PLAN LEGEND

Town, County, State	New R/W Along Existing R/W		Existing	Proposed		Existing	Proposed
Approx. Property Lines P.L.	Building	Clearing Limit Line	Sanitary Sewer		Traveled Way		
Existing Right of Way	Trees Conifer	Deciduous	Telephone Line		Ditch		
Limits of Wrought Portion L.O.W.P.	Tree Line	Bush Line	Electric Line		Catch Basin		
Control Of Access C.O.A.	Water Edge		Water Line		Manhole		
New Right of Way	Ledge	Rock/Boulder Flag Pole	Underdrain Line		Sewer Manhole		
New Easement	Fence CHAIN LINK	BARB WIRE STOCKADE	Gas Line		Utility Pole		
New Temporary Rights	Sign	Well Mailbox	Guardrail		Fire Hydrant		
New R/W Within Existing R/W			Culvert		Curbing		

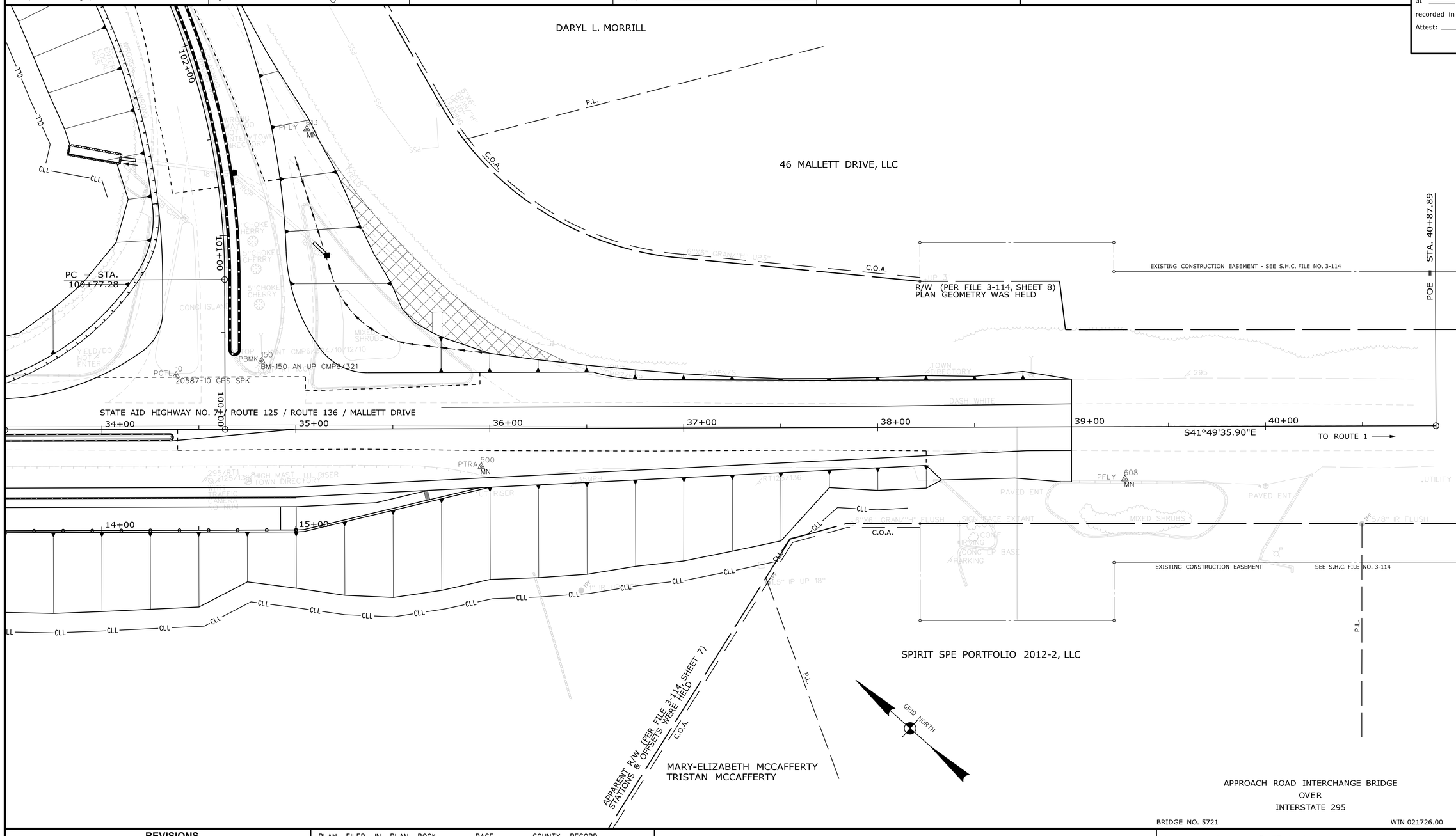
Cut Line, Fill Line, Stonewall, Retaining Wall, Baseline 10+00 11+00 12+00, Monument, Traverse Point, Iron Rod Found IRF, Pipe Found IPF, Replacement Pin Set

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

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg._____
Attest: _____
REGISTER



ITEM	CHECKED	TECH
EXISTING CONDITION PLAN		
FINAL RIGHT OF WAY		
AREAS		

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

REVISIONS NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK ____ PAGE ____ COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

OFFICE USE ONLY
PLANS NOT TO BE RECORDED

STATE HIGHWAY "95" & STATE AID HIGHWAY NO. 7
INTERSTATE 295 & ROUTE 125/ROUTE 136/MALLETT DRIVE
FREEPORT CUMBERLAND COUNTY
STATE PROJECT NO. 21726.00

AUGUST 2021	RIGHT-OF-WAY MAP	
SCALE 1" = 25'	SHEET 3 OF 5	

SHEET NUMBER
142
OF 144

Username: Mark.Poulin Date:9/7/2021
Filename: ...\00\ROW\MSTA\003_RWPLAN3.dgn Division: BRIDGE

Filename: ...\00\ROW\MSTA\004_RWPLAN4.dgn Division: BRIDGE Username: Mark.Poulin Date:9/7/2021

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W	Existing / Proposed	Existing / Proposed
Approx. Property Lines P.L.	Building	Sanitary Sewer	Traveled Way
Existing Right of Way	Clearing Limit Line	Telephone Line	Ditch
Limits of Wrought Portion L.O.W.P.	Trees Conifer / Deciduous	Electric Line	Catch Basin
Control Of Access C.O.A.	Tree Line / Bush Line	Water Line	Manhole
New Right of Way	Water Edge	Underdrain Line	Sewer Manhole
New Easement	Ledge / Rock/Boulder / Flag Pole	Gas Line	Utility Pole
New Temporary Rights	Fence CHAIN LINK / BARB WIRE / STOCKADE	Guardrail	Fire Hydrant
New R/W Within Existing R/W	Sign / Well / Mailbox	Culvert	Curbing

Cut Line / Fill Line
Stonewall / Retaining Wall
Baseline 10+00 11+00 12+00
Monument / Traverse Point
Iron Rod Found ● IRF / Pipe Found ● IPF
Replacement Pin Set

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Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS
COUNTY _____
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at _____h _____m _____M and
recorded in Plan Bk _____, Pg. _____
Attest: _____
REGISTER

GLENN R. FREEMAN
KEELIE J. FREEMAN

ROBERT C. GRAY

CHRISTOPHER E. NOETZEL
KIMBERLY A. BOLSHAW

R/W (COPIED FROM PIN 12782.00)
S.H.C. FILE NO. 3-114 SHEET 11
C.O.A.

STATE AID HIGHWAY NO. 4 / DURHAM ROAD

EXISTING CONSTRUCTION EASEMENT - SEE S.H.C. FILE NO. 3-114

APPROX. P.L. (THREAD OF BROOK)

TO POWNAL ROAD

GRID NORTH

I-295 SB ON/OFF RAMP
CURVE DATA #1
PI = 201+91.29
D = 16°51'06.1"
Δ = 33°08'18.2" Lt.
R = 340.00'
L = 196.65'
T = 101.16'
E = 14.73'

I-295 SB ON/OFF RAMP
CURVE DATA #2
PI = 203+41.40
D = 20°27'46.0"
Δ = 23°04'39.6" Lt.
R = 280.00'
L = 107.89'
T = 54.62'
E = 5.28'

I-295 SB ON/OFF RAMP
CURVE DATA #3
PI = 205+70.35
D = 40°55'32.0"
Δ = 102°53'53.8" Lt.
R = 140.00'
L = 251.43'
T = 175.68'
E = 84.64'

D = 21°12'23.7"
Δ = 25°29'42.6" Lt.
R = 27.00'
L = 11.07'
T = 5.61'
E = 0.58

PCC STA. 202+86.77
PCC STA. 203+94.67
202+00
203+00
204+00
205+00

PFLY 612 SPK
PFLY 610 SPK
PFLY 606 SPK
PFLY 607 SPK
PFLY 614 MN
BMK154 BM-154 PLT PT POLE BASE

S.H.C. FILE NO. 3-114 SHEET 11
C.O.A.

APPROACH ROAD INTERCHANGE BRIDGE
OVER
INTERSTATE 295

BRIDGE NO. 5721 WIN 021726.00

ITEM	CHECKED
EXISTING CONDITION PLAN	
FINAL RIGHT OF WAY	
AREAS	

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

REVISIONS

NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

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STATE HIGHWAY "95" & STATE AID HIGHWAY NO. 7
INTERSTATE 295 & ROUTE 125/ROUTE 136/MALLETT DRIVE
FREEPORT CUMBERLAND COUNTY
STATE PROJECT NO. 21726.00

AUGUST 2021 | RIGHT-OF-WAY MAP
SCALE 1" = 25' | SHEET 4 OF 5

SHEET NUMBER
143
OF 144

Filename: ...\00\ROW\MSTA\005_RWPLAN5.dgn Username: Mark.Poulin Date:9/7/2021

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W	Sanitary Sewer	Traveled Way	Cut Line	Fill Line
Approx. Property Lines P.L.	Building	Telephone Line	Ditch	Stonewall	Retaining Wall
Existing Right of Way	Clearing Limit Line	Electric Line	Catch Basin	Baseline 10+00 11+00 12+00	
Limits of Wrought Portion L.O.W.P.	Trees Conifer Deciduous	Water Line	Manhole	Monument	Traverse Point
Control Of Access C.O.A.	Tree Line Bush Line	Underdrain Line	Sewer Manhole	Iron Rod Found IRF	Pipe Found IPF
New Right of Way	Water Edge	Gas Line	Utility Pole	Replacement Pin Set	
New Easement	Ledge Rock/Boulder Flag Pole	Guardrail	Fire Hydrant		
New Temporary Rights	Fence CHAIN LINK BARB WIRE STOCKADE	Culvert	Curbing		
New R/W Within Existing R/W	Sign Well WELL Mailbox				

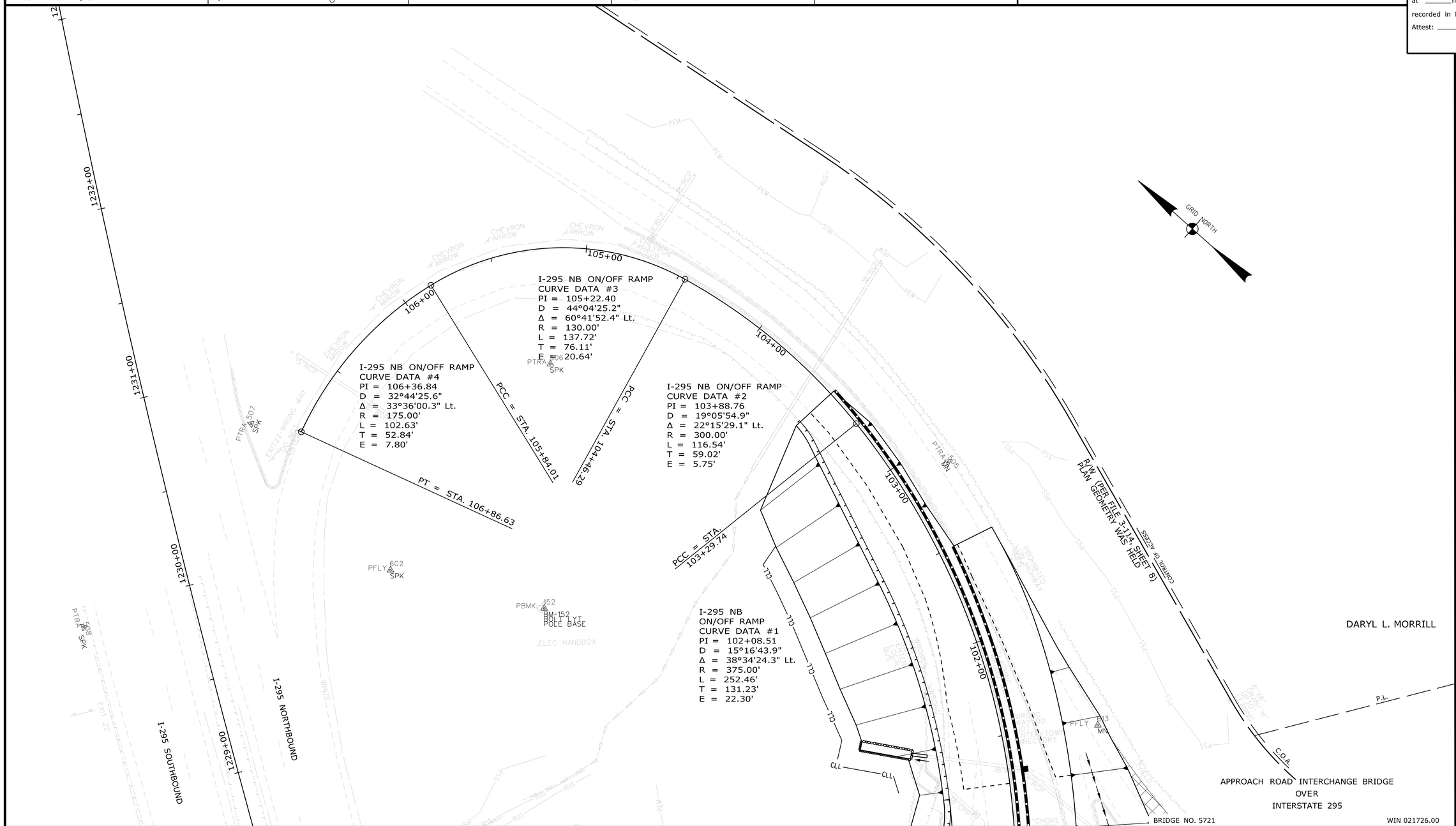
Existing / Proposed

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25 0 25 50 75 100
Scale of Feet

STATE OF MAINE REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
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ITEM	TECH	CHECKED
EXISTING CONDITION PLAN		
FINAL RIGHT OF WAY		
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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
FREEPORT
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REVISIONS

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INTERSTATE 295 & ROUTE 125/ROUTE 136/MALLETT DRIVE
FREEPORT CUMBERLAND COUNTY
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AUGUST 2021 | RIGHT-OF-WAY MAP
SCALE 1" = 25' | SHEET 5 OF 5

SHEET NUMBER
144
OF 144

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SPECIFICATIONS

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

DESIGN LOADING

Live Load ..... HL - 93 Modified for Strength 1

TRAFFIC DATA

Current (2021) AADT	8,400
Future (2041) AADT	10,080
DHV - % of AADT	12%
Design Hour Volume	1210
Heavy Trucks (% of AADT)	5%
Heavy Trucks (% of DHV)	5%
Directional Distribution (% of DHV)	81%
18 kip Equivalent P 2.0	164
18 kip Equivalent P 2.5	156
Design Speed (mph)	35

MATERIALS

Concrete:
- Curbs, Bridge Barrier, Shared Use Path and Pedestrian Barrier ..... Class "LP"
- All Other ..... Class "A"

Reinforcing Steel:
- Plain ..... ASTM A 615, Grade 60
- Stainless ..... ASTM A 955, Grade 75

Structural Steel:
- All Material (except as noted) ..... ASTM A 709, Grade 50 (metallized)
- High Strength Bolts ..... ASTM F 3125, Grade A325, Type 1 (galvanized)
- Anchor Rods ..... ASTM F1554, Grade 105 (galvanized)

BASIC DESIGN STRESSES

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

Reinforcing Steel:
- Plain ..... f y = 60,000 psi
- Stainless ..... f y = 75,000 psi

Structural Steel:
- ASTM A 709, Grade 50 ..... F y = 50,000 psi
- ASTM F 3125, Grade A325, Type 1 ..... F u = 120,000 psi

FREEPORT
CUMBERLAND COUNTY
MERRILL ROAD BRIDGE
OVER
INTERSTATE 295
AND SIGNALIZED INTERSECTIONS
EXIT 20 INTERCHANGE
PROJECT NO. 02362700
PROJECT LENGTH 0.15 mi.
BRIDGE NO. 5720

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UTILITIES

Central Maine Power
Comcast
Consolidated Communications
Maine Natural Gas
Maine Water
Town of Freeport

MAINTENANCE OF TRAFFIC

I-295 - Maintain all lanes of traffic for the duration of the project, except for periodic shoulder or night time lane closures.

Exit 20 On/Off Ramps - Maintain one lane of traffic at all ramps except for short duration closures.

Desert Road - Maintain two way traffic on existing and proposed bridges for the duration of the project excluding periodic lane closures controlled by flaggers.

PROJECT LOCATION:	Desert Road over I-295 located 0.11 miles west of U.S. Route 1, Latitude 43°50'36" N, Longitude 70°07'15" W
PROGRAM AREA:	Bridge Program
OUTLINE OF WORK:	Bridge Replacement with Highway and Intersection Improvements

HNTB

WIN 023627.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED — DATE 9/15/21
COMMISSIONER: Jeff Merrill
CHIEF ENGINEER: Richard Roy — DATE 9/14/21

STATE OF MAINE — Steven Hodgdon — 11206 — REGISTERED PROFESSIONAL ENGINEER
Stamp applies to sheets 1-11, 23-100 & 105-134

PROJECT INFORMATION			
PROGRAM	BRIDGE	SIGNATURE	
PROJECT MANAGER	MACKENZIE KERSBERGEN, P.E.	P.E. NUMBER	11206
DESIGNER	HNTB	DATE	09/10/2021
CONSULTANT			
PROJECT RESIDENT			
CONTRACTOR			
PROJECT COMPLETION DATE			

FREEPORT
MERRILL ROAD BRIDGE

TITLE SHEET

SHEET NUMBER
1
OF 138

Date:9/9/2021
Username:
Division:
Filename001_Title.dgn

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
201.11	Clearing	0.8	AC
201.23	Removing Single Tree Top Only	6	EA
201.24	Removing Stump	6	EA
202.13	Removing Existing Railings Retained by Department	420	LF
202.15	Removing Existing Manhole or Catch Basin	2	EA
202.19	Removing Existing Bridge (1114 CY, 100 TON)	1	LS
202.202	Removing Pavement Surface	4,100	SY
203.20	Common Excavation	6,250	CY
203.24	Common Borrow	9,900	CY
203.26	Gravel Borrow	1,476	CY
206.07	Structural Rock Excavation - Drainage & Minor Structures	160	CY
206.082	Structural Earth Excavation - Major Structures, Plan Quantity	1,780	CY
304.10	Aggregate Subbase Course - Gravel	6,150	CY
403.2081	Hot Mix Asphalt - 12.5 mm Nominal Maximum Size (Polymer Modified)	1,100	T
403.209	Hot Mix Asphalt 9.5 mm (sidewalks, drives, islands & incidentals)	170	T
403.211	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Shimming)	130	T
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course)	1,300	T
403.2131	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course, Polymer Modified)	960	T
409.15	Bituminous Tack Coat - Applied	1,300	G
461.131	Temporary Pavement	20	T
501.231	Dynamic Loading Test	3	EA
501.50	Steel H-Beam Piles 89 Lbs/Ft, Delivered	1,025	LF
501.501	Steel H-Beam Piles 89 Lbs/Ft, In Place	815	LF
501.90	Pile Tips	42	EA
501.91	Pile Splices	11	EA
501.92	Pile Driving Equipment Mobilization	1	LS
502.219	Structural Concrete, Abutments and Retaining Walls (258 CY)	1	LS
502.239	Structural Concrete Piers (254 CY)	1	LS
502.26	Structural Concrete Roadway and Sidewalk Slab On Steel Bridges (405 CY)	1	LS
502.31	Structural Concrete Approach Slabs (50 CY)	1	LS
502.49	Structural Concrete Curbs and Sidewalks (285 CY)	1	LS
502.77	Fiber Reinforced Polymer Bridge Drain - Type: F	4	EA
503.26	Stainless Steel Reinforcement - Fabricated and Delivered	229,790	LB
503.27	Stainless Steel Reinforcement - Placing	229,790	LB
504.702	Structural Steel Fabricated and Delivered, Welded (682500 LB)	1	LS
504.71	Structural Steel Erection (682500 LB)	1	LS
505.08	Shear Connectors (6930 EA)	1	LS
506.9104	Thermal Spray Coating (Shop Applied)	1	LS
507.0846	Barrier Mounted Steel Bridge Rail, 1 Bar (234 LF)	1	LS
507.0848	Barrier Mounted Steel Bridge Rail, 2 Bar (234 LF)	1	LS
508.14	High Performance Waterproofing Membrane (1470 SY)	1	LS
513.22	Crushed Stone Slope Protection	616	SY
515.21	Protective Coating for Concrete Surfaces (804 SY)	1	LS
519.60	Expansion Device - Asphaltic Plug Joint	110	LF
523.52	Bearing Installation	9	EA
523.5401	Laminated Elastomeric Bearings, Fixed	9	EA
524.301	Temporary Structural Support - Approaches	1	LS
524.40	Protective Shield (3659 SY)	1	LS
526.301	Portable Concrete Barrier, Type I (290 LF)	1	LS
526.305	Portable Concrete Barrier, Braced Type I (240 LF)	1	LS
526.3241	Texas Concrete Beam and Post Rail - Modified, Traffic (234 LF)	1	LS
526.3241	Texas Concrete Beam and Post Rail - Modified, Separation (234 LF)	1	LS
526.341	Permanent Concrete Barrier, Special (234 LF)	1	LS
527.33	Truck Mounted Attenuator	2	EA
527.34	Work Zone Crash Cushions	2	UN
602.30	Flowable Concrete Fill	5	CY
603.159	12 inch Culvert Pipe Option III	110	LF
603.175	18 inch RCP Class III	220	LF
603.179	18 inch Culvert Pipe Option III	40	LF
603.205	30 inch RCP Class III	8	LF
604.072	Catch Basin Type A1-C	4	EA
604.09	Catch Basin Type B1	1	EA
604.092	Catch Basin Type B1-C	4	EA
604.164	Rebuilding Catch Basin	1	EA
604.18	Adjusting Manhole or Catch Basin to Grade	3	EA
604.247	Catch Basin Type F5-C	3	EA
605.09	6 inch Underdrain Type B	530	LF
605.11	12 inch Underdrain Type C	290	LF
606.1301	31" W-Beam Guardrail - Mid-Way Splice - Single Faced	570	LF
606.1304	31" W-Beam Guardrail - Mid-Way Splice, Over 15' Radius	38	LF
606.1305	31" W-Beam Guardrail - Mid-Way Splice Flared Terminal	2	EA
606.1306	31" W-Beam Guardrail - Mid-Way Splice Tangent Terminal	2	EA
606.1307	Bridge Transition (Asymmetrical) - Type 1A	4	EA
606.353	Reflectorized Flexible Guardrail Marker	8	EA
606.356	Underdrain Delineator Post	8	EA
607.24	Removing and Reset Fence	20	LF
607.39	Pedestrian Fence	490	LF
608.26	Curb Ramp Detectable Warning Field	210	SF
609.11	Vertical Curb Type 1	390	LF
609.12	Vertical Curb Type 1 - Circular	67	LF

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
609.221	Terminal Curb Type 1	48	LF
609.222	Terminal Curb Type 1 - Circular	40	LF
609.31	Curb Type 3	170	LF
609.34	Curb Type 5	640	LF
609.35	Curb Type 5 - Circular	40	LF
609.38	Reset Curb Type 1	390	LF
610.08	Plain Riprap	72	CY
610.18	Stone Ditch Protection	55	CY
613.319	Erosion Control Blanket	3,500	SY
615.07	Loam	730	CY
615.27	Underdrain Soil Filter	1	LS
618.13	Seeding Method Number 1	7	UN
618.14	Seeding Method Number 2	110	UN
618.148	Special Seeding, Wetland Seed Mix-Moist	3	UN
619.12	Mulch	120	UN
619.14	Erosion Control Mix	100	CY
620.58	Erosion Control Geotextile	1,221	SY
620.66	Drainage Geocomposite	140	SY
626.11	Precast Concrete Junction Box	28	EA
626.21	Metallic Conduit	80	LF
626.22	Non-Metallic Conduit	2,200	LF
626.251	Non-Metallic Under Pavement Conduit (Schedule 80 or greater rating)	350	LF
626.35	Controller Cabinet Foundation	1	EA
626.36	Removing or Modifying Concrete Foundation	14	EA
626.38	Ground Mounted Cabinet Foundation	2	EA
626.421	24-Inch Diameter Foundation	28	LF
626.43	30-Inch Diameter Foundation	72	LF
626.44	36-Inch Diameter Foundation	47	LF
626.501	Spread Footing Foundation	60	CY
627.51	6 Inch Temporary Pavement Tape, Yellow or White	3,700	LF
627.733	4" White or Yellow Painted Pavement Marking Line	6,200	LF
627.744	6" White or Yellow Painted Pavement Marking Line	2,350	LF
627.75	White or Yellow Pavement & Curb Marking	2,300	SF
627.77	Removing Existing Pavement Marking	620	SF
627.78	Temporary 4" Painted Pavement Marking Line, White or Yellow	2,000	LF
629.05	Hand Labor, Straight Time	30	HR
631.10	Air Compressor (including operator)	30	HR
631.11	Air Tool (including operator)	30	HR
631.12	All Purpose Excavator (including operator)	30	HR
631.14	Grader (including operator)	20	HR
631.172	Truck-large (including operator)	30	HR
631.22	Front End Loader (including operator)	30	HR
631.32	Culvert Cleaner (including operator)	10	HR
634.160	Highway Lighting	1	LS
634.2042	LED Luminaires	14	EA
634.210	Conventional Light Standard	14	EA
639.18	Field Office, Type A	0.5	EA
643.21	Non-Invasive Detection - Stop Line: I-295 Exit 20 SB Ramps & Desert Rd	1	LS
643.21	Non-Invasive Detection - Stop Line: I-295 Exit 20 NB Ramps & Desert Rd/Route 1 & Desert Rd	1	LS
643.22	Non-Invasive Detection - Advance: I-295 Exit 20 SB Ramps & Desert Rd	1	LS
643.22	Non-Invasive Detection - Advance: I-295 Exit 20 NB Ramps & Desert Rd/Route 1 & Desert Rd	1	LS
643.22	Non-Invasive Detection - Advance: Freeport Crossing & Route 1	1	LS
643.71	Traffic Signal Modification at: I-295 Exit 20 NB Ramps & Desert Rd/Route 1 & Desert Rd	1	LS
643.71	Traffic Signal Modification at: Freeport Crossing & Route 1	1	LS
643.72	Temporary Traffic Signal at: I-295 Exit 20 SB On/Off Ramps & Desert Rd	1	LS
643.80	Traffic Signal at: I-295 Exit 20 SB On/Off Ramp & Desert Rd	1	LS
643.90	Interconnect Wireless Between: I-295 SB Ramps, I-295 NB Ramps and Route 1, & Freeport Crossing	1	LS
643.91	Mast Arm Pole (20' Mast Arm)	1	EA
643.91	Mast Arm Pole (25' Mast Arm)	1	EA
643.91	Mast Arm Pole (40' Mast Arm)	3	EA
643.91	Mast Arm Pole (45' Mast Arm)	2	EA
643.92	Pedestal Pole	2	EA
645.103	Demount Guide Sign	13	EA
645.106	Demount Regulatory, Warning, Confirmation and Route Marker Assembly Sign	56	EA
645.108	Demount Pole	30	EA
645.113	Reinstall Guide Sign	9	EA
645.116	Reinstall Regulatory, Warning, Confirmation, and Route Marker Assembly Sign	49	EA
645.118	Reinstall Pole	24	EA
645.251	Roadside Guide Signs, Type 1	170	SF
645.289	Steel H-Beam Poles	1,050	LB
645.292	Regulatory, Warning, Confirmation and Route Marker Assembly Signs Type II	200	SF
652.30	Flashing Arrow	2	EA
652.312	Type III Barricades	4	EA
652.33	Drum	100	EA
652.34	Cone	100	EA
652.35	Construction Signs	1,200	SF
652.361	Maintenance of Traffic Control Devices (915 CD)	1	LS
652.38	Flaggers	4,150	HR
652.41	Portable-Changeable Message Sign	3	EA
654.351	Connected Roadside Unit (RSU)	3	EA
656.75	Temporary Soil Erosion and Water Pollution Control	1	LS
659.10	Mobilization	1	LS

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ESTIMATED QUANTITIES

SHEET NUMBER

2

OF 138

Filename: 002_Estimated Quantities.dgn Username: Division: Date:9/10/2021

Username:
Division:
Date:9/10/2021
Filename: 003_GeneralNotes.dgn

GENERAL CONSTRUCTION NOTES

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

2. The location of utilities shown are approximate and should be verified in the field by the Contractor.

3. For easements, construction limits and right of way lines, refer to Right of Way Maps.

4. Seeding Method No. 1 shall be utilized on all lawn and developed areas. Seeding Method No. 2 shall be utilized on all other areas, unless otherwise noted or directed.

5. Two Reflectorized Flexible Guardrail Markers shall be installed at each guardrail end.

6. The clearing limits as shown on the plans are approximate. The actual clearing limits for payment will be established in the field by the Resident.

7. Loam shall be placed to a nominal depth of 4 inches in lawn areas and 2 inches in all other areas, unless otherwise noted or directed by the Resident.

8. A MASH Compliant guardrail end treatment shall be installed concurrently with the placement of each section of 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 and shared-use paths,
Fascias down to the drip notch,
Piers,
Concrete barrier railing,
Top of abutment backwalls and wingwalls,
to one foot below the ground on vertical walls against earth.

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 life span.

14. The project geotechnical reports titled:
Preliminary Geotechnical Design Report, dated December 21, 2020
Supplemental Geotechnical Design Report Part 1, dated August 20, 2021
Supplemental Geotechnical Design Report Part 11, dated August 20, 2021
may be accessed at the MaineDOT web address.

15. 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.

16. The existing bridge shall be removed by and become the property of the Contractor with the exception of bridge rails, rail posts, and associated hardware. Bridge removal shall be to the limits shown on the Plans. 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.

17. 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.

18. Install two layers of 6 mil polyethylene sheeting under approach slabs. Payment will be considered incidental to the approach slab pay item.

19. No existing drainage shall be abandoned, removed, or plugged without prior approval of the Resident unless noted otherwise on the plans.

20. Any necessary cutting of existing pipes to fit in areas of proposed catch basins will not be paid for separately and will be considered incidental to Standard Specifications Section 604 Manholes, Inlets, and Catch Basins.

21. Any necessary cutting of existing catch basins to allow for proposed pipe connections will not be paid for separately and will be considered incidental to Standard Specifications Section 603 Pipe Culverts and Storm Drains or Section 605 Underdrains.

22. Existing culverts and catch basins will be cleaned as directed by the Resident under the appropriate pay items.

23. Inlets and outlets of all culverts shall be riprapped unless otherwise noted on the Plans or directed by the Resident.

24. Existing culverts to be removed that are beyond the limits of subgrade or proposed culvert excavation shall be paid for under item 203.20 Common Excavation.

25. Where called for on the Plans, where new pavement joins existing pavement, the existing pavement shall be sawcut along a smooth line to a neat, even, vertical joint as directed by the Resident. Broken or ravelled edges will not be permitted. All work necessary for the preparation of this joint will be considered incidental to the related contract items.

26. Any base pavement not surfaced before winter will require temporary pavement markings of paint, both yellow centerline and white edge lines and will be paid under Item 627.78, Temporary Pavement Marking Line, White or Yellow.

27. All existing delineators and mile marker posts on I-295 which are impacted shall be removed and reset.

28. 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. The Bridge Demolition Plan shall include plans and calculations designed by a Professional Engineer licensed in the State of Maine. No work related to the removal of the bridge shall be undertaken by the Contractor until 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.

29. All temporary roadways shall be constructed with a minimum: 4" hot mix asphalt and 12" aggregate subbase course gravel. Upon completion, all temporary facilities shall be removed and reestablished to their existing condition, unless within the limits of proposed construction.

30. All aluminum bridge rail, rail posts, and associated hardware which are to be removed shall be carefully salvaged by the Contractor and will remain the property of the Department.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kerstbergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

GENERAL NOTES

SHEET NUMBER

3

OF 138

Username:

Division:

Date:8/27/2021

Filename: 004_GeneralPlan1.dgn

Hunter Rd.

Desert Road

Desert Rd.

Hunter Road

I-295 SB Off Ramp

I-295 SB Off Ramp

To Pownal

Sawcut (Typ.)

Remove Existing Guardrail (Typ.)

Remove and Reset Fence

Pedestrian Fence (Typ.)

Adjust Sewer Manhole to Grade (By Others)

Sawcut (Typ.)

Curb Type I (Typ.)

Utility Pole to Remain

Proposed Utility Pole (By Others)

Remove Utility Pole (By Others)

Hydrant to Remain

Adjust MH to Grade (By Others)

8' x 30" RCP Class III

32" x 12" Opt III

36" x 12" Opt. III

126" x 12" UD "C"

32" x 18" RCP Class III

PLAN

25 0 25 50

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	M. Kerstetter	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

GENERAL PLAN 1

SHEET NUMBER

4

OF 138

Remove Existing Guardrail (Typ.)
I-295 SB Off Ramp
302+00
301+00
Grade to Drain as Directed by The Resident
8' x 18" RCP Class III
Pedestrian Fence (Typ.)
Remove Utility Pole (By Others)
Proposed Utility Pole (By Others)
3I" W-Beam Guardrail - Mid-Way Splice Tangent Terminal
36' x 12" Opt. III
126' X 12" UD "C"
198' X 6" UD "B"
Curb Type 1 (Typ.)
Bridge Transition Type 1A (Typ.)
℄ Brg. Abut. 1 Sta. 60+31.75
℄ Brg. Pier Sta. 61+46.75
℄ Brg. Abut. 2 Sta. 62+61.75
115'-0"
8'29'22" (Typ.)
149' X 6" UD "B"
Curb Type 1 (Typ.)
Proposed Utility Pole (By Others)
Pedestrian Fence (Typ.)
Stone Ditch Protection
Remove Utility Pole (By Others)
3I" W-Beam Guardrail - Mid-Way Splice Tangent Terminal
I-295 SB
I-295 NB
1671+00
1670+00
1669+00
1668+00
1667+00
Desert Rd. ℄
Desert Road
57+00
58+00
59+00
60+00
61+00
62+00
63+00
Curb Type 3, Mold 2
Adjust MH to Grade (By Others)
32" x 18" RCP Class III
3I" W-Beam Guardrail - Mid-Way Splice Flared Terminal
Riprap Downspout (Typ.)
Crushed Stone Slope Protection (Typ.)
3I" W-Beam Guardrail - Mid-way Splice (Typ.)
40' x 18" Opt III
404+00
403+00
402+00
I-295 SB On Ramp
I-295 SB On Ramp ℄
PLAN
25 0 25 50
Scale of Feet
HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
023627.00
WIN 023627.00
BRIDGE No. 5720
BRIDGE PLANS

	BY	DATE
DESIGNER	M. Kershaw	
PROJ. MANAGER		
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2	SMH	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE
P.E. NUMBER
DATE

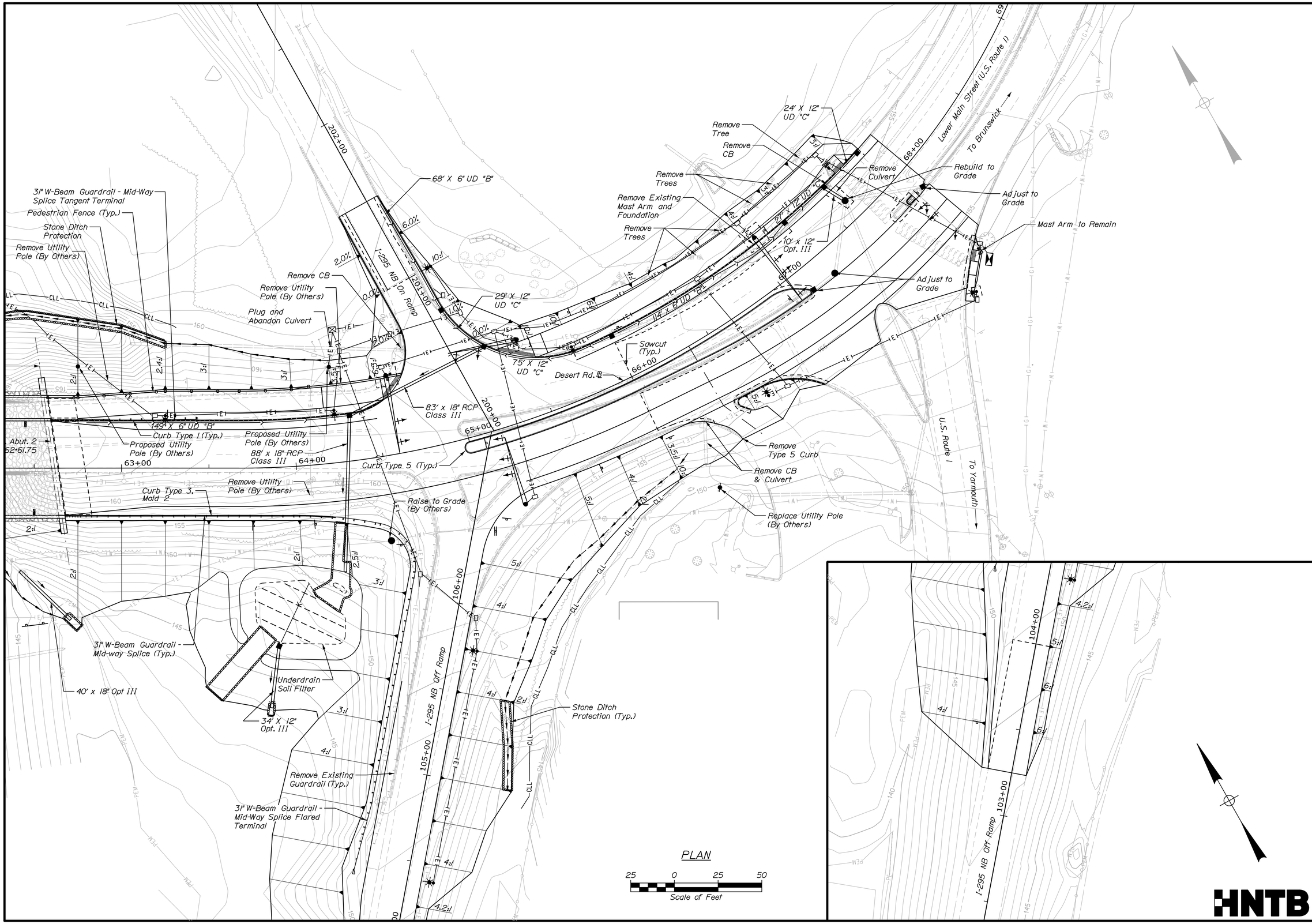
MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

GENERAL PLAN 2

SHEET NUMBER
5
OF 138

Date:8/27/2021
Username:
Division:
Filename: 005_General Plan2.dgn

Filename: 006_General Plan3.dgn Division: Username: Date:8/27/2021



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	023627.00	WIN 023627.00
		BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetter	
DESIGN-DETAILED	CDH	DEB
CHECKED-REVIEWED	PEK	SMH
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

GENERAL PLAN 3

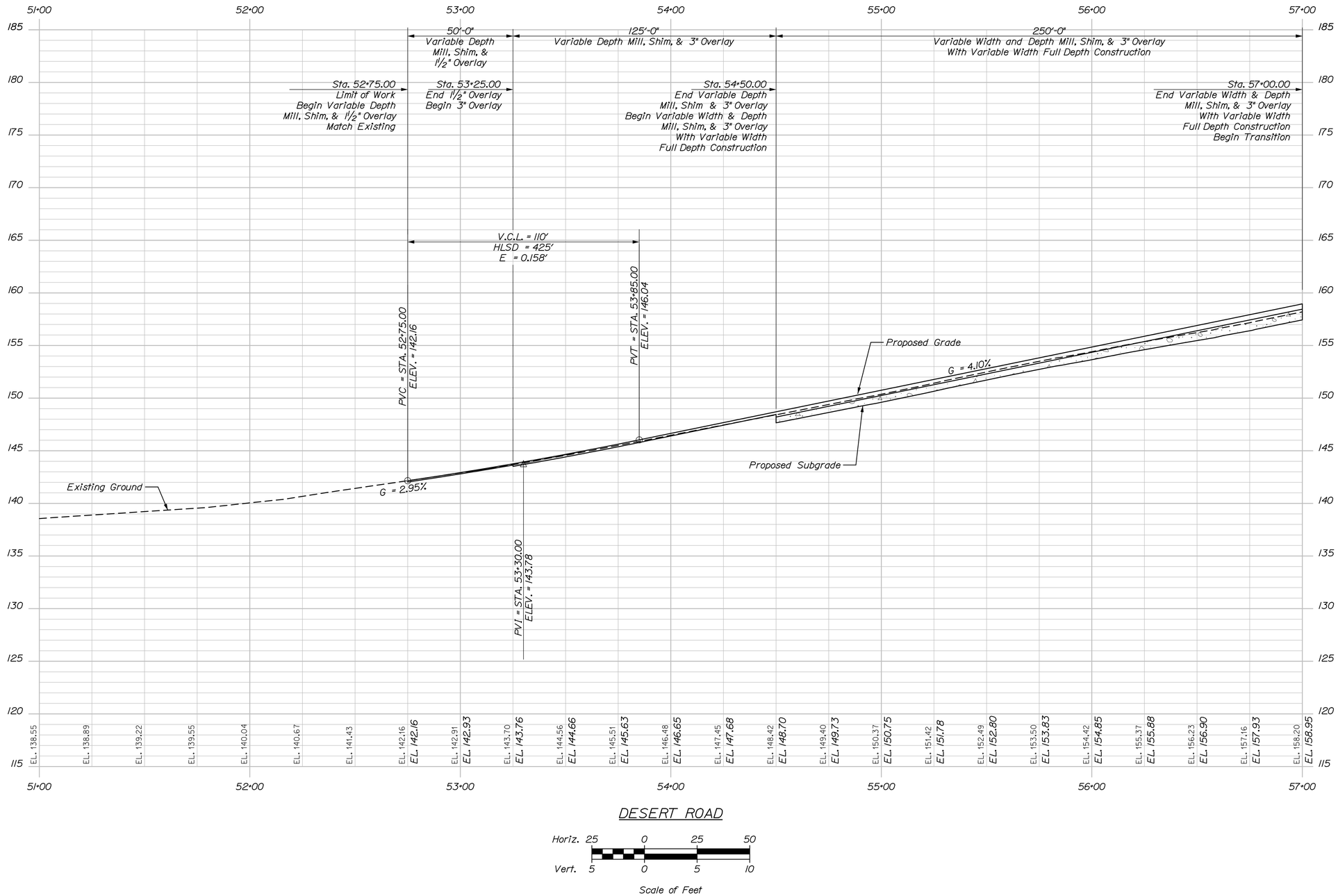
SHEET NUMBER

6

OF 138

HNTB

Username:
Division:
Filename: 007_Profile1.dgn
Date:8/27/2021



DESERT ROAD

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kerstbergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

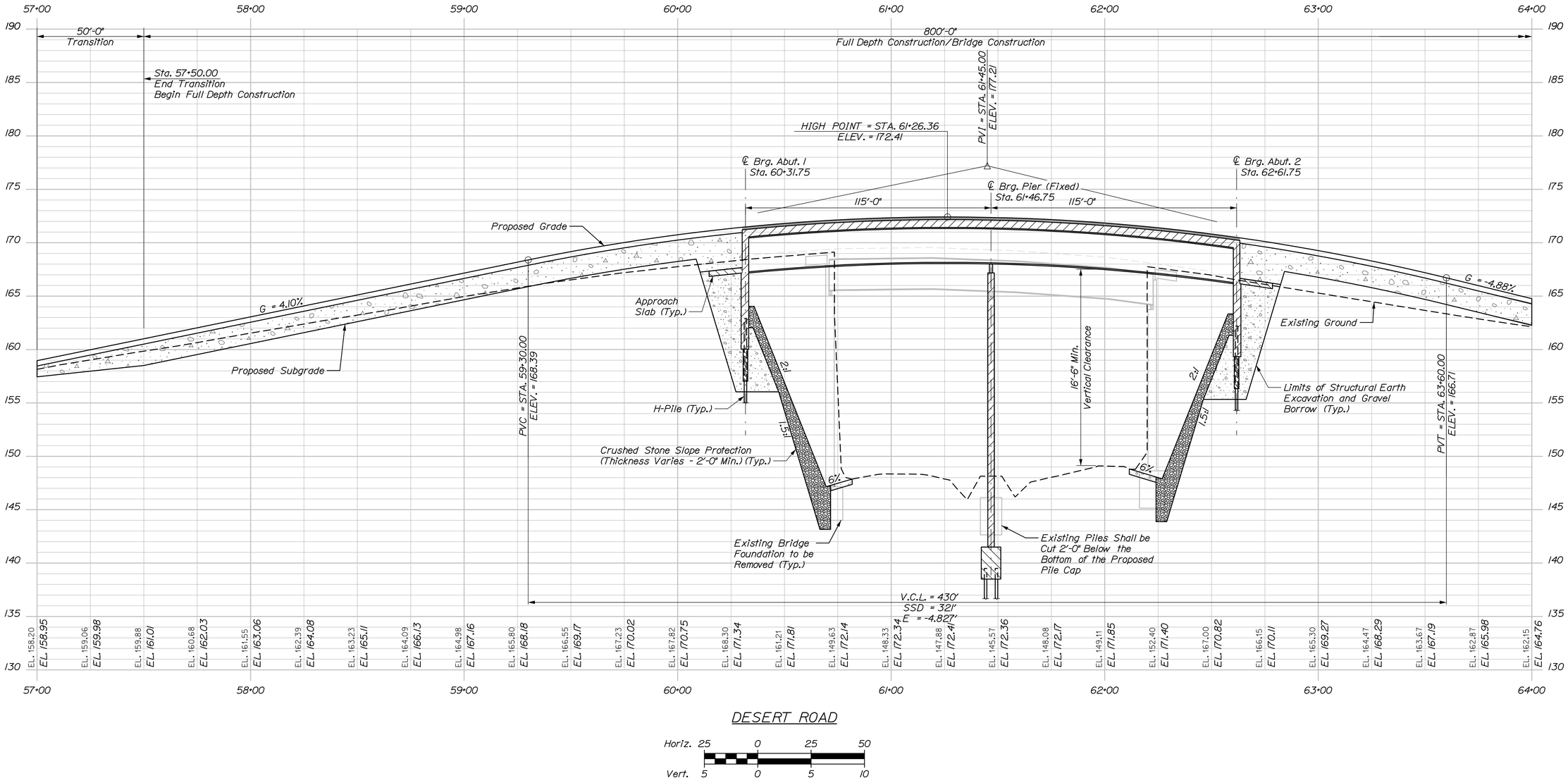
MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

DESERT ROAD
PROFILE 1

SHEET NUMBER

7

OF 138



DESERT ROAD

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kersbergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

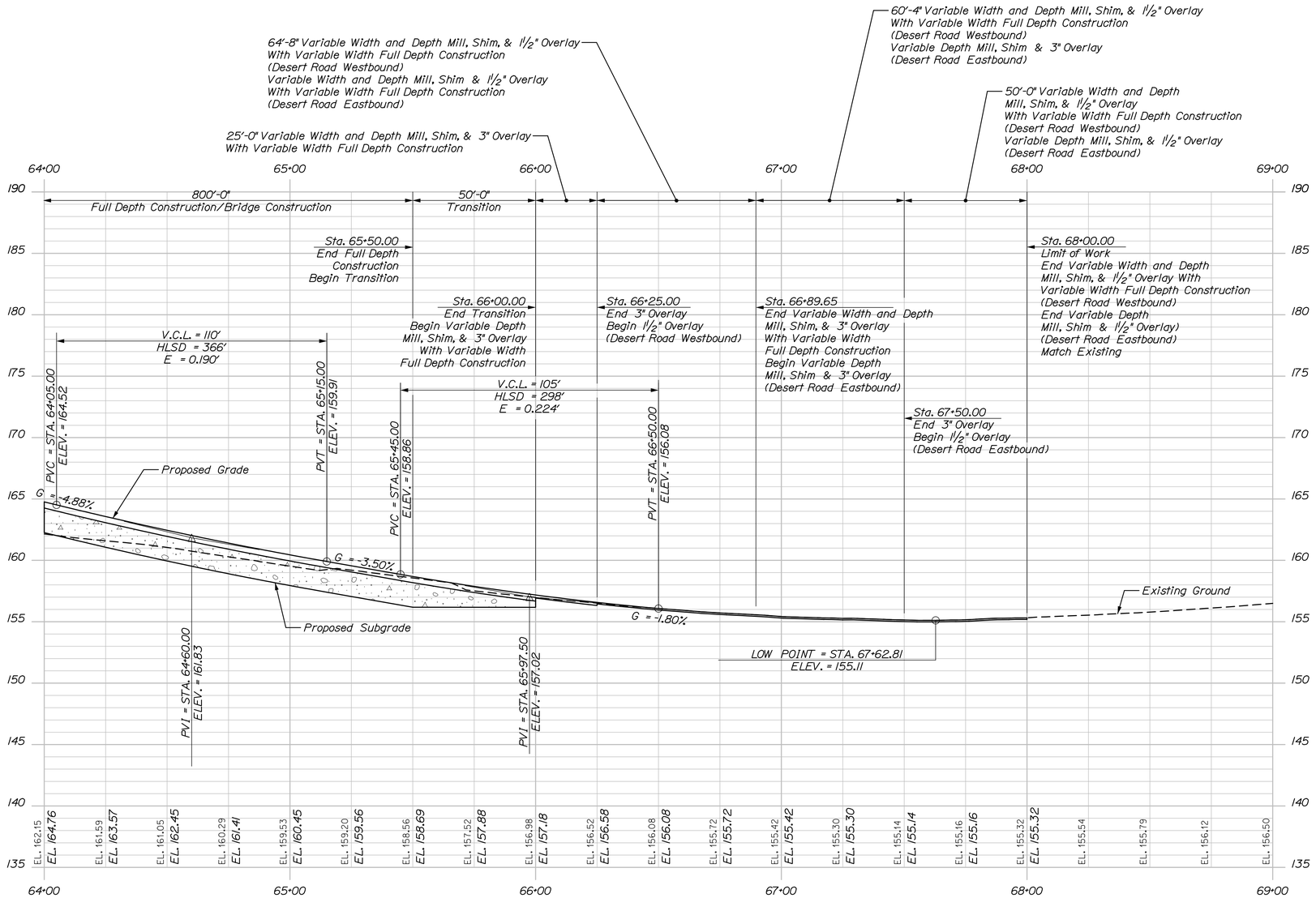
DESERT ROAD
PROFILE 2

SHEET NUMBER

8

OF 138

Filename: 008_Profile2.dgn Division: Username: Date:8/27/2021



DESERT ROAD

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
PROFILE 3

SHEET NUMBER

9

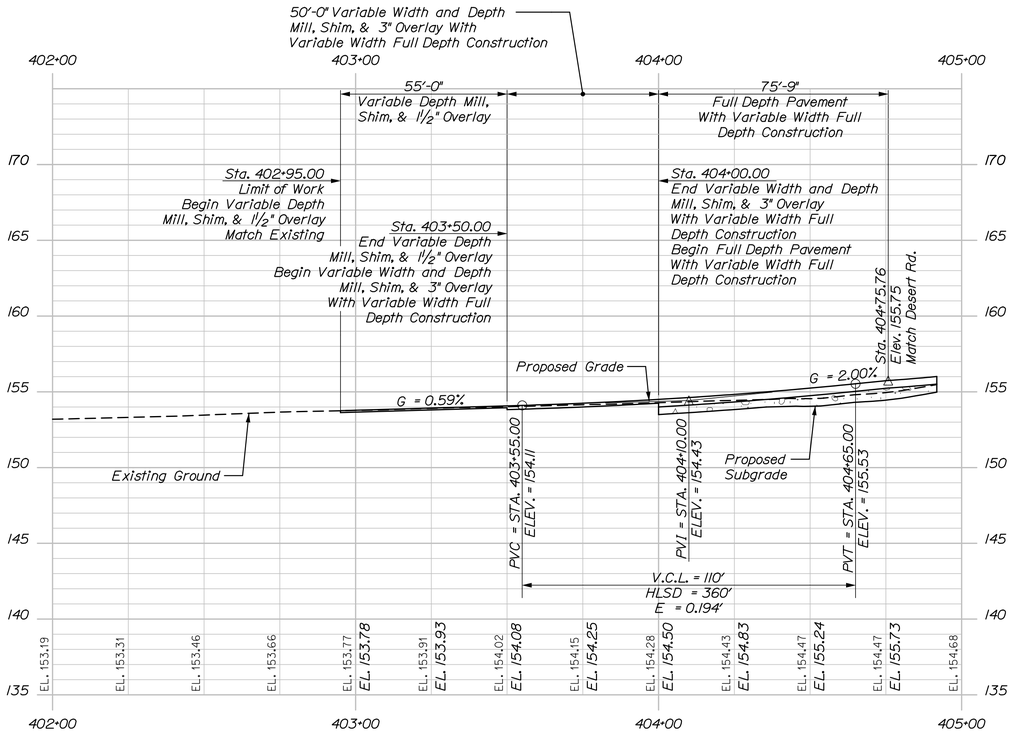
OF 138

Username:

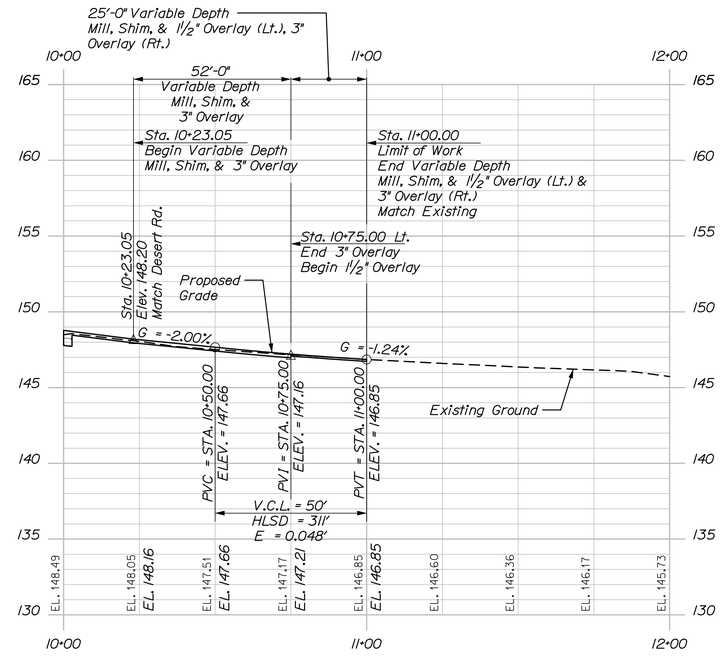
Division:

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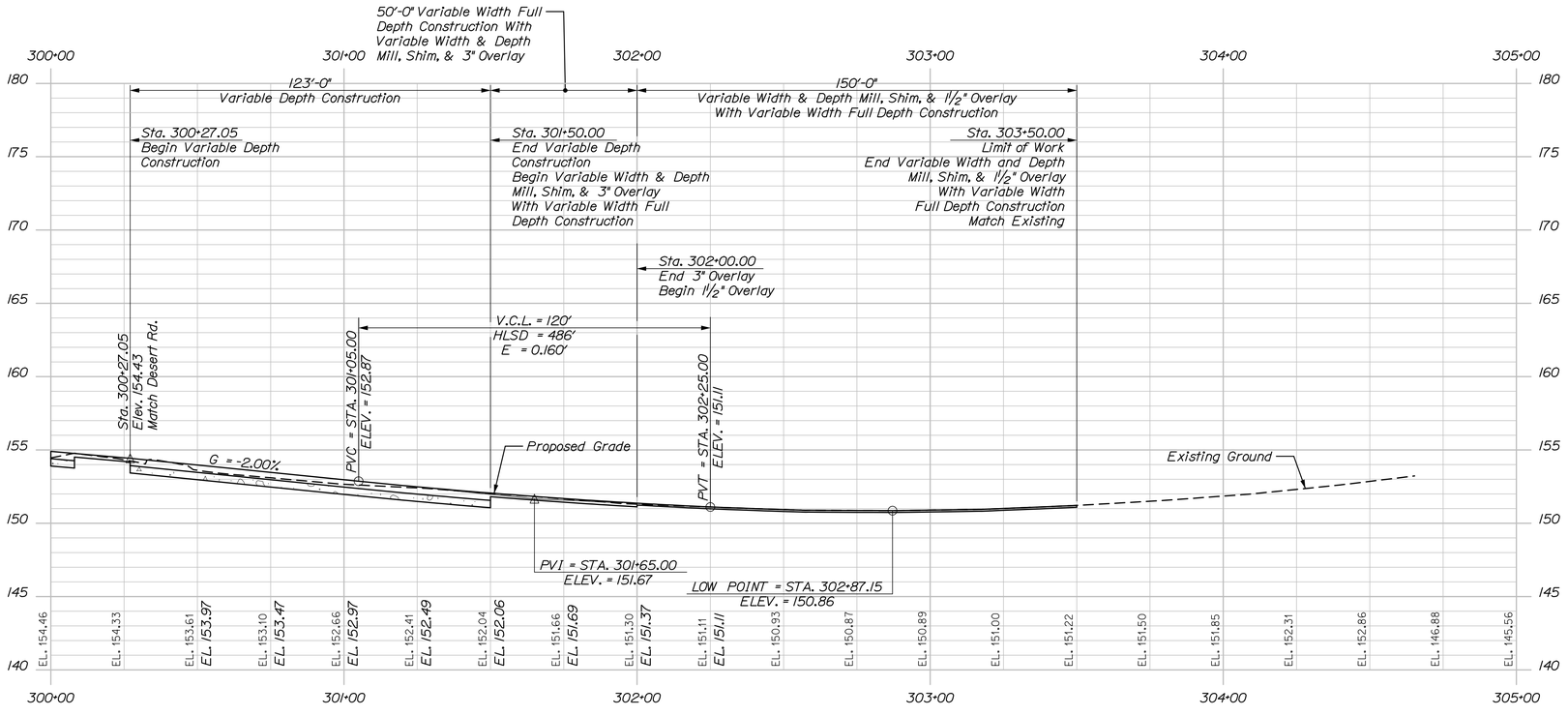
Date:8/27/2021



I-295 SB ON RAMP



HUNTER ROAD



I-295 SB OFF RAMP

Horiz. 25 0 25 50
Vert. 5 0 5 10
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

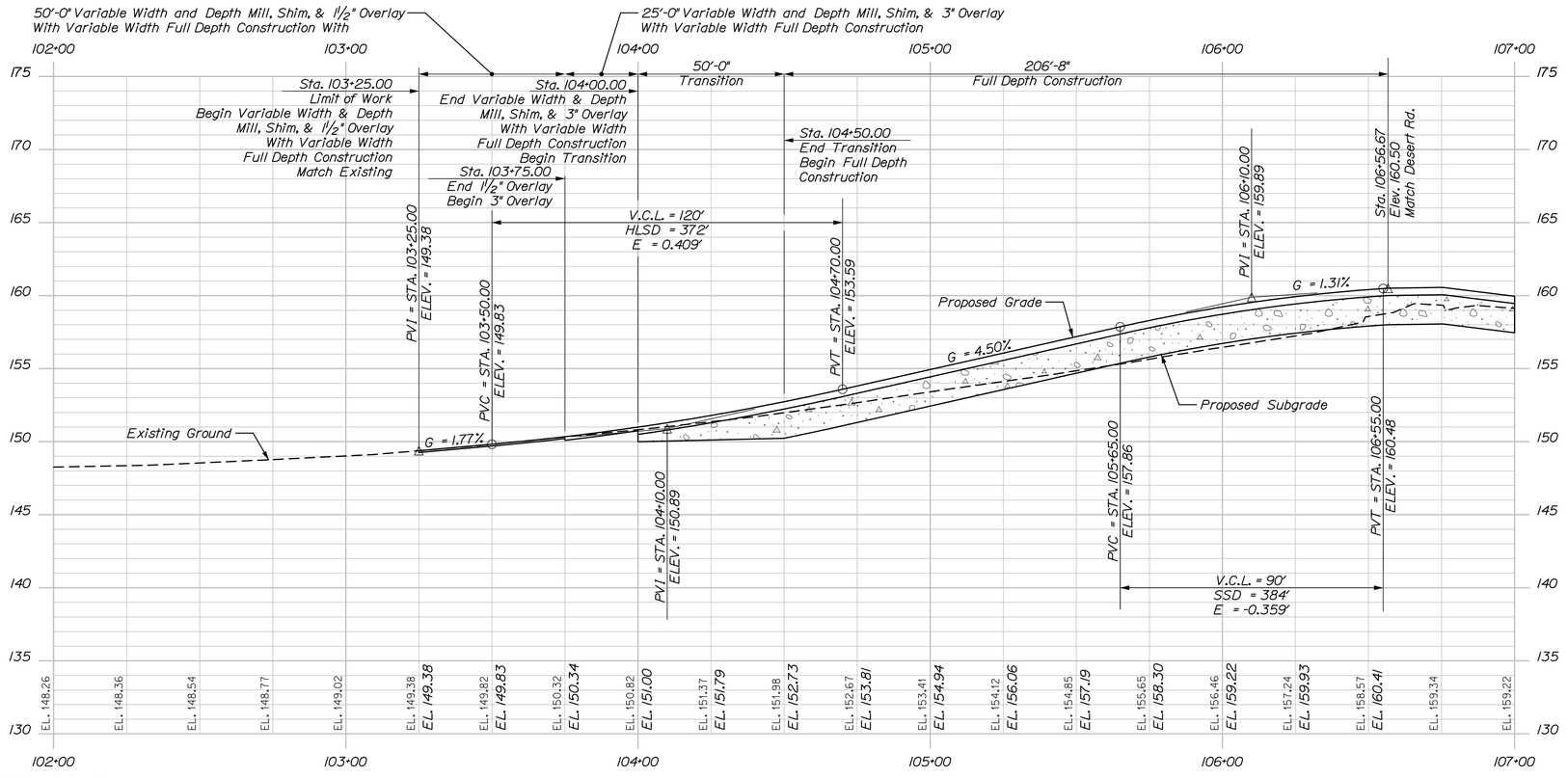
DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

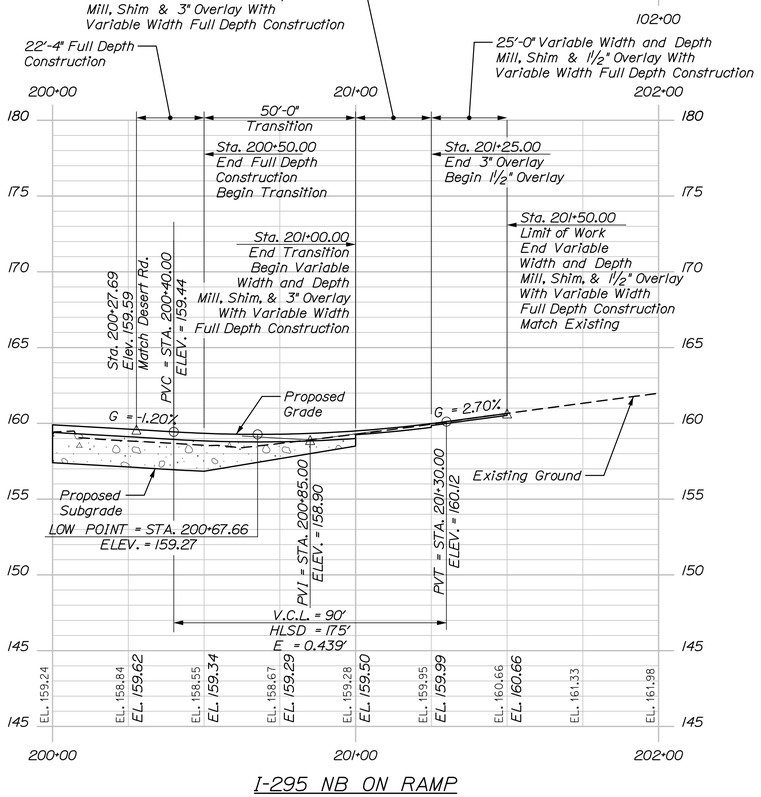
I-295 SB RAMPS & HUNTER ROAD PROFILES

SHEET NUMBER
10
OF 138

Filename: 010_Profile4.dgn Division: Username: Date:8/27/2021



I-295 NB OFF RAMP



I-295 NB ON RAMP

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NORTHBOUND RAMP PROFILES

SHEET NUMBER

11

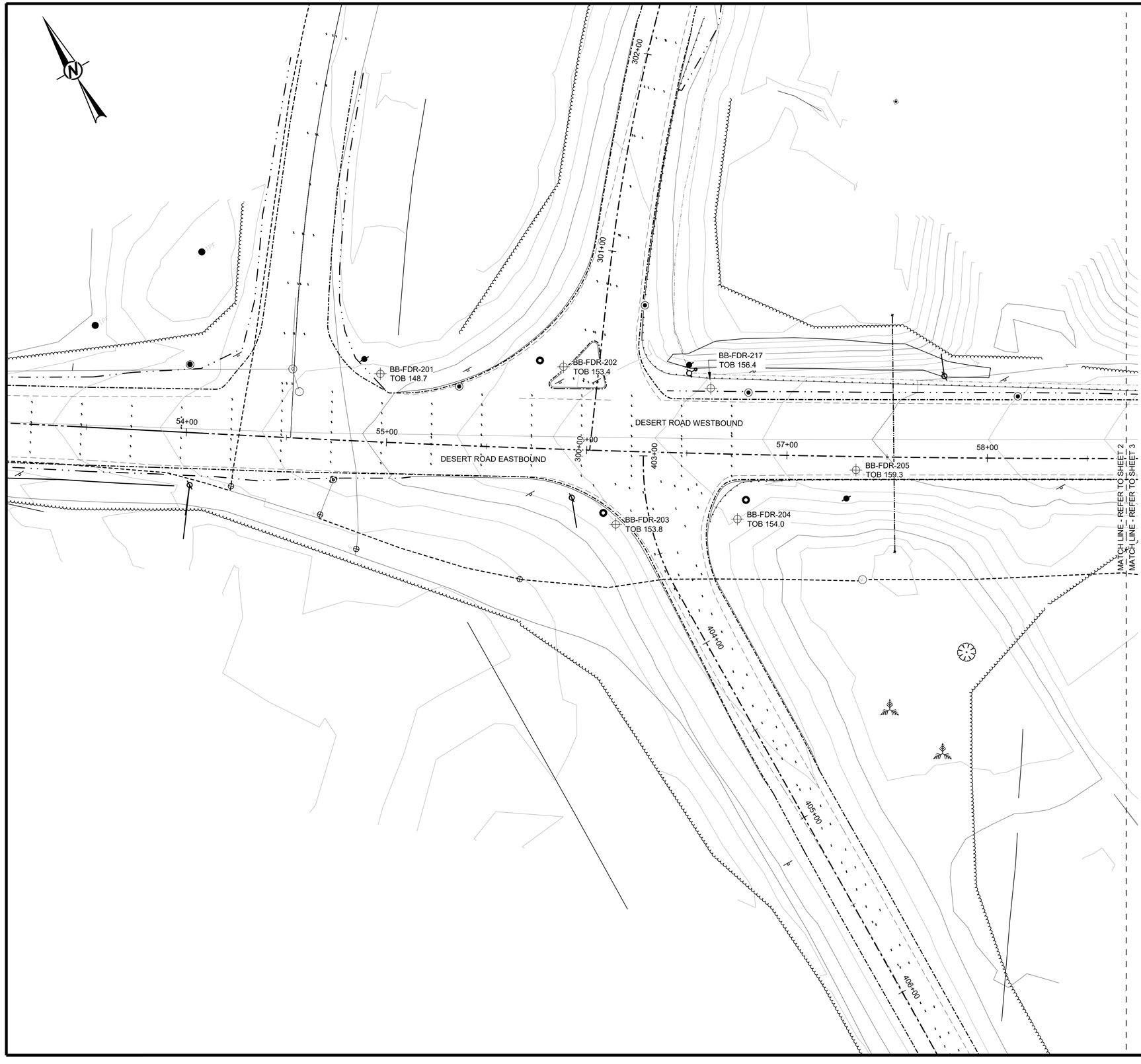
OF 138

Username:

Date:8/27/2021

Division:

Filename: 011_Profile5.dgn



LEGEND

◉	PROPOSED LIGHT STANDARD FOUNDATION
○	PROPOSED MAST ARM FOUNDATION
MTB-1-83 TOB 135.3	HISTORICAL BORINGS (SEE SHEET 013)
BB-FDR-102 TOB 129.6	COMPLETED 100 SERIES BORINGS (SEE SHEET 013)
BB-FDR-202 TOB 153.4	COMPLETED 200 SERIES BORINGS
TOB XXX.X	ELEVATION OF TOP OF BORING OR PROBE

NOTE(S)

1. AS DRILLED BORING LOCATION PLAN FOR 100-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "BOR12-17-19edit.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 01/06/2020. AS DRILLED BORING LOCATION PLAN FOR 200-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "23627 BORE 200 series Compiled.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 06/28/2021.

REFERENCE(S)

1. BASEMAP ELEMENTS TAKEN FROM MAINE DOT DRAWING TITLED "3DTopo_2019-10-18.dgn" RECEIVED ON JANUARY 2, 2020.
2. SURVEY PROVIDED TO GOLDER ON JANUARY 02, 2020 BY MAINE DOT IN FILE "FREEPORT 23627.00 SURVEY DATA 2019-11-18.zip".
3. PROPOSED STATIONING PROVIDED TO GOLDER BY HNTB FOR A SOUTHERN SHIFT OF THE BRIDGE.
4. LOCATIONS FOR MAST ARM FOUNDATIONS AND LIGHT STANDARD FOUNDATIONS DERIVED FROM ELECTRONIC FILE NAME: "Foundation Location Tables.pdf" PROVIDED BY HNTB ON JUNE 29, 2021.
5. GOLDER ASSOCIATES, INC., DECEMBER 21, 2020, PRELIMINARY GEOTECHNICAL DESIGN REPORT, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
6. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT PART I, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
7. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT PART II, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
8. EXIT RAMP ALIGNMENTS PROVIDED TO GOLDER BY HNTB ON JULY 14, 2021.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN
023627.00

Bridge No. 5720

BRIDGE PLANS

STATE OF MAINE · CHRISTOPHER C. BENDA No. 15164 · LICENSED PROFESSIONAL ENGINEER

15164
P.E. NUMBER

09/07/2021
DATE

SIGNATURE

PROJ. MANAGER			
DESIGN-DETAILED	MEL	21-08-25	
CHECKED-REVIEWED	CCB/MEL	21-09-07	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

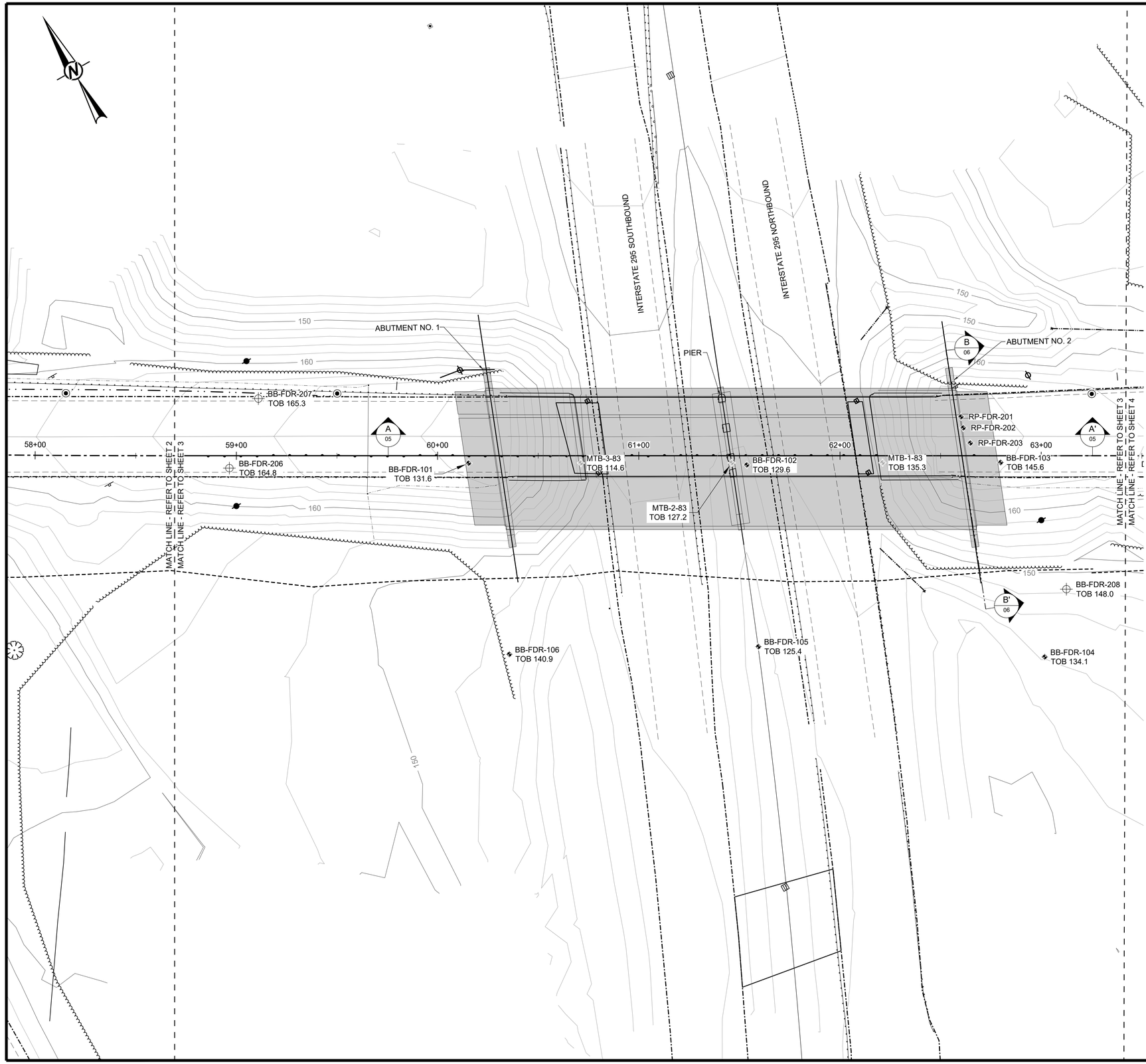
MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOCATION PLAN

SHEET NUMBER
12
OF 138

GOLDER
MEMBER OF WSP

Username:
Division:
Filename: 21450908_0120_001
Date:2021-07-01



LEGEND

RP-FDR-201	COMPLETED ROCK PROBES
MTB-1-83 TOB 135.3	HISTORICAL BORINGS
BB-FDR-102 TOB 129.6	COMPLETED 100 SERIES BORINGS
BB-FDR-202 TOB 153.4	COMPLETED 200 SERIES BORINGS
	PROPOSED LIGHT STANDARD FOUNDATION
	PROPOSED MAST ARM FOUNDATION
TOB XXX.X	ELEVATION OF TOP OF BORING OR PROBE

NOTE(S)

1. AS DRILLED BORING LOCATION PLAN FOR 100-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "BOR12-17-19edit.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 01/06/2020. AS DRILLED BORING LOCATION PLAN FOR 200-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "23627 BORE 200 series Compiled.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 06/28/2021.

REFERENCE(S)

1. BASEMAP ELEMENTS TAKEN FROM MAINE DOT DRAWING TITLED "3DTopo_2019-10-18.dgn" RECEIVED ON JANUARY 2, 2020.
2. SURVEY PROVIDED TO GOLDER ON JANUARY 02, 2020 BY MAINE DOT IN FILE "FREEPORT 23627.00 SURVEY DATA 2019-11-18.zip".
3. PROPOSED STATIONING PROVIDED TO GOLDER BY HNTB FOR A SOUTHERN SHIFT OF THE BRIDGE.
4. LOCATIONS FOR MAST ARM FOUNDATIONS AND LIGHT STANDARD FOUNDATIONS DERIVED FROM ELECTRONIC FILE NAME: "Foundation Location Tables.pdf" PROVIDED BY HNTB ON JUNE 29, 2021.
5. GOLDER ASSOCIATES, INC., DECEMBER 21, 2020, PRELIMINARY GEOTECHNICAL DESIGN REPORT, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
6. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT PART I, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
7. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT PART II, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
8. EXIT RAMP ALIGNMENTS PROVIDED TO GOLDER BY HNTB ON JULY 14, 2021.
9. DETAILS OF BRIDGE AND FOUNDATION ELEMENTS TAKEN FROM HNTB, MERRIL ROAD BRIDGE OVER INTERSTATE 295 AND SIGNILIZED INTERSECTIONS, EXIT 20 INTERCHANGE: 98% PS&E, DATED JULY 30 2021.

0 25 50
1" = 25' FEET

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN
023627.00

Bridge No. 5720

BRIDGE PLANS

STATE OF MAINE · CHRISTOPHER C. BENDA No. 15164 · LICENSED PROFESSIONAL ENGINEER

P.E. NUMBER 15164

SIGNATURE

DATE 09/07/2021

PROJ. MANAGER			
DESIGN-DETAILED	MEL	AAZ	21-08-25
CHECKED-REVIEWED	CCB/MEL	AAZ	21-09-07
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

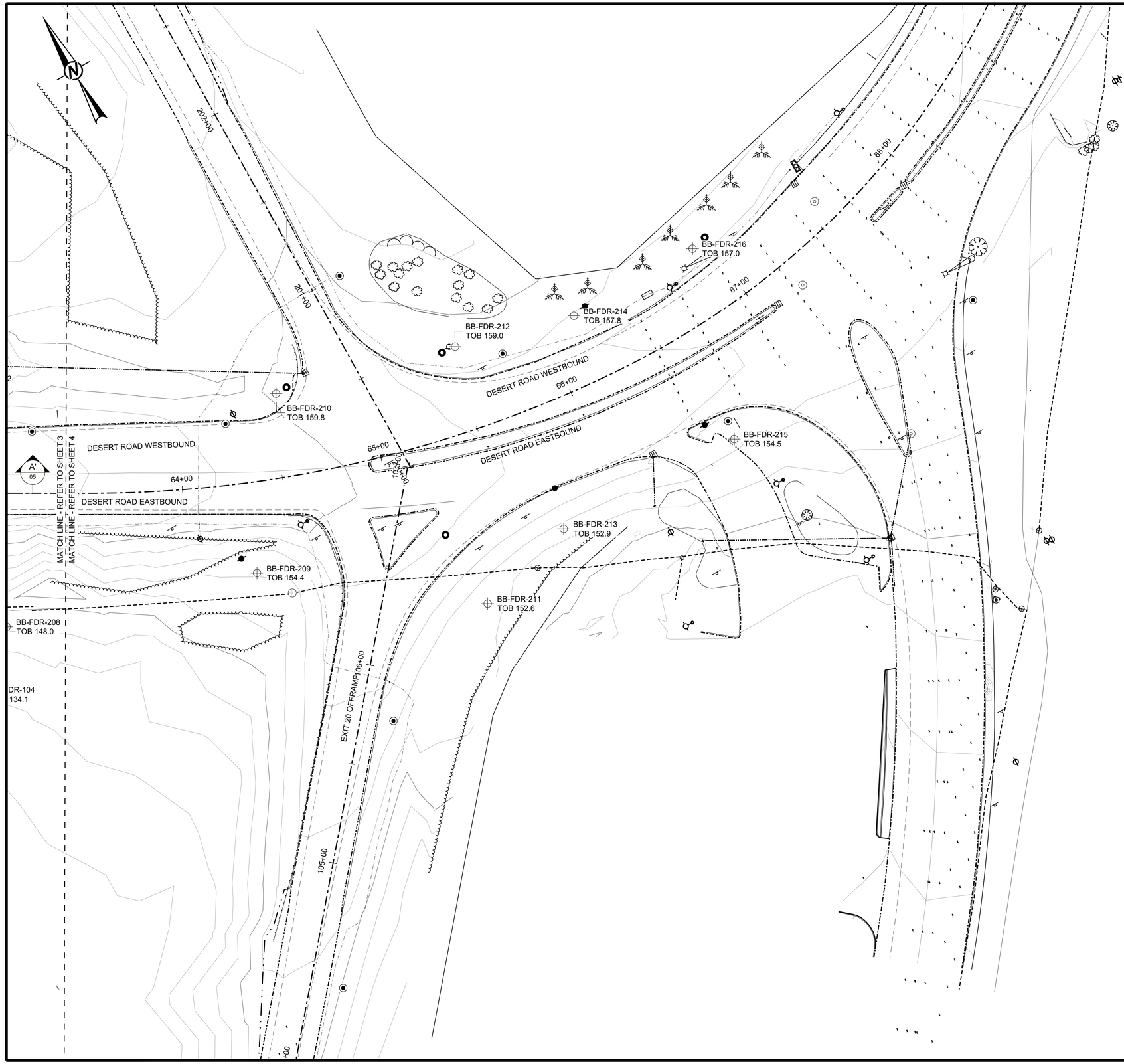
MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOCATION PLAN

SHEET NUMBER
13
OF 138

Date:2021-07-01
Username:
Division:
Filename: 21450908_0120_001

Date:2021-07-01
Username:
Division:
Filename: 21450908_0120_001



LEGEND

	PROPOSED LIGHT STANDARD FOUNDATION
	PROPOSED MAST ARM FOUNDATION
MTB-1-83 TOB 135.3	HISTORICAL BORINGS (SEE SHEET 013)
BB-FDR-102 TOB 129.6	COMPLETED 100 SERIES BORINGS (SEE SHEET 013)
BB-FDR-202 TOB 153.4	COMPLETED 200 SERIES BORINGS
TOB XXX.X	ELEVATION OF TOP OF BORING OR PROBE

NOTE(S)

1. AS DRILLED BORING LOCATION PLAN FOR 100-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "BOR12-17-19edit.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 01/06/2020. AS DRILLED BORING LOCATION PLAN FOR 200-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "23627 BORE 200 series Compiled.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 06/28/2021.

REFERENCE(S)

1. BASEMAP ELEMENTS TAKEN FROM MAINE DOT DRAWING TITLED "3DTopo_2019-10-18.dgn" RECEIVED ON JANUARY 2, 2020.
2. SURVEY PROVIDED TO GOLDER ON JANUARY 02, 2020 BY MAINE DOT IN FILE "FREEPORT 23627.00 SURVEY DATA 2019-11-18.zip".
3. PROPOSED STATIONING PROVIDED TO GOLDER BY HNTB FOR A SOUTHERN SHIFT OF THE BRIDGE.
4. LOCATIONS FOR MAST ARM FOUNDATIONS AND LIGHT STANDARD FOUNDATIONS DERIVED FROM ELECTRONIC FILE NAME: "Foundation Location Tables.pdf" PROVIDED BY HNTB ON JUNE 29, 2021.
5. GOLDER ASSOCIATES, INC., DECEMBER 21, 2020, PRELIMINARY GEOTECHNICAL DESIGN REPORT, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
6. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT PART I, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
7. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT PART II, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
8. EXIT RAMP ALIGNMENTS PROVIDED TO GOLDER BY HNTB ON JULY 14, 2021.

0 25 50
1" = 25' FEET

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

Bridge No. 5720

BRIDGE PLANS

STATE OF MAINE · CHRISTOPHER C. BENDA No. 15164 · LICENSED PROFESSIONAL ENGINEER

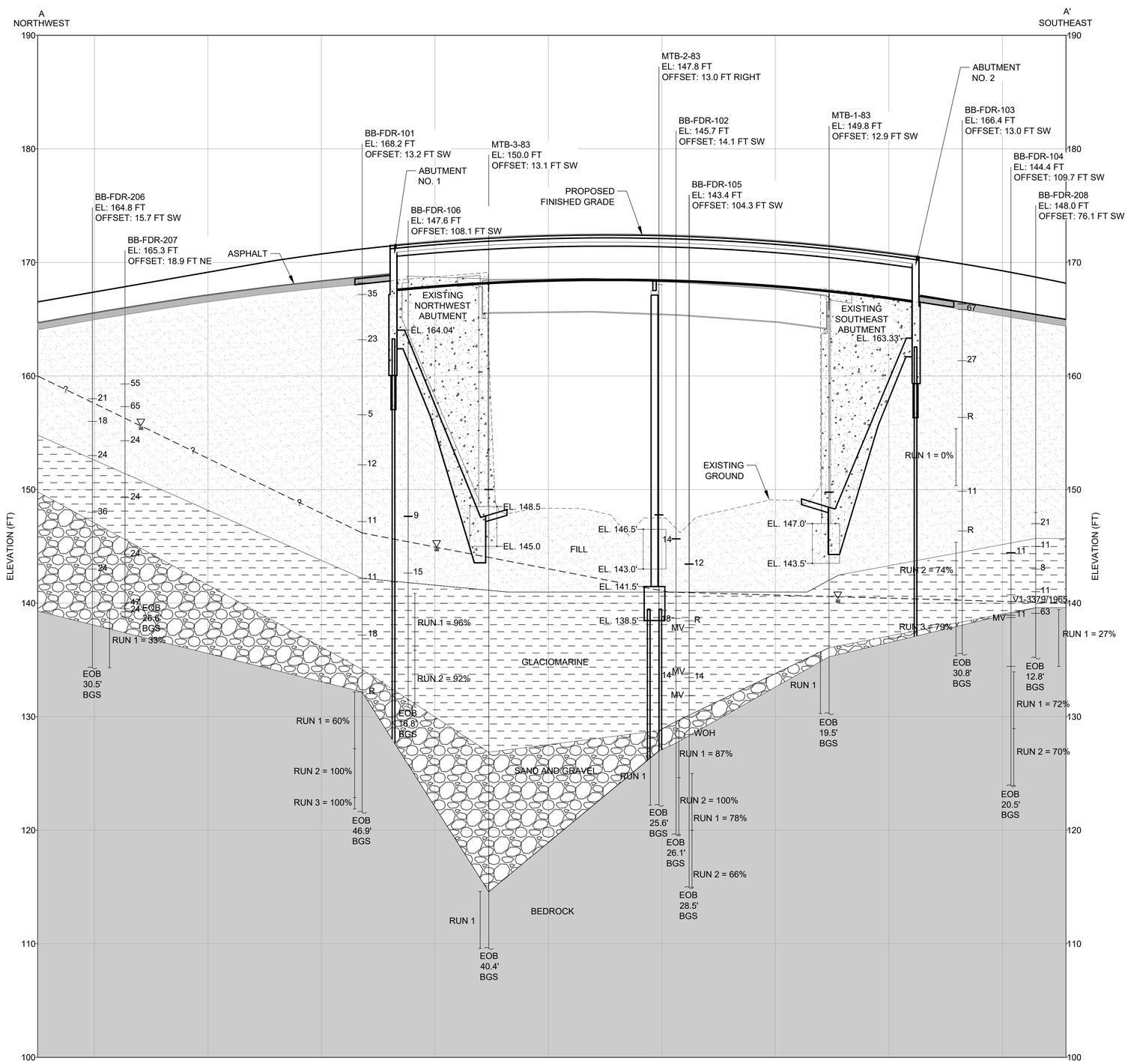
P.E. NUMBER	15164	
SIGNATURE		
DATE	09/07/2021	

	BY	DATE
PROJ. MANAGER	MEL	
DESIGN-DETAILED	MEL	AAZ 21-08-25
CHECKED-REVIEWED	CCB/MEL	AAZ 21-09-07
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOCATION PLAN

SHEET NUMBER
14
OF 138



LEGEND

BB-FDR-104
EL: 144.4 FT
OFFSET: 96.6 S — BORING LOCATION I.D., ELEVATION, OFFSET (FT) FROM SECTION LINE

(TOB) — TOP OF BORING OR PROBE

30 — SPT: N60 - VALUE (CORRECTED FOR HAMMER EFFICIENCY)

V1 - 3379/1965 — FIELD VANE SHEAR TEST LOCATION AND UNDRAINED SHEAR STRENGTH (PSF) (PEAK/REMOLDED)

WOH/WOR — WEIGHT OF HAMMER / WEIGHT OF ROD

MV — MISSED VANE

R — REFUSAL

RUN1 - 92% — ROCK CORE RUN NUMBER AND ROD QUALITY DESIGNATION (RQD)

EOB 60.6' BGS — END OF BORING DEPTH BELOW GROUND SURFACE (BGS)

- ASPHALT
- EXISTING ABUTMENT AND FOUNDATION ELEMENTS
- PROPOSED ABUTMENT ELEMENTS
- BROWN TO GRAY, LOOSE TO MEDIUM DENSE, SILTY FINE TO COARSE SAND AND GRAVEL (FILL)
- GRAY, VERY SOFT TO VERY STIFF, LOW PLASTICITY SILTY CLAY (GLACIOMARINE)
- GRAY, VERY LOOSE TO VERY DENSE, FINE TO COARSE SAND, SOME SILT/CLAY, LITTLE GRAVEL (SAND AND GRAVEL)
- LIGHT GRAY, COARSE-GRAINED GNEISS, EXTREMELY STRONG, FRESH TO SLIGHTLY WEATHERED (BEDROCK)
- EXISTING GROUND SURFACE
- INTERPRETED GROUNDWATER SURFACE

NOTES:

1. AS DRILLED BORING LOCATION PLAN FOR 100-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "BOR12-17-19edit.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 01/06/2020. AS DRILLED BORING LOCATION PLAN FOR 200-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "23627 BORE 200 Series Compiled.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 06/28/2021.
2. FOR DETAILED LITHOLOGIC DESCRIPTIONS SEE BORING LOGS IN NOTE 8 APPENDIX A (100-SERIES BORINGS) AND NOTE 9 APPENDIX A (200-SERIES BORINGS).
3. FOR COMPLETE LABORATORY DATA SEE LABORATORY REPORTS IN NOTE 8 (100-SERIES BORINGS) AND NOTE 9 (200-SERIES BORINGS).
4. GROUNDWATER SURFACE IS INTERPRETED FROM LOCALIZED SURFACE WATER LEVELS AND MEASUREMENTS TAKEN DURING THE SUBSURFACE EXPLORATION PROGRAMS. FOR DETAILS ON THE SUBSURFACE EXPLORATION PROGRAMS, SEE NOTE 8 (100-SERIES BORINGS) AND NOTE 9 (200-SERIES BORINGS).
5. THIS GENERALIZED SUBSURFACE PROFILE IS INTENDED TO CONVEY TRENDS IN SUBSURFACE CONDITIONS. THE BOUNDARIES BETWEEN STRATA ARE APPROXIMATE AND IDEALIZED AND HAVE BEEN DEVELOPED BASED ON INTERPRETATIONS OF WIDELY SPACED EXPLORATIONS. ACTUAL SOIL AND ROCK TRANSITIONS MAY VARY AND ARE PROBABLY MORE ERRATIC. FOR MORE SPECIFIC INFORMATION, REFER TO BORING LOGS IN NOTE 8 APPENDIX A (100-SERIES BORINGS) AND NOTE 9 APPENDIX A (200-SERIES BORINGS).
6. PROPOSED ABUTMENT DETAILS INTERPRETED FROM ELECTRONIC FILE NAME "Freeport_023627_Exit_20_60%25_Plans" PROVIDED TO GOLDER BY HNTB ON JUNE 17, 2021.
7. FOR SOIL STRATA ANALYSIS THE ASPHALT LAYER AND ROADFILL LAYER ARE COMBINED.
8. GOLDER ASSOCIATES, INC., DECEMBER 21, 2020, PRELIMINARY GEOTECHNICAL DESIGN REPORT, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
9. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT PART I, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
10. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT PART II, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.

VERTICAL SCALE 0 5 10 — 1" = 5' FEET

HORIZONTAL SCALE 0 25 50 — 1" = 25' FEET

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

Bridge No. 5720

BRIDGE PLANS

STATE OF MAINE · CHRISTOPHER C. BENDA No. 15164 · LICENSED PROFESSIONAL ENGINEER

P.E. NUMBER	15164	
DATE	09/07/2021	

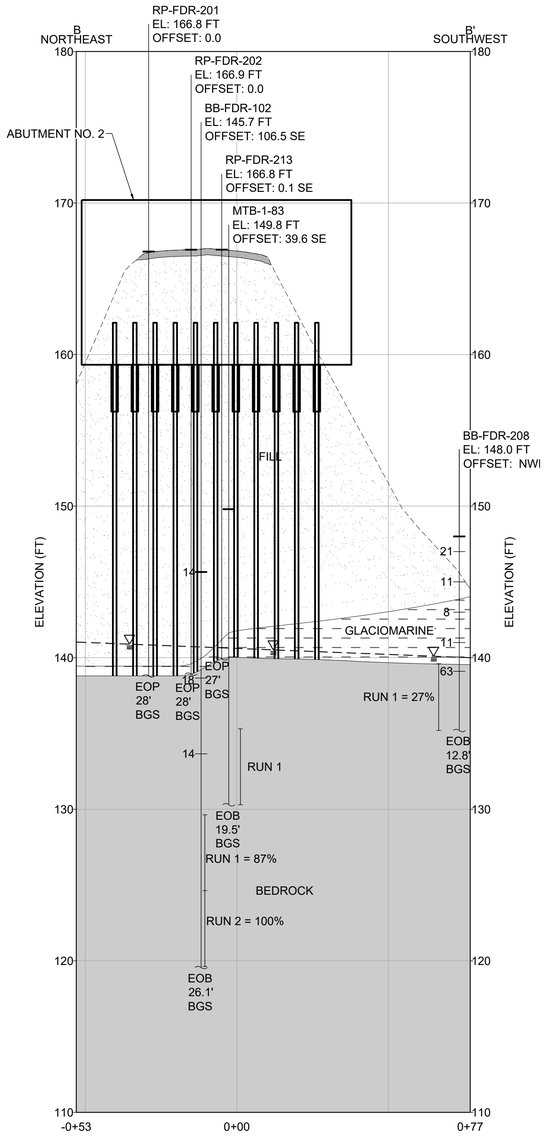
PROJ. MANAGER	MEL	
DESIGN-DETAILED	MEL	AAZ
CHECKED-REVIEWED	CCB/MEL	AAZ
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

INTERPRETIVE SUBSURFACE PROFILE A-A'

SHEET NUMBER
15
OF 138

Filename: 21450908_0120_004 Division: Username: Date:2021-7-2



LEGEND

RP-FDR-211 BB-FDR-104 EL: 144.4 FT OFFSET: 96.6 S	ROCK PROBE LOCATION I.D. BORING LOCATION I.D. ELEVATION OFFSET (FT) FROM SECTION LINE
(TOB)	TOP OF BORING OR PROBE
30	SPT: N60 - VALUE (CORRECTED FOR HAMMER EFFICIENCY)
V1 - 3379/1965	FIELD VANE SHEAR TEST LOCATION AND UNDRAINED SHEAR STRENGTH (PSF) (PEAK/REMOLDED)
WOR	WEIGHT OF ROD
MV	MISSED VANE
R	REFUSAL
RUN1 - 92%	ROCK CORE RUN NUMBER AND ROD QUALITY DESIGNATION (RQD)
EOB / EOP 60.6' BGS	END OF BORING / END OF PROBE DEPTH BELOW GROUND SURFACE (BGS)

- ASPHALT
- PROPOSED ABUTMENT ELEMENTS
- BROWN TO GRAY, LOOSE TO MEDIUM DENSE, SILTY FINE TO COARSE SAND AND GRAVEL (FILL)
- GRAY, VERY SOFT TO VERY STIFF, LOW PLASTICITY SILTY CLAY (GLACIOMARINE)
- LIGHT GRAY, COARSE-GRAINED GNEISS, EXTREMELY STRONG, FRESH TO SLIGHTLY WEATHERED (BEDROCK)
- EXISTING GROUND SURFACE
- INTERPRETED GROUNDWATER SURFACE

NOTES:

1. AS DRILLED BORING LOCATION PLAN FOR 100-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "BOR12-17-19edit.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 01/06/2020. AS DRILLED BORING LOCATION PLAN FOR 200-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "23627 BORE 200 Series Compiled.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 06/28/2021.
2. FOR DETAILED LITHOLOGIC DESCRIPTIONS SEE BORING LOGS IN NOTE 8 APPENDIX A (100-SERIES BORINGS) AND NOTE 9 APPENDIX A (200-SERIES BORINGS).
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5. THIS GENERALIZED SUBSURFACE PROFILE IS INTENDED TO CONVEY TRENDS IN SUBSURFACE CONDITIONS. THE BOUNDARIES BETWEEN STRATA ARE APPROXIMATE AND IDEALIZED AND HAVE BEEN DEVELOPED BASED ON INTERPRETATIONS OF WIDELY SPACED EXPLORATIONS. ACTUAL SOIL AND ROCK TRANSITIONS MAY VARY AND ARE PROBABLY MORE ERRATIC. FOR MORE SPECIFIC INFORMATION, REFER TO BORING LOGS IN NOTE 8 APPENDIX A (100-SERIES BORINGS) AND NOTE 9 APPENDIX A (200-SERIES BORINGS).
6. PROPOSED ABUTMENT DETAILS INTERPRETED FROM ELECTRONIC FILE NAME "Freeport_023627_Exit_20_60%25_Plans" PROVIDED TO GOLDER BY HNTB ON JUNE 17, 2021.
7. FOR SOIL STRATA ANALYSIS THE ASPHALT LAYER AND ROADFILL LAYER ARE COMBINED.
8. GOLDER ASSOCIATES, INC., DECEMBER 21, 2020, PRELIMINARY GEOTECHNICAL DESIGN REPORT, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
9. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT PART I, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.
10. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT PART II, I-295 DESERT ROAD BRIDGE REPLACEMENT #5720 (EXIT 20), FREEPORT, MAINE, MAINEDOT WIN 023627.00.

VERTICAL SCALE 0 5 10 — 1" = 5' FEET

HORIZONTAL SCALE 0 25 50 — 1" = 25' FEET

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

Bridge No. 5720

BRIDGE PLANS

STATE OF MAINE · CHRISTOPHER C. BENDA No. 15164 · LICENSED PROFESSIONAL ENGINEER

15164
P.E. NUMBER

09/07/2021
DATE

	MEL	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	KAR	AAZ	21-08-25
CHECKED-REVIEWED	CCB/MEL	AAZ	21-09-07
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

INTERPRETIVE SUBSURFACE
CROSS SECTION B-B'

SHEET NUMBER
16
OF 138

Username:
Date:2021-7-2
Division:
Filename: 21450908_0120_005.dwg

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Merrill Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-101
WIN: 023627.00

Driller:	New England Boring Contractors	Elevation (ft.): 168.2	Auger ID/OD: 4 in OD Solid Stem
Operator:	Mike Porter	Datum: NAD83 (2011) Maine 2000 West	Sampler: Standard Split Spoon
Logged By:	Shiv Bhardwaj	Rig Type: Mobile B-53	Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish:	12/10/19 (1815)/11/12/19 (1145)	Drilling Methods: Solid Stem Auger / Cased Wash	Core Barrel: 1-7/8 in - NQ
Boring Location:	N: 368277.8, E: 1051175.0	Casing ID/OD: 4 in/4.5 in	Water Level*: 12.6 ft on 12/10/19 at 1545
Hammer Efficiency Factor: 0.914		Hammer Type: Autoroic ☒ Hydraulic ☐	Rope & Cathead ☐

Definitions:
B = Split Spoon Sample; SSA = Solid Stem Auger; WS = Unsuccessful Split Spoon Sample Attempt; HSA = Hollow Stem Auger; U = Thin Wall Tube Sample; RC = Rotary Core; WH = Unsuccessful Thin Wall Tube Sample Attempt; WOH = Weight of Hole; WOR/C = Weight of Rods or Casing; F = Field Vane Shear Test; PP = Pocket Penetrometer; WOH = Weight of Hammer; MW = Unsuccessful Field Vane Shear Test Attempt; WOP = Weight of One Person
T_{pp} = Pocket Torvane Shear Strength (psf); $T_{vf(rem)}$ = Lab Vane undrained Shear Strength (psf); q_u = Unconfined Compressive Strength (tsf); R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Rotary Core; WOH = Weight of Hole; WOR/C = Weight of Rods or Casing; q_{SPT} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = Hammer Efficiency Factor-ASTM-unstandardized; T_{pp} = Pocket Torvane Shear Strength (tsf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; C = Grain Size Analysis; C = Consolidation Test

| Sample Information | | |

Username:
Division:
Filename: 21450908_0120_007
Date:2021-7-2

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Merrill Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-105
WIN: 023627.00

Driller:	New England Boring Contractors	Elevation (ft.):	143.4
Operator:	Mike Porter	Datum:	NAD83 (2011) Maine 2000 West
Logged By:	Karen Roth	Rig Type:	Mobile B-53
Date Start/Finish:	12/19/19 (11:53) / 12/19/19 (18:00)	Drilling Method:	Solid Stem Auger / Cased Wash
Boring Location:	N: 368127.6, E: 1051255.7	Casing ID/OD:	4 in/4.5 ins / 3 in/3.5 in
Hammer Efficiency Factor:	0.914	Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐
Auger ID/OD:	4 in OD Solid Stem	Sampler:	Standard Split Spoon
Core Barrel:	1-7/8 in - NQ	Water Level*:	3.9 ft on 12/19/19 at 12:26

Definitions:
D = Split Spoon Sample
MW = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WH = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
HFH = Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N60 = SPT N-value corrected for Hammer Efficiency
WOH = Weight of Hammer
T_v = Peak/Remolded Field Vane Undrained Shear Strength (psf)
S_u(qu) = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (tsf)
N-uncorrected = Raw Field SPT N-value
N60 = SPT N-value corrected for Hammer Efficiency
WOR = Weight of Rods or Casing
WOP = Weight of Pipe
MC = Water Content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in.) Sheargraph (psf) or (tsf)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/15	0.00 - 2.00	1/2/6/7	8	12	SSA	142.8		10A. Top 7 ins Medium brown, damp (frozen), stiff, SILT, little sand, trace organics (grass roots), slightly plastic (TOPSOIL).	1DB: GTX #539972 WC = 12.6% Fines = 3.7% A-1-b (01) SP
								0.6		10B. Bottom 8 ins Light brown, moist, medium dense, fine to coarse SAND, trace fine gravel, trace silt, poorly-graded (FILL).	
								139.4		Auger cuttings 4-5 ft bgs are grey CLAY, slightly to moderately plastic. Driller notes hole is caving at 5 ft bgs.	
5	2D	18/15	5.00 - 6.50	8/53/112(6")			29			2DA. Top 9 ins Light brown, wet, very dense, fine to coarse SAND, trace fine gravel, well-graded (GLACIOMARINE).	2DB: GTX #539964 WC = 23% LL = 35 PL = 19 PI = 16 LI = 0.3 A-6. CL
	WH		Would Not Push				59			2DB. Bottom 6 ins Alternating layers 1-2" thick of greyish brown, moist, hard, CLAY, moderately plastic and light brown, wet, very dense, fine to coarse SAND, trace fine gravel, well-graded (GLACIOMARINE), q_p = 6.5 tsf (Pocket Penetrometer). Failed 55x110 mm vane. would not push to 6 ft bgs.	
							76				
							88				
							107				
	3D	24/17	10.00 - 12.00	2/4/5/4	9	14	OPEN			Clay and sand in wash water 8-10 ft bgs.	
	WH		Would Not Push							3DA. Top 13 ins Grey, wet, stiff, CLAY, slightly plastic (GLACIOMARINE), q_p = 3.0 ksf (Pocket Penetrometer)	3DB: GTX #539977 WC = 22.2% Fines = 70.9% A-4. ML
	WH		Would Not Push							3DB. Bottom 4 ins Grey, wet, stiff, SILT, some fine sand (GLACIOMARINE). Failed 55x110 mm vane. would not push to 11 ft bgs. Failed 55x110 mm vane. would not push to 13 ft bgs.	
	4D	24/11	15.00 - 17.00	WOH(24")	-	-				Grey, wet, very soft, CLAY, trace fine gravel in top 2 in, trace fine sand in top 2 in. moderately plastic (GLACIOMARINE), q_p = 7 1.0 ksf (Pocket Penetrometer), T_v = 300 psf	GTX #539994 WC = 30% LL = 27 PL = 16 PI = 11 LI = 1.3 A-6. CL
								125.4		18.0	
	R1	60/56	18.50 - 23.50	ROD = 78%			NQ			Rig starts chattering at 18 ft bgs drillier notes hard material. Top of Bedrock at Elev. 125.4 ft. R1: Grey, medium-grained, moderately foliated, slightly weathered (top 1.4 ft) to fresh (bottom 3.3 ft) (MI-M2), very strong (R5), biotite SCHIST; discontinuities shallow to steeply dipping (20°-80°), very close to closely spaced (0.1-1.0 ft), slight reddish staining on discontinuity surfaces in top 1.4 ft [VASSALBORO FORMATION]. Rock Mass Quality = Good Rock Core Rate (min/sec) 18.5-19.5 ft (5:10) 19.5-20.5 ft (2:28) 20.5-21.5 ft (3:20) 21.5-22.5 ft (3:00) 22.5-23.5 ft (2:49) 94% Recovery	
	R2	60/60	23.50 - 28.50	ROD = 66%				114.9		R2: Grey, medium-grained, moderately foliated, fresh (MI), very strong (R5), biotite SCHIST; discontinuities shallow to steeply dipping (10°-60°) with vertical discontinuity at 27.9-28.3 ft bgs, very close to closely spaced (0.1- 0.8 ft) [VASSALBORO FORMATION]. Rock Mass Quality = Fair Rock Core Rate (min/sec) 23.5-24.5 ft (1:26) 24.5-25.5 ft (1:19) 25.5-26.5 ft (2:01) 26.5-28.5 ft (3:23) 100% Recovery	q_p = 2279 ksf (115.5-119.9 ft)
								28.5		Bottom of Exploration at 28.5 feet below ground surface. Boring backfilled with cuttings to 3.5 ft bgs then with gravel and bentonite chips to ground surface.	

Remarks:
1. Hammer Efficiency Factor provided by New England Boring Contractors and taken from "SPT Energy Testing - ATV Mobile Drill Rig No. 20 Mobile Hammer NEBC-1" by GZA GeoEnvironmental, dated 7/12/19. 2. As-drilled boring locations and ground surface elevations were provided by MaineDOT.

Stratification lines represent approximate boundaries between soil typesst transitions may be gradual.
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1
Boring No.: BB-FDR-105

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Merrill Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-106
WIN: 023627.00

Driller:	New England Boring Contractors	Elevation (ft.):	147.6
Operator:	Mike Porter	Datum:	NAD83 (2011) Maine 2000 West
Logged By:	Karen Roth	Rig Type:	Mobile B-53
Date Start/Finish:	12/17/19 (11:46) / 12/17/19 (13:46)	Drilling Method:	Solid Stem Auger / Cased Wash
Boring Location:	N: 368185.1, E: 1051146.0	Casing ID/OD:	4 in /4.5
Hammer Efficiency Factor:	0.914	Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐
Auger ID/OD:	4 in OD Solid Stem	Sampler:	Standard Split Spoon
Core Barrel:	1-7/8 in - NQ	Water Level*:	3.8 ft on 12/17/19 at 10:14

Definitions:
D = Split Spoon Sample
MW = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WH = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
HFH = Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N60 = SPT N-value corrected for Hammer Efficiency
WOH = Weight of Hammer
T_v = Peak/Remolded Field Vane Undrained Shear Strength (psf)
S_u(qu) = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (tsf)
N-uncorrected = Raw Field SPT N-value
N60 = SPT N-value corrected for Hammer Efficiency
WOR = Weight of Rods or Casing
WOP = Weight of Pipe
MC = Water Content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in.) Sheargraph (psf) or (tsf)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/16	0.00 - 2.00	WOH/2/4/16	6	9	SSA			Medium brown, damp (frozen), stiff, fine to coarse Sandy SILT, trace fine gravel, trace organics (grass roots), non-plastic (TOPSOIL).	1D: GTX #539973 Fines = 50.6% A-4. ML
								145.6		Auger cuttings 2-5 ft bgs are brown, damp, SILT, little sand, trace gravel, slightly plastic.	
5	2D	21/20	5.00 - 6.75	1/4/6/50(3")	10	15	OPEN	142.3		2DA. Top 3 ins Greyish brown, moist, stiff, SILT, little sand, slightly plastic (GLACIOMARINE), q_p = 3.0 ksf (Pocket Penetrometer)	2DB: GTX #539974 WC = 16.7% Fines = 35.1% A-4 (01). SM
	R1	60/58	6.80 - 11.80	ROD = 96%			NQ	140.9		2DB. Bottom 17 ins Greyish brown, wet, medium dense, Silty fine to coarse SAND, trace fine gravel, well-graded (SAND AND GRAVEL).	
										Driller notes 0.3 ft of water in bottom of hole upon refusal. Top of Bedrock at Elev. 140.9 ft. R1: Black and light grey/white, coarse grained, strongly foliated, fresh (MI), strong (R4), GNEISS; discontinuities have shallow dips (10°-20°) and parallel to foliation, close to moderately closely spaced (0.5-2.5 ft) [VASSALBORO FORMATION]. Rock Mass Quality = Excellent Rock Core Rate (min/sec) 6.8-7.8 ft (6:07) 7.8-8.8 ft (3:58) 8.8-9.8 ft (3:39) 9.8-10.8 ft (3:47) 10.8-11.8 ft (4:05) 96% Recovery	
10	R2	60/58	11.80 - 16.80	ROD = 92%				130.8		R2: Black and light grey/white, coarse grained, strongly foliated, fresh (MI), very strong (R5), GNEISS; discontinuities horizontal to shallow (0°-10°) and parallel to foliation, close to moderately closely spaced (0.2-2.3 ft) [VASSALBORO FORMATION]. Rock Core Rate (min/sec) 11.8-12.8 ft (4:20) 12.8-13.8 ft (4:28) 13.8-14.8 ft (4:12) 14.8-15.8 ft (4:01) 15.8-16.8 ft (4:07) 96% Recovery	
								16.8		Bottom of Exploration at 16.8 feet below ground surface. Boring backfilled with rock cuttings to 14 ft bgs. gravel to 6 ft bgs. soil cuttings to 2.3 ft bgs. and bentonite chips to ground surface.	

Remarks:
1. Hammer Efficiency Factor provided by New England Boring Contractors and taken from "SPT Energy Testing - ATV Mobile Drill Rig No. 20 Mobile Hammer NEBC-1" by GZA GeoEnvironmental, dated 7/12/19. 2. As-drilled boring locations and ground surface elevations were provided by MaineDOT.

Stratification lines represent approximate boundaries between soil typesst transitions may be gradual.
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1
Boring No.: BB-FDR-106

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-201
WIN: 023627.00

Driller:	SW Cole	Elevation (ft.):	148.7 ft
Operator:	J. Layfield	Datum:	NAD83 (2011) Maine 2000 West
Logged By:	C. Battistella	Rig Type:	Diedrich D-50
Date Start/Finish:	05/10/21 (11:55) / 05/10/21 (15:01)	Drilling Method:	Pin Auger / Cased Wash
Boring Location:	N 368572.689 ft, E 1050746.277 ft	Casing ID/OD:	5.5 in
Hammer Efficiency Factor:	0.974	Hammer Type:	Automatic ☐ Hydraulic ☒ Rope & Cathead ☐
Auger ID/OD:	2.5 in	Sampler:	Standard Split Spoon
Core Barrel:	NQ	Water Level*:	No measurement

Definitions:
D = Split Spoon Sample
MW = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WH = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
HFH = Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N60 = SPT N-value corrected for Hammer Efficiency
WOH = Weight of Hammer
T_v = Peak/Remolded Field Vane Undrained Shear Strength (psf)
S_u(qu) = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (tsf)
N-uncorrected = Raw Field SPT N-value
N60 = SPT N-value corrected for Hammer Efficiency
WOR = Weight of Rods or Casing
WOP = Weight of Pipe
MC = Water Content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in.) Sheargraph (psf) or (tsf)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/13	0.25 - 2.25	3/2/5/4	7	11	SSA	148.5		Asphalt thickness of 3 in (ASPHALT)	
								0.3		Dark brown, moist, medium dense, fine to coarse SAND, trace coarse gravel, trace silt, well-graded (FILL)	
	2D	24/17	2.25 - 4.25	10/10/12/7	22	36				Dark brown, moist, dense, fine to coarse SAND, trace fine gravel, trace silt, well-graded (FILL)	
	3D	24/17	4.25 - 6.25	8/9/11/12	20	32				Brown, moist, dense, fine to coarse SAND, some fine gravel, some silt, well-graded (FILL)	3D: GTX #620960 WC = 11.1% Fines = 28.3% A-2-4(01). SM 4D: WC = 9.1%
5	4D	3.6/10	6.25 - 6.55	50(3")			100	141.2		Brown, moist, very dense, fine to coarse SAND, some fine gravel, some silt, well-graded (FILL)	
	R1	60/53	8.50 - 13.50	ROD = 24%			NQ			Auger refusal at 7.5 ft bgs. Offset 3.5 ft towards Desert Road.	
								7.5		Top of bedrock at elev. 141.2 ft. Dark grey, medium to coarse grained, moderately foliated, GNEISS; moderately weathered (W3), strong (R4) discontinuities low angle to moderate (10-40 deg), very closely to closely spaced (0.05-0.55 ft) [VASSALBORO FORMATION]. Rock Mass Quality: Very Poor Rock Core Rate (min/sec): 8.5-9.5 ft (1:26) 9.5-10.5 ft (1:19) 10.5-11.5 ft (1:48) 11.5-12.5 ft (1:46) 12.5-13.5 ft (2:06) 88% Recovery	
10								135.2			
								13.5		Bottom of Exploration at 13.5 feet below ground surface. Boring backfilled with cuttings to ground surface.	

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20a Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

Stratification lines represent approximate boundaries between soil typesst transitions may be gradual.
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Page 1 of 1
Boring No.: BB-FDR-201

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-202
WIN: 023627.00

Driller:	SW Cole	Elevation (ft.):	153.4 ft
Operator:	J. Layfield	Datum:	NAD83 (2011) Maine 2000 West
Logged By:	C. Battistella	Rig Type:	Diedrich D-50
Date Start/Finish:	05/25/21 (17:55) / 05/25/21 (19:50)	Drilling Method:	Pin Auger / Cased Wash
Boring Location:	N 368530.791 ft, E 1050827.612 ft	Casing ID/OD:	5.5 in
Hammer Efficiency Factor:	0.974	Hammer Type:	Automatic ☐ Hydraulic ☒ Rope & Cathead ☐
Auger ID/OD:	2.5 in	Sampler:	Standard Split Spoon
Core Barrel:	NQ	Water Level*:	No measurement

Definitions:
D = Split Spoon Sample
MW = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WH = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
HFH = Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N60 = SPT N-value corrected for Hammer Efficiency
WOH = Weight of Hammer
T_v = Peak/Remolded Field Vane Undrained Shear Strength (psf)
S_u(qu) = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (tsf)
N-uncorrected = Raw Field SPT N-value
N60 = SPT N-value corrected for Hammer Efficiency
WOR = Weight of Rods or Casing
WOP = Weight of Pipe
MC = Water Content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in.) Sheargraph (psf) or (tsf)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA Hard	152.6		Asphalt thickness of 10 in (ASPHALT)	
								0.8		Used vac truck to daylight down to 5 ft bgs. no sampling.	
	1D	24/14	5.00 - 7.00	32/17/21/20	38	62	26				
							24			Brown, wet (from wash out), very dense, fine to coarse SAND, little fine gravel, little silt, well-graded (FILL)	
	2D	24/18	7.00 - 9.00	19/20/19/18	39	63	32	145.9		Brown, wet (from wash out), very dense, fine to coarse SAND, little fine gravel, little silt, well-graded (FILL).	GTX #620961 WC = 10.0% Fines = 11.6% A-1-b. SM
							37	145.4		Asphalt thickness of 2 in (ASPHALT)	
							54	7.5		Dense sand in wash from 9-10 ft bgs.	
	3D	24/6	10.00 - 12.00	6/3/3/3	6	10	OPEN	143.2		Brown, wet, loose, fine to coarse SAND, little silt, little fine gravel, well- graded (FILL).	
								10.3		In 3D SS shoe - Grey, wet, fine Sandy SILT, non-plastic, poorly-graded, (GLACIOMARINE) silt and clay in wash 12-15 ft bgs.	
	4D	24/24	15.00 - 17.00	6/8/11/16	19	31				Brown and grey, wet, hard, Silty CLAY. some sand, low plasticity. 1-2 in layers of brown sandy SILT and 2i in layers of Silty CLAY throughout sample, T_v=350 psf q_p=4 ksf in SS Shoe - Grey, wet, Sandy SILT, non-plastic, some fine sand, poorly-graded, (GLACIOMARINE)	GTX #620962 WC = 25.9% q_p = 78.0% A-6. ML-CL
								133.9		Weathered rock and Silty CLAY in wash 18.4-19.5 ft bgs.	
	R1	60/55	19.50 - 24.50	ROD = 61%			NQ			Top of bedrock at elev. 133.9 ft bgs.	
								19.5		Grey, medium to coarse grained, moderately foliated, GNEISS; slightly weathered (W2), extremely strong (R6), discontinuities low angle to steep (10-60 deg), very closely to closely spaced (0.1-0.8 ft) [VASSALBORO FORMATION]. Rock Mass Quality: Fair Rock Core Rate (min/sec) 19.5-20.5 ft (2:43) 20.5-21.5 ft (3:05) 21.5-22.5 ft (3:31) 22.5-23.5 ft (4:26) 23.5-24.5 ft (4:26) 92% Recovery	
								24.5		Bottom of Exploration at 24.5 feet below ground surface. Boring backfilled with cuttings to ground surface.	

Remarks:
Hammer calibration obtained from SW Cole calibration report.
DAYL as a advancement method indicates that hole was excavated by non-destructive means to confirm no utilities present.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20a Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

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Page 1 of 1
Boring No.: BB-FDR-202

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00
WIN
Bridge No. 5720 023627.00
BRIDGE PLANS

STATE OF MAINE — CHRISTOPHER C. BENDA No. 15164 — REGISTERED PROFESSIONAL ENGINEER

		P.E. NUMBER	15164
		SIGNATURE	
		DATE	09/07/2021

PROJ. MANAGER		DATE
DESIGN-DETAILED	BK	21-08-25
CHECKED-REVIEWED	CCB/MEL	21-09-07
DESIGN2-DETAILED2	MPB	
DESIGN3-DETAILED3	MPB	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOGS

SHEET NUMBER
18
OF 138

GOLDER
MEMBER OF WSP

Username:
Division:
Filename: 21450908_0120_008
Date:2021-7-2

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-203
WIN: 023627.00

Driller:	SW Cole	Elevation (ft.):	153.8 ft
Operator:	J. Layfield	Datum:	NAD83 (2011) Maine 2000 West
Logged By:	C. Bottalella	Rig Type:	Diedrich D-50
Date Start/Finish:	5/10/21 (13:35) / 5/10/21 (15:15)	Drilling Methods:	Pin Auger / Cased Wash
Boring Location:	N 368949.474 ft, E 1050811.641 ft	Casing ID/OD:	5.5 in
Auger ID/OD:	2.5 in		
Sampler:	Standard Split Spoon		
Hammer Wt./Fall:	140 lbs/30 in		
Core Barrel:	NQ		
Water Level*:	No measurement		

Hammer Efficiency Factor: 0.974 — Hammer Type: Automatic ☐ Hydraulic ☒ Rope & Cathead ☐

Definitions:
D = Split Spoon Sample; R = Rock Core Sample; T_{pp} = Pocket Torvane Shear Strength (psf); T_{vf} = Pocket Torvane Shear Strength (psf)
WS = Wheelchair/Bit Split Spoon Sample Attempt; SSA = Solid Stem Auger; q_u = Unconfined Compressive Strength (tsf); $S_u(lab)$ = Lab Vane Undrained Shear Strength (psf); WC = Water Content, percent
W = Thin Wall Tube Sample; HSA = Hollow Stem Auger; q_p = Unconfined Compressive Strength (tsf); LL = Liquid Limit
WO = Wheelchair/Bit Split Spoon Tube Sample Attempt; RC = Rotary Core; S=Undrained = Raw Field SPT N-value; PL = Plastic Limit
V = Field Vane Shear Test; HP = Pocket Penetrometer; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; PI = Plasticity Index
WH = Wheelchair/Bit Split Spoon Tube Sample Attempt; RQD = Rock Quality Designation; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; G = Grain Size Analysis
WH = Wheelchair/Bit Split Spoon Tube Sample Attempt; RQD = Rock Quality Designation; N_{60} = Hammer Efficiency Factor/60%=N-uncorrected; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blow (#) in/ Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0											
	1D	24/11	0.00 - 2.00	3/5/10/6	15	24		153.5		1DA: Top 4 in: Brown, damp, medium dense, fine to medium Sandy SILT, non-plastic, some roots and organics (TOPSOIL)	
								153.0		1DB: Bottom 8 in: Brown, damp, medium dense, fine to coarse SAND, little fine gravel, well-graded (FILL)	
	2D	24/17	2.00 - 4.00	5/4/5/6	9	15				2DA: Top 8 in: Brown, damp, medium dense, fine to coarse SAND, little fine gravel, well-graded (FILL)	
										2DB: Bottom 9 in: Brown, damp, medium dense, fine to coarse SAND, little fine gravel, little silt, well-graded (FILL)	
	3D	24/18	4.00 - 6.00	10/9/15/16	24	39				Brown, moist, dense, fine to coarse SAND, little fine gravel, well-graded (FILL)	
5											
	4D	21.96/21	6.00 - 7.83	17/19/36/50/4")	55	89	32			Brown, moist, very dense, fine to coarse SAND, trace silt, poorly-graded (FILL)	
							36				
	5D	24/12	8.00 - 10.00	26/18/16/9	34	55				5DA: Top 2 in: Medium sand, fine gravel and silt in wash (FILL)	5DB1: GTX #620963 WC = 11.0% Fines = 13.0% A-1-b, SM
										5DB: Bottom 4 in: Brown, moist, very dense, fine to coarse SAND, little fine gravel, little silt, well-graded (FILL)	
10								143.6		5DC: Bottom 4 in: Dark brown and black, wet, very stiff, Silty PEAT, some organic material (wood chips and roots), little fine to medium sand, non-plastic (FILL)	
	R1	58/42	10.20 - 15.03	RQD = 73%			NO			Wood in wash from 9 to 9.8 ft bgs. Attempted SPT sample 10 to 10.2 ft bgs but unable to penetrate.	
								138.8		Top of bedrock at elev. 143.6 ft	
15										Grey, medium to coarse grained, slightly foliated, GNEISS; slightly weathered (W2), very strong (R5), discontinuities low angle to moderate (15-40 deg), very closely to closely spaced (0.05-0.6 ft) [VASSALBORO FORMATION], Rock Mass Quality: Fair	
										Rock Core Rate (min:sec)	
										10.2-11.2 ft (11:26)	
										11.2-12.2 ft (11:54)	
										12.2-13.2 ft (12:19)	
										13.4-14.2 ft (13:21)	
										14.2-15.0 ft (21:52)	
										73% Recovery	
								138.0		Bottom of Exploration at 15.0 feet below ground surface. Boring backfilled with cuttings to ground surface.	
20											
25											

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20a Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
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Page 1 of 1
Boring No.: BB-FDR-203

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-204
WIN: 023627.00

Driller:	SW Cole	Elevation (ft.):	154.0 ft
Operator:	J. Layfield	Datum:	NAD83 (2011) Maine 2000 West
Logged By:	C. Bottalella	Rig Type:	Diedrich D-50
Date Start/Finish:	5/11/21 (08:53) / 5/11/21 (09:44)	Drilling Methods:	Pin Auger / Cased Wash
Boring Location:	N 368721.892 ft, E 1050865.815 ft	Casing ID/OD:	5.5 in
Auger ID/OD:	2.5 in		
Sampler:	Standard Split Spoon		
Hammer Wt./Fall:	140 lbs/30 in		
Core Barrel:	NQ		
Water Level*:	8.5 ft		

Hammer Efficiency Factor: 0.974 — Hammer Type: Automatic ☐ Hydraulic ☒ Rope & Cathead ☐

Definitions:
D = Split Spoon Sample; R = Rock Core Sample; T_{pp} = Pocket Penetrometer Shear Strength (psf); T_{vf} = Pocket Torvane Shear Strength (psf)
WS = Wheelchair/Bit Split Spoon Sample Attempt; SSA = Solid Stem Auger; q_u = Unconfined Compressive Strength (tsf); $S_u(lab)$ = Lab Vane Undrained Shear Strength (psf); WC = Water Content, percent
W = Thin Wall Tube Sample; HSA = Hollow Stem Auger; q_p = Unconfined Compressive Strength (tsf); LL = Liquid Limit
WO = Wheelchair/Bit Split Spoon Tube Sample Attempt; RC = Rotary Core; S=Undrained = Raw Field SPT N-value; PL = Plastic Limit
V = Field Vane Shear Test; HP = Pocket Penetrometer; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; PI = Plasticity Index
WH = Wheelchair/Bit Split Spoon Tube Sample Attempt; RQD = Rock Quality Designation; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; G = Grain Size Analysis
WH = Wheelchair/Bit Split Spoon Tube Sample Attempt; RQD = Rock Quality Designation; N_{60} = Hammer Efficiency Factor/60%=N-uncorrected; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blow (#) in/ Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0											
	1D	24/13	0.00 - 2.00	2/2/3/2	5	8	PUSH			1DA: Top 6 in: Brown, moist, loose, SILT, some fine to medium sand, non-plastic, some roots (FILL)	
								153.0		1DB: Bottom 7 in: Brown, moist, loose, some fine to coarse SAND, trace fine gravel, trace silt, well-graded (FILL)	
	2D	24/14	2.00 - 4.00	1/1/1/1	2	3				2D: Brown, moist, very loose, fine to coarse SAND, little silt, trace fine gravel, well-graded (FILL)	
	3D	24/15	4.00 - 6.00	2/2/2/3	4	6				Brown, moist, loose, fine to coarse SAND, little silt, trace fine gravel, well-graded (FILL)	
5											
	4D	24/16	6.00 - 8.00	5/3/2/1	5	8				Brown, moist, loose, fine to coarse SAND, trace fine gravel, trace silt, well-graded (FILL)	GTX #620964 WC = 9.3% Fines = 8.8% A-1-b, SW
	5D	24/18	8.00 - 10.00	4/4/5/7	9	15	35	145.0		5DA: Top 9 in: Brown, moist, medium dense, fine to coarse SAND, little gravel, trace silt, well-graded (FILL)	
								144.3		5DB: Bottom 9 in: Dark brown, moist, stiff, SILT, trace fine to medium sand, high organic content, black peat layers present (GLACIOMARINE)	
10	6D	24/23	10.00 - 12.00	4/4/6/7	10	16	71			6DA: Top 13 in: Dark brown, wet, medium dense, fine to coarse SAND, some silt, little fine gravel, organic layer in top 2 inches (SAND AND GRAVEL)	6DB: GTX #620965 WC = 17.5% Fines = 33.1% A-2-4(0), SM
										6DB: Bottom 10 in: Brown, moist, medium dense, SAND, some silt, non-plastic (SAND AND GRAVEL)	
	R1	60/55	15.00 - 20.00	RQD = 46%			NO	139.5		Top of bedrock at elev. 139.5 ft.	
15								134.0		Grey and brown, medium to coarse grained, moderately foliated, GNEISS; slightly weathered (W2), very strong (R5), discontinuities low angle to moderate (5-40 deg), very closely to closely spaced (0.05-0.6 ft) [VASSALBORO FORMATION], Rock Mass Quality: Poor	
										Rock Core Rate (min:sec)	
										15-16 ft (21:06)	
										16-17 ft (21:56)	
										17-18 ft (21:17)	
										18-19 ft (21:20)	
										19-20 ft (21:36)	
										92% Recovery	
								134.0		Bottom of Exploration at 20.0 feet below ground surface. Boring backfilled with cuttings to ground surface.	
20											
25											

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20a Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1
Boring No.: BB-FDR-204

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-205
WIN: 023627.00

Driller:	SW Cole	Elevation (ft.):	159.3 ft
Operator:	J. Layfield	Datum:	NAD83 (2011) Maine 2000 West
Logged By:	C. Bottalella	Rig Type:	Diedrich D-50
Date Start/Finish:	05/26/21 (11:55) / 05/26/21 (10:05)	Drilling Methods:	Pin Auger / Cased Wash
Boring Location:	N 368814.126 ft, E 1050525.354 ft	Casing ID/OD:	5.5 in
Auger ID/OD:	2.5 in		
Sampler:	Standard Split Spoon		
Hammer Wt./Fall:	140 lbs/30 in		
Core Barrel:	NQ		
Water Level*:	No measurement		

Hammer Efficiency Factor: 0.974 — Hammer Type: Automatic ☐ Hydraulic ☒ Rope & Cathead ☐

Definitions:
D = Split Spoon Sample; R = Rock Core Sample; T_{pp} = Pocket Penetrometer Shear Strength (psf); T_{vf} = Pocket Torvane Shear Strength (psf)
WS = Wheelchair/Bit Split Spoon Sample Attempt; SSA = Solid Stem Auger; q_u = Unconfined Compressive Strength (tsf); $S_u(lab)$ = Lab Vane Undrained Shear Strength (psf); WC = Water Content, percent
W = Thin Wall Tube Sample; HSA = Hollow Stem Auger; q_p = Unconfined Compressive Strength (tsf); LL = Liquid Limit
WO = Wheelchair/Bit Split Spoon Tube Sample Attempt; RC = Rotary Core; S=Undrained = Raw Field SPT N-value; PL = Plastic Limit
V = Field Vane Shear Test; HP = Pocket Penetrometer; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; PI = Plasticity Index
WH = Wheelchair/Bit Split Spoon Tube Sample Attempt; RQD = Rock Quality Designation; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; G = Grain Size Analysis
WH = Wheelchair/Bit Split Spoon Tube Sample Attempt; RQD = Rock Quality Designation; N_{60} = Hammer Efficiency Factor/60%=N-uncorrected; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blow (#) in/ Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0											
							PUSH	158.7		Asphalt thickness of 7 in (ASPHALT)	
								158.1		Used vac truck to daylight down to 6 ft bgs. no sampling.	
	1D	24/11	6.00 - 8.00	10/11/9/12	20	32	34			Brown, moist, dense, fine to coarse SAND, trace silt, well-graded (FILL)	1D1: GTX #620966 WC = 8.8% Fines = 8.9% A-3, SW
							70				
	2D	24/20	8.00 - 10.00	16/15/15/16	30	49	87			2DA: Top 13 in: Brown, wet, dense, medium to coarse SAND, some fine gravel, trace silt, well-graded (FILL)	GTX #620967 WC = 8.2% Fines = 6.7% A-1-b, SP
							101			2DB: Bottom 7 in: Brown, moist, dense, fine to coarse SAND, little fine gravel, well-graded (FILL)	
	3D	24/7	10.00 - 12.00	10/8/6/7	14	23	PUSH			Brown, wet, medium dense, fine to coarse SAND, little fine gravel, well-graded (FILL)	
10											
							10				
							12				
							21				
	4D	24/12	15.00 - 17.00	3/1/1/4	2	3	15	144.0		4DA: Top 5 in: Brown, wet, very loose, fine to coarse Sandy fine GRAVEL, well-graded (FILL)	4D1: GTX #620968 WC = 29.7% Fines = 83.5% A-4, ML-CL
							26	143.4		4DB: Bottom 7 in: Grey to brown, moist, very soft, SILT, little fine sand, low plasticity, poorly-graded, γ_w=1500 pcf (GLACIOMARINE)	
							59			Top of bedrock at elev. 144.0 ft.	
							200	140.9		Casing refusal at 18.4 ft bgs. Weathered rock in wash from 18.4 to 19 ft bgs.	
	R1	60/59	19.00 - 24.00	RQD = 22%			NO			Top of bedrock at elev. 140.9 ft.	
15										19.0-19.85 ft and 21.2-23.9 ft: Grey, medium to coarse grained, slightly foliated, GNEISS; slightly weathered (W2), medium strong (R3), discontinuities low angle to close (5- 62 deg), very closely to closely spaced (0.05-0.6 ft) [VASSALBORO FORMATION].	
										19.85-21.2 ft: White, coarse grained, PEGMATITE; moderately weathered (W3), medium strong (R3), discontinuities low angle (5-10 deg), very closely to closely spaced (0.05-0.3 ft) [VASSALBORO FORMATION].	
										Rock Mass Quality: Very Poor	
										Rock Core Rate (min:sec)	
										19-20 ft (4:57)	
										20-21 ft (4:12)	
										21-22 ft (4:37)	
										22-23 ft (4:42)	
										23-24 ft (4:03)	
										98% Recovery	
								135.3		Bottom of Exploration at 24.0 feet below ground surface. Boring backfilled with cuttings to ground surface.	
20											
25											
30											
35											
40											
45											
50											

Remarks:
Hammer calibration obtained from SW Cole calibration report.
DATL as a advancement method indicates that hole was excavated by non-destructive means to confirm no utilities present.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20a Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
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Page 1 of 1
Boring No.: BB-FDR-205

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-206
WIN: 023627.00

Driller:	SW Cole	Elevation (ft.):	164.8 ft
Operator:	J. Layfield	Datum:	NAD83 (2011) Maine 2000 West
Logged By:	C. Bottalella	Rig Type:	Diedrich D-50
Date Start/Finish:	5/24/21 (11:13) / 5/24/21 (14:20)	Drilling Methods:	Pin Auger / Cased Wash
Boring Location:	N 368534.075 ft, E 1051070.308 ft	Casing ID/OD:	5.5 in
Auger ID/OD:	2.5 in		
Sampler:	Standard Split Spoon		
Hammer Wt./Fall:	140 lbs/30 in		
Core Barrel:	NQ		
Water Level*:	No measurement		

Hammer Efficiency Factor: 0.974 — Hammer Type: Automatic ☐ Hydraulic ☒ Rope & Cathead ☐

Definitions:
D = Split Spoon Sample; R = Rock Core Sample; T_{pp} = Pocket Penetrometer Shear Strength (psf); T_{vf} = Pocket Torvane Shear Strength (psf)
WS = Wheelchair/Bit Split Spoon Sample Attempt; SSA = Solid Stem Auger; q_u = Unconfined Compressive Strength (tsf); $S_u(lab)$ = Lab Vane Undrained Shear Strength (psf); WC = Water Content, percent
W = Thin Wall Tube Sample; HSA = Hollow Stem Auger; q_p = Unconfined Compressive Strength (tsf); LL = Liquid Limit
WO = Wheelchair/Bit Split Spoon Tube Sample Attempt; RC = Rotary Core; S=Undrained = Raw Field SPT N-value; PL = Plastic Limit
V = Field Vane Shear Test; HP = Pocket Penetrometer; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; PI = Plasticity Index
WH = Wheelchair/Bit Split Spoon Tube Sample Attempt; RQD = Rock Quality Designation; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; G = Grain Size Analysis
WH = Wheelchair/Bit Split Spoon Tube Sample Attempt; RQD = Rock Quality Designation; N_{60} = Hammer Efficiency Factor/60%=N-uncorrected; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blow (#) in/ Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0											
							DAYL	164.0		Asphalt thickness of 10 in	
								163.2		Excavated to 5 ft bgs. no sampling	
										No samples from 0 to 5 ft bgs because all disturbed from pot holing	
										Pushing 4 in casing to 4.9 ft bgs washing out to 5 ft bgs	
	1D	24/10	5.00 - 7.00	8/7/6/7	13	21	10			Brown, wet (from wash out), medium dense, fine to coarse SAND, trace fine gravel, well-graded (FILL)	
							11				
	2D	24/15	7.00 - 9.00	8/6/5/6	11	18	24			Brown, wet (from wash out), medium dense, fine to coarse SAND, trace fine gravel, trace silt, well-graded (FILL)	
							21				
							76				
	3D	24/10	10.00 - 12.00	7/8/7/7	15	24	28	154.8		Brown, wet (from wash out), medium dense, fine to medium Silty SAND, well-graded, layering visable (SAND AND GRAVEL)	
							37				
							70				
							82				
							75				
	4D	24/12	15.00 - 17.00	8/9/13/18	22	36	34			Brown, wet (from wash out), dense, fine to coarse SAND, trace silt, well-graded (SAND AND GRAVEL)	GTX #620969 WC = 9.8% Fines = 9.2% A-3, SW-SM
							62				
							110				
							81				
							72				
	5D	24/12	20.00 - 22.00	4/4/11/8	15	24	33			5DA: Top 8 in: Brown, wet (from wash out), medium dense, fine to coarse SAND, trace silt, well-graded (SAND AND GRAVEL)	5DB: GTX #620970 WC = 11.0% Fines = 19.7% A-1-b, SW-SC
							87			5DB: Bottom 4 in: Grey, wet (from wash out), medium dense, fine to coarse SAND, little silt/clay, trace fine gravel (SAND AND GRAVEL)	
							84			Weathered rock, coarse sand, and gravel in wash from 23.9 to 25.5 ft bgs.	
							250/5"			Unweathered rock at 25.5 ft bgs	
							500				
25	R1	60/58	25.50 - 30.50	RQD = 33%			NO	139.3		Top of bedrock at elev. 139.3 ft.	
								134.3		Grey, medium to coarse grained, moderately foliated, GNEISS; slightly weathered (W2), very strong (R5), discontinuities low angle to moderate (10-40 deg), very closely to closely spaced (0.1-0.55 ft), consists of coarse grained quartz banks [VASSALBORO FORMATION].	
										Rock Mass Quality: Poor	
										Rock Core Rate (min:sec)	
										25.5-26.5 ft (2:50)	
										26.5-27.5 ft (2:33)	
										27.5-28.5 ft (3:24)	
										28.5-29.5 ft (3:59)	
										29.5-30.5 ft (4:12)	
										96% Recovery	
								134.3		Bottom of Exploration at 30.5 feet below ground surface. Boring backfilled with cuttings to ground surface.	
30											
35											
40											
45											
50											

Remarks:
Hammer calibration obtained from SW Cole calibration report.
DATL as a advancement method indicates that hole was excavated by non-destructive means to confirm no utilities present.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20a Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
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Page 1 of 1
Boring No.: BB-FDR-206

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00
WIN
023627.00
Bridge No. 5720
BRIDGE PLANS

STATE OF MAINE — CHRISTOPHER C. BENDA No. 15164 — LICENSED PROFESSIONAL ENGINEER

		DATE	21-08-25
	BK	BY	MPB
	CCB/MEL		MPB
			21-09-07

PROJ. MANAGER
DESIGN-DETAILED
CHECKED-REVIEWED
DESIGN2-DETAILED2
DESIGN3-DETAILED3
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

15164
P.E. NUMBER
09/07/2021
DATE
SIGNATURE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOGS

SHEET NUMBER
19
OF 138

Username:
Division:
Filename: 21450908_0120_009
Date:2021-7-2

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-207
WIN: 023627.00

Driller:	SW Cole	Elevation (ft.):	165.3 ft	Auger ID/OD:	2.5 in
Operator:	J. Layfield	Datum:	NAD83 (2011) Maine 2000 West	Sampler:	Standard Split Spoon
Logged By:	C. Battistella	Rig Type:	Diedrich D-50	Hammer Wt./Fall:	140 lbs/30 in
Date Start/Finish:	06/25/21 (13:30)11:05/25/21 (16:45)	Drilling Method:	Pin Auger / Cased Wash	Core Barrel:	ND
Boring Location:	N 388357.073 FT, E 1405099.643 ft	Casing ID/OD:	5.5 in	Water Level*:	No measurement
Hammer Efficiency Factor: 0.974		Hammer Type:	Automatic ☐ Hydraulic ☒	Rope & Cathead ☐	

Sample Information | Visual Description and Remarks | Laboratory Testing Results/ AASHTO and Unified Class.

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / ft. (N) Shear Strength (psf) & (SPT-N)	Unconfined	% Fines	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							PUSH	164.3		Asphalt thickness of 12 in (ASPHALT)	
										Excavated down to 5 ft bgs. no sampling	
5	1D	24/11	5.00 - 7.00	14/17/17/18	34	55				Brown, moist to damp, very dense, fine to coarse SAND, little silt, trace fine gravel, well-graded (FILL)	GTX #620971 WC = 6.5% Fines = 10.7% A-2-4, SM-SP
	2D	24/10	7.00 - 9.00	22/20/20/20	40	65				Brown, moist, very dense, fine to coarse SAND, little silt, little fine gravel, well-graded (FILL)	
								155.3			
10	3D	24/8	10.00 - 12.00	6/7/8/4	15	24	37			Brown, moist, medium dense, fine to coarse SAND, little fine gravel, well-graded (SAND AND GRAVEL)	
							48				
							59				
							67				
15							97				
	4D	24/8	15.00 - 17.00	8/8/7/5	15	24	OPEN			Brown, moist, medium dense, fine to coarse SAND, little fine gravel, well-graded (SAND AND GRAVEL)	
20											
	5D	24/8	20.00 - 22.00	19/17/12/4	29	47				Brown and grey, moist, dense, fine to coarse SAND, some fine gravel, trace silt, well-graded, weathered bedrock suspected present (SAND AND GRAVEL)	GTX #620972 WC = 8.3% Fines = 9.6% A-1-b, SM-SC
								140.8			
25											
	6D	19.2/18	25.00 - 26.60	4/6/9/50(0.1")	15	24				Clay and other organics present in wash (GLACIOMARINE) 6D: Brown and grey, wet, stiff, SILT, little sand, poorly-graded, low plasticity (GLACIOMARINE)	GTX #620973 WC = 28.0% Fines = 80.0% A-4, ML-CL
								138.7		Bottom of Exploration at 26.6 feet below ground surface. Boring backfilled with cuttings to ground surface.	
30											
35											
40											
45											
50											

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20a Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
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Page 1 of 1
Boring No.: BB-FDR-207

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-208
WIN: 023627.00

Driller:	SW Cole	Elevation (ft.):	148.0 ft	Auger ID/OD:	2.5 in
Operator:	J. Layfield	Datum:	NAD83 (2011) Maine 2000 West	Sampler:	Standard Split Spoon
Logged By:	C. Battistella	Rig Type:	Diedrich D-50	Hammer Wt./Fall:	140 lbs/30 in
Date Start/Finish:	5/12/21 (13:15)07:1 5/13/21 (08:20)	Drilling Method:	Pin Auger / Cased Wash	Core Barrel:	ND
Boring Location:	N 388077.192 FT, E 1405102.993 ft	Casing ID/OD:	5.5 in	Water Level*:	8.0 ft
Hammer Efficiency Factor: 0.974		Hammer Type:	Automatic ☐ Hydraulic ☒	Rope & Cathead ☐	

Sample Information | Visual Description and Remarks | Laboratory Testing Results/ AASHTO and Unified Class.

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / ft. (N) Shear Strength (psf) & (SPT-N)	Unconfined	% Fines	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/11	0.00 - 2.00	3/7/6/2	13	21	PUSH			Brown, moist, medium dense, fine to coarse SAND, little gravel, trace silt, well-graded (FILL)	
								145.8		2DA: Top 3 ins Brown, moist, medium dense, fine to coarse SAND, little gravel, trace silt, well-graded (FILL)	
	2D	24/20	2.00 - 4.00	4/4/3/4	7	11				2DB: Bottom 17 ins: Brown, moist, medium stiff, Silty CLAY, some fine to medium sand, low plasticity, q_p = 3.6, 3, 6 ksf (Pocket Penetrometer)(GLACIOMARINE)	GTX #620980 WC = 27.0% Fines = 78.9% A-4, CL 40±
	3D	24/10	4.00 - 6.00	2/2/3/6	5	8				3D: Grey and brown, moist, soft, Silty CLAY, some fine to medium sand, trace gravel, low plasticity, q_p = 5.1 ksf (Pocket Penetrometer)(GLACIOMARINE)	
	4D	24/22	6.00 - 8.00	4/4/3/6	7	11	51			4D: Grey and brown, moist, medium stiff, Silty CLAY, some fine to medium sand, low plasticity, q_p = 4.1 ksf (Pocket Penetrometer)(GLACIOMARINE)	GTX #620986, 620958 WC = 26.7% Fines = 78.3% A-4, CL LL = 29 PL = 20 PI = 9 LI = 0.7
							172	140.0			
10	5D R1	21/24 51/60	8.00 - 9.75 9.75 - 12.82	12/13/26/50(3") RQD = 57%	39	63	280 ND	139.6		5D: Brown, wet, very dense, fine to coarse SAND, some gravel, little silt, well-graded, highly weathered rock in shoe (SAND AND GRAVEL)	
								135.2		Top of bedrock at elev. 138.6 ft. R1: Grey, medium to coarse grained, moderately foliated, ONEISS slightly weathered (W2), strong (R4), discontinuities low angle to vertical (5-88 deg), very closely spaced (0.15 ft) [WASSALBORO FORMATION]. 8.9-12.2 ft: Dark grey, fine grained, dolomitic LIMESTONE: fresh (W1), extremely strong (R6), discontinuities low angle to steep (5-70 deg), closely spaced (0.2-0.45 ft) [WASSALBORO FORMATION]. Rock Mass Quality: Poor Rock Core Rate (mineset) 8.4 to 9.4 ft (2:22) 9.4 to 9.8 ft (5:22) 9.8 to 10.8 (4:36) 10.8 to 11.8 (3:43) 11.8 to 12.8 (3:01) 86% Recovery	
15											
20											
25								125.8		Bottom of Exploration at 12.8 feet below ground surface. Boring backfilled with cuttings to ground surface.	

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20a Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
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Page 1 of 1
Boring No.: BB-FDR-208

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-209
WIN: 023627.00

Driller:	SW Cole	Elevation (ft.):	154.4 ft	Auger ID/OD:	2.5 in
Operator:	J. Layfield	Datum:	NAD83 (2011) Maine 2000 West	Sampler:	Standard Split Spoon
Logged By:	C. Battistella	Rig Type:	Diedrich D-50	Hammer Wt./Fall:	140 lbs/30 in
Date Start/Finish:	5/13/21 (10:05)07:1 5/14/21 (11:20)	Drilling Method:	Pin Auger / Cased Wash	Core Barrel:	ND
Boring Location:	N 388039.242 FT, E 1405126.474 ft	Casing ID/OD:	5.5 in	Water Level*:	No measurement
Hammer Efficiency Factor: 0.974		Hammer Type:	Automatic ☐ Hydraulic ☒	Rope & Cathead ☐	

Sample Information | Visual Description and Remarks | Laboratory Testing Results/ AASHTO and Unified Class.

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / ft. (N) Shear Strength (psf) & (SPT-N)	Unconfined	% Fines	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/17	0.00 - 2.00	3/4/5/7	9	15	PUSH			Brown, moist, medium dense, fine to medium SAND, little fine gravel, well-graded (FILL)	
							58				
	2D	24/12	2.00 - 4.00	9/15/6/4	21	34	93	151.9		2DA: Top 6 ins Brown, moist, dense, fine to coarse SAND, little fine gravel, trace silt, well-graded (FILL)	
							127	151.6			
	3D	24/2	4.00 - 6.00	2/4/5/13	9	15	189			2DB, 6-7 ins Asphalt thickness of 1 in (ASPHALT)	
							26 207			2DC, Bottom 5 ins Grey and brown, moist, dense, fine to coarse Sandy fine GRAVEL, poorly-graded (FILL)	
							100 105	147.6		Grey and brown, moist, medium dense, fine to coarse Sandy fine GRAVEL, poorly-graded (FILL)	
	R1	60/55	7.50 - 12.50	RQD = 22%			ND			Casing refusal at 6.5 ft bgs. Offset 4 ft south due to water loss in formation.	
10										Top of bedrock at elev. 147.6 ft. Whitegray, medium to coarse grained, moderately foliated, ONEISS slightly weathered (W2), very strong (R5), discontinuities low angle to moderate (10-45 deg), very closely to closely spaced (0.1-0.5 ft), Contains quartz band from 8.4 ft to 8.9 ft. [WASSALBORO FORMATION]. Rock Mass Quality: Very Poor Rock Core Rate (mineset) 7.5 to 8.5 ft (2:26) 8.5 to 9.5 ft (3:06) 9.5 to 10.5 ft (4:37) 10.5 to 11.5 ft (4:52) 11.5 to 12.5 ft (4:41) 92% Recovery	
								141.9			
15											
20											
25								132.5		Bottom of Exploration at 12.5 feet below ground surface. Boring backfilled with cuttings to ground surface.	

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20a Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
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Page 1 of 1
Boring No.: BB-FDR-209

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-210
WIN: 023627.00

Driller:	SW Cole	Elevation (ft.):	159.8 ft	Auger ID/OD:	2.5 in
Operator:	J. Layfield	Datum:	NAD83 (2011) Maine 2000 West	Sampler:	Standard Split Spoon
Logged By:	C. Battistella	Rig Type:	Diedrich D-50	Hammer Wt./Fall:	140 lbs/30 in
Date Start/Finish:	5/11/21 (11:15)07:1 5/11/21 (13:45)	Drilling Method:	Pin Auger / Cased Wash	Core Barrel:	ND
Boring Location:	N 388112.279 FT, E 1405176.304 ft	Casing ID/OD:	5.5 in	Water Level*:	No measurement
Hammer Efficiency Factor: 0.974		Hammer Type:	Automatic ☐ Hydraulic ☒	Rope & Cathead ☐	

Sample Information | Visual Description and Remarks | Laboratory Testing Results/ AASHTO and Unified Class.

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / ft. (N) Shear Strength (psf) & (SPT-N)	Unconfined	% Fines	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/10	0.00 - 2.00	2/10/10/18	20	32		159.4		1DA: Top 5 ins Brown, damp, very stiff, SILT, some fine to coarse sand, non-plastic, roots and organic matter (TOPSOIL)	
							44			1DB: Bottom 5 ins Brown, damp, dense, medium to coarse Sandy fine GRAVEL, trace fine gravel, trace silt, well-graded (FILL)	
	2D	21/0	2.00 - 3.75	7/10/6/5(13")	16	26	50			3DI No recovery, some Sandy GRAVEL in shoe.	
							62				
5								155.5		Top of bedrock at elev. 155.5 ft. Bedrock chips in wash at 4.5 ft bgs R1: Grey, medium to coarse grained, moderately foliated, ONEISS slightly weathered (W2), strong (R4), discontinuities low angle to moderate (5-47 deg), very closely to closely spaced (0.05-0.5 ft) [WASSALBORO FORMATION]. Rock Mass Quality: Poor Rock Core Rate (mineset) 5-6 ft (1:27) 6-7 ft (2:42) 7-8 ft (3:11) 8-9 ft (2:19) 9-10 ft (2:27) 70% Recovery R2: Grey, medium to coarse grained, moderately foliated, ONEISS fresh (W2), strong (R4), discontinuities low angle (5-32 deg), closely spaced (0.17-0.7 ft) [WASSALBORO FORMATION]. Rock Mass Quality: Fair Rock Core Rate (mineset) 10-11 ft (2:22) 11-12 ft (2:49) 12-13 ft (3:37) 13-14 ft (3:42) 14-15 ft (3:57) 100% Recovery	
	R1	60/42	5.00 - 10.00	RQD = 34%			ND				
10											
	R2	60/60	10.00 - 15.00	RQD = 61%			ND				
								144.8			
15										Bottom of Exploration at 15.0 feet below ground surface. Boring backfilled with cuttings to ground surface.	
20											
25											

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20a Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1
Boring No.: BB-FDR-210

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00
WIN
023627.00
Bridge No. 5720

BRIDGE PLANS

STATE OF MAINE — CHRISTOPHER C. BENDA — No. 15164 — LICENSED PROFESSIONAL ENGINEER

15164
P.E. NUMBER
09/07/2021
DATE

	MEL	BY	DATE
PROJ. MANAGER		BK	
DESIGN-DETAILED		MPB	21-08-25
CHECKED-REVIEWED		MPB	21-09-07
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOGS

SHEET NUMBER
20
OF 138

Maine Department of Transportation — BB-FDR-211

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20) Location: Freeport, Maine

Boring No.: BB-FDR-211 WIN: 023627.00

Driller: SW Cole	Elevation (ft.): 152.6 ft	Auger ID/OD:	2.5 in
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler:	Standard Split Spoon
Logged By: C. Battistella	Rig Type: Diedrich D-50	Hammer Wt./Fall:	140 lbs/30 in
Date Start/Finish: 5/13/21 (1212Z) / 5/13/21 (1315Z)	Drilling Method: Pin Auger / Cased Wash	Core Barrel:	NQ
Boring Location: N 367909.612 ft, E 1051616.775 ft	Casing ID/OD: 5.5 in	Water Level*:	No measurement
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒ Rope & Cathead ☐		

Definitions: B = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; WV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Rotar Cone; WH = Weight of 140lb. Hammer; HDW/C = Weight of Rods or Casing; WDP = Weight of Drp Person; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(Lab)}$ = Lab Vane Undrained Shear Strength (psf); q_u = Unconfined Compressive Strength (tsf); Unconfined = Now Field SPT N-value; Hammer Efficiency = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = Hammer Efficiency Factor/60%-Uncorrected; T_v = Pocket Torvane Shear Strength (psf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) Pen. Resistance or RQD (%)	Unconfined	W.C.	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/17	0.00 - 2.00	5/10/10/7	20	32	PUSH	152.0		1DA. Top 7 in: Brown, moist, dense, coarse to fine SAND, little silt, trace fine gravel, well-graded (FILL)	
								151.4		1DB: Asphalt thickness of 2 in (ASPHALT)	
								0.6			
	2D	24/20	2.00 - 4.00	4/4/8/7	12	19	16	150.3		1DC. Bottom 8 in: Brown, moist, dense, fine to coarse SAND, some fine gravel, trace silt, well-graded (FILL)	2D: WC = 21.2%
							19			2DA. Top 4 in: Brown, moist, medium dense, fine to coarse SAND, some fine gravel, trace silt, well-graded (FILL)	
	3D	24/23	4.00 - 6.00	4/8/9/10	17	28	48				3D: GTX #620981 WC = 7.7% Fines = 25.1% A-2-4, SC
							46			2DB. Bottom 16 in: Brown, stiff, SILT, trace fine sand, non-plastic, poorly-graded (GLACIMARINE). q_p = 6.1 ksf (Pocket Penetrometer)	
	4D	24/19	6.00 - 8.00	6/11/10/19	21	34	110			3DA. Top 4 in: Brown, moist, stiff, SILT, fine sand, non-plastic, poorly-graded (GLACIMARINE).	4D: GTX #620982, 620959 WC = 22.0% Fines = 68.2% A-4, ML-CL
							200 225	144.6		3DB. 4-8 in: Brown, moist, medium dense, medium to coarse SAND, little fine gravel, little silt, well-graded (GLACIMARINE)	
	5D	15.6/17	8.00 - 9.50	20/24/50(4")						4DA. Top 6 in: Brown, moist, very dense, fine to coarse SAND, little fine gravel, little silt, well-graded (SAND AND GRAVEL)	LL = 23 PL = 17 PI = 6 LI = 0.8
	R1	60/30	9.50 - 14.50	ROD = 19%			NO	143.9		4DB. Bottom 18 in: Brown, moist, dense, coarse to fine SAND, little fine gravel, little silt, well-graded (SAND AND GRAVEL)	5D: GTX #620985 WC = 15.6% Fines = 41.4% A-4, SM
10								138.1		5DA. Top 6 in: Brown, moist, very dense, Silty fine to medium SAND, trace fine gravel, low plasticity (GLACIMARINE) q_p = 7.2 ksf (Pocket Penetrometer)	
								8.0		5DB. Bottom 18 in: Brown, moist, very stiff, SILT, little fine to coarse sand, trace fine gravel, low plasticity (GLACIMARINE) q_p = 7.2 ksf (Pocket Penetrometer)	
								9.3		6D: Brown, wet, very dense, Silty fine to coarse SAND, trace gravel, well-graded (SAND AND GRAVEL)	
								14.5		Top of bedrock at elev. 143.3 ft. Grey, medium to coarse grained, slightly foliated, GNEISSI moderately weathered (W3), strong (R4), discontinuities low angle to moderate (5-42 deg), very closely to closely spaced (0.05-0.45 ft) [VASSALBORO FORMATION]. Rock Mass Quality: Very Poor Rock Core Rate (minisec) 9.5-10.5 ft (1:56) 10.5-11.5 ft (1:22) 11.5-12.5 ft (0:56) 12.5-13.5 ft (1:31) 13.5-14.5 ft (3:01) 50% Recovery	
								14.5		Bottom of Exploration at 14.5 feet below ground surface. Boring backfilled with cuttings to ground surface.	
15											
20											
25											

Remarks:

Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20o Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

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

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1 — Boring No.: BB-FDR-211

Maine Department of Transportation — BB-FDR-212

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20) Location: Freeport, Maine

Boring No.: BB-FDR-212 WIN: 023627.00

Driller: SW Cole	Elevation (ft.): 159.0 ft	Auger ID/OD:	2.5 in
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler:	Standard Split Spoon
Logged By: C. Battistella	Rig Type: Diedrich D-50	Hammer Wt./Fall:	140 lbs/30 in
Date Start/Finish: 5/17/21 (1315D) / 5/17/21 (1415)	Drilling Method: Pin Auger / Cased Wash	Core Barrel:	NQ
Boring Location: N 368088.769 ft, E 1051665.502 ft	Casing ID/OD: 5.5 in	Water Level*:	No measurement
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒ Rope & Cathead ☐		

Definitions: B = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; WV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Rotar Cone; WH = Weight of 140lb. Hammer; HDW/C = Weight of Rods or Casing; WDP = Weight of Drp Person; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(Lab)}$ = Lab Vane Undrained Shear Strength (psf); q_u = Unconfined Compressive Strength (tsf); Unconfined = Now Field SPT N-value; Hammer Efficiency = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = Hammer Efficiency Factor/60%-Uncorrected; T_v = Pocket Torvane Shear Strength (psf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) Pen. Resistance or RQD (%)	Unconfined	W.C.	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/21	0.00 - 2.00	7/9/10/4	19	31	76	158.6		1DA. Top 5 in: Brown, damp, very stiff, SILT, some fine to medium sand, trace fine gravel, non-plastic, organic material (TOPSOIL)	
							105			1DB. Bottom 16 in: Brown, dry, dense, fine to coarse SAND, some fine gravel, little silt, 2 distinct layers of asphalt (FILL)	
	2D	24/21	2.00 - 4.00	4/5/10/17	15	24	OPEN			2D: Brown, moist, stiff, medium to coarse Sandy SILT, little fine gravel, non-plastic. q_p = 1.4 ksf (Pocket Penetrometer)(FILL)	
	3D	17.04/16	4.00 - 5.42	21/24/50(5")						3D: Brown, moist, very dense, fine to coarse SAND, some silt, trace fine gravel, well-graded (FILL)	GTX #620983 WC = 11.7% Fines = 33.1% A-2-4, SM
								154.0		Bedrock chips in wash at 5 ft bgs. Weathered bedrock noted from 5 to 7 ft bgs.	
	R1	66/60	7.00 - 12.50	ROD = 55%			NO			7.0-7.6 ft: White, coarse grained, PEGMATITE; fresh (W1), extremely strong (R6), discontinuities low angle (<15 deg), very closely to closely spaced (0.05-0.5 ft) [VASSALBORO FORMATION]. 7.6-12.0 ft: Grey, medium to coarse grained, moderately foliated, GNEISSI slightly weathered (W2), strong (R4), discontinuities low angle to moderate (5-45 deg), very closely to closely spaced (0.05-0.6 ft) [VASSALBORO FORMATION]. Rock Mass Quality: Fair Rock Core Rate (minisec) 7-8 ft (2:34) 8-9 ft (1:43) 9-10 ft (2:36) 10-11 ft (3:44) 11-12 ft (4:16) 12-12.5 ft (2:20) 91% Recovery	
								146.5			
10											
								12.5		Bottom of Exploration at 12.5 feet below ground surface. Boring backfilled with cuttings to ground surface.	
15											
20											
25											

Remarks:

Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20o Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

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Page 1 of 1 — Boring No.: BB-FDR-212

Maine Department of Transportation — BB-FDR-213

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20) Location: Freeport, Maine

Boring No.: BB-FDR-213 WIN: 023627.00

Driller: SW Cole	Elevation (ft.): 152.9 ft	Auger ID/OD:	2.5 in
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler:	Standard Split Spoon
Logged By: C. Battistella	Rig Type: Diedrich D-50	Hammer Wt./Fall:	140 lbs/30 in
Date Start/Finish: 5/13/21 (1143S) / 5/14/21 (0814S)	Drilling Method: Pin Auger / Cased Wash	Core Barrel:	NQ
Boring Location: N 367983.42 ft, E 1051667.985 ft	Casing ID/OD: 5.5 in	Water Level*:	10.8 ft
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒ Rope & Cathead ☐		

Definitions: B = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; WV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Rotar Cone; WH = Weight of 140lb. Hammer; HDW/C = Weight of Rods or Casing; WDP = Weight of Drp Person; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(Lab)}$ = Lab Vane Undrained Shear Strength (psf); q_u = Unconfined Compressive Strength (tsf); Unconfined = Now Field SPT N-value; Hammer Efficiency = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = Hammer Efficiency Factor/60%-Uncorrected; T_v = Pocket Torvane Shear Strength (psf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) Pen. Resistance or RQD (%)	Unconfined	W.C.	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/16	0.00 - 2.00	2/4/9/12	13	21	PUSH			Brown, moist, medium dense, medium to coarse SAND, some gravel, trace silt, well-graded (FILL)	
	2D	24/22	2.00 - 4.00	10/8/7/12	15	24	37			2DA. Top 11 in: Brown, moist, medium dense, medium to coarse SAND, little gravel, trace silt, well-graded (FILL)	
							39	148.9		2DB. Bottom 11 in: Brown, moist, medium dense, Silty fine to medium SAND, trace fine gravel, poorly-graded	3D: WC = 9.8%
	3D	24/19	4.00 - 6.00	17/15/21/35	36	58	42				4D: GTX #620984 WC = 9.5% Fines = 19.8% A-2-4(0), SM
							109			Brown, moist, very dense, Silty fine to medium SAND, trace fine gravel, poorly-graded (SAND AND GRAVEL)	
	4D	24/23	6.00 - 8.00	23/24/21/35	45	73	163 22			Brown, moist, very dense, coarse to fine SAND, little fine gravel, little silt, well-graded (SAND AND GRAVEL)	
							60			5DA. Top 6 in: Brown, moist, very dense, coarse to fine SAND, little fine gravel, little silt, well-graded (SAND AND GRAVEL)	
	5D	24/21	8.00 - 10.00	14/19/20/31	39	63	91				
							120			5DB. Bottom 15 in: Orange, damp, medium dense Gravelly SAND, little clay, SCHIST present, completely weathered (W5), extremely weak (R0), discontinuities horizontal and vertical (SAND AND GRAVEL)	6D: GTX #620974 WC = 26.6% Fines = 27.2% A-2-4(0), SM
	6D	13.92/8	10.00 - 11.16	21/29/50(2")	79	128				6D: Orange Brown, wet, very dense, SAND, some clay, little fine gravel, weathered biotite schist (SAND AND GRAVEL)	
	R1	60/53	12.00 - 17.00	ROD = 19%			ND	140.9		Top of bedrock at elev. 140.9 ft. Greenish white, fine grained, APLITIE; moderately weathered (W3), medium strong (R3), discontinuities low angle to moderate (4-52 deg), very closely to closely spaced (0.1-0.6 ft) [VASSALBORO FORMATION]. Rock Mass Quality: Very Poor Rock Core Rate (minisec) 12-13 ft (4:18) 13-14 ft (5:51) 14-15 ft (3:49) 15-16 ft (4:01) 16-17 ft (3:27) 88% Recovery	
								135.9			
10								12.0			
										Bottom of Exploration at 17.0 feet below ground surface. Boring backfilled with cuttings to ground surface.	
15								17.0			
20											
25											

Remarks:

Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20o Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

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Page 1 of 1 — Boring No.: BB-FDR-213

Maine Department of Transportation — BB-FDR-214

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20) Location: Freeport, Maine

Boring No.: BB-FDR-214 WIN: 023627.00

Driller: SW Cole	Elevation (ft.): 157.8 ft	Auger ID/OD:	2.5 in
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler:	Standard Split Spoon
Logged By: C. Battistella	Rig Type: Diedrich D-50	Hammer Wt./Fall:	140 lbs/30 in
Date Start/Finish: 5/12/21 (0813D) / 5/12/21 (0911)	Drilling Method: Pin Auger / Cased Wash	Core Barrel:	NQ
Boring Location: N 368075.057 ft, E 1051724.46 ft	Casing ID/OD: 5.5 in	Water Level*:	No measurement
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒ Rope & Cathead ☐		

Definitions: B = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; WV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Rotar Cone; WH = Weight of 140lb. Hammer; HDW/C = Weight of Rods or Casing; WDP = Weight of Drp Person; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(Lab)}$ = Lab Vane Undrained Shear Strength (psf); q_u = Unconfined Compressive Strength (tsf); Unconfined = Now Field SPT N-value; Hammer Efficiency = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = Hammer Efficiency Factor/60%-Uncorrected; T_v = Pocket Torvane Shear Strength (psf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) Pen. Resistance or RQD (%)	Unconfined	W.C.	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/15	0.00 - 2.00	2/5/5/11	10	16	6			Brown, dry, medium dense, fine to coarse SAND, little silt, trace fine gravel, well-graded (FILL)	
							20				
	2D R1	3/0 60/56	2.00 - 2.25 (=90") 7.80	50(3") ROD = 33%			NO	155.0		No recovery. Some broken rock in the shoe.	
								2.8		Top of bedrock at elev. 155.0 ft. 2.8-5.9 ft: Grey, medium to coarse grained, strongly foliated, GNEISSI slightly weathered (W2), medium strong (R3), discontinuities horizontal to low angle (3-15 deg), very closely to closely spaced (0.05-0.2 ft) [VASSALBORO FORMATION]. 3.9-7.1 ft: White/gray, medium to coarse grained, moderately foliated, GNEISSI fresh (W1), medium strong (R3), discontinuities low angle to moderate (5-37 deg), very closely to closely spaced (0.1-0.7 ft) [VASSALBORO FORMATION]. Rock Mass Quality: Poor Rock Core Rate (minisec) 2.8-3.8 ft (2:38) 3.8-4.8 ft (2:48) 4.8-5.8 ft (2:21) 5.8-6.8 ft (2:33) 6.8-7.8 ft (3:01) 86% Recovery	
								150.0			
5											
								7.8		Bottom of Exploration at 7.8 feet below ground surface. Boring backfilled with cuttings to ground surface.	
10											
15											
20											
25											

Remarks:

Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20o Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

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Page 1 of 1 — Boring No.: BB-FDR-214

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00
WIN
023627.00
Bridge No. 5720
BRIDGE PLANS

STATE OF MAINE — CHRISTOPHER C. BENDA — 15164 — LICENSED PROFESSIONAL ENGINEER

	MEL	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	BK	MPB	21-08-25
CHECKED-REVIEWED	CCB/MEL	MPB	21-09-07
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

P.E. NUMBER 15164
SIGNATURE
DATE 09/07/2021

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOGS

SHEET NUMBER 21 OF 138

Filename: 21450908_0120_010 Division: Username: Date:2021-7-2

Test Boring Designation[1]	As-Drilled Locations[2,3]		Existing Ground Surface Elevation[3] (ft)	Probe Depth[4] (ft)	Bedrock Elevation[3,5] (ft)	Bedrock Depth[3,5] (ft)
	Stationing	Offset				
RP-FDR-201	60+22.7	52.6 LT	166.8	28.0	138.8	28.0
RP-FDR-202	60+26.8	25.6 LT	166.9	28.0	138.9	28.0
RP-FDR-203	60+28.3	15.1 LT	166.8	27.0	139.8	27.0

Notes

1. Rock probes RP-FDR-20X were performed by Maine Drilling and Blasting on June 22, 2021.
2. Rock probe locations are illustrated on Sheets entitled "Boring Location Plan".
3. As-drilled locations and elevations are derived from the survey file received from MaineDOT on June 23, 2021 entitled: 23627 BORE 200 Series Compiled.csv.
4. With respect to pre-construction topographic elevations.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-215
WIN: 023627.00

Driller: SW Cole	Elevation (ft.): 154.5 ft	Auger ID/OD:	2.5 in
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler:	Standard Split Spoon
Logged By: C. Battistella	Rig Type: Diedrich D-50	Hammer Wt./Fall:	140 lbs/30 in
Date Start/Finish: 5/17/21 (11:10ST) / 5/17/21 (14:10ST)	Drilling Method: Pin Auger / Cased Wash	Core Barrel:	NQ
Boring Location: N 387980.564 ft, E 1057783.733 ft	Casing ID/OD: 5.5 in	Water Level*:	No measurement
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒ Rope & Cathead ☐		

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/6 in.) Shear Strength (psf) CPT (TSF)	Unconfined	%Q	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/14	0.00 - 2.00	4/8/7/13	15	24	5			Brown, damp, medium dense, medium to coarse SAND, some fine gravel, well-graded FILL)	
							21				
	2D	24/18	2.00 - 4.00	16/11/12/9	23	37	32			Brown, damp, dense, fine to coarse SAND, some fine gravel, well-graded (FILL)	
							23				
	3D	24/16	4.00 - 6.00	7/4/34/50(6")	38	62	19	149.7			
5							82	149.4			
								4.8		3DA. Top 10 ins Dark brown, moist, very dense, fine to coarse SAND, little fine gravel, little silt, well-graded (FILL)	3DA: GTX #620975 WC = 11.1% Fines = 12.4% A-1-b, SM
	4D	24/14	6.00 - 8.00	14/29/27/16	56	91	207	5.1		3DB. 10-13 ins Asphalt thickness of 3 in (ASPHALT)	
										3DC. Bottom 3 ins Brown, damp, very dense, fine to coarse SAND, some gravel, poorly-graded (FILL)	
	5D R1	2.5/0 60/58	8.50 - 8.71 8.71 - 13.75	50 (2.5") RQD = 50%			NQ	145.8		4DI. Brown, moist, very dense, fine to coarse SAND, little fine gravel, well-graded (FILL) Coring refusal at 8.7 ft bgs. 5DI. NO recovery.	
10								140.8		Top of bedrock at elev. 145.8 ft. 8.7-10.05 ft: Grey, medium to coarse grained, moderately foliated, GNEISS; slightly weathered (W2), strong (R4), discontinuities low angle (5-25 deg), very closely spaced (0.05-0.15 ft), consists of some quartz veins [WASSALBORO FORMATION]. 10.05-13.65 ft: Grey, medium to coarse grained, strongly foliated, GNEISS; fresh (W1), extremely strong (R6), discontinuities low angle (5-24 deg), very closely to closely spaced (0.05-0.7 ft) [WASSALBORO FORMATION]. Rock Mass Quality: Poor Rock Core Rate (minsec) 8.75-9.5 ft (4:02) 9.5-9.75 ft (0:28) 9.75-10.75 ft (3:04) 10.75-11.75 ft (2:49) 11.75-12.75 ft (3:27) 12.75-13.75 ft (4:03) 98% Recovery	8.8 13.8
15											
20										Bottom of Exploration at 13.8 feet below ground surface. Boring backfilled with cuttings to ground surface.	
25											

Remarks:

Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20o Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

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

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1
Boring No.: BB-FDR-215

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-216
WIN: 023627.00

Driller: SW Cole	Elevation (ft.): 157.0 ft	Auger ID/OD:	2.5 in
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler:	Standard Split Spoon
Logged By: C. Battistella	Rig Type: Diedrich D-50	Hammer Wt./Fall:	140 lbs/30 in
Date Start/Finish: 5/12/21 (09:40ST) / 5/12/21 (11:12ST)	Drilling Method: Pin Auger / Cased Wash	Core Barrel:	NQ
Boring Location: N 388073.115 ft, E 1057192.158 ft	Casing ID/OD: 5.5 in	Water Level*:	No measurement
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒ Rope & Cathead ☐		

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/6 in.) Shear Strength (psf) CPT (TSF)	Unconfined	%Q	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/12	0.00 - 2.00	2/2/3/5	5	8	PUSH			Brown, moist, loose, fine to coarse SAND, some silt, trace fine gravel, well-graded (FILL)	
	2D	24/12	2.00 - 4.00	5/4/5/5	9	15				Brown, moist, medium dense, medium to coarse SAND, little fine gravel, some silt, well-graded (FILL)	
	3D	24/11	4.00 - 6.00	4/3/2/3	5	8				Brown, moist, loose, fine to coarse SAND, some silt, little gravel, broken rock in top 4 in mixed with sand, well-graded (FILL).	3D: GTX #620976 WC = 12.6% Fines = 32.9% A-2-4(0), SM
5	4D	24/12	6.00 - 8.00	5/4/5/5	9	15	48			4DA. Top 4 ins Brown, moist, medium dense, fine to coarse SAND, some silt, little gravel, well-graded (FILL).	GTX #620977 WC = 2.8% Fines = 4.6% A-1-a, GP
	5D	3.6/4	8.00 - 8.30	50(4")			26	148.2		4DB. Bottom 8 ins Grey/brown, loose, GRAVEL, some sand, trace silt, well-graded (FILL) 5DI. Brown, moist, very dense, medium to coarse, Gravelly SAND, little silt, well-graded (FILL)	
	R1	66/58	8.30 - 14.90	RQD = 49%			100 NQ			Top of bedrock at elev. 148.2 ft. 8.4-10.7 ft and 12.0-14.2 ft: Grey, medium to coarse grained, moderately foliated, GNEISS; slightly weathered (W2), strong (R4), discontinuities low angle to moderate (10-35 deg), closely spaced (0.2-0.6 ft) [WASSALBORO FORMATION]. 10.7-12.0 ft: Greenish white, fine grained, APLITE; highly weathered (W4) very weak (R1), discontinuities low angle to moderate (7-35 deg), very closely to closely spaced (0.1-0.25 ft) [WASSALBORO FORMATION]. Rock Mass Quality: Poor Rock Core Rate (minsec) 8.4-10.4 ft (2:48) 10.4-11.4 ft (1:42) 11.4-12.4 ft (3:27) 12.4-13.9 ft (3:50) 12.9-13.9 ft (2:54) 13.9-14.9 ft (4:42) 87% Recovery	8.8 14.9
10								142.1			
15											
20										Bottom of Exploration at 14.9 feet below ground surface. Boring backfilled with cuttings to ground surface.	
25											

Remarks:

Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20o Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

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

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1
Boring No.: BB-FDR-216

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: I-295 Desert Road Bridge Replacement #5720 (Exit 20)
Location: Freeport, Maine

Boring No.: BB-FDR-217
WIN: 023627.00

Driller: SW Cole	Elevation (ft.): 156.4 ft	Auger ID/OD:	2.5 in
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler:	Standard Split Spoon
Logged By: C. Battistella	Rig Type: Diedrich D-50	Hammer Wt./Fall:	140 lbs/30 in
Date Start/Finish: 05/18/21 (8:20ST) / 05/25/21 (12:40ST)	Drilling Method: Pin Auger / Cased Wash	Core Barrel:	NQ
Boring Location: N 388485.335 ft, E 1056886.362 ft	Casing ID/OD: 5.5 in	Water Level*:	No measurement
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒ Rope & Cathead ☐		

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/6 in.) Shear Strength (psf) CPT (TSF)	Unconfined	%Q	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/10	0.60 - 2.60	8/9/10/11	19	31	41A-BAG	155.8		Asphalt thickness of 7 in	
								0.6		Brown, dry, dense, fine to coarse SAND, some fine gravel, broken concrete present, well-graded (FILL)	
										Used vac truck to daylight down to 6 ft bgs, no sampling 1ft shoe of SS was a 1-1.5 in diameter piece of black PVC pipe. Work stopped to daylight hole to confirm no utilities	
	2D	24/6	6.00 - 8.00	6/25/48/62	73	119	PUSH			Brown, wet, very dense, fine to coarse SAND, some fine gravel, little silt, well-graded (FILL)	2D: GTX #620978 WC = 7.8% Fines = 11.2% A-1-b, SM-SM
5							24				
	3D	24/9	8.00 - 10.00	3/7/12/13	19	31	46			Brown, moist, dense, fine to coarse SAND, little fine gravel, trace silt, well-graded (FILL)	3D: WC = 10.3%
							38				
	4D	24/6	10.00 - 12.00	5/4/3/3	7	11	OPEN			Brown, moist, medium dense, fine to coarse SAND, little fine gravel, trace silt, well-graded (FILL)	4D: GTX #620979 WC = 16.1% Fines = 9.5% A-3, SM-SM
10											
15	R1	60/60	15.00 - 20.00	RQD = 66%			NQ	141.4		Weathered rock in wash from 14.6-15 ft bgs Top of bedrock at elev. 141.4 ft.	15.0
										White and grey, medium to coarse grained, moderately foliated, GNEISS; slightly weathered (W2), strong (R4), discontinuities low angle to moderate (12-35 deg), very closely to closely spaced (0.1-0.8 ft). Consists of a quartz bond from 15.7 to 16.3 ft [WASSALBORO FORMATION]. Rock Mass Quality: Fair Rock Core Rate (minsec) 15-16 ft (2:45) 16-17 ft (2:26) 17-18 ft (2:09) 18-19 ft (2:41) 19-20 ft (3:02) 100% Recovery	
20								136.4		Bottom of Exploration at 20.0 feet below ground surface. Boring backfilled with cuttings to ground surface.	20.0
25											

Remarks:

Hammer calibration obtained from SW Cole calibration report.
DAYL as a advancement method indicates that hole was excavated by non-destructive means to confirm no utilities present.
As-drilled elevations are derived from survey files "23627.00 20 BORE 20o Series Compiled.csv" received by Golder on June 11, 2021 from MaineDOT.

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

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1
Boring No.: BB-FDR-217

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00
WIN
023627.00
Bridge No. 5720
BRIDGE PLANS

STATE OF MAINE · CHRISTOPHER C. BENDA · 15164 · LICENSED PROFESSIONAL ENGINEER

P.E. NUMBER 15164
DATE 09/07/2021

	MEL	BY	DATE
PROJ. MANAGER		BK	
DESIGN-DETAILED		MPB	21-08-25
CHECKED-REVIEWED	CCB/MEL	MPB	21-09-07
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOGS

SHEET NUMBER
22
OF 138

Filename: 21450908_0120_011 Division: Username: Date:2021-7-2

Filename: 023_Geometric and Curbing Plan 1.dgn Division: Username: Date:8/27/2021

CONTROL POINTS FOR CURBING					
POINT	REVEAL	STATION	OFFSET	X-COORD	Y-COORD
100	0″	54+89.23	28.58 LT.	1050738.492	368571.045
101	7″	55+03.57	24.49 LT.	1050748.405	368559.904
102	7″	55+08.94	24.36 LT.	1050752.872	368556.921
103	7″	55+12.94	24.52 LT.	1050756.331	368554.851
104	7″	55+32.97	25.32 LT.	1050773.671	368544.851
105	7″	55+48.78	27.29 LT.	1050788.081	368538.036
106	0″	55+63.16	31.53 LT.	1050802.486	368533.911

Item No. 609.11 Vertical Curb Type 1
Or 609.38 Reset Curb Type 1

Point	Length	Radius
103 to 104	20.05′	–
104 to 105	15.96′	95.00′

Item No. 609.12 Vertical Curb Type 1 – Circular

Point	Length	Radius
101 to 102	5.38′	40.00′

Item No. 609.221 Terminal Curb Type 1

Point	Length	Radius
105 to 106	15.00′	95.00′

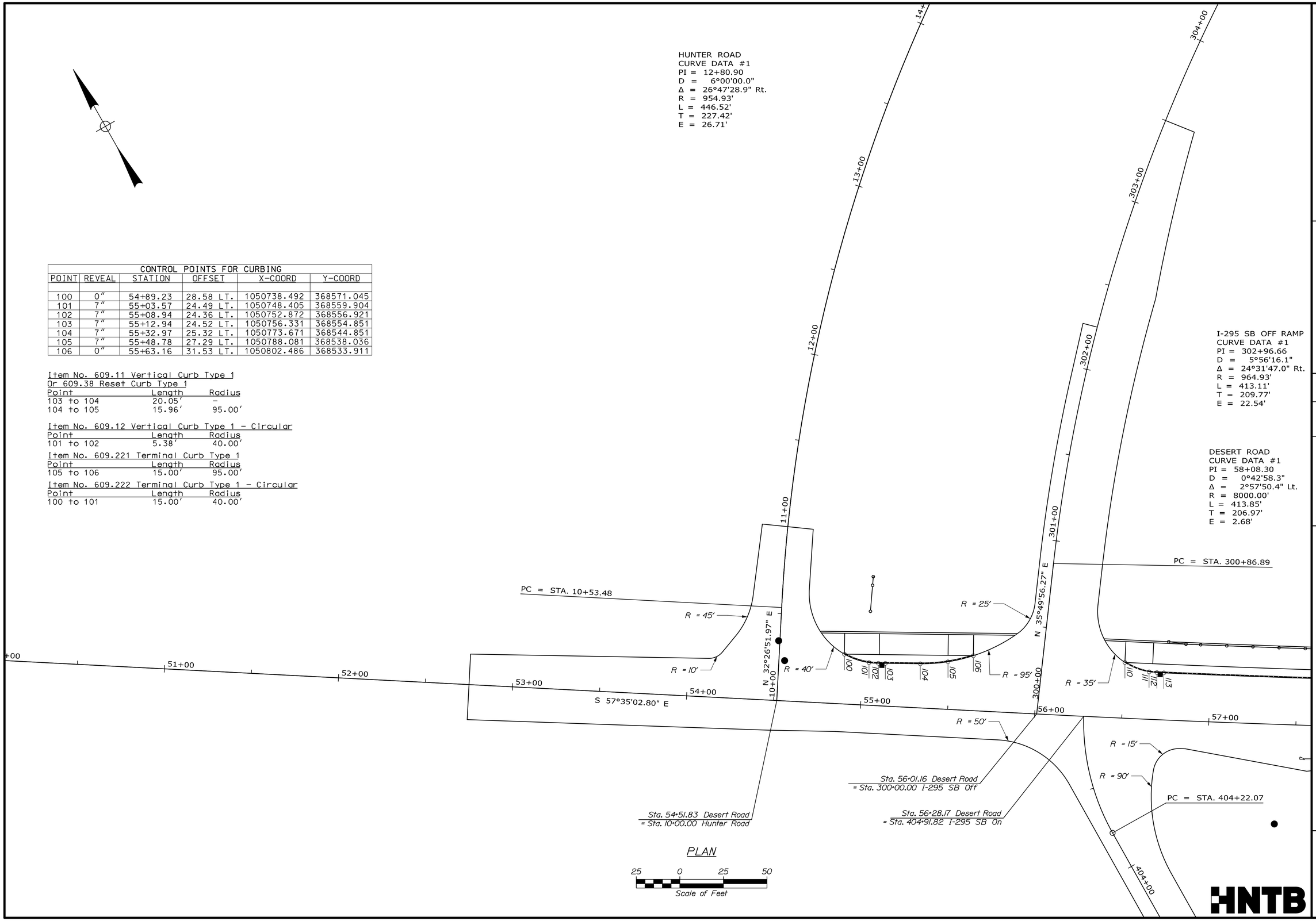
Item No. 609.222 Terminal Curb Type 1 – Circular

Point	Length	Radius
100 to 101	15.00′	40.00′

HUNTER ROAD
CURVE DATA #1
PI = 12+80.90
D = 6°00'00.0"
Δ = 26°47'28.9" Rt.
R = 954.93'
L = 446.52'
T = 227.42'
E = 26.71'

I-295 SB OFF RAMP
CURVE DATA #1
PI = 302+96.66
D = 5°56'16.1"
Δ = 24°31'47.0" Rt.
R = 964.93'
L = 413.11'
T = 209.77'
E = 22.54'

DESERT ROAD
CURVE DATA #1
PI = 58+08.30
D = 0°42'58.3"
Δ = 2°57'50.4" Lt.
R = 8000.00'
L = 413.85'
T = 206.97'
E = 2.68'



PLAN

25 0 25 50
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
M. Kerstetter		
PROJ. MANAGER	CDH	08\21
DESIGN-DETAILED	DEB	08\21
CHECKED-REVIEWED	PEK	SMH
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

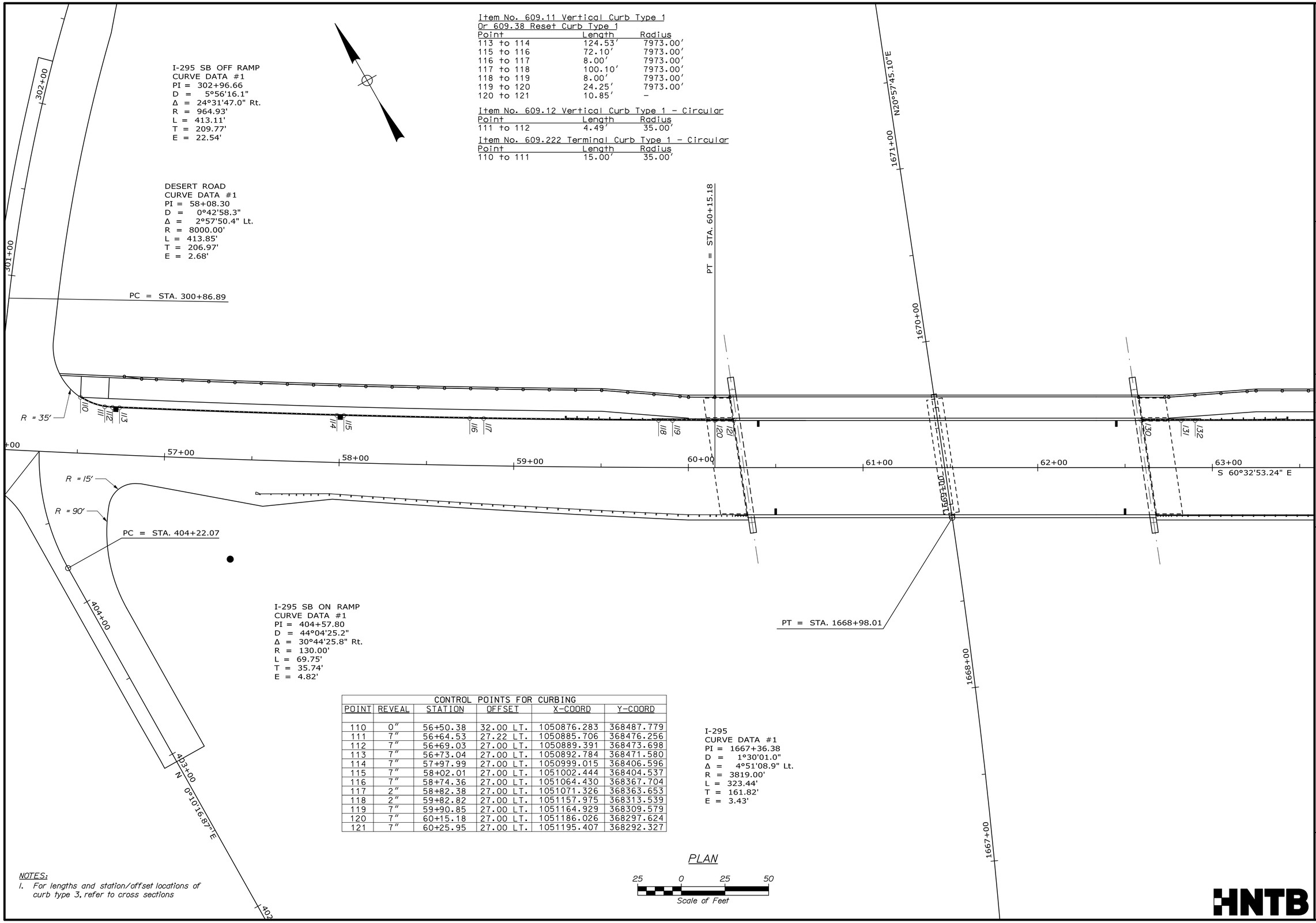
MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

CURBING & GEOMETRIC
PLAN 1

SHEET NUMBER
23
OF 138

HNTB

Filename: 024_Geometric and Curbing Plan 2.dgn Division: Username: Date:8/27/2021



Item No. 609.11 Vertical Curb Type 1
Or 609.38 Reset Curb Type 1

Point	Length	Radius
113 to 114	124.53′	7973.00′
115 to 116	72.10′	7973.00′
116 to 117	8.00′	7973.00′
117 to 118	100.10′	7973.00′
118 to 119	8.00′	7973.00′
119 to 120	24.25′	7973.00′
120 to 121	10.85′	–

Item No. 609.12 Vertical Curb Type 1 – Circular

Point	Length	Radius
111 to 112	4.49′	35.00′

Item No. 609.222 Terminal Curb Type 1 – Circular

Point	Length	Radius
110 to 111	15.00′	35.00′

CONTROL POINTS FOR CURBING

POINT	REVEAL	STATION	OFFSET	X-COORD	Y-COORD
110	0″	56+50.38	32.00 LT.	1050876.283	368487.779
111	7″	56+64.53	27.22 LT.	1050885.706	368476.256
112	7″	56+69.03	27.00 LT.	1050889.391	368473.698
113	7″	56+73.04	27.00 LT.	1050892.784	368471.580
114	7″	57+97.99	27.00 LT.	1050999.015	368406.596
115	7″	58+02.01	27.00 LT.	1051002.444	368404.537
116	7″	58+74.36	27.00 LT.	1051064.430	368367.704
117	2″	58+82.38	27.00 LT.	1051071.326	368363.653
118	2″	59+82.82	27.00 LT.	1051157.975	368313.539
119	7″	59+90.85	27.00 LT.	1051164.929	368309.579
120	7″	60+15.18	27.00 LT.	1051186.026	368297.624
121	7″	60+25.95	27.00 LT.	1051195.407	368292.327

NOTES:
1. For lengths and station/offset locations of curb type 3, refer to cross sections

PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kerstetergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

CURBING & GEOMETRIC
PLAN 2

SHEET NUMBER
24
OF 138

Item No. 609.11 Vertical Curb Type 1

Point	Length	Radius
130 to 131	22.65′	–
131 to 132	8.00′	–
132 to 133	77.43′	–
133 to 134	65.20′	481.90′
161 to 162	19.54′	65.00′
162 to 163	16.05′	481.90′
164 to 165	90.69′	481.90′
166 to 167	49.98′	481.90′
190 to 191	5.81′	–
192 to 193	11.60′	413.13′
200 to 201	8.00′	185.00′

Item No. 609.12 Vertical Curb Type 1 - Circular

Point	Length	Radius
134 to 135	9.68′	35.00′
191 to 192	7.07′	3.00′
193 to 194	39.61′	45.00′

Item No. 609.221 Terminal Curb Type 1

Point	Length	Radius
160 to 161	8.01′	65.00′
168 to 169	8.00′	481.90′
170 to 171	8.00′	150.15′
201 to 202	8.00′	185.00′
203 to 204	8.00′	185.00′

Item No. 609.222 Terminal Curb Type 1 - Circular

Point	Length	Radius
135 to 136	10.00′	35.00′

Item No. 609.34 Curb Type 5

Point	Length	Radius	
140 to 141	8.00′	35.00′	*Terminal Section Type 5
141 to 142	22.74′	35.00′	
142 to 143	69.38′	–	
150 to 151	50.01′	–	
151 to 152	18.28′	–	
152 to 153	36.91′	65.00′	
153 to 154	8.00′	65.00′	*Terminal Section Type 5
180 to 181	191.81′	510.90′	
182 to 183	5.93′	–	
184 to 185	65.95′	384.13′	
185 to 186	46.63′	–	
186 to 187	101.77′	517.90′	
210 to 211	3.51′	–	
212 to 213	3.52′	–	

Item No. 609.35 Curb-Type 5 - Circular

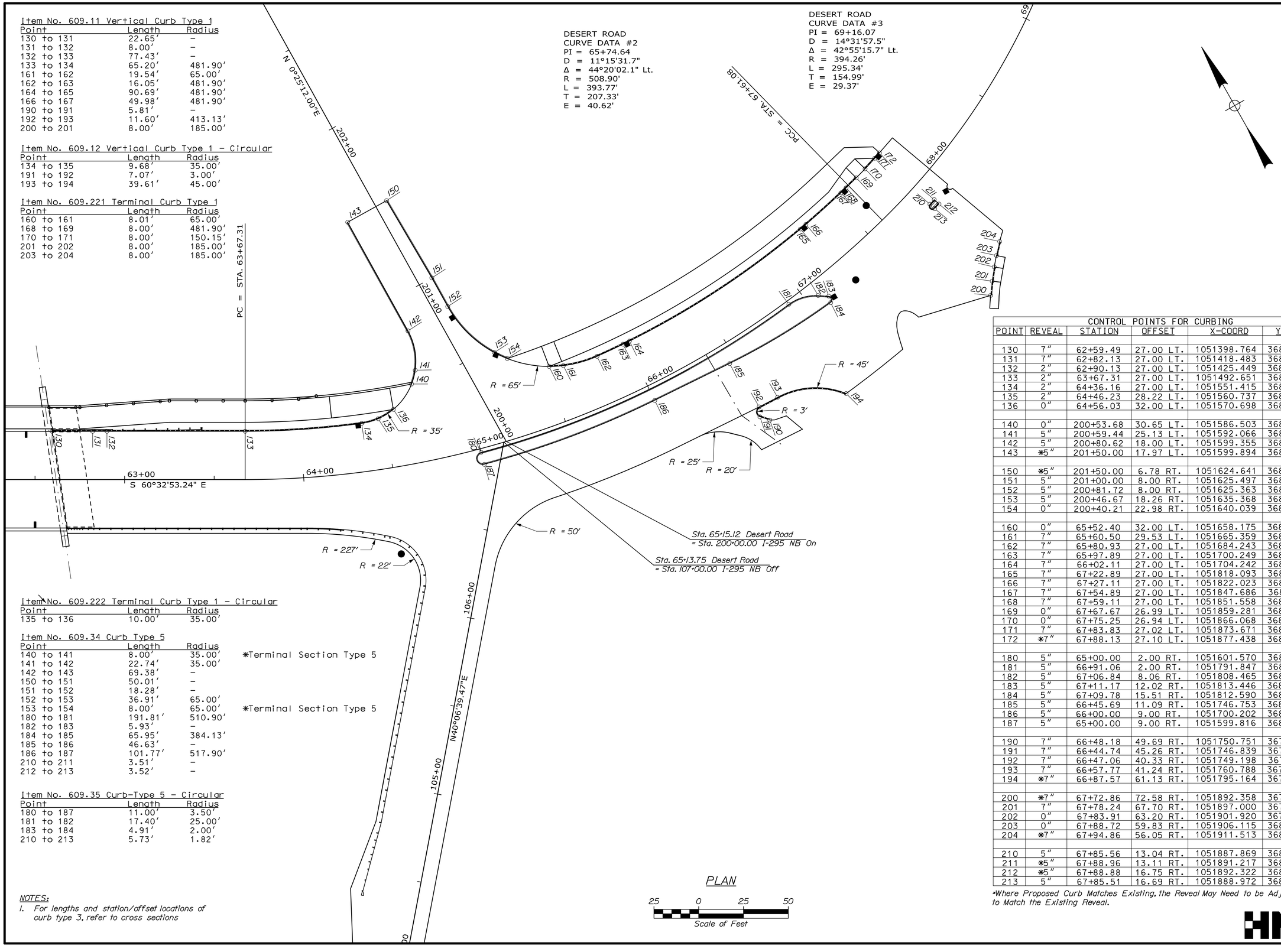
Point	Length	Radius
180 to 187	11.00′	3.50′
181 to 182	17.40′	25.00′
183 to 184	4.91′	2.00′
210 to 213	5.73′	1.82′

NOTES:

1. *For lengths and station/offset locations of curb type 3, refer to cross sections*

DESERT ROAD
CURVE DATA #2
PI = 65+74.64
D = 11°15'31.7"
Δ = 44°20'02.1" Lt.
R = 508.90'
L = 393.77'
T = 207.33'
E = 40.62'

DESERT ROAD
CURVE DATA #3
PI = 69+16.07
D = 14°31'57.5"
Δ = 42°55'15.7" Lt.
R = 394.26'
L = 295.34'
T = 154.99'
E = 29.37'



PLAN

25 0 25 50

Scale of Feet

CONTROL POINTS FOR CURBING

POINT	REVEAL	STATION	OFFSET	X-COORD	Y-COORD
130	7″	62+59.49	27.00 LT.	1051398.764	368177.499
131	7″	62+82.13	27.00 LT.	1051418.483	368166.364
132	2″	62+90.13	27.00 LT.	1051425.449	368162.430
133	2″	63+67.31	27.00 LT.	1051492.651	368124.484
134	2″	64+36.16	27.00 LT.	1051551.415	368096.359
135	2″	64+46.23	28.22 LT.	1051560.737	368094.066
136	0″	64+56.03	32.00 LT.	1051570.698	368094.458
140	0″	200+53.68	30.65 LT.	1051586.503	368101.777
141	5″	200+59.44	25.13 LT.	1051592.066	368107.498
142	5″	200+80.62	18.00 LT.	1051599.355	368128.622
143	✱5″	201+50.00	17.97 LT.	1051599.894	368198.002
150	✱5″	201+50.00	6.78 RT.	1051624.641	368197.820
151	5″	201+00.00	8.00 RT.	1051625.497	368147.813
152	5″	200+81.72	8.00 RT.	1051625.363	368129.535
153	5″	200+46.67	18.26 RT.	1051635.368	368094.406
154	0″	200+40.21	22.98 RT.	1051640.039	368087.915
160	0″	65+52.40	32.00 LT.	1051658.175	368072.586
161	7″	65+60.50	29.53 LT.	1051665.359	368069.059
162	7″	65+80.93	27.00 LT.	1051684.243	368064.347
163	7″	65+97.89	27.00 LT.	1051700.249	368063.102
164	7″	66+02.11	27.00 LT.	1051704.242	368062.875
165	7″	67+22.89	27.00 LT.	1051818.093	368070.403
166	7″	67+27.11	27.00 LT.	1051822.023	368071.154
167	7″	67+54.89	27.00 LT.	1051847.686	368076.901
168	7″	67+59.11	27.00 LT.	1051851.558	368077.987
169	0″	67+67.67	26.99 LT.	1051859.281	368079.985
170	0″	67+75.25	26.94 LT.	1051866.068	368081.936
171	7″	67+83.83	27.02 LT.	1051873.671	368084.423
172	✱7″	67+88.13	27.10 LT.	1051877.438	368085.768
180	5″	65+00.00	2.00 RT.	1051601.570	368049.509
181	5″	66+91.06	2.00 RT.	1051791.847	368037.014
182	5″	67+06.84	8.06 RT.	1051808.465	368033.196
183	5″	67+11.17	12.02 RT.	1051813.446	368029.976
184	5″	67+09.78	15.51 RT.	1051812.590	368026.309
185	5″	66+45.69	11.09 RT.	1051746.753	368024.396
186	5″	66+00.00	9.00 RT.	1051700.202	368027.043
187	5″	65+00.00	9.00 RT.	1051599.816	368042.732
190	7″	66+48.18	49.69 RT.	1051750.751	367985.919
191	7″	66+44.74	45.26 RT.	1051746.839	367990.214
192	7″	66+47.06	40.33 RT.	1051749.198	367995.231
193	7″	66+57.77	41.24 RT.	1051760.788	367994.850
194	✱7″	66+87.57	61.13 RT.	1051795.164	367977.866
200	✱7″	67+72.86	72.58 RT.	1051892.358	367985.917
201	7″	67+78.24	67.70 RT.	1051897.000	367992.432
202	0″	67+83.91	63.20 RT.	1051901.920	367998.740
203	0″	67+88.72	59.83 RT.	1051906.115	368003.704
204	✱7″	67+94.86	56.05 RT.	1051911.513	368009.608
210	5″	67+85.56	13.04 RT.	1051887.869	368046.922
211	✱5″	67+88.96	13.11 RT.	1051891.217	368047.979
212	✱5″	67+88.88	16.75 RT.	1051892.322	368044.514
213	5″	67+85.51	16.69 RT.	1051888.972	368043.446

•Where Proposed Curb Matches Existing, the Reveal May Need to be Adjusted to Match the Existing Reveal.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295 CUMBERLAND
FREEPORT

CURBING & GEOMETRIC PLAN 3

SHEET NUMBER

25

OF 138

Filename: 025_Geometric and Curbing Plan 3.dgn Division:

Username:

Date:8/27/2021

Legend:
SWL - Solid White Line
SYL - Solid Yellow Line
BWL - Broken White Line
SDYL - Solid Double Yellow Line

NOTE:
For Traffic Signs Associated with the Mast Arms and Pedestal Poles, See Signal Plan Sheets.

SPEED LIMIT 40
STATE LAW 3 FEET
(Retain)

(Front) (Remove) STOP
(Back) (Remove & Reset to Sta. 300+50 Lt.) (RR-01)
DO NOT ENTER

PARK & RIDE
(Retain)

(Front)
(Back) DO NOT ENTER
WRONG WAY
(Retain)

(Front) (Remove) STOP
(Back) DO NOT ENTER
(Remove & Reset to Sta. 300+50 Rt.) (RR-02)

Reset from Sta. 300+34 Lt. (RR-01)
(Front) ONE WAY
D.O.T. COMPACT URBAN LINE
(Back) ONE WAY
(Remove & Reset)

TO 1 (Front)
WRONG WAY (Back)
(Remove & Reset)

Maine Coast Waldorf School
(Retain)

DESERT RD
HUNTER RD
STOP
(Remove & Reset)

CONTROLLED ACCESS HIGHWAY OFFICIAL HIGHWAY SIGNS ONLY
(Remove & Reset)

JCT INTERSTATE 295
(Retain)

Freeport Ctr.
Portland 16
(Retain)

DO NOT BLOCK INTERSECTION
RIO-7

CONTROLLED ACCESS HIGHWAY OFFICIAL HIGHWAY SIGNS ONLY
(Remove & Reset)

SOUTH INTERSTATE 295 (Back)
NORTH INTERSTATE 295 (Front)
SOUTH INTERSTATE 295
(Remove & Reset)

Portland 14
(Remove & Reset)

Reset from Sta. 300+36 Lt. (RR-02)

12" SYL Spaced @ 35' O.C. (Typ.)
24" Stop Bar (Typ.)

PLAN
25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershberger	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295 CUMBERLAND
FREEPORT

SIGNING & STRIPING PLAN 1

SHEET NUMBER
26
OF 138

Filename: 026_Signing & Striping1.dgn Division: Username: Date:8/27/2021

Filename: 027_Signing & Striping2.dgn Division: Username: Date:8/27/2021

Legend:
SWL - Solid White Line
SYL - Solid Yellow Line
BWL - Broken White Line
SDYL - Solid Double Yellow Line

NOTE:
For Traffic Signs Associated with the Mast Arms and Pedestal Poles, See Signal Plan Sheets.

TO 1 (Front)
WRONG WAY (Back)
(Remove & Reset)

(Remove & Reset to Light Pole)

M3-3 SOUTH INTERSTATE 295
M1-1
M5-1L

TO South 295 ONLY | Desert Rd. ONLY
(Remove)

TO South 295 ONLY | Desert Rd. ONLY
(Remove)

SOUTH INTERSTATE 295 LEFT LANE
(Remove & Reset to Light Pole)

Reset from Sta. 300+36 Lt. (RR-02)

Portland 14
(Remove & Reset)

SPEED LIMIT 35
(Remove & Reset)

EXIT 22
125 Freeport Durham 136
2 MILES
(Remove)

Freeport Ctr.
Brunswick 10
NORTH INTERSTATE 295
(Remove & Reset)

EI-5P
EXIT 22
125 136
Freeport
Durham
2 MILES
GS-1

PROHIBITED ON THIS HIGHWAY
PEDESTRIANS
HITCHHIKERS
BICYCES
MOTORSCOOTERS
ANIMALS RIDDEN DRIVEN OR LED
FARM EQUIPMENT OVER 96 IN WIDE
(Retain)

12" SYL Spaced @ 35' O.C. (Typ.)

24" Stop Bar (Typ.)

PLAN
25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	DEB	08\21
CHECKED-REVIEWED	CDH	08\21
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3	SMH	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

SIGNING & STRIPING PLAN 2

SHEET NUMBER
27
OF 138

Filename: 028_Signing & Striping3.dgn Division: Username: Date:8/27/2021

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

SIGNING & STRIPING PLAN 3

SHEET NUMBER

28

OF 138

HNTB

PLAN

25 0 25 50
Scale of Feet

Legend:
SWL - Solid White Line
SYL - Solid Yellow Line
BWL - Broken White Line
SDYL - Solid Double Yellow Line

NOTE:
For Traffic Signs Associated with the Mast Arms and Pedestal Poles, See Signal Plan Sheets.

(Retain)
(Remove)
(Remove & Reset)
(Remove & Reset to Light Pole)
(Remove & Reset)
(Remove & Reset)
(Remove & Reset)
(Remove & Reset)
(Remove & Reset)
(Remove & Reset)
(Remove & Reset)
(Remove & Reset)
(Remove & Reset)
(Remove & Reset)
(Remove)
(Retain)
(Retain)
(Retain

PROPOSED SIGN SUMMARY

ITEM NUMBER	IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VERTICAL SPACING	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND BORDER	TOTAL AREA IN SQUARE FEET	POST
645.292	CS-1	30"	36"	LEFT TURN YIELD ON FLASHING	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"			3	COLORS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"		7.50 (22.50)	MOUNT ON MAST ARM
645.292	MI-1	30"	24"	INTERSTATE 295				1			5.00 (5.00)	METAL POST
645.292	M3-3	24"	12"	SOUTH				1			2.00 (2.00)	METAL POST
645.292	M5-1L	21"	15"					1			2.19 (2.19)	METAL POST
645.292	R3-5a	30"	36"	ONLY				5			7.50 (37.50)	MOUNT ON MAST ARM
645.292	R3-5L	30"	36"	ONLY				4			7.50 (30.00)	MOUNT ON MAST ARM
645.292	R3-5R	30"	36"	ONLY				3			7.50 (22.50)	MOUNT ON MAST ARM
645.292	R3-6L	30"	36"					2			7.50 (15.00)	MOUNT ON MAST ARM
645.292	R3-6R	30"	36"					3			7.50 (22.50)	MOUNT ON MAST ARM
645.292	R10-3eL	9"	15"	START CROSSING WHEN FOR PARKING DON'T START PUSH Crossing Is Solid TIME REMAINING To Finish Crossing DON'T CROSS NO CROSS PUSH BUTTON				4			0.94 (3.76)	MOUNT ABOVE APS PUSH BUTTON
645.292	R10-3eR	9"	15"	START CROSSING WHEN FOR PARKING DON'T START PUSH Crossing Is Solid TIME REMAINING To Finish Crossing DON'T CROSS NO CROSS PUSH BUTTON				4			0.94 (3.76)	MOUNT ABOVE APS PUSH BUTTON
645.292	R10-7	24"	30"	DO NOT BLOCK INTERSECTION				1			5.00 (5.00)	METAL POST
645.292	R10-15R	30"	30"	TURNING VEHICLES TO				3			6.25 (18.75)	MOUNT ON MAST ARM

GUIDE SIGN SUMMARY

ITEM NUMBER	IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	NUMBER AND TYPE OF POSTS	POST SIZE	HEIGHT OF POST LEFT (FEET)	HEIGHT OF POST CENTER (FEET)	HEIGHT OF POST RIGHT (FEET)	FOUNDATION SIZE	BREAKAWAY DEVICE
645.251	E1-5P	114"	30"	EXIT 22 / 125 136 / Freeport / Durham / 2 MILES	2 STEEL	W 10X22	22.0	N/A	23.5	2'-0" DIAMETER CONCRETE (PER STD DETAIL 626(02))	NO
645.251	GS-1	144"	144"								

*Posts, and Foundations for GS-1 shall be (2) W10x22 steel posts with 2' diameter, 7' deep foundations in accordance with standard details 626(02) and 645(06).

STRIPING LAYOUT TABLES

POINT	STATION	OFFSET	POINT	STATION	OFFSET	POINT	STATION	OFFSET
1	52+23.21	12.48' RT.	32	64+35.77	22.00' LT.	63	200+42.38	13.66' RT.
2	53+25.00	11.00' RT.	33	64+64.40	31.75' LT.	64	106+45.16	12.00' LT.
3	55+82.38	11.00' RT.	34	402+95.00	13.00' RT.	65	104+25.00	12.00' LT.
4	404+55.10	4.31' LT.	35	403+50.00	14.00' RT.	66	103+25.00	0.00'
5	402+95.00	0.00'	36	403+86.03	14.00' RT.	67	106+26.13	0.00'
6	52+75.00	0.00'	37	404+52.00	31.14' RT.	68	65+31.01	33.00' RT.
7	53+00.00	0.00'	38	56+84.29	11.00' RT.	69	66+50.02	35.63' RT.
8	55+75.22	0.00'	39	57+50.00	11.00' RT.	70	66+89.47	61.13' RT.
9	55+75.22	11.00' LT.	40	60+00.00	22.00' RT.	71	65+00.00	22.00' RT.
10	52+75.00	12.69' LT.	41	64+00.31	23.12' RT.	72	66+82.13	27.00' RT.
11	53+50.00	13.00' LT.	42	64+52.83	36.06' RT.	73	65+00.00	11.00' RT.
12	54+04.86	15.19' LT.	43	106+21.71	24.00' LT.	74	66+00.00	11.00' RT.
13	10+48.15	13.45' LT.	44	104+25.21	24.00' LT.	75	66+45.52	13.09' RT.
14	11+00.00	11.61' LT.	45	103+25.00	13.37' LT.	76	67+09.69	17.51' RT.
15	11+00.00	10.90' RT.	46	57+22.57	0.00'	77	65+00.00	0.00'
16	10+64.26	11.00' RT.	47	57+50.00	0.00'	78	67+00.00	0.00'
17	55+08.98	19.36' LT.	48	62+85.18	0.00'	79	65+62.57	11.00' LT.
18	55+33.17	20.33' LT.	49	64+06.46	0.00'	80	67+00.00	11.00' LT.
19	55+75.89	31.83' LT.	50	60+00.48	11.00' RT.	81	65+39.89	31.36' LT.
20	300+43.29	10.10' LT.	51	61+75.18	11.00' RT.	82	65+80.93	21.99' LT.
21	300+47.34	6.08' LT.	52	57+22.58	11.00' LT.	83	67+69.01	21.97' LT.
22	300+63.01	0.00'	53	60+15.18	11.00' LT.	84	67+87.71	21.66' LT.
23	303+50.00	0.00'	54	64+08.46	11.00' LT.	85	68+00.00	21.13' LT.
24	300+50.42	12.00' RT.	55	63+07.29	11.00' RT.	86	67+87.64	9.67' LT.
25	302+50.00	12.00' RT.	56	64+06.43	11.23' RT.	87	68+00.00	9.38' LT.
26	303+50.00	13.98' RT.	57	200+52.45	25.46' LT.	88	67+87.59	0.99' RT.
27	302+49.79	24.00' RT.	58	200+80.28	14.00' LT.	89	68+00.00	1.31' RT.
28	300+65.68	24.00' RT.	59	201+25.00	14.00' LT.	90	67+87.54	10.58' RT.
29	300+45.30	29.67' RT.	60	201+50.00	13.36' LT.	91	68+00.00	10.47' RT.
30	56+43.29	31.37' LT.	61	201+50.00	0.00'	92	67+83.98	18.33' RT.
31	56+68.99	22.00' LT.	62	200+84.99	0.00'	93	68+00.00	18.28' RT.

POINT TO POINT	TYPE
1-2-3	4" SWL
3-4-5	6" SWL
6-7	4" SDYL
7-8-9	4" SYL
7-9	4" SYL
10-11-12-13-14	4" SWL
15-16-17-18-19	4" SWL
20-21-22-23	6" SWL
24-25	6" SWL
26-27-28-29	6" SYL
30-31-32-33	4" SWL
34-35-36-37-38	6" SYL
38-39-40-41-42	4" SWL
42-43-44-45	6" SYL
46-47	4" SDYL
47-48	4" SYL
48-49	4" SDYL
47-50-51-48	4" SYL
52-53	4" SWL
53-54	4" BWL
55-56	4" SWL
57-58-59-60	6" SYL
61-62-63	6" SWL
64-65	6" SWL
66-67-68	6" SWL
68-69-70	4" SWL
71-72	4" BWL
73-74-75-76	4" SYL
77-78	4" SYL
79-80	4" BWL
81-82-83	4" SWL
84-85	4" SWL
86-87	4" SWL
88-89	4" SWL
90-91	4" SYL
92-93	4" SYL

LEGEND:
SWL - SOLID WHITE LINE
SYL - SOLID YELLOW LINE
BWL - BROKEN WHITE LINE
SDYL - SOLID DOUBLE YELLOW LINE

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

SIGNATURE

P.E. NUMBER

DATE

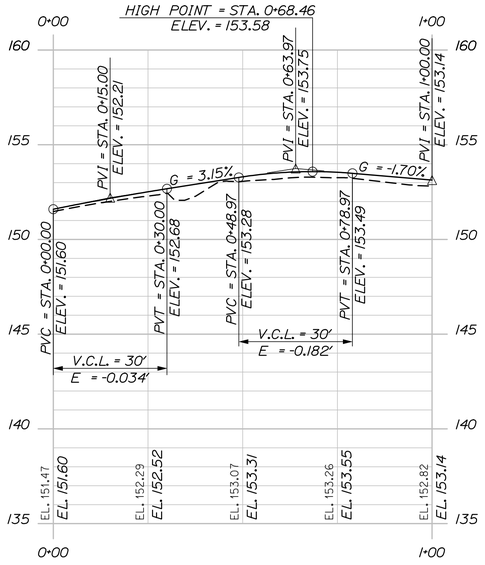
	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2	DEB	
DESIGN3-DETAILED3	SMH	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

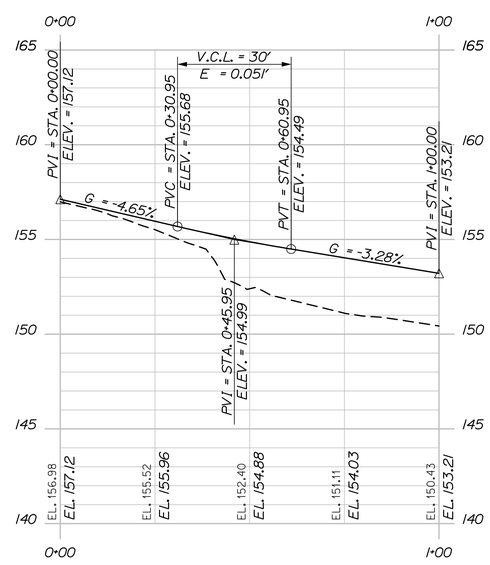
SIGN SUMMARY & STRIPING LAYOUT TABLES

SHEET NUMBER
29
OF 138

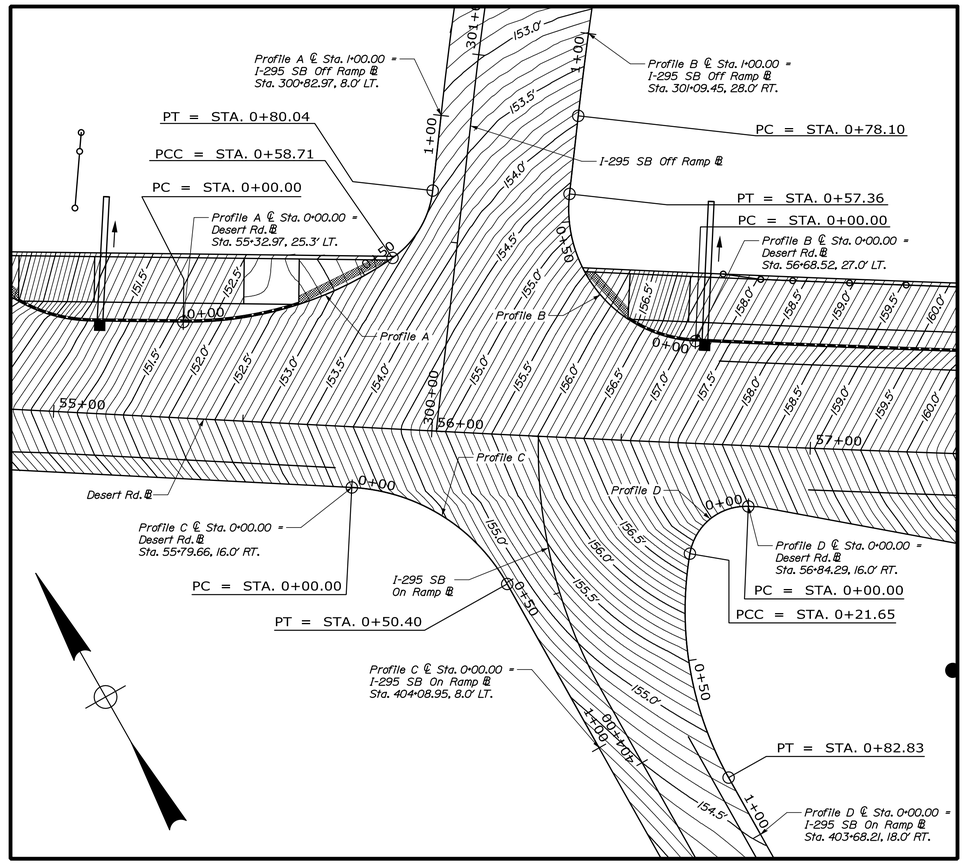
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PROFILE A



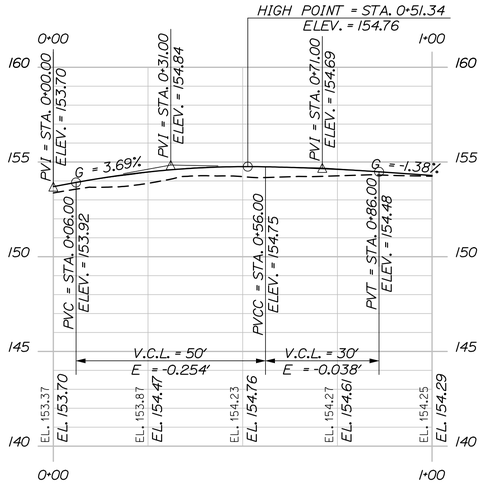
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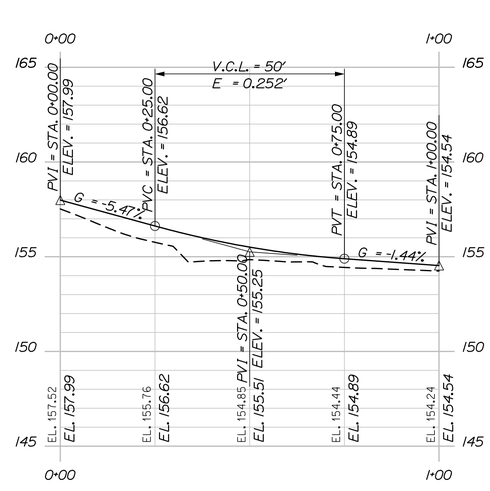
INTERSECTION OF I-295 SB ON/OFF RAMP - DESERT RD.

Note: Contours Shown at 0.1 foot intervals

Horiz. 20 0 20 40
Vert. 4 0 4 8
Scale of Feet



PROFILE C



PROFILE D

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

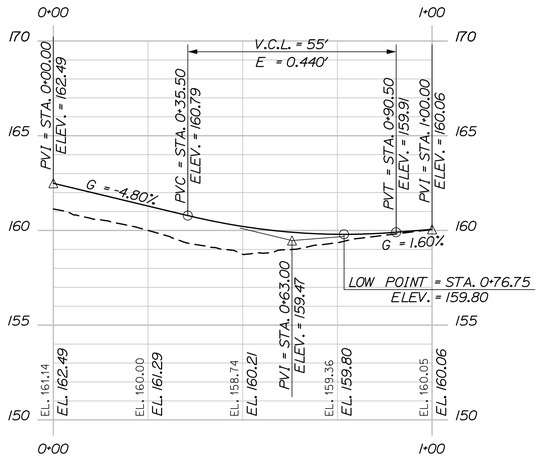
MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON/OFF RAMP INTERSECTION GRADING PLAN

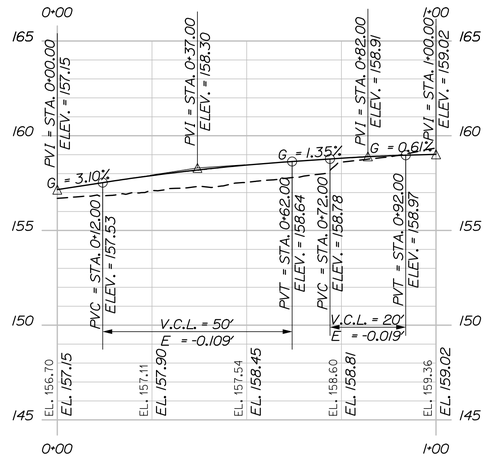
SHEET NUMBER
30
OF 138

HNTB

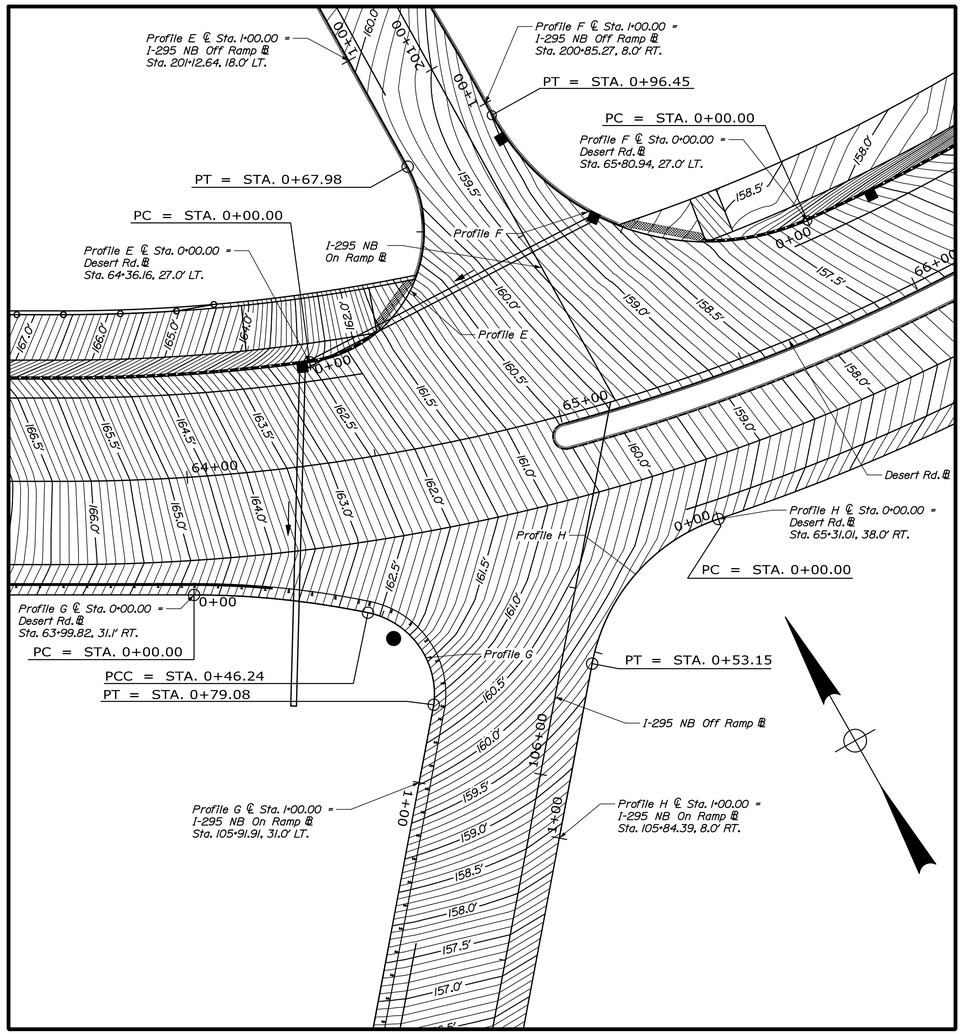
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PROFILE E



PROFILE F



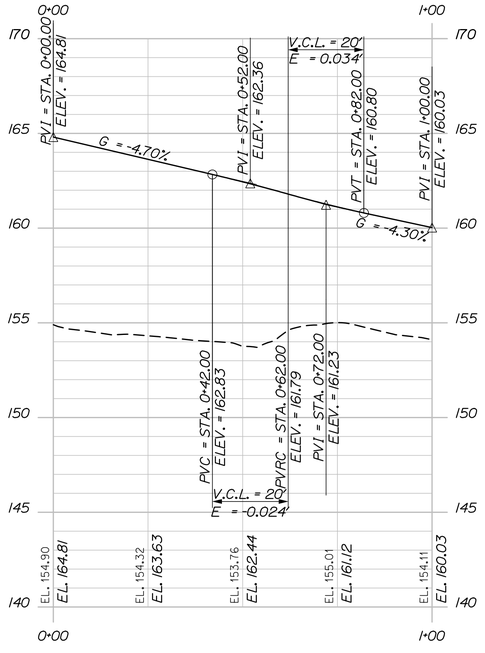
INTERSECTION OF I-295 NB ON/OFF RAMP - DESERT RD.

Note: Contours Shown at 0.1 foot intervals

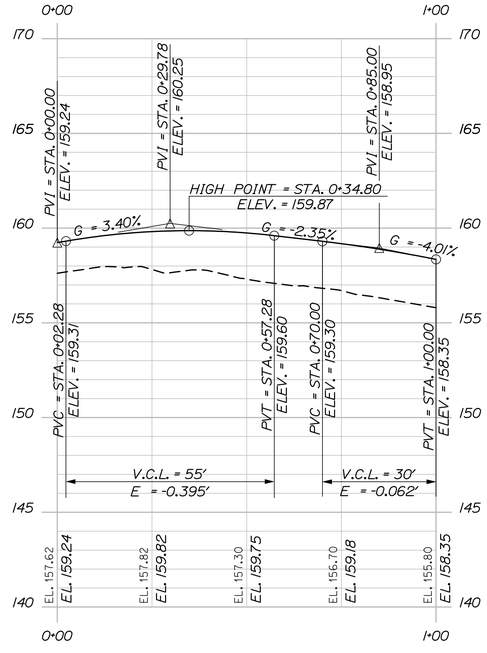
Horiz. 20 0 20 40

Vert. 4 0 4 8

Scale of Feet



PROFILE G



PROFILE H

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kersbergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

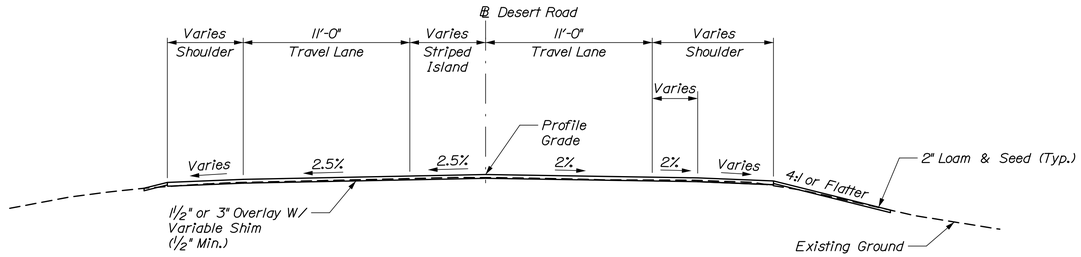
I-295 NB ON/OFF RAMP
INTERSECTION GRADING PLAN

SHEET NUMBER

31

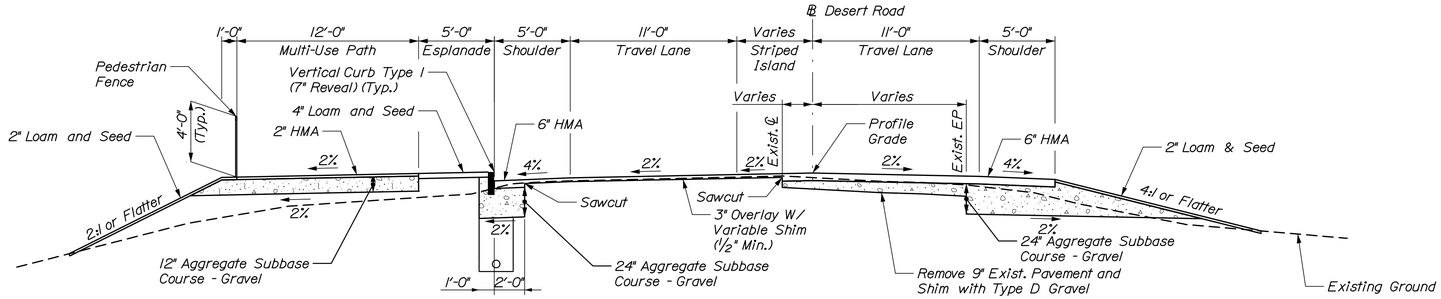
OF 138

Filename: 031_Intersection Grading 2.dgn Division: Username: Date:8/27/2021



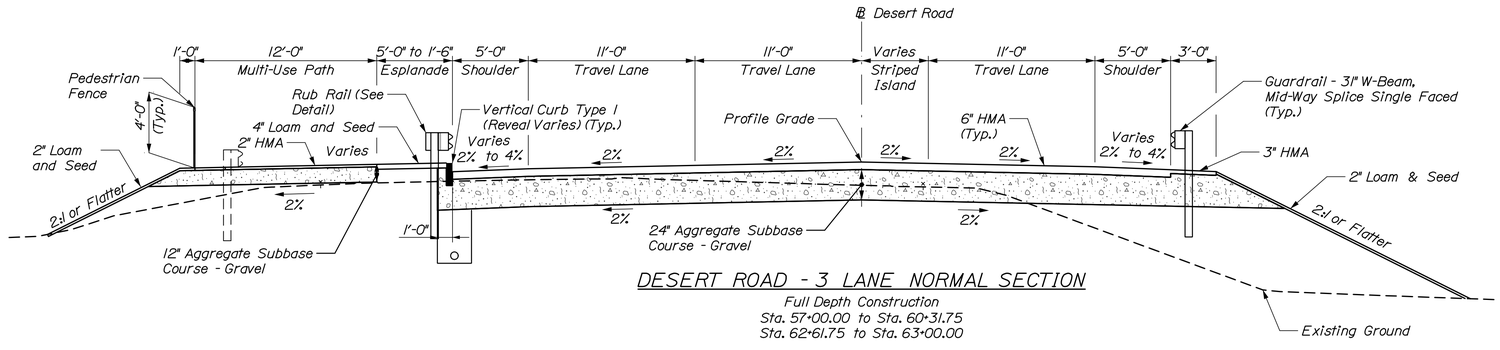
DESERT ROAD - 2 LANE NORMAL SECTION

Variable Depth Mill, Shim, & Overlay
Sta. 52+75.00 to Sta. 54+50.00



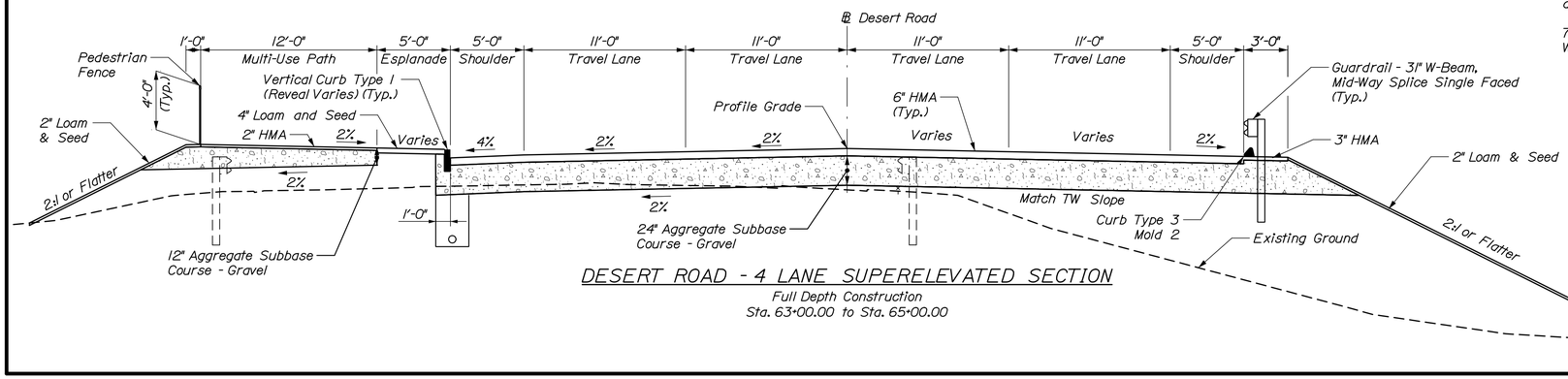
DESERT ROAD - 2 LANE NORMAL SECTION

Variable Width & Depth Mill, Shim, & Overlay
With Variable Width Full Depth Construction
Sta. 54+50.00 to Sta. 57+00.00



DESERT ROAD - 3 LANE NORMAL SECTION

Full Depth Construction
Sta. 57+00.00 to Sta. 60+31.75
Sta. 62+61.75 to Sta. 63+00.00



DESERT ROAD - 4 LANE SUPERELEVATED SECTION

Full Depth Construction
Sta. 63+00.00 to Sta. 65+00.00

Desert Road Cross Slope Table

Left Shoulder	Left Travel Lane	Station	Right Travel Lane	Right Auxilary	Right Shoulder
Match Existing		52+75.00	Match Existing	N/A	Match Existing
-4.5%	-2.5%	53+00.00	-2.0%	N/A	-6.4%
-4.0%	-2.5%	53+25.00	-2.0%	N/A	-5.2%
-4.0%	-2.5%	53+50.00	-2.0%	N/A	-4.0%
-3.2%	-2.5%	53+75.00	-2.0%	N/A	-4.0%
-2.5%	-2.5%	54+00.00	-2.0%	N/A	-4.0%
		-			
-2.5%	-2.5%	55+00.00	-2.0%	N/A	-4.0%
-2.0%	-2.0%	55+25.00	-2.0%	N/A	-4.0%
-2.0%	-2.0%	55+50.00	-2.0%	N/A	-3.0%
-2.0%	-2.0%	55+75.00	-2.0%	N/A	-2.0%
		-			
-2.0%	-2.0%	56+75.00	-2.0%	N/A	-2.0%
-3.0%	-2.0%	57+00.00	-2.0%	N/A	-2.0%
-4.0%	-2.0%	57+25.00	-2.0%	N/A	-3.0%
-4.0%	-2.0%	57+50.00	-2.0%	N/A	-4.0%
		-			
-4.0%	-2.0%	59+50.00	-2.0%	N/A	-4.0%
-4.0%	-2.0%	59+75.00	-2.0%	N/A	-4.0%
-4.0%	-2.0%	60+00.00	-2.0%	N/A	-4.0%
-2.0%	-2.0%	60+25.00	-2.0%	N/A	-2.0%
		Bridge			
-2.0%	-2.0%	62+50.00	-2.0%	N/A	-2.0%
-4.0%	-2.0%	62+75.00	-2.0%	N/A	-2.0%
-4.0%	-2.0%	63+00.00	-2.0%	N/A	-2.0%
-4.0%	-2.0%	63+25.00	-1.3%	N/A	-2.0%
-4.0%	-2.0%	63+50.00	-0.5%	N/A	-2.0%
-4.0%	-2.0%	63+75.00	0.2%	N/A	-2.0%
-4.0%	-2.0%	64+00.00	1.0%	N/A	-2.0%
-3.0%	-2.0%	64+25.00	1.0%	N/A	-2.0%
-2.0%	-2.0%	64+50.00	1.0%	N/A	-2.0%
		-			
-2.0%	-2.0%	65+00.00	1.0%	-2.0%	-2.0%
-2.0%	-2.0%	65+25.00	1.0%	-2.0%	-2.0%
-2.0%	-2.0%	65+50.00	1.0%	-2.0%	-3.0%
-2.0%	-2.0%	65+75.00	1.0%	-2.0%	-4.0%
-3.0%	-2.0%	66+00.00	1.0%	-2.0%	-4.0%
-4.0%	-2.0%	66+25.00	1.0%	-2.0%	-4.0%
-4.0%	-2.0%	66+50.00	1.4%	-2.0%	-4.0%
-4.0%	-2.0%	66+75.00	1.4%	-2.0%	-5.0%
-4.0%	-2.0%	67+00.00	1.4%	-2.0%	-6.0%
-4.0%	-2.0%	67+25.00	1.4%	-2.0%	-6.0%
-4.0%	-2.0%	67+50.00	1.0%	-2.0%	-5.0%
-2.9%	-2.0%	67+75.00	0.4%	-2.0%	-4.0%
Match Existing		68+00.00	Match Existing		

SUPERELEVATION NOTES:

1. Right Travelway Cross Slopes Apply to the Striped Median, Raised Median, and Inside Thru Lane When Multiple Lanes Are Present.

2. Left Travelway Cross Slopes Apply to Both Lanes to the Left of the Baseline When Multiple Lanes Are Present.

3. For Additional Information Regarding the Lane Widths and Cross Slopes Refer to the Desert Road Cross Sections.

NOTES:

1. The pavement, base and subbase depths as shown on the plans are intended to be nominal.

2. 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.

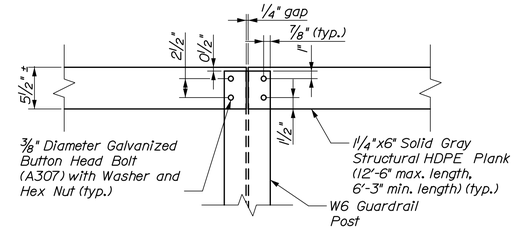
3. Crowns for both normal and superelevation sections for all courses of subbase and pavement shall be straight, unless otherwise noted on the plans.

4. The algebraic difference between shoulder and travel lane cross slopes "rollover" shall not exceed 8%.

5. Station ranges that are referenced are approximate.

6. The existing pavement depths on Desert Road within the project limits are assumed to be 9 inches.

7. Rub rail components and hardware shall be incidental to the Guardrail 31" W-Beam Mid-Way Splice.



RUB RAIL ELEVATION DETAIL

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

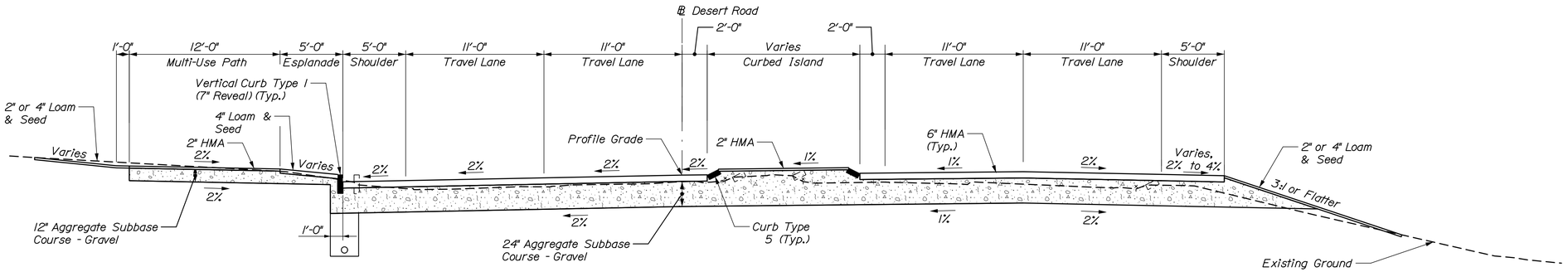
DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

DESERT ROAD
TYPICAL SECTIONS

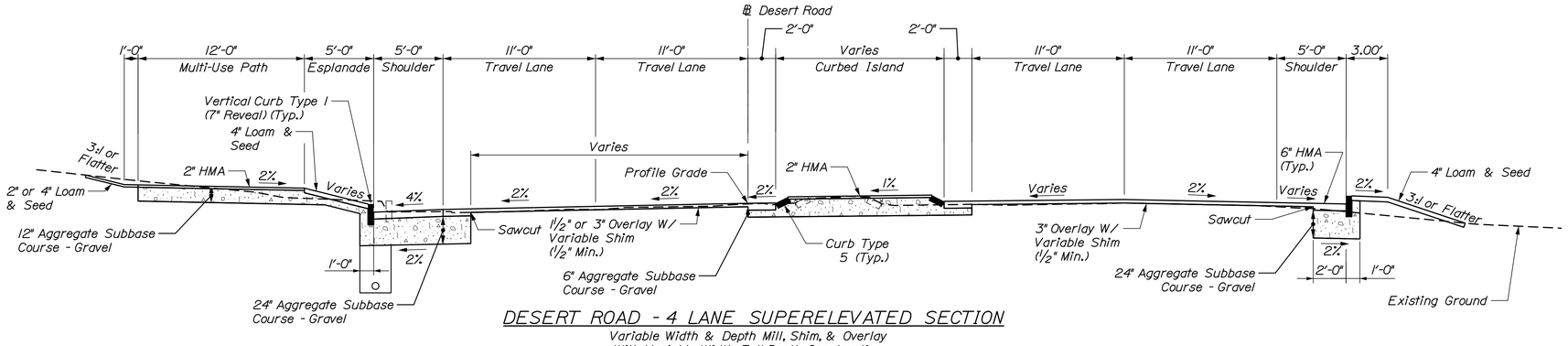
SHEET NUMBER
32
OF 138

Date:8/27/2021
Username:
Division:
Filename: 032_Typical Sections 1.dgn



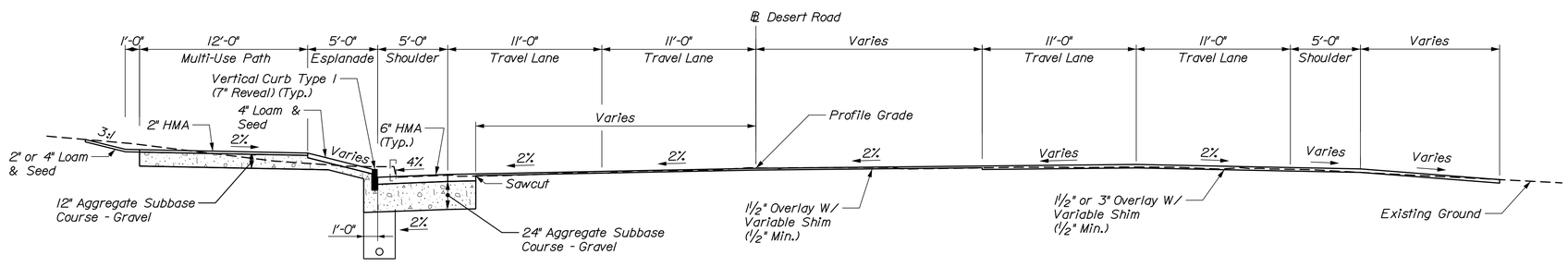
DESERT ROAD - 4 LANE SUPERELEVATED SECTION

Full Depth Construction
Sta. 65+00.00 to Sta. 66+00.00



DESERT ROAD - 4 LANE SUPERELEVATED SECTION

Variable Width & Depth Mill, Shim, & Overlay
With Variable Width Full Depth Construction
Sta. 66+00.00 to Sta. 67+25.00



DESERT ROAD - 4 LANE SUPERELEVATED SECTION

Variable Width & Depth Mill, Shim, & Overlay
With Variable Width Full Depth Construction
Sta. 67+25.00 to Sta. 68+00.00

NOTES:

1. The pavement, base and subbase depths as shown on the plans are intended to be nominal.
2. 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.
3. Crowns for both normal and superelevation sections for all courses of subbase and pavement shall be straight, unless otherwise noted on the plans.
4. The algebraic difference between shoulder and travel lane cross slopes "rollover" shall not exceed 8%.
5. Station ranges that are referenced are approximate.
6. The existing pavement depths on Desert Road within the project limits are assumed to be 9 inches.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershaw		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

DESERT ROAD
TYPICAL SECTIONS

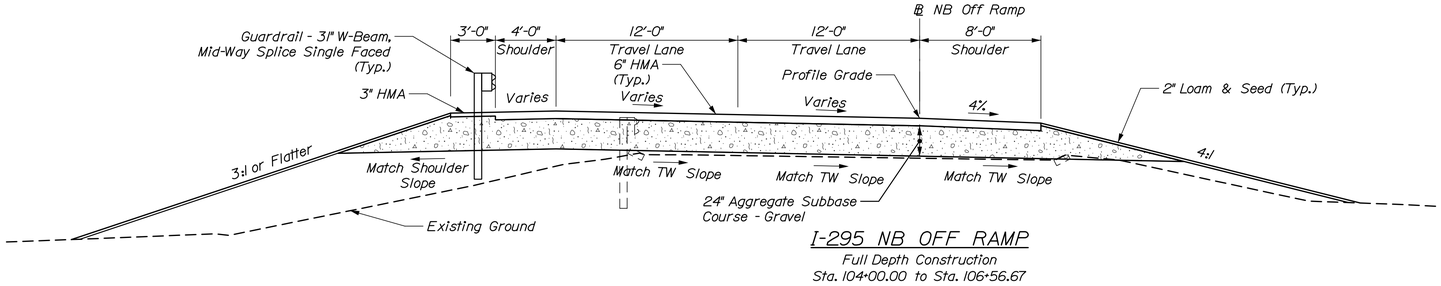
SHEET NUMBER

33

OF 138

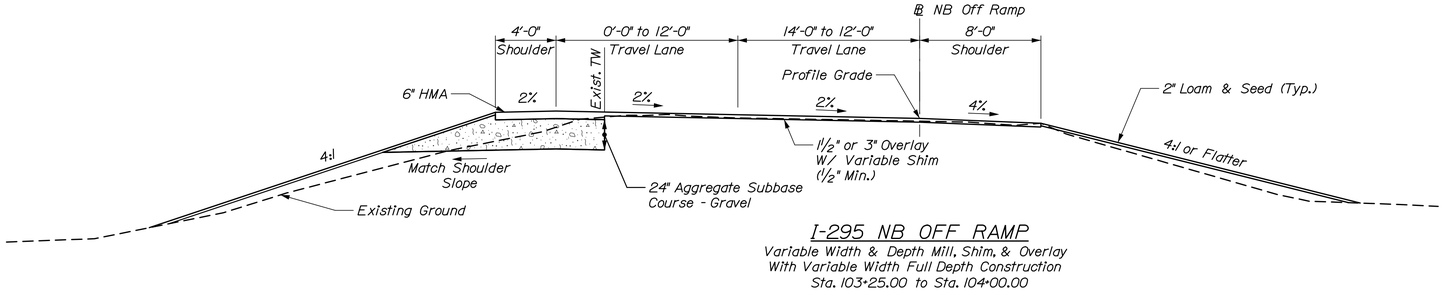
HNTB

Username:
Date:8/27/2021
Division:
Filename: 033_Typical Sections 2.dgn



I-295 NB OFF RAMP

Full Depth Construction
Sta. 104+00.00 to Sta. 106+56.67



I-295 NB OFF RAMP

Variable Width & Depth Mill, Shim, & Overlay
With Variable Width Full Depth Construction
Sta. 103+25.00 to Sta. 104+00.00

I-295 NB Off Ramp Cross Slope Table			
Left Shoulder	Travel Lane	Station	Right Shoulder
Match Existing		103+25.00	Match Existing
-1.4%	2.0%	103+50.00	-4.0%
-2.0%	2.0%	103+75.00	-4.0%
		-	
-2.0%	2.0%	104+50.00	-4.0%
-1.0%	2.0%	104+75.00	-4.0%
0.0%	2.0%	105+00.00	-4.0%
1.0%	2.0%	105+25.00	-4.0%
2.0%	2.0%	105+50.00	-4.0%
2.9%	2.9%	105+75.00	-4.0%
3.7%	3.7%	106+00.00	-4.0%
4.6%	4.6%	106+25.00	-4.6%
N/A	4.6%	106+50.00	-4.6%

NOTES:

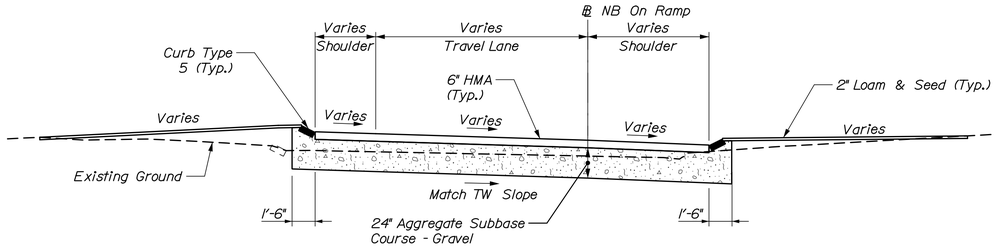
1. The pavement, base and subbase depths as shown on the plans are intended to be nominal.

2. 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.

3. Crowns for both normal and superelevation sections for all courses of subbase and pavement shall be straight, unless otherwise noted on the plans.

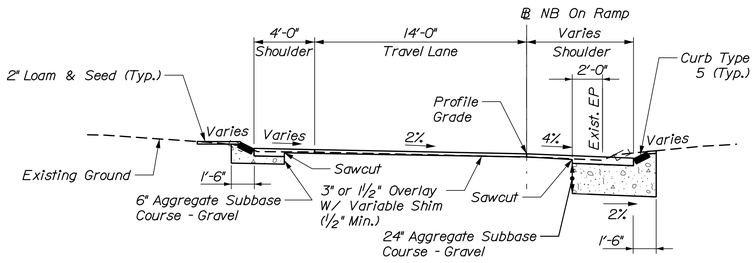
4. The algebraic difference between shoulder and travel lane cross slopes "rollover" shall not exceed 8%.

5. Station ranges that are referenced are approximate.



I-295 NB ON RAMP

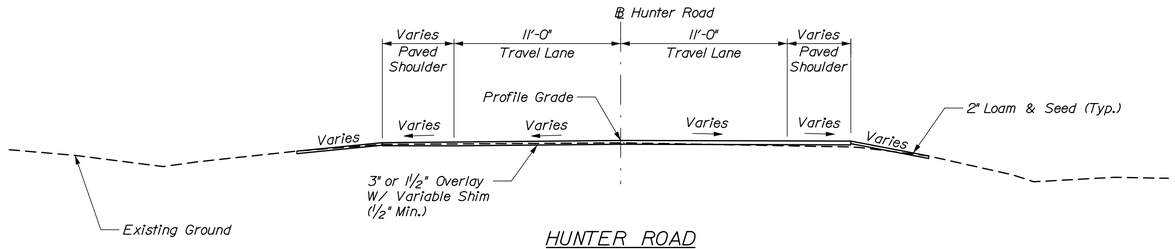
Full Depth Construction
Sta. 200+50.00 to Sta. 201+00.00



I-295 NB ON RAMP

Variable Width & Depth Mill, Shim, & Overlay
With Variable Width Full Depth Construction
Sta. 201+00.00 to Sta. 201+50.00

I-295 NB On Ramp Cross Slope Table			
Left Shoulder	Travel Lane	Station	Right Shoulder
4.7%	4.7%	200+50.00	-4.2%
3.3%	3.3%	200+75.00	-4.0%
2.0%	2.0%	201+00.00	-4.0%
1.0%	2.0%	201+25.00	-4.0%
Match Existing		201+50.00	Match Existing



HUNTER ROAD

Variable Depth Mill, Shim, & Overlay
Sta. 10+50.00 to Sta. 11+00.00

Hunter Road Cross Slope Table				
Left Shoulder	Left Travel Lane	Station	Right Travel Lane	Right Shoulder
-4.1%	-4.1%	10+25.00	4.0%	4.0%
-2.5%	-2.5%	10+50.00	1.8%	1.8%
-1.0%	-1.0%	10+75.00	-0.5%	-0.5%
Match Existing		11+00.00	Match Existing	

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

PROJ. MANAGER	M. Kerbergen			
DESIGN-DETAILED	CDH	DEB	08\21	
CHECKED-REVIEWED	PEK	SMH	08\21	
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

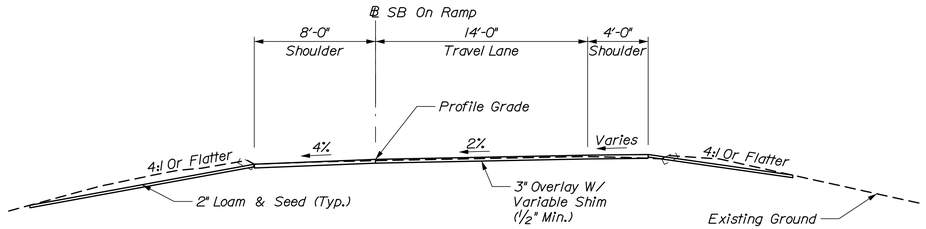
I-295 NB RAMPS & HUNTER ROAD TYPICAL SECTIONS

SHEET NUMBER

34

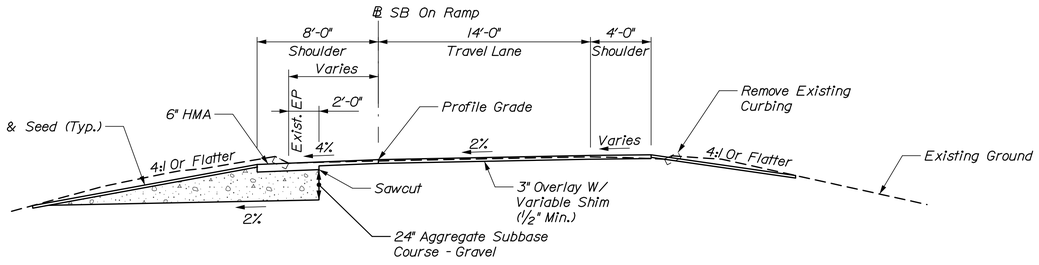
OF 138

Date:8/27/2021
Username:
Division:
Filename: 034_Typical Sections 3.dgn



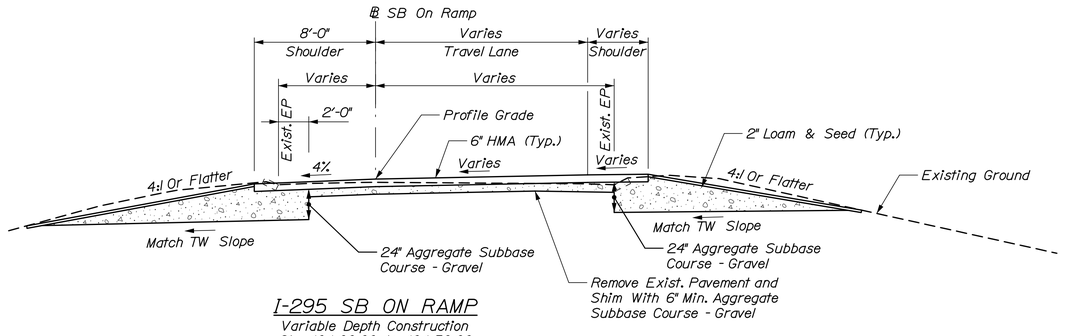
I-295 SB ON RAMP

Variable Depth Mill, Shim, & Overlay
Sta. 402+95.00 to 403+50.00



I-295 SB ON RAMP

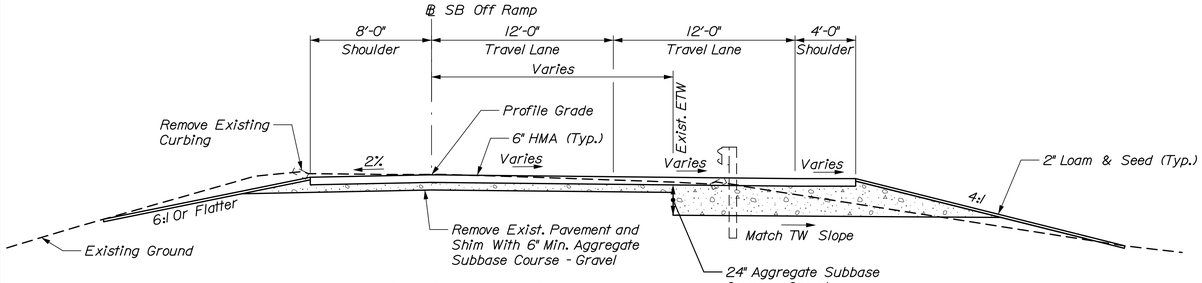
Variable Width & Depth Mill, Shim, & Overlay
With Variable Width Full Depth Construction
Sta. 403+50.00 to 404+00.00



I-295 SB ON RAMP

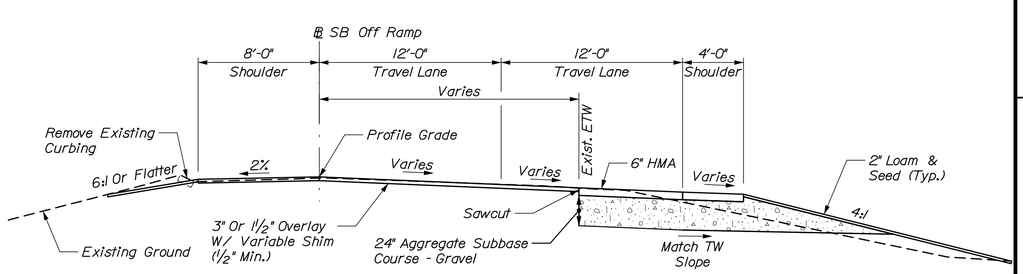
Variable Depth Construction
Sta. 404+00.00 to 404+50.00

I-295 SB On Ramp Cross Slope Table			
Left Shoulder	Station	Travel Lane	Right Shoulder
Match Existing	402+95.00	Match Existing	
-4.3%	403+00.00	1.7%	-3.3%
-4.0%	403+25.00	2.0%	-1.8%
-4.0%	403+50.00	2.0%	-0.3%
-4.0%	403+75.00	2.0%	1.2%
-4.0%	404+00.00	2.8%	2.8%
-4.0%	404+25.00	3.6%	3.6%
-4.3%	404+50.00	4.3%	4.3%



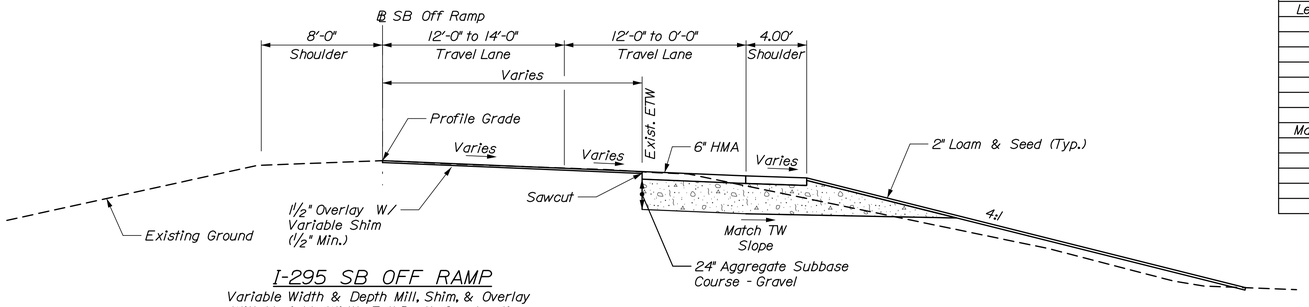
I-295 SB OFF RAMP

Variable Depth Construction
Sta. 300+50.00 to 301+50.00



I-295 SB OFF RAMP

Variable Width & Depth Mill, Shim, & Overlay
With Variable Width Full Depth Construction
Sta. 301+50.00 to 302+25.00



I-295 SB OFF RAMP

Variable Width & Depth Mill, Shim, & Overlay
With Variable Width Full Depth Construction
Sta. 302+25.00 to 303+50.00

I-295 SB Off Ramp Cross Slope Table			
Left Shoulder	Station	Travel Lane	Right Shoulder
-4.1%	300+50.00	4.1%	4.1%
-3.0%	300+75.00	3.0%	3.0%
-1.9%	301+00.00	1.9%	1.9%
-0.9%	301+25.00	0.9%	0.9%
0.2%	301+50.00	-0.2%	-0.2%
-0.9%	301+75.00	-1.3%	-1.3%
-2.0%	302+00.00	-2.3%	-2.3%
Match Existing	302+25.00	-3.4%	-3.4%
	302+50.00	-3.5%	-4.0%
	302+75.00	-3.8%	-4.0%
	303+00.00	-3.8%	-4.9%
	303+25.00	-3.7%	-5.9%
	303+50.00	Match Existing	

NOTES:

1. The pavement, base and subbase depths as shown on the plans are intended to be nominal.

2. 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.

3. Crowns for both normal and superelevation sections for all courses of subbase and pavement shall be straight, unless otherwise noted on the plans.

4. The algebraic difference between shoulder and travel lane cross slopes "rollover" shall not exceed 8%.

5. Station ranges that are referenced are approximate.

6. The existing pavement depths on I-295 SB On Ramp within the project limits are assumed to be 7 inches. The existing pavement depths on I-295 SB On Ramp within the project limits are assumed to be 8 inches.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

PROJ. MANAGER	M. Kerstergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295 CUMBERLAND
FREEPORT

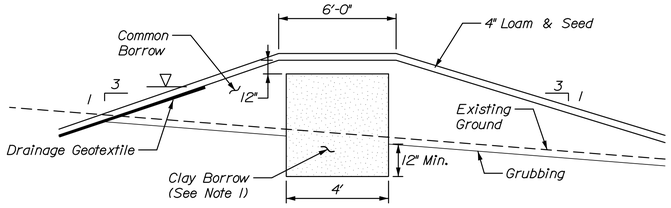
I-295 SB RAMPS TYPICAL SECTIONS

SHEET NUMBER

35

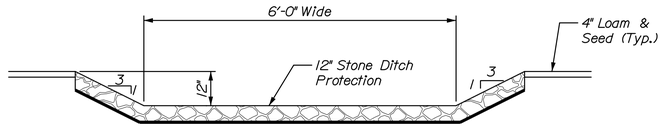
OF 138

Username:
Division:
Date:8/27/2021
Filename: 035_Typical Sections 4.dgn



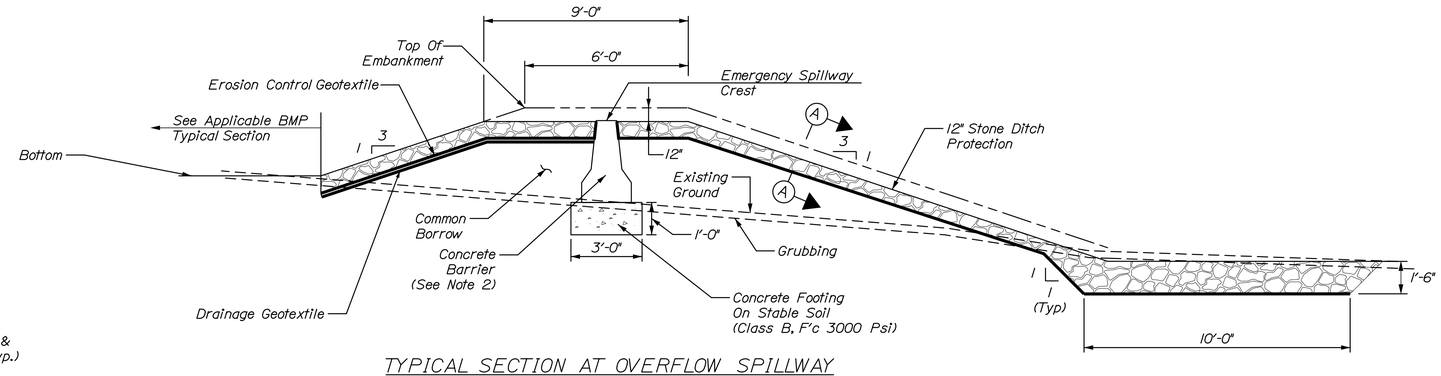
TYPICAL SECTION AT EMBANKMENTS

NOT TO SCALE



EMERGENCY SPILLWAY SECTION A-A

NOT TO SCALE



TYPICAL SECTION AT OVERFLOW SPILLWAY

NOT TO SCALE

UNDERDRAIN SOIL FILTER NOTES:

1. At emergency spillway, impermeable soil (clay borrow) shall tie into concrete barrier and extend 3' along each end of concrete barrier.

2. Set top of concrete barrier level at the designated elevation of spillway crest. payment shall be included in item 615.17: Underdrained Soil Filter.

3. For layout of underdrain soil filter, underdrain, pipes, and outlet control structure, see bmp layout plan.

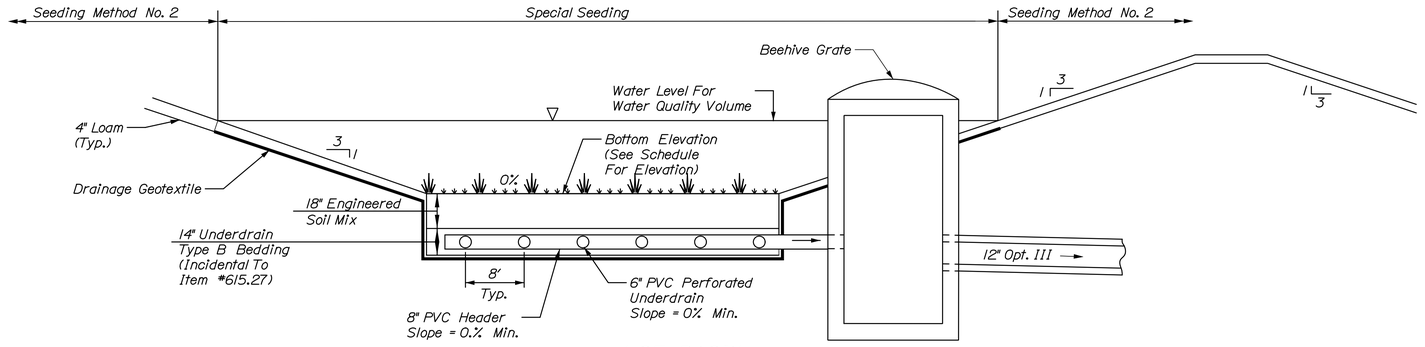
4. 8" PVC underdrain header shall not be slotted.

5. Surface of soil filter shall be seeded with special seed as specified in Section 618 of the Specifications.

6. The underdrain soil filter shall be constructed to the limits and details shown on the plans and specifications unless otherwise approved by the Resident.

7. The filter bed material shall not be placed in the USF basin until the tributary drainage area is permanently stabilized against erosion.

8. Erosion control blanket shall be provided on all USF basin embankment slopes, interior, exterior, and on the surface of the soil filter. Payment shall be incidental to 615.27 Underdrain Soil Filter.



USF BASIN TYPICAL SECTION

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kerstbergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BMP & DRAINAGE DETAILS

SHEET NUMBER

36

OF 138

HNTB

Username:

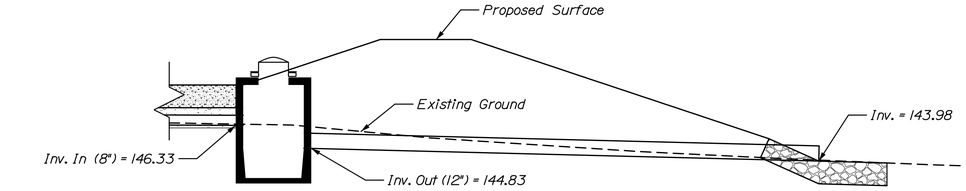
Division:

Date:8/27/2021

Filename: 036_BMP&Drainage_Details.dgn

BMP LAYOUT TABLE				
POINT	STATION	OFFSET	X-COORD	Y-COORD
1	105+66.34	110.11 Lt.	1051445.10	368016.90
2	105+69.49	112.42 Lt.	1051445.37	368020.79
3	105+84.66	116.01 Lt.	1051452.40	368034.70
4	105+90.64	112.41 Lt.	1051459.00	368036.97
5	105+96.26	91.05 Lt.	1051478.95	368027.50
6	105+94.64	85.96 Lt.	1051481.81	368022.98
7	105+89.18	81.35 Lt.	1051481.81	368015.84
8	105+81.69	64.87 Lt.	1051489.60	367999.49
9	105+77.90	61.99 Lt.	1051489.37	367994.70
10	105+69.46	60.67 Lt.	1051484.93	367987.43
11	105+63.96	64.81 Lt.	1051478.22	367985.90
12	105+58.88	95.29 Lt.	1051451.64	368001.64
13	105+59.52	98.68 Lt.	1051449.46	368004.31

USF BASIN SCHEDULE					
Basin Elevations			Peak Water Surface Elevation		
Bottom	Spillway Crest	Top of Embankment	2-year	10-year	25-year
(feet)	(feet)	(feet)	(feet)	(feet)	(feet)
149.00	151.00	152.00	150.67	150.91	151.05

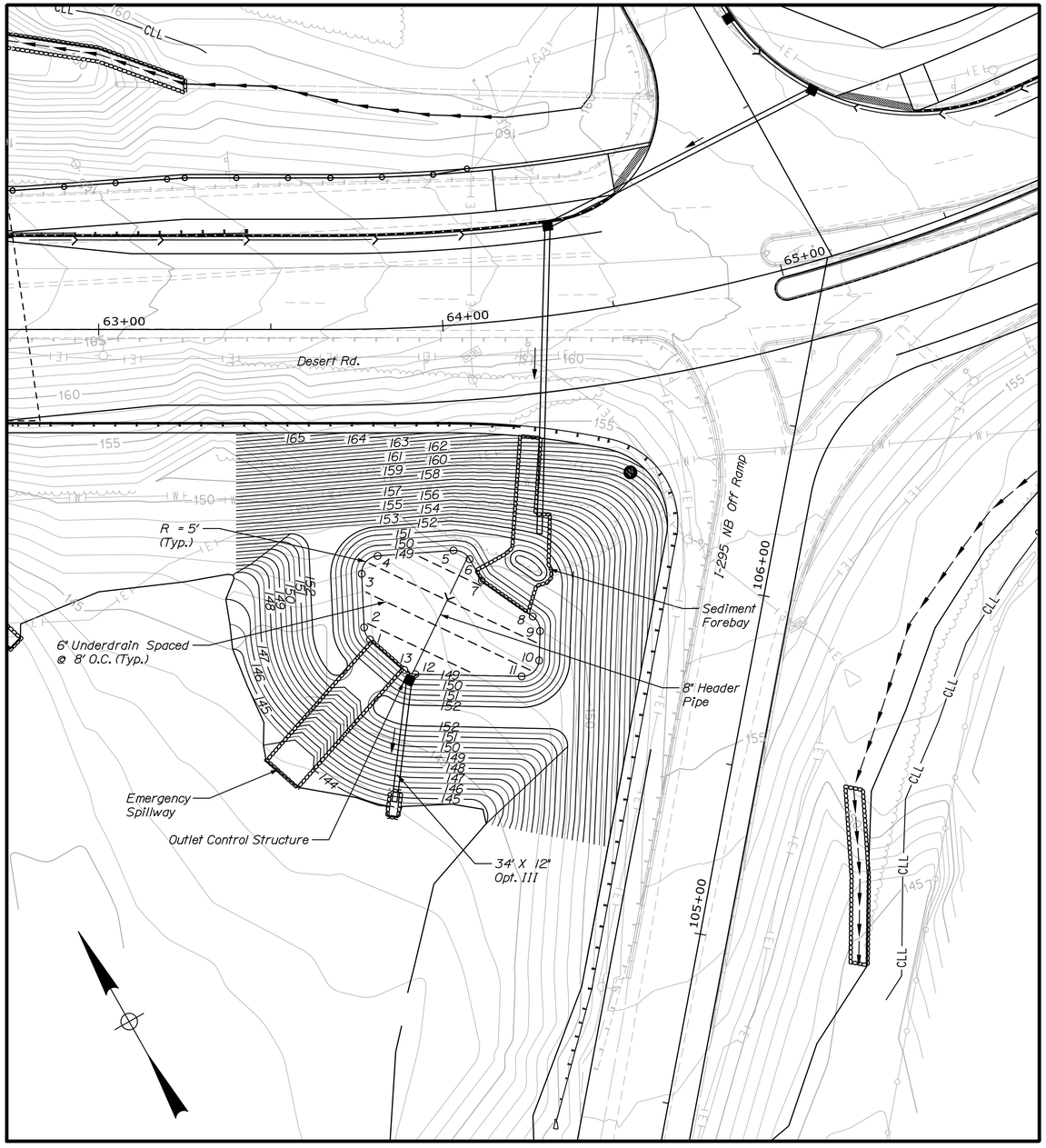


Sta. 105+56.84, 96.7' Lt. to Sta. 105+95.28, 86.6' Lt. Install 38' X 8" PVC Header Pipe (Install 6" Into Outlet Control Structure, Install Cap With 1.5" Orifice Inv. Elev. 146.41) (Incidental to Item 615.27)

Sta. 105+56.84, 96.7' Lt. Install CB Type BI Flat Top W/ Beehive Grate Rim Elev. = 150.50

Sta. 105+21.41, 94.4' Lt. to Sta. 105+56.84, 96.7' Lt. Install 34' X 12" Opt. III

OUTLET CONTROL STRUCTURE DATA



*Proposed Contours Shown at 0.5' Interval

BMP LAYOUT PLAN
SCALE
20 0 20 40
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kersbergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BMP LAYOUT PLAN

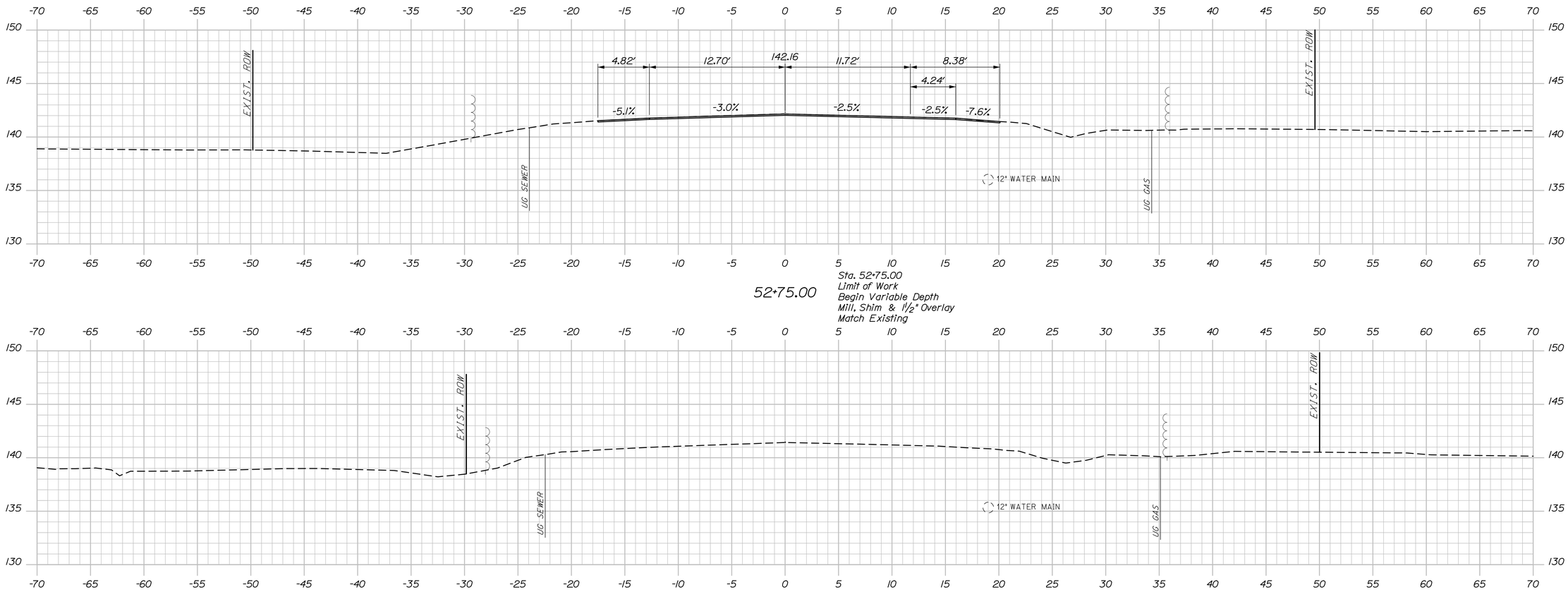
SHEET NUMBER
37
OF 138

Username:

Date:8/27/2021

Division:

Filename: 037_BMP Layout Plan.dgn



52+75.00

Sta. 52+75.00
Limit of Work
Begin Variable Depth
Mill, Shim & 1½" Overlay
Match Existing

52+50.00

52+25.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetgen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

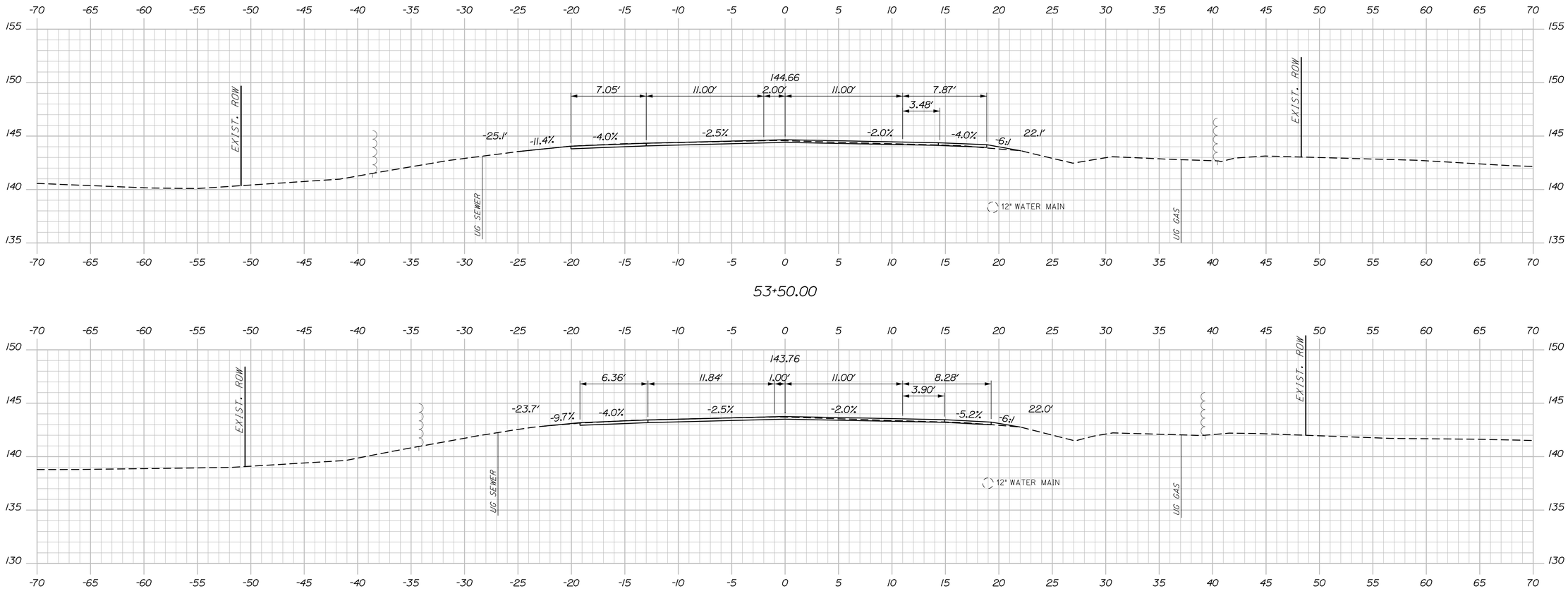
38

OF 138

HNTB

Sta. 52+25.00 to Sta. 52+75.00

Filename: XSect_DesertRd.dgn Division: Username: Date:8/27/2021



Sta. 53+00.00 to Sta. 53+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

	BY	DATE
M. Kerstetter		
PROJ. MANAGER		
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1	DEB	
REVISIONS 2	SMH	
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

39

OF 138

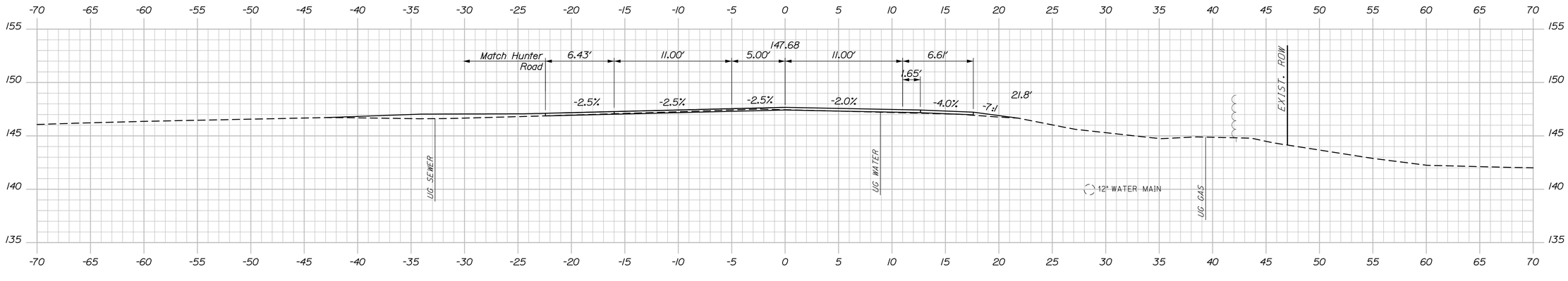
HNTB

Date:8/27/2021

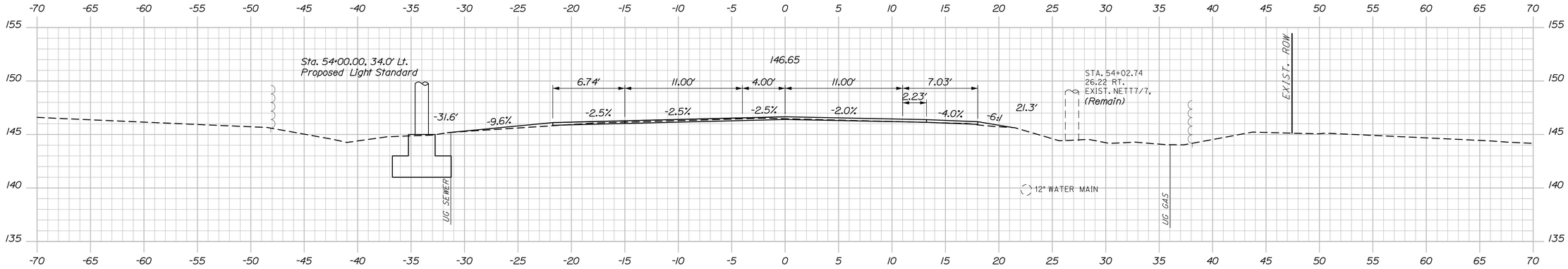
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Division:

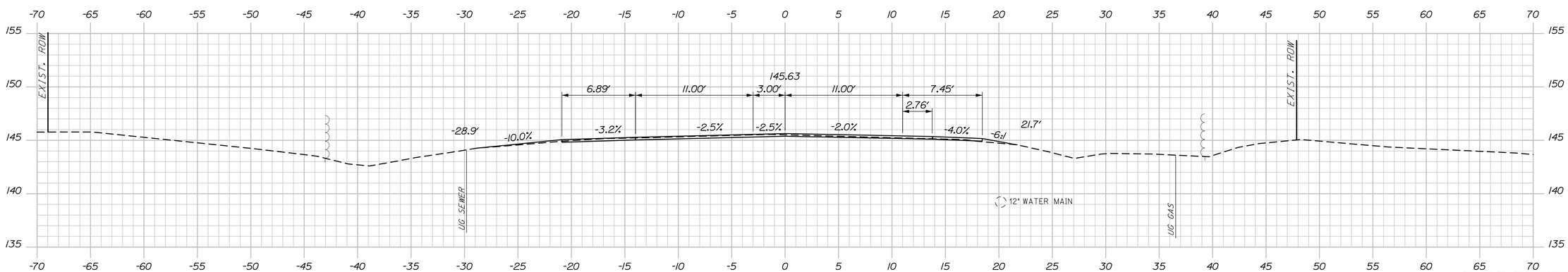
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54+25.00



54+00.00



53+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetgen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

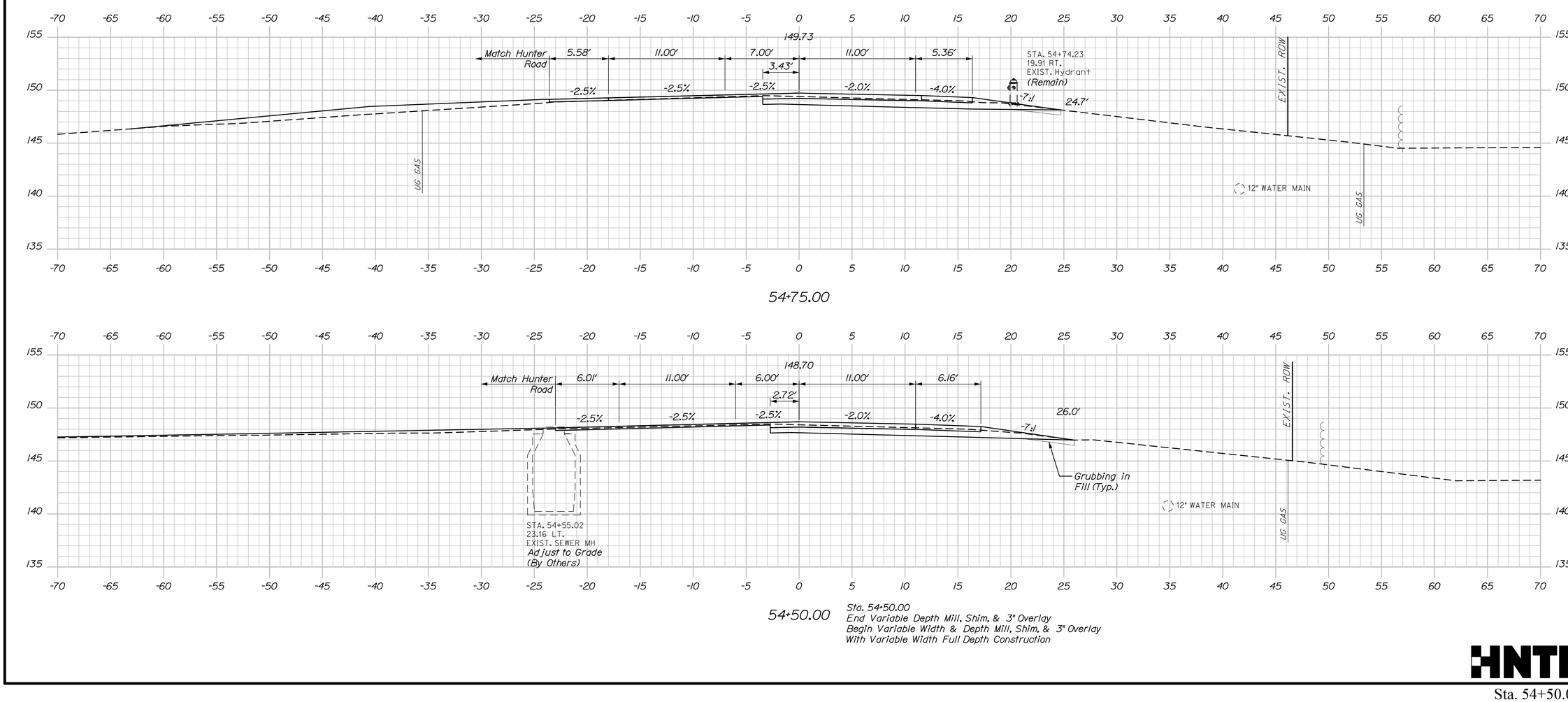
SHEET NUMBER

40

OF 138

Sta. 53+75.00 to Sta. 54+25.00

Filename: XSect_DesertRd.dgn Division: Username: Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN
023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	DEB	08\21
DESIGN2-DETAILED2	PEK	SMH
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD CROSS SECTIONS

SHEET NUMBER

41

OF 138

HNTB

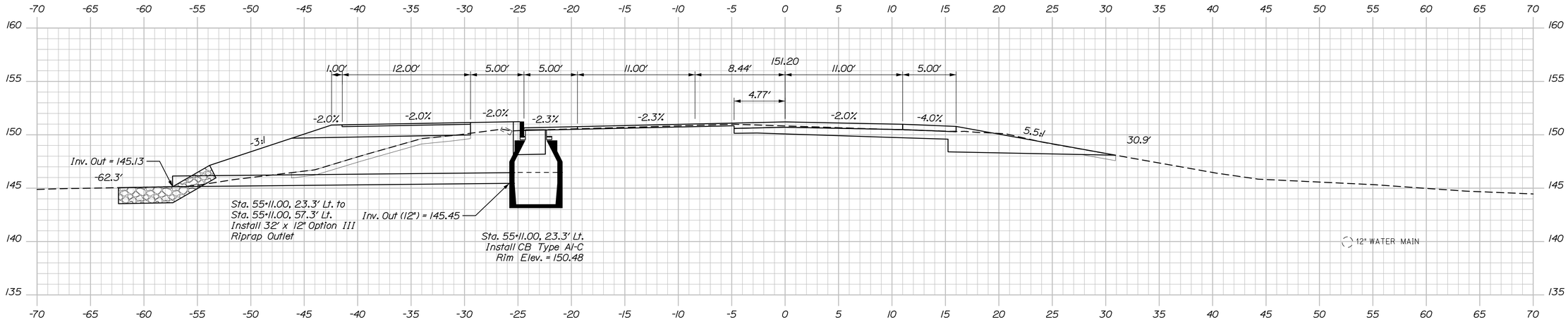
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Division:

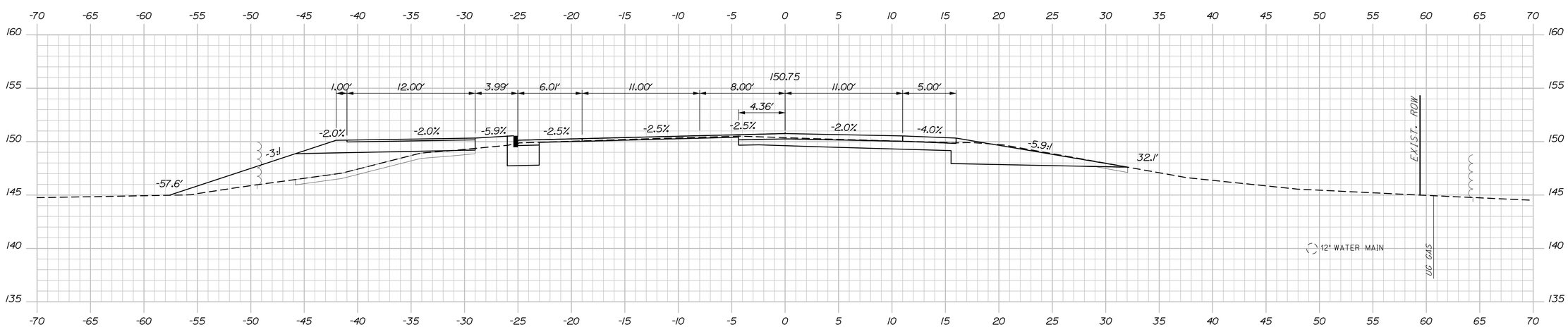
Date:8/27/2021

Filename: XSect_DesertRd.dgn

Sta. 54+50.00 to Sta. 54+75.00



55+11.00



55+00.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

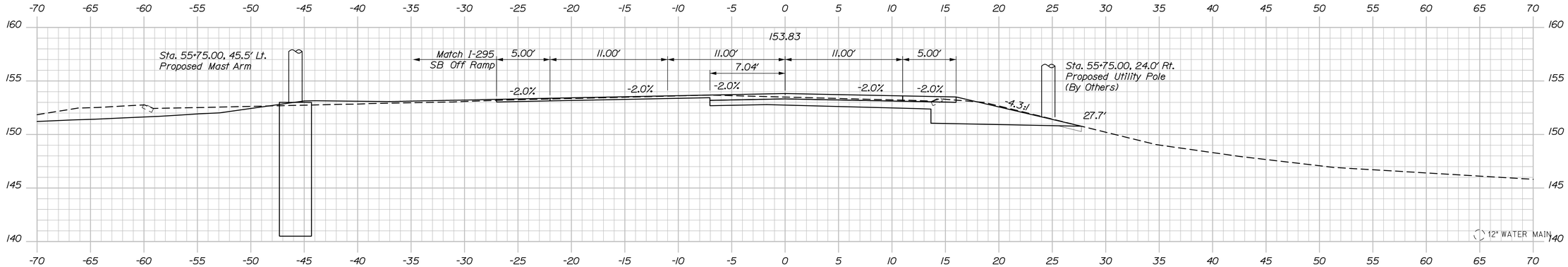
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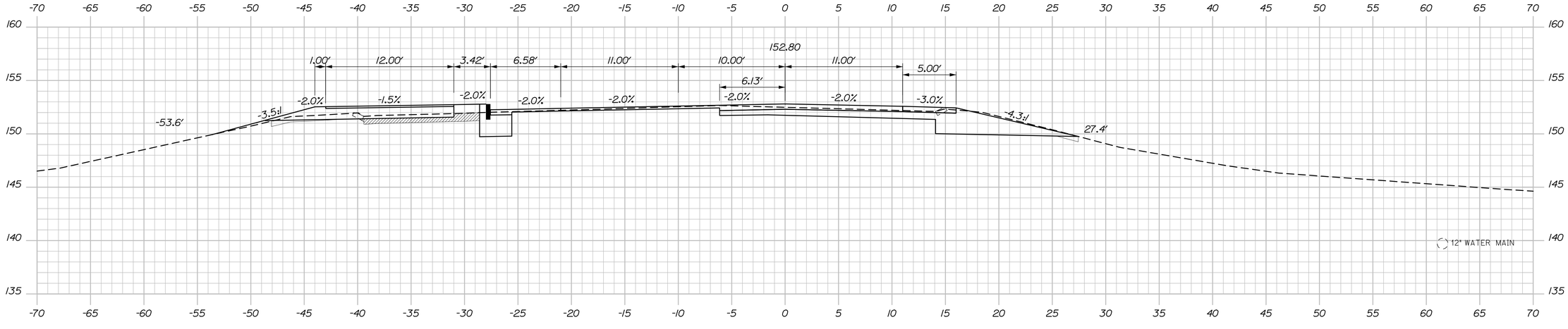
OF 138

Sta. 55+00.00 to Sta. 55+11.00

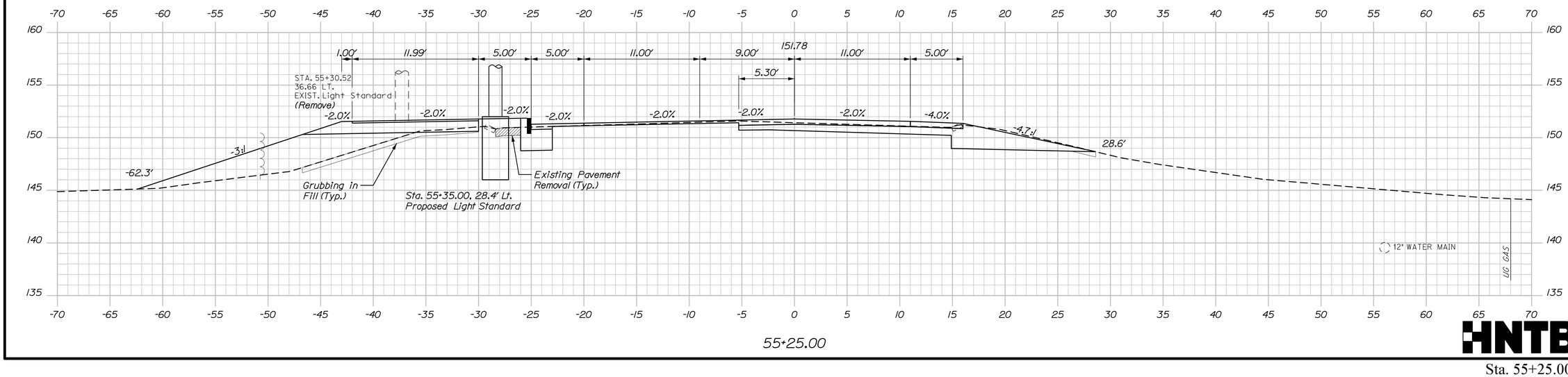
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55+75.00



55+50.00



55+25.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

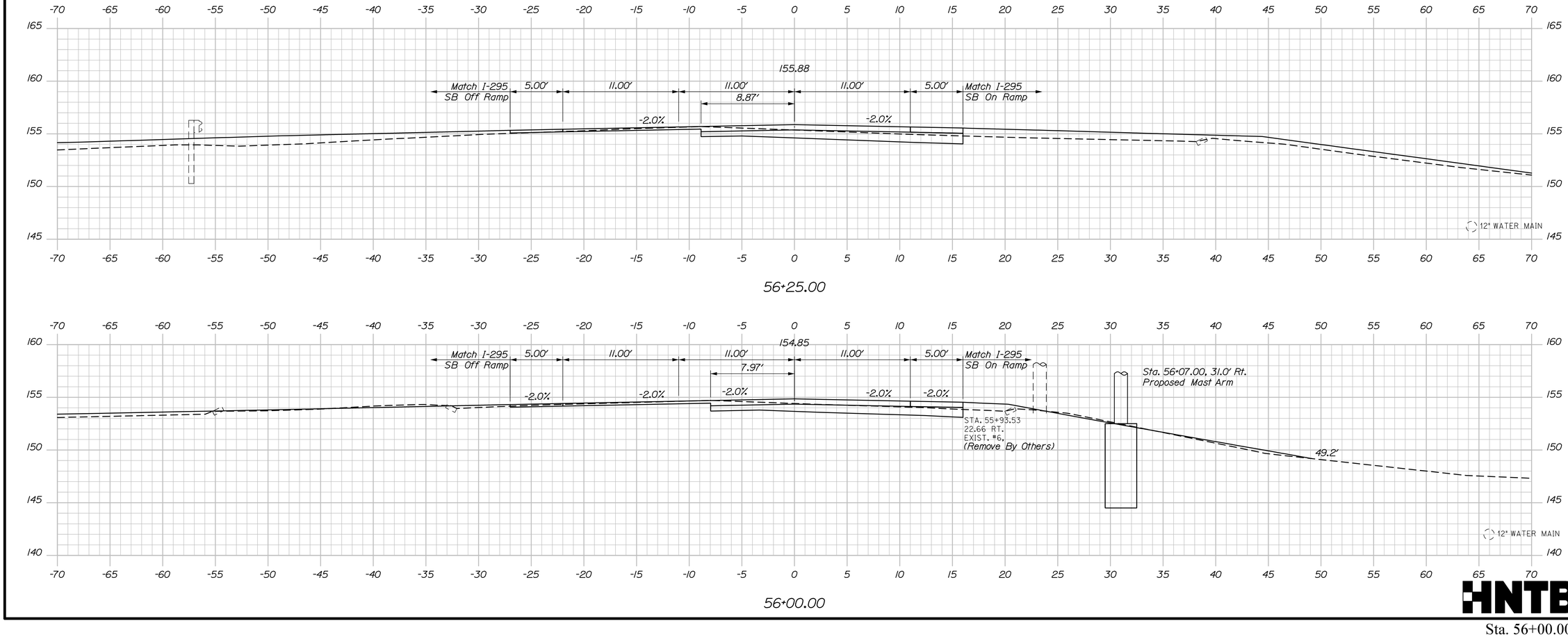
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43

OF 138

Sta. 55+25.00 to Sta. 55+75.00

Username:
Division:
Date:8/27/2021
Filename: XSect_DesertRd.dgn



Sta. 56+00.00 to Sta. 56+25.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720 — BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kerstetgen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD CROSS SECTIONS

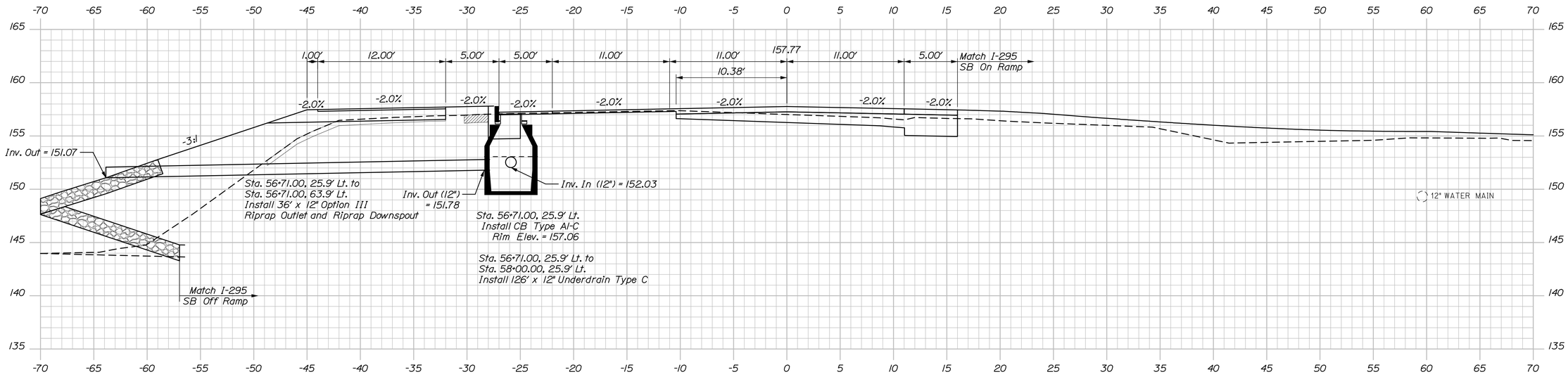
SHEET NUMBER

44

OF 138

HNTB

Filename: XSect_DesertRd.dgn Division: Username: Date:8/27/2021



Sta. 56+50.00 to Sta. 56+71.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2	SMH	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

45

OF 138

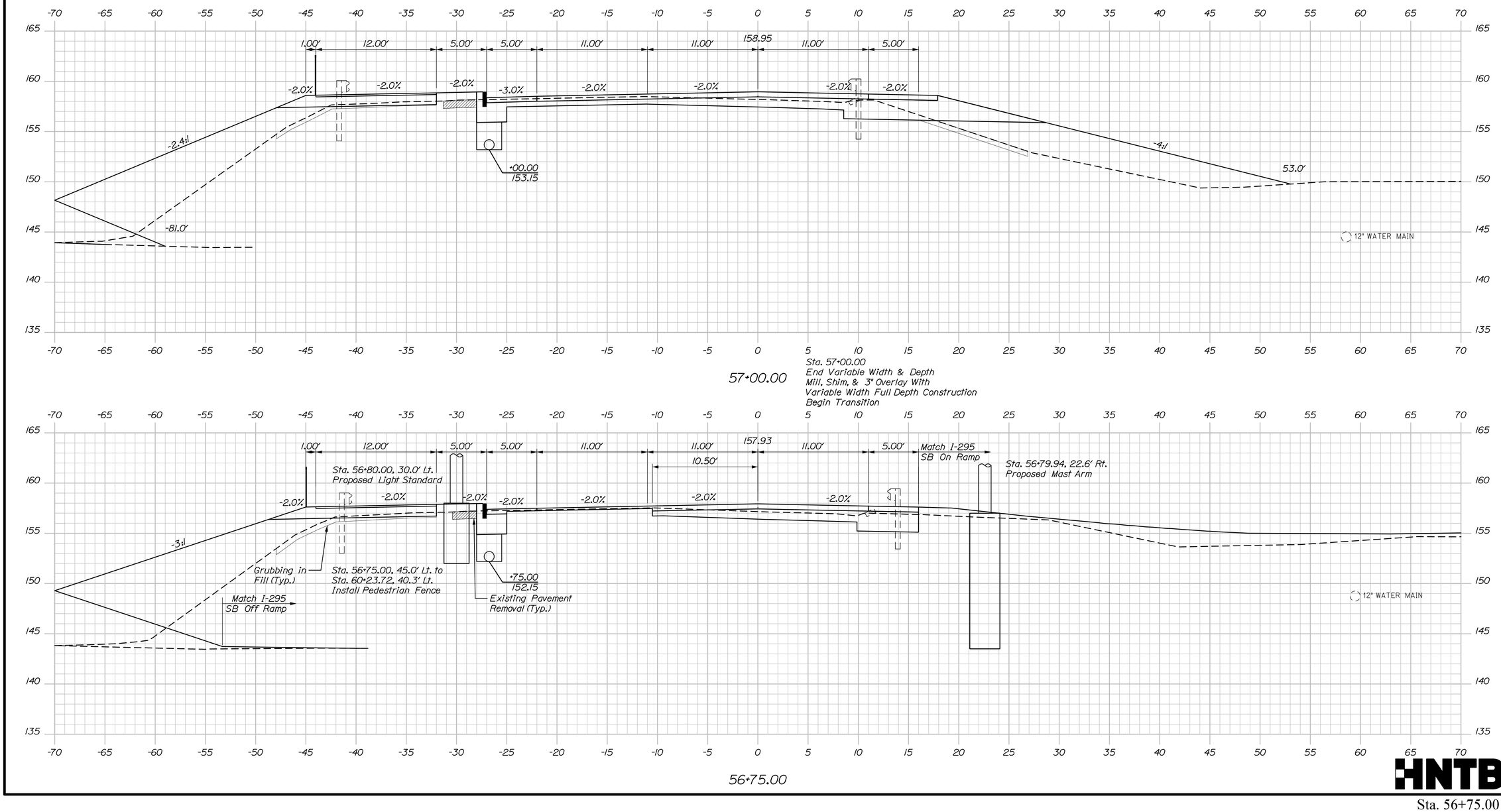
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Date:8/27/2021

Username:

Division:

Filename: XSect_DesertRd.dgn



Sta. 56+75.00 to Sta. 57+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

46

OF 138

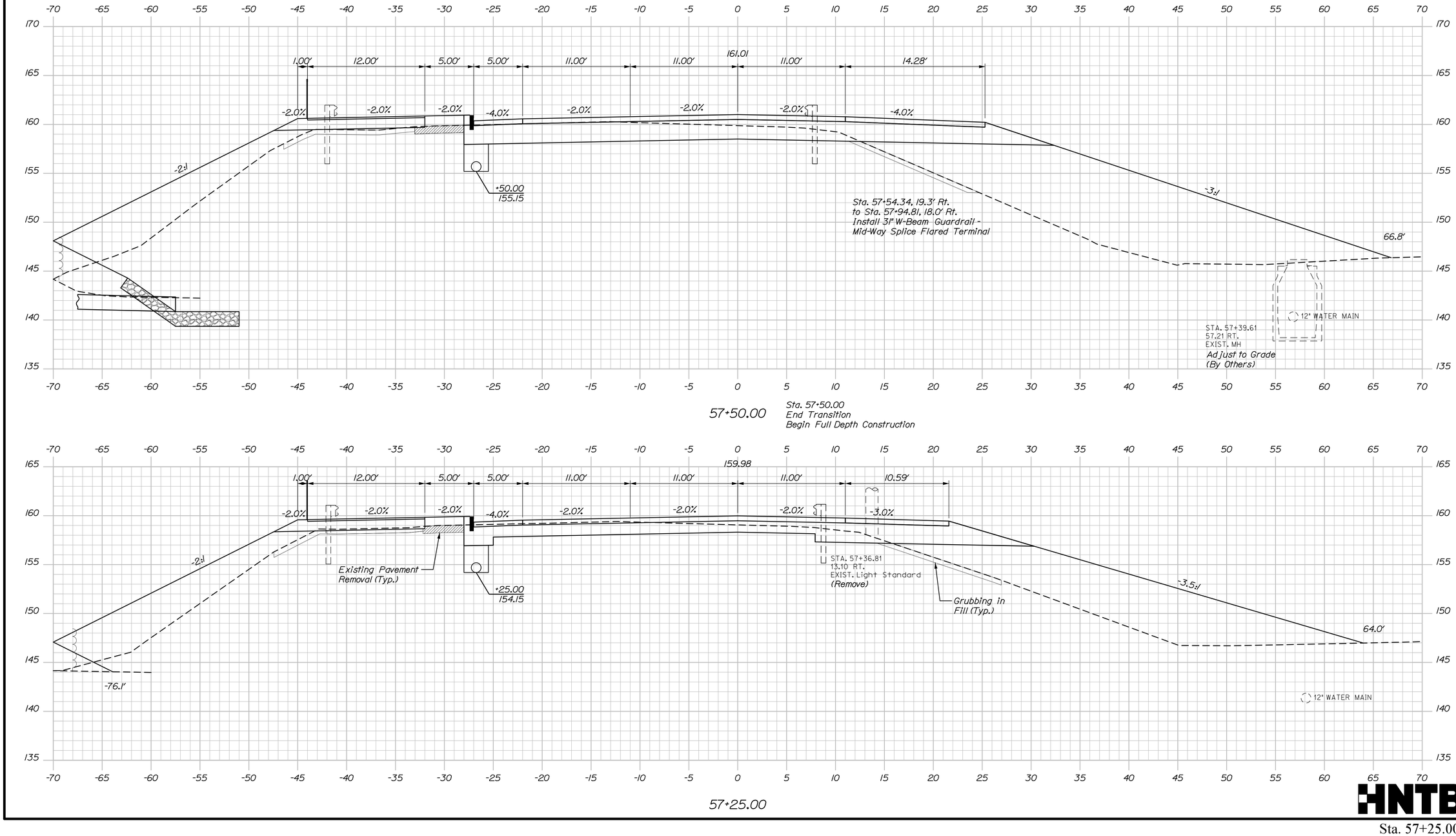
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Username:

Division:

Date:8/27/2021

Filename: XSect_DesertRd.dgn



Sta. 57+25.00 to Sta. 57+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720 — BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershbergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295 CUMBERLAND
FREEPORT

DESERT ROAD CROSS SECTIONS

SHEET NUMBER

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OF 138

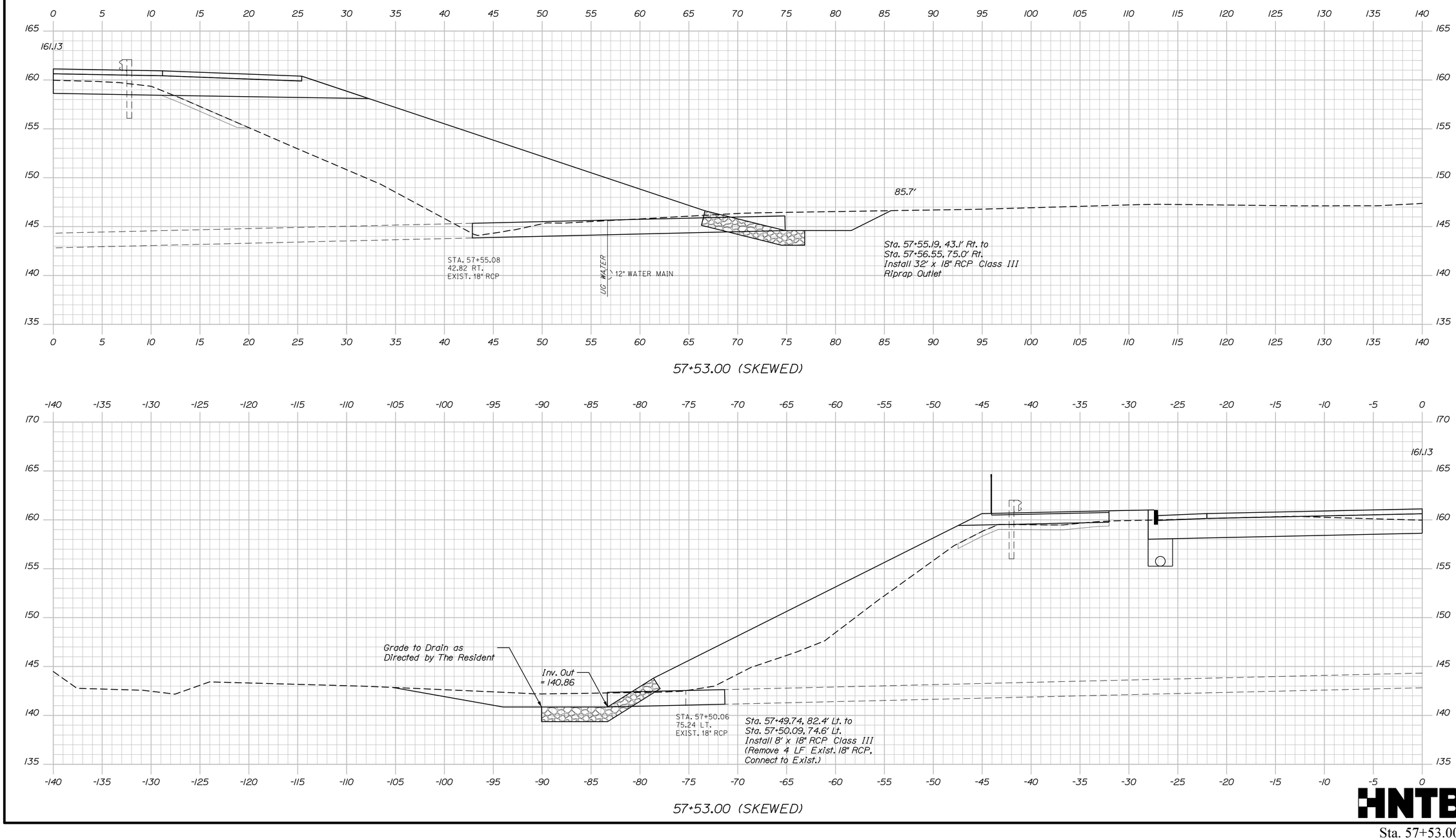
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Date:8/27/2021

Username:

Division:

Filename: XSect_DesertRd.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720 — BRIDGE PLANS

PROJ. MANAGER	M. Kersbergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

DESERT ROAD CROSS SECTIONS

SHEET NUMBER

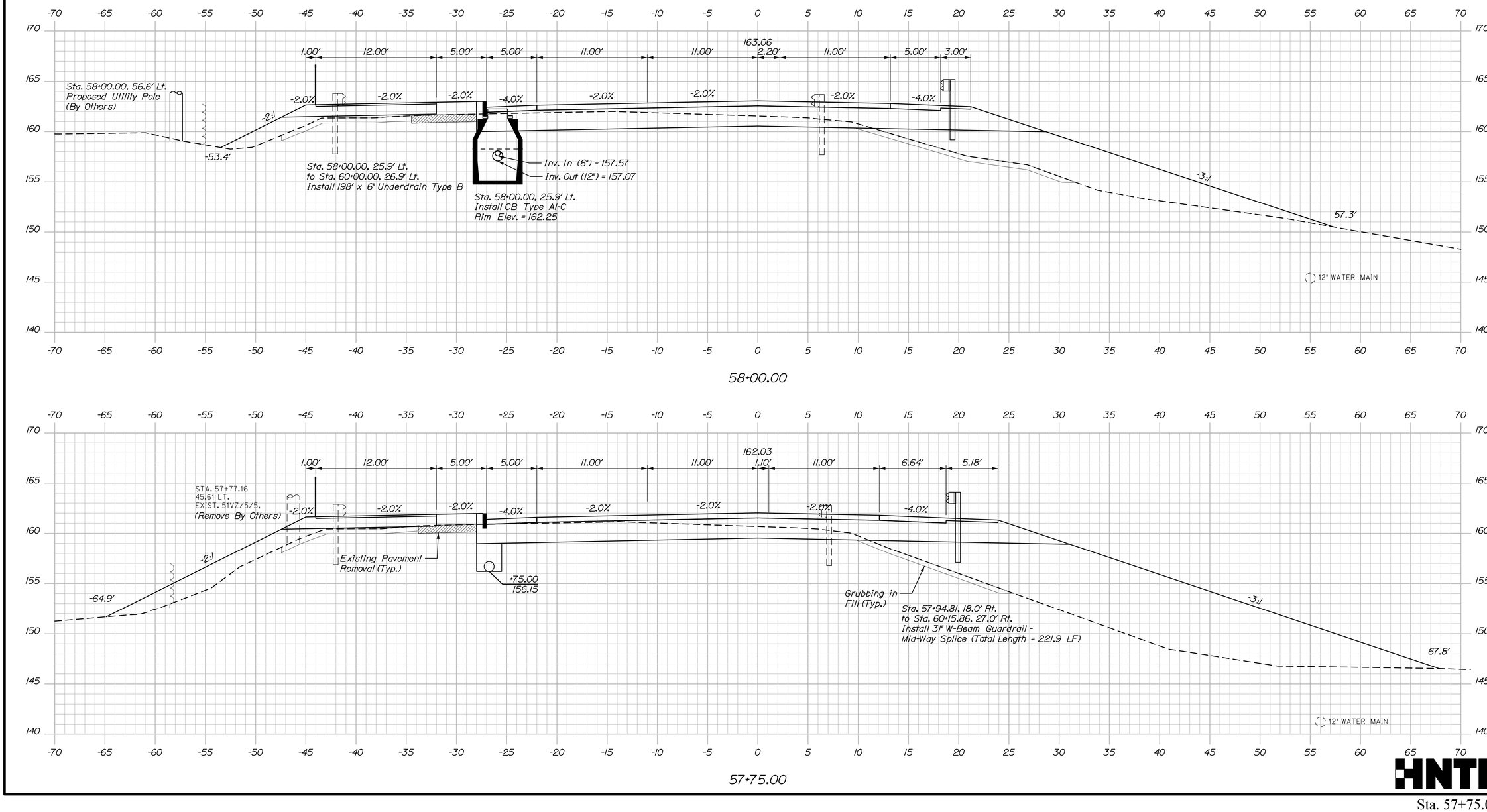
48

OF 138

HNTB

Sta. 57+53.00 to Sta. 57+53.00

Filename: XSect_DesertRd.dgn Division: Username: Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
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FIELD CHANGES		

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MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

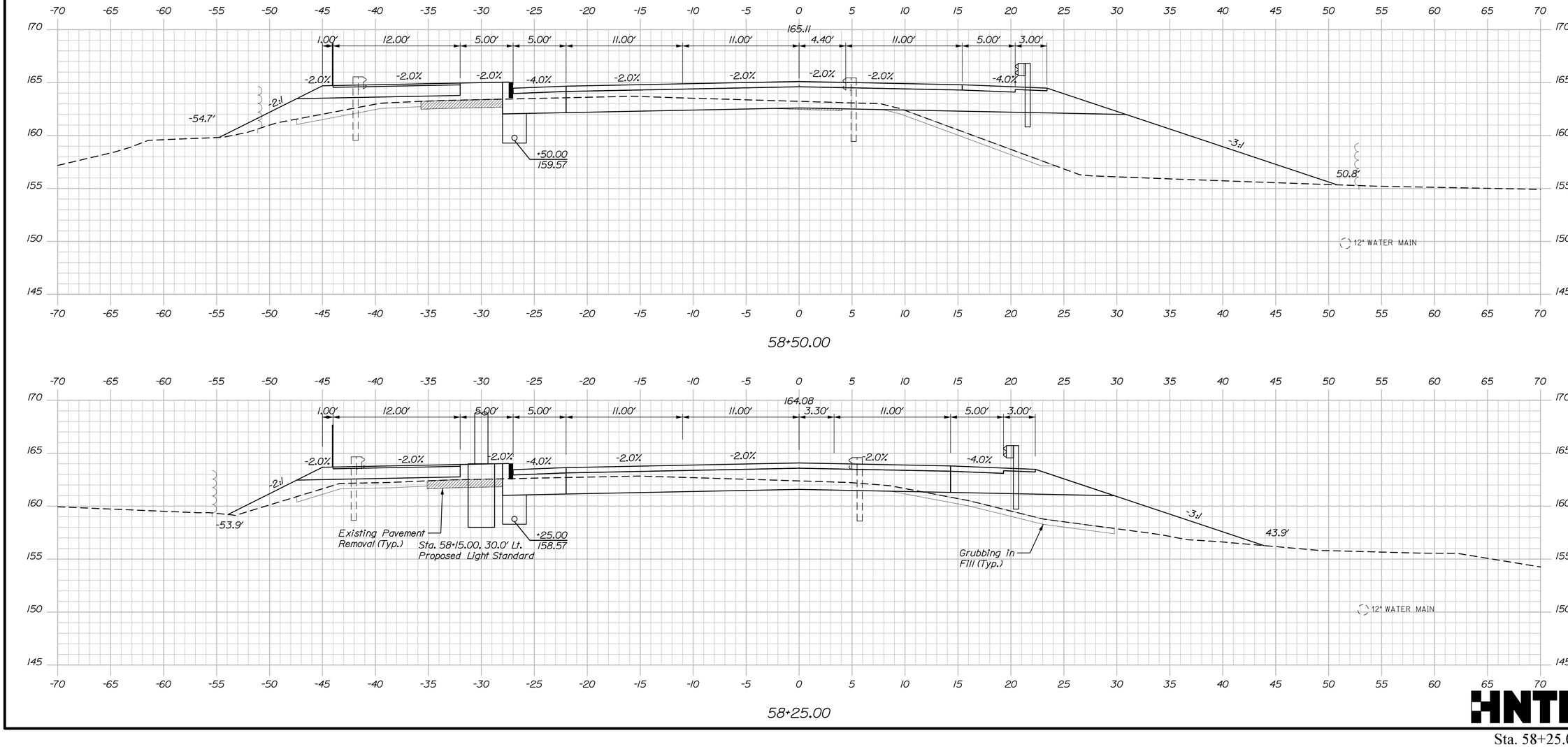
49

OF 138

HNTB

Sta. 57+75.00 to Sta. 58+00.00

Date:8/27/2021
Username:
Division:
Filename: XSect_DesertRd.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN
023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw-gen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

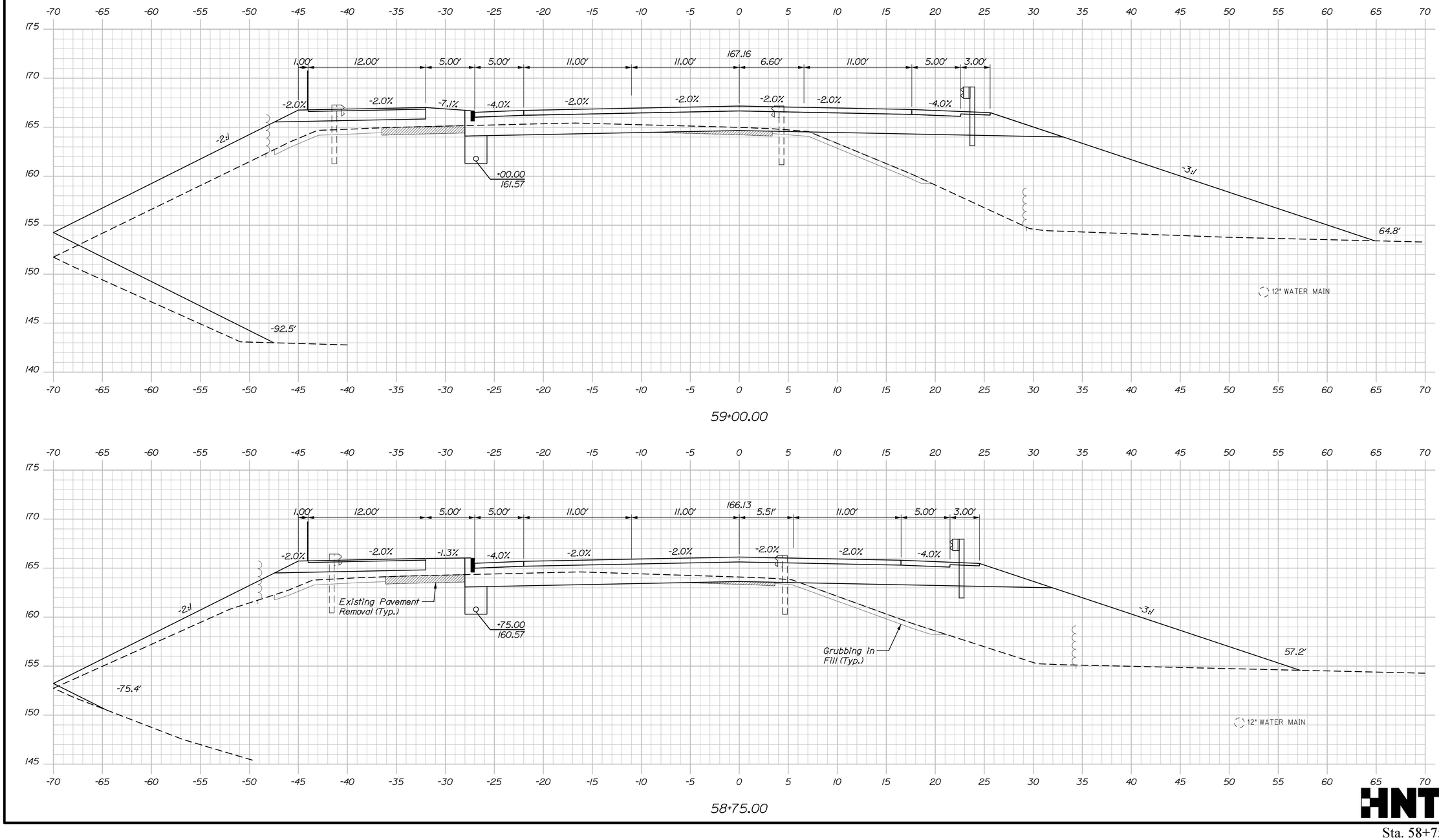
50

OF 138

HNTB

Sta. 58+25.00 to Sta. 58+50.00

Date:8/27/2021
Username:
Division:
Filename: XSect_DesertRd.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetter	
DESIGN-DETAILED	DEB	08\21
CHECKED-REVIEWED	CDH	08\21
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3	SMH	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

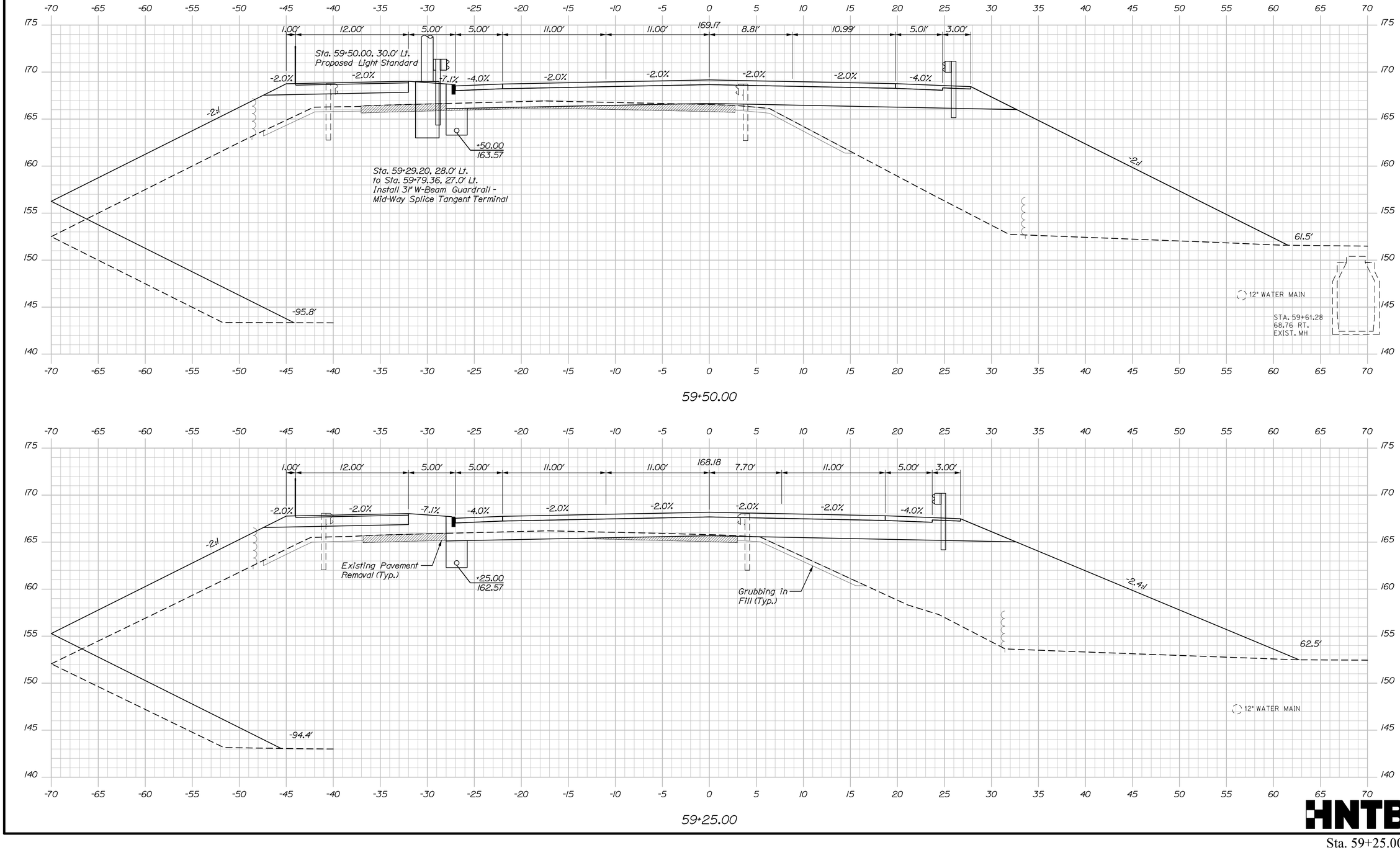
51

OF 138

HNTB

Sta. 58+75.00 to Sta. 59+00.00

Filename: XSect_DesertRd.dgn Division: Username: Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN
023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD CROSS SECTIONS

SHEET NUMBER

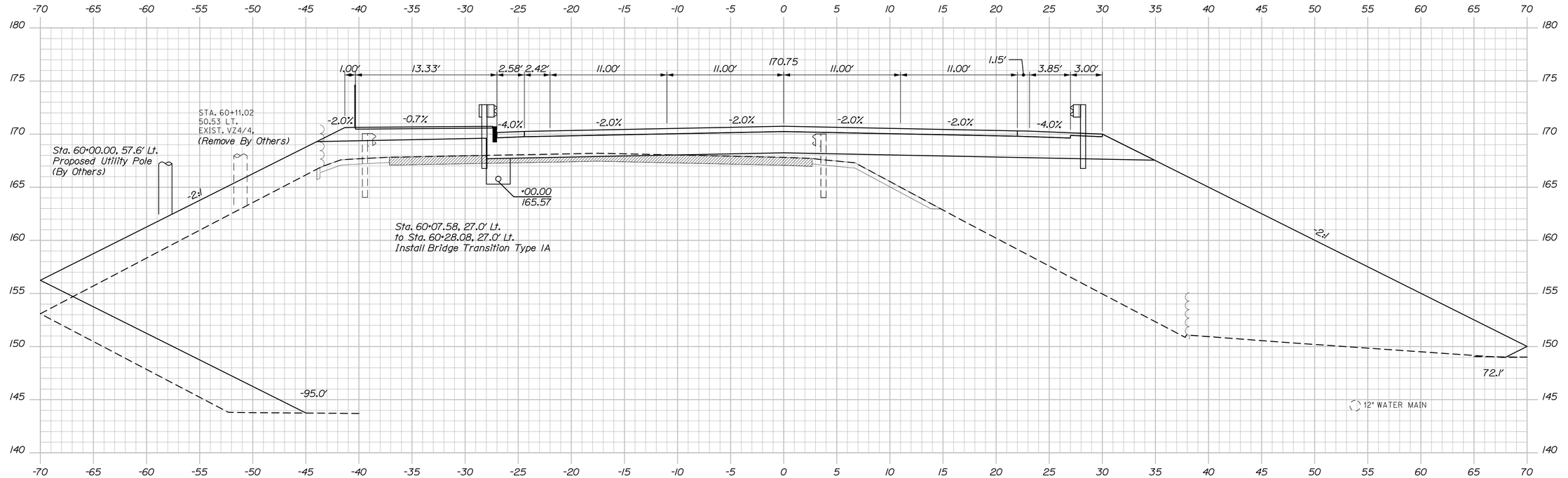
52

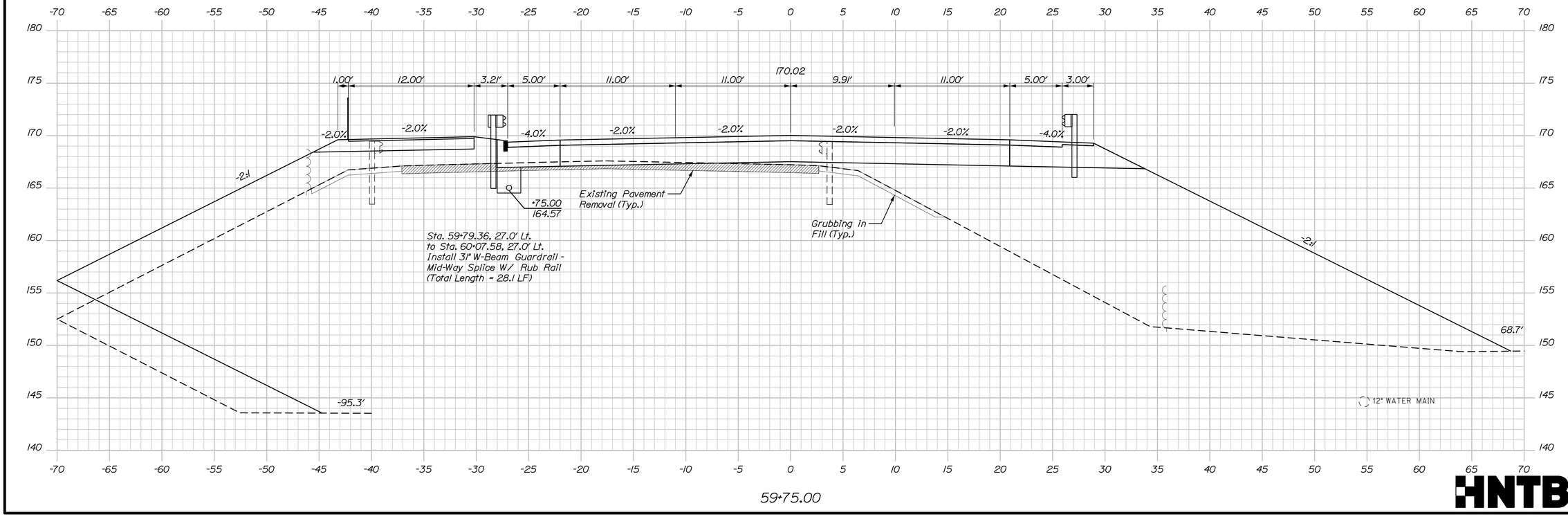
OF 138

HNTB

Sta. 59+25.00 to Sta. 59+50.00

Filename: XSect_DesertRd.dgn Division: Username: Date:8/27/2021





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN
023627.00

BRIDGE PLANS

BRIDGE No. 5720

PROJ. MANAGER	M. Kershaw-Jensen		
DESIGN-DETAILED	CDH	08\21	
CHECKED-REVIEWED	PEK	08\21	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

BY | DATE

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

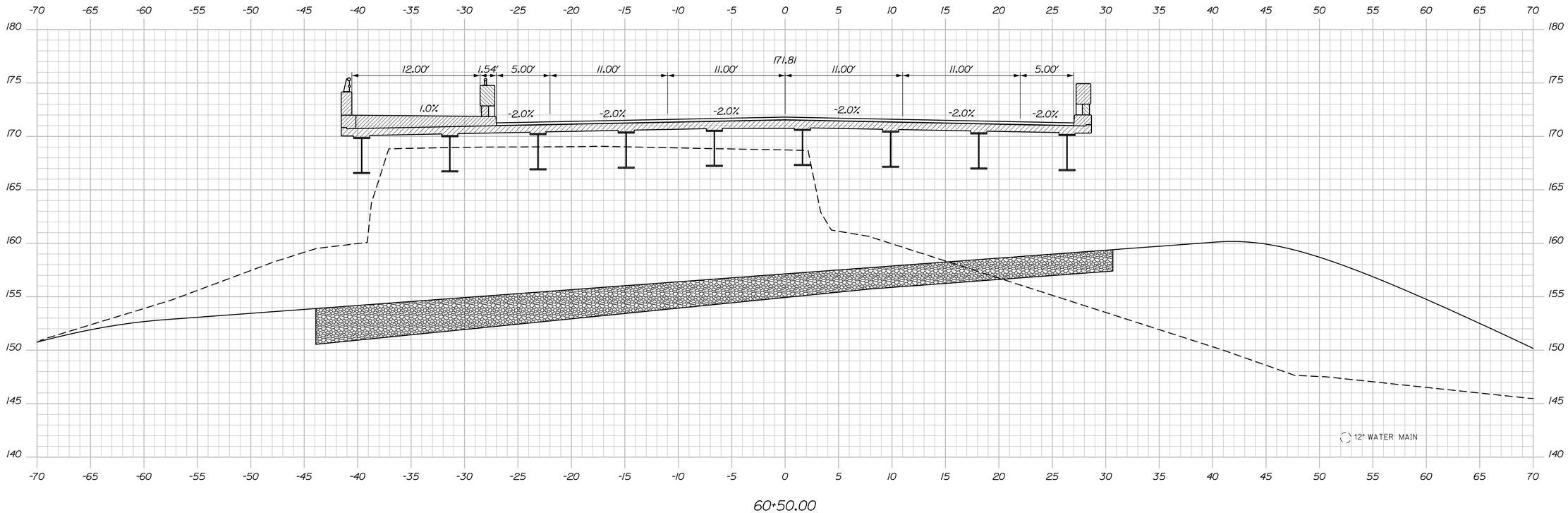
53

OF 138

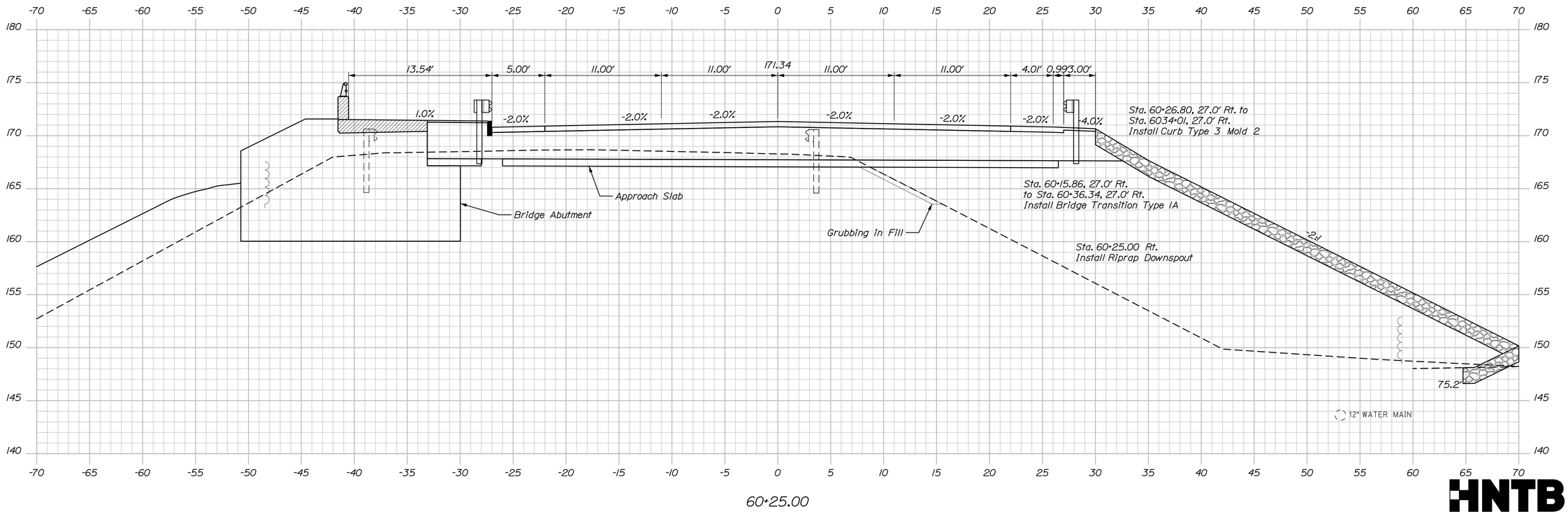
HNTB

Sta. 59+75.00 to Sta. 60+00.00

Date:8/27/2021
Username:
Division:
Filename: XSect_DesertRd.dgn



60+50.00



60+25.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN
023627.00

BRIDGE PLANS

BRIDGE No. 5720

SIGNATURE

P.E. NUMBER

DATE

			BY	DATE
PROJ. MANAGER	M. Kerstetter			
DESIGN-DETAILED	CDH		DEB	08\21
CHECKED-REVIEWED	PEK		SMH	08\21
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

54

OF 138

HNTB

Sta. 60+25.00 to Sta. 60+50.00

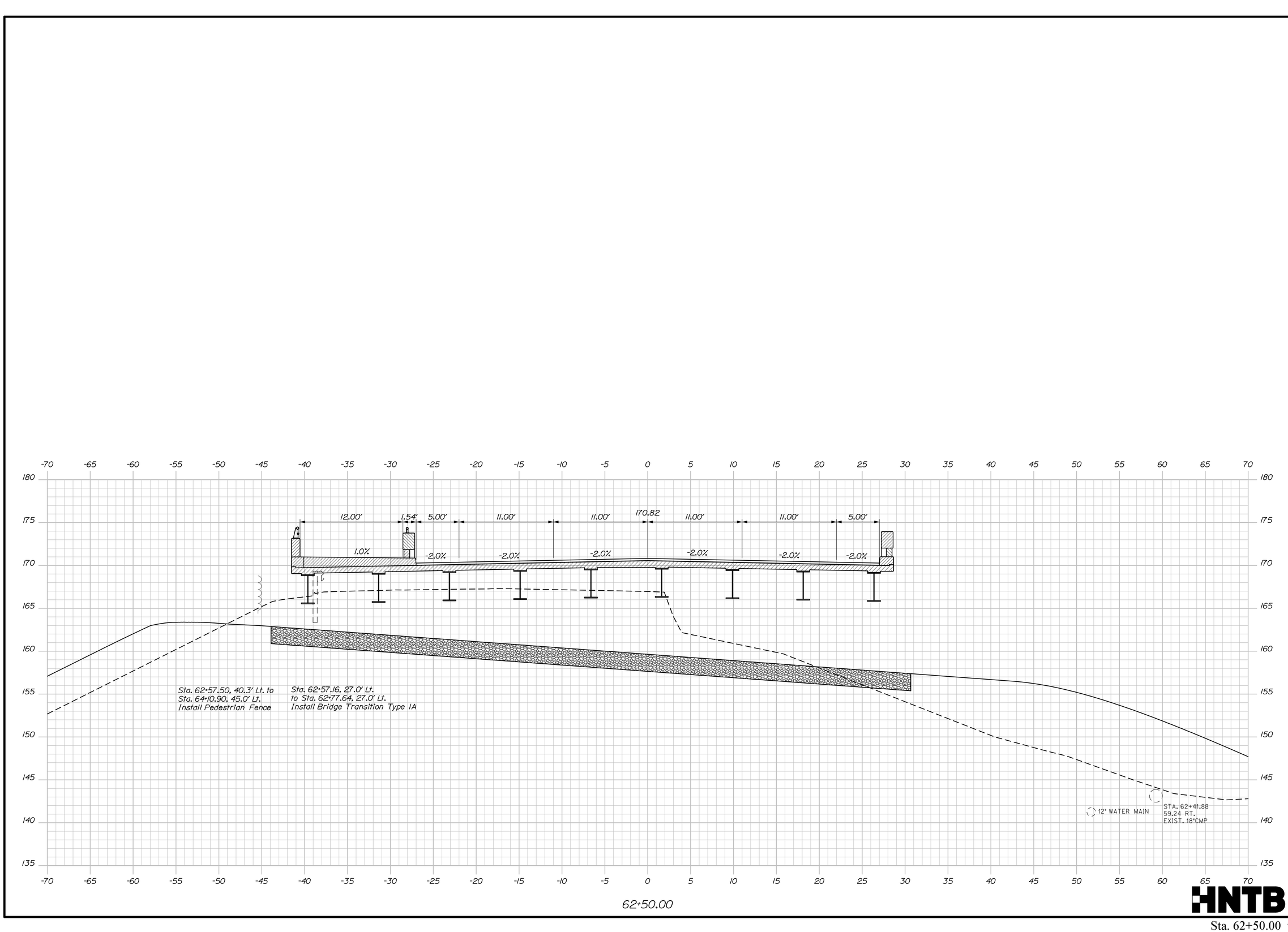
Date:8/27/2021

Username:

Division:

Filename: XSect_DesertRd.dgn

Filename: XSect_DesertRd.dgn Division: Username: Date:8/27/2021



PROJ. MANAGER	M. Kerbergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN
023627.00

BRIDGE No. 5720 BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD CROSS SECTIONS

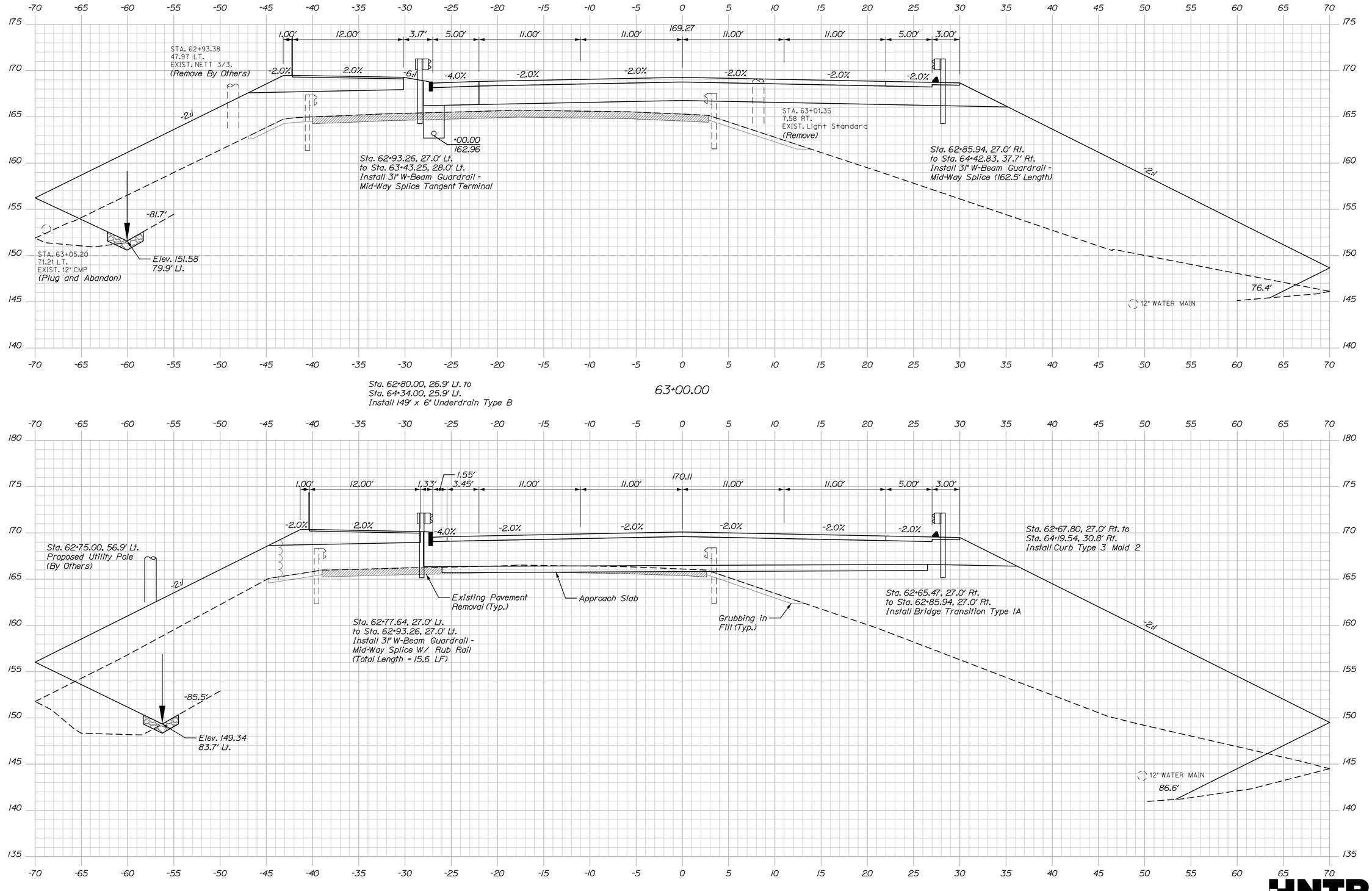
SHEET NUMBER

55

OF 138

HNTB

Sta. 62+50.00 to Sta. 62+50.00



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

	BY	DATE
PROJ. MANAGER	M. Kerxbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

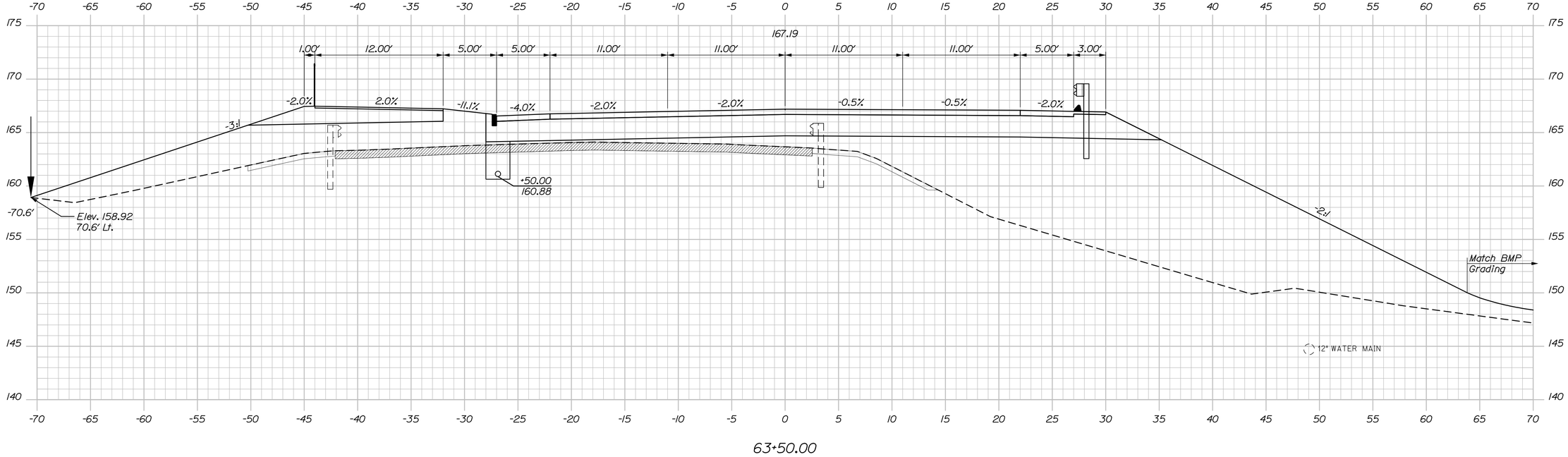
56

OF 138

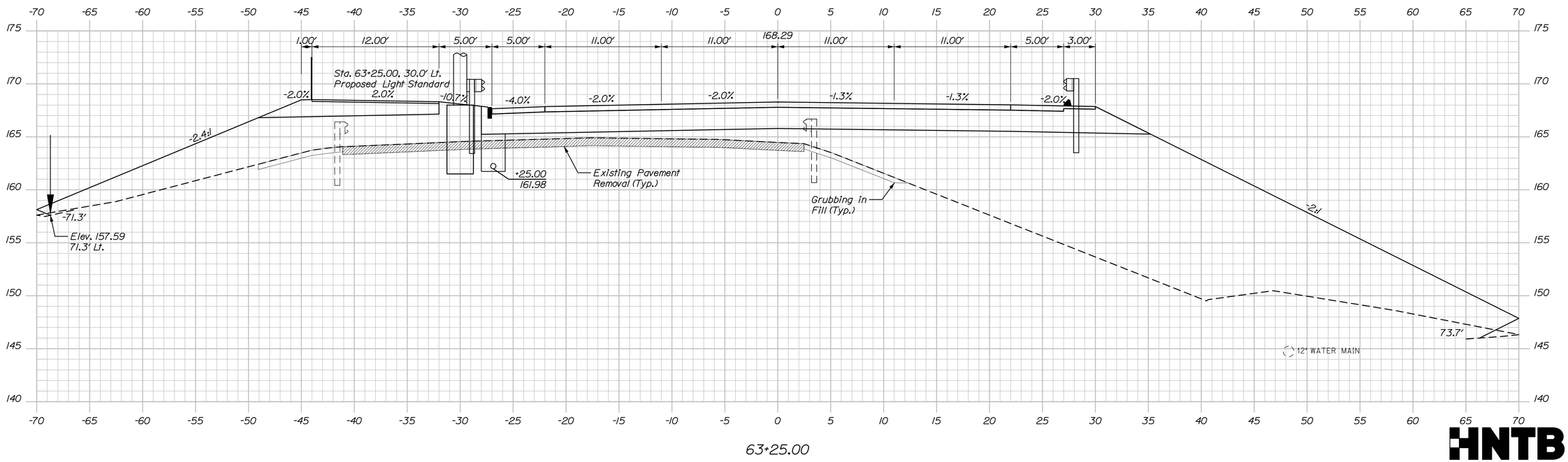
HNTB

Sta. 62+75.00 to Sta. 63+00.00

Date:8/27/2021
Username:
Division:
Filename: XSect_DesertRd.dgn



63+50.00



63+25.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetgen	
DESIGN-DETAILED	DEB	08\21
CHECKED-REVIEWED	CDH	08\21
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

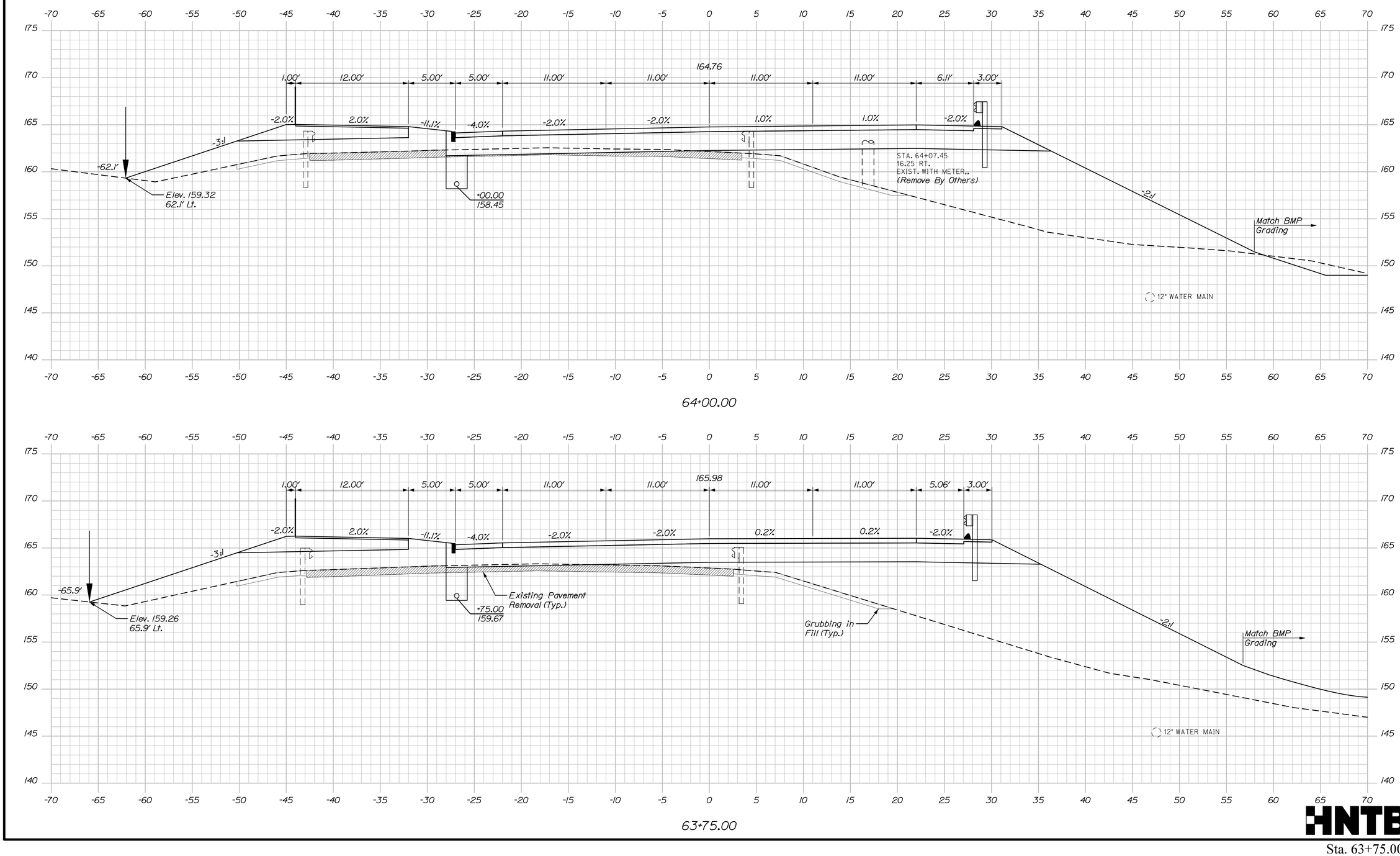
57

OF 138

Sta. 63+25.00 to Sta. 63+50.00

Filename: XSect_DesertRd.dgn Division: Username: Date:8/27/2021

Filename: XSect_DesertRd.dgn Division: Username: Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

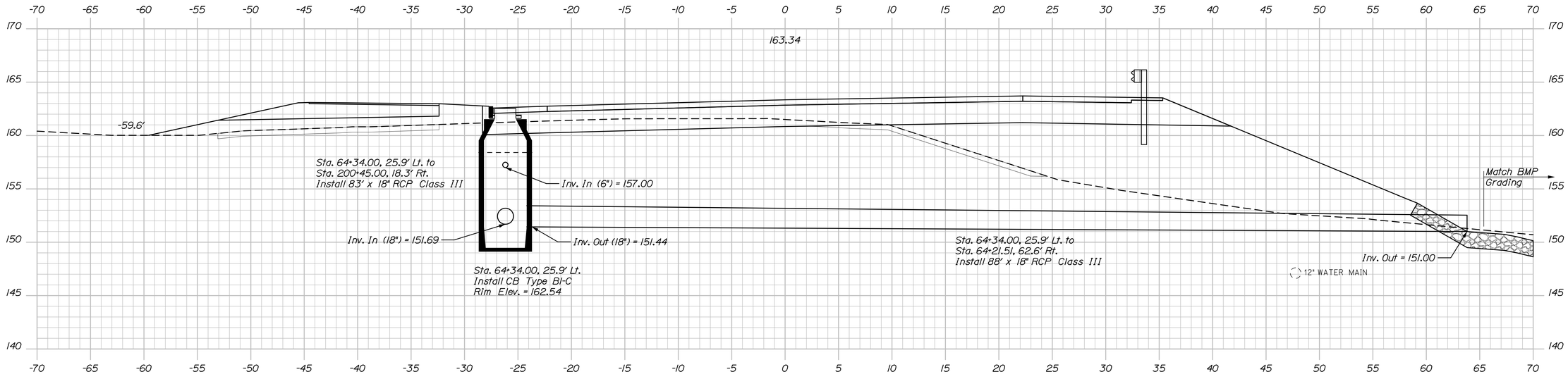
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58

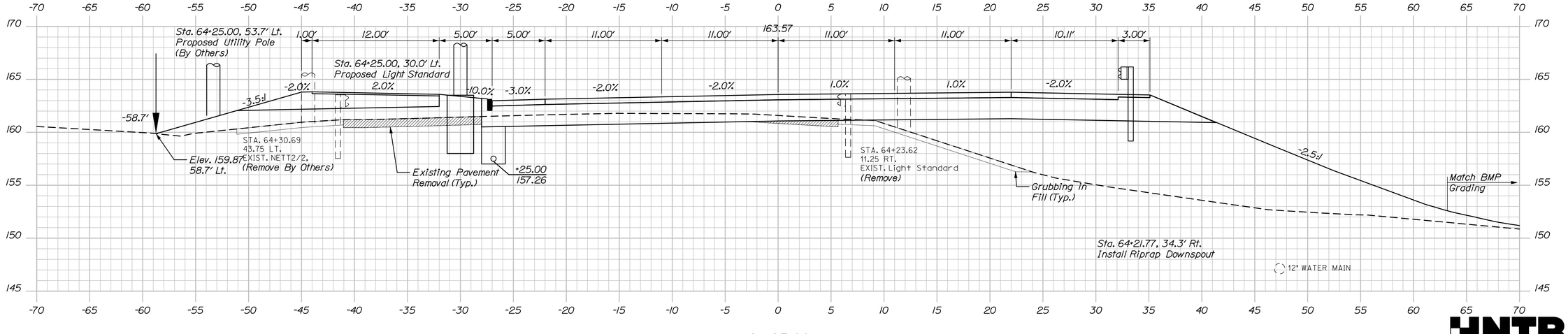
OF 138

HNTB

Sta. 63+75.00 to Sta. 64+00.00



64+30.00 (SKEWED)



64+25.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

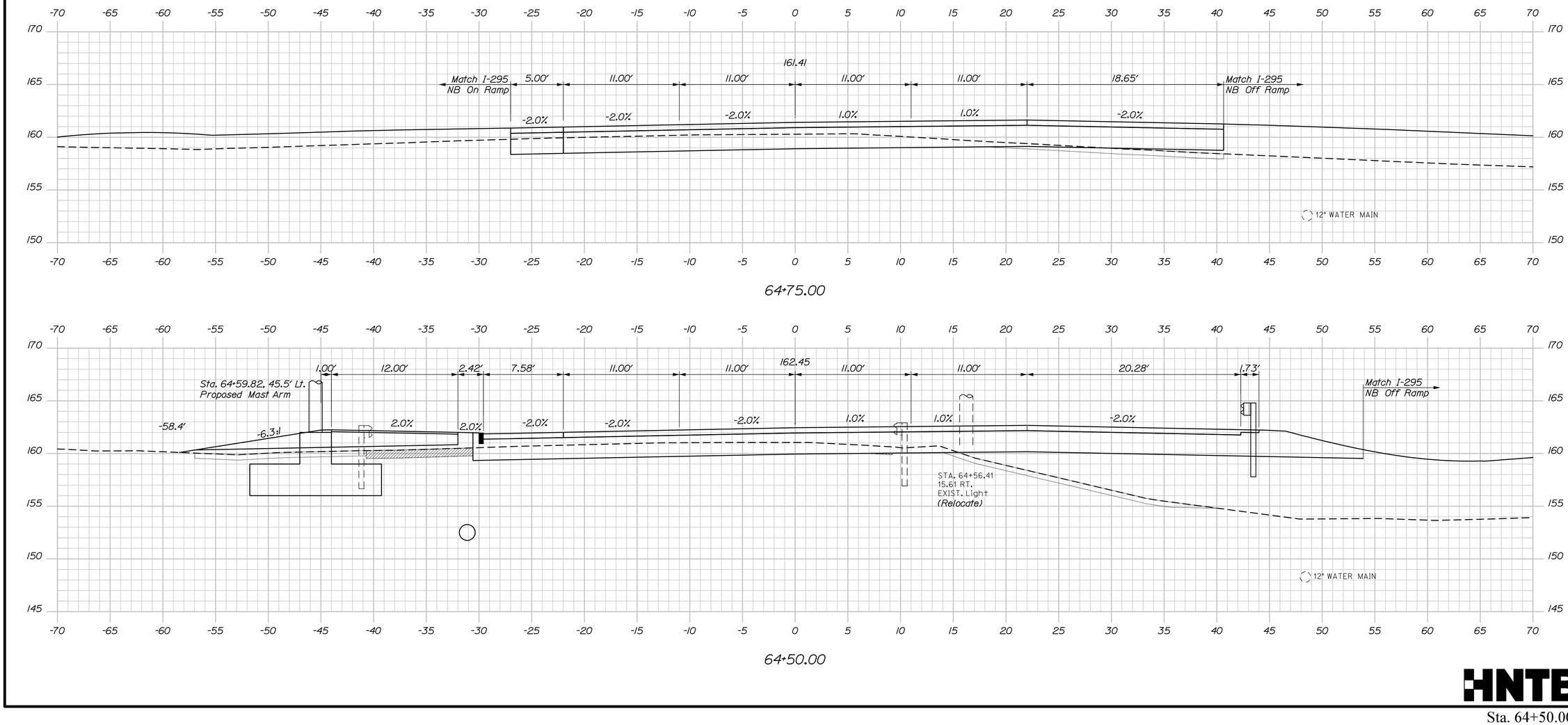
SHEET NUMBER

59

OF 138

Sta. 64+25.00 to Sta. 64+30.00

Date:8/27/2021
Username:
Division:
Filename: XSect_DesertRd.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershaw-gen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

60

OF 138

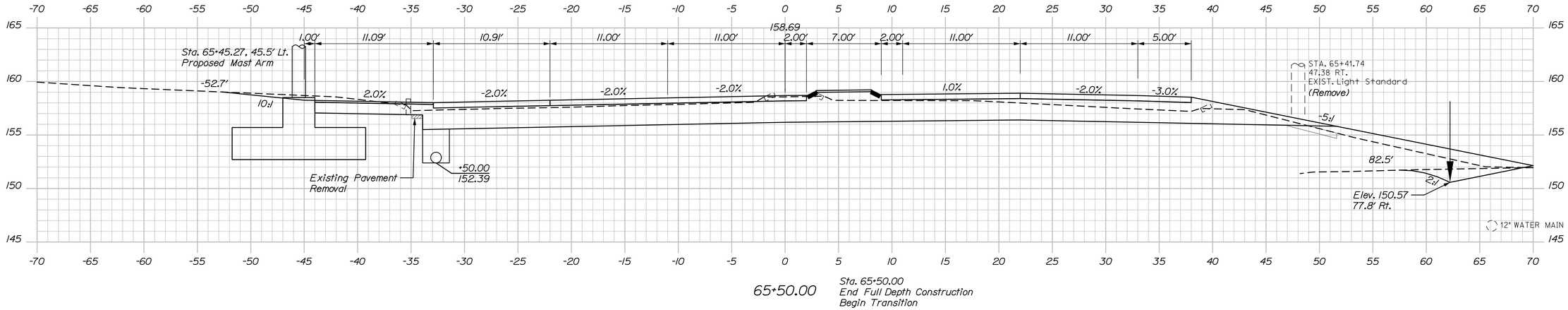
Sta. 64+50.00 to Sta. 64+75.00

Username:

Division:

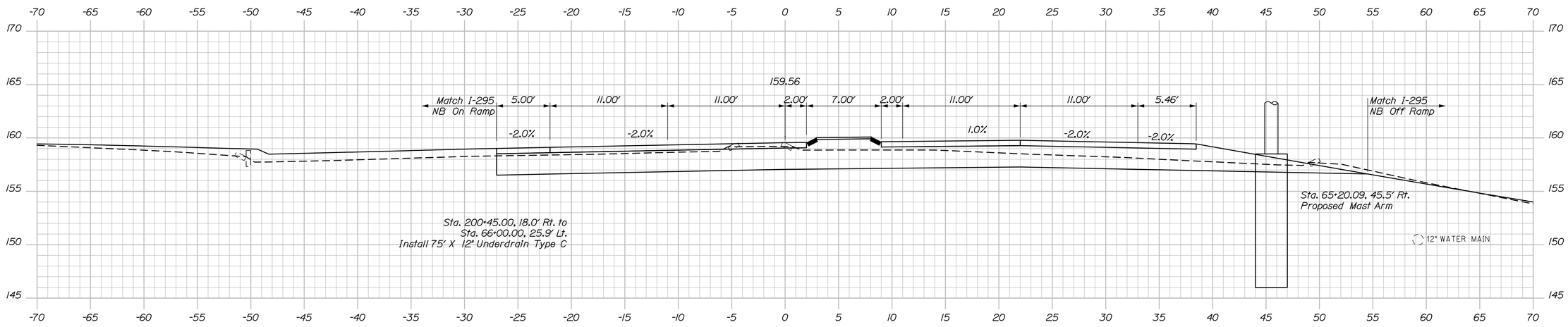
Date:8/27/2021

Filename: XSect_DesertRd.dgn

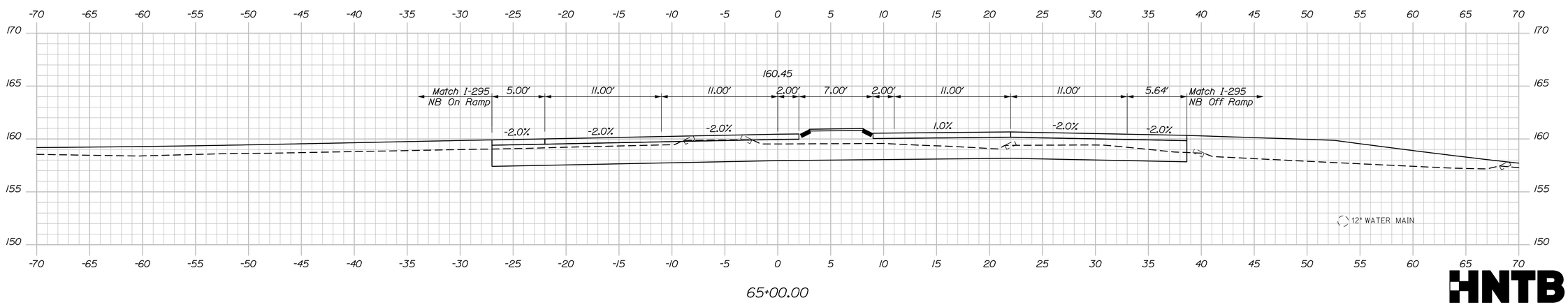


65+50.00

Sta. 65+50.00
End Full Depth Construction
Begin Transition



65+25.00



65+00.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

	SIGNATURE	P.E. NUMBER	DATE

	BY	DATE
M. Kerstetter		
PROJ. MANAGER	DEB	08\21
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	
DESIGN2-DETAILED2	SMH	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

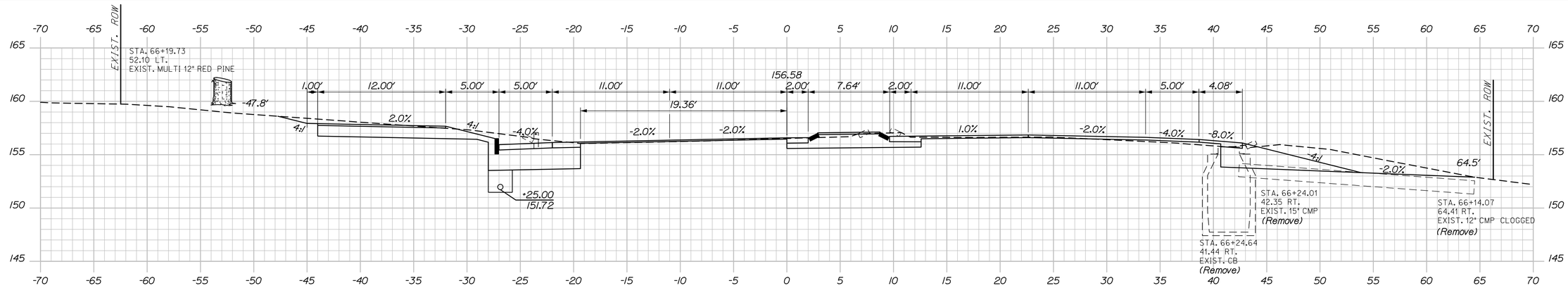
SHEET NUMBER

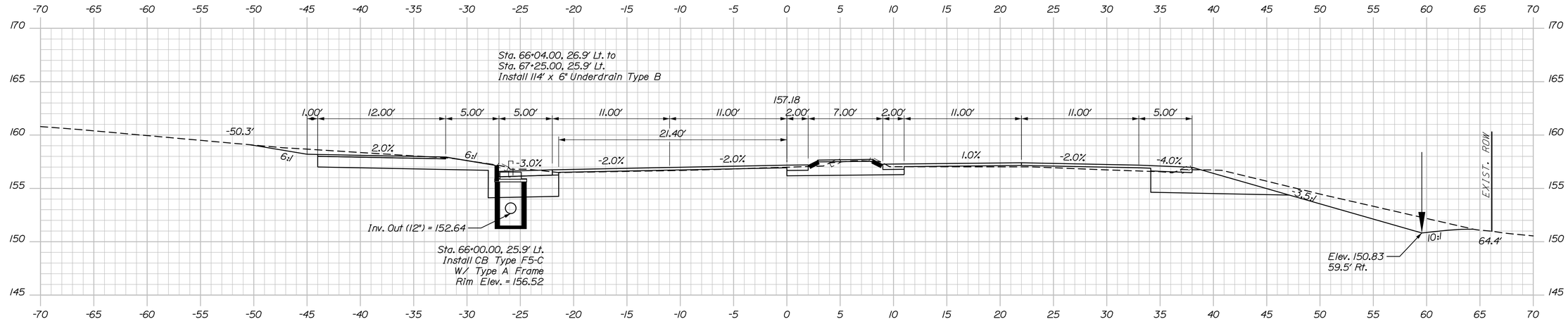
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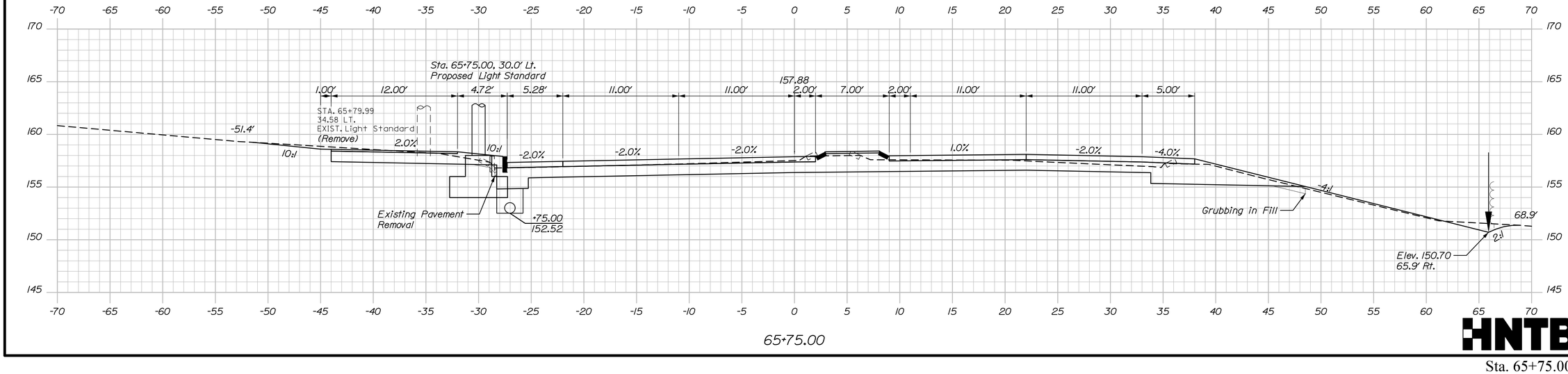
OF 138

Date:8/27/2021
Username:
Division:
Filename: XSect_DesertRd.dgn

Sta. 65+00.00 to Sta. 65+50.00







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

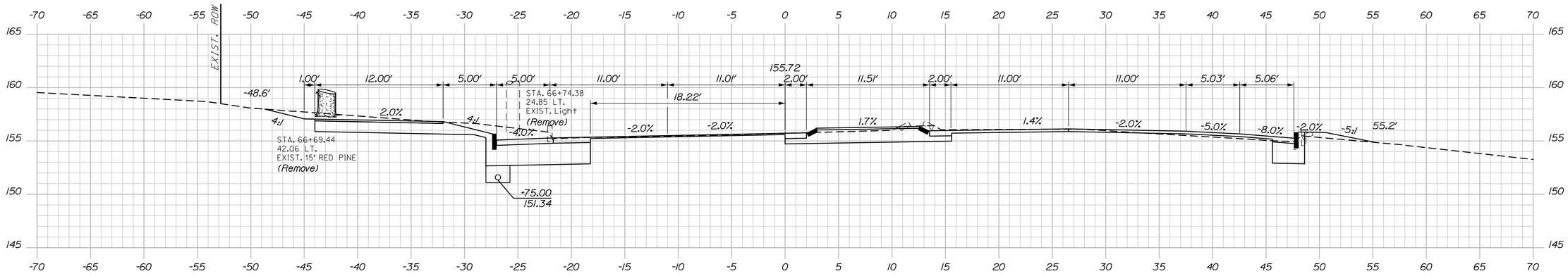
DESERT ROAD
CROSS SECTIONS

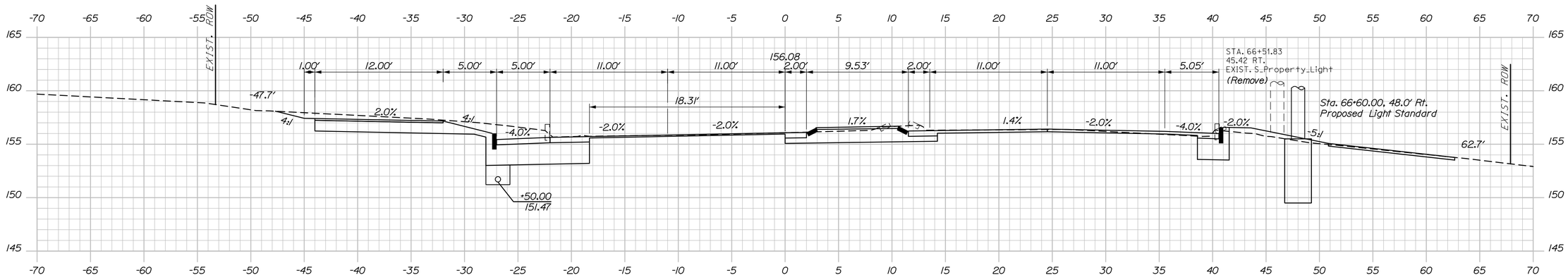
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62
OF 138

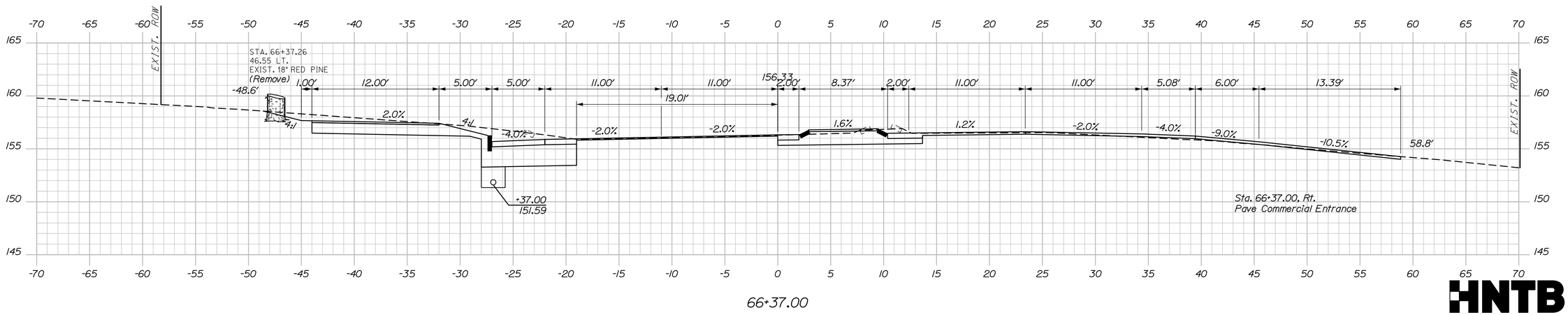
HNTB

Sta. 65+75.00 to Sta. 66+25.00

Username:
Division:
Date:8/27/2021
Filename: XSect_DesertRd.dgn







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	M. Kerstergen
DESIGN-DETAILED	CDH
CHECKED-REVIEWED	PEK
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

	BY	DATE
REVISIONS 1	DEB	08\21
REVISIONS 2	SMH	08\21
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

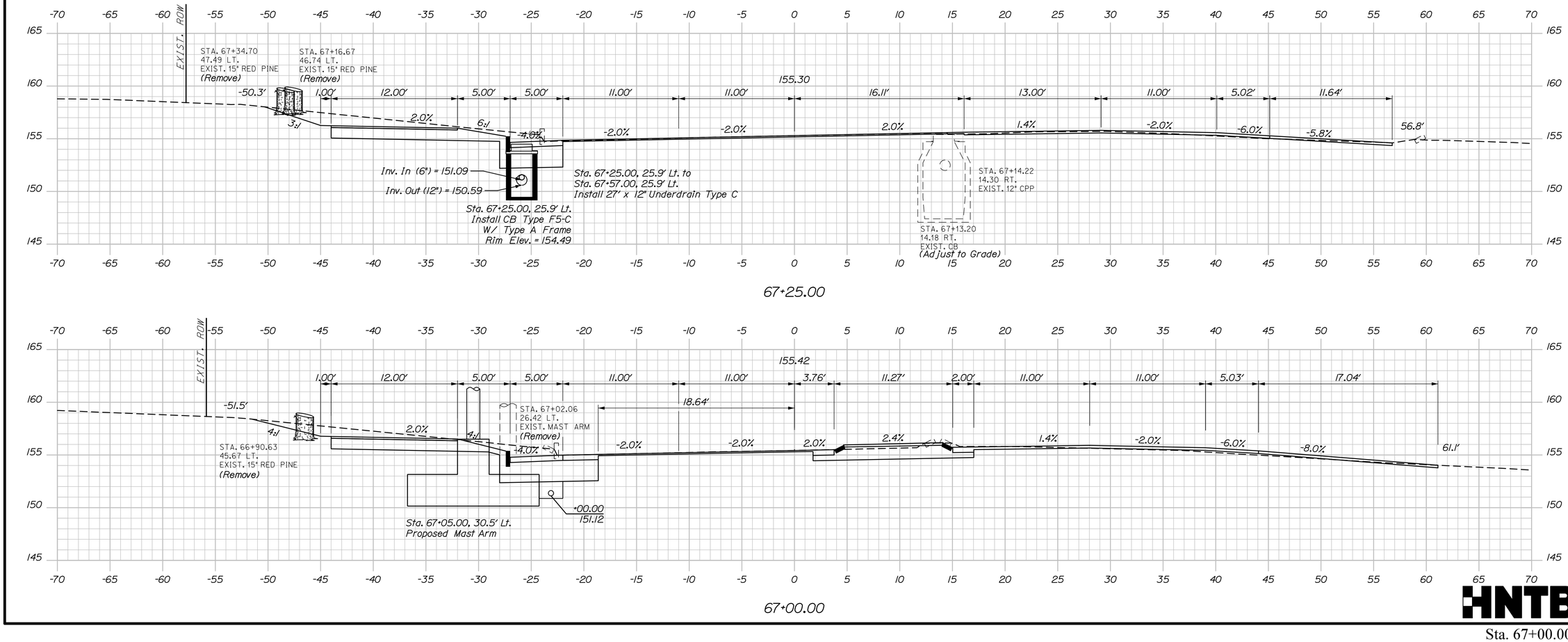
DESERT ROAD
CROSS SECTIONS

SHEET NUMBER
63
OF 138

HNTB

Sta. 66+37.00 to Sta. 66+75.00

Date:8/27/2021
Username:
Division:
Filename: XSect_DesertRd.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720 — BRIDGE PLANS

	BY	DATE
Engineer: M. Kerstetter		
DESIGN-DETAILED	DEB	08\21
CHECKED-REVIEWED	SMH	08\21
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3		
PROJ. MANAGER		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD CROSS SECTIONS

SHEET NUMBER

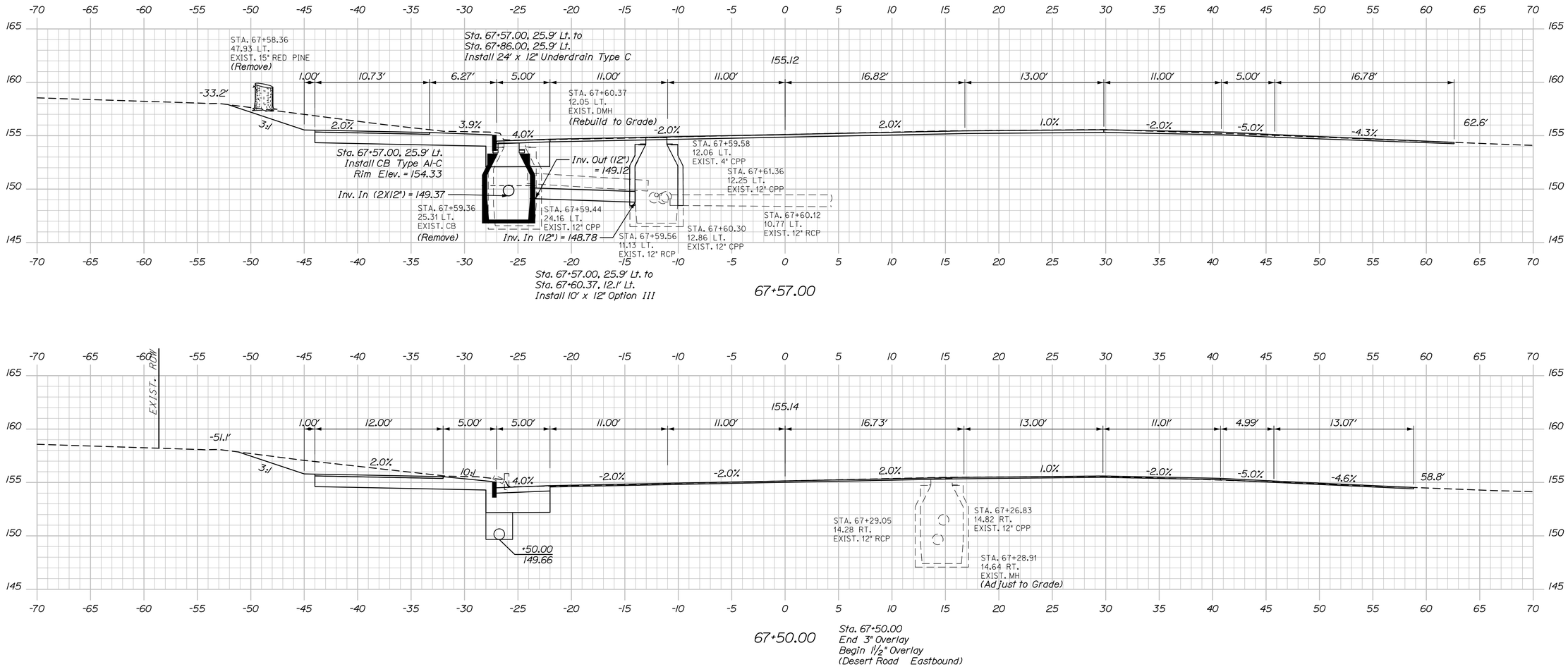
64

OF 138

HNTB

Sta. 67+00.00 to Sta. 67+25.00

Filename: XSect_DesertRd.dgn Division: Username: Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720 — BRIDGE PLANS

	SIGNATURE	DATE
P.E. NUMBER		
DATE		

PROJ. MANAGER	M. Kershaw-gen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
CROSS SECTIONS

SHEET NUMBER

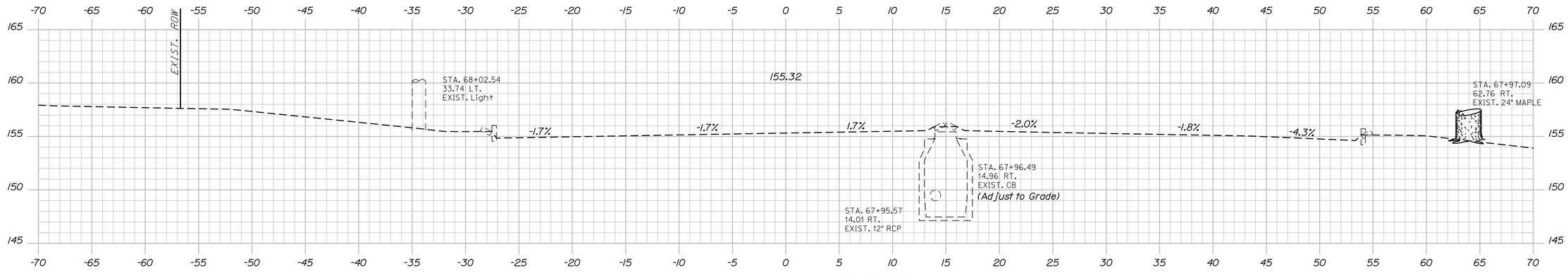
65

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HNTB

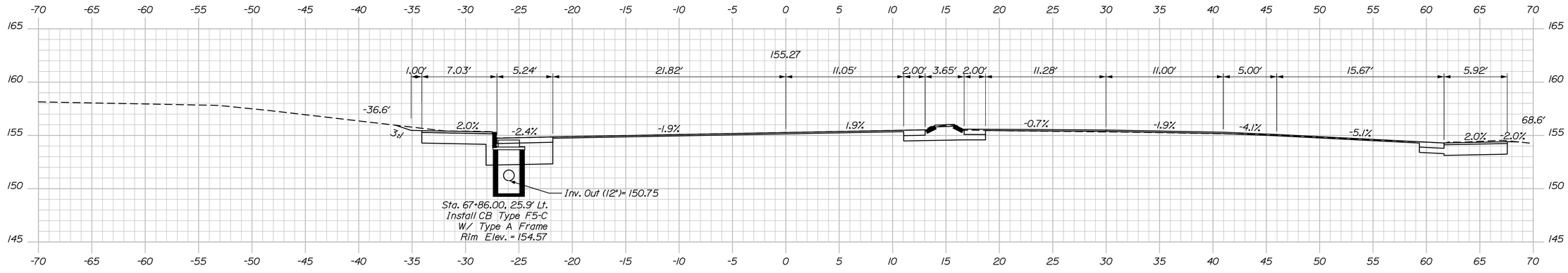
Sta. 67+50.00 to Sta. 67+57.00

Date:8/27/2021
Username:
Division:
Filename: XSect_DesertRd.dgn

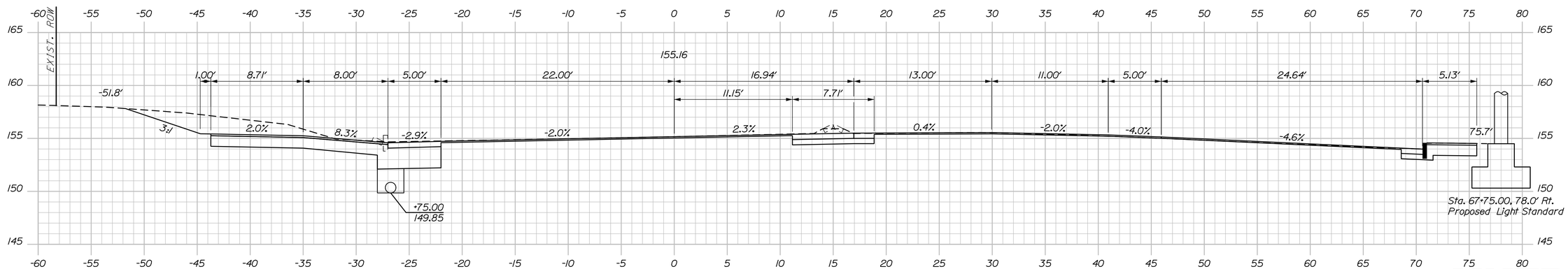


68+00.00

Sta. 68+00.00
Limit of Work
End Variable Width and Depth
Mill, Shim, & 1½" Overlay With
Variable Width Full Depth Construction
(Desert Road Westbound)
End Variable Depth
Mill, Shim, & 1½" Overlay
(Desert Road Eastbound)
Match Existing



67+86.00



67+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

DESERT ROAD
CROSS SECTIONS

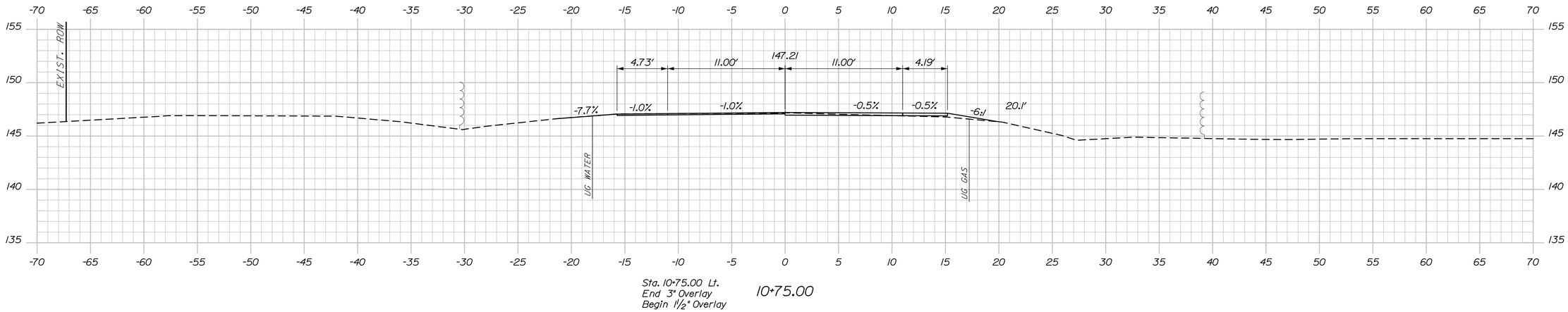
SHEET NUMBER

66

OF 138

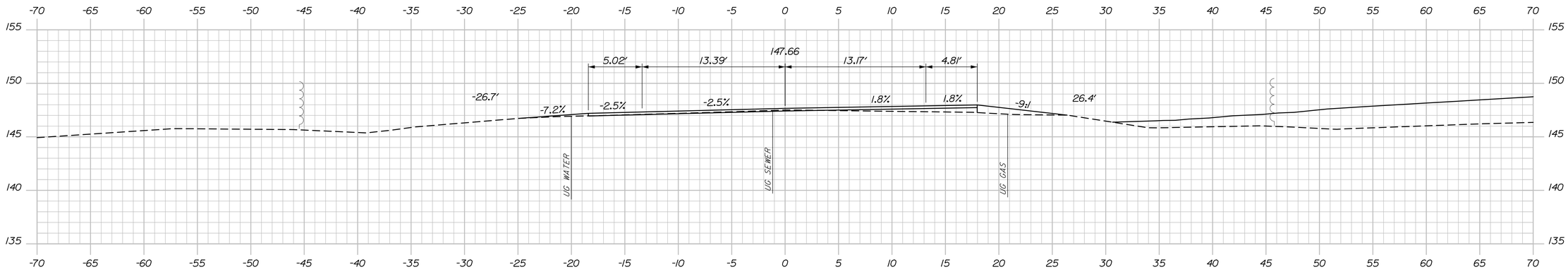
Date:8/27/2021
Username:
Division:
Filename: XSect_DesertRd.dgn

Sta. 67+75.00 to Sta. 68+00.00

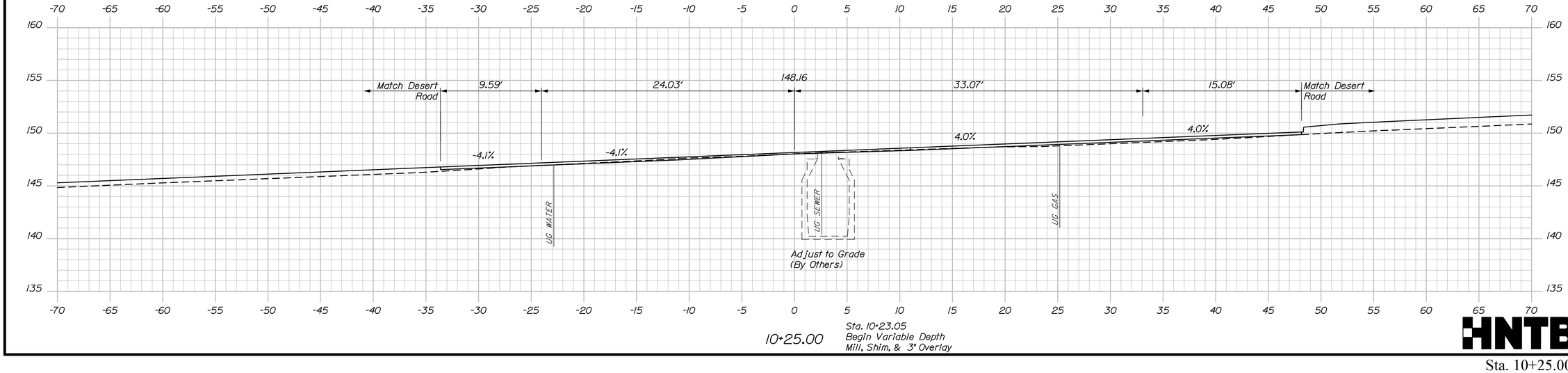


Sta. 10+75.00 Lt.
End 3" Overlay
Begin 1½" Overlay

10+75.00



10+50.00



10+25.00

Sta. 10+23.05
Begin Variable Depth
Mill, Shim, & 3" Overlay

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN
023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw-gen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

HUNTER ROAD
CROSS SECTIONS

SHEET NUMBER

67

OF 138

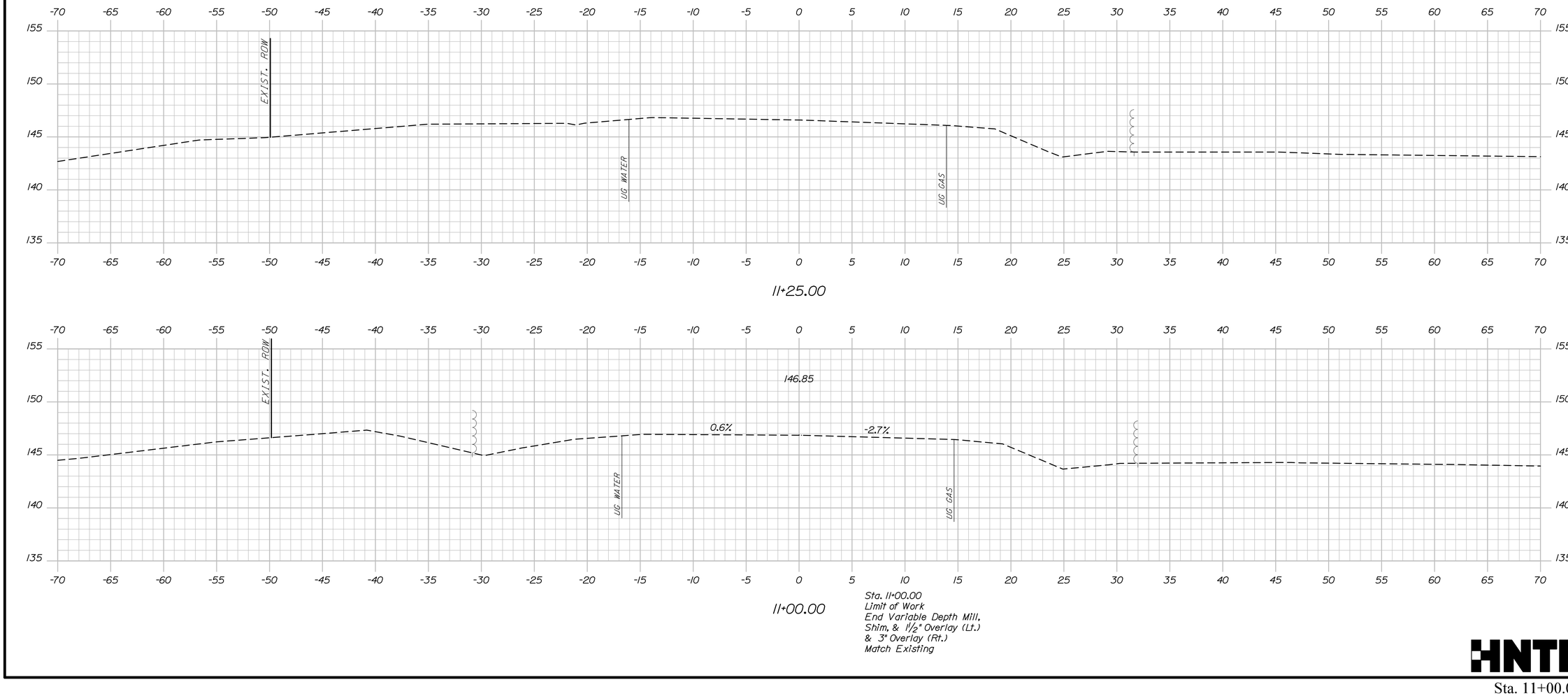
Sta. 10+25.00 to Sta. 10+75.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_HunterRd.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720 BRIDGE PLANS

PROJ. MANAGER	M. Kerstetgen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

HUNTER ROAD CROSS SECTIONS

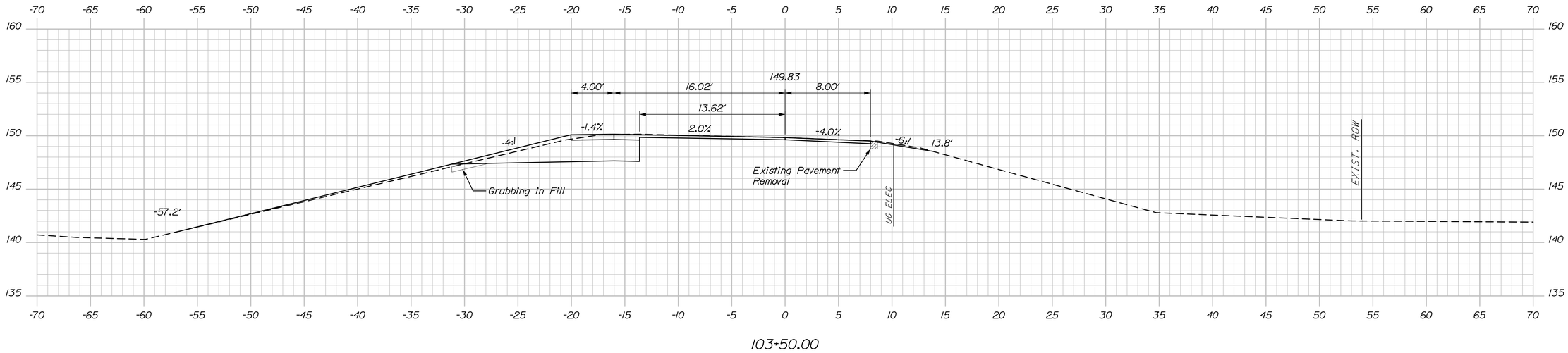
SHEET NUMBER

68

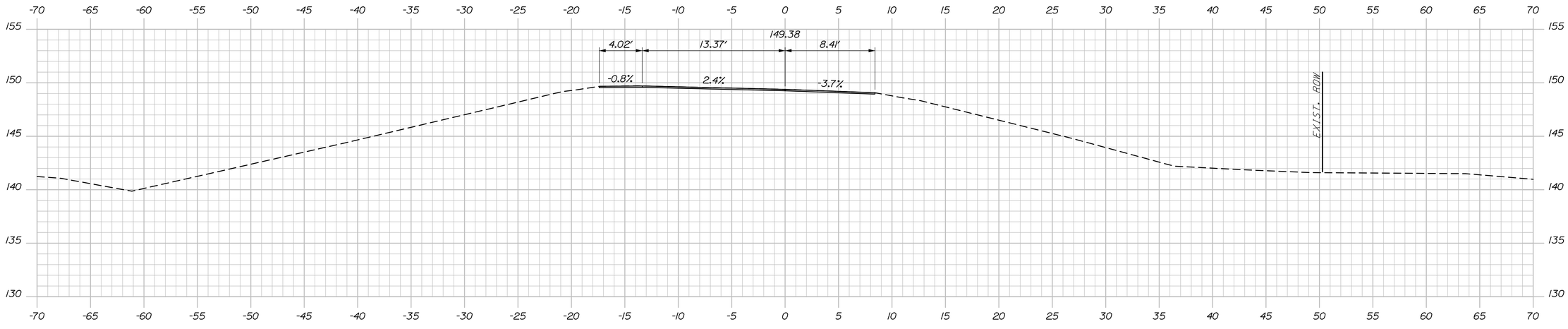
OF 138

Filename: Xsect_HunterRd.dgn Division: Username: Date:8/27/2021

Sta. 11+00.00 to Sta. 11+25.00

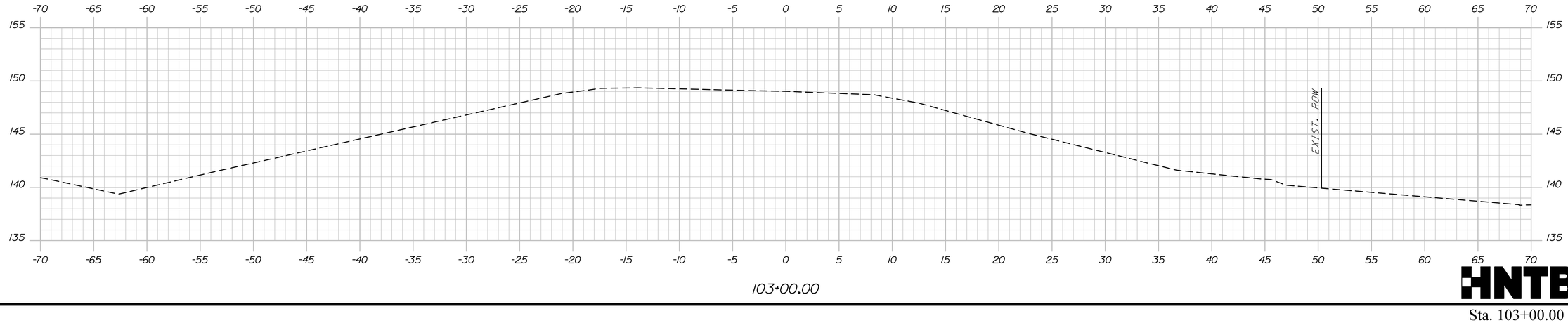


103+50.00



103+25.00

Sta. 103+25.00
Limit of Work
Begin Variable Width & Depth
Mill, Shim, & 1½" Overlay
With Variable Width
Full Depth Construction
Match Existing



103+00.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kershergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

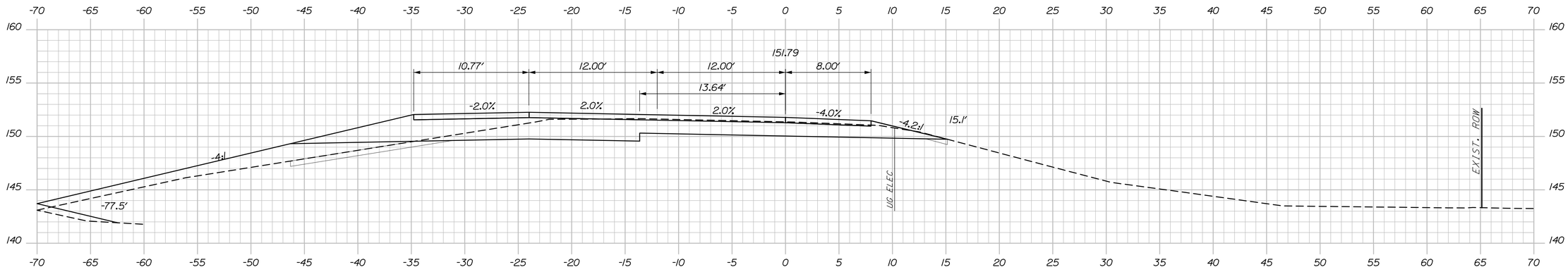
MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB OFF RAMP
CROSS SECTIONS

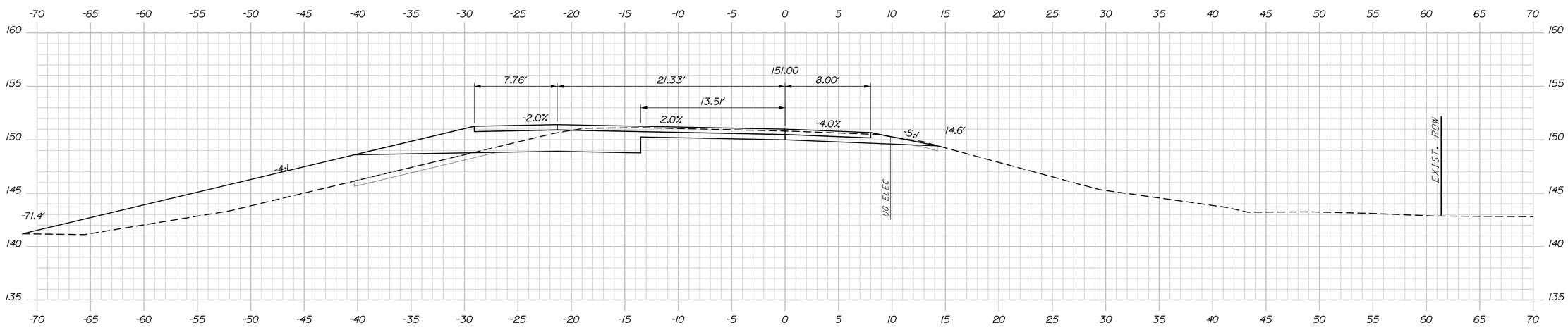
SHEET NUMBER
69
OF 138

Date:8/27/2021
Username:
Division:
Filename: Xsect_I295_NB_Off.dgn
Filename: Xsect_I295_NB_Off.dgn

Sta. 103+00.00 to Sta. 103+50.00

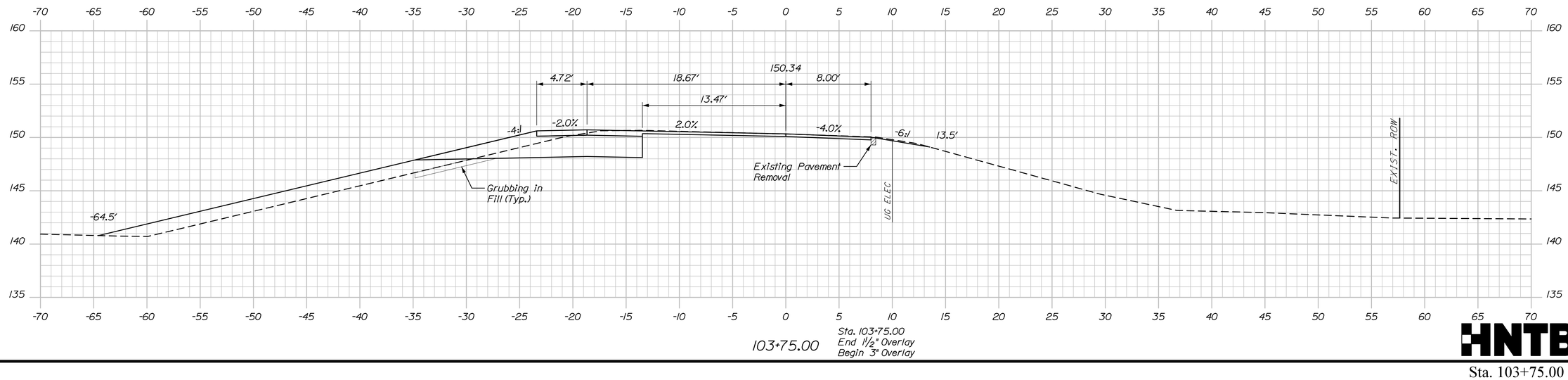


104+25.00



104+00.00

Sta. 104+00.00
End Variable Width & Depth
Mill, Shim, & 3" Overlay
With Variable Width
Full Depth Construction
Begin Transition



103+75.00

Sta. 103+75.00
End 1½" Overlay
Begin 3" Overlay

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN
023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kershbergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB OFF RAMP
CROSS SECTIONS

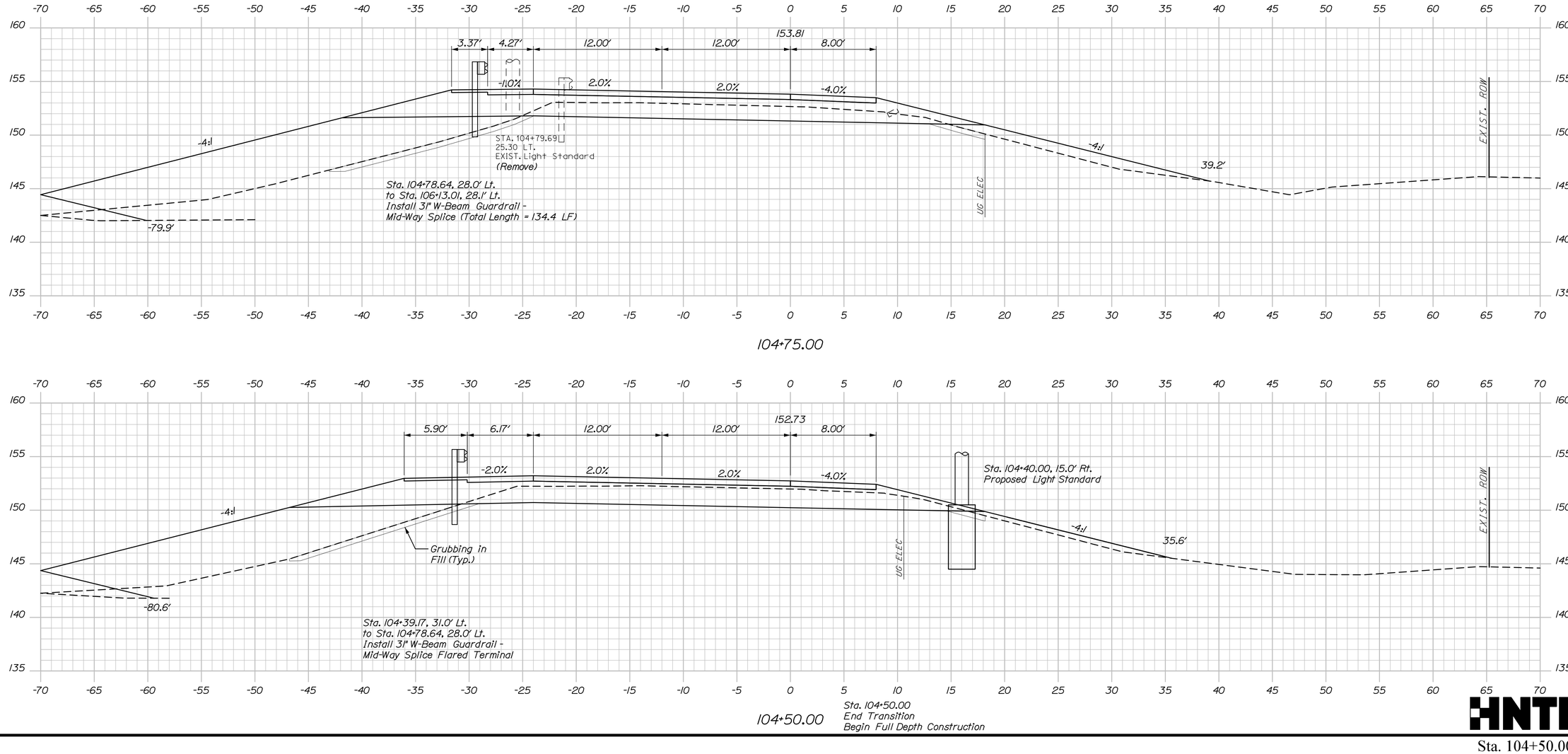
SHEET NUMBER

70

OF 138

Sta. 103+75.00 to Sta. 104+25.00

Date:8/27/2021
Username:
Division:
Filename: Xsect_I295_NB_Off.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720 — BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershaw-gen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB OFF RAMP CROSS SECTIONS

SHEET NUMBER

71

OF 138

HNTB

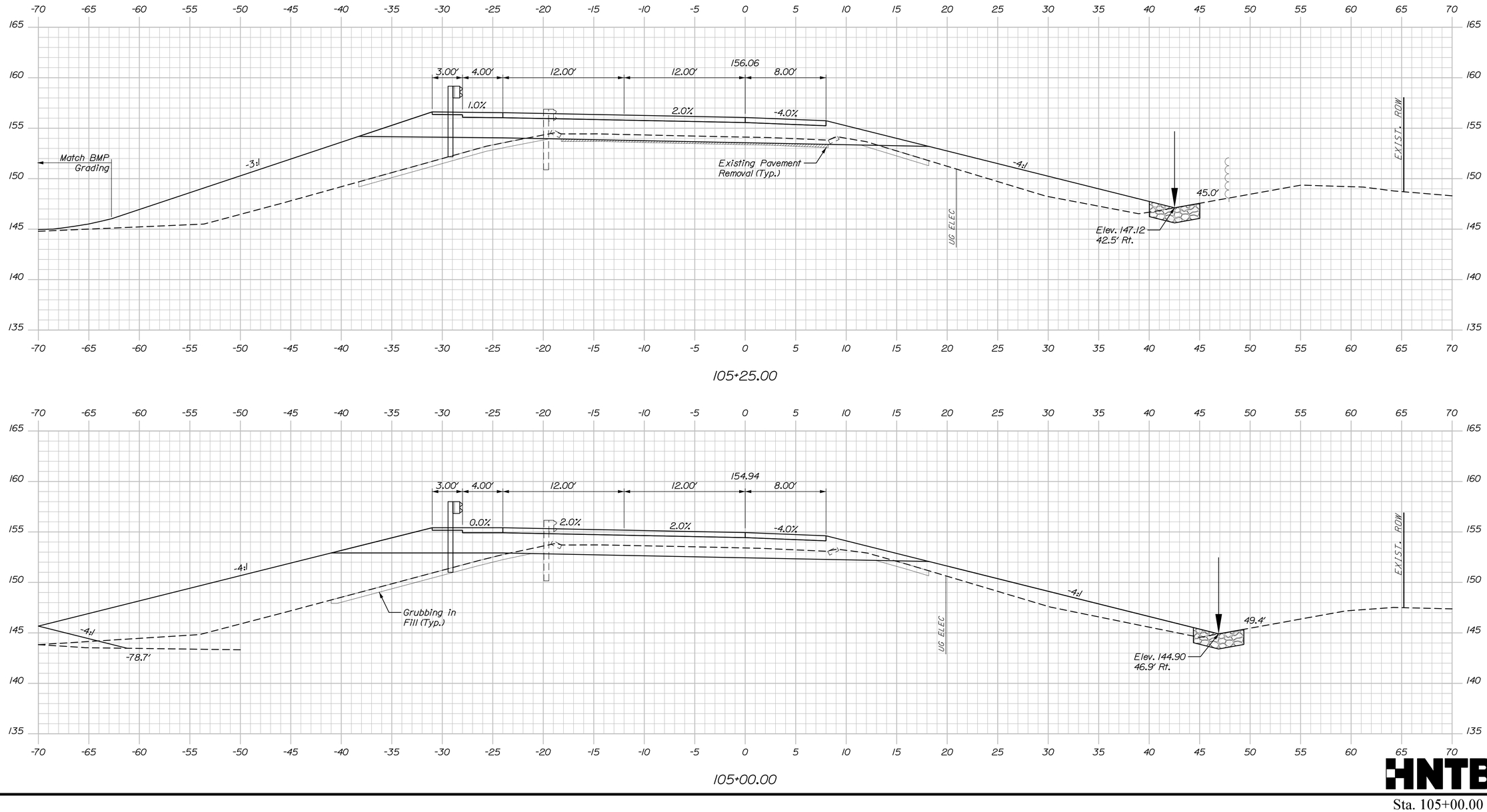
Sta. 104+50.00 to Sta. 104+75.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_I295_NB_Off.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kershergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB OFF RAMP
CROSS SECTIONS

SHEET NUMBER

72

OF 138

HNTB

Sta. 105+00.00 to Sta. 105+25.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_I295_NB_Off.dgn

Sta. 105+50.00 to Sta. 106+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2	SMH	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295 CUMBERLAND
FREEPORT

I-295 NB OFF RAMP
CROSS SECTIONS

SHEET NUMBER

73

OF 138

HNTB

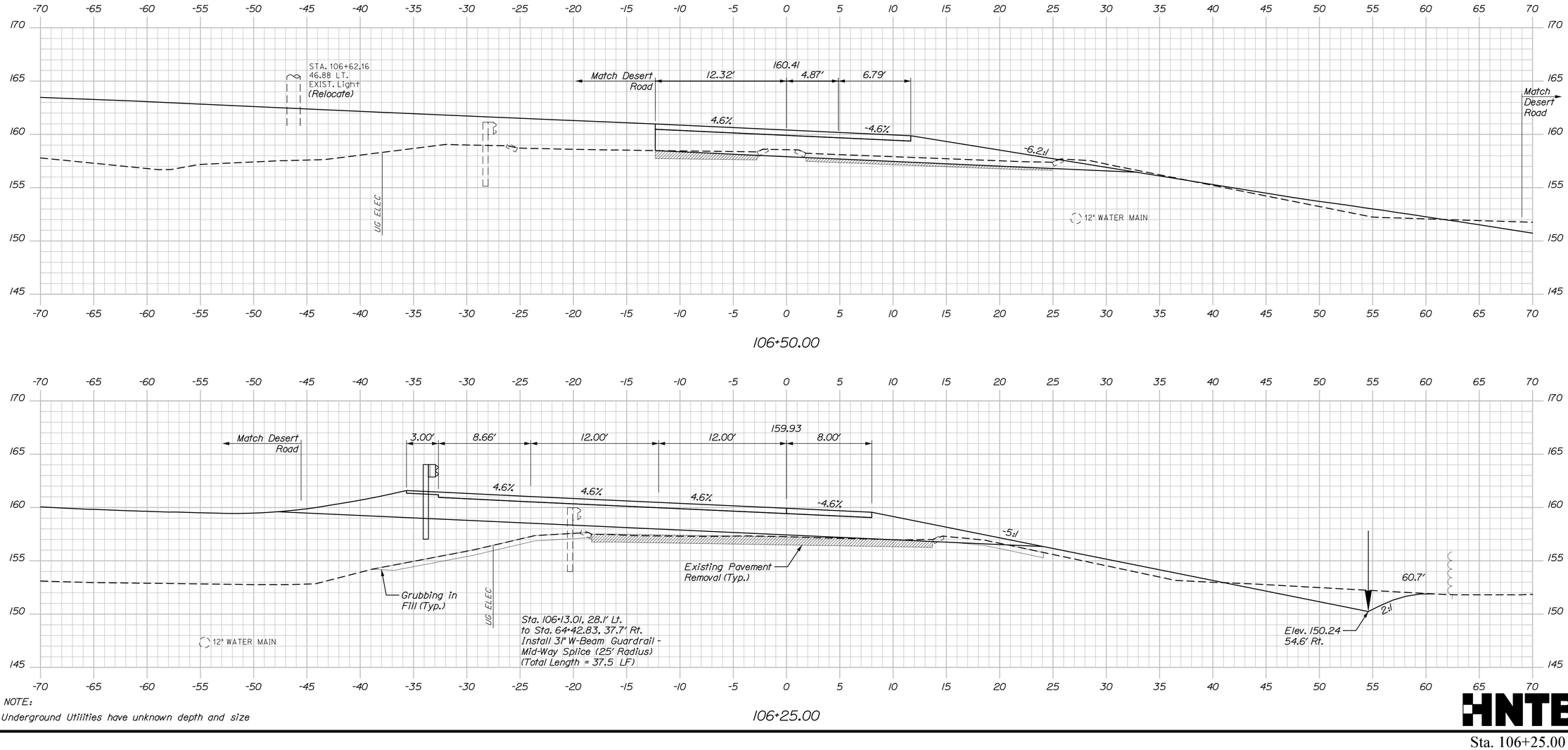
Date:8/27/2021

Username:

Division:

Filename: Xsect_I295_NB_Off.dgn

Filename: Xsect_I295_NB_Off.dgn



NOTE:
Underground Utilities have unknown depth and size

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

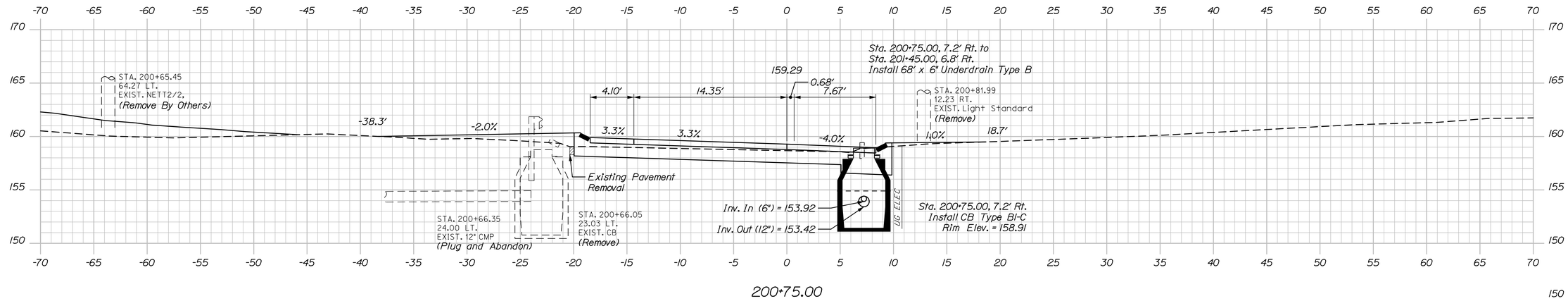
MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

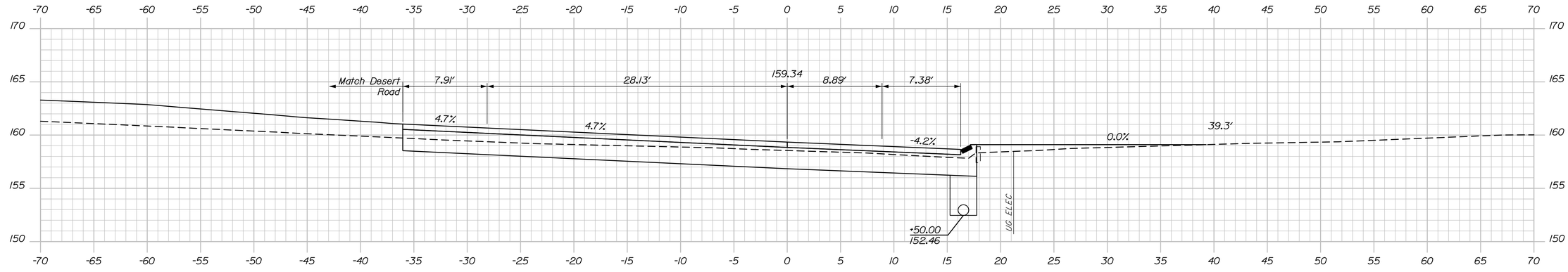
I-295 NB OFF RAMP
CROSS SECTIONS

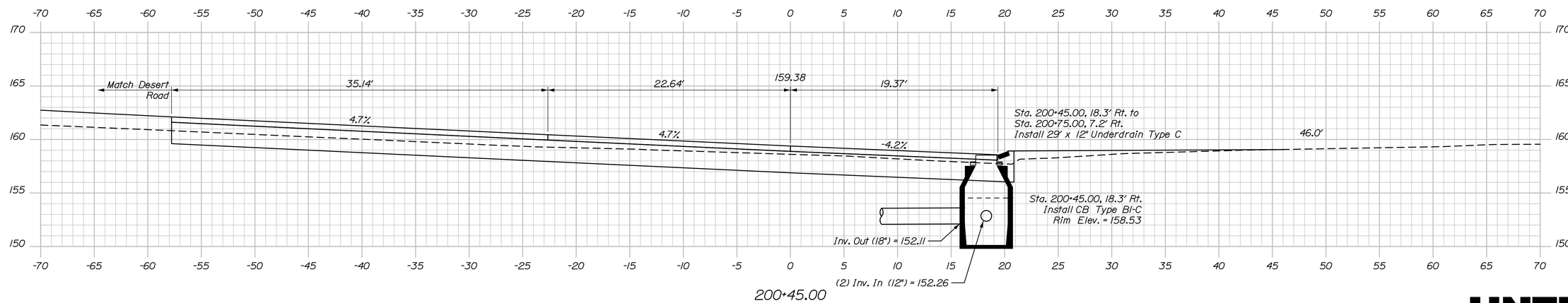
SHEET NUMBER
74
OF 138

Sta. 106+25.00 to Sta. 106+50.00

Date:8/27/2021
Username:
Division:
Filename: Xsect_I295_NB_Off.dgn
Filename: Xsect_I295_NB_Off.dgn







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1	DEB	
REVISIONS 2	SMH	
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB ON RAMP CROSS SECTIONS

SHEET NUMBER

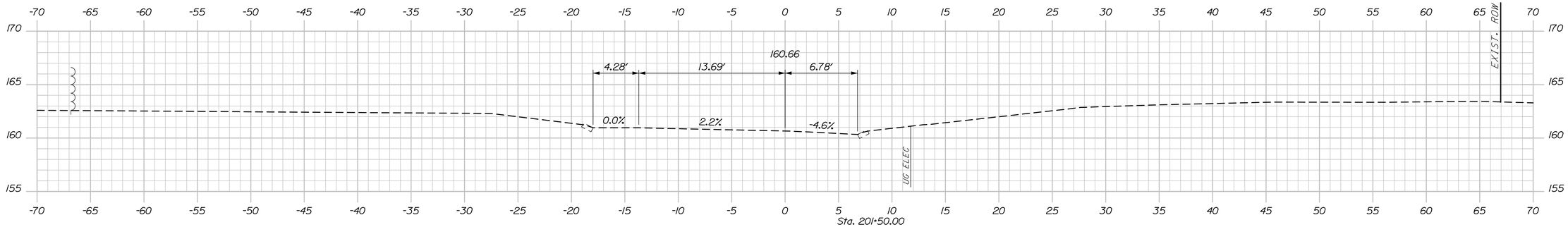
75

OF 138

HNTB

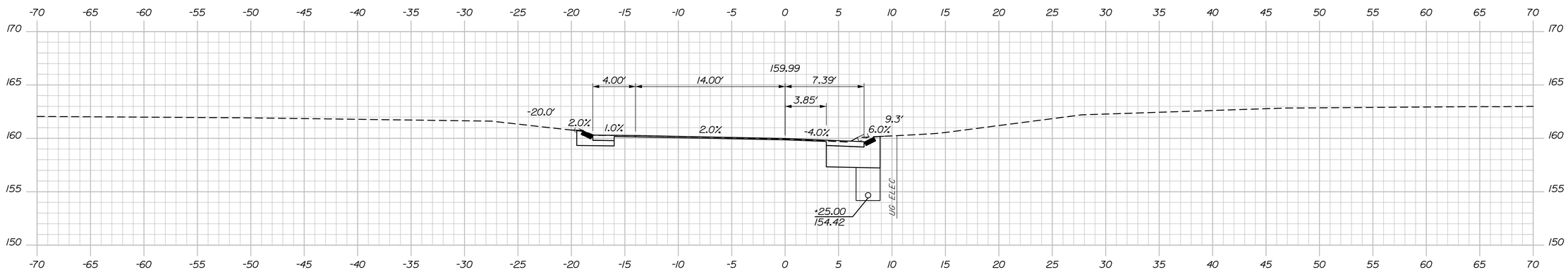
Sta. 200+45.00 to Sta. 200+75.00

Date:8/27/2021
Username:
Division:
Filename: Xsect_I295_NB_On.dgn



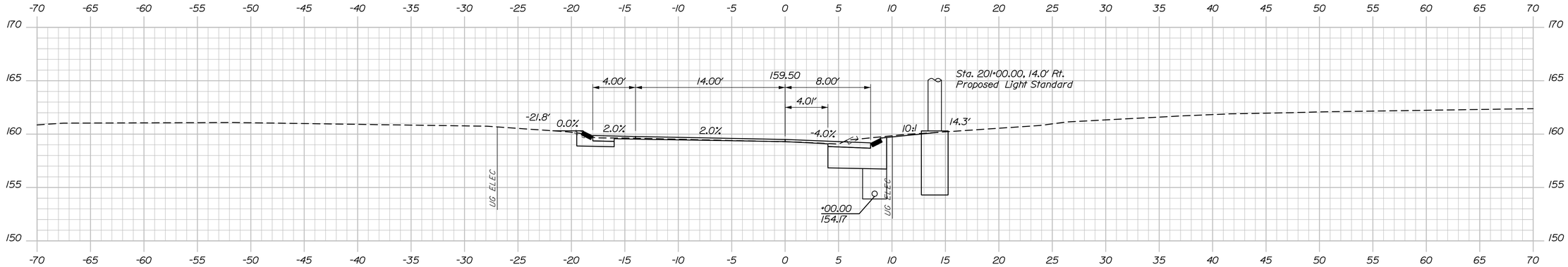
201+50.00

Sta. 201+50.00
Limit of Work
End Variable Depth
Mill, Shim, & 1½" Overlay
With Variable Width Full
Depth Construction
Match Existing



201+25.00

Sta. 201+25.00
End 3" Overlay
Begin 1½" Overlay



201+00.00

Sta. 201+00.00
End Transition
Begin Variable Depth
Mill, Shim, & 3" Overlay
With Variable Width Full
Depth Construction

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw-Bergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB ON RAMP
CROSS SECTIONS

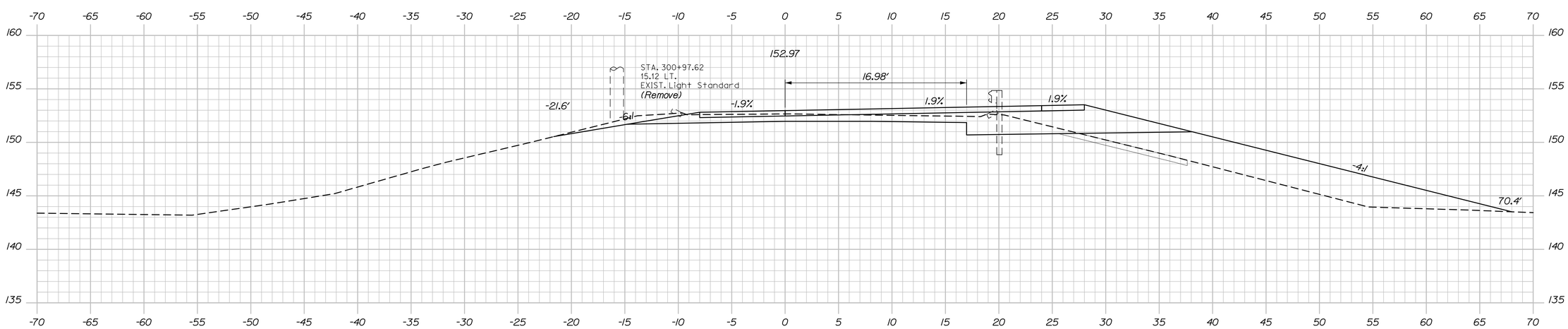
SHEET NUMBER

76

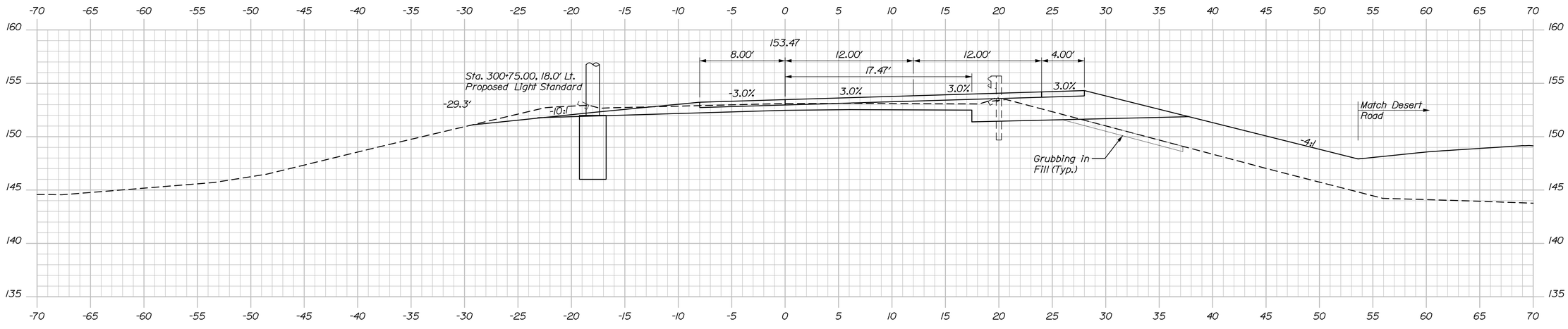
OF 138

Sta. 201+00.00 to Sta. 201+50.00

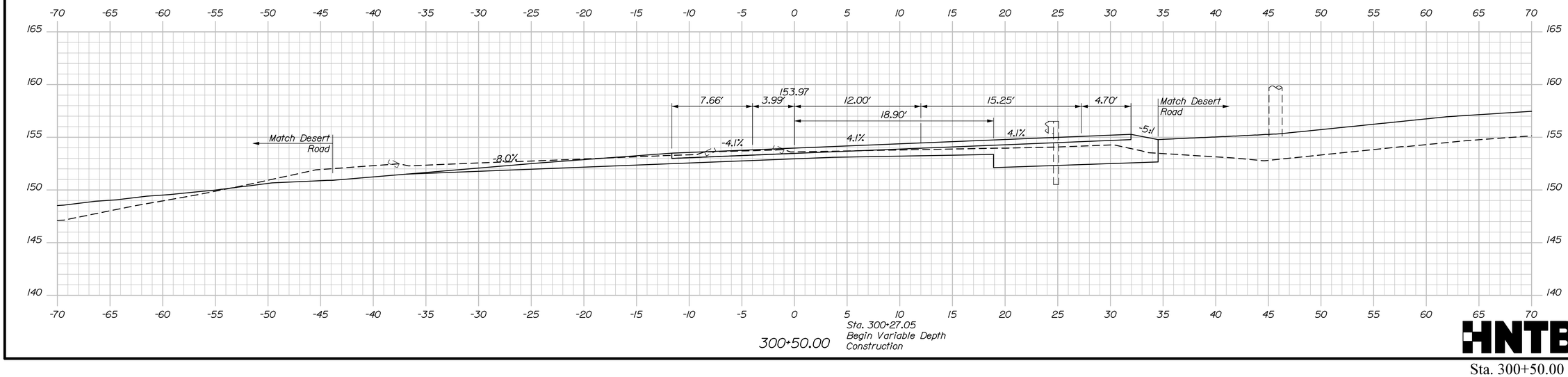
Date:8/27/2021
Username:
Division:
Filename: Xsect_I295_NB_On.dgn



301+00.00



300+75.00



300+50.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

I-295 SB OFF RAMP
CROSS SECTIONS

SHEET NUMBER

77

OF 138

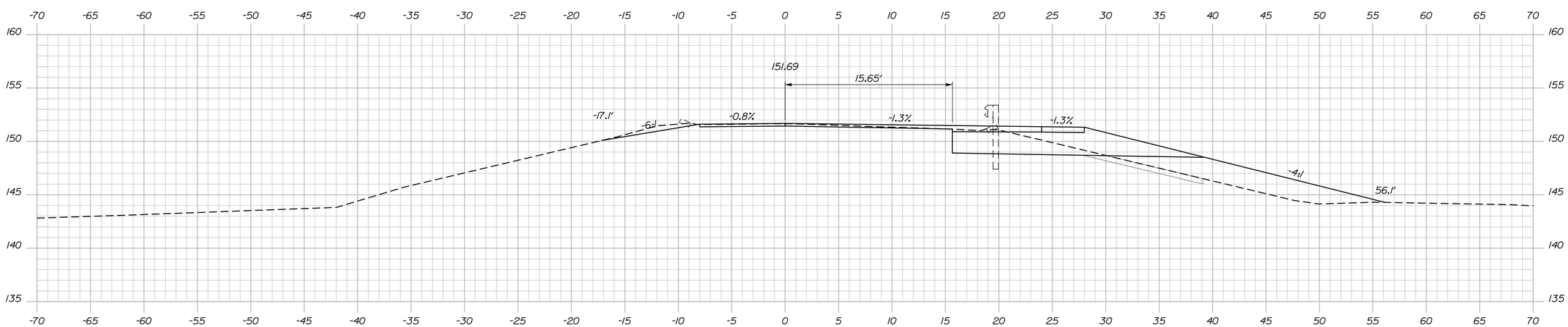
Sta. 300+50.00 to Sta. 301+00.00

Date:8/27/2021

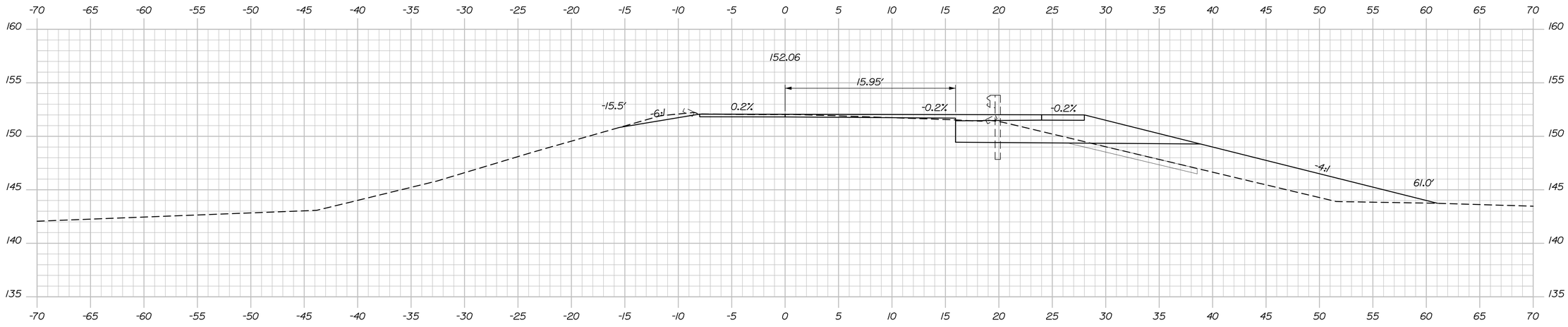
Username:

Division:

Filename: Xsect_I295_SB_Off.dgn

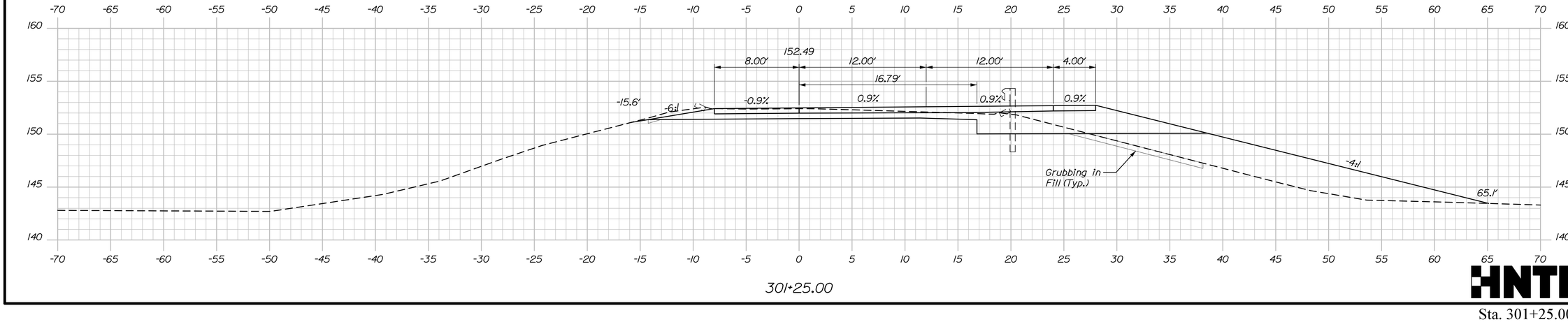


301+75.00



301+50.00

Sta. 301+50.00
End Variable Depth Construction
Begin Variable Width & Depth
Mill, Shim, & 3" Overlay
With Variable Width
Full Depth Construction



301+25.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN
023627.00

BRIDGE PLANS

BRIDGE No. 5720

	BY	DATE
PROJ. MANAGER	M. Kershaw-gen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	DEB	08\21
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3	SMH	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295 CUMBERLAND
FREEPORT

I-295 SB OFF RAMP CROSS SECTIONS

SHEET NUMBER

78

OF 138

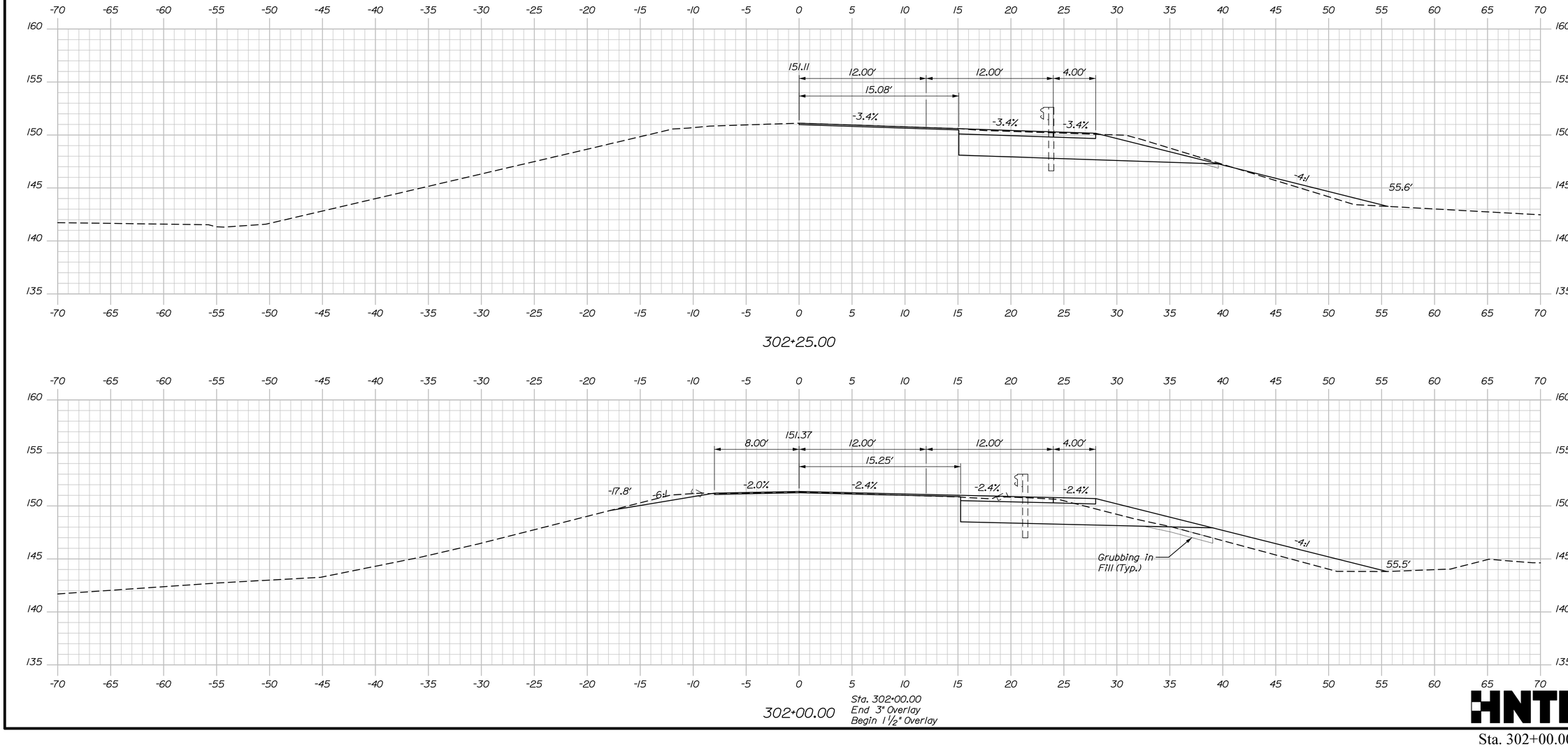
Date:8/27/2021

Username:

Division:

Filename: Xsect_I295_SB_Off.dgn

Sta. 301+25.00 to Sta. 301+75.00



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw-gen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	DEB	08\21
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3	SMH	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295 CUMBERLAND
FREEPORT

I-295 SB OFF RAMP
CROSS SECTIONS

SHEET NUMBER

79

OF 138

HNTB

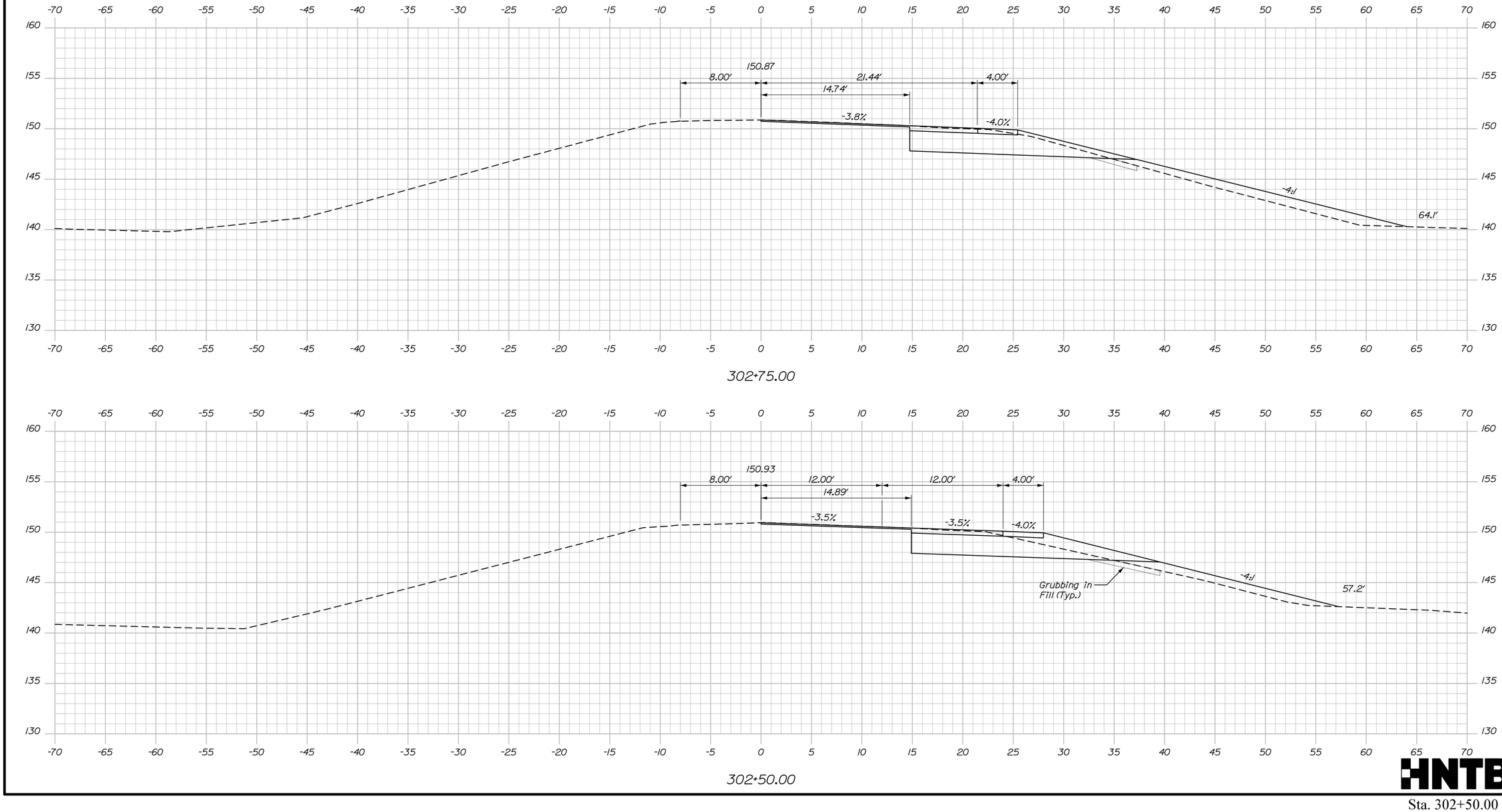
Sta. 302+00.00 to Sta. 302+25.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_I295_SB_Off.dgn



Sta. 302+50.00 to Sta. 302+75.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB OFF RAMP CROSS SECTIONS

SHEET NUMBER

80

OF 138

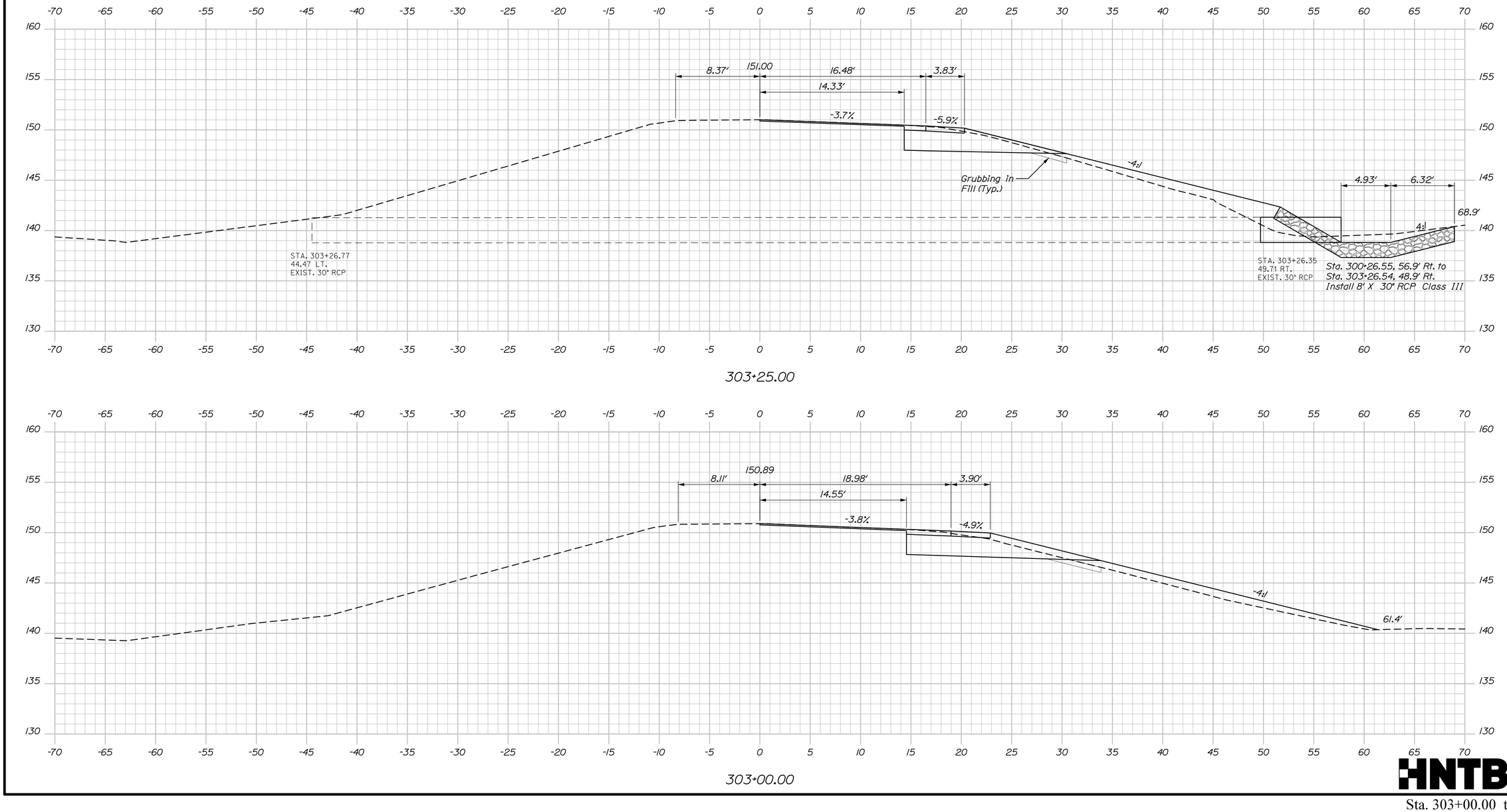
HNTB

Username:

Division:

Date:8/27/2021

Filename: Xsect_I295_SB_Off.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershaw-gen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB OFF RAMP CROSS SECTIONS

SHEET NUMBER

81

OF 138

HNTB

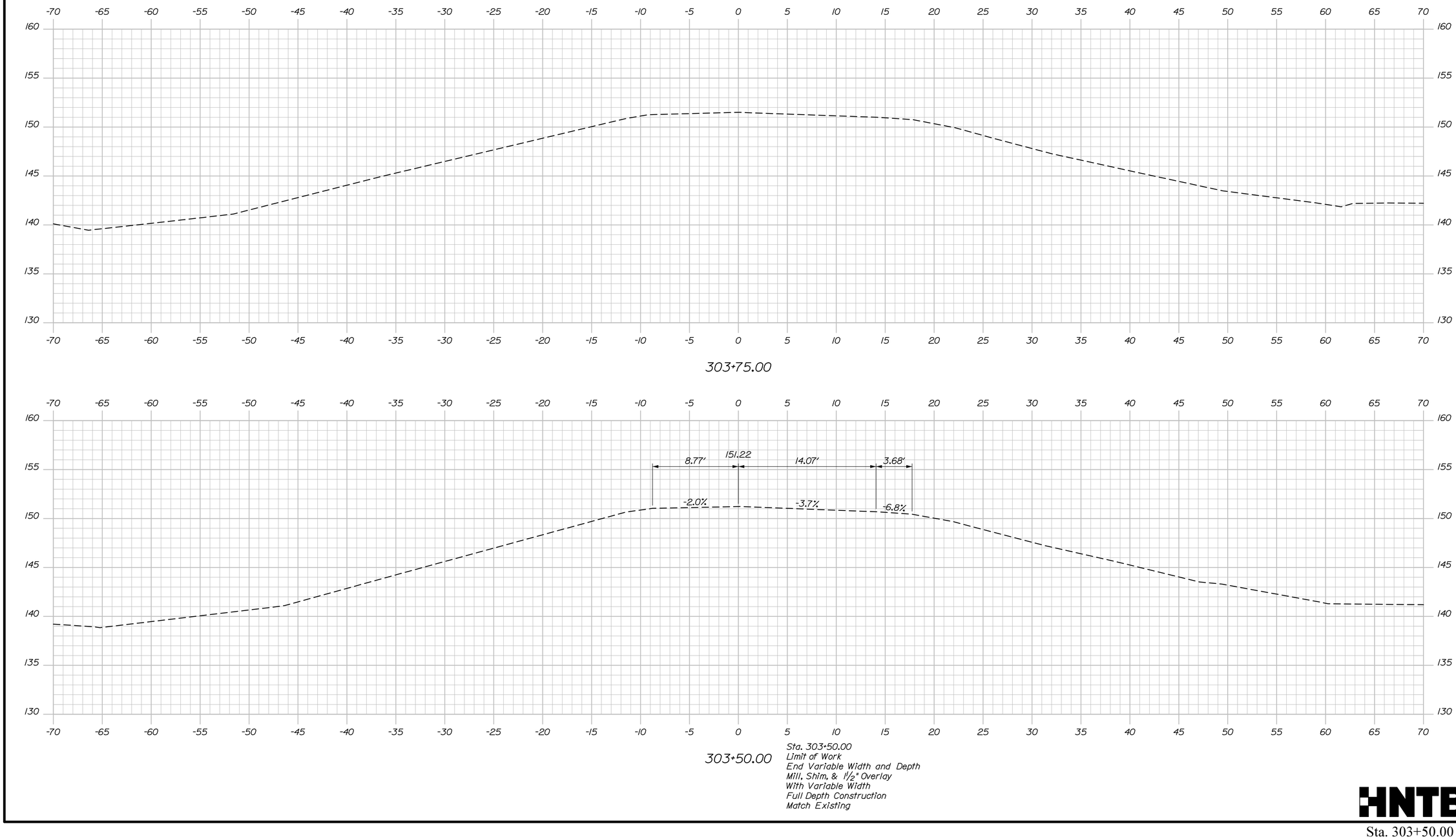
Sta. 303+00.00 to Sta. 303+25.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_I295_SB_Off.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kerstetgen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB OFF RAMP CROSS SECTIONS

SHEET NUMBER

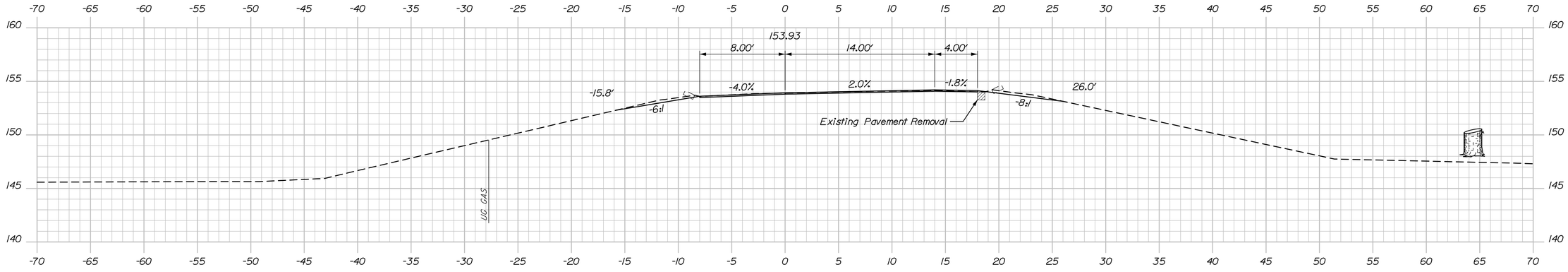
82

OF 138

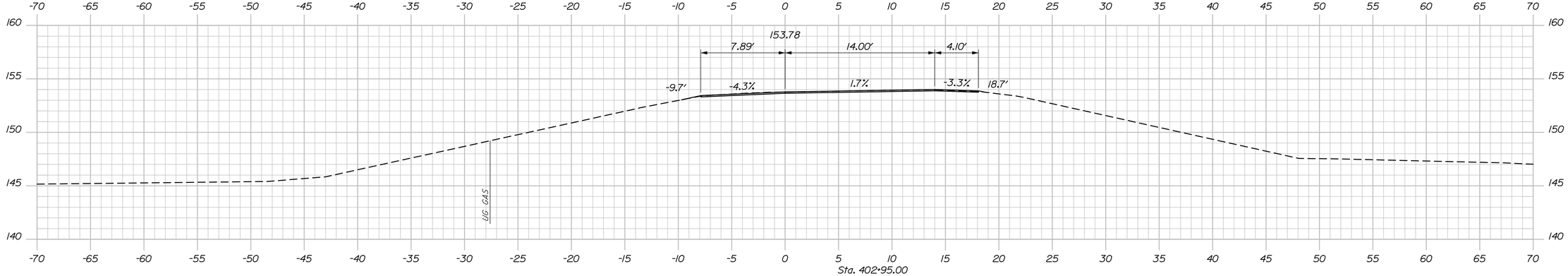
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Sta. 303+50.00 to Sta. 303+75.00

Filename: Xsect_I295_SB_Off.dgn Division: Username: Date:8/27/2021

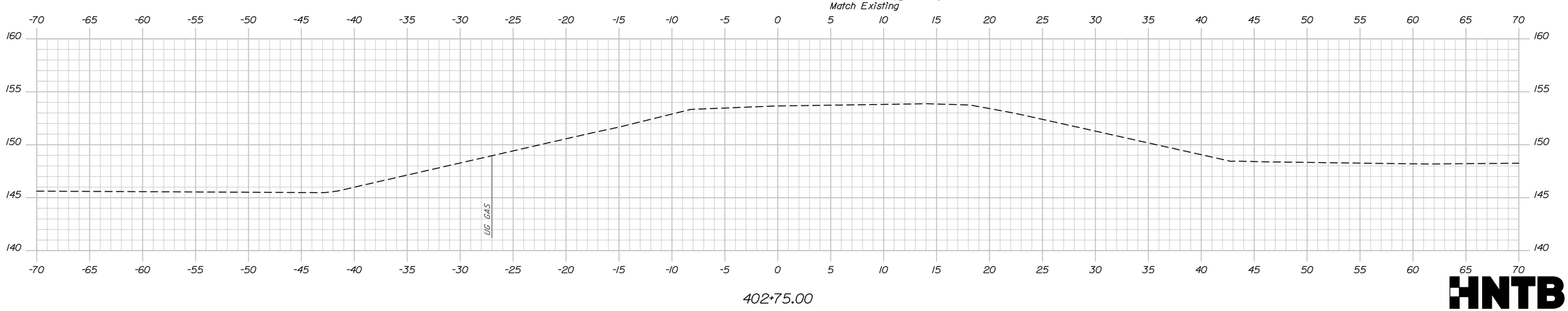


403+25.00



403+00.00

Sta. 402+95.00
Limit of Work
Begin Variable Depth
Mill, Shim, & 1½" Overlay
Match Existing



402+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

	BY	DATE
PROJ. MANAGER	M. Kershbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON RAMP
CROSS SECTIONS

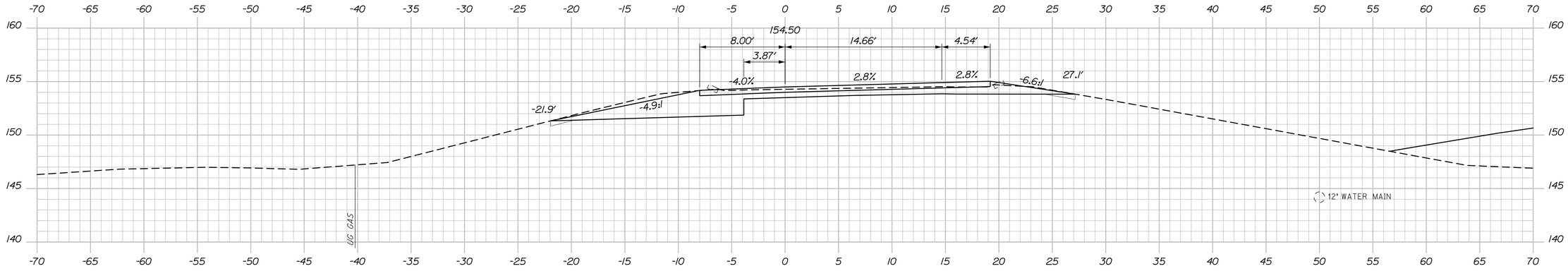
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83

OF 138

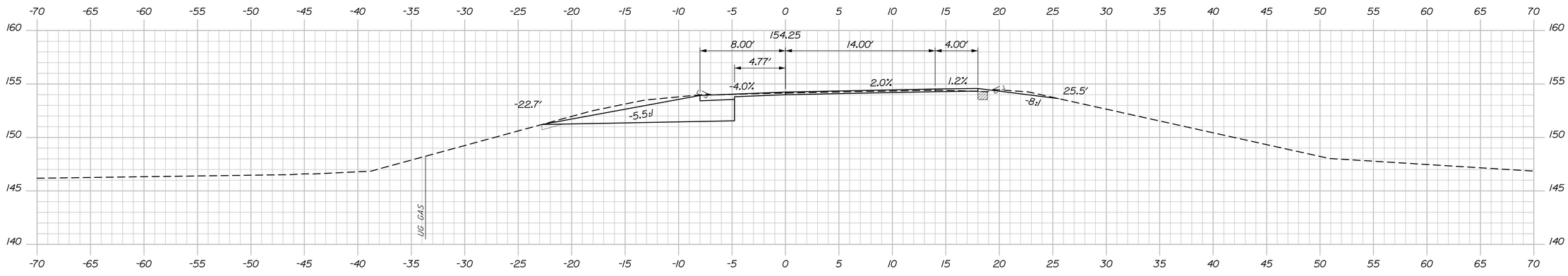
Sta. 402+75.00 to Sta. 403+25.00

Date:8/27/2021
Username:
Division:
Filename: Xsect_I295_SB_On.dgn

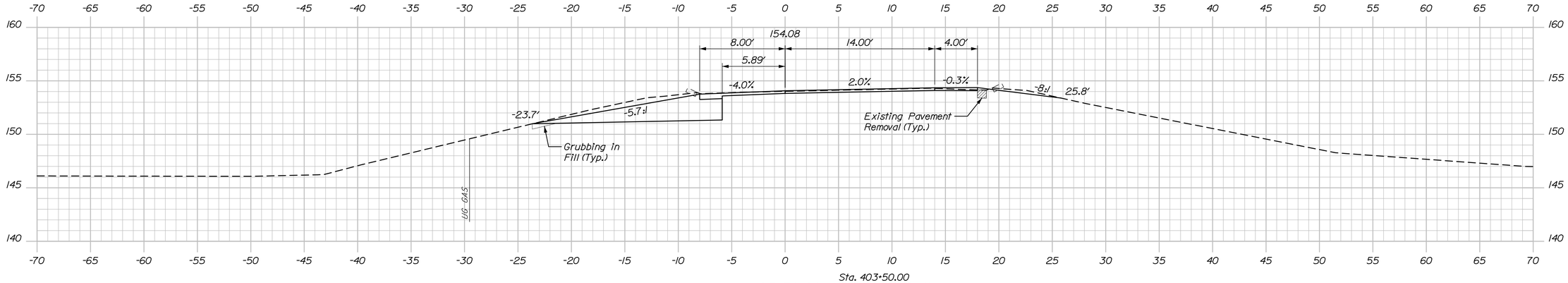


404+00.00

Sta. 404+00.00
End Variable Width and Depth
Mill, Shim, & 3" Overlay
With Variable Width Full
Depth Construction
Begin Variable Depth Construction



403+75.00



403+50.00

Sta. 403+50.00
End Variable Depth
Mill, Shim, & 1½" Overlay
Begin Variable Width and Depth
Mill, Shim, & 3" Overlay
With Variable Width Full
Depth Construction

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw gen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON RAMP
CROSS SECTIONS

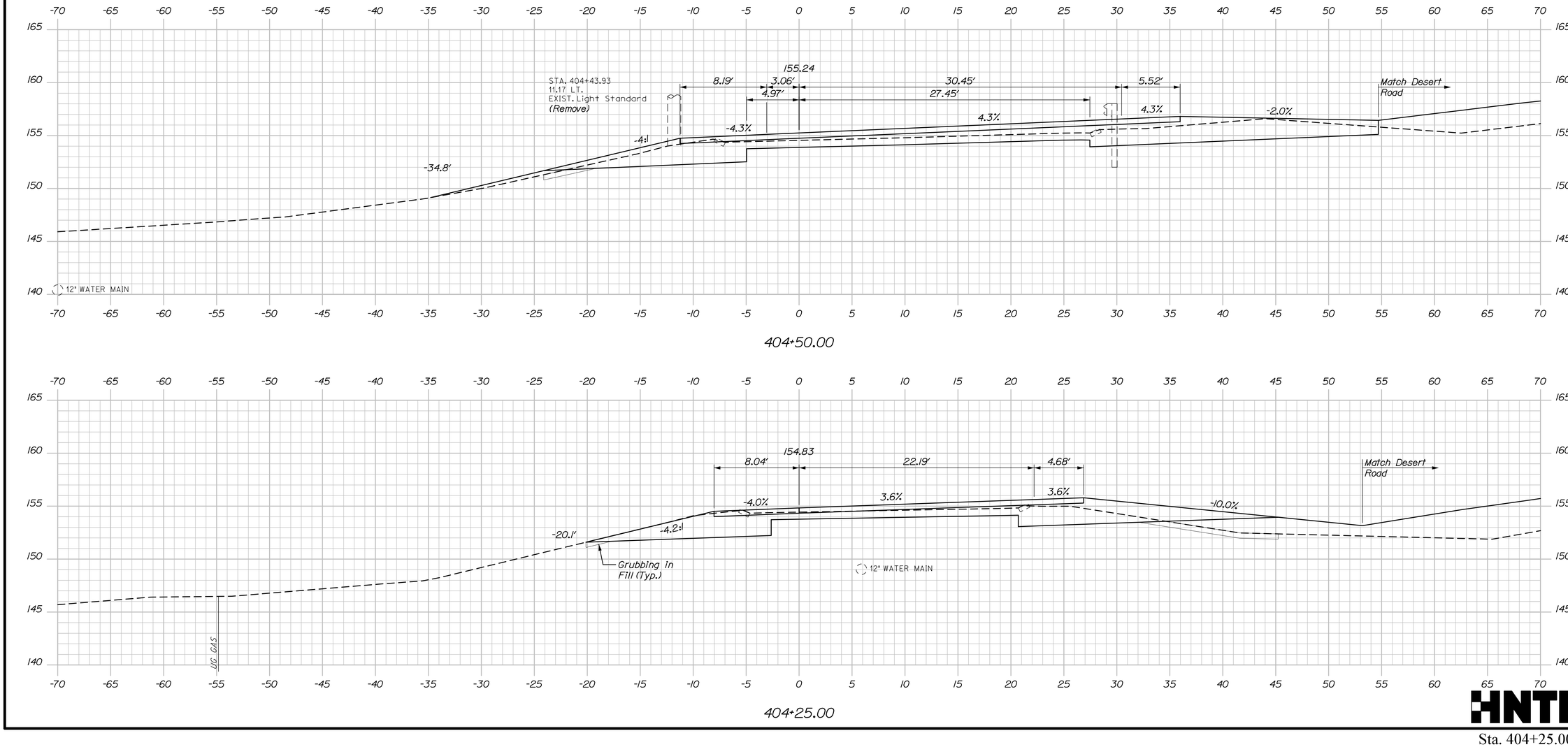
SHEET NUMBER

84

OF 138

Sta. 403+50.00 to Sta. 404+00.00

Username:
Division:
Date:8/27/2021
Filename: Xsect_I295_SB_On.dgn



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	023627.00	WIN 023627.00	BRIDGE PLANS
		BRIDGE No. 5720	

		BY	DATE
PROJ. MANAGER	M. Kershaw-gen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

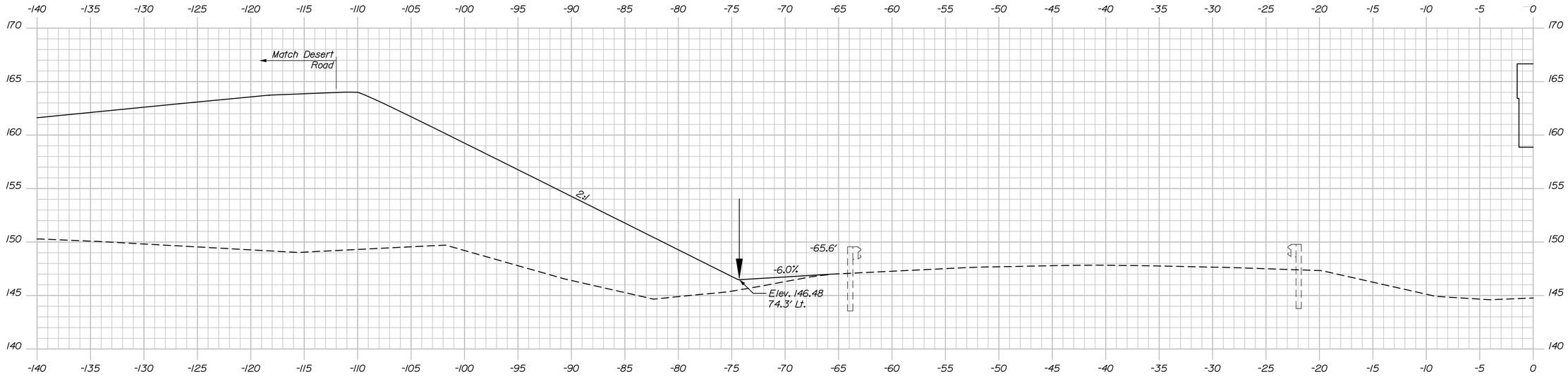
I-295 SB ON RAMP
CROSS SECTIONS

SHEET NUMBER
85
OF 138

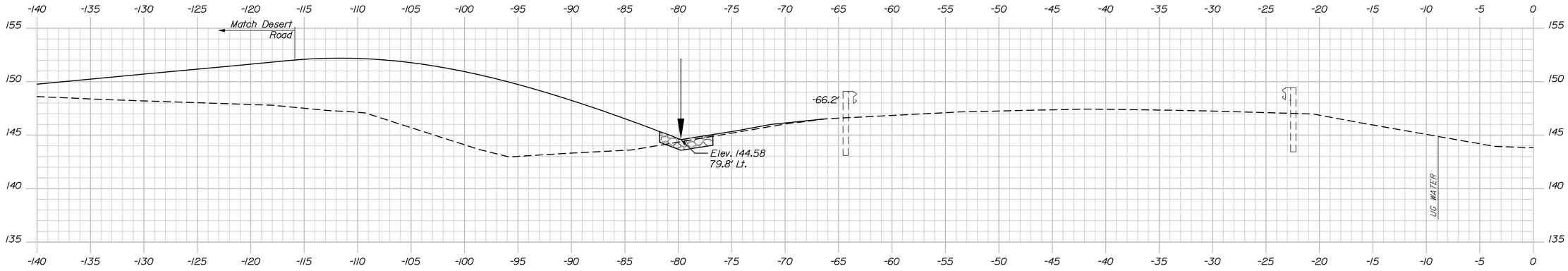
HNTB

Sta. 404+25.00 to Sta. 404+50.00

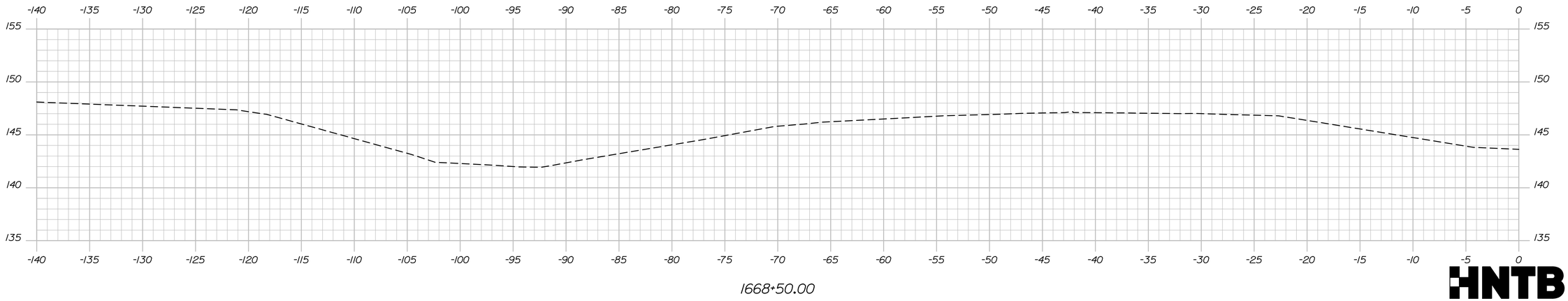
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Username:
Division:
Filename: Xsect_I295_SB_On.dgn



1669+00.00



1668+75.00



1668+50.00

Sta. 1668+50.00 to Sta. 1669+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kerstetgen	BY
DESIGN-DETAILED	CDH	DEB
CHECKED-REVIEWED	PEK	SMH
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

DATE
08\21
08\21

SIGNATURE

P.E. NUMBER

DATE

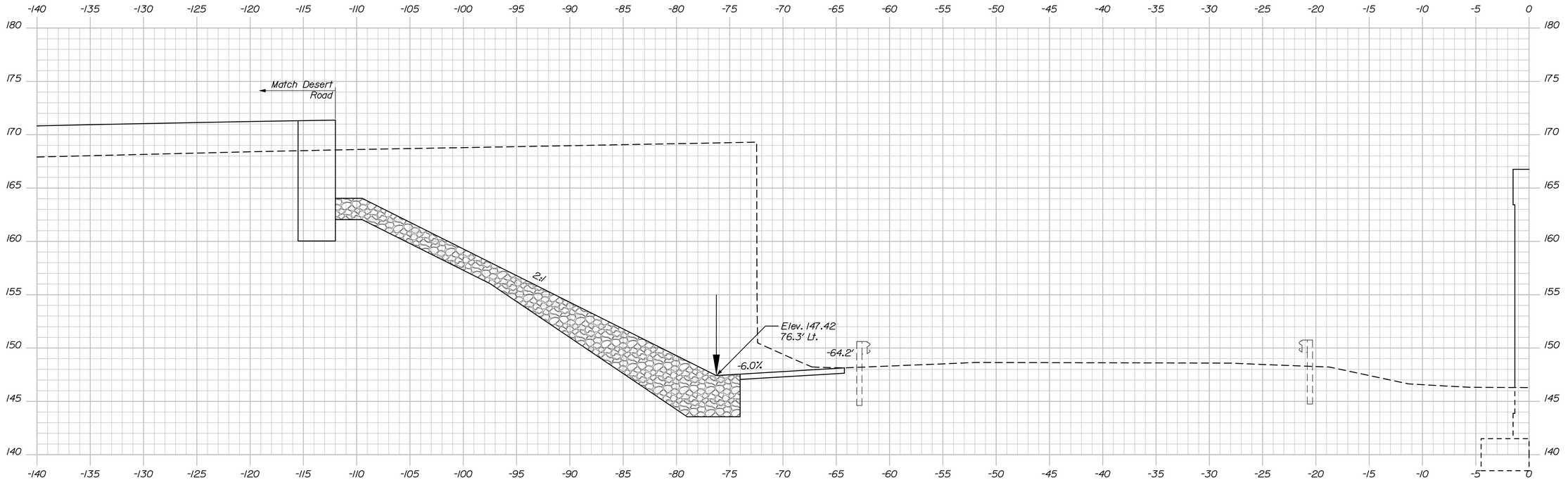
MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SOUTHBOUND
CROSS SECTIONS

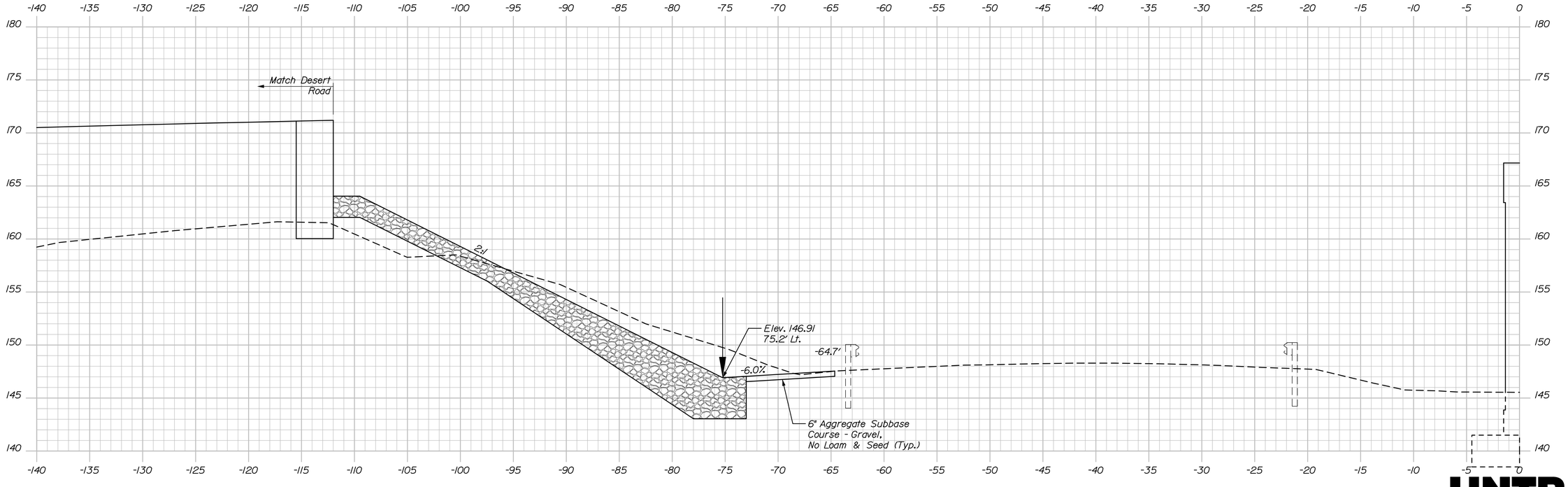
SHEET NUMBER
86
OF 138

HNTB

Date:8/27/2021
Username:
Division:
Filename: Xsect_I295_Mainline.dgn



1669+50.00



1669+25.00

Sta. 1669+25.00 to Sta. 1669+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

BRIDGE No. 5720

WIN 023627.00

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SOUTHBOUND
CROSS SECTIONS

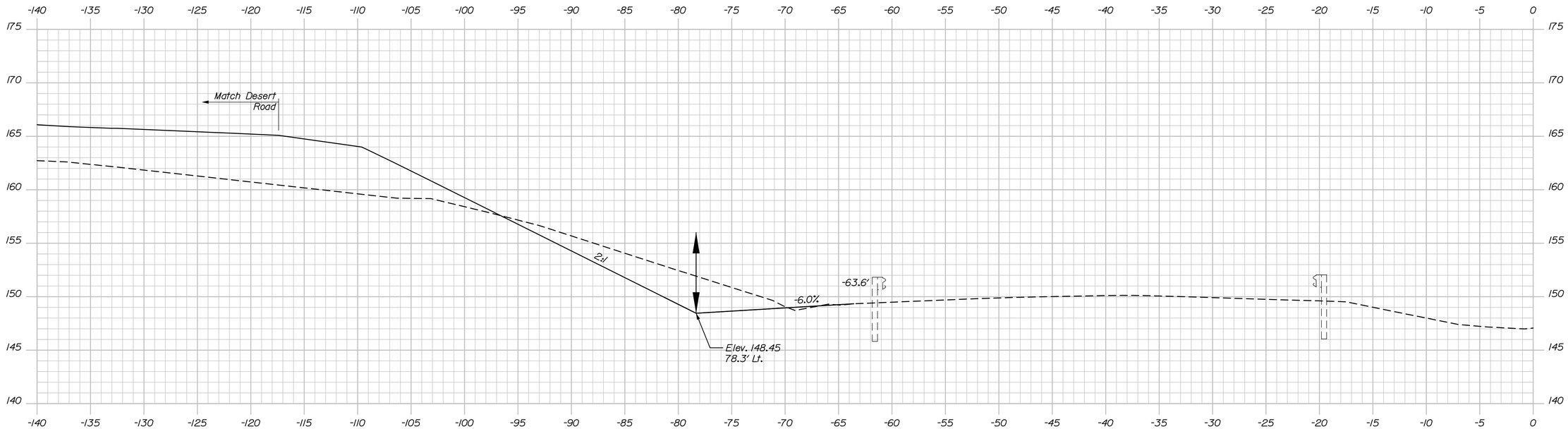
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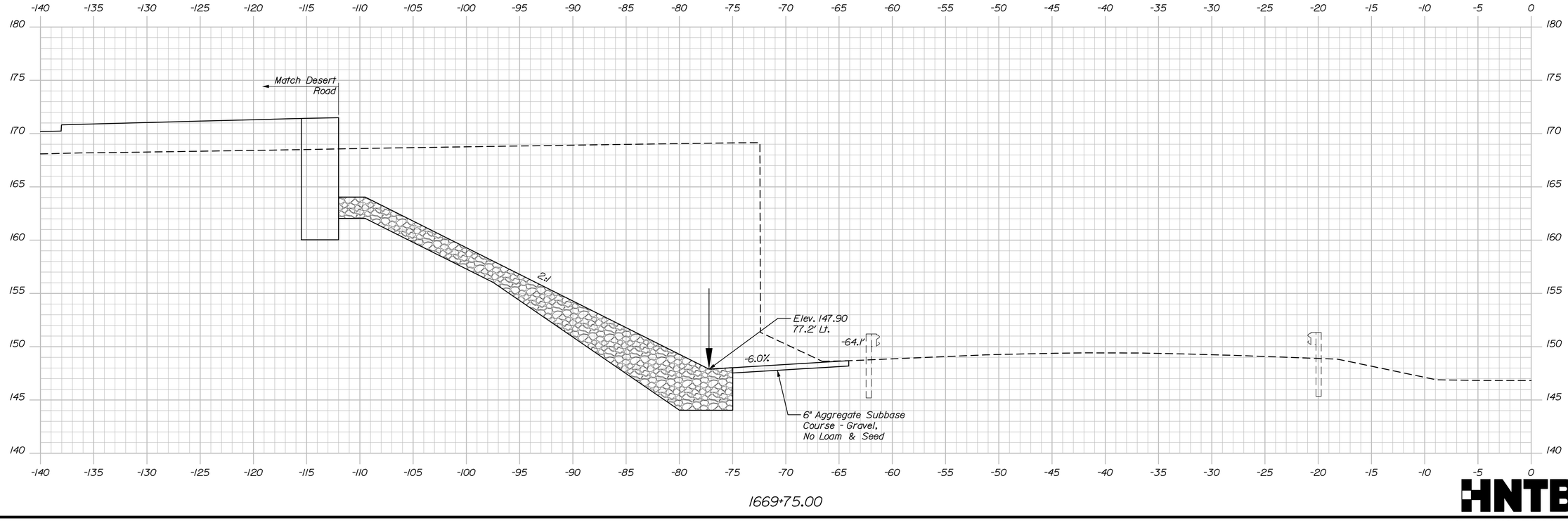
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OF 138

HNTB

Filename: Xsect_I295_Mainline.dgn Division: Username: Date:8/27/2021





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

BRIDGE No. 5720

WIN
023627.00

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw-Bergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SOUTHBOUND CROSS SECTIONS

SHEET NUMBER

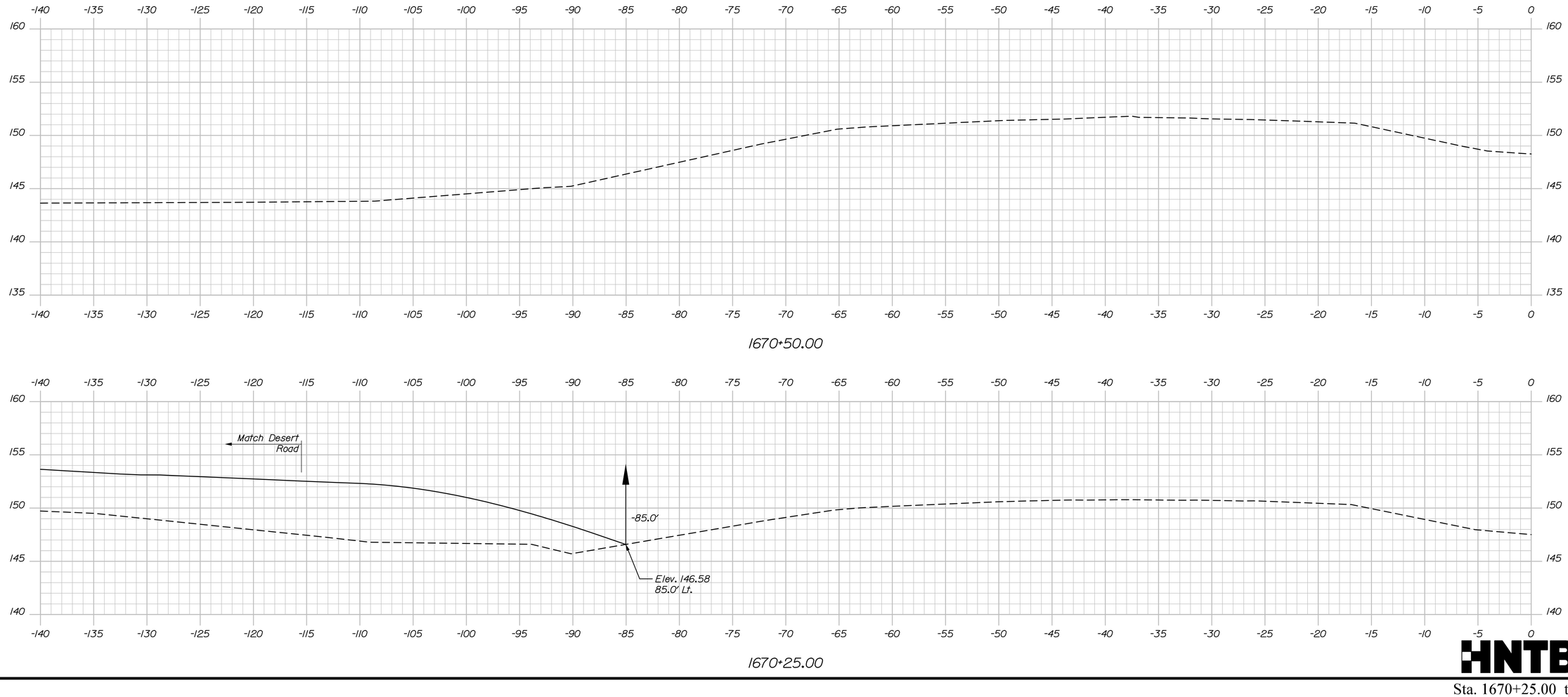
88

OF 138

HNTB

Sta. 1669+75.00 to Sta. 1670+00.00

Date:8/27/2021
Username:
Division:
Filename: Xsect_I295_Mainline.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720 — BRIDGE PLANS

	BY	DATE
PROJ. MANAGER — M. Kerstetergen		
DESIGN-DETAILED	DEB	08\21
CHECKED-REVIEWED	SMH	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SOUTHBOUND CROSS SECTIONS

SHEET NUMBER

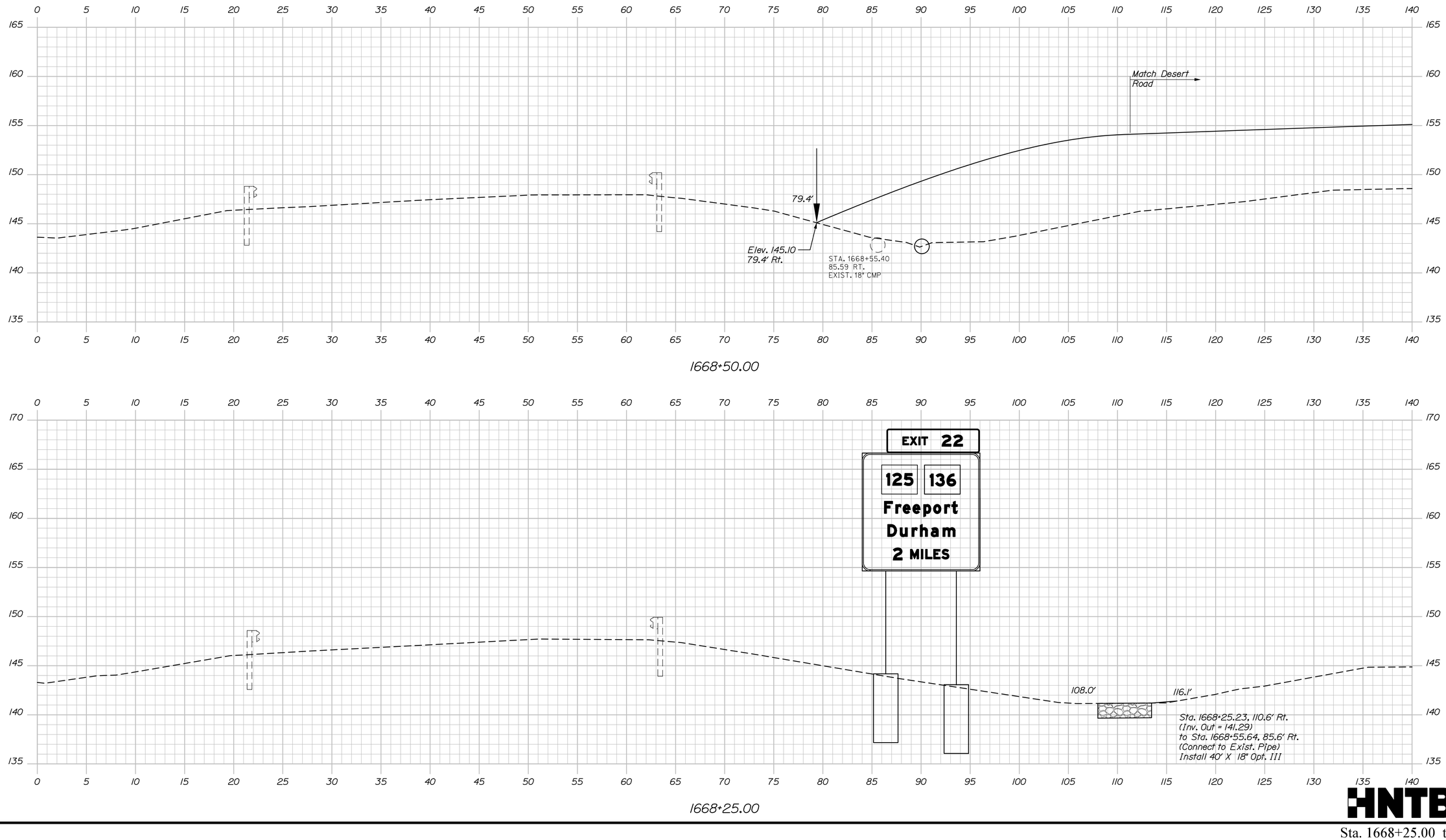
89

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HNTB

Sta. 1670+25.00 to Sta. 1670+50.00

Filename: Xsect_I295_Mainline.dgn Division: Username: Date:8/27/2021



Sta. 1668+25.00 to Sta. 1668+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NORTHBOUND CROSS SECTIONS

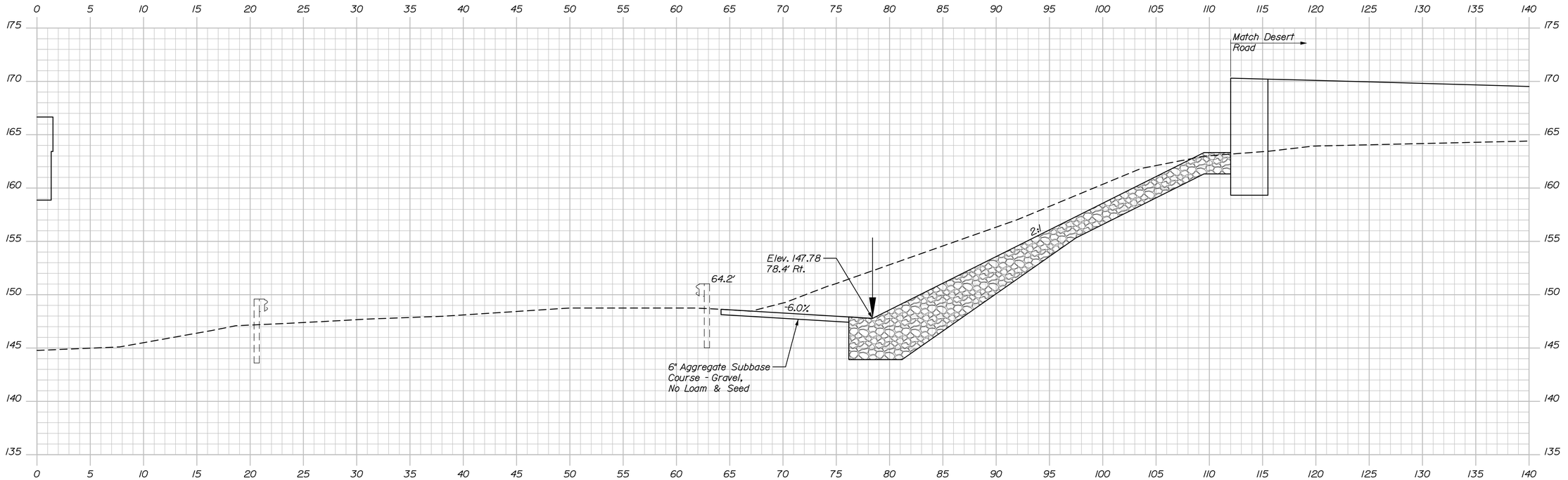
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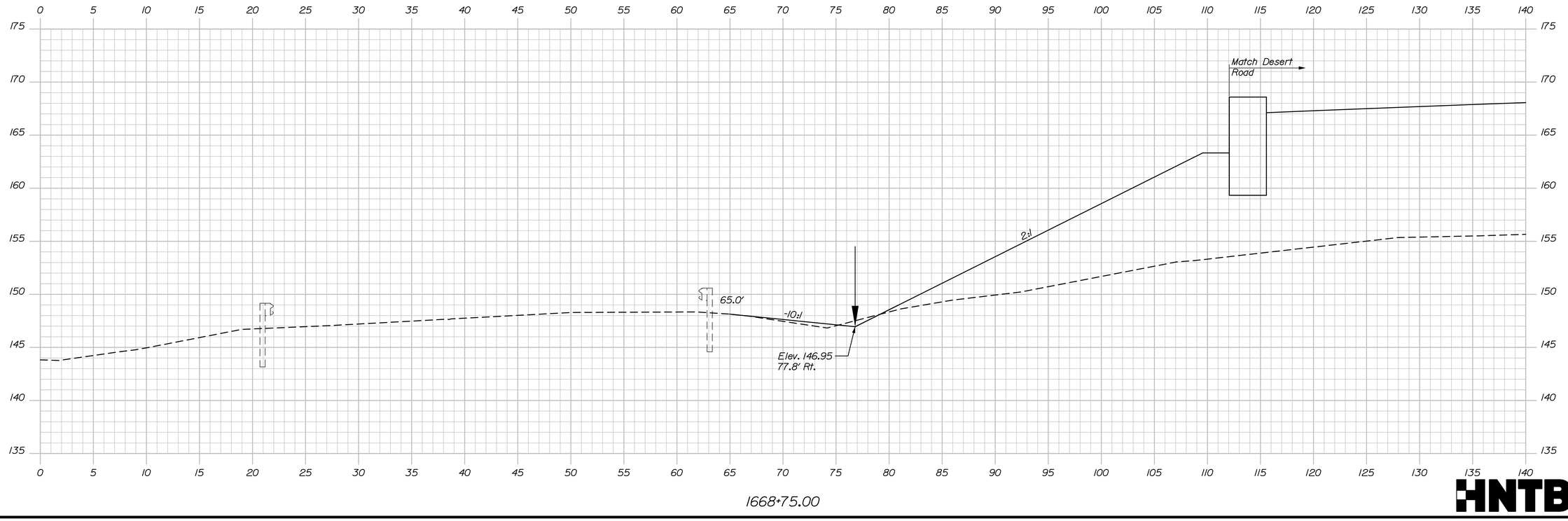
90

OF 138

HNTB

Filename: Xsect_I295_Mainline.dgn Division: Username: Date:8/27/2021





Sta. 1668+75.00 to Sta. 1669+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NORTHBOUND CROSS SECTIONS

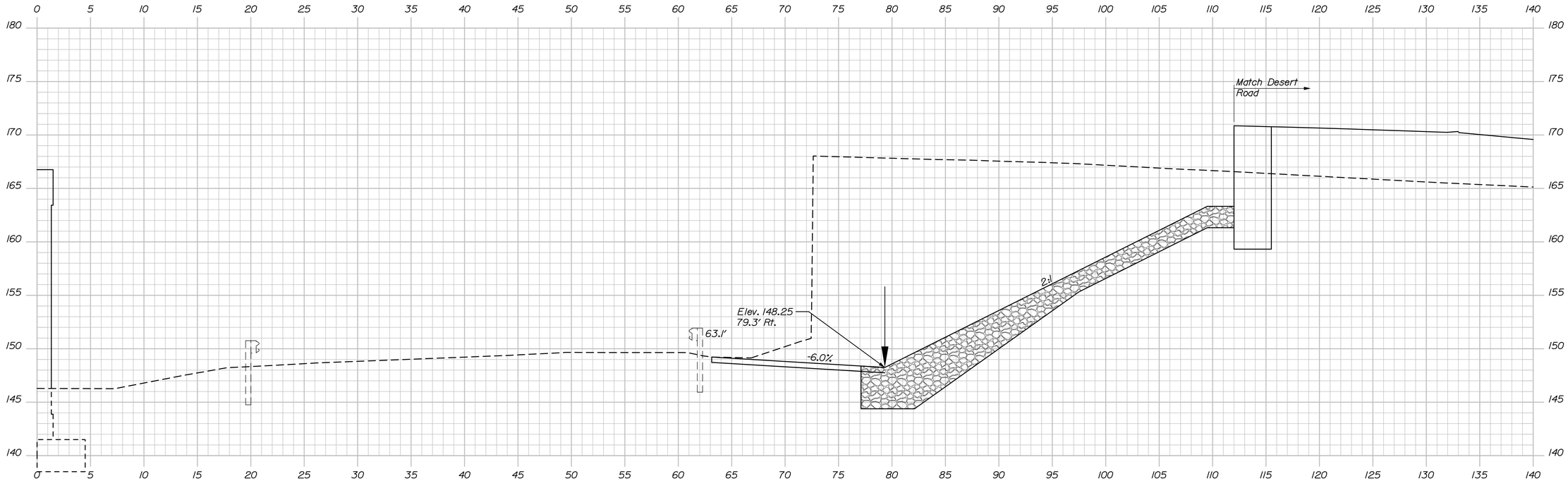
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91

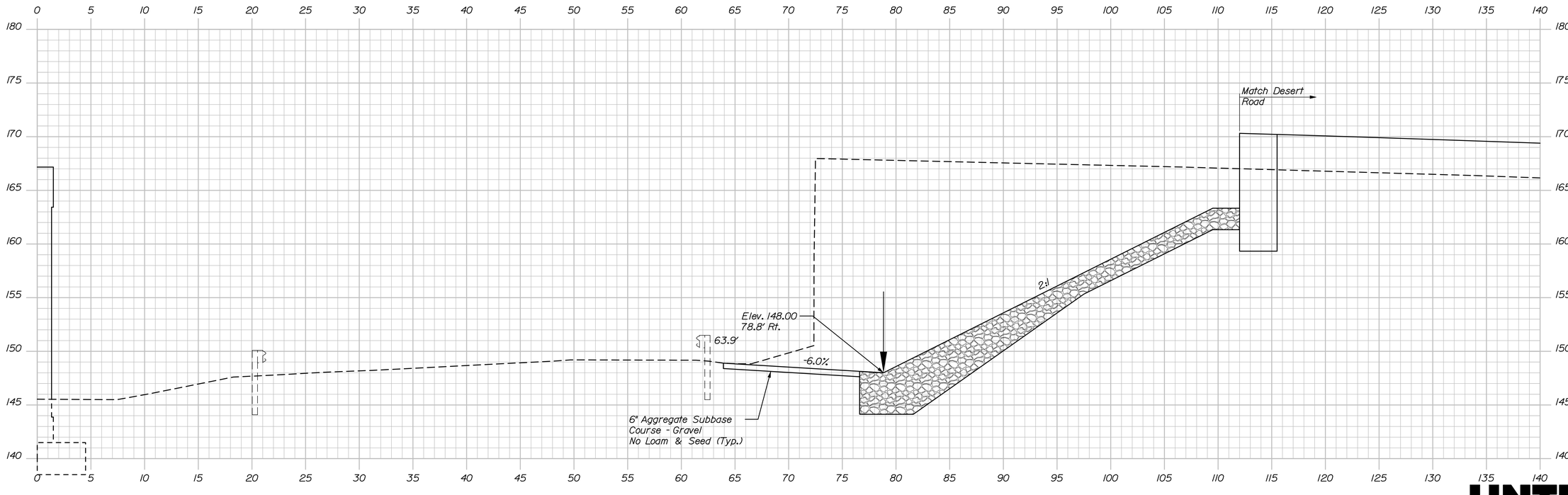
OF 138

HNTB

Date:8/27/2021
Username:
Division:
Filename: Xsect_I295_Mainline.dgn



1669+50.00



1669+25.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

BRIDGE No. 5720

WIN 023627.00

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NORTHBOUND CROSS SECTIONS

SHEET NUMBER

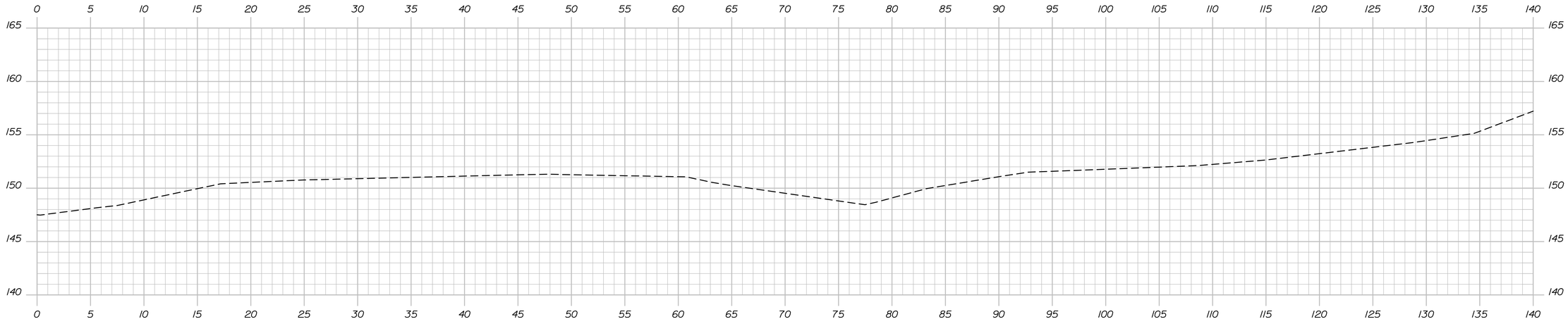
92

OF 138

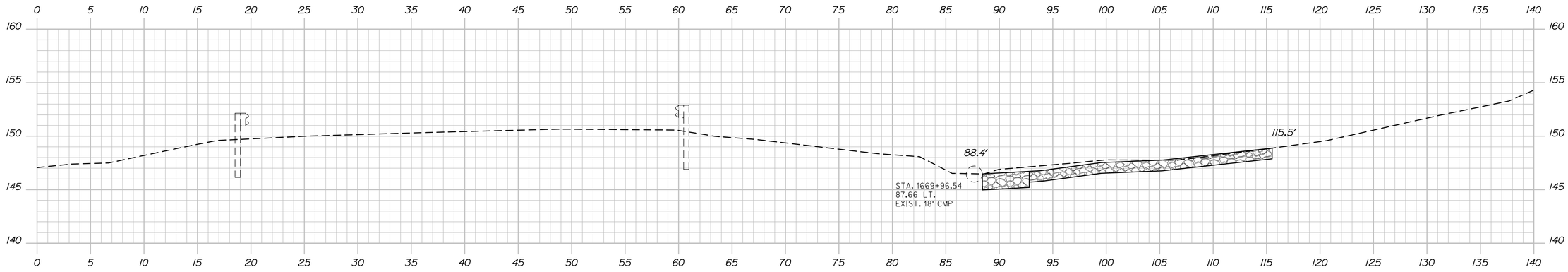
HNTB

Sta. 1669+25.00 to Sta. 1669+50.00

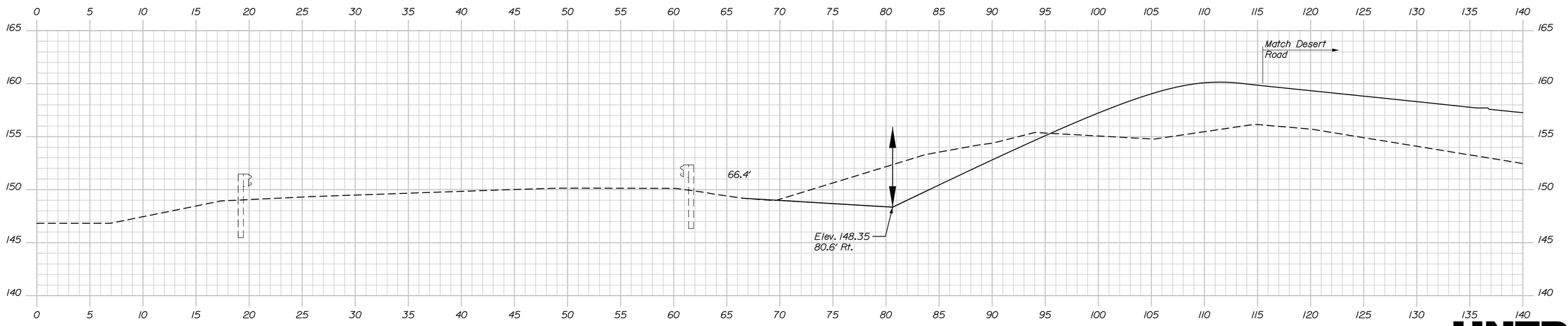
Username:
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Filename: Xsect_I295_Mainline.dgn
Date:8/27/2021



1670+25.00



1670+00.00



1669+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

BRIDGE No. 5720

WIN
023627.00

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetgen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NORTHBOUND
CROSS SECTIONS

SHEET NUMBER

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OF 138

Sta. 1669+75.00 to Sta. 1670+25.00

Date:8/27/2021
Username:
Division:
Filename: Xsect_I295_Mainline.dgn

I-295 SB RAMP AND DESERT ROAD
STAGE ONE TEMPORARY SIGNAL TIMING SCHEDULE

ITEM/PHASE	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8
MOVEMENT	Desert Rd WB LT	Desert Rd EB TH/LT	-	I-295 SB OFF RAMP L/R	-	Desert Rd WB TH	-	-
MINIMUM INITIAL	5.0	10.0	-	5.0	-	10.0	-	-
PASSAGE TIME	3.0	3.0	-	3.0	-	3.0	-	-
MAX SPLIT	22.0	23.0	-	25.0	-	45.0	-	-
YELLOW	5.0	4.0	-	4.0	-	5.0	-	-
ALL RED	2.0	1.0	-	2.5	-	2.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	S	S	-	S	-	S	-	-
DETECTOR	PR	PR	-	PR	-	PR	-	-
PRE-EMPT PRIORITY	-	-	-	-	-	-	-	-
FLASH	R	Y	-	R	-	Y	-	-
DUAL ENTRY	YES	YES	-	NO	-	NO	-	-

NOTES:
S = SOFT RECALL
MAX = MAX RECALL
C-MAX = COORDINATED MAX
O = RECALL OFF

PR = PRESENCE
MAXI = FREE OPERATION
MAX2 = UNDER COORDINATION

Y = YELLOW
R = RED
D = DARK

Stage I Traffic Control Notes:

1. The Traffic Control Plan is conceptual and is to be used for reference only. The Contractor shall design and submit traffic control plans for approval.

2. Construction of the widened roadway on Desert Road from approximate Sta. 56+75 Rt. to 64+50 Rt., additional approach work on Desert Road., and work on the I-295 NB Off and On Ramp will need to occur during Stage I in preparation of Stage 2.

3. The required work zones to construct the work in Note 2 are not shown. These activities are anticipated to occur with methods not impacting traffic operations or while utilizing short term traffic control operations which may include: lane shifts, lane closures, and temporary ramp closures. This plan shows long term traffic control necessary to complete the bridge work during this stage.

4. Traffic Control along I-295 is not shown.

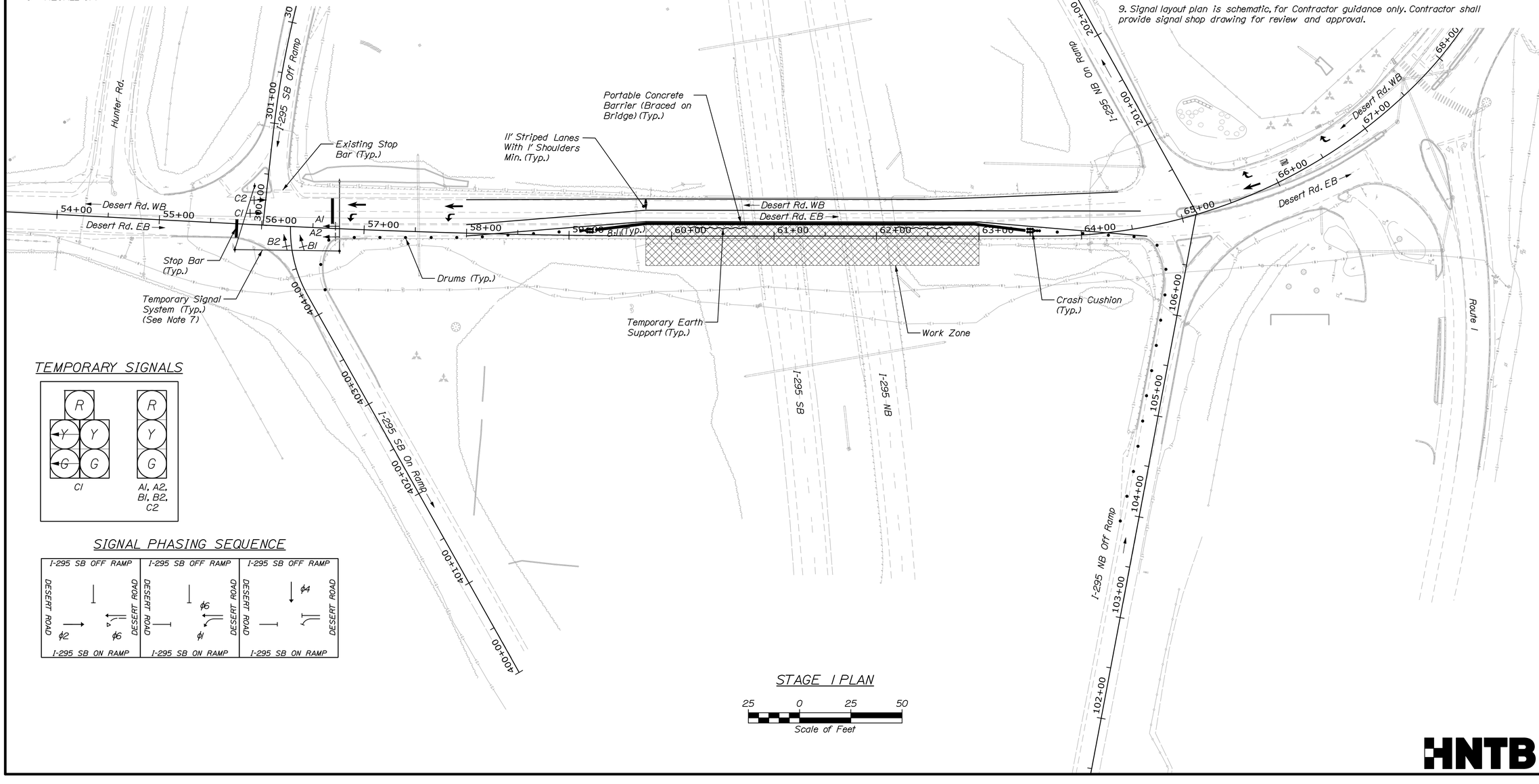
5. Construction signs are not shown. Placement of construction signs shall be in accordance with MUTCD and MaineDOT Standard Details.

6. A 25 MPH work zone speed has been assumed for Desert Road. All shifts and tapers shall meet MaineDOT standard details and MUTCD.

7. Temporary signal pole locations to be determined in the field by the Contractor with approval from the Resident.

8. Signals shall be active during the construction stage shown. The signals shall be covered when either the Stage I or 2 layout is not active which includes temporary striping and temporary barrier as shown for each respective stage.

9. Signal layout plan is schematic, for Contractor guidance only. Contractor shall provide signal shop drawing for review and approval.



TEMPORARY SIGNALS

SIGNAL PHASING SEQUENCE

STAGE I PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	DEB	08\21
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3	SMH	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
TRAFFIC CONTROL PLAN

SHEET NUMBER
94
OF 138

Date:9/10/2021
Username:
Division:
Filename: 094_Traffic ControlPlan_Stage 1.dgn

I-295 SB RAMP AND DESERT ROAD
STAGE TWO TEMPORARY SIGNAL TIMING SCHEDULE

ITEM/PHASE	ϕ 1	ϕ 2	ϕ 3	ϕ 4	ϕ 5	ϕ 6	ϕ 7	ϕ 8
MOVEMENT	Desert Rd WB LT	Desert Rd EB TH/LT	-	I-295 SB OFF RAMP L/R	-	Desert Rd WB TH	-	-
MINIMUM INITIAL	5.0	10.0	-	5.0	-	10.0	-	-
PASSAGE TIME	3.0	3.0	-	3.0	-	3.0	-	-
MAX SPLIT	22.0	23.0	-	25.0	-	45.0	-	-
YELLOW	5.0	4.0	-	4.0	-	5.0	-	-
ALL RED	2.0	1.0	-	2.5	-	2.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	S	S	-	S	-	S	-	-
DETECTOR	PR	PR	-	PR	-	PR	-	-
PRE-EMPT PRIORITY	-	-	-	-	-	-	-	-
FLASH	R	Y	-	R	-	Y	-	-
DUAL ENTRY	YES	YES	-	NO	-	NO	-	-

NOTES:
S = SOFT RECALL
MAX = MAX RECALL
C-MAX = COORDINATED MAX
0 = RECALL OFF

PR = PRESENCE
MAX1 = FREE OPERATION
MAX2 = UNDER COORDINATION

Y = YELLOW
R = RED
D = DARK

Stage 2 Traffic Control Notes:

1. The Traffic Control Plan is conceptual and is to be used for reference only. The Contractor shall design and submit traffic control plans for approval.

2. The required work zones to construct the remaining approaches and ramps are not shown. These activities are anticipated to occur with methods not impacting traffic operations or while utilizing short term traffic control operations which may include: lane shifts, lane closures, and temporary ramp closures. This plan shows long term traffic control necessary to complete the bridge work during this stage.

3. Traffic Control along I-295 is not shown.

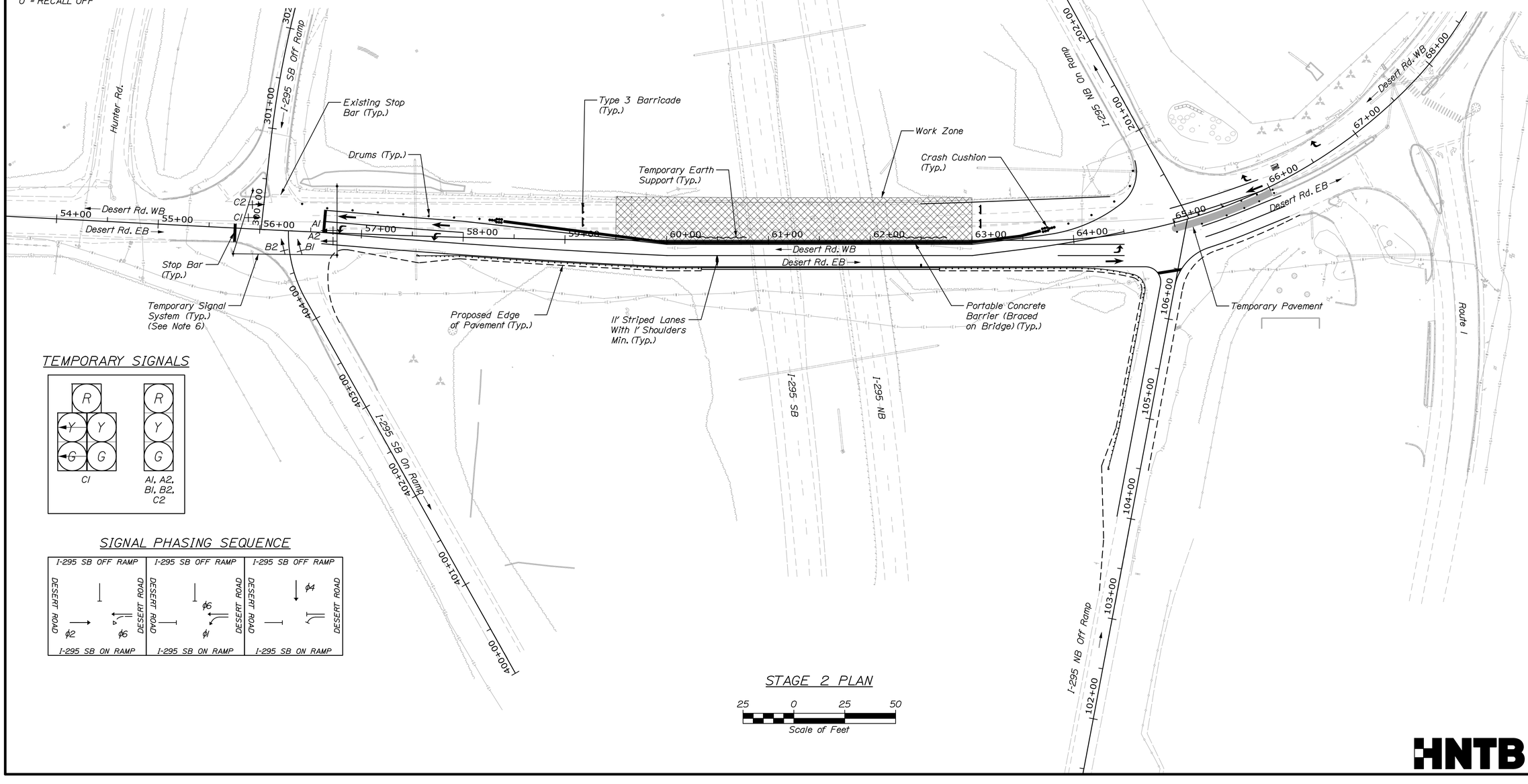
4. Construction signs are not shown. Placement of construction signs shall be in accordance with MUTCD and MaineDOT Standard Details.

5. A 25 MPH work zone speed has been assumed for Desert Road. All shifts and tapers shall meet MaineDOT standard details and MUTCD.

6. Temporary signal pole locations to be determined in the field by the Contractor with approval from the Resident.

7. Signals shall be active during the construction stage shown. The signals shall be covered when either the Stage 1 or 2 layout is not active which includes temporary striping and temporary barrier as shown for each respective stage.

8. Signal layout is schematic, for Contractor guidance only. Contral shall provide signal shop drawing for review and approval.



TEMPORARY SIGNALS

SIGNAL PHASING SEQUENCE

STAGE 2 PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2	SMH	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

DESERT ROAD
TRAFFIC CONTROL PLAN

SHEET NUMBER
95
OF 138

Date:9/10/2021
Username:
Filename: 095_Traffic ControlPlan_Stage 2.dgn Division:

SIGNAL NOTES

1. Where noted on the plans, all new vehicular signal heads shall be equipped with new LED lenses 12 inches in diameter and equipped with new 5-inch louvered back plates, including 3-inch retroreflectivity.

2. All new signal heads shall be fix mounted to mast arms with astrobrackets, or mounted to mast arm or pedestal poles.

3. The bottom of the housing of new signal faces shall be at least 17 feet but not more than 19 feet above the pavement grade at the center of the roadway.

4. Traffic work shall be completed in a manner and order that will cause the minimum disruption to traffic.

5. All materials shown on the plans are for general information only. the contractor shall prepare their own material schedules based upon plan review. All schedules shall be verified in the field by the contractor prior to ordering materials or performing work.

6. The Contractor shall furnish and install the traffic signal controllers, cabinets, and other various equipment items shown on the plans. The traffic signal controllers supplied under this contract shall be ethernet equipped advanced transportation controllers as detailed in MaineDOT Standard Specification 718.07. All control cabinets supplied under this contract shall be advanced traffic control cabinets as described in MaineDOT Standard Specification 718.08.

The contractor shall be solely responsible for providing the project with working and full configured traffic signal controllers for each intersection, delivery, and installation of the central and local intersection communication interface, and coordination with the MaineDOT office of information technology. In addition the Contractor shall furnish and install the light-based emergency vehicle preemption system compatible with the preemption emitters owned by the municipal fire department, noting that system shall be configured such that preemption or priority control can also be initiated through dedicated short-range communications (DSRC)/4G LTE 5G through a roadside unit by way of an approaching authorized vehicle with an on-board unit.

7. The system shall support communication to advance transportation controller, associated equipment and vehicle detection as shown in the plans. Intersection controllers shall be capable of communicating with the system, at a rate of once-per-second. All connections to the cloud-based central management system shall be via a secure vpn network. For all other project intersections, communications from the cloud-based system to the on-street traffic signal controllers shall be made through the field monitoring unit.

8. The Contractor shall furnish and install non-invasive stop line and advanced vehicle detection as shown in the plans. As payment for this work, the Contractor shall submit a lump sum bid per intersection for non-invasive stop line and non-invasive advance (where applicable) detection. Advance detection shall be capable of multiple dilemma zones, with multiple outputs per zone. This unit shall not be a combination unit, stop bar/advance. The vehicle detectors are to be connected to the intersection traffic controller for local vehicle detection and remotely connected to the MaineDOT traffic management center to allow visual confirmation and adjustment of the detection zones as shown in the plans. Work shall be constructed and paid for as outlined in Special Provision 643.

The non-invasive vehicle detection zones shown in the plans are for illustrative purposes only. Final detection zones shall be located in the field and approved by Mainedot and the Engineer.

The location of detection devices shown in the plans are conceptual. The actual number of detection devices and mounting locations shall be per manufacturer recommendation.

The Resident reserves the right to direct the Contractor to adjust the video detector mounting height for local conditions identified during or after installation, no additional cost will be allowed for field adjusting the pipe extensions or rewiring as necessary. This work will be incidental to the 643.21 and/or 643.22 item.

The Contractor shall re-inspect each signalized intersection during the acceptance testing period and certify detectors are functioning properly before final acceptance is granted.

9. New traffic signal control cabinet, mast arm pole, or pedestal pole foundations shall be constructed in locations shown on the plans. The proposed foundations as shown are to be within existing right-of-way or proposed easements to avoid underground conflicts based on available information provided during design; however, the contractor may, upon consultation and approval from the resident engineer, relocate cabinet and traffic signals pole foundations as needed to avoid unanticipated conflicts as long as the final location meets the guidelines in section 4E.08 of the Manual of Uniform Traffic Control Devices (MUTCD), does not violate ADA, and the structure is installed completely within the existing ROW or available easements.

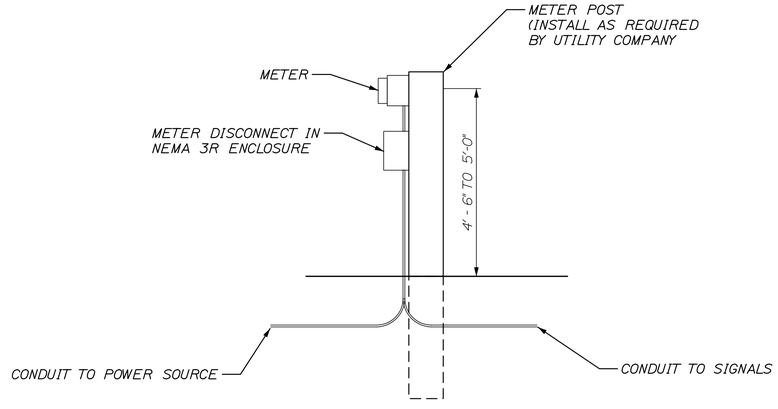
Where new control cabinet foundations are called for in the plans, each foundation shall provide sufficient conduit sweeps to service the signalized intersection while meeting the National Electrical Code Chapter 9, table 1 requirements for conduit fill. In addition a spare 1-1/2 diameter conduit shall be installed in each new control cabinet foundation and run to the nearest service pole and capped for future use.

10. MaineDOT shall have first rights to all equipment removed or replaced by the project (contact Ron Cote at 207-446-2305). the local municipalities shall have second salvage rights to all equipment not claimed by MaineDOT. the Contractor shall carefully remove and store all equipment claimed by either MaineDOT or the municipality at a central location on site for retrieval by MaineDOT or the municipality. The storage area shall be secure and all control equipment removed that has computer chip technology shall be stored in an interior heated environment.

Any equipment not claimed by either MaineDOT or the municipality for salvage shall be removed from the site by the contractor and disposed of in a manner acceptable to the Resident.

The removal of existing equipment shall be incidental to the applicable traffic signal items.

11. The Engineer and MaineDOT shall have the right and authority to determine the acceptability of work and materials in progress or completed and shall have the right to reject any work or materials which do not conform. it is the sole opinion, to the plans or specifications.



SERVICE DETAIL

NOT TO SCALE

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kerstetter	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	PEK	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

PROPOSED
SIGNAL NOTES

SHEET NUMBER

96

OF 138

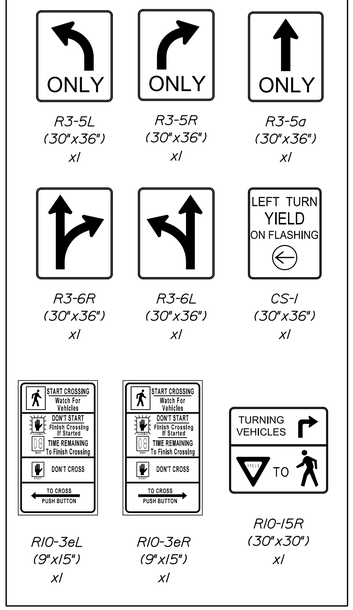
Username:

Division:

Date:8/27/2021

Filename: 096_SignalNotes.dgn

PROPOSED SIGNS

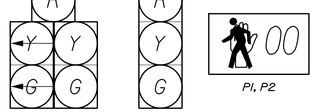


R3-5L (30"x36") xl | R3-5R (30"x36") xl | R3-5a (30"x36") xl

R3-6R (30"x36") xl | R3-6L (30"x36") xl | CS-1 (30"x36") xl

R10-3eL (9"x15") xl | R10-3eR (9"x15") xl | R10-15R (30"x30") xl

PROPOSED SIGNALS



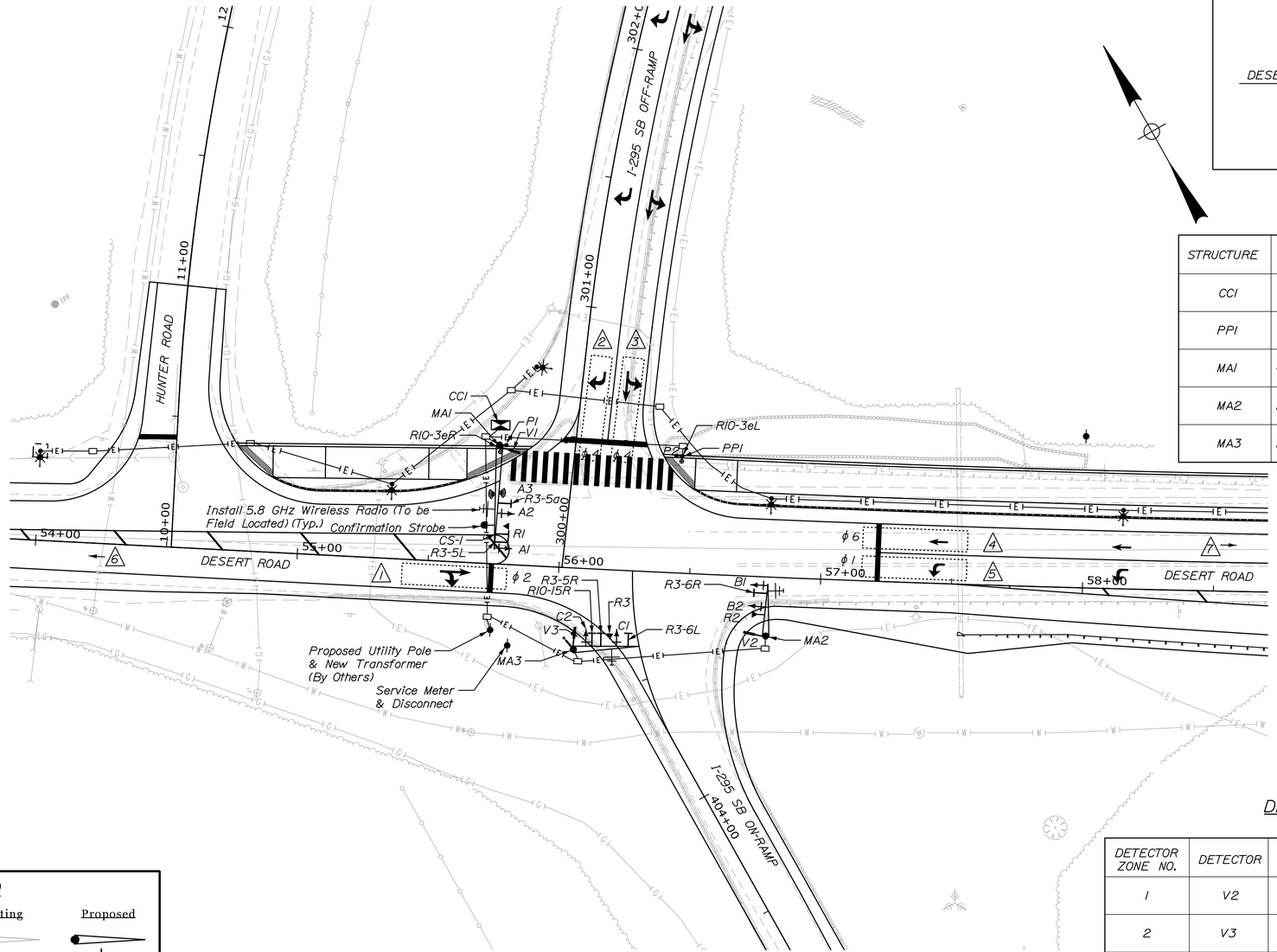
A1 | A2, B1, B2, C1, C2 | P1, P2

NOTE:

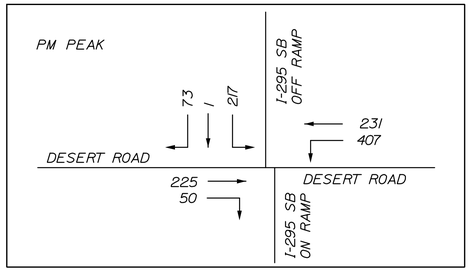
All indication shall be 12" Light Emitting Diodes (LED) with 5" louvered retroreflective backplates.

SIGNAL PLAN LEGEND

	Existing	Proposed
Mast Arm & Steel Pole On Foundation		
Signal Head		
Pedestrian Signal Head		
Pedestrian Push Button & Sign		
Control Cabinet & Foundation		
Junction Box		
Mast Arm Or Span Wire Mounted Sign		
Detector Zone		
Non-Invasive Detection		
Preemption Receiver		
Preemption Confirmation Strobe		
3" Underground Conduit	EI	EI
5.8 GHZ Wireless Radio		
Dual Mode DSRC/C-V2X (Dedicated Short Range Communications)		
Advance Detection		



2022 SYSTEM DESIGN PM VOLUMES



STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION	STATION/OFFSET
CCI	CONTROLLER CABINET	L48" X W36" X H48"	55+75.00 53.0' LT
PPI	8' PEDESTAL POLE	24" DIAMETER	56+45.00 44.7' LT
MAI	40' MAST ARM	36" DIAMETER x 12'-6"	55+75.00 45.5' LT
MA2	20' MAST ARM	36" DIAMETER x 13'-6"	56+79.94 22.6' RT
MA3	25' MAST ARM	36" DIAMETER x 8'-0"	56+07.00 31.0' RT

DETECTOR SCHEDULE

DETECTOR ZONE NO.	DETECTOR	LOCATION	φ CALLED	φ EXIT	MODE A= ADV B= SL	DELAY TIME
1	V2	Desert Road EB Thru/Rt	2	2	B	-
2	V3	I-295 SB Off Rt	4	4	B	5
3	V3	I-295 SB Off Lt/Thru	4	4	B	-
4	V1	Desert Road WB Thru	6	6	B	-
5	V1	Desert Road WB Lt	1	1	B	-
6	V2	Desert Road EB Thru	2	2	A	-
7	V1	Desert Road WB Thru	6	6	A	-

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2	SMH	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB RAMPS SIGNAL PLAN

SHEET NUMBER

97

OF 138

Filename: 097_SignalPlan_I-295 SB Off Ramp.dgn Division:

Username:

Date:8/27/2021

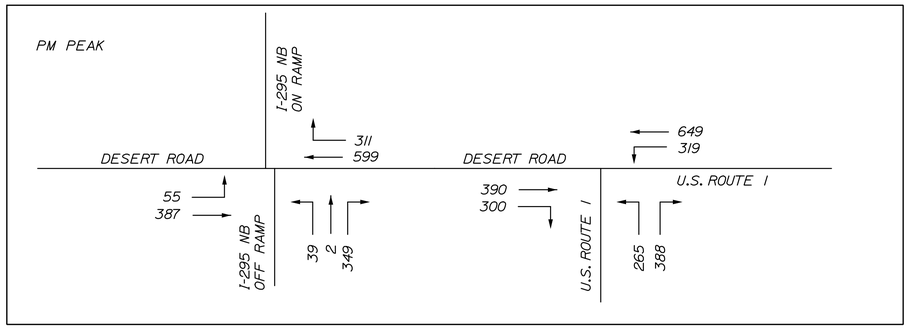
DETECTOR SCHEDULE

DETECTOR ZONE NO.	DETECTOR	LOCATION	φ CALLED	φ EXIT	MODE A= ADV B= SL	DELAY TIME
8	V6	Desert Road EB Thru	2	2	B	-
9	V6	Desert Road EB Lt	5	5	B	-
10	V4	Desert Road WB Thru/Rt	6	6	B	-
11	V4	Desert Road WB Thru	6	6	B	-
12	V5	I-295 NB Off Rt	8	8	B	5
13	V5	I-295 NB Off Thru/Lt	8	8	B	-
14	V8	Desert Road EB Thru/Rt	2	2	B	-
15	V8	Desert Road EB Thru	2	2	B	-
16	V7	U.S. Route 1 SB Thru	6	6	B	-

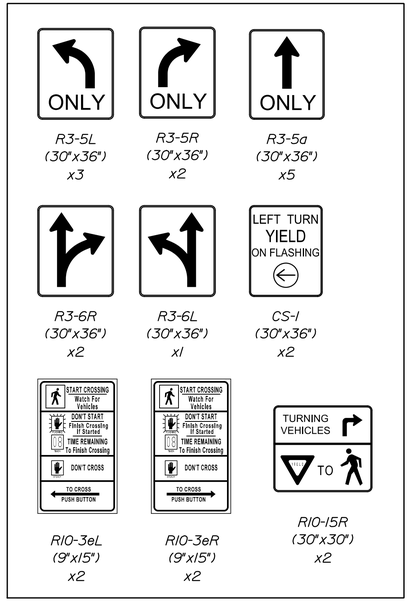
DETECTOR SCHEDULE CONT.

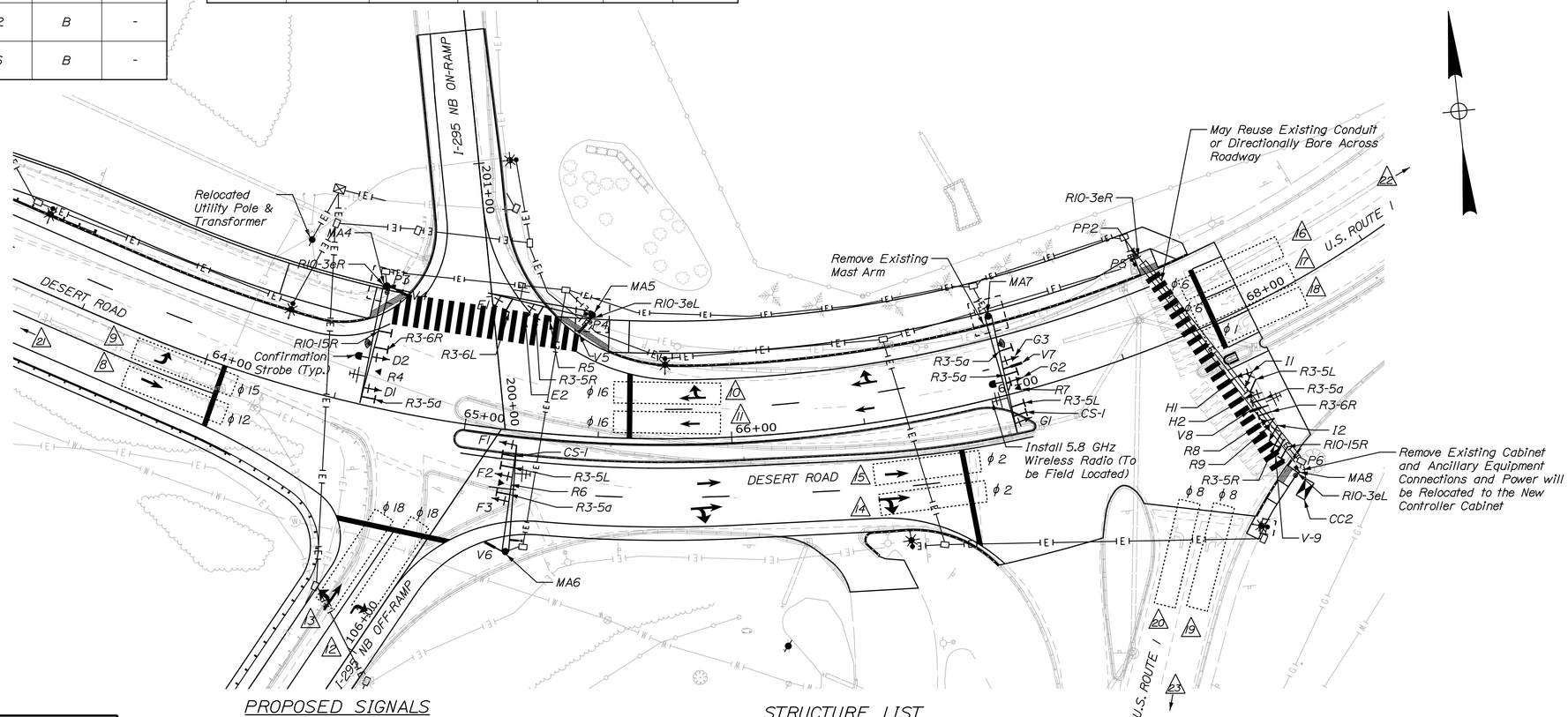
DETECTOR ZONE NO.	DETECTOR	LOCATION	φ CALLED	φ EXIT	MODE A= ADV B= SL	DELAY TIME
17	V7	U.S. Route 1 SB Thru	6	6	B	-
18	V7	U.S. Route 1 SB Lt	1	1	B	-
19	V9	U.S. Route 1 NB Rt	8	8	B	5
20	V9	U.S. Route 1 NB Lt	8	8	B	-
21	V6	Desert Road EB Thru	2	2	A	-
22	V7	U.S. Route 1 SB	6	6	A	-
23	V9	U.S. Route 1 NB	8	8	A	-

2022 SYSTEM DESIGN PM VOLUMES



PROPOSED SIGNS

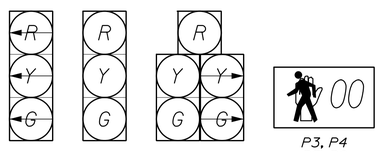




SIGNAL PLAN LEGEND

	Existing	Proposed
Mast Arm & Steel Pole On Foundation		
Signal Head		
Pedestrian Signal Head		
Pedestrian Push Button & Sign		
Control Cabinet & Foundation		
Junction Box		
Mast Arm Or Span Wire Mounted Sign		
Detector Zone		
Non-Invasive Detection		
Preemption Receiver		
Preemption Confirmation Strobe		
3" Underground Conduit		
5.8 GHZ Wireless Radio		
Dual Mode DSRC/C-V2X (Dedicated Short Range Communications)		
Advance Detection		

PROPOSED SIGNALS



NOTE:

All indication shall be 12" Light Emitting Diodes (LED) with 5" louvered retroreflective backplates.

STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION	STATION/OFFSET
CC2	CONTROLLER CABINET	L48" X W36" X H48"	67+90.69 70.9' RT
PP2	8' PEDESTAL POLE	24" DIAMETER	67+66.58 33.8' LT
MA4	45' MAST ARM	12'-6" X 12'-6" SPREAD FOOTING	64+59.82 45.5' LT
MA5	40' MAST ARM	12'-6" X 12'-6" SPREAD FOOTING	65+45.27 45.5' LT
MA6	40' MAST ARM	36" DIAMETER x 12'-6"	65+20.09 45.5' RT
MA7	45' MAST ARM	12'-6" X 12'-6" SPREAD FOOTING	67+05.00 30.5' LT
MA8	EXISTING MAST ARM	EXISTING	67+91.45 64.3' RT

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	DEB	08\21
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3	SMH	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB RAMPS/ROUTE 1 SIGNAL PLAN

SHEET NUMBER

98

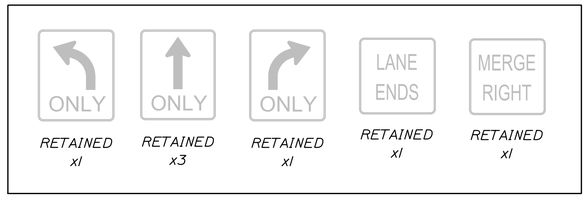
OF 138

HNTB

Filename: 098_Signal Plan_I-295 NB Off Ramp.dgn Division: Username: Date:8/27/2021

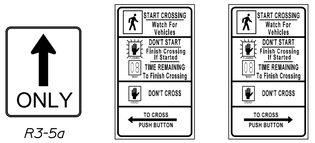
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EXISTING SIGNS



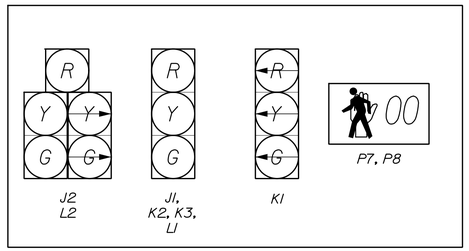
RETAINED x1 | RETAINED x3 | RETAINED x1 | RETAINED x1 | RETAINED x1

PROPOSED SIGNS



R3-5a (30"x36") x1 | R10-3eL (9"x15") x1 | R10-3eR (9"x15") x1

PROPOSED SIGNALS



J2, L2 | J1, K2, K3, L1 | K1 | P7, P8

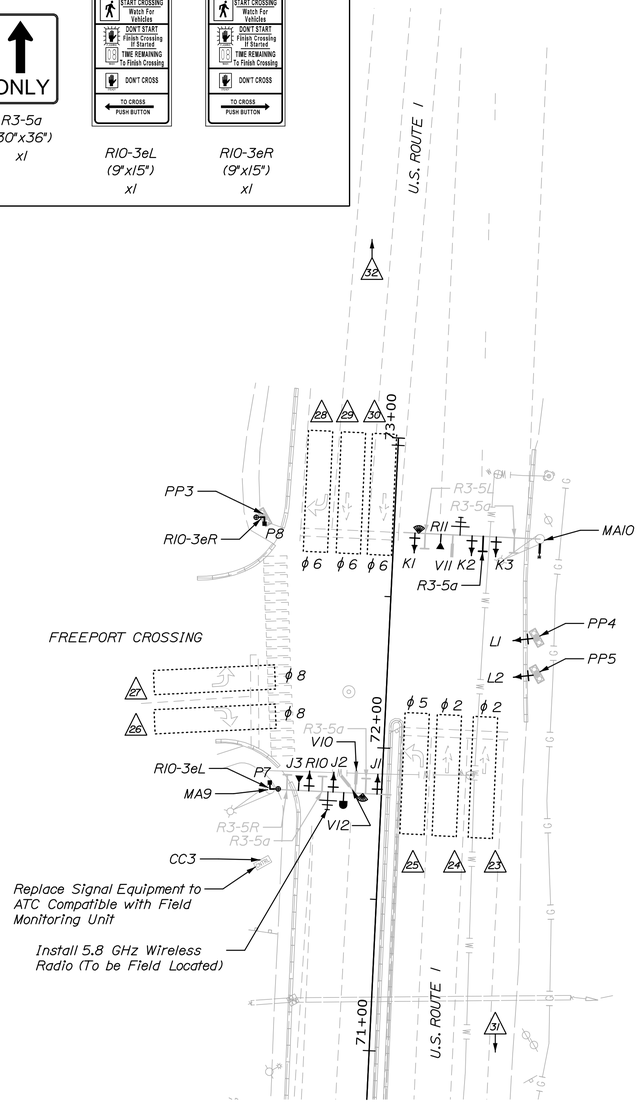
NOTE:
All indication shall be 12" Light Emitting Diodes (LED) with 5" louvered retroreflective backplates.

STRUCTURE LIST

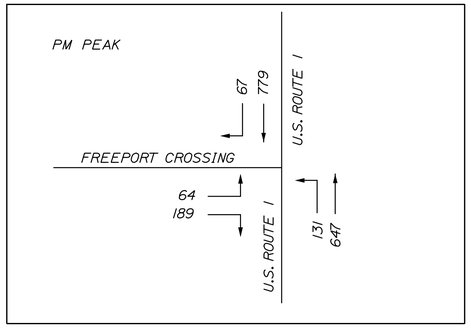
STRUCTURE	DESCRIPTION	FOUNDATION	STATION/OFFSET
CC3	EXISTING CONTROLLER CABINET	EXISTING	71+60.26 38.1' LT
PP3	EXISTING PEDESTAL POLE	EXISTING	72+74.22 42.9' LT
PP4	EXISTING PEDESTAL POLE	EXISTING	72+38.74 48.6' RT
PP5	EXISTING PEDESTAL POLE	EXISTING	72+26.81 49.3' RT
MA9	EXISTING MAST ARM	EXISTING	71+84.69 36.8' LT
MA10	EXISTING MAST ARM	EXISTING	72+71.36 48.2' LT

SIGNAL PLAN LEGEND

	Existing	Proposed
Mast Arm & Steel Pole On Foundation		
Signal Head		
Pedestrian Signal Head		
Pedestrian Push Button & Sign		
Control Cabinet & Foundation		
Junction Box		
Mast Arm Or Span Wire Mounted Sign		
Detector Zone		
Non-Invasive Detection		
Preemption Receiver		
Preemption Confirmation Strobe		
3" Underground Conduit	E1	E1
5.8 GHZ Wireless Radio		
Dual Mode DSRC/C-V2X (Dedicated Short Range Communications)		
Advance Detection		



2022 SYSTEM DESIGN PM VOLUMES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	DETECTOR	LOCATION	φ CALLED	φ EXIT	MODE A= ADV B= SL	DELAY TIME
23	V11	U.S. Route 1 NB Thru	2	2	B	-
24	V11	U.S. Route 1 NB Thru	2	2	B	-
25	V11	U.S. Route 1 NB Lt	5	5	B	-
26	V12	Freeport Crossing Rt	8	8	B	5
27	V12	Freeport Crossing Lt	8	8	B	-
28	V10	U.S. Route 1 SB Rt	6	6	B	5
29	V10	U.S. Route 1 SB Thru	6	6	B	-
30	V10	U.S. Route 1 SB Thru	6	6	B	-
31	V11	U.S. Route 1 NB Thru	2	2	A	-
32	V10	U.S. Route 1 SB Thru	6	6	A	-

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetter	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	PEK	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1	DEB	
REVISIONS 2	SMH	
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

FREEPORT CROSSING SIGNAL PLAN

SHEET NUMBER

99

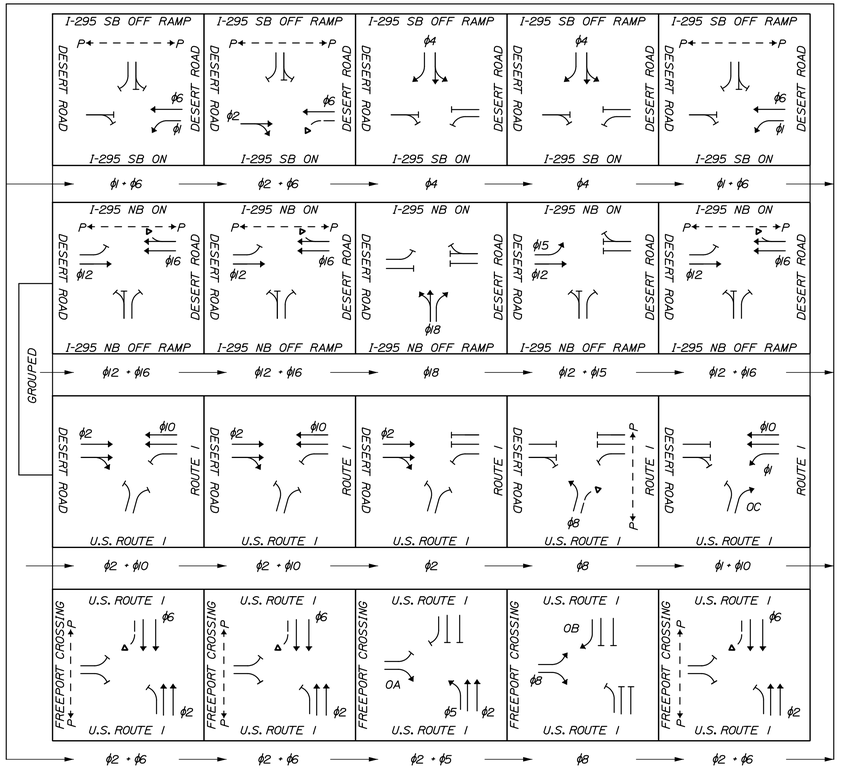
OF 138

EQUIPMENT AND WORK ITEMS

	Desert Road and I-295 SB	Desert Road/I-295 NB/U.S. Route 1	U.S. Route 1 and Freeport Crossing
FURNISH AND INSTALL NEW ATC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM	1	1	-
MODIFY EXISTING SIGNAL SYSTEM WITH ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM	-	-	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	5	13	5
FURNISH AND INSTALL ONE-WAY 5-SECTION 12-INCH TRAFFIC SIGNAL HEADS WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARM UPRIGHTS WITH BRACKET	1	1	2
FURNISH AND INSTALL 5.8 GHZ WIRELESS RADIO UNIT WITH FLAT PANEL ANTENNAES (LUMP SUM ITEM 643.90)	1	2	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	7	17	1
FURNISH AND INSTALL ONE-WAY 16" x 18" LED TOP MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD WITH ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSH BUTTON AND RIO-3eX INFORMATION SIGN	1	1	-
FURNISH AND INSTALL ONE-WAY 16" x 18" LED SIDE MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD WITH ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSH BUTTON AND RIO-3eX INFORMATION SIGN	1	3	-
FURNISH AND INSTALL 4-CHANNEL PRE-EMPTION PHASE SELECTOR ASSEMBLY WITH 3 LIGHT-BASED PRE-EMPTION RECEIVERS AND CONFIRMATION STROBE WITH CABLES	1	1	-
FURNISH AND INSTALL SIGNAL CABLE IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	1	1	1
FURNISH AND INSTALL PRECAST CONCRETE JUNCTION BOX (ITEM 626.11)	5	6	-
FURNISH AND INSTALL (3-INCH) METALLIC CONDUIT (ITEM 626.21)	37	-	-
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	55	270	-
FURNISH AND INSTALL UNDER PAVEMENT (3-INCH) CONDUIT (ITEM 626.251)	-	100	-
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.38)	1	1	-
FURNISH AND INSTALL 24" FOUNDATION (ITEM 626.421)	1	1	-
FURNISH AND INSTALL 36" FOUNDATION (ITEM 626.44)	3	1	-
FURNISH AND INSTALL SPREAD FOOTING (ITEM 626.501)	-	3	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM, COMPLETE (ITEM 643.21)	1	1	-
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM (ITEM 643.22)	1	1	1
FURNISH AND INSTALL MAST ARM POLE W/ 20' ARM (ITEM 643.91)	1	-	-
FURNISH AND INSTALL MAST ARM POLE W/ 25' ARM (ITEM 643.91)	1	-	-
FURNISH AND INSTALL MAST ARM POLE W/ 40' ARM (ITEM 643.91)	1	2	-
FURNISH AND INSTALL MAST ARM POLE W/ 45' ARM (Item 643.91)	-	2	-
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	1	1	-
FURNISH AND INSTALL DUAL MODEL DSRC/C-V2X (ITEM 654.351)	1	1	1

QUANTITIES ARE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY

SIGNAL PHASING SEQUENCE



*PHASING TO BE DETERMINED DURING FINAL DESIGN

NEMA RING AND BARRIER — OVERLAP PHASING T.B.D.

PREEMPTION NOTES

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICIATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST).

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECOND OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 3.0 SECONDS RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
RI	1	1	6
R2	2	2	2
R3	3	3	4
R4	1	1	6
R5	2	2	8

EMERGENCY VEHICLE PREEMPTION OPERATION CONT.

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R6	3	3	2
R7	4	4	6
R8	5	5	2
R9	6	6	8
RIO	1	1	1
RII	2	2	5

I-295 SB RAMP AND DESERT ROAD SIGNAL TIMING SCHEDULE

ITEM/PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	Desert Rd WB LT	Desert Rd EB TH/RT	-	I-295 SB Off SB LT/RT	-	Desert Rd WB TH	-	-
MINIMUM INITIAL	5.0	10.0	-	5.0	-	10.0	-	-
PASSAGE TIME	3.0	3.0	-	3.0	-	3.0	-	-
MAXIMUM 1	16.0	29.0	-	25.0	-	45.0	-	-
MAXIMUM 2	28.0	45.0	-	37.0	-	73.0	-	-
YELLOW	5.0	4.0	-	5.0	-	4.0	-	-
ALL RED	2.0	2.0	-	2.0	-	2.0	-	-
PED WALK	7.0	7.0	-	-	-	7.0	-	-
PED CLEAR	18.0	18.0	-	-	-	18.0	-	-
RECALL	S	S	-	0	-	S	-	-
DETECTOR	PR	PR	-	PR	-	PR	-	-
PRE-EMPT PRIORITY	x	x	-	x	-	x	-	-
FLASH	R	Y	-	R	-	Y	-	-
DUAL ENTRY	N	Y	-	N	-	Y	-	-

I-295 NB RAMP/DESERT ROAD/ROUTE 1 SIGNAL TIMING SCHEDULE

ITEM/PHASE	φ1	φ2	φ8	φ10	φ12	φ15	φ16	φ18
MOVEMENT	U.S. Route 1 SB LT	Desert Rd EB TH/RT	U.S. Route 1 NB LT/RT	Desert Rd WB TH	Desert Rd EB TH	Desert Rd EB LT	Desert Rd WB TH/RT	I-295 NB Off LT/RT
MINIMUM INITIAL	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
PASSAGE TIME	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MAXIMUM 1	21.0	25.0	39.0	46.0	46.0	15.0	31.0	39.0
MAXIMUM 2	34.0	39.0	37.0	73.0	68.0	22.0	46.0	42.0
YELLOW	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0
ALL RED	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PED WALK	-	-	7.0	-	7.0	-	7.0	-
PED CLEAR	-	-	19.0	-	26.0	-	26.0	-
RECALL	S	S	0	S	S	S	S	0
DETECTOR	PR	PR	PR	PR	PR	PR	PR	PR
PRE-EMPT PRIORITY	x	x	x	x	x	x	x	x
FLASH	R	Y	R	Y	Y	R	Y	R
DUAL ENTRY	N	N	N	N	N	N	N	N

FREEPORT CROSSING AND ROUTE 1 SIGNAL TIMING SCHEDULE

ITEM/PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	U.S. Route 1 NB Thru	-	-	U.S. Route 1 NB LT	U.S. Route 1 SB TH/RT	-	Freeport Crossing
MINIMUM INITIAL	-	10.0	-	-	5.0	10.0	-	5.0
PASSAGE TIME	-	3.0	-	-	3.0	3.0	-	3.0
MAXIMUM 1	-	44.0	-	-	13.0	31.0	-	11.0
MAXIMUM 2	-	88.0	-	-	45.0	43.0	-	22.0
YELLOW	-	4.0	-	-	5.0	4.0	-	5.0
ALL RED	-	2.0	-	-	2.0	2.0	-	2.0
PED WALK	-	7.0	-	-	-	7.0	-	-
PED CLEAR	-	20.0	-	-	-	20.0	-	-
RECALL	-	S	-	-	S	S	-	0
DETECTOR	-	PR	-	-	PR	PR	-	PR
PRE-EMPT PRIORITY	-	x	-	-	x	x	-	x
FLASH	-	Y	-	-	R	Y	-	R
DUAL ENTRY	-	N	-	-	N	N	-	N

NOTES:
S = SOFT RECALL
MAX = MAX RECALL
C-MAX = COORDINATED MAX
0 = RECALL OFF
PR = PRESENCE
MAXI = FREE OPERATION
MAX2 = UNDER COORDINATION
Y = YELLOW
R = RED
D = DARK
*CONCURRENT PED CLEARANCE SHALL "FLASH" THROUGH YELLOW
**PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY. A 4 SECOND LEAD TIME WILL BE PROVIDED

COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE

	DESERT RD AND I-295 SB	DESERT RD AND I-295 NB/DESERT RD AND U.S. ROUTE 1		FREEPORT CROSSING AND U.S. ROUTE 1	COORDINATION MODE SET TO FIXED FORCE-OFF
CYCLE LENGTH	110	110		110	
OFFSET (BEGIN YELLOW)	0	15		30	
COORDINATED PHASE	φ4	φ15		φ8	
SPLIT TIME φ1	7		22	-	
SPLIT TIME φ2	35	(φ2) 22	56	37	
SPLIT TIME φ3	-	(φ3) -	-	-	
SPLIT TIME φ4	0	(φ4) -	-	-	
SPLIT TIME φ5	-	(φ5) 15	-	80	
SPLIT TIME φ6	7	(φ6) 22	-	37	
SPLIT TIME φ7	-	(φ7) -	-	-	
SPLIT TIME φ8	-	(φ8) 68	15	30	
SPLIT TIME φ10	-		22	-	

NOTES: 1. COORDINATION BEGINS ON YELLOW.
2. ALL SIGNAL TIMINGS ARE INITIAL AND SHOULD BE REFINED USING THE SPM SOFTWARE AFTER INSTALLATION AND MONITORED ROUTINELY TO ENSURE OPTIMAL OPERATIONS.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

BY	DATE
M. Kerstbergen	
DEB	08\21
SMH	08\21

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	M. Kerstbergen
DESIGN-DETAILED	CDH
CHECKED-REVIEWED	PEK
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

MERRILL ROAD BRIDGE
INTERSTATE 295 CUMBERLAND
FREEPORT

DESERT ROAD SIGNAL DIAGRAMS & TABLES

SHEET NUMBER

100

OF 138

Date:8/27/2021
Username:
Division:
Filename: 100_SignalDiagrams & Tables.dgn

Date:8/27/2021

Username:

Division:

Filename: 101_Lighting Notes.dgn

Lighting General Notes:

1. Sope of Work - Install highway lighting as shown on these plans. Install 240V power service, multi-circuit lighting control cabinet and service disconnect enclosure. Furnish and install conduit, foundations, conventional light standards, LED luminaires, wiring, and related hardware. Remove existing lighting and foundations where noted on plans.

2. All existing interchange lighting shall remain active until the new lighting installations are approved by MaineDOT to be activated.

3. Existing light poles and luminaires noted for removal shall be carefully removed after activation of the new lighting installations and shall be delivered to the MaineDOT maintenance facility on Desert Road in Freeport. Payment for removal, transport and delivery of poles and luminaires will be incidental to Item 634.160. Existing lighting poles noted as remove on the lighting plans are intended to have existing foundations also removed as directed and existing conduit abandoned. Payment for removal of foundations will be made under Item 626.36: Remove or Modify Existing Foundation.

4. All materials and workmanship shall conform to applicable provisions of the current editions of the Maine Department of Transportation standard specifications and standard details, National Electrical Code (N.E.C.) and any requirements of the power company.

5. The Contractor shall visit the site prior to bidding to ensure awareness of site conditions that could affect the bid.

6. The contractor shall field verify pole locations to avoid natural and built site features that would conflict with proper installation of pole foundations.

7. The existing 240 volt service and multi-circuit control cabinet shall be removed. Remove service, control cabinet, disconnect enclosure, and cabinet foundation after activation of new lighting. Abandon service conduit.

8. Circuit 1 currently serves 7 luminaires on ramp F-3 (Northbound Off-Ramp), 5 luminaires on ramp F-4 (Southbound On-Ramp), 2 luminaires on Desert Road, and 2 luminaires at the Route 1 Park & Ride facility. All existing luminaires are 130 watt fixtures. Remove 2 luminaires at the north end of ramp F-3 and 2 luminaires on the south side of Desert Road east of ramp F-3 as noted on the plans. Install 2 new luminaires on the east side of ramp F-3 where noted on the plans. Connect the new luminaires to the circuit 1 wiring as shown on the plans.

9. Circuit 2 currently serves 6 luminaires on ramp F-1 (Southbound Off-Ramp), 6 luminaires on ramp F-2 (Northbound On-Ramp), 1 luminaire on the north side of Desert Road east of ramp F-2, and 5 luminaires on the north side of Route 1 east of the interchange. All existing luminaires are 130 watt fixtures. Remove 1 luminaire at the south end of ramp F-2, 1 luminaire on the north side of Desert Road, and 1 luminaire on the north side of Route 1 as noted on the plans. Sweep existing conduit for circuit 2 to connect to new cabinet. Connect the remaining 4 Route 1 luminaires to new circuit 3 at junction box 10 (JB10).

10. Existing circuit 3 will be abandoned. Install new circuit 3 wiring, breakers and related components in the new cabinet. New circuit 3 will serve 12 new luminaires along Desert Road and at ramp junctions with Desert Road and 4 existing luminaires on Route 1.

11. Install new 240V service and multi circuit control cabinet as shown on these plans and in the standard details. The meter and a meter disconnect in a separate NEMA 3R enclosure shall be installed on the side of the Lighting Control Cabinet. The cabinet and disconnect enclosure shall be lockable. The service cabinet, disconnect enclosure, and other enclosures for electrical components shall be marked with arc flash hazard labels indicating hazard type 1, 2, 3 or 4 and the appropriate PPE required.

12. All lighting circuits are to be photocell activated by a new photocell on the control cabinet.

13. New lighting fixture voltage shall be 240 volts.

14. Lighting fixtures shall be IES full cutoff, light emitting diode (LED) fixtures, IES distribution type 2 and type 3. LED modules shall be IP66 rated.

15. Install lighting fixtures on 40-foot galvanized steel poles. Fixtures shall attach to poles by a minimal length horizontal galvanized steel pipe tenon, 2-inch nominal diameter. Installation on bracket arms will not be allowed.

16. All fixtures shall be gasketed and have surge protection and a double fuse kit. All fixtures shall be gray. The lighting layout was done using American Electric Lighting Autobahn Series ATB0 luminaires, catalog numbers:

ATB0 P204 R3 4K, 10 luminaires on 10 poles

ATB0 P203 R2 4K, 3 luminaires on 3 poles

ATB0 P202 R2 4K, 1 luminaire on 1 pole

17. LED color temperature for fixtures installed shall be 4000K. If different fixtures are proposed, they shall be IES full cutoff, type 2 and type 3 IES distribution LED luminaires. The Contractor must demonstrate that the proposed fixtures will reasonably equal the light levels and distributions shown on the plans, in the opinion of MaineDOT.

18. Alternative LED luminaires must be of a make and model pre-approved by MaineDOT's chief electrician and consistent with the maintenance inventory of lighting hardware of the department unless otherwise approved. Evaluation by MaineDOT of alternative LED luminaires that may be proposed by the Contractor for substitution will require submittal of the following, at minimum:

IES LM-79-19 absolute testing report for the proposed alternative luminaire;

IES LM-80-20 testing report for LED chips to be used in the alternative luminaire, documenting testing for a minimum of 8500 hours;

IES TM-21-19 report for projected long term lumen maintenance, including incremental lumen depreciation table at 25 degrees celsius to a minimum of 50,000 hours;

IES photometric file from the manufacturer for the proposed alternative luminaire;

Photometric plot, overlaid on the layout of the luminaire locations for this specific project, showing illumination grid values and illumination statistics for each of the lighting zones;

Values of factors used for calculation of the assumed light loss factor;

Specification data regarding optics, chromatic color temperature, driver, surge protection, housing and gasketing.

19. Poles shall have a minimum of four anchor bolts. Tightening of anchor bolt nuts on poles with breakaway bases shall be as recommended by the breakaway base manufacturer.

20. New power service conduit required between the power source and the meter shall be rigid metal conduit. Other new buried conduit shall be 2 inch minimum diameter. Requirement of larger conduit size shall be determined by the contractor in accordance with conduit fill requirements of the National Electrical Code. All conduit in the highway right of way shall be schedule 80 unless concrete-encased. If schedule 40 PVC conduit encased in concrete is used, concrete encasement will be incidental to payment for conduit.

21. Conduit under existing pavement that otherwise is not shown on the plans to be disturbed by roadway reconstruction shall be hydraulically jacked or directional bored to at least ten feet beyond the edge of pavement. Conduit installed under pavement will be paid under item 626.251 for the pavement width plus 20 feet. No trenching across existing paved roadway lanes or shoulders will be allowed. Minimum burial depth for all conduit shall be 36 inches.

22. Bushings shall be installed on all conduit terminations.

23. Pull wire shall be installed in all new conduit.

24. All exposed rigid conduit fittings and hardware shall be galvanized, except non-conductive bushings for connection of rigid metal conduit to aluminum cabinets.

25. Secondary circuit wiring shall be stranded copper XHHW-2. All wiring shall be no. 8 AWG or larger wire size. Wire sizes noted on the plans are approximate. Final wire sizing shall be performed by the Contractor in conformance with N.E.C. requirements based on electrical loads of actual electrical components to be installed.

26. The wire in conduits shall be continuous with no splices between poles. Junction boxes shown on the plans are shown in approximate locations and are intended for use only as pull boxes for wire pulling access unless otherwise noted. Actual number and locations may vary and shall be subject to approval of the Resident prior to installation.

27. Cap and/or seal exposed ends of conduit to prevent intrusion of moisture or rodents. Payment for conduit will be made under Item 626.22, except conduit jacked or directional bored under existing pavement and extending to 20 feet beyond the edge of pavement will be paid under Item 626.251.

28. Breakaway devices shall conform to the latest version of "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals" and NCHRP report 350. The breakaway device shall be designed so that the anchor bolts will not bend when a vehicle hits the pole. A frangible coupling such as Transpo Pole-Safe 5000 Series (with a female anchor), the Manitoba Safety Base with reaction plate, or approved equal shall be used.

29. All light poles shall be bonded to the grounding conductor.

30. Metal frames and conductive covers of junction boxes shall be bonded to the grounding conductor.

31. All foundations for conventional light standards shall have a ground rod located in or adjacent to the foundation that is bonded to the grounding conductor. The ground wire for the ground rod shall exit through a half-inch diameter conduit in the foundation. Payment for ground rods and conduit in foundations shall be included in Item 634.160: Highway Lighting.

32. Payment under Item 634.210: Conventional Light Standard, will include but not be limited to new poles, transformer bases (if required), and breakaway devices.

33. Payment under Item 626.21, Item 626.251 and Item 626.22 will include bushings, fittings, pull wire, and other necessary hardware related to the conduit.

34. Payment under Item 634.160: Highway Lighting, will include all materials, labor and equipment necessary to provide a fully functioning highway lighting system except those items to be paid under other related bid items in the contract.

35. Curing boxes and all required concrete testing labor, materials, and equipment will be considered incidental to payment under Section 626 Foundation Items.

36. Stationing shown for lighting related items is approximate and may be adjusted by the Resident in the field in consultation with the Engineer.

37. Upon completion of this project, the Contractor shall furnish to MaineDOT a set of as-built plans for future reference and system maintenance.

CONDUIT SUMMARY

CIRCUIT 1, RAMPS F-3 & F-4				Wire Size: 240 Volts, # 4 AWG Stranded Copper XXHW-2	
Station	Pole	Breakaway	Distance (Ft)	Remarks: 14 Fixtures*	7.08 Amps
New Cabinet 64+30, 76.0' LT.	-	-	18		
JB7	-	-			
JB14	-	-	137	Intercept Existing Circuit 1 Wiring at JB14	
JB15	-	-	40		
105+75, 15.0' RT.	13	YES	19		
104+40, 15.0' RT.	14	YES	135		

NOTE: *Total Number of Fixtures and AMP Load Includes Existing Route 1 Park & Ride Lighting Poles Beyond Project Limit Connected to Existing Circuit 1.

CONDUIT SUMMARY CONTINUED

CIRCUIT 3, DESERT ROAD			Wire Size: 240 Volts, # 4 AWG Stranded Copper XHHW-2		
Station	Pole	Breakaway	Distance (Ft)	Remarks: 16 Fixtures**	6.33 Amps
New Cabinet 64+30, 76.0' Lt.	-	-	18		
JB7	-	-			
64+25, 30.0' LT.	8	YES	31		
63+25, 30.0' LT.	7	YES	97		
JB6	-	-	5		
JB17	-	-	146		
JB16	-	-	127	Directional Bore	
JB5	-	-	98		
59+50, 30.0' LT.	6	YES	37		
58+15, 30.0' LT.	5	YES	135		
56+80, 30.0' LT.	4	YES	135		
JB4	-	-	57		
JB3	-	-	57	Schedule 80 or Concrete Encased	
55+35, 28.4' LT.	2	YES	58		
JB2	-	-	57		
JB1	-	-	60	Schedule 80 or Concrete Encased	
54+00, 34.0' LT.	1	YES	20		
300+75, 18.0' LT.	3	YES	13		
JB3	-	-			
JB7	-	-	44		
JB8	-	-	42	Schedule 80 or Concrete Encased	
JB9			70		
65+75, 30.0' LT.	10	YES	82		
JB10	-	-	80	Schedule 80 or Concrete Encased	
JB11	-	-	120	Directional Bore	
JB12	-	-	5		
67+75, 78.0' RT.	12	YES	32		
201+00, 14.0' RT.	9	YES			
JB9	-	-	12		
66+60, 48.0' RT.	11	YES			
JB11	-	-	100		
JB10	-	-			
Exist. Junction Box 67+62, 31.9' Lt.	-	-			

NOTE: **Total Number of Fixtures and AMP Load Includes Connection of Existing Route 1 Lighting Poles Beyond Project Limit to New Circuit 3.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

STATE OF MAINE * ALBERT L. GODFREY * No. 4226 * LICENSED PROFESSIONAL ENGINEER

ALBERT L GODFREY
SIGNATURE

4226
P.E. NUMBER

8/27/21
DATE

PROJ. MANAGER	M. Kerstbergen	BY	DATE
DESIGN-DETAILED	ALG	CDH	08\21
CHECKED-REVIEWED	ALG	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

LIGHTING NOTES

SHEET NUMBER

101

OF 138

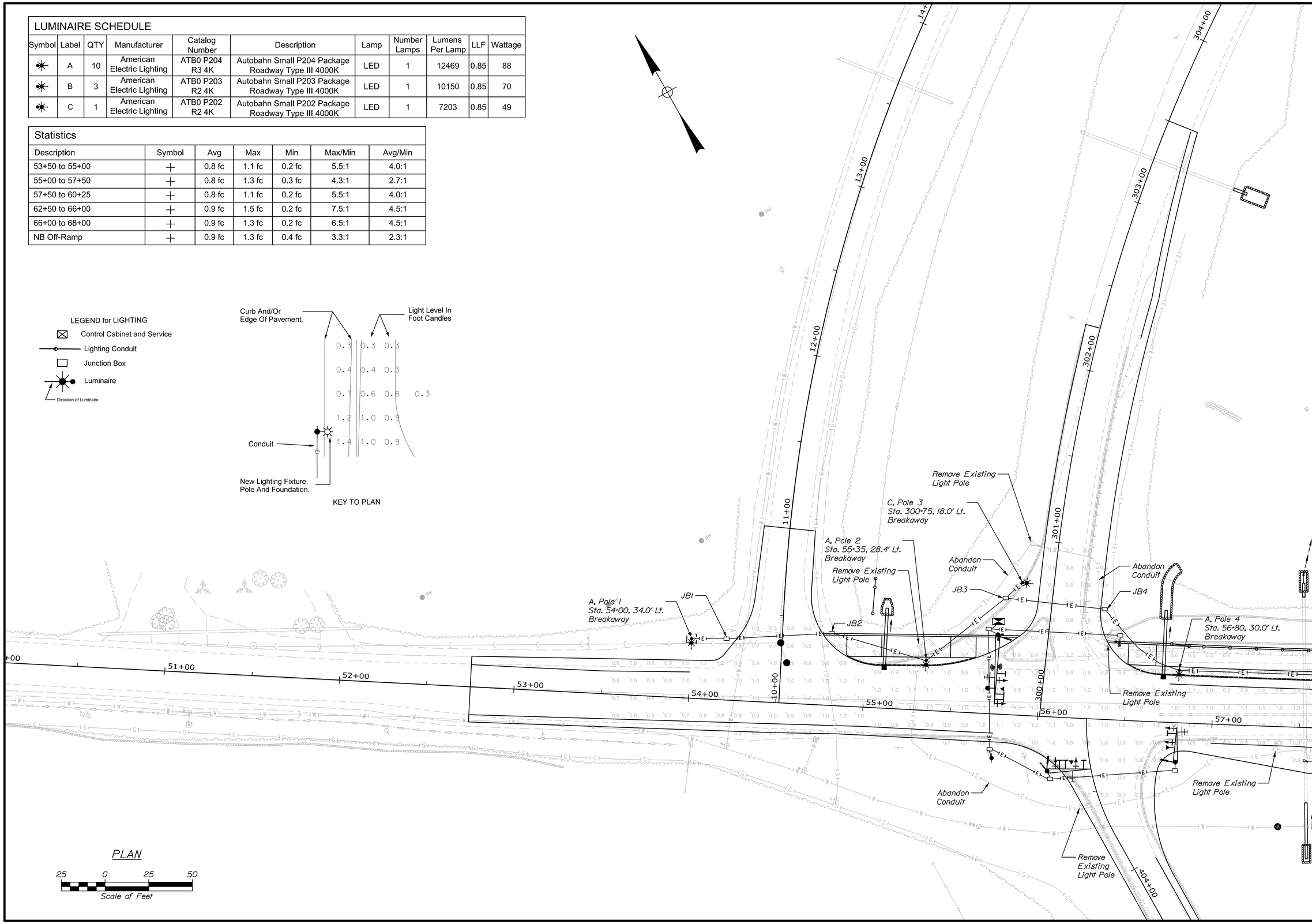
LUMINAIRE SCHEDULE										
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens Per Lamp	LLF	Wattage
✷	A	10	American Electric Lighting	ATB0 P204 R3 4K	Autobahn Small P204 Package Roadway Type III 4000K	LED	1	12469	0.85	88
✷	B	3	American Electric Lighting	ATB0 P203 R2 4K	Autobahn Small P203 Package Roadway Type III 4000K	LED	1	10150	0.85	70
✷	C	1	American Electric Lighting	ATB0 P202 R2 4K	Autobahn Small P202 Package Roadway Type III 4000K	LED	1	7203	0.85	49

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
53+50 to 55+00	+	0.8 fc	1.1 fc	0.2 fc	5.5:1	4.0:1
55+00 to 57+50	+	0.8 fc	1.3 fc	0.3 fc	4.3:1	2.7:1
57+50 to 60+25	+	0.8 fc	1.1 fc	0.2 fc	5.5:1	4.0:1
62+50 to 66+00	+	0.9 fc	1.5 fc	0.2 fc	7.5:1	4.5:1
66+00 to 68+00	+	0.9 fc	1.3 fc	0.2 fc	6.5:1	4.5:1
NB Off-Ramp	+	0.9 fc	1.3 fc	0.4 fc	3.3:1	2.3:1

LEGEND for LIGHTING

- Control Cabinet and Service
- Lighting Conduit
- Junction Box
- Luminaire
- Direction of Luminaire

KEY TO PLAN



PLAN

25 0 25 50

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

STATE OF MAINE — ALBERT L. GODFREY No. 4226 — LICENSED PROFESSIONAL ENGINEER

SIGNATURE

4226
P.E. NUMBER

8/27/21
DATE

		BY	DATE
PROJ. MANAGER	M. Kershergen		
DESIGN-DETAILED	ALG	CDH	08\21
CHECKED-REVIEWED	ALG	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

LIGHTING PLAN 1

SHEET NUMBER

102

OF 138

Date:8/27/2021
Username:
Division:
Filename: 102_Lighting Plan1.dgn

Date:8/27/2021

Username:

Division:

Filename: 103_Lighting Plan2.dgn

Abandon Conduit

JB4

A, Pole 4
Sta. 56+80, 30.0' Lt.
Breakaway

A, Pole 5
Sta. 58+15, 30.0' Lt.
Breakaway

A, Pole 6
Sta. 59+50, 30.0' Lt.
Breakaway

Abandon Conduit

JB5

JB16

JB17

Sweep Existing
to New Lightin

Remove Existing Cabinet, Servic
Install New Lighting Cabinet an
on Concrete Foundation at Sta.

A, Pole 7
Sta. 63+25, 30.0' Lt.
Breakaway

JB6

Remove Existing
Light Pole

Remove Existing
Light Pole

Remove Electrical
Ground Box

Abandon
Conduit

Abandon
Conduit

Remove Existing
Light Pole

Remove
Existing
Light Pole

Remove Existing
Light Pole

Abandon
Conduit

301+00

302+00

57+00

58+00

59+00

60+00

61+00

62+00

63+00

1671+00

1670+00

1669+00

1668+00

1667+00

404+00

403+00

Curb And/Or
Edge Of Pavement.

Light Level In
Foot Candles

0.3 0.3 0.3
0.4 0.4 0.3
0.7 0.6 0.6 0.3
1.2 1.0 0.9
1.4 1.0 0.9

Conduit

New Lighting Fixture,
Pole And Foundation.

LEGEND for LIGHTING

- Control Cabinet and Service
- Lighting Conduit
- Junction Box
- Luminaire
- Direction of Luminaire

KEY TO PLAN

PLAN

25 0 25 50

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN
023627.00

BRIDGE No. 5720

BRIDGE PLANS

STATE OF MAINE
ALBERT L. GODFREY
No. 4226
LICENSED
PROFESSIONAL ENGINEER

SIGNATURE

4226
P.E. NUMBER

8/27/21
DATE

	BY	DATE
PROJ. MANAGER	M. Kerstetter	
DESIGN-DETAILED	ALC	08\21
CHECKED-REVIEWED	ALC	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1	CDH	
REVISIONS 2	SMH	
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

LIGHTING PLAN 2

SHEET NUMBER

103

OF 138

Username:

Division:

Filename: 104_Lighting Plan3.dgn

Date:8/27/2021

Existing Pole to Remain

Remove Existing Light Pole

A, Pole 10
Sta. 65+75, 30.0' Lt.
Breakaway

B, Pole 9
Sta. 201+00, 14.0' Rt.
Breakaway

Abandon Conduit

Sweep Existing Circuit 2 Conduit to New Lighting Cabinet

Remove Existing Cabinet, Service & Foundation. Install New Lighting Cabinet and 240V Service on Concrete Foundation at Sta. 64+30, 76.0' Lt.

JBI3: Remove Existing Light Pole and Replace With Junction Box

Remove Existing Light Pole

JB9

Abandon Conduit

JB8

JB7

JB10

A, Pole 12
Sta. 67+75, 78.0' Rt.
Breakaway

JBI2

A, Pole 7
Sta. 63+25, 30.0' Lt.
Breakaway

A, Pole 8
Sta. 64+25, 30.0' Lt.
Breakaway

JB6

JBII

A, Pole 11
Sta. 66+60, 48.0' Rt.
Breakaway

Remove Existing Light Pole

Remove Existing Light Pole

Abandon Conduit and Remove Junction Box

Remove Existing Light Pole

Remove Existing Light Pole

JBI4: Remove Existing Light Pole and Replace With Junction Box

Abandon Conduit

JBI5: Remove Exist. Junction Box, Replace With New Junction Box

B, Pole 13
Sta. 105+75, 15.0' Rt.
Breakaway

Remove Existing Light Pole

B, Pole 14
Sta. 104+40, 15.0' Rt.
Breakaway

202+00 201+00 200+00 69+00 68+00 67+00 66+00 65+00 64+00 63+00 106+00 105+00

PLAN

25 0 25 50
Scale of Feet

Curb And/Or Edge Of Pavement.

Light Level In Foot Candles

0.3 0.3 0.3
0.4 0.4 0.3
0.7 0.6 0.6 0.3
1.2 1.0 0.9
1.4 1.0 0.9

Conduit

New Lighting Fixture, Pole And Foundation.

KEY TO PLAN

LEGEND for LIGHTING

- Control Cabinet and Service
- Lighting Conduit
- Junction Box
- Luminaire
- Direction of Luminaire

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

STATE OF MAINE ALBERT L. GODFREY No. 4226 REGISTERED PROFESSIONAL ENGINEER

PROJ. MANAGER	M. Kerstbergen	BY	DATE
DESIGN-DETAILED	ALG	CDH	08\21
CHECKED-REVIEWED	ALG	SMH	08\21
DESIGN2-DETAILED2	ALG		
DESIGN3-DETAILED3	ALG		
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

4226
P.E. NUMBER

8/27/21
DATE

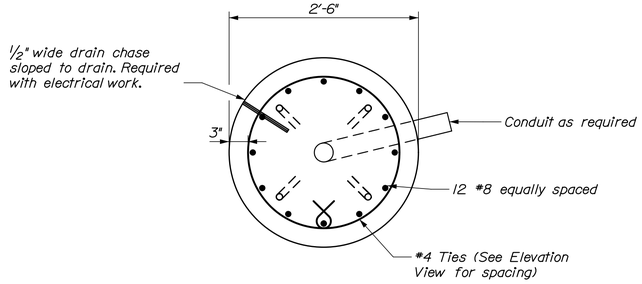
MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

LIGHTING PLAN 3

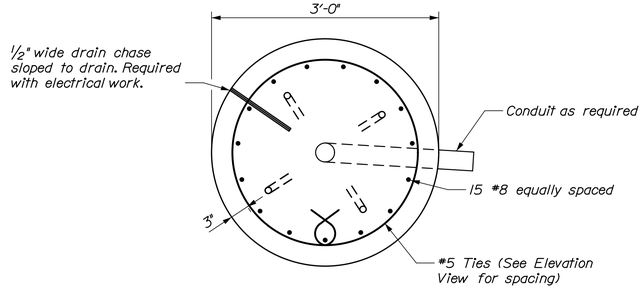
SHEET NUMBER

104

OF 138



30" DIAMETER DRILLED SHAFT SECTION



36" DIAMETER DRILLED SHAFT SECTION

LIGHTING AND SIGNAL FOUNDATION NOTES

1. All reinforcing steel shall be uncoated and comply with ASTM A615, Grade 60.

2. All drilled shafts are governed by the Extreme Event Limit State. The preliminary factored design axial, shear, moment, and torsion assumed for at the top of each foundation are as follows:

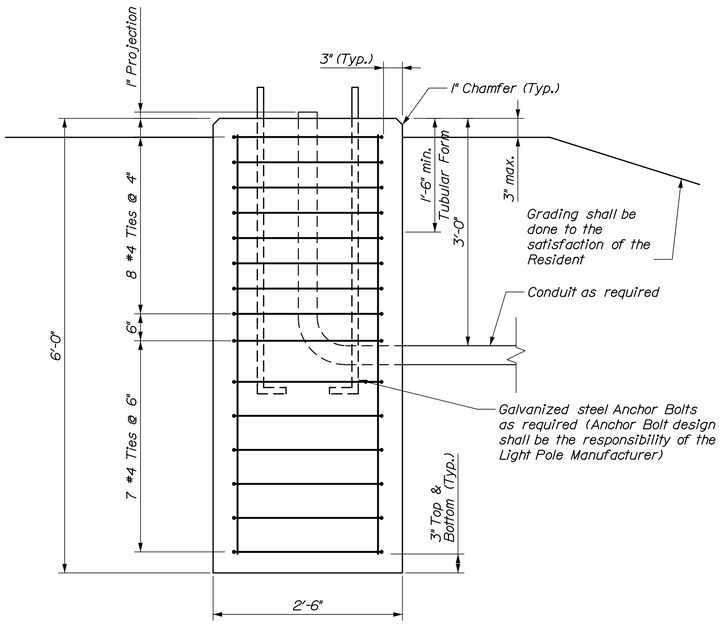
30" Diameter Shaft: Pu = 1.5 kip, Vu = 1 kip, Mu = 17.5 ft-kip, Tu = 0.5 ft-kip

MA2 & MA3: Pu = 3.5 kip, Vu = 3 kip, Mu = 72 ft-kip, Tu = 45 ft-kip

MA1 & MA6: Pu = 10 kip, Vu = 5 kip, Mu = 176 ft-kip, Tu = 142 ft-kip

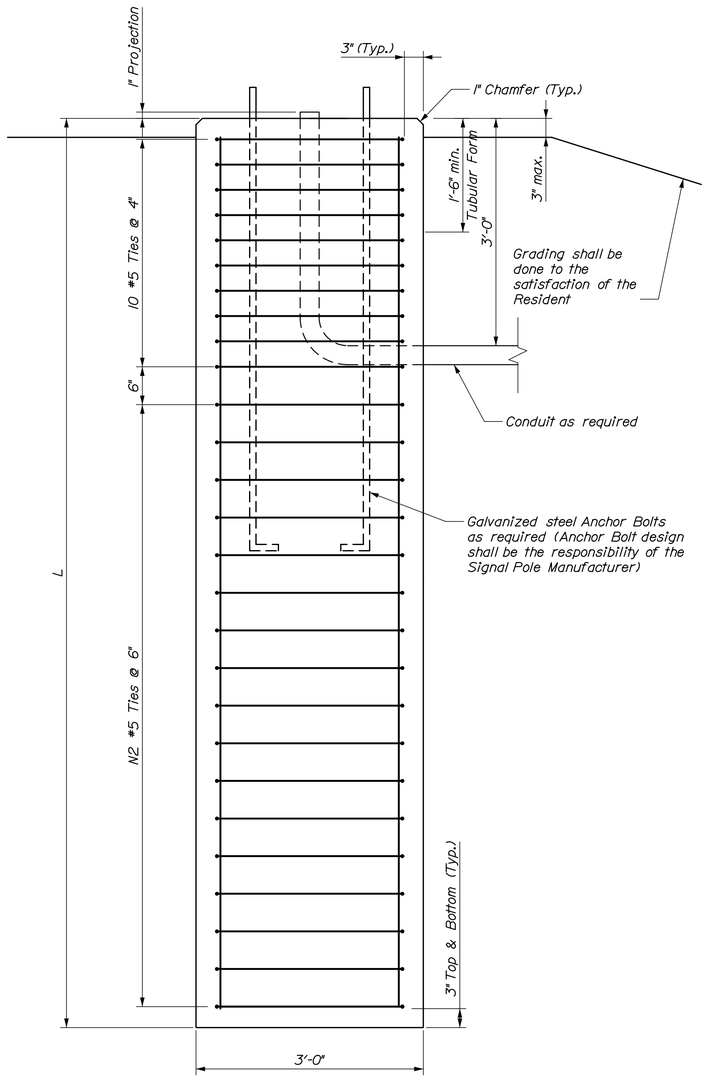
3. All shafts meet a top of shaft deflection limit of less than ½" at the Service Limit State.

36" DIAMETER SHAFT TABLE		
	Drilled Shaft Dimension	Transverse Reinforcing Steel
	L	N2
Structure	Length	Transverse Rebar Quantity
MA1	12'-6"	18
MA2	13'-6"	20
MA3	8'-0"	9
MA6	12'-6"	18



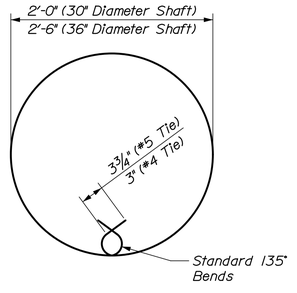
30" DIAMETER DRILLED SHAFT ELEVATION VIEW

For Structures: Poles 2 thru 9 & 11 thru 14



36" DIAMETER DRILLED SHAFT ELEVATION VIEW

For Structures: MA1, MA2, MA3 & MA6



TIES DETAIL

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	DG	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

MAST ARM AND LIGHTING FOUNDATION DETAILS 1

SHEET NUMBER

105

OF 138

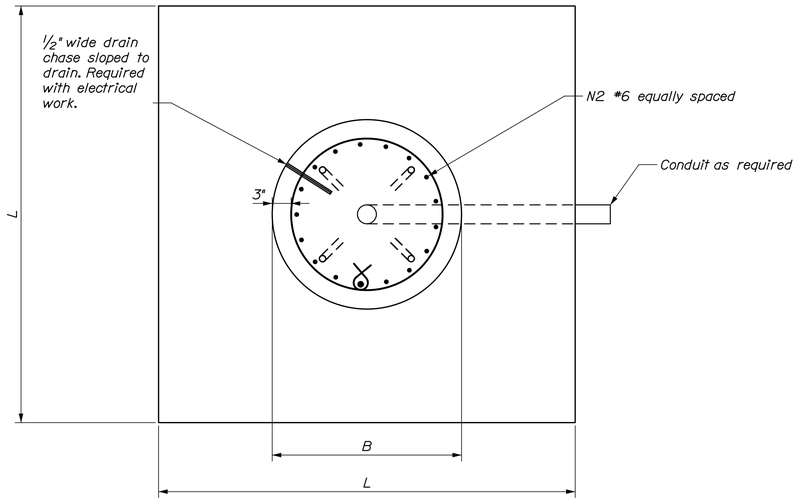
Username:

Date:8/27/2021

Division:

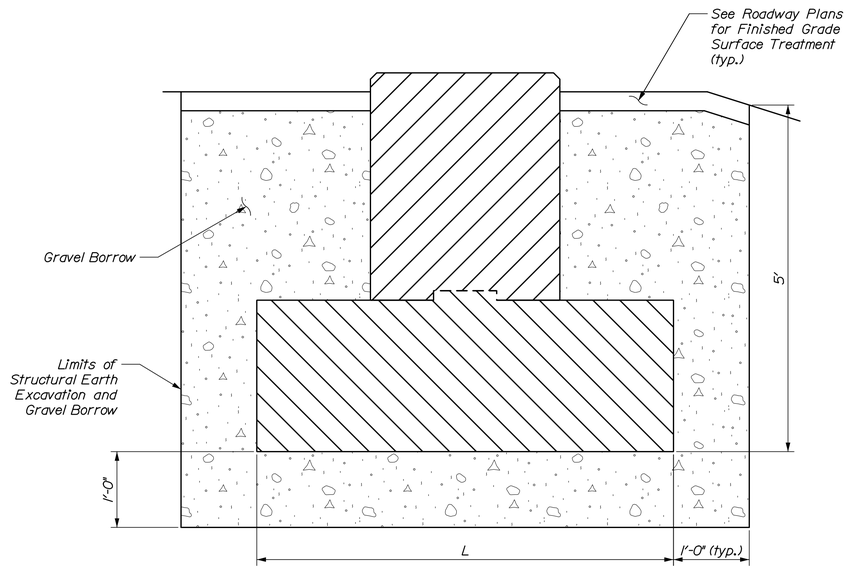
Filename: 105_Mast Arm and Light Foundations 1.dgn

Structure	Spread Footing Dimension L Length & Width	Pedestal Dimension B Diameter	Spread Footing Reinforcing Steel N1 Longitudinal Rebar Quantity	Pedestal Longitudinal Reinforcing Steel N2 Longitudinal Rebar Quantity
Standard Light	5'-6"	2'-6"	6	17
Mast Arms	12'-6"	3'-0"	13	24

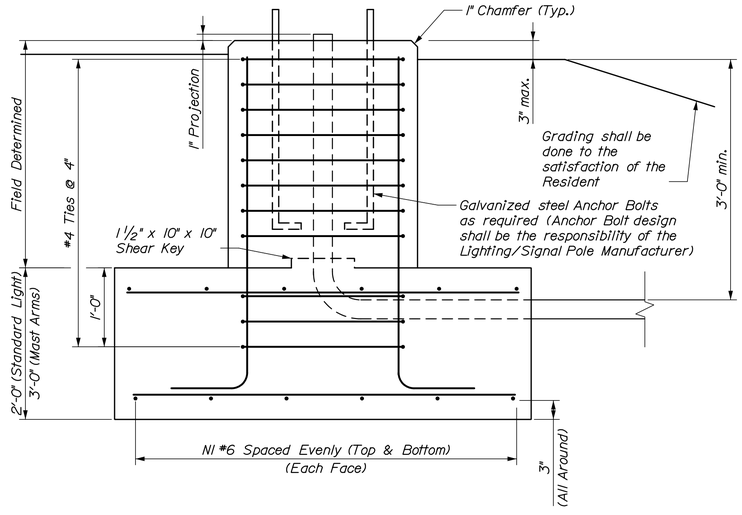


SPREAD FOOTING PLAN VIEW

For Structures: Pole 1, Pole 10, MA4, MA5, & MA7

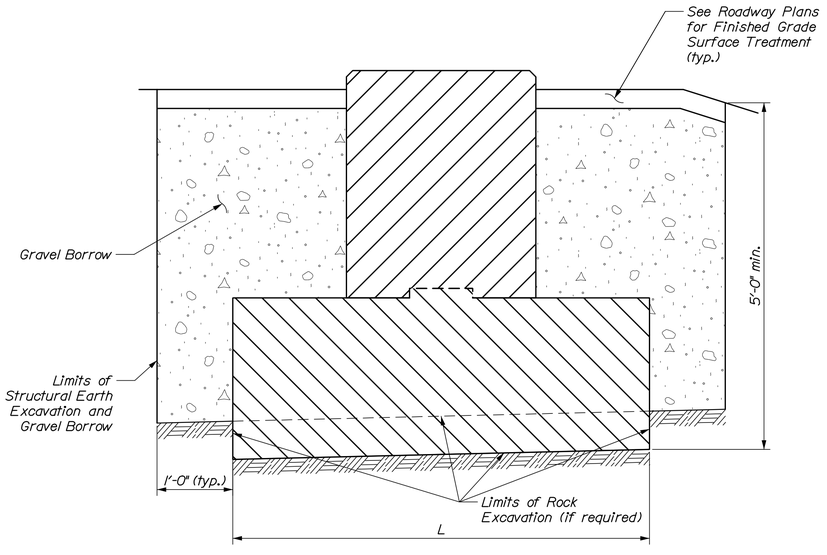


SPREAD FOOTING ON SOIL

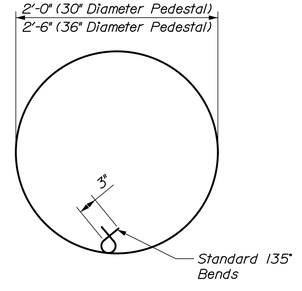


SPREAD FOOTING ELEVATION VIEW

For Structures: Pole 1, Pole 10, MA4, MA5, & MA7



SPREAD FOOTING ON BEDROCK



TIES DETAIL

SPREAD FOOTING FOUNDATION NOTES

1. All reinforcing steel shall be uncoated and comply with ASTM A615, Grade 60.
2. Concrete footing shall not be cast against bedrock with a slope that exceeds 4H:1V. If bedrock slopes exceed 4H:1V provide a stepped excavation.
3. All spread footings are governed by the Extreme Event Limit State. The preliminary factored design axial, shear, moment and torsion assumed at the top of each foundation are as follows:

Standard Light: Pu = 1.5 kip, Vu = 1 kip, Mu = 17.5 ft-kip, Tu = 0.5 ft-kip

Mast Arm: Pu = 10 kip, Vu = 5 kip, Mu = 176 ft-kip Tu = 142 ft-kip

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershergen	
DESIGN-DETAILED	DG	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

MAST ARM AND LIGHTING FOUNDATION DETAILS 2

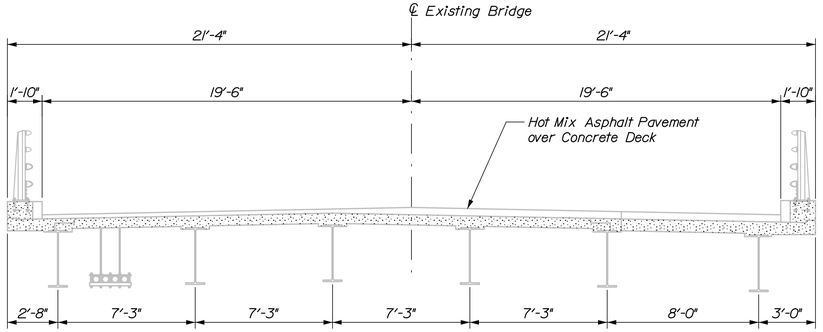
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106

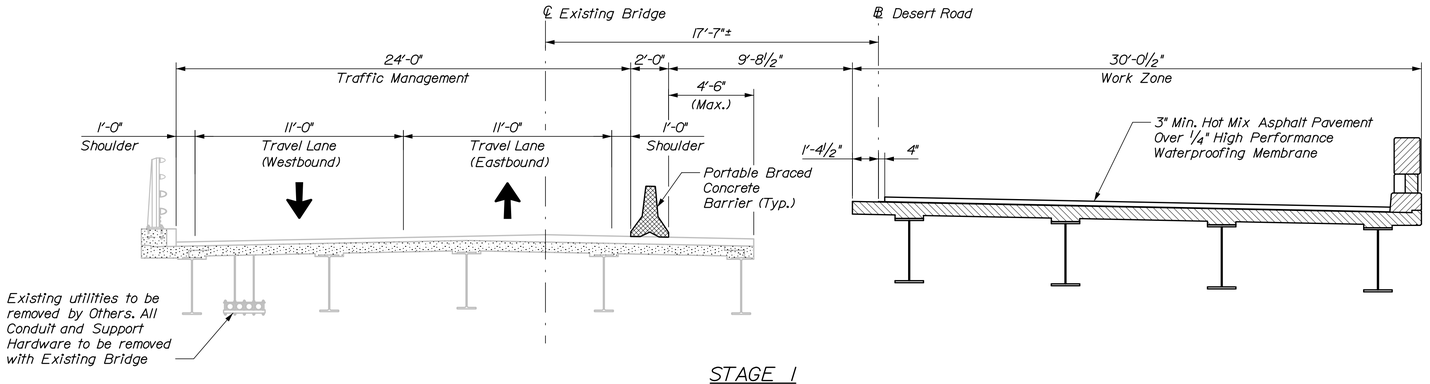
OF 138

HNTB

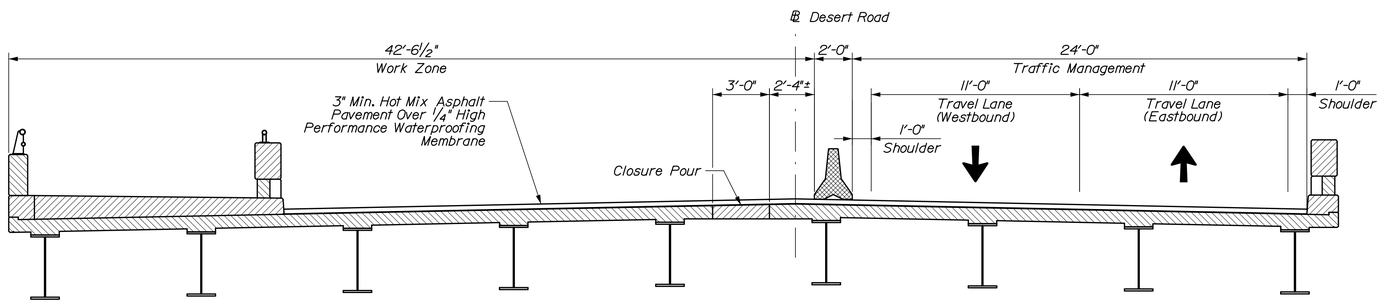
Filename: 106_Mast Arm and Light Foundations 2.dgn Division: Username: Date:8/27/2021



EXISTING SECTION



STAGE 1



STAGE 2

Filename: 107_Construction Staging.dgn Division: Username: Date:8/27/2021

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	CW	08\21
CHECKED-REVIEWED	KOS	08\21
DESIGN2-DETAILED2	JS	
DESIGN3-DETAILED3	AR	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

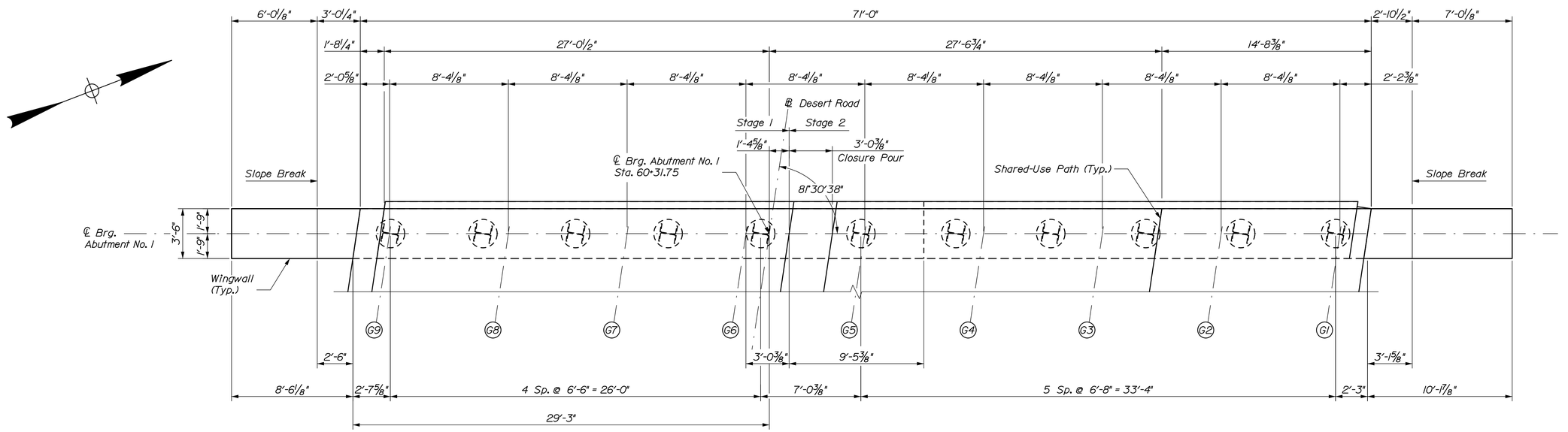
CONSTRUCTION STAGING

SHEET NUMBER

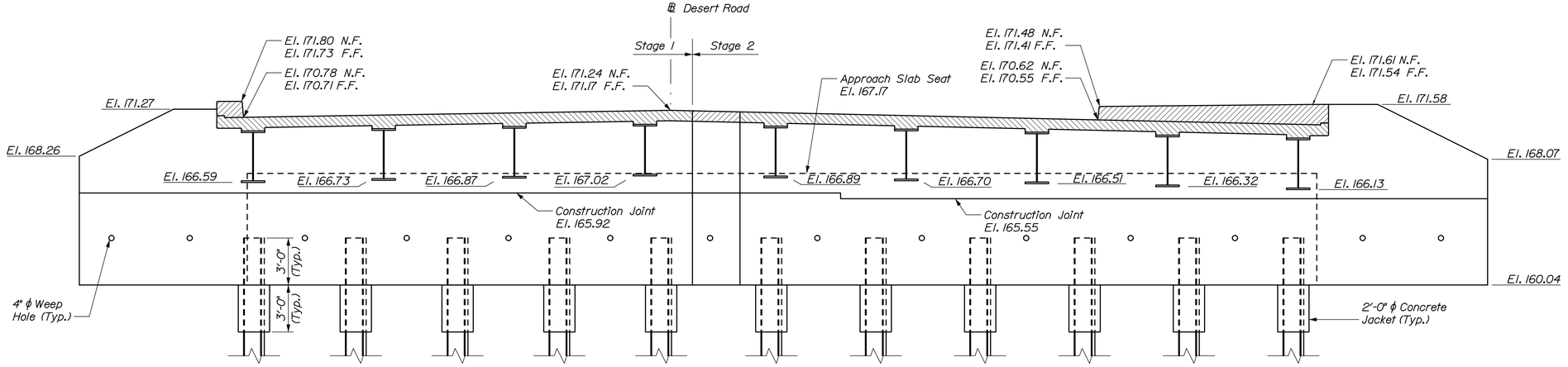
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OF 138

HNTB



ABUTMENT NO. 1 PLAN



ABUTMENT NO. 1 ELEVATION
(Barriers not shown for clarity)

PILE NOTES

1. The maximum factored axial pile load is 465 kips (including 106 kips maximum allowed for downdrag) at the Strength I Limit State for Abutment 1, and 435 kips (including 76 kips maximum allowed for downdrag) at the Strength I Limit State for Abutment 2.

2. Estimate of piles required:

   Abutment No. 1: 11 - HP 14 x 89 @ 32.6 feet
   Abutment No. 2: 11 - HP 14 x 89 @ 19.6 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.

3. Piles shall be driven to the required nominal resistance on or within bedrock in accordance with Section 501 of the Standard Specifications.

4. H-pile material shall be ASTM A572, Grade 50.

5. All piles at abutments shall be equipped with a pile tip in accordance with Standard Specifications Subsections 501.048, Prefabricated Pile Tips and 711.10 H-Beam Piles, Spliced and Tips.

6. Piles shall not be out of position shown by more than 2 inches in any direction.

7. 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 Fy. The submittal analyses shall include the proposed stopping criteria based on the wave equation analysis and the proposed driving system.

8. The Contractor shall perform a total of 2 dynamic load tests, one at Abutment 1 and one at Abutment 2, with 24-hour (minimum) restrike tests to confirm the nominal resistance of the piles. The required nominal resistance for the pile is the factored axial pile load divided by a resistance factor of 0.65 per LRFD Specifications. The dynamic tests shall be performed on the first production piles driven at each abutment.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	M. Kerlsbergen	BY
DESIGN-DETAILED	JS	CW
CHECKED-REVIEWED	AR	KOS
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

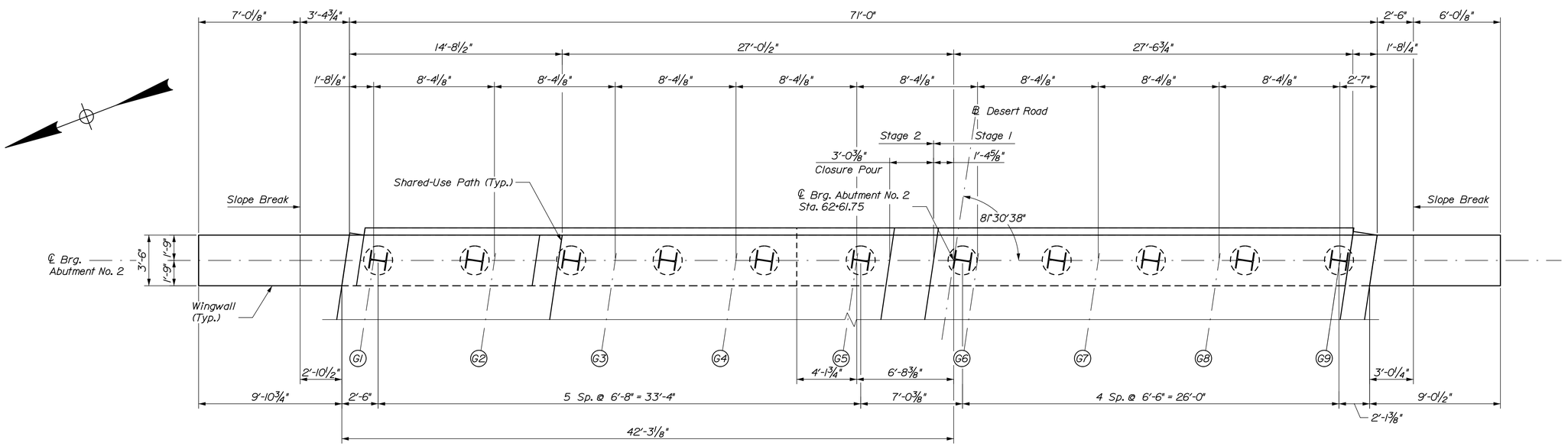
DATE
08\21
08\21

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

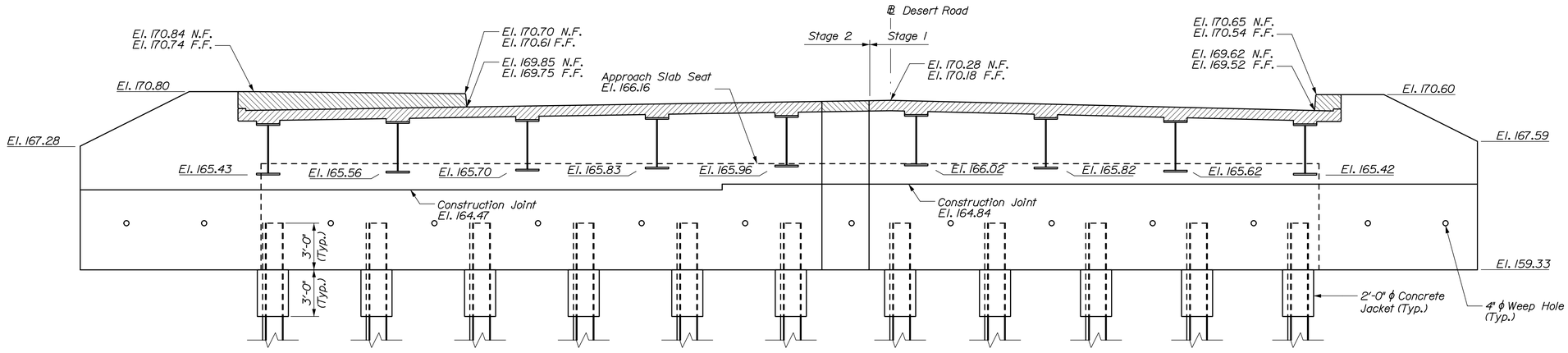
ABUTMENT 1
PLAN AND ELEVATION

SHEET NUMBER
108
OF 138

Filename: 108_Abutment 1 Plan and Elevation.dgn Division: Username: Date:9/9/2021

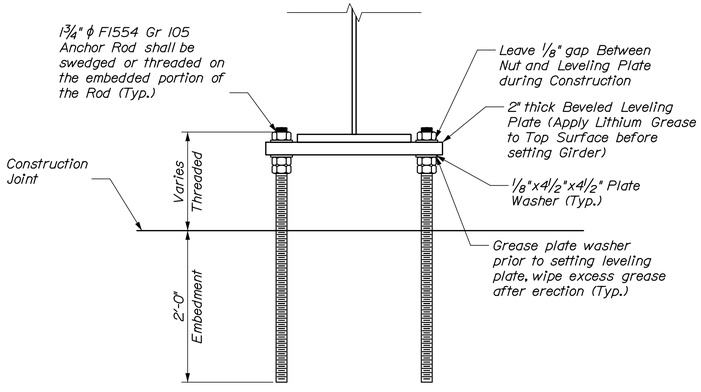


ABUTMENT NO. 2 PLAN

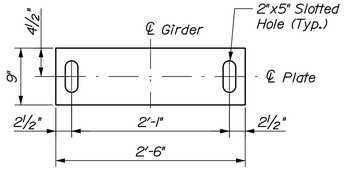


ABUTMENT NO. 2 ELEVATION

(Barriers not shown for clarity)



GIRDER SUPPORT DETAIL



LEVELING PLATE

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STATE OF MAINE
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WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CW	08\21
CHECKED-REVIEWED	KOS	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

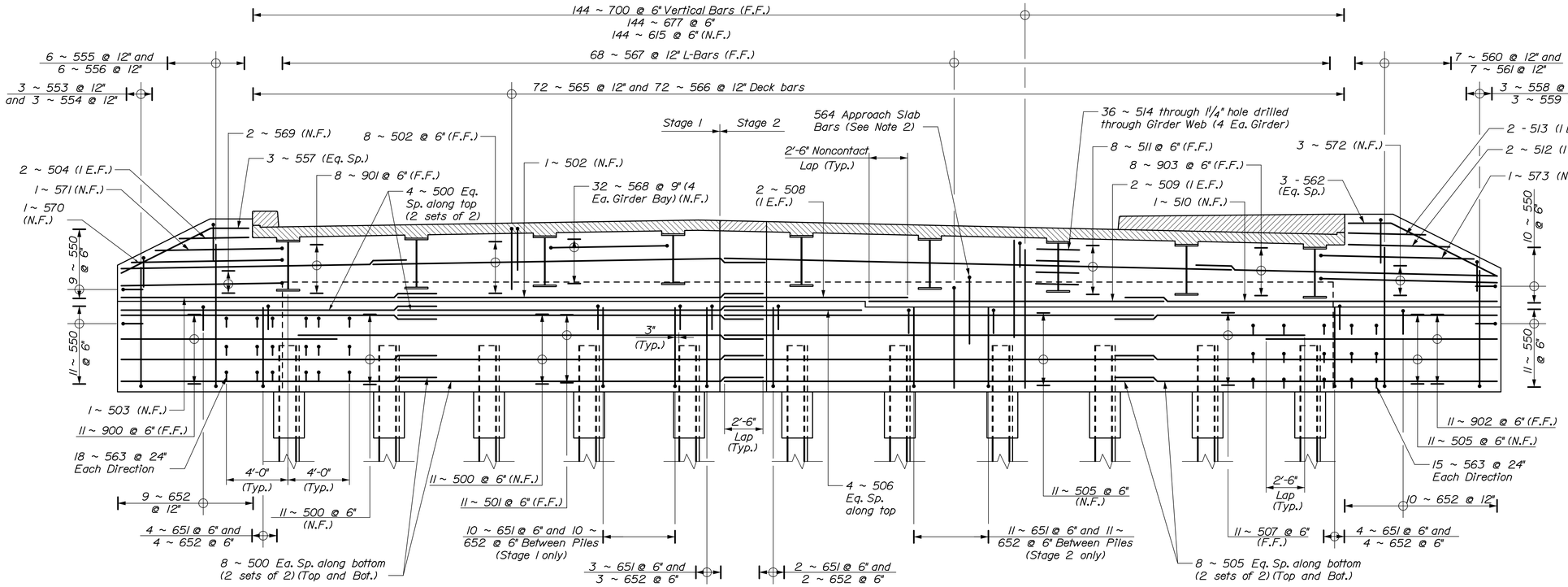
ABUTMENT 2
PLAN AND ELEVATION

SHEET NUMBER

109

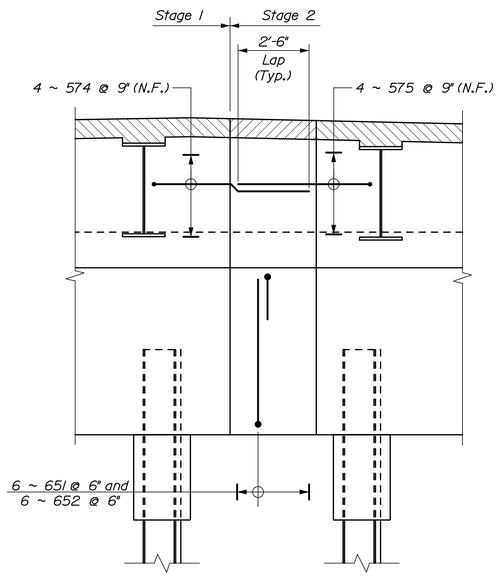
OF 138

Filename: 109_Abutment 2 Plan and Elevation.dgn Division: Username: Date:8/27/2021



ABUTMENT REINFORCEMENT ELEVATION

(Abutment 1 Shown, Abutment 2 Opposite Hand)



CLOSURE POUR REINFORCEMENT

ABUTMENT REINFORCEMENT NOTES

1. Reinforcement bar marks are similar for Abutments 1 and 2. For full bar marks per Abutment, refer to Reinforcing Schedules.

2. See Approach Slab Plan for 564 bars extending into the Approach Slab.

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BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw		
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	JS	KOS	08\21
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DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ABUTMENT REINFORCEMENT PLAN AND ELEVATION

SHEET NUMBER

110

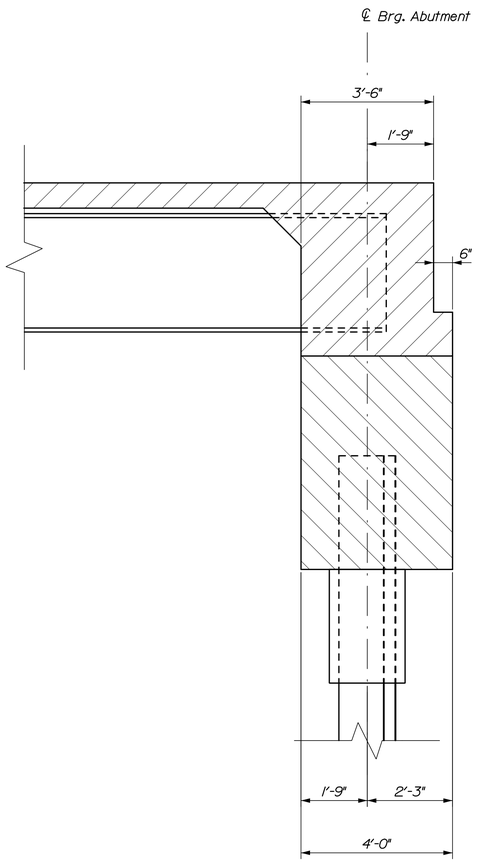
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Date:8/27/2021

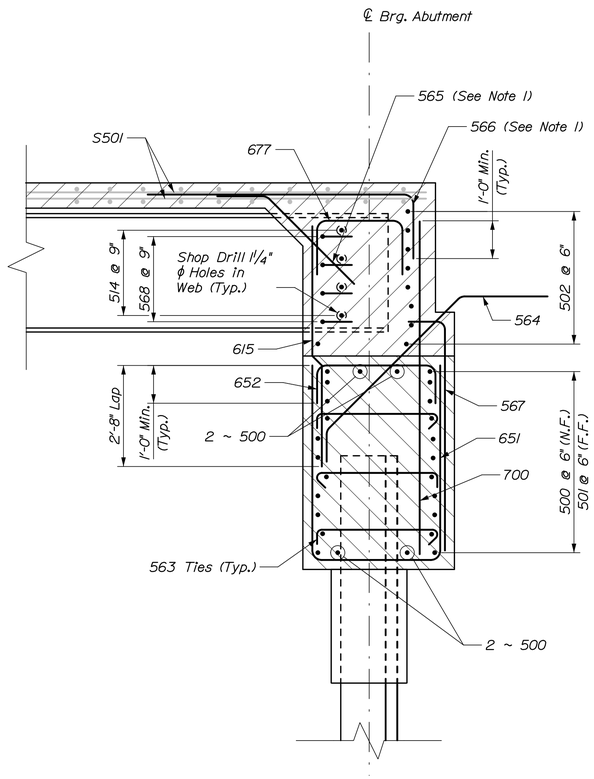
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Division:

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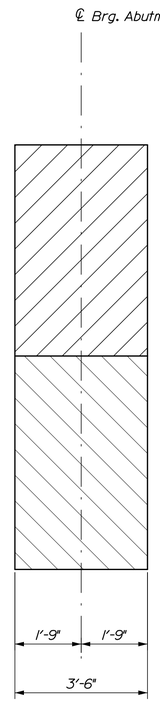


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TYPICAL SECTION

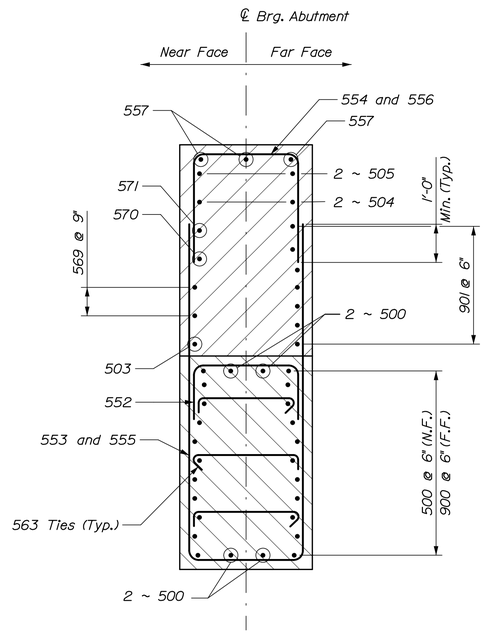


ABUTMENT
TYPICAL REINFORCING SECTION

(Phase 1 Reinforcement Shown,
Phase 2 Reinforcement Similar)



ABUTMENT
WINGWALL SECTION



ABUTMENT
WINGWALL REINFORCING SECTION

(Phase 1 Reinforcement Shown,
Phase 2 Reinforcement Similar)

NOTES

1. Lap 565 and 566 Deck bars with S501ss bars in deck.

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BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kerstbergen	BY	DATE
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	AR	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
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ABUTMENT REINFORCEMENT SECTIONS

SHEET NUMBER

111

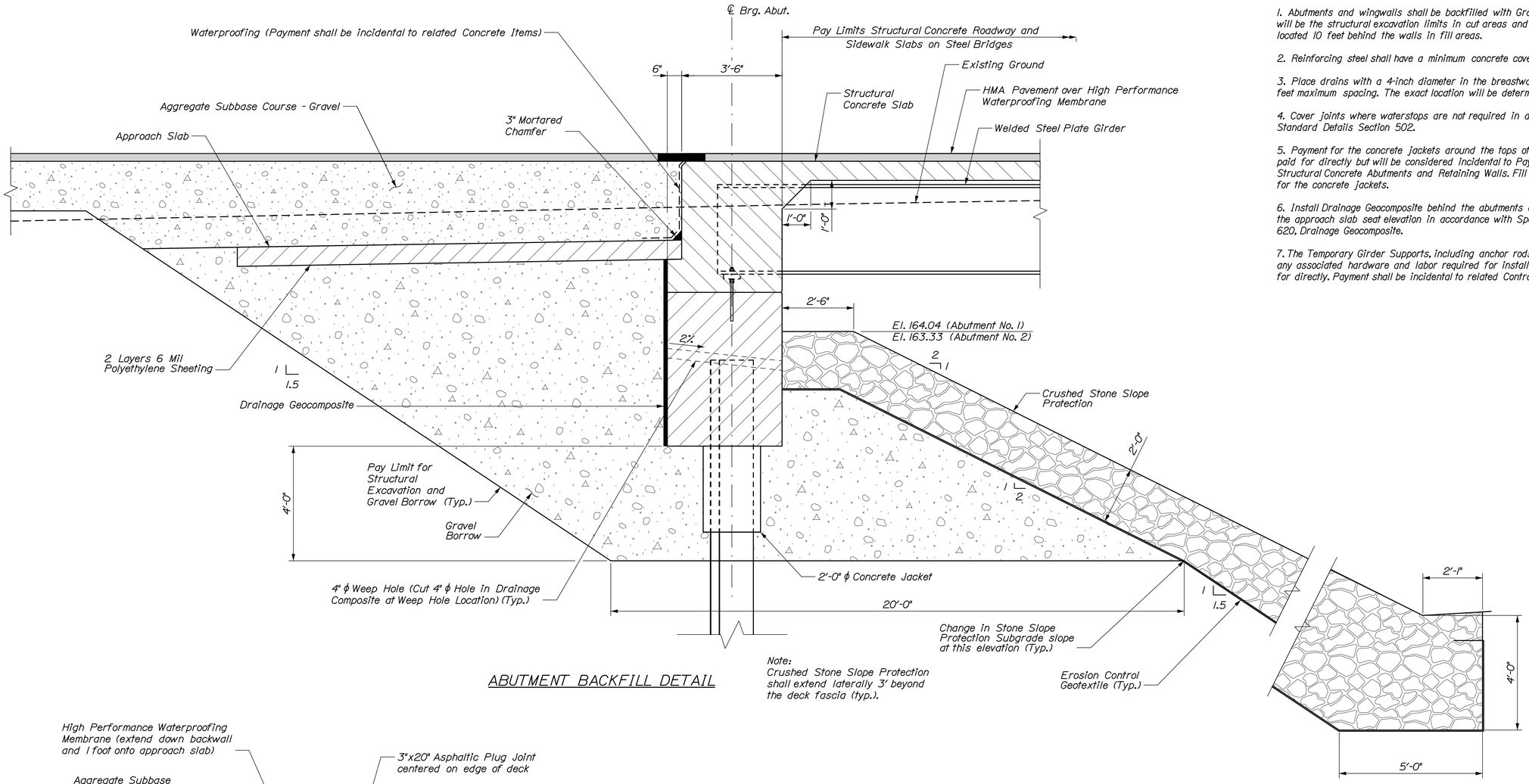
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Date:8/27/2021

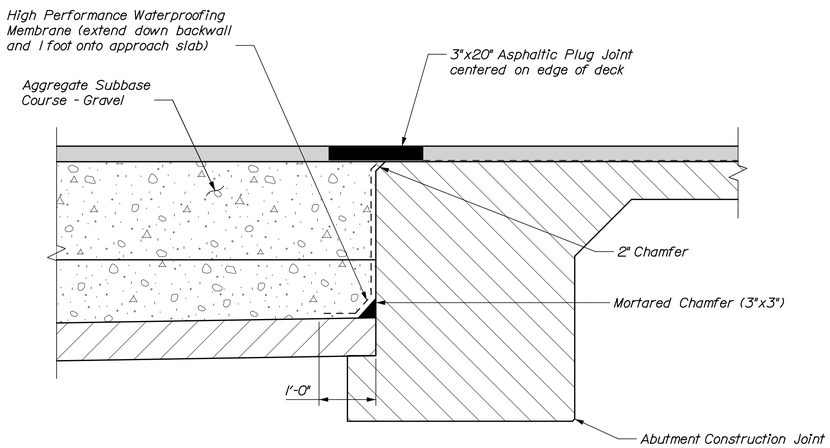
Division:

Filename: 111_Abutment Reinf Sections.dgn



ABUTMENT BACKFILL DETAIL

Note:
Crushed Stone Slope Protection shall extend laterally 3' beyond the deck fascia (typ.).



ABUTMENT SLAB SEAT AND JOINT

ABUTMENT NOTES

1. Abutments and wingwalls shall be backfilled with Gravel Borrow. Pay limits will be the structural excavation limits in cut areas and a vertical plane located 10 feet behind the walls in fill areas.

2. Reinforcing steel shall have a minimum concrete cover of 3 inches.

3. Place drains with a 4-inch diameter in the breastwall and wingwalls at 10 feet maximum spacing. The exact location will be determined by the Resident.

4. Cover joints where waterstops are not required in accordance with Standard Details Section 502.

5. Payment for the concrete jackets around the tops of the H-piles will not be paid for directly but will be considered incidental to Pay Item 502.219, Structural Concrete Abutments and Retaining Walls. Fill Concrete may be used for the concrete jackets.

6. Install Drainage Geocomposite behind the abutments and wingwalls up to the approach slab seat elevation in accordance with Special Provision Section 620, Drainage Geocomposite.

7. The Temporary Girder Supports, including anchor rods, leveling plates, and any associated hardware and labor required for installation shall not be paid for directly. Payment shall be incidental to related Contract Items.

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BRIDGE PLANS

BRIDGE No. 5720

PROJ. MANAGER	M. Kersbergen		
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	AR	KOS	08\21
DESIGN2-DETAILED2			
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REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

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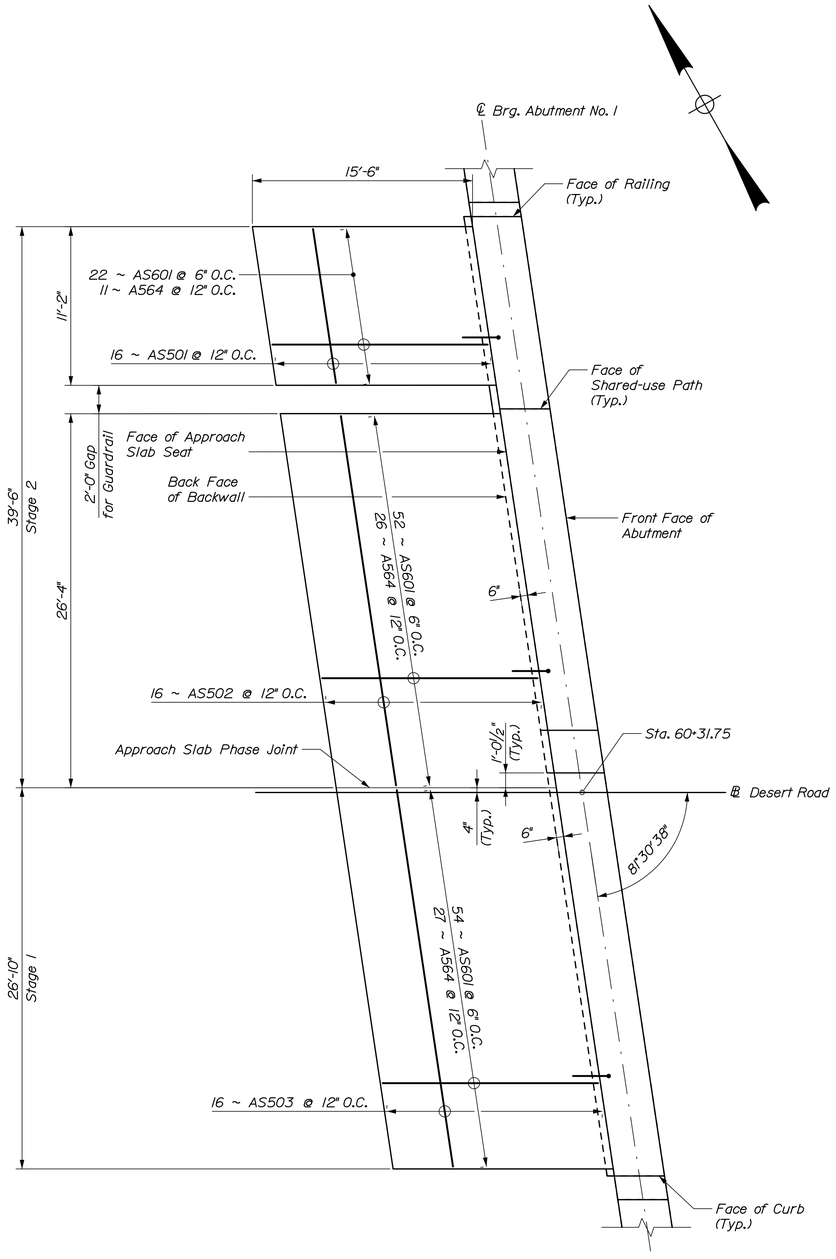
MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ABUTMENT DETAILS

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112
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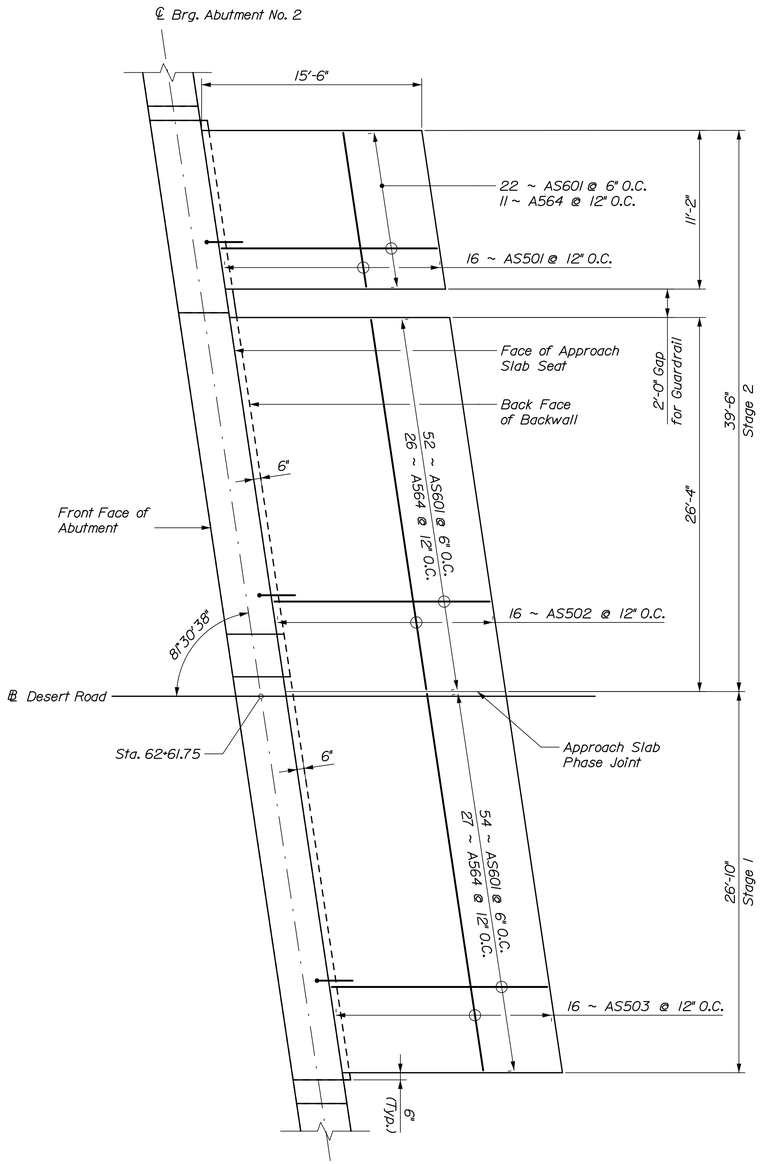
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Date:8/27/2021
Username:
Division:
Filename: 112_Abutment Details.dgn



ABUTMENT NO. 1 APPROACH SLAB PLAN

(Abutment No. 1 Bar Marks shown, Abutment No. 2 Bar Marks similar)



ABUTMENT NO. 2 APPROACH SLAB PLAN

(Abutment No. 1 Bar Marks shown, Abutment No. 2 Bar Marks similar)

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kerstetter		
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	JM	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
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FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

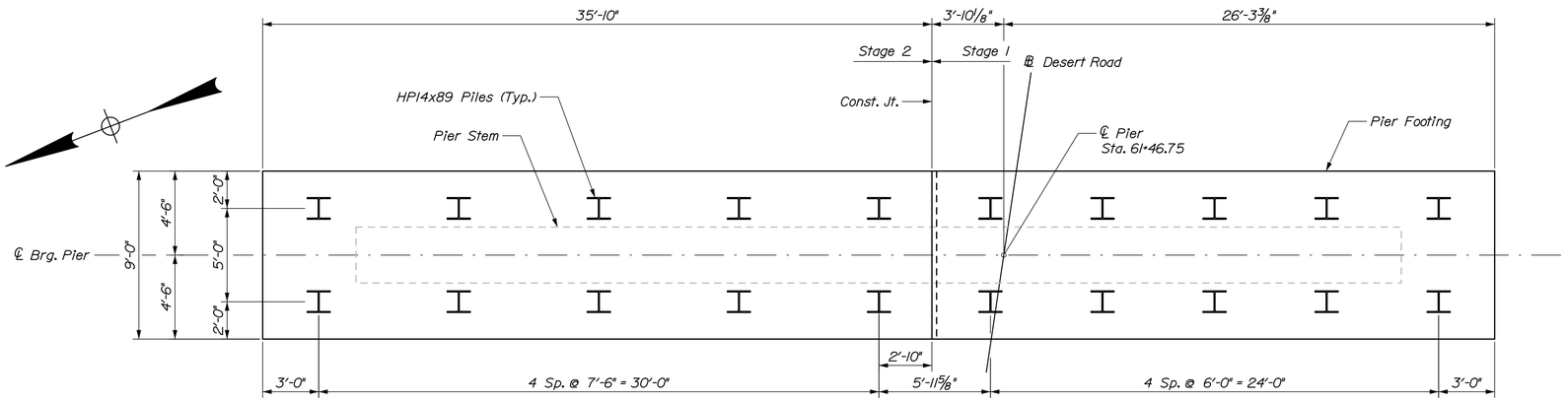
APPROACH SLAB PLAN

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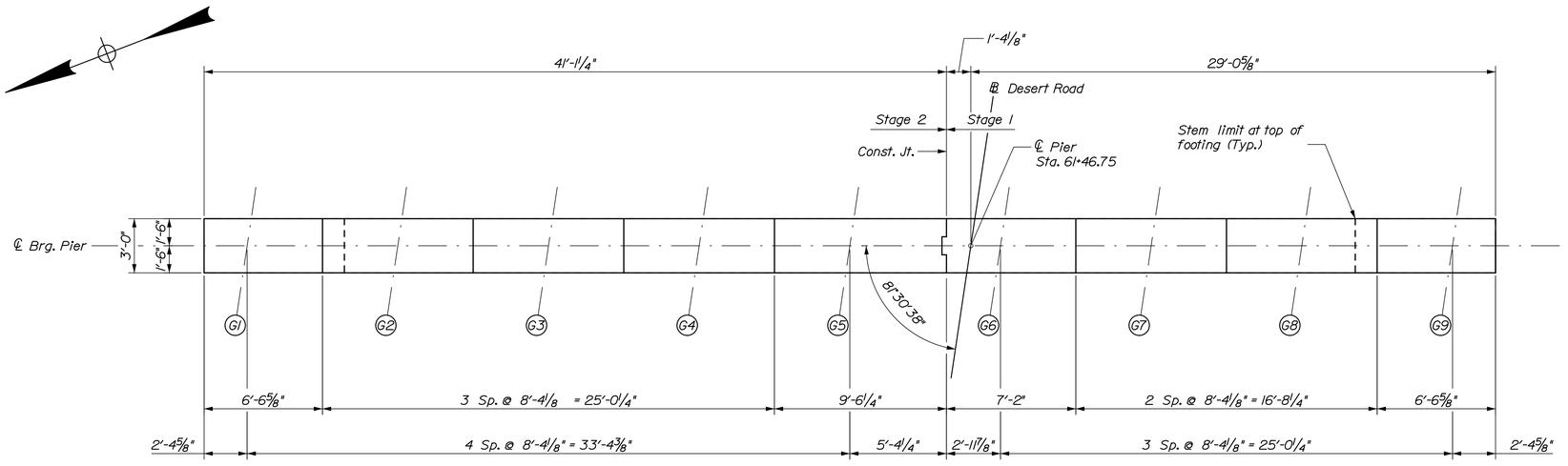
113

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Filename: 113_Approach Slab Plan.dgn Division: Username: Date:8/27/2021



PIER FOOTING PLAN



PIER STEM PLAN

PIER DESIGN CRITERIA

1. Controlling AASHTO Load Combination Strength I

2. Wind: 115 mph or 0.051 ksf.

PIER NOTES

1. Reinforcing steel shall have a minimum concrete cover of 2 inches in the stem and 3 inches in the footing unless otherwise noted.

2. Payment for Concrete Formliner is considered incidental to related Contract Items.

PILE NOTES

1. The maximum factored axial pile load is 414 kips at the Strength I Limit State.

2. H-Piles shall be driven to the required nominal resistance on or within bedrock in accordance with Standard Specification Section 501.

3. Estimate of piles required:

   Pier: 20 - HP 14 x 89 @ 12.0 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. H-pile material shall be ASTM A572, Grade 50.

5. All piles shall be equipped with a pile tip in accordance with Standard Specifications Subsections 501.048, Prefabricated Pile Tips and 711.10 H-Beam Piles, Spliced and Tips.

6. Piles shall not be out of position shown by more than 2 inches in any direction.

7. 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 Fy. The submittal analyses shall include the proposed stopping criteria based on the wave equation analysis and the proposed driving system.

8. The Contractor shall perform a total of 1 dynamic load test, at the Pier, with 24-hour (minimum) restrike tests to confirm the nominal resistance of the piles. The required nominal resistance for the pile is the factored axial pile load divided by a resistance factor of 0.65 per LRFD Specifications. The dynamic test shall be performed on the first production pier pile driven.

9. Pile spacing can be adjusted up to 15 inches for a maximum spacing of 8'-9" in order to avoid conflicts with existing piles.

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BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kerstbergen		
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	JM	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

PIER PLAN

SHEET NUMBER

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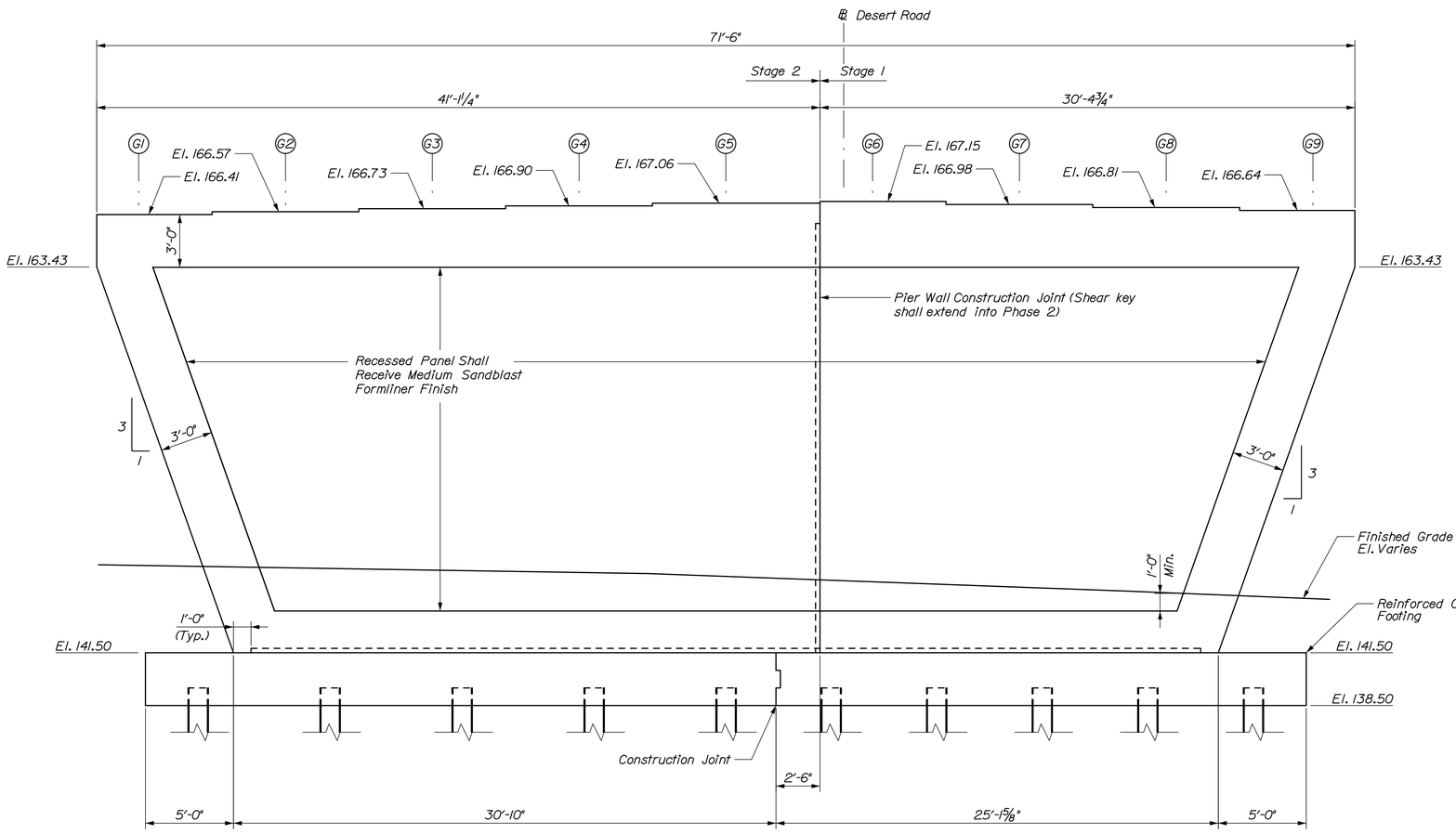
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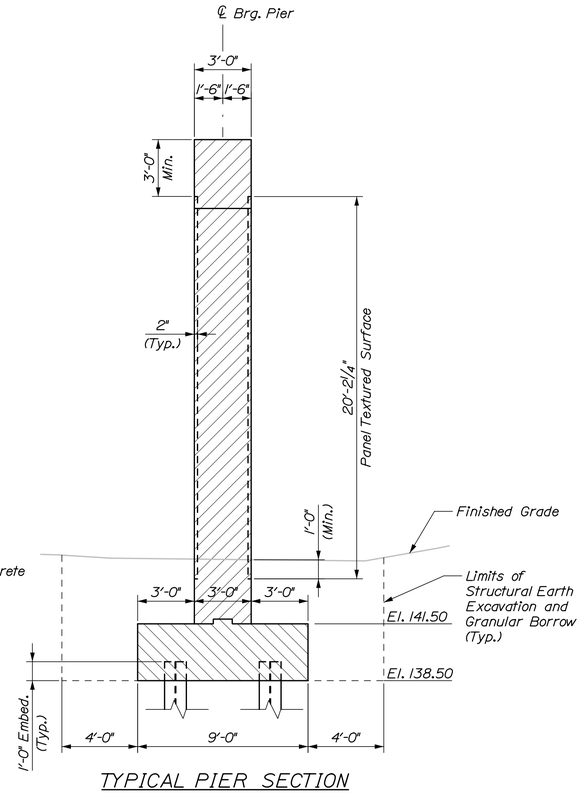
Username:

Division:

Filename: 114_Pier Plan.dgn



PIER ELEVATION



TYPICAL PIER SECTION

STATE OF MAINE
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023627.00

BRIDGE No. 5720

WIN 023627.00

BRIDGE PLANS

PROJ. MANAGER	M. Kershaergen
DESIGN-DETAILED	JJS
CHECKED-REVIEWED	LJM
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

	BY	DATE
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FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

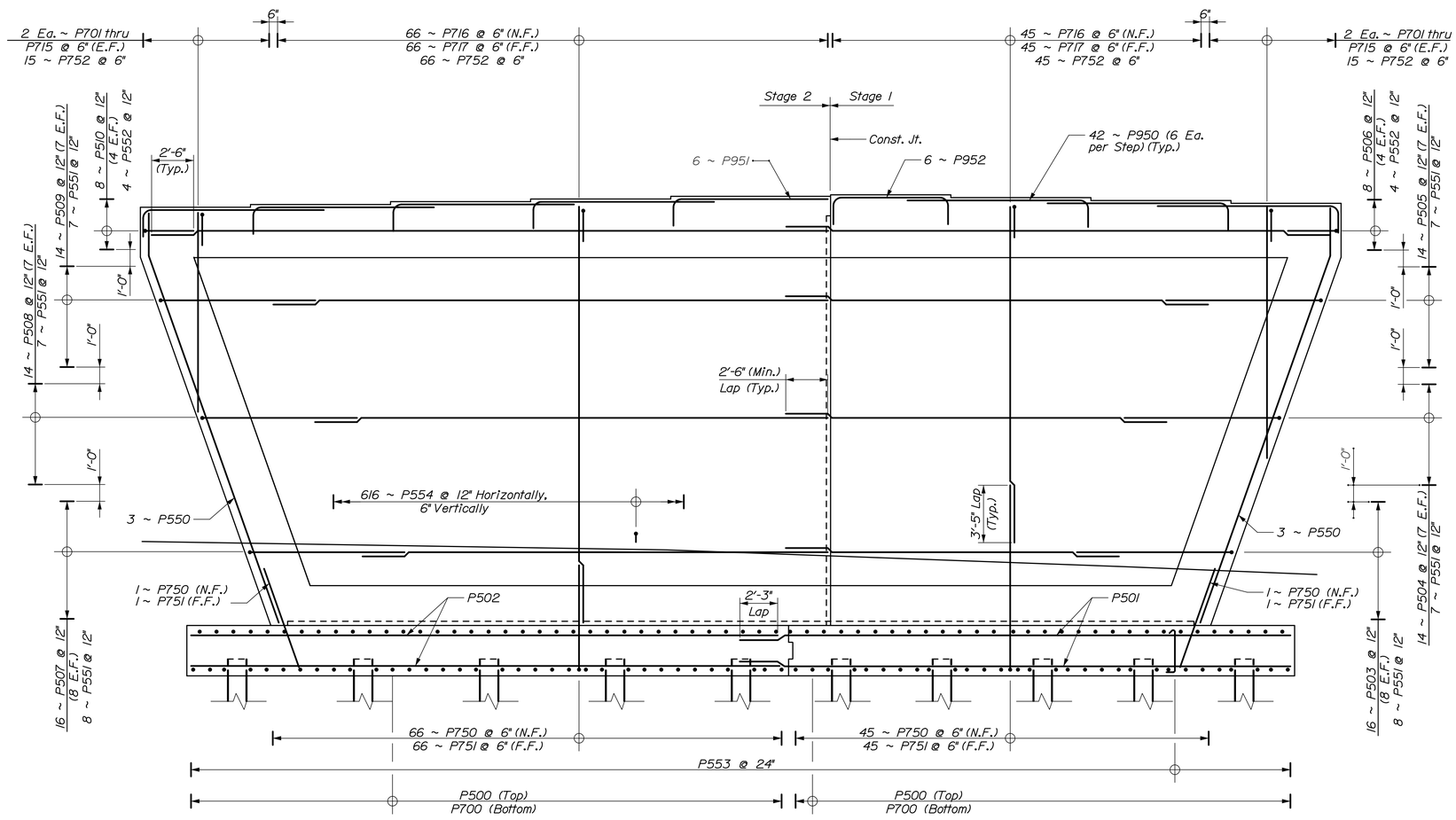
MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

PIER
ELEVATION AND SECTION

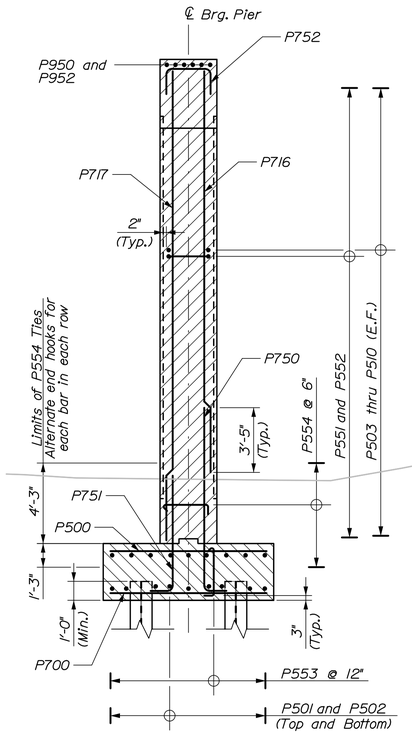
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OF 138

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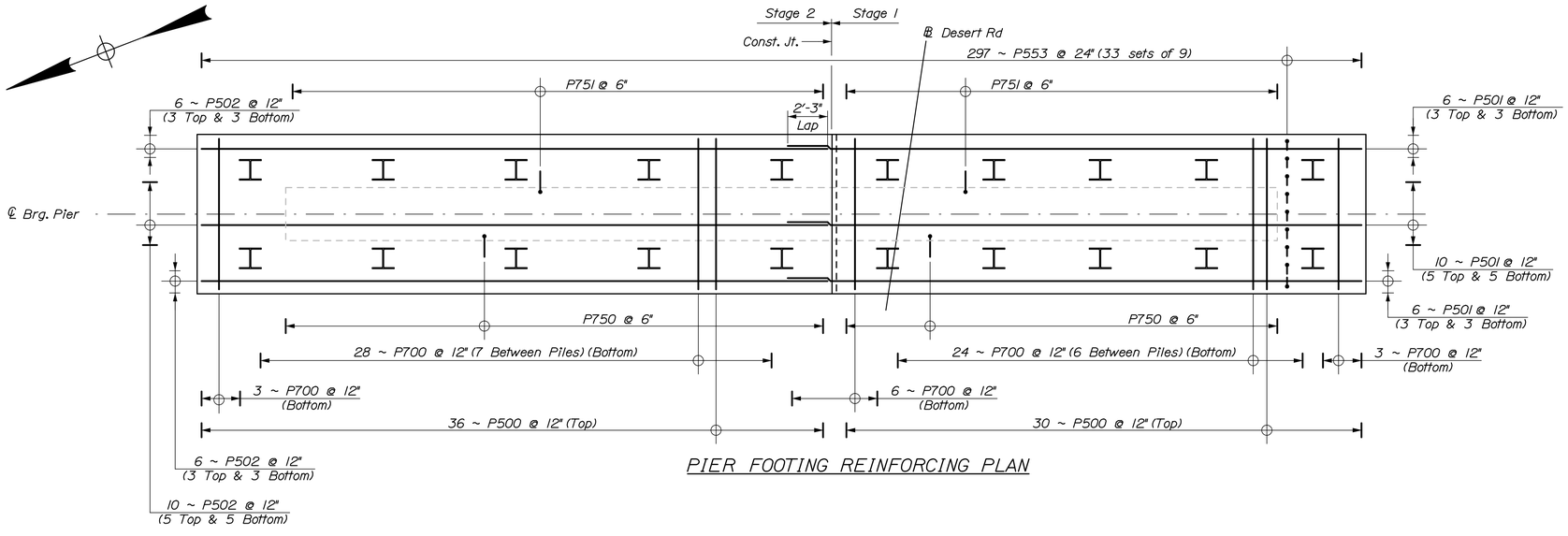
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PIER REINFORCING ELEVATION



PIER REINFORCING SECTION



PIER FOOTING REINFORCING PLAN

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

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BRIDGE No. 5720

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BRIDGE PLANS

PROJ. MANAGER	M. Kershaw	BY	DATE
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	AR	KOS	08\21
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REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

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DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

PIER REINFORCEMENT

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116

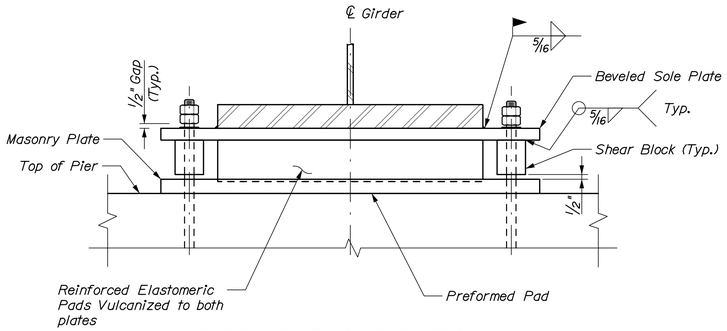
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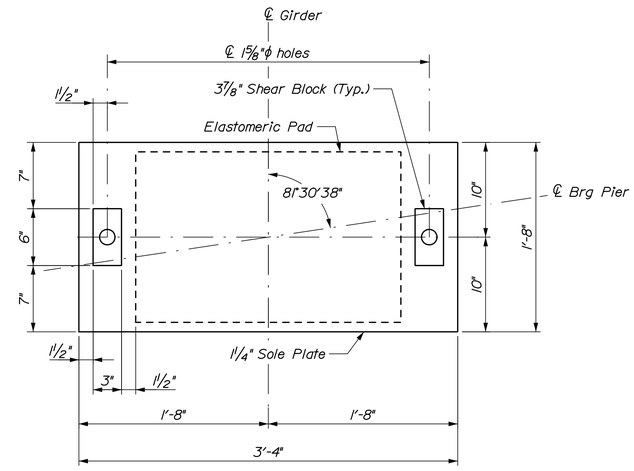
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Date:8/27/2021

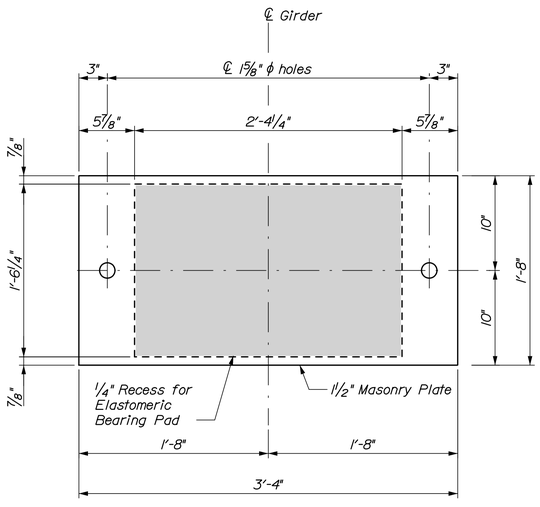
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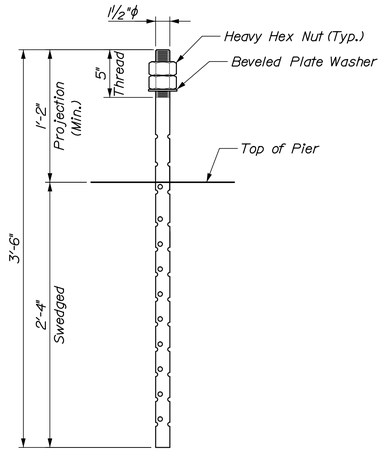
PIER BEARING ELEVATION



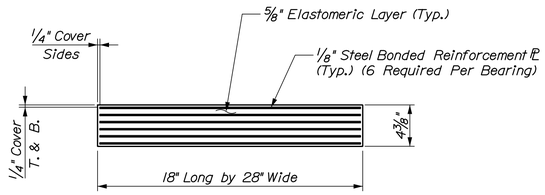
SOLE PLATE PLAN
Looking up at bottom of Sole Plate



MASONRY PLATE PLAN



ANCHOR ROD DETAIL



PIER ELASTOMERIC BEARING PAD
(9 REQUIRED)

ELASTOMERIC BEARING NOTES

1. The shear modulus of the elastomer shall be 130 psi.

2. Vulcanization of the elastomer to the steel plates shall be done during the primary mold process. Sole plate shall be vulcanized to the elastomer.

3. Masonry plates, sole plates and shear blocks shall meet the requirements of ASTM A709, Grade 50. Anchor rods shall meet the requirements of ASTM F 1554, Grade 105 and shall be swedged on the embedded portion of the rod.

4. Masonry plates shall be galvanized or metalized in accordance with Section 506. Sole plates for steel superstructures shall be treated in the same manner as the structural steel. Anchor rods, washers, nuts and shear blocks shall be galvanized to ASTM A153 or ASTM B695, Class 50, Type 1.

5. All bearings shall be marked prior to shipping. The marks shall include the bearing location on the bridge and a direction arrow that points upstation. All marks shall be permanent and shall be visible after the bearing is installed.

6. Bearings shall be covered during shipping and at any time prior to installation that the bearings may be exposed to sunlight.

7. All necessary precautions shall be taken to protect bearing components from field weld flash and splatter. Heat from welding operations shall be controlled such that steel adjacent to the elastomer does not exceed 200° F. The temperature shall be verified by the use of temperature indicating crayons or other suitable means.

8. Upset the threads on the anchor rod after assembly.

9. The Contractor shall not weld the girders to the sole plate until after all adjustments have been made in accordance with Standard Specification 523.09.4.

10. The "Bearing Design Load" for each bearing as noted in Standard Specifications, subsection 523.23.4, is 567 kips. This is the total load for the Service I load combination, without impact.

BEARING DESIGN CRITERIA AT PIER	
Unfactored Dead Load	352 kips
Unfactored Live Load (without impact)	211 kips

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BRIDGE No. 5720

BRIDGE PLANS

	M. Kerstbergen	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	AR	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

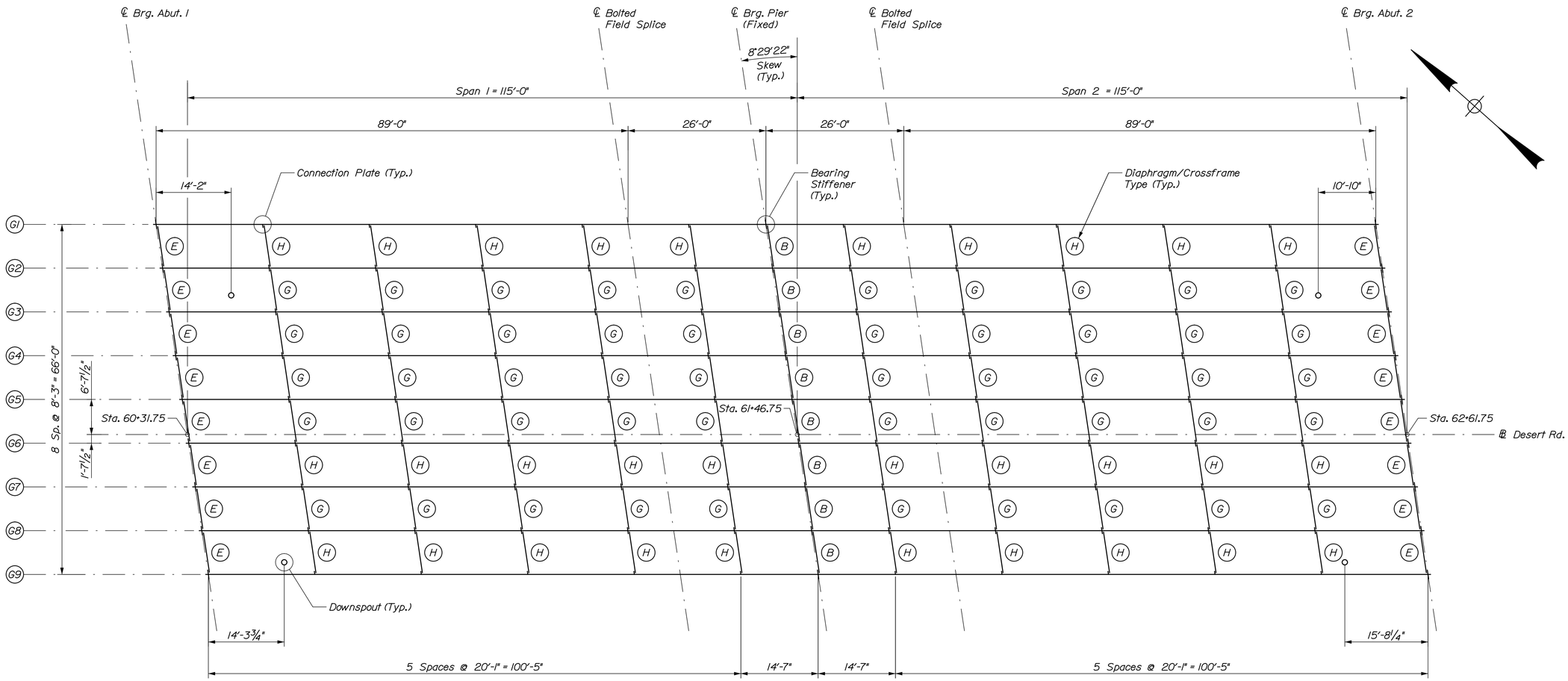
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MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ELASTOMERIC BEARING DETAILS

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Date:8/27/2021
Filename: 117_ElastomericBearingDetails.dgn



FRAMING PLAN

STRUCTURAL STEEL NOTES:

1. Camber ordinates, as shown on the "Steel Deflection and Camber Tables" Sheet, are computed to compensate for all dead load deflections and for the curvature of the finished grade profile.

2. No transverse butt weld splices will be allowed in the flange plates or web plates within 10 feet or 10 percent of the span length (whichever is greater) from the points of maximum negative moment or maximum positive moment. Butt weld splices in flanges shall not be less than 1 foot from transverse butt welds in the web plates and no transverse web or flange butt welds shall be located within 1 foot of other transverse welds (e.g. connection plates to web welds) on either flange or web. No transverse butt weld splices will be allowed in areas of stress reversal.

3. Sections of flange plates or web plates between transverse shop splices or between a transverse shop splice and field splice shall be at least 20 feet in length unless otherwise shown on the Plans.

4. 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.

5. Intermediate crossframe connection plates may be either plumb or normal to the top flange.

6. Filler plates may be steel conforming to the requirements of ASTM A 709, Grade 36.

7. Structural steel was designed with a vertical construction load of 50 lb/sf and a lateral wind velocity of 115 mph.

8. All bolts, nuts, and washers shall be hot dip galvanized in accordance with ASTM A153.

9. Bolted field splice connections shall be made using 7/8" diameter ASTM A325 high strength bolts. Bolt hole size shall be 15/16" diameter. Field splice bolt threads shall be excluded from the shear plane.

10. Bolted diaphragm of cross frame connections shall be made using 7/8" diameter ASTM A325 Type 1 high strength bolts. Hole size shall be 15/16" diameter. The minimum edge distance shall be 1 1/2" unless otherwise noted. Oversized or short-slotted holes are not permitted. Bolt threads shall be excluded from the shear plane of cross frame or diaphragm connections.

11. Ends of girder webs shall be vertical under full dead load.

12. At the Contractor's option, the diaphragms and crossframes may be hot-dipped galvanized in accordance with Standard Specifications Section 506, Shop Applied Protective Coating, as approved by the Fabrication Engineer. Payment will be considered incidental to Item 506.904, Thermal Spray Coating (Shop Applied), no separate payment will be made.

13. At the Contractor's option, all structural steel may be hot-dipped galvanized in accordance with Standard Specifications Section 506, Shop Applied Protective Coating, as approved by the Fabrication Engineer. Double hot-dipped galvanizing shall be approved by the Fabrication Engineer. Payment will be considered incidental to Item 506.9104, Thermal Spray Coating (Shop Applied), no separate payment will be made.

14. The intermediate cross frames that may be present between Stage I and Stage II shall not be installed until 72 hours following the placement of the Stage II slab.

15. The intermediate cross frames must be in place and bolts tightened prior to proceeding with the closure placement.

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kerstetter		
DESIGN-DETAILED	LJM	08\21	
CHECKED-REVIEWED	JS		
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

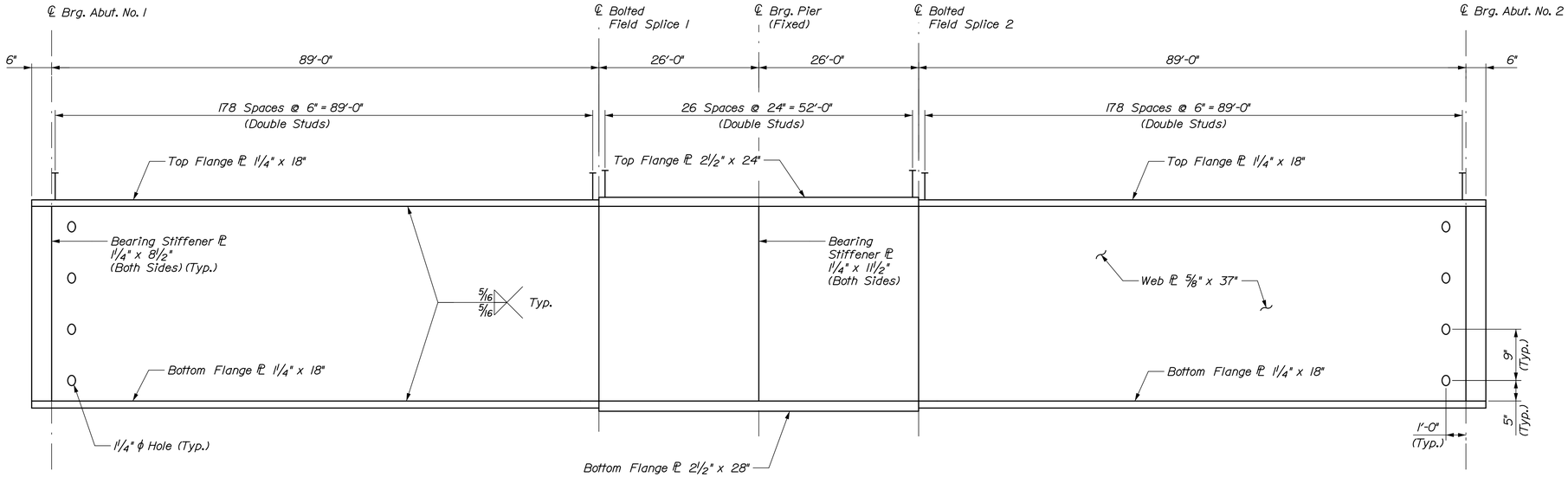
FRAMING PLAN

SHEET NUMBER

118

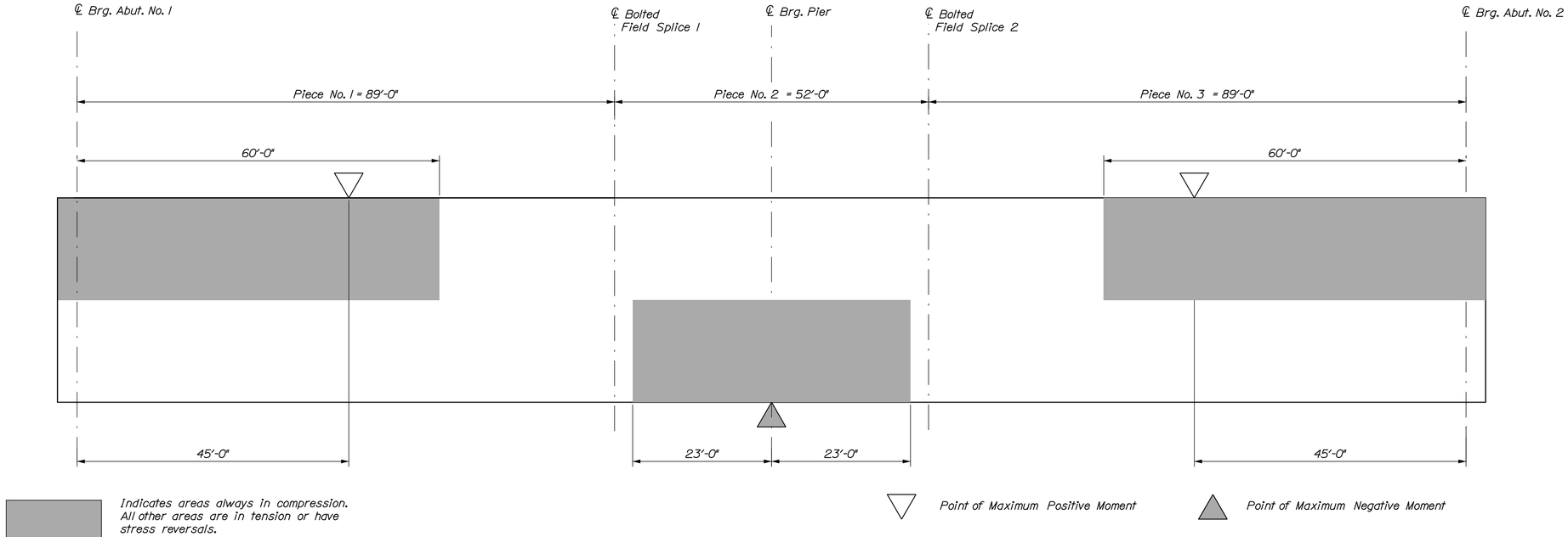
OF 138

Filename: 118_Framing Plan.dgn Division: Username: Date:8/27/2021



GIRDER ELEVATION

(770 Studs per Girder, 6930 Studs Total)



GIRDER STRESS DIAGRAM

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kerstbergen	BY	
DESIGN-DETAILED	IUM	CW	
CHECKED-REVIEWED	JJS	KOS	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

	BY	DATE
SIGNATURE	CW	08\21
	KOS	08\21
P.E. NUMBER		
DATE		

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

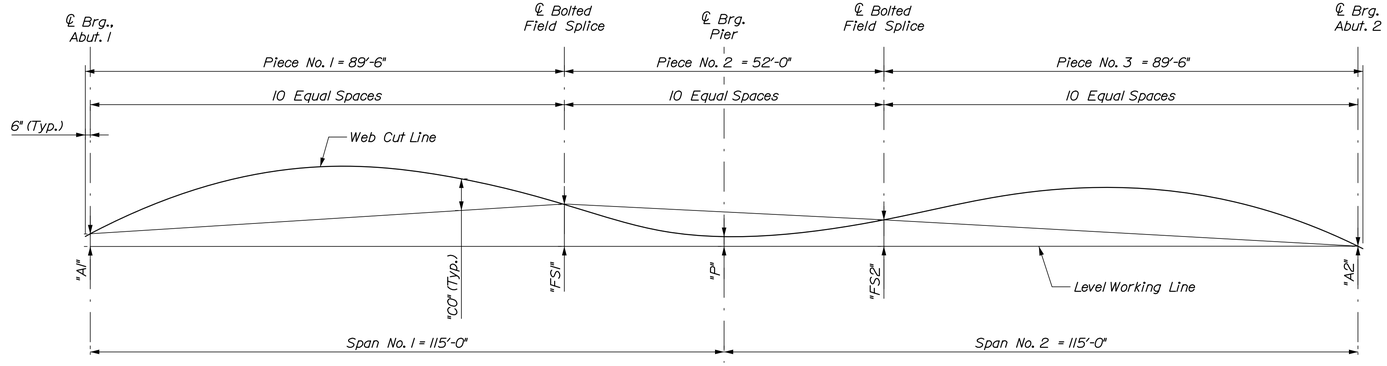
GIRDER ELEVATION AND STRESS DIAGRAM

SHEET NUMBER

119

OF 138

Filename: 119_Girder Elevation and Stress Diagram.dgn Division: Username: Date:8/27/2021



CAMBER DIAGRAM

TABLE OF CAMBER DIMENSIONS (Feet)						
GIRDER	"A1"	"FS1"	"P"	"FS2"	"A2"	GIRDER
G1	0.70	1.81	1.73	1.65	0.00	G1
G2	0.76	1.85	1.76	1.68	0.00	G2
G3	0.82	1.89	1.79	1.70	0.00	G3
G4	0.87	1.93	1.82	1.73	0.00	G4
G5	0.93	1.96	1.85	1.75	0.00	G5
G6	0.99	2.00	1.88	1.77	0.00	G6
G7	1.05	2.03	1.91	1.80	0.00	G7
G8	1.11	2.07	1.94	1.82	0.00	G8
G9	1.17	2.10	1.97	1.83	0.00	G9

TABLE OF CAMBER ORDINATES "CO" (INCHES)																				
		Piece No. 1										Piece No. 2									
GIRDER	℄ A1	0.10L	0.20L	0.30L	0.40L	0.50L	0.60L	0.70L	0.80L	0.90L	"FS1"	0.10L	0.20L	0.30L	0.40L	℄ P	0.60L	0.70L	0.80L	0.90L	"FS2"
G1	0.00	1.69	3.08	4.10	4.70	4.86	4.58	3.88	2.83	1.50	0.00	0.04	0.05	0.04	0.02	0.01	0.02	0.04	0.05	0.04	0.00
G2-8	0.00	1.80	3.28	4.38	5.02	5.18	4.87	4.13	3.00	1.58	0.00	0.01	-0.01	-0.05	-0.09	-0.10	-0.09	-0.05	-0.01	0.01	0.00
G9	0.00	1.71	3.11	4.15	4.75	4.91	4.63	3.92	2.86	1.51	0.00	0.04	0.04	0.02	0.00	-0.01	0.00	0.02	0.04	0.04	0.00

TABLE OF CAMBER ORDINATES "CO" (INCHES)												
		Piece No. 3										
GIRDER	"FS2"	0.10L	0.20L	0.30L	0.40L	0.50L	0.60L	0.70L	0.80L	0.90L	℄ A2	GIRDER
G1	0.00	1.50	2.83	3.88	4.58	4.86	4.70	4.10	3.08	1.69	0.00	G1
G2-8	0.00	1.58	3.00	4.13	4.87	5.18	5.02	4.38	3.28	1.80	0.00	G2-8
G9	0.00	1.51	2.86	3.92	4.63	4.91	4.75	4.15	3.11	1.71	0.00	G9

TABLE OF DEFLECTIONS ~ GIRDER 1 (Inches)																				
	℄ A1	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ P	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ A2
Steel Dead Load	0.00	-0.22	-0.40	-0.51	-0.55	-0.50	-0.40	-0.26	-0.14	-0.04	0.00	-0.04	-0.14	-0.26	-0.40	-0.50	-0.55	-0.51	-0.40	-0.22	0.00
Fluid Dead Load	0.00	-0.56	-1.02	-1.31	-1.39	-1.28	-1.00	-0.65	-0.33	-0.09	0.00	-0.09	-0.33	-0.65	-1.00	-1.28	-1.39	-1.31	-1.02	-0.56	0.00
Superimposed Dead Load	0.00	-0.34	-0.62	-0.80	-0.86	-0.80	-0.64	-0.43	-0.22	-0.07	0.00	-0.07	-0.22	-0.43	-0.64	-0.80	-0.86	-0.80	-0.62	-0.34	0.00

TABLE OF DEFLECTIONS ~ GIRDERS 2 THRU 8 (Inches)																				
	℄ A1	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ P	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ A2
Steel Dead Load	0.00	-0.22	-0.40	-0.51	-0.55	-0.50	-0.40	-0.26	-0.14	-0.04	0.00	-0.04	-0.14	-0.26	-0.40	-0.50	-0.55	-0.51	-0.40	-0.22	0.00
Fluid Dead Load	0.00	-0.75	-1.36	-1.74	-1.84	-1.69	-1.32	-0.86	-0.43	-0.13	0.00	-0.13	-0.43	-0.86	-1.32	-1.69	-1.84	-1.74	-1.36	-0.75	0.00
Superimposed Dead Load	0.00	-0.31	-0.57	-0.73	-0.79	-0.73	-0.59	-0.40	-0.21	-0.06	0.00	-0.06	-0.21	-0.40	-0.59	-0.73	-0.79	-0.73	-0.57	-0.31	0.00

TABLE OF DEFLECTIONS ~ GIRDER 9 (Inches)																				
	℄ A1	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ P	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ A2
Steel Dead Load	0.00	-0.22	-0.40	-0.51	-0.55	-0.50	-0.40	-0.26	-0.14	-0.04	0.00	-0.04	-0.14	-0.26	-0.40	-0.50	-0.55	-0.51	-0.40	-0.22	0.00
Fluid Dead Load	0.00	-0.59	-1.08	-1.38	-1.47	-1.35	-1.06	-0.68	-0.34	-0.10	0.00	-0.10	-0.35	-0.68	-1.06	-1.34	-1.47	-1.38	-1.08	-0.59	0.00
Superimposed Dead Load	0.00	-0.33	-0.61	-0.79	-0.85	-0.79	-0.63	-0.42	-0.22	-0.06	0.00	-0.06	-0.22	-0.42	-0.63	-0.78	-0.85	-0.79	-0.61	-0.33	0.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerbergen	
DESIGN-DETAILED	JS	CW 08\21
CHECKED-REVIEWED	AR	KOS 08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

STEEL DEFLECTION AND CAMBER TABLES

SHEET NUMBER

120

OF 138

Filename: 120_SteelDeflection and Camber Tables.dgn Username: Division: Date:8/27/2021

GIRDER	BOTTOM OF SLAB ELEVATIONS - SPAN 1										
	℄ Brg. Abut. 1	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ Brg. Pier
G1	169.63	169.93	170.19	170.41	170.56	170.66	170.72	170.73	170.72	170.70	170.66
G2	169.82	170.13	170.40	170.62	170.77	170.87	170.91	170.92	170.90	170.86	170.82
G3	170.01	170.32	170.59	170.80	170.95	171.05	171.09	171.09	171.06	171.03	170.98
G4	170.20	170.51	170.77	170.98	171.13	171.22	171.26	171.26	171.23	171.19	171.15
G5	170.39	170.69	170.95	171.16	171.31	171.40	171.43	171.43	171.40	171.35	171.31
G6	170.52	170.82	171.07	171.28	171.42	171.50	171.54	171.53	171.50	171.45	171.40
G7	170.37	170.67	170.93	171.13	171.27	171.35	171.38	171.37	171.33	171.28	171.23
G8	170.23	170.53	170.78	170.98	171.11	171.19	171.22	171.21	171.17	171.12	171.06
G9	170.09	170.37	170.61	170.80	170.93	171.01	171.04	171.03	171.00	170.95	170.89

GIRDER	BOTTOM OF SLAB ELEVATIONS - SPAN 2										
	℄ Brg. Pier	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ Brg. Abut. 2
G1	170.66	170.63	170.58	170.52	170.44	170.32	170.14	169.92	169.64	169.31	168.93
G2	170.82	170.79	170.75	170.69	170.61	170.49	170.32	170.09	169.80	169.45	169.06
G3	170.98	170.95	170.90	170.84	170.76	170.64	170.46	170.23	169.93	169.59	169.20
G4	171.15	171.10	171.06	170.99	170.91	170.78	170.60	170.37	170.07	169.72	169.33
G5	171.31	171.26	171.21	171.15	171.06	170.93	170.75	170.51	170.21	169.85	169.46
G6	171.40	171.35	171.30	171.23	171.14	171.01	170.82	170.58	170.28	169.92	169.52
G7	171.23	171.18	171.12	171.05	170.96	170.82	170.64	170.39	170.09	169.73	169.32
G8	171.06	171.00	170.95	170.87	170.78	170.64	170.45	170.20	169.89	169.53	169.12
G9	170.89	170.83	170.76	170.68	170.57	170.43	170.23	169.98	169.68	169.32	168.92

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kerstetter	BY	DATE
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	AR	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

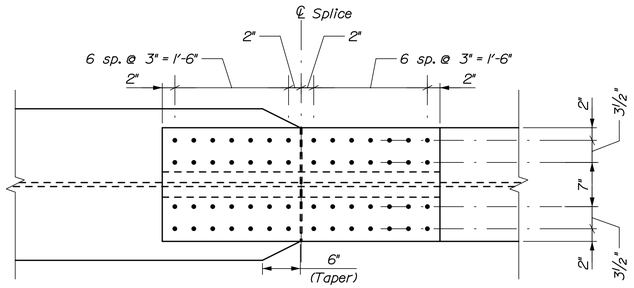
BOTTOM OF SLAB ELEVATIONS

SHEET NUMBER

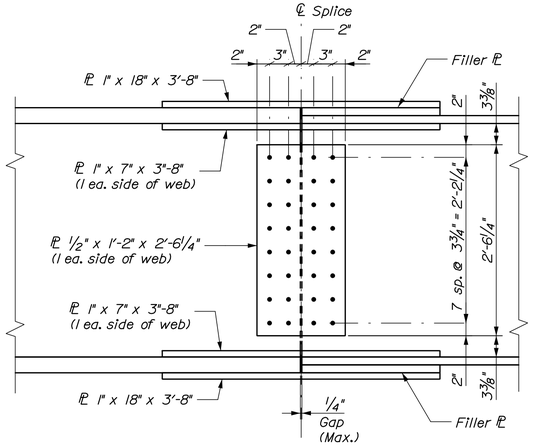
121

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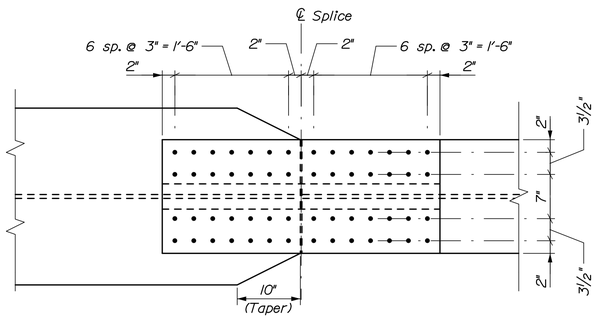
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PLAN - TOP FLANGE



ELEVATION



PLAN - BOTTOM FLANGE

BOLTED FIELD SPLICE

(Field Splice 2 Shown; Field Splice 1 is Opposite Hand)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kerstbergen	BY	DATE
DESIGN-DETAILED	LJM	CW	08\21
CHECKED-REVIEWED	JS	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

STRUCTURAL STEEL DETAILS

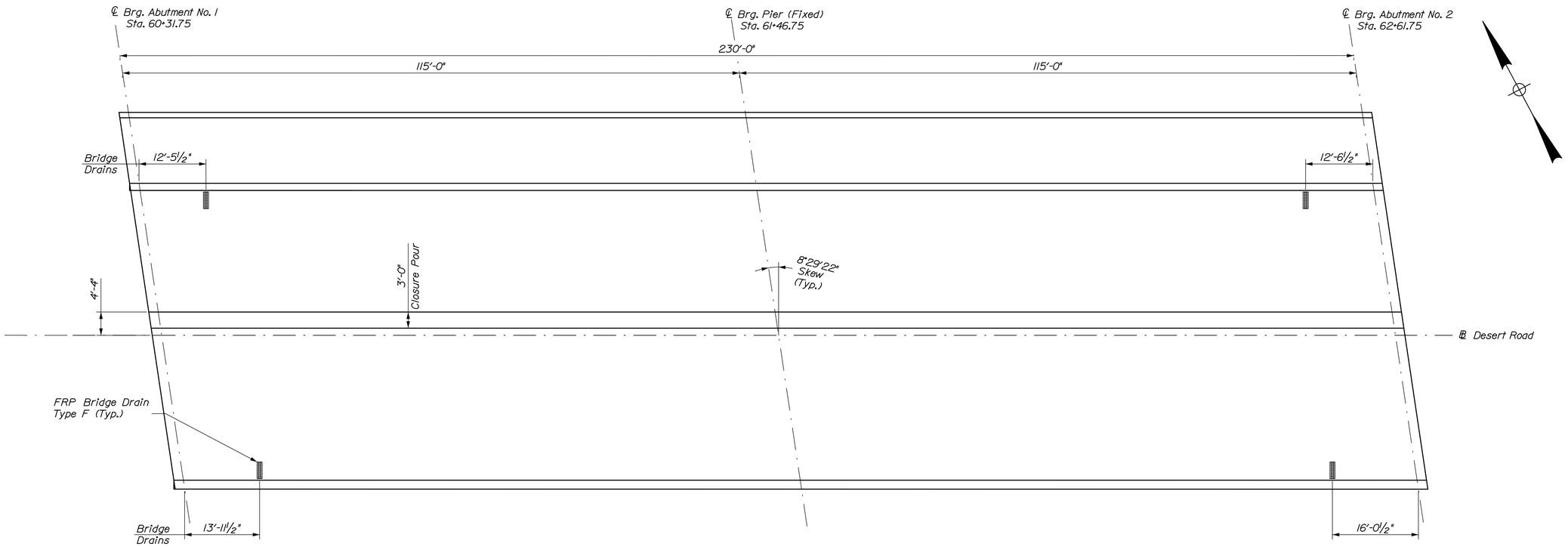
SHEET NUMBER

122

OF 138

HNTB

Filename: 122_StructuralSteelDetails.dgn Division: Username: Date:8/27/2021



SUPERSTRUCTURE PLAN

SUPERSTRUCTURE NOTES

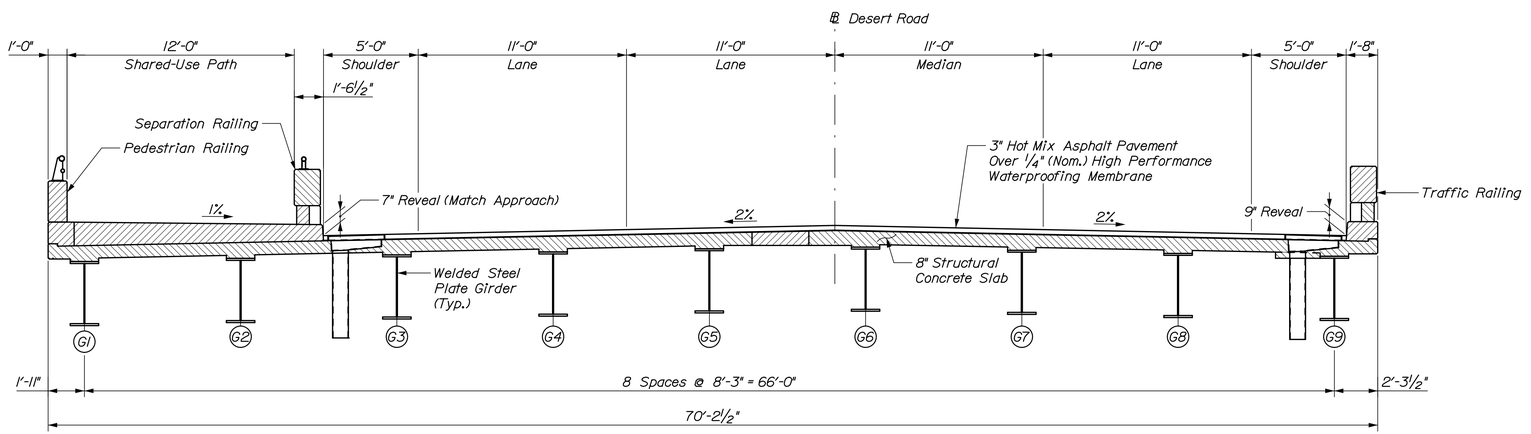
1. The theoretical blocking used for design of the structure is 4.5 inch at the centerline of bearing of the abutments and piers. Refer to Standard Detail 502 for blocking details.

2. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.

3. Adjust reinforcing steel to fit around the bridge drains in a manner approved by the Resident. Do not cut transverse reinforcing bars.

4. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.

5. The use of Precast Concrete Panels will not be allowed on this project.



TRANSVERSE SECTION

(Section shown near Abutment 1)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

BRIDGE No. 5720

WIN 023627.00

BRIDGE PLANS

PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CW	08\21
CHECKED-REVIEWED	KOS	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

BY | DATE

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

SUPERSTRUCTURE PLAN

SHEET NUMBER

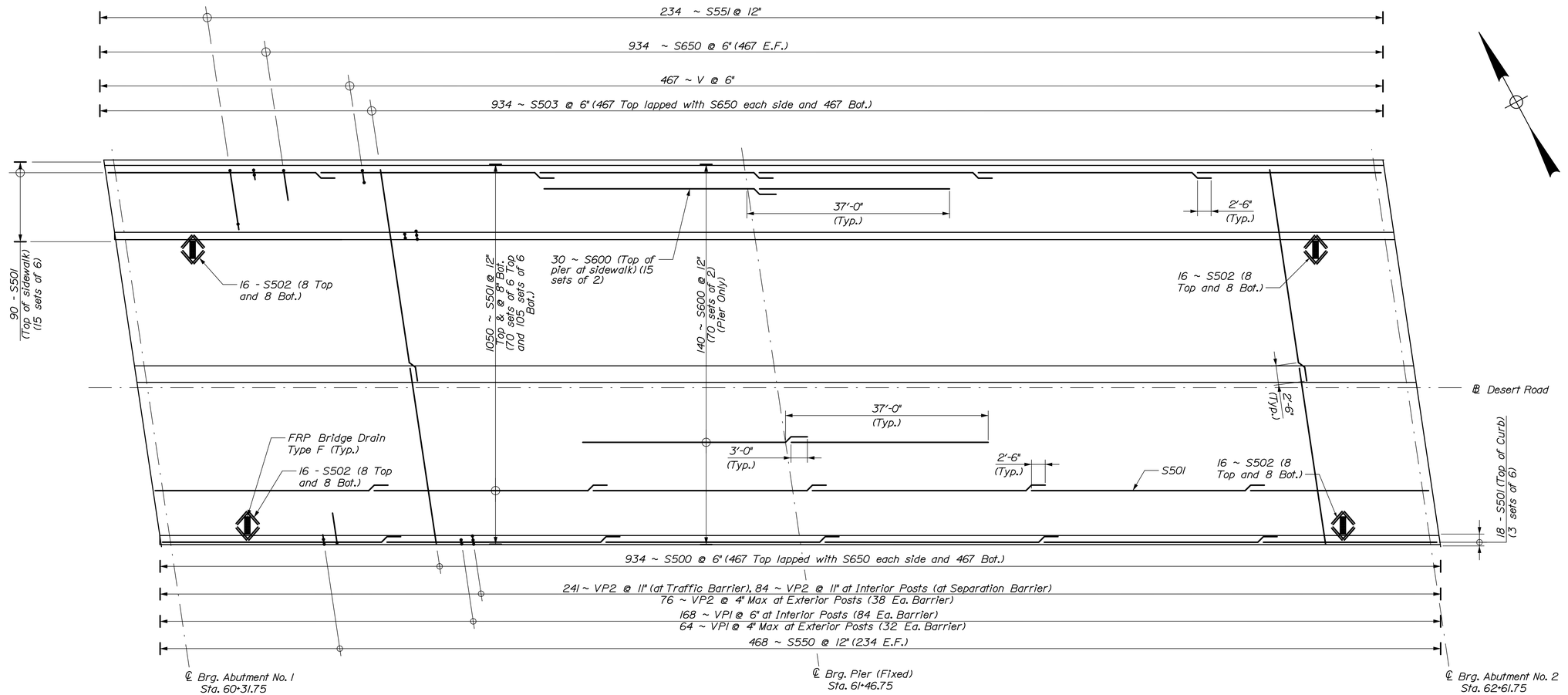
123

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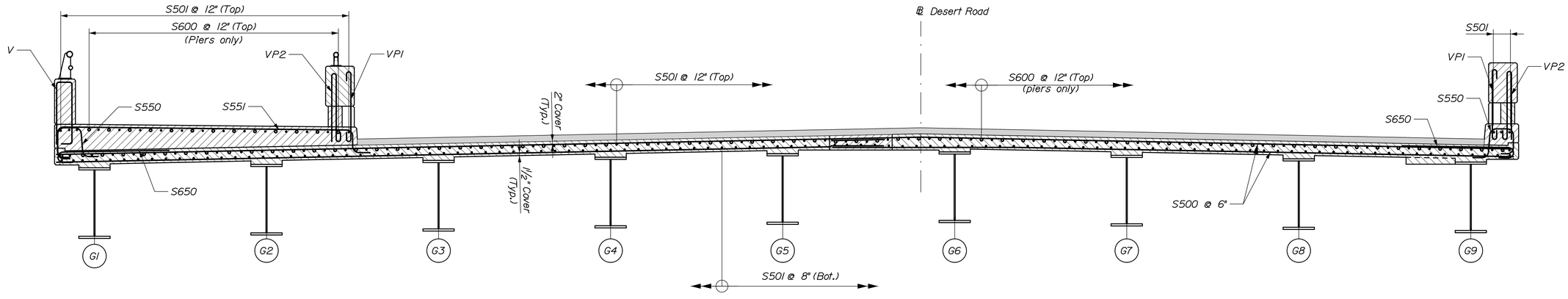
Username: Date:8/27/2021

Division:

Filename: 123_Superstructure Plan.dgn



SUPERSTRUCTURE REINFORCING PLAN



TRANSVERSE REINFORCEMENT SECTION

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	CW	08\21
CHECKED-REVIEWED	KOS	08\21
DESIGN2-DETAILED2	AR	
DESIGN3-DETAILED3	JS	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

SUPERSTRUCTURE REINFORCING

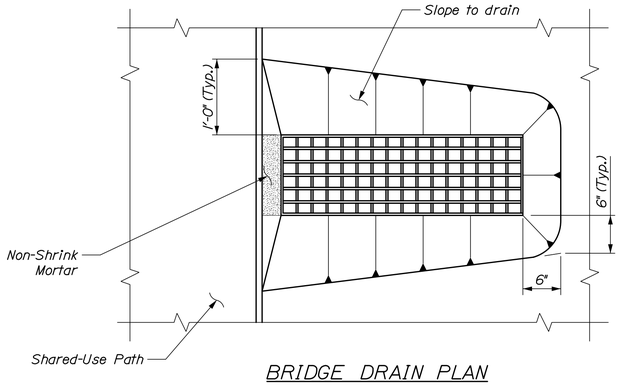
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124

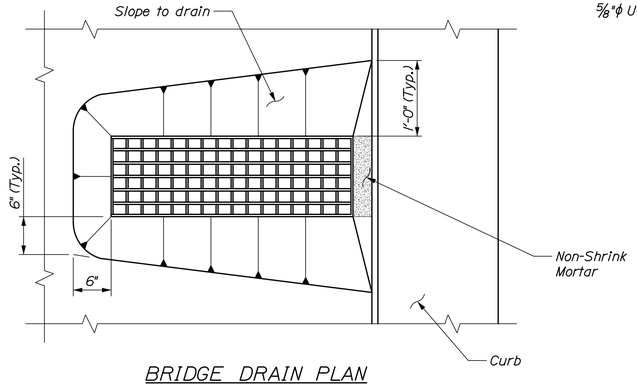
OF 138

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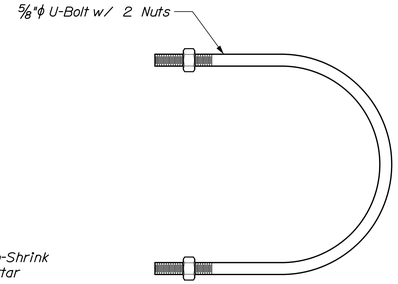
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BRIDGE DRAIN PLAN AT SHARED-USE PATH



BRIDGE DRAIN PLAN AT CURB



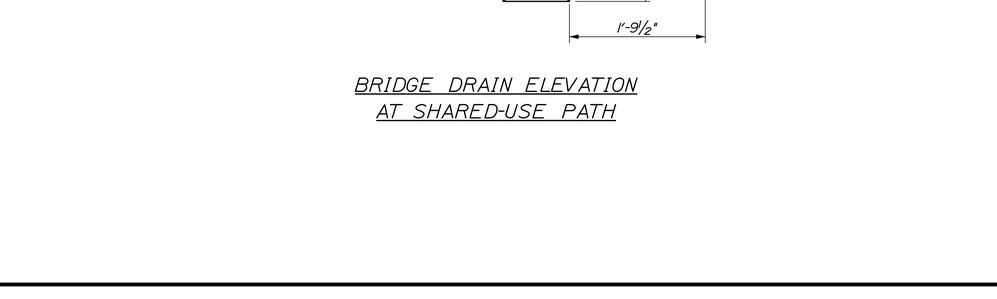
U-BOLT DETAIL

BRIDGE DRAIN NOTES

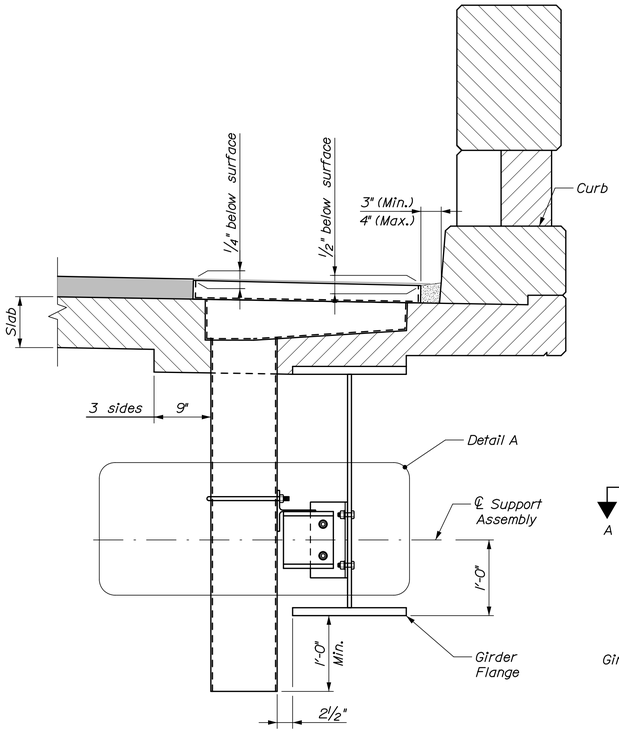
1. FRP Bridge Drains shall be designed and detailed based on the dimensions for the bridge drain details shown, and in accordance with Special Provision Section 502, Fiber Reinforced Polymer Bridge Drain and Downspout.

2. No extra payment will be made for needed adjustment to the shear connectors welded to the top flange of steel beams to clear the bridge drains.

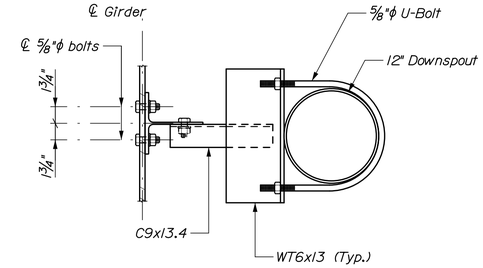
3. Support Assembly components and hardware shall meet the grade and protective coating requirements identified on Standard Detail 502(24).



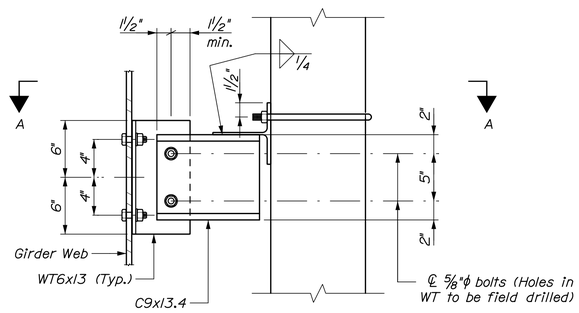
BRIDGE DRAIN ELEVATION AT SHARED-USE PATH



BRIDGE DRAIN ELEVATION AT CURB



SECTION A-A



DETAIL A

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	SIGNATURE	P.E. NUMBER	DATE

PROJ. MANAGER	M. Kerbergen	BY	DATE
DESIGN-DETAILED	AR	CW	08\21
CHECKED-REVIEWED	JS	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

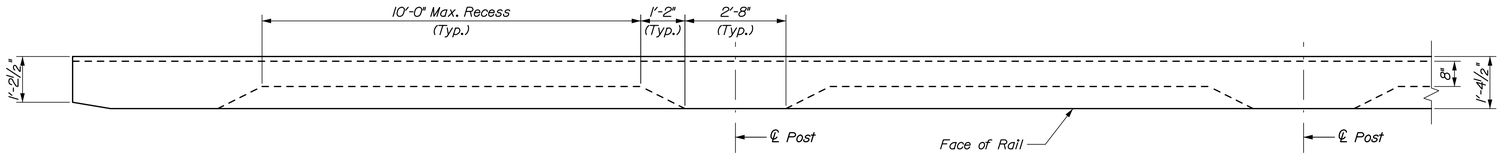
MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BRIDGE DRAIN DETAILS

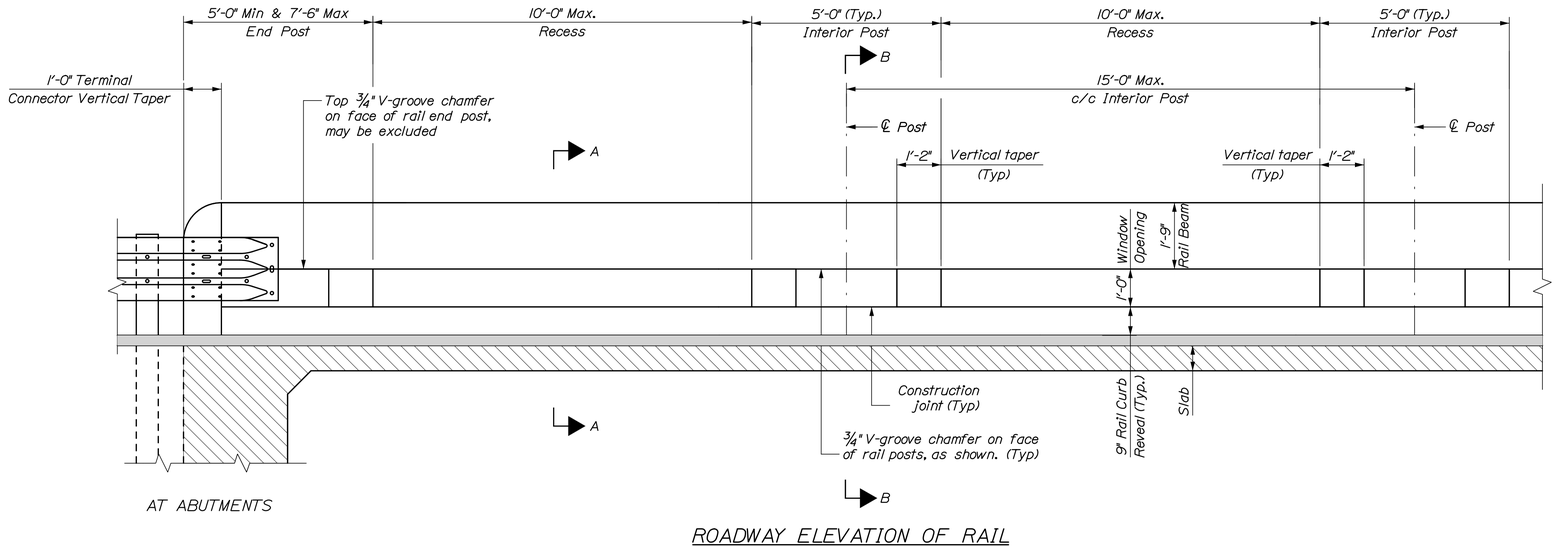
SHEET NUMBER
125
OF 138

HNTB

Filename: 125_Bridge Drain Details.dgn Division: Username: Date:8/27/2021

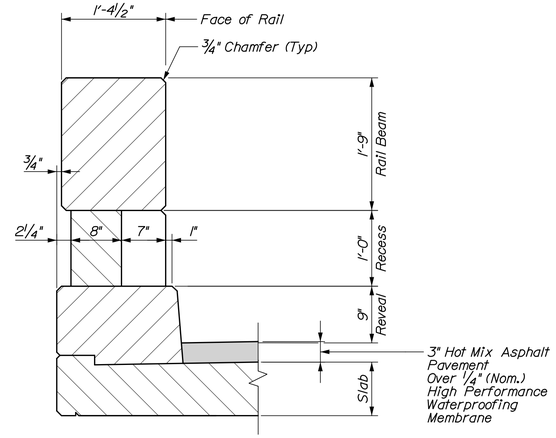


PLAN OF RAIL



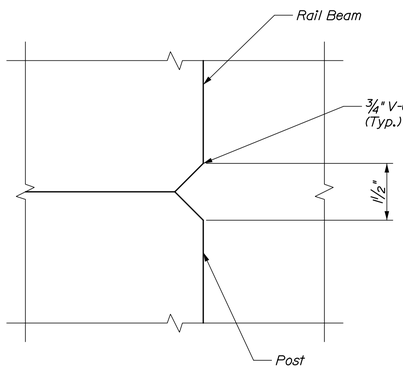
AT ABUTMENTS

ROADWAY ELEVATION OF RAIL



AT INTERIOR POST

AT RECESS



V-GROOVE CHAMFER DETAIL

CONCRETE BARRIER RAILING NOTES

1. All work shall conform to Supplemental Specification Section 526 - Concrete Barrier and related Special Provisions.
2. Vertical surfaces and recesses shall be plumb.
3. All contraction joints shall be located over the pier and centered on an interior post. Do not extend reinforcing through the contraction joint.
4. Reinforcing steel shall have a minimum cover of 2 inches.
5. Payment for guardrail anchorage will be considered incidental to the applicable concrete barrier Pay Item.
6. All reinforcement shall be Stainless Steel, Grade 75.
7. Provide reinforcing bar laps where required as follows:
   #4 = 2'-5"
   #5 = 3'-0"
   #6 = 3'-7"

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

PROJ. MANAGER	M. Kershbergen	BY	DATE
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	SMH	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

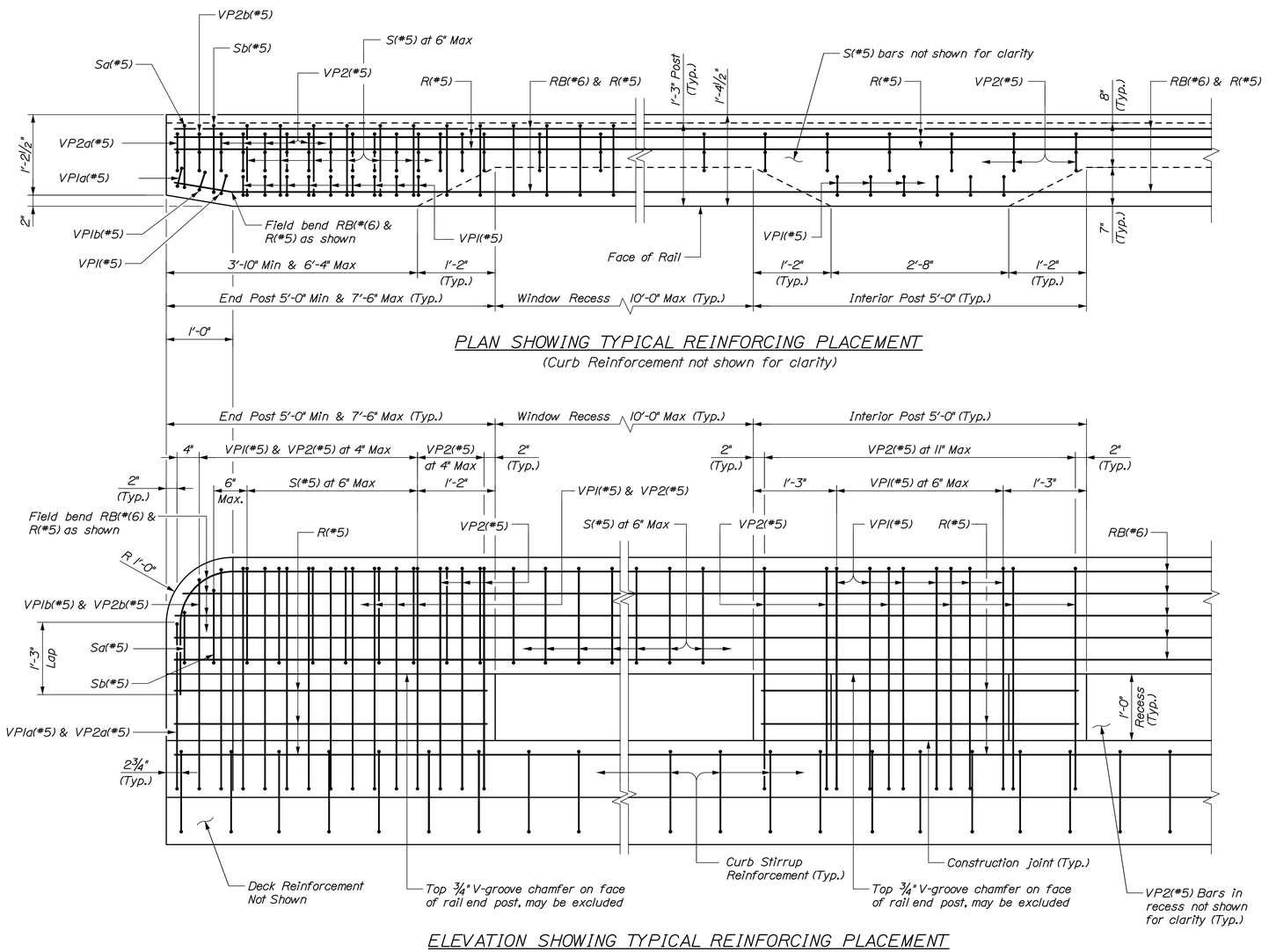
DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

TRAFFIC RAILING
1 OF 2

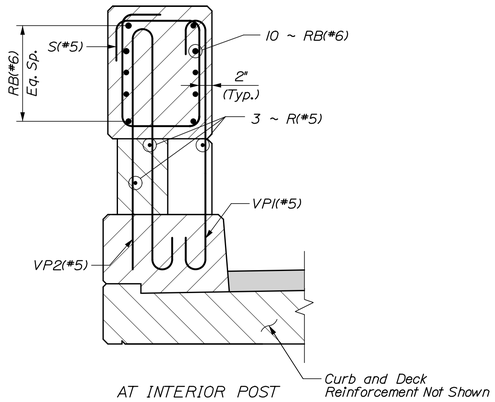
SHEET NUMBER
126
OF 138

Date:8/27/2021
Username:
Division:
Filename: 126_Traffic Railing 1 of 2.dgn

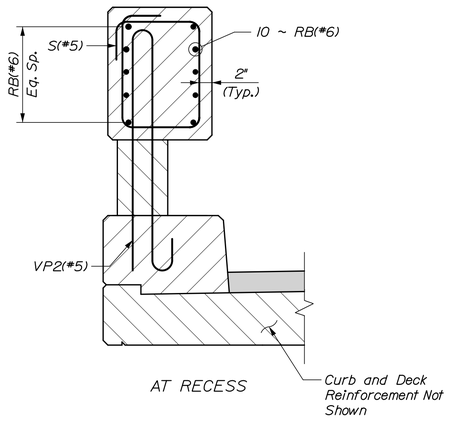


PLAN SHOWING TYPICAL REINFORCING PLACEMENT
(Curb Reinforcement not shown for clarity)

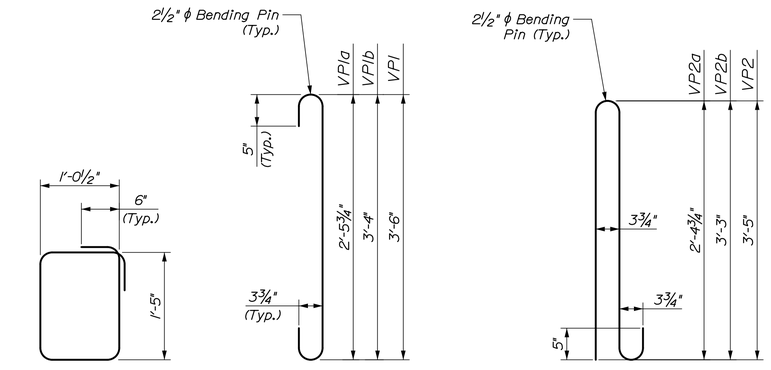
ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT



AT INTERIOR POST



AT RECESS



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerlsbergen	
DESIGN-DETAILED	JS	08\21
CHECKED-REVIEWED	SMH	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

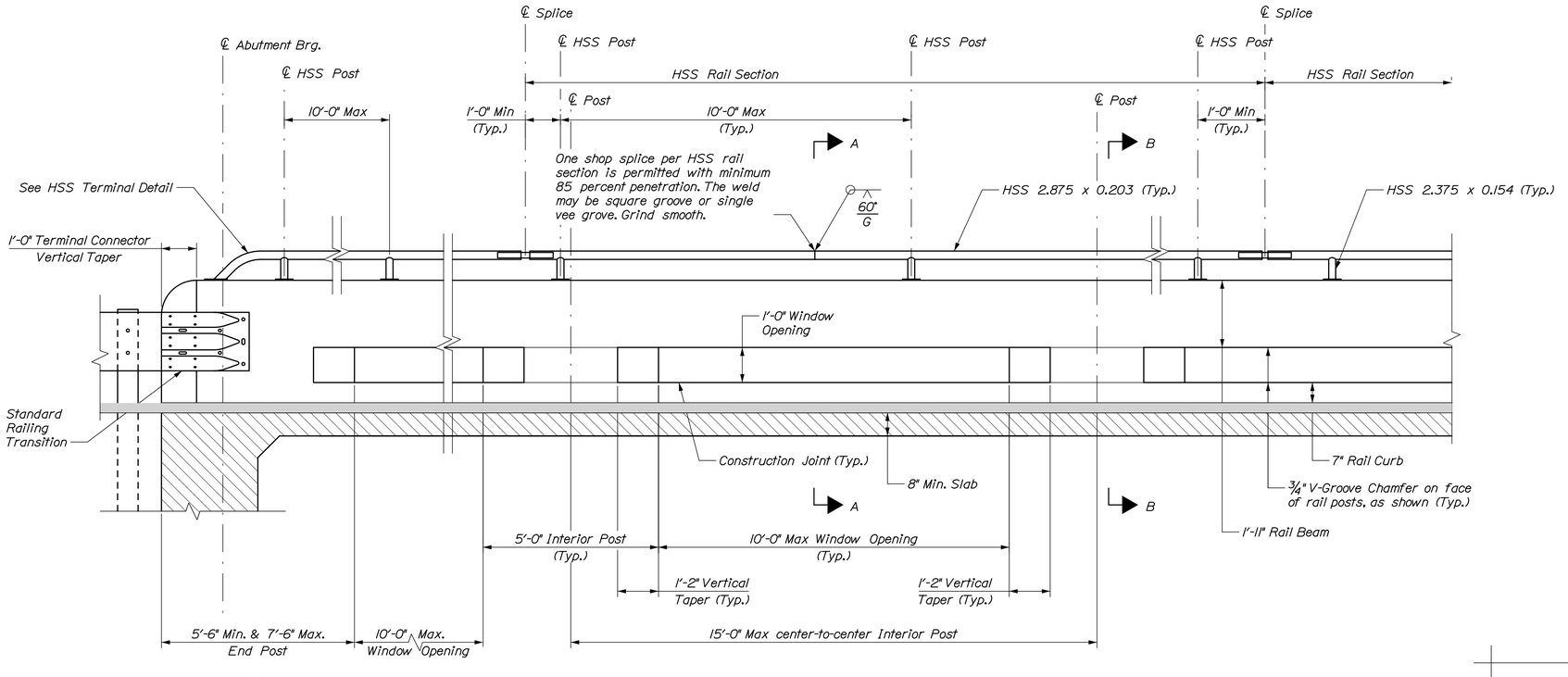
MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

TRAFFIC RAILING
2 OF 2

SHEET NUMBER
127
OF 138

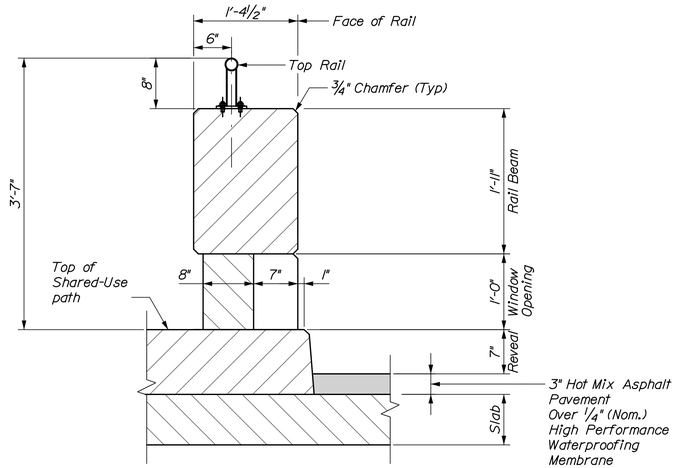
HNTB

Filename: 127_Traffic Railing 2 of 2.dgn Division: Username: Date:8/27/2021

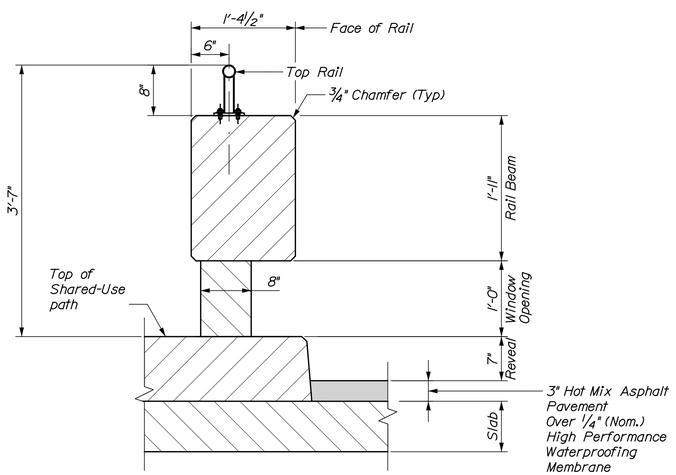


AT ABUTMENTS

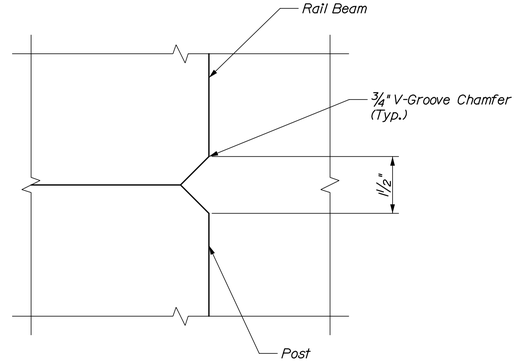
SEPARATION RAILING ELEVATION



AT INTERIOR POST



AT WINDOW OPENING



V-GROOVE CHAMFER DETAIL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

BRIDGE No. 5720

WIN 023627.00

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kersbergen		
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	SMH	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

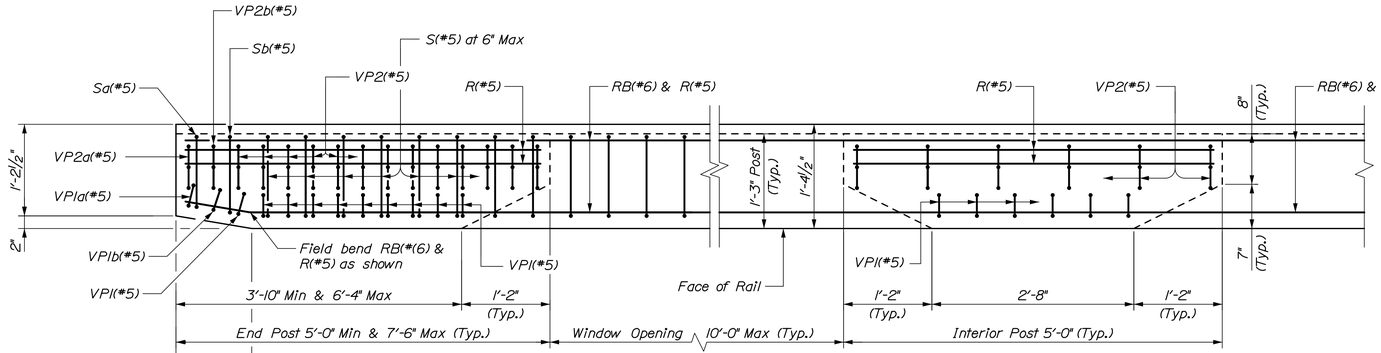
MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

SEPARATION RAILING
1 OF 3

SHEET NUMBER
128
OF 138

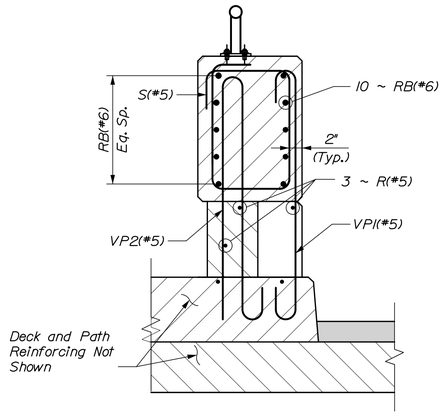
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Filename: 128_Separation Railing 1 of 3.dgn Division: Username: Date:8/27/2021

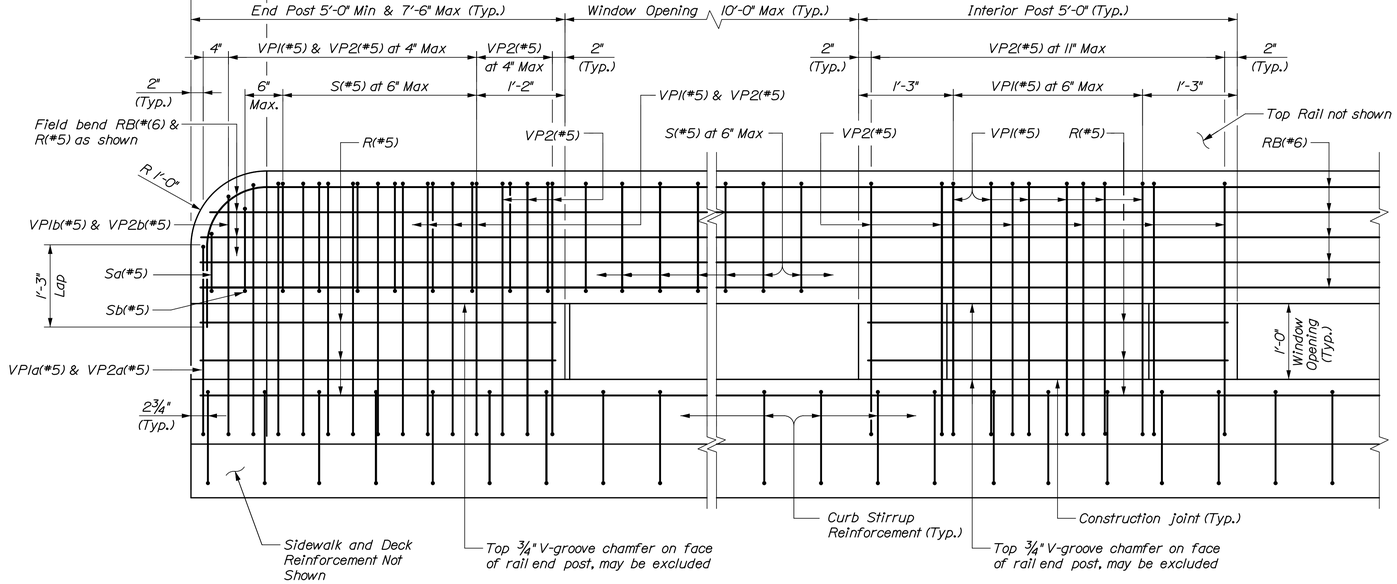


PLAN SHOWING TYPICAL REINFORCING PLACEMENT

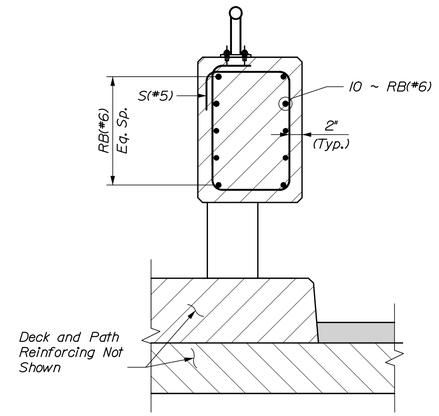
(Curb/Path Reinforcement not shown for clarity)



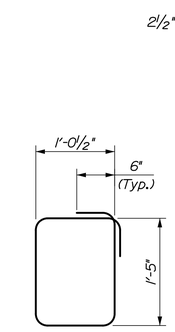
AT INTERIOR POST



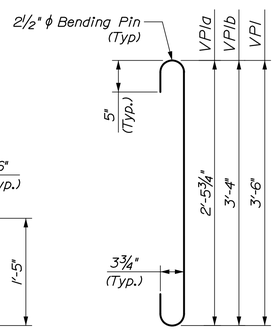
ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT



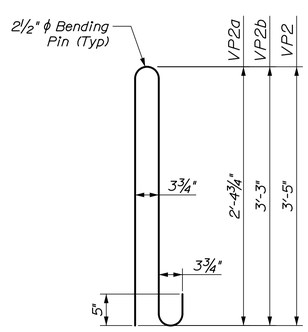
AT WINDOW OPENING



BARS S(#5)
(Total Length = 5'-11")



BARS VPI(#5)
(Total Length VPI = 4'-4")
(Total Length VPIa = 3'-3¾")
(Total Length VPIb = 4'-2")



BARS VP2(#5)
(Total Length VP2 = 7'-3")
(Total Length VP2a = 5'-2½")
(Total Length VP2b = 6'-11")

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	JS	08\21
CHECKED-REVIEWED	SMH	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

SEPARATION RAILING
2 OF 3

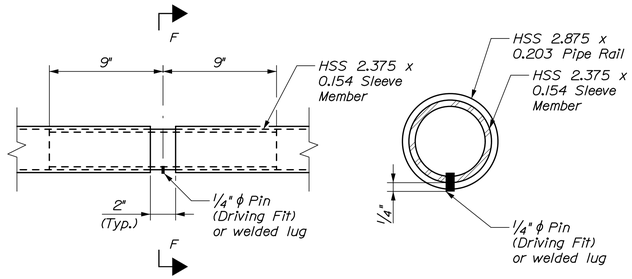
SHEET NUMBER
129
OF 138

Date:8/27/2021

Username:

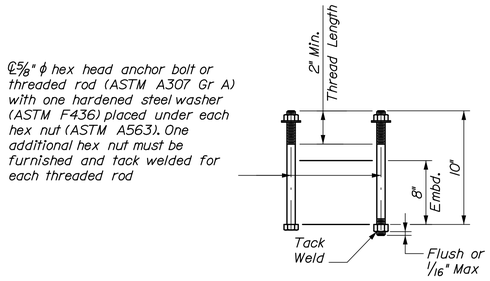
Division:

Filename: 129_Separation Railing 2 of 3.dgn

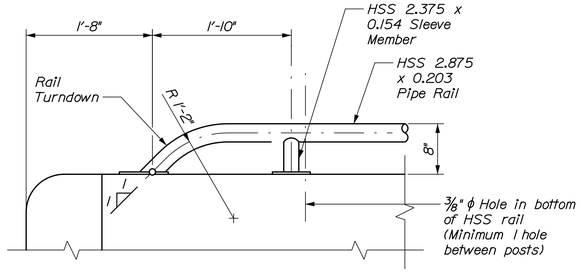


AT SPLICE JOINT SECTION F-F

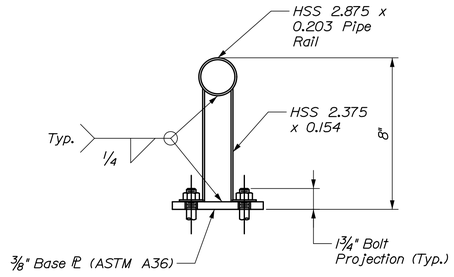
PIPE SPLICE DETAILS



CAST-IN-PLACE ANCHOR BOLT OPTION



HSS RAIL TERMINAL DETAIL



TRANSVERSE SECTION

HAND RAIL NOTES

1. Provide ASTM A1085, A500 Gr B or A53 Gr B for all HSS.

2. Hot-dip Galvanize all metal components of steel rail system.

3. HSS rail sections must include not less than two posts, and no more than five.

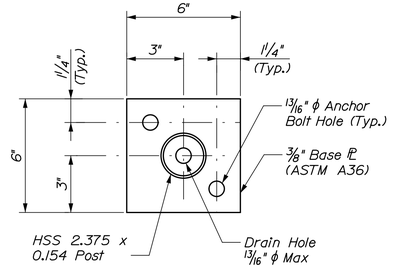
4. Round or chamfer exposed edges of HSS rail and HSS rail posts to approximately 1/16" by grinding.

5. Anchor bolts must be 5/8" Dia ASTM A307 Gr A fully threaded rods with one hex nut and one hardened steel washer (ASTM F436) each. Nuts must conform to ASTM A563 requirements. Embed fully threaded rods into parapet wall with an approved adhesive from the Qualified Products List. Minimum adhesive anchor embedment depth is 3". Anchor adhesive chosen must be able to achieve a nominal bond strength in tension of a single anchor, Na, of 5 kips (edge distance must be accounted for).

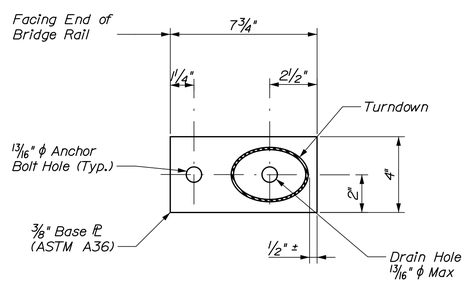
6. Optional cast-in-place anchor bolts must be 5/8" Dia ASTM A307 Gr A bolts (or threaded rods with one tack welded hex nut each) with one hex nut and one hardened steel washer (ASTM F436) at each bolt. Nuts must conform to ASTM A563 requirements.

NOTES

1. See Traffic Railing for Concrete Barrier Railing notes.



POST BASE PLATE PLAN



RAIL TURNDOWN BASE PLATE PLAN

HSS RAIL DETAILS

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720 BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	JS	08\21
CHECKED-REVIEWED	SMH	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
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REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

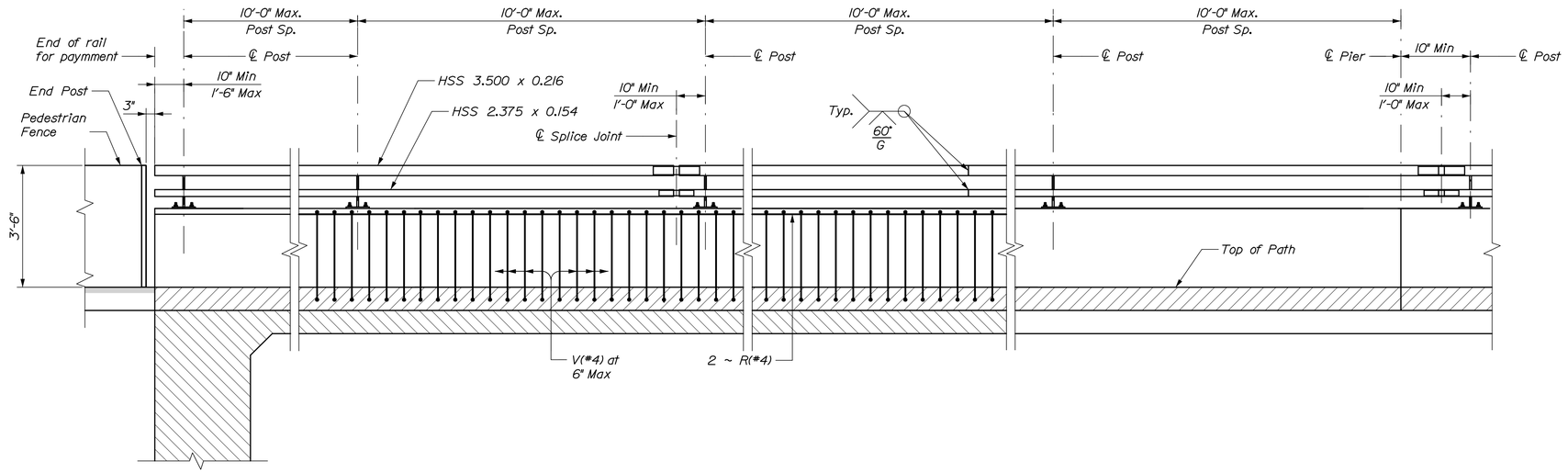
SEPARATION RAILING
3 OF 3

SHEET NUMBER

130

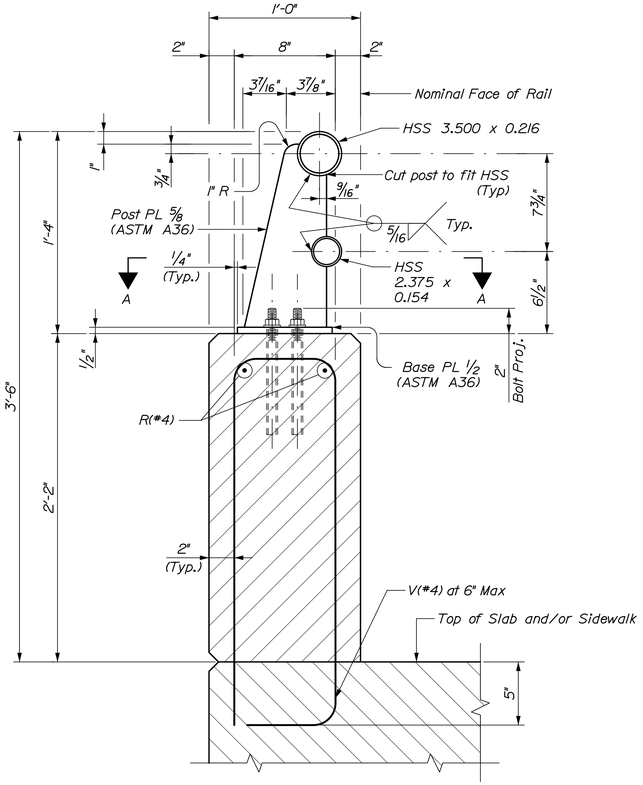
OF 138

Filename: 130_Separation Railing 3 of 3.dgn Division: Username: Date:8/27/2021

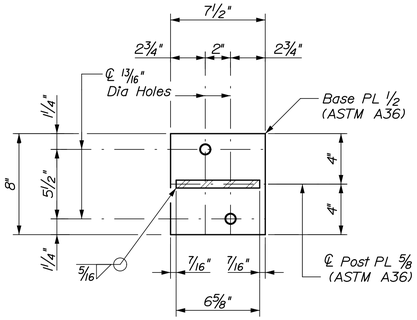


AT ABUTMENTS

PATH ELEVATION OF RAIL

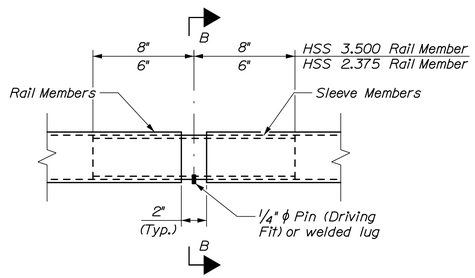


SECTION

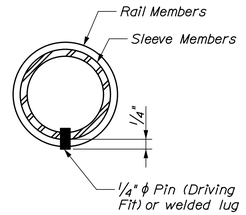


SECTION A-A

Showing base plate detail



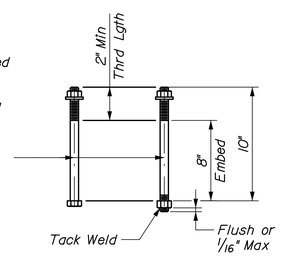
AT SPLICES JOINTS



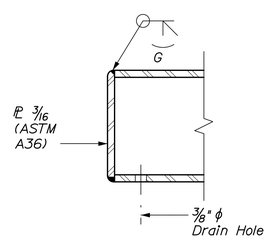
SECTION B-B

PIPE SPLICE DETAIL

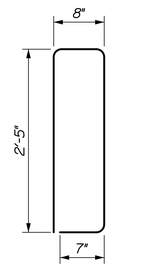
℄ 5/8" ϕ hex head anchor bolt or threaded rod (ATSM A307 Gr A) with one hardened steel washer (ASTM F436) placed under each hex nut (ASTM A563). One additional hex nut must be furnished and tack welded for each threaded rod.



CAST-IN-PLACE ANCHOR BOLT OPTION



RAIL CAP DETAIL



BARS V (#4)
(Total Length = 6'-1")

NOTE:

1. See Traffic Railing for Concrete Barrier Railing Notes

STEEL PEDESTRIAN RAILING NOTES:

1. Provide ASTM A500 Gr B, A1085 or A53 Gr B for all HSS.

2. Galvanize all metal components of steel rail system.

3. Panel lengths of railing must be attached to a minimum of three posts.

4. Face of rail, posts and parapet must be vertical transversely unless otherwise approved. Rail posts must be perpendicular to top of adjacent concrete parapet grade.

5. Round or chamfer all exposed edges of steel components 1/16" by grinding prior to galvanizing.

6. Anchor bolts must be 5/8" Dia ASTM A307 Gr A fully threaded rods with one hex nut and one hardened steel washer (ASTM F436). Nuts must conform to ASTM A563 requirements. Embed fully threaded rods into parapet using an approved anchorage adhesive per the Qualified Products List. Minimum adhesive anchor embedment depth is 7". Anchor adhesive chosen must be able to achieve a nominal bond strength in tension of a single anchor, Na, 8.5 kips (edge distance must be accounted for). Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use.

7. Optional cast-in-place anchor bolts must be 5/8" Dia ASTM A307 Gr A with one hardened steel washer (ASTM F436) placed under each hex nut or ASTM A307 Gr A threaded rods with one tack welded hex nut each and with one hex nut with one hardened steel washer (ASTM F436) each. Nuts must conform to ASTM A563 requirements.

8. One shop splice per steel rail panel is permitted (with minimum 85 percent penetration). The weld may be square groove or single vee groove. Grind smooth.

9. For all rails, submit Working Drawings showing section lengths, splice locations, rail post spacing and anchor bolt setting for approval.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	M. Kerstergen		
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	SMH	SMH	08\21
DESIGN2-DETAILED2			
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REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

PEDESTRIAN RAILING

SHEET NUMBER

131

OF 138

HNTB

Date:8/27/2021
Username:
Division:
Filename: 131_Pedestrian Railing.dgn

Filename: 132_Reinforcing Schedule Abutments.dgn Division:

Username:

Date:8/27/2021

STRAIGHT BARS

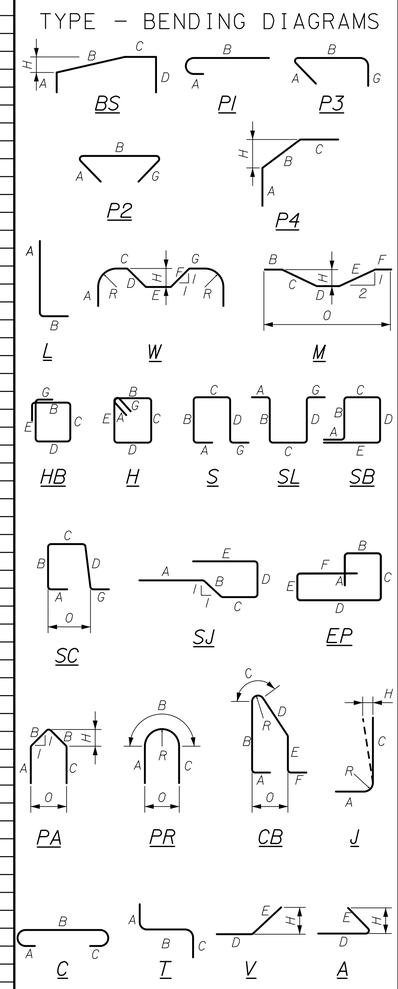
MARK	QTY.	LENGTH	LOCATION
			ABUTMENT 1
A500	34	22'-1"	Phase 1 Pile Cap - Long & in WW (T&B, NF)
A501	11	30'-2"	Phase 1 Pile Cap - Long (FF)
A502	9	25'-9"	Phase 1 Stem - Long (FF & 1 on NF)
A503	1	18'-5"	Phase 1 Stem - Long in WW (NF)
A504	2	4'-6"	Phase 1 Stem - Long in WW (NF&FF)
A505	30	26'-5"	Phase 2 Pile Cap - Long (T&B and NF)
A506	4	8'-10 3/4"	Phase 2 Pile Cap - Long (T)
A507	11	37'-10"	Phase 2 Pile Cap - Long (FF)
A508	2	11'-11"	Phase 2 Stem - Long (NF&FF)
A509	2	19'-2"	Phase 2 Stem - Long (NF&FF)
A510	1	24'-2"	Phase 2 Stem - Long in WW (NF)
A511	8	33'-0"	Phase 2 Stem - Long (FF)
A512	2	6'-6"	Phase 2 Stem - Long in WW (NF&FF)
A513	2	5'-0"	Phase 2 Stem - Long in WW (NF&FF)
A514	36	3'-0"	Dowels through girder holes (NF)
A615	144	7'-4"	Vertical Bars (N.F.)
A700	144	9'-3"	Pile Cap - Vertical (FF)
A900	11	14'-0"	Phase 1 Pile Cap - Long in WW (FF)
A901	8	18'-5"	Phase 1 Stem - Long in WW (FF)
A902	11	15'-0"	Phase 2 Pile Cap - Long in WW (FF)
A903	8	19'-10"	Phase 2 Stem - Long in WW (FF)
			ABUTMENT 2
B500	34	22'-1"	Phase 1 Pile Cap - Long & in WW (T&B, NF)
B501	11	30'-2"	Phase 1 Pile Cap - Long (FF)
B502	9	25'-9"	Phase 1 Stem - Long (FF & 1 on NF)
B503	1	18'-5"	Phase 1 Stem - Long in WW (NF)
B504	2	4'-6"	Phase 1 Stem - Long in WW (NF&FF)
B505	30	26'-5"	Phase 2 Pile Cap - Long (T&B and NF)
B506	4	8'-10 3/4"	Phase 2 Pile Cap - Long (T)
B507	11	37'-10"	Phase 2 Pile Cap - Long (FF)
B508	2	11'-11"	Phase 2 Stem - Long (NF&FF)
B509	2	19'-2"	Phase 2 Stem - Long (NF&FF)
B510	1	24'-2"	Phase 2 Stem - Long in WW (NF)
B511	8	33'-0"	Phase 2 Stem - Long (FF)
B512	2	6'-6"	Phase 2 Stem - Long in WW (NF&FF)
B513	2	5'-0"	Phase 2 Stem - Long in WW (NF&FF)
B514	36	3'-0"	Dowels through girder holes (NF)
B615	144	7'-4"	Vertical Bars (N.F.)
B700	144	9'-3"	Pile Cap - Vertical (FF)
B900	11	14'-0"	Phase 1 Pile Cap - Long in WW (FF)
B901	8	18'-5"	Phase 1 Stem - Long in WW (FF)
B902	11	15'-0"	Phase 2 Pile Cap - Long in WW (FF)
B903	8	19'-10"	Phase 2 Stem - Long in WW (FF)

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
							ABUTMENT 1							
A550	41	5'-0"	S	0'-0"	1'-0"	3'-0"	1'-0"			0'-0"				Wingwall - Side U-Bars
A553	3	18'-6"	S	0'-0"	7'-9"	3'-0"	7'-9"			0'-0"				Phase 1 WW - Vertical U-Bars
A554	3	7'-2"	S	0'-0"	2'-1"	3'-0"	2'-1"			0'-0"				Phase 1 WW - Vertical U-Bars (T)
A555	6	21'-6"	S	0'-0"	9'-3"	3'-0"	9'-3"			0'-0"				Phase 1 WW - Vertical U-Bars
A556	6	7'-10"	S	0'-0"	2'-5"	3'-0"	2'-5"			0'-0"				Phase 1 WW - Vertical U-Bars (T)
A557	3	8'-9"	P4		6'-6"	2'-3"					2'-10 7/8"			Phase 1 WW - Top Bent Bar
A558	3	18'-2"	S	0'-0"	7'-7"	3'-0"	7'-7"			0'-0"				Phase 2 WW - Vertical U-Bars
A559	3	7'-2"	S	0'-0"	2'-1"	3'-0"	2'-1"			0'-0"				Phase 2 WW - Vertical U-Bars (T)
A560	7	21'-2"	S	0'-0"	9'-1"	3'-0"	9'-1"			0'-0"				Phase 2 WW - Vertical U-Bars
A561	7	8'-10"	S	0'-0"	2'-11"	3'-0"	2'-11"			0'-0"				Phase 2 WW - Vertical U-Bars (T)
A562	3	10'-3 1/2"	P4		7'-8"	2'-7 1/2"					3'-5"			Phase 2 WW - Top Bent Bar
A563	33	3'-11 3/4"	P3	0'-5 1/2"	3'-0"					0'-6"				Pile Cap - Ties
A564	64	9'-1 3/4"	P4	1'-0"	5'-7 3/4"	2'-6"					4'-0"			Pile Cap - Approach Slab Bars
A565	72	9'-6"	P4	0'-0"	3'-6"	6'-0"					2'-5 1/2"			Stem - Deck Bars
A566	72	12'-9"	L	10'-3"	2'-6"									Stem - Deck Bars
A567	68	7'-5"	L	6'-7"	0'-10"									Pile Cap - Vertical L-bars (F.F)
A568	32	9'-5 1/2"	S	0'-0"	0'-10"	7'-9 1/2"	0'-10"			0'-0"				Stem - Bent bars between girders
A569	2	11'-4 3/4"	L	10'-6 3/4"	0'-10"									Phase 1 Wingwall - Horiz. L-Bars
A570	1	10'-8 3/4"	L	9'-10 3/4"	0'-10"									Phase 1 Wingwall - Horiz. L-Bars
A571	1	9'-2"	L	8'-4"	0'-10"									Phase 1 Wingwall - Horiz. L-Bars
A572	3	12'-4 3/4"	L	11'-6 3/4"	0'-10"									Phase 2 Wingwall - Horiz. L-Bars
A573	1	10'-10 1/2"	L	10'-0 1/2"	0'-10"									Phase 2 Wingwall - Horiz. L-Bars
A574	4	6'-4 1/2"	L	5'-6 1/2"	0'-10"									Closure Pour - L-Bars
A575	4	5'-6 3/4"	L	4'-8 3/4"	0'-10"									Closure Pour - L-Bars
A651	114	13'-0"	S	0'-0"	5'-0"	3'-0"	5'-0"			0'-0"				Pile Cap - Vertical U-Bars
A652	133	6'-0"	S	0'-0"	1'-6"	3'-0"	1'-6"			0'-0"				Pile Cap - U-Bar Caps
A677	144	7'-6"	S	0'-0"	2'-3"	3'-0"	2'-3"			0'-0"				Stem - U-Bar Caps
							ABUTMENT 2							
B550	41	5'-0"	S	0'-0"	1'-0"	3'-0"	1'-0"			0'-0"				Wingwall - Side U-Bars
B553	3	18'-6"	S	0'-0"	7'-9"	3'-0"	7'-9"			0'-0"				Phase 1 WW - Vertical U-Bars
B554	3	7'-2"	S	0'-0"	2'-1"	3'-0"	2'-1"			0'-0"				Phase 1 WW - Vertical U-Bars (T)
B555	6	21'-6"	S	0'-0"	9'-3"	3'-0"	9'-3"			0'-0"				Phase 1 WW - Vertical U-Bars
B556	6	7'-10"	S	0'-0"	2'-5"	3'-0"	2'-5"			0'-0"				Phase 1 WW - Vertical U-Bars (T)
B557	3	8'-9"	P4		6'-6"	2'-3"					2'-10 7/8"			Phase 1 WW - Top Bent Bar
B558	3	18'-2"	S	0'-0"	7'-7"	3'-0"	7'-7"			0'-0"				Phase 2 WW - Vertical U-Bars
B559	3	7'-2"	S	0'-0"	2'-1"	3'-0"	2'-1"			0'-0"				Phase 2 WW - Vertical U-Bars (T)
B560	7	21'-2"	S	0'-0"	9'-1"	3'-0"	9'-1"			0'-0"				Phase 2 WW - Vertical U-Bars
B561	7	8'-10"	S	0'-0"	2'-11"	3'-0"	2'-11"			0'-0"				Phase 2 WW - Vertical U-Bars (T)
B562	3	10'-3 1/2"	P4		7'-8"	2'-7 1/2"					3'-5"			Phase 2 WW - Top Bent Bar
B563	33	3'-11 3/4"	P3	0'-5 1/2"	3'-0"					0'-6"				Pile Cap - Ties
B564	64	9'-1 3/4"	P4	1'-0"	5'-7 3/4"	2'-6"					4'-0"			Pile Cap - Approach Slab Bars
B565	72	9'-6"	P4	0'-0"	3'-6"	6'-0"					2'-5 1/2"			Stem - Deck Bars
B566	72	12'-9"	L	10'-3"	2'-6"									Stem - Deck Bars
B567	68	7'-5"	L	6'-7"	0'-10"									Pile Cap - Vertical L-bars (F.F)
B568	32	9'-5 1/2"	S	0'-0"	0'-10"	7'-9 1/2"	0'-10"			0'-0"				Stem - Bent bars between girders
B569	2	11'-4 3/4"	L	10'-6 3/4"	0'-10"									Phase 1 Wingwall - Horiz. L-Bars
B570	1	10'-8 3/4"	L	9'-10 3/4"	0'-10"									Phase 1 Wingwall - Horiz. L-Bars
B571	1	9'-2"	L	8'-4"	0'-10"									Phase 1 Wingwall - Horiz. L-Bars
B572	3	12'-4 3/4"	L	11'-6 3/4"	0'-10"									Phase 2 Wingwall - Horiz. L-Bars
B573	1	10'-10 1/2"	L	10'-0 1/2"	0'-10"									Phase 2 Wingwall - Horiz. L-Bars
B574	4	6'-4 1/2"	L	5'-6 1/2"	0'-10"									Closure Pour - L-Bars
B575	4	5'-6 3/4"	L	4'-8 3/4"	0'-10"									Closure Pour - L-Bars
B651	114	13'-0"	S	0'-0"	5'-0"	3'-0"	5'-0"			0'-0"				Pile Cap - Vertical U-Bars
B652	133	6'-0"	S	0'-0"	1'-6"	3'-0"	1'-6"			0'-0"				Pile Cap - U-Bar Caps
B677	144	7'-6"	S	0'-0"	2'-3"	3'-0"	2'-3"			0'-0"				Stem - U-Bar Caps

MARK | QTY. | LENGTH | LOCATION | MARK | QTY. | LENGTH | TYPE | A | B | C | D | E | F | G | H | O | R | LOCATION

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 A955, GRADE 75

GENERAL NOTES

1. 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

2. 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 scheduled on the plans.

3. All reinforcing shall be stainless steel unless otherwise noted.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	JS	CW 08\21
CHECKED-REVIEWED	AR	KOS 08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

REINFORCING SCHEDULE ABUTMENTS

SHEET NUMBER

132

OF 138

Date:8/27/2021

Username:

Division:

Filename: 133_Reinforcing Schedule Pier.dgn

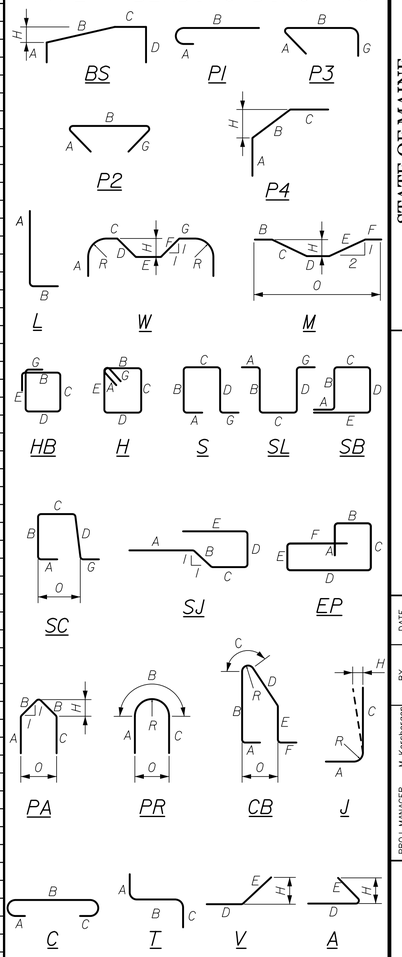
STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION
			PIER				
P500	66	8'-6"	Pile Cap - Trans (T)				
P501	22	32'-5"	Phase I Pile Cap - Long (T&B)				
P502	22	35'-4"	Phase 2 Pile Cap - Long (T&B)				
P503	16	20'-11"	Phase I Stem - Long (EF)				
P504	14	23'-5"	Phase I Stem - Long (EF)				
P505	14	25'-10"	Phase I Stem - Long (EF)				
P506	8	32'-5"	Phase I Stem - Long (EF)				
P507	16	28'-10"	Phase 2 Stem - Long (EF)				
P508	14	31'-3"	Phase 2 Stem - Long (EF)				
P509	14	33'-9"	Phase 2 Stem - Long (EF)				
P510	8	40'-3"	Phase 2 Stem - Long (EF)				
P700	64	8'-6"	Pile Cap - Trans (B)				
P701	4	4'-6"	Stem - Vertical (EF)				
P702	4	5'-11"	Stem - Vertical (EF)				
P703	4	7'-4"	Stem - Vertical (EF)				
P704	4	8'-9"	Stem - Vertical (EF)				
P705	4	10'-2"	Stem - Vertical (EF)				
P706	4	11'-7"	Stem - Vertical (EF)				
P707	4	13'-0"	Stem - Vertical (EF)				
P708	4	14'-5"	Stem - Vertical (EF)				
P709	4	15'-10"	Stem - Vertical (EF)				
P710	4	17'-3"	Stem - Vertical (EF)				
P711	4	18'-8"	Stem - Vertical (EF)				
P712	4	20'-1"	Stem - Vertical (EF)				
P713	4	21'-6"	Stem - Vertical (EF)				
P714	4	22'-11"	Stem - Vertical (EF)				
P715	4	24'-4"	Stem - Vertical (EF)				
P716	111	21'-2"	Stem - Vertical (NF)				
P717	111	24'-7"	Stem - Vertical (FF)				

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
							PIER							
P550	6	25'-10 3/4"	P4	0'-0"	23'-1"	2'-9 3/4"					7'-8 1/2"			Stem - Side S&T Bars
P551	44	21'-4"	S	0'-0"	9'-4"	2'-8"	9'-4"			0'-0"				Stem - Horizontal U-Bars
P552	8	8'-8"	S	0'-0"	3'-0"	2'-8"	3'-0"			0'-0"				Stem - Horizontal U-Bars
P553	297	3'-5,5"	P3	0'-5 1/2"	2'-6"					0'-6"				Pile Cap - Ties
P554	616	3'-3,5"	P3	0'-5 1/2"	2'-4"					0'-6"				Stem - Ties
P750	113	11'-0"	L	9'-10"	1'-2"									Pile Cap - Vertical (NF)
P751	113	7'-7"	L	6'-5"	1'-2"									Pile Cap - Vertical (FF)
P752	141	6'-6"	S	0'-0"	1'-11"	2'-8"	1'-11"			0'-0"				Stem - Vertical U-Bars
P950	42	12'-4"	L	10'-9"	1'-7"									Stem - Horizontal Bars (T)
P951	6	10'-9"	L	9'-2"	1'-7"									Stem - Horizontal Bars (T)
P952	6	10'-0"	S	0'-0"	1'-7"	6'-10"	1'-7"			0'-0"				Stem - Horizontal Bars (T)

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 A955, GRADE 75

GENERAL NOTES

1. 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

2. 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 scheduled on the plans.

3. All reinforcing shall be stainless steel unless otherwise noted.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE No. 5720

BRIDGE PLANS

	SIGNATURE	P.E. NUMBER	DATE
PROJ. MANAGER	M. Kersbergen		
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	LM	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

REINFORCING SCHEDULE PIERS

SHEET NUMBER

133

OF 138

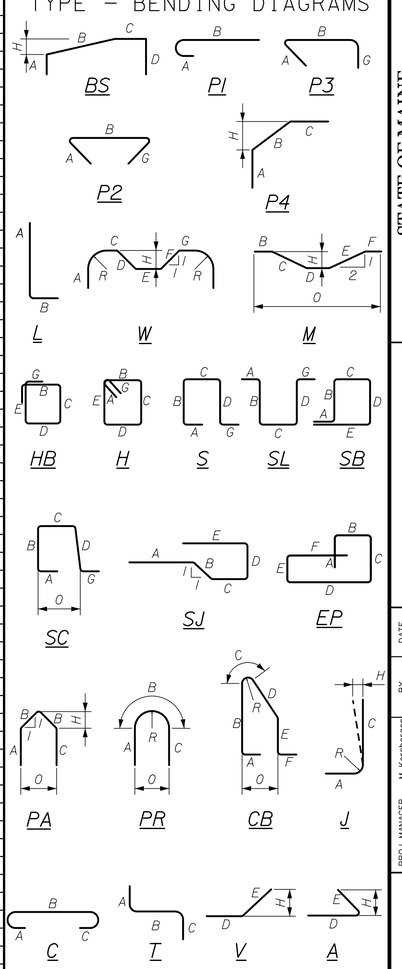
STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION
			SUPERSTRUCTURE DECK
S500	934	33'-0"	*Transverse - Deck*
S501	1158	41'-0"	*Longitudinal - Deck, Sidewalk and Curb*
S502	64	3'-0"	*Scuppers*
S503	934	40'-4"	*Transverse - Deck*
S600	170	38'-6"	*Longitudinal - Deck and Sidewalk (over piers only)*
			APPROACH SLAB
AS501	32	10'-11"	*Longitudinal Bar*
AS502	32	26'-4"	*Longitudinal Bar*
AS503	32	26'-10"	*Longitudinal Bar*
AS601	256	15'-2"	*Transverse Bar*

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
							SUPERSTRUCTURE DECK							
V	467	6'-1"	*See sheet 131*											*Pedestrian Railing*
VP1	232	4'-4"	*See sheet 127 and 129*											*Traffic Railing and Separation Railing*
VP1a	4	3'-3 3/4"	*See sheet 127 and 129*											*Traffic Railing and Separation Railing*
VP1b	4	4'-2"	*See sheet 127 and 129*											*Traffic Railing and Separation Railing*
VP2	401	7'-3"	*See sheet 127 and 129*											*Traffic Railing and Separation Railing*
VP2a	4	5'-2 1/2"	*See sheet 127 and 129*											*Traffic Railing and Separation Railing*
VP2b	4	6'-11"	*See sheet 127 and 129*											*Traffic Railing and Separation Railing*
S550	468	5'-9 1/2"	*SC*	0'-10"	1'-4 3/4"	1'-4"	1'-4 3/4"			0'-10"		1'-5 3/8"		*Curb*
S551	234	18'-7 1/2"	*SC*	0'-10"	1'-4 3/4"	14'-4"	1'-2 3/4"			0'-10"		14'-5"		*Sidewalk*
S650	934	5'-8"	*P1*	0'-8"	5'-0"									*Deck Overhang*

TYPE - BENDING DIAGRAMS



All dimensions are out-to-out of bar.

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Reinforcing Bar: ASTM A955, GRADE 75

GENERAL NOTES

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

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   Mark "P805" = bar size #8
   Mark "S650" = bar size #6
   Mark "S650ss" = bar size #6 Stainless Steel

2. 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 scheduled on the plans.

3. All reinforcing shall be stainless steel unless otherwise noted.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

023627.00

WIN 023627.00

BRIDGE PLANS

BRIDGE No. 5720

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	AR	08\21
CHECKED-REVIEWED	JS	KOS 08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MERRILL ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

REINFORCING SCHEDULE SUPERSTRUCTURE

SHEET NUMBER

134

OF 138

MARK | QTY. | LENGTH | LOCATION | MARK | QTY. | LENGTH | TYPE | A | B | C | D | E | F | G | H | O | R | LOCATION

Username:

Date:8/27/2021

Filename: 134_Reinforcing Schedule Superstructure.dgn

Division:

Usename: Mark.Poulin Date:9/7/2021
Division: BRIDGE
Filename: ...\00\ROW\MSTA\001_RWPLAN1.dgn

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W		Existing	Proposed		Existing	Proposed
Approx. Property Lines P.L.	Building	Clearing Limit Line	Sanitary Sewer		Traveled Way		
Existing Right of Way	Trees Conifer	Deciduous	Telephone Line		Ditch		
Limits of Wrought Portion L.O.W.P.	Tree Line	Bush Line	Electric Line		Catch Basin		
Control Of Access C.O.A.	Water Edge		Water Line		Manhole		
New Right of Way	Ledge	Rock/Boulder Flag Pole	Underdrain Line		Sewer Manhole		
New Easement	Fence CHAIN LINK	BARB WIRE STOCKADE	Gas Line		Utility Pole		
New Temporary Rights	Sign	Well WELL Mailbox	Guardrail		Fire Hydrant		
New R/W Within Existing R/W			Culvert		Curbing		

Cut Line Fill Line
Stonewall Retaining Wall
Baseline 10+00 11+00 12+00
Monument Traverse Point
Iron Rod Found IRF Pipe Found IPF
Replacement Pin Set

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

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS
COUNTY _____
RECEIVED _____, _____
at _____h _____m _____M and
recorded in Plan Bk _____, Pg. _____
Attest: _____
REGISTER

SURVEY PLAN OF PROPERTY
EXIT 20, LLC & PROPOSED CONVEYANCE PARCELS WITH TOPOGRAPHY
DESERT & HUNTER ROADS, FREEPORT, MAINE
MADE FOR EXIT 20, L.L.C.
PREPARED BY ROYAL RIVER SURVEY CO.
DATED 7/26/2006, JOB NO. 26008
(UNRECORDED)

GRID NORTH

EXIT 20, LLC

HUNTER ROAD (TOWNWAY)

PC = STA. 10+53.48

D.O.T. FILE NO. 3-310

EXISTING CONSTRUCTION EASEMENT
SEE D.O.T.FILE NO. 3-310

N 32°26'51.97" E

DESERT ROAD (TOWNWAY)
TO THE DESERT OF MAINE

S 57°35'02.80" E

PFLY 605 PK
PRMK 156A
BM-156 AN 6"MAPLE ROOT
PTRA 506 SPK
PFLY 604 SPK
PFLY 155
BM-155 HYD BONNET NUT
PFLY 152
BM-152 HYD BONNET NUT
PCTL PK
PTRA 505 SPK

I-295 SB OFF RAMP
CURVE DATA #1
PI = 302+96.66
D = 5°56'16.1"
Δ = 24°31'47.0" Rt.
R = 964.93'
L = 413.11'
T = 209.77'
E = 22.54'

DESERT ROAD
CURVE DATA #1
PI = 58+08.30
D = 0°42'58.3"
Δ = 2°57'50.4" Lt.
R = 8000.00'
L = 413.85'
T = 206.97'
E = 2.68'

PC = STA. 300+86.89

BM-153 BOLT LP B18 DESTROYED

STATE AID HIGHWAY NO. 5 / DESERT ROAD

PC = STA. 404+22.07

I-295 SB
CURVE D
PI = 404
D = 44
Δ = 30
R = 130
L = 69.
T = 35.
E = 4.8

MERRILL ROAD BRIDGE
OVER
INTERSTATE 295

L. L. BEAN, INC.

D.O.T. FILE NO. 3-310

EXISTING RIGHT OF WAY REFERENCES:

1) MAINE STATE HIGHWAY COMMISSION, RIGHT OF WAY, STATE HIGHWAY "95"
FREEPORT, CUMBERLAND COUNTY, FEDERAL AID PROJECT NO. I-95-4(19)
D.O.T. FILE NO. 3-310, SHEET NOS. 16-23, DATED JANUARY 1983
2) MAINE STATE HIGHWAY COMMISSION, PLAN OF FEDERAL AID PROJECT I-95-4(2)
S.H.C. FILE NO. 3-114, DATED JANUARY 1956, C.C.R.D. PLAN BOOK 57, PAGE 6

BRIDGE NO. 5720 WIN 023627.00

ITEM	CHECKED
EXISTING CONDITION PLAN	C.W.K.
FINAL RIGHT OF WAY	E.M.S.
AREAS	

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

REVISIONS NO.	DATE	DESCRIPTION	BY

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

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

OFFICE USE ONLY
PLAN NOT TO BE RECORDED

STATE HIGHWAY "95" & STATE AID HIGHWAY NO. 5
INTERSTATE 295 / DESERT ROAD
FREEPORT CUMBERLAND COUNTY
FEDERAL PROJECT NO. 2362700

AUGUST 2021 | RIGHT-OF-WAY MAP
SCALE 1" = 25' | SHEET 1 OF 4

SHEET NUMBER
135
OF 138

Filename: ...\00\ROW\MSTA\002_RWPLAN2.dgn Division: BRIDGE Username: Mark.Poulin Date:9/7/2021

PLAN LEGEND

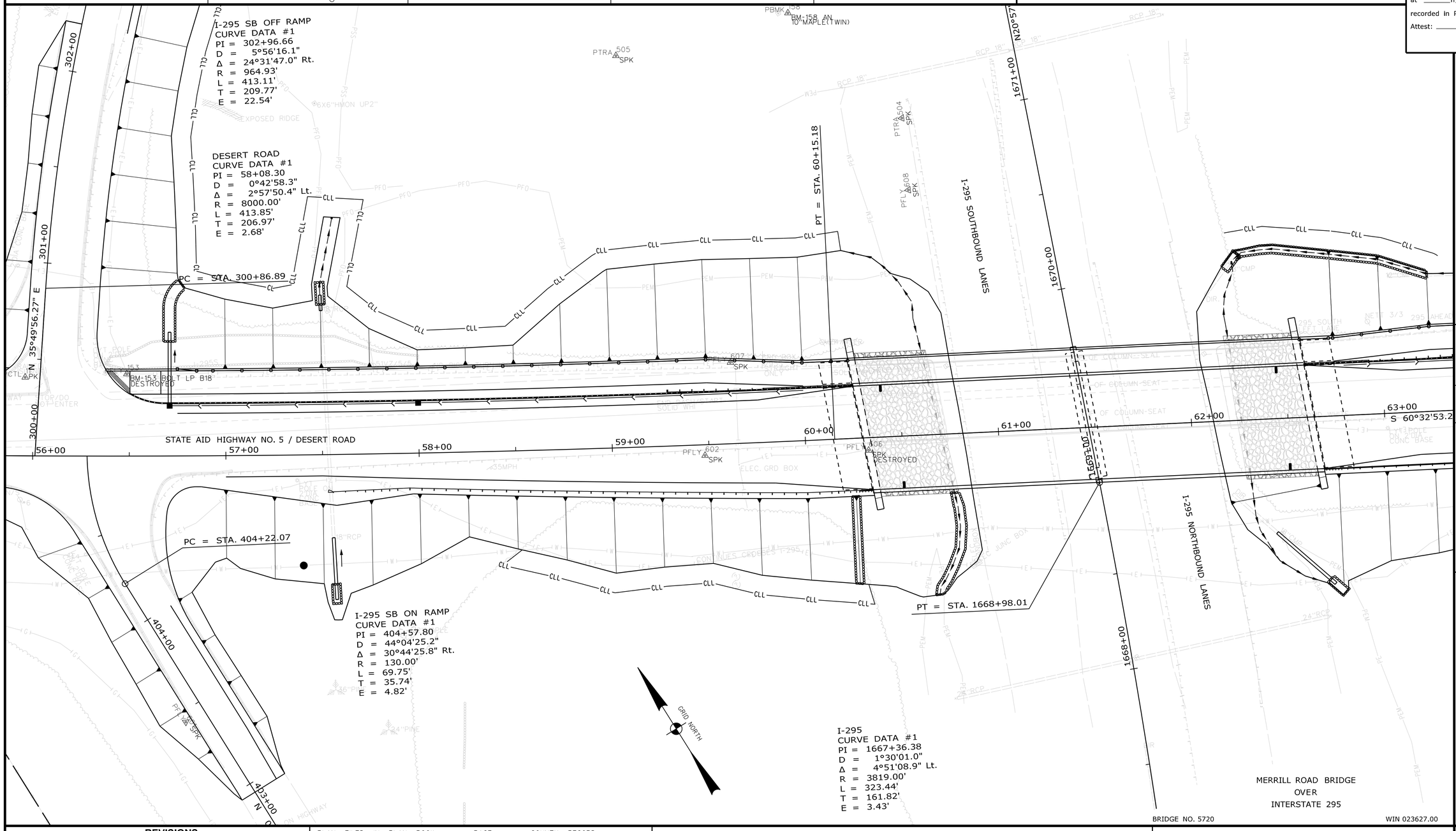
Town, County, State	New R/W Along Existing R/W	Existing	Proposed	Existing	Proposed	Cut Line	Fill Line
Approx. Property Lines P.L.	Building	Sanitary Sewer		Traveled Way		Stonewall	Retaining Wall
Existing Right of Way	Clearing Limit Line	Telephone Line		Ditch		Baseline 10+00 11+00 12+00	
Limits of Wrought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

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

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg._____
Attest: _____
REGISTER



REVISIONS			
NO.	DATE	DESCRIPTION	BY

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

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

OFFICE USE ONLY
PLAN NOT TO BE RECORDED

TECH	CHECKED
E.M.S.	C.W.K.

ITEM	
EXISTING CONDITION PLAN	
FINAL RIGHT OF WAY	
AREAS	

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

FREEPORT
RIGHT OF WAY MAP

STATE HIGHWAY "95" & STATE AID HIGHWAY NO. 5
INTERSTATE 295 / DESERT ROAD
FREEPORT CUMBERLAND COUNTY
FEDERAL PROJECT NO. 2362700

AUGUST 2021	RIGHT-OF-WAY MAP	
SCALE 1" = 25'	SHEET 2 OF 4	

SHEET NUMBER
136
OF 138

Filename: ...\00\ROW\MSTA\003_RWPLAN3.dgn Division: BRIDGE Username: Mark.Poulin Date:9/7/2021

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W		Existing	Proposed		Existing	Proposed
Approx. Property Lines P.L.	Building	Clearing Limit Line	Sanitary Sewer		Traveled Way		
Existing Right of Way	Trees Conifer	Deciduous	Telephone Line		Ditch		
Limits of Wrought Portion L.O.W.P.	Tree Line	Bush Line	Electric Line		Catch Basin		
Control Of Access C.O.A.	Water Edge		Water Line		Manhole		
New Right of Way	Ledge	Rock/Boulder Flag Pole	Underdrain Line		Sewer Manhole		
New Easement	Fence CHAIN LINK	BARB WIRE STOCKADE	Gas Line		Utility Pole		
New Temporary Rights	Sign	Well WELL Mailbox	Guardrail		Fire Hydrant		
New R/W Within Existing R/W			Culvert		Curbing		

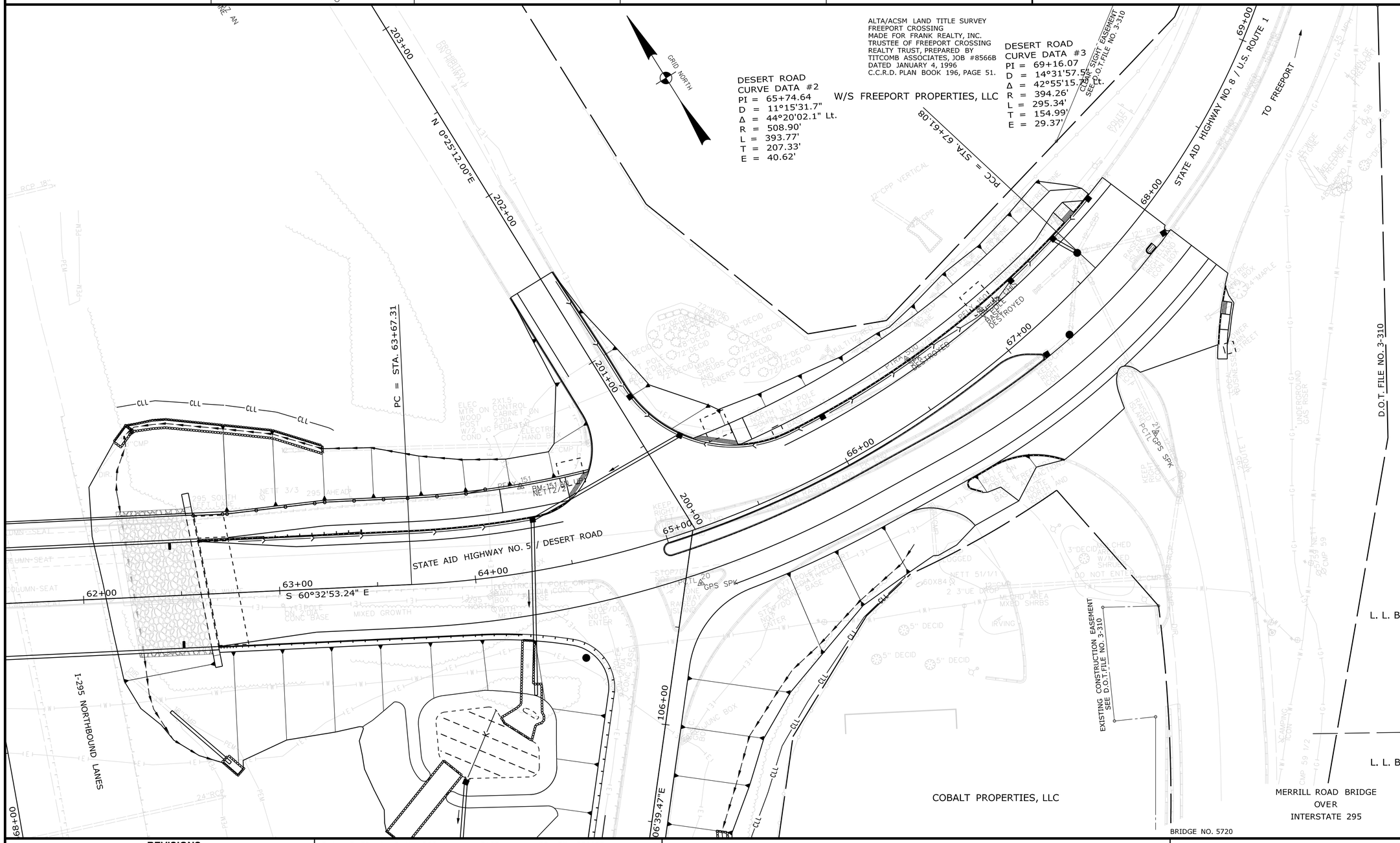
Cut Line Fill Line
Stonewall Retaining Wall
Baseline 10+00 11+00 12+00
Monument Traverse Point
Iron Rod Found IRF Pipe Found IPF
Replacement Pin Set

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

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg._____
Attest: _____
REGISTER



ITEM	CHECKED
EXISTING CONDITION PLAN	E.M.S.
FINAL RIGHT OF WAY	C.W.K.
AREAS	

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

REVISIONS NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

OFFICE USE ONLY
PLAN NOT TO BE RECORDED

STATE HIGHWAY "95" & STATE AID HIGHWAY NO. 5
INTERSTATE 295 / DESERT ROAD
FREEPORT CUMBERLAND COUNTY
FEDERAL PROJECT NO. 2362700

AUGUST 2021 | RIGHT-OF-WAY MAP
SCALE 1" = 25' | SHEET 3 OF 4

SHEET NUMBER
137
OF 138

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W	Sanitary Sewer	Traveled Way
Approx. Property Lines P.L.	Building / Clearing Limit Line	Telephone Line	Ditch
Existing Right of Way	Trees Conifer / Deciduous	Electric Line	Catch Basin
Limits of Wrought Portion L.O.W.P.	Tree Line / Bush Line	Water Line	Manhole
Control Of Access C.O.A.	Water Edge	Underdrain Line	Sewer Manhole
New Right of Way	Ledge / Rock/Boulder / Flag Pole	Gas Line	Utility Pole
New Easement	Fence CHAIN LINK / BARB WIRE / STOCKADE	Guardrail	Fire Hydrant
New Temporary Rights	Sign / Well / Mailbox	Culvert	Curbing
New R/W Within Existing R/W			

Existing	Proposed

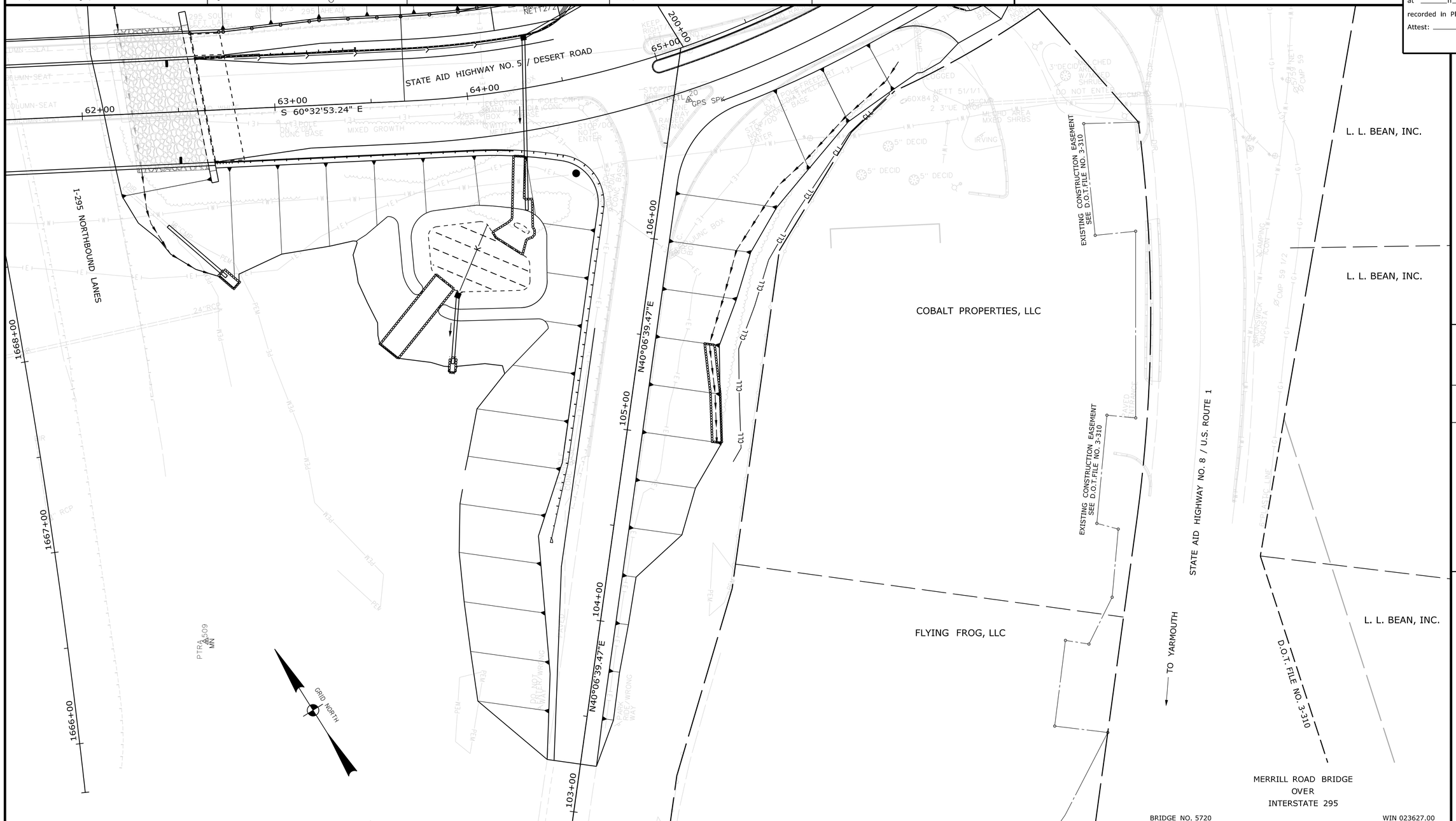
Cut Line	Fill Line
Stonewall	Retaining Wall
Baseline 10+00 11+00 12+00	
Monument	Traverse Point
Iron Rod Found ● IRF	Pipe Found ● IPF
Replacement Pin Set	

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Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg._____
Attest: _____
REGISTER



ITEM	CHECKED
EXISTING CONDITION PLAN	E.M.S.
FINAL RIGHT OF WAY	C.W.K.
AREAS	

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

REVISIONS NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK ____ PAGE ____ COUNTY RECORD

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STATE HIGHWAY "95" & STATE AID HIGHWAY NO. 5
INTERSTATE 295 / DESERT ROAD
FREEPORT CUMBERLAND COUNTY
FEDERAL PROJECT NO. 2362700

AUGUST 2021 | RIGHT-OF-WAY MAP
SCALE 1" = 25' | SHEET 4 OF 4

SHEET NUMBER
138
OF 138

Filename: ...\00\ROW\MSTA\004_RWPLAN4.dgn Division: BRIDGE Username: Mark.Poulin Date:9/7/2021