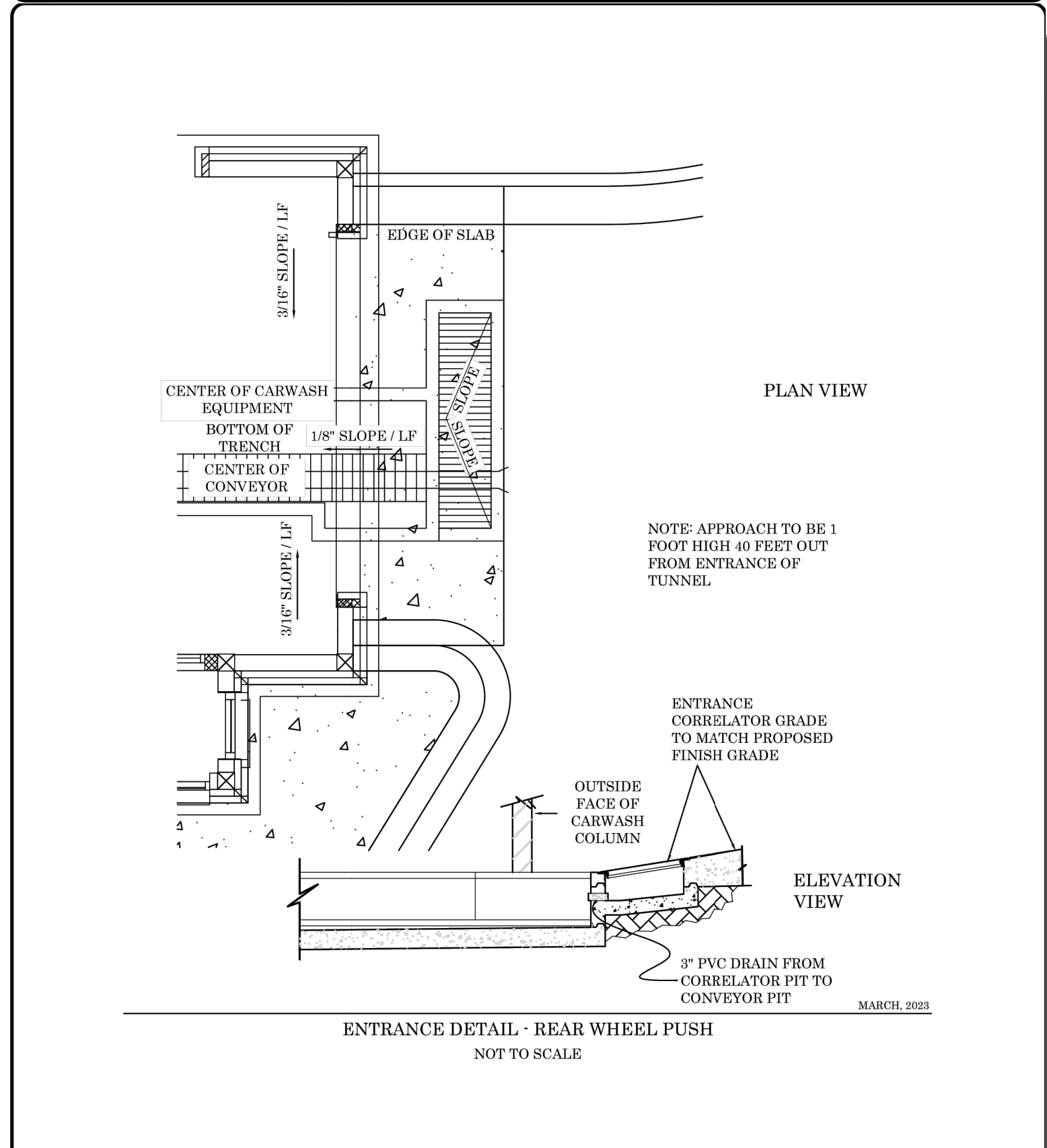
TECHNICAL CRITERIA	
FRONT ENTRANCE DUMPSTER DETAIL	
DATE OF PLANS	SHJ CONSTRUCTION GROUP
03/15/2023	
NOT TO SCALE	



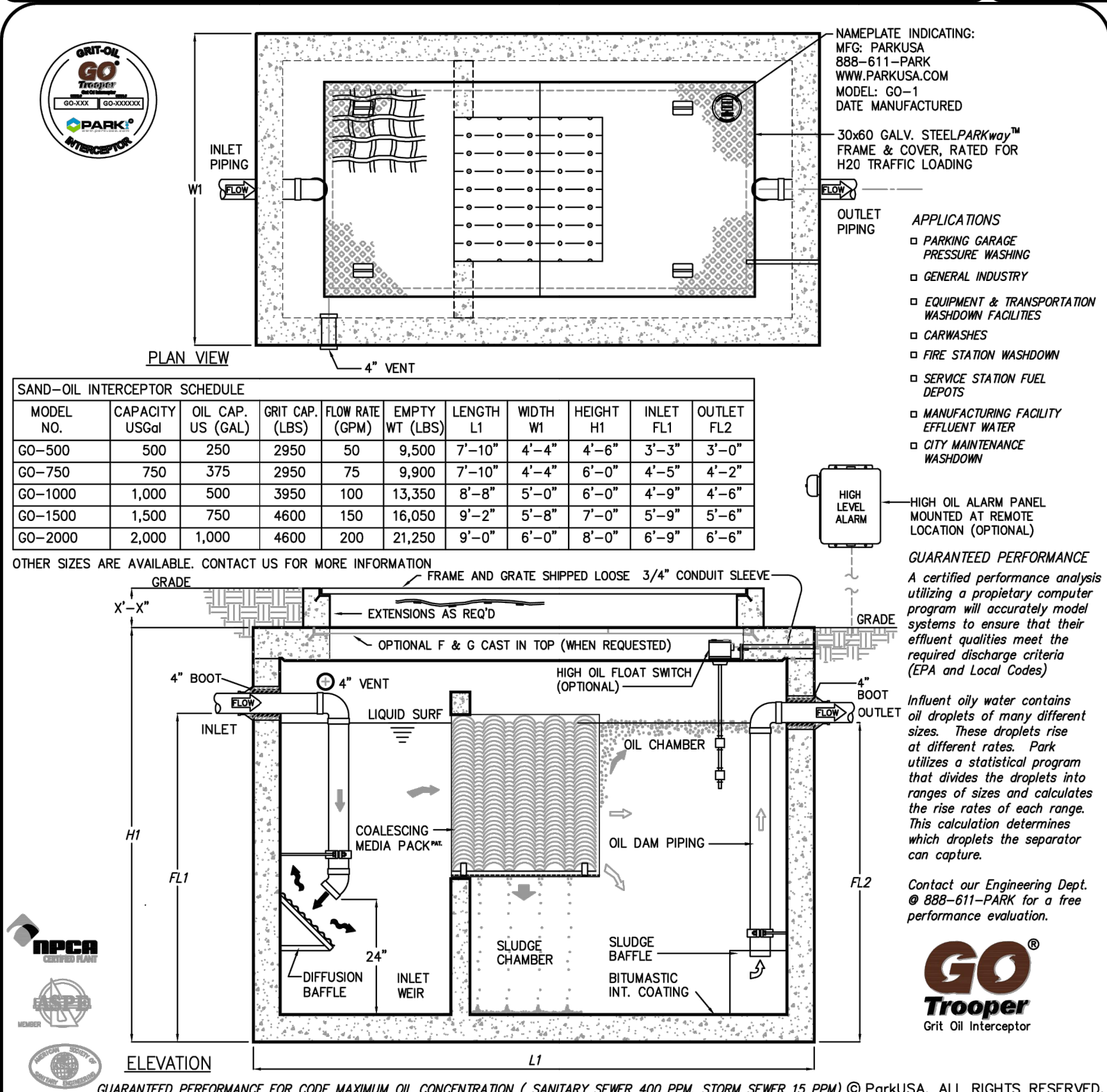
TECHNICAL CRITERIA	
EXIT LIGHT DETAIL	
DATE OF PLANS	SHJ CONSTRUCTION GROUP
03/15/2023	
NOT TO SCALE	



TECHNICAL CRITERIA	
REAR-WHEEL PUSH - EXIT	
DATE OF PLANS	SHJ CONSTRUCTION GROUP
03/15/2023	
NOT TO SCALE	



TECHNICAL CRITERIA	
REAL-WHEEL PUSH - ENTRANCE	
DATE OF PLANS	SHJ CONSTRUCTION GROUP
03/15/2023	
NOT TO SCALE	



Specifications	
CONCRETE:	Glass 1/1 concrete with design strength of 4500 PSI at 28 days. Unit is of monolithic construction at floor and first stage of wall with sectional riser to required depth.
REINFORCEMENT:	Grade 60 reinforced with steel rebar conforming to ASTM A615 on required centers or equal.
MATERIALS:	Access frame & cover shall be fabricated with min. 1/4" thick nonskid floor plate, balldown, & lifting handles. All materials to be corrosion resistant.
Engineering Data	Interceptor is structurally and hydraulically engineered conforming to Uniform Plumbing Code. Nominal total liquid capacity and oil holding capacity as indicated. Recommended for flow rates of 5 to 180 GPM (consult Park for proper sizing). Manufacturer shall submit performance calculations for oil & water separation certified by a licensed professional engineer. Field excavation and preparation shall be completed prior to delivery of interceptor.

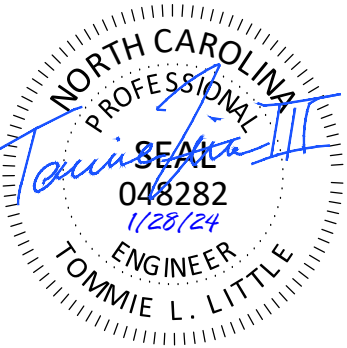
PROJECT: _____
 CUSTOMER: _____
 ENGINEER: _____
 ORDER #: _____
 PROJ #: _____
 DATE: _____

888.611.PARK
 www.parkusa.com
PARK
 DESIGN FOR WATER

GO Trooper
 Grit Oil Interceptor

Grit Oil Interceptor Model GO
 Sizes 500 thru 2000

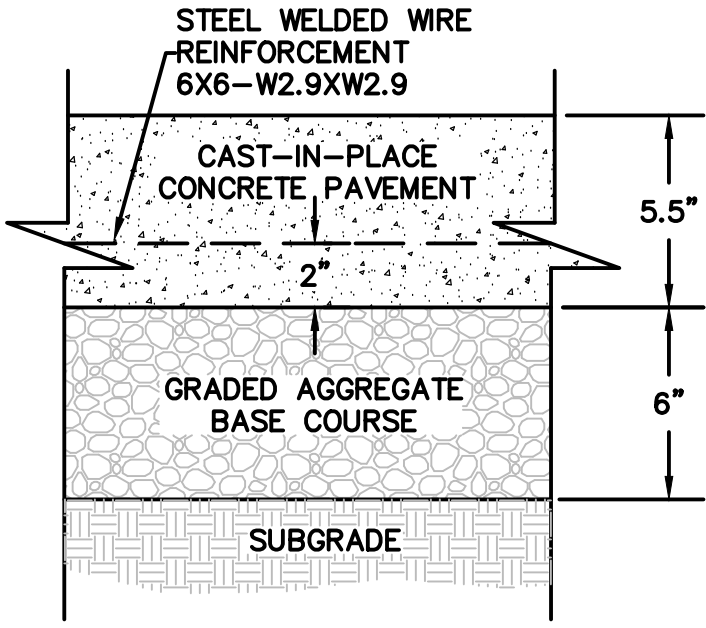
PM	DRN	ENG	DWG. NO.	REV.
			GO-1	A
DATE	2018			



SW+ PROJECT:	10772
DATE:	1/28/24
DRAWN BY:	CPE
CHECKED BY:	TLL

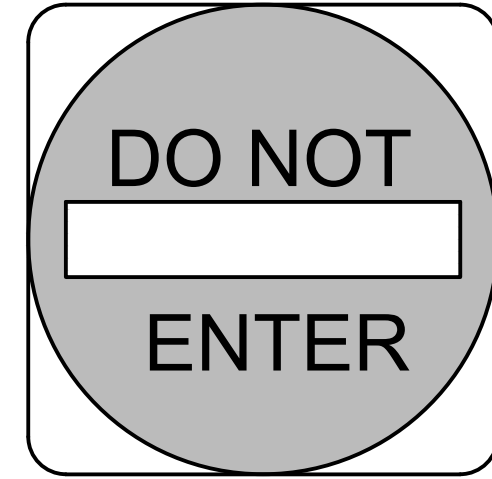
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D	10/01/24
E	11/01/24

ITEM:	MATERIAL:
SUBGRADE	PREPARED IN-SITU SUBSOIL OR STRUCTURAL FILL
BASE COURSE	GRADED AGGREGATE BASE COURSE
CONCRETE PAVEMENT	CAST-IN-PLACE CONCRETE



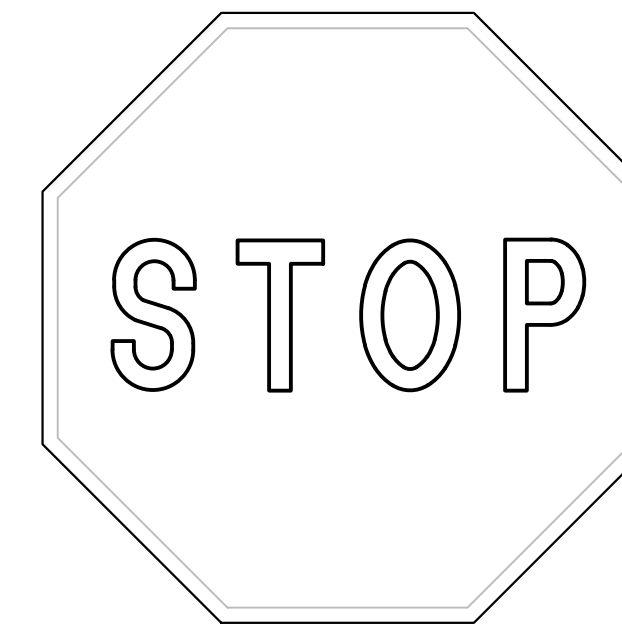
NOTES:
 1. WHERE SHOWN, SEE PLAN FOR EXPANSION AND CONTROL JOINT LOCATIONS. OTHERWISE, SEE SPECS FOR REQUIRED LOCATION AND SPACING.
 2. CONTRACTOR IS ADVISED THAT PAVING DESIGN RECOMMENDED BY GEOTECHNICAL ENGINEER IS BASED ON PREDICTED TRAFFIC LOADING AND ESTABLISHED STRENGTHS FOR PROPERLY INSTALLED PAVEMENTS. CONTRACTOR MUST COORDINATE REQUIRED GEOTECHNICAL TESTING & INSPECTION TO ENSURE THAT SUBGRADE AND PAVEMENT STRENGTH REQUIREMENTS ARE MET.

1 CONCRETE PAVEMENT - HEAVY DUTY
 SCALE: NOT TO SCALE



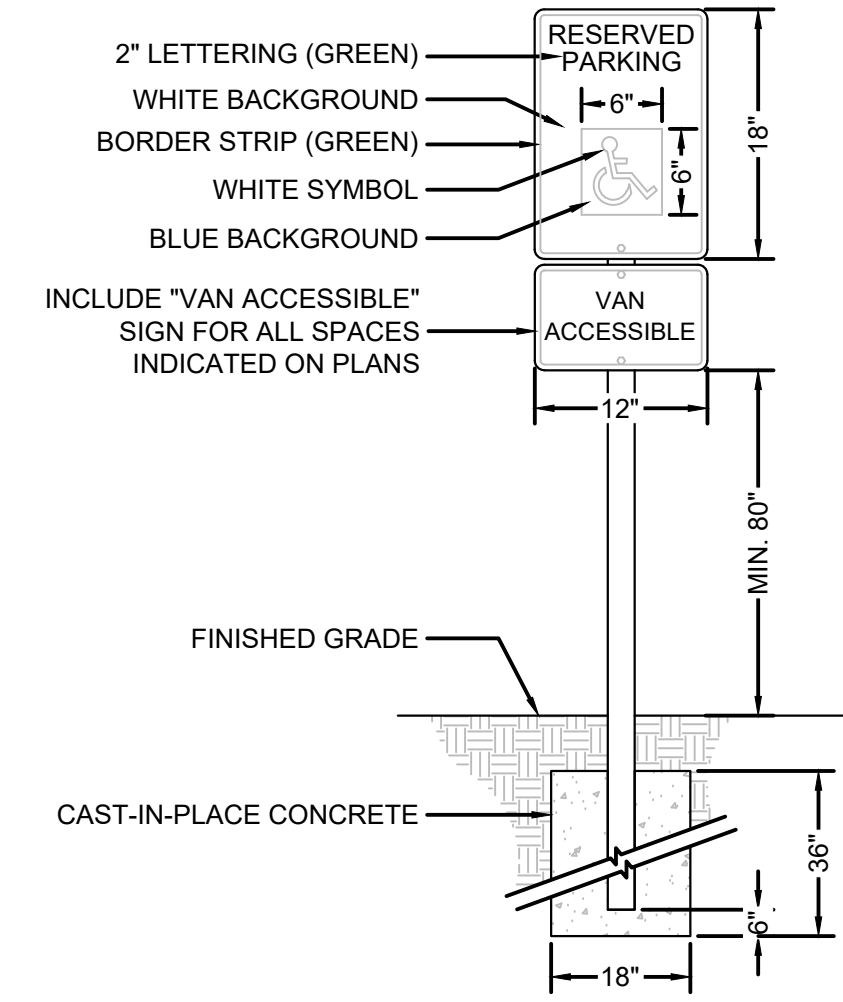
DO NOT ENTER SIGN AND INSTALLATION TO CONFORM WITH S.C.M.U.T.D. SPECIFICATIONS.
 NUMBER: R5-1-30
 SIZE: 30" X 30"
 CLASS: STANDARD
 LEGEND AND BACKGROUND: WHITE-REFLECTORIZED
 CIRCLE: RED-REFLECTORIZED
 SIGN POST: GALVANIZED U-CHANNEL PER SCDOT SPECIFICATIONS

2 SIGN - DO NOT ENTER
 SCALE: NOT TO SCALE



STOP SIGN AND INSTALLATION TO CONFORM WITH NCSMUTCD SPECIFICATIONS.
 NUMBER: R1-1-30
 SIZE: 30" X 30"
 CLASS: STANDARD
 BACKGROUND: RED-REFLECTORIZED
 LEGEND AND BORDER: WHITE-REFLECTORIZED
 SIGN POST: GALVANIZED U-CHANNEL PER NCDOT SPECIFICATIONS

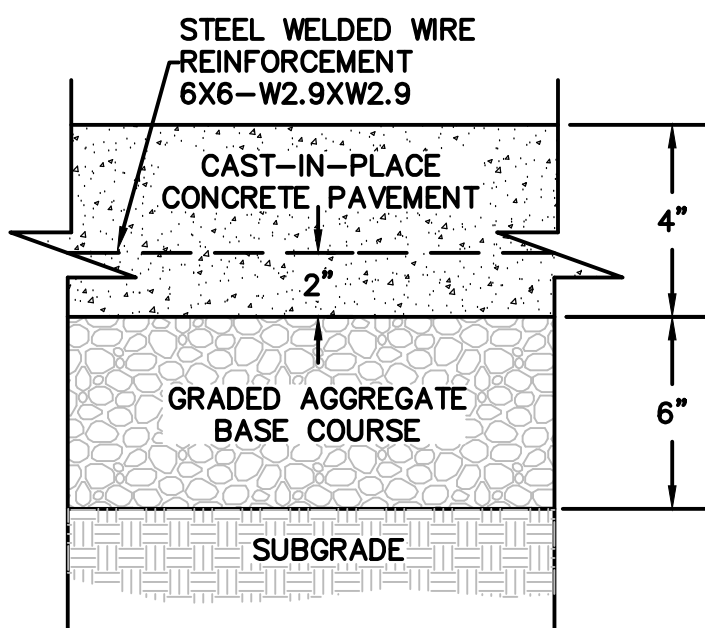
3 SIGN - STOP
 SCALE: NOT TO SCALE



NOTES:
 1. SIGN SHALL BE 0.080" THICK ALUMINUM WITH APPLIED REFLECTIVE SHEETING IN ACCORDANCE WITH SCDOT STANDARD SPECIFICATIONS.
 2. POST SHALL BE 3" SQUARE OR 3" DIA. STEEL TUBE WITH WELDED CAP (PAINTED BLACK).
 3. CONTRACTOR TO WALL MOUNT SIGN WHERE SPECIFIED.

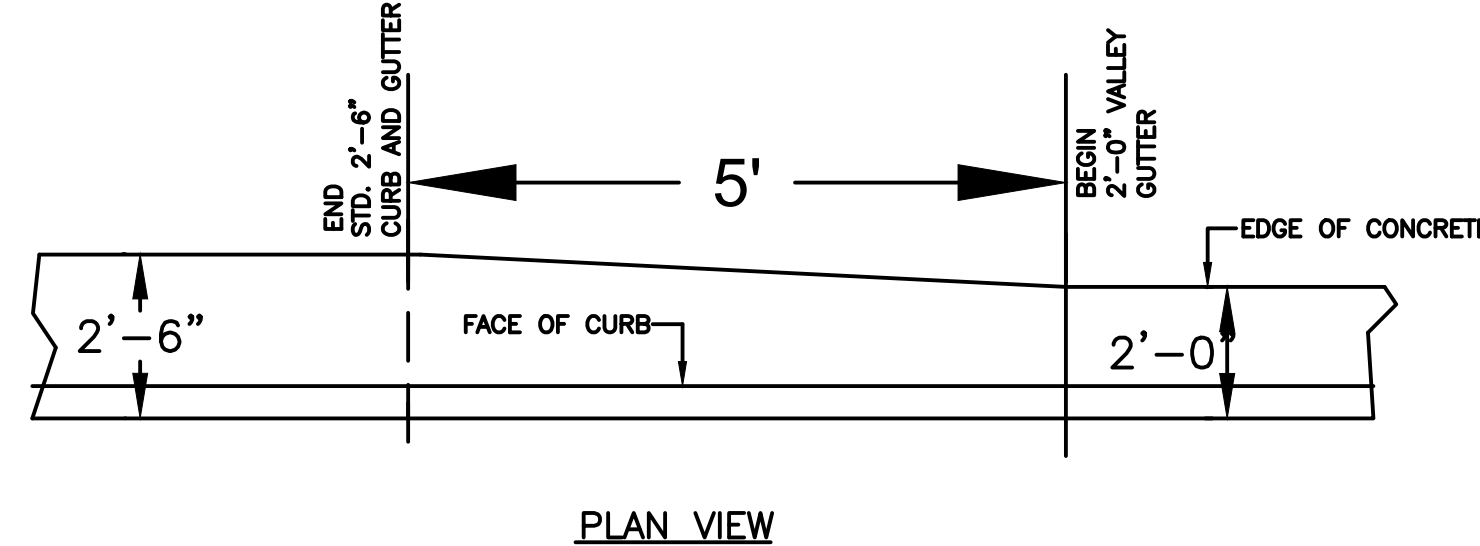
4 ADA PARKING SIGN
 SCALE: NOT TO SCALE

ITEM:	MATERIAL:
SUBGRADE	PREPARED IN-SITU SUBSOIL OR STRUCTURAL FILL
BASE COURSE	GRADED AGGREGATE BASE COURSE
CONCRETE PAVEMENT	CAST-IN-PLACE CONCRETE



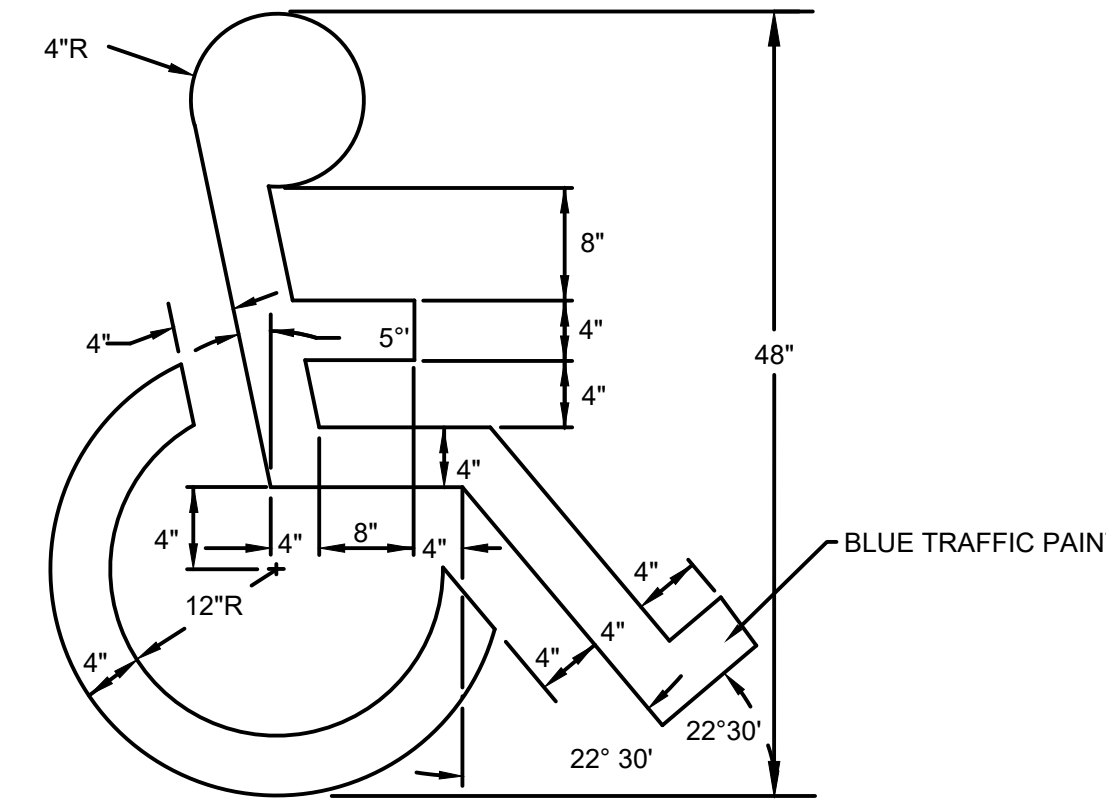
NOTES:
 1. WHERE SHOWN, SEE PLAN FOR EXPANSION AND CONTROL JOINT LOCATIONS. OTHERWISE, SEE SPECS FOR REQUIRED LOCATION AND SPACING.
 2. CONTRACTOR IS ADVISED THAT PAVING DESIGN RECOMMENDED BY GEOTECHNICAL ENGINEER IS BASED ON PREDICTED TRAFFIC LOADING AND ESTABLISHED STRENGTHS FOR PROPERLY INSTALLED PAVEMENTS. CONTRACTOR MUST COORDINATE REQUIRED GEOTECHNICAL TESTING & INSPECTION TO ENSURE THAT SUBGRADE AND PAVEMENT STRENGTH REQUIREMENTS ARE MET.

5 CONCRETE PAVEMENT - STANDARD DUTY
 SCALE: NOT TO SCALE

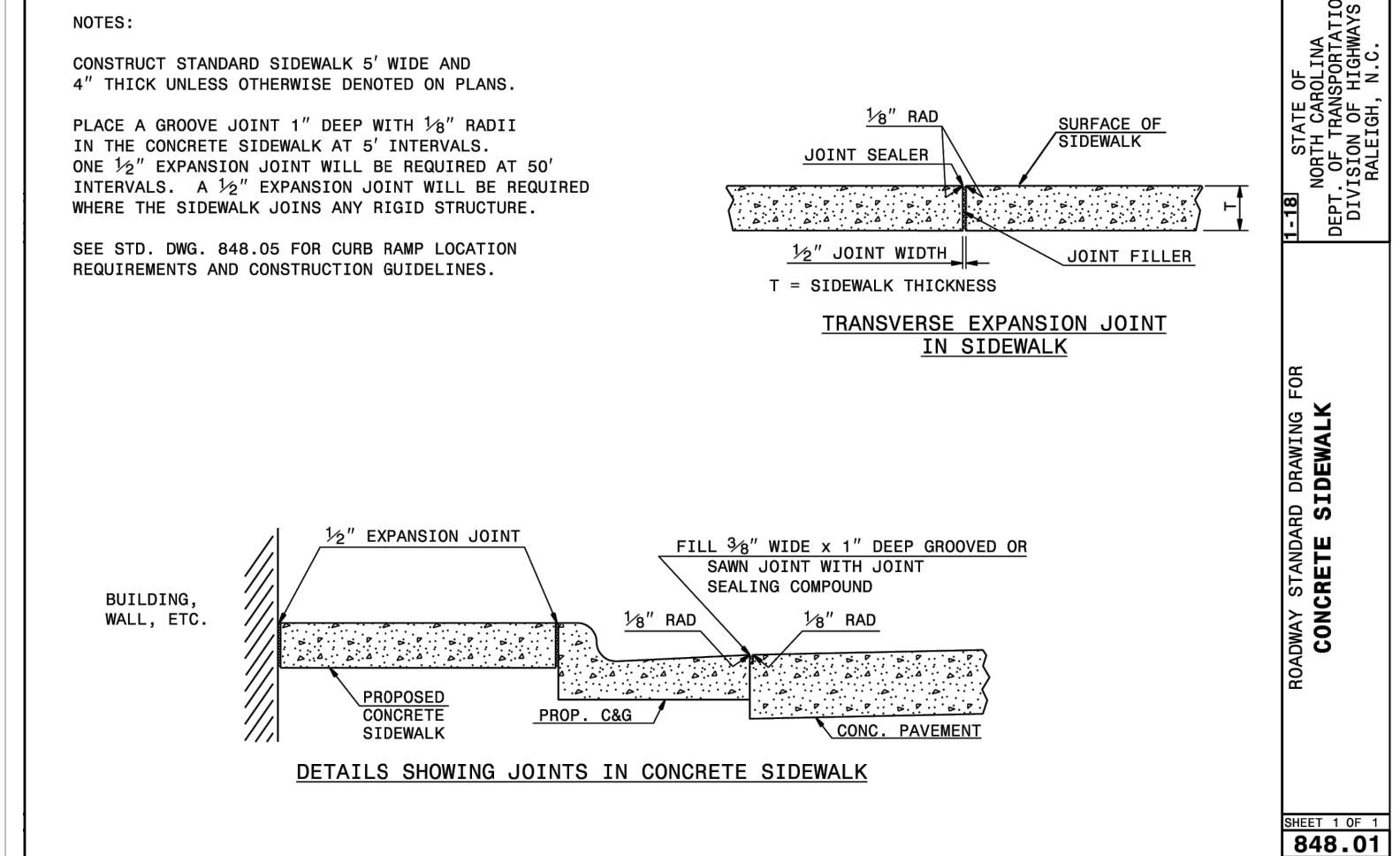


NOTES:
 1. TRANSITION IS NOT TO BE LOCATED WITHIN THE CURB RADIUS.

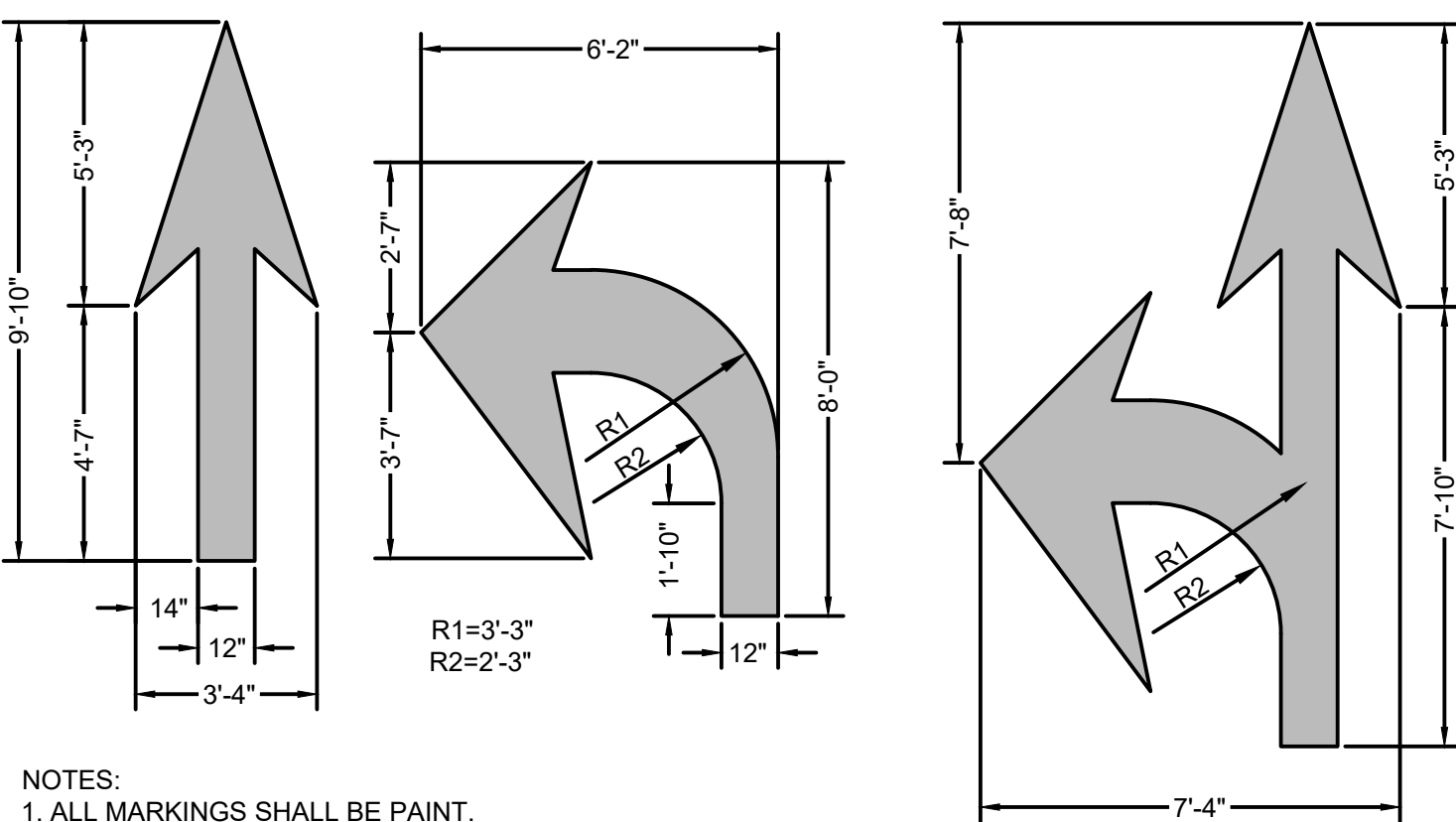
6 24" TO 30" CURB AND GUTTER TRANSITION
 SCALE: NOT TO SCALE



7 PAINTED ADA PARKING SYMBOL
 SCALE: NOT TO SCALE

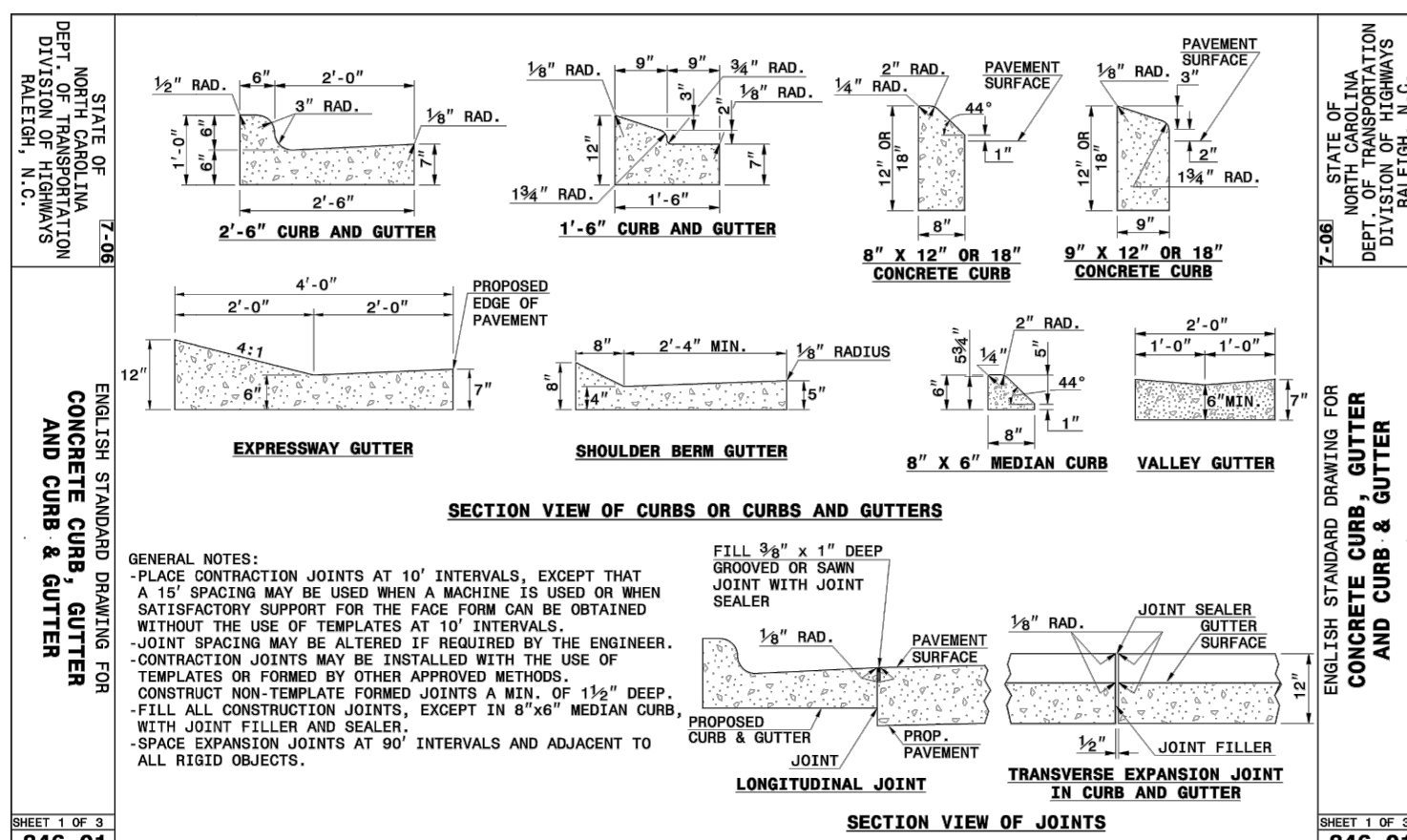


8 NCDOT CONCRETE SIDEWALK
 SCALE: NOT TO SCALE

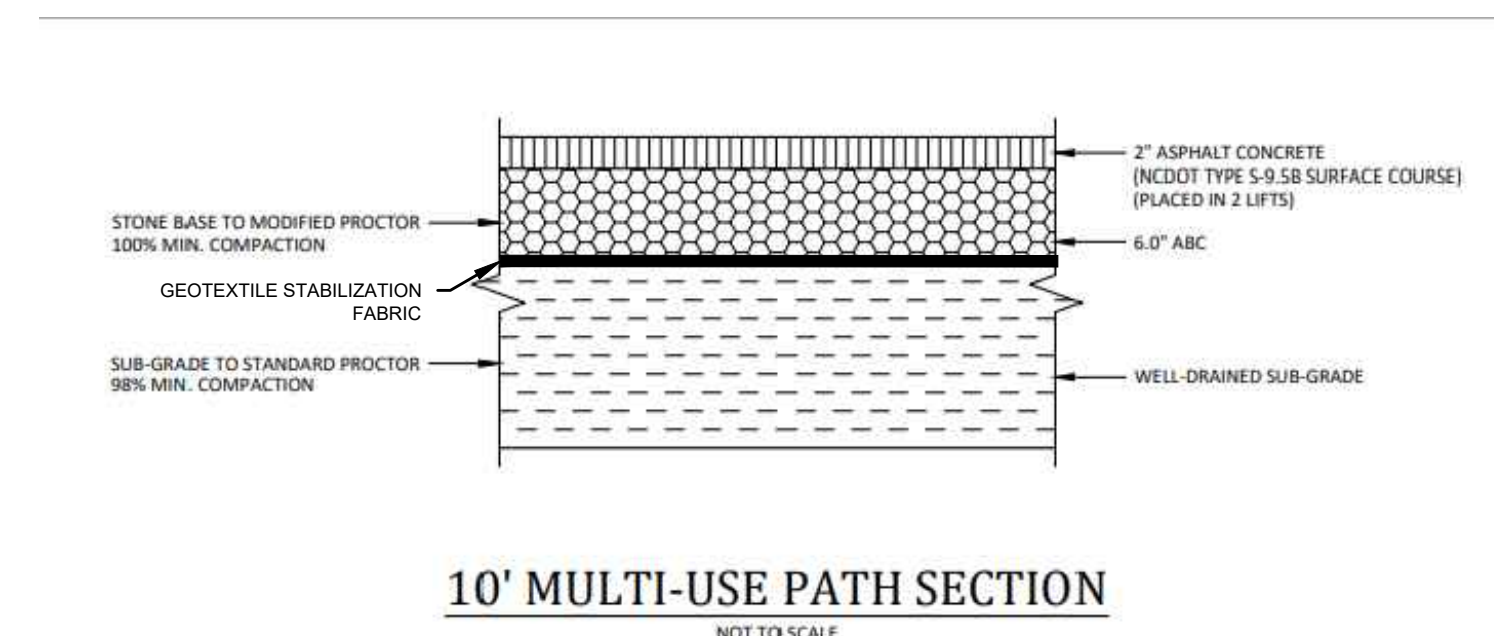


NOTES:
 1. ALL MARKINGS SHALL BE PAINT.
 2. ALL MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH N.C.D.O.T. STANDARD SPECIFICATIONS AND NORTH CAROLINA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

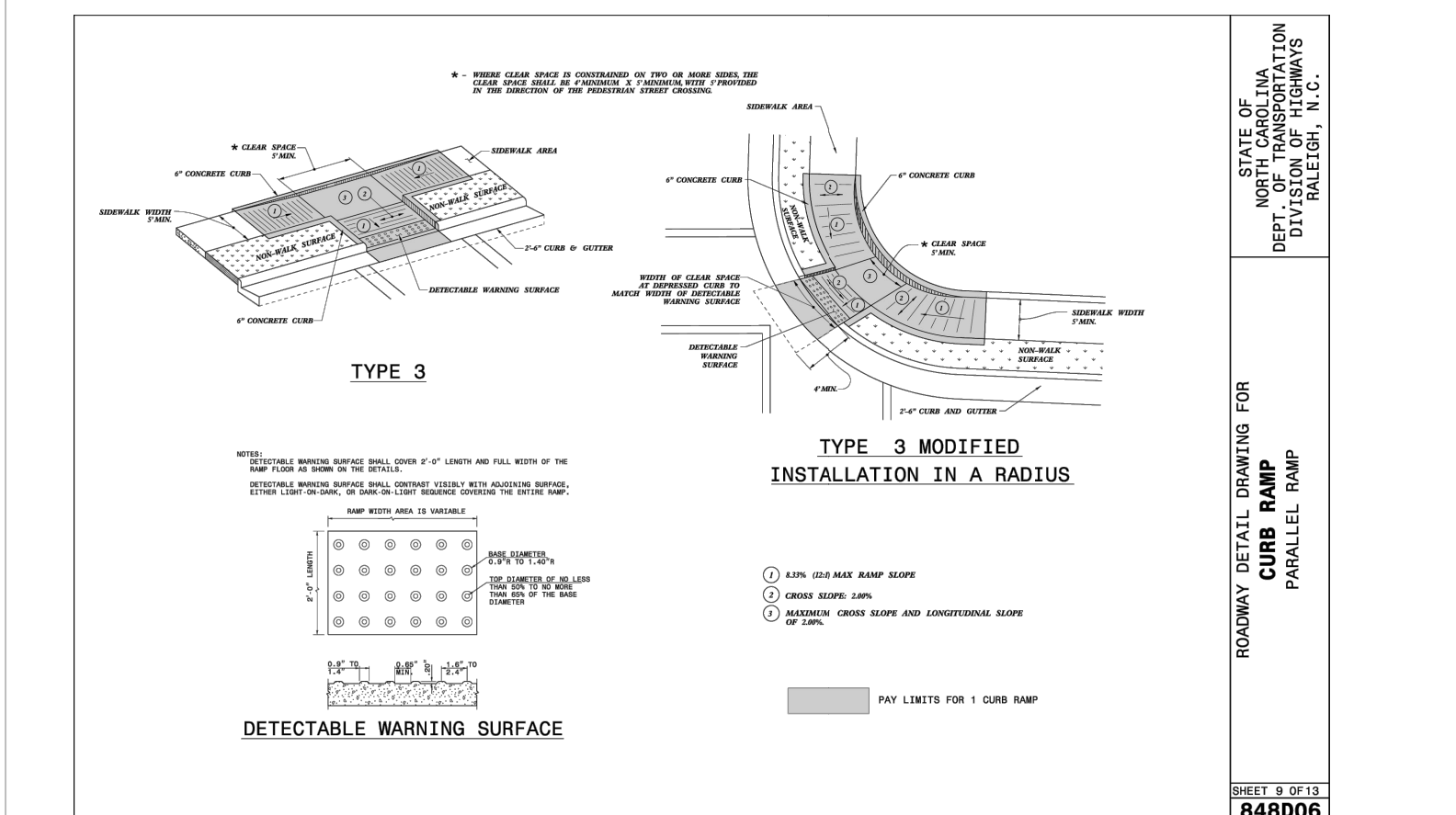
9 PAVEMENT-MARKING
 SCALE: NOT TO SCALE



10 NCDOT 30" CURB AND GUTTER
 SCALE: NOT TO SCALE

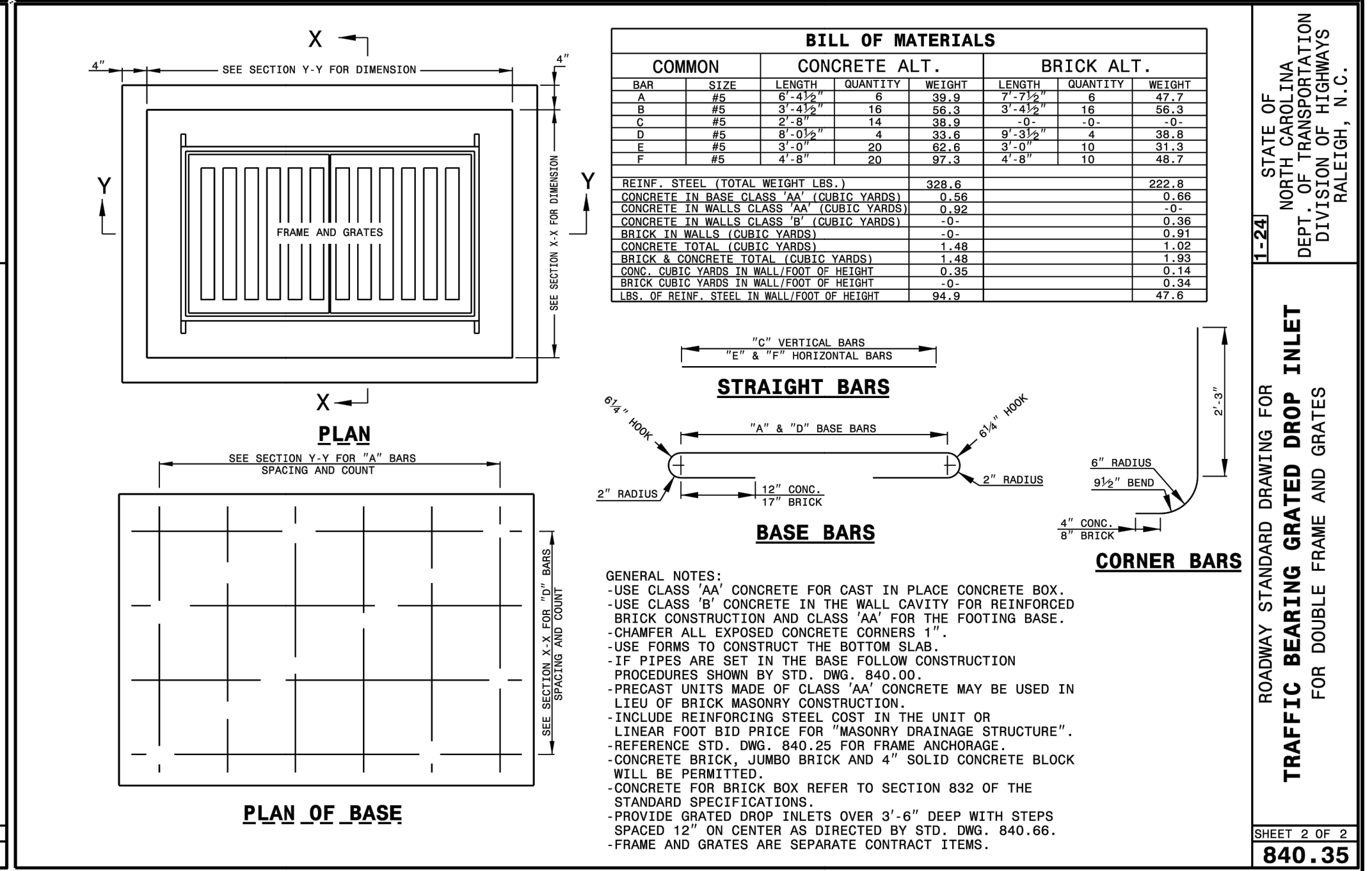
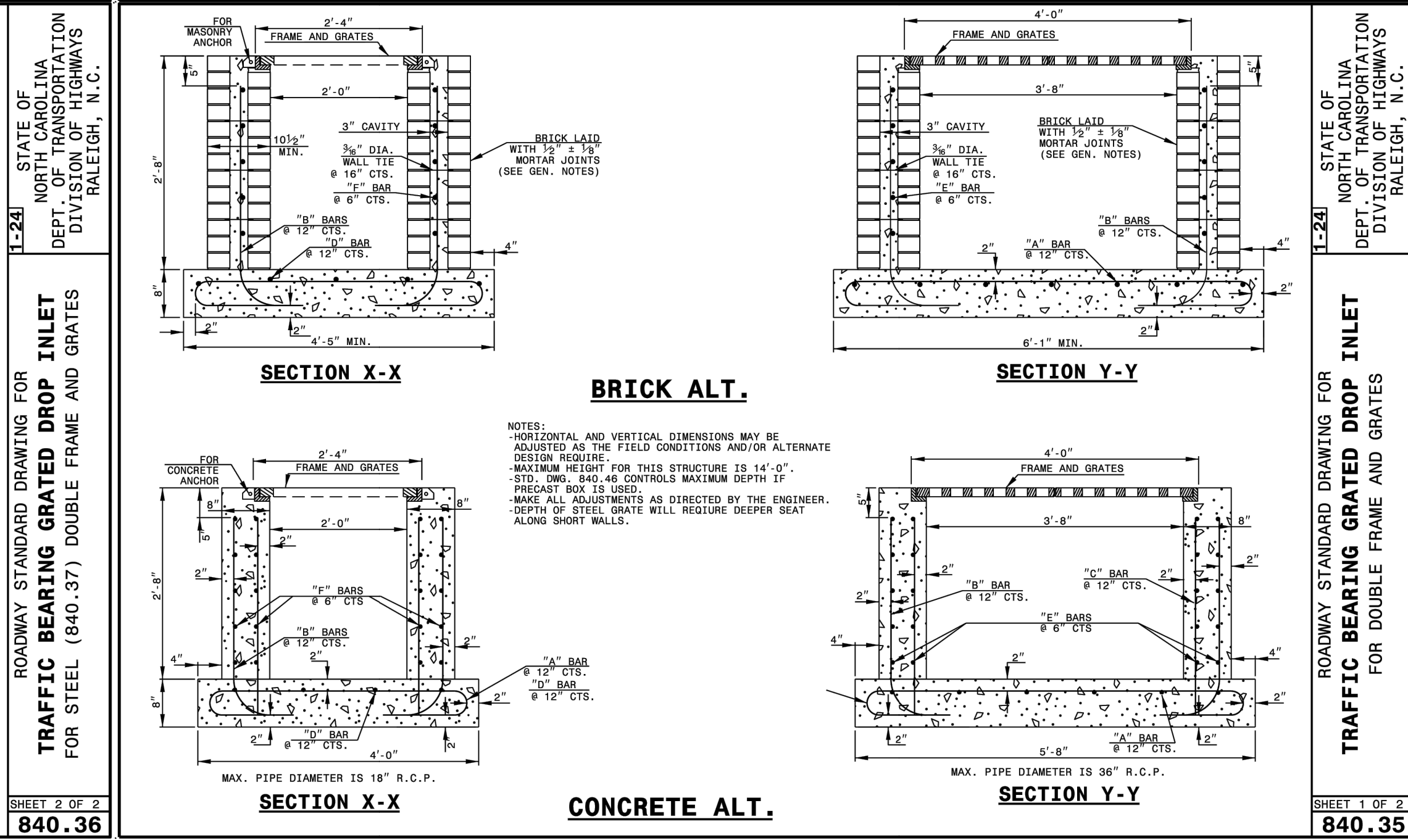
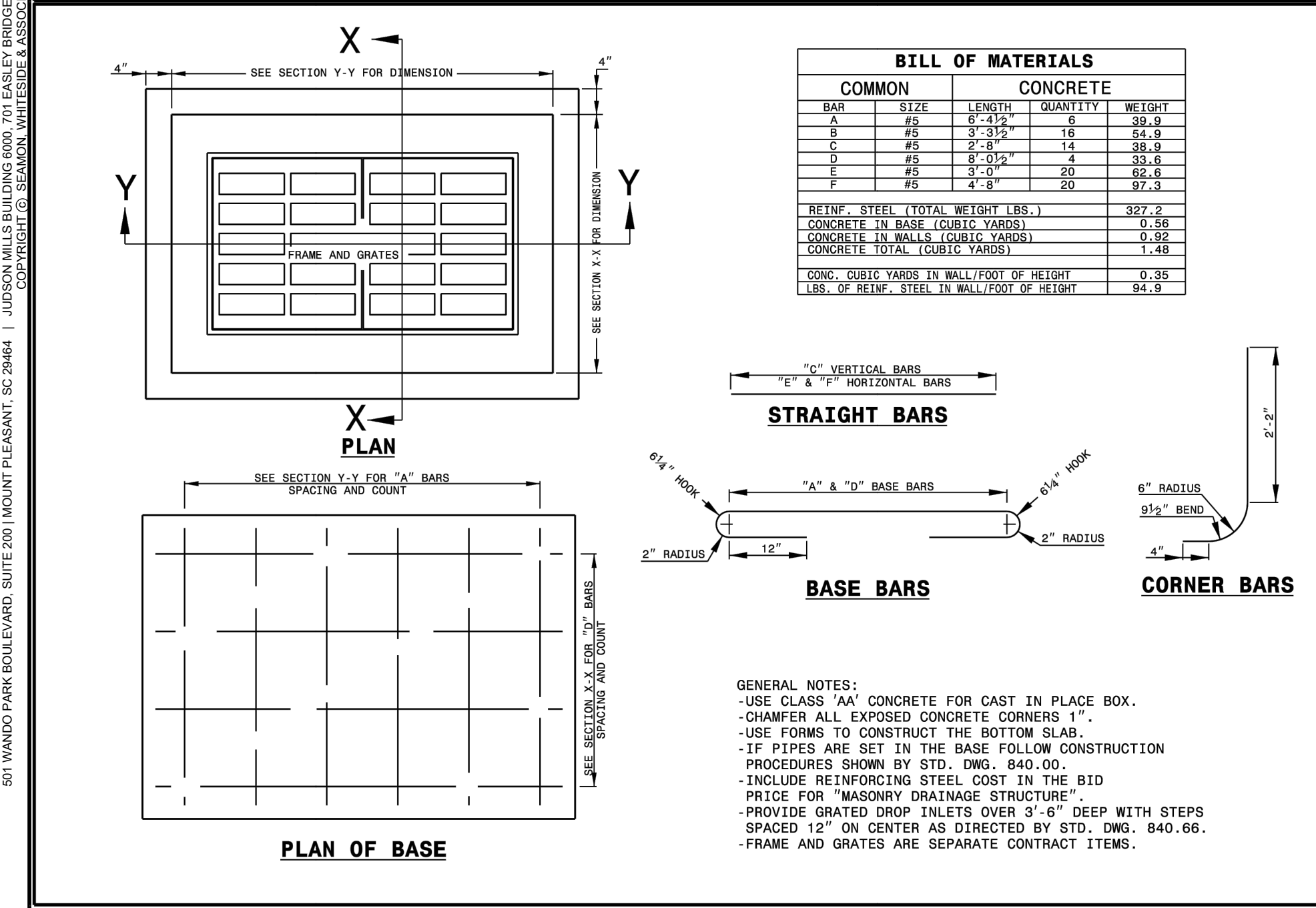
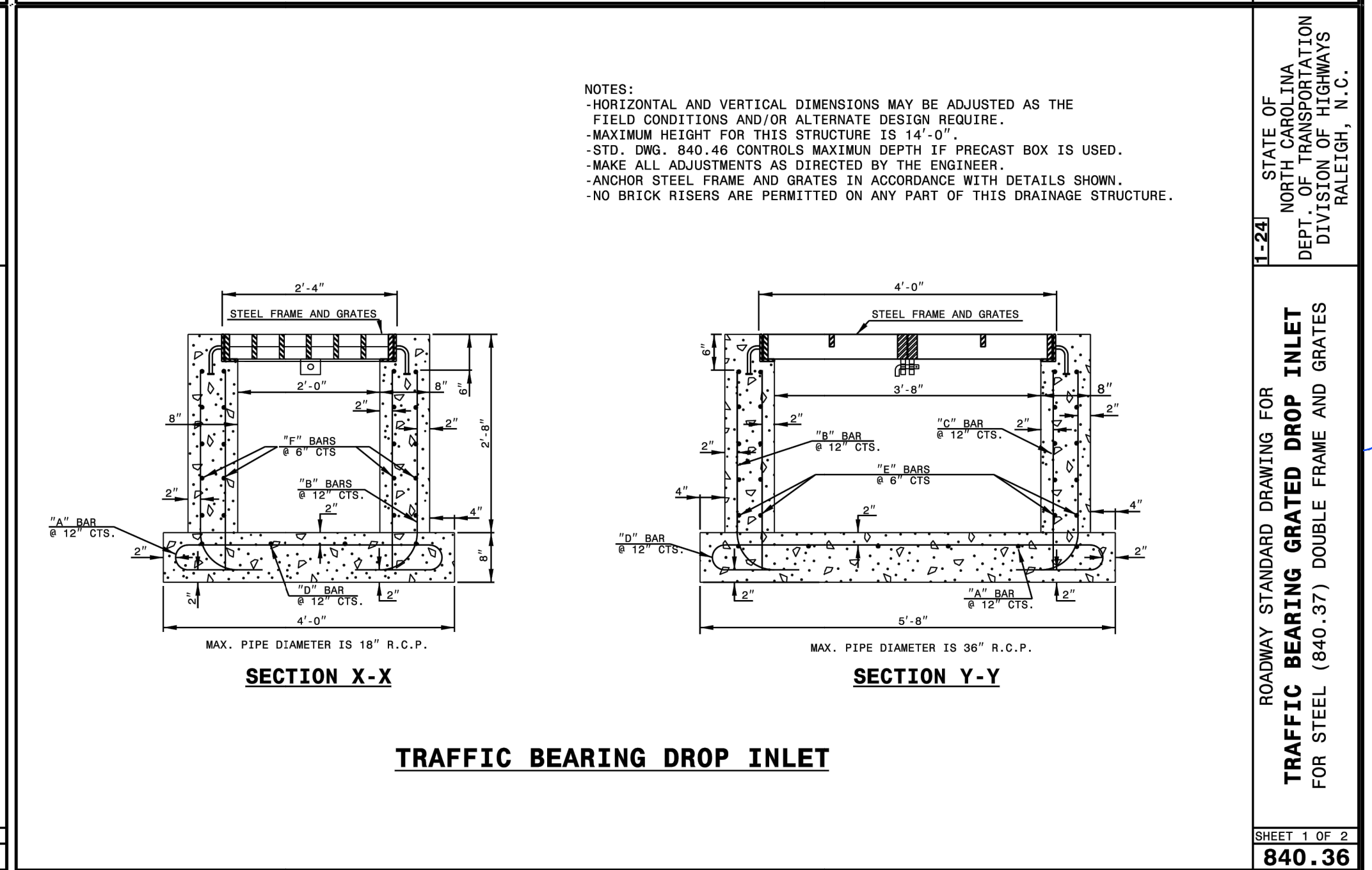
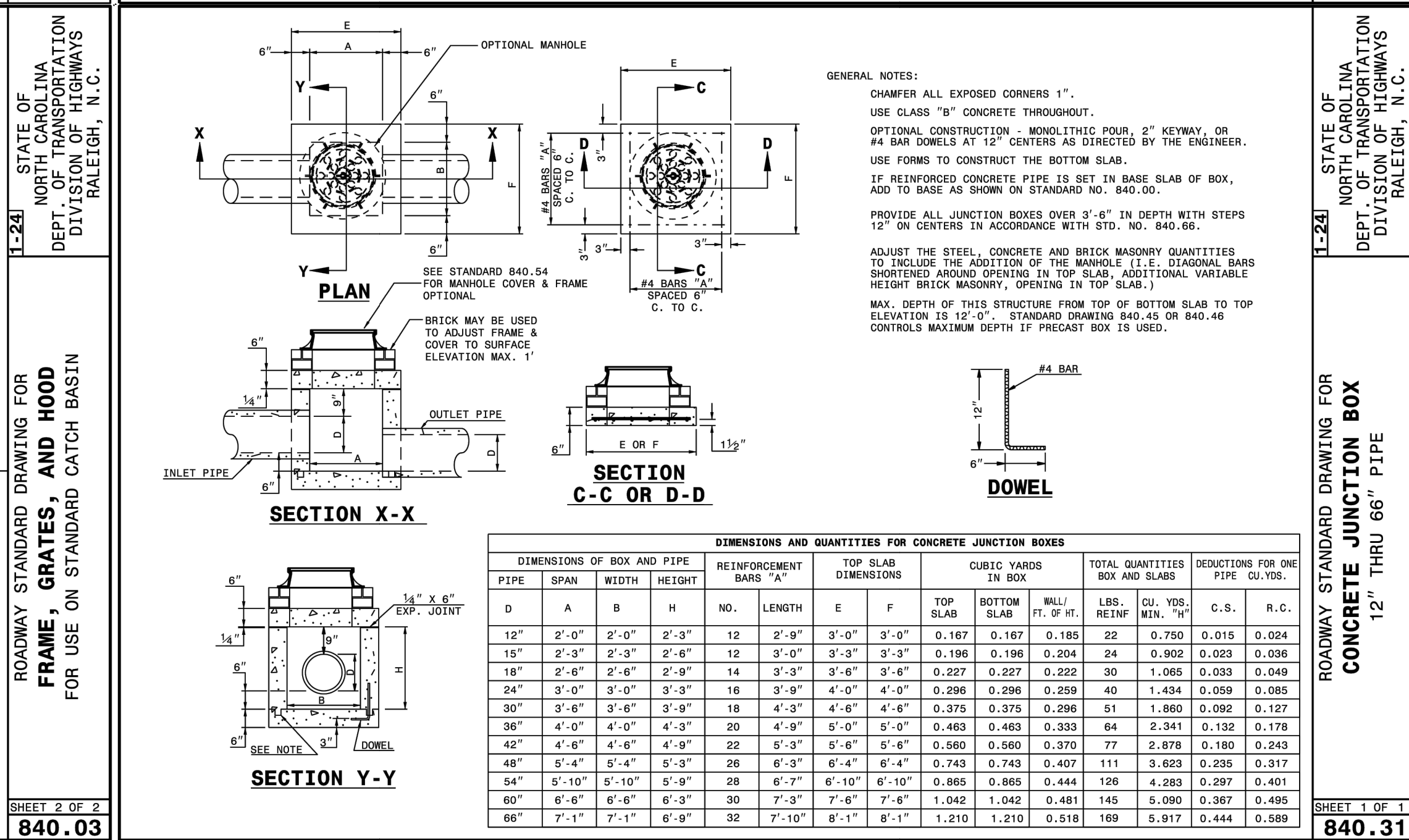
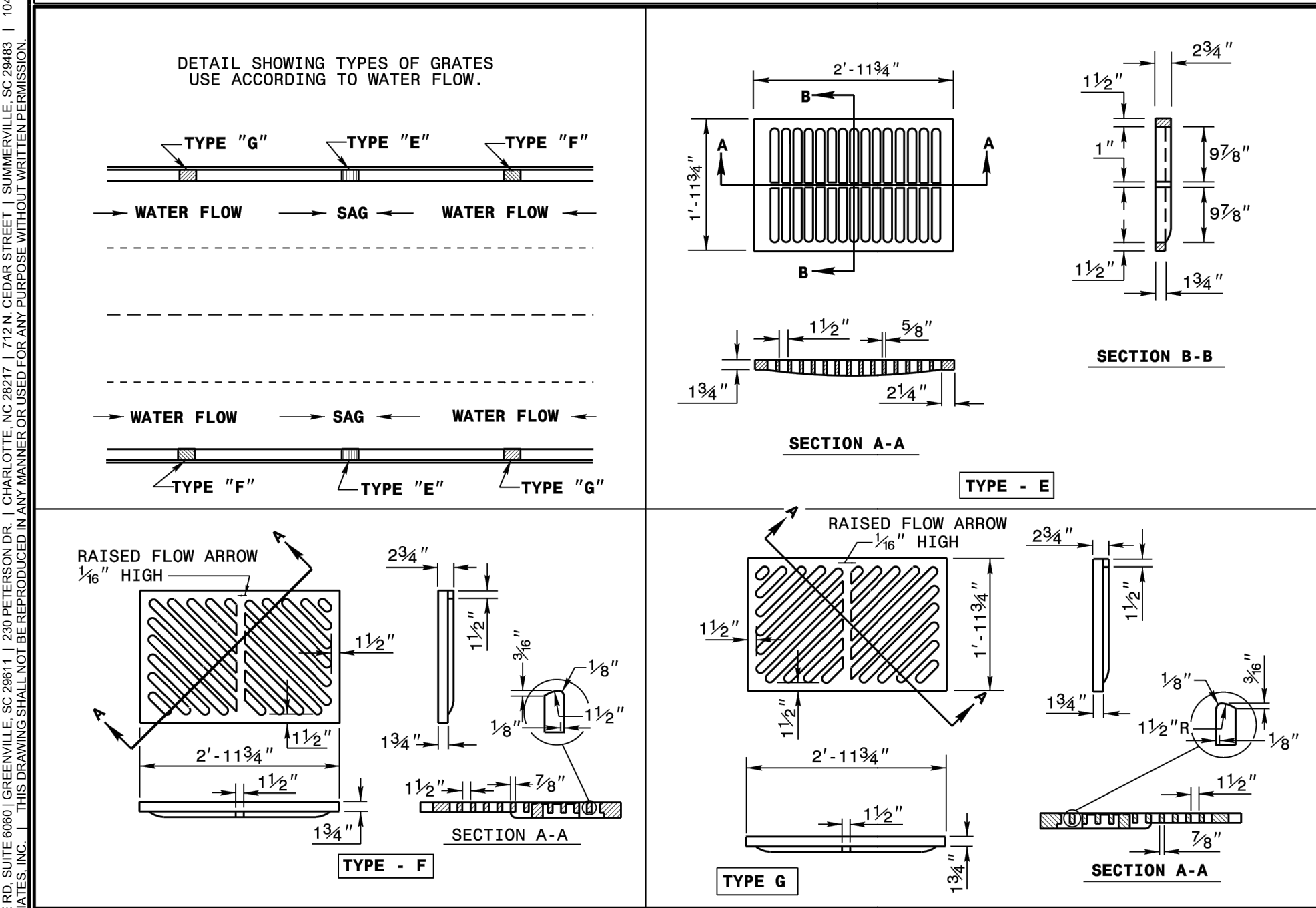
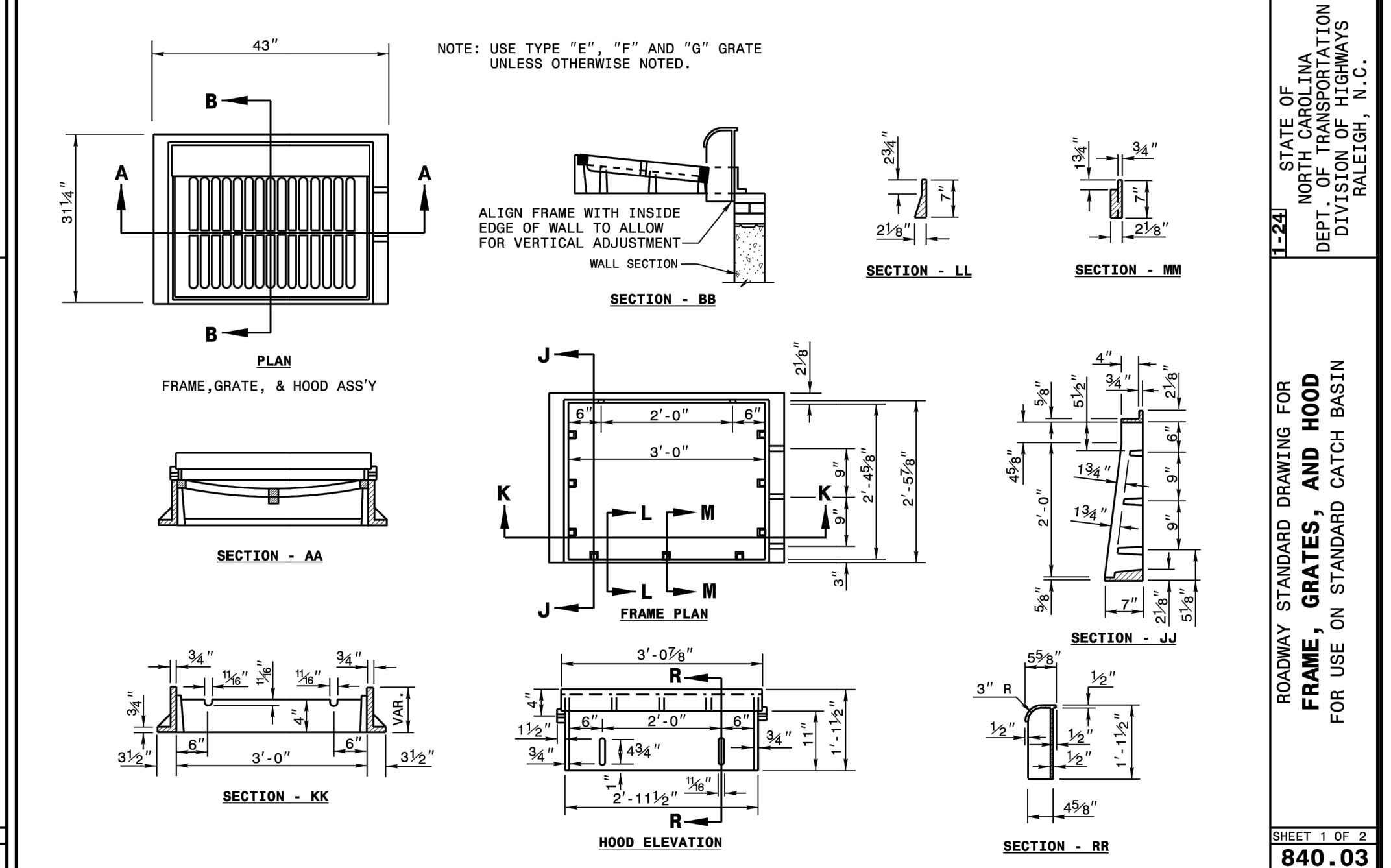
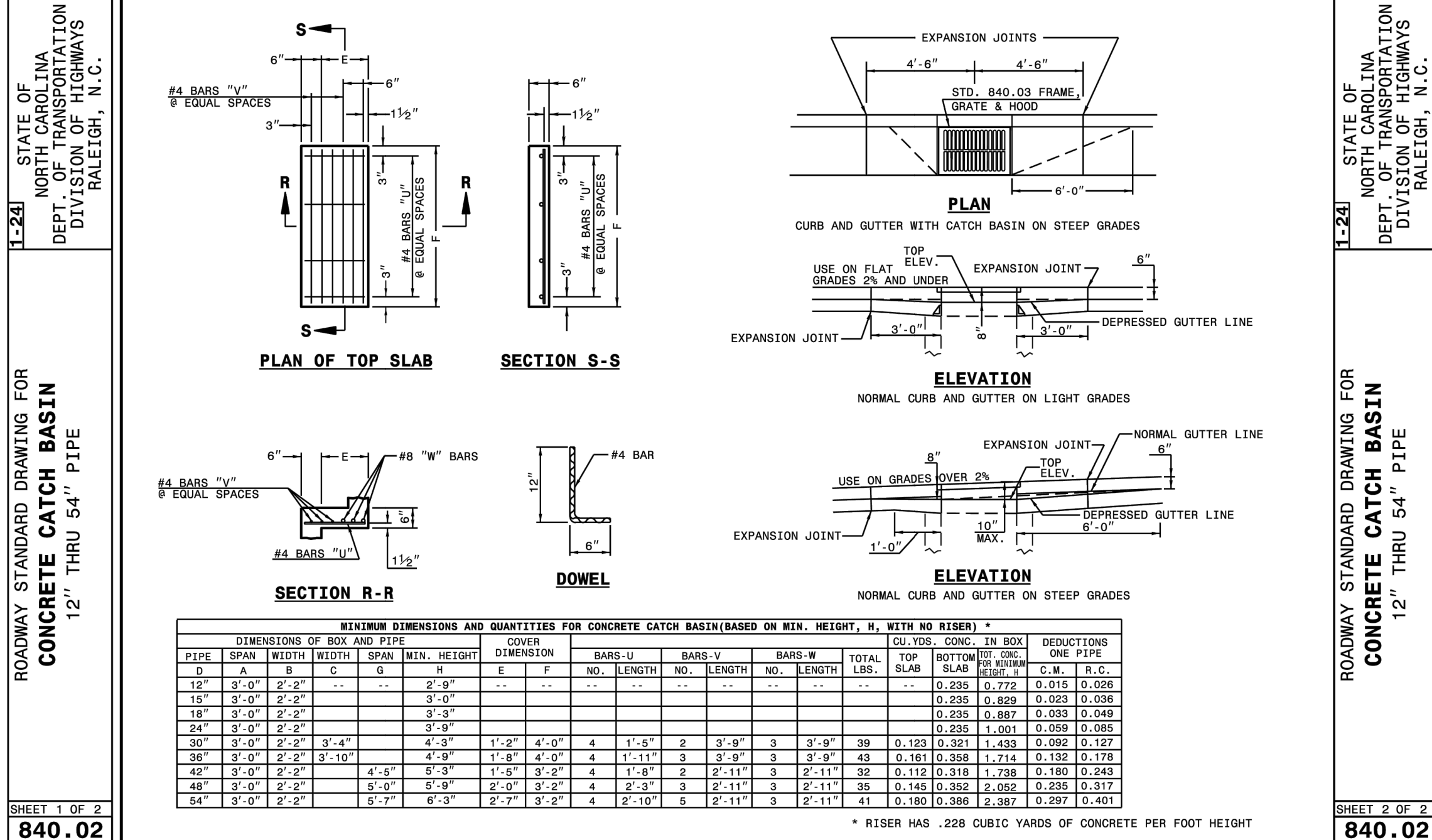
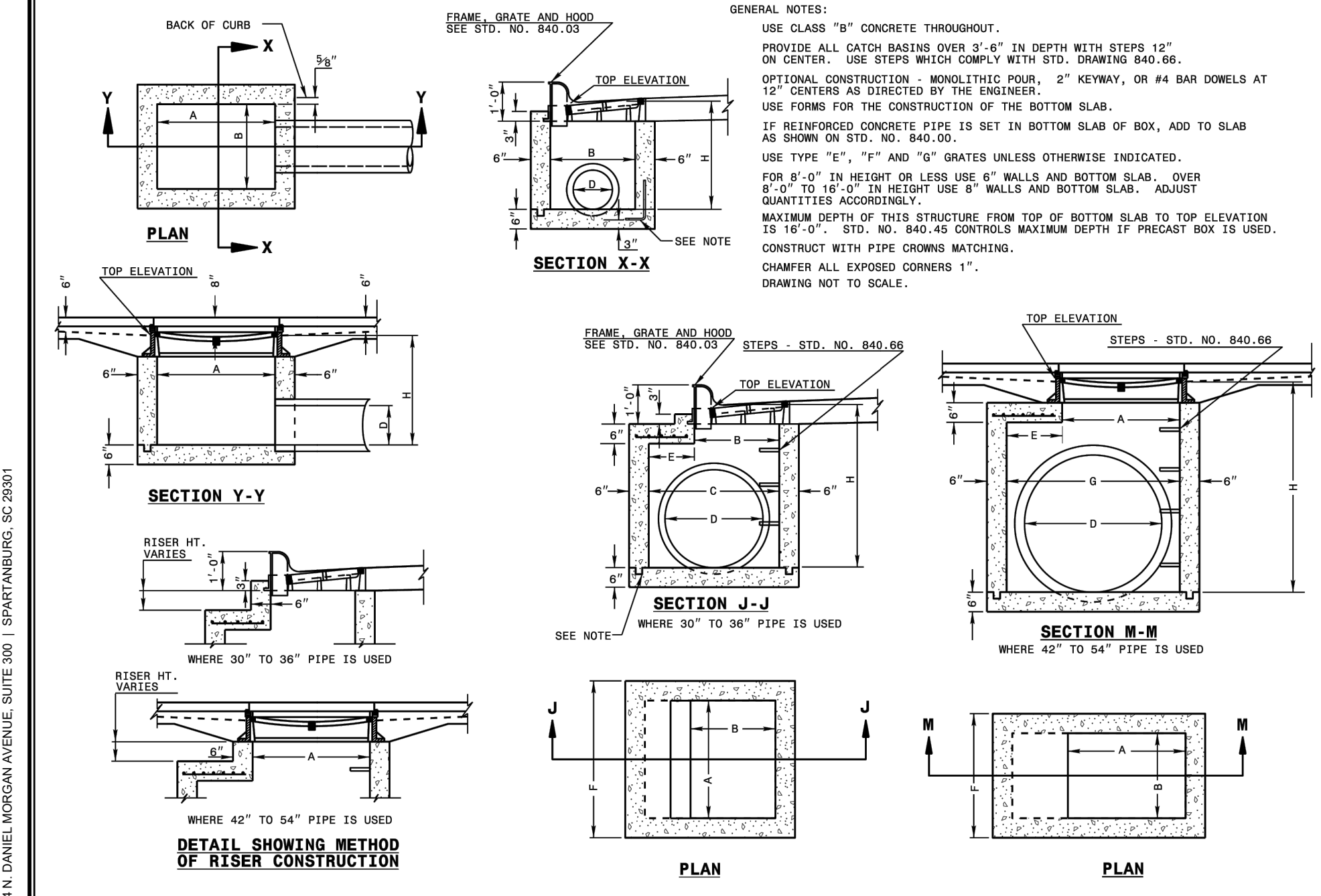


11 10' MULTI-USE PATH SECTION
 SCALE: NOT TO SCALE



12 ADA CURB RAMP
 SCALE: NOT TO SCALE

REVISION HISTORY			
A	12/22/23	F	11/06/24
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C	09/04/24	H	1/03/25
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ROADWAY STANDARD DRAWING FOR TRAFFIC BEARING GRATED DROP INLET FOR STEEL (840.37) DOUBLE FRAME AND GRATES
 SHEET 2 OF 2
 840.36

ROADWAY STANDARD DRAWING FOR TRAFFIC BEARING GRATED DROP INLET FOR DOUBLE FRAME AND GRATES
 SHEET 1 OF 2
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501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29564 | JUDICIALS BUILDING 600 7th FLOOR | CHARLOTTE, NC 28207 | 701 CEDAR STREET | SUMMERVILLE, SC 29581
 100 N. DANIEL HOGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29301
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ROADWAY STANDARD DRAWING FOR TRAFFIC BEARING GRATED DROP INLET FOR STEEL (840.37) DOUBLE FRAME AND GRATES
 SHEET 1 OF 2
 840.36

ROADWAY STANDARD DRAWING FOR TRAFFIC BEARING GRATED DROP INLET FOR DOUBLE FRAME AND GRATES
 SHEET 2 OF 2
 840.35

ROADWAY STANDARD DRAWING FOR TRAFFIC BEARING GRATED DROP INLET FOR DOUBLE FRAME AND GRATES
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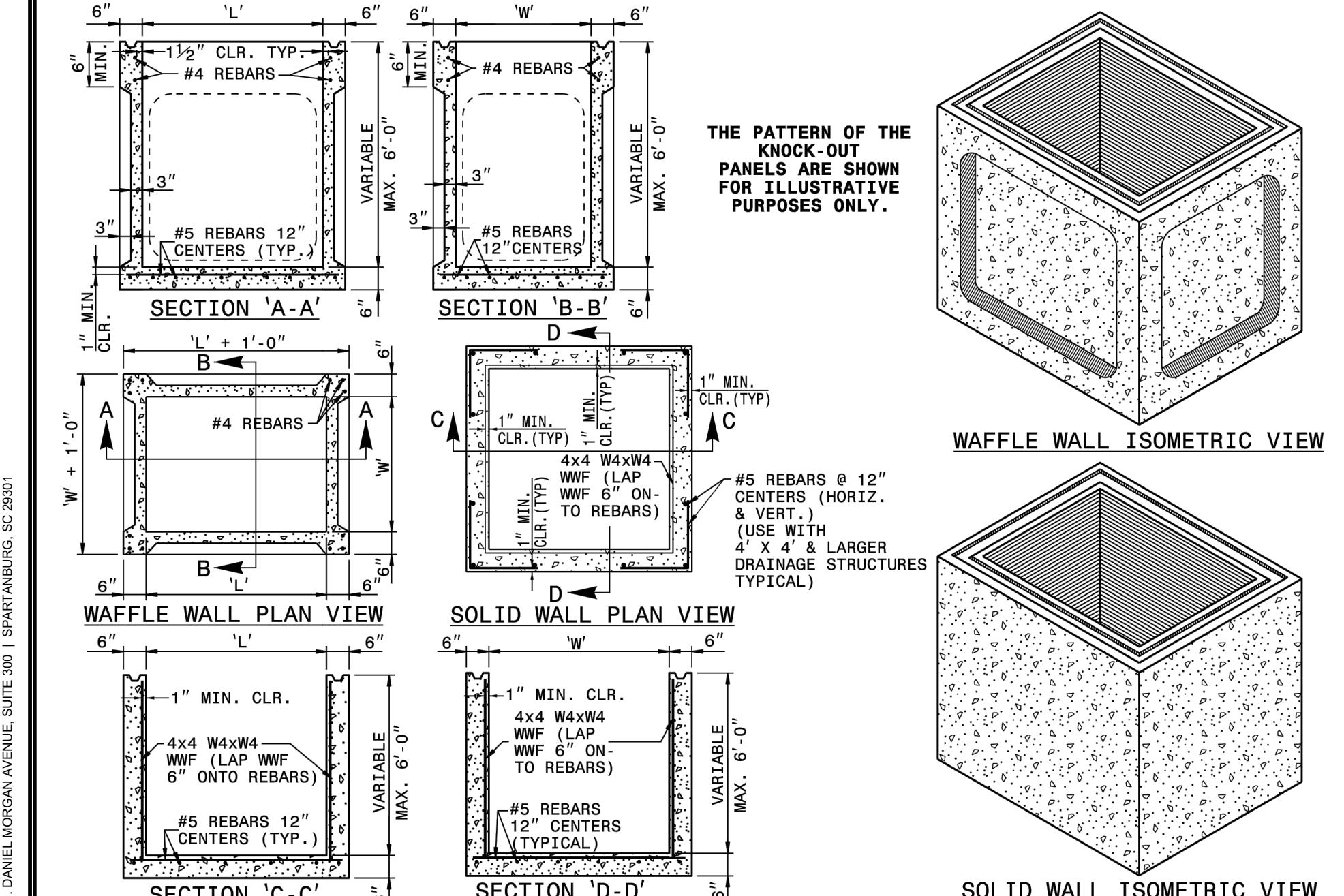
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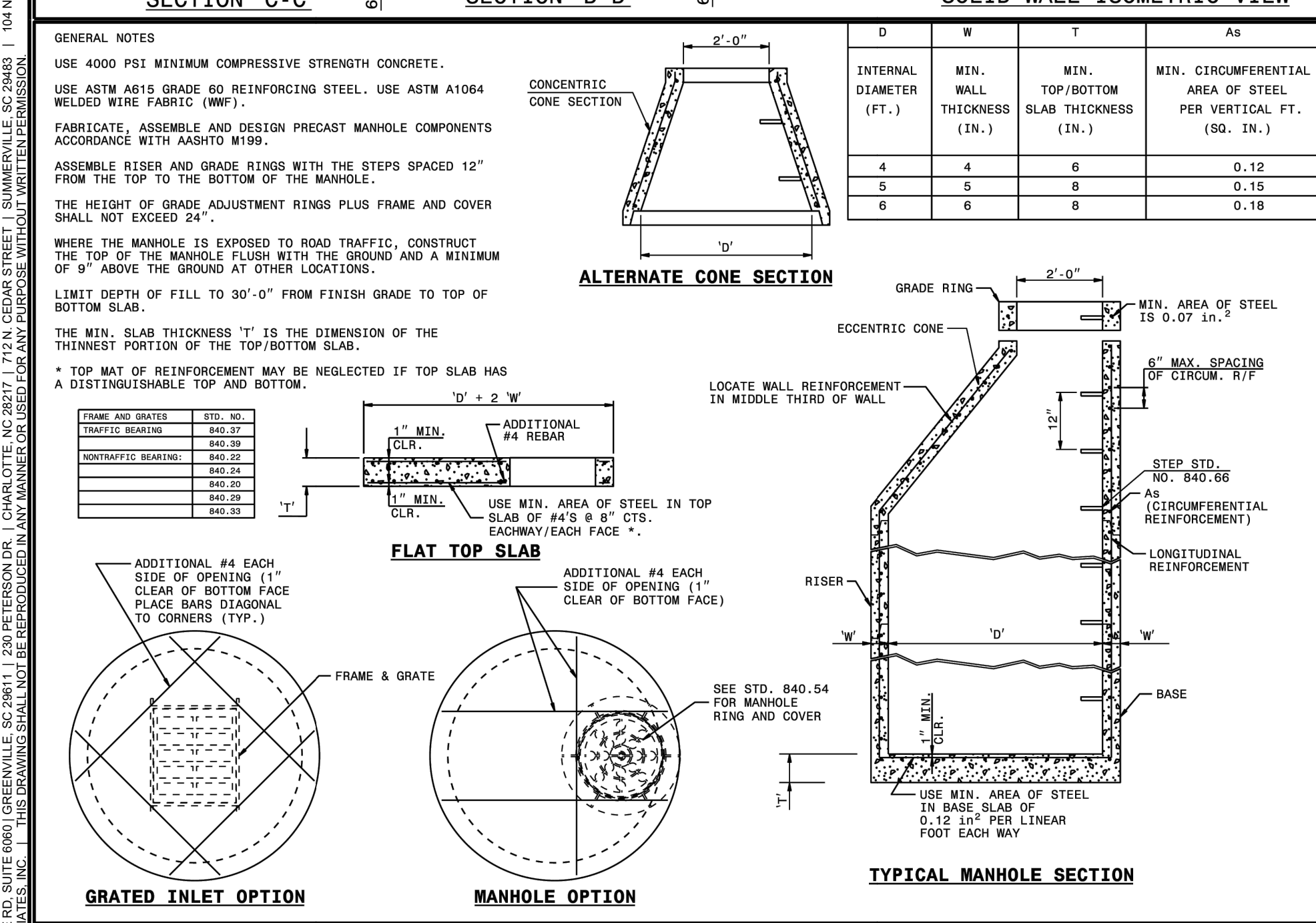
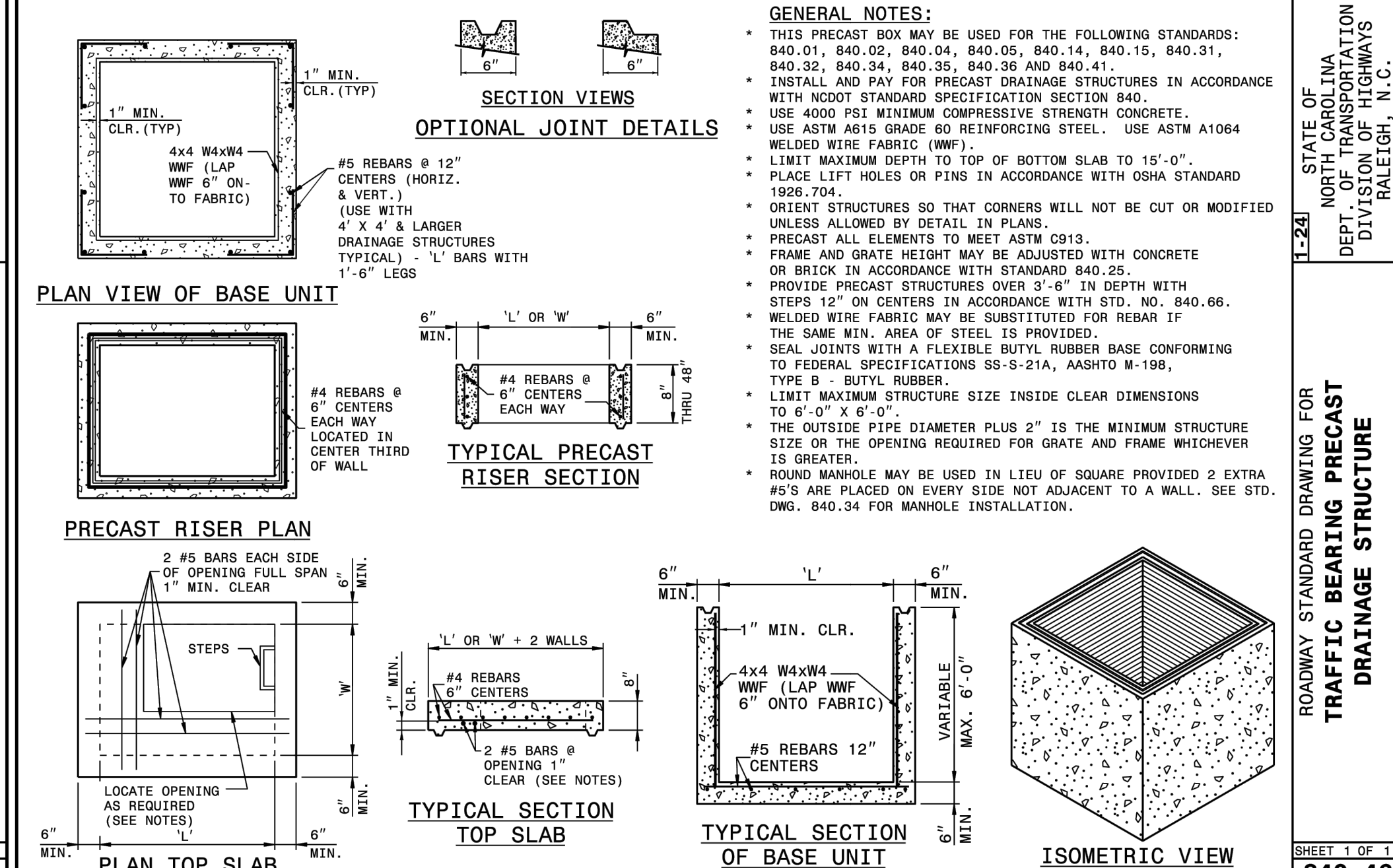
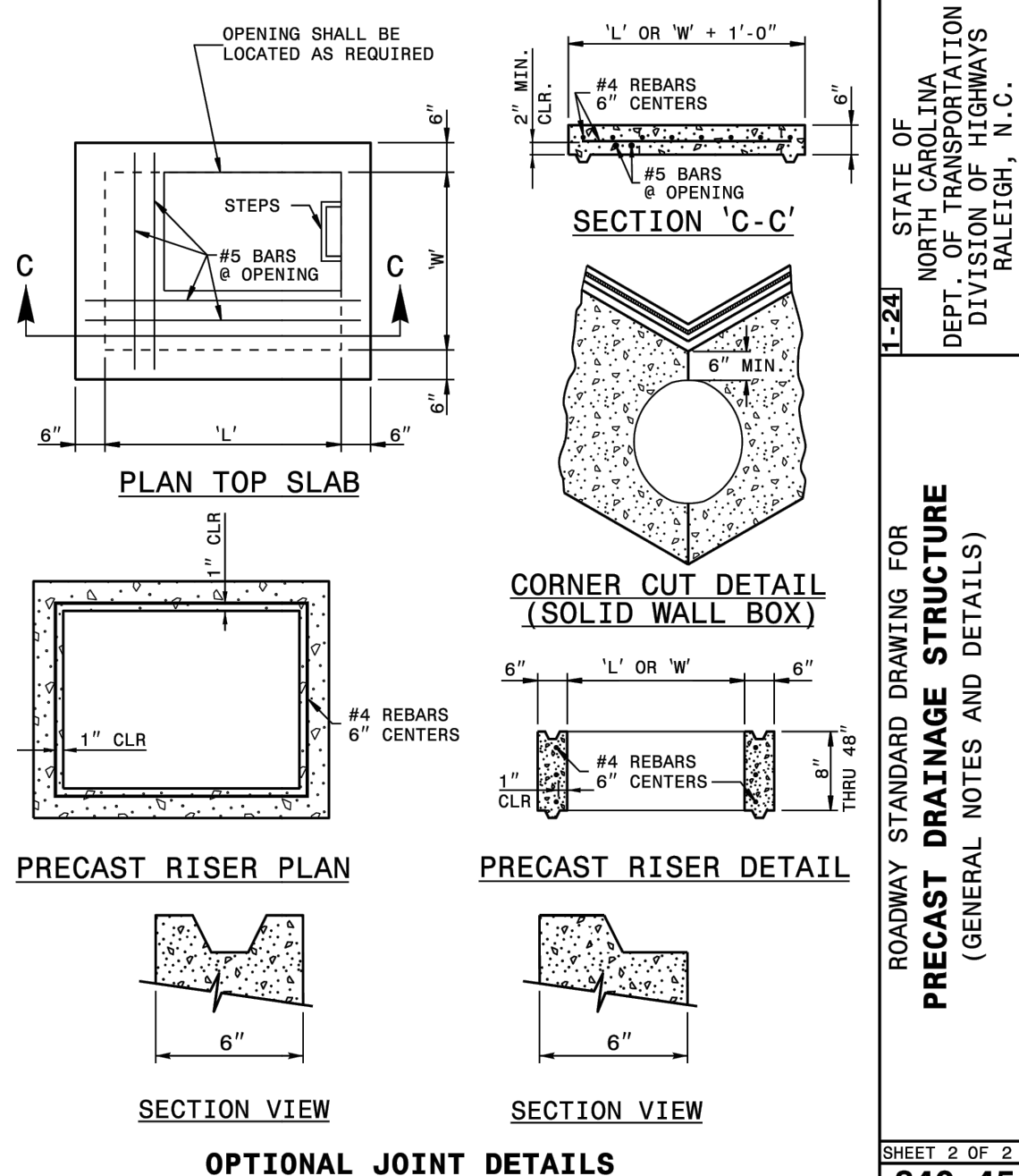
ROADWAY STANDARD DRAWING FOR TRAFFIC BEARING GRATED DROP INLET FOR STEEL (840.37) DOUBLE FRAME AND GRATES
 SHEET 1 OF 2
 840.36

ROADWAY STANDARD DRAWING FOR TRAFFIC BEARING GRATED DROP INLET FOR DOUBLE FRAME AND



GENERAL NOTES:

- THIS PRECAST BOX MAY BE USED FOR THE FOLLOWING STANDARDS: 840.01, 840.02, 840.04, 840.05, 840.13, 840.14, 840.15, 840.17, 840.18, 840.19, 840.26, 840.27, 840.28, 840.31, 840.32 AND 840.41.
- INSTALL PRECAST DRAINAGE STRUCTURES AND PAY FOR IN ACCORDANCE WITH SPECIFICATION SECTION 840.
- DO NOT PRECAST DRAINAGE STRUCTURES UNDER TRAFFIC. WHEN TRAFFIC WILL BE DETOURED, USE 4000 PSI CONCRETE.
- PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A1064.
- LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB FOR WAFFLE WALL STRUCTURE TO 10'-0"; LIMIT SOLID WALL STRUCTURE TO 15'-0".
- PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
- CUT OR FORM OPENINGS FOR PIPE TO PROVIDE REQUIRED SIZE AND LOCATION. ORIENT WAFFLE WALL STRUCTURES SO THAT PIPES ENTER THROUGH THE KNOCKOUT/WAFFLE PANELS ONLY. PIPES MAY ENTER THROUGH THE CORNERS OF SOLID WALL BOXES IF A MINIMUM OF 6" OF WALL IS PROVIDED ABOVE THE HOLE.
- ALL ELEMENTS PRECAST TO MEET ASTM C913.
- FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
- PROVIDE PRECAST STRUCTURES OVER 3'-6" IN DEPTH WITH STEPS AS DIRECTED BY THE ENGINEER.
- WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
- SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATION SS-S-21A, AASHTO M-198, TYPE B - BUTYL RUBBER.
- LIMIT MAXIMUM STRUCTURE SIZE TO INSIDE CLEAR DIMENSIONS OF 5'-0" X 5'-0".
- THE OUTSIDE PIPE DIAMETER PLUS 2" OR THE OPENING REQUIRED FOR FRAME AND GRATE IS THE MINIMUM STRUCTURE SIZE. WHICHEVER IS GREATER.
- USE MANHOLE FRAME AND COVER AS INDICATED ON THE PLANS. REINFORCE OPENING AS SHOWN ON THIS SHEET.



GENERAL NOTES:

- CLASS OR MESH SIZE OF RIPRAP AND LENGTH, WIDTH AND DEPTH OF APRON TO BE DESIGNED BY THE ENGINEER.
- REFER TO THE CHARLOTTE MEDIANBURG STORM WATER DESIGN MANUAL FOR RIPRAP APRON DESIGN STANDARDS.
- REBAR SHOULD EXTEND UP WITH SIDES OF THE APRON AND AROUND THE END OF THE PIPE OR CHANNEL. THE AREA TO BE REBAR OR RIPRAPPED SHALL BE UNDERCUT TO THE INVERT OF THE APRON SHALL BE THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL. THE APRON SHALL HAVE A CUTOFF OR THE WALL AT THE DOWNSTREAM END.
- THE WIDTH OF THE END OF THE APRON SHALL BE EQUAL TO THE BOTTOM WIDTH OF THE RECEIVING CHANNEL. MAXIMUM TAPER TO RECEIVING CHANNEL: 6:1
- ALL SUBGRADE FOR STRUCTURE TO BE COMPACTED TO 98% OR GREATER.
- THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL, SHALL NOT BE ALLOWED.
- NO BENDS OR CURVES IN THE HORIZONTAL ALIGNMENT OF THE APRON WILL BE PERMITTED.
- FILTER FABRIC SHALL BE INSTALLED ON COMPACTED SUBGRADE PRIOR TO PLACEMENT OF RIP RAP.
- ANY DISTURBED AREA FROM END OF APRON TO RECEIVING CHANNEL MUST BE STABILIZED.

USE USDA MONOGRAPH FROM SOIL SEDIMENT AND EROSION CONTROL MANUAL OR CHARLOTTE MEDIANBURG STORM WATER DESIGN MANUAL FOR DESIGN DATA.

GRATE	14 FT	18 FT	24 FT	30 FT	36 FT	42 FT	48 FT
FD-41	10	11.80	3.75	13.80	1	CLASS B	
FD-42	10	11.80	3.75	13.80	1	CLASS B	

13 Riprap Apron At Pipe Outfalls
 SCALE: NOT TO SCALE

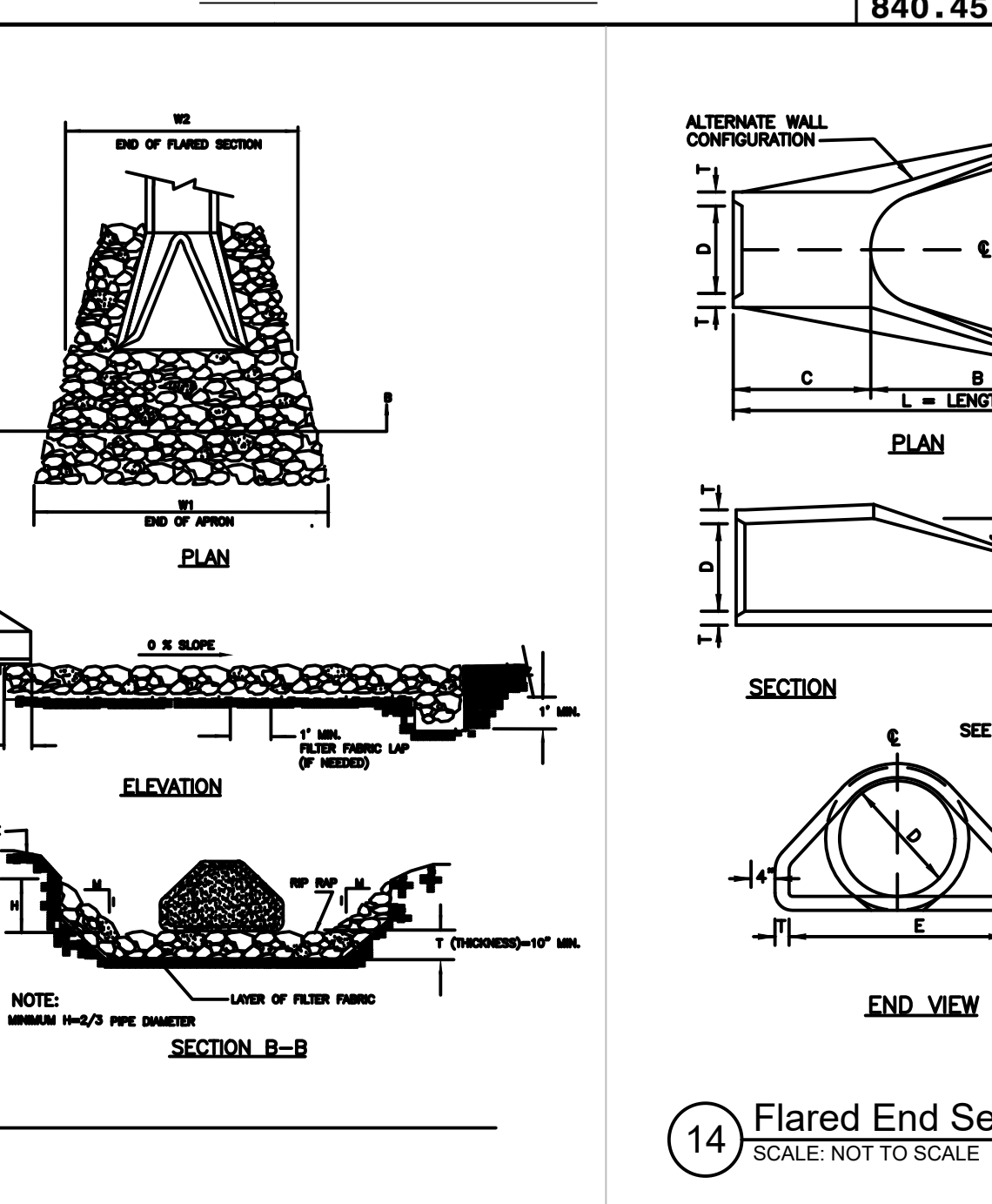


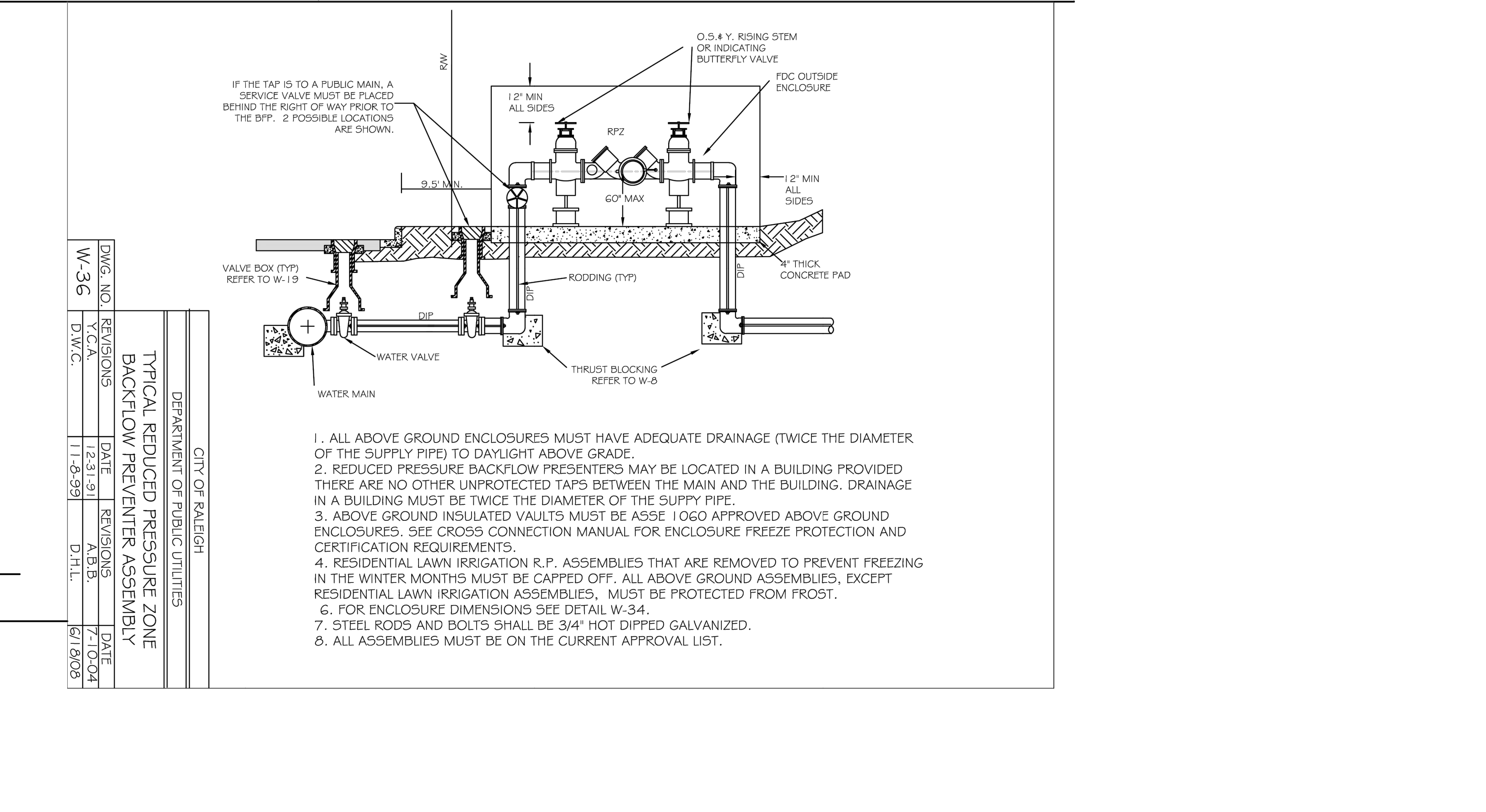
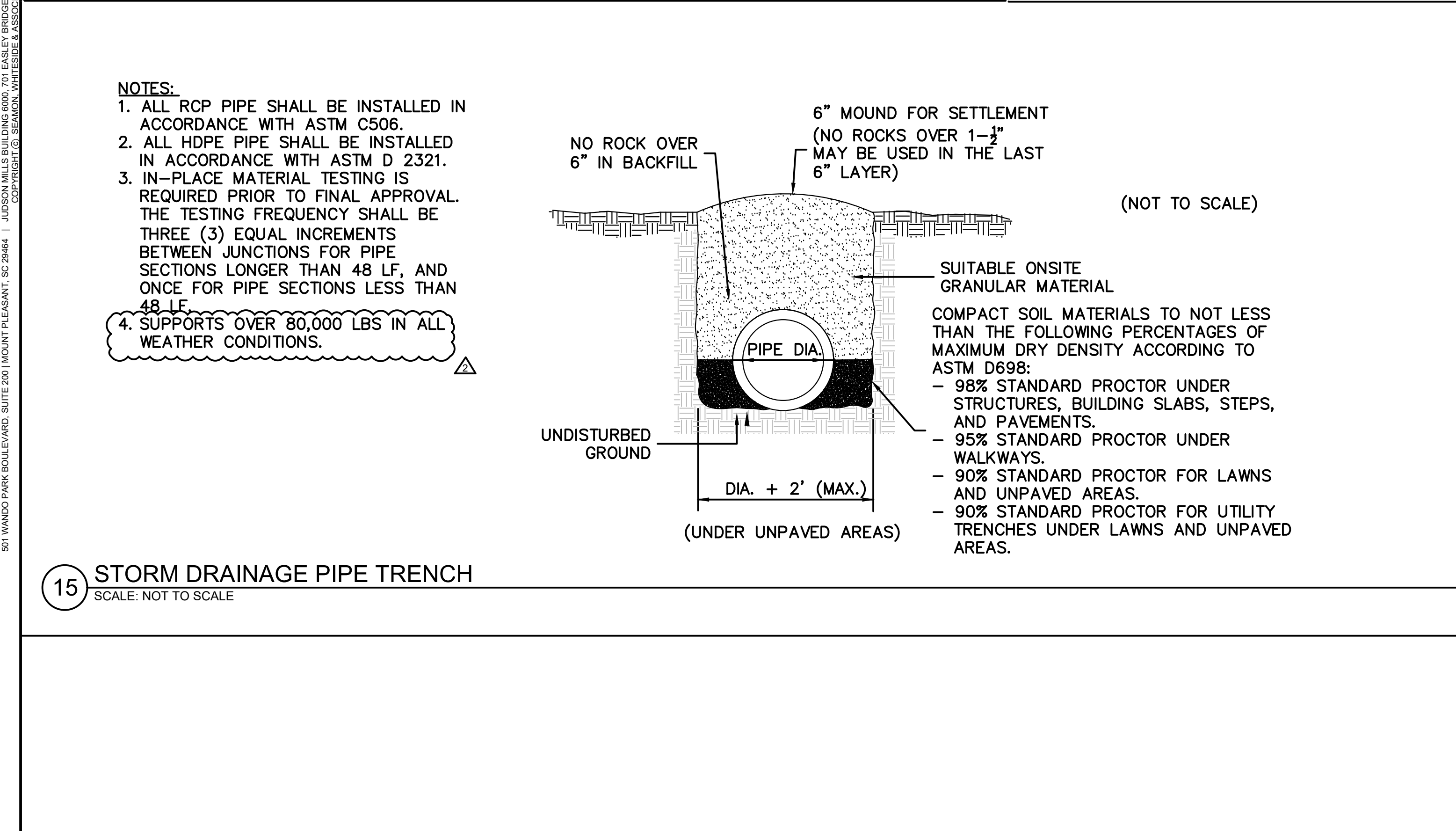
TABLE OF DIMENSIONS

D	T	A	B	C	E	L	WT.
12"	2-1/2"	4"	2'-0"	4'-1"	2'-0"	6'-1"	730
15"	3-1/2"	5"	2'-3"	3'-10"	2'-0"	6'-1"	730
18"	2-1/2"	6"	2'-3"	3'-10"	3'-0"	6'-1"	1190
24"	3"	10"	3'-0"	2'-8"	4'-0"	6'-2"	1770
30"	2-1/2"	12"	3'-0"	2'-8"	4'-0"	6'-2"	2390
36"	4"	11'-0"	3'-0"	2'-11"	6'-0"	6'-2"	3390
42"	4-1/2"	1'-0"	3'-0"	2'-11"	6'-0"	6'-2"	5820
48"	3"	2'-0"	3'-0"	2'-8"	7'-0"	6'-2"	7470
54"	3-1/2"	2'-3"	3'-0"	2'-10"	7'-0"	6'-2"	8910
60"	6"	2'-0"	3'-0"	3'-3"	8'-0"	6'-3"	11190
66"	5-1/2"	3'-0"	3'-0"	2'-3"	8'-0"	6'-3"	12930
72"	7"	3'-0"	3'-0"	1'-9"	8'-0"	6'-3"	13990

GENERAL NOTES:

- SEE FORMER NCDOT STANDARD 310.01 FOR DETAILS.
- REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF REINFORCED CONCRETE PIPE OF LIKE DIAMETER PER AASHTO M170, TABLE 2, WALL B.
- ALL CONCRETE TO BE 3800 P.S.I. COMPRESSIVE STRENGTH.
- PROVIDE TONGUE OR SPIGOT JOINT AT INLET END SECTION.
- PROVIDE GROOVE OR BELL JOINT AT OUTLET END SECTION.
- THE DIMENSIONS FOR END SECTIONS SHALL SUBSTANTIALLY AGREE WITH THE TABLE. MINOR VARIATIONS WILL BE PERMITTED BASED ON THE MANUFACTURER'S STANDARD FORMS AND TOLERANCES.
- NOT TO BE USED IN NCDOT MAINTAINED RIGHT OF WAY.

14 Flared End Section
 SCALE: NOT TO SCALE



501 WANDO PARK BOULEVARD, SUITE 200 | MOUNT PLEASANT, SC 29566 | JUDGE HALL BUILDING 6000 7TH EAST | GREENVILLE, SC 29617 | 701 N. CENTRAL AVENUE | SPARTANBURG, SC 29307 | 101 N. DANIEL MORGAN AVENUE, SUITE 300 | SPARTANBURG, SC 29307

STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR PRECAST TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE

840.45

STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR PRECAST MANHOLE 4', 5' AND 6' DIAMETER 12" THRU 48" PIPE

840.52

STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR TYPICAL REDUCED PRESSURE ZONE BACKFLOW PREVENTER ASSEMBLY

W-36

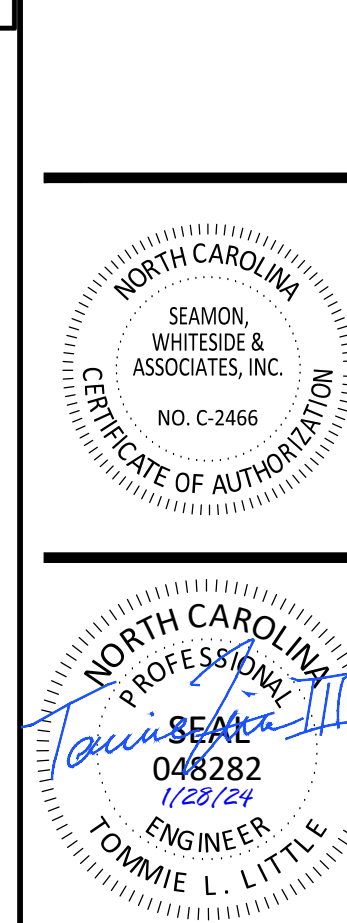
15 STORM DRAINAGE PIPE TRENCH
 SCALE: NOT TO SCALE

SW+ PROJECT: 10772
DATE: 1/28/24
DRAWN BY: CPE
CHECKED BY: TLL

REVISION HISTORY

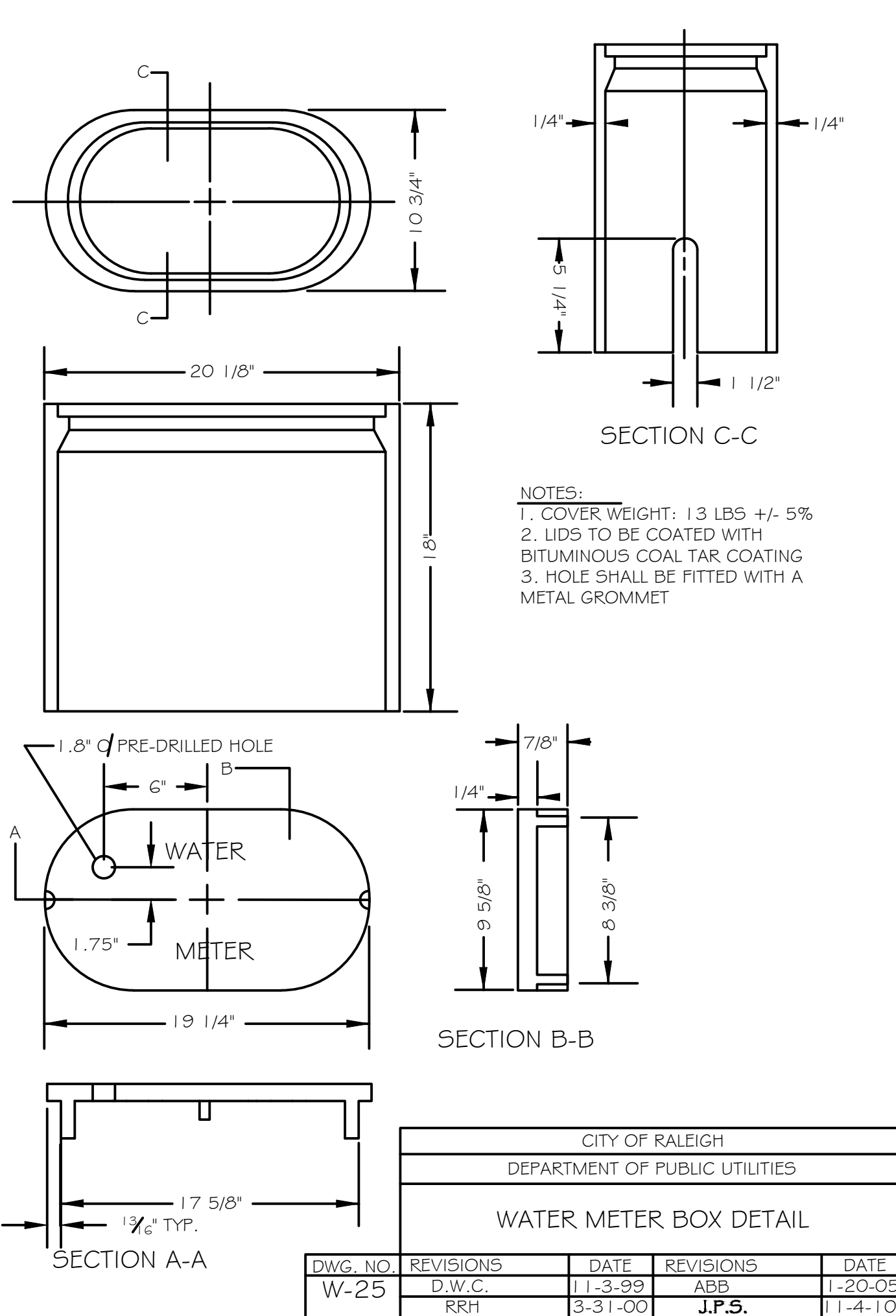
NO.	DATE	BY	DESCRIPTION
A	12/22/23	F	11/06/24
B	03/01/24	G	12/20/24
C	09/04/24	H	10/3/25
D	10/01/24		
E	11/01/24		

CONSTRUCTION DETAILS



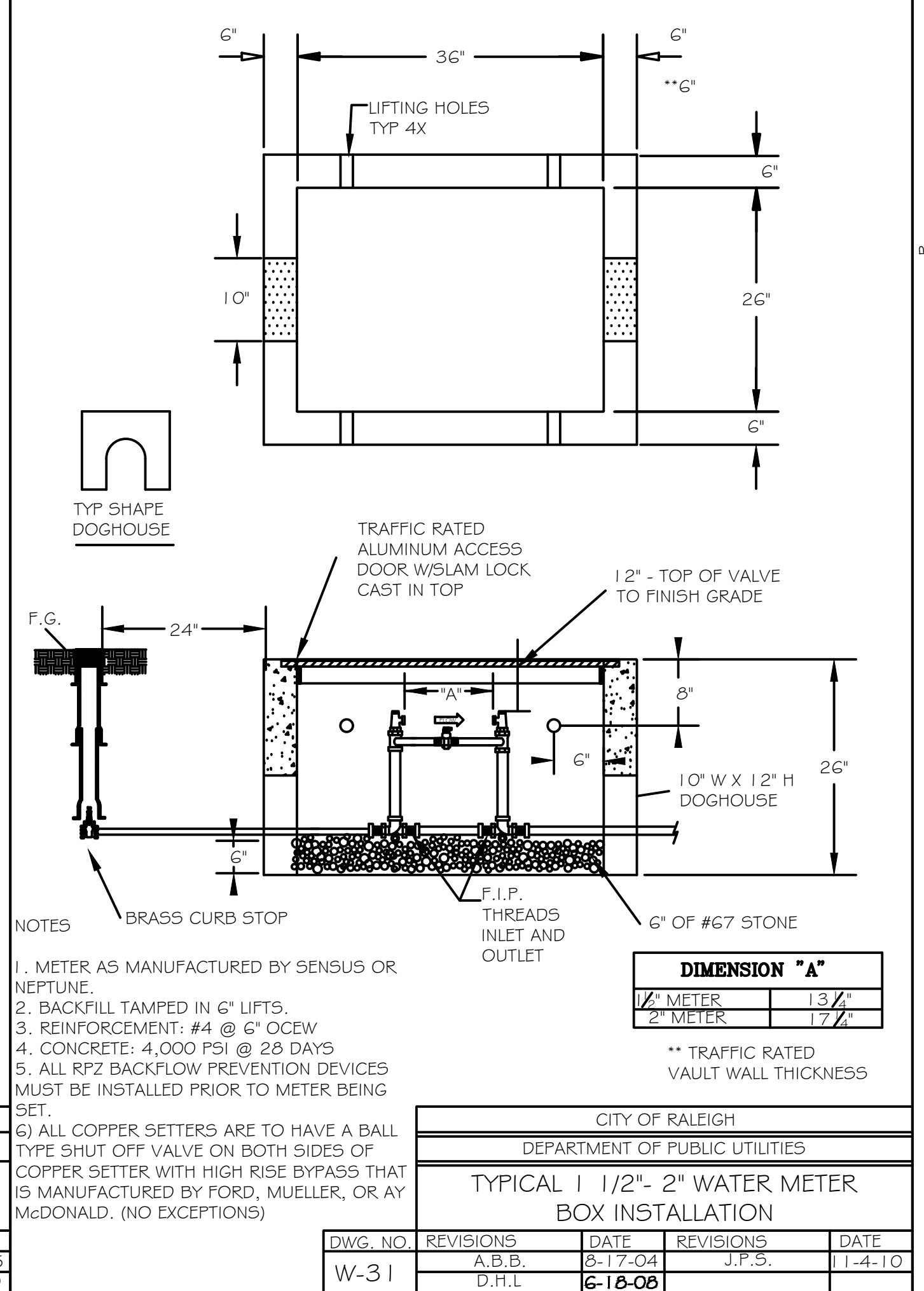
TIDAL WAVE AUTO SPA
 ROLESVILLE, NC

C8.5



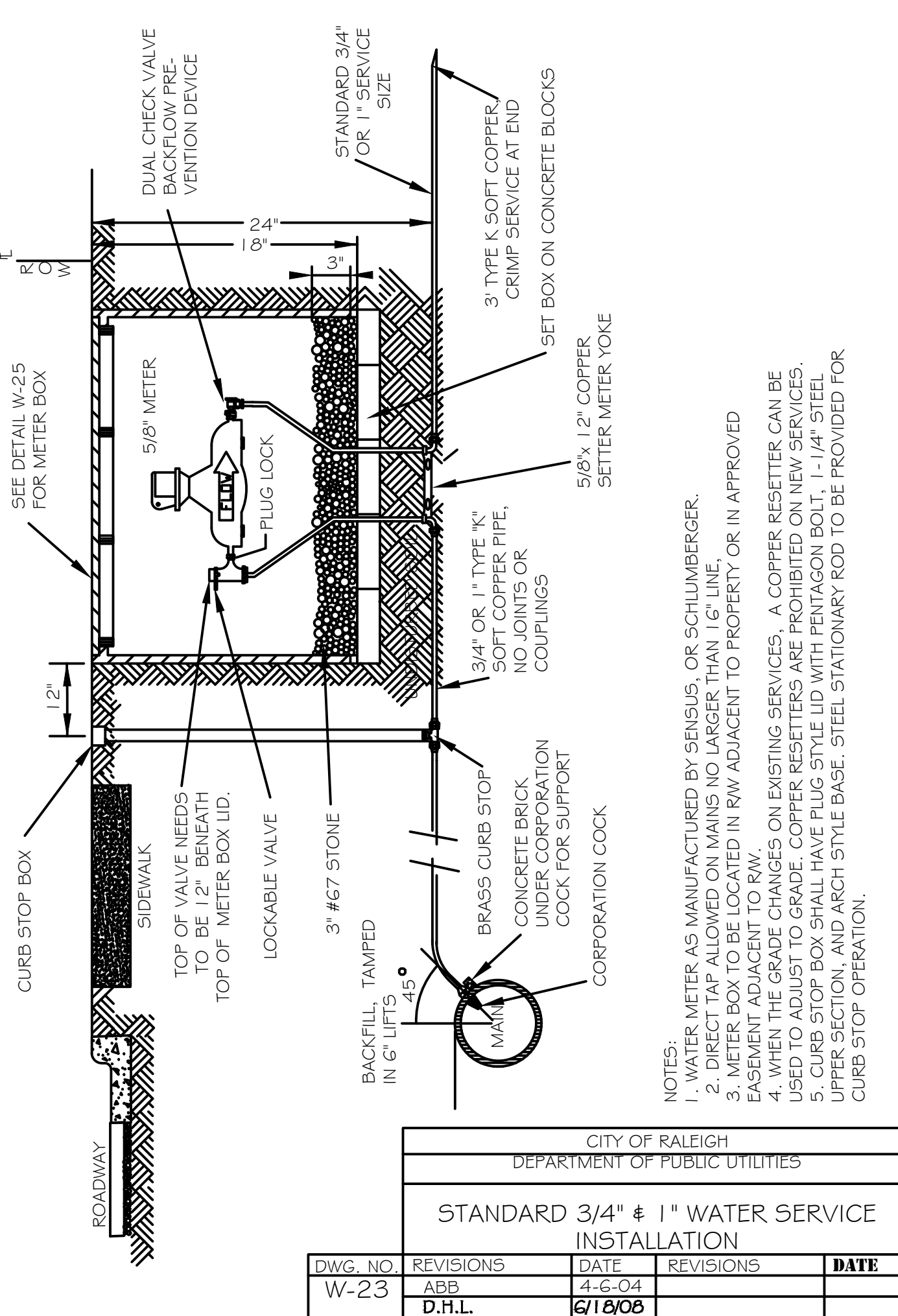
NOTES:
 1. COVER WEIGHT: 13 LBS +/- 5%
 2. LIDS TO BE COATED WITH BITUMINOUS COAL TAR COATING
 3. HOLE SHALL BE FITTED WITH A METAL GROMMET

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
WATER METER BOX DETAIL					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-25	D.W.C.	1-13-99	ABB	1-20-05	
	RRH	3-31-00	J.P.S.	11-4-10	



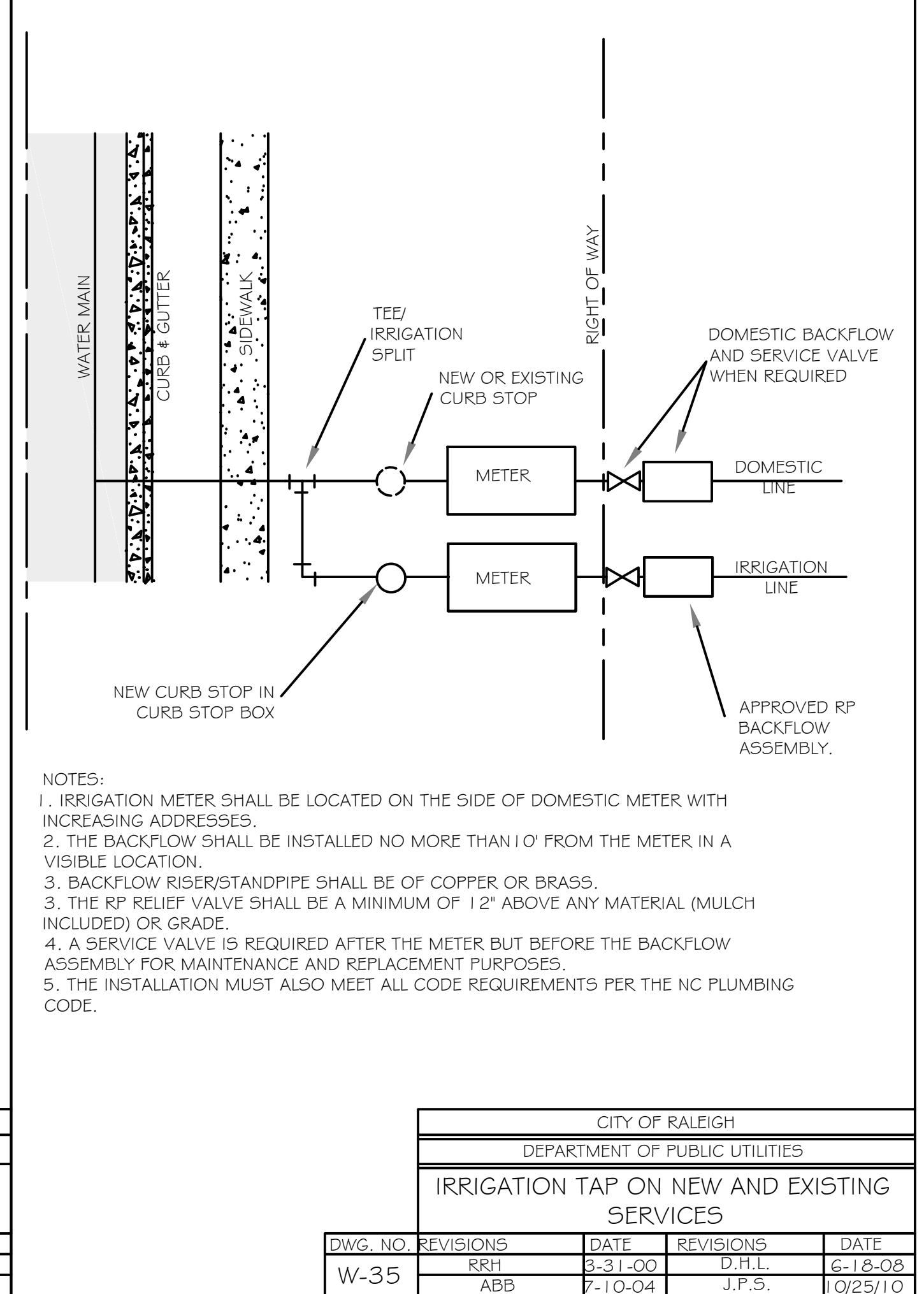
NOTES:
 1. METER AS MANUFACTURED BY SENSUS OR NEPTUNE.
 2. BACKFILL TAMPED IN 6\"/>

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
TYPICAL 1 1/2\"/>					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-31	A.B.B.	8-17-04	J.P.S.	11-4-10	
	D.H.L.	6-18-08			



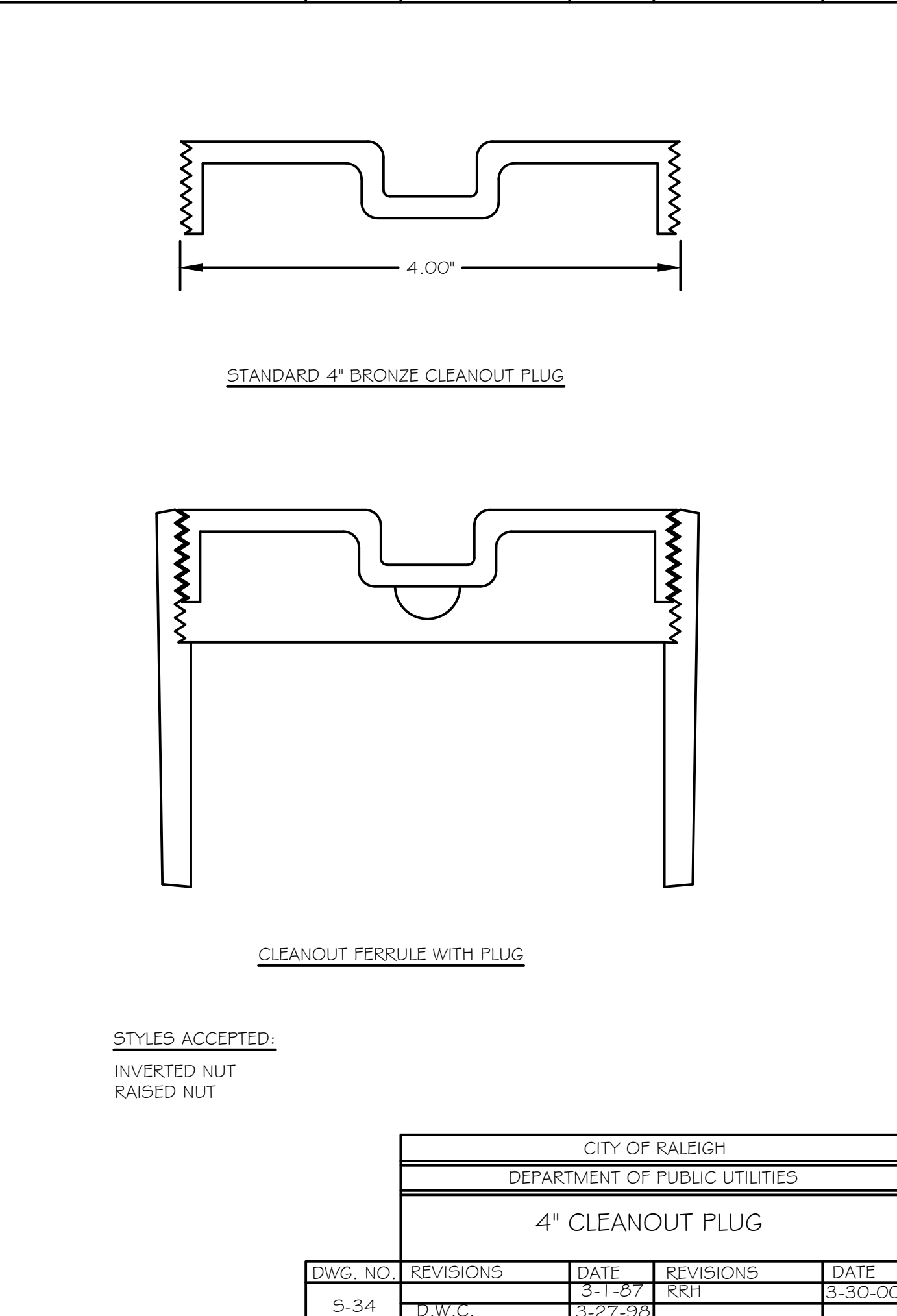
NOTES:
 1. WATER METER AS MANUFACTURED BY SENSUS OR SCHLUMBERGER.
 2. DIRECT TAP TO BE LOCATED ON MAINS NO LARGER THAN 1/2\"/>

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
STANDARD 3/4\"/>					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-23	ABB	4-6-04			
	D.H.L.	6-18-08			



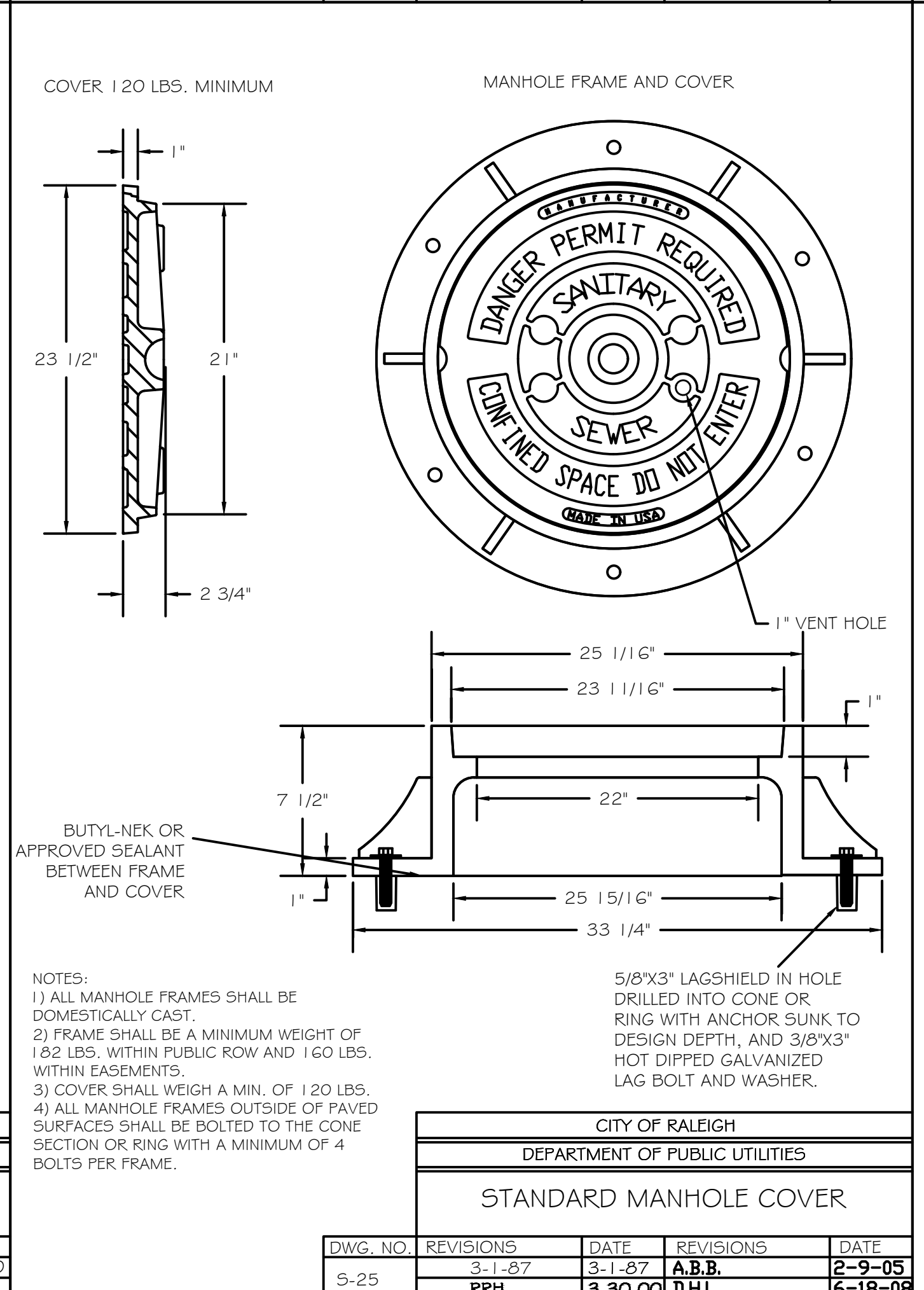
NOTES:
 1. IRRIGATION METER SHALL BE LOCATED ON THE SIDE OF DOMESTIC METER WITH INCREASING ADDRESSES.
 2. THE BACKFLOW SHALL BE INSTALLED NO MORE THAN 1'0\"/>

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
IRRIGATION TAP ON NEW AND EXISTING SERVICES					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-35	RRH	8-31-00	D.H.L.	6-18-08	
	ABB	7-10-04	J.P.S.	10/29/10	



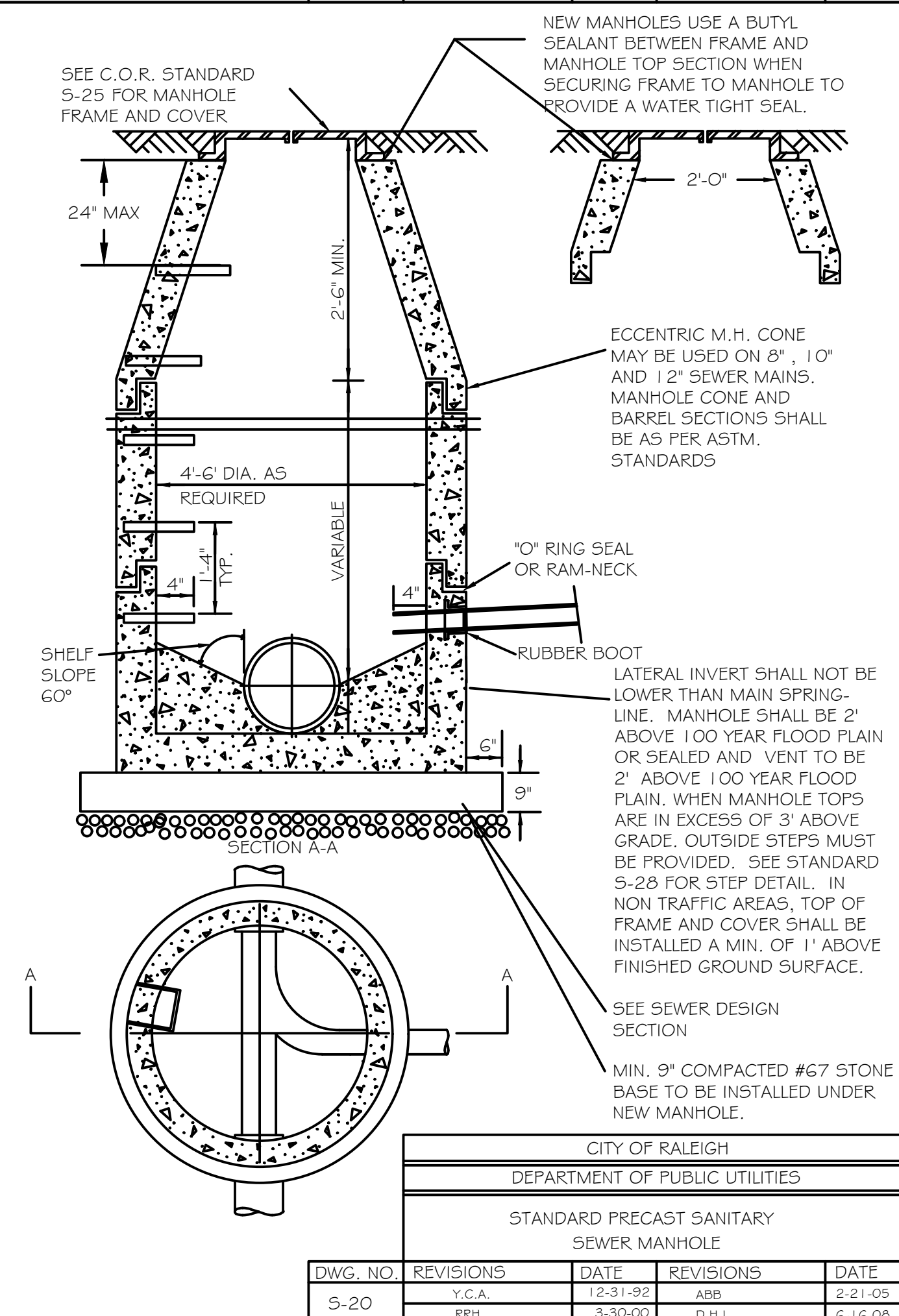
STYLES ACCEPTED:
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 RAISED NUT

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
4\"/>					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
5-34	D.W.C.	3-27-98			



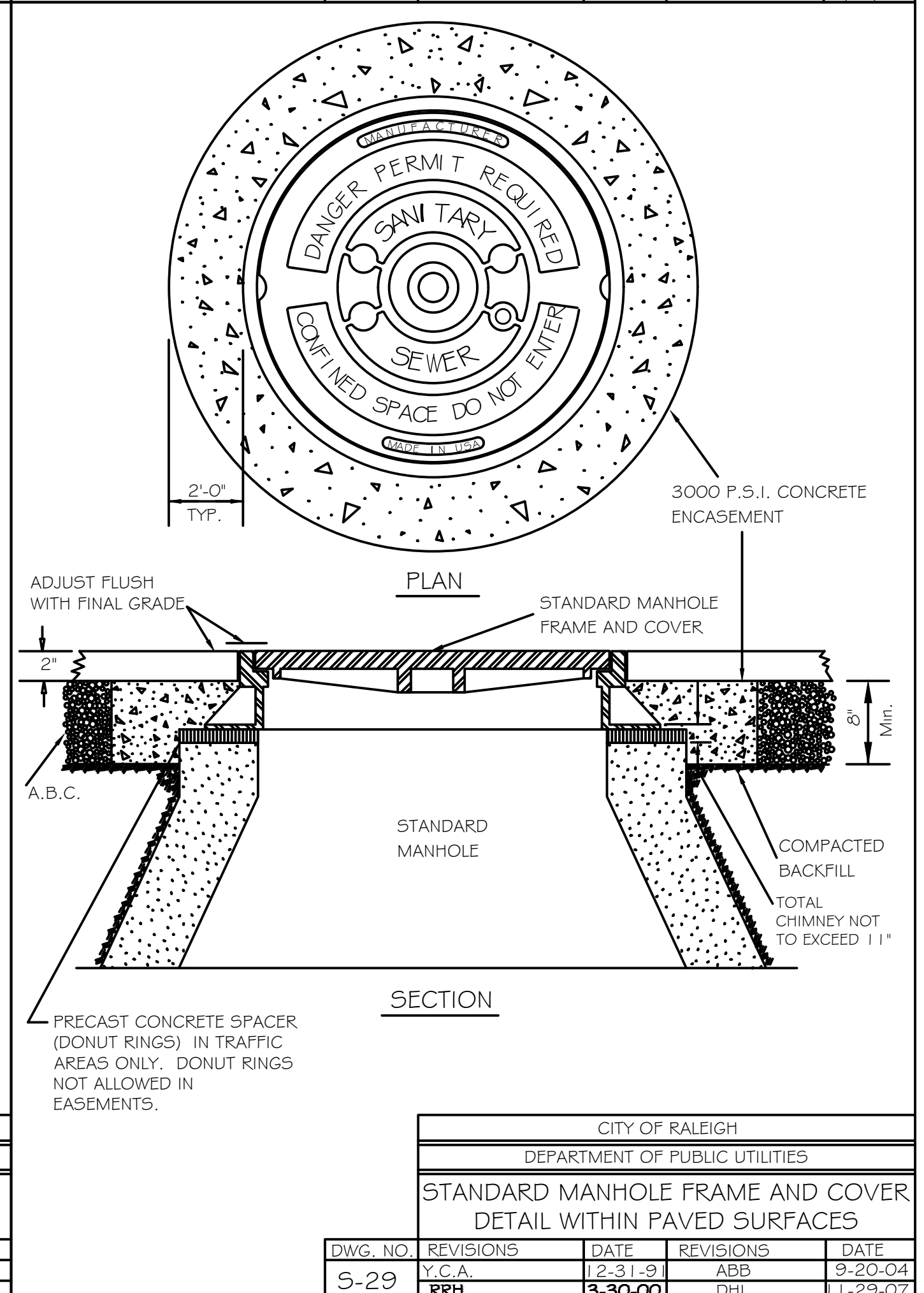
NOTES:
 1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
 2) FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
 3) COVER SHALL WEIGH A MIN. OF 120 LBS.
 4) ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
STANDARD MANHOLE COVER					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
5-25	Y.C.A.	3-1-87	A.B.B.	2-9-05	
	RRH	3-30-00	D.H.L.	6-18-08	



NOTES:
 LATERAL INVERT SHALL NOT BE LOWER THAN MAIN SPRING-LINE. MANHOLE SHALL BE 2' ABOVE 100 YEAR FLOOD PLAIN OR SEALED AND VENT TO BE 2' ABOVE 100 YEAR FLOOD PLAIN. WHEN MANHOLE TOPS ARE IN EXCESS OF 3' ABOVE GRADE, OUTSIDE STEPS MUST BE PROVIDED. SEE STANDARD S-29 FOR STEP DETAIL. IN NON TRAFFIC AREAS, TOP OF FRAME AND COVER SHALL BE INSTALLED A MIN. OF 1' ABOVE FINISHED GROUND SURFACE.
 MIN. 9\"/>

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
STANDARD PRECAST SANITARY SEWER MANHOLE					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
5-20	Y.C.A.	12-31-92	ABB	2-21-05	
	RRH	3-30-00	D.H.L.	6-18-08	



CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
STANDARD MANHOLE FRAME AND COVER DETAIL WITHIN PAVED SURFACES					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
5-29	Y.C.A.	12-31-92	ABB	9-20-04	
	RRH	3-30-00	D.H.L.	1-29-07	

MOUNT PLEASANT, SC 843.884.1667
 GREENVILLE, SC 864.298.0534
 SUMMERVILLE, SC 843.972.0710
 SPARTANBURG, SC 864.272.1272
 CHARLOTTE, NC 980.312.5450
 WWW.SEAMONWHITESIDE.COM

TIDAL WAVE AUTO SPA
 ROLESVILLE, NC

SW+ PROJECT: 10772
 DATE: 1/28/24
 DRAWN BY: CPE
 CHECKED BY: TLL

REVISION HISTORY				
NO.	DATE	BY	DESCRIPTION	DATE
A	12/22/23	F		11/06/24
B	03/01/24	G		12/20/24
C	09/04/24	H		1/03/25
D	10/01/24			
E	11/01/24			

CONSTRUCTION DETAILS

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	



TWAS REV C

ROLESVILLE, NC, USA

SC-310 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-310.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

- STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.


PROPOSED LAYOUT		PROPOSED ELEVATIONS:		*INVERT ABOVE BASE OF CHAMBER				
				PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
146	STORMTECH SC-310 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	401.83	403.08				
26	STORMTECH SC-310 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	395.83	397.08				
6	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	395.33	396.58	PREFABRICATED EZ END CAP	A	12" BOTTOM PREFABRICATED EZ END CAP, PART#: SC310ECEZ / TYP OF ALL 12" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	0.90"
6	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	395.33	396.58				
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	395.33	396.58	FLAMP	B	INSTALL FLAMP ON 12" ACCESS PIPE / PART#: SC31012RAMP (TYP 2 PLACES)	
5090	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF STONE:	394.33	395.58	MANIFOLD	C	8" x 8" BOTTOM MANIFOLD, MOLDED FITTINGS	0.60"
		TOP OF SC-310 CHAMBER:	393.83	395.08	MANIFOLD	D	8" x 8" BOTTOM MANIFOLD, MOLDED FITTINGS	0.60"
		8" x 8" BOTTOM MANIFOLD INVERT:	392.55	393.80	PIPE CONNECTION	E	8" BOTTOM CONNECTION	0.60"
		12" ISOLATOR ROW PLUS INVERT:	392.58	393.83	CONCRETE STRUCTURE	F	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)	4.5 CFS IN
		12" ISOLATOR ROW PLUS INVERT:	392.58	393.83	W/WEIR			
4068	SYSTEM AREA (SF)	8" x 8" BOTTOM MANIFOLD INVERT:	392.55	393.80	CONCRETE STRUCTURE	G	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)	4.5 CFS IN
297.8	SYSTEM PERIMETER (ft)	8" BOTTOM CONNECTION INVERT:	392.55	393.80	W/WEIR			
		12" x 8" BOTTOM MANIFOLD INVERT (8" PIPE):	392.55	393.80	NYLOPLAST (OUTLET)	H	30" DIAMETER (DESIGN BY ENGINEER)	1.4 CFS OUT
		BOTTOM OF SC-310 CHAMBER:	392.50	393.75	UNDERDRAIN	I	4" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN	
		12" x 8" BOTTOM MANIFOLD INVERT (12" PIPE):	392.20	393.45				
		UNDERDRAIN INVERT:	392.00	393.25				
		BOTTOM OF STONE:	392.00	393.25				

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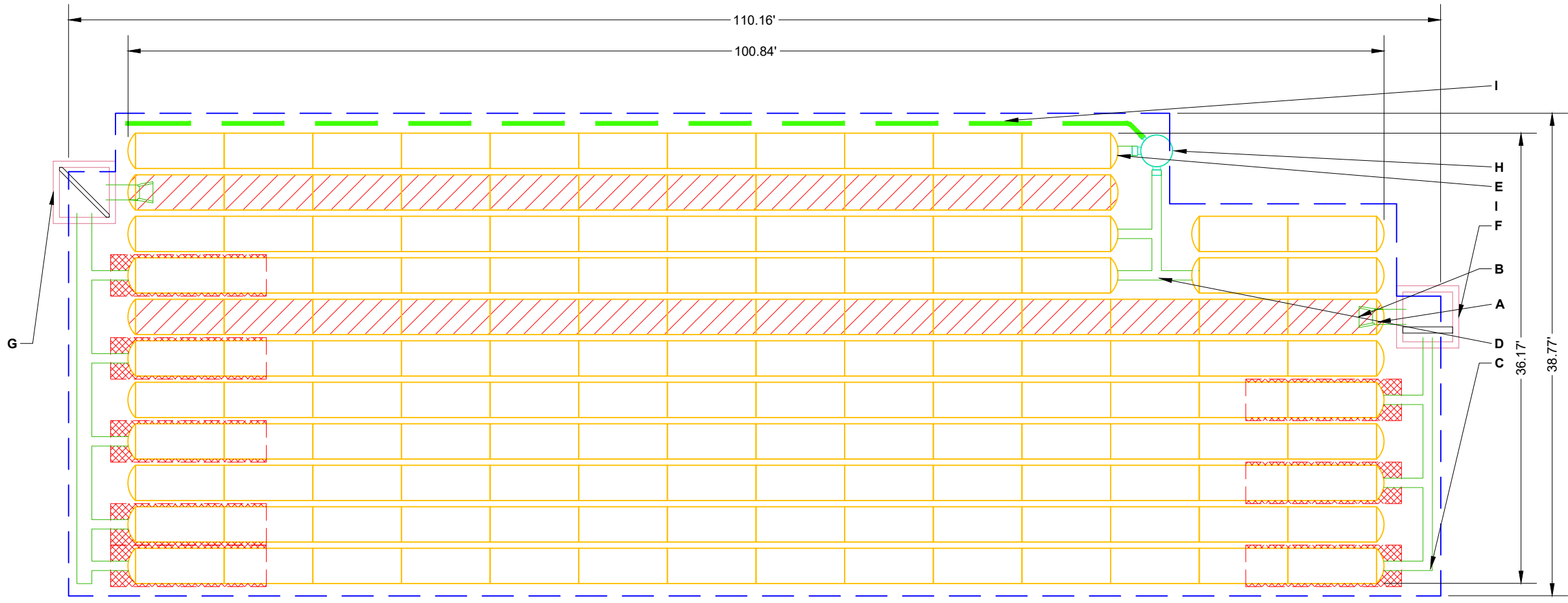
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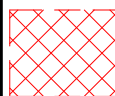

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-  ISOLATOR ROW PLUS (SEE DETAIL)
-  PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS
-  BED LIMITS

NOTES

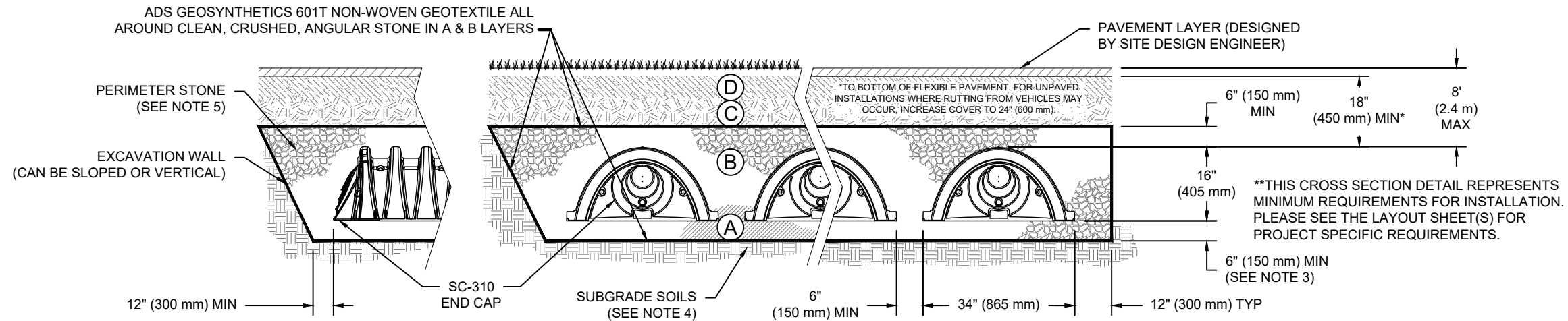
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ⁵	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ⁵	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
- WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

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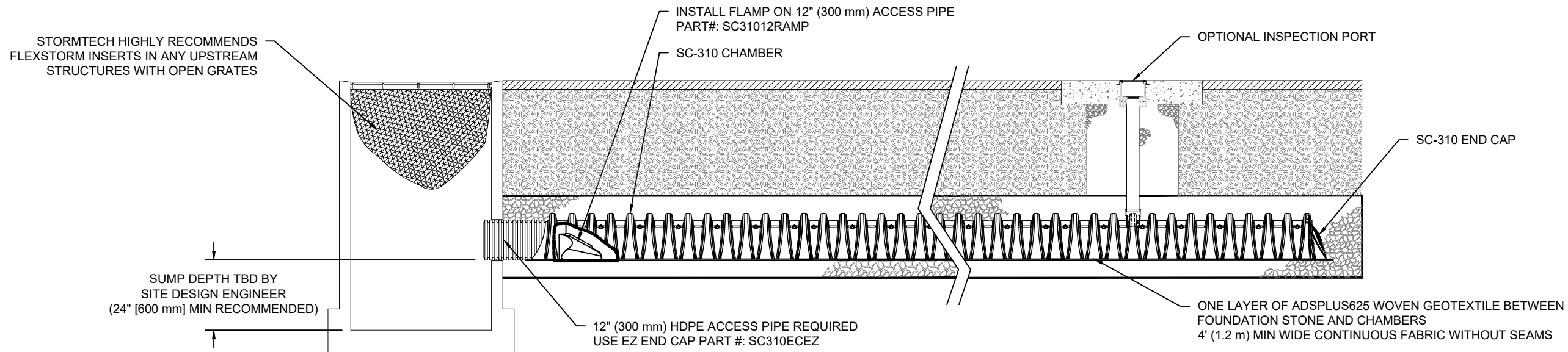
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SC-310 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
 - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - B. ALL ISOLATOR PLUS ROWS
 - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
 - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

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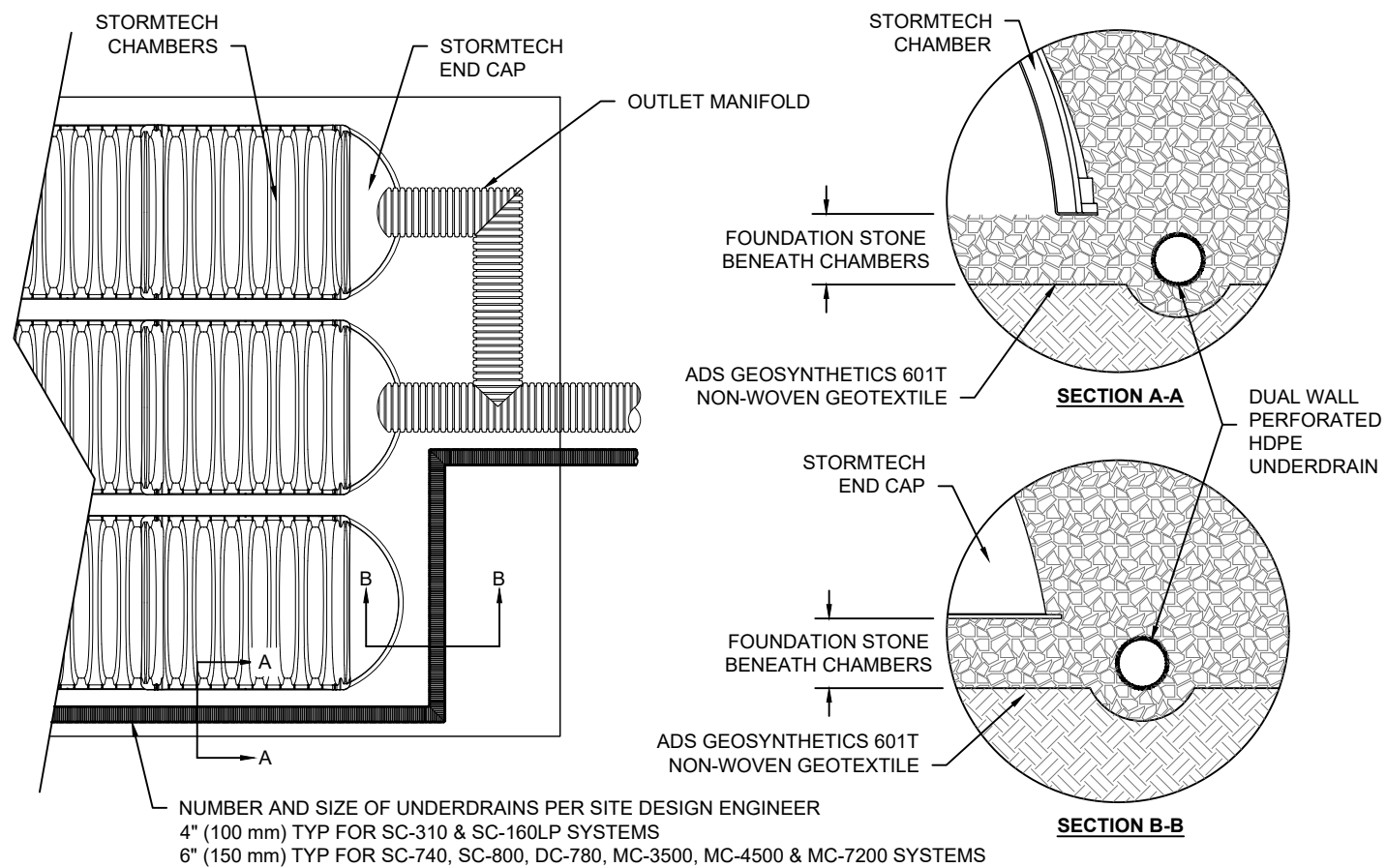
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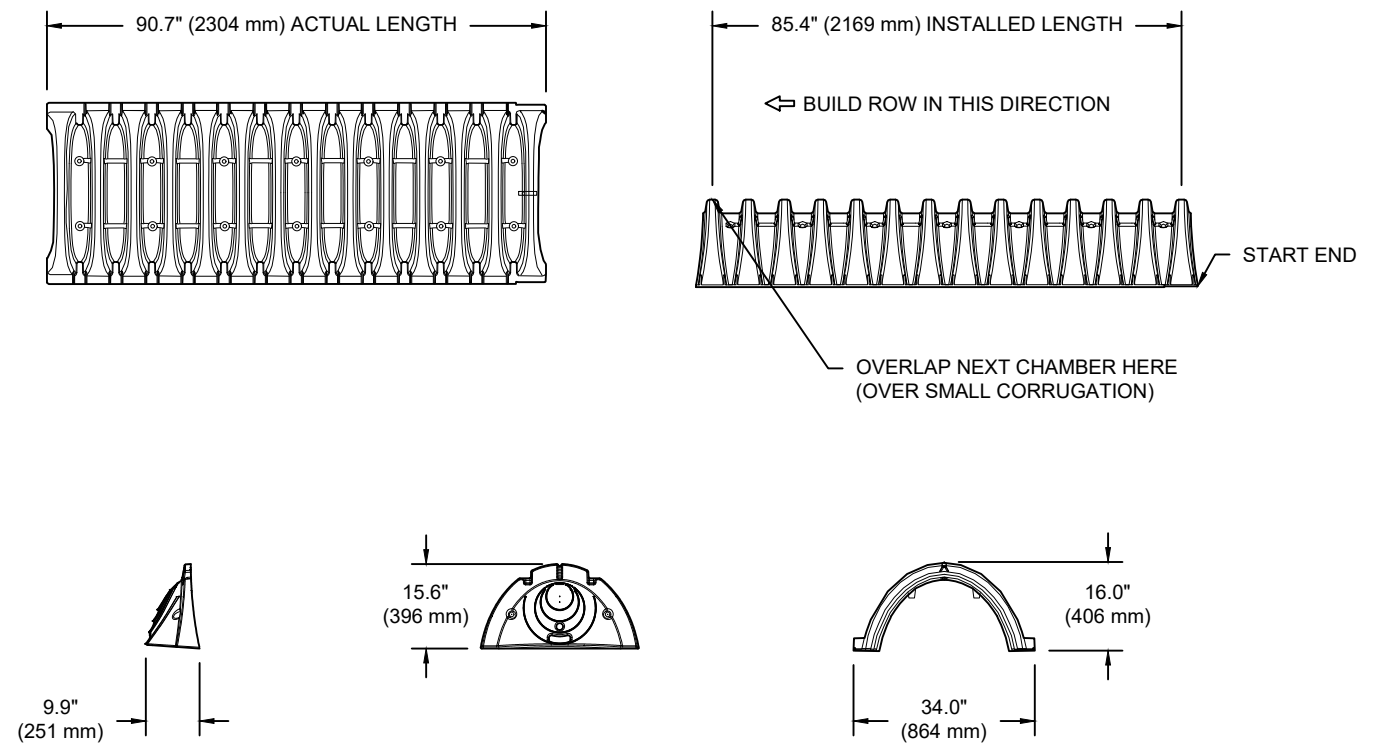
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SC-310 TECHNICAL SPECIFICATION

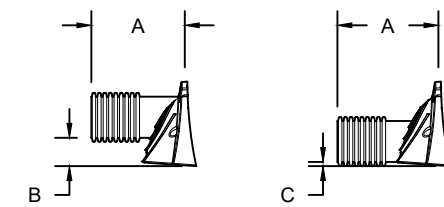
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NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m ³)
MINIMUM INSTALLED STORAGE*	31.0 CUBIC FEET	(0.88 m ³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUB AT BOTTOM OF END CAP WITH FLANGE END WITH "BR"
 PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
 PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
 PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC310EPE06T / SC310EPE06TPC	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	---
SC310EPE06B / SC310EPE06BPC			---	0.5" (13 mm)
SC310EPE08T / SC310EPE08TPC	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	---
SC310EPE08B / SC310EPE08BPC			---	0.6" (15 mm)
SC310EPE10T / SC310EPE10TPC	10" (250 mm)	12.7" (323 mm)	1.4" (36 mm)	---
SC310EPE10B / SC310EPE10BPC			---	0.7" (18 mm)
SC310ECEZ*	12" (300 mm)	13.5" (343 mm)	---	0.9" (23 mm)

ALL STUBS, EXCEPT FOR THE SC310ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-800-821-6710.

* FOR THE SC310ECEZ THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

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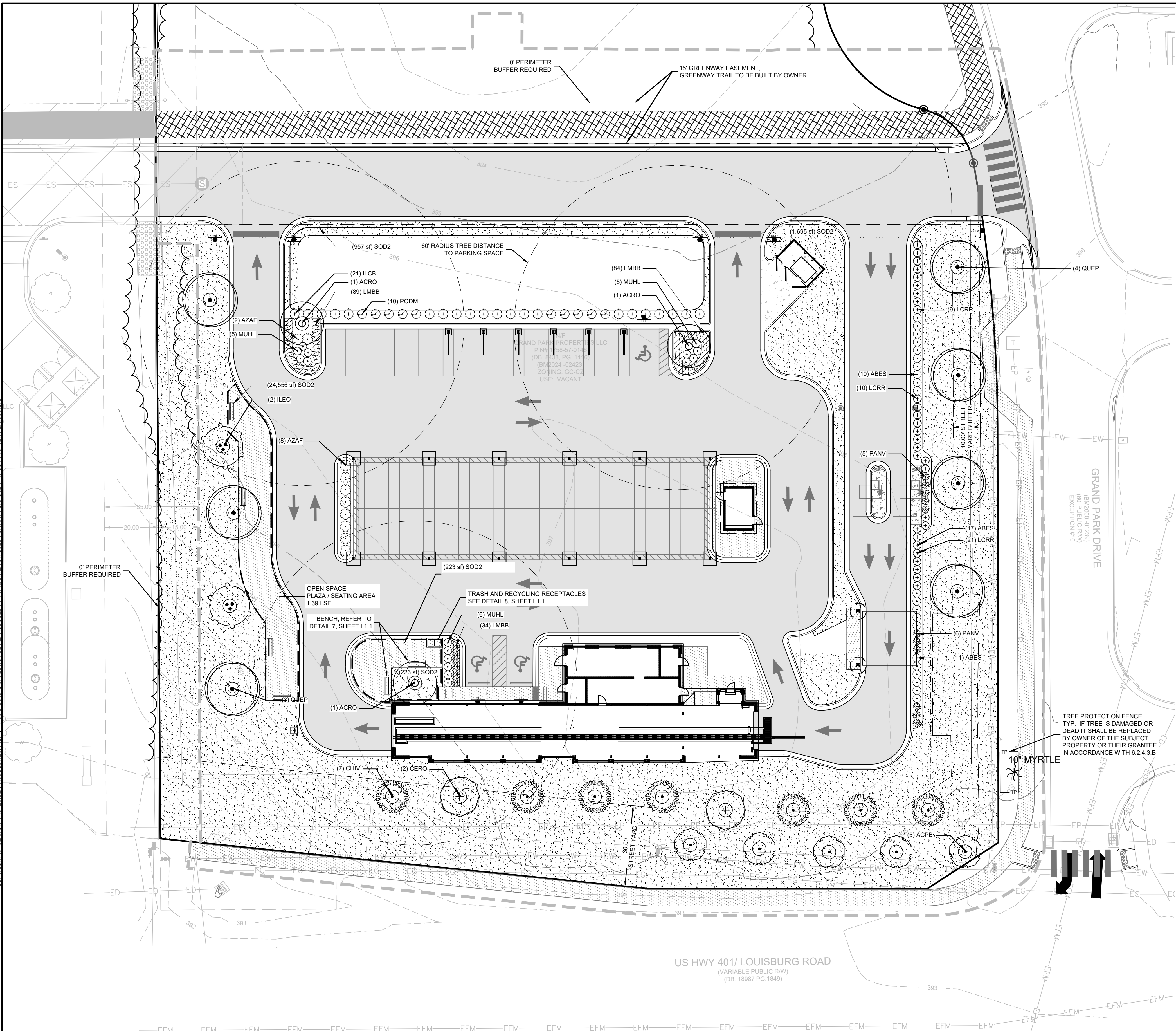
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GENERAL NOTES:

- SEE EROSION CONTROL PLANS (SHEETS C4.1 - C4.3) FOR SILT FENCE LOCATIONS, TREE PROTECTION ZONES AND BARRICADES, AND ADDITIONAL NOTES AND DETAILS.
- FOR TREE REMOVALS, PLEASE REFER TO SHEETS C3.1.
- FOR REQUIRED TREE MITIGATION AND DEVELOPMENT INCHES PER THE TOWN OF ROLESVILLE LAND DEVELOPMENT ORDINANCE (LDO), PLEASE REFER TO SHEET L1.1 FOR PLANT SCHEDULE QUANTITY AND SIZES.
- THE OVERALL PLANT QUANTITY FOR THE ENTIRE SITE CAN BE FOUND ON THE MASTER PLAN SCHEDULE, SHEET L-1.1.
- SEE SITE PLAN [C5.1] FOR SITE LABELS, INFORMATION AND DETAILS.
- CONTRACTOR TO CONTACT CIVIL ENGINEER OR LANDSCAPE ARCHITECT REGARDING ANY SITE WORK MODIFICATIONS FROM THESE PLANS PRIOR TO CHANGES IN THE FIELD.
CONTACT: 980-312-5450
- OWNER OR GRANTEE SHALL BE RESPONSIBLE FOR TREE REPLACEMENT TO ANY TREES THAT ARE DAMAGED OR DIE DURING CONSTRUCTION.

OPEN SPACE

SITE AREA = 83,635 SF
 OPEN SPACE REQUIREMENTS = 5% OF TOTAL SITE AREA
 OPEN SPACE REQUIRED = 4,182 SF
 OPEN SPACE PROVIDED = 4,182 SF
 + ACTIVE OPEN SPACE = 2,091 SF OF PLAZA / SEATING AREA
 + PASSIVE OPEN SPACE = 2,091 SF OF LAWN / NATURAL AREA

US HWY 401 / LOUISBURG ROAD (317 LF)			
	STREET BUFFER	PLANTINGS REQUIRED	PLANTINGS PROVIDED
MINIMUM BUFFER WIDTH	30' MIN.		
CANOPY TREE	1 TREE PER 40 LF	1	1
UNDERSTORY TREE*	2 TREES PER 40 LF	14	14

*UNDERSTORY TREES SHALL BE USED WHERE OVERHEAD UTILITIES CONFLICTS WITH STREET BUFFER

PLANT SCHEDULE HWY 401 BUFFER									
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	SPREAD	SPACING	REMARKS	
UNDERSTORY TREES									
+	CERO	2	CERCIS CANADENSIS 'OKLAHOMA' / OKLAHOMA REDBUD	1.5" CAL	8' MIN	8'	AS SHOWN	FWF, SP	
•	CHIV	7	CHIONANTHUS VIRGINICUS / WHITE FRINGETREE	1.5" CAL	8' MIN	8'	AS SHOWN	FWF, SP	
•	MAGS	5	MAGNOLIA X SOULANGIANA / SAUCER MAGNOLIA	1.5" CAL	8' MIN	8'	AS SHOWN	MS, FWF, SP	

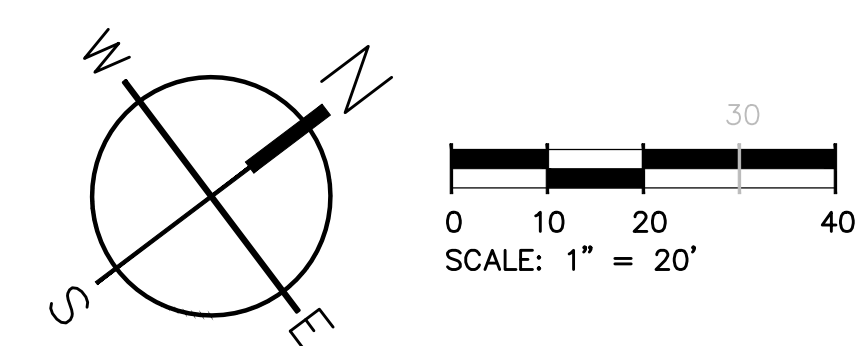
GRAND PARK DRIVE (275 LF)			
	STREET BUFFER	PLANTINGS REQUIRED	PLANTINGS PROVIDED
MINIMUM BUFFER WIDTH	10' MIN.		
CANOPY TREE	1 TREE PER 60 LF	5	5 (4 PROPOSED TREES, 1 EX. TREE TO REMAIN*)

*(1) 10' CRAPE MYRTLE (LAGEROSTROEMIA INDICA)

PLANT SCHEDULE GRAND PARK DRIVE									
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	SPREAD	SPACING	REMARKS	
TREES									
•	QUEP	4	QUERCUS PALUSTRIS / PIN OAK	2.5" CAL	8' MIN	4-6'	AS SHOWN	FWF, SP	

PLANT SCHEDULE									
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	SPREAD	SPACING	REMARKS	
TREES									
•	ACRO	3	ACER RUBRUM 'OCTOBER GLORY' TM / OCTOBER GLORY MAPLE						
•	ILEO	2	ILEX OPACA / AMERICAN HOLLY						
•	QUEP	7	QUERCUS PALUSTRIS / PIN OAK						
UNDERSTORY TREES									
•	ACPB	5	ACER PALMATUM 'BLOODGOOD' / BLOODGOOD JAPANESE MAPLE						
+	CERO	2	CERCIS CANADENSIS 'OKLAHOMA' / OKLAHOMA REDBUD						
•	CHIV	7	CHIONANTHUS VIRGINICUS / WHITE FRINGETREE						
SHRUBS									
•	ABES	21	ABELIA X GRANDIFLORA 'SHERWOODII' / DWARF ABELIA						
•	AZAF	10	AZALEA INDICA 'FORMOSA' / FORMOSA AZALEA						
•	ILCB	21	ILEX CORNUTA 'BURFORDII NANA' / DWARF BURFORD HOLLY						
+	LCRR	29	LOROPETALUM CHINENSE RUBRUM 'RUBY' / DWARF RUBY FRINGE FLOWER						
•	PODM	10	PODOCARPUS MACROPHYLLUS / SOUTHERN YEW						
GRASSES									
•	MUHL	16	MUHLENBERGIA FILIPES / SWEETGRASS						
•	PANV	11	PANICUM VIRGATUM 'HEAVY METAL' / HEAVY METAL SWITCH GRASS						
GROUND COVERS									
•	LMBB	207	LIRIOPE MUSCARI 'BIG BLUE' / BIG BLUE LILYTURF						

- TIDAL WAVE LANDSCAPE NOTES**
- ALL DISTURBED AREAS NOT COVERED BY STRUCTURES, PAVING OR LANDSCAPING SHALL BE SODDED. NO SEEDING SHALL BE USED.
 - ALL PLANT BEDS SHALL BE UNDERLAIN WITH LANDSCAPING FABRIC AND HAVE 3" OF DYED BROWN OR BLACK WOOD MULCH WITH EDGING AS REQUIRED. NO PINE STRAW MULCH WILL BE ALLOWED.
 - ALL RIVER ROCK SHALL BE 4"-6" MINIMUM IN DIAMETER AND SHALL BE UNDERLAIN WITH LANDSCAPING FABRIC.
 - AN UNDERGROUND IRRIGATION SYSTEM, SHALL BE INSTALLED AND SHALL COMPLY WITH ALL LOCAL MUNICIPAL CODES AND REGULATIONS AND ALSO COMPLY WITH THE LATEST NATIONAL ELECTRIC CODE RULES FOR ALL ELECTRIC WORKS AND MATERIALS.
 - IF THERE IS NO PLANT BED AGAINST THE CAR WASH TUNNEL, VAC HOUSE(S), OR DUMPSTER ENCLOSURE, THEN THERE SHALL BE A 18 INCH MINIMUM STRIP OF RIVER ROCK INSTALLED.



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843.884.1667

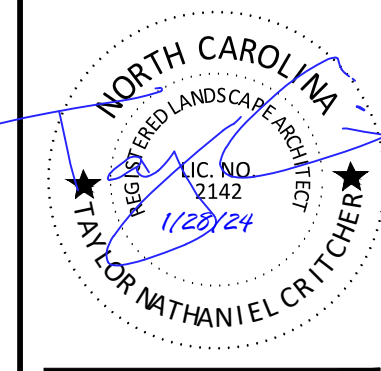
GREENVILLE, SC
864.298.0534

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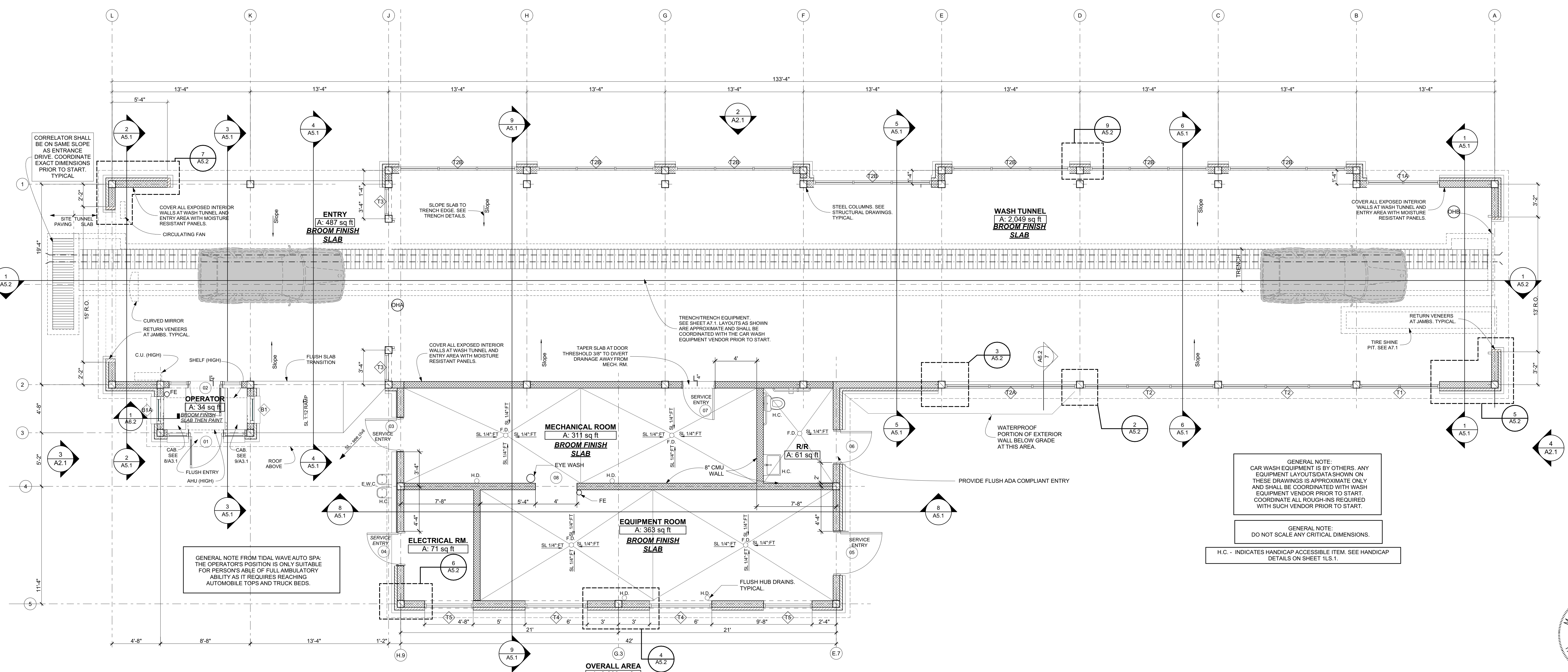
TIDAL WAVE AUTO SPA
ROLESVILLE, NC

SW+ PROJECT: 10772
 DATE: 1/28/24
 DRAWN BY: CPE
 CHECKED BY: TLL

REVISION HISTORY

A	12/22/23	F	11/06/24
B	03/01/24	G	12/20/24
C	09/04/24	H	1/03/25
D	10/01/24		
E	11/01/24		

LANDSCAPE PLAN












GENERAL NOTE:
CAR WASH EQUIPMENT IS BY OTHERS. ANY EQUIPMENT LAYOUTS DATA SHOWN ON THESE DRAWINGS IS APPROXIMATE ONLY AND SHALL BE COORDINATED WITH WASH EQUIPMENT VENDOR PRIOR TO START. COORDINATE ALL ROUGH-INS REQUIRED WITH SUCH VENDOR PRIOR TO START.

GENERAL NOTE:
DO NOT SCALE ANY CRITICAL DIMENSIONS.

H.C. - INDICATES HANDICAP ACCESSIBLE ITEM. SEE HANDICAP DETAILS ON SHEET 1LS.1.

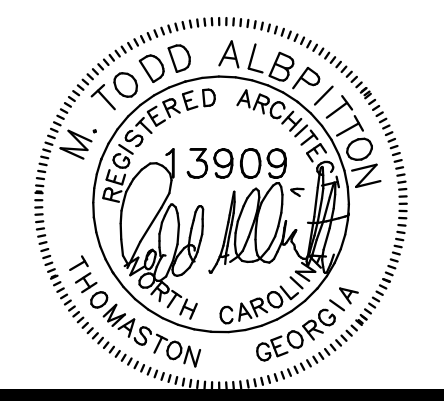
1 OVERALL FLOOR PLAN
SCALE: 1/4" = 1'-0"

 STUCCO COLOR: SW 9102 QUINOA	 PREFINISHED METAL ROOF PANEL COLOR - REGAL BLUE ROOF FLASHING, FASCIA, SOFFIT, GUTTER, AND OVERHANG TRIM TO MATCH ROOF COLOR.	 WATER TABLE: PRECAST CONCRETE - WHITE RANGE
 BUCKS COUNTY LEDGESTONE BY CENTURION	 GLASS: CLEAR	 CHEROKEE BRICK SHELLMANS'S BLUFF GA CLASSIC
 EXPOSED STRUCTURAL STEEL (BEAMS, TRUSSES & COLUMNS) PAINT COLOR: "BLACK" DO NOT PAINT UNDERSIDE OF ANY EXPOSED ROOF PANELS	 STOREFRONT FRAMES, LOUVERS COLOR - BRONZE	 HM DOORS AND FRAMES PAINT COLOR: SW 2735 ROCKWEE

EXTERIOR FINISH SCHEDULE

ROOM FINISH SCHEDULE					
NAME	FLOOR	BASE	WALL	CEILING	REMARKS
ELECTRICAL RM.	BROOM FINISHED SLAB	NONE	EXPOSED CMU	NO CEILING	
ENTRY	BROOM FINISHED SLAB	NONE	COVER WITH M.R. PANELS	M.R. PANELS OVER 2x FURRING OVER FRAMING	
EQUIPMENT ROOM	BROOM FINISHED SLAB	NONE	EXPOSED CMU	NO CEILING	
MECHANICAL ROOM	BROOM FINISHED SLAB	NONE	EXPOSED CMU	NO CEILING	
OPERATOR	RUSTOLEUM 2 PART EPOXY W/ COLOR FLAKES	NONE	PAINTED CMU. SW9102	M.R. PANELS OVER 2x FURRING OVER FRAMING	BROOM FINISH FLOOR SLAB THEN PAINT
OVERALL AREA	BROOM FINISHED SLAB	NONE	EXPOSED CMU	NO CEILING	
R/R	CERAMIC TILE DAL TILE VOLUM 1 0 12X24 INTENSITY PEBBLE	CERAMIC SANITARY COVE BASE DAL TILE VOLUM 1 REVERS ASH	CER. TILE DAL TILE VOLUM 1 12 X24 REVERS ASH. SEE REMARKS.	M.R. PANELS OVER FURRING OVER 2x6 FRAMING @ 12" O.C., 9ft	WALL CERAMIC TILE IS TO BE FULL HEIGHT @ PLUMBING WALL & 6ft @ OTHER 3 WALLS. PROVIDE SEALANT TILE JOINT AT ALL CORNERS. FLOOR TILE TO BE "NON-SLIP".
WASH TUNNEL	BROOM FINISH SLAB	NONE	COVER WITH M.R. PANELS	M.R. PANELS OVER 2x FURRING OVER FRAMING	

NOTE: AUXILIARY BUILDINGS - REFERENCE RELATED PLANS FOR ADDITIONAL INFORMATION.



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THOMASTON GEORGIA 30286

9/26/24

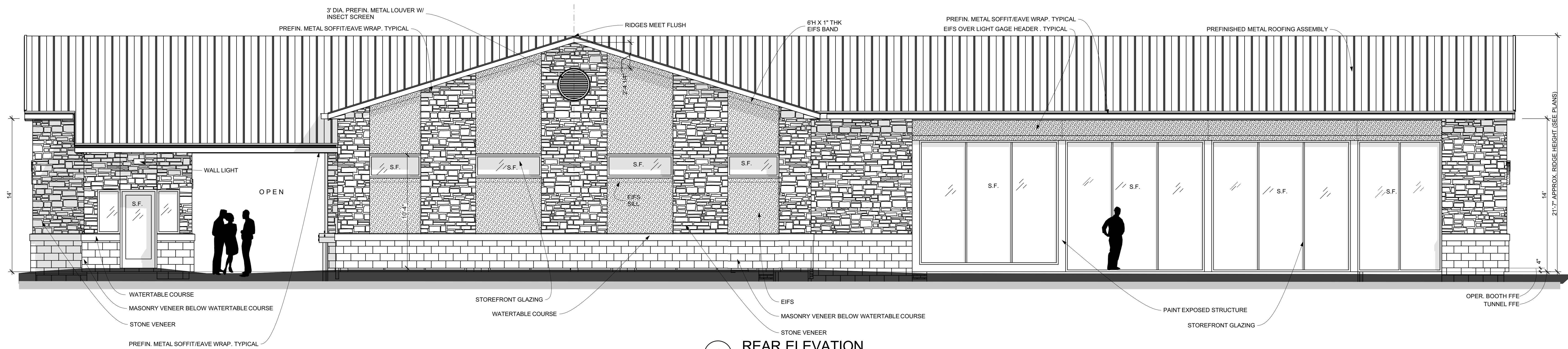
MARK DATE DESCRIPTION

SHEET TITLE
FIRST FLOOR PLAN

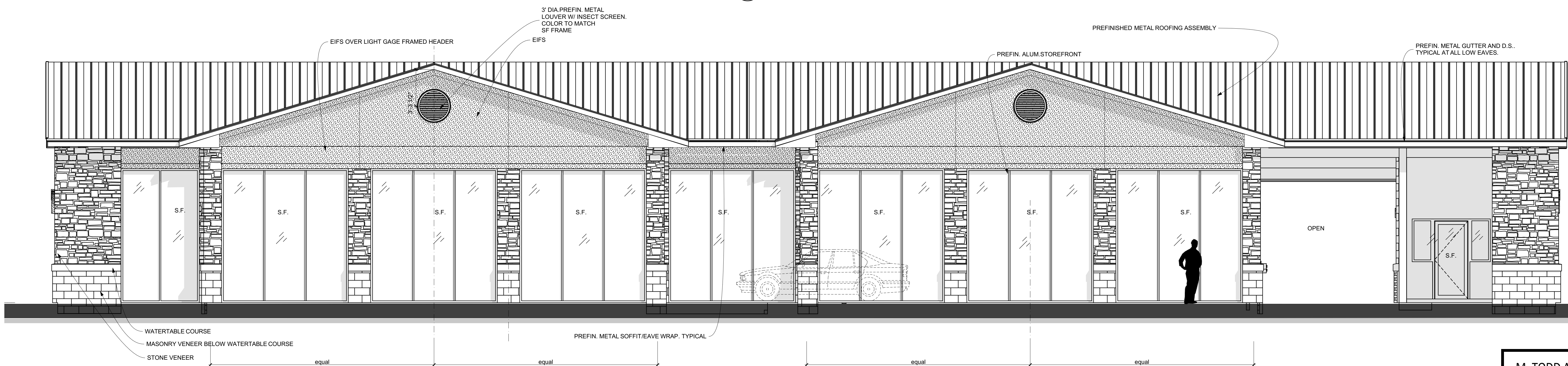
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PROJECT NUMBER: ##
DRAWN BY: Name

A1.1

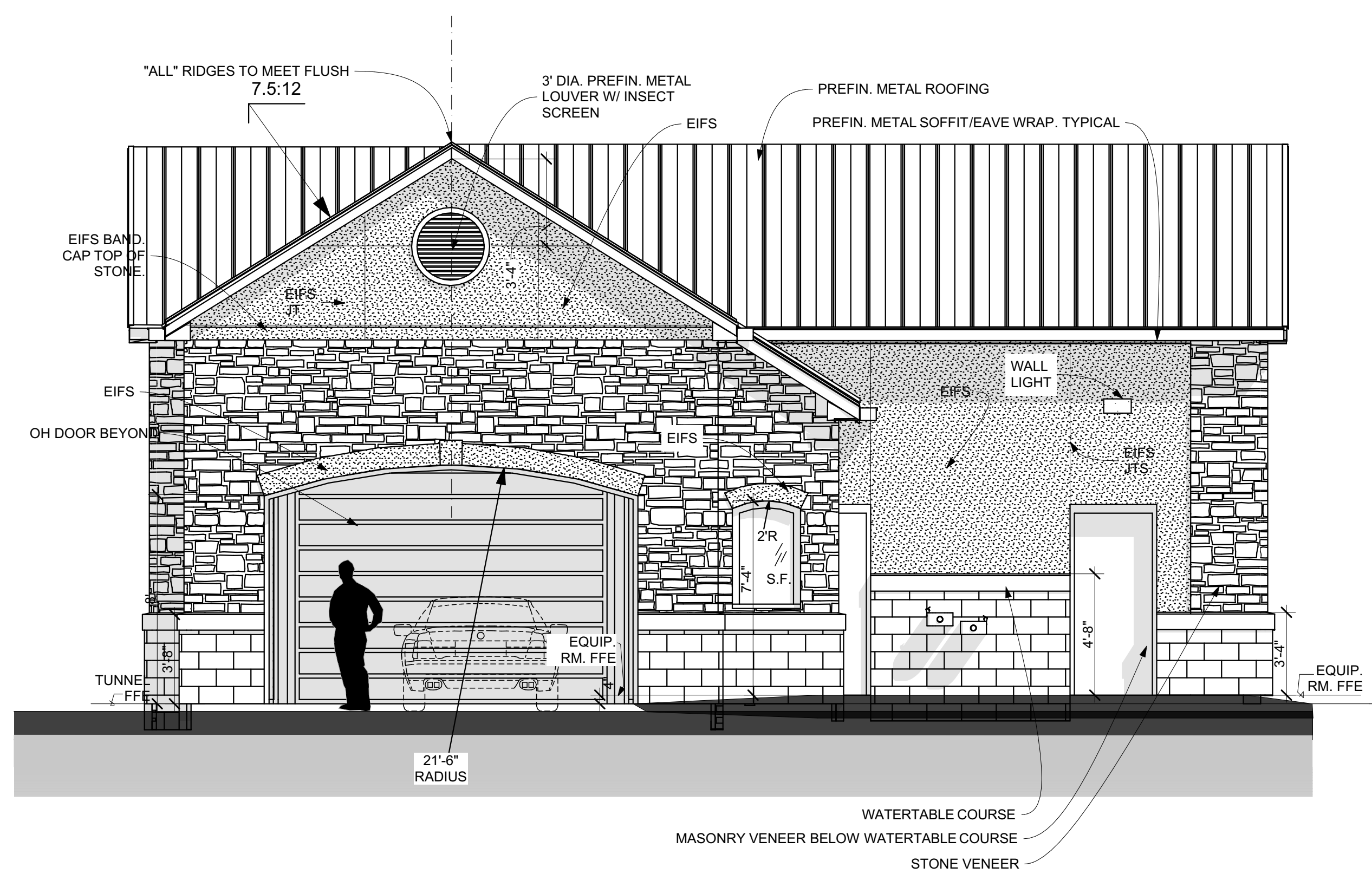




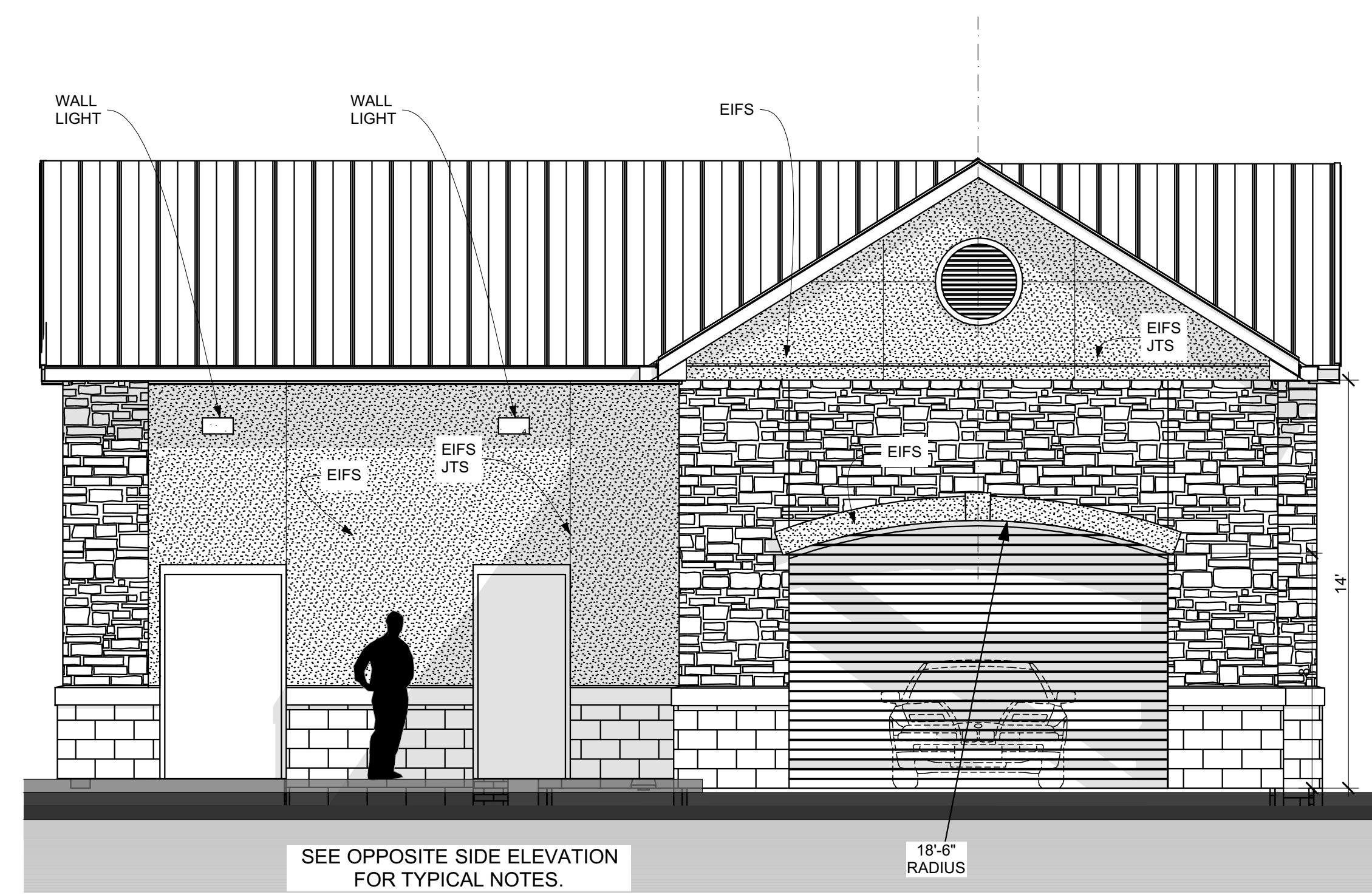
1 REAR ELEVATION
SCALE: 1/4" = 1'-0"



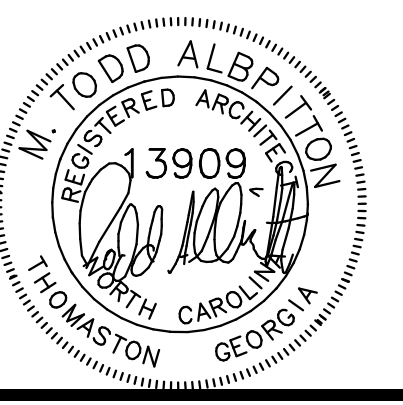
2 FRONT ELEVATION
SCALE: 1/4" = 1'-0"



3 SIDE ELEVATION - ENTRY
SCALE: 1/4" = 1'-0"



4 SIDE ELEVATION - EXIT
SCALE: 1/4" = 1'-0"



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MARK	DATE	DESCRIPTION

SHEET TITLE
EXTERIOR ELEVATION

PROJECT DATE: #####

PROJECT NUMBER: ##

DRAWN BY: Name

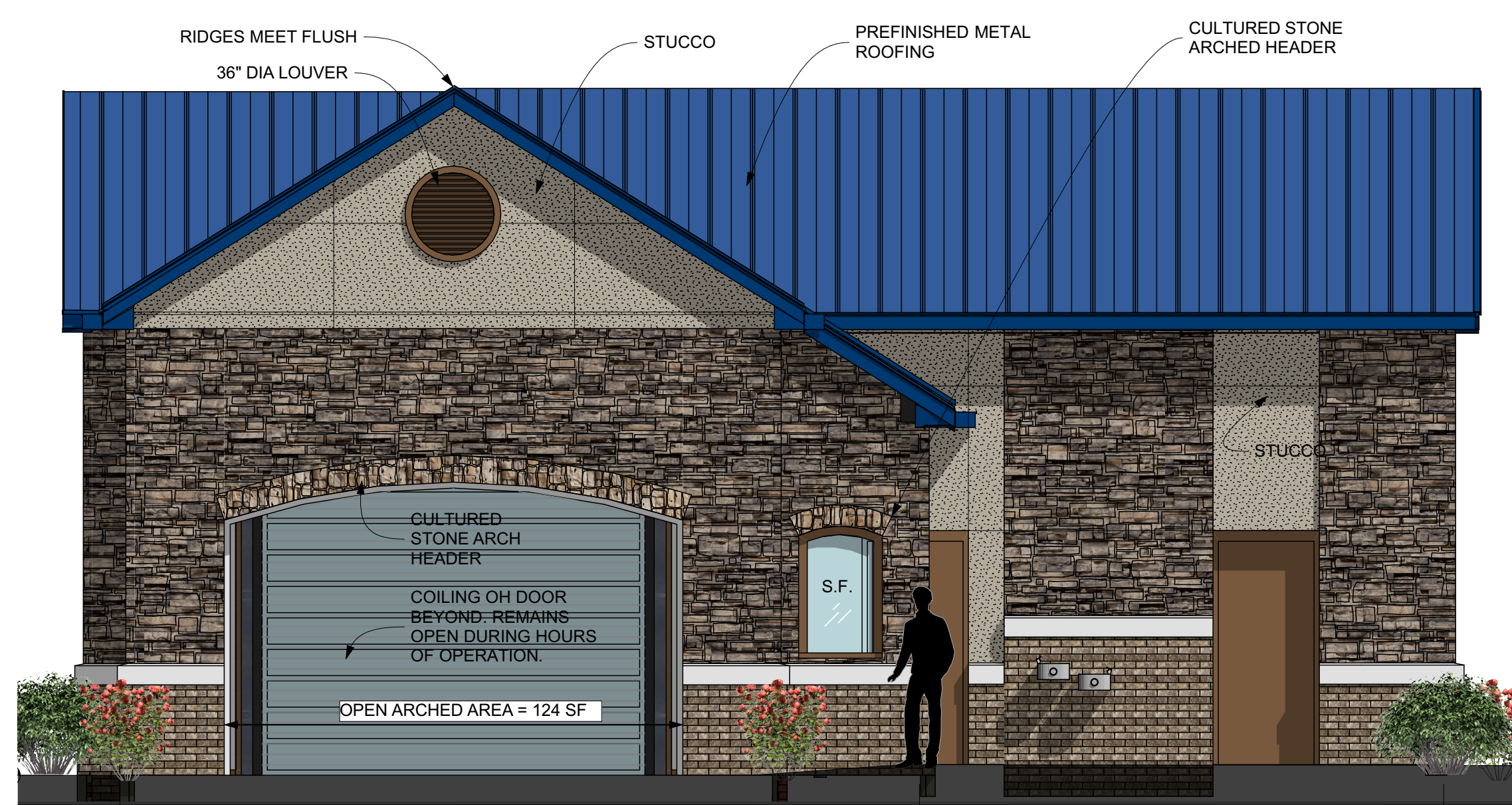
A2.1



1 REAR ELEVATION (NORTHWEST)
SCALE: 1/4" = 1'-0"



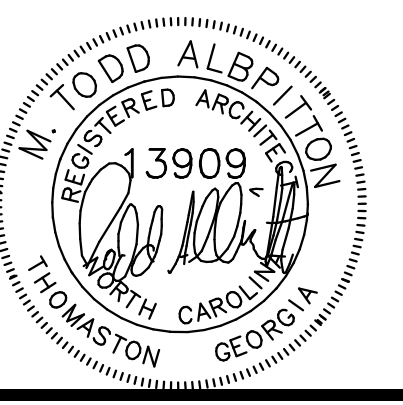
2 FRONT ELEVATION (SOUTHEAST)
SCALE: 1/4" = 1'-0"



3 SIDE ELEVATION - ENTRY (NORTHEAST)
SCALE: 1/4" = 1'-0"



4 HVAC - SECOND FLOOR (SOUTHWEST)
SCALE: 1/4" = 1'-0"



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9/26/24		
MARK	DATE	DESCRIPTION
SHEET TITLE		
COLOR ELEVATIONS		
PROJECT DATE: #####		
PROJECT NUMBER: ##		
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A2.2

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30286



MARK	DATE	DESCRIPTION
	02/26/24	PERMIT COMMENTS
	12/20/23	PERMIT SET

SHEET TITLE
SITE POWER PLAN

PROJECT DATE: 02/26/2024
PROJECT NUMBER: 2023-0208
DRAWN BY: GMF

E1.1
SHEET 2 OF 5

RELEASED FOR CONSTRUCTION

KEY NOTES

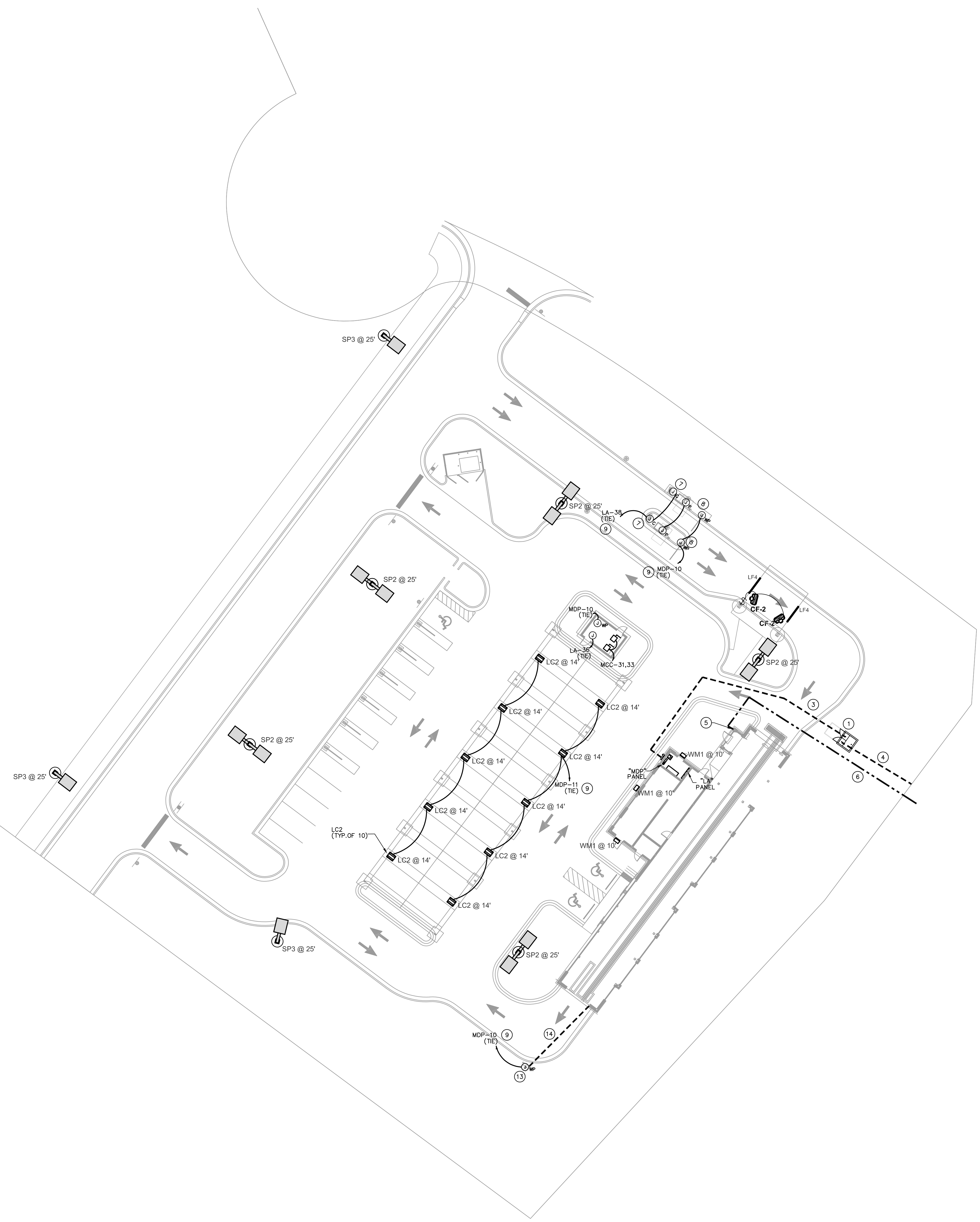
- 1 PROPOSED LOCATION OF PAD MOUNTED UTILITY TRANSFORMER. COORDINATE EXACT LOCATION WITH UTILITY PRIOR TO ROUGH IN.
- 2 PROPOSED LOCATION OF BUILDING METER / SHUNT TRIP BUTTON. REFER TO ELECTRICAL RISER DIAGRAM ON SHEET ES.1 FOR REQUIREMENTS.
- 3 PROPOSED ROUTING OF UNDERGROUND SERVICE LATERAL. COORDINATE EXACT ROUTING AS REQUIRED. REFER TO ELECTRICAL RISER DIAGRAM ON SHEET ES.1 FOR REQUIREMENTS.
- 4 PROPOSED ROUTING OF UNDERGROUND UTILITY PRIMARY. CONTRACTOR TO COORDINATE EXACT LOCATION AND REQUIREMENTS WITH UTILITY PRIOR TO STARTING ANY WORK.
- 5 LOCATION OF COMMUNICATION OUTLET IN OPERATOR'S STATION. REFER TO TELEPHONE DETAIL ON SHEET ES.1 FOR REQUIREMENTS.
- 6 PROPOSED ROUTING OF COMMUNICATION CONDUITS. COORDINATE EXACT ROUTING AS REQUIRED. REFER TO TELEPHONE DETAIL ON SHEET ES.1 FOR REQUIREMENTS.
- 7 PROVIDE ELECTRICAL AND DATA CONNECTION FOR PAY STATION KIOSKS. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH SYSTEM INSTALLER AND CONNECT FOR OPERATION.
- 8 JUNCTION BOX FOR PAY STATION / PREP CANOPY LIGHTING.
- 9 WIRE CIRCUIT THRU TIME CLOCK AND LIGHTING CONTACTOR. REFER TO ELECTRICAL RISER DIAGRAM ON SHEET ES.1 FOR REQUIREMENTS.
- 10 JUNCTION BOX FOR VACUUM ENCLOSURE LIGHTING. PROVIDE MANUAL SWITCH(ES) AT ENCLOSURE ENTRANCE FOR LIGHTING CONTROL.
- 11 JUNCTION BOX FOR VACUUM ENCLOSURE VENDING RECEPTACLE.
- 12 PROVIDE 60 AMP, NEMA 3R ELECTRICAL DISCONNECT FOR VACUUM MOTOR. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH SYSTEM INSTALLER AND CONNECT FOR OPERATION.
- 13 JUNCTION BOX FOR ELECTRICAL CONNECTION TO WAIT & GO LIGHT (30-C). COORDINATE EXACT LOCATION AND REQUIREMENTS WITH CAR WASH VENDOR DRAWINGS PRIOR TO ROUGH IN AND CONNECT FOR OPERATION.
- 14 (2) 3/4" CONDUITS UNDER SLAB FOR WAIT & GO CAMERA AND WAIT & GO LIGHT 120V RELAY. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH CAR WASH VENDOR DRAWINGS PRIOR TO ROUGH IN AND CONNECT FOR OPERATION.
- 15 JUNCTION BOX FOR POWER TO CANOPY FAN.

GENERAL NOTES

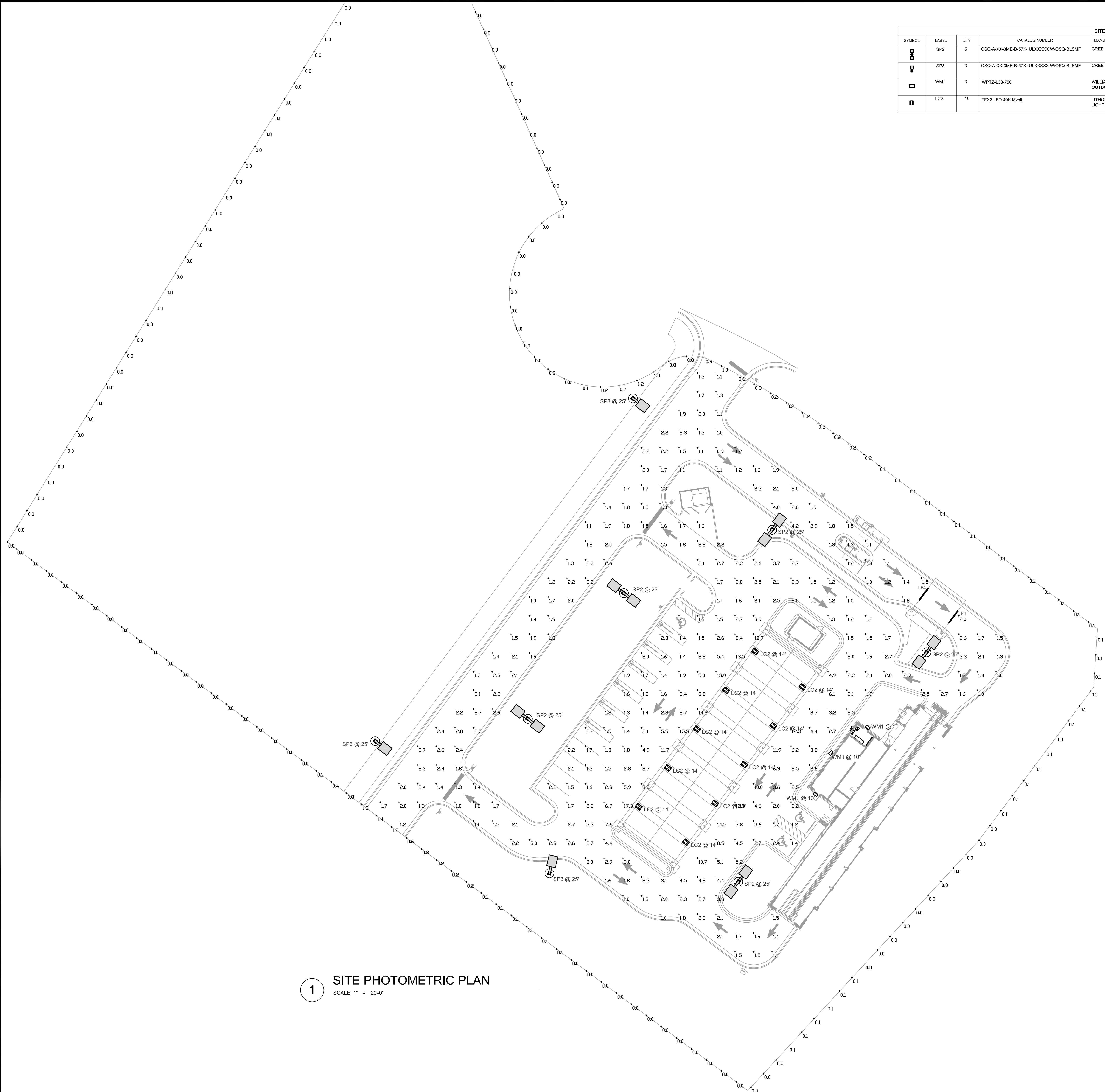
- REFER TO SITE LIGHTING FIXTURE SCHEDULE ON SHEET E1.2 FOR REQUIREMENTS OF FIXTURES.
- REFER TO LIGHTING PLAN ON SHEET E2.1 FOR WALL PACK ELECTRICAL REQUIREMENTS.
- ALL SITE LIGHTING POLES INDICATED ON THIS SHEET WILL BE POWERED, CONTROLLED, AND SERVICED BY THE LOCAL UTILITY COMPANY.

GENERAL MECHANICAL POWER NOTE

REFER TO SHEET ES.1, MECHANICAL EQUIPMENT-ELECTRICAL SCHEDULE, FOR POWER REQUIREMENTS TO ALL MECHANICAL EQUIPMENT INDICATED ON THIS SHEET.



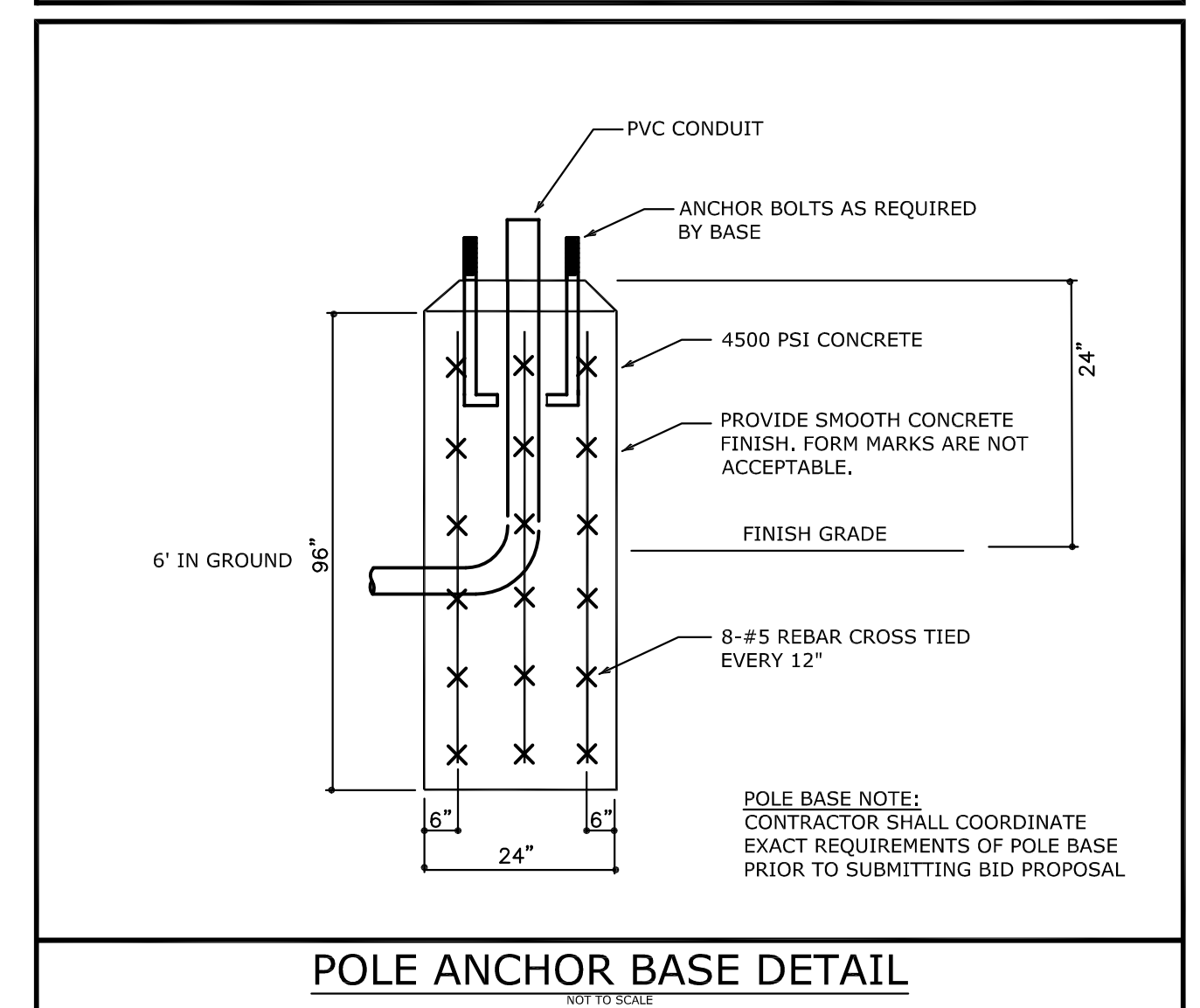
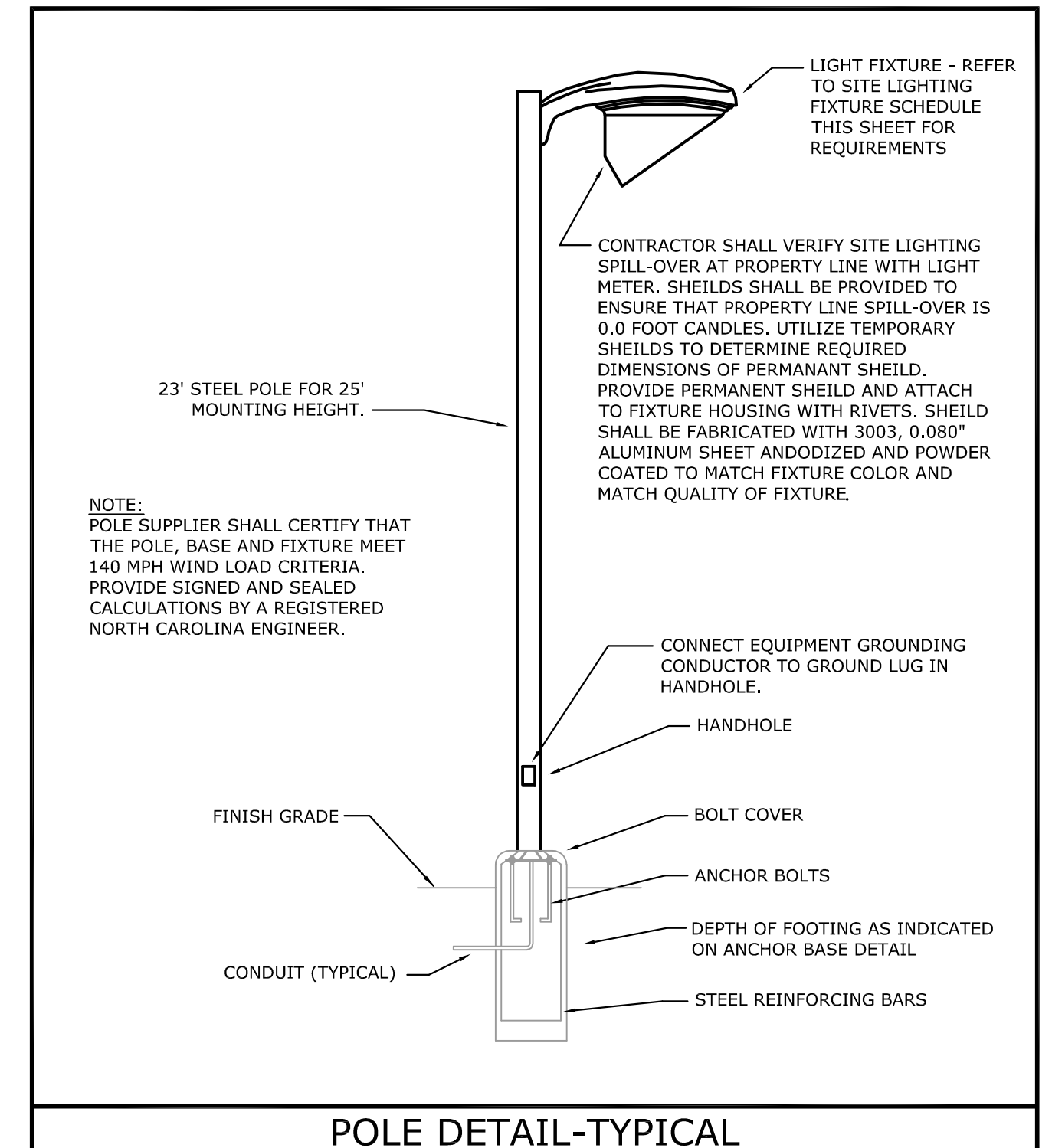
1 SITE POWER PLAN
SCALE: 1" = 20'-0"



1 SITE PHOTOMETRIC PLAN
SCALE: 1" = 20'-0"

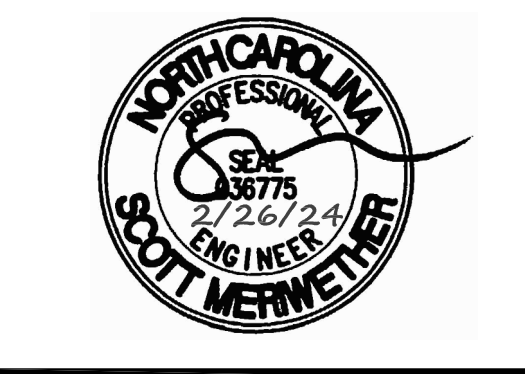
SITE LIGHTING FIXTURE SCHEDULE								
SYMBOL	LABEL	QTY	CATALOG NUMBER	MANUFACTURER	DESCRIPTION	LUMENS PER LAMP	LIGHT LOSS FACTOR	WATTAGE
	SP2	5	OSQ-A-XX-3ME-B-57K-ULXXXXX WOSO-BLSMF	CREE INC	CREE OSQ SERIES AREA LUMINAIRE, TYPE III MEDIUM W/ BACKLIGHT SHIELD, B INPUT POWER DESIGNATOR, 5700K	9196	0.9	172
	SP3	3	OSQ-A-XX-3ME-B-57K-ULXXXXX WOSO-BLSMF	CREE INC	CREE OSQ SERIES AREA LUMINAIRE, TYPE III MEDIUM W/ BACKLIGHT SHIELD, B INPUT POWER DESIGNATOR, 5700K	9196	0.9	86
	WM1	3	WPTZ-L38-750	WILLIAMS OUTDOOR	MEDIUM TRAPEZOID WALLPACK	3829	0.9	41.57
	LC2	10	TFX2 LED 40K Mvort	LITHONIA LIGHTING	TFX2-SERIES FLOODLIGHT, 4000K, 70CRI AND TYPE FL DISTRIBUTION	16358	0.9	94

STATISTICS						
DESCRIPTION	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
PARKING LOT	+	2.8 fc	17.3 fc	0.9 fc	19.2:1	3.1:1
BOUNDARY LINE	+	0.1 fc	1.4 fc	0.0 fc	N/A	N/A



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SHEET TITLE
SITE PHOTOMETRIC PLAN

PROJECT DATE: 02/26/2024
PROJECT NUMBER: 2023-0208
DRAWN BY: GMF

E1.2

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