

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



ARGYLE TWP
PENOBSCOT COUNTY
HEMLOCK STREAM BRIDGE
OVER
HEMLOCK STREAM
ROUTE 116
FEDERAL AID PROJECT NO. STP-2168(700)
PROJECT LENGTH 0.085 mi.
BRIDGE NO. 3735

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Ninth Edition 2020.

DESIGN LOADING

Live Load HL - 93 Modified for Strength I

HYDROLOGIC DATA

Drainage Area 21 sq mi
Design Discharge (Q50) 910 cfs
Check Discharge (Q100) 1020 cfs
Headwater Elevation (Q1.1) 119.21 ft
Headwater Elevation (Q25) 121.08 ft
Headwater Elevation (Q50) 121.35 ft
Headwater Elevation (Q100)(Hemlock Stream Flows) 121.60 ft
Headwater Elevation (Q100)(Penobscot River Backwater) 125.6 ft
Discharge Velocity (Q1.1) 3.9 fps
Discharge Velocity (Q50) 7.9 fps
Discharge Velocity (Q100) 8.5 fps

MATERIALS

Concrete:
Precast Class "P"
Decks and Curbs Class "A1"
All Other Class "A"
Reinforcing:
Plain Reinforcing Steel ASTM A615, Grade 60
Glass Fiber Reinforcing Polymer (GFRP) ASTM D7957
Low-Carbon Chromium Steel ASTM A1035, Type CS, Grade 100
Prestressing Strands AASHTO M 203 (ASTM A416),
Grade 270, Low Relaxation
Structural Steel:
H-Piles ASTM A572, Grade 50

BASIC DESIGN STRESSES

Concrete:
Class "A" f 'c = 4,000 psi
Class "A1" f 'c = 4,000 psi
Class "P" f 'c = 6,500 psi
Reinforcing:
Plain Reinforcing Steel f y = 60,000 psi
Glass Fiber Reinforced Polymer
#6 Bar f fu = 100,000 psi
Minimum Elastic Modulus E f = 8,700,000 psi
Minimum Nominal Design Tensile Strain e fu = 1.1%
Low-Carbon Chromium Steel f y = 100,000 psi
Prestressing Strand F μ = 270,000 psi
Structural Steel:
ASTM A572, Grade 50 F y = 50,000 psi

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UTILITIES

Bangor Natural Gas
Versant Power
Gonetspeed (North)
Charter Communications

TRAFFIC DATA

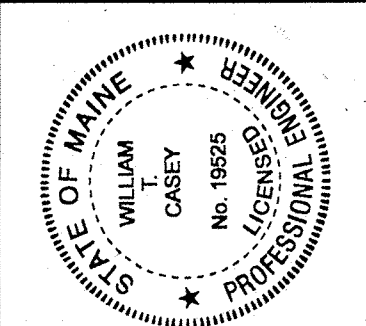
Current (2018) AADT	260
Future (2038) AADT	310
DHV - % of AADT	12
Design Hour Volume	37
Heavy Trucks (% of AADT)	11
Heavy Trucks (% of DHV)	11
Directional Distribution (% of DHV)	52
18 kip Equivalent P 2.0	17
18 kip Equivalent P 2.5	16
Design Speed (mph)	45

MAINTENANCE OF TRAFFIC

On-site detour, maintaining one lane of alternating traffic using temporary traffic signals.

PROJECT LOCATION	Hemlock Stream Bridge (#3735) over Hemlock Stream. Located 2.22 miles north of Argyle Road. Lat./Long. 45°05'07.1" N 68°40'17.7" W
PROGRAM AREA	Highway Bridges - Traditional
OUTLINE OF WORK	Bridge Replacement

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
ACTING COMMISSIONER: [Signature]		12-2-25
CHIEF ENGINEER: [Signature]		12-1-25



[Signature]	SIGNATURE	P.E. NUMBER	DATE
		17525	11-18-2025

PROJECT INFORMATION	Bridge	D. Taylor	W. Casey
PROGRAM	PROJECT MANAGER	DESIGNER	CONSULTANT
			PROJECT RESIDENT
			CONTRACTOR
			PROJECT COMPLETION DATE

ARGYLE TWP HEMLOCK STREAM BRIDGE	TITLE SHEET
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SHEET NUMBER

1

OF 28

STP-2168(700) WIN 021687.00

Date:11/18/2025

Username: David Shaw

Division: BRIDGE

Filename: \\00\BRIDGE\WSTA\001_Title.dgn

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.19	REMOVING EXISTING BRIDGE (260 CY)	1	LS
202.202	REMOVING PAVEMENT SURFACE	410	SY
203.20	COMMON EXCAVATION	1360	CY
203.24	COMMON BORROW	50	CY
203.25	GRANULAR BORROW	360	CY
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	600	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	860	CY
403.208	HOT MIX ASPHALT 12.5 MM HMA SURFACE	129	T
403.209	HOT MIX ASPHALT 9.5 MM (SIDEWALKS, DRIVES, ISLANDS, & INCIDENTALS)	4	T
403.213	HOT MIX ASPHALT 12.5 MM BASE	157	T
409.15	BITUMINOUS TACK COAT - APPLIED	77	G
461.131	TEMPORARY PAVEMENT	130	T
501.50	STEEL H-BEAM PILES 89 LBS/FT, DELIVERED	200	LF
501.502	ROCK SOCKETED H-PILES	200	LF
501.804	DRILLING EQUIPMENT MOBILIZATION	1	LS
502.219	STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS (94 CY)	1	LS
502.261	STRUCTURAL CONCRETE ROADWAY & SIDEWALK SLAB ON CONCRETE BRIDGE (85 CY)	1	LS
502.291	SAW CUT GROOVING (2190 SF)	1	LS
502.31	STRUCTURAL CONCRETE APPROACH SLABS (21 CY)	1	LS
502.49	STRUCTURAL CONCRETE CURBS AND SIDEWALKS (7 CY)	1	LS
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	16200	LB
503.13	REINFORCING STEEL, PLACING	16200	LB
503.19	LOW-CARBON, CHROMIUM REINFORCEMENT - FABRICATED & DELIVERED	11000	LB
503.20	LOW-CARBON, CHROMIUM REINFORCEMENT - PLACING	11000	LB
507.0821	STEEL BRIDGE RAILING, 3 BAR (156 LF)	1	LS
507.0822	STEEL APPROACH RAILING, 3-BAR	4	EA
510.10	SPECIAL DETOUR 18 FT. RDWAY WIDTH VEH. & PED. TRAFFIC NOT SEPARATED	1	LS
511.07	COFFERDAM: ABUTMENT NO. 1	1	LS
511.07	COFFERDAM: ABUTMENT NO. 2	1	LS
512.081	FRENCH DRAINS (140 LF)	1	LS
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (370 SY)	1	LS
526.301	PORTABLE CONCRETE BARRIER TYPE I (40 LF)	1	LS
527.34	WORK ZONE CRASH CUSHIONS	6	UN
530.30	GFRP, REINFORCEMENT BARS, FAB & DEL	14720	LF
530.31	GFRP, REINFORCEMENT BARS, PLACING	14720	LF
535.622	PRESTRESSED STRUCTURAL CONCRETE NEXT BEAM (101 CY)	1	LS
603.15	12 INCH CULVERT PIPE OPTION 1	18	LF
606.1301	31 INCH W-BM GR, MID-WAY SPLICE-SGL FACED	154	LF
606.1303	31 INCH W-BM GR, MID-WAY SPLICE-15' RAD AND LESS	13	LF
606.1305	31 INCH W-BM GR, MID-WAY SPLICE FLARED TERMINAL	3	EA
606.1721	BRIDGE TRANSITION - TYPE I	3	EA
606.1721	BRIDGE TRANSITION - TYPE I, MODIFIED	1	EA
606.265	TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	1	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8	EA
607.242	REMOVE AND RESET GATEWAY	1	EA
607.294	BARRIER BOULDERS	3	EA
610.16	HEAVY RIPRAP	580	CY
610.18	STONE DITCH PROTECTION	5	CY
610.214	VOID-FILLED HEAVY RIPRAP	700	CY
613.319	EROSION CONTROL BLANKET	160	SY
615.07	LOAM	84	CY
618.14	SEEDING METHOD NUMBER 2	9	UN
619.12	MULCH	9	UN
619.14	EROSION CONTROL MIX	110	CY
620.58	EROSION CONTROL GEOTEXTILE	1610	SY
620.60	SEPARATION GEOTEXTILE	400	SY
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	1575	LF
627.77	REMOVING PAVEMENT MARKINGS	300	SF
627.78	TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	900	LF
629.05	HAND LABOR, STRAIGHT TIME	10	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	10	HR
631.14	GRADER (INCLUDING OPERATOR)	10	HR
631.15	ROLLER, EARTH AND BASE COURSE (INCLUDING OPERATOR)	10	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	10	HR
639.19	FIELD OFFICE TYPE B	1	EA
643.72	TEMPORARY TRAFFIC SIGNAL	1	LS
652.312	TYPE III BARRICADE	4	EA
652.33	DRUM	25	EA
652.34	CONE	50	EA
652.35	CONSTRUCTION SIGNS	400	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES (120 CD)	1	LS
652.38	FLAGGER	100	HR
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS

GENERAL CONSTRUCTION NOTES

1. For easements, construction limits, and right of way lines, refer to the Right of Way Map.
2. The clearing limits as shown on the plans are approximate. The exact limits will be established in the field by the Resident. Payment for clearing will be considered incidental to Contract items.
3. All utility facilities shall be adjusted by the respective utilities unless otherwise noted.
4. Existing signs within the Project limits shall be removed and reset as directed by the Resident. Payment for removal and reinstallation of existing signs will be considered incidental to the Contract. No separate payment will be made.
5. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.
6. In areas where the Resident directs the Contractor not to excavate to the subgrade line shown on the plans, payment for removing existing pavement, grubbing, shaping, ditching, and compacting the existing subbase and layers of new subbase 6 inches or less thick will be made under appropriate equipment rental items.
7. All embankment material, except as otherwise shown, placed below EL 120 shall be Granular Borrow meeting the requirements of Standard Specifications Subsection 703.19, Granular Borrow, for Material for Underwater Backfill.
8. Place riprap on sideslopes up to EL 129*.
9. Construct the riprap shelf at Abutment No. 1 at EL 124.5 and Abutment No. 2 at EL 124.9.
10. Stones which cannot be rolled or compacted into the surface of the shoulder shall be removed by hand raking. Payment for hand raking will be considered incidental to Pay Item 304.10, Aggregate Subbase Course - Gravel.
11. Place loam 2 inches deep on all new or reconstructed sideslopes or as directed by the Resident.
12. Erosion Control Mix may be substituted in those areas normally receiving loam and seed as directed by the Resident. Placement shall be in accordance with Standard Specifications Section 619. Mulch. Payment will be made under Pay Item 619.14, Erosion Control Mix.
13. Place a 24 inch wide strip of Erosion Control Blanket on the sideslopes along the top of the riprap and behind the wingwalls.
14. Guardrail posts as shown in the Standard Details shall be modified from the indicated length of 7 feet to a length of 8 feet with an embedment of 5.25 feet. Payment will be considered incidental to the guardrail pay items.
15. A MASH Compliant guardrail end treatment shall be installed concurrently with the placement of each section of beam guardrail.
16. Where it is apparent that runoff will cause continual erosion, Erosion Control Blanket, seeded gutters, riprap downspouts, and other gutters lined with Stone Ditch Protection shall be constructed after paving and shoulder work is completed. Payment will be made under the appropriate Contract items.
17. Protective Coating for Concrete Surfaces shall be applied to the following areas:

All exposed surfaces of concrete curbs and sidewalks, Fascias down to the drip notch, Concrete wearing surfaces, Top of abutment backwalls and wingwalls, and To one foot below the ground on vertical walls against earth.
18. Project information referred to below may be accessed at the following MaineDOT web address: <http://www.maine.gov/mdot/contractors/>
19. The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproductions of the original drawings as prepared for the construction of the bridge. It is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.
20. Reports on hydrology and/or hydraulics applicable to the bridge site may be accessed at the MaineDOT web address. The reports are based on MaineDOT's interpretation of the information obtained for the subject site. No assurance is given that the information or the conclusions of the report will be representative of actual conditions at the time of construction.
21. The project geotechnical report titled: Geotechnical Design Report for the Replacement of Hemlock Stream Bridge, Argyle Township, Maine, Soils Report 2025-19, dated August 11, 2025, may be accessed at the MaineDOT web address.
22. Geotechnical information furnished or referred to in this plan set is for the use of the Bidders and the Contractor. No assurance is given that the information or interpretations will be representative of actual subsurface conditions at the construction site. MaineDOT will not be responsible for the Bidders' or Contractor's interpretations of, or conclusions drawn from, the geotechnical information. The boring logs contained in the plan set present factual and interpretive subsurface information collected at discrete locations. Data provided may not be representative of the subsurface conditions between the boring locations.
23. Quantities included for pay items measured and paid for by Lump Sum are estimated quantities and are provided by MaineDOT for informational purposes only. Lump Sum pay items will be paid for at the Contract Bid amount, with no addition or reduction in payment to the Contractor if the actual final quantities are different from the MaineDOT provided estimated quantities, except as follows:

a. If a Lump Sum pay item is eliminated, the requirements of Standard Specifications Section 109.2, Elimination of Items, will take precedence.

b. If other Contract Documents specifically allow a change in payment for a Lump Sum pay item, those requirements will be followed.

c. If a design change results in changes to estimated quantities for Lump Sum pay items, price adjustments will be made in accordance with Standard Specifications Section 109.7, Equitable Adjustments to Compensation and Time.
24. Payment for removal and disposal of any material that is adjacent to the existing bridge and outside the limits of Structural Earth Excavation shall be considered incidental to Pay Item 202.19, Removing Existing Bridge.
25. There is an area where State of Maine and Bangor Natural Gas right-of-way overlap. For work in this area, see requirements of Special Provision 104.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2168(700)

WIN
021687.00

BRIDGE NO. 3735
BRIDGE PLANS

HEMLOCK STREAM BRIDGE
HEMLOCK STREAM
ARGYLE TWP
PENOBSCOT COUNTY

ESTIMATED QUANTITIES AND
GENERAL CONSTRUCTION NOTES

PROJ. MANAGER
DESIGN-DETAILED
CHECKED-REVIEWED
DESIGN-DETAILED
DESIGN-DETAILED
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

DATE
JUN 2025
MAR 2022

BY
D. SHAW
T. WHITE

D. TAYLOR
W. CASEY
N. KIRBY

SIGNATURE

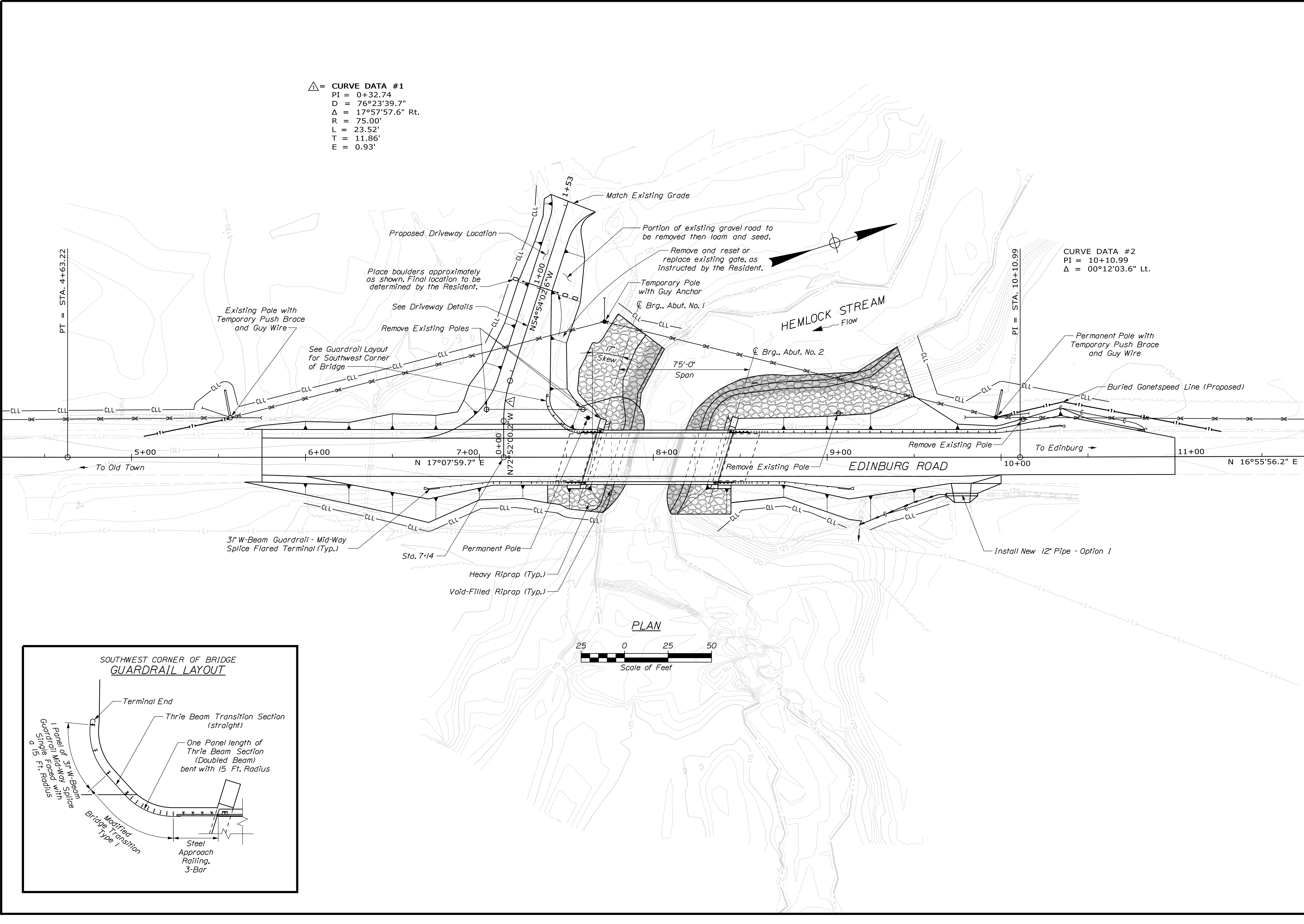
P.E. NUMBER

DATE

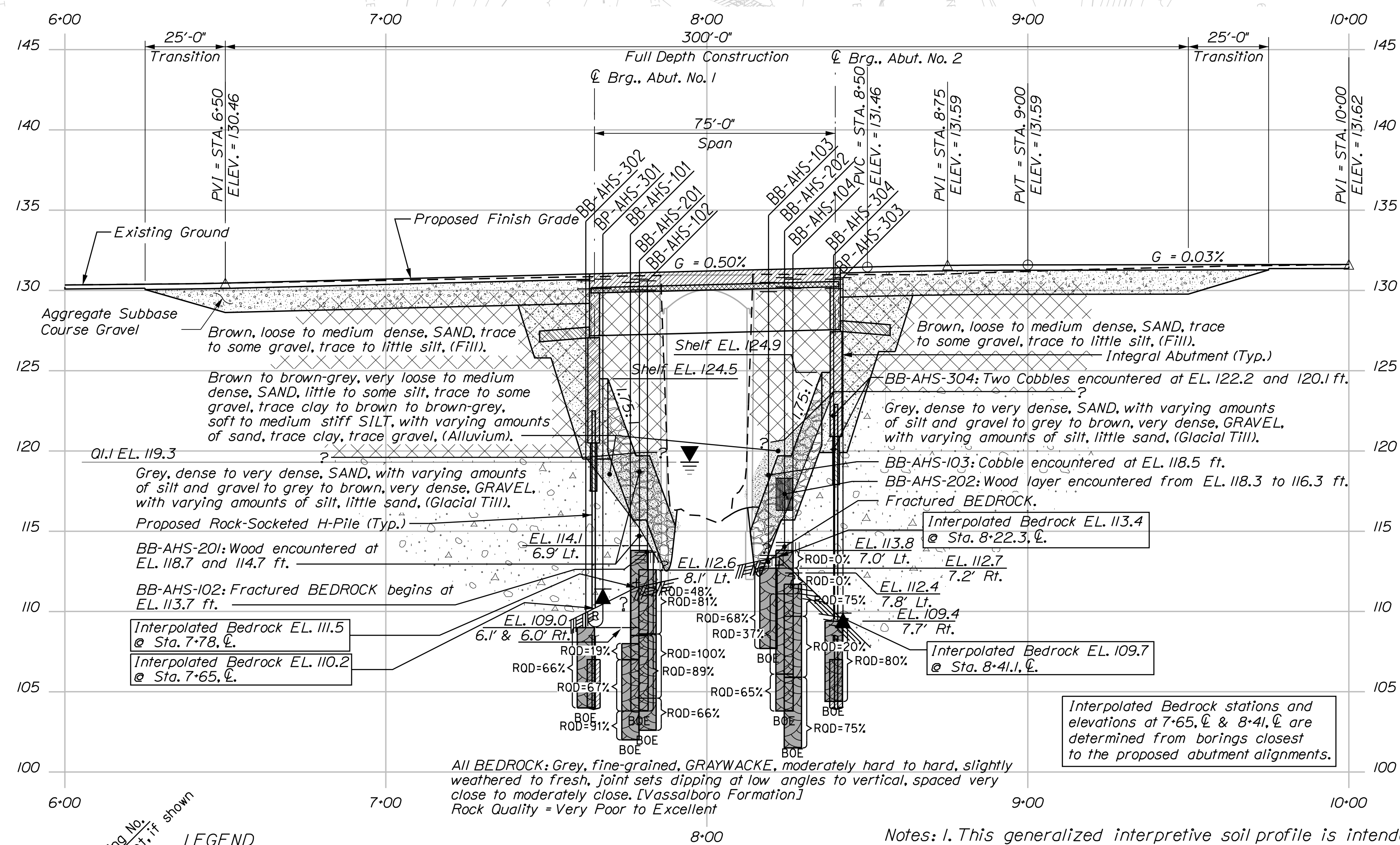
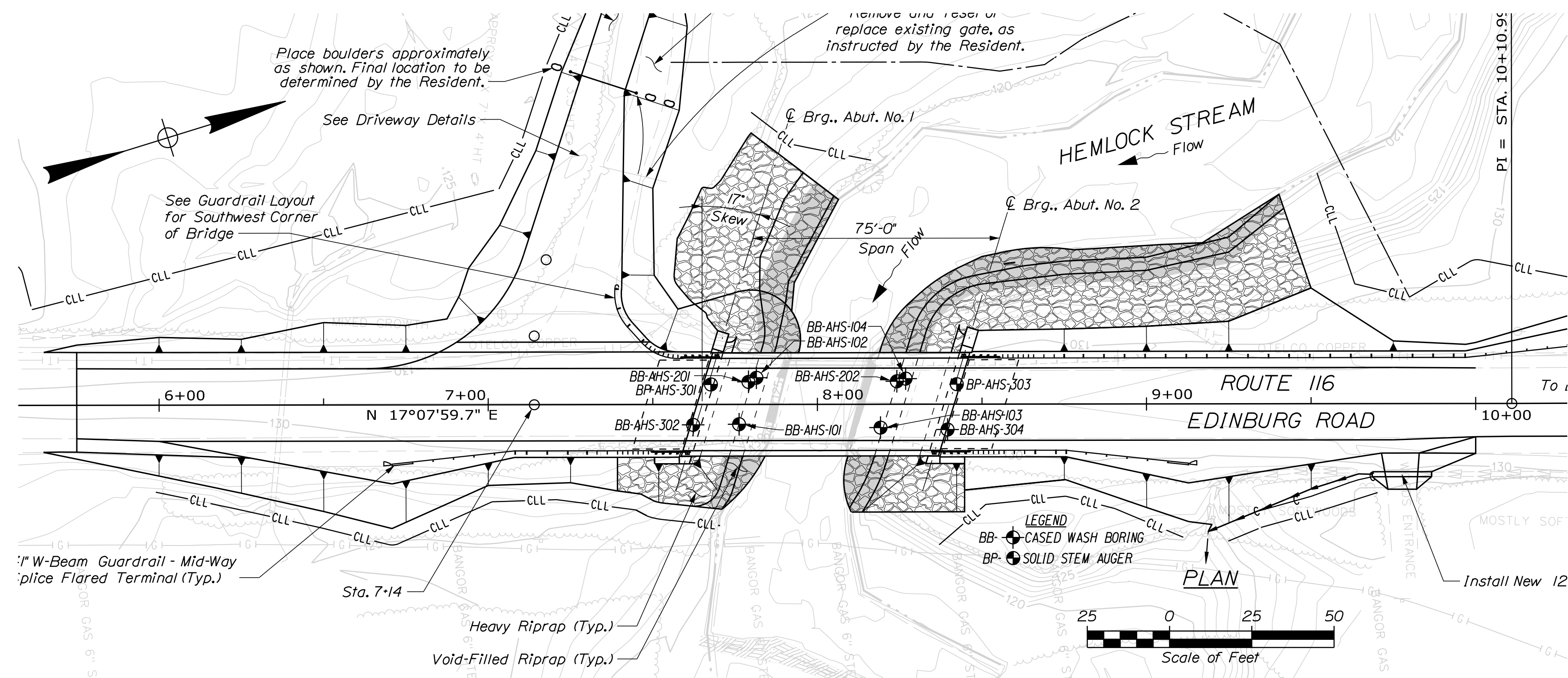
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OF 28

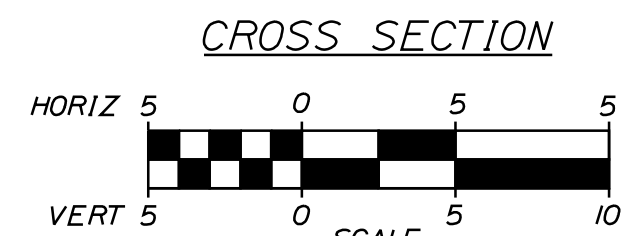
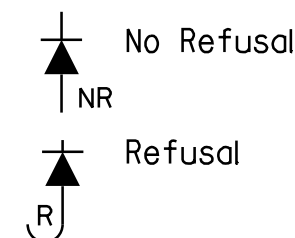
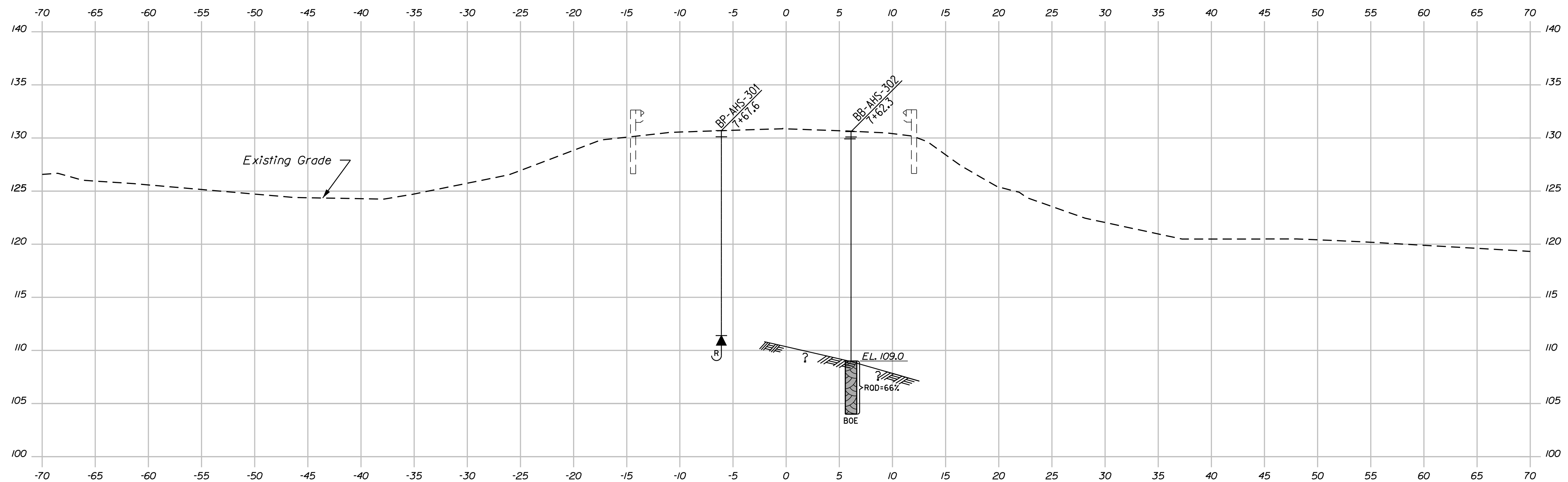


SHEET NUMBER		3		OF 28		HEMLOCK STREAM BRIDGE HEMLOCK STREAM ARGYLE TWP PENOBSCOT COUNTY GENERAL PLAN										STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-2168(700)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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Notes: 1. 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.

2. "Varying Amounts" term = Portion is 0 to 50 percent of Total.



Notes: 1. This generalized interpretive cross section 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 boring logs.

2. Borings BB-AHS-101, BB-AHS-102, BB-AHS-103, BB-AHS-104, BB-AHS-201, and BB-AHS-202 are not shown for clarity. Refer to the BLP, ISP, and Boring Logs for information omitted.

Sta. 7+65.00 to Sta. 8+40.00

Maine Department of Transportation				Project: MEMCO Stream (dgs #1735 corries Route 116 over Memco Location: Argyle TWP, Maine		Boring No.: BB-AHS-102
Soil/Bock Exploration Log US CUSTOMARY UNITS				WIN: 21687.00		
Driller:	S.W. Core Explorations, LLC	Elevation (ft.):	130.6	Auger (ft/Sec):	554 @ 257.09	
Operator:	Kevin Hancock	Datum:	NAVD 88	Sampler:	Split-1/5000	
Logged By:	Nathan Strout	Rig Type:	Diacon D-50	Hammer wt./ft/lb:	140W/30"	
Date Start/In/Fin:	2/17/2017 - 2/20/2017	Drilling Method:	Cased-hole	Core Barrel:	N0 2"	
Boring Location:	T481.5, 8.1 ft LxL	Casing (b/ft):	NH 3"/3.5"	Water Level:	8.6' (after drilling)	
Hammer Efficiency Factors 0.60 HAMMER Type: Automatic ☐ Hydraulic ☐ Rope & Cathead ☐ (continued) 1. Headed Hammer Shear Strength (ASTM) 1. Headed Hammer Shear Strength (ASTM) 0 = Split-Spoon Sample S54 = Solid Tree Auger 1. Unaugmented - Raw field SPT blow 1. Unaugmented - Raw field SPT blow 1 = Unaugmented Split-Spoon Sample S54 = Solid Tree Auger 1. Unaugmented - Raw field SPT blow 1. Unaugmented - Raw field SPT blow 2 = Thin wall tube sample RC = Roller Cone 1. Unaugmented - Raw field SPT blow 1. Unaugmented - Raw field SPT blow 3 = Unaugmented Split-Spoon Sample RC = Roller Cone 1. Unaugmented - Raw field SPT blow 1. Unaugmented - Raw field SPT blow 4 = Field core shear test RC = Roller Cone 1. Unaugmented - Raw field SPT blow 1. Unaugmented - Raw field SPT blow 5 = Field core shear test RC = Roller Cone 1. Unaugmented - Raw field SPT blow 1. Unaugmented - Raw field SPT blow 6 = Field core shear test RC = Roller Cone 1. Unaugmented - Raw field SPT blow 1. Unaugmented - Raw field SPT blow 7 = Field core shear test RC = Roller Cone 1. Unaugmented - Raw field SPT blow 1. Unaugmented - Raw field SPT blow 8 = Field core shear test RC = Roller Cone 1. Unaugmented - Raw field SPT blow 1. Unaugmented - Raw field SPT blow 9 = Field core shear test RC = Roller Cone 1. Unaugmented - Raw field SPT blow 1. Unaugmented - Raw field SPT blow						
Depth (ft.)	Core No.	Pen./ft. (in)	Core Depth (ft.)	Blow C/A (in)	Core Depth (ft.)	Visual Description and Remarks
0	10	5/4	2.00 - 2.42	100-5"	5	7' of Pavement
5	20	24/13	5.00 - 5.00	8/3/2/2	5	Brown, moist, loose, SAND, some gravel, trace silt, (fill).
10	30	24/14	10.00 - 12.00	4/3/2/3	5	Brown, wet, medium stiff, Silt, some fine to medium sand, trace clay, trace gravel, (Alluvium).
15	40	23/4	15.00 - 16.32	15/28/28/100-5"	56	Grey, wet, very dense, GRAVEL, little sand, little silt, (Gravel fill).
20	R1	48/48	18.00 - 22.00	R0D = 81%	N0-2	Fractured Bedrock, Roller cone ahead to 18.0 ft bgl
25	R2	48/48	22.00 - 26.00	R0D = 100%		Top of Bedrock at El. 112.6. R1 Bedrock: Grey, fine-grained, GRAYWACKE, hard, fresh, shreds, steep foliation, preserved distorted bedding, joints are steeply dipping, undulating, closely spaced, tight, rough, with calcite and quartz veins, upper 10' is moderately fractured, then competent and massive rock. (Vassalboro Formation) R1 Core Times (min/sec): 18.0-19.0 ft (1420) 19.0-20.0 ft (1512) 20.0-21.0 ft (1544) 21.0-22.0 ft (1551) 100% Recovery
30	R3	24/23	26.00 - 28.00	R0D = 66%		R2 Bedrock: Similar to R1 except massive throughout entirety of run. (Vassalboro Formation) R2 Core Times (min/sec): 23.0-24.0 ft (1435) 24.0-25.0 ft (1455) 25.0-26.0 ft (1460) 100% Recovery
35						R3 Bedrock: Grey, fine-grained, GRAYWACKE, hard, fresh, steep foliation, with a single steeply dipping (10ft) undulating, tight, rough, with calcite and quartz veins. (Vassalboro Formation) R3 Core Times (min/sec): 26.0-27.0 ft (1458) 27.0-28.0 ft (1525) N0% Recovery
40						Bottom of Exploration at 28.0 feet below ground surface
45						
50						

Casing driven using rope and cathead with 140# safety hammer

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1

Boring No.: BB-AHS-102

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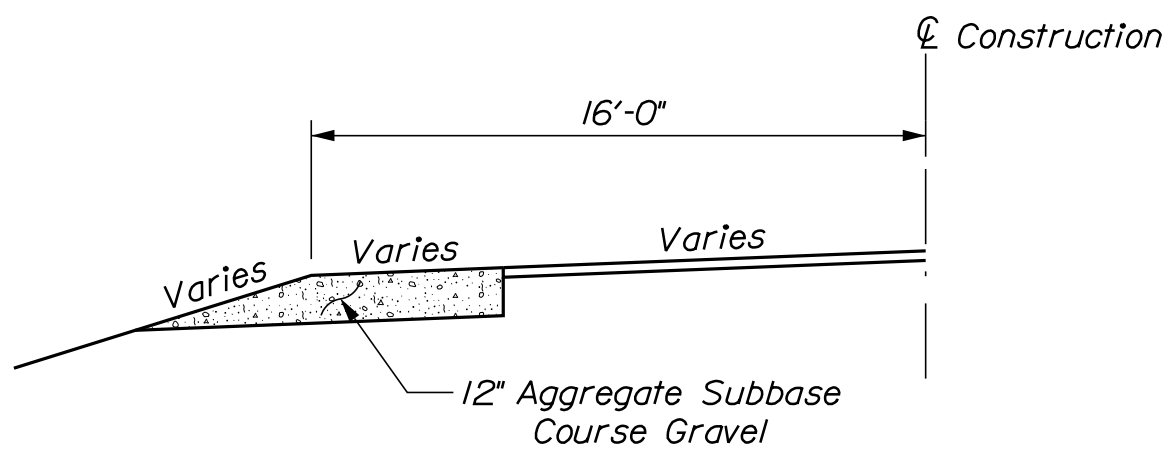
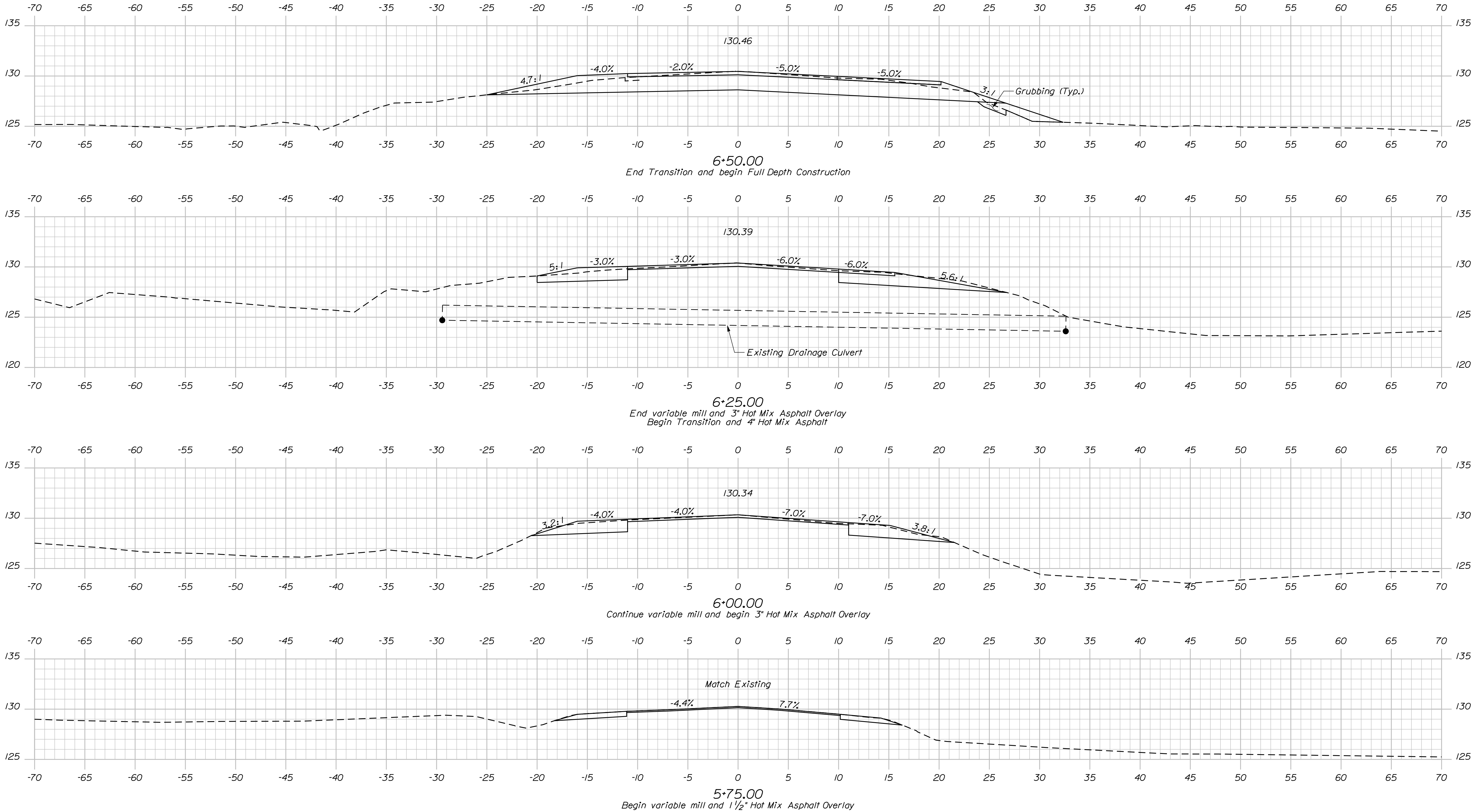
OF 28

Date:11/24/2025

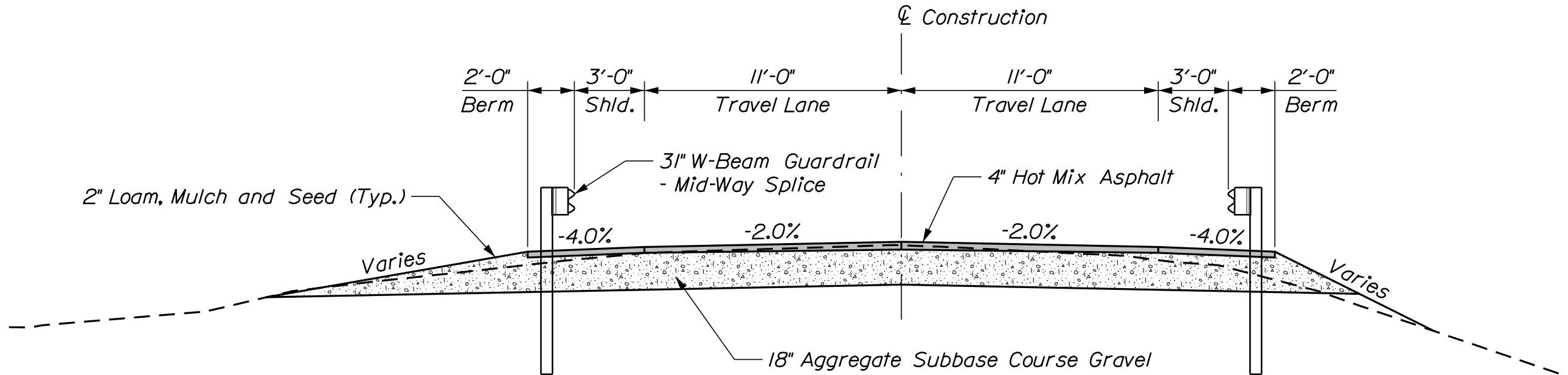
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Division: BRIDGE

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TYPICAL REBUILT GRAVEL SHOULDER



TYPICAL APPROACH SECTION

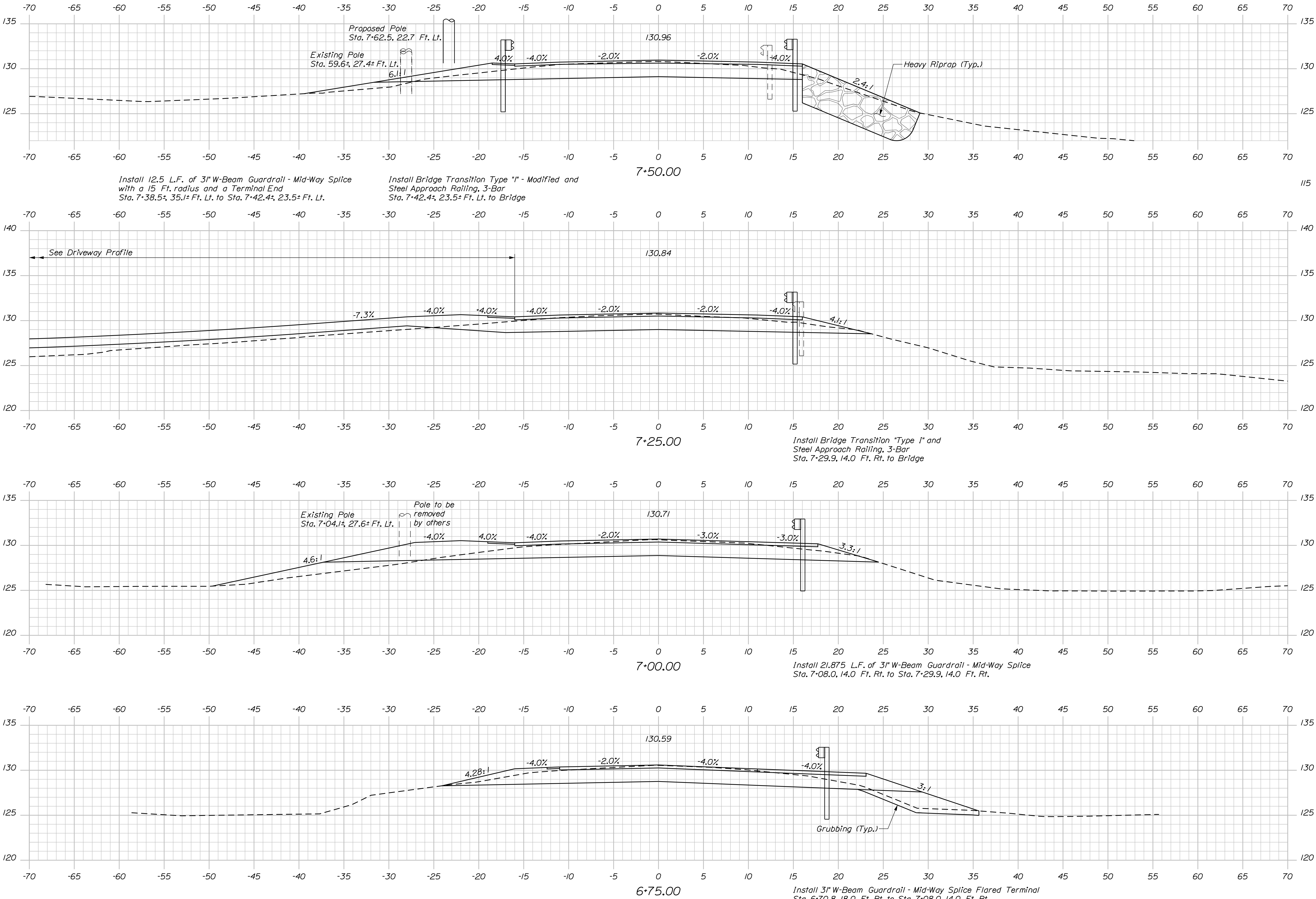
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2168(700)		BRIDGE NO. 3735		WIN		021687.00		BRIDGE PLANS	
HEMLOCK STREAM BRIDGE		HEMLOCK STREAM		ARGYLE TWP		PENOBSCOT COUNTY		CROSS SECTIONS		SHEET NUMBER		9	
DATE		BY		PROJ. MANAGER		CHECKED		DESIGNED		REVISIONS		FIELD CHANGES	
JUN 2025		D. SHAW		D. TAYLOR		W. CASEY		N. PIKAY		REVISIONS 1		REVISIONS 2	
SIGNATURE		T. WHITE		N. PIKAY		REVISIONS 3		REVISIONS 4		REVISIONS 1		REVISIONS 2	
P.E. NUMBER		DATE		DATE		DATE		DATE		DATE		DATE	
DATE		DATE		DATE		DATE		DATE		DATE		DATE	

Username: Richard.Mayer

Date:11/24/2025

Division: BRIDGE

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2168(700)
WIN
021687.00
BRIDGE NO. 3735
BRIDGE PLANS

HEMLOCK STREAM BRIDGE
HEMLOCK STREAM
ARGYLE TWP
PENOBSCOT COUNTY
CROSS SECTIONS

SHEET NUMBER
10
OF 28

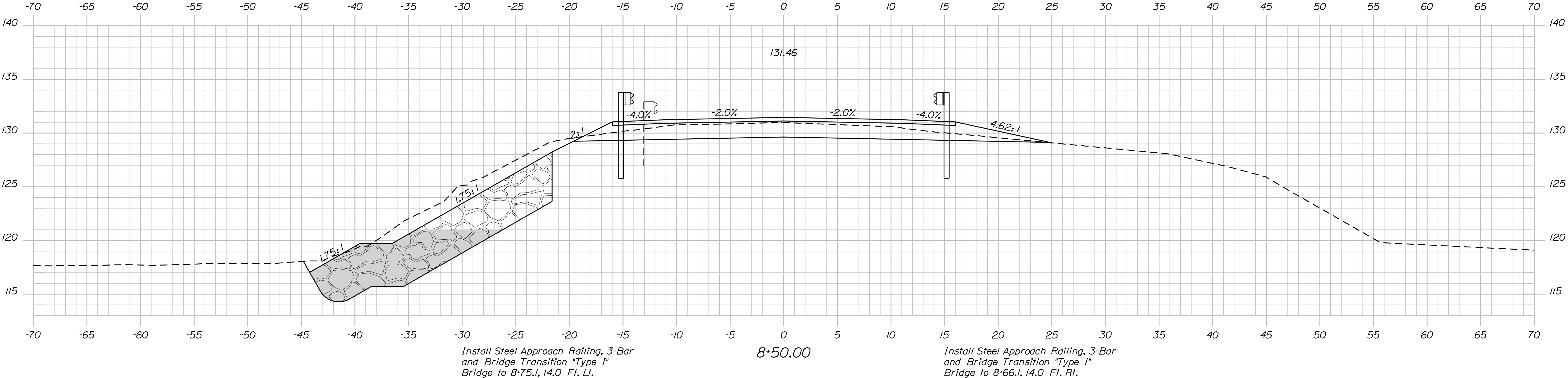
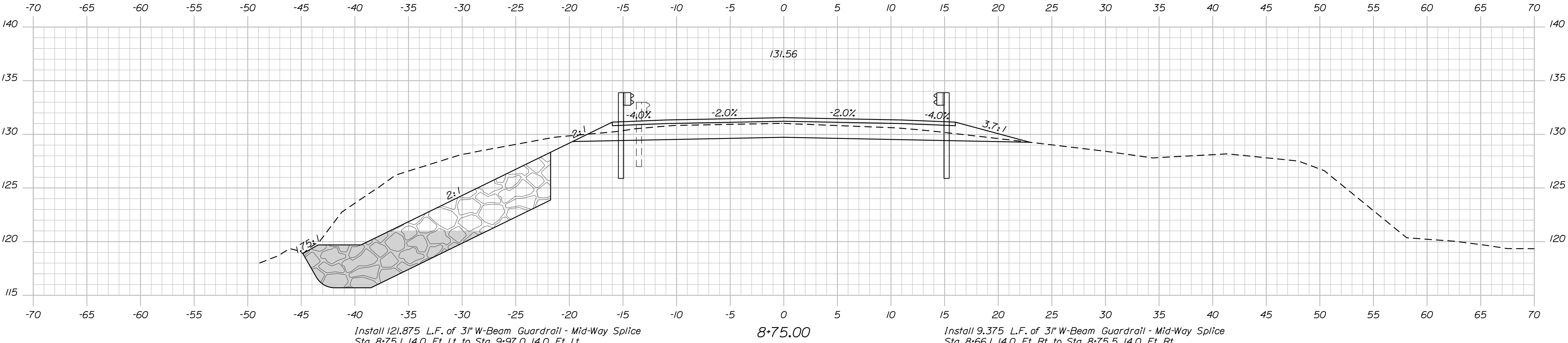
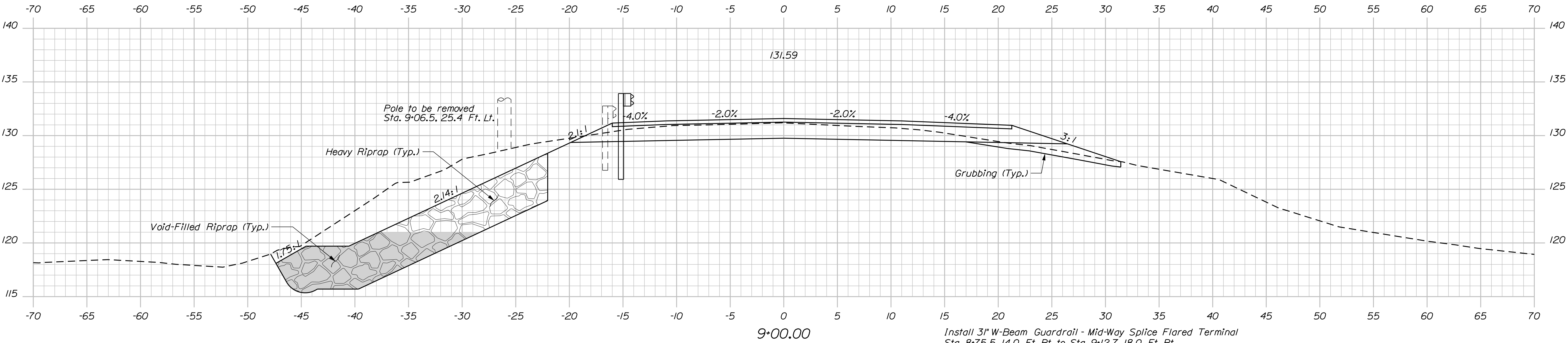
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DESIGN-DETAILED	W. CASEY	CHECKED-REVIEWED	T. WHITE	SIGNATURE	MAR 2022
DESIGN-DETAILED	N. PIKAY	DESIGN-DETAILED		P.E. NUMBER	
REVISIONS 1		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 4			
FIELD CHANGES					

Date:11/24/2025

Username: Richard.Mayer

Division: BRIDGE

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-2168(700)

WIN
021687.00
BRIDGE NO. 3735

BRIDGE PLANS

HEMLOCK STREAM BRIDGE
HEMLOCK STREAM
ARGYLE TWP PENOBSCOT COUNTY

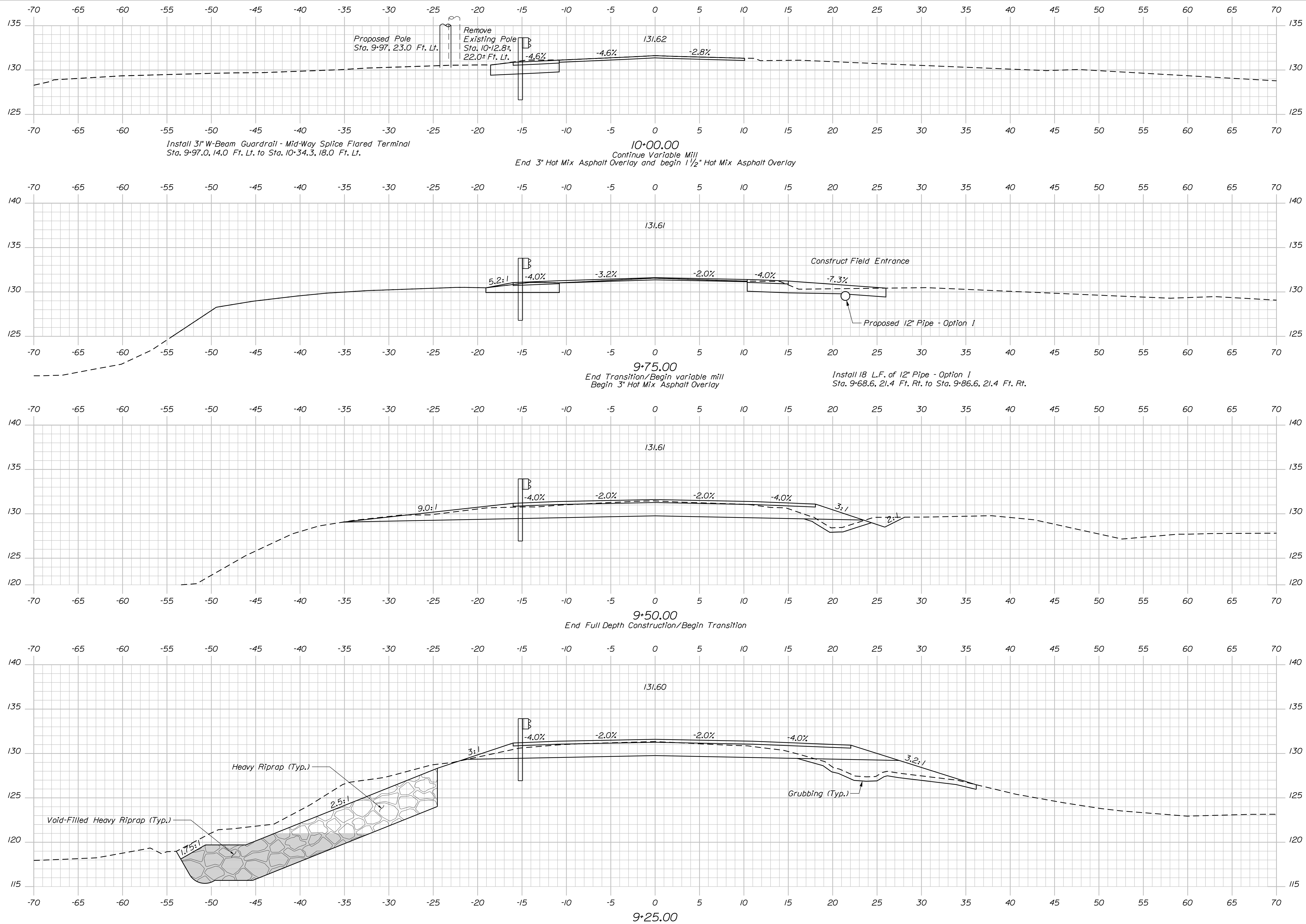
CROSS SECTIONS

SHEET NUMBER

11

OF 28

PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
D. TAYLOR	W. CASEY	D. SHAW	T. WHITE								JUN 2025			
	N. PIKAY										MAR 2022			

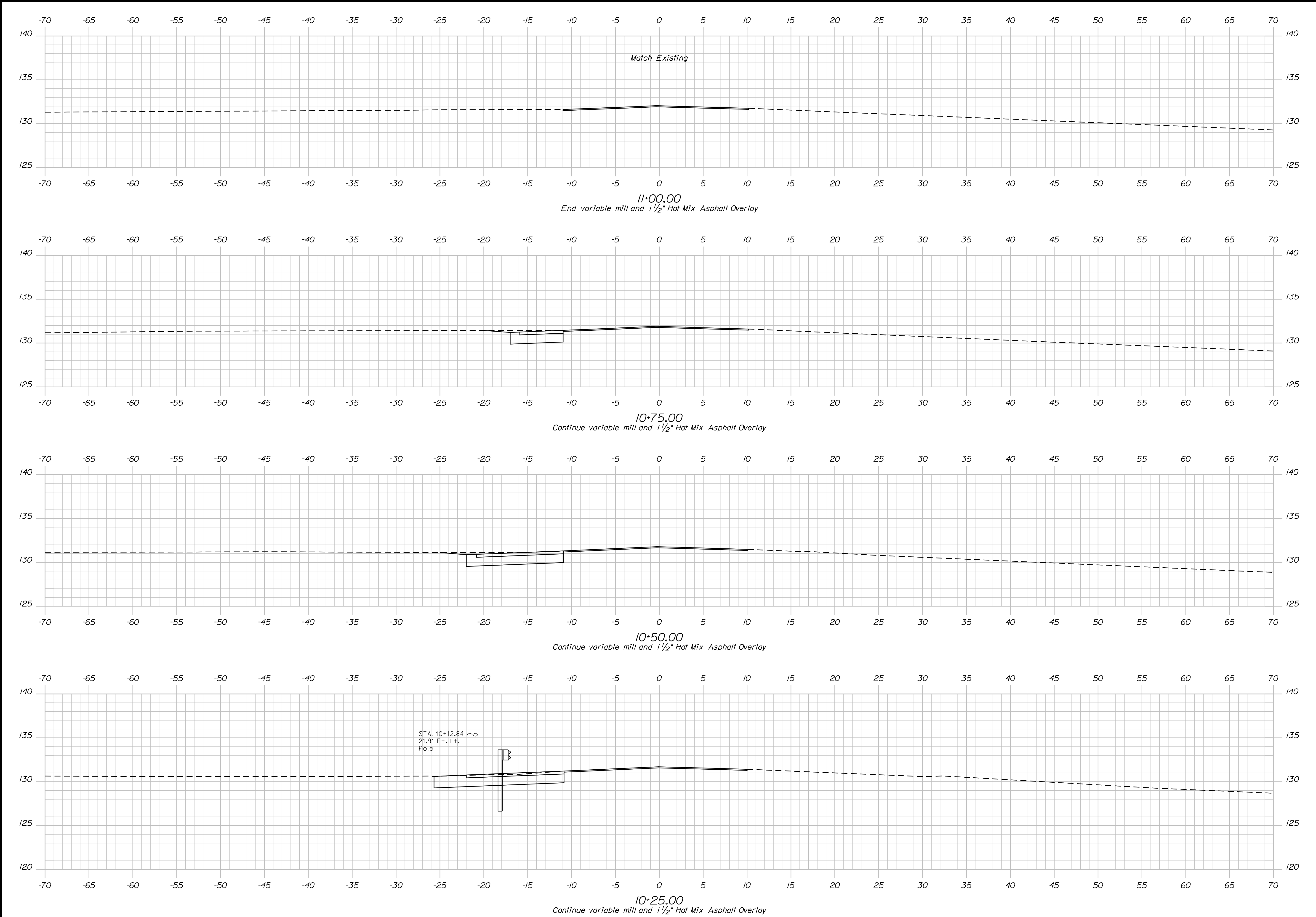


Date:11/24/2025

Username: Richard.Mayer

Division: BRIDGE

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STATE OF MAINE

DEPARTMENT OF TRANSPORTATION

STP-2168(700)

WIN

021687.00

BRIDGE NO. 3735

BRIDGE PLANS

HEMLOCK STREAM BRIDGE

HEMLOCK STREAM

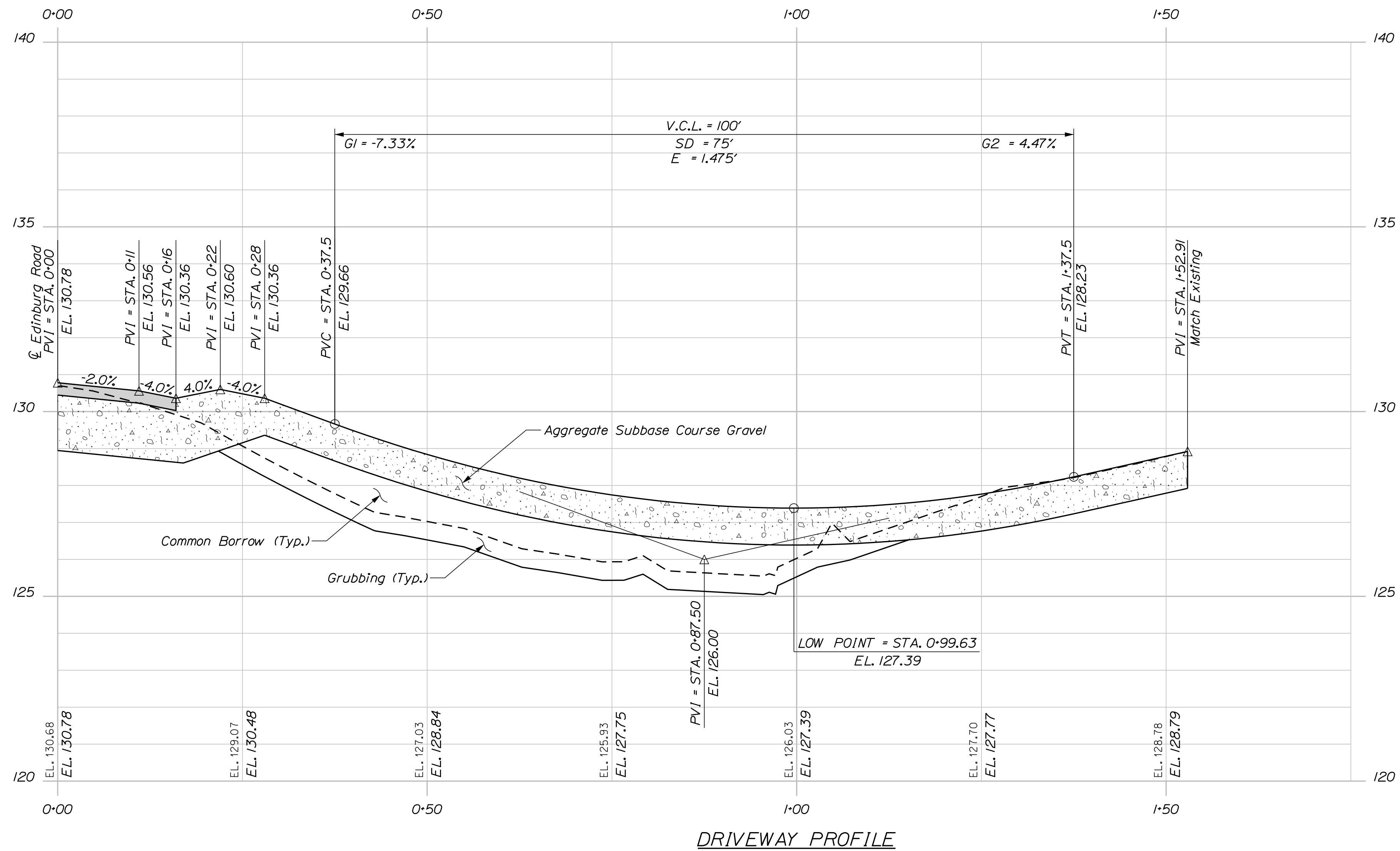
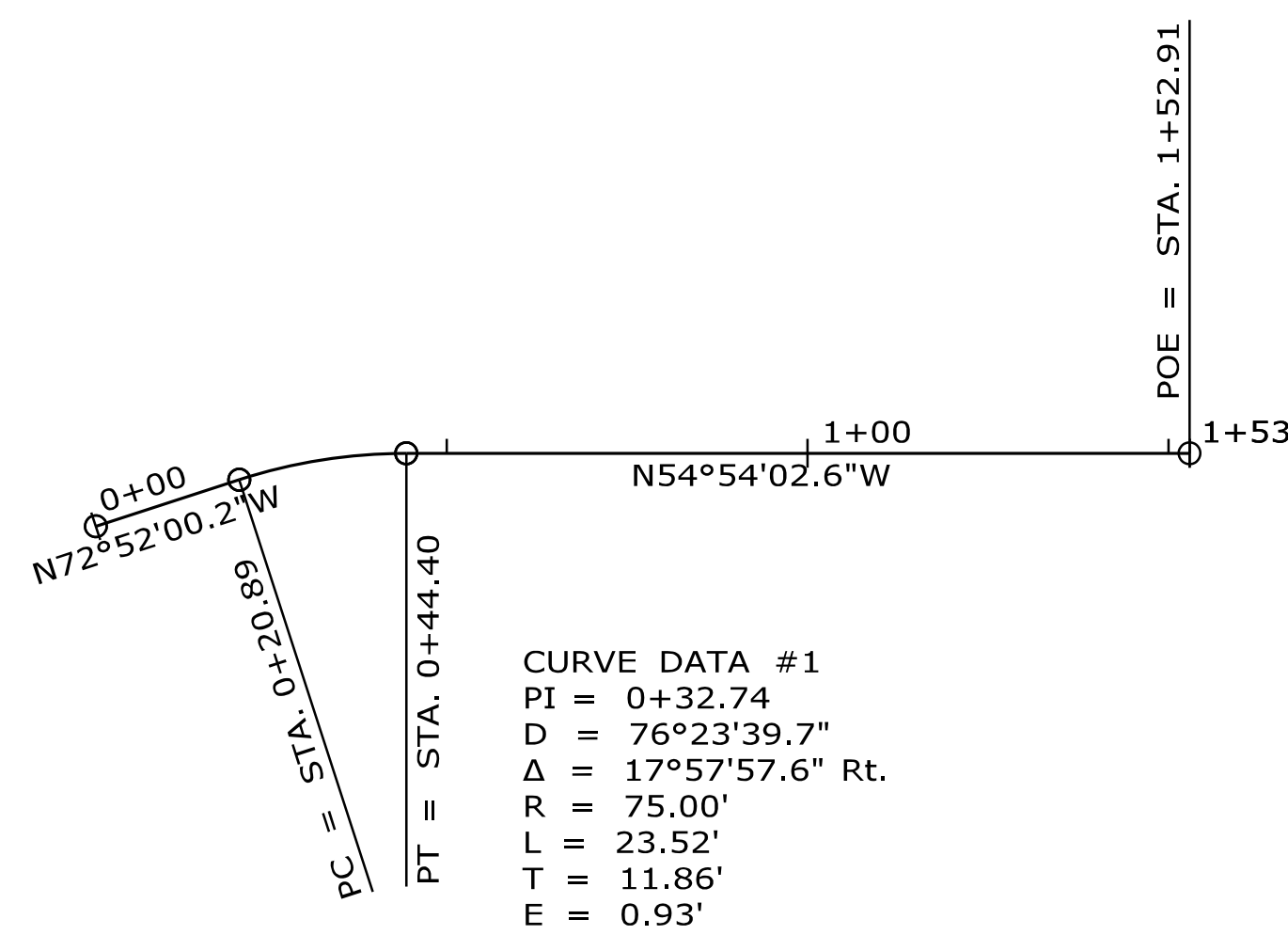
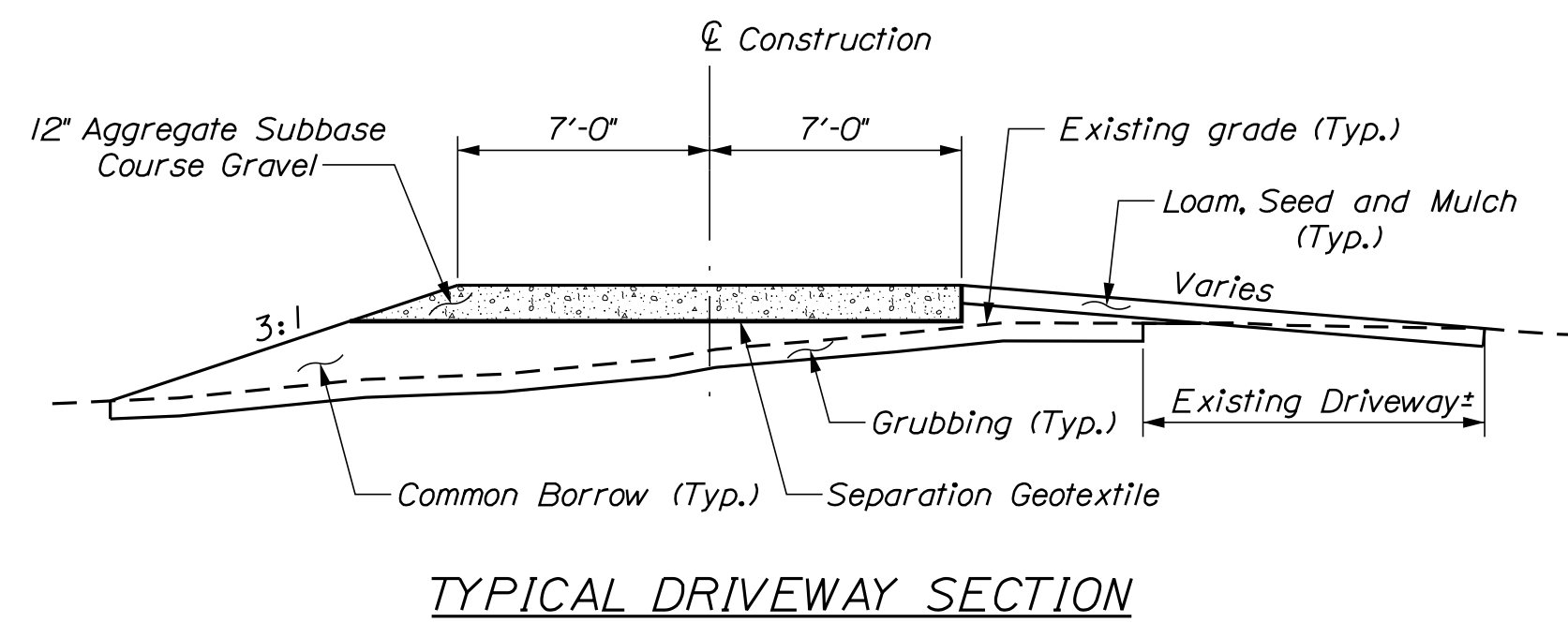
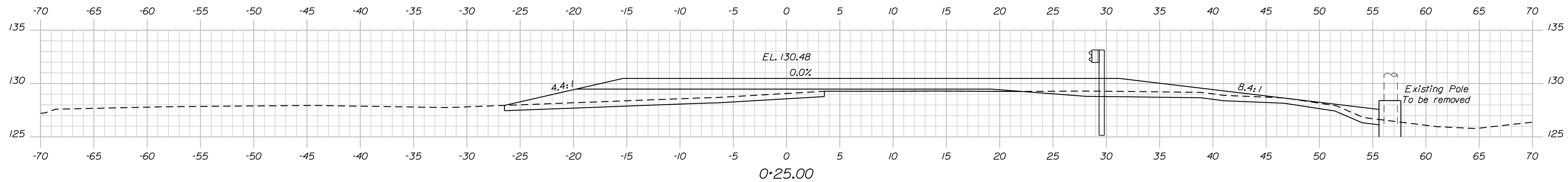
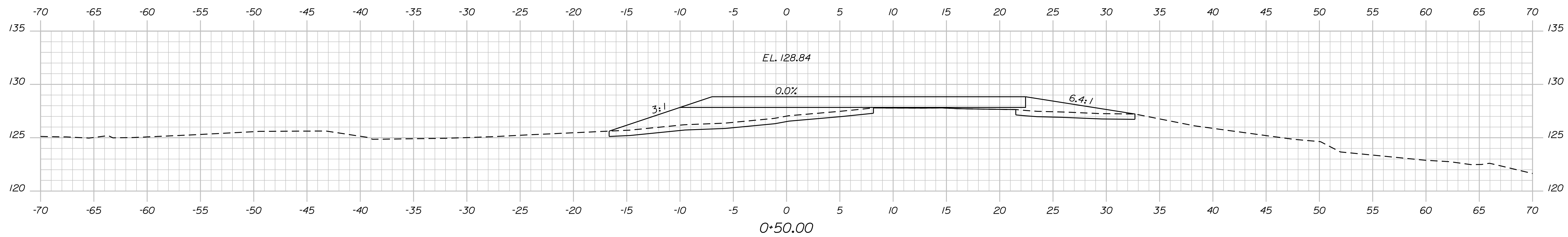
ARGYLE TWP PENOBSCOT COUNTY

CROSS SECTIONS

SHEET NUMBER

13

OF 28



STATE OF MAINE

DEPARTMENT OF TRANSPORTATION

STP-2168(700)

WIN

BRIDGE NO. 3735

021687.00

WINN

BRIDGE PLANS

021687.00

BRIDGE PLANS

P.E. NUMBER	PROJ. MANAGER	D. TAYLOR	BY	DATE
	CHECKED-REVIEWED	W. CASEY	D. SHAW	JUN 2025
	DESIGN-DETAILS01	N. PUKAY	I. WHITE	MAR 2022
	DESIGNS-DETAILS03			
	REVISIONS 1			
DATE	REVISIONS 2			
	REVISIONS 3			
	REVISIONS 4			
	FIELD CHANGES			

HEMLOCK STREAM BRIDGE
HEMLOCK STREAM
ARGYLE TWP PENOBSCOT COUNTY
DRIVEWAY DETAILS AND
CROSS SECTIONS

SHEET NUMBER

14

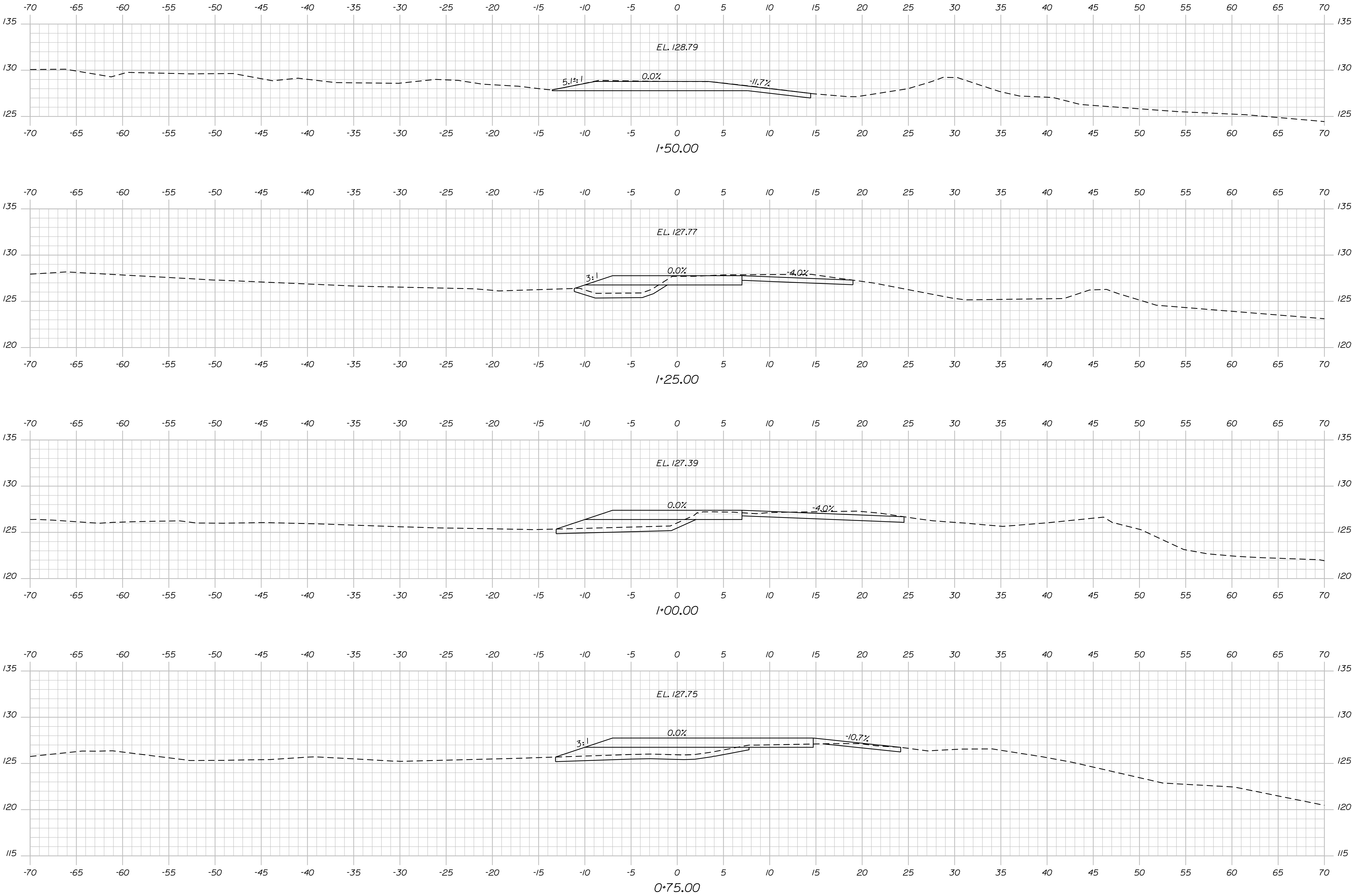
OF 28

Sta. 0+25 to Sta. 0+50

Date:11/24/2025

Username: Richard.Mayer

Filename: ... \015_Driveway-XSECT_0+75-1+50.dgn Division: BRIDGE



STATE OF MAINE		DATE		BY		PROJ. MANAGER		CHECKED		DESIGNED		REVISIONS		FIELD CHANGES	
DEPARTMENT OF TRANSPORTATION		JUN 2025		D. SHAW		D. TAYLOR		W. CASEY		N. PIKAY		DESIGN 1		DESIGN 2	
STP-2168(700)		MAR 2022		T. WHITE								REVISIONS 3		REVISIONS 4	
WIN												P.E. NUMBER		DATE	
021687.00															
BRIDGE NO. 3735															
BRIDGE PLANS															

HEMLOCK STREAM BRIDGE

HEMLOCK STREAM

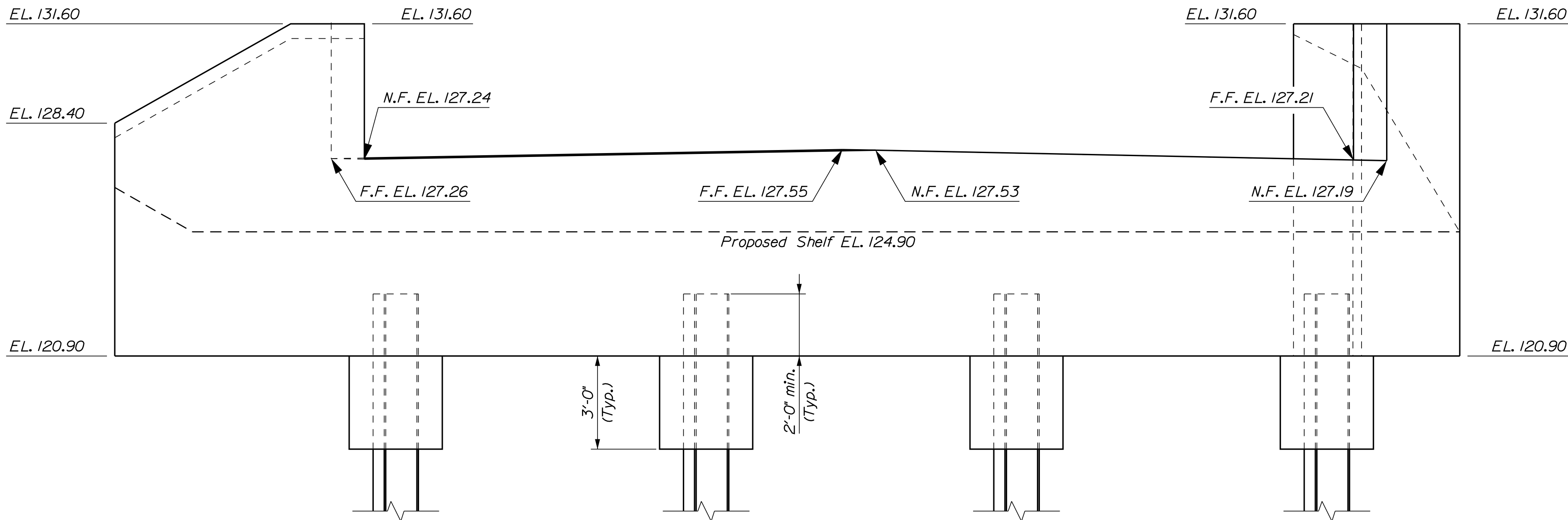
ARGYLE TWP PENOBSCOT COUNTY

DRIVEWAY CROSS SECTIONS

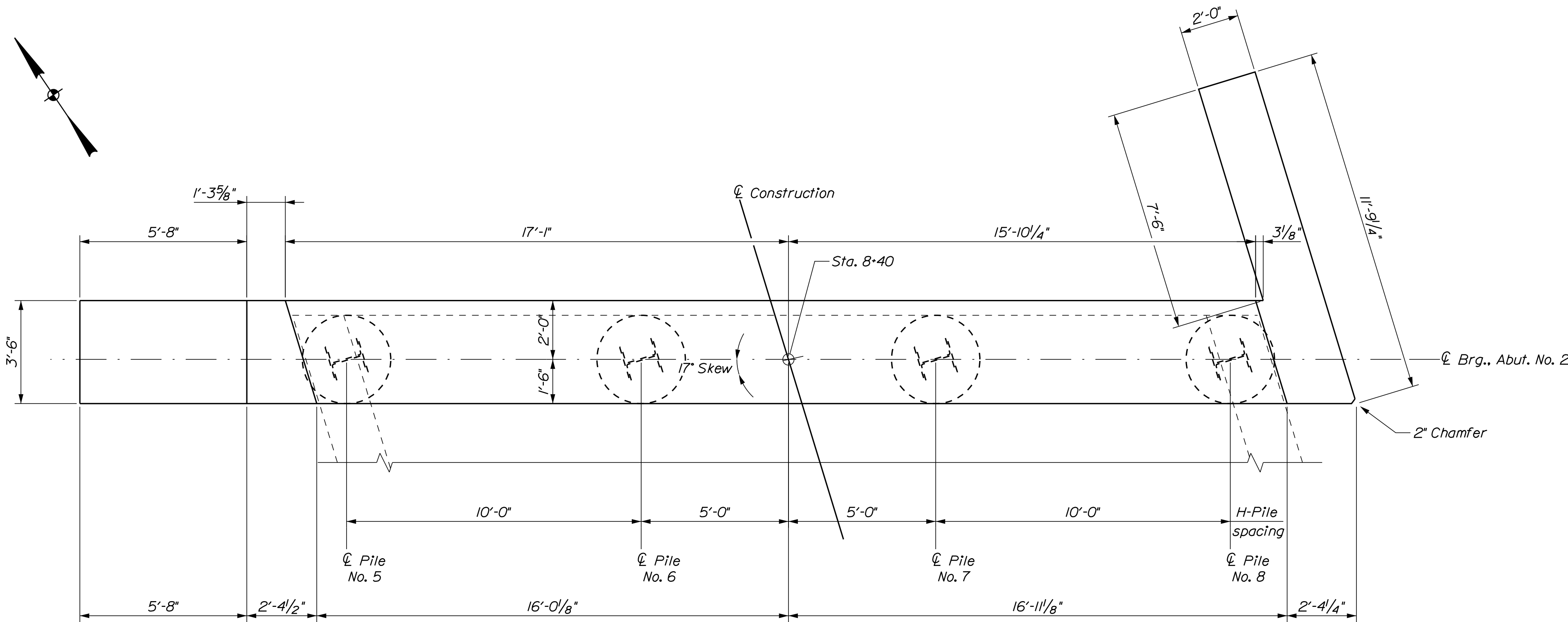
SHEET NUMBER

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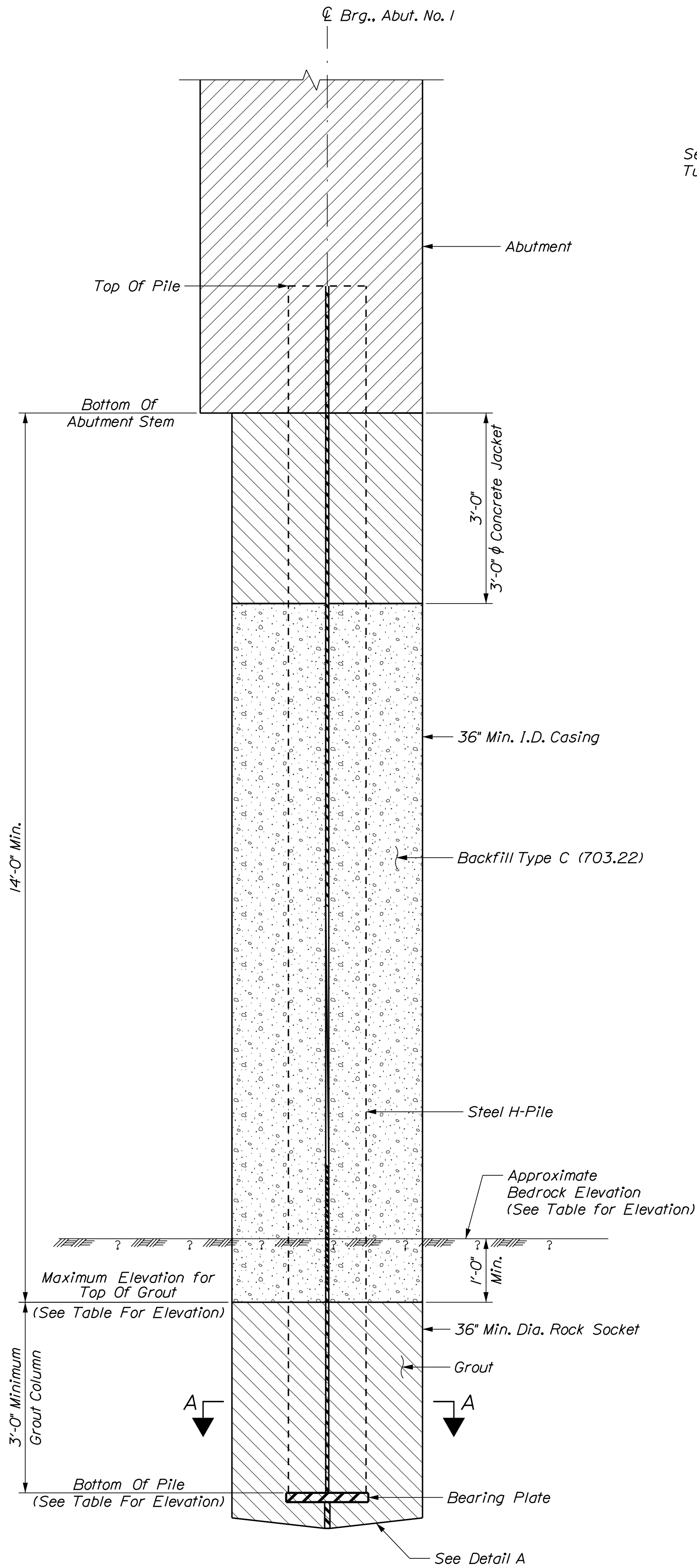
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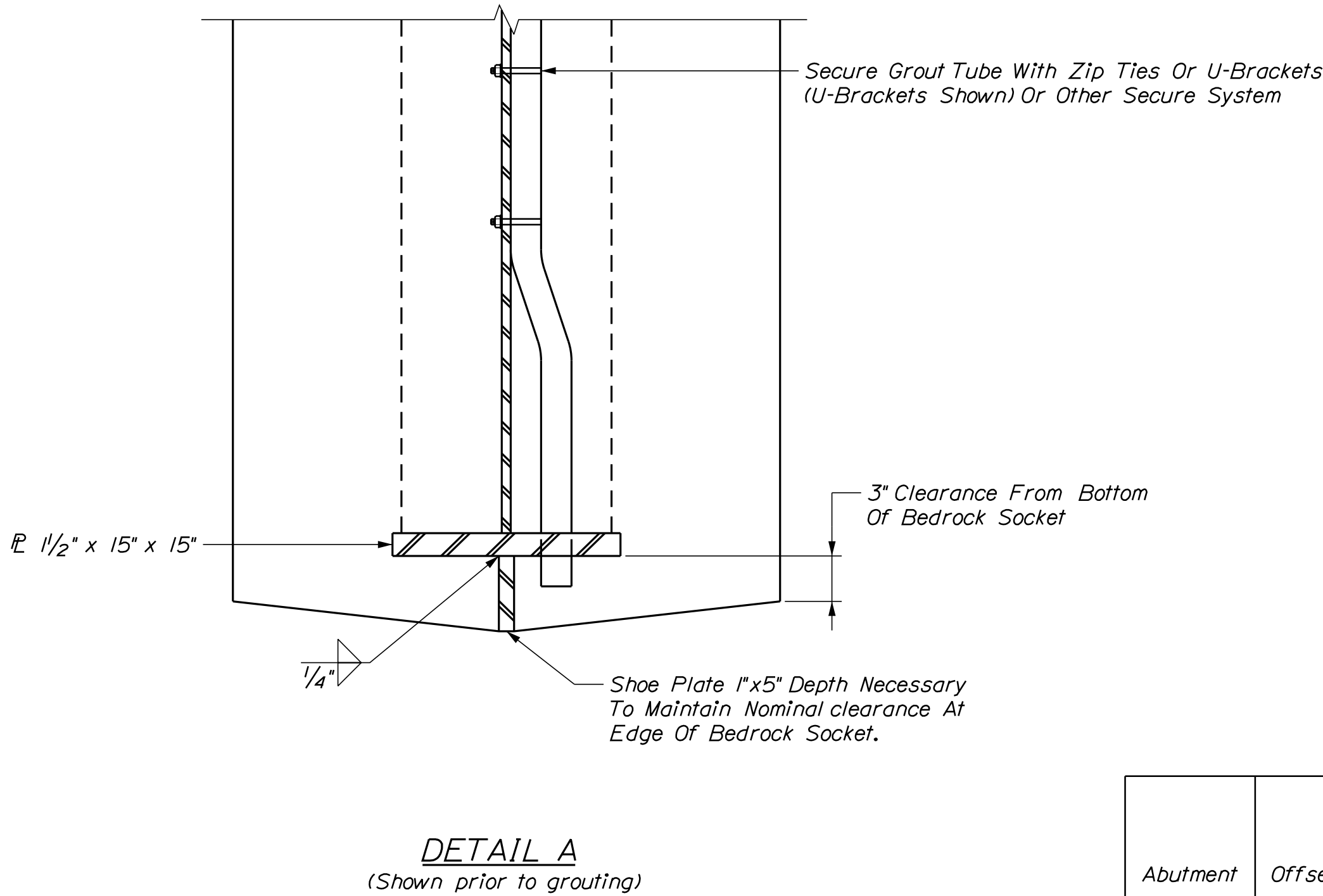
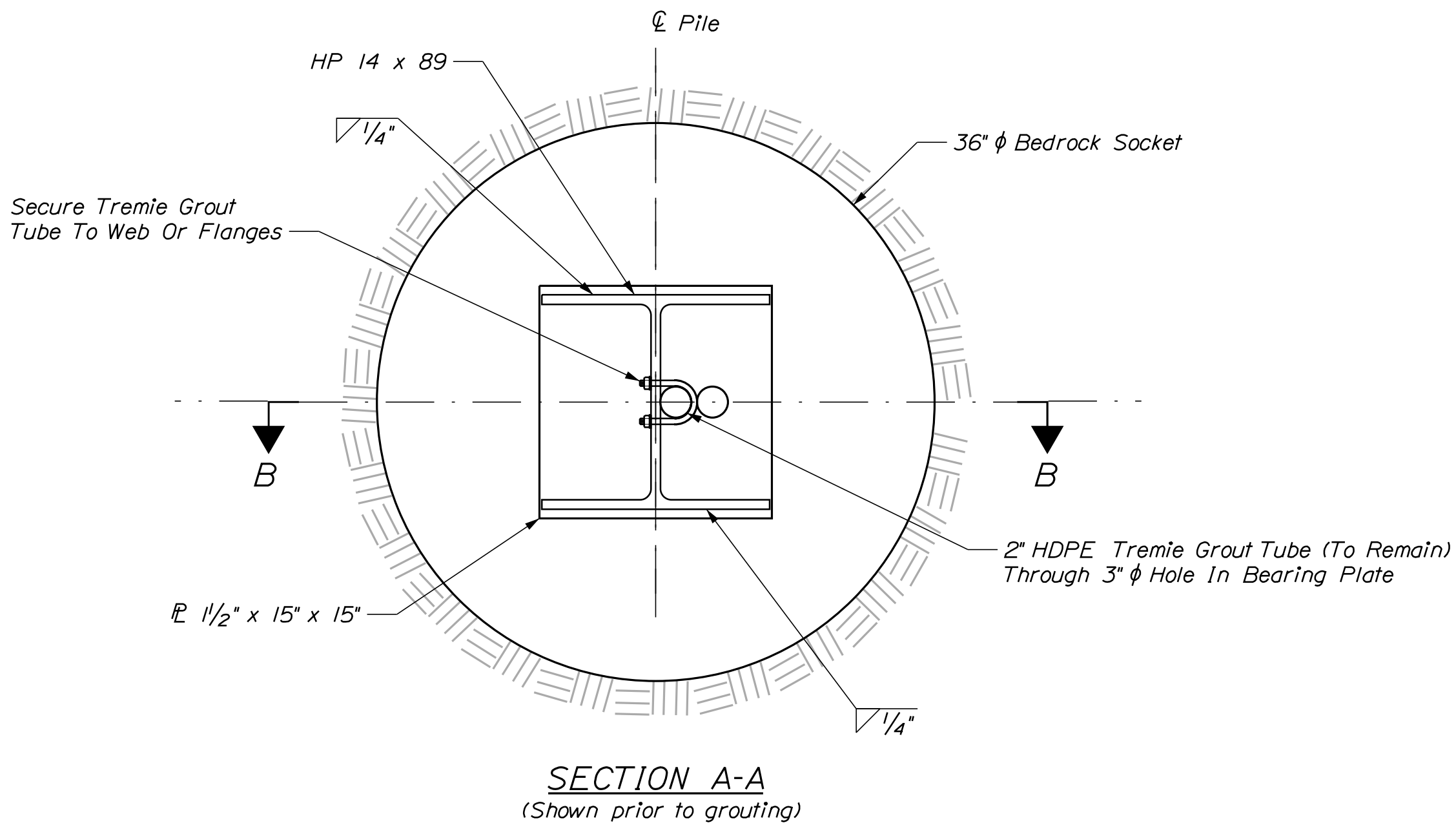
ABUTMENT NO. 2 ELEVATION



ABUTMENT NO. 2 PLAN



ROCK SOCKETED PILE DETAIL
Abutment No. 1 Shown, Abutment No. 2 Similar



PILE NOTES

1. The maximum factored pile load is 376 kips at the Strength Limit State.
2. Estimate of piles required (in-place):
Abutment No. 1: 4 ~ HP 14x89 @ 19 feet
Abutment No. 2: 4 ~ HP 14x89 @ 19 feet
3. H-pile material shall be ASTM A572, Grade 50.
4. Piles shall not be out of position shown by more than 2 inches in any direction.
5. Piles shall be installed in accordance with Special Provision Section 501, Rock-Socketed H-Pile Foundations.
6. Splicing of H-piles for rock-socketed H-Pile foundation is prohibited.

Abutment	Offset	Bottom Elevation of Proposed Abutment (Ft.)	Approximate Top of Bedrock Abutment (Ft.)	Maximum Top of Grout Elevation (Ft.)	Maximum Bottom of Pile Elevation (Ft.)	Minimum Pile Length (Ft.)
1	LT.	120.50	111.4	106.5	103.5	19
1	RT.	120.50	109.0	106.5	103.5	19
2	LT.	120.90	109.9	106.9	103.9	19
2	RT.	120.90	109.4	106.9	103.9	19

PILE TABLE NOTES

1. Approximate top of bedrock elevations are based on widely spaced explorations. Actual bedrock elevations may vary.
2. Top of bedrock is defined as the elevation at which the full diameter of the rock excavation equipment is beneath the bedrock surface, as determined by the Resident.
3. Maximum top of grout elevation is a minimum of 14' below the bottom of abutment stem and a minimum of 1' below the top of bedrock. If top of rock is more than 13' below bottom of abutment stem, top of grout will be adjusted to 1' below the top of rock which provides a minimum rock socket depth of 4' with 3' grouted embedment.
4. Maximum Bottom of Pile Elevation does not include the plate thickness and minimum clearance. Estimated Pile length includes the embedment into the abutment.

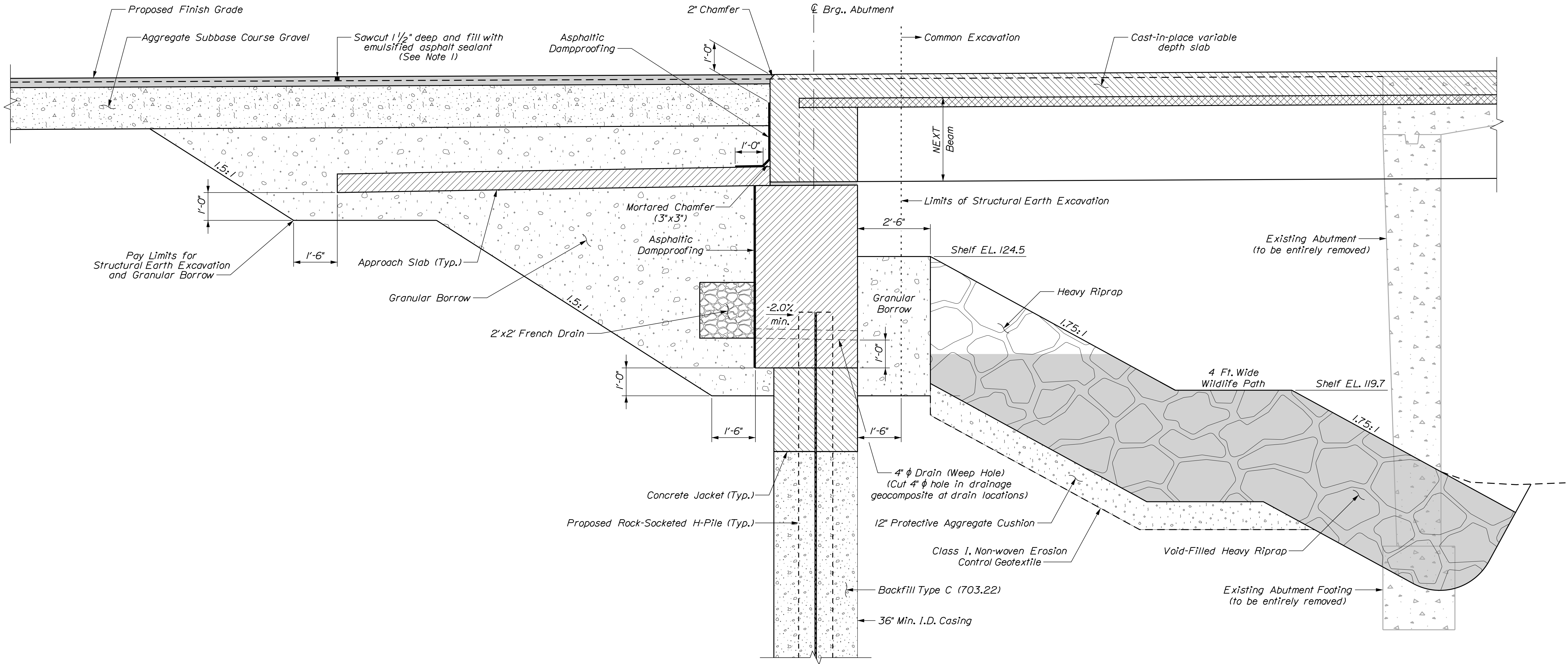
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2168(700)

BRIDGE NO. 3735
WIN
021687.00
BRIDGE PLANS

HEMLOCK STREAM BRIDGE
HEMLOCK STREAM
ARGYLE TWP PENOBSCOT COUNTY

PILE DETAILS

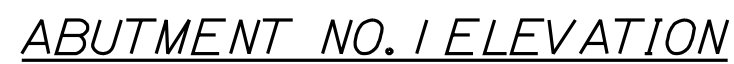
SHEET NUMBER
18
OF 28



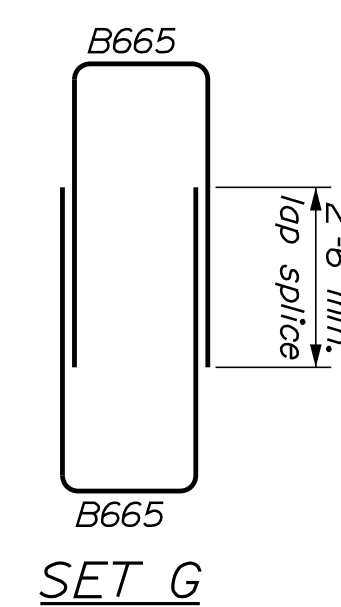
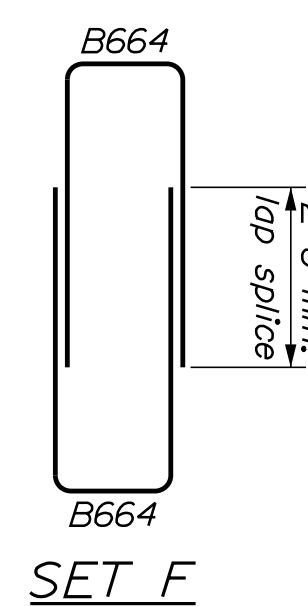
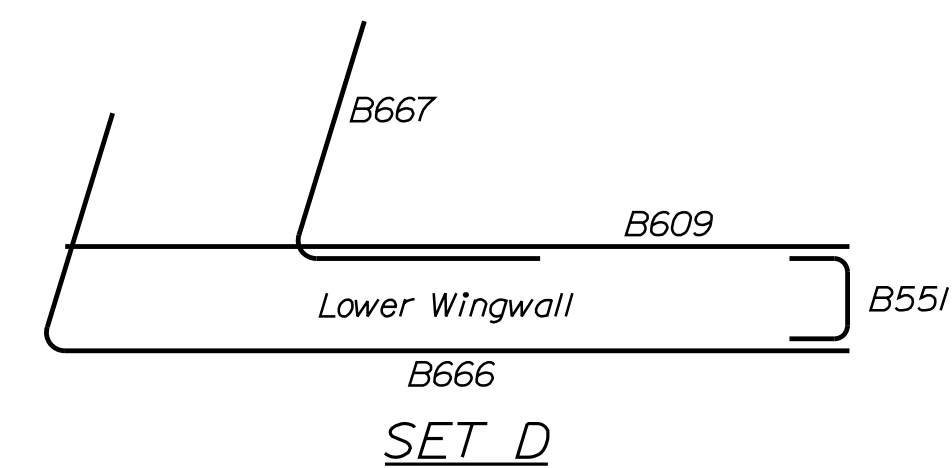
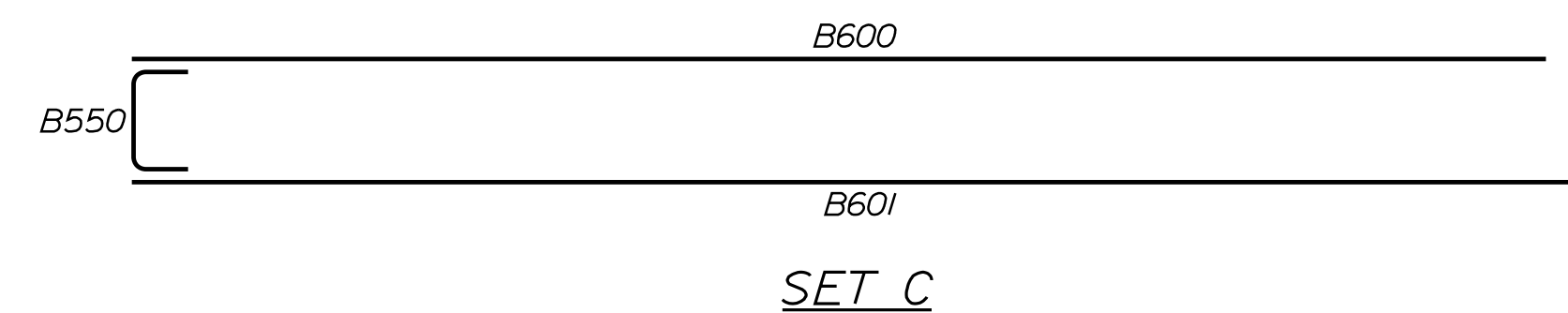
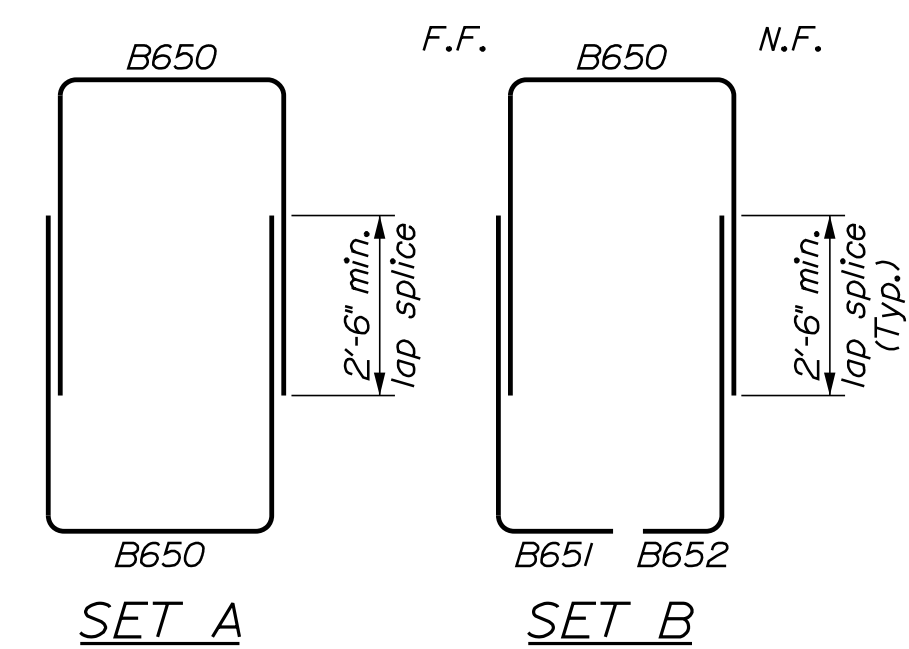
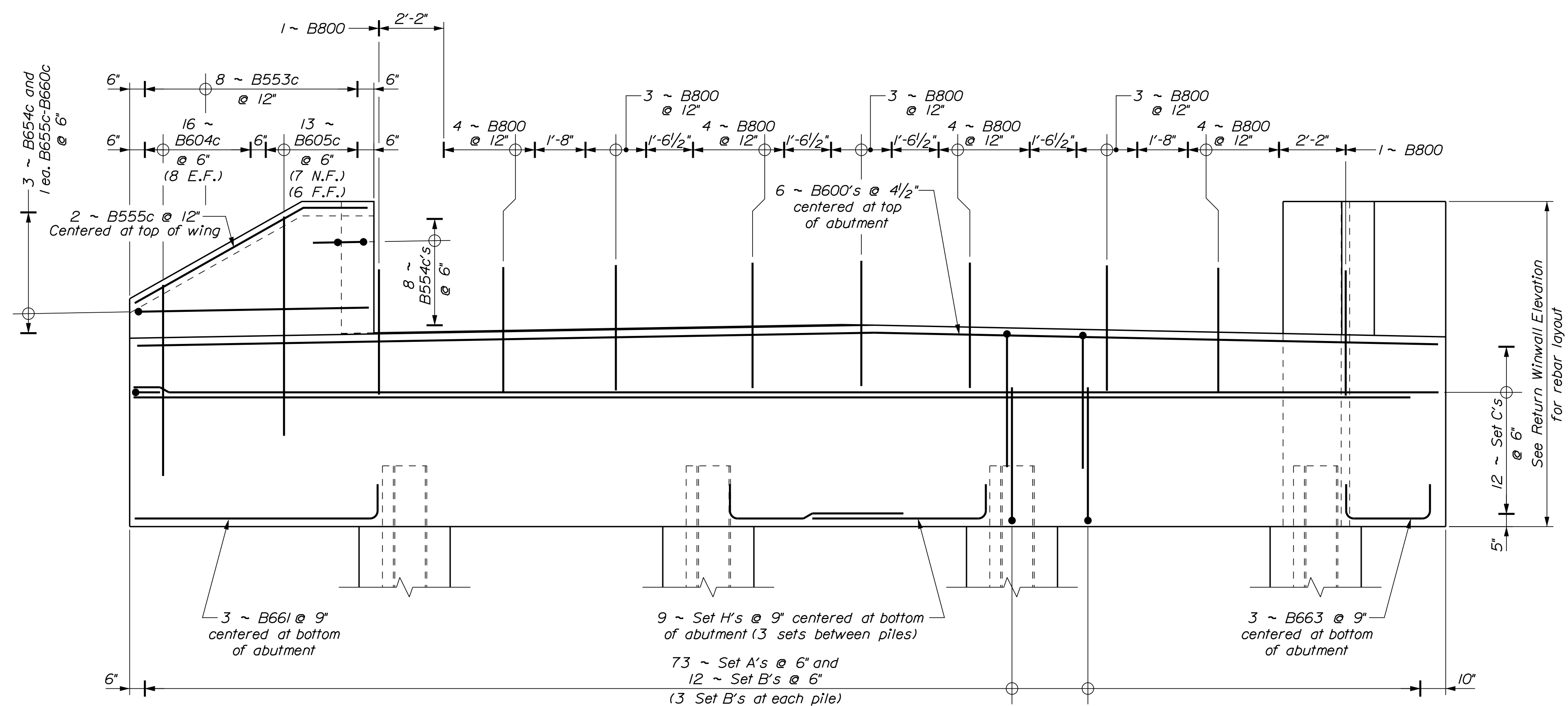
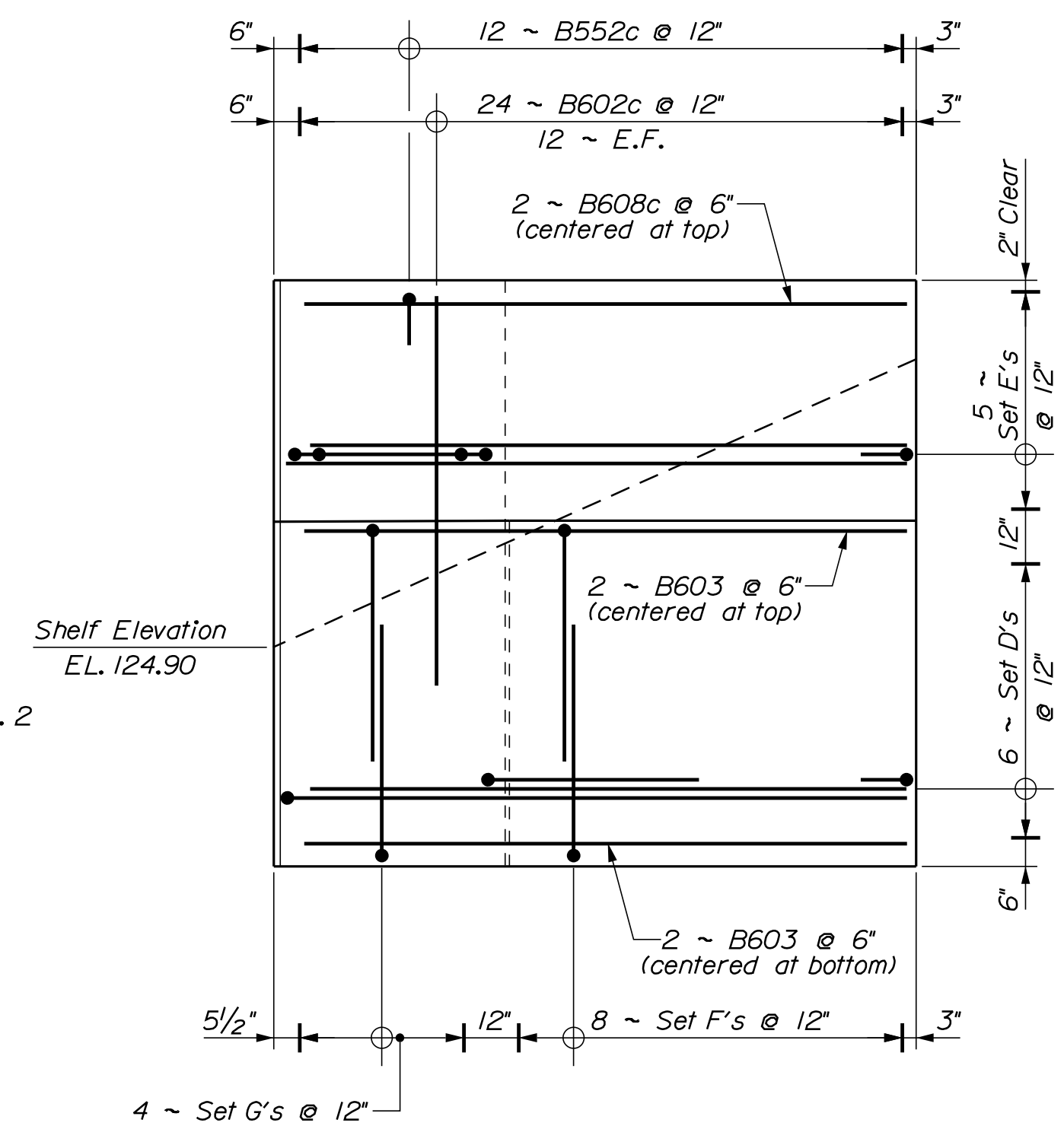
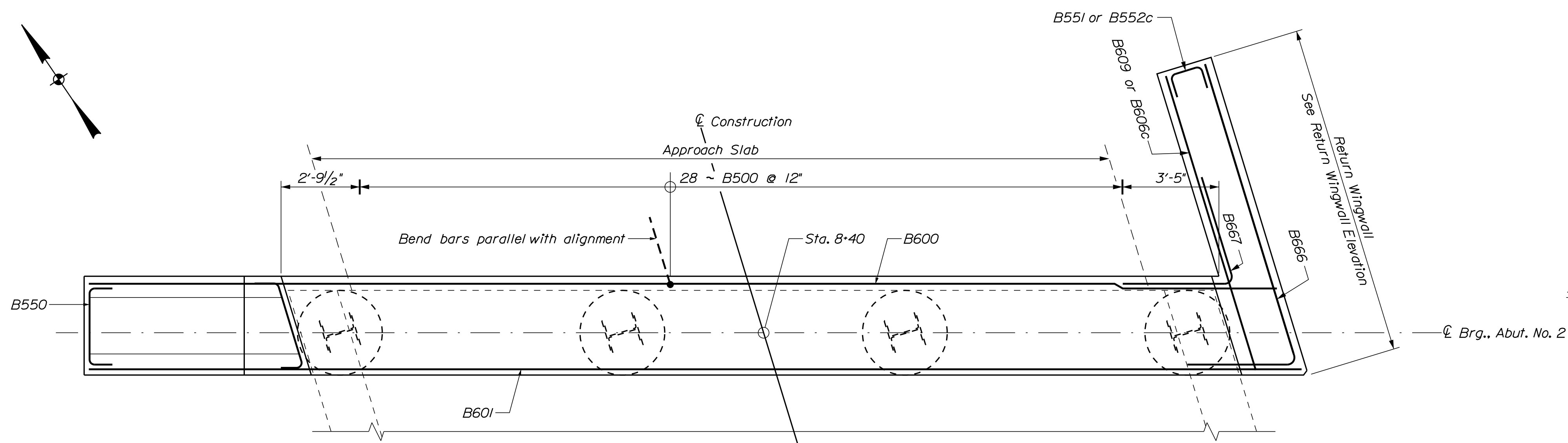
ABUTMENT BACKFILL DETAIL
Abutment No. 1 shown, Abutment No. 2 similar.

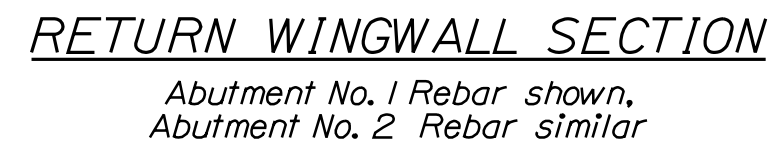
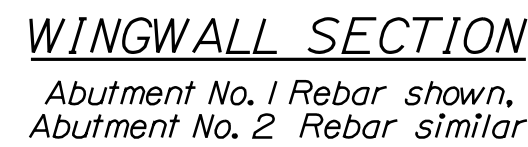
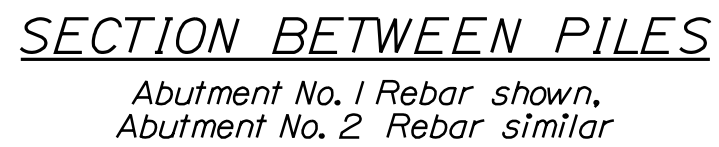
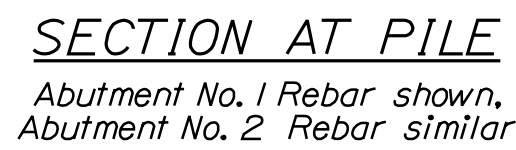
- NOTES:**
- Transverse sawcuts in the pavement at the ends of approach slabs shall be sealed with emulsified asphalt sealing compound conforming to Specification 702.12. The sawcut and emulsified asphalt sealing shall not be paid for directly, but considered incidental to related Contract Items.
 - Payment for mortared chamfer at approach slabs shall not be paid for directly, but shall be considered incidental to related Contract Items.
 - Asphalt Dampproofing shall meet the requirements of either ASTM D449 Type II, ASTM D1227 Type II-Class I, or ASTM D1227 Type III-Class I. The product shall be applied in accordance with the manufacturer's recommendations.
 - Asphalt Dampproofing shall be applied to the backside of the wingwalls up to 1 foot below grade.
 - Payment for Asphalt Dampproofing will not be made directly, but will be considered incidental to related Contract Items.

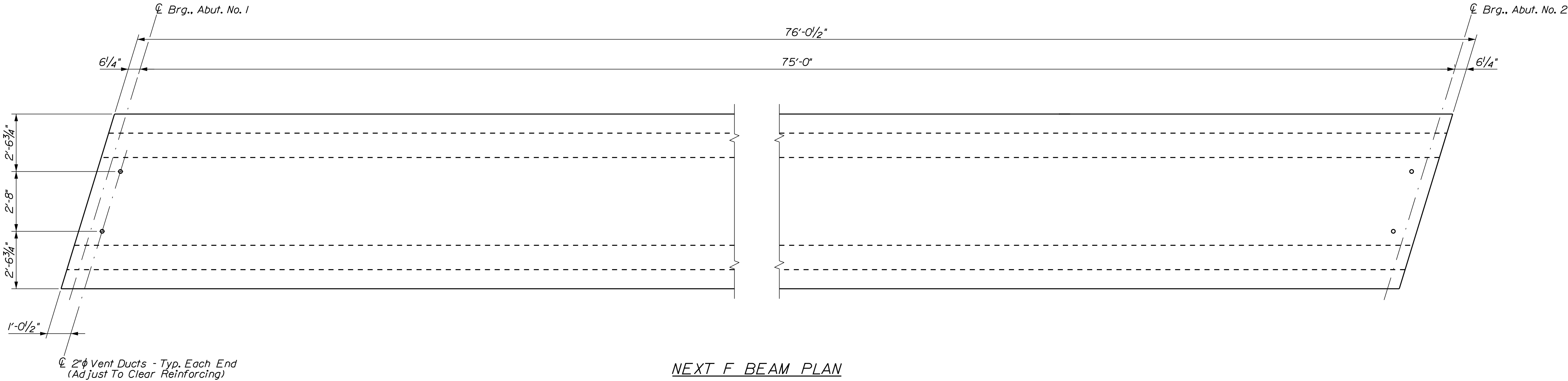
HEMLOCK STREAM BRIDGE HEMLOCK STREAM ARGYLE TWP PENOBSCOT COUNTY										PROJ. MANAGER D. TAYLOR		BY D. SHAW		DATE JUN 2025		STATE OF MAINE DEPARTMENT OF TRANSPORTATION			
ABUTMENT DETAILS										DESIGN-DETAILED CHECKED-REVIEWED		W. CASEY		JUN 2025				SIGNATURE	
										DESIGN2-DETAILED2		N. PIKAY		MAR. 2022				P.E. NUMBER	
										DESIGN3-DETAILED3									
										REVISIONS 1						BRIDGE NO. 3735 WIN 021687.00 BRIDGE PLANS			
										REVISIONS 2									
										REVISIONS 3								DATE	
										REVISIONS 4									
SHEET NUMBER										FIELD CHANGES									
19																			
OF 28																			



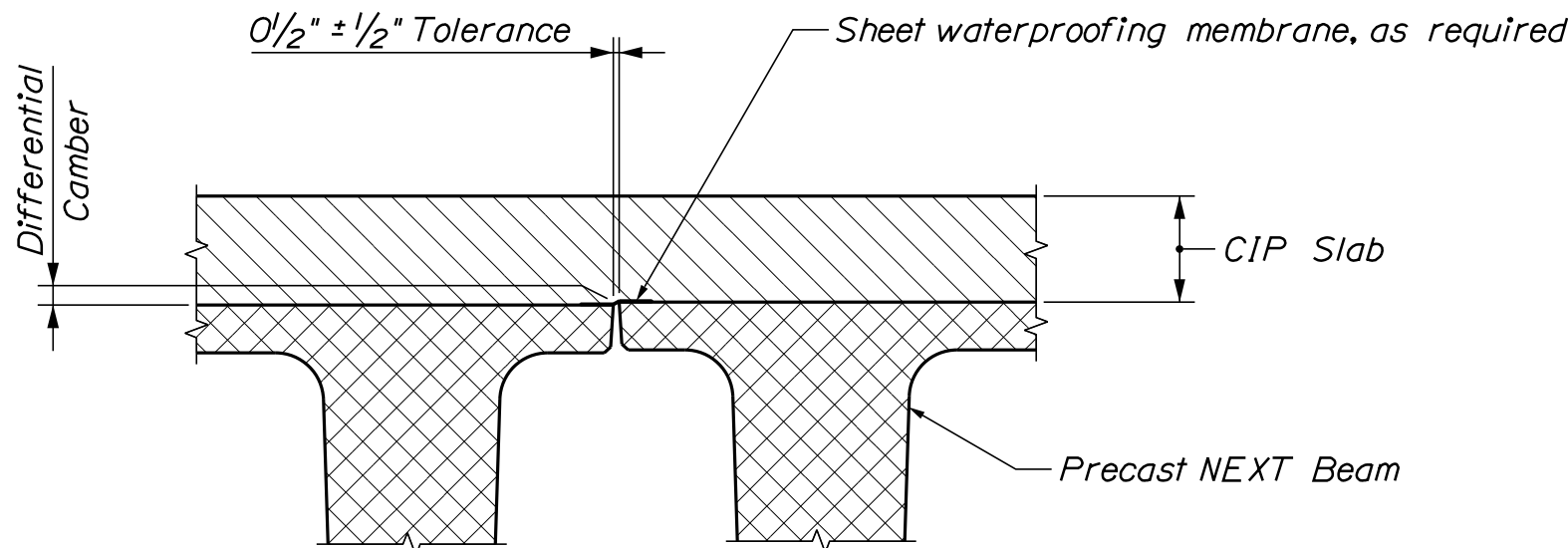
20 OF 28		SHEET NUMBER		HEMLOCK STREAM BRIDGE				PROJ. MANAGER		D. TAYLOR		BY		DATE		STATE OF MAINE	
				HEMLOCK STREAM				DESIGN-DETAILED		W. CASEY		D. SHAW		JUN 2025			
		ARGYLE TWP				DESIGN2-DETAILED2		N. PIKAY		I. WHITE		MAR 2022		SIGNATURE			
		PENOBSCOT COUNTY				DESIGN3-DETAILED3								P.E. NUMBER			
		ABUTMENT NO. 1 REINFORCEMENT				REVISIONS 1											
						REVISIONS 2											
						REVISIONS 3											
						REVISIONS 4								DATE			
						FIELD CHANGES										BRIDGE NO. 3735	
																WIN	
														021687.00			
														BRIDGE PLANS			



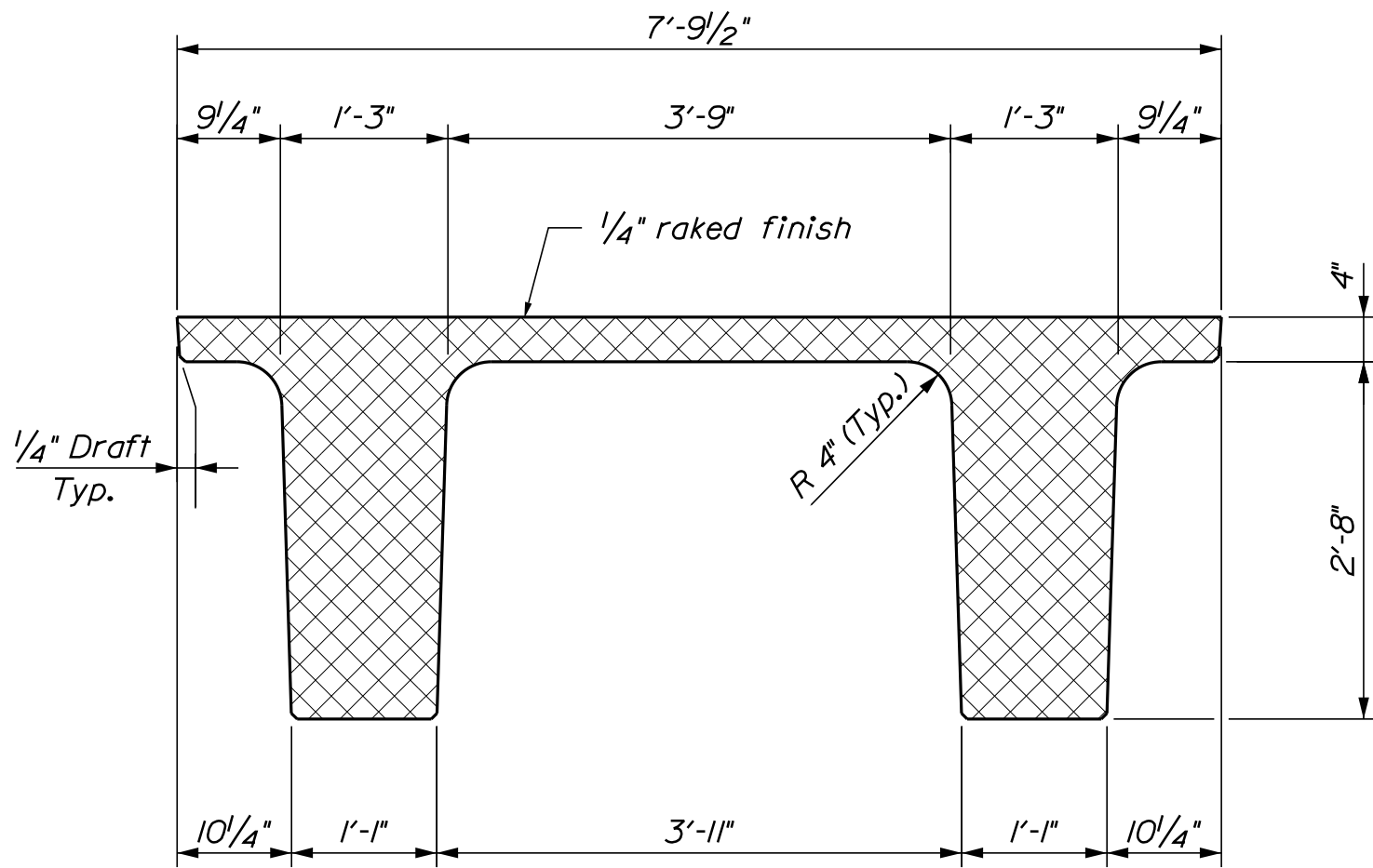




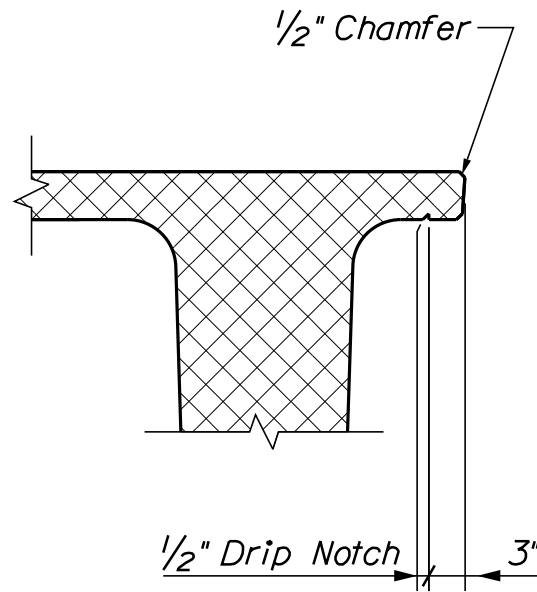
NEXT F BEAM PLAN



NEXT BEAM GAP FORM DETAIL



NEXT 36 F BEAM SECTION



FASCIA OVERHANG DETAIL

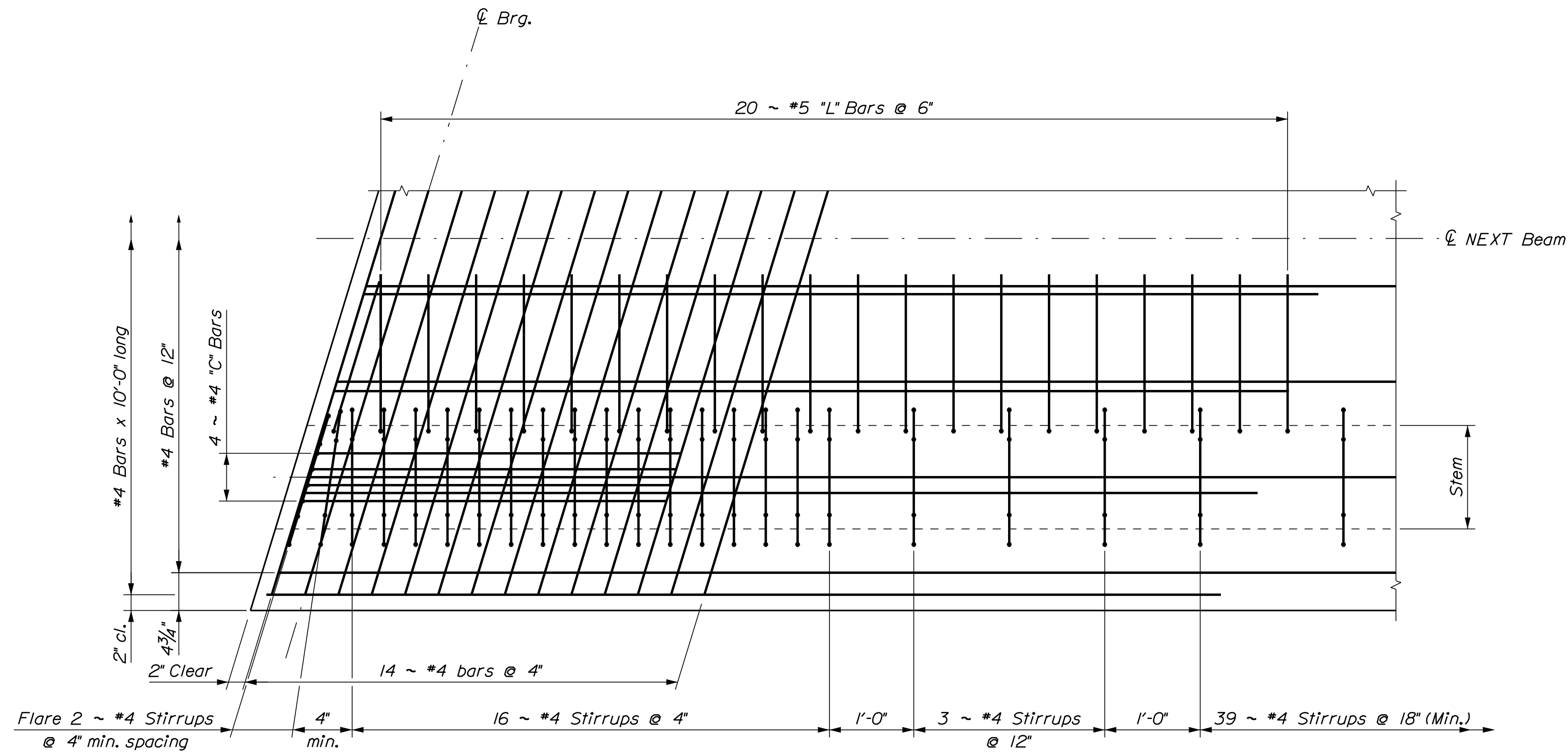
PRECAST CONCRETE SUPERSTRUCTURE NOTES

1. NEXT F Beams are a non - proprietary shape developed by PCI NORTHEAST (PCINE). Standardized section properties and details may be found at <http://www.pcine.org>.
2. The estimated camber at release is 2.25 inches and the estimated camber at erection is 4.25 inches. Refer to Special Provision Section 535, Precast, Prestressed Concrete Superstructure - Camber.
3. Prestressing strands shall be 0.6 inch diameter. The tensioning force is 44 kips per prestressing strand, including the top strands.
4. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
5. Do not drill or use powder actuated tools on the prestressed beams without the approval of the Fabrication Engineer.
6. The top surface of the upper flange of the prestressed beams shall be raked to a surface roughness of 1/4 inch, except at 10-ft. increments along the centerline of each beam. At these locations a flattened area of sufficient size shall be left to facilitate taking elevations for setting bottom of slab elevations.
7. Lifting loops and temporary/storage/shipping dunnage shall be a maximum of 2 feet from each beam end.
8. All reinforcement shall be plain deformed steel reinforcement. ASTM A706 reinforcement is acceptable.
9. Payment for sheet waterproofing membrane over joints between adjacent NEXT Beams will not be made directly but will be considered incidental to related Contract items. Alternate methods of sealing the gap between flanges may be submitted to the Resident for approval.
10. A maximum of 50 percent of the strands in the bottom 5 rows may be debonded 6 inches from the end of the beam. All 4 top row strands shall be fully bonded.

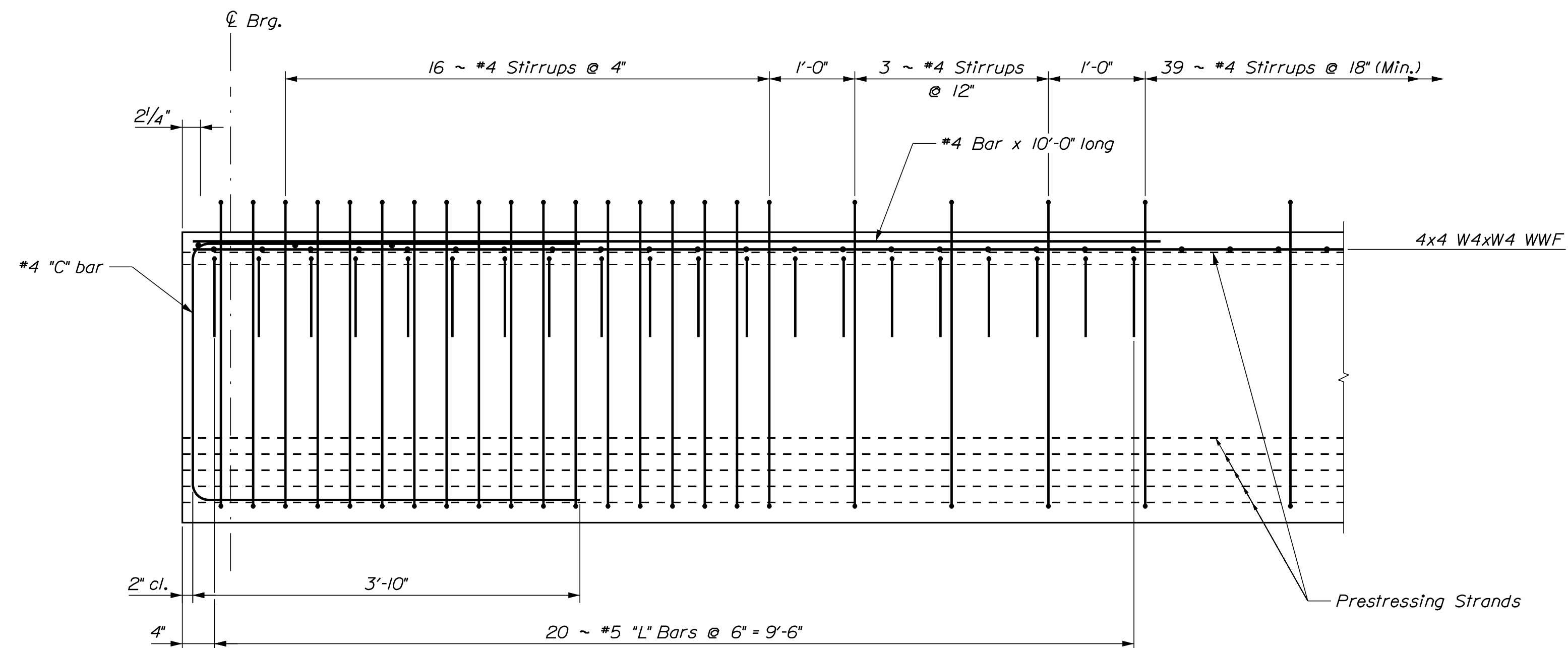
ELASTOMERIC BEARING PAD NOTES

1. Elastomeric Bearing Pads shall be 1.5" thick, 3'-0" wide and 32'-11.25" long for Abutment Nos. 1 & 2.
2. The elastomer shall have a shear modulus of 95 psi.
3. Elastomeric Bearing Pads shall conform to the requirements of the latest edition of the AASHTO LRFD Bridge Construction Specifications, Section 18.2.
4. Elastomeric Bearing Pads will not be paid for directly but will be considered incidental to related Contract items. No separate payment will be made.

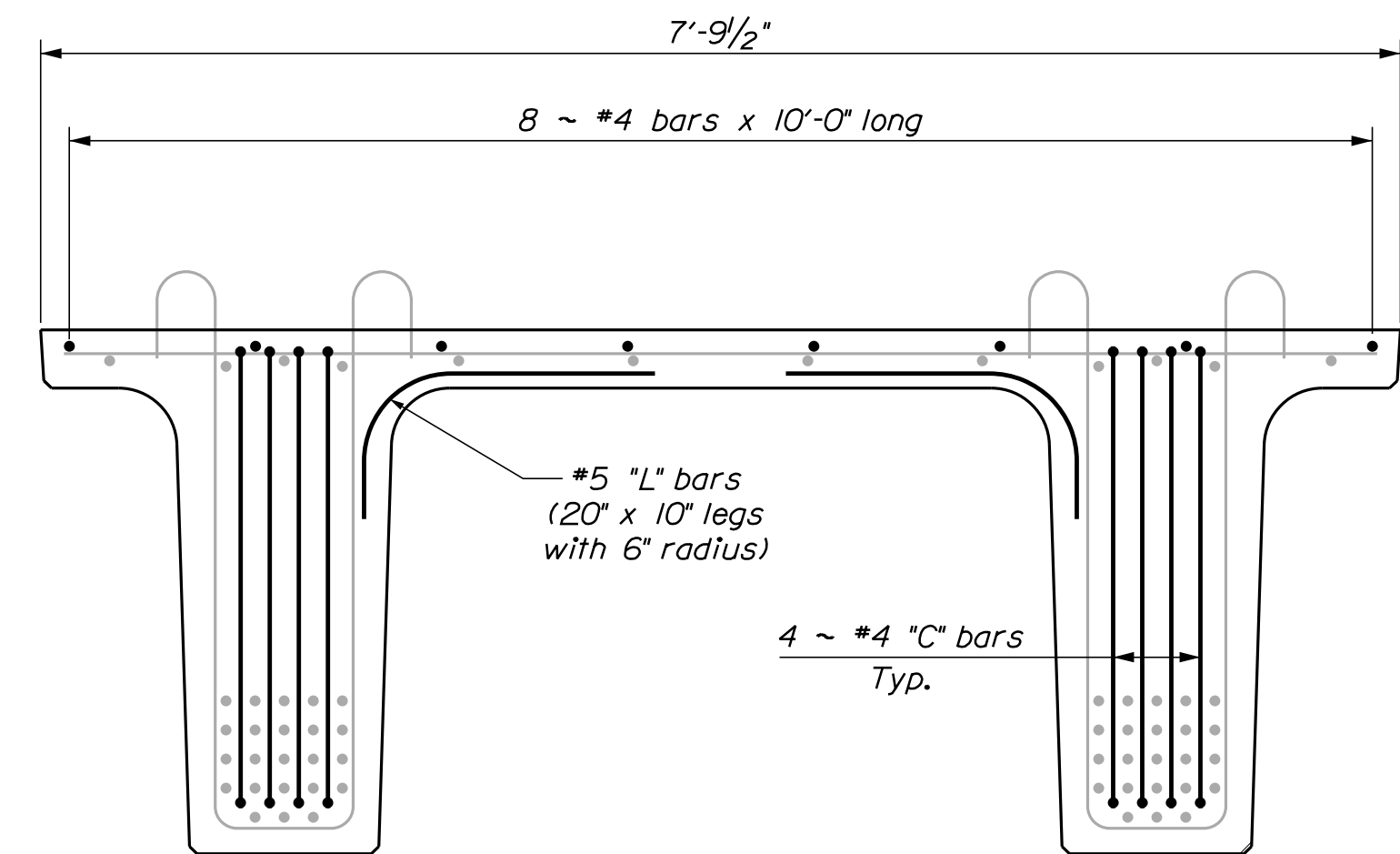
HEMLOCK STREAM BRIDGE HEMLOCK STREAM ARGYLE TWP PENOBSCOT COUNTY										PROJ. MANAGER DESIGN-DETAILED CHECKED-REVIEWED DESIGN2-DETAILED2 DESIGN3-DETAILED3		D. TAYLOR W. CASEY N. PIKAY		BY D. SHAW T. WHITE		DATE JUN 2025 MAR 2022		SIGNATURE	
NEXT BEAM DETAILS										REVISIONS 1		REVISIONS 2		REVISIONS 3		REVISIONS 4		FIELD CHANGES	
SHEET NUMBER										23		OF 28		STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2168(700)		BRIDGE NO. 3735 WIN 021687.00 BRIDGE PLANS	



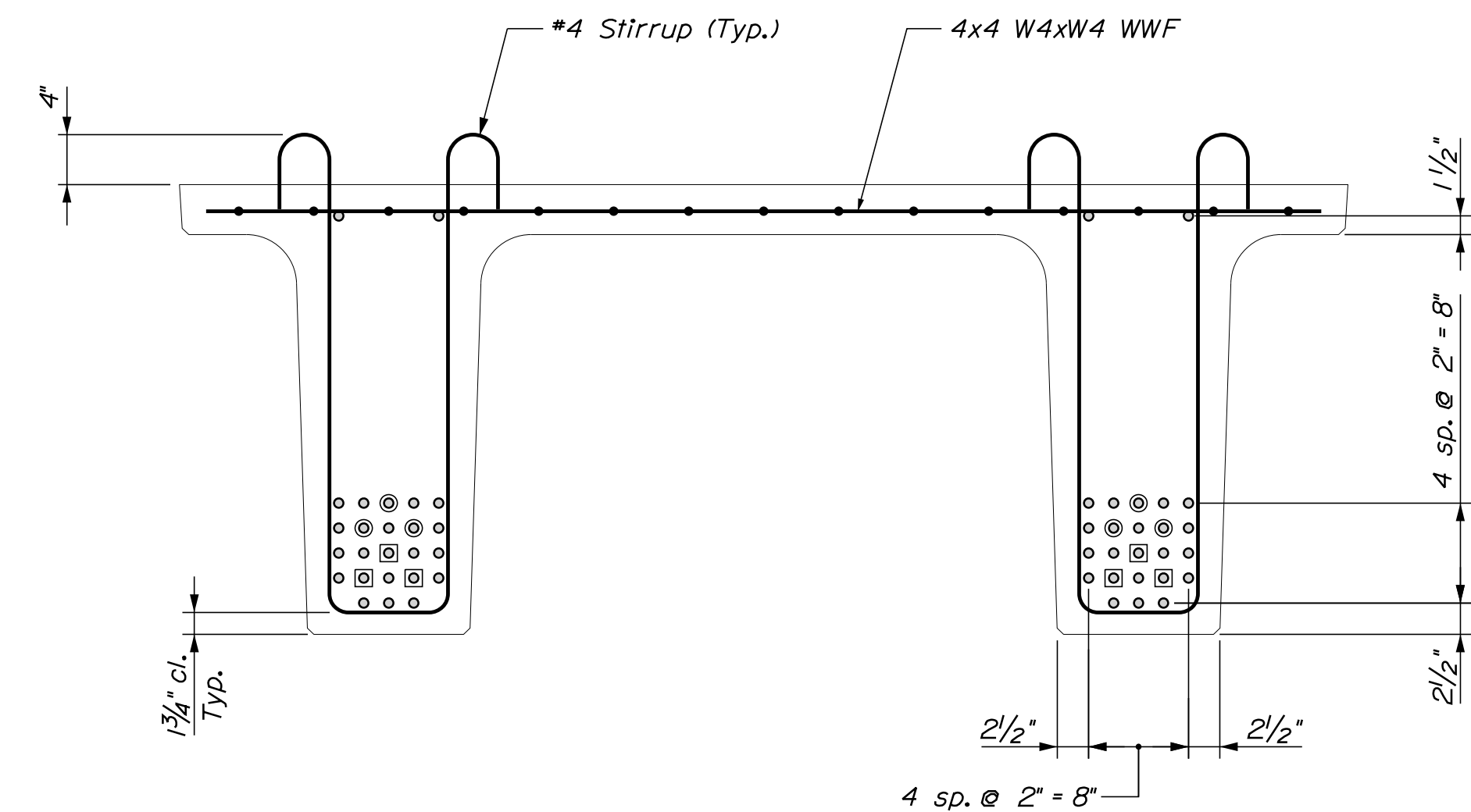
PARTIAL TOP FLANGE REINFORCING PLAN
Prestressing strands not shown



LONGITUDINAL SECTION THROUGH STEM



NEXT F BEAM END REINFORCING SECTION



NEXT F BEAM TYPICAL REINFORCING SECTION

© Strands debonded 6 ft.

☐ Strands debonded 13 ft.

24 OF 28	SHEET NUMBER	HEMLOCK STREAM BRIDGE HEMLOCK STREAM ARGYLE TWP PENOBSCOT COUNTY				PROJ. MANAGER D. TAYLOR	BY D. SHAW	DATE JUN 2025
		DESIGN-DETAILED				W. CASEY		
		CHECKED-REVIEWED						SIGNATURE
		DESIGN2-DETAILED2				N. PUJAY	T. WHITE	MAR 2022
		DESIGN3-DETAILED3						P.E. NUMBER
NEXT BEAM DETAILS		REVISIONS 1						
		REVISIONS 2						
		REVISIONS 3						
		REVISIONS 4						
		FIELD CHANGES						DATE
						STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-2168(700) BRIDGE NO. 3735 WIN 021687.00 BRIDGE PLANS		



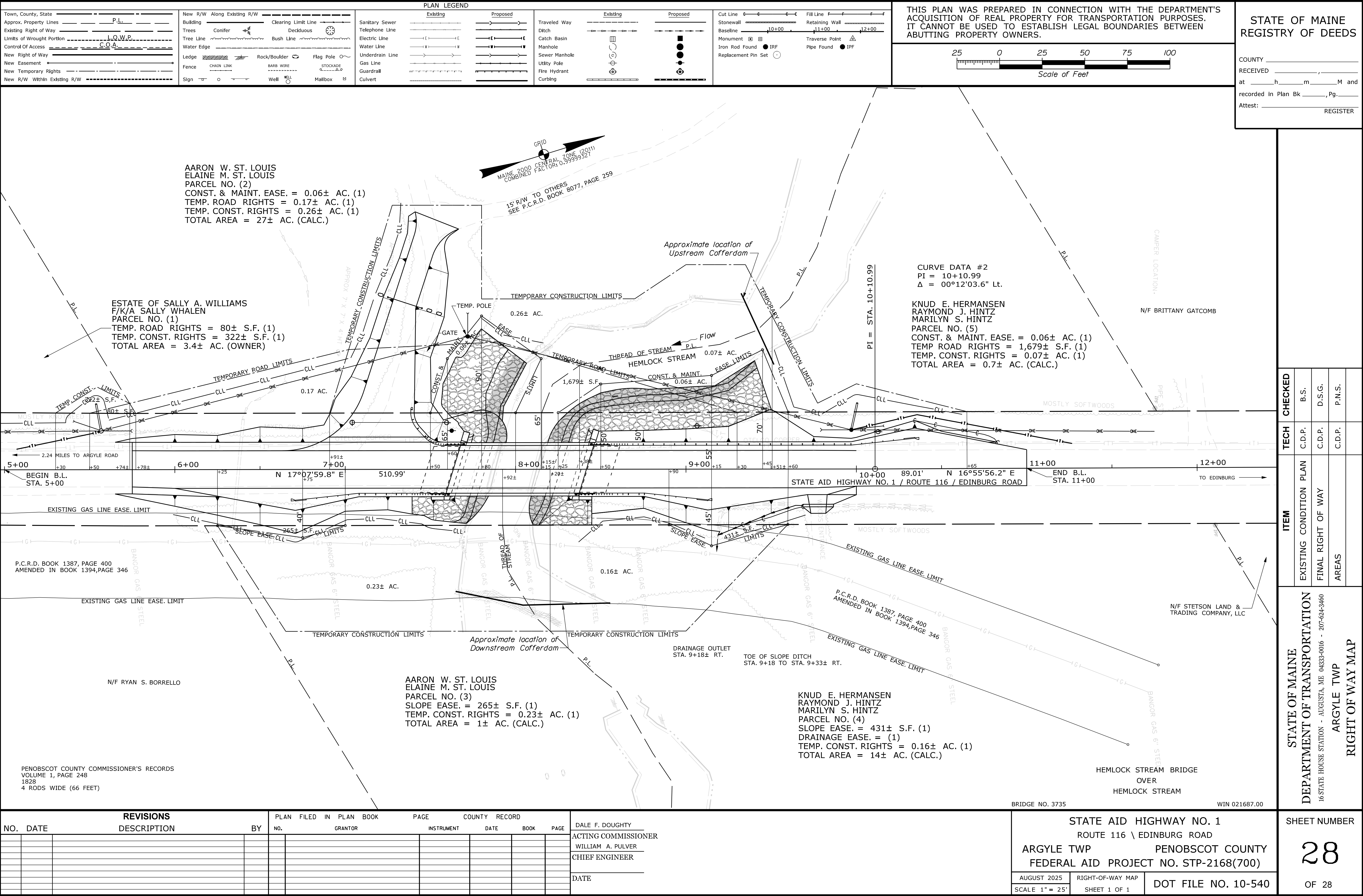
1. *The deck thickness shall be adjusted in accordance with Special Provision Section 535, Precast, Prestressed Concrete Superstructure, Camber.*
2. *Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.*
3. *Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.*
4. *End diaphragm concrete will be paid for under Item No. 502.261, Structural Concrete Roadway and Sidewalk Slabs on Concrete Bridges and shall be placed with the deck.*
5. *The Saw Cut Grooving shall be in the longitudinal direction.*
6. *The superstructure slab and end diaphragm shall be placed in one continuous operation and shall be kept plastic until the entire placement has been made.*
7. *Bar supports for GFRP reinforcement shall be plastic, dielectric material, or other approved material. See Special Provision Subsection 530.06 for additional requirements.*

Date:11/24/2025

Username: Richard.Mayer

Division: BRIDGE

Filename: ... \00\ROW\MSTA001_RWP\PLAN1.dgn



TECH		CHECKED
C.D.P.	B.S.	
C.D.P.	D.S.G.	
C.D.P.	P.N.S.	

ITEM	
EXISTING CONDITION PLAN	
FINAL RIGHT OF WAY	
AREAS	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
ARGYLE TWP
RIGHT OF WAY MAP

SHEET NUMBER
28
OF 28

STATE AID HIGHWAY NO. 1
ROUTE 116 \ EDINBURG ROAD
ARGYLE TWP
FEDERAL AID PROJECT NO. STP-2168(700)

AUGUST 2025
SCALE 1" = 25'

RIGHT-OF-WAY MAP
SHEET 1 OF 1

DOT FILE NO. 10-540