

CSX913070 EXHIBIT A REV 1

CSX PROPERTY SERVICES REVIEW

No Exceptions Exceptions Noted

This review is for the general conformance with CSX utility design specifications only. Sole responsibility for all aspects of the overall design shall remain with the facility owner. This review does not constitute approval to proceed without meeting all of CSX's safety and contractual requirements.

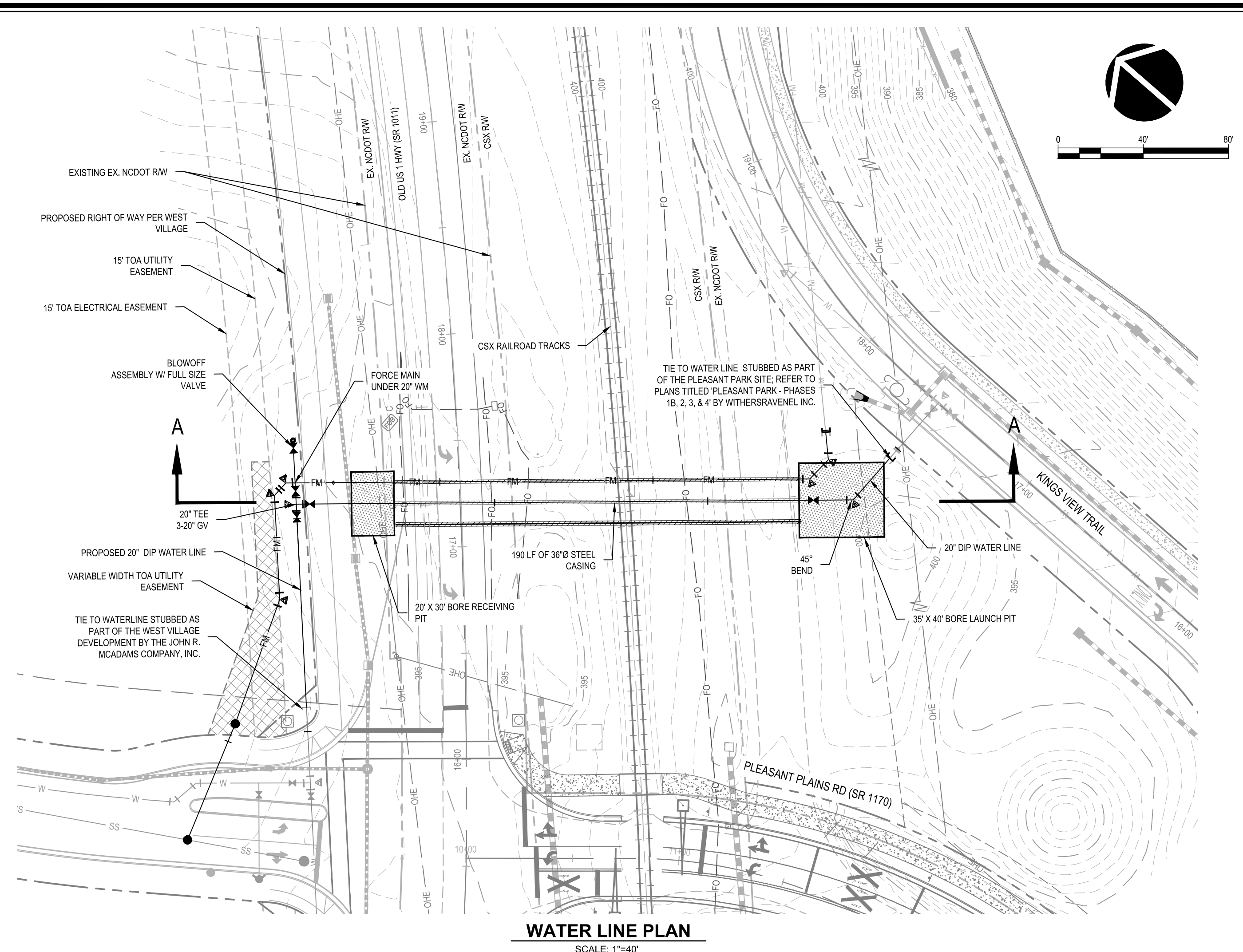
By: 

10/01/2021

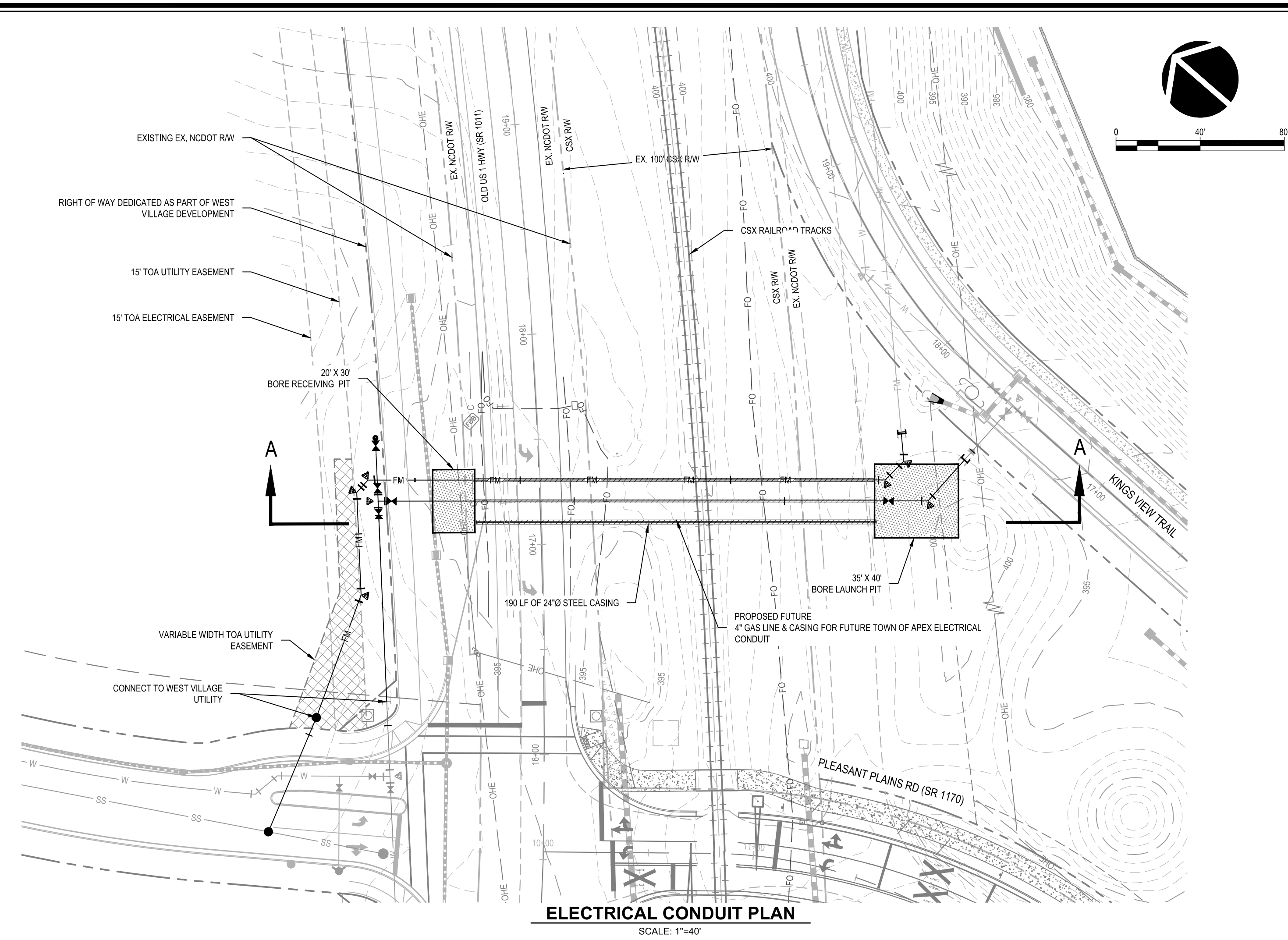
CSXT GENERAL NOTES:

1. REFER TO THE CSXT PIPELINE DESIGN & CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. THE FRONT OF THE PIPE SHALL BE PROVIDED WITH MECHANICAL ARRANGEMENTS OR DEVICES THAT WILL POSITIVELY PREVENT THE AUGER FROM LEADING THE PIPE SO THAT NO UNSUPPORTED EXCAVATION IS AHEAD OF THE PIPE. THE BORE HEAD / AUGER SET-UP (SKETCH OR PHOTOS) SHALL BE SUBMITTED BY CONTRACTOR AND ACCEPTED BY ASSIGNED CSXT DESIGNEE PRIOR TO START OF THE JACK & BORE.
3. THE OPERATION SHALL BE PROGRESSED ON A 24-HOUR BASIS WITHOUT STOPPAGE (EXCEPT FOR ADDING LENGTHS OF PIPE) UNTIL THE LEADING EDGE OF THE PIPE HAS REACHED THE RECEIVING PIT.
4. THE AUGER AND CUTTING HEAD ARRANGEMENT SHALL BE REMOVABLE FROM WITHIN THE PIPE IN THE EVENT AN OBSTRUCTION IS ENCOUNTERED.
5. PIPELINE SHALL BE PROMINENTLY MARKED AT BOTH SIDES OF THE CSXT PROPERTY LINES BY DURABLE, WEATHERPROOF SIGNS LOCATED OVER THE CENTERLINE OF THE PIPE IN ACCORDANCE WITH CSXT SPECIFICATIONS.
6. NO CONSTRUCTION OR ENTRY UPON THE CSXT CORRIDOR IS PERMITTED UNTIL THE DOCUMENT TRANSACTION IS COMPLETED, YOU ARE IN RECEIPT OF A FULLY EXECUTED DOCUMENT, AND YOU HAVE OBTAINED AUTHORITY FROM THE LOCAL ROADMASTER.
7. IF REQUIRED, A DEWATERING PLAN IN ACCORDANCE WITH CSXT SPECIFICATIONS WILL BE SUBMITTED TO THE CSXT DESIGNEE FOR REVIEW AND APPROVAL PRIOR TO ANY DEWATERING OPERATIONS.
8. BLASTING IS NOT PERMITTED UNDER OR ON CSXT PROPERTY.
9. CSXT DOES NOT GRANT OR CONVEY AN EASEMENT FOR THIS INSTALLATION.
10. ALL PERSONNEL SHALL RECEIVE SAFETY BRIEFINGS BY A CSXT FLAGMAN OR DESIGNATED CSXT DESIGNEE EACH DAY BEFORE BEGINNING WORK ON THE RIGHT OF WAY. ADDITIONAL SAFETY BRIEFINGS MAY BE REQUIRED WHEN CONDITIONS AND/OR WORK SITES ARE CHANGED.
11. AGENCY OR ITS CONTRACTOR SHALL ARRANGE AND CONDUCT ITS WORK SO THAT THERE WILL BE NO INTERFERENCE WITH CSXT OPERATIONS, INCLUDING TRAIN, SIGNAL, TELEPHONE AND TELEGRAPHIC SERVICES, OR DAMAGES TO CSXT'S PROPERTY, OR TO POLES, WIRES, AND OTHER FACILITIES OF TENANTS OF CSXT'S PROPERTY OR RIGHT-OF-WAY.
12. CONTRACTOR ACCESS WILL BE LIMITED TO THE IMMEDIATE PROJECT AREA ONLY. THE CSXT RIGHT-OF-WAY OUTSIDE THE PROJECT AREA MAY NOT BE USED FOR CONTRACTOR ACCESS TO THE PROJECT SITE AND NO TEMPORARY AT-GRADE CROSSINGS WILL BE ALLOWED.
13. ALL MATERIAL AND EQUIPMENT WILL BE STAGED TO NOT BLOCK ANY CSXT ACCESS OR MAINTENANCE ROADS. NO HOISTING OR AUXILIARY EQUIPMENT NECESSARY FOR THE PROCEDURE SHALL BE PLACED ON CSXT TRACK STRUCTURE AND / OR BALLAST SECTION. CLEAR WORKING LOCATIONS FOR EQUIPMENT USED WILL BE LAID OUT AND APPROVED BY THE CSXT FLAGGER PRIOR TO EQUIPMENT SET-UP.
14. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL ACTIVE RAILROAD FACILITIES, INCLUDING ELECTRICAL, WATER LINES, SEWER LINES, COMMUNICATION AND SIGNAL LINES AS WELL AS UNDERGROUND PIPING. THE CONTRACTOR SHALL BE REQUIRED TO KEEP ALL EQUIPMENT AND MATERIAL A MINIMUM OF SIX (6) FEET FROM AFOREMENTIONED ELEVATED COMMUNICATION AND SIGNAL FACILITIES.
15. CONTRACTOR MUST CONDUCT ALL OF ITS WORK IN A SAFE MANNER. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH RULES, REGULATIONS, PROCEDURES AND SAFE PRACTICES OF CSXT, OSHA, THE FRA AND ALL OTHER GOVERNMENT AGENCIES HAVING JURISDICTION OVER THE PROJECT.
16. OWNER SHALL REIMBURSE CSXT DIRECTLY FOR ALL COSTS OF FLAGGING AND INSPECTION SERVICE THAT ARE REQUIRED ON ACCOUNT OF CONSTRUCTION WITHIN CSXT PROPERTY SHOWN IN THE PLANS, OR COVERED BY AN APPROVED PLAN REVISION, SUPPLEMENTAL AGREEMENT OR CHANGE ORDER. INSPECTION SERVICE SHALL NOT RELIEVE CONTRACTOR FROM LIABILITY FOR ITS WORK.
17. OWNER OR CONTRACTOR SHALL GIVE A MINIMUM OF 30 DAYS' ADVANCE NOTICE TO CSXT DESIGNEE FOR ANTICIPATED NEED FOR FLAGGING AND INSPECTION SERVICE. NO WORK SHALL BE UNDERTAKEN UNTIL THE FLAG PERSON(S) AND INSPECTOR(S) IS/ARE AT THE JOB SITE. IF IT IS NECESSARY FOR CSXT TO ADVERTISE A FLAGGING JOB FOR BID, CSXT SHALL NOT BE LIABLE FOR THE COST OF DELAYS ATTRIBUTABLE TO OBTAINING SUCH SERVICE.
18. THE RIGHT OF WAY SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE CONDITION PRIOR TO BEGINNING THE PROJECT BEFORE FINAL ACCEPTANCE WILL BE PROVIDED. PUNCH LISTS SHALL BE RESPONDED TO PRIOR TO ISSUANCE OF AN ACCEPTANCE MEMORANDUM SIGNED BY THE CSXT DESIGNEE.
19. JACKING PIT: IDENTIFY HAZARDS AND PUT CONTROLS IN PLACE PRIOR TO START OF EXCAVATION. CONTRACTOR SHALL ERECT A BARRIER AND CONSTRUCTION FENCE ALONG THE FACE OF JACKING PIT CONSTRUCTION LIMITS AND NOT ENCROACH PAST IT WHEN PREPARING THE PIT. STAKE OR MARK PIT AS NEEDED FOR DIGGING. EROSION CONTROL DEVICES SHALL BE PLACED AT THE JACKING AND RECEIVING PITS PROTECTING CSXT PROPERTY AND DITCHES TO THE SATISFACTION OF THE CSXT DESIGNEE.
20. TRENCH EXCAVATION SHALL BE OF SUCH DIMENSIONS AS TO PROVIDE AMPLE ROOM FOR CONSTRUCTION. TRENCH WIDTHS SHALL BE AT LEAST 12 INCHES WIDER THAN THE OUTSIDE DIAMETER OF THE PIPE (6-INCHES EITHER SIDE OF THE PIPE). THE BOTTOM OF THE TRENCH, IN SO FAR AS IS PRACTICAL, SHALL BE EXCAVATED TO PERMIT PROPER PLACEMENT OF THE PIPE. THE EXCAVATION FOR THE PIPELINE SHALL INCLUDE THE REMOVAL OF ANY OBSTRUCTIONS ENCOUNTERED. THE TRENCH SHALL BE EXCAVATED TO A DEPTH AT LEAST 3 INCHES BELOW THE OUTSIDE BOTTOM ELEVATION OF THE PLANNED PIPELINE. WHEN NECESSARY, ALL EXCAVATIONS SHOULD BE DEWATERED PRIOR TO AND DURING INSTALLATION AND BACKFILLING OF THE SYSTEM.
21. COMPACT ALL BACKFILL IN EXCAVATIONS AND TRENCHES TO 95% MAXIMUM DRY DENSITY AS DEFINED IN ASTM STANDARD D1557. USE CLEAN, SUITABLE BACKFILL MATERIAL, INSTALL IN SIX-INCH LIFTS AND COMPACT.
22. BEDDING MATERIAL SHALL BE GRANULAR BACKFILL IDENTICAL TO SUBBALLAST, OR A WELL GRADED CRUSHED STONE OR GRAVEL.
23. BACKFILL, COVER OR FENCE ALL EXCAVATIONS WHEN UNATTENDED. THE CSXT DESIGNEE WILL APPROVE THE PROTECTION METHOD AND THE TYPE OF FENCING MATERIAL. SET FENCING BACK AT LEAST 3 FEET (91 CENTIMETERS) FROM THE EDGES OF THE EXCAVATION. SET FENCE POSTS SECURELY IN THE GROUND AND INSURE THE FENCING IS SECURELY TIED TO POSTS WITH ZIP TIES OR SOME OTHER TIE WRAP PRODUCT.
24. TRACK MONITORING: PRIOR TO COMMENCING JACK & BORE OPERATIONS, CONTRACTOR SHALL BE REQUIRED TO CONDUCT AND SUBMIT A BASELINE SURVEY ALONG THE TOP OF EACH RAIL UNDER CSXT FLAGGER PROTECTION. ADDITIONAL SURVEY DATA SHALL BE COLLECTED AND SUBMITTED ONCE EACH DAY DURING CASING PIPE INSTALLATION, OR AS DIRECTED BY CSXT DESIGNEE. CONTRACTOR SHALL ALSO TAKE ELEVATION SHOTS AT TOP OF TIE AND TOP OF CASING PIPE BEFORE STARTING THE BORE TO VERIFY DEPTH OF COVER PROPOSED FOR THE WORK HAS BEEN MET.
25. EXCAVATION: IF THE EXCAVATION IS 5 FEET OR GREATER IN DEPTH, THE WALLS MAY BE SLOPED AT 1.5 HORIZONTAL TO 1 VERTICAL TO REDUCE THE RISK OF CAVE-INS OR SLIDES. A SAFE MANNER IN WHICH TO ENTER AND EXIT THE EXCAVATION MUST BE ESTABLISHED. THE TOE OF SLOPES IN EXCAVATION SHALL IN NO CASE BE UNDERCUT BY POWER SHOVELS, BULLDOZERS, GRADERS, BLASTING, OR IN ANY MANNER. EXCAVATION SHALL NOT BE MADE IN EXCESS OF THE AUTHORIZED CROSS-SECTION.
26. PROJECTS THAT GENERATE SOILS FROM CSXT PROPERTY MUST ADHERE TO CSXT'S SOIL MANAGEMENT POLICIES. CSXT REQUIRES SOILS GENERATED FROM ITS PROPERTY TO EITHER BE REUSED ON CSXT PROPERTY OR PROPERLY DISPOSED IN A CSXT APPROVED DISPOSAL FACILITY. CSXT ENVIRONMENTAL DEPARTMENT WILL HANDLE WASTE CHARACTERIZATION AND PROFILING INTO AN APPROVED DISPOSAL FACILITY. CSXT PROHIBITS ANY ENVIRONMENTAL SAMPLING ON ITS PROPERTY UNLESS GRANTED THROUGH AN WRITTEN ENVIRONMENTAL RIGHT-OF-ENTRY OR APPROVED IN WRITING BY THE CSXT ENVIRONMENTAL DEPARTMENT. THE MANAGEMENT OF SOILS GENERATED FROM CSXT PROPERTY SHOULD BE PLANNED FOR AND PROPERLY PERMITTED (IF APPLICABLE) PRIOR TO INITIATING ANY WORK ON CSXT PROPERTY. A LIST OF CSXT APPROVED LABORATORIES AND/OR DISPOSAL FACILITIES MAY BE OBTAINED FROM THE CSXT MANAGER ENVIRONMENTAL PROGRAMS.
27. CONTRACTOR ALSO HAS THE SOLE RESPONSIBILITY OF ASCERTAINING THAT ALL OTHER UTILITIES HAVE BEEN PROPERLY LOCATED BY COMPLYING WITH THE LOCAL "CALL BEFORE YOU DIG" REGULATION(S). CONTRACTOR SHALL SOLELY BE RESPONSIBLE FOR NOTIFYING OWNERS OF ADJACENT PROPERTIES AND OF UNDERGROUND FACILITIES AND UTILITY OWNERS WHEN PROSECUTION OF THE WORK MAY AFFECT THEM, AND SHALL COOPERATE WITH THEM IN THE PROTECTION, REMOVAL, RELOCATION AND REPLACEMENT OF THEIR PROPERTY.
28. CONTRACTOR SHALL CONDUCT "PRE-DIG" MEETING PRIOR TO CONSTRUCTION WORK, WITH ALL SUBCONTRACTORS AND WORKERS TO REVIEW THE LOCATION OF ALL UTILITIES AS MARKED OUT, EXCAVATION PROCEDURES, AND TO CONFIRM THE "ONE CALL" REQUEST. THIS PERMIT IS SUBJECT TO ANY EXISTING UTILITIES THAT MAY BE IN CONFLICT WITH THE DESIGN AND REQUIRES POTHOLES. ALL EXISTING UTILITIES ARE REQUIRED TO BE POTHOLED PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL BE PERFORMED IN ACCORDANCE WITH CSXT SPECIFICATIONS. HAND EXPOSE LINES TO A POINT OF NO CONFLICT (24 INCHES ON EITHER SIDE OF THE UNDERGROUND INSTALLATION). IF MARKED UTILITY CANNOT BE LOCATED, EXCAVATION MUST NOT PROCEED AND YOU MUST NOTIFY THE ONE CALL NUMBER OR UTILITY COMPANY TO PROVIDE ADDITIONAL INFORMATION TO DETERMINE THE EXACT LOCATION.
29. BEFORE EXCAVATING, ALL SIGNAL CABLES AND OTHER UTILITIES MUST BE LOCATED AND MARKED/FLAGGED. CONTRACTOR SHALL BE HELD LIABLE FOR ANY DAMAGES TO CSXT COMMUNICATION & SIGNAL FACILITIES.

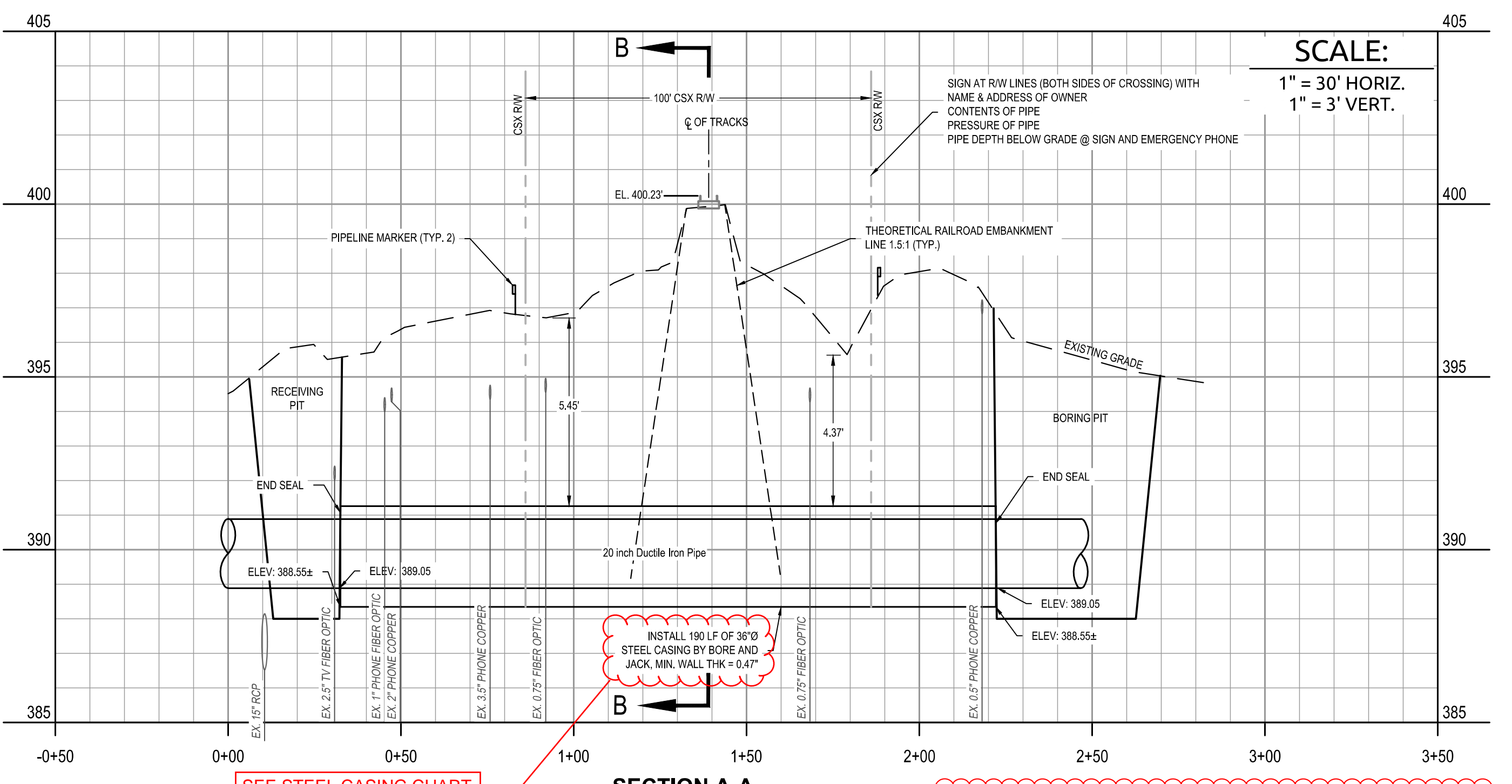
NOTE: WORK SCHEDULE IS SUBJECT TO THE APPROVAL OF ALL REQUIRED CONSTRUCTION SUBMITTALS BY THE CSXT CONSTRUCTION REPRESENTATIVE, VERIFICATION THAT PROPOSED WORK WILL NOT CONFLICT WITH ANY CSXT U.G. FACILITIES, AND THE AVAILABILITY OF CSXT FLAGGING AND PROTECTION SERVICES. CONSTRUCTION SUBMITTALS WILL BE BASED UPON THE PROPOSED SCOPE OF WORK AND MAY INCLUDE, BUT ARE NOT LIMITED TO; PROPOSED WORK PLAN, PROJECT SCHEDULE, MEANS AND METHODS, SITE ACCESS, DEWATERING, TEMPORARY EXCAVATION/ SHORING, SOIL DISPOSITION/MANAGEMENT, TRACK MONITORING, CONCRETE PLACEMENT WORK, STRUCTURAL LIFTING/RIGGING PLANS FOR HOISTING OPERATIONS, SUBSTRUCTURE CONSTRUCTION PLANS, STEEL ERECTION PLANS, ROADWORK PLANS, ETC. NO WORK MAY BEGIN ON, OVER, OR ADJACENT TO CSXT PROPERTY, OR THAT COULD POTENTIALLY IMPACT CSXT PROPERTY, OPERATIONS OR SAFETY WITHOUT THE PRIOR COMPLETION AND APPROVAL OF THE REQUIRED AFOREMENTIONED INFORMATION AND APPROVALS.



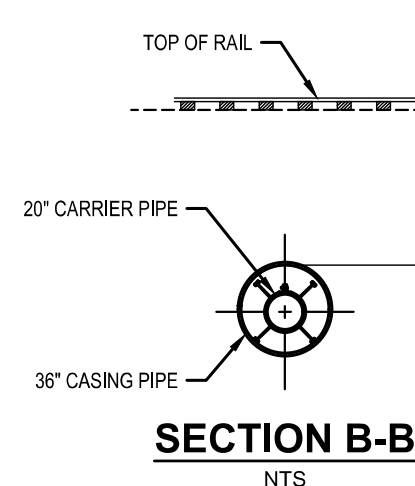
WATER LINE PLAN
SCALE: 1"=40'



ELECTRICAL CONDUIT PLAN
SCALE: 1"=40'



SECTION A-A



SECTION B-B

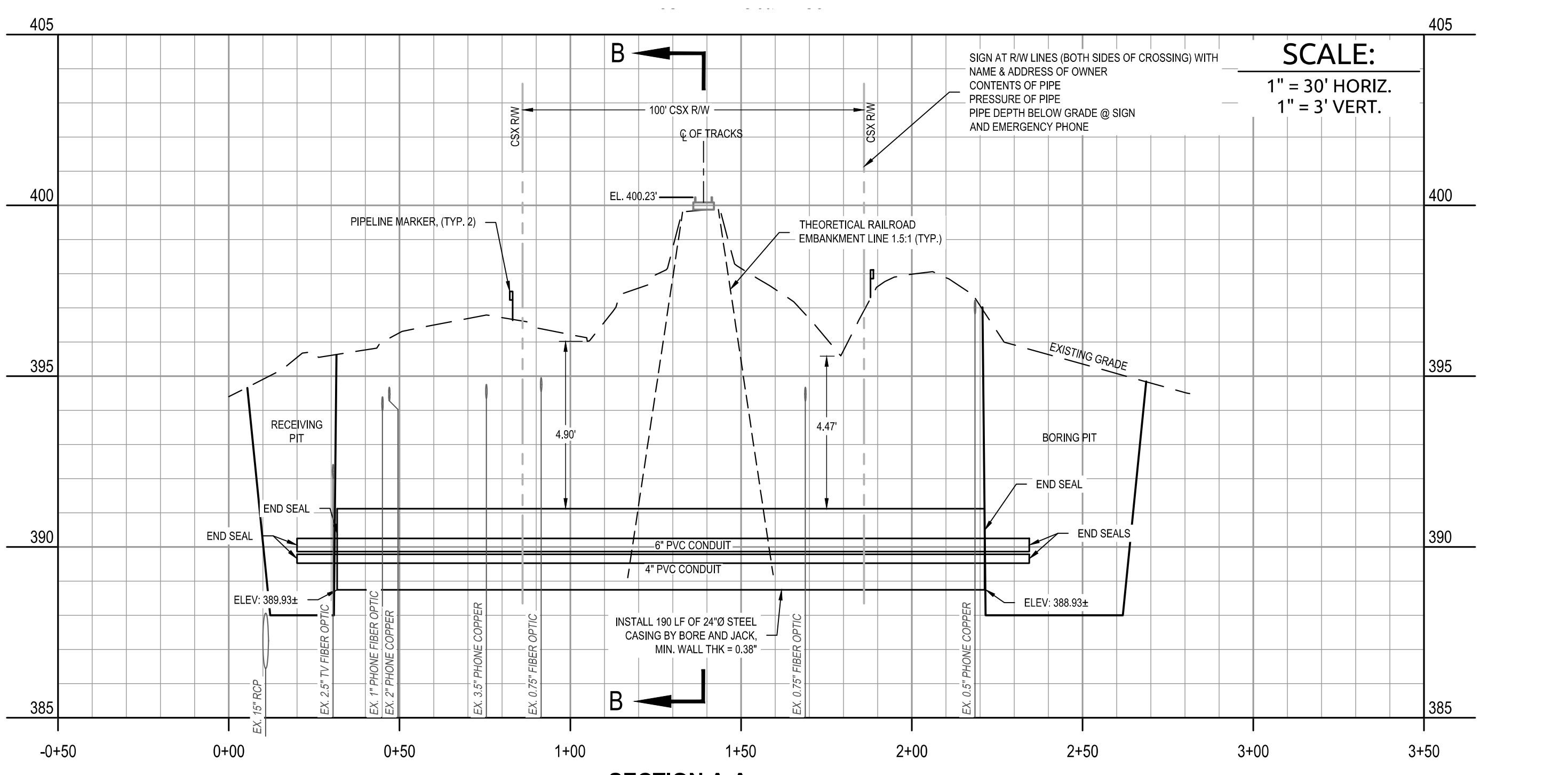
WATER LINE CASING DETAIL

Table 3 - Ductile Iron Pipe Wall Thicknesses

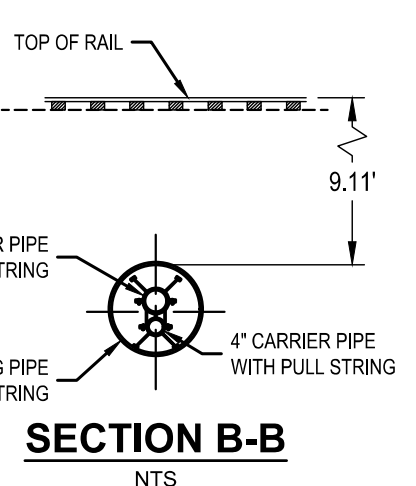
Pipe Diameter (in.)	Wall Thickness (in.)	Class	Pressure Class
3	0.25	S1	350
4	0.25	S1	350
6	0.25	S0	350
8	0.25	S0	350
10	0.26	S1	350
12	0.28	S1	350
14	0.31	S2	350
16	0.34	S2	350
18	0.36	S3	350
20	0.38	S3	350
24	0.42	S5	350
30	0.49	S6	350
36	0.56	S6	350
42	0.63	S6	350
48	0.70	S6	350
54	0.79	S6	350

d) The pipe shall have mechanical or push on type joints.

SCALE:
1" = 30' HORIZ.
1" = 3' VERT.



SECTION A-A



SECTION B-B

ELECTRIC CONDUIT CASING DETAIL

SCALE:
1" = 30' HORIZ.
1" = 3' VERT.

- NOTES:
- THE FRONT OF THE CASING PIPE SHALL BE PROVIDED WITH MECHANICAL ARRANGEMENTS OR DEVICES THAT WILL POSITIVELY PREVENT THE AUGER FROM LEADING THE PIPE SO THAT NO UNSUPPORTED EXCAVATION IS AHEAD OF THE PIPE.
 - REFER TO ENGINEERING SPECIFICATIONS IN THE APPLICATION PACKAGE FOR ADDITIONAL INFORMATION AND GUIDANCE.
 - CASING PIPE ENDS MUST BE SEALED.

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The signatures affixed below certify that this sheet has been reviewed and approved solely per the certifications signed on the cover sheet of these construction plans.

PW - Engineering	Date	WR - Stormwater	Date
PW - Transportation	Date	Planning	Date
Building Inspections	Date	Planning - Transportation	Date
WR - Utility Engineering	Date	Fire	Date
Electric	Date	Parks, Recreation & Cultural Res.	Date
WR - S & E	Date		

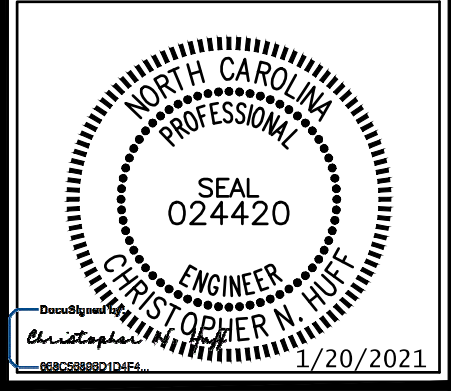
WithersRavenel
Engineers | Planners | Surveyors

115 MackKinn Drive | Cary, NC 27511 | P: 919.469.3300 | License #: C-0852 | www.withersravenel.com

**PLEASANT PARK
PHASE 1A**
APEX, NORTH CAROLINA

UTILITY PLAN

Job No.	020140542	Drawn By	WR
Date	1/15/2021	Designer	WR



Revisions

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TOWN OF APEX REQUIRED PLAN NOTES: 5-8, 14-23 (UTILITY PLAN)

- 5) ALL GRADING AND SUPPORT STRUCTURES ASSOCIATED WITH ANY RETAINING STRUCTURE SHALL NOT ENROACH INTO ANY REQUIRED BUFFER OR PROTECTED AREA (E.G. RCA, THE CRITICAL ROOT ZONES OF TREES, PUBLIC UTILITY EASEMENTS AND RIGHTS-OF-WAY), AND SHALL BE CONTAINED ENTIRELY ON SITE.
- 6) SITE ELEMENTS REQUIRED TO SATISFY RECREATIONAL REQUIREMENTS SUCH AS, BUT NOT LIMITED TO, PLAY FIELDS, GREENWAY TRAILS AND ITEMS TYPICALLY ASSOCIATED WITH THEM (BENCHES, TRASH CONTAINERS, SIGNS, ETC.) MUST MEET ANY APPLICABLE STANDARDS FOUND IN THE TOWN OF APEX STANDARD SPECIFICATIONS AND STANDARD DETAILS AND THE REQUIREMENTS OF THE TOWN OF APEX PARKS AND RECREATION DEPARTMENT.
- 7) THE SCREENING OF LOADING DOCKS, ROLL-OUT TRASH CONTAINERS, DUMPSTERS, OUTDOOR STORAGE, MECHANICAL AND HVAC EQUIPMENT, AND SIMILAR FACILITIES ON THE ROOF, GROUND, OR BUILDING SHALL MEET THE REQUIREMENTS OF UDO SEC. 8.2.8. SPECIFICALLY, SCREENING MUST BE DONE SO THAT:
 - A) IT IS INCORPORATED INTO THE OVERALL DESIGN THEME OF THE BUILDING AND LANDSCAPE.
 - B) SCREENING MATERIALS ARE NOT DIFFERENT FROM OR INFERIOR TO THE PRINCIPAL MATERIALS OF THE BUILDING OR LANDSCAPE, AND ARE SIMILAR IN MATERIALS AND COLOR.
 - C) SCREENED ITEMS ARE OUT OF VIEW FROM ADJACENT PROPERTIES AND PUBLIC STREETS, AND A TOTALLY OPAQUE SCREEN IS ACHIEVED.
 - D) ANY GROUND-MOUNTED HVAC OR OTHER MECHANICAL OR UTILITY EQUIPMENT SIX (6) FEET TALL OR HIGHER MUST BE FENCED AND LANDSCAPED.
 - E) DUMPSTER ENCLOSURES MUST MEET THE ABOVE REQUIREMENTS PLUS BE EIGHT (8) FEET TALL OR THE HEIGHT OF THE DUMPSTER, WHICHEVER IS GREATER, AND BE BUILT OF MASONRY MATERIAL WITH OPAQUE GATES. WHERE PRACTICABLE, SHRUBS OR OTHER PLANTS MUST BE PLANTED OUTSIDE THE ENCLOSURE TO VISUALLY SOFTEN THE APPEARANCE.
- 8) ALL REQUIRED SITE ELEMENTS SHOWN WITHIN A PARTICULAR PHASE MUST BE INSTALLED BEFORE A FINAL CERTIFICATE OF OCCUPANCY MAY BE ISSUED FOR ANY BUILDING WITHIN THAT PHASE.
- 14) ALL WATER AND SEWER LINES SHALL BE INSTALLED WITH A MINIMUM OF THREE (3) FEET OF COVER.
- 15) MAINTAIN A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION BETWEEN UTILITIES.
- 16) VERIFY ALL ILLUSTRATED UTILITY CROSSINGS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IF CONFLICTS ARE ENCOUNTERED.
- 17) CONTRACTOR SHALL COORDINATE UTILITY RELOCATION OR ABANDONMENT WITH LOCAL UTILITY COMPANIES AS REQUIRED.
- 18) ALL METERED CONNECTIONS TO TOWN POTABLE WATER SHALL HAVE A TOWN-APPROVED BACKFLOW PREVENTION ASSEMBLY INSTALLED.
- 19) WATER AND SEWER SHALL BE AT LEAST 10 FEET Laterally FROM EXISTING OR PROPOSED SEWERS, WHERE LOCAL CONDITIONS PREVENT A SEPARATION OF AT LEAST 10 FEET, THE WATER MAIN MAY BE LAID CLOSER, PROVIDED THAT THE ELEVATION OF THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER WITH A HORIZONTAL SEPARATION OF AT LEAST THREE (3) FEET.
- 20) CONTRACTORS ARE NOT ALLOWED TO OPERATE ANY TOWN OF APEX WATER VALVES. ALL EXISTING VALVES WITHIN THE TOWN WATER SYSTEM SHALL BE OPERATED ONLY BY TOWN PERSONNEL. EXISTING VALVES WILL NOT BE OPERATED WITHOUT A MINIMUM NOTICE OF 24 HOURS. TOWN PERSONNEL SHALL OPERATE ALL NEW VALVES ONCE THEY HAVE BEEN TESTED, CERTIFIED, AND ACCEPTED.
- 21) ALL NEW PUBLIC WATER AND SEWER LINES CONTAINED WITHIN A TOWN OF APEX PUBLIC UTILITY EASEMENT WILL REQUIRE A WATER DISTRIBUTION EXTENSION PERMIT AND/OR A GRAVITY SEWER EXTENSION PERMIT TO THE RELEASE OF CONSTRUCTION DRAWINGS. ALL WATER DISTRIBUTION EXTENSION PERMIT APPLICATIONS SHALL BE ACCOMPANIED BY A SEALED ENGINEER'S REPORT PER THE TOWN OF APEX SPEC BOOK. PLEASE CONTACT THE ENGINEERING DIVISION AT 919-249-3394 TO OBTAIN THESE PERMIT APPLICATIONS.
- 22) A PLUMBING PERMIT ISSUED BY THE BUILDING INSPECTION DIVISION IS REQUIRED FOR ALL PLUMBING SYSTEMS, INCLUDING STORM DRAINAGE SYSTEMS, INSTALLED OUTSIDE THE PUBLIC RIGHT-OF-WAY OR A PUBLIC UTILITY EASEMENT. THESE SYSTEMS SHALL BE INSPECTED AND APPROVED BY THE PLUMBING INSPECTOR PRIOR TO COVERING. CONTACT THE BUILDING INSPECTIONS DIRECTOR AT 919-249-3381 FOR INFORMATION INCLUDING THE UTILIZATION OF A THIRD-PARTY INSPECTION AGENCY.
- 23) IT IS THE RESPONSIBILITY OF THE OWNER OR HIS REPRESENTATIVE(S) TO LOCATE AND IDENTIFY ALL EXISTING AND PROPOSED UTILITIES AND TO CLEARLY IDENTIFY THEM ON THE APPROVED PLANS.

Table 3 - Ductile Iron Pipe Wall Thicknesses

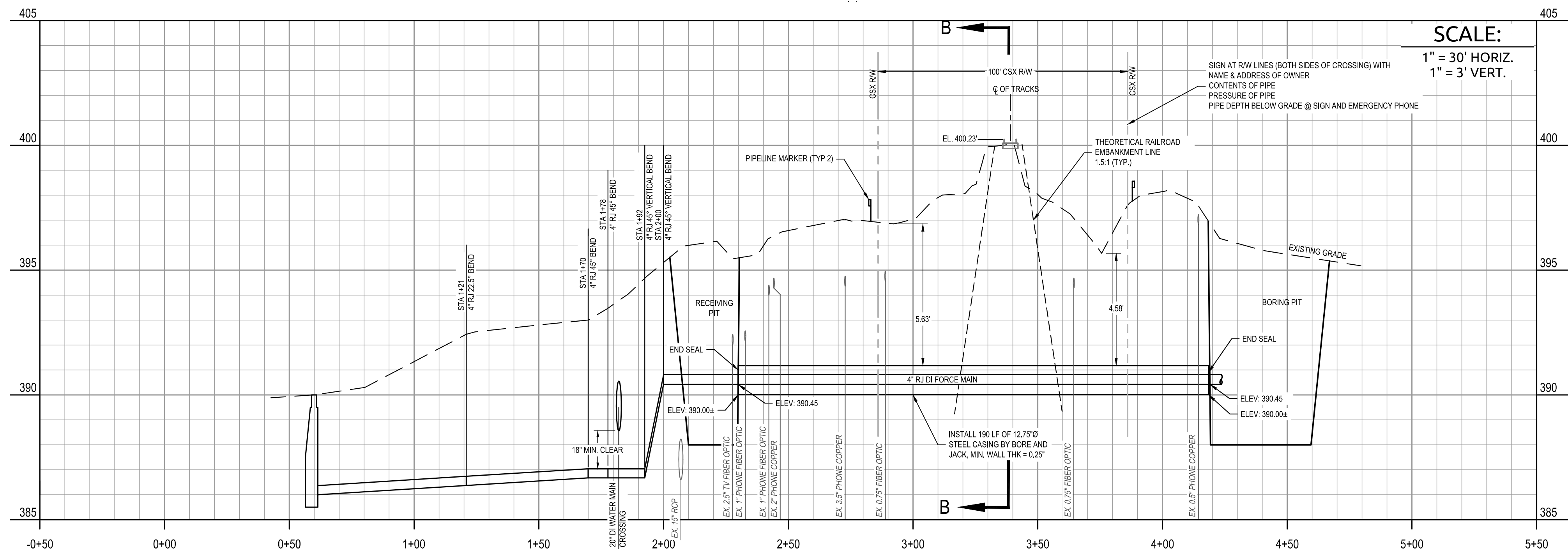
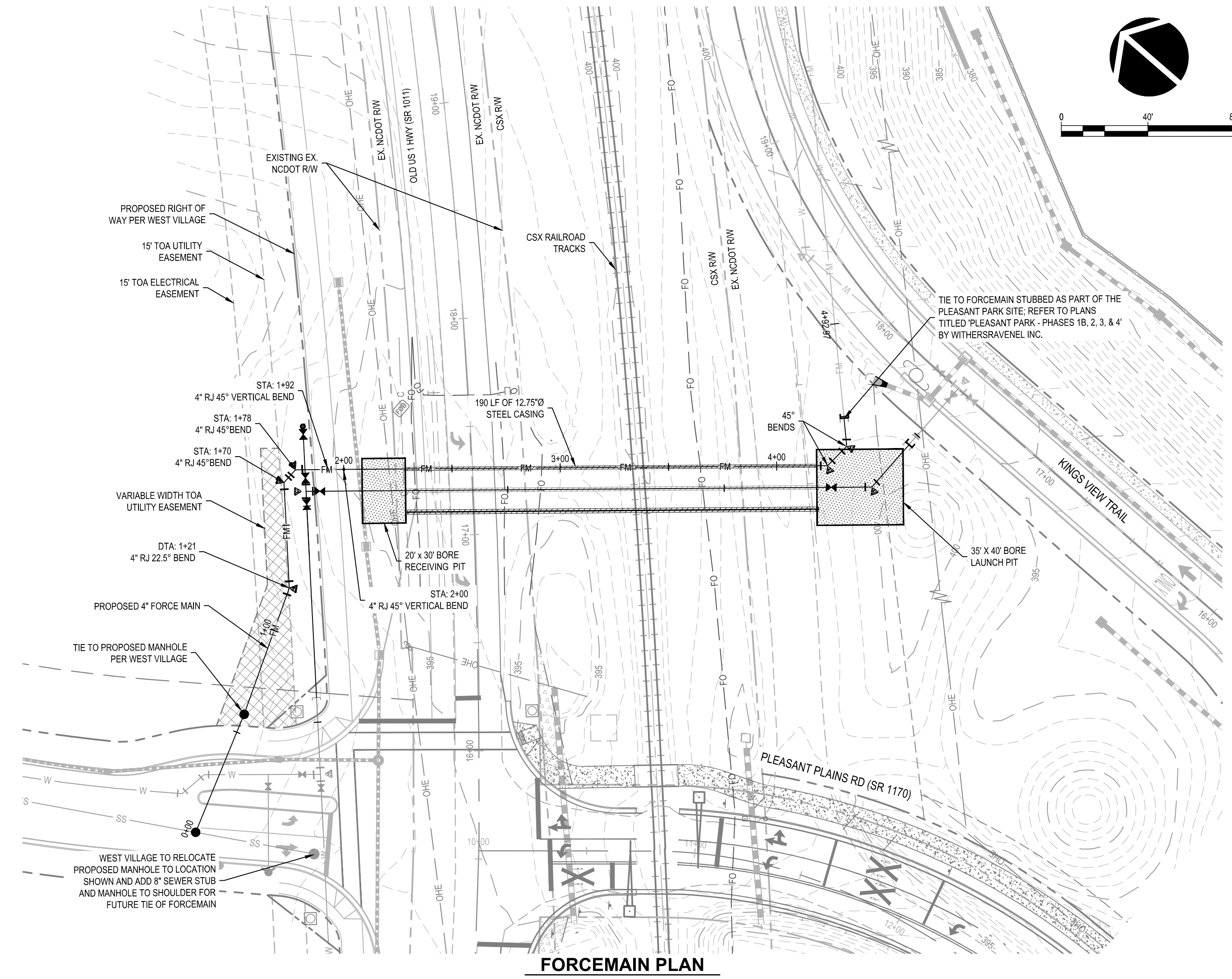
Pipe Diameter (in.)	Thickness Class		Pressure Class
	Wall Thickness (in.)	Class	
3	0.25	51	350
4	0.25	51	350
6	0.25	50	350
8	0.25	50	350
10	0.26	51	350
12	0.28	51	350
14	0.31	52	350
16	0.34	52	350
18	0.36	53	350
20	0.38	53	350
24	0.42	55	350
30	0.49	56	350
36	0.56	56	350
42	0.63	56	350
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4) The pipe shall have mechanical or push on type joints.

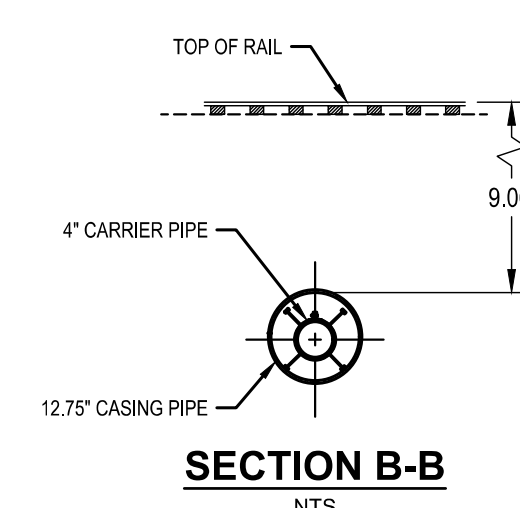
Table 2 - Steel Casing Pipe Wall Thicknesses

Pipe Diameter Nominal Pipe Size (in.)	Coated or Cathodically Protected Nominal Wall Thickness (in.)	Uncoated and Unprotected Nominal Wall Thickness (in.)
10 and under	0.188	0.188
12 & 14	0.188	0.250
16	0.219	0.281
18	0.250	0.312
20 & 22	0.281	0.344
24	0.312	0.375
26	0.344	0.406
28	0.375	0.438
30	0.406	0.469
32	0.438	0.500
34 & 36	0.469	0.532
38	0.500	0.562
40	0.531	0.594
42	0.562	0.625
44 & 46	0.594	0.657
48	0.625	0.688
50	0.656	0.719
52	0.688	0.750
54	0.719	0.781
56 & 58	0.750	0.812
60	0.781	0.844
62	0.812	0.875
64	0.844	0.906
66 & 68	0.875	0.938
70	0.906	0.969
72	0.938	1.000

- e) Coated steel pipe that is bored or jacked into place shall conform to the wall thickness requirements for uncoated steel pipe since the coating may be damaged during installation.
- f) For the required wall thicknesses on uncased steel carrier pipes conveying natural gas, refer to Uncased Pipelines Carrying Gas section in this document.
- g) Smooth wall steel pipes with a nominal diameter over 72 inches will not be permitted.



FORCEMAIN PROFILE

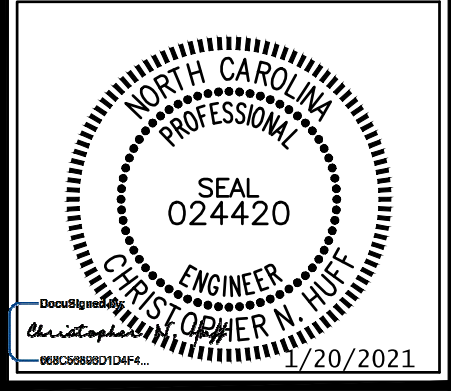


- NOTES:
1. THE FRONT OF THE CASING PIPE SHALL BE PROVIDED WITH MECHANICAL ARRANGEMENTS OR DEVICES THAT WILL POSITIVELY PREVENT THE AUGER FROM LEADING THE PIPE SO THAT NO UNSUPPORTED EXCAVATION IS AHEAD OF THE PIPE.
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Job No. 020140542 Drawn By WR
Date 1/15/2021 Designer WR



Revisions
