

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



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

TRAFFIC DATA

Current (2016) AADT 1,440
Future (2036) AADT 1,730
DHV - % of AADT 11%
Design Hour Volume 190
Heavy Trucks (% of AADT) 5%
Heavy Trucks (% of DHV) 3%
Directional Distribution (% of DHV) 50%
18 kip Equivalent P 2.0 27
18 kip Equivalent P 2.5 25
Design Speed (mph) 35

MATERIALS

Concrete:
Curbs, Sidewalks & Transition Barriers Class "LP"
Fill "Fill"
All Other Class "A"
Low-Carbon Chromium Reinforcing ASTM A1035, Grade 100
Structural Steel:
All Material (except as noted) ASTM A 709, Grade 50 (Metalized)
High Strength Bolts ASTM F 3125, Grade A 325, Type 1 (Galv.)

BASIC DESIGN STRESSES

Concrete
Class "A" f 'c = 4000 psi
Class "LP" f 'c = 5000 psi
Class "Fill" f 'c = 3000 psi
Low-Carbon Chromium Reinforcing f y = 100,000 psi
Structural Steel:
ASTM A 709, Grade 50 F y = 50,000 psi
ASTM F 3125, Grade A 325, Type 1 F μ = 120,000 psi



FALMOUTH
CUMBERLAND COUNTY
JOHNSON ROAD BRIDGE
OVER
INTERSTATE 295
JOHNSON ROAD
PROJECT NO. 021721.00
PROJECT LENGTH 0.188 mi.
BRIDGE NO. 5792

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UTILITIES

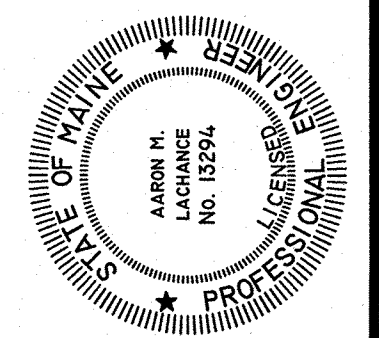
Central Maine Power Company
Consolidated Communications
Maine Turnpike Authority (overhead sign)
Spectrum
Portland Water District

MAINTENANCE OF TRAFFIC

Bridge to remain closed during construction. Traffic detoured on local roads.

PROJECT LOCATION	Johnson Road over Interstate 295, 0.24 miles westerly of US Route 1 Intersection Lat./Long. 43°44'32.04" N 70°13'27.19" W
PROGRAM AREA	Bridge Program
OUTLINE OF WORK	Bridge Replacement

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
	COMMISSIONER: <i>[Signature]</i> CHIEF ENGINEER: <i>[Signature]</i>	4-21-22 4-21-2022



<i>[Signature]</i> SIGNATURE	13294 P.E. NUMBER	April 6, 2022 DATE
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PROJECT INFORMATION		BRIDGE
PROGRAM	PROJECT MANAGER	DESIGNER
	MACKENZIE KESSEBORN	ARON LACHANCE
	CONSULTANT	HOYLE, TANNER & ASSOC., INC.
	PROJECT RESIDENT	
	CONTRACTOR	
	PROJECT COMPLETION DATE	

FALMOUTH JOHNSON ROAD BRIDGE	TITLE SHEET
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SHEET NUMBER
1
OF 61

Date:4/7/2022

Username:

Division: BRIDGE

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

WIN 021721.00

021721.00

ESTIMATED QUANTITIES FOR JOHNSON ROAD BRIDGE REPLACEMENT PROJECT			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.13	REMOVING EXISTING RAILINGS (RETAINED BY DEPARTMENT)	500	LF
202.19	REMOVING EXISTING BRIDGE (640 CY)(85 TONS)	1	LS
202.202	REMOVING PAVEMENT SURFACE	430	SY
203.20	COMMON EXCAVATION	1500	CY
203.24	COMMON BORROW	1375	CY
203.25	GRANULAR BORROW	500	CY
203.4338	LIGHTWEIGHT FILL - ULTRA LIGHTWEIGHT FOAMED GLASS AGGREGATE	700	CY
206.082	STRUCTURAL EARTH EXCAVATION-MAJOR STRUCTURES, PLAN QUANTITY	1000	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	1450	CY
403.2081	HOT MIX ASPHALT - 12.5 MM (POLYMER MODIFIED)	210	T
403.209	HOT MIX ASPHALT 9.5 MM (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	60	T
403.2131	HOT MIX ASPHALT - 12.5 MM (BASE & INTERMEDIATE BASE COURSE, POLYMER MODIFIED)	320	T
409.15	BITUMINOUS TACK COAT - APPLIED	240	G
501.239	DYNAMIC LOADING TESTS - PROVIDING FOR	3	EA
501.301	STEEL SHEET PILING (10500 SF)	1	LS
501.50	STEEL H-BEAM PILES 89 LBS/FT, DELIVERED	1090	LF
501.501	STEEL H-BEAM PILES 89 LBS/FT, IN PLACE	990	LF
501.54	STEEL H-BEAM PILES 117 LBS/FT, DELIVERED	810	LF
501.541	STEEL H-BEAM PILES 117 LBS/FT, IN PLACE	800	LF
501.90	PILE TIPS	28	EA
501.91	PILE SPLICES	28	EA
501.92	PILE DRIVING EQUIPMENT MOBILIZATION	1	LS
502.219	STRUCTURAL CONCRETE, ABUTMENT & RETAINING WALLS (190 CY)	1	LS
502.239	STRUCTURAL CONCRETE PIERS (150 CY)	1	LS
502.26	STRUCTURAL CONCRETE ROADWAY & SIDEWALK SLAB ON STEEL BRIDGE (320 CY)	1	LS
502.291	SAW CUT GROOVING (7830 SF)	1	LS
502.31	STRUCTURAL CONCRETE APPROACH SLABS (25 CY)	1	LS
502.49	STRUCTURAL CONCRETE CURBS AND SIDEWALKS (70 CY)	1	LS
502.77	FIBER REINFORCED POLYMER BRIDGE DRAIN - TYPE E	2	EA
502.77	FIBER REINFORCED POLYMER BRIDGE DRAIN - TYPE F	2	EA
503.19	LOW-CARBON CHROMIUM REINFORCEMENT - FABRICATED AND DELIVERED	143000	LB
503.20	LOW-CARBON CHROMIUM REINFORCEMENT - PLACING	143000	LB
504.702	STRUCTURAL STEEL FABRICATED AND DELIVERED, WELDED (406200 LB)	1	LS
504.71	STRUCTURAL STEEL ERECTION (406200 LB)	1	LS
505.08	SHEAR CONNECTORS (2490 EA)	1	LS
506.9104	THERMAL SPRAY COATING - SHOP APPLIED	1	LS
507.0821	STEEL BRIDGE RAILING, 3 BAR (234 LF)	1	LS
507.0831	STEEL BRIDGE RAILING, 4 BAR (234 LF)	1	LS
513.22	CRUSHED STONE SLOPE PROTECTION	560	SY
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (1600 SY)	1	LS
523.52	BEARING INSTALLATION	5	EA
523.5401	LAMINATED ELASTOMERIC BEARINGS, FIXED	5	EA
524.301	TEMPORARY STRUCTRURAL SUPPORT	1	LS
524.40	PROTECTIVE SHIELD	1	LS
526.301	TEMPORARY CONCRETE BARRIER TYPE 1 (3250 LF)	1	LS
526.34	PERMANENT CONCRETE TRANSITION BARRIER	4	EA
527.33	TRUCK MOUNTED ATTENUATOR	2	EA
527.34	WORK ZONE CRASH CUSHIONS	4	UN
603.179	18" CULV PIPE OPTION III	74	LF
603.19	24" CULV PIPE OPTION I	126	LF
604.072	CATCH BASIN TYPE A-C	2.6	EA
604.18	ADJUST MANHOLE OR CB TO GRADE	1	EA
605.11	12" UNDERDRAIN TYPE C	320	LF
606.1301	31" W-BEAM GUARDRAIL, MID-WAY SPLICE-SINGLE FACED	830	LF
606.1303	31" W-BEAM GUARDRAIL, MID-WAY SPLICE-15' RADIUS & LESS	50	LF
606.1305	31" W-BEAM GUARDRAIL, MID-WAY SPLICE FLARED TERMINAL	2	EA
606.1306	31" W-BEAM GUARDRAIL, MID-WAY SPLICE TANGENT TERMINAL	3	EA
606.1307	BRIDGE TRANSITION (ASYMMETRICAL) TYPE 1A	4	EA
606.1724	MID-WAY SPLICE GUARDRAIL TRANSITION	4	EA
606.265	TERMINAL END- SINGLE RAIL- GALVANIZED STEEL	2	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	11	EA
607.183	CHAIN LINK SNOW FENCE 33 INCH (240 LF)	1	LS
608.07	PLAIN CONCRETE SIDEWALK	11	SY
608.26	CURB RAMP DETECTABLE WARNING FIELD	24	SF
609.31	CURB TYPE 3	430	LF
610.08	PLAIN RIPRAP	5	CY
610.18	STONE DITCH PROTECTION	180	CY
613.40	TURF REINFORCEMENT MAT - (TRM)	380	SY
615.07	LOAM	200	CY
615.081	COMPOST BLANKET	15	CY
618.14	SEEDING METHOD NUMBER 2	33	UN
618.146	HGM BIOTIC SOIL HYDROMULCH MEDIA	3	UN
619.12	MULCH	33	UN
620.58	EROSION CONTROL GEOTEXTILE	1070	SY
620.66	DRAINAGE GEOCOMPOSITE	110	SY
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	3600	LF
627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	80	SF
629.05	HAND LABOR, STRAIGHT TIME	40	HR
631.10	AIR COMPRESSOR (INC OPERATOR)	20	HR
631.11	AIR TOOL (INCLUDING OPERATOR)	20	HR
631.12	ALL PURPOSE EXCAVATOR (INC OPERATOR)	25	HR
631.14	GRADER (INCLUDING OPERATOR)	20	HR

ESTIMATED QUANTITIES FOR JOHNSON ROAD BRIDGE REPLACEMENT PROJECT (CONTINUED)			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	25	HR
631.22	FRONT END LOADER (INCLUDING OPERATOR)	25	HR
639.18	FIELD OFFICE TYPE A	0.33	EA
652.312	TYPE III BARRICADE	8	EA
652.33	DRUM	50	EA
652.34	CONE	25	EA
652.35	CONSTRUCTION SIGNS	360	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES (360 CD)	1	LS
652.38	FLAGGER	350	HR
652.381	TRAFFIC OFFICER	100	HR
652.41	PORTABLE CHANGEABLE MESSAGE SIGN	4	EA
656.75	TEMP SOIL EROSION & WATER POLLUTION CTRL	1	LS
659.10	MOBILIZATION	1	LS

ESTIMATED QUANTITIES FOR MAINE TURNPIKE AUTHORITY ACCESS PULL-OFF			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
203.20	COMMON EXCAVATION	100	CY
203.24	COMMON BORROW	125	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	300	CY
606.1305	31" W-BEAM GUARDRAIL, MID-WAY SPLICE FLARED TERMINAL	1	EA
606.1306	31" W-BEAM GUARDRAIL, MID-WAY SPLICE TANGENT TERMINAL	1	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	3	EA
626.38	GROUND MOUNTED CABINET FOUNDATION	1	EA
645.157	DYNAMIC MESSAGE BOARD, REMOVE AND REINSTALL	1	LS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021721.00

WIN
021721.00

BRIDGE NO. 5792
BRIDGE PLANS

JOHNSON ROAD BRIDGE
INTERSTATE 295
FALMOUTH CUMBERLAND COUNTY

ESTIMATED QUANTITIES

SHEET NUMBER

2

OF 61

GENERAL CONSTRUCTION NOTES

1. For easements, construction limits and right of way lines, refer to 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. All aluminum bridge rail, rail posts, and associated hardware which are to be removed shall be carefully salvaged by the Contractor and will remain the property of the Department.

6. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.

7. 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.

8. Construct embankment shelf at each abutment at elevations shown on the plans.

9. Stones which cannot be rolled or compacted into the surface of the gravel pull-off shall be removed by hand raking. Payment for hand raking will be considered incidental to Pay Item 304.10, Aggregate Subbase Course - Gravel.

10. Place loam 2 inches deep on all new or reconstructed sideslopes unless otherwise directed on the plans or as directed by the Resident.

11. 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 Item No. 619.14, Erosion Control Mix.

12. Place a 24 inch wide strip of Erosion Control Blanket on the sideslopes along the top of the riprap and behind the wingwalls.

13. 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.

14. A MASH compliant guardrail end treatment shall be installed concurrently with the placement of each section of beam guardrail.

15. 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.

16. 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,
All exposed surfaces of Concrete Transition Barriers,
Concrete wearing surfaces,
Top of abutment backwalls and wingwalls and to one foot below the top of backwalls and wingwalls on the back side.

17. Project information referred to below may be accessed at the following MaineDOT web address: <http://www.maine.gov/mdot/contractors/>.

18. 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.

19. The project geotechnical report titled: Geotechnical Design Report Johnson Road Bridge No. 5792 Over Interstate 295, Falmouth, Maine, March 2022, may be accessed at the MaineDOT web address.

20. 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.

21. 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.

22. The Contractor shall submit a Bridge Demolition Plan to the Resident at least 10 business days prior to the start of demolition work. The plan shall outline the methods and equipment to be used to remove and dispose of all materials included in the existing bridge. No work related to the removal of the bridge shall be undertaken by the Contractor until MaineDOT has reviewed the Bridge Demolition Plan for appropriateness and completeness. Payment for all work necessary for developing, submitting and finalizing the Demolition Plan will be considered incidental to the bridge removal pay item.

23. The existing bridge shall be removed by and become the property of the Contractor. The steel portions of the existing bridge may be coated with a lead-based paint system. The Contractor is responsible for the containment, proper management and disposal of all lead-contaminated hazardous waste generated by the process of demolishing the bridge. The Contractor is responsible for implementing appropriate OSHA mandated personal protection standards related to this process. Once the existing bridge is removed, the Contractor is solely responsible for the care, custody and control of the components of the existing bridge and any hazardous waste generated as a result of the storage, recycling or disposal of the bridge components, including lead-coated steel. The Contractor shall recycle or reuse the steel in accordance with the Maine Department of Environmental Protection's "Maine Hazardous Waste Management Regulations," Chapter 850. A copy of this regulation is available at MaineDOT's offices on Child Street in Augusta. Payment for all labor, materials, equipment and other costs required to remove and dispose of the existing bridge will be considered incidental to the bridge removal pay item.

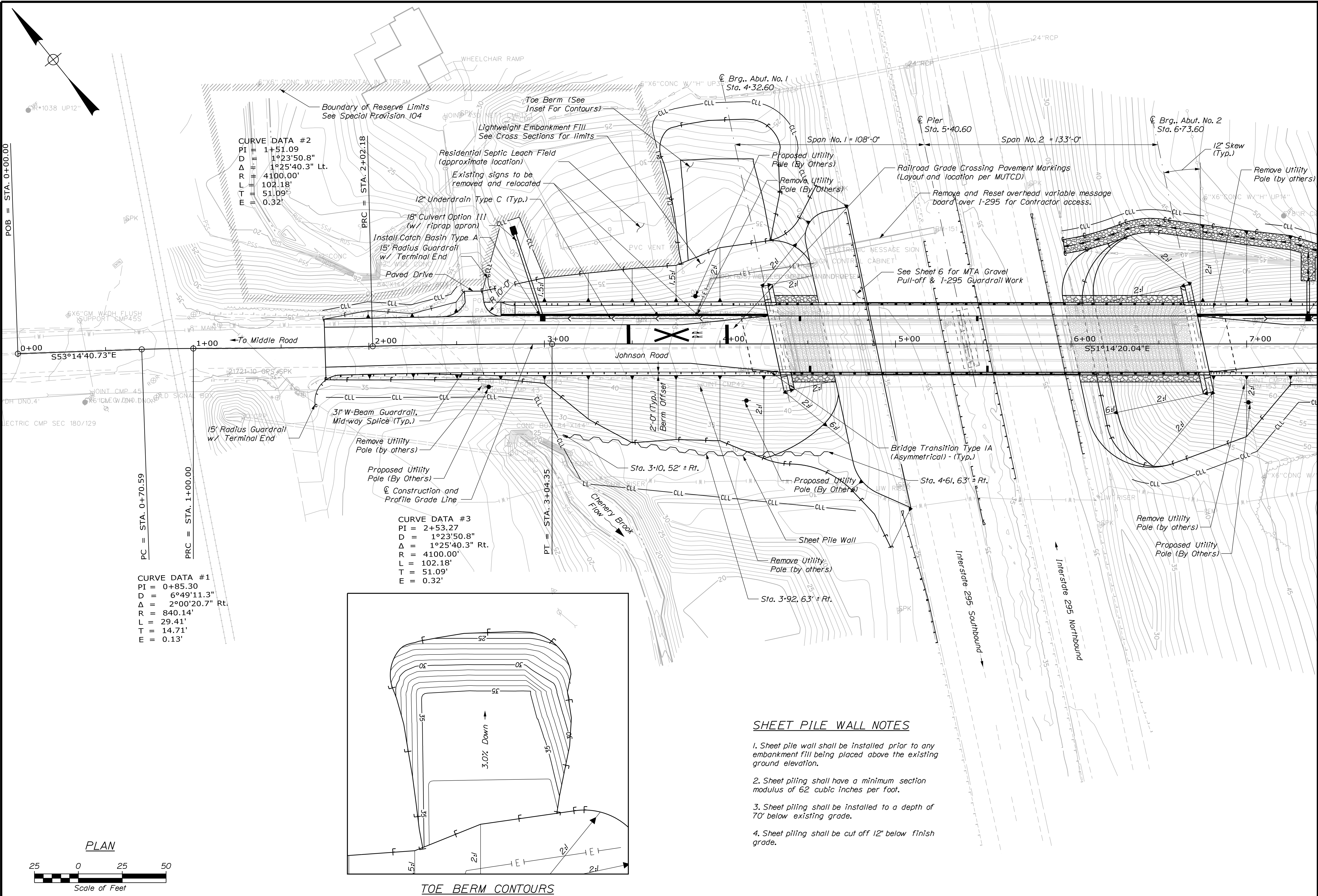
JOHNSON ROAD BRIDGE INTERSTATE 295 FALMOUTH CUMBERLAND COUNTY GENERAL CONSTRUCTION NOTES	SHEET NUMBER		3		OF 61	
	PROJ. MANAGER		MAK	BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION
	DESIGN-DETAILED	ECW	BUN	MAR 2022		
	CHECKED-REVIEWED	TAS	AML	MAR 2022		
	DESIGN2-DETAILED2	RPM	KVD			
	DESIGN3-DETAILED3					021721.00
	REVISIONS 1					
	REVISIONS 2					
	REVISIONS 3					
	REVISIONS 4					WIN 021721.00
FIELD CHANGES						
				DATE	BRIDGE NO. 5792	BRIDGE PLANS

Date: 4/6/2022

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Division: BRIDGE

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
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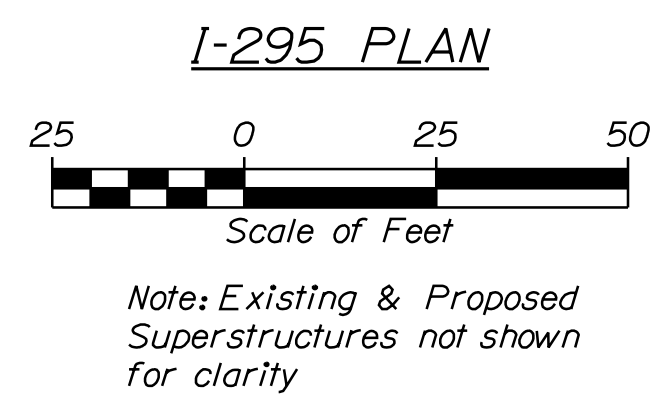
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BRIDGE NO. 5792
BRIDGE PLANS

JOHNSON ROAD BRIDGE
INTERSTATE 295
FALMOUTH CUMBERLAND COUNTY

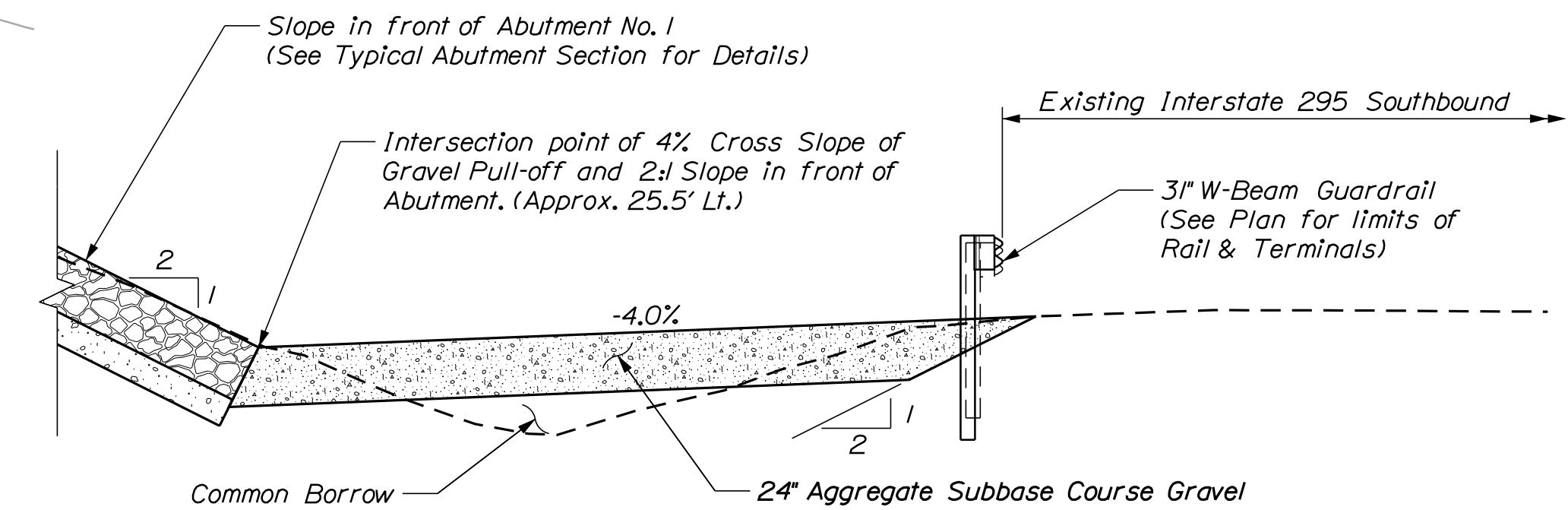
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OF 61

DATE	SIGNATURE	P.E. NUMBER	DATE
MAR 2022			
MAR 2022			

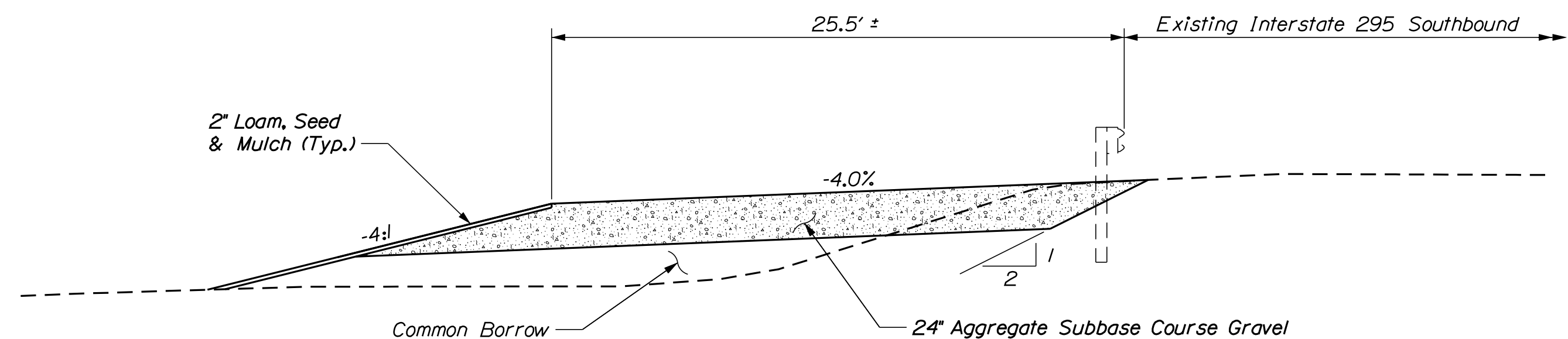
PROJ. MANAGER	DATE	BY	DATE
DESIGNED-DETAILED	ECW	B/N	MAR 2022
CHECKED-REVIEWED	TAS	ANL	MAR 2022
DESIGNED-DETAILED	RPW	KVD	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			



1. Actual location to be determined by Resident Engineer and Maine Turnpike Authority.
2. See Special Provision 645 (Dynamic Message Sign, Remove and Reinstall) and Standard Specification 626 for conduit and wire installation feeds to cabinet foundation.
3. A 54" x 36" x 4" concrete work pad shall be installed in front of cabinet door. Install #4 reinforcing, 12" on center, at mid height of 4" thick work pad. See Special Provision 645 (Dynamic Message Sign, Remove and reinstall) for additional information and requirements. Cost of concrete work pad incidental to Special Provision 645 (Dynamic Message Sign, Remove and Reinstall).

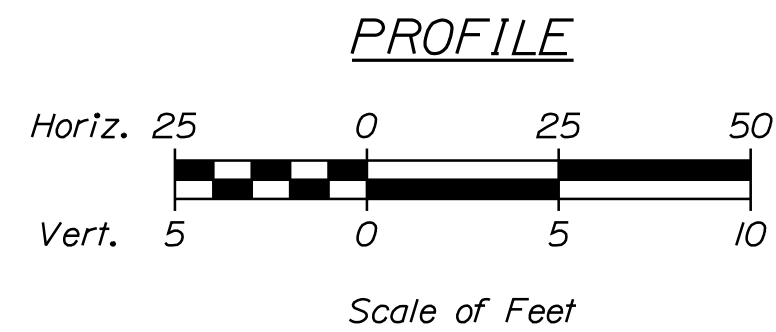


TYPICAL SECTION GRAVEL PULL-OFF
SECTION UNDER BRIDGE



TYPICAL SECTION GRAVEL PULL-OFF
SECTION BEYOND LIMITS OF BRIDGE

6 OF 61	SHEET NUMBER	JOHNSON ROAD BRIDGE INTERSTATE 295 FALMOUTH CUMBERLAND COUNTY	PROJ. MANAGER				MARK	BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION		
			DESIGN-DETAILED				ECW	BUN	MAR 2022			
			CHECKED-REVIEWED				TAS	AML	MAR 2022			
			DESIGN2-DETAILED2				RMW	KVD				
			DESIGN3-DETAILED3									
P.E. NUMBER										021721.00		
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REVISIONS 2												
REVISIONS 3												
REVISIONS 4												
FIELD CHANGES										DATE		
I-295 MTA ACCESS										BRIDGE NO. 5792	WIN 021721.00	BRIDGE PLANS

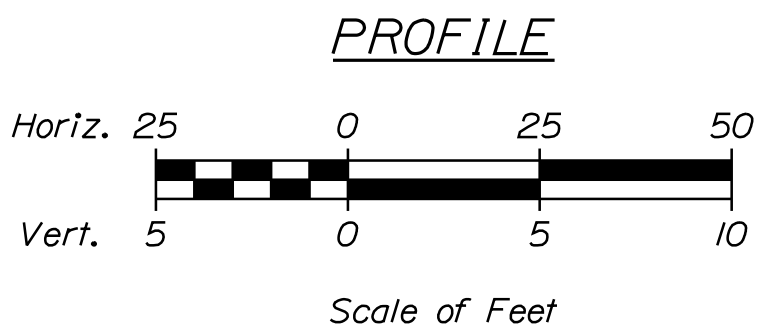
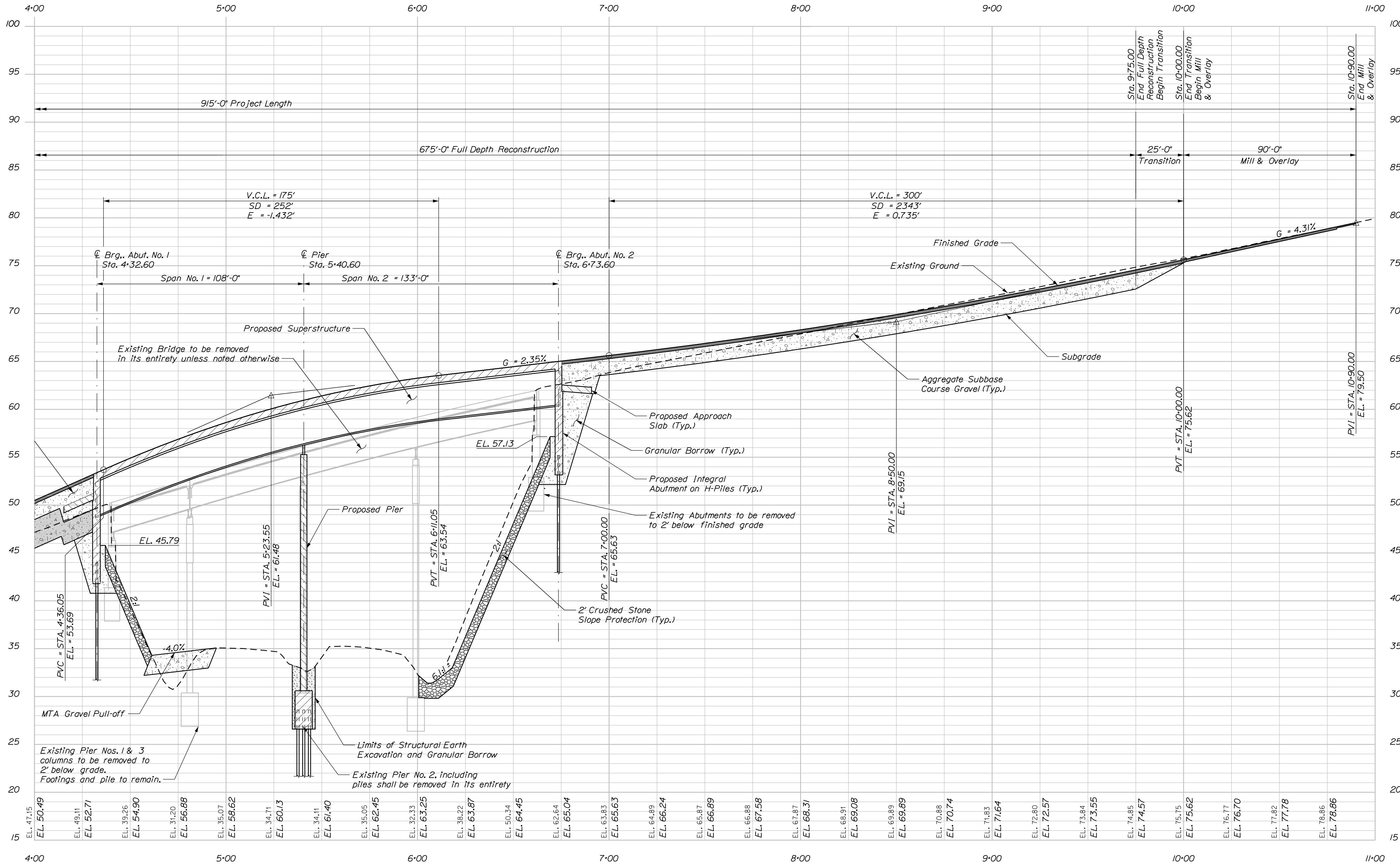


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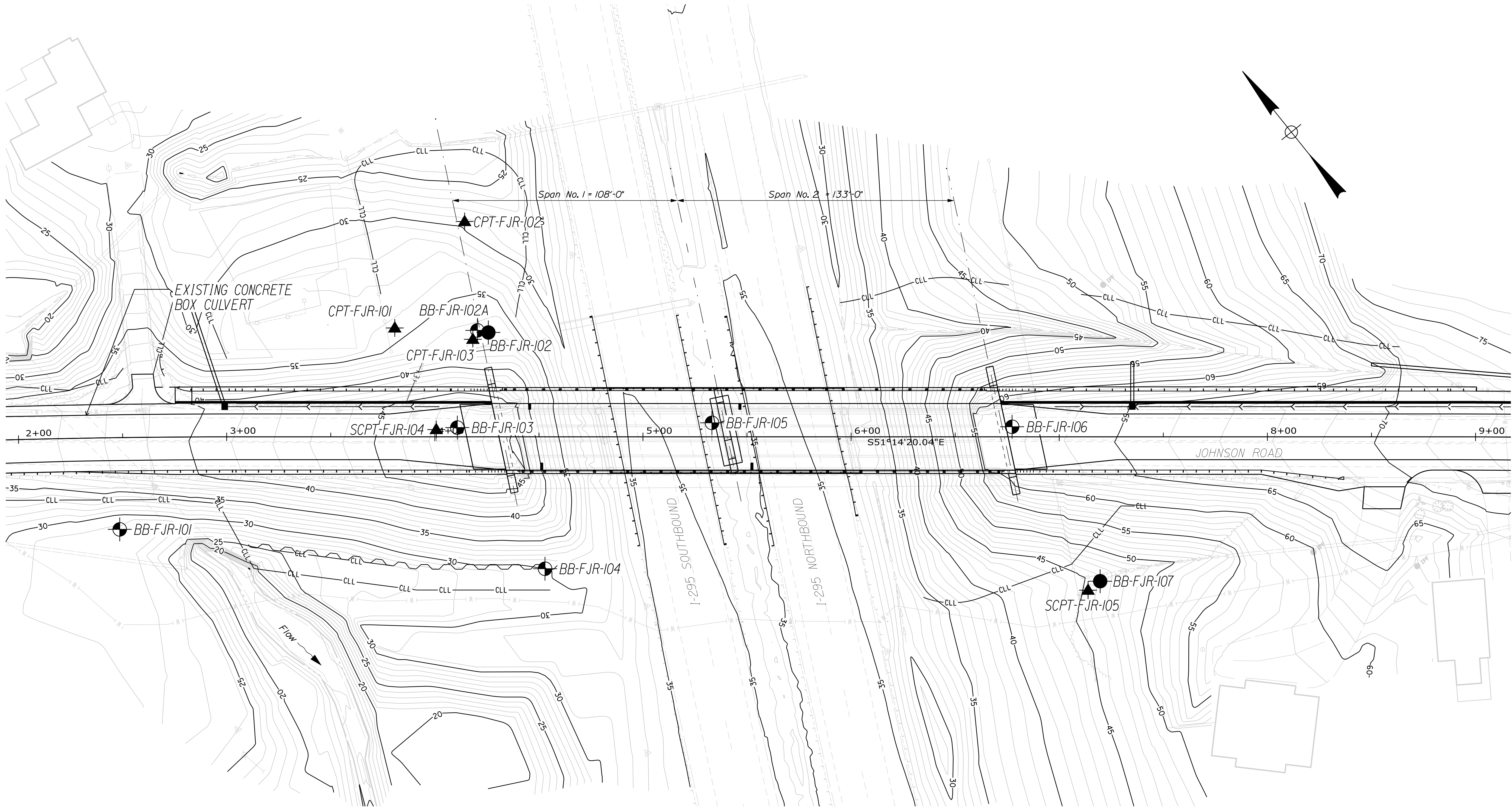
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STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		021721.00		WIN		021721.00		BRIDGE NO. 5792		BRIDGE PLANS	
JOHNSON ROAD BRIDGE		INTERSTATE 295		CUMBERLAND COUNTY		FALMOUTH		PROFILE		SHEET NUMBER		8	
PROJ. MANAGER		DESIGN-DETAILED		CHECKED-REVIEWED		DESIGN-DETAILED		REVISIONS 1		REVISIONS 2		REVISIONS 3	
BY		DATE		DATE		DATE		DATE		DATE		DATE	
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ELW		TAS		RW		RW		SIGNATURE		P.E. NUMBER		DATE	
FIELD CHANGES		REVISIONS 4		REVISIONS 5		REVISIONS 6		REVISIONS 7		REVISIONS 8		REVISIONS 9	

Division: Bridge
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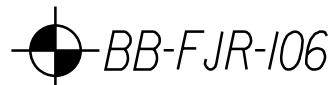


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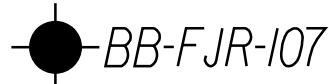
1) Base map developed from electronic files (Files included alignments.dgn, Bridge.dgn, Topo.dgn, and contours.dgn) provided by Hoyle, Tanner & Associates, Inc February 28, 2022.

2) The as-drilled boring locations were surveyed by a MaineDOT survey crew and provided to GZA in an electronic file (Borings.dgn).

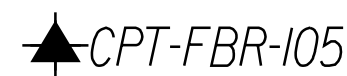
LEGEND



Indicates borings performed by New England Boring Contractors of Hermon, Maine between June 3 and August 26, 2019 and observed by GZA personnel.

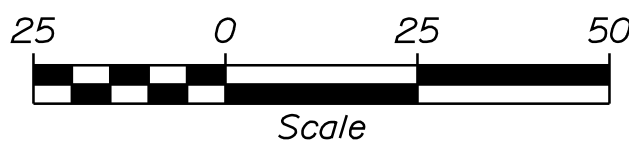


Indicates borings performed by Summit Geoengineering Services, Inc. of Rockland, Maine between May 28, and May 30, 2019 and observed by GZA personnel.



Indicates cone penetration tests (CPTs) performed by Summit Geoengineering Services, Inc. of Rockland, Maine between May 28, and June 3, 2019 ("S" indicates seismic testing was performed).

PLAN



STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
021721.00	
BRIDGE NO. 5792	WIN
21721.00	
BRIDGE PLANS	

PROJ. MANAGER	DATE	BY	SIGNATURE
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REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

JOHNSON ROAD BRIDGE	
INTERSTATE 295	
CUMBERLAND COUNTY	
FALMOUTH	
BORING LOCATION PLAN	

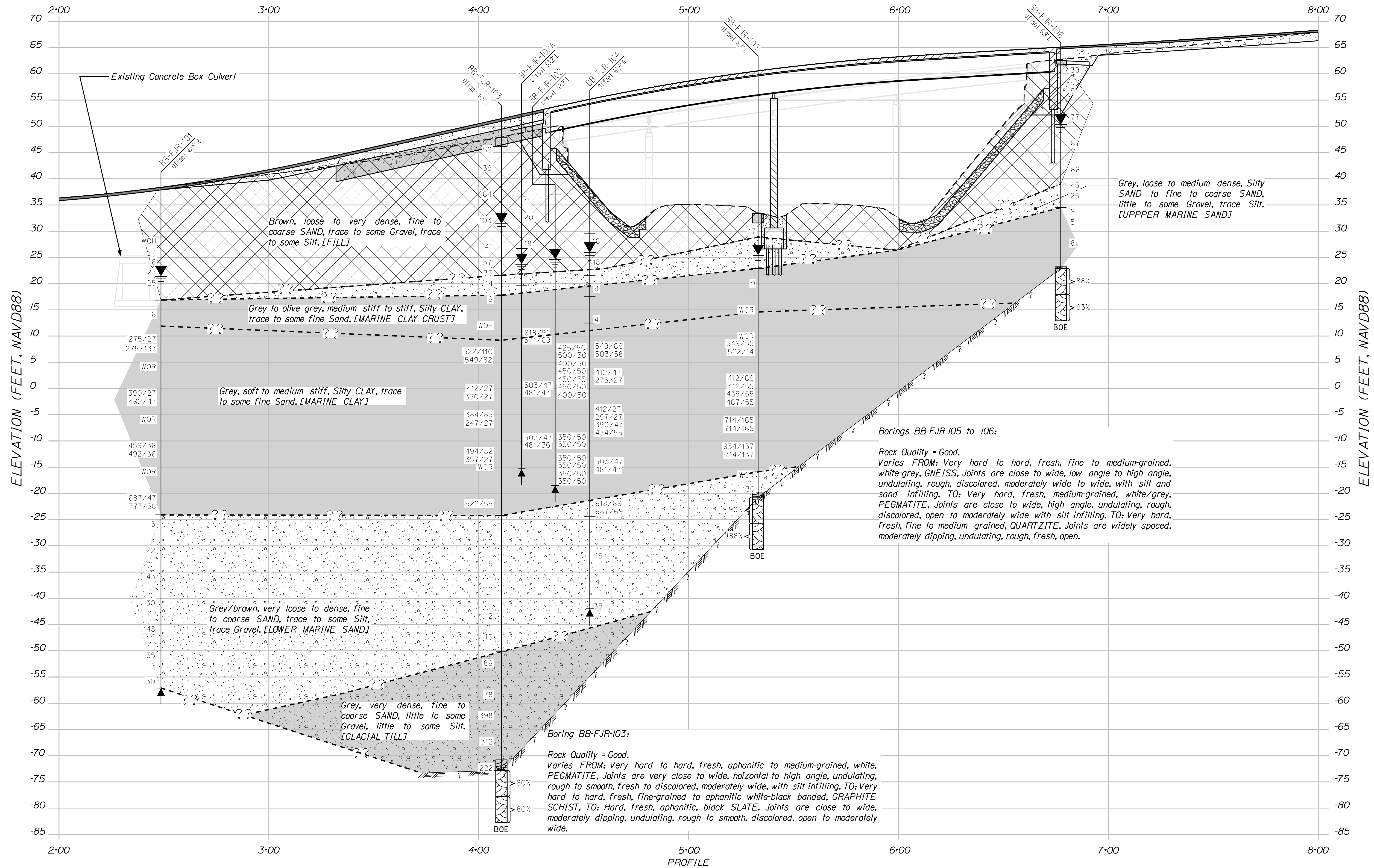
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PREPARED BY:





NOTES

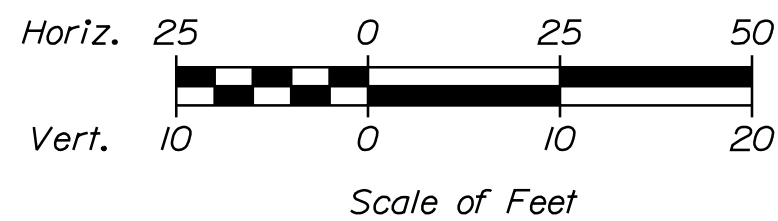
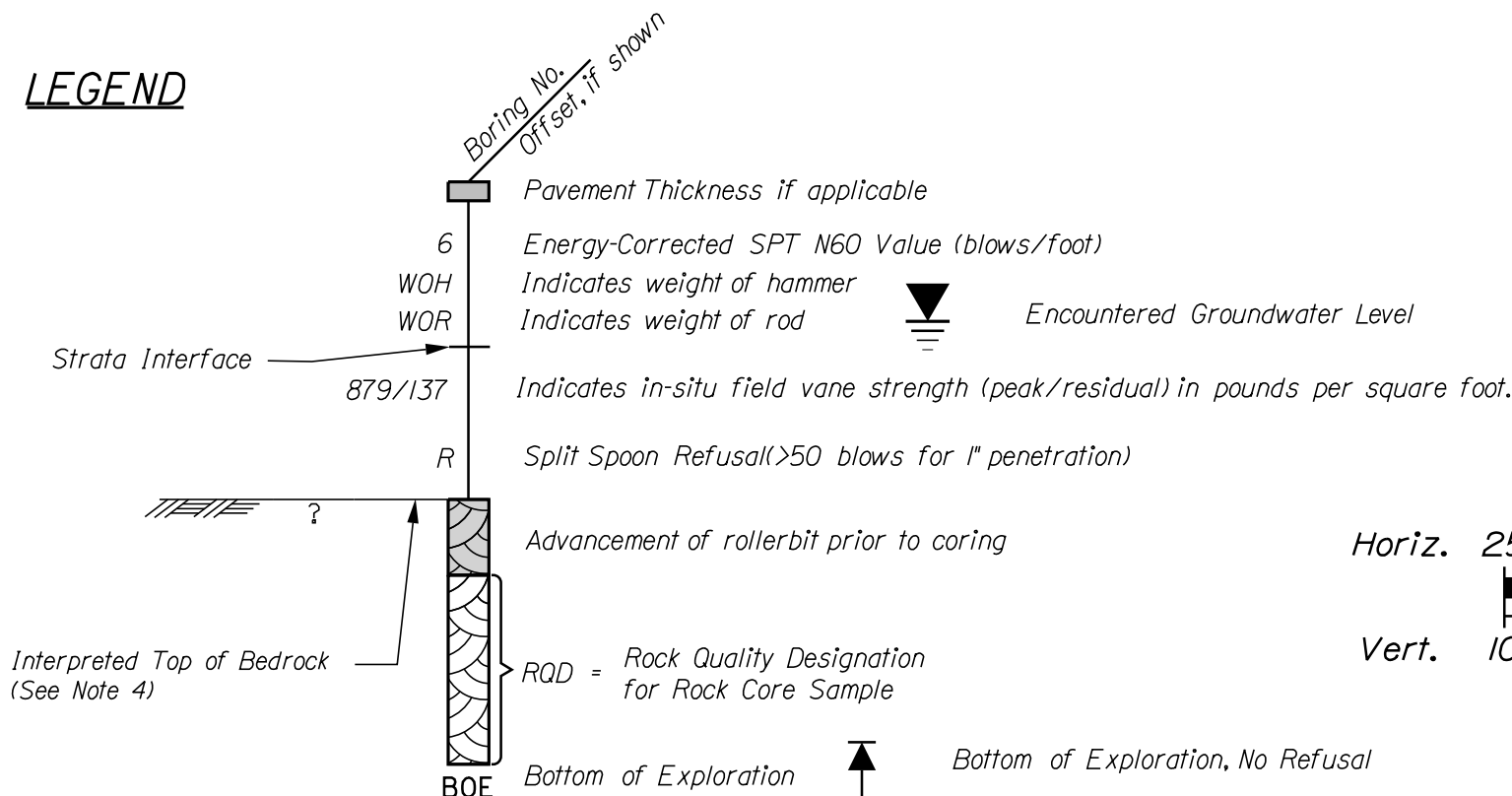
1) Base map developed from electronic files provided by Hoyle, Tanner & Associates, Inc. on January 28, 2022 (File included Profile.dgn)

2) The as-drilled boring locations were surveyed by a MaineDOT survey crew and provided to GZA in an electronic file (Borings.dgn).

3) BB-FJR-100 series bridge borings were performed by New England Boring Contractors and Summit Geoengineering Services, Inc and observed by GZA personnel between May 28 and August 26, 2019.

4) This generalized interpretive soil and rock 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 transitions may vary and are probably more erratic. Boring data are shown for borings drilled off alignment, but interpreted strata are based on the three borings drilled closest to the project baseline. For more specific information refer to the exploration logs.

LEGEND



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.

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 * 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 2 of 2
 Boring No.: BB-FJR-101

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 2
 Boring No.: BB-FJR-103

Page 2 of 2
Boring No.: BB-FJR-103

[illegible]

Maine Department of Transportation						Project:		Boring No.: BB-FJR-102A	
Soil/Rock Exploration Log US CUSTOMARY UNITS						Location:			
Contractor: New England Boring Contractors						Elevation (ft.):	36.7	Auger ID/OD:	4.25" S54
Operator: Brad Enos						Datum:	NAVD 88	Sampler:	Standard Splitston
Logged By: M. Wash						Rig Type:	ATV-M-1	Hammer Wt./Fall:	140*/30"
Date Started/Finish: 8/20/19-8/20/19						Drilling Method:	Drive & Wash	Core Barrel:	N/A
Boring Location: Sta. 4+20.4, 51Z-L1						Casing ID/OD:	4/4.5"	Water Level +/-:	13' bgs
Hammer Efficiency Factor: 0.6						Hammer Type:	Automatic <input type="checkbox"/> Hydraulic <input checked="" type="checkbox"/> Rope & Cathode <input checked="" type="checkbox"/>		
<div>Q = Spill Spoon Sample MS = Unconsolidated Soil-Spoon Sample Attempt U = Thin Wall Sleeve Sample Y = Field Vane Shear Test PP = Pocket Penetrometer BT = Unconsolidated Free Soil - Blow Test Method</div>						<div>P = Rock Core Sample SSA = Solid Stem Auger ISA = Hollow Stem Auger RC = Rammed Core WOM = Weight of Hole, Normal NOR/C = Weight of Rods or Casing RSC = Record at One Point</div>			
						<div>S_u = Undrained Shear Strength (psi) S_{u(10)} = Lab Vane Undrained Shear Strength (psi) S_c = Consolidation Compression Strength (psi) N_{cor} = Normalized - Raw Field SPT blow Hammer Efficiency Factor = Rig Specific Actual Collector Value N_{sp} = SPT Normalized Corrected for Hammer Efficiency N_u = Hammer Efficiency Factor/Efficiency percentage</div>			
Soil Sample Information						Laboratory Testing Results/ASTM and Unified Class.			
Depth (ft.)	Sample No.	Flow Rate (in./min.)	Sample Depth (ft.)	Blooms (lb. ft.) Blow Count (blows/ft.) S _u (psi) / S _c (psi)	Notes	Grain Size Distribution (%)	Visual Description and Remarks		
10	24/18	0.0 - 2.0	2.0	2-4-7-10	11	11	SSA	Brown, dry, medium clayey, fine to medium SAND, little silt, (F&B)	
20	24/22	3.0 - 5.0	5.0	10-10-10-27	20	20		Brown, dry, medium dense, fine to medium SAND, little silt, (F&B)	
30	24/24	8.0 - 10.0	10.0	12-10-8-9	18	18	78	Brown, dry, medium dense, fine to medium SAND, trace silt, (F&B)	
40	24/13	25.0 - 27.0	27.0	Push thru vane S _u =571/69 psi	-	RC		Grey, wet, medium stiff, Silty CLAY, little fine sand, (Marine Clay). 65x150 mm vane raw torque readings: V1: 270/40 in-lbs V2: 230/20 in-lbs	
50	24/24	35.0 - 47.0	47.0	Push thru vane S _u =503/47 psi	-	V5		Grey, wet, medium stiff to soft, Silty CLAY, (Marine Clay). 65x150 mm vane raw torque readings: V5: 220/20 in-lbs V6: 210/20 in-lbs	
60	24/24	45.0 - 47.0	47.0	Push thru vane S _u =481/36 psi	-	V6		Grey, wet, medium stiff to soft, Silty CLAY, (Marine Clay). 65x150 mm vane raw torque readings: V5: 220/20 in-lbs V6: 210/20 in-lbs	
70	24/23	50.0 - 52.0	52.0	PUSH				Bottom of Exploration at 52.0 feet below ground surface.	
Remarks:									
1. Fine-Grained Soil Descriptions on this log are based on plasticity estimated using visual-manual classification techniques or laboratory Atterberg Limit tests if available, rather than the Modified Standard based percentages passing specific grain sizes. 2. 4" casing advanced 25' bgs. 3. Water level measured immediately after removal of casing.									
Stratification lines represent approximate boundaries between soil layers. Interpolation may be utilized. Note: Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those indicated on this log.								Page 1 of 1 Boring No.: BB-FJR-102A	

[illegible]

Maine Department of Transportation				Project:	Jaymore Road Bridge +5792 over I-295		Boring No.:	BB-FJR-106		
Soil/Rock Exploration Log _____ US CUSTOMARY UNITS				Location:	Falmouth, Maine		WIN:	21721.00		
Datator:	New England Boring Contractors	Elevation (ft.):	62.6	Auger ID/FDI:	Auger ID/FDI		Sampler:	Standard Split-Spoon		
Operator:	Mike Porter	Date:	NAVD 88	Hammer Type:	Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathode <input type="checkbox"/>		Hammer Wt./Fall:	140"/30"		
Lugged By:	L. Navarrete	Rig Type:	Truck Mobile BI-53	Coring Method:	Drive & Wash		Core Barrel:	NK		
Date Start/Finish:	6/3/19-6/4/19	Casing ID/FDI:	4.4/4.5, 3/3.5"	Water Level *	12.2' bgs					
Boring Location:	Sta. 6+77.3, 4.5' LI	Hammer Efficiency Factor:	.937							
<div>P = Rock Core Sample SSA = Solid Stem Auger ISA = Hollow Stem Auger RC = Roller-Cone WDC = Weight of 140 lbs. Hammer NORVIC = Weight of Rods or Casing RSCC = Repeat at One Foot Sg = Moistureless Test Value Based on Dry Sieve Unit Su(1-3) = Lab. Wet Unconsolidated Shear Strength (psi) Su(4-6) = Standard Compression Strength (psi) Nonresistance = Raw Field SPT blowes Hammer Efficiency = Rig Specific Actual Collector Time Nkg = SPT Nonresistance Corrected for Hammer Efficiency Net Hammer Efficiency Factor (After Blows corrected)</div> <div>1 = Pocket Formula Shear Strength (psi) WC = Water Content, percent L = Liquid Limit P = Plastic Limit PI = Plasticity Index G = Grain Size Analysis E = Compressibility Test</div>										
Sample Information										
Depth (ft.)	Sample No.	Flow Rate (in.)	Sample Depth (ft.)	Blows (16 ft.)	Change from 10 ft. to 10 ft. 20 ft. 30 ft. 40 ft. 50 ft. 60 ft. 70 ft. 80 ft. 90 ft. 100 ft. 110 ft. 120 ft. 130 ft. 140 ft. 150 ft. 160 ft. 170 ft. 180 ft. 190 ft. 200 ft. 210 ft. 220 ft. 230 ft. 240 ft. 250 ft. 260 ft. 270 ft. 280 ft. 290 ft. 300 ft. 310 ft. 320 ft. 330 ft. 340 ft. 350 ft. 360 ft. 370 ft. 380 ft. 390 ft. 400 ft. 410 ft. 420 ft. 430 ft. 440 ft. 450 ft. 460 ft. 470 ft. 480 ft. 490 ft. 500 ft. 510 ft. 520 ft. 530 ft. 540 ft. 550 ft. 560 ft. 570 ft. 580 ft. 590 ft. 600 ft. 610 ft. 620 ft. 630 ft. 640 ft. 650 ft. 660 ft. 670 ft. 680 ft. 690 ft. 700 ft. 710 ft. 720 ft. 730 ft. 740 ft. 750 ft. 760 ft. 770 ft. 780 ft. 790 ft. 800 ft. 810 ft. 820 ft. 830 ft. 840 ft. 850 ft. 860 ft. 870 ft. 880 ft. 890 ft. 900 ft. 910 ft. 920 ft. 930 ft. 940 ft. 950 ft. 960 ft. 970 ft. 980 ft. 990 ft. 1000 ft.	Visual Description and Remarks	Laboratory Testing Results/Avg. STD. and Unified Class.			
0	ID	24/12	1.0 - 3.0	14-12-13-12	25	39		ASPHALT -	-1.0	O45-D20 A-5, SP-5M
5	2D	24/24	5.0 - 7.0	3-3-3-3	6	9	29	Brown, dry, loose, fine to medium SAND, trace gravel, trace silt (fsl).		O45-D21 A-5, SP-5M
10	3D	24/12	10.0 - 12.0	24-21-28-29	49	77	55	Brown, wet, very dense, fine to medium SAND (fsl).		
15	4D	24/11	15.0 - 17.0	11-20-23-25	43	67	82	Brown, wet, very dense, fine to medium SAND (fsl).		
20	5D	24/11	20.0 - 22.0	8-26-19-20	42	66		Brown, wet, very dense, fine to medium SAND (fsl).		
25	6D	24/8	23.0 - 25.0	14-11-18-19	29	45	109	Top 6" Dark brown, wet, dense, fine to medium SAND, (little silt), (fsl). Bottom 2" Grey, wet, Silty fine to coarse SAND, (upper Marine Sand).	-23.5	
30	7D	24/3	25.0 - 27.0	9-8-6-6	16	25		Grey, wet, medium dense, silty to coarse SAND, some gravel, trace silt, (upper Marine Sand).		
35	8D	24/7	28.0 - 30.0	3-3-3-3	6	9	95	Grey, wet, stiff, Silty CLAY. (Marine Clay Crust).	-28.0	
40	9D	24/19	30.0 - 32.0	2-1-2-WGR	3	5	82	Dark grey, wet, medium stiff, Silty CLAY, trace fine sand, (Marine Clay crust).		
45	U1	12/12	33.0 - 34.0	PUSH				Grey, wet, Silty CLAY, trace fine sand, (Marine Clay Crust).		
50	XDD	24/24	34.0 - 36.0	1-2-3-2	5	8		Grey, wet, medium stiff to stiff, Silty CLAY, some sand, with specks of fine sand, (Marine Clay Crust).		
55										
60	R1	60/59	39.6 - 44.6	RQD - 88%				Advance roller bit to 39.5'; consistent grey rock fragments in wash return, probable top of rock. Set up to core at 39.6'. R1 Very hard, fresh, medium grained, white/grey, PEGMATITE joints are widely spaced to close, High angle, undulating, rough, disconform, open to moderately wide, with sill filling. VASCULARIZATION: Rock Quality = Good Recovery = 100% Rock Core Times (min/sec): 39.6-40.6' (6/21), 40.6-41.6' (12/17), 41.6-42.6' (11/5), 42.6-43.6' (14/4), 43.6-44.6' (14/4) R2 Top 4.3' Very hard, fresh, medium grained, PEGMATITE, similar to above.	-39.3	
65	R2	60/60	44.6 - 49.6	RQD - 93%				R2: Bottom 0.7' Very hard, fresh, fine to medium grained QUARTZITE. Joints are widely spaced, moderately dipping, undulating, rough, fresh, open, no infilling. VASCULARIZATION FORMATION: Rock Quality = Excellent Recovery = 100% Rock Core Times (min/sec): 44.6-45.6' (12/32), 45.6-46.6' (11/38), 46.6-47.6' (14/4), 47.6-48.6' (12/17), 48.6-49.6' (10/21)	-45.9	
70								Bottom of Exploration at 49.6 feet below ground surface.	-49.6	
75										
Remarks--										
1. Fine-Grained Soil Descriptions on this log are based on plasticity estimated using visual-manual classification techniques or laboratory Atterberg Limit tests if available, rather than the Modified Standard based percentages passing specific grain sizes.										
2. Automatic hammer NEMCO #B-24 Energy Transfer Ratio = 0.937										
3. Water level measured immediately after removal of casing										
Stratification lines represent apparent boundaries between soil layers; transitions may be gradual.										
Weathering limit depths have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than rainfall or tide.										
Page 1 of 1 Boring No.: BB-FJR-106										

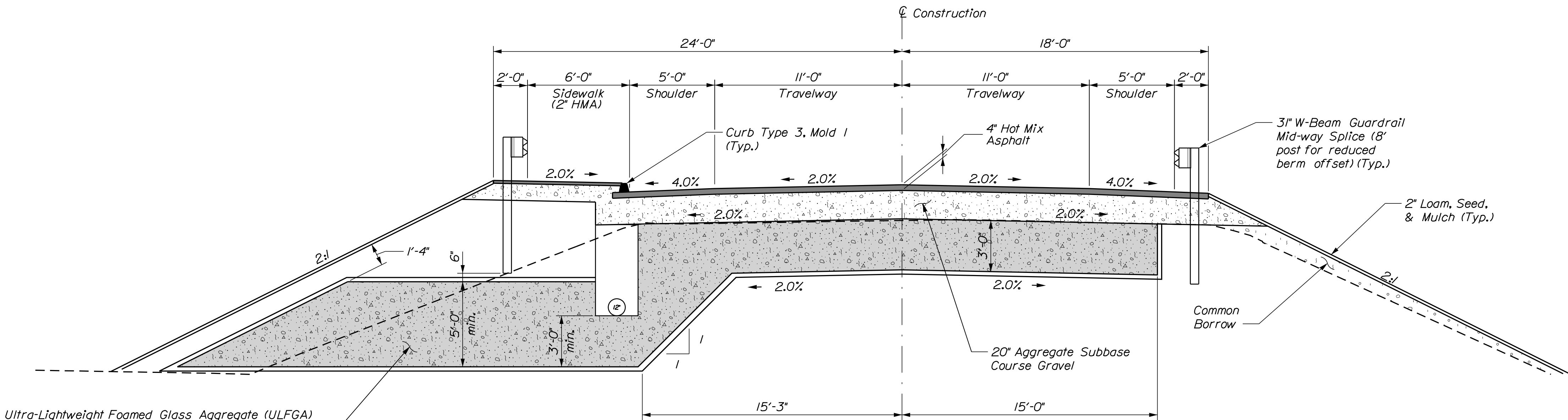
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				DESIGN-DETAILED	CHECKED-REVIEWED				
BORING LOGS 3		DESIGN2-DETAILED2				P.E. NUMBER	DATE	021721.00	
		DESIGN3-DETAILED3							
		REVISIONS 1							
		REVISIONS 2							
		REVISIONS 3						BRIDGE NO. 5792 WIN 21721.00 BRIDGE PLANS	
		REVISIONS 4							
		FIELD CHANGES							

Date:4/6/2022

Username:

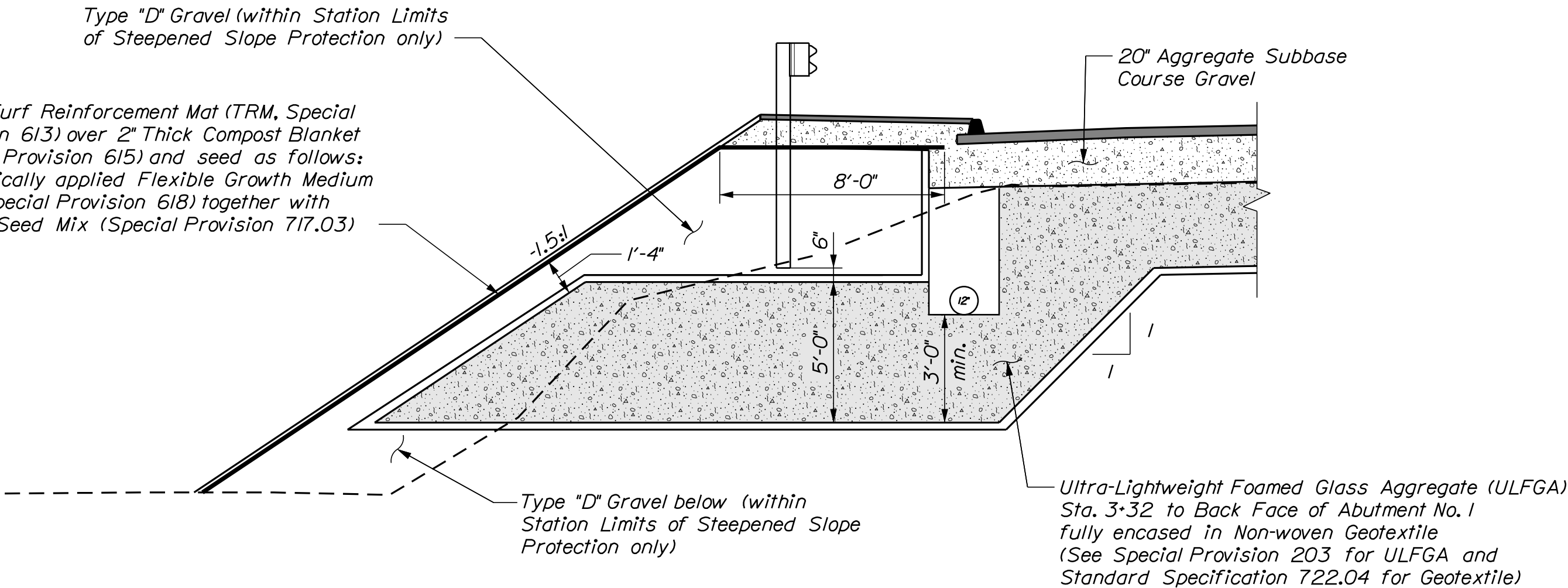
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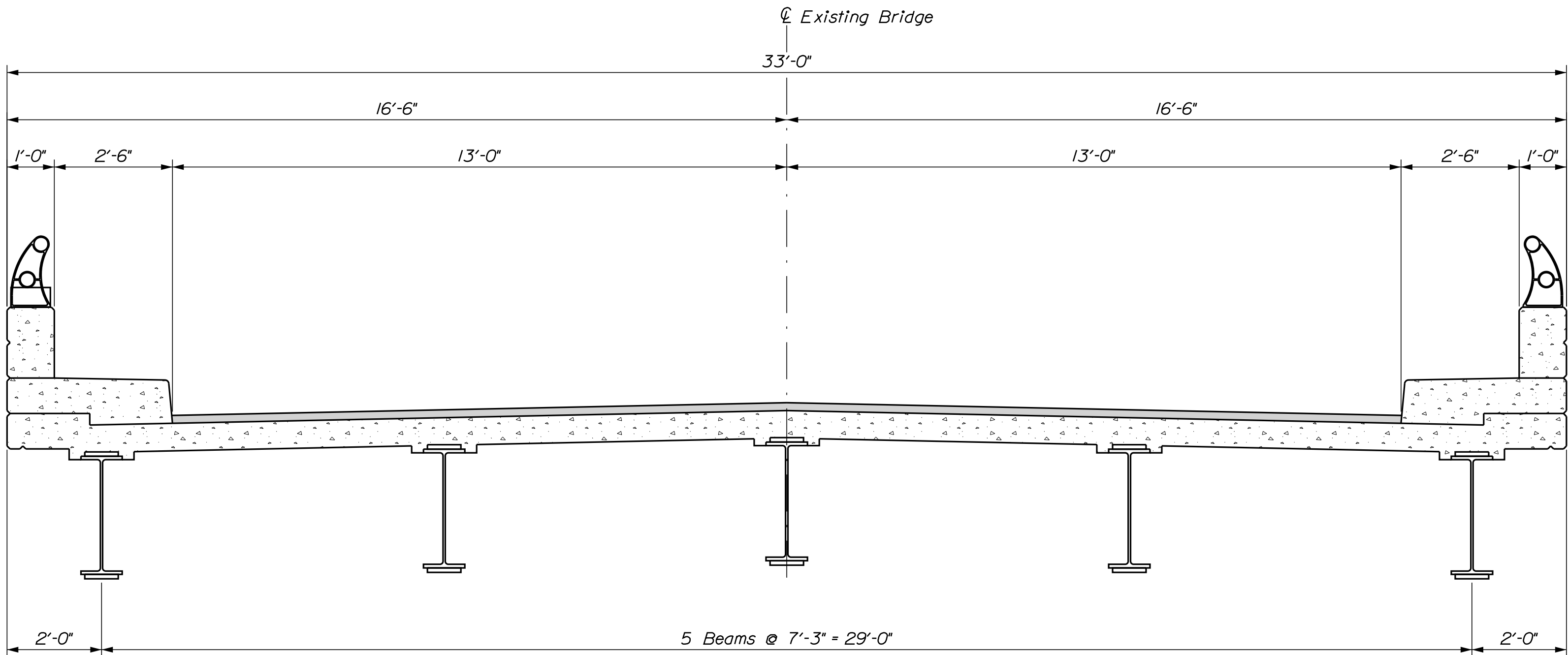
Ultra-Lightweight Foamed Glass Aggregate (ULFGA)
Sta. 3+32 to Back Face of Abutment No. 1
fully encased in Non-woven Geotextile
(See Special Provision 203 for ULFGA and
Standard Specification 722.04 for Geotextile)

TYPICAL APPROACH SECTION



Install Turf Reinforcement Mat (TRM, Special
Provision 613) over 2" Thick Compost Blanket
(Special Provision 615) and seed as follows:
Hydraulically applied Flexible Growth Medium
(FGM, Special Provision 618) together with
Special Seed Mix (Special Provision 717.03)

STEEPENED SLOPE PROTECTION
Sta. 2+75 to Sta. 3+75 LT



EXISTING BRIDGE SECTION

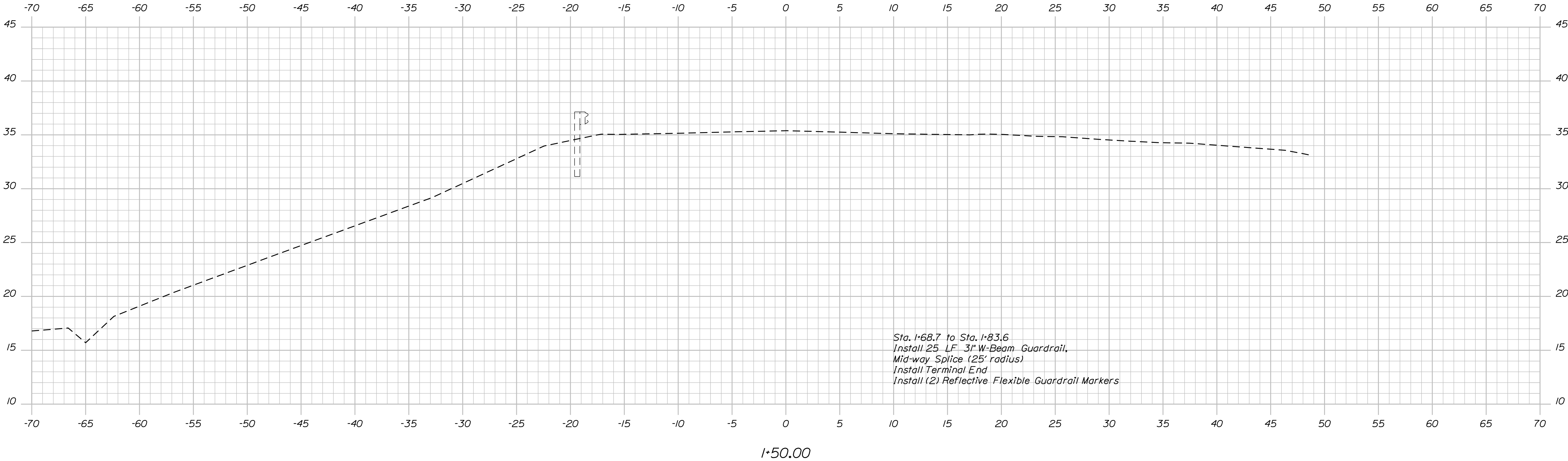
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TYPICAL SECTIONS										WIN 021721.00 BRIDGE NO. 5792 BRIDGE PLANS									
SHEET NUMBER										BRIDGE NO. 5792 BRIDGE PLANS									
14										021721.00									
OF 61										021721.00									

Date:4/6/2022

Username:

Division: BRIDGE

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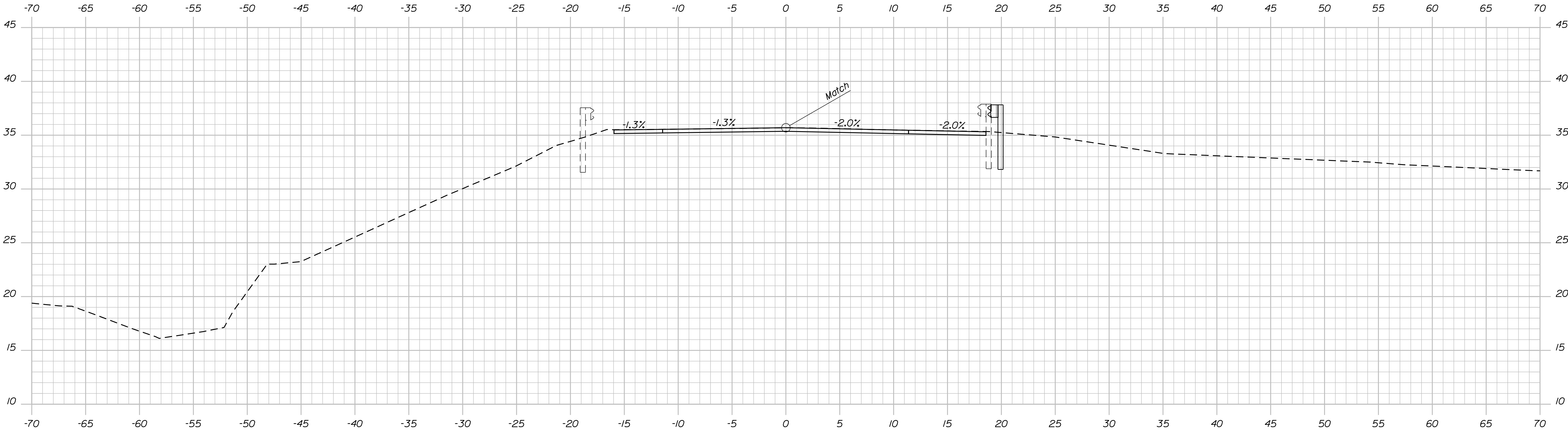
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	BRIDGE NO. 5792		WIN 021721.00	
	BRIDGE PLANS			
SHEET NUMBER 15 OF 61	PROJ. MANAGER	MAK	BY	DATE
	CHECKED-REVIEWED	ECW	BIN	MAR 2022
	DESIGN-DETAILED	TAS	ANL	MAR 2022
	DESIGN-DETAILED	RPW	KVD	
	REVISIONS 1			
CROSS SECTIONS	REVISIONS 2			
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Date:4/6/2022

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DEPARTMENT OF TRANSPORTATION			
021721.00			
BRIDGE NO. 5792	WIN	021721.00	BRIDGE PLANS

PROJ. MANAGER	DATE	BY	DATE
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CHECKED-REVIEWED		ANL	
DESIGN-DETAILED		KVD	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
SIGNATURE		P.E. NUMBER	DATE

JOHNSON ROAD BRIDGE	
INTERSTATE 295	
FALMOUTH CUMBERLAND COUNTY	
CROSS SECTIONS	

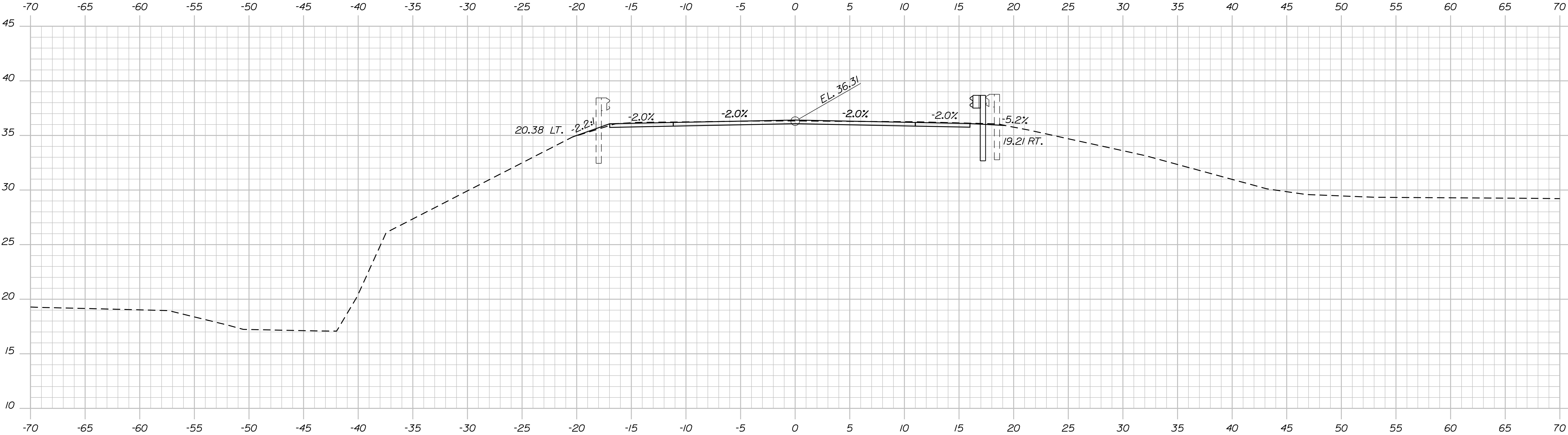
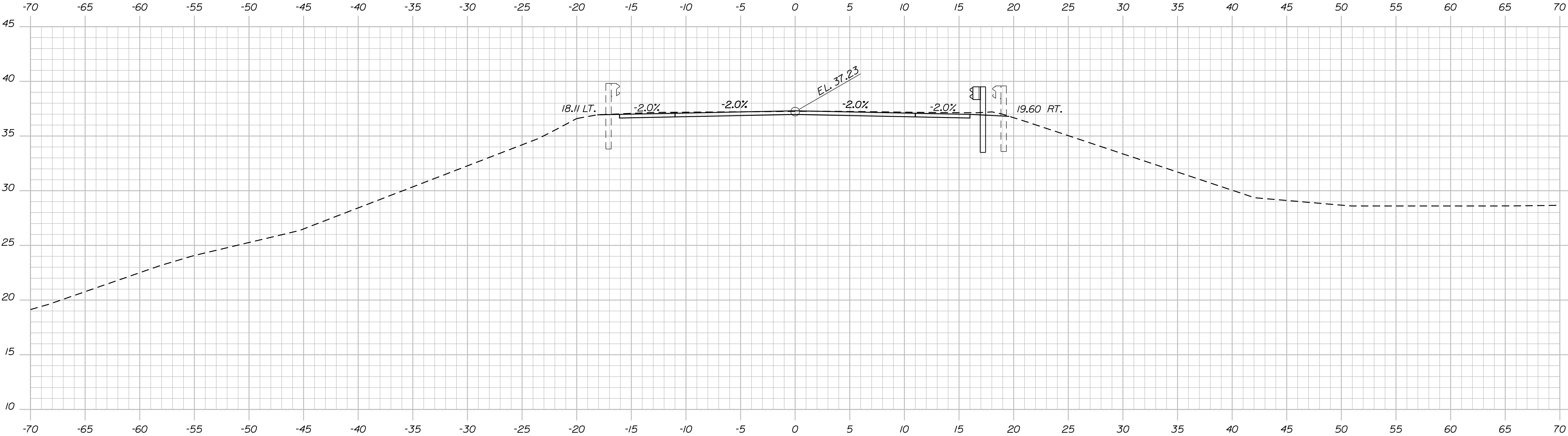
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OF 61

Date: 4/6/2022

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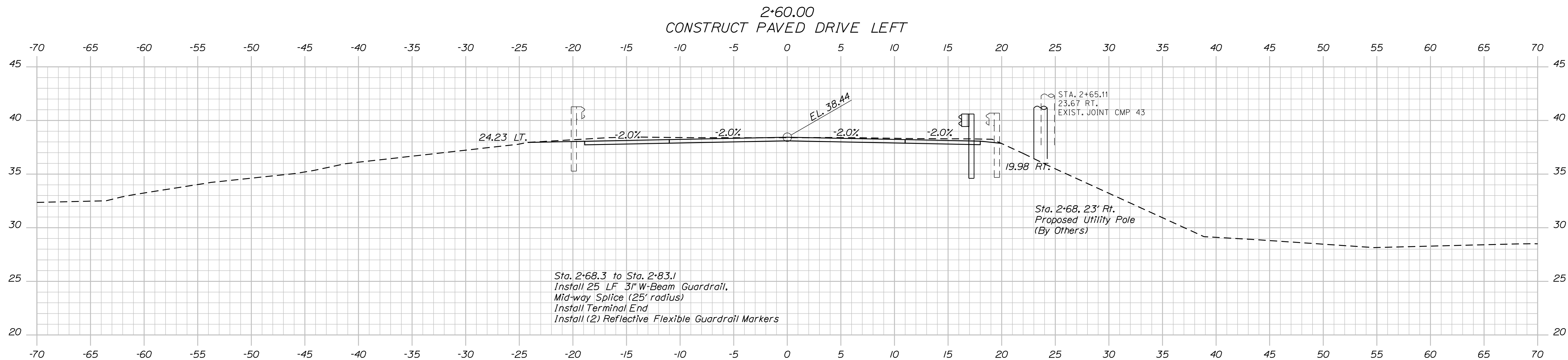
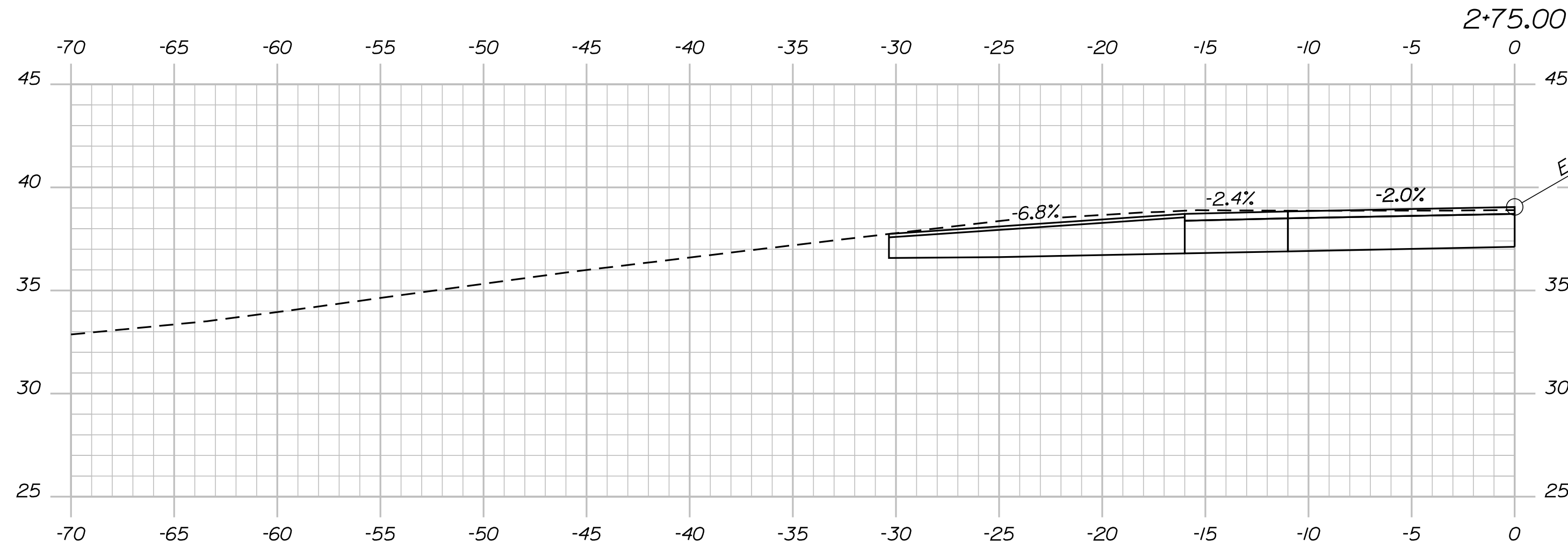
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JOHNSON ROAD BRIDGE		WIN	
INTERSTATE 295		021721.00	
CUMBERLAND COUNTY		BRIDGE NO. 5792	
CROSS SECTIONS		BRIDGE PLANS	
SHEET NUMBER		17	
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2+50.00
END MILL & OVERLAY
BEGIN TRANSITION

Sta. 2+50.00 to Sta. 2+75.00

STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
021721.00	
BRIDGE NO. 5792	WIN
	021721.00
BRIDGE PLANS	

PROJ. MANAGER	MAX	BY	DATE
DESIGNED-Detailed	ECW	B.J.N.	MAR 2022
CHECKED-Reviewed	TAS	AML	MAR 2022
DESIGNED-Detailed	RPM	KYD	
DESIGNED-Detailed	DESIGNED-Detailed		
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
			DATE
			P.E. NUMBER
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JOHNSON ROAD BRIDGE
INTERSTATE 295
FALMOUTH CUMBERLAND COUNTY

CROSS SECTIONS

SHEET NUMBER

18

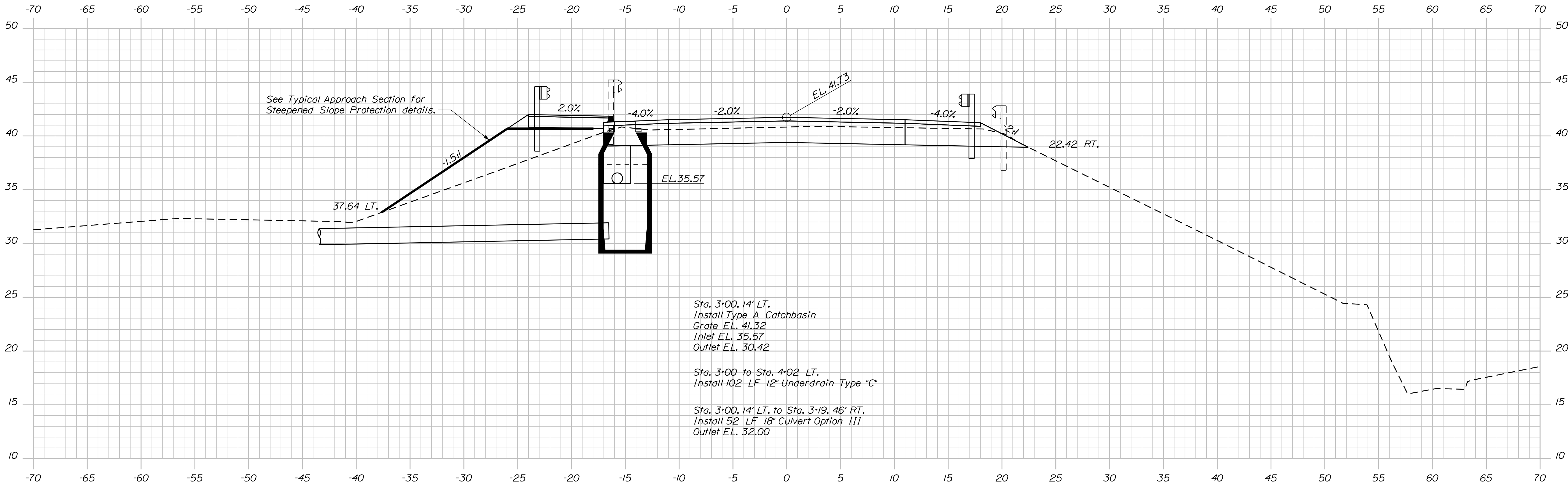
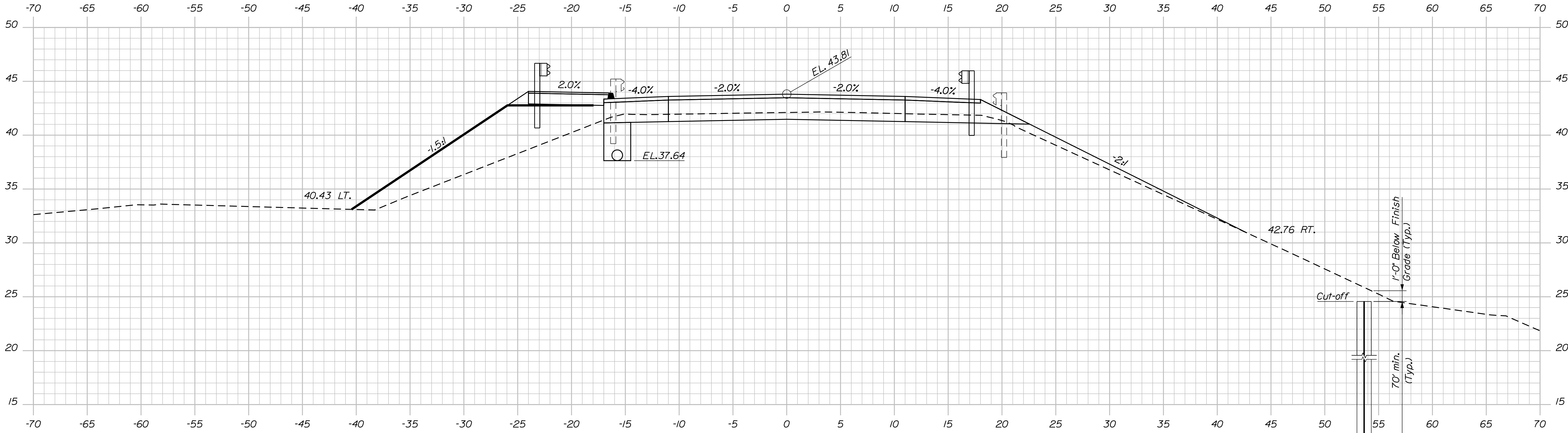
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Date:4/6/2022

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Division: BRIDGE

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3+00.00
END TRANSITION
BEGUN FULL DEPTH CONSTRUCTION

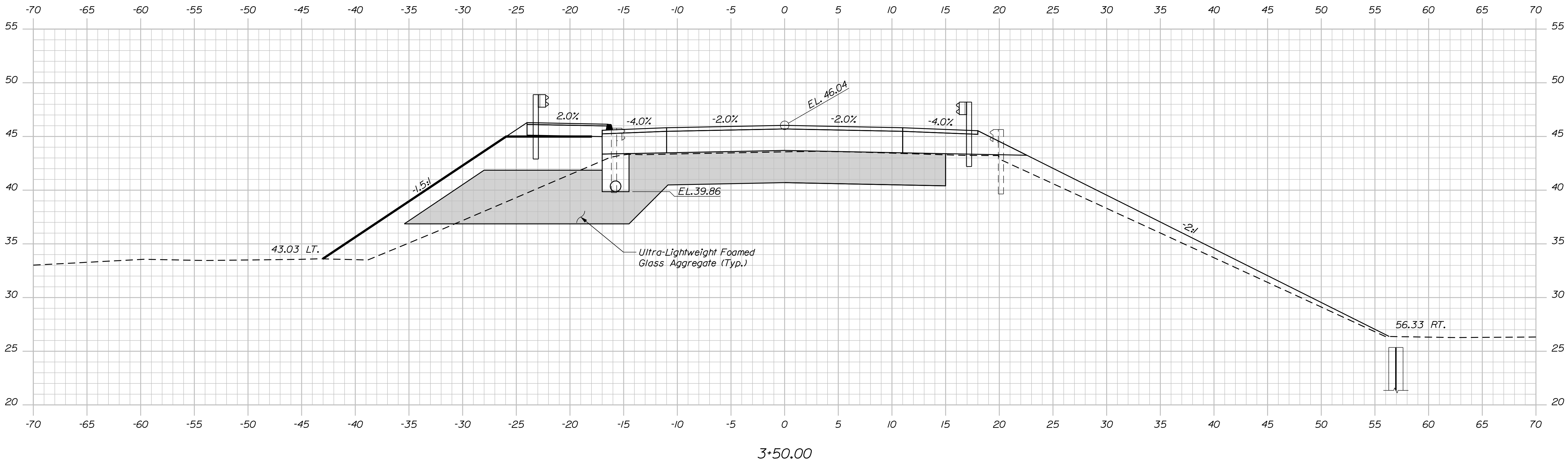
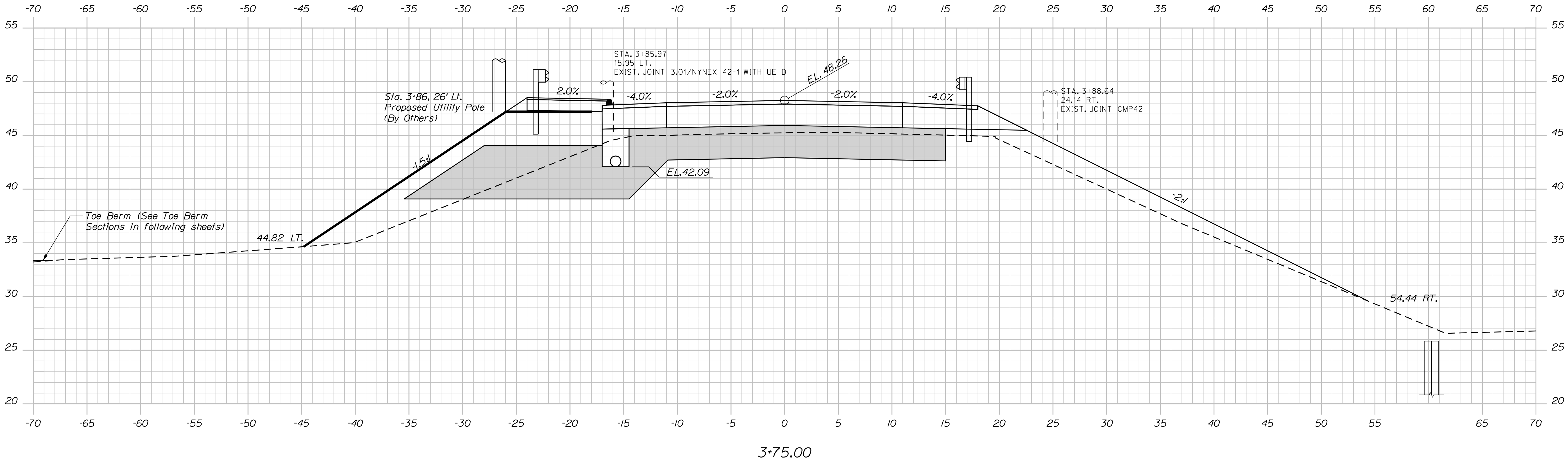
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DATE		SIGNATURE		P.E. NUMBER		DATE		FIELD CHANGES		OF 61		Sta. 3+00.00 to Sta. 3+25.00	
BY		DATE		SIGNATURE		P.E. NUMBER		DATE		FIELD CHANGES		OF 61	
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DESIGNED-DETAILED		DATE		SIGNATURE		P.E. NUMBER		DATE		FIELD CHANGES		OF 61	
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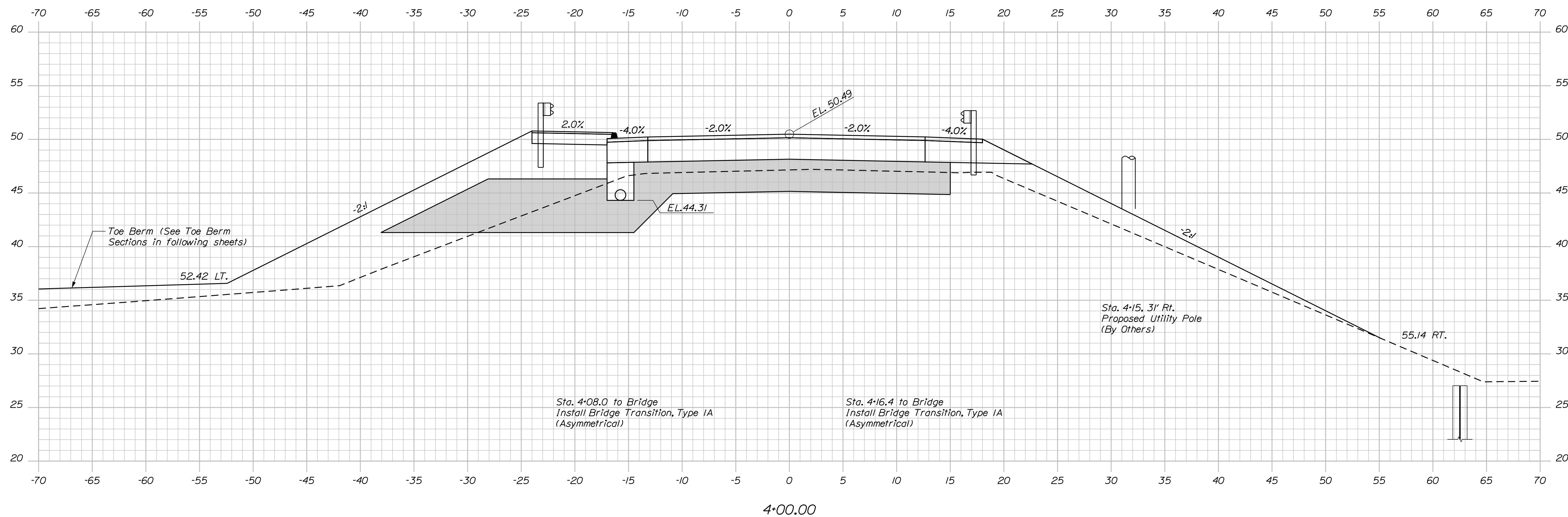
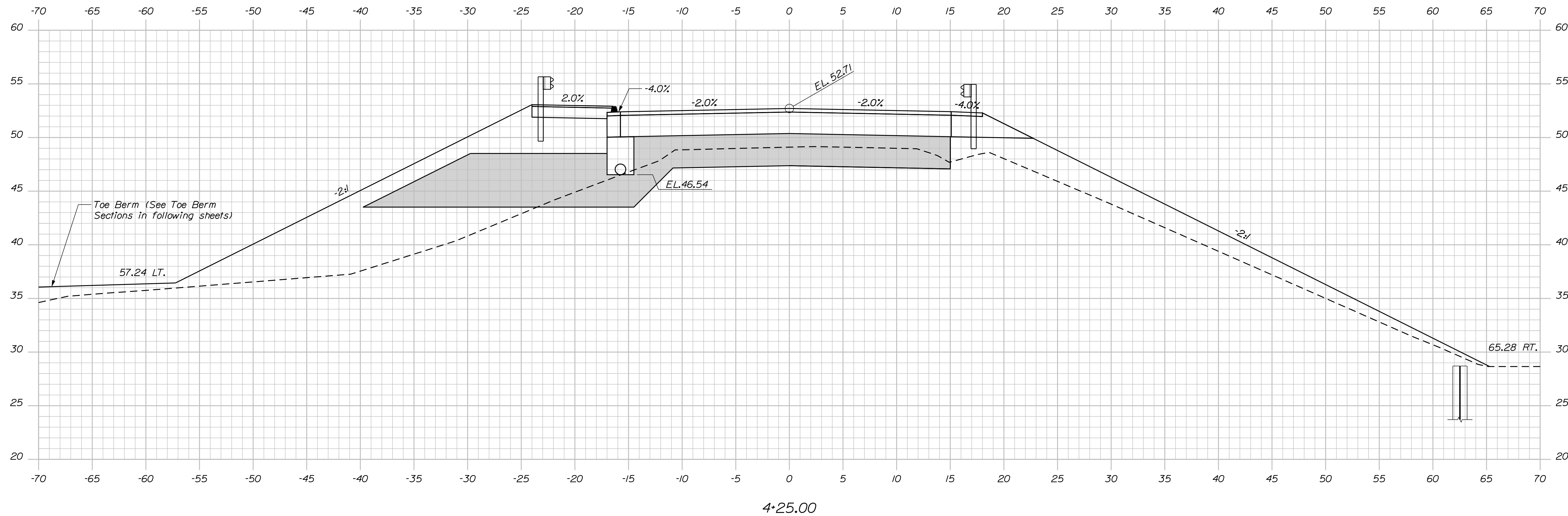
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021721.00		BRIDGE PLANS	
JOHNSON ROAD BRIDGE		CROSS SECTIONS	
INTERSTATE 295		SHEET NUMBER	
FALMOUTH		20	
CUMBERLAND COUNTY		OF 61	
DATE		SIGNATURE	
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BY		DATE	
MAK		DATE	
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REVISIONS 2		DATE	
REVISIONS 3		DATE	
REVISIONS 4		DATE	
FIELD CHANGES		DATE	



STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
021721.00	
BRIDGE NO. 5792	WIN
	021721.00
BRIDGE PLANS	

PROJ. MANAGER	WAK	BY	DATE
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CHECKED-REVIEWED	TAS	AML	MAR 2022
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REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
			P.E. NUMBER
			DATE

JOHNSON ROAD BRIDGE

INTERSTATE 295

FALMOUTH CUMBERLAND COUNTY

CROSS SECTIONS

SHEET NUMBER

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OF 61

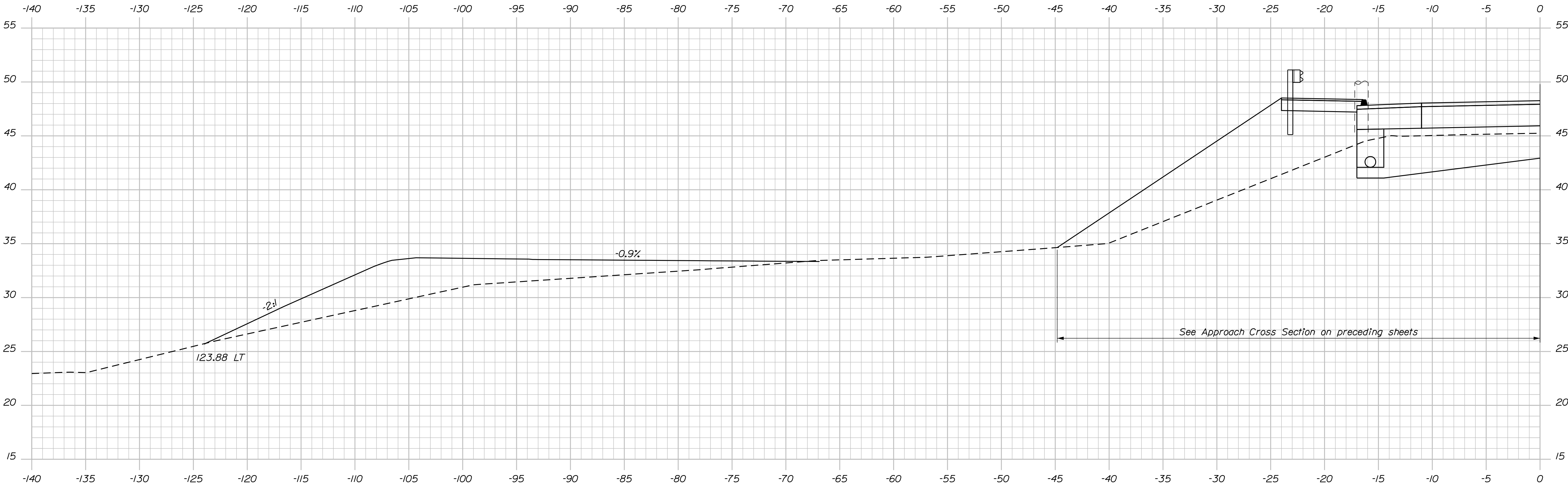
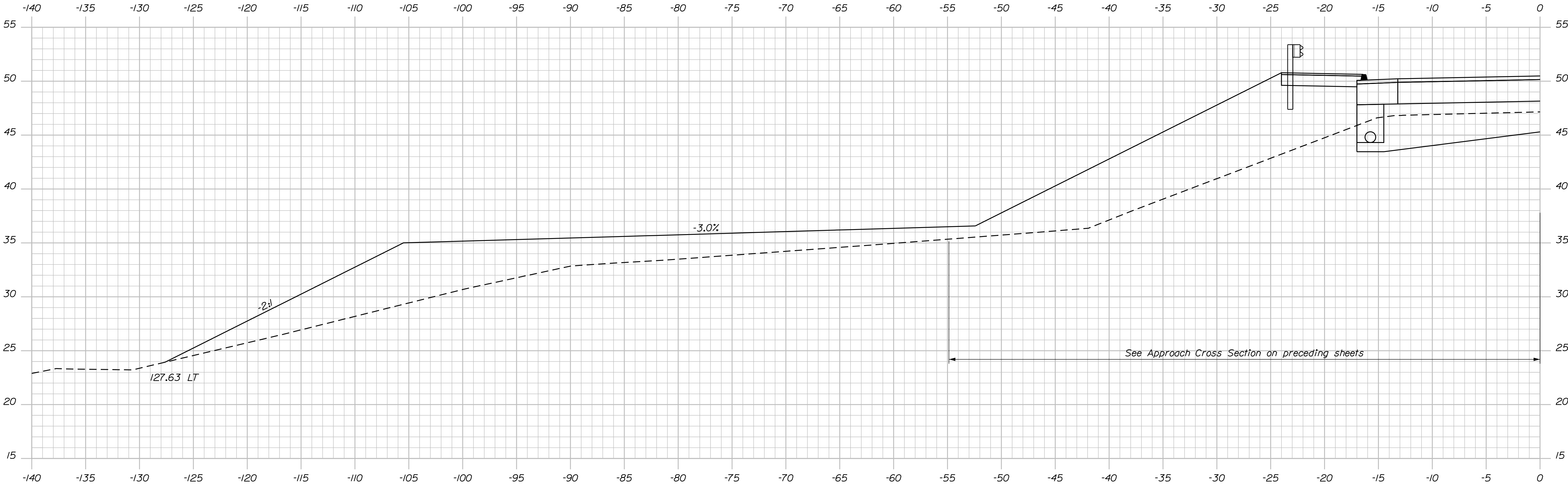
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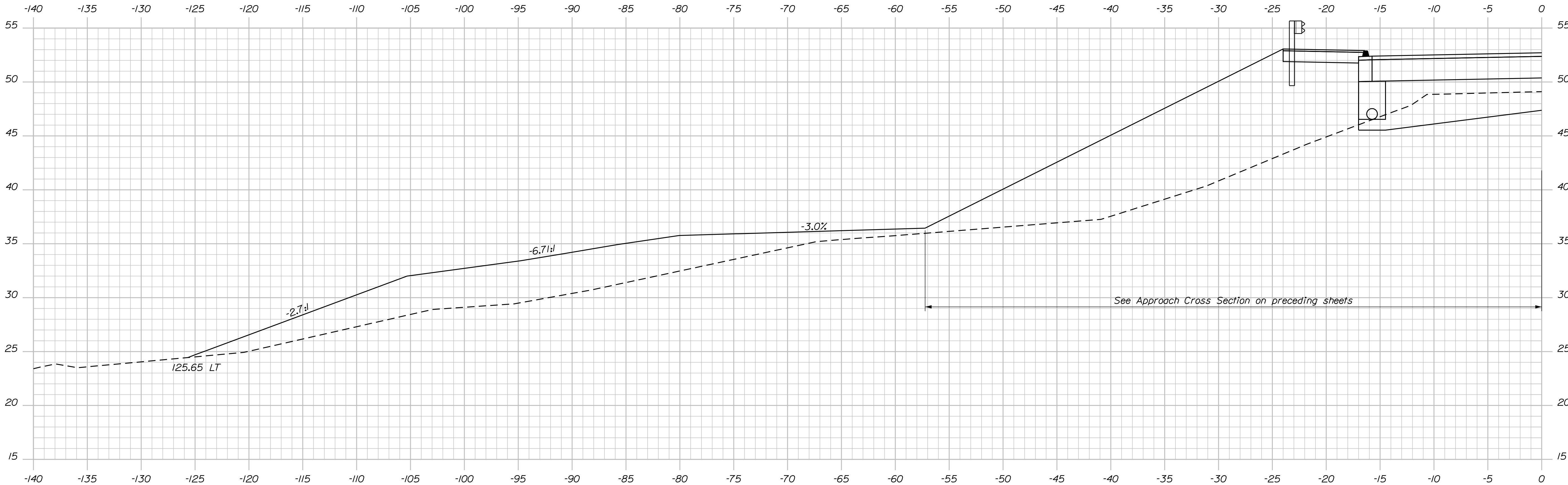
Date:4/6/2022

Division: BRIDGE

Filename: ... \MSTAN022_XSECT_3+75_008.dgn



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		021721.00		BRIDGE NO. 5792		WIN		021721.00		BRIDGE PLANS	
JOHNSON ROAD BRIDGE		INTERSTATE 295		CUMBERLAND COUNTY		FALMOUTH		CROSS SECTIONS		SHEET NUMBER		22	
DESIGN-DETAILED		CHECKED-REVIEWED		DESIGN-DETAILED		DESIGN-DETAILED		DESIGN-DETAILED		DESIGN-DETAILED		DESIGN-DETAILED	
BY		DATE		BY		DATE		BY		DATE		BY	
MAR 2022		MAR 2022		MAR 2022		MAR 2022		MAR 2022		MAR 2022		MAR 2022	
SIGNATURE		SIGNATURE		SIGNATURE		SIGNATURE		SIGNATURE		SIGNATURE		SIGNATURE	
P.E. NUMBER		P.E. NUMBER		P.E. NUMBER		P.E. NUMBER		P.E. NUMBER		P.E. NUMBER		P.E. NUMBER	
DATE		DATE		DATE		DATE		DATE		DATE		DATE	
FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES	



4+25.00
CONSTRUCT TOE BERM LEFT

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
021721.00
WIN
BRIDGE NO. 5792
021721.00
BRIDGE PLANS

PROJ. MANAGER	DATE	BY	DATE
DESIGN-DETAILED	MAR 2022	ECW	
CHECKED-REVIEWED	MAR 2022	ANL	SIGNATURE
DESIGN-DETAILED		KVD	P.E. NUMBER
REVISIONS 1			DATE
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

JOHNSON ROAD BRIDGE
INTERSTATE 295
FALMOUTH CUMBERLAND COUNTY
CROSS SECTIONS

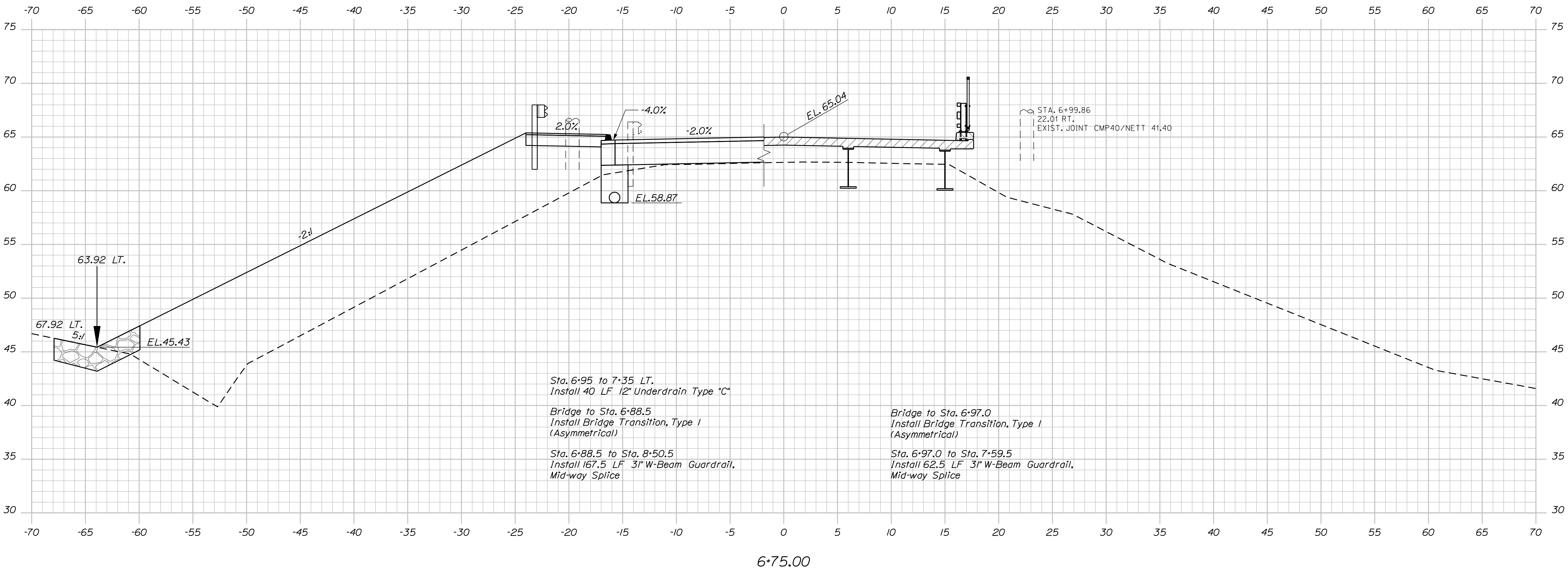
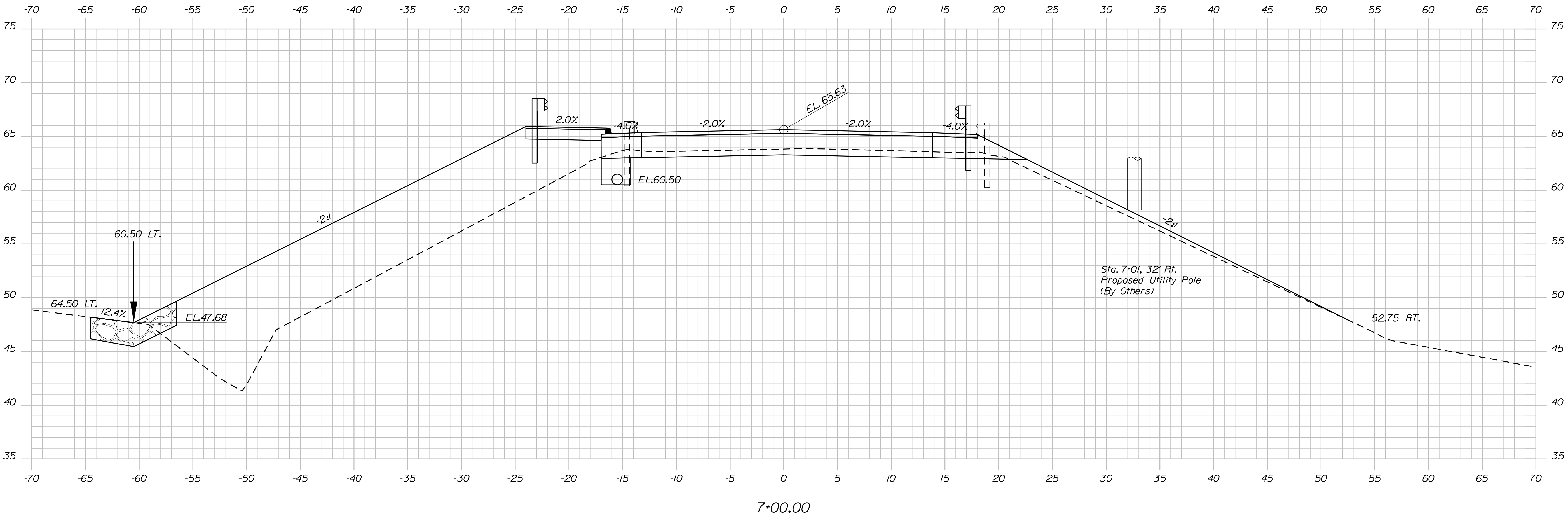
SHEET NUMBER
23
OF 61

Date:4/6/2022

Username:

Division: BRIDGE

Filename: ... \MSTAO24_XSECT_6+75_010.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021721.00

BRIDGE NO. 5792
WIN
021721.00
BRIDGE PLANS

JOHNSON ROAD BRIDGE
INTERSTATE 295
CUMBERLAND COUNTY
FALMOUTH

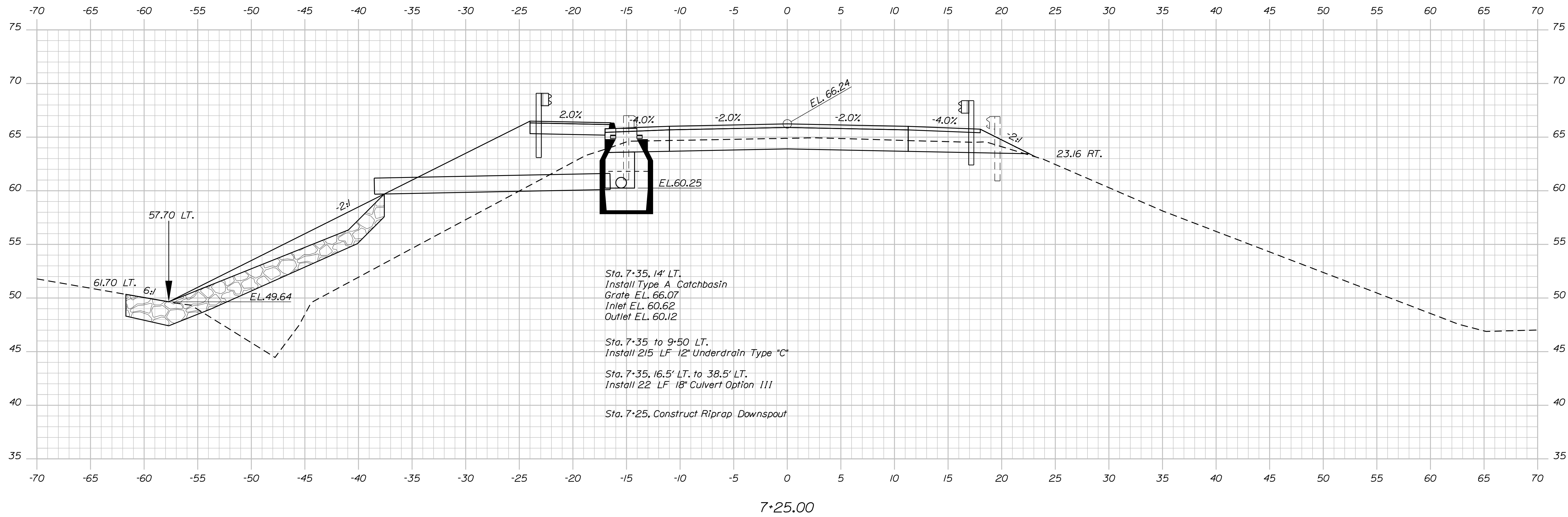
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SHEET NUMBER

24

OF 61

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SHEET NUMBER

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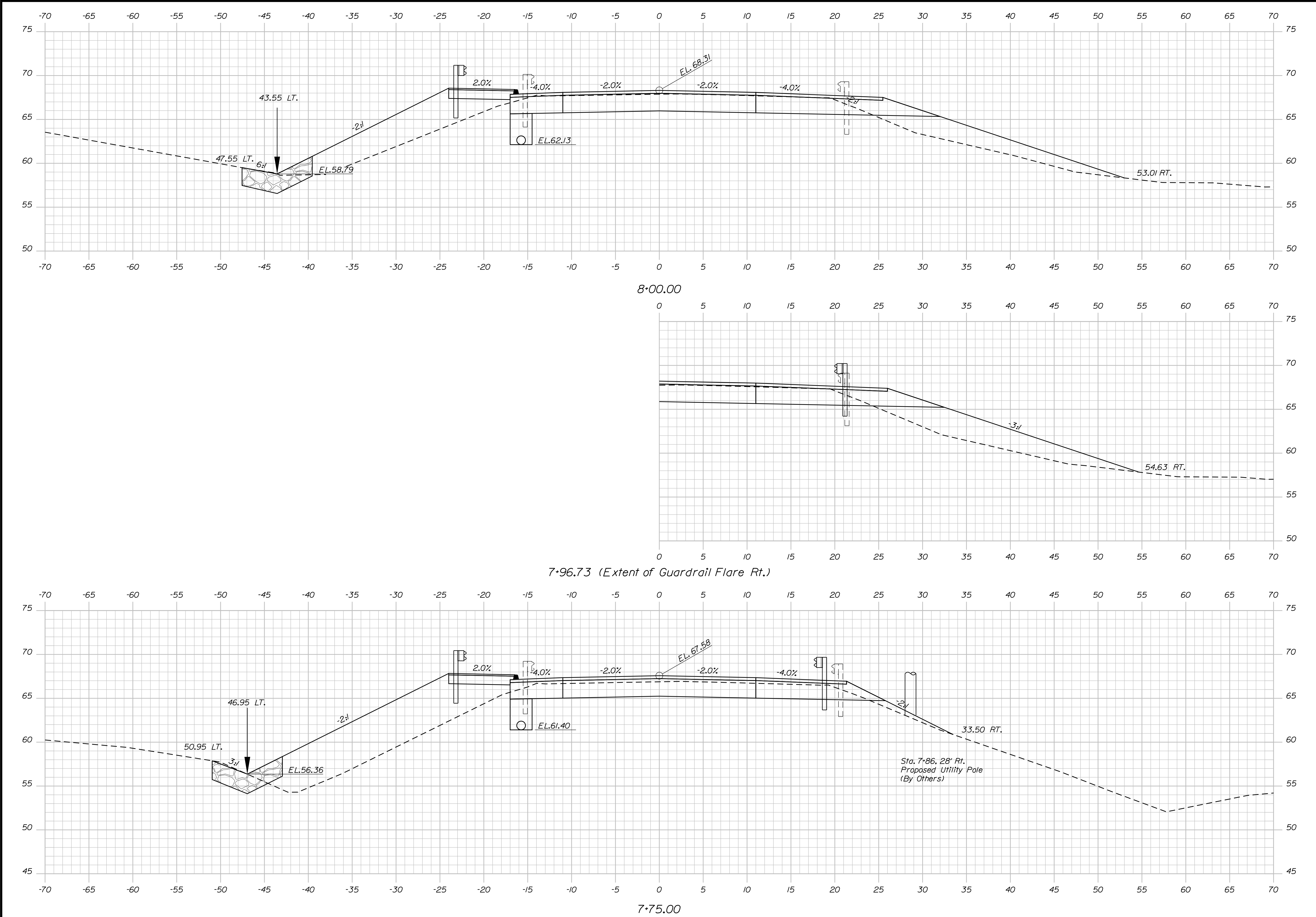
OF 61

Date:4/6/2022

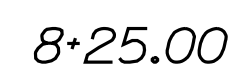
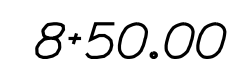
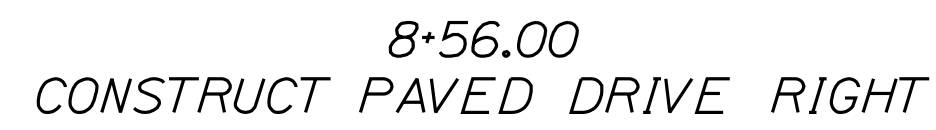
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Division: BRIDGE

Filename: ... \MSTAD26_XSECT_7+75_012.dgn



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	021721.00		BRIDGE PLANS	
	WIN		021721.00	
	BRIDGE NO. 5792			
JOHNSON ROAD BRIDGE INTERSTATE 295 CUMBERLAND COUNTY FALMOUTH		PROJ. MANAGER	DATE	SIGNATURE
		CHECKED-REVIEWED	MAR 2022	
		DESIGNED-DETAILED	MAR 2022	
		REVISIONS 1		
CROSS SECTIONS		REVISIONS 2		P.E. NUMBER
		REVISIONS 3		DATE
		REVISIONS 4		
		FIELD CHANGES		
SHEET NUMBER				
26				
OF 61				



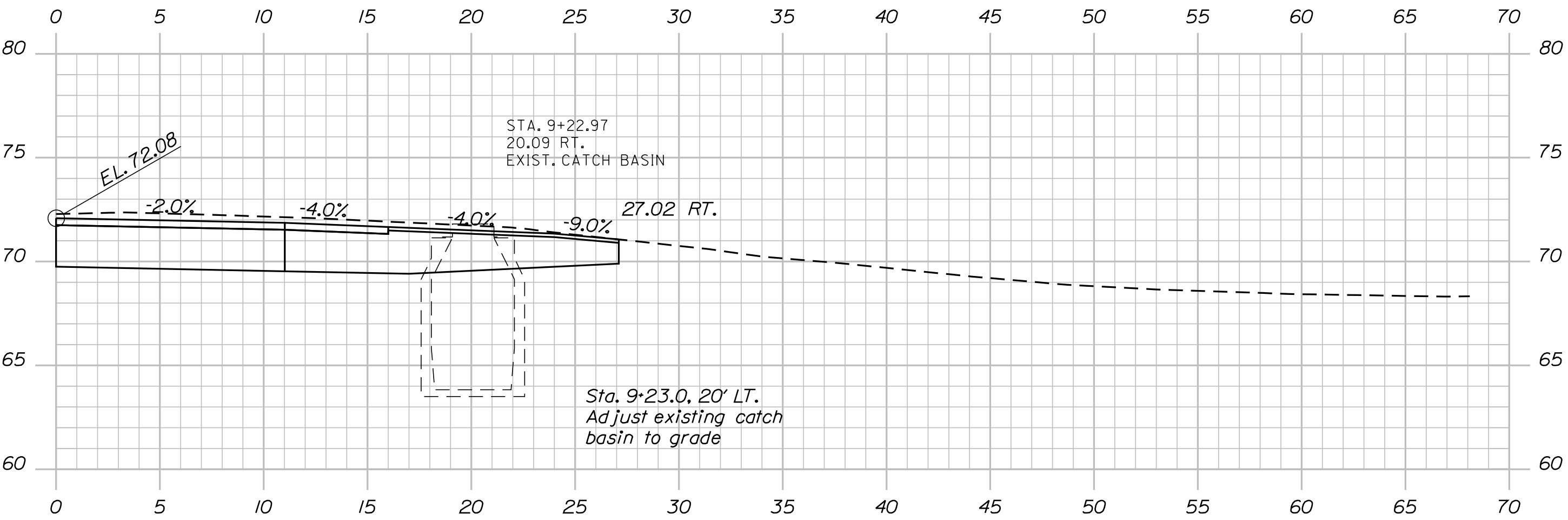
SHEET NUMBER <div>27</div> <div>OF 61</div>	JOHNSON ROAD BRIDGE INTERSTATE 295 FALMOUTH CUMBERLAND COUNTY	PROJ. MANAGER				MADE BY	DATE	
		DESIGN-DETAILED				ECW	BUN	MAR 2022
		CHECKED-REVIEWED				JAS	AML	MAR 2022
		DESIGNS-DETAILED				RPM	KVD	
		DESIGNS 1						
CROSS SECTIONS		DESIGNS 2						
		DESIGNS 3						
		DESIGNS 4						
		FIELD CHANGES						
STATE OF MAINE DEPARTMENT OF TRANSPORTATION								
021721.00								
WIN 021721.00								
BRIDGE NO. 5792		BRIDGE PLANS						

Date:4/6/2022

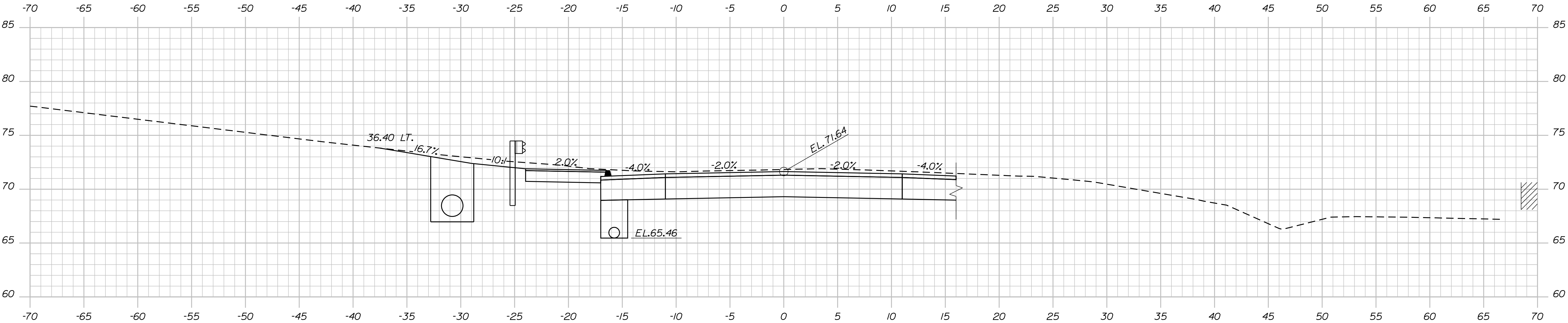
Username:

Division: BRIDGE

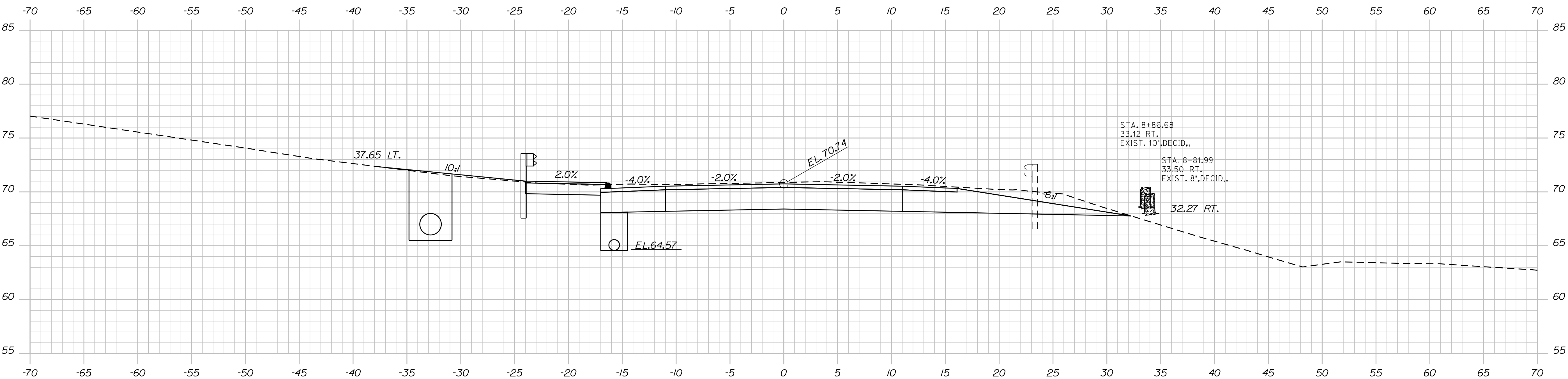
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9+12.00
CONSTRUCT PAVED DRIVE RIGHT



9+00.00



8+75.00

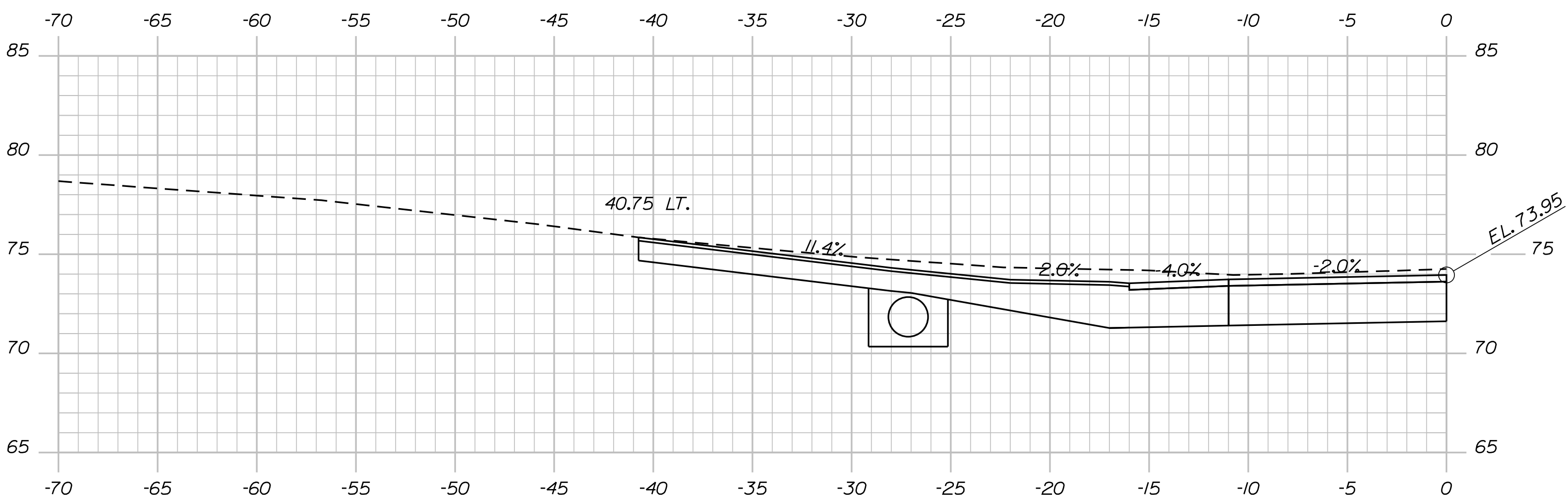
PROJ. MANAGER	DATE	BY	DATE
DESIGN-DETAILED	MAR 2022	BIN	MAR 2022
CHECKED-REVIEWED	TAS	ANL	
DESIGN-DETAILED	RPW	KVD	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

Date:4/6/2022

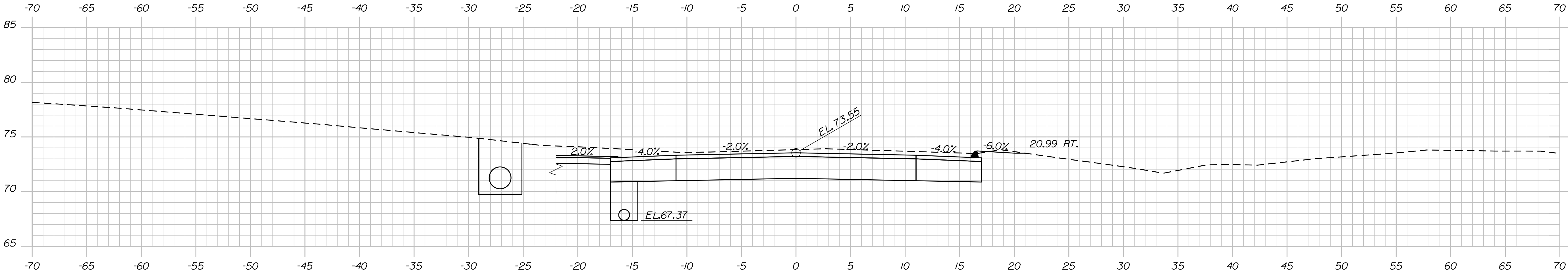
Username:

Division: BRIDGE

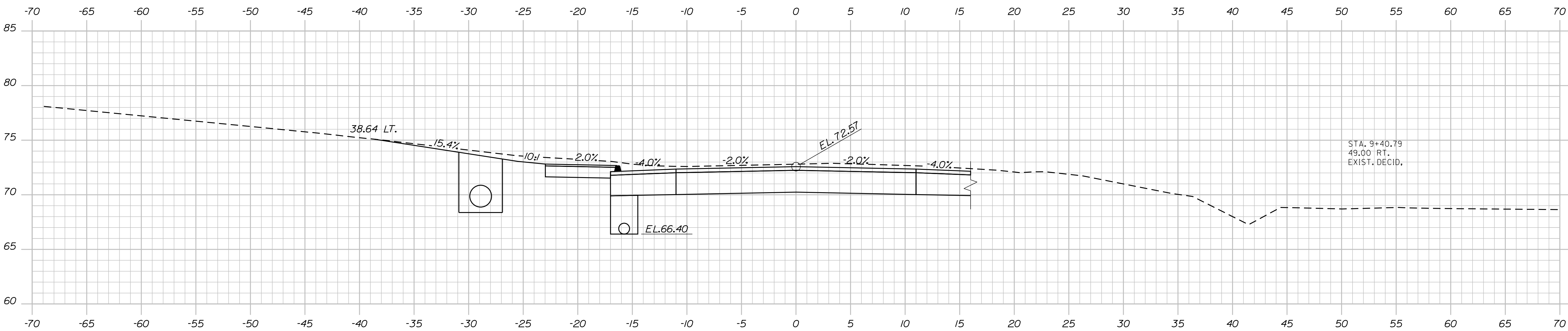
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9+60.00
CONSTRUCT PAVED DRIVE LEFT



9+50.00



9+25.00

STA. 9+40.79
49.00' RT.
EXIST. DECID.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021721.00

WIN
021721.00

BRIDGE NO. 5792

BRIDGE PLANS

DATE
MAR 2022

BY
ANL

MAK
KVD

PROJ. MANAGER
LEW

CHECKED-REVIEWED
TAS

DESIGN-DETAILED
RW

DESIGN-DETAILED
RW

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

SIGNATURE

P.E. NUMBER

DATE

JOHNSON ROAD BRIDGE
INTERSTATE 295
FALMOUTH CUMBERLAND COUNTY

CROSS SECTIONS

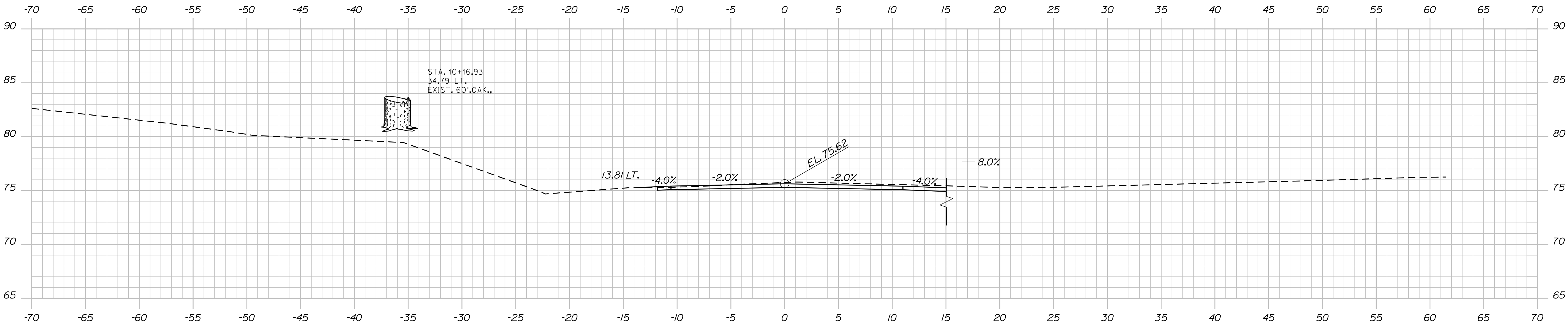
SHEET NUMBER
29
OF 61

Date:4/6/2022

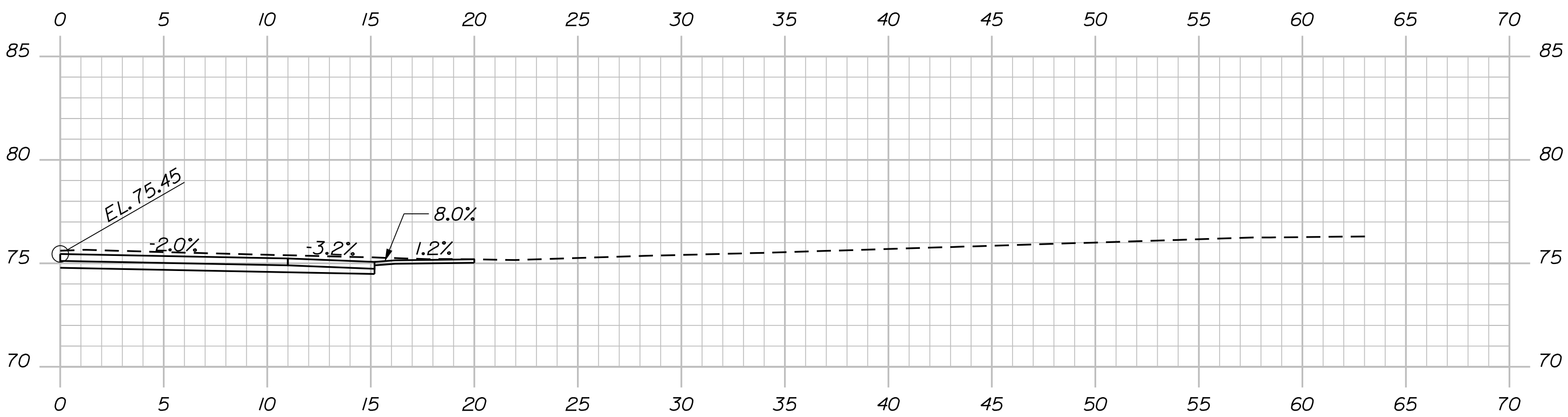
Username:

Division: BRIDGE

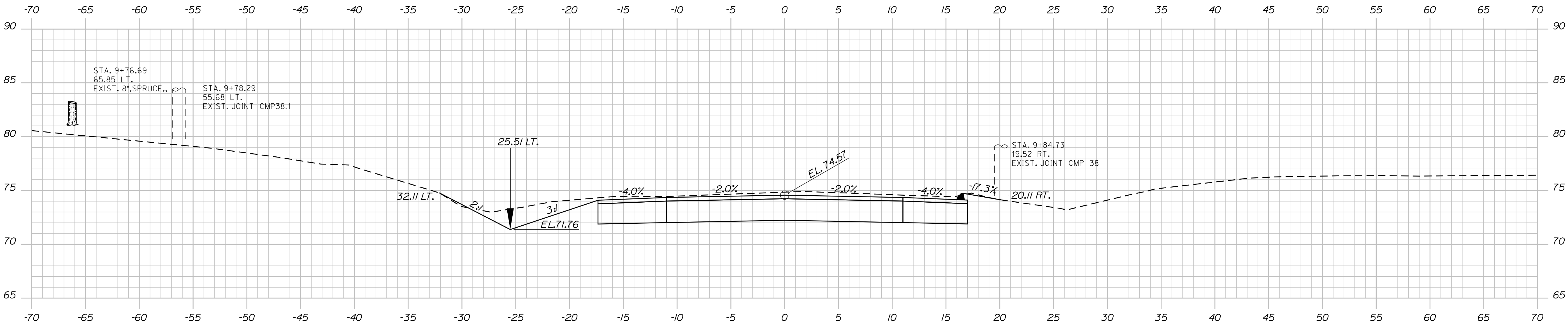
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10+00.00
END TRANSITION
BEGIN MILL & OVERLAY



9+96.00
CONSTRUCT PAVED DRIVE RIGHT



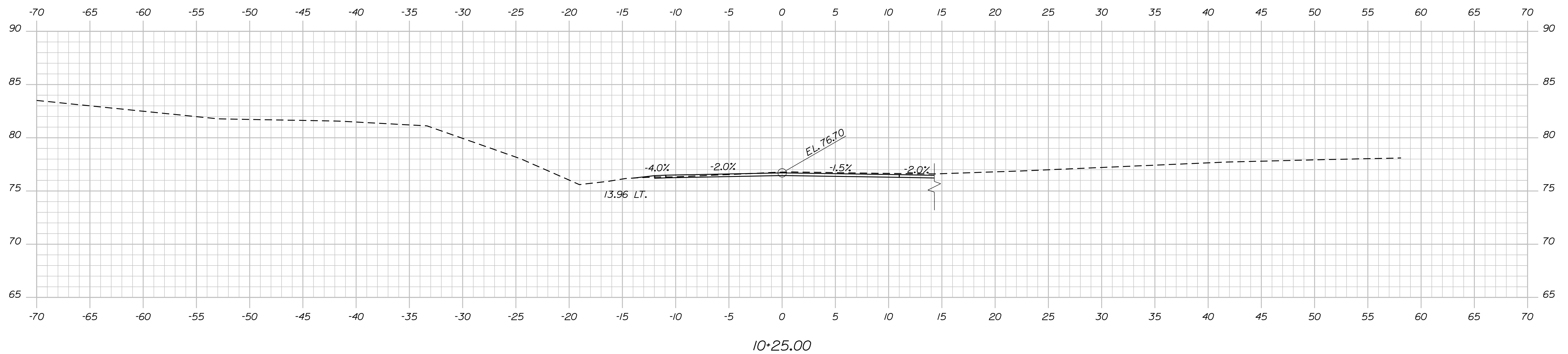
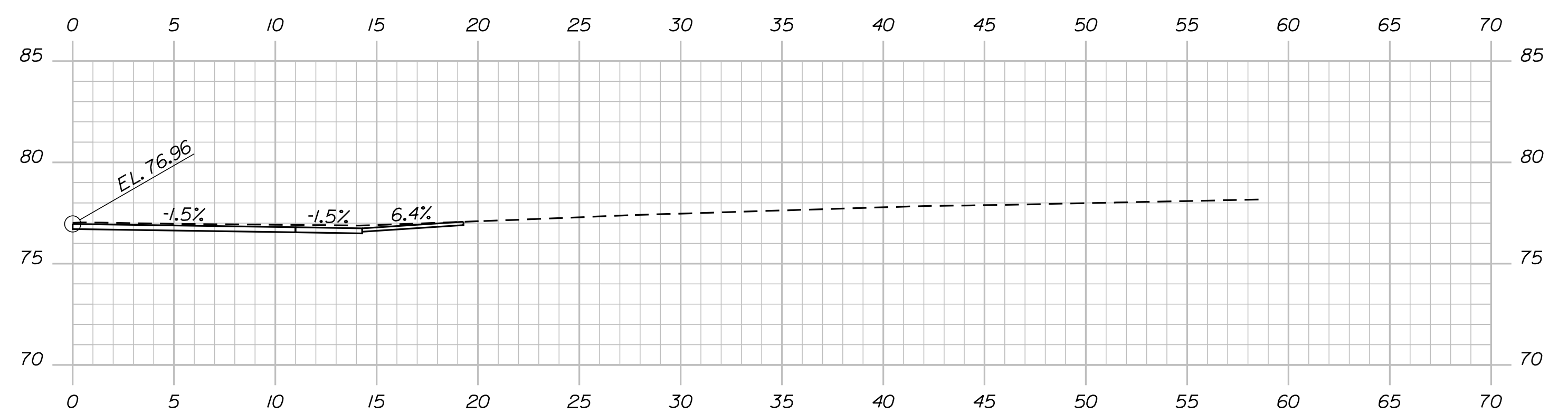
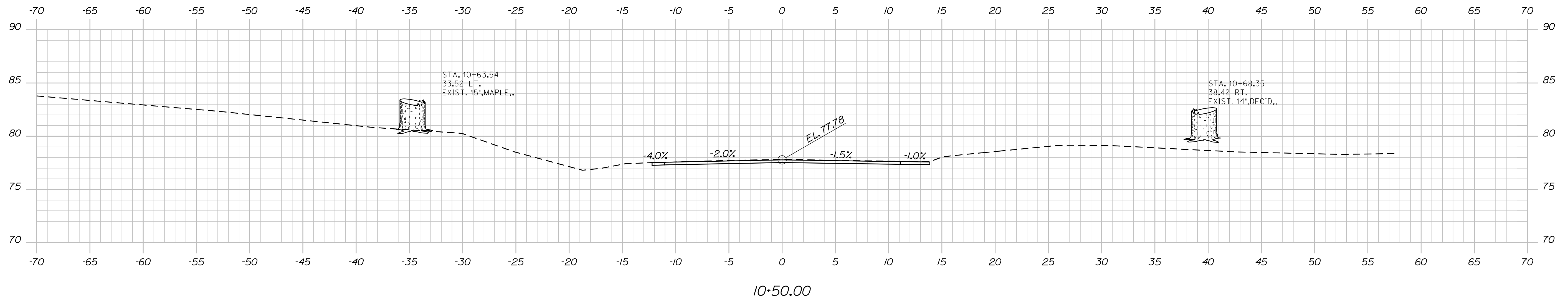
9+75.00
END FULL DEPTH RECONSTRUCTION
BEGIN TRANSITION

STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
021721.00	
WIN	021721.00
BRIDGE NO. 5792	
BRIDGE PLANS	

PROJ. MANAGER	BY	DATE
DESIGNED-DETAILED	BIN	MAR 2022
CHECKED-REVIEWED	ANL	MAR 2022
DESIGNED-DETAILED	KVD	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

JOHNSON ROAD BRIDGE	
INTERSTATE 295	
CUMBERLAND COUNTY	
FALMOUTH	CROSS SECTIONS

SHEET NUMBER
30
OF 61



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021721.00

BRIDGE NO. 5792	021721.00	BRIDGE PLANS
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DESIGN-DETAIL	ECW	BUN	MAR 2022
CHECKED-REVIEWED	TAS	AML	MAR 2022
DESIGN2-DETAIL2	RPM	KYL	
DESIGN3-DETAIL3			
REVISIONS 1	DESIGN 1	REVISIONS 1	
REVISIONS 2	DESIGN 2	REVISIONS 2	
REVISIONS 3	DESIGN 3	REVISIONS 3	
REVISIONS 4	DESIGN 4	REVISIONS 4	
FIELD CHANGES			
DATE			
P.E. NUMBER			
SIGNATURE			

JOHNSON ROAD BRIDGE
INTERSTATE 295
FALMOUTH CUMBERLAND COUNTY

CROSS SECTIONS

HEET NUMBER

31

F 61

Sta. 10+25.00 to Sta. 10+40.00

Date: 4/6/2022

Username:

Division: BRIDGE

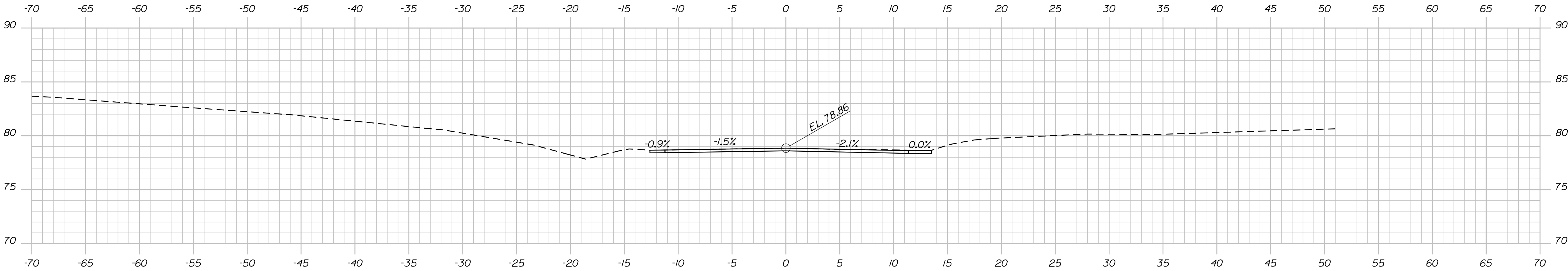
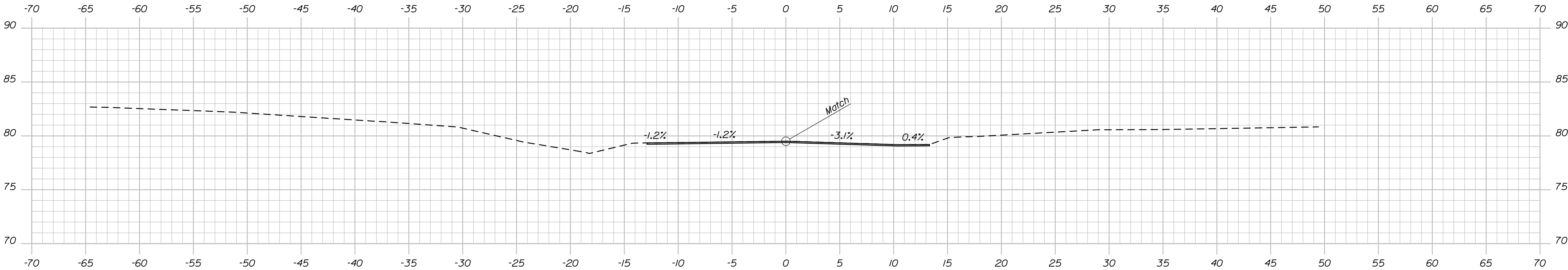
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Date:4/6/2022

Username:

Division: BRIDGE

Filename: ... \MSTAO32_XSECT_10+50_018.dgn



STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
021721.00	
BRIDGE NO. 5792	WIN 021721.00
BRIDGE PLANS	

PROJ. MANAGER	DATE
CHECKED-REVIEWED	MAR 2022
DESIGNED-DETAILED	MAR 2022
DESIGNED-DETAILED	SIGNATURE
REVISIONS 1	P.E. NUMBER
REVISIONS 2	DATE
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

JOHNSON ROAD BRIDGE	CUMBERLAND COUNTY
INTERSTATE 295	
FALMOUTH	CROSS SECTIONS

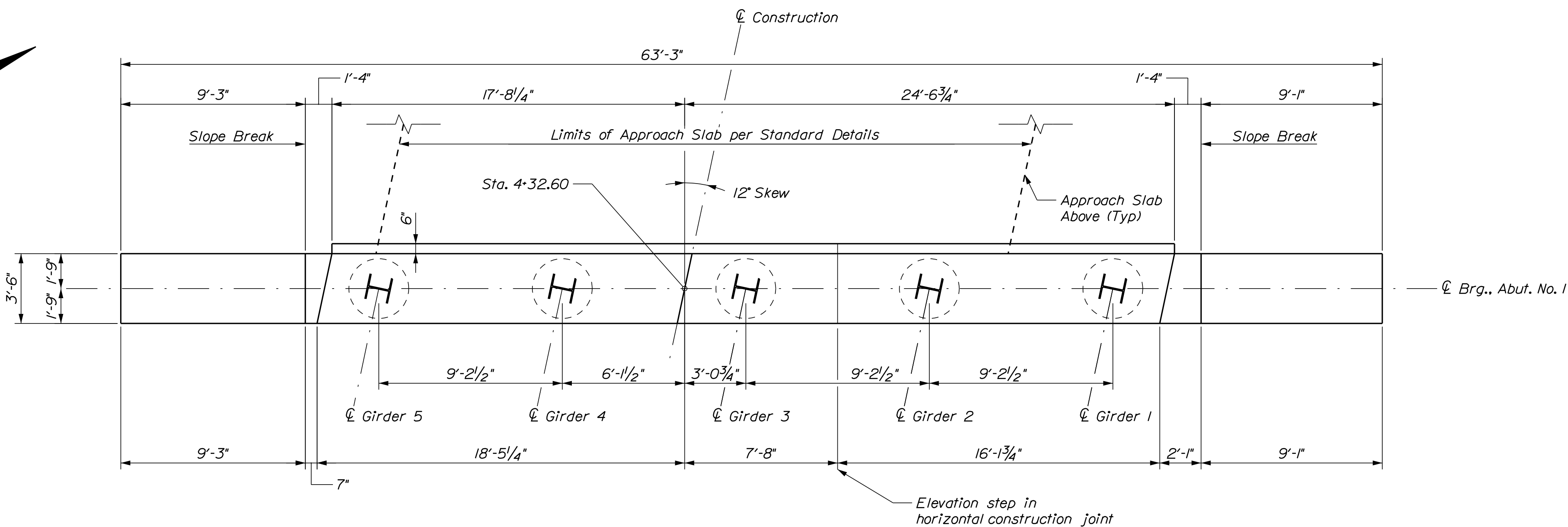
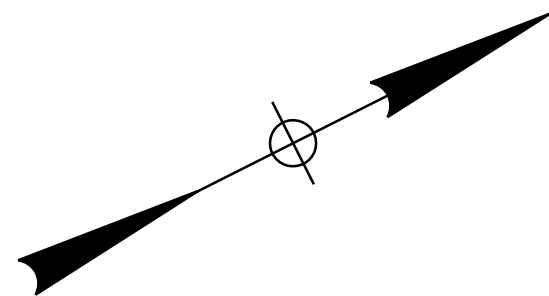
SHEET NUMBER
32
OF 61



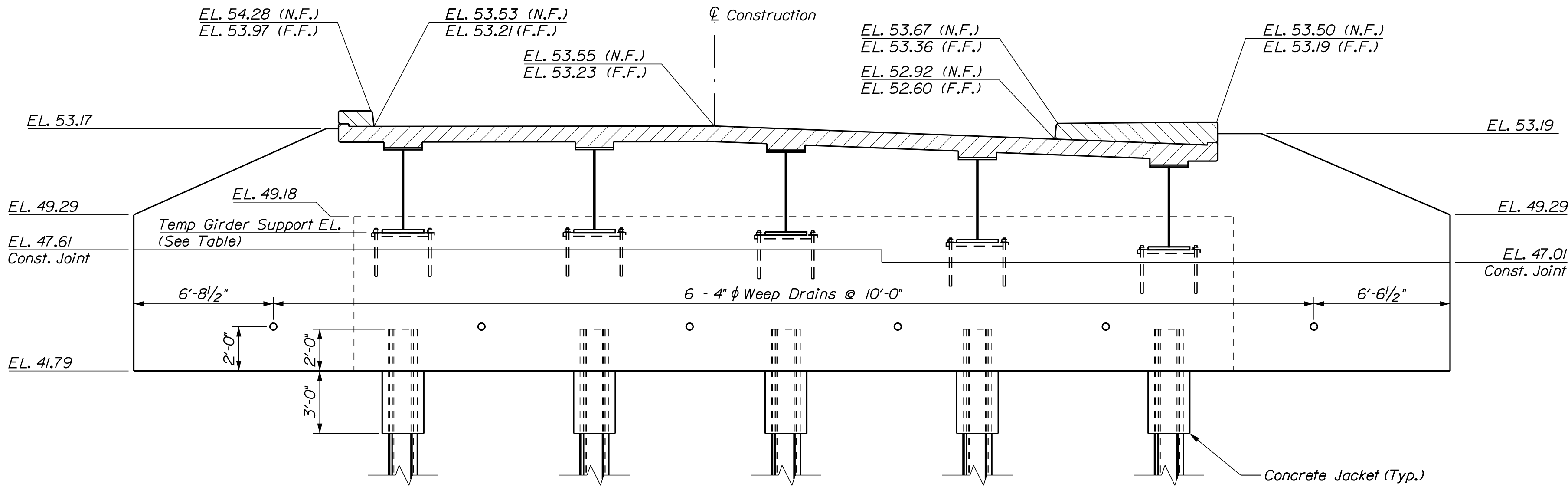
7. The Temporary Girder Supports, including anchor rods, leveling plates, and any associated hardware and labor required for installation shall not be paid for directly. Payment shall be incidental to related Contract Items.

9. The Contractor shall provide access for the agents of the Department to perform two (2) dynamic load tests with signal matching and restrrike, as specified in Special Provision 501 - Dynamic Load Test, to confirm the nominal resistance of the piles. The dynamic pile load tests will be complete on the first production pile at Abutment 1 and Abutment 2. The required nominal resistance for the piles are the maximum factored axial pile load divided by 0.65 for the controlling Strength Limit State. The Contractor may drive production piles to the preliminary driving criteria, however pile cut-off will not be permitted until completion of restrrike testing and establishment of the final driving criteria.

<div>OF 61</div> <div>SHEET NUMBER</div> <div>33</div>	JOHNSON ROAD BRIDGE INTERSTATE 295 FALMOUTH CUMBERLAND COUNTY				PROJ. MANAGER	MWK	BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION 021721.00 WIN BRIDGE NO. 5792 BRIDGE PLANS
	DESIGN-DET AILED				ECW	BUN	MAR 2022		
	CHECKED-REVIEWED				TAS	AUL	MAR 2022	SIGNATURE	
	DESIGN2-DET AILED2				RPM	KVD		P.E. NUMBER	
	DESIGN3-DET AILED3								
	REVISIONS 1								
	REVISIONS 2								
	REVISIONS 3								
	REVISIONS 4								
	FIELD CHANGES							DATE	



ABUTMENT NO. 1 PLAN



ABUTMENT NO. 1 ELEVATION

TEMPORARY GIRDER SUPPORTS

Girder	EL.
G1	47.51
G2	47.86
G3	48.21
G4	48.32
G5	48.31

STATE OF MAINE
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021721.00

WIN
021721.00
BRIDGE NO. 5792

BRIDGE PLANS

JOHNSON ROAD BRIDGE
INTERSTATE 295
FALMOUTH CUMBERLAND COUNTY

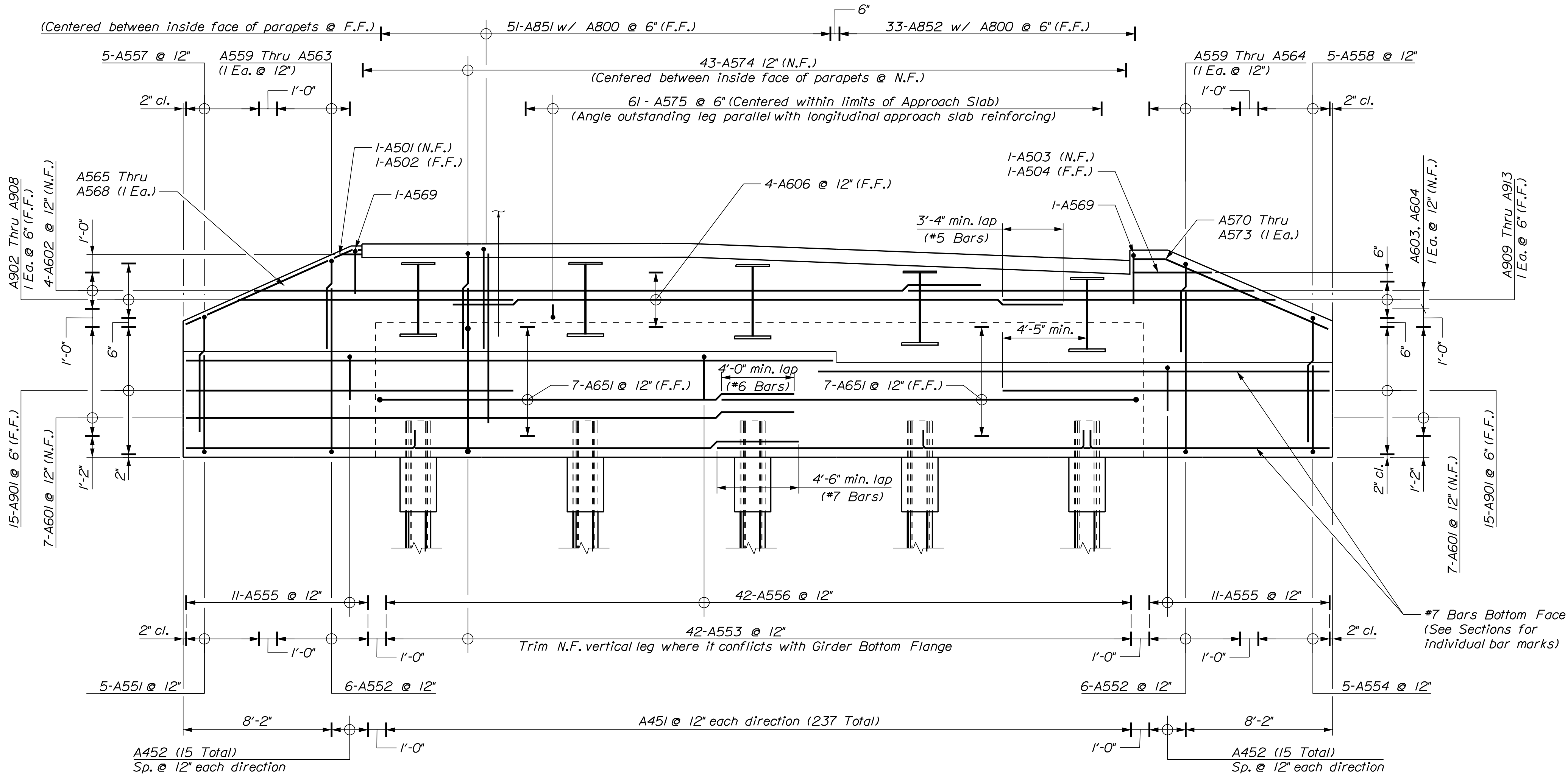
ABUTMENT NO. 1
PLAN AND ELEVATION

SHEET NUMBER

34

OF 61

PROJ. MANAGER	DATE	BY	DATE	SIGNATURE
DESIGN-DETAILED	MAR 2022	BUN	MAR 2022	
CHECKED-REVIEWED		ANL		
DESIGN-DETAILED		KVD		
REVISIONS 1				P.E. NUMBER
REVISIONS 2				DATE
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				



ABUTMENT NO. 1 REINFORCING ELEVATION

LEGEND

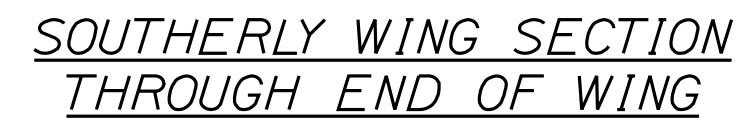
N.F. = Near Face
F.F. = Far Face
E.F. = Each Face

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
021721.00
WIN
021721.00
BRIDGE NO. 5792
BRIDGE PLANS

PROJ. MANAGER	DATE	BY	DATE	SIGNATURE
DESIGN-DETAILED	MAR 2022	BIN	MAR 2022	
CHECKED-REVIEWED		ANL		
DESIGN-DETAILED		KVD		
DESIGN-DETAILED				
REVISIONS 1				P.E. NUMBER
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				DATE

JOHNSON ROAD BRIDGE	CUMBERLAND COUNTY
INTERSTATE 295	
FALMOUTH	
ABUTMENT NO. 1	
REINFORCING ELEVATION	

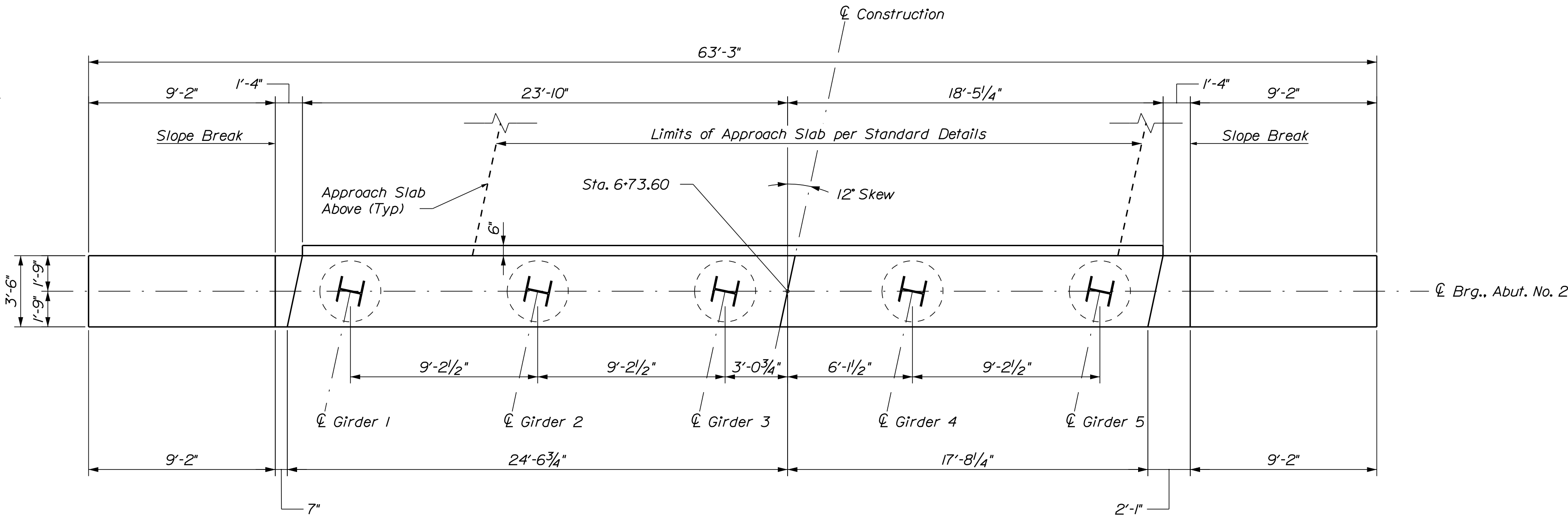
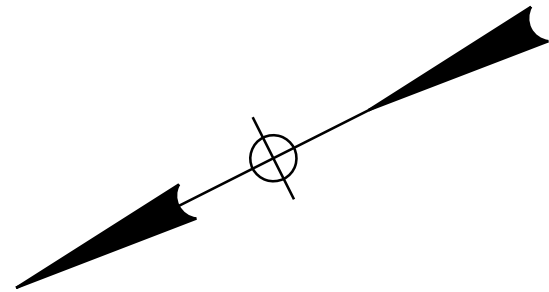
SHEET NUMBER
35
OF 61



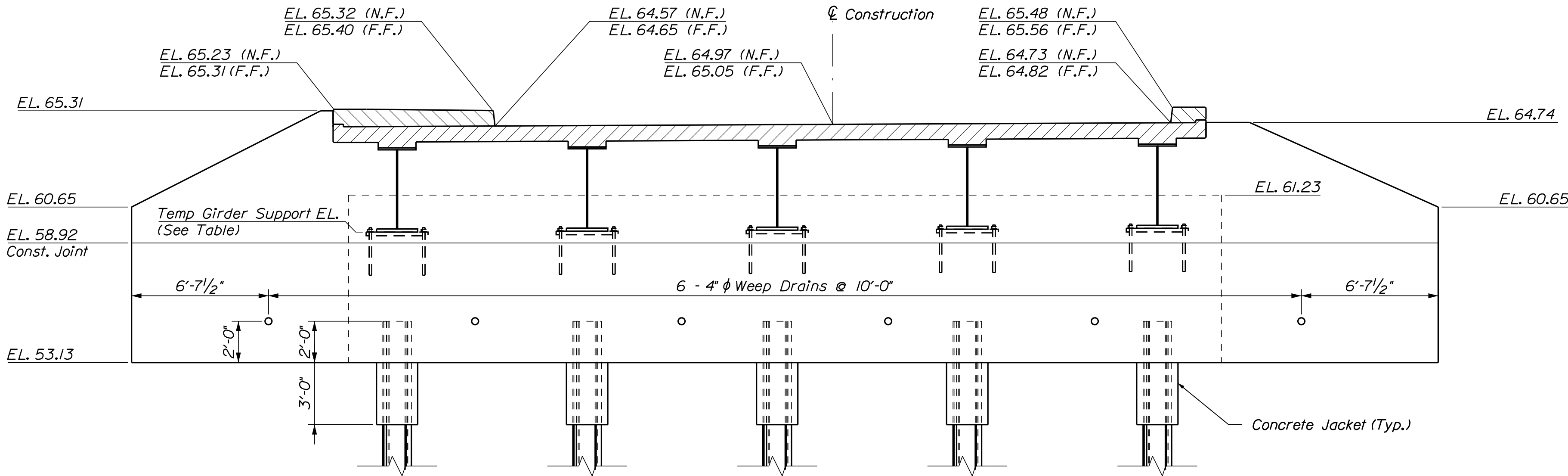
LEGEND

N.F. = Near Face
F.F. = Far Face
E.F. = Each Face

[illegible]



ABUTMENT NO. 2 PLAN



ABUTMENT NO. 2 ELEVATION

TEMPORARY GIRDER SUPPORTS

Girder	EL.
G1	59.42
G2	59.65
G3	59.87
G4	59.86
G5	59.72

STATE OF MAINE

DEPARTMENT OF TRANSPORTATION

021721.00

WIN

021721.00

BRIDGE NO. 5792

BRIDGE PLANS

JOHNSON ROAD BRIDGE

INTERSTATE 295

CUMBERLAND COUNTY

FALMOUTH

ABUTMENT NO. 2

PLAN AND ELEVATION

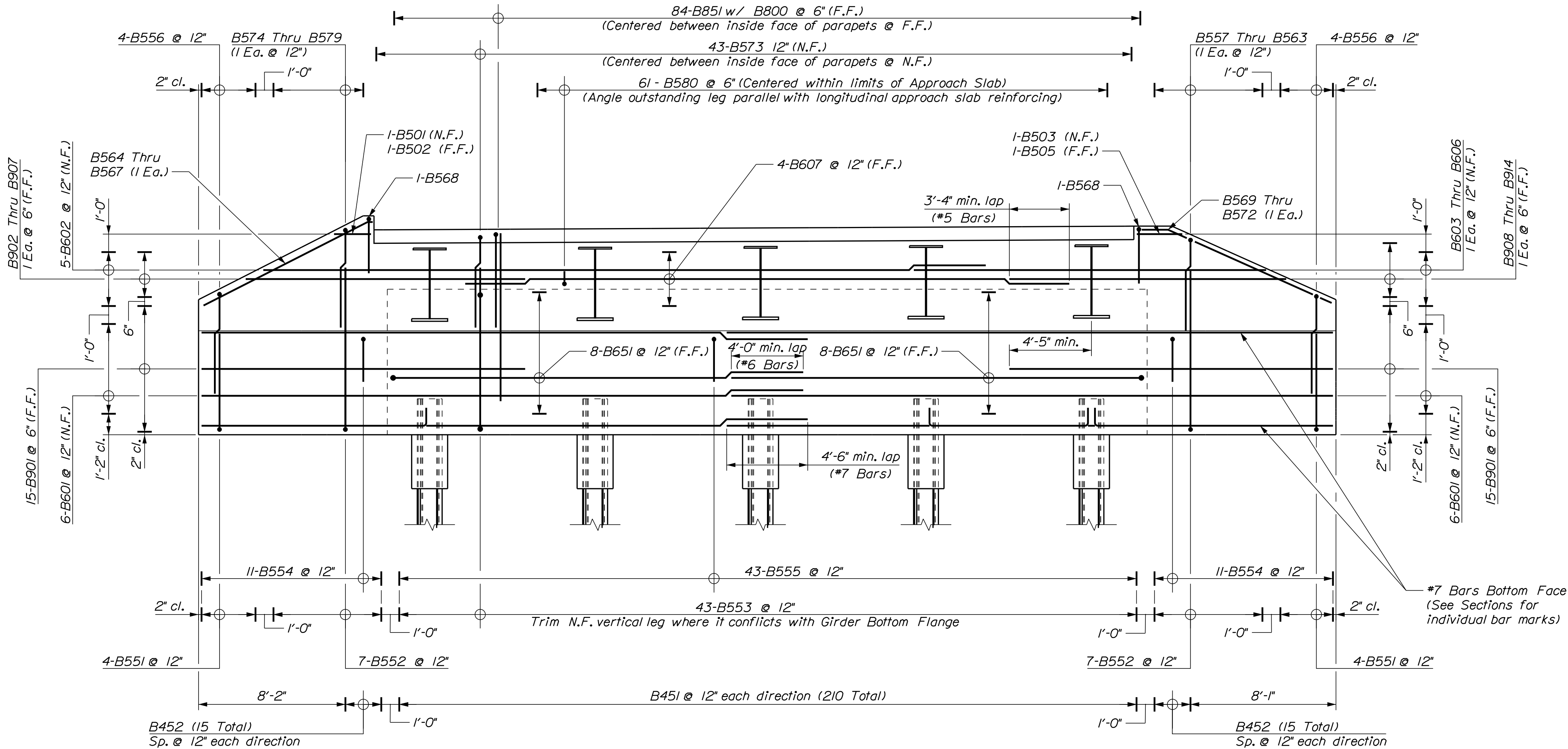
SHEET NUMBER

37

OF 61

PROJ. MANAGER	BY	DATE
DESIGNED: []	BUN	MAR 2022
CHECKED: []	ANL	MAR 2022
DESIGNED: []	KVD	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE	P.E. NUMBER	DATE

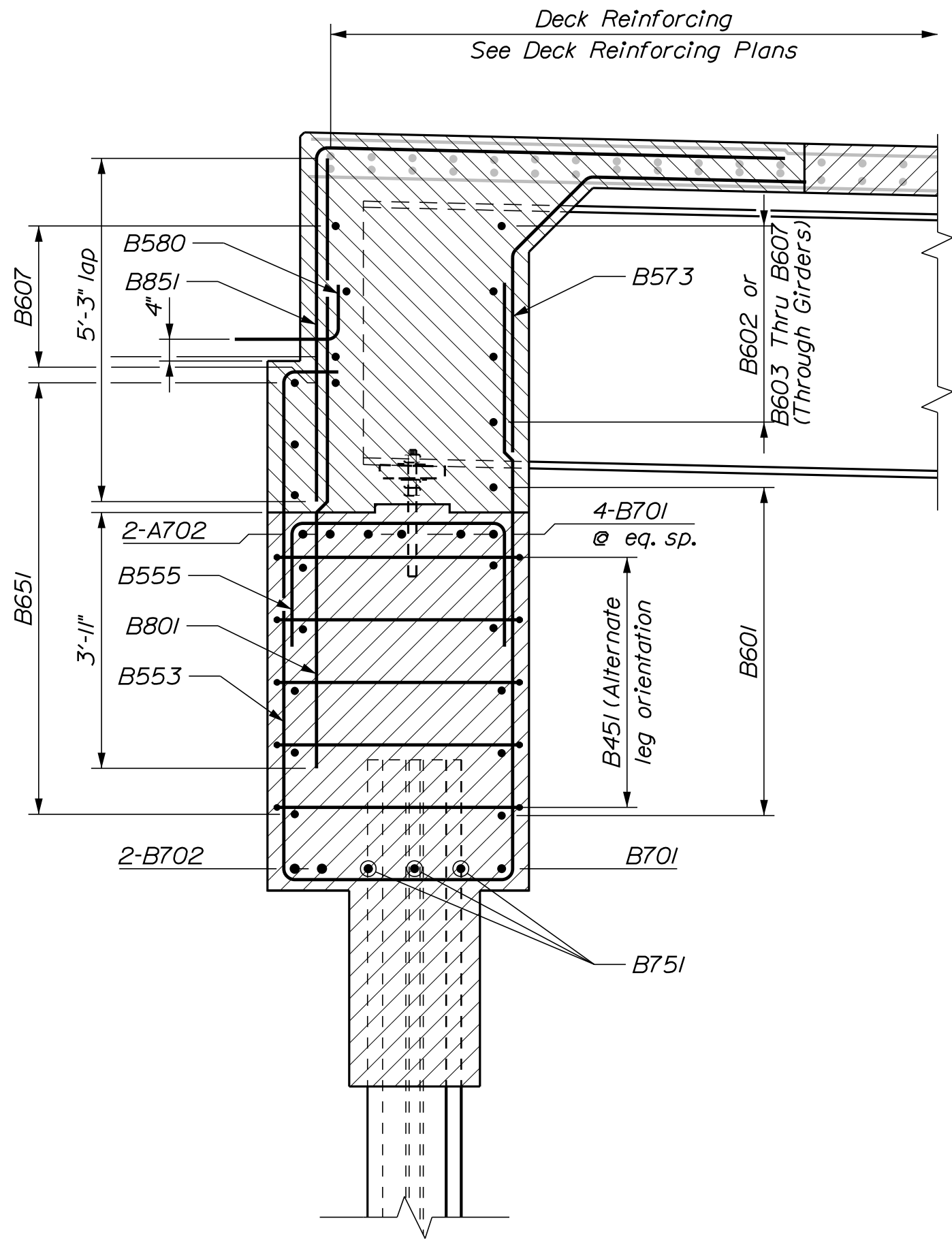


ABUTMENT NO. 2 REINFORCING ELEVATION

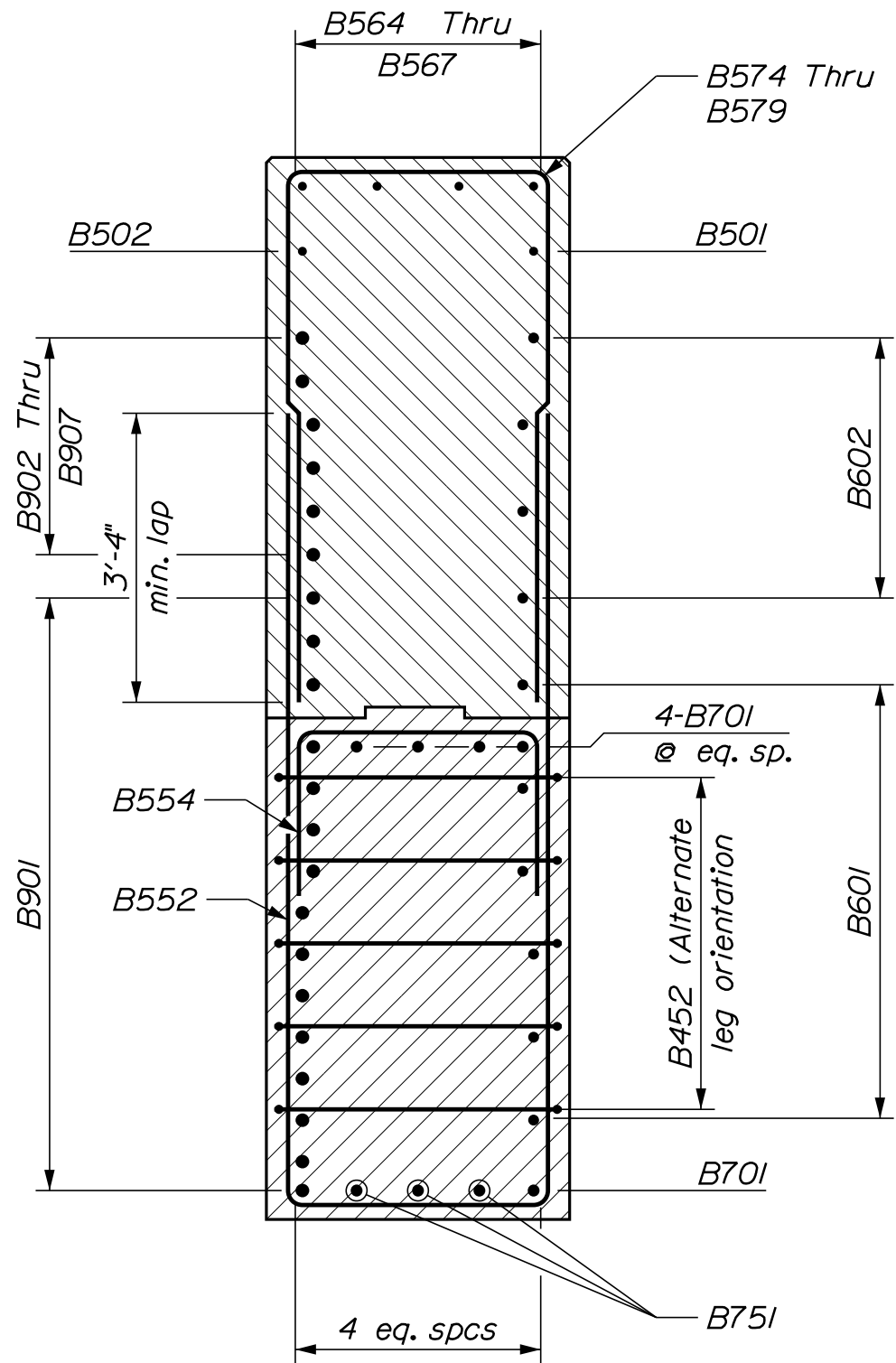
LEGEND

N.F. = Near Face
 F.F. = Far Face
 E.F. = Each Face

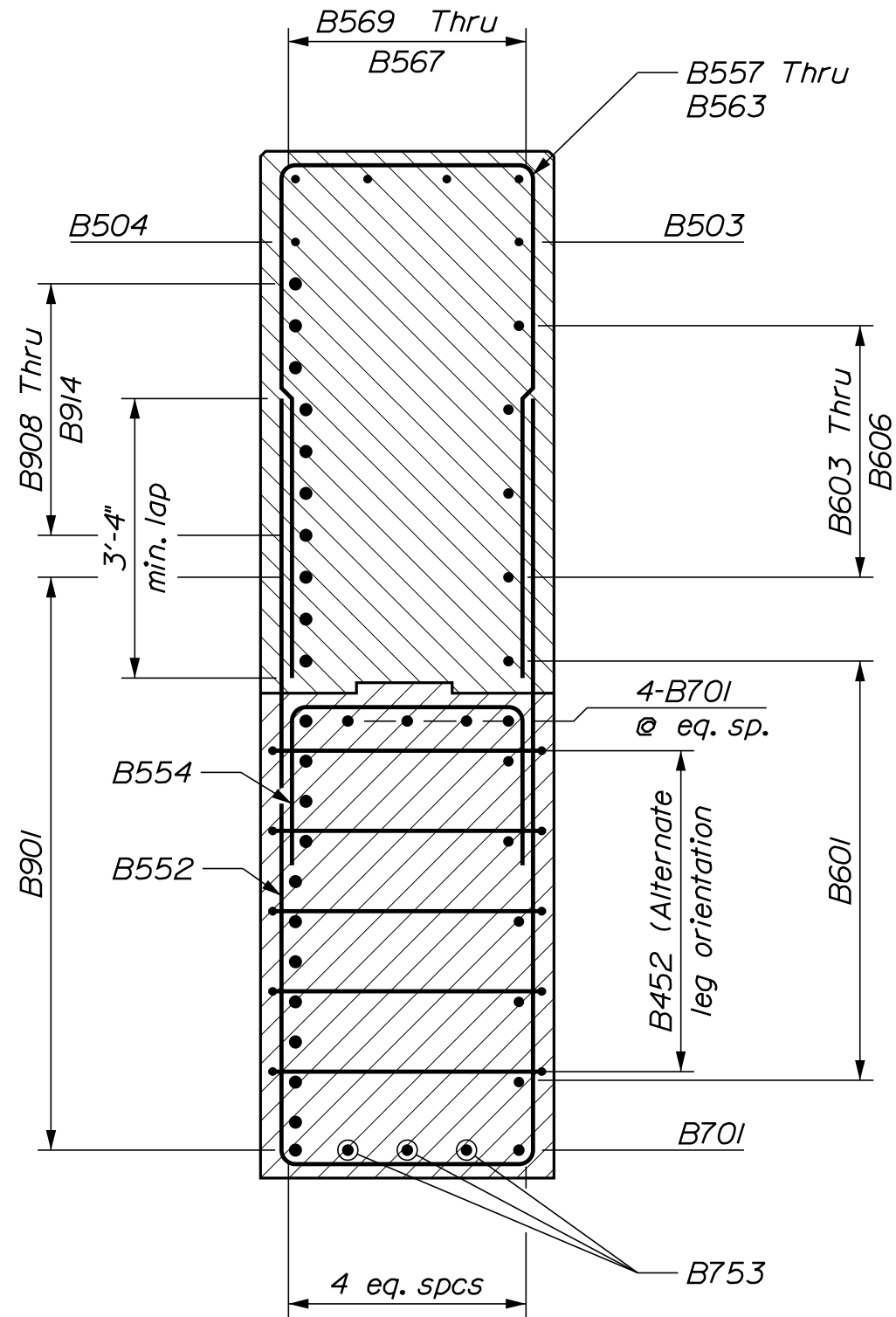
SHEET NUMBER <div>38</div> OF 61	JOHNSON ROAD BRIDGE INTERSTATE 295 FALMOUTH CUMBERLAND COUNTY ABUTMENT NO. 2 REINFORCING ELEVATION	PROJ. MANAGER		MAK	BY	DATE
		DESIGN-DETAILED	ECW	BUN	MAR. 2022	
		CHECKED-REVIEWED	TAS	AML	MAR. 2022	
		DESIGN2-DETAILED2	RPW	KVO		
		DESIGN3-DETAILED3				
		REVISIONS 1				
		REVISIONS 2				
		REVISIONS 3				
		REVISIONS 4				
		FIELD CHANGES				
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		SIGNATURE				
021721.00		P.E. NUMBER				
WIN 021721.00		DATE				
BRIDGE NO. 5792		BRIDGE PLANS				



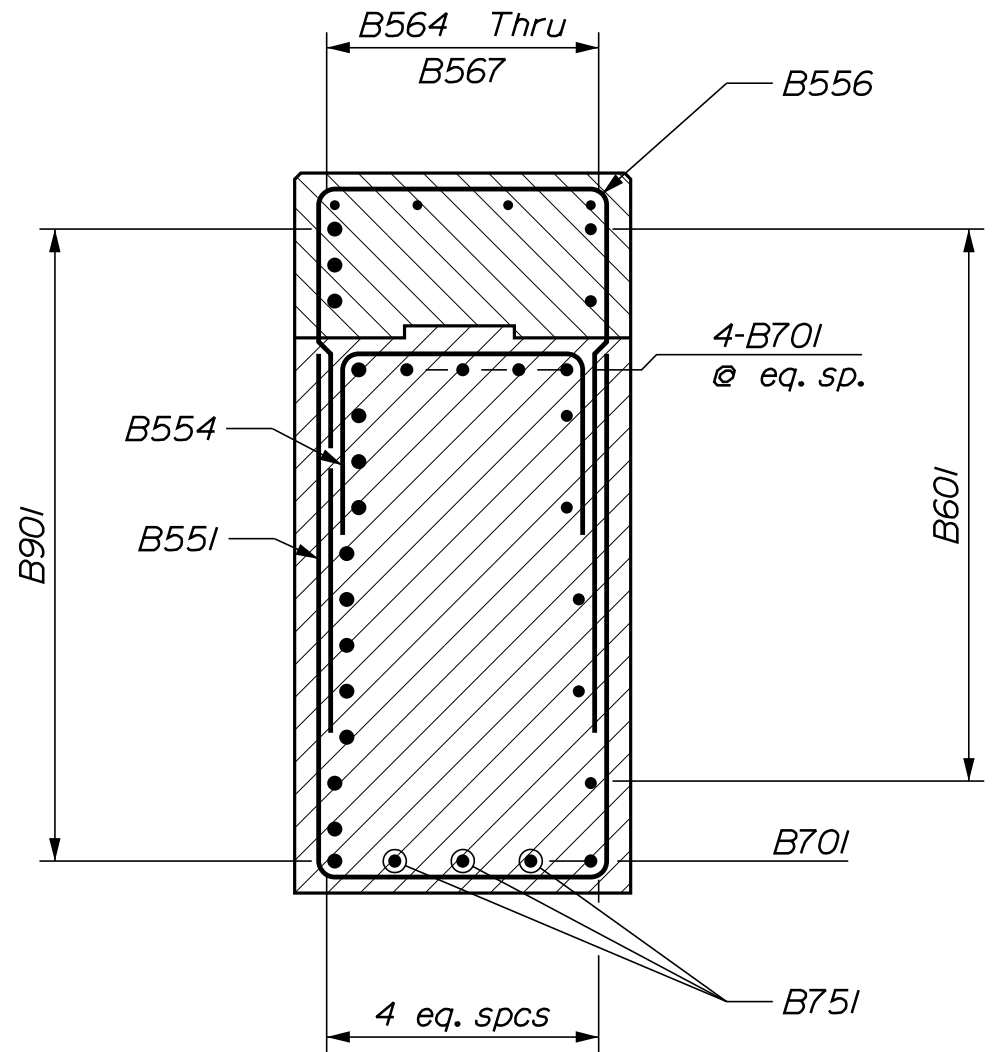
ABUTMENT SECTION



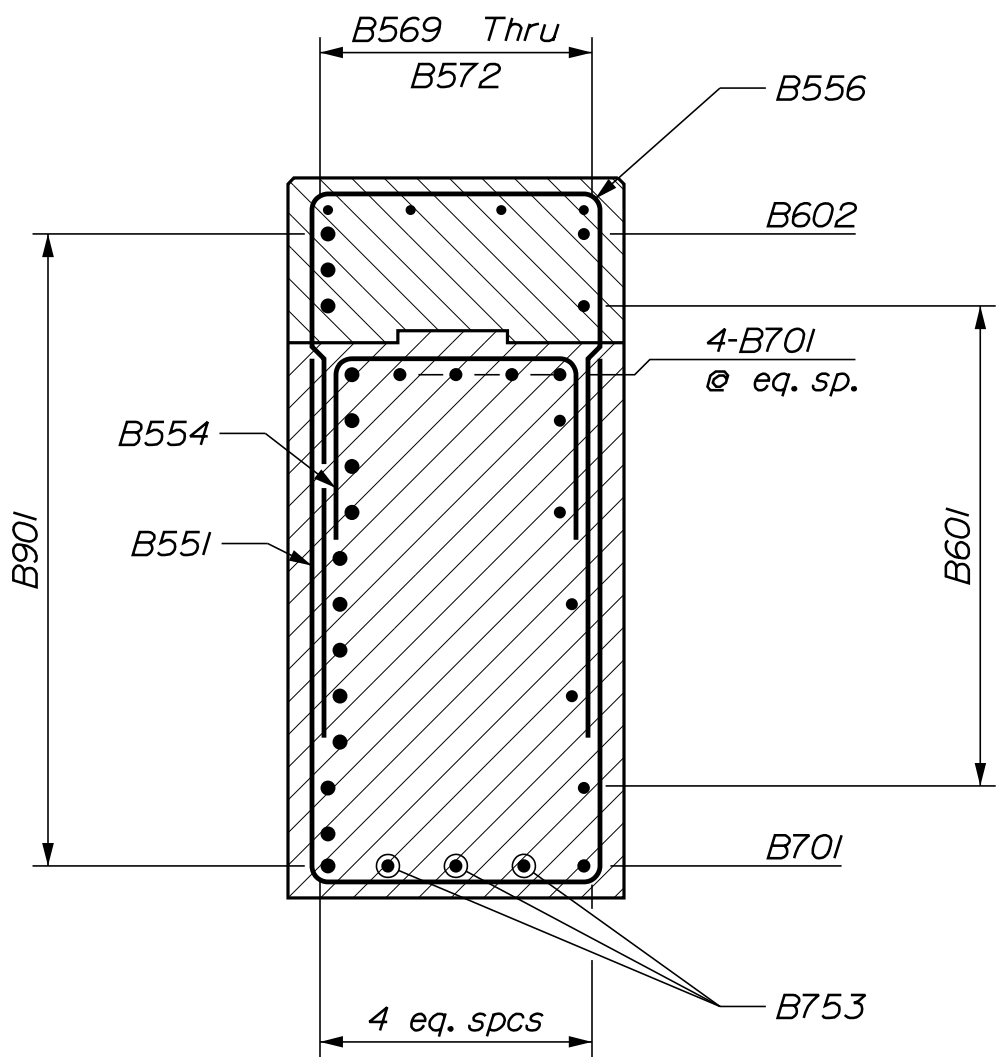
NORTHERLY WING SECTION
THROUGH PARAPET



SOUTHERLY WING SECTION
THROUGH PARAPET



NORTHERLY WING SECTION
THROUGH END OF WING

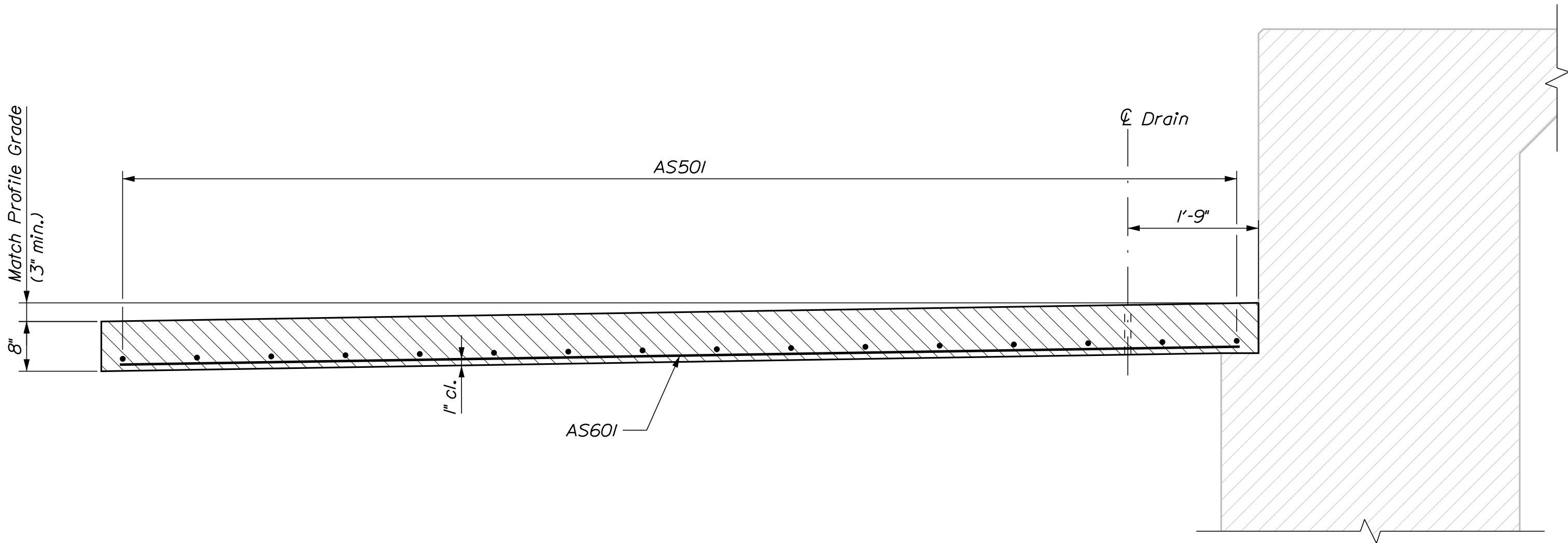


SOUTHERLY WING SECTION
THROUGH END OF WING

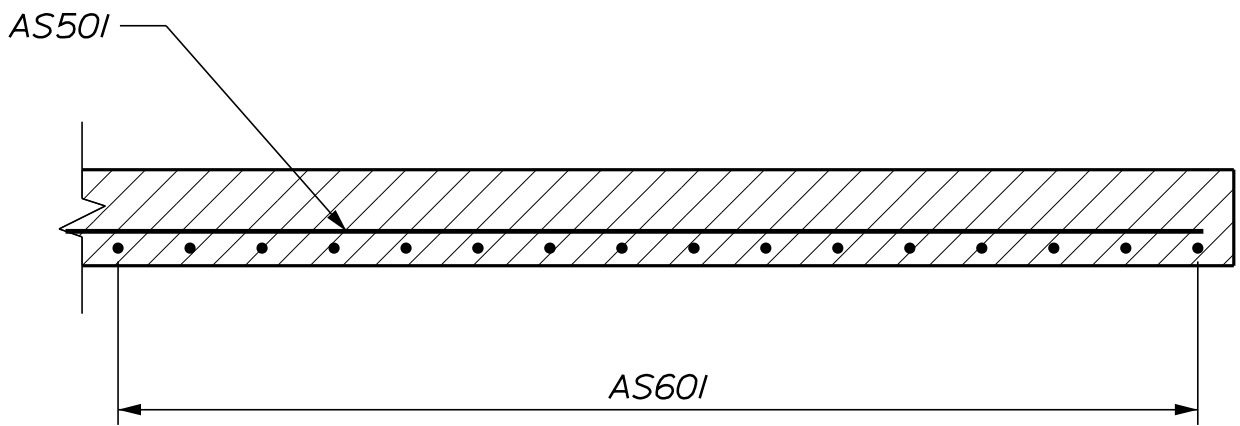
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N.F. = Near Face
F.F. = Far Face
E.F. = Each Face

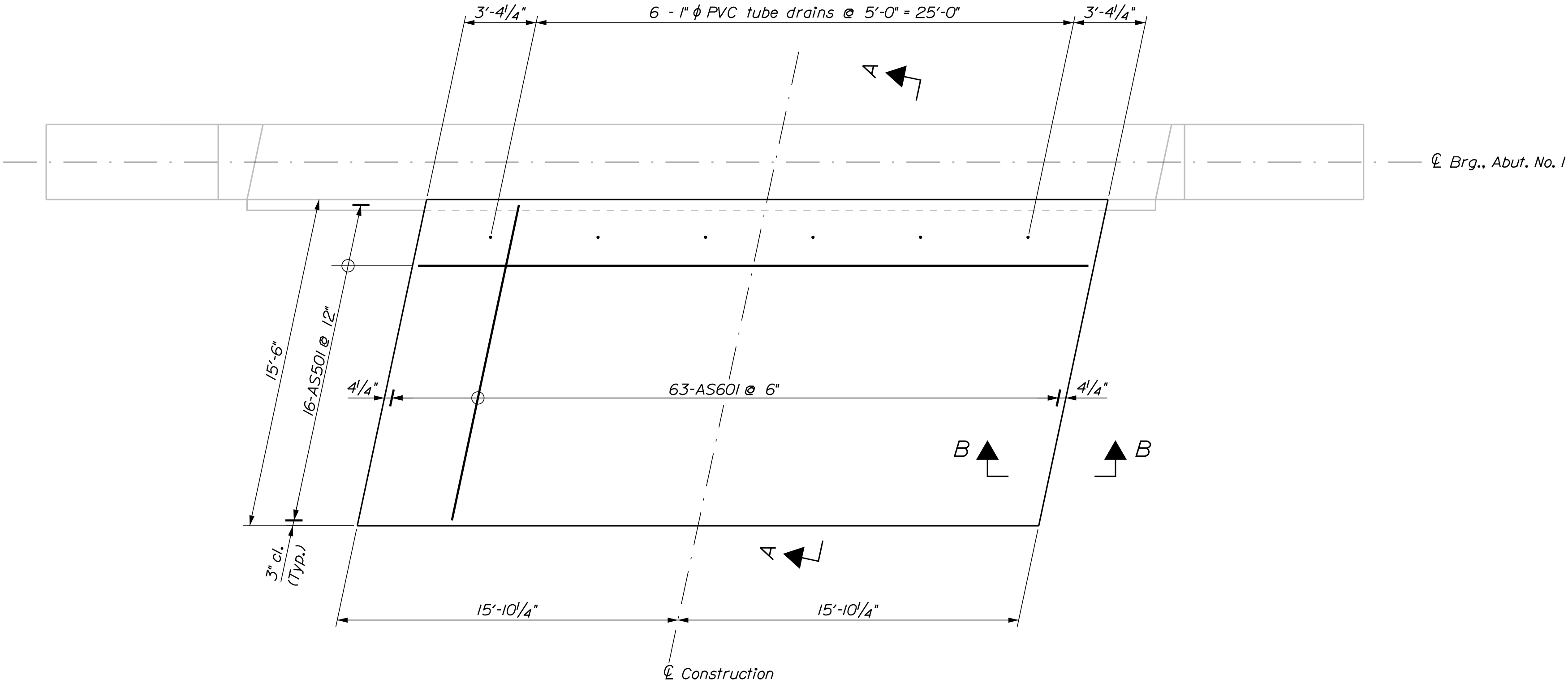
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		021721.00		WIN		021721.00		BRIDGE NO. 5792		BRIDGE PLANS	
JOHNSON ROAD BRIDGE		INTERSTATE 295		CUMBERLAND COUNTY		FALMOUTH		ABUTMENT NO. 2 SECTIONS		SHEET NUMBER		39	
PROJ. MANAGER		BY		DATE		SIGNATURE		P.E. NUMBER		DATE		021721.00	
DESIGN-DETAILED		BUN		MAR 2022		MAR 2022		MAR 2022		MAR 2022		021721.00	
CHECKED-REVIEWED		ANL		KVD		KVD		KVD		KVD		021721.00	
DESIGN-DETAILED		REV		REV		REV		REV		REV		021721.00	
REVISIONS 1		REVISIONS 2		REVISIONS 3		REVISIONS 4		REVISIONS 5		REVISIONS 6		021721.00	
FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		021721.00	



SECTION A-A



SECTION B-B



APPROACH SLAB PLAN
Abutment No. 1 shown, Abutment No. 2 opposite hand

JOHNSON ROAD BRIDGE
INTERSTATE 295
FALMOUTH CUMBERLAND COUNTY

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SHEET NUMBER
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OF 61

BRIDGE NO. 5792
WIN
021721.00

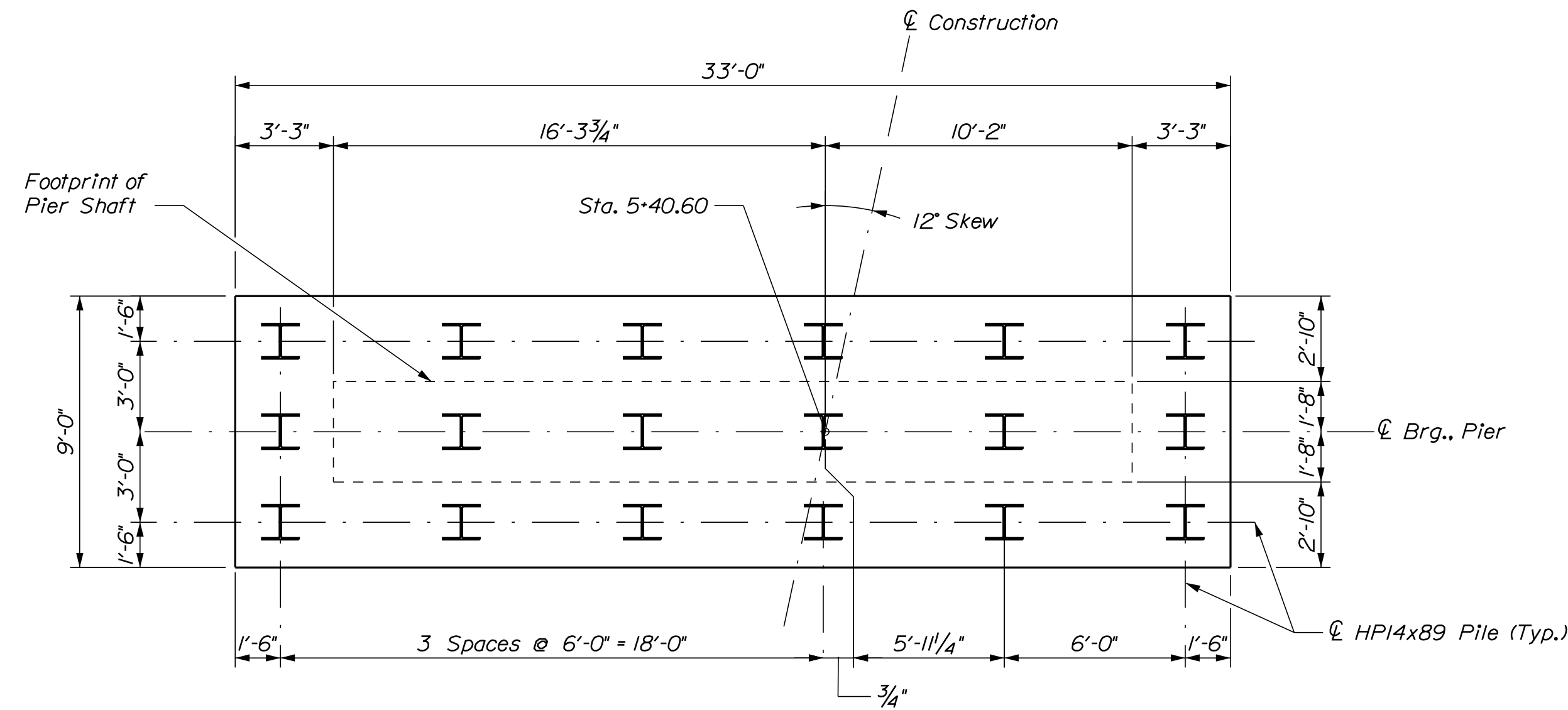
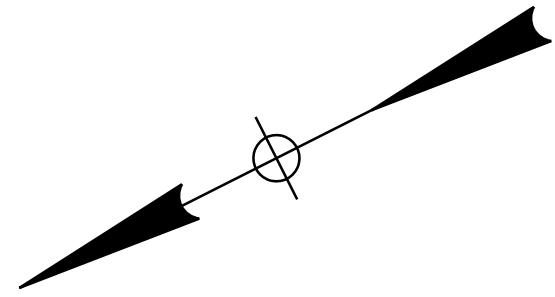
BRIDGE PLANS
021721.00

PROJ. MANAGER	DATE	BY	DATE
DESIGNED-DETAILED	MAR 2022	BUN	MAR 2022
CHECKED-REVIEWED	MAR 2022	ANL	MAR 2022
DESIGNED-DETAILED		KVD	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

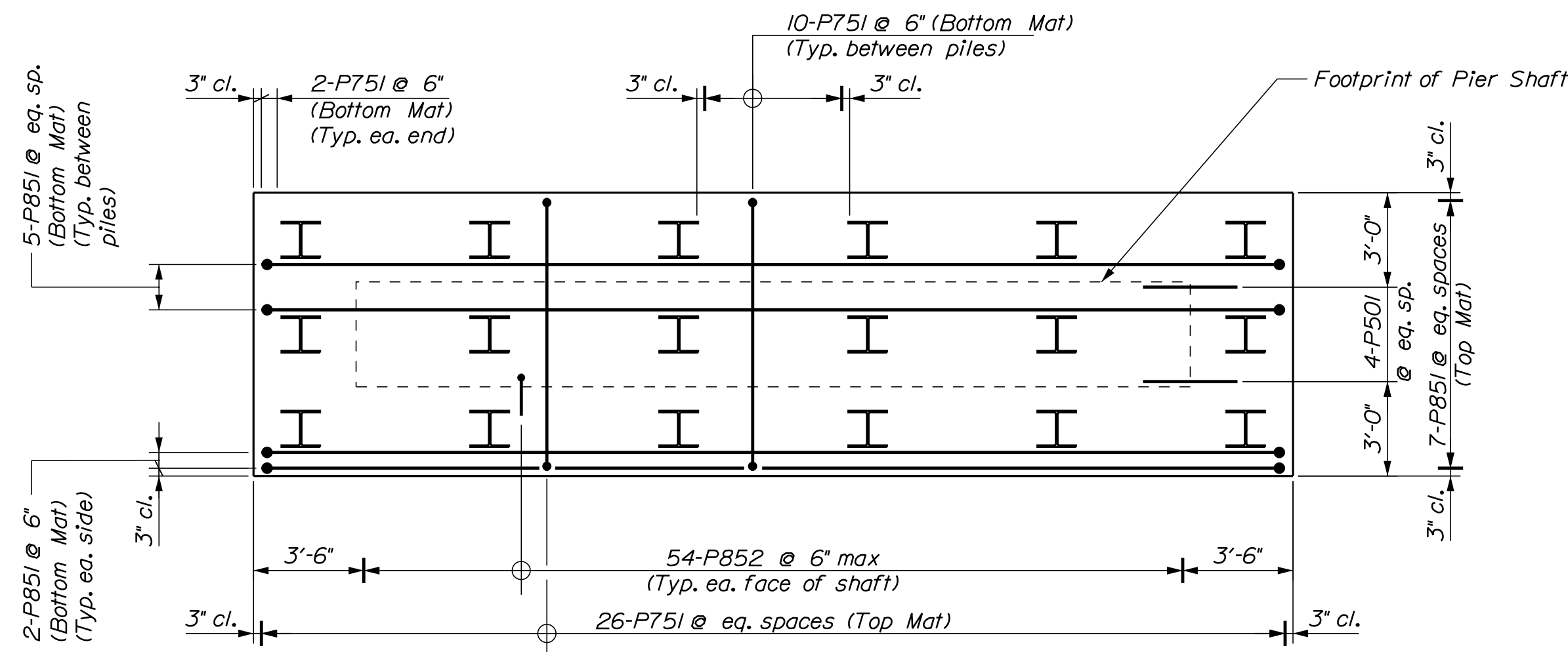
SIGNATURE

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DATE



PIER FOOTING PLAN



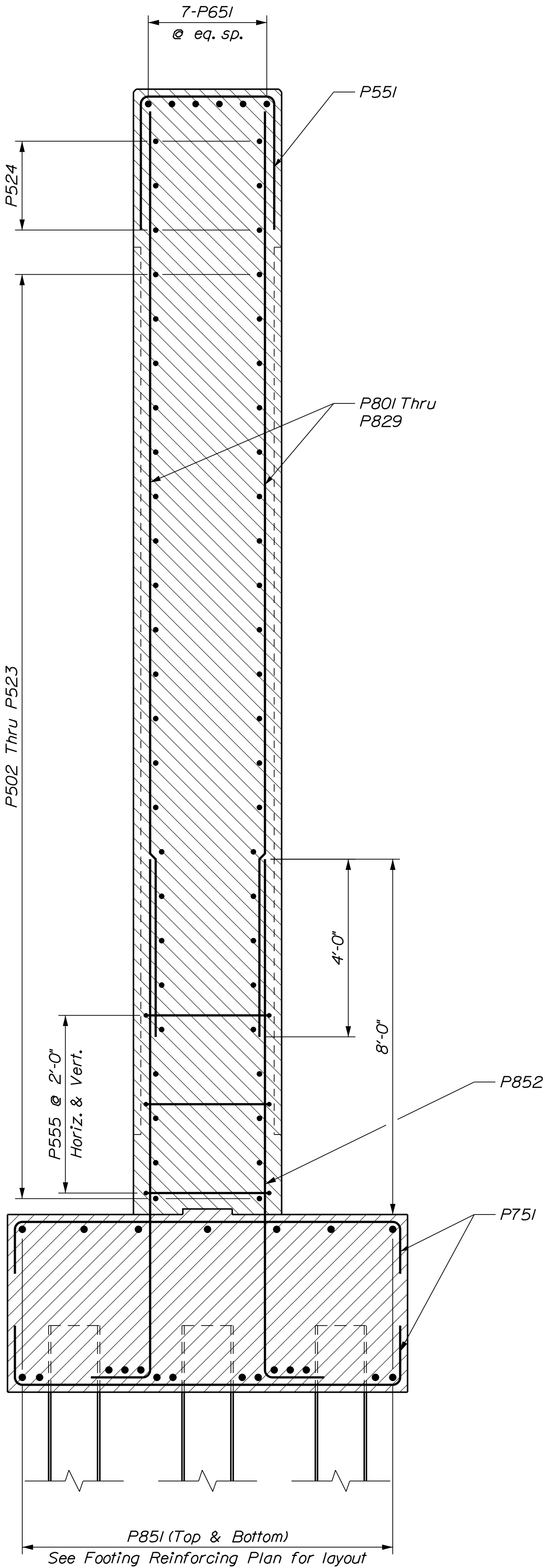
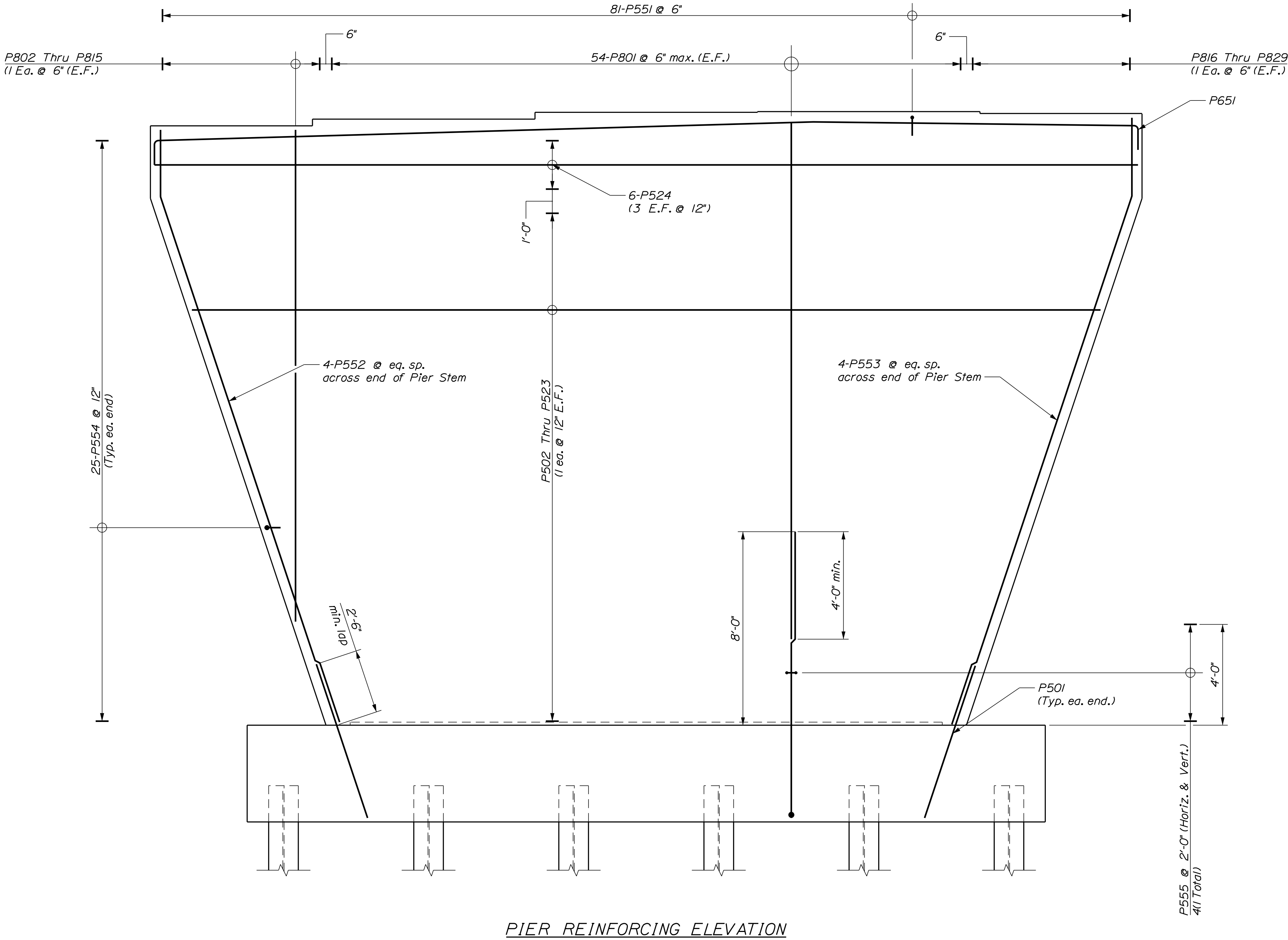
PIER FOOTING REINFORCING

9. The Contractor shall provide access for the agents of the Department to perform one (1) dynamic load test with signal matching and restrike, as specified in Special Provision 501- Dynamic Load Test, to confirm the nominal resistance of the piles. The dynamic pile load test will be complete on the first production pile at the Pier. The required nominal resistance for the piles is the maximum factored axial pile load divided by 0.65 for the controlling Strength Limit State. The Contractor may drive production piles to the preliminary driving criteria, however pile cut-off will not be permitted until completion of restrike testing and establishment of the final driving criteria.

1. Reinforcing steel shall have a minimum concrete cover of 2 inches in the stem and 3 inches in the footing unless otherwise noted.

2 Wind: 120 mph or 0.059 ksf.

<div> <div>41</div> <div>OF 61</div> </div>	SHEET NUMBER		JOHNSON ROAD BRIDGE INTERSTATE 295 FALMOUTH CUMBERLAND COUNTY		<div> <div>PROJ. MANAGER</div> <div> <div>DESIGN-DETAILED</div> <div>CHECKED-REVIEWED</div> <div>DESIGN2-DETAILED2</div> <div>DESIGN3-DETAILED3</div> </div> </div>		<div> <div>DATE</div> <div> <div>BY</div> <div> <div>MARK</div> <div> <div>DATE</div> <div> <div>DATE</div> <div>DATE</div> </div> </div> </div> </div> </div>		<div> <div>STATE OF MAINE</div> <div>DEPARTMENT OF TRANSPORTATION</div> </div>	
			PIER FOOTING		<div> <div>REVISIONS 1</div> <div>REVISIONS 2</div> <div>REVISIONS 3</div> <div>REVISIONS 4</div> <div>FIELD CHANGES</div> </div>		<div> <div>DATE</div> <div>DATE</div> <div>DATE</div> <div>DATE</div> <div>DATE</div> </div>		<div> <div>021721.00</div> <div>WIN</div> <div>021721.00</div> </div>	



LEGEND
N.F. = Near Face
F.F. = Far Face
E.F. = Each Face

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	PROJECT NO. 021721.00		BRIDGE NO. 5792		WIN 021721.00		BRIDGE PLANS	
	PROJECT NAME JOHNSON ROAD BRIDGE INTERSTATE 295 CUMBERLAND COUNTY FALMOUTH		PROJECT MANAGER DESIGN-DETAILED CHECKED-REVIEWED DESIGN-DETAILED REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES		BY BUN ANL KVD		DATE MAR 2022 MAR 2022	
	SHEET NUMBER 43		PIER REINFORCING		SIGNATURE P.E. NUMBER DATE		OF 61	

Technical drawing of a fixed elastomeric bearing plan at a pier. The drawing shows a rectangular pier with a central girder. Key dimensions include a total width of 2'-10" and a total height of 1'-7". The pier is divided into sections with widths of 1'-5" and 1'-2 1/2". The height is divided into sections of 9 1/2" and 9 1/2". The drawing includes labels for various components: Beveled Sole Plate (Top), Masonry Plate (Bottom), 1/4" Recess (Masonry Plate only), Brg. Pier, 12" Skew, Bearing Plates, Shear Blocks (4" x 4" x 3/4" High w/ 1 5/8" hole in center), 2'-0" x 1'-6" Elastomeric Bearing Pad, and Girder Above. The drawing also shows a section line A-A and a section line B-B.

Dimensions:

- Total Width: 2'-10"
- Section Widths: 1'-5", 1'-2 1/2", 1'-2 1/2", 2 1/2"
- Total Height: 1'-7"
- Section Heights: 9 1/2", 9 1/2"

Labels and Components:

- Beveled Sole Plate (Top)
- Masonry Plate (Bottom)
- 1/4" Recess (Masonry Plate only)
- Brg. Pier
- 12" Skew
- Bearing Plates
- Shear Blocks 4" x 4" x 3/4" High w/ 1 5/8" hole in center
- 2'-0" x 1'-6" Elastomeric Bearing Pad
- Girder Above

Section Lines:

- A-A (Vertical)
- B-B (Horizontal)

Text:

FIXED ELASTOMERIC BEARING PLAN AT PIER (5 REQUIRED)

(Typ.) $\frac{5}{16}$

Girdler

Beveled Sole Plate

Shear Blocks
4" x 4" x 3" High
w/ $1\frac{3}{8}$ " hole in center

Reinforced Elastomeric
Pads vulcanized to sole plates

Anchor Rod

18" min. embed.

Masonry Plate

Diagram illustrating the cross-section of a bridge pier (SECTION B-B) showing dimensions and components:

- Overall Width:** 1'-7"
- Top Slab Dimensions:** 9 1/2" (left half) and 9 1/2" (right half).
- Top Slab Thickness:** 11 1/2"
- Top Slab Slope:** 5.0% (indicated by a dashed line and arrow).
- Vertical Dimensions (from Top of Pier):**
 - 7 1/8" (Total height to the top of the pier)
 - 7 3/4" (Height to the top of the pier deck)
 - 2 1/2" (Height of the pier deck)
- Horizontal Dimensions (from Left Edge):**
 - 6 7/8" (Total width to the left edge of the pier deck)
 - 6 3/4" (Width to the left edge of the pier deck)
 - 1 3/4" (Width of the pier deck)
- Components:**
 - 1/8" Preformed Pad (at the base of the pier deck)
 - Top of Pier (indicated by a dashed line)
 - Top of Pier Deck (indicated by a dashed line)

The diagram illustrates the plan view of an elastomeric bearing. It features a large rectangle with a dashed border. To the left of the rectangle, a vertical dimension line indicates a height of $1'-6"$. Above the rectangle, a horizontal dimension line indicates a width of $2'-0"$. At the top and bottom center of the rectangle, there are symbols for orientation: a 'C' with an arrow pointing left and a corner symbol indicating a 90-degree angle.

ELASTOMERIC BEARING PLAN

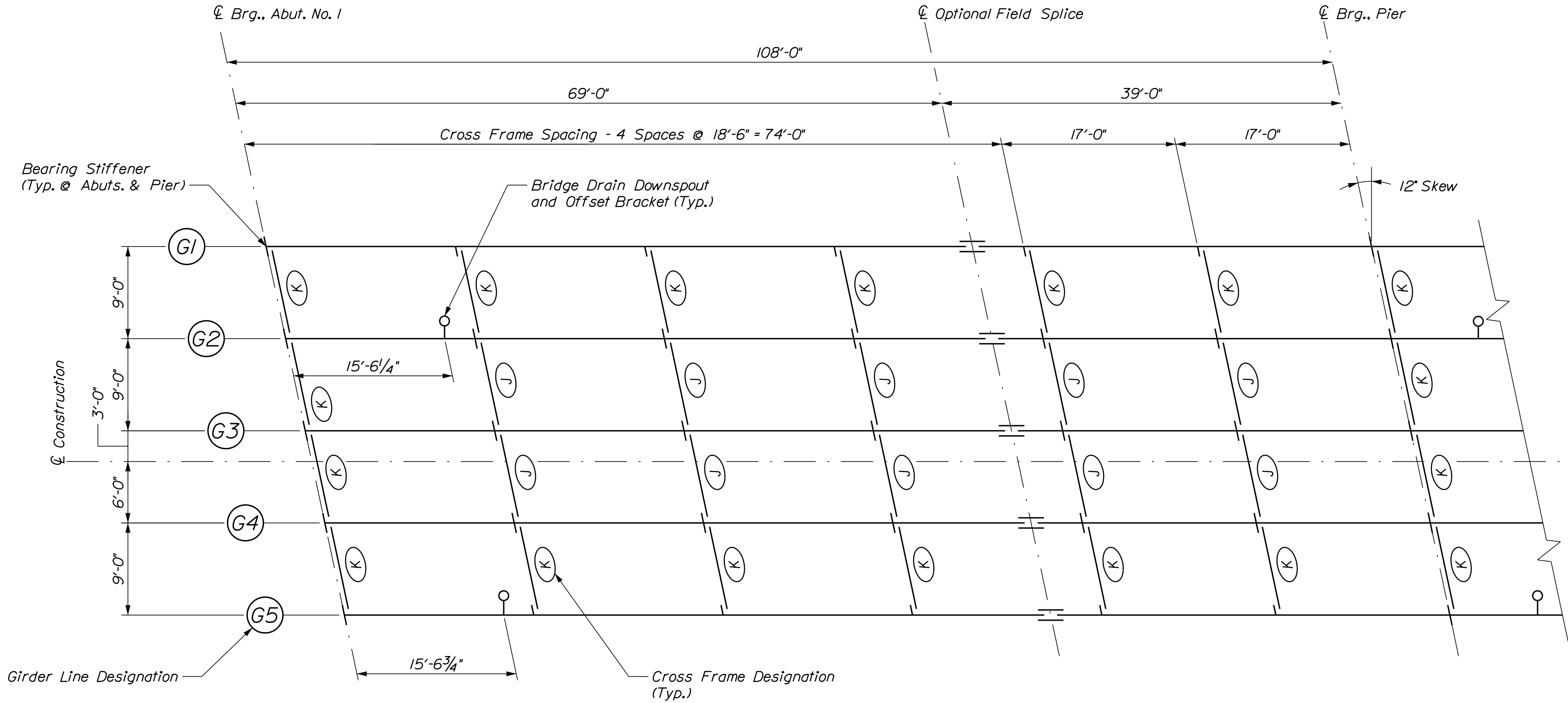
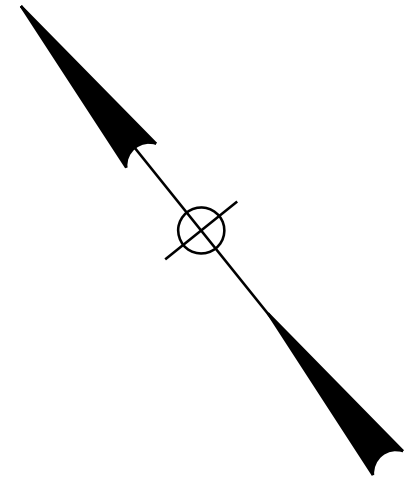
Diagram illustrating the cross-section of a composite beam. The total height is $3\frac{3}{4}$ ".

Dimensions and layers shown:

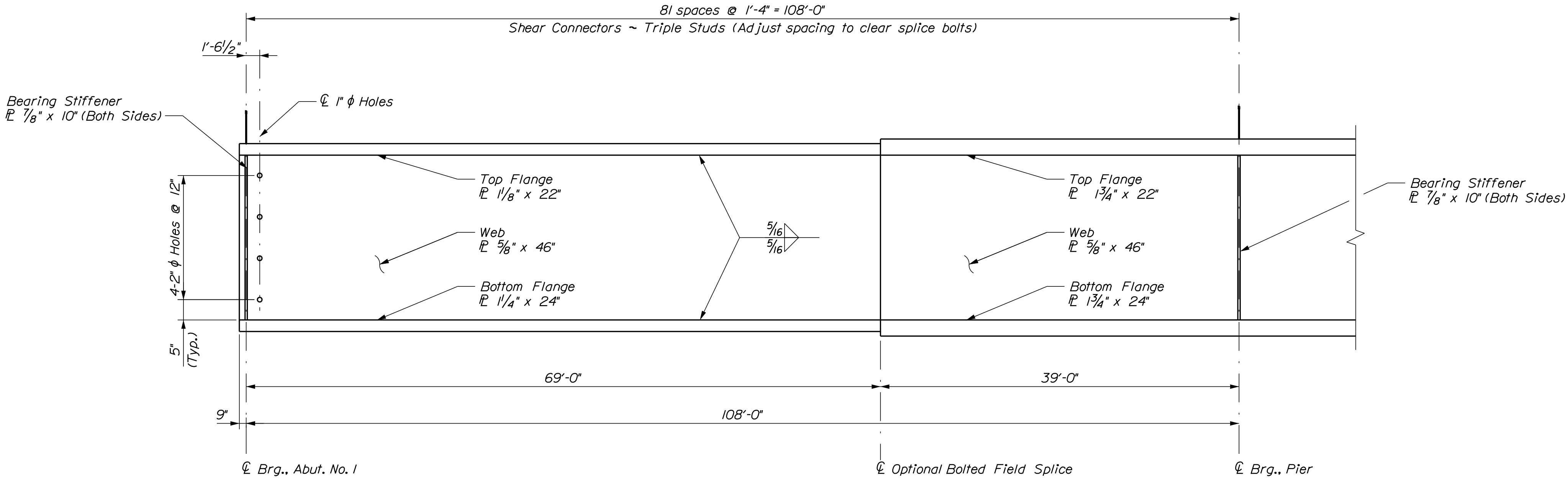
- $\frac{1}{8}$ " (Top and Bottom)
- $\frac{1}{4}$ " Exterior Elastomer Layer (Top and Bottom)
- 6 Layers - $\frac{1}{8}$ " Steel Plates
- 5 Layers - $\frac{1}{2}$ " Elastomer (between steel)

SECTION C-C

ELASTOMERIC BEARING NOTES

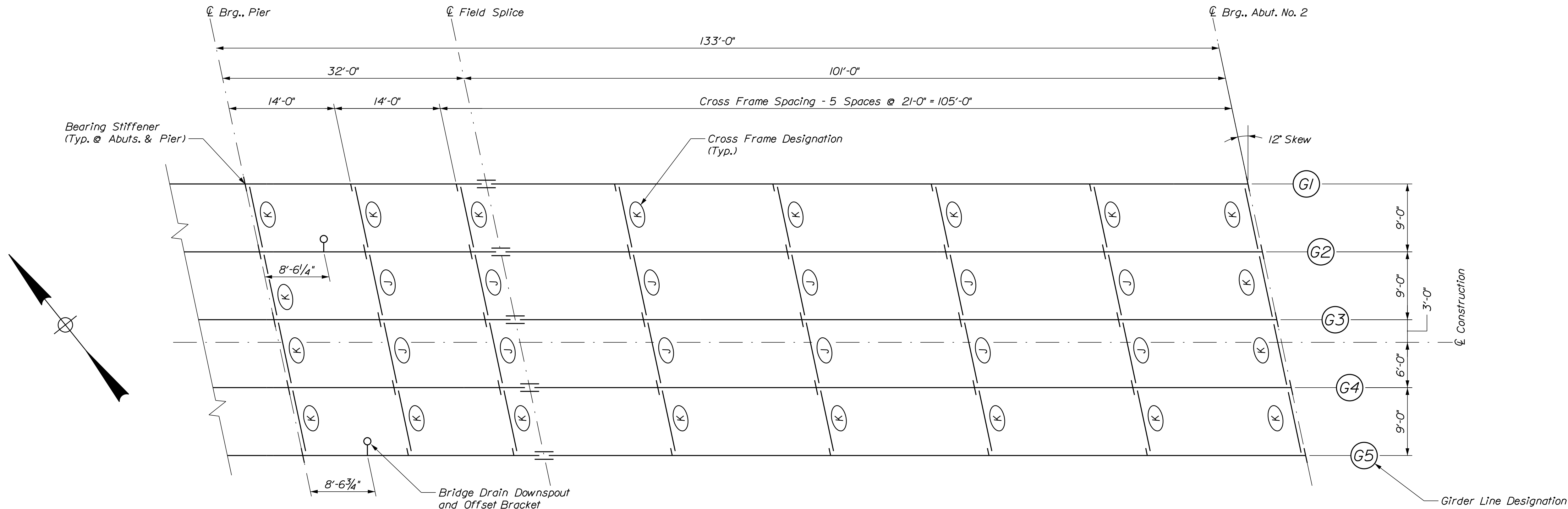


FRAMING SPAN - SPAN NO. 1

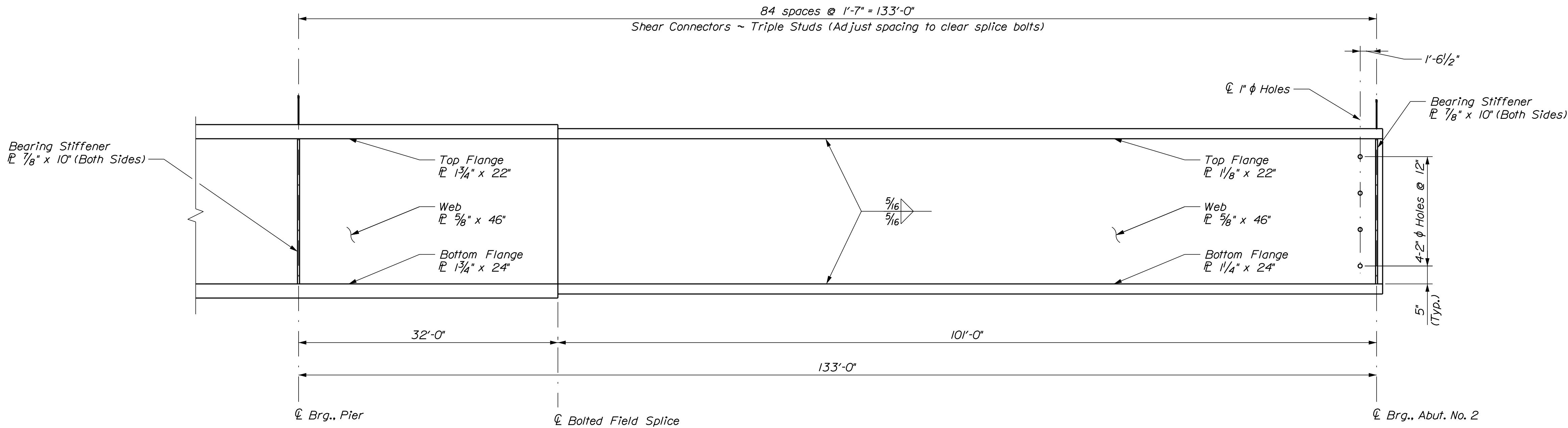


GIRDER ELEVATION - SPAN NO. 1

<div>JOHNSON ROAD BRIDGE</div> <div>INTERSTATE 295</div> <div>FALMOUTH CUMBERLAND COUNTY</div> <div>FRAMING PLAN AND GIRDER ELEVATION - SPAN NO. 1</div>	<div>STATE OF MAINE</div> <div>DEPARTMENT OF TRANSPORTATION</div>			
	021721.00			
	<div>WIN</div> <div>021721.00</div> <div>BRIDGE NO. 5792</div> <div>BRIDGE PLANS</div>			
SHEET NUMBER	PROJ. MANAGER	BY	DATE	
	DESIGNED-DETAILED	MAK		
	CHECKED-REVIEWED	BUN	MAR 2022	SIGNATURE
	DESIGNED-DETAILED	ANL	MAR 2022	P.E. NUMBER
	REVISIONS 1	KVD		DATE
45	REVISIONS 2			
	REVISIONS 3			
	REVISIONS 4			
	FIELD CHANGES			
OF 61				

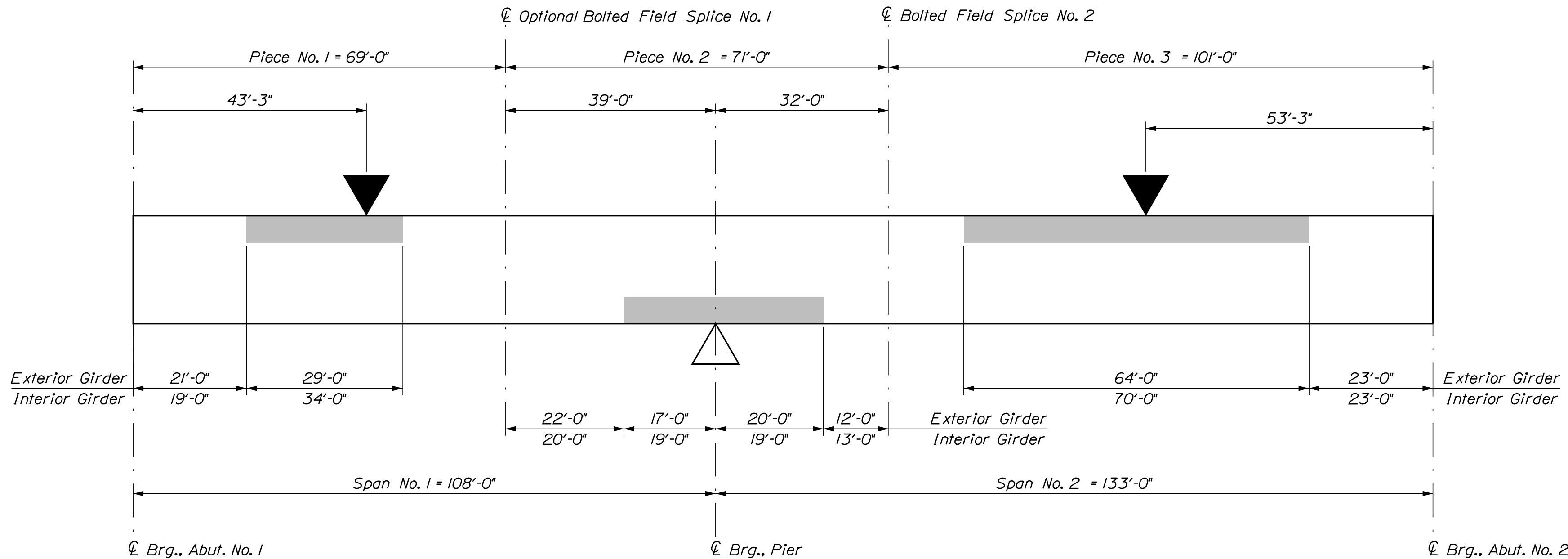


FRAMING SPAN - SPAN NO. 2



GIRDER ELEVATION - SPAN NO. 2

SHEET NUMBER 46 OF 61	JOHNSON ROAD BRIDGE INTERSTATE 295 FALMOUTH CUMBERLAND COUNTY				PROJ. MANAGER		MAK	BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION
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GIRDER STRESS DIAGRAM
▽ Maximum Negative Moment ▲ Maximum Positive Moment
Shaded areas are always in compression.
Other areas are in tension or have stress reversal.

BOTTOM OF SLAB ELEVATIONS - SPAN NO. 1											
Girder	℄ Abut 1	0.1 Span	0.2 Span	0.3 Span	0.4 Span	0.5 Span	0.6 Span	0.7 Span	0.8 Span	0.9 Span	℄ Pier
G1	51.82	52.81	53.76	54.65	55.49	56.27	57.01	57.69	58.35	58.96	59.55
G2	52.17	53.15	54.09	54.99	55.82	56.60	57.32	58.01	58.64	59.25	59.83
G3	52.52	53.50	54.43	55.32	56.14	56.91	57.63	58.31	58.94	59.54	60.11
G4	52.63	53.60	54.53	55.41	56.23	56.99	57.70	58.37	58.99	59.58	60.14
G5	52.62	53.59	54.50	55.37	56.18	56.93	57.64	58.29	58.92	59.50	60.05

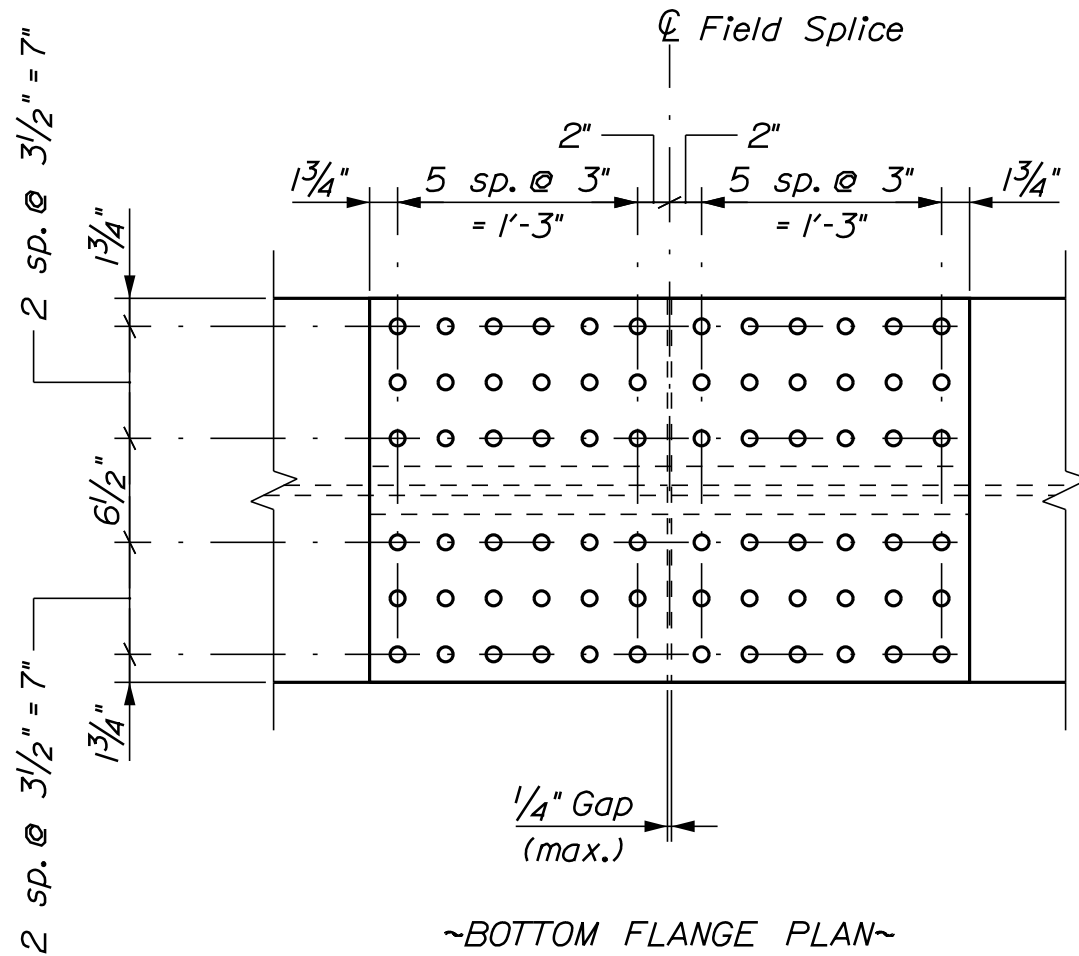
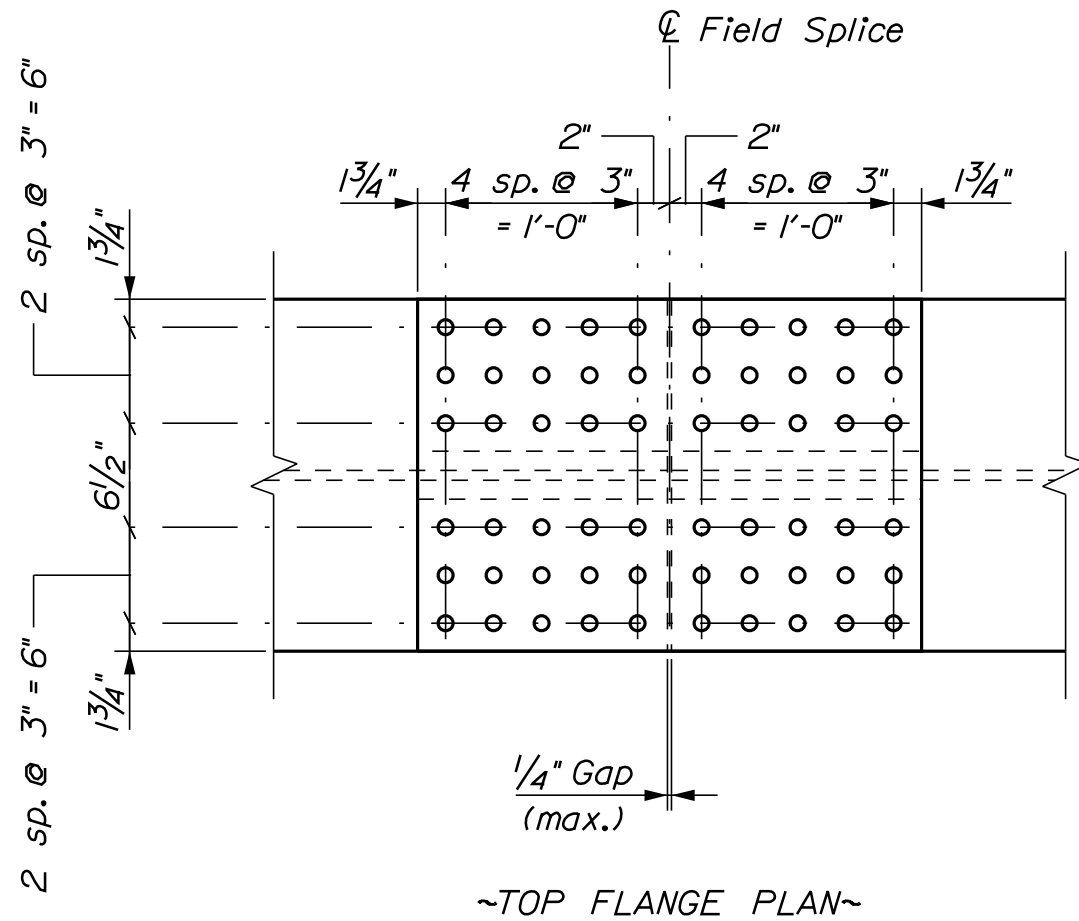
BOTTOM OF SLAB ELEVATIONS - SPAN NO. 2											
Girder	℄ Pier	0.1 Span	0.2 Span	0.3 Span	0.4 Span	0.5 Span	0.6 Span	0.7 Span	0.8 Span	0.9 Span	℄ Abut 2
G1	59.55	60.25	60.90	61.49	62.00	62.42	62.76	63.04	63.30	63.52	63.73
G2	59.83	60.52	61.18	61.77	62.29	62.70	63.04	63.31	63.55	63.76	63.96
G3	60.11	60.79	61.44	62.02	62.52	62.93	63.26	63.53	63.78	63.99	64.18
G4	60.14	60.81	61.45	62.03	62.52	62.92	63.25	63.52	63.76	63.97	64.17
G5	60.05	60.71	61.33	61.88	62.35	62.74	63.06	63.34	63.60	63.82	64.03

TABLE OF DEFLECTIONS - SPAN NO. 1, EXTERIOR GIRDER (inches)											
	℄ Abut 1	0.1 Span	0.2 Span	0.3 Span	0.4 Span	0.5 Span	0.6 Span	0.7 Span	0.8 Span	0.9 Span	℄ Pier
Steel Dead Load	0.00	0.10	0.17	0.22	0.22	0.19	0.13	0.06	0.00	-0.03	0.00
Fluid Dead Load	0.00	0.26	0.46	0.57	0.57	0.48	0.32	0.13	-0.03	-0.10	0.00
Superimposed Dead Load	0.00	0.05	0.08	0.10	0.11	0.09	0.06	0.03	0.00	-0.02	0.00
Total Dead Load	0.00	0.40	0.71	0.89	0.90	0.76	0.51	0.22	-0.04	-0.15	0.00

TABLE OF DEFLECTIONS - SPAN NO. 2, EXTERIOR GIRDER (inches)											
	℄ Pier	0.1 Span	0.2 Span	0.3 Span	0.4 Span	0.5 Span	0.6 Span	0.7 Span	0.8 Span	0.9 Span	℄ Abut 2
Steel Dead Load	0.00	0.15	0.38	0.63	0.84	0.96	0.98	0.88	0.67	0.36	0.00
Fluid Dead Load	0.00	0.44	1.09	1.79	2.39	2.75	2.81	2.53	1.91	1.03	0.00
Superimposed Dead Load	0.00	0.08	0.20	0.32	0.43	0.49	0.50	0.44	0.34	0.18	0.00
Total Dead Load	0.00	0.68	1.67	2.74	3.65	4.20	4.29	3.85	2.92	1.58	0.00

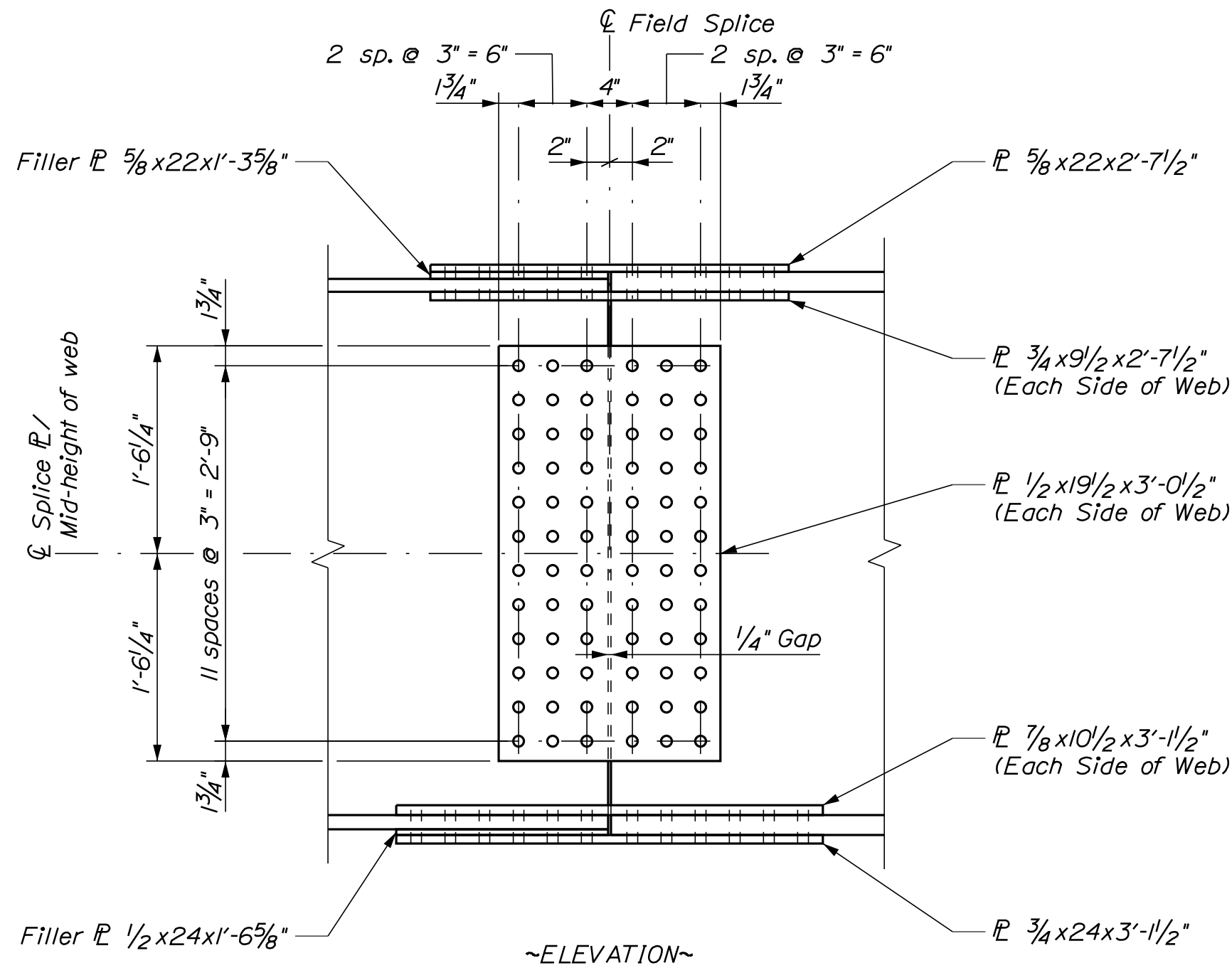
TABLE OF DEFLECTIONS - SPAN NO. 1, INTERIOR GIRDER (inches)											
	℄ Abut 1	0.1 Span	0.2 Span	0.3 Span	0.4 Span	0.5 Span	0.6 Span	0.7 Span	0.8 Span	0.9 Span	℄ Pier
Steel Dead Load	0.00	0.10	0.18	0.22	0.23	0.20	0.14	0.07	0.00	-0.03	0.00
Fluid Dead Load	0.00	0.32	0.56	0.70	0.70	0.59	0.39	0.15	-0.04	-0.12	0.00
Superimposed Dead Load	0.00	0.04	0.08	0.10	0.10	0.09	0.06	0.03	0.00	-0.02	0.00
Total Dead Load	0.00	0.46	0.82	1.02	1.03	0.87	0.58	0.25	-0.04	-0.17	0.00

TABLE OF DEFLECTIONS - SPAN NO. 2, INTERIOR GIRDER (inches)											
	℄ Pier	0.1 Span	0.2 Span	0.3 Span	0.4 Span	0.5 Span	0.6 Span	0.7 Span	0.8 Span	0.9 Span	℄ Abut 2
Steel Dead Load	0.00	0.16	0.39	0.64	0.85	0.98	1.00	0.90	0.68	0.37	0.00
Fluid Dead Load	0.00	0.55	1.34	2.20	2.94	3.39	3.46	3.10	2.35	1.27	0.00
Superimposed Dead Load	0.00	0.08	0.18	0.30	0.40	0.46	0.47	0.42	0.32	0.17	0.00
Total Dead Load	0.00	0.78	1.92	3.14	4.19	4.83	4.92	4.42	3.35	1.81	0.00



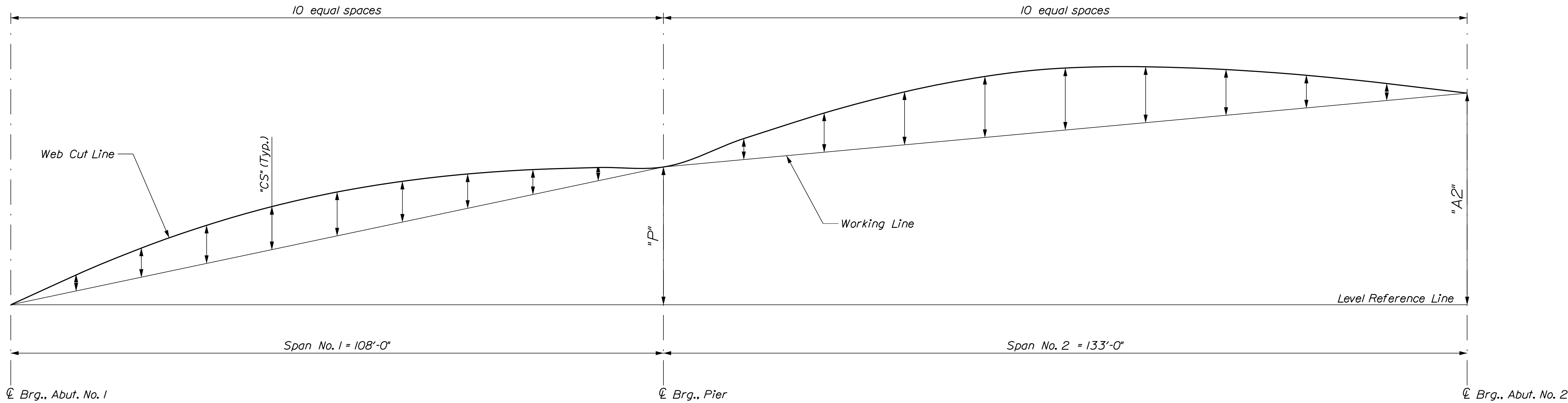
STRUCTURAL STEEL NOTES

- Camber ordinates, as shown on the Structural Steel Camber sheet, are computed to compensate for all dead load deflections and for the curvature of the finished grade profile.
- No transverse butt weld splices will be allowed in the flange plates or web plates within 10 feet or 10 percent of the span length (whichever is greater) from the points of maximum negative moment or maximum positive moment. Butt weld splices in flanges shall be not less than one foot from transverse butt welds in the web plates and no transverse web or flange butt welds shall be located within one foot of other transverse welds (e.g. connection plates to web welds) on either flange or web. No transverse butt weld splices will be allowed in areas of stress reversal.
- Sections of flange plates or web plates between transverse shop splices or between a transverse shop splice and a field splice shall be at least 20 feet in length unless otherwise shown on the plans.
- Bearing stiffeners shall be plumb after erection and dead loading of the structure. Intermediate web stiffeners may be either plumb or normal to the top flange.
- Intermediate crossframe or diaphragm connection plates may be either plumb or normal to the top flange.
- All connection plate and stiffener welds shall be 5/16 inch fillet welds.
- Filler plates may be steel conforming to the requirements of ASTM A709, Grade 36.
- Filler plates shall be metalized.
- Structural Steel was designed with a vertical construction load of 50 lb/sf and a lateral wind load velocity during construction of 50 mph.
- All bolts, nuts, and washers shall be hot dip galvanized in accordance with ASTM A153.
- Bolted field splice connections shall be made using 7/8 inch diameter ASTM F3125, Grade A325 Type I high strength bolts. Bolt hole size shall be 15/16 inch diameter. Field splice bolt threads shall be excluded from the shear plane of field splice connections.
- The splice was designed with a Class B slip coefficient.
- Repairs to the Thermal Spray Coating that modify the surface roughness in the area of the faying surfaces shall not be performed without the approval of the Fabrication Engineer.
- Bolted diaphragms or cross frame connections shall be made using 7/8 inch diameter, ASTM F3125, Grade A325 Type I high strength bolts. Hole size shall be 15/16 inch diameter. The minimum edge distance shall be 1 1/2" unless otherwise shown. Oversized or short-slot holes are not permitted. Bolt threads shall be excluded from the shear plane of cross frame or diaphragms connections.
- Ends of girder webs shall be vertical under steel dead load.
- At the Contractor's option, the Diaphragms and Cross Frames may be Hot-Dipped Galvanized in accordance with Standard Specifications Section 506, Shop Applied Protective Coating, as approved by the Resident. Payment will be considered incidental to Item 506.9104, Thermal Spray Coating (Shop Applied), no separate payment will be made.



BOLTED FIELD SPLICE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	021721.00	WIN 021721.00	BRIDGE NO. 5792	BRIDGE PLANS
JOHNSON ROAD BRIDGE INTERSTATE 295 FALMOUTH CUMBERLAND COUNTY	DATE	BY	MAK	PROJ. MANAGER
	MAR 2022	AM	ECW	CHECKED-DETAILED
	MAR 2022	AM	KVD	DESIGN-REVIEWED
				DESIGNS-DETAILED
				REVISIONS 1
			REVISIONS 2	
			REVISIONS 3	
			REVISIONS 4	
			FIELD CHANGES	
SHEET NUMBER				
47				
OF 61				



CAMBER DIAGRAM
DIMENSIONS

Girder	"P"	"A2"
G1	7.71'	11.87'
G2	7.64'	11.75'
G3	7.57'	11.62'
G4	7.49'	11.49'
G5	7.41'	11.37'

TABLE OF CAMBER ORDINATES - SPAN NO. 1 "CS" (inches)

Girder	℄ Abut. No. 1	0.1 Span	0.2 Span	0.3 Span	0.4 Span	0.5 Span	0.6 Span	0.7 Span	0.8 Span	0.9 Span	℄ Pier
G1	0.00	2.65	4.81	6.31	7.12	7.25	6.75	5.68	4.13	2.20	0.00
G2	0.00	2.76	4.96	6.47	7.28	7.39	6.84	5.73	4.14	2.18	0.00
G3	0.00	2.79	4.99	6.50	7.30	7.41	6.86	5.74	4.14	2.19	0.00
G4	0.00	2.81	5.00	6.52	7.32	7.42	6.87	5.74	4.15	2.19	0.00
G5	0.00	2.76	4.90	6.39	7.19	7.31	6.80	5.72	4.16	2.21	0.00

TABLE OF CAMBER ORDINATES - SPAN NO. 2 "CS" (inches)

Girder	℄ Abut. No. 1	0.1 Span	0.2 Span	0.3 Span	0.4 Span	0.5 Span	0.6 Span	0.7 Span	0.8 Span	0.9 Span	℄ Pier
G1	0.00	3.48	6.48	8.76	10.08	10.26	9.25	7.57	5.39	2.82	0.00
G2	0.00	3.53	6.62	9.01	10.42	10.63	9.63	7.95	5.70	2.99	0.00
G3	0.00	3.47	6.51	8.84	10.20	10.36	9.38	7.76	5.57	2.92	0.00
G4	0.00	3.42	6.41	8.69	9.99	10.09	9.14	7.59	5.46	2.87	0.00
G5	0.00	3.26	6.05	8.11	9.22	9.19	8.28	6.84	4.91	2.57	0.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
021721.00

BRIDGE NO. 5792
WIN
021721.00
BRIDGE PLANS

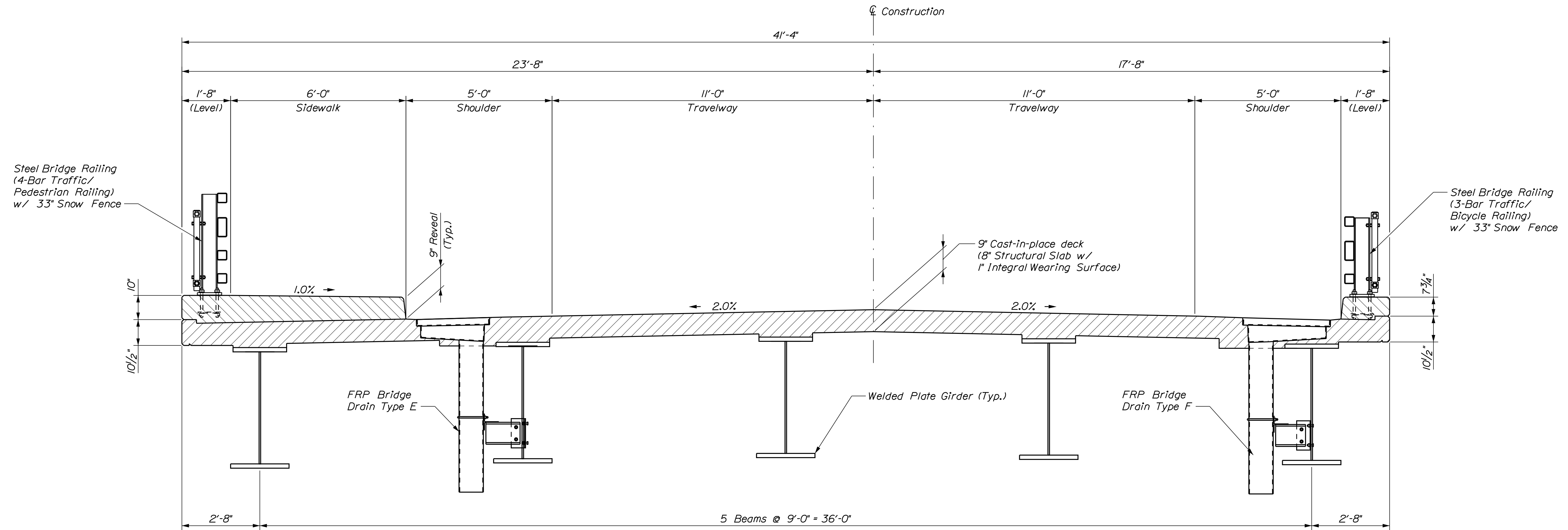
JOHNSON ROAD BRIDGE
INTERSTATE 295
FALMOUTH CUMBERLAND COUNTY

STRUCTURAL STEEL CAMBER

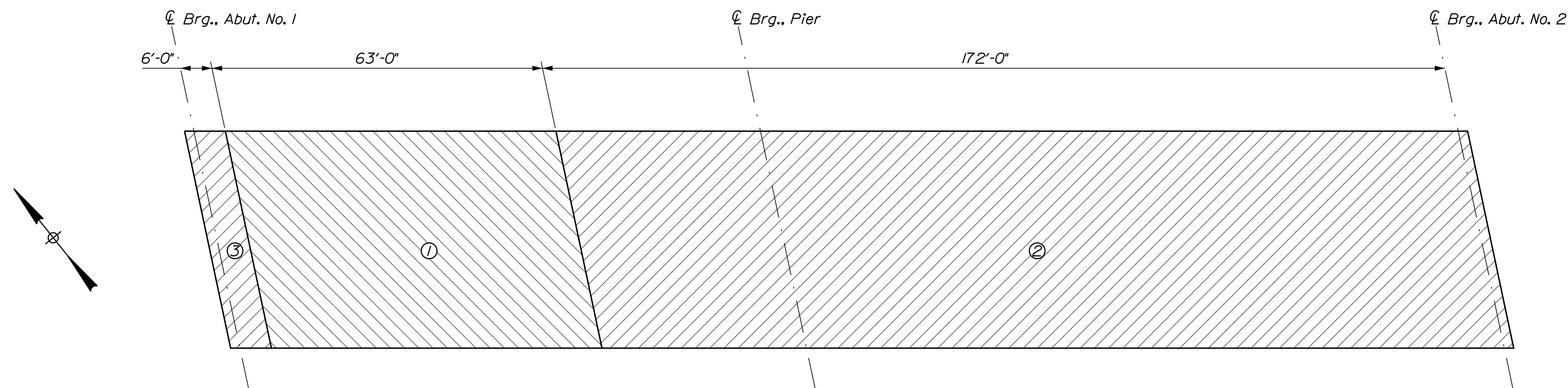
SHEET NUMBER
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OF 61

PROJ. MANAGER	DATE	BY	DATE
DESIGN-DETAILED	MAR 2022	BIN	MAR 2022
CHECKED-REVIEWED		ANL	
DESIGN-DETAILED		KVD	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE	P.E. NUMBER	DATE



PROPOSED BRIDGE SECTION

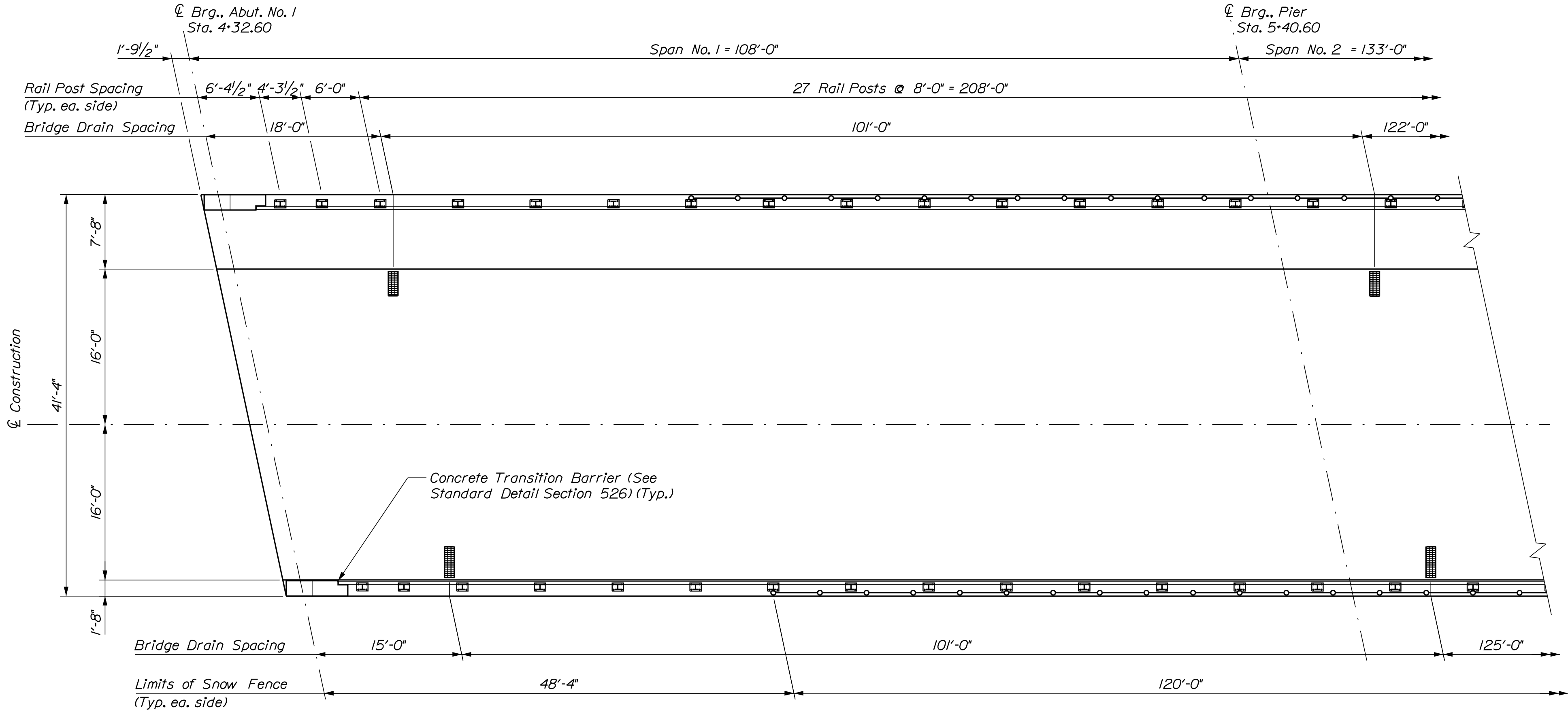
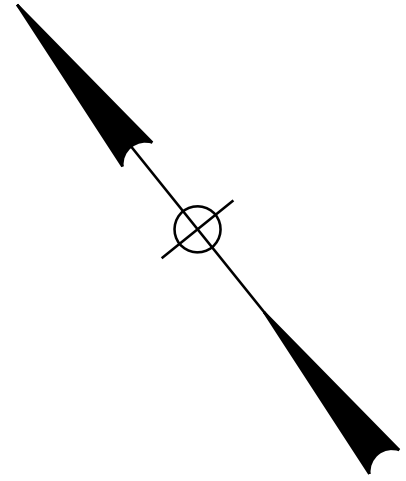


DECK PLACEMENT SEQUENCE

SUPERSTRUCTURE NOTES

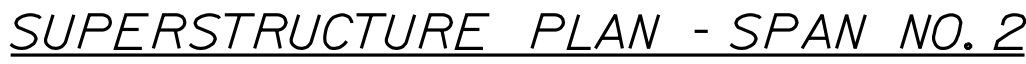
1. The theoretical blocking used for design of the structure is $4\frac{1}{2}$ inch at the centerline of bearing of the abutments and piers. Refer to Standard Detail 502(03) for blocking details.
2. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
3. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.
4. Anchor rods for the steel bridge rail posts shall be shortened by 1 inch to provide additional clearance between the top of the deck and bottom of the anchor rod.
5. The Saw Cut Grooving shall be in the longitudinal direction.
6. The superstructure slab concrete shall be placed in accordance with the Deck Placement Sequence shown on this sheet. Concrete in a placement shall be kept plastic one complete span behind the span being placed. A minimum of 5 days shall elapse between successive partial placements. The superstructure slab concrete placement sequence shall be approved by the Resident.
7. Concrete shall be placed starting at the low end of each placement sequence.
8. Precast deck panels are not allowed on this project.
9. Provide 4 additional stirrups in the curbs at each Transition Barrier location.
10. The Contractor shall install Transition Barrier vertical closed stirrups, as shown in Standard Details Section 526, prior to the placement of the curb or sidewalk concrete.
11. Transition Barrier reinforcing steel shall be Low-Carbon Chromium.

DESIGN-DETAILED	ECW	SUN	MAR 2022	SIGNATURE
CHECKED REVIEWED	TAS	AML	MAR 2022	
DESIGN-DETAILED	RPM	KYD		
DESIGN-DETAILED	DOS			
REVISIONS 1	DESIGN-DETAILED			P.E. NUMBER
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				DATE

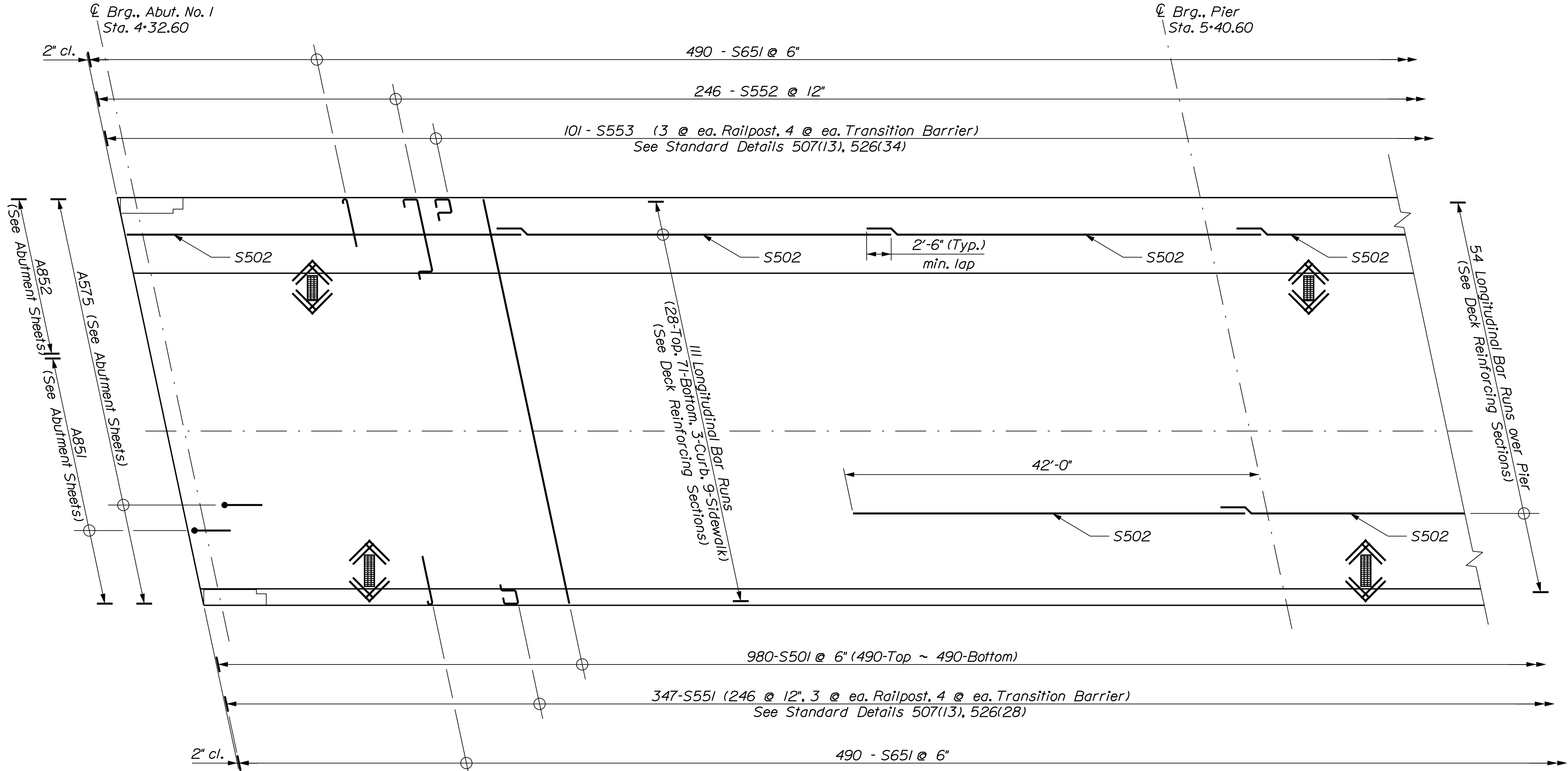
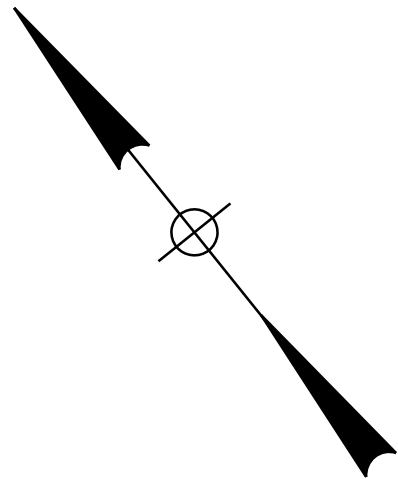


SUPERSTRUCTURE PLAN - SPAN NO. 1

<div>JOHNSON ROAD BRIDGE</div> <div>INTERSTATE 295</div> <div>FALMOUTH CUMBERLAND COUNTY</div> <div>SUPERSTRUCTURE PLAN</div> <div>SPAN NO. 1</div>	<div>STATE OF MAINE</div> <div>DEPARTMENT OF TRANSPORTATION</div>			
	<div>021721.00</div>			
	<div>WIN</div> <div>021721.00</div> <div>BRIDGE NO. 5792</div> <div>BRIDGE PLANS</div>			
	<div>SHEET NUMBER</div> <div>50</div> <div>OF 61</div>			
<div>PROJ. MANAGER</div> <div>DESIGN-DETAILED</div> <div>CHECKED-REVIEWED</div> <div>DESIGN-DETAILED</div> <div>REVISIONS 1</div> <div>REVISIONS 2</div> <div>REVISIONS 3</div> <div>REVISIONS 4</div> <div>FIELD CHANGES</div>		<div>DATE</div> <div>MAR 2022</div> <div>MAR 2022</div>	<div>BY</div> <div>BUN</div> <div>ANL</div> <div>KVD</div>	<div>SIGNATURE</div> <div>P.E. NUMBER</div> <div>DATE</div>

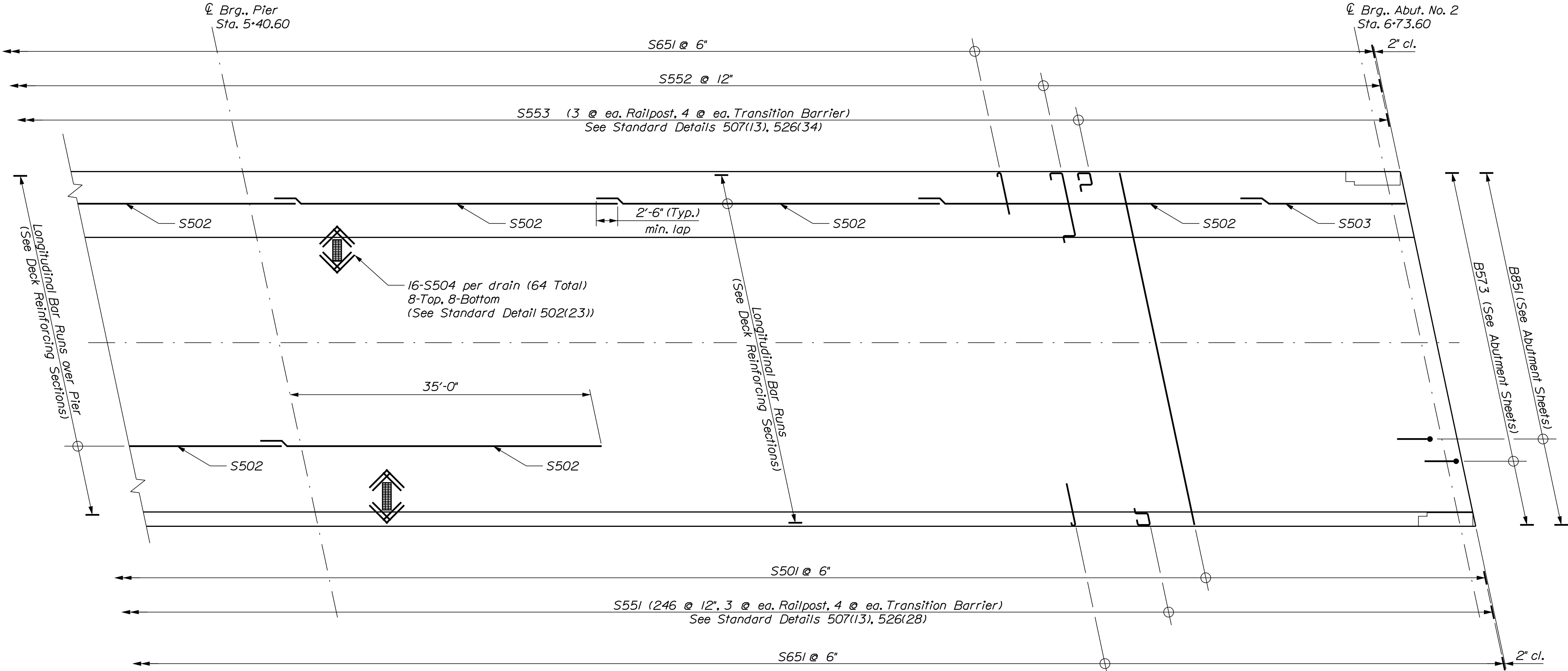
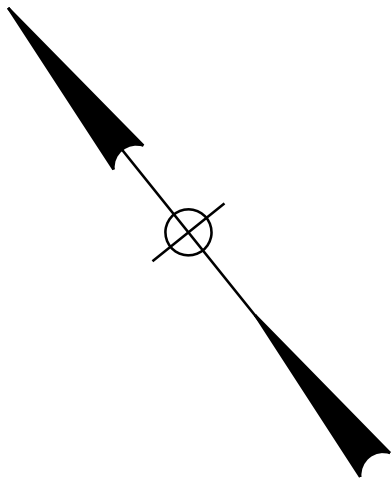


JOHNSON ROAD BRIDGE INTERSTATE 295 FALMOUTH CUMBERLAND COUNTY										PROJ. MANAGER		MAK	BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
BRIDGE DECK PLAN SPAN NO. 2										DESIGN-DETAILED	ECW	BUN	MAR 2022	SIGNATURE	021721.00	
										CHECKED-REVIEWED	TAS	AML	MAR 2022			
										DESIGN2-DETAILED2	RPW	KVO				
										DESIGN3-DETAILED3						
										REVISIONS 1				P.E. NUMBER	WIN 021721.00	
										REVISIONS 2				DATE		
										REVISIONS 3						
										REVISIONS 4						
FIELD CHANGES															BRIDGE NO. 5792	BRIDGE PLANS



DECK REINFORCING PLAN - SPAN NO. 1
 Alternate position of Bars S503 within the longitudinal bar run in order to stagger splice locations.

JOHNSON ROAD BRIDGE INTERSTATE 295 FALMOUTH CUMBERLAND COUNTY										PROJ. MANAGER		MAK	BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION						
DECK REINFORCING PLAN SPAN NO. 1										DESIGN-DETAILED	ECW	BUN	MAR. 2022								
										CHECKED-REVIEWED	TAS	AML	MAR. 2022								
										DESIGN2-DETAILED2	RPW	KVD									
										DESIGN3-DETAILED3											
												P.E. NUMBER		021721.00							
												REVISIONS 1					BRIDGE NO. 5792	WIN	021721.00	BRIDGE PLANS	
												REVISIONS 2									
												REVISIONS 3									
												REVISIONS 4									
SHEET NUMBER												FIELD CHANGES									
52																					
OF 61																					

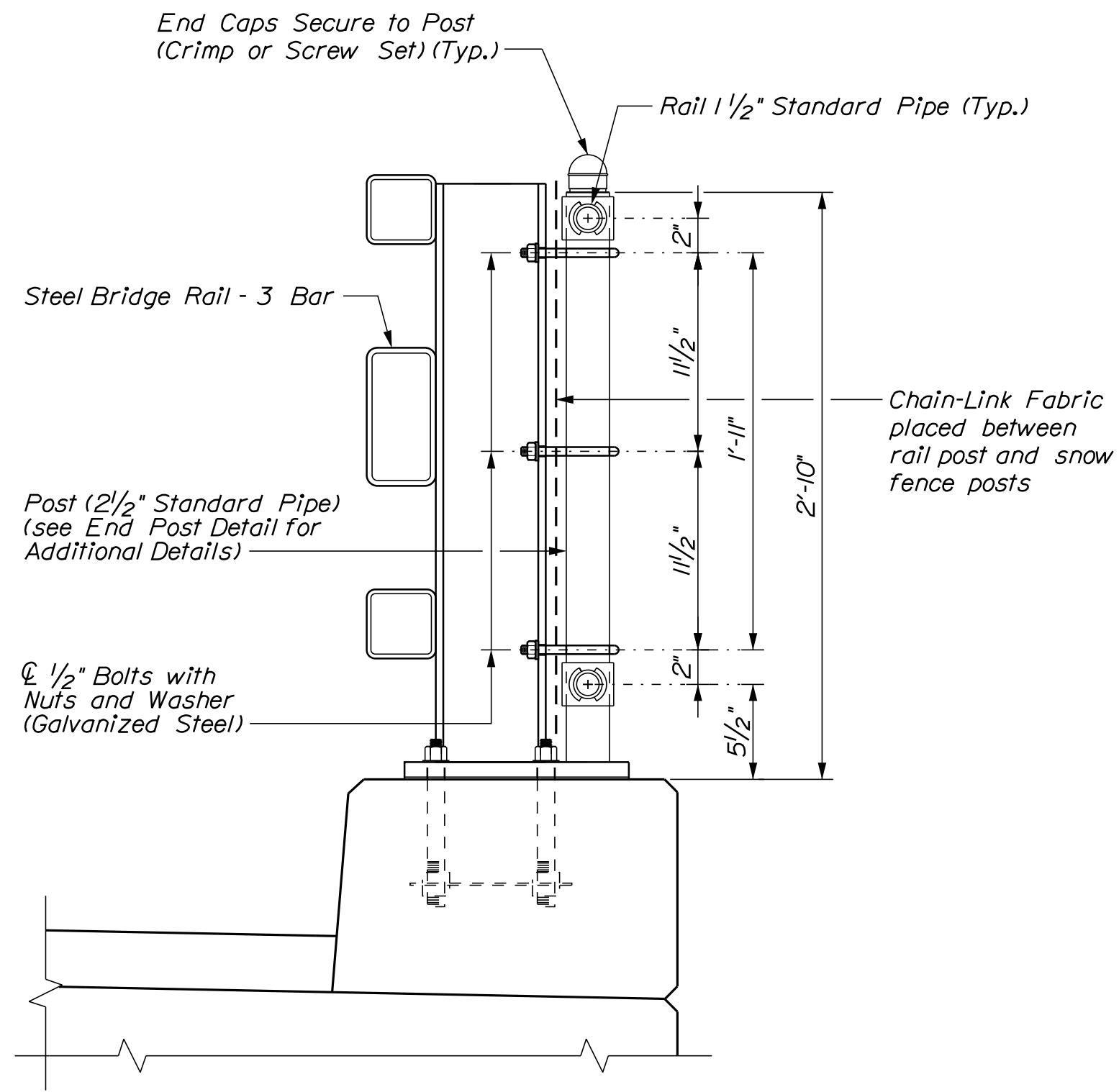


DECK REINFORCING PLAN - SPAN NO. 2
 Alternate position of Bars S503 within the longitudinal bar run in order to stagger splice locations.

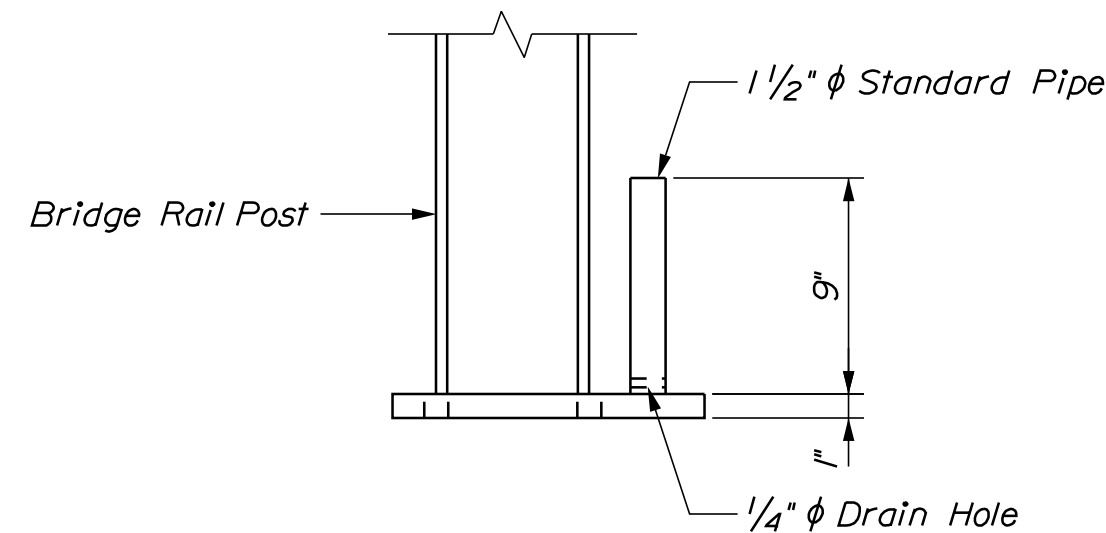
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	SIGNATURE			
	P.E. NUMBER			
	DATE			
	FIELD CHANGES			
JOHNSON ROAD BRIDGE INTERSTATE 295 FALMOUTH CUMBERLAND COUNTY	PROJ. MANAGER	BY	DATE	
	CHECKED-REVIEWED	ECW	MAR 2022	
	DESIGNED-DETAILED	AS	MAR 2022	
	DESIGNED-DETAILED	RPW		
DECK REINFORCING PLAN SPAN NO. 2	REVISIONS 1			
	REVISIONS 2			
	REVISIONS 3			
	REVISIONS 4			
SHEET NUMBER				
53				
OF 61				
BRIDGE NO. 5792 WIN 021721.00 BRIDGE PLANS				



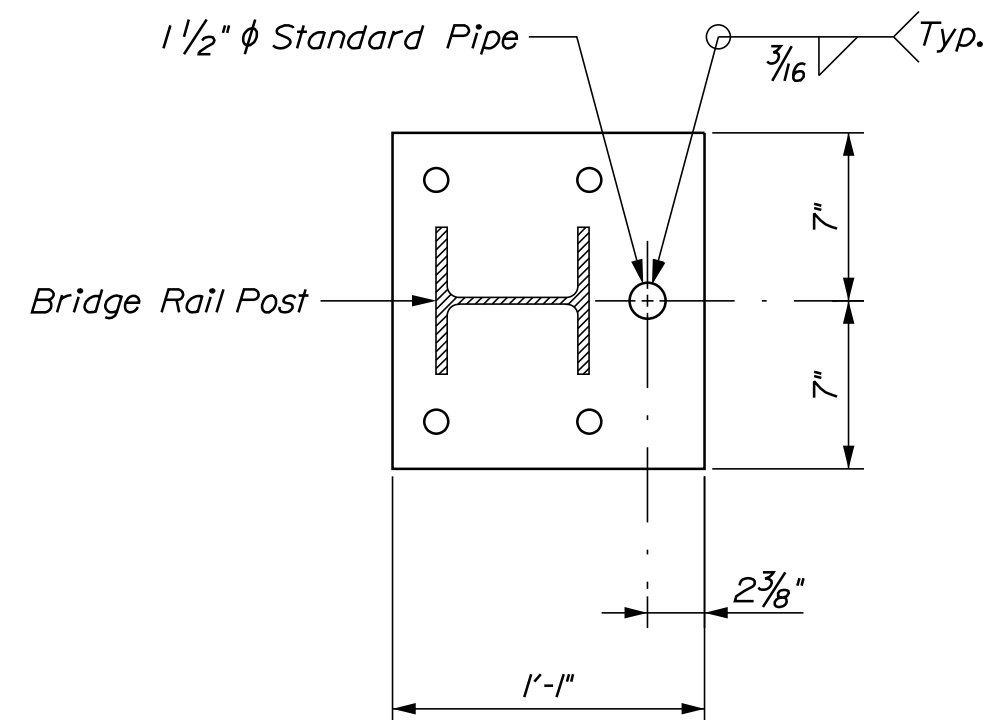
SHEET NUMBER										JOHNSON ROAD BRIDGE INTERSTATE 295 FALMOUTH CUMBERLAND COUNTY										PROJ. MANAGER				MARK		BY		DATE		STATE OF MAINE DEPARTMENT OF TRANSPORTATION																			
54 OF 61										DECK REINFORCING SECTIONS										DESIGN-DETAILED				ECW		BUN		MAR 2022		021721.00																			
																				CHECKED-REVIEWED				TAS		AML		MAR 2022												SIGNATURE									
																				DESIGN2-DETAILED2				RW		KVO																							
																				DESIGN3-DETAILED3																						P.E. NUMBER							
																				REVISIONS 1										WIN 021721.00																			
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																				REVISIONS 3																													
																				REVISIONS 4																													
																				FIELD CHANGES						DATE		BRIDGE NO. 5792 BRIDGE PLANS																					



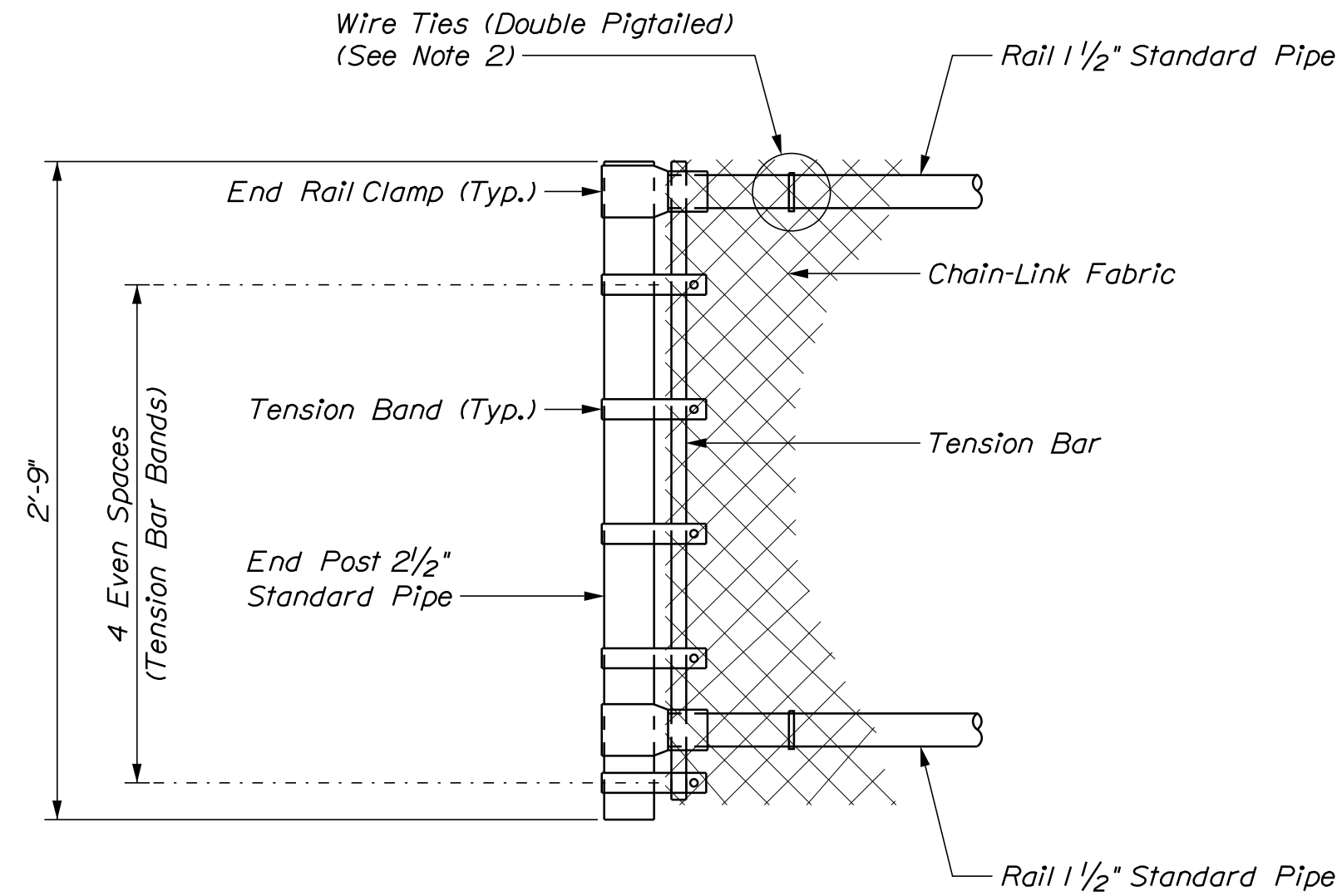
SNOW FENCE CONNECTION DETAIL
Scale: 1 1/2" = 1'-0"



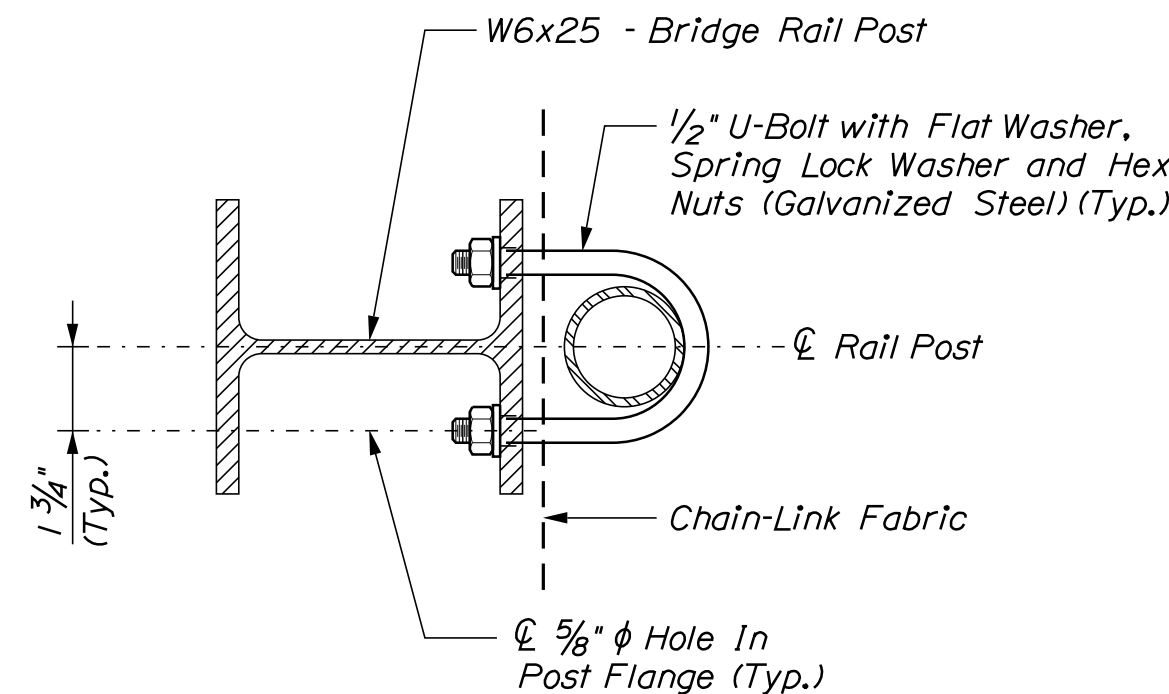
MODIFIED BASE PLATE ELEVATION
Scale: 1 1/2" = 1'-0"



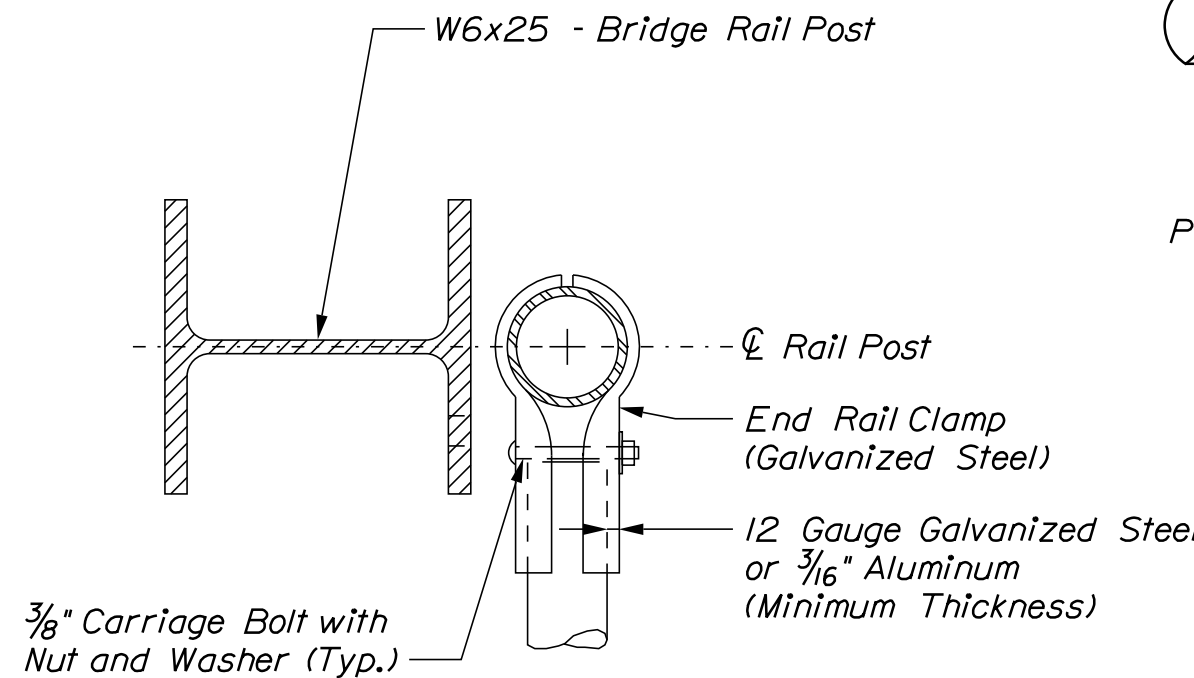
MODIFIED BASE PLATE DETAIL
Scale: 1 1/2" = 1'-0"



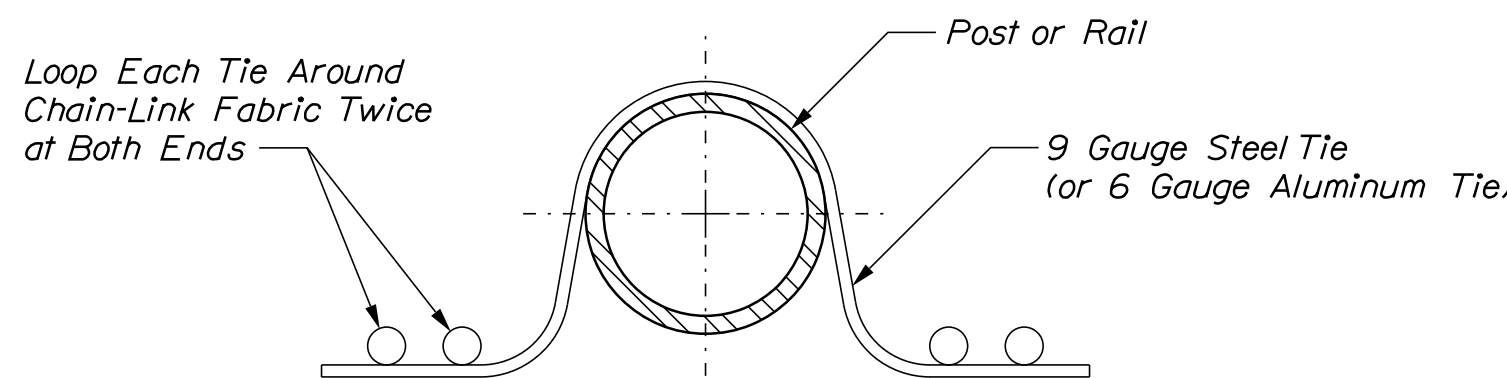
END POST DETAIL
Scale: 1 1/2" = 1'-0"



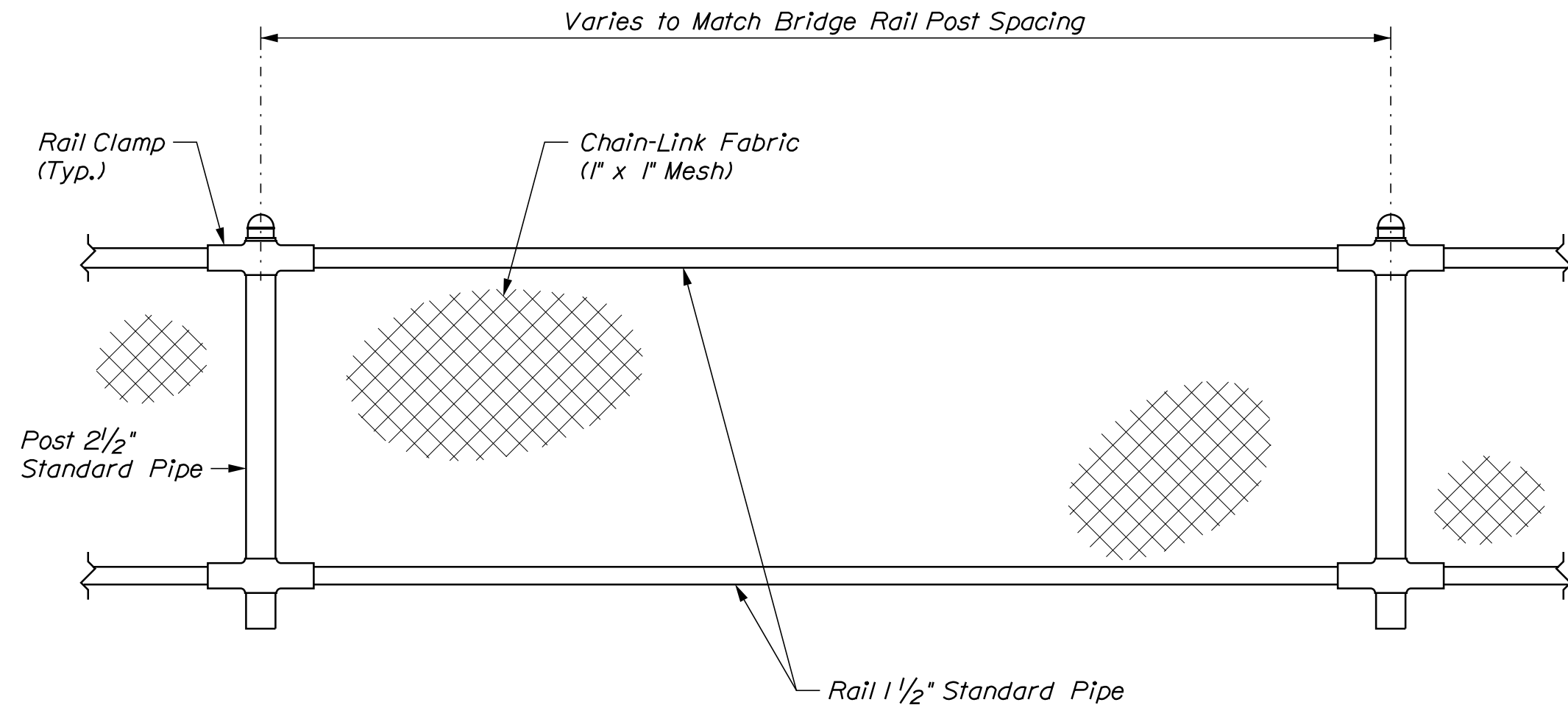
U-BOLT CONNECTION DETAIL
(At Interior Post)
Scale: 3" = 1'-0"



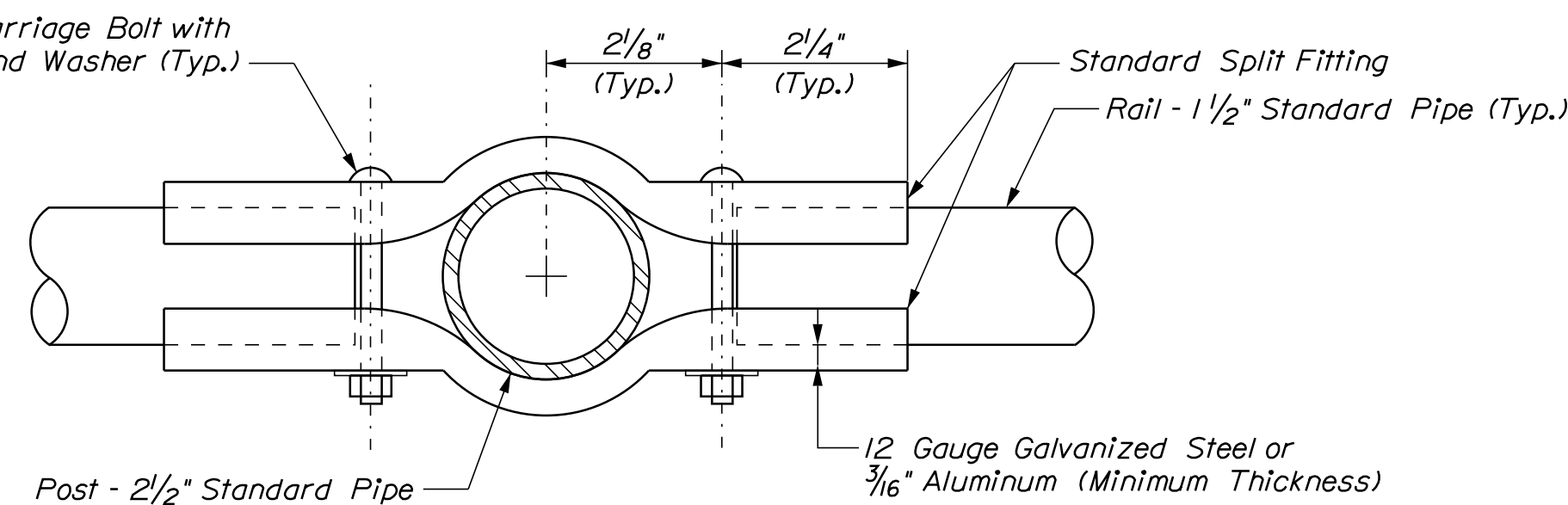
END POST DETAIL
(U-Bolt Not Shown)
Scale: 3" = 1'-0"



DOUBLE PIGTAILED TIE



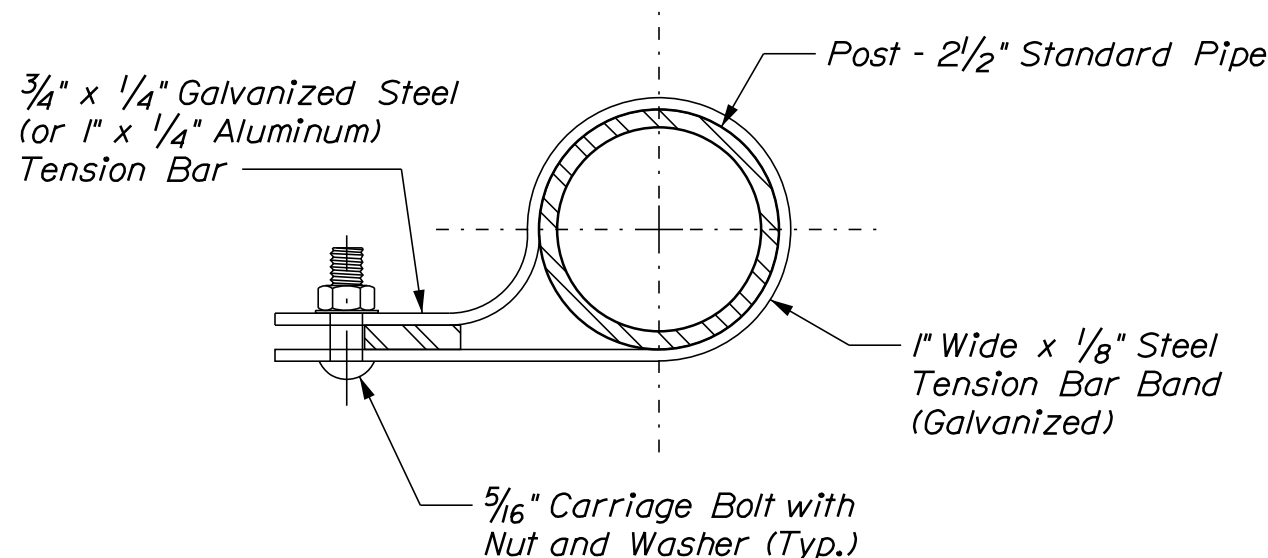
ELEVATION - SNOW FENCE



RAIL CLAMP DETAIL
Scale: 6" = 1'-0"

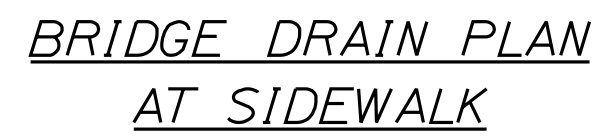
SNOW FENCE NOTES

- Chain-Link fence shall conform to Section 710.03 and Special Provision Section 607. The size of wire mesh (fabric) shall be 1'.
- Post and rail pipe shall be hot-dip galvanized. All pipe shall be schedule 40, standard weight. Nominal pipe sizes are shown.
- Tension bars, bar bands, boulevard and end rail clamps shall be steel or aluminum alloy conforming to AASHTO M181 (ASTM F626). Steel components shall be hot-dip galvanized in accordance with AASHTO M111 (ASTM A123) or AASHTO M232 (ASTM A153) as applicable.
- All bolts and nuts shall be steel conforming to ASTM A307 and ASTM A563 grade A respectively. Washers shall be hardened steel commercial type A plain and shall meet the dimensional requirements of ANSI B18.22. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M111 (ASTM A123) or AASHTO M232 (ASTM A153) as applicable.
- Rail may be field cut (sawn) to fit post spacing.



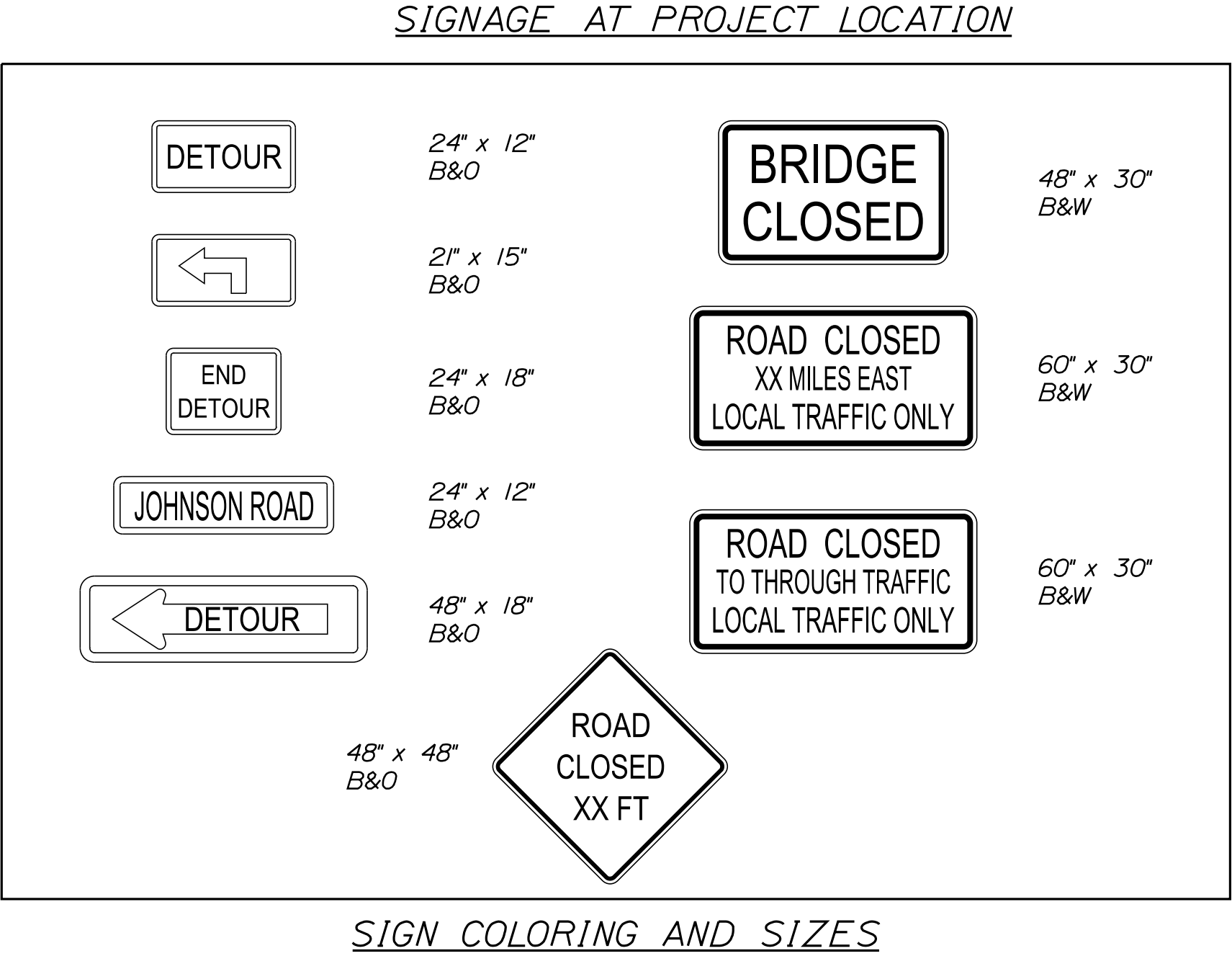
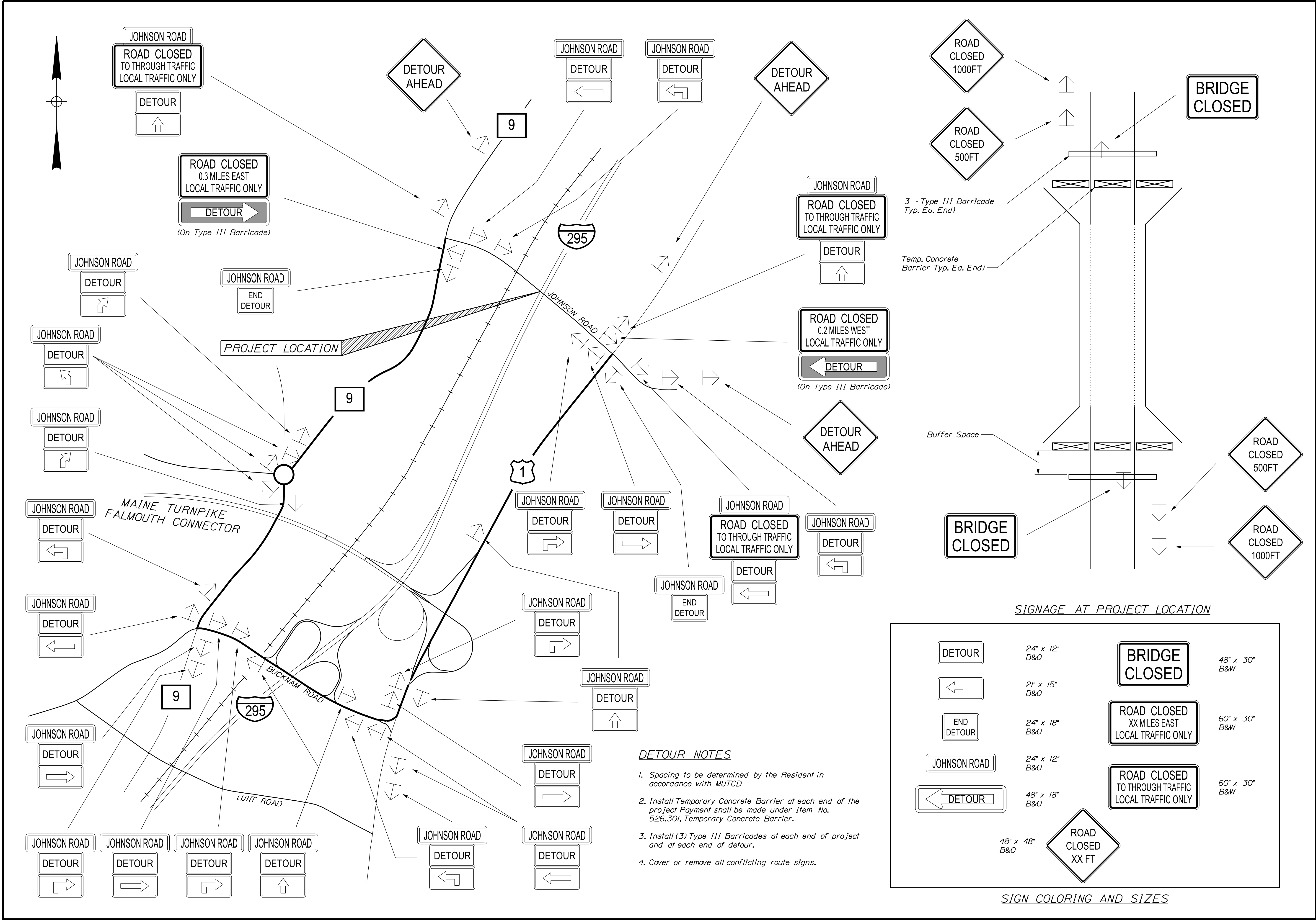
TENSION BAND DETAIL
Scale: 6" = 1'-0"

PROJ. MANAGER	DATE	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED	MAR 2022	BIN	MAR 2022			
CHECKED-REVIEWED		ANL				
DESIGN-DETAILED		KVD				
REVISIONS 1						
REVISIONS 2						
REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						



BRIDGE DRAIN NOTES

- 1. FRP Bridge Drains shall be designed and detailed based on the dimensions for the bridge drain details shown, and in accordance with Special Provision Section 502, Fiber Reinforced Polymer Bridge Drain and Downspout.*
- 2. Shear connectors welded to the top flange of steel beams may require adjustment to clear the bridge drains. No extra payment will be made for needed adjustment to the connectors.*
- 3. Support Assembly components and hardware shall meet the grade and protective coating requirements identified on Standard Detail 502(24).*



- DETOUR NOTES**
1. Spacing to be determined by the Resident in accordance with MUTCD
 2. Install Temporary Concrete Barrier at each end of the project Payment shall be made under Item No. 526.30i, Temporary Concrete Barrier.
 3. Install (3) Type III Barricades at each end of project and at each end of detour.
 4. Cover or remove all conflicting route signs.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		021721.00		WIN		021721.00		BRIDGE NO. 5792		BRIDGE PLANS	
JOHNSON ROAD BRIDGE		INTERSTATE 295		CUMBERLAND COUNTY		FALMOUTH		DETOUR PLAN		SHEET NUMBER		59	
DATE		BY		SIGNATURE		P.E. NUMBER		DATE		FIELD CHANGES		OF 61	
MAR 2022		B/N		TAS		KVD							
MAR 2022		A/N		RW		REV		REV		REV			
		DESIGN		DESIGN		DESIGN		DESIGN		DESIGN			
		REV		REV		REV		REV		REV			
		REV		REV		REV		REV		REV			
		REV		REV		REV		REV		REV			