

# STATE OF MAINE DEPARTMENT OF TRANSPORTATION



## MERRILL AROOSTOOK COUNTY EAST HASTINGS BRIDGE OVER EAST HASTINGS BROOK ROUTE 212 STATE PROJECT NO. 22252.00 PROJECT LENGTH 0.076 mi. BRIDGE NO. 3150

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### UTILITIES

FairPoint Communications - Northland Telephone

### TRAFFIC DATA

Current (2020) AADT	750
Future (2040) AADT	900
DHV - % of AADT	9
Design Hour Volume	81
Heavy Trucks (% of AADT)	26
Heavy Trucks (% of DHV)	26
Directional Distribution (% of DHV)	52
18 kip Equivalent P 2.0	248
18 kip Equivalent P 2.5	236
Design Speed (mph)	45

### MAINTENANCE OF TRAFFIC

Maintain one-way alternating traffic on a one-lane temporary bridge with temporary traffic signals.

### SPECIFICATIONS

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

### DESIGN LOADING

Live Load ..... HL - 93 Modified for Strength I

### HYDROLOGIC DATA

Drainage Area	10.10 sq mi
Design Discharge (Q50)	814.9 cfs
Check Discharge (Q100)	955.2 cfs
Headwater Elevation (Q1.1)	843.9 ft
Headwater Elevation (Q25)	847.1 ft
Headwater Elevation (Q50)	847.6 ft
Headwater Elevation (Q100)	848.1 ft
Discharge Velocity (Q1.1)	3.21 fps
Discharge Velocity (Q50)	8.60 fps
Discharge Velocity (Q100)	9.46 fps

### MATERIALS

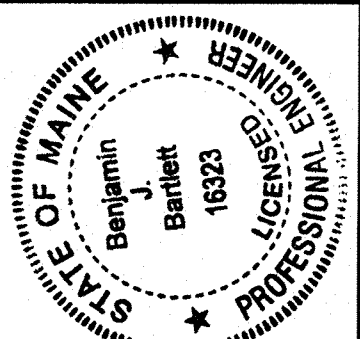
<b>Concrete:</b>	
Structural Wearing Surface	Class "A"
Curbs	Class "LP"
Precast	Class "P"
All Other	Class "A"
<b>Reinforcing:</b>	
Plain Reinforcing Steel	ASTM A615, Grade 60
Glass Fiber Reinforcing Polymer (GFRP)	ASTM D7957
Prestressing Strands	AASHTO M 203 (ASTM A416), Grade 270, Low Relaxation

### BASIC DESIGN STRESSES

<b>Concrete:</b>	
Class "A"	f 'c = 4,000 psi
Class "LP"	f 'c = 5,000 psi
Class "P"	f 'c = 6,500 psi
	f 'ci = 5,000 psi
<b>Reinforcing:</b>	
Plain Reinforcing Steel	f y = 60,000 psi
Glass Fiber Reinforced Polymer	
#6 Bar	f u = 100,000 psi
Minimum Elastic Modulus	E f = 6,500,000 psi
Minimum Nominal Design Tensile Strain	e fu = 1.1%
Prestressing Strand	F μ = 270,000 psi

<b>PROJECT LOCATION</b>	East Hastings Bridge (#3150) over East Hastings Brook. Located 0.96 of a mile east of the Moro Plantation town line. Lat./Long. 46°12'07.6" N 68°17'07.4" W
<b>PROGRAM AREA</b>	Highway - Bridges
<b>OUTLINE OF WORK</b>	Bridge Replacement

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
APPROVED: *[Signature]*  
COMMISSIONER: *[Signature]*  
DATE: 4-13-22  
CHIEF ENGINEER: *[Signature]*  
4-13-2022



SIGNATURE: *[Signature]*  
16323  
P.E. NUMBER  
04/12/2022  
DATE

PROGRAM	PROJECT INFORMATION
PROJECT MANAGER	BRIDGE
DESIGNER	M. PARLIN
CONSULTANT	B. BARTLETT
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

WIN 022252.00

022252.00

MERRILL  
EAST HASTINGS BRIDGE  
TITLE SHEET

SHEET NUMBER  
**1**  
OF 25

Date: 3/31/2022  
Username: David.Shaw  
Division: BRIDGE  
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Date: 3/31/2022

Username: David.Shaw

Division: BRIDGE

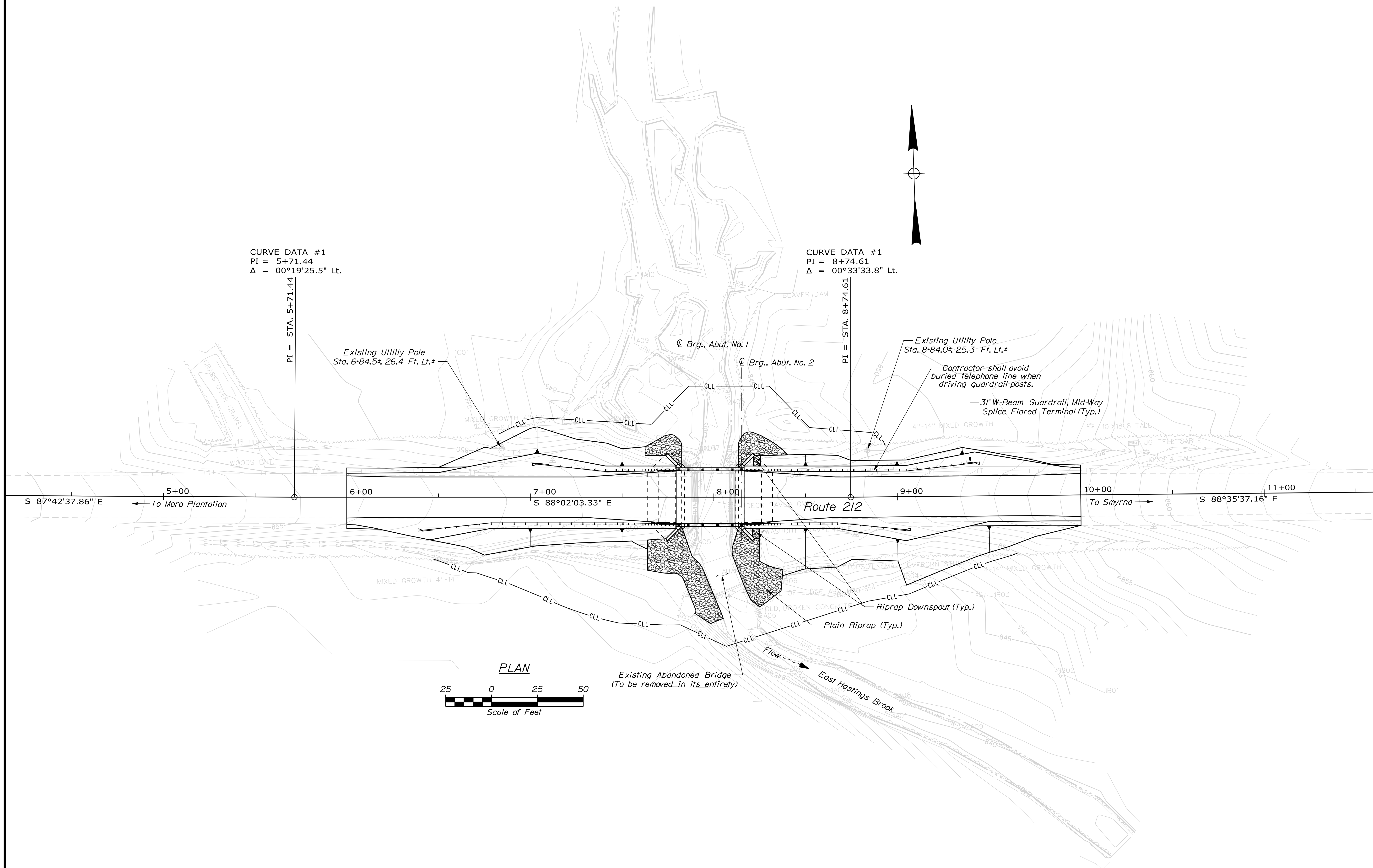
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ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.19	REMOVING EXISTING BRIDGE (135 CY)	1	LS
202.202	REMOVING PAVEMENT SURFACE	622	SY
202.31	PROFILE MILLING CONCRETE WEARING SURFACE	102	SY
203.20	COMMON EXCAVATION	850	CY
203.25	GRANULAR BORROW	250	CY
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	530	CY
206.092	STRUCTURAL ROCK EXCAVATION - MAJOR STRUCTURES	30	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	650	CY
403.208	HOT MIX ASPHALT 12.5 MM HMA SURFACE	119	T
403.213	HOT MIX ASPHALT 12.5 MM BASE	175	T
409.15	BITUMINOUS TACK COAT - APPLIED	103	G
461.131	TEMPORARY PAVEMENT	98	T
502.21	STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS	218	CY
502.261	STRUCTURAL CONCRETE ROADWAY & SIDEWALK SLAB ON CONCRETE BRIDGE (37 CY)	1	LS
502.31	STRUCTURAL CONCRETE APPROACH SLABS (22 CY)	1	LS
502.49	STRUCTURAL CONCRETE CURBS AND SIDEWALKS (4 CY)	1	LS
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	20,100	LB
503.13	REINFORCING STEEL, PLACING	20,100	LB
507.0821	STEEL BRIDGE RAILING, 3 BAR (74 LF)	1	LS
507.0822	STEEL APPROACH RAILING, 3-BAR	4	EA
510.10	SPECIAL DETOUR 18 FT. ROADWAY WIDTH VEHICULAR & PEDESTRIAN TRAFFIC NOT SEPARATED	1	LS
511.07	COFFERDAM: UPSTREAM	1	LS
511.07	COFFERDAM: DOWNSTREAM	1	LS
512.081	FRENCH DRAINS (112 LF)	1	LS
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (180 SY)	1	LS
526.301	PORTABLE CONCRETE BARRIER TYPE I (100 LF)	1	LS
527.34	WORK ZONE CRASH CUSHIONS	4	UN
530.30	GFRP, REINFORCEMENT BARS, FAB & DEL	9,350	LF
530.31	GFRP, REINFORCEMENT BARS, PLACING	9,350	LF
535.60	PRESTRESSED STRUCTURAL CONCRETE SLAB (54 CY)	1	LS
606.1301	31 INCH W-BM GR, MID-WAY SPLICE-SGL FACED	163	LF
606.1305	31 INCH W-BM GR, MID-WAY SPLICE FLARED TERMINAL	4	EA
606.1721	BRIDGE TRANSITION - TYPE I	4	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8	EA
610.08	PLAIN RIPRAP	240	CY
610.18	STONE DITCH PROTECTION	10	CY
613.319	EROSION CONTROL BLANKET	95	SY
619.14	EROSION CONTROL MIX	80	CY
620.58	EROSION CONTROL GEOTEXTILE	385	SY
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	1200	LF
627.77	REMOVING PAVEMENT MARKINGS	335	SF
627.78	TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	1000	LF
629.05	HAND LABOR, STRAIGHT TIME	10	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	10	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	10	HR
639.19	FIELD OFFICE TYPE B	1	EA
643.72	TEMPORARY TRAFFIC SIGNAL	1	LS
652.312	TYPE III BARRICADE	4	EA
652.33	DRUM	25	EA
652.34	CONE	50	EA
652.35	CONSTRUCTION SIGNS	400	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	1	LS
652.38	FLAGGER	360	HR
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS

GENERAL CONSTRUCTION NOTES

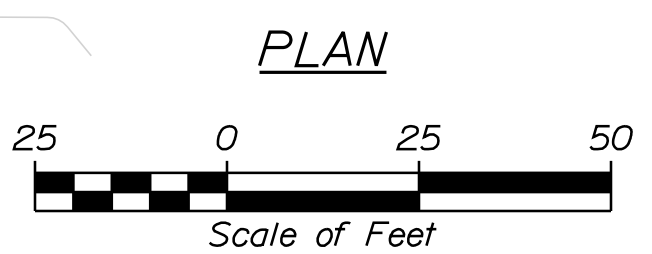
- For easements, construction limits, and right of way lines, refer to the Right of Way Map.
- The clearing limits as shown on the plans are approximate. The exact limits will be established in the field by the Resident. Payment for clearing will be considered incidental to Contract items.
- All utility facilities shall be adjusted by the respective utilities unless otherwise noted.
- 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.
- Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.
- 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.
- All embankment material, except as otherwise shown, shall be Granular Borrow meeting the requirements of Standard Specifications Subsection 703.19, Granular Borrow, for Material for Underwater Backfill.
- Erosion Control Mix shall be placed in accordance with Standard Specifications Section 619, Mulch in all new or reconstructed sideslopes or as directed by the Resident.
- Place a 24 inch wide strip of Erosion Control Blanket on the sideslopes along the top of the riprap and behind the wingwalls.
- A MASH compliant guardrail end treatment shall be installed concurrently with the placement of each section of beam guardrail.
- 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.
- Protective Coating for Concrete Surfaces shall be applied to the following areas:  
All exposed surfaces of concrete curbs, Fascias down to the drip notch, Concrete wearing surfaces, Top of abutment backwalls and wingwalls, and To one foot below the ground on vertical walls against earth.
- Project information referred to below may be accessed at the following MaineDOT web address: <http://www.maine.gov/mdot/contractors/>
- 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.
- Reports on hydrology and/or hydraulics applicable to the bridge site may be accessed at the MaineDOT web address. The reports are based on MaineDOT's interpretation of the information obtained for the subject site. No assurance is given that the information or the conclusions of the report will be representative of actual conditions at the time of construction.
- The project geotechnical report titled: Geotechnical Design Report for the Replacement of East Hastings Bridge, Merrill, Maine, Soils Report 2022-05, dated March 28, 2022, may be accessed at the MaineDOT web address.
- 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.
- Quantities included for pay items measured and paid for by Lump Sum are estimated quantities and are provided by MaineDOT for informational purposes only. Lump Sum pay items will be paid for at the Contract Bid amount, with no addition or reduction in payment to the Contractor if the actual final quantities are different from the MaineDOT provided estimated quantities, except as follows:  
a. If a Lump Sum pay item is eliminated, the requirements of Standard Specifications Section 109.2, Elimination of Items, will take precedence.  
b. If other Contract Documents specifically allow a change in payment for a Lump Sum pay item, those requirements will be followed.  
c. If a design change results in changes to estimated quantities for Lump Sum pay items, price adjustments will be made in accordance with Standard Specifications Section 109.7, Equitable Adjustments to Compensation and Time.
- Material excavated from existing stream bed shall be saved and set aside for reuse. Contractor shall coordinate with the Resident and MaineDOT Environmental representative to construct new stream channel using this material. This work shall be paid for under Item 610.08, Plain Riprap.
- Payment for removing both existing bridges (mainline and abandoned) shall be made under Item 202.19.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		022252.00		WIN		022252.00		BRIDGE NO. 3150		BRIDGE PLANS	
EAST HASTINGS BRIDGE		EAST HASTINGS BROOK		ARROSTOOK COUNTY		MERRILL		ESTIMATED QUANTITIES AND GENERAL CONSTRUCTION NOTES		SHEET NUMBER		2	
PROJ. MANAGER		M. PARLIN		DATE		BY		SIGNATURE		P.E. NUMBER		DATE	
DESIGN-DETAILED		B. BARTLETT		MAR 2022		D. SHAW		MAR 2022					
CHECKED-REVIEWED		R. MAYER				B. BARTLETT		MAR 2022					
DESIGNS-DETAILED													
REVISIONS 1													
REVISIONS 2													
REVISIONS 3													
REVISIONS 4													
FIELD CHANGES													

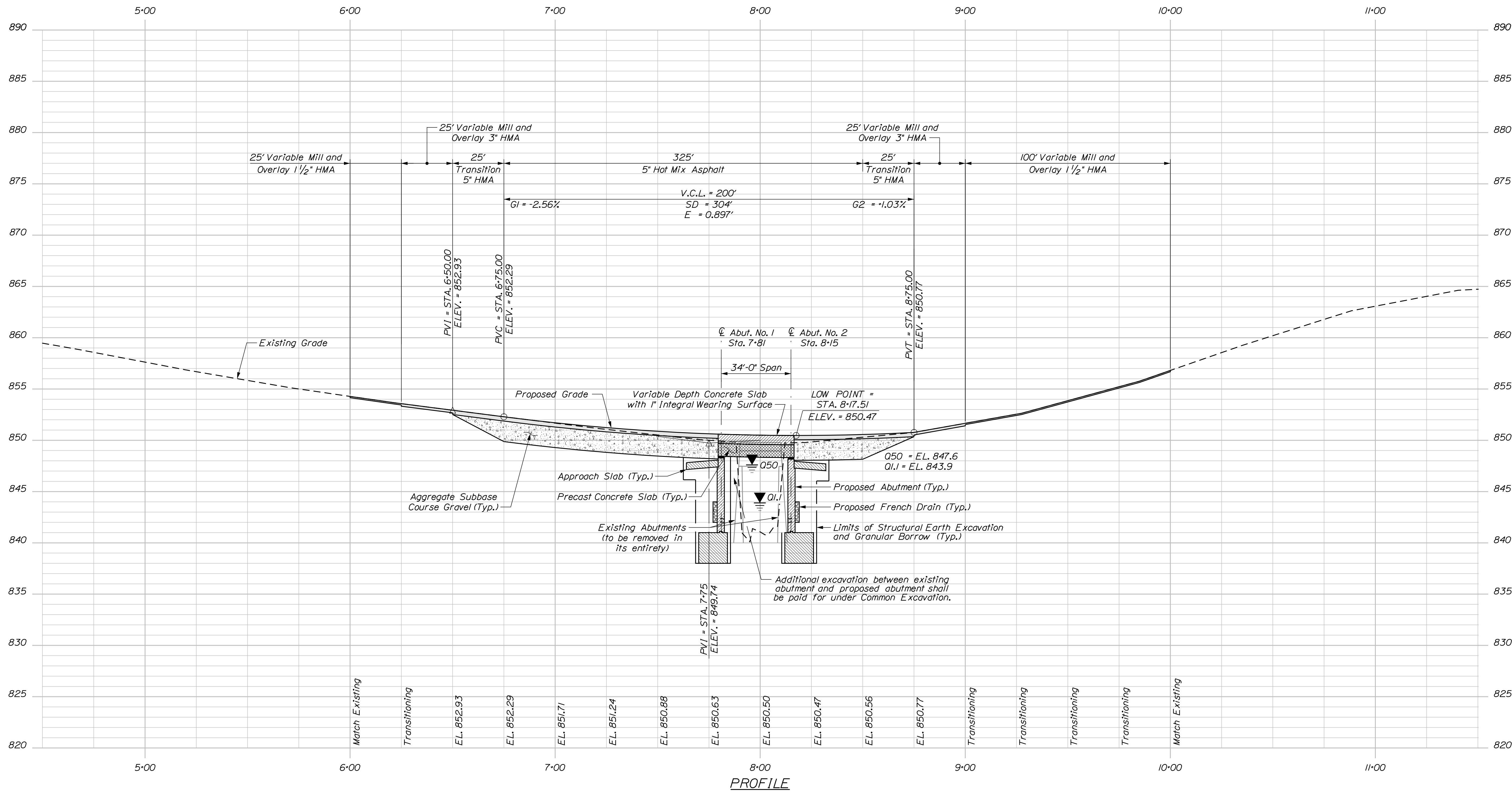


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CURVE DATA #1  
 PI = 8+74.61  
 Δ = 00°33'33.8" Lt.



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BRIDGE NO. 3150		WIN 022252.00	
BRIDGE PLANS			
PROJ. MANAGER	M. PARLIN	BY	DATE
DESIGN DETAILED	B. BARTLETT	D. SHAW	MAR 2022
CHECKED/REVIEWED	T. WHITE	T. WHITE	MAR 2022
DESIGN DETAILED	N. PIKAY		
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
EAST HASTINGS BRIDGE EAST HASTINGS BROOK MERRILL AROOSTOOK COUNTY		SIGNATURE P.E. NUMBER DATE	
GENERAL PLANS			
SHEET NUMBER			
3			
OF 25			



STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
022252.00	WIN
BRIDGE NO. 3150	022252.00
BRIDGE PLANS	
EAST HASTINGS BRIDGE	
EAST HASTINGS BROOK	
AROSTOOK COUNTY	
MERRILL	
PROFILE	
SHEET NUMBER	
4	
OF 25	

PROJ. MANAGER	BY	DATE
M. PARLIN	D. SHAW	MAR 2022
DESIGN DETAILED	T. WHITE	MAR 2022
CHECKED/REVIEWED		
DESIGN DETAILED		
DESIGN DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

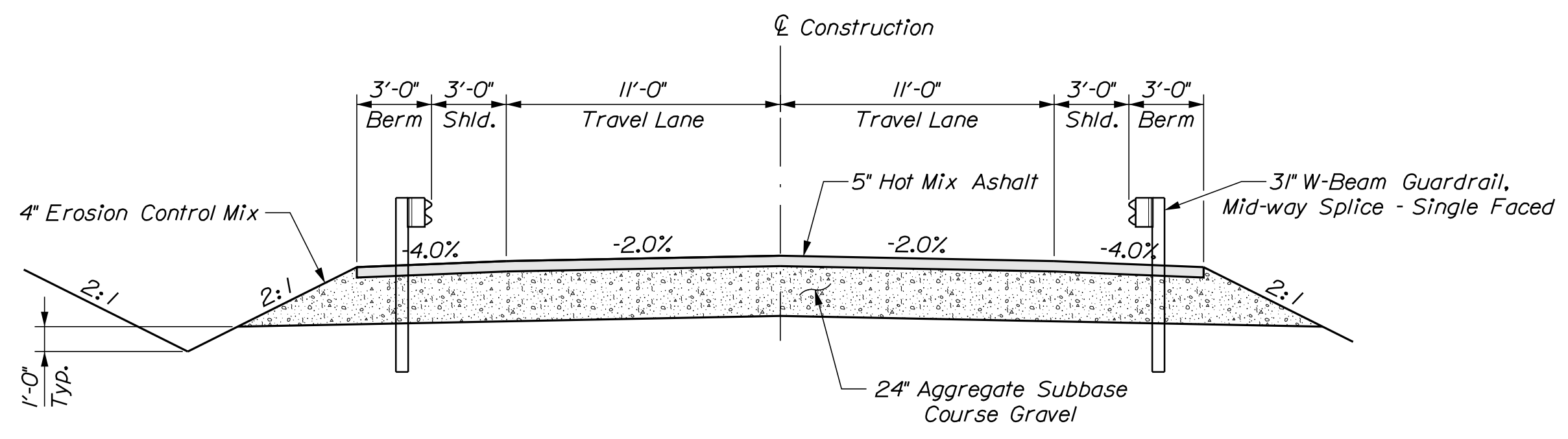
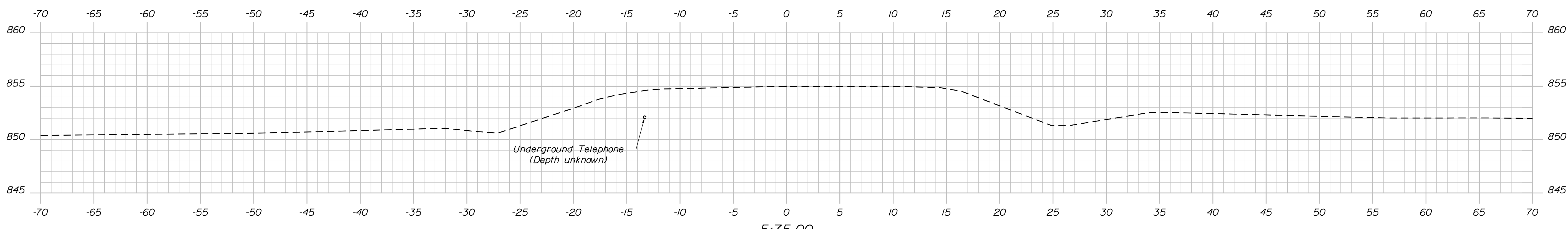
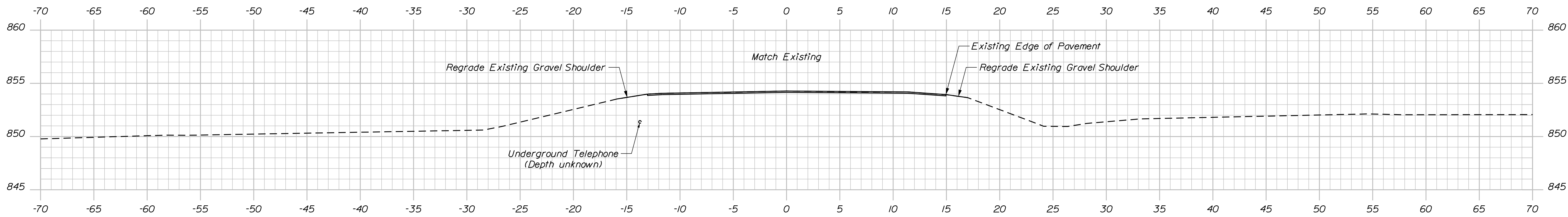
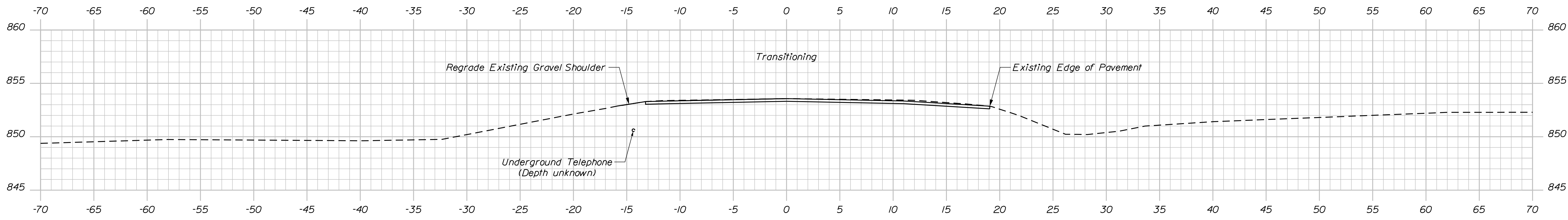




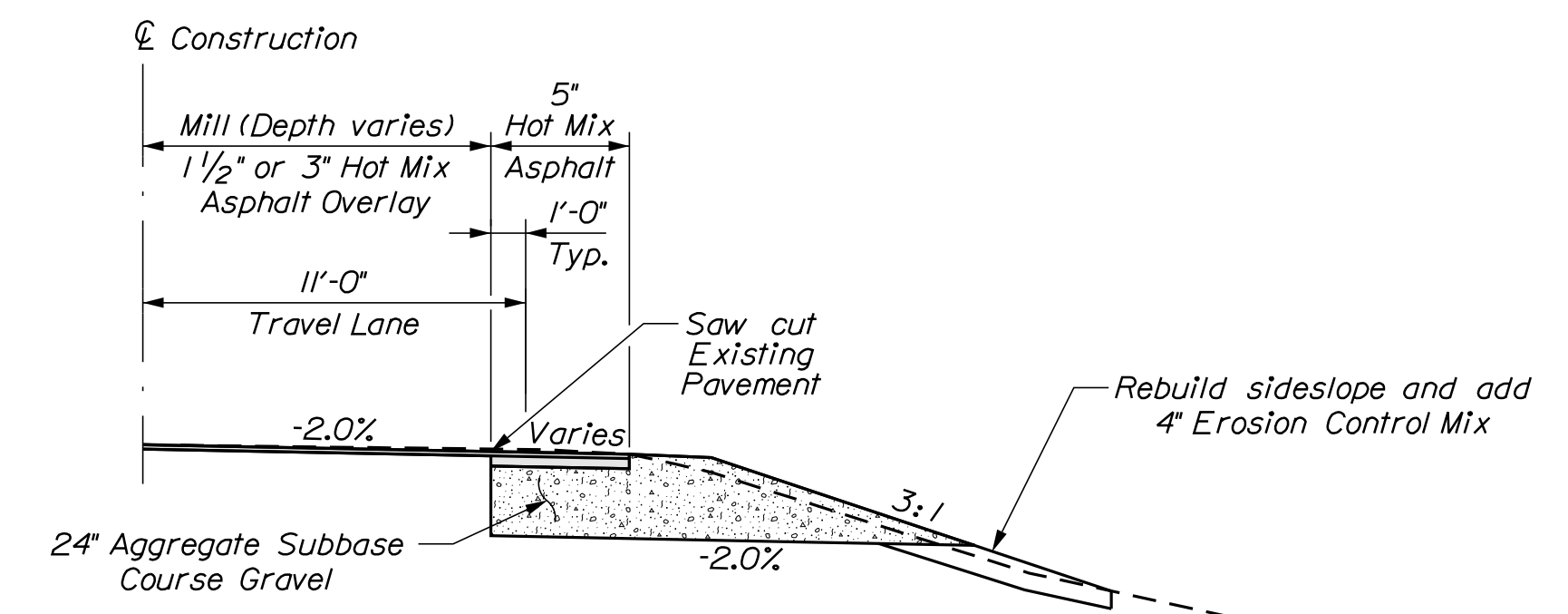
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TYPICAL APPROACH SECTION



TYPICAL MILL AND OVERLAY APPROACH SECTION AT THE SOUTHEAST CORNER OF BRIDGE

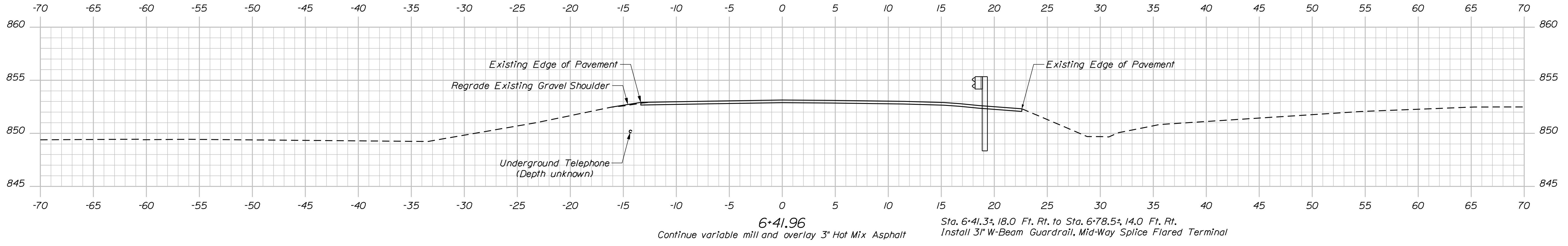
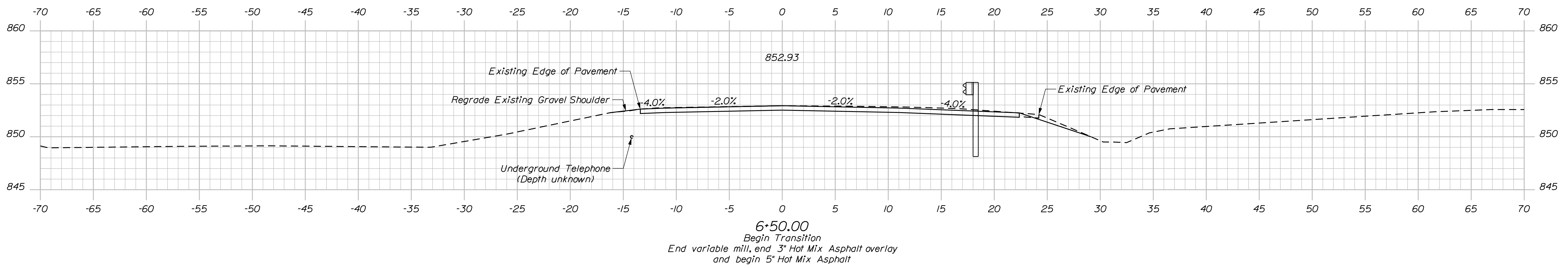
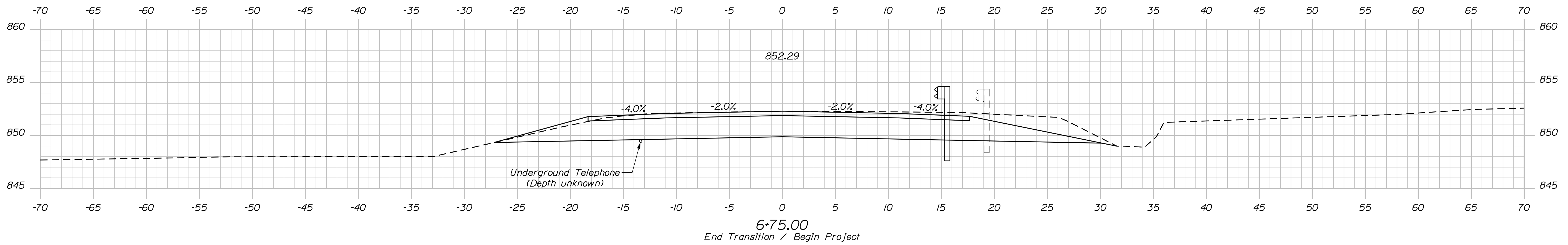
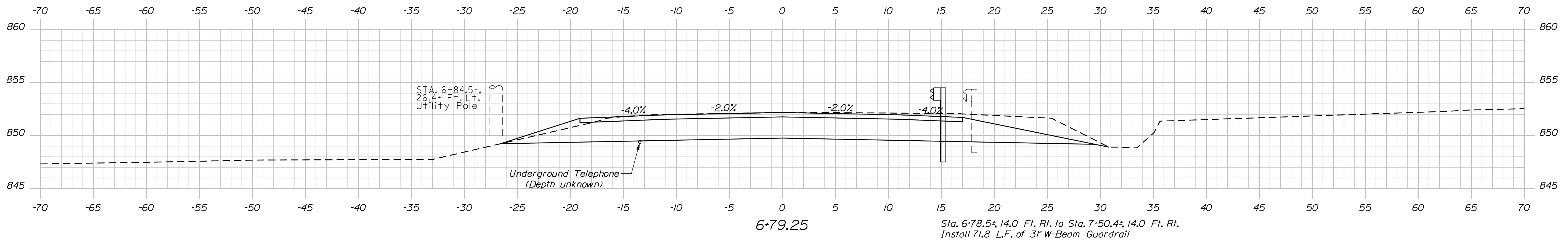
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AROOSTOOK COUNTY		BRIDGE NO. 3150	
SHEET NUMBER		WIN 022252.00	
7		BRIDGE PLANS	
OF 25		DATE	
BY		SIGNATURE	
M. PARLIN		P.E. NUMBER	
B. BARTLETT		DATE	
D. SHAW		REVISIONS 1	
MAR 2022		REVISIONS 2	
DESIGN-DETAILED		REVISIONS 3	
CHECKED-REVIEWED		REVISIONS 4	
DESIGN-DETAILED		FIELD CHANGES	

Date: 3/31/2022

Username: David Shaw

Division: BRIDGE

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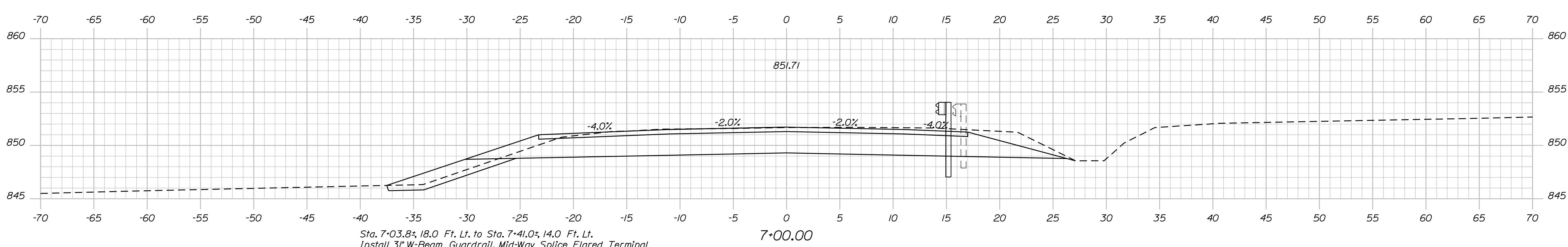
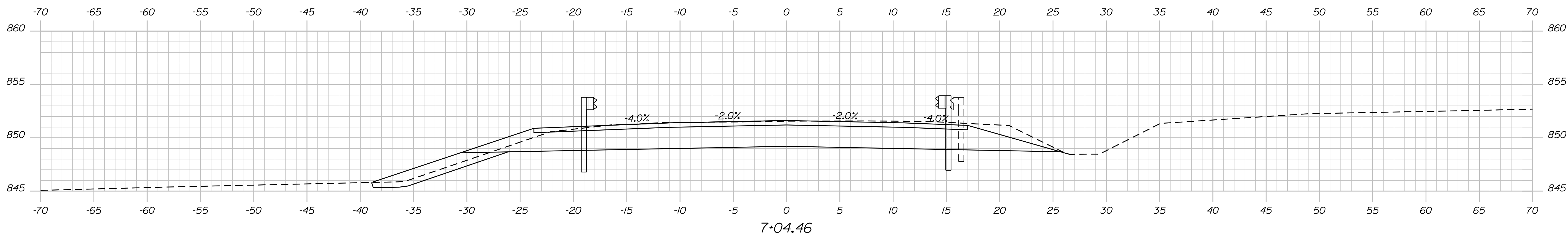
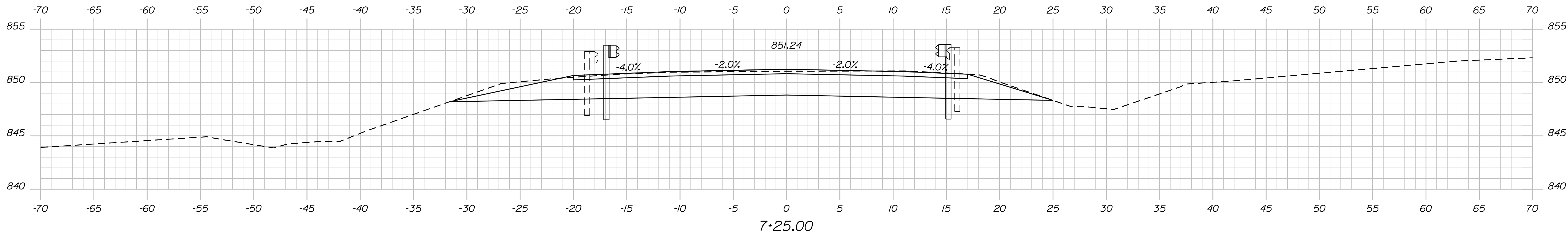
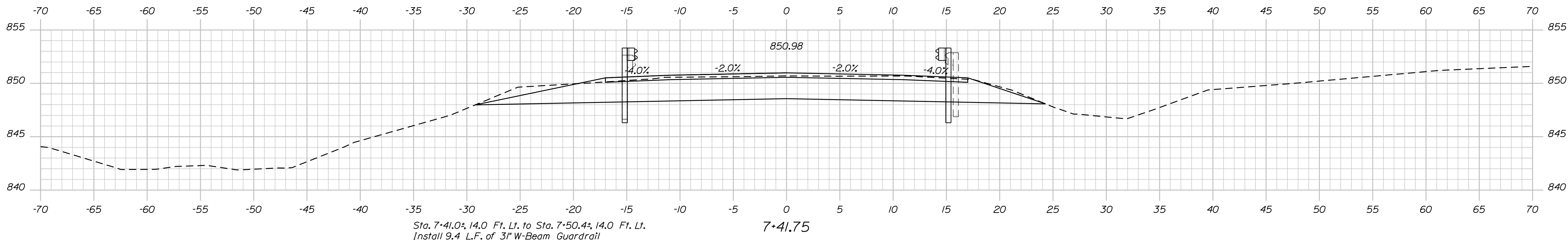
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OF 25		BRIDGE NO. 3150	
WIN		022252.00	
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M. PARLIN		P.E. NUMBER	
B. BARTLETT		DATE	
D. SHAW		MAR 2022	
DESIGN-REVIEWED		DESIGN-REVIEWED	
DESIGN-DETAILED		DESIGN-DETAILED	
REVISIONS 1		REVISIONS 1	
REVISIONS 2		REVISIONS 2	
REVISIONS 3		REVISIONS 3	
REVISIONS 4		REVISIONS 4	
FIELD CHANGES		FIELD CHANGES	

Date: 3/31/2022

Username: David.Shaw

Division: BRIDGE

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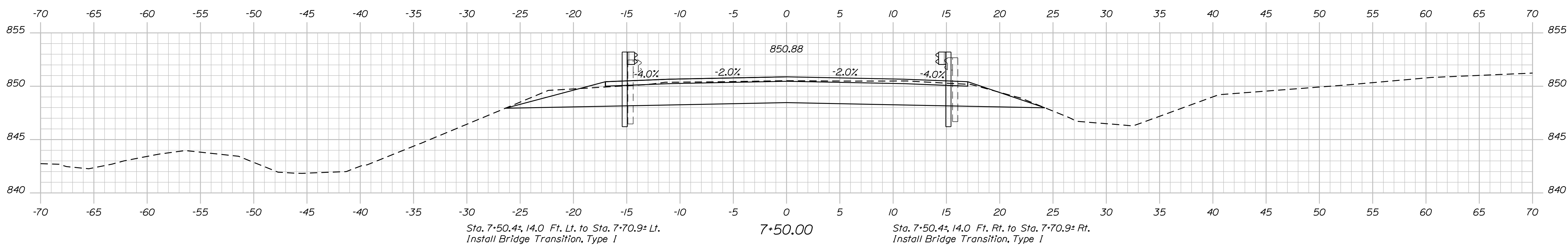
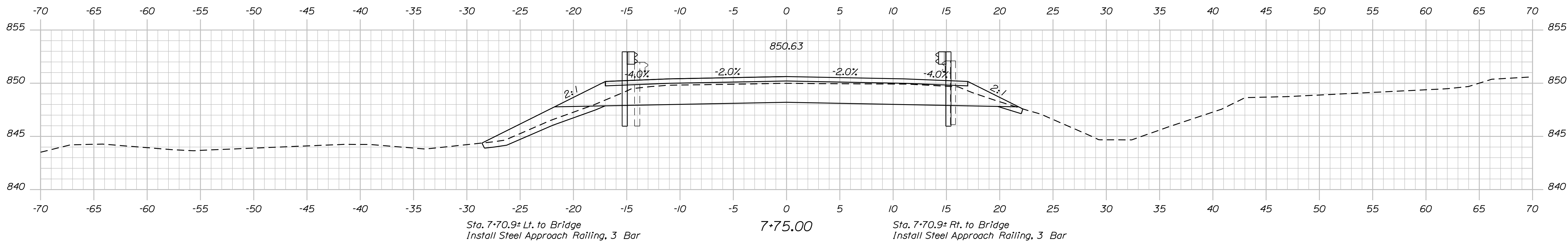
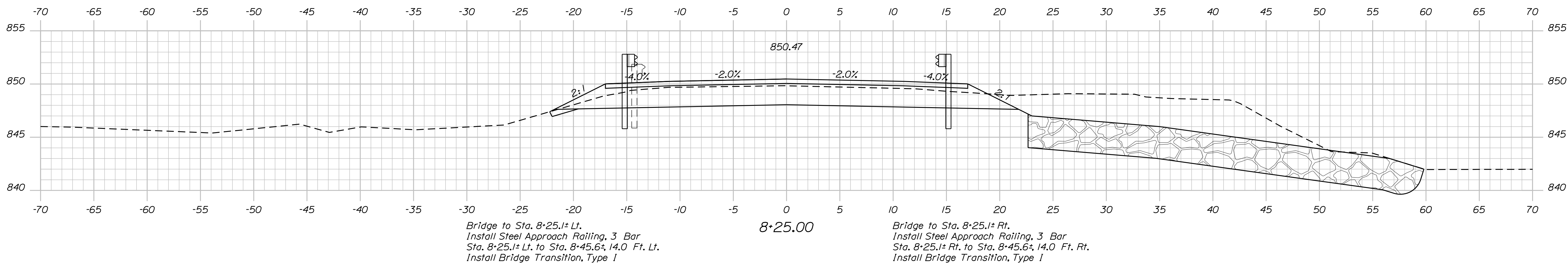
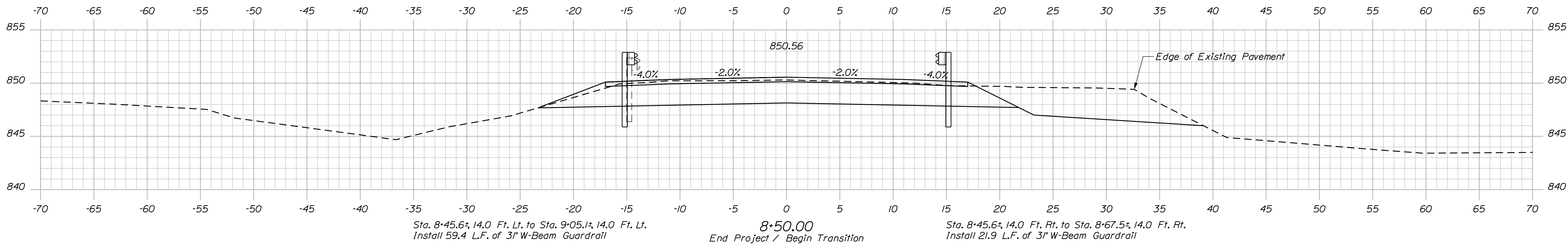
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9		WIN 022252.00	
OF 25		BRIDGE NO. 3150	
PROJ. MANAGER	DATE	SIGNATURE	P.E. NUMBER
M. PARLIN	MAR 2022		
CHECKED-REVIEWED	BY		DATE
D. BARTLETT	D. SHAW		
DESIGNS DETAILED			
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REVISIONS 4			
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Date: 3/31/2022

Username: David Shaw

Division: BRIDGE

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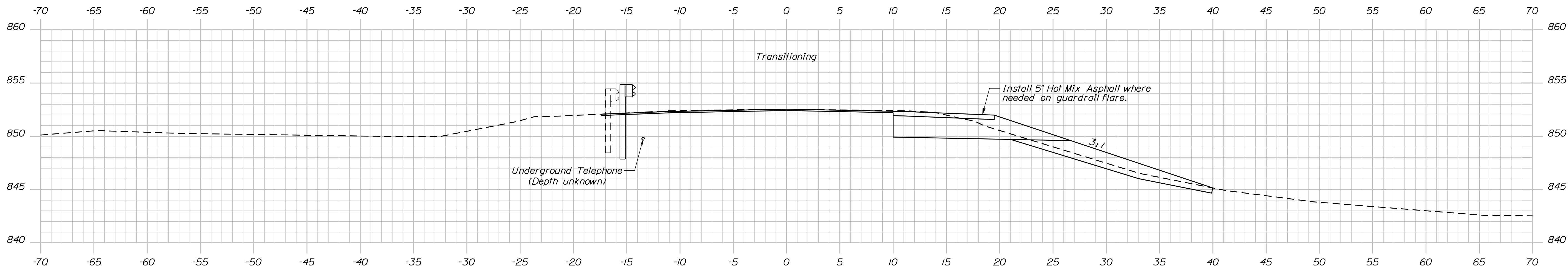
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EAST HASTINGS BRIDGE		MERRILL		ARROSTOOK COUNTY		CROSS SECTIONS		SHEET NUMBER	
EAST HASTINGS BROOK		MERRILL		ARROSTOOK COUNTY		CROSS SECTIONS		10	
MERRILL		ARROSTOOK COUNTY		CROSS SECTIONS		CROSS SECTIONS		OF 25	
PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE	DESIGN DETAILED	DESIGN REVIEWED	REVISIONS 1	REVISIONS 2
M. PARLIN	D. SHAW	MAR 2022	[Signature]						
CHECKED	DESIGNED	DATE	SIGNATURE	P.E. NUMBER	DATE	REVISIONS 3	REVISIONS 4	FIELD CHANGES	

Date: 3/31/2022

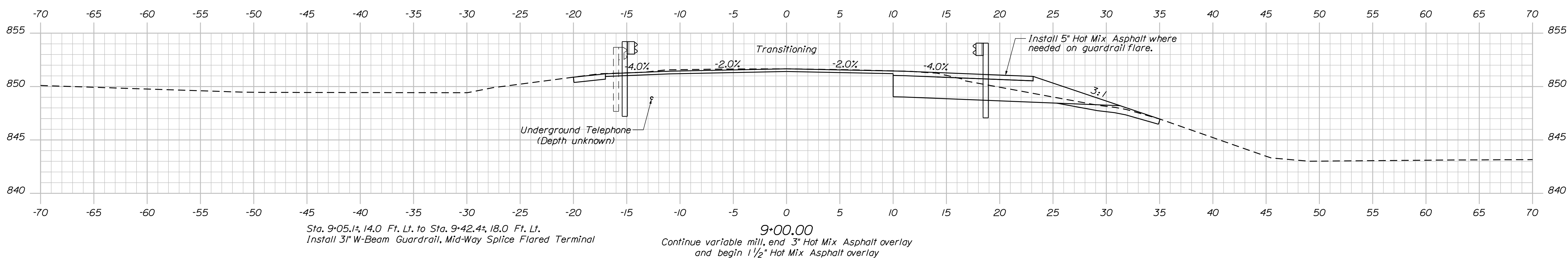
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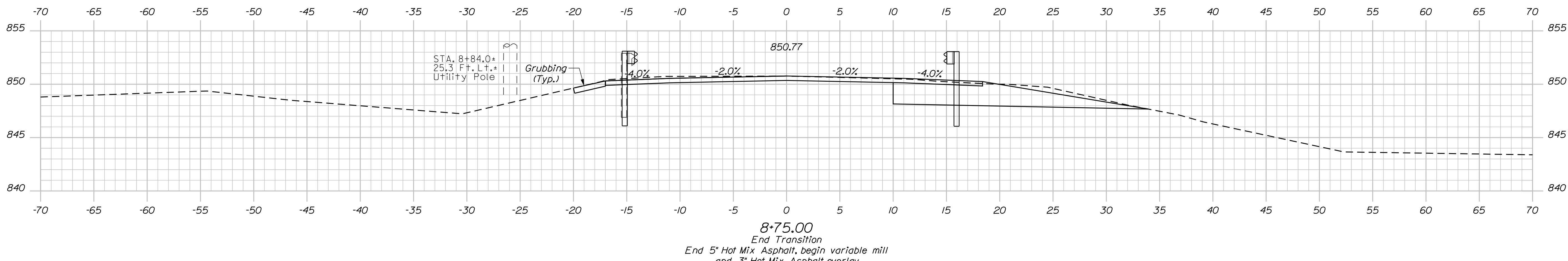
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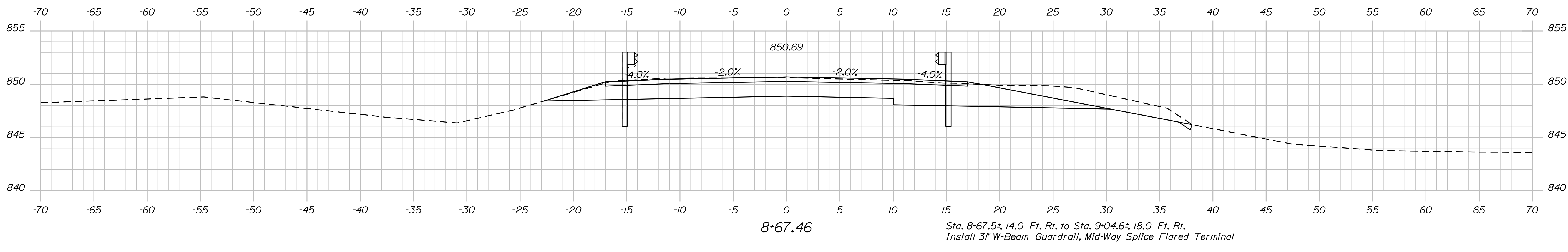
9+25.00  
Continue variable mill and overlay 1 1/2" Hot Mix Asphalt



Sta. 9+05.1±, 14.0 Ft. Lt. to Sta. 9+42.4±, 18.0 Ft. Lt.  
Install 3" W-Beam Guardrail, Mid-Way Splice Flared Terminal  
9+00.00  
Continue variable mill, end 3" Hot Mix Asphalt overlay and begin 1 1/2" Hot Mix Asphalt overlay



8+75.00  
End Transition  
End 5" Hot Mix Asphalt, begin variable mill and 3" Hot Mix Asphalt overlay



8+67.46  
Sta. 8+67.5±, 14.0 Ft. Rt. to Sta. 9+04.6±, 18.0 Ft. Rt.  
Install 3" W-Beam Guardrail, Mid-Way Splice Flared Terminal

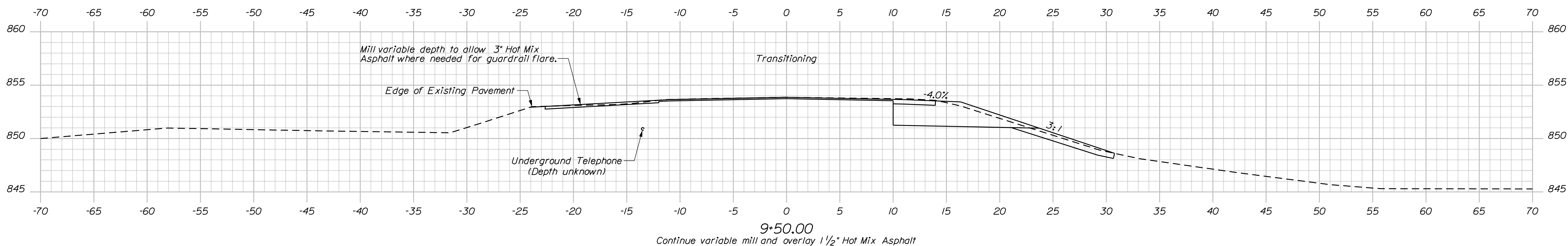
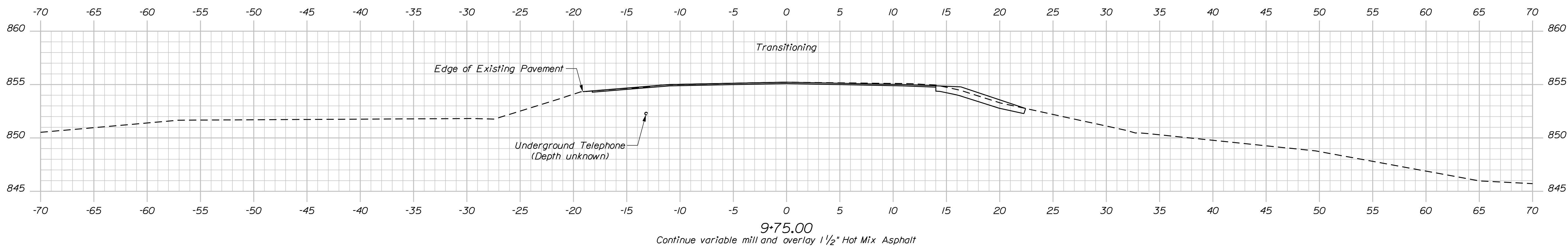
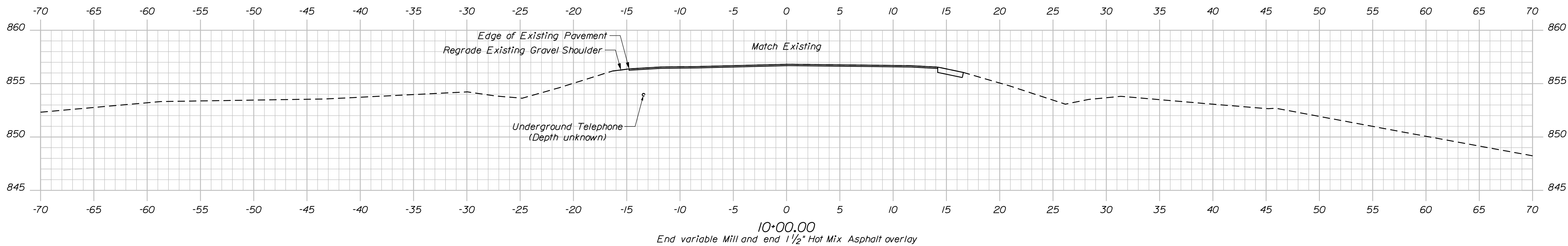
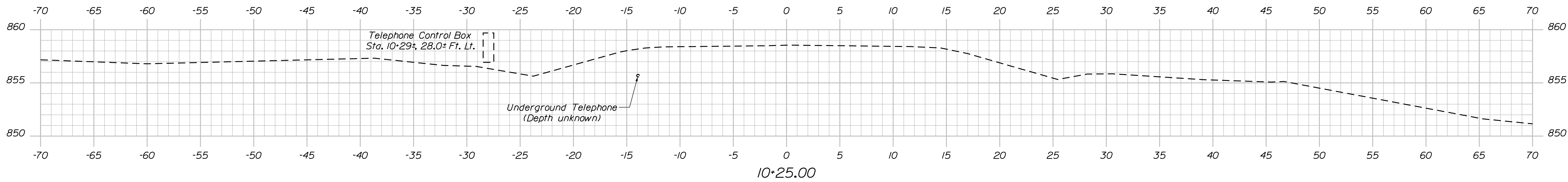
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022252.00		
WIN		BRIDGE NO. 3150
022252.00		BRIDGE PLANS
PROJ. MANAGER	BY	DATE
M. PARLIN	D. SHAW	MAR 2022
DESIGN DETAILED	CHECKED/REVIEWED	SIGNATURE
DESIGN DETAILED	DESIGN DETAILED	P.E. NUMBER
REVISIONS 1	REVISIONS 1	DATE
REVISIONS 2	REVISIONS 2	
REVISIONS 3	REVISIONS 3	
REVISIONS 4	REVISIONS 4	
FIELD CHANGES		
EAST HASTINGS BRIDGE		
EAST HASTINGS BROOK		
MERRILL AROOSTOOK COUNTY		
CROSS SECTIONS		
SHEET NUMBER		
11		
OF 25		

Date: 3/31/2022

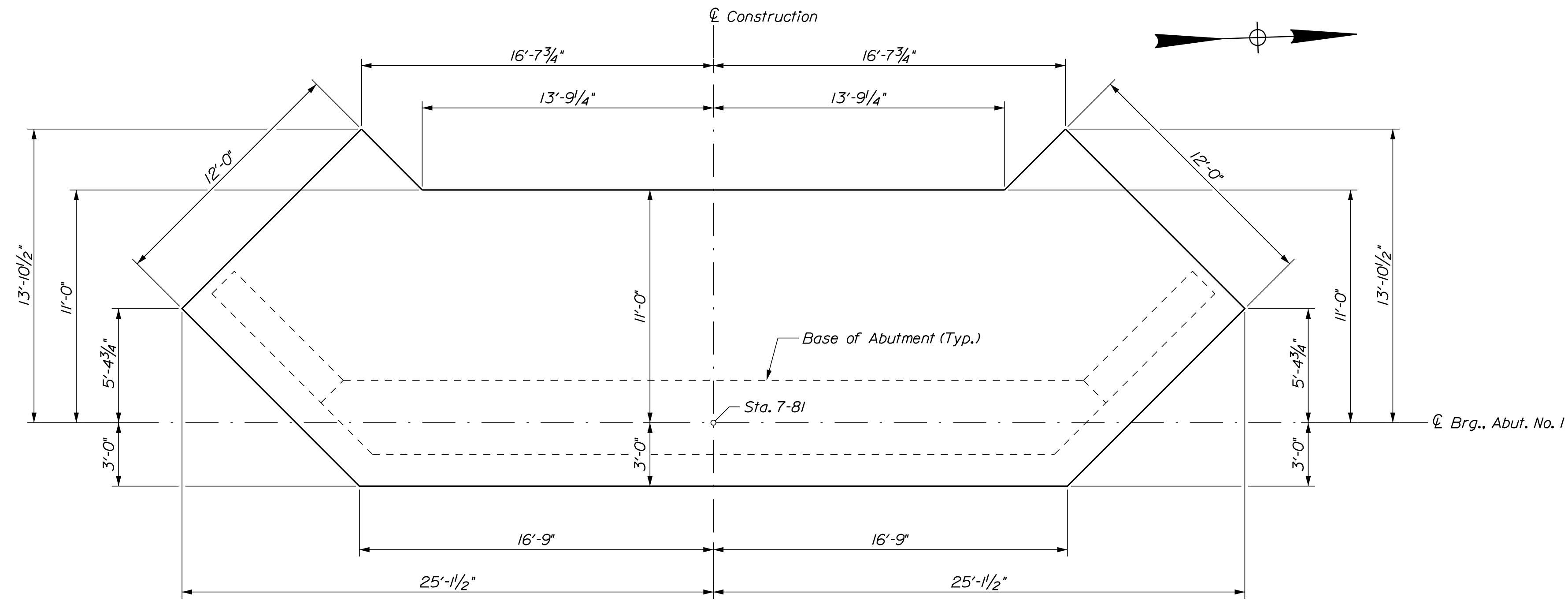
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Division: BRIDGE

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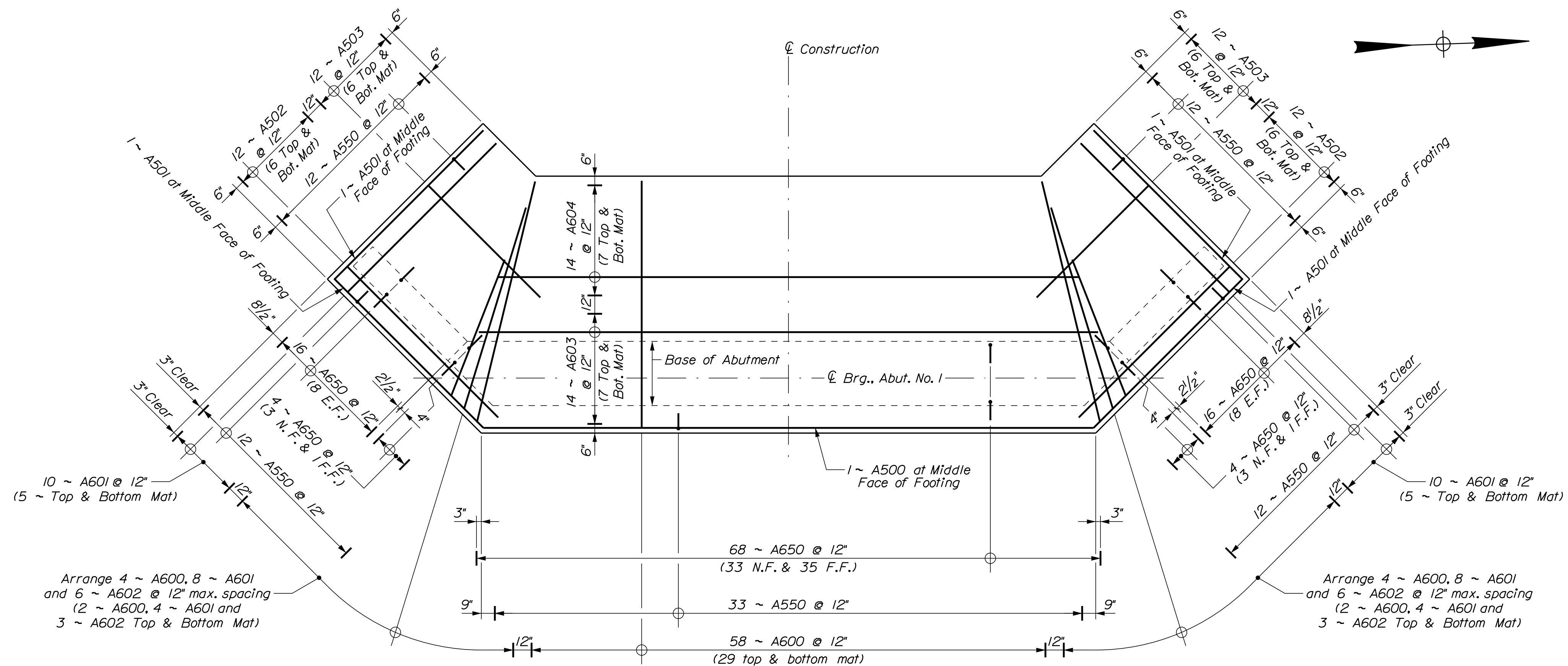
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PROJ. MANAGER M. PARLIN	BY D. SHAW	DATE MAR 2022	SIGNATURE
CHECKED-REVIEWED B. BARTLETT	DESIGNS-DETAILED	REVISIONS 1	P.E. NUMBER
REVISIONS 2	REVISIONS 3	REVISIONS 4	DATE
FIELD CHANGES		BRIDGE NO. 3150	
WIN		022252.00	
BRIDGE PLANS			



ABUTMENT NO. 1 FOOTING PLAN

ABUTMENT NOTES

1. The maximum factored applied footing pressure is 8 ksf for Abutment 1 and 6.7 ksf for Abutment 2 at the Strength Limit State.
2. Abutments, wingwalls, and their footings shall be backfilled with Granular Borrow. Pay limits will be the structural excavation limits in cut areas and a vertical plane located 10 feet behind the walls in fill areas.
3. Reinforcing steel shall have a minimum concrete cover of 2 inches in the walls and 3 inches in the footings unless otherwise noted.
4. Place drains with a 4-inch diameter in the breastwall and wingwalls at 10 feet maximum spacing. The exact location will be determined by the Resident.
5. Cover joints where waterstops are not required in accordance with Standard Details Section 502.
6. Place the parapet portions of the wingwalls after erection of the precast units.
7. When bedrock protrudes above the bottom of footing, the footing may be raised and the vertical reinforcing may be cut in the field with the approval of the Resident. The minimum footing elevations are shown on the Plans and shall not be lowered without prior approval of the Engineer of Record. Payment for adjusting the footing elevations and reinforcing steel will be considered incidental to the related Contract Items. No separate payment will be made.
8. At the option of the Resident, bedrock which protrudes above a horizontal plane 12 inches below the proposed bottom of footing elevation may be removed. Payment for bedrock removal shall be made under Item No. 206.092 Structural Rock Excavation - Major Structures.
9. Abutment concrete shall be placed on bedrock cleaned of all weathered rock, loose fractured rock and soil. The bedrock subgrade shall be confirmed to be relatively level. Where the bedrock slope exceeds 4H:1V, the bedrock surface shall be benched to create level steps or made completely level. The Resident shall approve the bedrock subgrade prior to the placement of the abutment concrete.



ABUTMENT NO. 1 FOOTING PLAN REINFORCEMENT

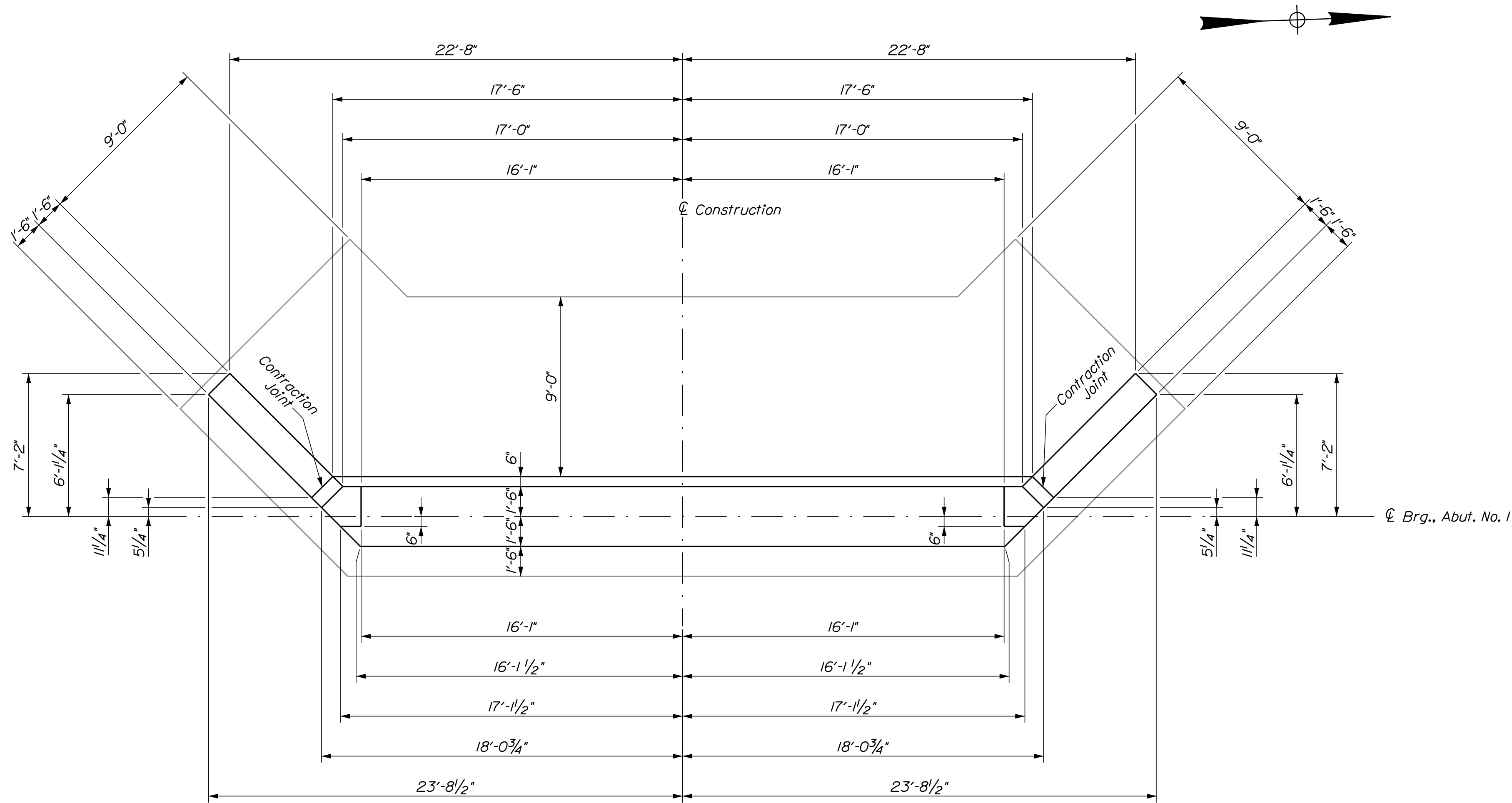
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DEPARTMENT OF TRANSPORTATION	WIN
022252.00	022252.00
	BRIDGE NO. 3150

DESIGN	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGNED	MAR 2022	D. SHAW		
CHECKED	MAR 2022	B. BARTLETT		
DESIGNED	JUL 2018	T. WHITE		
REVISIONS				
REVISIONS				
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REVISIONS				
FIELD CHANGES				

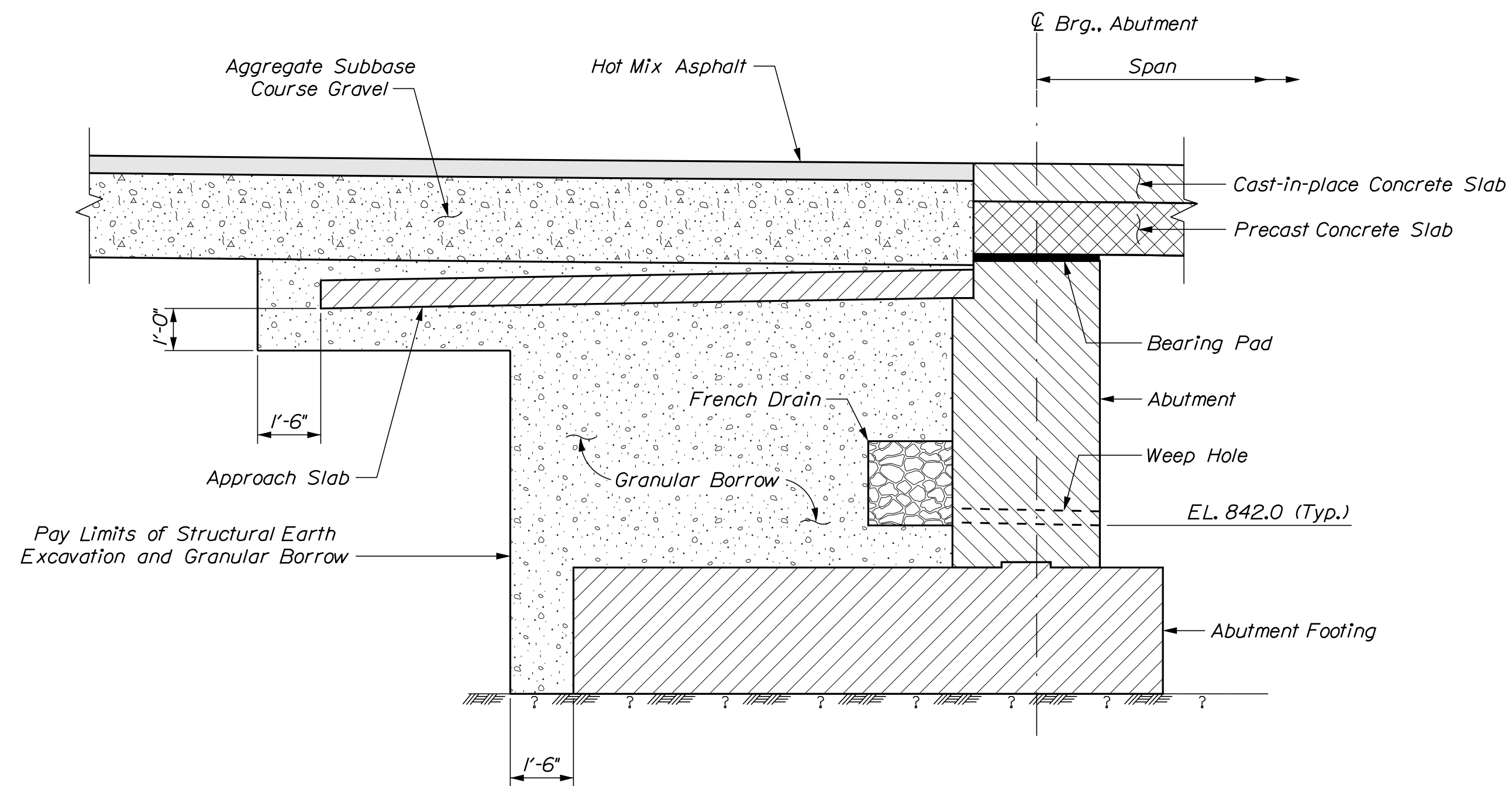
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DESIGN DETAILED	N. PUKAY	DESIGN DETAILED	N. PUKAY	T. WHITE	JUL 2018
REVISIONS	1				
REVISIONS	2				
REVISIONS	3				
REVISIONS	4				
FIELD CHANGES					

EAST HASTINGS BRIDGE	AROOSTOOK COUNTY
EAST HASTINGS BROOK	
MERRILL	
ABUTMENT NO. 1 FOOTING	

SHEET NUMBER	13
	OF 25

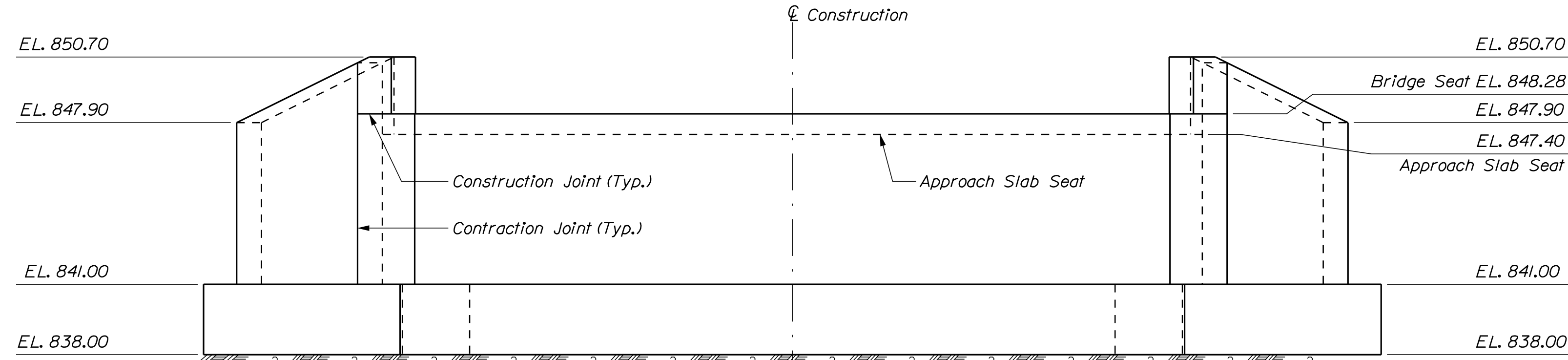


ABUTMENT NO. 1 PLAN

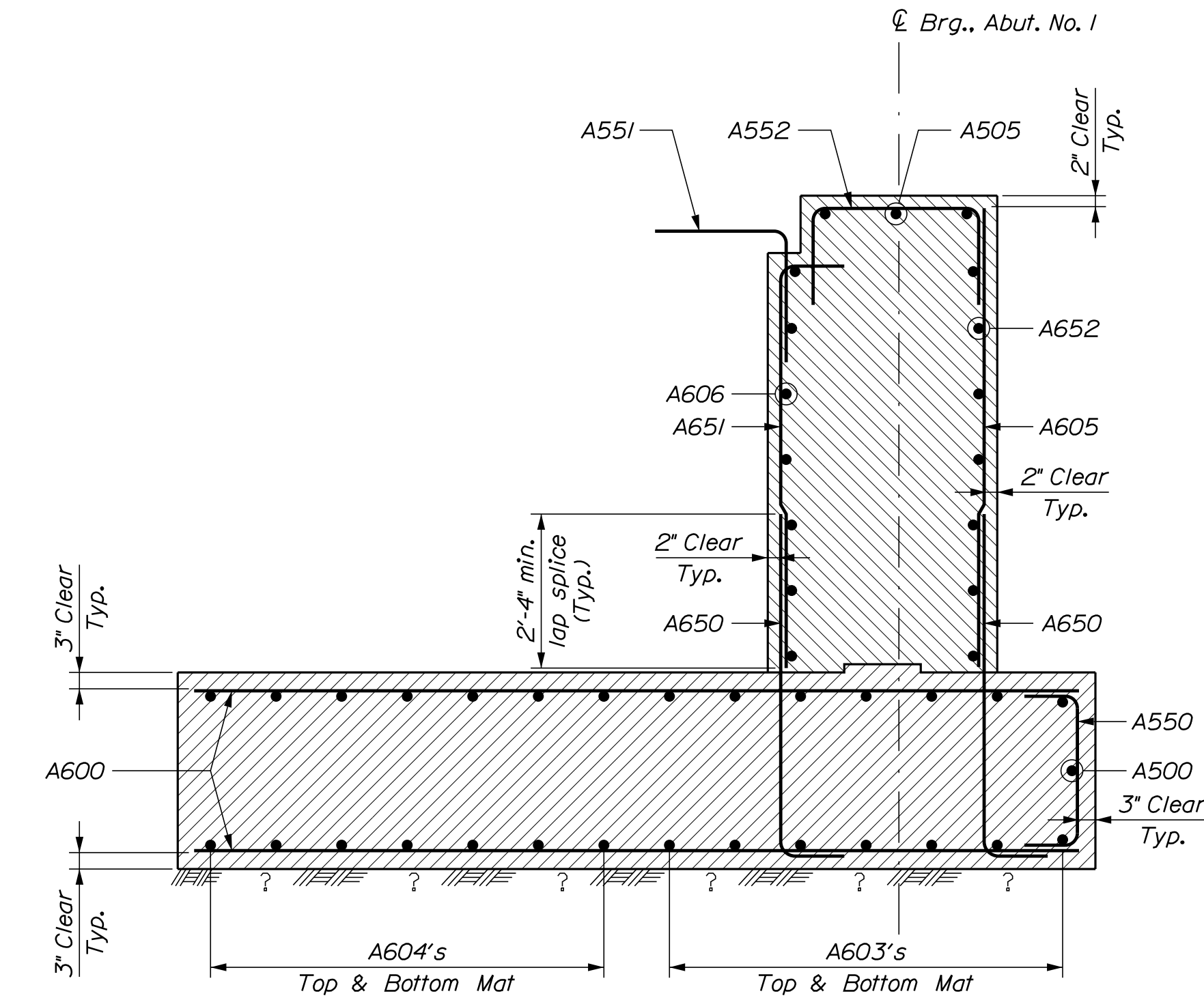


ABUTMENT SECTION

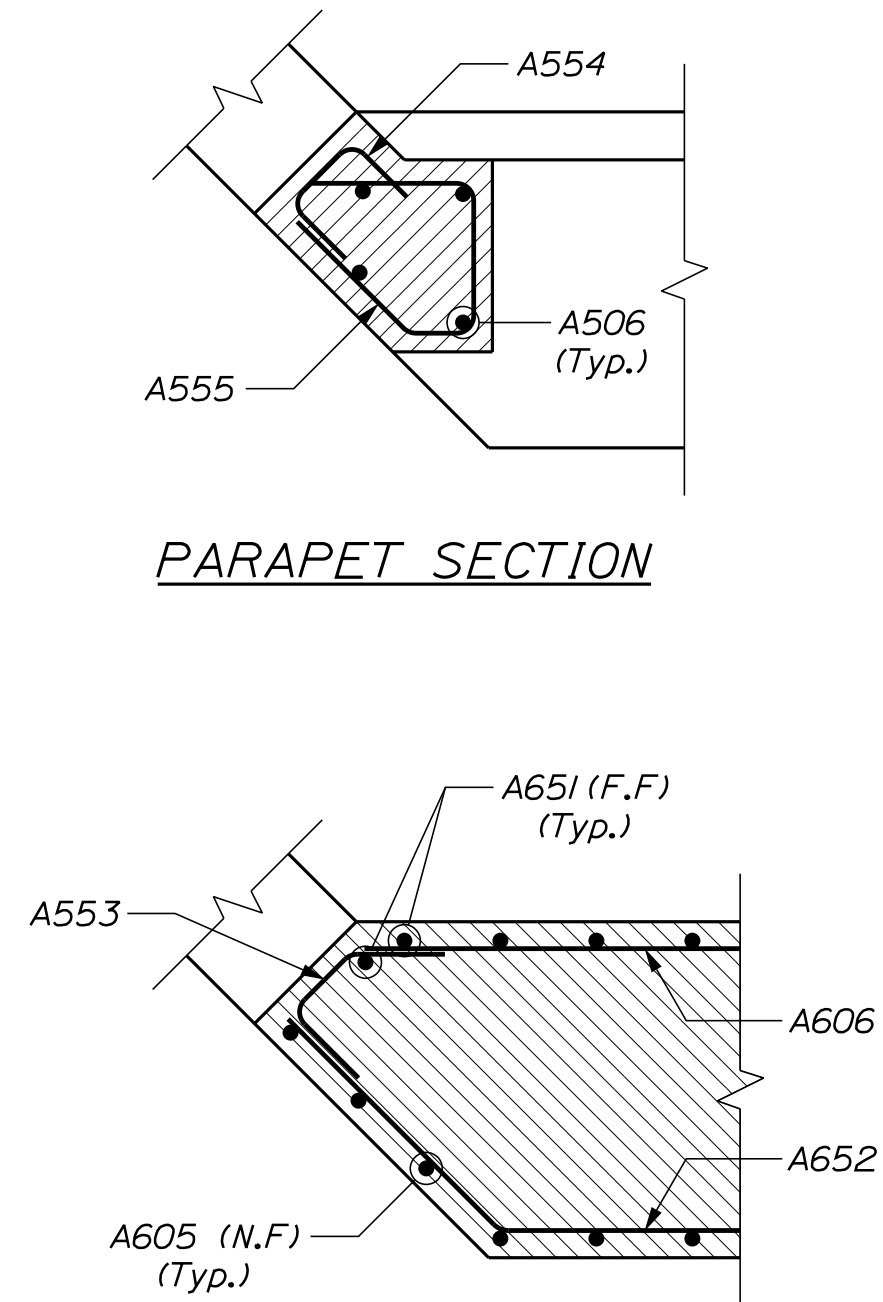
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DESIGN DETAILED	B. BARTLETT	D. SHAW	MAR 2022
CHECKED/REVIEWED	W. CASEY	B. BARTLETT	MAR 2022
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SHEET NUMBER		14	
		OF 25	



ABUTMENT NO. 1 ELEVATION

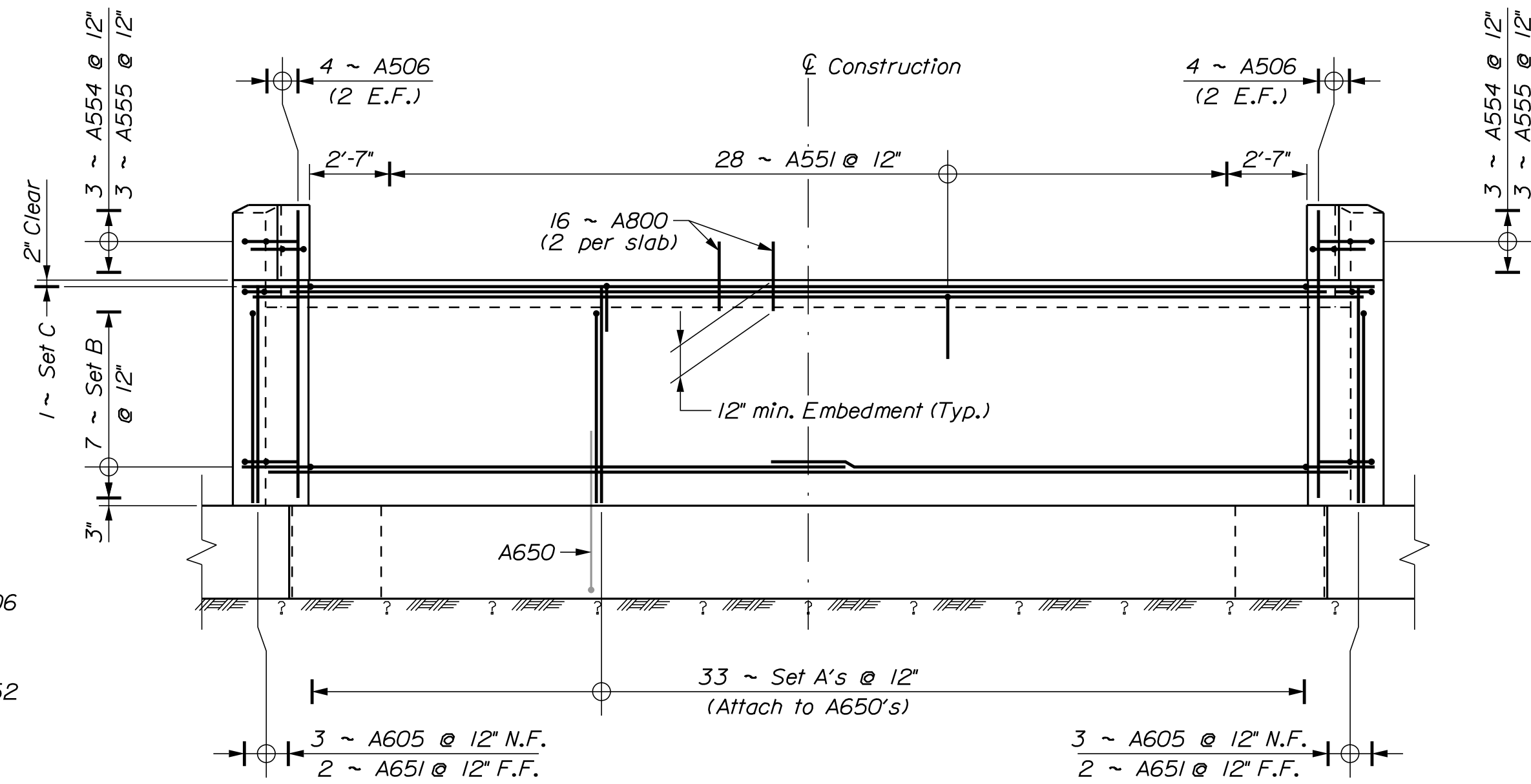


ABUTMENT SECTION



PARAPET SECTION

ABUTMENT CORNER SECTION  
(A650's and A506's not shown for clarity)



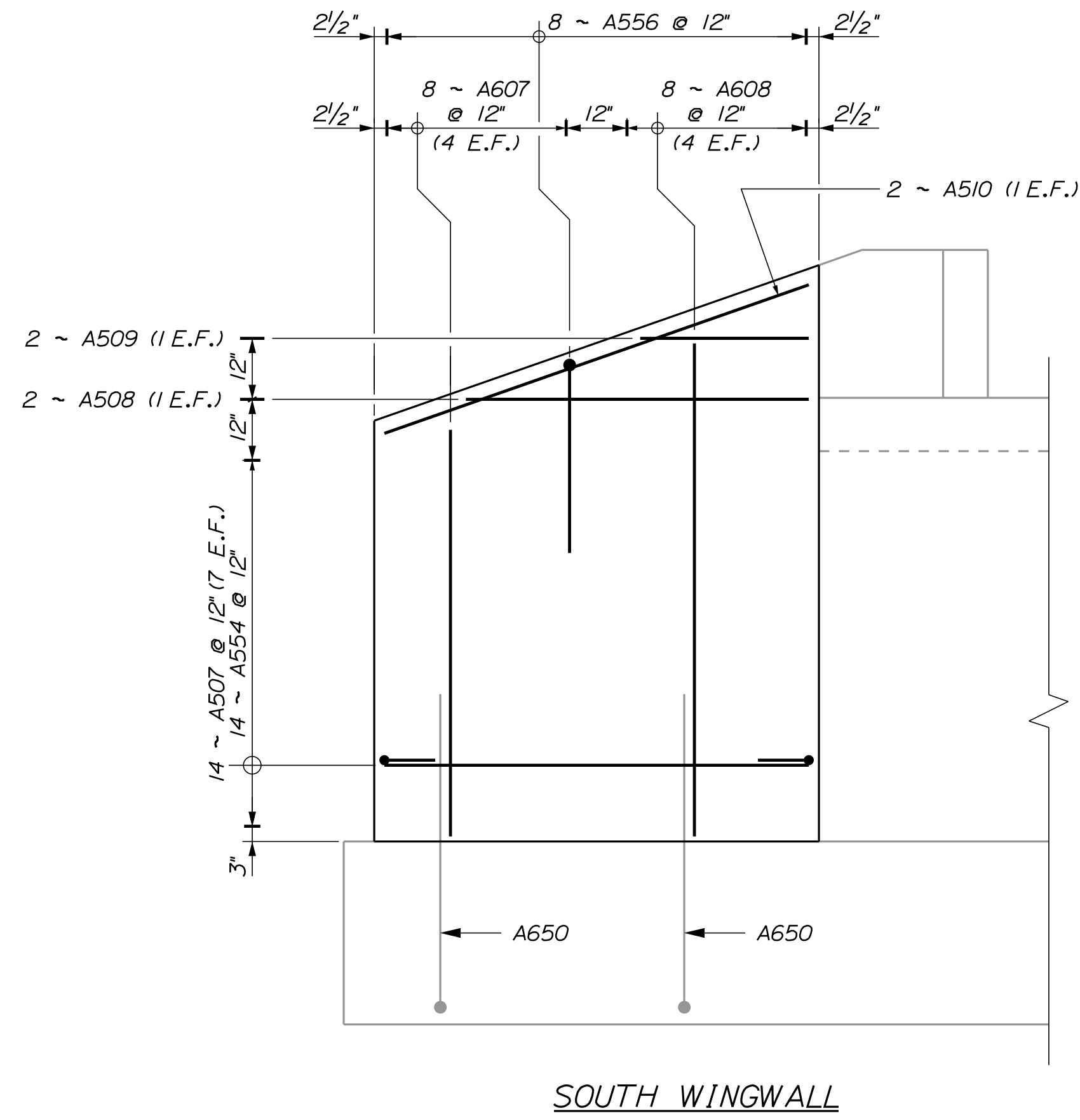
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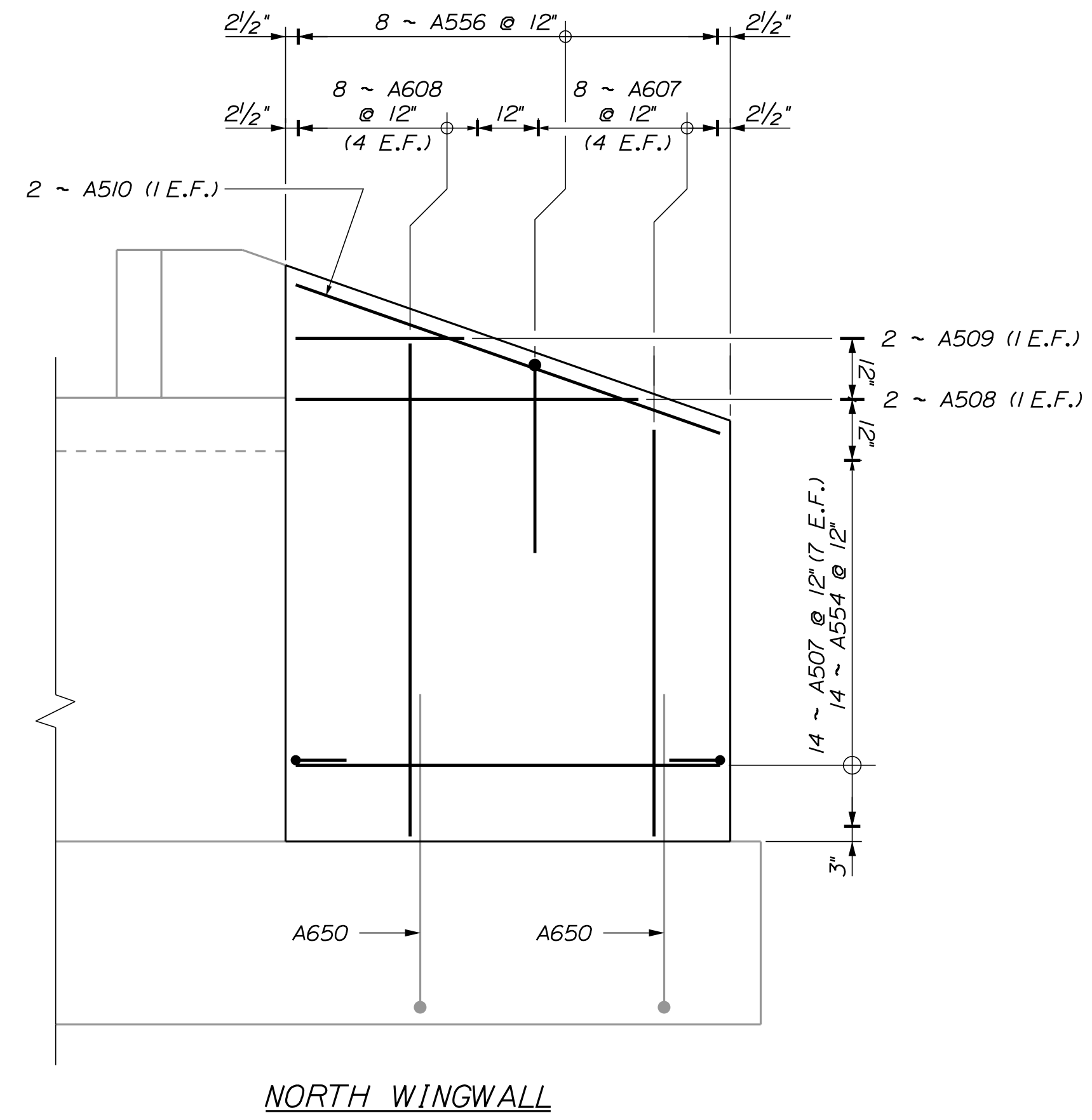
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SIGNATURE	P.E. NUMBER	DATE

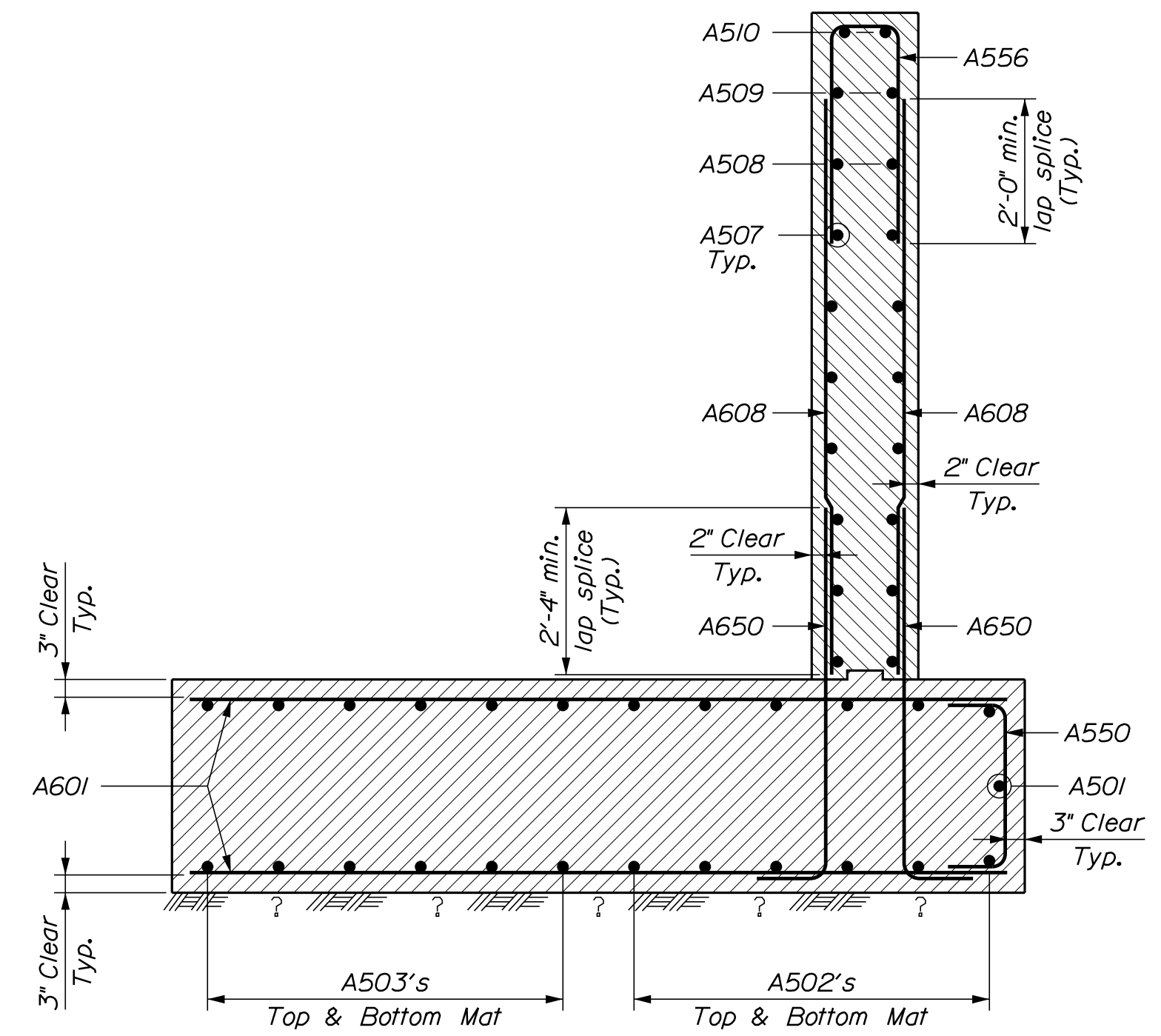
EAST HASTINGS BRIDGE  
EAST HASTINGS BROOK  
MERRILL  
AROSTOOK COUNTY  
ABUTMENT NO. 1  
REINFORCEMENT



SOUTH WINGWALL



NORTH WINGWALL



WINGWALL SECTION

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

022252.00  
WIN  
022252.00

SIGNATURE  
P.E. NUMBER  
DATE

PROJ. MANAGER	BY	DATE
M. PARLIN	D. SHAW	MAR 2022
DESIGNED-DETAILED	B. BARTLETT	MAR 2022
CHECKED-REVIEWED	W. CASEY	MAR 2022
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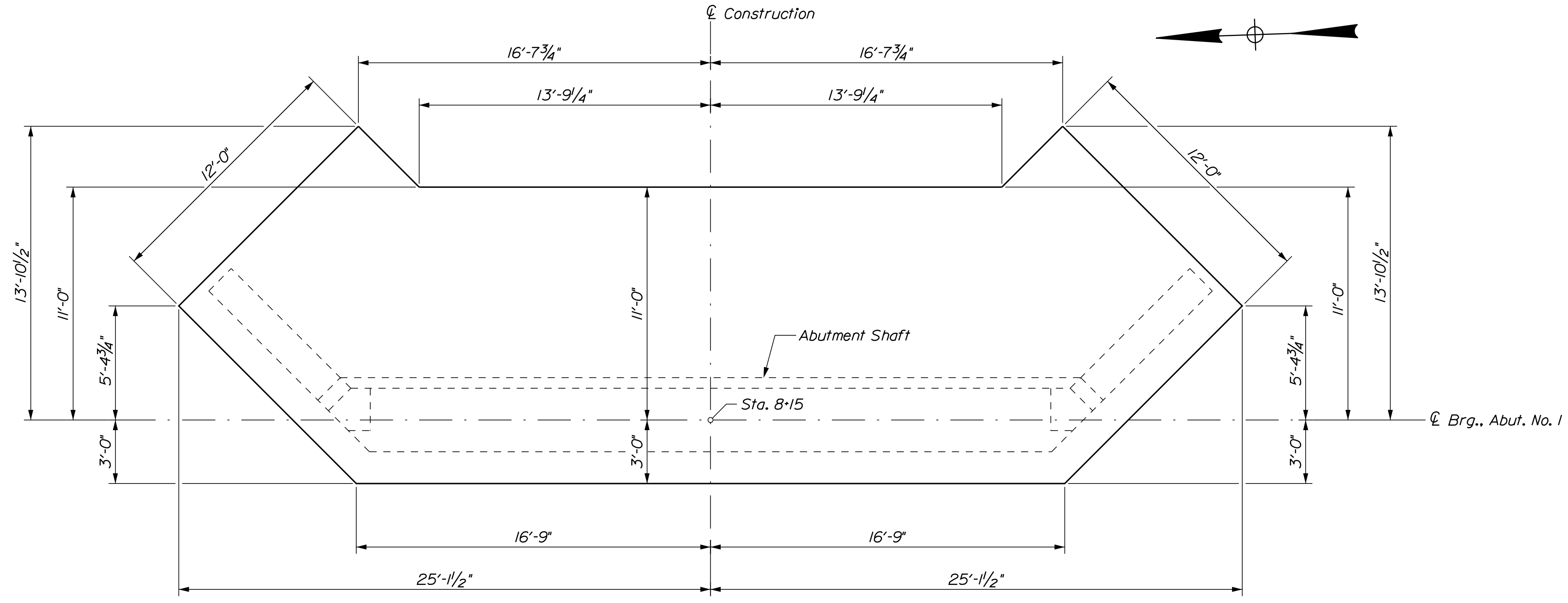
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MERRILL AROOSTOOK COUNTY  
ABUTMENT NO. 1 WINGWALL  
REINFORCEMENT

SHEET NUMBER

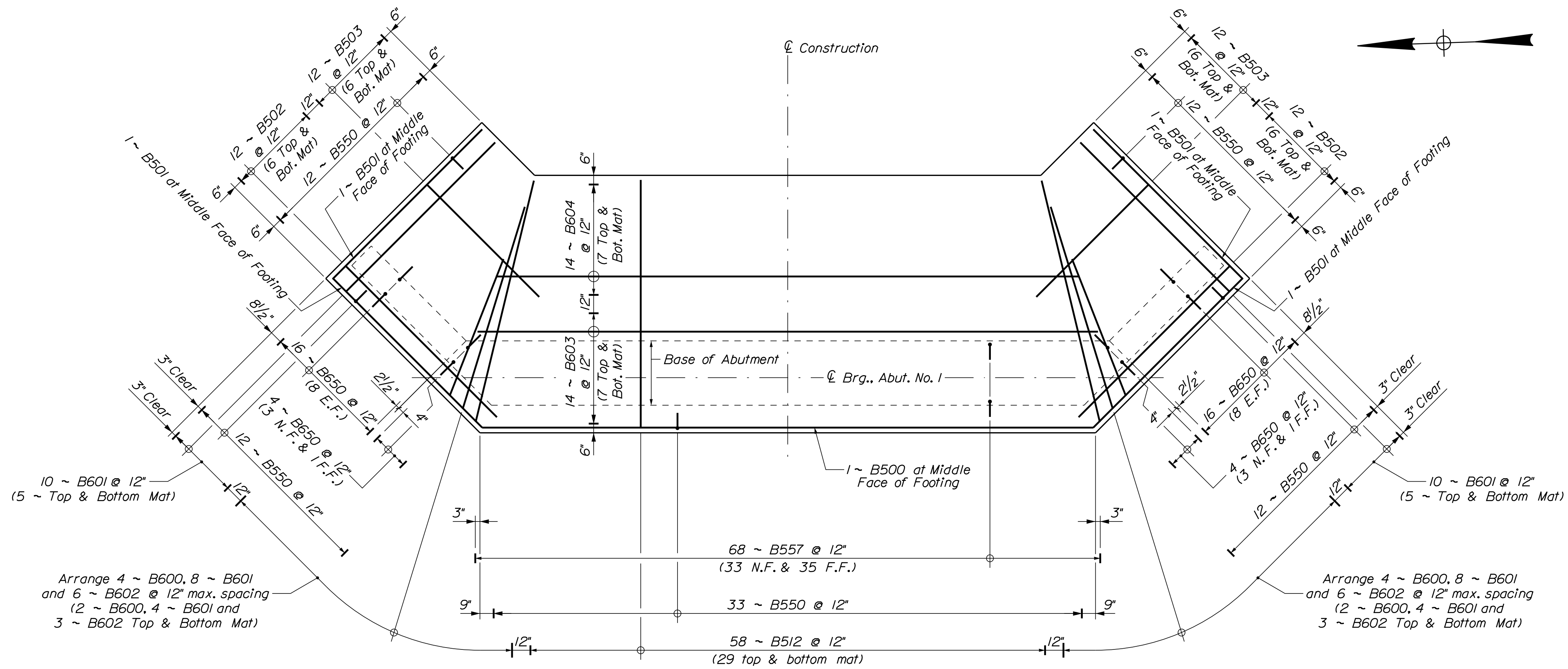
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OF 25

BRIDGE NO. 3150  
BRIDGE PLANS



ABUTMENT NO. 2 FOOTING PLAN



ABUTMENT NO. 2 FOOTING PLAN REINFORCEMENT

PROJ. MANAGER	M. PARLIN	BY	D. SHAW	DATE	MAR 2022
DESIGN DETAILED	B. BARTLETT	CHECKED/REVIEWED	W. CASEY	DESIGN DETAILED	MAR 2022
DESIGN DETAILED	N. PUKAY	DESIGN DETAILED	I. WHITE	DESIGN DETAILED	JUL 2018
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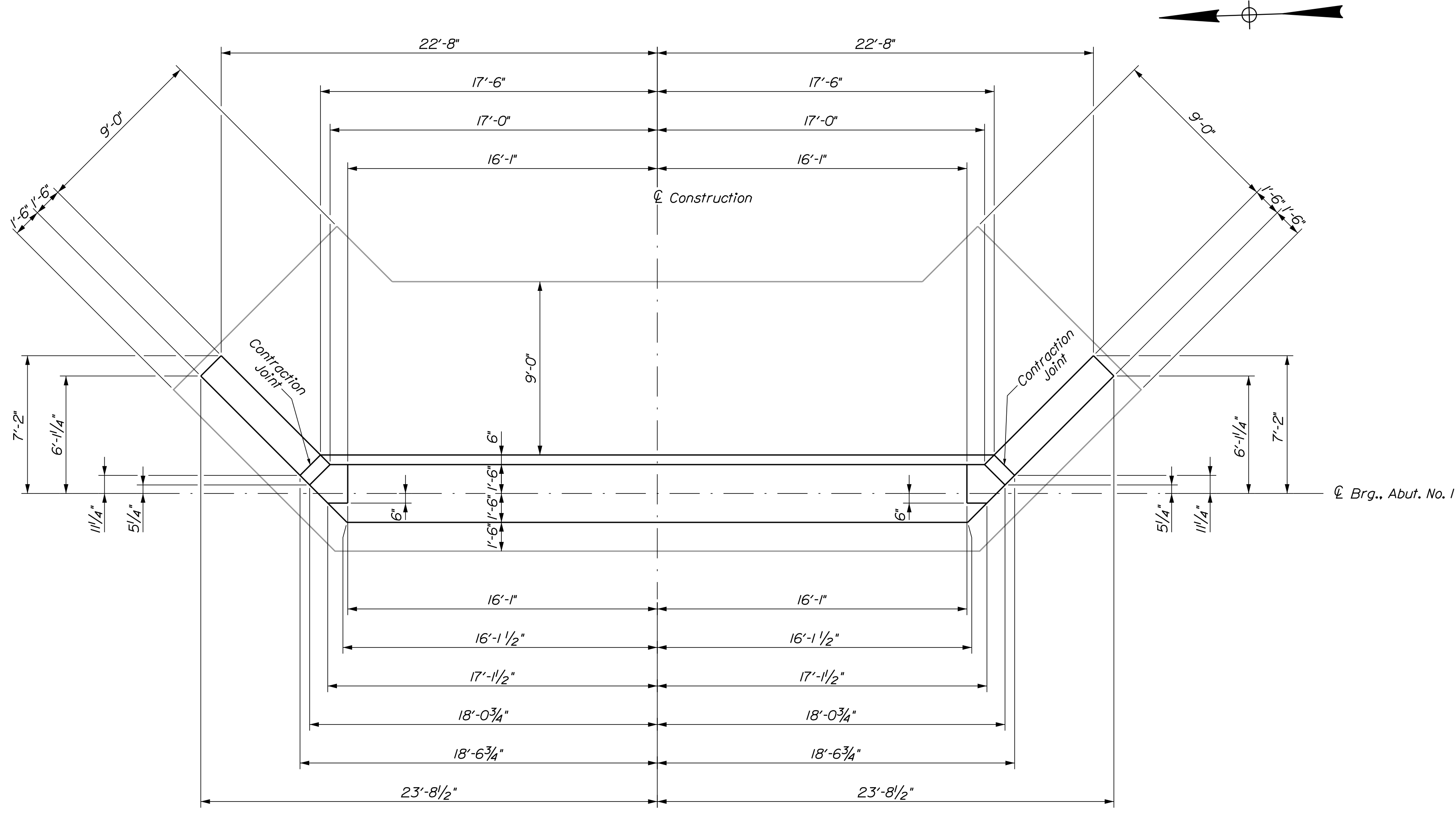
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P.E. NUMBER	DATE

EAST HASTINGS BRIDGE  
EAST HASTINGS BROOK  
MERRILL  
AROSTOOK COUNTY  
ABUTMENT NO. 2 FOOTING

SHEET NUMBER

17

OF 25



ABUTMENT NO. 2 PLAN

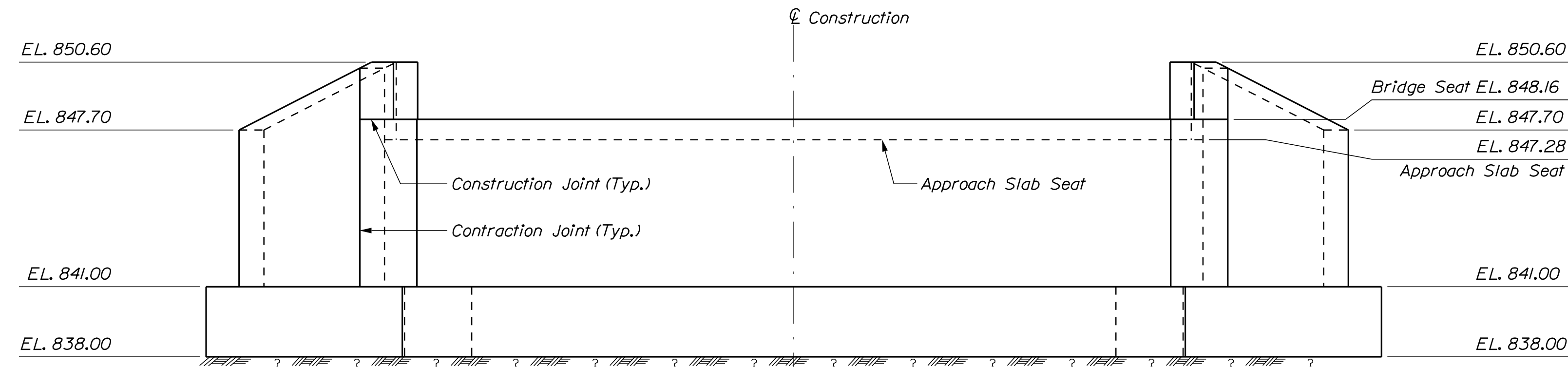
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EAST HASTINGS BRIDGE  
EAST HASTINGS BROOK  
MERRILL AROOSTOOK COUNTY  
**ABUTMENT NO. 2 PLAN**

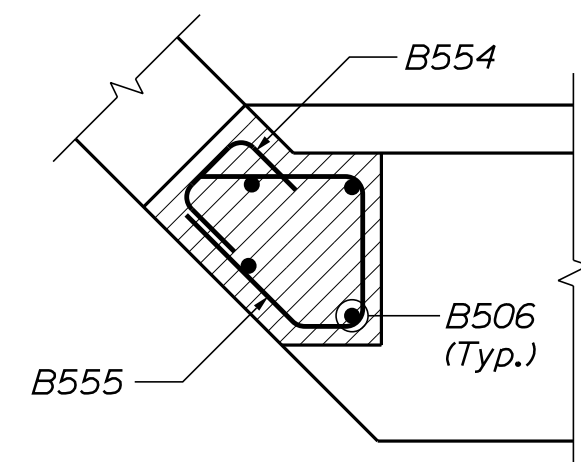
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CHECKED/REVIEWED	W. CASEY	BY	B. BARTLETT	DATE	MAR 2022
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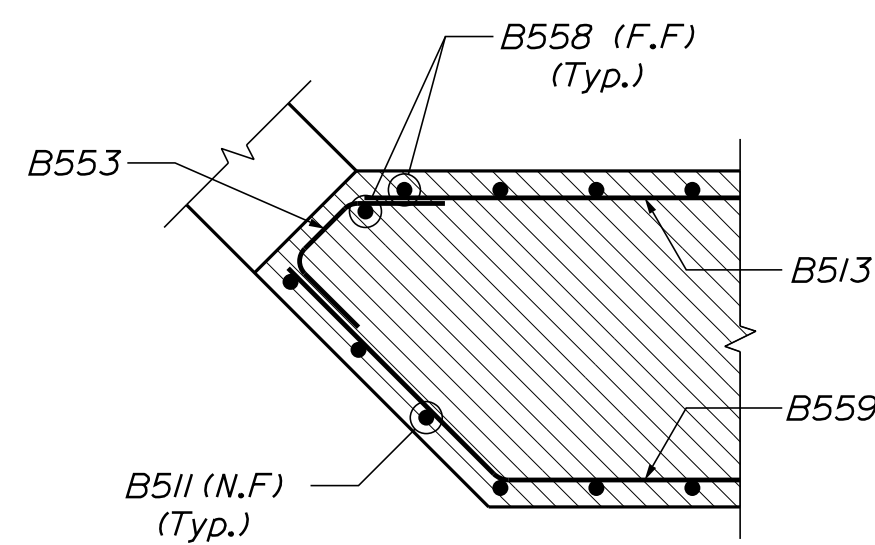
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BRIDGE NO. 3150  
WIN  
**022252.00**  
BRIDGE PLANS



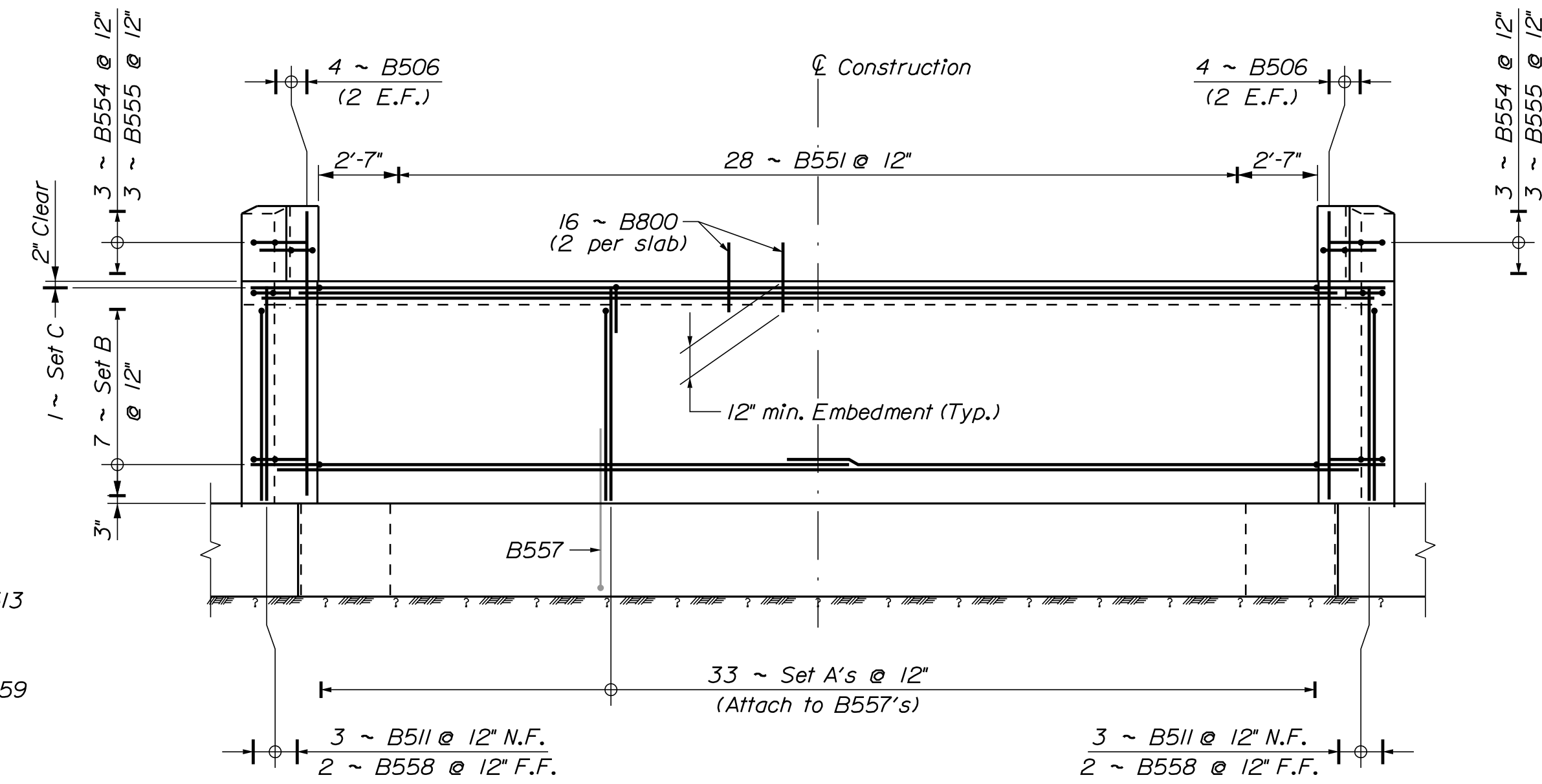
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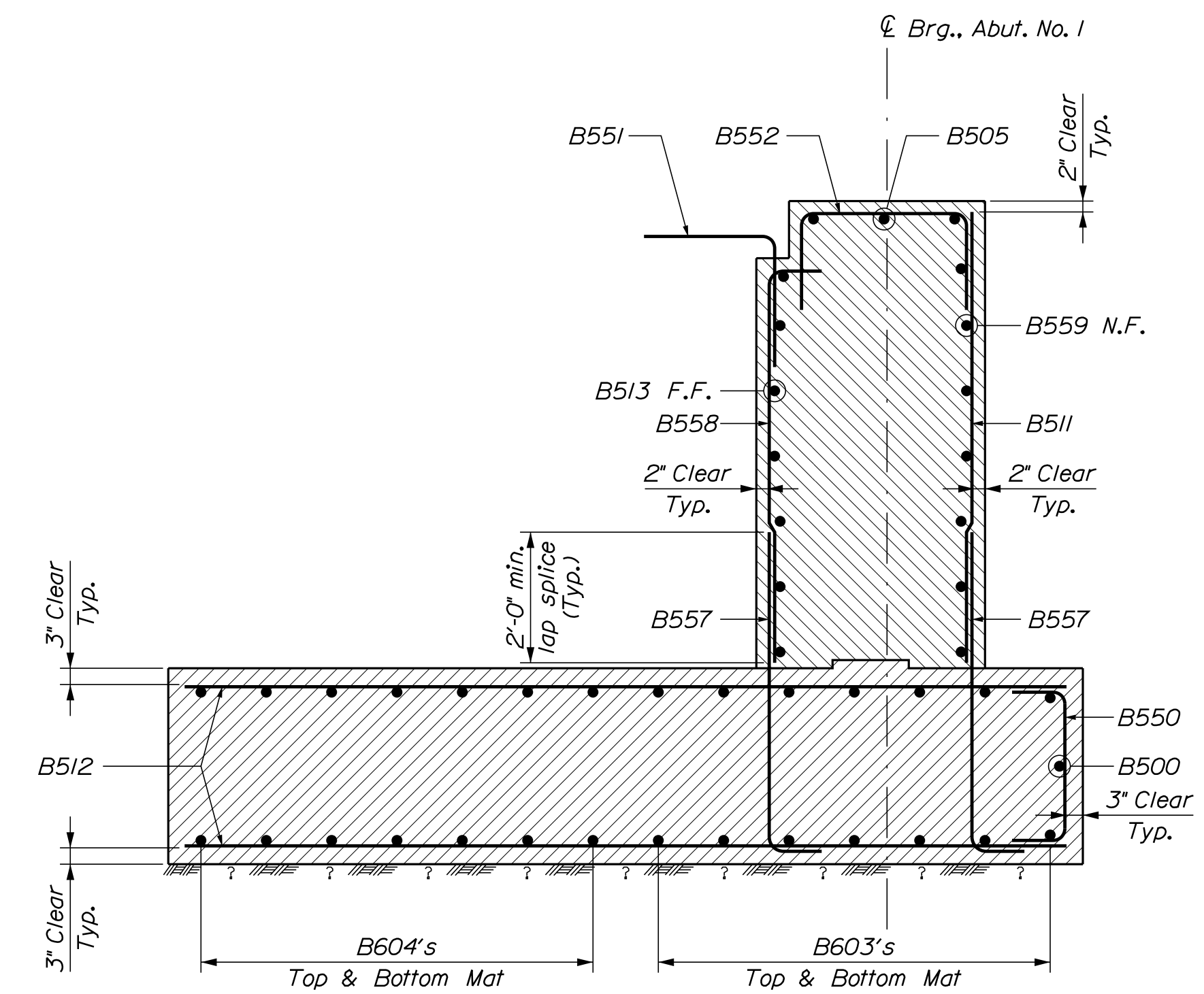
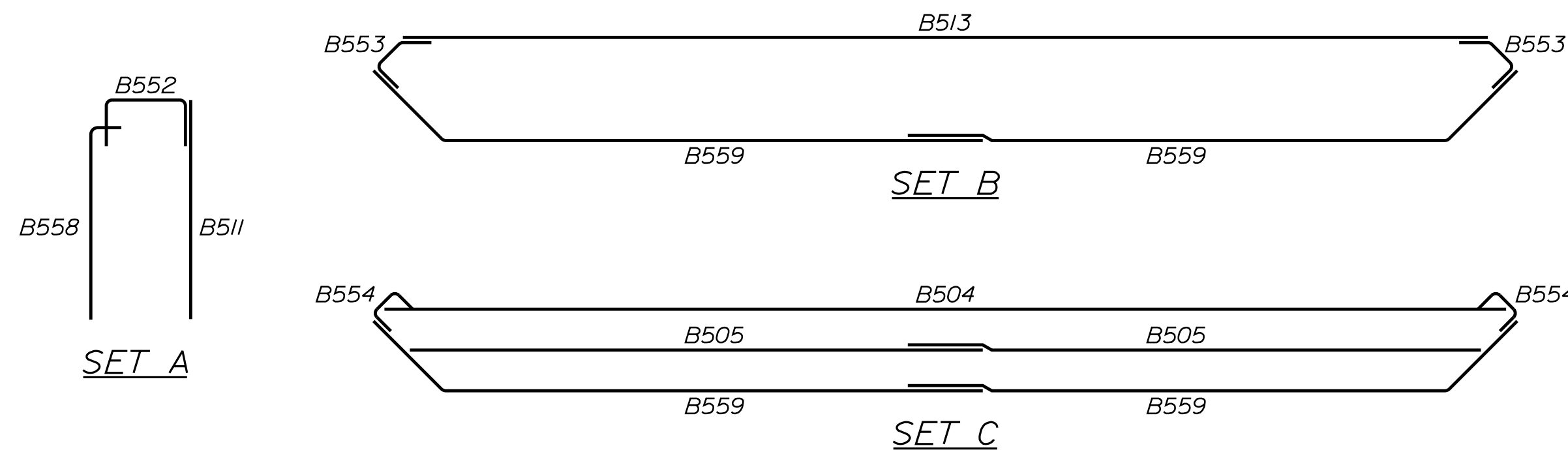
PARAPET SECTION



ABUTMENT CORNER SECTION  
(B650's and B506's not shown for clarity)



ABUTMENT NO. 2 ELEVATION REINFORCEMENT



ABUTMENT SECTION

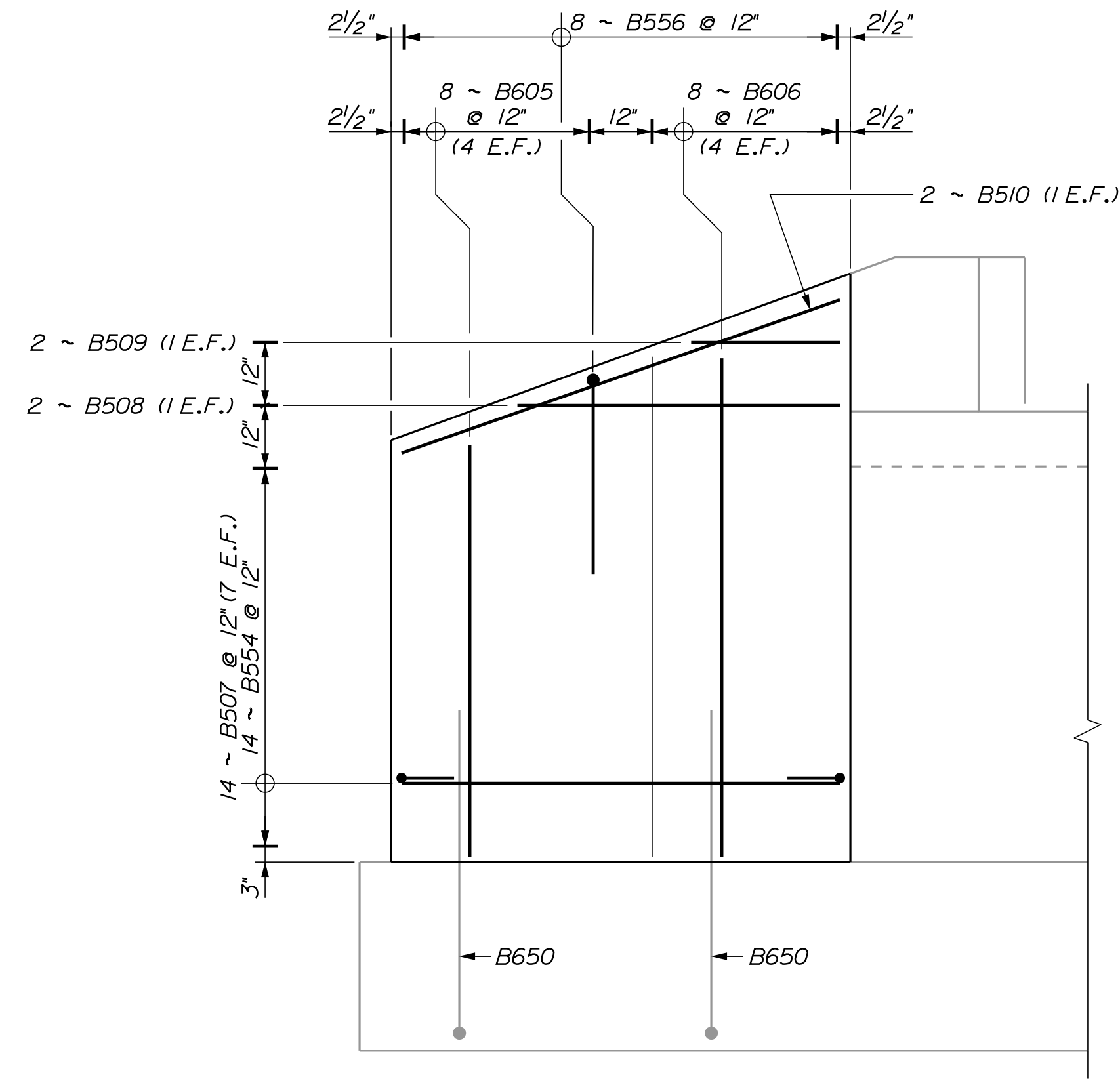
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CHECKED-REVIEWED	W. CASEY	MAR 2022			
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REVISIONS 2					
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EAST HASTINGS BRIDGE  
EAST HASTINGS BROOK  
MERRILL AROOSTOOK COUNTY  
ABUTMENT NO. 2  
REINFORCEMENT

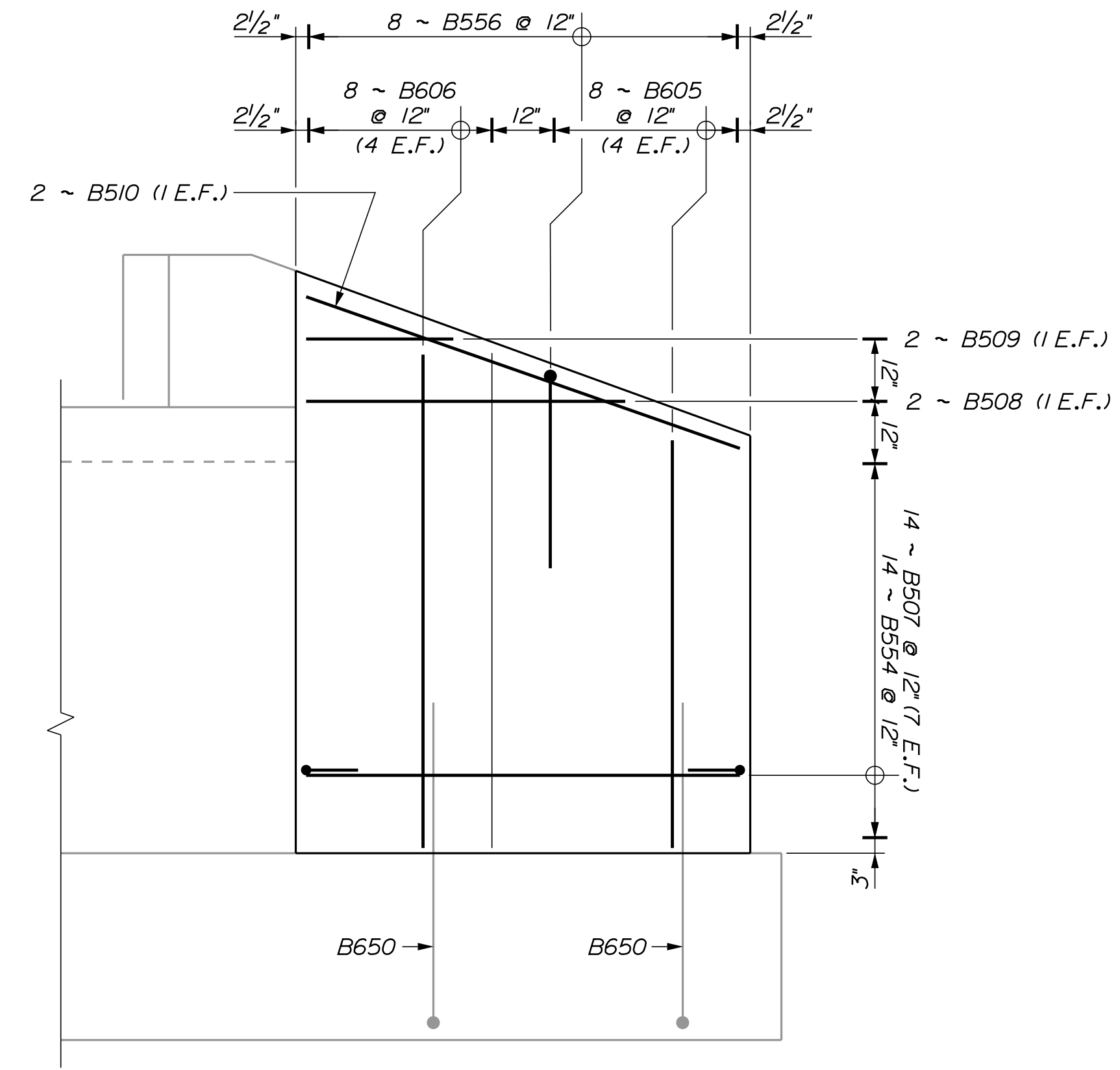
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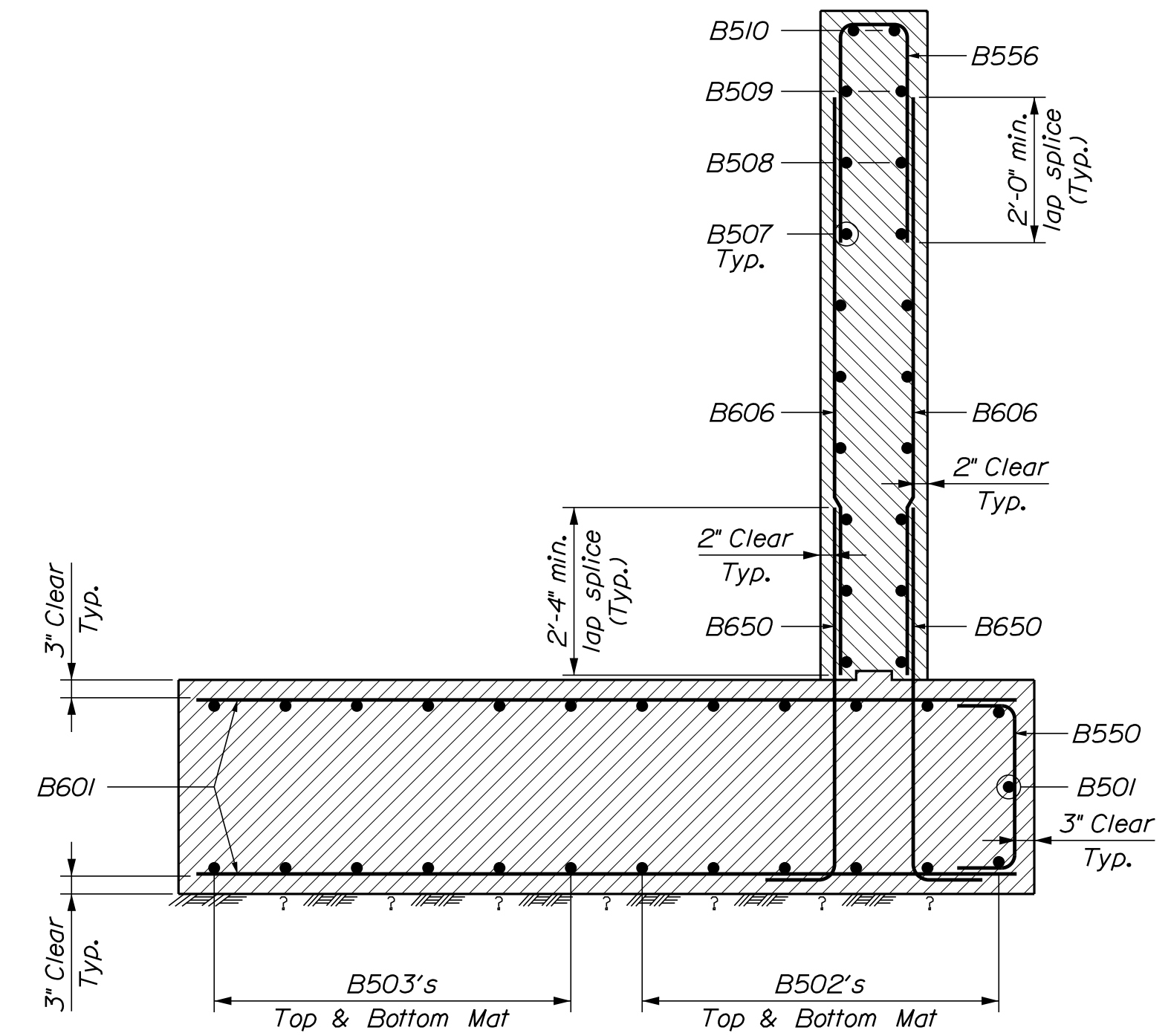
OF 25



NORTH WINGWALL



SOUTH WINGWALL



WINGWALL SECTION

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

022252.00  
WIN  
022252.00  
BRIDGE NO. 3150  
BRIDGE PLANS

DESIGNED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
DESIGNED DATE: \_\_\_\_\_  
CHECKED DATE: \_\_\_\_\_

PROJ. MANAGER	BY	DATE
M. PARLIN	D. SHAW	MAR 2022
B. BARTLETT	B. BARTLETT	MAR 2022
W. CASEY	B. BARTLETT	MAR 2022

EAST HASTINGS BRIDGE  
EAST HASTINGS BROOK  
MERRILL AROOSTOOK COUNTY  
ABUTMENT NO. 2 WINGWALL  
REINFORCEMENT

SHEET NUMBER

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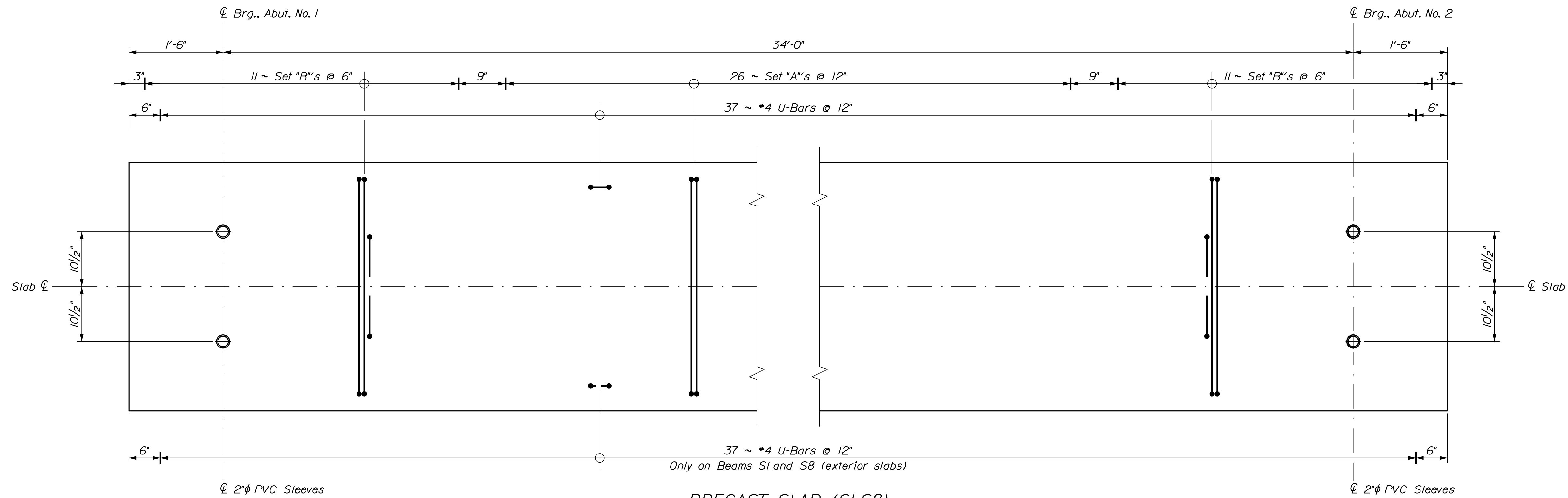
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Date: 3/31/2022

Username: David Shaw

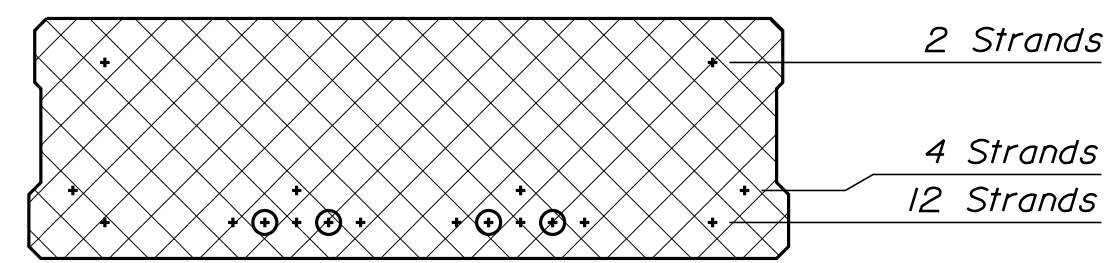
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**PRECAST SLAB (SI-S8)**

Showing Layout for Set A and B Stirrups along with shear reinforcement  
 For more information on additional reinforcement, dimensioning, spacing and clearances,  
 see Standard Details, Section 535 - Precast Superstructure.

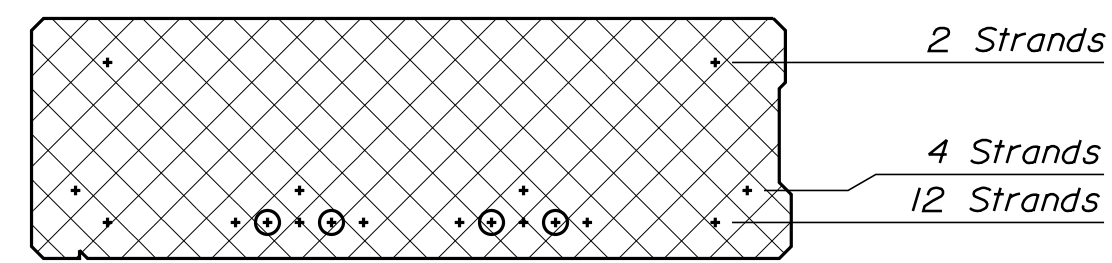


**TYPICAL INTERIOR SLAB SECTION (PCI S48-15)**

Showing Strand and Rebar Layout

- = 0.6" Strand - fully bonded
- ⊙ = 0.6" Strand - debonded 3'-0" from end of slab

For more information on additional rebar, dimensioning, spacing and clearances,  
 See Standard Details, Section 535 - Precast Superstructure.

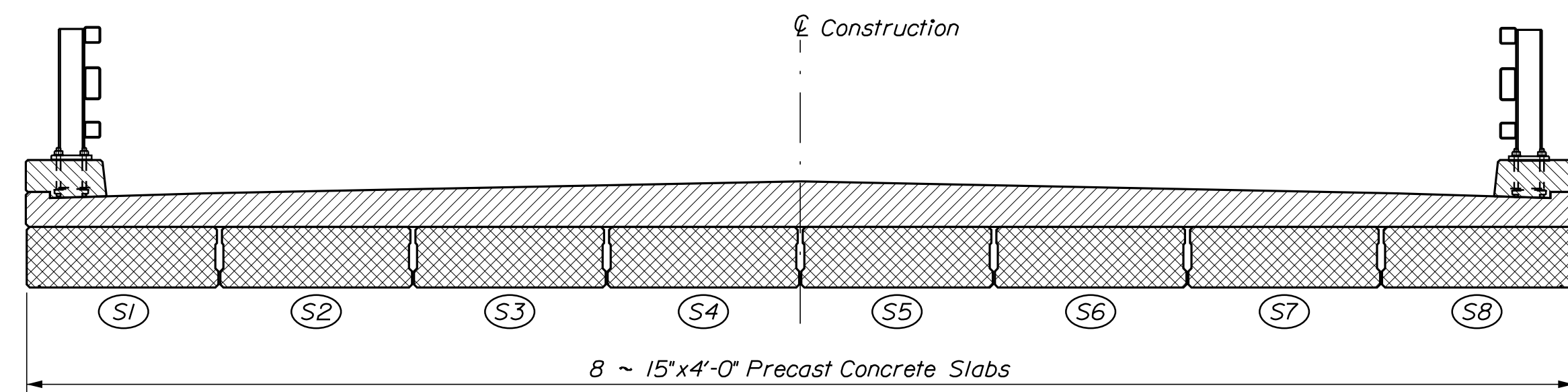


**TYPICAL EXTERIOR SLAB SECTION (PCI S48-15)**

Showing Strand and Rebar Layout  
 SI shown, S8 opposite hand

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- ⊙ = 0.6" Strand - debonded 3'-0" from end of slab

For more information on additional rebar, dimensioning, spacing and clearances,  
 See Standard Details, Section 535 - Precast Superstructure.



**PRECAST SLAB LAYOUT**

**PRECAST CONCRETE SUPERSTRUCTURE NOTES**

1. Prestressing strands shall be 0.6-in. diameter. The tensioning force is 44 kips per prestressing strand.
2. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
3. The top surface of the upper flange of the prestressed beams shall be raked to a surface roughness of ± 1/4" inch, except at locations corresponding to the blocking points. At these locations a flattened area of sufficient size shall be finished to facilitate taking elevations for setting bottom of slab elevations.
4. Do not drill holes or use powder actuated tools on the prestressed beams without the approval of the Fabrication Engineer.
5. Precast slabs shall be solid slabs, with no voids.
6. Transverse post-tensioning is not required.
7. Lifting loops and temporary/storage/shipping dunnage shall be a maximum of 2 feet from beam end.
8. Elastomeric Bearing Pads shall be 3'-0" x 32'-0" in plan and 1 inch tall.
9. The elastomer shall have a shear modulus of 95 psi.
10. Elastomeric Bearing Pads shall conform to the requirements of the latest edition of the AASHTO LRFD Bridge Construction Specifications, Section 18.2.
11. Elastomeric Bearing Pads will not be paid for directly but will be considered incidental to related Contract Items. No separate payment will be made.

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 022252.00  
 WIN 022252.00  
 BRIDGE NO. 3150  
 BRIDGE PLANS

PROJ. MANAGER  
 DESIGN-DETAILED  
 CHECKED-REVIEWED  
 DESIGNS-DETAILED  
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 REVISIONS 4  
 FIELD CHANGES

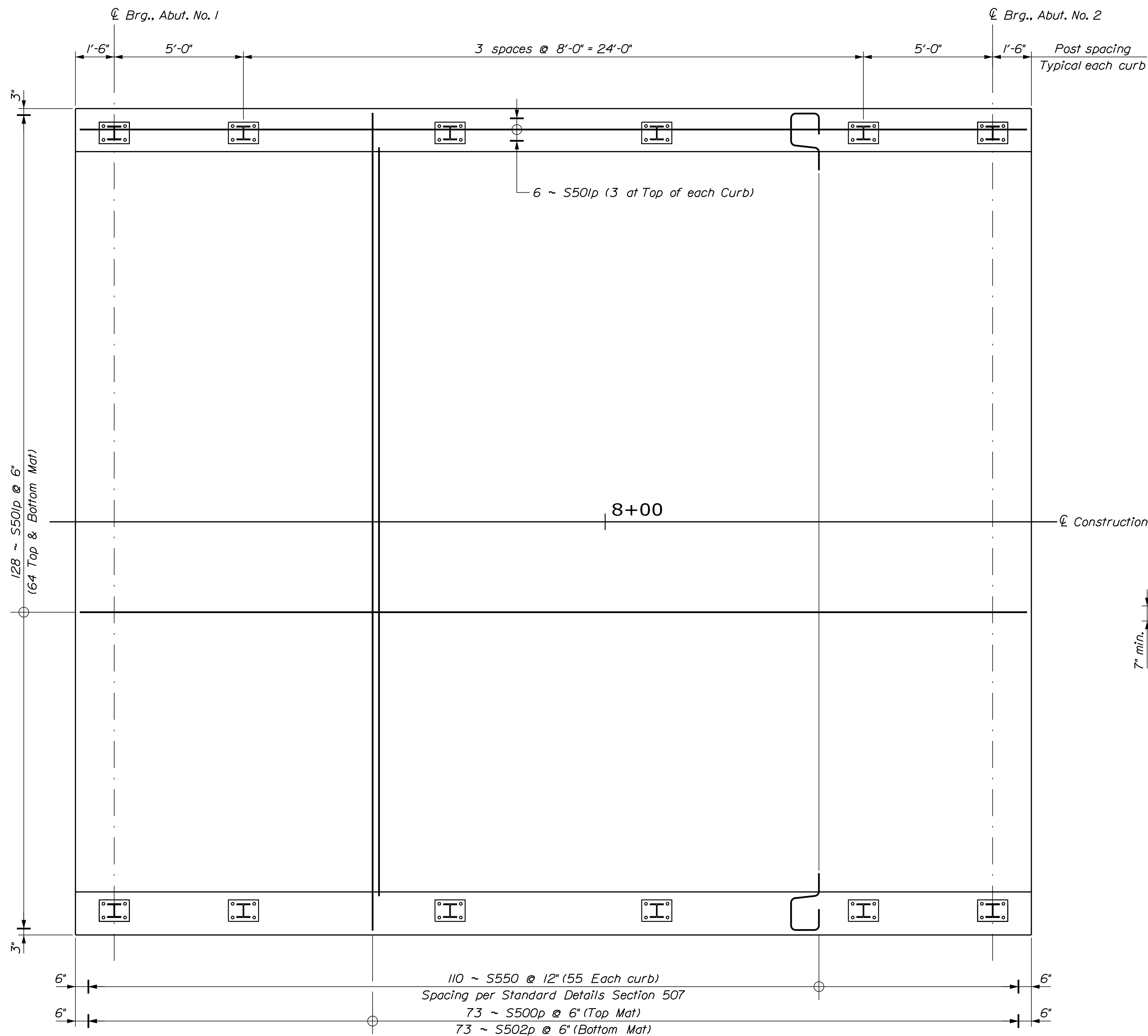
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EAST HASTINGS BRIDGE  
 EAST HASTINGS BROOK  
 MERRILL AROOSTOOK COUNTY  
 PRECAST SLAB DETAILS

SHEET NUMBER

21

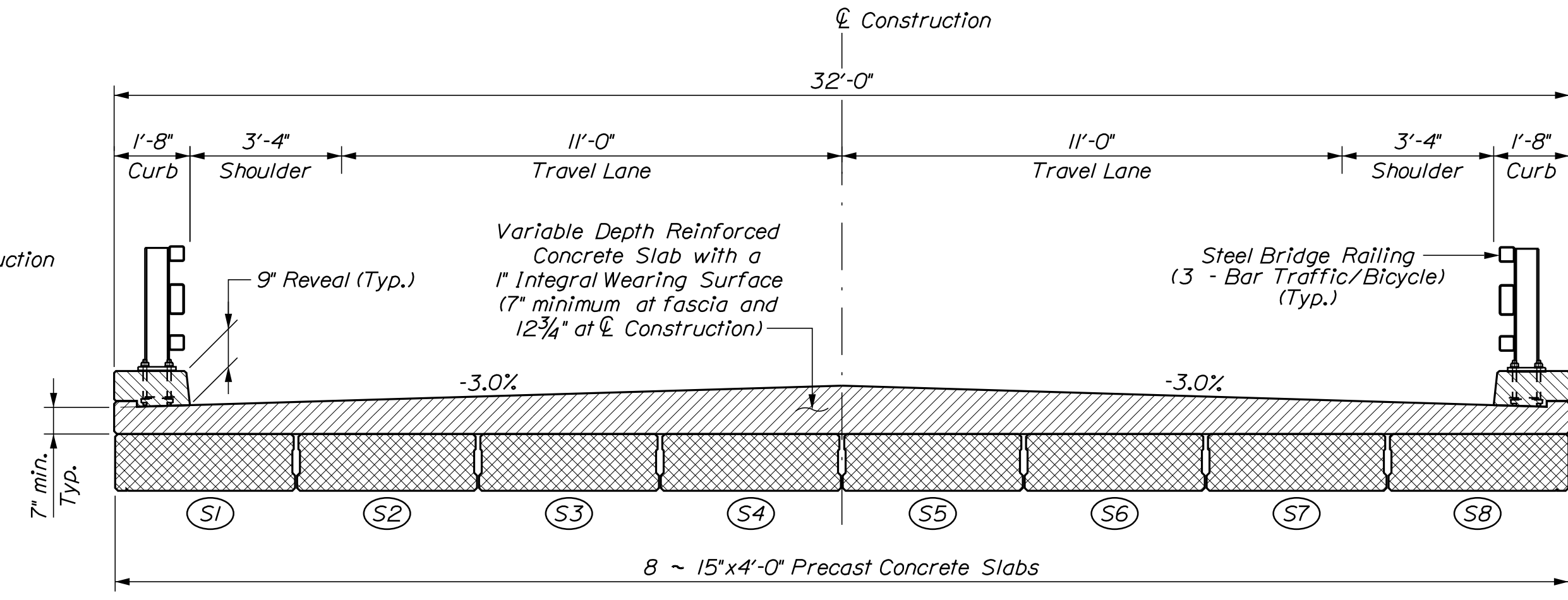
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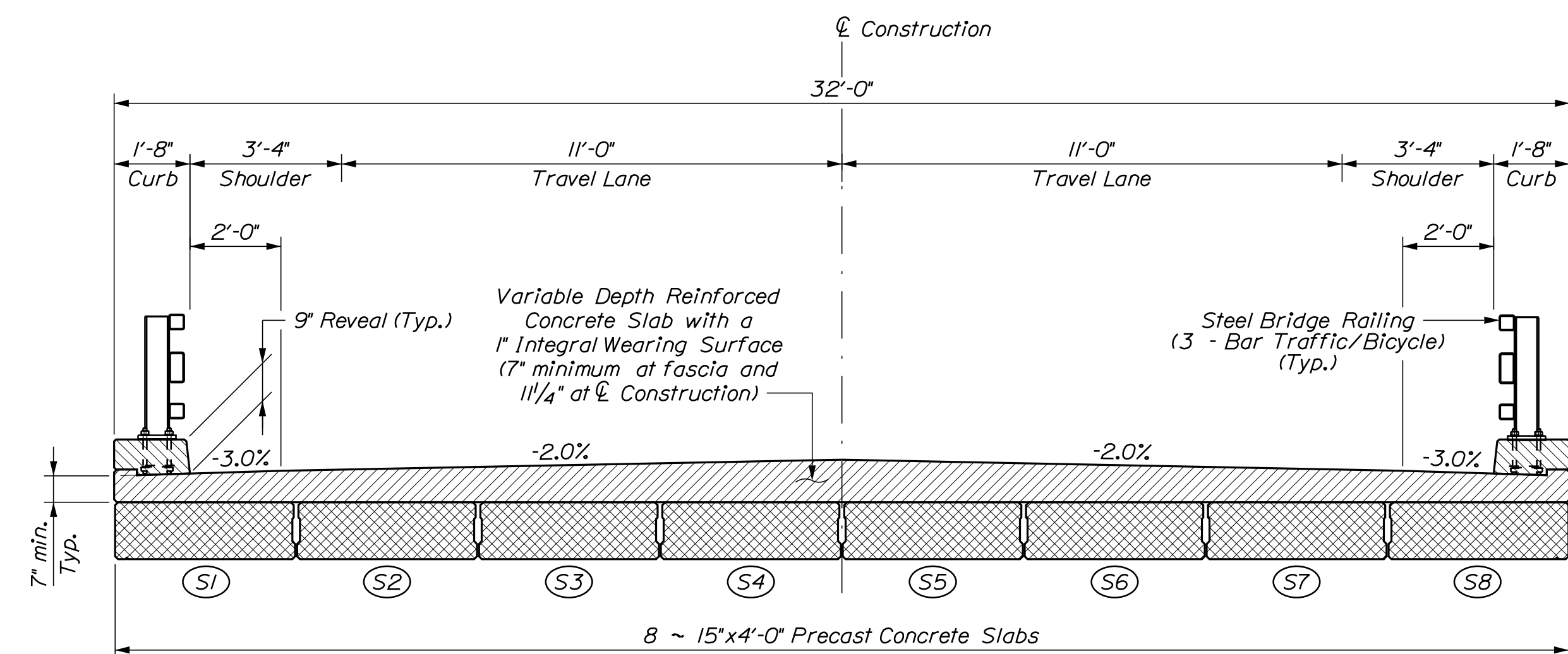
**SUPERSTRUCTURE PLAN**

**SUPERSTRUCTURE NOTES**

1. The bearing elevation shall be adjusted in accordance with Special Provision Section 535, Precast, Prestressed Concrete Superstructure, Camber.
2. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
3. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.
4. The cast-in-place superstructure slab concrete shall be placed continuously and shall be kept plastic until the entire placement has been made.
5. Integral concrete wearing surface shall have a milled finish. Milling shall be paid for under Item 202.31 - Profile Milling Concrete Wearing Surface.

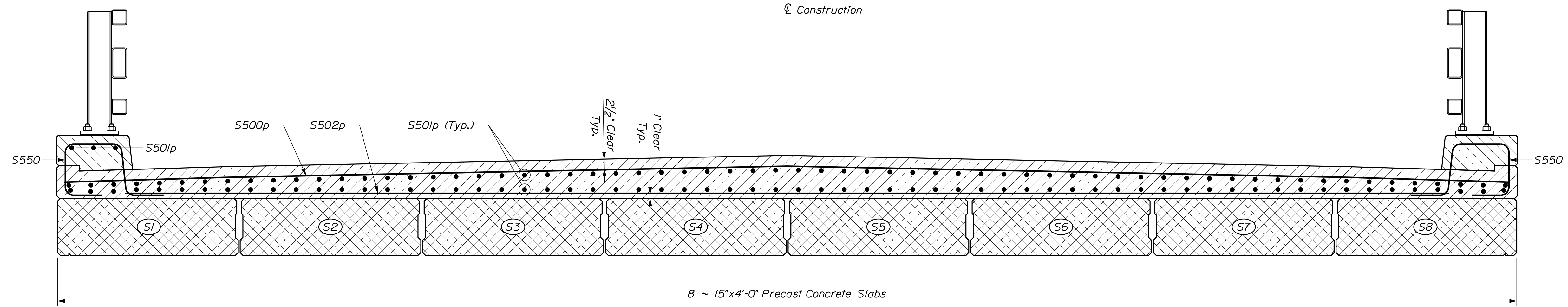


**DECK PLACEMENT TYPICAL BRIDGE SECTION**

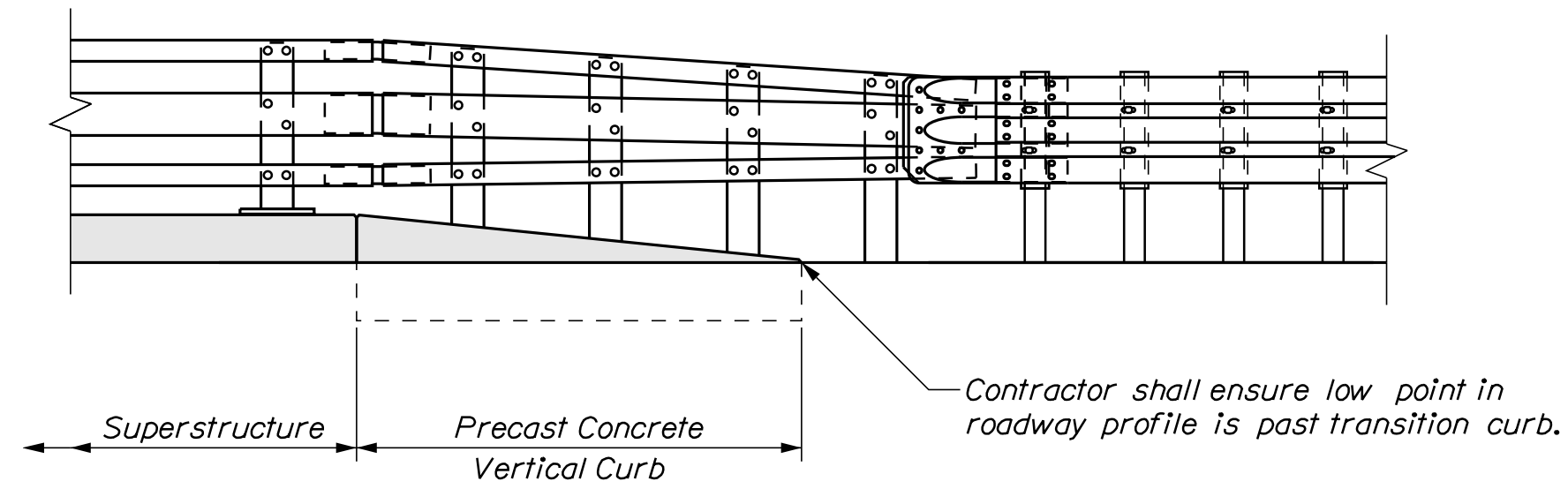


**TYPICAL BRIDGE SECTION**  
Final deck section after milling procedure

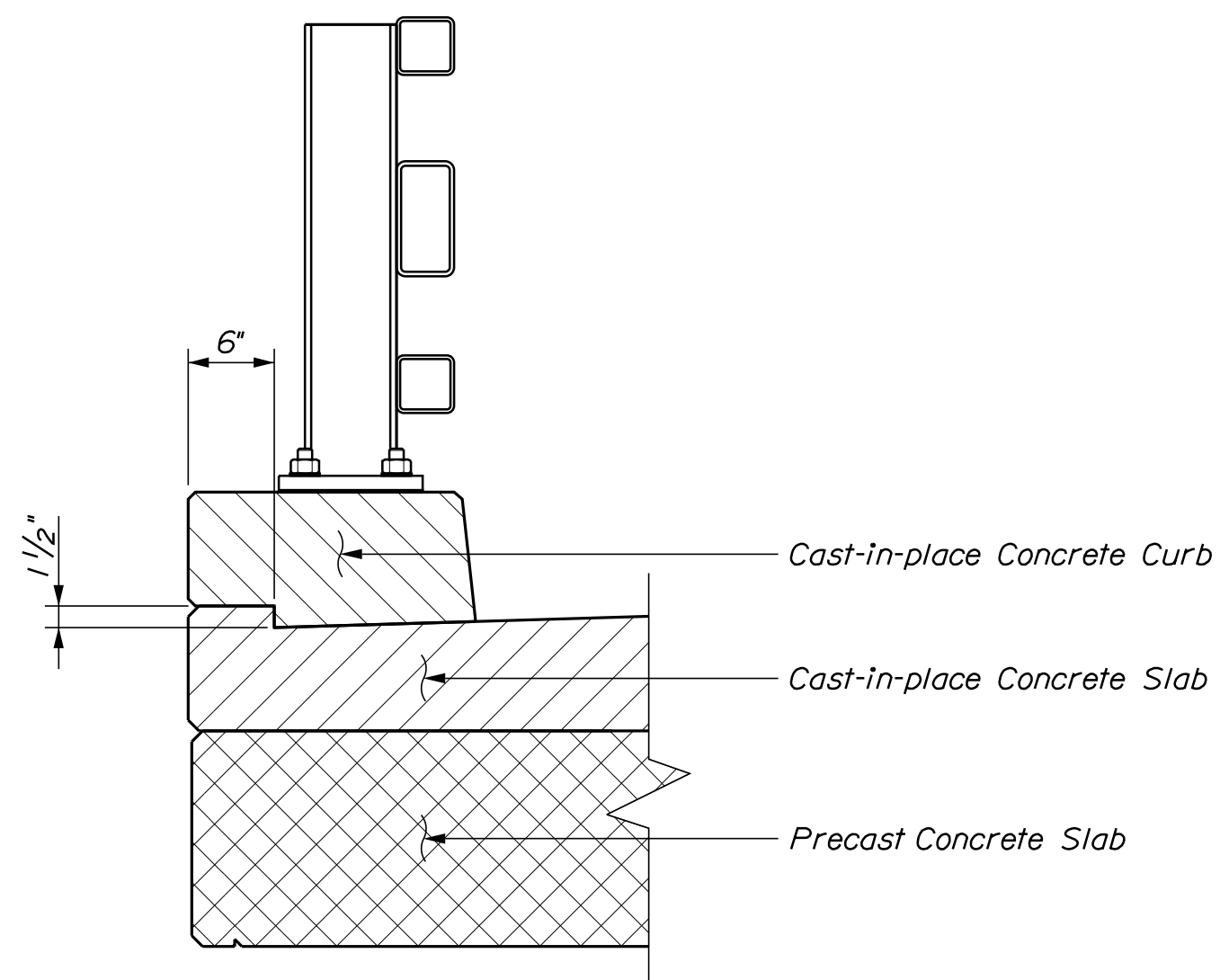
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MERRILL		AROSTOOK COUNTY		22	
PROJ. MANAGER		BY		DATE	
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WIN		022252.00		BRIDGE PLANS	



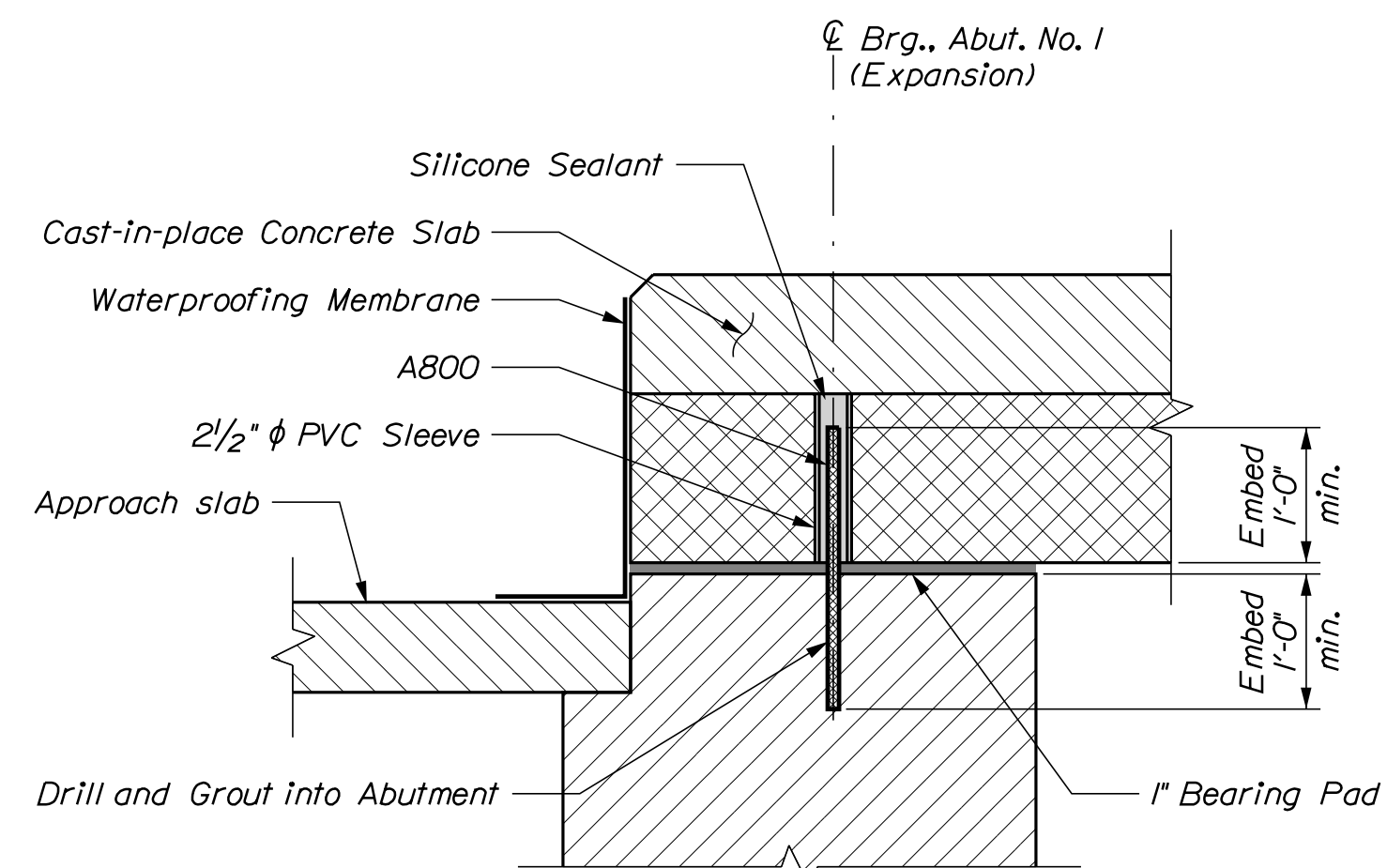
**SUPERSTRUCTURE SECTION**  
Final deck section after milling procedure



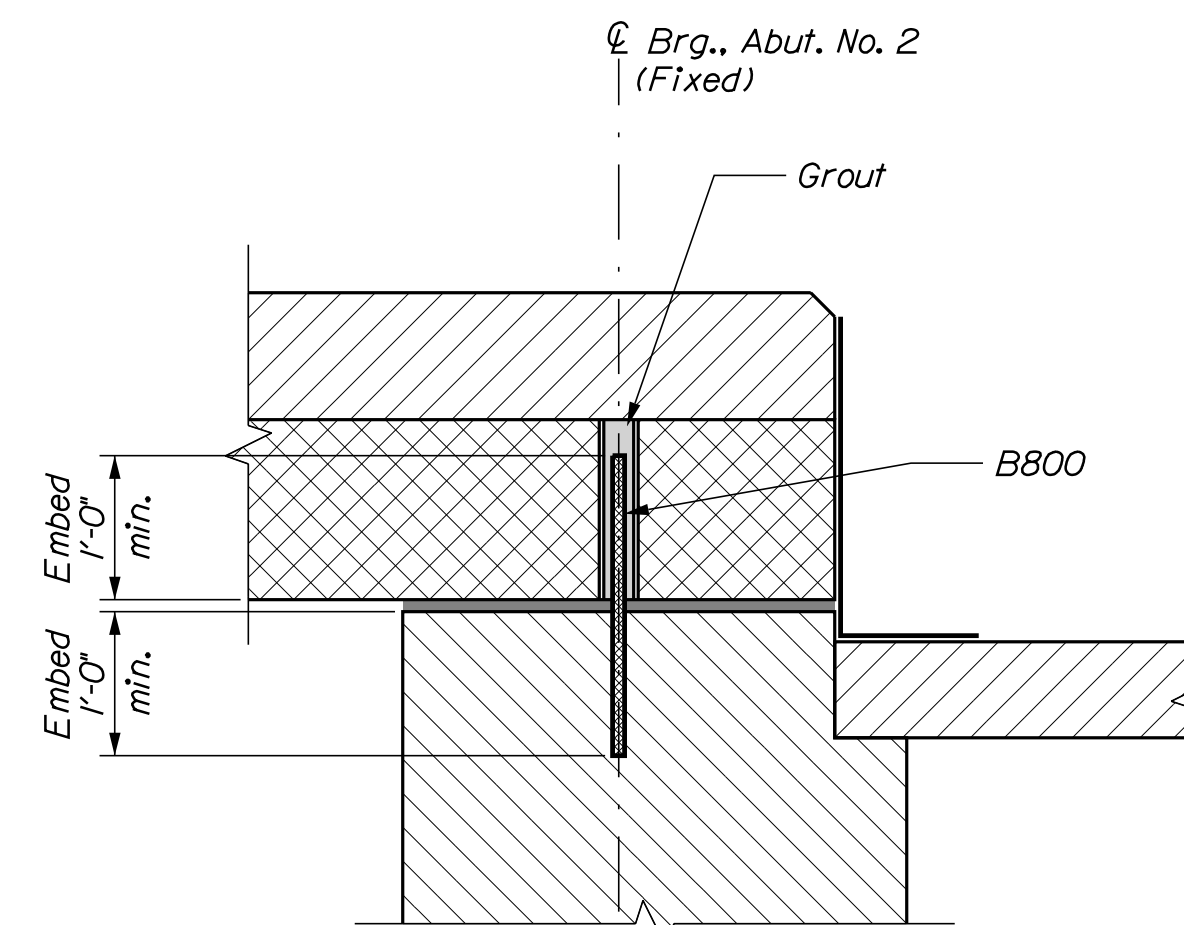
**CURB PLACEMENT AT ABUTMENT NO. 2**  
Abutment No. 1 curb will be placed as per Standard Detail  
See Section 507 of the Standard Details  
for more appurtenant information.



**CURB KEY DETAIL**



**SUPERSTRUCTURE ANCHORAGE DETAIL**



SIGNATURE

DATE

BY

DATE

PROJ. MANAGER

DESIGN-DETAILED

CHECKED-REVIEWED

DESIGN-DETAILED

DESIGN-DETAILED

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

P.E. NUMBER

DATE

EAST HASTINGS BRIDGE  
EAST HASTINGS BROOK  
MERRILL AROOSTOOK COUNTY

SHEET NUMBER

23

OF 25

**SUPERSTRUCTURE DETAILS**



Date: 3/29/2022

Username: David Shaw

Division: BRIDGE

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**PLAN LEGEND**

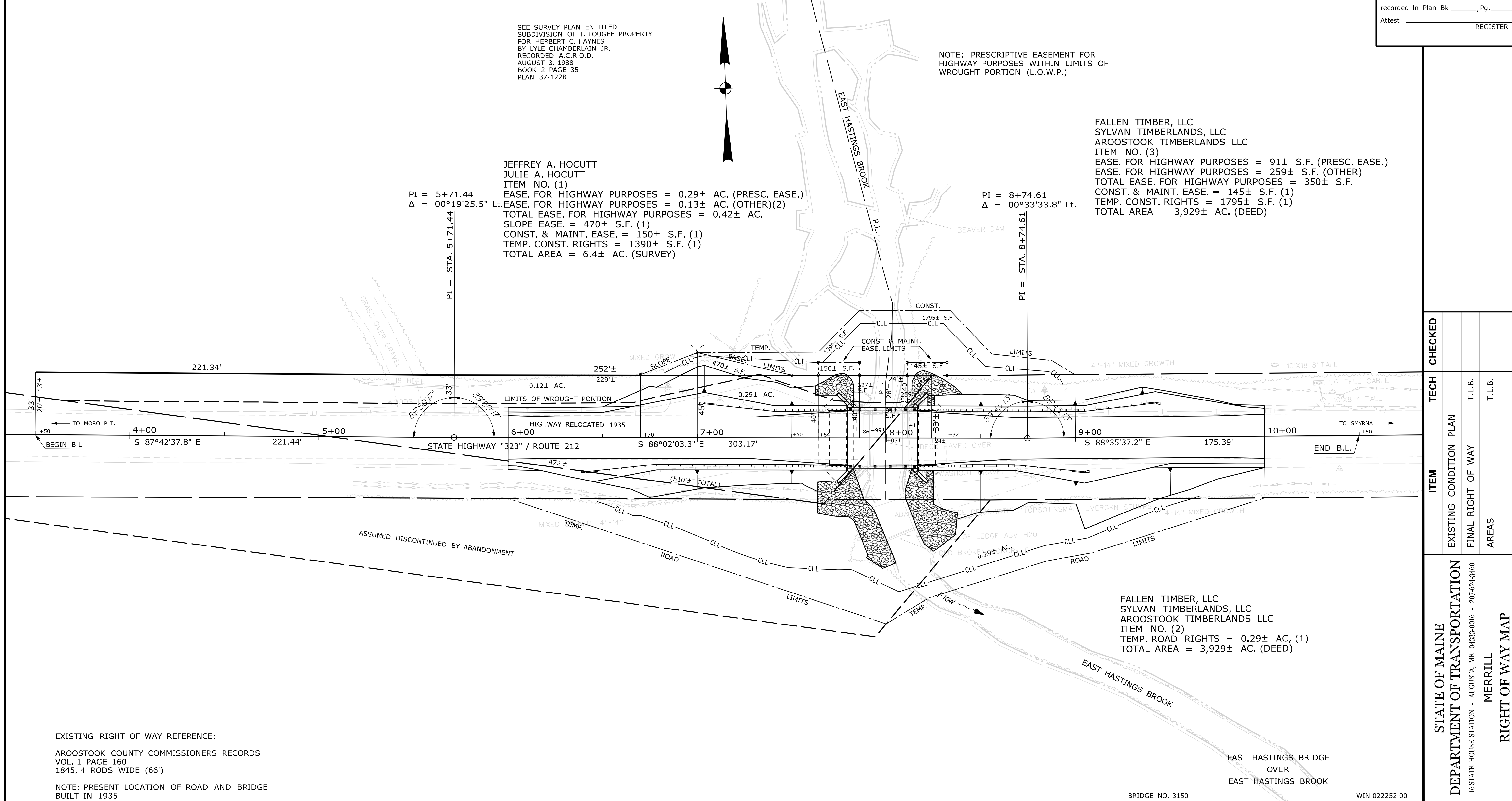
Town, County, State	New R/W	Along Existing R/W	Clearing Limit Line	Sanitary Sewer	Existing	Proposed	Traveled Way	Existing	Proposed	Cut Line	Fill Line	Stonewall	Retaining Wall	Baseline	Monument	Iron Rod Found	Replacement Pin Set	Traverse Point	Pipe Found	
Approx. Property Lines	Building	Conifer	Deciduous	Telephone Line	Electric Line	Water Line	Underdrain Line	Gas Line	Guardrail	Culvert	Ditch	Catch Basin	Manhole	Sewer Manhole	Utility Pole	Fire Hydrant	Curbing	10+00	11+00	12+00
Existing Right of Way	Tree Line	Bush Line	Stockade	Water Edge	Ledge	Fence	Sign	Well	Mallbox											
Limits of Wrought Portion	Control Of Access	New Right of Way	New Easement	New Temporary Rights	New R/W Within Existing R/W															

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

Scale of Feet: 0, 25, 50, 75, 100

STATE OF MAINE  
REGISTRY OF DEEDS

COUNTY \_\_\_\_\_  
RECEIVED \_\_\_\_\_,  
at \_\_\_\_\_ h \_\_\_\_\_ m \_\_\_\_\_ M and  
recorded in Plan Bk \_\_\_\_\_, Pg. \_\_\_\_\_  
Attest: \_\_\_\_\_ REGISTER



ITEM	TECH	CHECKED
EXISTING CONDITION PLAN		
FINAL RIGHT OF WAY	T.L.B.	
AREAS	T.L.B.	

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

<p>BRUCE A. VAN NOTE COMMISSIONER JOYCE NOEL TAYLOR CHIEF ENGINEER</p> <p>DATE _____</p>				<p>STATE HIGHWAY "323" ROUTE 212 MERRILL AROOSTOOK COUNTY STATE PROJECT NO. 22252.00</p>				<p>SHEET NUMBER <b>25</b> OF 25</p>	
<p>NO. DATE DESCRIPTION BY</p>				<p>PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD</p>				<p>JANUARY 2022 RIGHT-OF-WAY MAP SCALE 1" = 25' SHEET 1 OF 1</p>	
<p>NO. GRANTOR INSTRUMENT DATE BOOK PAGE</p>				<p>BRIDGE NO. 3150 WIN 022252.00</p>				<p>D.O.T. FILE NO. 2-628</p>	