

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Tenth Edition 2024.

DESIGN LOADING

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

TRAFFIC DATA

Current (2024) AADT.....1830
Future (2044) AADT.....2100
DHV - % of AADT.....12%
Design Hour Volume.....252
Heavy Trucks (% of AADT).....10%
Heavy Trucks (% of DHV).....6%
Directional Distribution (% of DHV).....67%
18 kip Equivalent P 2.0.....97
18 kip Equivalent P 2.5.....92
Design Speed (mph).....45

HYDROLOGIC DATA

Drainage Area.....2.37 sq mi
Design Discharge (Q50).....420 cfs
Check Discharge (Q100).....495 cfs
Headwater Elevation (Q1.1).....167.0 ft
Headwater Elevation (Q50).....169.7 ft
Headwater Elevation (Q100).....170.0 ft
Discharge Velocity (Q1.1).....1.27 fps
Discharge Velocity (Q50).....3.90 fps
Discharge Velocity (Q100).....4.31 fps

MATERIALS

Concrete:
Precast.....Class "P"
All Other.....Class "A"

Reinforcing:
Plain Reinforcing Steel.....ASTM A615/A615M, Grade 60
Welded Wire Reinforcement.....ASTM A1064/A1064M

BASIC DESIGN STRESSES

Concrete:
Class "P".....f'c = 5,000 psi
Class "A".....f'c = 4,000 psi

Reinforcing:
Plain Reinforcing Steel.....f y = 60,000 psi
Welded Wire Reinforcement.....f y = 65,000 psi

LIST OF DRAWINGS

Title Sheet.....	1
Estimated Quantities and General Construction Notes.....	2
General Plan.....	3
Profile.....	4
Boring Location Plan and Interpretive Subsurface Profile.....	5
Boring Logs.....	6
Typical Sections.....	7
Cross Sections.....	8-14
Precast Box Culvert Details.....	15-16
Mounted Guardrail Details.....	17
Detour Plan.....	18
Right of Way Map.....	19

LITCHFIELD
KENNEBEC COUNTY
MAXWELL BRIDGE
OVER
MAGGOTY MEADOW BROOK
RICHMOND ROAD
FEDERAL AID PROJECT NO. 2824600
PROJECT LENGTH 0.014 mi.
BRIDGE NO. 2524

UTILITIES

Central Maine Power
Charter Communications
Consolidated Communications

MAINTENANCE OF TRAFFIC

Bridge will be closed to traffic during construction with traffic detoured off site.

PROJECT LOCATION	Maxwell Bridge (#2524) over Maxwell Brook. Located 0.42 of a mile west of Upper Pond Road. Lat./Long. 44°07'42.78" N 69°54'41.47" W
PROGRAM AREA	Highway Bridges - Traditional
OUTLINE OF WORK	Replacement of Maxwell Bridge #2524 in Litchfield with Precast Concrete Box Culvert

WIN 28246.00

LITCHFIELD
MAXWELL BRIDGE

TITLE SHEET

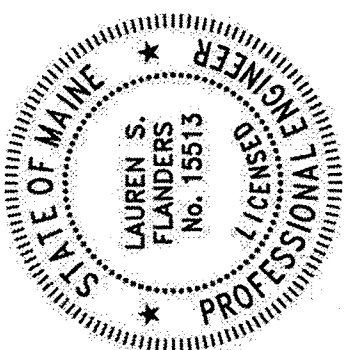
SHEET NUMBER

1

OF 19



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
COMMISSIONER: <i>[Signature]</i>	<i>[Signature]</i>	4-22-25
CHIEF ENGINEER: <i>[Signature]</i>	<i>[Signature]</i>	4-22-2025



<i>[Signature]</i>	SIGNATURE
15513	P.E. NUMBER
APRIL 10, 2025	DATE

PROJECT INFORMATION	BRIDGE
PROGRAM	PROJECT MANAGER
DESIGNER	GERALD LIBBY, JR.
CONSULTANT	LAUREN FLANDERS
PROJECT RESIDENT	STANTEC
CONTRACTOR	
PROJECT COMPLETION DATE	

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QTY	UNIT
202.202	REMOVING PAVEMENT SURFACE	590	SY
203.20	COMMON EXCAVATION	630	CY
203.2318	DISPOSAL OF SPECIAL WASTE	480	T
203.25	GRANULAR BORROW	50	CY
203.55	CULVERT BEDDING STONE	60	CY
206.061	STRUCTURAL EARTH EXCAVATION - DRAINAGE & MINOR STRUCTURES BELOW GRADE	50	CY
206.07	STRUCTURAL ROCK EXCAVATION - DRAINAGE & MINOR STRUCTURES	10	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	660	CY
403.2081	HOT MIX ASPHALT - 12.5 mm (POLYMER MODIFIED)	120	T
403.209	HOT MIX ASPHALT - 9.5 mm (SIDEWALKS, DRIVES, & INCIDENTALS)	3.5	T
403.213	HOT MIX ASPHALT - 12.5 mm (BASE AND INTERMEDIATE COURSE)	110	T
409.15	BITUMINOUS TACK COAT, APPLIED	75	G
411.09	UNTREATED AGGREGATE SURFACE COURSE	6.5	CY
508.13	SHEET WATERPROOFING MEMBRANE (140 SY)	1	LS
511.07	COFFERDAM: UPSTREAM	1	LS
511.07	COFFERDAM: DOWNSTREAM	1	LS
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (75 SY)	1	LS
526.301	TEMPORARY CONCRETE BARRIER, TYPE I (60 LF)	1	LS
534.71	PRECAST CONCRETE BOX CULVERT (125 CY)	1	LS
603.16	15 INCH CULVERT PIPE OPTION I	32	LF
606.1301	31" W-BEAM GUARDRAIL - MID-WAY SPLICE - SINGLE FACED	230	LF
606.1303	31" W-BEAM GUARDRAIL - MID-WAY SPLICE, 15' RADIUS AND LESS	50	LF
606.1305	31" W-BEAM GUARDRAIL - MID-WAY SPLICE FLARED TERMINAL	1	EA
606.1306	31" W-BEAM GUARDRAIL - MID-WAY SPLICE TANGENT TERMINAL	1	EA
606.265	TERMINAL END- SINGLE RAIL- GALVANIZED STEEL	2	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8	EA
606.743	GUARDRAIL - SINGLE RAIL CULVERT MOUNTED	44	LF
610.08	PLAIN RIPRAP	110	CY
610.18	STONE DITCH PROTECTION	40	CY
610.213	VOID FILLED RIPRAP	29	CY
613.319	EROSION CONTROL BLANKET	250	SY
615.07	LOAM	27	CY
618.14	SEEDING METHOD NUMBER 2	5	UN
619.12	MULCH	5	UN
619.14	EROSION CONTROL MIX	100	CY
620.54	STABILIZATION/REINFORCEMENT GEOTEXTILE	200	SY
620.58	EROSION CONTROL GEOTEXTILE	270	SY
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	1200	LF
629.05	HAND LABOR, STRAIGHT TIME	20	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	20	HR
631.172	TRUCK-LARGE (INCLUDING OPERATOR)	20	HR
639.19	FIELD OFFICE, TYPE B	1	EA
652.312	TYPE III BARRICADES	8	EA
652.33	DRUM	10	EA
652.34	CONE	20	EA
652.35	CONSTRUCTION SIGNS	500	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	1	LS
652.38	FLAGGERS	150	HR
652.41	PORTABLE-CHANGEABLE MESSAGE SIGN	2	EA
656.75	TEMPORARY SOIL EROSION & WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS

GENERAL CONSTRUCTION NOTES

1. For easements, construction limits, and right of way lines, refer to Right of Way Map.

2. The clearing limits as shown on the plans are approximate. The exact limits will be established in the field by the Resident. Payment for clearing will be considered incidental to Contract items.

3. All utility facilities shall be adjusted by the respective utilities unless otherwise noted.

4. Existing signs within the Project limits shall be removed and reset as directed by the Resident. Payment for removal and reinstallation of existing signs will be considered incidental to the Contract. No separate payment will be made.

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

6. Place loam 2 inches deep on all new or reconstructed sideslopes or as directed by the Resident.

7. Erosion Control Mix may be substituted in those areas normally receiving loam and seed as directed by the Resident. Placement shall be in accordance with Standard Specifications Section 619, Mulch. Payment will be made under Pay Item 619.14, Erosion Control Mix.

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

9. Guardrail posts as shown in the Standard Details shall be modified from the indicated length of 7 feet to a length of 8 feet with an embedment of 5.25 feet. Payment will be considered incidental to the guardrail pay items.

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

11. Where it is apparent that runoff will cause continual erosion, Erosion Control Blanket, seeded gutters, riprap downspouts, and other gutters lined with Stone Ditch Protection shall be constructed after paving and shoulder work is completed. Payment will be made under the appropriate Contract items.

12. Protective Coating for Concrete Surfaces shall be applied to the following areas:

On all concrete headwalls and concrete wall surfaces that are exposed and to limit lines, one foot beyond intersections of concrete surface with the ground

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

14. The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproductions of the original drawings as prepared for the construction of the bridge. It is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.

15. Reports on hydrology and/or hydraulics applicable to the bridge site may be accessed at the MaineDOT web address. The reports are based on MaineDOT's interpretation of the information obtained for the subject site. No assurance is given that the information or the conclusions of the report will be representative of actual conditions at the time of construction.

16. The project geotechnical report titled: Geotechnical Design Report Maxwell Bridge Culvert Replacement, Dated February 4, 2025 may be accessed at the MaineDOT web address.

17. Geotechnical information furnished or referred to in this plan set is for the use of the Bidders and the Contractor. No assurance is given that the information or interpretations will be representative of actual subsurface conditions at the construction site. MaineDOT will not be responsible for the Bidders' or Contractor's interpretations of, or conclusions drawn from, the geotechnical information. The boring logs contained in the plan set present factual and interpretive subsurface information collected at discrete locations. Data provided may not be representative of the subsurface conditions between the boring locations.

18. Quantities included for pay items measured and paid for by Lump Sum are estimated quantities and are provided by MaineDOT for informational purposes only. Lump Sum pay items will be paid for at the Contract Bid amount, with no addition or reduction in payment to the Contractor if the actual final quantities are different from the MaineDOT provided estimated quantities, except as follows:

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

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

c. If a design change results in changes to estimated quantities for Lump Sum pay items, price adjustments will be made in accordance with Standard Specifications Section 109.7, Equitable Adjustments to Compensation and Time.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2824600
WIN
28246.00
2524
BRIDGE PLANS

PROJ. MANAGER
DESIGN-DETAILED
CHECKED-REVIEWED
DESIGN-DETAILED02
DESIGN-DETAILED03
REVISIONS 1
REVISIONS 2
REVISIONS 4
FIELD CHANGES

BY
PBI/AFS
LSF/JRH
LSF/JRH

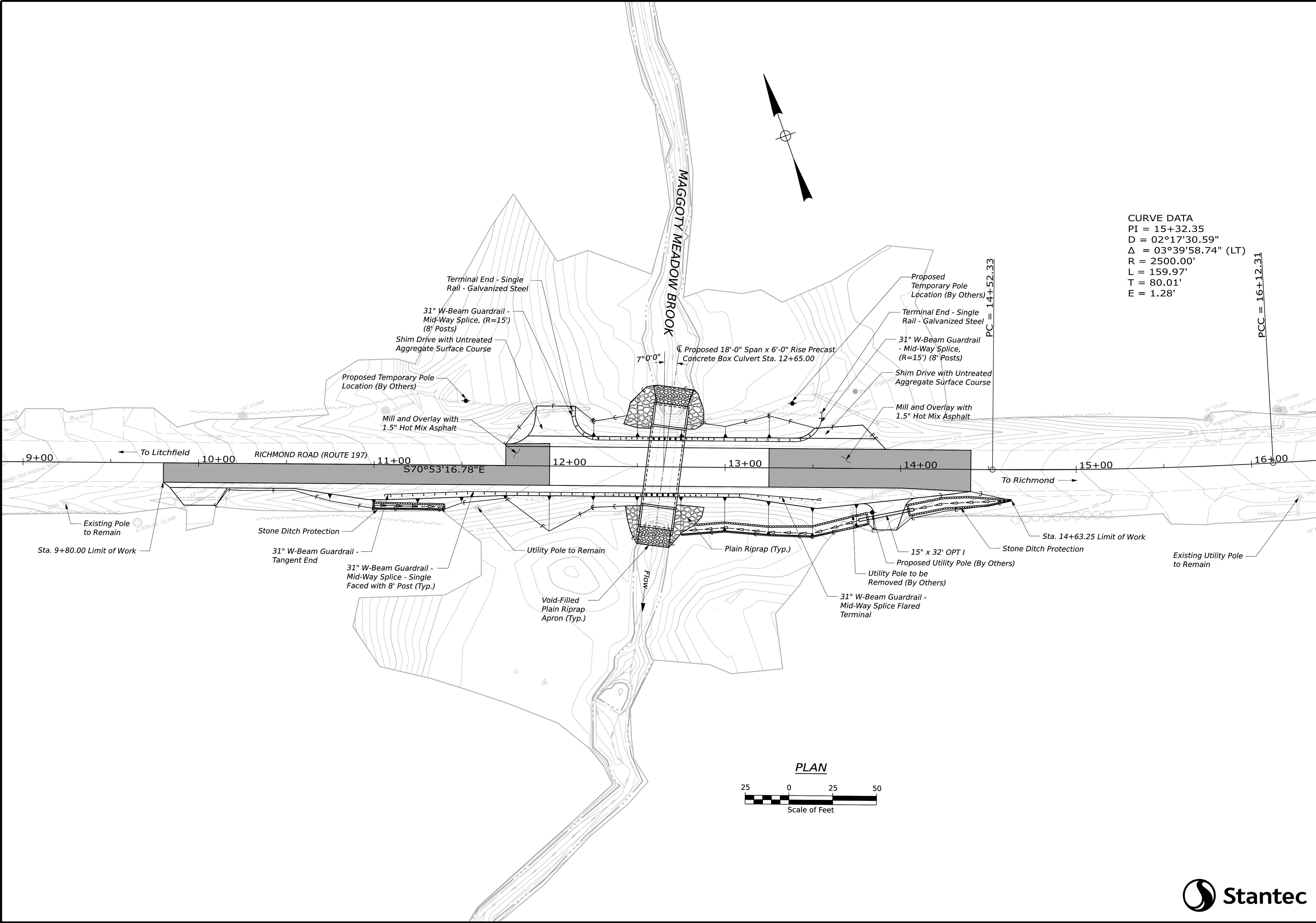
DATE
FEB 2025
FEB 2025

SIGNATURE
P.E. NUMBER
DATE

LITCHFIELD
MAXWELL BRIDGE
ESTIMATED QUANTITIES &
GENERAL CONSTRUCTION NOTES

SHEET NUMBER
2
OF 19



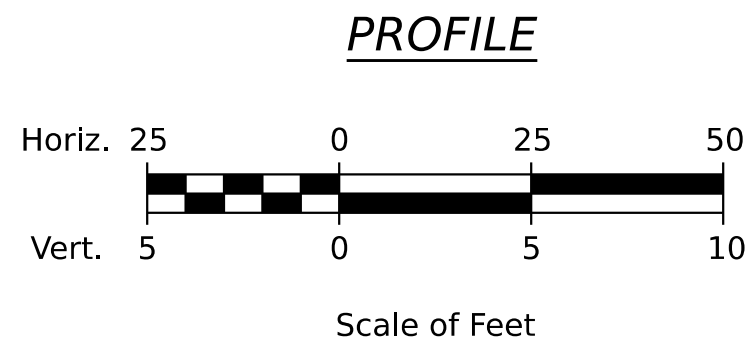
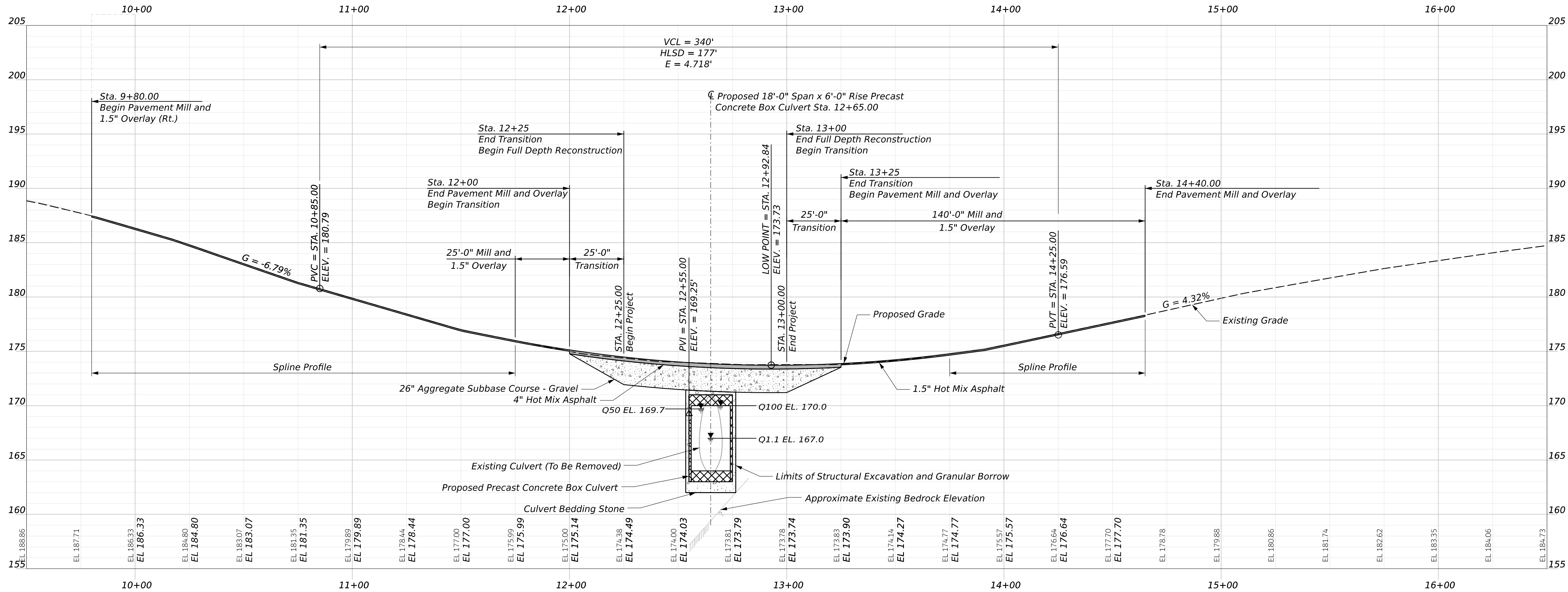


CURVE DATA
PI = 15+32.35
D = 02°17'30.59"
Δ = 03°39'58.74" (LT)
R = 2500.00'
L = 159.97'
T = 80.01'
E = 1.28'

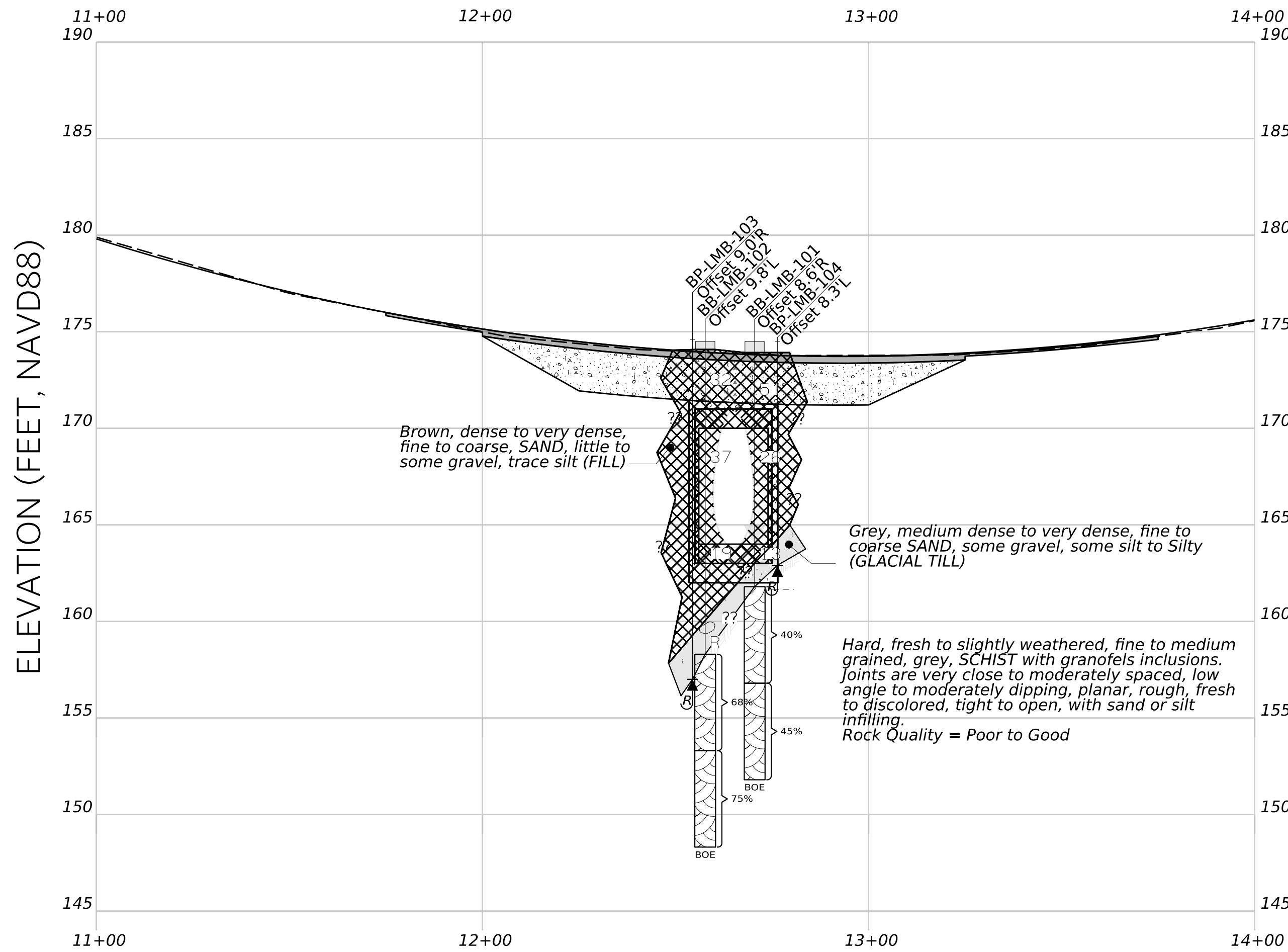
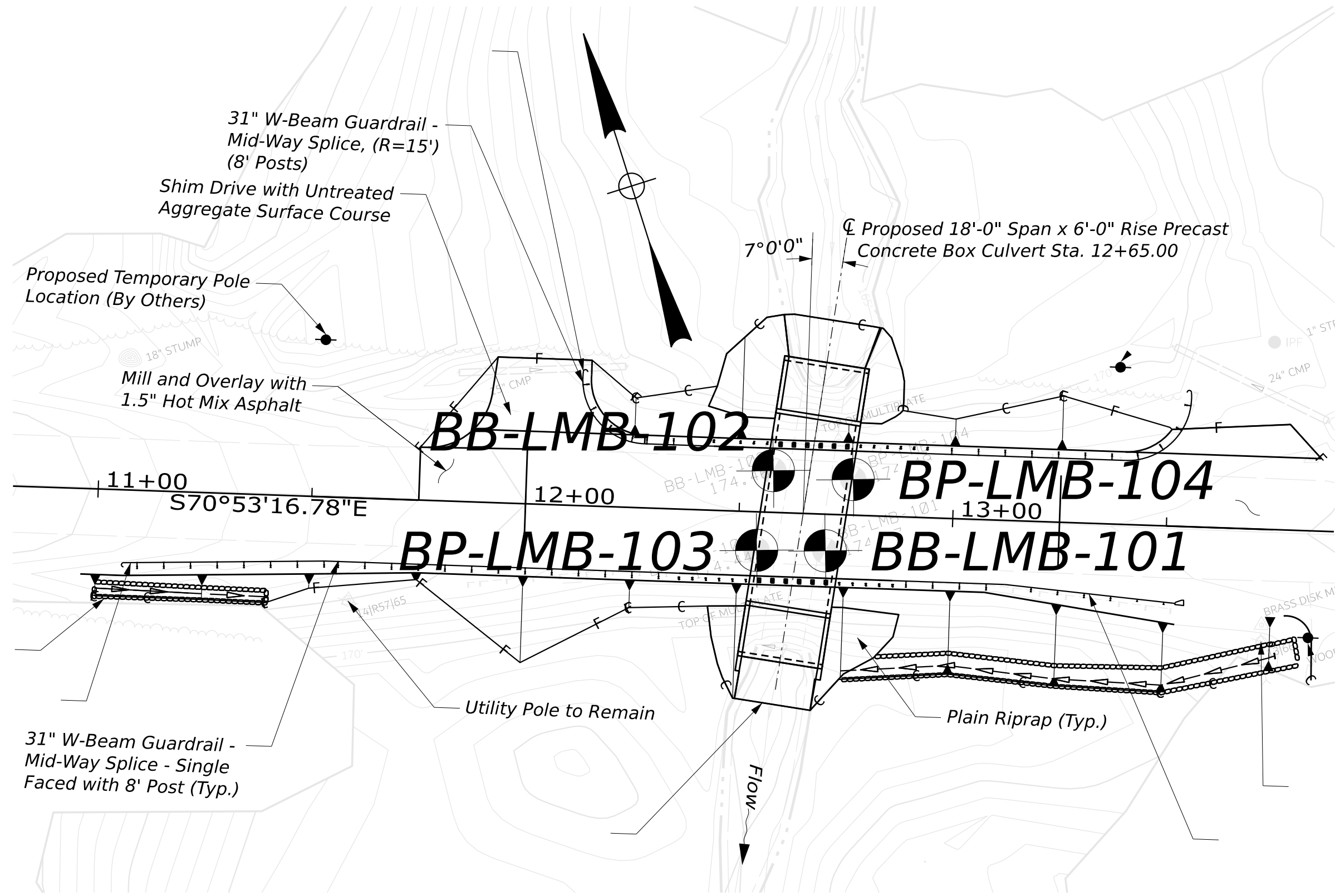
PCC = 16+12.31

3		SHEET NUMBER		LITCHFIELD MAXWELL BRIDGE		PROJ. MANAGER		GERALD LIBBY		BY		DATE		STATE OF MAINE DEPARTMENT OF TRANSPORTATION					
						CHECKED-REVIEWED		3/5/2025		PRH/AES		FEB 2025							
GENERAL PLAN		DESIGN-DETAILED		DESIGN-DETAILED		DESIGN-DETAILED						SIGNATURE		2824600					
		REVISIONS 1								P.E. NUMBER									
		REVISIONS 2																	
		REVISIONS 3								DATE									
		REVISIONS 4																	
		FIELD CHANGES												2524		WIN 28246.00		BRIDGE PLANS	





LITCHFIELD MAXWELL BRIDGE	PROJ. MANAGER	GERALD LIBBY	BY	DATE
	DESIGN-DETAILED	PBH/JAFS	PBH/JAFS	MAR 2025
	CHECKED-REVIEWED	LSF/JRH	LSF/JRH	MAR 2025
	DESIGN-DETAILED2			
	DESIGN-DETAILED3			
	REVISIONS 1			P.E. NUMBER
	REVISIONS 2			
	REVISIONS 3			
	REVISIONS 4			DATE
	FIELD CHANGES			
STATE OF MAINE DEPARTMENT OF TRANSPORTATION				
2824600				
2524				
WIN 28246.00				
BRIDGE PLANS				



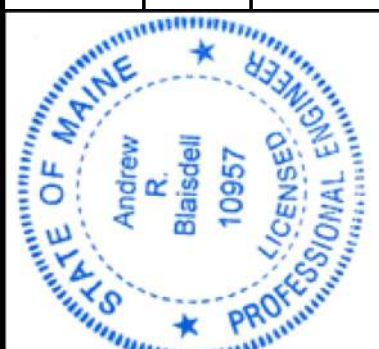
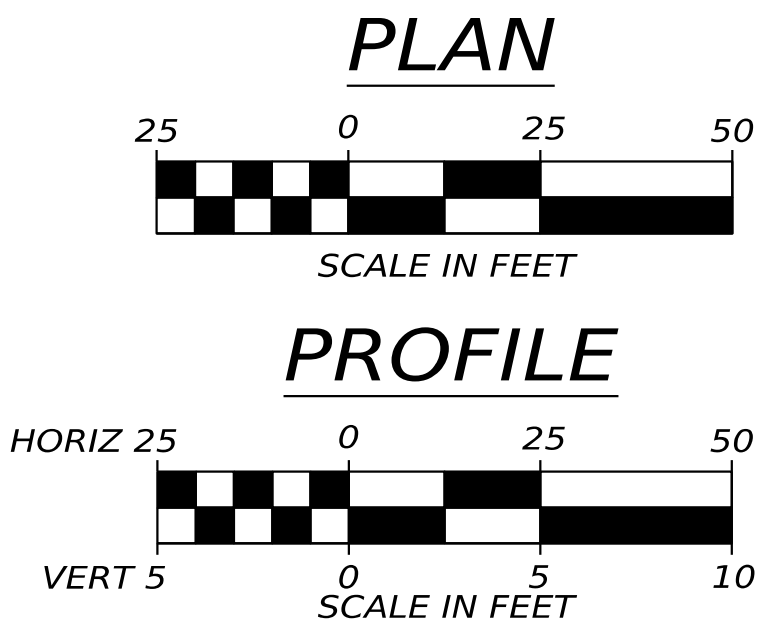
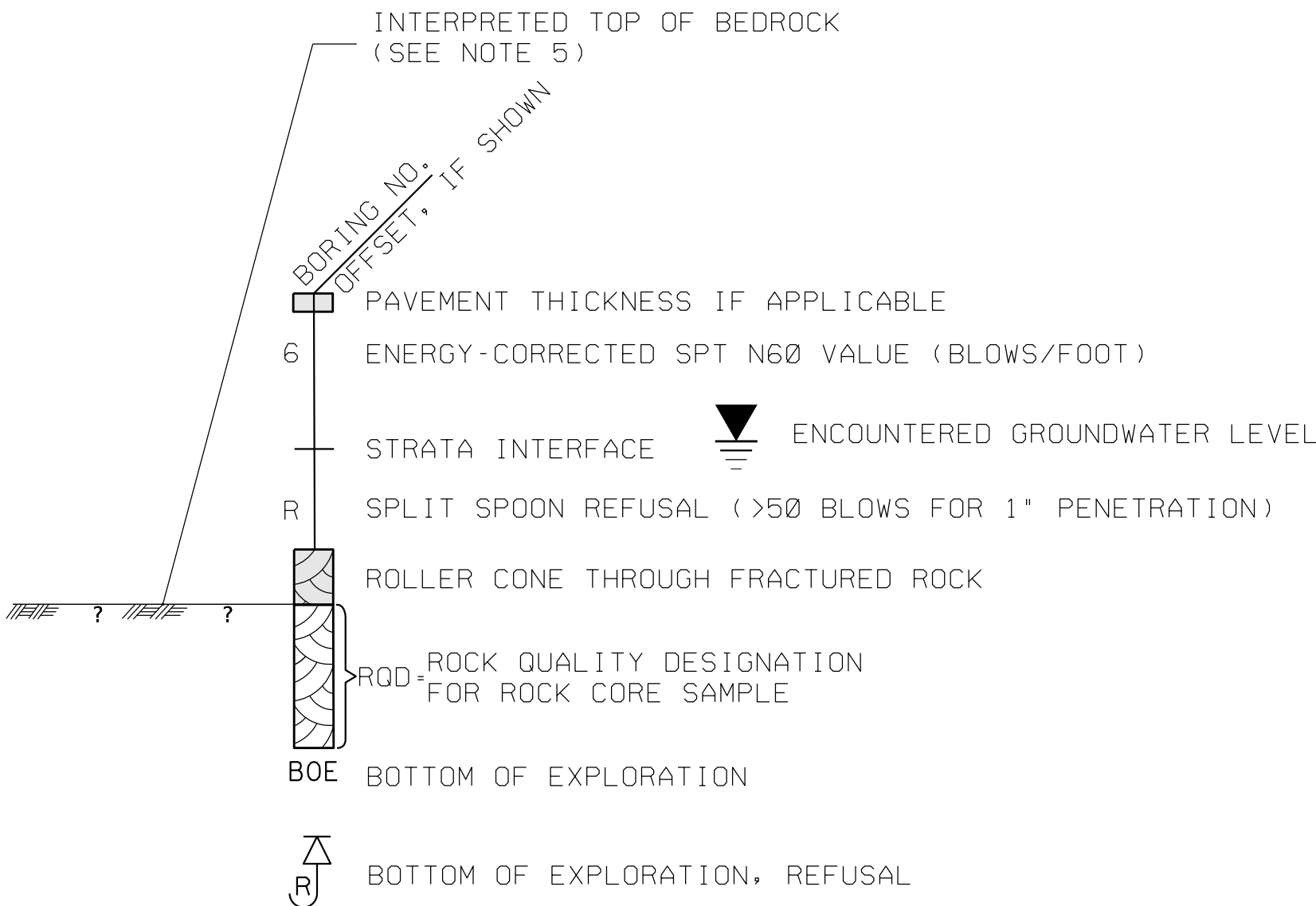
NOTES

1. Base map developed from electronic files (WIN 28246.00 Workset) provided by Stantec on January 15, 2025.
2. Profile developed from electronic files (WIN 28246.00 Workset) provided by Stantec on January 15, 2025.
3. The as-drilled locations of the test borings were surveyed and provided by MaineDOT in an electronic file (2D BORINGS 6 SEPT 24 028246.00) on January 17, 2025.
4. BB-LMB-100 series borings were performed by MaineDOT on September 4, 2024.
5. This generalized interpretive soil profile is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretations of widely spaced explorations and samples. Actual soil transitions may vary and are probably more erratic. For more specific information refer to the exploration logs.

BORING LOCATION PLAN LEGEND

BP-LMB-104 Locations and designations of BB-LMB-100 series borings performed by MaineDOT on September 4, 2024.

INTERPRETIVE SUBSURFACE PROFILE LEGEND



SIGNATURE
10957
P.E. NUMBER
03/17/2025
DATE

PROJ. MANAGER	BY	DATE
GERALD LIBBY	E. TONE	MAR 2025
CHECKED-REVIEWED		
DESIGNED-DETAILED		
DESIGNED-DETAILED2		
DESIGNED-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

LITCHFIELD
MAXWELL BRIDGE
BORING LOCATION PLAN &
INTERPRETIVE SUBSURFACE PROFILE

[illegible][illegible]

Maine Department of Transportation						Project: Maxwell Bridge #2524 carries Richmond Road over Maxwell Brook Location: Litchfield, Maine		Boring No.: BP-LMB-103	
Soil/Bock Exploration Log— US CUSTOMARY UNITS								WIN: 28246.00	
Drilling Contractor: MaineDOT			Elevation (ft.):	174.4	Auger ID/GD:		N/A	5' Dia.	
Operator: Duggett/Andrie			Datum:	NAVD88	Sampler:		N/A		
Logged By: B. Wilder			Rig Type:	CME 45C	Hammer Vt./Fall:		N/A		
Date Start/Finish: 9/4/2024, 10:30-11:00			Drilling Method:	Solid Stem Auger	Core Barrel:		N/A		
Boring Location: 10+54.4, 90 Ft Rt.			Casing ID/GD:	N/A	Water Level#:		Not Measured		
Reference: B = Split-Spoon Sampler S = Sampler of Auger/Fights R = Bucket Sampler off Auger/Fights M = Unsuccessful Split Spoon Sample Attempt U = Not Used Tube Sampler WV = Unsuccessful Field Vane Shear Test Attempt F = Field Vane Shear Test			M = Unsuccessful Two Vanes Shear Attempt E = Rock Core Sample SSA = Solid Stem Auger NS = Nylon Stem Auger RC = Rubber Core WBH = Weight of 148lb Hammer WC = Weight of 30lb or Casing	VSP = weight of 1 Person T _{u(L)} = Peak/Retained Field Vane Undrained Shear Strength (qsf) T _{u(UL)} = Lab Vane Undrained Shear Strength (qsf) Q _c = Uncoupled Compressive Strength (tsf) Aviator = Box Field SPT blow/blow L _t = Pocket Torque Shear Strength (qsf) V _e = Vane Control, percent; 1 = Smaller or Equal too			LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test		
Sample Information						Visual Description and Remarks			
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Length (ft.)	Notes (c/s n) / Shear Strength (TSF) / RSD (GD)	N-value	Casing Break (ft.)	Excavation (ft.)	Graphic Log	Laboratory Testing Results/MSHTD and Unified Class
						SSA			
5									
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130									
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140									
145									
150									
155									
160									
165									
170									
174									
						Bottom of Exploration at 174 feet below ground surface - Very soft REFUSA.			

Remarks:

1. As-drilled boring locations were surveyed by MaineDOT in the Field (N472447.3, E1105934.2).

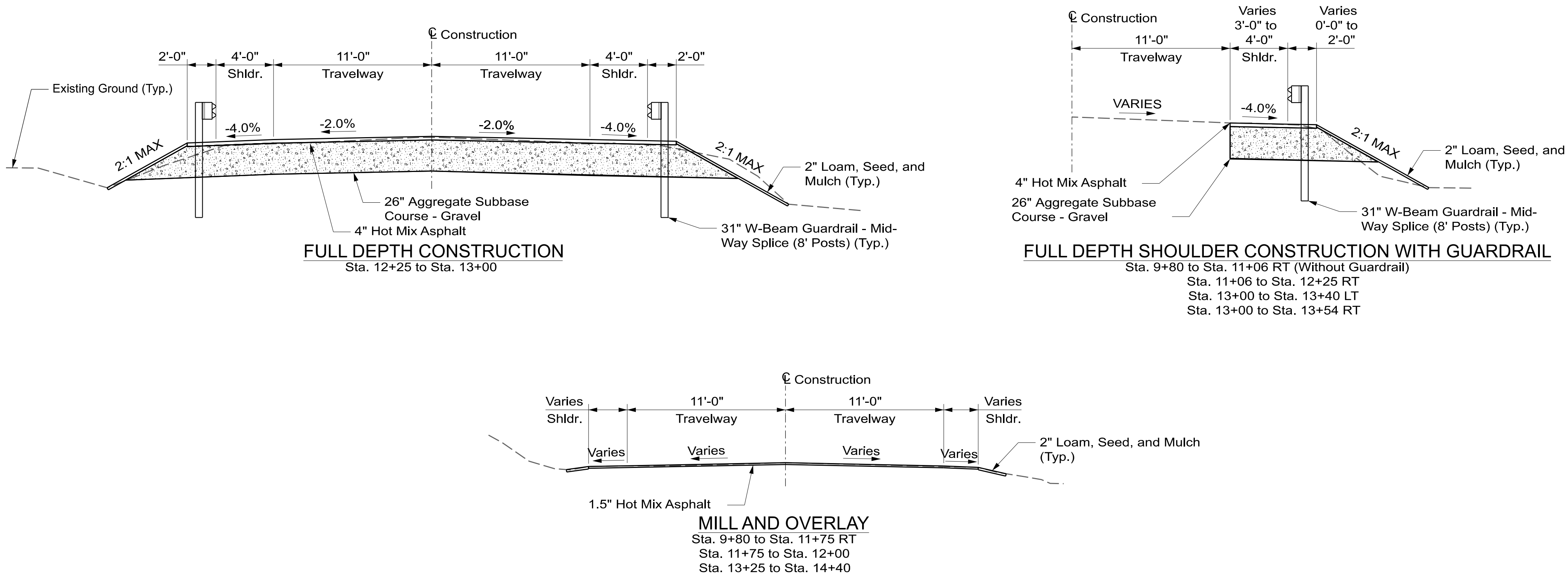
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* 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.

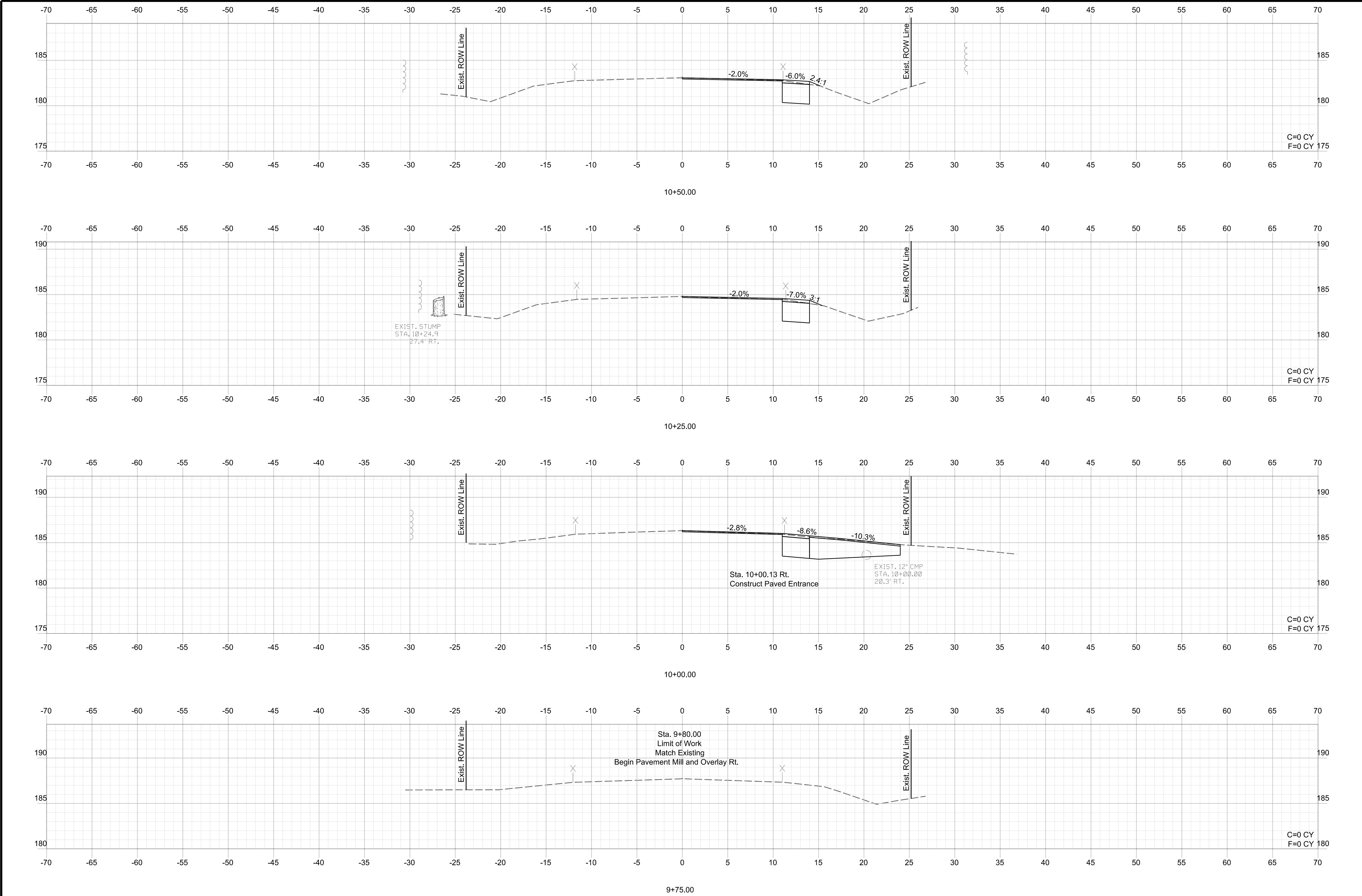
Page 1 of 1

Boring No.: BP-LMB-103

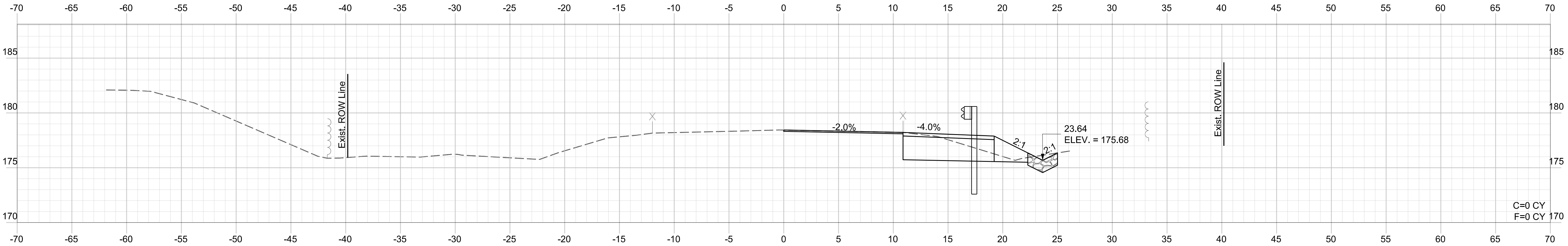
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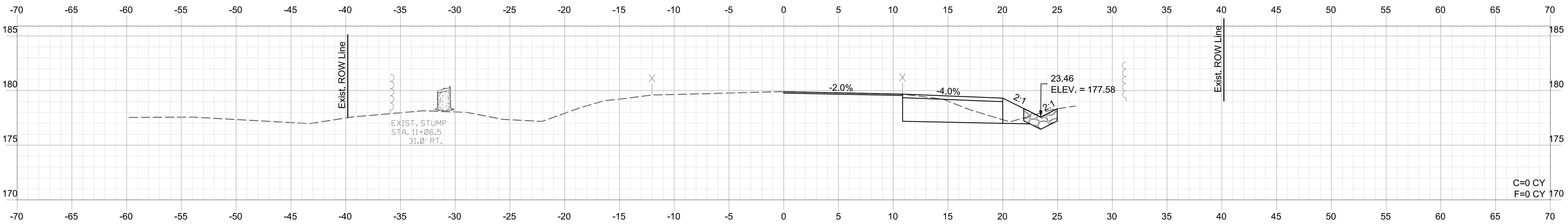
LITCHFIELD MAXWELL BRIDGE TYPICAL SECTIONS	STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2824600		WIN 28246.00		2524 BRIDGE PLANS	
	PROJ. MANAGER	GERALD LIBBY	BY	DATE	SIGNATURE	P.E. NUMBER	DATE	
	DESIGN-DETAILED	REH/AES	REH/AES	MAR 2025				
	CHECKED-REVIEWED	LSF/JRH	LSF/JRH	MAR 2025				
SHEET NUMBER		8						
OF		19						



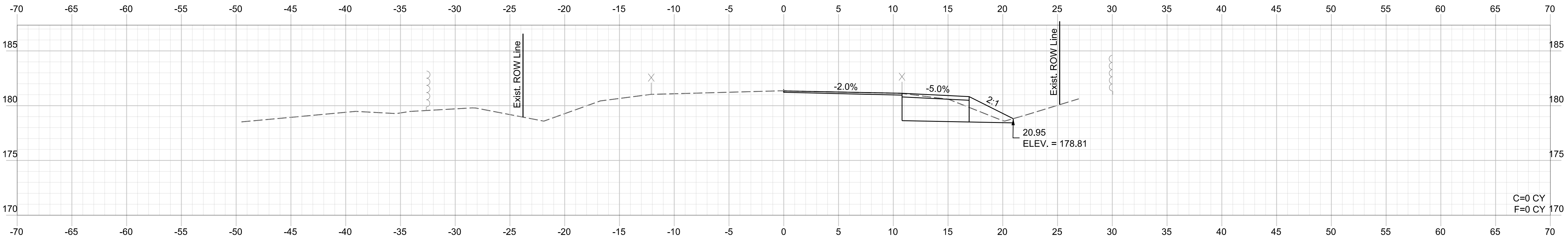
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	2524				
LITCHFIELD MAXWELL BRIDGE	PROJ. MANAGER	GERALD LIBBY	BY	DATE	SIGNATURE P.E. NUMBER DATE
	CHECKED-REVIEWED	REH/AES	LSF/JRH	MAR 2025	
	DESIGN-REVIEWED	LSF/JRH		MAR 2025	
	DESIGN-REVIEWED	LSF/JRH			
CROSS SECTIONS	REVISIONS 1				SHEET NUMBER 8 OF 19
	REVISIONS 2				
	REVISIONS 3				
	REVISIONS 4				
FIELD CHANGES					



11+25.00
Sta. 11+06.54 Rt. to Sta. 11+53.58 Rt.
Install 31" W-Beam Guardrail Mid-Way Splice Tangent End



11+00.00



10+75.00



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2824600

WIN
28246.00

2524
BRIDGE PLANS

PROJ. MANAGER	GERALD LIBBY	BY	DATE
DESIGN-DETAILED	BBH/AS	BBH/AS	MAR 2025
CHECKED-REVIEWED	LSF/JRH	LSF/JRH	MAR 2025
DESIGN-DETAILED01			
DESIGN-DETAILED03			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

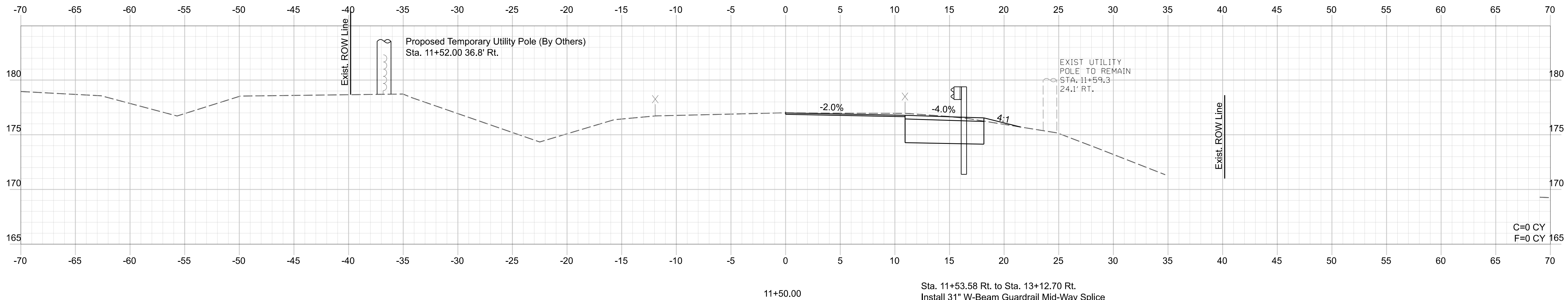
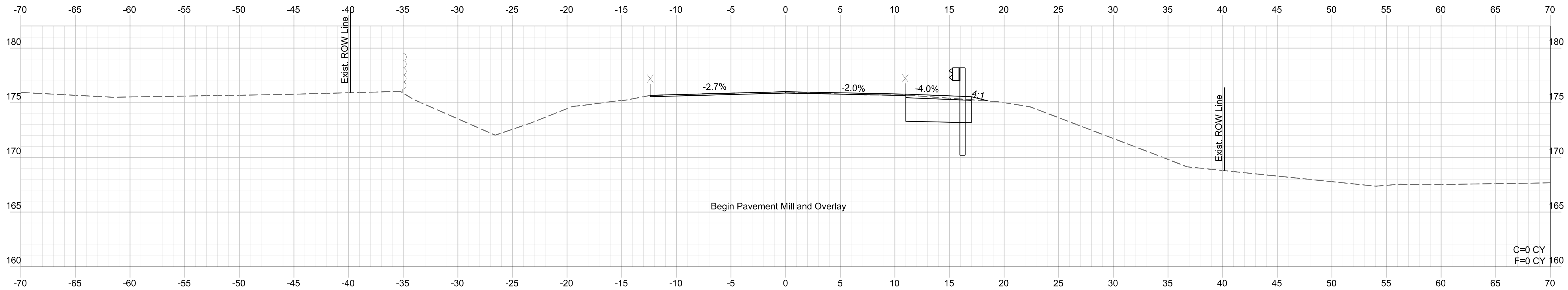
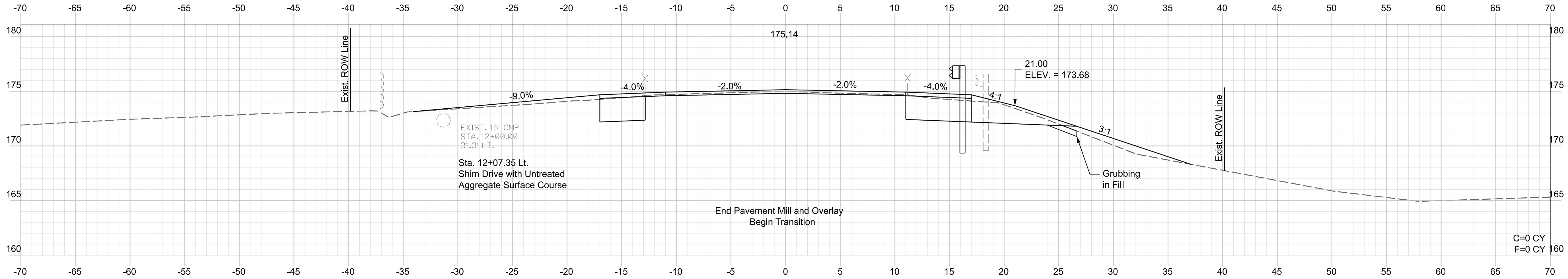
LITCHFIELD
MAXWELL BRIDGE

CROSS SECTIONS

SHEET NUMBER

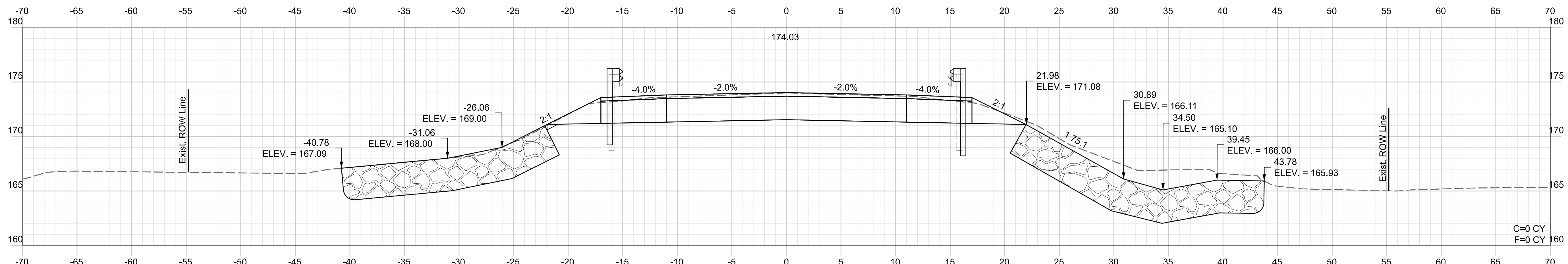
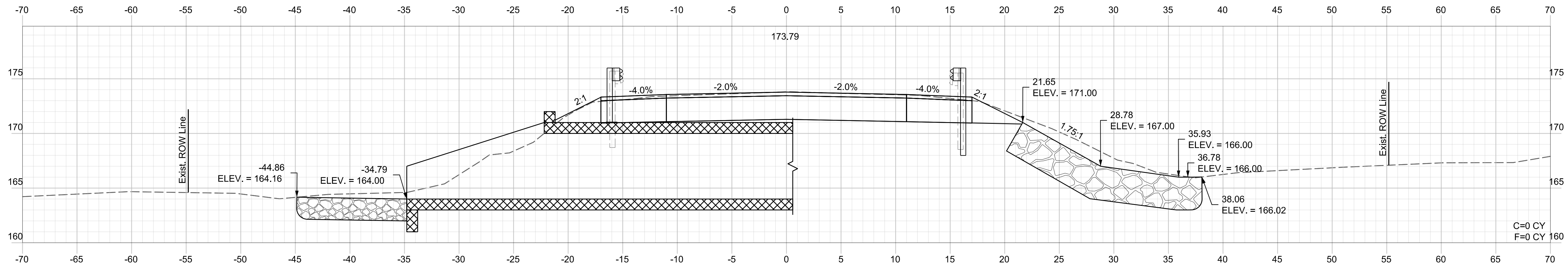
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OF 19

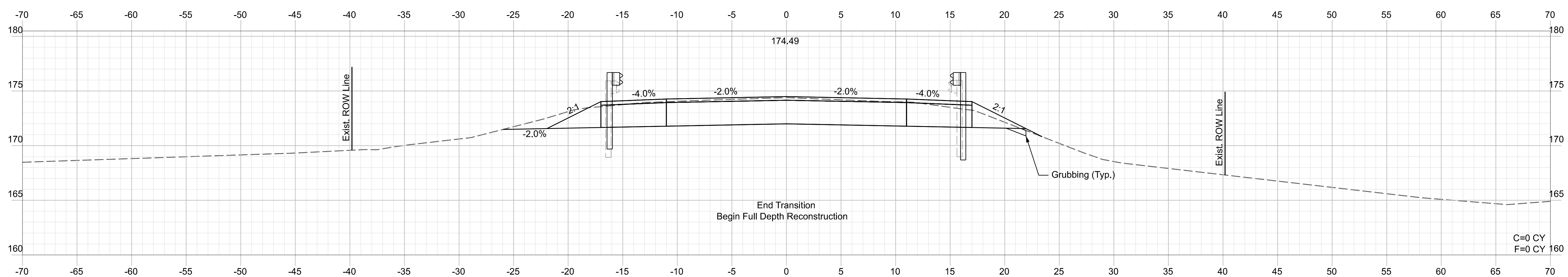


PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES
GERALD LIBBY	BEH/AS	LSF/JH	BEH/AS	LSF/JH					
BY	DATE	SIGNATURE	P.E. NUMBER	DATE					
BEH/AS	MAR 2025								
LSF/JH	MAR 2025								

LITCHFIELD
MAXWELL BRIDGE
CROSS SECTIONS



Sta. 12+27.40 Lt. to 13+39.87 Lt.
Install 31" W-Beam Guardrail Mid-Way Splice



Sta. 12+12.47 Lt. to Sta. 12+27.40 Lt.
Install 31" W-Beam Guardrail Mid-Way
Splice with 8' Posts and with 15' Radius
& Terminal End

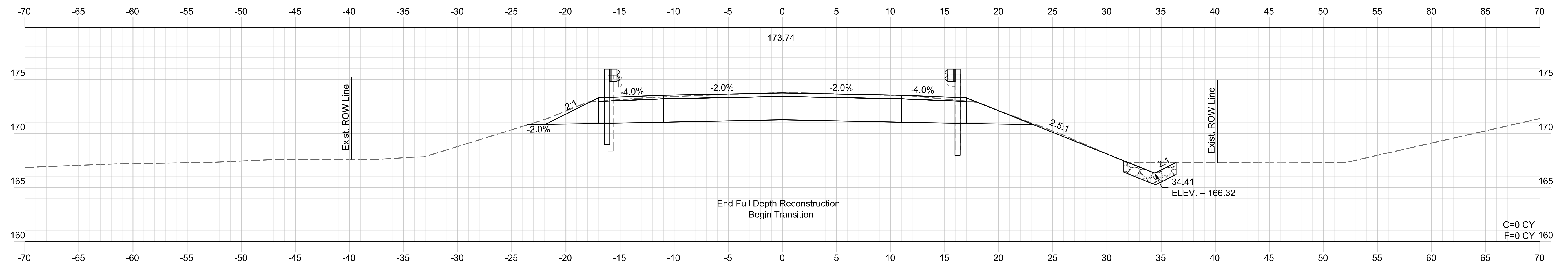
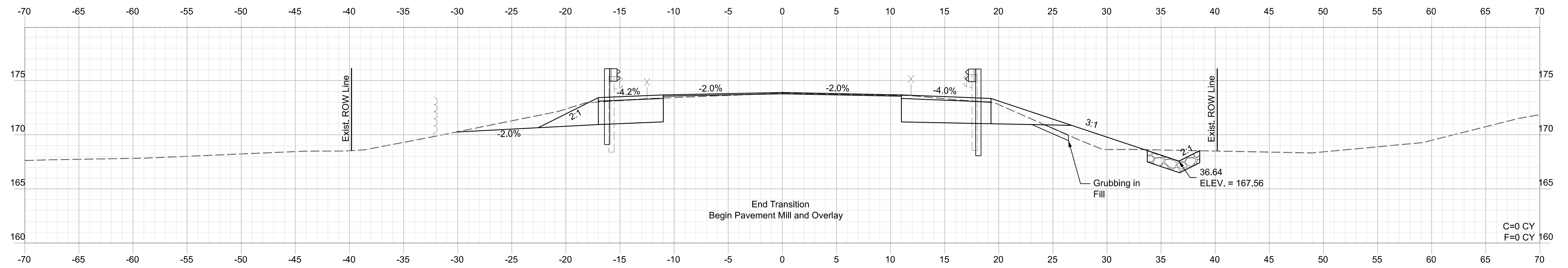
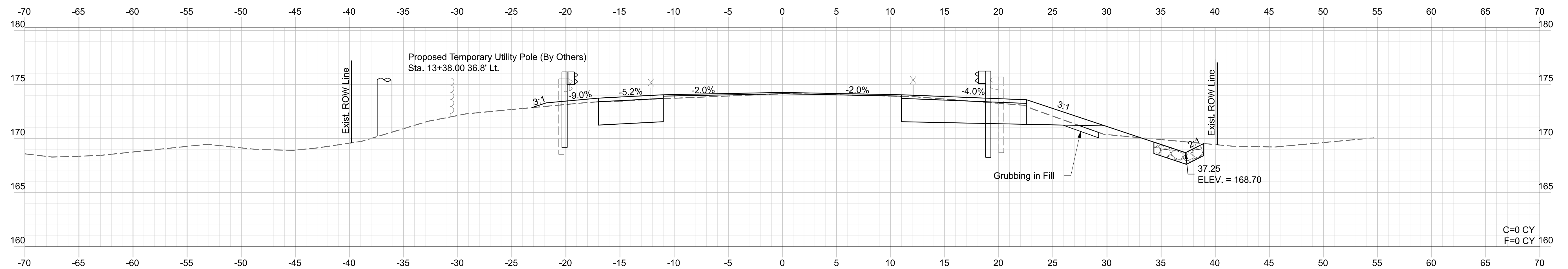
End Transition
Begin Full Depth Reconstruction

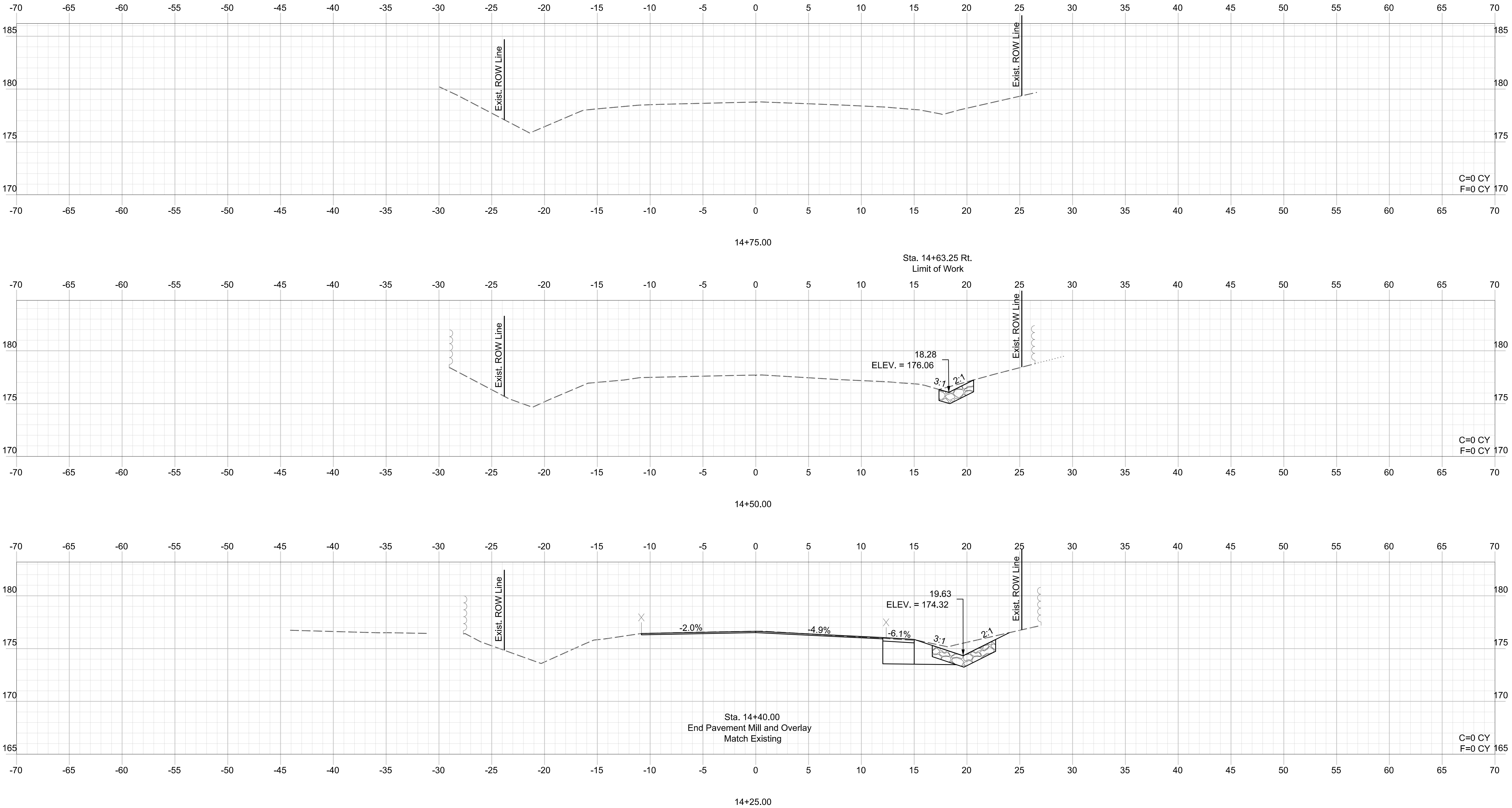


PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED	BBH/AES	MAR 2025			
CHECKED-REVIEWED	LSF/JRH	MAR 2025			
DESIGN-DETAILED03					
DESIGN-DETAILED03					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

LITCHFIELD
MAXWELL BRIDGE

CROSS SECTIONS





STATE OF MAINE DEPARTMENT OF TRANSPORTATION	SIGNATURE		DATE
	P.E. NUMBER		
	DATE		
2824600			
WIN			
28246.00			
2524			
BRIDGE PLANS			

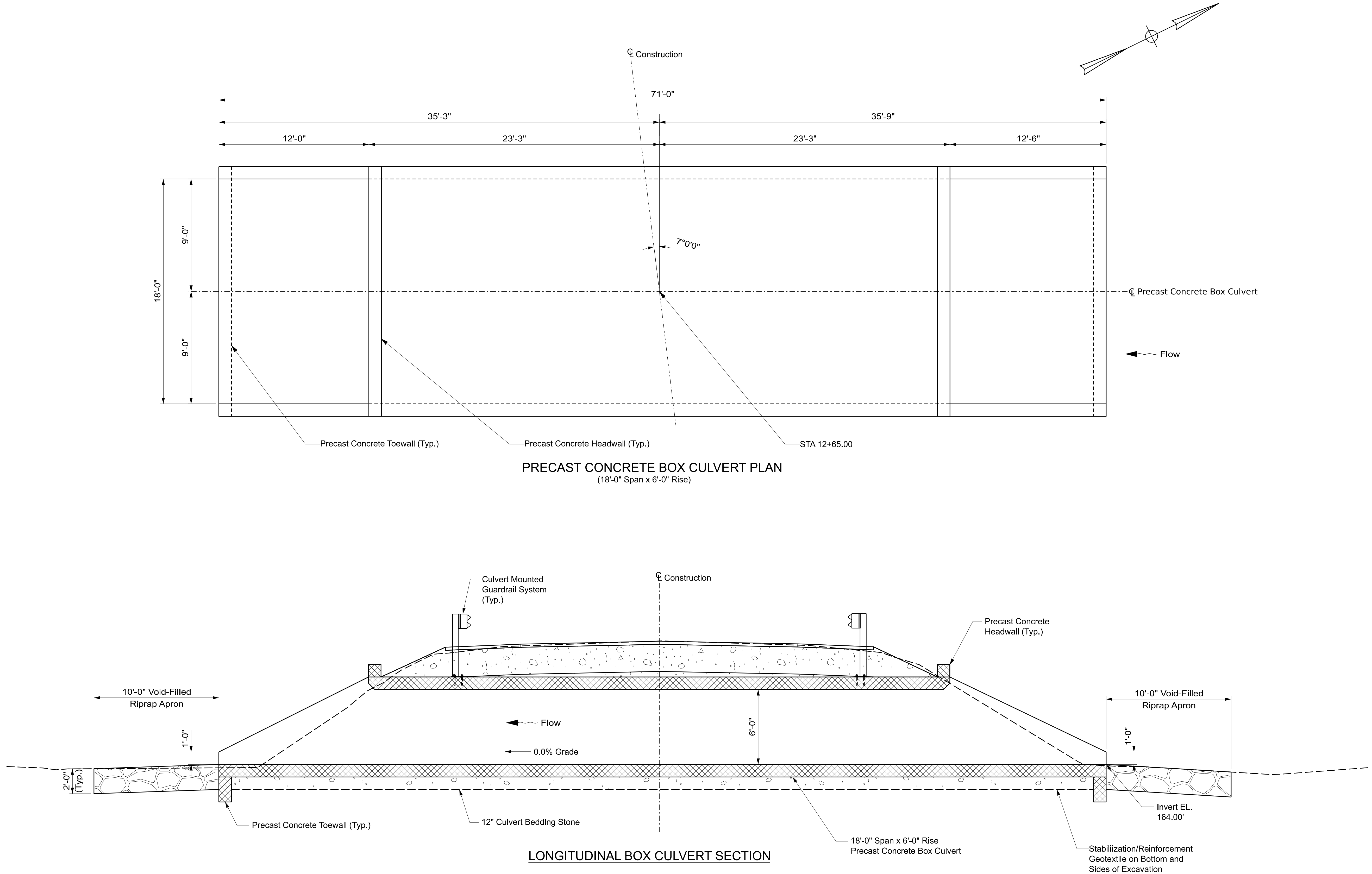
LITCHFIELD
MAXWELL BRIDGE

CROSS SECTIONS

SHEET NUMBER

14

OF 19



PRECAST CONCRETE BOX CULVERT PLAN
(18'-0" Span x 6'-0" Rise)

LONGITUDINAL BOX CULVERT SECTION



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	2824600		WIN	28246.00	BRIDGE PLANS
	SIGNATURE		P.E. NUMBER	DATE	
	2524				

PROJ. MANAGER	GERALD LIBBY	BY	DATE
DESIGN-DETAILED	LSF	LSF	FEB 2025
CHECKED-REVIEWED	KLM	KLM	FEB 2025
DESIGN-DETAILED	DESIGN-DETAILED		
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

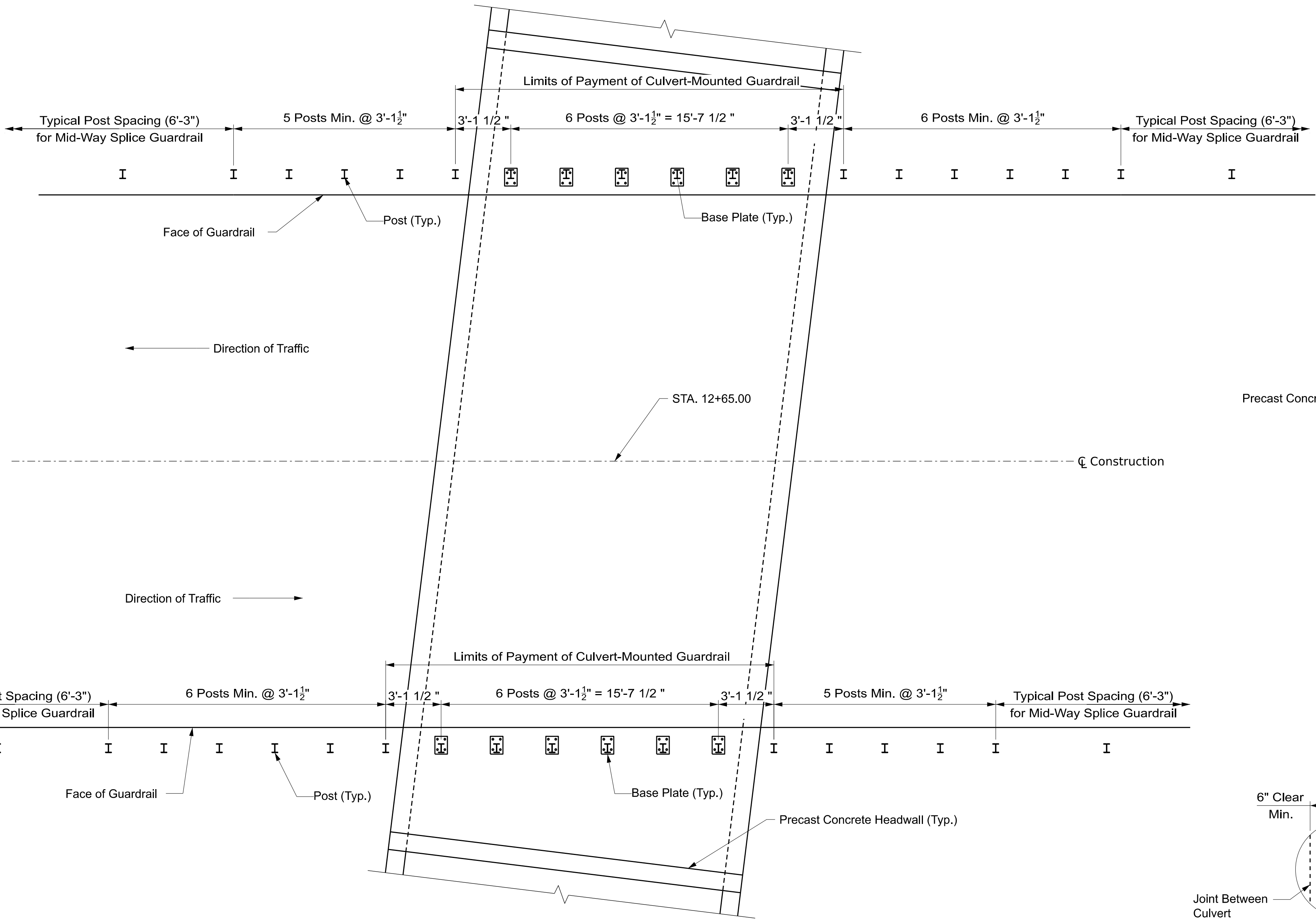
LITCHFIELD MAXWELL BRIDGE PRECAST BOX CULVERT DETAILS (1 OF 2)	SHEET NUMBER
	15 OF 19



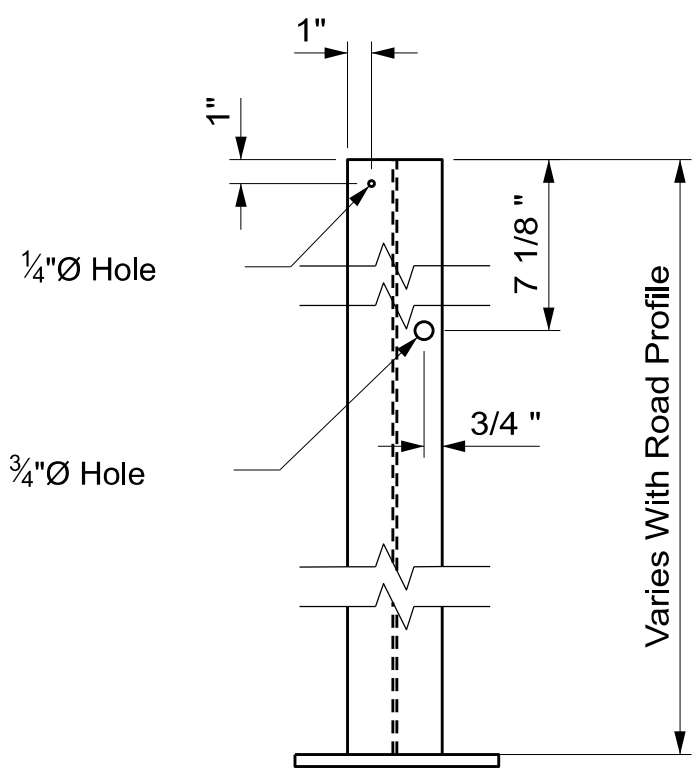
PRECAST CONCRETE BOX NOTES

2. The precast units shall be designed to carry construction loadings with a minimum fill cover of 12 inches over the top of the units.
3. The construction, handling, and assembly of the precast units shall be in accordance with Special Provisions Section 534, Precast Structural Concrete, and with the manufacturer's specifications as applicable.
4. In accordance with Standard Specification Subsection 534.04, Precast Structural Concrete, the Contractor shall submit design calculations for the precast structure to the Department for review. The calculations shall demonstrate that the factored bearing pressures at the Strength Limit and Service Limit States do not exceed the factored geotechnical bearing resistances provided in the project geotechnical design report.
5. Install standard membrane waterproofing over the top and to 12 inches down the exterior sides of the precast units. Completely fill the exterior face of joints between precast units and cover with a minimum 12 inch-wide joint wrap or waterproofing membrane. All materials shall be selected from the Department Qualified Products List.
6. The Contractor shall maintain the excavation so that the box culvert and culvert bedding layer are installed in the dry. Groundwater shall be controlled by pumping from sumps or other dewatering systems selected by the Contractor. Cofferdams may be required to divert flow away from the excavation during construction. Where excavation side slopes are cut back, excavation slope geometries shall be in accordance with OSHA regulations, or flatter.
7. The native soil subgrade shall be excavated using a smooth-edged bucket and to avoid disturbance of the subgrade. The Contractor shall not operate heavy equipment over the excavated subgrade to minimize subgrade disturbance. Limit vibration induced disturbance to the saturated subgrade. If the subgrade is disturbed, weakened, or over-excavated, the Contractor shall excavate the disturbed material and replace with compacted Granular Borrow - Material for Underwater Backfill to the subgrade level at the Contractor's expense.
8. The Stabilization/Reinforcement Geotextile shall be deployed onto the prepared native soil/excavated bedrock subgrade prior to installing the culvert bedding material. Culvert bedding material or Granular Borrow - Material for Underwater Backfill may be used to fill local depressions in the excavated bedrock subgrade prior to placing the geotextile. Adjoining sections of the geotextile shall be overlapped by a minimum of 2 feet. The culvert bedding material shall be placed in maximum 6-inch-thick lifts and each lift compacted with several passes of a walk-behind roller or large plate compactor.
9. Any bedrock encountered above the bearing elevation shall be excavated using conventional excavation equipment to provide a 12 inch-thick layer of Culvert Bedding Stone.

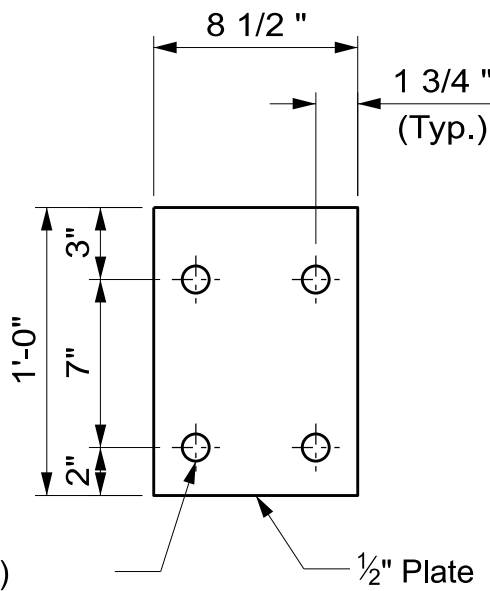




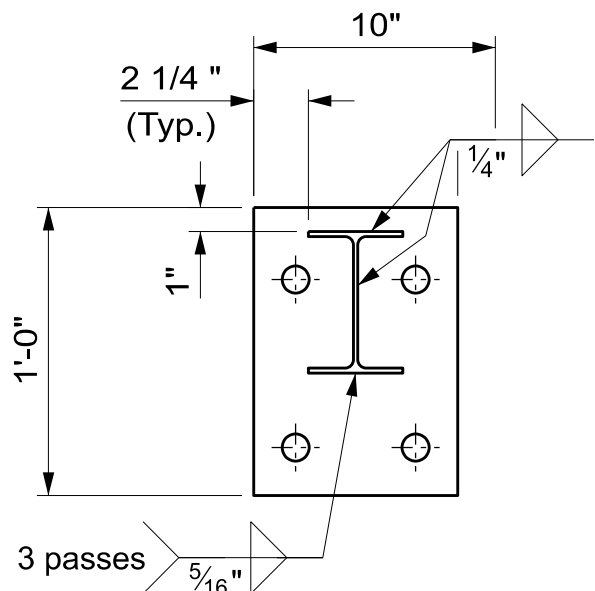
POST SPACING FOR GUARDRAIL
Guardrail Offset Blocks Not Shown for Clarity



POST ASSEMBLY ELEVATION



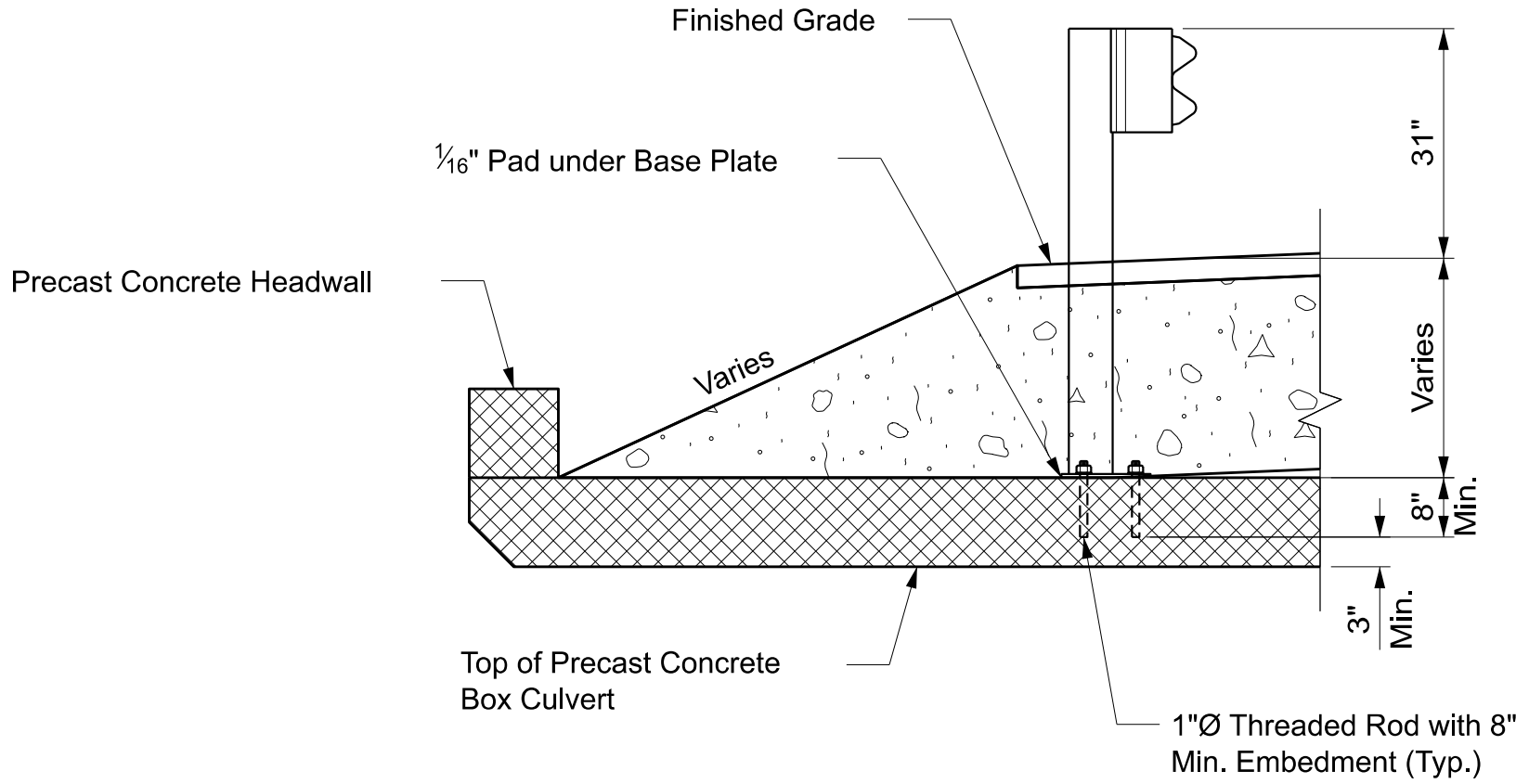
BASE PLATE PLAN



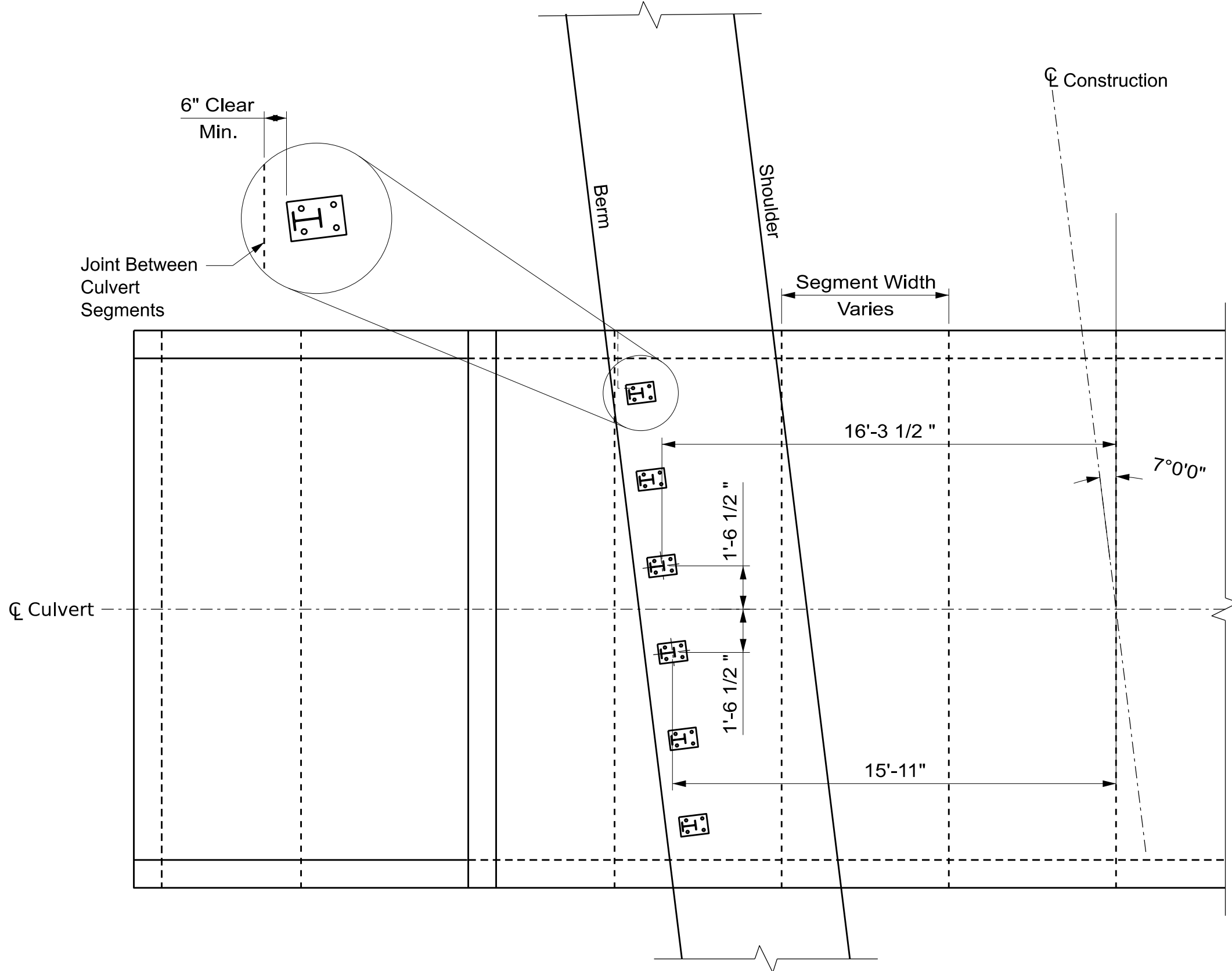
POST ASSEMBLY PLAN

CULVERT MOUNTED GUARDRAIL NOTES

1. Threaded rod shall be ASTM A307 with a minimum strength of 60 ksi.
2. Additional guardrail posts at 3'-1 1/2" spacing may be added beyond what is shown if required for the guardrail splice locations.



SINGLE RAIL CULVERT MOUNTED



SKewed BOX POST LAYOUT
Guardrail Offset Blocks and Rail Not Shown for Clarity
Dimensions are to Centers of Base Plates

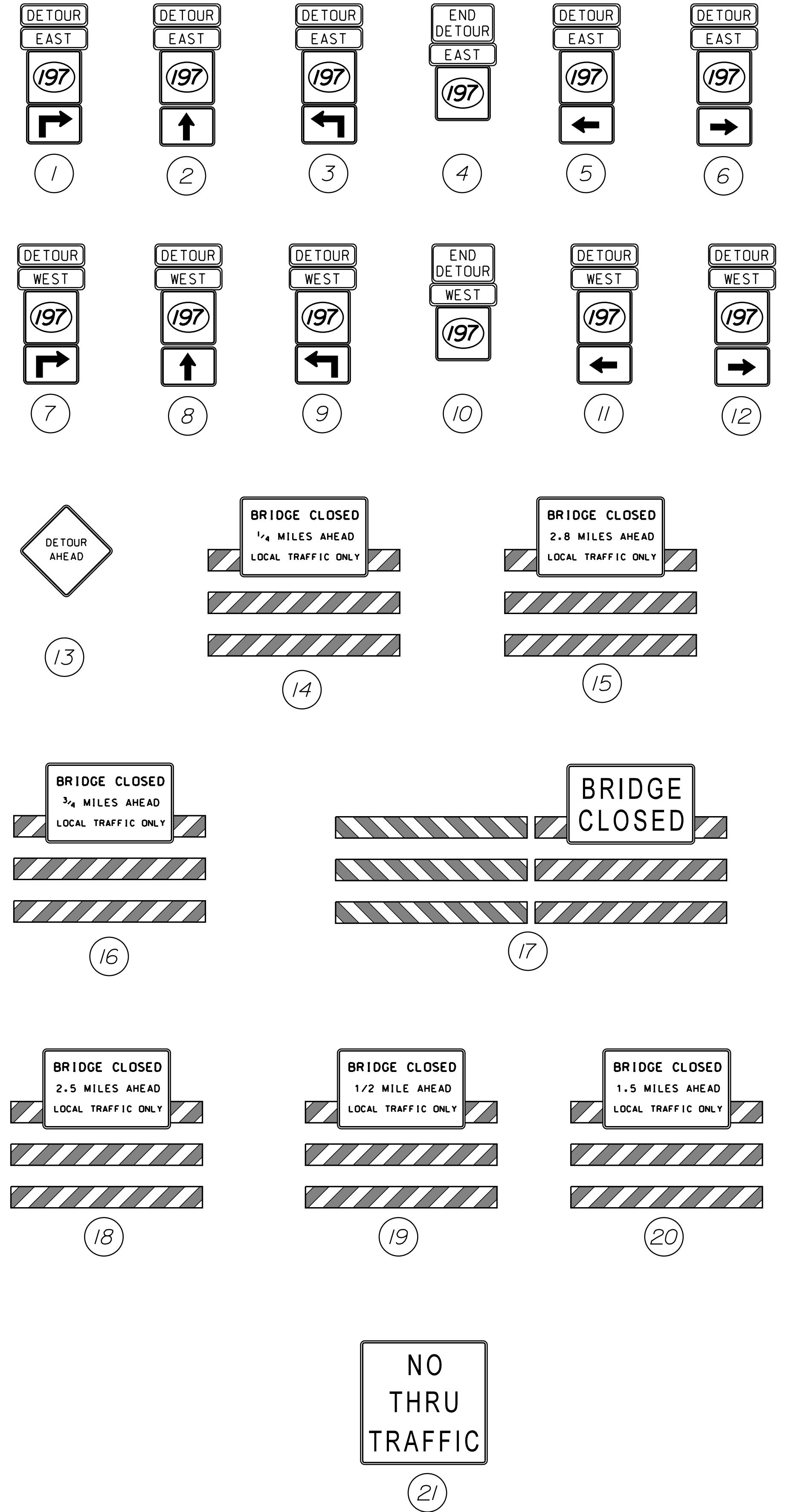
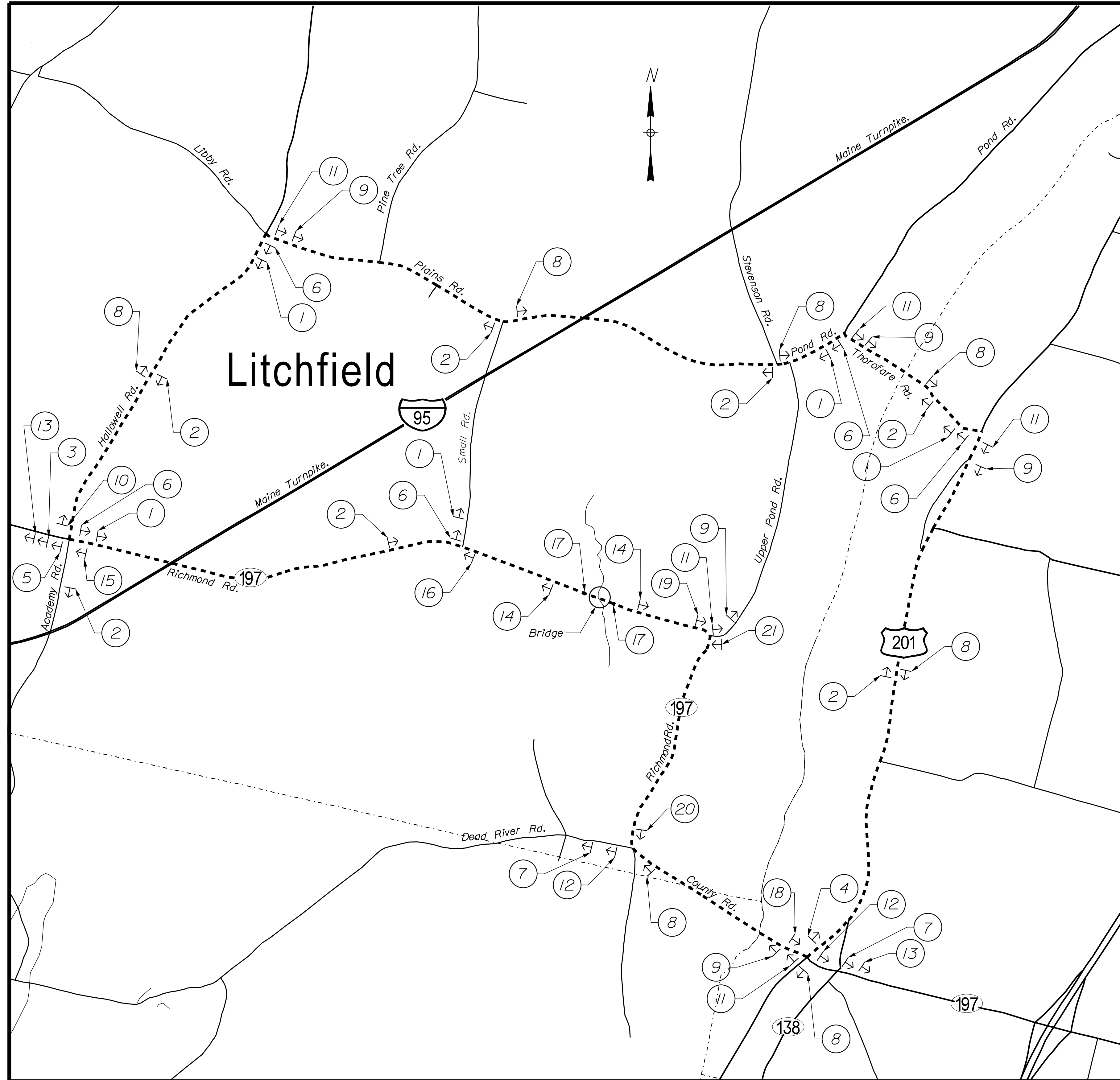
STATE OF MAINE	2824600	WIN	28246.00	BRIDGE PLANS
DEPARTMENT OF TRANSPORTATION				

PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
GERALD LIBBY	LSF	FEB 2025			
CHECKED-REVIEWED	KLM	FEB 2025			
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REVISIONS 1					
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REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

LITCHFIELD MAXWELL BRIDGE CULVERT MOUNTED GUARDRAIL DETAILS
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SHEET NUMBER	17
OF	19



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