

# STATE OF MAINE DEPARTMENT OF TRANSPORTATION



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## SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD  
Bridge Design Specifications, 9th Edition 2020

## DESIGN LOADING

Live Load ..... HL - 93 Modified for Strength I (Truck only increased 25%)

## TRAFFIC DATA

Current (2018) AADT	9885
Future (2038) AADT	10840
DHV - % of AADT	10%
Design Hour Volume	1084
Heavy Trucks ( % of AADT)	5%
Heavy Trucks (% of DHV)	5%
Directional Distribution (% of DHV)	53%
18 Kip Equivalent P 2.0	201
18 Kip Equivalent P 2.5	191
Design Speed	25 mph

## HYDROLOGIC DATA

Drainage Area	124 sq mi
Ordinary High Water Discharge (Q1.1)	3771 cfs
Design Discharge (Q50)	23,203 cfs
Check Discharge (Q100)	26,991 cfs
Headwater Elevation (Q25)	437 ft
Headwater Elevation (Q50)	438.7 ft
Headwater Elevation (Q100)	440.1 ft
Discharge Velocities (Q1.1)	5.6 fps
Discharge Velocities (Q50)	11.7 fps
Discharge Velocities (Q100)	12.9 fps

## MATERIALS

Concrete:  
Sidewalks, Curb on Walls and Top of Backwall ..... Class "LP"  
Seals ..... Class "S"  
All Other (Unless Noted Otherwise) ..... Class "A"

Reinforcing Bars:  
Deck Bent Bars, Sidewalk on Bridge  
Bent Bars, Curb on Wall,  
Top of Backwall ..... ASTM A 1035, Alloy Type CS Grade 100  
Deck Straight Bars, Sidewalk on Bridge  
Straight Bars ..... ASTM D 7957  
All Others ..... ASTM A 615/A 615M, Grade 60

Structural Steel:  
All Material (except as noted) ..... ASTM A 709, Grade 50W (Unpainted)  
High Strength Bolts ..... ASTM F 3125 Grade A325, Type 3

## BASIC DESIGN STRESSES

Concrete:  
Class "A" ..... f'c = 4000 psi  
Class "LP" ..... f'c = 5000 psi  
Class "S" ..... f'c = 3000 psi

ASTM A 1035, Grade 100 ..... f<sub>y</sub> = 100,000 psi  
ASTM A 615, Grade 60 ..... f<sub>y</sub> = 60,000 psi

GFRP Reinforcing Bars:  
ASTM D 7957

Structural Steel:  
ASTM A 709, Grade 50W ..... F<sub>y</sub> = 50,000 psi  
ASTM F 3125, Grade A325 ..... F<sub>u</sub> = 120,000 psi

# RUMFORD - MEXICO OXFORD COUNTY RED BRIDGE OVER SWIFT RIVER U.S. ROUTE 2 PROJECT NO. 2189401 PROJECT LENGTH 0.10 mi. BRIDGE NO. 2707

## UTILITIES

Rumford Water (on Bridge)  
Mexico Water (on Bridge)  
Rumford - Mexico Sewerage District  
Brookfield Renewable (Federal Energy Regulator Commission)  
Central Maine Power  
Charter Communications  
Consolidated Communications  
Firstlight  
Nine Dragons Paper

## MAINTENANCE OF TRAFFIC

Maintain two lanes of traffic on Special Detour.

<u>PROJECT LOCATION</u>	Red Bridge (#2707) on the Rumford- Mexico TL which carries U.S. Route 2 over the Swift River. Located 0.1 miles West of Junction with Route 17. Lat./Long. 44°33'19.82" N 70°32'46.71" W
<u>PROGRAM AREA</u>	Bridge Program
<u>OUTLINE OF WORK</u>	Bridge Replacement

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
APPROVED: *[Signature]*  
COMMISSIONER: *[Signature]*  
CHIEF ENGINEER: *[Signature]*  
DATE: 6-16-23

PROJECT INFORMATION  
PROGRAM: Bridge  
PROJECT MANAGER: M. Wright  
DESIGNER: Richard Hebert  
CONSULTANT: T.Y. Lin International  
PROJECT RESIDENT: *[Signature]*  
CONTRACTOR: *[Signature]*  
PROJECT COMPLETION DATE: *[Signature]*

SIGNATURE: *Richard Hebert*  
SIGNATURE: RICHARD M. HERBERT  
P.E. NUMBER: 8210  
DATE: 6/13/2023

WIN 021700.01

STP -2170(000)

RUMFORD - MEXICO  
RED BRIDGE  
TITLE SHEET

SHEET NUMBER  
**1**  
OF 56

Date: 6/13/2023

User: msta  
Division: Bridge

Filename: MSTA\...\_Title\_Sheet.dgn

Date: 6/14/2023

Username:

Division: HIGHWAY

Filename: ... \BRIDGE\MSTA\... Quantities.dgn

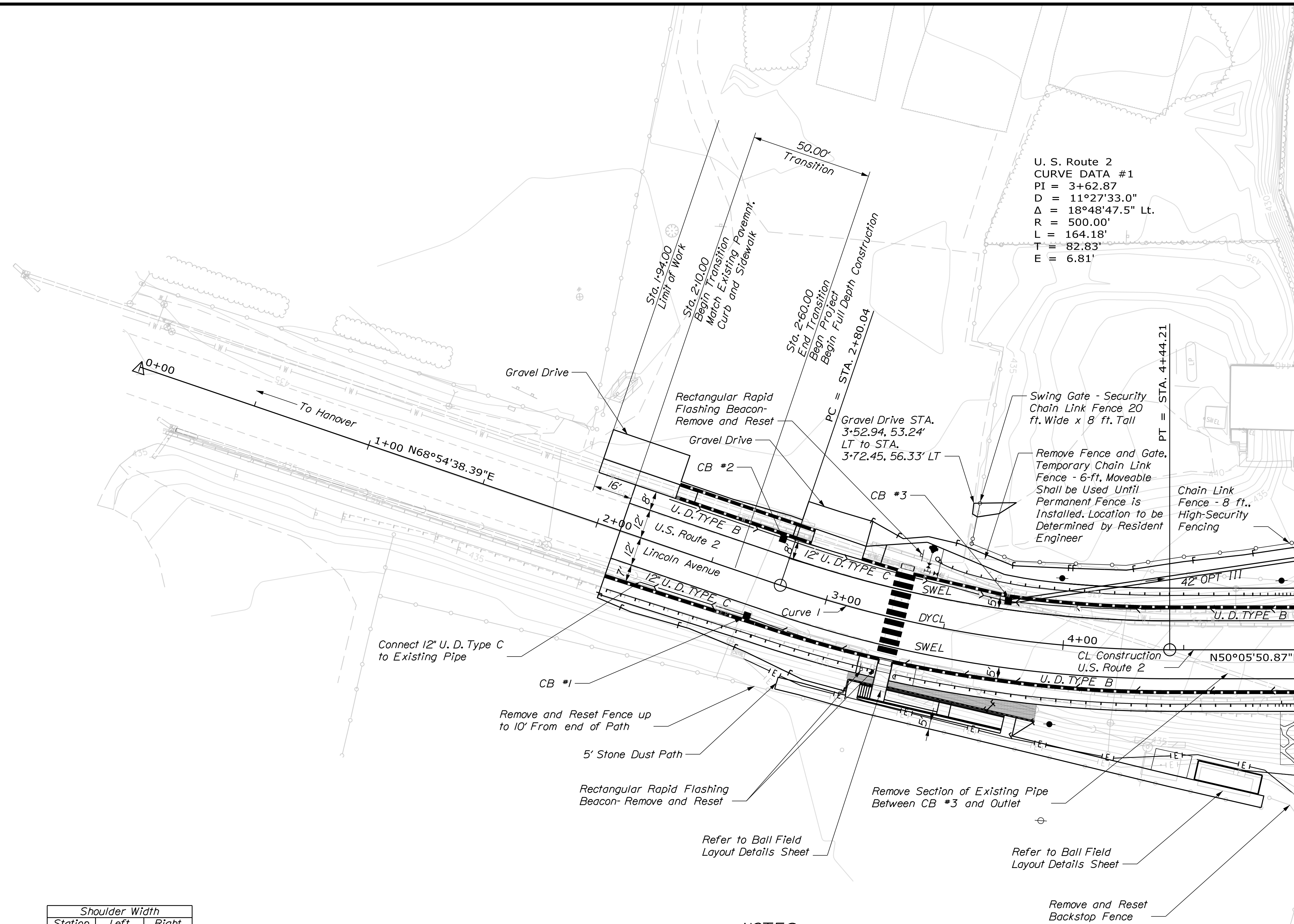
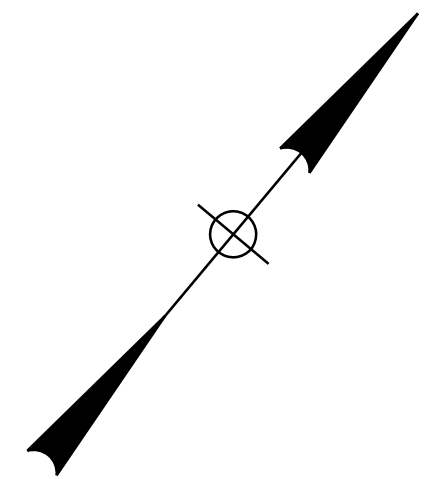
ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
201.23	Removing Single Tree - Top Only	27	EA
201.24	Removing Stump	27	EA
202.01	Removing Structures And Obstructions	1	LS
202.15	Removing Manhole Or Catch Basin	1	EA
202.19	Removing Existing Bridge	(1050 CY)	1
202.202	Removing Pavement Surface	970	SY
202.203	Pavement Butt Joints	90	SY
202.2111	Removing, Storing, And Resetting Object	1	EA
203.20	Common Excavation	1860	CY
203.2318	Disposal Of Special Waste	2160	TON
203.24	Common Borrow	10	CY
203.25	Granular Borrow	530	CY
206.061	Structural Earth Excavation - Drainage And Minor Structures Below Grade	6	CY
206.07	Structural Rock Excavation - Drainage And Minor Structures	2	CY
206.082	Structural Earth Excavation - Major Structures, Plan Quantity	1,300	CY
304.10	Aggregate Subbase Course - Gravel	1505	CY
403.2081	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	585	TON
403.209	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Sidewalks, Drives & Incidentals)	105	TON
403.2131	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base And Intermediate Base Course, Polymer Modified)	100	TON
409.15	Bituminous Tack Coat, Applied	230	GAL
411.131	Stone Dust Surface Course	1675	SF
461.131	Temporary Pavement	515	TON
501.231	Dynamic Loading Test	6	EA
501.50	Steel H-Beam Piles, 89 Lb/Lf, Delivered	580	LF
501.501	Steel H-Beam Piles, 89 Lb/Lf, In Place	580	LF
501.903	Pile Tips - Rock Injector Point	25	EA
501.92	Pile Driving Equipment Mobilization	1	LS
502.219	Structural Concrete Abutment And Retaining Walls	(447 CY)	1
502.22	Structural Concrete Abutment And Retaining Walls, Placed Under Water	215	CY
502.26	Structural Concrete Roadway And Sidewalk Slabs On Steel Bridge	(233 CY)	1
502.31	Structural Concrete Approach Slabs	(26 CY)	1
502.49	Structural Concrete Curbs And Sidewalks	(78 CY)	1
502.83	Precast Block Mat	1500	SF
503.12	Reinforcing Steel, Fabricated And Delivered	49,200	LB
503.13	Reinforcing Steel, Placing	49,200	LB
503.19	Low-Carbon Chromium Reinforcement, Fabricated And Delivered	16,200	LB
503.20	Low-Carbon Chromium Reinforcement, Placing	16,200	LB
504.702	Structural Steel Fabricated & Delivered, Welded	(454000 LB)	1
504.71	Structural Steel Erection	(454000 LB)	1
505.08	Shear Connectors	(2430 EA)	1
507.08161	Steel Approach Railing, 4-Bar	4	EA
507.0831	Steel Bridge Railing, 4 Bar	(410 LF)	1
507.084	Steel Pipe Hand Railing	120	LF
508.14	High Performance Waterproofing Membrane	(610 SY)	1
510.12	Special Detour, 24 Foot Roadway Width Vehicular And Pedestrian Traffic Separated	1	LS
511.07	Cofferdam - Abutment No. 1	1	LS
511.07	Cofferdam - Boat Launch	1	LS
511.07	Cofferdam - Abutment No. 1 Riprap	1	LS
511.07	Cofferdam - Abutment No. 2 Riprap And Pier Removal	1	LS
512.081	French Drains	(90 LF)	1
513.22	Crushed Stone Slope Protection	33	SY
515.21	Protective Coating For Concrete Structures	(390 SY)	1
520.22	Expansion Device - Compression Seal	1	EA
523.52	Bearing Installation	10	EA
523.5401	Laminated Elastomeric Bearings, Fixed	5	EA
523.5402	Laminated Elastomeric Bearings, Expansion	5	EA
526.301	Temporary Conc. Barrier Type I	(100 LF)	1
527.34	Work Zone Crash Cushion	4	UN
530.30	Glass Fiber Reinforced Polymer, Reinforcement Bars, Fabricated & Delivered	60,700	LF
530.31	Glass Fiber Reinforced Polymer, Reinforcement Bars, Placing	60,700	LF
603.199	24" Culv Pipe Option III	60	LF
603.229	42" Culv Pipe Option III	160	LF
604.072	Catch Basin Type A1-C	2	EA
604.077	72" Catch Basin Type A1-C	1	EA
604.15	Manhole	1	EA
604.18	Adjust Manhole Or Catch Basin To Grade	5	EA
605.09	6" Underdrain Type B	402	LF
605.11	12" Inch Underdrain Type C	45	LF
606.1301	31" W-Beam Guardrail - Mid-Way Splice - Single Faced	368	LF
606.1304	31" W-Beam Guardrail - Mid-Way Splice - Over 15' Radius	37.5	LF
606.1305	31" W-Beam Guardrail - Mid-Way Splice Flared Terminal	1	EA
606.1721	Bridge Transition - Type I	4	EA
606.265	Terminal End - Single Rail - Galvanized Steel	4	EA
606.353	Reflectorized Flexible Guardrail Marker	8	EA
606.358	Guardrail, Modify	9	LF
607.156	Swing Gate - Security Chain Link Fence 20 Ft Wide X 8 Ft Tall	1	EA
607.1701	Temporary Chain Link Fence - 6Ft, Moveable	150	LF
607.181	Chain Link Fence - 8 Ft., High-Security Fencing	185	LF
607.24	Remove And Reset Fence	300	LF
608.08	Reinforced Concrete Sidewalk	35	SY
608.26	Curb Ramp Detectable Warning Field	54	SF
609.11	Vertical Curb Type I	946	LF
609.12	Vertical Curb Type I - Circular	15	LF
609.221	Terminal Curb Type I	160	LF
609.222	Terminal Curb Type I - Circular	20	LF

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
609.38	Reset Curb Type I	10	LF
610.08	Plain Riprap	30	CY
610.16	Heavy Riprap	2,935	CY
610.18	Stone Ditch Protection	10	CY
613.319	Erosion Control Blanket	70	SY
615.07	Loam	46	CY
618.13	Seeding Method Number 1	8	UN
619.12	Mulch	8	UN
619.14	Erosion Control Mix	10	CY
620.58	Erosion Control Geotextile	2,880	SY
626.11	Precast Concrete Junction Box	1	EA
626.21	Metallic Conduit	55	LF
626.22	Non Metallic Conduit	380	LF
626.421	24-Inch Diameter Foundation	8	LF
627.18	12-Inch Solid White Pavement Marking Line	345	LF
627.733	4" White Or Yellow Painted Pavement Marking Line	2300	LF
627.75	White Or Yellow Pavement & Curb Marking	475	SF
627.77	Remove Pavement Markings	300	SF
627.78	Temporary 4" Painted Pavement Marking Line, White Or Yellow	4700	LF
629.05	Hand Labor, Straight Time	20	HR
631.12	All Purpose Excavator (Including Operator)	20	HR
631.172	Truck - Large (Including Operator)	30	HR
631.32	Culvert Clearing (Including Operator)	10	HR
634.160	Highway Lighting	1	LS
634.2042	LED Luminaires	3	EA
634.210	Conventional Light Standard	3	EA
634.25	Service Pole Complete With Cabinet And Controller	1	EA
634.314	*6 AWG Copper Wire	350	LF
639.18	Field Office, Type A	1	EA
641.95	Sports Shelter	1	EA
642.17	Cast-In-Place Concrete Steps	1.5	CY
643.61	Flashing Beacon Modification	1	LS
652.312	Type III Barricades	4	EA
652.33	Drum	30	EA
652.34	Cone	100	EA
652.35	Construction Signs	400	SF
652.361	Maintenance Of Traffic Control Devices	(420 CD)	1
652.38	Flaggers	2000	HR
652.41	Portable Changeable Message - Sign	2	EA
656.75	Temporary Soil Erosion And Water Pollution Control	1	LS
659.10	Mobilization	1	LS
660.21	On-The-Job Training	1000	HR
674.10	Prefabricated Concrete Modular Gravity Wall	1084	SF
853.16	Boat Ramp Planks	25	EA
ESTIMATED QUANTITIES WATER DISTRICT			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
823.3251	8" Gate Valve With Box	1	EA
823.36	Cut & Plug Water Main W/Thrust Block	2	EA
824.30	Fire Hydrant Assembly	2	EA
ESTIMATED QUANTITIES SEWER DISTRICT			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
801.071	Temporary Sewer Bypass	1	LS
801.18	12" PVC Sanitary Sewer (SDR-35)	115	LF
812.162	Adjusting Sewer Manhole to Grade	5	EA

STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-2170(000)	SIGNATURE	P.E. NUMBER	DATE	PROJ. MANAGER	M. WIGHT	BY	DATE	
				CHECKED-REVIEWED	D. Bryant	S. Morgan	5/2023	
RED BRIDGE OVER SWIFT RIVER RUMFORD - MEXICO OXFORD COUNTY	ESTIMATED QUANTITIES	DESIGNS DETAILED	DESIGNS REVIEWED	DESIGNS DETAILED	DESIGNS REVIEWED	DESIGNS DETAILED	DESIGNS REVIEWED	
		REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES		
		SHEET NUMBER						
		2						







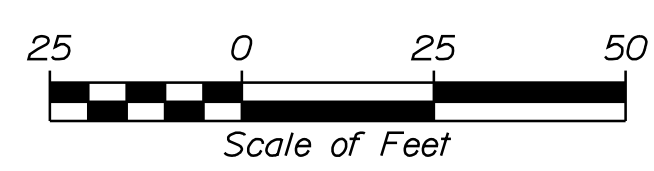
U. S. Route 2  
 CURVE DATA #1  
 PI = 3+62.87  
 D = 11°27'33.0"  
 Δ = 18°48'47.5" Lt.  
 R = 500.00'  
 L = 164.18'  
 T = 82.83'  
 E = 6.81'

Shoulder Width		
Station	Left	Right
2+10	8.0'	7.2'
2+25	8.0'	6.9'
2+50	8.0'	6.3'
2+75	8.0'	5.8'
3+00	8.0'	5.6'
3+25	7.1'	5.4'
3+50	6.5'	5.2'
3+75	5.0'	5.0'

**NOTES:**

- The Contractor shall provide a Prefabricated Concrete Modular Gravity (PCMG) Wall in accordance with Section 674. The Plan Details are shown for estimating proposed only.
- The precast unit shall be one of the following, or equal:  
 "T-Wal" as manufactured by a licensed manufacturer of Neel Company  
 "DoubleWal" as manufactured by a licensed manufacturer of DoubleWal Corp. Plainville, Connecticut.
- The factored bearing pressure for the PCMG Wall shall not exceed the factored bearing resistance of 24.4 ksf for the strength limit state. The factored bearing pressure for the service limit state shall not exceed the factored bearing resistance of 3.4 ksf.

**PLAN**



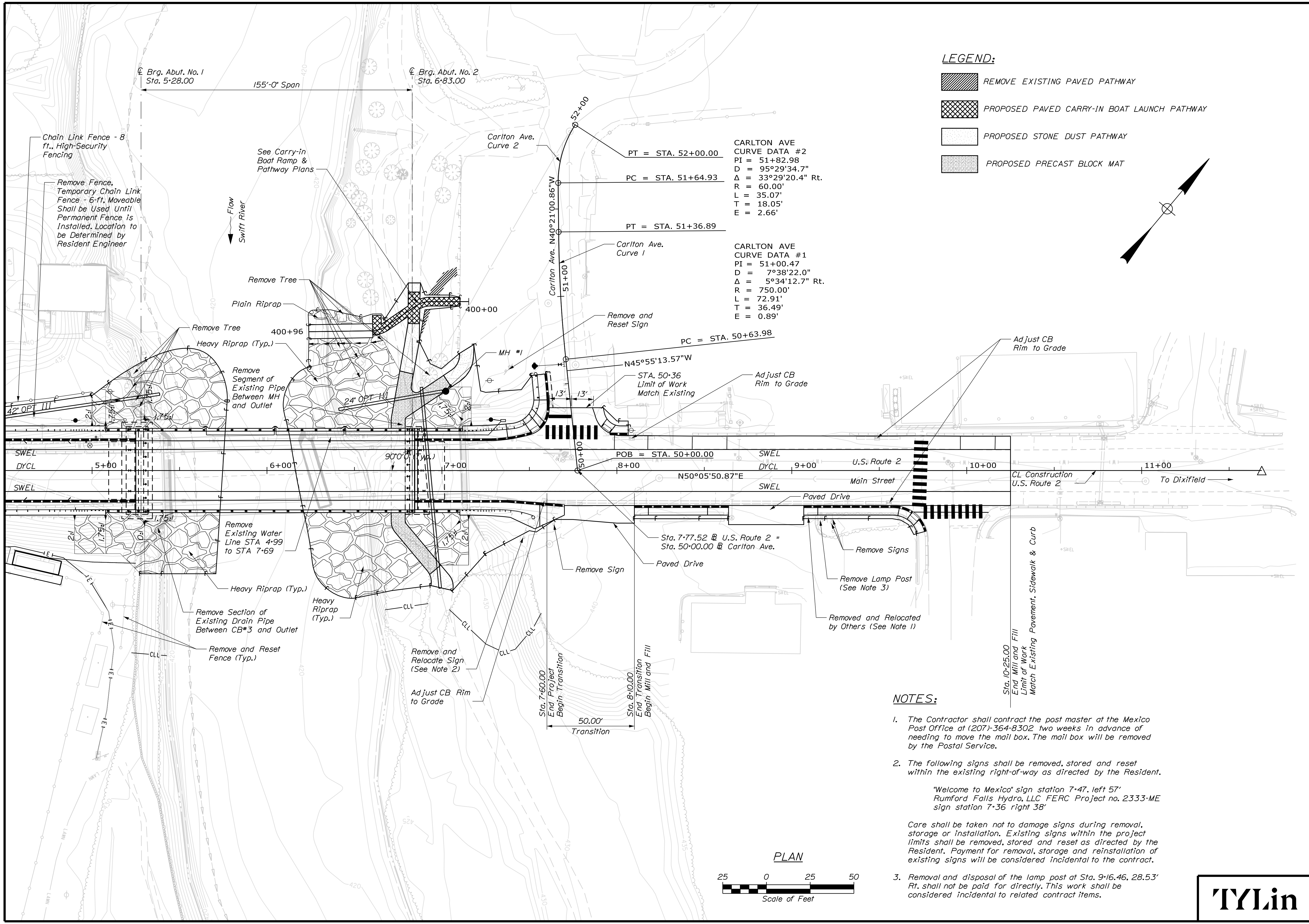
STATE OF MAINE DEPARTMENT OF TRANSPORTATION <b>STP-2170(000)</b> WIN 21700.01 BRIDGE #2707 BRIDGE PLANS
RED BRIDGE OVER SWIFT RIVER RUMFORD - MEXICO OXFORD COUNTY <b>GENERAL PLAN 1 of 2</b>
SHEET NUMBER <b>4</b> OF 56

Date: 6/13/2023





Username:

Division: HIGHWAY

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**LEGEND:**

-  REMOVE EXISTING PAVED PATHWAY
-  PROPOSED PAVED CARRY-IN BOAT LAUNCH PATHWAY
-  PROPOSED STONE DUST PATHWAY
-  PROPOSED PRECAST BLOCK MAT

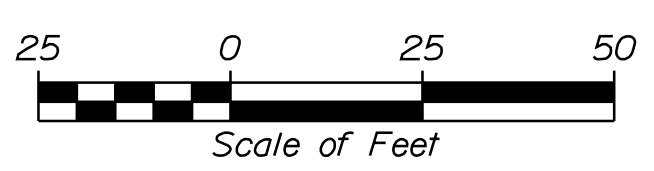
CARLTON AVE  
 CURVE DATA #2  
 PI = 51+82.98  
 D = 95°29'34.7"  
 Δ = 33°29'20.4" Rt.  
 R = 60.00'  
 L = 35.07'  
 T = 18.05'  
 E = 2.66'

CARLTON AVE  
 CURVE DATA #1  
 PI = 51+00.47  
 D = 7°38'22.0"  
 Δ = 5°34'12.7" Rt.  
 R = 750.00'  
 L = 72.91'  
 T = 36.49'  
 E = 0.89'

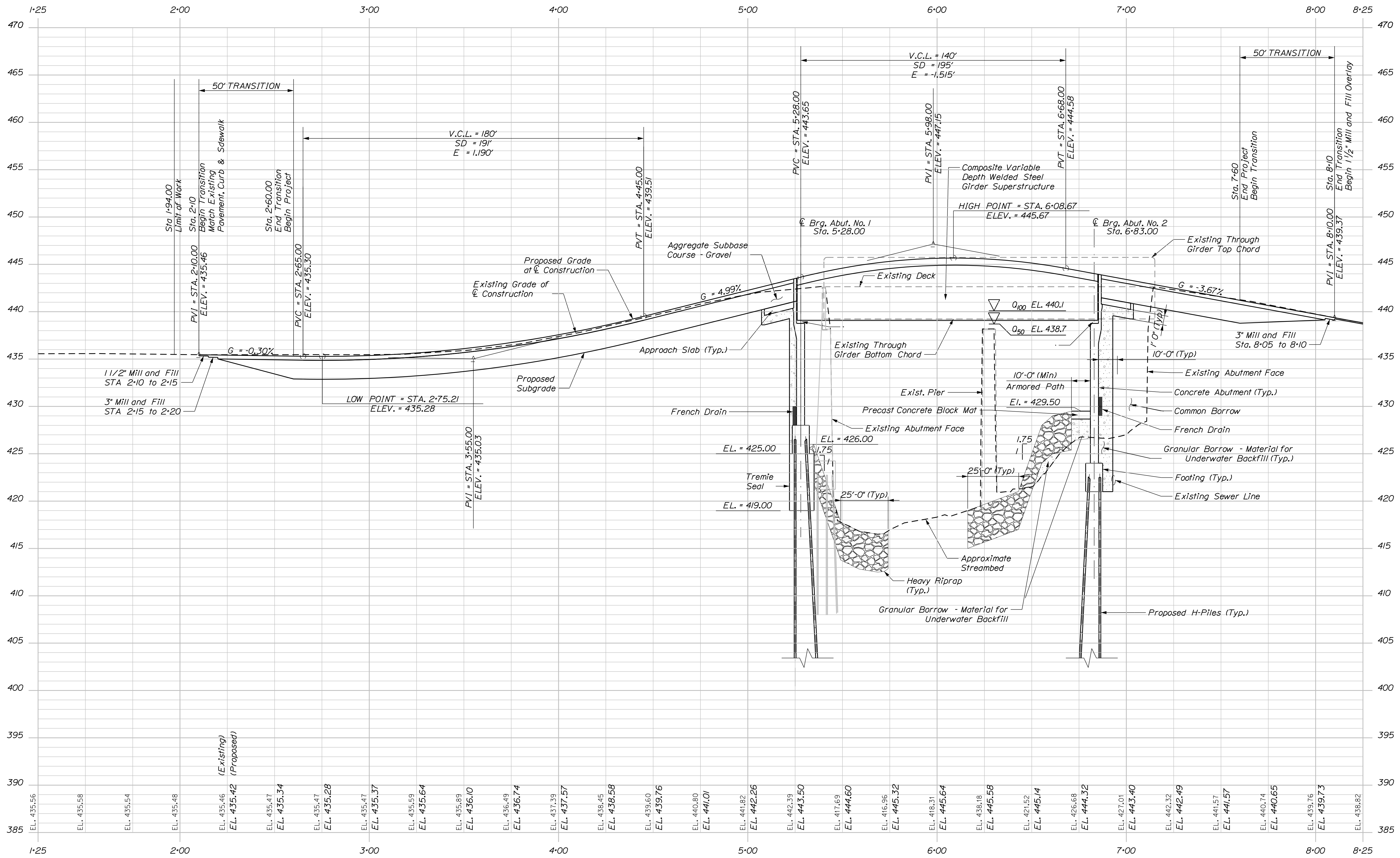
**NOTES:**

1. The Contractor shall contract the post master at the Mexico Post Office at (207)-364-8302 two weeks in advance of needing to move the mail box. The mail box will be removed by the Postal Service.
2. The following signs shall be removed, stored and reset within the existing right-of-way as directed by the Resident.  
 "Welcome to Mexico" sign station 7+47, left 57'  
 Rumford Falls Hydro, LLC FERC Project no. 2333-ME sign station 7+36 right 38'  
 Care shall be taken not to damage signs during removal, storage or installation. Existing signs within the project limits shall be removed, stored and reset as directed by the Resident. Payment for removal, storage and reinstatement of existing signs will be considered incidental to the contract.
3. Removal and disposal of the lamp post at Sta. 9+16.46, 28.53' Rt. shall not be paid for directly. This work shall be considered incidental to related contract items.

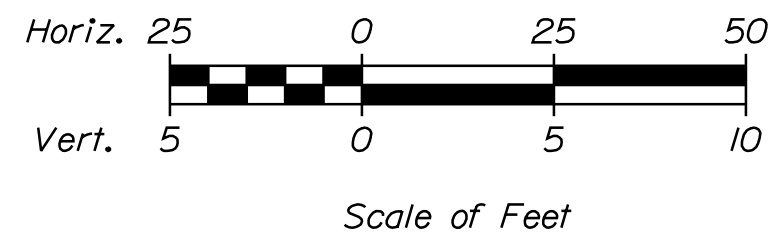
**PLAN**



STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2170(000)		WIN 21700.01	BRIDGE PLANS
RED BRIDGE OVER SWIFT RIVER		RUMFORD - MEXICO		OXFORD COUNTY	
GENERAL PLAN 2 of 2		SHEET NUMBER		5	
TYLin		OF 66			



PROFILE - U.S. ROUTE 2



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
STP-2170(000)		BRIDGE #2707	
WIN		21700.01	
BRIDGE PLANS			
PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN-DETAILED	B. Toothaker	DESIGNED	4/24/23
CHECKED-REVIEWED	S. Davis	BY	4/24/23
DESIGN-DETAILED		BY	
REVISIONS 1		BY	
REVISIONS 2		BY	
REVISIONS 3		BY	
REVISIONS 4		BY	
FIELD CHANGES			
RED BRIDGE		SIGNATURE	
OVER SWIFT RIVER		P.E. NUMBER	
RUMFORD - MEXICO OXFORD COUNTY		DATE	
PROFILE			
SHEET NUMBER			
6			
OF 56			

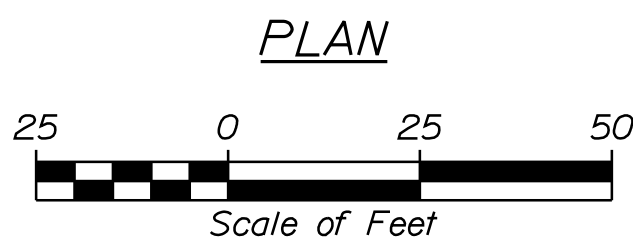
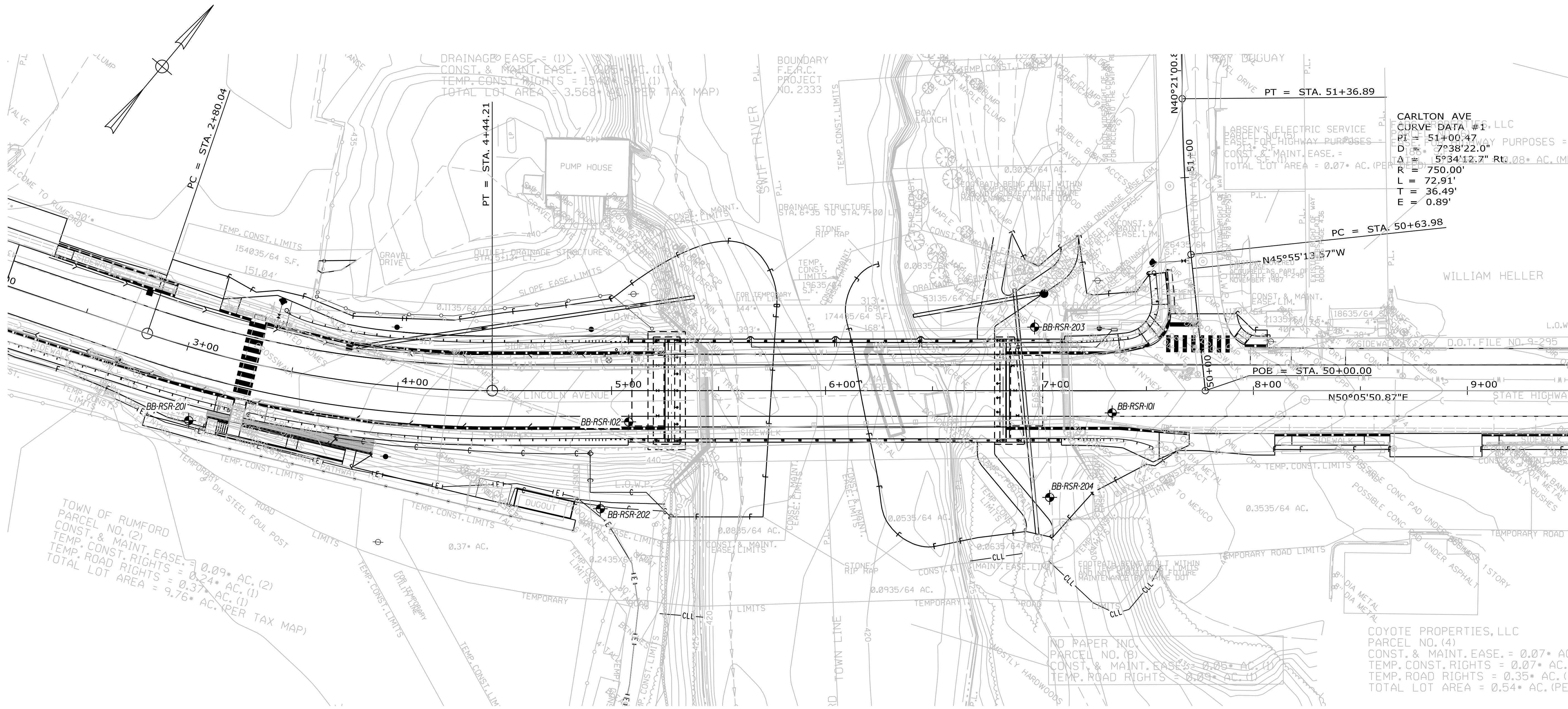


Date: 6/13/2023

Username:

Division: HIGHWAY

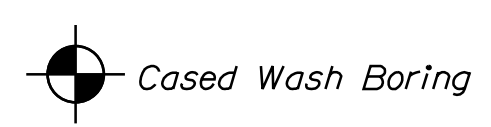
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**NOTES:**

1. Test borings BB-RSR-101 and BB-RSR-102 were advanced between December 19 and 21, 2016 under the direction of Terracon Consultants, Inc. (Terracon) with equipment owned and operated by Terracon. Test borings BB-RSR-201 through BB-RSR-204 were advanced between April 20 and 21, 2022 under the direction of Terracon with equipment owned and operated by Northern Test Boring of Gorham, Maine.
2. The test borings were located by handheld GPS, as well as by tape measurements referencing existing site features. The locations should be considered accurate to the degree implied by the method used.

**LEGEND:**



CARLTON AVE  
 CURVE DATA #1, LLC  
 PT = STA. 51+00.47  
 DELTA = 7°38'22.0"  
 DIST = 5°34'12.7" Rt. 08 AC. (M)  
 R = 750.00'  
 L = 72.91'  
 T = 36.49'  
 E = 0.89'

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2170(000)	
RED BRIDGE		OVER SWIFT RIVER		RUMFORD - MEXICO OXFORD COUNTY	
BORING LOCATION PLAN		SHEET NUMBER		WIN 21700.01 BRIDGE #2707 BRIDGE PLANS	
DATE		SIGNATURE		DATE	
BY		DATE		P.E. NUMBER	
M. WIGHT		7/2022		DATE	
DESIGN/REVIEWED		7/2022		DATE	
CHECKED/REVIEWED		7/2022		DATE	
DESIGNED/DETALDED		7/2022		DATE	
REVISIONS 1		7/2022		DATE	
REVISIONS 2		7/2022		DATE	
REVISIONS 3		7/2022		DATE	
REVISIONS 4		7/2022		DATE	
FIELD CHANGES		7/2022		DATE	

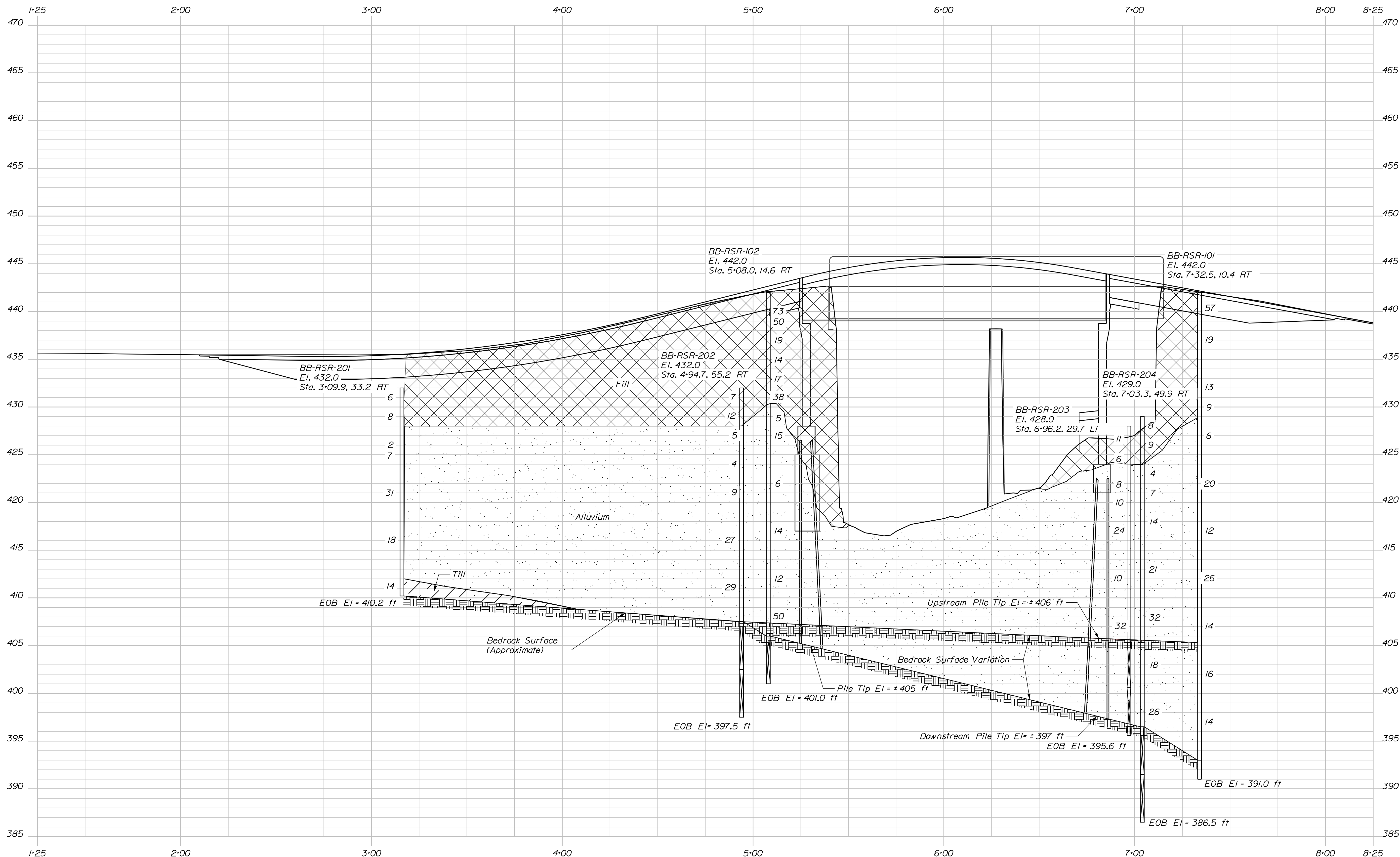


Date: 6/13/2023

Username:

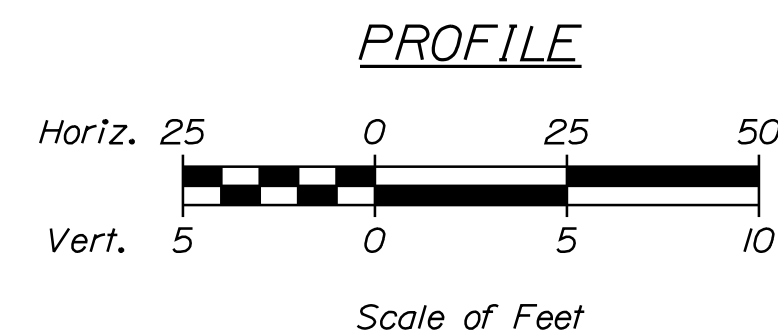
Division: HIGHWAY

Filename: ... \MSTA\... \SoilProfile\_01.dgn



**Notes:**

1. Test borings BB-RSR-101 and BB-RSR-102 were advanced between December 19 and 21, 2016 under the direction of Terracon Consultants, Inc (Terracon) with equipment owned and operated by Terracon. Test borings BB-RSR-201 through BB-RSR-204 were advanced between April 20 and 21, 2022 under the direction of Terracon with equipment owned and operated by Northern Test Boring of Gorham, Maine.
2. The test borings were located by handheld GPS, as well as by tape measurement referencing existing site features. The locations should be considered accurate to the degree implied by the method used.
3. N-values are uncorrected and were measured using an 18-inch drop of a 140-pound automatic hammer.
4. The generalized interpretive soil profile is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretations of widely spaced explorations and samples. Actual soil transitions may vary and are probably more erratic. For more specific information refer to the exploration logs.



**Legend:**

- Fill
- Alluvium
- Till
- Bedrock
- BB-RSR-202  
El. 432.0  
Sta. 4+94.7, 55.2 RT
- Test boring designation
- SPT N-value
- Rock core
- End of boring elevation

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-2170(000)  
 BRIDGE #2707  
 WIN  
 21700.01  
 BRIDGE PLANS

PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN-DETAILED	Terracon	M. David	7/2022
CHECKED-REVIEWED	Terracon	R. Hebert	7/2022
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

RED BRIDGE  
 OVER SWIFT RIVER  
 RUMFORD - MEXICO OXFORD COUNTY  
 INTERPRETIVE SUBSURFACE  
 PROFILE

SHEET NUMBER  
**8**  
 OF 56



Maine Department of Transportation Soil/Borehole Exploration Log US CUSTOMARY UNITS		Project: Rumford-Mexico Red Bridge #2707 Location: Rumford and Mexico, Maine		Boring No.: BB-RSR-101 WIN: 21700.01							
Driller: Terracon Consultants, Inc.	Elevation (ft.): 442	Auger ID/DD: N/A									
Operator: Sam Shaw	Datum: NAVD83 (See Remarks)	Sampler: 1.5"FB-INCH ID SPTTC									
Logged By: Jordan Tate	Rig Type: CME-75 Truck	Hammer Wt./Fall: 140 pounds / 30 inches									
Date Start/Finish: 12/21/2016 - 12/22/2016	Drilling Method: Rotary	Core Barrel: N/A									
Boring Location: Sta. 5+32.5, 10.4 RT	Casing ID/DD: 4-inch ID / 3-inch ID	Water Level*: 15.7 feet									
Hammer Efficiency Factor: 0.886	Hammer Type: Automatic	Hydraulic	Rope & Cathode								
<small>           S = Split Spoon Sample    SSA = Solid Stem Auger    Su(Lab) = Lab Vane Undrained Shear Strength (psf)    Wc = Water Content, percent            N = Unsuccessful Split Spoon Sample Attempt    HSA = Hollow Stem Auger    Su(Comp) = Uncorrected Compression Strength (psf)    LL = Liquid Limit            U = Thin Wall Tube Sample    RC = Roller Cone    NUCorrected = Raw Field SPT N-value    PL = Plastic Limit            M = Unsuccessful Thin Wall Tube Sample Attempt    Wt = Weight of 140lb. Hammer    Hw = Hammer Efficiency Factor = Rig Specific Annual Calibration Value * Plasticity Index            F = Field Vane Shear Test    P = Pocket Penetration Test    Wp = Weight of Blow or Casing    Nq = SPT Uncorrected Corrected for Hammer Efficiency    G = Grain Size Analysis            N = Unsuccessful Field Vane Shear Test Attempt    WpL = Weight of Blow Person    C = Consolidation Test         </small>											
Depth (ft.)	Sample No.	Pen./Rec. (in)	Sample Depth (ft.)	Blows / 6 in. Sample Depth (ft.)	Uncorrected	Corrected	Wp (lb)	WpL (lb)	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/AASHTO Unified Class
0.0	1D	24/15	0.00 - 0.80	20-29-28-16	57	84	442.0		442.0	9-inches of bituminous concrete	
0.8									441.2	Brownish yellow, asp. very dense, SAND, some gravel, little silt, poorly-graded, (Fill)	
5.0	2D	24/6	4.00 - 6.00	10-9-10-10	19	28	39		437.2	Similar, dark yellowish brown, moist, medium dense, (Fill)	
10.0	3D	24/5	9.00 - 11.00	7-7-6-7	13	19	68		436.2	Similar, (Fill)	
15.0	4D	24/8	11.00 - 13.00	4-4-5-6	9	13	33		435.2	Similar, wet, (Fill)	
20.0	5D	24/8	14.00 - 16.00	3-3-3-3	6	9	39		434.2	Bark yellowish brown, moist, loose, SAND, little gravel, little silt, poorly-graded, (Alluvium)	
25.0	6D	24/8	19.00 - 21.00	4-9-11-14	20	30	71		433.2	Similar, medium dense, (Alluvium)	
30.0	7D	24/8	24.00 - 26.00	7-6-6-7	12	18	61		432.2	Similar (Alluvium)	
35.0	8D	24/11	29.00 - 31.00	11-14-12-8	26	38	111		431.2	Similar, wet, dense, layered (Alluvium)	
40.0	9D	24/8	34.00 - 36.00	6-7-7-8	14	21	139		430.2	Similar, medium dense, layered (Alluvium)	
45.0	10D	24/6	39.00 - 41.00	7-7-9-10	16	24	55		429.2	Similar (Alluvium)	
50.0	11D	24/8	44.00 - 46.00	6-7-7-11	14	21	71		428.2	Similar, layered (Alluvium)	
									427.2	Drilling resistance at 46 feet	
									426.2	Roller bit resistance on probable bedrock at 49 feet, roller bit to 51 feet	
									425.2	Bottom of Exploration at 51.0 feet below ground surface	

Maine Department of Transportation Soil/Borehole Exploration Log US CUSTOMARY UNITS		Project: Rumford-Mexico Red Bridge #2707 Location: Rumford and Mexico, Maine		Boring No.: BB-RSR-102 WIN: 21700.01							
Driller: Terracon Consultants, Inc.	Elevation (ft.): 442	Auger ID/DD: N/A									
Operator: Sam Shaw	Datum: NAVD83 (See Remarks)	Sampler: 1.5"FB-INCH ID SPTTC									
Logged By: Jordan Tate	Rig Type: CME-75 Truck	Hammer Wt./Fall: 140 pounds / 30 inches									
Date Start/Finish: 12/19/2016 - 12/20/2016	Drilling Method: Rotary	Core Barrel: N/A									
Boring Location: Sta. 5+08.0, 14.6 RT	Casing ID/DD: 4-inch ID	Water Level*: N/A									
Hammer Efficiency Factor: 0.886	Hammer Type: Automatic	Hydraulic	Rope & Cathode								
<small>           S = Split Spoon Sample    SSA = Solid Stem Auger    Su(Lab) = Lab Vane Undrained Shear Strength (psf)    Wc = Water Content, percent            N = Unsuccessful Split Spoon Sample Attempt    HSA = Hollow Stem Auger    Su(Comp) = Uncorrected Compression Strength (psf)    LL = Liquid Limit            U = Thin Wall Tube Sample    RC = Roller Cone    NUCorrected = Raw Field SPT N-value    PL = Plastic Limit            M = Unsuccessful Thin Wall Tube Sample Attempt    Wt = Weight of 140lb. Hammer    Hw = Hammer Efficiency Factor = Rig Specific Annual Calibration Value * Plasticity Index            F = Field Vane Shear Test    P = Pocket Penetration Test    Wp = Weight of Blow or Casing    Nq = SPT Uncorrected Corrected for Hammer Efficiency    G = Grain Size Analysis            N = Unsuccessful Field Vane Shear Test Attempt    WpL = Weight of Blow Person    C = Consolidation Test         </small>											
Depth (ft.)	Sample No.	Pen./Rec. (in)	Sample Depth (ft.)	Blows / 6 in. Sample Depth (ft.)	Uncorrected	Corrected	Wp (lb)	WpL (lb)	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/AASHTO Unified Class
0.0	1D	24/16	0.00 - 0.83	61-49-28-30	73	108	441.0		441.0	10-inches of bituminous concrete	
0.8									440.2	Dark yellowish brown, moist, very dense, SAND, little gravel, little silt, poorly-graded, (Fill)	
5.0	2D	24/0	2.80 - 3.38	63-50/1*	50*	74			437.2	No recovery	
10.0	3D	24/8	4.00 - 6.00	10-11-8-9	19	28	38		436.2	Similar, medium dense, some gravel (Fill)	
15.0	4D	24/6	6.00 - 8.00	7-7-7-8	14	21	47		435.2	Similar, little gravel (Fill)	
20.0	5D	24/9	8.00 - 10.00	8-8-9-9	17	25	60		434.2	Bark brown, moist, medium dense, SAND, little gravel, little silt, poorly-graded, trace organic matter, 1 inch wood fragment, (Fill)	
25.0	6D	24/9	10.00 - 12.00	16-24-14-10	38	56	71		433.2	Similar, very dense, change at 11.8 feet to dark yellowish brown, moist, SAND, little silt, trace gravel, poorly-graded (Alluvium)	
30.0	7D	24/6	12.00 - 14.00	6-2-3-8	5	7	38		432.2	Dark yellowish brown, moist, loose, SAND, little gravel, poorly-graded (Alluvium)	
35.0	8D	24/10	14.00 - 16.00	9-9-6-5	15	22	52		431.2	Similar, medium dense, some silt (Alluvium)	
40.0	9D	24/11	19.00 - 21.00	5-3-3-2	6	9	54		430.2	Similar, wet, loose, trace organic matter at 20.5 feet (Alluvium)	
45.0	10D	24/0	24.00 - 26.00	13-7-7-9	14	21	61		429.2	No recovery	
50.0	11D	24/10	29.00 - 31.00	10-6-6-14	12	18	223		428.2	Brownish yellow, wet, medium dense, SAND, little silt, poorly-graded (Alluvium)	
55.0	12D	8/5	33.50 - 34.17	18-50/2*	50*	74	82		427.2	Bark yellowish brown, moist, very dense, SAND, some gravel, little silt, poorly-graded (Alluvium)	
60.0	13D	60/40	36.00 - 41.00	R02-61X	ND	ND	ND		426.0	Bedrock	
									425.0	Very light gray, fine to medium grained, GRANITE, hard, fresh to very slight weathering, low angle, close to moderately close dipping, tight to slightly open, unfractured granitic formation Core Rates (min/ft): 3.8-5.9-3.8-2.9 Rock Quality: Fair	
									424.0	Bottom of Exploration at 41.0 feet below ground surface	

Maine Department of Transportation Soil/Borehole Exploration Log US CUSTOMARY UNITS		Project: Rumford-Mexico Red Bridge #2707 Location: Rumford and Mexico, Maine		Boring No.: BB-RSR-201 WIN: 21700.01							
Driller: Northern Test Boring	Elevation (ft.): 432	Auger ID/DD: 2-1/4-inch ID SSA									
Operator: Mike Madasu	Datum: NAVD83 (See Remarks)	Sampler: 1.5"FB-INCH ID SPTTC									
Logged By: Vincent Mendez	Rig Type: Dietrich D-50	Hammer Wt./Fall: 140 pounds / 30 inches									
Date Start/Finish: 04/21/2022 - 04/21/2022	Drilling Method: SSA to 10 feet, then Rotary	Core Barrel: N/A									
Boring Location: Sta. 3+09.9, 33.2 RT	Casing ID/DD: 4-inch ID HW	Water Level*: 9 feet									
Hammer Efficiency Factor: 0.928	Hammer Type: Automatic	Hydraulic	Rope & Cathode								
<small>           S = Split Spoon Sample    SSA = Solid Stem Auger    Su(Lab) = Lab Vane Undrained Shear Strength (psf)    Wc = Water Content, percent            N = Unsuccessful Split Spoon Sample Attempt    HSA = Hollow Stem Auger    Su(Comp) = Uncorrected Compression Strength (psf)    LL = Liquid Limit            U = Thin Wall Tube Sample    RC = Roller Cone    NUCorrected = Raw Field SPT N-value    PL = Plastic Limit            M = Unsuccessful Thin Wall Tube Sample Attempt    Wt = Weight of 140lb. Hammer    Hw = Hammer Efficiency Factor = Rig Specific Annual Calibration Value * Plasticity Index            F = Field Vane Shear Test    P = Pocket Penetration Test    Wp = Weight of Blow or Casing    Nq = SPT Uncorrected Corrected for Hammer Efficiency    G = Grain Size Analysis            N = Unsuccessful Field Vane Shear Test Attempt    WpL = Weight of Blow Person    C = Consolidation Test         </small>											
Depth (ft.)	Sample No.	Pen./Rec. (in)	Sample Depth (ft.)	Blows / 6 in. Sample Depth (ft.)	Uncorrected	Corrected	Wp (lb)	WpL (lb)	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/AASHTO Unified Class
0.0	1D	24/8	0.00 - 0.00	2-2-4-5	6	9	55A		432.0	Very dark grayish brown (2.5Y 3/2), moist, loose, SAND, some silt, trace gravel, trace roots, poorly-graded (Fill)	
5.0	2D	24/3	2.00 - 4.00	4-4-4-4	8	12			428.0	Similar, medium dense (Fill)	
10.0	3D	24/19	5.00 - 7.00	1-1-1-4	2	3			425.0	Diive broken (2.5Y 4/3), wet, very loose, SAND, some silt, trace gravel, poorly-graded (Alluvium)	A-2-4 / SH UC-3E UC
15.0	4D	9/5	7.00 - 7.75	4-50/3*					425.0	Diive broken (2.5Y 4/3), wet, very dense, SAND, some gravel, little silt, poorly-graded (Alluvium)	
20.0	5D	24/12	10.00 - 12.00	10-17-14-11	31	48	82		423.0	Similar, saturated, dense (Alluvium)	
25.0	6D	24/12	15.00 - 17.00	20-11-7-8	18	28	60		417.0	Light olive brown (2.5Y 5/6), wet, very stiff, SILT, some sand, trace gravel, non-plastic (Alluvium)	A-4-4 ML UC-3E UC
30.0	7D	20/8	20.00 - 21.67	7-6-8-50/2*	14	22	82		412.0	Dark gray (5Y 4/1), wet, medium dense, SAND, some gravel, some silt, poorly-graded (Fill)	
									410.0	Bottom of Exploration at 21.0 feet below ground surface	
Remarks: Boring location and elevation were interpolated from the "Red Bridge over Swift River Plan Set", prepared by the TY Lin International, last dated February 17, 2022.											
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.											

**STATE OF MAINE**  
**DEPARTMENT OF TRANSPORTATION**

**STP-2170(000)**

**WIN 21700.01**  
**BRIDGE #2707**  
**BRIDGE PLANS**

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**RED BRIDGE OVER SWIFT RIVER**  
**RUMFORD - MEXICO OXFORD COUNTY**

**BORING LOGS**

SHEET NUMBER **9** OF 56

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED M. Devoid	M. WIGHT	7/2022
CHECKED-REVIEWED R. Hebert	Terracon	7/2022
DESIGNS-DETAILED	Terracon	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE \_\_\_\_\_ P.E. NUMBER \_\_\_\_\_ DATE \_\_\_\_\_



Maine Department of Transportation Soil/Borehole Exploration Log US CUSTOMARY UNITS		Project: Runford-Mexico Red Bridge #2707 Location: Runford and Mexico, Maine		Boring No.: BB-RSR-202 WIN: 21700.01	
Driller: Northern Test Boring	Elevation (ft.): 432	Auger ID/DD: 2-1/4-inch ID SSA			
Operator: Mike Nadeau	Datum: NAVD83 (See Remarks)	Sampler: 1-3/8" I.D. SPT			
Logged By: Vincent Mendoza	Rig Type: Dierich D-50	Hammer Wt./Fall: 140 pounds / 30 inches			
Date Start/Finish: 04/21/2022 - 04/21/2022	Drilling Method: SSA to 10 feet, then Rotary	Cone Barrel: 2-inch ND			
Boring Location: Sta. 4+94.7, 55.2 RT	Casing ID/DD: 4-inch ID HW	Water Level*: 10 feet			
Hammer Efficiency Factor: 0.928 Blows / 6 in. Sample Depth: 1-3-4-4 Pen. Area (sq. in.): 2.00 Sample Depth (ft.): 2.00 Blows / 6 in. Sample Strength (lb./sq. ft.): 11 Non-corrected: 7 No. of Blows: 11 Elevation (ft.): 432.0 Visual Description and Remarks: 5 inches of topsoil Dark olive brown (2.5Y 3/3), moist, medium dense, SILTY SAND, little gravel, poorly-graded (Fill) Similar, medium dense, trace gravel (Fill) 4.0 30 24/24 5.00 - 7.00 2-2-3-3 3 8 Olive brown (2.5Y 4/3), moist, loose, SAND, some silt, poorly-graded (Alluvium) 425.0 40 24/10 7.00 - 9.00 2-2-2-2 4 6 Olive brown (2.5Y 4/3), wet, loose, SAND, trace silt and gravel, poorly-graded (Alluvium) 422.0 50 24/10 10.00 - 12.00 2-2-7-13 9 14 Olive brown (2.5Y 4/3), saturated, medium dense, SAND, little gravel, trace silt, well-graded (Alluvium) 417.0 60 24/4 15.00 - 17.00 28-18-9-8 27 42 Strong brown (7.5YR 5/8), saturated, dense, SAND, some gravel, trace silt, well-graded, oxidation (Alluvium) 412.0 70 24/11 20.00 - 22.00 9-8-21-18 29 45 Grayish brown (2.5Y 4/3), saturated, hard, SILT, some sand, trace gravel, non-plastic (Alluvium) 407.5 R1 60/54 24.50 - 29.50 ROD = 712 Bark gray (N2), fine to medium-grained, MIGMATITE, moderately hard to hard, fresh, moderate dipping, moderately close spacing, open, untitled Devonian Granite Formation Core Rates (min/ft): 1.5-1.25-1.25-1.25-1 Rock Quality: Fair Light gray (N7) intrusion from 27.3 feet to 28.3 feet 403.5 R2 60/56 29.50 - 34.50 ROD = 902 Similar to R1 Core Rates (min/ft): 1-2-1.25-1.75-1.5 Rock Quality: Good Light gray (N7) intrusion from 30.5 feet to 30.7 feet Light gray (N7) intrusion from 32.3 feet to 33.6 feet 397.5 Bottom of Exploration at 34.5 feet below ground surface 34.5 Bottom of Exploration at 34.5 feet below ground surface 34.5 35 40 45 50 Remarks: Boring location and elevation were interpolated from the "Red Bridge over Swift River Plan Set", prepared by the TY Lin International, last dated February 17, 2022. Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made. Page 1 of 1 Boring No.: BB-RSR-202					

Maine Department of Transportation Soil/Borehole Exploration Log US CUSTOMARY UNITS		Project: Runford-Mexico Red Bridge #2707 Location: Runford and Mexico, Maine		Boring No.: BB-RSR-203 WIN: 21700.01	
Driller: Northern Test Boring	Elevation (ft.): 428	Auger ID/DD: 2-1/4-inch ID SSA			
Operator: Mike Nadeau	Datum: NAVD83 (See Remarks)	Sampler: 1-3/8" I.D. SPT			
Logged By: Vincent Mendoza	Rig Type: Dierich D-50	Hammer Wt./Fall: 140 pounds / 30 inches			
Date Start/Finish: 04/20/2022 - 04/20/2022	Drilling Method: SSA to 5 feet, then Rotary	Cone Barrel: 2-inch ND			
Boring Location: Sta. 6+96.2, 29.7 LT	Casing ID/DD: 4-inch ID HW	Water Level*: 5 feet			
Hammer Efficiency Factor: 0.928 Blows / 6 in. Sample Depth: 3-6-5-5 Pen. Area (sq. in.): 2.00 Sample Depth (ft.): 2.00 Blows / 6 in. Sample Strength (lb./sq. ft.): 11 Non-corrected: 11 No. of Blows: 11 Elevation (ft.): 428.0 Visual Description and Remarks: Bark olive brown (2.5Y 3/3), damp, medium dense, SAND, some silt, trace gravel, poorly-graded (Fill) Similar, moist, loose (Fill) 424.0 30 24/2 5.00 - 7.00 1-3-3-5 8 12 Moist, GRAVEL, some sand, limited recovery (Alluvium) 421.0 40 24/14 7.00 - 9.00 3-4-6-6 10 15 Olive brown (2.5Y 4/3), saturated, medium dense, SAND, some gravel, trace silt, poorly-graded (Alluvium) 418.0 50 24/3 10.00 - 12.00 7-9-15-17 24 37 Similar, dense (Alluvium) 414.0 60 24/0 15.00 - 17.00 4-5-5-7 10 15 No recovery in sampler 408.0 70 24/9 20.00 - 22.00 10-17-15-15 30 49 Olive brown (2.5Y 4/3), saturated, dense, GRAVELLY SAND, trace silt, poorly-graded (Alluvium) 405.0 R1 60/59 22.40 - 27.40 ROD = 962 Grayish black (N2), fine to medium-grained, MIGMATITE, moderately hard to hard, fresh, moderate dipping, moderately close to wide spacing, open, untitled Devonian Granite Formation Core Rates (min/ft): 1.5-1.25-1.25-1-1 Rock Quality: Excellent 401.0 R2 60/55 27.40 - 32.40 ROD = 912 Similar to R1 Core Rates (min/ft): 1-1.25-1-1.25-1.25 Rock Quality: Excellent Light greenish gray (5G 4/3) intrusion from 27.9 feet to 28.6 feet Several light gray (N7) intrusions from 28.6 feet to 29.2 feet Pinkish gray (5YR 8/1) and light greenish gray (5G 4/3) intrusions from 30.6 feet to 31.4 feet 395.0 Bottom of Exploration at 32.4 feet below ground surface 34.5 35 40 45 50 Remarks: Boring location and elevation were interpolated from the "Red Bridge over Swift River Plan Set", prepared by the TY Lin International, last dated February 17, 2022. Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made. Page 1 of 1 Boring No.: BB-RSR-203					

Maine Department of Transportation Soil/Borehole Exploration Log US CUSTOMARY UNITS		Project: Runford-Mexico Red Bridge #2707 Location: Runford and Mexico, Maine		Boring No.: BB-RSR-204 WIN: 21700.01	
Driller: Northern Test Boring	Elevation (ft.): 429	Auger ID/DD: 2-1/4-inch ID SSA			
Operator: Mike Nadeau	Datum: NAVD83 (See Remarks)	Sampler: 1-3/8" I.D. SPT			
Logged By: Vincent Mendoza	Rig Type: Dierich D-50	Hammer Wt./Fall: 140 pounds / 30 inches			
Date Start/Finish: 04/20/2022 - 04/21/2022	Drilling Method: SSA to 10 feet, then Rotary	Cone Barrel: 2-inch ND			
Boring Location: Sta. 7+03.3, 49.9 RT	Casing ID/DD: 4-inch ID HW	Water Level*: 5 feet			
Hammer Efficiency Factor: 0.928 Blows / 6 in. Sample Depth: 2-3-3-7 Pen. Area (sq. in.): 2.00 Sample Depth (ft.): 2.00 Blows / 6 in. Sample Strength (lb./sq. ft.): 8 Non-corrected: 8 No. of Blows: 8 Elevation (ft.): 429.0 Visual Description and Remarks: Dark olive brown (2.5Y 3/3), damp, medium dense, SAND, some silt, trace gravel, trace glass, poorly-graded (Fill) Similar, moist, trace roots (Fill) 425.0 30 24/18 5.00 - 7.00 3-2-2-2 4 6 Dark olive brown (2.5Y 3/3), moist, loose, SAND, some silt, trace gravel, trace roots, poorly-graded (Alluvium) 422.0 40 24/12 7.00 - 9.00 3-3-4-14 7 11 Dark olive brown (2.5Y 3/3), wet, medium dense, SAND, little gravel, trace silt, poorly-graded (Alluvium) 418.0 50 24/0 10.00 - 12.00 7-9-3-7 14 22 No recovery in sampler 414.0 60 24/20 15.00 - 17.00 3-9-12-23 21 32 Similar, dense, some gravel (Alluvium) 408.0 70 24/5 20.00 - 22.00 23-16-16-22 32 49 Similar, well-graded (Alluvium) 404.0 80 24/5 25.00 - 27.00 13-10-8-10 18 28 Similar, medium dense, some gravel and/or cobble fragments (Alluvium) 399.0 90 21/4 30.00 - 31.75 12-11-15-50/3* 26 40 Olive brown (2.5Y 4/4), wet, dense, SAND, some silt and weathered rock fragments, poorly-graded (Alluvium) 396.5 R1 60/60 32.50 - 37.50 ROD = 832 Very light gray (N7) to grayish black (N2), fine to medium-grained, MIGMATITE, moderately hard to hard, fresh, steep, moderately close spacing, open, untitled Devonian Granite Formation Core Rates (min/ft): 2-2-2-1-1 Rock Quality: Good 386.5 R2 60/59 37.50 - 42.50 ROD = 962 Similar to R1, very light gray (N7) and grayish black (N2) fill from 37.5 feet to 42.5 feet Core Rates (min/ft): 1.5-1.5-1.25-1.25-1.25 Rock Quality: Excellent 386.5 Bottom of Exploration at 42.5 feet below ground surface 34.5 35 40 45 50 Remarks: Boring location and elevation were interpolated from the "Red Bridge over Swift River Plan Set", prepared by the TY Lin International, last dated February 17, 2022. Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made. Page 1 of 1 Boring No.: BB-RSR-204					

**STATE OF MAINE**  
**DEPARTMENT OF TRANSPORTATION**  
**STP-2170(000)**  
**WIN 21700.01**  
**BRIDGE #2707**  
**BRIDGE PLANS**

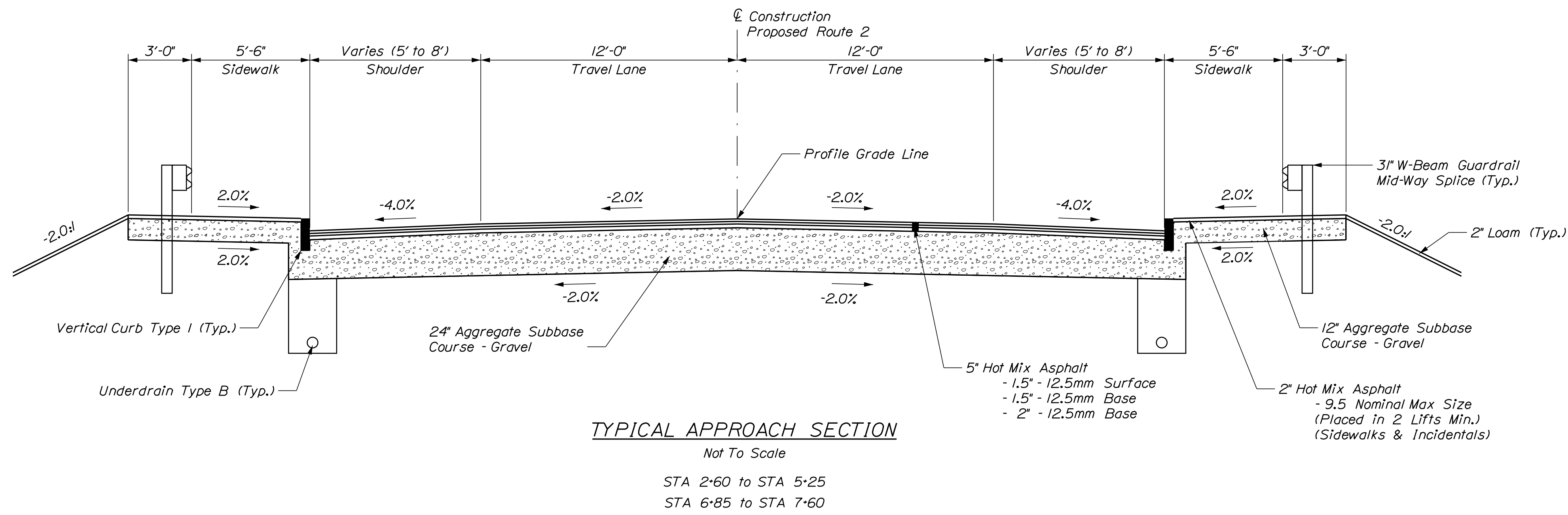
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**RED BRIDGE OVER SWIFT RIVER**  
**RUMFORD - MEXICO OXFORD COUNTY**  
**BORING LOGS**

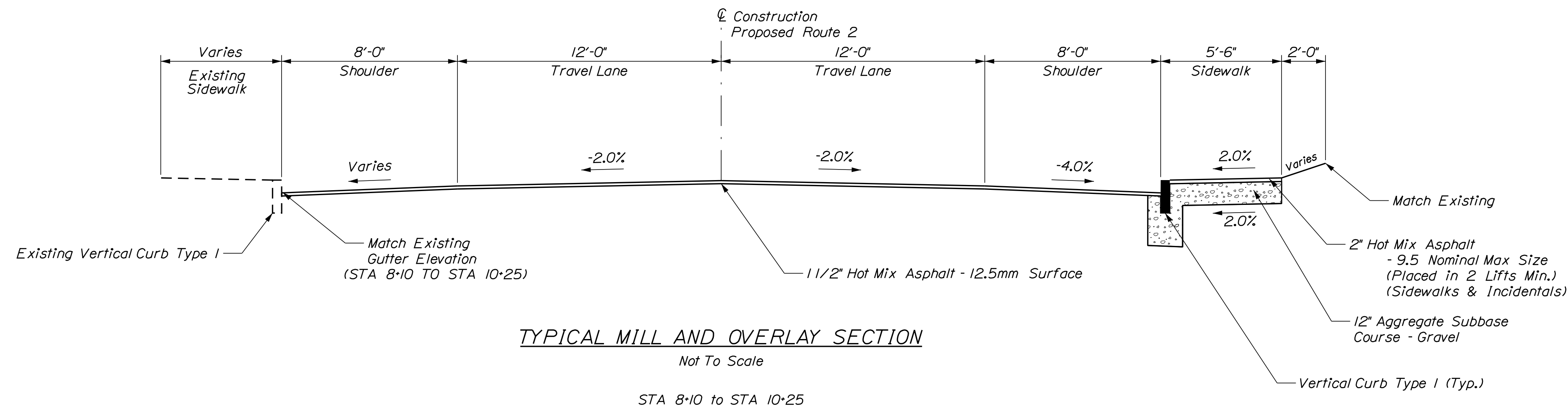
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SHEET NUMBER  
**10**  
OF 56





Lt. Shoulder	Lt. Travelway	Station	Rt. Travelway	Rt. Shoulder
Match Existing	Match Existing	2+10	Match Existing	Match Existing
-4.00 %	-2.00 %	2+25	-2.00 %	-4.00 %
-4.00 %	-2.00 %	2+50	-2.00 %	-4.00 %
		to		
-4.00 %	-2.00 %	5+00	-2.00 %	-4.00 %
-3.00 %	-2.00 %	5+00	-2.00 %	-3.00 %
-2.00 %	-2.00 %	5+25	-2.00 %	-2.00 %
		to		
-2.00 %	-2.00 %	6+84	-2.00 %	-2.00 %
-2.64 %	-2.00 %	7+00	-2.00 %	-2.64 %
-3.64 %	-2.00 %	7+25	-2.00 %	-3.64 %
-4.00 %	-2.00 %	7+34	-2.00 %	-4.00 %
-4.00 %	-2.00 %	7+50	-2.00 %	-4.00 %
-6.00 %	-3.00 %	7+75	-2.00 %	-4.00 %
-8.10 %	-2.00 %	8+00	-2.00 %	-4.00 %
Varies	-2.00 %	8+25	-2.00 %	-4.00 %
Varies	-2.00 %	8+50	-2.00 %	-4.00 %
Varies	-2.00 %	8+75	-2.00 %	-4.00 %
Varies	-2.00 %	9+00	-2.00 %	-4.00 %
Varies	-2.00 %	9+25	-2.00 %	-4.00 %
Varies	-2.00 %	9+50	-2.00 %	-4.00 %
Varies	-2.00 %	9+75	-2.00 %	-4.00 %
Varies	-2.00 %	10+00	-2.00 %	-4.00 %
Match Existing	Match Existing	10+25	Match Existing	Match Existing



- NOTES:**
- The pavement, base, and subbase depths as shown on the plans are intended to be nominal.
  - Crowns for both normal and superelevation sections for all courses of subbase and pavement shall be straight.
  - The algebraic difference between the shoulder and travelway cross slopes "rollover" shall not exceed 8%.
  - The stationing shown under each typical is approximate.

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2170(000)  
WIN 21700.01  
BRIDGE #2707  
BRIDGE PLANS

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

BY  
J. Rollins  
S. Davis

DATE  
4/24/23  
4/24/23

SIGNATURE  
P.E. NUMBER  
DATE

RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY

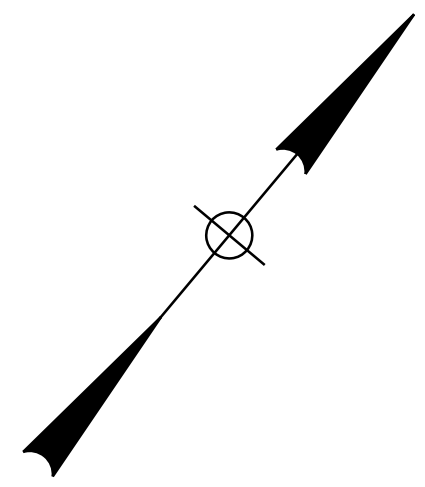
TYPICAL SECTIONS

SHEET NUMBER

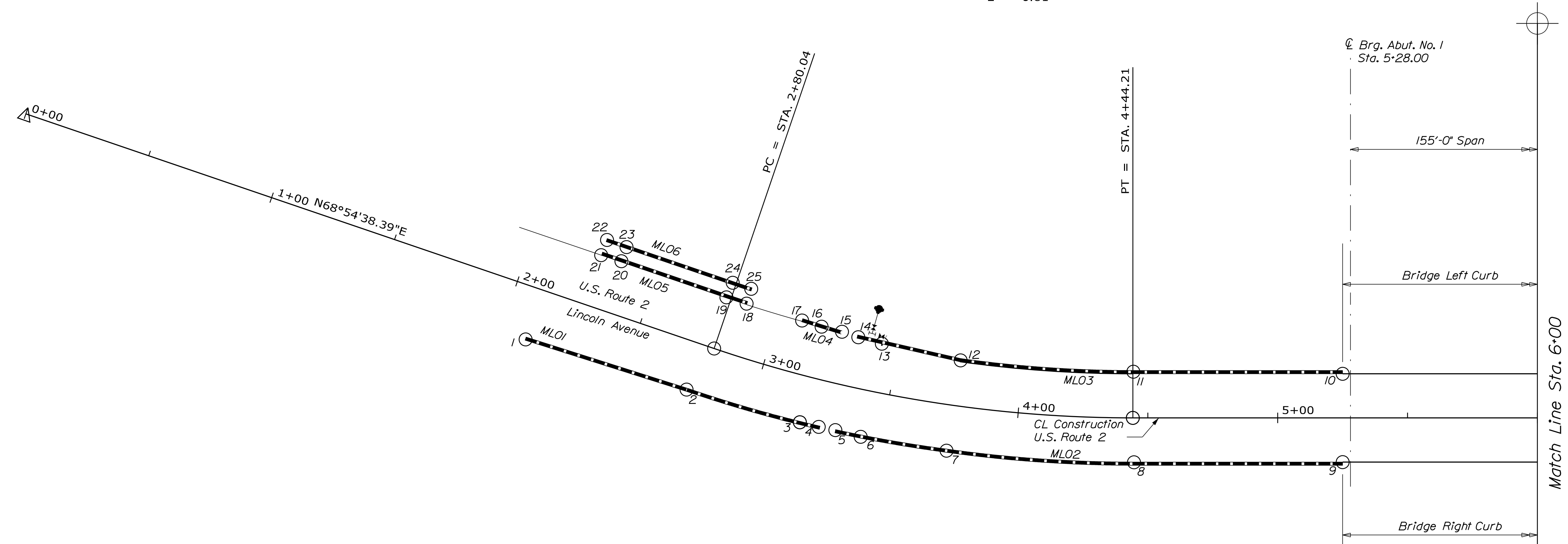
11

OF 56





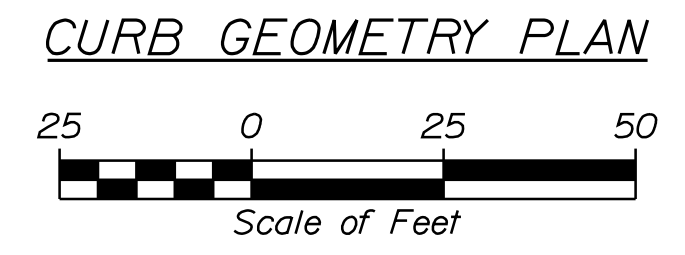
**CURVE DATA #1**  
 PI = 3+62.87  
 D = 11°27'33.0"  
 Δ = 18°48'47.5" Lt.  
 R = 500.00'  
 L = 164.18'  
 T = 82.83'  
 E = 6.81'



Point No.	Station	Offset	Easting	Northing
CONTROL POINTS FOR MLO1				
1	2+10.00	19.20' RT	939272.02	627568.73
2	2+75.23	17.80' RT	939332.38	627593.50
3	3+19.06	17.47' RT	939373.82	627611.53
4	3+26.79	17.40' RT	939380.98	627615.09
CONTROL POINTS FOR MLO2				
5	3+32.59	17.35' RT	939386.31	627617.84
6	3+42.27	17.27' RT	939395.15	627622.56
7	3+75.00	17.00' RT	939424.29	627639.77
8	4+44.21	17.00' RT	939482.19	627681.74
9	5+25.00	17.00' RT	939544.17	627733.56
CONTROL POINTS FOR MLO3				
10	5+25.00	17.00' LT	939522.36	627759.65
11	4+44.21	17.00' LT	939460.38	627707.82
12	3+75.00	17.00' LT	939406.29	627668.61
13	3+43.21	18.69' LT	939378.94	627654.68
14	3+32.82	18.82' LT	939370.03	627650.14
CONTROL POINTS FOR MLO4				
15	3+26.40	18.98' LT	939364.44	627647.50
16	3+18.03	19.40' LT	939357.02	627644.36
17	3+09.77	19.75' LT	939349.68	627641.33
CONTROL POINTS FOR MLO5				
18	2+86.77	20.00' LT	939329.28	627632.87
19	2+78.43	20.00' LT	939321.76	627629.92
20	2+35.34	20.00' LT	939281.56	627614.42
21	2+27.34	20.00' LT	939274.09	627611.54
CONTROL POINTS FOR MLO6				
22	2+27.34	25.50' LT	939272.11	627616.67
23	2+35.34	25.50' LT	939279.58	627619.55
24	2+78.43	25.50' LT	939319.78	627635.05
25	2+86.77	25.50' LT	939327.23	627637.97

PT. TO PT.	RADIUS	LENGTH	OFFSET
MLO1			
1-2	---	65.25'	RT
2-3	517.0'	45.20'	RT
3-4	517.0'	8.00'	RT
MLO2			
5-6	517.0'	10.00'	RT
6-7	517.0'	33.87'	RT
7-8	517.0'	71.57'	RT
8-9	---	80.79'	RT
MLO3			
10-11	---	80.79'	LT
11-12	483.0'	66.86'	LT
12-13	---	30.70'	LT
13-14	---	10.00'	LT
MLO4			
15-16	---	8.00'	LT
16-17	---	8.00'	LT
MLO5			
18-19	---	8.00'	LT
19-20	---	43.16'	LT
20-21	---	8.00'	LT
MLO6			
22-23	---	8.00'	LT
23-24	---	43.09'	LT
24-25	---	8.00'	LT

TERMINAL CURB	
END POINT	LENGTH
4	8.0'
5	10.0'
14	10.0'
15	8.0'
17	8.0'
18	8.0'
21	8.0'
22	8.0'
25	8.0'



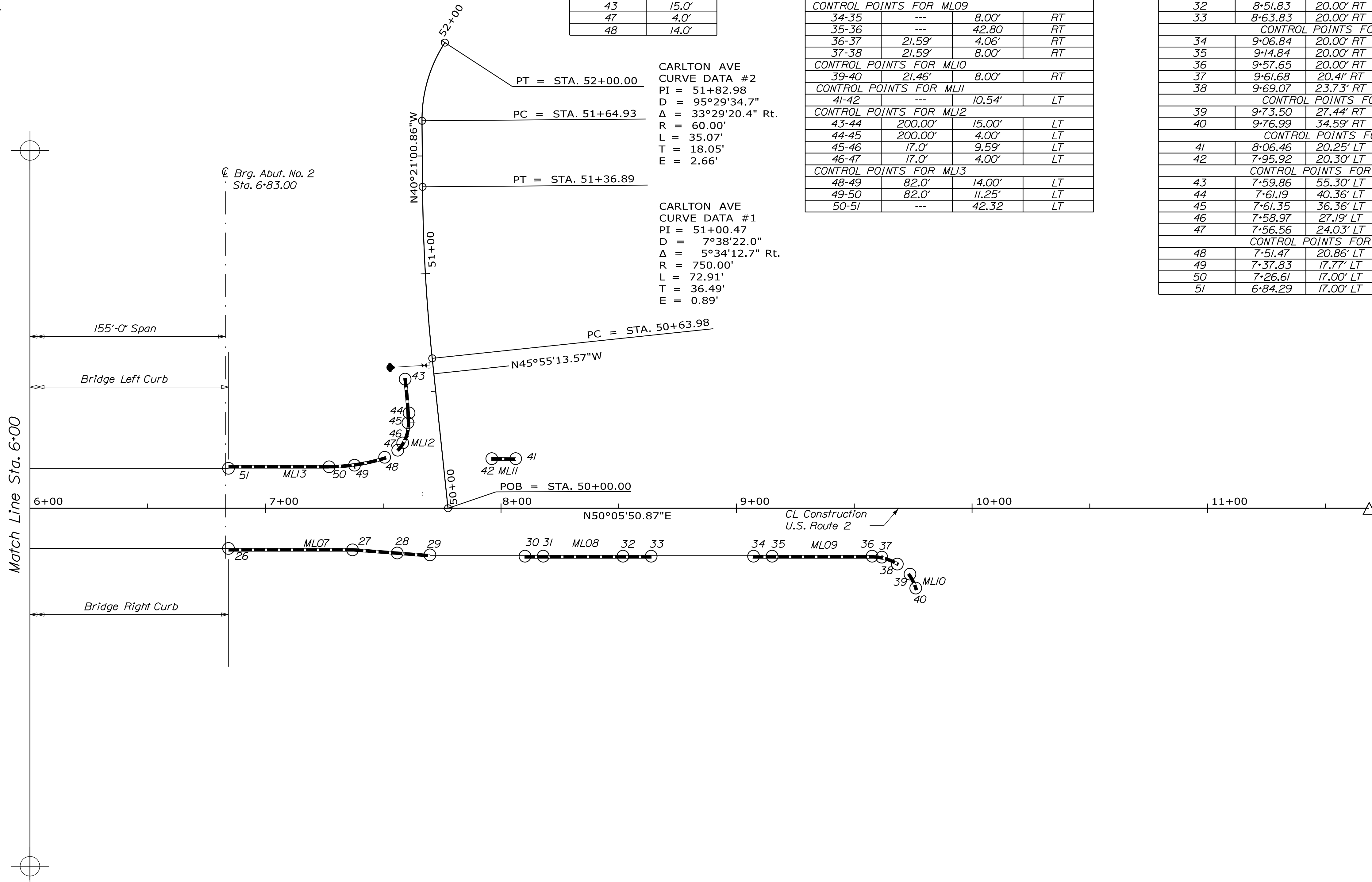
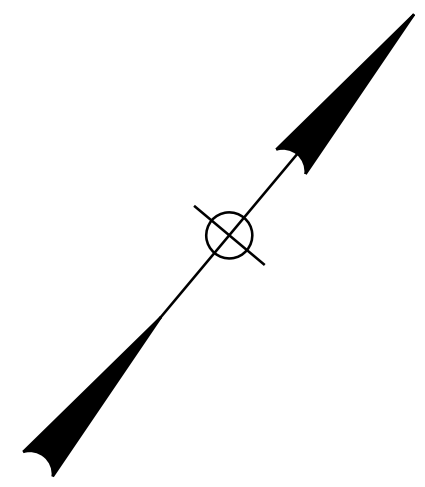
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2170(000)	
BRIDGE #2707		WIN 21700.01	
BRIDGE PLANS			
RED BRIDGE OVER SWIFT RIVER RUMFORD - MEXICO OXFORD COUNTY		CURB GEOMETRY SHEET 1 OF 2	
SHEET NUMBER			
12			
OF 56			



Date: 6/13/2023

Username:

Filename: ... \MSTA\xxx\_Curb\_Geometry\_ 02.dgn Division: HIGHWAY



TERMINAL CURB	
END POINT	LENGTH
29	14.0'
30	8.0'
33	12.0'
34	8.0'
38	8.0'
39	8.0'
42	10.5'
43	15.0'
47	4.0'
48	14.0'

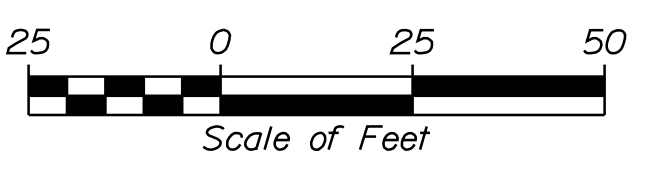
CARLTON AVE  
CURVE DATA #2  
PI = 51+82.98  
D = 95°29'34.7" Rt.  
Δ = 33°29'20.4" Rt.  
R = 60.00'  
L = 35.07'  
T = 18.05'  
E = 2.66'

CARLTON AVE  
CURVE DATA #1  
PI = 51+00.47  
D = 7°38'22.0"  
Δ = 5°34'12.7" Rt.  
R = 750.00'  
L = 72.91'  
T = 36.49'  
E = 0.89'

PT. TO PT.	RADIUS	LENGTH	OFFSET
CONTROL POINTS FOR MLO7			
26-27	---	52.82'	RT
27-28	---	18.99'	RT
28-29	---	14.00'	RT
CONTROL POINTS FOR MLO8			
30-31	---	8.00'	RT
31-32	---	33.83'	RT
32-33	---	12.00'	RT
CONTROL POINTS FOR MLO9			
34-35	---	8.00'	RT
35-36	---	42.80'	RT
36-37	21.59'	4.06'	RT
37-38	21.59'	8.00'	RT
CONTROL POINTS FOR MLI0			
39-40	21.46'	8.00'	RT
CONTROL POINTS FOR MLI1			
41-42	---	10.54'	LT
CONTROL POINTS FOR MLI2			
43-44	200.00'	15.00'	LT
44-45	200.00'	4.00'	LT
45-46	17.0'	9.59'	LT
46-47	17.0'	4.00'	LT
CONTROL POINTS FOR MLI3			
48-49	82.0'	14.00'	LT
49-50	82.0'	11.25'	LT
50-51	---	42.32'	LT

Point No.	Station	Offset	EASTING	NORTHING
CONTROL POINTS FOR MLO7				
26	6+84.29	17.00' RT	939666.36	627835.75
27	7+37.11	17.00' RT	939706.88	627869.63
28	7+56.04	18.44' RT	939722.33	627880.67
29	7+70.00	19.50' RT	939733.72	627888.81
CONTROL POINTS FOR MLO8				
30	8+10.00	20.00' RT	939764.72	627914.08
31	8+18.00	20.00' RT	939770.86	627919.22
32	8+51.83	20.00' RT	939796.81	627940.92
33	8+63.83	20.00' RT	939806.02	627948.62
CONTROL POINTS FOR MLO9				
34	9+06.84	20.00' RT	939839.02	627976.21
35	9+14.84	20.00' RT	939845.15	627981.34
36	9+57.65	20.00' RT	939877.99	628008.80
37	9+61.68	20.41' RT	939881.35	628011.07
38	9+69.07	23.73' RT	939888.92	628013.54
CONTROL POINTS FOR MLI0				
39	9+73.50	27.44' RT	939894.92	628013.26
40	9+76.99	34.59' RT	939902.19	628010.01
CONTROL POINTS FOR MLI1				
41	8+06.46	20.25' LT	939736.19	627942.69
42	7+95.92	20.30' LT	939728.07	627935.97
CONTROL POINTS FOR MLI2				
43	7+59.86	55.30' LT	939677.96	627939.69
44	7+61.19	40.36' LT	939688.56	627929.08
45	7+61.35	36.36' LT	939691.25	627926.12
46	7+58.97	27.19' LT	939695.31	627917.55
47	7+56.56	24.03' LT	939695.48	627913.58
CONTROL POINTS FOR MLI3				
48	7+51.47	20.86' LT	939693.61	627907.88
49	7+37.83	17.77' LT	939685.13	627896.76
50	7+26.61	17.00' LT	939677.02	627888.97
51	6+84.29	17.00' LT	939644.55	627861.83

CURB GEOMETRY PLAN



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2170(000)  
WIN 21700.01  
BRIDGE #2707  
BRIDGE PLANS

RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY  
CURB GEOMETRY  
SHEET 2 OF 2

SHEET NUMBER  
**13**  
OF 56

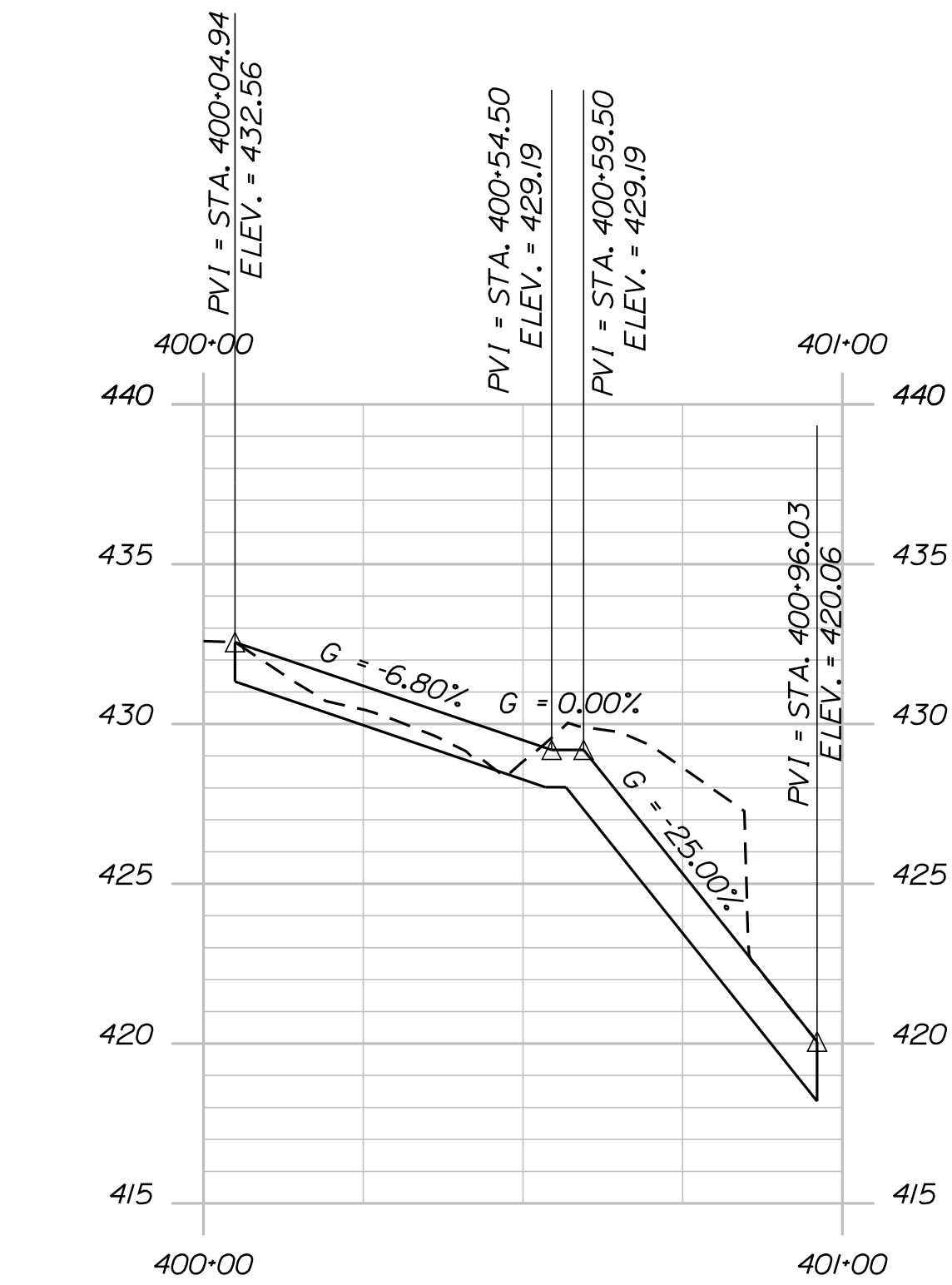
PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN-DETAILED	S. Davis	T. Adams	4/24/23
CHECKED-REVIEWED	J. Blanchard	D. Bryant	4/24/23
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE  
P.E. NUMBER  
DATE

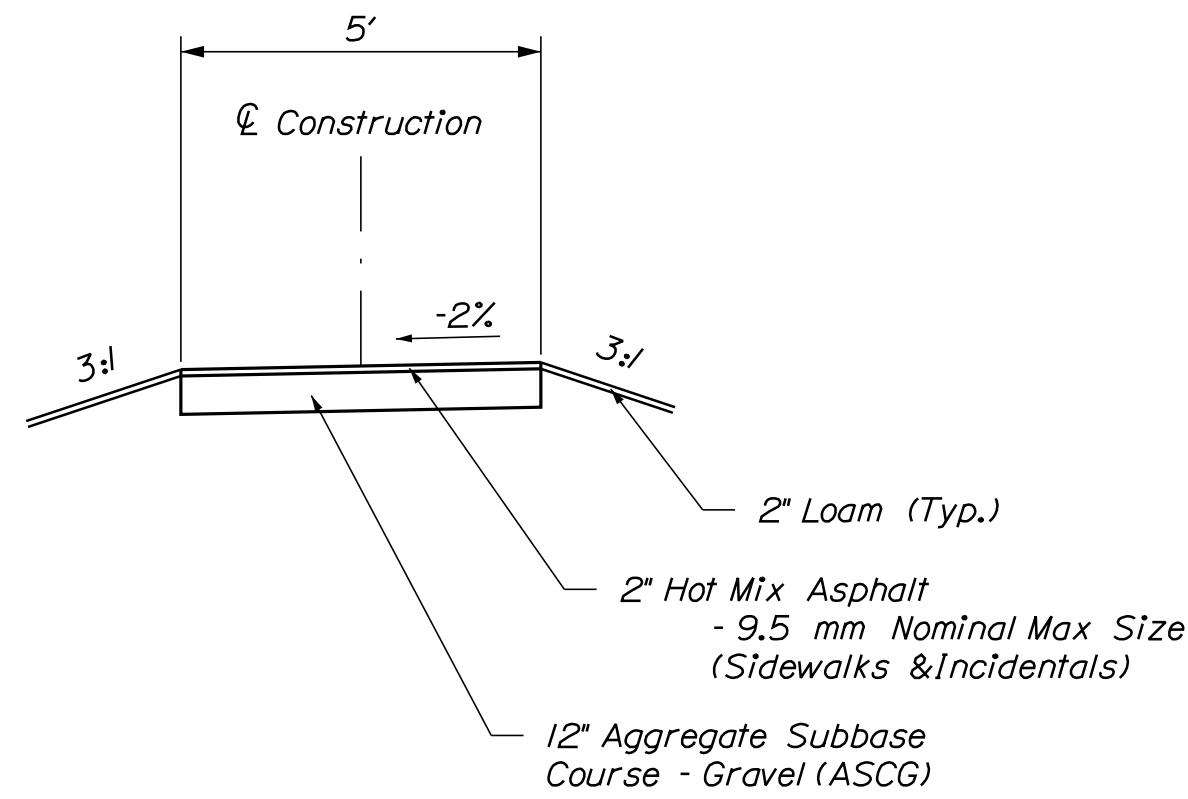








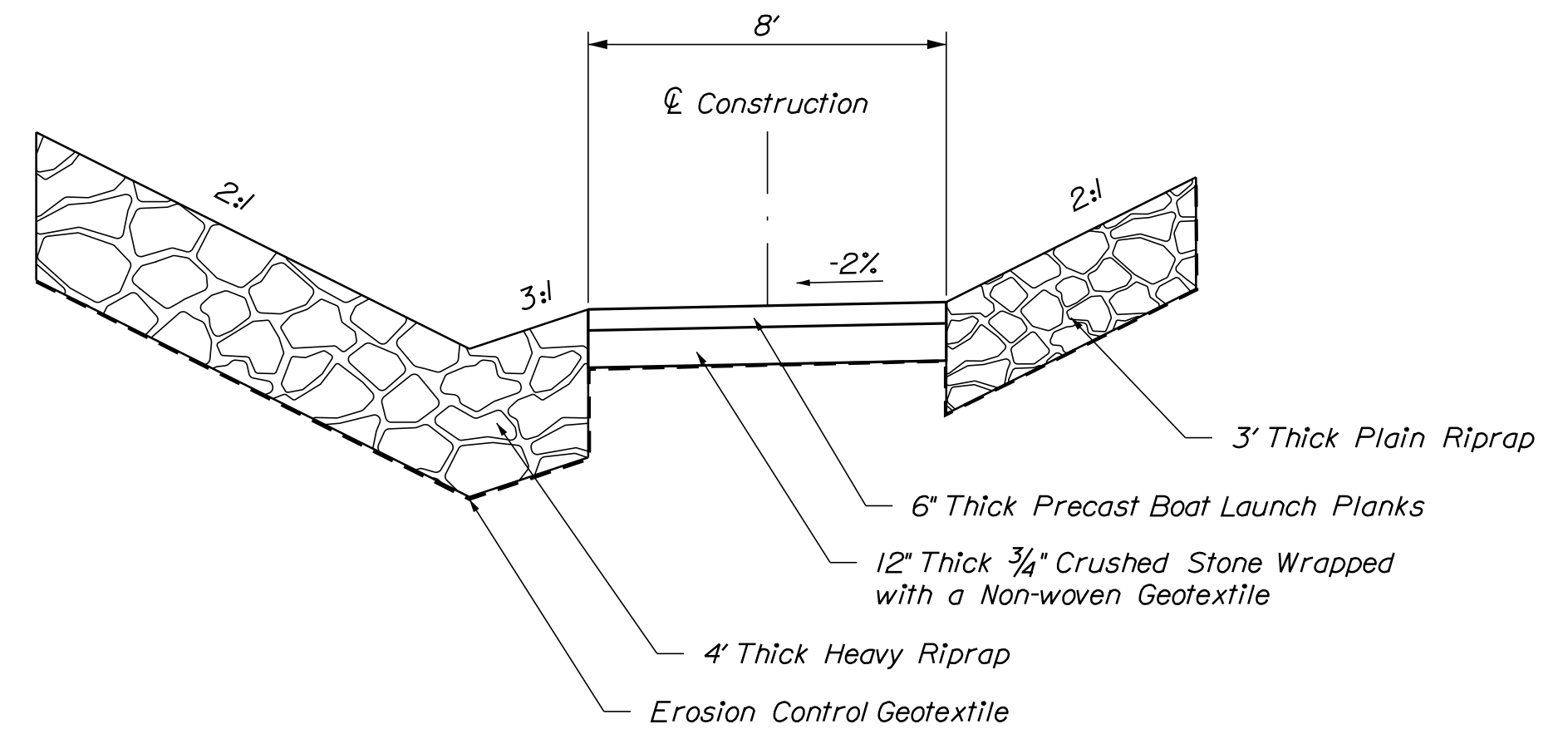
**BOAT RAMP AND ACCESS PATHWAY PROFILE**



**TYPICAL ACCESS PATHWAY SECTION**

Not To Scale

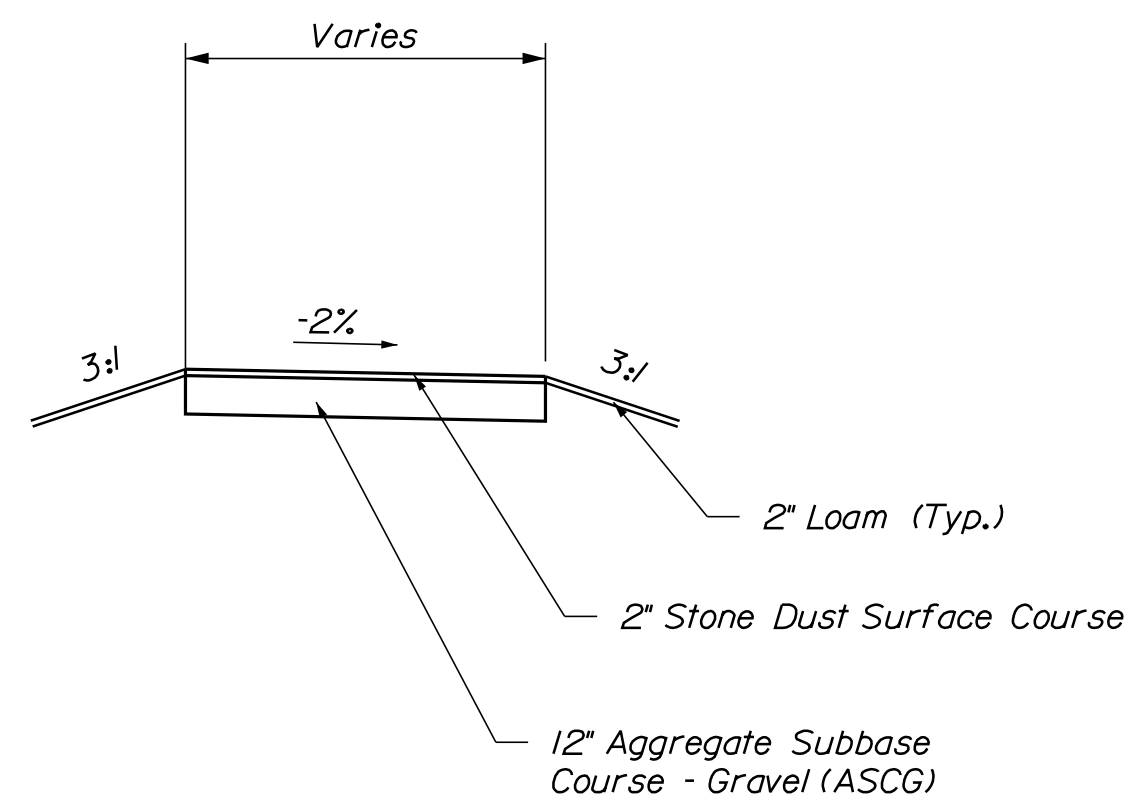
STA 400+04.94 to STA 400+59.50



**TYPICAL BOAT RAMP SECTION**

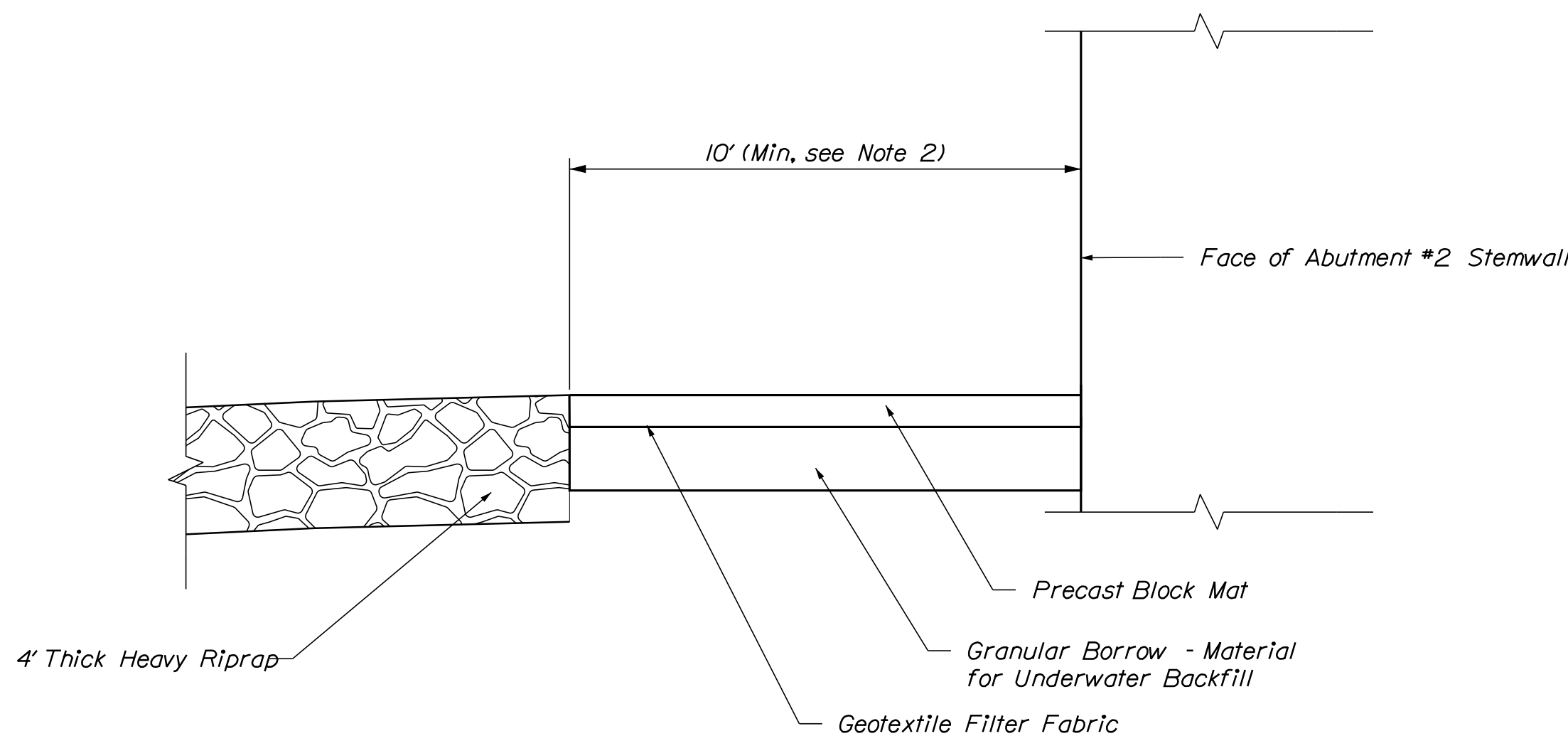
Not To Scale

STA 400+59.50 to STA 400+96.03



**TYPICAL STONE DUST PATH SECTION**

Not To Scale



**TYPICAL CONCRETE BLOCK MAT PATHWAY SECTION**

Not To Scale

STA 6+71.0 to STA 7+05.4 LT

STA 6+71.0 to STA 6+99.3 RT

**NOTES:**

1. Fill voids between Precast Block Mat with 3/4" Crushed Stone flush with top of Precast Block Mat. Payment for crushed stone infill incidental to Precast Block Mat.
2. Precast block mat will be placed full width per manufacturer standard block width to provide minimum Plan dimensions. Individual blocks shall not be cut.
3. Upstream leading edge and downstream trailing edge of Precast Block Mat shall be angled down to bury the edge of the mat to the depth of the bottom of the adjacent riprap (4' nominal).

DESIGNED	J. Rollins	DATE	4/24/23
CHECKED	D. Bryant	REVIEWED	T. Adams
DESIGNED	D. Bryant	DATE	4/24/23
DESIGNED	T. Adams	DATE	
REVISIONS	1	DATE	
REVISIONS	2	DATE	
REVISIONS	3	DATE	
REVISIONS	4	DATE	
FIELD CHANGES			

PROJ. MANAGER	M. WIGHT	BY	D. Bryant
DESIGNED	J. Rollins	DATE	4/24/23
CHECKED	D. Bryant	REVIEWED	T. Adams
DESIGNED	D. Bryant	DATE	4/24/23
DESIGNED	T. Adams	DATE	
REVISIONS	1	DATE	
REVISIONS	2	DATE	
REVISIONS	3	DATE	
REVISIONS	4	DATE	
FIELD CHANGES			

RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY  
CARRY-IN BOAT RAMP &  
PATHWAY PROFILE & DETAILS

SHEET NUMBER

16

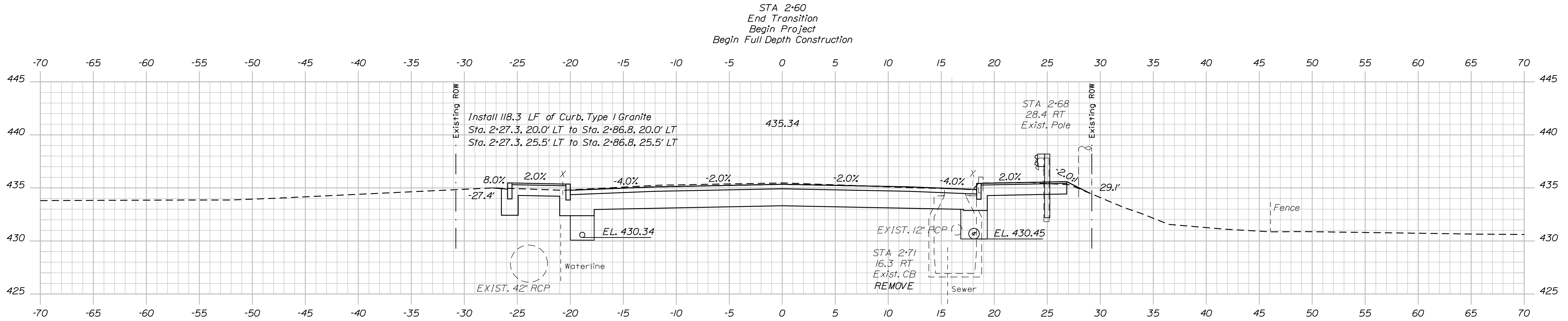
OF 56

Date: 6/13/2023

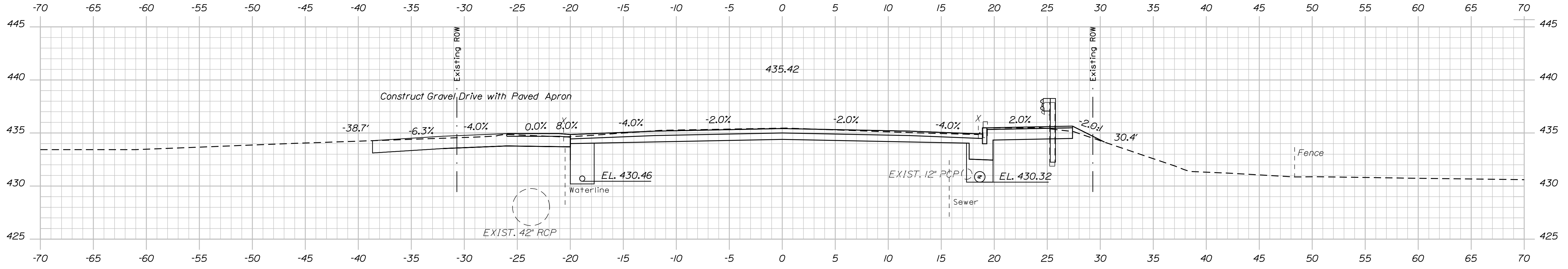
Username:

Division: HIGHWAY

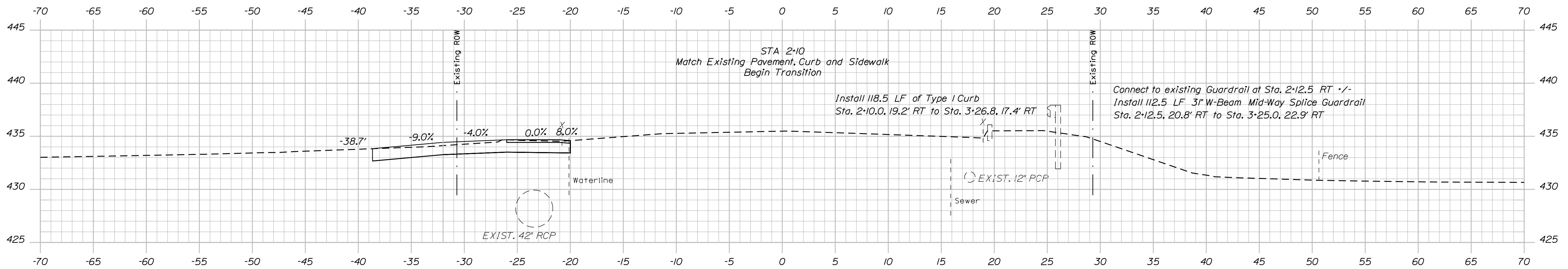
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2+50.00



2+25.00



2+00.00



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2170(000)  
WIN 21700.01  
BRIDGE #2707  
BRIDGE PLANS

DESIGN-DETAILED	4/24/23	SIGNATURE
CHECKED-REVIEWED	4/24/23	P.E. NUMBER
DESIGN-DETAILED		DATE
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PROJ. MANAGER	M. WIGHT	DATE
DESIGN-DETAILED	S. DAVIS	4/24/23
CHECKED-REVIEWED	D. BRYANT	4/24/23
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY  
CROSS SECTIONS - ROUTE 2

SHEET NUMBER

17

OF 56

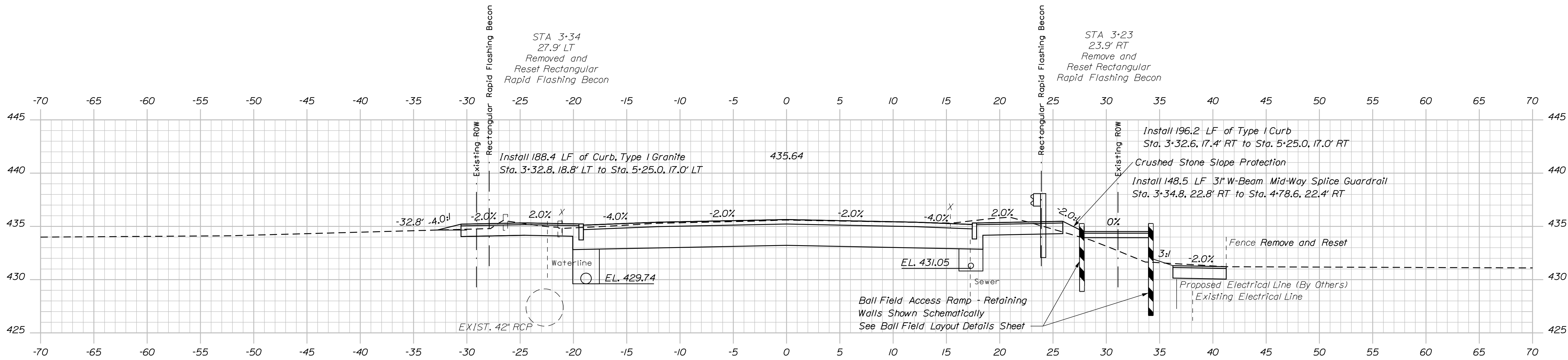
Sta. 2+00.00 to Sta. 2+50.00

Date: 6/13/2023

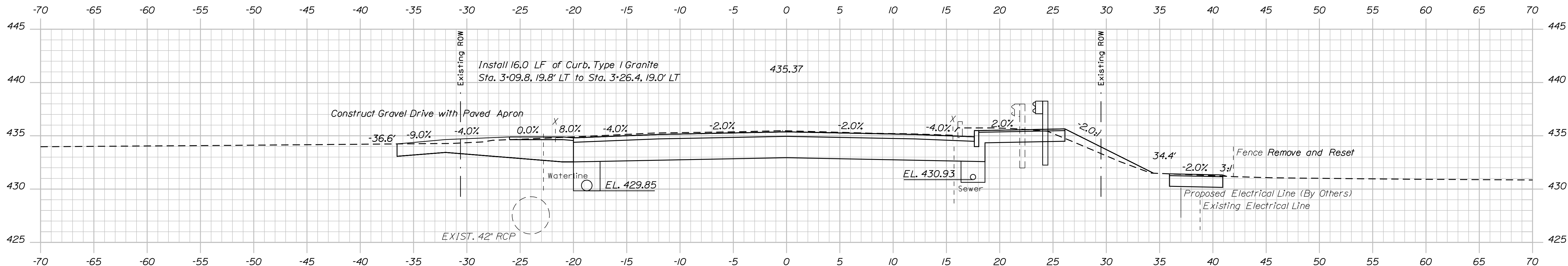
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Division: HIGHWAY

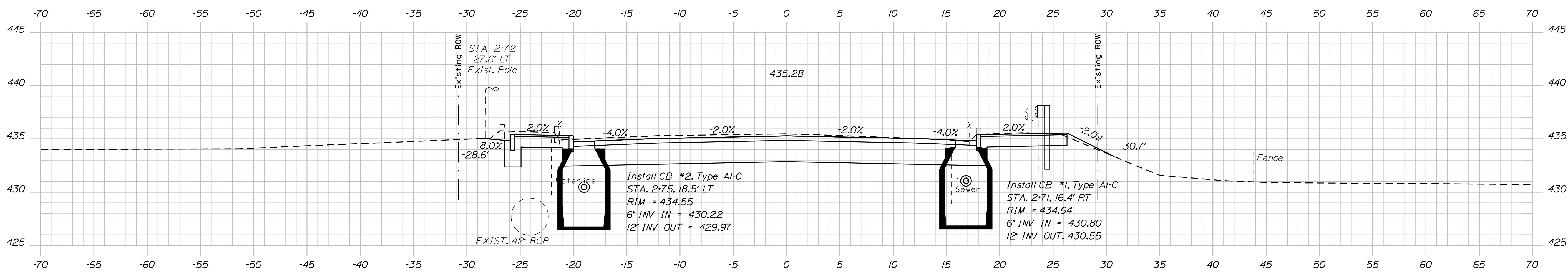
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3+25.00



3+00.00



2+75.00



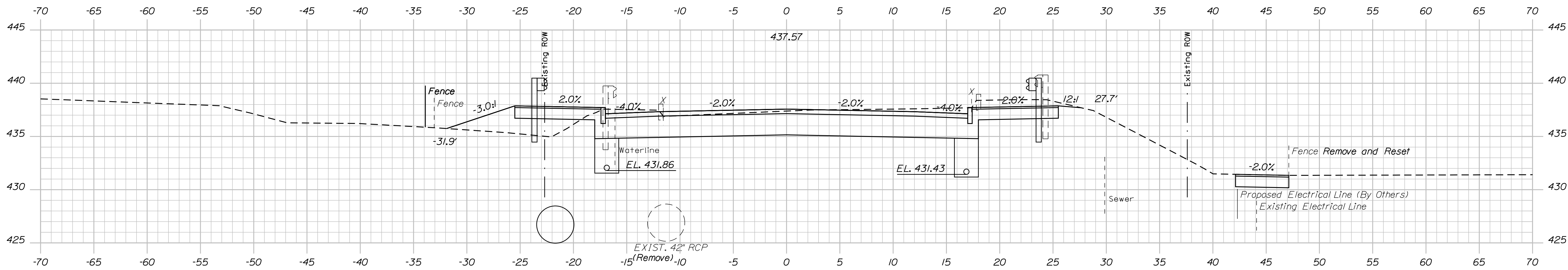
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2170(000)		WIN		BRIDGE #2707		BRIDGE PLANS	
PROJ. MANAGER		BY		DATE		SIGNATURE		P.E. NUMBER		DATE	
DESIGN-DETAILED		S. Davis		4/24/23							
CHECKED-REVIEWED		D. Bryant		4/24/23							
DESIGN-DETAILED											
REVISIONS 1											
REVISIONS 2											
REVISIONS 3											
REVISIONS 4											
FIELD CHANGES											
RED BRIDGE						OVER SWIFT RIVER					
RUMFORD - MEXICO						OXFORD COUNTY					
CROSS SECTIONS - ROUTE 2											
SHEET NUMBER											
18											
OF 56											

Date: 6/13/2023

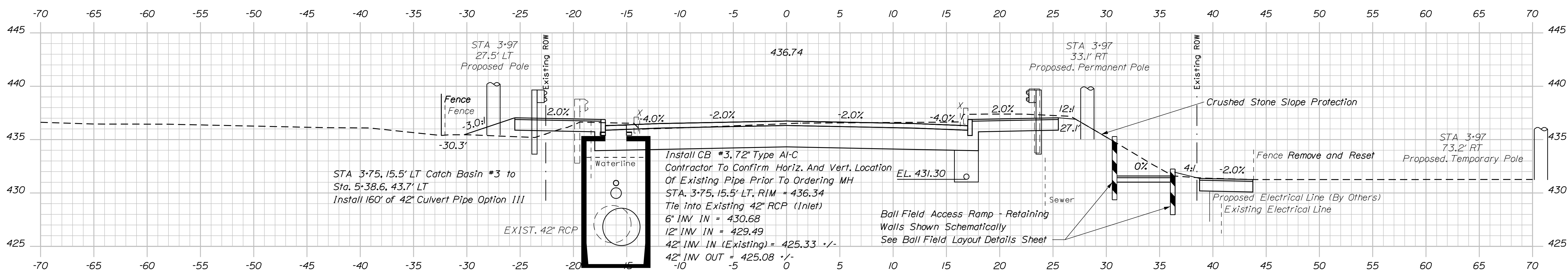
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Division: HIGHWAY

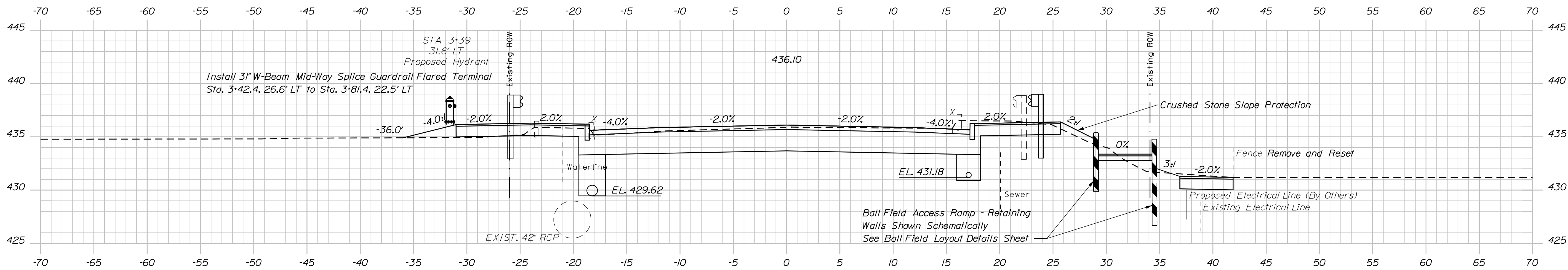
Filename: ... \xxx\_XS-Variable girder04.dgn



Install 94.5 LF of 31" W-Beam Mid-Way Splice Guardrail  
Sta. 3+81.4, 22.5' LT to Sta. 4+78.6, 22.5' LT  
4+00.00



Install CB #3, 72" Type A-C  
Contractor To Confirm Horiz. And Vert. Location  
Of Existing Pipe Prior To Ordering MH  
STA. 3+75, 15.5' LT, RIM = 436.34  
Tie into Existing 42" RCP (Inlet)  
6" INV IN = 430.68  
12" INV IN (Existing) = 429.49  
42" INV IN (Existing) = 425.33 +/-  
42" INV OUT = 425.08 +/-  
-10 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70  
3+75.00



Install 121' x 6" Underdrain Type B  
3+50.00

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2170(000)		WIN		BRIDGE #2707		BRIDGE PLANS	
RED BRIDGE		OVER SWIFT RIVER		RUMFORD - MEXICO		OXFORD COUNTY		CROSS SECTIONS - ROUTE 2		SHEET NUMBER	
PROJ. MANAGER	M. WIGHT	BY	J. Rollins	DATE	4/24/23	SIGNATURE		P.E. NUMBER		DATE	
DESIGN DETAILED	S. Davis	CHECKED/REVIEWED	D. Bryant	DESIGN DETAILED	4/24/23	REVISIONS 1		REVISIONS 2		REVISIONS 3	
DESIGN DETAILED		REVISIONS 4		FIELD CHANGES							



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OF 56

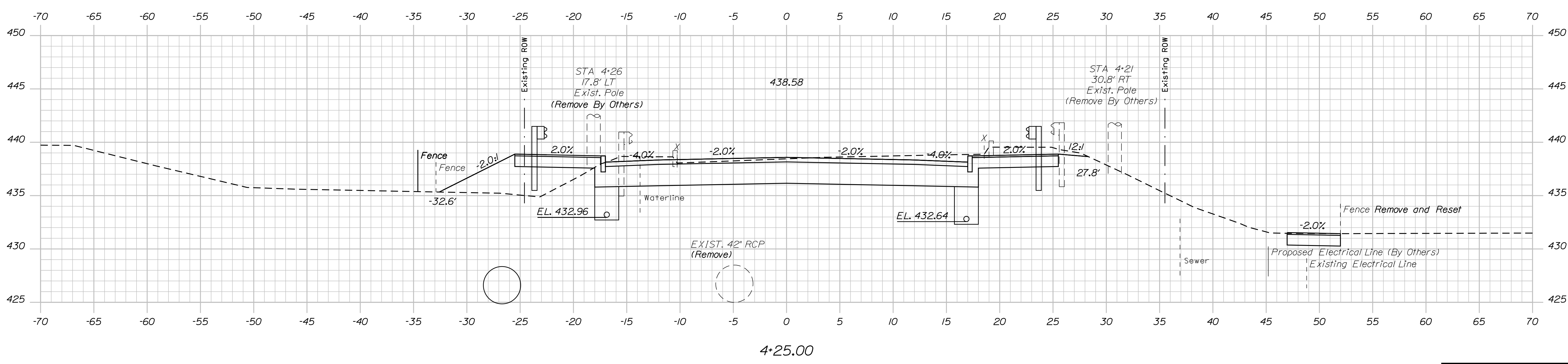
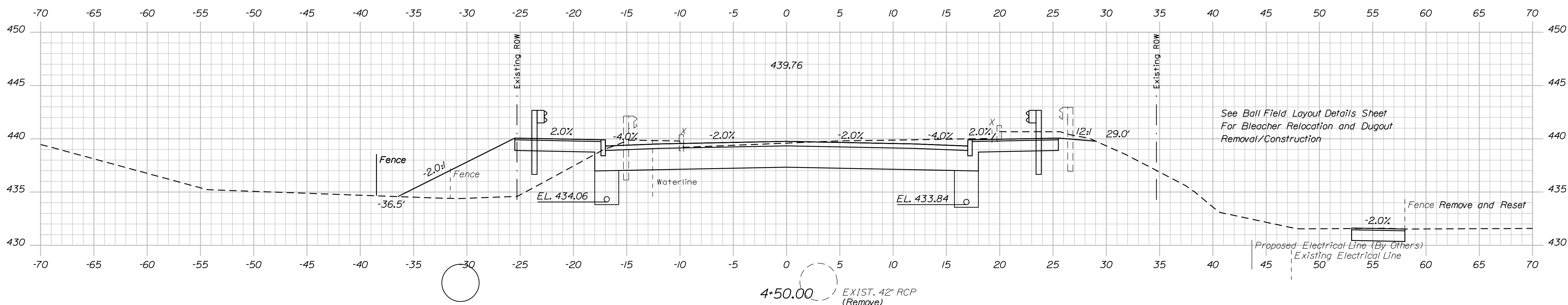
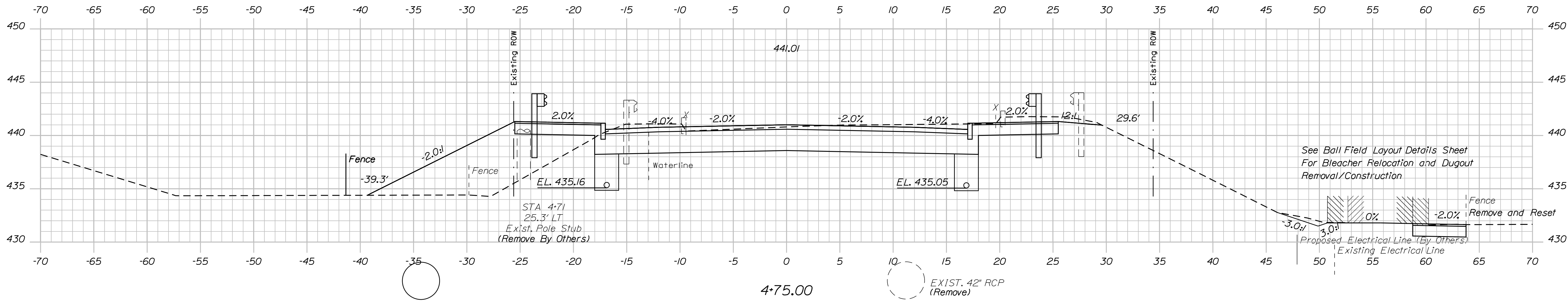
Sta. 3+50.00 to Sta. 4+00.00

Date: 6/13/2023

Username:

Division: HIGHWAY

Filename: ... \xxx\_XS-Variable girder05.dgn



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2170(000)  
WIN  
21700.01  
BRIDGE #2707  
BRIDGE PLANS

DESIGN-DETAILED	J. Rollins	4/24/23	SIGNATURE
CHECKED-REVIEWED	D. Bryant	4/24/23	DATE
DESIGN-DETAILED			
REVISIONS 1			P.E. NUMBER
REVISIONS 2			DATE
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PROJ. MANAGER  
M. WIGHT  
S. Davis  
D. Bryant

RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY  
CROSS SECTIONS - ROUTE 2

SHEET NUMBER  
**20**  
OF 56



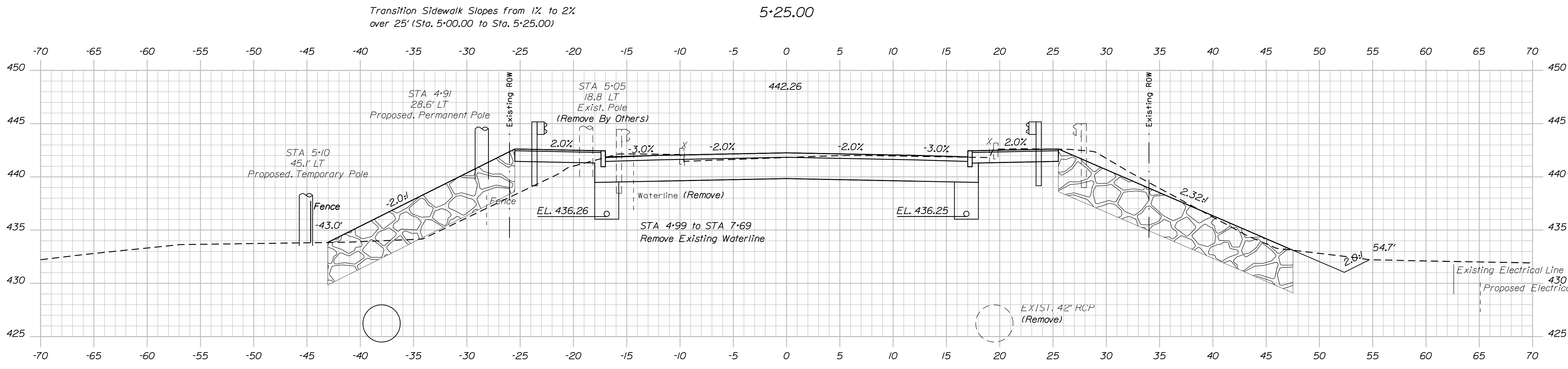
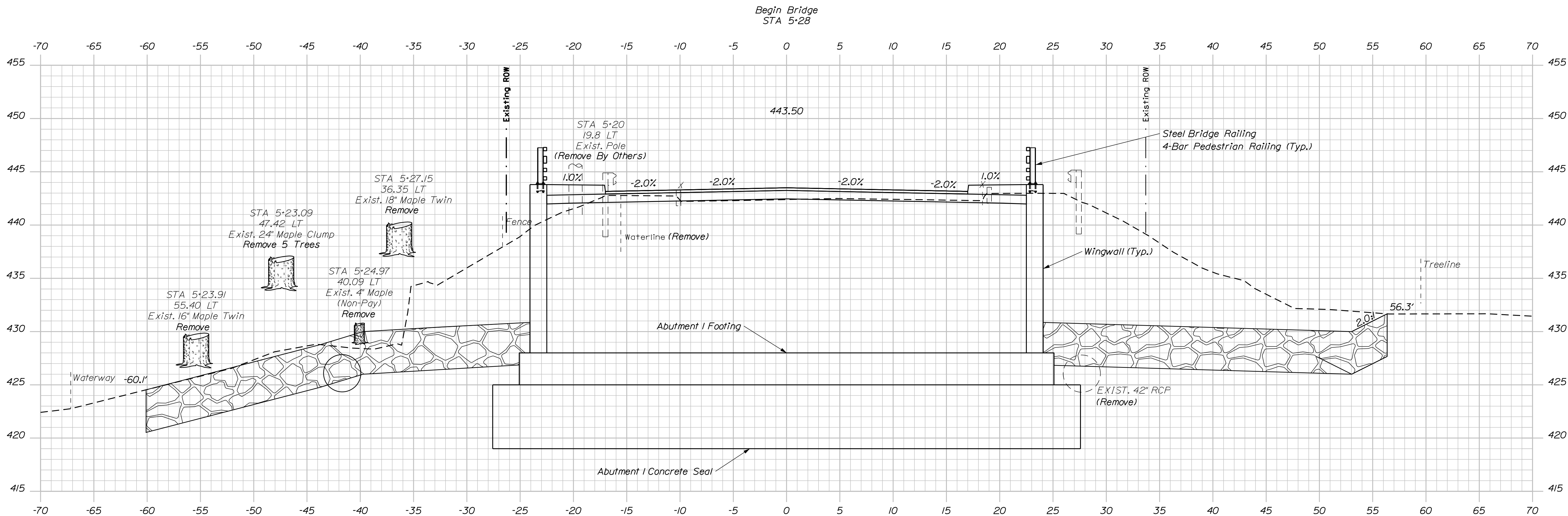
Sta. 4+25.00 to Sta. 4+75.00

Date: 6/13/2023

Username:

Division: HIGHWAY

Filename: ... \xxx\_XS-Variable girder.06.dgn



Install Bridge Transition - Type I Item Number 606.I72I  
 Sta. 4+78.57, 22.5' LT to Sta. 4+98.54, 22.5' RT  
 Install Steel Approach Railing, 4-Bar Item Number 507.0816I  
 Sta. 4+98.54, 22.5' LT to Sta. 5+09.25, 22.5' RT

5+00.00

Install Bridge Transition - Type I Item Number 606.I72I  
 Sta. 4+78.57, 22.5' RT to Sta. 4+98.54, 22.5' RT  
 Install Steel Approach Railing, 4-Bar Item Number 507.0816I  
 Sta. 4+98.54, 22.5' RT to Sta. 5+09.25, 22.5' RT

DATE	SIGNATURE	P.E. NUMBER	DATE
4/24/23			
4/24/23			

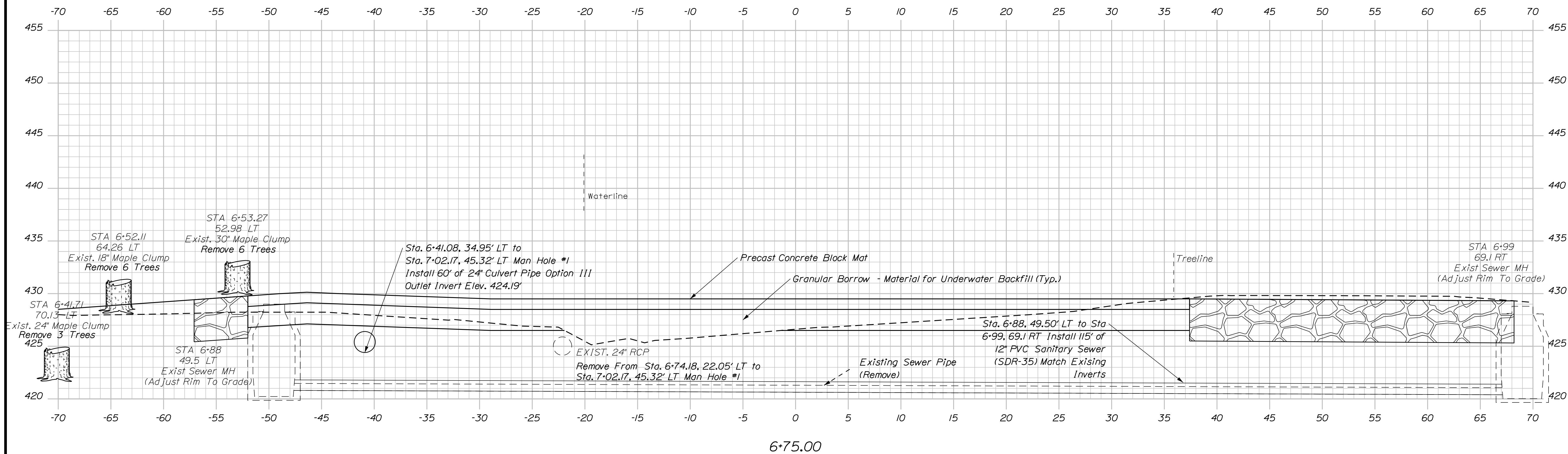
PROJ. MANAGER	M. WIGHT	BY	J. RALPHS	DATE	4/24/23
DESIGN DETAILED	S. DAVIS	CHECKED/REVIEWED	D. BRYANT	DESIGN DETAILED	
REVISIONS 1		REVISIONS 2		REVISIONS 3	
REVISIONS 4		FIELD CHANGES			

SHEET NUMBER

21

OF 56





6+75.00



STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
**STP-2170(000)**

BRIDGE #2707  
 WIN  
 21700.01  
 BRIDGE PLANS

PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN DETAILED	S. Davis	J. Rolins	4/24/23
CHECKED/REVIEWED	D. Bryant	D. Bryant	4/24/23
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

RED BRIDGE  
 OVER SWIFT RIVER  
 RUMFORD - MEXICO OXFORD COUNTY  
**CROSS SECTIONS - ROUTE 2**

SHEET NUMBER

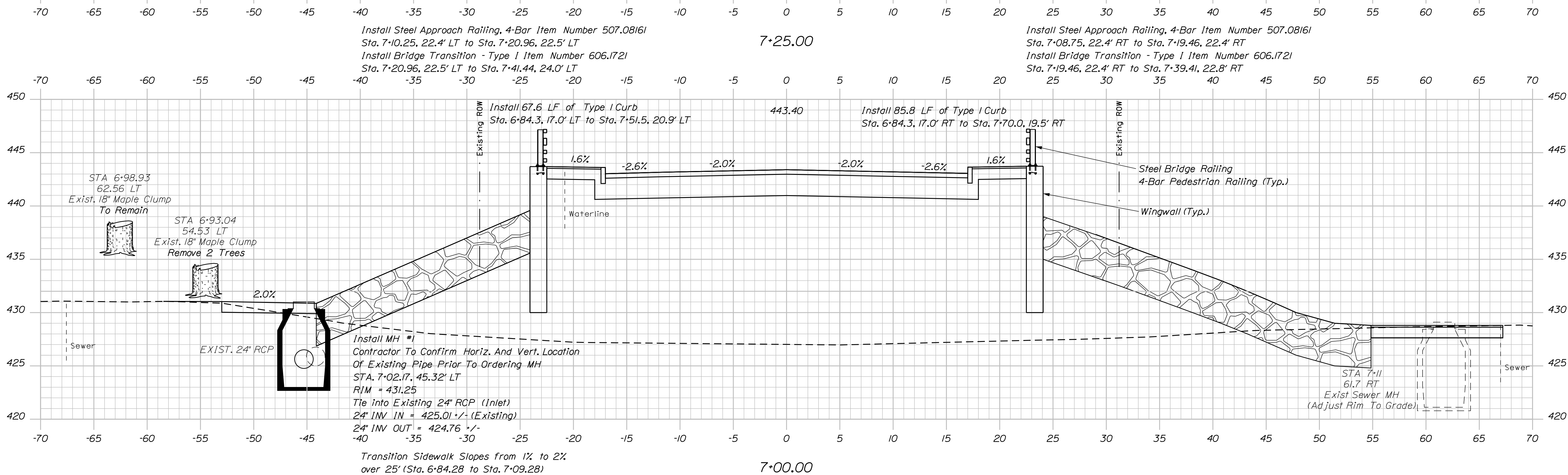
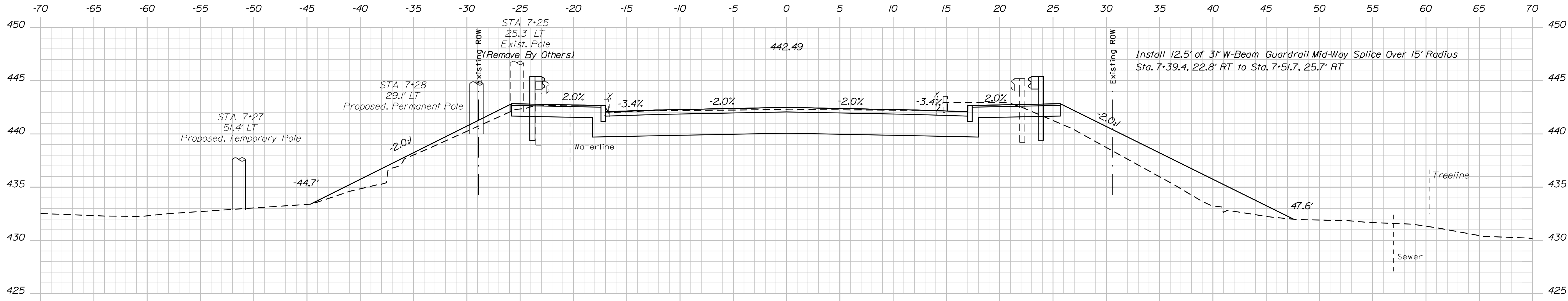
22  
OF 56

Date: 6/13/2023

Username:

Division: HIGHWAY

Filename: ... \xxx\_XS-Variable girder12.dgn



End Bridge  
STA 6+83



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2170(000)  
BRIDGE #2707  
WIN  
21700.01  
BRIDGE PLANS

PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN-DETAILED	S. DAVIS	J. RAJES	4/24/23
CHECKED-REVIEWED	D. BRYANT	D. BRYANT	4/24/23
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE	P.E. NUMBER	DATE

RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY  
CROSS SECTIONS - ROUTE 2

SHEET NUMBER  
**23**  
OF 56

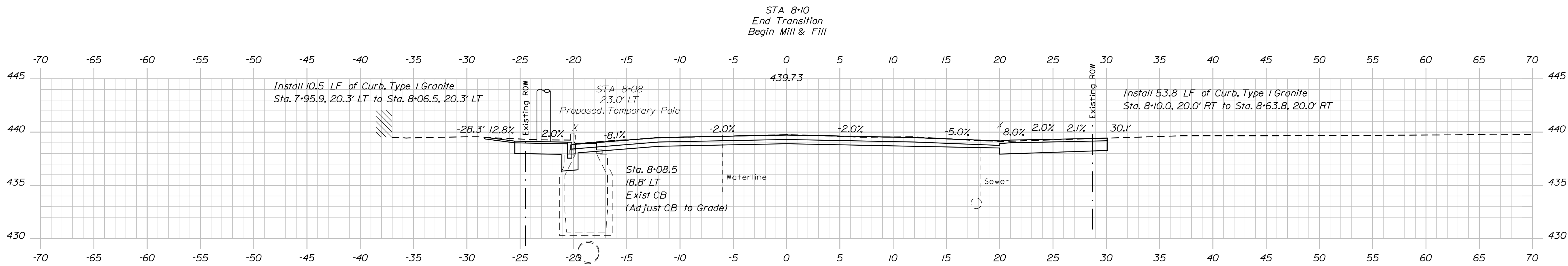
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Date: 6/13/2023

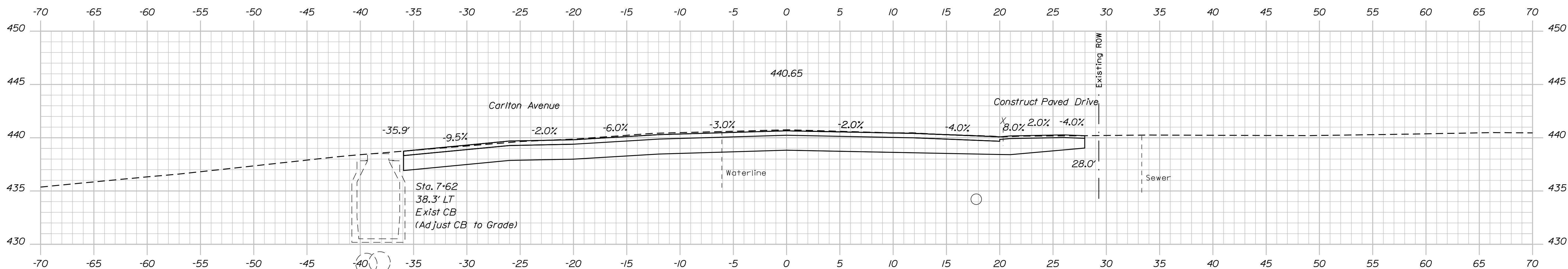
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Division: HIGHWAY

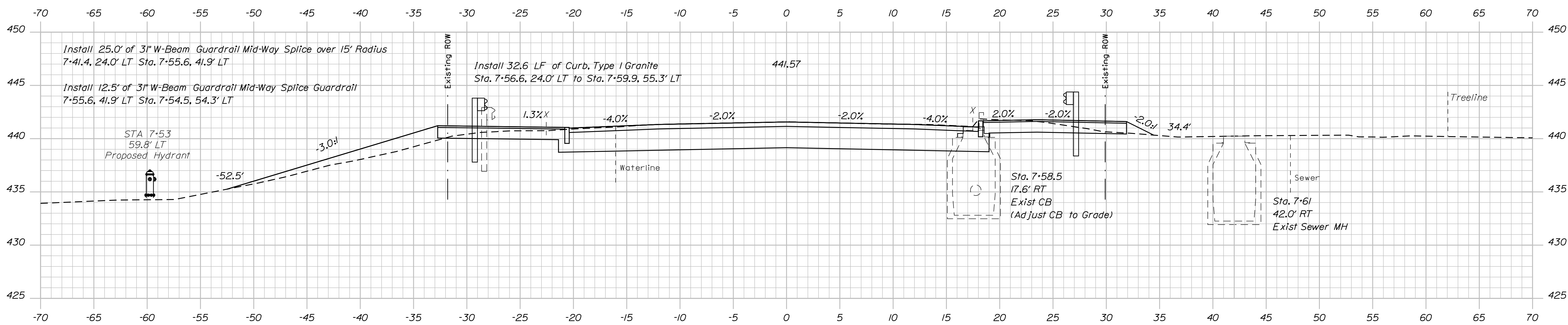
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8+00.00



7+75.00



7+50.00

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2170(000)		WIN		BRIDGE #2707		BRIDGE PLANS	
RED BRIDGE		OVER SWIFT RIVER		OXFORD COUNTY		RUMFORD - MEXICO		CROSS SECTIONS - ROUTE 2		SHEET NUMBER	
PROJ. MANAGER	M. WIGHT	BY	J. Rollins	DATE	4/24/23	SIGNATURE		P.E. NUMBER		DATE	
DESIGN-DETAILED	S. Davis	CHECKED-REVIEWED	D. Bryant	DATE	4/24/23	SIGNATURE		P.E. NUMBER		DATE	
DESIGN-DETAILED		DESIGN-DETAILED		REVISIONS 1		REVISIONS 2		REVISIONS 3		REVISIONS 4	
FIELD CHANGES											



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OF 56

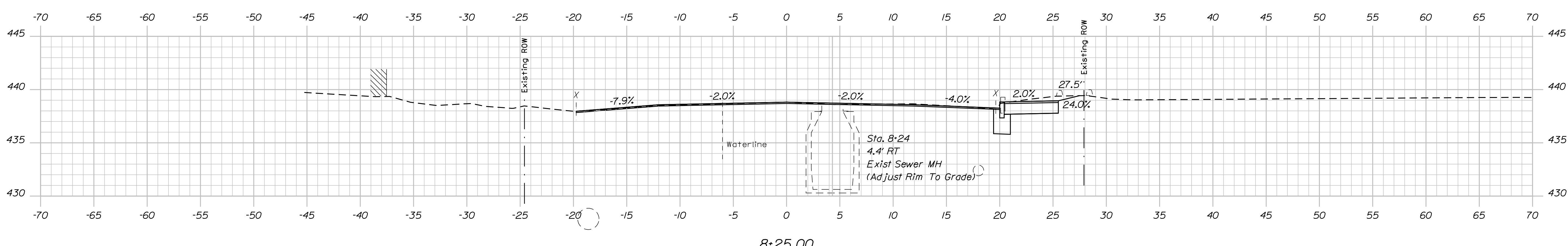
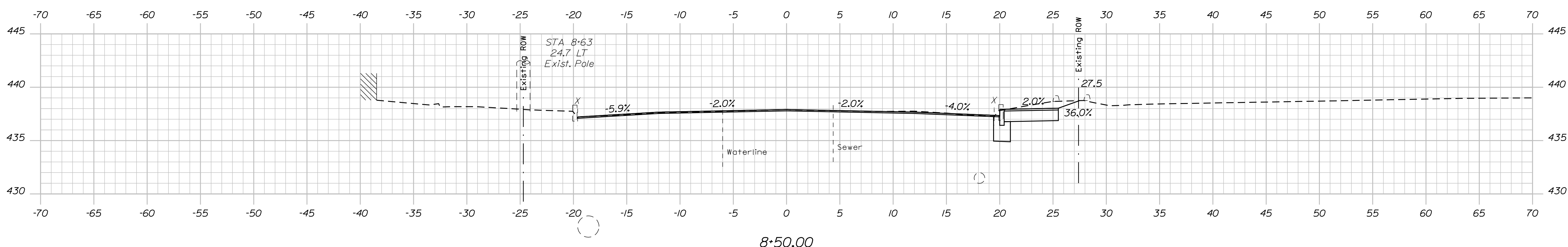
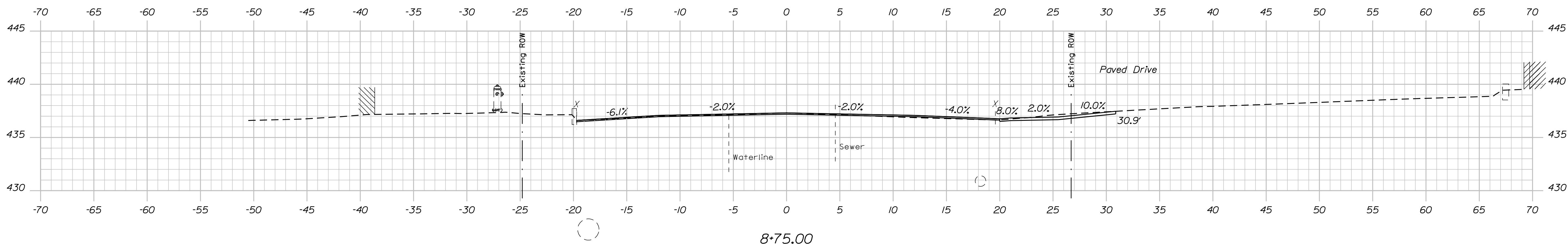
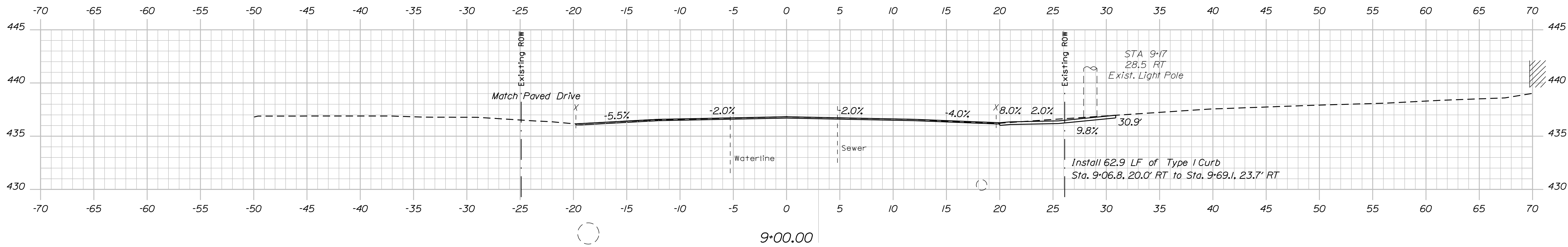
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Date: 6/13/2023

Username:

Division: HIGHWAY

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STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2170(000)  
BRIDGE #2707  
WIN  
21700.01  
BRIDGE PLANS

DESIGNED BY	J. Rollins	DATE	4/24/23
CHECKED BY	D. Bryant	DATE	4/24/23
DESIGNED BY	S. Davis	DATE	
CHECKED BY	D. Bryant	DATE	
DESIGNED BY		DATE	
CHECKED BY		DATE	
DESIGNED BY		DATE	
CHECKED BY		DATE	
DESIGNED BY		DATE	
CHECKED BY		DATE	

PROJ. MANAGER	M. Wight	DATE	
DESIGNED BY	S. Davis	DATE	
CHECKED BY	D. Bryant	DATE	
DESIGNED BY		DATE	
CHECKED BY		DATE	
DESIGNED BY		DATE	
CHECKED BY		DATE	
DESIGNED BY		DATE	
CHECKED BY		DATE	

RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO  
OXFORD COUNTY  
CROSS SECTIONS - ROUTE 2

SHEET NUMBER  
**25**  
OF 56



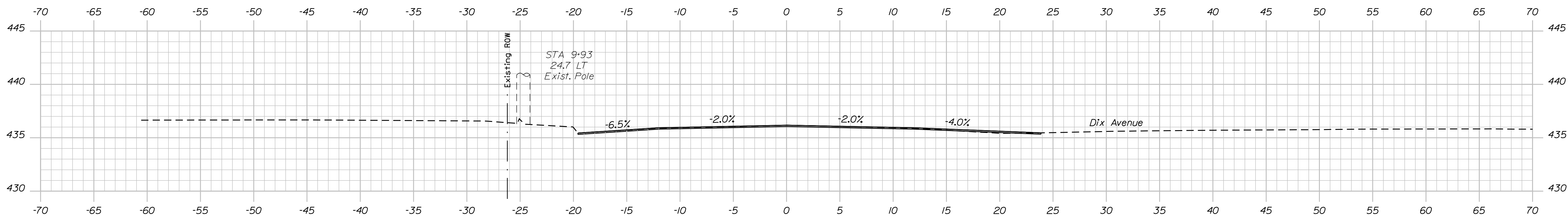
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Date: 6/13/2023

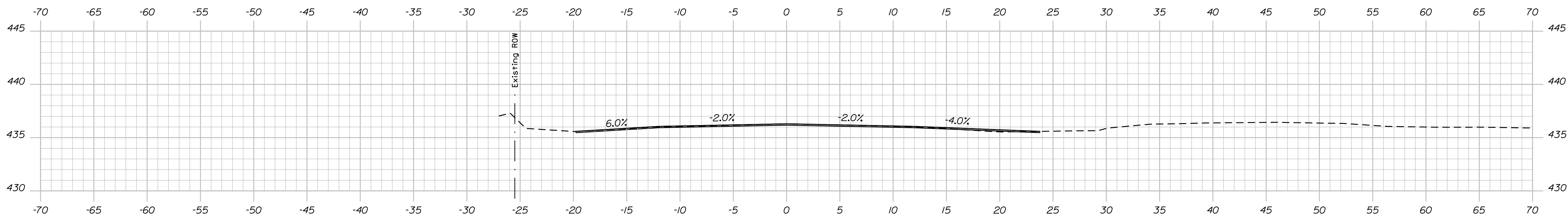
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Division: HIGHWAY

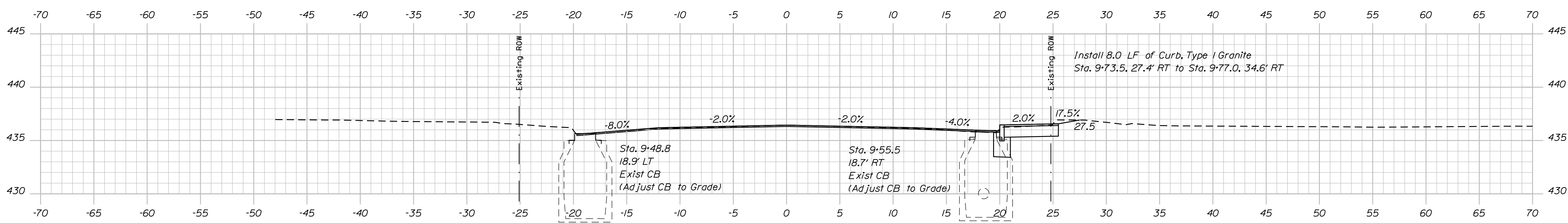
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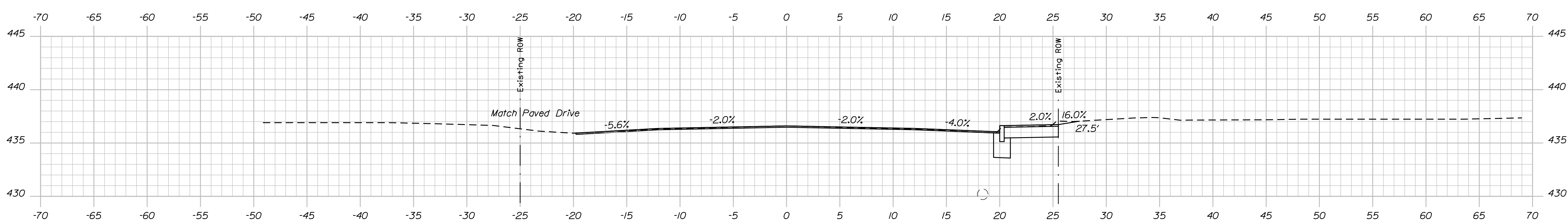
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9+75.00



9+50.00



9+25.00

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-2170(000)  
 WIN 21700.01  
 BRIDGE #2707  
 BRIDGE PLANS

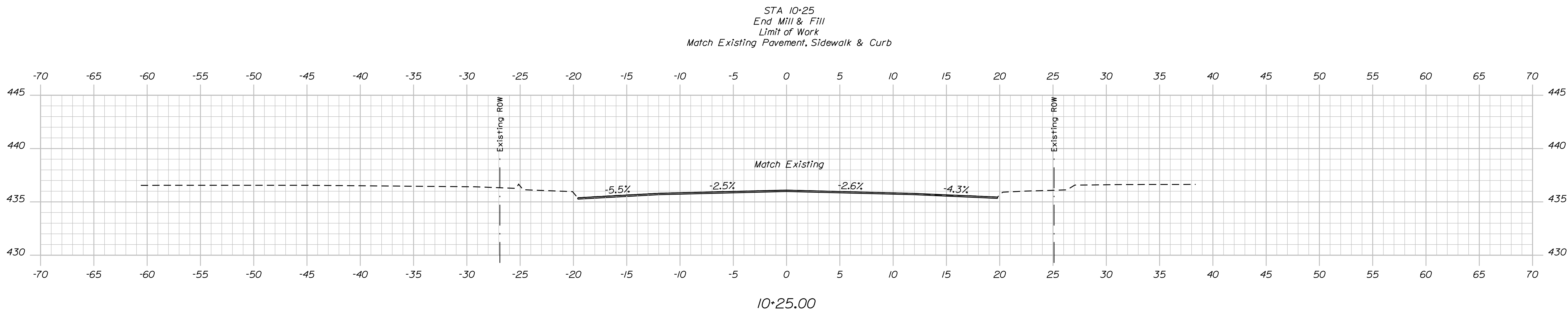
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CHECKED/REVIEWED	J. Rollins	4/24/23	P.E. NUMBER
DESIGN DETAILED	D. Bryant		DATE
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PROJ. MANAGER  
 M. WIGHT  
 S. Davis  
 D. Bryant

RED BRIDGE  
 OVER SWIFT RIVER  
 RUMFORD - MEXICO OXFORD COUNTY  
 CROSS SECTIONS - ROUTE 2

SHEET NUMBER  
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 OF 56





STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
**STP-2170(000)**

BRIDGE #2707  
WIN  
21700.01  
BRIDGE PLANS

PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN-DETAILED	S. Davis	J. Rollins	4/24/23
CHECKED-REVIEWED	D. Bryant	D. Bryant	4/24/23
DESIGN-DETAILED			SIGNATURE
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REVISIONS 2			DATE
REVISIONS 3			
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FIELD CHANGES			

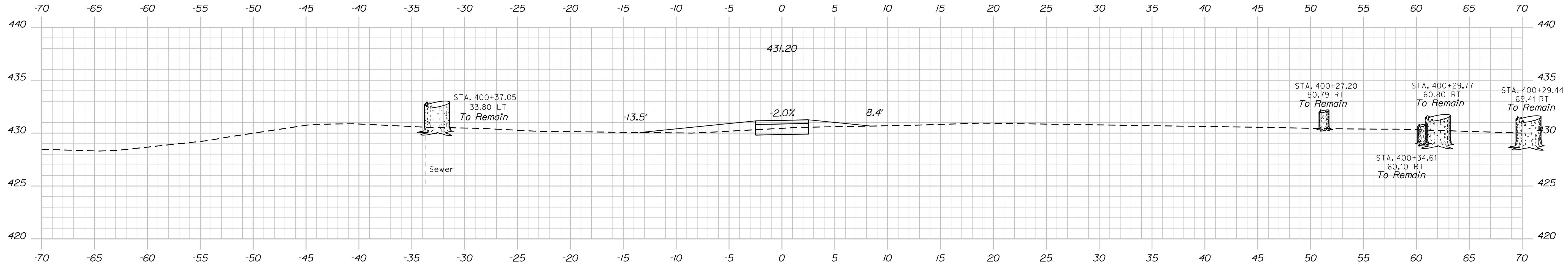
RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY  
**CROSS SECTIONS - ROUTE 2**

SHEET NUMBER  
**27**  
OF 56

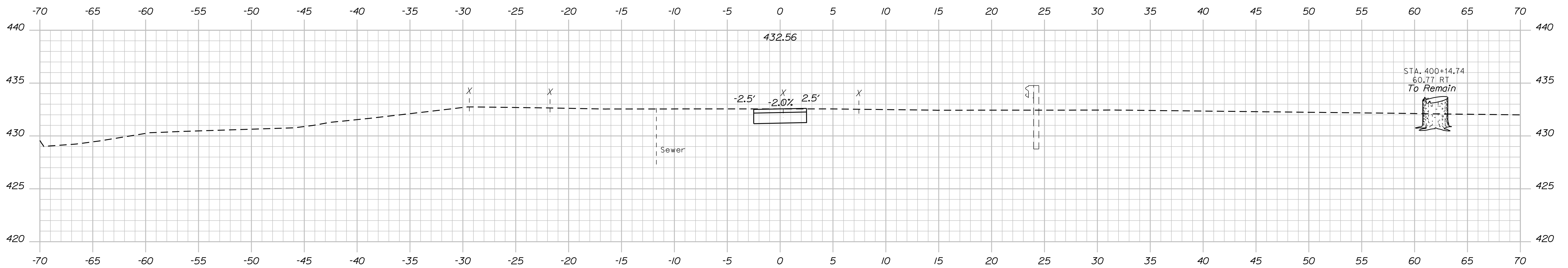
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Username:

Filename: ... \xxx\_XS-Boat Landing & Path01.dgn Division: HIGHWAY



400+25.00



400+04.94

STA 400+04.94  
Begin Boat Launch Pathway

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2170(000)  
WIN 21700.01  
BRIDGE #2707 BRIDGE PLANS

DESIGNED	DATE
CHECKED	4/24/23
DESIGNED	4/24/23
REVISIONS 1	SIGNATURE
REVISIONS 2	P.E. NUMBER
REVISIONS 3	DATE
REVISIONS 4	
FIELD CHANGES	

PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN DETAILED	D. Bryant	J. Rollins	4/24/23
CHECKED/REVIEWED	T. Adams	D. Bryant	4/24/23
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY  
CROSS SECTIONS-BOAT RAMP

SHEET NUMBER

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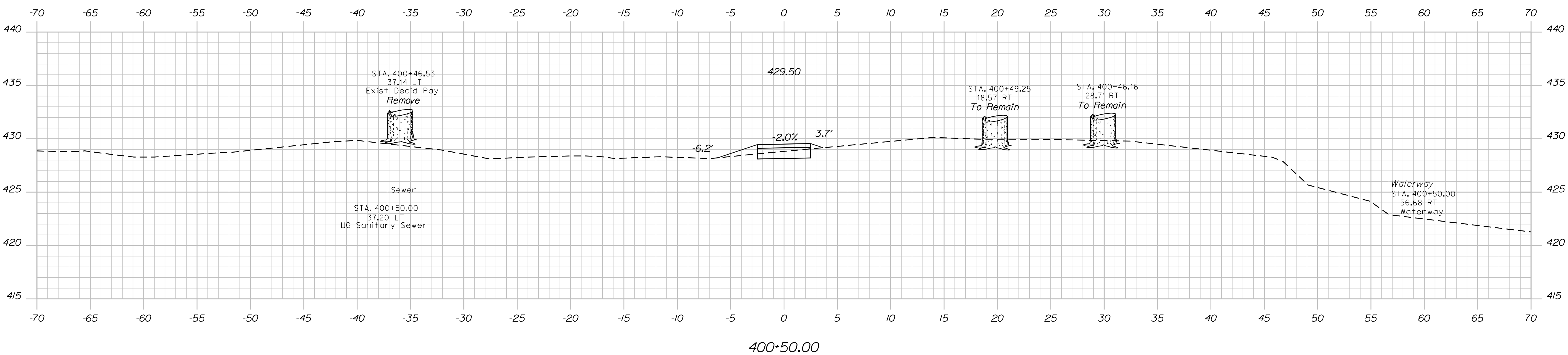
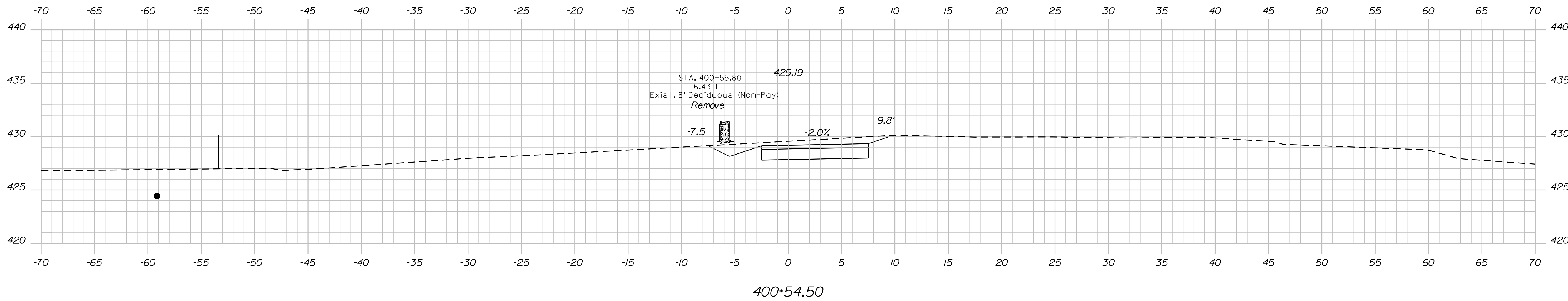


Sta. 400+04.94 to Sta. 400+25.00

Date: 6/13/2023

Username:

Filename: ... \xxx\_XS-Boat Landing & Path02.dgn Division: HIGHWAY



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2170(000)  
BRIDGE #2707  
WIN  
21700.01  
BRIDGE PLANS

PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN-DETAILED	D. Bryant	J. Rollins	4/24/23
CHECKED-REVIEWED	T. Adams	D. Bryant	4/24/23
DESIGN-DETAILED			SIGNATURE
REVISIONS 1			P.E. NUMBER
REVISIONS 2			DATE
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY  
CROSS SECTIONS-BOAT RAMP

SHEET NUMBER  
**29**  
OF 56

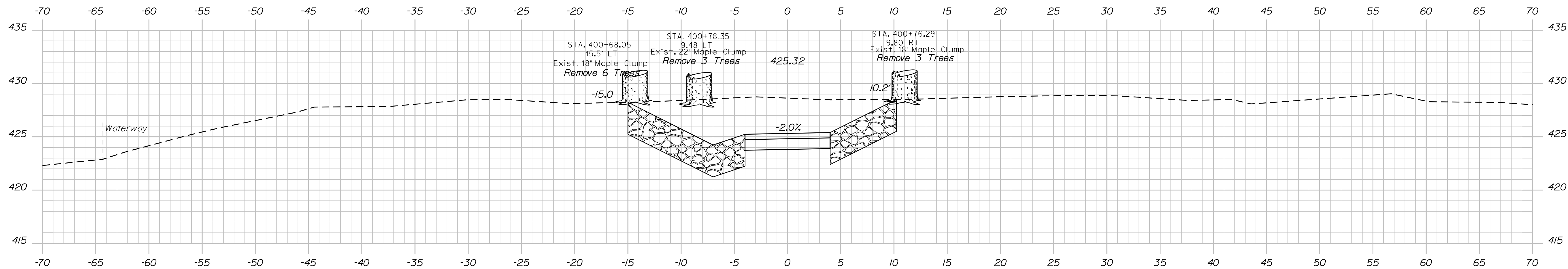


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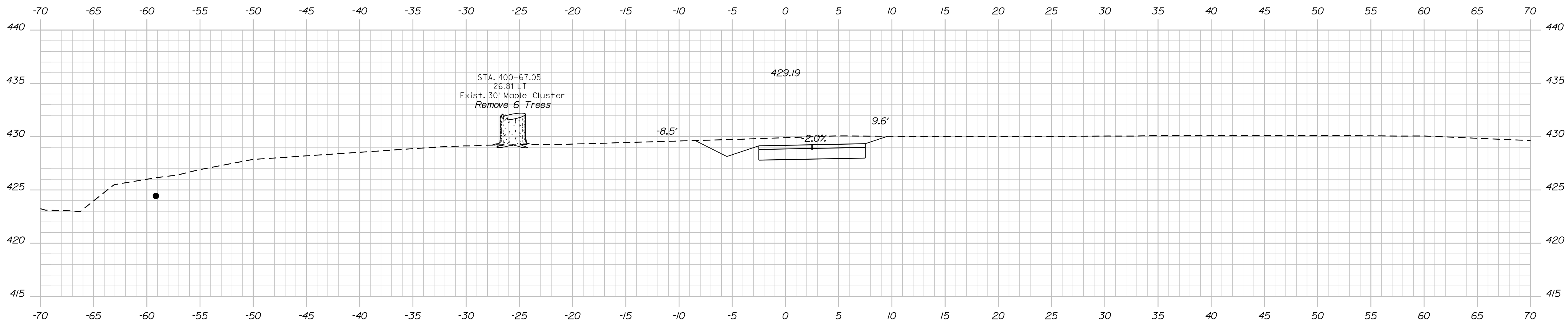
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Username:

Filename: ... \xxx\_XS-Boat Landing & Path03.dgn Division: HIGHWAY



400+75.00



400+59.50

STA 400+59.50  
End Boat Launch Pathway  
Begin Boat Launch Ramp



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
STP-2170(000)  
WIN  
21700.01  
BRIDGE #2707  
BRIDGE PLANS

DESIGNED	DATE
CHECKED	4/24/23
DESIGNED	4/24/23
REVISIONS 1	SIGNATURE
REVISIONS 2	P.E. NUMBER
REVISIONS 3	DATE
REVISIONS 4	
FIELD CHANGES	

PROJ. MANAGER M. WIGHT  
DESIGNED D. Bryant  
CHECKED T. Adams  
DESIGNED D. Bryant  
REVISIONS 1  
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REVISIONS 4  
FIELD CHANGES

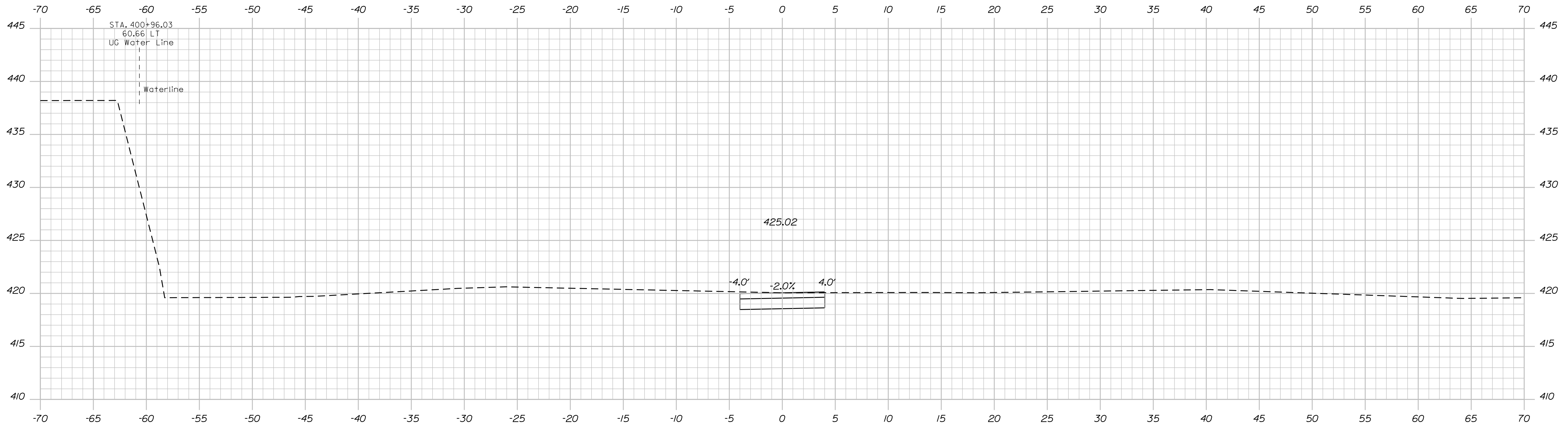
RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY  
CROSS SECTIONS- BOAT RAMP

SHEET NUMBER  
**30**  
OF 56

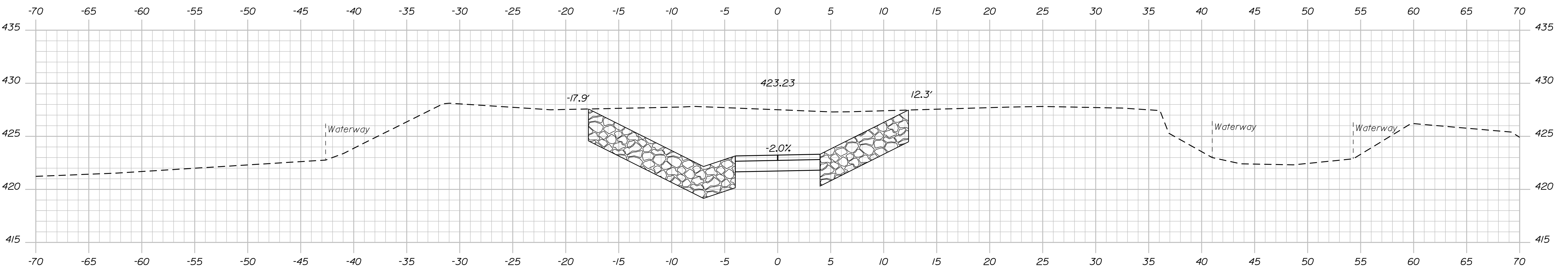
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400+96.03  
 STA 400+96.03  
 End Boat Launch Ramp



400+83.00

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-2170(000)  
 WIN  
 BRIDGE #2707  
 BRIDGE PLANS

PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN-DETAILED	D. Bryant	J. Rollins	4/24/23
CHECKED-REVIEWED	T. Adams	D. Bryant	4/24/23
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

RED BRIDGE  
 OVER SWIFT RIVER  
 RUMFORD - MEXICO OXFORD COUNTY  
 CROSS SECTIONS-BOAT RAMP

SHEET NUMBER

31

OF 56

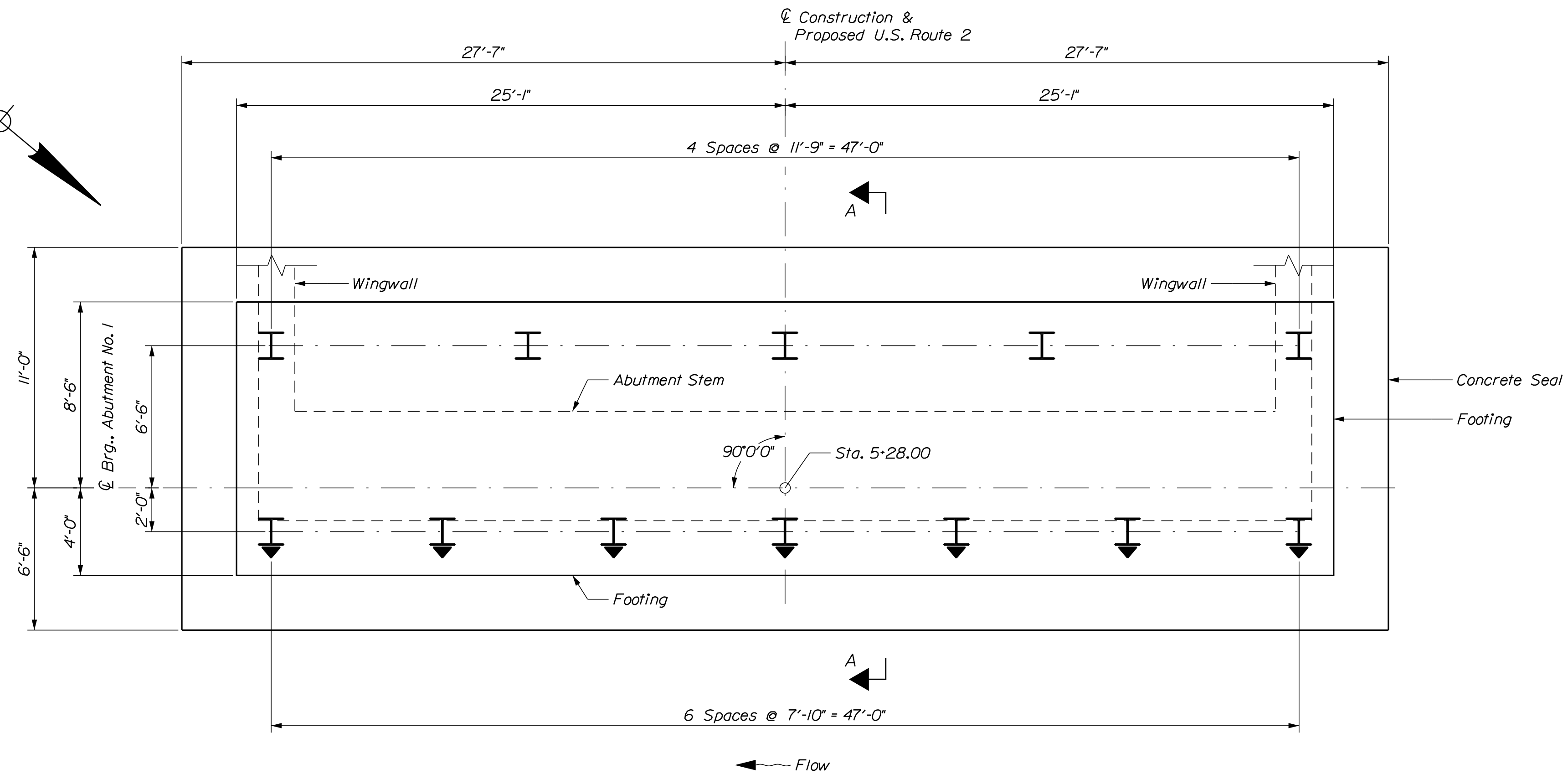
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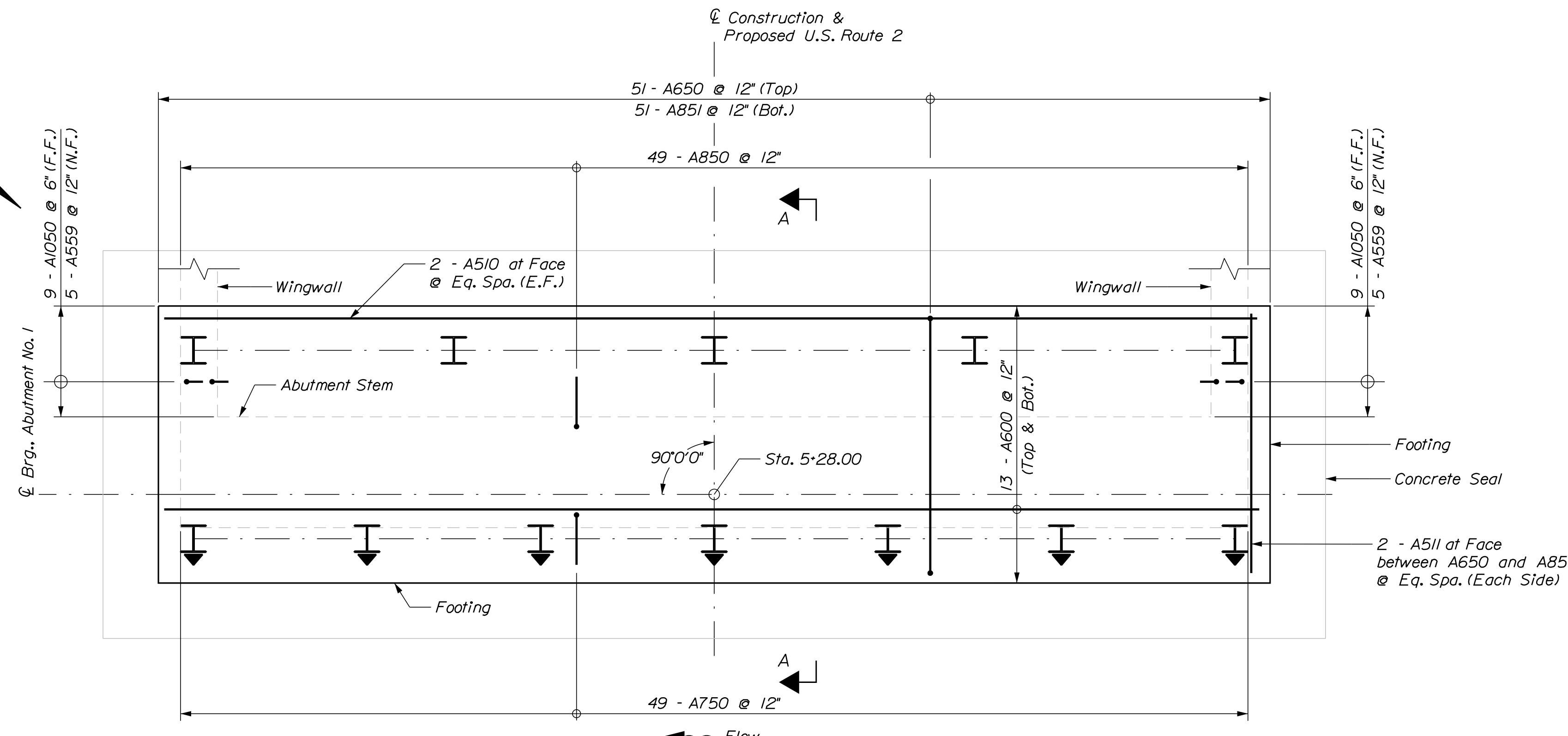
Username:

Division: HIGHWAY

Filename: ... \MSTA\xxx\_Abut\_1\_Footing.dgn





ABUTMENT NO. 1 - FOOTING & PILE PLAN



ABUTMENT NO. 1 - REINFORCING PLAN

Legend:

-  H-Pile
-  Battered H-Pile

PILE NOTES:

1. The maximum factored pile load is 365 kips at the Strength Limit State.
2. Piles shall be driven to the required resistance on or within bedrock in accordance with Standard Specification Section 501.
3. Estimate of piles required:  
 Abutment No. 1: 12 - HP 14x89 @ 21.00 feet  
 Abutment No. 2: 13 - HP 14x89 @ 25.50 feet \*  
 \* Pile lengths may be adjusted for sloping bedrock present at Abutment No. 2.  
 Maximum estimated pile length = 25.5 ft at south (downstream) side and minimum estimated pile length = 16.5 ft at north (upstream) side  
  
 The order lengths of the piles shall include an additional 5 feet of length for each test pile to accommodate dynamic pile testing equipment.
4. H-pile material shall be ASTM A572, Grade 50.
5. H-pile splices shall be in accordance with Standard Detail 501(03).
6. All piles shall be equipped with a pile tip in accordance with 711.10 H-Beam Piles, Spliced and Tips and Special Provision 501, Rock Injector Pile Tip.
7. Piles marked with an arrow shall be battered 3 inches/foot in the direction of the arrow.
8. The Contractor shall perform and submit a total of six wave equation analysis for review and acceptance by the Resident. Two wave equation analysis shall be performed at Abutment No. 1 (one each for both plumb and battered piles). Four wave equation analysis shall be performed at Abutment No. 2 (one each for both plumb and battered piles at both the upstream and downstream ends of Abutment No. 2). The maximum allowable driving stress is 0.90 times F<sub>y</sub>. The submittal analyses shall include the proposed stopping criteria based on the wave equation analysis and the proposed driving system.
9. The Contractor shall perform six dynamic load test(s) (two at Abutment No. 1 and four at Abutment No. 2) with 24-hour (minimum) restrrike tests to confirm the nominal resistance of the piles. The required nominal resistance for the pile is the factored axial pile load divided by a resistance factor of 0.65 per LRFD Specifications. The first dynamic test shall be performed on the first production pile driven at each abutment. The second dynamic test shall be conducted on the first battered pile driven at each abutment and at the opposite end of the abutment. Dynamic tests at Abutment No. 2 shall be conducted at both the upstream and downstream ends of the abutment. The third dynamic tests at Abutment No. 2 shall be conducted on the vertical pile on the opposite end of the abutment of the first test and the fourth dynamic test at Abutment No. 2 shall be conducted on the batter pile opposite end of the abutment of the second test.

SEAL COFFERDAM NOTES:

1. The seal concrete placement dimensions represent the minimum seal size necessary to meet design requirements and are not based on the use of any particular sheet pile section.
2. The horizontal pay limit for seal concrete shall be to the dimensions shown on the plans. No additional payment will be made for concrete placed outside of these limits.
3. When sheet piling is used for seal cofferdams, appropriate rolled corners shall be used, and the inside face of the sheet piling shall be at or outside of the seal concrete dimensions shown.
4. The depth of the seal is set for a maximum water elevation of 436.5 and the cofferdam shall be vented at this elevation. If the water elevation at the time of construction is higher, the depth of the seal shall be adjusted.
5. Concrete seal at Abutment 1 shall be paid under Item 502.22 Structural Concrete Abutments & Retaining Walls (Placed Under Water).

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	STP-2170(000)	WIN 21700.01	BRIDGE #2707 BRIDGE PLANS
DATE 1/2022	BY S. Moran R. Hebert	SIGNATURE	P.E. NUMBER DATE
DESIGN DETAILED	CHECKED/REVIEWED	DESIGN DETAILED	REVISIONS
DESIGN DETAILED	DESIGN DETAILED	REVISIONS 1	REVISIONS 2
REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4
REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES
REVISIONS 3	REVISIONS 4	FIELD CHANGES	
RED BRIDGE OVER SWIFT RIVER RUMFORD - MEXICO OXFORD COUNTY			
ABUTMENT NO. 1 PILE & FOOTING PLAN			
SHEET NUMBER			
32			
OF 56			

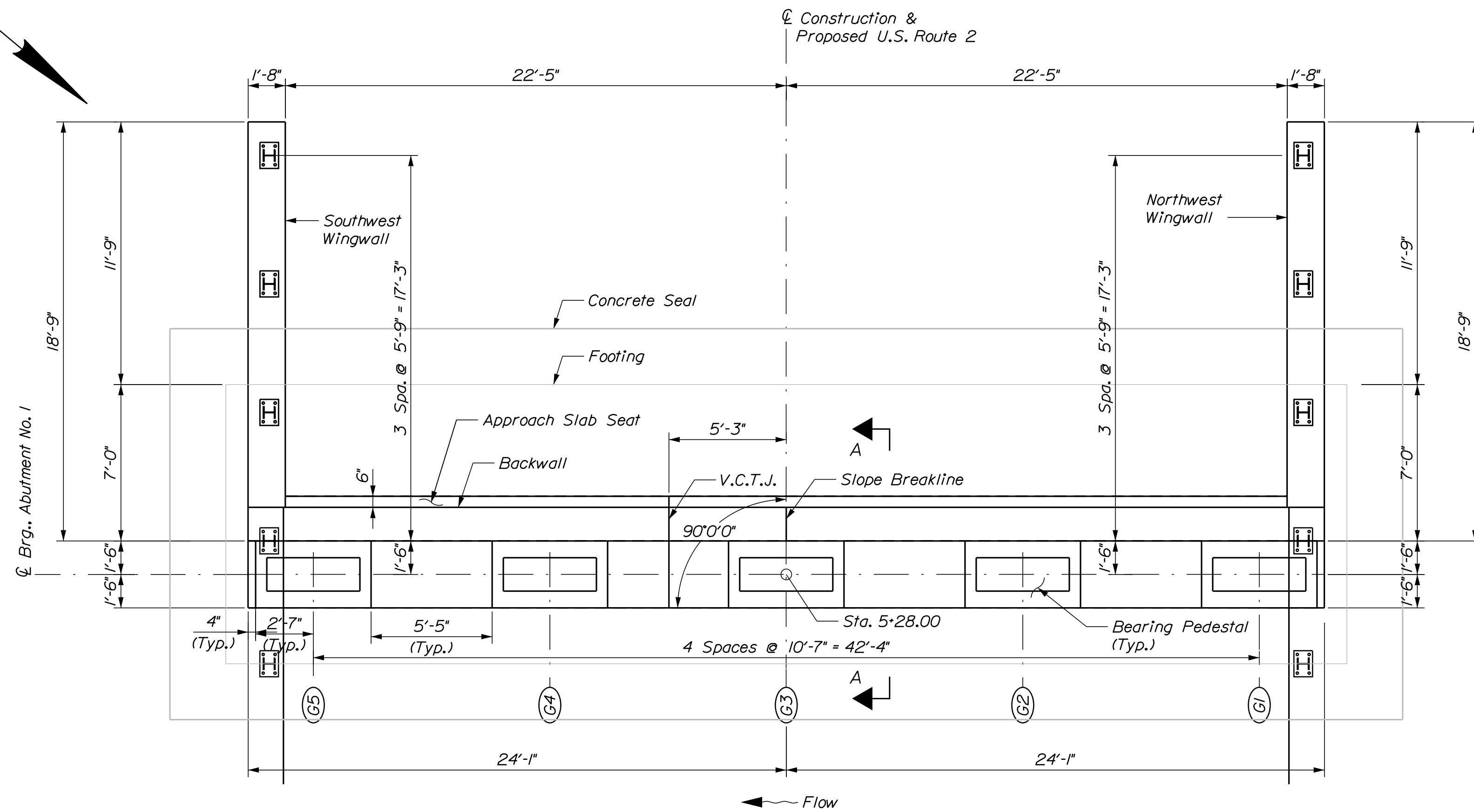
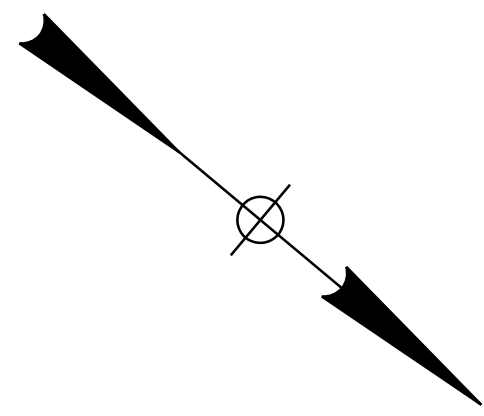


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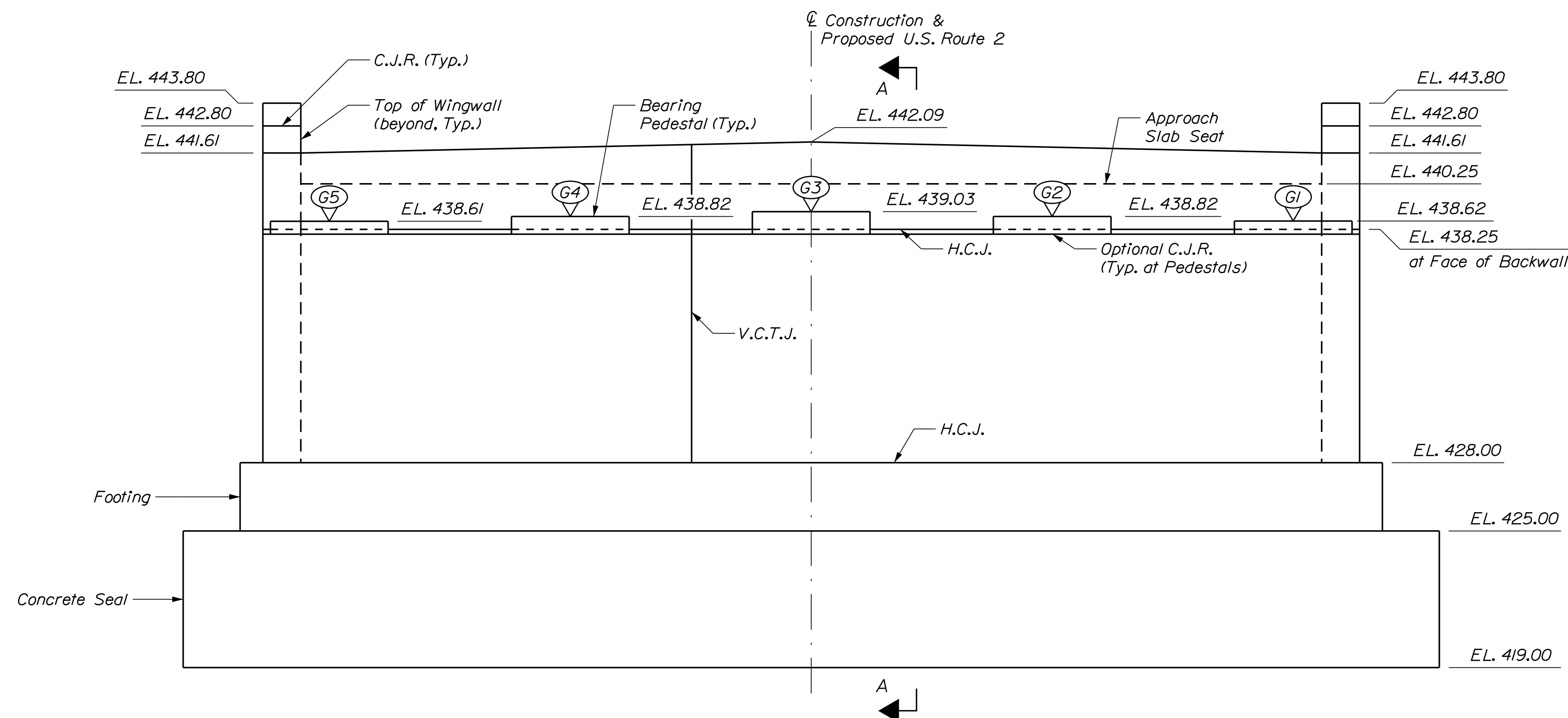
Username:

Division: HIGHWAY

Filename: ... \xxx\_Abut\_1\_Plan\_Elevation.dgn



**ABUTMENT NO. 1 - PLAN**  
(Piles Not Shown For Clarity)



**ABUTMENT NO. 1 - ELEVATION**  
(Piles Not Shown For Clarity)

**LEGEND:**

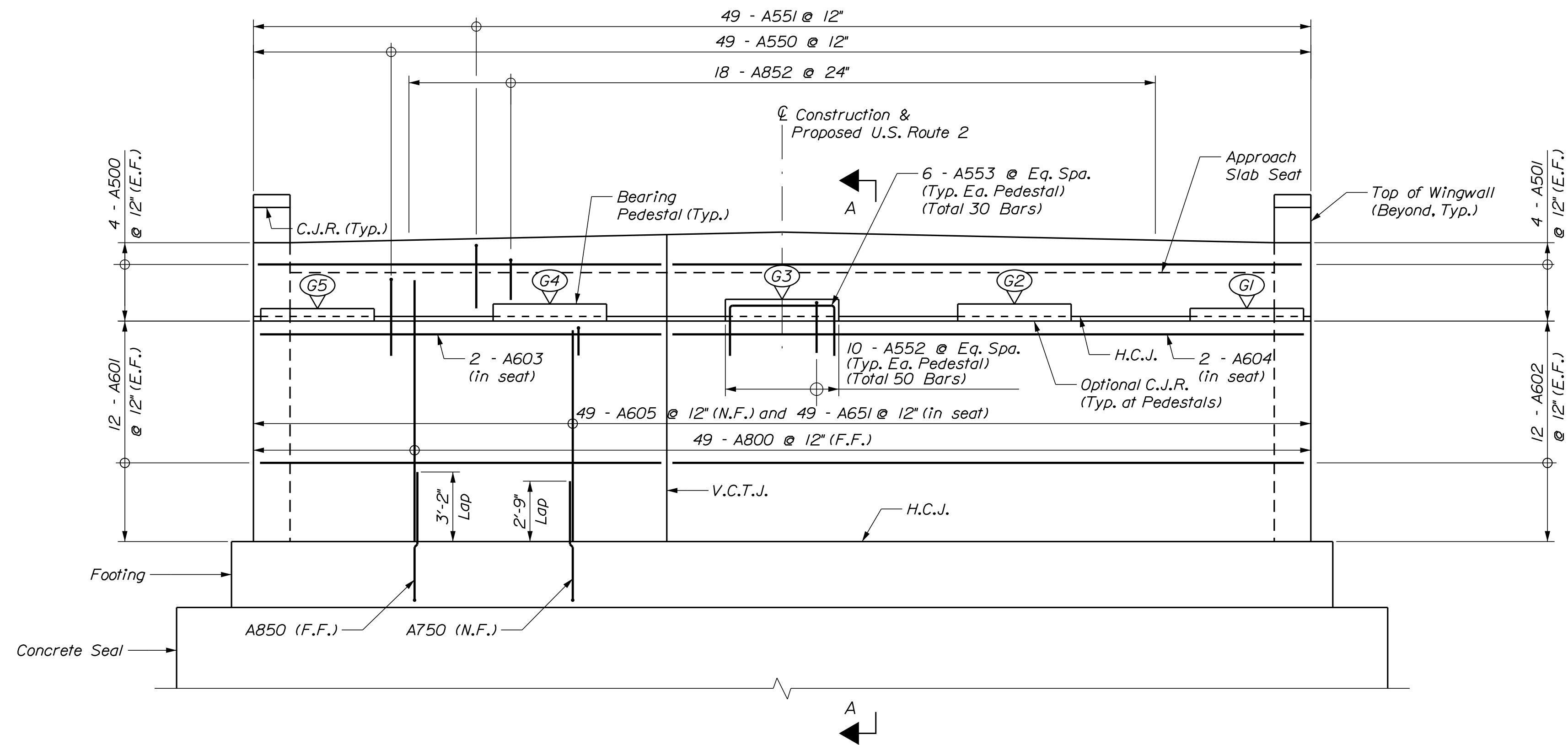
H.C.J. = Horizontal Construction Joint  
 V.C.T.J. = Vertical Construction Joint  
 C.J.R. = Construction Joint, Roughen Surface 1/4" Profile Min.

**ABUTMENT NOTES:**

- See "Abutment Sections" Sheet for Section A-A Typical Abutment Section.
- Reinforcing steel shall have a minimum concrete cover of 2" in the walls and 3" in the footings unless otherwise noted.
- Cover joints where waterstops are not required in accordance with Standard Detail 502(01).
- Place 4 inch diameter drains in breastwall and wingwalls at 10 feet maximum spacing. The exact location will be determined by the Resident.
- 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 or as noted on the plans.
- The utility conduits passing through the abutment backwalls shall be either cast in place or run through a utility blockout, at the option of the Contractor. Additional reinforcing steel shall be provided around the utility conduit for either option, as shown on the plans. If blockouts are used, all voids around the conduits shall be fully grouted with a MaineDOT pre-approved product. All costs associated with construction of utility conduit blockouts shall be incidental to Item 502.21, "Structural Concrete, Abutments, and Retaining Wall."
- Concrete above C.J.R. at the top of the abutment backwall and in the curb cast on top of the Wingwalls will be paid for under Item 502.49 "Structural Concrete Curbs and Sidewalks" and shall be Class "LP Concrete."
- Bridge rail mounted to the top of wingwalls will be paid under Item 507.0831, "Steel Bridge Railing, 4-bar" and shall follow the material and workmanship requirements of specification section 507.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
STP-2170(000)		WIN	
BRIDGE #2707		21700.01	
BRIDGE PLANS			
PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN DETAILED	B. Smith	S. Maroon	1/2022
CHECKED/REVIEWED	X. Hrd	R. Heibel	4/2023
DESIGNS DETAILED			
DESIGNS DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
RED BRIDGE OVER SWIFT RIVER		SIGNATURE	
RUMFORD - MEXICO OXFORD COUNTY		P.E. NUMBER	
ABUTMENT NO. 1		DATE	
PLAN AND ELEVATION			
SHEET NUMBER			
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OF 56			



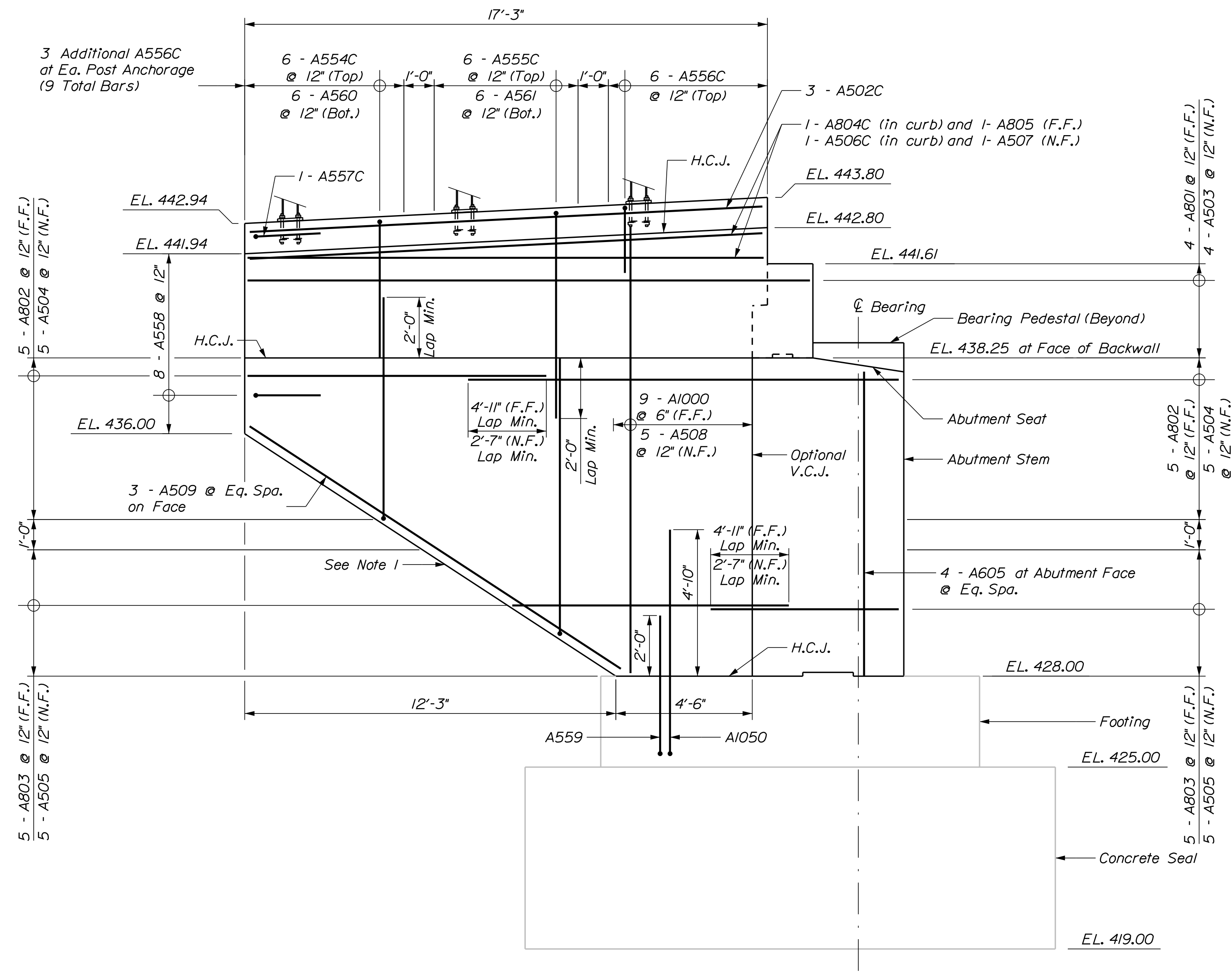


**ABUTMENT NO. 1 - REINFORCING ELEVATION**  
*(Piles Not Shown For Clarity)*

**LEGEND:**  
 H.C.J. = Horizontal Construction Joint  
 V.C.T.J. = Vertical Construction Joint  
 C.J.R. = Construction Joint, Roughen Surface 1/4" Profile Min.  
 N.F. = Near Face  
 F.F. = Far Face  
 E.F. = Each Face

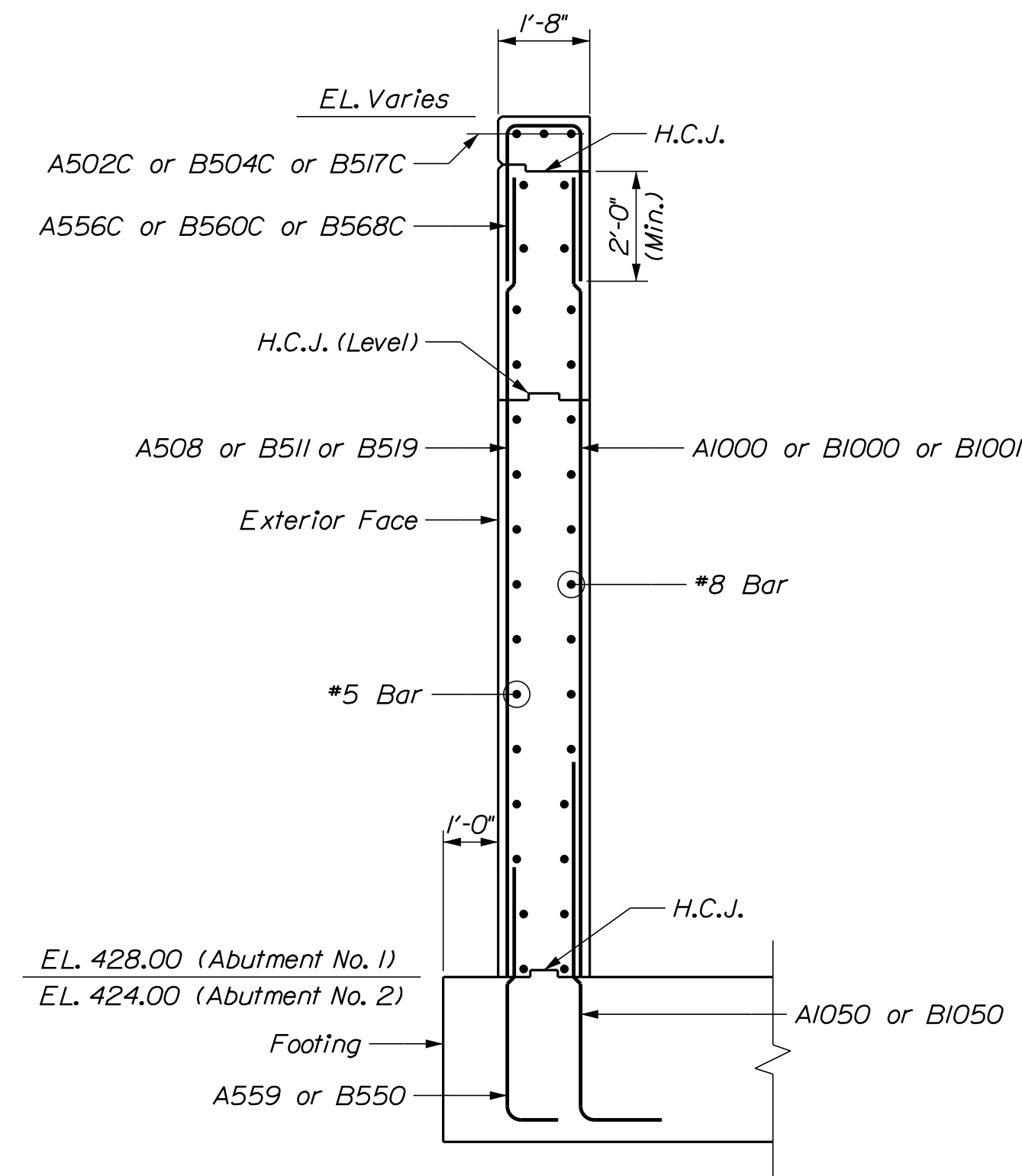
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2170(000)		WIN 21700.01	BRIDGE #2707	BRIDGE PLANS
RED BRIDGE OVER SWIFT RIVER RUMFORD - MEXICO OXFORD COUNTY		ABUTMENT NO. 1 REINFORCING				
SHEET NUMBER		34				
OF 56						
PROJ. MANAGER	M. WIGHT	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN DETAILED	B. Smith	S. Maroon	7/2022			
CHECKED/REVIEWED	X. Hrd	R. Hebel	4/2023			
DESIGNS DETAILED						
REVISIONS 1						
REVISIONS 2						
REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						





**SOUTHWEST AND NORTHWEST WINGWALL ELEVATION**

(Southwest Wingwall shown, Northwest Wingwall Similar)  
(Piles Not Shown For Clarity)



**TYPICAL WINGWALL SECTION**

(Tremie Seal at Abutment No. 1 Not Shown)  
(Section at Abutment Footing Shown, Section at Wing Cantilever Similar)

**NOTE:**

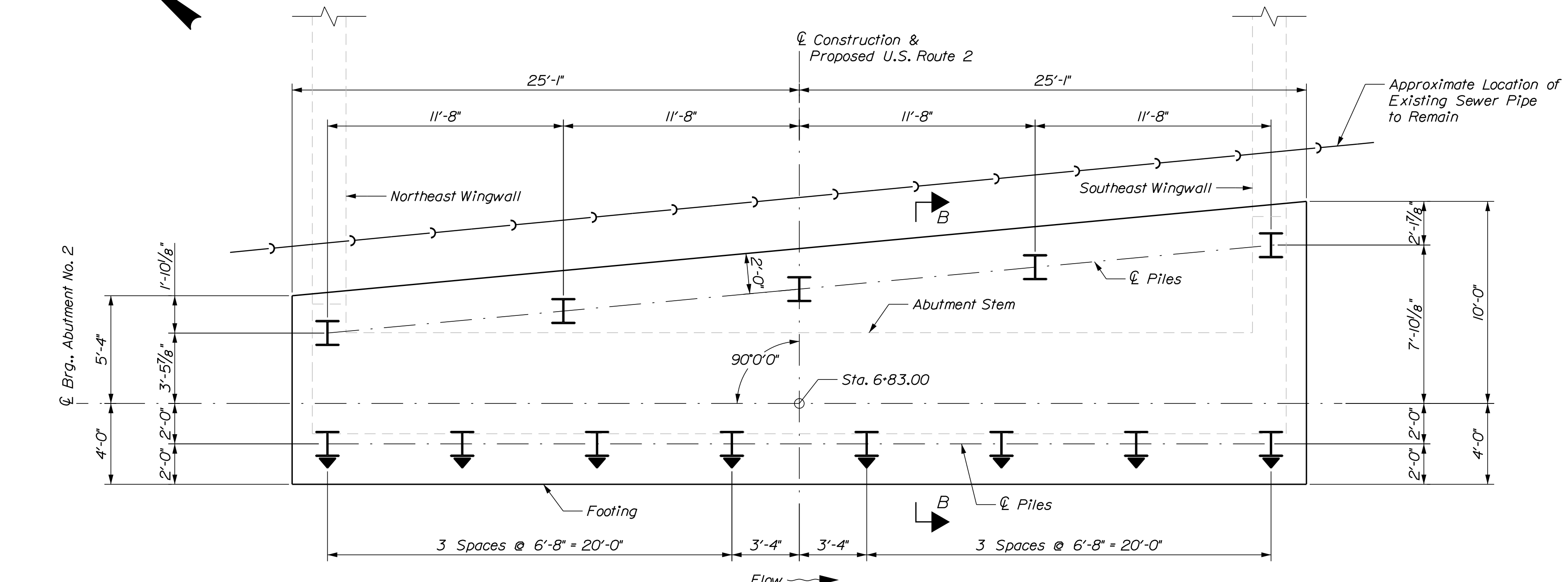
The bottom of the concrete placement for the wings may be placed level matching the lowest grade of the proposed wing. This additional concrete shall not be paid for directly but considered incidental to related contract items.

**LEGEND:**

H.C.J. = Horizontal Construction Joint  
V.C.T.J. = Vertical Construction Joint  
C.J.R. = Construction Joint, Roughen Surface 1/4" Profile Min.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2170(000)		BRIDGE #2707		WIN		21700.01	
RED BRIDGE		OVER SWIFT RIVER		RUMFORD - MEXICO OXFORD COUNTY		ABUTMENT NO. 1		WINGWALLS		SHEET NUMBER	
PROJ. MANAGER	M. WIGHT	BY	S. Maroon R. Hebert	DATE	1/2022 4/2023	DESIGN DETAILED	B. Smith X. Hrd	CHECKED/REVIEWED	SIGNATURE	DESIGN DETAILED	
REVISIONS 1		REVISIONS 2		REVISIONS 3		REVISIONS 4		FIELD CHANGES		P.E. NUMBER	DATE
										35	
										OF 56	

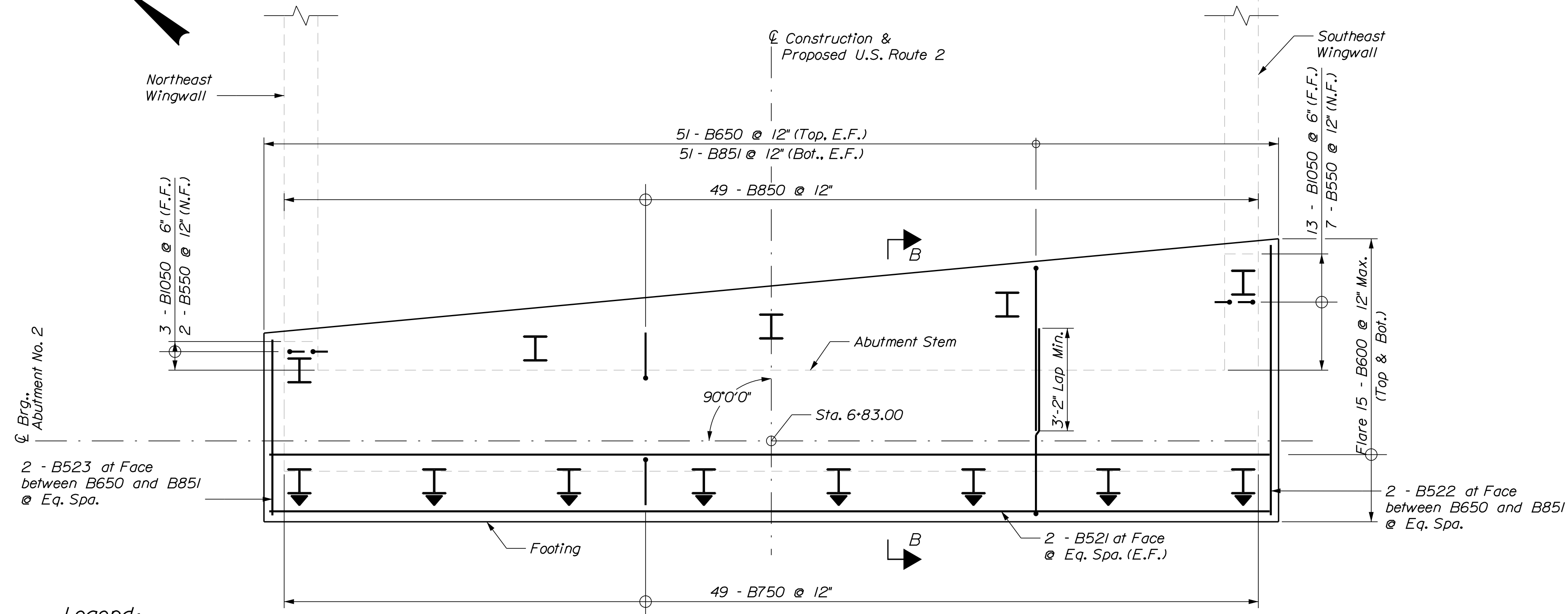




ABUTMENT NO. 2 - FOOTING & PILE PLAN



NOTE:

See "Abutment No. 1 Pile & Footing Plan" sheet for Pile Notes.



ABUTMENT NO. 2 - REINFORCING PLAN

Legend:

-  H-Pile
-  Battered H-Pile

STATE OF MAINE	BRIDGE #2707	WIN	21700.01
DEPARTMENT OF TRANSPORTATION	STP-2170(000)		
BRIDGE PLANS			

PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGNED	B. Smith	S. Moran	7/2022
CHECKED	X. Hrd	R. Hebert	4/2023
DESIGNED			
REVISIONS			
REVISIONS			
REVISIONS			
REVISIONS			
FIELD CHANGES			

DESIGNED	SIGNATURE
REVISIONS	P.E. NUMBER
REVISIONS	DATE

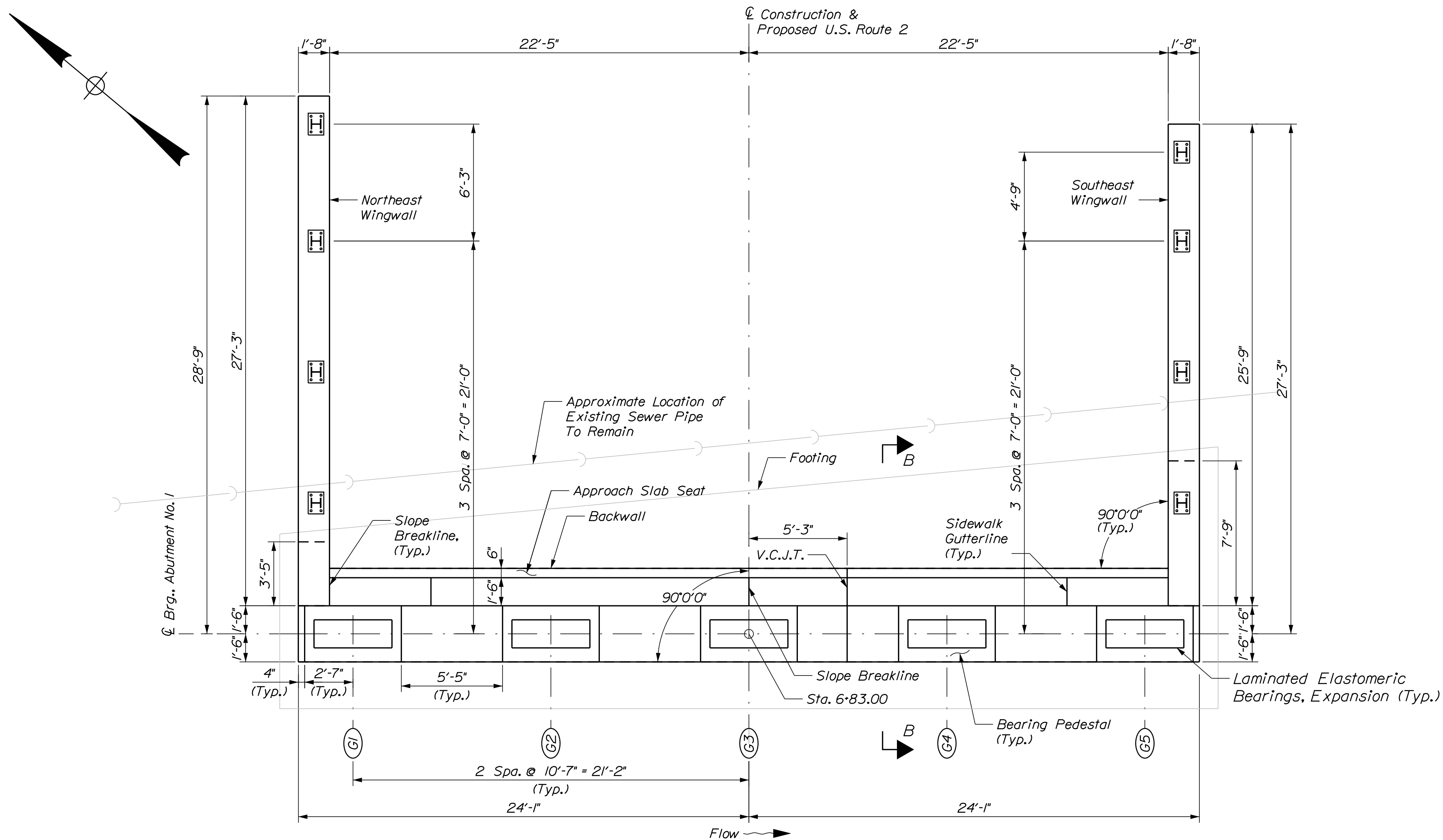
RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY  
ABUTMENT NO. 2 PILE  
& FOOTING PLAN

SHEET NUMBER

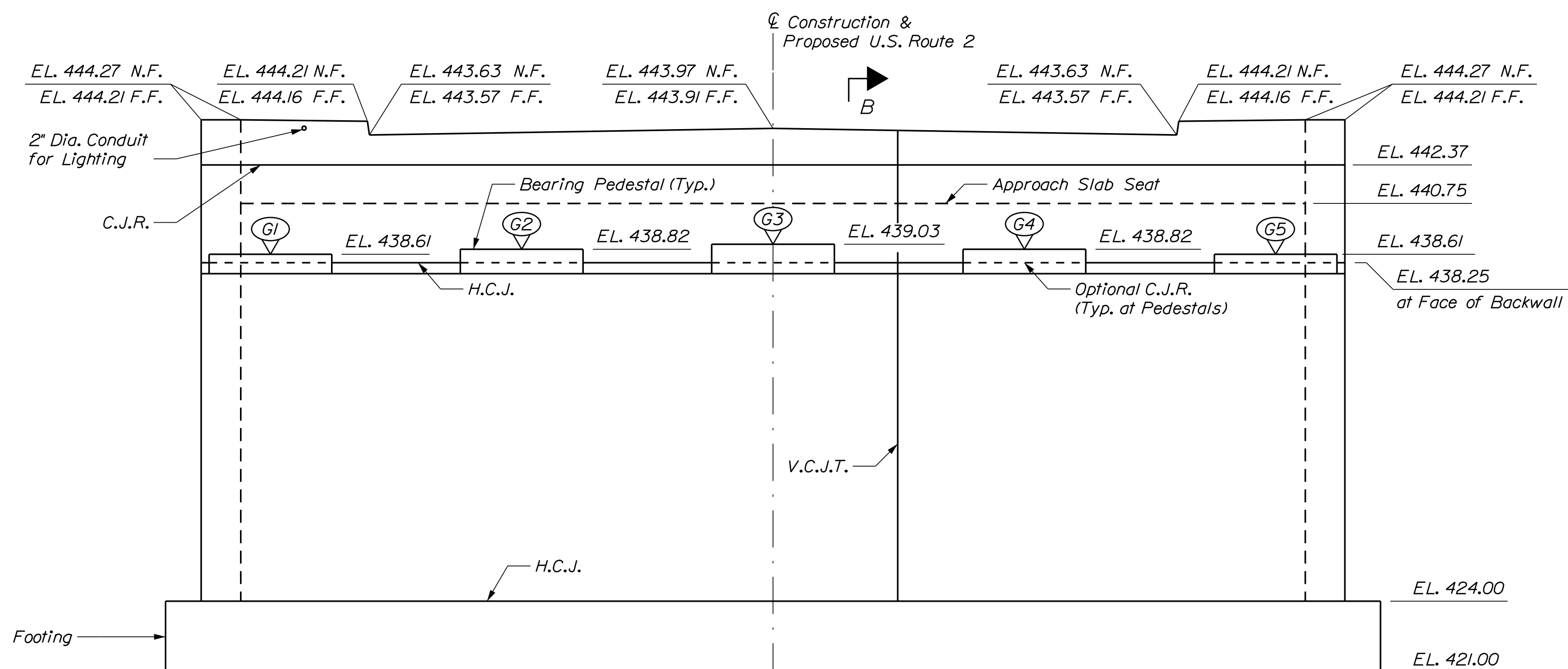
36

OF 56





**ABUTMENT NO. 2 - PLAN**  
(Piles Not Shown For Clarity)



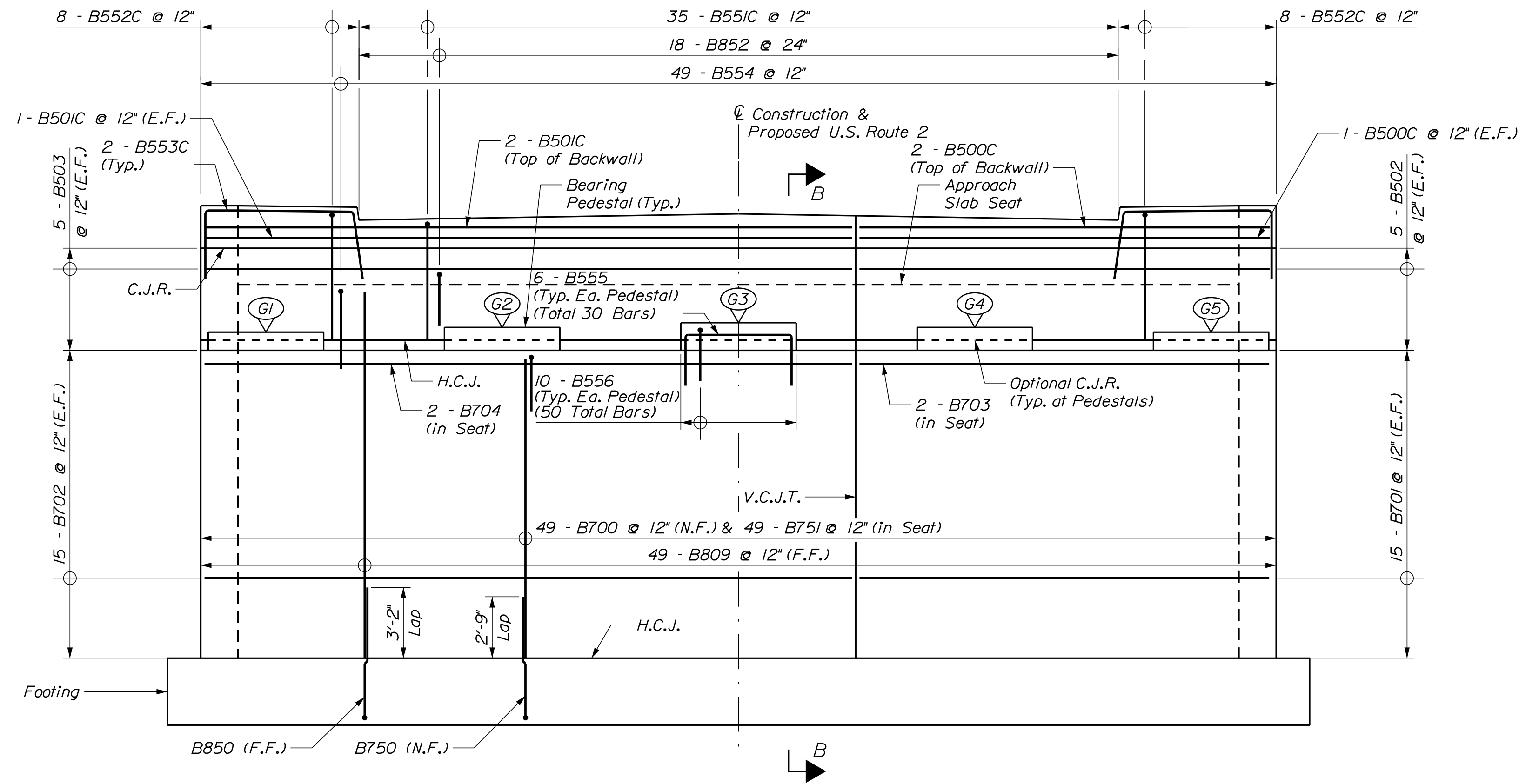
**ABUTMENT NO. 2 - ELEVATION**  
(Piles Not Shown For Clarity)

**LEGEND:**  
 H.C.J. = Horizontal Construction Joint  
 V.C.T.J. = Vertical Construction Joint  
 C.J.R. = Construction Joint, Roughen Surface 1/4" Profile Min.

**NOTE:**  
See "Abutment No 1 Plan and Elevation" sheet for Abutment Notes.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
STP-2170(000)		BRIDGE #2707	
WIN		21700.01	
BRIDGE PLANS			
PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN DETAILED	B. Smith	S. Moran	7/2022
CHECKED/REVIEWED	X. Hrd	R. Hebert	4/2023
DESIGNS DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
RED BRIDGE OVER SWIFT RIVER		SIGNATURE	
RUMFORD - MEXICO OXFORD COUNTY		P.E. NUMBER	
ABUTMENT NO. 2		DATE	
PLAN AND ELEVATION			
SHEET NUMBER			
37			
OF 56			





**ABUTMENT NO. 2 - ELEVATION**  
(Piles Not Shown For Clarity)

**LEGEND:**

- H.C.J. = Horizontal Construction Joint
- V.C.T.J. = Vertical Construction Joint
- C.J.R. = Construction Joint, Roughen Surface 1/4" Profile Min.
- N.F. = Near Face
- F.F. = Far Face
- E.F. = Each Face

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2170(000)		BRIDGE #2707	WIN 21700.01	BRIDGE PLANS
RUMFORD - MEXICO OXFORD COUNTY		ABUTMENT NO. 2 REINFORCING		SHEET NUMBER		
RED BRIDGE OVER SWIFT RIVER		DATE		SIGNATURE		
BY		DATE		P.E. NUMBER		
M. WIGHT		DATE		DATE		
DESIGN-DETAILED		DATE		FIELD CHANGES		
CHECKED-REVIEWED		DATE		REVISIONS 1		
DESIGN-DETAILED		DATE		REVISIONS 2		
REVISIONS 1		DATE		REVISIONS 3		
REVISIONS 2		DATE		REVISIONS 4		
REVISIONS 3		DATE		FIELD CHANGES		
REVISIONS 4		DATE		FIELD CHANGES		



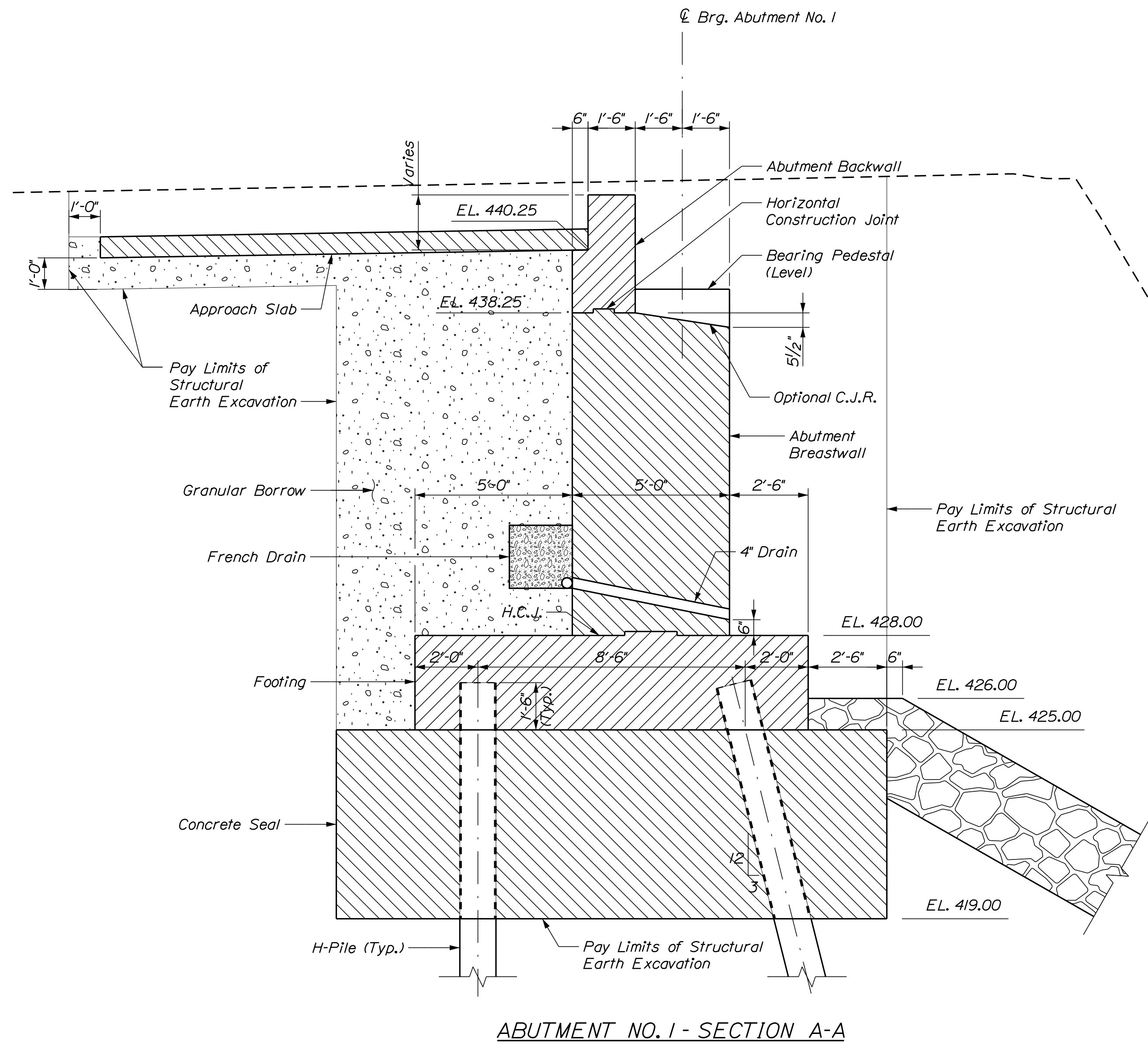


Date: 6/13/2023

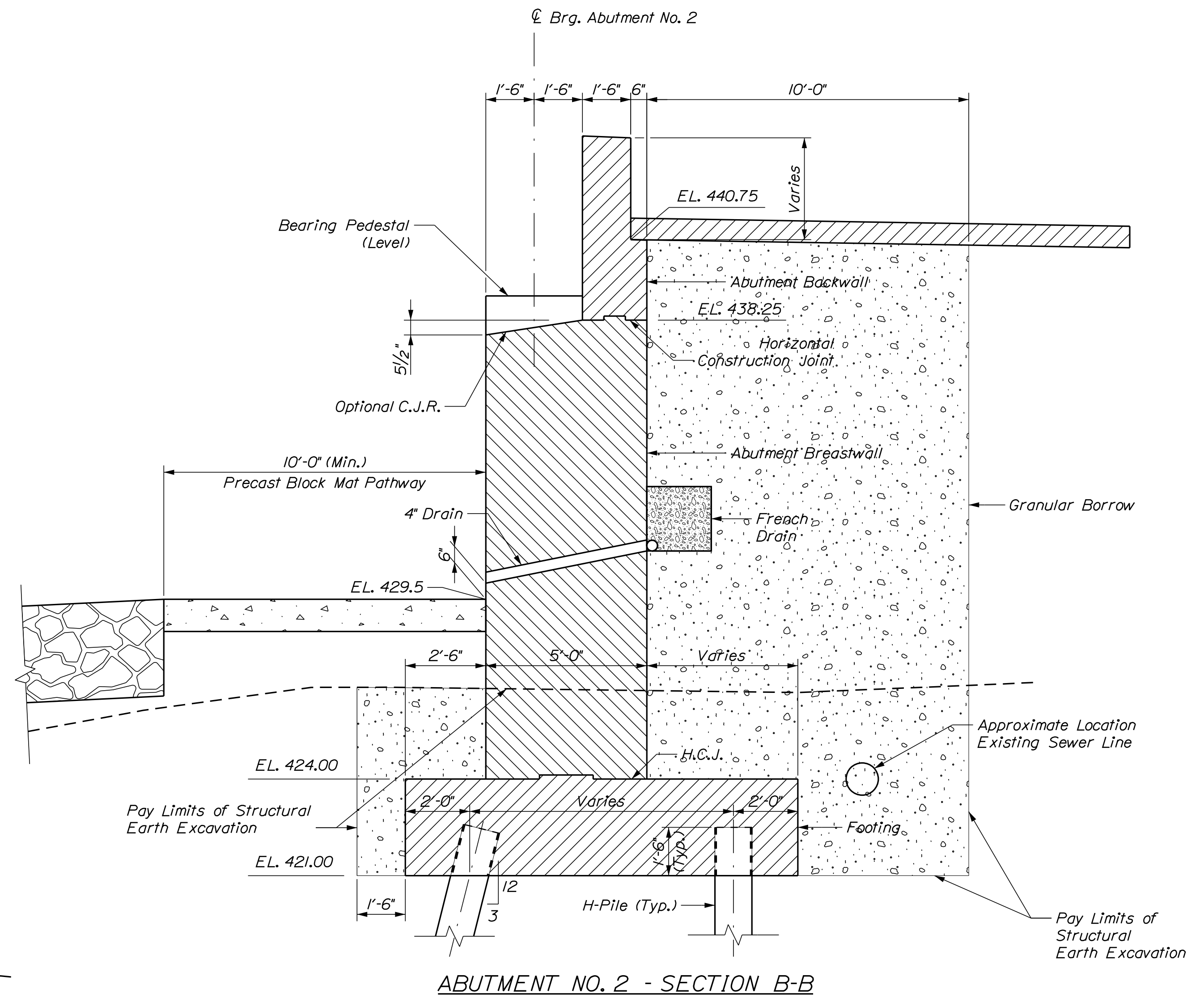
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Division: HIGHWAY

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ABUTMENT NO. 1 - SECTION A-A



ABUTMENT NO. 2 - SECTION B-B

**LEGEND:**

- C.J. = Construction Joint
- C.J.R. = Construction Joint, Roughen Surface 1/4\" Profile Min.

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-2170(000)  
 WIN 21700.01  
 BRIDGE #2707  
 BRIDGE PLANS

DATE	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
7/2022	S. Maroon	4/2023			
	R. Heibel				

PROJ. MANAGER	M. WIGHT	DESIGN DETAILED	B. Smith	CHECKED/REVIEWED	X. Hrb	DESIGN DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

RED BRIDGE  
 OVER SWIFT RIVER  
 RUMFORD - MEXICO OXFORD COUNTY  
 ABUTMENT SECTIONS

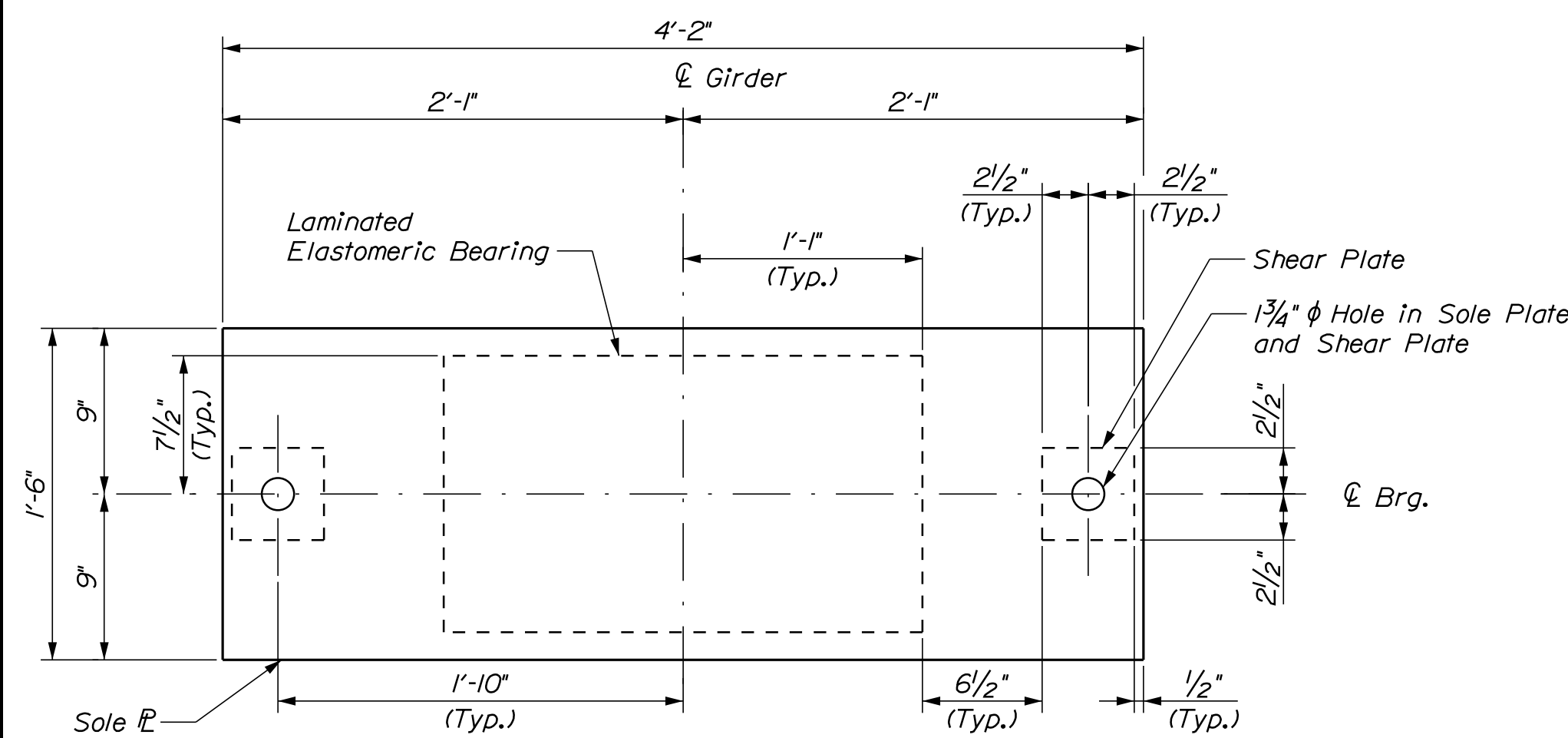
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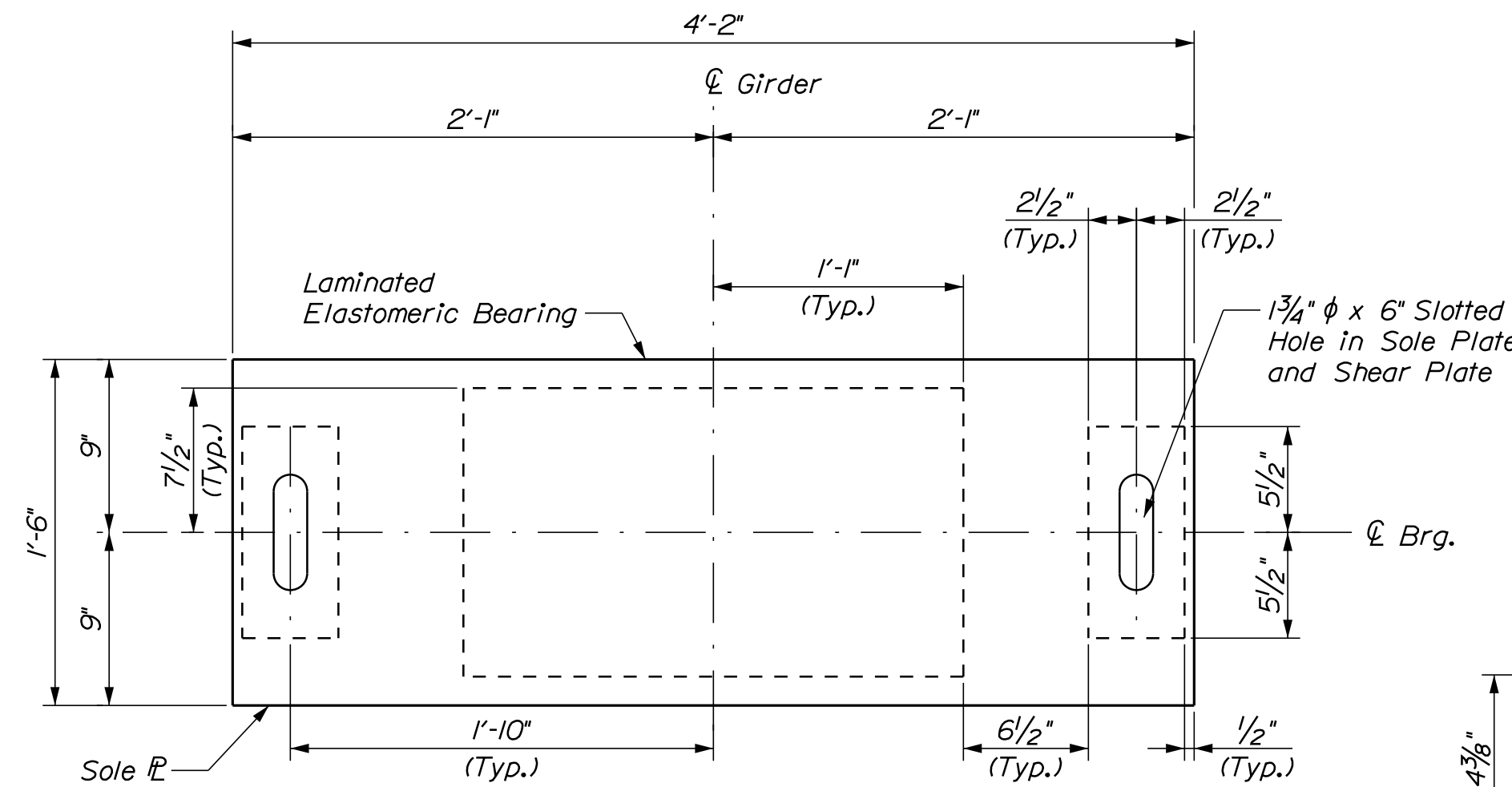
OF 56



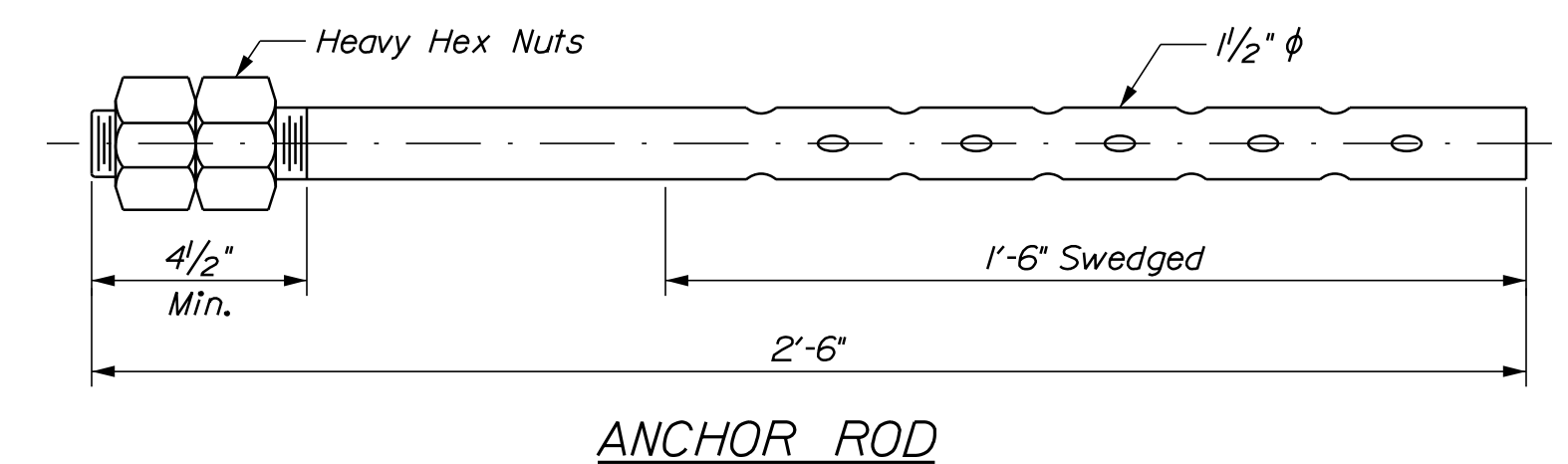




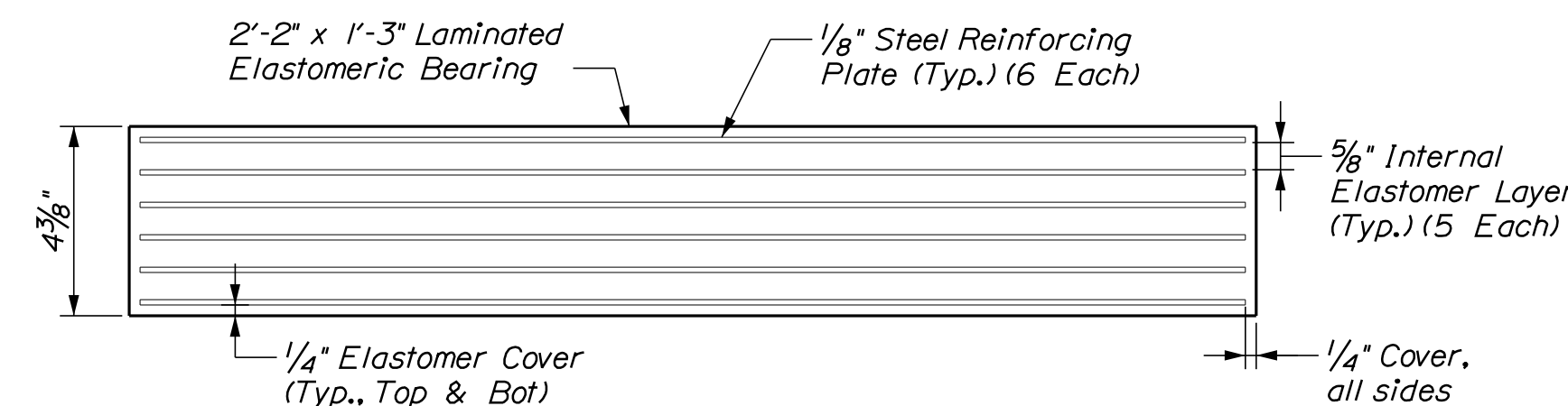
FIXED BEARING SOLE PLATE PLAN



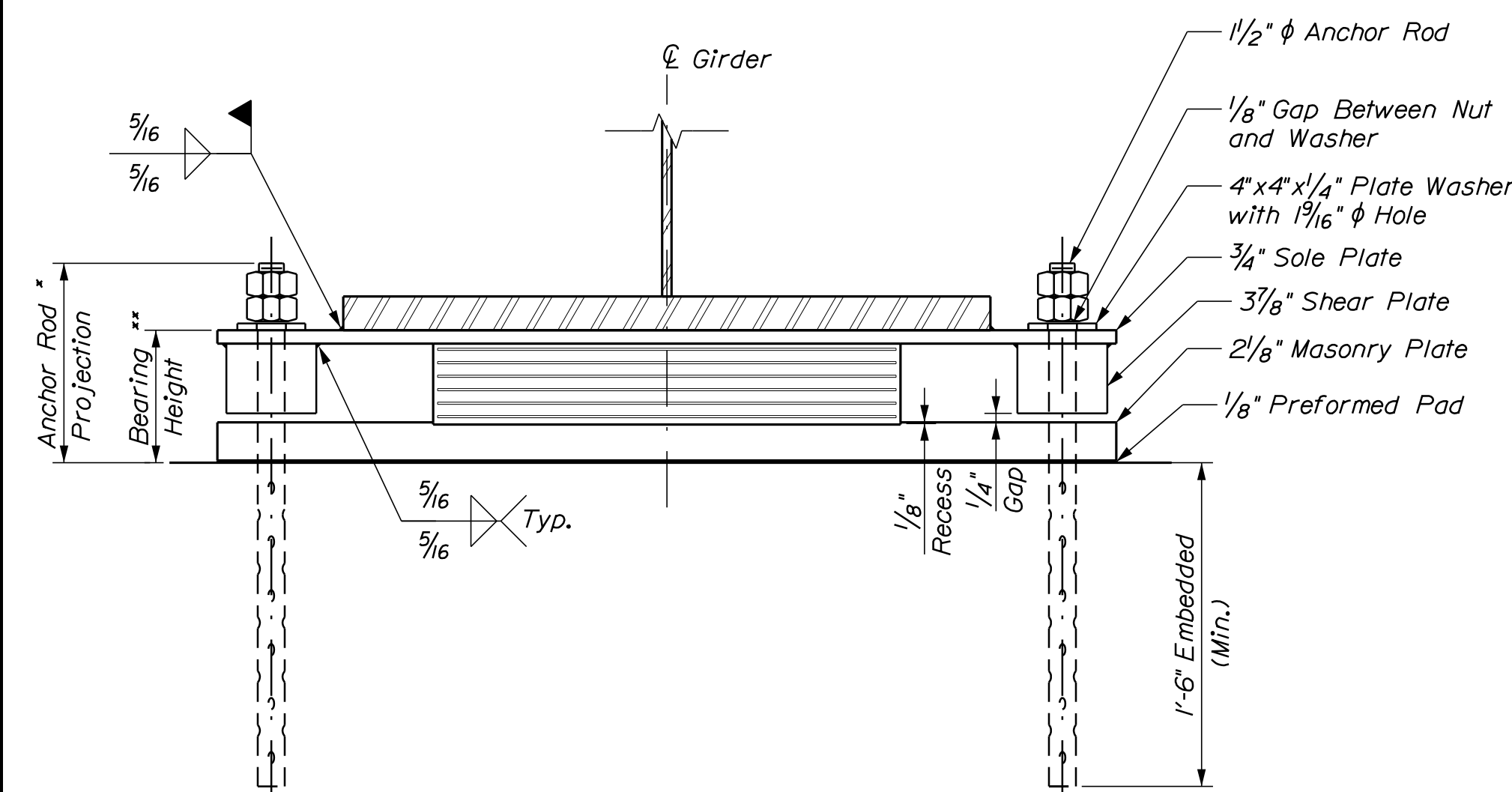
EXPANSION BEARING SOLE PLATE PLAN



ANCHOR ROD

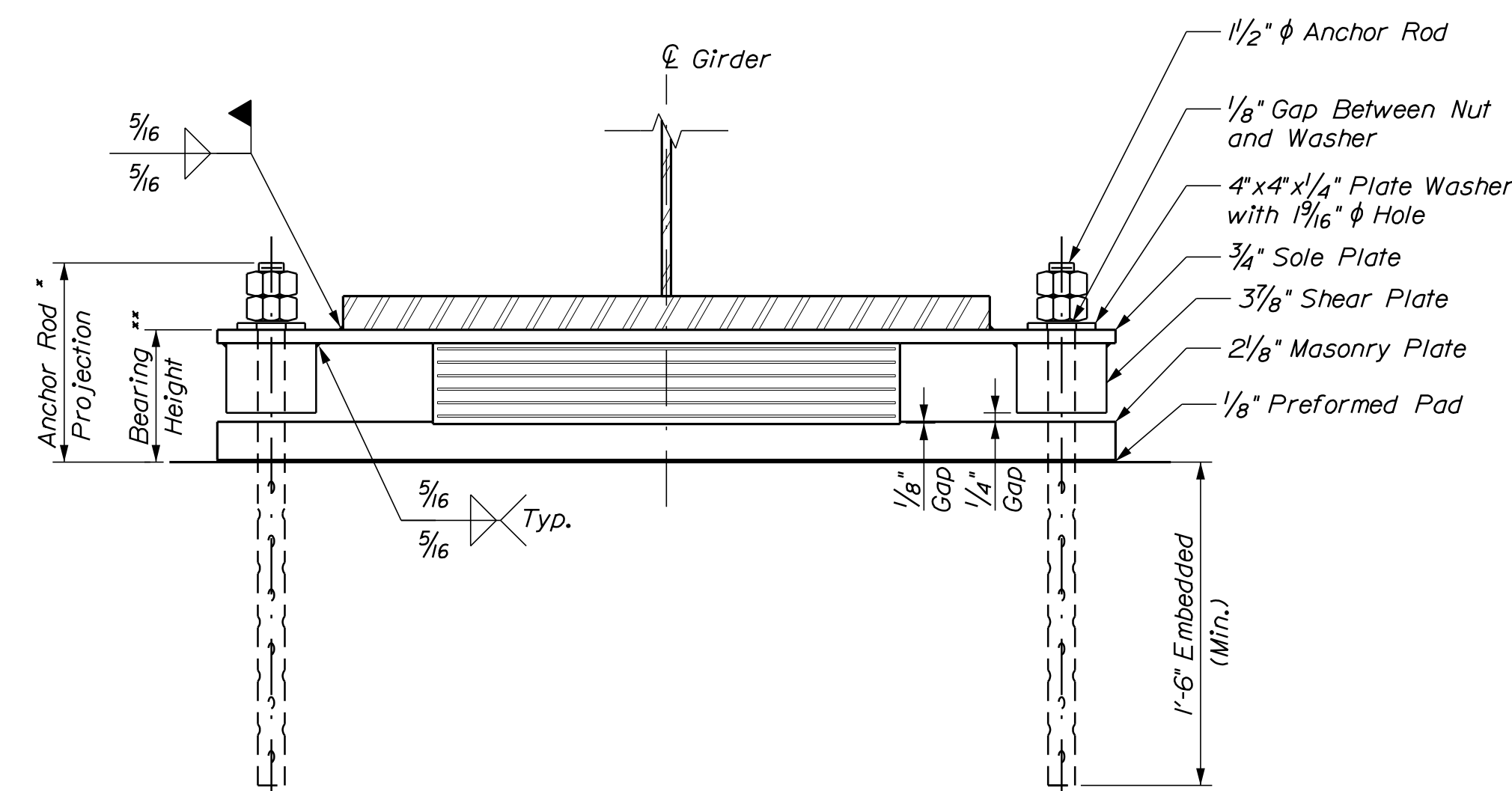


LAMINATED ELASTOMERIC BEARING SECTION



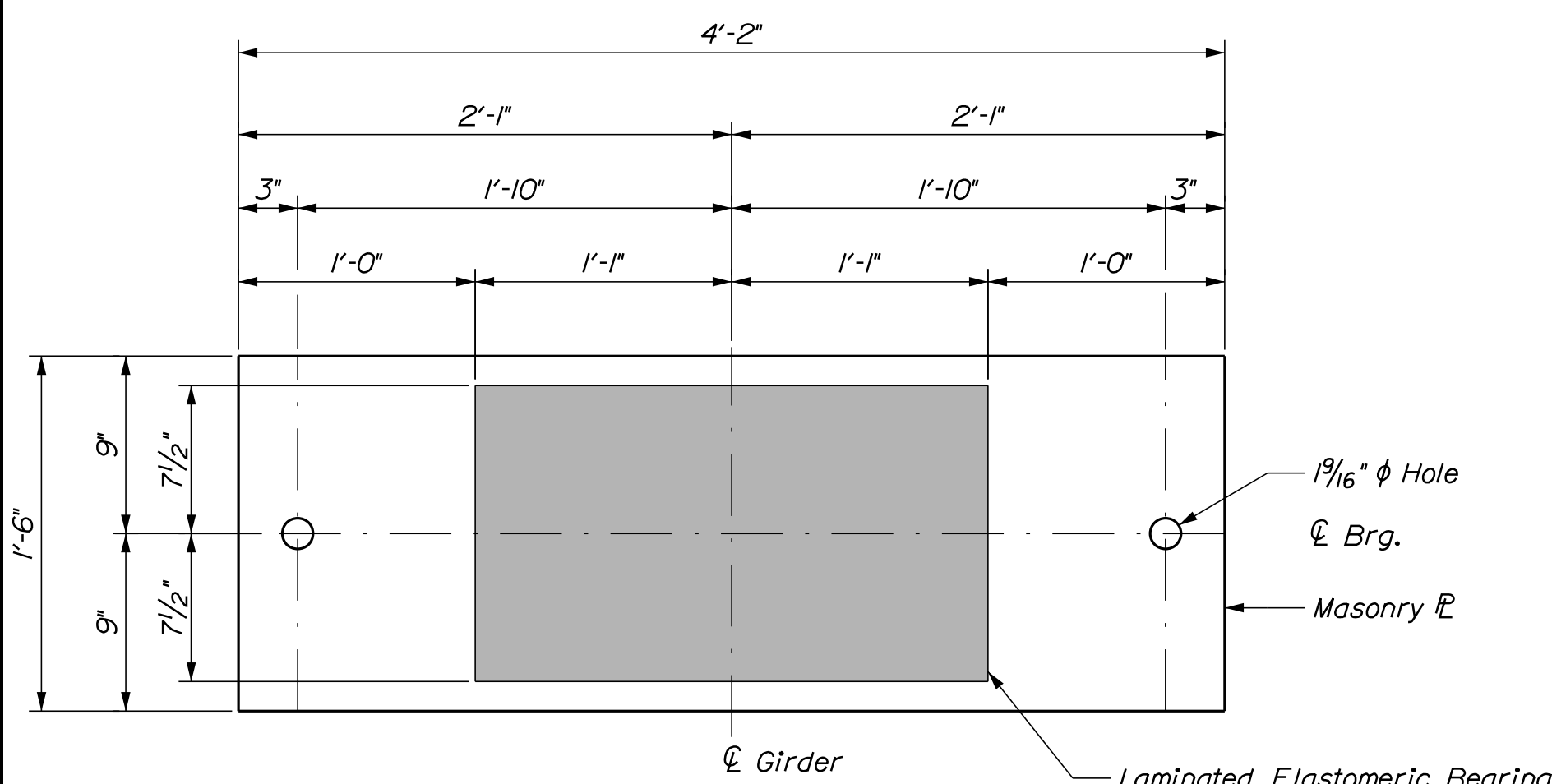
FIXED BEARING ELEVATION

\* Anchor Rod projection shall be 12"  
\*\* Total bearing height is 7 1/8"



EXPANSION BEARING ELEVATION

\* Anchor Rod projection shall be 12"  
\*\* Total bearing height is 7 1/8"



MASONRY PLATE PLAN

ELASTOMERIC BEARINGS NOTES:

- The shear modulus of the elastomer shall be 115 psi.
- Vulcanization of the elastomer to the steel plates shall be done during the primary mold process. Sole plate shall be vulcanized to the elastomer.
- Masonry plates, sole plates and shear blocks shall meet the requirements of ASTM A709, Grade 50 or 50W. Anchor rods shall meet the requirements of ASTM F1554, Grade 105 and shall be swaged on the embedded portion of the rod.
- Masonry plates shall be galvanized in accordance with Section 506. Sole plates for steel superstructures shall be treated in the same manner as the structural steel. Anchor rods, washers, nuts and shear blocks shall be galvanized to ASTM A153 or ASTM B695, Class 50, Type 1.
- All bearings shall be marked prior to shipping. The marks shall include the bearing location on the bridge and a direction arrow that points upstation. All marks shall be permanent and shall be visible after the bearing is installed.
- Bearings shall be covered during shipping and at any time prior to installation that the bearings may be exposed to sunlight.
- The superstructure may be erected when the ambient air temperature is within the range of 65° F and 90° F. If the ambient air temperature is outside this range, the bearings shall be reset as directed by the Resident.
- All necessary precautions shall be taken to protect bearing components from field weld flash and spatter. Heat from welding operations shall be controlled such that steel adjacent to the elastomer does not exceed 200° F. The temperature shall be verified by the use of temperature indicating crayons or other suitable means.
- Upset the threads on the anchor rods after assembly of the bearing.
- The Contractor shall not weld the girders to the sole plate until after all adjustments have been made in accordance with Standard Specification Section 523.094.
- The "Bearing Design Load" for each bearing as noted in Standard Specifications, subsection 523.23.4, is 349 kips. This is the total load for the Service I load combination, without impact.

PROJ. MANAGER	M. WIGHT	BY	DATE	SIGNATURE
DESIGN-DETAILED	X. Han	S. Morgan	3/2023	
CHECKED-REVIEWED	B. Smith	R. Hebert	4/2023	
DESIGN-DETAILED				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY  
BEARING DETAILS

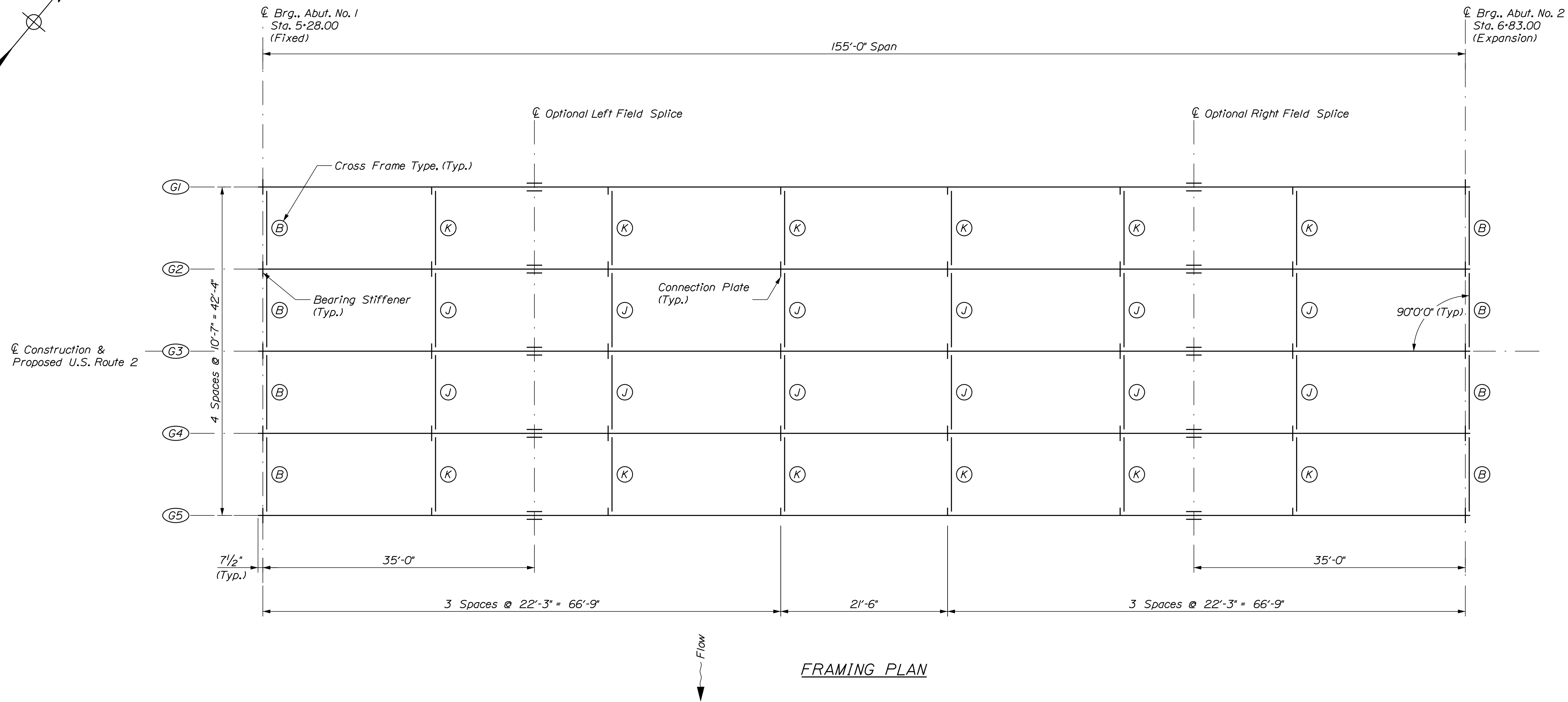
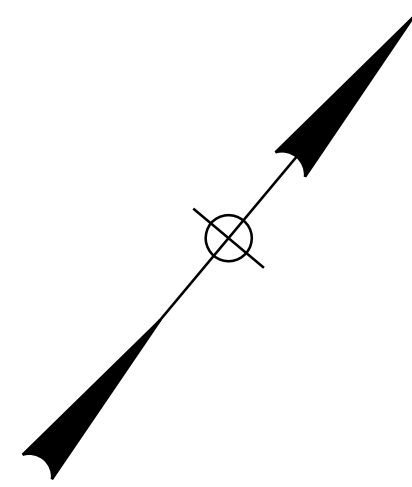


Date: 6/13/2023

Username:

Division: HIGHWAY

Filename: ... \MSTA\... \Framing\_Plan.dgn



**STRUCTURAL STEEL NOTES:**

- Camber ordinates, as shown, 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 1 foot from transverse butt welds in the web plates and no transverse web or flange butt welds shall be located within 1 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 bottom flange.
- Intermediate crossframe or diaphragm connection plates may be either plumb or normal to the bottom 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 50W.
- Coat girder ends and cross frames to a distance of 10 feet from each Abutment centerline of bearing in accordance with Standard Specifications Section 506, Shop Applied Protective Coating - Steel (Zinc Rich Coating System), except NEPCOAT Qualified Products List C may be used. Payment for the coating will be incidental to Pay Item 504.702.
- After placement of the superstructure concrete, thoroughly clean the abutments of all stains with a method approved by the Resident. Payment will be considered incidental to related Contract items.
- Provide a drip bar at each abutment on all girders in accordance with Standard Detail 504(10).
- Structural steel was designed with a vertical construction load of 50 lb/sf and a lateral wind velocity during construction of 110 mph.
- Bolted field splice connections shall be made using 7/8" ASTM F3125, Grade A325 Type 3 high strength bolts. Bolt hole size shall be 1/16" diameter. Field splice bolt threads shall be excluded from the shear plane.
- The splice was designed with a Class B slip coefficient.
- Bolted diaphragms or cross frame connections shall be made using 7/8" diameter, ASTM F3125, Grade A325 Type 3 high strength bolts. Hole size shall be 1/16" diameter. The minimum edge distance shall be 1-1/2" unless otherwise shown. Oversized or short-slotted 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 full dead load.
- All web, bottom flange and field splice plates shall conform to zone 2 Charpy V-notch impact test requirements of AASHTO M270.



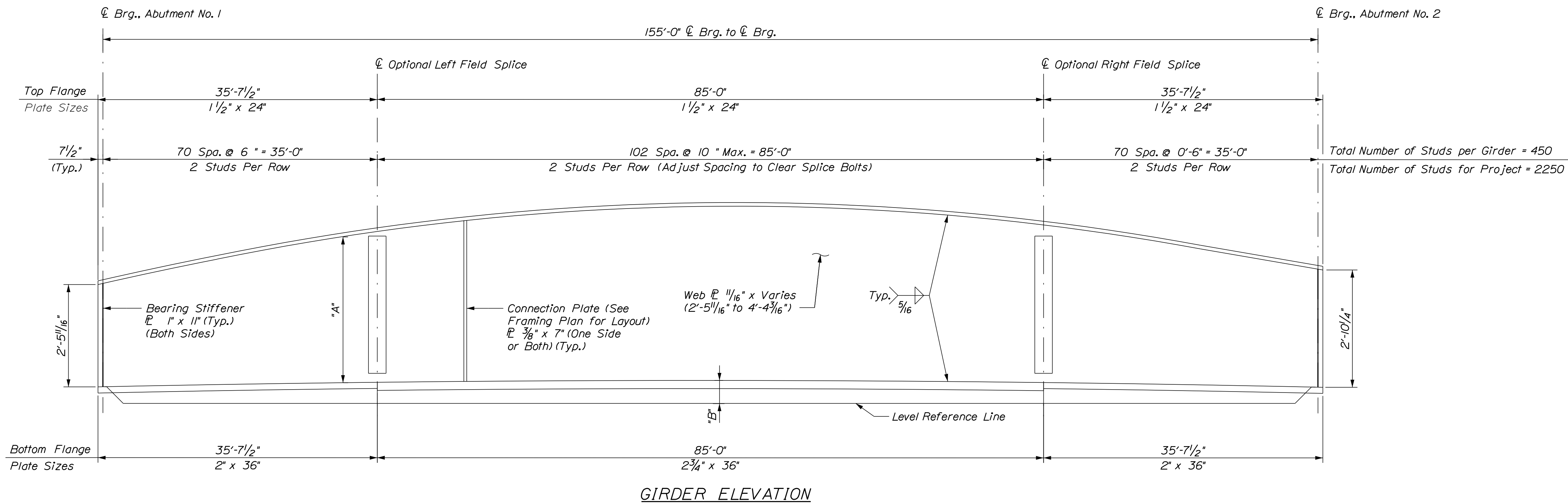
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2170(000)		BRIDGE #2707		BRIDGE PLANS	
RED BRIDGE		OVER SWIFT RIVER		OXFORD COUNTY		RUMFORD - MEXICO		FRAMING PLAN	
PROJ. MANAGER	M. WIGHT	BY	DATE	DESIGN-DETAILED	DESIGN-REVIEWED	DESIGN-DETAILED	DESIGN-REVIEWED	REVISIONS 1	REVISIONS 2
		B. Smith	7/2022	B. Smith	R. Hebert				
		S. Maroon	4/2023	R. Hebert					
SHEET NUMBER		43		OF 56		WIN		21700.01	

Date: 6/13/2023

Username:

Division: HIGHWAY

Filename: ... \MSTA\...\_Girder\_Elev.dgn



LOCATION	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
A	2'-6 1/16"	3'-1 3/4"	3'-7 3/4"	4'-0 3/16"	4'-3"	4'-4 3/16"	4'-3 3/4"	4'-1 1/16"	3'-9 5/16"	3'-4 5/8"	2'-10 9/16"
B	0'-0"	0'-3/4"	0'-1 1/4"	0'-1 1/16"	0'-1 5/16"	0'-2"	0'-1 5/16"	0'-1 1/4"	0'-1/4"	0'-0 3/4"	0'-0"

Note: Locations are tenth points between centerlines of bearing.

- NOTES:**
- For Optional Field Splice Details, see sheet "Girder Details".
  - Camber ordinates shown developed for single optional splice on right side (upstation) location. Contractor shall modify girder segment camber ordinates for other fabrication configurations.

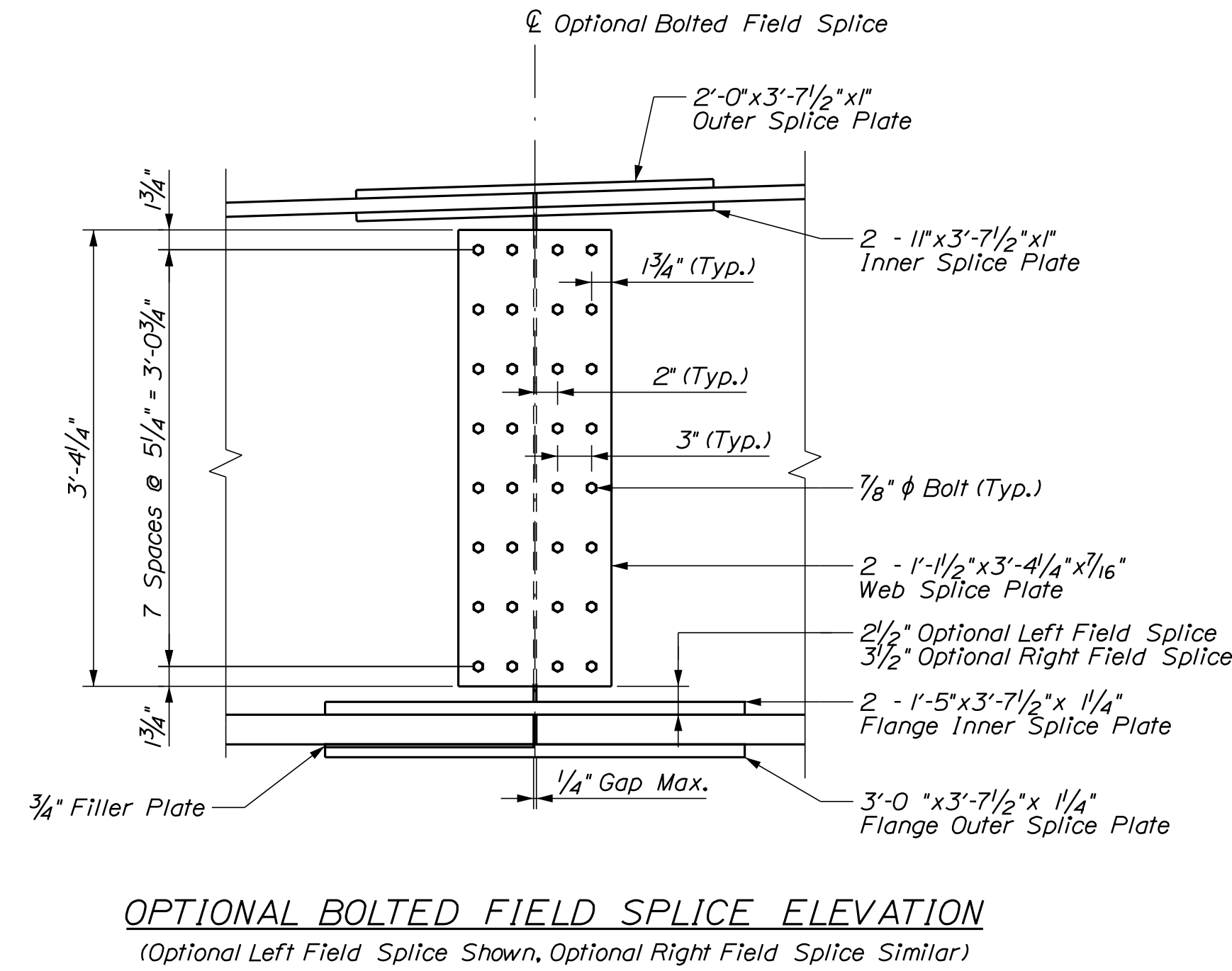
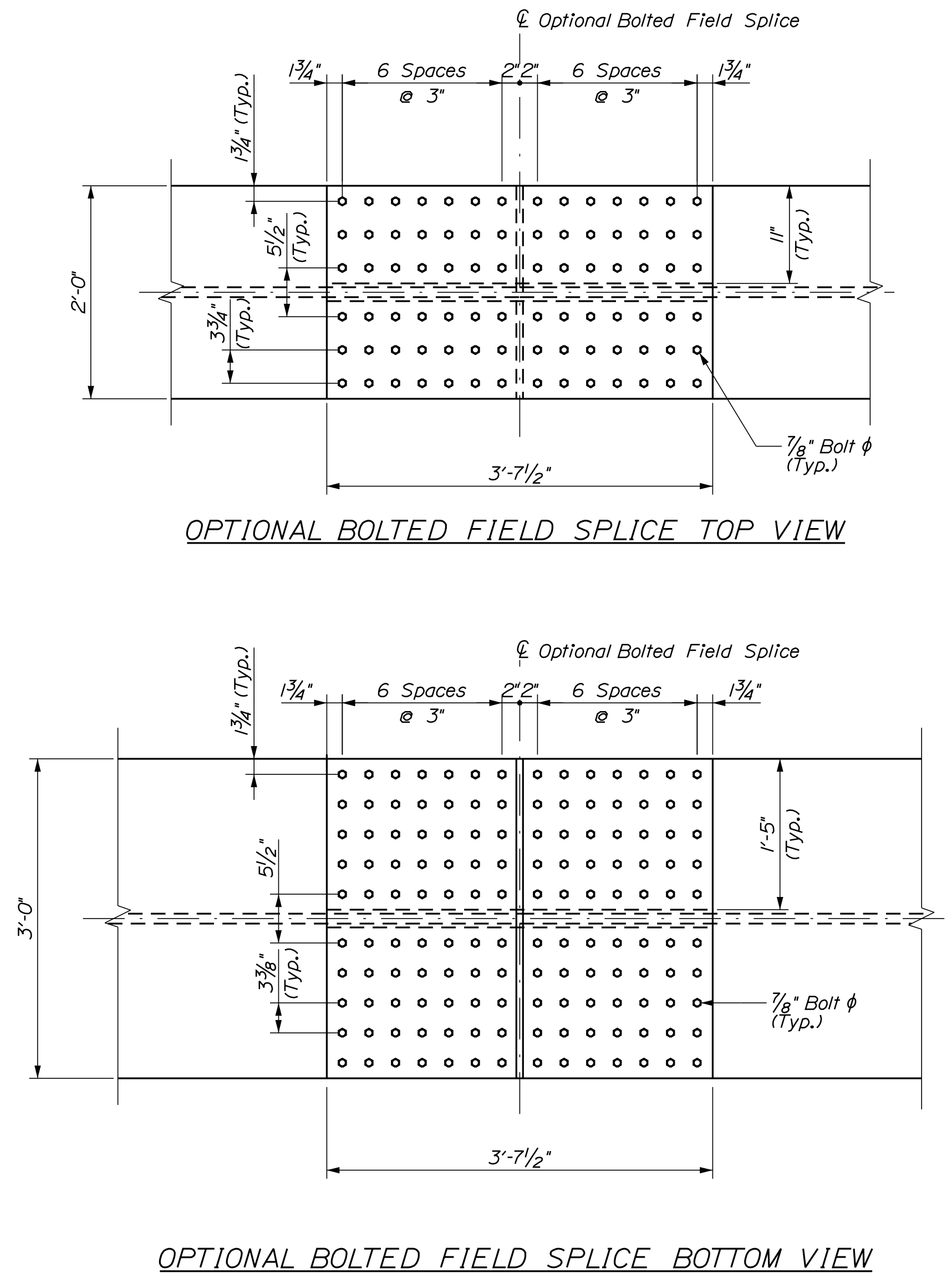
Girder	5+28	5+38	5+48	5+58	5+68	5+78	5+88	5+98	6+08	6+18	6+28	6+38	6+48	6+58	6+68	6+78	6+83
1	442.21	442.85	443.41	443.89	444.28	444.58	444.79	444.92	444.96	444.91	444.78	444.55	444.24	443.85	443.38	442.85	442.59
2	442.42	443.07	443.64	444.12	444.52	444.83	445.04	445.17	445.21	445.16	445.03	444.80	444.48	444.08	443.60	443.07	442.80
3	442.63	443.28	443.85	444.34	444.73	445.04	445.26	445.39	445.42	445.37	445.24	445.01	444.70	444.29	443.82	443.28	443.01
4	442.42	443.07	443.64	444.12	444.52	444.83	445.04	445.17	445.21	445.16	445.03	444.80	444.48	444.08	443.60	443.07	442.80
5	442.21	442.85	443.41	443.89	444.28	444.58	444.79	444.92	444.96	444.91	444.78	444.55	444.24	443.85	443.38	442.85	442.59

	PIECE 1 (12 Spaces @ 10'-0" = 120'-0")											PIECE 2 (4 Spaces @ 8'-9" = 35'-0")					
	Abut. 1	1	2	3	4	5	6	7	8	9	10	11	FS	1	2	3	Abut. 2
Girder 1 & 5	0	6/8"	1 3/16"	1 5/2"	1 8/16"	2 0 3/16"	2 0 3/16"	2 0 1/4"	1 8/2"	1 5 5/8"	1 1 9/16"	6 1/16"	0	1	1 1/16"	5/8"	0
Girder 2 - 4	0	6/4"	1 1/2"	1 5 3/16"	1 8 3/4"	2 0 9/16"	2 1 3/16"	2 0 5/8"	1 8 7/8"	1 5 7/8"	1 1 3/4"	6 1/16"	0	1	1 1/8"	5/8"	0

	TABLE OF DEFLECTIONS (Inches)																	
	Abut. 1	1	2	3	4	5	6	7	8	9	10	11	FS	1	2	3	Abut. 2	
Girder 1 & 5	Steel Dead Load	0.00	0.72	1.39	1.99	2.46	2.81	3.06	3.18	3.20	3.10	2.90	2.58	2.16	1.71	1.18	0.60	0.00
	Fluid Dead Load	0.00	1.60	3.07	4.40	5.43	6.20	6.74	7.02	7.06	6.85	6.40	5.72	4.81	3.81	2.63	1.34	0.00
	Superimposed Dead Load	0.00	0.42	0.80	1.15	1.42	1.62	1.77	1.84	1.85	1.80	1.68	1.50	1.26	1.00	0.69	0.35	0.00
Girder 2 - 4	Steel Dead Load	0.00	0.75	1.44	2.06	2.55	2.91	3.16	3.30	3.31	3.21	3.00	2.67	2.24	1.77	1.23	0.62	0.00
	Fluid Dead Load	0.00	1.60	3.07	4.40	5.43	6.20	6.74	7.02	7.06	6.85	6.40	5.72	4.81	3.81	2.63	1.34	0.00
	Superimposed Dead Load	0.00	0.53	1.02	1.47	1.81	2.07	2.25	2.35	2.36	2.29	2.14	1.91	1.61	1.28	0.88	0.45	0.00

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2170(000)		BRIDGE #2707		WIN		21700.01		BRIDGE PLANS	
RED BRIDGE		OVER SWIFT RIVER		RUMFORD - MEXICO		OXFORD COUNTY		GIRDER ELEVATION		SHEET NUMBER		44	
DATE		BY		M. WIGHT		DESIGN-DETAILED		CHECKED-REVIEWED		DESIGN-DETAILED		REVISIONS	
7/22		S. Macdonald		B. Smith		J. H. HERR		X. HERR		R. HERR		1	
4/23		SIGNATURE		P.E. NUMBER		DATE		REVISIONS 2		REVISIONS 3		REVISIONS 4	
FIELD CHANGES		DATE		BY		M. WIGHT		DESIGN-DETAILED		CHECKED-REVIEWED		DESIGN-DETAILED	
DATE		BY		M. WIGHT		DESIGN-DETAILED		CHECKED-REVIEWED		DESIGN-DETAILED		REVISIONS	
7/22		S. Macdonald		B. Smith		J. H. HERR		X. HERR		R. HERR		1	
4/23		SIGNATURE		P.E. NUMBER		DATE		REVISIONS 2		REVISIONS 3		REVISIONS 4	





**NOTES:**

1. All splice plates shall conform to the requirements of A709, grade 50w. Filler plates may be steel conforming to the requirements of A709, grade 50W.

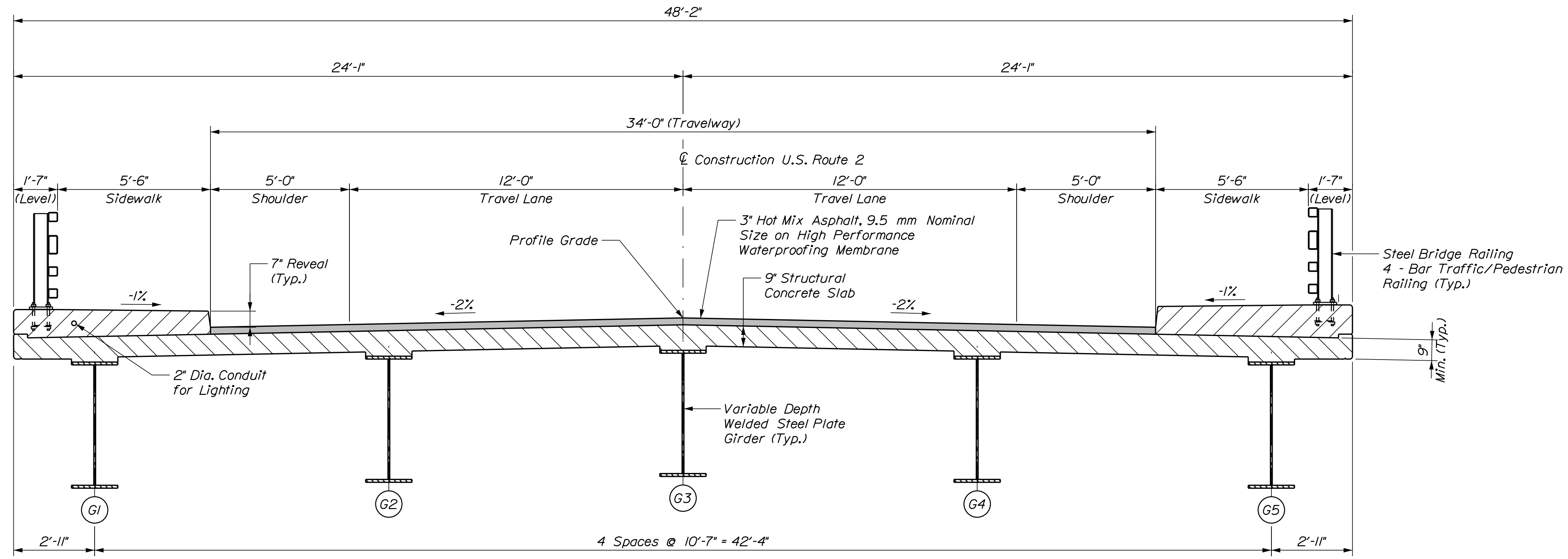
PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN DETAILED	B. Smith	S. Maroon	7/2022
CHECKED/REVIEWED	B. Toothaker	R. Heibel	4/2023
DESIGNS DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY  
GIRDER DETAILS

SHEET NUMBER

45

OF 56



TRANSVERSE SECTION

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

STP-2170(000)

BRIDGE #2707  
WIN  
21700.01  
BRIDGE PLANS

DATE  
2/19/21

BY  
S. Maroon  
K. Ducharme

DATE  
2/17/22

BY  
R. Hebert  
K. Ducharme

DATE

SIGNATURE

P.E. NUMBER

DATE

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

RED BRIDGE  
OVER SWIFT RIVER  
RUMFORD - MEXICO OXFORD COUNTY

TRANSVERSE SECTION

SHEET NUMBER

46

OF 56

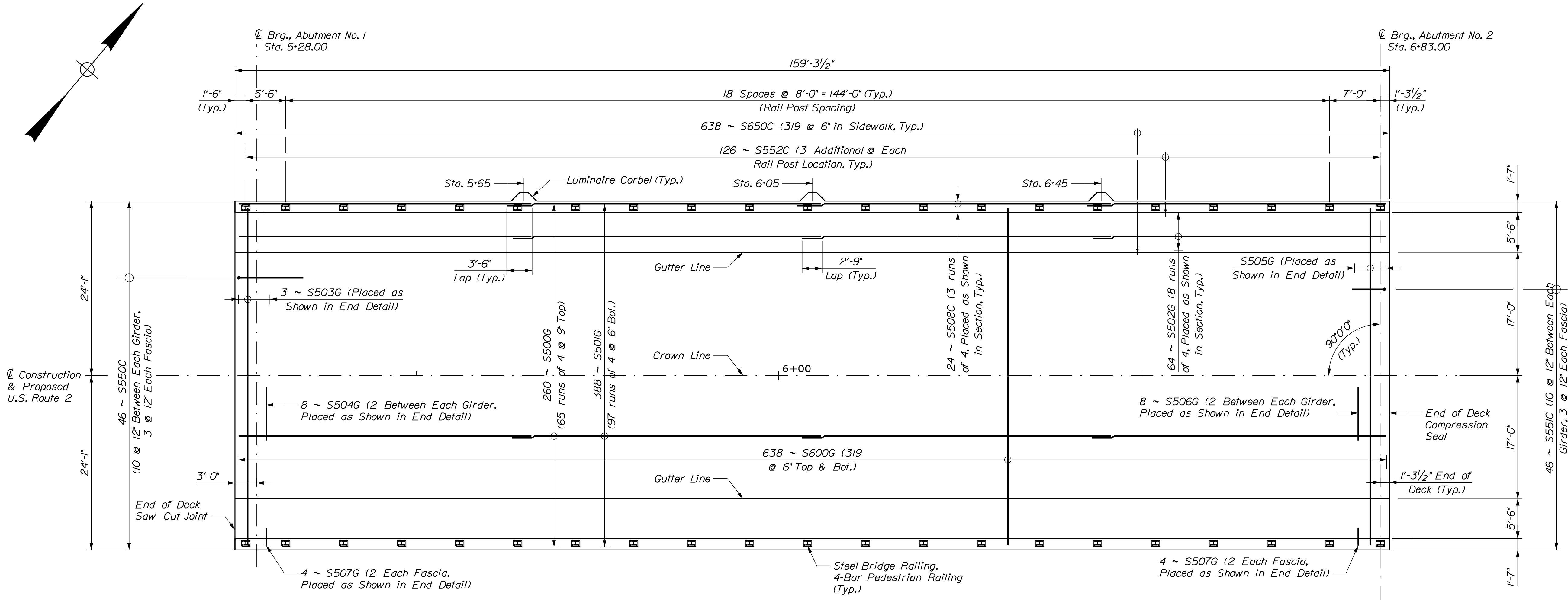
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Date: 6/13/2023

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Division: HIGHWAY

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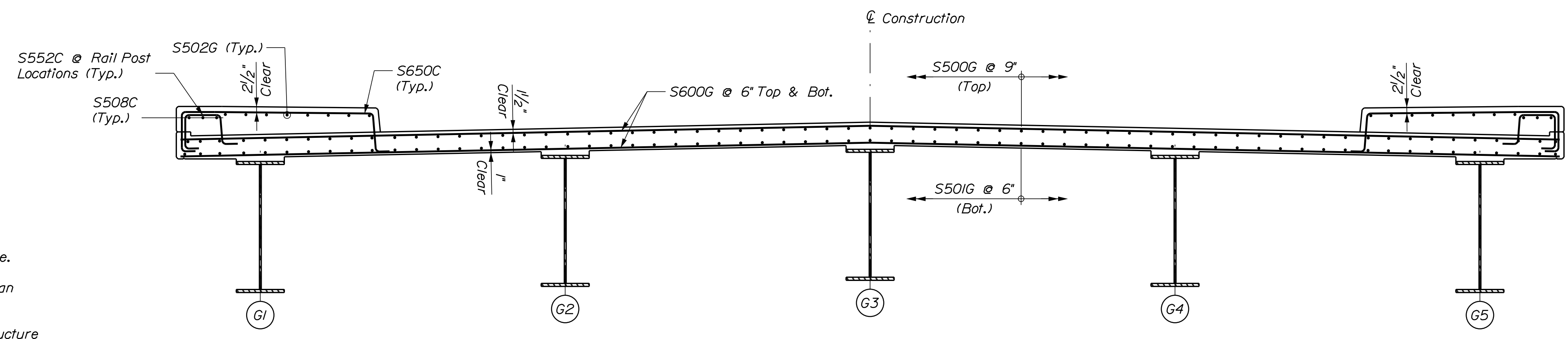


SUPERSTRUCTURE PLAN

SUPERSTRUCTURE NOTES:

- The theoretical blocking used for design of the structure is 4" at the centerline of bearing of the abutments. Refer to Standard Detail 502(03) for blocking details.
- Reinforcing steel shall have a minimum concrete cover of 2" unless otherwise noted.
- Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.
- Precast Concrete Deck Panels are not allowed on this project.
- The seal to be furnished shall have minimum Movement Rating as follows:  
Abutment No. 2 = 1.83 inches
- The superstructure slab concrete shall be placed continuously and shall be kept plastic until entire placement has been made.
- The Resident shall approve the seals prior to fabrication of the Expansion Device.  
An expansion joint shall be provided in the Steel Bridge Railing, 4-Bar Pedestrian Railing centered on the compression seal joint opening at Abutment No. 2.
- For deck end details and Saw Cut joint Details and Notes, see sheet, "Superstructure Details".
- 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.

Temperature (Deg. F)	-30	-20	-10	0	10	20	30	40	45	50	60	70	80	90	100	110	120
Opening (Inches)	3.43	3.31	3.18	3.06	2.93	2.81	2.69	2.56	2.50	2.44	2.31	2.19	2.07	1.94	1.82	1.69	1.57



TRANSVERSE REINFORCING SECTION

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2170(000)		BRIDGE #2707	WIN 21700.01	BRIDGE PLANS
RUMFORD - MEXICO OXFORD COUNTY		SUPERSTRUCTURE PLAN		SHEET NUMBER <b>47</b> OF 56		
PROJ. MANAGER	M. WIGHT	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED	B. Smith	S. Moran	7/2022			
CHECKED-REVIEWED	R. Hebert	B. Smith	4/2023			
DESIGN-DETAILED						
REVISIONS 1						
REVISIONS 2						
REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						

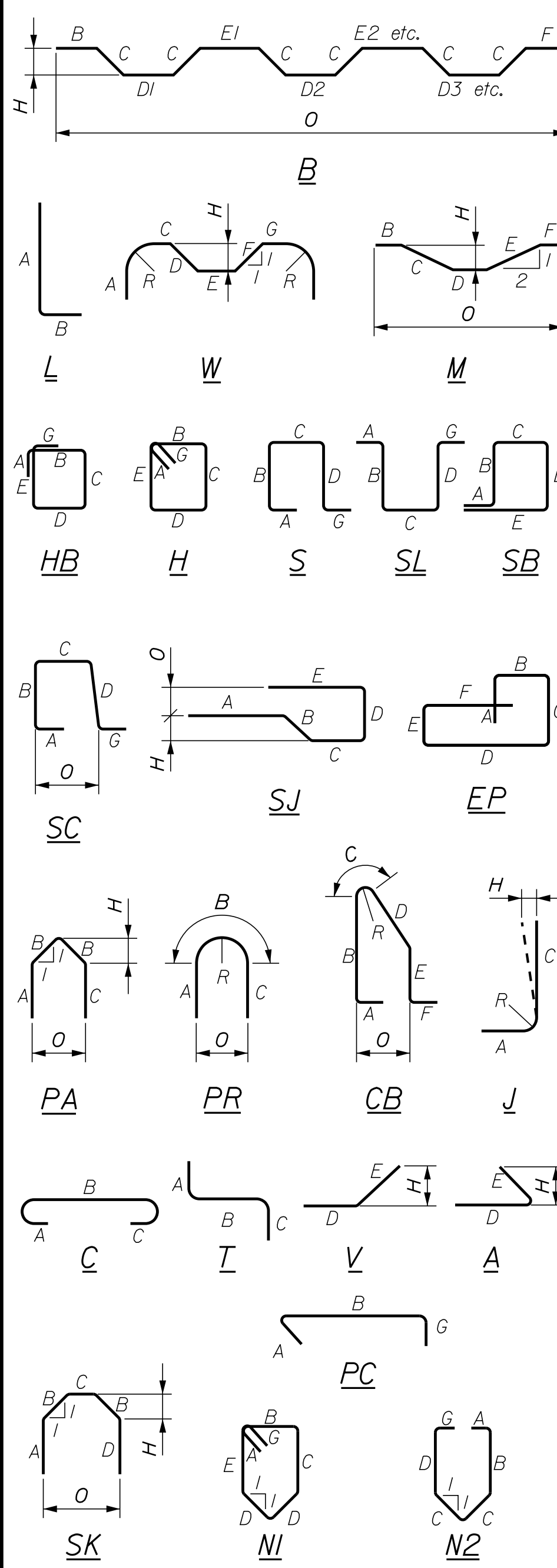






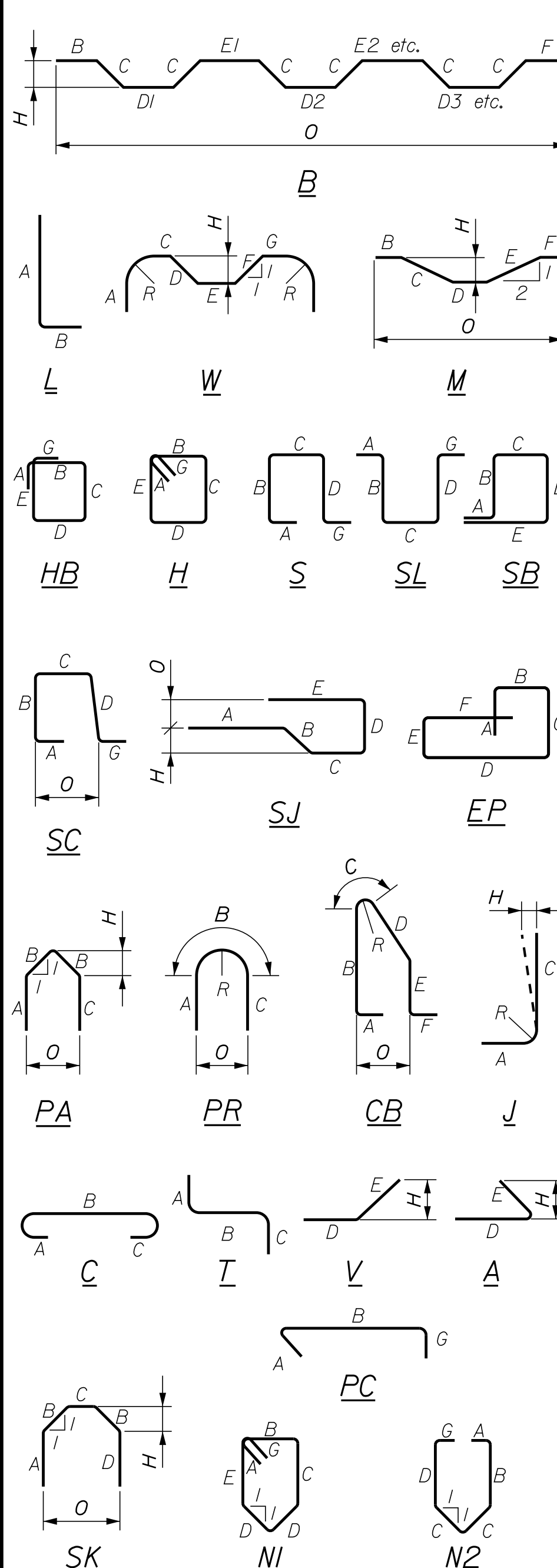
STRAIGHT BARS				BENT BARS																		
MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
Abutment No. 1				Abutment No. 1																		
A500	8	18'-6"	HORIZ. BACKWALL	A550	49	9'-6"	S	0"	3'-11"	1'-8"	3'-11"	-	-	0"	-	-	-	-	-	-	-	BACKWALL
A501	8	29'-0"	HORIZ. BACKWALL	A551	49	7'-6"	S	0"	3'-2"	1'-2"	3'-2"	-	-	0"	-	-	-	-	-	-	-	BACKWALL
A502C	6	16'-11"	HORIZ. SW AND NW WINGWALL	A552	50	9'-0"	S	0"	3'-2"	2'-8"	3'-2"	-	-	0"	-	-	-	-	-	-	-	PEDESTAL
A503	8	18'-5"	HORIZ. SW AND NW WINGWALL	A553	30	11'-2"	S	0"	3'-2"	4'-10"	3'-2"	-	-	0"	-	-	-	-	-	-	-	PEDESTAL
A504	20	12'-0"	HORIZ. SW AND NW WINGWALL	A554C	12	13'-8"	S	0"	6'-2"	1'-4"	6'-2"	-	-	0"	-	-	-	-	-	-	-	SW AND NW WINGWALL
A505	20	7'-4"	HORIZ. SW AND NW WINGWALL	A555C	12	19'-2"	S	0"	8'-11"	1'-4"	8'-11"	-	-	0"	-	-	-	-	-	-	-	SW AND NW WINGWALL
A506C	2	16'-11"	HORIZ. SW AND NW WINGWALL	A556C	30	9'-0"	S	0"	3'-10"	1'-4"	3'-10"	-	-	0"	-	-	-	-	-	-	-	SW AND NW WINGWALL
A507	2	16'-11"	HORIZ. SW AND NW WINGWALL	A557C	2	7'-10"	S	0"	3'-3"	1'-4"	3'-3"	-	-	0"	-	-	-	-	-	-	-	SW AND NW WINGWALL
A508	10	14'-0"	VERT. SW AND NW WINGWALL	A558	16	5'-8"	S	0"	2'-2"	1'-4"	2'-2"	-	-	0"	-	-	-	-	-	-	-	SW AND NW WINGWALL
A509	6	14'-4"	DIAG. SW AND NW WINGWALL	A559	10	5'-7"	L	4'-9"	10"	-	-	-	-	-	-	-	-	-	-	-	-	SW AND NW WINGWALL DOWELS
A510	4	49'-8"	HORIZ. FOOTING	A560	12	13'-8"	S	0"	6'-2"	1'-4"	6'-2"	-	-	0"	-	-	-	-	-	-	-	SW AND NW WINGWALL
A511	4	12'-0"	HORIZ. FOOTING	A561	12	19'-2"	S	0"	8'-11"	1'-4"	8'-11"	-	-	0"	-	-	-	-	-	-	-	SW AND NW WINGWALL
Abutment No. 2				Abutment No. 2																		
A600	13	49'-8"	HORIZ. FOOTING	A650	51	16'-10"	S	0"	2'-5"	12'-0"	2'-5"	-	-	0"	-	-	-	-	-	-	-	FOOTING
A601	24	18'-6"	HORIZ. STEMWALL	A651	49	6'-8"	S	0"	1'-0"	4'-8"	1'-0"	-	-	0"	-	-	-	-	-	-	-	BRIDGE SEAT
A602	24	29'-0"	HORIZ. STEMWALL	A750	49	6'-8"	L	5'-6"	1'-2"	-	-	-	-	-	-	-	-	-	-	-	-	DOWELS
A603	2	18'-6"	HORIZ. BRIDGE SEAT	A850	49	7'-3"	L	5'-11"	1'-4"	-	-	-	-	-	-	-	-	-	-	-	-	DOWELS
A604	2	29'-0"	HORIZ. BRIDGE SEAT	A851	51	16'-10"	S	0"	2'-5"	12'-0"	2'-5"	-	-	0"	-	-	-	-	-	-	-	FOOTING
A605	57	9'-11"	VERT. STEMWALL	A852	18	5'-10"	V	-	-	-	2'-8"	3'-2"	-	-	-	-	-	2'-5"	-	-	-	APPROACH SLAB DOWEL
A800	49	12'-0"	VERT. STEMWALL	A1050	18	9'-4"	L	7'-7"	1'-9"	-	-	-	-	-	-	-	-	-	-	-	-	SW AND NW WINGWALL DOWELS
A801	8	18'-5"	HORIZ. SW AND NW WINGWALL																			
A802	20	13'-2"	HORIZ. SW AND NW WINGWALL																			
A803	20	8'-6"	HORIZ. SW AND NW WINGWALL																			
A804C	2	16'-11"	HORIZ. SW AND NW WINGWALL																			
A805	2	16'-11"	HORIZ. SW AND NW WINGWALL																			
A1000	18	14'-0"	VERT. SW AND NW WINGWALL																			
Abutment No. 2				Abutment No. 2																		
B500C	4	18'-6"	HORIZ. BACKWALL	B550	9	5'-7"	S	4'-9"	10"	-	-	-	-	-	-	-	-	-	-	-	-	SW AND NE WINGWALL DOWELS
B501C	4	29'-0"	HORIZ. BACKWALL	B551C	35	11'-4"	S	0"	5'-1"	1'-2"	5'-1"	-	-	0"	-	-	-	-	-	-	-	BACKWALL
B502	10	18'-6"	HORIZ. BACKWALL	B552C	16	12'-6"	S	0"	5'-8"	1'-2"	5'-8"	-	-	0"	-	-	-	-	-	-	-	BACKWALL
B503	10	29'-0"	HORIZ. BACKWALL	B553C	4	13'-0"	S	0"	3'-2"	6'-8"	3'-2"	-	-	0"	-	-	-	-	-	-	-	BACKWALL
B504C	3	26'-11"	HORIZ. NE WINGWALL	B554	49	10'-6"	S	0"	4'-5"	1'-8"	4'-5"	-	-	0"	-	-	-	-	-	-	-	BACKWALL
B505	2	26'-11"	HORIZ. NE WINGWALL	B555	50	9'-0"	S	0"	3'-2"	2'-8"	3'-2"	-	-	0"	-	-	-	-	-	-	-	PEDESTAL
B506	5	26'-11"	HORIZ. NE WINGWALL	B556	30	11'-2"	S	0"	3'-2"	4'-10"	3'-2"	-	-	0"	-	-	-	-	-	-	-	PEDESTAL
B507	10	16'-8"	HORIZ. NE WINGWALL	B557C	7	12'-8"	S	0"	5'-8"	1'-4"	5'-8"	-	-	0"	-	-	-	-	-	-	-	NE WINGWALL
B508	10	13'-1"	HORIZ. NE WINGWALL	B558C	9	17'-8"	S	0"	8'-2"	1'-4"	8'-2"	-	-	0"	-	-	-	-	-	-	-	NE WINGWALL
B509	8	8'-1"	HORIZ. NE WINGWALL	B559C	8	22'-4"	S	0"	10'-6"	1'-4"	10'-6"	-	-	0"	-	-	-	-	-	-	-	NE WINGWALL
B510	1	6'-1"	HORIZ. NE WINGWALL	B560C	14	9'-10"	S	0"	4'-3"	1'-4"	4'-3"	-	-	0"	-	-	-	-	-	-	-	NE WINGWALL
B511	2	18'-2"	VERT. NE WINGWALL	B561C	1	9'-10"	S	0"	4'-3"	1'-4"	4'-3"	-	-	0"	-	-	-	-	-	-	-	NE WINGWALL
B512	3	28'-3"	DIAG. NE WINGWALL	B562	7	12'-8"	S	0"	5'-8"	1'-4"	5'-8"	-	-	0"	-	-	-	-	-	-	-	NE WINGWALL
B513	5	25'-5"	HORIZ. SE WINGWALL	B563	9	17'-8"	S	0"	8'-2"	1'-4"	8'-2"	-	-	0"	-	-	-	-	-	-	-	NE WINGWALL
B514	12	15'-11"	HORIZ. SE WINGWALL	B564	8	22'-4"	S	0"	10'-6"	1'-4"	10'-6"	-	-	0"	-	-	-	-	-	-	-	NE WINGWALL
B515	10	11'-6"	HORIZ. SE WINGWALL	B565	6	6'-8"	S	0"	2'-8"	1'-4"	2'-8"	-	-	0"	-	-	-	-	-	-	-	NE WINGWALL
B516	10	10'-5"	HORIZ. SE WINGWALL	B566C	9	12'-10"	S	0"	5'-9"	1'-4"	5'-9"	-	-	0"	-	-	-	-	-	-	-	SE WINGWALL
B517C	3	25'-5"	HORIZ. SE WINGWALL	B567C	9	18'-6"	S	0"	8'-7"	1'-4"	8'-7"	-	-	0"	-	-	-	-	-	-	-	SE WINGWALL
B518	2	25'-5"	HORIZ. SE WINGWALL	B568C	18	9'-10"	S	0"	4'-3"	1'-4"	4'-3"	-	-	0"	-	-	-	-	-	-	-	SE WINGWALL
B519	7	18'-2"	VERT. SE WINGWALL	B569C	1	9'-10"	S	0"	4'-3"	1'-4"	4'-3"	-	-	0"	-	-	-	-	-	-	-	SE WINGWALL
B520	3	22'-4"	DIAG. SE WINGWALL	B570	9	12'-10"	S	0"	5'-9"	1'-4"	5'-9"	-	-	0"	-	-	-	-	-	-	-	SE WINGWALL
B521	4	49'-8"	HORIZ. FOOTING	B571	9	19'-0"	S	0"	8'-10"	1'-4"	8'-10"	-	-	0"	-	-	-	-	-	-	-	SE WINGWALL
B522	2	13'-5"	HORIZ. FOOTING	B572	6	6'-8"	S	0"	2'-8"	1'-4"	2'-8"	-	-	0"	-	-	-	-	-	-	-	SE WINGWALL
B523	2	8'-10"	HORIZ. FOOTING																			
B600	15	49'-8"	HORIZ. FOOTING	B650	51	16'-10"	S	0"	2'-5"	12'-0"	2'-5"	-	-	0"	-	-	-	-	-	-	-	FOOTING
B700	57	13'-11"	VERT. STEMWALL	B750	49	6'-8"	L	5'-6"	1'-2"	-	-	-	-	-	-	-	-	-	-	-	-	DOWEL
B701	30	18'-6"	HORIZ. STEMWALL	B751	49	7'-0"	S	0"	1'-2"	4'-8"	1'-2"	-	-	0"	-	-	-	-	-	-	-	BRIDGE SEAT
B702	30	29'-0"	HORIZ. STEMWALL	B850	49	7'-3"	L	5'-11"	1'-4"	-	-	-	-	-	-	-	-	-	-	-	-	DOWEL
B703	2	18'-6"	HORIZ. BRIDGE SEAT	B851	51	16'-10"	S	0"	2'-5"	12'-0"	2'-5"	-	-	0"	-	-	-	-	-	-	-	FOOTING
B704	2	29'-0"	HORIZ. BRIDGE SEAT	B852	18	5'-10"	V	-	-	-	2'-8"	3'-2"	-	-	-	-	-	2'-5"	-	-	-	APPROACH SLAB DOWEL
B800	9	26'-11"	HORIZ. NE WINGWALL	B1050	16	9'-4"	L	7'-7"	1'-9"	-	-	-	-	-	-	-	-	-	-	-	-	NE WINGWALL DOWEL
B801	18	17'-5"	HORIZ. NE WINGWALL	B1051	16	9'-4"	L	7'-7"	1'-9"	-	-	-	-	-	-	-	-	-	-	-	-	SE WINGWALL DOWEL
B802	18	13'-10"	HORIZ. NE WINGWALL																			
B803	14	8'-10"	HORIZ. NE WINGWALL																			
B804	1	6'-1"	HORIZ. NE WINGWALL																			
B805	9	25'-5"	HORIZ. SE WINGWALL																			
B806	22	16'-8"	HORIZ. SE WINGWALL																			
B807	20	12'-3"	HORIZ. SE WINGWALL																			
B808	18	10'-5"	HORIZ. SE WINGWALL																			
B809	49	16'-6"	VERT. STEMWALL																			
B1000	3	18'-2"	VERT. NE WINGWALL																			
B1001	13	18'-2"	VERT. SE WINGWALL																			

TYPE - BENDING DIAGRAMS



STRAIGHT BARS				BENT BARS																		
MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
Superstructure Slab				Superstructure Slab																		
S500G	260	41'-10"	LONGITUDINAL - TOP	S550C	46	11'-2"	SJ	10'	1'-0"	3'-5"	1'-0"	4'-11"	-	-	8"	4"	-	-	-	-	-	END OF DECK - ABUT. NO. 1
S501G	388	41'-10"	LONGITUDINAL - BOTTOM	S551C	46	7'-10"	SJ	10'	1'-0"	1'-9"	1'-0"	3'-3"	-	-	8"	4"	-	-	-	-	-	END OF DECK - ABUT. NO. 2
S502G	64	41'-10"	LONGITUDINAL - SIDEWALK	S552C	126	5'-5"	S	10'	1'-2"	1'-5"	1'-2"	-	-	10"	-	-	-	-	-	-	-	TRANSVERSE - CURB SIDEWALK
S503G	3	47'-9"	TRANSVERSE END OF DECK	S553C	9	6'-10"	S	0"	2'-8"	1'-6"	2'-8"	-	-	0"	-	-	-	-	-	-	-	LUMINAIRE CORBEL
S504G	8	10'-1"	TRANSVERSE END OF DECK	S554C	9	7'-8"	SK	1'-8"	1'-8"	1'-0"	1'-8"	-	-	-	1'-2"	3'-6"	-	-	-	-	-	LUMINAIRE CORBEL
S505G	1	47'-9"	TRANSVERSE END OF DECK																			
S506G	8	10'-1"	TRANSVERSE END OF DECK	S650C	638	10'-8"	S	1'-0"	1'-2"	6'-7"	11"	-	-	1'-0"	-	-	-	-	-	-	-	TRANSVERSE SIDEWALK
S507G	8	2'-5"	TRANSVERSE END OF DECK																			
S508C	24	42'-5"	LONGITUDINAL - RAIL SIDEWALK																			
S601G	638	47'-9"	TRANSVERSE BAR																			
Approach Slab																						
AS501	64	17'-3"	TRANSVERSE APPROACH SLAB																			
AS601	134	15'-2"	LONGITUDINAL APPROACH SLAB																			

TYPE - BENDING DIAGRAMS



All dimensions are out-to-out of bar.  
 Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 315 and ACI Standard 318.  
 Reinforcing Bar: ASTM A615/A615M, Grade 60

GENERAL NOTES

- The first two digits following the letter(s) of the mark indicate the size of the bar:  
 Mark "A0502" = bar size #5  
 Mark "P0805" = bar size #8  
 Mark "S1150" = bar size #11
- Each crank bar, Type B, may be replaced by two (2) straight bars (one top and one bottom) of the same bar size as the crank bar. Payment in either case shall be based on crank bars as schedule on the plans.
- Bar marks ending with an 'C' indicate Low-Carbon Chromium bars.
- Bar marks with a 'G' indicate Glass Fiber Reinforced Polymer (GFRP) bars.



STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
**STP-2170(000)**  
 WIN 21700.01  
 BRIDGE #2707

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

RED BRIDGE  
 OVER SWIFT RIVER  
 RUMFORD - MEXICO OXFORD COUNTY  
**REINFORCING SCHEDULE 2**

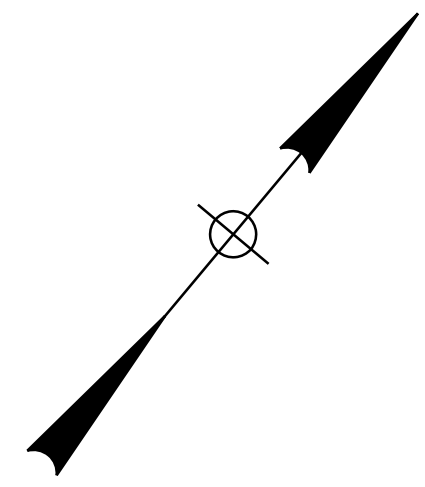
SHEET NUMBER  
**51**  
 OF 56

Date: 6/13/2023

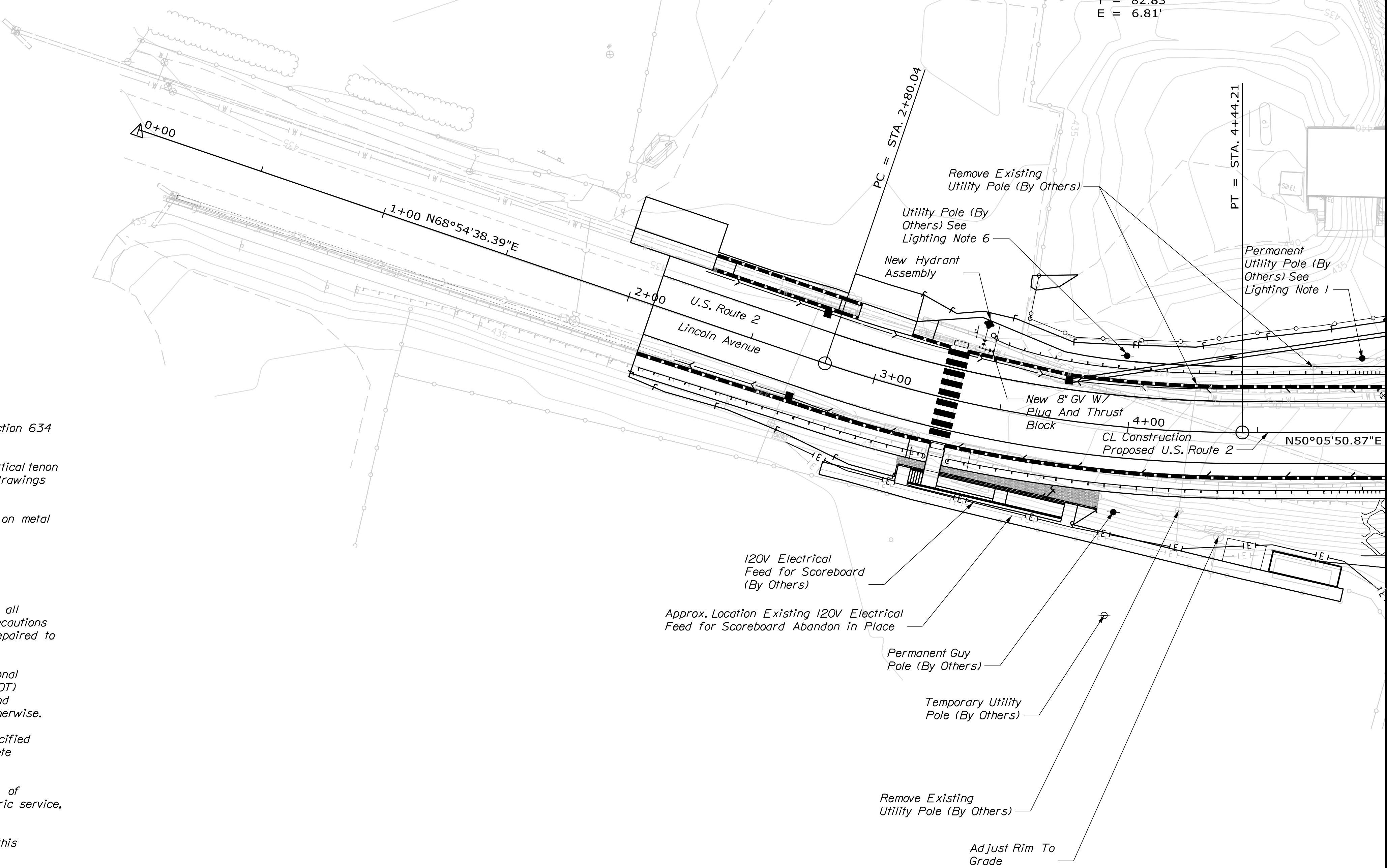
Username:

Division: HIGHWAY

Filename: ... \MSTA\... Utility Plan01.dgn



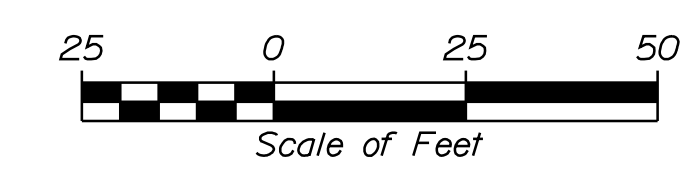
U. S. Route 2  
 CURVE DATA #1  
 PI = 3+62.87  
 D = 11°27'33.0"  
 Δ = 18°48'47.5" Lt.  
 R = 500.00'  
 L = 164.18'  
 T = 82.83'  
 E = 6.81'



**LIGHTING NOTES:**

1. Furnish and install 150W, 240V luminaire in accordance with Specification Section 634 mounted at 30 Ft. above roadway on 8 Ft. arm.
2. Mount luminaire on 30 Ft. round tapered, hot dip galvanized steel pole with vertical tenon mounted stub arm, attached to North (upstream) side of bridge, see structure drawings for mounting detail.
3. Bridge lighting service and lighting controls in NEMS 3R enclosure mounted on metal stanchion, see lighting details.
4. 2-inch lighting conduit run in sidewalk.
5. 2-inch lighting conduit run below sidewalk.
6. Prior to the start of construction the contractor shall contact dig safe to locate all existing underground utilities within the work area and take all necessary precautions and protection of these utilities. Any damage to underground utilities shall be repaired to the satisfaction of the utility owner, with no cost to the department.
7. All materials and workmanship shall conform to the current edition of the national electrical code (NEC), and most recent Maine department of transportation (MEDOT) specifications for miscellaneous construction, section 634 - highway lighting and standard details for division 600 miscellaneous construction unless noted otherwise.
8. Where lighting conduit is required to pass over drainage culverts and the specified burial depth of conduit cannot be maintained the contractor shall provide concrete protection of conduit in accordance with NEC table 300.5.
9. In general, the scope of work will include the installation of a complete system of buried conduit, conduit encased in poured in place concrete, conductors, electric service, poles and luminaires.
10. The contractor shall coordinate this work with all other contractors working on this project.
11. Installation of all underground conduit shall comply with Maine DOT standard detail 626(07).
12. Anchor bolt pattern for poles shall be coordinated with approved pole shop drawings, shall be hot dip galvanized, diameter and length as recommended and supplied by pole manufacturer.

**UTILITY & LIGHTING PLAN**



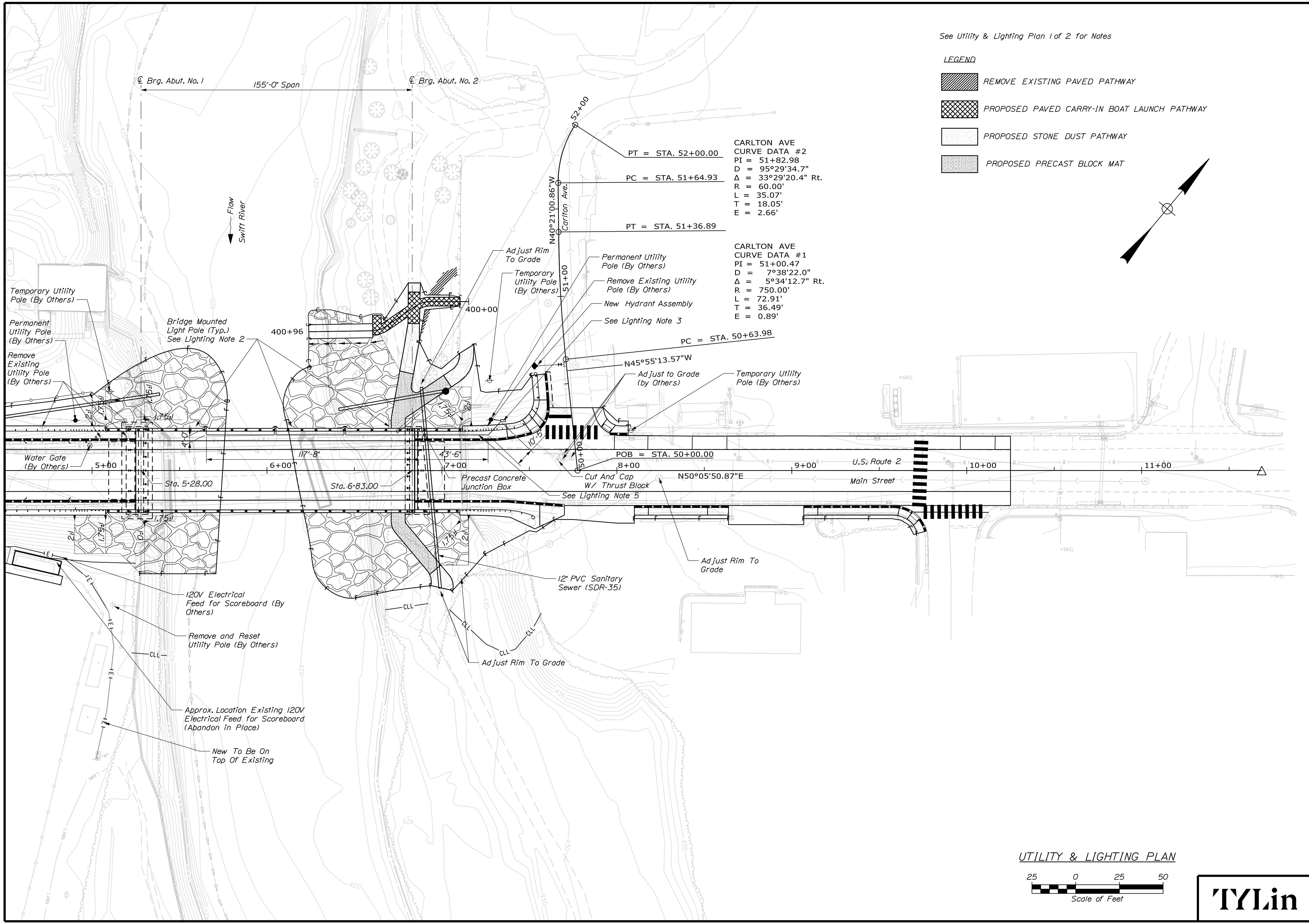
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2170(000)		WIN		BRIDGE #2707		BRIDGE PLANS	
RED BRIDGE		OVER SWIFT RIVER		RUMFORD - MEXICO		OXFORD COUNTY		UTILITY & LIGHTING		PLAN 1 OF 2	
SHEET NUMBER		52		OF 56		DATE		P.E. NUMBER		SIGNATURE	
PROJ. MANAGER		M. WIGHT		BY		DATE		DESIGN-DETAILED		4/24/23	
CHECKED-REVIEWED		C. Anderson		J. Rollins		4/24/23		DESIGN-DETAILED		R. Hebert	
DESIGN-DETAILED		D. Bryant		4/24/23		REVISIONS 1		REVISIONS 2		REVISIONS 3	
REVISIONS 1		REVISIONS 2		REVISIONS 3		REVISIONS 4		FIELD CHANGES		DATE	

Date: 6/13/2023

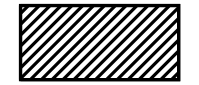



Username:

Division: HIGHWAY

Filename: ... \MSTA\... Utility Plan02.dgn



See Utility & Lighting Plan 1 of 2 for Notes

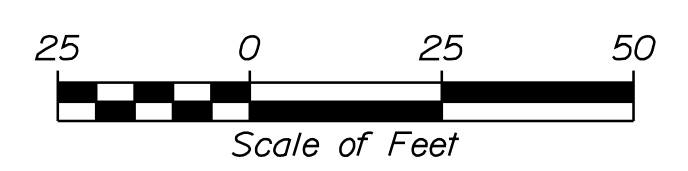
- LEGEND**
-  REMOVE EXISTING PAVED PATHWAY
  -  PROPOSED PAVED CARRY-IN BOAT LAUNCH PATHWAY
  -  PROPOSED STONE DUST PATHWAY
  -  PROPOSED PRECAST BLOCK MAT

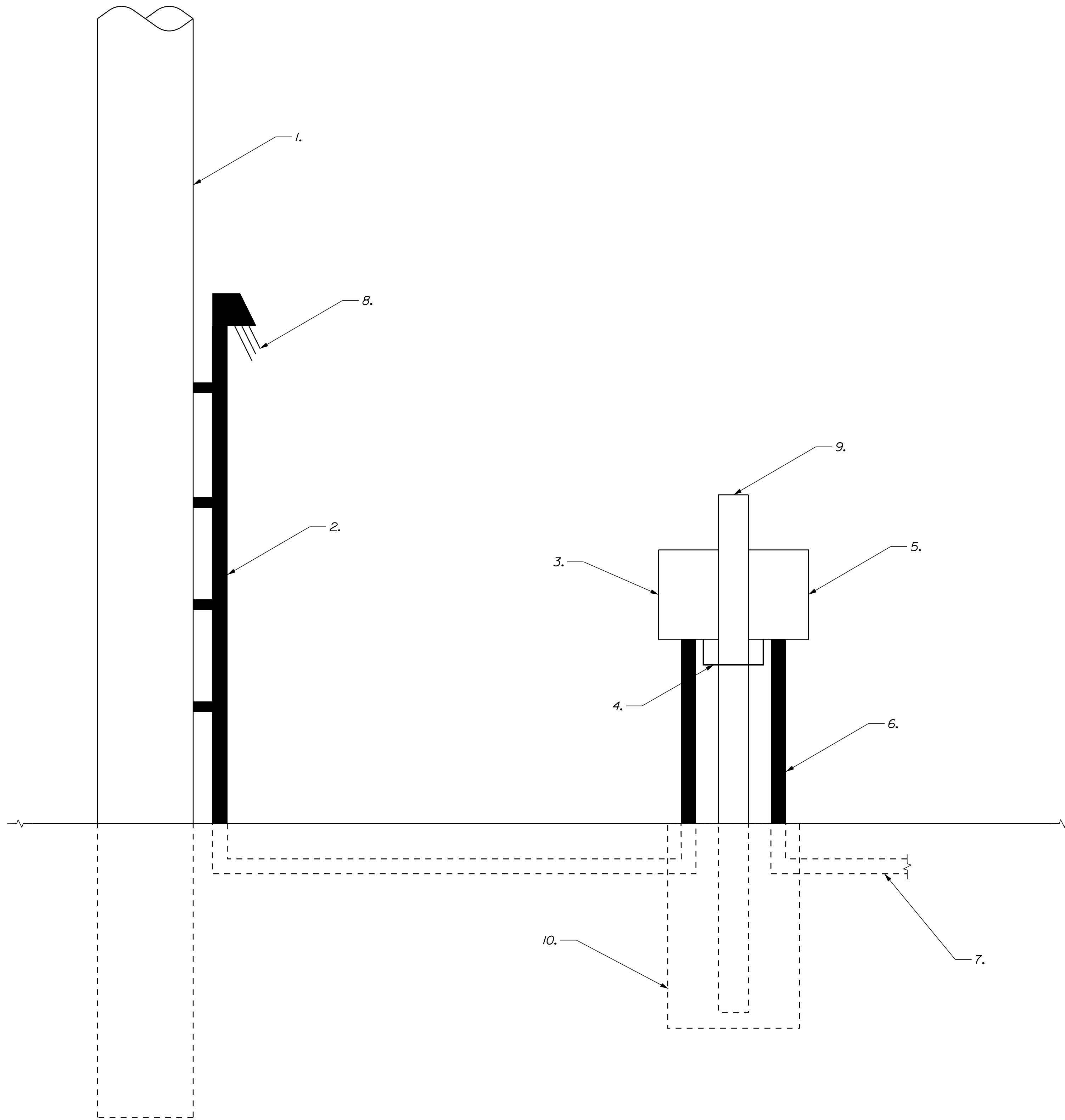
CARLTON AVE  
 CURVE DATA #2  
 PI = 51+82.98  
 D = 95°29'34.7"  
 Δ = 33°29'20.4" Rt.  
 R = 60.00'  
 L = 35.07'  
 T = 18.05'  
 E = 2.66'

CARLTON AVE  
 CURVE DATA #1  
 PI = 51+00.47  
 D = 7°38'22.0"  
 Δ = 5°34'12.7" Rt.  
 R = 750.00'  
 L = 72.91'  
 T = 36.49'  
 E = 0.89'

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2170(000)		WIN 21700.01	BRIDGE #2707	BRIDGE PLANS
RED BRIDGE OVER SWIFT RIVER		RUMFORD - MEXICO OXFORD COUNTY		UTILITY & LIGHTING PLAN 2 of 2		
PROJ. MANAGER	M. WIGHT	BY	J. Rollins R. Hebert	DATE	4/24/23 4/24/23	SIGNATURE
DESIGN DETAILED	C. Anderson	CHECKED/REVIEWED	D. Bryant	DESIGNS DETAILED		P.E. NUMBER
REVISIONS 1		REVISIONS 2		REVISIONS 3		DATE
REVISIONS 4		FIELD CHANGES				
SHEET NUMBER		53				
		OF 56				

UTILITY & LIGHTING PLAN





ELECTRIC SERVICE DETAIL  
Not To Scale

ELECTRIC SERVICE NOTES:

1. New CMP pole at STA. 7+28 LT.
2. 2-inch rigid steel conduit, 3 #6 XHHW copper conductors. Extend conduit up pole to point of termination as specified by CMP, leave slack conductor per CMP requirements.
3. Combination meter socket and 30A 2-pole main circuit breaker per CMP specifications, short circuit withstand rating as required for available fault current. Provide electric service grounding electrode consisting of two 3/4-inch X 10 ft. ground rods spaced 20 ft. apart with top of rods set 18 inches below finish grade. Connect rods together with #2 bare copper wire and extend to ground bus in main circuit breaker enclosure, connection to ground rods shall be by thermofusion process.
4. 1-inch conduit, 3 #6 XHHW copper conductors.
5. Lighting control panel per standard detail 634 (02).
6. 2-inch rigid steel conduit, 3 #6 XHHW copper conductors.
7. 2-inch PVC conduit, 3 #10 XHHW copper conductors to bridge lighting.
8. Leave slack in service conductors for service connection by CMP.
9. 3-inch schedule 40 galvanized steel pipe set in concrete foundation, provide pipe cap at top.
10. 8-inch diameter X 4 ft. deep concrete foundation per standard detail 626 (01).

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2170(000)		WIN		BRIDGE #2707		BRIDGE PLANS	
RED BRIDGE		OVER SWIFT RIVER		RUMFORD - MEXICO		OXFORD COUNTY		ELECTRIC SERVICE DETAIL		SHEET NUMBER	
PROJ. MANAGER		M. WIGHT		BY		DATE		SIGNATURE		P.E. NUMBER	
DESIGN-DETAILED		C. Anderson		J. Rollins		4/24/23		R. Hebert		DATE	
CHECKED-REVIEWED		D. Byvart		R. Hebert		4/24/23					
DESIGN-DETAILED											
REVISIONS 1											
REVISIONS 2											
REVISIONS 3											
REVISIONS 4											
FIELD CHANGES											



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OF 56

Town, County, State \_\_\_\_\_  
 Approx. Property Lines \_\_\_\_\_ P.L.  
 Existing Right of Way \_\_\_\_\_  
 Limits of Wrought Portion \_\_\_\_\_ L.O.W.P.  
 Control Of Access \_\_\_\_\_ C.O.A.  
 New Right of Way \_\_\_\_\_  
 New Easement \_\_\_\_\_  
 New Temporary Rights \_\_\_\_\_  
 New R/W Within Existing R/W \_\_\_\_\_

New R/W Along Existing R/W \_\_\_\_\_  
 Building \_\_\_\_\_  
 Trees Conifer \_\_\_\_\_  
 Tree Line \_\_\_\_\_  
 Water Edge \_\_\_\_\_  
 Ledge \_\_\_\_\_  
 Fence CHAIN LINK \_\_\_\_\_  
 Sign \_\_\_\_\_  
 Clearing Limit Line CLL \_\_\_\_\_  
 Bush Line \_\_\_\_\_  
 Rock/Boulder \_\_\_\_\_  
 Barb Wire \_\_\_\_\_  
 Well \_\_\_\_\_  
 Flag Pole \_\_\_\_\_  
 Stockade \_\_\_\_\_  
 Mailbox \_\_\_\_\_

**PLAN LEGEND**

Sanitary Sewer	Existing	Proposed
Telephone Line	Existing	Proposed
Electric Line	Existing	Proposed
Water Line	Existing	Proposed
Underdrain Line	Existing	Proposed
Gas Line	Existing	Proposed
Guardrail	Existing	Proposed
Culvert	Existing	Proposed
Traveled Way	Existing	Proposed
Ditch	Existing	Proposed
Catch Basin	Existing	Proposed
Manhole	Existing	Proposed
Sewer Manhole	Existing	Proposed
Utility Pole	Existing	Proposed
Fire Hydrant	Existing	Proposed
Curbing	Existing	Proposed

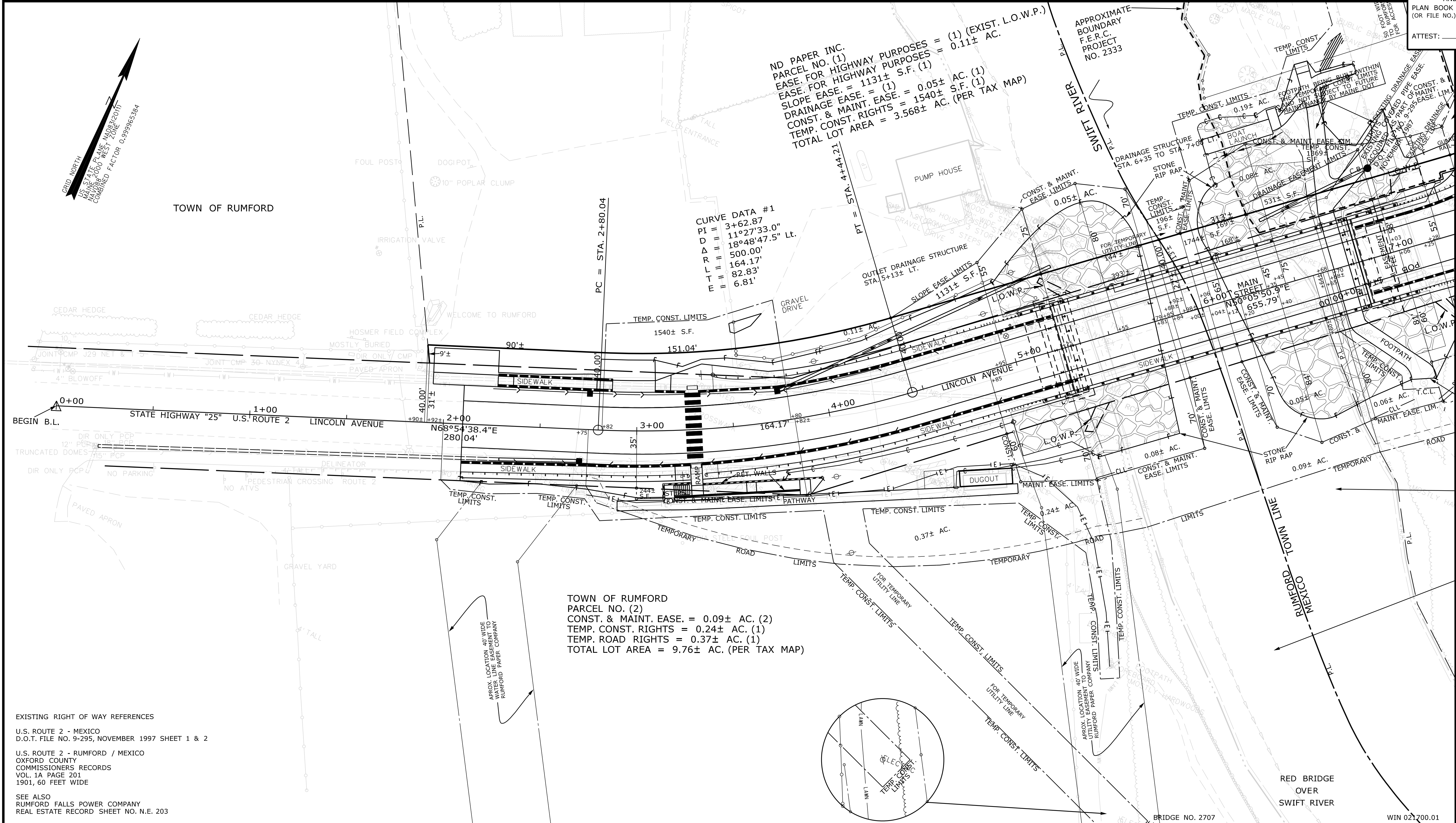
Cut Line \_\_\_\_\_  
 Stonewall \_\_\_\_\_  
 Baseline \_\_\_\_\_  
 Monument \_\_\_\_\_  
 Iron Rod Found \_\_\_\_\_ IRF  
 Replacement Pin Set \_\_\_\_\_  
 Fill Line \_\_\_\_\_  
 Retaining Wall \_\_\_\_\_  
 Traverse Point \_\_\_\_\_  
 Pipe Found \_\_\_\_\_ IPF

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 ADJACENT PROPERTY OWNERS.

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

STATE OF MAINE  
 REGISTRY OF DEEDS

COUNTY OF \_\_\_\_\_  
 RECEIVED \_\_\_\_\_, 20\_\_\_\_  
 AT \_\_\_\_\_ HRS. \_\_\_\_\_ MINS. \_\_\_\_\_ M.  
 AND RECORDED IN \_\_\_\_\_  
 PLAN BOOK \_\_\_\_\_  
 (OR FILE NO.) \_\_\_\_\_, PAGE \_\_\_\_\_  
 ATTEST: \_\_\_\_\_ REGISTRAR



EXISTING RIGHT OF WAY REFERENCES  
 U.S. ROUTE 2 - MEXICO  
 D.O.T. FILE NO. 9-295, NOVEMBER 1997 SHEET 1 & 2  
 U.S. ROUTE 2 - RUMFORD / MEXICO  
 OXFORD COUNTY  
 COMMISSIONERS RECORDS  
 VOL. 1A PAGE 201  
 1901, 60 FEET WIDE  
 SEE ALSO  
 RUMFORD FALLS POWER COMPANY  
 REAL ESTATE RECORD SHEET NO. N.E. 203

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	PNS	
FINAL RIGHT OF WAY	PNS	
AREAS	PNS	

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

REVISIONS			PLAN FILED IN PLAN BOOK				PAGE COUNTY RECORD			
NO.	DATE	DESCRIPTION	BY	NO.	GRANTOR	PAGE	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE  
 COMMISSIONER  
 JOYCE NOEL TAYLOR  
 CHIEF ENGINEER

DATE \_\_\_\_\_

STATE HIGHWAY "25"  
 U.S. ROUTE 2 / LINCOLN AVENUE / MAIN STREET  
 RUMFORD / MEXICO OXFORD COUNTY  
 FEDERAL AID PROJECT NO. 2189401

OCTOBER 2022  
 SCALE 1" = 25'

RIGHT-OF-WAY MAP  
 SHEET 1 OF 2

D.O.T. FILE NO. 9-426

SHEET NUMBER  
**55**  
 OF 56

Filename: ... \00\ROW\MSTA001\_RWPLAN1.dgn  
 Division: ROW  
 Username: Perry, Silverman  
 Date: 5/24/2023

