

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



FRANKLIN
HANCOCK COUNTY
ALDER BROOK BRIDGE
OVER
ALDER BROOK
ROUTE 182
STATE PROJECT NO. 19310.00
PROJECT LENGTH 0.009 mi.
BRIDGE REPLACEMENT
BRIDGE NO. 5728

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Sixth Edition 2012.

DESIGN LOADING

Live Load HL - 93 Modified

TRAFFIC DATA

Current (2012) AADT 1970
Future (2032) AADT 2360
DHV - % of AADT 12
Design Hour Volume 283
Heavy Trucks (% of AADT) 18
Heavy Trucks (% of DHV) 15
Directional Distribution (% of DHV) 60
18 kip Equivalent P 2.0 192
18 kip Equivalent P 2.5 183
Design Speed (mph) 60

HYDROLOGIC DATA

Drainage Area 3.36 sq mi

MATERIALS

Concrete:
Precast Class "P"
Reinforcing Steel ASTM A615/A615M, Grade 60
Welded Wire Reinforcement ASTM A185/A185M or ASTM A497/A497M

BASIC DESIGN STRESSES

Precast Concrete f 'c = 5,000 psi min.
Reinforcing Steel f y = 60,000 psi
Welded Wire Reinforcement f y = 65,000 psi min.

LIST OF DRAWINGS

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UTILITIES

Bangor Hydro-Electric Company
Northern New England Telephone Operations LLC
Time Warner Cable (Bangor East Office)

MAINTENANCE OF TRAFFIC

Maintain one 11'-0" wide lane of alternating two - way traffic using traffic signals.

PROJECT LOCATION:	Alder Brook Bridge No. 5728 in Franklin carrying Route 182 over Alder Brook. 2.3 miles North of the intersection of Routes 200 and 182. Latitude 44.610168, Longitude -68.201546
PROGRAM AREA:	Minor Spans
OUTLINE OF WORK:	Replace Structural Plate Pipe Arch with a Precast Concrete Box Culvert, replace existing guardrail and patch shoulders.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
	COMMISSIONER:	12/12/12
	CHIEF ENGINEER:	12-4-12

	SIGNATURE	DATE
	8089	12/4/2012
	P.E. NUMBER	

PROJECT INFORMATION	BRIDGE	S. BOGGE	M. WRIGHT			
	PROGRAM					
	PROJECT MANAGER	DESIGNER	CONSULTANT	PROJECT RESIDENT	CONTRACTOR	PROJECT COMPLETION DATE

FRANKLIN ALDER BROOK BRIDGE	TITLE SHEET

SHEET NUMBER
1
OF 11

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
201.23	REMOVING SINGLE TREE TOP ONLY	2	EA
203.20	COMMON EXCAVATION	340	CY
203.24	COMMON BORROW	20	CY
203.25	GRANULAR BORROW	160	CY
203.33	SPECIAL FILL	40	CY
203.35	CRUSHED STONE FILL	110	CY
205.51	WIDENING OF EXISTING SHOULDER - PLAN QUANTITY	340	SY
206.061	STRUCTURAL EARTH EXCAVATION - DRAINAGE AND MINOR STRUCTURES, BELOW GRADE	70	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	295	CY
403.102	HOT MIX ASPHALT PAVEMENT - SPECIAL AREAS	10	T
403.208	HOT MIX ASPHALT 12.5 MM HMA SURFACE	35	T
403.213	HOT MIX ASPHALT 12.5 MM HMA BASE	93	T
409.15	BITUMINOUS TACK COAT - APPLIED	22	G
508.13	MEMBRANE WATERPROOFING (100 SY)	1	LS
511.07	COFFERDAM: Upstream	1	LS
511.07	COFFERDAM: Downstream	1	LS
513.22	CRUSHED STONE SLOPE PROTECTION	15	SY
615.07	LOAM	10	CY
526.301	TEMPORARY CONCRETE BARRIER - TYPE I (200 LF)	1	LS
527.34	WORK ZONE CRASH CUSHIONS	4	UN
534.71	PRECAST CONCRETE BOX CULVERT (111 CY)	1	LS
606.23	GUARDRAIL TYPE 3C - SINGLE RAIL	1162.5	LF
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8	EA
606.363	GUARDRAIL REMOVE AND DISPOSE	1320	LF
606.754	WIDEN SHOULDER FOR GUARDRAIL 350 FLARED TERMINAL	4	EA
606.79	GUARDRAIL 350 FLARED TERMINAL	4	EA
610.08	PLAIN RIPRAP	190	CY
613.329	EXTENDED USE EROSION CONTROL BLANKETS	50	SY
618.1401	SEEDING METHOD NUMBER 2 - PLAN QUANTITY	1	UN
619.1201	MULCH - PLAN QUANTITY	1	UN
619.1401	EROSION CONTROL MIX	60	CY
620.58	EROSION CONTROL GEOTEXTILE	635	SY
620.65	REINFORCEMENT GEOGRID	170	SY
627.733	4 INCH WHITE OR YELLOW PAINTED PAVE MRK LINE	300	LF
629.05	HAND LABOR, STRAIGHT TIME	10	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	20	HR
631.131	SMALL BULLDOZER-GRADER (INCLUDING OPERATOR)	10	HR
631.15	ROLLER, EARTH AND BASE COURSE (INCLUDING OPERATOR)	10	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	10	HR
639.19	FIELD OFFICE TYPE B	1	EA
643.72	TEMPORARY TRAFFIC SIGNAL	1	LS
652.312	TYPE III BARRICADE	4	EA
652.33	DRUM	30	EA
652.34	CONE	25	EA
652.35	CONSTRUCTION SIGNS	186	SF
652.36	MAINTENANCE OF TRAFFIC CONTROL DEVICES	75	CD
652.38	FLAGGER	100	HR
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS

GENERAL CONSTRUCTION NOTES

1. For easements, construction limits and right of way lines, refer to 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. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.

5. In areas where the Resident directs the Contractor not to excavate to the subgrade line shown on the plans, payment for removing existing pavement, grubbing, shaping, ditching, and compacting the existing subbase and layers of new subbase 6 inches or less thick will be made under appropriate equipment rental items.

6. Place riprap on sideslopes up to EL. 115.0.

7. 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 Item No. 304.10, Aggregate Subbase Course - Gravel.

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

9. Erosion Control Mix may be substituted in those areas normally receiving loam and seed as directed by the Resident. Placement shall be in accordance with Standard Specifications Section 619, Mulch. Payment will be made under Item No. 619.1401, Erosion Control Mix.

10. Place a 24-in. wide strip of Temporary Erosion Control Blanket on the sideslopes along the top of the riprap and behind the wingwalls.

11. Guardrail posts as shown in the Standard Details shall be modified from the indicated length of 6 feet to a length of 7 feet with an embedment of 4.5 feet. Payment will be considered incidental to the guardrail pay items.

12. An NCHRP350 compliant guardrail end treatment shall be installed concurrently with the placement of each section of beam guardrail.

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

Precast Concrete Headwall

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

15. 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.

16. The hydrologic report of the bridge site may be accessed at the MaineDOT web address. The hydrologic report is 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.

17. The project geotechnical report titled: Geotechnical Design Report for the replacement of Alder Brook Bridge over Alder Brook, State Route 182, Franklin, Maine, Soils Report No.2012-16, July 31, 2012 may be accessed at the MaineDOT web address.

18. 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.

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

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

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

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

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

019310.00

WIN
19310.00

BRIDGE NO. 5728
BRIDGE PLANS

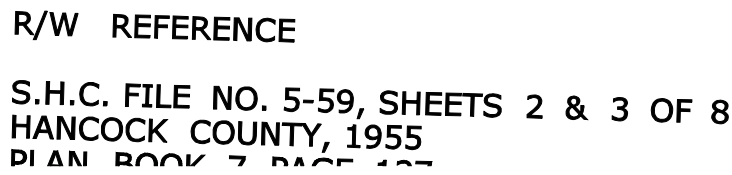
ALDER BROOK BRIDGE
ALDER BROOK
FRANKLIN
HANCOCK COUNTY

ESTIMATED QUANTITIES AND
GENERAL CONSTRUCTION NOTES

SHEET NUMBER

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OF 11



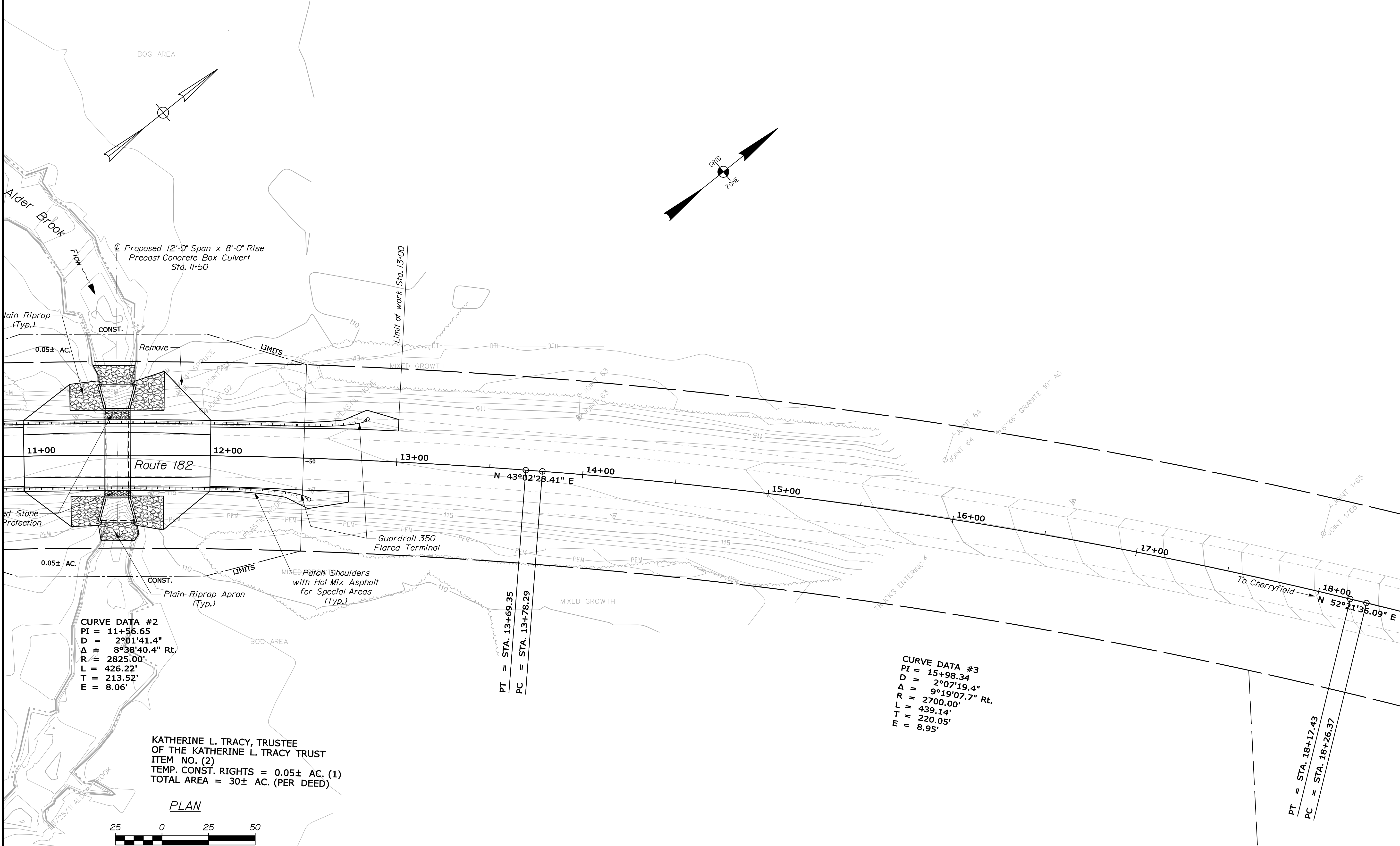
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					CHECKED-REVIEWED	M. WIGHT	D. SHAW		
					DESIGN2-Detailed			SIGNATURE	
					DESIGN3-Detailed			P.E. NUMBER	
					REVISIONS 1				
					REVISIONS 2				
				REVISIONS 3				BRIDGE NO. 5728	WIN 19310.00
				REVISIONS 4			DATE		
				FIELD CHANGES					
									BRIDGE PLANS

Date:12/10/2012

Username: David Shaw

Division: BRIDGE

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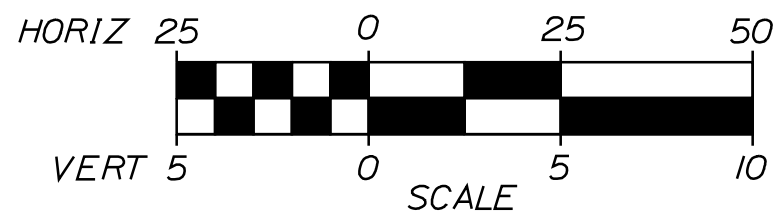
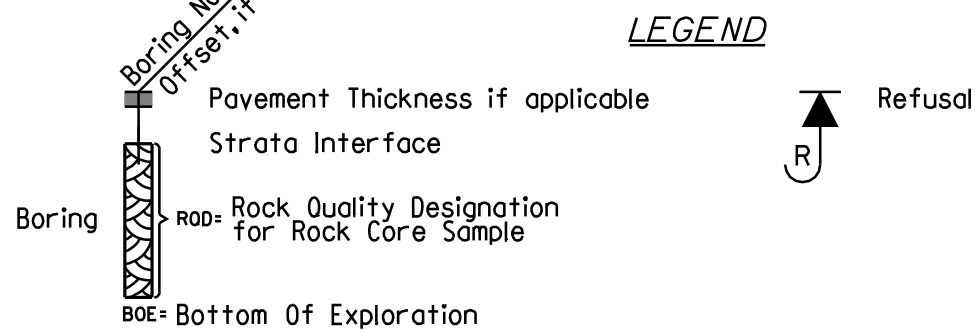
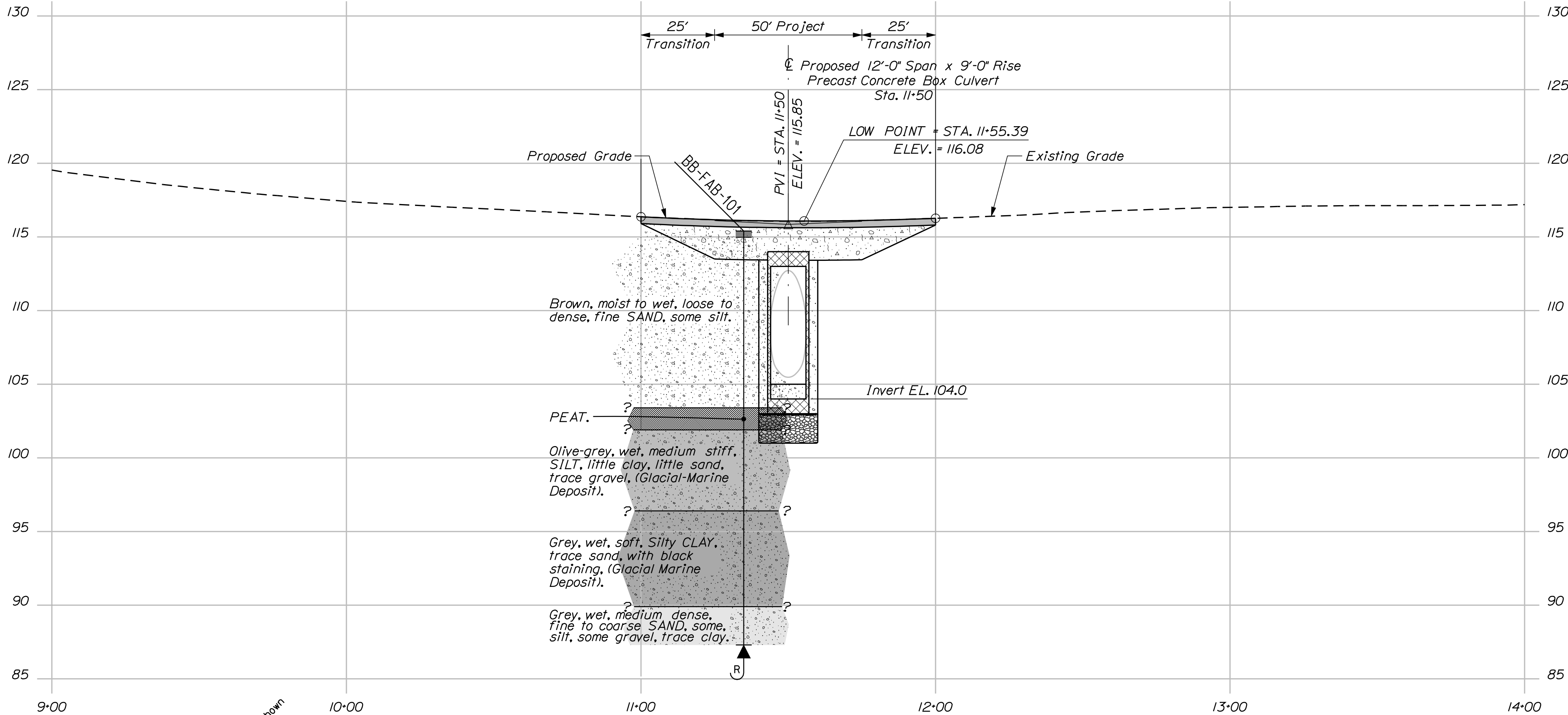
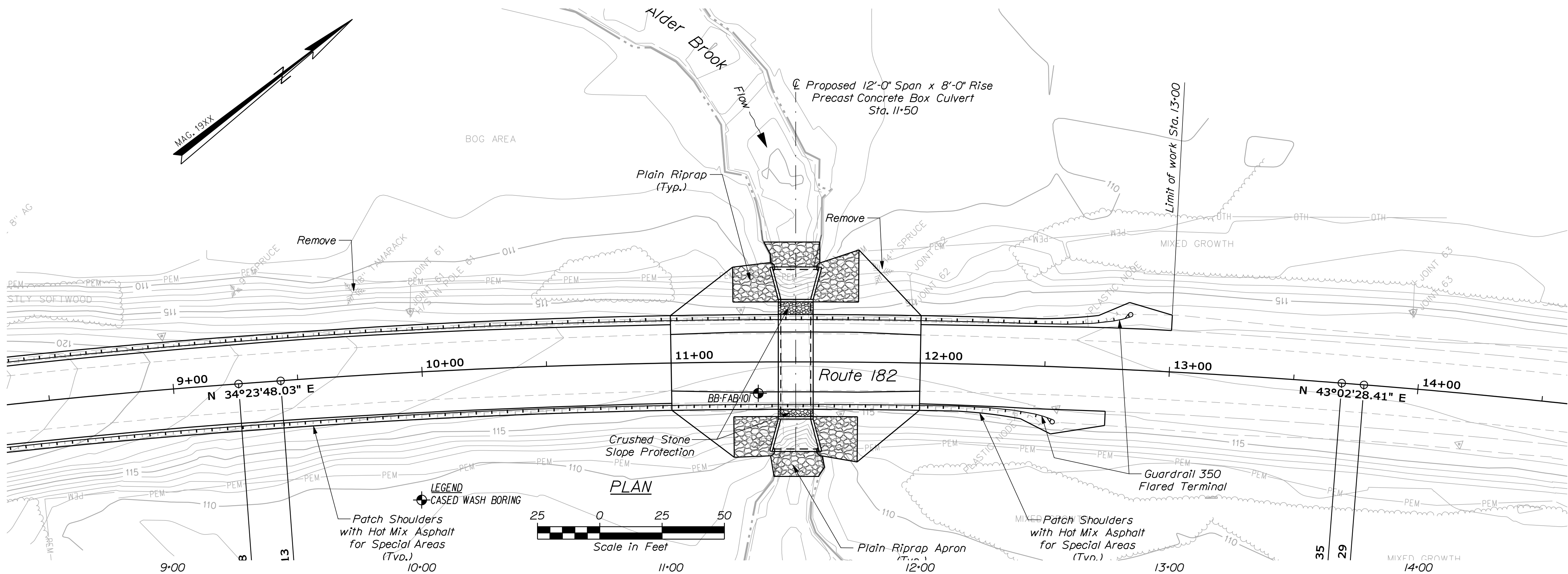


STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
ALDER BROOK BRIDGE		SIGNATURE	
ALDER BROOK		P.E. NUMBER	
FRANKLIN		DATE	
HANCOCK COUNTY		BRIDGE NO. 5728	
GENERAL PLAN		WIN	
SHEET NUMBER		19310.00	
4		BRIDGE PLANS	
OF 11			



PROFILE

OF 11 SHEET NUMBER 5		ALDER BROOK BRIDGE				PROJ. MANAGER	S. BOGDGE	BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION 019310.00	
		ALDER BROOK				DESIGN-DETAILED	M. WIGHT	D. SHAW			
		FRANKLIN HANCOCK COUNTY				CHECKED-REVIEWED			SIGNATURE		
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						DESIGN3-DETAILED03			P.E. NUMBER		
PROFILE				REVISIONS 1					BRIDGE NO. 5728 PIN 19310.00 BRIDGE PLANS		
				REVISIONS 2							
				REVISIONS 3							
				REVISIONS 4							
				FIELD CHANGES					DATE		



Note: 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.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		019310.00		PIN 19310.00		BRIDGE NO. 5728		BRIDGE PLANS	
ALDER BROOK BRIDGE		HANCOCK COUNTY		FRANKLIN		BORING LOCATION PLAN & INTERPRETIVE SUBSURFACE PROFILE		SHEET NUMBER		6	
ALDER BROOK		BY T. WHITE		DATE JUL 2012		SIGNATURE		P.E. NUMBER		DATE	
PROJECT MANAGER S. BOODE		DESIGN-DETAILED K. MAGUIRE		CHECKED-REVIEWED		DESIGN-DETAILED		REVISIONS 1		REVISIONS 2	
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								FIELD CHANGES			

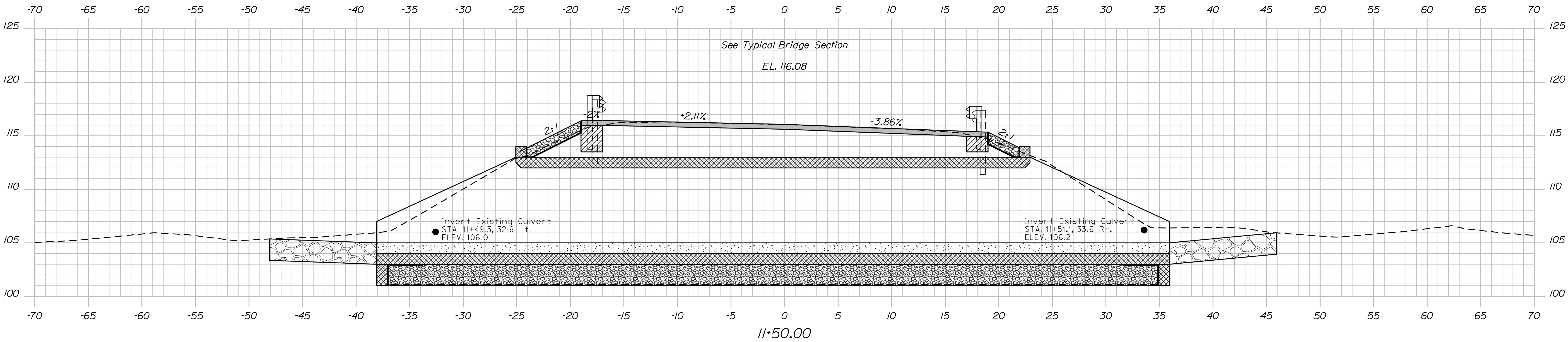
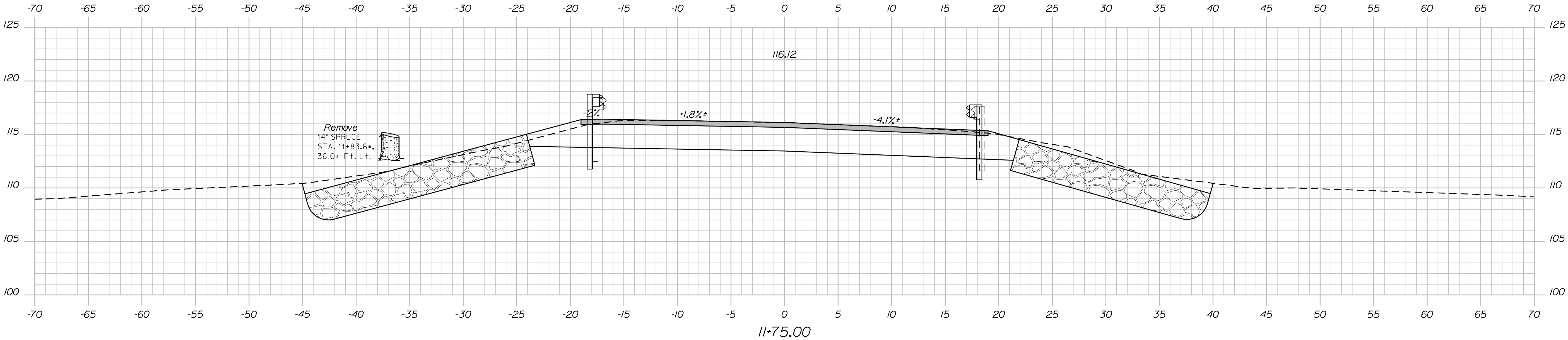
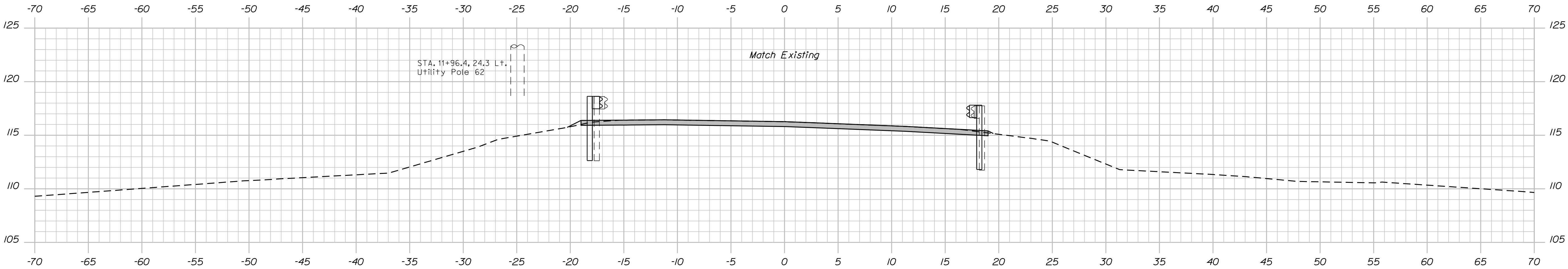
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		CHECKED-REVIEWED				
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STATE OF MAINE DEPARTMENT OF TRANSPORTATION 019310.00 BRIDGE NO. 5728 PIN 19310.00 BRIDGE PLANS						

Date:12/10/2012

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Division: BRIDGE

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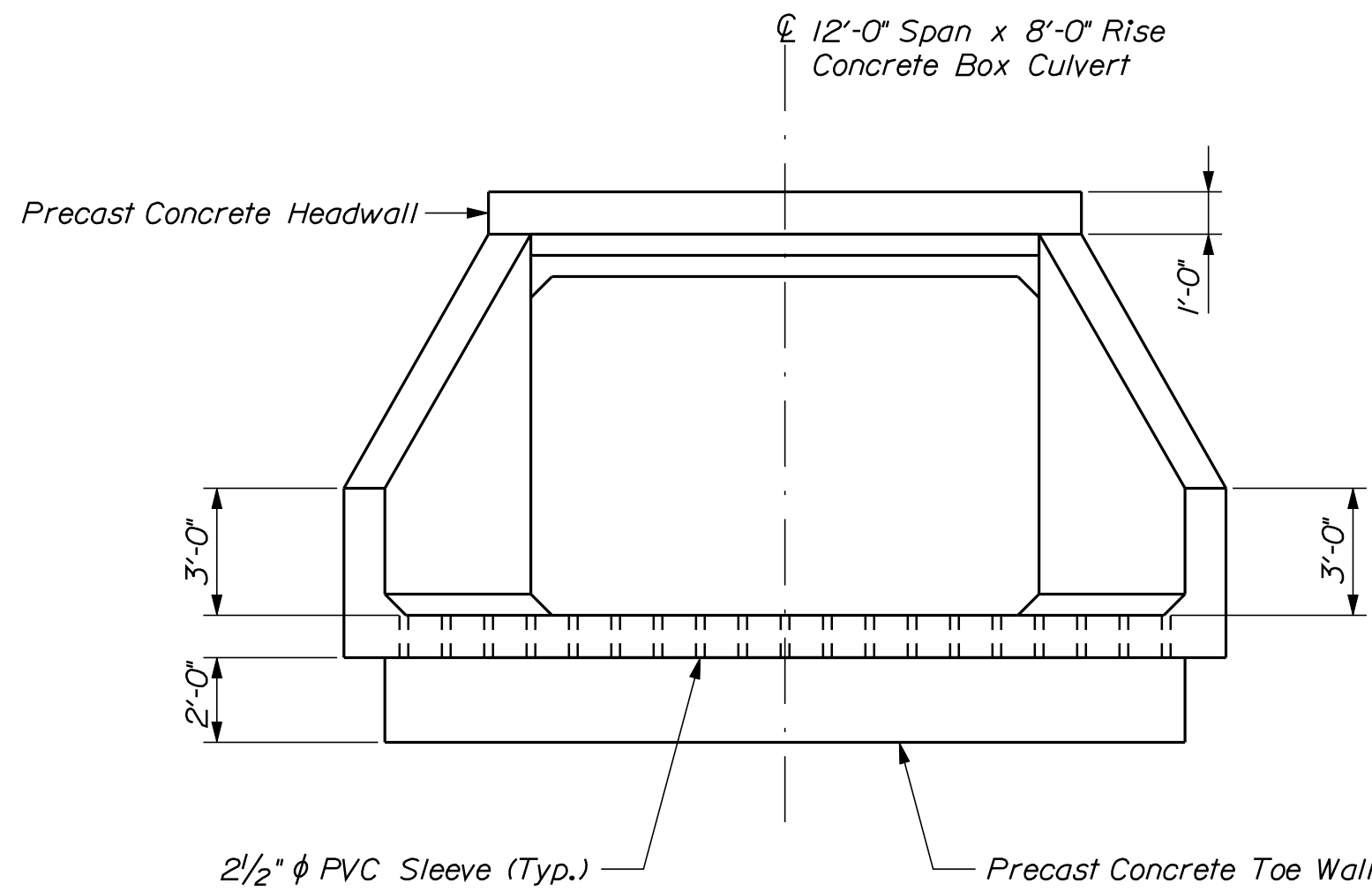
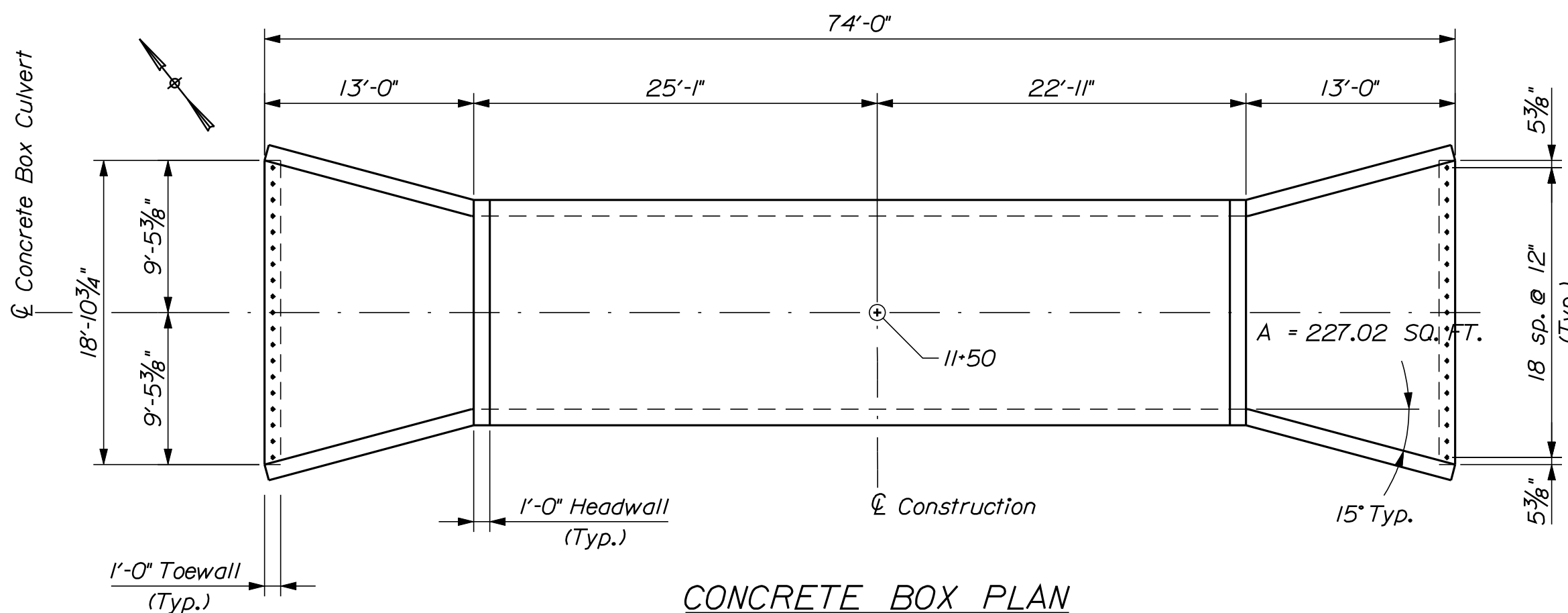
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9		OF 11		SIGNATURE		P.E. NUMBER		DATE		FIELD CHANGES	
PROJECT MANAGER		BY		DATE		DESIGN-REVIEWED		DESIGN-REVIEWED		DESIGN-REVIEWED	
S. BOOGE		D. SHAW				M. WIGHT					
REVISIONS 1		REVISIONS 2		REVISIONS 3		REVISIONS 4					

Date:12/10/2012

Username: David Shaw

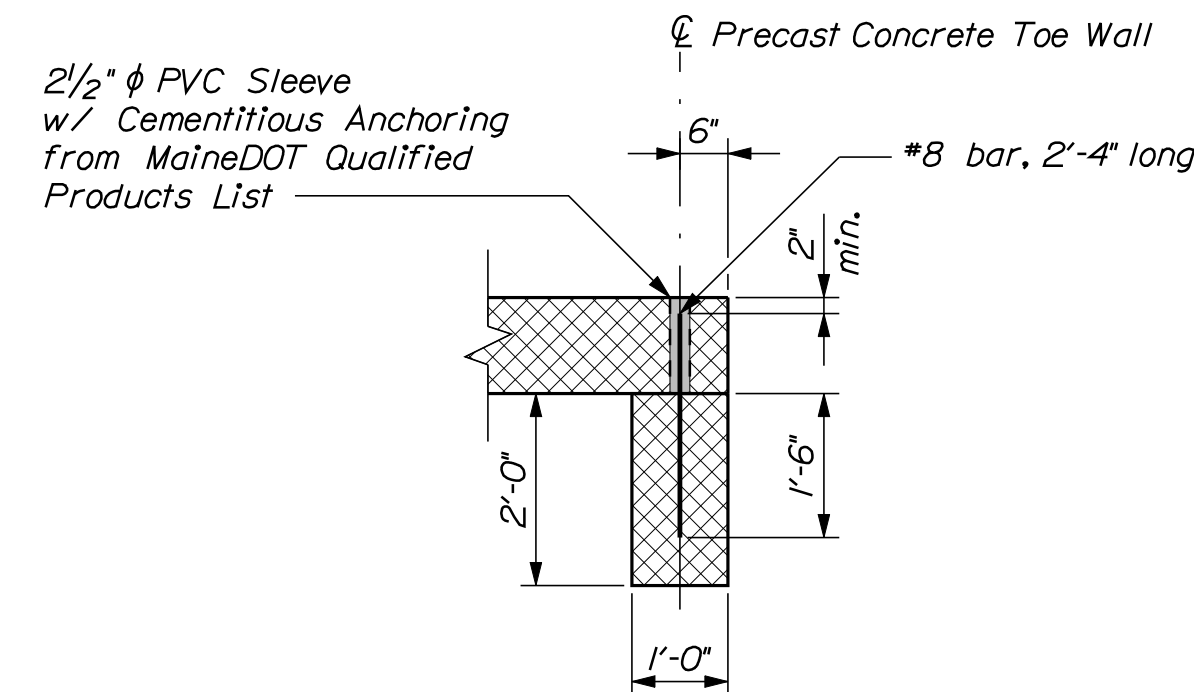
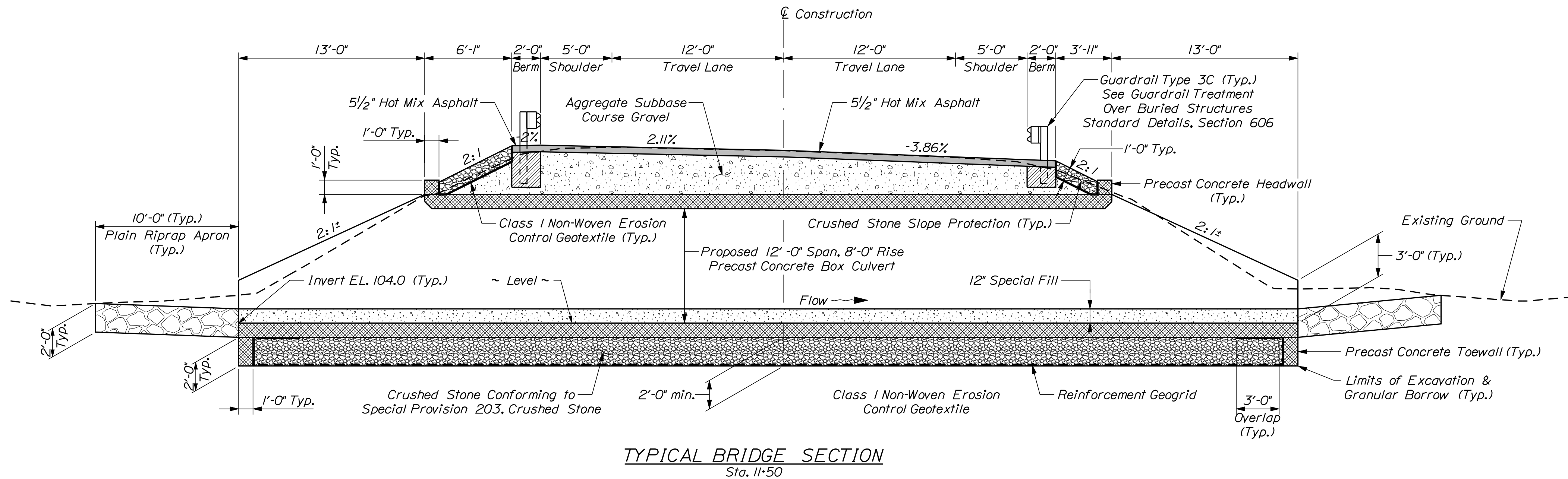
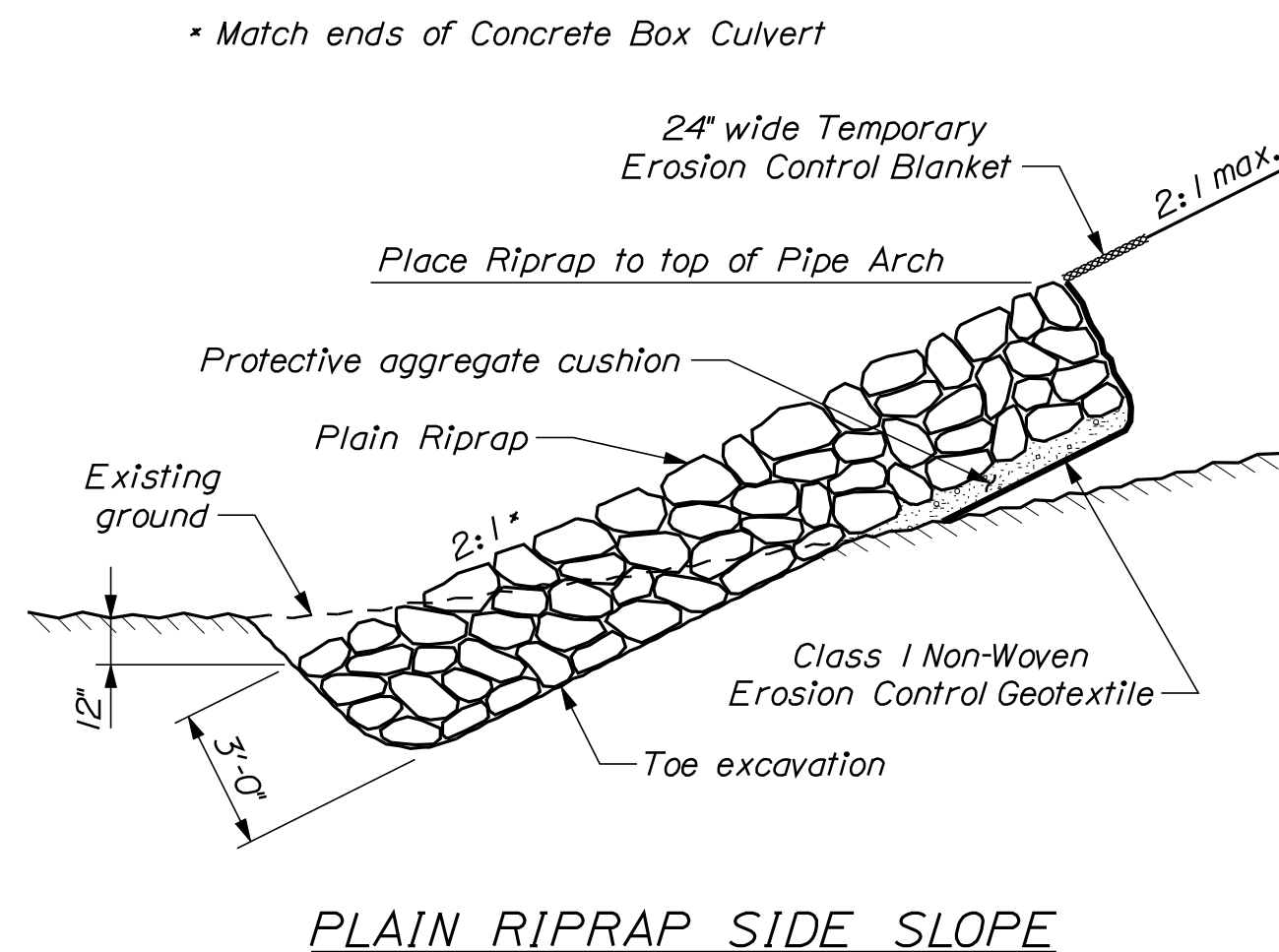
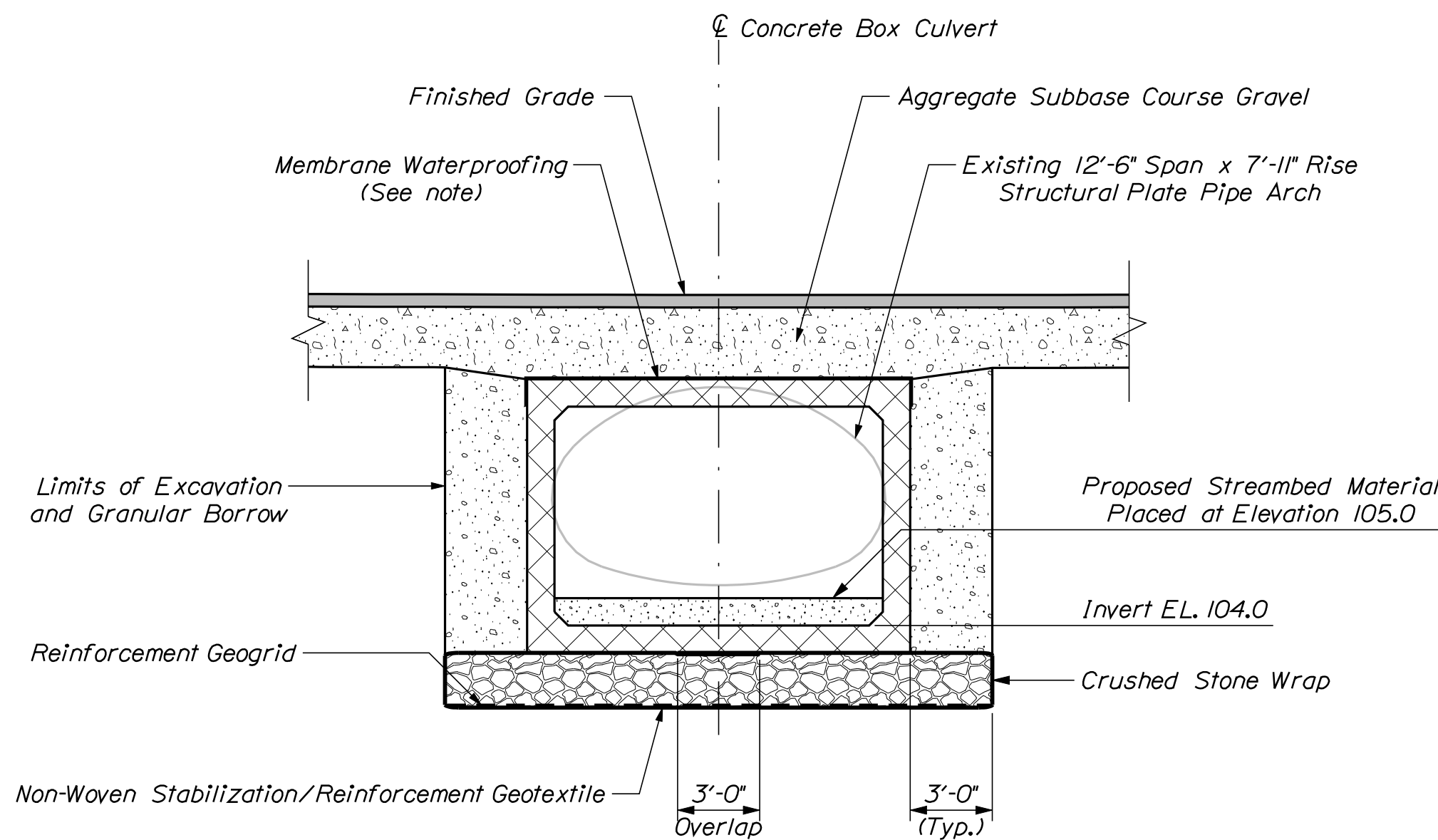
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PRECAST CONCRETE BOX NOTES

1. 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.
2. Install standard membrane waterproofing over the top and to 12 inches down the exterior sides of the precast units.
3. The contractor shall construct the concrete box culvert in the dry. Cofferdams may be required to divert flow away from the new concrete box culvert location during construction.
4. Crushed stone bedding placed under the box culvert shall be placed in lifts between 8 inches and 12 inches thick loose measure and each lift shall be compacted to interlock the particles with a minimum of 4 passes with a vibratory plate compactor.
5. All embankment material, except as otherwise shown, shall be Granular Borrow meeting the requirements of 703.19, Material for Underwater Backfill with the additional requirement that the maximum particle size shall be limited to 4 inches. The Granular Borrow backfill shall be compacted in accordance with the box culvert manufacturer's recommendations but in no case less than 92 percent of maximum density as determined by AASHTO T180, Method C or D.
6. Riprap adjacent to the box culvert shall be placed so as not to damage the culvert. Any damage to the box culvert during construction shall be repaired or replaced as determined by the resident at the contractor's expense.
7. The riprap slope protection shall be constructed as shown on MaineDOT Standard Detail 610(02). The protective aggregate cushion layer shall be 12 inches. Class I non-woven erosion control geotextile shall be used under the protective aggregate cushion layer.
8. The box culvert subgrade approximate elevation 100 feet will consist of marine clay-silt. To minimize subgrade disturbance, the Contractor shall not operate equipment over, or use aggressive excavation methods on the subgrade. The Contractor shall use a smooth edged bucket to excavate the clay-silt soils underneath the box culvert. If the subgrade is disturbed, weakened, softened or otherwise rendered unacceptable by the Resident, the Contractor shall over-excavate the disturbed subgrade one (1) foot and replace with compacted granular Borrow to the subgrade level at the Contractor's expense.
9. All peat and other organic soils within the box culvert footprint shall be removed and replaced with crushed stone.



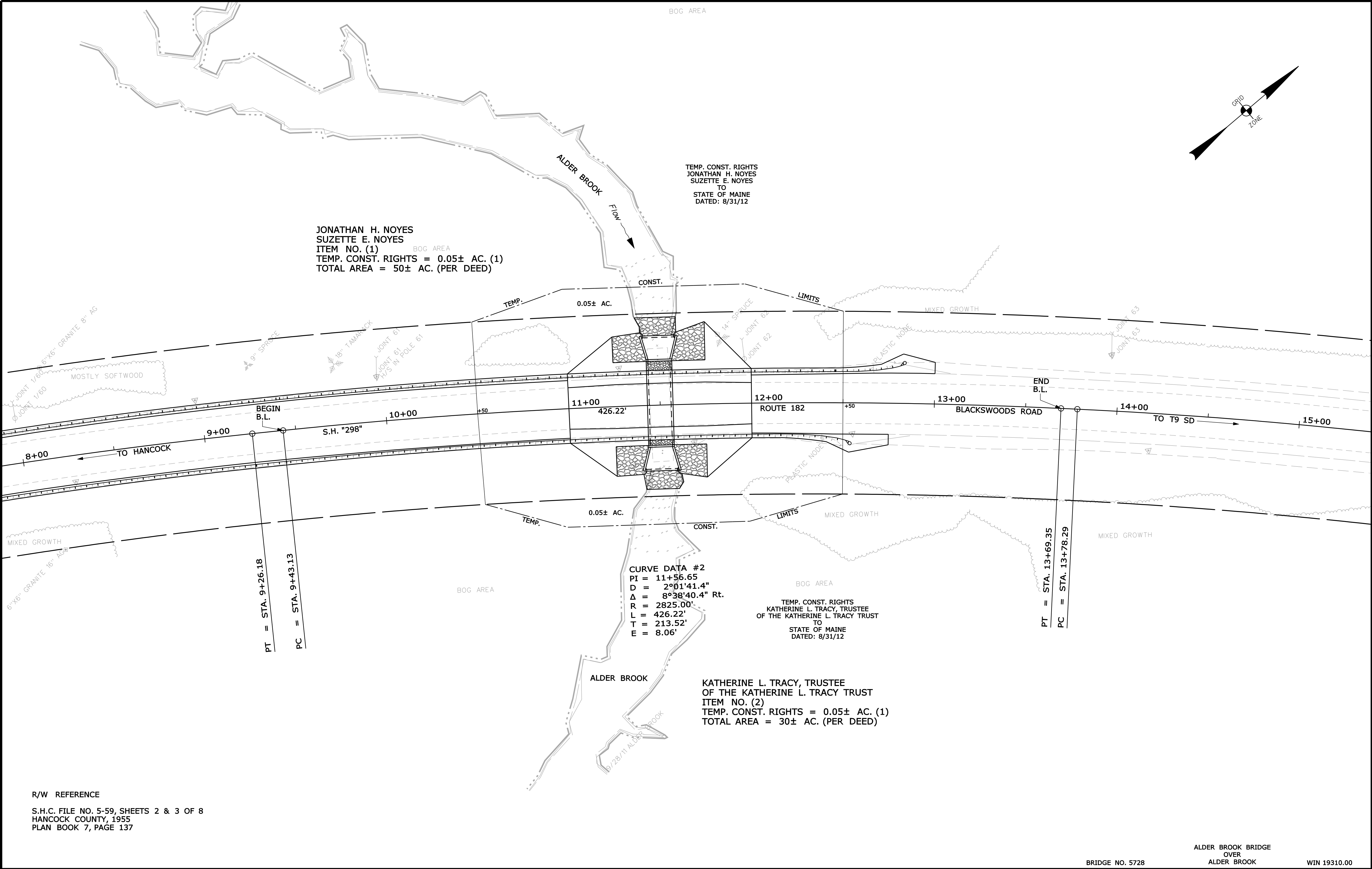
STATE OF MAINE				BRIDGE PLANS			
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				BRIDGE NO. 5728			
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HANCOCK COUNTY				OF 11			
SIGNATURE				P.E. NUMBER			
DATE				DATE			
PROJ. MANAGER	CHECKED	DESIGNED	REVISIONS	PROJ. MANAGER	CHECKED	DESIGNED	REVISIONS
S. BOOGE	M. WIGHT		1	S. BOOGE	M. WIGHT		1
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Date:12/10/2012

Username: David.Snow

Division: BRIDGE

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R/W REFERENCE

S.H.C. FILE NO. 5-59, SHEETS 2 & 3 OF 8
HANCOCK COUNTY, 1955
PLAN BOOK 7, PAGE 137

BRIDGE NO. 5728
ALDER BROOK BRIDGE
OVER
ALDER BROOK
WIN 19310.00

REVISIONS				PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD						DAVID BERNHARDT COMMISSIONER KENNETH L. SWEENEY CHIEF ENGINEER DATE	PLAN NOT TO BE RECORDED	STATE HIGHWAY "298"		
NO.	DATE	DESCRIPTION	BY	NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE			ROUTE 182	BLACKSWOODS ROAD	
												FRANKLIN	HANCOCK COUNTY	
												STATE PROJECT NO. 19310.00		
											JULY 2012	RIGHT-OF-WAY MAP	D.O.T. FILE NO.5-292	
											SCALE 1" = 25'	SHEET 1 OF 1		

PLAN NOT TO BE RECORDED

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016
FRANKLIN
RIGHT OF WAY MAP