

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION



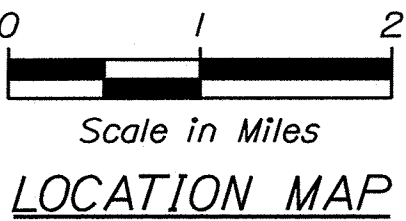
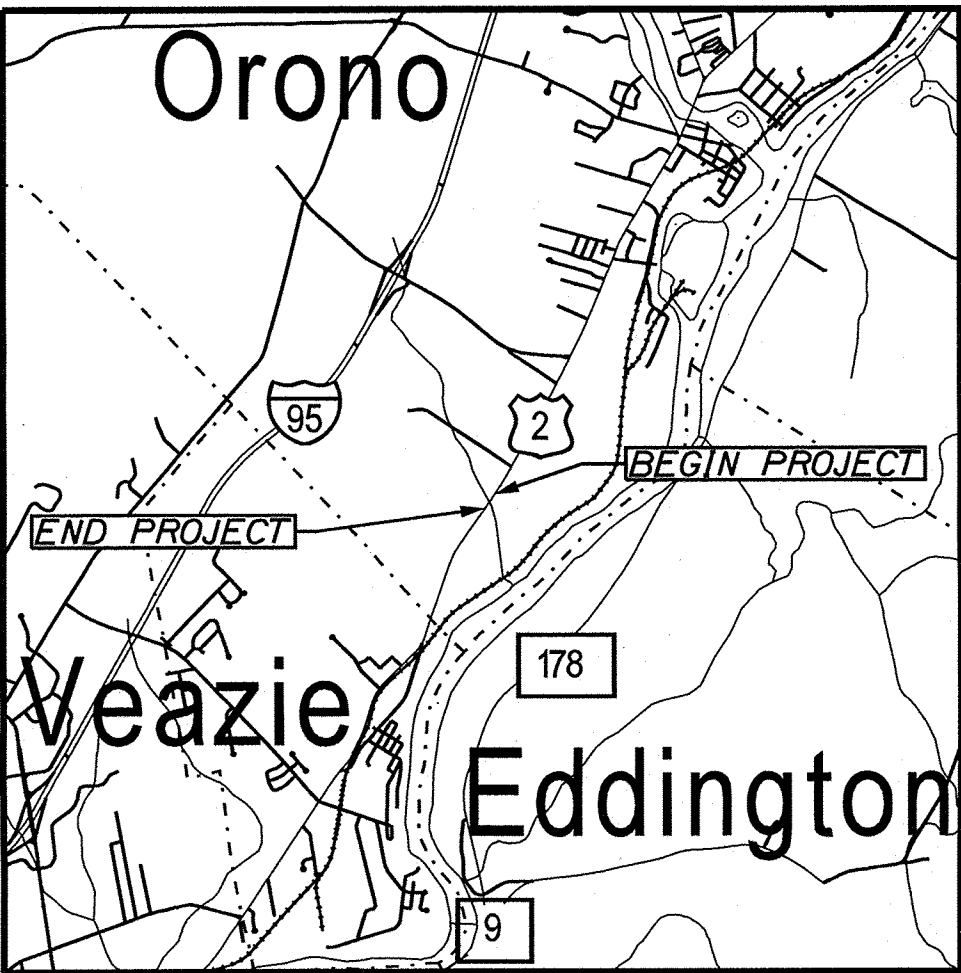
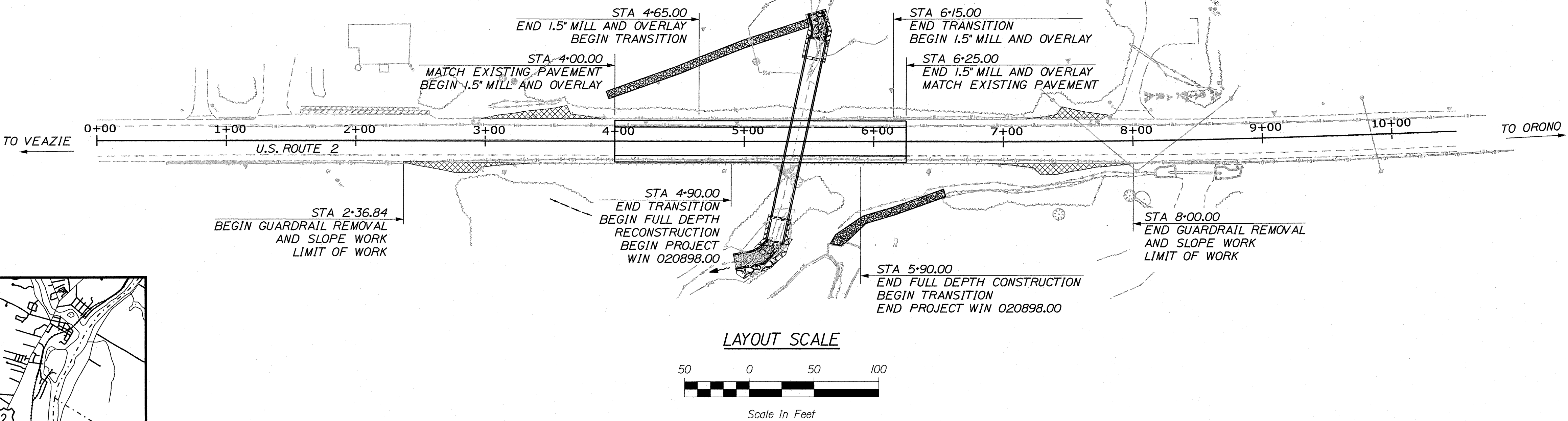
**ORONO**  
**PENOBSCOT COUNTY**  
TRIBUTARY TO PENOBSCOT BRIDGE  
U.S. ROUTE 2  
**PROJECT NO. STP-2089(800)**  
PROJECT LENGTH : 0.019 MILES  
BRIDGE NO. 6587

PLAN LEGEND

Town, County, State	_____	Catch Basins	Existing	Proposed
Property Lines	_____	Manholes	Existing	Proposed
R/W Lines-Existing	_____	Proposed Underdrain	_____	_____
R/W Lines-Proposed	_____	Proposed Ditch	_____	_____
Culvert-Existing	_____	Existing Ditch	_____	_____
Culvert Proposed	_____	Utility Poles	Existing	Proposed
Curbing	Existing	Fire Hydrants	Existing	Proposed
Type 1	_____	Existing Water Line	_____	_____
Type 3	_____	Existing San. Sewer	_____	_____
Type 5	_____	Existing San. Sewer Manhole	_____	_____
Outline of Bodies of Water	_____	Guardrail-Existing	_____	_____
Exposed Bedrock	_____	Guardrail-Proposed	_____	_____
Buildings	_____	Guardrail-Cable, Other	_____	_____
Trees	Conifer	Centerline-Existing	_____	_____
Tree Line	_____	Centerline-Proposed	_____	_____
Clearing Limit Line	CLL	Travelway-Existing	_____	_____
Railroad	_____	Travelway-Proposed	_____	_____
Boring	HB-XXX-###	Probe	P-#.X	
Pavement Core	PC-#			
Test Pit	TP-XXX-###			

INDEX OF SHEETS

Description	Sheet No.
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Route 2 Water Main Replacement	C-100 - C-102



Scale in Miles  
LOCATION MAP

TRAFFIC DATA

Current (2021) AADT	4630
Future (2041) AADT	5090
DHV - % of AADT	11%
Design Hour Volume	560
% Heavy Trucks (AADT)	4%
% Heavy Trucks (DHV)	2%
Directional Distribution (DHV)	55%
18 kip Equivalent P 2.0	49
18 kip Equivalent P 2.5	47
Design Speed (mph)	45
Functional Class	MINOR ARTERIAL
Corridor Priority	3

PROJECT LOCATION:

Located on U.S. Route 2 in Orono 0.66 miles north of the Veazie - Orono town line.

PROGRAM AREA:

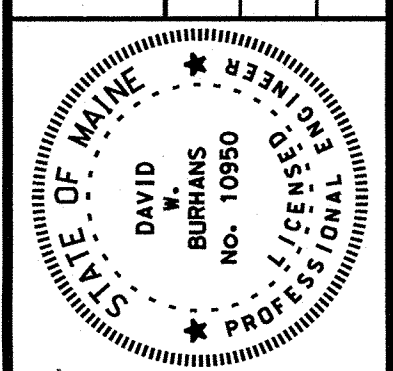
Highway Program

SCOPE OF WORK:

Large culvert replacement

**TYLIN** INTERNATIONAL

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
COMMISSIONER		5-11-21
CHIEF ENGINEER		5-11-2021



SIGNATURE	P.E. NUMBER	DATE
DAVID W. BARROWS	10950	04/28/2021

PROJECT INFORMATION	PROGRAM	PROJECT MANAGER	DESIGNER	CONSULTANT	PROJECT RESIDENT	CONTRACTOR	PROJECT COMPLETION DATE
HIGHWAY		RANDALL BARROWS	DAVID BARROWS	T.Y. LIN INTERNATIONAL			

ORONO - CULVERT US ROUTE 2	TITLE SHEET
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SHEET NUMBER
1
OF 21

WIN 20898.00 STP-2089(800)

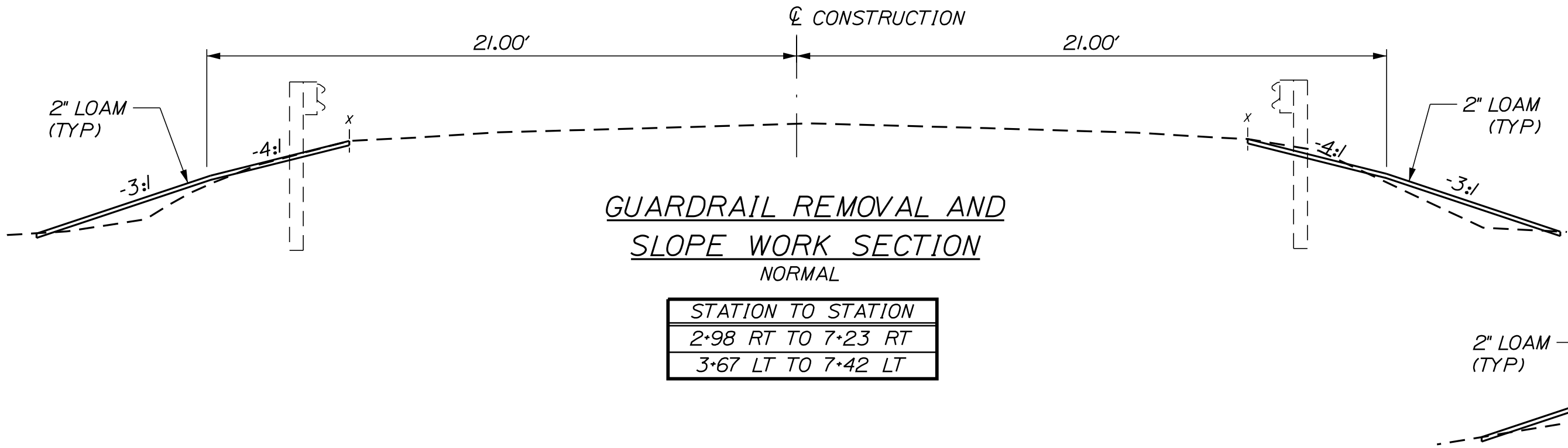
Date: 4/28/2021

Username:

Division: HIGHWAY

Filename: ...\\00\\HIGHWAY\\MSTA 001\_ Title.dgn

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
201.23	REMOVING SINGLE TREE TOP ONLY	1	EA
201.24	REMOVING STUMP	1	EA
202.202	REMOVING PAVEMENT SURFACE	270	SY
203.20	COMMON EXCAVATION	830	CY
203.25	GRANULAR BORROW	335	CY
203.33	SPECIAL FILL - STREAMBED MATERIAL	180	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	730	CY
403.2081	12.5 MM POLYMER MODIFIED HMA	77	TON
403.213	HOT MIX ASPHALT 12.5 MM BASE	74	TON
409.15	BITUMINOUS TACK COAT - APPLIED	26	GAL
508.13	SHEET WATERPROOFING MEMBRANE (290 SY)	1	LS
511.07	COFFERDAM; UPSTREAM	1	LS
511.07	COFFERDAM; DOWNSTREAM	1	LS
534.71	PRECAST CONCRETE BOX CULVERT	1	LS
602.30	FLOWABLE CONCRETE FILL	5	CY
606.363	GR REMOVE AND DISPOSE	810	LF
610.08	PLAIN RIPRAP	130	CY
610.18	STONE DITCH PROTECTION	60	CY
610.210	STREAM CHANNEL ROCK	92	CY
610.212	STREAMBED ROCK FEATURES	2	CY
615.07	LOAM	190	CY
618.14	SEEDING METHOD NUMBER 2	31	UN
619.12	MULCH	31	UN
620.58	EROSION CONTROL GEOTEXTILE	230	SY
627.733	4" WHITE OR YELLOW PAINTED PAVE MRK LINE	685	LF
627.78	TEMP 4" PAINT PYMT MARK LINE W OR Y	685	LF
639.19	FIELD OFFICE TYPE B	1	EA
652.312	TYPE III BARRICADE	8	EA
652.33	DRUM	20	EA
652.34	CONE	40	EA
652.35	CONSTRUCTION SIGNS	860	SF
652.36	MAINTENANCE OF TRAFFIC CONTROL DEVICES	49	CD
652.38	FLAGGER	300	HR
652.41	PORTABLE CHANGEABLE MESSAGE SIGN	2	EA
656.75	TEMP SOIL EROSION & WATER POLLUTION CTRL	1	LS
659.10	MOBILIZATION	1	LS
ORONO - VEAZIE WATER DISTRICT MAIN			
202.06	REMOVAL/DISPOSAL OF ASBESTOS CONTAINING PIPE	1	LS
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	60	CY
403.2081	12.5MM POLYMER MODIFIED HOT MIX ASPHALT	8	TONS
403.213	HOT MIX ASPHALT, 12.5MM NOMINAL MAX. SIZE (BASE)	13	TONS
602.30	FLOWABLE CONCRETE FILL	5	CY
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS
822.3705	16-INCH CLASS 52 D.I. PIPE WATER MAIN	235	LF
825.541	TEMPORARY WATER MAIN	550	LF

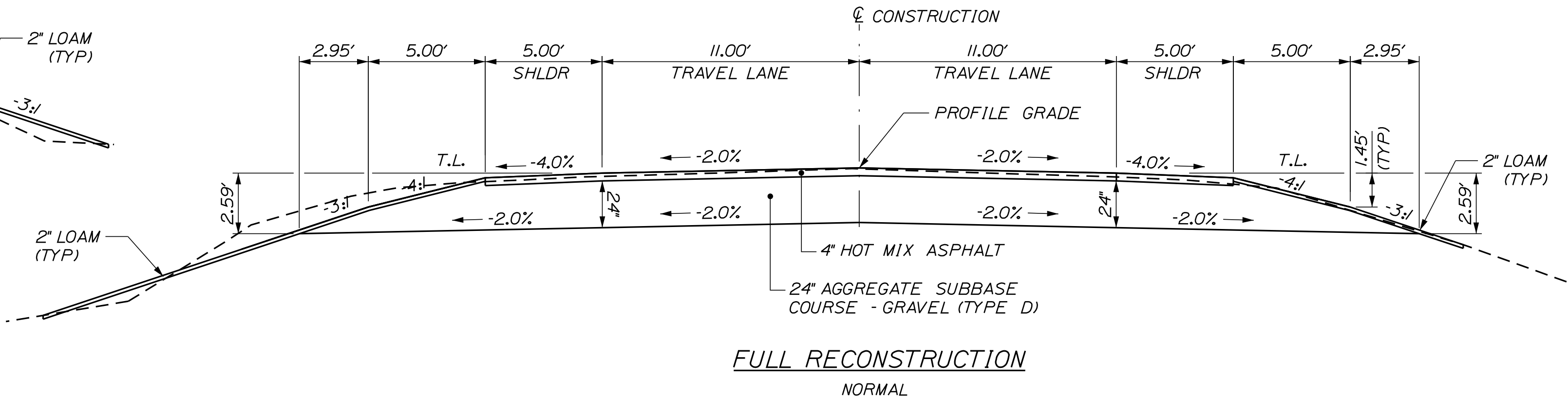


TYPICAL FULL CONSTRUCTION NOTES:

- THE PAVEMENT, BASE, AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
- CROWNS FOR BOTH NORMAL SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.
- THE GRAVEL QUANTITY CALCULATION IS BASED ON A 2 INCH LOAM OR DIRTY BORROW DEPTH. THE ACTUAL DEPTH MAY VARY. SEE THE GENERAL NOTES.
- THE ALGEBRAIC DIFFERENCE BETWEEN THE SHOULDER AND THE TRAVEL LANE CROSS SLOPES "ROLLOVER" SHALL NOT EXCEED 8 PERCENT.
- THE STATIONING UNDER EACH TYPICAL IS APPROXIMATE.

GENERAL NOTES:

- ALL CLEARING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO SEPARATE PAYMENT WILL BE MADE. THE ACTUAL LINES FOR CLEARING SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR AS INDICATED ON THE PLANS AND APPROVED BY THE RESIDENT.
- ALL INSLOPE AND DITCHES IN CUT AREAS SHALL BE GRADED AS SHOWN ON THE TYPICALS OR FLATTER, OR AS DIRECTED BY THE RESIDENT.
- ALL WASTE MATERIAL NOT USED ON THE PROJECT SHALL BE DISPOSED OF OFF THE PROJECT IN ACCEPTABLE WASTE AREAS REVIEWED BY THE RESIDENT. GRADING, SEEDING AND MULCHING OF WASTE AREAS SHALL BE CONSIDERED INCIDENTAL.
- DIRTY BORROW HAS BEEN ESTIMATED FOR ALL DISTURBED SLOPE AREAS OTHER THAN LAWN AREAS. ACTUAL PLACEMENT OF THE DIRTY BORROW SHALL BE AS NOTED ON THE PLANS OR DESIGNATED BY THE RESIDENT.
- DIRTY BORROW SHALL BE PLACED TO A NOMINAL DEPTH OF 2 INCHES UNLESS OTHERWISE NOTED OR DIRECTED.
- ANY DAMAGE TO THE SLOPES CAUSED BY THE CONTRACTOR'S EQUIPMENT, PERSONNEL, OR OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT. ALL WORK, EQUIPMENT, AND MATERIALS REQUIRED TO MAKE REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- THE PROJECT GEOTECHNICAL REPORT TITLED "GEOTECHNICAL DESIGN REPORT FOR THE CONSTRUCTION OF TRIBUTARY TO PENOBSCOT BRIDGE", SOILS REPORT 2021-13, APRIL 16, 2021 CAN BE ACCESSED AT THE MAINEDOT WEBSITE [HTTP://WWW.MAINE.GOV/MDOT/CONTRACTORS/](http://www.maine.gov/mdot/contractors/).
- GEOTECHNICAL INFORMATION FURNISHED OR REFERRED TO IN THE BID DOCUMENTS IS FOR THE USE OF THE BIDDERS. NO ASSURANCE IS GIVEN THAT THE INFORMATION OR INTERPRETATIONS WILL BE REPRESENTATIVE OF THE ACTUAL SUBSURFACE CONDITIONS THROUGHOUT THE CONSTRUCTION SITE. MAINEDOT WILL NOT BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONCLUSION DRAWN FROM THE GEOTECHNICAL INFORMATION. THE BORING LOGS PROVIDED IN THE BID DOCUMENTS (IF ANY) PRESENT FACTUAL AND INTERPRETIVE SUBSURFACE INFORMATION COLLECTED AT DISCRETE LOCATIONS. DATA PROVIDED MAY NOT BE REPRESENTATIVE OF THE SUBSURFACE CONDITIONS BETWEEN BORING LOCATIONS.
- AREAS REQUIRING FILL ON THE PROJECT WILL COME FROM SUITABLE EXCAVATION FROM EXCAVATION, DITCH AND INSLOPE OR EQUIPMENT RENTAL AREAS.
- NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT AND LAYOUT OF WORK BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.
- GRANULAR BORROW USED TO BACKFILL MUCK EXCAVATION OR IN LOW WET AREAS TO 1 FOOT ABOVE WATER LEVEL OR OLD GROUND SHALL MEET REQUIREMENTS FOR GRANULAR BORROW MATERIAL FOR UNDERWATER BACKFILL AS SPECIFIED IN STANDARD SPECIFICATIONS ITEM 703.19, GRANULAR BORROW.
- EXISTING INSLOPES IN PROPOSED FILL AREAS SHALL BE BENCHED BY EXCAVATING STEPS OF SUFFICIENT WIDTH TO PERMIT PLACING AND COMPACTING THE FILL MATERIAL ALONG WITH THE MATERIAL REMOVED.
- HOLES CREATED BY GUARDRAIL REMOVAL WILL BE FILLED AND COMPACTED WITH APPROVED MATERIALS AS DIRECTED BY THE RESIDENT. PAYMENT WILL BE CONSIDERED INCIDENTAL TO STANDARD SPECIFICATIONS SECTION 606, GUARDRAIL.
- ALL EXISTING GUARDRAIL REMOVED AND NOT REUSED ON THE PROJECT WILL BECOME THE PROPERTY OF THE CONTRACTOR. REMOVAL AND DISPOSAL SHALL BE CONSIDERED INCIDENTAL TO THE GUARDRAIL ITEMS.
- FINAL STRIPING FOR THE PROJECT SHALL BE DONE BY THE CONTRACTOR PER THE STRIPING LAYOUT IN THE CONTRACT DOCUMENTS OR AS PROVIDED BY THE DEPARTMENT. PAYMENT SHALL BE MADE UNDER APPROPRIATE CONTRACT ITEMS.
- THE WATER LINE CONSTRUCTION IS DEPICTED IN THE APPENDIX, "ROUTE 2 WATER MAIN REPLACEMENT" PLANS, AND SHALL BE CONSTRUCTED AS PER PLANS AND SPECIFICATIONS. THE TEMPORARY GAS LINE SUPPORT STRUCTURE WILL BE CONSTRUCTED AND MAINTAINED BY OTHERS. THE APPROXIMATE LOCATION OF THIS SYSTEM IS DEPICTED IN THE "BANGOR NATURAL GAS ORONO CULVERT" PLANS, POSTED TO THE MAINEDOT WEBSITE, FOR REFERENCE ONLY. THE CONTRACTOR SHALL PLAN THEIR WORK TO ACCOMMODATE THE TEMPORARY SUPPORT SYSTEM.



AGGREGATE SUBBASE COURSE GRAVEL		
LEFT SHOULDER VARIES CY/100 LF	11' TRAVEL LANES 162.81 CY/100 LF	RIGHT SHOULDER VARIES CY/100 LF
STATION TO STATION 4+90 TO 5+90	STATION TO STATION 4+90 TO 5+90	STATION TO STATION 4+90 TO 5+90

T.L. = TRAVEL LANE

TYLIN INTERNATIONAL

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2089(800)  
WIN  
20898.00  
HIGHWAY PLANS

ORONO - CULVERT  
US ROUTE 2  
TYPICAL SECTIONS, GENERAL NOTES,  
& ESTIMATED QUANTITIES

SHEET NUMBER  
2  
OF 21

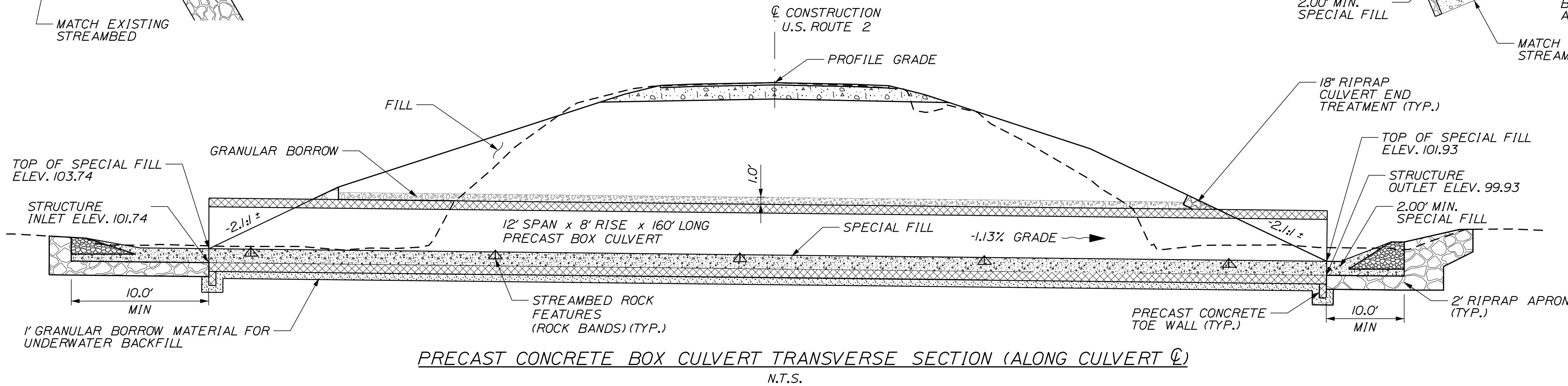
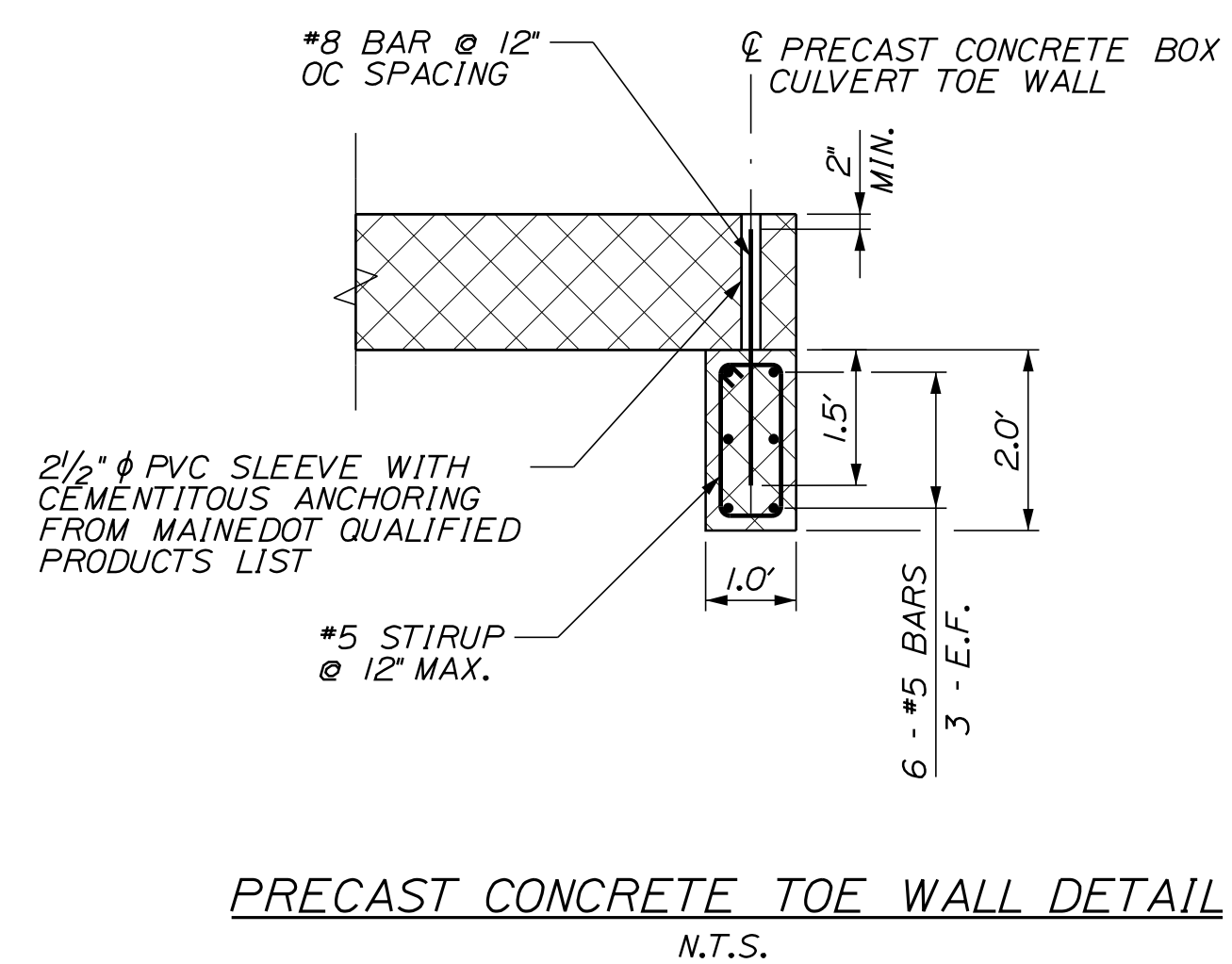
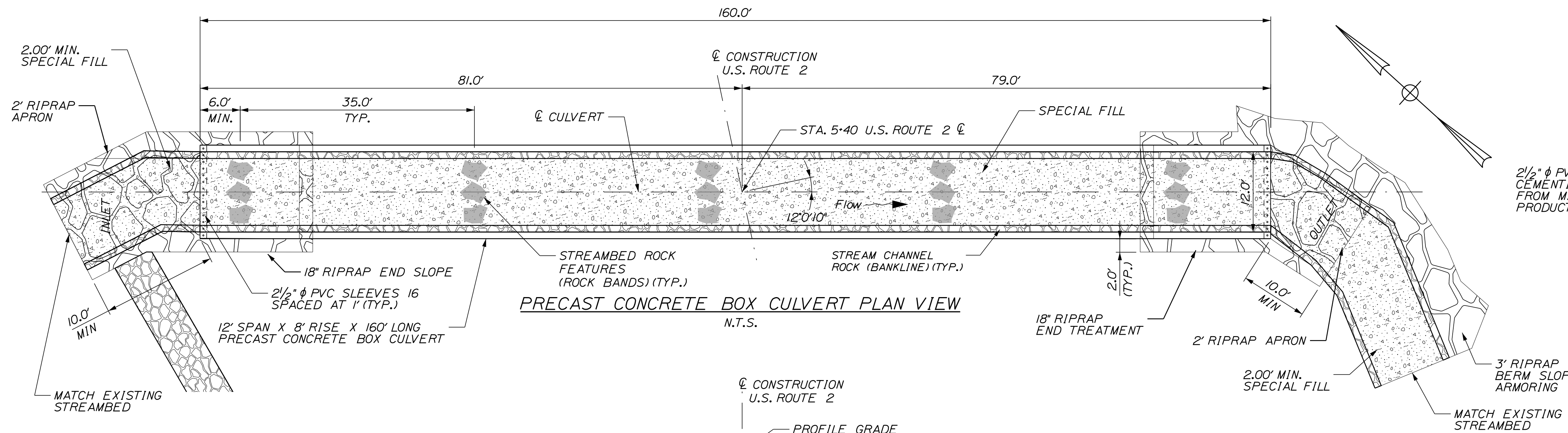


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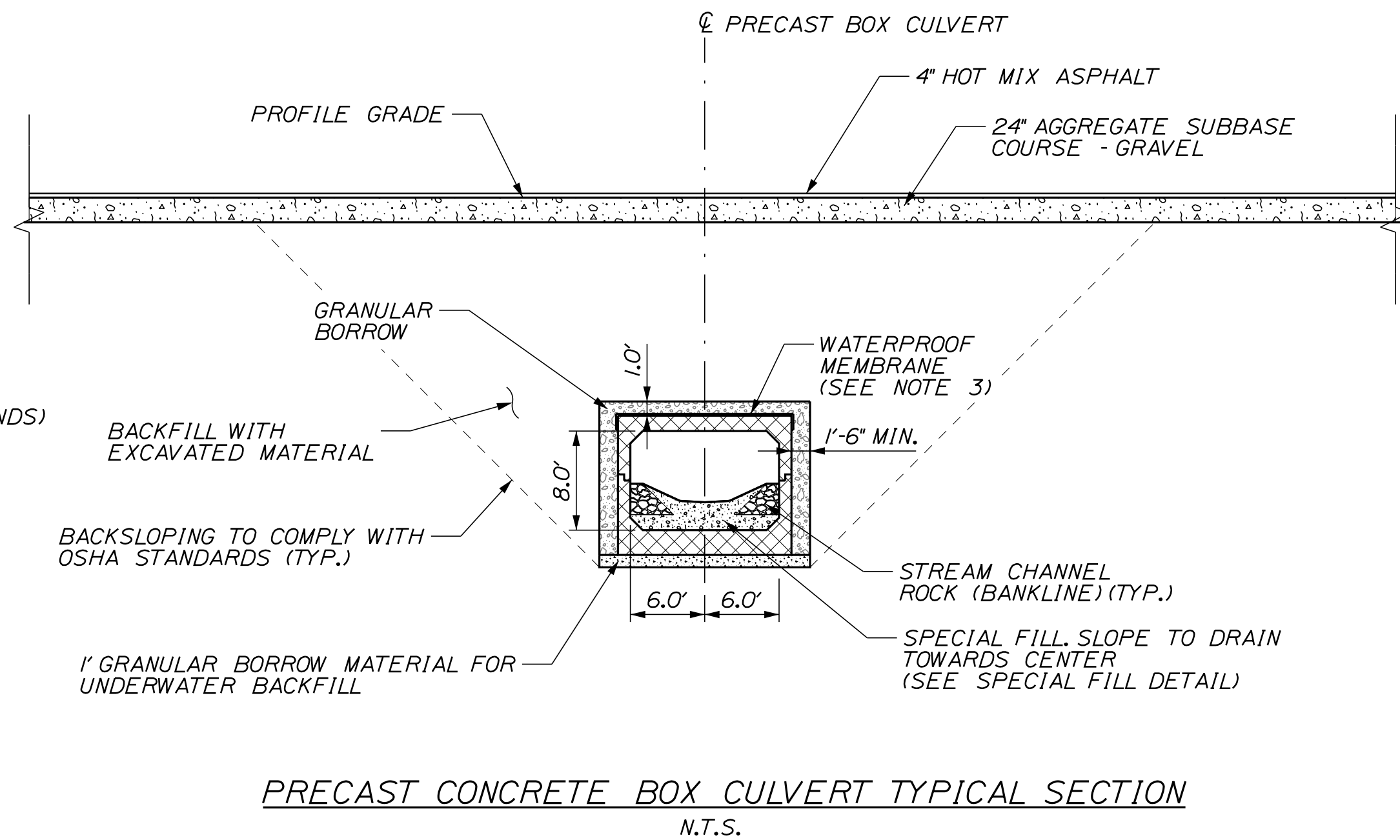
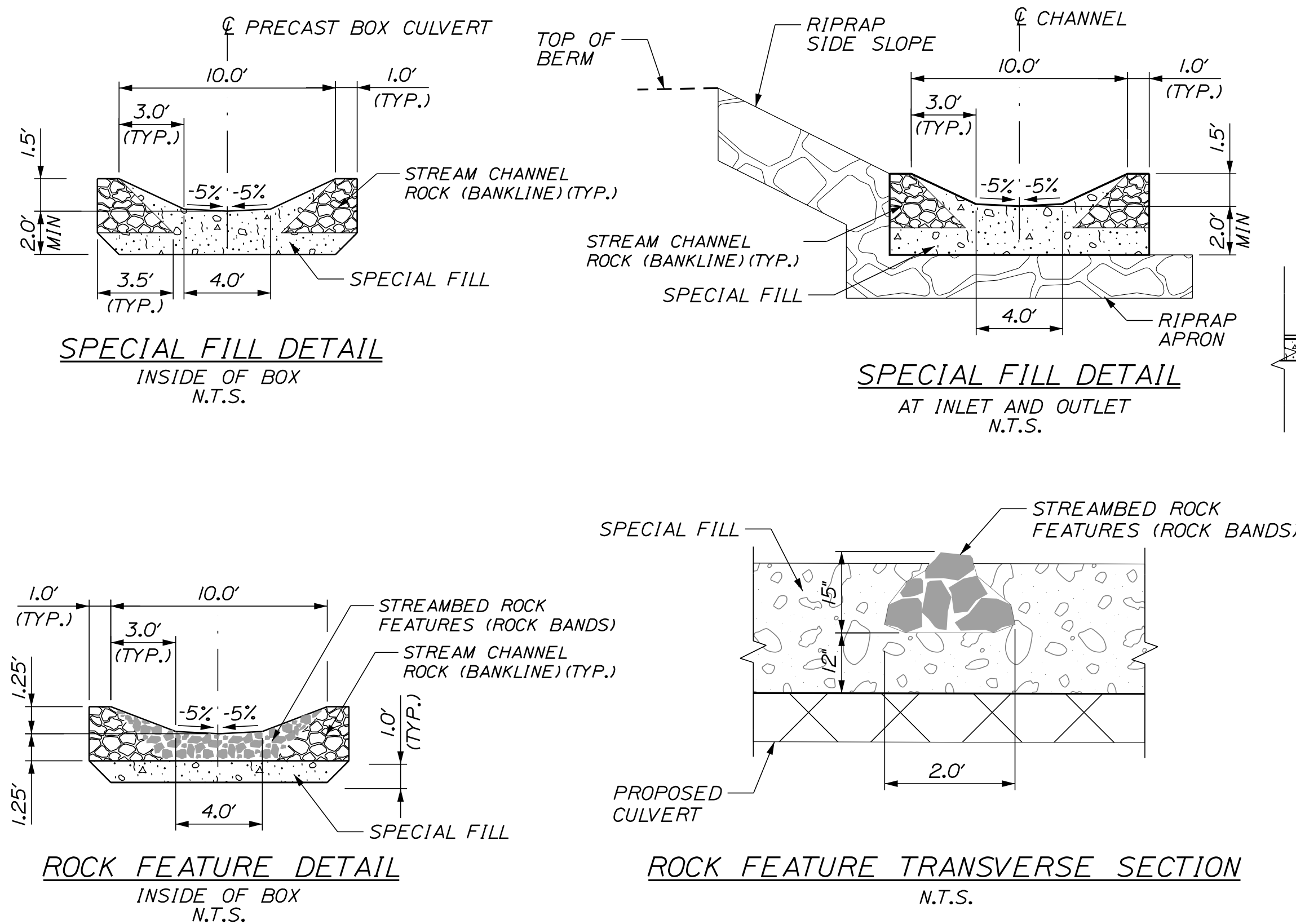
Division: HIGHWAY

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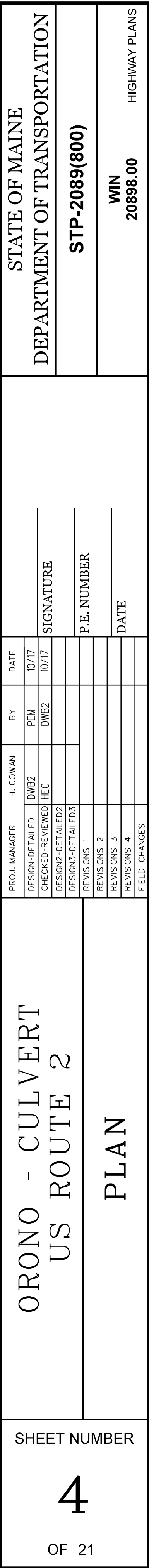


#### PRECAST CONCRETE BOX CULVERT NOTES:

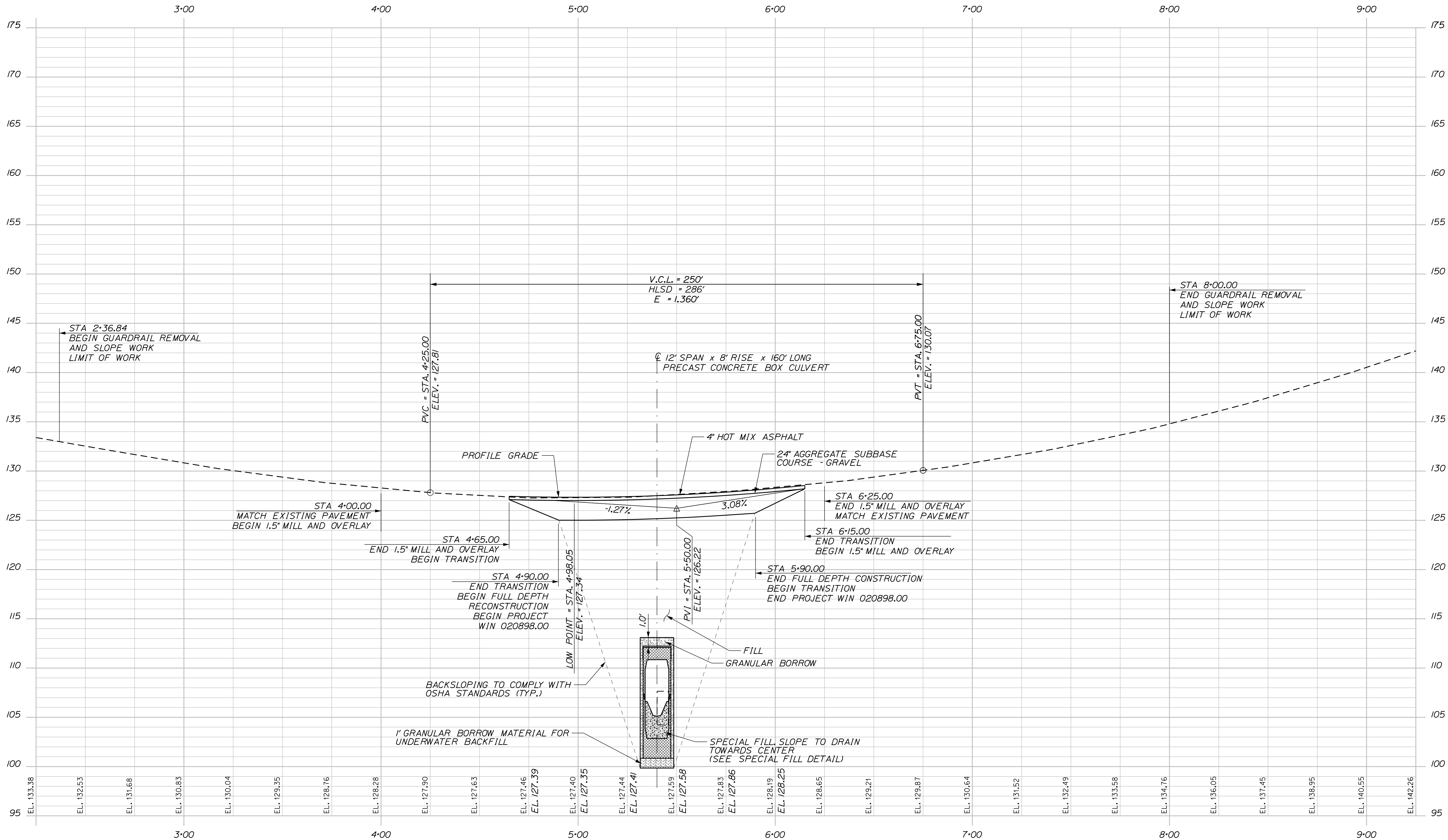
1. THE PRECAST UNITS SHALL BE DESIGNED TO CARRY CONSTRUCTION LOADING WITH A MINIMUM FILL COVER OF 18" OVER THE TOP OF THE UNIT.
2. THE CONSTRUCTION, HANDLING, AND ASSEMBLY OF THE PRECAST UNITS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 534, PRECAST STRUCTURAL CONCRETE, AND WITH THE MANUFACTURER'S SPECIFICATIONS AS APPLICABLE.
3. INSTALL STANDARD MEMBRANE WATERPROOFING OVER THE TOP AND TO 12" DOWN THE EXTERIOR SIDES OF THE PRECAST UNITS.
4. THE PRECAST CONCRETE BOX CULVERT SHALL BE BEDDED ON A 1-FOOT LAYER OF COMPACTED GRANULAR BORROW MATERIAL FOR UNDERWATER BACKFILL.
5. COFFERDAMS ARE TO BE PLACED AT BOTH THE DOWNSTREAM AND UPSTREAM ENDS OF THE PRECAST STRUCTURE TO ALLOW WATER TO BE PUMPED AND REMOVED DURING CONSTRUCTION OF THE BOX CULVERT.
6. RIPRAP WILL BE USED TO INSLOPE AROUND THE CULVERT ENDS AT BOTH THE INLET AND OUTLET. SEE PLAN FOR LOCATIONS.
7. THE CULVERT SHALL BE LINED WITH A MINIMUM OF 2.0 FEET OF SPECIAL FILL IN ACCORDANCE WITH SPECIAL PROVISION 203.
8. VOIDS IN RIPRAP APRONS SHALL BE INFILLED WITH SPECIAL FILL WATERED-IN AND TAMPED.
9. THE FURNISHING AND PLACING OF BACKFILL MATERIAL BETWEEN THE GRANULAR BORROW PAY LIMIT AND THE NORMAL SUBGRADE LINE WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED INCIDENTAL TO THE WORK. BACKFILL MATERIAL SHALL BE FROM SUITABLE EXCAVATION WITHIN PROJECT LIMITS, IF AVAILABLE, AND SHALL BE GRANULAR MATERIAL AS DIRECTED BY THE RESIDENT.



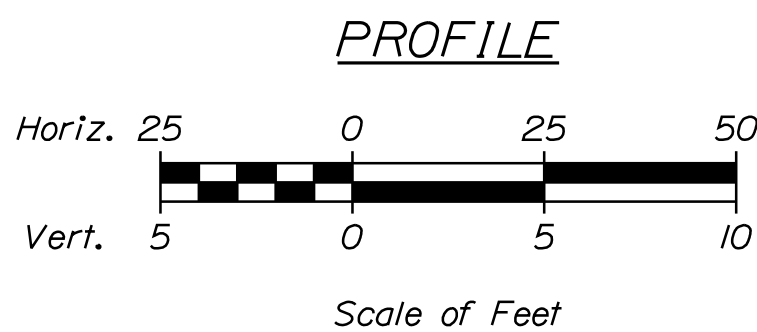
PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED	DEM	10/17			
CHECKED-REVIEWED	DWB2	10/17			
DESIGN-DETAILED					
DESIGN-DETAILED					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					







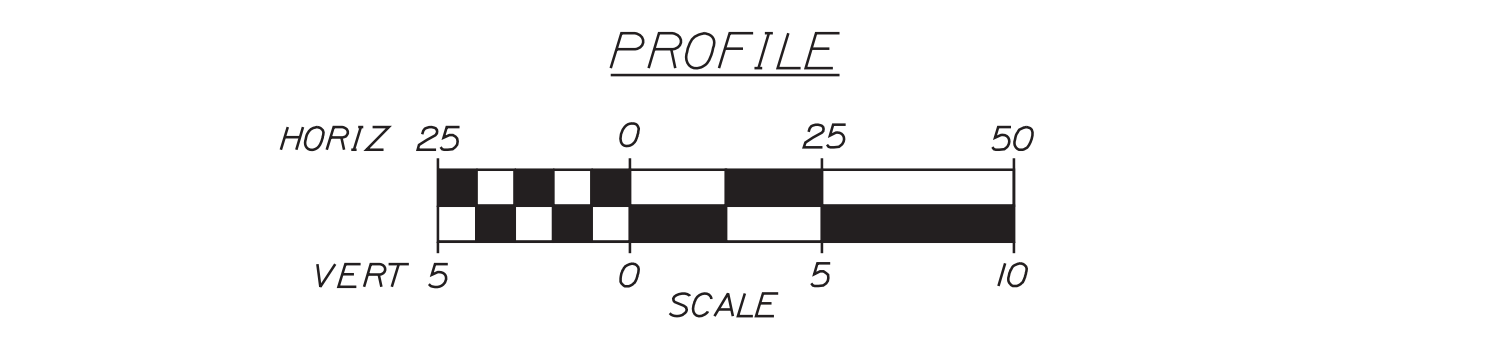
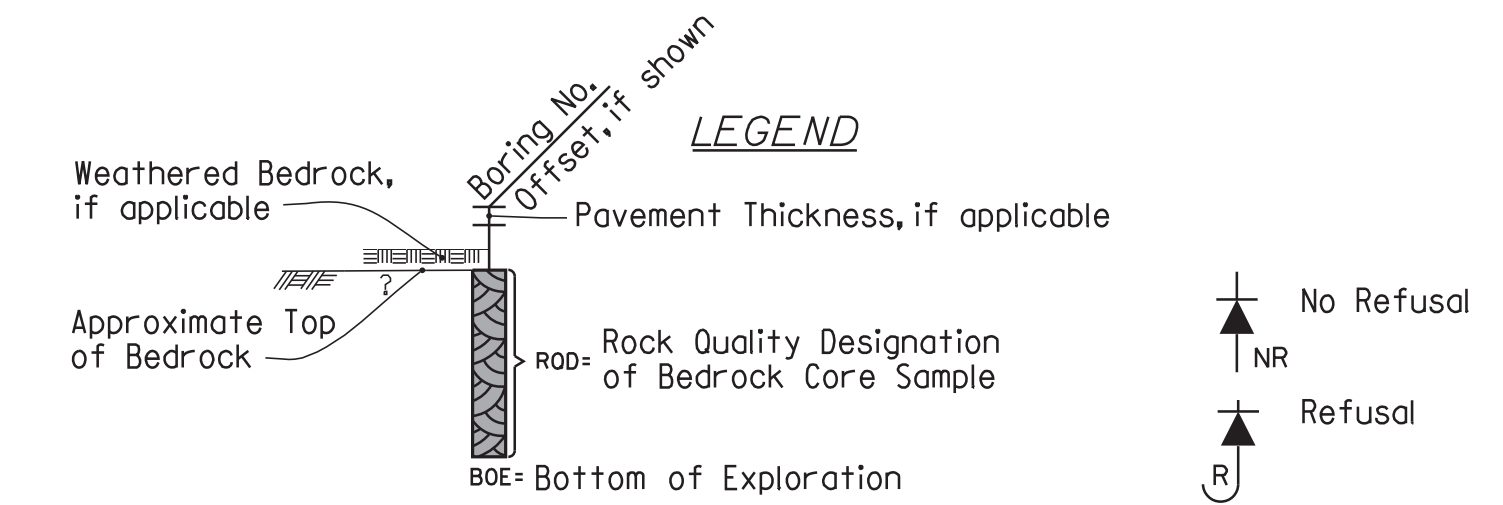
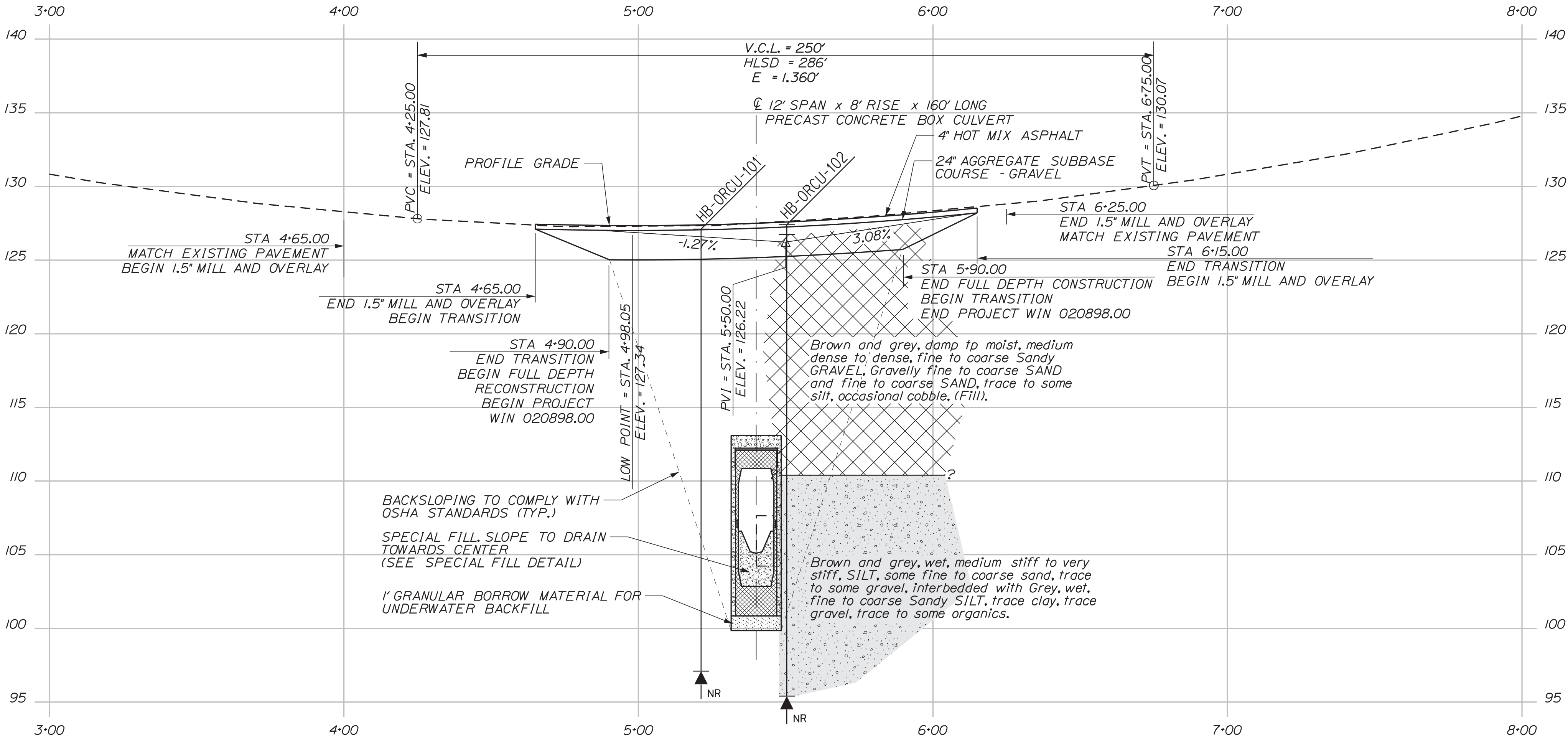
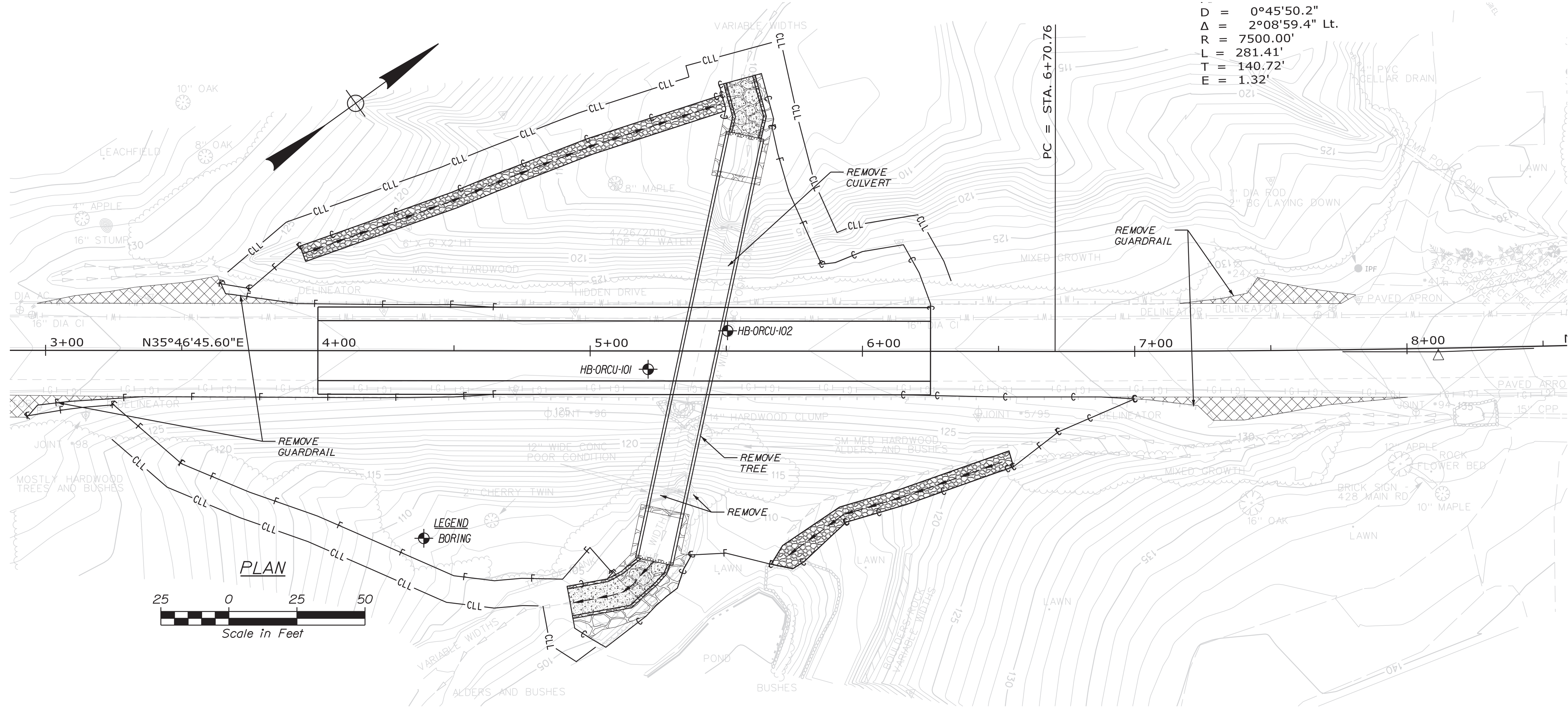
PROFILE



PROJ. MANAGER	H. COWAN	BY	DATE
DESIGN-DETAILED	DWB2	DEM	10/17
CHECKED-REVIEWED	REC	DWB2	10/17
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE	P.E. NUMBER	DATE





Note: This generalized interpretive soil profile is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretations of widely spaced explorations and samples. Actual soil and bedrock transitions may vary and are probably more erratic. For more specific information refer to the exploration logs.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2089(800)		WIN 20898.00 HIGHWAY PLANS	
Cody A. Russell 15866 04/28/2021		Cody A. Russell 15866 04/28/2021		Cody A. Russell 15866 04/28/2021	
PROJ. MANAGER		BY		DATE	
DESIGN-DETAILED		T. WHITE		APR 2021	
CHECKED-REVIEWED		C. RUSSELL		APR 2021	
DESIGN-DETAILED		C. RUSSELL		APR 2021	
REVISIONS 1		REVISIONS 2		REVISIONS 3	
REVISIONS 4		REVISIONS 5		REVISIONS 6	
FIELD CHANGES		FIELD CHANGES		FIELD CHANGES	
ORONO US ROUTE 2		BORING LOCATION PLAN & INTERPRETIVE SUBSURFACE PROFILE		SHEET NUMBER 6 OF 21	



Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Large Culvert Replacement on Route 2 Location: Orono, Maine				Boring No.: HB-ORCU-101 WIN: 20898.00																																																																																																																																																					
Drilling Contractor: New England Boring				Elevation (ft.): 127.1				Auger ID/OD: 5" Dia.																																																																																																																																																					
Operator: Mike/Shane				Datum: NAVD88				Sampler: Off Auger																																																																																																																																																					
Logged By: B. Wilder				Rig Type: Mobile B-53				Hammer Wt./Fall: N/A																																																																																																																																																					
Date Start/Finish: 3/23/2017: 10:30-12:00				Drilling Method: Solid Stem Auger				Core Barrel: N/A																																																																																																																																																					
Boring Location: 5+21.3, 6.5 ft Rt.				Casing ID/OD: N/A				Water Level*: None Observed																																																																																																																																																					
<div>Definitions: S = Split Spoon Sample B = Bucket Sample off Auger Flights MS = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample W = Unsuccessful Field Vane Shear Test Attempt L = Field Vane Shear Test - Pocket Penetrometer MU = Unsuccessful Thin Wall Tube Sample Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WH = Weight of 140lb. Hammer PP = Pocket Penetrometer W = Weight of Rod or Casing W = Weight of Rod or Casing</div> <div>Abbreviations: Su = Peak/Retained Field Vane Undrained Shear Strength (psf) q<sub>u</sub> = Lab Vane Undrained Shear Strength (psf) q<sub>u</sub> = Unconfined Compressive Strength (psf) N-value = Raw Field SPT N-value Ly = Pocket Torvane Shear Strength (psf) WC = Water Content, percent # = Size (p or Equal too)</div> <div>LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index C = Consolidation Test</div>																																																																																																																																																													
<table><thead><tr><th rowspan="2">Depth (ft.)</th><th rowspan="2">Sample No.</th><th rowspan="2">Pen./Rec. (in.)</th><th rowspan="2">Sample Depth (ft.)</th><th colspan="2">Blows (6 in. in. or less)</th><th rowspan="2">N-value</th><th rowspan="2">Casing Blows</th><th rowspan="2">Elevation (ft.)</th><th rowspan="2">Graphic Log</th><th rowspan="2">Visual Description and Remarks</th><th rowspan="2">Laboratory Testing Results/ASTM and Unified Class</th></tr><tr><th>Shear (psf) or RDP (%)</th><th>or RDP (%)</th></tr></thead><tbody><tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>127.1</td><td></td><td>Similar soils as HB-ORCU-102 down to 15.0 ft bgs.</td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>15</td><td>51</td><td></td><td>16.00 - 20.00</td><td></td><td></td><td></td><td></td><td></td><td></td><td>Olive, wet, SILT, some fine to coarse sand, little clay, trace gravel.</td><td>GW269986 A-4, CL WC=17.2%</td></tr><tr><td>20</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>25</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>30</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>97.10</td><td></td><td>Bottom of Exploration at 30.0 feet below ground surface. NO REFUSAL</td><td></td></tr><tr><td>35</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>40</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>45</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>												Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in. in. or less)		N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ASTM and Unified Class	Shear (psf) or RDP (%)	or RDP (%)	0								127.1		Similar soils as HB-ORCU-102 down to 15.0 ft bgs.		5												10												15	51		16.00 - 20.00							Olive, wet, SILT, some fine to coarse sand, little clay, trace gravel.	GW269986 A-4, CL WC=17.2%	20												25												30								97.10		Bottom of Exploration at 30.0 feet below ground surface. NO REFUSAL		35												40												45												50											
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Page 1 of 1										Boring No.: HB-ORCU-101																																																																																																																																																			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Large Culvert Replacement on Route 2 Location: Orono, Maine				Boring No.: HB-ORCU-102 WIN: 20898.00																																																																																																																																																																													
Driller: New England Boring				Elevation (ft.): 127.4				Auger ID/OD: 2.75/6.25"																																																																																																																																																																													
Operator: Mike/Shane				Datum: NAVD88				Sampler: Standard Split Spoon																																																																																																																																																																													
Logged By: B. Wilder				Rig Type: Mobile B-53				Hammer Wt./Fall: 140lb/30"																																																																																																																																																																													
Date Start/Finish: 3/23/2017: 08:30-11:00				Drilling Method: Hollow Stem Auger				Core Barrel: N/A																																																																																																																																																																													
Boring Location: 5+50.4, 7.4 ft Lt.				Casing ID/OD: N/A				Water Level*: None Observed																																																																																																																																																																													
<div>Hammer Efficiency Factor: 0.60</div> <div>Definitions: S = Split Spoon Sample MS = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample W = Unsuccessful Field Vane Shear Test Attempt L = Field Vane Shear Test - Pocket Penetrometer MU = Unsuccessful Thin Wall Tube Sample Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WH = Weight of 140lb. Hammer PP = Pocket Penetrometer W = Weight of Rod or Casing W = Weight of Rod or Casing</div> <div>Abbreviations: Su = Peak/Retained Field Vane Undrained Shear Strength (psf) q<sub>u</sub> = Lab Vane Undrained Shear Strength (psf) q<sub>u</sub> = Unconfined Compressive Strength (psf) N-value = Raw Field SPT N-value Ly = Pocket Torvane Shear Strength (psf) WC = Water Content, percent # = Size (p or Equal too)</div> <div>LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index C = Consolidation Test</div>																																																																																																																																																																																					
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Page 1 of 1										Boring No.: HB-ORCU-102																																																																																																																																																																											

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

STP-2089(800)

WIN  
20898.00  
HIGHWAY PLANS

STATE OF MAINE  
Cody A. Russell  
15866  
LICENSED PROFESSIONAL ENGINEER

Cody A. Russell  
SIGNATURE  
15866  
P.E. NUMBER  
04/28/2021  
DATE

PROJ. MANAGER

CHECKED-REVIEWED

DESIGN-DETAILED

DESIGN-DETAILED

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

DATE

BY

T. WHITE

APR 2021

DESIGN-DETAILED

DESIGN-DETAILED

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

ORONO  
US ROUTE 2

BORING LOGS

SHEET NUMBER

7

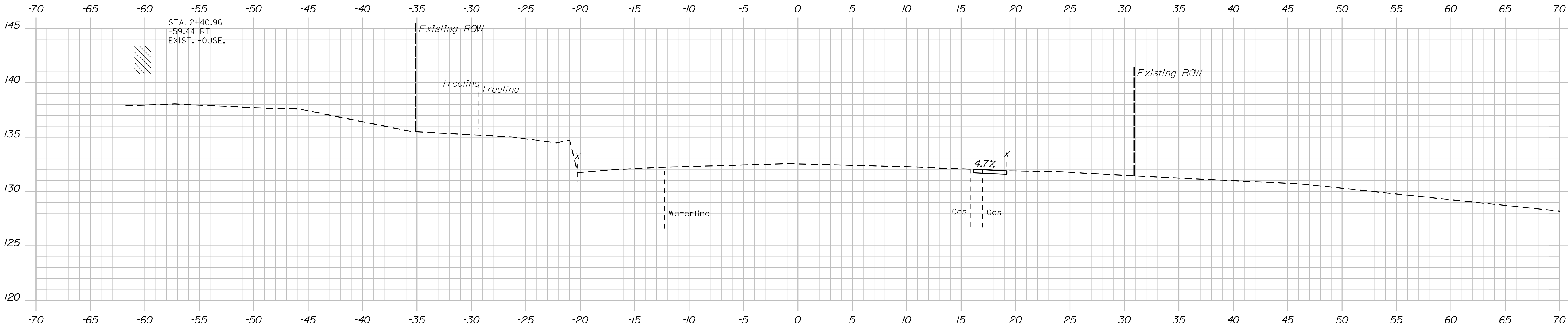
OF 21

Date:4/28/2021

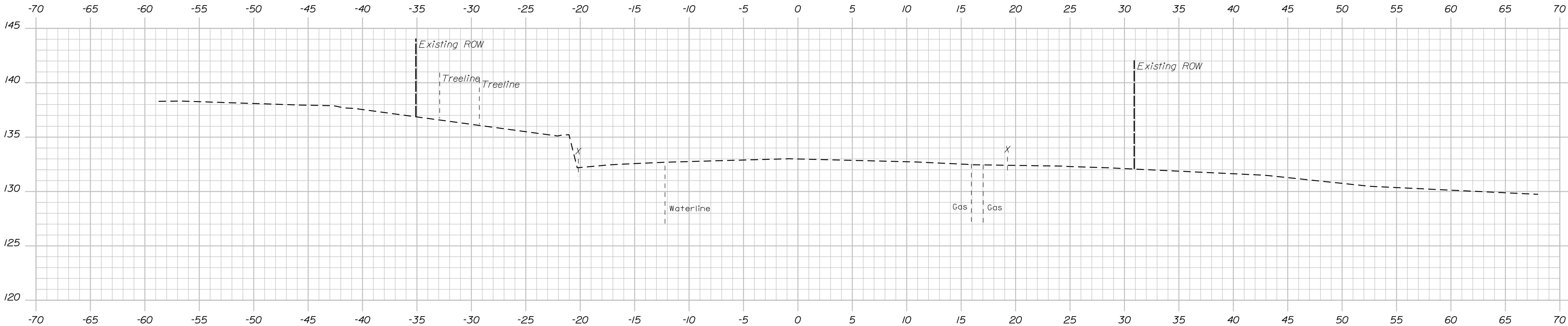
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Division: HIGHWAY

Filename: ... \HIGHWAY\MSTA\008\_XSections.dgn



2+50.00



2+36.84  
BEGIN GUARDRAIL REMOVAL  
AND SLOPE WORK  
LIMIT OF WORK

TYLIN INTERNATIONAL

PROJ. MANAGER	H. COWAN	BY	DATE
DESIGN-DETAILED	DWB2	PEM	10/17
CHECKED-REVIEWED	REC	DWB2	10/17
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE	P.E. NUMBER	DATE

ORONO - CULVERT  
US ROUTE 2

U.S. ROUTE 2  
CROSS SECTIONS

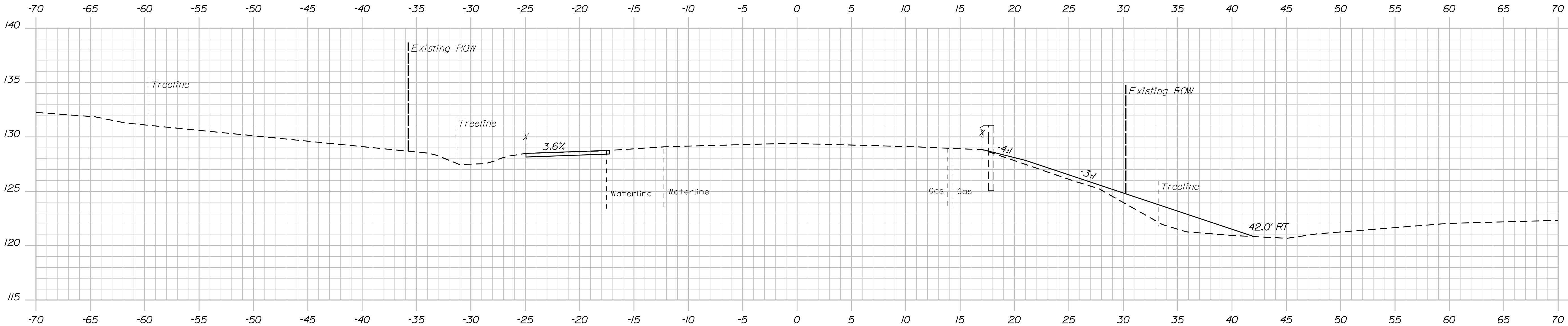


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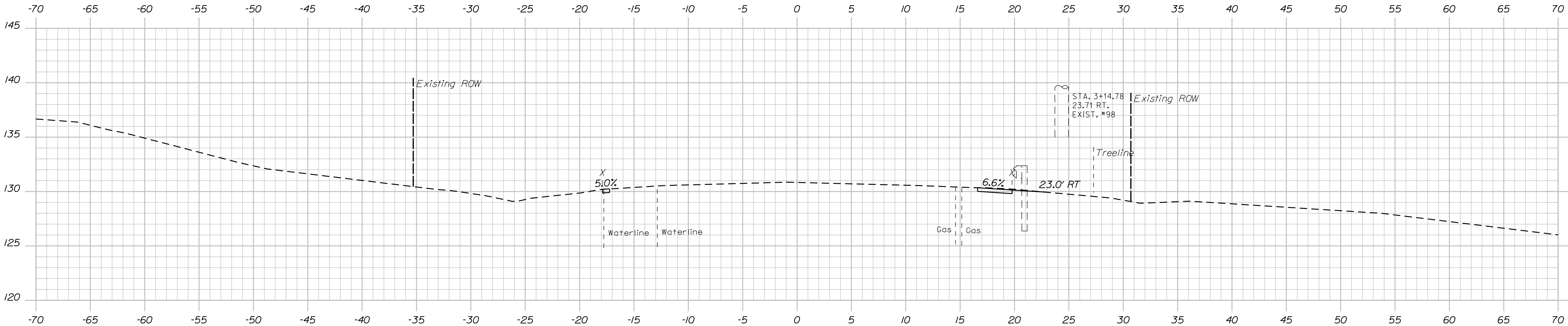
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Division: HIGHWAY

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3+50.00



3+00.00

TYLIN INTERNATIONAL

SHEET NUMBER

9

OF 21

ORONO - CULVERT  
US ROUTE 2  
U.S. ROUTE 2  
CROSS SECTIONS

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2089(800)  
WIN  
20898.00  
HIGHWAY PLANS

PROJ. MANAGER	H. COWAN	BY	DATE
DESIGN-DETAILED	DMB2	PEM	10/17
CHECKED-REVIEWED	HEC	DMB2	10/17
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

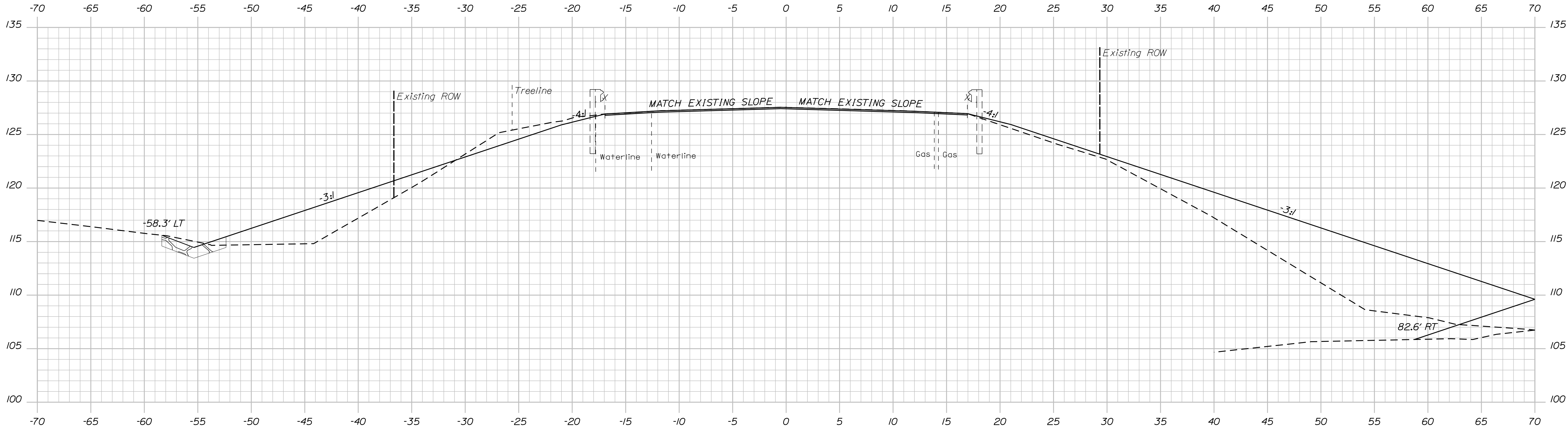
Sta. 3+00.00 to Sta. 3+50.00

Date:4/28/2021

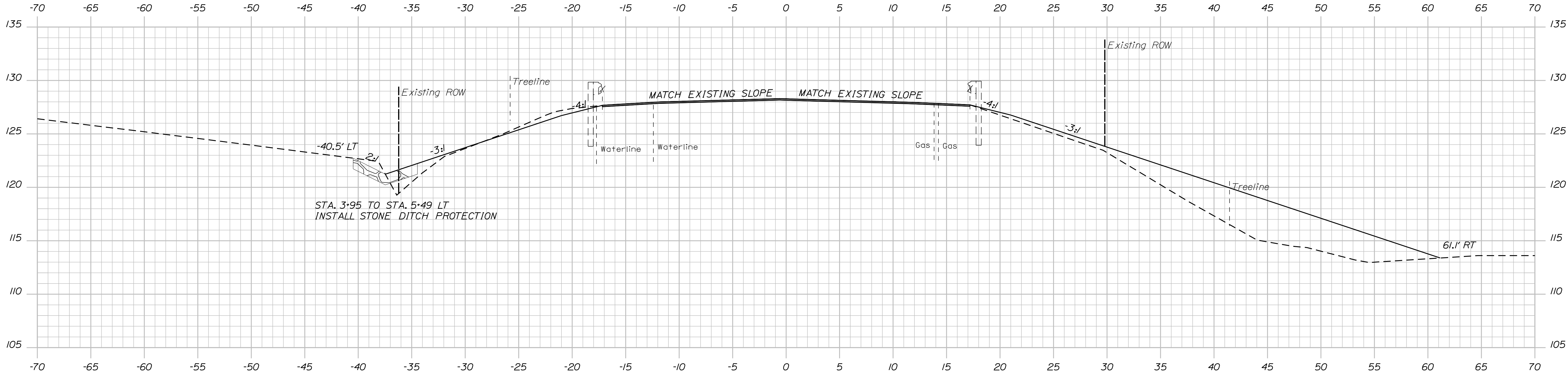
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Division: HIGHWAY

Filename: ... \HIGHWAY\MSTA\008\_XSections.dgn



4+50.00



4+00.00  
MATCH EXISTING PAVEMENT  
BEGIN 1.5" MILL AND OVERLAY

TYLIN INTERNATIONAL

PROJ. MANAGER	H. COWAN	BY	DATE
DESIGN-DETAILED	DWB2	DEM	10/17
CHECKED-REVIEWED	HEC	DWB2	10/17
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

ORONO - CULVERT  
US ROUTE 2

U.S. ROUTE 2  
CROSS SECTIONS

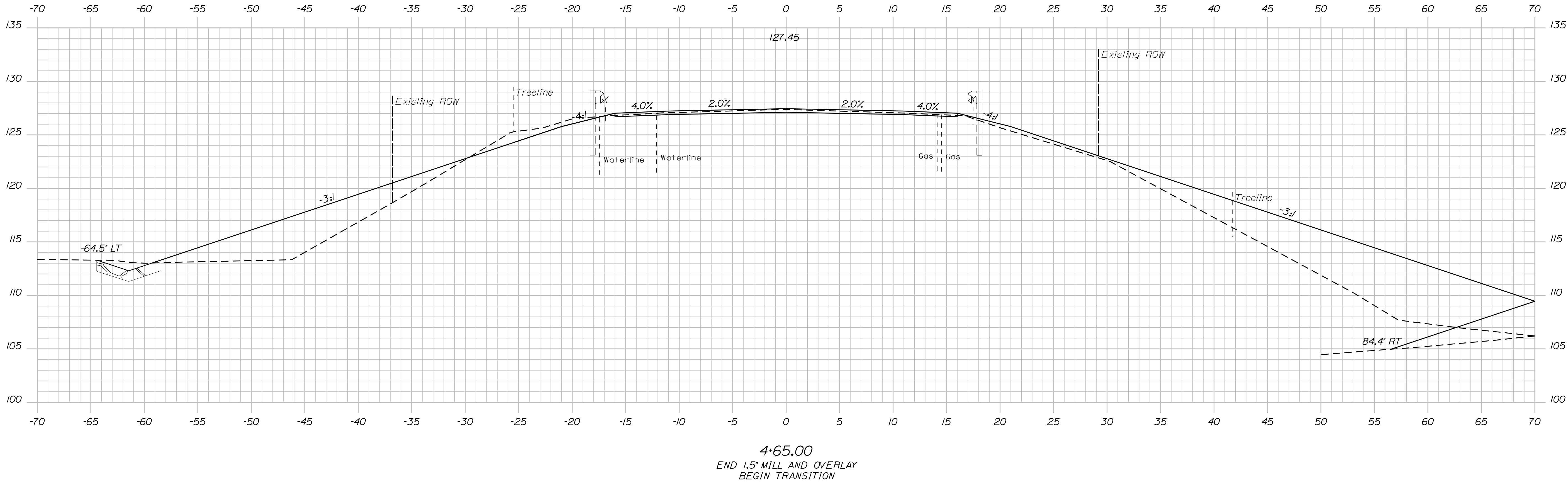
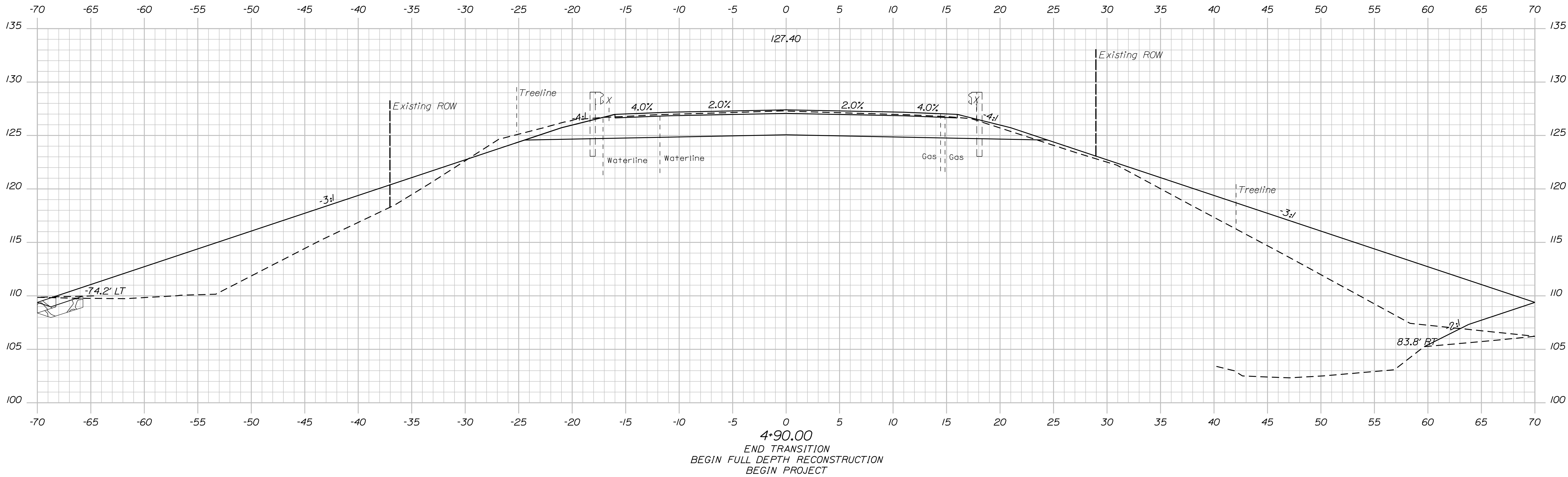


Date:4/28/2021

Username:

Division: HIGHWAY

Filename: ... \HIGHWAY\MSTA\008\_XSections.dgn



TYLIN INTERNATIONAL

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2089(800)  
WIN  
20898.00  
HIGHWAY PLANS

PROJ. MANAGER	H. COWAN	BY	DATE
DESIGN-DETAILED	DWB2	PEM	10/17
CHECKED-REVIEWED	REC	DWB2	10/17
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

ORONO - CULVERT  
US ROUTE 2  
U.S. ROUTE 2  
CROSS SECTIONS

SHEET NUMBER  
11  
OF 21

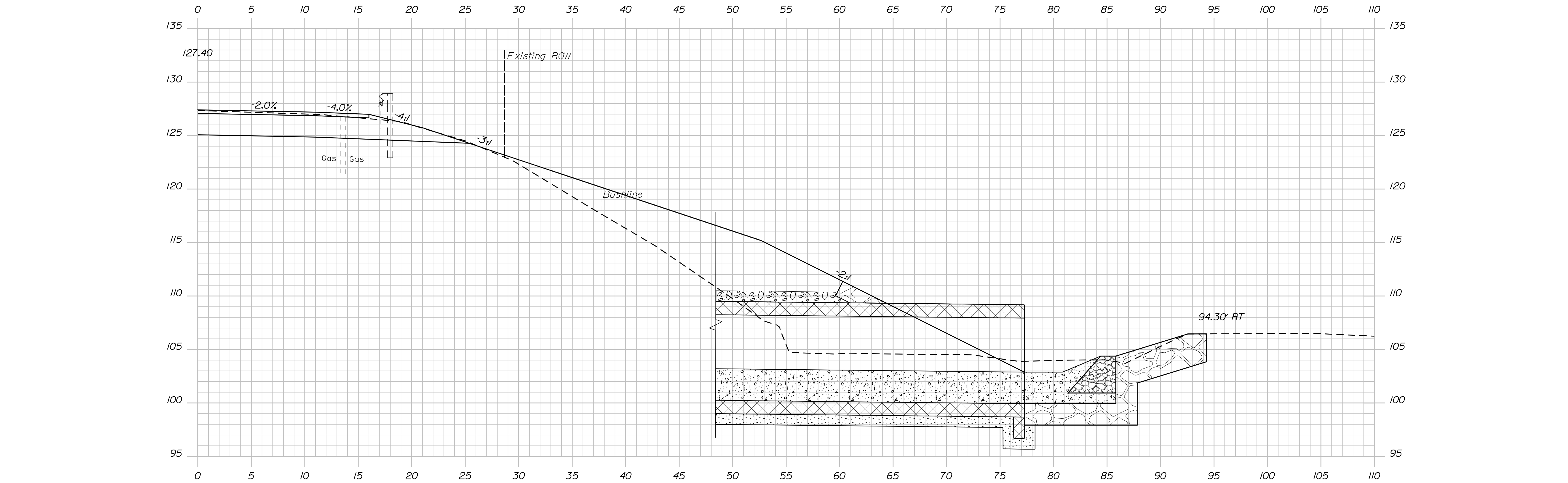
Sta. 4+65.00 to Sta. 4+90.00

Date: 4/28/2021

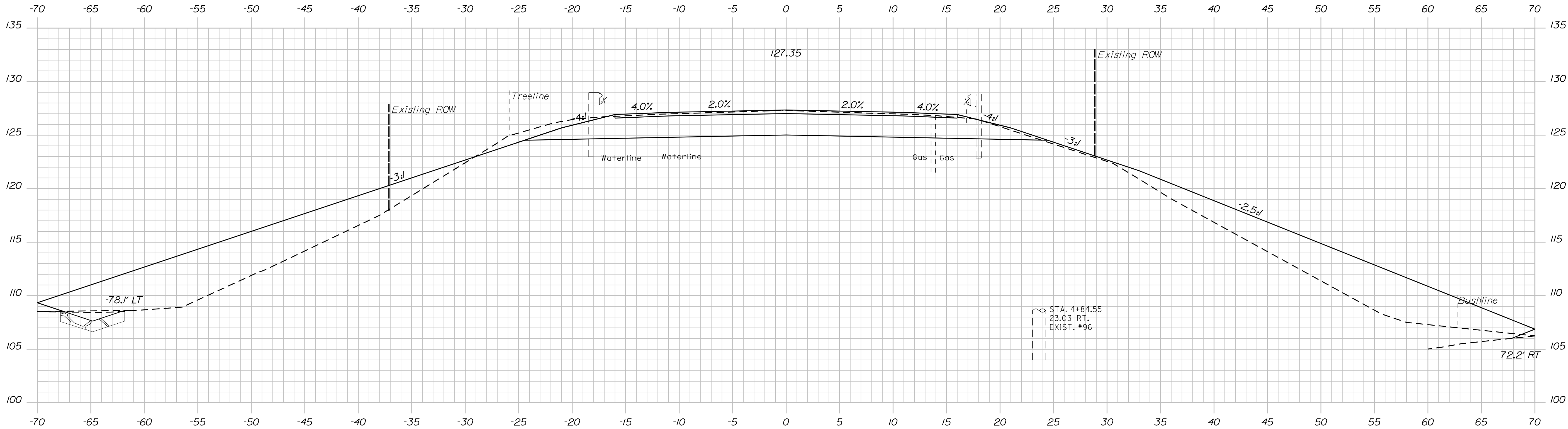
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Division: HIGHWAY

Filename: ... \HIGHWAY\MSTA\008\_XSections.dgn



5+23.57  
 (CENTER OF PROPOSED CULVERT OUTLET)



5+00.00

TYLIN INTERNATIONAL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2089(800)
WIN
20898.00
HIGHWAY PLANS

PROJ. MANAGER	H. COWAN	BY	DATE
DESIGN-DETAILED	DWB2	PEM	10/17
CHECKED-REVIEWED	HEC	DWB2	10/17
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

ORONO - CULVERT
US ROUTE 2
U.S. ROUTE 2
CROSS SECTIONS

SHEET NUMBER
12
OF 21

Sta. 5+00.00 to Sta. 5+23.57

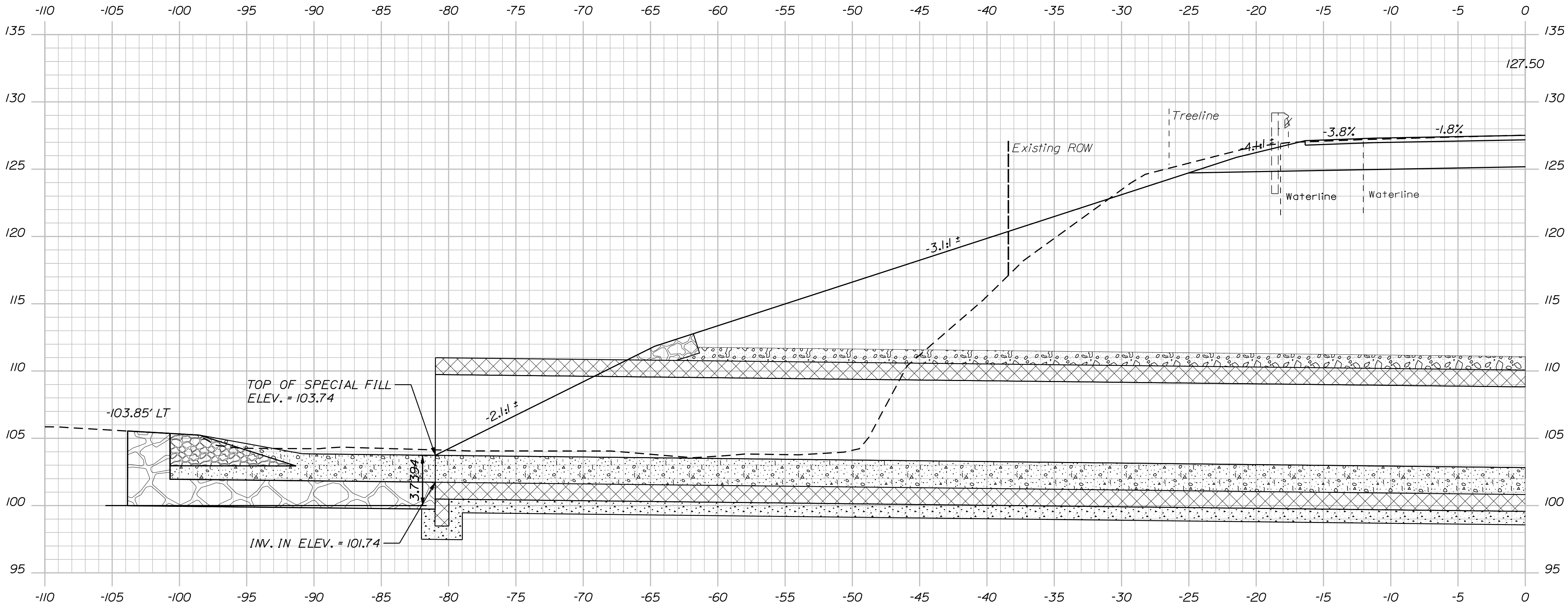


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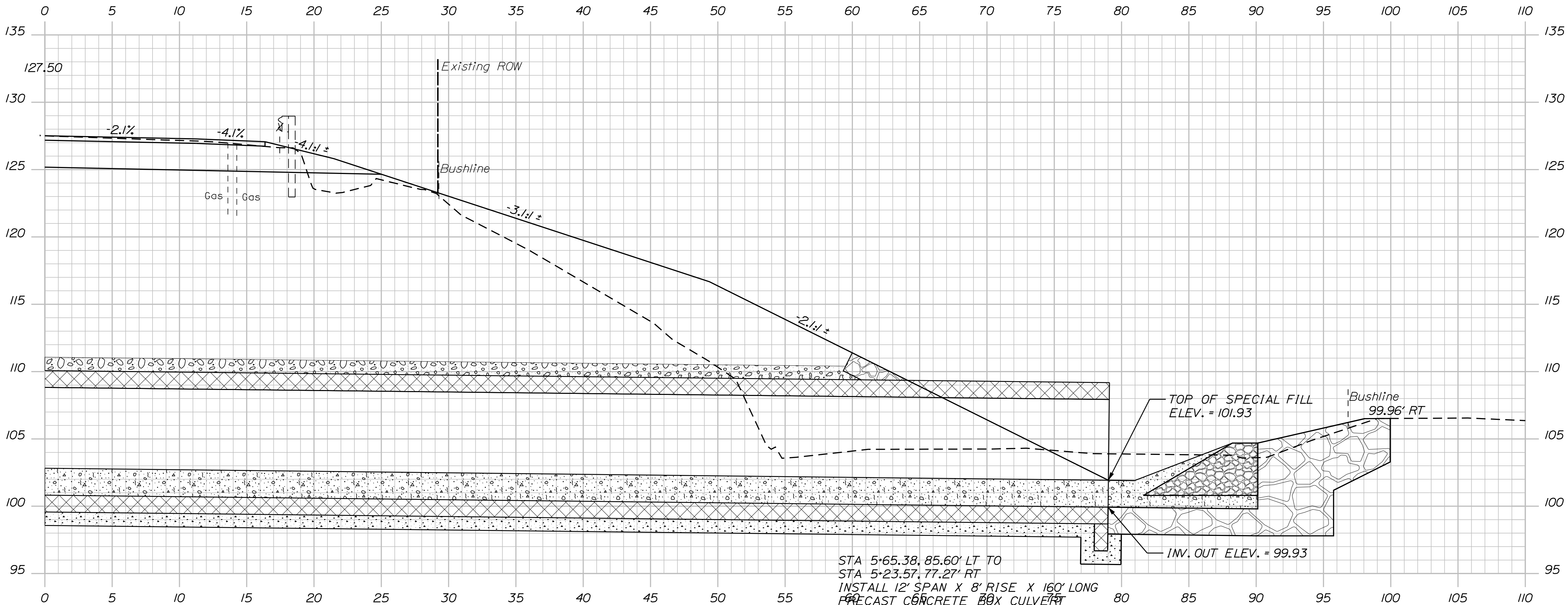
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Division: HIGHWAY

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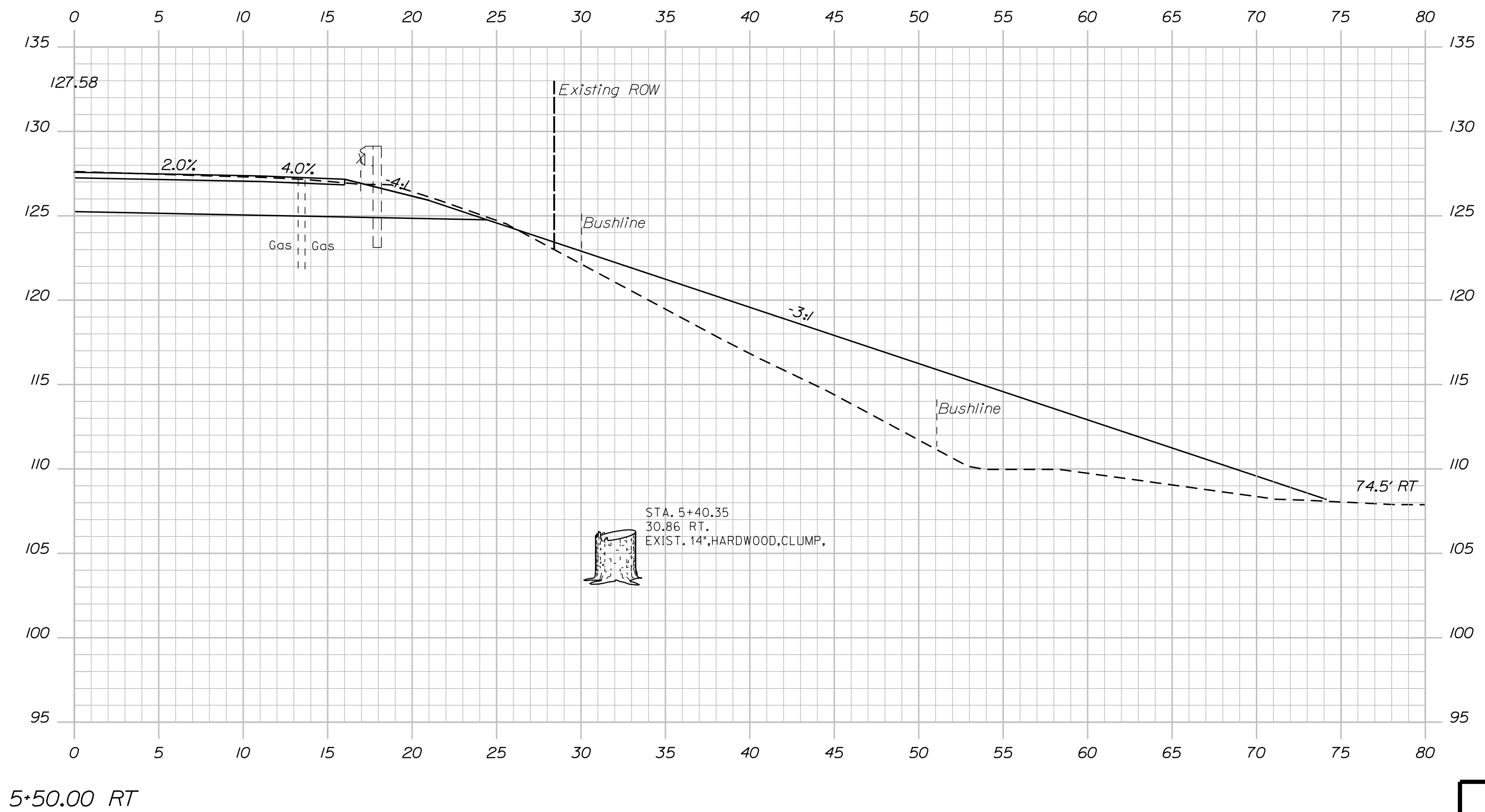
5+40.00 LEFT  
(SKEWED)



5+40.00 RIGHT  
(SKEWED)

TYLIN INTERNATIONAL

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
STP-2089(800)		WIN	
20898.00		HIGHWAY PLANS	
ORONO - CULVERT		SHEET NUMBER	
US ROUTE 2		13	
U.S. ROUTE 2		OF 21	
CROSS SECTIONS		Sta. 5+40.00	
PROJ. MANAGER	H. COWAN	BY	DATE
DESIGN-DETAILED	DMB2	PEM	10/17
CHECKED-REVIEWED	HEC	DMB2	10/17
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DESIGNS-1			
DESIGNS-2			
DESIGNS-3			
DESIGNS-4			
FIELD CHANGES			
SIGNATURE		P.E. NUMBER	
DATE		DATE	



STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
STP-2089(800)	
WIN	HIGHWAY PLANS
20898.00	

PROJ. MANAGER	H. COWAN	BY	DATE
DESIGN-DETAILED	DMB2	PEM	10/17
CHECKED-REVIEWED	HEC	DMB2	10/17
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DESIGN-DETAILED02			
DESIGN3-DETAILED03			
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REVISIONS 3			
REVISIONS 4			
P.E. NUMBER			
DATE			
FIELD CHANGES			

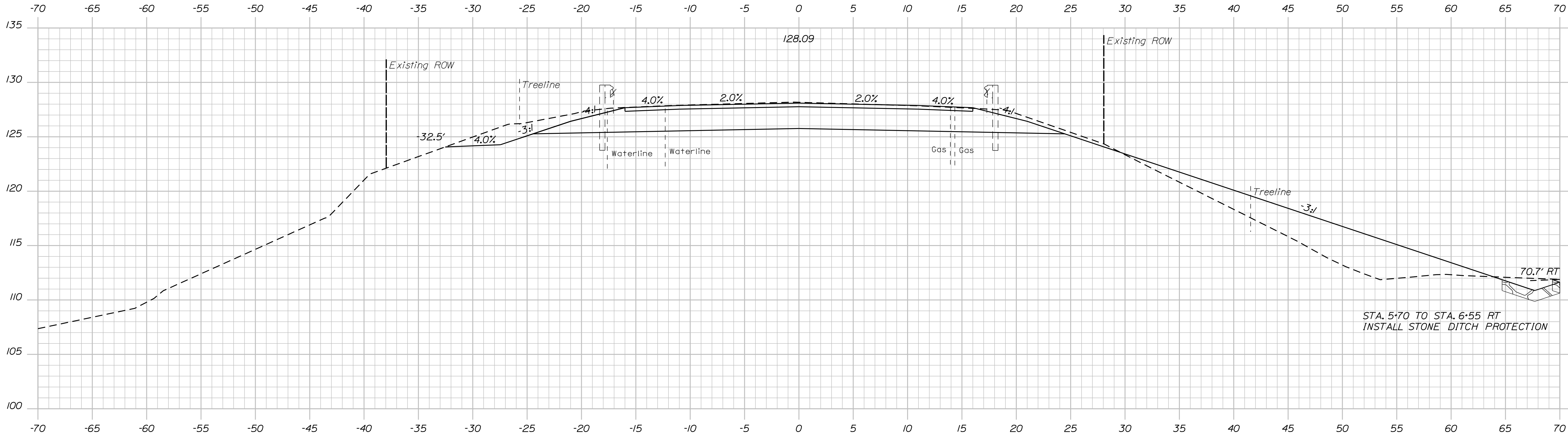
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Date:4/28/2021

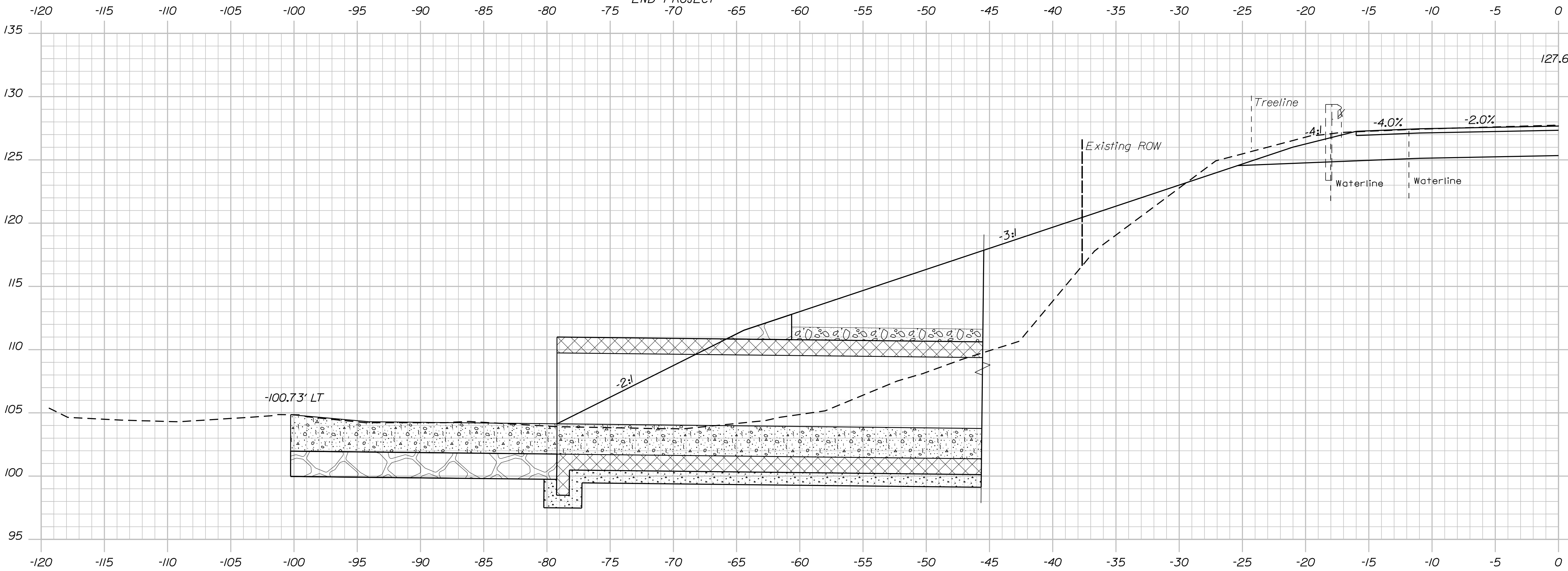
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Division: HIGHWAY

Filename: ... \HIGHWAY\MSTA\008\_XSections.dgn



5+90.00  
END FULL DEPTH CONSTRUCTION  
BEGIN TRANSITION  
END PROJECT



5+56.84  
(CENTER OF PROPOSED CULVERT INLET)

TYLIN INTERNATIONAL

SHEET NUMBER

15

OF 21

ORONO - CULVERT  
US ROUTE 2  
U.S. ROUTE 2  
CROSS SECTIONS

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2089(800)  
WIN  
20898.00  
HIGHWAY PLANS

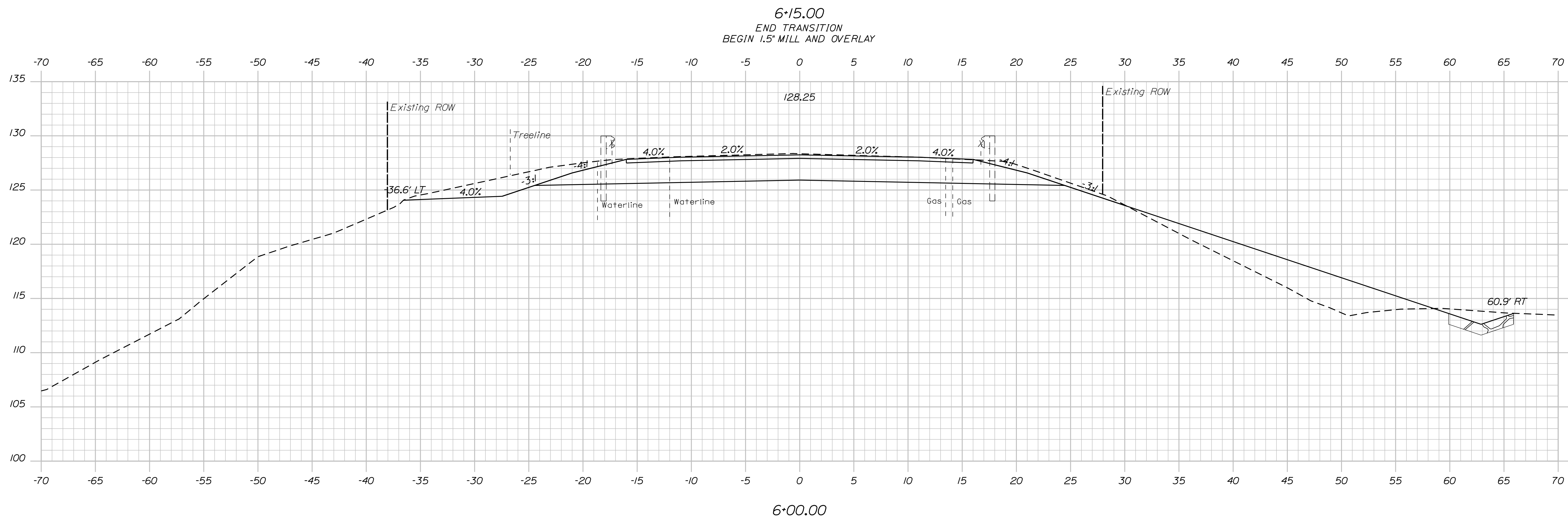
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DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

DATE  
SIGNATURE  
P.E. NUMBER  
DATE

Sta. 5+56.84 to Sta. 5+90.00



Filename: ... \HIGHWAY\MSTA\008\_XSections.dgn



6+00.00

SHEET NUMBER

16

OF 21

OF 21

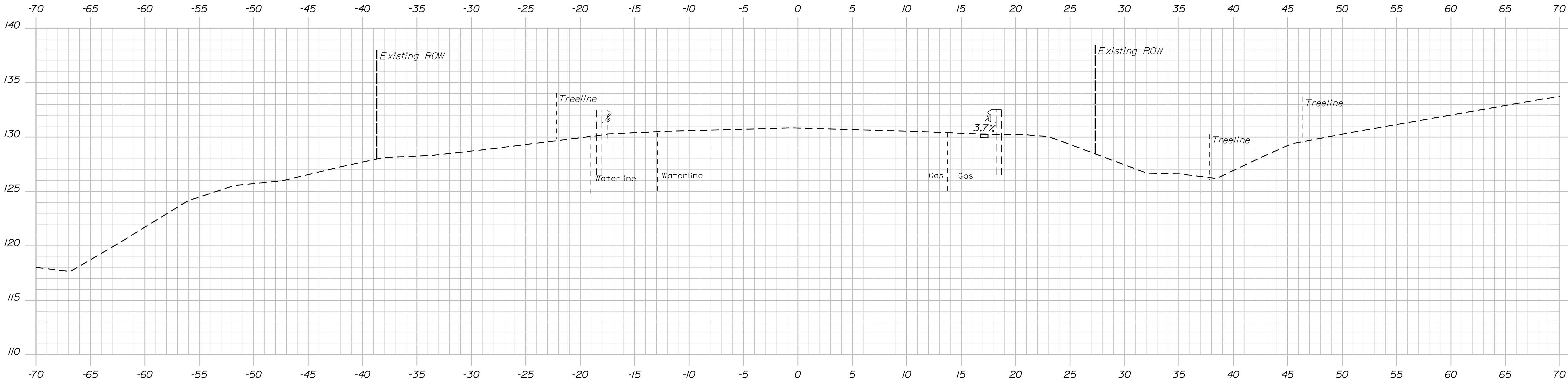
Sta. 6+15.00 to Sta. 6+50.00

Date:4/28/2021

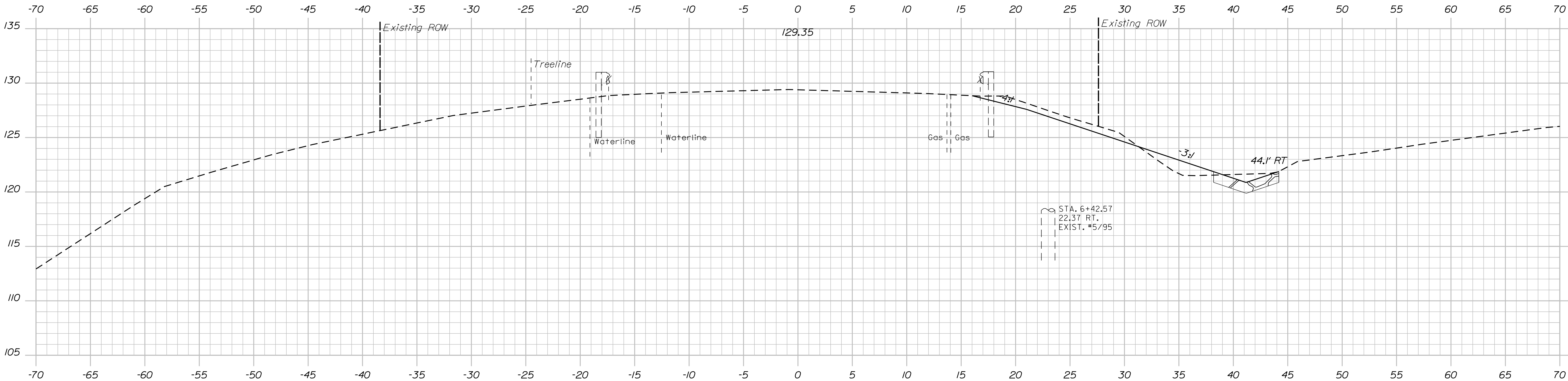
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Division: HIGHWAY

Filename: ... \HIGHWAY\MSTA\008\_XSections.dgn



7+00.00



6+50.00

TYLIN INTERNATIONAL

SHEET NUMBER

17

OF 21

ORONO - CULVERT  
US ROUTE 2  
U.S. ROUTE 2  
CROSS SECTIONS

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2089(800)  
WIN  
20898.00  
HIGHWAY PLANS

PROJ. MANAGER	H. COWAN	BY	DATE
DESIGN-DETAILED	DMB2	DEM	10/17
CHECKED-REVIEWED	HEC	DMB2	10/17
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REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

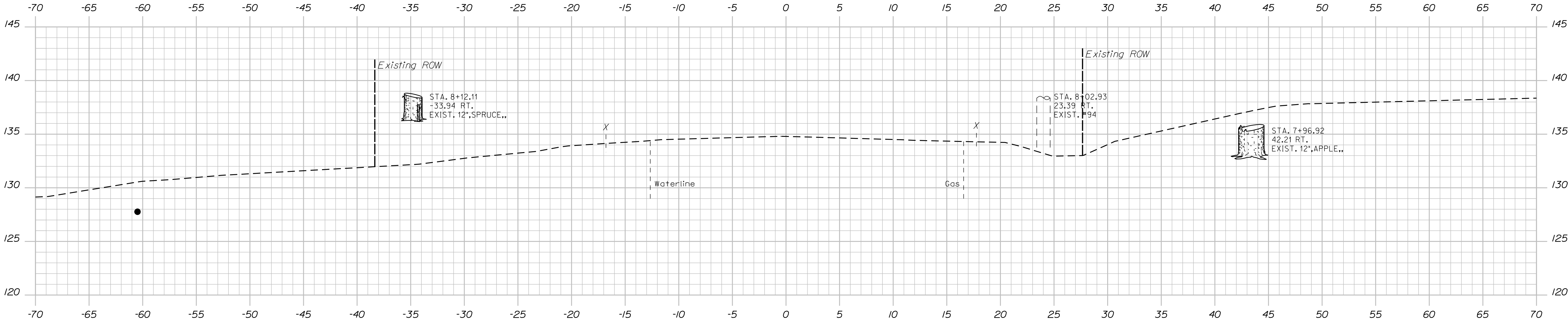
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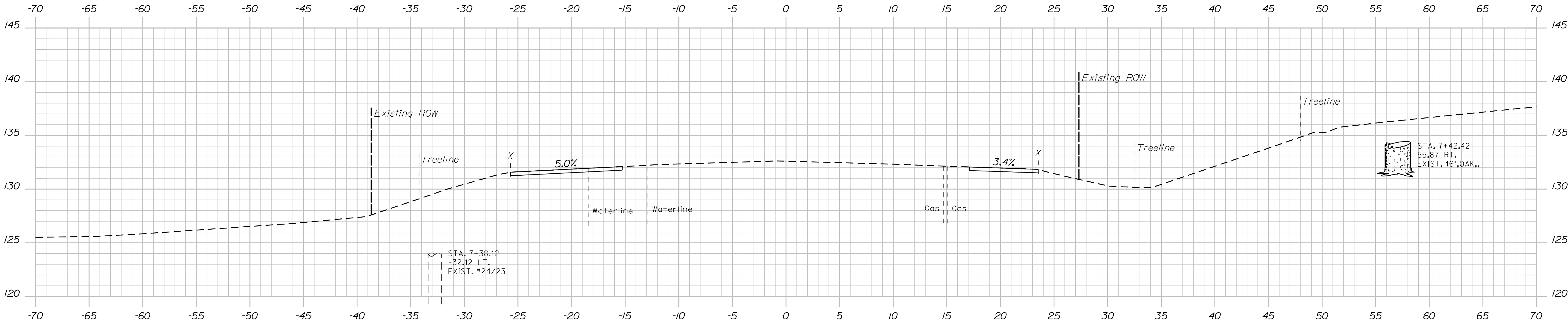
Username:

Division: HIGHWAY

Filename: ... \HIGHWAY\MSTA\008\_XSections.dgn



8+00.00  
END GUARDRAIL REMOVAL  
AND SLOPE WORK  
LIMIT OF WORK



7+50.00

TYLIN INTERNATIONAL

SHEET NUMBER

18

OF 21

ORONO - CULVERT  
US ROUTE 2  
U.S. ROUTE 2  
CROSS SECTIONS

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2089(800)  
WIN  
20898.00  
HIGHWAY PLANS

PROJ. MANAGER	H. COWAN	BY	DATE
DESIGNED-DETAILED	DWB2	DEM	10/17
CHECKED-REVIEWED	HEC	DWB2	10/17
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REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

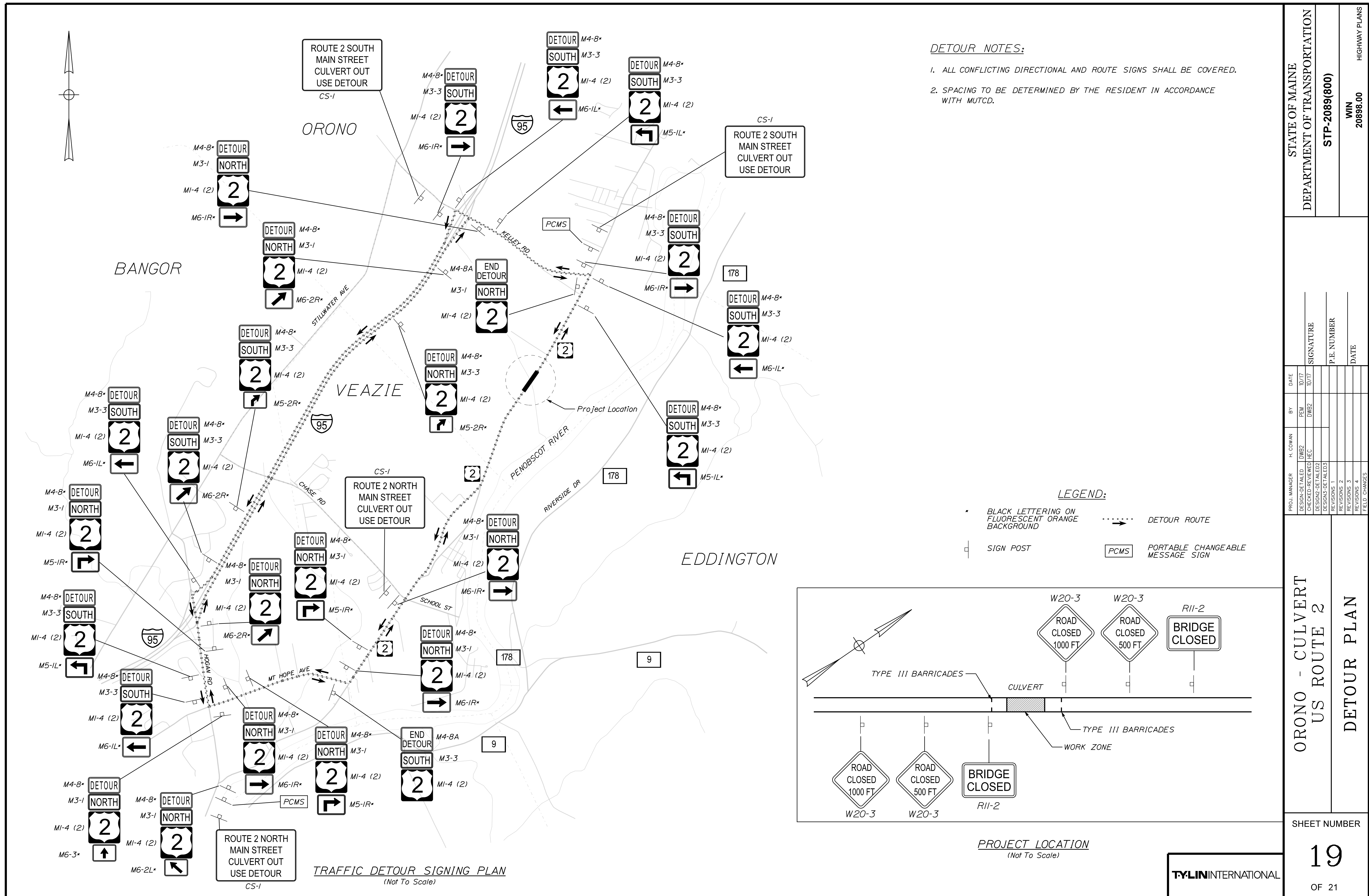
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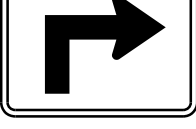

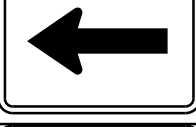
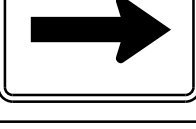

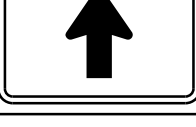



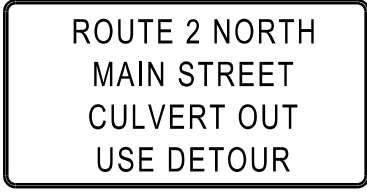
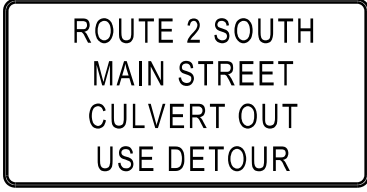
P.E. NUMBER

DATE

Sta. 8+00.00 to Sta. 8+50.00





IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)				NUMBER OF SIGNS REQUIRED	COLOR		BORDER RADIUS	AREA IN SQUARE FEET	NOTES
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.			BACK- GROUND	LEGEND BORDER			
M3-1	24"	12"		TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS" - 2009				13	WHITE	BLACK		2.00 (26)	
M3-3	24"	12"						12	WHITE	BLACK		2.00 (24)	
M4-8	24"	12"						23	ORANGE	BLACK		2.00 (46)	
M4-8A	24"	18"						2	ORANGE	BLACK		1.33 (2.7)	
M5-1L	21"	15"						3	ORANGE	BLACK		2.19 (6.6)	
M5-1R	21"	15"						3	ORANGE	BLACK		2.19 (6.6)	
M5-2R	21"	15"						2	ORANGE	BLACK		2.19 (4.4)	
M6-1L	21"	15"						4	ORANGE	BLACK		2.19 (8.8)	
M6-1R	21"	15"						7	ORANGE	BLACK		2.19 (15.4)	
M6-2R	21"	15"						3	ORANGE	BLACK		2.19 (6.6)	
M6-3	21"	15"						1	ORANGE	BLACK		2.19 (2.2)	
MI-4 (2)	30"	30"						25	WHITE	BLACK		6.25 (156.3)	
R11-2	48"	30"						2	WHITE	BLACK		10.00 (20)	
W20-3 (1000 ft) (500 ft)	36"	36"						2 2	ORANGE	BLACK		9.00 (18) 9.00 (18)	
CS-1	60"	40"		6C 5C 5C 4C	4" 4" 4"			2	ORANGE	BLACK		16.67 (33.3)	
CS-1	60"	40"		6C 5C 5C 4C	4" 4" 4"			2	ORANGE	BLACK		16.67 (33.3)	

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

STP-2089(800)

WIN  
20898.00  
HIGHWAY PLANS

ORONO - CULVERT  
US ROUTE 2

SIGN SUMMARY

SHEET NUMBER

20

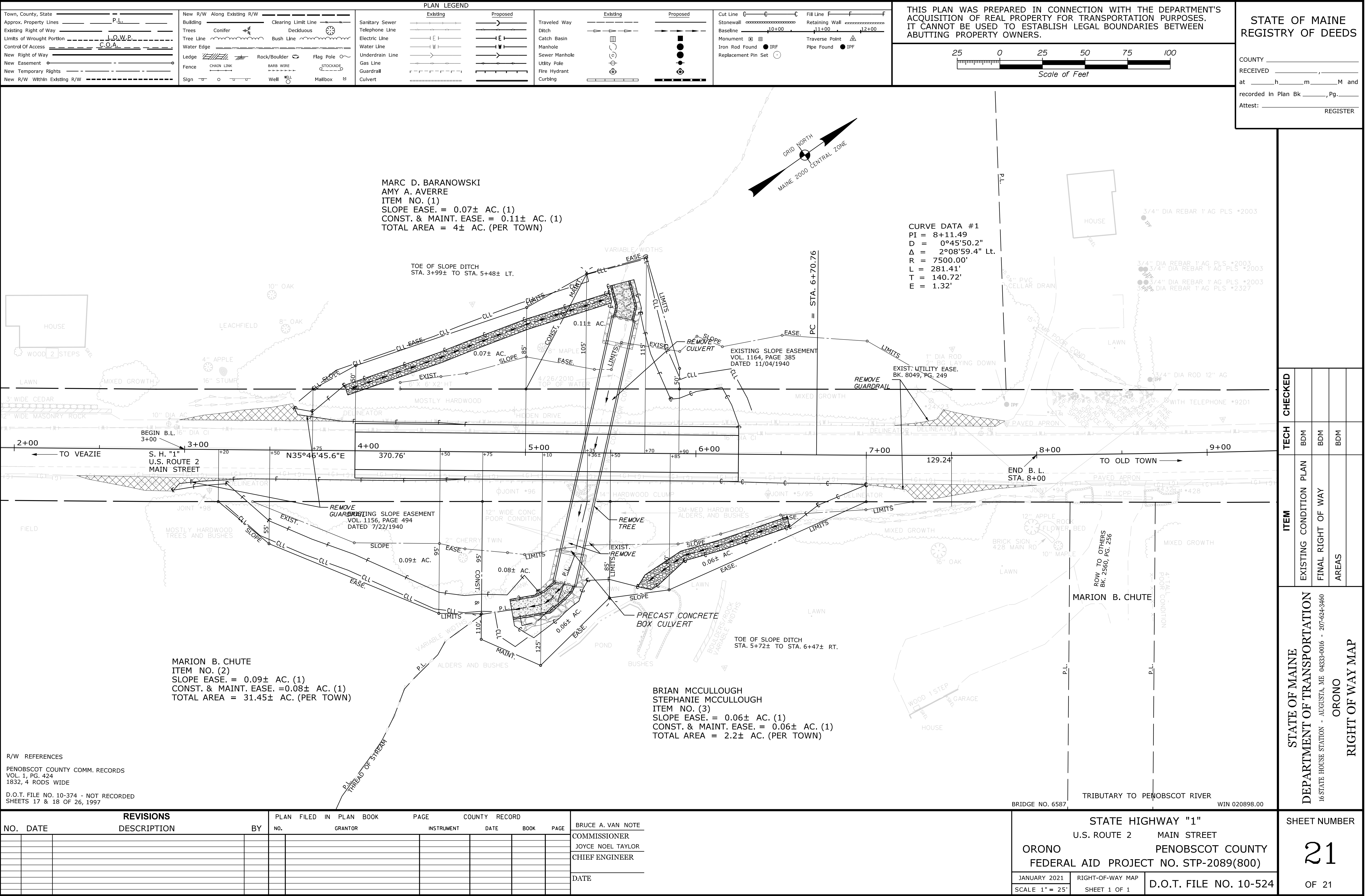
OF 21

PROJ. MANAGER	H. COWAN	BY	DATE
DESIGN-DETAILED	DWB2	PEM	10/17
CHECKED-REVIEWED	HEC	DWB2	10/17
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE





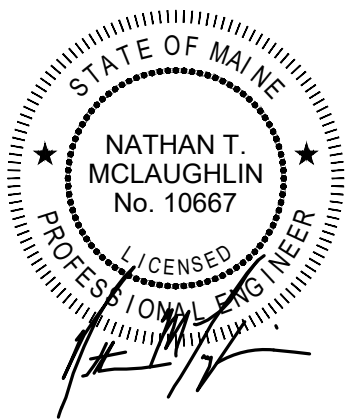
# ORONO-VEAZIE WATER DISTRICT

## ORONO, MAINE

# ROUTE 2 WATER MAIN REPLACEMENT

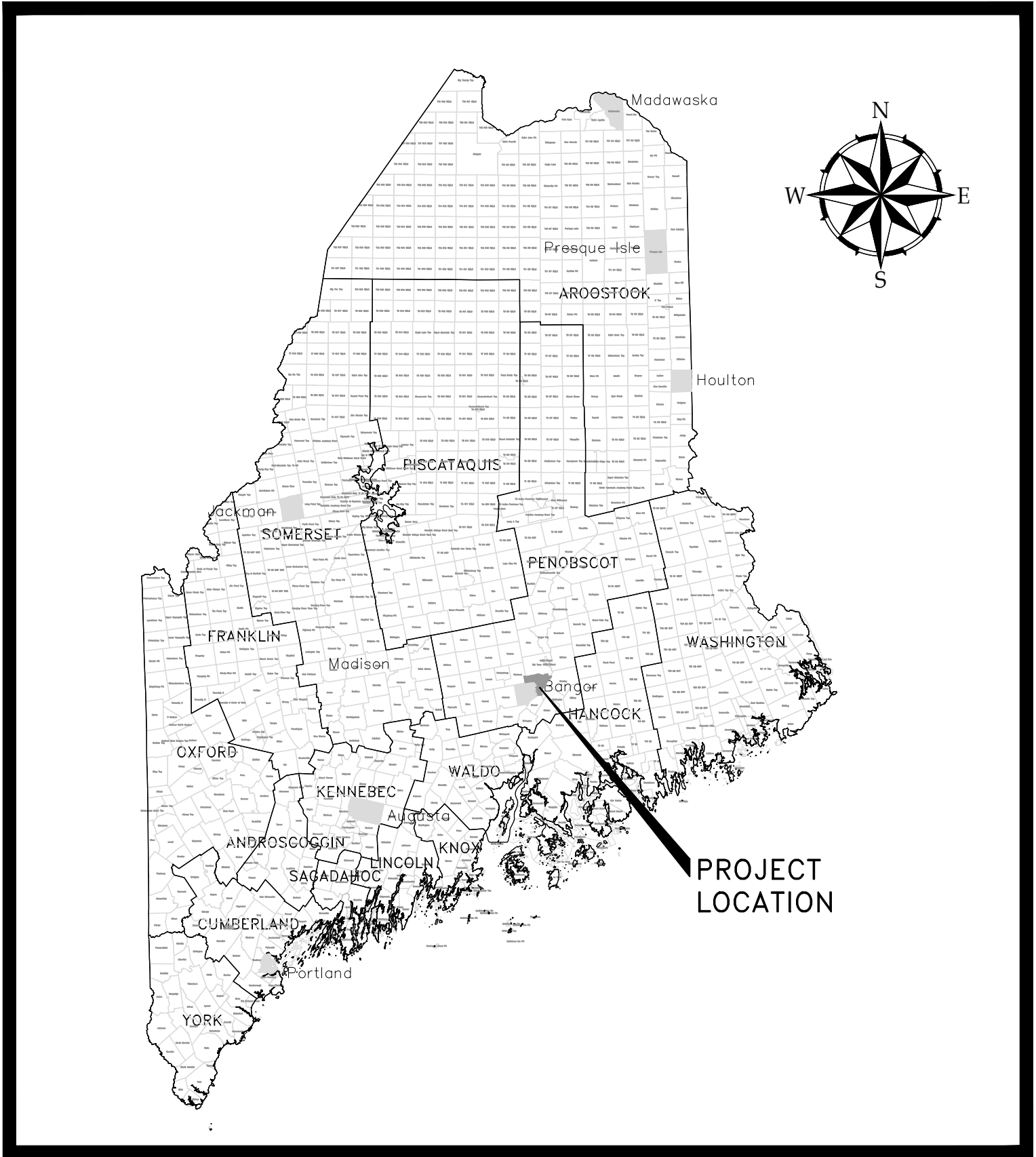
PROJECT NO. 0229883.01

APRIL 2021  
ISSUE FOR BID

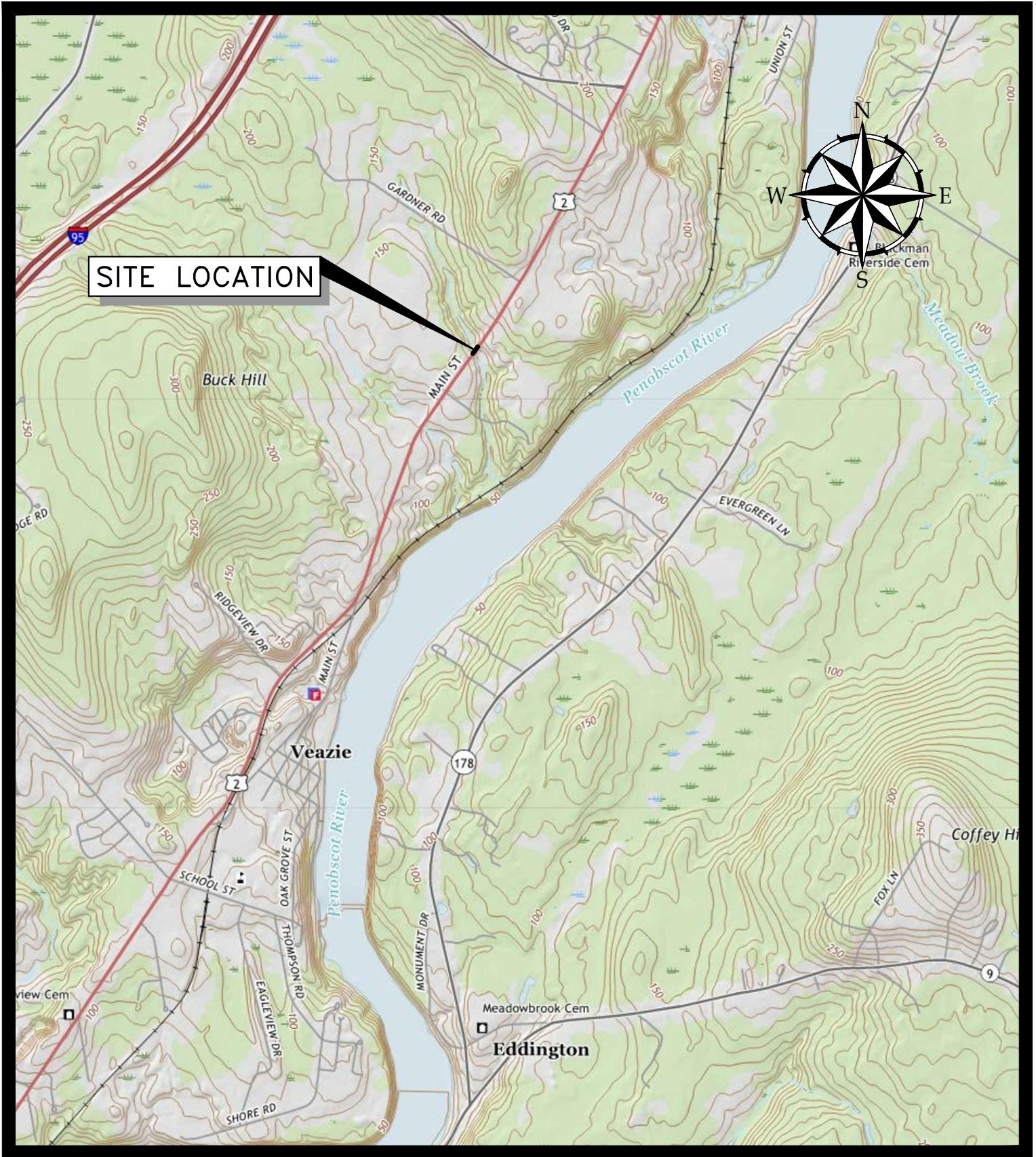


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Bangor, Maine 04401  
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COMMITMENT & INTEGRITY DRIVE RESULTS



PROJECT LOCATION MAP



SOURCE: USGS TOPOGRAPHIC MAP  
SITE LOCATION MAP



\\woodardcurran.net\shared\Projects\0229883.01\_OVWD\_Route 2\_Water Main Replacement\wp\Drawings\Civil\0229883.01\_C-100.dwg, Apr 22, 2021 11:45am

A

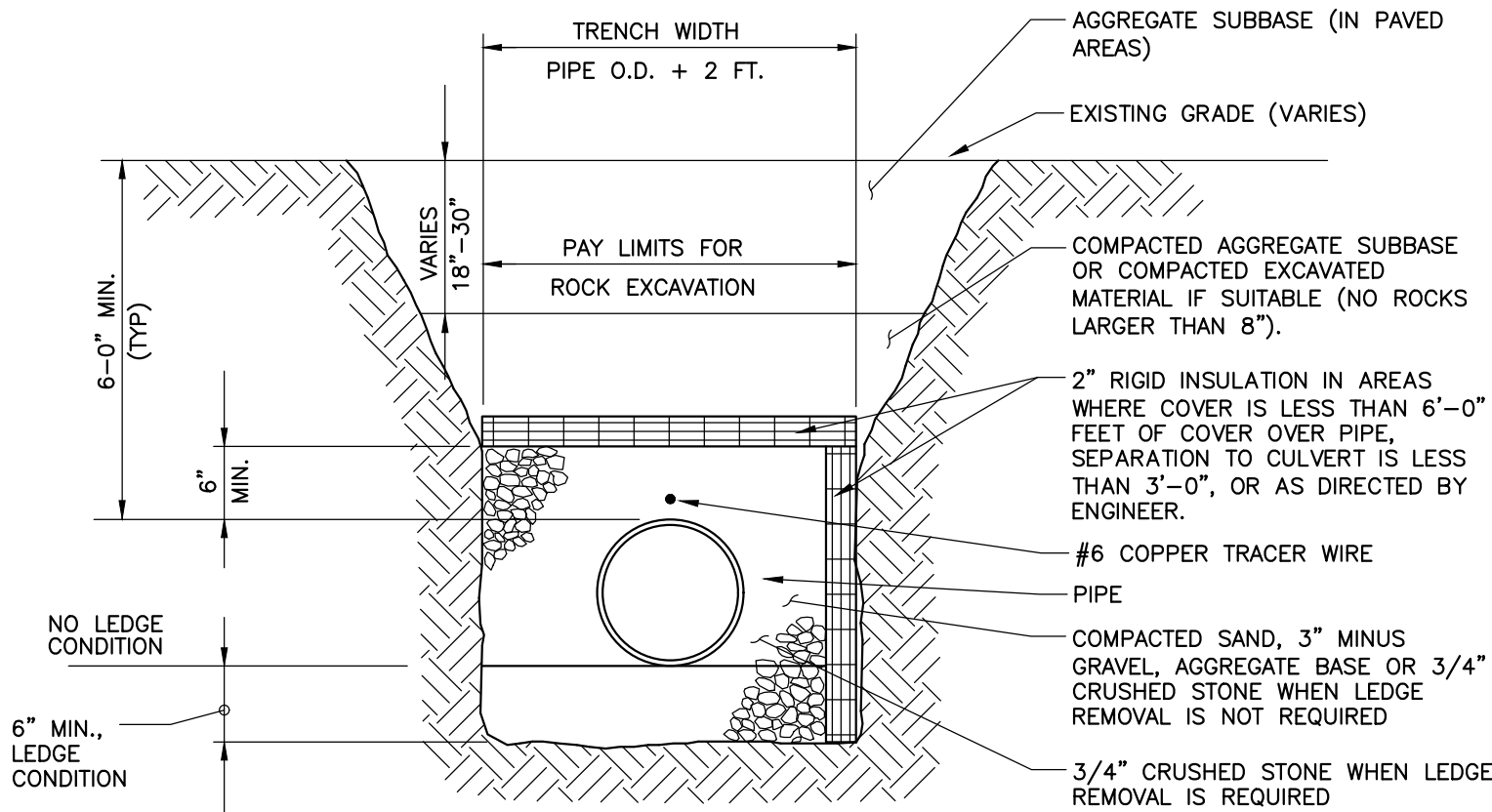
B

C

D

### GENERAL NOTES

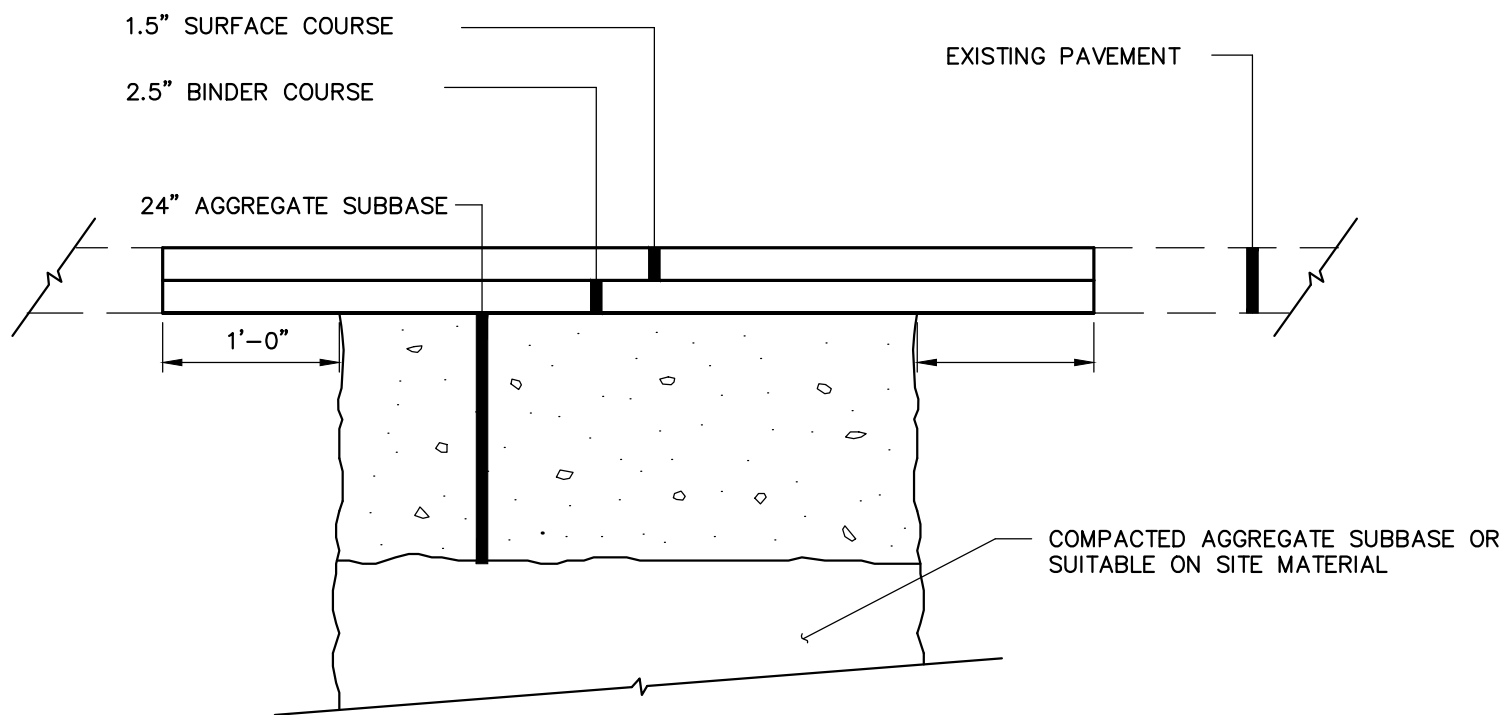
- HIGHWAY AND BRIDGE BASE COMPILED FROM PLANS PROVIDED BY THE MAINE DEPARTMENT OF TRANSPORTATION AS FOLLOWS:  
ORONO, PENOBSCOT COUNTY, TRIBUTARY TO PENOBSCOT BRIDGE U.S. ROUTE 2, PROJECT NO. STP-2089(800)
- IN THE EVENT THAT DISCREPANCIES OR CONFLICTS BETWEEN MAINE DEPARTMENT OF TRANSPORTATION (MAINEDOT) SPECIFICATIONS SPECIAL PROVISIONS, AND PLANS OCCUR WITH THE WATER UTILITIES SPECIFICATIONS, SPECIAL PROVISIONS AND PLANS, MAINEDOT OR MORE RESTRICTIVE SHALL PREVAIL.
- THE CONSTRUCTION OF THE PROPOSED WATER MAIN, SERVICES AND APPURTENANCES ARE BEING COMPLETED IN CONJUNCTION WITH A MAINEDOT ROADWAY CONSTRUCTION PROJECT. THE CONTRACTOR SHALL COORDINATE WORK SEQUENCING TO ENSURE THAT ALL WORK ELEMENTS ASSOCIATED WITH THE WATER MAIN INSTALLATION AND THE ROAD RECONSTRUCTION/REHABILITATION ARE COMPLETED WITHIN THE SCHEDULE REQUIRED BY THE MAINEDOT CONTRACT DOCUMENTS.
- THIS CONTRACT IS EXPECTED TO BE FUNDED IN WHOLE OR IN PART BY THE STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) DRINKING WATER STATE REVOLVING LOAN FUND (CWSRF) PROGRAM. NEITHER THE STATE OF MAINE NOR ANY OF ITS DEPARTMENTS, AGENCIES, OR EMPLOYEES IS OR WILL BE A PARTY TO THE CONTRACT. THE WORD "AGENCY" OR "AGENCY" IN THE CONTRACT DOCUMENTS REFERS TO THE DEP AND ALL OTHER INVOLVED FUNDING AGENCIES. COMPLIANCE WITH DEP REQUIREMENTS, FEDERAL REQUIREMENTS AND THE FOLLOWING ARE REQUIRED AND AS PROVIDED IN THE CONTRACT DOCUMENTS.
- THE BRIDGE PORTION OF THIS PROJECT IS SUBJECT TO THE REQUIREMENTS OF BUY AMERICA IN ACCORDANCE WITH FEDERAL REGULATION 23 CFR 635.410 SECTION 1518. SPECIFIC REQUIREMENTS ARE PRESENTED IN MAINEDOT STANDARD SPECIFICATION SECTION 100, APPENDIX A, SECTION 3.A, BUY AMERICA.
- THE WATER MAIN PORTION OF THIS PROJECT IS SUBJECT TO AMERICAN IRON AND STEEL REQUIREMENTS IN ACCORDANCE WITH PUBLIC LAW 113-76, SECTION 436.
- ABANDONED WATER MAINS AND SERVICES WITHIN THE MAINEDOT RIGHT OF WAY SHALL BE EITHER REMOVED, DEMOLISHED OR FILLED WITH FLOWABLE FILL.
- THE LOCATION, TYPE AND SIZE OF EXISTING PIPES, DUCTS, CONDUITS AND OTHER UNDERGROUND STRUCTURES SHOWN ON THE DRAWINGS ARE NOT WARRANTED TO BE EXACT NOR IS IT WARRANTED THAT ALL UNDERGROUND STRUCTURES ARE SHOWN. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE ALL LABOR AS REQUIRED TO PERFORM THE WORK AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS. CONTRACTOR SHALL PROVIDE ALL MATERIALS. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE AND LOCAL CODES.
- RESTORE ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS TO ORIGINAL FINISH (GRAVEL, PAVEMENT, GRASS, ETC.) UNLESS OTHERWISE NOTED ON PLANS. RESTORATION OF GRAVEL ROAD AND DRIVEWAY SURFACES AND LAWNS DAMAGED BY THE CONTRACTOR SHALL BE INCIDENTAL TO THE PROJECT.
- PROPERLY PROTECT AND DO NOT DISTURB PROPERTY IRONS AND MONUMENTS. IF DISTURBED, THE PROPERTY MONUMENT SHALL BE RESET AT THE WATER MAIN CONTRACTOR'S EXPENSE, BY A REGISTERED LAND SURVEYOR APPROVED BY THE ENGINEER.
- IF A CONFLICT EXISTS BETWEEN THE PROPOSED WATER MAIN AND CULVERT FEATURES, THE CONTRACTOR SHALL MAKE EVERY EFFORT TO ADJUST THE WATER MAIN TO AVOID THE CONFLICT. THE COST TO RESOLVE THE CONFLICTS DURING INSTALLATION BETWEEN THE PROPOSED WATER MAIN AND PROPOSED CULVERT THAT COULD HAVE BEEN AVOIDED BY COORDINATING WITH THE MAINEDOT, ORONO-VEAZIE WATER DISTRICT, AND THE ENGINEER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL NEW WATER MAIN AND OTHER PIPING WILL HAVE MINIMUM 6 FT. OF COVER UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER. IN ADDITION, IT IS ASSUMED THAT THE EXISTING WATER MAIN TO BE REPLACED IS LOCATED APPROXIMATELY 14-15 FT. BELOW GROUND SURFACE. DESIGN CHANGES TO THE NEW WATER MAIN CAUSED BY THE EXISTING WATER MAIN BEING AT A DEPTH OTHER THAN SPECIFIED MUST BE APPROVED BY THE ENGINEER.
- INSULATE ALL LIQUID CARRYING PIPES WITH LESS THAN 6.0 FEET OF COVER, OR WHERE DIRECTED BY THE ENGINEER. PROVIDE CLOSED-CELL EXTRUDED POLYSTYRENE (XPS) RIGID FOAM, EQUAL TO "STYROFOAM" BRAND SQUARE EDGE BY DOW CHEMICAL, FORMULA 250 XPS BY OWENS CORNING, OR ENGINEER APPROVED EQUAL. 2" THICK BY 4' WIDE, UNLESS OTHERWISE NOTED.
- DECHLORINATION OF DISINFECTION WATER WILL BE A REQUIREMENT DURING THE PIPE DISINFECTION PROCESS.
- CONTRACTOR TO SPRAY INSIDE OF PIPE WITH SODIUM HYPOCHLORITE AND BLOCK PIPE OVERNIGHT WITH SANITARY WATERTIGHT PLUG TO PREVENT ANIMALS FROM ENTERING PIPE.
- THE LOCATIONS OF ALL PROPERTY LINES AND RIGHT OF WAYS ARE APPROXIMATE (SHOWN FOR REFERENCE ONLY), UNLESS NOTED OTHERWISE. PROPERTY LINES AND RIGHT OF WAYS SHOWN ARE NOT INTENDED TO REPRESENT LEGAL BOUNDARIES.
- THE REPAIR OF ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ENCOUNTERED DURING CONSTRUCTION, NOT OTHERWISE PROPOSED TO BE REPLACED, SHALL BE CONSIDERED INCIDENTAL TO THE WORK AND SHALL NOT BE ELIGIBLE FOR ADDITIONAL PAYMENT.
- CONTRACTOR SHALL MAINTAIN WATER SERVICE TO RESIDENTS WITHIN THE PROJECT AREA AT ALL TIMES. CONTRACTOR SHALL COORDINATE CONNECTION OF SERVICES TO THE NEW WATER MAIN WITH THE HAMPDEN WATER DISTRICT.
- CONTRACTOR SHALL PRESSURE TEST, FLUSH, AND DISINFECT WATER MAIN PER SPECIFICATION REQUIREMENTS.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY WATER SERVICE AS SHOWN ON THE DRAWINGS AND SPECIFIED IN SECTION 01 51 38 TEMPORARY WATER BYPASS. THE CONTRACTOR SHALL PROVIDE EQUIPMENT AND LABOR AS REQUIRED TO INSTALL TEMPORARY SERVICE PIPE AND CONNECTIONS. REPLACEMENT OF WATER MAINS CANNOT COMMENCE UNTIL ALL TEMPORARY SERVICE IS FULLY FUNCTIONAL AND APPROVED FOR USE BY ORONO-VEAZIE WATER DISTRICT. CONTRACTOR SHALL PROVIDE A TEMPORARY WATER PLAN FOR REVIEW AND APPROVAL BY THE ENGINEER. TEMPORARY WATER PIPING MUST BE PRESSURE TESTED AND DISINFECTED PER SECTION 33 01 10.58 PRIOR TO USE.
- ORONO-VEAZIE WATER DISTRICT SHALL OPERATE ALL VALVES AND CURB STOPS. THE CONTRACTOR SHALL NOT BE PERMITTED TO OPEN OR CLOSE VALVES AND CURB STOPS WITHOUT OWNER'S PERMISSION.



#### NOTES:

- SEE BITUMINOUS PAVEMENT REPAIR DETAILS FOR TRENCH IN PAVED AREA.
- 4" LOAM AND SEED FOR TRENCH IN NON-PAVED AREAS.
- IF SUITABLE, EXCAVATED MATERIAL MAY BE USED AS PIPE BEDDING. NO ROCKS LARGER THAN 3" SHALL BE PLACED AROUND PIPE.

**1 TYPICAL WATER MAIN PIPE TRENCH DETAIL**  
NOT TO SCALE



#### NOTES:

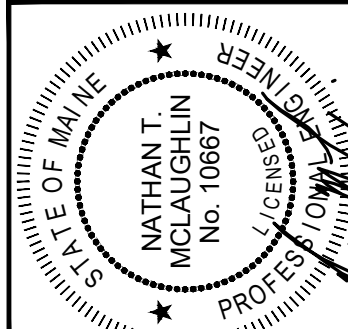
- TEMPORARY PAVEMENT IS 2" BINDER COURSE, AND MAY BE REQUIRED AT THE OWNER'S DISCRETION.
- CUT EXISTING PAVEMENT TO STRAIGHT EVEN EDGE, AND APPLY TACK COAT BY SPRAY APPLICATION BEFORE PAVING.
- RESTORE EXISTING PAVEMENT MARKINGS.
- PAY LIMITS FOR PAVING SHALL BE A WIDTH OF 8'-0" MEASURED 4'-0" FROM THE CENTERLINE OF THE PIPE ON EACH SIDE. THIS INCLUDES THE 1'-0" OVERGRIND REQUIRED PER THE PAVEMENT TIE-IN DETAIL.
- MATCH EXISTING THICKNESS OF AGGREGATE BASE AND SUBBASE. USE NATIVE MATERIAL WHERE POSSIBLE. APPROXIMATE THICKNESS IS ASSUMED TO BE 24".
- PAVEMENT SHALL BE REPLACED TO EXISTING THICKNESS, OR A MAXIMUM OF 6" AS SHOWN.
- THE FINAL SAW CUTTING OF PAVEMENT SHALL BE PERFORMED AFTER BACKFILLING AND COMPACTION TO THE TOP OF THE EXISTING GRAVEL BASE IS COMPLETED. AFTER SAW CUTTING AND REMOVING THIS ADDITIONAL ONE FOOT (1') OF PAVEMENT, THE ENTIRE EXPOSED GRAVEL LAYER SHALL BE ONCE AGAIN COMPACTED, INCLUDING THE UNDISTURBED GRAVEL PORTION, PRIOR TO PAVING.
- DURING EXCAVATION, SEPARATE THE EXISTING GRAVEL LAYER FROM THE COMMON EXCAVATION BELOW. REUSE ORIGINAL EXCAVATED MATERIALS DURING BACKFILLING IF COMPATIBLE, IN ORDER THAT THEY WERE REMOVED.

**2 TYPICAL BITUMINOUS PAVEMENT REPAIR STATE ROADS**  
NOT TO SCALE

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Bangor, Maine 04401  
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REV	DESCRIPTION	DATE	CHECKED BY	DATE
			NTM	
			KAM	02/29/2021
			MRC	

### GENERAL NOTES AND CIVIL DETAILS

ORONO-VEAZIE WATER DISTRICT  
ORONO, MAINE

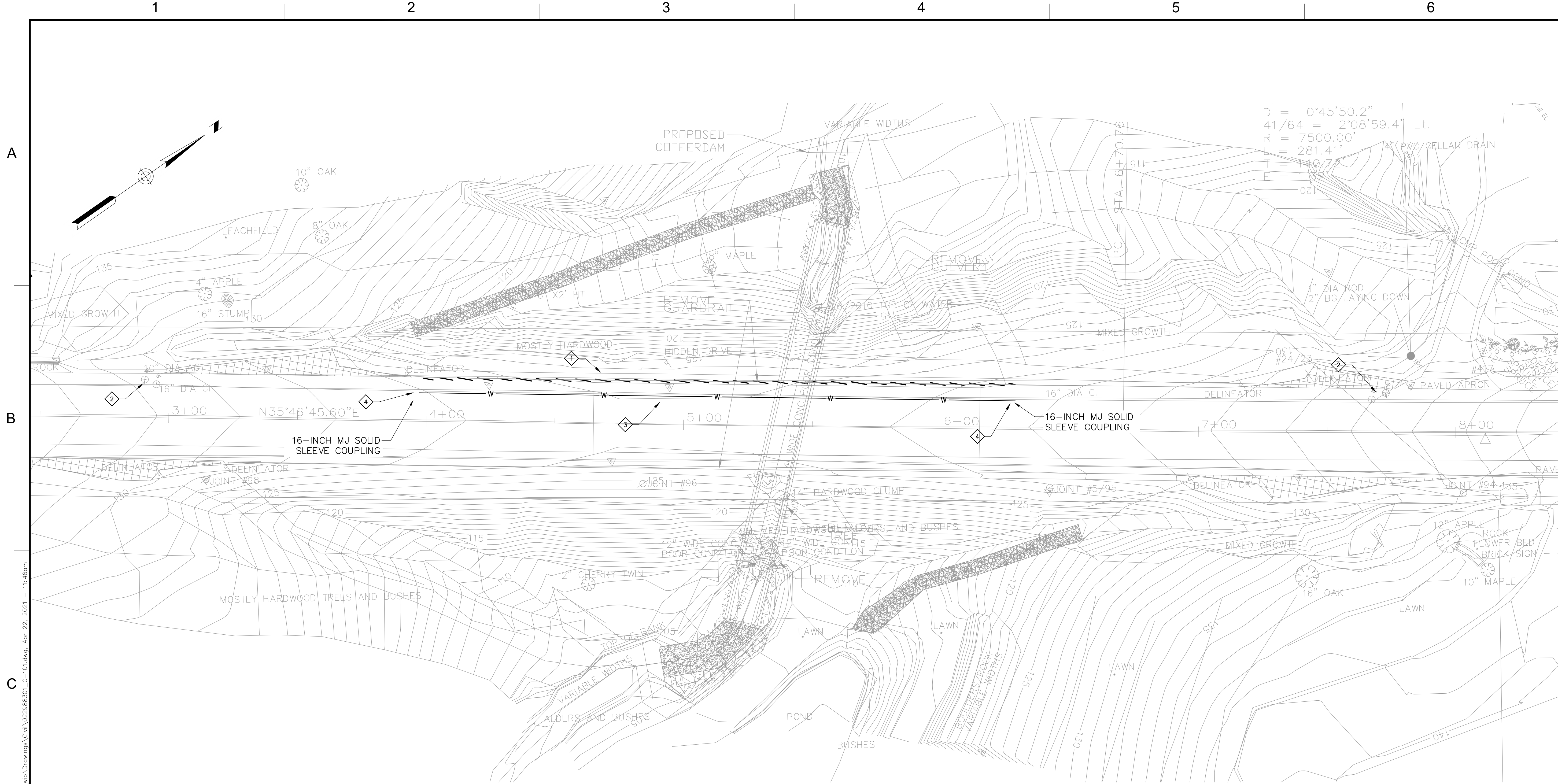
ROUTE 2 WATER MAIN  
REPLACEMENT

JOB NO: 0229883.01  
DATE: APRIL 2021  
SCALE: AS NOTED  
SHEET: 2 OF 4

**C-100**

ISSUE FOR BID





PROPOSED UTILITY PLAN  
SCALE: 1"= 20'

CIVIL KEYED NOTES

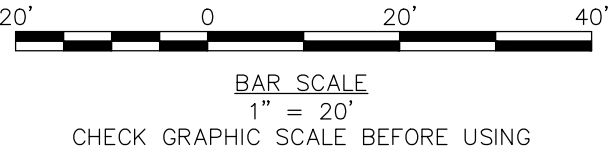
1. REMOVE AND DISPOSE OF APPROXIMATELY 235 LF OF EXISTING 10-INCH ASBESTOS CEMENT WATER MAIN. PIPE SEGMENTS TO REMAIN IN THE GROUND SHALL BE ABANDONED IN PLACE, PLUGGED WITH FLOWABLE FILL AND CAPPED.
2. REMOVE EXSTING ASBESTOS CEMENT PIPE AT BYPASS CONNECTION GATE VALVE. CONNECT TEMPORARY BYPASS TO EXISTING 6-INCH GATE VALVE.
3. REMOVE APPROXIMATELY 235 LF OF 16-INCH CI PIPE AND REPLACE WITH 235 LF OF 16-INCH CDI PIPE. RECONNECTION TO EXISTING PIPE SHALL BE MADE IN THE UNDISTURBED NATIVE SOIL.
4. EXISTING LOCATION OF WATER MAIN IS ASSUMED BASED ON HISTORICAL RECORD DRAWINGS AND DATA. CONTRACTOR SHALL FIELD VERIFY. ENGINEER SHALL APPROVE THE PROPOSED CONNECTION METHOD PRIOR TO INSTALLATION.

CIVIL GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING AND SUBMITTING A TEMPORARY WATER PLAN FOR APPROVAL BY ENGINEER AS SPECIFIED IN SPECIFICATION 01 51 38. BYPASS WATER SERVICE PIPE SHALL BE EQUIVALENT TO 8-INCH HDPE PIPE.
2. SOLID SLEEVES ARE SHOWN ON DRAWINGS FOR ALL CONNECTIONS TO EXISTING WATER MAIN. IF OUTER DIAMETER OF EXISTING WATER MAIN IS FOUND TO BE GREATER THAN THE MAXIMUM OUTER DIAMETER COMPATIBLE WITH SOLID SLEEVES, CONTRACTOR SHALL INSTALL A COUPLING TO COMPLETE CONNECTION WITH EXISTING WATER MAIN. SEE SPECIFICATION SECTION 3 TO 00 FOR COUPLING REQUIREMENTS.
3. REMOVE AND DISPOSE OF ASBESTOS CEMENT PIPE IN ACCORDANCE WITH LOCAL AND FEDERAL REGULATIONS.
4. EXISTING ISOLATION AND BYPASS VALVE OPERATING NUTS ARE APPROXIMATELY 7-8 FEET BELOW GROUND SURFACE.

EXISTING CONDITIONS

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AS THEY RELATE TO NEW CONSTRUCTION. REPORT TO THE ENGINEER OF RECORD ALL OBSERVATIONS AND ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.
2. WHERE DETAILS FOR SPECIFIC CONDITIONS ARE NOT SHOWN ON PLANS, USE DETAILS MOST NEARLY SIMILAR TO THE CONDITIONS SHOWN ON THE STRUCTURAL DRAWINGS AS DETERMINED BY THE STRUCTURAL ENGINEER. REPORT ANY COORDINATION ISSUES IMMEDIATELY TO THE ENGINEER OF RECORD.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE FOR A SAFE AND EFFICIENT METHOD OF SHORING AND/OR BRACING THE STRUCTURE DURING ALL CONSTRUCTION PHASES. SUBMIT AN OUTLINE OF PROPOSED PROCEDURES BEFORE CONSTRUCTION COMMENCES.



ISSUE FOR BID

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STATE OF MAINE  
ANNA THANT  
McLAUGHLIN  
No. 10687  
PROFESSIONAL ENGINEER

REV	ISSUE FOR BID	DESCRIPTION	DATE	CHECKED BY	DATE
1				KAM	02/29/2021
2				MRC	

DESIGNED BY: KAM  
DRAWN BY: MRC

ORONO-VEAZIE WATER DISTRICT  
ORONO, MAINE

ROUTE 2 WATER MAIN  
REPLACEMENT

JOB NO: 0229883.01  
DATE: APRIL 2021  
SCALE: 1" = 20'  
SHEET: 3 OF 4

C-101



