

STATE OF MAINE DEPARTMENT OF TRANSPORTATION



ANDOVER OXFORD COUNTY MERRILL BRIDGE OVER

WEST BRANCH ELLIS RIVER STATE ROUTE 120 FEDERAL AID PROJECT NO. STP-2165(800) PROJECT LENGTH 0.16 mi. BRIDGE NO. 3215

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SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017.

DESIGN LOADING

Live Load HL - 93 Modified for Strength I

TRAFFIC DATA

Current (2019) AADT	890
Future (2039) AADT	1070
DHV - % of AADT	10
Design Hour Volume	107
Heavy Trucks (% of AADT)	8
Heavy Trucks (% of DHV)	8
Directional Distribution (% of DHV)	56
18 kip Equivalent P 2.0	34
18 kip Equivalent P 2.5	32
Design Speed (mph)	35

HYDROLOGIC DATA

Drainage Area	51.3 sq mi
Design Discharge (Q50)	11550 cfs
Check Discharge (Q100)	13350 cfs
Headwater Elevation (Q1.1)	655.09 ft
Headwater Elevation (Q25)	658.04 ft
Headwater Elevation (Q50)	659.71 ft
Headwater Elevation (Q100)	659.98 ft
Discharge Velocity (Q1.1)	1.9 fps
Discharge Velocity (Q25)	6.7 fps
Discharge Velocity (Q50)	6.3 fps
Discharge Velocity (Q100)	7.1 fps

MATERIALS

Concrete:
Curbs & Transition Barriers Class "LP"
All Other Class "A"

Reinforcing Steel:
Plain Reinforcing Steel ASTM A 615/A 615M, Grade 60
Stainless Reinforcing Steel ASTM A 955, Grade 75
Glass Fiber Reinforced Polymer (GFRP) CSA S807-10, ACI 440.1R-15

Structural Steel:
All Material (except as noted) ASTM A 709, Grade 50 (metallized)
High Strength Bolts ASTM F 3125, Grade A325, Type 1 (galvanized)

BASIC DESIGN STRESSES

Concrete, Class "A"	f 'c = 4,000 psi
Concrete, Class "LP"	f 'c = 5,000 psi
Plain Reinforcing Steel	f y = 60,000 psi
Stainless Reinforcing Steel	f y = 75,000 psi
Glass Fiber Reinforced Polymer:	
#5 Bar	f fu = 100,000 psi
#6 Bar	f fu = 100,000 psi
#7 Bar	f fu = 95,000 psi
#8 Bar	f fu = 90,000 psi
Minimum Elastic Modulus	6,150,000 psi
Structural Steel:	
ASTM A 709, Grade 50	F y = 50,000 psi
ASTM F 3125, Grade A325, Type 1	F μ = 120,000 psi

UTILITIES

Central Maine Power
Consolidated Communications
Charter (Spectrum)

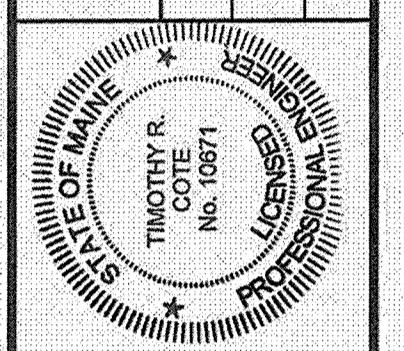
MAINTENANCE OF TRAFFIC

Maintain one lane of alternating one - way traffic on the existing bridge using temporary traffic signals.

PROJECT LOCATION:	Merrill Bridge #3215 in Andover carrying State Route 120 over West Branch Ellis River, located 0.44 miles east of Route 5 Junction. Lat./Long. 44° 38' 14" N 70° 44' 32" W
PROGRAM AREA:	Bridge
OUTLINE OF WORK:	Replacement of Merrill Bridge #3215 in Andover with 725' of approach work.



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED
DATE 12/4/18
COMMISSIONER: [Signature]
CHIEF ENGINEER: [Signature]



[Signature]
SIGNATURE
10 & 7/
P.E. NUMBER
11/21/2018
DATE

PROJECT INFORMATION
PROGRAM BRIDGE
PROJECT MANAGER JOEL KITREDE
DESIGNER TIM COTE, P.E.
CONSULTANT HNTB
PROJECT RESIDENT
CONTRACTOR
PROJECT COMPLETION DATE

WIN 021658.00

STP-2165(800)

ANDOVER
MERRILL BRIDGE
TITLE SHEET

SHEET NUMBER
1

Date:11/2/2018

Username:

Division:

Filename:001_Title.dgn

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.19	Removing Existing Bridge (Structural Steel = 18 Tons, Concrete = 117 CY, Stone = 84 CY)	1	LS
202.202	Removing Pavement Surface	73	SY
203.20	Common Excavation	1,750	CY
203.24	Common Borrow	1,250	CY
203.25	Granular Borrow	3,240	CY
206.082	Structural Earth Excavation - Major Structures, Plan Quantity	150	CY
304.10	Aggregate Subbase Course - Gravel	1,600	CY
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	254	TON
403.209	Hot Mix Asphalt, 9.5 mm (sidewalks, drives, islands & incidentals)	8	TON
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base Course)	394	TON
409.15	Bituminous Tack Coat, Applied	102	GAL
501.231	Dynamic Loading Test	2	EA
501.54	Steel H-beam Piles 117 lb/ft, delivered	245	LF
501.541	Steel H-beam Piles 117 lb/ft, in place	208	LF
501.90	Pile Tips	8	EA
501.91	Pile Splines	8	EA
501.92	Pile Driving Equipment Mobilization	1	LS
502.219	Structural Concrete, Abutments and Retaining Walls (127 CY)	1	LS
502.26	Structural Concrete Roadway and Sidewalk Slab on Steel Bridges (106 CY)	1	LS
502.31	Structural Concrete Approach Slab (21 CY)	1	LS
502.49	Structural Concrete Curbs and Sidewalks (16 CY)	1	LS
503.12	Reinforcing Steel, Fabricated and Delivered	16,900	LB
503.13	Reinforcing Steel, Placing	16,900	LB
503.26	Stainless Steel Reinforcement, Fabricated and Delivered	12,700	LB
503.27	Stainless Steel Reinforcement, Placing	12,700	LB
504.702	Structural Steel Fabricated and Delivered, Welded (180,900 lbs)	1	LS
504.71	Structural Steel Erection (180,900 lbs)	1	LS
505.08	Shear Connectors (2056 EA)	1	LS
506.9104	Thermal Spray Coating (Shop Applied) (180,900 lbs)	1	LS
507.0821	Steel Bridge Railing, 3 Bar (240 LF)	1	LS
508.14	High Performance Waterproofing Membrane (410 SY)	1	LS
511.07	Cofferdam: Abutment No. 1	1	LS
511.07	Cofferdam: Abutment No. 2	1	LS
514.06	Curing Box for Concrete Cylinders	1	EA
515.21	Protective Coating for Concrete Surfaces (190 SY)	1	LS
520.232	Expansion Device - Asphaltic Plug Joint	60	LF
524.301	Temporary Structural Support	1	LS
526.301	Temporary Concrete Barrier - Type 1 (440 LF)	1	LS
526.34	Permanent Concrete Transition Barrier	4	EA
527.34	Work Zone Crash Cushions	2	UNIT
530.30	GFRP, Fabricated and Delivered	31,400	LF
530.31	GFRP, Placing	31,400	LF
603.199	24" Culvert Pipe Option III	132	LF
606.1301	3"W-Beam Guardrail-Midway Splice	238	LF
606.1303	3"W-Beam Guardrail- Midway Splice - 15' Radius and Less	13	LF
606.1304	3"W-Beam Guardrail - Midway Splice - Over 15' Radius	75	LF
606.1305	3"W-Beam Guardrail-Midway Splice Flared Terminal	2	EA
606.1307	Bridge Transition Type IA	4	EA
606.265	Terminal End - Single Rail - Galvanized Steel	1	EA
606.353	Reflectorized Flexible Guardrail Marker	8	EA
606.78	Low Volume Guardrail End - Type 3	1	EA
609.31	Curb Type 3	70	LF
610.08	Plain Riprap	1,000	CY
610.18	Stone Ditch Protection	32	CY
613.319	Erosion Control Blanket	61	SY
615.07	Loam	190	CY
618.14	Seeding Method Number 2	30	UNIT
619.12	Mulch	30	UNIT
619.14	Erosion Control Mix	190	CY
620.58	Erosion Control Geotextile	1,550	SY
620.66	Drainage Geocomposite	120	SY
627.733	4" White Or Yellow Painted Pavement Marking Line	2,500	LF
627.77	Removing Existing Pavement Marking	250	SF
627.78	Temporary 4" Painted Pavement Marking Line, White or Yellow	1,200	LF
629.05	Hand Labor, Straight Time	20	HR
631.12	All Purpose Excavator (Including Operator)	20	HR
631.14	Grader (Including Operator)	20	HR
631.172	Truck-large (Including Operator)	20	HR
639.18	Field Office, Type A	1	EA
643.72	Temporary Traffic Signal at: Merrill Bridge	1	LS
652.312	Type III Barricades	4	EA
652.33	Drum	30	EA
652.34	Cones	30	EA
652.35	Construction Signs	250	SF
652.361	Maintenance of Traffic Control Devices	1	LS
652.38	Flaggers	360	HR
656.75	Temporary Soil Erosion and Pollution Control	1	LS
659.10	Mobilization	1	LS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	DATE	11/18
DESIGN-DETAILED	C. HELMICK	S. SCRIBNER	11/18
CHECKED-REVIEWED	L. DRISCOLL	R. HANE	
DESIGNS-DETAILED2			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE
P.E. NUMBER
DATE

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
OXFORD COUNTY
ANDOVER
ESTIMATED QUANTITIES

SHEET NUMBER
2
OF 52



GENERAL CONSTRUCTION NOTES

1. All utility facilities shall be adjusted by the respective utilities unless otherwise noted.
2. For easements, construction limits and right of way lines, refer to Right of Way Maps.
3. Place a 24 in. wide strip of Temporary Erosion Control Blanket on the sideslopes along the top of riprap and behind the wingwalls.
4. Unless otherwise noted, all embankment material placed below EL 659.71 and beyond the abutment backfill limits shown on the "Abutment Details" sheet shall be Granular Borrow meeting the requirements of Standard Specifications Subsection 703.19, Material for Underwater Backfill.
5. The clearing limits as shown on the Plans are approximate. The exact limits will be established in the field by the Resident. Single trees and stump removal shall be considered clearing. Payment for clearing will be considered incidental to Contract Items.
6. Clearing limits shall be 10 ft. beyond and parallel to the construction slope lines or as shown on the plans unless otherwise authorized by the Resident.
7. Loam shall be placed to a nominal depth of 2 in. on all new or reconstructed sideslopes or as directed by the resident.
8. A MASH Compliant guardrail end treatment shall be installed concurrently with the placement of each section of end beam guardrail.
9. Extended Use Erosion Control Blankets, seeded gutters, riprap downspouts, and other gutters lined with Stone Ditch Protection shall be constructed after paving and shoulder work is completed, where it is apparent that runoff will cause continual erosion. Payment will be made under the appropriate Contract Items.
10. Protective Coating for Concrete Surfaces shall be applied to the following areas:
 - All exposed surfaces of concrete curbs,
 - Fascias down to the drip notch,
 - All exposed surfaces of Concrete Transition Barriers,
 - Top of abutment backwalls and to one foot below the top of backwalls on the back side, wingwalls top face and roadway face to one foot below roadway grade.
11. Erosion Control Mix may be substituted in those areas normally receiving loam and seed as directed by the resident. Placement shall be in accordance with Standard Specifications Section 619, Mulch. Payment will be made under Item Number 619.14, Erosion Control Mix.
12. Project information referred to below may be accessed at the following MaineDOT web address: <http://www.maine.gov/mdot/contractors/>.
13. 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 lifespan.
14. The hydrologic report of the bridge site may be accessed at the MaineDOT web address. The hydrologic report is based on the designer'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.
15. The project geotechnical report titled: Geotechnical Design Report for the Replacement of Merrill Bridge over West Branch Ellis River Soils Report 2018-23, dated May 30, 2018 may be accessed at the MaineDOT web address.
16. 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 Bidder's or Contractor's interpretations 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 boring locations.

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

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

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 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 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 and adjustments will be made in accordance with Standard Specifications Section 109.7, Equitable Adjustments to Compensation and Time.

20. No existing drainage shall be abandoned, removed or plugged without prior approval of the Resident.

21. Gravel entrances shall be constructed with 14 in. Aggregate Subbase Course Gravel.

22. A 3 ft. paved lip shall be placed at all unpaved entrances unless otherwise noted on the Plans or directed by the Resident.

23. The existing granite block foundation shall be removed by the Contractor and become the property of the Town of Andover. The existing granite block foundation shall be removed down to EL 647 at Abutment 1 and EL 644 at Abutment 2. The Contractor shall transport and unload the granite blocks at Sta. 12+00 Right, in the field. Payment for transportation, relocation of stockpile, stockpiling, storage, equipment and labor required to perform the work shall be incidental to Contract Items, and as approved by the Resident.

24. Reinforcing bars within the Permanent Concrete Transition Barriers shall be stainless steel and shall be incidental to the Permanent Concrete Transition Barrier item.

25. Special Fill will be combined with Plain Riprap up to the elevations as specified in the Special Fill Special Provision.

26. Final grading between the existing multi-use trail bridge and the existing trail shall be determined in the field with approval by the Resident. Payment shall be made under the appropriate hourly rental items.

27. Remove and reset, and remove and dispose of signs shall be performed in accordance with section 645 - Highway Signing and as directed by the Resident. Payment will be incidental to related Contract Items.

28. Payment for remove and resetting pipe entry gate will be incidental to the Contract.

Date: 11/2/2018

Username:

Division:

Filename: 003_GeneralNotes.dgn

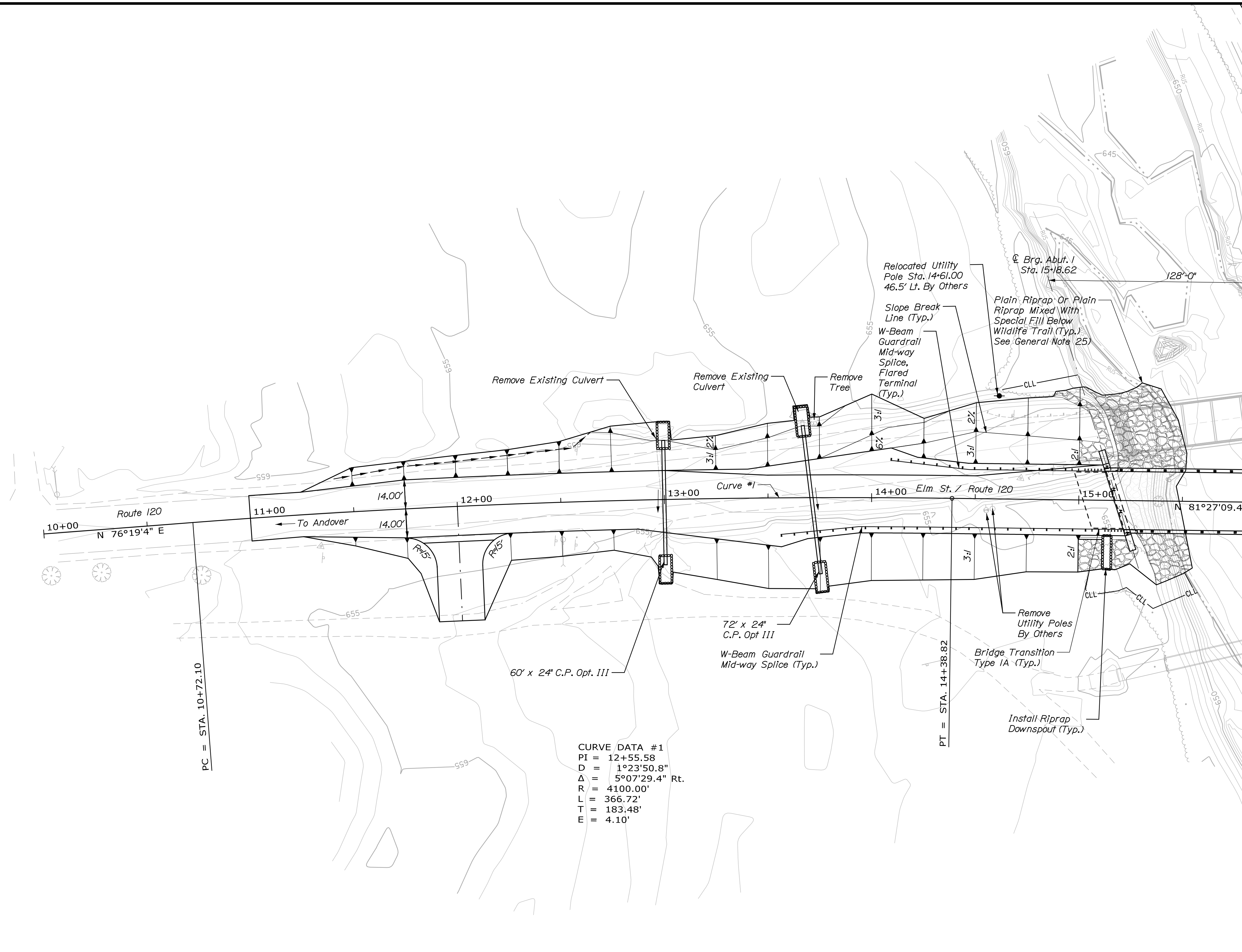
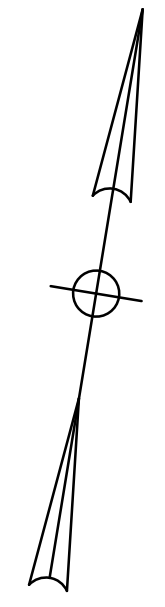
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	DATE
DESIGN-DETAILED	C. HELMICK	S. SCRIBNER	11/8
CHECKED-REVIEWED	L. DRISCOLL	R. HANE	11/8
DESIGNS-DETAILED			
DESIGNS-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

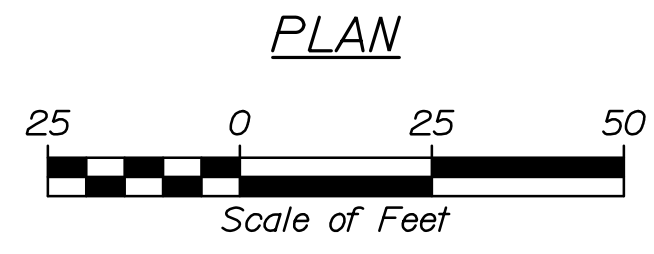
MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
GENERAL NOTES

SHEET NUMBER
3
OF 52





CURVE DATA #1
 PI = 12+55.58
 D = 1°23'50.8"
 Δ = 5°07'29.4" Rt.
 R = 4100.00'
 L = 366.72'
 T = 183.48'
 E = 4.10'



STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2165(800)	
MERRILL BRIDGE WEST BRANCH ELLIS RIVER ANDOVER OXFORD COUNTY		BRIDGE NO. 3215 WIN 021658.00 BRIDGE PLANS	
GENERAL PLAN SHEET 1 OF 2		SHEET NUMBER 4 OF 52	
PROJ. MANAGER J. KITTRIDGE	BY C. HELMICK S. SCRIBNER L. DRISCOLL R. HANE	DATE 11/18 11/18	SIGNATURE
DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	REVISIONS 1
DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	REVISIONS 2
DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	REVISIONS 3
DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	REVISIONS 4
DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	FIELD CHANGES

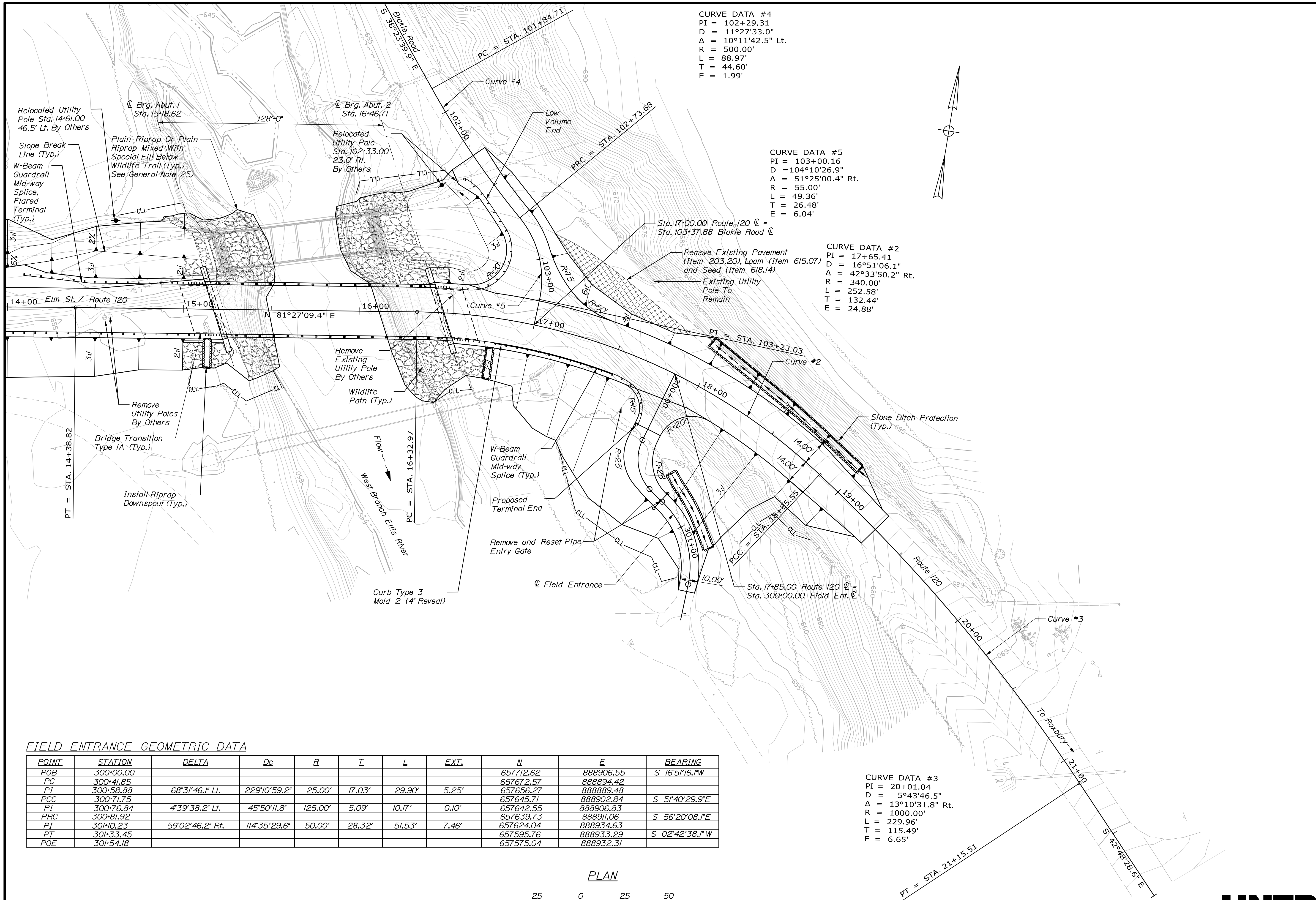


Date: 11/2/2018

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Division:

Filename: 005_BDPPlan2.dgn



CURVE DATA #1
 PI = 102+29.31
 D = 11°27'33.0"
 Δ = 10°11'42.5" Lt.
 R = 500.00'
 L = 88.97'
 T = 44.60'
 E = 1.99'

CURVE DATA #5
 PI = 103+00.16
 D = 104°10'26.9"
 Δ = 51°25'00.4" Rt.
 R = 55.00'
 L = 49.36'
 T = 26.48'
 E = 6.04'

CURVE DATA #2
 PI = 17+65.41
 D = 16°51'06.1"
 Δ = 42°33'50.2" Rt.
 R = 340.00'
 L = 252.58'
 T = 132.44'
 E = 24.88'

CURVE DATA #3
 PI = 20+01.04
 D = 5°43'46.5"
 Δ = 13°10'31.8" Rt.
 R = 1000.00'
 L = 229.96'
 T = 115.49'
 E = 6.65'

FIELD ENTRANCE GEOMETRIC DATA

POINT	STATION	DELTA	Dc	R	L	L	EXT.	N	E	BEARING
POB	300+00.00							657712.62	888906.55	S 16°51'16.1"W
PC	300+41.85							657672.57	888894.42	
PI	300+58.88	68°31'46.1" Lt.	229°10'59.2"	25.00'	17.03'	29.90'	5.25'	657656.27	888889.48	
PCC	300+71.75							657645.71	888902.84	S 51°40'29.9"E
PI	300+76.84	4°39'38.2" Lt.	45°50'11.8"	125.00'	5.09'	10.17'	0.10'	657642.55	888906.83	
PRC	300+81.92							657639.73	888911.06	S 56°20'08.1"E
PI	301+10.23	59°02'46.2" Rt.	114°35'29.6"	50.00'	28.32'	51.53'	7.46'	657624.04	888934.63	
PT	301+33.45							657595.76	888933.29	S 02°42'38.1"W
POE	301+54.18							657575.04	888932.31	

PLAN



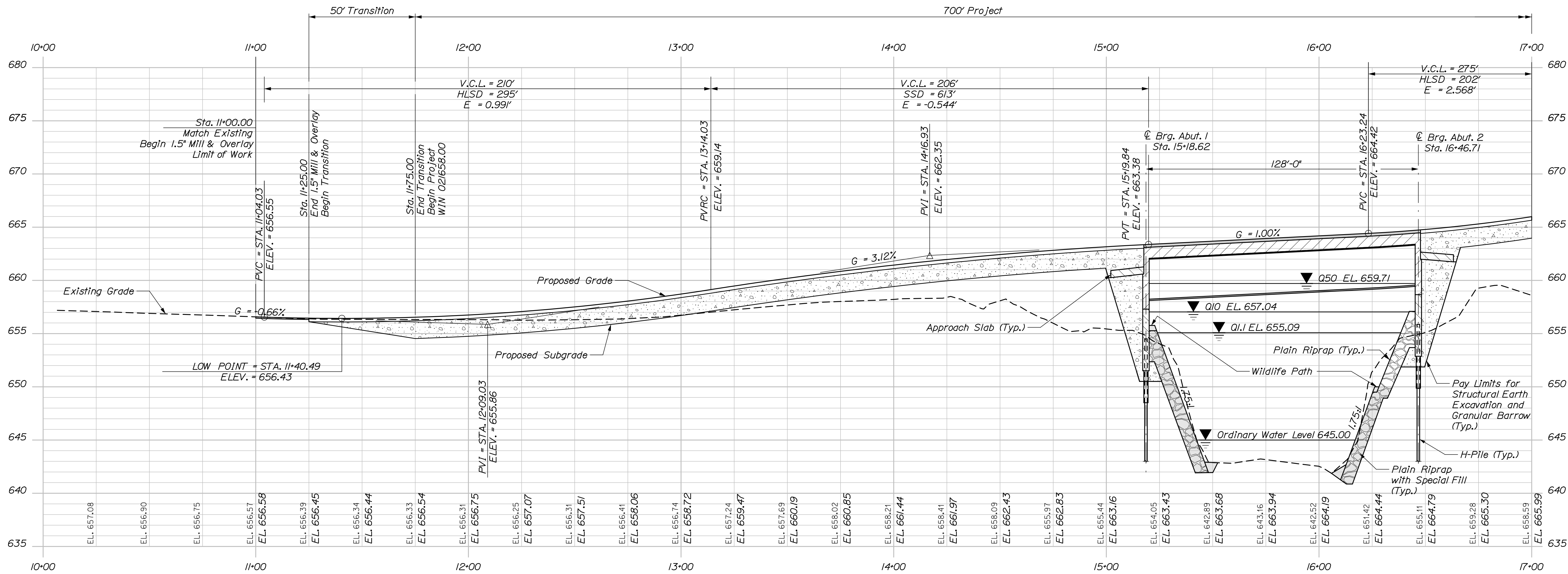
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2165(800)		WIN		BRIDGE NO. 3215		021658.00		BRIDGE PLANS					
MERRILL BRIDGE												WEST BRANCH ELLIS RIVER		OXFORD COUNTY		ANDOVER	
GENERAL PLAN												SHEET 2 OF 2		SHEET NUMBER		5	
OF 52												HNTB					

Date: 11/2/2018

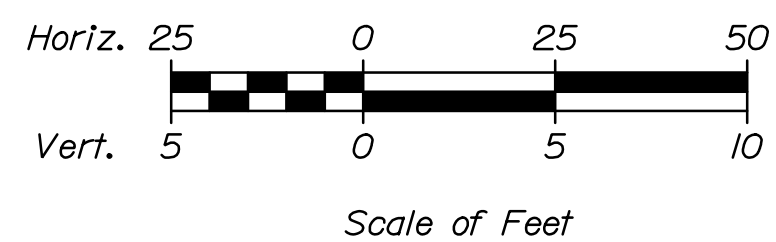
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Division:

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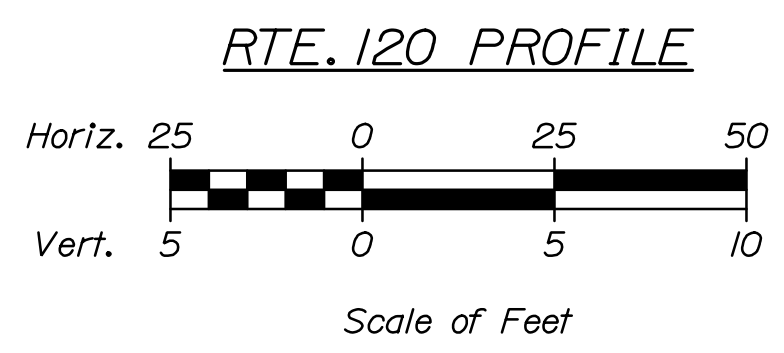
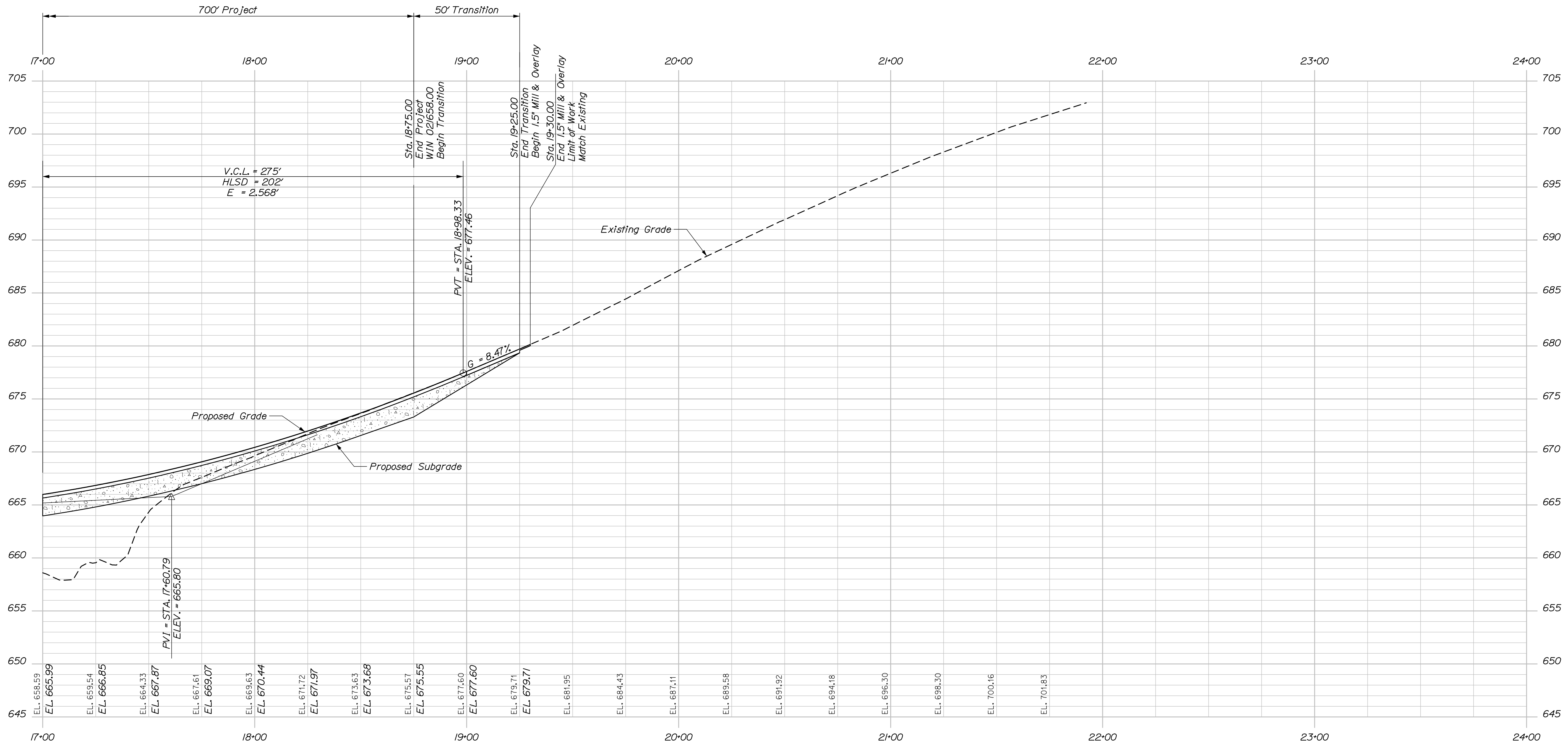


RTE.120 PROFILE



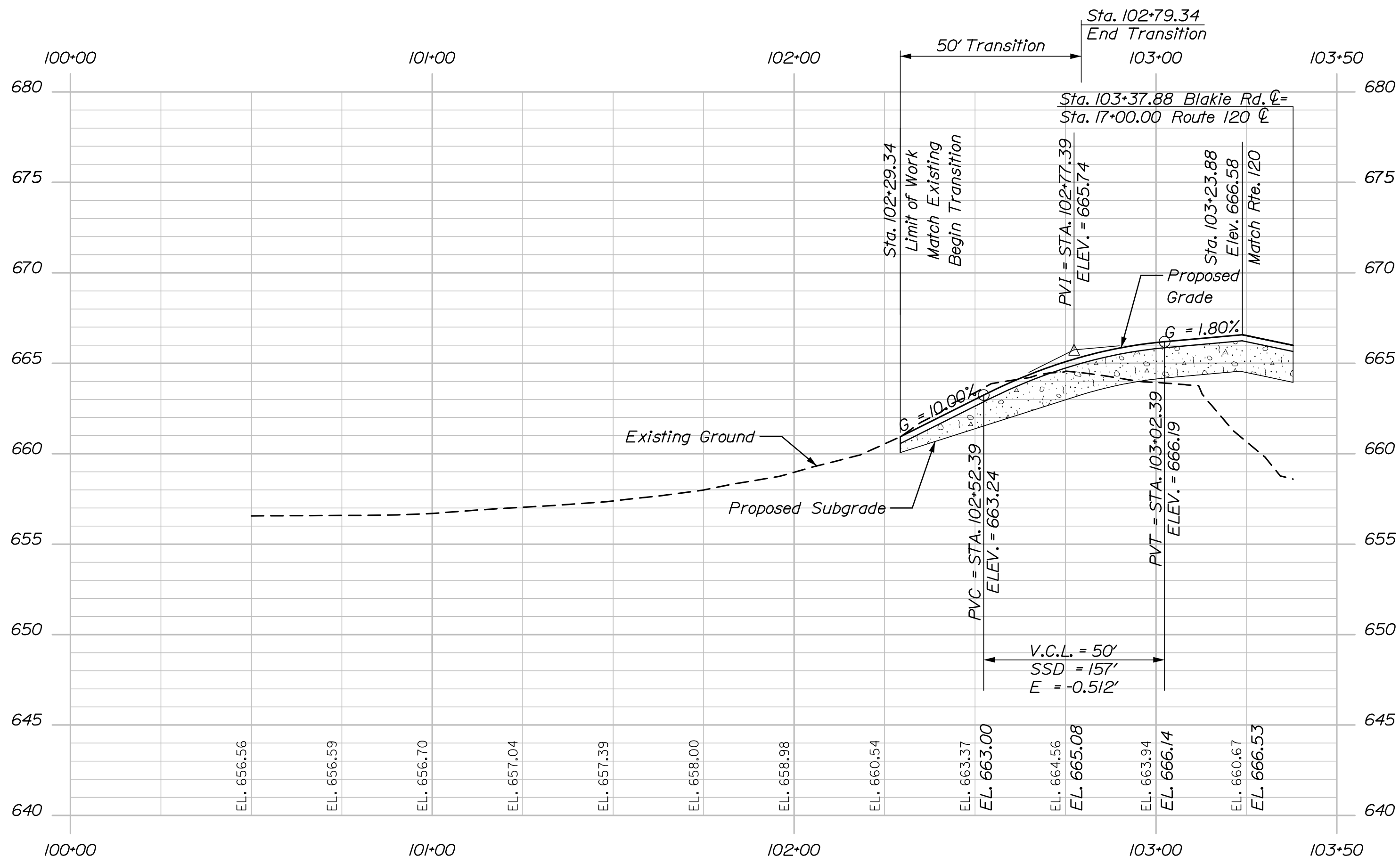
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2165(800)	
MERRILL BRIDGE WEST BRANCH ELLIS RIVER ANDOVER OXFORD COUNTY		PROFILE SHEET 1 OF 3	
SHEET NUMBER		6	
BRIDGE NO. 3215		WIN 021658.00	
BRIDGE PLANS		DATE	
PROJ. MANAGER	J. KITTRIDGE	BY	S. SCRIBNER
DESIGN-DETAILED	C. HELMICK	CHECKED-REVIEWED	L. DRISCOLL
DESIGN-DETAILED		DESIGN-DETAILED	
REVISIONS 1		REVISIONS 1	
REVISIONS 2		REVISIONS 2	
REVISIONS 3		REVISIONS 3	
REVISIONS 4		REVISIONS 4	
FIELD CHANGES		FIELD CHANGES	
DATE	11/18	SIGNATURE	
		P.E. NUMBER	



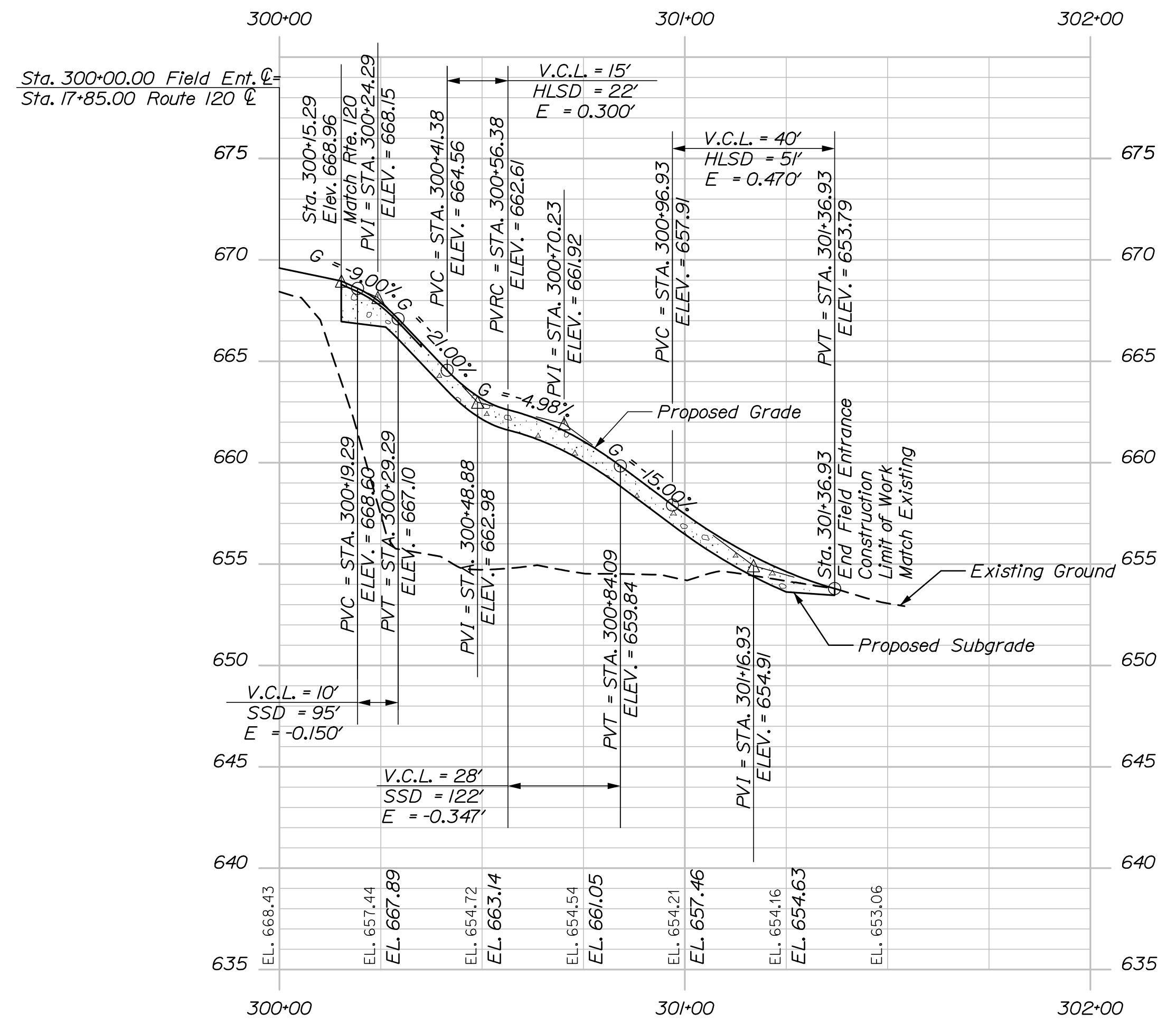
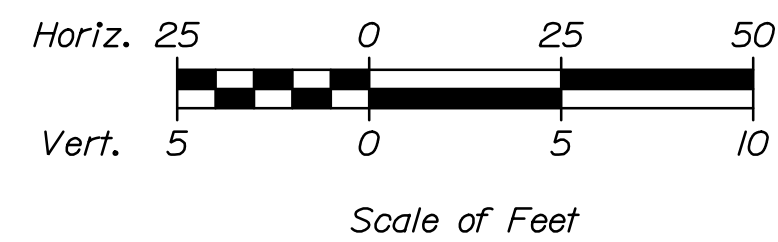


STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
MERRILL BRIDGE		STP-2165(800)	
WEST BRANCH ELLIS RIVER		WIN	
ANDOVER		021658.00	
OXFORD COUNTY		BRIDGE NO. 3215	
PROFILE		BRIDGE PLANS	
SHEET 2 OF 3			
SHEET NUMBER		2	
PROJ. MANAGER	J. KITTRIDGE	BY	S. SCRIBNER
DESIGN-DETAILED	C. HELMICK	DATE	11/18
CHECKED-REVIEWED	L. DRISCOLL	DATE	11/18
DESIGN-DETAILED		SIGNATURE	
REVISIONS 1		P.E. NUMBER	
REVISIONS 2		DATE	
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

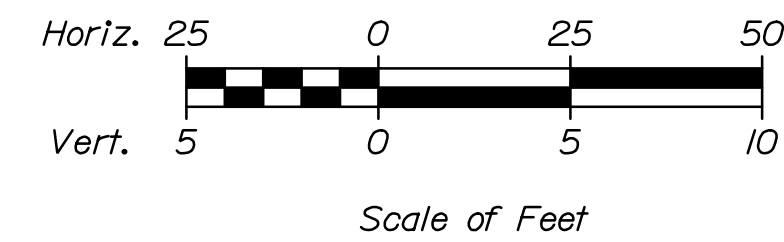




BLAKIE ROAD PROFILE



FIELD ENTRANCE PROFILE



PROJ. MANAGER	J. KITTRIDGE	BY	DATE
DESIGN-DETAILED	C. HELMICK	S. SCRIBNER	11/18
CHECKED-REVIEWED	L. DRISCOLL	R. HANF	11/18
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

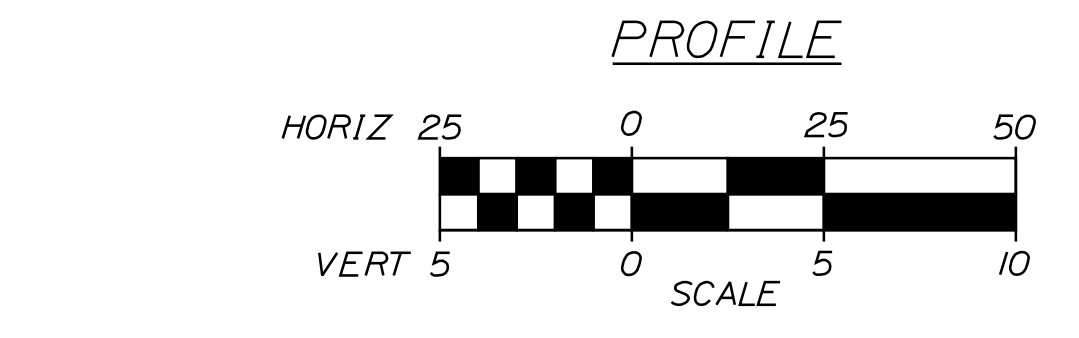
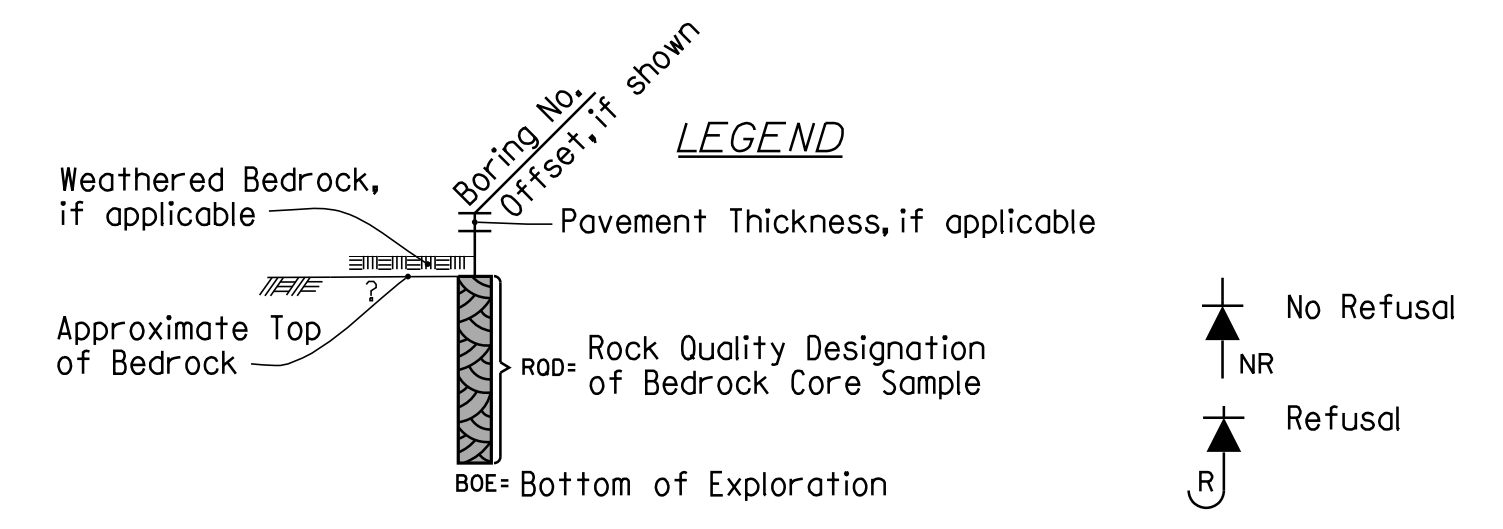
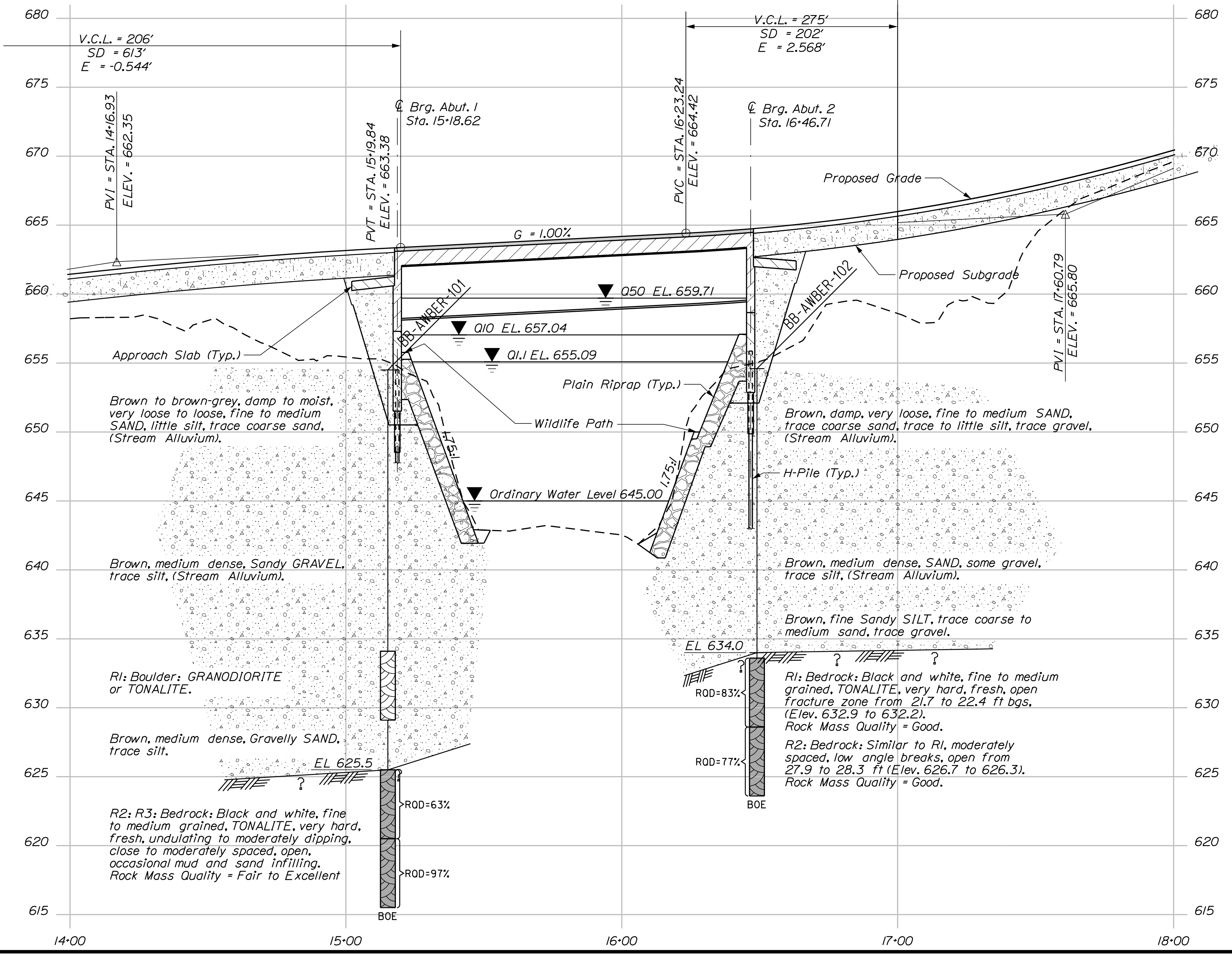
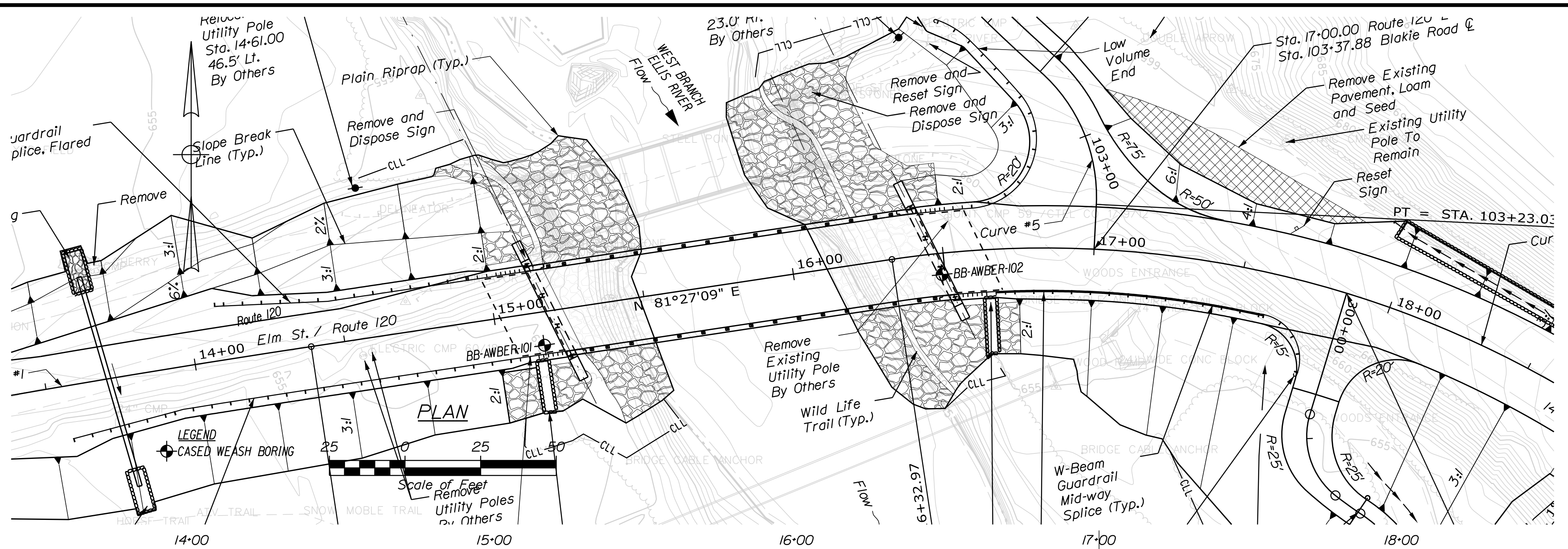
MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
OXFORD COUNTY
ANDOVER
PROFILE
SHEET 3 OF 3

SHEET NUMBER

8

OF 52





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 and bedrock transitions may vary and are probably more erratic. For more specific information refer to the exploration logs.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
MERRILL BRIDGE		STP-2165(800)	
WEST BRANCH ELLIS RIVER		WIN 21658.00	
OXFORD COUNTY		BRIDGE NO. 3215	
ANDOVER		BRIDGE PLANS	
PROJ. MANAGER	BY	DATE	
CHECKED/REVIEWED		SIGNATURE	
DESIGNS DETAILED		P.E. NUMBER	
DESIGNS DETAILED		DATE	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
MERRILL BRIDGE			
WEST BRANCH ELLIS RIVER			
OXFORD COUNTY			
ANDOVER			
BORING LOCATION PLAN & INTERPRETIVE SUBSURFACE PROFILE			
SHEET NUMBER			
9			
OF 52			

Username: Carrett.A.Custafson Date:12/4/2018

Division: BRIDGE

Filename: ... \MSTAN010_BORING LOGS1.dgn

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS		Project: Merrill Bridge #3215 carries Route 120 (EIm St.) over West Location: Andover, Maine		Boring No.: <u>BB-AWBER-101</u>							
Driller: New England Boring Contractors		Elevation (ft.): 654.5		Auger ID/OD: 5" Solid Stem							
Operator: Schoefer/Royal		Datum: NAVD88		Sampler: Standard Split Spoon							
Logged By: Be Schonwald		Rig Type: Mobile Drill B-53		Hammer Wt./Fall: 140#/30"							
Date Start/Finish: 12/14,19/2017		Drilling Method: Cased Wash Boring		Core Barrel: NO-2*							
Boring Location: 15+5.2, 11.0 ft Rt.		Casing ID/OD: HW & NW		Water Level*: Dry, cased 10.6 ft bgs							
Hammer Efficiency Factor: 0.6		Hammer Type: Automatic <input type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input checked="" type="checkbox"/>									
<small> Definitions: R = Rock Core Sample S_u = Peak/Remained Field Vane Undrained Shear Strength (psf) T_v = Pocket Torque Shear Strength (psf) D = Split Spoon Sample SSA = Solid Stem Auger S_u(adj) = Lab Vane Undrained Shear Strength (psf) W = Water Content, percent MD = Unsuccessful Split Spoon Sample Attempt HSA = Hollow Stem Auger q_u = Unconfined Compressive Strength (ksf) LL = Liquid Limit U = Thin Wall Tube Sample RC = Roller Cone Nuncorrected = Raw Field SPT N-value PL = Plastic Limit MU = Unsuccessful Thin Wall Tube Sample Attempt NDI = Weight of 140lb. Hammer Hammer Efficiency Factor = Rig Specific Annual Calibration Value = Plasticity Index V = Field Vane Shear Test. PP = Pocket Penetrometer/C = Weight of Rods or Casing N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency C = Grain Size Analysis NW = Unsuccessful Field Vane Shear Test Attempt WDP = Weight of One Person N₆₀ = Hammer Efficiency Factor/60%Nuncorrected C = Consolidation Test </small>											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in. Strength (psf) or (kg)	Nuncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ASTM and Unified Class
10	24/3	2.00 - 4.00	1/1/1/2	2	2					Brown, damp, very loose, fine to medium SAND, little silt, trace coarse sand. (Alluvium).	
5	20	24/14	5.00 - 7.00	2/3/3/7	6	6	HYD PUSH			Brown-gray, moist, loose, fine to medium SAND, little gravel, little silt, trace coarse sand. (Alluvium).	GW303057 A-2-4, SM WC=10.5%
10	30	24/8	10.00 - 12.00	11/9/9/8	18	18				Brown, medium dense, Sandy GRAVEL, trace silt.	GW303058 A-1-a, GW WC=14.3%
15	40	24/6	15.00 - 17.00	9/8/5/5	13	13				Brown, medium dense, Sandy GRAVEL, trace silt.	
20	MD RI	1.2/0 60/51	20.00 - 20.10 20.40 - 25.40	50(1.2") R00 = ---%	---					Failed sample attempt, granite (pink feldspar-rich) chips in spoon. HW Casing Refusal, roller cone Refusal, set in NW casing at 20.2 ft bgs.	
25	50	24/17	25.40 - 27.40	24/17/12/13	29	29				Pop through Boulder at 24.7 ft bgs. Boulder consists of granodiorite or tonalite. Brown, medium dense, Gravelly SAND, trace silt.	GW303059 A-1-b, SW-SW WC=9.3%
30	R2	60/56	29.00 - 34.00	R00 = 63%						Pulled NW Casing, roller coned through boulder, spin shoe on NW Casing and reinstall at 27.4 ft bgs. Top of Bedrock at Elev. 625.5 ft. R2: Bedrock: Very hard, typically fresh, fine to medium grained, black and white TONALITE, with two 1/2-inch to 1-inch fine grained layers. Close to moderately spaced, moderately dipping and low angle breaks undulating, rough, fresh to discolored, and open, with occasional mud and sand infilling. Open fractures: 29.8 to 29.9, 30.7 to 30.8 and 31.0 to 31.5 ft bgs. Larger open fracture contains rounded gravel pieces of rock. Rock Mass Quality = Fair R2: Core Times (min:sec) 29.0-30.0 ft (1:20) 30.0-31.0 ft (1:10) 31.0-32.0 ft (1:00) 32.0-33.0 ft (1:30) 33.0-34.0 ft (1:30) 93% Recovery	
35	R3	60/58	34.00 - 39.00	R00 = 97%						R3: Bedrock: Similar to R2, except one 2.5-inch thick, moderately dipping, fine grained seam. Rock Mass Quality = Excellent R3: Core Times (min:sec) 34.0-35.0 ft (1:25) 35.0-36.0 ft (1:25) 36.0-37.0 ft (1:25) 37.0-38.0 ft (1:25) 38.0-39.0 ft (1:30) 97% Recovery	
40										Bottom of Exploration at 39.0 feet below ground surface.	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS		Project: Merrill Bridge #3215 carries Route 120 (EIm St.) over West Location: Andover, Maine		Boring No.: <u>BB-AWBER-102</u>							
Driller: New England Boring Contractors		Elevation (ft.): 654.6		Auger ID/OD: 5" Solid Stem							
Operator: Schoefer/Royal		Datum: NAVD88		Sampler: Standard Split Spoon							
Logged By: Be Schonwald		Rig Type: Mobile Drill B-53		Hammer Wt./Fall: 140#/30"							
Date Start/Finish: 12/19-20/2017		Drilling Method: Cased Wash Boring		Core Barrel: NO-2*							
Boring Location: 16+49, 7.1 ft Rt.		Casing ID/OD: HW & NW		Water Level*: None Observed							
Hammer Efficiency Factor: 0.6		Hammer Type: Automatic <input type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input checked="" type="checkbox"/>									
<small> Definitions: R = Rock Core Sample S_u = Peak/Remained Field Vane Undrained Shear Strength (psf) T_v = Pocket Torque Shear Strength (psf) D = Split Spoon Sample SSA = Solid Stem Auger S_u(adj) = Lab Vane Undrained Shear Strength (psf) W = Water Content, percent MD = Unsuccessful Split Spoon Sample Attempt HSA = Hollow Stem Auger q_u = Unconfined Compressive Strength (ksf) LL = Liquid Limit U = Thin Wall Tube Sample RC = Roller Cone Nuncorrected = Raw Field SPT N-value PL = Plastic Limit MU = Unsuccessful Thin Wall Tube Sample Attempt NDI = Weight of 140lb. Hammer Hammer Efficiency Factor = Rig Specific Annual Calibration Value = Plasticity Index V = Field Vane Shear Test. PP = Pocket Penetrometer/C = Weight of Rods or Casing N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency C = Grain Size Analysis NW = Unsuccessful Field Vane Shear Test Attempt WDP = Weight of One Person N₆₀ = Hammer Efficiency Factor/60%Nuncorrected C = Consolidation Test </small>											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in. Strength (psf) or (kg)	Nuncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ASTM and Unified Class
10	24/16	2.00 - 4.00	1/2/1/1	3	3					Brown, damp, very loose, fine to medium SAND, trace to little silt.	
5	20	24/8	5.00 - 7.00	1/1/2/2	3	3	HYD PUSH			Brown, damp, very loose, fine to medium SAND, little silt, trace gravel, trace coarse sand.	GW303060 A-2-4, SM WC=14.7%
10	30	24/4	10.00 - 12.00	10/6/6/5	12	12				Brown, medium dense, GRAVEL, little sand, trace silt. (large piece of gravel wedged in spoon, not representative sample).	
15	40	24/9	15.00 - 17.00	8/11/14/12	25	25				Brown, medium dense, SAND, some gravel, trace silt.	GW303061 A-1-b, SW WC=12.6%
20	50 R1	7.2/7.2 60/60	20.00 - 20.60 21.00 - 26.00	6/50(1.2") R00 = 83%	---					Brown, fine Sandy SILT, trace coarse to medium sand, trace gravel. Top of Bedrock at Elev. 634.0 ft. Roller coned ahead to 21.0 ft bgs. R1: Bedrock: Very hard, fresh, fine to medium grained, black and white TONALITE with quartz-rich veins and flow structure. Open fracture zone from 21.7 to 22.4 ft, otherwise core is single piece. Rock Mass Quality = Good R1: Core Times (min:sec) 21.0-22.0 ft (1:30) 22.0-23.0 ft (1:25) 23.0-24.0 ft (1:40) 24.0-25.0 ft (1:55) 25.0-26.0 ft (1:40) 100% Recovery	GW303062 A-4, CL WC=20.5%
25	R2	60/56	26.00 - 31.00	R00 = 77%						R2: Bedrock: Similar to R1, with feldspar-rich calcillite layer from 27.1 to 27.9 ft. Typically moderately spaced, low angle breaks undulating, rough, discolored and open. Open fracture from 27.9 to 28.3 ft. Rock Mass Quality = Good. R2: Core Times (min:sec) 26.0-27.0 ft (1:20) 27.0-28.0 ft (1:15) 28.0-29.0 ft (1:05) 29.0-30.0 ft (1:20) 30.0-31.0 ft (1:25) 93% Recovery	
30										Bottom of Exploration at 31.0 feet below ground surface.	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY

BORING LOGS

BRIDGE NO. 3215
WIN 21658.00
BRIDGE PLANS

PROJ. MANAGER	DATE
CHECKED-REVIEWED	SIGNATURE
DESIGN-REVIEWED	MAY 2018
DESIGN-DET/ALD/DA/VANBUSKIRK	T. WHITE
DESIGN-DET/ALD/DS	P.E. NUMBER
REVISIONS 1	DATE
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

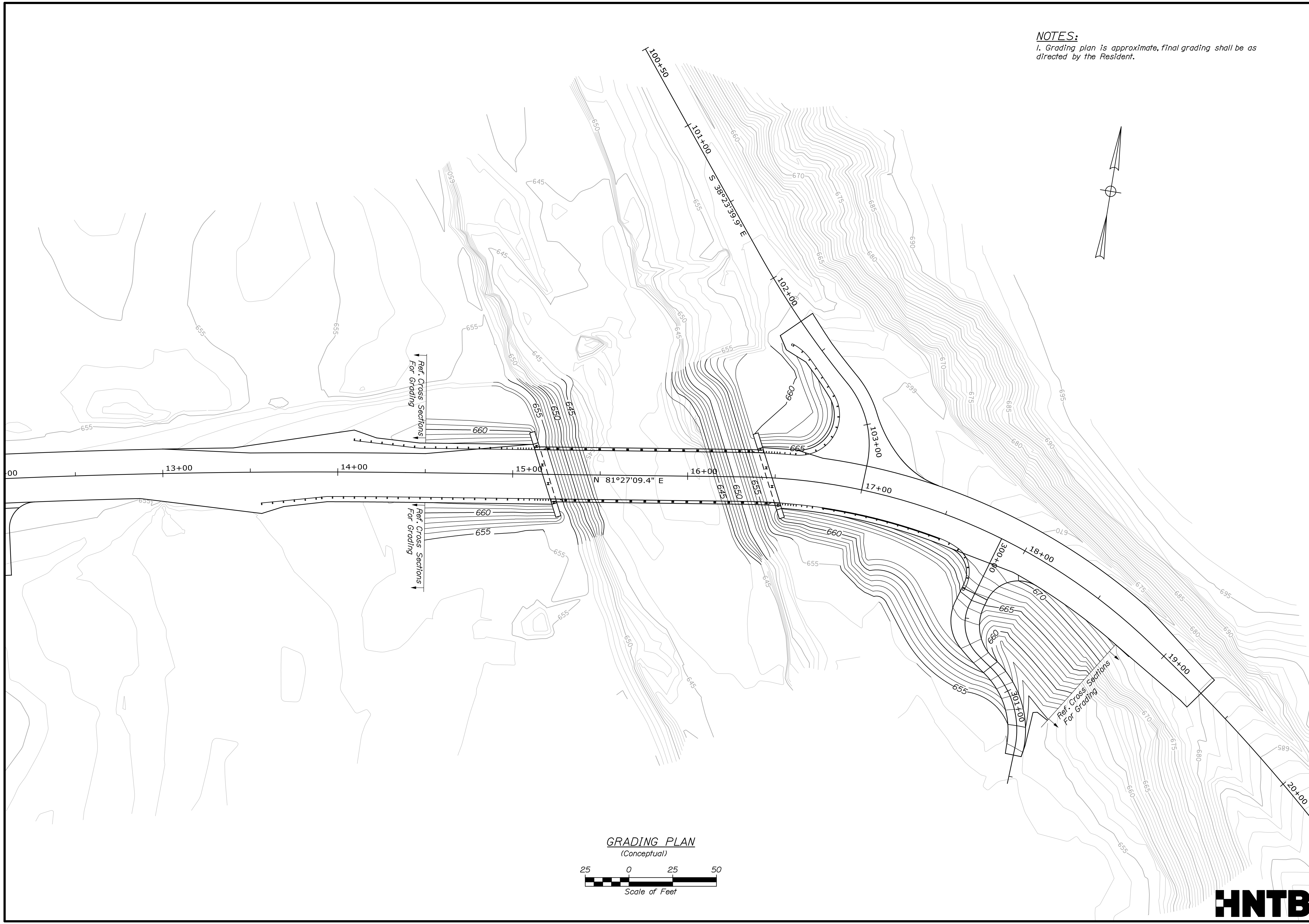
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OF 52

Date: 11/2/2018

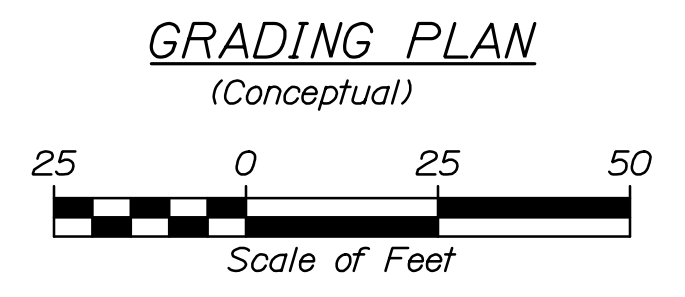
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Division:

Filename: 011_GradingPlan.dgn



NOTES:
 1. Grading plan is approximate, final grading shall be as directed by the Resident.



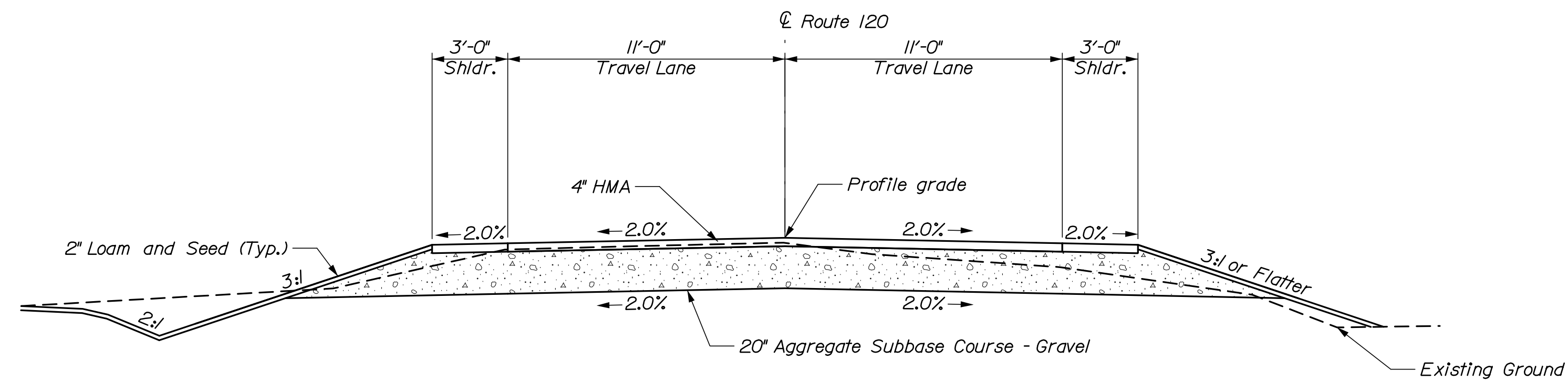
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MERRILL BRIDGE WEST BRANCH ELLIS RIVER ANDOVER OXFORD COUNTY		GRADING PLAN	
SHEET NUMBER		11	
BRIDGE NO. 3215		WIN 021658.00	
BRIDGE PLANS		DATE	
PROJ. MANAGER	J. KITTRIDGE	BY	DATE
DESIGN-DETAILED	C. HELMICK	S. SCRIBNER	11/18
CHECKED-REVIEWED	L. DRISCOLL	R. HANE	11/18
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES		SIGNATURE	
		P.E. NUMBER	
		DATE	

Date: 11/2/2018

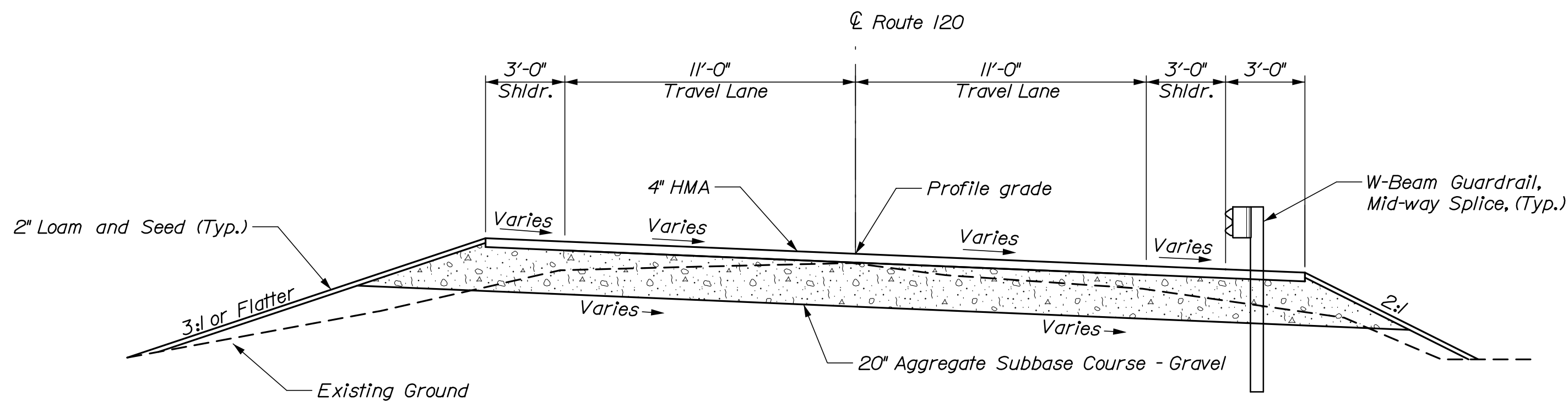
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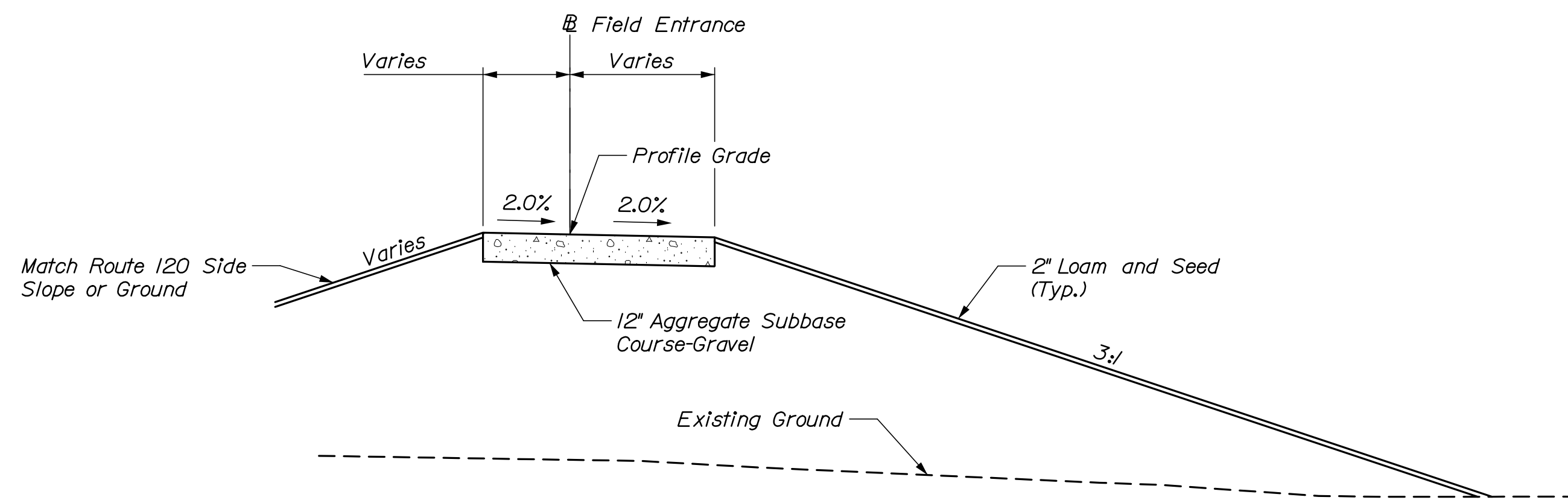
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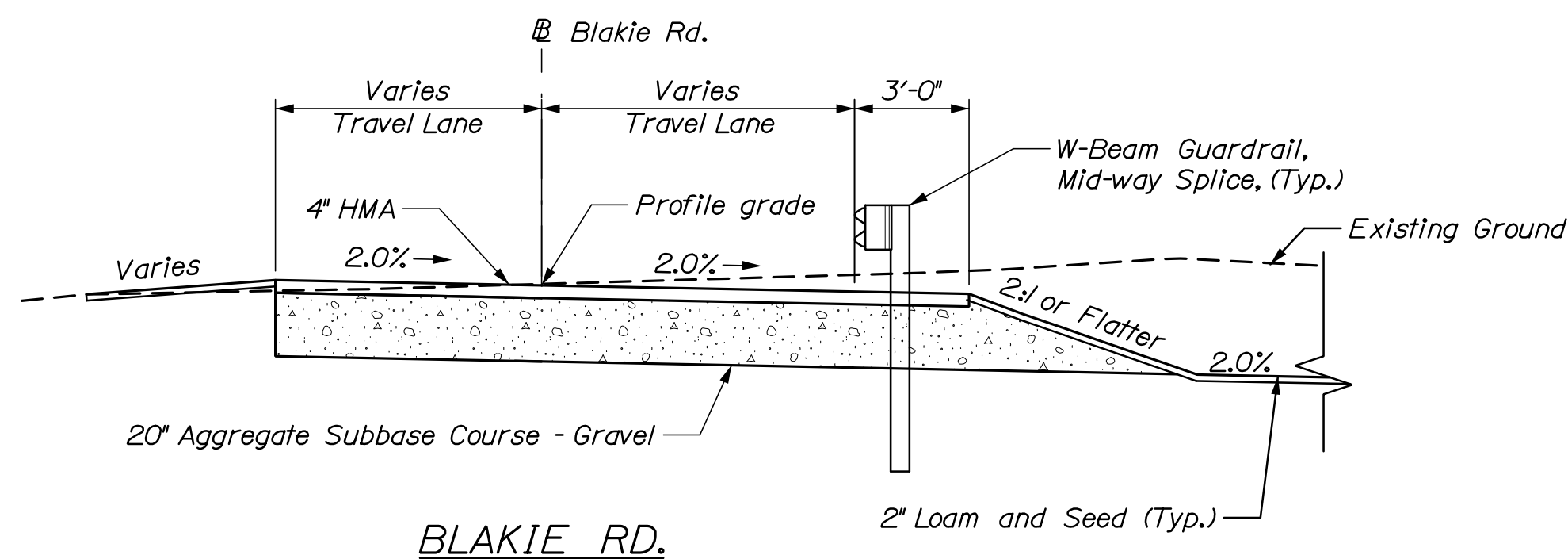
DESIGN SECTION
Normal Crown



DESIGN SECTION
Superelevated



FIELD ENTRANCE SECTION



BLAKIE RD.

Lt. Shoulder	Lt. Travelway	Station	Rt. Travelway	Rt. Shoulder
Match Existing	Match Existing	11+00.00	Match Existing	Match Existing
-4.8%	-4.8%	11+25.00	-4.8%	-4.8%
-3.8%	-3.8%	11+50.00	-3.8%	-3.8%
-2.9%	-2.9%	11+75.00	-2.9%	-2.9%
-2.0%	-2.0%	12+00.00	-2.0%	-2.0%
-2.0%	-2.0%	13+00.00	-2.0%	-2.0%
-2.0%	-1.2%	13+25.00	-2.0%	-2.0%
-2.0%	-0.4%	13+50.00	-2.0%	-2.0%
-2.0%	0.3%	13+75.00	-2.0%	-2.0%
-2.0%	1.1%	14+00.00	-2.0%	-2.0%
-2.0%	1.9%	14+25.00	-2.0%	-2.0%
-2.0%	2.7%	14+50.00	-2.7%	-2.7%
1.1%	3.4%	14+75.00	-3.4%	-3.4%
4.2%	4.2%	15+00.00	-4.2%	-4.2%
4.2%	4.2%	18+00.00	-4.2%	-4.2%
3.4%	3.4%	18+25.00	-5.5%	-5.5%
2.5%	2.5%	18+50.00	-6.6%	-6.6%
1.7%	1.7%	18+75.00	-7.4%	-7.4%
0.8%	0.8%	19+00.00	-8.9%	-8.9%
Match Existing	Match Existing	19+25.00	Match Existing	Match Existing

NOTES:

- The pavement, base and subbase depths as shown on the plans are intended to be nominal.
- When superelevation exceeds the slope of the low side shoulder, the low side shoulder's pavement shall have the same cross slope as the travel way.
- Crowns for both normal and superelevation sections for all courses of subbase and pavement shall be straight, unless otherwise noted on the plans.
- The algebraic difference between shoulder and travel lane cross slopes "rollover" shall not exceed 8%.

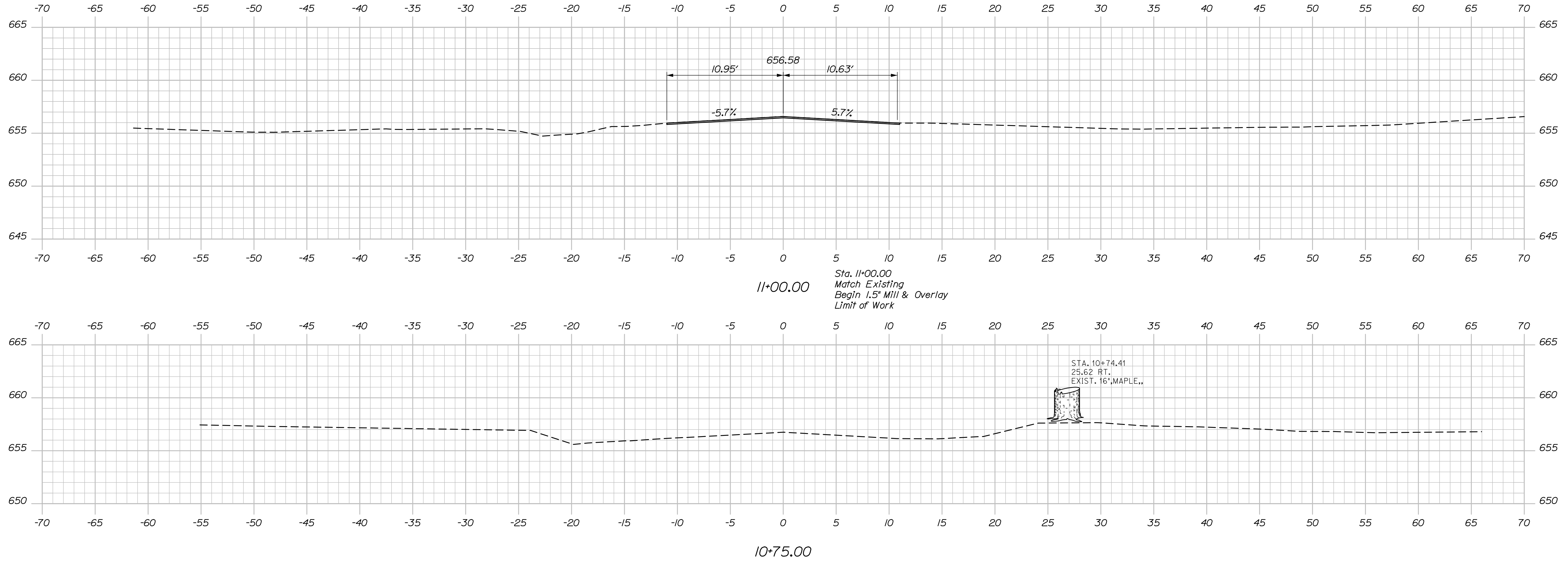
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MERRILL BRIDGE		WEST BRANCH ELLIS RIVER		OXFORD COUNTY		ANDOVER		TYPICAL SECTIONS		SHEET NUMBER		12	
PROJ. MANAGER		BY		DATE		DESIGN-DETAILED		CHECKED-REVIEWED		DESIGN-DETAILED		REVISIONS	
J. KITTRIDGE		C. HELMICK S. SCRIBNER L. DRISCOLL R. HANE		11/18		-		-		-		1	
SIGNATURE		P.E. NUMBER		DATE		-		-		-		-	
FIELD CHANGES		-		-		-		-		-		-	

Date:11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	DATE
DESIGN-DETAILED	C. HELMICK	S. SCRIBNER	11/18
CHECKED-REVIEWED	L. DRISCOLL	R. HANE	11/18
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

SHEET NUMBER

13

OF 52



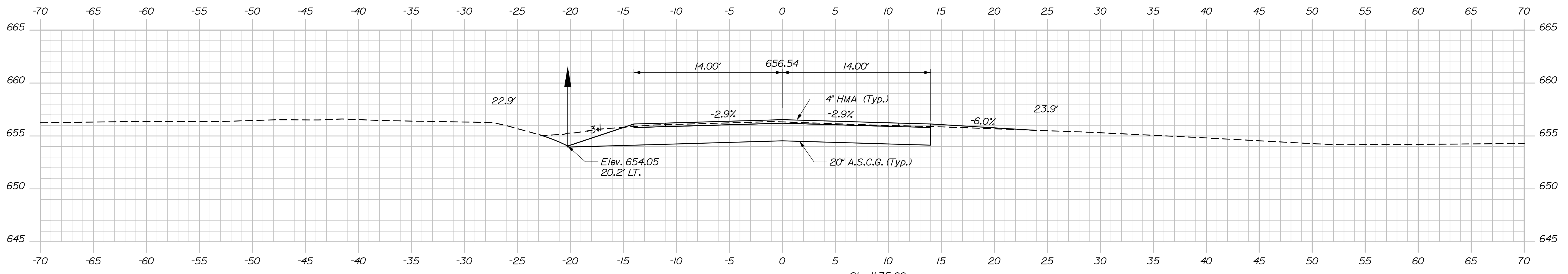
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Date: 11/2/2018

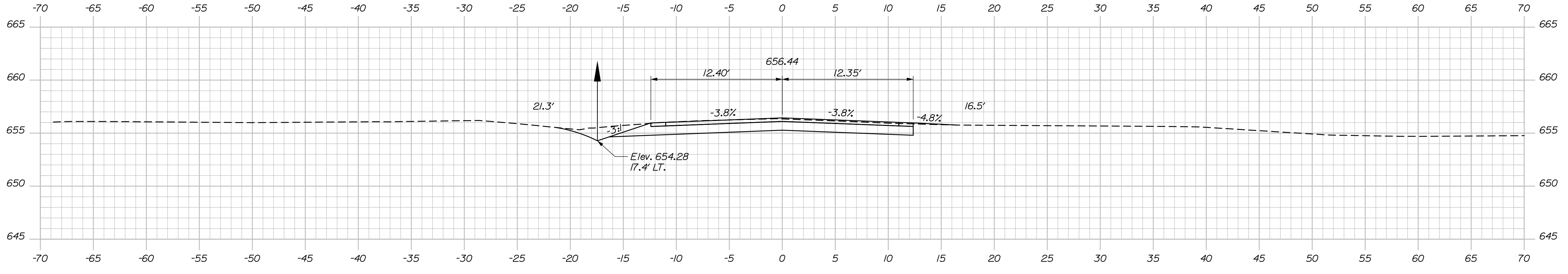
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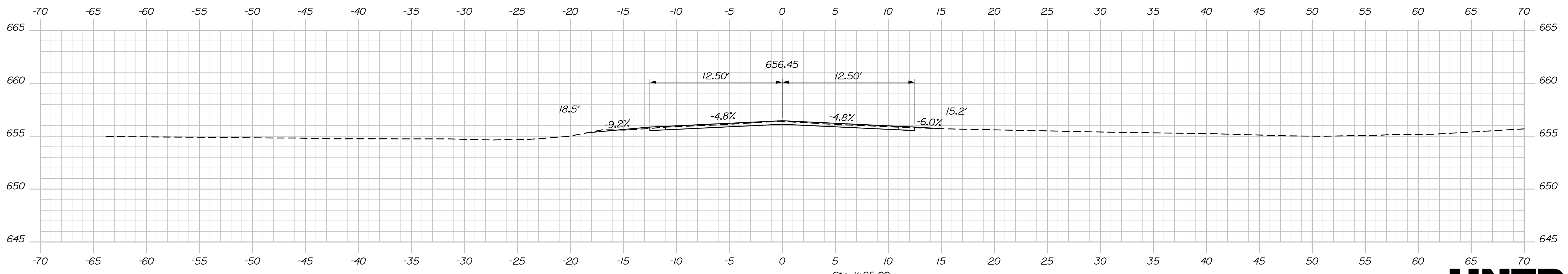
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11+75.00
 Sta. 11+75.00
 End Transition
 Begin Project
 WIN 021658.00



11+50.00



11+25.00
 Sta. 11+25.00
 End 1.5\"/>

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 STP-2165(800)
 WIN 021658.00
 BRIDGE NO. 3215 BRIDGE PLANS

DESIGNED	DATE
CHECKED	11/18
DESIGNED	11/18
DESIGNED	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

PROJ. MANAGER	BY	DATE
J. KITTRIDGE	S. SCRIBNER	11/18
DESIGNED	C. HELMICK	
CHECKED	L. DRISCOLL	
DESIGNED	R. HANE	
DESIGNED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

MERRILL BRIDGE
 WEST BRANCH ELLIS RIVER
 ANDOVER OXFORD COUNTY
 CROSS SECTIONS
 ROUTE 120

SHEET NUMBER
 14
 OF 52



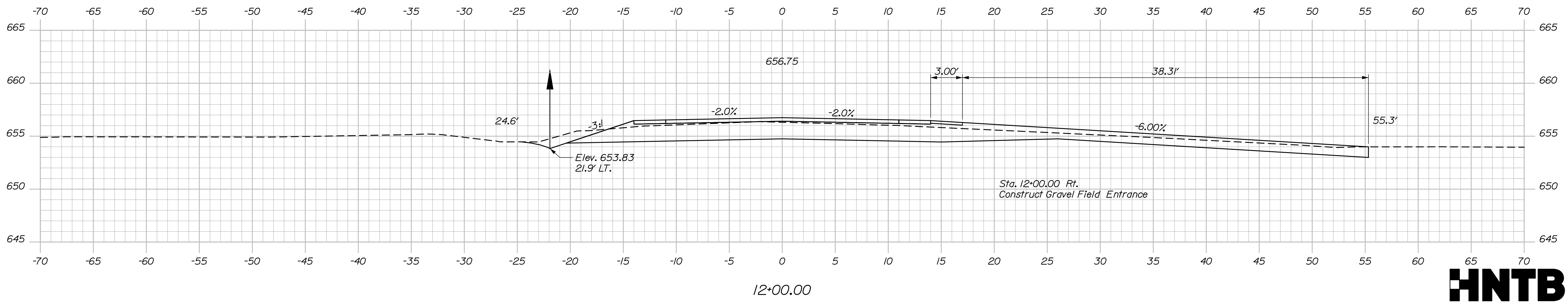
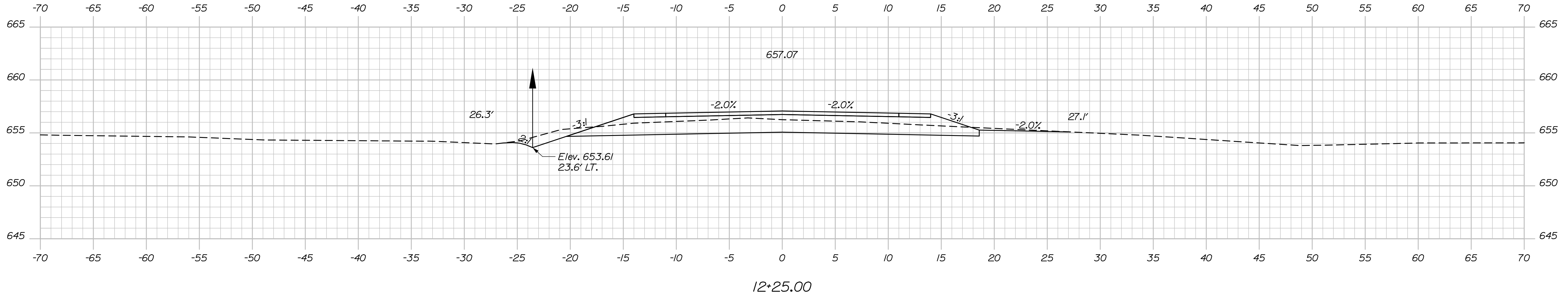
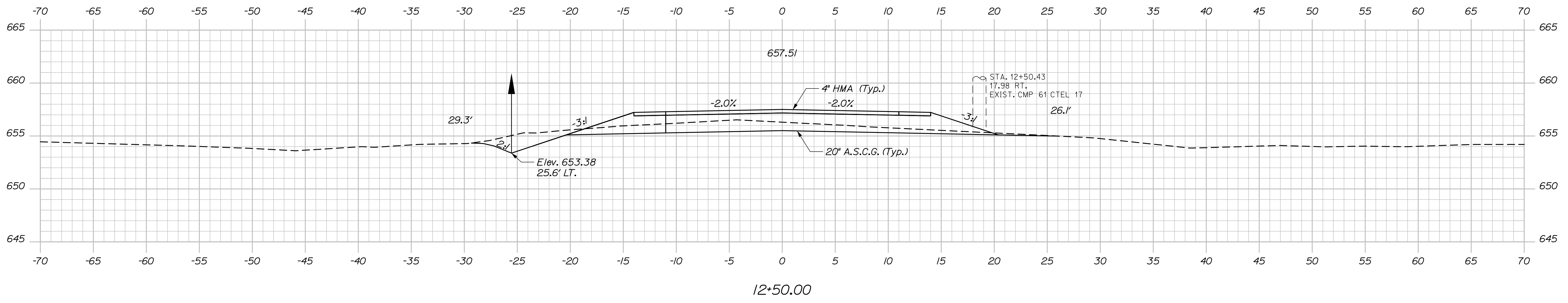
Sta. 11+25.00 to Sta. 11+75.00

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

BRIDGE NO. 3215
WIN
021658.00

PROJ. MANAGER	DATE	BY	DATE
J. KITTRIDGE	11/18	S. SCRIBNER	11/18
CHEKED-REVIEWED		C. HELMICK	
DESIGN-REVIEWED		L. DRISCOLL	
DESIGN-DETAILED		R. HANE	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

SHEET NUMBER
15
OF 52



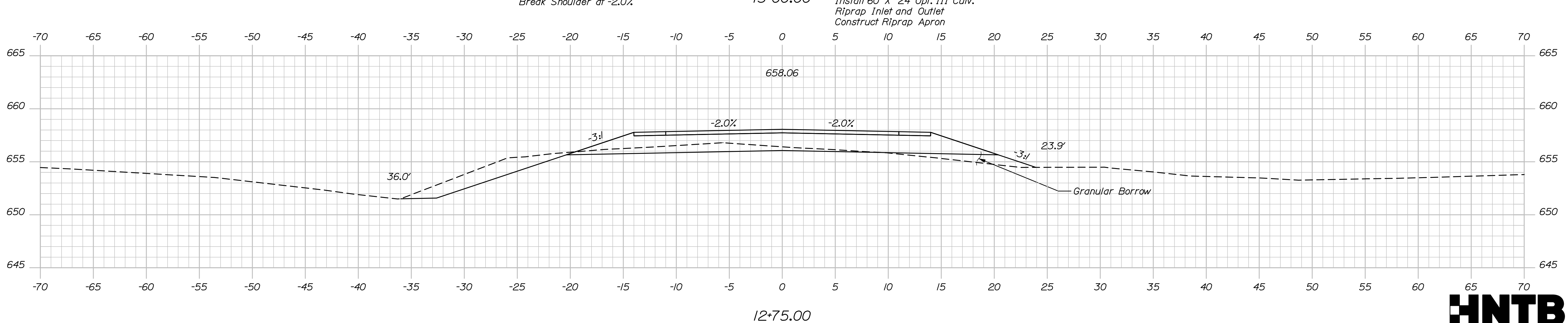
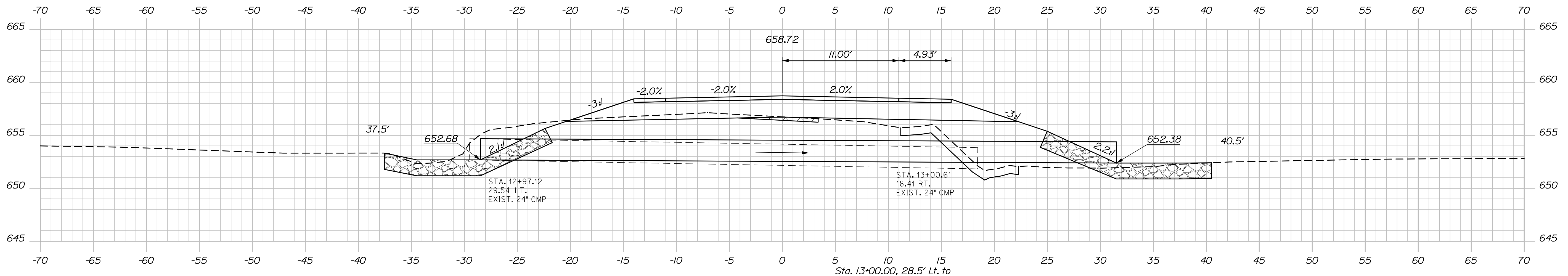
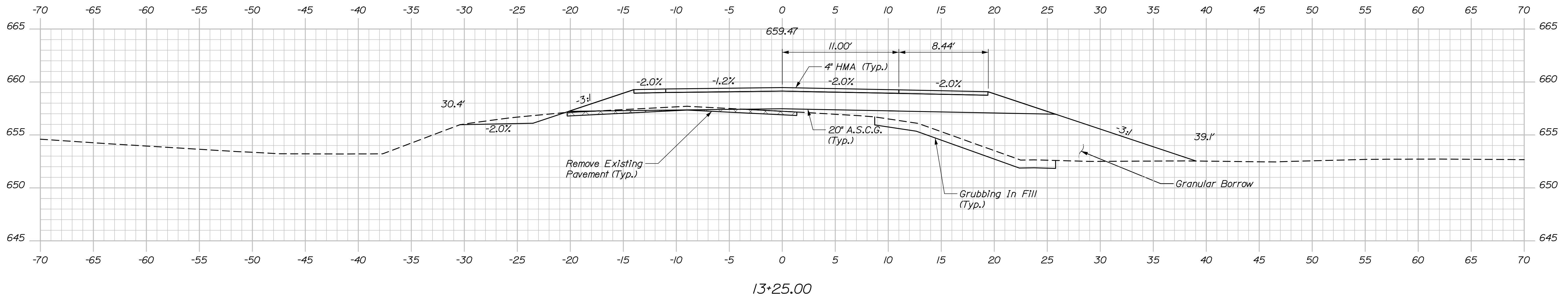
Sta. 12+00.00 to Sta. 12+50.00

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

DATE	11/18	SIGNATURE
BY	S. SCRIBNER	P.E. NUMBER
PROJ. MANAGER	J. KITTRIDGE	DATE

DESIGN-DETAILED	C. HELMICK	REVISIONS 1	
CHECKED-REVIEWED	L. DRISCOLL	REVISIONS 2	
DESIGN-DETAILED		REVISIONS 3	
DESIGN-DETAILED		REVISIONS 4	
FIELD CHANGES			

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

SHEET NUMBER
16
OF 52



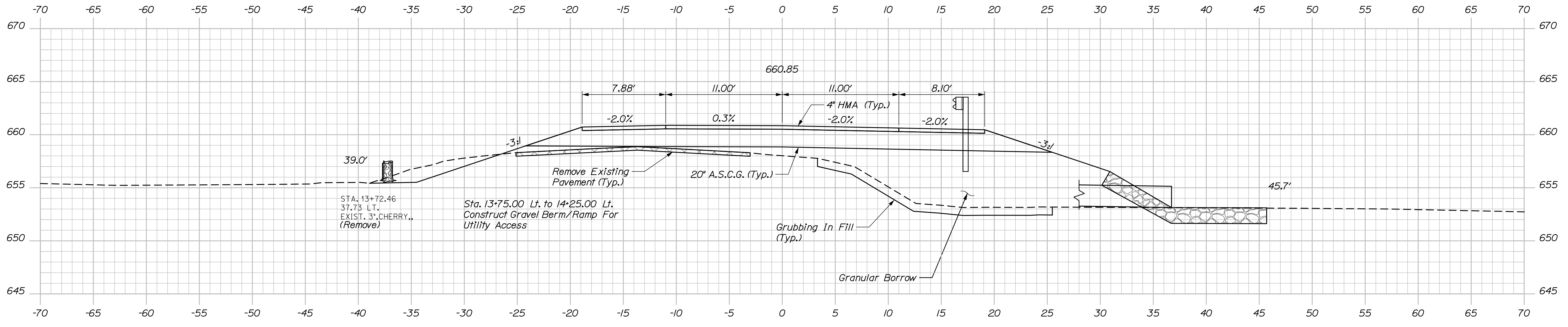
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Date: 11/2/2018

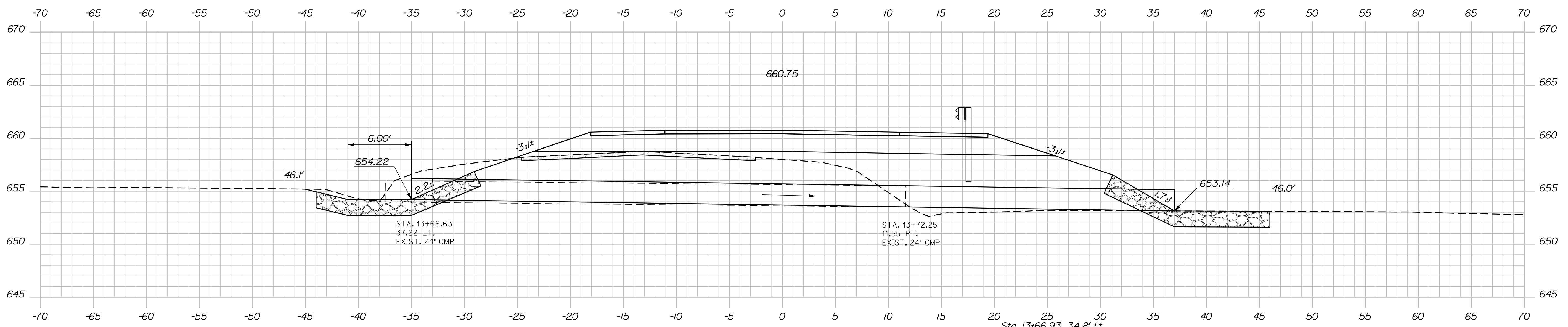
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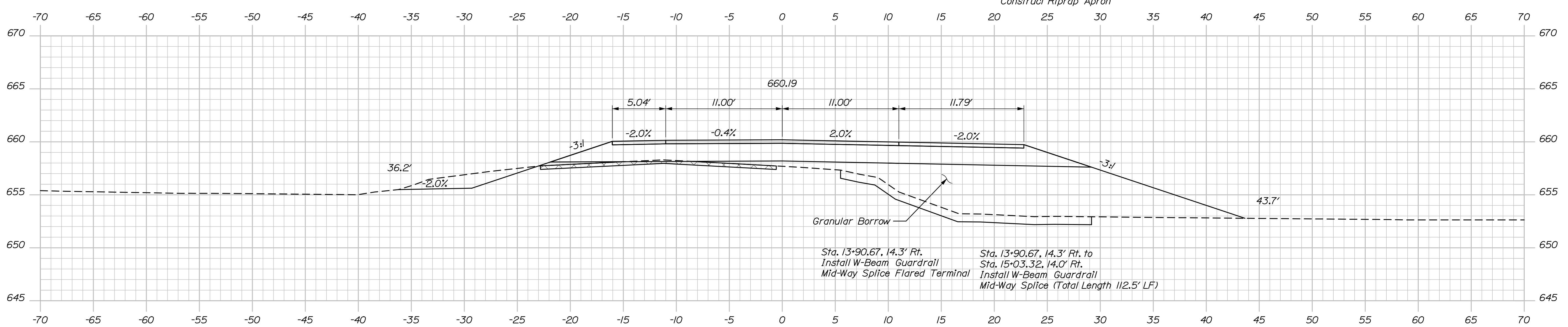
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13+75.00



13+71.00 (SKEWED)



13+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/8	SIGNATURE
DESIGN-DETAILED	L. DRISCOLL	DESIGNED	R. HANE			
CHECKED-REVIEWED		DESIGNED-DETAILED				
REVISIONS 1		REVISIONS 1				P.E. NUMBER
REVISIONS 2		REVISIONS 2				DATE
REVISIONS 3		REVISIONS 3				
REVISIONS 4		REVISIONS 4				
FIELD CHANGES		FIELD CHANGES				

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/8	SIGNATURE
DESIGN-DETAILED	L. DRISCOLL	DESIGNED	R. HANE			
CHECKED-REVIEWED		DESIGNED-DETAILED				
REVISIONS 1		REVISIONS 1				P.E. NUMBER
REVISIONS 2		REVISIONS 2				DATE
REVISIONS 3		REVISIONS 3				
REVISIONS 4		REVISIONS 4				
FIELD CHANGES		FIELD CHANGES				

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

SHEET NUMBER
17
OF 52



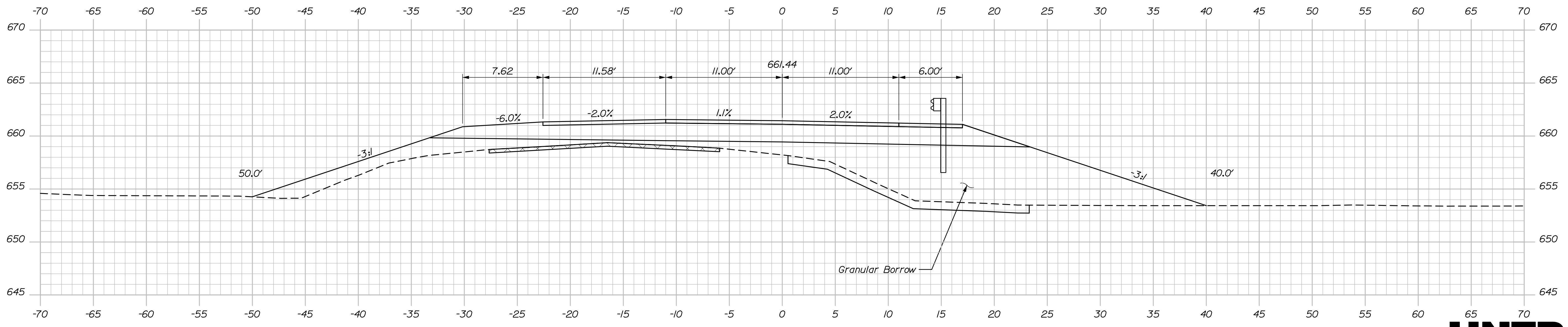
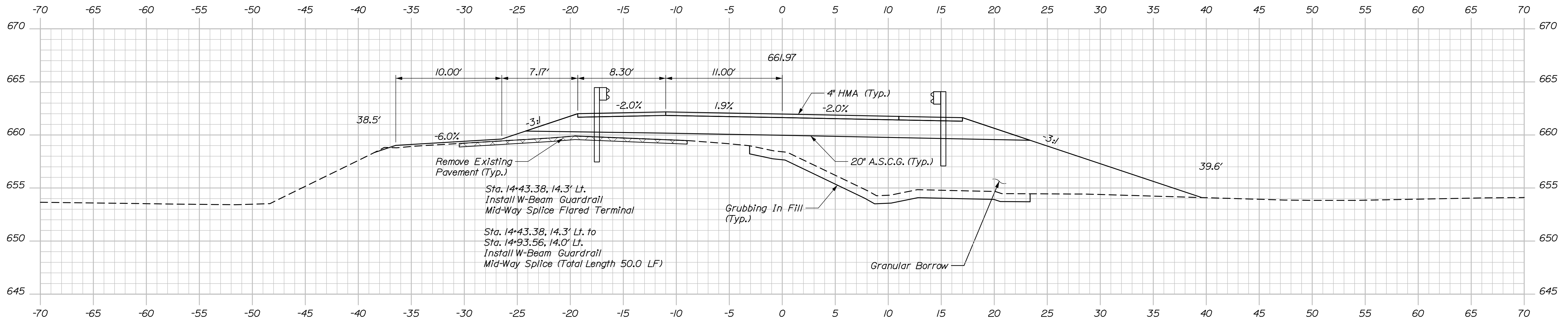
Sta. 13+50.00 to Sta. 13+75.00

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



Sta. 14+00.00 to Sta. 14+25.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/18
DESIGN-DETAILED	C. HELMICK	CHECKED-REVIEWED	S. SCRIBNER	DATE	11/18
DESIGN-DETAILED	L. DRISCOLL	DESIGN-DETAILED	R. HANE	SIGNATURE	
REVISIONS 1		REVISIONS 1		P.E. NUMBER	
REVISIONS 2		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES					

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/18
DESIGN-DETAILED	C. HELMICK	CHECKED-REVIEWED	S. SCRIBNER	DATE	11/18
DESIGN-DETAILED	L. DRISCOLL	DESIGN-DETAILED	R. HANE	SIGNATURE	
REVISIONS 1		REVISIONS 1		P.E. NUMBER	
REVISIONS 2		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES					

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

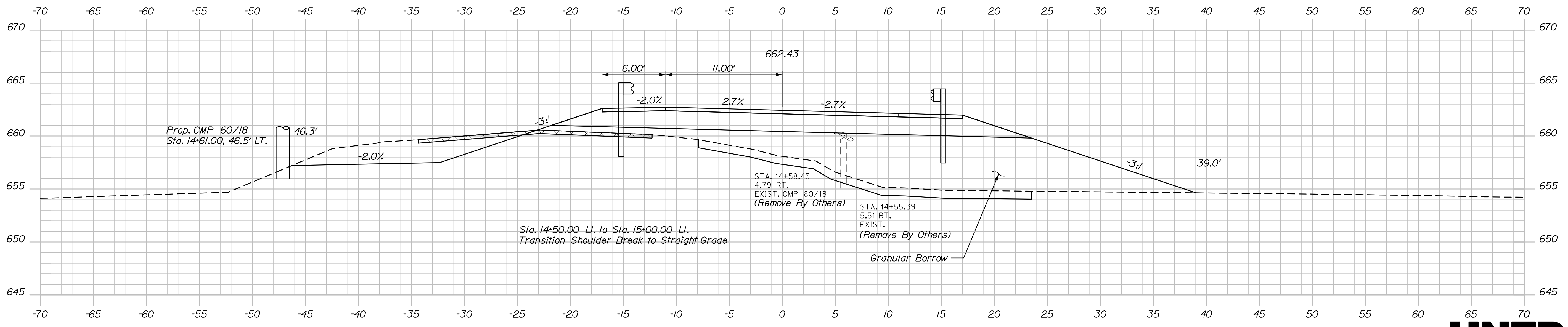
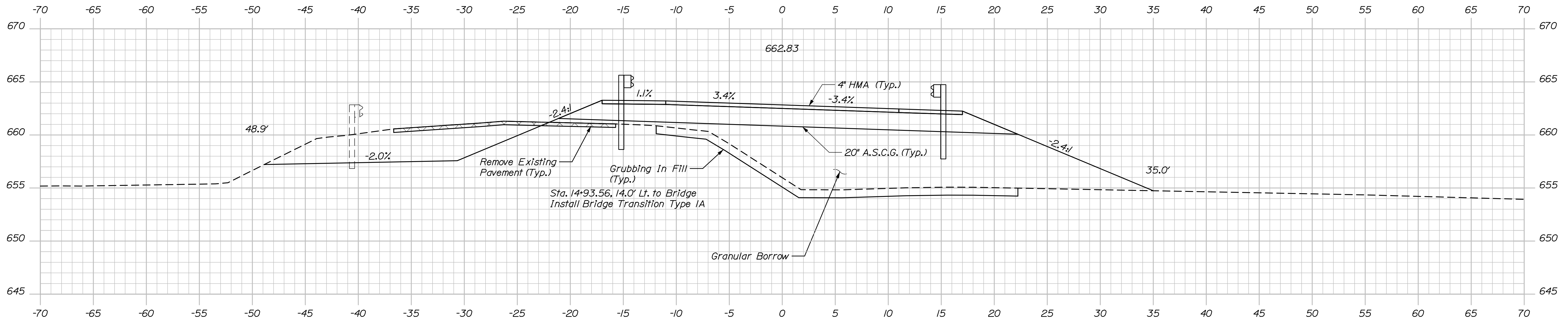
SHEET NUMBER
18
OF 52

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/18
DESIGN-DETAILED	L. DRISCOLL	CHECKED-REVIEWED	S. SCRIBNER	DATE	11/18
DESIGN-DETAILED		DESIGN-DETAILED	R. HANE	SIGNATURE	
REVISIONS 1		REVISIONS 1		P.E. NUMBER	
REVISIONS 2		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES					

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
OXFORD COUNTY
ANDOVER
CROSS SECTIONS
ROUTE 120

SHEET NUMBER
19
OF 52

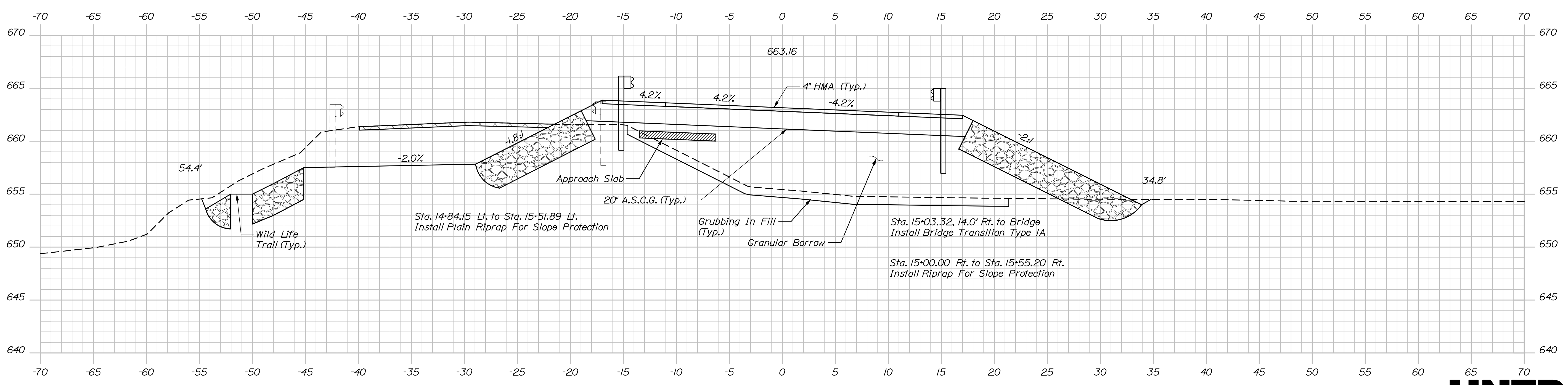
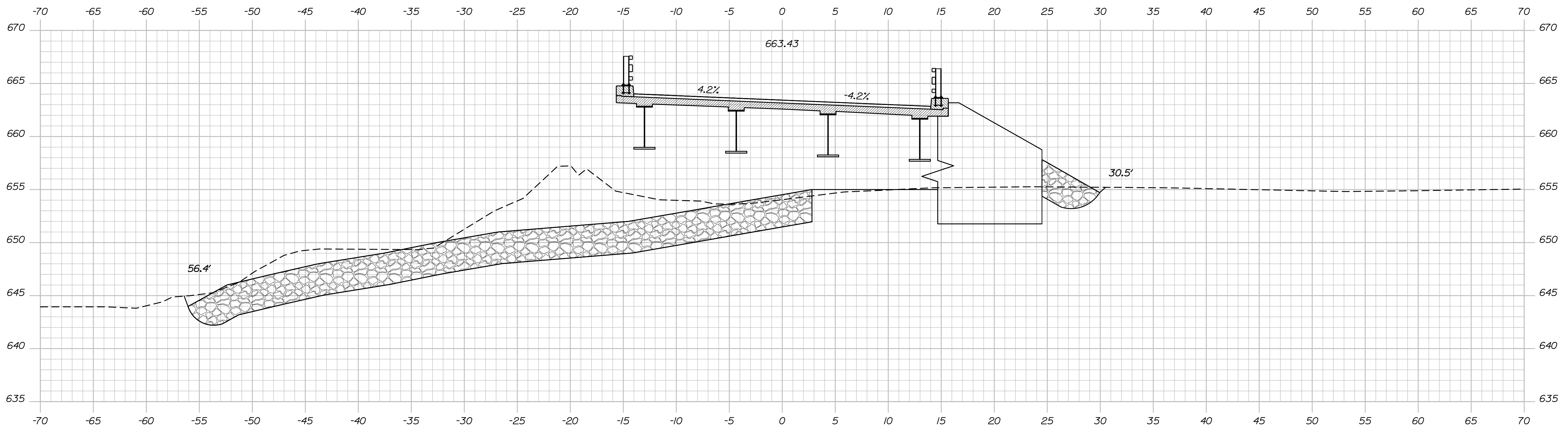
Sta. 14+25.00 to Sta. 14+75.00

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/18
DESIGN-DETAILED	S. SCRIBNER	CHECKED-REVIEWED	L. DRISCOLL	DATE	11/18
DESIGN-DETAILED		DESIGN-DETAILED			
REVISIONS 1		REVISIONS 1			
REVISIONS 2		REVISIONS 2			
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES		FIELD CHANGES			

SIGNATURE	
P.E. NUMBER	
DATE	

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
OXFORD COUNTY
ANDOVER
CROSS SECTIONS
ROUTE 120

SHEET NUMBER
20
OF 52



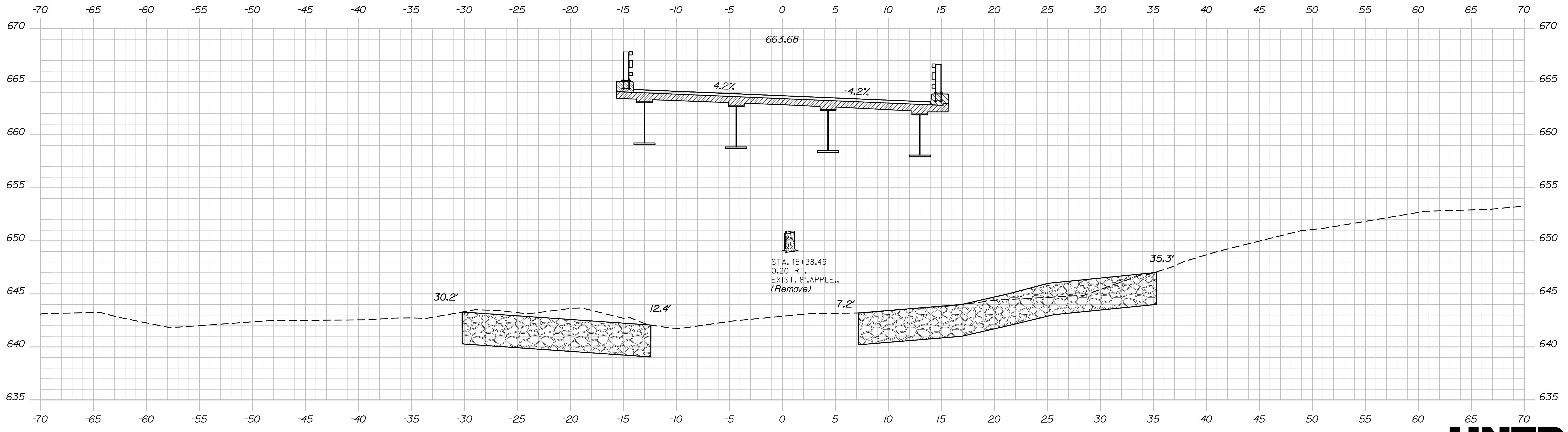
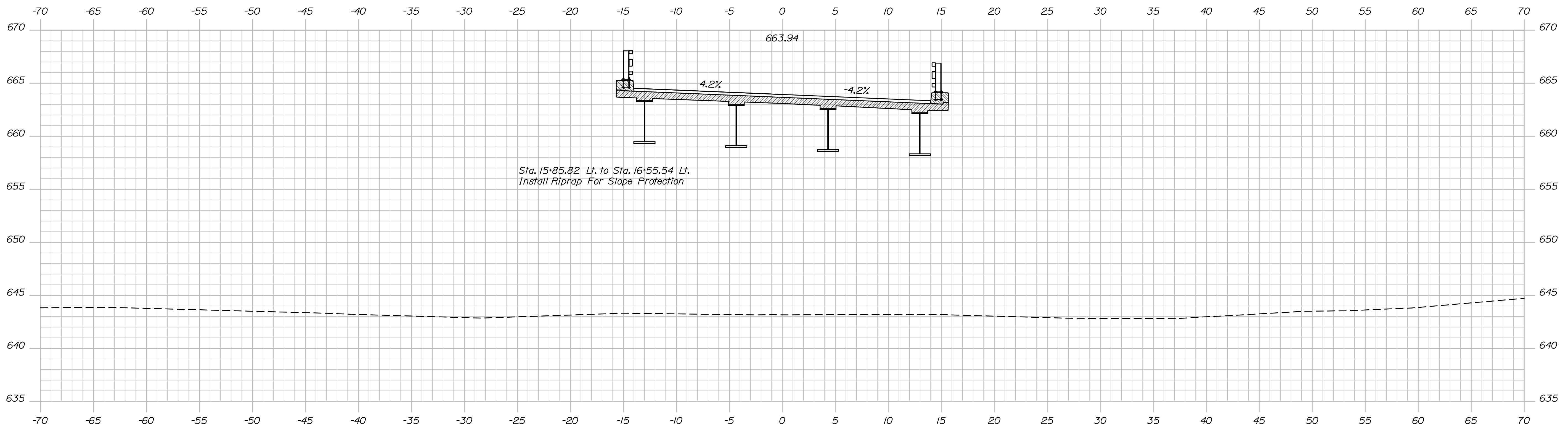
Sta. 15+00.00 to Sta. 15+25.00

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/8
DESIGN-DETAILED	L. DRISCOLL	CHECKED-REVIEWED	S. SCRIBNER	DATE	11/8
DESIGN-DETAILED		DESIGN-DETAILED		SIGNATURE	
REVISIONS 1		REVISIONS 1		P.E. NUMBER	
REVISIONS 2		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES		FIELD CHANGES			

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

SHEET NUMBER
21
OF 52



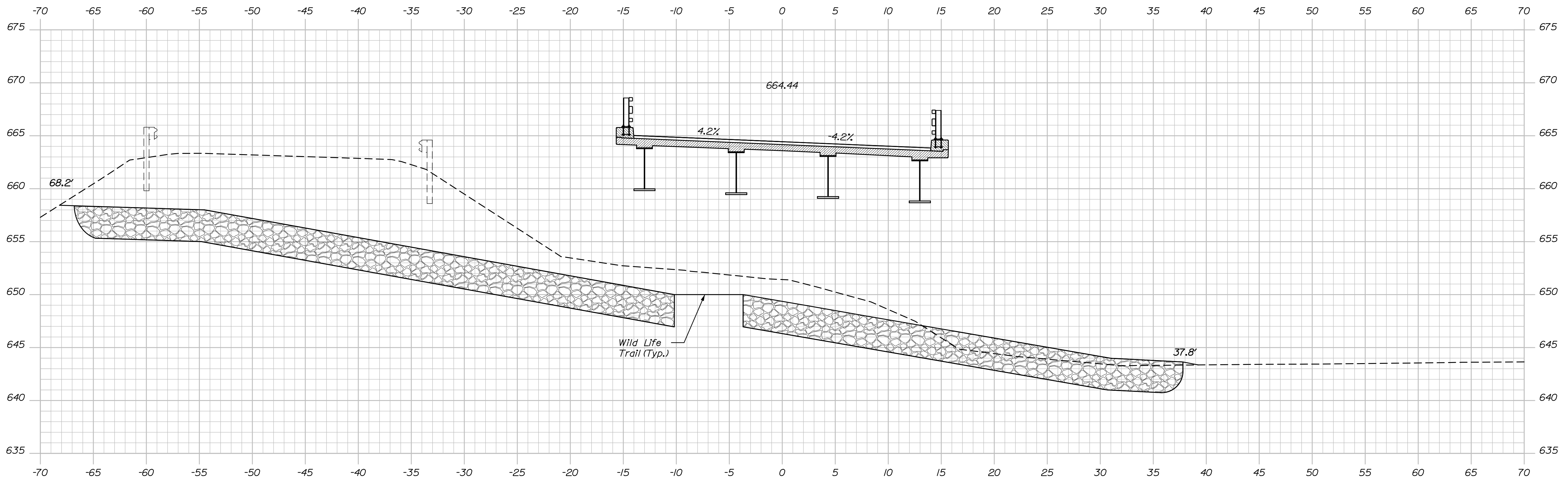
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Date: 11/2/2018

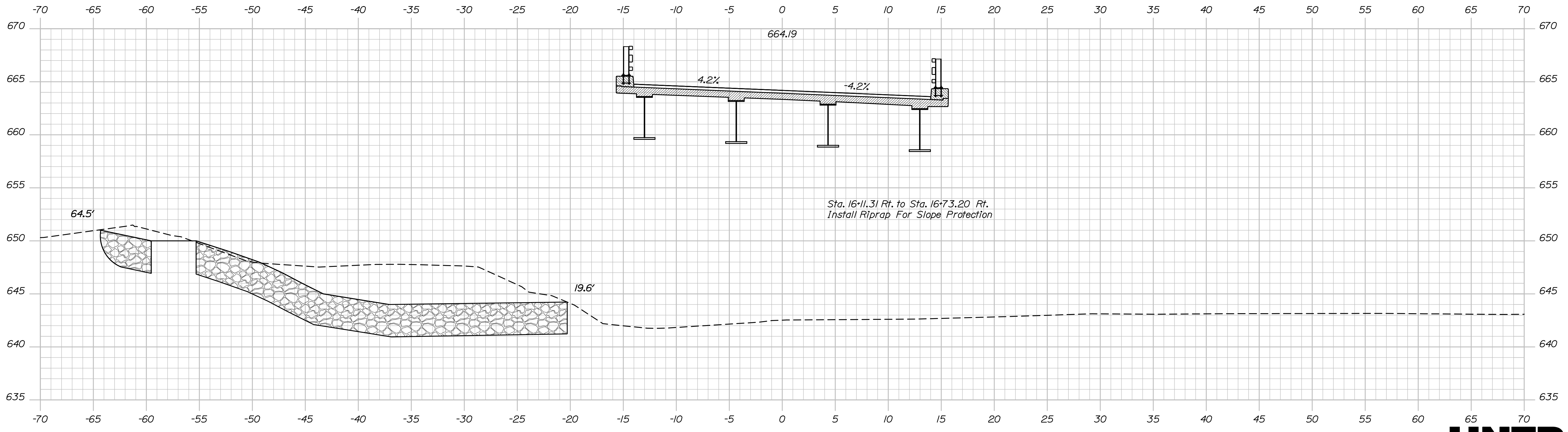
Username:

Division:

Filename: XSect_Mainline.dgn



16+25.00



16+00.00



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	DATE
DESIGN-DETAILED	C. HELMICK	S. SCRIBNER	11/8
CHECKED-REVIEWED	L. DRISCOLL	R. HANE	11/8
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

SHEET NUMBER
22
OF 52

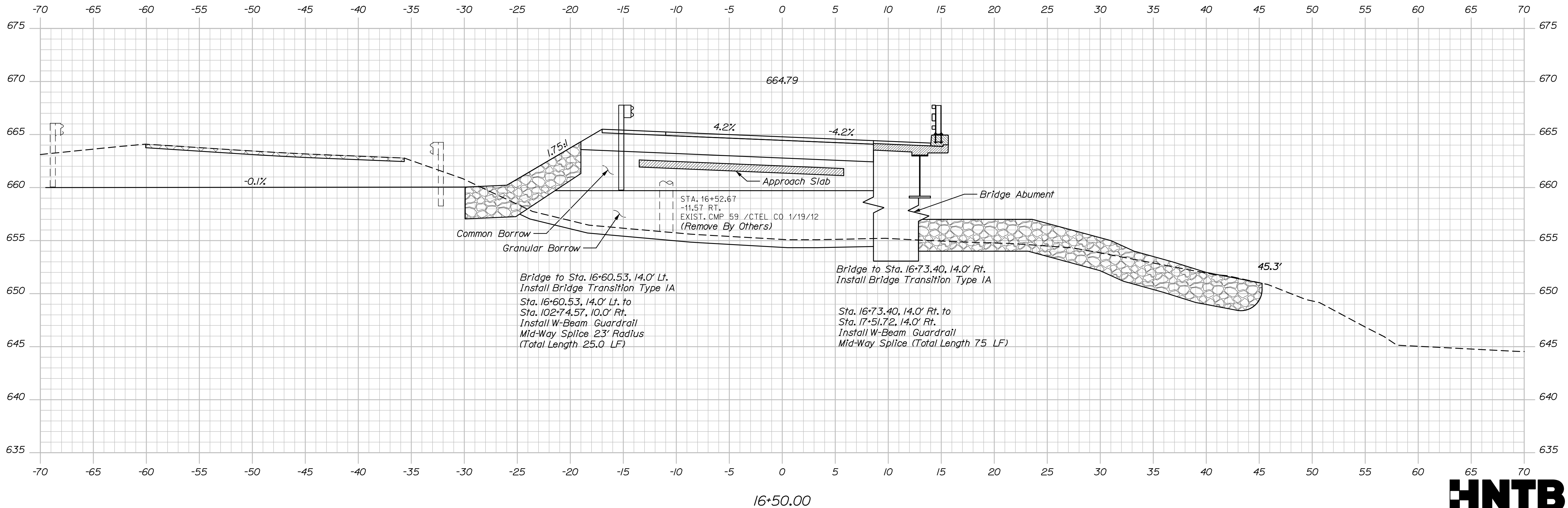
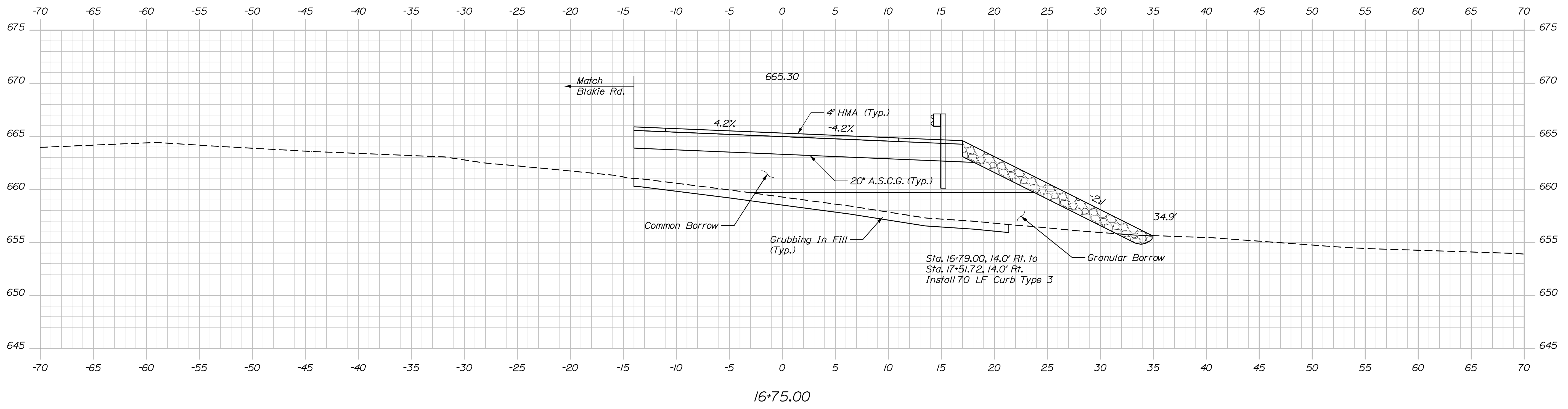
Sta. 16+00.00 to Sta. 16+25.00

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/8
DESIGN-DETAILED	S. SCRIBNER	CHECKED-REVIEWED	L. DRISCOLL	DATE	11/8
DESIGN-DETAILED		DESIGN-DETAILED		SIGNATURE	
REVISIONS 1		REVISIONS 1		P.E. NUMBER	
REVISIONS 2		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES					

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/8
DESIGN-DETAILED	S. SCRIBNER	CHECKED-REVIEWED	L. DRISCOLL	DATE	11/8
DESIGN-DETAILED		DESIGN-DETAILED		SIGNATURE	
REVISIONS 1		REVISIONS 1		P.E. NUMBER	
REVISIONS 2		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES					

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

SHEET NUMBER
23
OF 52

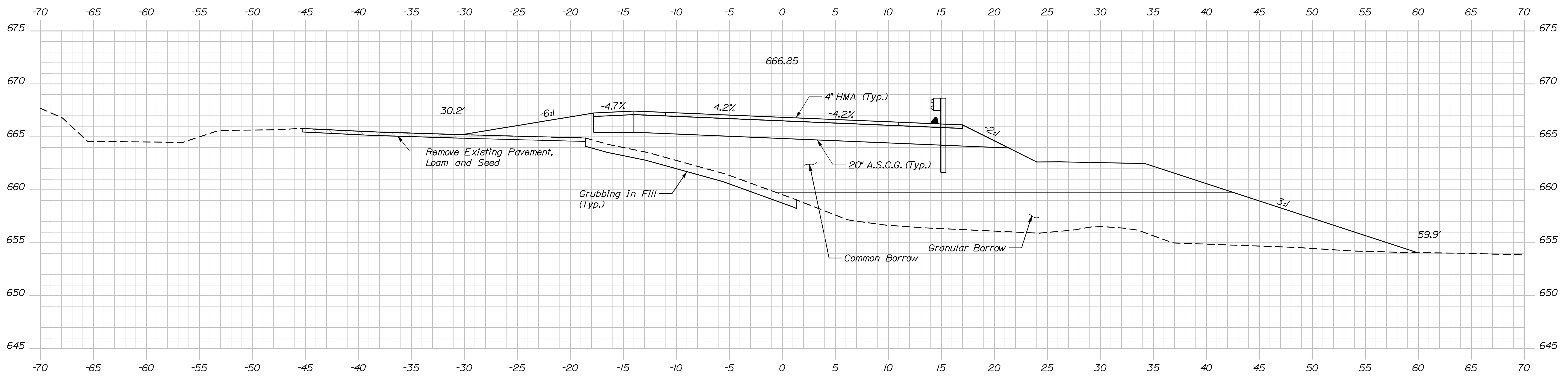
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Date: 11/2/2018

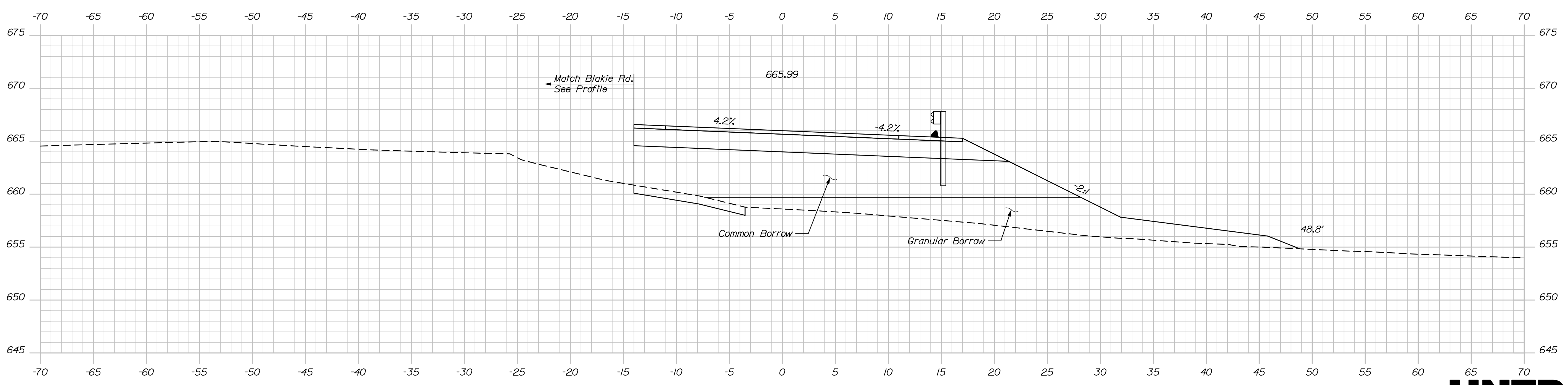
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Division:

Filename: XSect_Mainline.dgn



17+25.00



17+00.00



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

PROJ. MANAGER	J. KITTRIDGE	DATE	11/18
DESIGN-DETAILED	C. HELMICK	BY	S. SCRIBNER
CHECKED-REVIEWED	L. DRISCOLL	DATE	11/18
DESIGN-DETAILED		BY	
REVISIONS 1		DATE	
REVISIONS 2		DATE	
REVISIONS 3		DATE	
REVISIONS 4		DATE	
FIELD CHANGES		DATE	

SIGNATURE	
P.E. NUMBER	
DATE	

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

SHEET NUMBER

24

OF 52

BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS

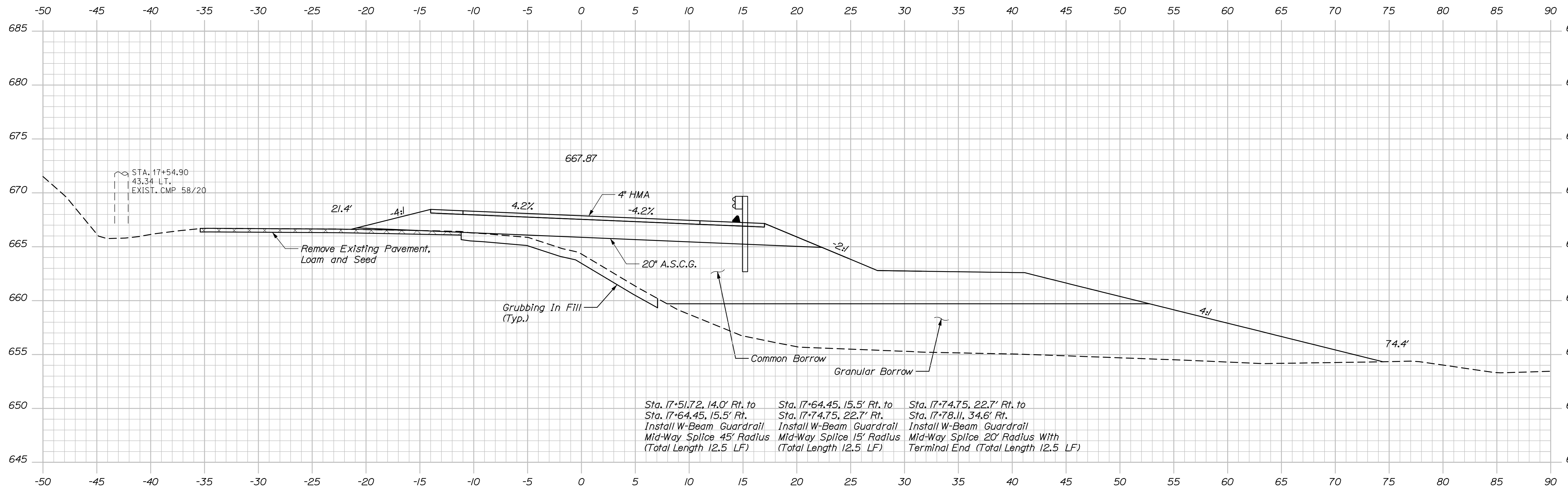
Sta. 17+00.00 to Sta. 17+25.00

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



Sta. 17+51.72, 14.0' Rt. to Sta. 17+64.45, 15.5' Rt. Install W-Beam Guardrail Mid-Way Splice 45' Radius (Total Length 12.5 LF)

Sta. 17+64.45, 15.5' Rt. to Sta. 17+74.75, 22.7' Rt. Install W-Beam Guardrail Mid-Way Splice 15' Radius (Total Length 12.5 LF)

Sta. 17+74.75, 22.7' Rt. to Sta. 17+78.11, 34.6' Rt. Install W-Beam Guardrail Mid-Way Splice 20' Radius With Terminal End (Total Length 12.5 LF)

17+50.00



Sta. 17+50.00 to Sta. 17+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	S. SCRIBNER	DATE	11/18
DESIGN-DETAILED	C. HELMICK	CHECKED-REVIEWED	L. DRISCOLL	SIGNATURE	
DESIGNS-DETAILED		DESIGNS-DETAILED		P.E. NUMBER	
REVISIONS 1		REVISIONS 1		DATE	
REVISIONS 2		REVISIONS 2			
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES					

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

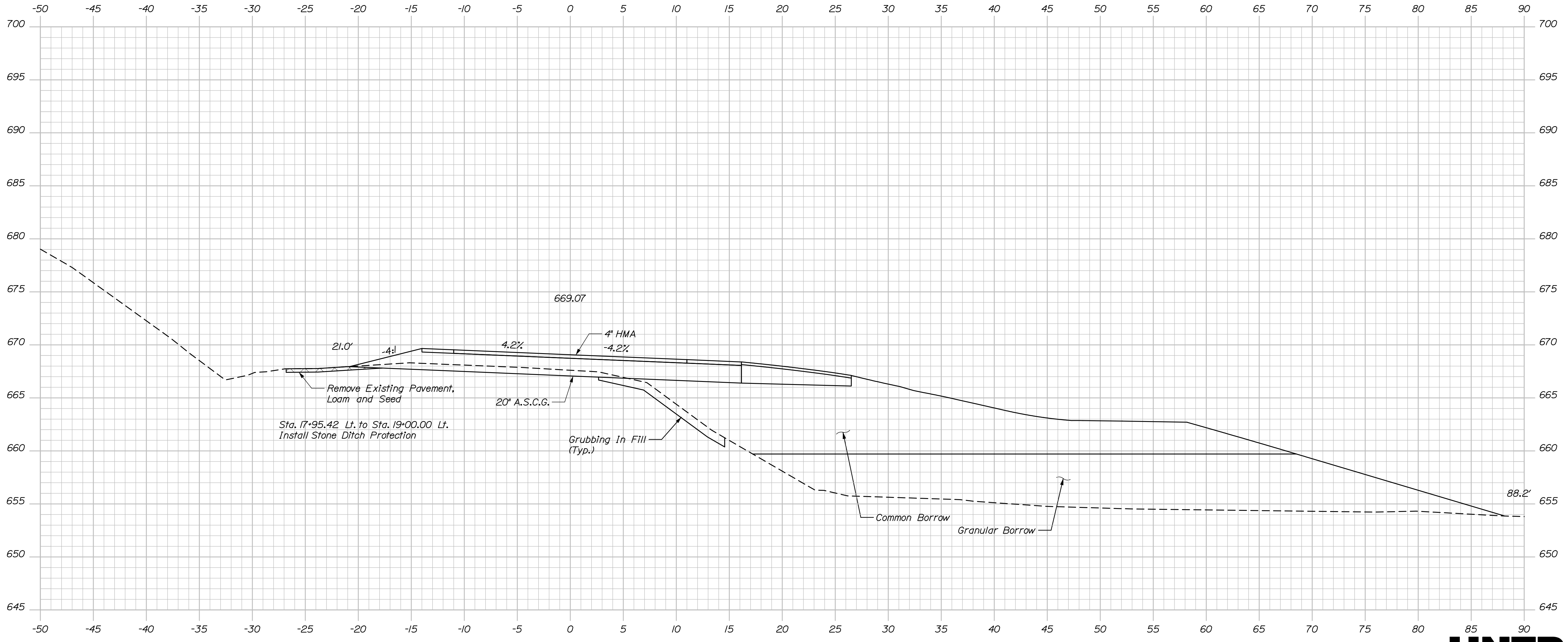
SHEET NUMBER
25
OF 52

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



17+75.00



Sta. 17+75.00 to Sta. 17+75.00

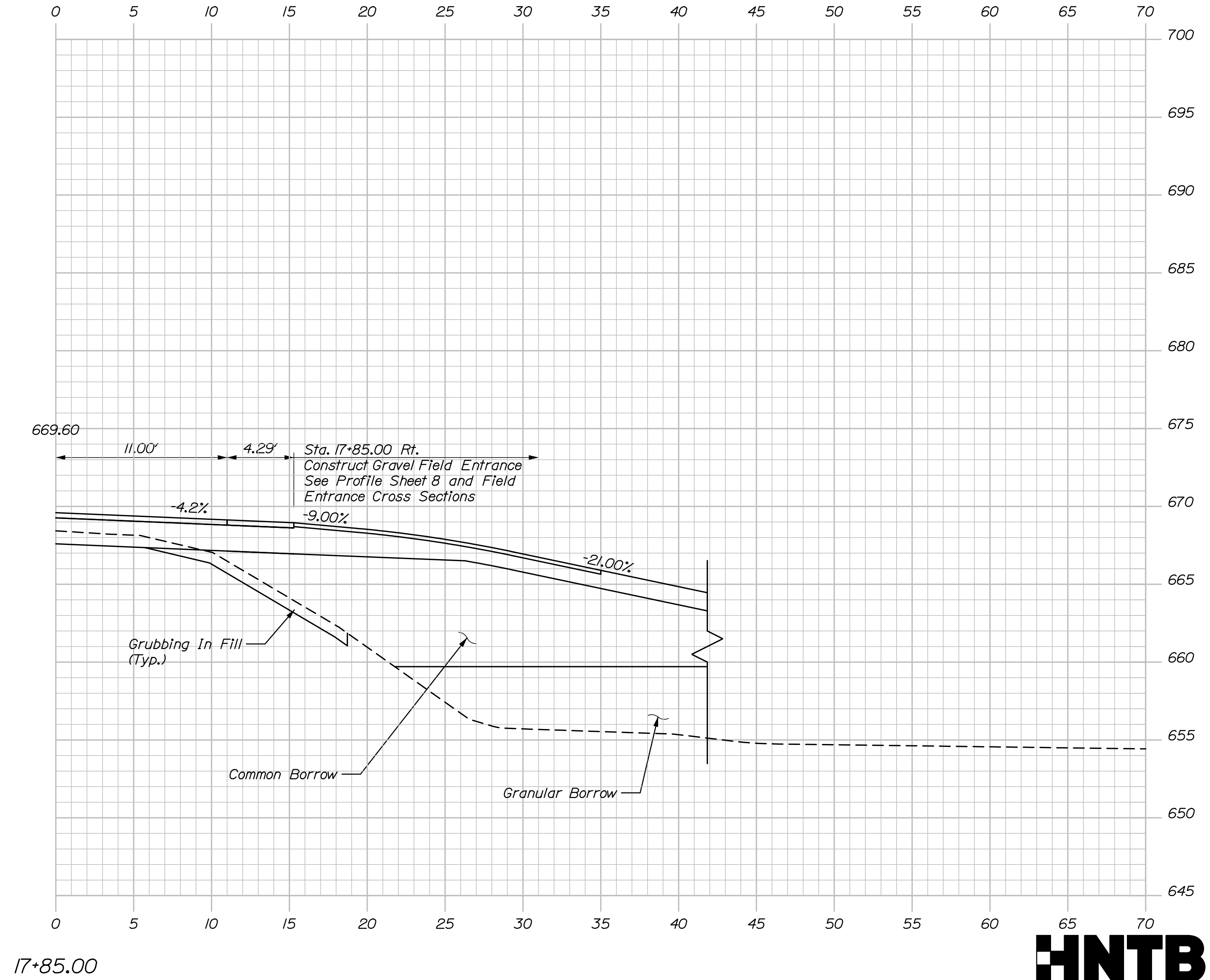
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

PROJ. MANAGER	J. KITTRIDGE	BY	S. SCRIBNER	DATE	11/18
DESIGN-DETAILED	C. HELMICK	CHECKED-REVIEWED	L. DRISCOLL	DESIGN-DETAILED	
DESIGN-DETAILED		DESIGN-DETAILED		DESIGN-DETAILED	
REVISIONS 1		REVISIONS 1		REVISIONS 1	
REVISIONS 2		REVISIONS 2		REVISIONS 2	
REVISIONS 3		REVISIONS 3		REVISIONS 3	
REVISIONS 4		REVISIONS 4		REVISIONS 4	
FIELD CHANGES		FIELD CHANGES		FIELD CHANGES	

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
OXFORD COUNTY
ANDOVER
CROSS SECTIONS
ROUTE 120

SHEET NUMBER
26
OF 52

BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS



SHEET NUMBER

27

OF 52

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/18
DESIGN-DETAILED	L. DRISCOLL	CHECKED-REVIEWED	S. SCRIBNER	DATE	11/18
DESIGN-DETAILED		DESIGN-DETAILED		SIGNATURE	
REVISIONS 1		REVISIONS 1		P.E. NUMBER	
REVISIONS 2		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 3			
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FIELD CHANGES					

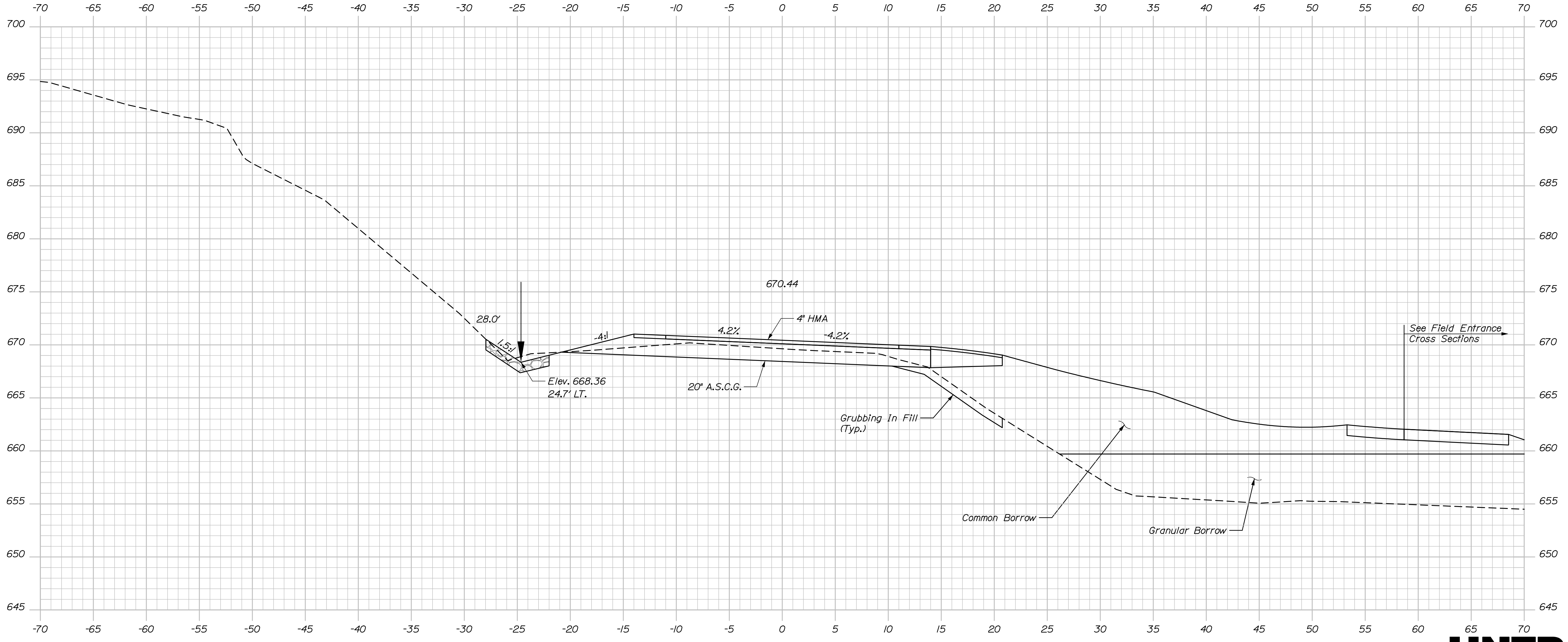
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



18+00.00



Sta. 18+00.00 to Sta. 18+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/18
DESIGN-DETAILED	L. DRISCOLL	CHECKED-REVIEWED	S. SCRIBNER	DATE	11/18
DESIGN-DETAILED		DESIGN-DETAILED		SIGNATURE	
REVISIONS 1		REVISIONS 1		P.E. NUMBER	
REVISIONS 2		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES					

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

SHEET NUMBER
28
OF 52

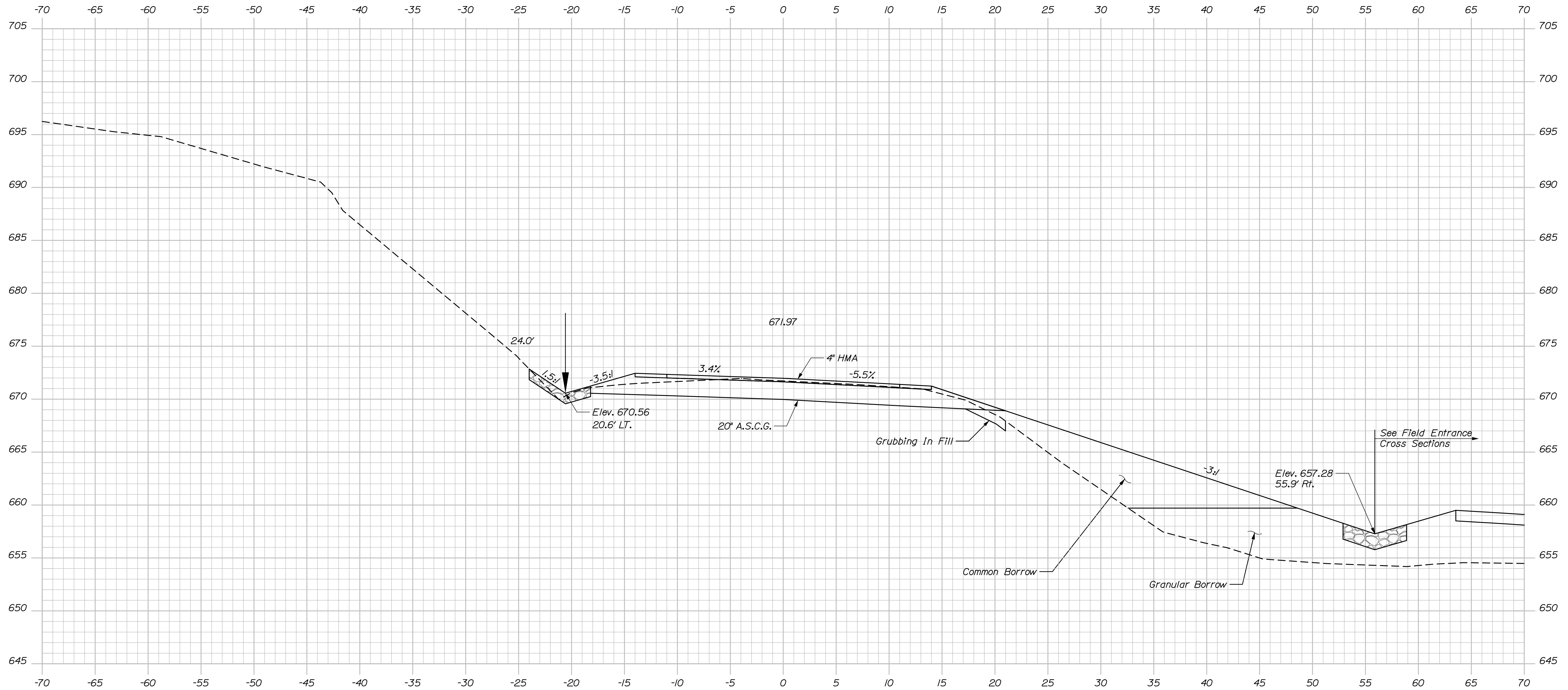
BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



18+25.00



Sta. 18+25.00 to Sta. 18+25.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

PROJ. MANAGER	J. KITTRIDGE	BY	S. SCRIBNER	DATE	11/18
DESIGN-DETAILED	C. HELMICK	CHECKED-REVIEWED	L. DRISCOLL	DESIGN-DETAILED	
DESIGN-DETAILED		DESIGN-DETAILED		DESIGN-DETAILED	
REVISIONS 1		REVISIONS 2		REVISIONS 3	
REVISIONS 4		REVISIONS 4		REVISIONS 4	
FIELD CHANGES		FIELD CHANGES		FIELD CHANGES	

SIGNATURE	
P.E. NUMBER	
DATE	

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

SHEET NUMBER

29

OF 52

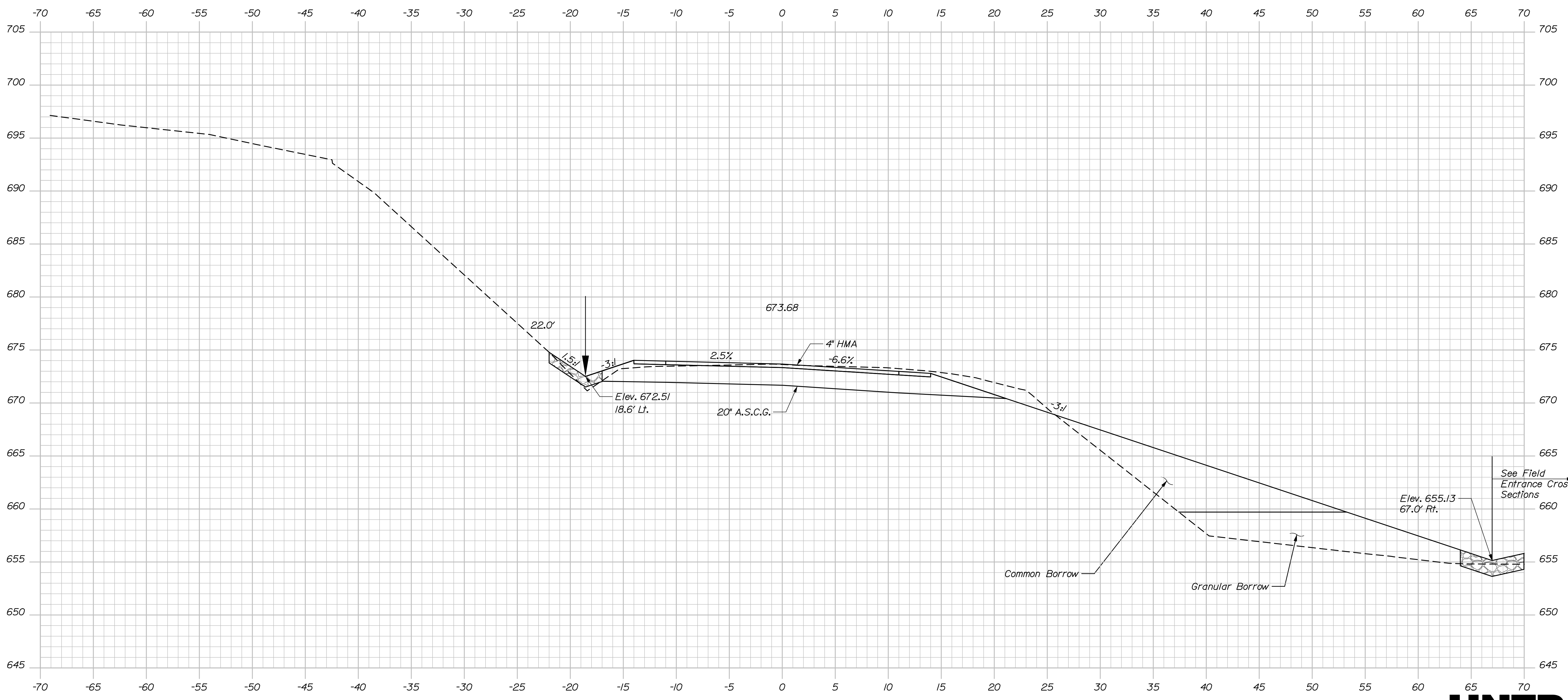
BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



18+50.00



Sta. 18+50.00 to Sta. 18+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS

PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	BY	DATE
J. KITTRIDGE	C. HELMICK	S. SCRIBNER	S. SCRIBNER	11/8
	L. DRISCOLL	R. HANE	R. HANE	11/8

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

SHEET NUMBER

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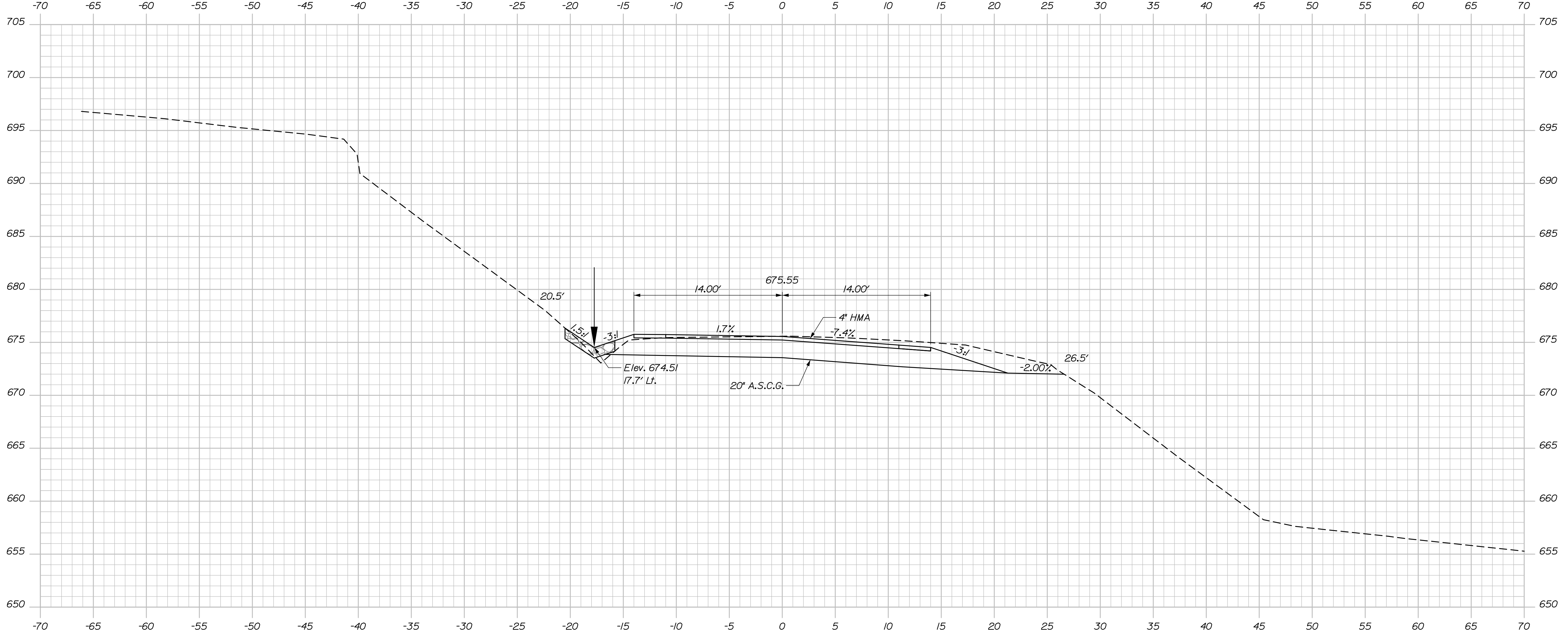
OF 52

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



Sta. 18+75.00
 End Project
 WIN 021658.00
 Begin Transition



STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 STP-2165(800)
 BRIDGE NO. 3215
 WIN
 021658.00
 BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/18
DESIGN-DETAILED	C. HELMICK	BY	S. SCRIBNER	DATE	11/18
CHECKED-REVIEWED	L. DRISCOLL	BY	R. HANE	DATE	
DESIGN-DETAILED		BY		DATE	
REVISIONS 1		BY		DATE	
REVISIONS 2		BY		DATE	
REVISIONS 3		BY		DATE	
REVISIONS 4		BY		DATE	
FIELD CHANGES		BY		DATE	

SIGNATURE	P.E. NUMBER	DATE

MERRILL BRIDGE
 WEST BRANCH ELLIS RIVER
 ANDOVER OXFORD COUNTY
 CROSS SECTIONS
 ROUTE 120

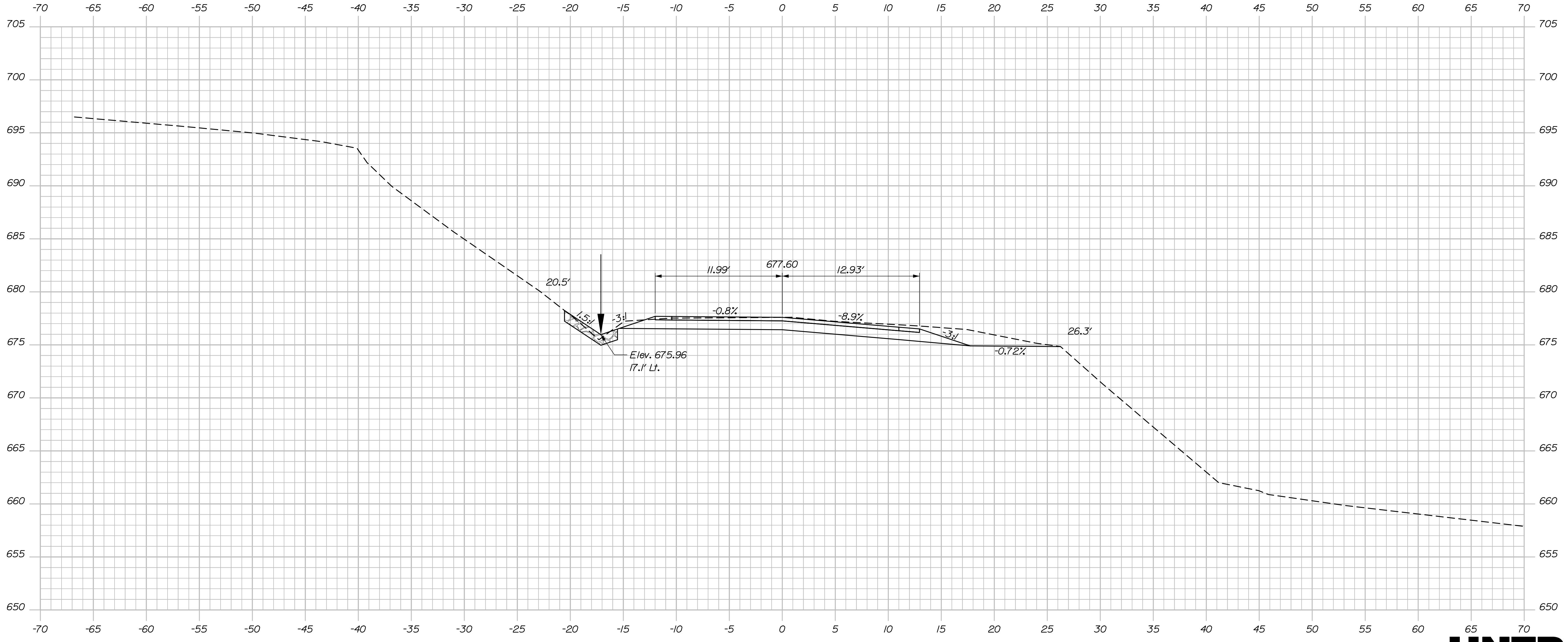
SHEET NUMBER
 31
 OF 52

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



19+00.00



Sta. 19+00.00 to Sta. 19+00.00

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
STP-2165(800)

BRIDGE NO. 3215
 WIN
 021658.00
 BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	DATE
DESIGN-DETAILED	C. HELMICK	S. SCRIBNER	11/18
CHECKED-REVIEWED	L. DRISCOLL	R. HANE	11/18
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL BRIDGE
 WEST BRANCH ELLIS RIVER
 ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

SHEET NUMBER

32

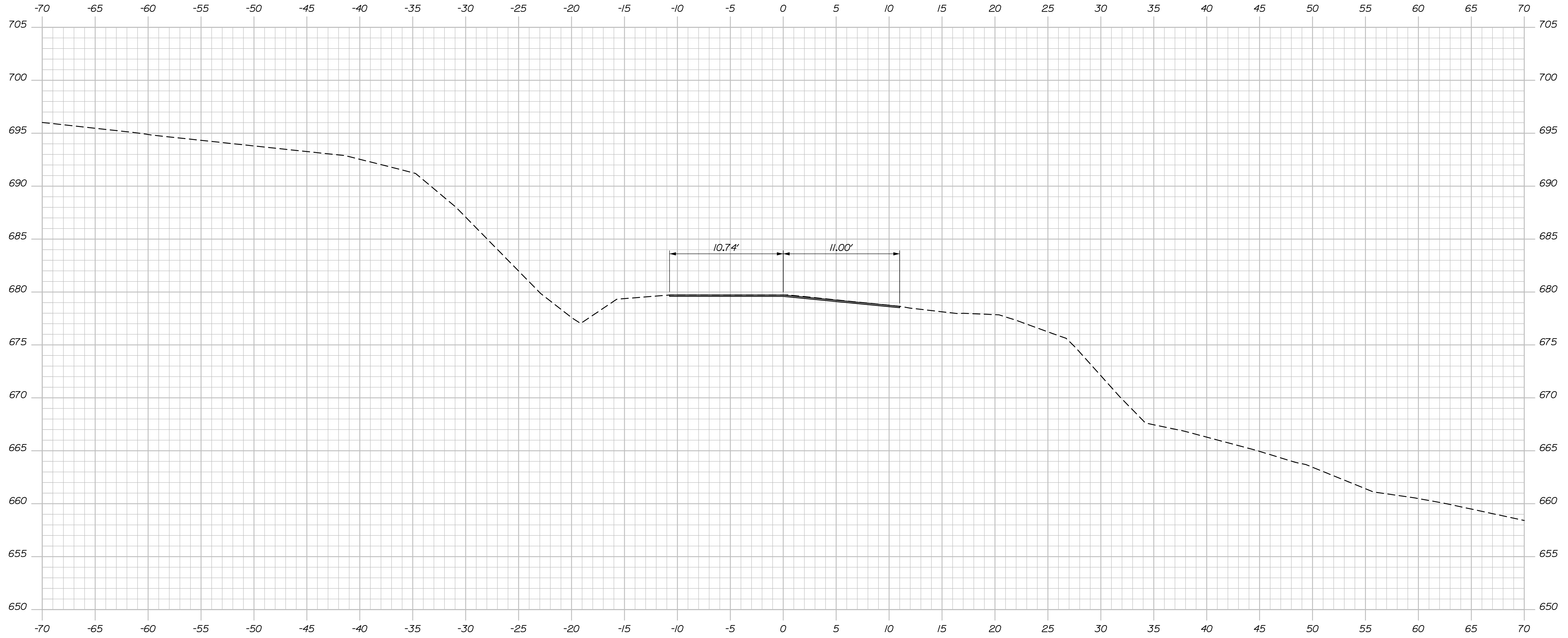
OF 52

Date: 11/2/2018

Username:

Division:

Filename: XSect_Mainline.dgn



19+25.00

Sta. 19+25.00
End Transition
Begin 1.5" Mill & Overlay

Sta. 19+30.00
End 1.5" Mill & Overlay
Limit of Work
Match Existing



SHEET NUMBER

33

OF 52

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
ROUTE 120

PROJ. MANAGER	J. KITTRIDGE	BY	DATE
DESIGN-DETAILED	C. HELMICK	S. SCRIBNER	11/18
CHECKED-REVIEWED	L. DRISCOLL	R. HANE	11/18
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE
P.E. NUMBER
DATE

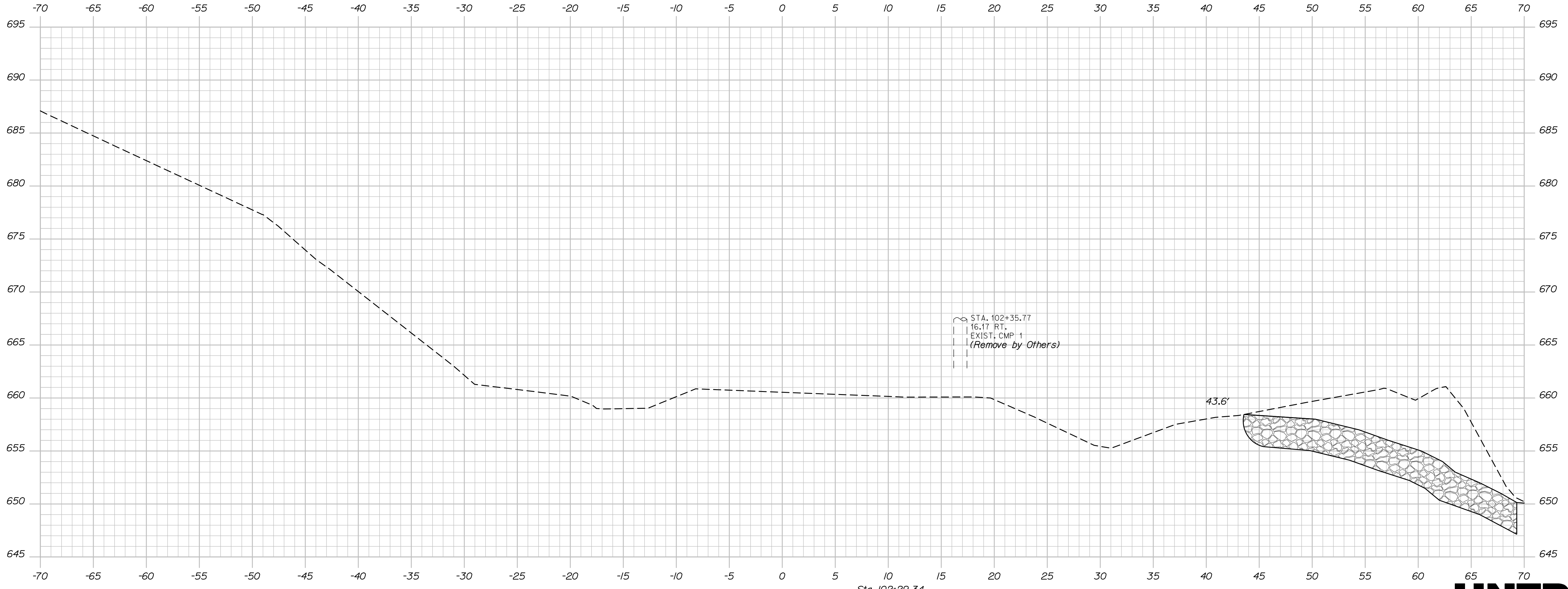
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS

Date: 11/2/2018

Username:

Division:

Filename: XSect_BlakieRd.dgn



102+29.34
 Sta. 102+29.34
 Limit of Work
 Match Existing



STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
STP-2165(800)

BRIDGE NO. 3215
 WIN
 021658.00
 BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	DATE
DESIGN-DETAILED	C. HELMICK	S. SCRIBNER	11/18
CHECKED-REVIEWED	L. DRISCOLL	R. HANE	11/18
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL BRIDGE
 WEST BRANCH ELLIS RIVER
 OXFORD COUNTY
 ANDOVER
**CROSS SECTIONS
 BLAKIE ROAD**

SHEET NUMBER
34
 OF 52

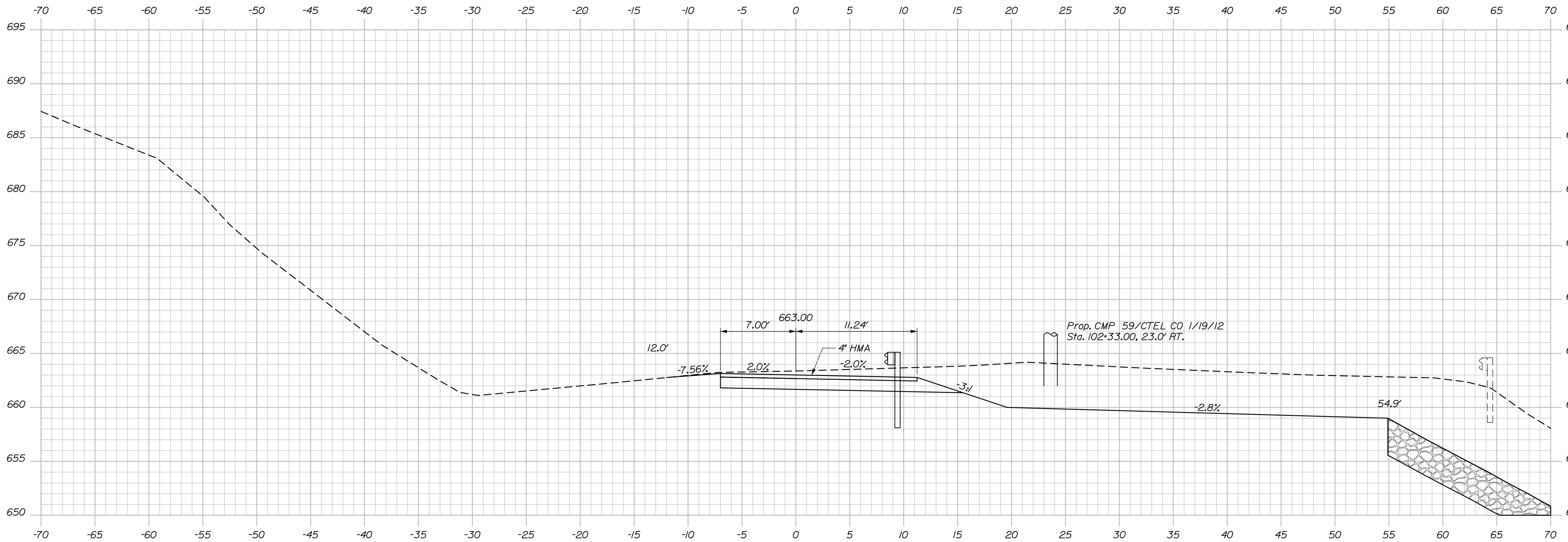
Sta. 102+25.00 to Sta. 102+25.00

Date: 11/2/2018

Username:

Division:

Filename: XSect_BlakieRd.dgn



102+50.00



Sta. 102+50.00 to Sta. 102+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	DATE
DESIGN-DETAILED	C. HELMICK	S. SCRIBNER	11/18
CHECKED-REVIEWED	L. DRISCOLL	R. HANE	11/18
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
OXFORD COUNTY
ANDOVER
CROSS SECTIONS
BLAKIE ROAD

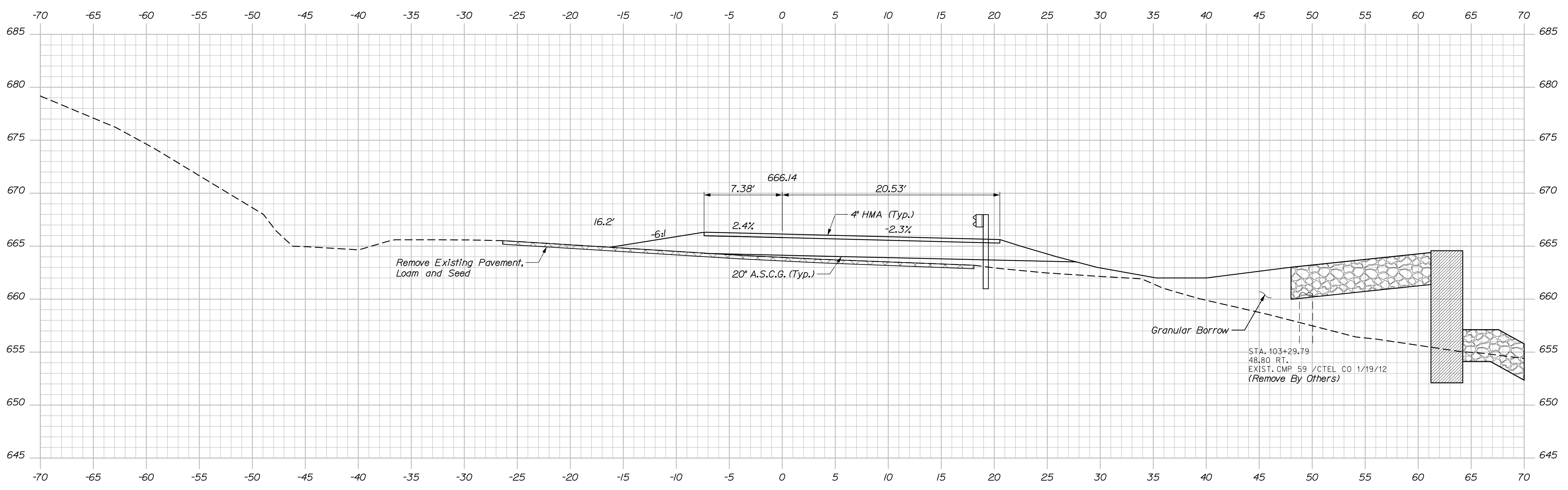
SHEET NUMBER
35
OF 52

Date: 11/2/2018

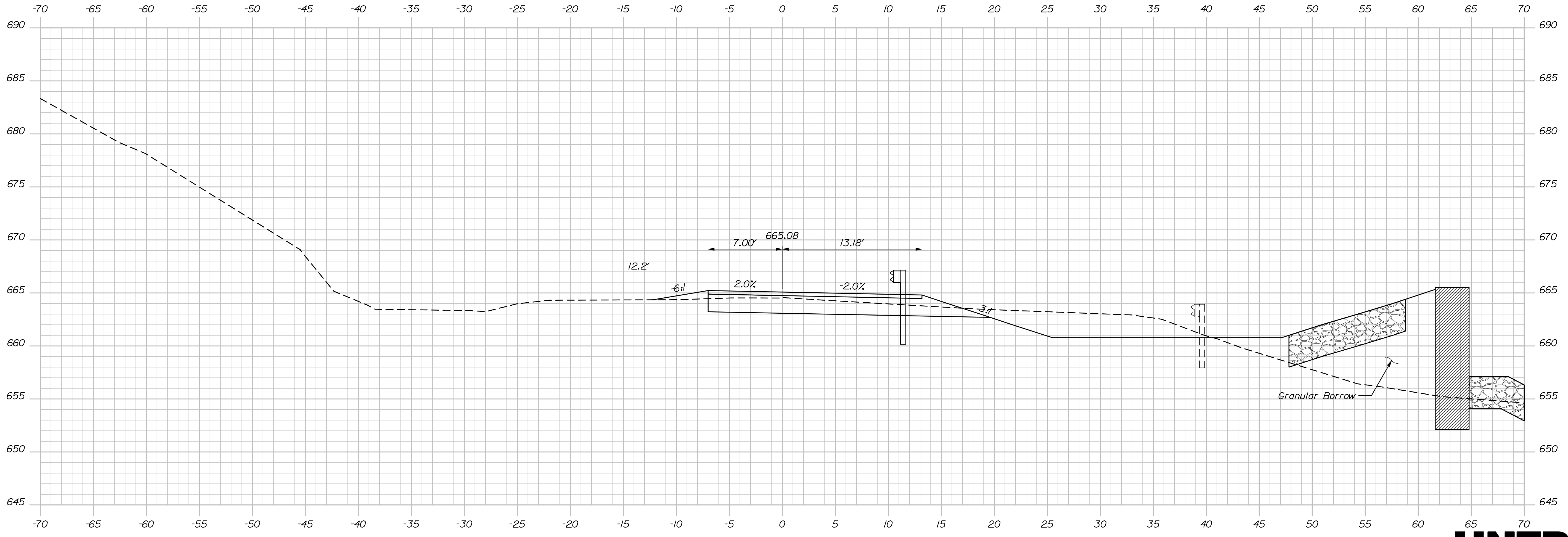
Username:

Division:

Filename: XSect_BlakieRd.dgn



103+00.00



102+75.00



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

PROJ. MANAGER	J. KITTIDGE	BY	C. HELMICK	DATE	11/8
DESIGN-DETAILED	L. DRISCOLL	CHECKED-REVIEWED	S. SCRIBNER	DATE	11/8
DESIGN-DETAILED		DESIGN-DETAILED		SIGNATURE	
REVISIONS 1		REVISIONS 1		P.E. NUMBER	
REVISIONS 2		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES					

PROJ. MANAGER	J. KITTIDGE	BY	C. HELMICK	DATE	11/8
DESIGN-DETAILED	L. DRISCOLL	CHECKED-REVIEWED	S. SCRIBNER	DATE	11/8
DESIGN-DETAILED		DESIGN-DETAILED		SIGNATURE	
REVISIONS 1		REVISIONS 1		P.E. NUMBER	
REVISIONS 2		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES					

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CROSS SECTIONS
BLAKIE ROAD

SHEET NUMBER
36
OF 52

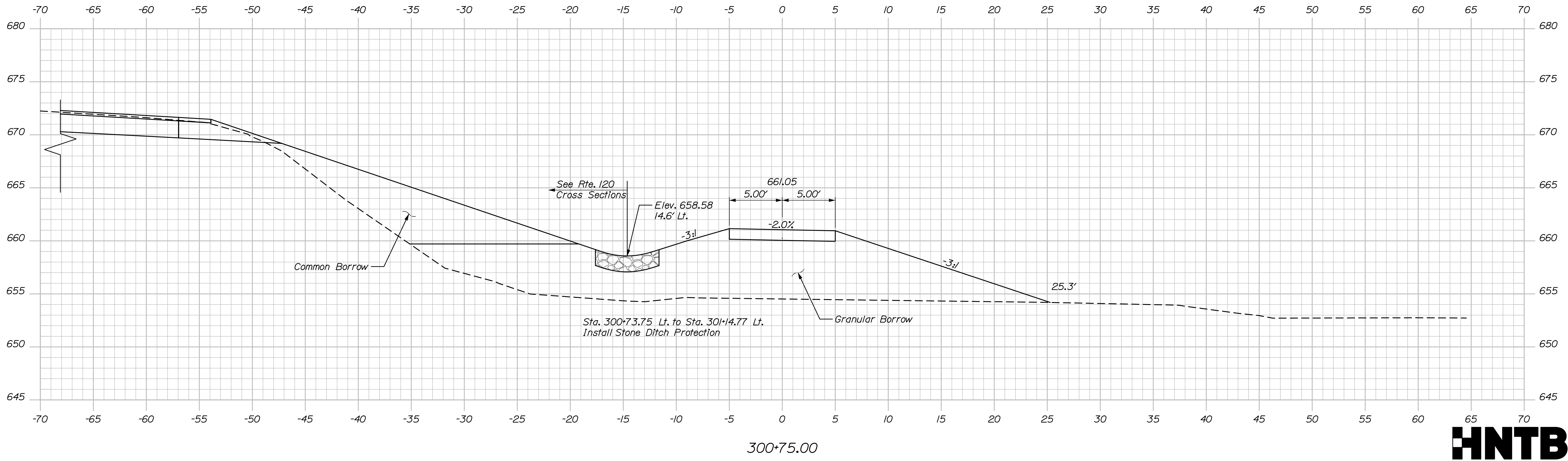
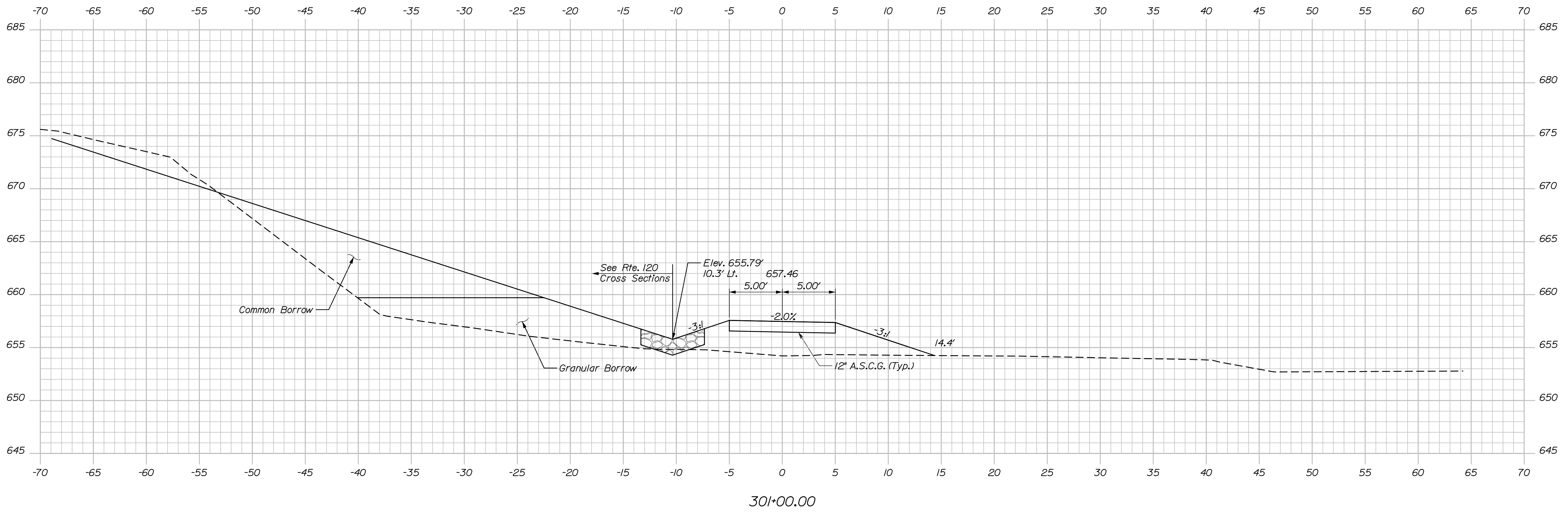
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Date: 11/2/2018

Username:

Division:

Filename: XSect_Field Entrance.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

BRIDGE NO. 3215
WIN 021658.00
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	S. SCRIBNER	DATE	11/18	11/18
DESIGN-DETAILED	L. DRISCOLL	CHECKED-REVIEWED	R. HANE	SIGNATURE			
DESIGN-DETAILED		DESIGN-DETAILED		P.E. NUMBER			
REVISIONS 1		REVISIONS 1		DATE			
REVISIONS 2		REVISIONS 2					
REVISIONS 3		REVISIONS 3					
REVISIONS 4		REVISIONS 4					
FIELD CHANGES		FIELD CHANGES					

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
OXFORD COUNTY
ANDOVER
CROSS SECTIONS
FIELD ENTRANCE

SHEET NUMBER
37
OF 52

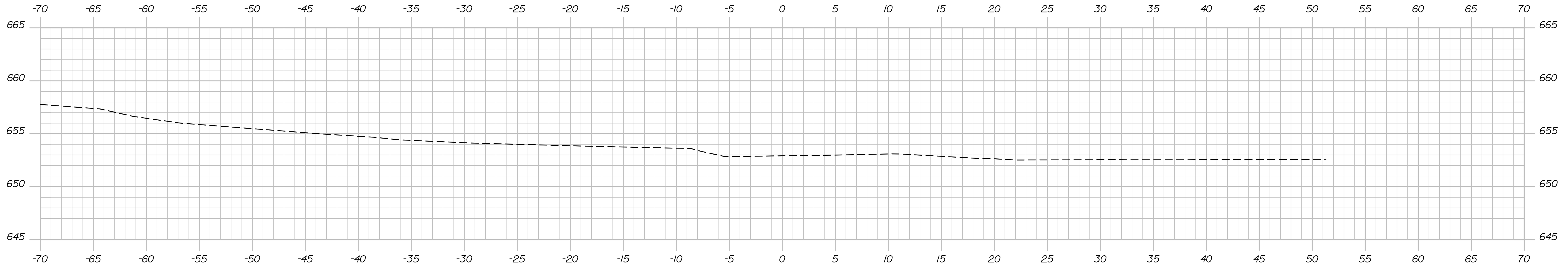
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Date: 11/2/2018

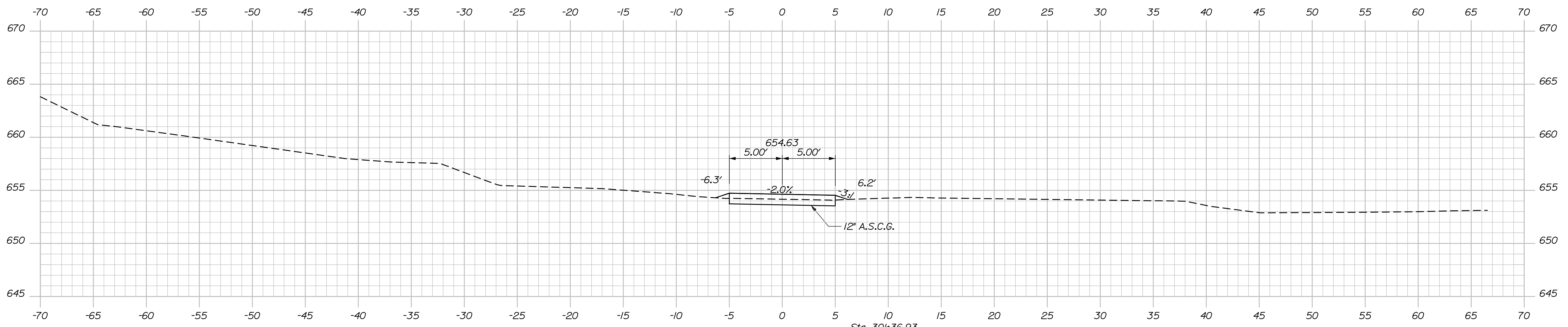
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Division:

Filename: XSect_Field Entrance.dgn



301+50.00



301+25.00

Sta. 301+36.93
 End Field Entrance Construction
 Limit of Work
 Match Existing



STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
STP-2165(800)
 WIN
 021658.00
 BRIDGE NO. 3215 BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	C. HELMICK	DATE	11/8
DESIGN-DETAILED	L. DRISCOLL	CHECKED-REVIEWED	S. SCRIBNER	DATE	11/8
DESIGN-DETAILED		DESIGN-DETAILED		SIGNATURE	
REVISIONS 1		REVISIONS 1		P.E. NUMBER	
REVISIONS 2		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES		FIELD CHANGES			

MERRILL BRIDGE
 WEST BRANCH ELLIS RIVER
 OXFORD COUNTY
 ANDOVER
 CROSS SECTIONS
 FIELD ENTRANCE

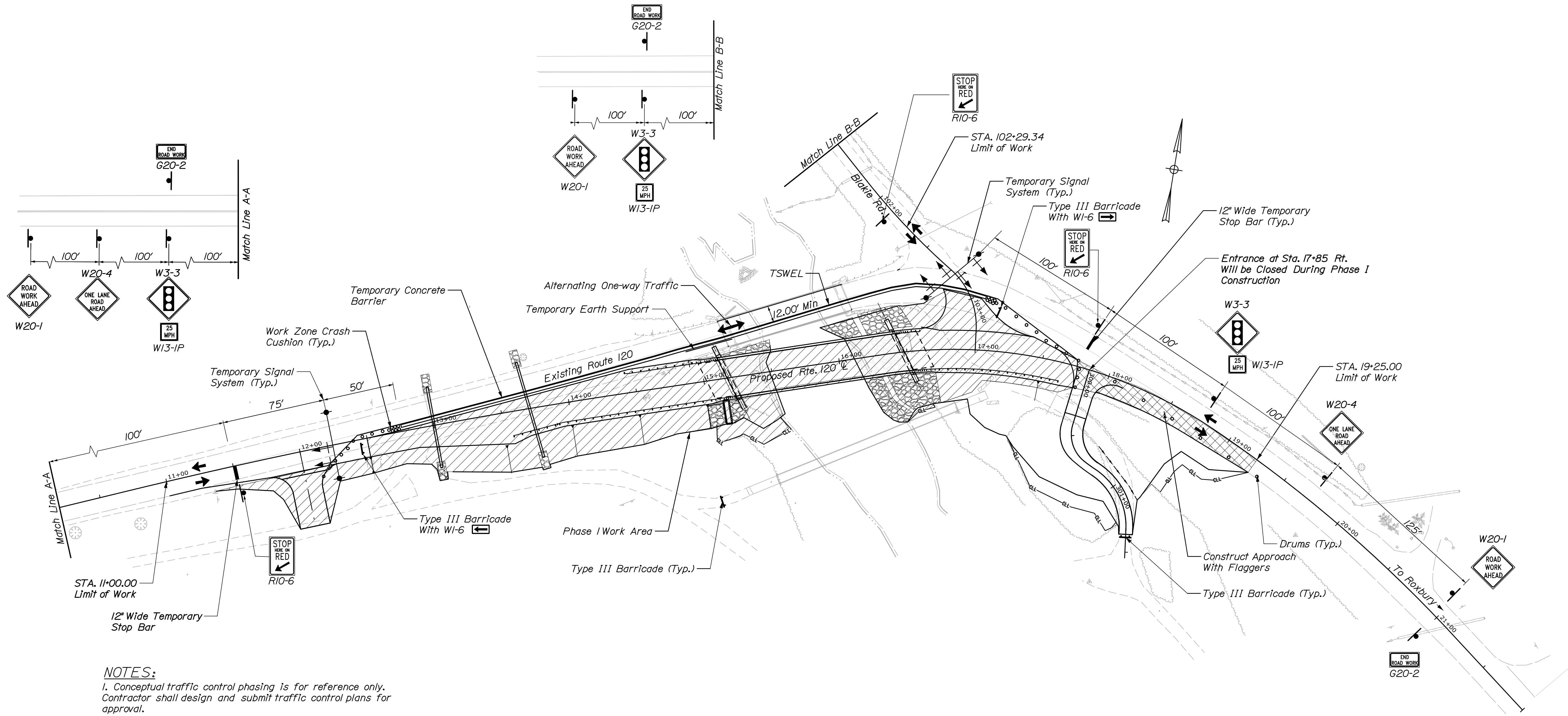
SHEET NUMBER
38
 OF 52

Date: 11/2/2018

Username:

Division:

Filename: 039_TrafficControlPlans_Phase1.dgn



NOTES:

1. Conceptual traffic control phasing is for reference only. Contractor shall design and submit traffic control plans for approval.
2. 12' minimum lane width is measured from face of guardrail to face of temporary concrete barrier.
3. Sign locations shown are approximate. Actual locations shall be determined by the Contractor and approved by the Resident.
4. The Contractor shall cover all existing signs that conflict with work zone signs and signals.
5. All traffic control shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways", (MUTCD), U.S.D.O.T., FHWA, latest edition.
6. The Contractor shall remove all existing pavement markings that conflict with proposed markings. Payment will be made under Item 627.77 Removing Pavement Markings.
7. Delineate face of barrier when next to travel way (reflective delineators).
8. Access to Blakie Road shall be maintained at all times.
9. The final surface lift of pavement shall be placed at one time with the use of flaggers.

CONCEPTUAL PHASE I PLAN



DESIGNED BY	C. HELMICK	DATE	11/18
CHECKED BY	S. SCRIBNER	DATE	11/18
DESIGNED BY	L. DRISCOLL	DATE	
CHECKED BY	R. HANF	DATE	
DESIGNED BY		DATE	
CHECKED BY		DATE	
REVISIONS	1		
REVISIONS	2		
REVISIONS	3		
REVISIONS	4		
FIELD CHANGES			

PROJ. MANAGER	J. KITTRIDGE	DATE	
DESIGN-DETAILED	C. HELMICK	DATE	
CHECKED-REVIEWED	S. SCRIBNER	DATE	
DESIGN-DETAILED	L. DRISCOLL	DATE	
CHECKED-REVIEWED	R. HANF	DATE	
DESIGN-DETAILED		DATE	
CHECKED-REVIEWED		DATE	
REVISIONS	1		
REVISIONS	2		
REVISIONS	3		
REVISIONS	4		
FIELD CHANGES			

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
OXFORD COUNTY
ANDOVER
**CONCEPTUAL
TRAFFIC CONTROL PLAN**

SHEET NUMBER

39

OF 52

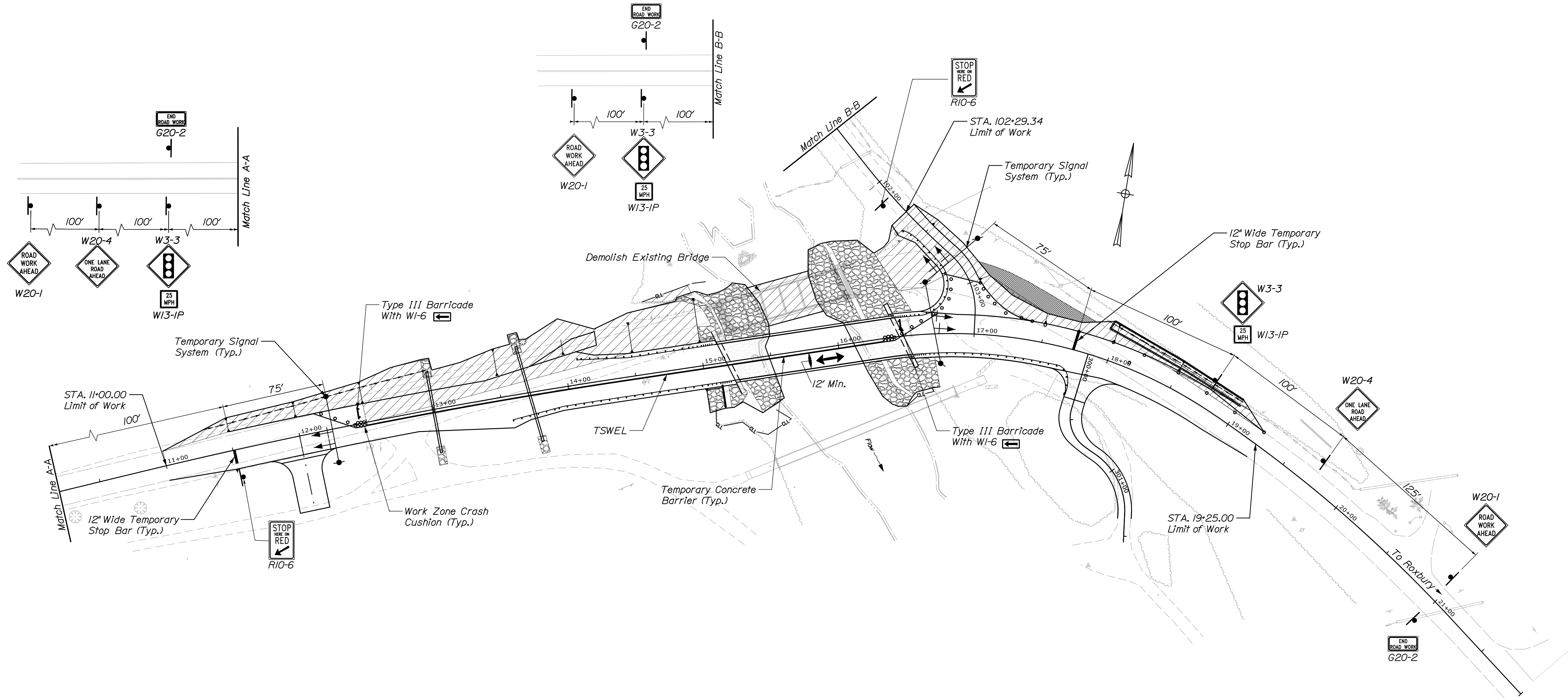


Date: 11/2/2018

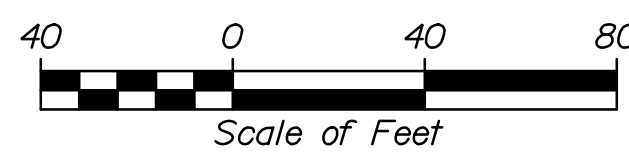
Username:

Division:

Filename: 040_TrafficControlPlans_Phase2.dgn



CONCEPTUAL PHASE 2 PLAN



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

DESIGN-DETAILED	C. HELMICK	S. SCRIBNER	11/18	SIGNATURE
CHECKED-REVIEWED	L. DRISCOLL	R. HANF	11/18	P.E. NUMBER
DESIGN-DETAILED				DATE
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

PROJ. MANAGER	J. KITTRIDGE	BY	DATE
DESIGN-DETAILED	C. HELMICK	S. SCRIBNER	11/18
CHECKED-REVIEWED	L. DRISCOLL	R. HANF	11/18
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
CONCEPTUAL
TRAFFIC CONTROL PLAN

SHEET NUMBER
40
OF 52

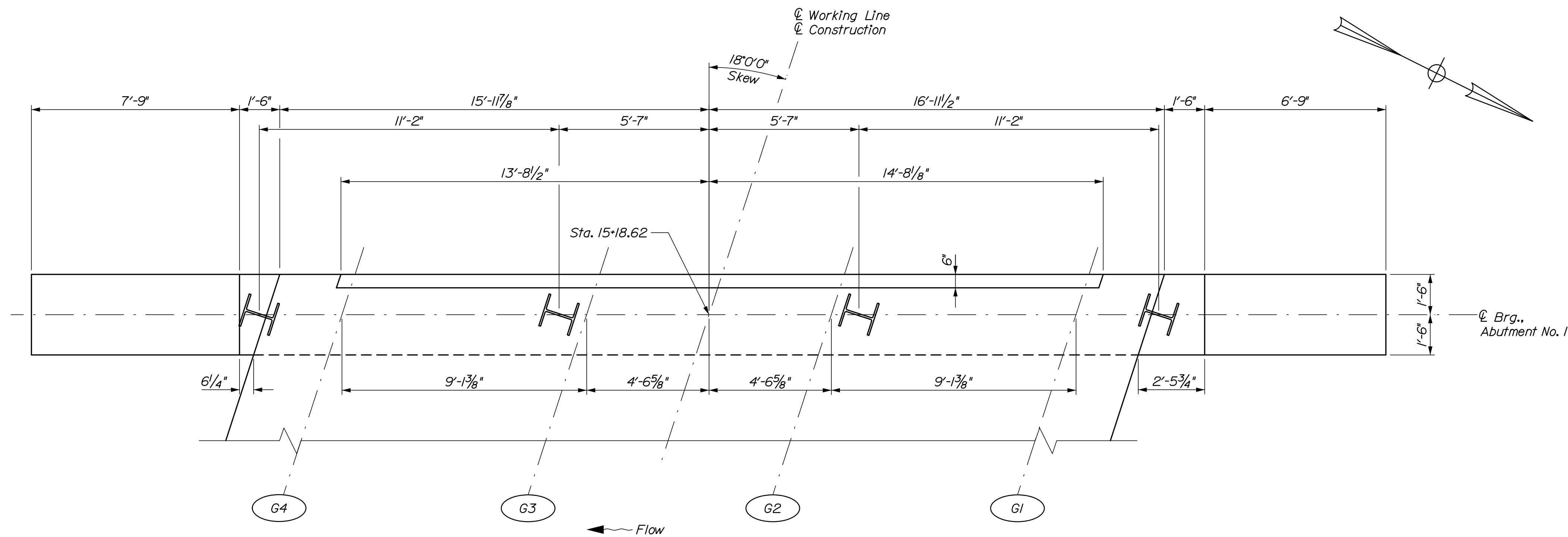


Date: 11/2/2018

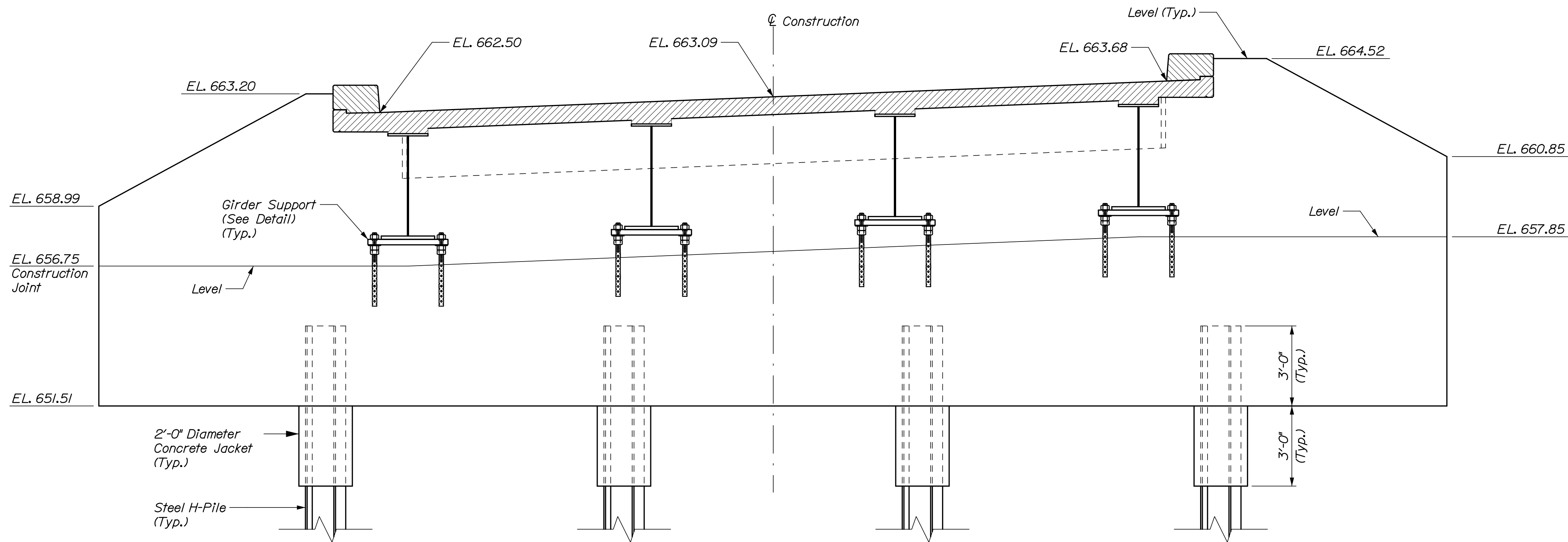
Username:

Division:

Filename: 041_Abument No. 1.dgn



ABUTMENT NO. 1 PLAN



ABUTMENT NO. 1 ELEVATION

ABUTMENT NO. 1 BOTTOM OF GIRDER ELEVATIONS	
Girder	Elevation
G1	658.80
G2	658.47
G3	658.13
G4	657.79

ABUTMENT NO. 1 PILE CUT-OFF ELEVATIONS	
Pile	Elevation
All Piles	654.51

ABUTMENT NOTES:

1. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
2. All elevations are provided at centerline of bearing unless otherwise noted.
3. Cover joints where waterstops are not required in accordance with Standard Detail 502(0).
4. Place 4 inch diameter drains in breastwall and wingwalls at 8 feet maximum spacing. The exact location will be determined by the Resident.
5. Abutments and wingwalls shall be backfilled with Granular Borrow for Underwater Backfill. Pay limits will be the structural excavation limits as shown on the "Abutment Details" sheet.
6. Payment for concrete jacket around the tops of the H-piles will not be paid for directly. Payment shall be incidental to Pay Item 502.219 Structural Concrete, Abutment and Retaining Walls. Fill concrete may be used for the concrete jackets.
7. The temporary girder supports, including studs and fasteners, leveling plates, and any associated hardware and labor required for installation shall not be paid for directly. Payment will be made under Item No. 502.219, Structural Concrete, Abutments and Retaining Walls.

PILE NOTES:

1. The maximum factored pile load is 540 kips for Strength I.
 2. H-pile material shall be ASTM A572, Grade 50.
 3. Estimate of required in-place pile lengths:
Abutment No. 1: 4 ~ HP 14 x 117 @ 30 feet
Abutment No. 2: 4 ~ HP 14 x 117 @ 22 feet
- 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. All piles shall be equipped with a pile tip in accordance with Standard Specification Section 501.048, Prefabricated Pile Tips and 711.10 H-Beam Piles, Splices and Tips.
 5. Piles shall be driven to the required resistance on or within bedrock in accordance with Standard Specification 501.
 6. Piles shall not be out of position shown by more than 2 inches in any direction.
 7. Install pile to achieve a nominal geotechnical resistance of 831 kips.
 8. Cobbles and boulders may be encountered at either of the proposed abutment locations and impede pile driving operations. If obstructions are encountered prior to reaching the minimum required tip elevation, they may be cleared by preaugering, predrilling, down-hole hammers or by conventional excavation methods for near surface obstructions. Alternative methods to clear obstructions may be used as approved by the Resident. Removal of obstructions, cobbles and boulder shall be made incidental to related Contract items.
 9. The Contractor shall perform and submit a wave equation analysis for review and acceptance by the Resident. The maximum allowable driving stress is 0.90 times F_y. The submittal analyses shall include the proposed stopping criteria based on the wave equation analysis and the proposed driving system.
 10. The Contractor shall perform 2 dynamic load test(s), one at each abutment, to confirm the nominal capacity 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 dynamic test shall be performed on the first production pile driven at each abutment. Minimum 24 hour restrikes shall be conducted on all test piles in order to ensure the required nominal resistance has been achieved and verify pile relaxation has not occurred. The Contractor may drive production piles to the preliminary driving criteria, however pile cut-off will not be permitted until completion of restrike testing and establishment of final driving criteria.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2165(800)		BRIDGE NO. 3215		WIN		021658.00		BRIDGE PLANS	
MERRILL BRIDGE		WEST BRANCH ELLIS RIVER		OXFORD COUNTY		ANDOVER		ABUTMENT NO. 1		SHEET NUMBER		41	
PROJ. MANAGER		J. KITTREDGE		BY		P. Bishop		DATE		11/18		SIGNATURE	
DESIGN-DETAILED		N. Willey		CHECKED-REVIEWED		J. Wazuh		DATE		11/18		P.E. NUMBER	
DESIGNS-DETAILED				DESIGNS-DETAILED				REVISIONS 1				DATE	
REVISIONS 2				REVISIONS 3				REVISIONS 4				FIELD CHANGES	

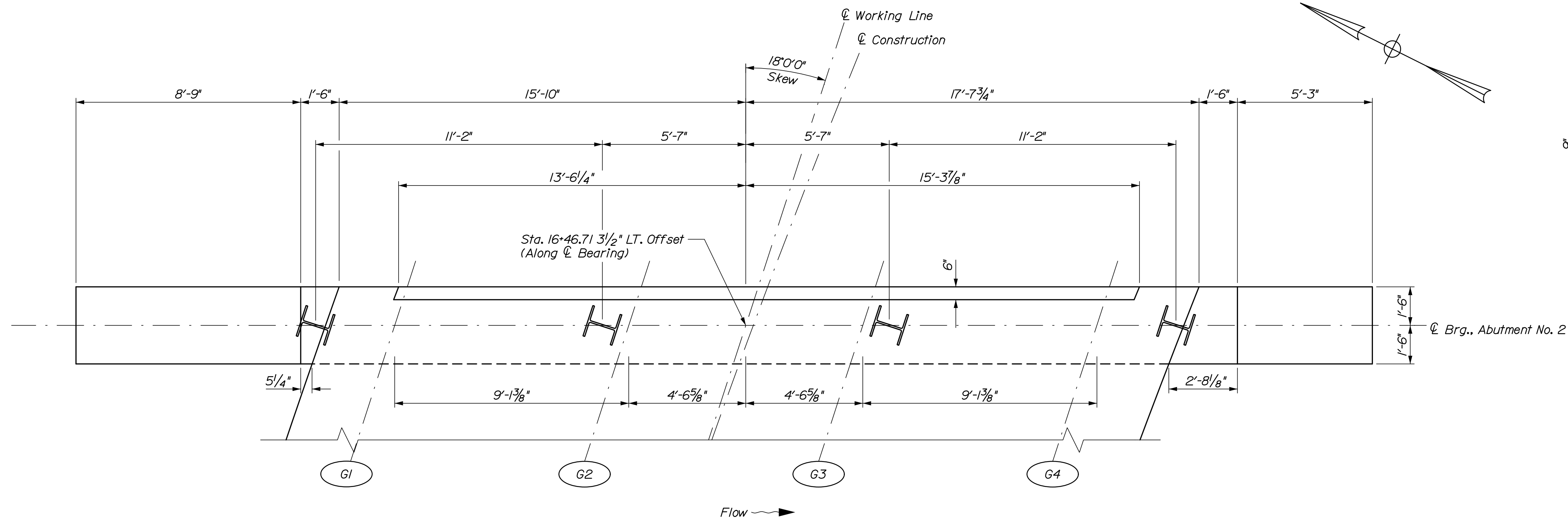


Date: 11/2/2018

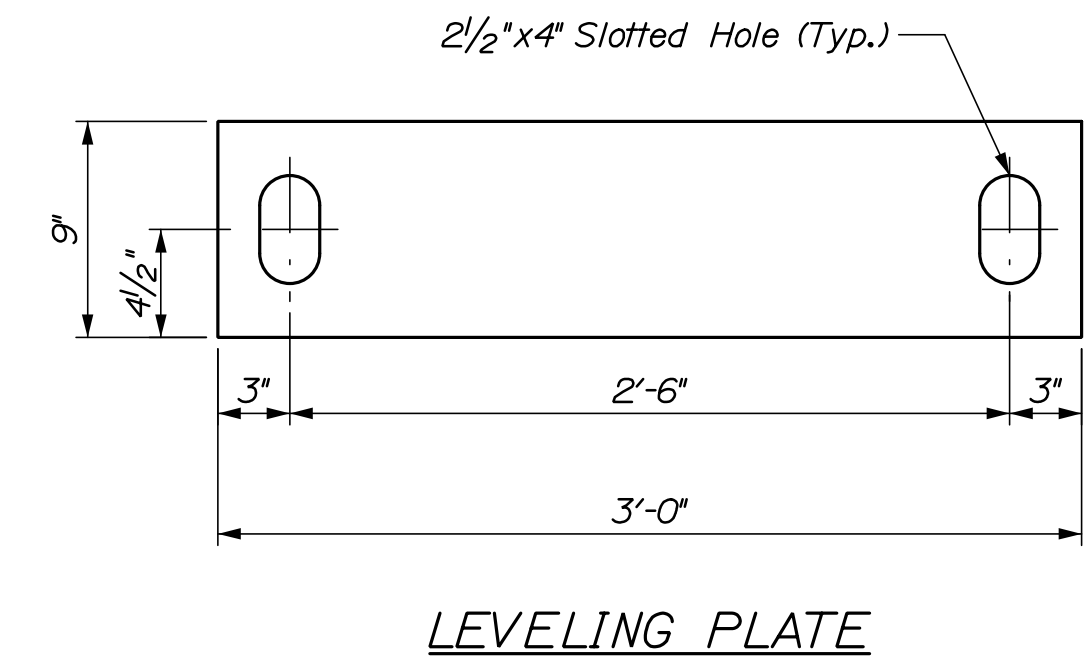
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Division:

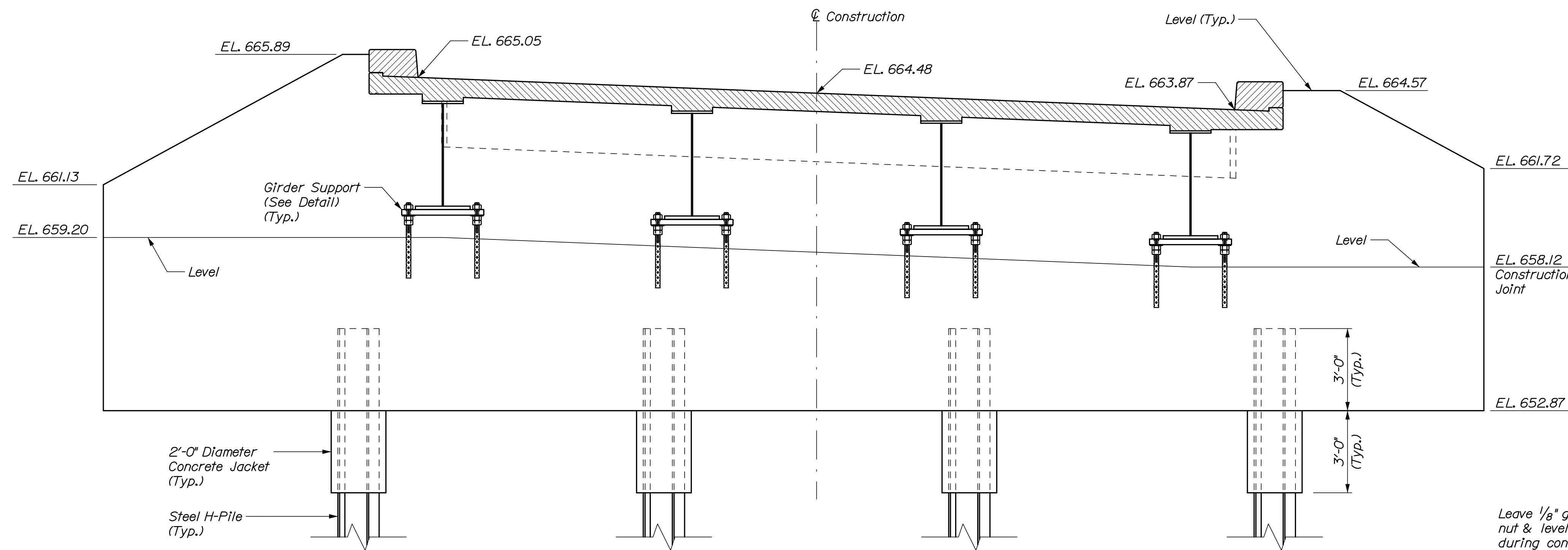
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ABUTMENT NO. 2 PLAN



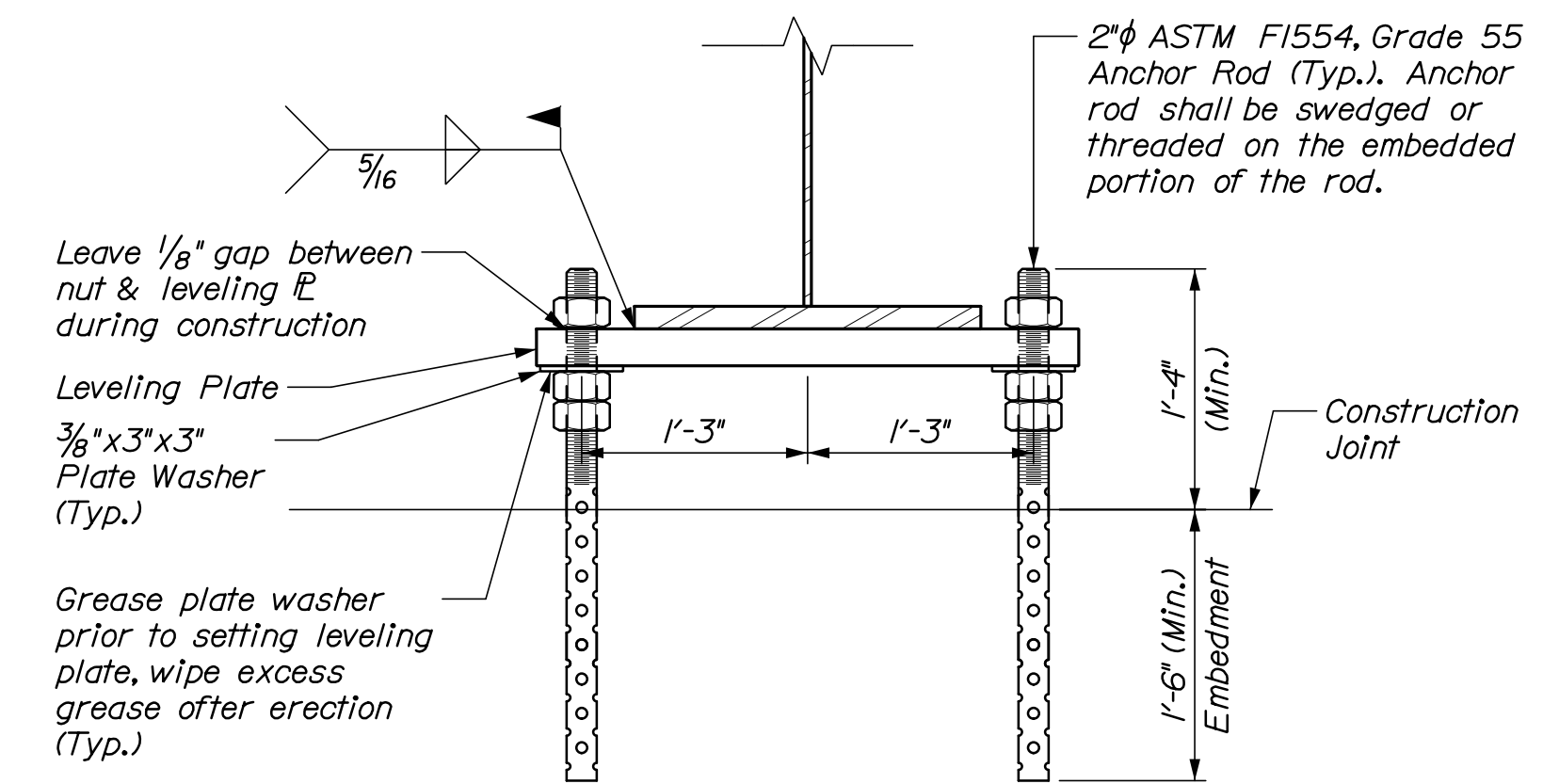
LEVELING PLATE



ABUTMENT NO. 2 ELEVATION

ABUTMENT NO. 2 BOTTOM OF GIRDER ELEVATIONS	
Girder	Elevation
G1	660.17
G2	659.84
G3	659.50
G4	659.16

ABUTMENT NO. 2 PILE CUT-OFF ELEVATIONS	
Pile	Elevation
All Piles	655.87



GIRDER SUPPORT DETAIL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	BY	DATE
DESIGN-DETAILED	N. Willey	P. Bishop	11/18
CHECKED-REVIEWED	J. Wazugh	A. Stephens	11/18
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
OXFORD COUNTY
ANDOVER
ABUTMENT NO. 2

SHEET NUMBER

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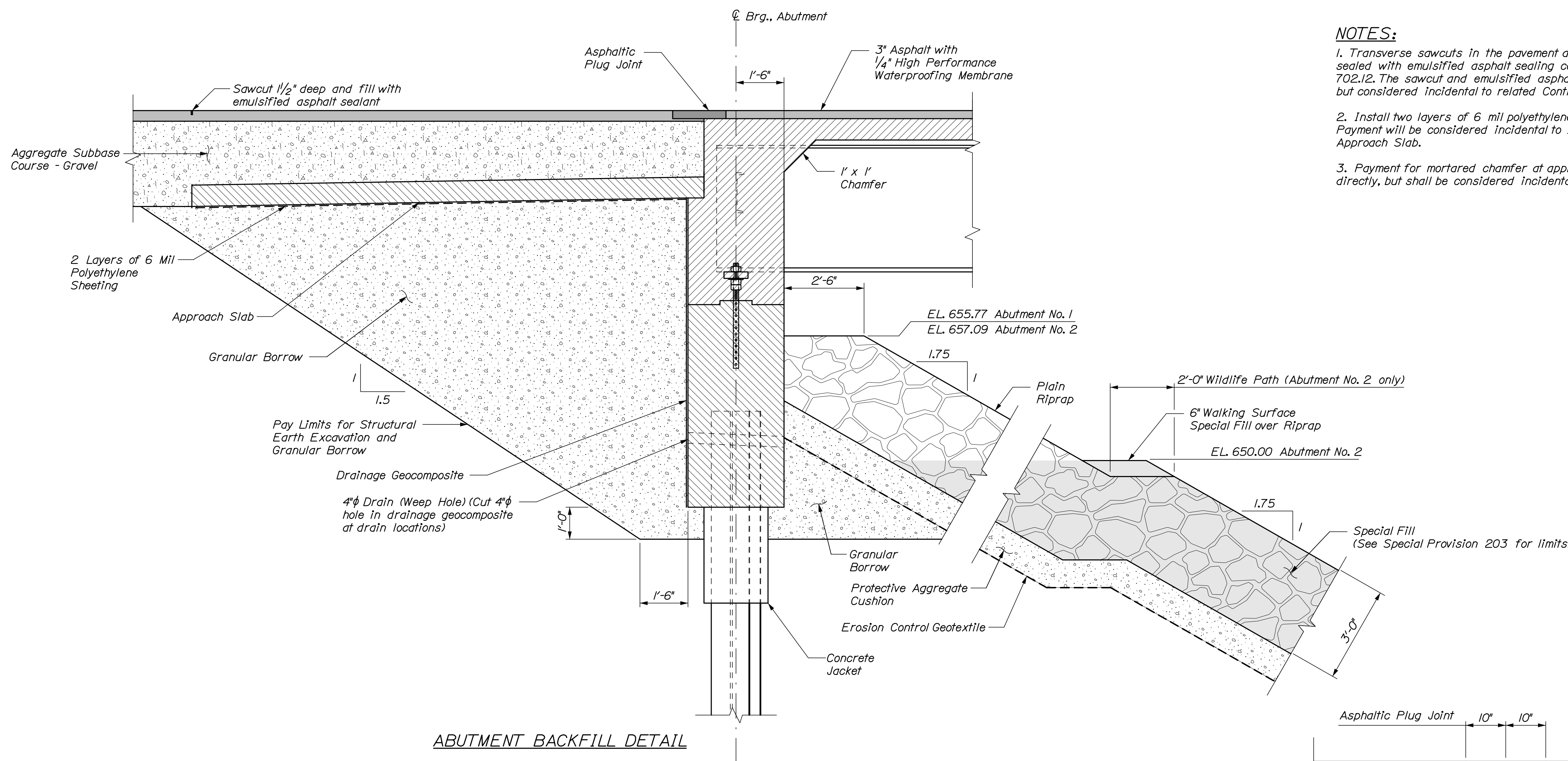
HNTB

Date: 11/2/2018

Username:

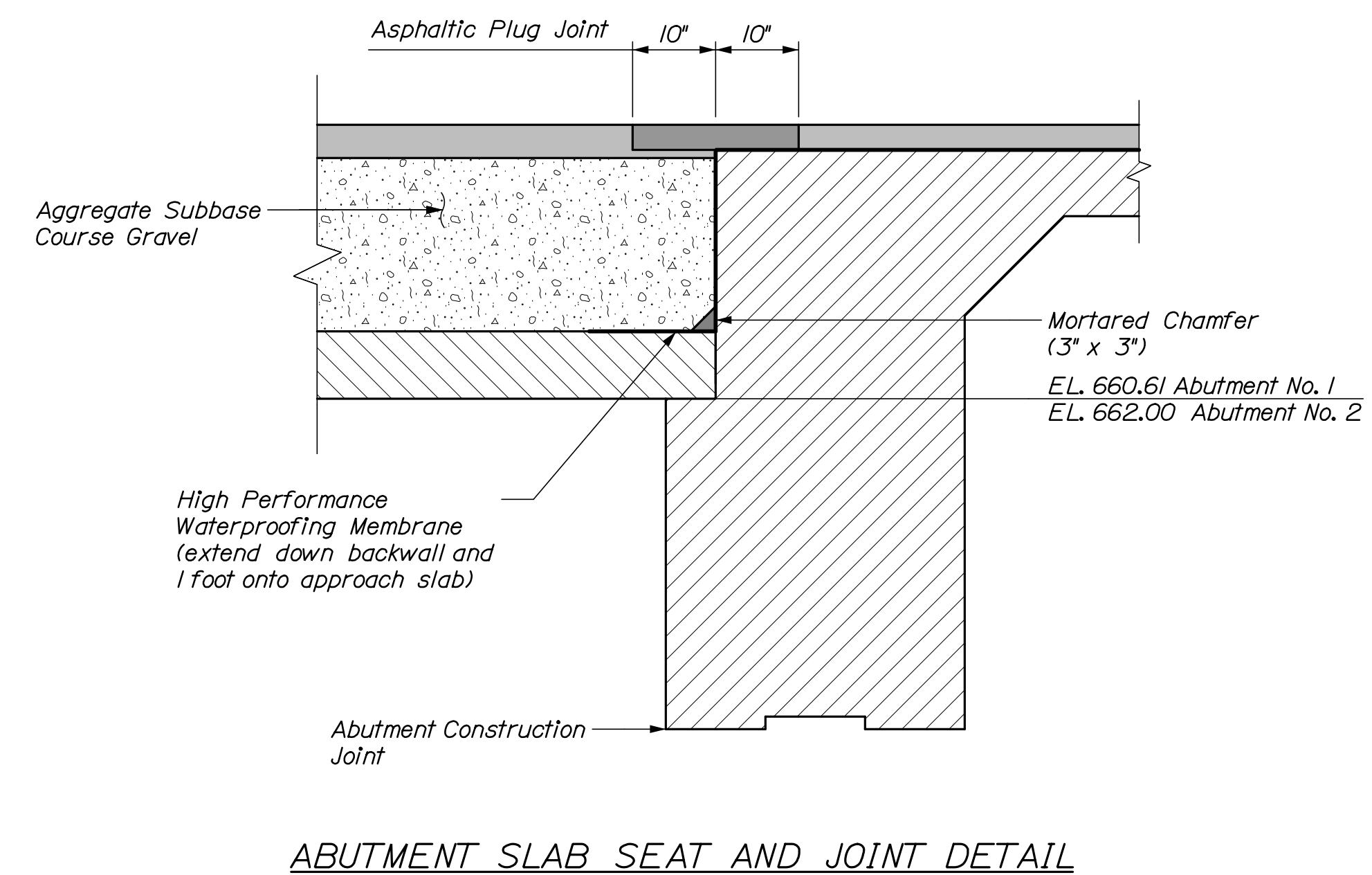
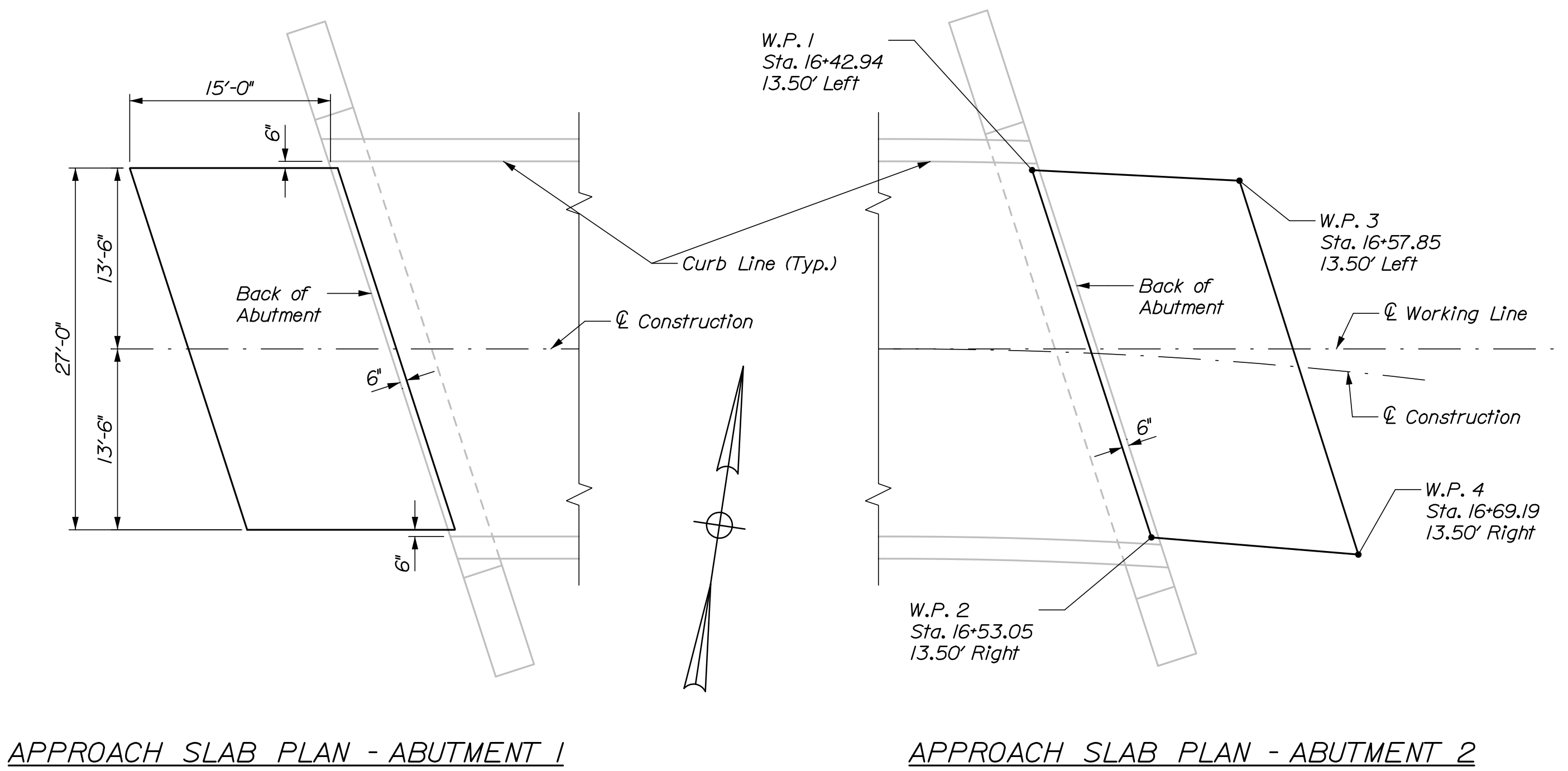
Division:

Filename: 043_Abutment Details.dgn



NOTES:

1. Transverse sawcuts in the pavement at the ends of approach slabs shall be sealed with emulsified asphalt sealing compound conforming to Specification 702.12. The sawcut and emulsified asphalt sealing shall not be paid for directly, but considered incidental to related Contract items.
2. Install two layers of 6 mil polyethylene sheeting under approach slabs. Payment will be considered incidental to Item No. 502.31, Structural Concrete Approach Slab.
3. Payment for mortared chamfer at approach slabs shall not be paid for directly, but shall be considered incidental to the related Contract items.



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2165(800)		BRIDGE NO. 3215		WIN		021658.00		BRIDGE PLANS	
MERRILL BRIDGE		WEST BRANCH ELLIS RIVER		OXFORD COUNTY		ANDOVER		ABUTMENT DETAILS		SHEET NUMBER		43	
PROJ. MANAGER	J. KITTRIDGE	DESIGN-DETAILED	N. Willey	CHECKED-REVIEWED	J. Waugh	DESIGN-DETAILED		REVISIONS 1		REVISIONS 2		REVISIONS 3	
DATE	11/8	BY	P. Bishop	DATE	11/8	SIGNATURE		P.E. NUMBER		DATE		FIELD CHANGES	

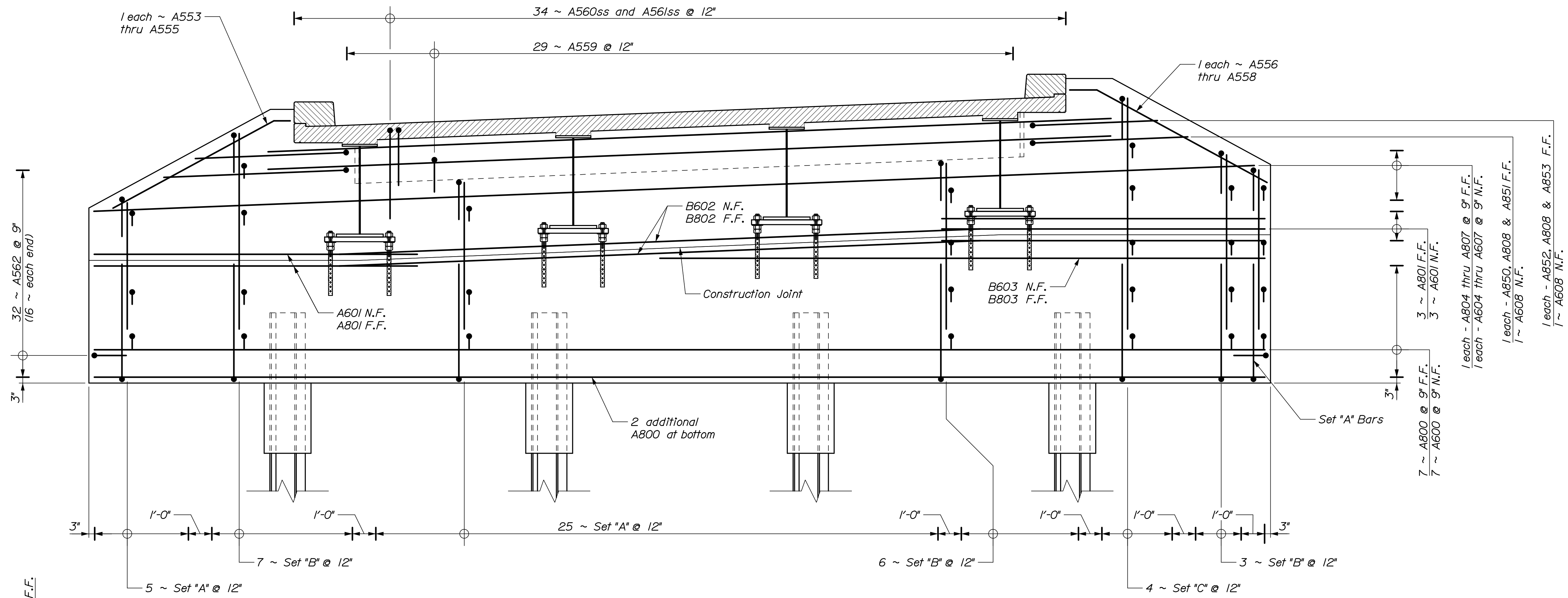


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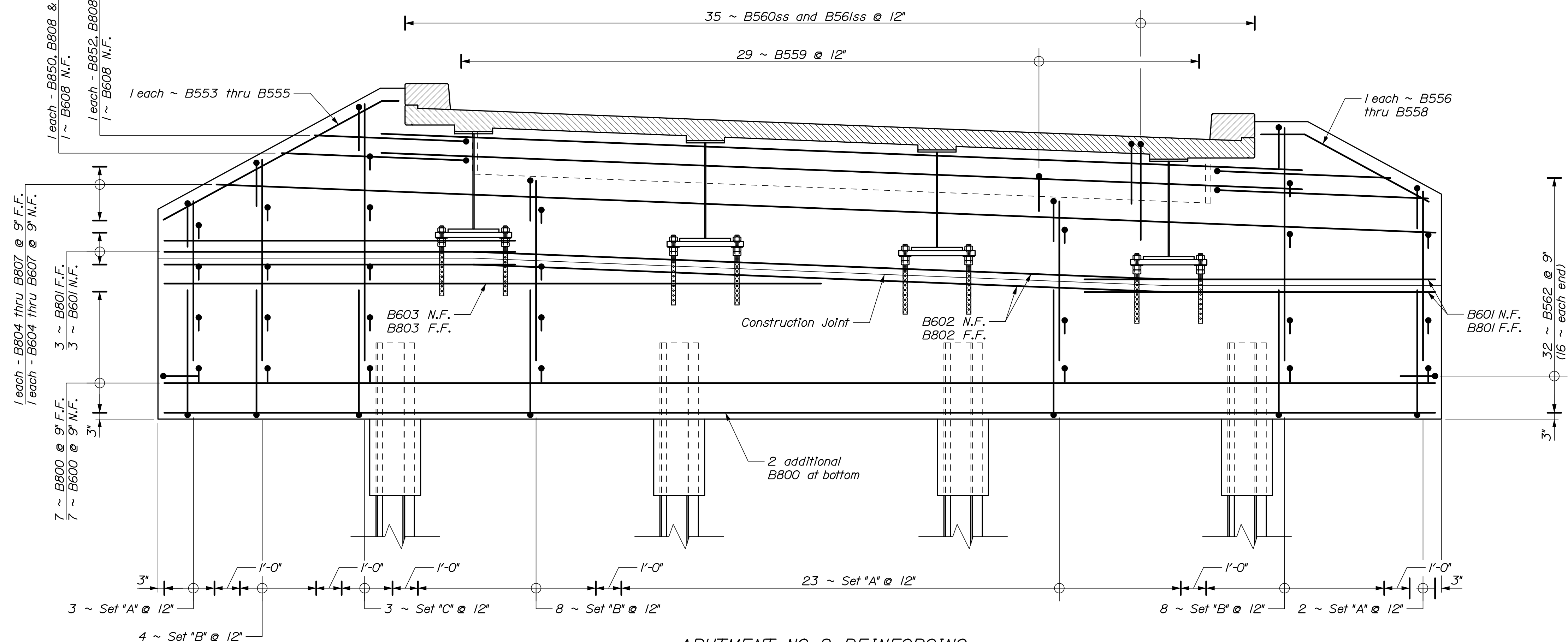
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Division:

Filename: 044_Abument Reinforcing.dgn



ABUTMENT NO. 1 REINFORCING



ABUTMENT NO. 2 REINFORCING

NOTES:

- Minimum laps shall be:
*5 = 2'-5" (Vertical).
- Flare horizontal bars at and above the construction joint to match the cross slope.

REINFORCEMENT NOTES:

- Set "A" 1 ~ A550 (B550)
1 ~ A551 (B551)
2 ~ A500 (B500) (I E.F.)
A552 (B552)
(placed as shown in section, vertically - 24" max.)
- Set "B" 1 ~ A550 (B550)
1 ~ A551 (B551)
2 ~ A501 (B501) (I E.F.)
A552 (B552)
(placed as shown in section, vertically - 24" max.)
- Set "C" 1 ~ A550 (B550)
1 ~ A551 (B551)
2 ~ A502 (B502) (I E.F.)
A552 (B552)
(placed as shown in section, vertically - 24" max.)

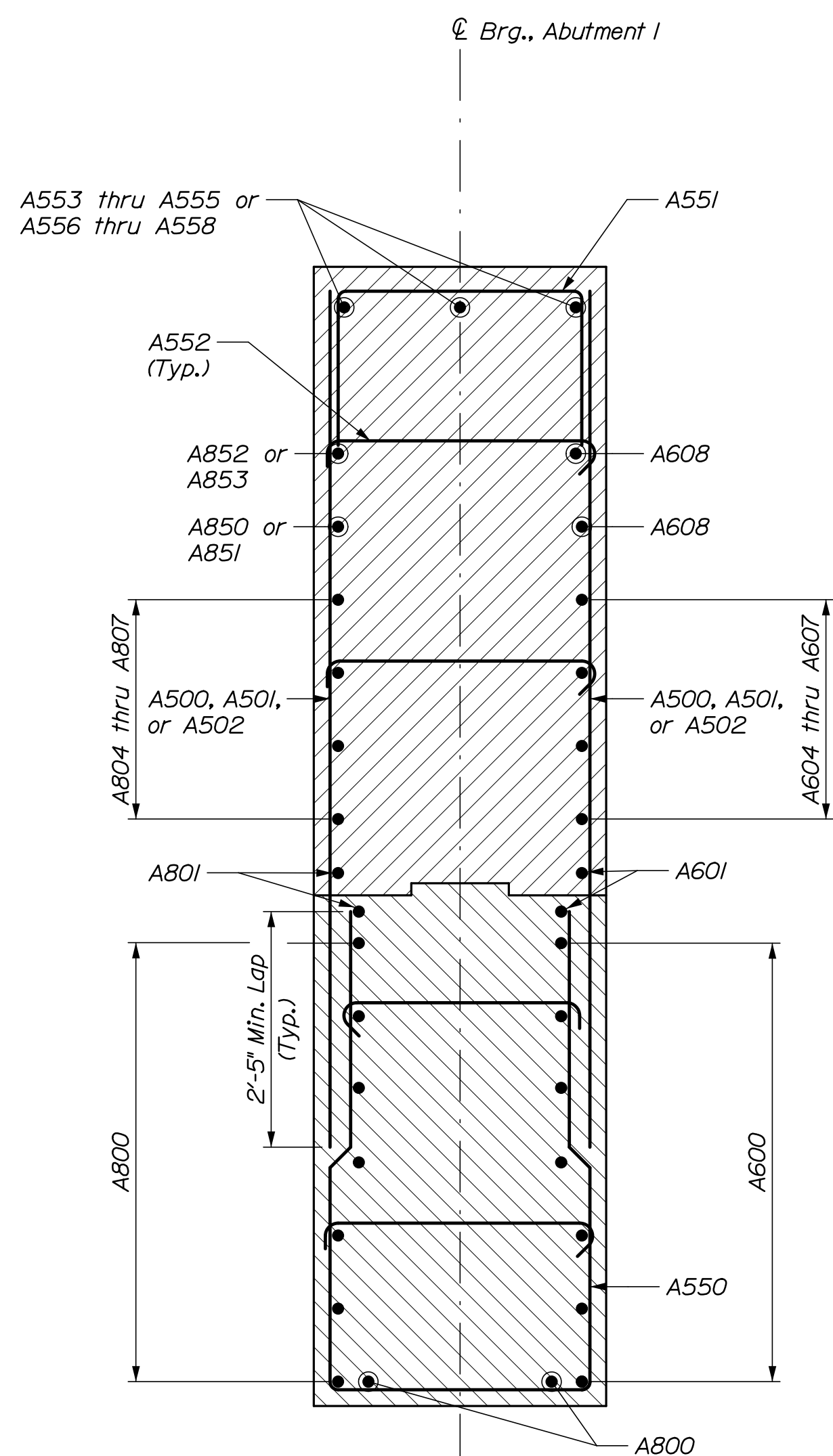
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2165(800)		BRIDGE NO. 3215		WIN		021658.00		BRIDGE PLANS	
MERRILL BRIDGE		WEST BRANCH ELLIS RIVER		OXFORD COUNTY		ANDOVER		ABUTMENT REINFORCING		SHEET NUMBER		44	
PROJ. MANAGER	J. KITTRIDGE	BY	P. Bishop	DATE	11/18	SIGNATURE		P.E. NUMBER		DATE			
DESIGN-DETAILED	N. Willey	CHECKED-REVIEWED	A. Stephens	DESIGN-DETAILED		REVISIONS 1		REVISIONS 2		REVISIONS 3		FIELD CHANGES	
<p>HNTB</p> <p>OF 52</p>													

Date: 11/2/2018

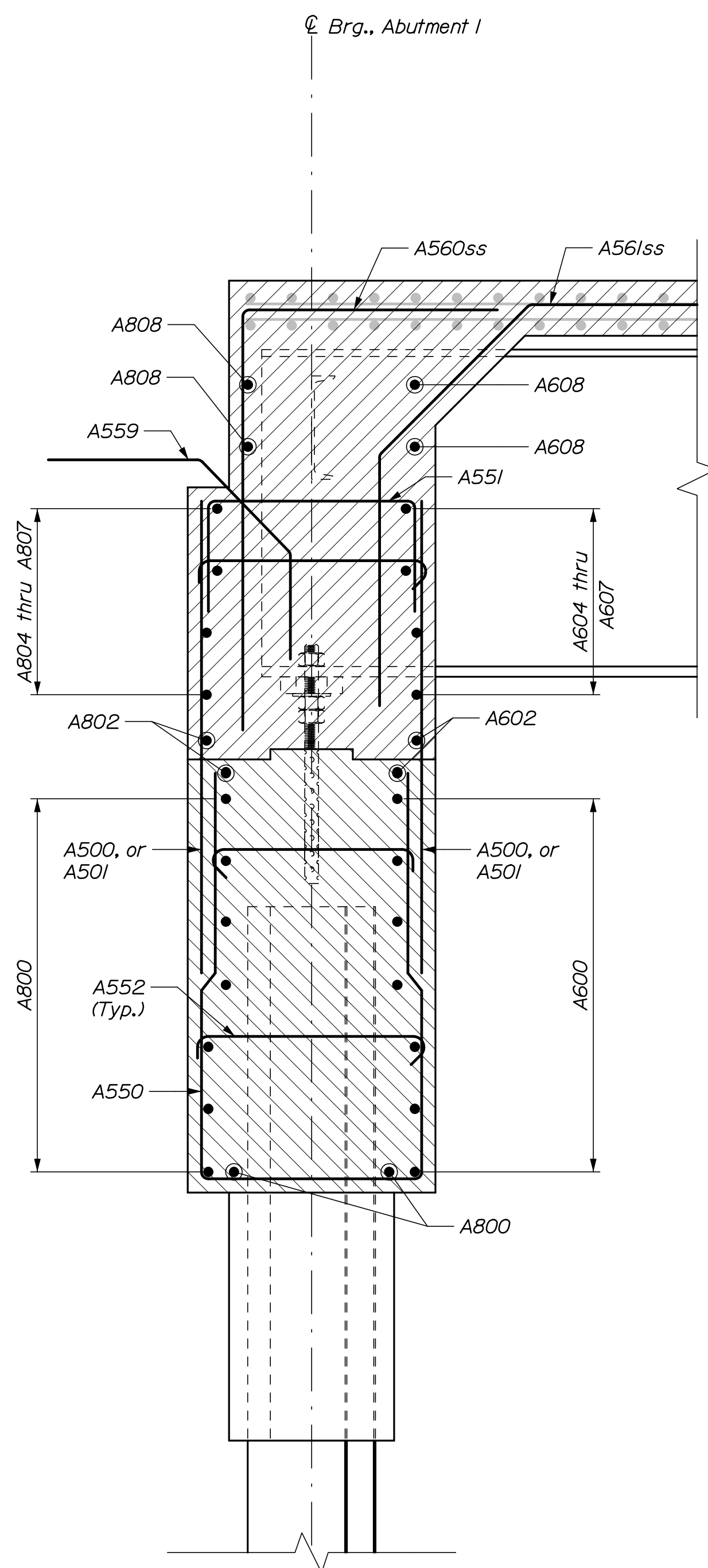
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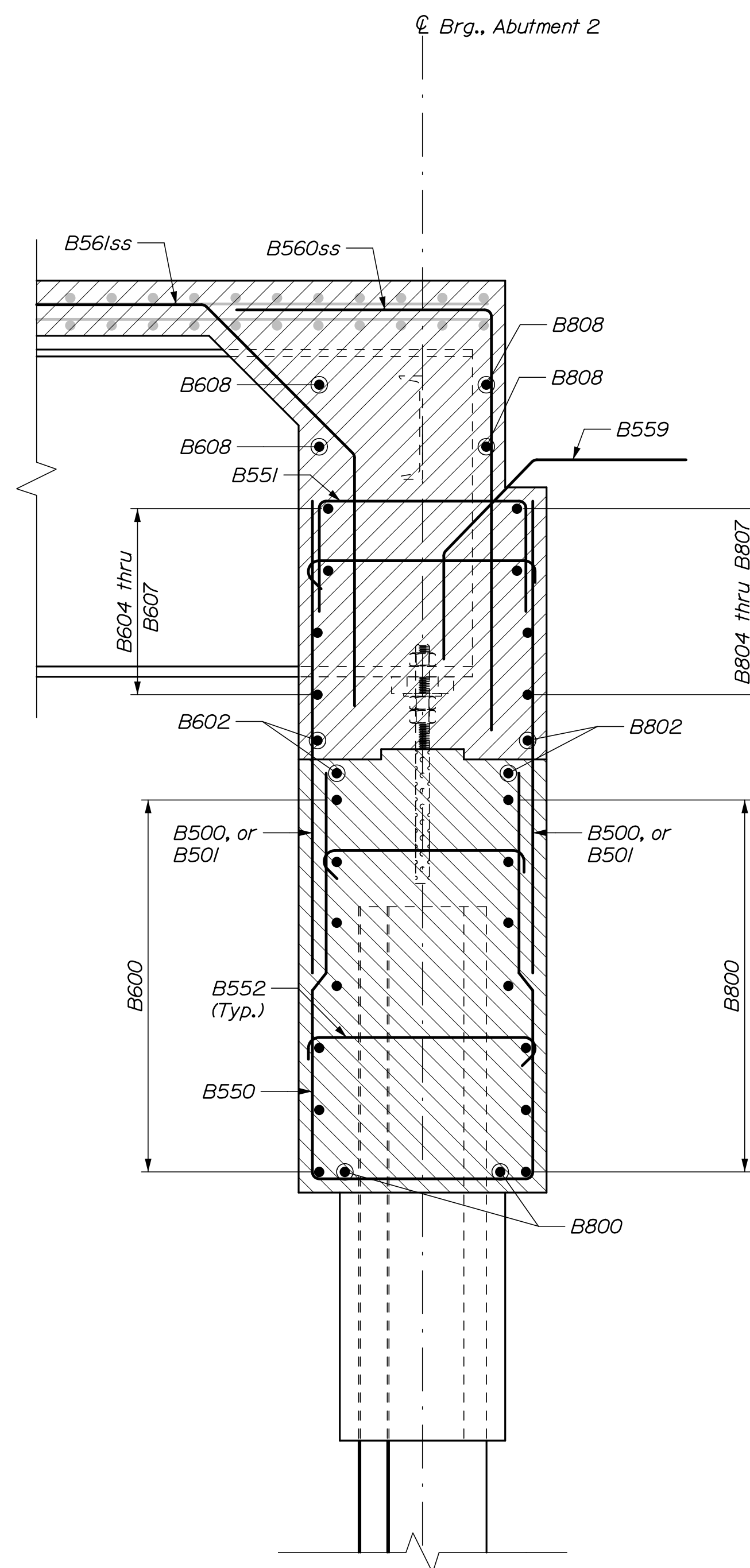
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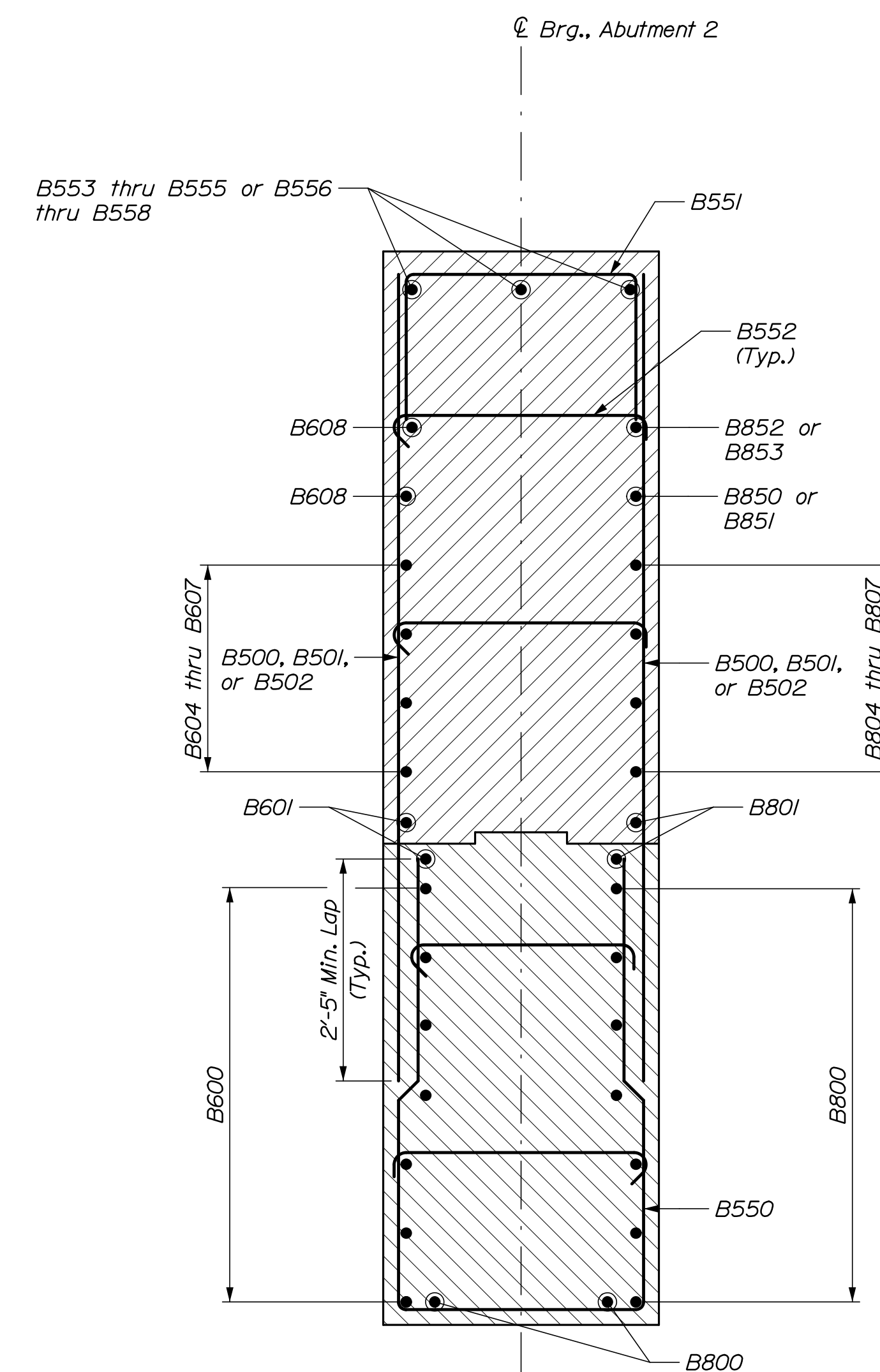
ABUTMENT NO. 1 WINGWALL SECTION



ABUTMENT NO. 1 SECTION



ABUTMENT NO. 2 SECTION



ABUTMENT NO. 2 WINGWALL SECTION

NOTES:

1. Deck reinforcing shown in grayscale for clarity.
2. Where A552 or B552 do not intersect horizontal reinforcing, hook bar around vertical reinforcing.

PROJ. MANAGER	J. KITTRIDGE	BY	DATE
DESIGN-DETAILED	N. Willey	P. Bishop	11/18
CHECKED-REVIEWED	J. Wazugh	A. Stephens	11/18
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE	P.E. NUMBER	DATE

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
ANDOVER OXFORD COUNTY
ABUTMENT SECTIONS

SHEET NUMBER
45
OF 52

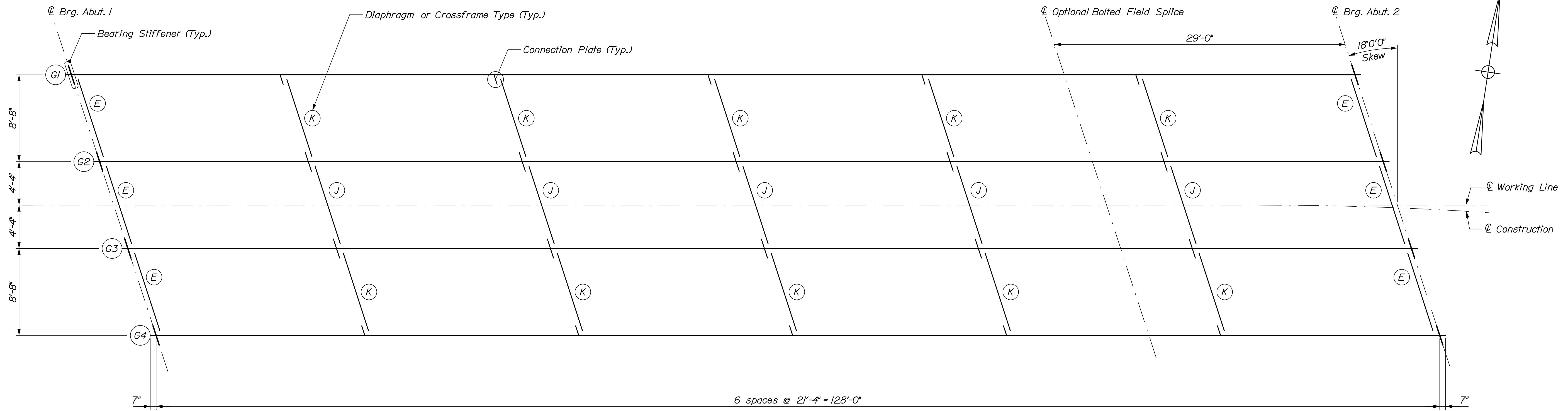


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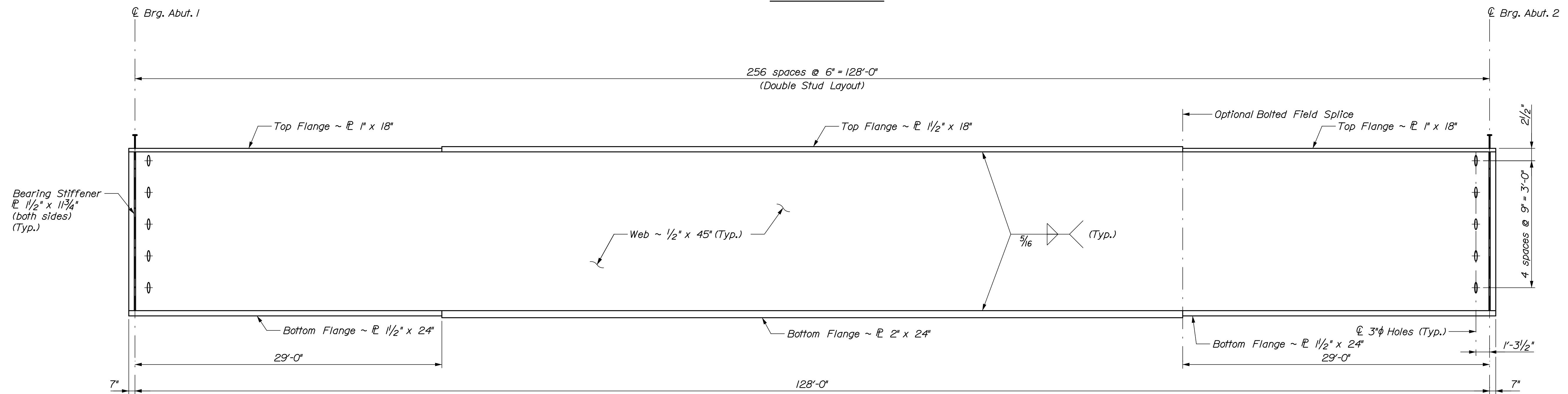
Username:

Division:

Filename: 046_Framing Plan.dgn



FRAMING PLAN



GIRDER ELEVATION

514 studs per girder (2056 studs total)

GIRDER	BOTTOM OF SLAB ELEVATIONS										
	℄ Brg. Abut. 1	0.1 x L	0.2 x L	0.3 x L	0.4 x L	0.5 x L	0.6 x L	0.7 x L	0.8 x L	0.9 x L	℄ Brg. Abut. 2
G1	662.93	663.22	663.48	663.71	663.90	664.05	664.16	664.22	664.25	664.24	664.26
G2	662.60	662.89	663.15	663.38	663.58	663.73	663.83	663.89	663.92	663.92	663.94
G3	662.26	662.55	662.82	663.05	663.24	663.39	663.50	663.56	663.58	663.59	663.63
G4	661.93	662.21	662.48	662.71	662.91	663.06	663.16	663.22	663.25	663.27	663.33

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
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WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

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

DATE	BY	DATE
11/18	P. Bishop	11/18
11/18	A. Stephens	

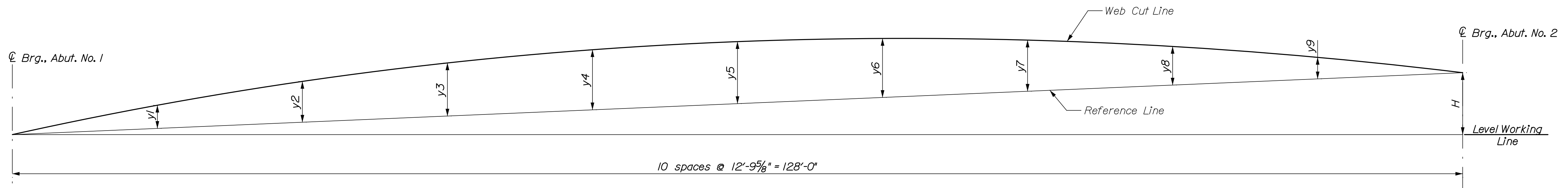
MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
OXFORD COUNTY
ANDOVER
FRAMING PLAN

SHEET NUMBER

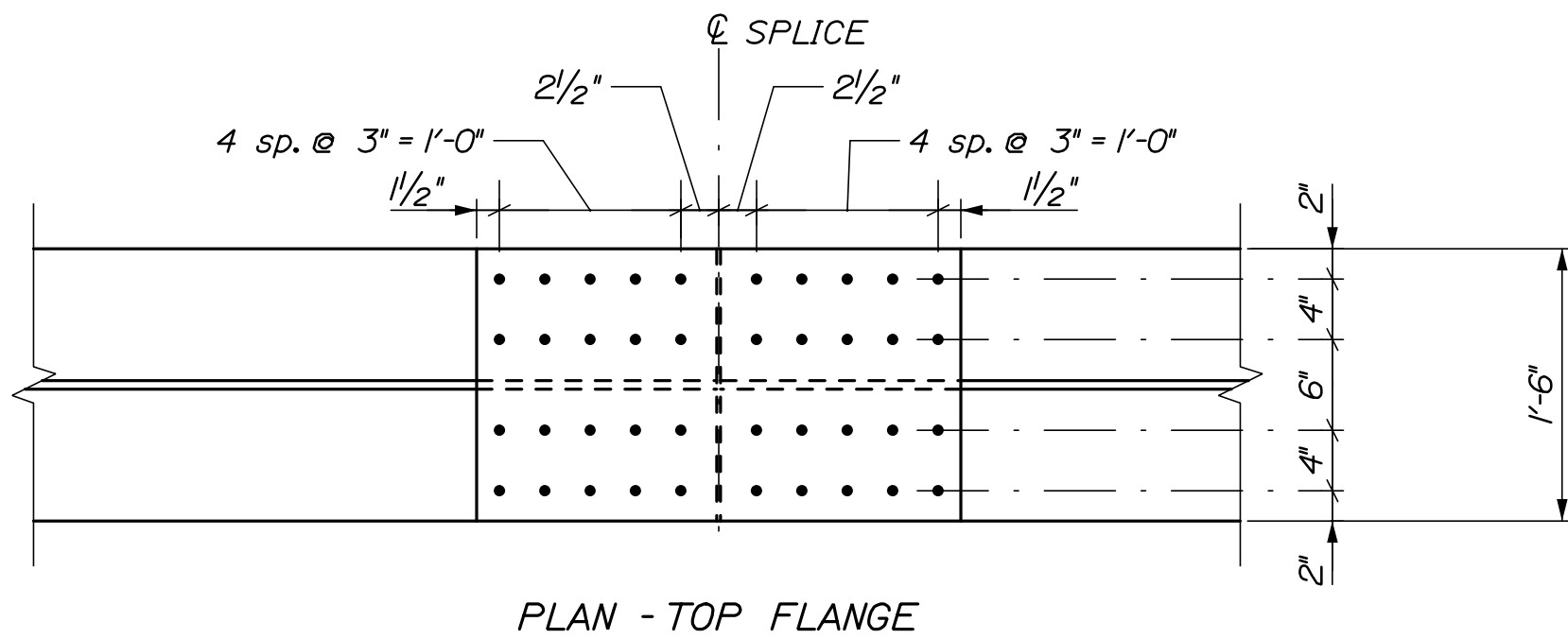
46

OF 52

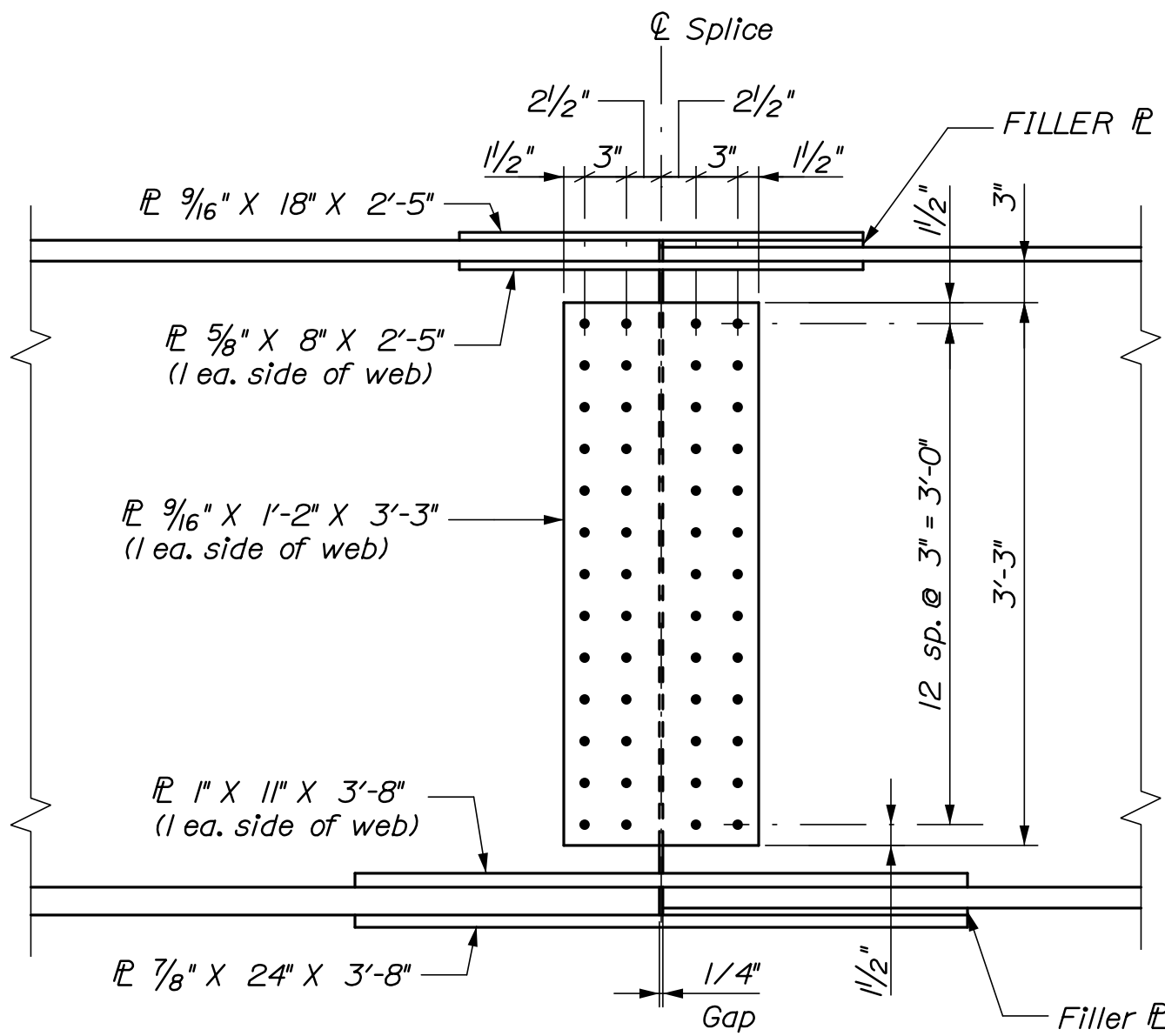




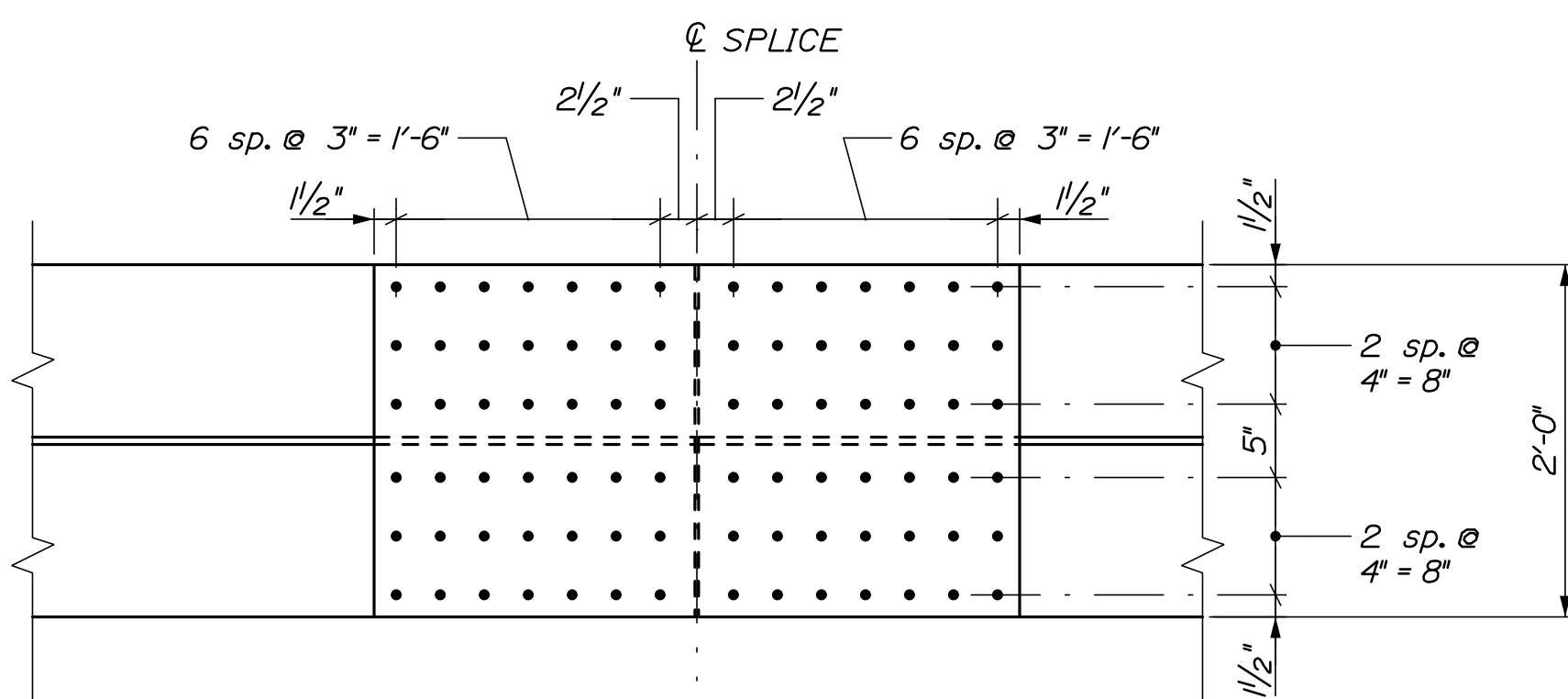
CAMBER DIAGRAM



PLAN - TOP FLANGE



ELEVATION



PLAN - BOTTOM FLANGE

OPTIONAL BOLTED FIELD SPLICE

GIRDER	CAMBER ORDINATES (INCHES)											
	H	℄ Brg., Abut. No. 1	y1	y2	y3	y4	y5	y6	y7	y8	y9	℄ Brg., Abut. No. 2
G1	16 7/8"	0	2 7/16	4 9/16	6 1/16	7 1/16	7 3/8	6 5/16	5 7/8	4 3/16	2 1/16	0
G2	16 1/2"	0	2 7/16	4 9/16	6 1/8	7 1/16	7 3/8	6 5/16	5 3/16	4 1/8	1 9/16	0
G3	16 1/8"	0	2 7/16	4 1/2	6	6 5/16	7 3/16	6 1/16	5 9/16	3 3/16	1 3/4	0
G4	15 5/16"	0	2 3/8	4 1/16	5 7/8	6 3/16	7	6 1/2	5 5/16	3 1/2	1 1/2	0

GIRDER	DEAD LOAD COMPONENT	DEAD LOAD DEFLECTIONS (INCHES)										
		℄ Brg., Abut. No. 1	y1	y2	y3	y4	y5	y6	y7	y8	y9	℄ Brg., Abut. No. 2
G1	Steel Dead Load	0.00	-0.61	-1.14	-1.52	-1.78	-1.87	-1.78	-1.52	-1.13	-0.60	0.00
	Deck Concrete Load	0.00	-1.42	-2.65	-3.55	-4.14	-4.33	-4.13	-3.55	-2.64	-1.42	0.00
	Superimposed Dead Load	0.00	-0.46	-0.86	-1.15	-1.34	-1.40	-1.34	-1.15	-0.84	-0.46	0.00
G2	Steel Dead Load	0.00	-0.61	-1.15	-1.55	-1.79	-1.87	-1.79	-1.55	-1.15	-0.61	0.00
	Deck Concrete Load	0.00	-1.48	-2.74	-3.67	-4.27	-4.48	-4.27	-3.67	-2.74	-1.48	0.00
	Superimposed Dead Load	0.00	-0.44	-0.84	-1.14	-1.32	-1.39	-1.32	-1.14	-0.84	-0.44	0.00
G3	Steel Dead Load	0.00	-0.61	-1.15	-1.55	-1.79	-1.87	-1.79	-1.55	-1.15	-0.61	0.00
	Deck Concrete Load	0.00	-1.48	-2.74	-3.67	-4.27	-4.48	-4.27	-3.67	-2.74	-1.48	0.00
	Superimposed Dead Load	0.00	-0.44	-0.84	-1.14	-1.32	-1.39	-1.32	-1.14	-0.84	-0.44	0.00
G4	Steel Dead Load	0.00	-0.60	-1.13	-1.52	-1.78	-1.87	-1.78	-1.52	-1.14	-0.61	0.00
	Deck Concrete Load	0.00	-1.48	-2.75	-3.68	-4.28	-4.49	-4.28	-3.68	-2.75	-1.48	0.00
	Superimposed Dead Load	0.00	-0.46	-0.84	-1.15	-1.34	-1.40	-1.34	-1.15	-0.86	-0.46	0.00

STRUCTURAL STEEL NOTES

- Camber ordinates, as shown, are computed to compensate for all dead load deflections and for the finished grade profile.
- No transverse butt-weld splices will be allowed in the flange plates or web plates within 10 feet or 10% 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 3 feet from transverse butt-welds in the web plates and no transverse web or flange butt-welds shall be located within 3 feet 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 not less than 20 feet in length unless otherwise shown on the plans.
- Bearing stiffeners shall be plumb after erection and dead loading of the structure. Intermediate web stiffeners may be either plumb or normal to the top flange.
- Crossframe or diaphragm connection plates may be either plumb or normal to the top flange.
- All connection plates and stiffeners shall be welded to the top and bottom flanges using 5/16" fillet welds.
- Optional bolted field splice connections shall be made using 7/8" φ ASTM F3125 Grade A325 bolts. Hole size shall be 15/16" φ. Bolts shall be installed with heads down at all bottom flange connections and heads up at all top flange connections. Bolt threads shall be excluded from the shear plane of the field splice connection.
- Structural steel including the girders, stiffeners, and connection plates shall be coated in accordance with Standard Specification Section 506, Shop Applied Protective Coating - Steel (Thermal Spray Coating). At the Contractor's option, crossframes shall be coated in accordance with either Standard Specification Section 506, Shop Applied Protective Coating - Steel (Thermal Spray Coating) or Standard Specification Section 506, Shop Applied Protective Coating - Steel (Hot-Dip Galvanizing). Payment for structural steel coatings will be made under Item No. 506.9105, Thermal Sparay Coating - Shop Applied.
- Shear connectors shall be installed per Standard Detail 505(01).
- All bolts, nuts, and washers shall be hot dip galvanized in accordance with ASTM A153.

Date: 11/2/2018

Username:

Division:

Filename: 047_StructuralSteelDetails.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)

BRIDGE NO. 3215
WIN
021658.00
BRIDGE PLANS

PROJ. MANAGER	J. KITTRIDGE	DATE	11/8	SIGNATURE
CHECKED-REVIEWED	N. Willey	DATE <td>11/8</td> <td></td>	11/8	
DESIGN-DETAILED	P. Bishop	DATE <td></td> <td></td>		
DESIGN-REVIEWED	A. Stephens	DATE <td></td> <td></td>		
DESIGN-DETAILED		DATE <td></td> <td></td>		
REVISIONS 1		DATE <td></td> <td></td>		
REVISIONS 2		DATE <td></td> <td></td>		
REVISIONS 3		DATE <td></td> <td></td>		
REVISIONS 4		DATE <td></td> <td></td>		
FIELD CHANGES		DATE <td></td> <td></td>		

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
OXFORD COUNTY
ANDOVER
STRUCTURAL STEEL DETAILS

SHEET NUMBER

47

OF 52

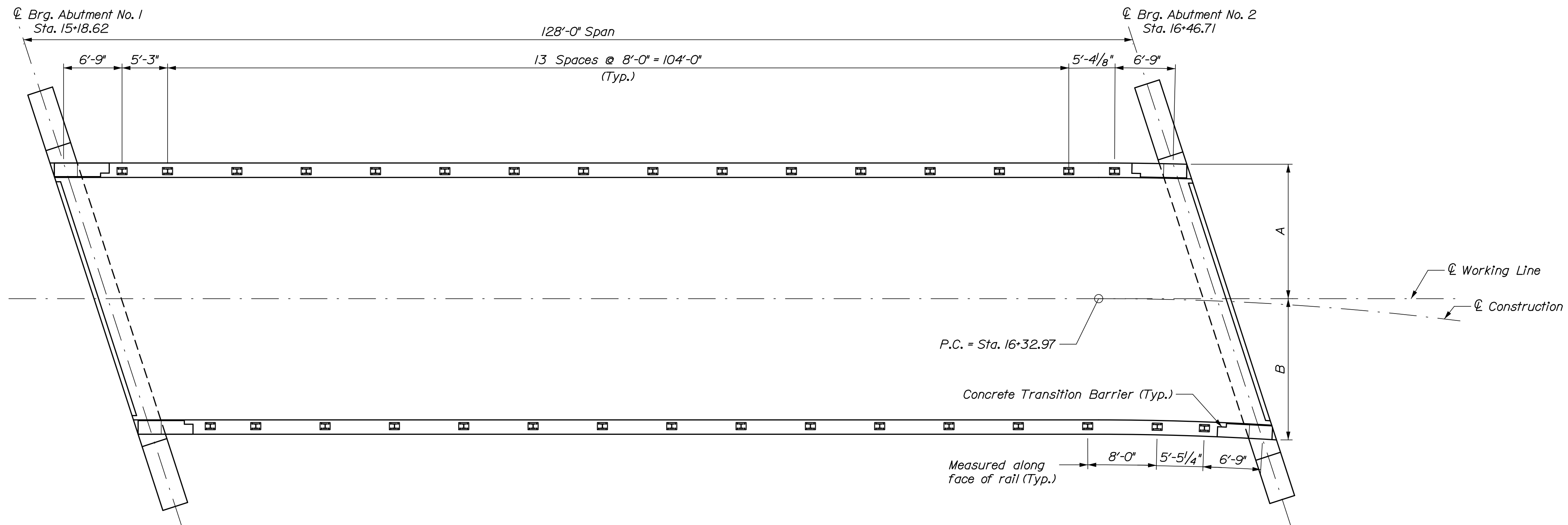
HNTB

Date: 11/2/2018

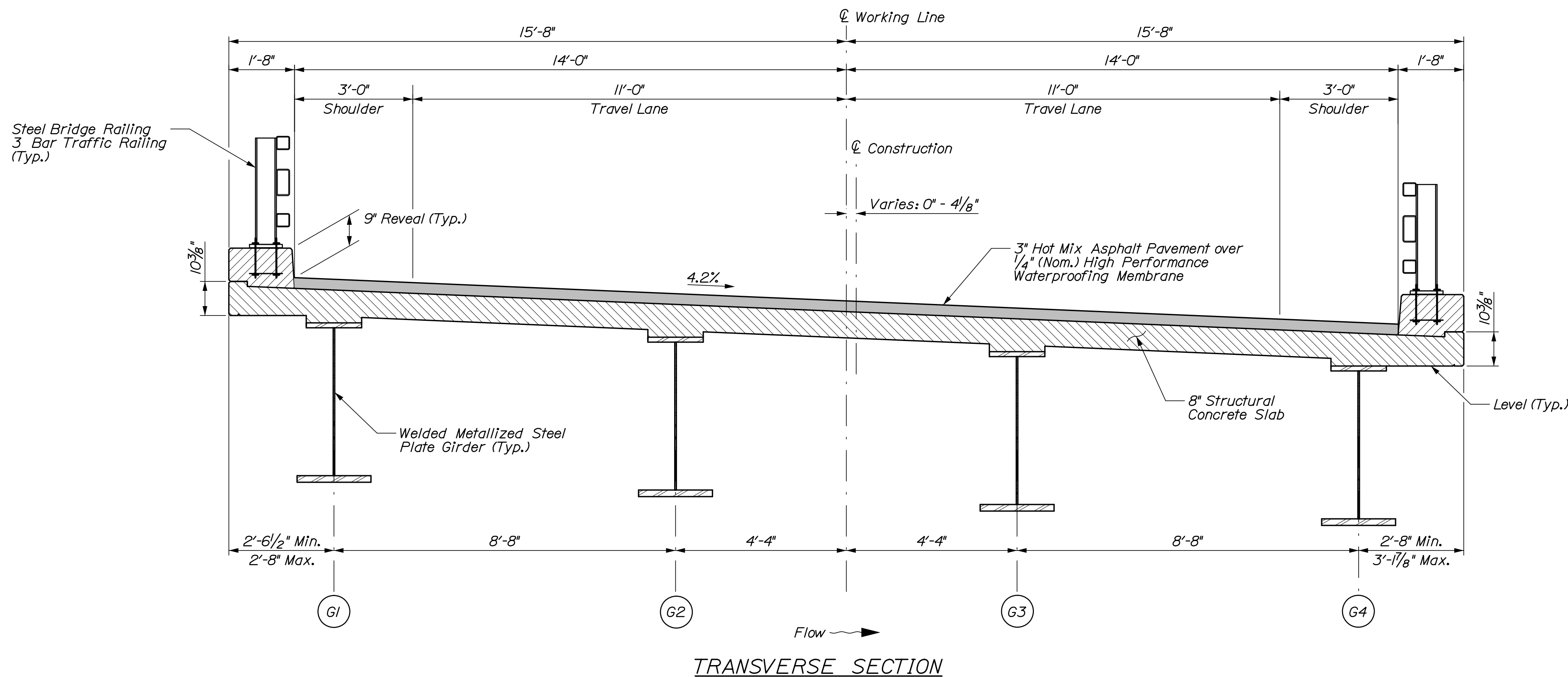
Username:

Division:

Filename: 048_Superstructure Plan.dgn



SUPERSTRUCTURE PLAN



TRANSVERSE SECTION

	SLAB FASCIA OFFSETS					
Station	STA 16+32.97	STA 16+37.97	STA 16+42.97	℄ Brg., Abut. No. 2	STA 16+47.97	STA 16+53.51
Distance from P.C.	+0	+5'-0"	+10'-0"	+3'-8 7/8"	+15'-0"	+20'-6 3/8"
"A"	15'-8"	15'-7 7/8"	15'-6 3/8"	-	-	-
"B"	15'-8"	15'-8 1/2"	15'-9 7/8"	15'-11 1/2"	16'-0 1/8"	16'-3 3/4"

SUPERSTRUCTURE NOTES

- The theoretical blocking used for design of the structure is 3" inches (2" clear) at the centerline of bearing of the abutments. Refer to Standard Detail 502(02) for blocking details.
- Reinforcement 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.
- The superstructure slab and upper portions of the abutments shall be placed in one continuous operation and shall be kept plastic until the entire placement has been made.
- Provide 3 additional stirrups in the curbs at each Transition Barrier location.
- Transition Barrier reinforcement shall be stainless steel reinforcement.
- Bar supports for GFRP reinforcement shall be plastic, dielectric material, or other approved material. See Special Provision Subsection 530.6 for additional requirements.
- The Contractor shall install Concrete Transition Barrier vertical closed stirrups, as shown in Standard Details Section 526, prior to the placement of the curb or sidewalk concrete.
- The use of Precast Concrete Deck Panels will not be allowed on this project.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-2165(800)
WIN
021658.00
BRIDGE NO. 3215
BRIDGE PLANS

PROJ. MANAGER	BY	DATE
J. Kittridge	P. Bishop	11/8
DESIGN-DETAILED	N. Wiley	11/8
CHECKED-REVIEWED	A. Stephens	11/8
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PROJ. MANAGER	BY	DATE
J. Kittridge	P. Bishop	11/8
DESIGN-DETAILED	N. Wiley	11/8
CHECKED-REVIEWED	A. Stephens	11/8
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

MERRILL BRIDGE
WEST BRANCH ELLIS RIVER
OXFORD COUNTY
ANDOVER
SUPERSTRUCTURE PLAN

SHEET NUMBER

48

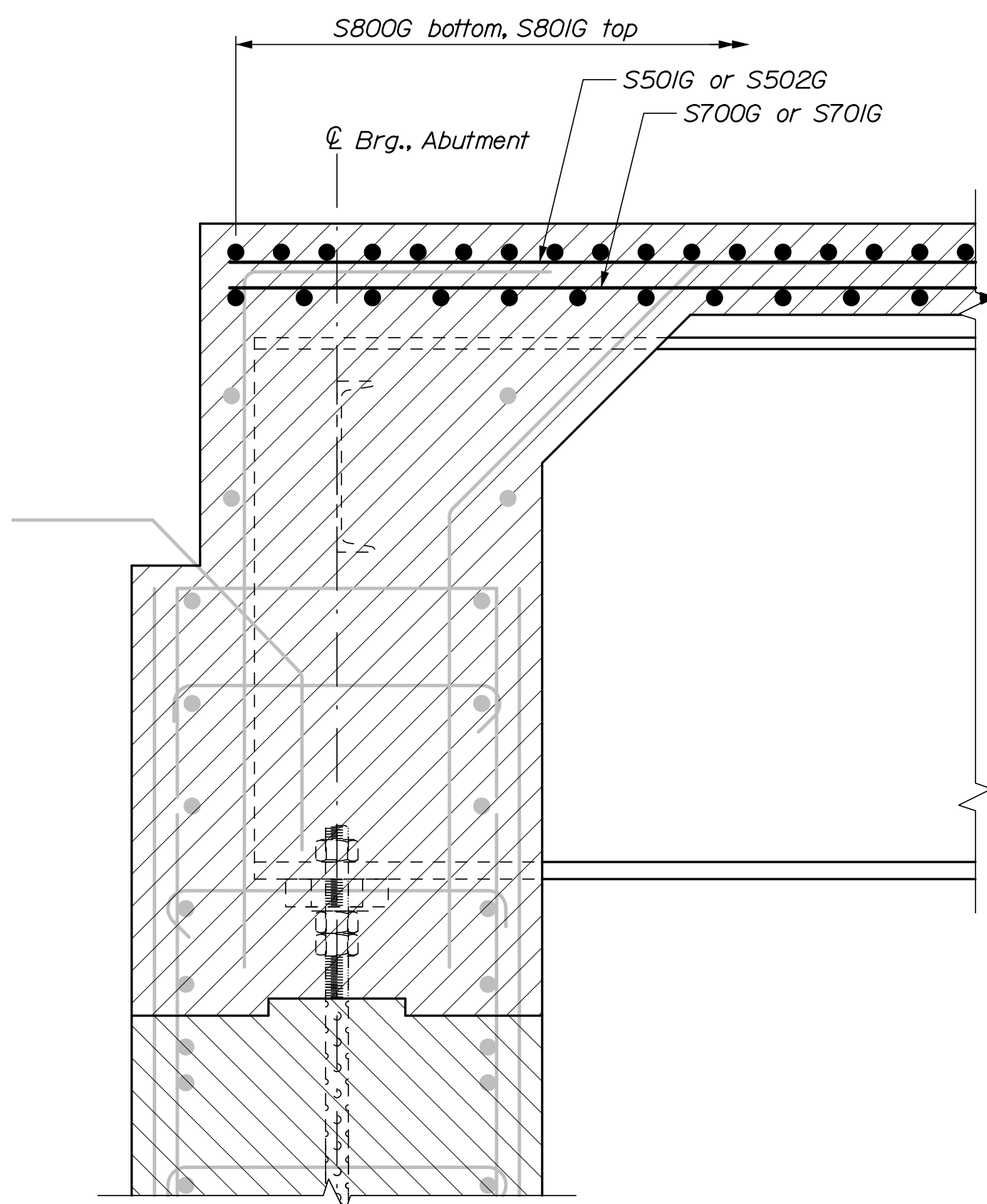
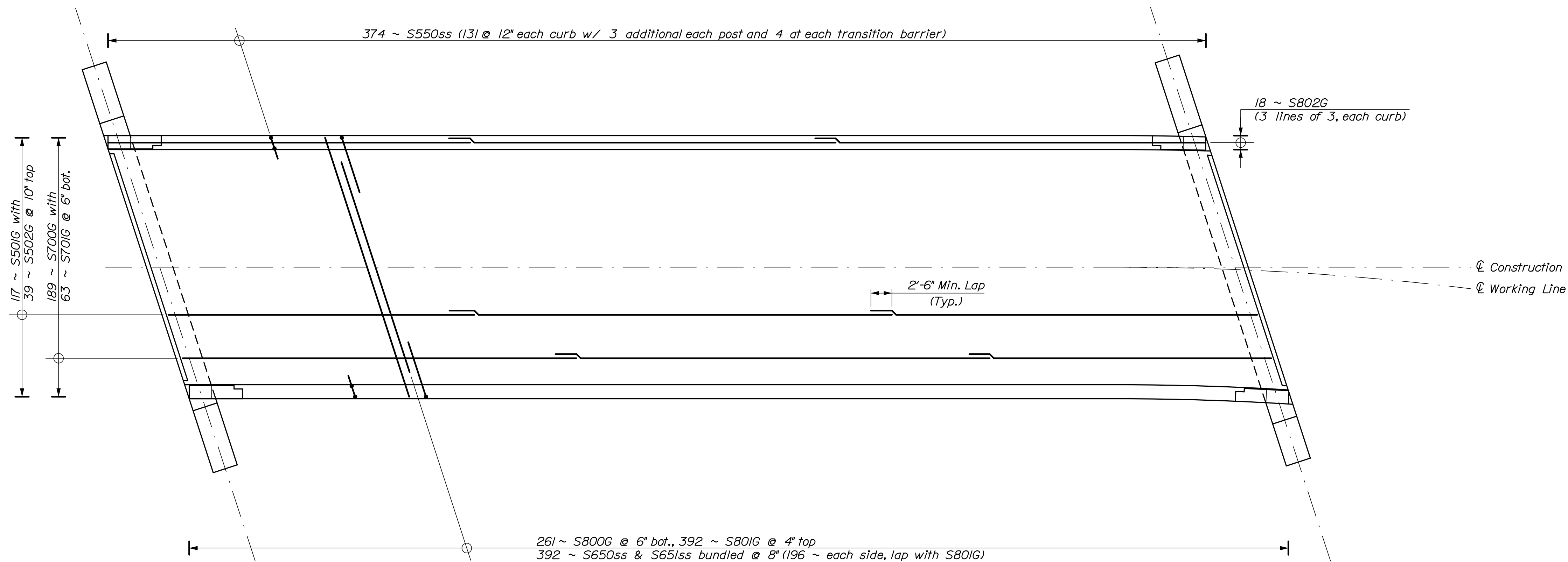
OF 52



Date: 11/2/2018

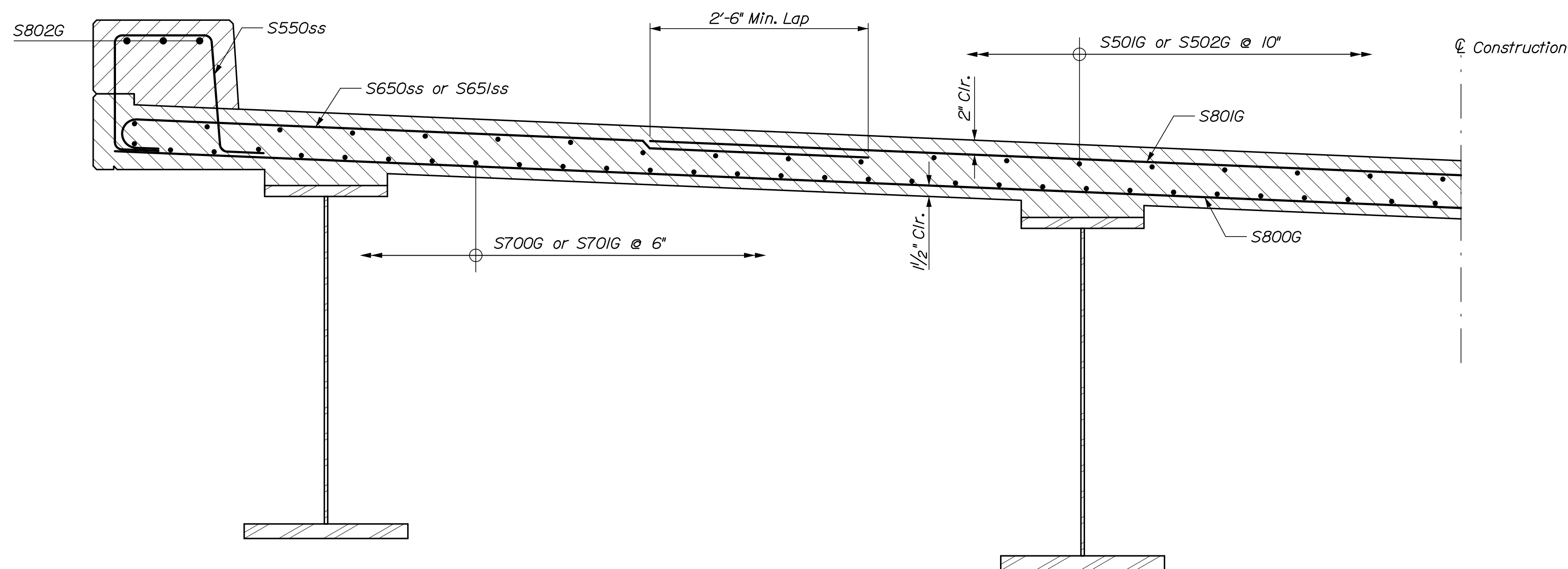
Username:

Filename: 049_Superstructure Reinforcing.dgn Division:



PARTIAL LONGITUDINAL SECTION

SUPERSTRUCTURE REINFORCING PLAN



PARTIAL TRANSVERSE SECTION

NOTE:
1. Abutment reinforcing shown screened for clarity.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2165(800)		BRIDGE NO. 3215		WIN		021658.00		BRIDGE PLANS	
PROJ. MANAGER	J. KITTRIDGE	BY	P. Bishop	DATE	11/18	DESIGN-DETAILED	N. Willey	SIGNATURE		P.E. NUMBER		DATE	
CHECKED-REVIEWED	J. Wazuh	DESIGN-DETAILED		REVISIONS 1		REVISIONS 2		REVISIONS 3		REVISIONS 4		FIELD CHANGES	
MERRILL BRIDGE WEST BRANCH ELLIS RIVER OXFORD COUNTY ANDOVER SUPERSTRUCTURE REINFORCING													
SHEET NUMBER												49	
												OF 52	



Date: 11/2/2018

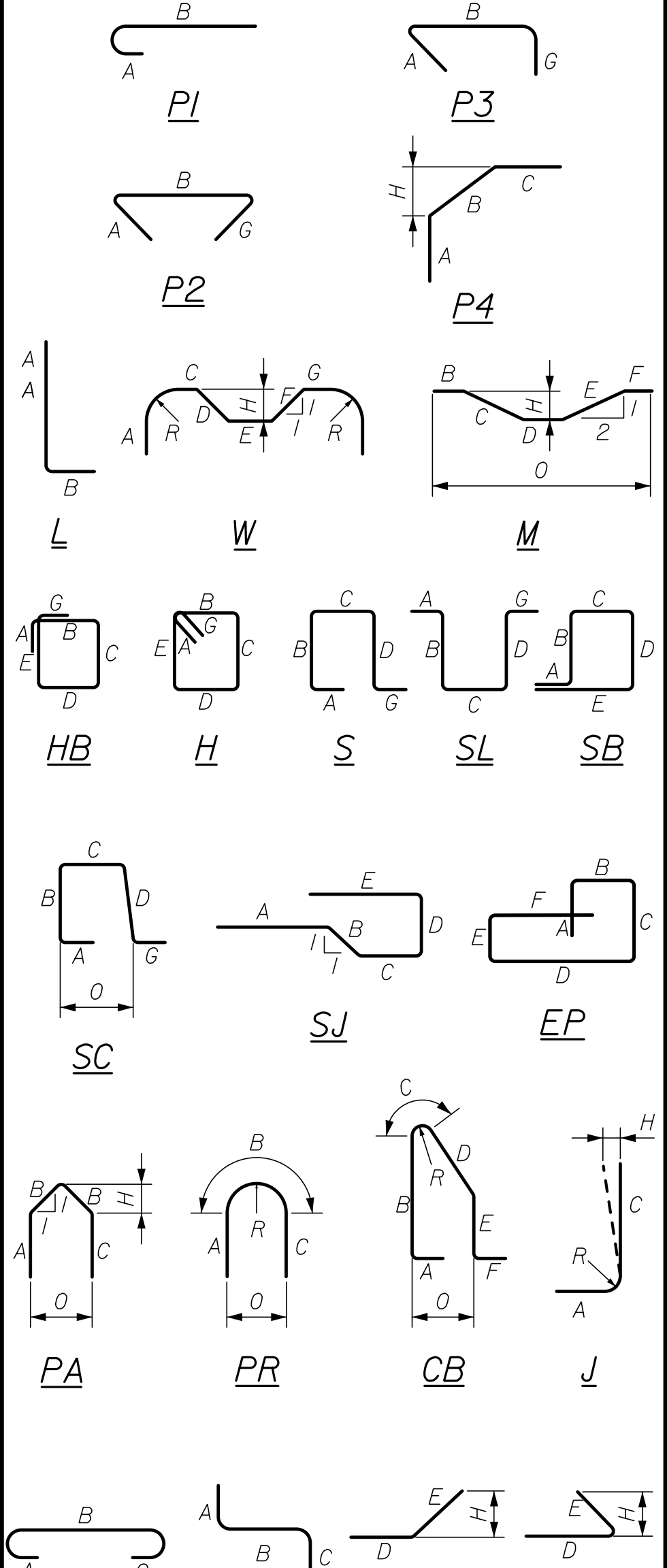
Username:

Division:

Filename: 050_Reinforcing Schedule.dgn

STRAIGHT BARS				BENT BARS														
MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
Abutment 1 (Plain Bars)				Abutment 1 (Plain Bars)														
A500	62	7'-0"	Front and Back Face Vertical	A550	51	12'-4"	S	0'-0"	4'-10"	2'-8"	4'-10"							Bottom Vertical Stirrup
A501	32	9'-0"	Front and Back Face Vertical	A551	51	6'-8"	S	0'-0"	2'-0"	2'-8"	2'-0"							Top Vertical Stirrup
A502	8	10'-3"	Front and Back Face Vertical	A552	177	3'-7 1/2"	P3	0'-5 1/2"	2'-8"									Abutment and Wing Wall Shear Ties
A600	7	50'-0"	Horizontal, Near Face	A553	1	9'-8"	V				1'-1"	8'-7"			4'-2"			South Wingwall, Top Sloped Bar
A601	5	14'-8"	Horizontal, Wingwall, Near Face	A554	1	9'-4"	V				0'-9"	8'-7"			4'-2"			South Wingwall, Top Sloped Bar
A602	2	27'-4"	Horizontal, Sloped, Near Face	A555	1	9'-0"	V				0'-5"	8'-7"			4'-2"			South Wingwall, Top Sloped Bar
A603	1	24'-4"	Horizontal, Wingwall Long, Near Face	A556	1	9'-0"	V				1'-4"	7'-8"			4'-0"			North Wingwall, Top Sloped Bar
A604	1	50'-0"	Horizontal, Near Face	A557	1	9'-5"	V				1'-9"	7'-8"			4'-0"			North Wingwall, Top Sloped Bar
A605	1	50'-0"	Horizontal, Near Face	A558	1	9'-11"	V				1'-3"	7'-8"			4'-0"			North Wingwall, Top Sloped Bar
A606	1	49'-9"	Horizontal, Near Face	A559	29	5'-3"	P4	1'-3"	1'-6"	2'-6"	2'-3"	7'-8"			1'-0"			Approach Slab Pin
A607	1	47'-0"	Horizontal, Near Face	A562	36	6'-8"	S	0'-0"	2'-0"	2'-8"	2'-0"				0'-0"			Abutment End Stirrup
A608	2	41'-5"	Horizontal, Near Face	A850	1	9'-1"	L	7'-9"	1'-4"									Horizontal, Far Face, Wingwall Bent
A800	9	50'-0"	Horizontal, Far Face	A851	1	8'-8"	L	7'-4"	1'-4"									Horizontal, Far Face, Wingwall Bent
A801	5	14'-8"	Horizontal, Wingwall, Far Face	A852	1	8'-1"	L	6'-9"	1'-4"									Horizontal, Far Face, Wingwall Bent
A802	2	27'-4"	Horizontal, Sloped, Far Face	A853	1	7'-4"	L	6'-0"	1'-4"									Horizontal, Far Face, Wingwall Bent
A803	1	24'-4"	Horizontal, Wingwall Long, Near Face	Abutment 1 (Stainless Steel)														
A804	1	50'-0"	Horizontal, Far Face	A560ss	34	8'-0"	L	3'-0"	5'-0"									Deck Pin, Front Face
A805	1	50'-0"	Horizontal, Far Face	A561ss	34	8'-0"	P4	3'-0"	2'-6"	2'-6"						1'-9"		Haunch Bar, Near Face
A806	1	49'-9"	Horizontal, Far Face	Abutment 2 (Plain Bars)														
A807	1	47'-0"	Horizontal, Far Face	B550	51	12'-4"	S	0'-0"	4'-10"	2'-8"	4'-10"							Bottom Vertical Stirrup
A808	2	38'-6"	Horizontal, Far Face	B551	51	6'-8"	S	0'-0"	2'-0"	2'-8"	2'-0"							Top Vertical Stirrup
B500	56	7'-0"	Front and Back Face Vertical	B552	186	3'-7 1/2"	P3	0'-5 1/2"	2'-8"									Abutment and Wing Wall Shear Ties
B501	40	9'-0"	Front and Back Face Vertical	B553	1	11'-0"	V				1'-3"	9'-9"			4'-9"			South Wingwall, Top Sloped Bar
B502	6	10'-3"	Front and Back Face Vertical	B554	1	10'-6"	V				0'-9"	9'-9"			4'-9"			South Wingwall, Top Sloped Bar
B600	7	50'-0"	Horizontal, Near Face	B555	1	10'-0"	V				0'-4"	9'-9"			4'-9"			South Wingwall, Top Sloped Bar
B601	5	15'-6"	Horizontal, Wingwall, Near Face	B556	1	7'-1"	V				1'-4"	5'-9"			2'-10"			North Wingwall, Top Sloped Bar
B602	2	27'-4"	Horizontal, Sloped, Near Face	B557	1	7'-8"	V				1'-11"	5'-9"			2'-10"			North Wingwall, Top Sloped Bar
B603	1	25'-2"	Horizontal, Wingwall Long, Near Face	B558	1	8'-2"	V				2'-5"	5'-9"			2'-10"			North Wingwall, Top Sloped Bar
B604	1	50'-0"	Horizontal, Near Face	B559	29	5'-3"	P4	1'-3"	1'-6"	2'-6"	2'-0"				0'-0"			Approach Slab Pin
B605	1	49'-3"	Horizontal, Near Face	B562	36	6'-8"	S	0'-0"	2'-0"	2'-8"	2'-0"							Abutment End Stirrup
B606	1	47'-10"	Horizontal, Near Face	B850	1	8'-10"	L	7'-6"	1'-4"									Horizontal, Far Face, Wingwall Bent
B607	1	46'-6"	Horizontal, Near Face	B851	1	9'-11"	L	8'-7"	1'-4"									Horizontal, Far Face, Wingwall Bent
B608	2	42'-4"	Horizontal, Near Face	B852	1	7'-7"	L	6'-3"	1'-4"									Horizontal, Far Face, Wingwall Bent
B800	9	50'-0"	Horizontal, Far Face	B853	1	8'-5"	L	7'-1"	1'-4"									Horizontal, Far Face, Wingwall Bent
B801	5	15'-6"	Horizontal, Wingwall, Far Face	Abutment 2 (Stainless Steel)														
B802	2	27'-4"	Horizontal, Sloped, Far Face	B560ss	35	8'-0"	L	3'-0"	5'-0"									Deck Pin, Front Face
B803	1	25'-2"	Horizontal, Wingwall Long, Near Face	B561ss	35	8'-0"	P4	3'-0"	2'-6"	2'-6"						1'-9"		Haunch Bar, Near Face
B804	1	50'-0"	Horizontal, Far Face	Superstructure (Stainless Steel)														
B805	1	49'-3"	Horizontal, Far Face	S550ss	374	5'-5"	SC	0'-10"	1'-2"	1'-3"	1'-3"				0'-10"			Curb Stirrup
B806	1	47'-10"	Horizontal, Far Face	S650ss	392	9'-6"	C	0'-0"	8'-10"	0'-8"								Primary Transverse, Overhang
B807	1	46'-6"	Horizontal, Far Face	S651ss	392	6'-6"	C	0'-0"	5'-10"	0'-8"								Primary Transverse, Overhang
B808	2	42'-4"	Horizontal, Far Face	Approach Slabs (Plain Bars)														
AS500	16	27'-10"	Approach Slab 1, Transverse															
AS501	16	28'-9"	Approach Slab 2, Transverse															
AS600	57	15'-1"	Approach Slab 1, Longitudinal															
AS601	59	15'-1"	Approach Slab 2, Longitudinal															
Superstructure (Glass Fiber Reinforced Polymer)																		
S500G	117	40'-0"	Primary Longitudinal, Top															
S501G	39	17'-3"	Primary Longitudinal, Top															
S700G	189	40'-0"	Primary Longitudinal, Bottom															
S701G	63	14'-9"	Primary Longitudinal, Bottom															
S800G	261	32'-7"	Primary Transverse, Bottom															
S801G	392	20'-11"	Primary Transverse, Bottom															
S802G	18	44'-11"	Curb Stirrup															

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
 ASTM A955, GRADE 75
 CSA S807-10, ACI 440.1R-15

GENERAL NOTES

The first two digits following the letter(s) of the mark indicate the size of the bar:

Mark "A502" = bar size #5
 Mark "P805" = bar size #8
 Mark "S650" = bar size #6
 Mark "S650ss" = bar size #6 Stainless Steel
 Mark "S600G" = bar size #6 GFRP

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 "G" indicate GFRP. Bar marks ending with "SS" indicate stainless steel. All other bars are plain (uncoated).

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 STP-2165(800)
 WIN 021658.00
 BRIDGE NO. 3215
 BRIDGE PLANS

MERRILL BRIDGE
 WEST BRANCH ELLIS RIVER
 OXFORD COUNTY
 ANDOVER
 REINFORCING SCHEDULE

PROJ. MANAGER: J. KITTRIDGE
 DESIGN-DETAILED: N. Willey
 CHECKED-REVIEWED: P. Bishop
 DESIGNS-DETAILED: A. Stephens

DATE: 11/18
 BY: 11/18
 SIGNATURE: 11/18

REVISIONS 1
 REVISIONS 2
 REVISIONS 3
 REVISIONS 4
 FIELD CHANGES

SHEET NUMBER
50
 OF 52

HNTB

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 _____
 Bush Line _____
 Rock/Boulder _____
 BARB WIRE _____
 WELL _____
 Flag Pole _____
 STOCKADE _____
 Mailbox _____

Sanitary Sewer _____
 Telephone Line _____
 Electric Line _____
 Water Line _____
 Underdrain Line _____
 Gas Line _____
 Guardrail _____
 Culvert _____

Traveled Way _____
 Ditch _____
 Catch Basin _____
 Manhole _____
 Sewer Manhole _____
 Utility Pole _____
 Fire Hydrant _____
 Curbing _____

Cut Line _____
 Stonewall _____
 Baseline _____
 Monument _____
 Iron Rod Found _____
 Replacement Pin Set _____

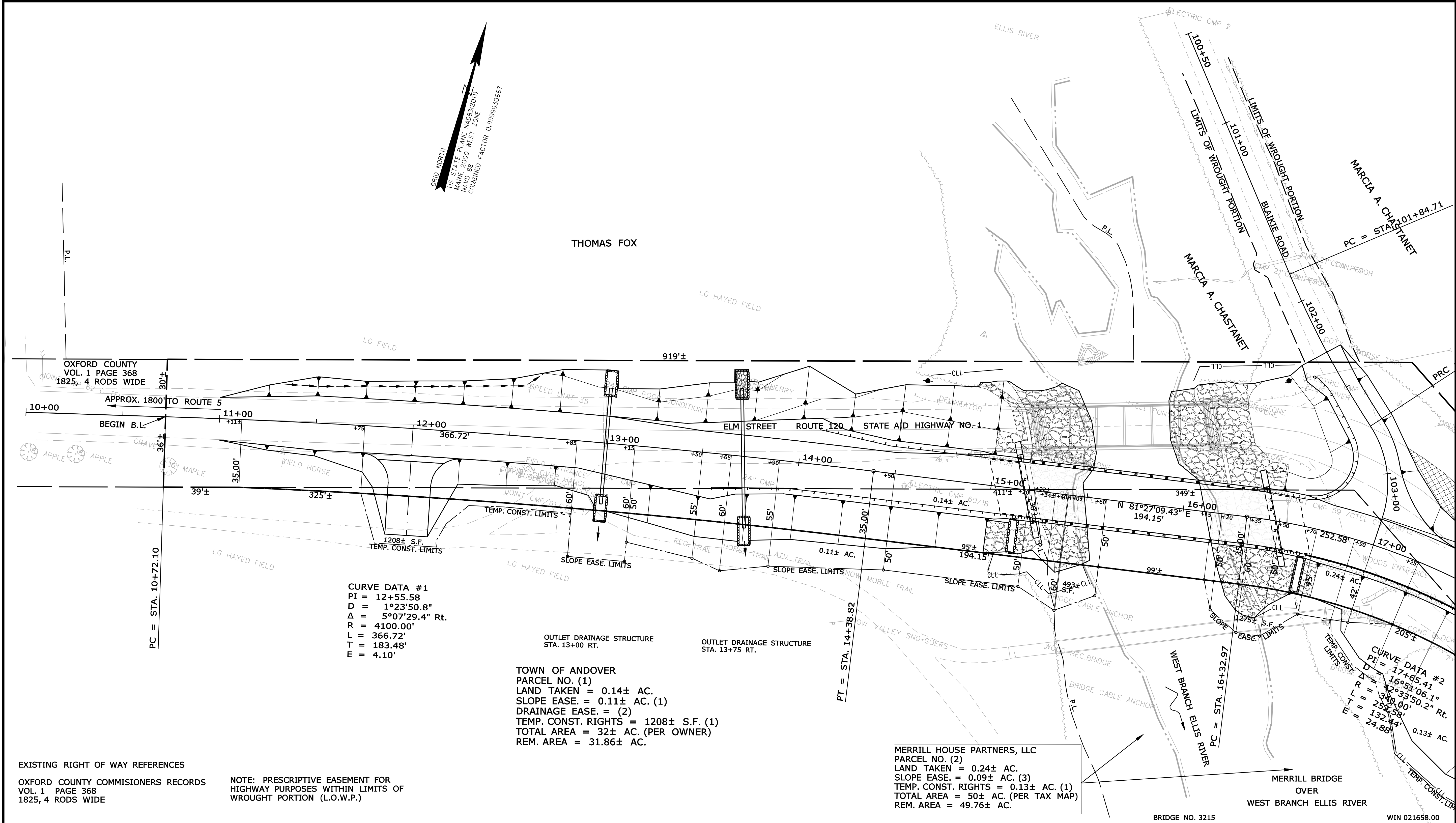
Fill Line _____
 Retaining Wall _____
 Traverse Point _____
 Pipe Found _____

STATE OF MAINE
 REGISTRY OF DEEDS

COUNTY RECEIVED _____
 at _____ h _____ m _____ M and recorded in _____
 Plan Book _____, Page _____
 Attest: _____ REGISTER

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.

25 0 25 50 75 100
 Scale of Feet



CURVE DATA #1
 PI = 12+55.58
 D = 1°23'50.8"
 Δ = 5°07'29.4" Rt.
 R = 4100.00'
 L = 366.72'
 T = 183.48'
 E = 4.10'

TOWN OF ANDOVER
 PARCEL NO. (1)
 LAND TAKEN = 0.14± AC.
 SLOPE EASE. = 0.11± AC. (1)
 DRAINAGE EASE. = (2)
 TEMP. CONST. RIGHTS = 1208± S.F. (1)
 TOTAL AREA = 32± AC. (PER OWNER)
 REM. AREA = 31.86± AC.

MERRILL HOUSE PARTNERS, LLC
 PARCEL NO. (2)
 LAND TAKEN = 0.24± AC.
 SLOPE EASE. = 0.09± AC. (3)
 TEMP. CONST. RIGHTS = 0.13± AC. (1)
 TOTAL AREA = 50± AC. (PER TAX MAP)
 REM. AREA = 49.76± AC.

EXISTING RIGHT OF WAY REFERENCES
 OXFORD COUNTY COMMISSIONERS RECORDS
 VOL. 1 PAGE 368
 1825, 4 RODS WIDE

NOTE: PRESCRIPTIVE EASEMENT FOR HIGHWAY PURPOSES WITHIN LIMITS OF WROUGHT PORTION (L.O.W.P.)

REVISIONS			PLAN FILED IN PLAN BOOK			PAGE COUNTY RECORD (EAST)		
NO.	DATE	DESCRIPTION	NO.	GRANTOR	BY	INSTRUMENT	DATE	BOOK PAGE
						COND.	9/10/18	5429 632

DAVID BERNHARDT
 COMMISSIONER
 JOYCE NOEL TAYLOR
 CHIEF ENGINEER
 DATE _____

STATE AID HIGHWAY NO. 1
 ELM STREET ROUTE 120
 ANDOVER OXFORD COUNTY
 FEDERAL AID PROJECT NO. STP-2165(800)

JUNE 2018
 SCALE 1" = 25'

RIGHT-OF-WAY MAP
 SHEET 1 OF 2

D.O.T. FILE NO. 9-401

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

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

SHEET NUMBER
 51
 OF 52

Filename: ... \000\ROW\MSTA\001_RWPLAN1.dgn Division: ROW Username: Perry, Silverman Date: 11/29/2018

Town, County, State _____
 Approx. Property Lines _____
 Existing Right of Way _____
 Limits of Wrought Portion _____
 Control Of Access _____
 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 _____
 Sign _____
 Clearing Limit Line _____
 Deciduous _____
 Bush Line _____
 Rock/Boulder _____
 Barb Wire _____
 Well _____
 Flag Pole _____
 Stockade _____
 Mailbox _____

PLAN LEGEND

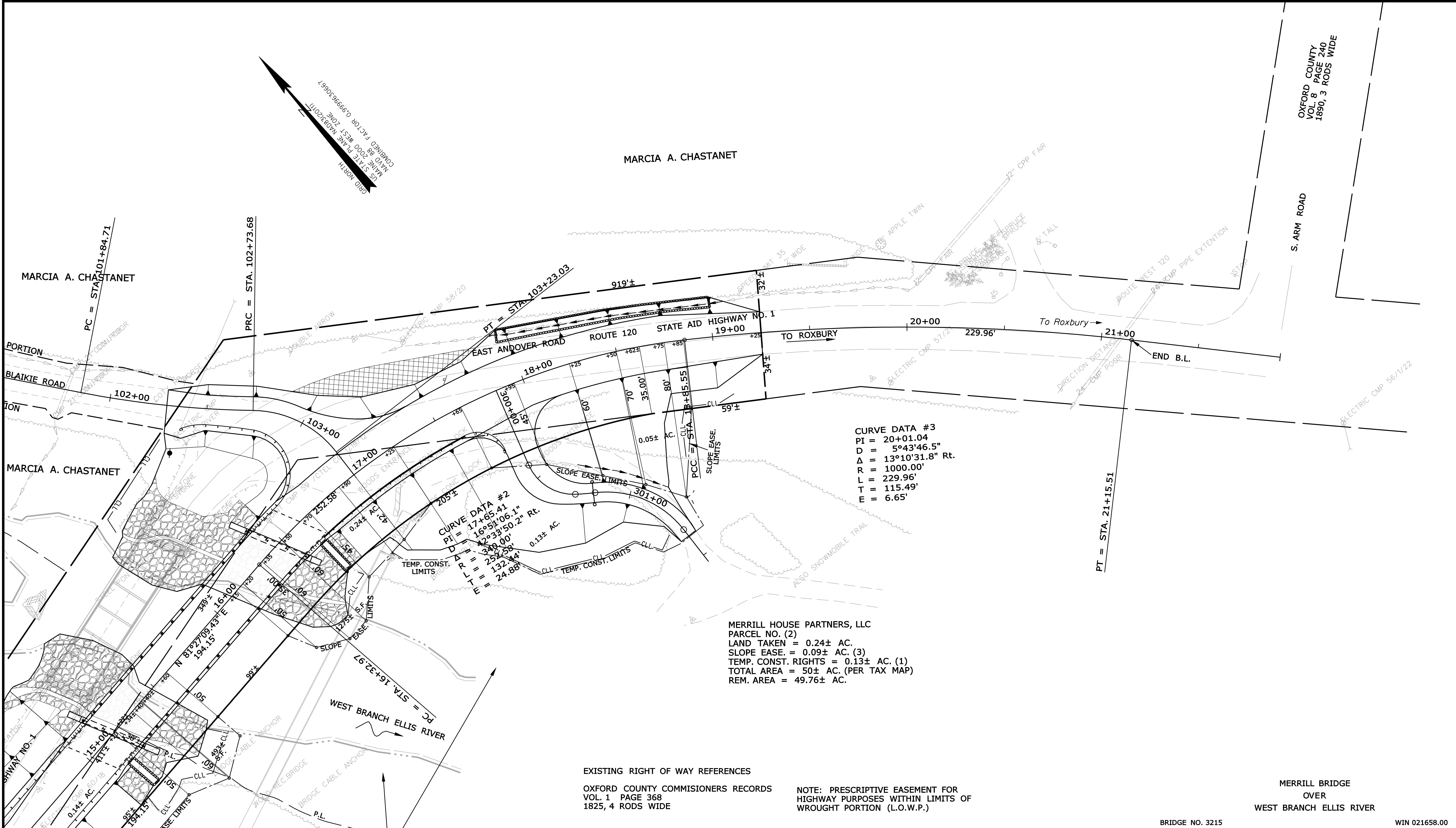
Sanitary Sewer	Existing	Proposed	Traveled Way	Existing	Proposed
Telephone Line	Existing	Proposed	Ditch	Existing	Proposed
Electric Line	Existing	Proposed	Catch Basin	Existing	Proposed
Water Line	Existing	Proposed	Manhole	Existing	Proposed
Underdrain Line	Existing	Proposed	Sewer Manhole	Existing	Proposed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

Cut Line _____
 Stonewall _____
 Baseline _____
 Monument _____
 Iron Rod Found _____
 Replacement Pin Set _____
 Fill Line _____
 Retaining Wall _____
 Traverse Point _____
 Pipe Found _____

STATE OF MAINE
 REGISTRY OF DEEDS
 COUNTY _____
 RECEIVED _____
 at _____ h _____ m _____ M and recorded in
 Plan Book _____, Page _____
 Attest: _____ REGISTER

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



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

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

ANDOVER
 RIGHT OF WAY MAP

REVISIONS		
NO.	DATE	DESCRIPTION

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

DAVID BERNHARDT
 COMMISSIONER
 JOYCE NOEL TAYLOR
 CHIEF ENGINEER
 DATE _____

STATE AID HIGHWAY NO. 1
 ELM STREET ROUTE 120
 ANDOVER OXFORD COUNTY
 FEDERAL AID PROJECT NO. STP-2165(800)
 JUNE 2018
 SCALE 1" = 25'

SHEET NUMBER
52
 OF 52

Filename: ... \00\row\msto\002_RWPLAN2.dgn Division: ROW Username: Perry, Silverman Date: 11/29/2018