

WBS: 36249.5101

CONTRACT: DK00461

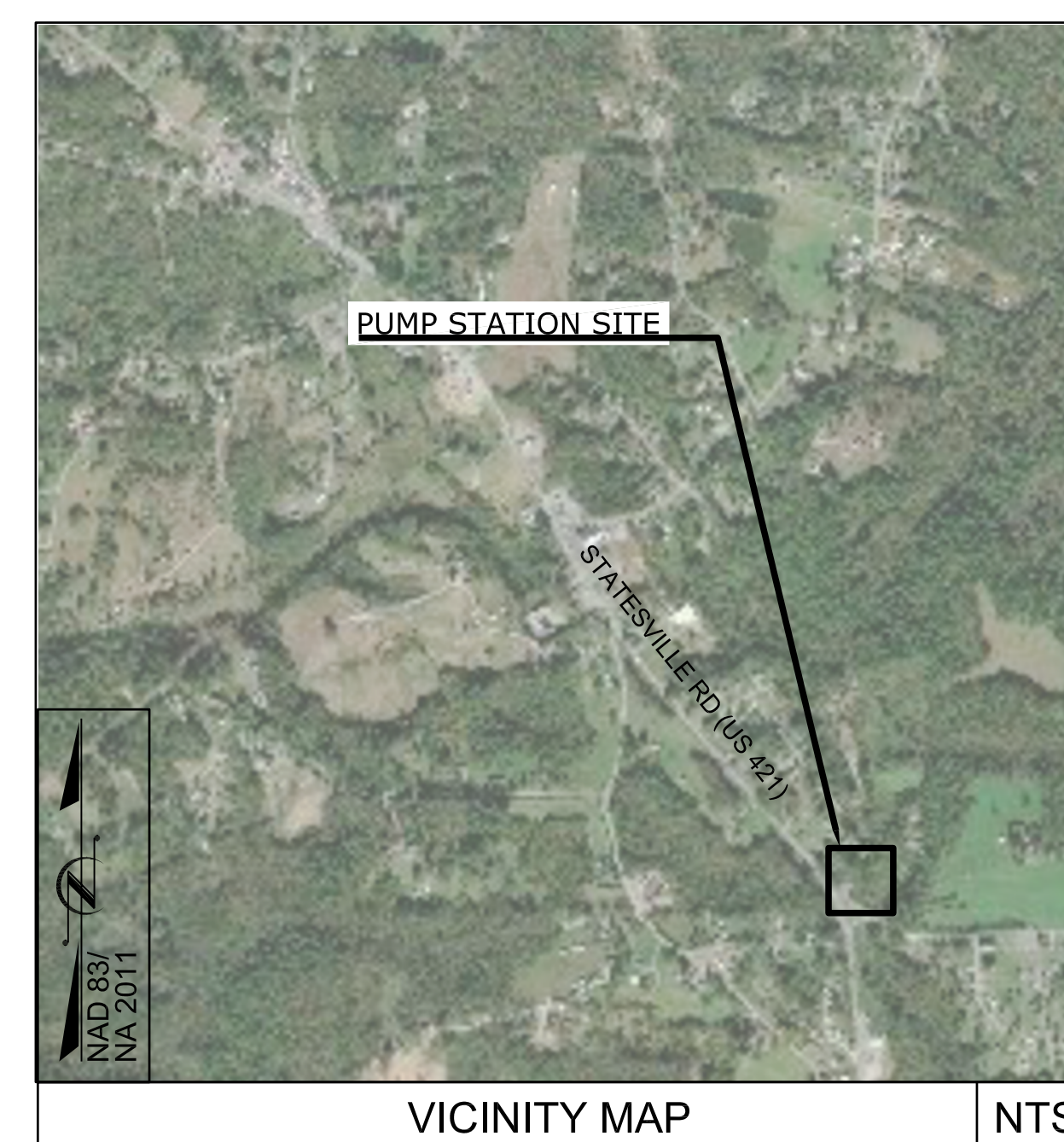
WBS	SHEET NO.
36249.5101	G000

100% PLANS

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SPEEDWAY PUMP STATION UPGRADES WILKES COUNTY

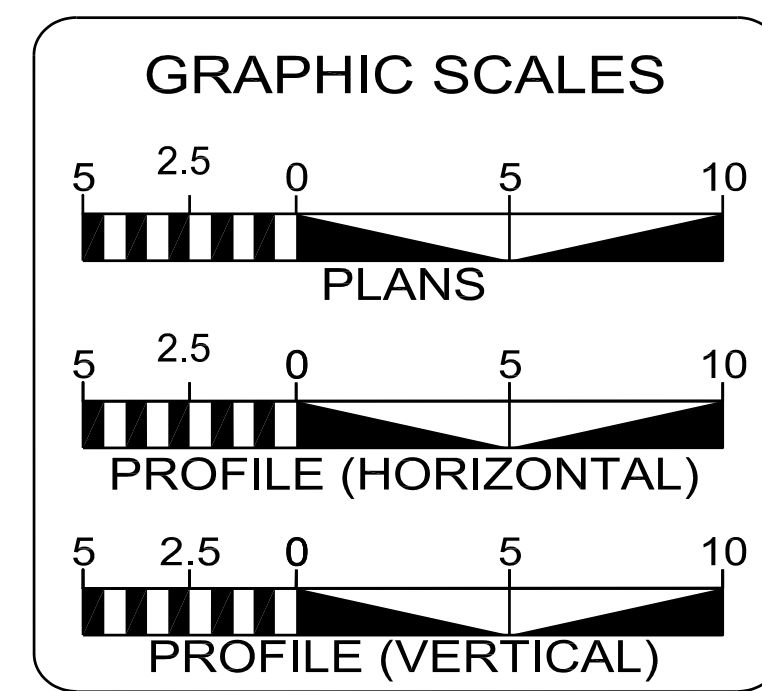
TOWN OF NORTH WILKESBORO
P O BOX 218
NORTH WILKESBORO, NC 28659
PARCEL ID: 2206835



WATER AND SEWER OWNERS ON PROJECT

- (A) WATER LINE - BROADWAY WATER ASSOCIATION
- (B) WATER LINE - TOWN OF NORTH WILKESBORO
- (C) SANITARY SEWER - TOWN OF NORTH WILKESBORO

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UNLESS ALL SIGNATURES COMPLETED**



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G001	NOTES & LEGEND
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C200	SEDIMENT & EROSION CONTROL & GRADING PLAN
C201	PUMP STATION SITE PLAN
C202	UTILITY PROFILES
C203	WETWELL & VALVE VAULT PLAN & SECTION
C204	PUMP STATION EXISTING AND PROPOSED CONDITIONS
C500 - C503	DETAILS

PREPARED IN THE OFFICE OF

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Apex, NC 27502
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FOR

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KIP GEARHART, PE PROJECT ENGINEER
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JIM FORBES PROJECT UTILITY COORDINATOR

SEAL

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







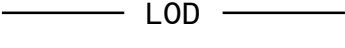







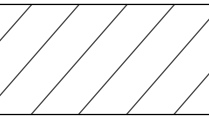















GENERAL NOTES:

- HORIZONTAL DATUM USED IS NC83F AND VERTICAL DATUM USED IS NAVD 88.
- THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2024.
- THE EXISTING SEWER UTILITIES BELONG TO THE TOWN OF NORTH WILKESBORO.
CONTACT: DAVID POORE
PHONE: 336-667-7129 EXT. 3023
- THE EXISTING WATER UTILITIES BELONG TO THE BROADWAY WATER ASSOCIATION.
CONTACT: EDWARD BAUGUESS
EMAIL: EDWARDBAUGUESS@GMAIL.COM
- ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
- THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.
- PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.
- THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, EXISTING UTILITIES, MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.
- MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.
- MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
- ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT, SEE 1500-7, "SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.
- CONTRACTOR SHALL NOT OPERATE ANY VALVES ON THE EXISTING UTILITY SYSTEMS. CONTRACTOR SHALL CONTACT THE UTILITY OWNER TO CONDUCT STRATEGIC OPERATION OF VALVES FOR SERVICE INTERRUPTION IN ORDER TO PERFORM SPECIFIC WORK.
- CONTRACTOR SHALL CONTACT THE UTILITY OWNER PRIOR TO PERFORMING SYSTEM FLUSHING OR BLOW-OFF OPERATIONS.
- IF 10 FEET HORIZONTAL SEPARATION BETWEEN WATER MAIN AND ANY FORCE MAIN, SANITARY SEWER OR SEWER MANHOLE CAN NOT BE ACHIEVED, WATER MAINS SHALL BE LAID AT LEAST 18 INCHES ABOVE AND 12 INCHES HORIZONTALLY AND IN A SEPARATE TRENCH FROM ANY FORCE MAIN SANITARY SEWER, OR SEWER MANHOLE.


SEWER NOTES:

- SEWER INSTALLATION SHALL BE IN ACCORDANCE WITH 10 STATES STANDARDS, NCDEQ, AND TOWN OF NORTH WILKESBORO.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH TOWN OF NORTH WILKESBORO AT LEAST 72 HOURS PRIOR TO BEGINNING WORK.
- CONTRACTOR IS TO SUBMIT SHOP DRAWINGS TO THE ENGINEER ON ALL MATERIALS PRIOR TO PURCHASE.
- CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOUND IN THE FIELD OR ON THE DRAWINGS PRIOR TO BEGINNING OR CONTINUING WORK. ANY DEVIATIONS FROM THE CONSTRUCTION PLANS SHALL BE APPROVED IN WRITING BY TOWN OF NORTH WILKESBORO.
- CONNECTION TO EXISTING SEWER SYSTEM SHALL BE MADE IN THE PRESENCE OF TOWN OF NORTH WILKESBORO INSPECTOR WITH AT LEAST 72 HOURS ADVANCED NOTICE.
- GRAVITY PIPING SHALL BE SDR35 PVC UNLESS OTHERWISE NOTED. SEE PLANS FOR SIZES.
- ALL GRAVITY SEWER PIPING LOCATED WITHIN A ROADWAY, STREAM, OR RAILROAD CROSSINGS SHALL BE RESTRAINED JOINT.
- CONTRACTOR SHALL KEEP AND MAINTAIN AN UPDATED SET OF RED-LINED PLANS OF THE CONSTRUCTION DRAWINGS ON SITE AT ALL TIMES.
- UPON COMPLETION OF CONSTRUCTION OF THE WORK, THE FOLLOWING APPROVAL PROCEDURES MUST BE FOLLOWED:
 - THE CONTRACTOR SHALL SCHEDULE ALL REQUIRED TESTS AND INSPECTIONS WITH TOWN OF NORTH WILKESBORO AT LEAST 72 HOURS IN ADVANCE.
 - THE CONTRACTOR SHALL CONDUCT A PRELIMINARY INSPECTION TO LOCATE ANY DEFECTS AND DETERMINE WHEN THE SEWER LINE IS READY FOR TESTS AND FINAL INSPECTION. PRIOR TO INSPECTION, THE PIPING SHALL BE FLUSHED AND CLEANED OF DEBRIS.
 - THE CONTRACTOR SHALL SUPPLY TO THE OWNER'S ENGINEER AN AS-BUILT SURVEY.

LEGEND:

EXISTING		PROPOSED			
	TBM (TEMPORARY BENCH MARK)		EXISTING SANITARY SEWER		PROPOSED EASEMENT
	ROAD SIGN		EXISTING STORM DRAIN		GRAVITY SEWER
	EXISTING WATER VALVE		EXISTING WATER MAIN		PROPOSED TEMPORARY EASEMENT
	FORCE MAIN ISOLATION VALVE		EXISTING PROPERTY LINE		LIMIT OF DISTURBANCE
	SEWER MANHOLE		TELEPHONE		SILT FENCE
	GUY WIRE		FENCE		FORCE MAIN
	EXISTING GROUND CONTOUR		ASPHALT		WATER MAIN
	EXISTING POWER POLE		TO BE REMOVED/DEMOLISHED		FENCE
	EXISTING LIGHT POLE				FEMA FLOODZONE
	OVERHEAD POWER LINES				SEWER MANHOLE
	UNDERGROUND FIBER OPTICS				WATER METER AND VAULT
	EASEMENT LINES				YARD HYDRANT
	RIGHT-OF-WAY LINES				BACKFLOW PREVENTER
	EXISTING GRADING				RESILIENT WEDGE GATE VALVE

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PROJECT REFERENCE NO. WBS: 36249.5101		SHEET NO. G001	
DESIGNED BY: SD		UTILITY CONSTRUCTION PLANS ONLY	
DRAWN BY: SB			
CHECKED BY: JT			
APPROVED BY: KG			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
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PUMP STATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

100% PLANS

ABBREVIATIONS:

TBM	TEMPORARY BENCH MARK
WV	WATER VALVE
WM	WATER METER
HYD	FIRE HYDRANT
GV	GAS VALVE
LP	LIGHT POLE
PP	POWER POLE
OH	OVERHEAD POWER
UGE	UNDERGROUND ELECTRIC
UGF	UNDERGROUND FIBER OPTICS
FM	FORCE MAIN (SEWER)
FO	FIBER OPTIC
TNW	TOWN OF NORTH WILKESBORO
RCP	REINFORCED CONCRETE PIPE (STORM)
RJ	RESTRAINED JOINT
R/W	RIGHT-OF-WAY
SF	SILT FENCE
EOP	EDGE OF PAVEMENT
MNF	MAG NAIL FOUND
MNS	MAG NAIL SET
ARV	AIR RELEASE VALVE
DIP	DUCTILE IRON PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
PVC	POLYVINYL CHLORIDE
W&S	WESTON & SAMPSON
S.S.	STAINLESS STEEL

PROJECT SPECIFIC NOTES:

- CONTRACTOR'S ATTENTION IS DIRECTED TO THE UTILITY CONSTRUCTION PROJECT SPECIAL PROVISIONS PROVIDED ALONG WITH THIS PLAN SET.
- NC ONE CALL SHALL BE CONTACTED 48 HOURS PRIOR TO ANY EXCAVATION. LOCATIONS OF EXISTING UTILITIES BY NC ONE CALL ARE VALID ONLY FOR 10 DAYS AFTER THE DATE OF LOCATION.
- IF ASBESTOS CEMENT PIPE IS ENCOUNTERED, REMOVAL OF THE ASBESTOS CEMENT PIPE SHALL ONLY BE DONE BY A LICENSED GENERAL CONTRACTOR FOR ASBESTOS ABATEMENT. CONTRACTOR SHALL CARRY OUT THE PIPE REMOVAL AND DISPOSAL OF ALL ASBESTOS MATERIAL IN ACCORDANCE WITH THE EPA AND OSHA REGULATIONS, AND ANY APPLICABLE STATE AND LOCAL GOVERNMENT REGULATIONS. REMOVAL OF ASBESTOS CEMENT PIPE SHALL BE IN FULL PIPE SECTIONS OR BROKEN INTO PIECES, UNDER NO CIRCUMSTANCES SHALL THE ASBESTOS CEMENT PIPE BE SAW CUT OR GRINDED INTO FRIABLE PIECES. ALL BROKEN PIECES SHALL BE PLACED INTO WASTE DISPOSAL POLYETHYLENE BAGS, SEALED, LABELED, AND TRANSPORTED TO A PREDESIGNATED DISPOSAL SITE / LANDFILL FOR PROPER DISPOSAL.
- WATER LINE 4-INCH AND LARGER SHALL BE EITHER AWWA C-900 PVC DR-18, OR DUCTILE IRON PRESSURE CLASS 350 OR MINIMUM THICKNESS CLASS 50. DUCTILE IRON PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C151/A21.51 AND BE CEMENT-MORTAR LINED WITH AN ASPHALTIC COATING IN ACCORDANCE WITH AWWA C-104.
- 1-1/2-INCH WATER LINE SHALL BE PVC CLASS 200 SDR-21 CONFORMING TO ASTM D1784 AND ASTM D2241 WITH PUSH-ON JOINTS. FITTINGS SHALL BE SCHEDULE 80 PVC WITH SOLVENT WELD JOINTS AND BEAR THE NSF SEAL.
- PVC PIPE MANUFACTURED MORE THAN 12 MONTHS BEFORE INSTALLATION DATE WILL NOT BE ACCEPTED.
- POLYETHYLENE ENCASEMENT SHALL BE APPLIED TO ALL UNDERGROUND DUCTILE IRON PIPE AND FITTINGS. MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5.
- ALL PVC PIPE INSTALLED ON THE PROJECT SHALL BE INSTALLED WITH A CONTINUOUS TRACER WIRE FOR LOCATION PURPOSES BY MEANS OF AN ELECTRONIC TRACER.
- ALL WATER LINES SHALL BE INSTALLED WITH A THREE-INCH (3") WIDE METALLIC DETECTABLE TAPE. THE TAPE SHALL BE CLEARLY MARKED "WATER" AND SHALL BE CENTERED OVER THE WATER LINE TWELVE INCHES (12") BELOW THE FINISHED GRADE. ANY BREAKS IN THE TAPE SHALL BE REPAIRED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ALL WATER LINE FITTINGS 4-INCH AND LARGER SHALL BE DUCTILE IRON PRESSURE CLASS 350 WITH MECHANICAL JOINTS OR RESTRAINED JOINT CONSTRUCTION.
- ALL PROPOSED FITTINGS (BENDS, TEES, CROSSES, REDUCERS, PLUGS, WTC.) SHALL BE ADEQUATELY RESTRAINED BY THE USE OF RESTRAINED JOINT CONSTRUCTION. INSTALL RESTRAINED JOINT PIPING AS DETAILED ON THESE DRAWINGS, OR AS DIRECTED BY THE RESIDENT ENGINEER. PROVIDE RETAINER GLANDS FOR USE WITH MECHANICAL JOINT PIPE AND FITTINGS.
- ALL PROPOSED WATER LINE AND SANITARY SEWER PIPE SHALL BE INSTALLED WITH A MINIMUM OF 3 FEET OF COVER, UNLESS OTHERWISE SHOWN ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.
- ALL PROPOSED WATER LINE AND SANITARY SEWER PIPE SHALL BE DUCTILE IRON PIPE WHERE INSTALLED WITH LESS THAN 3 FEET OF COVER; OR GREATER THAN 5 FEET OF COVER; OR LESS THAN 2 FEET OF SEPARATION FROM A BOX CULVERT.
- WATER VALVES 12-INCH AND SMALLER SHALL BE RESILIENT-SEATED GATE VALVES. VALVES LARGER THAN 12-INCH SHALL BE RUBBER SEATED BUTTERFLY VALVES. VALVE BOXES SHALL BE CAST IRON WITH TRAFFIC BEARING CAPACITY.
- CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND ALL PROPERTY OWNERS TO DETERMINE THE LOCATION OF ALL EXISTING WATER SERVICE LINES AND SEWER SERVICE LINES BEFORE STARTING CONSTRUCTION.
- EXISTING WATER METERS TO REMAIN SHALL BE RECONNECTED TO THE EXISTING / PROPOSED WATER LINE WITH NEW WATER SERVICE LINES.
- NEW AND RELOCATED WATER METERS SHALL BE CONNECTED TO THE EXISTING / PROPOSED WATER LINE WITH NEW WATER SERVICE LINES.
- WATER METER BOXES SHALL NOT BE INSTALLED WITHIN DRIVEWAYS, SIDEWALKS, OR OTHER PAVED AREAS SUBJECT TO VEHICULAR TRAFFIC UNLESS APPROVED OTHERWISE BY GUC. WATER METER BOX SHALL NOT BE INSTALLED WITHIN A DITCH SLOPE AND SHALL BE INSTALLED A MINIMUM OF 2.5 FEET BEHIND THE TOP OF THE DITCH BANK.
- ALL HYDRANTS, PROPOSED OR RELOCATED, IN NO CASE SHALL ANY PORTION BE CLOSER THAN 5 FEET TO THE BACK OF THE CURB OR 2.5 FEET TO THE BACKSLOPE OF A ROADSIDE DITCH.
- SANITARY GRAVITY SEWER PIPE SHALL BE SDR35 PVC.
- MANHOLES SHALL BE PRECAST AND HAVE A MONOLITHIC BOTTOM SECTION, UNLESS OTHERWISE APPROVED BY GUC.
- MANHOLES WITH A DEPTH GREATER THAN 6 FEET SHALL HAVE ECCENTRIC CONES, MANHOLES WITH A DEPTH OF 6 FEET OR LESS SHALL HAVE A CONCENTRIC CONE.
- MANHOLES CONSTRUCTED IN AREAS SUBJECT TO FLOODING SHALL HAVE THE MANHOLE TOP SET TO TWO FEET (2') ABOVE THE ELEVATION OF THE ONE HUNDRED (100) YEAR FLOOD ELEVATION, OR THE MANHOLE RING AND COVER SHALL BE WATERTIGHT AND A VENT INSTALLED THAT EXTENDS A MINIMUM OF TWO FEET (2') ABOVE THE ELEVATION OF THE ONE HUNDRED (100) YEAR FLOOD ELEVATION.

PROPOSED CONSTRUCTION SEQUENCING:

THE FOLLOWING PROPOSED SEQUENCE OF CONSTRUCTION CONSIDERS THAT THE EXISTING PUMP STATION WILL BE FULLY OPERATIONAL THROUGH ITEM #12. ONLY AFTER THE NEW PUMP STATION AND ELECTRICAL SYSTEM HAVE BEEN INSTALLED, TESTED, ACCEPTED, AND PLACED INTO OPERATION, SHALL THE EXISTING PUMP STATION, EXISTING PIPING, AND ASSOCIATED APPURTENANCES BE ABANDONED OR DEMOLISHED.

IF CONTRACTOR CHOOSES TO DEVIATE FROM THIS PROPOSED SEQUENCE OF CONSTRUCTION, SUCH AS THROUGH BYPASS PUMPING, CONTRACTOR SHALL SUBMIT A COMPREHENSIVE PLAN TO BE REVIEWED AND APPROVED BY ENGINEER. BYPASS PUMPING OR OTHER TEMPORARY MEASURES SHALL BE CONSIDERED INCIDENTAL TO THE WORK AND WILL BE AT NO ADDITIONAL COST TO THE OWNER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL WASTEWATER FLOW IS PROPERLY HANDLED THROUGHOUT THE DURATION OF CONSTRUCTION WITH MINIMAL INTERRUPTIONS TO SERVICE, WHICH SHALL BE COORDINATED WITH OWNER AND ENGINEER WITH AMPLE ADVANCED NOTICE, IF/WHEN NECESSARY. THE EXISTING PUMP STATION MAY BE DOWN FOR A MAXIMUM OF 8 HOURS AT A TIME TO MAKE CONNECTIONS.

- SURVEY/STAKE ALL PROPERTY LINES, EASEMENTS, AND RIGHTS-OF-WAY.
- SECURE THE CONSTRUCTION SITE WITH TEMPORARY CHAIN LINK FENCE. SELECTIVELY DEMO FENCING AND EXISTING GRAVEL. INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES.
- CLEAR AND GRUB AS NECESSARY.
- SELECTIVELY GRADE SITE WHERE POSSIBLE.
- INSTALL NEW MANHOLES AND GRAVITY SEWER BETWEEN DOGHOUSE MH 1 AND MH 2, AND PLUG THE DOGHOUSE MH 1 INVERT TO MH 2.
- RELOCATE THE EXISTING ELECTRICAL SERVICE SYSTEM TO A TEMPORARY LOCATION AND INSTALL ALL TEMPORARY CONDUIT, AND THEN CONNECT TO THE EXISTING PUMP STATION.
- DEMOLISH ANY REMAINING COMPONENTS OF THE EXISTING ELECTRICAL SERVICE SYSTEM AND RELATED CONDUIT.
- ADDITIONAL GRADING AS REQUIRED.

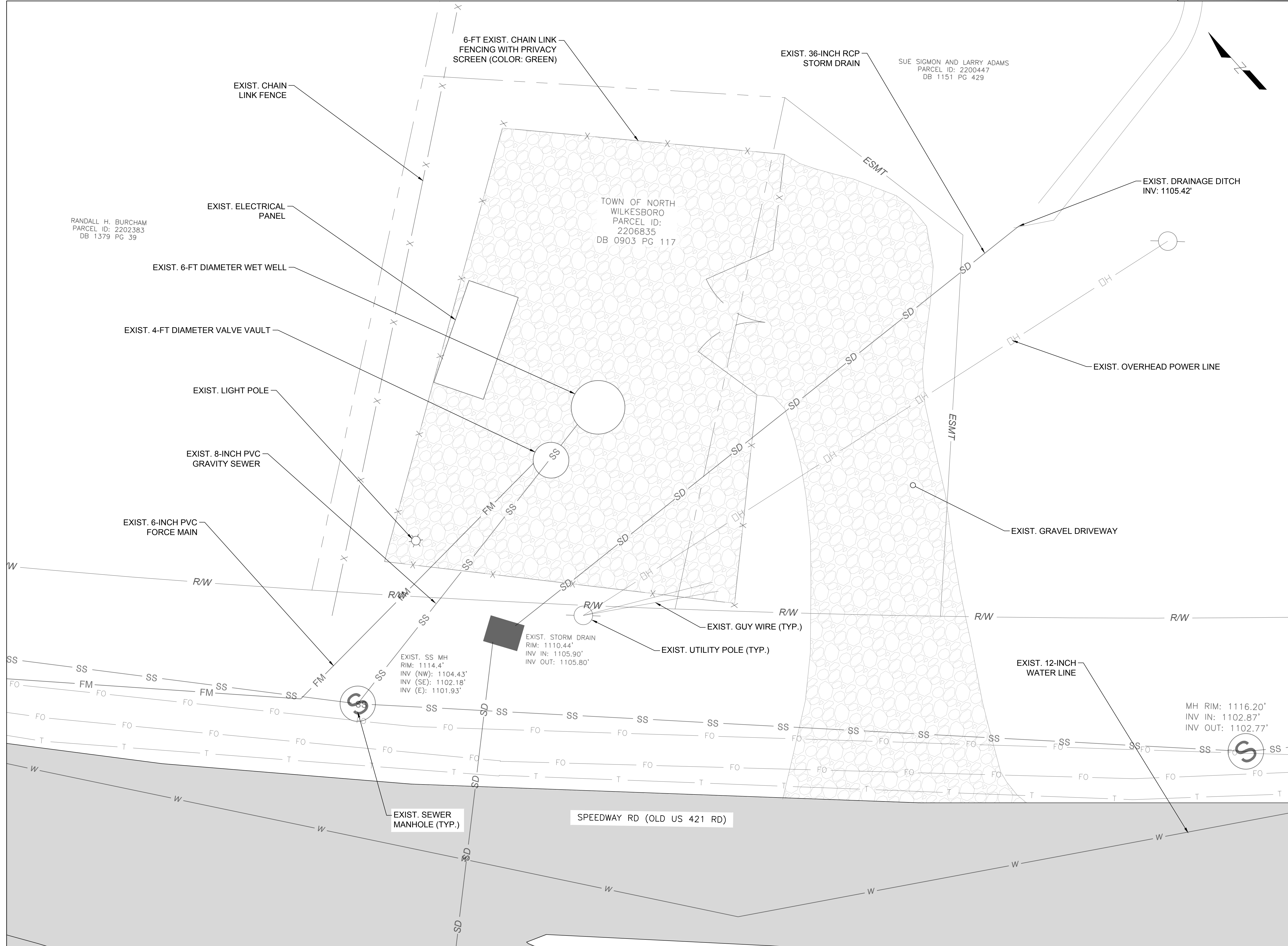
- INSTALL IN NO PARTICULAR ORDER:
 - THE WETWELL AND VALVE VAULT, INCLUDING ANY REQUIRED COATINGS.
 - GRAVITY SEWER FROM NEW WETWELL TO MH 2.
 - PUMPS, GUIDE RAILS, HATCHES, AND OTHER PUMP STATION APPURTENANCES.
 - EQUIPMENT PAD FOR NEW, PERMANENT, ELECTRICAL SERVICE SYSTEM AND PANELS.
- INSTALL NEW, PERMANENT ELECTRICAL SERVICE SYSTEM, ALL CONDUIT, AND CONNECT TO THE NEW PUMP STATION SYSTEM.
- INSTALL IN NO PARTICULAR ORDER:
 - FORCE MAIN PIPING AND VALVES. PRESSURE TEST ALL FORCE MAIN PIPING, INCLUDING RISER PIPE INSIDE OF WETWELL.
 - WATER SERVICE LINE, WITH BACKFLOW PREVENTER, YARD HYDRANT, AND EQUIPMENT PAD.
- TEST NEW PUMP STATION, CONNECT TO EXISTING 6-INCH FORCE MAIN, AND PLACE NEW PUMP STATION IN OPERATION.
- PERFORM IN NO PARTICULAR ORDER:
 - DEMOLISH TEMPORARY ELECTRICAL SERVICE SYSTEM AND ALL TEMPORARY CONDUIT.
 - DEMOLISH EXISTING 6-INCH PVC FORCE MAIN.
 - ABANDON THE EXISTING GRAVITY SEWER FROM DOGHOUSE MH 1 TO THE EXISTING WET WELL.
 - PERMANENTLY SEAL THE INVERT WITHIN DOGHOUSE MH 1 WHICH FLOWS TO THE EXISTING WET WELL THAT IS TO BE DEMOLISHED.
 - DEMOLISH EXISTING WET WELL, VALVE VAULT, AND ALL PUMPS, PIPING, AND APPURTENANCES.
- PERFORM FINAL SITE GRADING.
- INSTALL FINAL GRAVEL PAVEMENT.
- INSTALL NEW PERMANENT FENCING AND GATE.

PROJECT REFERENCE NO.	WBS: 36249.5101	SHEET NO.	C100
DESIGNED BY:	SD		
DRAWN BY:	SB		
CHECKED BY:	JT		
APPROVED BY:	KG		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			

PUMP STATION

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RANDALL H. BURCHAM
 PARCEL ID: 2202383
 DB 1379 PG 39

TOWN OF NORTH WILKESBORO
 PARCEL ID: 2206835
 DB 0903 PG 117

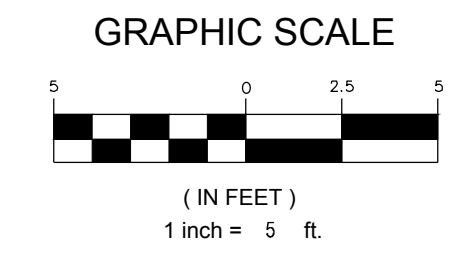
SUE SIGMON AND LARRY ADAMS
 PARCEL ID: 2200447
 DB 1151 PG 429

EXIST. SS MH
 RIM: 1114.4'
 INV (NW): 1104.43'
 INV (SE): 1102.18'
 INV (E): 1101.93'

EXIST. STORM DRAIN
 RIM: 1110.44'
 INV IN: 1105.90'
 INV OUT: 1105.80'

MH RIM: 1116.20'
 INV IN: 1102.87'
 INV OUT: 1102.77'

EXISTING SITE CONDITIONS
 1" = 5'



PROJECT REFERENCE NO.	WBS: 36249.5101	SHEET NO.	C101
DESIGNED BY:	SD		
DRAWN BY:	SB		
CHECKED BY:	JT		
APPROVED BY:	KG		
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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151			
UTILITY CONSTRUCTION PLANS ONLY			

- NOTES:**
- EXISTING PUMP STATION AND ASSOCIATED EQUIPMENT TO BE DEMOLISHED ONCE NEW PUMP STATION IS ACCEPTED AND FULLY OPERATIONAL.
 - REFERENCE PROPOSED SEQUENCE OF CONSTRUCTION ON SHEET G001 FOR ADDITIONAL GUIDANCE ON DEMOLITION.

SUE SIGMON AND LARRY ADAMS
 PARCEL ID: 2200447
 DB 1151 PG 429

EXIST. CHAIN LINK FENCE TO BE DEMOLISHED

EXIST. CHAIN LINK FENCE TO BE DEMOLISHED (SEE NOTE 2)

REMOVE EXISTING GRAVEL AS DIRECTED BY THE ENGINEER

EXIST. GATE TO BE DEMOLISHED (SEE NOTE 2)

TOWN OF NORTH WILKESBORO
 PARCEL ID: 2206835
 DB 0903 PG 117

RANDALL H. BURCHAM
 PARCEL ID: 2202383
 DB 1379 PG 39

EXIST. ELECTRICAL PANEL, WET WELL, AND VALVE VAULT TO BE DEMOLISHED (SEE NOTE 1)

EXIST. STORM DRAIN TO REMAIN

EXIST. LIGHT POLE TO REMAIN

ACCEPTABLE FOR CONTRACTOR TO LEAVE EXISTING GRAVEL DRIVE IN PLACE TO BE UTILIZED AS A CONSTRUCTION ENTRANCE.

EXIST. 8-INCH PVC GRAVITY SEWER TO BE ABANDONED (SEE NOTE 1)

EXIST. 6-INCH PVC FORCE MAIN TO BE DEMOLISHED (SEE NOTE 1)

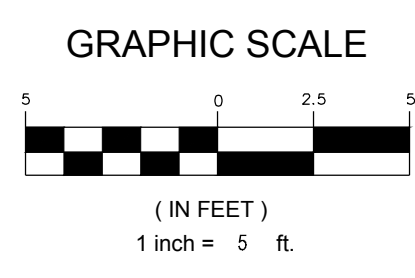
EXIST. STORM DRAIN
 RIM: 1110.44'
 INV IN: 1105.90'
 INV OUT: 1105.80'

EXISTING UTILITY POLE AND OVERHEAD POWER LINE TO REMAIN

EXISTING 2' X 3' CONCRETE BOX CULVERT WILL BE REMOVED UNDER SEPARATE CONTRACT

PERMANENTLY SEAL THE INVERT WITHIN THE DOGHOUSE MH (EXIST INV OUT) WHICH FLOWS TO THE EXISTING PUMP STATION THAT IS TO BE DEMOLISHED AT THE CONCLUSION OF THE WORK.

SPEEDWAY RD (OLD US 421 RD)



DEMOLITION PLAN
 1" = 5'

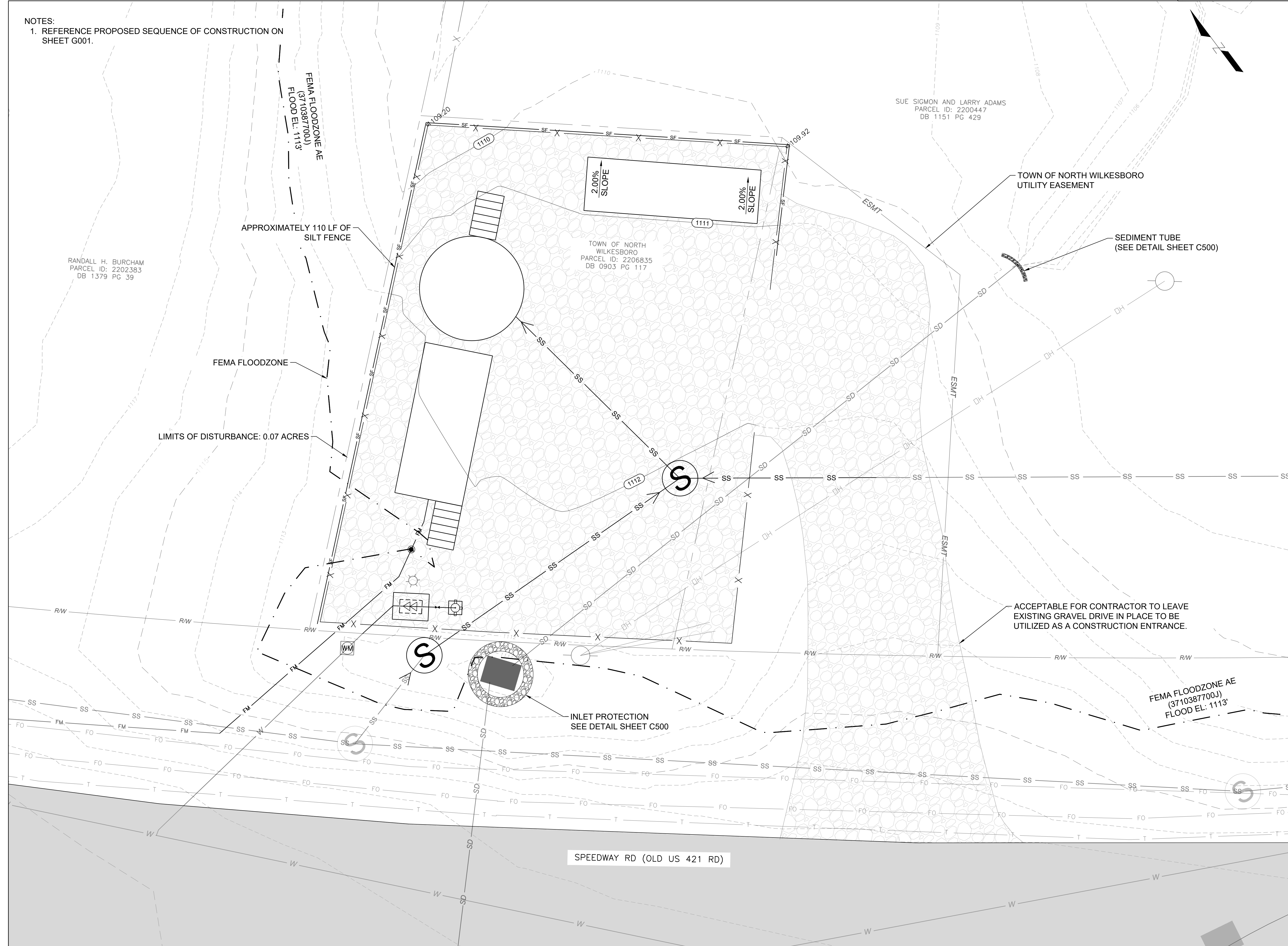
PROJECT REFERENCE NO. WBS: 36249.5101	SHEET NO. C200
DESIGNED BY: SD	
DRAWN BY: SB	
CHECKED BY: JT	
APPROVED BY: KG	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

PUMP STATION

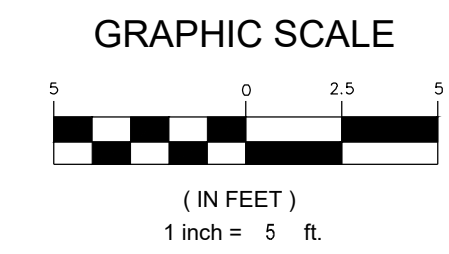
**DOCUMENT NOT CONSIDERED FINAL
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100% PLANS

NOTES:
 1. REFERENCE PROPOSED SEQUENCE OF CONSTRUCTION ON SHEET G001.



SEDIMENT & EROSION CONTROL & GRADING PLAN
 1" = 5'



- NOTES:
1. REFERENCE PROPOSED SEQUENCE OF CONSTRUCTION ON SHEET G001.
 2. IF 10 FEET HORIZONTAL SEPARATION BETWEEN WATER MAIN AND ANY FORCE MAIN, SANITARY SEWER, OR SEWER MANHOLE CAN NOT BE ACHIEVED, WATER MAINS SHALL BE LAID AT LEAST 18 INCHES ABOVE AND 12 INCHES HORIZONTALLY AND IN A SEPARATE TRENCH FROM ANY FORCE MAIN SANITARY SEWER, OR SEWER MANHOLE.
 3. IF REQUIRED TO COMPLETE THE WORK DEPICTED ON THESE PLANS, ENGINEERED SHORING SYSTEMS SHALL BE SUBMITTED FOR REVIEW AND ARE CONSIDERED INCIDENTAL TO THE WORK.
 4. OPEN CUT TO REVEAL THE NEXT TWO BELL JOINTS DOWNSTREAM OF THE TIE IN LOCATION TO VERIFY WHETHER THE EXISTING 6-INCH FORCE MAIN IS RESTRAINED. NOTIFY ENGINEER ONCE JOINTS ARE UNCOVERED. IF NOT RESTRAINED, INSTALL BELL JOINT RESTRAINT(S).

Weston & Sampson
 WSE of North Carolina, PC
 2052 Energy Drive
 Phone: 919.297.0220

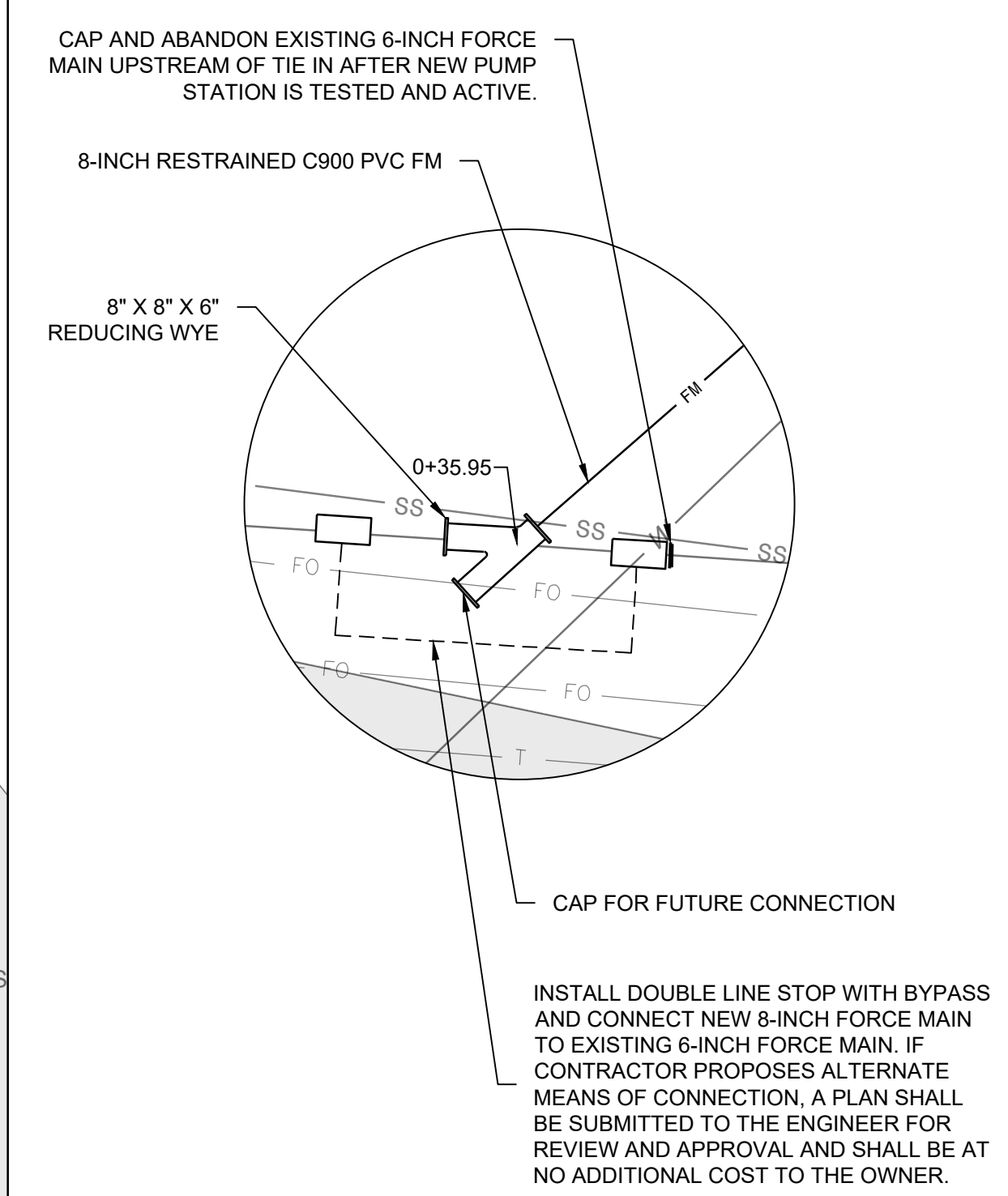
NC License: C-4647
 Apex, NC 27502
 westonandsampson.com

PROJECT REFERENCE NO. WBS: 36249.5101	SHEET NO. C201
DESIGNED BY: SD	
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APPROVED BY: KG	
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UTILITY CONSTRUCTION PLANS ONLY	

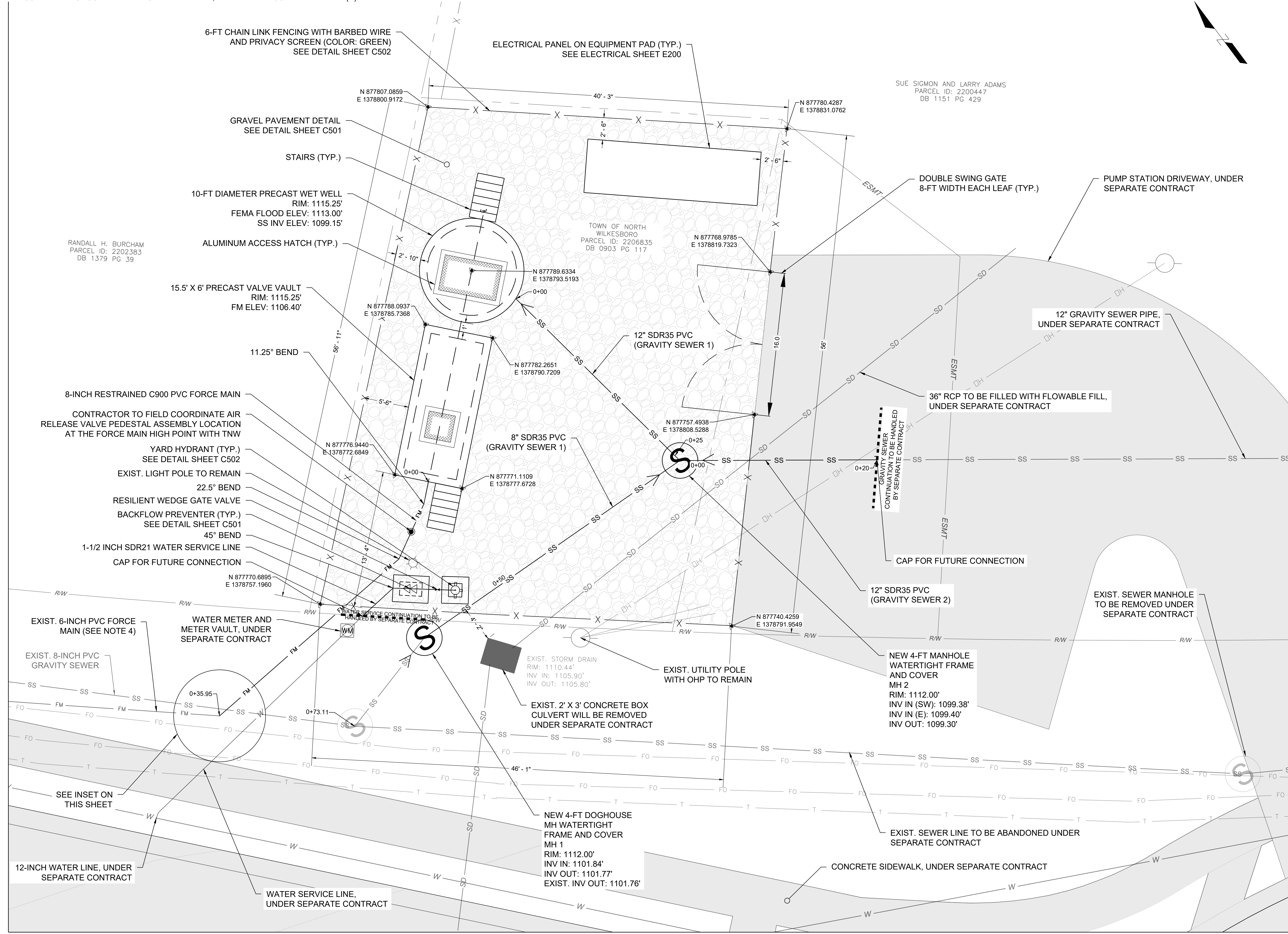
PUMP STATION

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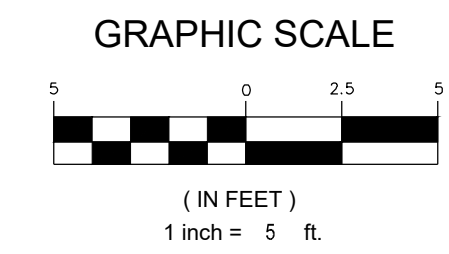
100% PLANS



CONNECTION INSET DETAIL
1" = 5'



PUMP STATION SITE PLAN
1" = 5'

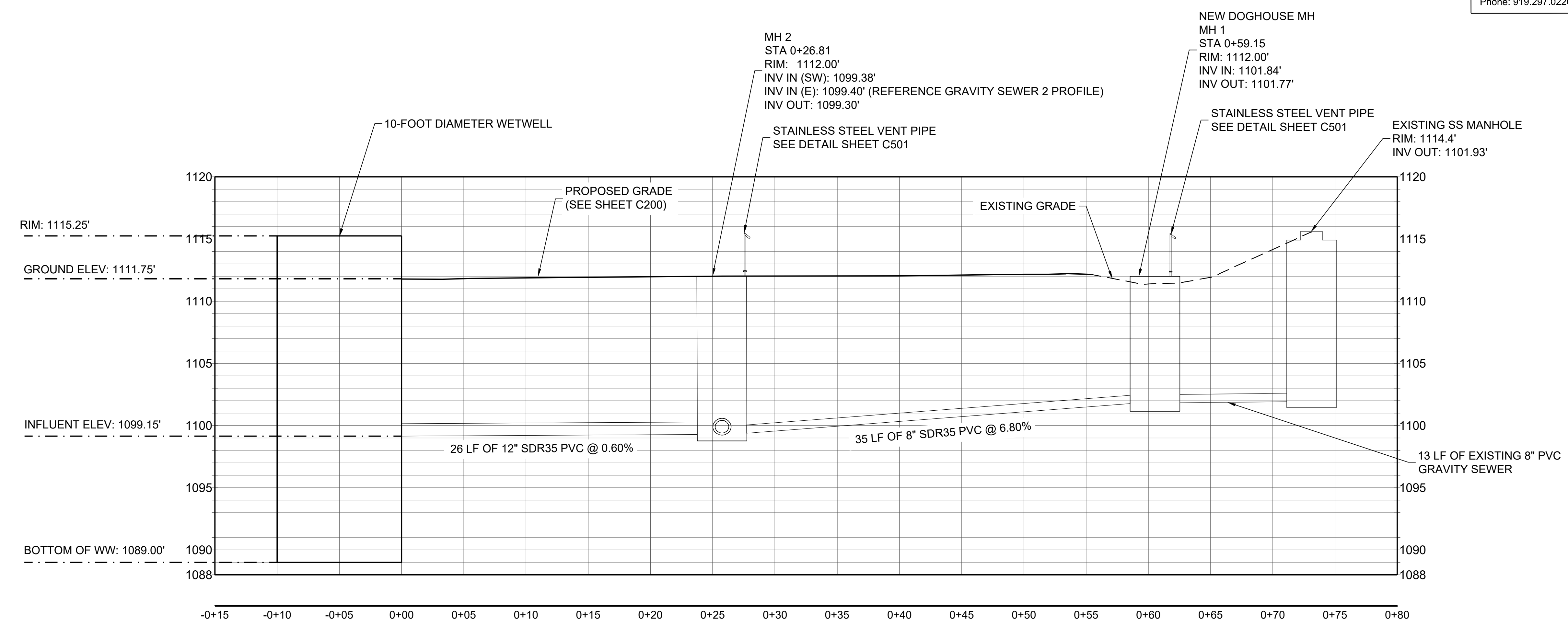


PROJECT REFERENCE NO. WBS: 36249.5101	SHEET NO. C202
DESIGNED BY: SD	
DRAWN BY: SB	
CHECKED BY: JT	
APPROVED BY: KG	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

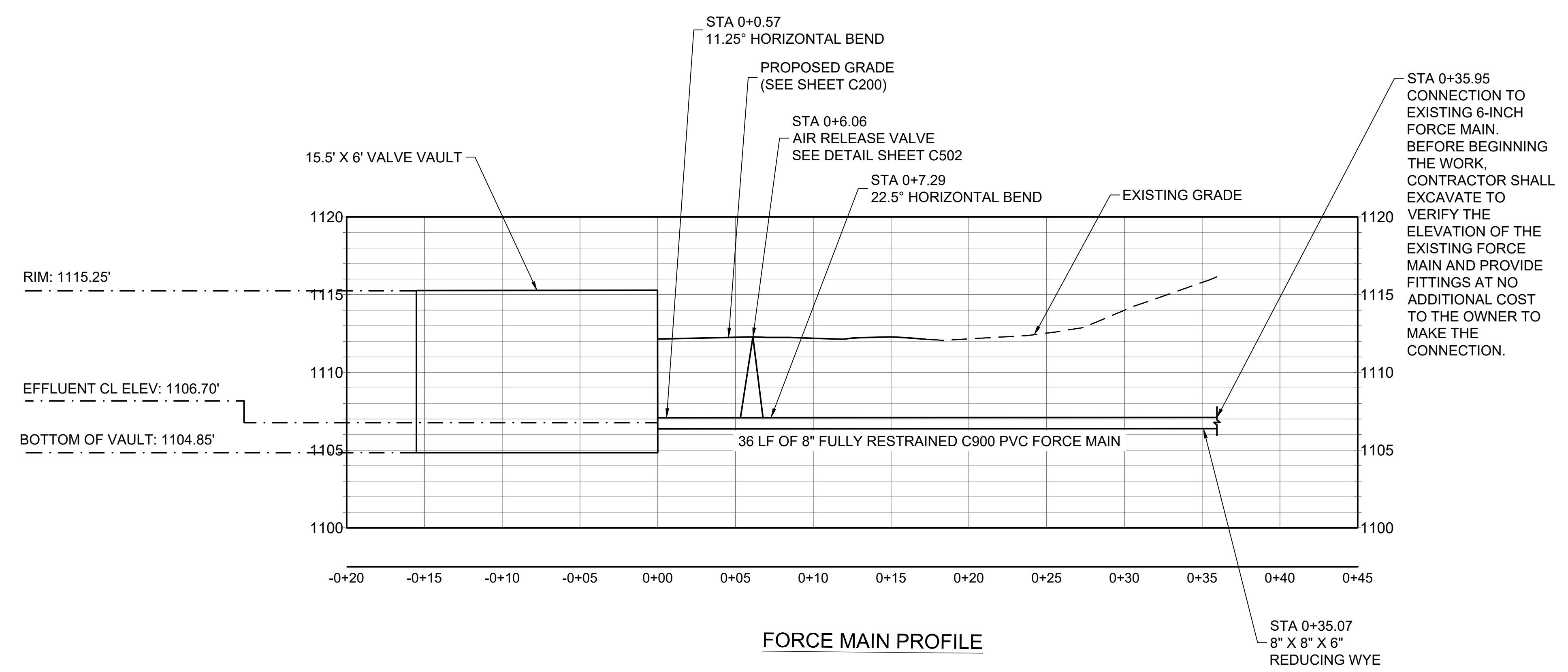
PUMP STATION

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100% PLANS

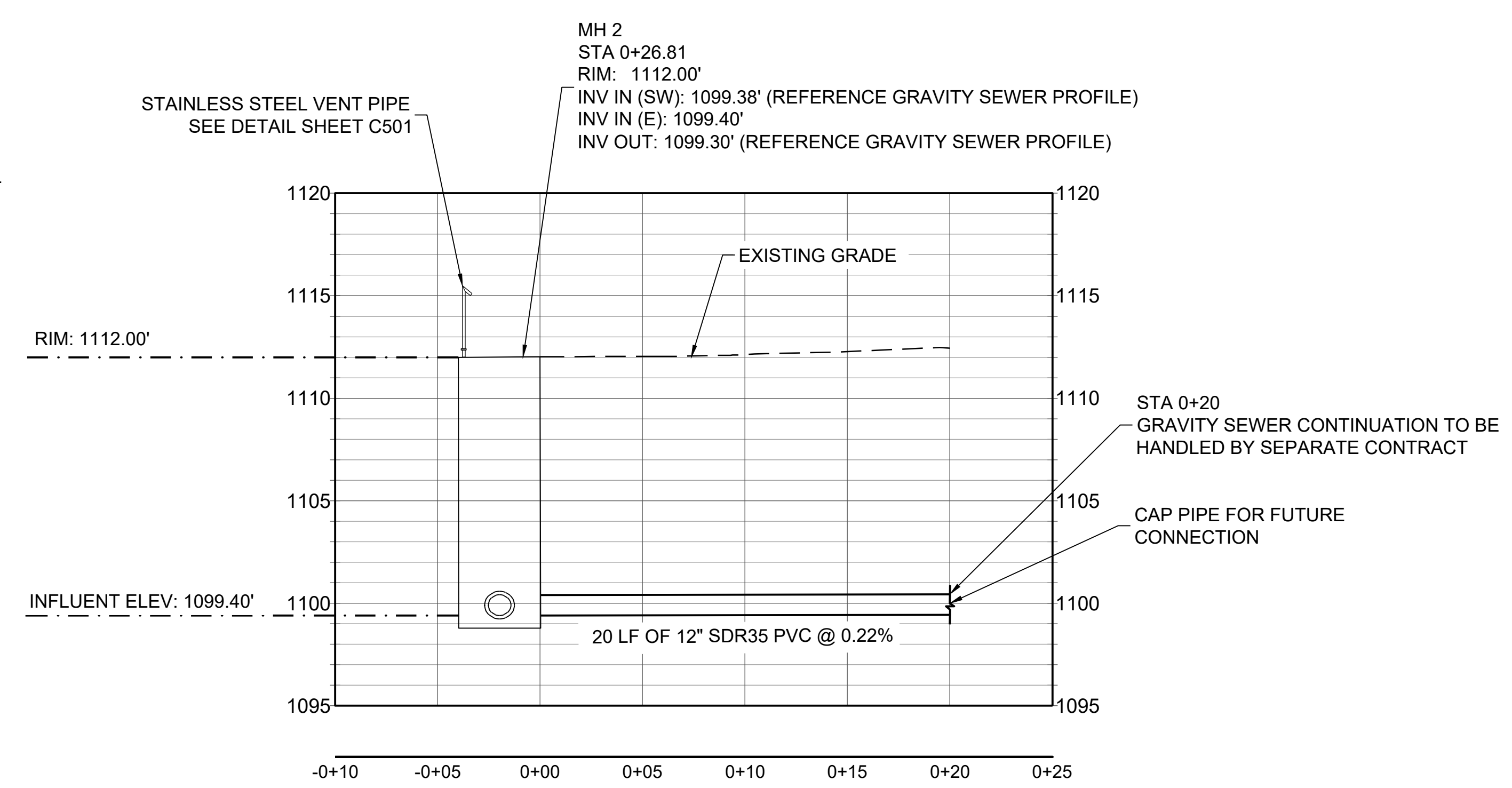


GRAVITY SEWER 1 PROFILE

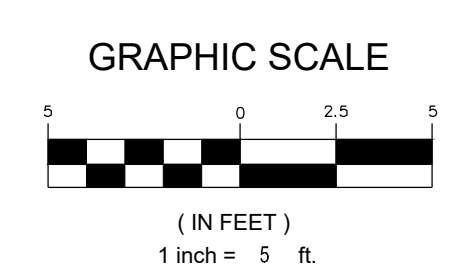


FORCE MAIN PROFILE

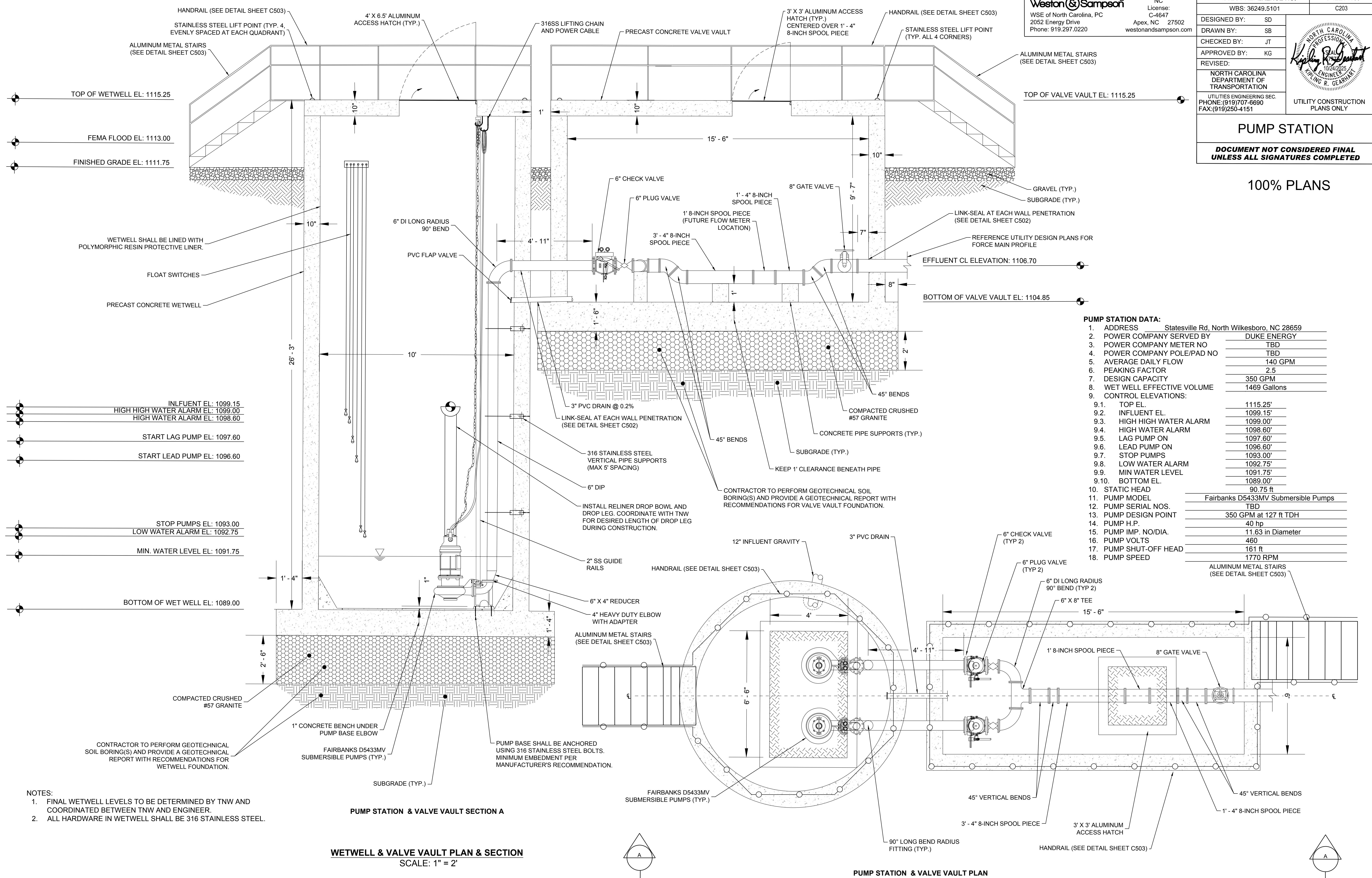
UTILITY PROFILES
1" = 5'



GRAVITY SEWER 2 PROFILE



100% PLANS



PUMP STATION DATA:

1. ADDRESS	Statesville Rd, North Wilkesboro, NC 28659
2. POWER COMPANY SERVED BY	DUKE ENERGY
3. POWER COMPANY METER NO	TBD
4. POWER COMPANY POLE/PAD NO	TBD
5. AVERAGE DAILY FLOW	140 GPM
6. PEAKING FACTOR	2.5
7. DESIGN CAPACITY	350 GPM
8. WET WELL EFFECTIVE VOLUME	1469 Gallons
9. CONTROL ELEVATIONS:	
9.1. TOP EL.	1115.25'
9.2. INFLUENT EL.	1099.15'
9.3. HIGH HIGH WATER ALARM	1099.00'
9.4. HIGH WATER ALARM	1098.60'
9.5. LAG PUMP ON	1097.60'
9.6. LEAD PUMP ON	1096.60'
9.7. STOP PUMPS	1093.00'
9.8. LOW WATER ALARM	1092.75'
9.9. MIN WATER LEVEL	1091.75'
9.10. BOTTOM EL.	1089.00'
10. STATIC HEAD	90.75 ft
11. PUMP MODEL	Fairbanks D5433MV Submersible Pumps
12. PUMP SERIAL NOS.	TBD
13. PUMP DESIGN POINT	350 GPM at 127 ft TDH
14. PUMP H.P.	40 hp
15. PUMP IMP. NO/DIA.	11.63 in Diameter
16. PUMP VOLTS	460
17. PUMP SHUT-OFF HEAD	161 ft
18. PUMP SPEED	1770 RPM

- NOTES:**
- FINAL WETWELL LEVELS TO BE DETERMINED BY TNW AND COORDINATED BETWEEN TNW AND ENGINEER.
 - ALL HARDWARE IN WETWELL SHALL BE 316 STAINLESS STEEL.

WETWELL & VALVE VAULT PLAN & SECTION
 SCALE: 1" = 2'

PUMP STATION & VALVE VAULT PLAN

NOTES:
 1. REFERENCE PROPOSED SEQUENCE OF CONSTRUCTION ON SHEET G001.
 2. THIS SHEET IS FOR INFORMATIONAL PURPOSES AND SHOULD NOT BE USED TO CONSTRUCT FROM. REFERENCE SHEET C100, C101, C200, C201, C202, AND C203.
 3. EXISTING CONDITIONS ARE SHOWN IN GREY, REFERENCE SHEETS C100 AND C101 FOR DETAILED INFORMATION ON EXISTING CONDITIONS AND DEMOLITION.

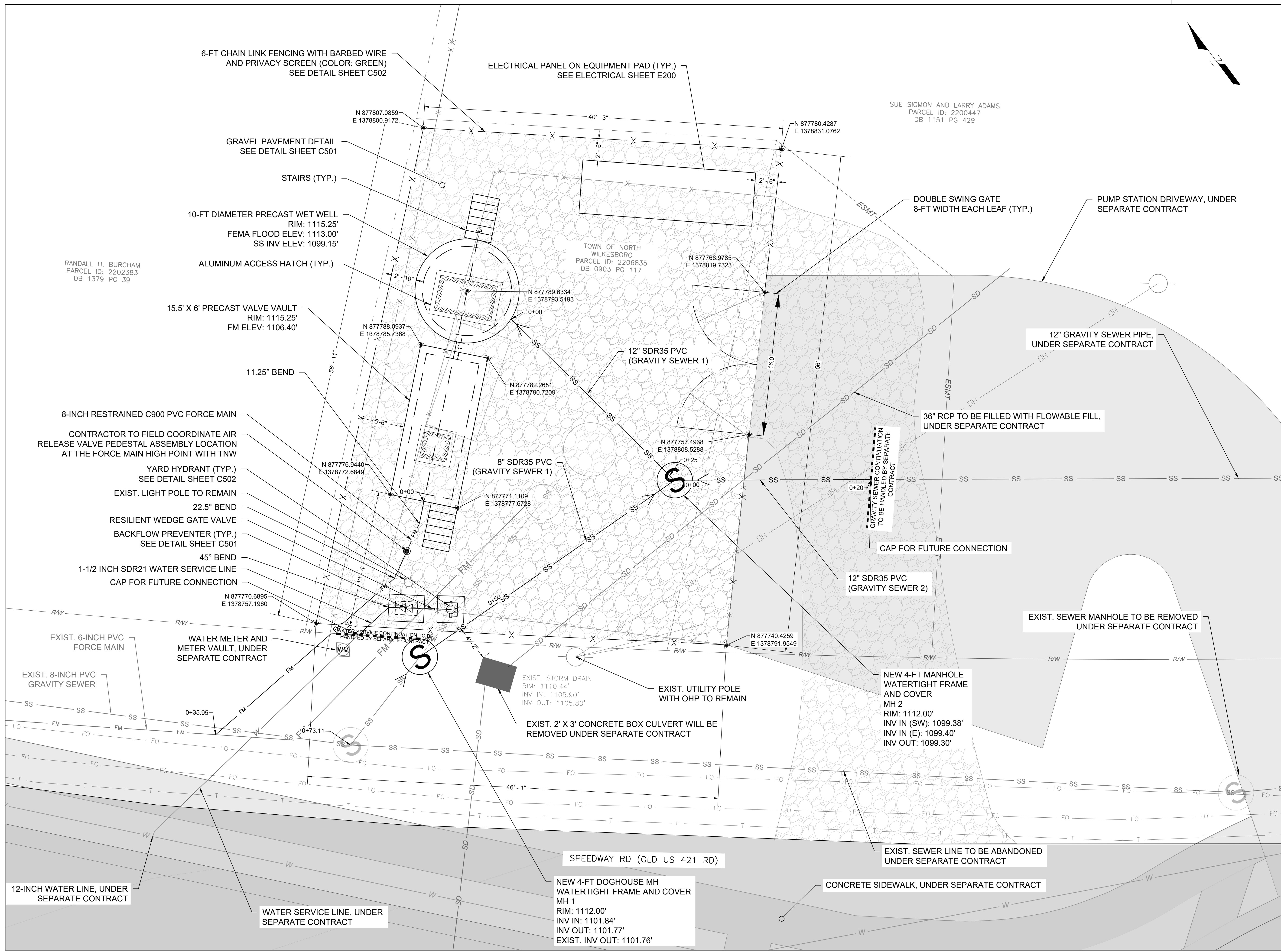
Weston & Sampson
 WSE of North Carolina, PC
 2052 Energy Drive
 Phone: 919.297.0220
 NC License: C-4647
 Apex, NC 27502
 westonandsampson.com

PROJECT REFERENCE NO. WBS: 36249.5101	SHEET NO. C204
DESIGNED BY: SD	
DRAWN BY: SB	
CHECKED BY: JT	
APPROVED BY: KG	
REVISED:	
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UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

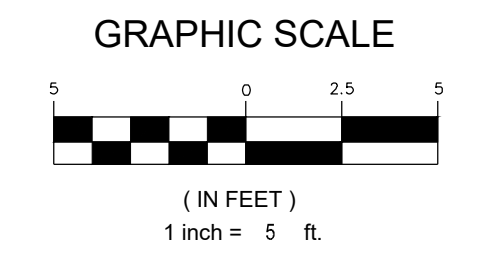
PUMP STATION

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100% PLANS



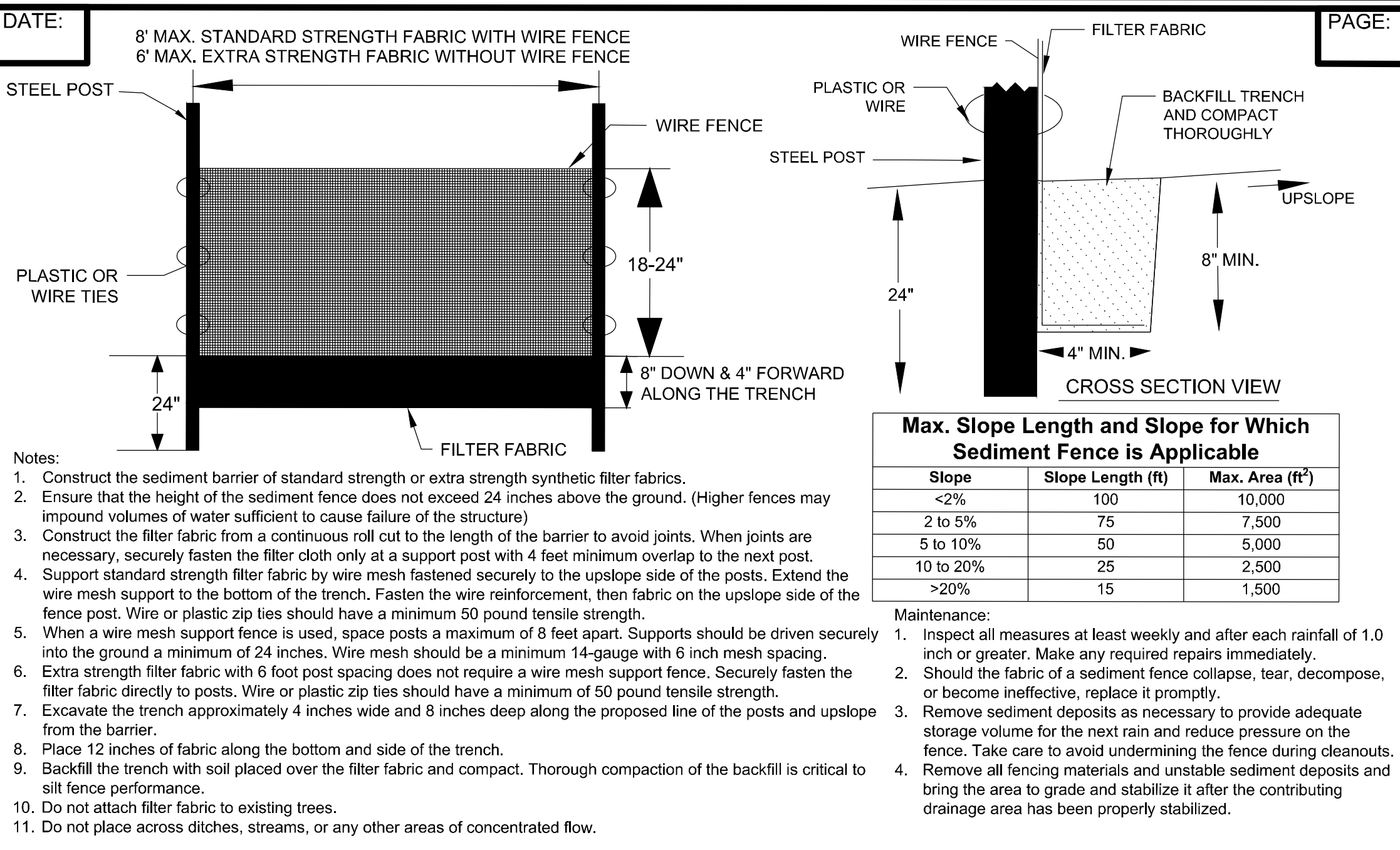
PUMP STATION EXISTING AND PROPOSED CONDITIONS
 1" = 5'



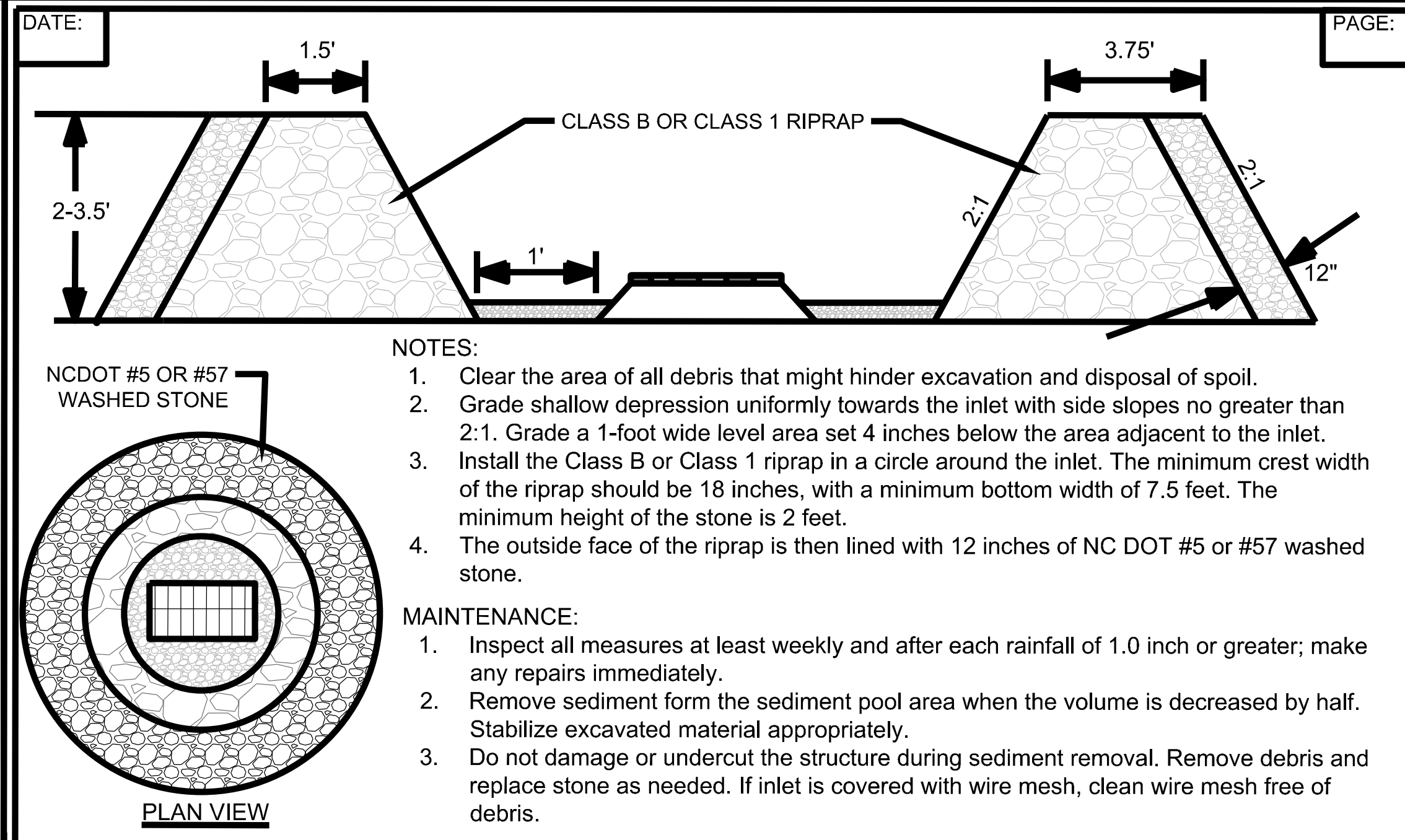
PUMP STATION

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 UNLESS ALL SIGNATURES COMPLETED

100% PLANS



SEDIMENT FENCE
 Effective Date: 9/1/2023 in accordance with the 2013 Design Manual Updates



ROCK DOUGHNUT INLET PROTECTION
 Effective Date: 9/1/2023 in accordance with the 2013 Design Manual Updates

CONSIDERATIONS FOR CONSTRUCTION SCHEDULING	
CONSTRUCTION ACTIVITY	SCHEDULE CONSIDERATION
CONSTRUCTION ACCESS: Construction entrance, construction routes, equipment parking areas.	First land-disturbing activity. Stabilize bare areas immediately with gravel and temporary vegetation as construction takes place.
SEDIMENT TRAPS AND BARRIERS: Basin traps, sediment fences, and outlet protection.	Install principal basins after construction site is accessed. Install additional traps and barriers as needed during grading.
RUNOFF CONTROL: Diversions, perimeter dikes, water bars, and outlet protection.	Install key practices after principal sediment traps and before land grading. Install additional runoff-control measures during grading.
RUNOFF CONVEYANCE SYSTEM: Stabilize streambanks, storm drains, channels, inlet and outlet protection, and slope drains.	Where necessary, stabilize streambanks as early as possible. Install principal runoff conveyance system with runoff-control measures. Install remainder of system after grading.
LANDING CLEARING AND GRADING: Site preparation- cutting, filling and grading, sediment traps, barriers, diversions, drains, and surface roughening.	Begin major clearing and grading AFTER principal sediment and key runoff-control measures are installed. Clear borrow and disposal areas only as needed. Install additional control measures as grading progresses. Mark trees and buffer areas for preservation.
SURFACE STABILIZATION: Temporary and permanent seeding, mulching, sodding and riprap.	Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is delayed or complete.
BUILDING CONSTRUCTION: Buildings, utilities, and paving.	Install necessary additional erosion and sedimentation control practices as work takes place.
LANDSCAPE AND FINAL STABILIZATION: Topsoiling, trees and shrubs, permanent seeding, mulching, sodding, and riprap.	Last construction phase: Stabilize all open areas, including borrow and spoil areas. Remove and stabilize all temporary control areas.

NOTE: The above are the main aspects of a typical construction sequence in general terms. A detailed Construction Sequence should be site specific based on your project and site needs. As a minimum, the construction sequence schedule should show the following:

- The erosion and sedimentation control practices to be installed.
- Principal development activities,
- What measures should be in place before other activities are begun, and
- Compatibility with the general construction schedule of the contract.

Many timely construction techniques can reduce the erosion potential of a site, such as (1) shaping earthen fills daily to prevent overflows and (2) constructing temporary diversions ahead of anticipated storms. These types of activities cannot be put on the construction sequence schedule, but should be used whenever possible.

CONSTRUCTION SEQUENCING
 Effective Date: 9/1/2023 in accordance with the 2013 Design Manual Updates

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING		NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR SUMMER		NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR FALL	
SEEDING MIXTURE Species	Rate	SEEDING MIXTURE Species	Rate	SEEDING MIXTURE Species	Rate
Centipede	5 lbs/acre	Indian Woodoats	1.5-2.5 lbs/acre*	Hard Fescue	15 lbs/acre
Indian Woodoats	1.5-2.5 lbs/acre*	Virginia Wild Rye	4-6 lbs/acre*	Switchgrass	2.5-3.5 lbs/acre*
Virginia Wild Rye	4-6 lbs/acre			Indian Grass	5-7 lbs/acre*
				Big Bluestem	5-7 lbs/acre*
				Indian Woodoats	1.5-2.5 lbs/acre*
				Virginia Wild Rye	4-6 lbs/acre*

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates
 Coastal or Eastern Piedmont for Centipede- Sept. 1 - May 1
 Coastal and Piedmont for Indian Woodoats and Virginia Wild Rye- Feb 15 - April 1
 Mountains for Indian Woodoats and Virginia Wild Rye- March 1 - May 15

Maintenance:
 Significant maintenance may be required to obtain desired cover.

SEED BED PREPARATION:
 LIMING- Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1 1/2 tons/acre on coarse-textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.
 FERTILIZER- Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700-1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.
 SURFACE ROUGHENING- If recent tillage operations have resulted in a loose surface additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by raking, harrowing, or other suitable methods for fine grading. The finished grade shall be a smooth even soil surface with a loosen uniformly fine texture. All ridges and depressions shall be removed and filled to provide the approved surface drainage. Planting is to be done immediately after finished grades are obtained and seedbed preparation is completed.

NOTES:

- Permanent seeding, sodding or other means of stabilization are required when all construction work is completed according to the NPDES timeframes table.
- A North Carolina Department of Agriculture soils test (or equal) is highly recommended to be obtained for all areas to be seeded, sprigged, sodded or planted.
- Use a seeding mix that will produce fast-growing nurse crops and includes non-invasive species that will eventually provide a permanent groundcover. Soil blankets may be used in lieu of nurse crops. Mat, tack or crimp mulch, as needed to stabilize seeded areas until root establishment. Mulch must cover at least 80% of the soil surface.
- Ground cover shall be maintained until permanent vegetation is established and stable against accelerated erosion.

PERMANENT SEEDING
 Effective Date: 9/1/2023 in accordance with the 2013 Design Manual Updates

TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING		TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER		TEMPORARY SEEDING RECOMMENDATIONS FOR FALL	
Seeding Mixture Species	Rate (lb/acre)	Seeding Mixture Species	Rate (lb/acre)	Seeding Mixture Species	Rate (lb/acre)
Rye (grain)	120	German millet	40	Rye (grain)	120
Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50				

Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

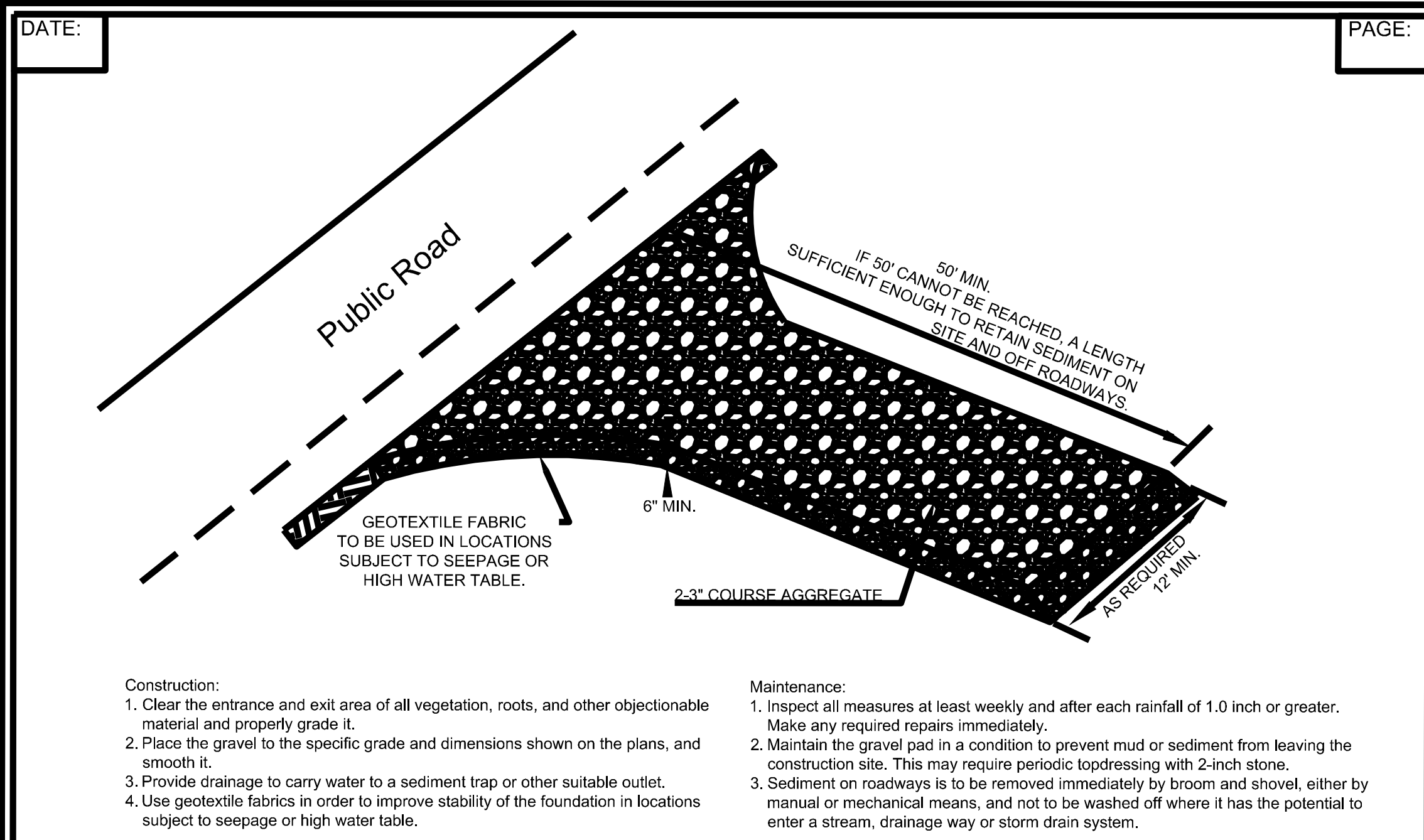
Seeding Dates
 Mountains—Above 2500 feet: Feb. 15 - May 15
 Below 2500 feet: Feb. 1 - May 1
 Piedmont—Jan. 1 - May 1
 Coastal Plain—Dec. 1 - Apr. 15

Mulch
 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.

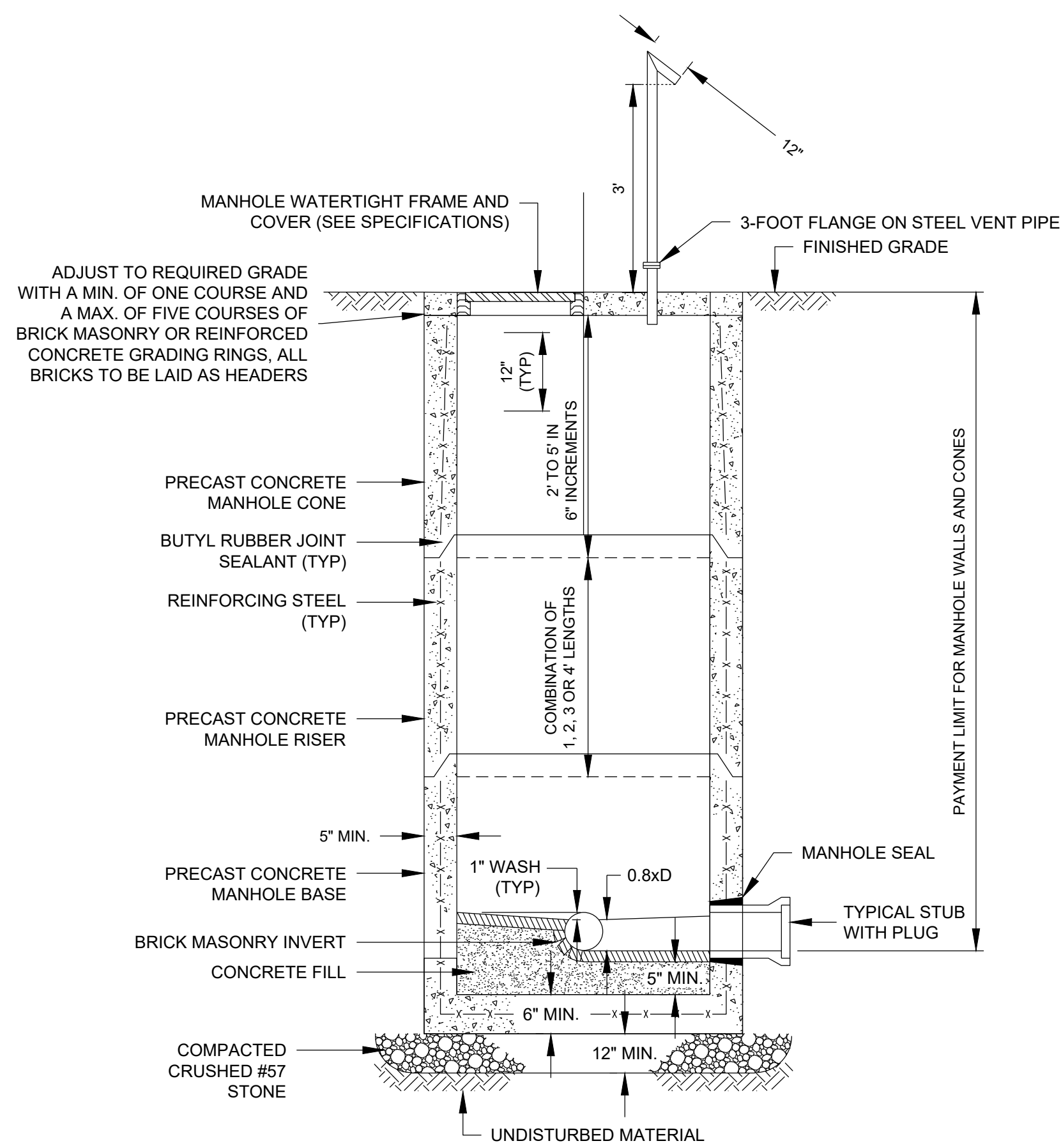
Maintenance
 Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

SEED BED PREPARATION:
 LIMING- Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1-1 1/2 tons/acre on coarse-textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.
 FERTILIZER- Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700 - 1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.
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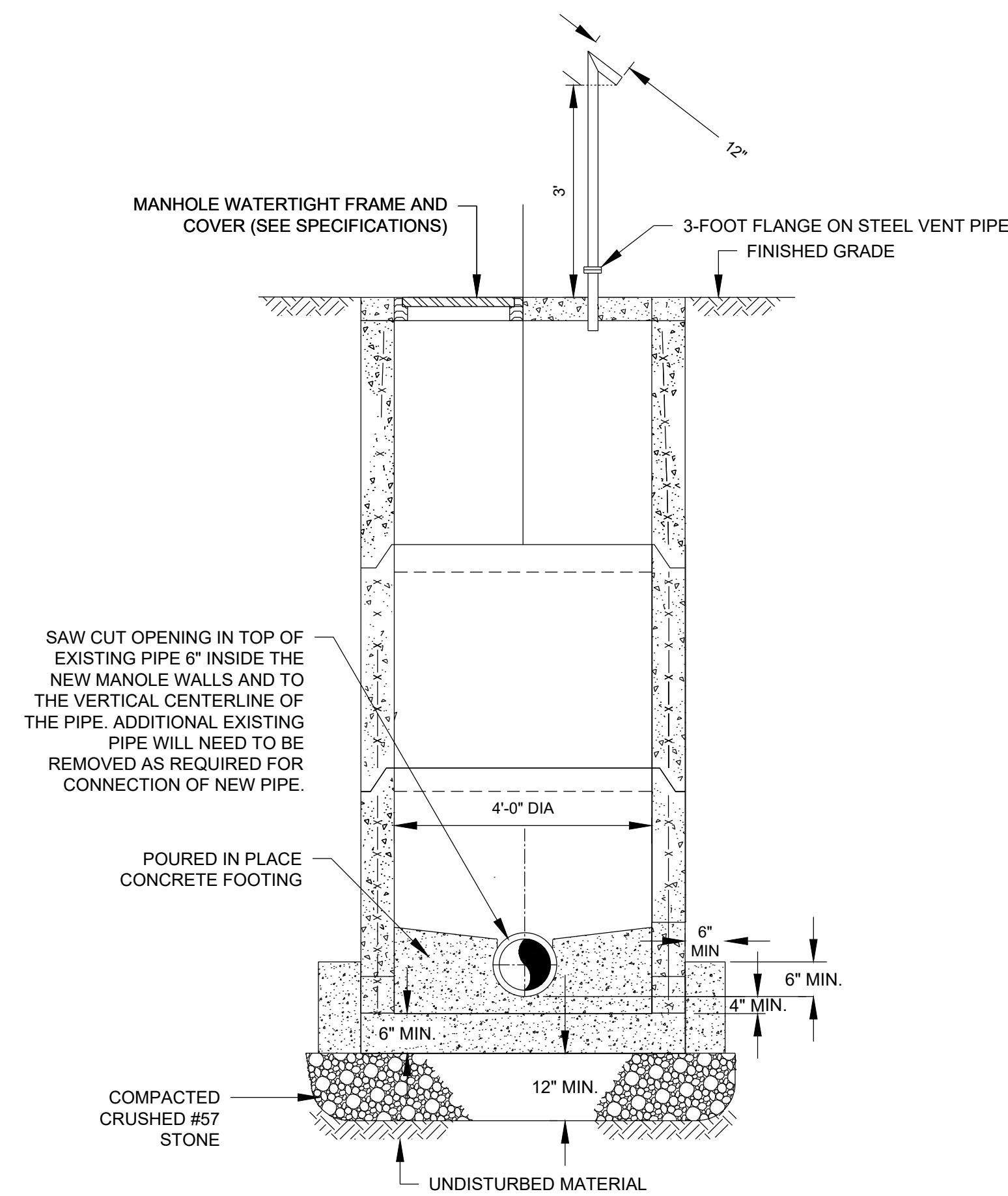
TEMPORARY SEEDING
 Effective Date: 9/1/2023 in accordance with the 2013 Design Manual Updates



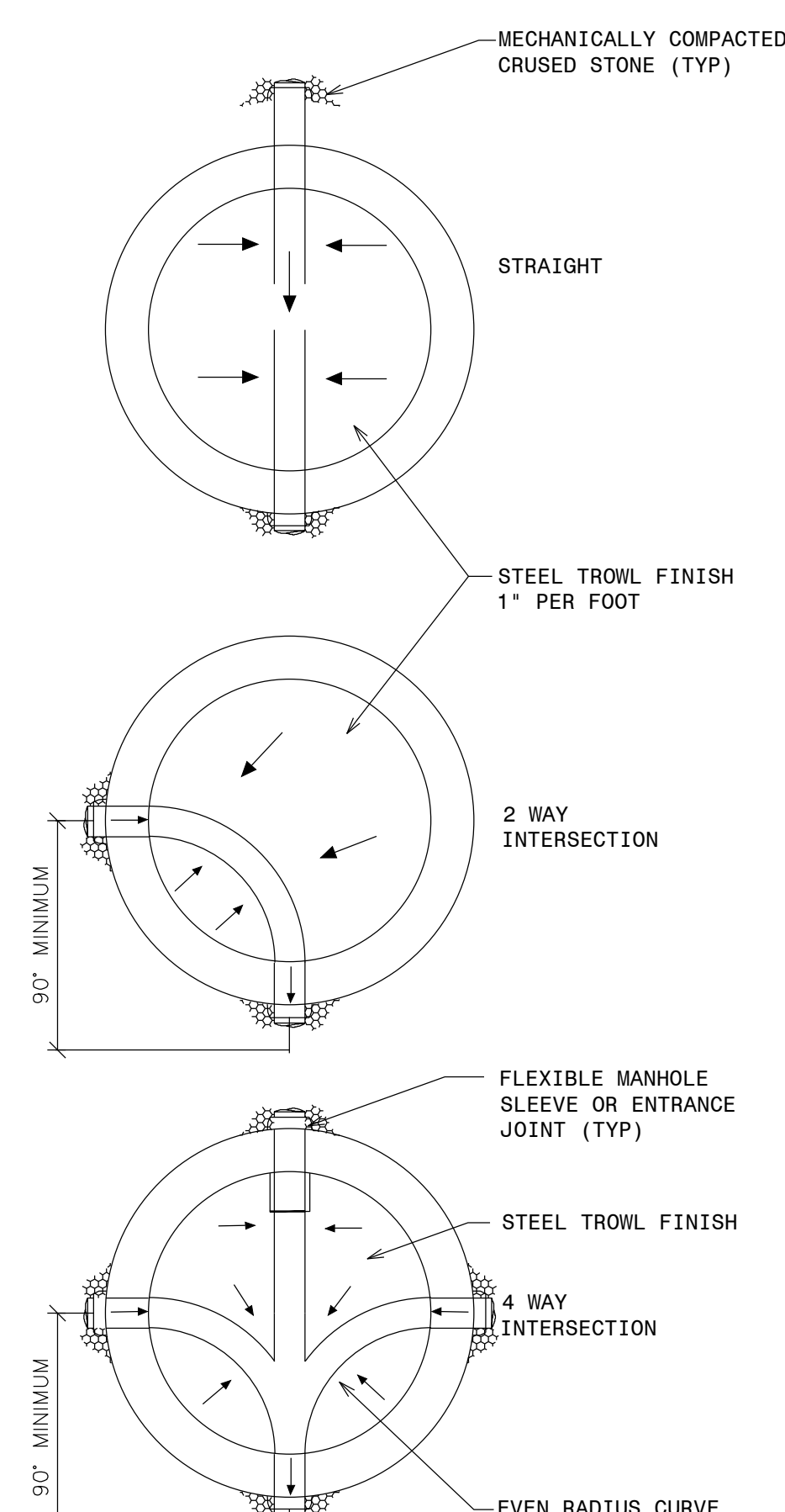
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT
 Effective Date: 9/1/2023 in accordance with the 2013 Design Manual Updates



5'-0" AND UNDER DIA. PRECAST CONCRETE FLAT TOP MANHOLE WITH VENT DETAIL
N.T.S.



DOGHOUSE MANHOLE DETAIL
N.T.S.



MANHOLE INVERT DETAIL
N.T.S.

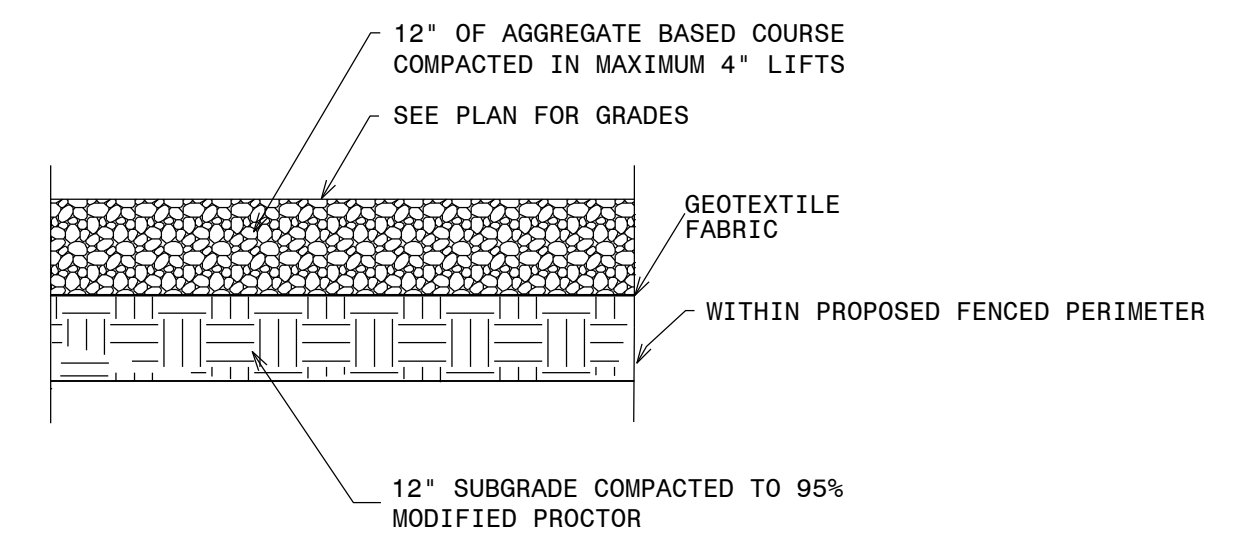
Weston & Sampson NC
 License: C-4647
 WSE of North Carolina, PC
 2052 Energy Drive Apex, NC 27502
 Phone: 919.297.0220 westonandsampson.com

PROJECT REFERENCE NO. WBS: 36249.5101	SHEET NO. C501
DESIGNED BY: SD	
DRAWN BY: SB	
CHECKED BY: JT	
APPROVED BY: KG	
REVISED:	
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UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

PUMP STATION

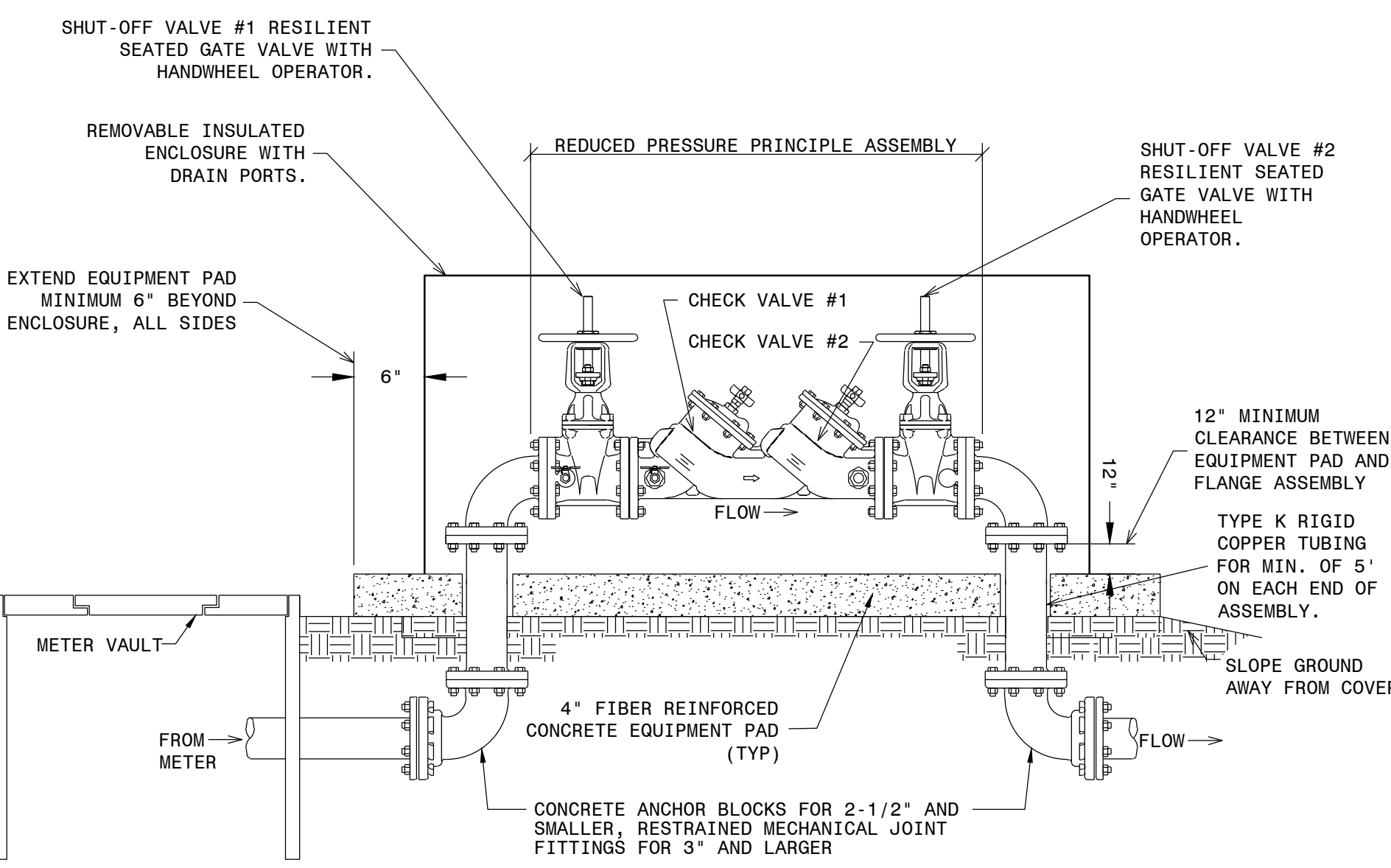
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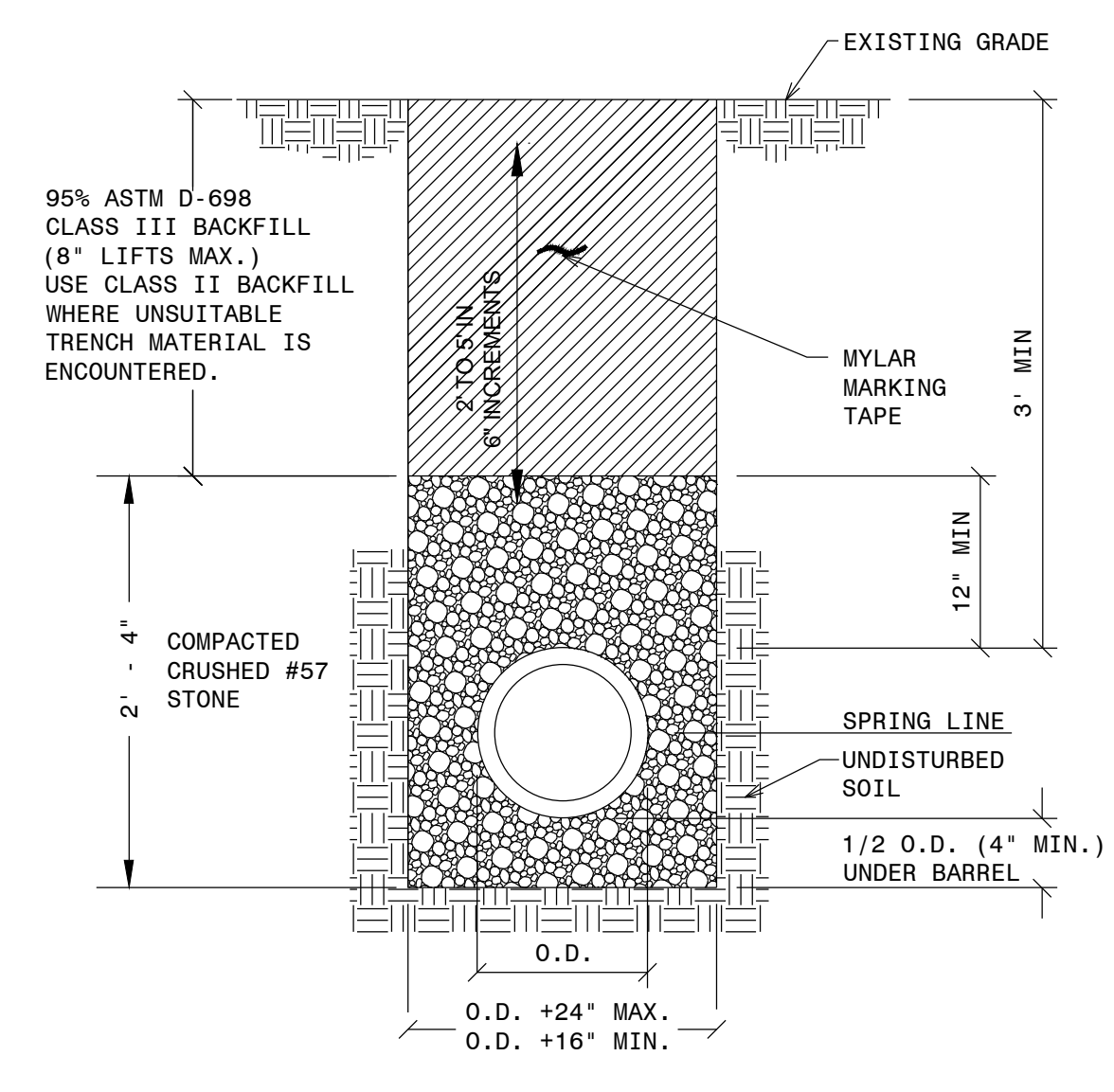


NOTES:
 1. ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS.

GRAVEL PAVEMENT SECTION
N.T.S.

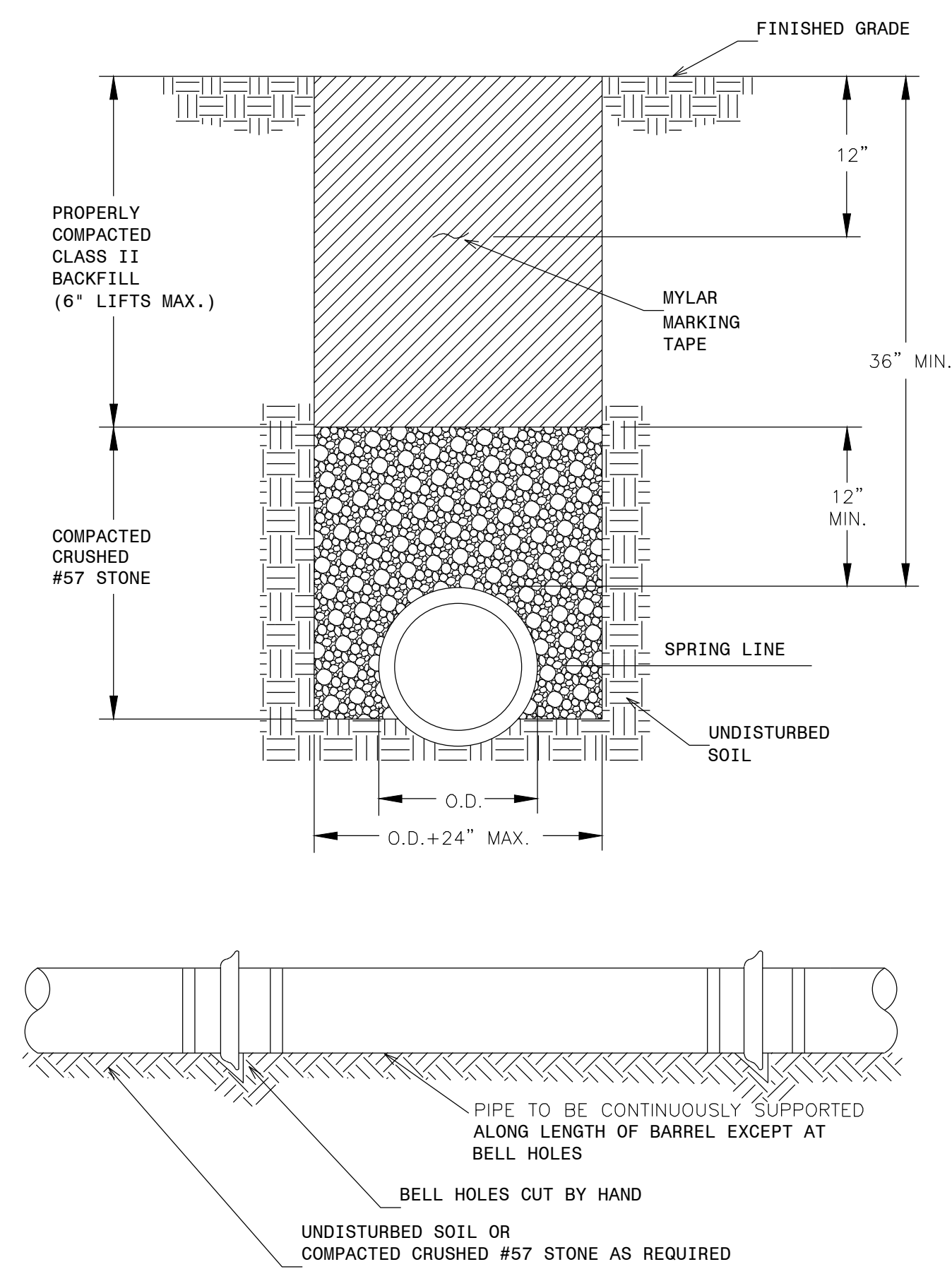


BACKFLOW PREVENTION DETAIL
N.T.S.



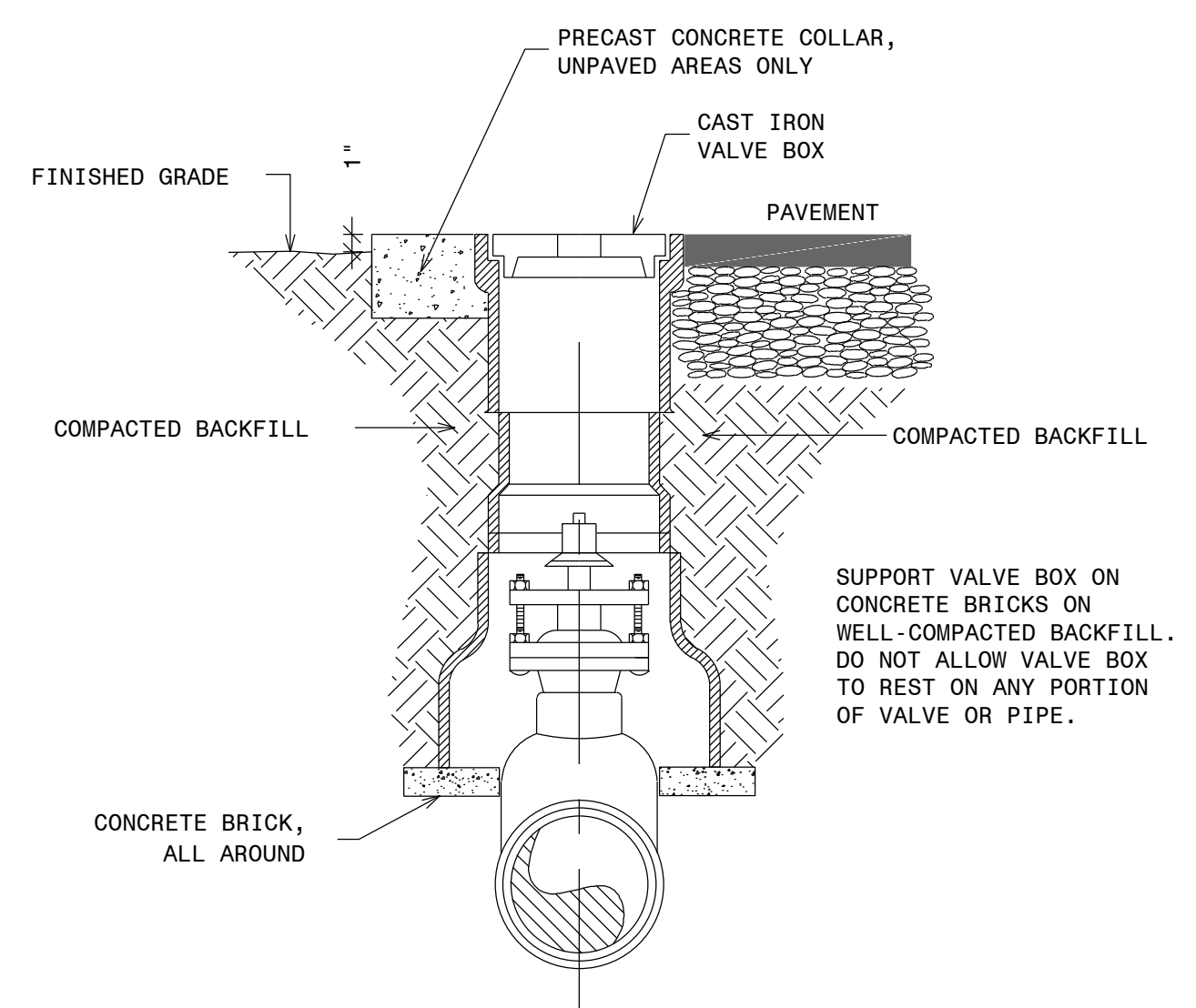
NOTE:
 INSTALLATION SHALL BE PER ASTM-D2321, STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS AND PER LOCAL CODE.

SEWER/TRENCH BEDDING DETAIL
N.T.S.



NOTE: INSTALLATION SHALL BE PER ASTM-D2321, STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS AND PER LOCAL CODE.

WATER LINE TRENCH/BEDDING
N.T.S.



NOTES:
 1. CENTER VALVE BOX OVER OPERATING NUT TO INSURE FREE VALVE OPERATION.
 2. VALVE BOXES SHALL BE THREE (3) PIECE ADJUSTABLE SCREW TYPE, WITH A 5-1/4 INCH SHAFT, WITH CAST IRON FULL FLANGE RING AND LID. VALVE BOXES IN PAVEMENT SHALL BE TYLER PIPE 6960 SERIES, OR EQUAL, WITH CAST IRON BODY. VALVE BOXES OUTSIDE OF PAVEMENT SHALL BE AMETEK ROADWAY 5-245, OR EQUAL, WITH POLYIRON BODY.

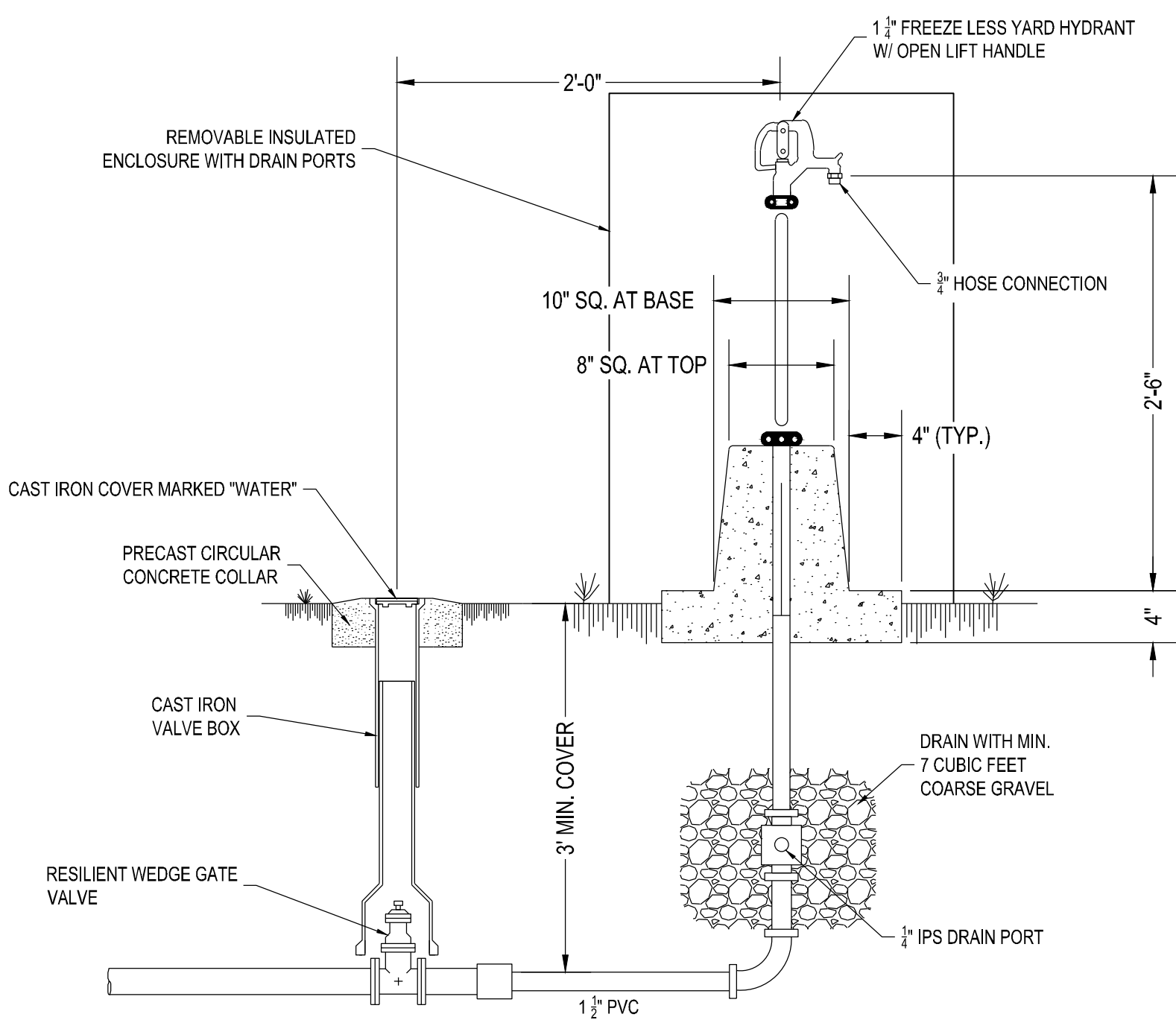
TYPICAL VALVE AND BOX
N.T.S.



PUMP STATION

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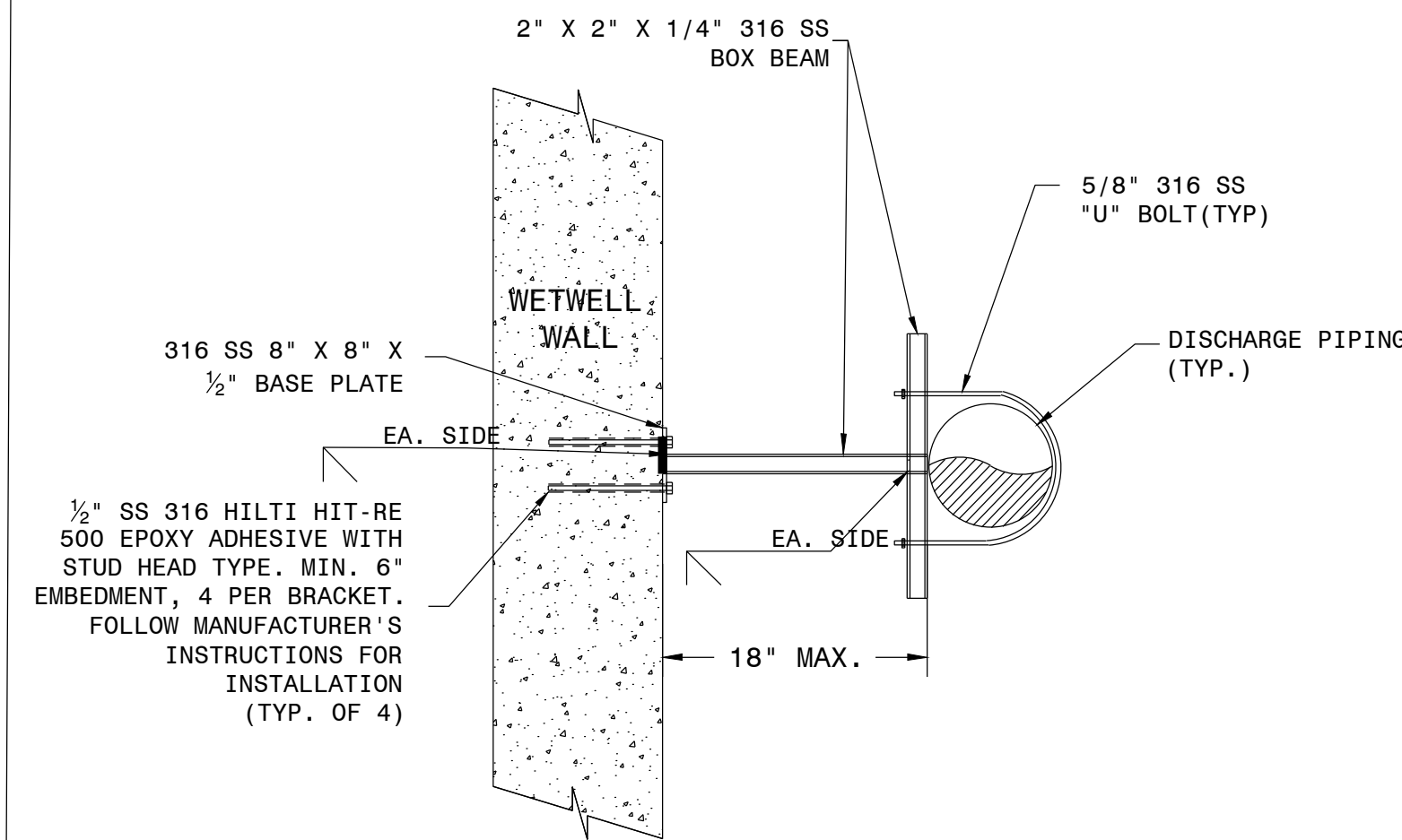
100% PLANS



- NOTES:**
1. YARD HYDRANT SHALL HAVE 1 1/4" INLET AND 3/4" HOSE BIB CONNECTION. OPERATING PARTS OF THE HYDRANT SHALL BE SERVICEABLE OR REPLACEABLE WITHOUT DIGGING UP THE HYDRANT OR DISTURBING THE SUPPLY LINE CONNECTION.
 2. YARD HYDRANT SHALL BE MANUALLY OPERATED BY PERMANENTLY MOUNTED OPEN LIFT HANDLE. POST HYDRANT SHALL CLOSE AGAINST THE PRESSURE AND SHALL BE SELF-DRAINING, NON-FREEZE, COMPRESSION TYPE.
 3. YARD HYDRANT SHALL PREVENT BACKFLOW WHEN OPEN BY AUTOMATIC ACTION OF THE NOZZLE VACUUM BREAKER AND THROUGH THE DRAIN BY THE BALL CHECK VALVES. THE BACKFLOW PREVENTION SYSTEM SHALL NOT INTERFERE WITH THE NORMAL SELF-DRAINING, NON-FREEZE OPERATION OF THE HYDRANT.

YARD HYDRANT DETAIL

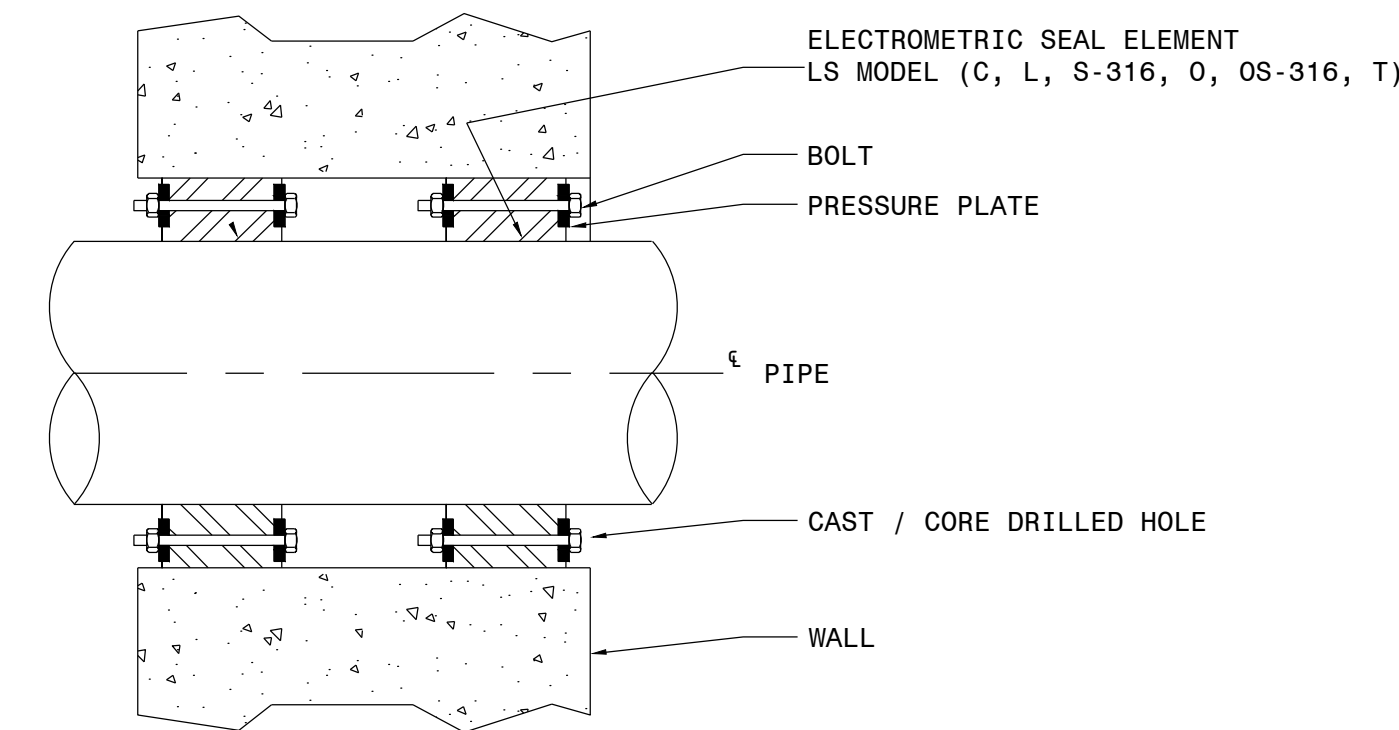
N.T.S.



VERTICAL PIPE SUPPORT

NOT TO SCALE

LINK-SEAL® MODULAR SEALS WITH CAST OR CORE DRILLED WALL OPENING MANUFACTURED BY PIPELINE SEAL & INSULATOR, INC. HOUSTON, TEXAS, U.S.A. TEL: 800-423-2410 E-MAIL: INFO@PSIPSI.COM

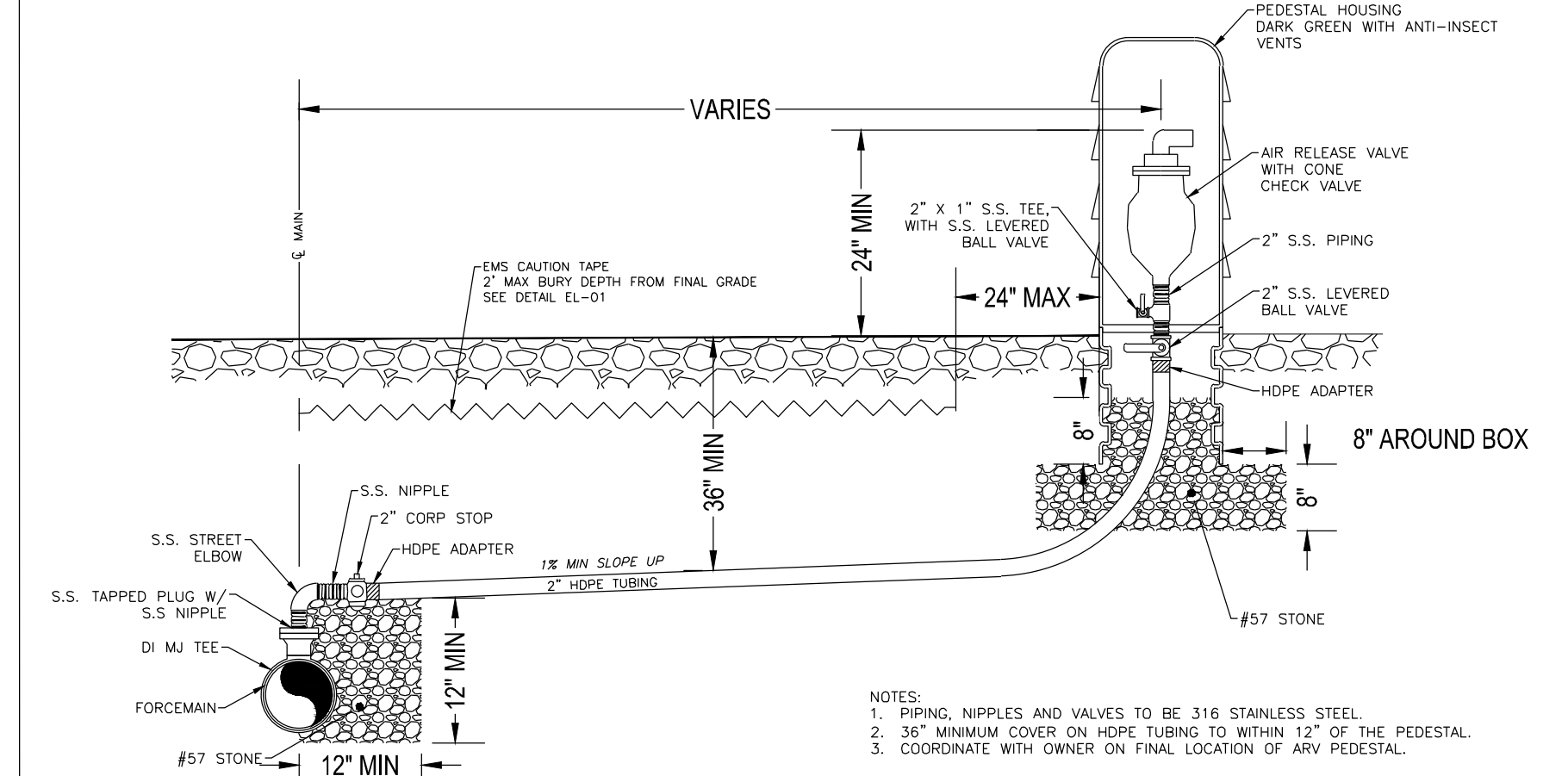


LS MODEL	SEAL ELEMENT	BOLTS/NUTS	PRESSURE PLATE
(C,L,O)+S-316	(SEE MODEL OPTIONS)	316 STAINLESS STEEL	REINFORCED NYLON POLYMER
SLEEVE MODEL	DESCRIPTION	MATERIAL	
CS	CENTURY-LINE SLEEVE	HDPE	
WS	STEEL WALL SLEEVE	STEEL	

INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

LINK-SEAL WALL PENETRATION DETAIL

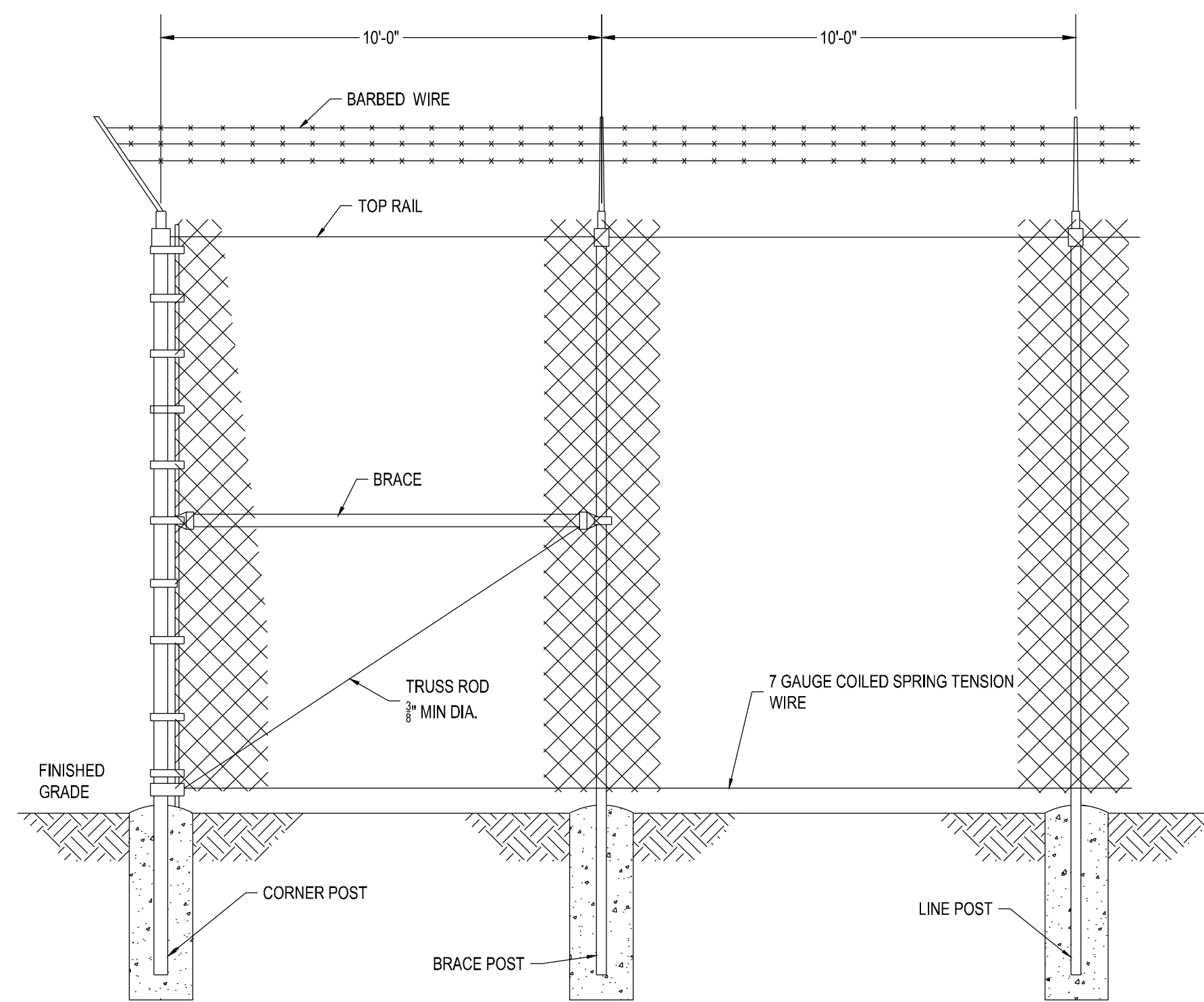
NOT TO SCALE



- NOTES:**
1. PIPING, NIPPLES AND VALVES TO BE 316 STAINLESS STEEL.
 2. 36" MINIMUM COVER ON HDPE TUBING TO WITHIN 12" OF THE PEDESTAL.
 3. COORDINATE WITH OWNER ON FINAL LOCATION OF ARV PEDESTAL.

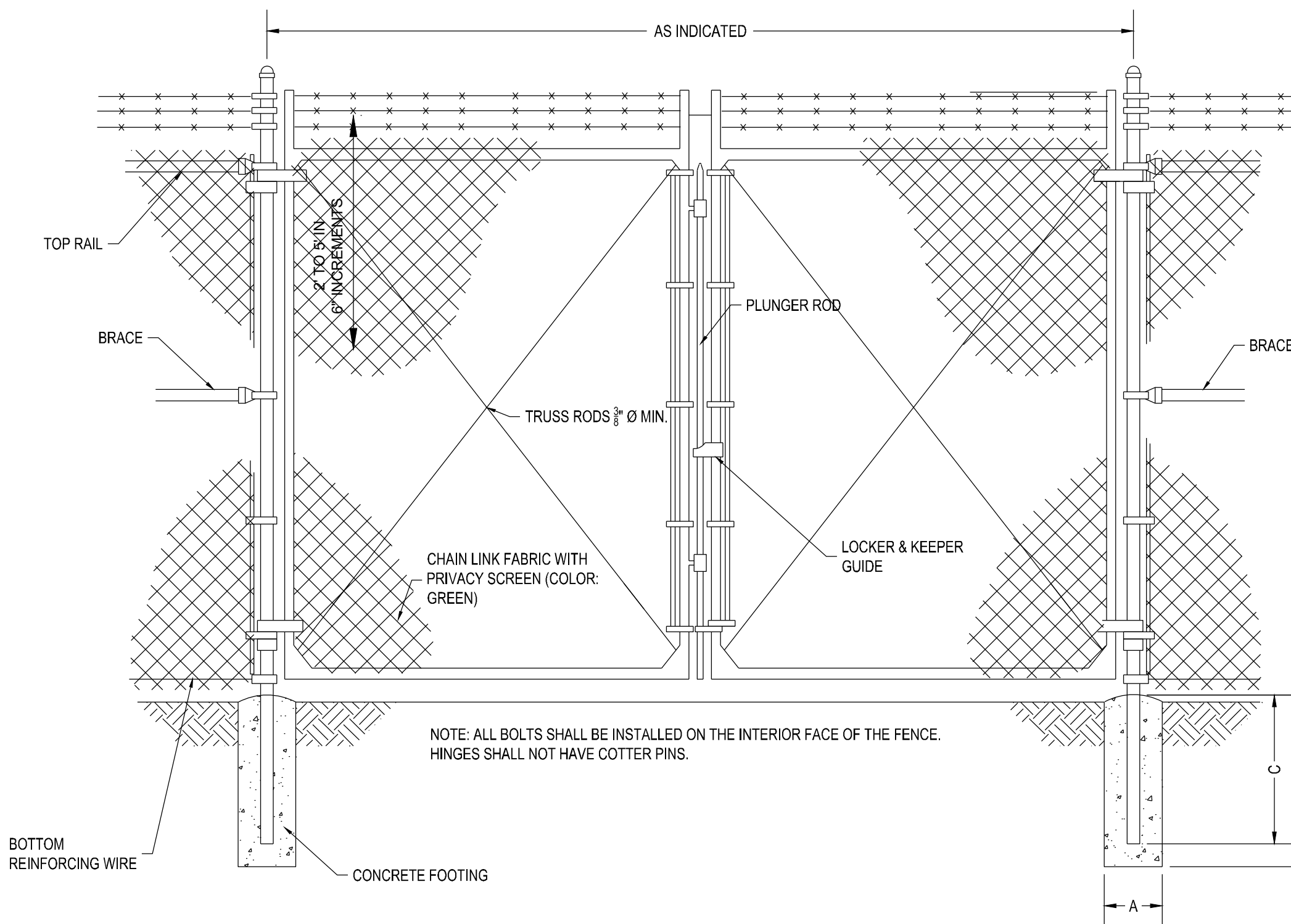
AIR RELEASE VALVE PEDESTAL ASSEMBLY DETAIL

NOT TO SCALE



TYPICAL FENCE ELEVATION

N.T.S.

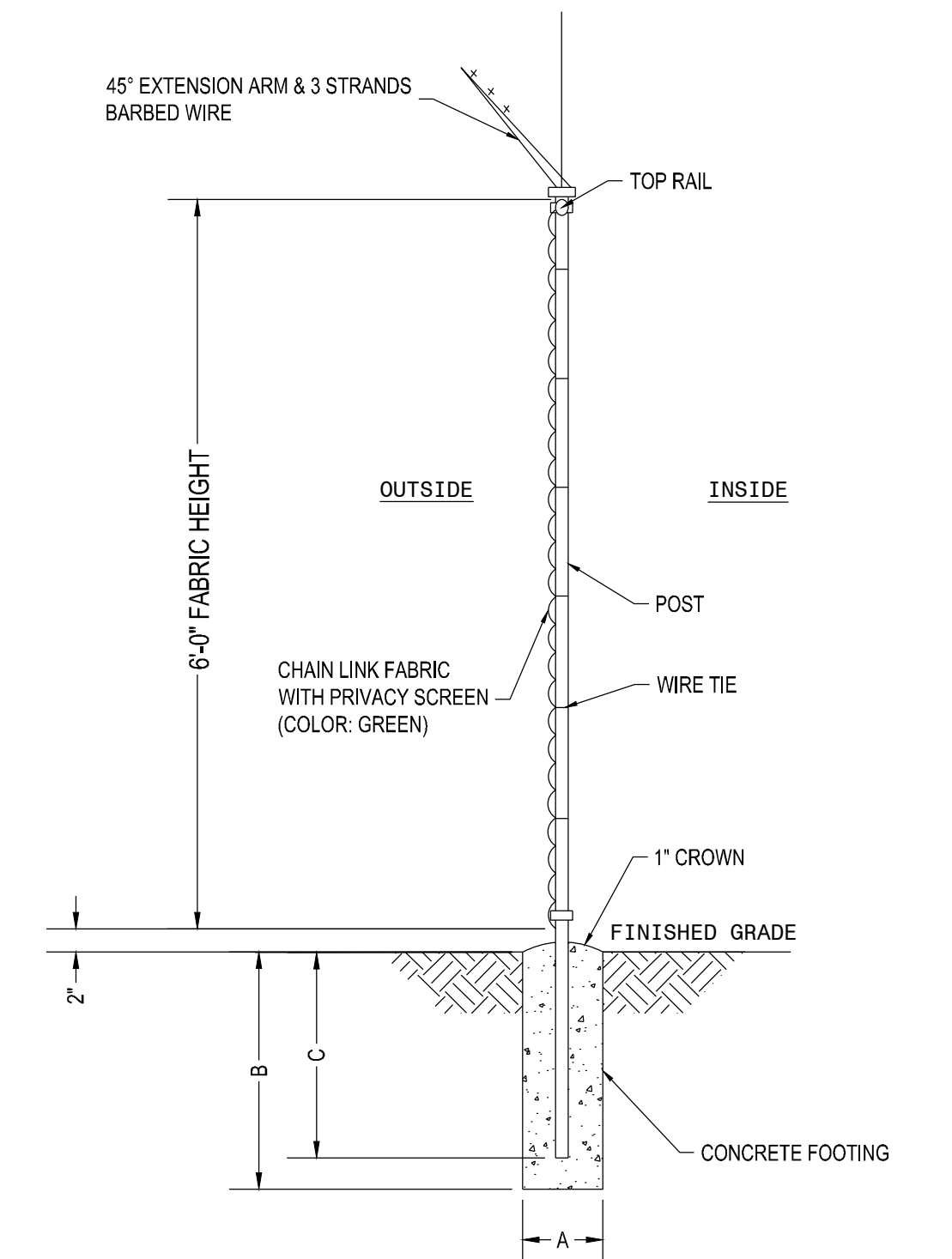


DOUBLE SWING GATE

N.T.S.

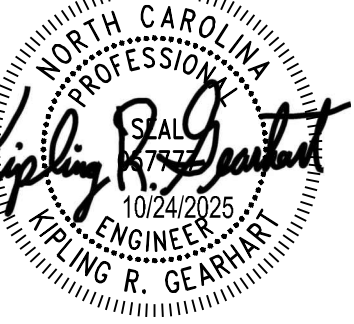
GATE POST				
GATE LEAF WIDTH	GATE POST (OD)	"A" DIA.	"B" DEPTH	"C" POST EMBED.
3' - 6'	2.875"	14"	48"	42"
> 6' - 12'	4.000"	16"	48"	42"
> 12' - 18'	6.625"	16"	48"	42"

LINE & TERMINAL POSTS			
TYPE POST	"A" DIA.	"B" DEPTH	"C" POST EMBED.
LINE	12"	42"	36"
TERMINAL	12"	42"	36"



TYPICAL FENCE SECTION

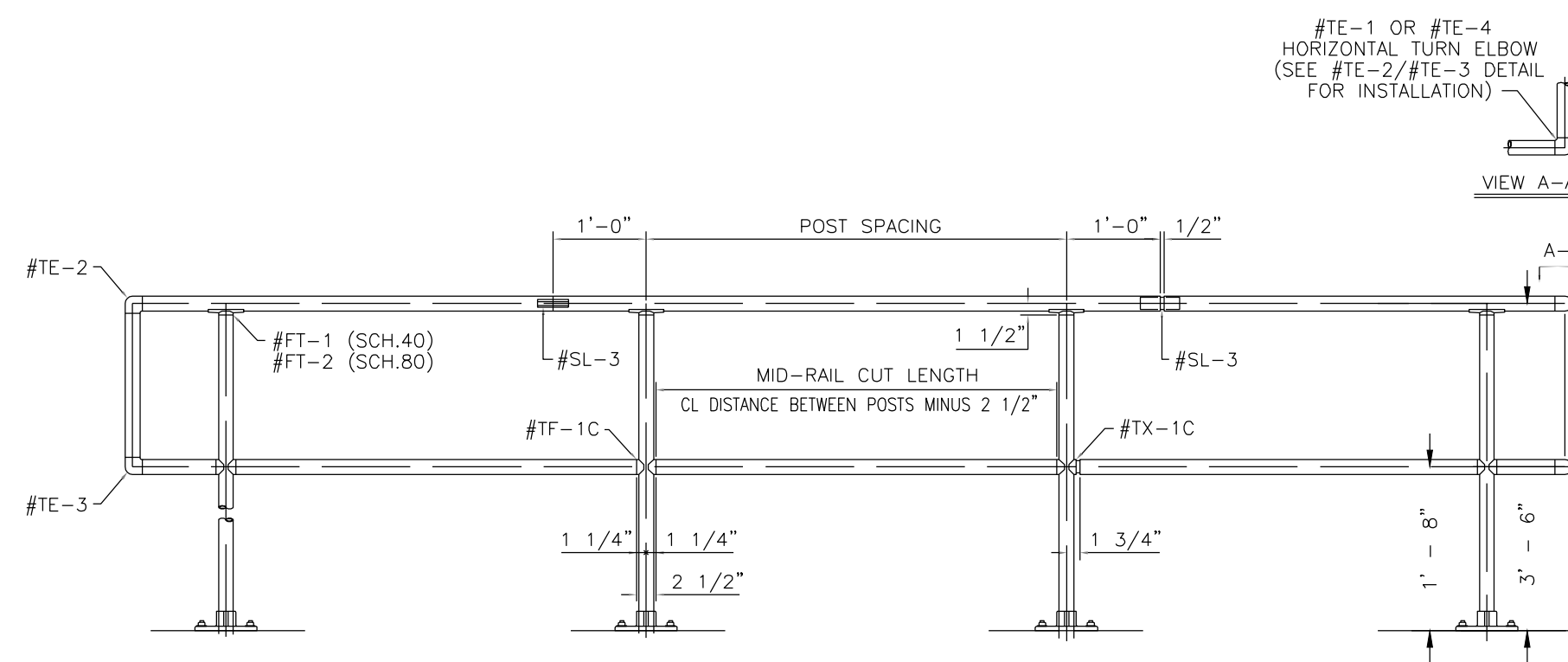
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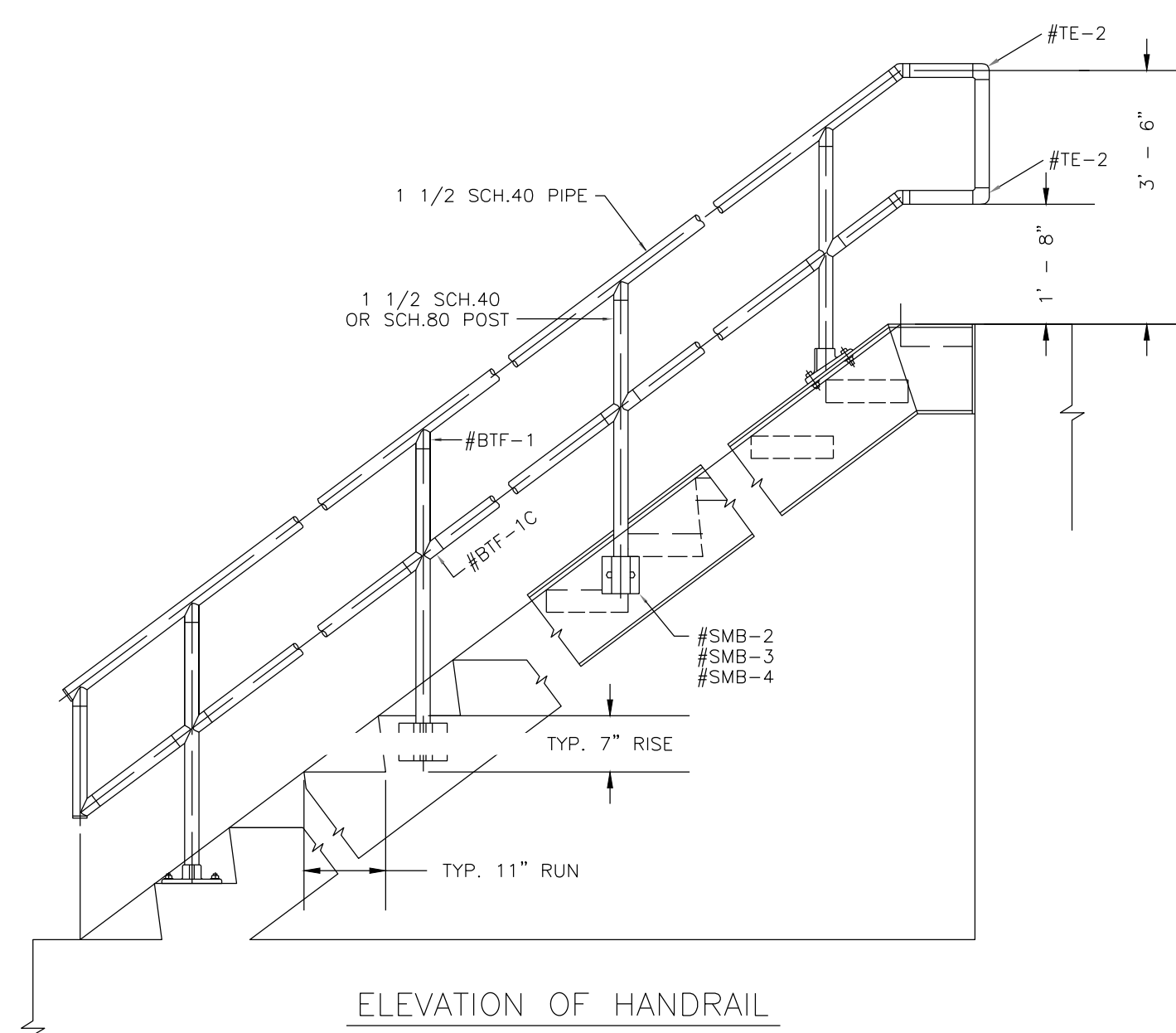
PUMP STATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

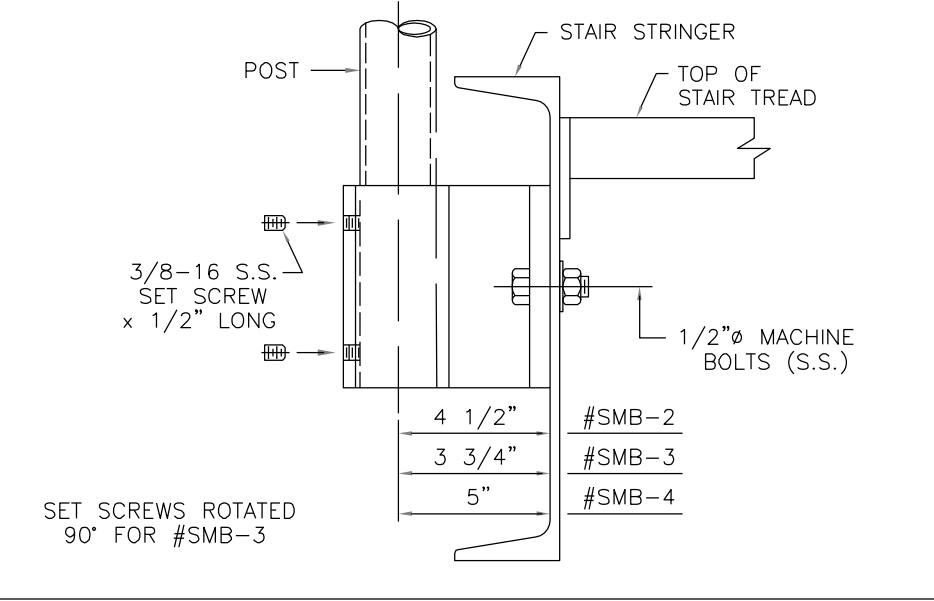
100% PLANS



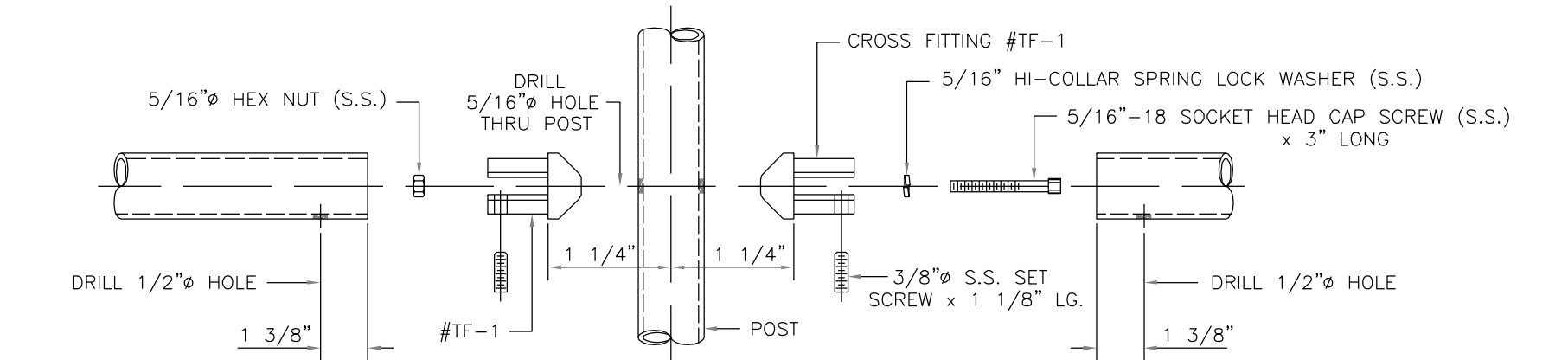
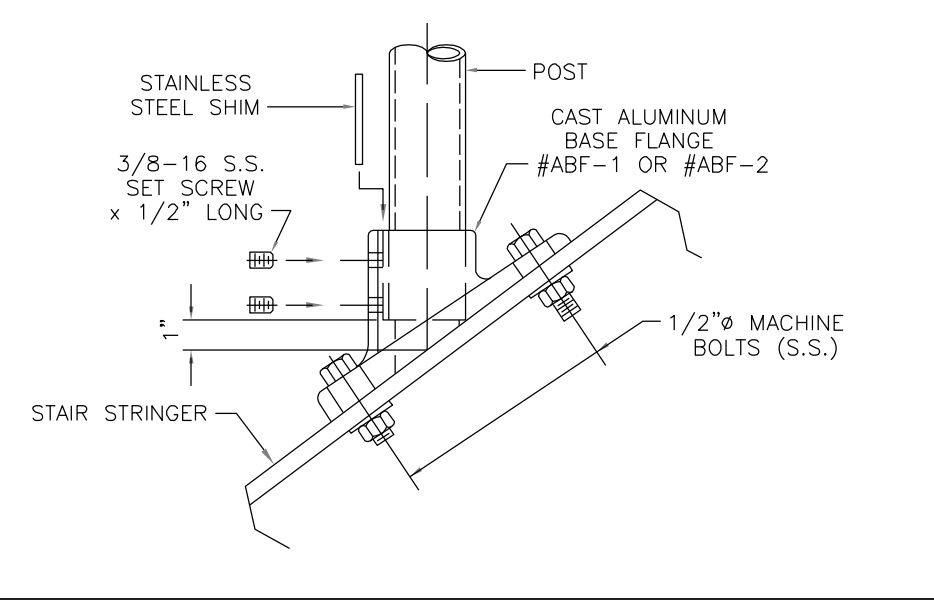
ELEVATION OF GUARDRAIL



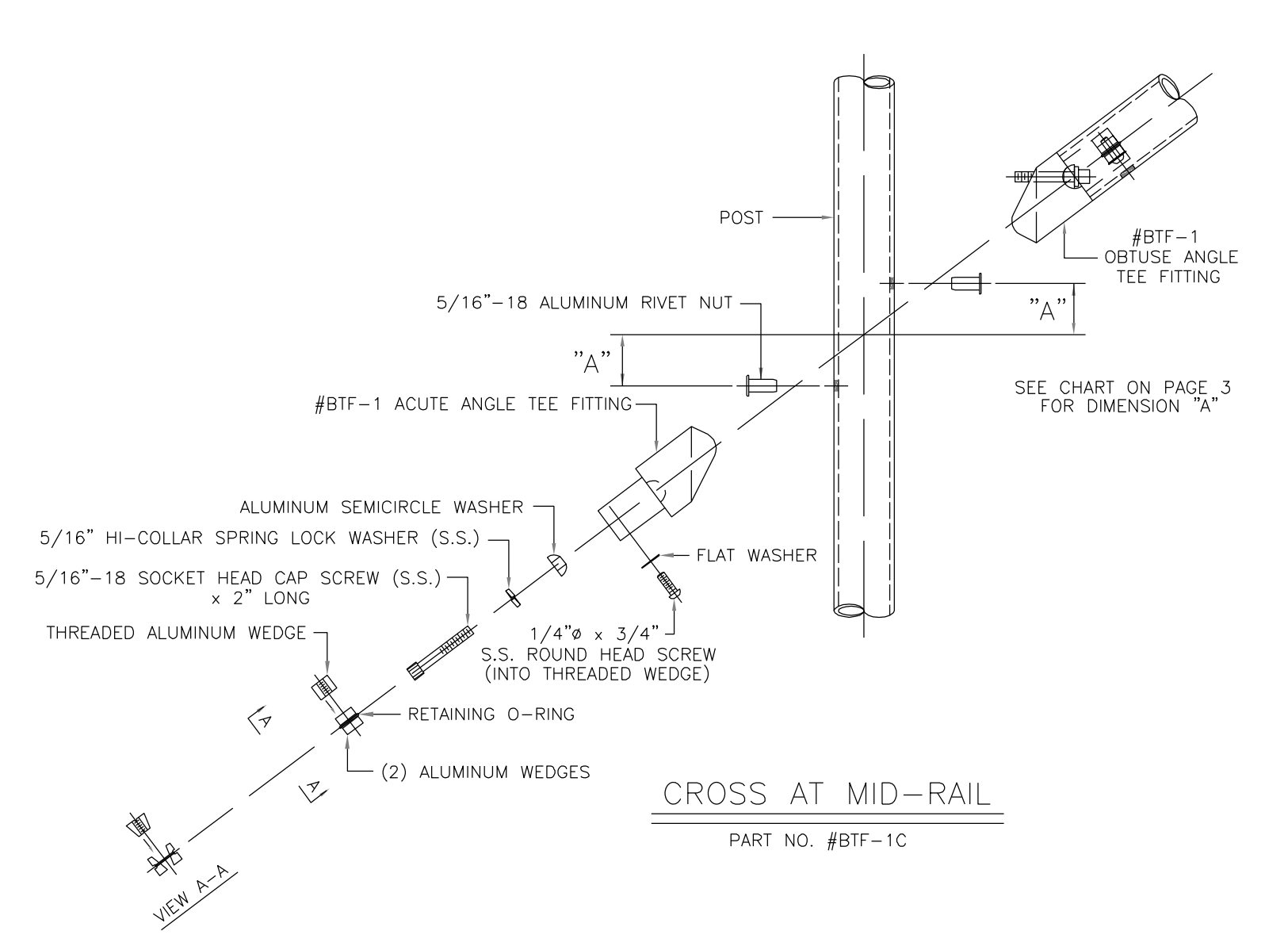
ELEVATION OF HANDRAIL



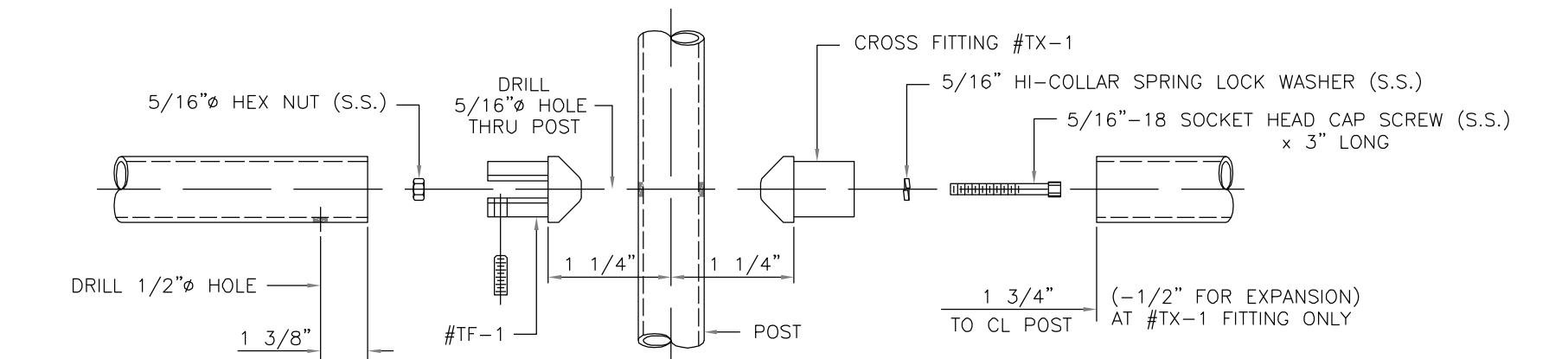
INSTALLATION OF SIDE-MOUNT BRACKETS



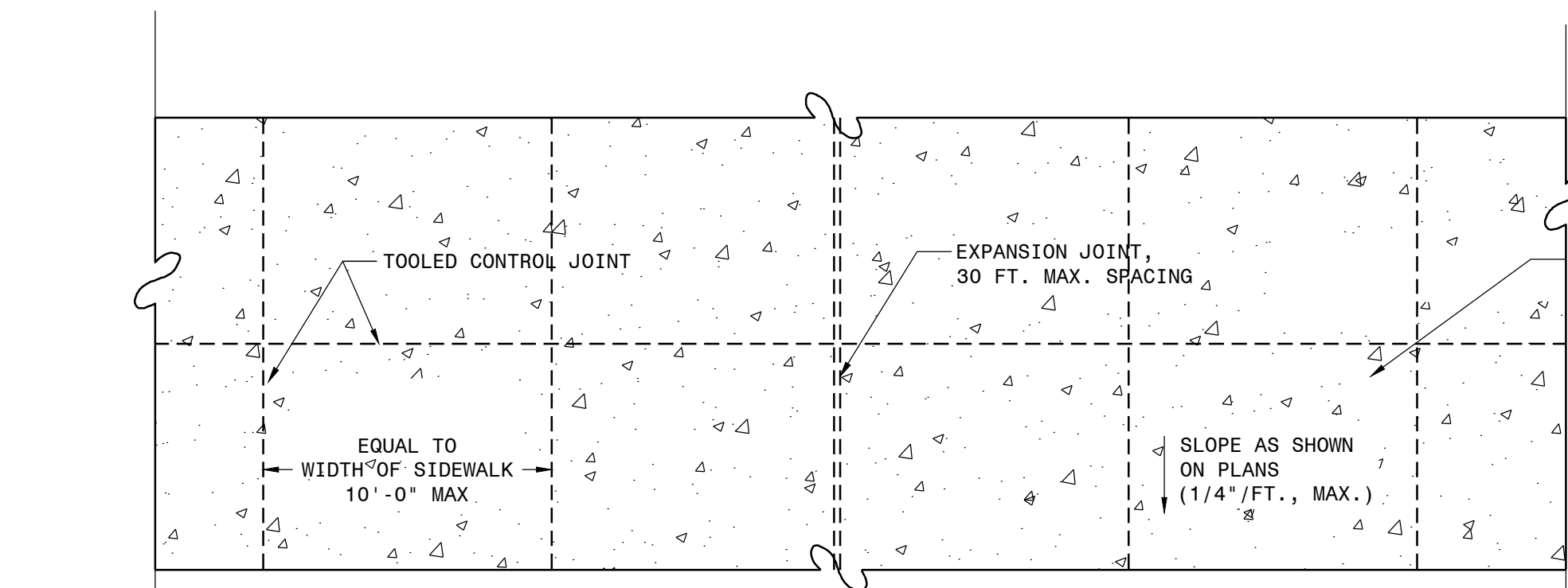
CROSS AT MID-RAIL
PART NO. #TF-1C



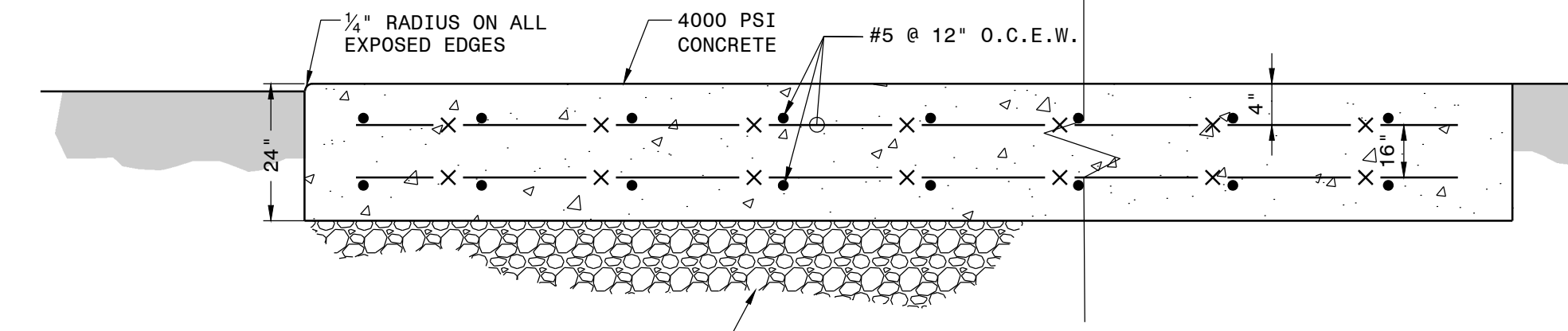
CROSS AT MID-RAIL
PART NO. #BTF-1C



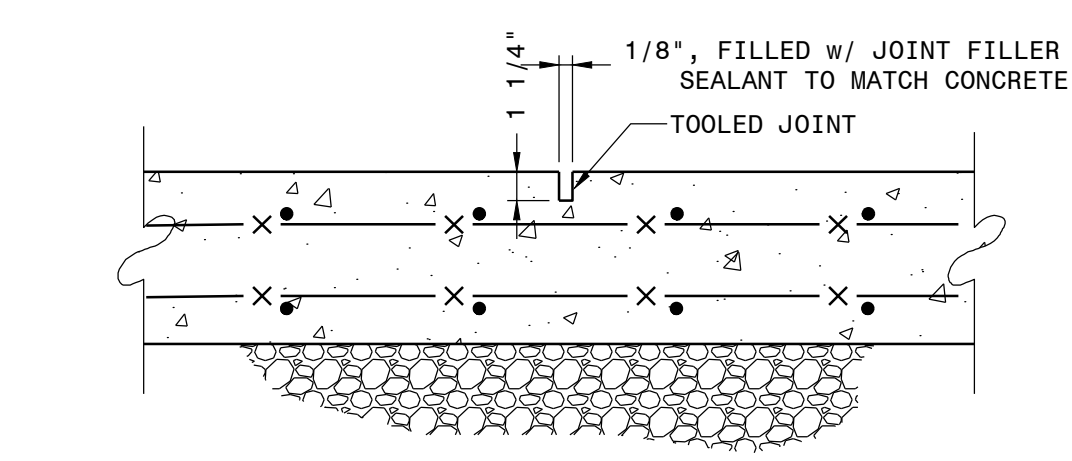
EXPANSION CROSS AT MID-RAIL
PART NO. #TX-1C



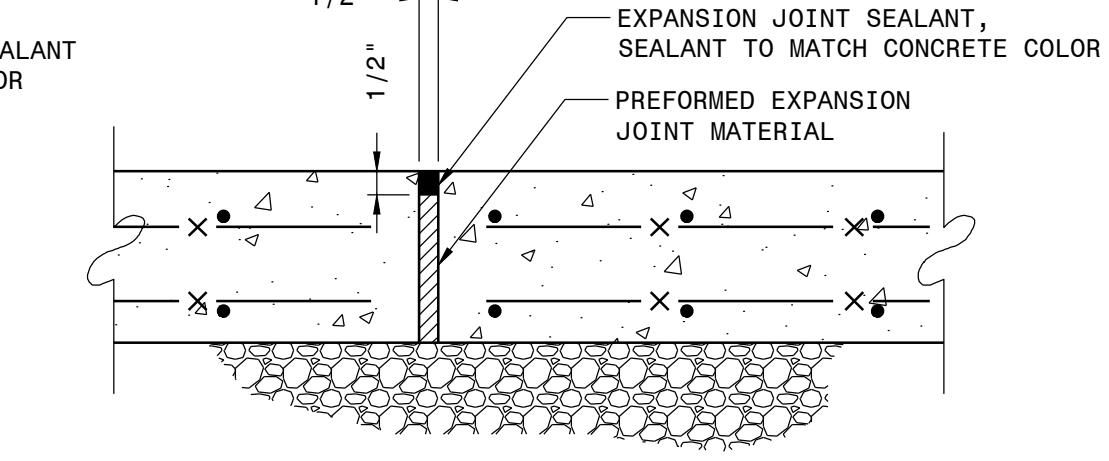
PLAN VIEW



CROSS SECTION



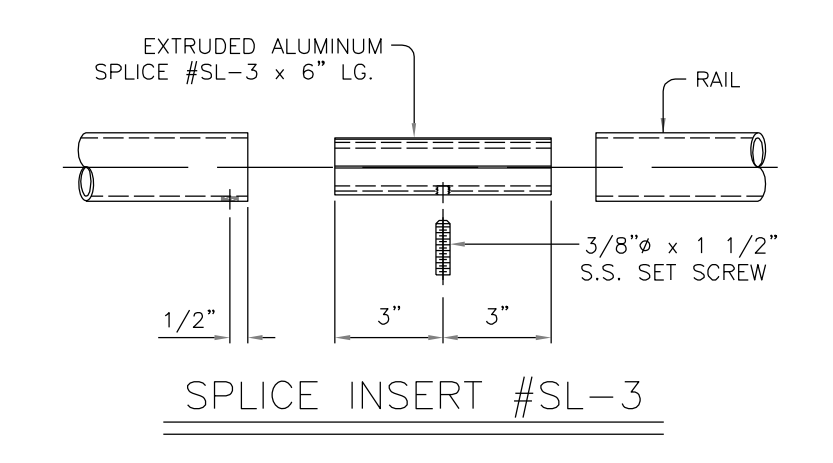
CONTROL JOINT (CJ)



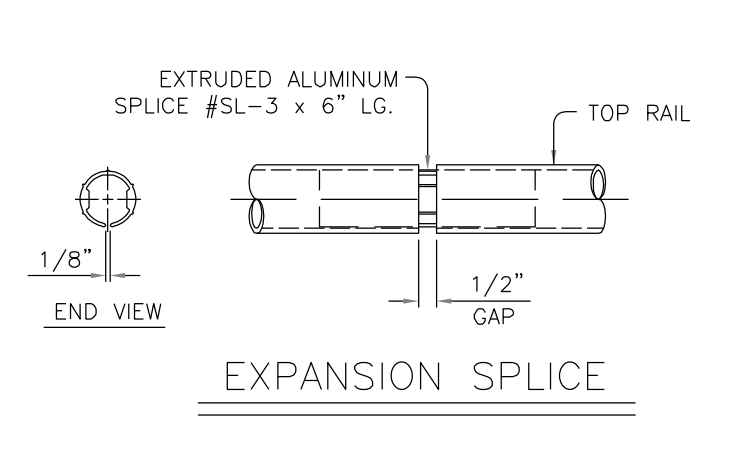
PREFORMED EXPANSION JOINT (PEJ)

CONCRETE PAD UNDER ELECTRICAL CONTROL PANEL
NOT TO SCALE

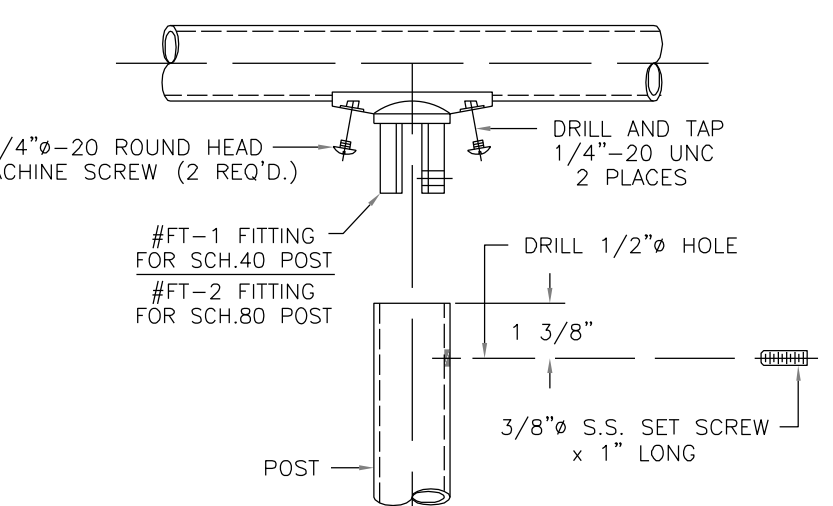
NOTE: CONTROL JOINTS SHALL BE EVENLY SPACED AT AN INTERVAL EQUAL TO THE WIDTH OF THE SIDEWALK. FOR CONCRETE PADS, EVENLY SPACE THE JOINTS TO CREATE SQUARE PANELS. MAXIMUM SPACING SHALL BE 10'.
 NOTE: PROVIDE EXPANSION JOINTS AT INTERSECTIONS OF WITH BUILDINGS, OTHER WALKS, AND WITH ANY OTHER FIXED STRUCTURES. SPACING ON RUNS OF CONCRETE SHALL BE 30' MAXIMUM.



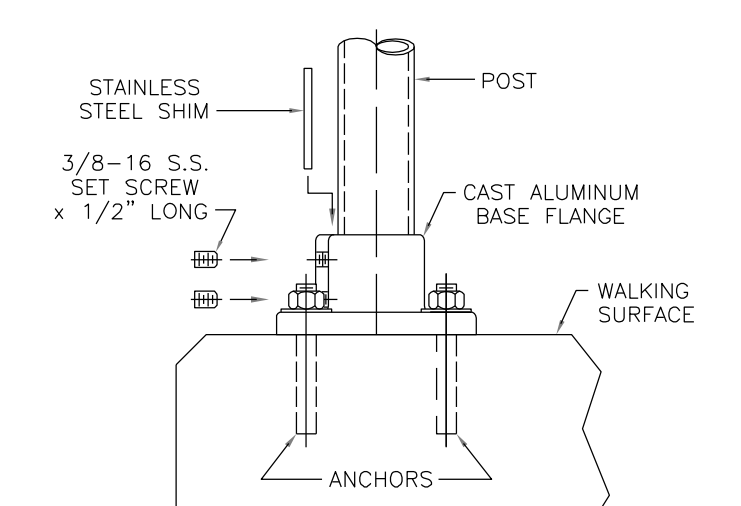
SPLICE INSERT #SL-3



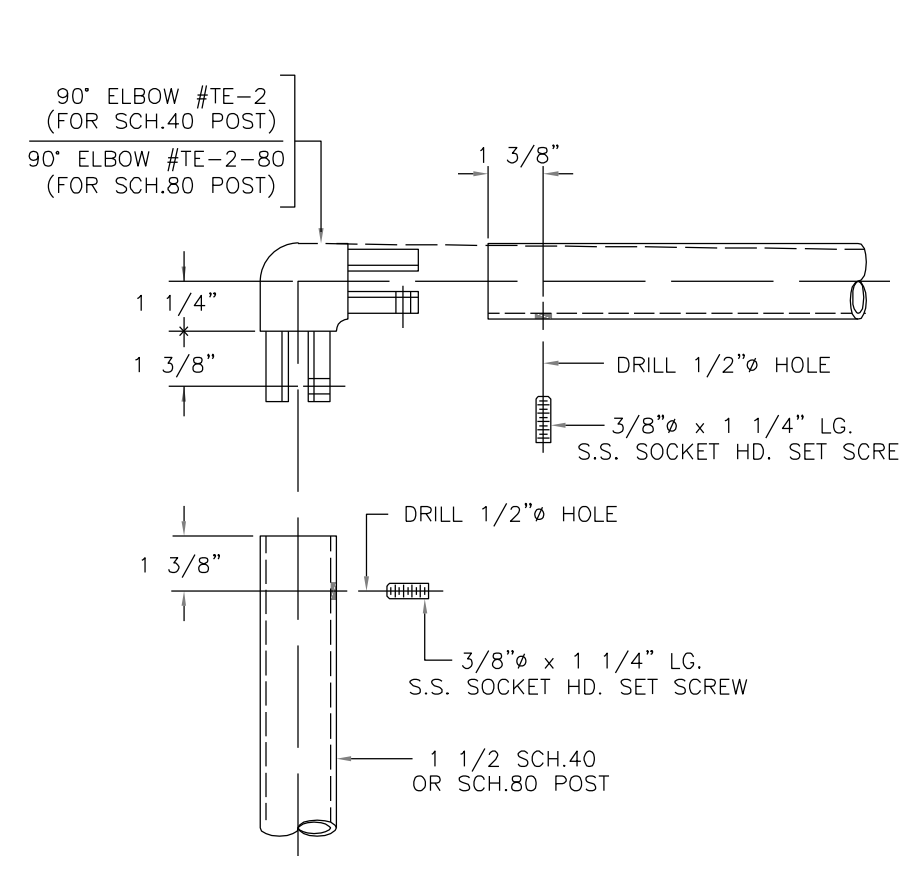
EXPANSION SPLICE



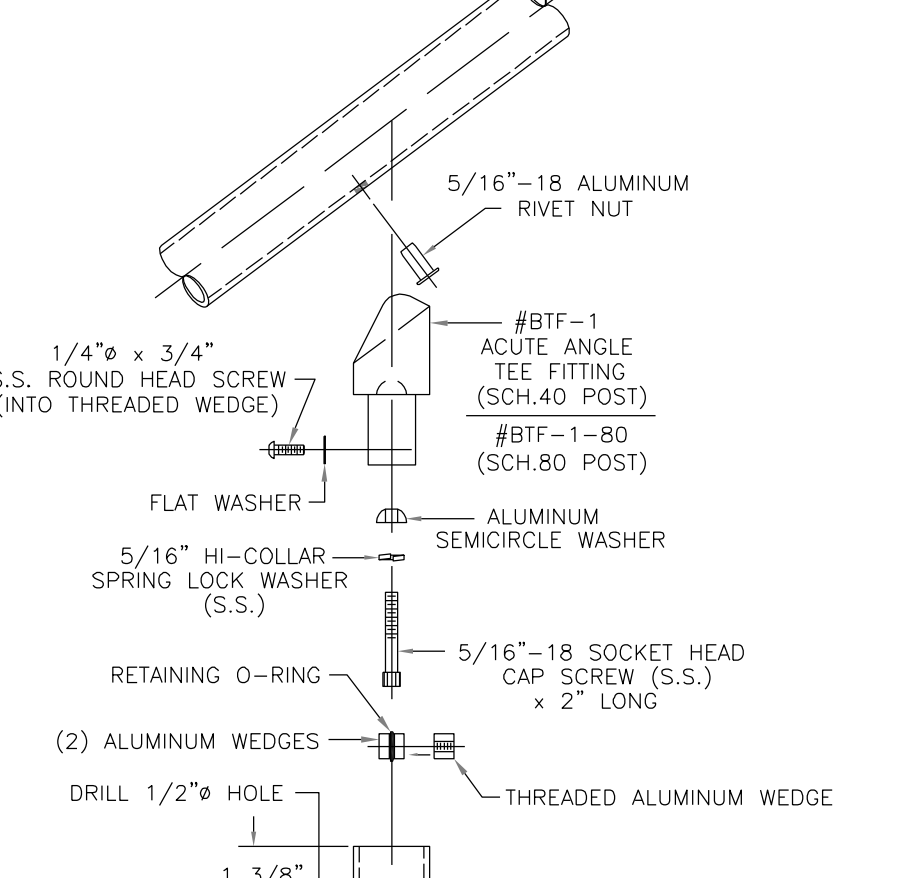
TOP RAIL TEE #FT-1/#FT-2



INSTALLATION OF BASE FLANGE



90° ELBOW #TE-2
#TE-3 SIMILAR



TOP RAIL FITTING #BTF-1
#BTF-1-80 FOR SCH.80 POST

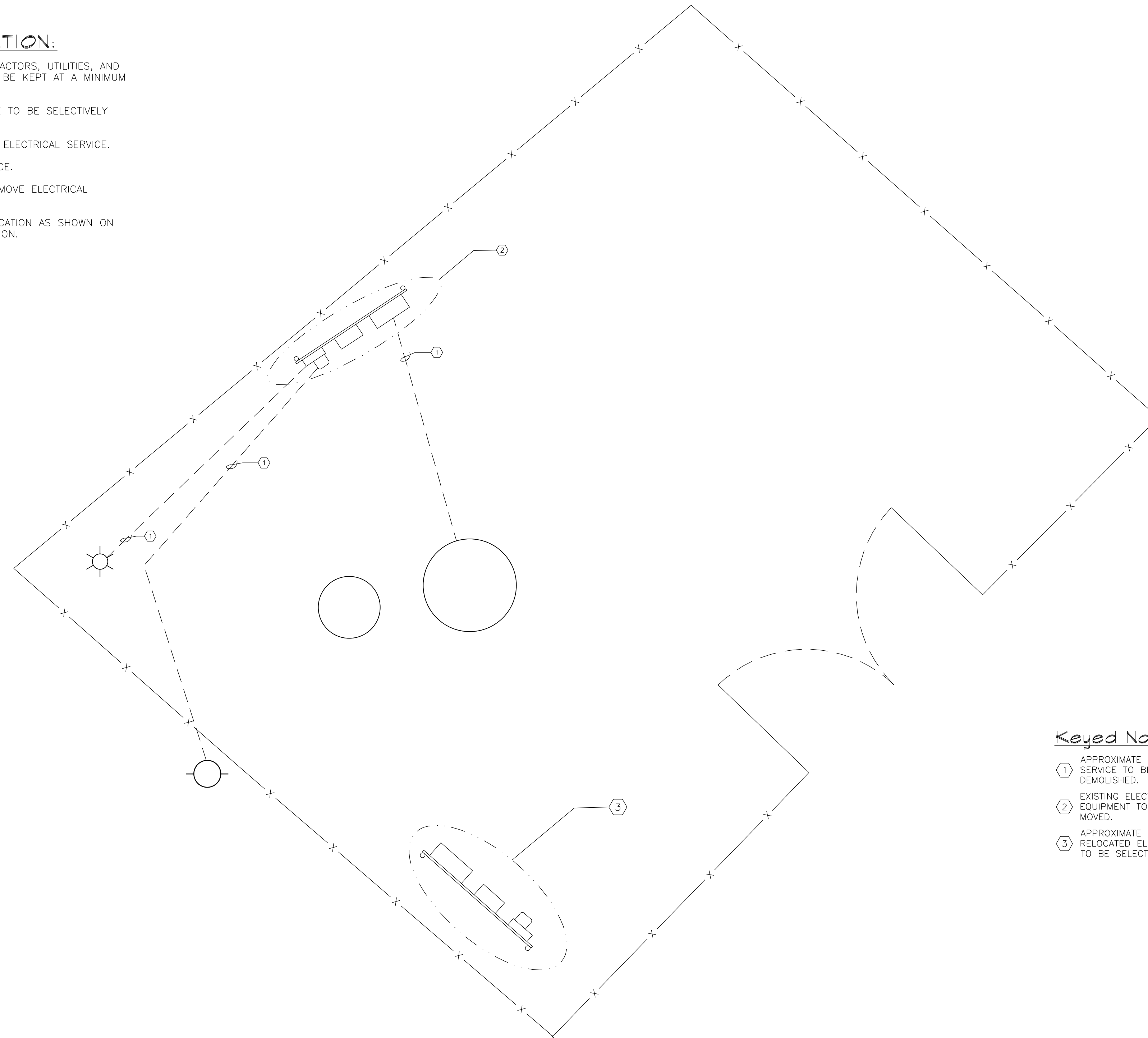
PUMP STATION

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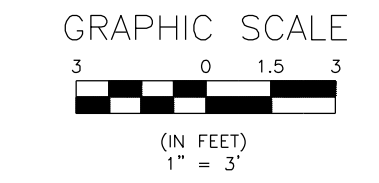
100% PLANS

SEQUENCE OF OPERATION:

- COORDINATE OPERATION WITH OTHER CONTRACTORS, UTILITIES, AND OWNER. PLANT OPERATION DISRUPTIONS TO BE KEPT AT A MINIMUM AND APPROVED BY OWNER.
- VERIFY LOCATION AND TYPE OF UG SERVICE TO BE SELECTIVELY DEMOLISHED.
- DISCONNECT UTILITY POWER FROM EXISTING ELECTRICAL SERVICE.
- DISCONNECT BRANCH CIRCUITS FROM SERVICE.
- BRACE ELECTRICAL GEAR AS REQUIRED TO MOVE ELECTRICAL EQUIPMENT AS ONE UNIT.
- MOVE AND ANCHOR EQUIPMENT TO NEW LOCATION AS SHOWN ON PLANS OR OTHER MUTUALLY AGREED LOCATION.
- CONNECT UTILITY SERVICE.
- CONNECT BRANCH CIRCUITS.
- RESTORE AND VERIFY CORRECT OPERATION.



- Keyed Notes:**
- ① APPROXIMATE LOCATION OF UG SERVICE TO BE SELECTIVELY DEMOLISHED.
 - ② EXISTING ELECTRICAL EQUIPMENT TO BE MOVED.
 - ③ APPROXIMATE LOCATION OF RELOCATED ELECTRICAL SERVICE TO BE SELECTIVELY DEMOLISHED.



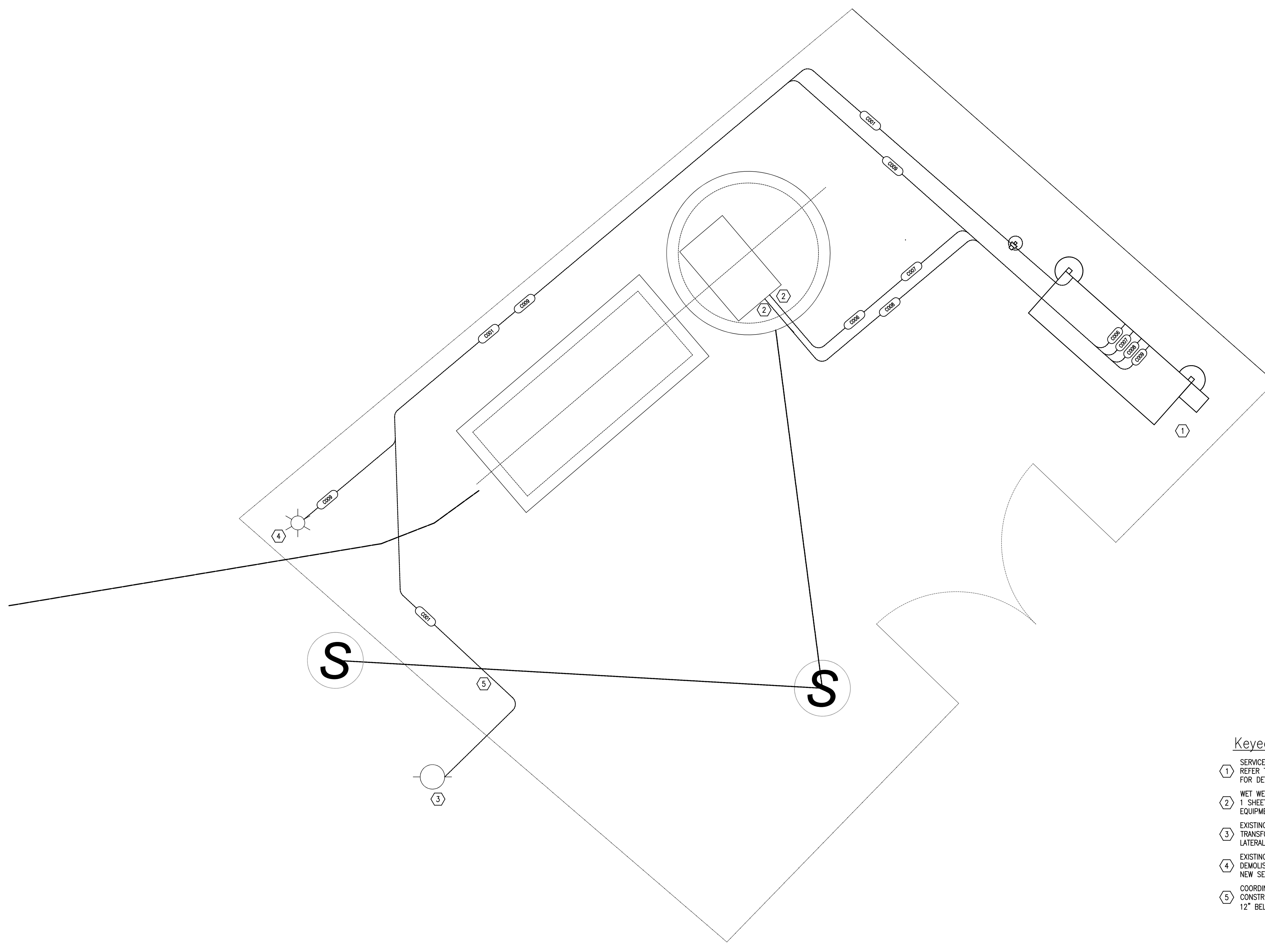
SELECTIVE DEMOLITION PLAN – ELECTRICAL
 SCALE: 1"=3'



PUMP STATION

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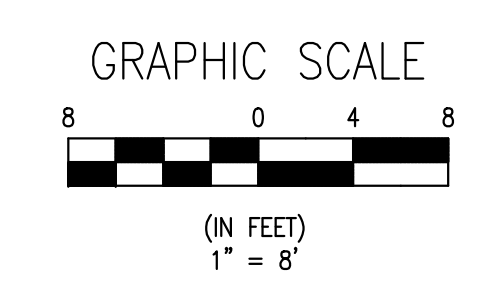
100% PLANS



Keyed Notes:

- ① SERVICE CANOPY. REFER TO SHEET E400 FOR DETAILS.
- ② WET WELL TERMINATION. SEE DETAIL 1 SHEET E501. COORDINATE WITH EQUIPMENT LOCATION.
- ③ EXISTING ELECTRICAL UTILITY TRANSFORMER POLE. COORDINATE UG LATERAL WITH UTILITY.
- ④ EXISTING LIGHT POLE TO REMAIN. SELECTIVELY DEMOLISH CIRCUIT AS REQUIRED TO FEED FROM NEW SERVICE. EXTEND AS REQUIRED.
- ⑤ COORDINATE UG CONDUIT INSTALLATION WITH WATER AND SEWER CONSTRUCTION IN THIS AREA. ELECTRICAL CONDUIT TO BE A MINIMUM OF 12" BELOW WATER AND SEWER. PROVIDE WARNING TAPE.

SITE PLAN – ELECTRICAL
 SCALE: 1"=8'



DESIGNED BY: RF
 DRAWN BY: RF
 CHECKED BY: RF
 APPROVED BY:
 REVISED:
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 UTILITIES ENGINEERING SEC.
 PHONE: (919) 707-6690
 FAX: (919) 250-4151



UTILITY CONSTRUCTION PLANS ONLY

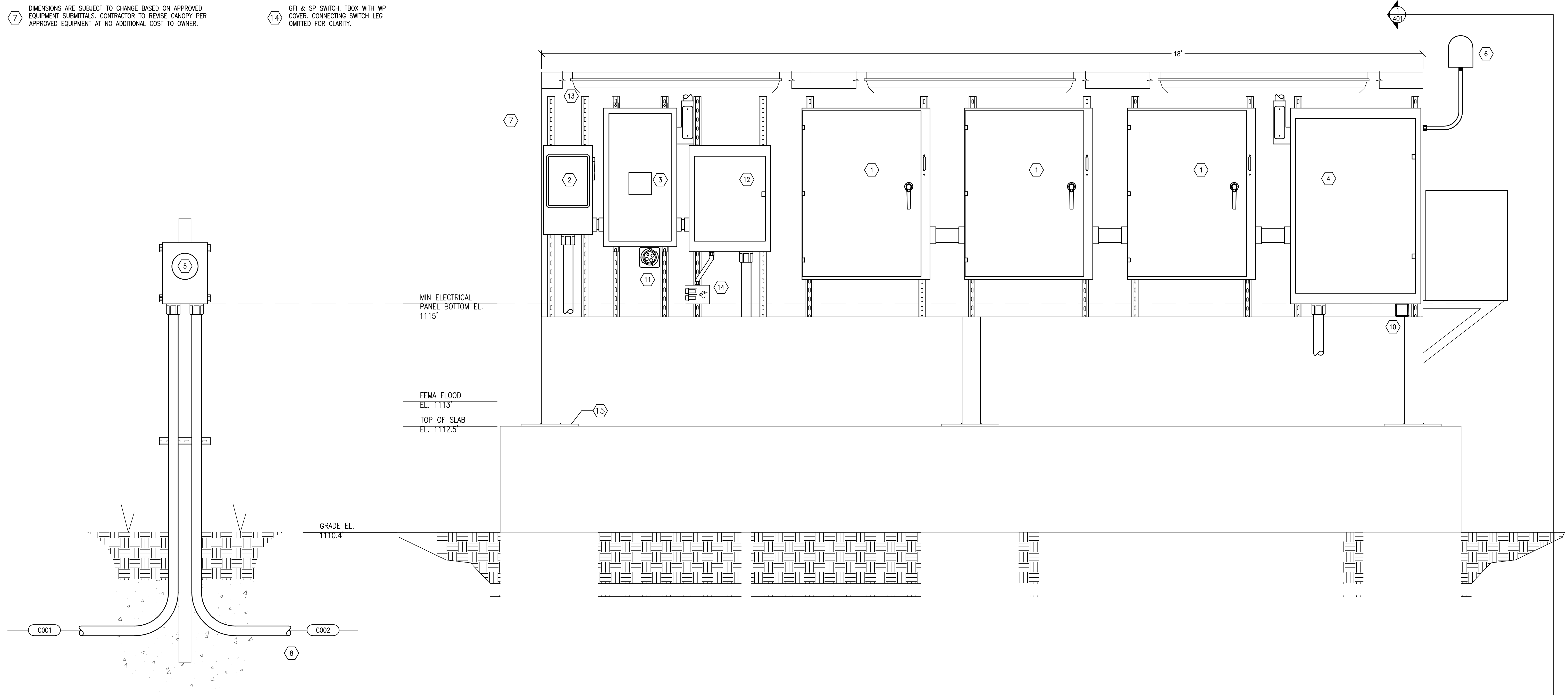
PUMP STATION

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100% PLANS

Keyed Notes:

- ① NEMA 4X CONTROL CABINET. PROVIDE BACK PANEL AND LOCKING HANDLE. SIZED BY VENDOR. MODIFY CANOPY DIMENSIONS AS REQUIRED.
- ② MAIN DISCONNECT. 200A, 3P, FUSED, NEMA 3R ENCLOSURE, SE RATED. PROVIDE GROUND BAR.
- ③ ASCO 200 AMP, 460 VOLT TRANSFER SWITCH, NEMA 3R W/ LOCKING HANDLE, 3P, SOLID NEUTRAL.
- ④ MDP, SQUARE D HCM I-LINE OR APPROVED EQUAL. SEE PANEL SCHEDULE. PROVIDE NEMA 3R ENCLOSURE W/ LOCKING HANDLE.
- ⑤ ELECTRIC UTILITY METER. COORDINATE WITH UTILITY.
- ⑥ FLASHING RED LED WARNING LIGHT. COORDINATE WITH CONTRLS VENDOR.
- ⑦ DIMENSIONS ARE SUBJECT TO CHANGE BASED ON APPROVED EQUIPMENT SUBMITTALS. CONTRACTOR TO REVISE CANOPY PER APPROVED EQUIPMENT AT NO ADDITIONAL COST TO OWNER.
- ⑧ CONDUITS SHOWN OUT OF POSITION FOR CLARITY. SEE CONDUIT & CABLE TABLE FOR CONDUIT CONFIGURATION AND ATTACHMENT POINTS. (TYPICAL)
- ⑨ PROVIDE MARKING PER NEC 250.21(C) "CAUTION: UNGROUNDED SYSTEM OPERATING - 480 VOLTS BETWEEN CONDUCTORS".
- ⑩ MERSEN STXR480D05, 460 VOLT DELTA SURGE PROTECTOR.
- ⑪ HUBBELL 4100R5W RECEPTACLE. 460V 4 WIRE. ROTATED 90° FOR CLARITY.
- ⑫ PANEL B, SQUARE D NOOD OR APPROVED EQUAL. SEE PANEL SCHEDULE. PROVIDE NEMA 3R ENCLOSURE W/ LOCKING HANDLE.
- ⑬ LIGHT FIXTURE TYPE A. SEE LIGHT FIXTURE SCHEDULE SHEET E000.
- ⑭ GFI & SP SWITCH. TBOX WITH WP COVER. CONNECTING SWITCH LEG OMITTED FOR CLARITY.
- ⑮ 1/2" x 14" x 14" BASE PLATE. ANCHOR WITH 4 3/4" x 7" WEJ-IT ANCHORS OR APPROVED EQUAL. (TYPICAL FOR 3)



ELECTRICAL EQUIPMENT CANOPY
 SCALE: 1/2" = 1'

DESIGNED BY: RF
 DRAWN BY: RF
 CHECKED BY: RF
 APPROVED BY:
 REVISED:



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 DEPARTMENT OF
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UTILITY CONSTRUCTION
 PLANS ONLY

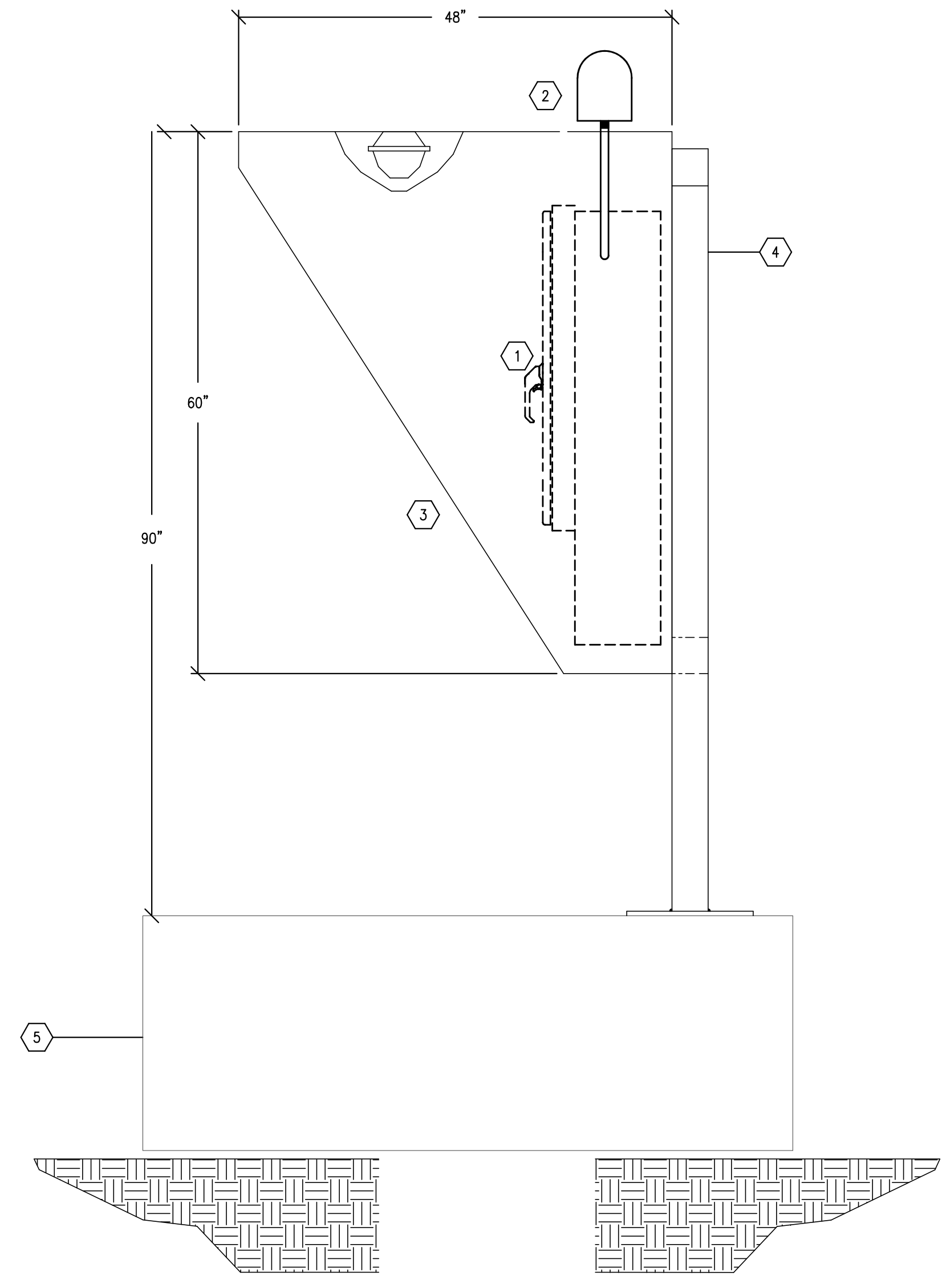
PUMP STATION

**DOCUMENT NOT CONSIDERED FINAL
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100% PLANS

Keyed Notes:

- 1 NEMA 4X CONTROL CABINET. PROVIDE BACK PANEL AND LOCKING HANDLE. SIZED BY VENDOR. ADJUST CANOPY DIMENSIONS AS REQUIRED.
 - 2 FLASHING RED LED WARNING LIGHT. COORDINATE WITH CONTRLS VENDOR.
 - 3 20 GAUGE 316 gauge S.S. CANOPY ENCLOSURE. WELDED CONSTRUCTION.
 - 4 4x4 STRUCTURAL TUBING. SAND BLAST, PRIMED, AND PAINTED. CANOPY SUPPORT FRAME. WELDED CONSTRUCTION.
 - 5 NOMINAL 20' x 6' CONCRETE PAD.
- 8 GENERAL REVISIONS IN RESPONSE TO REVIEW COMMENTS



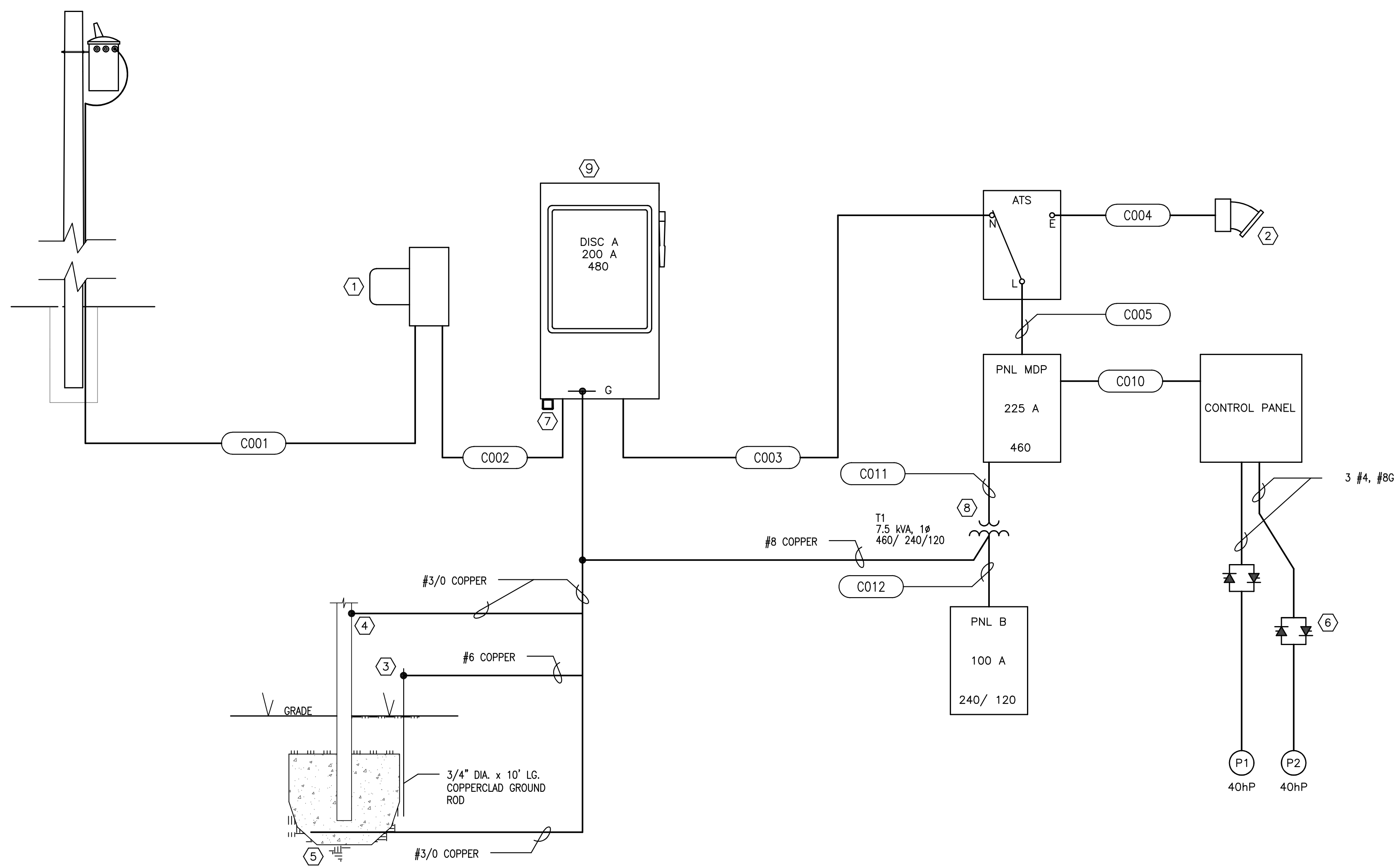
1 CANOPY ELEVATION
 E401 SCALE: 1/2" = 1'



PUMP STATION

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100% PLANS



Keyed Notes:

- 1 UTILITY METERING. SEE SHEET E400 FOR DETAILS. COORDINATE WITH UTILITY.
- 2 GENERATOR RECEPTACLE. HUBBELL 4100R5W. 4 WIRE. 460 VOLT DELTA.
- 3 PROVIDE APPROVED MECHANICAL CLAMP.
- 4 BOND CANOPY SUPPORT COLUMN TO SYSTEM GROUND.
- 5 ENCASE A MINIMUM OF 20" BARE 3/8" IN METER BASE SUPPORT. REFERENCE NEC ARTICLE 250.52(3).
- 6 PROVIDE SQUARE D AITS22 SERIES OR APPROVED EQUAL SOFT START. MOUNTED IN CONTROL CABINET.
- 7 FURNISH & INSTALL MERSEN STXR480005 OR APPROVED EQUAL SURGE PROTECTOR. CONNECT TO LINE SIDE OF INCOMING ELECTRIC SERVICE.
- 8 TRANSFORMER TO BE SQUARE D 751FSS OR APPROVED EQUAL. MOUNT ON SERVICE CANOPY FRAME. REFERENCE SHEET E400.
- 9 PROVIDE PHENOLIC PLACARD TO READ: "AVAILABLE FAULT CURRENT XX,XXX AC. DATE" COORDINATE WITH UTILITY. IN STRICT COMPLIANCE WITH NEC ARTICLE 110.24(A).

ELECTRICAL POWER RISER
 SCALE: N.T.S.

VOLTAGE: 460 AMPS: 225 AIC: 22K		PANEL MDP										MAIN BREAKER: M.L.O. PHASE: 3 WIRE: 3 MOUNTING: NEMA 3R			
CKT	DESCRIPTION	C	W	P	CB	PHASE LOADS			VA	CB	P	W	C	DESCRIPTION	CKT
						A	B	C							
1	40 HP PUMPS	1-1/2	1	3	125	28821	28821	28821	20	1				SPACE	2
3					125	28821	28821		20	1				SPACE	4
5					125	28821	28821		20	1				SPACE	6
7	SITE LIGHT	3/4	12	2	20	920	1100		180	30	2	10	3/4	PANEL B	8
9					20	920		1072	152	30	2			SPACE	10
11	SURGE PROTECTOR	3/4	10	3	30			0		20	1			SPACE	12
13					30			0		20	1			SPACE	14
15					30			0		20	1			SPACE	16
17					30			0		20	1			SPACE	18
VA/PHASE:						29921	29893	28821	NEC LOAD: 89134						
TOTAL VA:						88635			AMPS: 107						
TOTAL AMPS:						107									
NEC LOAD/PHASE:						30164	30136	28834							

NOTES:
 1. SQUARE D ILINE TYPE HCM
 2. PROVIDE EQUIPMENT GROUND BAR KIT.
 3. 27" CIRCUIT BREAKER MTG. SPACE

VOLTAGE: 240/120 AMPS: 125 AIC: 10K		PANEL B										MAIN BREAKER: 60 PHASE: 1 WIRE: 3 MOUNTING: NEMA 3R					
CKT	DESCRIPTION	C	W	P	CB	PHASE LOADS			VA	CB	P	W	C	DESCRIPTION	CKT		
						A	B	C									
1	MAIN	1	6	2	60				180	152	180	20	1	12	1/2	RECEPTACLE	2
3					60					152	152	20	1	12	1/2	CANOPY LIGHT	4
5								0									6
7								0									8
VA/PHASE:						180	152		NEC LOAD: 332								
TOTAL VA:						332			AMPS: 1								
TOTAL AMPS:						1											
NEC LOAD/PHASE:						180	152										

NOTES:
 1. SQUARE D NQOD
 2. PROVIDE GROUND BAR
 3. MH26WP

