

CITY OF PORTSMOUTH LITTLE BAY SUBAQUEOUS WATER TRANSMISSION MAIN DURHAM & NEWINGTON, NH MAY 2023 PERMITTING DRAWINGS

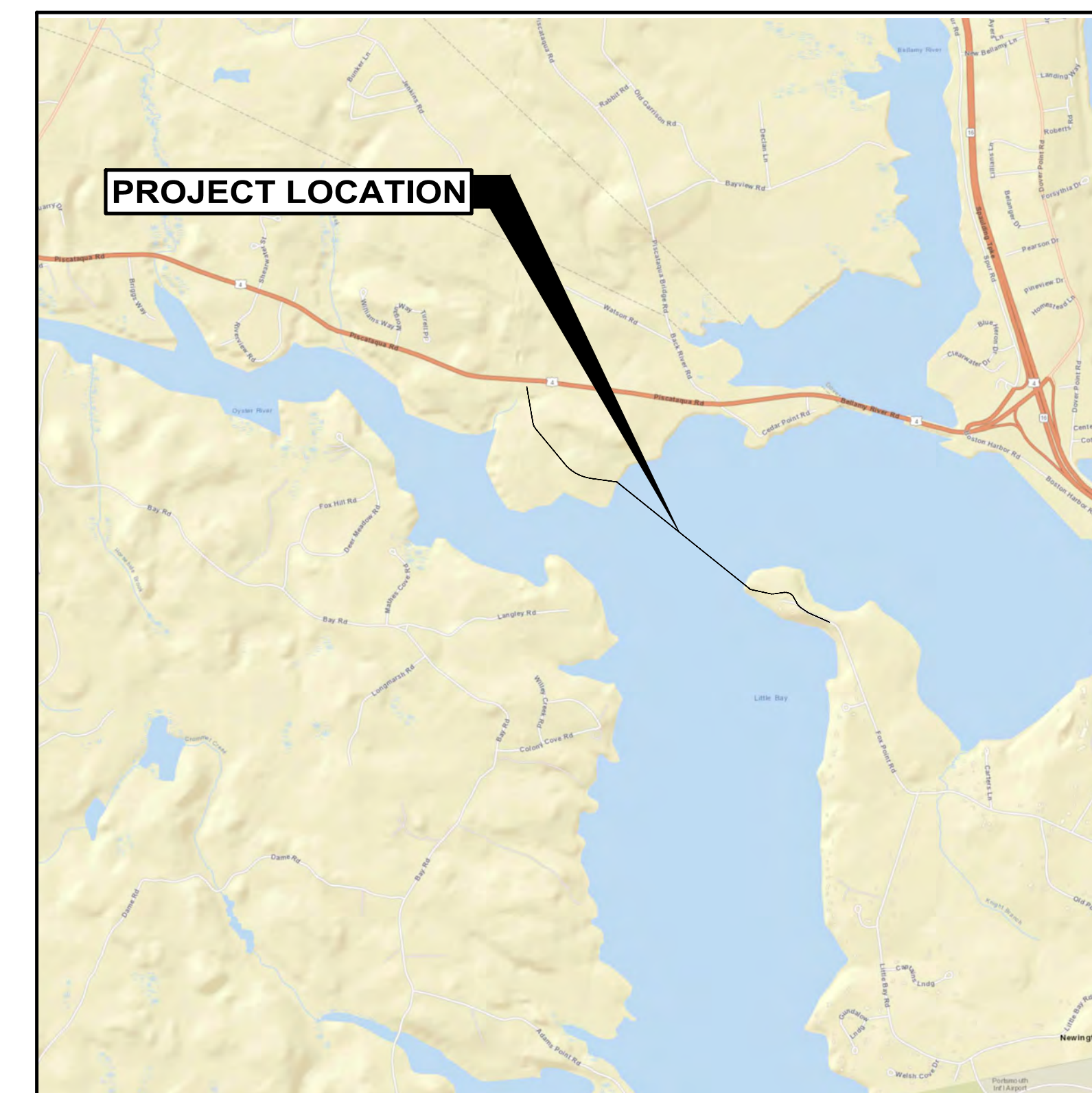
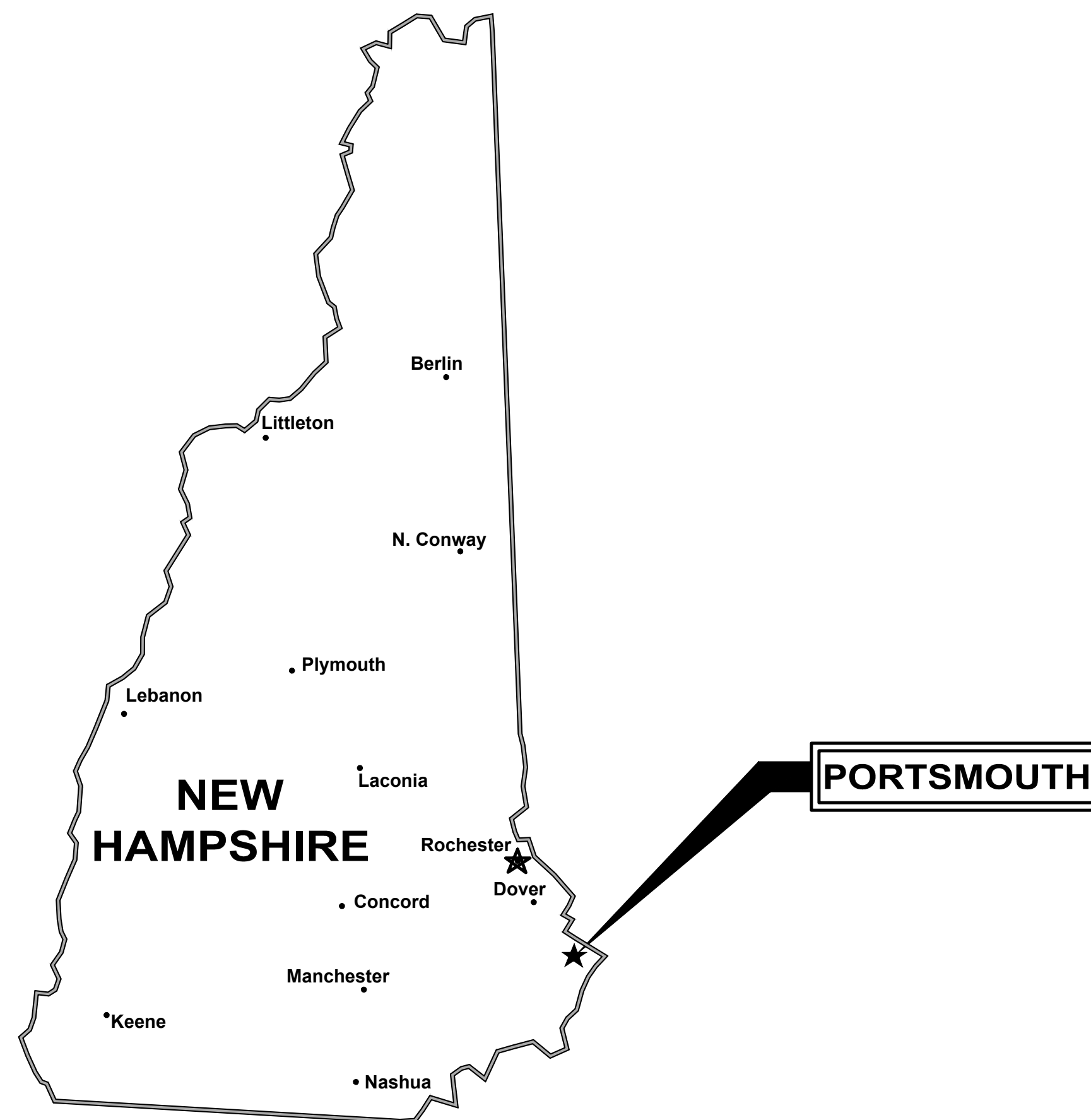
DRAWING INDEX

GENERAL

----- COVER SHEET

CIVIL

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LOCATION PLAN

NOT FOR CONSTRUCTION



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FOR REVIEW _____

FOR BIDDING _____

WP PROJECT No. 14202A

GENERAL NOTES

- 1. THE CONTRACTOR IS REFERRED TO SECTION 01050 OF THE SPECIFICATIONS REGARDING COORDINATION WITH OTHERS, INCLUDING RESPONSIBILITIES AND RELATED COSTS.
2. BELOW GRADE UTILITY INFORMATION IS BASED ON INFORMATION PROVIDED BY EACH UTILITY. LOCATION OF PUBLIC UTILITIES SHOWN IS ONLY APPROXIMATE AND MAY NOT BE COMPLETE.

Table with 3 columns: ELECTRIC, WATER/SEWER/STORM DRAIN, GAS. Lists contact information for Eversource, City of Portsmouth, and various utility companies.

ADJUSTMENT OF WATER, SEWER, AND DRAINAGE, COVERS OR SIMILAR STRUCTURES TO MATCH THE NEW PAVEMENT GRADE AND THE RELOCATION OF UTILITY POLES WILL BE PERFORMED BY THE APPROPRIATE UTILITY OR ITS AUTHORIZED REPRESENTATIVE.

- 3. THE LOCATION AND LIMITS OF ALL ON SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO THE OWNER AND ENGINEER.
4. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED.
5. IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO EVERSOURCE OR FAIRPOINT, RESPECTIVELY.

PIPELINE GENERAL NOTES

- 1. PROVIDE 2 INCH RIGID INSULATION WHERE DIRECTED BY OWNER OR ENGINEER. TYPICAL INSULATION INSTALLATION IS OVER SEWER AND WATER MAINS WHEN COVER IS LESS THAN 5'-0".
2. MINIMUM DEPTH OF COVER FOR WATER MAIN SHALL BE 5'-0"
3. PIPE RESTRAINT FOR WATER MAINS: ALL BENDS, TEES, REDUCERS, HYDRANTS, AND PLUGS SHALL BE RESTRAINED BY USING MEGA-LUGS AND "GRIP RINGS"

PIPELINE GENERAL NOTES (CONTINUED)

- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF THE NEW WATER MAIN. LAYOUT SHALL BE REVIEWED AND ACCEPTED BY THE WATER DISTRICT AND ENGINEER.
9. TEST PRESSURES FOR THE COMBINATION PRESSURE AND LEAKAGE TESTS SHALL BE 150 PSI. TEST DURATION SHALL BE TWO HOURS.
10. BELOW GRADE UTILITY INFORMATION IS BASED ON RECORD DRAWINGS. LOCATION OF PUBLIC UTILITIES SHOWN IS ONLY APPROXIMATE AND MAY NOT BE COMPLETE.

CIVIL DEMOLITION NOTES

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ALL DEMOLISHED PIPING, EQUIPMENT AND MATERIALS. DISPOSAL SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS.
2. THE CONTRACTOR SHALL KEEP A RECORD OF DEMOLITION AS PART OF THE PROJECT RECORD DOCUMENTS IN ACCORDANCE WITH SPECIFICATION SECTION 01720.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE DISPOSAL OF FLOWS RESULTING FROM PRECIPITATION AND HIS DEWATERING OPERATIONS.

SITE GRADING NOTES

- 1. ALL ROAD AND PARKING AREA SURFACES SHALL PITCH 1/4 INCH PER FOOT MINIMUM UNLESS OTHERWISE NOTED.
2. ALL AREAS THAT ARE EXCAVATED, FILLED, OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE LOAMED, GRADED, LIMED, FERTILIZED, SEEDED AND MULCHED, UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL CONTROL DUST ON THE CONSTRUCTION SITE TO A REASONABLE LIMIT, AS DETERMINED BY THE ENGINEER, AND AS OUTLINED IN SPECIFICATION SECTION 01562.

SITE LAYOUT NOTES

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF ALL PROPOSED WORK AS SHOWN ON THE DRAWINGS. THE ENGINEER WILL PROVIDE TWO POINTS THAT DEFINE THE HORIZONTAL CONTROL.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-ESTABLISHING AND RESETING ALL EXISTING PROPERTY MONUMENTATION DISTURBED BY HIS OPERATIONS.
3. WRITTEN DIMENSIONS SHALL PREVAIL. DO NOT SCALE DISTANCES FROM THE DRAWINGS.
4. THE ENGINEER SHALL PROVIDE THE NECESSARY HORIZONTAL CONTROL POINTS FOR THE CONTRACTOR AND THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THIS INFORMATION THROUGHOUT CONSTRUCTION.

SURVEY NOTES

- 1. EXISTING CONDITION INFORMATION AND WETLAND INFORMATION IS BASED ON A GROUND SURVEY CONDUCTED BY DOUCET SURVEY, INC., OF NEWMARKET, NEW HAMPSHIRE. SURVEY CONDUCTED DURING NOVEMBER 2018, AUGUST & SEPTEMBER 2019, AND DECEMBER 2019 USING A TRIMBLE S7 TOTAL STATION AND A TRIMBLE R10 SURVEY GRADE GPS WITH A TRIMBLE TSC3 DATA COLLECTOR AND A SOKKIA B21 AUTO LEVEL.
2. JURISDICTIONAL RESOURCES INCLUDING HIGHEST OBSERVABLE TIDE LINE WERE DELINEATED ON MAY 29, 2019 BY MARC JACOBS, CERTIFIED WETLAND SCIENTIST NUMBER 090, ACCORDING TO THE STANDARDS OF THE US ARMY CORPS OF ENGINEERS.

LEGEND section containing EXISTING, PROPOSED, and PROPOSED WETLAND IMPACTS symbols and descriptions. Includes symbols for property lines, setbacks, pavements, utilities, and wetland types.

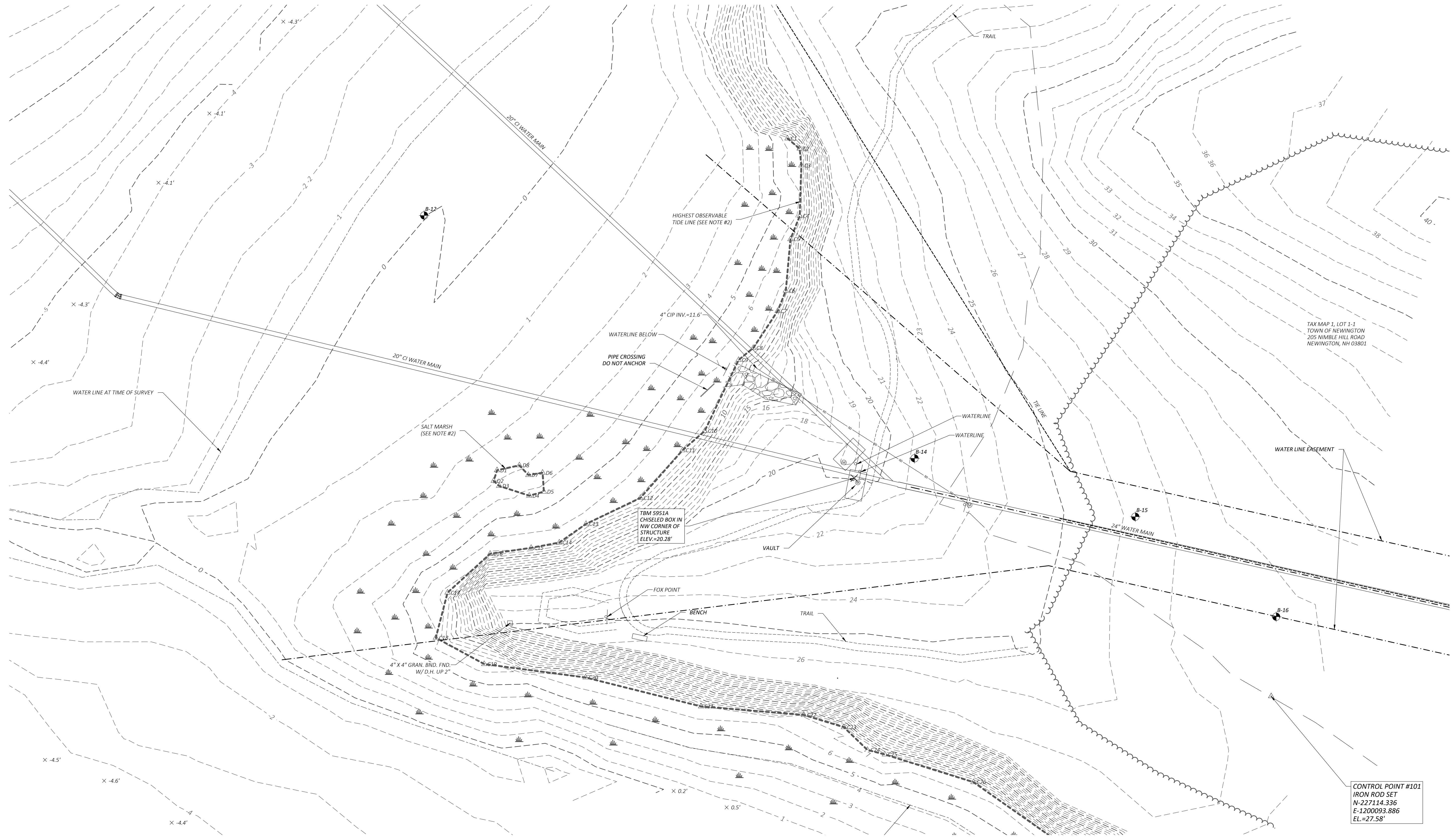
CIVIL ABBREVIATIONS

Table listing civil abbreviations such as & (AND), DIA (DIAMETER), NO (NUMBER), APP'D (APPROVED), BLDG (BUILDING), etc.

Project title block containing: CITY OF PORTSMOUTH, SUBAQUEOUS WATER TRANSMISSION MAIN, LITTLE BAY, DURHAM-NEWINGTON, NEW HAMPSHIRE, DRAWING C-2, and Wright-Pierce logo.

NOTES

1. FIELD SURVEY PERFORMED BY DOUCET SURVEY, INC., DURING MAY & JUNE 2019 USING A TRIMBLE S7 TOTAL STATION AND A TRIMBLE R10 SURVEY GRADE GPS WITH A TRIMBLE TSC3 DATA COLLECTOR AND A SOKKIA B21 AUTO LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
2. JURISDICTIONAL RESOURCES INCLUDING HIGHEST OBSERVABLE TIDE LINE WERE DELINEATED ON MAY 29, 2019 BY MARC JACOBS, CERTIFIED WETLAND SCIENTIST NUMBER 090, ACCORDING TO THE STANDARDS OF THE US ARMY CORPS OF ENGINEERS - WETLANDS DELINEATION MANUAL; THE 2012 REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION; AND THE CODE OF ADMINISTRATIVE RULES, NH DEPARTMENT OF ENVIRONMENTAL SERVICES - WETLANDS BUREAU - ENV WT 100-900. SOILS WERE EVALUATED UTILIZING THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, APRIL 2019 AND THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8, 2016. THE INDICATOR STATUS OF VEGETATION AS HYDROPHYTIC WAS DETERMINED ACCORDING TO THE U.S. ARMY CORPS OF ENGINEERS - NORTHCENTRAL AND NORTHEAST 2016 REGIONAL WETLAND PLANT LIST. COPIES OF SITE PLANS WHICH HAVE BEEN REVIEWED BY THE WETLAND SCIENTIST ARE INDIVIDUALLY STAMPED, SIGNED AND DATED. THIS NOTE HAS BEEN CUSTOMIZED FOR THIS PROJECT.



TAX MAP 1, LOT 1-1
TOWN OF NEWINGTON
205 NIMBLE HILL ROAD
NEWINGTON, NH 03801

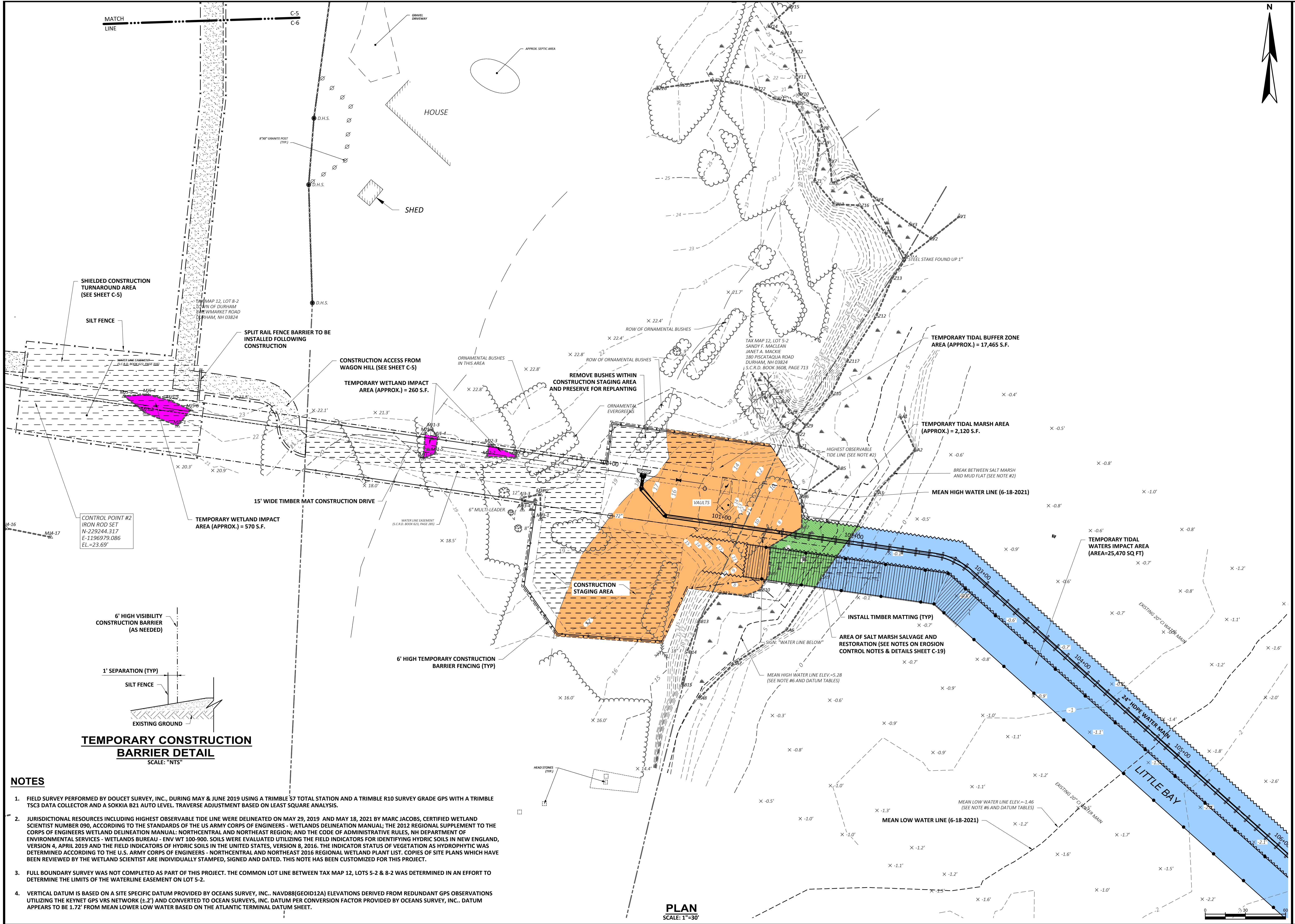
CONTROL POINT #101
IRON ROD SET
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E=1200093.886
EL=27.58'

EXISTING CONDITIONS-NEWINGTON
SCALE: 1"=20'

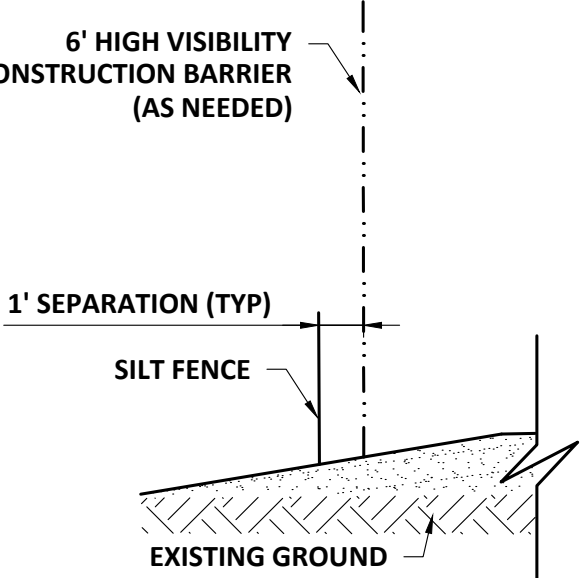


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5		APPROVED BY:	
6		DATE:	
7		PROJECT NO: 14202A	

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CITY OF PORTSMOUTH SUBAQUEOUS WATER TRANSMISSION MAIN LITTLE BAY, DURHAM-NEWINGTON NEW HAMPSHIRE	EXISTING CONDITIONS NEWINGTON SITE
DRAWING C-4	

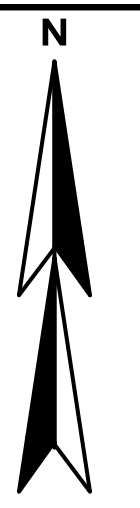


TEMPORARY CONSTRUCTION BARRIER DETAIL
SCALE: "NTS"



- NOTES**
1. FIELD SURVEY PERFORMED BY DOUCET SURVEY, INC., DURING MAY & JUNE 2019 USING A TRIMBLE S7 TOTAL STATION AND A TRIMBLE R10 SURVEY GRADE GPS WITH A TRIMBLE TSC3 DATA COLLECTOR AND A SOKKIA B21 AUTO LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
 2. JURISDICTIONAL RESOURCES INCLUDING HIGHEST OBSERVABLE TIDE LINE WERE DELINEATED ON MAY 29, 2019 AND MAY 18, 2021 BY MARC JACOBS, CERTIFIED WETLAND SCIENTIST NUMBER 090, ACCORDING TO THE STANDARDS OF THE U.S. ARMY CORPS OF ENGINEERS - WETLANDS DELINEATION MANUAL; THE 2012 REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION; AND THE CODE OF ADMINISTRATIVE RULES, NH DEPARTMENT OF ENVIRONMENTAL SERVICES - WETLANDS BUREAU - ENV W/100-900. SOILS WERE EVALUATED UTILIZING THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, APRIL 2019 AND THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8, 2016. THE INDICATOR STATUS OF VEGETATION AS HYDROPHYTIC WAS DETERMINED ACCORDING TO THE U.S. ARMY CORPS OF ENGINEERS - NORTHCENTRAL AND NORTHEAST 2016 REGIONAL WETLAND PLANT LIST. COPIES OF SITE PLANS WHICH HAVE BEEN REVIEWED BY THE WETLAND SCIENTIST ARE INDIVIDUALLY STAMPED, SIGNED AND DATED. THIS NOTE HAS BEEN CUSTOMIZED FOR THIS PROJECT.
 3. FULL BOUNDARY SURVEY WAS NOT COMPLETED AS PART OF THIS PROJECT. THE COMMON LOT LINE BETWEEN TAX MAP 12, LOTS 5-2 & 8-2 WAS DETERMINED IN AN EFFORT TO DETERMINE THE LIMITS OF THE WATERLINE EASEMENT ON LOT 5-2.
 4. VERTICAL DATUM IS BASED ON A SITE SPECIFIC DATUM PROVIDED BY OCEANS SURVEY, INC.. NAVD88(GE01D12A) ELEVATIONS DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK (±.2') AND CONVERTED TO OCEAN SURVEYS, INC. DATUM PER CONVERSION FACTOR PROVIDED BY OCEANS SURVEY, INC.. DATUM APPEARS TO BE 1.72' FROM MEAN LOWER LOW WATER BASED ON THE ATLANTIC TERMINAL DATUM SHEET.

PLAN
SCALE: 1"=30'



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CITY OF PORTSMOUTH
SUBAQUEOUS WATER TRANSMISSION MAIN
LITTLE BAY, DURHAM-NEWINGTON
NEW HAMPSHIRE

CONSTRUCTION STAGING PLAN - 380 PISCATAQUA ROAD

DRAWING
C-6



CONSTRUCTION STAGING PLAN-NEWINGTON SITE

SCALE: 1"=40'

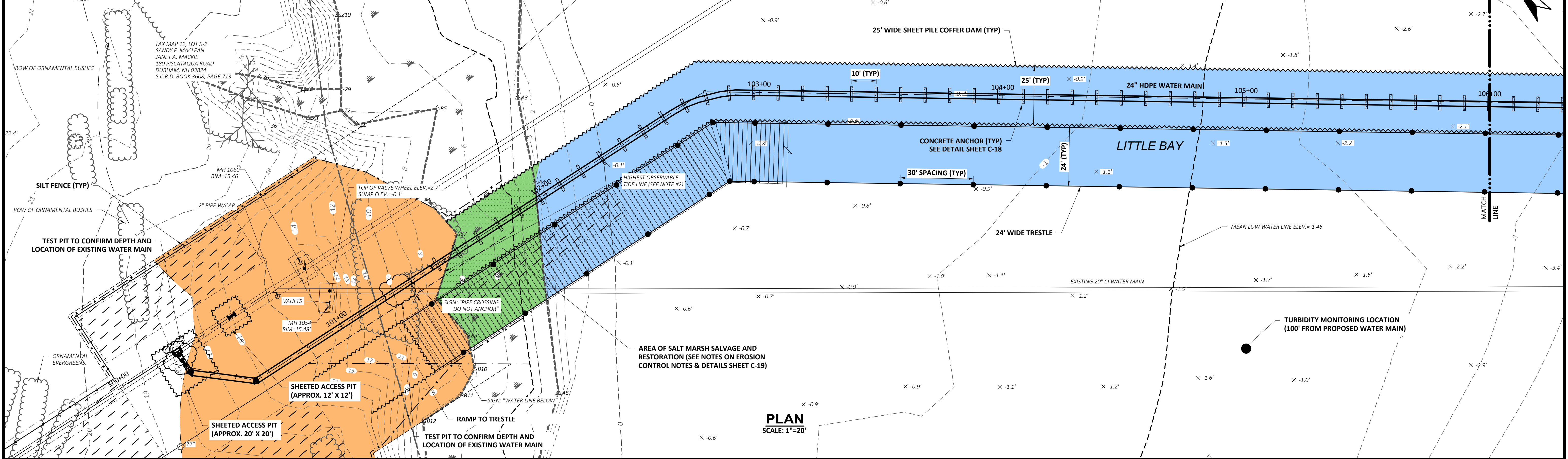


SUBMISSIONS/REVISIONS		APP'D	DATE
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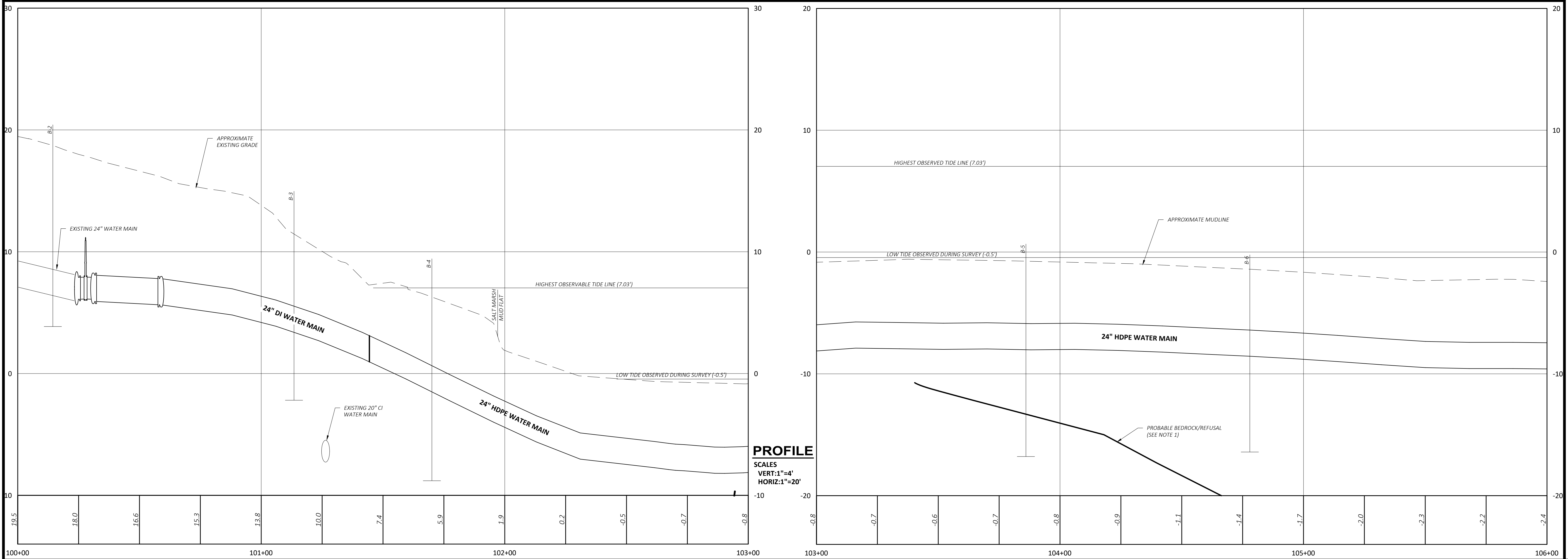
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NOTES

- PROBABLE BEDROCK/REFUSAL SURFACE INFORMATION SHOWN IN PROFILE VIEW IS BASED ON SIDE SCAN SONAR SURVEY INFORMATION COLLECTED BY OCEAN SURVEYS, INC. (OSI) DURING A GEOPHYSICAL SURVEY OF THE LITTLE BAY AREA CONDUCTED IN OCTOBER 2018.
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PLAN
SCALE: 1"=20'



PROFILE
SCALES
VERT: 1"=4'
HORIZ: 1"=20'

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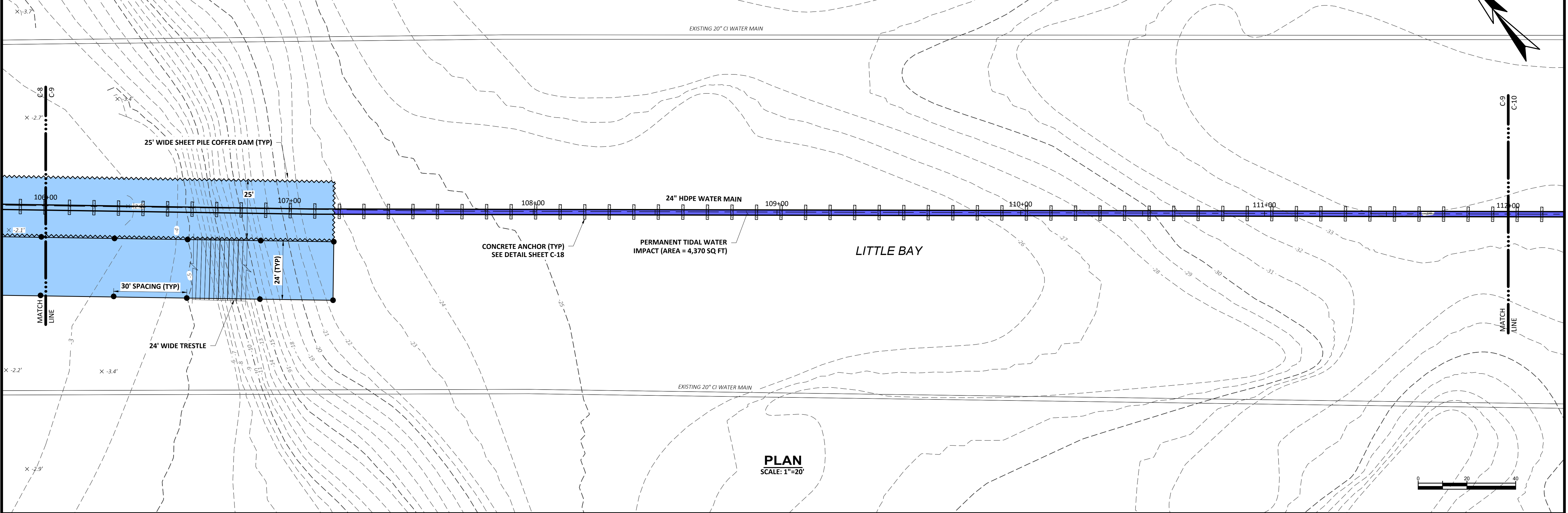
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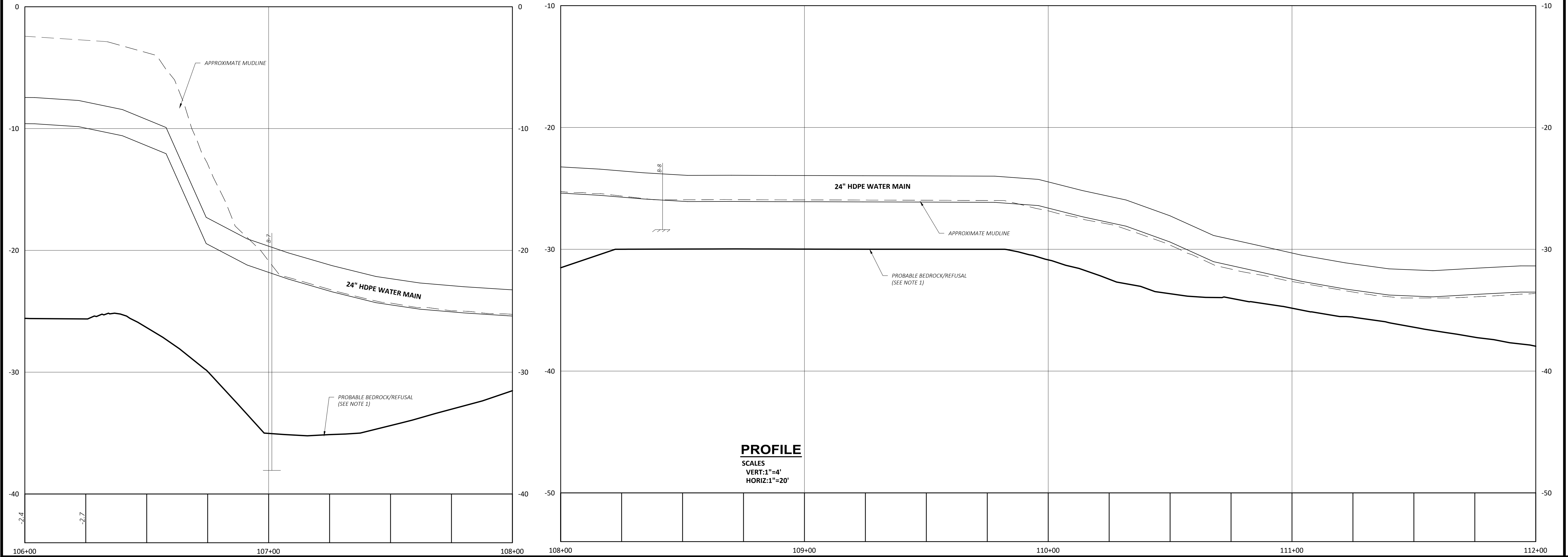
CITY OF PORTSMOUTH
SUBAQUEOUS WATER TRANSMISSION MAIN
LITTLE BAY, DURHAM-NEWINGTON
NEW HAMPSHIRE
WATER MAIN REPLACEMENT PLAN & PROFILE I
STA. 100+00 TO STA. 106+00
DRAWING
C-8

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NOTES
1. PROBABLE BEDROCK/REFUSAL SURFACE INFORMATION SHOWN IN PROFILE VIEW IS BASED ON SIDE SCAN SONAR SURVEY INFORMATION COLLECTED BY OCEAN SURVEYS, INC. (OSI) DURING A GEOPHYSICAL SURVEY OF THE LITTLE BAY AREA CONDUCTED IN OCTOBER 2018.



PLAN
SCALE: 1"=20'



PROFILE
SCALES
VERT: 1"=4'
HORIZ: 1"=20'

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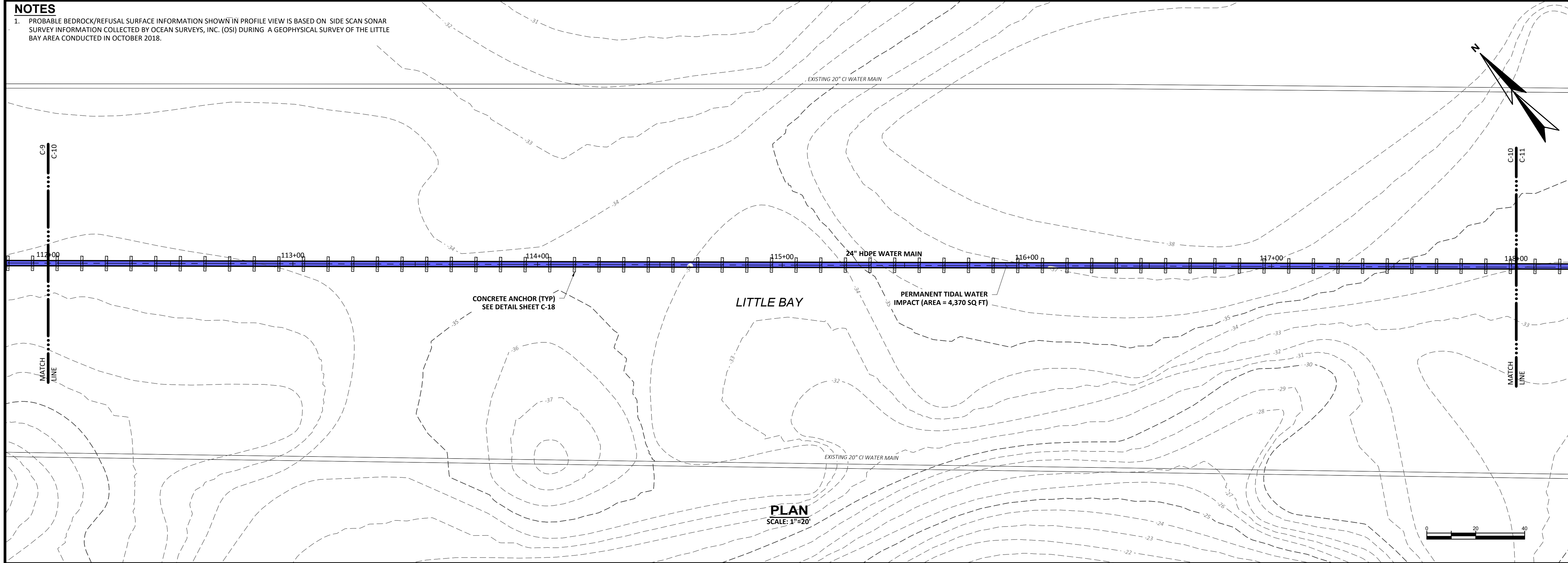
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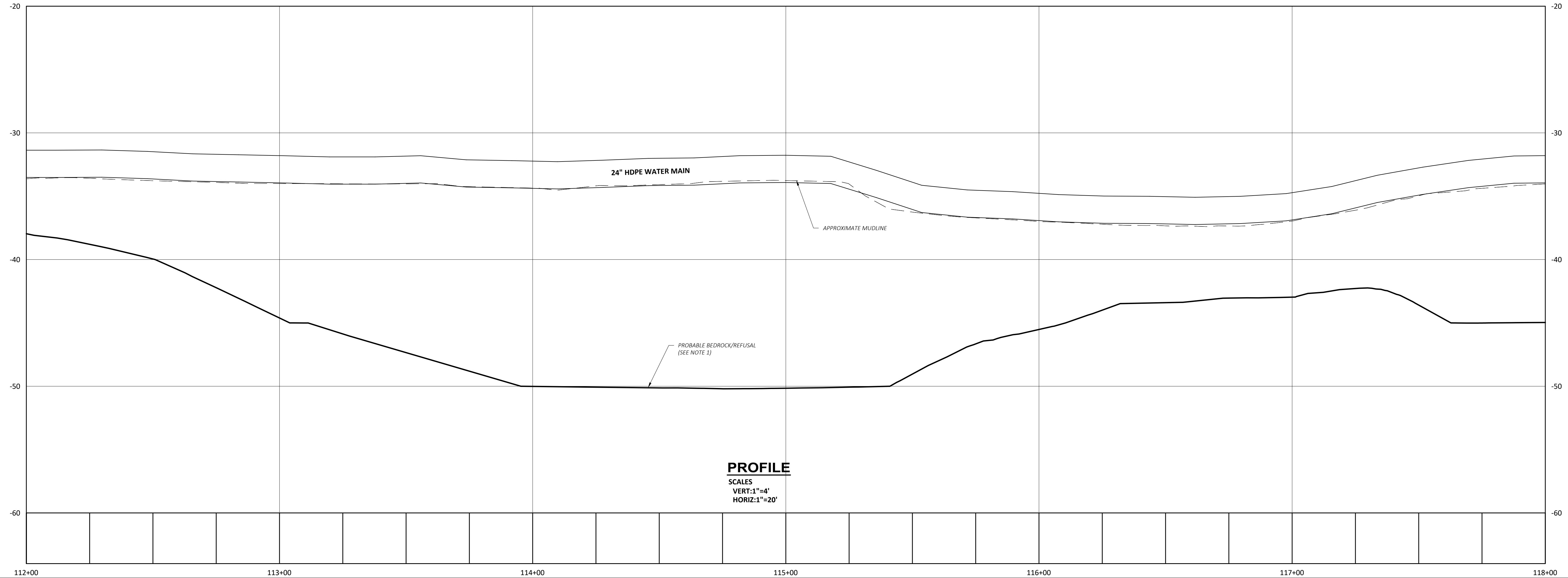
CITY OF PORTSMOUTH
 SUBAQUEOUS WATER TRANSMISSION MAIN
 LITTLE BAY, DURHAM-NEWINGTON
 NEW HAMPSHIRE
 WATER MAIN REPLACEMENT PLAN & PROFILE II
 STA. 106+00 TO STA. 112+00
DRAWING
 C-9

NOTES

1. PROBABLE BEDROCK/REFUSAL SURFACE INFORMATION SHOWN IN PROFILE VIEW IS BASED ON SIDE SCAN SONAR SURVEY INFORMATION COLLECTED BY OCEAN SURVEYS, INC. (OSI) DURING A GEOPHYSICAL SURVEY OF THE LITTLE BAY AREA CONDUCTED IN OCTOBER 2018.



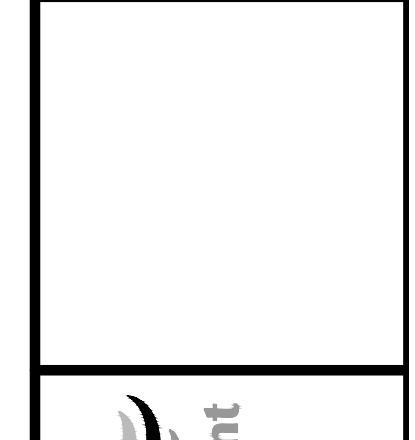
PLAN
SCALE: 1"=20'



PROFILE
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VERT: 1"=4'
HORIZ: 1"=20'

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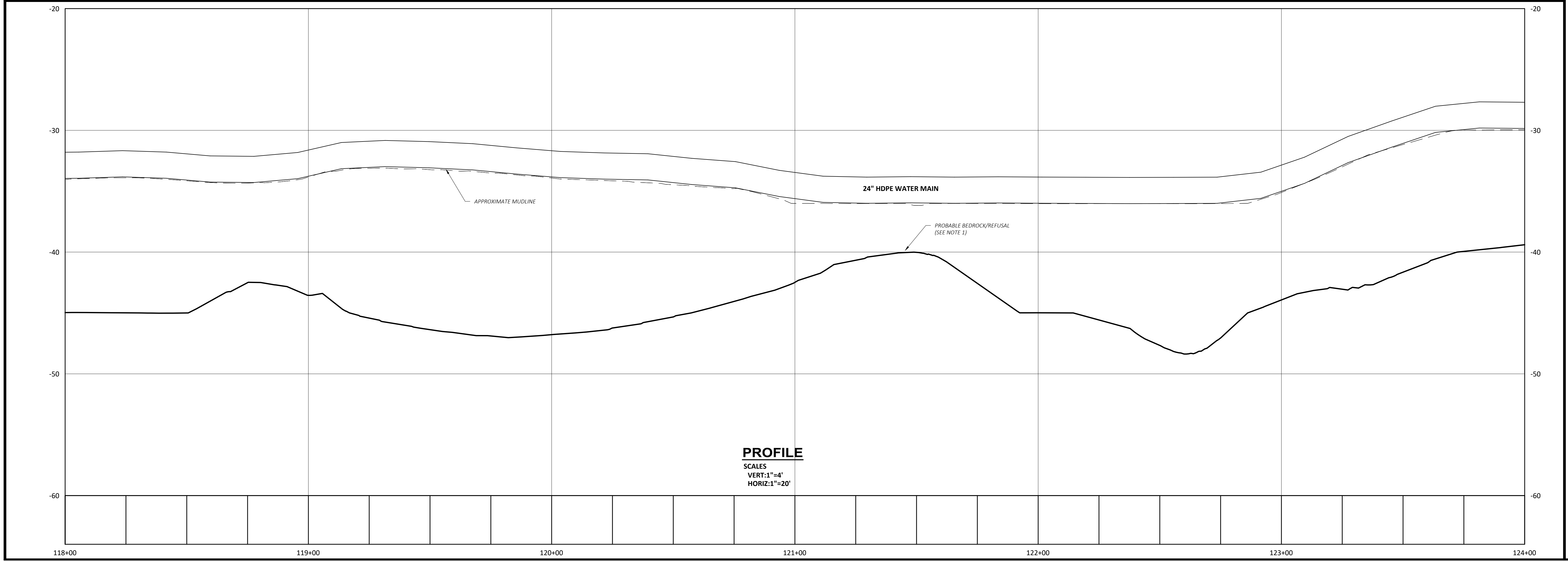
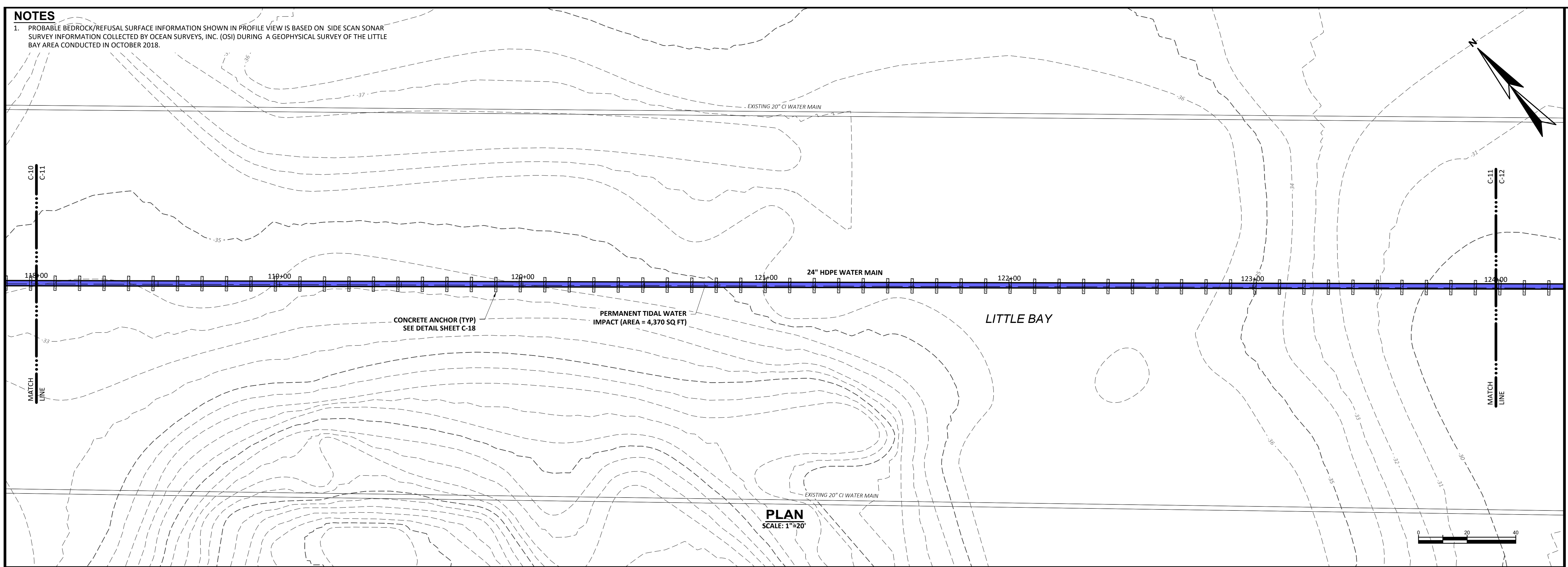
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CITY OF PORTSMOUTH
 SUBAQUEOUS WATER TRANSMISSION MAIN
 LITTLE BAY, DURHAM-NEWINGTON
 NEW HAMPSHIRE
 WATER MAIN REPLACEMENT PLAN & PROFILE III
 STA. 112+00 TO STA. 118+00
DRAWING
 C-10

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NOTES

1. PROBABLE BEDROCK/REFUSAL SURFACE INFORMATION SHOWN IN PROFILE VIEW IS BASED ON SIDE SCAN SONAR SURVEY INFORMATION COLLECTED BY OCEAN SURVEYS, INC. (OSI) DURING A GEOPHYSICAL SURVEY OF THE LITTLE BAY AREA CONDUCTED IN OCTOBER 2018.



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DESIGNED BY: D.LARY
 CAD CORP: W.EDGAR
 CHECKED BY: W.EDGAR
 DATE: W.EDGAR
 APPROVED BY: W.EDGAR
 DATE: W.EDGAR
 PROJECT NO: 14202A

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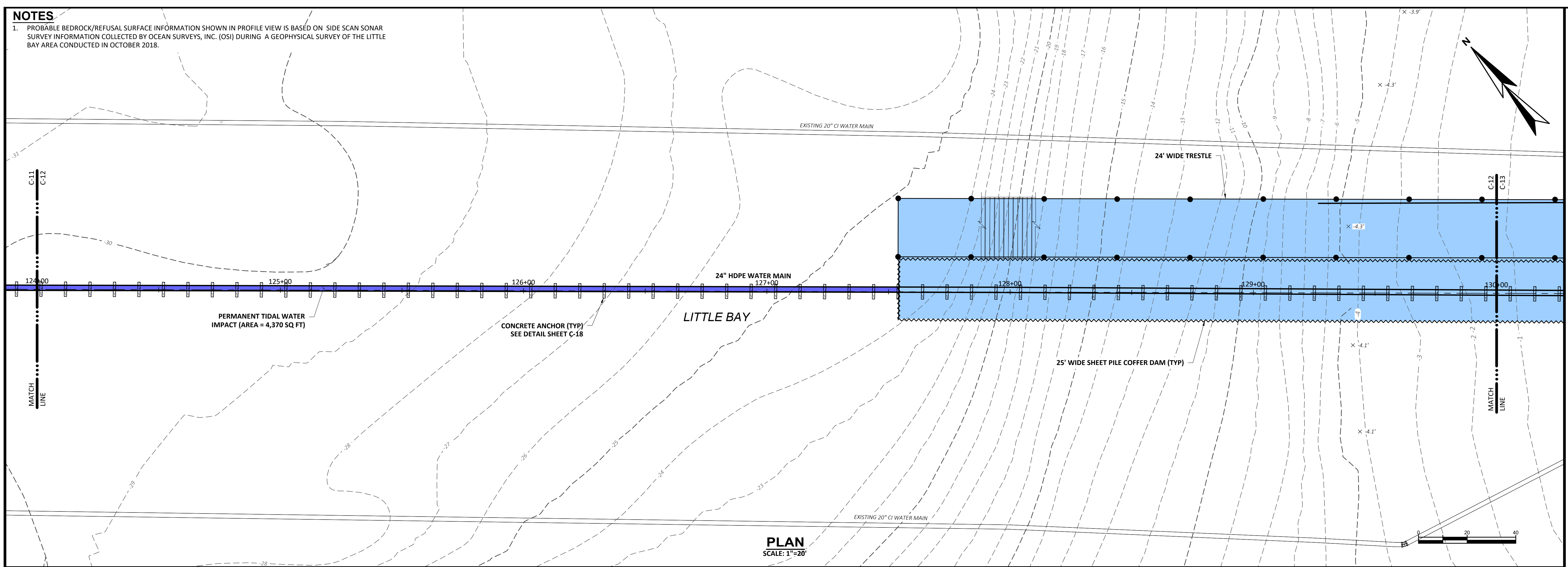
CITY OF PORTSMOUTH
 SUBAQUEOUS WATER TRANSMISSION MAIN
 LITTLE BAY, DURHAM-NEWINGTON
 NEW HAMPSHIRE
 WATER MAIN REPLACEMENT PLAN & PROFILE IV
 STA. 118+00 TO STA. 124+00

DRAWING
 C-11

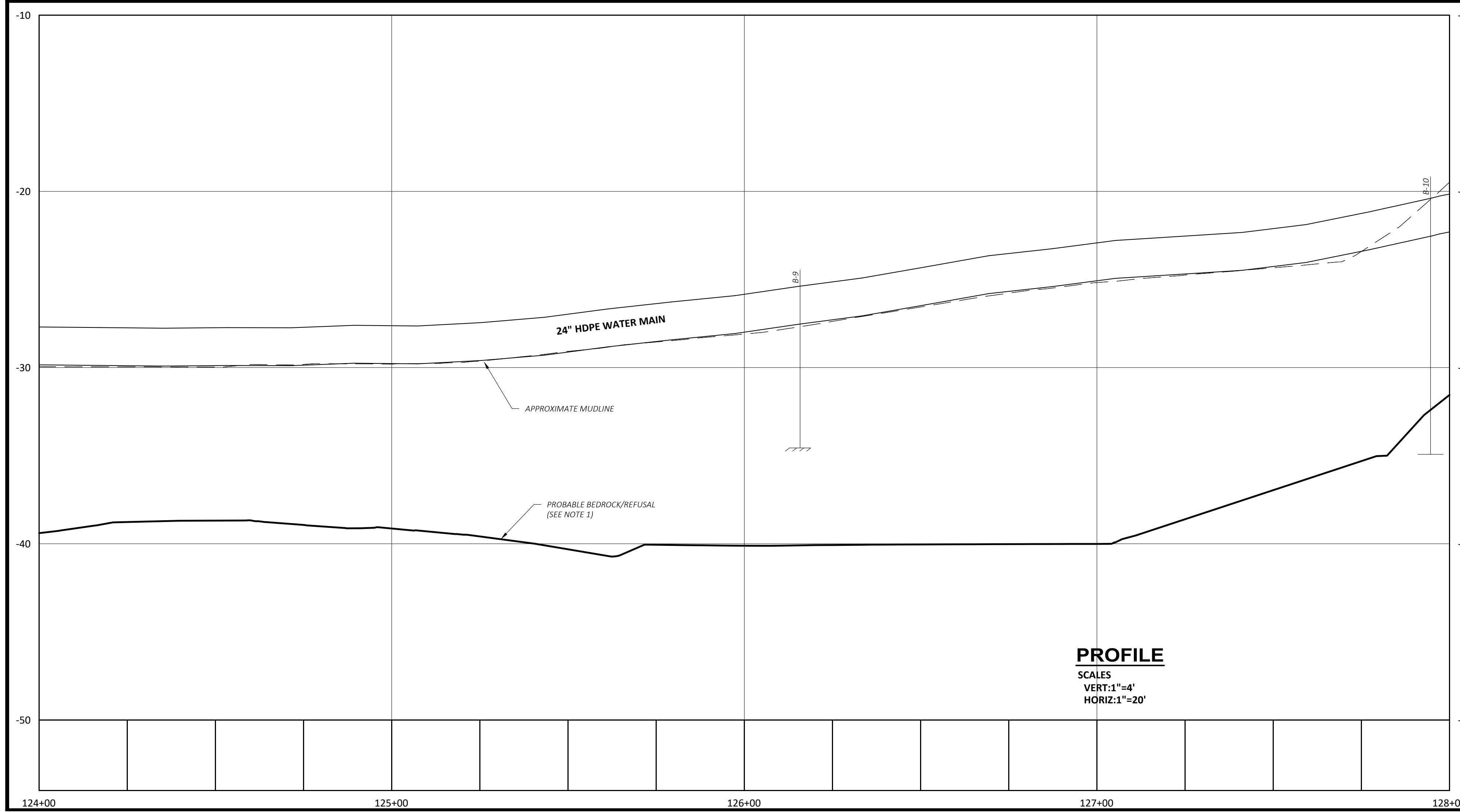
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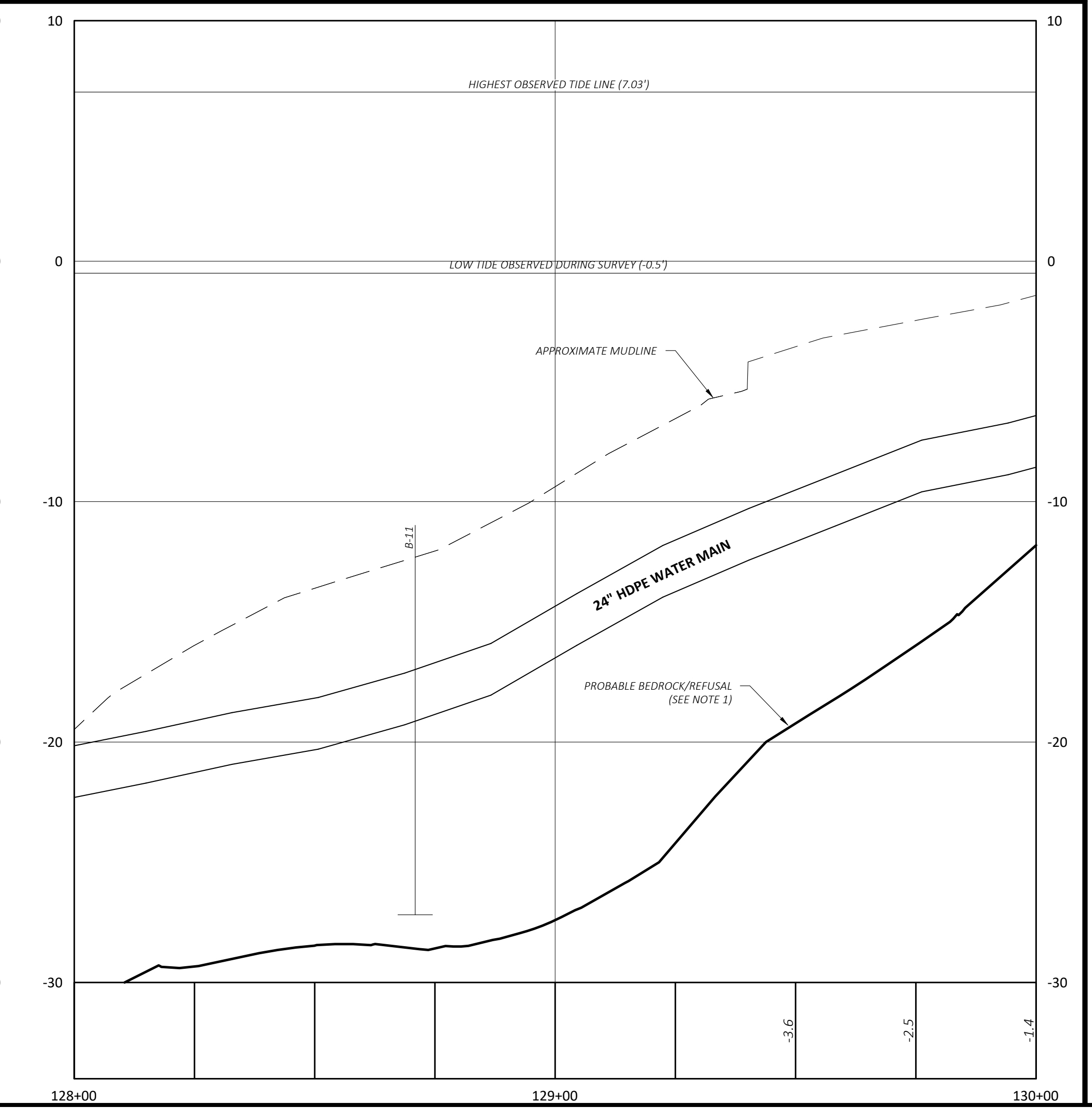
1. PROBABLE BEDROCK/REFUSAL SURFACE INFORMATION SHOWN IN PROFILE VIEW IS BASED ON SIDE SCAN SONAR SURVEY INFORMATION COLLECTED BY OCEAN SURVEYS, INC. (OSI) DURING A GEOPHYSICAL SURVEY OF THE LITTLE BAY AREA CONDUCTED IN OCTOBER 2018.



PLAN
SCALE: 1"=20'



PROFILE
SCALES
VERT: 1"=4'
HORIZ: 1"=20'



NO	PERMITTING DRAWINGS	DESIGNED BY: D.LARY	DATE
1		W.EDGAR	
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DESIGNED BY: D.LARY
 CAD CORP: W.EDGAR
 CHECKED BY: W.EDGAR
 DATE: 5/16/2023
 APPROVED BY:
 DATE: 5/16/2023
 PROJECT NO: 14302A

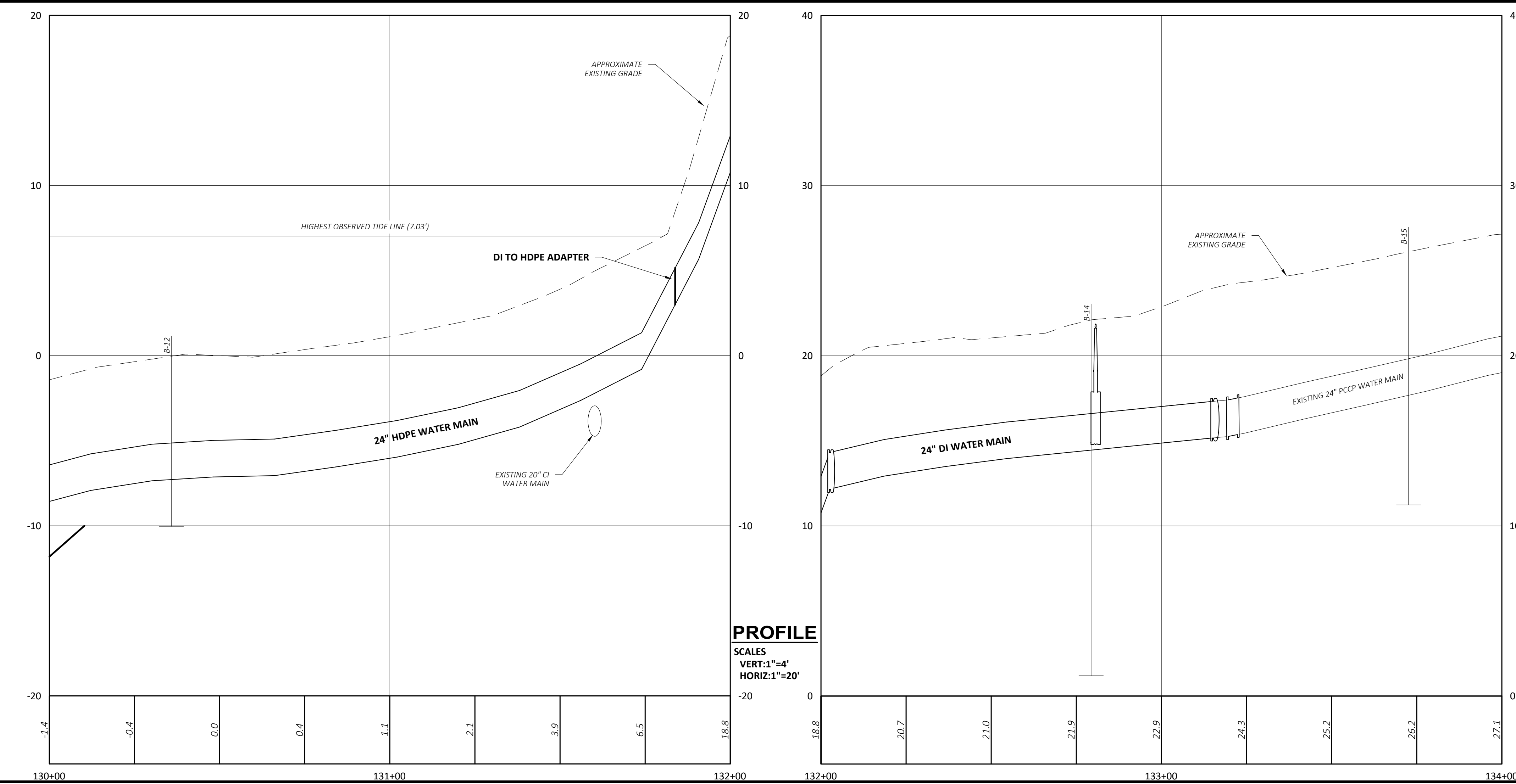
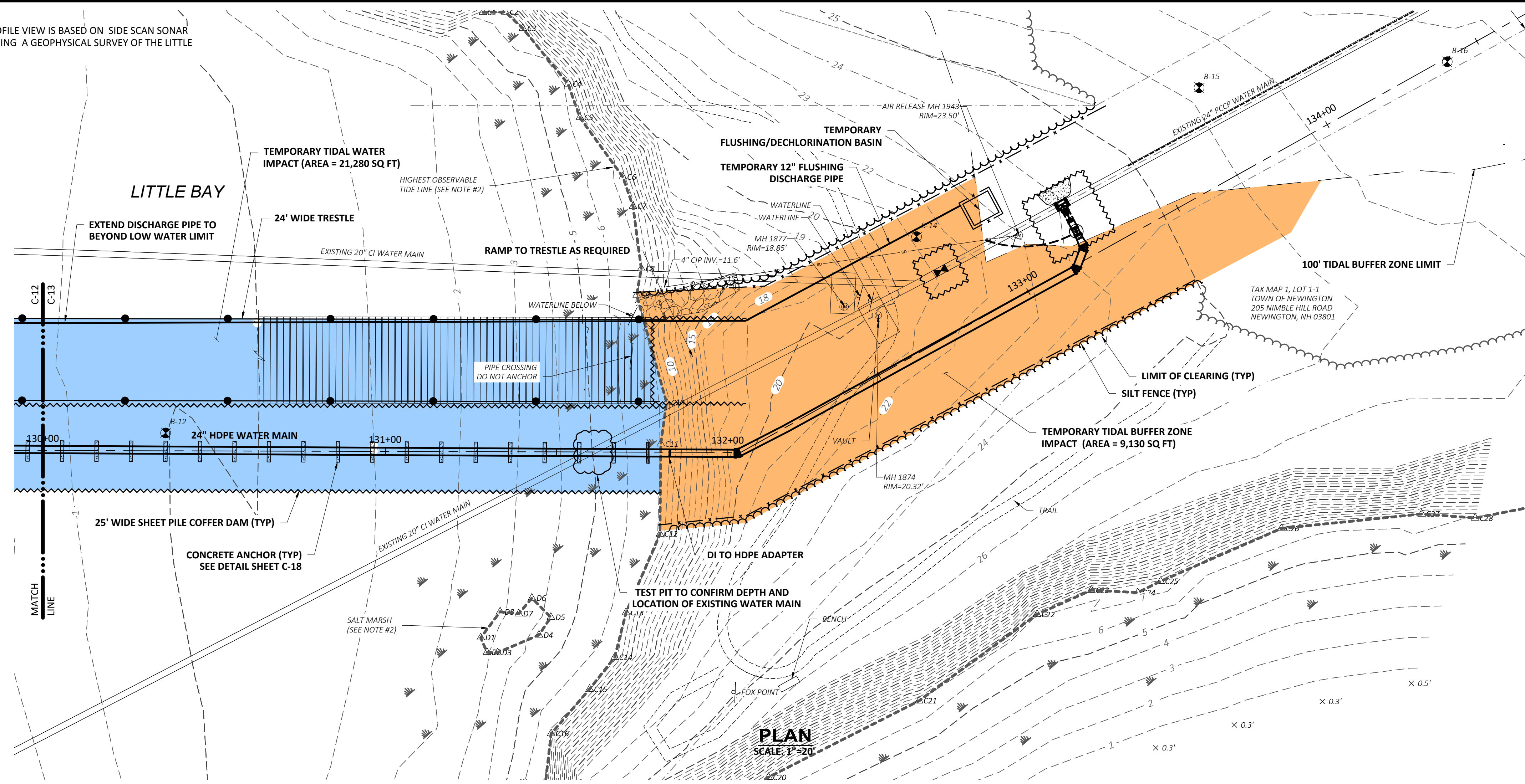

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CITY OF PORTSMOUTH
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 LITTLE BAY, DURHAM-NEWINGTON
 NEW HAMPSHIRE
 WATER MAIN REPLACEMENT PLAN & PROFILE V
 STA. 124+00 TO STA. 130+00
DRAWING
 C-12

J:\ENGINEERING\PORTSMOUTH\4302-SUBAQUEOUSWATERTRANSMISSION\DRAWINGS\CIVIL\4302-CS-28\01.DWG | Plan & Profile V | 5/17/2023 2:18:21 PM | WILLIAM.EDGAR

NOTES

1. PROBABLE BEDROCK/REFUSAL SURFACE INFORMATION SHOWN IN PROFILE VIEW IS BASED ON SIDE SCAN SONAR SURVEY INFORMATION COLLECTED BY OCEAN SURVEYS, INC. (OSI) DURING A GEOPHYSICAL SURVEY OF THE LITTLE BAY AREA CONDUCTED IN OCTOBER 2018.



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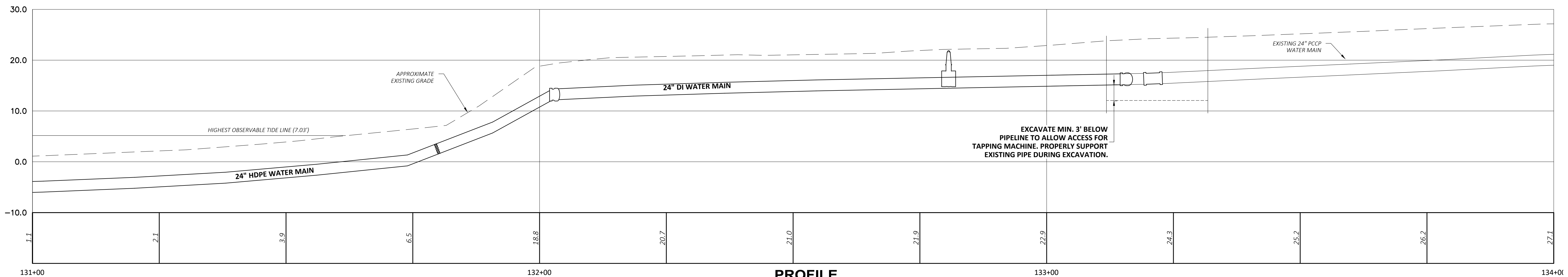
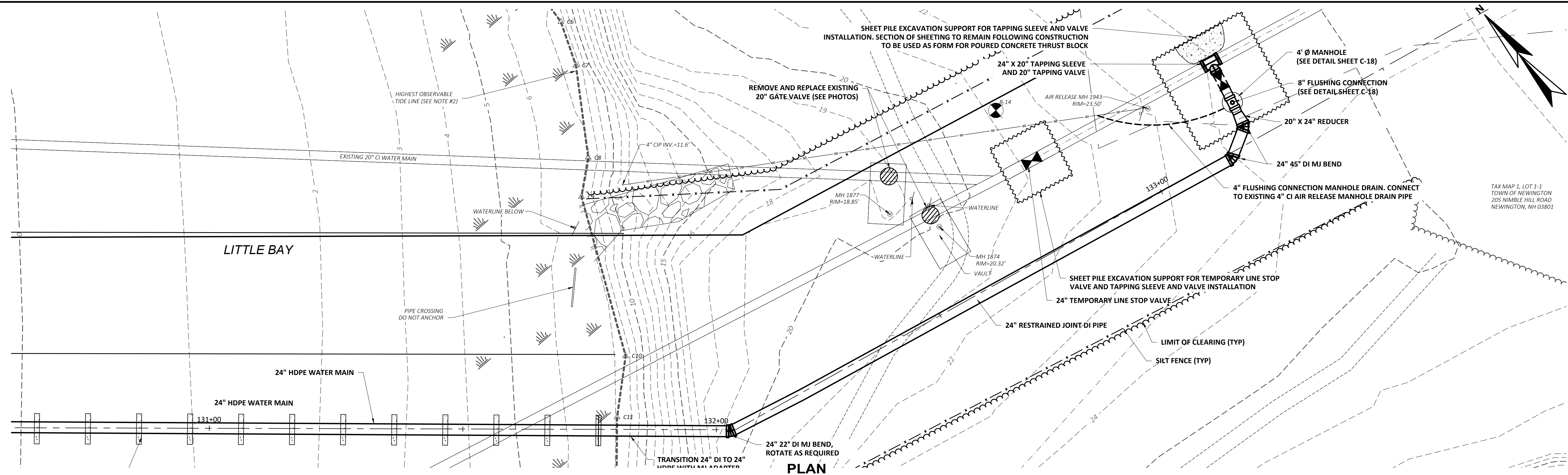
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LITTLE BAY, DURHAM-NEWINGTON
NEW HAMPSHIRE

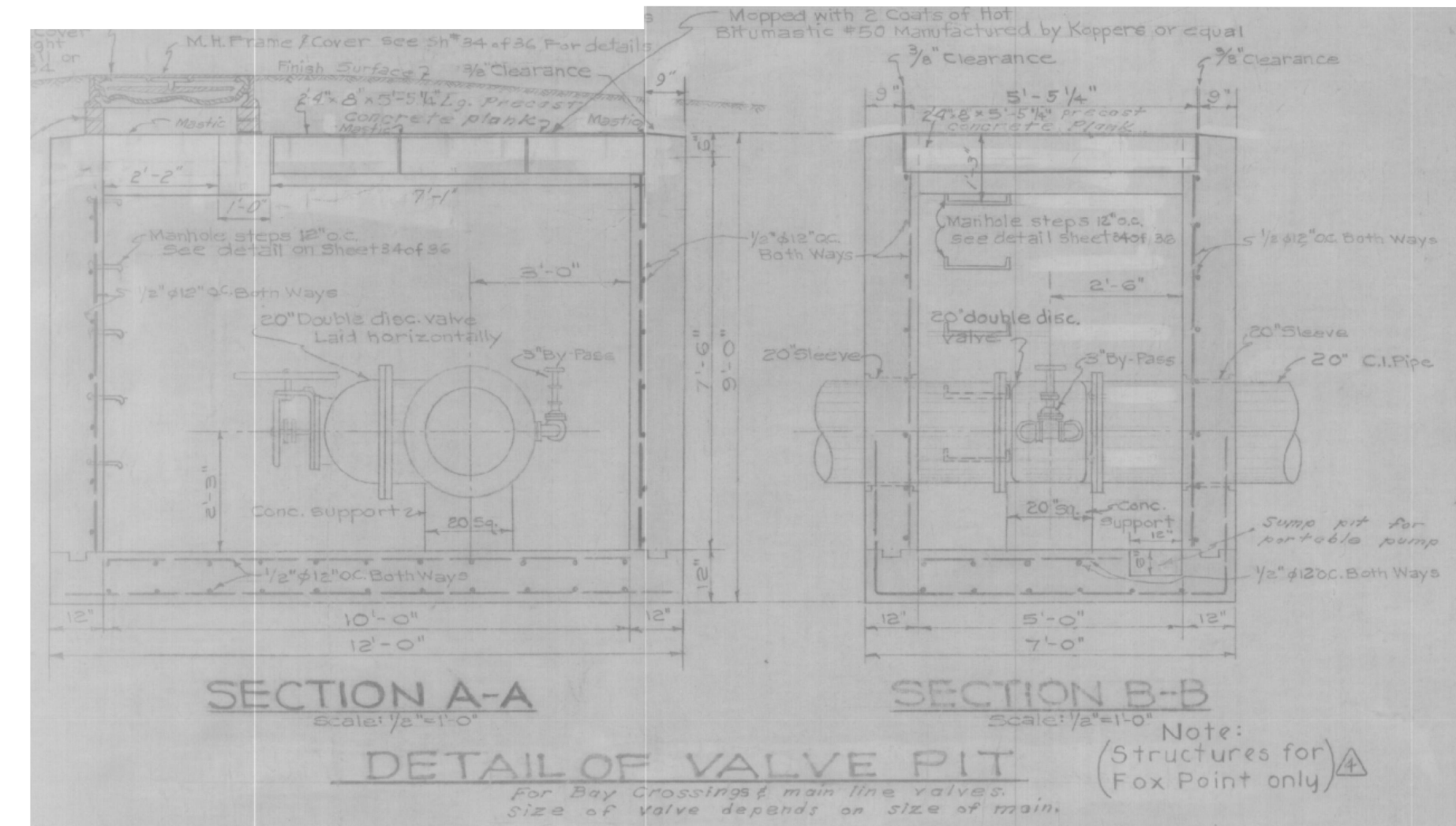
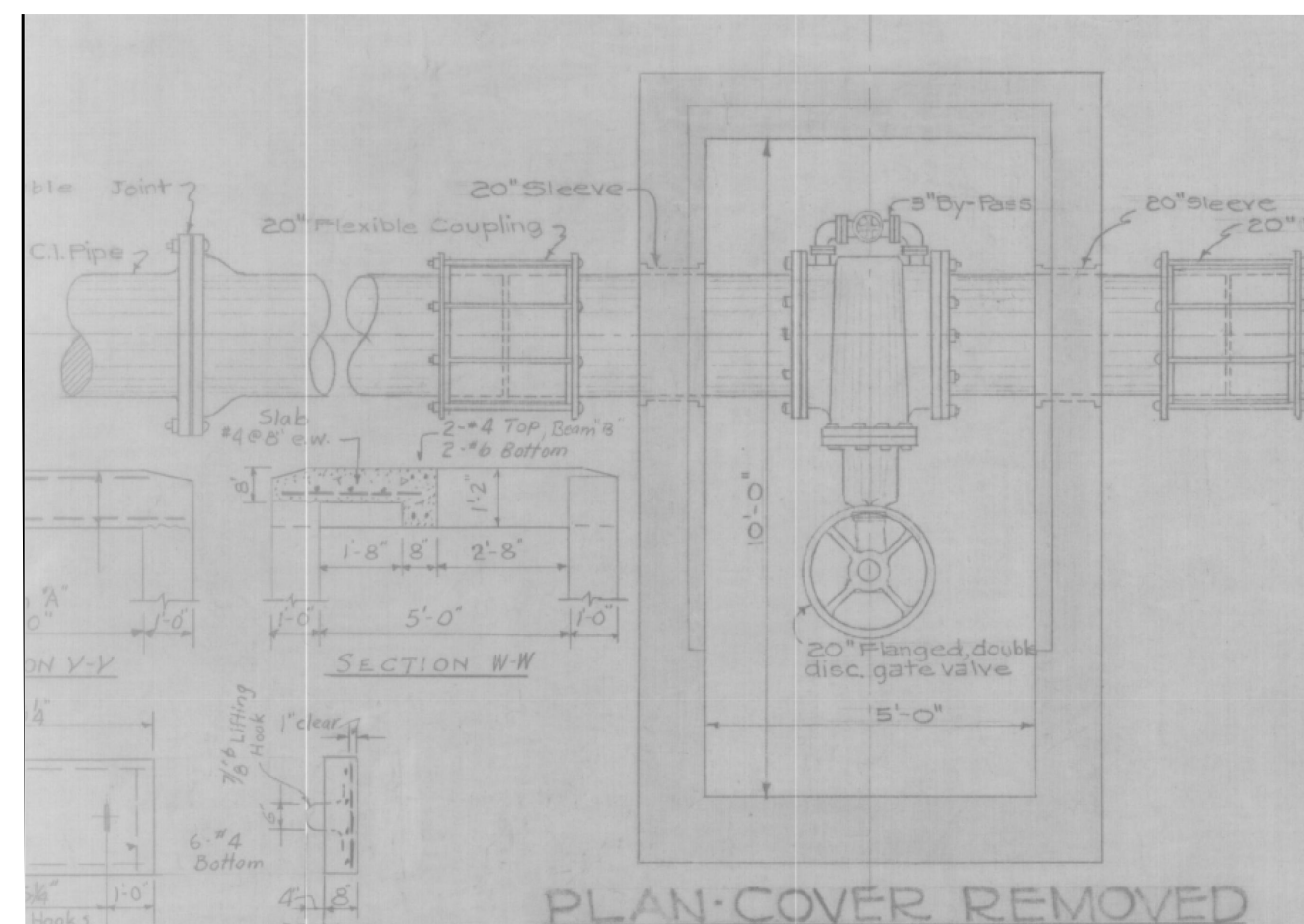
WATER MAIN REPLACEMENT PLAN & PROFILE VI
STA. 130+00 TO STA 134+00

DRAWING
C-13

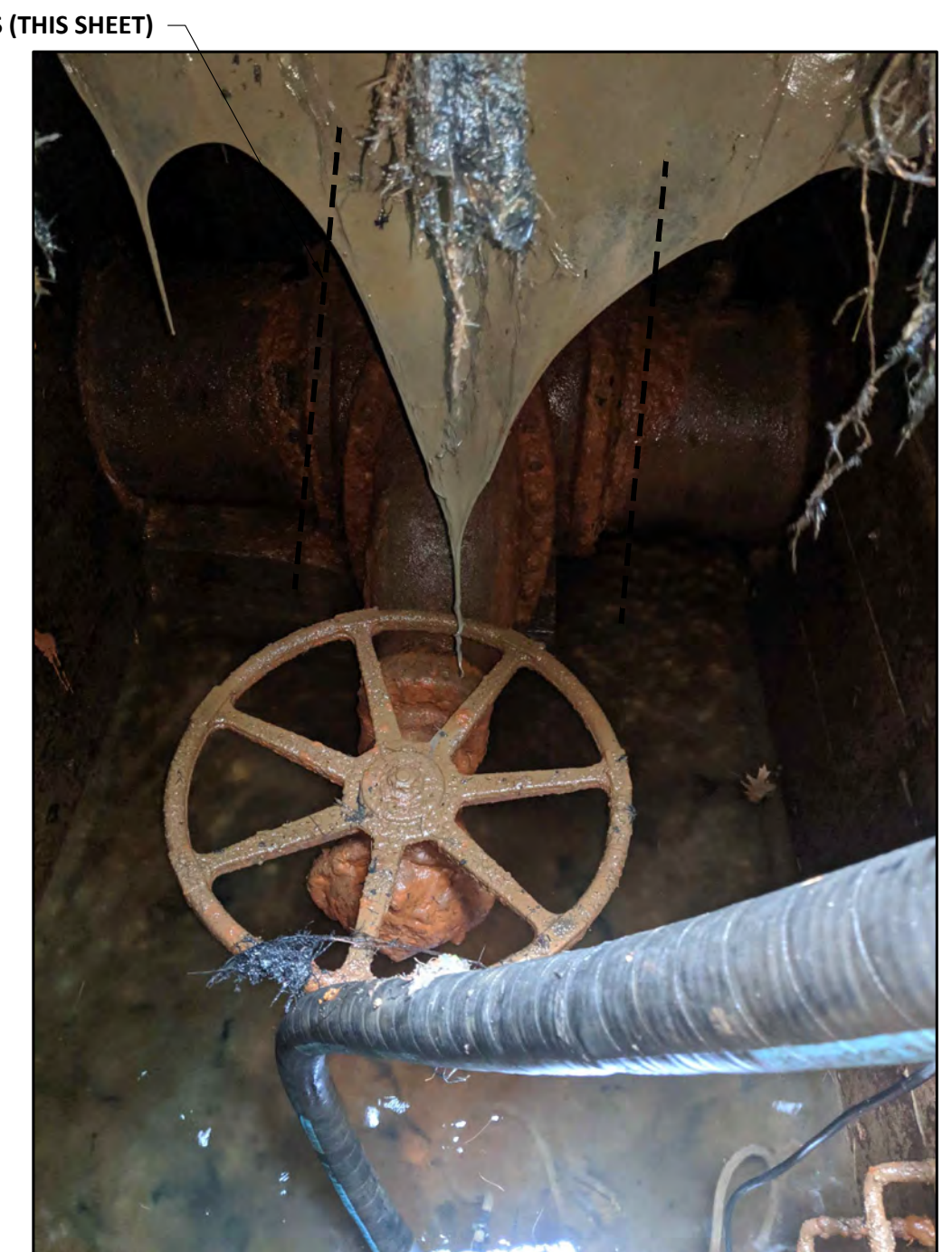
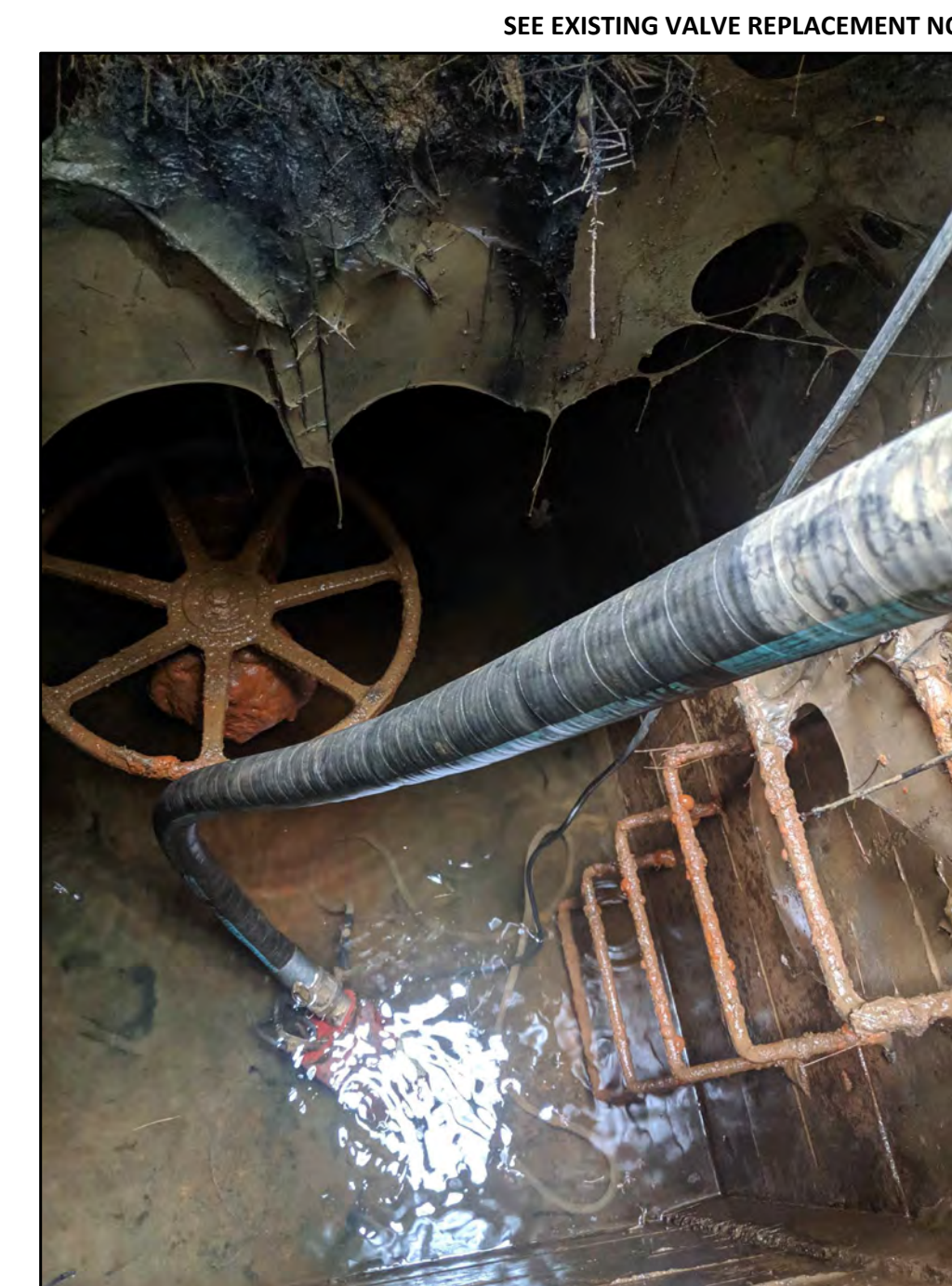


EXISTING VALVE REPLACEMENT NOTES

- CAREFULLY CUT OUT AND REMOVE EXISTING 20-INCH BELL END GATE VALVES.
- CLEAN AND PREPARE ENDS OF EXISTING 20-INCH CAST IRON PIPE.
- INSTALL NEW FL x FL 20-INCH RESILIENT WEDGE STYLE GATE VALVE. MOUNT GATE VALVE HORIZONTALLY WITH BEVEL GEAR OPERATOR NUT TO FLOOR BOX. INSTALL VALVE WITH TWO RESTRAINED STYLE FLANGE ADAPTERS EBAA IRON SERIES 2100 MEGAFANGE OR EQUAL.
- CORE EXISTING VAULT COVER AND INSTALL CAST IRON FLOOR BOX ABOVE VALVE BONNET. INSTALL OPERATOR EXTENSION FROM OPERATING NUT TO FLOOR BOX. PROVIDE 316 STAINLESS STEEL GUIDE SUPPORTS AT 5-FOOT INTERVALS ON OPERATOR EXTENSION.
- WRAP PIPE AND VALVE IN V-BIO POLYETHYLENE ENCASEMENT.
- INFILL VAULT CHAMBER WITH CLEAN 3/4" CRUSHED STONE TO 1-FOOT BELOW MANHOLE FRAME AND COVER.



EXISTING VALVE PITS - NEWINGTON



SEE EXISTING VALVE REPLACEMENT NOTES (THIS SHEET)

NO	PERMITTING DRAWINGS	DESIGNED BY: D.J. LARY	DATE
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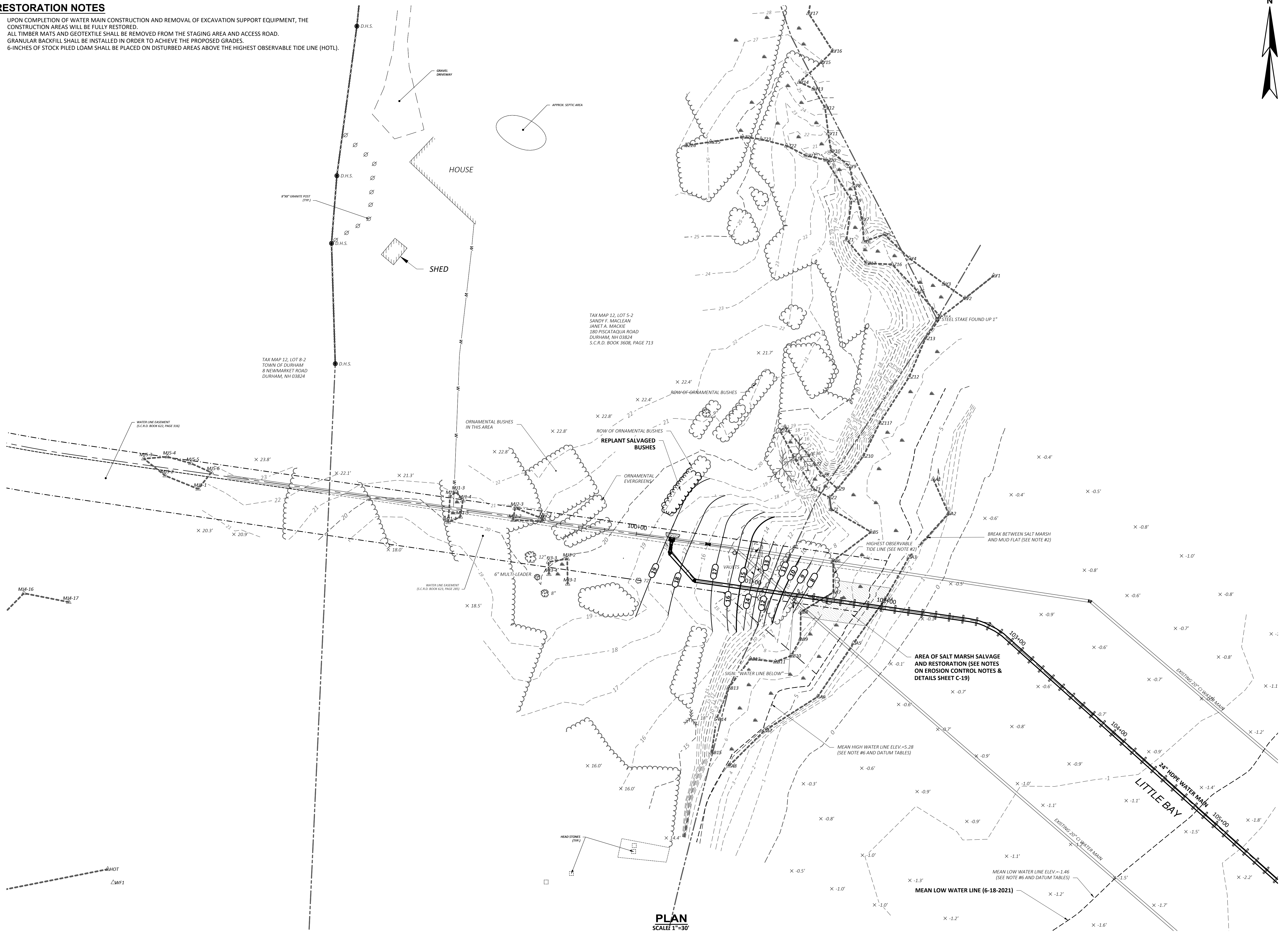
SUBMITTED BY: W. EDGAR
 CHECKED BY: W. EDGAR
 DATE: 5/17/2023
 APPROVED BY:
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 PROJECT NO.: 14202A


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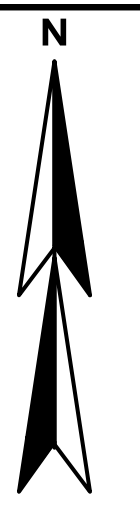
CITY OF PORTSMOUTH
 SUBAQUEOUS WATER TRANSMISSION MAIN
 LITTLE BAY, DURHAM-NEWINGTON
 NEW HAMPSHIRE
 WATER MAIN CONNECTION DETAIL - NEWINGTON
DRAWING
 C-15

RESTORATION NOTES

1. UPON COMPLETION OF WATER MAIN CONSTRUCTION AND REMOVAL OF EXCAVATION SUPPORT EQUIPMENT, THE CONSTRUCTION AREAS WILL BE FULLY RESTORED.
2. ALL TIMBER MATS AND GEOTEXTILE SHALL BE REMOVED FROM THE STAGING AREA AND ACCESS ROAD.
3. GRANULAR BACKFILL SHALL BE INSTALLED IN ORDER TO ACHIEVE THE PROPOSED GRADES.
4. 6-INCHES OF STOCK PILED LOAM SHALL BE PLACED ON DISTURBED AREAS ABOVE THE HIGHEST OBSERVABLE TIDE LINE (HOTL).



PLAN
SCALE 1"=30'



NO	PERMITTING DRAWINGS	DESIGNED BY:	DATE
1		D.J. LARY	
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SUBMITTED BY: WILLIAM.EDGAR
 DATE: 5/17/2023
 PROJECT NO.: 14202A

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CITY OF PORTSMOUTH
 SUBAQUEOUS WATER TRANSMISSION MAIN
 LITTLE BAY, DURHAM-NEWINGTON
 NEW HAMPSHIRE

RESTORATION PLAN - DURHAM

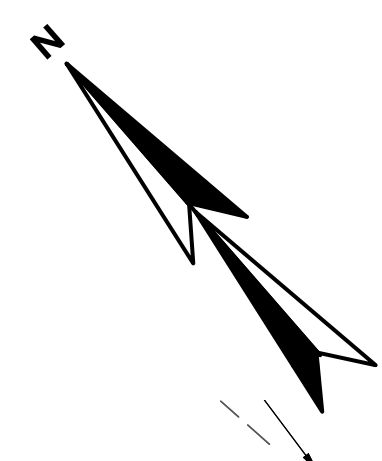
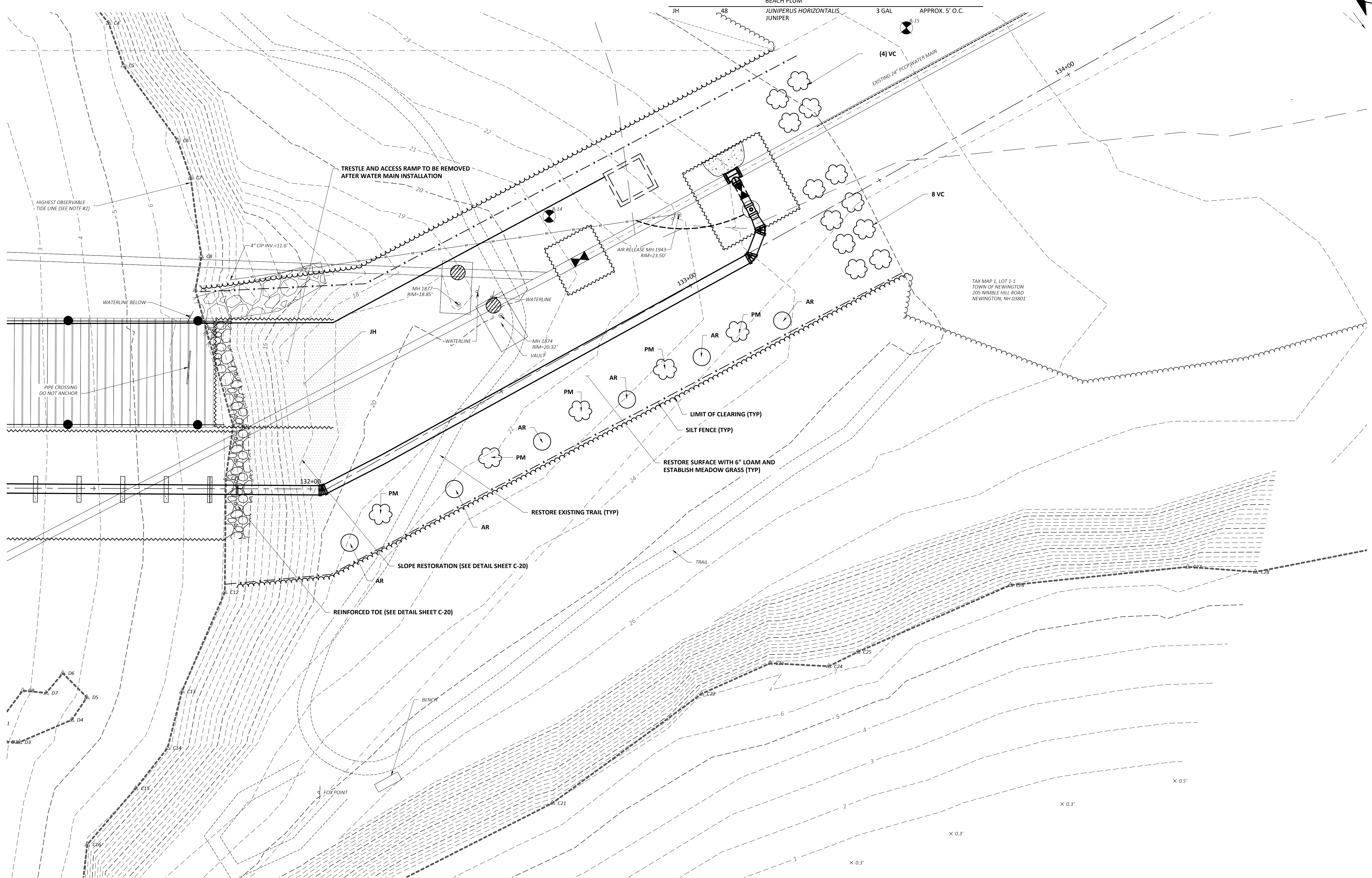
DRAWING
 C-16

RESTORATION NOTES

1. UPON COMPLETION OF WATER MAIN CONSTRUCTION AND REMOVAL OF EXCAVATION SUPPORT EQUIPMENT, THE CONSTRUCTION AREAS WILL BE FULLY RESTORED.
2. ANY RUTTING IN STAGING AREAS SHALL BE RE-GRADED AND EXISTING GRADES RESTORED.
3. LOAM SHALL BE PLACED AS NEEDED TO ENSURE GRASS ESTABLISHMENT.
4. UNLESS OTHER PLANTINGS ARE INDICATED, AREAS IMPACTED BY CONSTRUCTION SHALL BE SEEDED WITH GRASS IN ACCORDANCE WITH SPECIFICATION 02485.

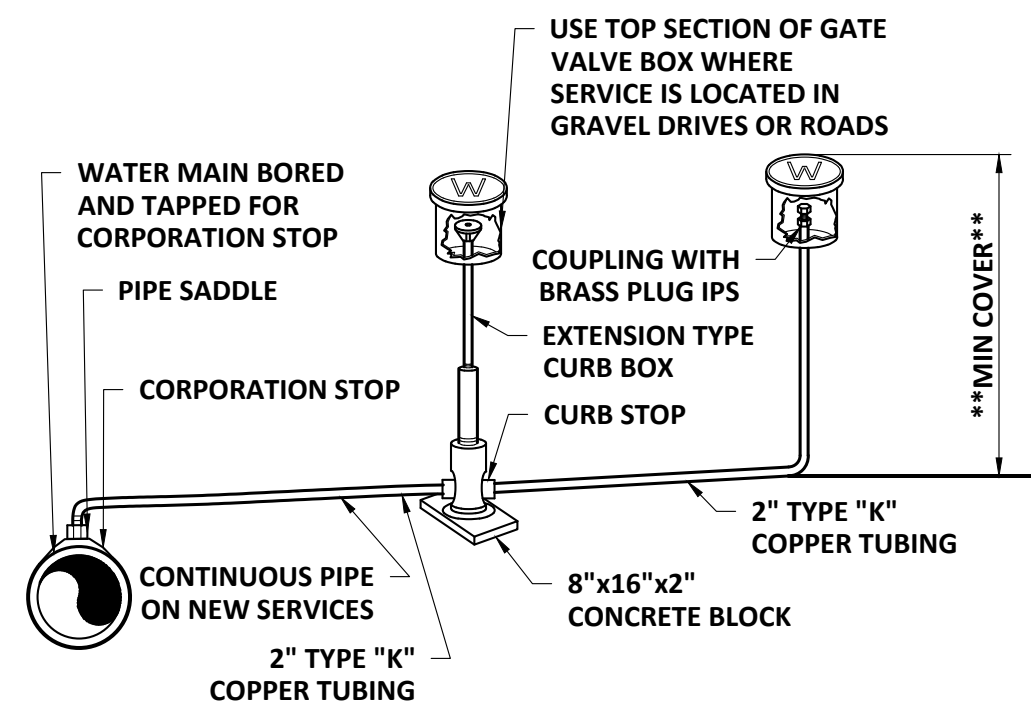
PLANTING SCHEDULE

KEY	QTY	SCIENTIFIC NAME COMMON NAME	SIZE	SPACING
VC	12	VACCINIUM CORYMBOSUM (NORTHLAND) BLUEBERRY	3-4 FT	8' O.C.
AR	6	AMELANCHIER SPP SERVICEBERRY	3-4 FT	APPROX. 20' O.C.
PM	5	PRUNUS MARITIMA BEACH PLUM	3-4 FT	APPROX. 16' O.C.
JH	48	JUNIPERUS HORIZONTALIS JUNIPER	3 GAL	APPROX. 5' O.C.

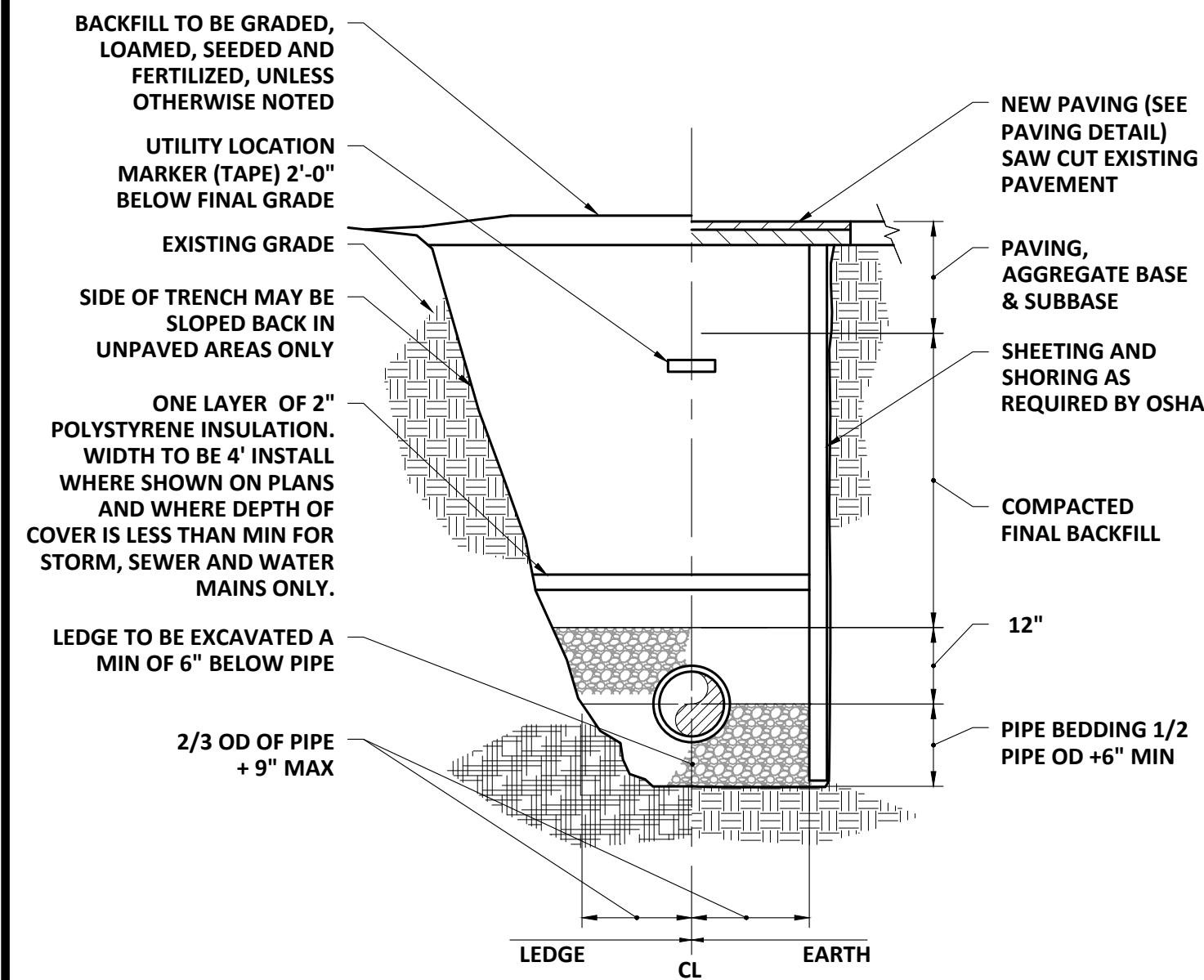


PLAN
SCALE: 1"=10'

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DESIGNED BY: D.LARY CAD CORP.: W.EDGAR CHECKED BY: W.EDGAR DATE: _____ APPROVED BY: _____ DATE: _____ PROJECT NO.: 14202A				
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CITY OF PORTSMOUTH SUBAQUEOUS WATER TRANSMISSION MAIN LITTLE BAY, DURHAM-NEWINGTON NEW HAMPSHIRE				
RESTORATION PLAN - NEWINGTON				
DRAWING				
C-17				



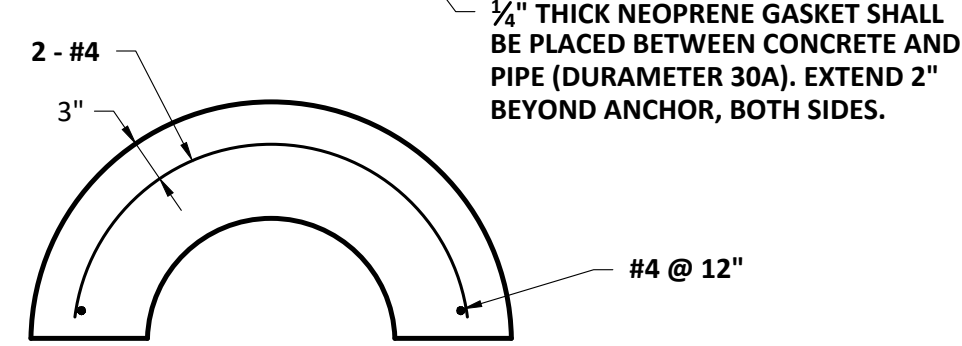
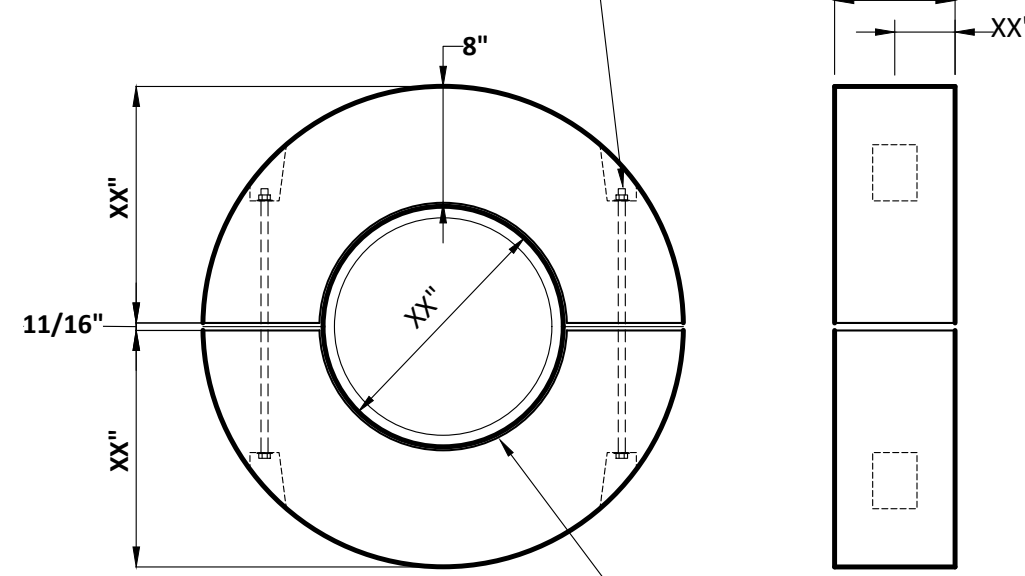
MANUAL AIR RELEASE ASSEMBLY
SCALE: NTS



- NOTES:**
1. ALL EXCAVATION MUST MEET OSHA STANDARDS.
 2. INSTALL 3 FOOT LONG IMPERVIOUS MATERIAL DAM IN BEDDING/INITIAL BACKFILL MATERIAL EVERY 100' AND WHERE SHOWN ON PLANS TO PREVENT TRENCH GROUNDWATER FROM BEING CHANNLED ALONG BEDDING/INITIAL BACKFILL.
 3. SEE SPECIFICATIONS FOR BEDDING AND BACKFILL REQUIREMENTS.

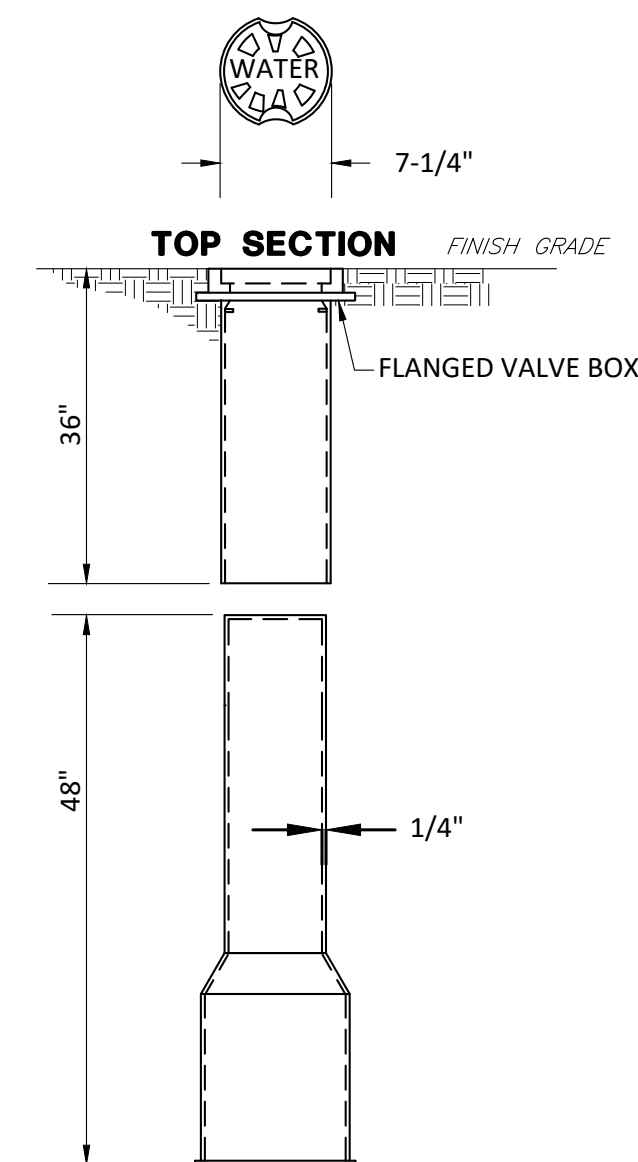
PIPE TRENCH
SCALE: "NTS"

1.25" DIAMETER HOLE FOR 1" DIAMETER SS BOLTS, NUTS, WASHERS, PEEN THREADS TO PREVENT NUT LOOSENING

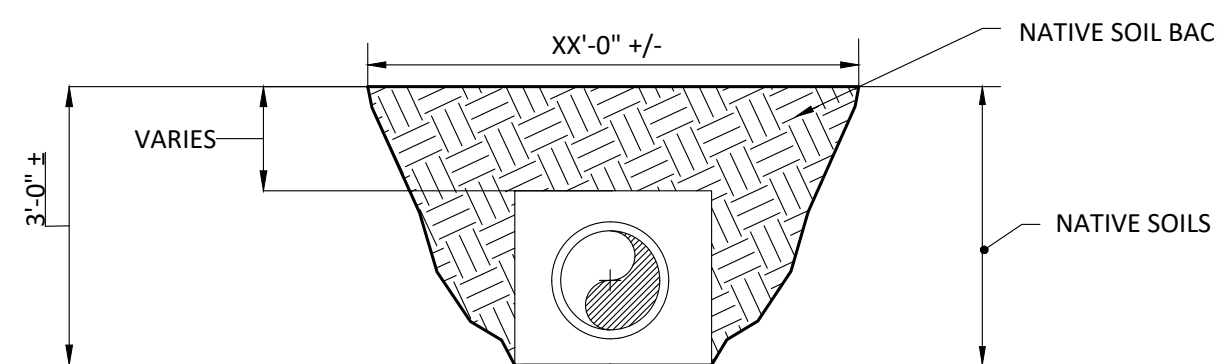


1. CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 4500 PSI.
2. REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 DEFORMED BARS.
3. ANCHOR BOLTS, NUTS, WASHERS, BARS, PLATES SHALL BE STAINLESS STEEL TYPE 316.
4. CONCRETE ANCHORS SHALL BE SECURELY FASTENED TO THE PIPE TO PREVENT MOVEMENT.
5. CONCRETE ANCHORS TO BE SPACED AT 10'-0" O.C. BASED ON 24" SDR 11 PIPE WITH XX-INCHES O.D. AND PIPE WEIGHT 34.44 LBS PER LINEAR FOOT.
6. CONTRACTOR SHALL VERIFY THE ABOVE CONCRETE ANCHOR DIMENSIONS WITH PIPE.
7. PROVIDE LIFTING INSERT ON EACH ANCHOR SECTION.

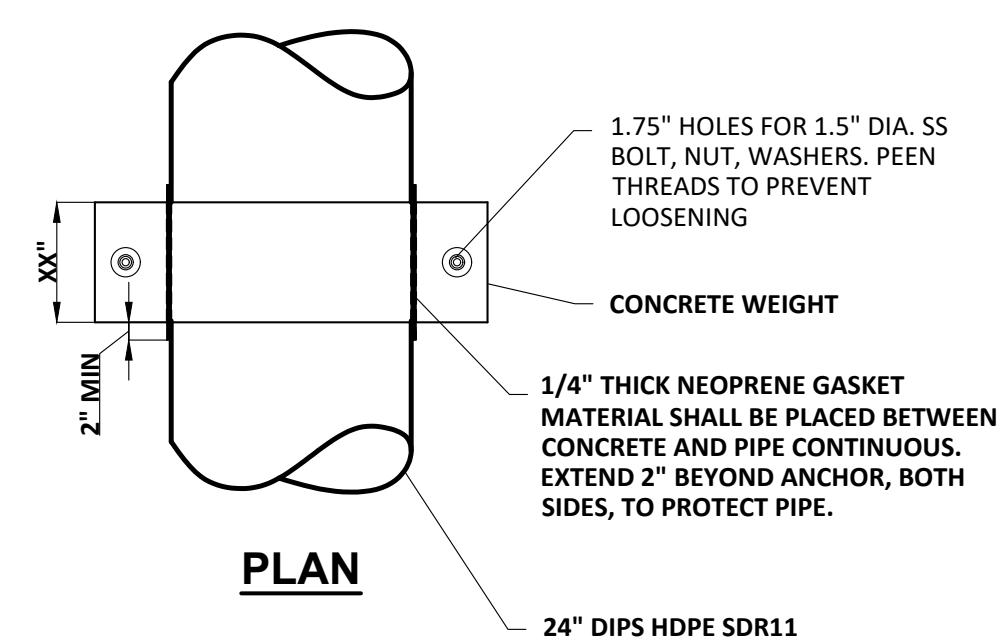
CONCRETE ANCHOR DETAIL
NTS



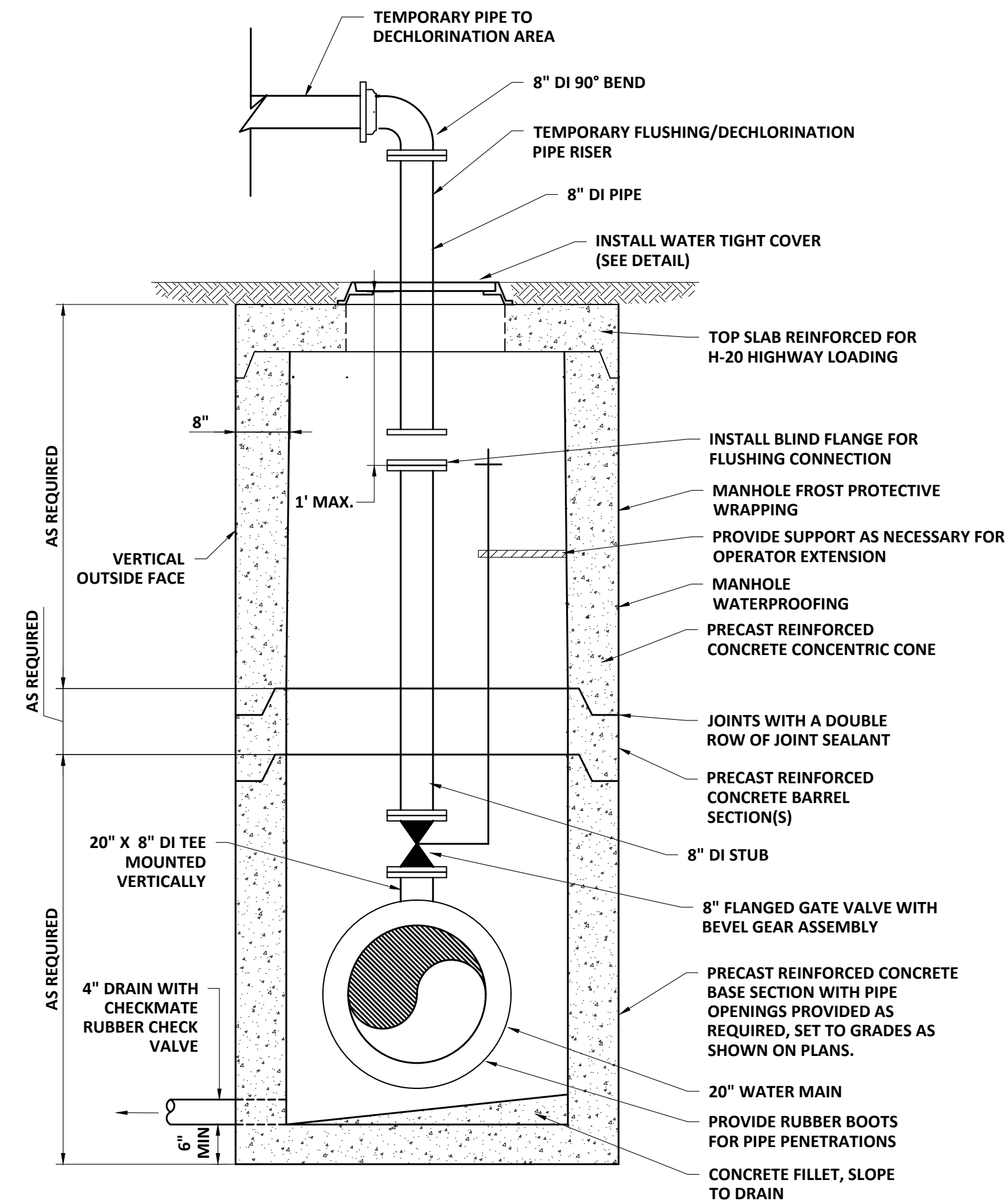
2-PIECE SLIDING VALVE BOX
NTS



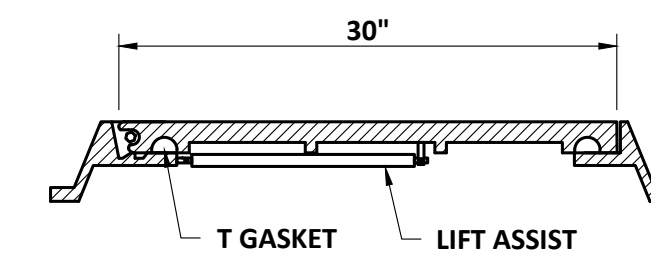
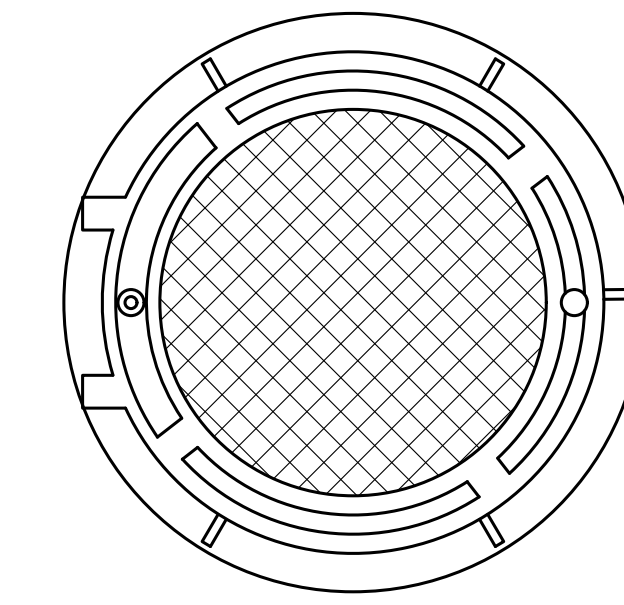
MARINE WATER MAIN TRENCH DETAIL
NTS



PLAN

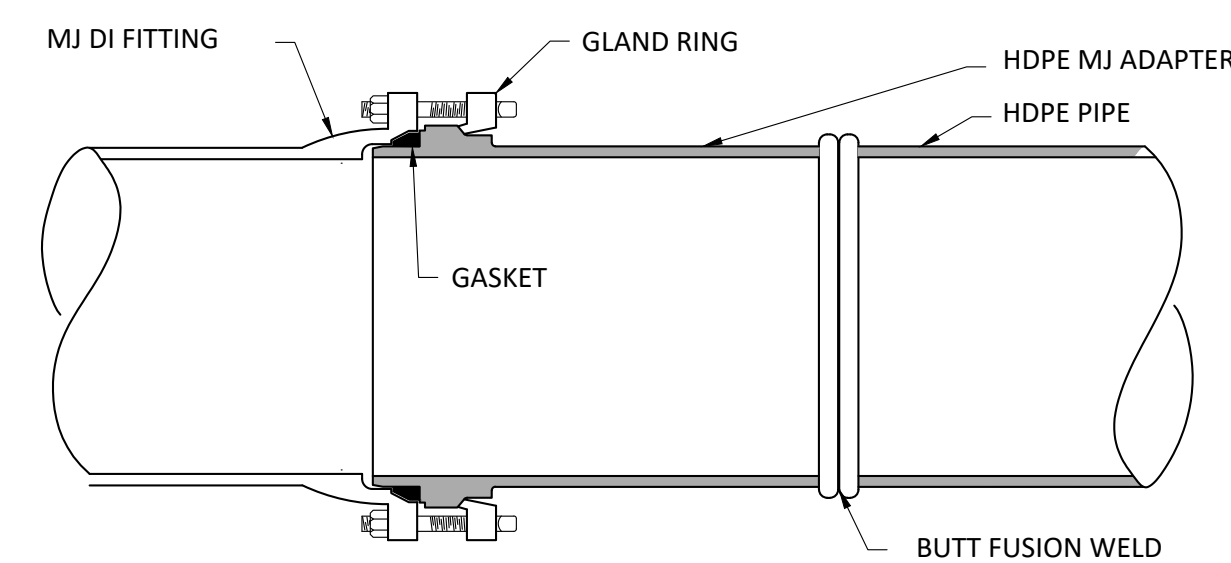


FLUSHING CONNECTION WITH 5-FT MANHOLE
SCALE: "NTS"

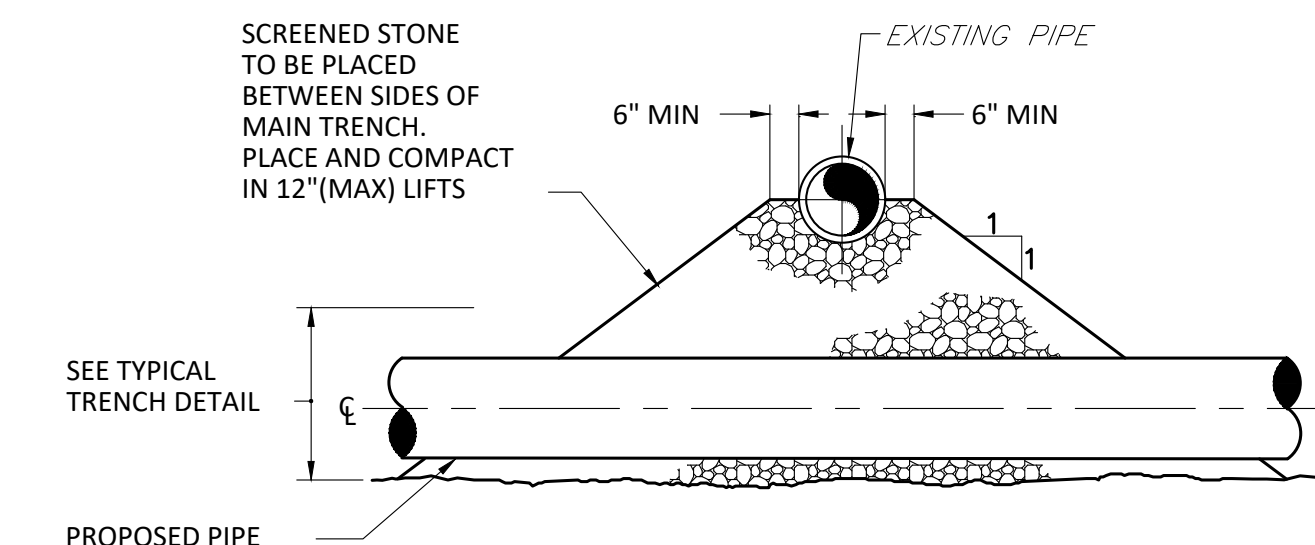


- NOTES:**
1. BEARING SURFACES OF FRAME AND COVER MACHINED

30\"/>



HIGH DENSITY POLYETHYLENE PIPE TO MECHANICAL JOINT CONNECTION DETAIL
SCALE: NTS



- NOTE:**
JOINTS ON EACH PIPE TO BE AS FAR FROM INTERSECTION AS POSSIBLE

PIPE CROSSING DETAIL
NTS

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DESIGNED BY: D.LARY	APP'D	DATE
CAD CORP: W.EDGAR		
CHECKED BY: W.EDGAR		
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PROJECT NO: 14202A		

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CITY OF PORTSMOUTH
SUBAQUEOUS WATER TRANSMISSION MAIN
LITTLE BAY, DURHAM-NEWINGTON
NEW HAMPSHIRE

EROSION AND SEDIMENTATION CONTROL NOTES

- THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE NEW HAMPSHIRE STORMWATER MANUAL BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES, TERRAIN ALTERATION BUREAU, DATED DECEMBER 2008
- THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL STRUCTURES REQUIRED ARE SHOWN ON THE DRAWINGS. PROVIDE SILT FENCE, STONE CHECK DAMS AND OTHER EROSION CONTROL MEASURES AS REQUIRED TO ADEQUATELY PREVENT SEDIMENT TRANSPORT AS NOTED IN THE BMP.
- ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH THE NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL AND THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES, ENV-Wq 1500: ALTERATION OF TERRAIN AND THE NHDES BEST MANAGEMENT PRACTICES MANUAL FOR THE UTILITY MAINTENANCE IN AND ADJACENT TO WETLANDS AND WATERBODIES.
 - THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE MAINTAINED IN AN UNTREATED OR UNVEGETATED CONDITION FOR THE MINIMUM TIME REQUIRED. IN GENERAL AREAS TO BE VEGETATED SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL.
 - SEDIMENT BARRIERS (SILT FENCE, STONE CHECK DAMS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF UPGRADIENT DRAINAGE AREAS.
 - INSTALL SILT FENCE AT TOE OF SLOPES TO FILTER SILT FROM RUNOFF. SEE SILT FENCE DETAIL FOR PROPER INSTALLATION. SILT FENCE WILL REMAIN IN PLACE PER NOTE #5.
 - ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. SEDIMENT DEPOSITS MUST BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED.
 - NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2 TO 1) UNLESS STABILIZED WITH RIPRAP OR OTHER STRUCTURAL MEANS.
 - IF FINAL SEEDING AND SODDING IS NOT EXPECTED PRIOR TO THE ANTICIPATED DATE OF THE FIRST KILLING FROST, USE TEMPORARY ANNUAL REYGRASS SEEDING AND MULCHING ON ROUGH GRADED SUBSOIL TO PROTECT THE SITE AND DELAY PERMANENT LOAMING, FINE GRADING, AND SEEDING OR SODDING UNTIL SPRING.
 - WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISH GRADED SHALL BE COMPLETED 30 DAYS PRIOR TO THE FIRST KILLING FROST.
 - DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY, WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
 - REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND REVEGETATED.
 - ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
 - STABILIZATION SCHEDULE BEFORE WINTER:
 - SEPTEMBER 15** ALL DISTURBED AREAS MUST BE SEEDED AND MULCHED. ALL SLOPES MUST BE STABILIZED, SEEDED AND MULCHED. SLOPES 3:1 OR GREATER TO BE STABILIZED WITH EROSION CONTROL MATTING AND SEEDED. ALL DISTURBED AREAS TO BE PROTECTED WITH AN ANNUAL GRASS MUST BE SEEDED AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND MULCHED.
 - OCTOBER 1** ALL GRASS-LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR EROSION CONTROL BLANKET.
 - NOVEMBER 15** ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED. SLOPES THAT ARE COVERED WITH RIPRAP MUST BE CONSTRUCTED BY THAT DATE.
 - DECEMBER 1** ALL DISTURBED AREAS WHERE THE GROWTH OF VEGETATION FAILS TO BE AT LEAST THREE INCHES TALL OR AT LEAST 75% OF THE DISTURBED SOIL IS COVERED BY VEGETATION, MUST BE PROTECTED FOR OVER-WINTER.

EROSION CONTROL - WINTER CONSTRUCTION

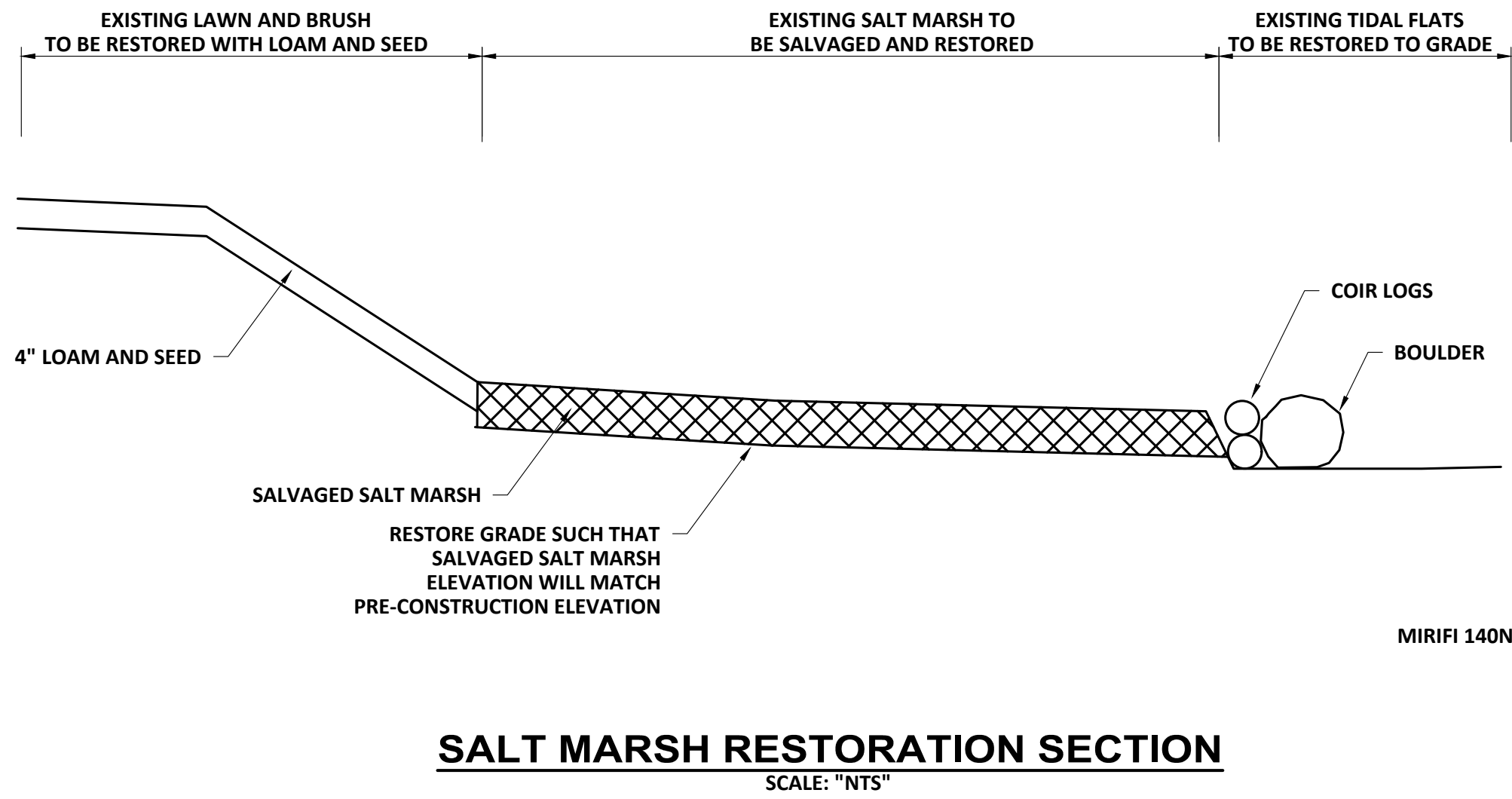
- WINTER CONSTRUCTION PERIOD DEFINED: NOVEMBER 1 THROUGH APRIL 15
- WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
- EXPOSED AREA SHOULD BE LIMITED SUCH THAT THE AREA CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.
- CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
- AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW AT A RATE OF 100 LB. PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE. IN ALL CASES, MULCH SHALL BE APPLIED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH.
- BETWEEN THE DATES OF OCTOBER 15 AND APRIL 15, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE-FREEZING TEMPERATURES, THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED AND IS SMOOTH, THEN THE AREA MUST BE STABILIZED WITH MULCH. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT EXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
- THE APPLICATION OF MULCH TO FINE GRADED AREAS WILL BE STABILIZED AS FOLLOWS:
 - BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION, CHEMICAL TACK OR WOOD CELLULOSE FIBER.
 - MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GRATER THAN 8%.
 - MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15%. AFTER OCTOBER 1ST, THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
- AFTER NOVEMBER 1ST THE CONTRACTOR SHALL APPLY MULCH AND ANCHORING ON ALL BARE EARTH AT THE END OF EACH WORKING DAY.
- DURING WINTER CONSTRUCTION PERIODS ALL SNOW SHALL BE REMOVED FROM AREAS OF MULCHING PRIOR TO PLACEMENT.

EROSION CONTROL - WETLAND NOTES

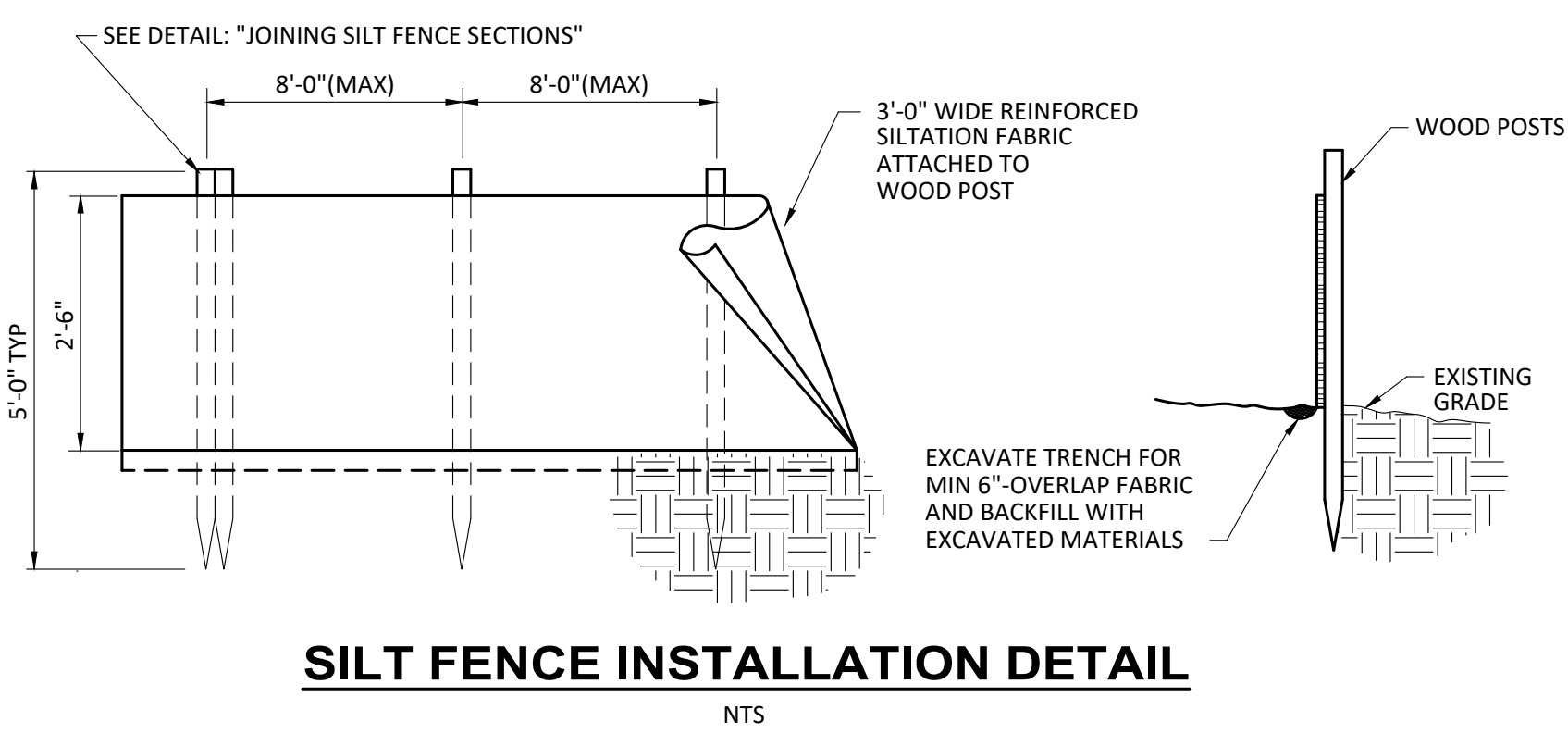
- WETLANDS AND SURFACE WATERS (EXCEPTING THOSE WHICH ARE TO BE FILLED IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS) WILL BE PROTECTED WITH SILT FENCE INSTALLED AT THE EDGE OF THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE.
- IF THE WORK INCLUDES CROSSING OF WETLANDS AND/OR STREAMS, THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS WORKING IN THESE AREAS. CONTRACTOR IS TO PLAN EARTH DISTURBANCE AND GRADING ACTIVITIES TO MINIMIZE THE AREA OF SOIL EXPOSED AT ONE TIME, AS WELL AS THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING.
- ANY WETLAND CROSSING WORK SHALL BE COMPLETED BETWEEN THE PERIOD OF MAY 1 AND SEPTEMBER 30
- ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION WITHIN OR ADJACENT TO WETLAND AREAS.
- WETLAND VEGETATIVE LAYERS SHALL BE REMOVED AND SALVAGED FOR RESTORATION OF THE DISTURBED AREAS.
- SOIL EXCAVATED FROM WETLANDS SHALL BE TEMPORARILY STOCKPILED IN UPLAND AREAS SEPARATED FROM OTHER MATERIALS AND SOILS. ALL STOCKPILED WETLAND SOILS SHALL BE PUT BACK IN THE SAME TRENCH THEY WERE EXCAVATED FROM. STORAGE AREAS FOR WETLAND MATERIALS SHALL BE PROPERLY PROTECTED AGAINST EROSION.
- DISPERSE CLEAN STORMWATER AWAY FROM ALL WETLANDS TO UNDISTURBED, VEGETATED, FLAT OR MODERATE-SLOPED, SURFACES WHEREVER POSSIBLE, RATHER THAN CONCENTRATED INTO CHANNELS.
- ANY SIGN OF RILL OR GULLY EROSION SHALL BE IMMEDIATELY INVESTIGATED AND REPAIRED AS NEEDED BASED ON THE DISCRETION OF THE ENGINEER AND OR OWNER.
- ONLY DISTURB, CLEAR OR GRADE AREAS NECESSARY FOR CONSTRUCTION. FLAG OR OTHERWISE DELINEATE IDENTIFIED WETLAND AREAS NOT TO BE DISTURBED. EXCLUDE VEHICLES AND CONSTRUCTION EQUIPMENT FROM THESE AREAS TO PRESERVE NATURAL VEGETATION. CONTRACTOR TO AVOID GRADING IN WETLANDS CROSSING AREAS.
- FALL AND WINTER EROSION CONTROL MEASURES MUST BE UPGRADED AND REFINED TO PROTECT THE DISTURBED WETLAND AREAS FROM SPRING RUNOFF AND SNOWMELT
- SEEDING OF THE DISTURBED AREAS WITHIN WETLAND AREAS SHALL UTILIZE MIXTURES APPROPRIATE FOR WETLAND AREAS AS OUTLINED IN SECTION 02270 OF THE SPECIFICATIONS.
- TRENCH DEWATERING RUNOFF MUST BE DIRECTED AWAY FROM WETLANDS AREAS USING THE APPLICABLE EROSION CONTROL PRACTICES. DEWATERING WILL NOT BE PERMITTED FOR TRENCH EXCAVATION IN WETLANDS.

SALT MARSH SALVAGE AND RESTORATION NOTES

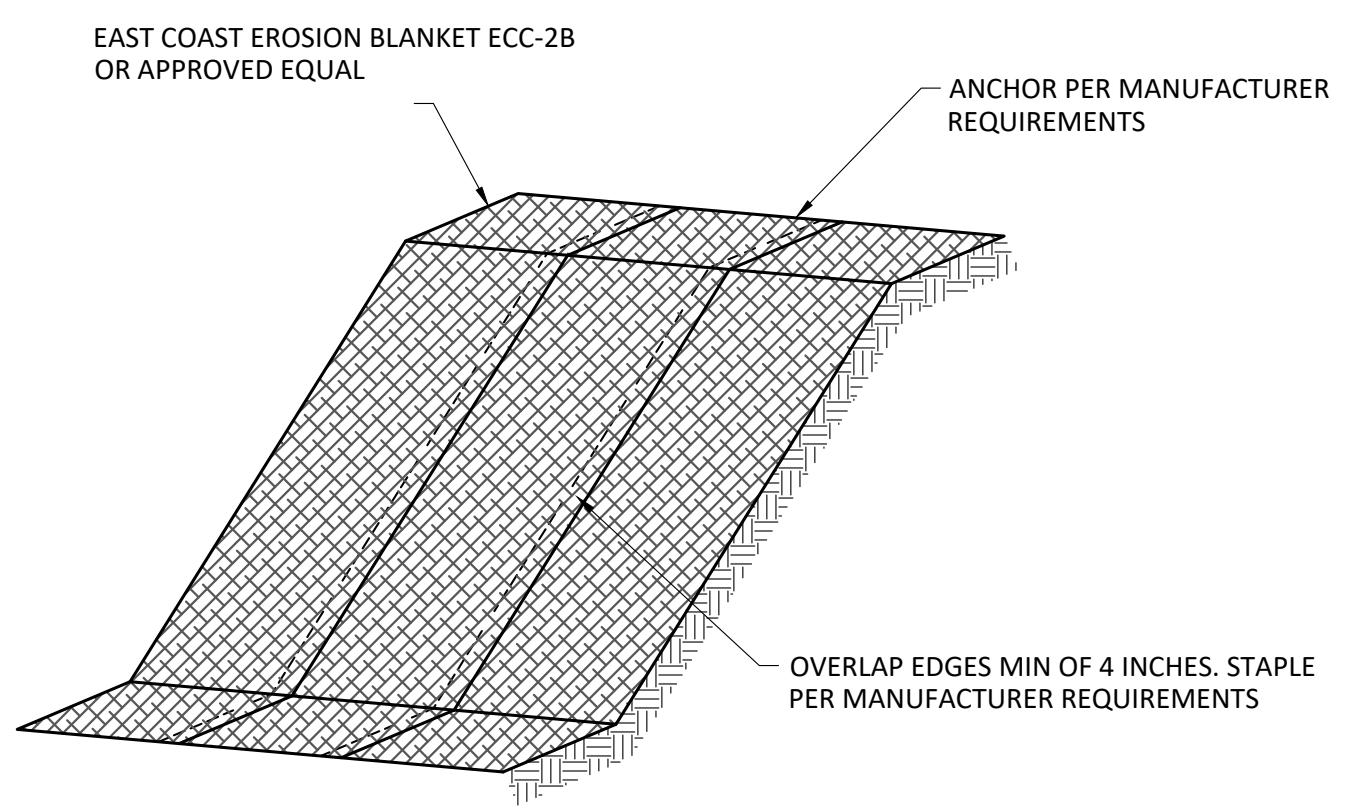
- ALL CONSTRUCTION AND RESTORATION SHALL BE DONE UNDER THE SUPERVISION OF THE ENGINEER AND AN ENVIRONMENTAL MONITOR.
- INSTALL EROSION CONTROLS ALONG THE EDGE OF WORK TO PREVENT DISTURBED SOIL FROM MIGRATING INTO THE SALT MARSH DURING THE WORK PERIOD.
- EXCAVATION WITHIN THE SALT MARSH SHALL BE LIMITED TO ONLY THE AREA NECESSARY FOR INSTALLATION OF THE NEW PIPE LINE.
- MATTING AND EXCAVATION WITHIN THE SALT MARSH SHALL BE LIMITED TO THE SHORTEST AMOUNT OF TIME PRACTICABLE.
- IN THE EXCAVATION AREAS, ALL SUITABLE SALT MARSH PEAT WILL BE SALVAGED AND STOCKPILED FOR REPLACEMENT DURING RESTORATION. SUITABLE PEAT WILL BE DEFINED IN THE FIELD BY THE ENVIRONMENTAL MONITOR, BUT WILL BE PROTECTED FROM SUN, WIND, DEHYDRATION AND FREEZING IN A SUITABLE UPLAND AREA AND MAINTAINED FOR THE DURATION OF THE PROJECT. THE PEAT BLOCKS SHALL BE KEPT MOIST WITH FRESH WATER.
- OUTSIDE THE EXCAVATION AREAS, TIMBER MATS SHALL BE USED TO PROTECT THE MARSH FROM EQUIPMENT AND FOOT TRAFFIC.
- CONSTRUCTION IN THE SALVAGE AREA SHALL BE COMPLETED SUCH THAT THE SALVAGED BLOCKS ARE REPLACED NO LATER THAN NOVEMBER 1. IF THE CONSTRUCTION EXTENDS BEYOND NOVEMBER 1, THE PEAT BLOCKS WILL BE MAINTAINED THROUGH THE WINTER AND REPLACED IN APRIL OF THE FOLLOWING YEAR.
- UPON COMPLETION OF THE WATER MAIN INSTALLATION AND BACKFILLING, THE UNDERLYING SUBSTRATES WILL BE RESTORED TO APPROPRIATE SUBGRADES TO SUPPORT THE PEAT BLOCKS. FINAL ELEVATION OF THE TOP OF PEAT SHALL BE EQUAL TO OR UP TO 2 INCHES HIGHER THAN THE PRE-CONSTRUCTION CONDITION.
- THE PEAT BLOCKS SHALL BE REPLACED TO MATCH THE ORIGINAL SALT MARSH LIMITS. PEAT BLOCKS SHALL BE ANCHORED WITH 3/8 INCH REBAR STAKES DRIVEN INTO THE SUBSTRATES AND/OR ADJACENT PEAT. ANY OPENING BETWEEN THE PEAT BLOCKS WILL BE FILLED WITH SAND TO COVER EXPOSED ROOTS AND MAINTAIN GRADES. ADDITIONAL SALT MARSH CORDGRASS (SPARTINA ALTERNIFLORA) SEEDLINGS SHALL BE PLANTED IN THE GAP BETWEEN THE PEAT BLOCKS IF IT EXCEEDS 4 INCHES.
- IF THE SALVAGED PEAT BLOCKS DO NOT FULLY COVER THE DISTURBED MARSH AREA, CORDGRASS SEEDLINGS SHALL BE PLANTED AT 1 SQ. FT INTERVALS IN THE AREAS THAT WERE PREVIOUSLY MARSH AREAS.
- IN THE REPLANTING AREAS, THE SUBSTRATES SHALL BE RESTORED WITH SAND, CONTAINED WITHIN SANDBAGS OR OTHERWISE PROTECTED, TO STABILIZE THE SEDIMENTS, SURFACE ELEVATIONS SHALL MATCH PRE-CONSTRUCTION CONDITIONS OR AS DIRECTED BY THE ENVIRONMENTAL MONITOR. THE SEAWARD FACE OF THE RESTORED MARSH WILL BE PROTECTED FROM ICE AND WAVE ACTION WITH COIR LOGS AND/OR BOULDERS, AS COORDINATED WITH THE ENVIRONMENTAL MONITOR.



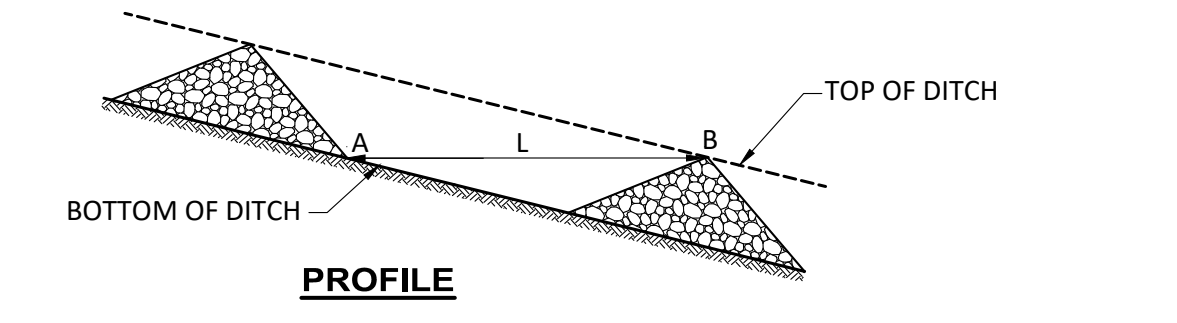
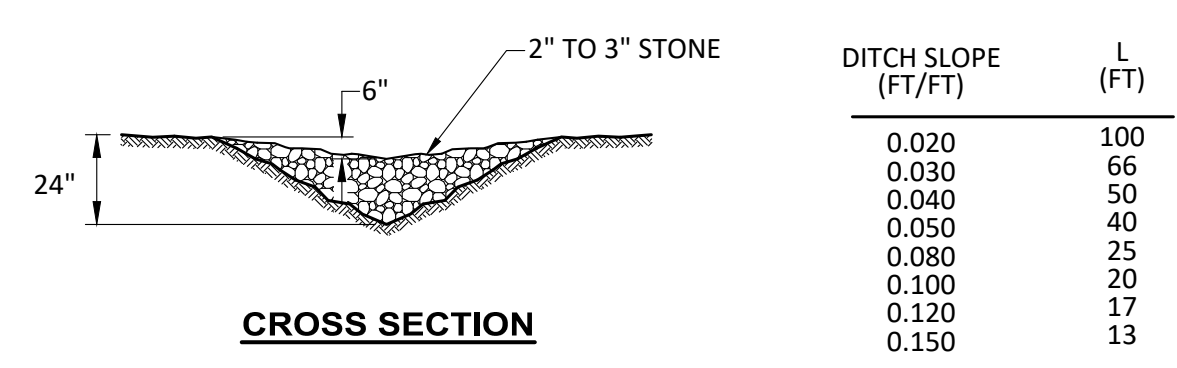
SALT MARSH RESTORATION SECTION
SCALE: "NTS"



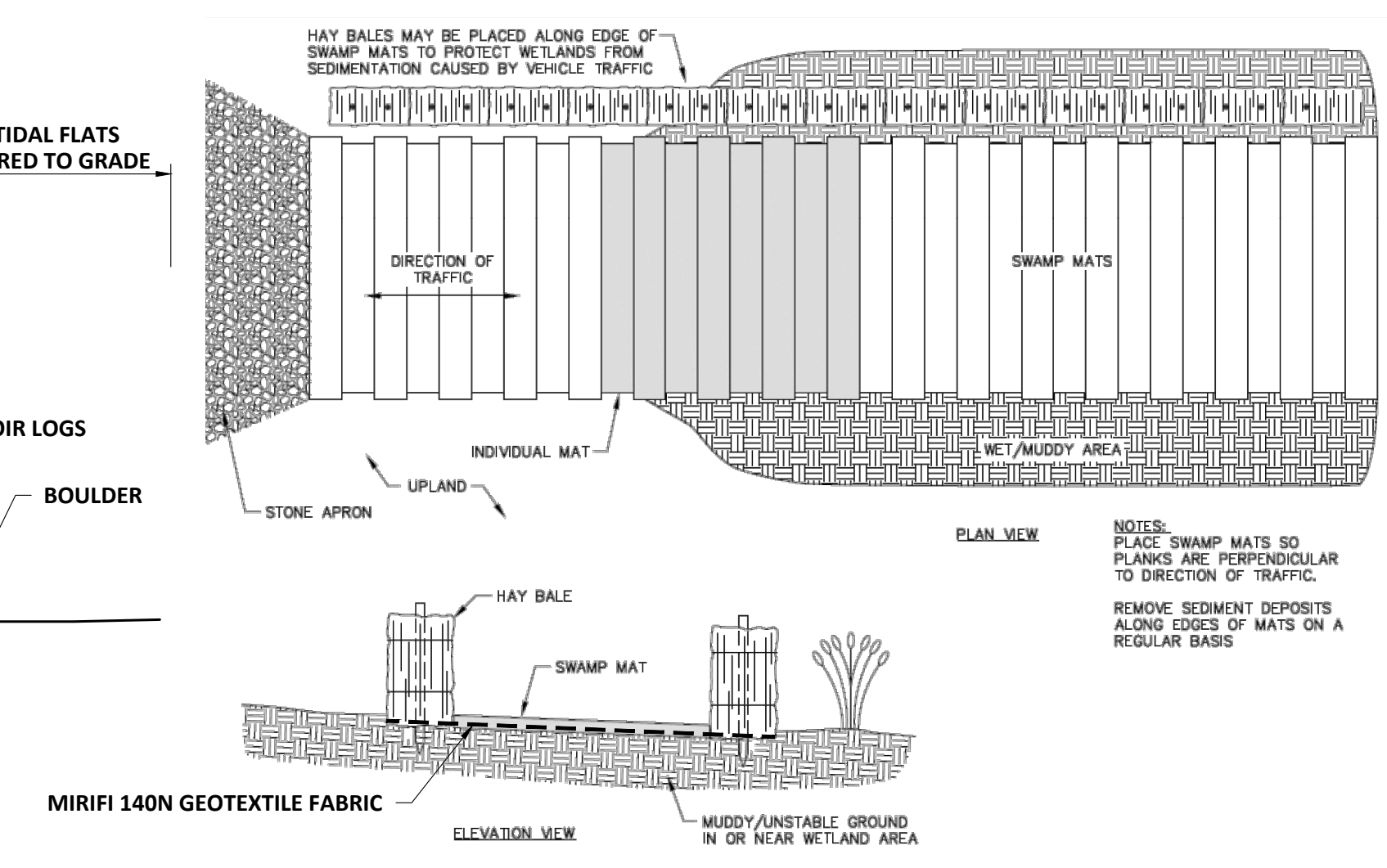
SILT FENCE INSTALLATION DETAIL
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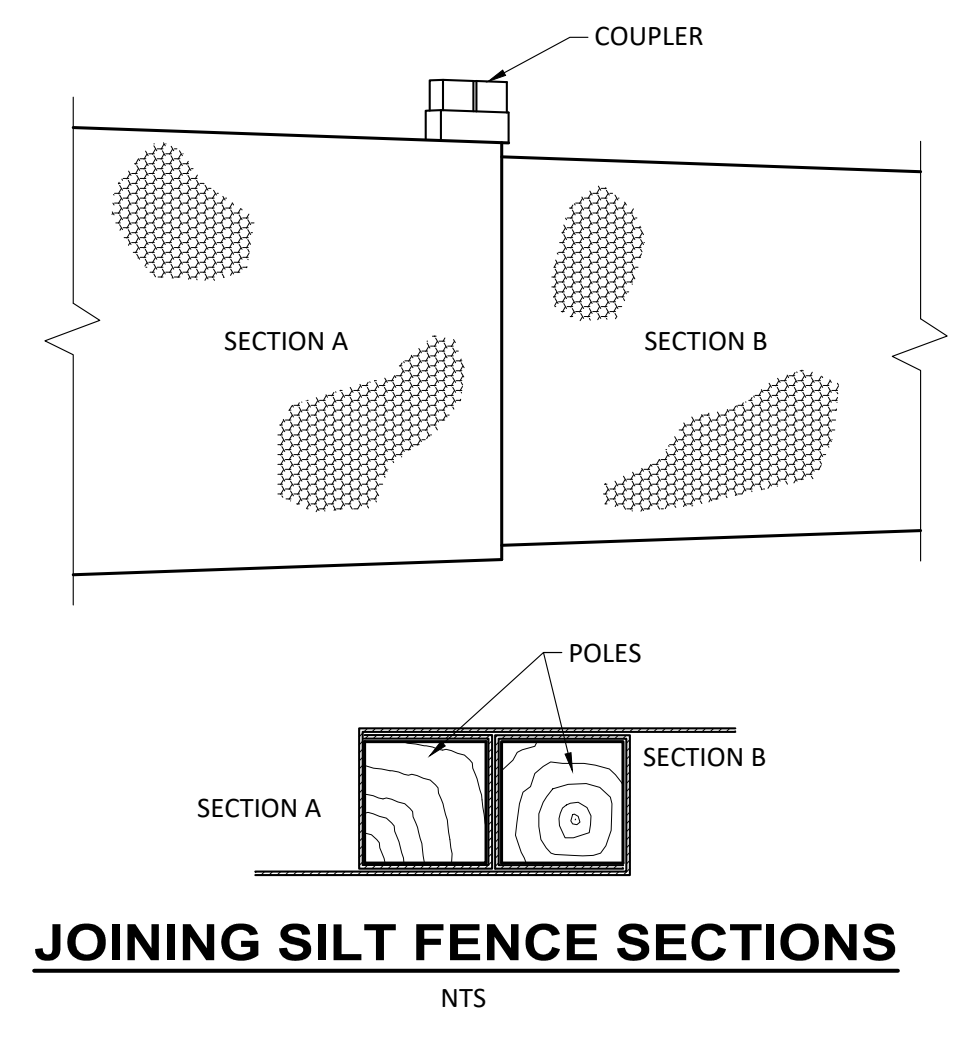
EROSION CONTROL MATTING - SLOPES
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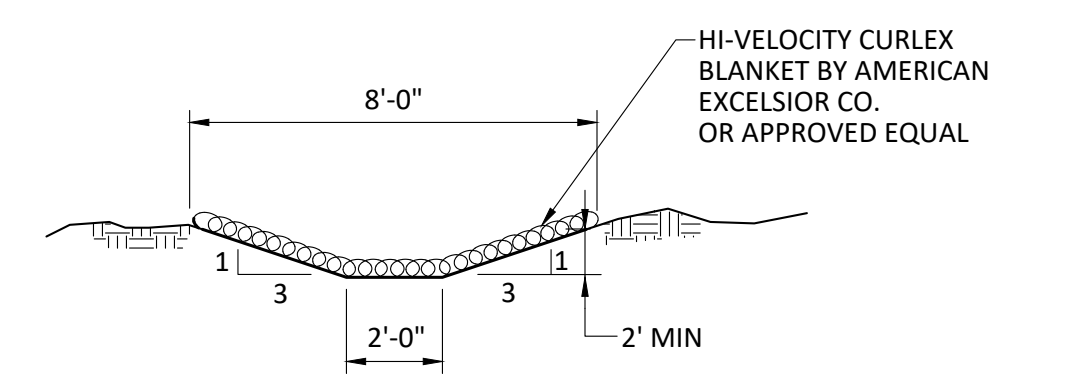
STONE CHECK DAM DETAIL
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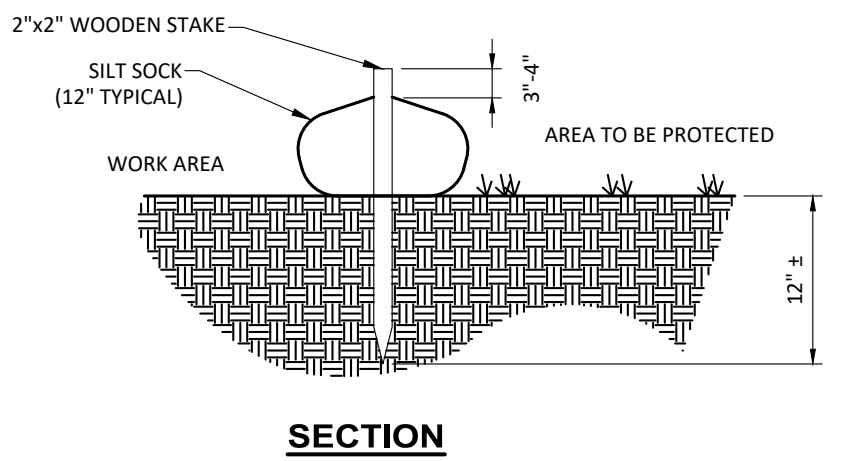
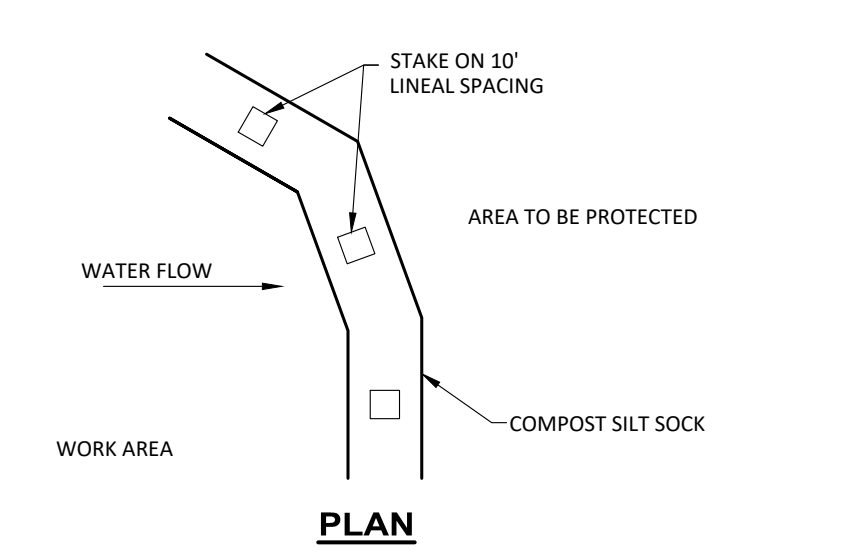
TEMPORARY STABILIZED TIMBER MAT CONSTRUCTION ACCESS DRIVE DETAIL
SCALE: "NTS"



JOINING SILT FENCE SECTIONS
NTS



EROSION CONTROL MATTING - DITCHES
NTS



- NOTES:**
- ALL MATERIAL TO MEET SPECIFICATIONS
 - SILT SOCK COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS
 - SILT SOCK DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER
 - COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

COMPOST SILT SOCK
NTS

NO	DATE	APP'D	REVISIONS

DESIGNED BY: BLACKSTROM	NO
CAD CORP.: W.EDGAR	
CHKD.: W.EDGAR	
CHECKED BY: W.EDGAR	
DATE:	
APPROVED BY:	
DATE:	
PROJECT NO.: 14202A	

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CITY OF PORTSMOUTH
SUBAQUEOUS WATER TRANSMISSION MAIN
LITTLE BAY, DURHAM-NEWINGTON
NEW HAMPSHIRE

EROSION CONTROL NOTES & DETAILS - DURHAM SITE

DRAWING
C-19

EROSION AND SEDIMENTATION CONTROL NOTES

THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE NEW HAMPSHIRE STORMWATER MANUAL BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES, TERRAIN ALTERATION BUREAU, DATED DECEMBER 2008

THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL STRUCTURES REQUIRED ARE SHOWN ON THE DRAWINGS. PROVIDE SILT FENCE, STONE CHECK DAMS AND OTHER EROSION CONTROL MEASURES AS REQUIRED TO ADEQUATELY PREVENT SEDIMENT TRANSPORT AS NOTED IN THE BMP.

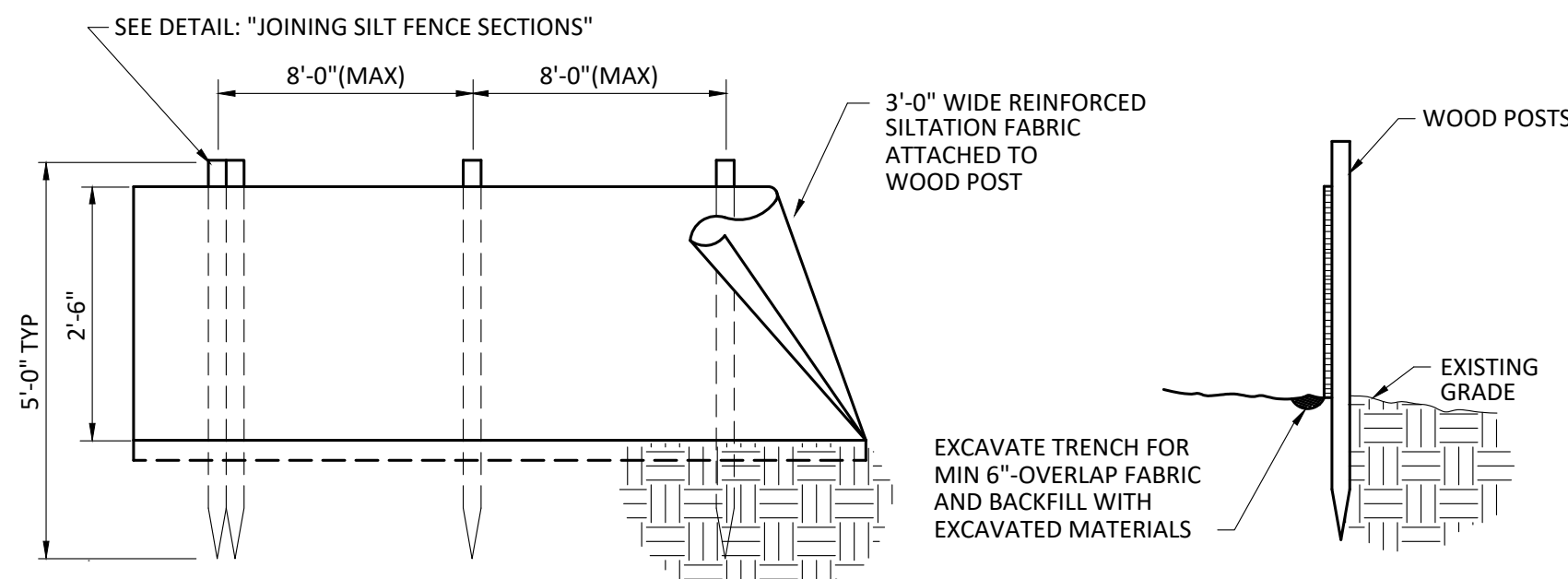
- ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH THE NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL AND THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES, ENV-Wq 1500: ALTERATION OF TERRAIN AND THE NHDPS BEST MANAGEMENT PRACTICES MANUAL FOR THE UTILITY MAINTENANCE IN AND ADJACENT TO WETLANDS AND WATERBODIES.
- THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE MAINTAINED IN AN UNTREATED OR UNVEGETATED CONDITION FOR THE MINIMUM TIME REQUIRED. IN GENERAL AREAS TO BE VEGETATED SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL.
- SEDIMENT BARRIERS (SILT FENCE, STONE CHECK DAMS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF UPGRADIENT DRAINAGE AREAS.
- INSTALL SILT FENCE AT TOE OF SLOPES TO FILTER SILT FROM RUNOFF. SEE SILT FENCE DETAIL FOR PROPER INSTALLATION. SILT FENCE WILL REMAIN IN PLACE PER NOTE #5.
- ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. SEDIMENT DEPOSITS MUST BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED.
- NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2 TO 1) UNLESS STABILIZED WITH RIPRAP OR OTHER STRUCTURAL MEANS.
- IF FINAL SEEDING AND SODDING IS NOT EXPECTED PRIOR TO THE ANTICIPATED DATE OF THE FIRST KILLING FROST, USE TEMPORARY ANNUAL REYGRASS SEEDING AND MULCHING ON ROUGH GRADED SUBSOIL TO PROTECT THE SITE AND DELAY PERMANENT LOAMING, FINE GRADING, AND SEEDING OR SODDING UNTIL SPRING.
- WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISH GRADED SHALL BE COMPLETED 30 DAYS PRIOR TO THE FIRST KILLING FROST.
- DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY, WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
- REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND REVEGETATED.
- ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
- STABILIZATION SCHEDULE BEFORE WINTER:
 - SEPTEMBER 15** ALL DISTURBED AREAS MUST BE SEEDED AND MULCHED. ALL SLOPES MUST BE STABILIZED, SEEDED AND MULCHED. SLOPES 3:1 OR GREATER TO BE STABILIZED WITH EROSION CONTROL MATTING AND SEEDED. ALL DISTURBED AREAS TO BE PROTECTED WITH AN ANNUAL GRASS MUST BE SEEDED AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND MULCHED.
 - OCTOBER 1** ALL GRASS-LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR EROSION CONTROL BLANKET.
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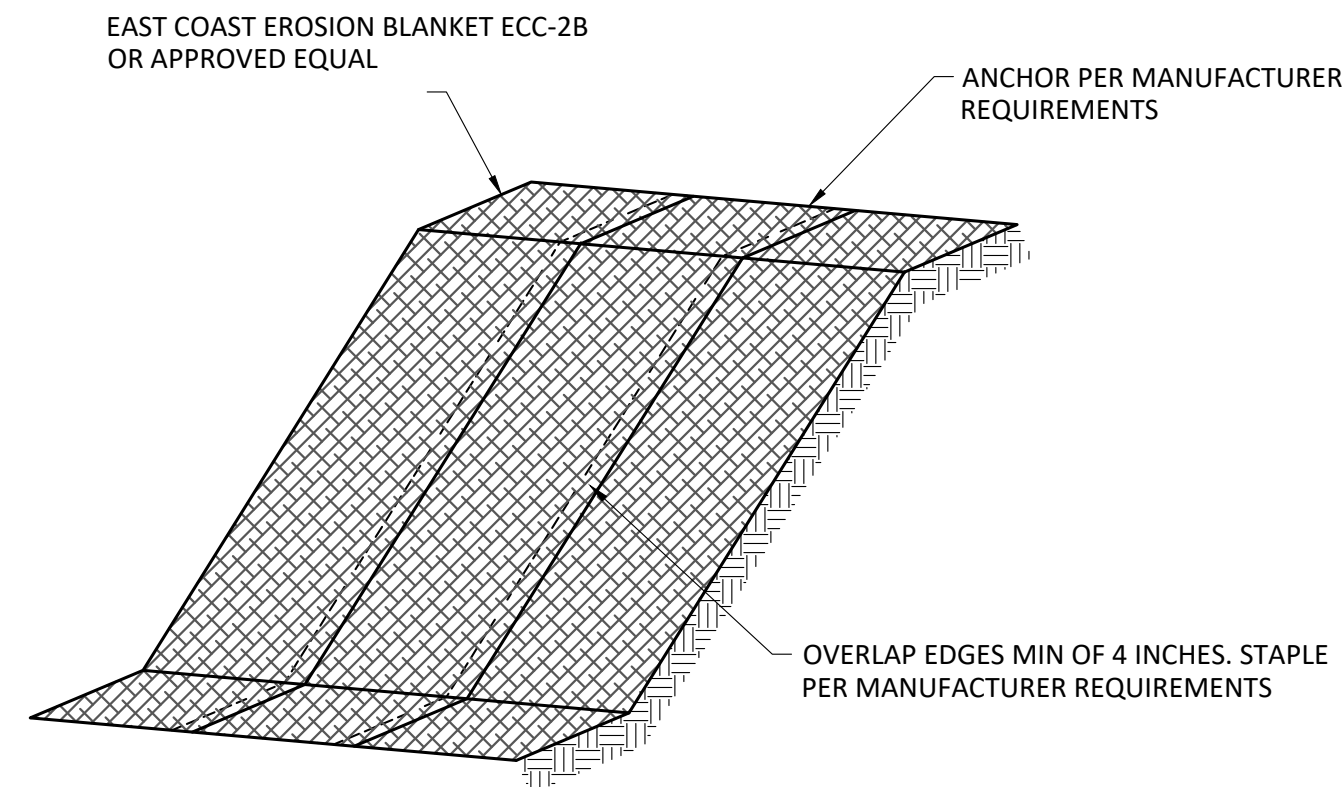
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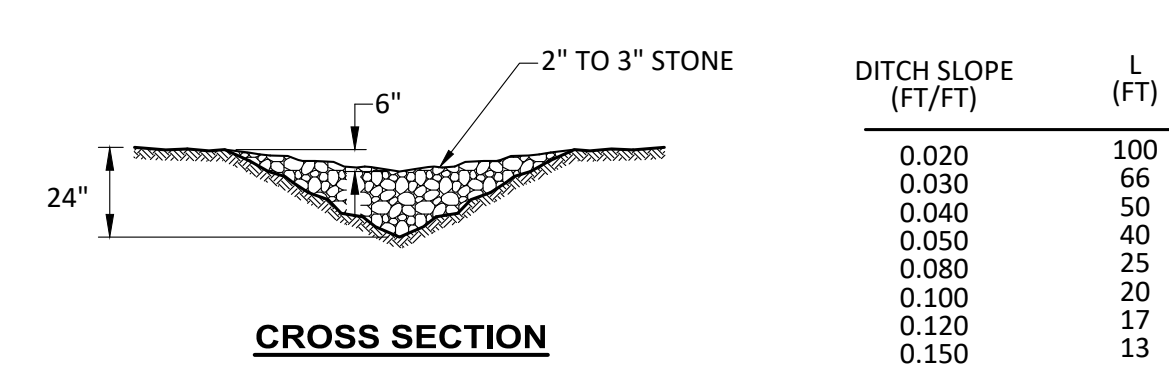
SILT FENCE INSTALLATION DETAIL

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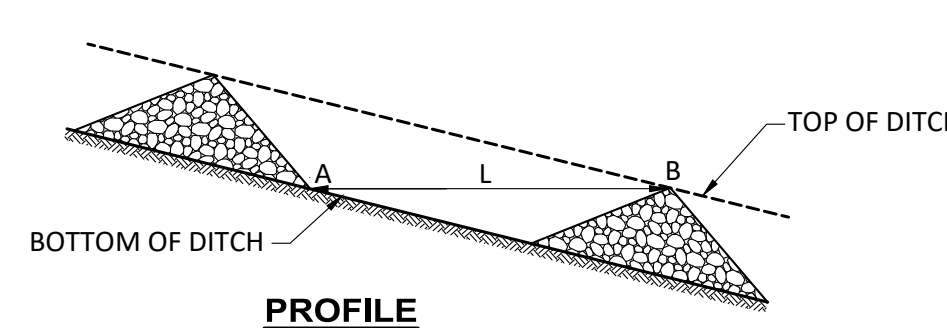


EROSION CONTROL MATTING - SLOPES

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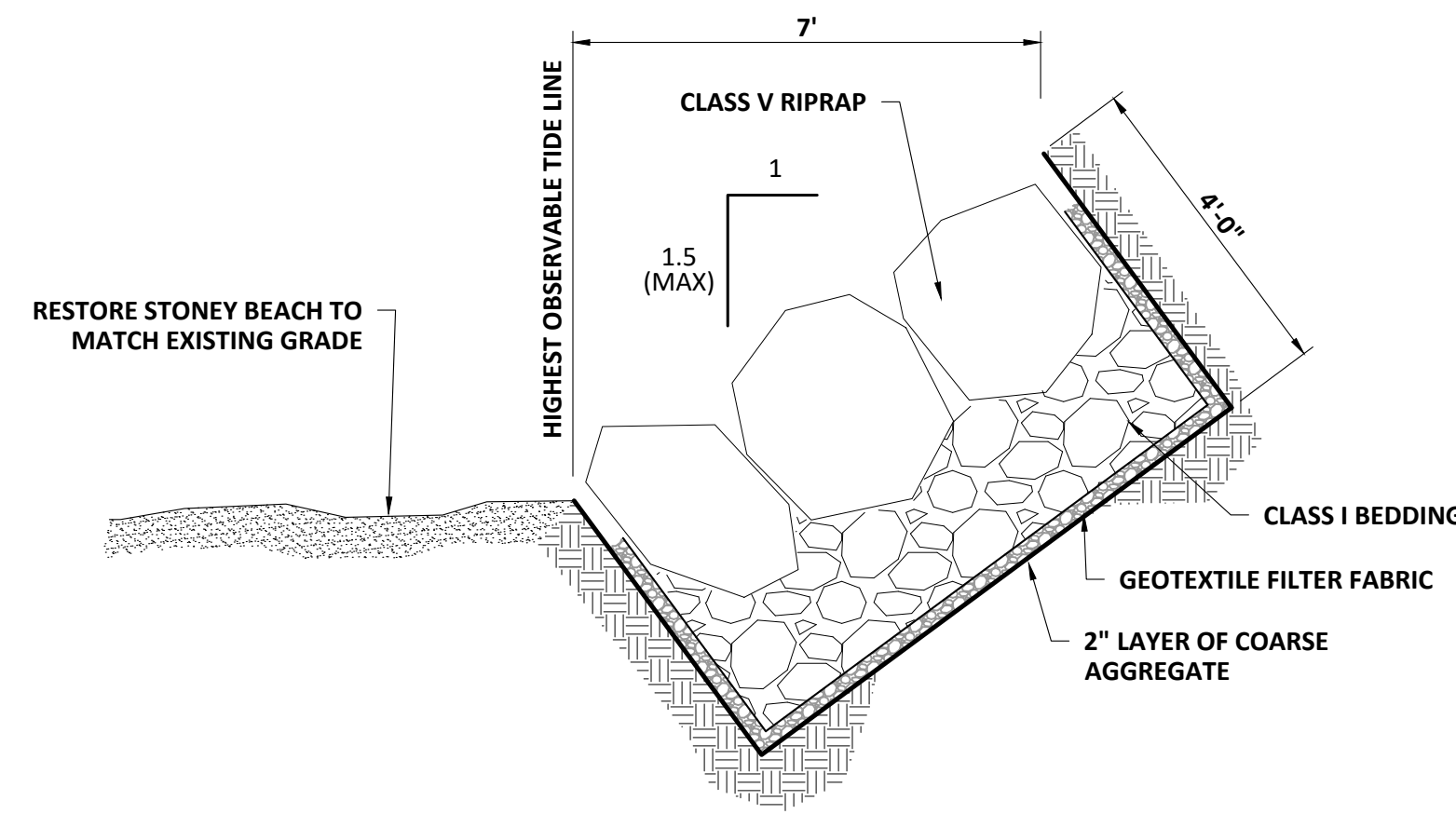
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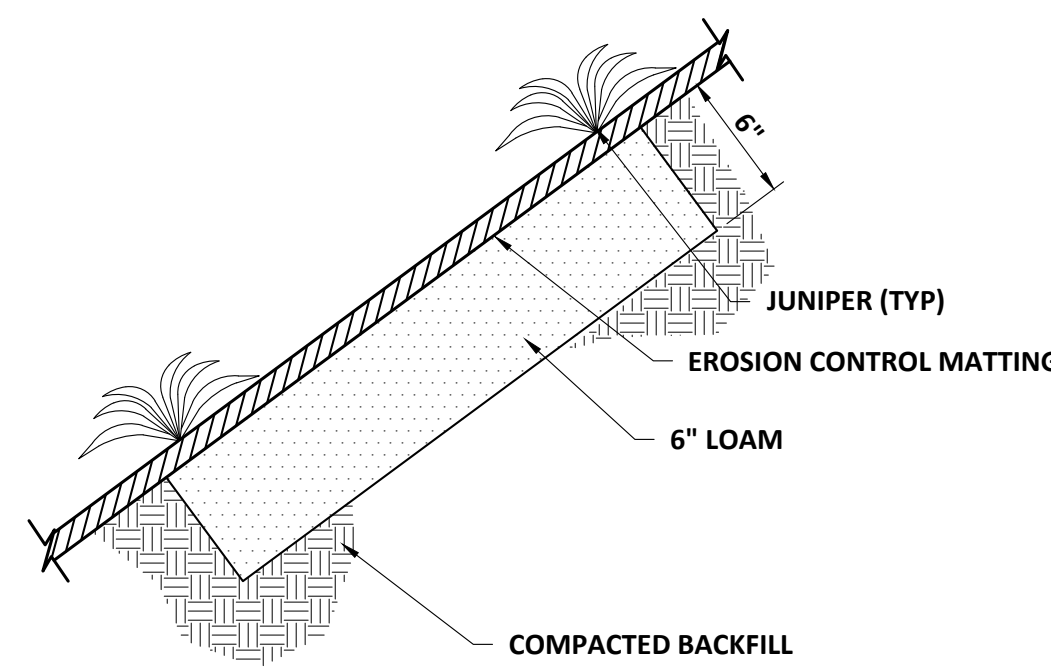
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REINFORCED TOE DETAIL

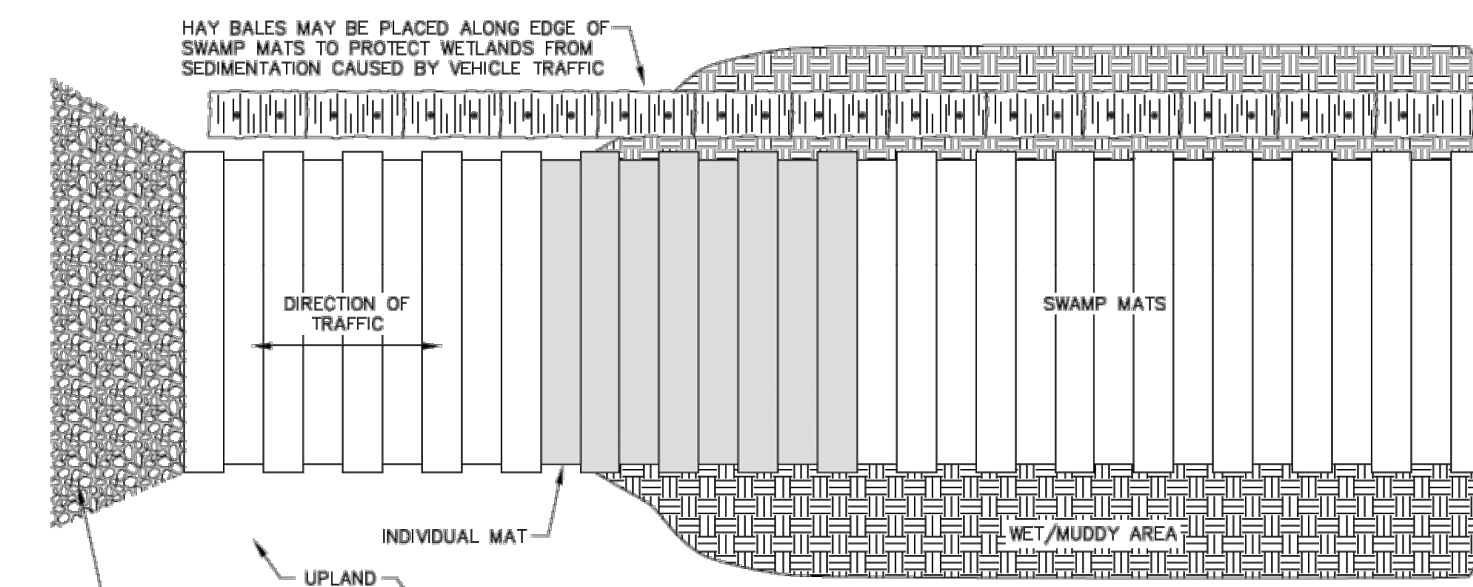
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SLOPE RESTORATION DETAIL

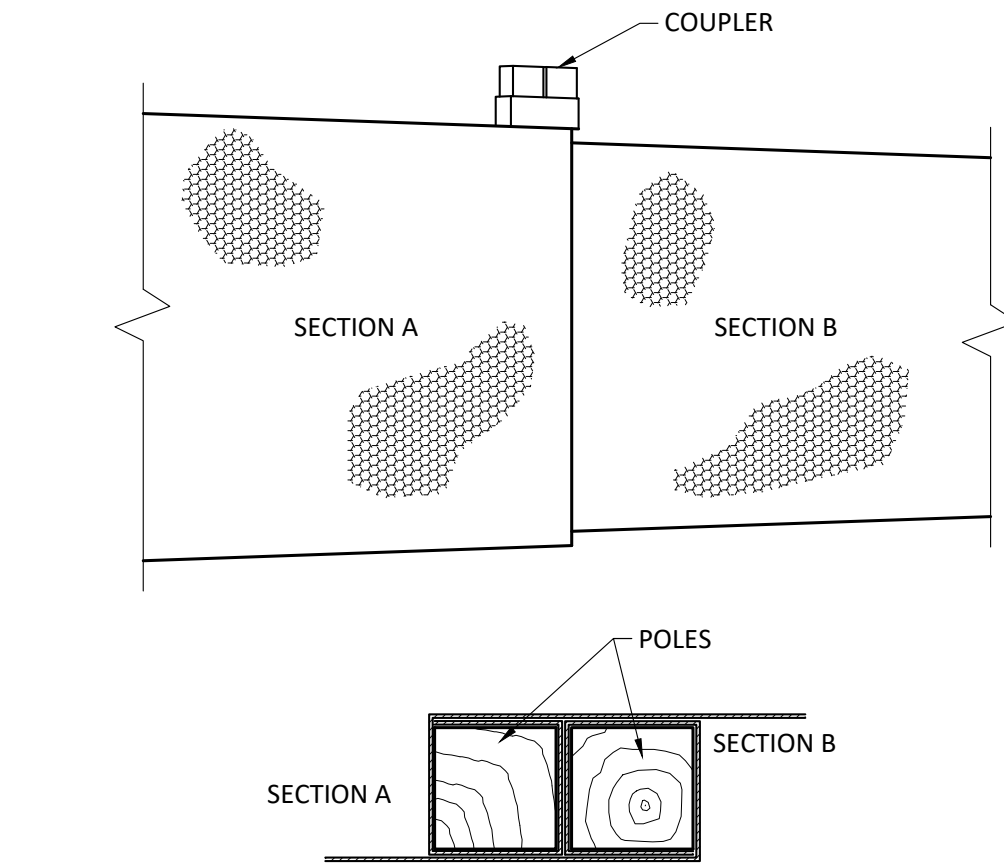
SCALE: NTS

- NOTES:**
- SLOPE SHALL BE SEEDED WITH COASTAL SALT TOLERANT GRASS MIX INTERPLANTED WITH JUNIPER. REFER TO SPECIFICATION 02485.



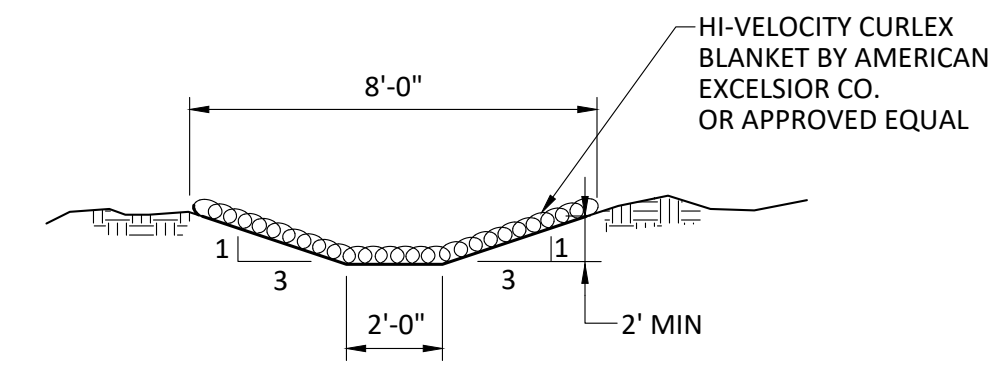
TEMPORARY STABILIZED TIMBER MAT CONSTRUCTION ACCESS DRIVE DETAIL

SCALE: "NTS"



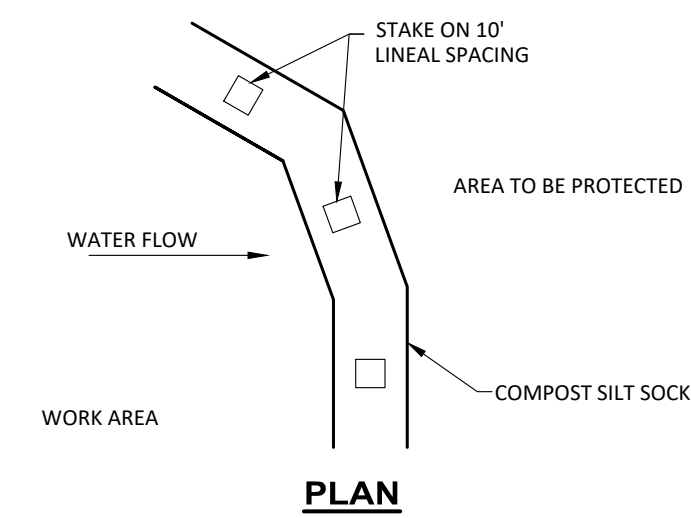
JOINING SILT FENCE SECTIONS

NTS

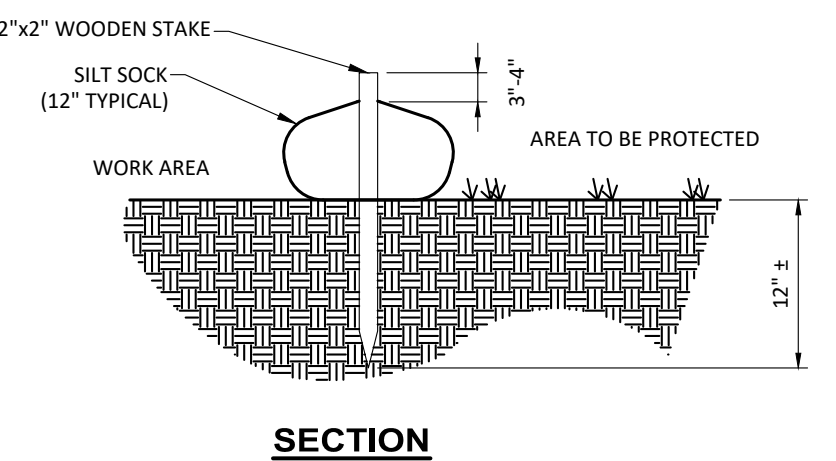


EROSION CONTROL MATTING - DITCHES

NTS



PLAN



SECTION

- NOTES:**
- ALL MATERIAL TO MEET SPECIFICATIONS
 - SILT SOCK COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS
 - SILT SOCK DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER
 - COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

COMPOST SILT SOCK

NTS

NO	DATE	APP'D	REVISIONS

NO	DATE	APP'D	REVISIONS

DESIGNED BY: BLACKSTROM
 CAB CORP.: W.EDGAR
 CIB: W.EDGAR
 CHECKED BY: DATE:
 APPROVED BY: DATE:
 PROJECT NO.: 14202A

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CITY OF PORTSMOUTH
SUBAQUEOUS WATER TRANSMISSION MAIN
LITTLE BAY, DURHAM-NEWINGTON
NEW HAMPSHIRE

EROSION CONTROL NOTES & DETAILS - NEWINGTON SITE

DRAWING
 C-20