STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SOUTH PORTLAND
CUMBERLAND COUNTY
I-295 EXIT 4 INTERCHANGE WITH U.S. ROUTE 1

FEDERAL PROJECT NO. 1280030, 2225800, & 2436300

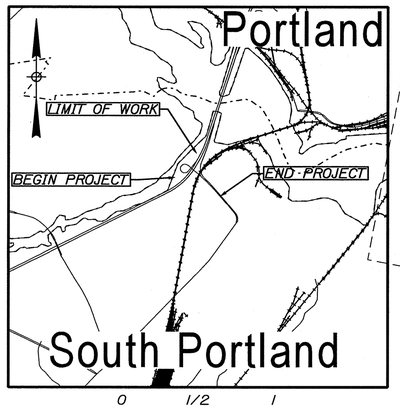
PROJECT LENGTH : 0.40 MILES
BRIDGE NO. 1376

PLAN LEGEND

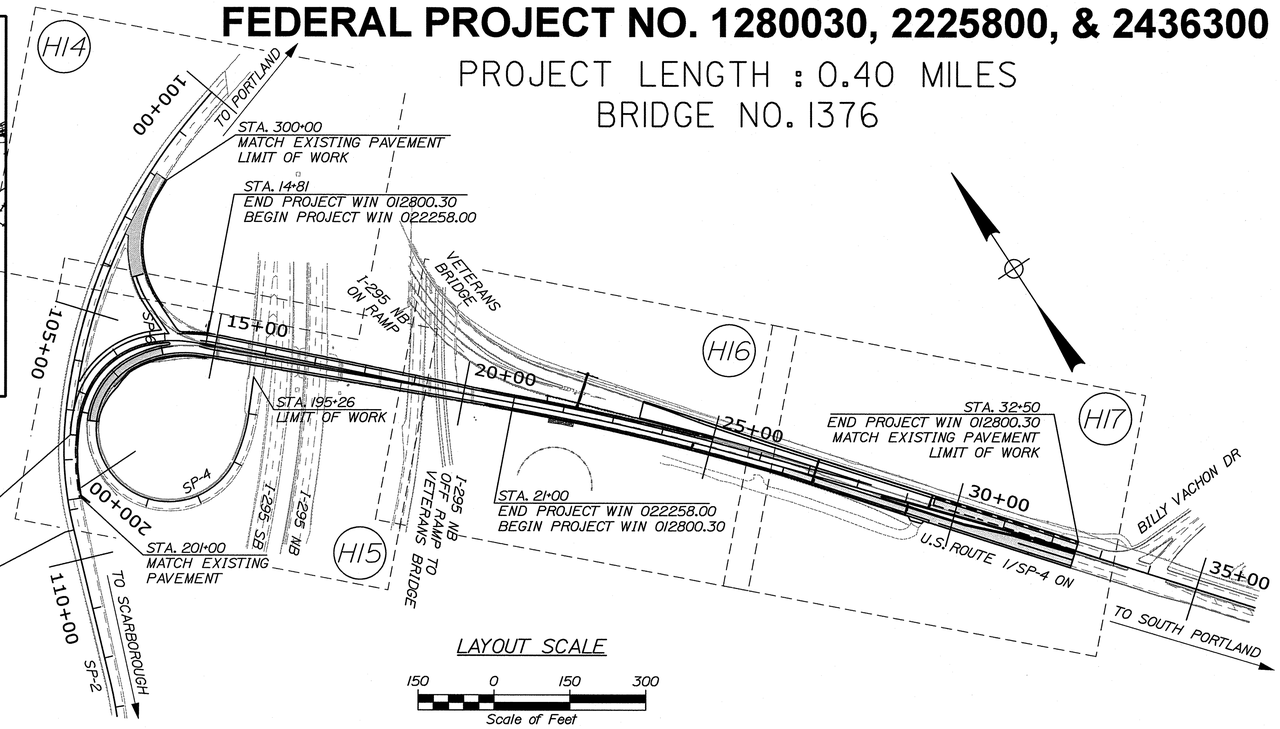
Town, County, State		Catch Basins	Existing ■ Proposed
Property Lines		Manholes	Existing ● Proposed
R/W Lines-Existing		Proposed Underdrain	
R/W Lines-Proposed		Proposed Ditch	
Culvert-Existing		Existing Ditch	
Culvert Proposed		Utility Poles	Existing ♦ Proposed
Curbing	Existing / Proposed	Fire Hydrants	Existing ◈ Proposed
Type 1		Existing Water Line	
Type 3		Existing San. Sewer	
Type 5		Existing San. Sewer Manhole	
Outline of Bodies of Water		Guardrail-Existing	
Exposed Bedrock		Guardrail-Proposed	
Buildings		Guardrail-Cable, Other	
Trees	Conifer ⊛ Deciduous	Centerline-Existing	
Tree Line		Centerline-Proposed	10+00
Clearing Limit Line		Travelway-Existing	
Railroad		Travelway-Proposed	

Boring ⊕ HB-XXX-###
Pavement Core ● PC-#
Test Pit ▣ TP-XXX-###

Probe ⊕ P-#.#X
#.# = Depth
X = W (Weathered Rock)
R (Refusal)
NR (No Refusal)



LOCATION MAP



LAYOUT SCALE

INDEX OF SHEETS

Description	Sheet No.
GENERAL SHEETS	
Title Sheet	G 1
Typical Sections	G 2-5
Estimated Quantities	G 6-7
Drainage Summary	G 8
General Notes	G 9
Mast Arm and Overhead Sign Foundation Details	G 10
Boring Logs	G 11
HIGHWAY	
Signal Plans	H 1-2
Signing & Striping Plans	H 3-6
Proposed Sign Summary	H 7
Intersection Grading Plans	H 8-9
Geometric Plans	H 10-13
Plans	H 14-17
Profiles	H 18-23
Cross Sections	H 24-75
SP-6 Detour Plan	H 76
Traffic Control Plan	H 77
BRIDGE	
Bridge Title Sheet	B 1
Bridge General Notes	B 2
General Plan	B 3
Profile	B 4
Staged Construction	B 5
Abutment Modifications and Details	B 6-13
Pier Repairs	B 14-20
Bearing Details	B 21
Structural Steel Details	B 22-23
Superstructure Plan	B 24
Superstructure Reinforcing	B 25-26
Superstructure Details	B 27
Miscellaneous Details	B 28-32
Reinforcing Steel Schedule	B 33
LIGHTING	
Lighting Title Sheet	L 1
Lighting Plans	L 2-11
Conduit Schedules	L 12
Lighting Details	L 13
Lighting Construction Notes	L 14-15
Lighting Pole Foundation Details	L 16
Lighting Boring Location Plans	L 17-25
Lighting Boring Logs	L 26-29

TRAFFIC DATA

	U.S. ROUTE 1/ SP-4 ON (SB)	U.S. ROUTE 1/ SP-4 ON (NB)	SP-2	SP-4	SP-6
Current (2024) AADT	5840	8660	13380	5190	650
Future (2044) AADT	7010	10390	16060	6230	780
DHV - % of AADT	11%	12%	14%	11%	11%
Design Hour Volume	771	1164	2099	685	86
% Heavy Trucks (AADT)	11%	11%	3%	3%	3%
Directional Distribution (DHV)	100%	100%	100%	100%	100%
Design Speed (mph)	25/35		45	25	25
Functional Class:	PRINCIPAL ARTERIAL - OTHER FREEWAY OR EXPRESSWAY		INTERSTATE RAMP	INTERSTATE RAMP	INTERSTATE RAMP
Corridor Priority	1	1	1	1	1

HNTB

PROJECT LOCATION:	In the City of South Portland along U.S. Route 1, beginning 150 feet north of the Billy Vachon Dr intersection and extends 0.4 miles northerly to the SB Off Ramp.
PROGRAM AREA:	Highway Program
OUTLINE OF WORK:	WIN 012800.30: Reconfiguration of U.S. Route 1 to allow I-295 Southbound On access from U.S. Route 1 by adding a signalized intersection. WIN 022258.00: Bridge Deck Replacement of Bridge No. 1376 over I-295 and CSX Railroad. WIN 024363.00: Interstate lighting along I-295 in the area of the Exit 4 interchange.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED — DATE 10-23-24

COMMISSIONER: Paul N. Mott

CHIEF ENGINEER: Judith Taylor — 10.23.2024

STATE OF MAINE — LORI Z. DRISCOLL — No. 8884 — LICENSED PROFESSIONAL ENGINEER

Lori S. Driscoll — SIGNATURE

P.E. NUMBER 8884

9/20/2023 — DATE

PROJECT INFORMATION	
PROGRAM	HIGHWAY
PROJECT MANAGER	D. COOMBS
DESIGNER	L. DRISCOLL
DESIGNER	HNTB
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

WIN 12800.30 22258.00 24363.00 FED 1280030 2225800 2436300

SOUTH PORTLAND
EXIT 4

TITLE SHEET

SHEET NUMBER
G1
OF G11

Date:9/19/2023
Username:
Division:
Filename: G1_Title.dgn

NOTES:

1. THE PAVEMENT, BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.

2. THE GRAVEL QUANTITY CALCULATION IS BASED ON A 2" LOAM DEPTH. THE ACTUAL DEPTH MAY VARY. SEE THE GENERAL NOTES.

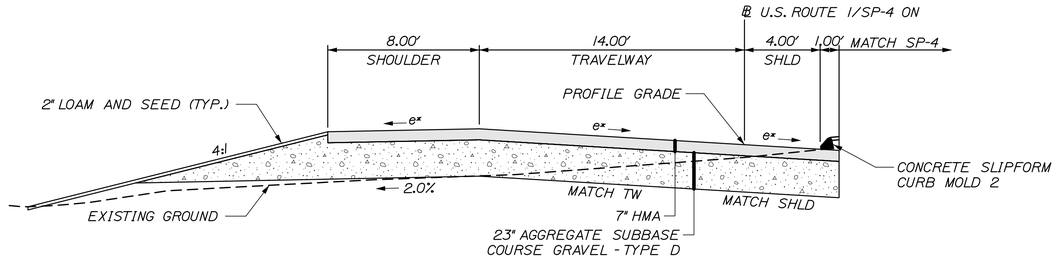
3. WHEN SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW-SIDE SHOULDER, THE LOW-SIDE SHOULDER WILL HAVE THE SAME SLOPE AS THE TRAVELWAY.

4. CROSS SLOPES FOR NORMAL AND SUPERELEVATED SECTIONS WILL BE STRAIGHT UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.

5. THE ALGEBRAIC DIFFERENCE BETWEEN TRAVELWAY AND CROSS SLOPE SHALL NOT EXCEED 8 PERCENT.

6. THE STATIONING IN THE TYPICAL SECTION TABLES ARE APPROXIMATE.

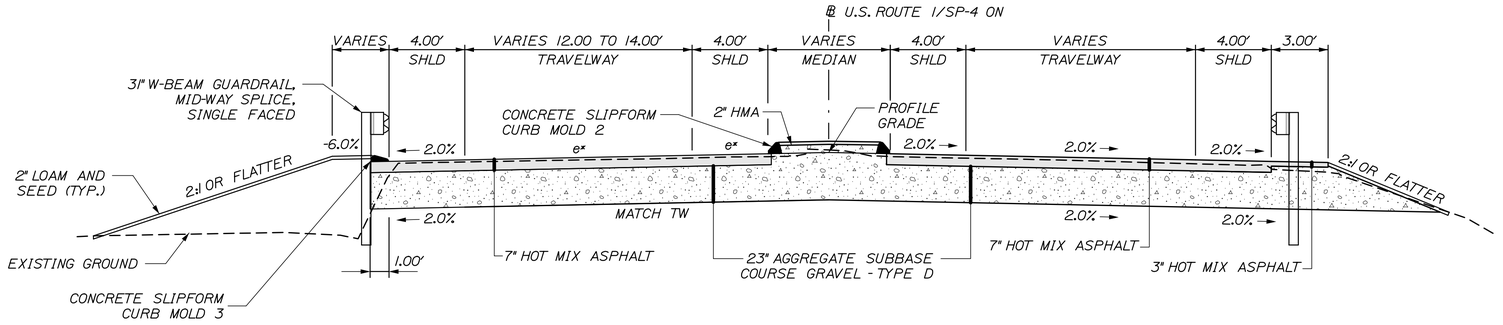
7. THE EXISTING PAVEMENT DEPTH IS ASSUMED TO BE 8".



LEFT SHOULDER 23" A.S.C.G. = 107 CY/100 LF	TRAVELWAY 23" A.S.C.G. = VARIES CY/100 LF	RIGHT SHOULDER 23" A.S.C.G. = 35 CY/100 LF
STATION TO STATION	STATION TO STATION	STATION TO STATION
STA. 12+20.00 TO STA. 13+95.00	STA. 12+20.00 TO STA. 14+15.00	STA. 11+50.00 TO STA. 14+15.00

FULL DEPTH CONSTRUCTION SUPERELEVATED

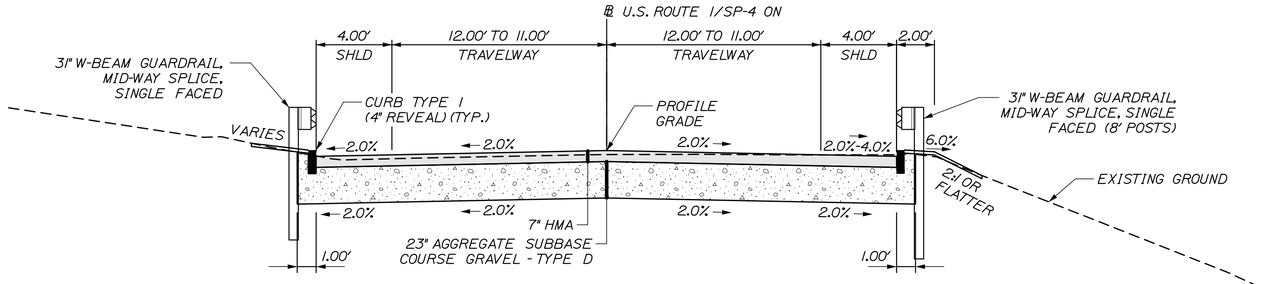
U.S. ROUTE 1/SP-4 ON NEW RAMP CONSTRUCTION



LEFT SHOULDER 23" A.S.C.G. = 35 CY/100 LF	LEFT TRAVEL WAY 23" A.S.C.G. = VARIES CY/100 LF	MEDIAN & INSIDE SHOULDERS 23" A.S.C.G. = VARIES CY/100 LF	RIGHT TRAVEL WAY 23" A.S.C.G. = VARIES CY/100 LF	RIGHT SHOULDER 23" A.S.C.G. = 94 CY/100 LF
STATION TO STATION	STATION TO STATION	STATION TO STATION	STATION TO STATION	STATION TO STATION
STA. 14+30.00 TO STA. 15+06.00	STA. 14+15.00 TO STA. 15+06.00	STA. 14+70.00 TO STA. 15+06.00	STA. 14+80.00 TO 15+06.00	STA. 14+80.00 TO STA. 15+06.00

FULL DEPTH CONSTRUCTION SUPERELEVATED

U.S. ROUTE 1/SP-4 ON - WEST BRIDGE APPROACH

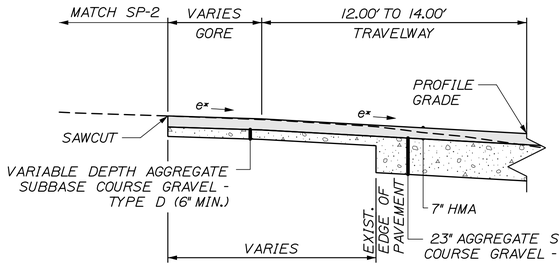


LEFT SHOULDER 23" A.S.C.G. = 37 CY/100 LF	LEFT TRAVEL WAY 23" A.S.C.G. = VARIES CY/100 LF	RIGHT TRAVEL WAY 23" A.S.C.G. = VARIES CY/100 LF	RIGHT SHOULDER 23" A.S.C.G. = VARIES CY/100 LF
STATION TO STATION	STATION TO STATION	STATION TO STATION	STATION TO STATION
STA. 20+17.00 TO STA. 21+65.00	STA. 20+17.00 TO STA. 20+50.00	STA. 20+17.00 TO 20+50.00	STA. 20+17.00 TO STA. 21+00.00

FULL DEPTH CONSTRUCTION NORMAL CROWN

U.S. ROUTE 1/SP-4 ON - EAST BRIDGE APPROACH

U.S. ROUTE 1/SP-4 ON							
I-295 NB ON RAMP SHLD	I-295 NB ON RAMP TW	LEFT SHOULDER	LEFT TRAVELWAY	STATION	TURN LANE	RIGHT TRAVELWAY	RIGHT SHOULDER
-	-	-	4.7%	11+16.33	-	-	-4.7%
-	-	-	4.7%	11+25.00	-	-	-4.7%
-	-	-	4.9%	11+50.00	-	-	-4.9%
-	-	-	5.2%	11+75.00	-	-	-5.2%
-	-	3.0%	5.6%	12+00.00	-	-	-5.6%
-	-	2.0%	6.0%	12+25.00	-	-	-6.0%
-	-	1.0%	6.0%	12+50.00	-	-	-6.0%
-	-	0.0%	6.0%	12+75.00	-	-	-6.0%
-	-	-1.0%	6.0%	13+00.00	-	-	-6.0%
-	-	-2.0%	6.0%	13+25.00	-	-	-6.0%
-	-	-2.0%	4.9%	13+50.00	-	-	-4.9%
-	-	-2.0%	3.7%	13+75.00	-	-	-3.7%
-	-	-2.0%	2.6%	14+00.00	-	-	-2.6%
-	-	-2.0%	1.4%	14+25.00	-	-	-
-	-	-2.0%	0.3%	14+50.00	-	-	-
-	-	-2.0%	-0.9%	14+75.00	-	-	-
-	-	-2.0%	-2.0%	15+00.00	-	-2.0%	-2.0%
				TO			
-	-	-2.0%	-2.0%	20+25.00	-	-2.0%	-2.0%
	-	-2.0%	-2.0%	20+50.00	-	-2.0%	-3.0%
-	-	-2.0%	-1.0%	20+75.00	-	-2.0%	-4.0%
-	-	-2.0%	-0.0%	21+00.00	-	-2.0%	-4.0%
-	-	-2.0%	1.0%	21+25.00	-	-2.0%	-4.0%
-	-	-2.0%	2.0%	21+50.00	-	-2.0%	-4.0%
				TO			
-1.8%	-1.8%	-2.0%	2.0%	23+50.00	-	-2.0%	-4.0%
-1.5%	-1.5%	-2.0%	2.0%	23+75.00	-	-2.0%	-4.0%
-2.3%	-1.5%	-2.0%	2.0%	24+00.00	-	-2.0%	-4.0%
-3.2%	-1.5%	-2.0%	2.0%	24+25.00	-	-2.0%	-4.0%
-4.0%	-1.5%	-2.0%	2.0%	24+50.00	-	-2.0%	-4.0%
-4.0%	-1.5%	-1.0%	2.0%	24+75.00	-	-2.0%	-4.0%
-4.0%	-1.5%	0.0%	2.0%	25+00.00	-	-2.0%	-4.0%
-4.0%	-1.5%	1.0%	2.0%	25+25.00	-	-2.0%	-4.0%
-4.0%	-1.5%	2.0%	2.0%	25+50.00	-	-2.0%	-4.0%
				TO			
-4.0%	-1.5%	2.0%	2.0%	26+00.00	-	-2.0%	-4.0%
-4.0%	-1.5%	-	2.0%	26+25.00	-	-2.0%	-4.0%
-4.0%	-1.5%	-	2.0%	26+50.00	-	-2.0%	-4.0%
-4.0%	-1.5%	-	2.0%	26+75.00	-	-2.0%	-4.0%
-4.0%	-1.5%	-	2.0%	27+00.00	-	-2.0%	-4.0%
				TO			
-4.0%	-1.5%	-	2.0%	27+50.00	-	-2.0%	-4.0%
-4.0%	-1.1%	-	2.0%	27+75.00	-	-2.0%	-4.0%
-4.0%	-0.6%	-	2.0%	28+00.00	-	-2.0%	-4.0%
-4.0%	-0.2%	-	2.0%	28+25.00	-	-2.0%	-4.0%
-4.0%	0.2%	-	2.0%	28+50.00	-	-2.0%	-4.0%
-4.0%	0.7%	-	2.0%	28+75.00	-	-2.0%	-4.0%
-4.0%	1.1%	-	2.0%	29+00.00	-	-2.0%	-4.0%
-4.0%	1.6%	-	2.0%	29+25.00	-	-2.0%	-4.0%
-4.0%	2.0%	-	2.0%	29+50.00	-	-1.5%	-4.0%
-3.0%	2.0%	-	2.0%	29+75.00	-	-1.5%	-4.0%
-2.0%	2.0%	-	2.0%	30+00.00	-	-1.5%	-4.0%
-2.0%	2.0%	-	2.0%	30+25.00	-	-1.5%	-4.0%
-2.0%	2.0%	-	2.0%	30+50.00	-1.3%	-1.5%	-4.0%
-2.0%	2.0%	-	2.0%	30+75.00	-0.6%	-1.5%	-4.0%
-2.0%	2.0%	-	2.0%	31+00.00	0.1%	-1.5%	-4.0%
-	-	-2.0%	2.0%	31+25.00	0.8%	-1.5%	-4.0%
-	-	-2.0%	2.0%	31+50.00	1.5%	-1.8%	-4.0%
-	-	-2.0%	2.0%	31+75.00	1.5%	-2.0%	-4.0%
-	-	-2.0%	2.0%	32+00.00	1.5%	-2.5%	-3.2%
-	-	-1.1%	0.9%/1.7%	32+25.00	1.0%	-2.5%	-2.5%
-	-	-0.3%	0.6%/1.3%	32+50.00	0.6%	-2.3%	-2.3%



ROUTE 1/SP-4 ON TRAVELWAY/GORE 23" A.S.C.G. = VARIES CY/100 LF
STATION TO STATION
STA. 11+16.33 TO STA. 12+20.00

U.S. ROUTE 1/SP-4 ON GORE WITH SP-2

NOT TO SCALE

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030, 2225800, & 2436300

WIN 12800.30, 22258.00, & 24363.00

GENERAL PLANS

P.E. NUMBER

SIGNATURE

DATE

	BY	DATE
D. Coombs	D. Burton	9/2023
C. Helmick	R. Hanf	9/2023
L. Driscoll		

PROJ. MANAGER: D. Coombs
DESIGN-DETAILED: C. Helmick
CHECKED-REVIEWED: L. Driscoll
DESIGN2-DETAILED2:
DESIGN3-DETAILED3:

REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

SOUTH PORTLAND
EXIT 4

TYPICAL SECTIONS

SHEET NUMBER

G2

OF G11

Filename: G2_Typicals_01.dgn Division: Username: Date:2/14/2024

NOTES:

1. THE PAVEMENT, BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.

2. THE GRAVEL QUANTITY CALCULATION IS BASED ON A 2" LOAM DEPTH. THE ACTUAL DEPTH MAY VARY. SEE THE GENERAL NOTES.

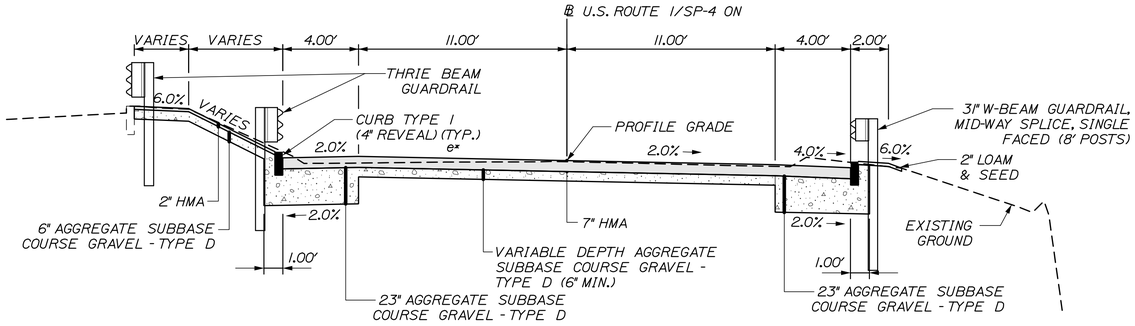
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4. CROSS SLOPES FOR NORMAL AND SUPERELEVATED SECTIONS WILL BE STRAIGHT UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.

5. THE ALGEBRAIC DIFFERENCE BETWEEN TRAVELWAY AND CROSS SLOPE SHALL NOT EXCEED 8 PERCENT.

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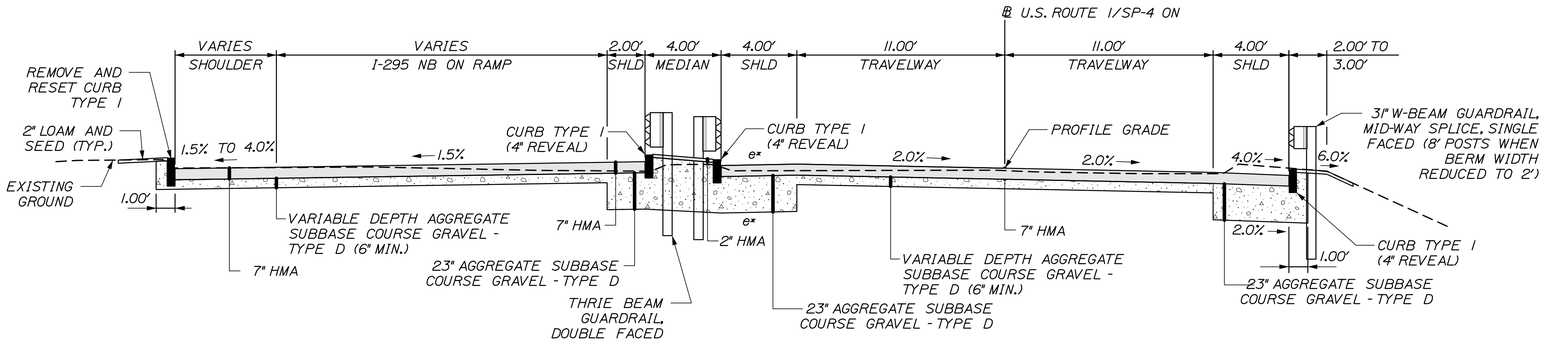
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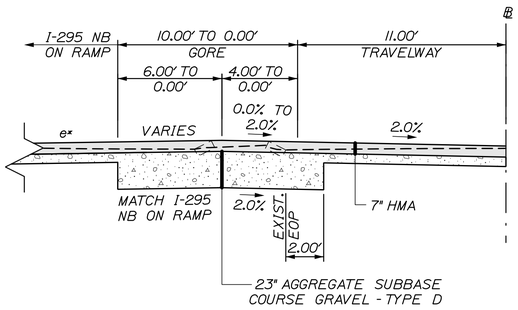
MEDIAN 6" A.S.C.G. = VARIES CY/100 LF	LEFT SHOULDER 23" A.S.C.G. = 37 CY/100 LF	LEFT TRAVEL WAY 23" A.S.C.G. = VARIES CY/100 LF	RIGHT TRAVEL WAY 23" A.S.C.G. = VARIES CY/100 LF	RIGHT SHOULDER 23" A.S.C.G. = 36 CY/100 LF
STATION TO STATION	STATION TO STATION	STATION TO STATION	STATION TO STATION	STATION TO STATION
STA. 21+65.00 TO STA. 23+50.00	STA. 21+00.00 TO STA. 23+50.00	STA. 21+00.00 TO STA. 23+50.00	STA. 21+00.00 TO 23+50.00	STA. 21+00.00 TO STA. 23+50.00

PARTIAL DEPTH CONSTRUCTION

U.S. ROUTE 1/SP-4 ON - WITH SHOULDER WIDENING RT.



I-295 NB ON RAMP/SHOULDER 6" A.S.C.G. = VARIES CY/100 LF	MEDIAN 23" A.S.C.G. = VARIES CY/100 LF	LEFT SHOULDER 23" A.S.C.G. = VARIES CY/100 LF	LEFT TRAVEL WAY 23" A.S.C.G. = VARIES CY/100 LF	RIGHT TRAVEL WAY 23" A.S.C.G. = VARIES CY/100 LF	RIGHT SHOULDER 23" A.S.C.G. = 36 CY/100 LF
STATION TO STATION	STATION TO STATION	STATION TO STATION	STATION TO STATION	STATION TO STATION	STATION TO STATION
STA. 23+50.00 TO STA. 29+55.00	STA. 23+50.00 TO STA. 24+70.00	STA. 23+50.00 TO STA. 26+00.00	STA. 23+50.00 TO STA. 26+00.00	STA. 23+50.00 TO 26+50.00	STA. 23+50.00 TO STA. 29+55.00

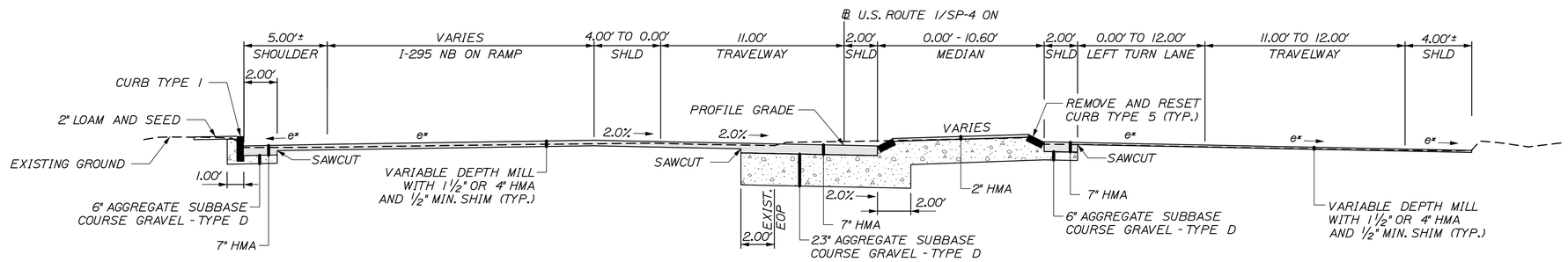


I-295 NB ON RAMP GORE 23" A.S.C.G. = VARIES CY/100 LF
STATION TO STATION
STA. 25+00.00 TO STA. 28+25.00

I-295 NB ON RAMP GORE CONSTRUCTION

PARTIAL DEPTH CONSTRUCTION

U.S. ROUTE 1/SP-4 ON - MEDIAN RECONSTRUCTION WITH I-295 NB ON RAMP APPROACH WORK AND SHOULDER WIDENING RT.



I-295 NB ON RAMP/SHOULDER 6" A.S.C.G. = 11 CY/100 LF	LEFT TRAVEL WAY 23" A.S.C.G. = VARIES CY/100 LF	MEDIAN/LEFT TURN LANE 6" A.S.C.G. = VARIES CY/100 LF	RIGHT TRAVEL WAY A.S.C.G. = 0 CY/100 LF	RIGHT SHOULDER A.S.C.G. = 0 CY/100 LF
STATION TO STATION	STATION TO STATION	STATION TO STATION	STATION TO STATION	STATION TO STATION
STA. 29+55.00 TO STA. 32+50.00	STA. 26+00.00 TO STA. 32+50.00	STA. 28+50.00 TO 32+50.00	STA. 26+50.00 TO STA. 32+50.00	STA. 29+55.00 TO STA. 32+50.00

PARTIAL DEPTH CONSTRUCTION

U.S. ROUTE 1/SP-4 ON - WITH MEDIAN RECONSTRUCTION AND I-295 NB ON RAMP APPROACH WORK

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030, 2225800, & 2436300

WIN 12800.30, 22258.00, & 24363.00

GENERAL PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	9.2023	
CHECKED-REVIEWED	L. Driscoll	9.2023	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

BY / SIGNATURE: D. Burton, R. Hanf

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

TYPICAL SECTIONS

SHEET NUMBER
G3
OF G11

HNTB

Date:2/14/2024
Username:
Division:
Filename: G3_Typicals_02.dgn

NOTES:

1. THE PAVEMENT, BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.

2. THE GRAVEL QUANTITY CALCULATION IS BASED ON A 2" LOAM DEPTH. THE ACTUAL DEPTH MAY VARY. SEE THE GENERAL NOTES.

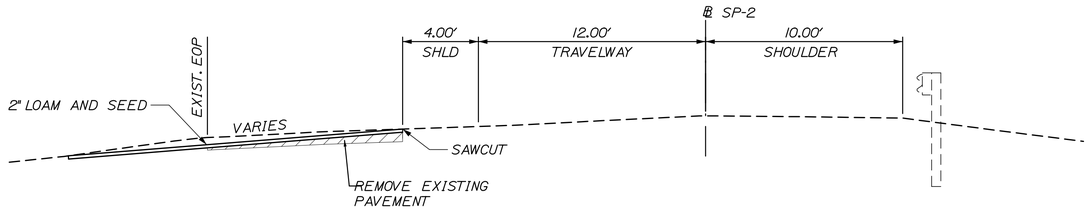
3. WHEN SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW-SIDE SHOULDER, THE LOW-SIDE SHOULDER WILL HAVE THE SAME SLOPE AS THE TRAVELWAY.

4. CROSS SLOPES FOR NORMAL AND SUPERELEVATED SECTIONS WILL BE STRAIGHT UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.

5. THE ALGEBRAIC DIFFERENCE BETWEEN TRAVELWAY AND CROSS SLOPE SHALL NOT EXCEED 8 PERCENT.

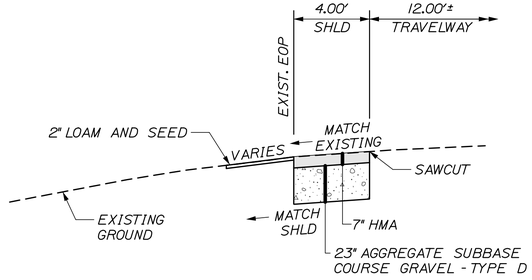
6. THE STATIONING IN THE TYPICAL SECTION TABLES ARE APPROXIMATE.

7. THE EXISTING PAVEMENT DEPTH IS ASSUMED TO BE 8".



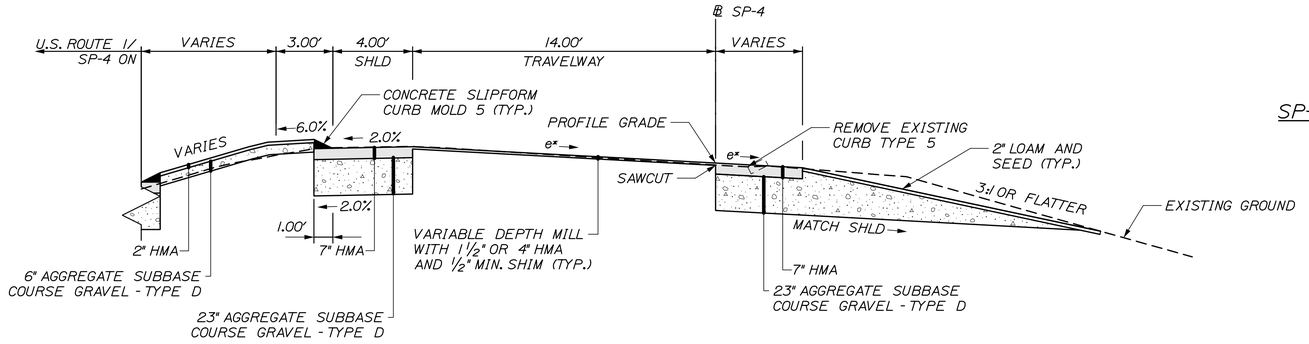
LEFT SHOULDER/PAVEMENT REMOVAL A.S.C.G. = 0 CY/100 LF
STATION TO STATION
STA. 103+29.85 TO STA. 106+40.00

SP-2 PAVEMENT REMOVAL AND SLOPE GRADING



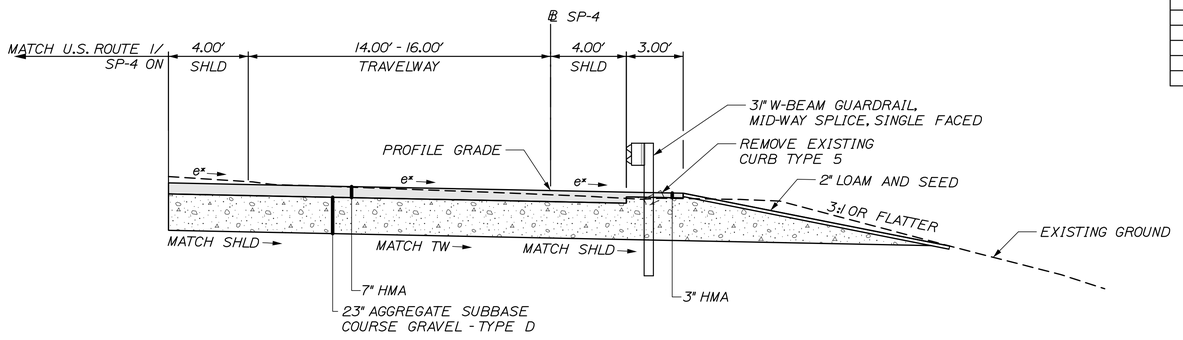
LEFT SHOULDER A.S.C.G. = 28 CY/100 LF
STATION TO STATION
STA. 107+00.00 TO STA. 108+80.00

SP-2 SHOULDER RECONSTRUCTION LT.



LEFT SHOULDER 23" A.S.C.G. = 35 CY/100 LF	TRAVELWAY 23" A.S.C.G. = VARIES CY/100 LF	RIGHT SHOULDER 23" A.S.C.G. = VARIES CY/100 LF
STATION TO STATION	STATION TO STATION	STATION TO STATION
STA. 201+10.00 TO STA. 202+65.00	STA. 201+00.00 TO STA. 203+00.00	STA. 201+00.00 TO STA. 201+80.00

VARIABLE DEPTH MILL, SHIM, & OVERLAY SUPERELEVATED
SP-4 - WITH SHOULDER RECONSTRUCTION



LEFT SHOULDER 23" A.S.C.G. = VARIES CY/100 LF	TRAVELWAY 23" A.S.C.G. = VARIES CY/100 LF	RIGHT SHOULDER 23" A.S.C.G. = VARIES CY/100 LF
STATION TO STATION	STATION TO STATION	STATION TO STATION
STA. 203+15.00 TO STA. 203+77.66	STA. 203+50.00 TO STA. 203+77.66	STA. 202+25.00 TO STA. 203+77.66

FULL DEPTH CONSTRUCTION
SP-4

SP-4			
LEFT SHOULDER	STATION	TRAVELWAY	RIGHT SHOULDER
-2.2%	201+00	6.4%	-6.4%
-2.0%	201+25	6.0%	-6.0%
-	TO	-	-
-2.0%	202+50	6.0%	-6.0%
-1.1%	202+75	4.8%	-4.8%
-0.2%	203+00	3.7%	-3.7%
1.1%	203+25	2.5%	-2.5%
1.6%	203+35	2.0%	-2.0%
2.0%	203+50	2.0%	-2.0%
2.0%	203+75	2.0%	-2.0%

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030, 2225800, & 2436300

WIN 12800.30, 22258.00, & 24363.00

GENERAL PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

TYPICAL SECTIONS

SHEET NUMBER

G4

OF G11

HNTB

Date:2/14/2024

Username:

Division:

Filename: G4_Typicals_03.dgn

NOTES:

1. THE PAVEMENT, BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.

2. THE GRAVEL QUANTITY CALCULATION IS BASED ON A 2" LOAM DEPTH. THE ACTUAL DEPTH MAY VARY. SEE THE GENERAL NOTES.

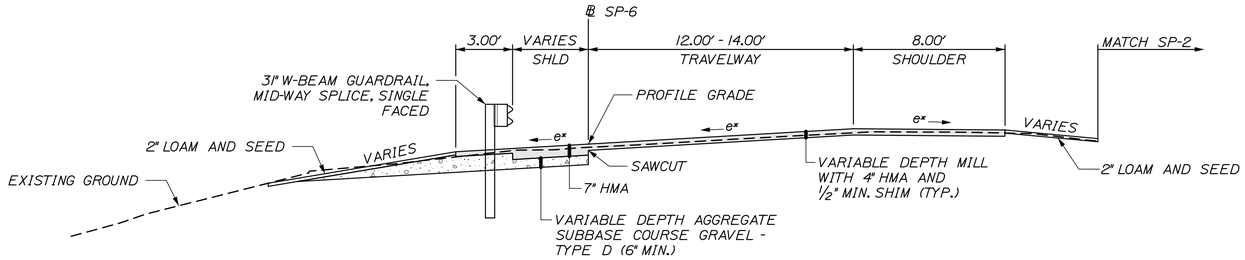
3. WHEN SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW-SIDE SHOULDER, THE LOW-SIDE SHOULDER WILL HAVE THE SAME SLOPE AS THE TRAVELWAY.

4. CROSS SLOPES FOR NORMAL AND SUPERELEVATED SECTIONS WILL BE STRAIGHT UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.

5. THE ALGEBRAIC DIFFERENCE BETWEEN TRAVELWAY AND CROSS SLOPE SHALL NOT EXCEED 8 PERCENT.

6. THE STATIONING IN THE TYPICAL SECTION TABLES ARE APPROXIMATE.

7. THE EXISTING PAVEMENT DEPTH IS ASSUMED TO BE 8".

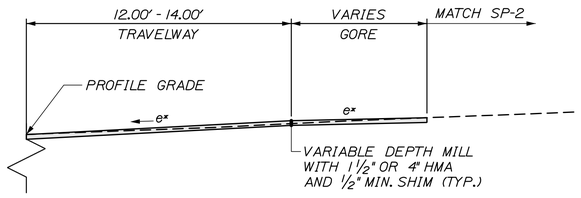


LEFT SHOULDER 23" A.S.C.G. = VARIES CY/100 LF	TRAVELWAY A.S.C.G. = 0 CY/100 LF	RIGHT SHOULDER A.S.C.G. = 0 CY/100 LF
STATION TO STATION	STATION TO STATION	STATION TO STATION
STA. 300+00.00 TO STA. 302+00.00	STA. 301+25.00 TO STA. 302+00.00	STA. 301+25.00 TO STA. 302+00.00

VARIABLE DEPTH MILL, SHIM, & OVERLAY SUPERELEVATED

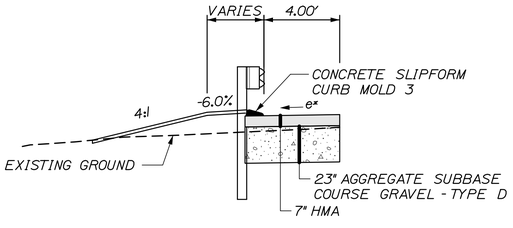
SP-6 - WITH SHOULDER RECONSTRUCTION LT.

SP-6			
LEFT SHOULDER	STATION	TRAVELWAY	RIGHT SHOULDER
-4.2%	300+00.00	3.8%	-
-4.2%	300+25.00	3.8%	-
-4.3%	300+50.00	4.3%	-
-4.7%	300+75.00	4.7%	3.0%
-5.3%	301+00.00	5.3%	2.1%
-5.8%	301+25.00	5.8%	0.9%
-5.8%	301+50.00	5.8%	-0.1%
-5.8%	301+75.00	5.8%	-1.0%
-5.8%	302+00.00	5.8%	-2.0%
-4.4%	302+25.00	4.4%	-2.0%
-3.0%	302+50.00	3.0%	-2.0%
-1.6%	302+75.00	1.6%	-2.0%
0.2%	303+00.00	0.2%	-1.4%
0.4%	303+25.00	-0.4%	-



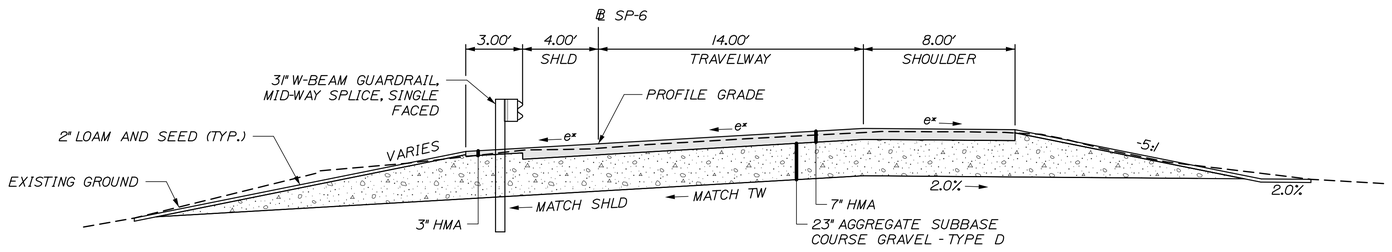
SP-6 TRAVELWAY/GORE A.S.C.G. = 0 CY/100 LF
STATION TO STATION
STA. 300+00.00 TO STA. 301+25.00

SP-6 ON GORE WITH SP-2



SHOULDER 23" A.S.C.G. = VARIES CY/100 LF
STATION TO STATION
STA. 302+75.00 TO STA. 303+30.00

SP-6 CURBED SHOULDER



LEFT SHOULDER 23" A.S.C.G. = VARIES CY/100 LF	TRAVELWAY 23" A.S.C.G. = VARIES CY/100 LF	RIGHT SHOULDER 23" A.S.C.G. = VARIES CY/100 LF
STATION TO STATION	STATION TO STATION	STATION TO STATION
STA. 302+50.00 TO STA. 302+75.00	STA. 302+50.00 TO STA. 303+25.00	STA. 302+50.00 TO STA. 303+10.00

FULL DEPTH CONSTRUCTION SUPERELEVATED

SP-6

NOT TO SCALE

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030, 2225800, & 2436300

WIN
12800.30, 22258.00, & 24363.00

GENERAL PLANS

PROJ. MANAGER	D. Cosmbs			
DESIGN-DETAILED	C. Helmick	9.2023	SIGNATURE	
CHECKED-REVIEWED	L. Driscoll	9.2023		
DESIGN2-DETAILED2			P.E. NUMBER	
DESIGN3-DETAILED3				
REVISIONS 1			DATE	
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SOUTH PORTLAND
EXIT 4

TYPICAL SECTIONS

SHEET NUMBER

G5

OF G11

Date:2/14/2024
Username:
Division:
Filename: G5_Typicals_04.dgn

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	WIN 12800.30	WIN 22258.00	WIN 24363.00	TOTAL QUANTITY
202.10	REMOVING EXISTING SUPERSTRUCTURE PROPERTY OF CONTRACTOR (625 CY)	LS	0	1	0	1
202.13	REMOVING EXISTING RAILINGS RETAINED BY DEPARTMENT	LF	0	1,046	0	1,046
202.15	REMOVING EXISTING MANHOLE OR CATCH BASIN	EA	5	0	0	5
202.17	REMOVING EXISTING STRUCTURAL CONCRETE (70 CY)	LS	0	1	0	1
202.202	REMOVING PAVEMENT SURFACE	SY	2,400	0	0	2,400
203.20	COMMON EXCAVATION	CY	4,355	234	0	4,589
203.25	GRANULAR BORROW	CY	0	80	0	80
206.07	STRUCTURAL ROCK EXCAVATION - DRAINAGE & MINOR STRUCTURES	CY	0	0	10	10
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES, PLAN QUANTITY	CY	0	80	0	80
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	CY	3,500	180	0	3,680
403.2071	HOT MIX ASPHALT, 19.0 MM NOMINAL MAXIMUM SIZE (POLYMER MODIFIED)	T	1,050	64	0	1,114
403.2081	HOT MIX ASPHALT - 12.5 MM NOMINAL MAXIMUM SIZE (POLYMER MODIFIED)	T	740	207	0	947
403.209	HOT MIX ASPHALT 9.5 MM NOMINAL MAXIMUM SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	T	93	0	0	93
403.2111	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SHIMMING, POLYMER MODIFIED)	T	140	0	0	140
403.2131	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (BASE AND INTERMEDIATE BASE COURSE, POLYMER MODIFIED)	T	980	229	0	1,209
409.15	BITUMINOUS TACK COAT, APPLIED	G	600	94	0	694
461.131	TEMPORARY PAVEMENT	T	0	33	0	33
502.219	STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS (15 CY)	LS	0	1	0	1
502.23	STRUCTURAL CONCRETE PIERS	CY	0	50	0	50
502.26	STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLAB ON STEEL BRIDGES (535 CY)	LS	0	1	0	1
502.49	STRUCTURAL CONCRETE CURBS AND SIDEWALKS (65 CY)	LS	0	1	0	1
502.77	FRP BRIDGE DRAIN - TYPE E	EA	0	8	0	8
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	LB	0	221,500	0	221,500
503.13	REINFORCING STEEL, PLACING	LB	0	221,700	0	221,700
503.17	MECHANICAL/WELDED SPLICE	EA	0	2,062	0	2,062
503.19	LOW-CARBON CHROMIUM REINFORCEMENT, FABRICATED AND DELIVERED	LB	0	31,400	0	31,400
503.20	LOW-CARBON CHROMIUM REINFORCEMENT, PLACING	LB	0	31,400	0	31,400
505.08	SHEAR CONNECTORS (12,880 EA)	LS	0	1	0	1
507.0821	STEEL BRIDGE RAILING, 3 BAR (1,066 LF)	LS	0	1	0	1
507.0822	STEEL APPROACH RAILING, 3 BAR	EA	0	4	0	4
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE (2,210 SY)	LS	0	1	0	1
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (1,300 SY)	LS	0	1	0	1
518.50	REPAIR OF UPWARD FACING SURFACE - TO REINFORCING STEEL < 8 INCHES	SF	0	154	0	154
518.60	REPAIR OF VERTICAL SURFACES < 8 INCHES	SF	0	862	0	862
518.70	REPAIR OF OVERHEAD SURFACES < 8 INCHES	SF	0	180	0	180
518.80	CRACK REPAIR	LF	0	51	0	51
520.21	EXPANSION DEVICE - GLAND SEAL (85 LF)	EA	0	2	0	2
523.301	REFURBISH AND RESET FIXED STEEL BEARINGS	EA	0	13	0	13
523.52	BEARING INSTALLATION	EA	0	7	0	7
523.5402	LAMINATED ELASTOMERIC BEARINGS, EXPANSION	EA	0	7	0	7
524.301	TEMPORARY STRUCTURAL SUPPORT - PIER NO. 3	LS	0	1	0	1
524.301	TEMPORARY STRUCTURAL SUPPORT - DECK	LS	0	1	0	1
524.301	TEMPORARY STRUCTURAL SUPPORT - ABUTMENT NO. 1	LS	0	1	0	1
524.40	PROTECTIVE SHIELD (1,550 SY)	LS	0	1	0	1
526.301	PORTABLE CONCRETE BARRIER, TYPE 1 (1325 LF)	LS	0	1	0	1
526.304	PORTABLE CONCRETE BARRIER, ANCHORED TYPE 1 (180 LF)	LS	0	1	0	1
603.155	12 INCH REINFORCED CONCRETE PIPE CLASS III	LF	50	0	0	50
603.159	12 INCH CULVERT PIPE OPTION III	LF	44	0	0	44
603.165	15 INCH REINFORCED CONCRETE PIPE CLASS III	LF	45	0	0	45
604.092	CATCH BASIN TYPE BI-C	EA	10	0	0	10
604.18	ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	EA	8	0	0	8
604.262	CATCH BASIN TYPE B5-C	EA	6.375	0	0	6.375
605.09	6 INCH UNDERDRAIN TYPE B	LF	920	0	0	920
605.11	12 INCH UNDERDRAIN TYPE C	LF	1,050	0	0	1,050
606.1301	31" W-BEAM GUARDRAIL - MID-WAY SPLICE - SINGLE FACED	LF	1,400	0	0	1,400
606.1305	31" W-BEAM GUARDRAIL - MID-WAY SPLICE FLARED TERMINAL	EA	1	0	0	1
606.1721	BRIDGE TRANSITION - TYPE 1	EA	0	4	0	4
606.259	ANCHORAGE ASSEMBLY	EA	3	0	0	3
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	EA	6	0	0	6
606.356	UNDERDRAIN DELINEATOR POST	EA	6	0	0	6
606.65	GUARDRAIL THRIE BEAM - SINGLE RAIL	LF	580	0	0	580
606.70	TRANSITION SECTION - THRIE BEAM	EA	2	0	0	2
606.95	LOW MAINTENANCE/SELF RESTORING CRASH CUSHION	EA	1	0	0	1
607.181	CHAIN LINK FENCE - 8 FT., HIGH-SECURITY FENCING	LF	0	224	0	224
607.183	CHAIN LINK SNOW FENCE - 33" (352 LF)	LS	0	1	0	1
607.24	REMOVE AND RESET FENCE	LF	40	0	0	40
609.11	VERTICAL CURB TYPE 1	LF	20	0	0	20
609.21	CONCRETE SLIPFORM CURB	LF	670	0	0	670
609.234	TERMINAL CURB TYPE 1 - 4 FOOT	EA	4	0	0	4
609.38	RESET CURB TYPE 1	LF	2,300	0	0	2,300
609.40	RESET CURB TYPE 5	LF	800	0	0	800
610.08	PLAIN RIPRAP	CY	24	0	0	24
613.319	EROSION CONTROL BLANKET	SY	200	0	0	200
615.07	LOAM	CY	190	0	0	190
618.14	SEEDING METHOD NUMBER 2	UN	30	0	0	30
619.12	MULCH	UN	30	0	0	30
620.58	EROSION CONTROL GEOTEXTILE	SY	25	0	0	25
626.11	PRECAST CONCRETE JUNCTION BOX	EA	6	0	34	40
626.21	METALLIC CONDUIT	LF	15	0	75	90
626.22	NON-METALLIC CONDUIT	LF	550	0	10,900	11,450
626.251	NON-METALLIC UNDER PAVEMENT CONDUIT (SCHEDULE 80 OR GREATER RATING)	LF	30	0	820	850
626.35	CONTROLLER CABINET FOUNDATION	EA	0	0	1	1
626.36	REMOVE OR MODIFY CONCRETE FOUNDATION	EA	2	0	44	46
626.38	GROUND MOUNTED CABINET FOUNDATION	EA	1	0	0	1
626.411	18-INCH DIAMETER FOUNDATION	LF	20	0	0	20
626.44	36-INCH DIAMETER FOUNDATION	LF	30	0	104	134

EARTHWORK SUMMARY

COMMON EXCAVATION FOR ESTIMATE

COMMON EXCAVATION (FROM CROSS SECTIONS)(WIN 12800.30)	4284	
COMMON EXCAVATION (FROM CROSS SECTIONS)(WIN 22258.00)	234	
GRUBBING IN FILL (WIN 12800.30)	71	
GRUBBING IN FILL (WIN 22258.00)	0	
TOTAL COMMON EXCAVATION		4589

FILL FOR BORROW CALCULATIONS

COMMON FILL (FROM CROSS SECTIONS)(WIN12800.30)	210	
COMMON FILL (FROM CROSS SECTIONS)(WIN 22258.00)	4	
GRUBBING IN FILL (WIN 12800.30)	71	
GRUBBING IN FILL (WIN 22258.00)	0	
TOTAL FILL		285

AVAILABLE COMMON EXCAVATION FOR BORROW CALCULATIONS

ALL DEDUCTIONS:		
GRUBBING IN CUT (WIN 12800.30)	479	
GRUBBING IN CUT (WIN 22258.00)	12	
GRUBBING IN FILL (WIN 12800.30)	71	
GRUBBING IN FILL (WIN 22258.00)	0	
PAVEMENT SALVAGE (CUT & FILL)	1236	
TOTAL DEDUCTIONS		1798
TOTAL AVAILABLE COMMON EXCAVATION (-) TOTAL DEDUCTIONS	2791	
TOTAL AVAILABLE STRUCTURAL EXCAVATION (UNDERDRAIN ONLY)(WIN 12800.30)	439	
TOTAL AVAILABLE STRUCTURAL EXCAVATION (UNDERDRAIN ONLY)(WIN 22258.00)	28	
TOTAL AVAILABLE NON-ROCK EXCAVATION		3258

COMPUTATION FOR SURPLUS MATERIAL OR COMMON BORROW FOR ESTIMATE

TOTAL AVAILABLE NON-ROCK EXCAVATION	3258 x 0.90	=	2932.2
TOTAL AVAILABLE EXCAVATION			2932
BORROW NEEDED = TOTAL FILL (-) TOTAL AVAILABLE EXCAVATION			0
IF NO BORROW IS NEEDED, SURPLUS MATERIAL = AVAILABLE EXCAVATION ( ) TOTAL FILL, (+) TOTAL WASTE MATERIAL TO BE WASTED			2647
SURPLUS MATERIAL			**2647 CY**

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030, 2225800, & 2436300

WIN
12800.30, 22258.00, & 24363.00

GENERAL PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. Coombs	D. Burton	9\2023
DESIGN-DETAILED	C. Helmick	R. Hanf	9\2023
CHECKED-REVIEWED	L. Driscoll		
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SOUTH PORTLAND
EXIT 4

ESTIMATED QUANTITIES

SHEET NUMBER

G6

OF G11

Date:9/12/2024

Username:

Division:

Filename: G6_Estimate_Quantities_01.dgn

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	WIN 12800.30	WIN 22258.00	WIN 24363.00	TOTAL QUANTITY
626.46	48-INCH DIAMETER FOUNDATION	LF	28	0	79	107
626.501	SPREAD FOOTING FOUNDATION	CY	0	0	15	15
627.18	12 INCH SOLID WHITE PAVEMENT MARKING LINE	LF	1,200	0	0	1,200
627.744	6" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	LF	7,500	2400	0	9,900
627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	SF	280	210	0	490
627.78	TEMPORARY 4" PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	LF	14,900	0	0	14,900
629.05	HAND LABOR, STRAIGHT TIME	HR	40	0	20	60
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	HR	20	0	0	20
631.13	BULLDOZER (INCLUDING OPERATOR)	HR	20	0	0	20
631.171	TRUCK-SMALL (INCLUDING OPERATOR)	HR	0	0	10	10
631.172	TRUCK-LARGE (INCLUDING OPERATOR)	HR	20	0	0	20
631.18	CHAIN SAW RENTAL (INCLUDING OPERATOR)	HR	0	0	10	10
631.22	FRONT END LOADER (INCLUDING OPERATOR)	HR	20	0	0	20
631.32	CULVERT CLEANER (INCLUDING OPERATOR)	HR	20	0	0	20
634.160	HIGHWAY LIGHTING	LS	0	0	1	1
634.164	LUMINAIRES FOR HIGH MAST LIGHTING	EA	0	0	29	29
634.2042	LED LUMINARIES	EA	0	0	44	44
634.207	HIGH MAST LIGHT STANDARD	EA	0	0	8	8
634.210	CONVENTIONAL LIGHT STANDARD	EA	0	0	41	41
634.762	VIDEO CAMERA SYSTEM	LS	0	0	1	1
639.18	FIELD OFFICE, TYPE A	EA	1	0	0	1
643.21	NON-INVASIVE DETECTION - STOP LINE	LS	1	0	0	1
643.22	NON-INVASIVE DETECTION - ADVANCE	LS	1	0	0	1
643.80	TRAFFIC SIGNALS AT: SP-6 AND ROUTE 1/SP-4	LS	1	0	0	1
643.91	MAST ARM POLE (30' MAST ARM)	EA	1	0	0	1
643.91	MAST ARM POLE (25' & 35' MAST ARMS)	EA	1	0	0	1
643.97	WOOD POLE	EA	1	0	0	1
645.103	DEMOUNT GUIDE SIGN	EA	5	0	0	5
645.106	DEMOUNT REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	EA	8	0	0	8
645.108	DEMOUNT POLE	EA	10	0	0	10
645.113	REINSTALL GUIDE SIGN	EA	1	0	0	1
645.116	REINSTALL REGULATORY, WARNING, CONFIRMATION, AND ROUTE MARKER ASSEMBLY SIGN	EA	7	0	0	7
645.118	REINSTALL POLE	EA	9	0	0	9
645.12	OVERHEAD GUIDE SIGN: (STA 22+30)	LS	1	0	0	1
645.251	ROADSIDE GUIDE SIGNS, TYPE I	SF	470	0	0	470
645.289	STEEL H-BEAM POLES	LB	170	0	0	170
645.292	REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE II	SF	160	0	0	160
645.305	SIGN MOUNTED BEACON ARRAY	LS	1	0	0	1
652.30	FLASHING ARROW	EA	1	1	2	4
652.312	TYPE III BARRICADES	EA	6	2	2	10
652.33	DRUM	EA	70	50	100	220
652.34	CONE	EA	70	25	50	145
652.35	CONSTRUCTION SIGNS	SF	400	100	400	900
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES (399 CD)	LS	0.45	0.20	0.35	1
652.37	WARNING LIGHTS	GP	0	0	1	1
652.38	FLAGGERS	HR	1600	100	100	1800
652.381	TRAFFIC OFFICERS	HR	16	0	0	16
652.41	PORTABLE-CHANGEABLE MESSAGE SIGN	EA	3	0	3	6
654.351	CONNECTED ROADSIDE UNIT (RSU)	EA	1	0	0	1
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LS	0.48	0.13	0.39	1
658.20	ACRYLIC LATEX COLOR FINISH	SY	900	0	0	900
659.10	MOBILIZATION	LS	0.40	0.35	0.25	1
660.21	ON-THE-JOB TRAINING	HR	0	1000	0	1000
910.301	SPECIAL WORK - AERIAL UTILITY LINES	LS	1	0	0	1

Username:

Date:2/14/2024

Division:

Filename: G7_Estimate_Quantities_02.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030, 2225800, & 2436300

WIN
12800.30, 22258.00, & 24363.00

GENERAL PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

ESTIMATED QUANTITIES

SHEET NUMBER

G7

OF G11

HNTB

STATION	CULVERT PIPE											CATCH BASIN						PIPE ARCH			MH	UNDERDRAIN						ELBOWS, TEES, WYES AND INLET GRATE UNITS	REMARKS
	RCP			CMP		OPTION I		OPTION III														TYPE B		TYPE C				DESCRIPTIONS	
								SMOOTHLINED		CORRUGATED												TYPE B	OUTLET	SMOOTHLINED		CORRUGATED			
	SIZE	LENGTH	CLASS	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	A1-C	B1-C	B5-C	F5	F6	BEHIND CURB	SPAN	RISE	LENGTH	GAGE OR WALL THICKNESS	LENGTH	LENGTH	SIZE	LENGTH	SIZE	LENGTH		
CATCH BASINS																													
STA. 108+75.0, 26.3' LT. (CB#1)													1																FLAT TOP
STA. 12+25.0, 2.9' RT. (CB#2)													1																
STA. 14+33.0, 17.2' LT. (CB#3)													1																
STA. 14+80.0, 21.7' LT. (CB#4)														1															2' CONE
STA. 21+25.0, 13.9' LT. (CB#5)														1															2' CONE
STA. 22+17.0, 13.9' LT (CB#6)														1															2' CONE
STA. 22+17.0, 13.9' RT (CB#7)														1															2' CONE
STA. 23+75.0, 13.9' LT. (CB#8)													1																
STA. 24+64.0, 13.9' RT. (CB#9)														1															FLAT TOP
STA. 27+11.5, 16.5' RT. (CB#10)														1															FLAT TOP
STA. 29+06.0, 24.8' RT. (CB#11)													1																
STA. 29+06.0, 0.9' RT. (CB#12)													1																
STA. 29+46.5, 0.9' RT. (CB#13)													1																
STA. 30+00.0, 0.9' RT. (CB#14)													1																
STA. 30+50.0, 0.9' RT (CB#15)													1																
STA. 31+00.0, 0.9' RT. (CB#16)													1																
CULVERTS & CLOSED DRAINAGE																													
CB#1 TO STA. 108+91.9, 41.3' LT.								12"	20'																				
CB#4 TO STA. 14+80.0, 48.9' LT.								12"	24'																				
STA. 24+64.2, 3.0' RT. TO CB#9	12"	8'	III																										
STA. 27+13.1, 33.3' LT. TO CB#10	15"	45'	III																										
CB#11 TO CB#12	12"	20'	III																										
STA. 29+48.7 TO CB#13	12"	22'	III																										
UNDERDRAIN																													
CB#1 TO CB#2																								12"	225'				
CB#2 TO STA. 14+07.4, 3.9' RT.																						178'							
CB#3 TO CB#4																								12"	45'				
STA. 20+35.0, 14.8' LT. TO CB#5																						89'							
STA. 20+45.0, 14.9' RT. TO CB#7																						170'							
CB#5 TO CB#6																								12"	88'				
CB#6 TO CB#8																								12"	154'				
CB#7 TO CB#9																								12"	243'				
CB#8 TO STA. 24+64.0, 14.4' LT.																								12"	85'				
STA. 24+69.0, 14.9' RT. TO CB#10																						241'							
STA. 27+16.5, 18.1' RT. TO CB#11																						188'							
CB#12 TO CB#13																								12"	37'				
STA. 29+51.5, 1.0' RT. TO CB#14																						46'							
CB#14 TO CB#15																								12"	48'				
CB#15 TO CB#16																								12"	48'				
CB#16 TO STA. 31+61.9, 2.2' RT.																								12"	59'				

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
1280030, 2225800, & 2436300
GENERAL PLANS
PIN
12800.30, 22258.00, & 24363.00

SIGNATURE | P.E. NUMBER | DATE

		BY	DATE
PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9/2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9/2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SOUTH PORTLAND
EXIT 4

DRAINAGE SUMMARY

SHEET NUMBER
G8
OF G11

Filename: G8_Drainage_Summary.dgn Division: Username: Date: 2/14/2024

1. CLEARING LIMITS SHALL BE 10 FEET BEYOND AND PARALLEL TO THE CONSTRUCTION SLOPE LINES OR AS SHOWN ON THE PLANS UNLESS OTHERWISE AUTHORIZED BY RESIDENT.

2. ALL CLEARING, INCLUDING TREE AND STUMP REMOVAL WITHIN THE CLEARING LIMITS, SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO SEPARATE PAYMENT WILL BE MADE. THE ACTUAL LINES FOR CLEARING SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR AS INDICATED ON THE PLANS AND APPROVED BY THE RESIDENT.

3. GRUBBING IN FILL AREAS HAVE BEEN SHOWN ON THE CROSS SECTIONS AND THE QUANTITIES NOTED. THESE LIMITS ARE APPROXIMATE AND HAVE BEEN USED FOR ESTIMATING PURPOSES ONLY. ACTUAL GRUBBING LIMITS MAY VARY BASED ON FIELD CONDITIONS AS DIRECTED BY THE RESIDENT.

4. PRIOR TO REMOVING ANY PAVEMENT OR PLACING ANY SHIM PAVEMENT, THE ROADWAY WILL BE INSPECTED FOR POSSIBLE SUBSURFACE BOULDERS, WHICH WILL BE REMOVED AS DIRECTED BY THE RESIDENT. PAYMENT WILL BE MADE UNDER APPROPRIATE CONTRACT RENTAL ITEMS. BACKFILL WILL BE PLACED TO SUBGRADE WITH MATERIAL CONSISTENT WITH THE SURROUNDING MATERIAL. AGGREGATE SUBBASE COURSE GRAVEL WILL BE PLACED FROM SUBGRADE TO FINISH GRADE AND WILL BE PAID UNDER THE APPROPRIATE ITEM.

5. ALL INSLOPE AND DITCHES IN CUT AREAS SHALL BE GRADED AS SHOWN ON THE TYPICALS OR FLATTER, OR AS DIRECTED BY THE RESIDENT.

6. THE CONTRACTOR SHALL PLAN AND CONDUCT THE WORK ACCORDINGLY SO THAT UPON FINAL COMPLETION OF THE PROJECT THERE IS NO DROP-OFF FROM THE EDGE OF THE SHOULDER PAVEMENT.

7. ALL WASTE MATERIAL NOT USED ON THE PROJECT SHALL BE DISPOSED OF OFF THE PROJECT IN ACCEPTABLE WASTE AREAS REVIEWED BY THE RESIDENT. GRADING, SEEDING, AND MULCHING OF WASTE AREAS SHALL BE CONSIDERED INCIDENTAL.

8. COMMERCIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH 3 INCHES OF HOT MIX ASPHALT AND 11 INCHES OF AGGREGATE SUBBASE COURSE GRAVEL.

9. ANY NECESSARY CLEANING OF EXISTING PAVEMENT PRIOR TO PAVING (OR MILLING) SHALL BE INCIDENTAL TO THE RELATED PAVING (OR MILLING) ITEMS. THIS INCLUDES KILLING AND REMOVAL OF ALL VEGETATIVE MATTER.

10. EXISTING CULVERTS AND CATCH BASINS WILL BE CLEANED AS DIRECTED BY THE RESIDENT UNDER THE APPROPRIATE PAY ITEMS.

11. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED, OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT.

12. INLETS AND OUTLETS OF ALL CULVERTS SHALL BE RIPRAPPED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.

13. FLAT TOPS FOR CATCH BASINS ARE NOT ALLOWED UNLESS NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.

14. PLASTIC END CAPS SHALL BE PLACED ON THE INLET END OF ALL DEAD-END 6 INCH TYPE B UNDERDRAIN AND SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

15. ANY NECESSARY CUTTING OF EXISTING PIPES TO FIT 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.

16. 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 STANDARD SPECIFICATIONS SECTION 605, UNDERDRAINS.

17. GUARDRAIL END TREATMENTS SHALL BE INSTALLED CONCURRENTLY WITH THE PLACEMENT OF EACH SECTION OF BEAM GUARDRAIL.

18. HOLES CREATED BY GUARDRAIL REMOVAL WILL BE FILLED AND COMPACTED WITH APPROVED MATERIALS AS DIRECTED BY THE RESIDENT. PAYMENT WILL BE CONSIDERED INCIDENTAL TO STANDARD SPECIFICATIONS SECTION 606, GUARDRAIL.

19. ALL EXISTING GUARDRAIL REMOVED AND NOT REUSED ON THE PROJECT WILL BECOME THE PROPERTY OF THE CONTRACTOR. REMOVAL AND DISPOSAL SHALL BE CONSIDERED INCIDENTAL TO THE GUARDRAIL ITEMS.

20. TWO REFLECTORIZED FLEXIBLE GUARDRAIL MARKERS (STANDARD SPECIFICATIONS ITEM 606.353, REFLECTORIZED FLEXIBLE GUARDRAIL MARKER) WILL BE INSTALLED AT EACH GUARDRAIL END.

21. A DELINEATOR POST (STANDARD SPECIFICATIONS ITEM 606.356, UNDERDRAIN DELINEATOR POST) WILL BE INSTALLED AT EACH UNDERDRAIN OUTLET.

22. CONNECTIONS FOR PROPOSED GUARDRAIL TO EXISTING GUARDRAIL WILL BE CONSIDERED INCIDENTAL TO STANDARD SPECIFICATIONS SECTION 606, GUARDRAIL.

23. IN AREAS WHERE CURB TYPE 1 WILL BE RESET, THE EXISTING CURB SUITABLE FOR USE AS TERMINAL ENDS SHALL BE CUT, IF NECESSARY, AND UTILIZED AS SUCH AND WILL BE PAID FOR UNDER STANDARD SPECIFICATIONS ITEM 609.38, RESET CURB TYPE 1. REQUIRED CUTTING WILL BE PAID UNDER FORCE ACCOUNT PROCEDURES.

24. UNLESS OTHERWISE NOTED SEEDING METHOD NO. 1 SHALL BE UTILIZED ON ALL LAWNS AND DEVELOPED AREAS; SEEDING METHOD NO. 2 SHALL BE UTILIZED ON ALL OTHER AREAS.

25. 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.

26. ACRYLIC LATEX COLOR FINISH GREEN (STANDARD SPECIFICATIONS ITEM 658.20, ACRYLIC LATEX COLOR FINISH) SHALL BE PLACED ON ALL PAVED ISLANDS.

27. WHITE PAVEMENT/CURB MARKING (STANDARD SPECIFICATIONS ITEM 627.75, WHITE OR YELLOW PAVEMENT & CURB MARKING) SHALL BE APPLIED TO ALL ISLAND TAPERED ENDS.

28. ANY BASE PAVEMENT NOT SURFACED BEFORE WINTER WILL REQUIRE TEMPORARY PAVEMENT MARKINGS OF PAINT, BOTH YELLOW CENTERLINE AND WHITE EDGE LINES AND WILL BE CONSIDERED PART OF STANDARD SPECIFICATIONS ITEM 627.78, TEMPORARY PAVEMENT MARKING LINE, WHITE OR YELLOW.

29. ANY DAMAGE TO THE SLOPES CAUSED BY THE CONTRACTOR'S EQUIPMENT, PERSONNEL, OR OPERATION SHALL BE REPAIRED TO THE SATISFACTION OR THE RESIDENT. ALL WORK, EQUIPMENT, AND MATERIALS REQUIRED TO MAKE REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE.

30. GEOTECHNICAL INFORMATION FURNISHED OR REFERRED TO IN THE BID DOCUMENTS IS FOR THE USE OF THE BIDDERS. NO ASSURANCE IS GIVEN THAT THE INFORMATION OR INTERPRETATIONS WILL BE REPRESENTATIVE OF THE ACTUAL SUBSURFACE CONDITIONS THROUGHOUT THE CONSTRUCTION SITE. MAINEDOT WILL NOT BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONCLUSIONS DRAWN FROM THE GEOTECHNICAL INFORMATION. THE BORING LOGS PROVIDED IN THE BID DOCUMENTS (IF ANY) PRESENT FACTUAL AND INTERPRETIVE SUBSURFACE INFORMATION COLLECTED AT DISRETE LOCATIONS. DATA PROVIDED MAY NOT BE REPRESENTATIVE OF THE SUBSURFACE CONDITIONS BETWEEN BORING LOCATIONS.

31. AREAS ON THE PROJECT REQUIRING FILL WILL COME FROM SUITABLE SITES SUCH AS EXCAVATION, DITCH AND INSLOPE OR EQUIPMENT RENTAL AREAS.

32. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISIONS OF EQUIPMENT AND LAYOUT OF WORK BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.

33. "UNDETERMINED LOCATIONS" SHALL BE DETERMINED BY THE RESIDENT.

34. FINAL STRIPING FOR THE PROJECT SHALL BE DONE BY THE CONTRACTOR PER THE STRIPING LAYOUT IN THE CONTRACT DOCUMENTS OR AS PROVIDED BY THE DEPARTMENT. PAYMENT SHALL BE MADE UNDER APPROPIATE CONTRACT ITEMS.

Filename: G9_General_Notes.dgn Division: Username: Date:2/14/2024

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030, 2225800, & 2436300

WIN 12800.30, 22258.00, & 24363.00

GENERAL PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

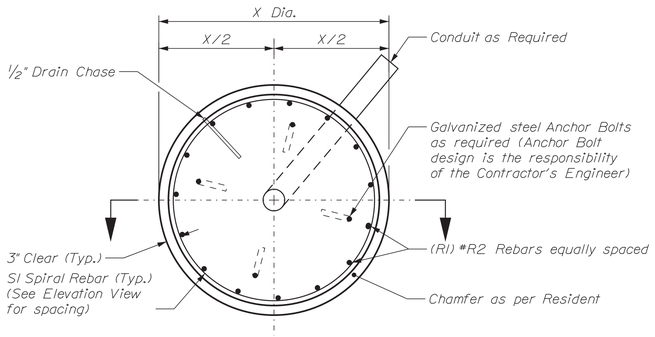
GENERAL NOTES

SHEET NUMBER

G9

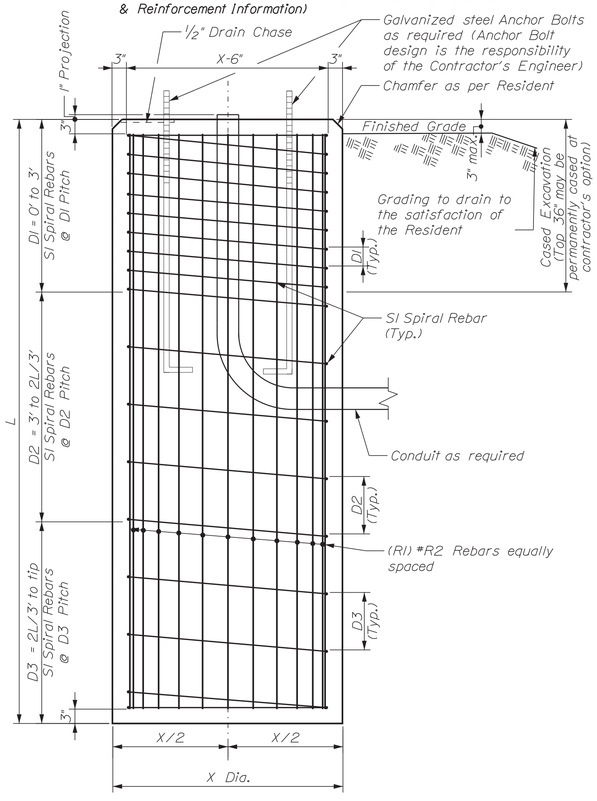
OF G11

HNTB



Drilled Shaft Plan View

Not to Scale (See Table above for Drilled Shaft Dimensions & Reinforcement Information)

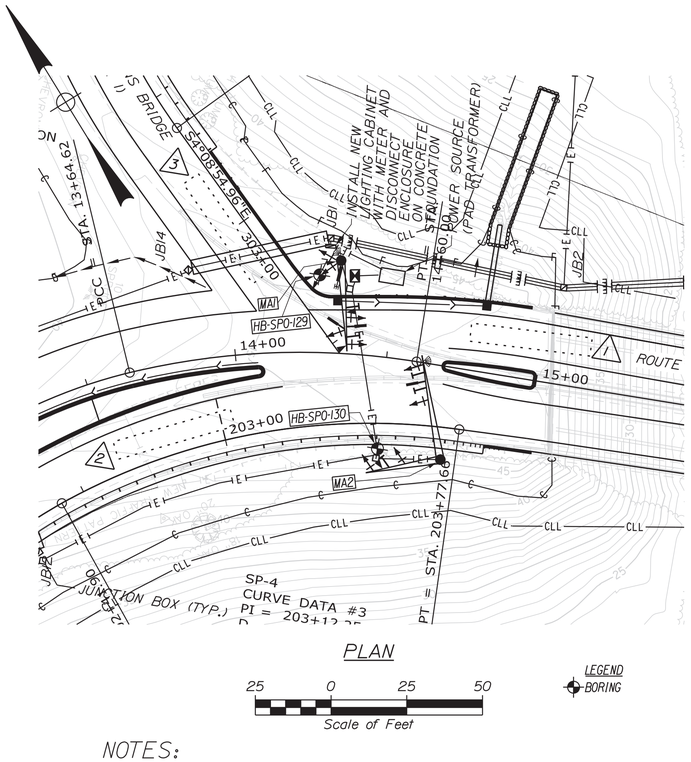


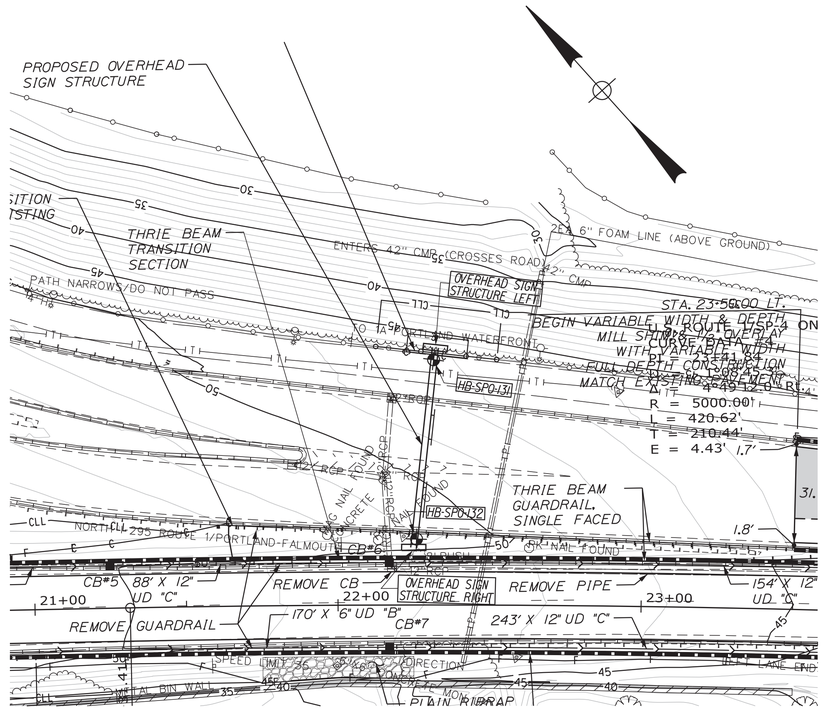
Drilled Shaft Elevation View

Not to Scale (See Table for Drilled Shaft Dimensions & Reinforcement Information)

MAST ARMS: MA1, MA2, OVERHEAD SIGN STRUCTURE RIGHT & OVERHEAD SIGN STRUCTURE LEFT

See Drilled Shaft Foundations Table for Station and Offsets of Mast Arm Locations or the Boring Location Plan.





NOTES:

1. All reinforcing steel is to be grade 60 and conform to MaineDOT Standard Specification requirements along with any project specific Supplementals or Special Provisions.
2. All rebar shall have 3" cover unless otherwise noted.
3. Should there be a discrepancy between these Details and actual observed field conditions report it to the Resident immediately.
4. Do not proceed with dependent work until any such discrepancy is resolved to the satisfaction of the Resident.
5. Concrete to be Class LP with f'c = 5,000 PSI.
6. Foundation sizes are designed based on estimated loading conditions and are subject to change based on the design of the above-ground components and the actual loading conditions at the top of each foundation submitted by the Contractor in accordance with Standard Specification Section 626.034. Any increase in foundation size based on the submitted loading conditions shall be paid for at the unit price bid by the Contractor. Any reduction in foundation size shall be to the benefit of the Department at the unit price bid by the Contractor.

DRILLED SHAFT FOUNDATIONS

		Drilled Shaft Dimensions		Reinforcing Steel			Spiral Bar Spacing		
		X	L	R1	R2	S1	D1 (in)	D2 (in)	D3 (in)
Mast Arm	Station and Offset	Diameter (feet)	Length (feet)	Longitudinal Rebars Quantity	Longitudinal Rebars Size	Spiral Rebars Size	0 to 3 ft	3 ft to 2L/3 ft	2L/3 ft to tip
MA1	14+33.42, 30.59 feet Left	3.0	15.0	15	#8	#5	4	8	12
MA2	14+72.90, 30.67 feet Right	3.0	15.5	15	#8	#5	4	8	12

DRILLED SHAFT FOUNDATIONS

		Drilled Shaft Dimensions		Reinforcing Steel			Spiral Bar Spacing		
		X	L	R1	R2	S1	D1 (in)	D2 (in)	D3 (in)
Strucuture	Station and Offset	Diameter (feet)	Length (feet)	Longitudinal Rebars Quantity	Longitudinal Rebars Size	Spiral Rebars Size	0 to 3 ft	3 ft to 2L/3 ft	2L/3 ft to tip
Overhead Sign Structure Right	22+25.00, 18.87 feet Left	4.0	14.0	21	#9	#5	4	4	12
Overhead Sign Structure Left	22+32.06, 84.92 feet Left	4.0	14.0	21	#9	#5	4	4	12

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030, 2225800 & 2436300

WIN 012800.30, 22258.00 & 24363.00

HIGHWAY PLANS

STATE OF MAINE ★ ENGINEER ★ Kathleen Meguire 7120 LICENSED PROFESSIONAL

SIGNATURE	
7120	
P.E. NUMBER	
8/9/2023	
DATE	

PROJ. MANAGER	D.COOMBS	BY	DATE
DESIGN-DETAILED	-----	-----	-----
CHECKED-REVIEWED	-----	-----	-----
DESIGN2-DETAILED2	K.MAGUIRE	T.WHITE	JUL 2023
DESIGN3-DETAILED3	-----	-----	-----
REVISIONS 1	-----	-----	-----
REVISIONS 2	-----	-----	-----
REVISIONS 3	-----	-----	-----
REVISIONS 4	-----	-----	-----
FIELD CHANGES	-----	-----	-----

SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

MAST ARM & OVER SIGN FOUNDATIONS WITH BORING LOCATION PLAN

SHEET NUMBER

G10

OF G11

Filename: ...\MSTA\010_G10_MA&OSF wBLP1.dgn Division: GEOTECH Username: terry.white Date:8/7/2023

Filename: ...\MSTA\011_G11_BORING LOGS1.dgn Username: terry.white Date:8/7/2023

Division: GEOTECH

Maine Department of Transportation — HB-SPO-129

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-129
WIN: 12800.30

Driller:	Northern Test Boring	Elevation (ft.): 44.6	Auger ID/OD: 2.5" ID
Operator:	M.Nadeau	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By:	J. Ilunga	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall: 140#/30"
Date Start/Finish:	6/9/2023-6/9/2023	Drilling Method: Hollow Stem Auger	Core Barrel: N/A
Boring Location:	14427.3, 25.6 Ft Lt.	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.947		Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐	

Definitions:
D = Split Spoon Sample
MS = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, FP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOP = Weight of One 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 (ksf)
N=uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60-1} = Hammer Efficiency Factor/60%*N-uncorrected
S_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.	Rec./Pen. (in.)	Sample Depth (ft.)	Blows / 6 in. Sample Strength or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	10	24/14	0.00 - 2.00	27/15/12/10	27	43	HSA			Brown, dry, dense, fine to coarse SAND, some gravel, trace silt, well-graded. (Fill), SW	
5	20	24/12	5.00 - 7.00	10/12/17/18	29	46				Brown, moist, dense, fine SAND, little silt. (Fill), SP	
10	30	24/12	10.00 - 12.00	19/23/25/29	28	44				Brown-grey, moist, dense, fine to medium SAND, little coarse sand, little gravel, trace silt. (Fill), SP	
15	40	24/19	15.00 - 17.00	12/15/24/27	39	62				Grey-brown, dry, very dense, fine to coarse SAND, little gravel, trace silt and Olive-brown, Clayey SILT, (Fill), SW/ML	
20	50	24/19	20.00 - 22.00	29/26/29/21	55	87				Grey-brown, dry, very dense, fine to medium SAND, little coarse sand, little fine gravel, little silt, (Fill), SM	
22.4								22.0		Bottom of Exploration at 22.0 feet below ground surface. NO REFUSAL	

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil typest 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.: HB-SPO-129

Maine Department of Transportation — HB-SPO-130

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-130
WIN: 12800.30

Driller:	Northern Test Boring	Elevation (ft.): 45.0	Auger ID/OD: 2.5" ID
Operator:	M.Nadeau	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By:	J. Ilunga	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall: 140#/30"
Date Start/Finish:	6/8/2023-6/8/2023	Drilling Method: Hollow Stem Auger	Core Barrel: N/A
Boring Location:	14450.6, 30.3 Ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.947		Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐	

Definitions:
D = Split Spoon Sample
MS = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, FP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOP = Weight of One 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 (ksf)
N=uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60-1} = Hammer Efficiency Factor/60%*N-uncorrected
S_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.	Rec./Pen. (in.)	Sample Depth (ft.)	Blows / 6 in. Sample Strength or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	10	24/11	0.00 - 2.00	1/1/2/1	3	5	HSA			Brown to dark brown, dry, loose, fine to medium SAND, trace coarse sand, trace fine gravel, trace silt, (Fill), SP	
5	20	24/18	5.00 - 7.00	10/12/14/15	26	41				Brown, moist, dense, fine SAND, little silt, trace medium sand, trace gravel, (Fill), SM	
10	30	24/18	10.00 - 12.00	24/25/27/24	52	82				Brow, moist, very dense, fine SAND, little silt, trace gravel, trace medium sand, (Fill), SM	
15	40	24/19	15.00 - 17.00	39/37/39/37	76	120				Brown ,moist, very dense, fine to coarse SAND, some gravel, little silt, well-graded, (Fill), SM	
20	50	24/12	20.00 - 22.00	34/37/39/41	76	120				50 similar to 40, except some silt, (Fill), SM	
23.0								22.0		Bottom of Exploration at 22.0 feet below ground surface. NO REFUSAL	

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil typest 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.: HB-SPO-130

Maine Department of Transportation — HB-SPO-131

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-131
WIN: 12800.30

Driller:	Northern Test Boring	Elevation (ft.): 48.2	Auger ID/OD: 2.5" ID
Operator:	M.Nadeau	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By:	J. Ilunga	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall: 140#/30"
Date Start/Finish:	6/7/2023-6/7/2023	Drilling Method: Hollow Stem Auger	Core Barrel: N/A
Boring Location:	22+31.5, 81.0 Ft Lt.	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.947		Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐	

Definitions:
D = Split Spoon Sample
MS = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, FP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOP = Weight of One 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 (ksf)
N=uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60-1} = Hammer Efficiency Factor/60%*N-uncorrected
S_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.	Rec./Pen. (in.)	Sample Depth (ft.)	Blows / 6 in. Sample Strength or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	10	24/14	0.00 - 2.00	7/5/3/4	8	13	HSA			Grey-brown, moist, medium dense, fine to medium SAND, little coarse sand, little gravel, trace silt, (Fill), SM	
5	20	24/15	5.00 - 7.00	8/15/15/17	30	47		43.2		Brown, moist, dense, fine SAND, little silt, trace fine gravel, (Marine Deposit), SM	
10	30	24/13	10.00 - 12.00	5/9/12/14	21	33				Brown, moist, medium dense, fine SAND, little silt, occasional layer of grey, fine sand, some silt, trace medium to coarse sand, SM	
15	40	24/24	15.00 - 17.00	3/3/3/3	6	9				Rust brown to dark brown, loose, fine SAND, little silt, (Marine Deposit), SM	
20	50	24/20	20.00 - 22.00	3/3/8/9	11	17				Brown, moist, medium dense, fine SAND, some silt, (Marine Deposit), SM	
26.2								22.0		Bottom of Exploration at 22.0 feet below ground surface. NO REFUSAL	

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil typest 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.: HB-SPO-131

Maine Department of Transportation — HB-SPO-132

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-132
WIN: 12800.30

Driller:	Northern Test Boring	Elevation (ft.): 51.2	Auger ID/OD: 2.5" ID
Operator:	M.Nadeau	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By:	J. Ilunga	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall: 140#/30"
Date Start/Finish:	6/7/2023-6/7/2023	Drilling Method: Hollow Stem Auger	Core Barrel: N/A
Boring Location:	22+25.9, 21.7 Ft Lt.	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.947		Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐	

Definitions:
D = Split Spoon Sample
MS = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, FP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOP = Weight of One 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 (ksf)
N=uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60-1} = Hammer Efficiency Factor/60%*N-uncorrected
S_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.	Rec./Pen. (in.)	Sample Depth (ft.)	Blows / 6 in. Sample Strength or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	10	24/12	0.00 - 2.00	12/19/20/28	39	62	HSA			Grey, dry, very dense, fine to coarse SAND, some gravel, trace silt, well-graded, (Fill), SM	
5	20	24/13	5.00 - 7.00	8/9/12/14	21	33		46.2		Brown to dark brown, medium dense, fine SAND, some silt, trace medium to coarse sand, (Marine Deposit), SM	
10	30	24/24	10.00 - 12.00	18/18/14/15	32	51				Brown moist, very dense, fine SAND, trace silt, (Marine Deposit), SP	
15	40	24/20	15.00 - 17.00	8/10/9/11	19	30				40 similar to 30, except medium dense, (Marine Deposit), SP	
20	50	24/21	20.00 - 22.00	10/12/17/18	29	46				Light brown to dark brown, dry to moist, medium dense, fine SAND, trace silt, (Marine Deposit), SP	
29.2								22.0		Bottom of Exploration at 22.0 feet below ground surface. NO REFUSAL	

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil typest 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.: HB-SPO-132

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030, 2225800 & 2436300

WIN 12800.30, 22258.00 & 24363.00

HIGHWAY PLANS

STATE OF MAINE ★ Kathleen Meguire ★ 7120 ★ PROFESSIONAL ENGINEER

SIGNATURE
7120
P.E. NUMBER
8/9/2023
DATE

PROJ. MANAGER	D.COOMBS		
DESIGN-DETAILED	------	BY	DATE
CHECKED-REVIEWED	------	------	------
DESIGN2-DETAILED2	K.MAGUIRE	T.WHITE	JUL 2023
DESIGN3-DETAILED3	------	------	------
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	------
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

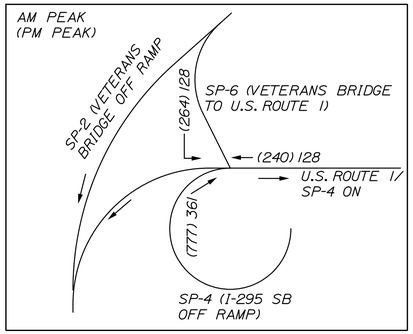
BORING LOGS

SHEET NUMBER
G11
OF G11

PROPOSED SIGNAL TIMING

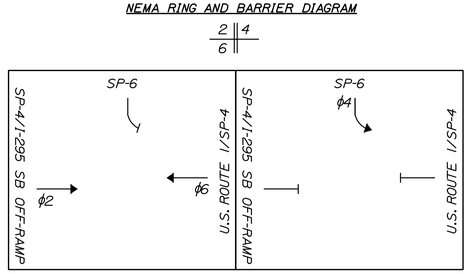
APPROACH	NOT USED	I-295 SB OFF - SP-4	NOT USED	VET BRDG - SP-6	NOT USED	U.S. RT I - SP-4 ON	NOT USED	NOT USED
MOVEMENT	-	SB T	-	WB L	-	NB T	-	-
PHASE	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8
MINIMUM GREEN	-	10.0	-	5.0	-	10.0	-	-
VEHICLE EXTENSION	-	2.0	-	2.0	-	2.0	-	-
MAXIMUM 1	-	40	-	20	-	40	-	-
YELLOW	-	4.5	-	3.0	-	4.5	-	-
ALL RED	-	2.0	-	2.5	-	2.0	-	-
RECALL MODE	-	SOFT	-	NONE	-	SOFT	-	-
WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
DETECTOR	-	PR	-	PR	-	PR	-	-
FLASH	-	R	-	R	-	R	-	-
DUAL ENTRY	-	ON	-	OFF	-	ON	-	-

2025 SYSTEM DESIGN VOLUMES



PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM



DETECTOR SCHEDULE

PLAN ID	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADVANCE B=STOPLINE
1	U.S. ROUTE 1/SP-4 ON	6	6	B
2	SP-4 (I-295 SB OFF RAMP)	2	2	B
3	SP-6 (VETERANS BRIDGE TO U.S. ROUTE 1)	4	4	B
4*	SP-6 (VETERANS BRIDGE TO U.S. ROUTE 1)	4	4	A
5	I-295 SB OFF RAMP	2	2	A
6*	U.S. ROUTE 1/SP-4 ON	6	6	A

* = SEE ADVANCED DILEMMA ZONE DETAIL FOR 35 MPH

PROPOSED LANE USE SIGNS

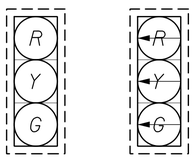


R3-1 24"X24" I-PROPOSED
R3-2 24"X24" I-PROPOSED
R3-5 30"X36" I-PROPOSED
R3-5A 36"X30" 2-PROPOSED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USED/RESERVED	
	2	NOT USED/RESERVED	
R1	3	1	ϕ4
R2	4	2	ϕ2
R3	5	3	ϕ6

PROPOSED SIGNAL INDICATIONS



A1, A2, A3
B1, B2, B3, B4

C1, C2, C3

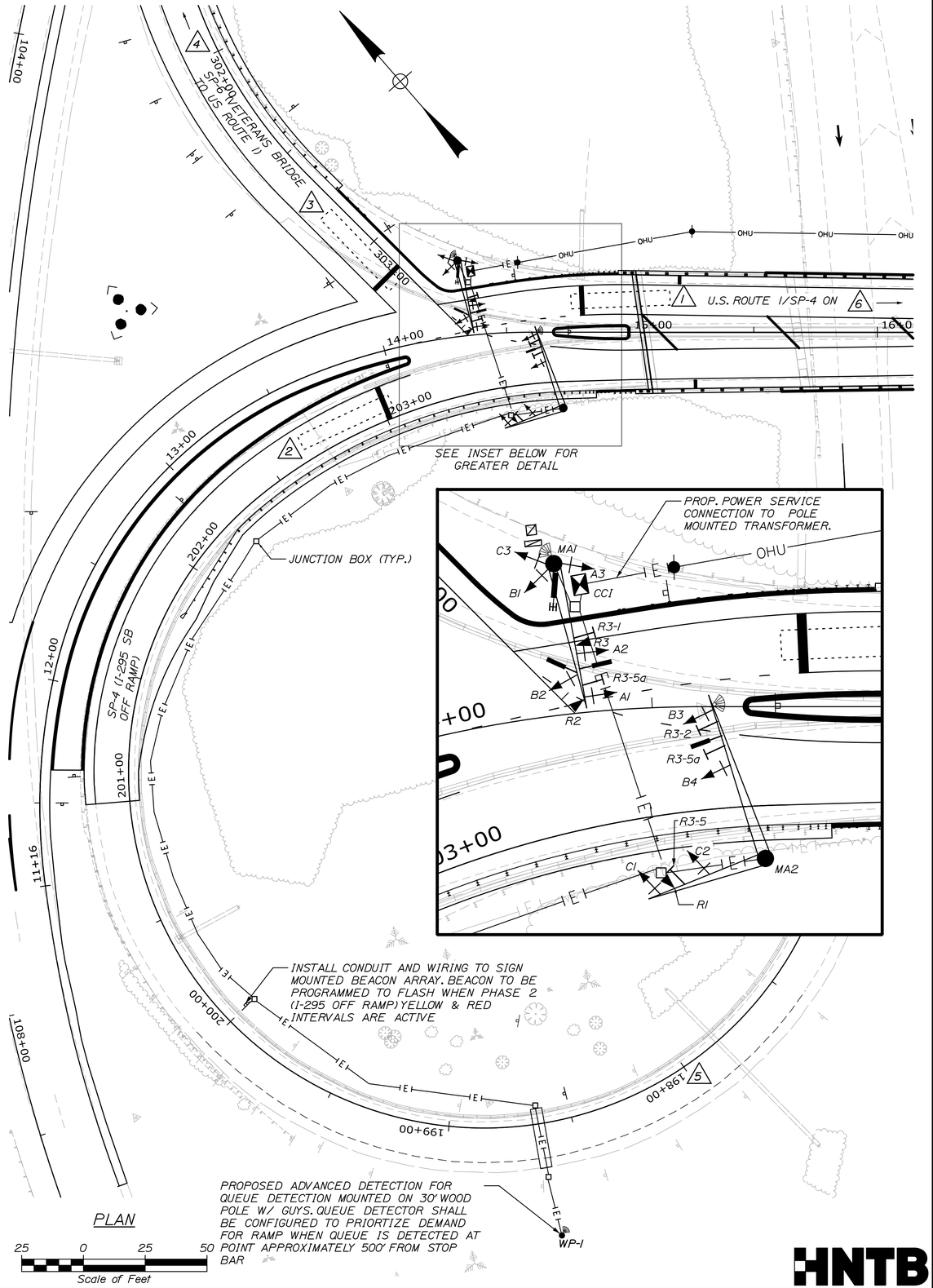
STRUCTURES LIST

ID	DESCRIPTION	FOUNDATION	STATION	OFFSET
CC1	ATC CABINET	L48"XW36"XH48"	14+37.73	25.83' L
MA1	30' MAST ARM	36" DIA.	14+33.42	30.59' L
MA2	25' & 35' DUAL MAST ARM	36" DIA.	14+72.90	30.67' R
WP-1	30' WOOD POLE	N/A	198+61.74	46.06' L

NOTE: SEE SHEET G10 FOR MAST ARM FOUNDATION DETAILS

SIGNAL PLAN LEGEND

	EXISTING	PROPOSED
MAST ARM POLE ON FOUNDATION		
SIGNAL HEAD		
CONTROL CABINET & FOUNDATION		
JUNCTION BOX		
MAST ARM MOUNTED SIGN		
DECTECTION ZONE		
NON-INVASIVE STOP LINE DETECTION		
3" UNDER PAVEMENT CONDUIT		
3" UNDERGROUND CONDUIT	E I	E I
ADVANCE DETECTION UNIT		
OPTICAL PREEMPTION RECEIVER		
PREEMPTION STROBE		
DUAL MODE DSCR/C-V2X		



PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	D. Caldwell	9\2023	
CHECKED-REVIEWED	A. Greenlaw	9\2023	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SIGNAL PLAN

SHEET NUMBER

H1

OF H77

Date:2/14/2024

Username:

Division:

Filename: H1_Signal_Plan_01.dgn

Username:

Division:

Date:2/14/2024

Filename: H2_Signal_Plan_02.dgn

GENERAL SIGNAL NOTES

1. TRAFFIC SIGNAL WORK SHALL BE COMPLETE IN SUCH A MANNER THAT WILL CAUSE THE MINIMUM DISRUPTION TO TRAFFIC.
2. THE CONTRACTOR SHALL MEET ALL UTILITY REQUIREMENTS FOR NEW SERVICE CONNECTIONS.
3. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE THEIR OWN MATERIAL SCHEDULES BASED ON THEIR PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
4. THE LOCATIONS OF ALL EQUIPMENT ARE APPROXIMATE. FINAL LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER AND/OR RESIDENT.
5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR FURNISHING AND INSTALLING ALL OTHER EQUIPMENT NECESSARY FOR A COMPLETE AND OPERATIONAL SIGNAL SYSTEM.

VEHICLE DETECTION

1. THE CONTRACTOR SHALL FURNISH AND INSTALL NON-INVASIVE STOP LINE AND ADVANCE VEHICLE DETECTION AS SHOWN IN THE PLANS. THE VEHICLE DETECTORS ARE TO BE CONNECTED TO THE INTERSECTION TRAFFIC CONTROLLER FOR LOCAL VEHICLE DETECTION AND REMOTELY CONNECTED TO THE MAINEDOT CENTRAL TRAFFIC MANAGEMENT SYSTEM TO ALLOW VISUAL CONFIRMATION AND ADJUSTMENT OF THE DETECTION ZONE AS SHOWN IN THE PLANS. WORK SHALL BE CONSTRUCTED AND PAID FOR AS OUTLINED IN SPECIAL PROVISION 643.
2. 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.
3. THE LOCATION OF THE DETECTION DEVICES SHOWN IN THE PLANS ARE CONCEPTUAL FOR OPTIMAL APPROACH COVERAGE. THE ACTUAL NUMBER OF DETECTION DEVICES AND MOUNTING LOCATIONS SHALL BE PER MANUFACTURER RECOMMENDATION.
4. 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.

SIGNHAL HEADS/MOUNTING

1. VEHICLE SIGNAL HEADS SHALL BE FIX MOUNTED TO MAST ARMS WITH ASTRO-BRACS.
2. THE BOTTOM OF ALL MAST ARM MOUNTED SIGNAL HEAD HOUSINGS SHALL BE A MINIMUM OF 17 FEET BUT NOT MORE THAN 19 FEET ABOVE THE ROADWAY.
3. SIGNALS TO OPERATE WITH COLORS AT ALL TIMES.
4. SIGNALS TO OPERATE IN FLASH MODE FOR EMERGENCIES ONLY. SIGNALS SHALL BE ALL RED FOR 3 SECONDS AFTER CONFLICT FLASH.

MAST ARMS/TRAFFIC STRUCTURES

1. MAST ARMS SHALL BE GALVANIZED STEEL WITH NATURAL FINISH.
2. ALL EQUIPMENT INCLUDING CONTROLLER CABINET, POLES, HAND HOLES, AND CONDUIT SHALL BE PROTECTED AGAINST RODENTS.
3. ALL PULL BOX COVERS SHALL BE LABELED "TRAFFIC".

CONDUIT

1. ALL CONDUIT, WITH THE EXCEPTION OF THAT FOR POWER SERVICE, SHALL BE 3" SCH. 80 PVC.
2. CONDUIT FOR POWER SERVICE SHALL BE 3" METALLIC.
3. CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 626(05). DIRECTIONAL BORING WILL BE REQUIRED FOR CONDUIT INSTALLED ACROSS ALL EXISTING ROADWAYS WHICH ARE NOT TO BE RECONSTRUCTED.

TRAFFIC SIGNAL CONTROLLER/CABINET

1. THE TRAFFIC SIGNAL CONTROLLER AND ALL OTHER EQUIPMENT ITEMS SHOWN ON THE PLANS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
2. THE TRAFFIC SIGNAL CONTROLLER SUPPLIED UNDER THIS CONTRACT SHALL BE A ECONOLIT COBALT RACKMOUNTED ADVANCED TRANSPORTATION CONTROLLER (ATC) WITH THE LATEST FIRMWARE INSTALLED AND CAPABLE OF SUPPORTING NTCIP PROTOCOLS AND COMMUNICATING WIH MAINEDOT'S EXISTING CLOUD BASED CENTRAL MANAGEMENT SYSTEM.
3. THE TRAFFIC SIGNAL CABINET SUPPLED UNDER THIS CONTRACT SHALL BE A NATURAL FINISH ALUMINUM ADVANCED TRANSPORTATION CONTROLLER CABINET (ATCC) THAT COMPLIES WITH THE MAINEDOT 32 /48 ATC CABINET SPECIFICATIONS

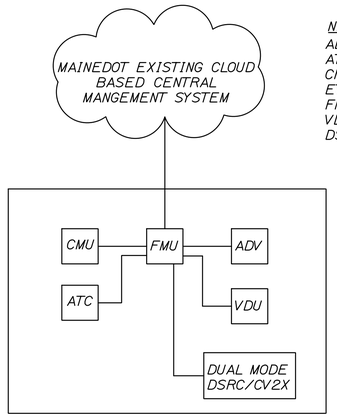
EMERGENCY VEHICLE PREEMPTION

1. PRIORITY OPTICAL RECEIVERS SHALL BE COMPATIBLE WITH TOMAR OPTICAL PREEMPTION EMITTERS.
2. FINAL PLACEMENT OF OPTICAL RECEIVERS SHALL BE COORDINATED WITH THE CITY OF SOUTH PORTLAND FIRE DEPARTMENT AND/OR POLICE DEPARTMENT.
3. PREEMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1=HIGHEST, 6=LOWEST)
4. IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT THE INTERSECTION BY OPTICAL RECEIVERS, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCY PREEMPTION PHASE GREEN FOR A MINIMUM OF 5 SECONDS OR UNTIL THE PREEMPTION CEASES. THE CONTROLLER SHALL THEN TIME THE PREEMPTION PHASE CLEARANCE, SERVICE SUBSEQUENT PREEMPTION PHASES AS NECESSARY, THEN TIME THE PREEMPTION PHASE CLEARANCE, AND FINALLY RESUME NORMAL OPERATIONS.
5. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE INTERVAL TIMES SHALL BE MAINTAINED ON PHASES THAT ARE TO BE TERMINATED BY PREEMPTION DEMAND.
6. THE CONFIRMATION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY PREEMPTION GREEN IS ON.

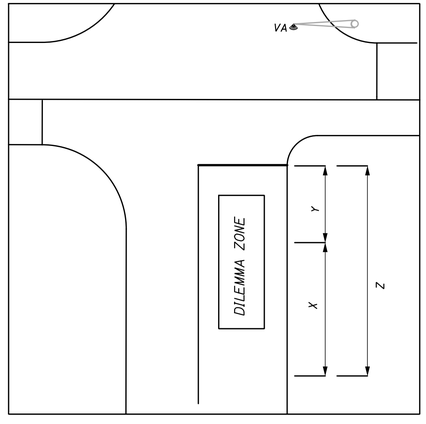
COMMUNICATIONS

1. THE SYSTEM SHALL SUPPORT COMMUNICATIONS TO THE ADVANCED TRANSPORTATION CONTROLLER, ASSOCIATED EQUIPMENT, AND VEHICLE DETECTION AS SHOWN IN THE PLANS. ALL CONNECTIONS TO THE MAINEDOT CLOUD-BASED CENTRAL MANAGEMENT SYSTEM SHALL BE VIA A SECURE VPN NETWORK. COMMUNICATIONS FROM THE CLOUD-BASED SYSTEM TO THE ATC SHALL BE MADE THROUGH THE FIELD MONITORING UNIT.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING WHICH COMPATIBLE CELLULAR PROVIDER CAN PROVIDE THE BEST NETWORK COVERAGE TO THE SHELF MOUNT FMU FOR REMOTE COMMUNICATIONS TO THE CMS AND PROVIDE PROPER SIM CARD.
3. CONTRACTOR SHALL PROVIDE SUFFICIENT SLACK CABLE TO THE SHELF MOUNT FMU HARNESS WHEREAS THE DEVICE CAN BE ROTATED WITHOUT HAVING TO DISCONNECT THE HARNESS.

PROPOSED NETWORK DIAGRAM



NETWORK DIAGRAM LEGEND
ADV - ADVANCE VEHICLE DETECTION
ATC - ADVANCED TRANSPORTATION CONTROLLER
CMU - CABINET MONITOR UNIT
ETH - EHTERNET CABLE
FMU - FIELD MONITORING UNIT
VDU - STOP LINE VIDEO DETECTION UNIT
DSRC - DEDICATED SHORT RANGE COMMUNICATIONS



SPEED MILES PER HOUR	X (DISTANCE)	Y (DISTANCE)	Z (DISTANCE)
35	152'	102'	254'
40	162'	122'	284'
45	175'	152'	327'
50	181'	172'	353'
55	152'	234'	386'

ADVANCE DILEMMA ZONE SETUP
SOURCE: TRAFFIC DETECTOR HANBOOK: THIRD EDITION - VOLUME 1

LIST OF MAJOR ITEMS

EQUIPMENT AND WORK ITEMS (ITEM 643.80)	QTY.
FURNISH AND INSTALL ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ECONOLITE COBALT ATC WITH LATEST FIRMWARE INSTALLED, COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT INTEGRATION INTO MAINEDOT'S EXISTING CLOUD BASED CENTRAL MANAGEMENT SYSTEM	1
FURNISH AND INSTALL BLACK POLYCARBONATE ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS AND 5-INCH LOUVERED BACK PLATES WITH 3-INCH RETROREFLECTIVE BORDERS MOUNTED ON MAST ARM	7
FURNISH AND INSTALL BLACK POLYCARBONATE ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS AND 5-INCH LOUVERED BACK PLATES WITH 3-INCH RETROREFLECTIVE BORDERS MOUNTED ON MAST ARM UPRIGHT POLE	3
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	3
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH DETECTOR CABLE	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	5
POWER SERVICE CONNECTION	1
FURNISH AND INSTALL 36-INCH DIAMETER FOUNDATION FOR 30 FOOT MAST ARM (ITEM 626.44)	15 LF
FURNISH AND INSTALL 36-INCH DIAMETER FOUNDATION FOR DUAL 25' & 35' MAST ARM (ITEM 626.44)	15.5 LF
FURNISH AND INSTALL MAST ARM POLE W/ 30 'ARM (ITEM 643.91)	1 EA
FURNISH AND INSTALL MAST ARM POLE W/ DUAL 25' & 35' ARMS (ITEM 643.91)	1 EA
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.22)	1 LS
FURNISH AND INSTALL PRECAST CONCRETE JUNCTION BOX. (ITEM 626.11)	6 EA
FURNISH AND INSTALL CONNECTED ROADSIDE UNIT (RSU) (ITEM 654.351)	1 EA
FURNISH AND INSTALL METALLIC CONDUIT. (ITEM 626.21)	15 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT. (ITEM 626.22)	550 LF
FURNISH AND INSTALL NON-METALLIC UNDER PAVEMENT CONDUIT. (ITEM 626.251)	30 LF
FURNISH AND INSTALL 30' WOOD POLE W/ GUYS (643.97)	1 EA
FURNISH AND INSTALL GROUND MOUNTED CONTROLLER CABINET FOUNDATION (ITEM 626.38)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

PROJ. MANAGER					
DESIGN-DETAILED	D. Coombs	D. Caldwell	9\2023		
CHECKED-REVIEWED	D. Caldwell	A. Greenlaw	9\2023		
DESIGN2-DETAILED2	A. Greenlaw				
DESIGN3-DETAILED3					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SIGNAL NOTES

SHEET NUMBER

H2

OF H77

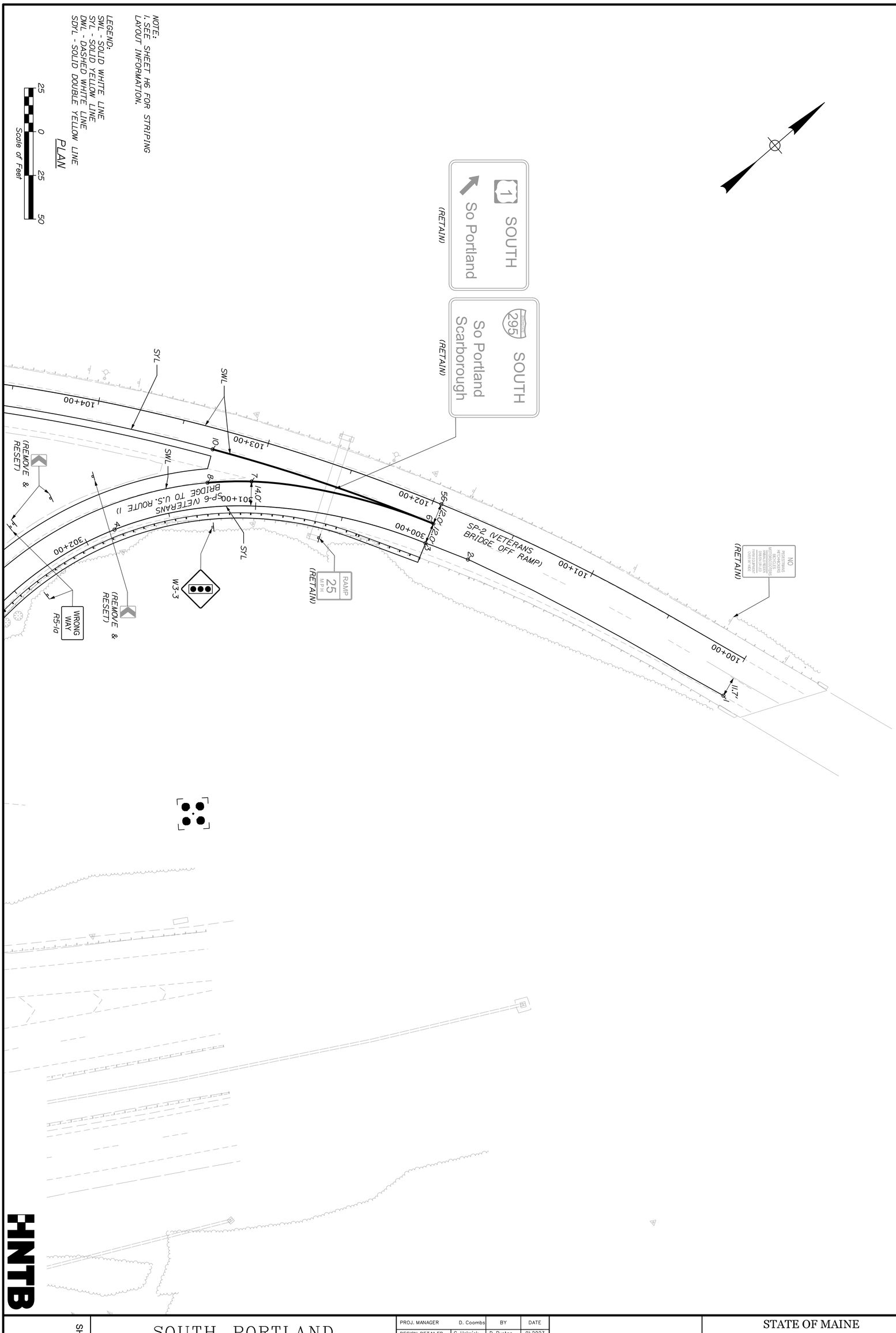
HNTB

NOTE:
1. SEE SHEET H6 FOR STRIPING LAYOUT INFORMATION.

LEGEND:
SWL - SOLID WHITE LINE
SYL - SOLID YELLOW LINE
DWL - DASHED WHITE LINE
SDYL - SOLID DOUBLE YELLOW LINE

PLAN

Scale of Feet 25 0 25 50



HNTB

SHEET NUMBER	SOUTH PORTLAND EXIT 4	PROJ. MANAGER	D. Coombs	BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION
H3	SIGNING & STRIPING PLAN	DESIGN-DETAILED	C. Helmick	D. Burton	9\2023	
OF H77		CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023	SIGNATURE
		DESIGN2-DETAILED2				
		DESIGN3-DETAILED3				P.E. NUMBER
		REVISIONS 1				
		REVISIONS 2				DATE
		REVISIONS 3				
		REVISIONS 4				
		FIELD CHANGES				

1280030

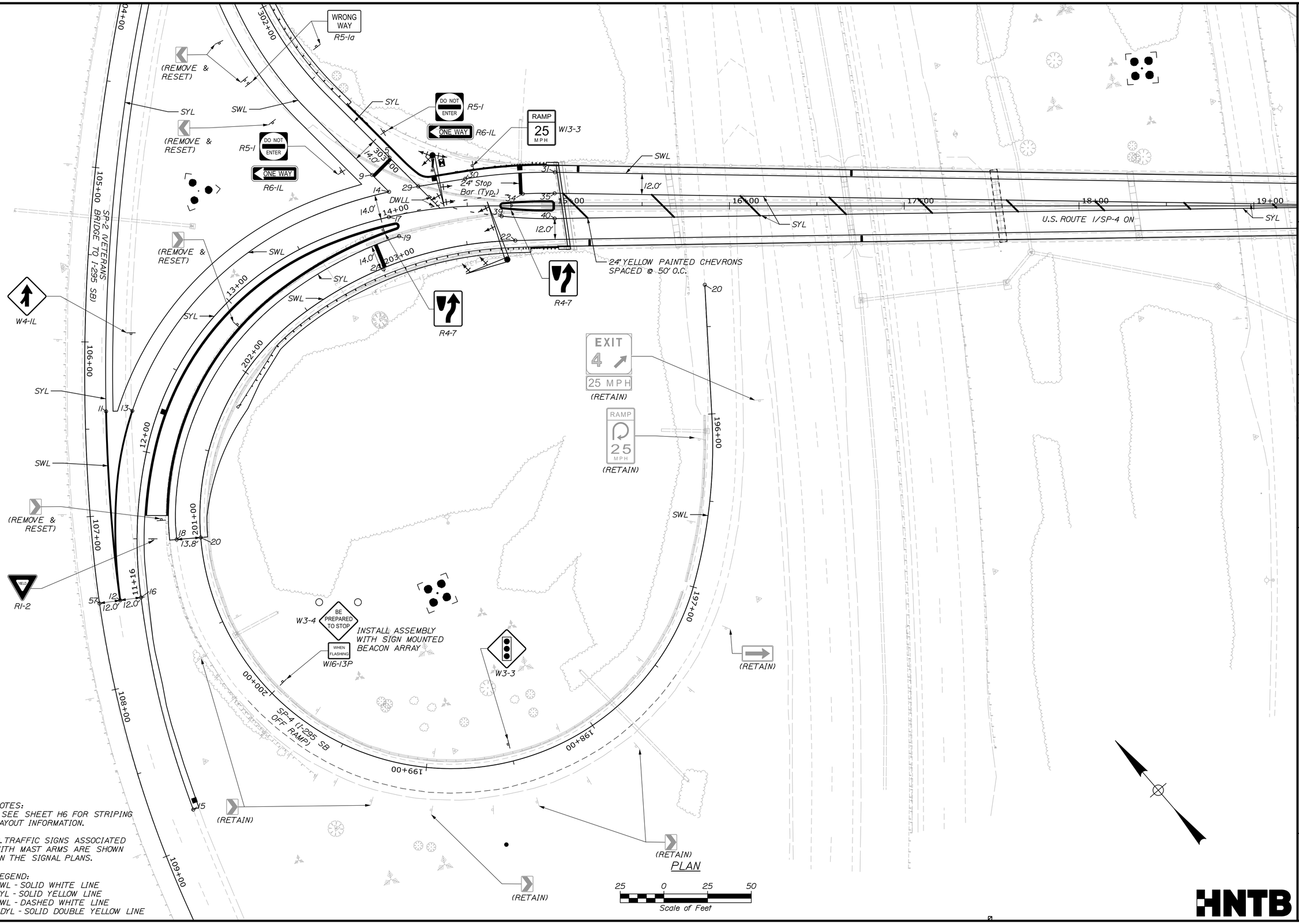
BRIDGE NO. 1376 WIN 12800.30 HIGHWAY PLANS

Username:

Division:

Date:2/14/2024

Filename: H4_Signing&Striping_02.dgn



NOTES:
1. SEE SHEET H6 FOR STRIPING LAYOUT INFORMATION.

2. TRAFFIC SIGNS ASSOCIATED WITH MAST ARMS ARE SHOWN ON THE SIGNAL PLANS.

LEGEND:
SWL - SOLID WHITE LINE
SYL - SOLID YELLOW LINE
DWL - DASHED WHITE LINE
SDYL - SOLID DOUBLE YELLOW LINE

PLAN

25 0 25 50
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SIGNING & STRIPING PLAN

SHEET NUMBER

H4

OF H77

HNTB

Username:

Division:

Date:2/14/2024

Filename: H5_Signing&Striping_03.dgn

TO 1A Portland Waterfront
(REMOVE)

CS-2
TO 1A
Portland Waterfront

CS-1
INTERSTATE 295 1 NORTH
Portland Falmouth

(RETAIN) PATH NARROWS
DO NOT PASS

VETERANS BRIDGE ON RAMP

I-295 NB ON RAMP

PROHIBITED ON THIS HIGHWAY
PEDESTRIANS
HITCHHICKERS
BICYCLES
MOTORSCOOTERS
ANIMALS RIDDEN OR DRIVEN ON LEG
FARM EQUIPMENT OVER 96" WIDE
(RETAIN)

M3-3 SOUTH INTERSTATE 295
M1-1
M6-3

W3-3

24" WHITE PAINTED CHEVRONS SPACED @ 50' O.C.

19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00

U.S. ROUTE 1/SP-4 ON

11.0'
11.0'

SYL
SWL
SDYL

SPEED LIMIT 35
(REMOVE & RESET)

NORTH
INTERSTATE 295 1
Portland Falmouth
(REMOVE)

(REMOVE)

Lincoln St. Knightville
(REMOVE & RESET)

LEGEND:
SWL - SOLID WHITE LINE
SYL - SOLID YELLOW LINE
DWL - DASHED WHITE LINE
SDYL - SOLID DOUBLE YELLOW LINE

NOTE:
1. SEE SHEET H6 FOR STRIPING LAYOUT INFORMATION.

PLAN
25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SIGNING & STRIPING PLAN

SHEET NUMBER

H5

OF H77

POINT	STATION	OFFSET	POINT	STATION	OFFSET	POINT	STATION	OFFSET
1	100+00.00	24.29' LT	21	203+00.00	0.00'	38	32+50.00	0.00'
2	101+68.42	23.20' LT	22	203+77.66	0.00'	39	14+69.66	5.90' RT
3	300+00.00	0.00'	23	20+46.96	11.00' RT	40	15+00.00	7.25' RT
4	301+82.51	0.00'	24A	26+43.70	11.00' RT	41	23+50.00	22.04' LT
5	303+13.00	0.00'	24B	26+54.48	11.23' RT	42A	23+75.00	21.88' LT
6	300+00.00	12.00' RT	25	29+75.00	24.86' RT	42B	24+70.74	21.57' LT
7	301+02.79	14.00' RT	26	30+46.12	27.27' RT	43	25+40.00	21.01' LT
8	301+26.14	14.00' RT	27	31+37.06	29.97' RT	44	26+00.00	21.00' LT
9	303+13.00	14.00' RT	28	32+50.00	30.85' RT	45	23+50.00	53.73' LT
10	103+29.91	12.00' LT	29	14+23.90	14.00' LT	46	24+76.93	40.49' LT
11	106+40.00	12.00' LT	30	14+49.55	15.73' LT	47	26+00.38	33.19' LT
12	107+49.93	12.00' LT	31	15+00.00	19.21' LT	48	28+82.92	23.00' LT
13	12+19.76	14.00' LT	32	20+47.75	11.00' LT	49	31+00.29	15.72' LT
14	14+07.86	14.00' LT	33A	24+70.74	11.00' LT	50	32+50.00	13.37' LT
15	108+80.00	23.82' LT	33B	26+00.83	11.00' LT	51	30+25.00	14.60' RT
16	11+16.00	0.00'	33C	27+00.00	11.00' LT	52	31+24.35	8.01' RT
17	14+04.55	0.00'	33D	28+25.99	13.00' LT	53	32+50.00	6.74' RT
18	201+00.00	13.78' LT	34	14+81.71	6.89' LT	54	31+37.22	18.97' RT
19	203+14.46	14.00' LT	35	15+00.00	7.21' LT	55	32+50.00	19.02' RT
20	195+26.00	0.00'	36	19+85.93	0.00'	56	101+95.00	0.00'
			37	26+50.00	0.00'	57	107+50.00	0.00'

POINT TO POINT	TYPE
1-2-3-4-5-29	6" SYL
6-10	12' SWL
6-7-8	12" SWL
8-9-14	6" SWL
10-11	6" SYL
11-12	12" SWL
12-13	12" SWL
13-14	6" SWL
15-16-17	6" SYL
17-34	6" DWL
18-19	6" SYL
20-21-22-23-24-25-26-27-28	6" SWL
29-30-31-32-33A	6" SWL
29-39	6" DWL
33A-33B-33C-33D	12" SWL
34-35-36	6" SYL
39-40-36	6" SYL
36-37	6" SDYL
37-38	6" SYL
37-51-52-53	6" SYL
41-42A-42B	6" SYL
45-46-47-48-49-50	6" SWL
42B-43-44-33D	12" SWL
54-55	6" SWL
56-57	6" SWL

NORTH 295 1 Portland Falmouth LEFT LANE (REMOVE)

TO 1A Portland Waterfront RIGHT LANE (REMOVE)

NORTH INTERSTATE 295 1 TO 1A Portland Falmouth

CS-4

24" WHITE PAINTED CHEVRONS SPACED @ 50' O.C.

R4-7

24" YELLOW PAINTED CHEVRONS SPACED @ 50' O.C.

(RETAIN) SPEED 30

U.S. ROUTE 1/SP-4 ON

CS-3

INTERSTATE 295 SOUTH South Portland Scarborough

TO SOUTH 77 1 EMERGENCY ROUTE AA (RETAIN)

LEGEND:
SWL - SOLID WHITE LINE
SYL - SOLID YELLOW LINE
DWL - DASHED WHITE LINE
SDYL - SOLID DOUBLE YELLOW LINE

PLAN

25 0 25 50

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Helmick	9\2023
CHECKED-REVIEWED	L. Driscoll	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SIGNING & STRIPING PLAN

SHEET NUMBER

H6

OF H77

HNTB

Filename: H6_Signing&Striping_04.dgn Division: Username: Date:2/14/2024

PROPOSED SIGN SUMMARY

ITEM NUMBER	IDENTIFI-CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)						NUMBER OF SIGNS REQUIRED	COLOR				TOTAL AREA IN SQUARE FEET	POST
		WIDTH	HEIGHT		LETTER HEIGHT		VERTICAL SPACING		ARROW RTE. MKR.			BACK-GROUND		LEGEND BORDER			
645.292	MI-1	36"	36"	INTERSTATE 295	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"						1	COLORS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"				9.00 (9.00)	WOOD POST 6" X 6"
645.292	M3-3	36"	18"	SOUTH							1					4.50 (4.50)	WOOD POST 6" X 6"
645.292	M6-3	30"	21"	↑							1					4.375 (4.375)	WOOD POST 6" X 6"
645.292	RI-2	48"	48"	YIELD							1					8.00 (8.00)	WOOD POST 6" X 6"
643.80	R3-1	24"	24"	↱							1					4.00 (4.00)	MOUNT ON MAST ARM
643.80	R3-2	24"	24"	↰							1					4.00 (4.00)	MOUNT ON MAST ARM
643.80	R3-5a	30"	36"	↑ ONLY							2					7.50 (15.00)	MOUNT ON MAST ARM
643.80	R3-5L	30"	36"	↰ ONLY							1					7.50 (7.50)	MOUNT ON MAST ARM
645.292	R4-7	24"	30"	↰↑							3					5.00 (15.00)	WOOD POST 6" X 6"
645.292	R5-1	30"	30"	DO NOT ENTER							2					6.25 (12.50)	WOOD POST 6" X 6"
645.292	R5-1a	36"	24"	WRONG WAY							2					6.00 (12.00)	WOOD POST 4" X 4"
645.292	R6-1L	36"	12"	ONE WAY							2					3.00 (6.00)	WOOD POST 6" X 6"
645.292	W3-3	48"	48"	◉							3					16.00 (48.00)	WOOD POST 6" X 6"
645.292	W3-4	48"	48"	BE PREPARED TO STOP							1					16.00 (16.00)	*W 6" X 15"
645.292	W4-1L	48"	48"	↰							1					16.00 (16.00)	WOOD POST 6" X 6"
645.292	WI3-3	24"	30"	RAMP 25 MPH							1					5.00 (5.00)	WOOD POST 4" X 4"
645.292	WI6-13P	24"	18"	WHEN FLASHING							1					3.00 (3.00)	*W 6" X 15"

*SIGN ASSEMBLY POST AND FOUNDATION SIZING SHALL UTILIZE POST SIZING TABLE FROM STANDARD DETAIL 645(06). POST SHALL BE INSTALLED WITH A BREAKAWAY DEVICE.

GUIDE SIGN SUMMARY

ITEM NUMBER	IDENTIFI-CATION NUMBER	SIZE OF SIGN		TEXT	LOCATION
		WIDTH	HEIGHT		
645.12	CS-1	198"	162"	INTERSTATE 295 1 NORTH Portland Falmouth ↖	PROPOSED OVERHEAD SIGN STA. 22+29, 34.8' LT.
645.12	CS-2	162"	162"	TO 1A Portland Waterfront ↗	PROPOSED OVERHEAD SIGN STA. 22+31, 58.6' LT.
645.251	CS-3	222"	162"	INTERSTATE 295 SOUTH South Portland Scarborough ↖	EXISTING OVERHEAD SIGN STA. 27+78, 6.1' LT.
645.251	CS-4	204"	150"	NORTH TO INTERSTATE 295 1 1A Portland Falmouth ↗	EXISTING OVERHEAD SIGN STA. 27+79, 20.6' LT.

NOTE: GUIDE SIGN LOCATION ON OVERHEAD SIGN STRUCTURES ARE APPROXIMATE

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

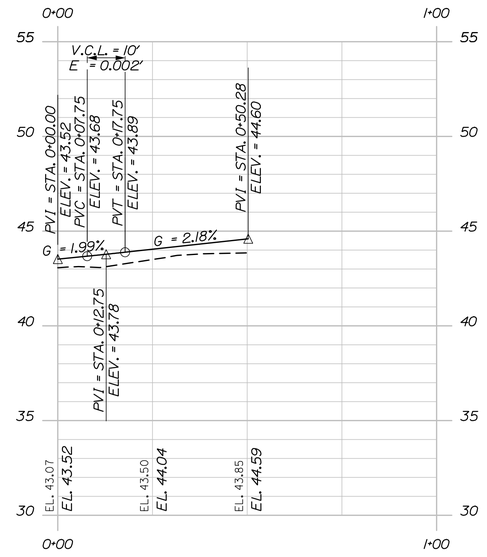
PROPOSED SIGN SUMMARY

SHEET NUMBER

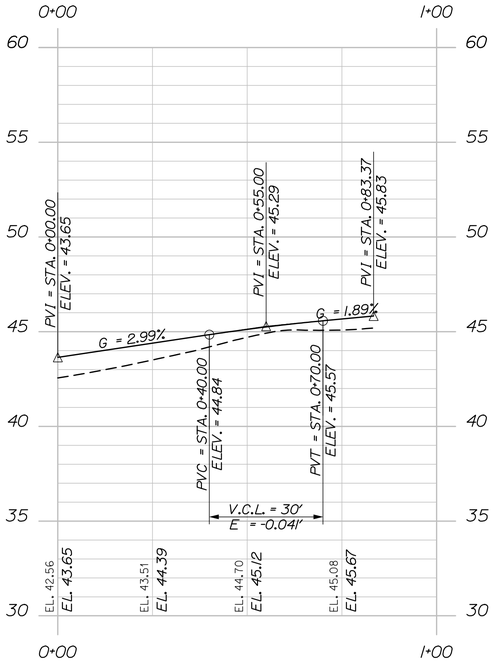
H7

OF H77

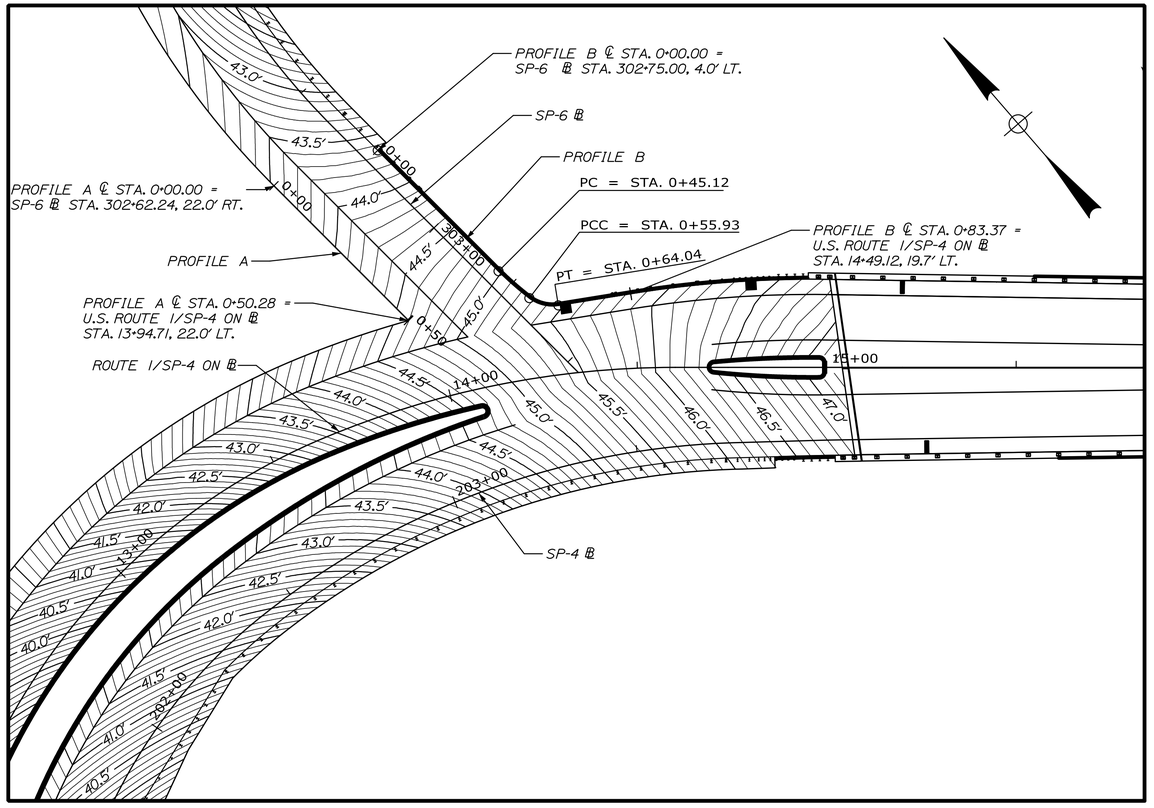
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PROFILE A



PROFILE B



NOTE: CONTOURS SHOWN AT 0.1 FOOT INTERVALS

INTERSECTION OF U.S. ROUTE 1/SP-4 ON / SP-6 / SP-4

Horiz. 20 0 20 40

Vert. 4 0 4 8

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

INTERSECTION GRADING PLANS

SHEET NUMBER

H8

OF H77

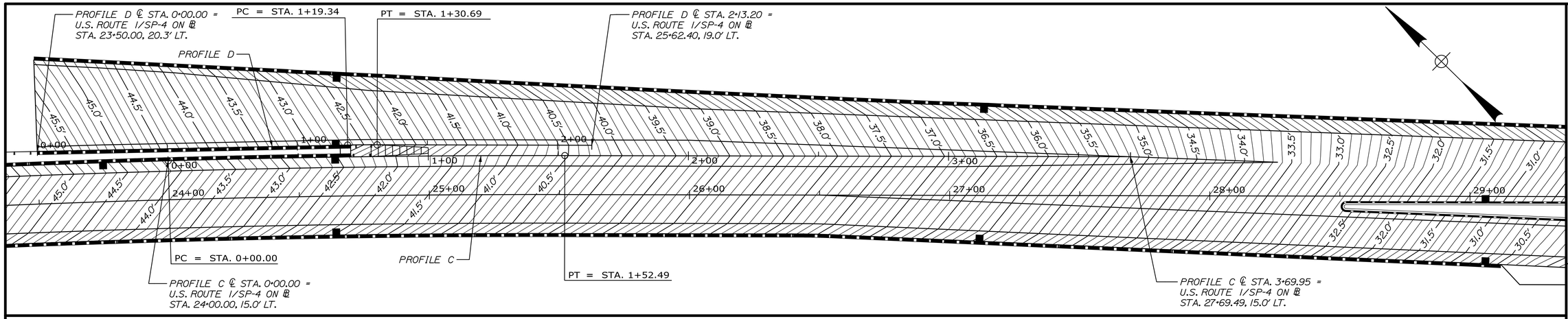
HNTB

Date:2/14/2024

Username:

Division:

Filename: H8_Grading_Plan_01.dgn



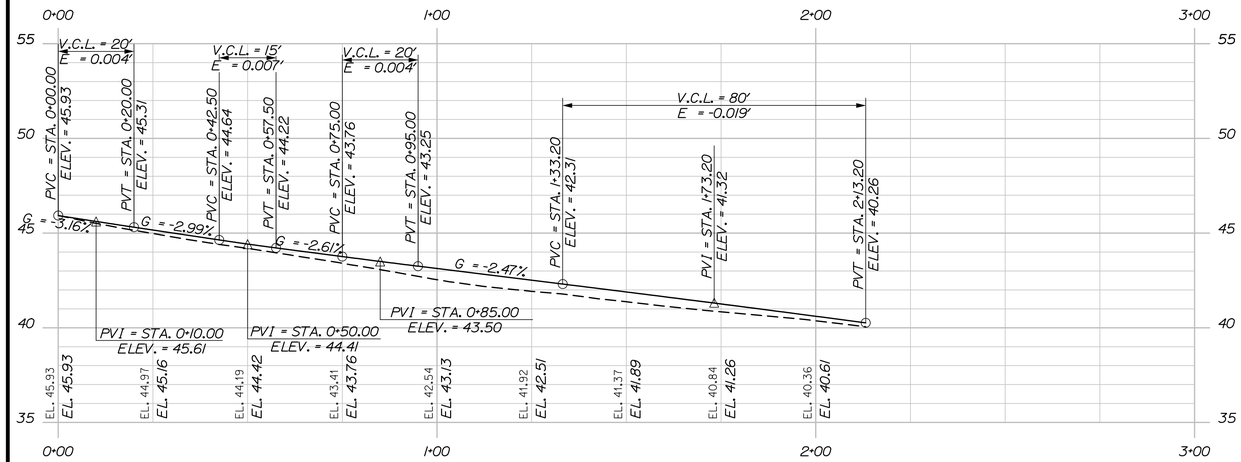
NOTE: CONTOURS SHOWN AT 0.1 FOOT INTERVALS

GORE GRADING OF U.S. ROUTE 1/SP-4 ON - I-295 NB RAMP/ VETERANS BRIDGE RAMP

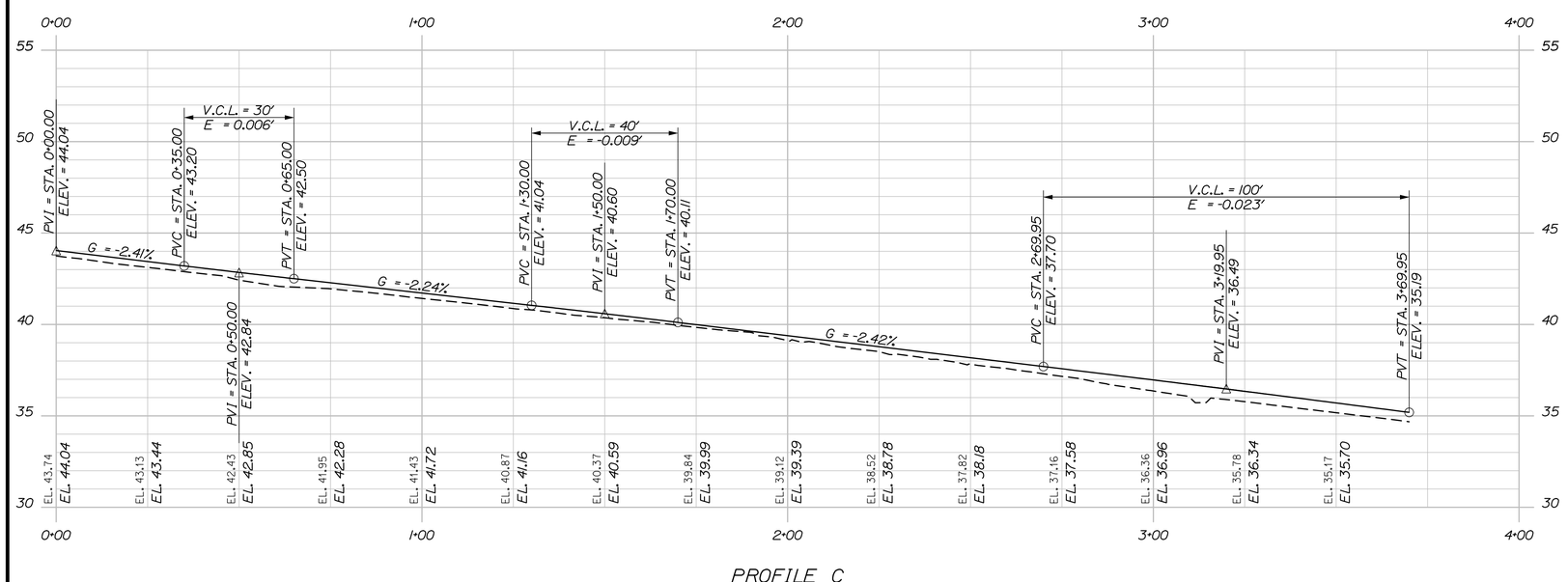
Horiz. 20 0 20 40

Vert. 4 0 4 8

Scale of Feet



PROFILE D



PROFILE C

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

P.E. NUMBER

SIGNATURE

DATE

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SOUTH PORTLAND
EXIT 4

INTERSECTION GRADING PLANS

SHEET NUMBER

H9

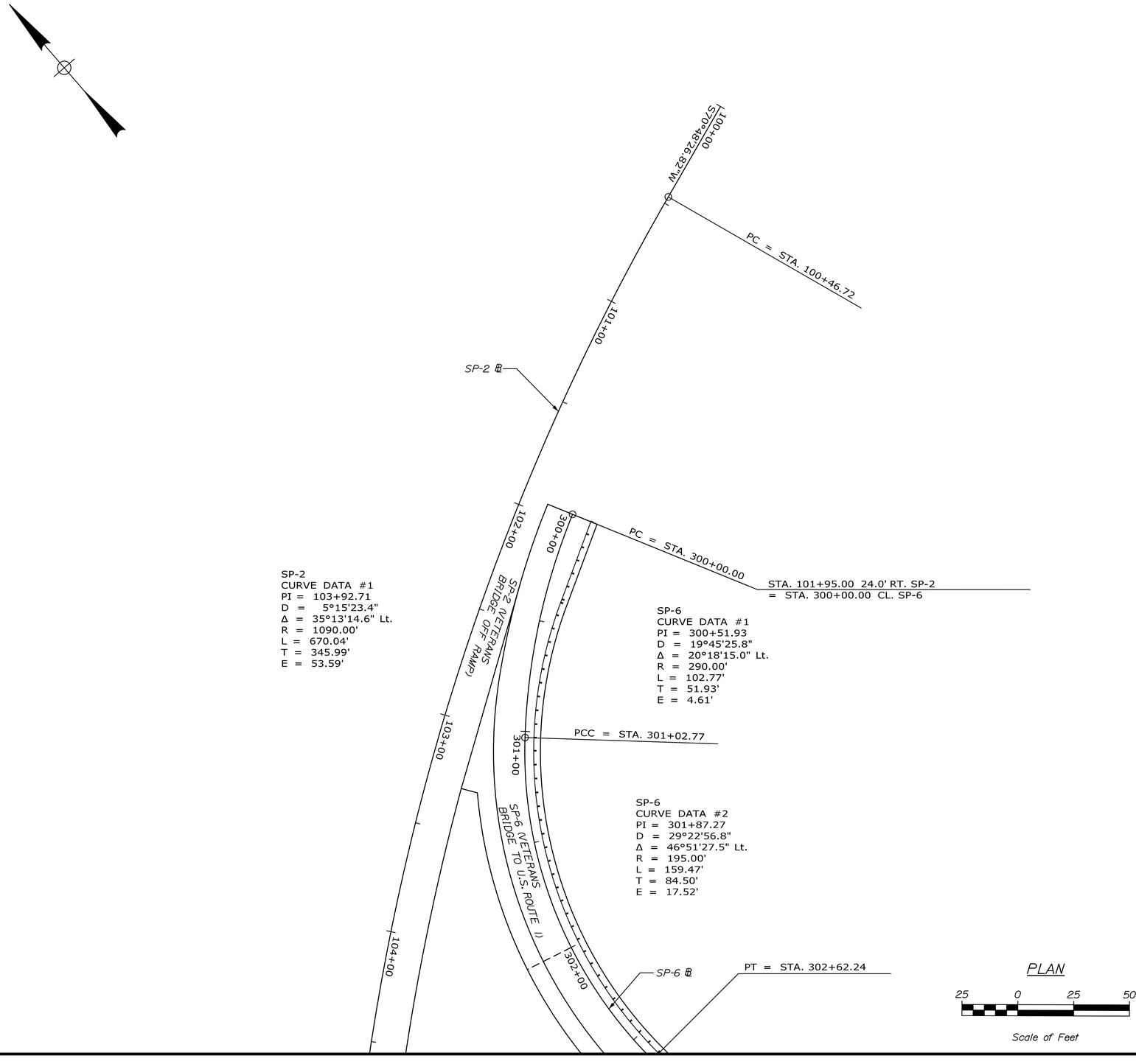
OF H77

Date:2/14/2024

Username:

Division:

Filename: H9_Grading_Plan_02.dgn



SP-2
CURVE DATA #1
PI = 103+92.71
D = 5°15'23.4"
Δ = 35°13'14.6" Lt.
R = 1090.00'
L = 670.04'
T = 345.99'
E = 53.59'

SP-6
CURVE DATA #1
PI = 300+51.93
D = 19°45'25.8"
Δ = 20°18'15.0" Lt.
R = 290.00'
L = 102.77'
T = 51.93'
E = 4.61'

SP-6
CURVE DATA #2
PI = 301+87.27
D = 29°22'56.8"
Δ = 46°51'27.5" Lt.
R = 195.00'
L = 159.47'
T = 84.50'
E = 17.52'

PROJ. MANAGER	D. Cosmbsl	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN HIGHWAY PLANS

BRIDGE NO. 1376 **12800.30**

SOUTH PORTLAND
EXIT 4

GEOMETRIC PLANS

SHEET NUMBER

H10

OF H77

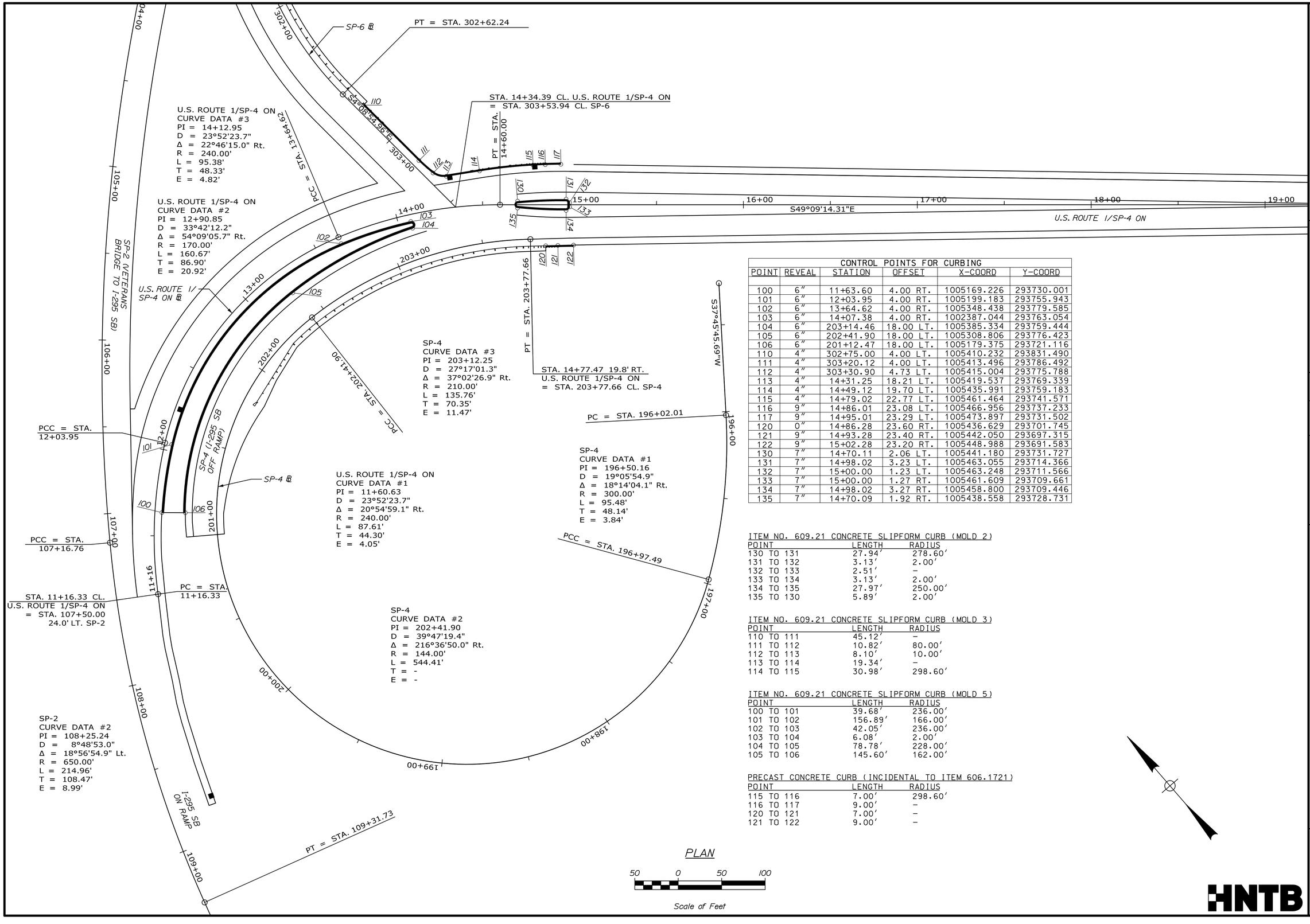
HNTB

Username:

Date:2/14/2024

Division:

Filename: H10_Geometric_01.dgn



CONTROL POINTS FOR CURBING					
POINT	REVEAL	STATION	OFFSET	X-COORD	Y-COORD
100	6″	11+63.60	4.00 RT.	1005169.226	293730.001
101	6″	12+03.95	4.00 RT.	1005199.183	293755.943
102	6″	13+64.62	4.00 RT.	1005348.438	293779.585
103	6″	14+07.38	4.00 RT.	1002387.044	293763.054
104	6″	203+14.46	18.00 LT.	1005385.334	293759.444
105	6″	202+41.90	18.00 LT.	1005308.806	293776.423
106	6″	201+12.47	18.00 LT.	1005179.375	293721.116
110	4″	302+75.00	4.00 LT.	1005410.232	293831.490
111	4″	303+20.12	4.00 LT.	1005413.496	293786.492
112	4″	303+30.90	4.73 LT.	1005415.004	293775.788
113	4″	14+31.25	18.21 LT.	1005419.537	293769.339
114	4″	14+49.12	19.70 LT.	1005435.991	293759.183
115	4″	14+79.02	22.77 LT.	1005461.464	293741.571
116	9″	14+86.01	23.08 LT.	1005466.956	293737.233
117	9″	14+95.01	23.29 LT.	1005473.897	293731.502
120	0″	14+86.28	23.60 RT.	1005436.629	293701.745
121	9″	14+93.28	23.40 RT.	1005442.050	293697.315
122	9″	15+02.28	23.20 RT.	1005448.988	293691.583
130	7″	14+70.11	2.06 LT.	1005441.180	293731.727
131	7″	14+98.02	3.23 LT.	1005463.055	293714.366
132	7″	15+00.00	1.23 LT.	1005463.248	293711.566
133	7″	15+00.00	1.27 RT.	1005461.609	293709.661
134	7″	14+98.02	3.27 RT.	1005458.800	293709.446
135	7″	14+70.09	1.92 RT.	1005438.558	293728.731

ITEM NO. 609.21 CONCRETE SLIPFORM CURB (MOLD 2)

POINT	LENGTH	RADIUS
130 TO 131	27.94′	278.60′
131 TO 132	3.13′	2.00′
132 TO 133	2.51′	–
133 TO 134	3.13′	2.00′
134 TO 135	27.97′	250.00′
135 TO 130	5.89′	2.00′

ITEM NO. 609.21 CONCRETE SLIPFORM CURB (MOLD 3)

POINT	LENGTH	RADIUS
110 TO 111	45.12′	–
111 TO 112	10.82′	80.00′
112 TO 113	8.10′	10.00′
113 TO 114	19.34′	–
114 TO 115	30.98′	298.60′

ITEM NO. 609.21 CONCRETE SLIPFORM CURB (MOLD 5)

POINT	LENGTH	RADIUS
100 TO 101	39.68′	236.00′
101 TO 102	156.89′	166.00′
102 TO 103	42.05′	236.00′
103 TO 104	6.08′	2.00′
104 TO 105	78.78′	228.00′
105 TO 106	145.60′	162.00′

PRECAST CONCRETE CURB (INCIDENTAL TO ITEM 606.1721)

POINT	LENGTH	RADIUS
115 TO 116	7.00′	298.60′
116 TO 117	9.00′	–
120 TO 121	7.00′	–
121 TO 122	9.00′	–

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\3\2023
CHECKED-REVIEWED	L. D'Iscoll	R. Hanf	9\3\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

GEOMETRIC PLANS

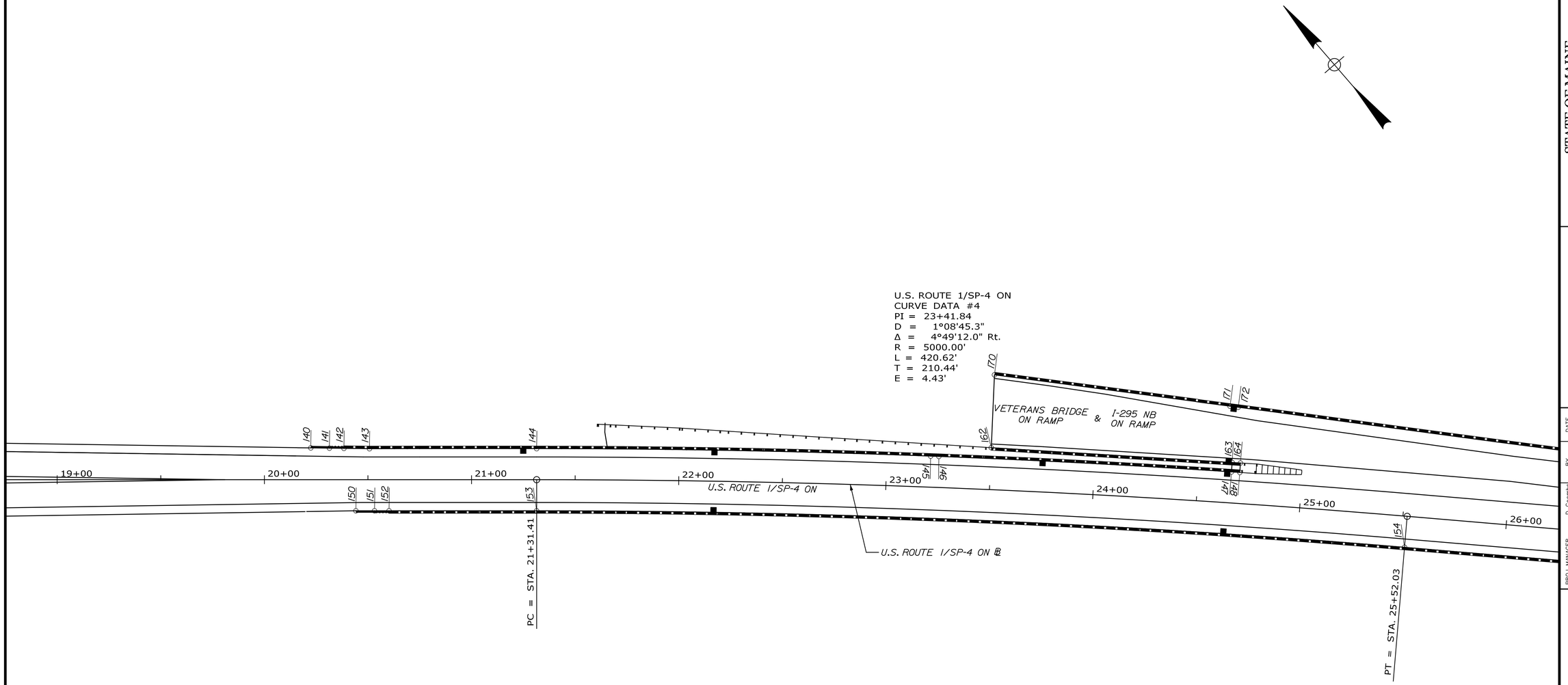
SHEET NUMBER

H11

OF H77

HNTB

Filename: H11_Geometric_02.dgn Division: Username: Date:2/14/2024



CONTROL POINTS FOR CURBING					
POINT	REVEAL	STATION	OFFSET	X-COORD	Y-COORD
140	9″	20+22.41	15.38 LT.	1005867.659	293380.570
141	9″	20+31.41	15.23 LT.	1005874.393	293374.583
142	4″	20+38.41	15.13 LT.	1005879.628	293369.935
143	4″	20+50.76	14.97 LT.	1005888.850	293361.740
144	4″	21+31.41	15.00 LT.	1005949.892	293309.011
145	4″	23+21.01	15.00 LT.	1006091.360	293181.935
146	4″	23+25.00	15.00 LT.	1006094.284	293179.205
147	4″	24+66.01	15.00 LT.	1006196.239	293081.186
148	0″	24+70.00	15.00 LT.	1006199.075	293078.365
150	9″	20+44.18	15.00 RT.	1005864.287	293343.362
151	9″	20+53.17	15.00 RT.	1005871.087	293337.487
152	4″	20+60.17	15.00 RT.	1005876.382	293332.909
153	4″	21+31.41	15.00 RT.	1005930.272	293286.317
154	4″	25+52.03	15.00 RT.	1006235.602	292999.030
162	4″	23+50.00	20.26 LT.	1006116.172	293165.864
163	4″	24+66.02	19.57 LT.	1006199.440	293084.418
164	0″	24+70.00	19.52 LT.	1006202.300	293081.621
170	7″	23+50.00	55.44 LT.	1006140.323	293191.446
171	7″	24+63.20	46.60 LT.	1006216.431	293105.662
172	7″	24+67.14	46.36 LT.	1006219.092	293102.674

NOTES:

1. WHERE PROPOSED CURB MATCHES EXISTING CURB, REVEAL MAY NEED TO BE ADJUSTED TO MATCH EXISTING. SECTIONS OF CURB WITHIN CURB REVEAL TRANSITION WILL BE PAID UNDER THE NOTED CURB PAYMENT ITEM.

2. CONTRACTOR SHALL USE EXISTING TYPE 1 AND TYPE 5 CURB AT LOCATIONS WHERE PROPOSED CURB IS SHOWN ON THE PLANS BEFORE INSTALLING NEW CURB. FOR ESTIMATING PURPOSES, 90% OF EXISTING CURB WAS ASSUMED TO BE RE-USABLE.

PRECAST CONCRETE CURB (INCIDENTAL TO ITEM 606.1721)

POINT	LENGTH	RADIUS
140 TO 141	7.00′	–
141 TO 142	9.00′	–
150 TO 151	7.00′	–
151 TO 152	9.00′	–

ITEM NO. 609.11 VERTICAL CURB TYPE 1
OR 609.38 RESET CURB TYPE 1

POINT	LENGTH	RADIUS
142 TO 143	12.34′	–
143 TO 144	80.66′	–
144 TO 145	190.17′	5015.00′
145 TO 146	4.00′	5015.00′
146 TO 147	141.44′	5015.00′
152 TO 153	71.23′	–
153 TO 154	419.36′	4985.00′
154 TO 155	91.67′	–
162 TO 163	116.48′	–
170 TO 171	114.68′	–
172 TO 173	245.09′	–

ITEM NO. 609.234 TERMINAL CURB TYPE 1-4 FOOT

POINT	LENGTH	RADIUS
147 TO 148	4.00′	5015.00′
163 TO 164	4.00′	–

PLAN

50 0 50 100

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

GEOMETRIC PLANS

SHEET NUMBER

H12

OF H77

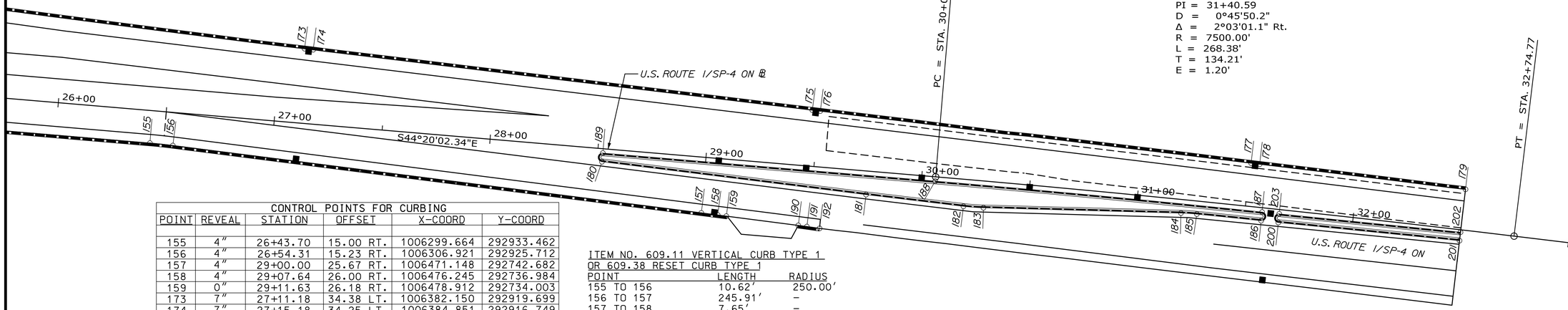
HNTB

Username:

Date:2/14/2024

Division:

Filename: H12_Geometric_03.dgn



U.S. ROUTE1/SP-4 ON
CURVE DATA #5
PI = 31+40.59
D = 0°45'50.2"
Δ = 2°03'01.1" Rt.
R = 7500.00'
L = 268.38'
T = 134.21'
E = 1.20'

CONTROL POINTS FOR CURBING

POINT	REVEAL	STATION	OFFSET	X-COORD	Y-COORD
155	4″	26+43.70	15.00 RT.	1006299.664	292933.462
156	4″	26+54.31	15.23 RT.	1006306.921	292925.712
157	4″	29+00.00	25.67 RT.	1006471.148	292742.682
158	4″	29+07.64	26.00 RT.	1006476.245	292736.984
159	0″	29+11.63	26.18 RT.	1006478.912	292734.003
173	7″	27+11.18	34.38 LT.	1006382.150	292919.699
174	7″	27+15.18	34.25 LT.	1006384.851	292916.749
175	7″	29+46.77	25.88 LT.	1006540.708	292745.240
176	7″	29+50.78	25.73 LT.	1006543.398	292742.280
177	7″	31+50.57	19.96 LT.	1006678.157	292594.105
178	7″	31+54.55	19.86 LT.	1006680.821	292591.120
179	7″	32+50.00	18.76 LT.	1006745.081	292520.207
180	5″	28+52.32	6.00 RT	1006451.892	292790.532
181	5″	29+75.07	10.86 RT.	1006534.203	292699.335
182	5″	30+20.32	12.45 RT.	1006564.665	292665.863
183	5″	30+29.60	12.32 RT.	1006571.211	292659.307
184	5″	31+20.72	6.27 RT.	1006638.577	292597.829
185	5″	31+28.07	6.00 RT.	1006643.818	292592.680
186	5″	31+57.93	6.00 RT.	1006664.278	292570.961
187	5″	31+57.93	2.00 RT.	1006667.195	292573.698
188	5″	30+06.39	2.00 RT.	1006562.422	292683.125
189	5″	28+52.40	2.00 RT.	1006454.808	292793.270
190	0″	29+45.09	27.65 RT.	1006501.241	292709.043
191	7″	29+49.09	27.84 RT.	1006503.881	292706.039
192	7″	29+55.00	28.17 RT.	1006507.790	292701.589
200	5″	31+65.91	6.00 RT.	1006669.730	292565.144
201	5″	32+50.00	5.04 RT.	1006727.525	292504.136
202	5″	32+50.00	1.12 RT.	1006730.417	292506.783
203	5″	32+65.88	2.00 RT.	1006672.635	292567.894

ITEM NO. 609.11 VERTICAL CURB TYPE 1
OR 609.38 RESET CURB TYPE 1

POINT	LENGTH	RADIUS
155 TO 156	10.62′	250.00′
156 TO 157	245.91′	–
157 TO 158	7.65′	–
158 TO 159	4.00′	–
174 TO 175	231.75′	–
176 TO 177	200.29′	–
177 TO 178	4.00′	–
178 TO 179	95.70′	–
191 TO 192	5.92′	–

ITEM NO. 609.40 RESET CURB TYPE 5

POINT	LENGTH	RADIUS
180 TO 181	122.86′	–
181 TO 182	45.27′	–
182 TO 183	9.27′	100.00′
183 TO 184	91.19′	–
184 TO 185	7.34′	100.00′
185 TO 186	29.84′	7494.00′
186 TO 187	6.28′	2.00′
187 TO 188	151.50′	7498.00′
188 TO 189	153.99′	–
189 TO 180	6.21′	2.00′
200 TO 201	84.04′	–
202 TO 203	84.10′	–
203 TO 200	6.27′	2.00′

ITEM NO. 609.234 TERMINAL CURB TYPE 1-4 FOOT

POINT	LENGTH	RADIUS
158 TO 159	4.00′	–
190 TO 191	4.00′	–

NOTES:
1. WHERE PROPOSED CURB MATCHES EXISTING CURB, REVEAL MAY NEED TO BE ADJUSTED TO MATCH EXISTING SECTIONS OF CURB WITHIN CURB REVEAL TRANSITION WILL BE PAID UNDER THE NOTED CURB PAYMENT ITEM.

2. CONTRACTOR SHALL USE EXISTING TYPE 1 AND TYPE 5 CURB AT LOCATIONS WHERE PROPOSED CURB IS SHOWN ON THE PLANS BEFORE INSTALLING NEW CURB. FOR ESTIMATING PURPOSES, 90% OF EXISTING CURB WAS ASSUMED TO BE RE-USABLE.

PLAN

50 0 50 100

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

		DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Helmick	BY 9\2023
CHECKED-REVIEWED	L. Driscoll	D. Burton 9\2023
DESIGN2-DETAILED2		R. Hanf
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

GEOMETRIC PLANS

SHEET NUMBER

H13

OF H77

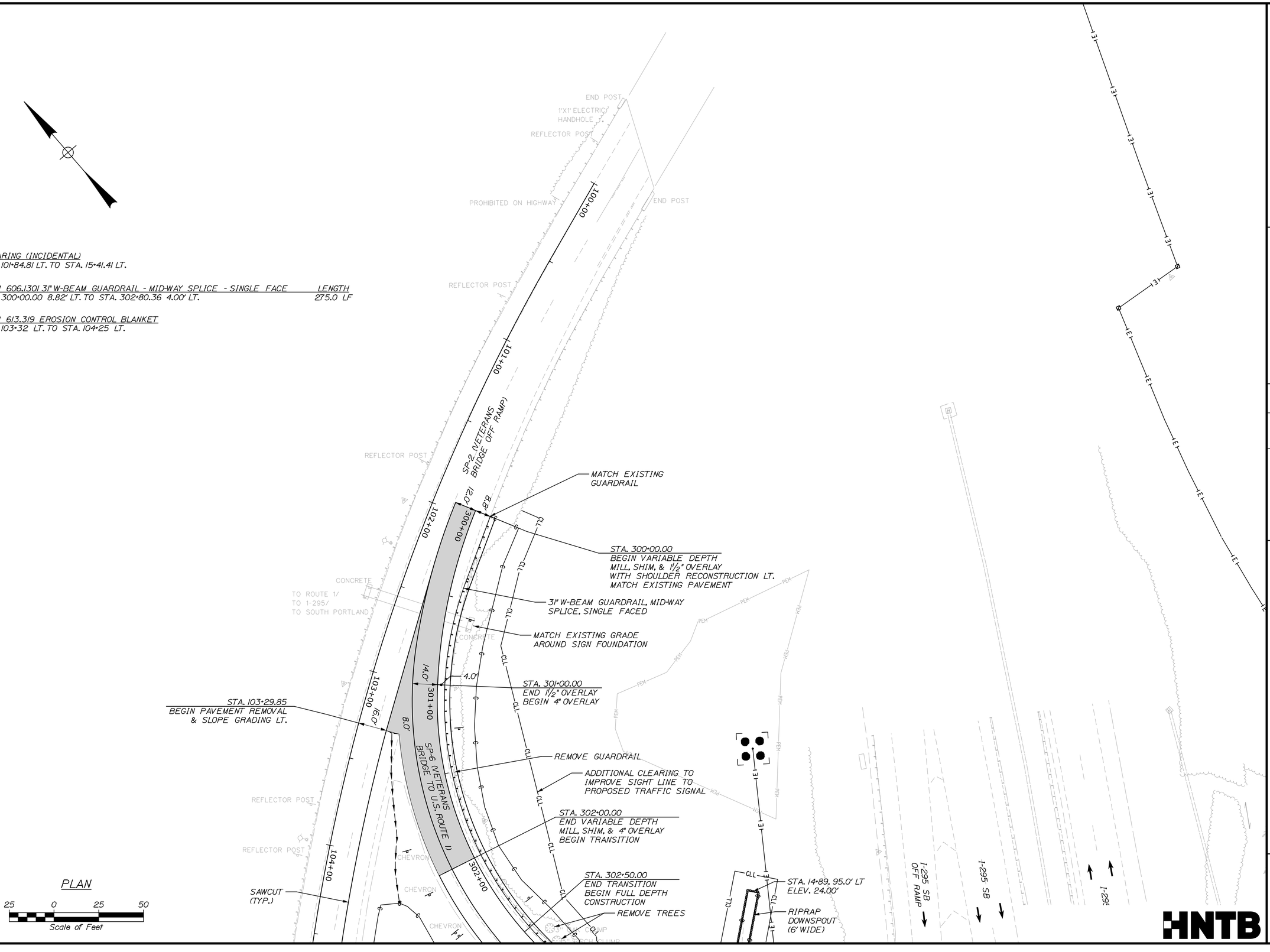
Filename: H13_Geometric_04.dgn Division: Username: Date:2/14/2024

Date:2/14/2024
Username:
Division:
Filename: H14_HDPlan_01.dgn

CLEARING (INCIDENTAL)
STA. 101+84.81 LT. TO STA. 15+41.41 LT.

ITEM 606.1301 31" W-BEAM GUARDRAIL - MID-WAY SPLICE - SINGLE FACE	LENGTH
STA. 300+00.00 8.82' LT. TO STA. 302+80.36 4.00' LT.	275.0 LF

ITEM 613.319 EROSION CONTROL BLANKET
STA. 103+32 LT. TO STA. 104+25 LT.



PLAN
25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30
BRIDGE NO. 1376

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	D. Burton	9\2023
CHECKED-REVIEWED	C. Helmick	
DESIGN2-DETAILED2	R. Hanf	9\2023
CHECKED-REVIEWED2	L. Driscoll	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

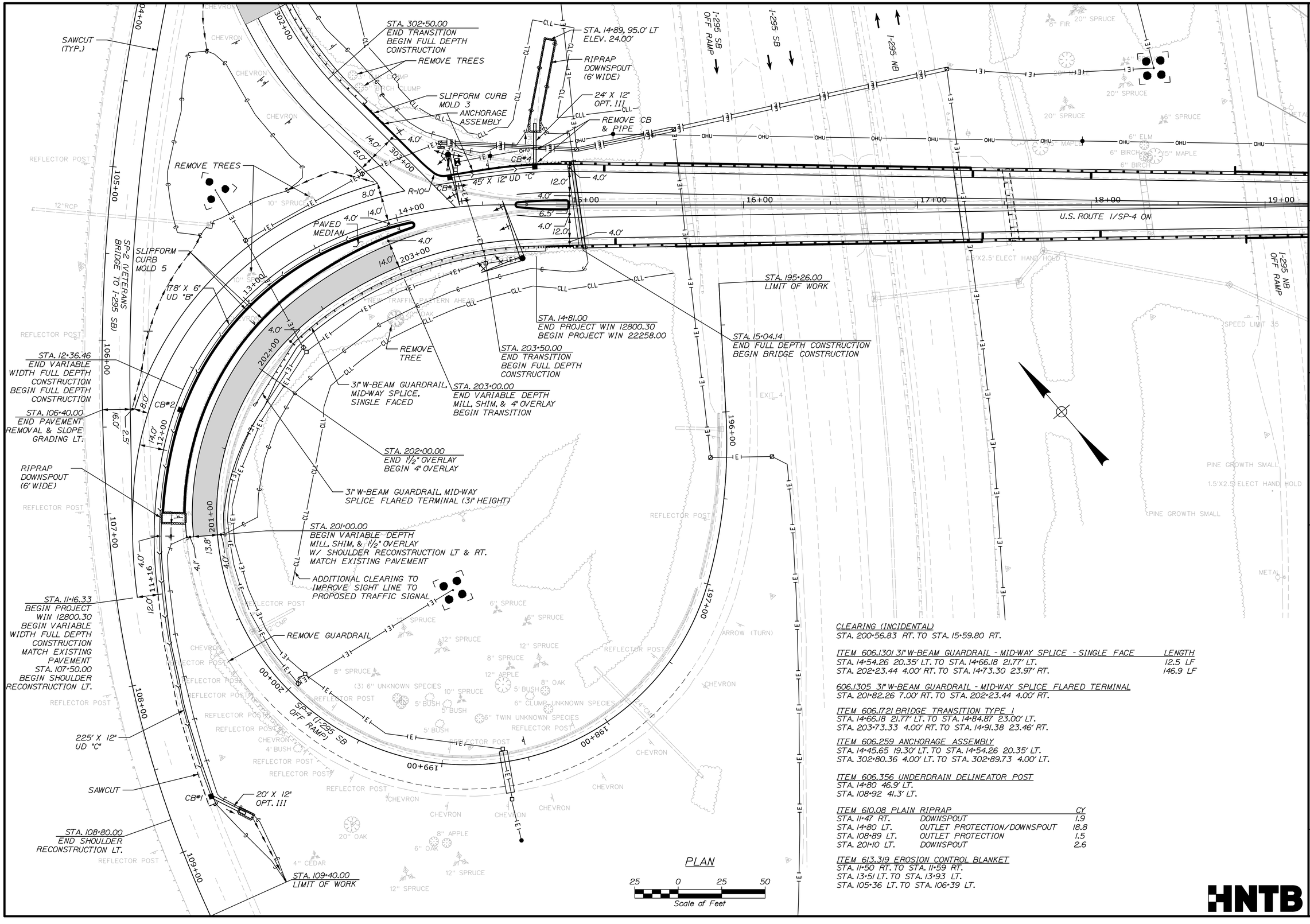
P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

PLAN

SHEET NUMBER
H14
OF H77



PLAN

25 0 25 50

Scale of Feet

CLEARING (INCIDENTAL)
STA. 200+56.83 RT. TO STA. 15+59.80 RT.

ITEM 606.1301 31" W-BEAM GUARDRAIL - MID-WAY SPLICE - SINGLE FACE	LENGTH
STA. 14+54.26 20.35' LT. TO STA. 14+66.18 21.77' LT.	12.5 LF
STA. 202+23.44 4.00' RT. TO STA. 14+73.30 23.97' RT.	146.9 LF

ITEM 606.1305 31" W-BEAM GUARDRAIL - MID-WAY SPLICE FLARED TERMINAL
STA. 201+82.26 7.00' RT. TO STA. 202+23.44 4.00' RT.

ITEM 606.1721 BRIDGE TRANSITION TYPE I
STA. 14+66.18 21.77' LT. TO STA. 14+84.87 23.00' LT.
STA. 203+73.33 4.00' RT. TO STA. 14+91.38 23.46' RT.

ITEM 606.259 ANCHORAGE ASSEMBLY
STA. 14+45.65 19.30' LT. TO STA. 14+54.26 20.35' LT.
STA. 302+80.36 4.00' LT. TO STA. 302+89.73 4.00' LT.

ITEM 606.356 UNDERDRAIN DELINEATOR POST
STA. 14+80 46.9' LT.
STA. 108+92 41.3' LT.

ITEM 610.08 PLAIN RIPRAP		CY
STA. 11+47 RT.	DOWNSPOUT	1.9
STA. 14+80 LT.	OUTLET PROTECTION/DOWNSPOUT	18.8
STA. 108+89 LT.	OUTLET PROTECTION	1.5
STA. 201+10 LT.	DOWNSPOUT	2.6

ITEM 613.319 EROSION CONTROL BLANKET
STA. 11+50 RT. TO STA. 11+59 RT.
STA. 13+51 LT. TO STA. 13+93 LT.
STA. 105+36 LT. TO STA. 106+39 LT.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Helmick	9\2023
CHECKED-REVIEWED	L. Driscoll	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

PLAN

SHEET NUMBER

H15

OF H77

Date:2/14/2024

Username:

Division:

Filename: H15_HDPlan_02.dgn

Username:

Division:

Date:10/23/2024

Filename: H16_HDPlan_03.dgn

1 LINCOLN LLC

PORTLAND TERMINAL COMPANY (HIGHWAY EASEMENT - SEE C.C.R.D. 2223/44)

S.H.C. FILE NO. 3-77

CONTROL OF ACCESS SEE 3-185, SHEET 27 OF 73

REMOVE AND RESET CHAIN LINK FENCE

PROPOSED OVERHEAD SIGN STRUCTURE

N/F NORTH AVENUE

OSTERMAN PROPANE LLC

STA. 23+50.00 LT.
BEGIN PARTIAL DEPTH CONSTRUCTION
MATCH EXISTING PAVEMENT

UTILITY POLE BY OTHERS

THRIE BEAM TRANSITION SECTION, MATCH EXISTING GUARDRAIL

THRIE BEAM TRANSITION SECTION

N/F CENTRAL AVENUE

CONTROL OF ACCESS SEE 3-185, SHEET 28 OF 73

S.H.C. FILE NO. 3-77

VETERANS BRIDGE ON RAMP

31" W-BEAM GUARDRAIL, MID-WAY SPLICE, SINGLE FACED

I-295 NB ON RAMP

UTILITY POLE BY OTHERS

THRIE BEAM GUARDRAIL, SINGLE FACED

IMPACT ATTENUATOR

ADJUST CB TO GRADE

REMOVE CB

REMOVE PIPE

REMOVE GUARDRAIL

PLAIN RIPRAP (2' DEPTH)

I-295 NB OFF RAMP

S.H.C. FILE NO. 3-185

S.H.C. FILE NO. 3-77

UTILITY POLE BY OTHERS

UTILITY POLE BY OTHERS

CSX RAILROAD

PORTLAND TERMINAL CO. (HIGHWAY EASEMENT - SEE C.C.R.D. 3005/432)

CONTROL OF ACCESS SEE 3-185 SHEET 28 OF 73

CONTROL OF ACCESS SEE 3-96 SHEET 3 & 4 OF 27

S.H.C. FILE NO. 3-96

PORTLAND TERMINAL COMPANY

SPRAGUE OPERATING RESOURCES, LLC

STA. 21+00.00
END PROJECT WIN 22258.00
END TRANSITION
BEGIN PROJECT WIN 12800.30
BEGIN PARTIAL DEPTH CONSTRUCTION
BEGIN SHOULDER WIDENING RT.

STA. 20+50.00
END PARTIAL DEPTH CONSTRUCTION
BEGIN TRANSITION

STA. 20+19.78
END BRIDGE CONSTRUCTION
BEGIN FULL DEPTH CONSTRUCTION

31" W-BEAM GUARDRAIL, MID-WAY SPLICE, SINGLE FACED (8' POSTS)

NOTES:

1. EXISTING GUARDRAIL OR FENCE WILL BE ALLOWED TO BE TEMPORARILY REMOVED FOR ACCESS FOR INSTALLATION OF POLES AND FOUNDATIONS BEHIND GUARDRAIL OR FENCE. APPROPRIATE TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE USED AT AREAS OF GUEARDRAIL REMOVAL. LENGTH OF GUARDRAIL OR FENCE REMOVED SHALL BE THE MINIMUM NECESSARY FOR ACCESS. GUARDRAIL OR FENCE SHALL BE RESET AS AS PRACTICABLE. PAYMENT FOR GUARDRAIL OR FENCE REMOVAL AND RESETTING WILL BE INCIDENTAL TO THE CONTRACT.

2. ADDITIONAL CLEARING WILL BE ALLOWED FOR ACCESS FOR INSTALLATION OF POLES AND FOUNDATIONS BEHIND GUARDRAIL OR FENCE. AREA OF ADDITIONAL CLEARING SHALL BE THE MINIMUM NECESSARY FOR ACCESS. PAYMENT FOR ADDITIONAL CLEARING WILL BE INCIDENTAL TO THE CONTRACT.

PLAN

25 0 25 50
Scale of Feet

ITEM 202.15 REMOVING EXISTING MANHOLE OR CATCH BASIN
STA. 24+64.30 9.95' RT.

CLEARING (INCIDENTAL)
STA. 19+89.82 LT. TO STA. 21+49.91 LT.
STA. 20+10.18 RT. TO STA. 20+78.27 RT.
STA. 20+89.04 RT. TO STA 21+25.11 RT.

ITEM 606.1301 31" W-BEAM GUARDRAIL - MID-WAY SPLICE - SINGLE FACE	LENGTH
STA. 20+50.76 15.00' LT. TO STA. 21+97.42 15.00' LT.	146.9 LF
STA. 20+72.18 15.00' RT. TO STA. 23+35.30 15.00' RT. (8' POSTS)	262.5 LF
STA. 23+35.30 15.00' RT. TO STA. 28+48.27 23.47' RT.	512.5 LF

ITEM 606.1721 BRIDGE TRANSITION TYPE I
STA. 20+32.66 15.21' LT. TO STA. 20+50.74 15.00' LT.
STA. 20+53.17 15.00' RT. TO STA. 20+72.18 15.00' RT.

ITEM 606.356 UNDERDRAIN DELINEATOR POST
STA. 24+67 80.4' LT.

ITEM 606.65 GUARDRAIL THRIE BEAM - SINGLE RAIL	LENGTH
STA. 21+66.76 26.64' LT. TO STA. 24+77.79 19.63' LT.	312.5 LF
STA. 22+03.65 15.00' LT. TO STA. 24+77.83 15.00' LT.	275.0 LF

ITEM 606.70 TRANSITION SECTION - THRIE BEAM
STA. 21+60.55 26.87' LT. TO STA. 21+66.76 26.64' LT.
STA. 21+97.42 15.00' LT. TO STA. 22+03.65 15.00' LT.

ITEM 606.95 LOW MAINTENANCE/SELF RESTORING CRASH CUSHION
STA. 24+77.83 17.32' LT. TO STA. 24+99.75 17.15' LT.

ITEM 607.24 REMOVING AND RESET FENCE	LENGTH
STA. 22+12.71 85.33' LT. TO STA. 22+51.98 81.07' LT.	40.0 LF

610.08 PLAIN RIPRAP		CY
STA. 21+75 RT. TO STA. 22+25 (2' DEPTH)	SLOPE PROTECTION	30.7
STA. 24+66 LT.	OUTLET PROTECTION	2.1

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Helmick	10\2024
CHECKED-REVIEWED	D. Burton	10\2024
DESIGN2-DETAILED2	L. Driscoll	R. Hanf
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

PLAN

SHEET NUMBER

H16

OF H77

SPRAGUE OPERATING RESOURCES, LLC

SPRAGUE OPERATING RESOURCES, LLC

19 SOUTH STREET LLC

PETRO PIPE RISER

PETRO PIPE RISER

PETRO PIPE LINE

PETRO PIPE RISER

S.H.C. FILE NO. 3-77

NO VISIBLE PIPE (BURIED)

STA. 29+55.00 LT.
END PARTIAL DEPTH CONSTRUCTION
BEGIN VARIABLE DEPTH
MILL, SHIM, & 4" OVERLAY

STA. 32+50.00
END PROJECT WIN 12800.30
END PARTIAL DEPTH CONSTRUCTION
END VARIABLE DEPTH
MILL, SHIM, & 1½" OVERLAY LT. & RT.
MATCH EXISTING PAVEMENT
LIMIT OF WORK

STA. 30+00.00 LT.
END 4" OVERLAY
BEGIN 1½" OVERLAY

ADJUST CB TO GRADE

REMOVE CB & PIPE

ADJUST CB TO GRADE

REMOVE CB & PIPES

ADJUST CB TO GRADE

SAWCUT (TYP.)

22' X 12" RCP

37' X 12" UD "C"

46' X 6" UD "B"

48' X 12" UD "C"

48' X 12" UD "C"

59' X 12" UD "C"

45' X 15" RCP

22.2:1 TAPER

188' X 6" UD "B"

20' X 12" RCP

10.6'

10:1 TAPER

5.0'±

12.2'

10.0'

11.0'

11.0'

4.0'

26+00

27+00

28+00

29+00

30+00

31+00

32+00

33+00

CB#10

CB#11

CB#12

CB#13

CB#14

CB#15

CB#16

5.0'±

12.0'

13.0'

2.0'

4.1'

12.0'

2.0'

11.0'

11.0'

2.0'

1.7'

5.4'

13.4'

3.9'

12.3'

11.8'

4.1'

1.1'

SIGN BASE

4' H

ROUTE SIGN

SIGN BASE

SIGN BASE

6"X6" GRANITE H MON UP 0.3'

6' H /BARB WIRE ON TOP

2" IRON PIPE 2"UP

2" PIN FLUSH WITH X

TO ROUTE 77 SOUTH ROUTE 1

1HX1' ELECTRIC HANDHOLD

U.S. ROUTE 1/SP-4 ON

UTILITY POLE BY OTHERS

UTILITY POLE BY OTHERS

UTILITY POLE BY OTHERS

UTILITY POLE BY OTHERS

UTILITY POLE BY OTHERS

UTILITY POLE BY OTHERS

STA. 27+00.00 RT.
END 4" OVERLAY
BEGIN 1½" OVERLAY

ANCHORAGE ASSEMBLY

REMOVE GUARDRAIL

STA. 29+55.00
END SHOULDER WIDENING RT.

REMOVE CB & PIPE

STA. 26+50.00 RT
BEGIN VARIABLE WIDTH AND DEPTH
MILL, SHIM, & 4" OVERLAY

S.H.C. FILE NO. 3-77

SPRAGUE OPERATING RESOURCES, LLC

ROMAN CATHOLIC BISHOP OF PORTLAND

ITEM 202.15 REMOVING EXISTING MANHOLE OR CATCH BASIN
STA. 27+12.43 12.52' LT.
STA. 29+11.47 7.55' RT.
STA. 29+46.98 6.89' LT.
STA. 29+50.81 27.02' RT.

DRIVEWAYS AND ENTRANCES

LOCATION	DESCRIPTION	OPENING
STA. 29+25.00 RT.	PAVED	33'

ITEM 606.259 ANCHORAGE ASSEMBLY
STA. 28+48.27 23.47' RT. TO STA. 28+57.65 23.89' RT.

ITEM 606.356 UNDERDRAIN DELINEATOR POST
STA. 27+16 74.3' LT.
STA. 29+50 63.4' LT.
STA. 31+46 69.8' LT.

610.08 PLAIN RIPRAP

		CY
STA. 27+15 LT.	OUTLET PROTECTION	2.1
STA. 29+49 LT.	OUTLET PROTECTION	1.1
STA. 31+46 LT.	OUTLET PROTECTION	2.1

PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED	D. Coombs	D. Burton	9\2023
CHECKED-REVIEWED	C. Helmick	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

PLAN

SHEET NUMBER

H17

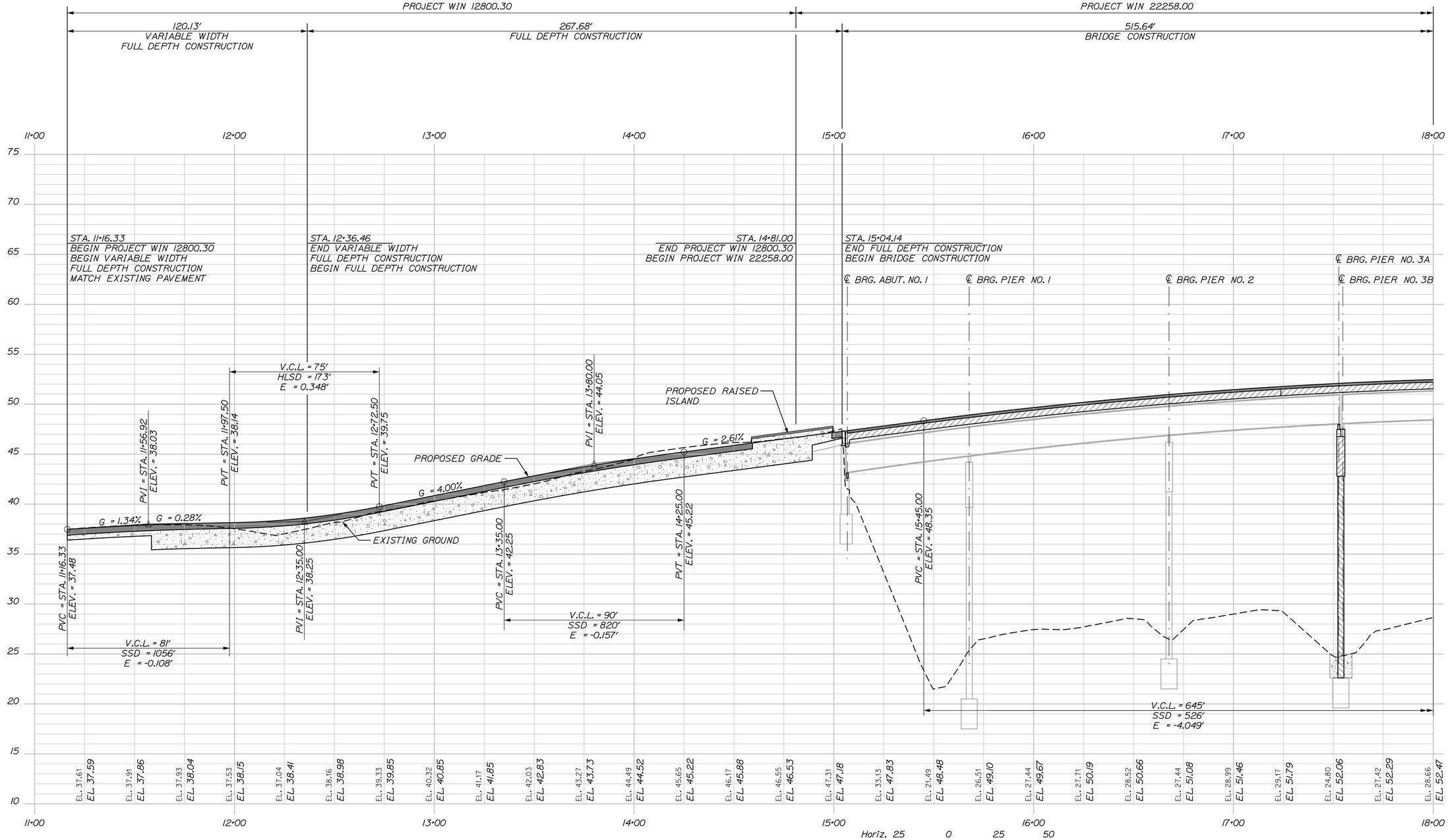
OF H77

Date:2/14/2024

Username:

Division:

Filename: H17_HDPlan_04.dgn



NOTE: MATERIAL DEPTHS SHOWN REPRESENT MATERIAL DEPTHS IMMEDIATELY TO THE LEFT OF THE BASELINE

U.S. ROUTE 1/SP-4 ON PROFILE

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

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Hélmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

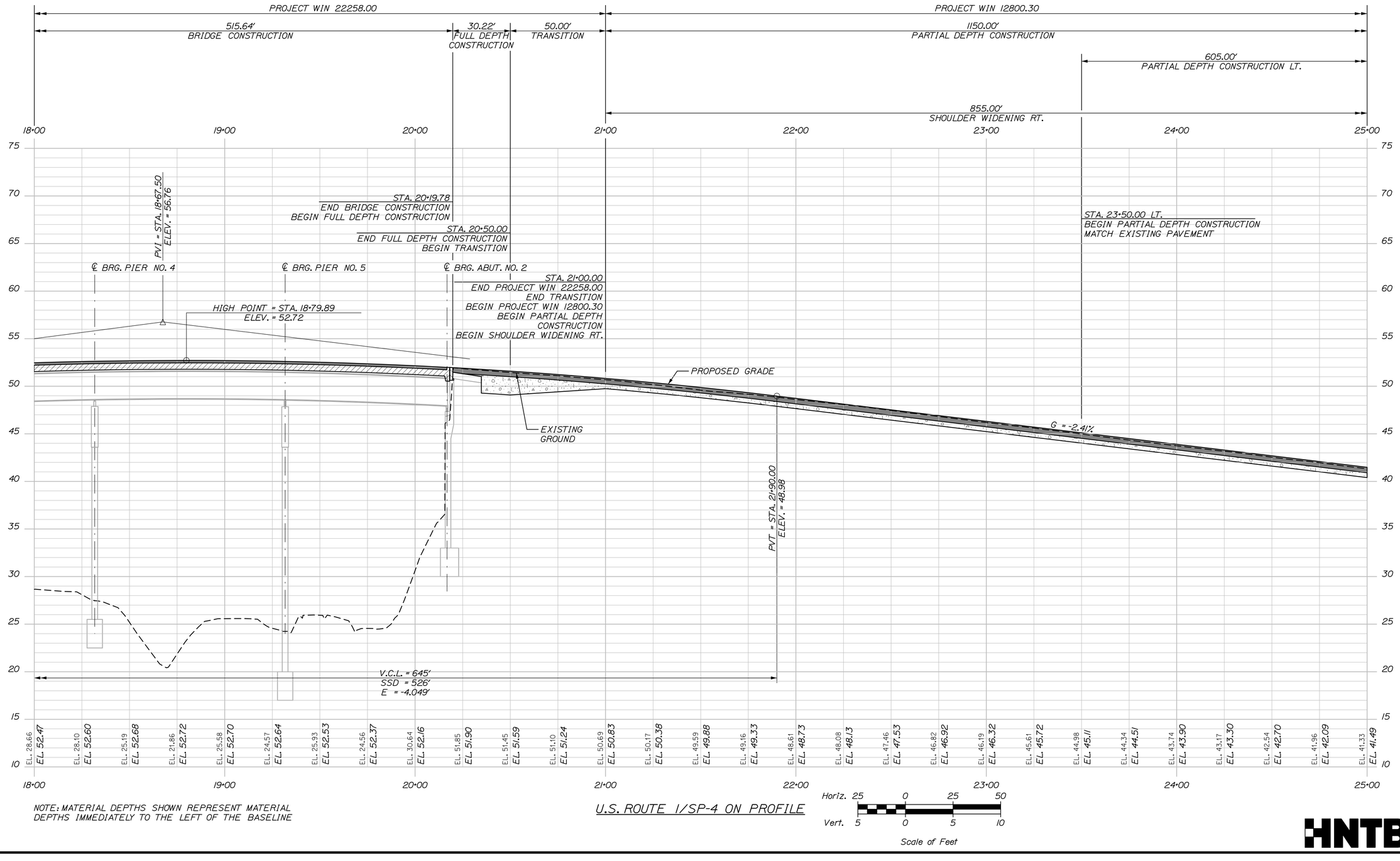
PROFILE

SHEET NUMBER

H18

OF H77

Date:2/14/2024
Username:
Division:
Filename: H18_Profiles_01.dgn



NOTE: MATERIAL DEPTHS SHOWN REPRESENT MATERIAL DEPTHS IMMEDIATELY TO THE LEFT OF THE BASELINE

U.S. ROUTE 1/SP-4 ON PROFILE

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

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

		SIGNATURE	P.E. NUMBER	DATE
PROJ. MANAGER	D. Coombs			
DESIGN-DETAILED	C. Helmick			
CHECKED-REVIEWED	L. Driscoll			
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				

	BY	DATE
REVISIONS 1	D. Burton	9\2023
REVISIONS 2	R. Hanf	9\2023
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SOUTH PORTLAND
EXIT 4

PROFILE

SHEET NUMBER

H19

OF H77

Date:2/14/2024
Username:
Division:
Filename: H19_Profiles_02.dgn

Filename: H20_Profiles_03.dgn Username: Division: Date:2/14/2024

PROJECT WIN 12800.30
1150.00'
PARTIAL DEPTH CONSTRUCTION
50.00' VARIABLE WIDTH AND DEPTH MILL, SHIM, & 4" OVERLAY RT.
550.00' VARIABLE WIDTH AND DEPTH MILL, SHIM, & 1½" OVERLAY RT.
605.00' PARTIAL DEPTH CONSTRUCTION LT.
45.00' VARIABLE DEPTH MILL, SHIM, & 4" OVERLAY LT.
250.00' VARIABLE DEPTH MILL, SHIM, & 1½" OVERLAY LT.
855.00' SHOULDER WIDENING RT.

STA. 26+50.00 RT.
BEGIN VARIABLE WIDTH AND DEPTH MILL, SHIM, & 4" OVERLAY

STA. 27+00.00 RT.
END 4" OVERLAY
BEGIN 1½" OVERLAY

STA. 29+55.00 LT.
END PARTIAL DEPTH CONSTRUCTION
BEGIN VARIABLE DEPTH MILL, SHIM, & 4" OVERLAY

STA. 29+55.00
END SHOULDER WIDENING RT.

STA. 30+00.00 LT.
END 4" OVERLAY
BEGIN 1½" OVERLAY

PROPOSED GRADE
G = -2.41%
G = -2.71%
G = -2.49%
EXISTING GROUND

PVC = STA. 26+70.00
ELEV. = 37.38

PVI = STA. 27+50.00
ELEV. = 35.45

PVT = STA. 28+30.00
ELEV. = 33.28

V.C.L. = 160'
SSD = 373.8'
E = -0.059'

PVC = STA. 29+10.00
ELEV. = 31.12

PVI = STA. 29+80.00
ELEV. = 29.22

V.C.L. = 140'
HLSD = 238.5'
E = 0.038'

PVT = STA. 30+50.00
ELEV. = 27.47

25+00	26+00	27+00	28+00	29+00	30+00	31+00	32+00
EL. 41.33	EL. 40.75	EL. 40.15	EL. 39.52	EL. 38.96	EL. 38.41	EL. 37.74	EL. 37.07
EL. 41.49	EL. 40.89	EL. 40.28	EL. 39.68	EL. 39.07	EL. 38.47	EL. 37.87	EL. 37.26
EL. 36.46	EL. 35.85	EL. 35.24	EL. 34.61	EL. 33.91	EL. 33.58	EL. 32.84	EL. 32.17
EL. 36.65	EL. 36.03	EL. 35.39	EL. 34.75	EL. 34.09	EL. 33.42	EL. 32.74	EL. 32.07
EL. 31.45	EL. 30.74	EL. 30.07	EL. 29.55	EL. 28.96	EL. 28.31	EL. 27.70	EL. 27.11
EL. 31.39	EL. 30.71	EL. 30.05	EL. 29.39	EL. 28.74	EL. 28.10	EL. 27.47	EL. 26.85
EL. 26.38	EL. 25.80	EL. 24.97	EL. 24.29	EL. 23.71			
EL. 26.23	EL. 25.60	EL. 24.98	EL. 24.36	EL. 23.73			

NOTE: MATERIAL DEPTHS SHOWN REPRESENT MATERIAL DEPTHS IMMEDIATELY TO THE LEFT OF THE BASELINE

U.S. ROUTE 1/SP-4 ON PROFILE

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

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30
BRIDGE NO. 1376

HIGHWAY PLANS

SIGNATURE

P.E. NUMBER

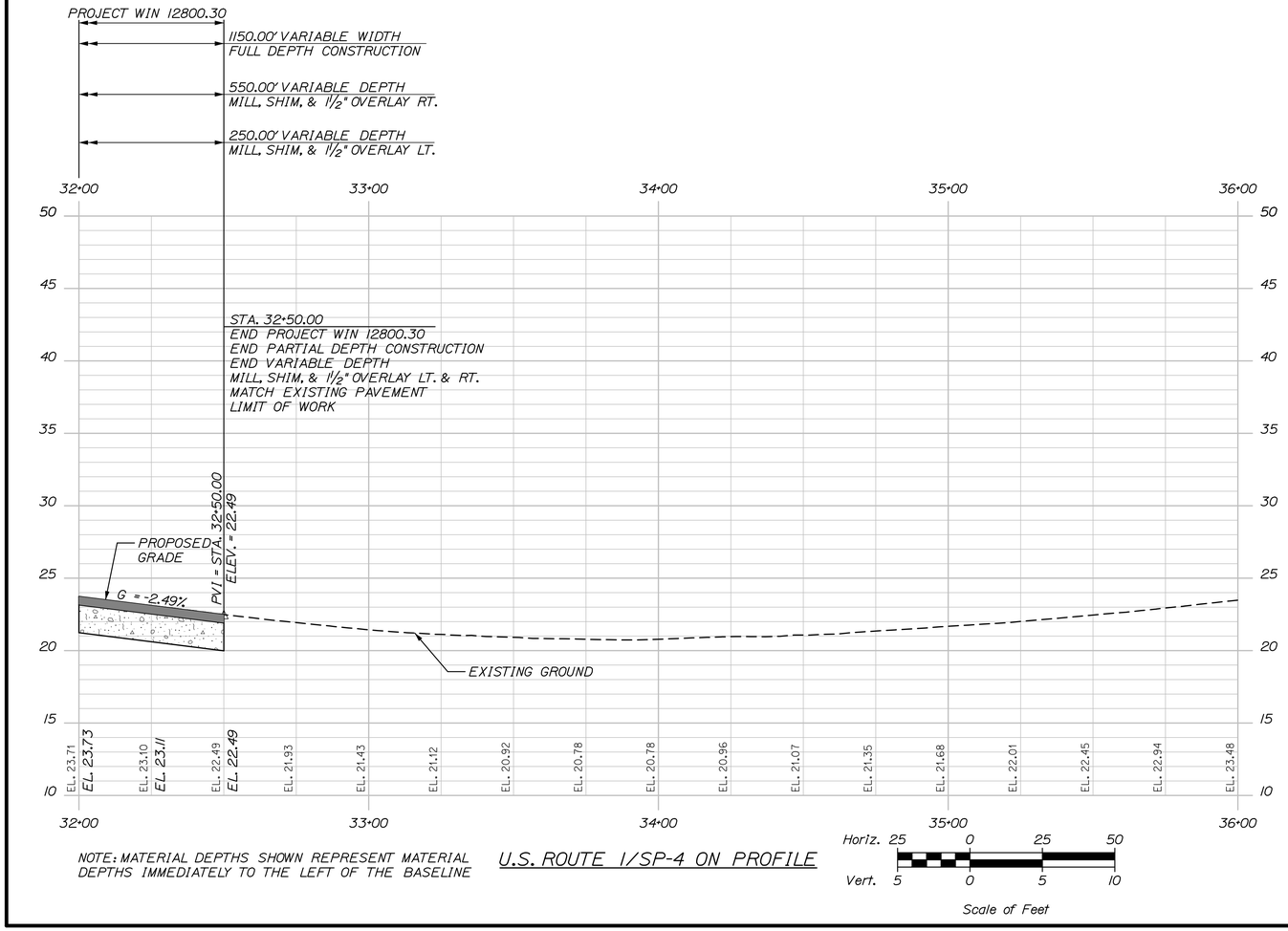
DATE

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	D. Burton	9\2023
CHECKED-REVIEWED	C. Helmick	
DESIGN2-DETAILED2	L. Driscoll	
DESIGN3-DETAILED3	R. Hanf	9\2023
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SOUTH PORTLAND
EXIT 4

PROFILE

SHEET NUMBER
H20
OF H77



NOTE: MATERIAL DEPTHS SHOWN REPRESENT MATERIAL DEPTHS IMMEDIATELY TO THE LEFT OF THE BASELINE

U.S. ROUTE 1/SP-4 ON PROFILE

HNTB

Username:

Date:2/14/2024

Division:

Filename: H21_Profiles_04.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

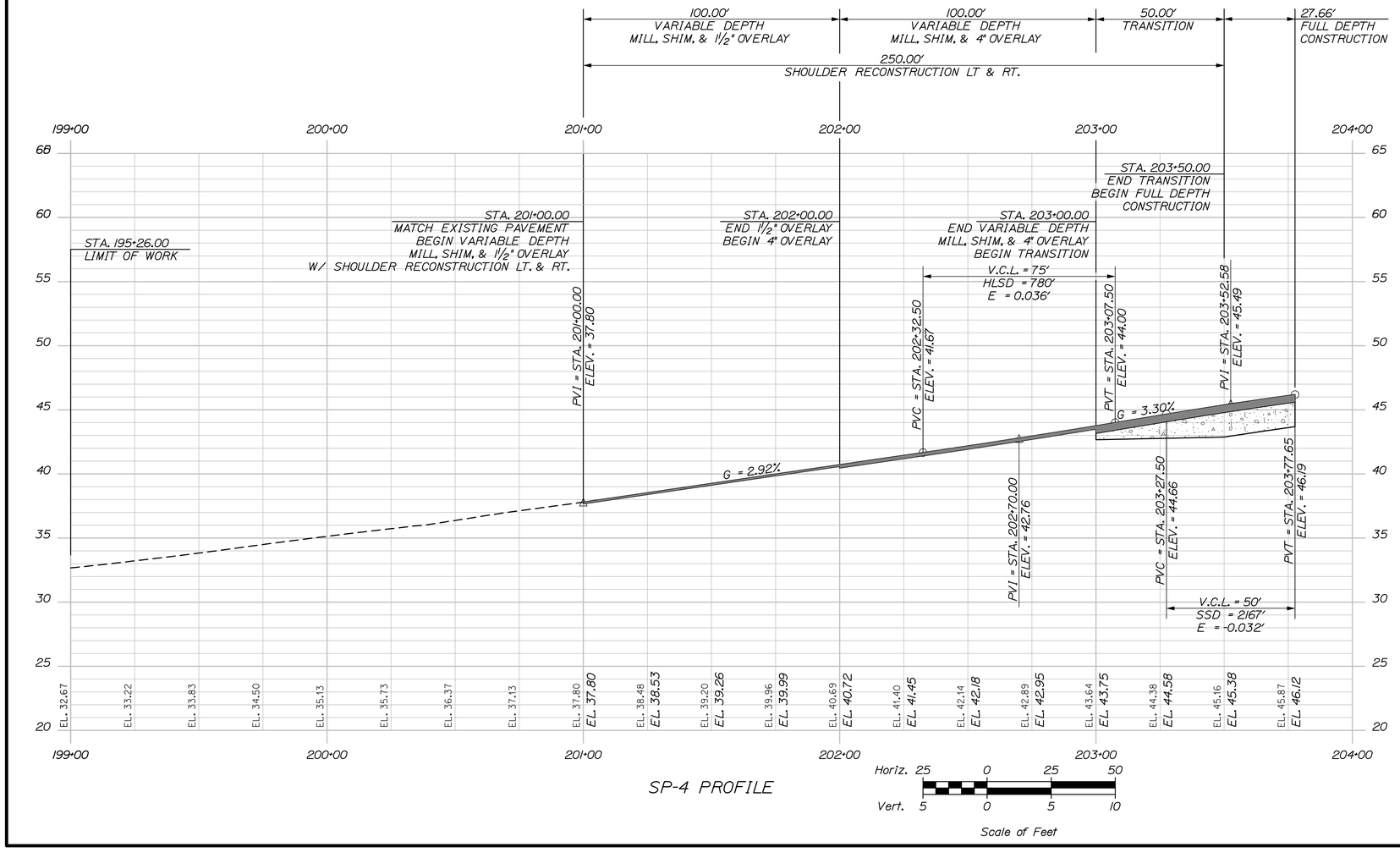
PROFILE

SHEET NUMBER

H21

OF H77

Filename: H22_Profiles_05.dgn Division: Username: Date:2/14/2024



SP-4 PROFILE

HNTB

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	1280030	WIN 12800.30 HIGHWAY PLANS
		BRIDGE NO. 1376

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	D. Burton	9\2023
CHECKED-REVIEWED	C. Helmick	9\2023
DESIGN2-DETAILED2	L. Driscoll	R. Hanf
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

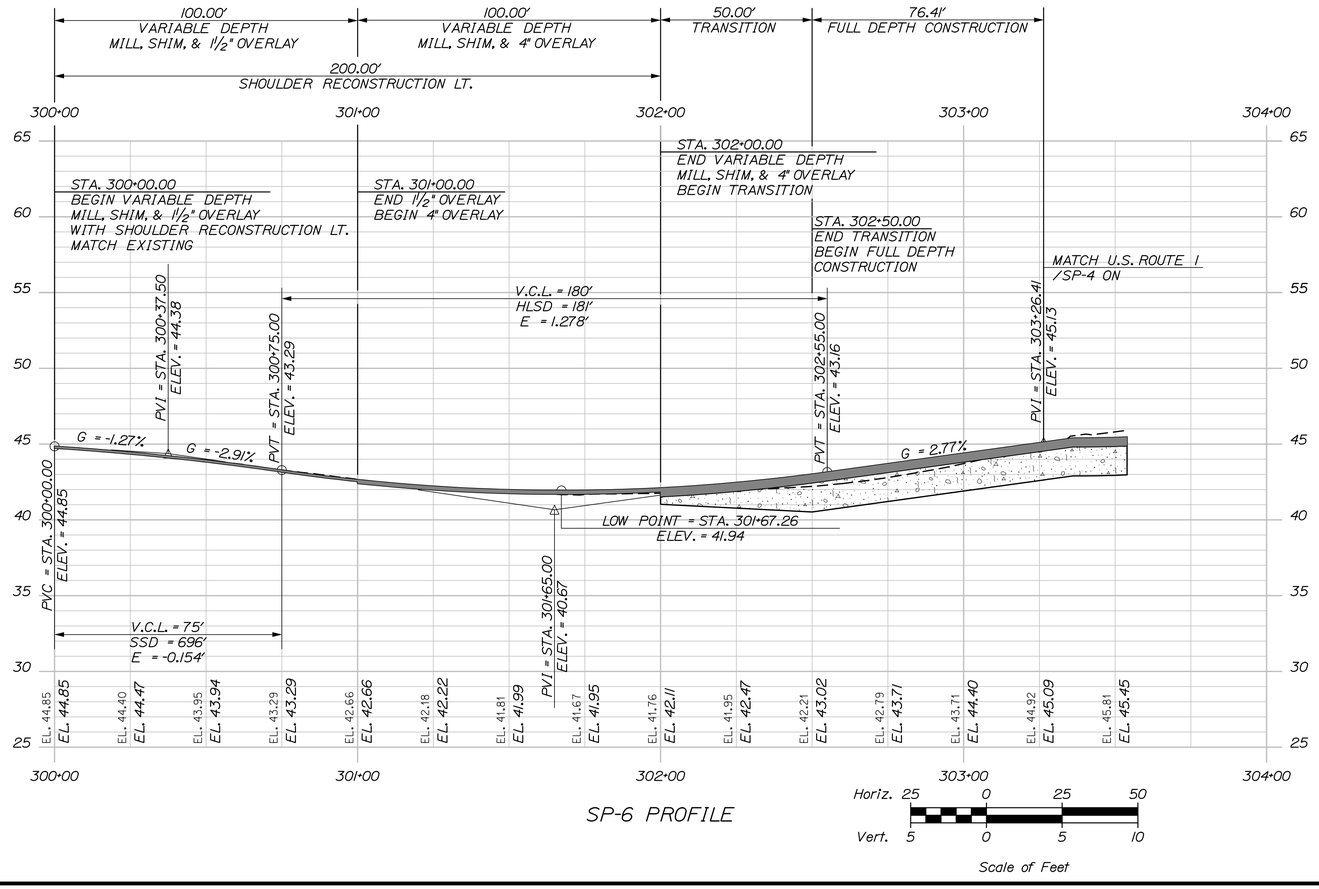
SOUTH PORTLAND
EXIT 4

PROFILE

SHEET NUMBER

H22

OF H77



SP-6 PROFILE

HNTB

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

SOUTH PORTLAND
EXIT 4

PROFILE

SHEET NUMBER

H23

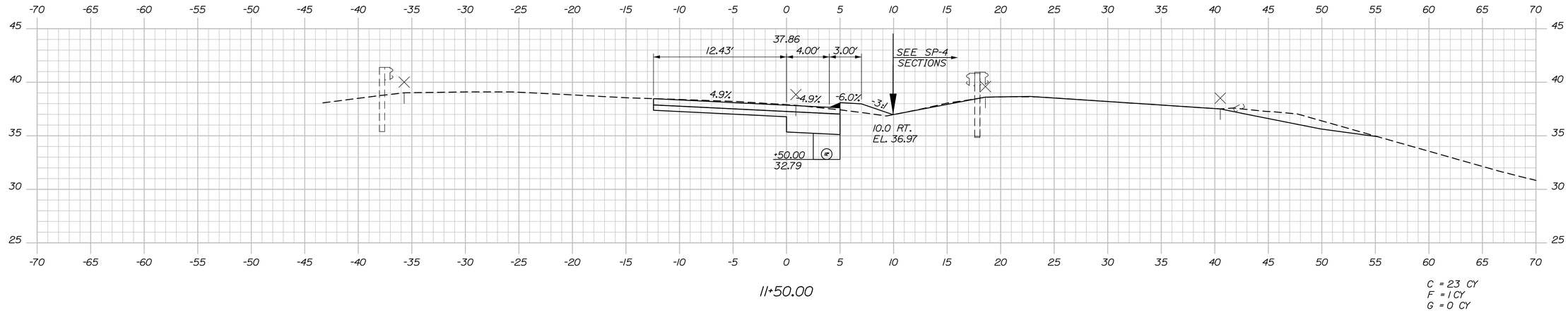
OF H77

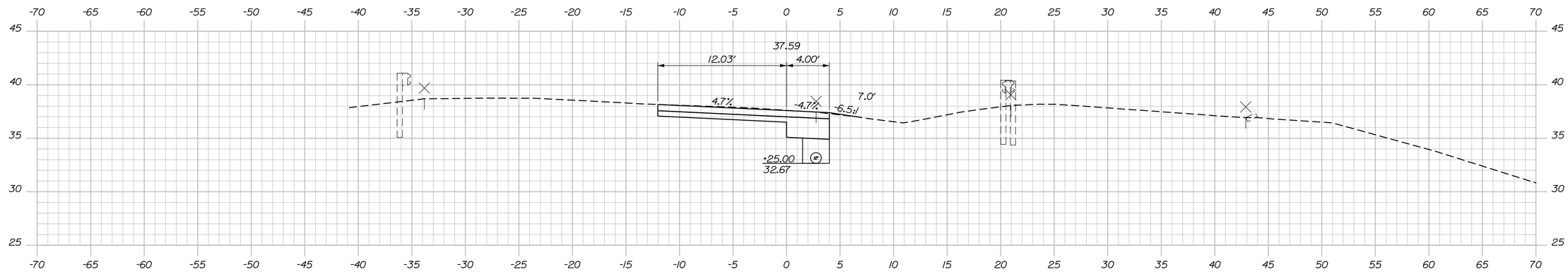
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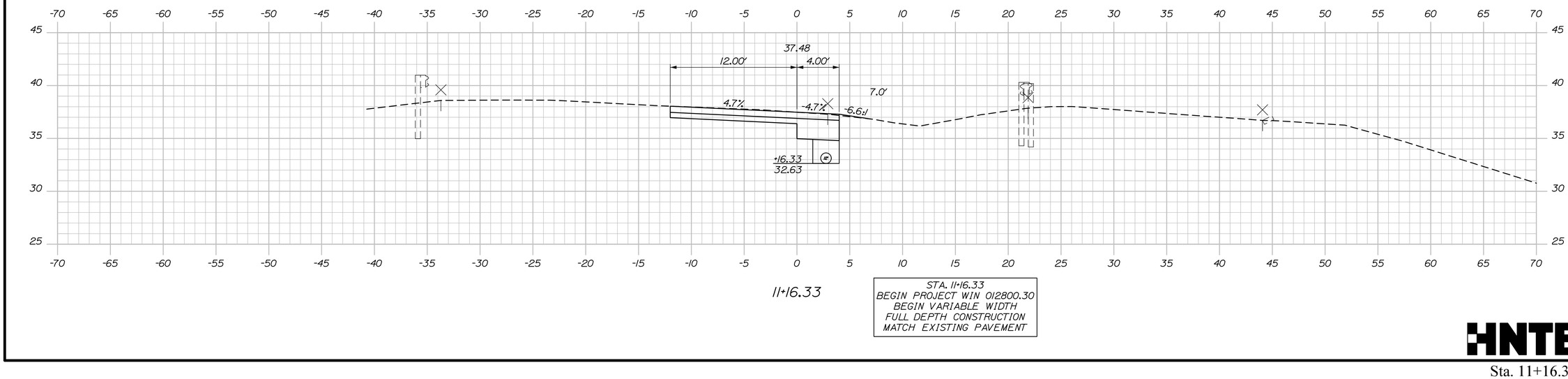
Date:2/14/2024

Division:

Filename: H23_Profiles_06.dgn







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H24

OF H77

HNTB

Sta. 11+16.33 to Sta. 11+50.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H25

OF H77

HNTB

Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn

Sta. 11+75.00 to Sta. 12+25.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H26

OF H77

HNTB

Sta. 12+50.00 to Sta. 13+00.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Hémick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H27

OF H77

HNTB

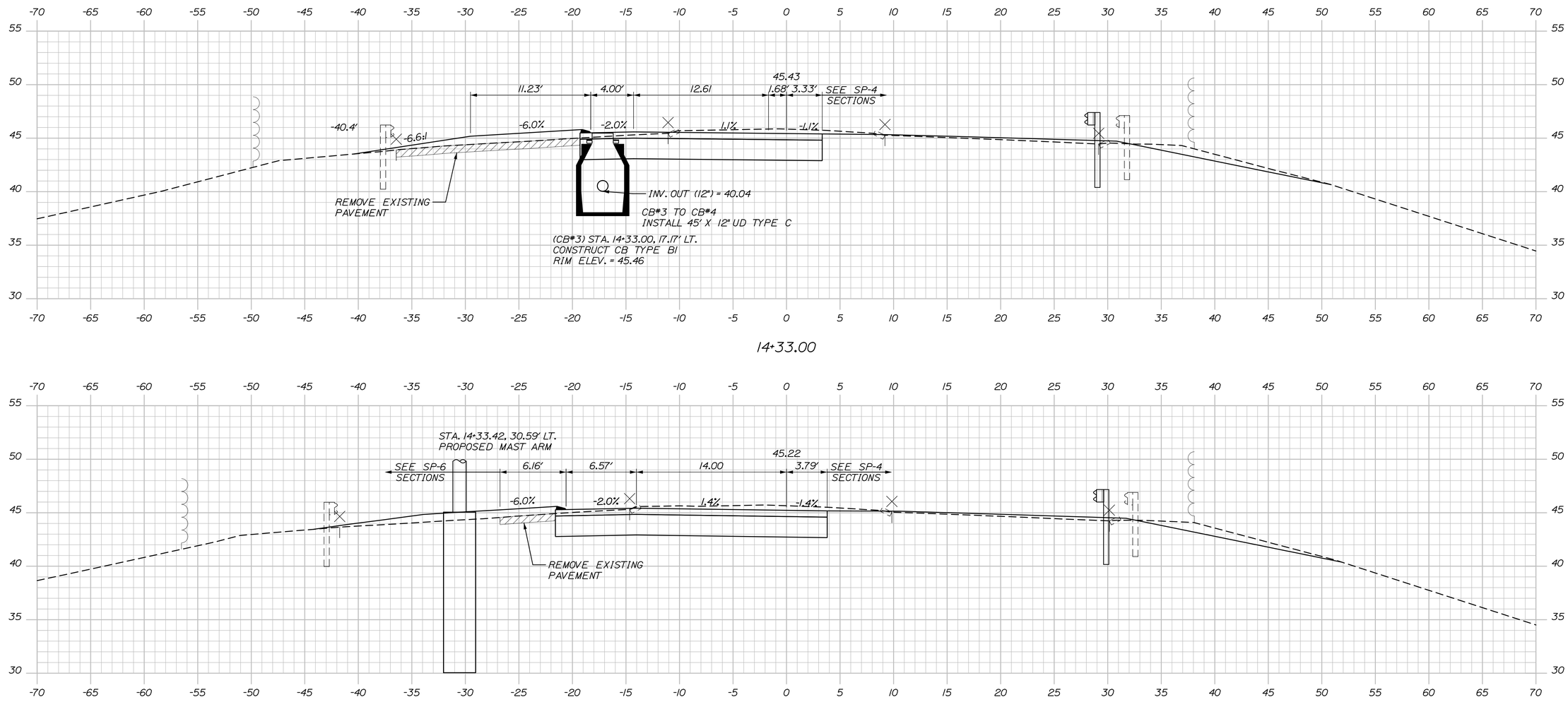
Sta. 13+25.00 to Sta. 13+75.00

Username:

Division:

Date:2/14/2024

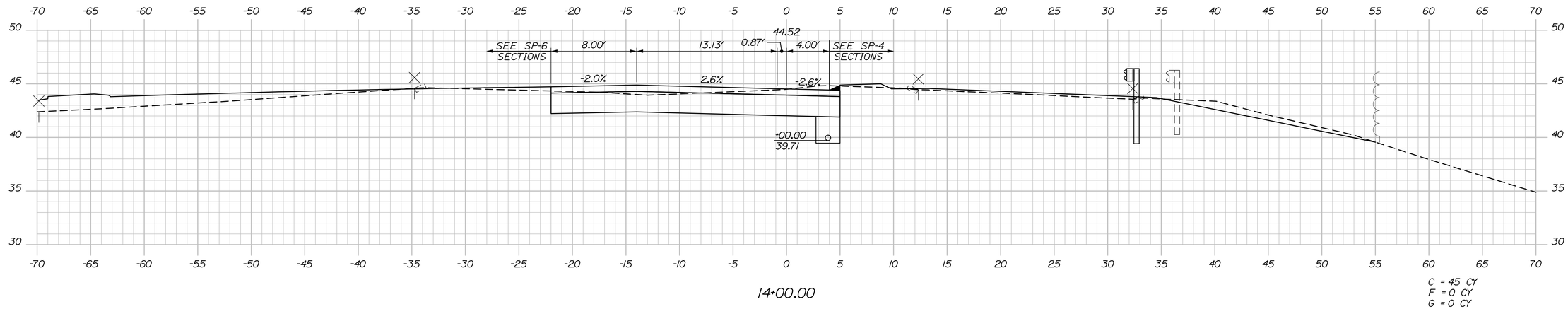
Filename: X_Sect_Route1_SP40n.dgn



14+33.00

14+25.00

C = 59 CY
F = 7 CY
G = 0 CY



14+00.00

C = 45 CY
F = 0 CY
G = 0 CY

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Hémick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H28

OF H77

HNTB

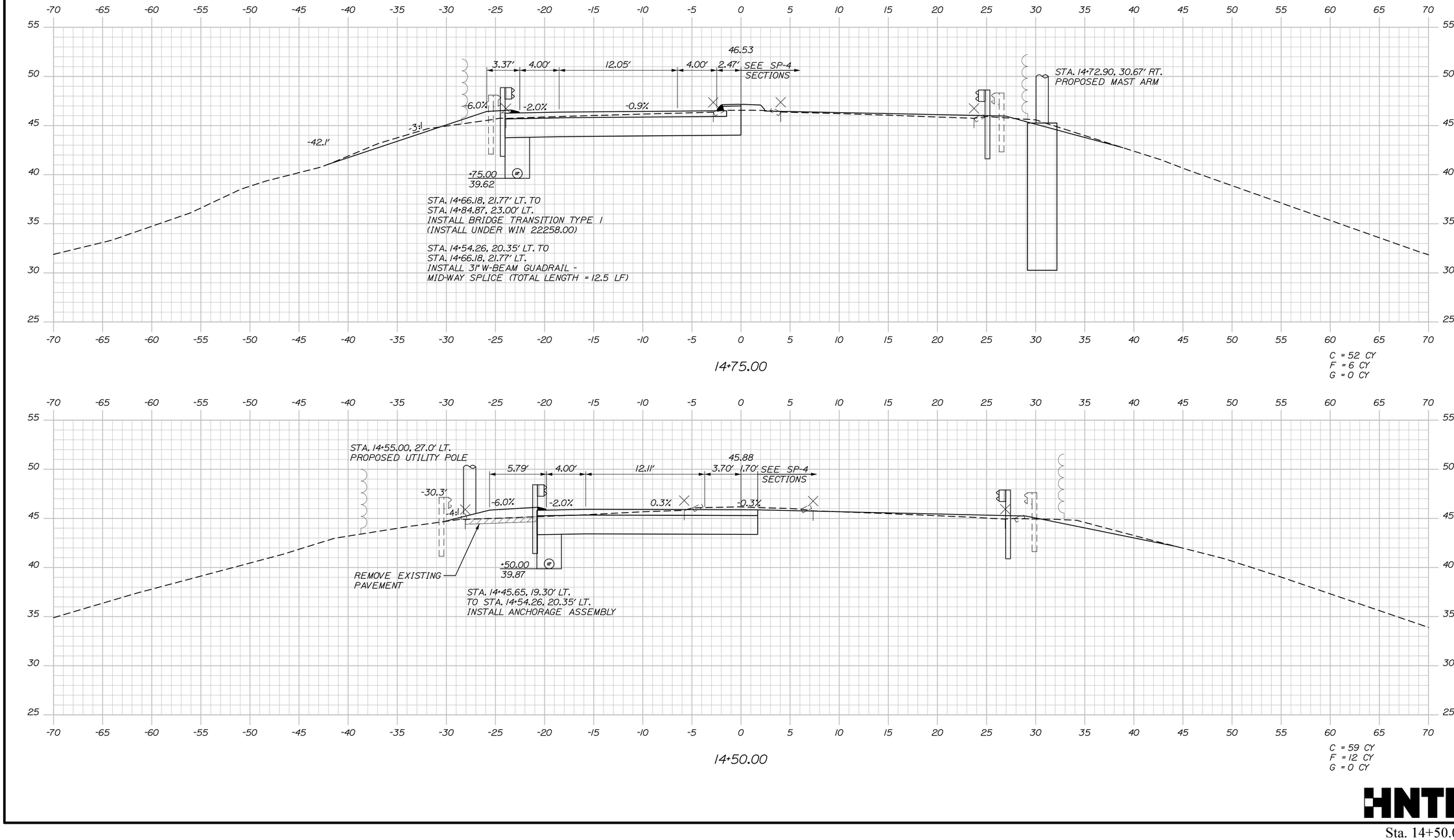
Sta. 14+00.00 to Sta. 14+33.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP4On.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H29

OF H77

HNTB

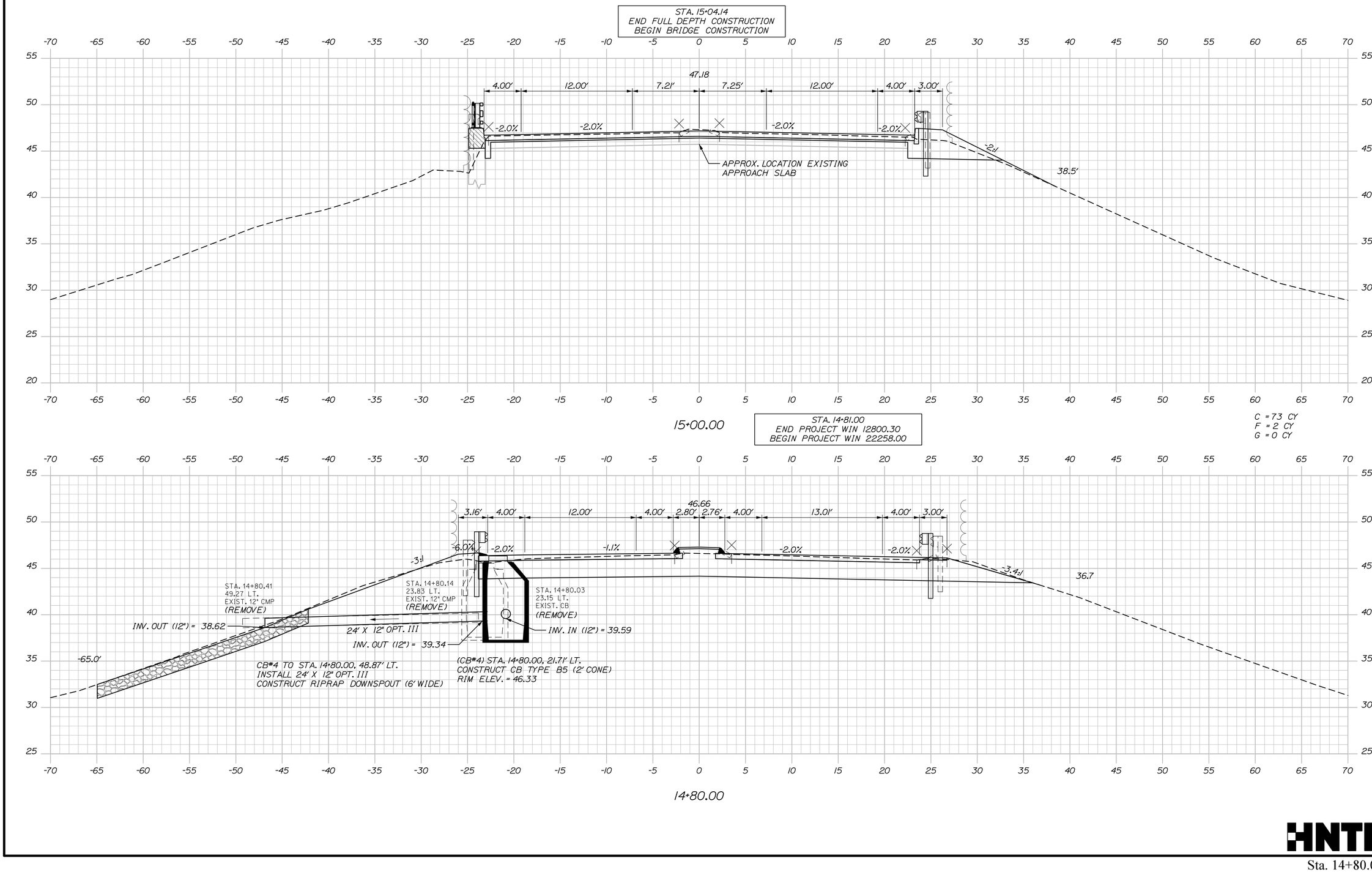
Sta. 14+50.00 to Sta. 14+75.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER		BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H30

OF H77

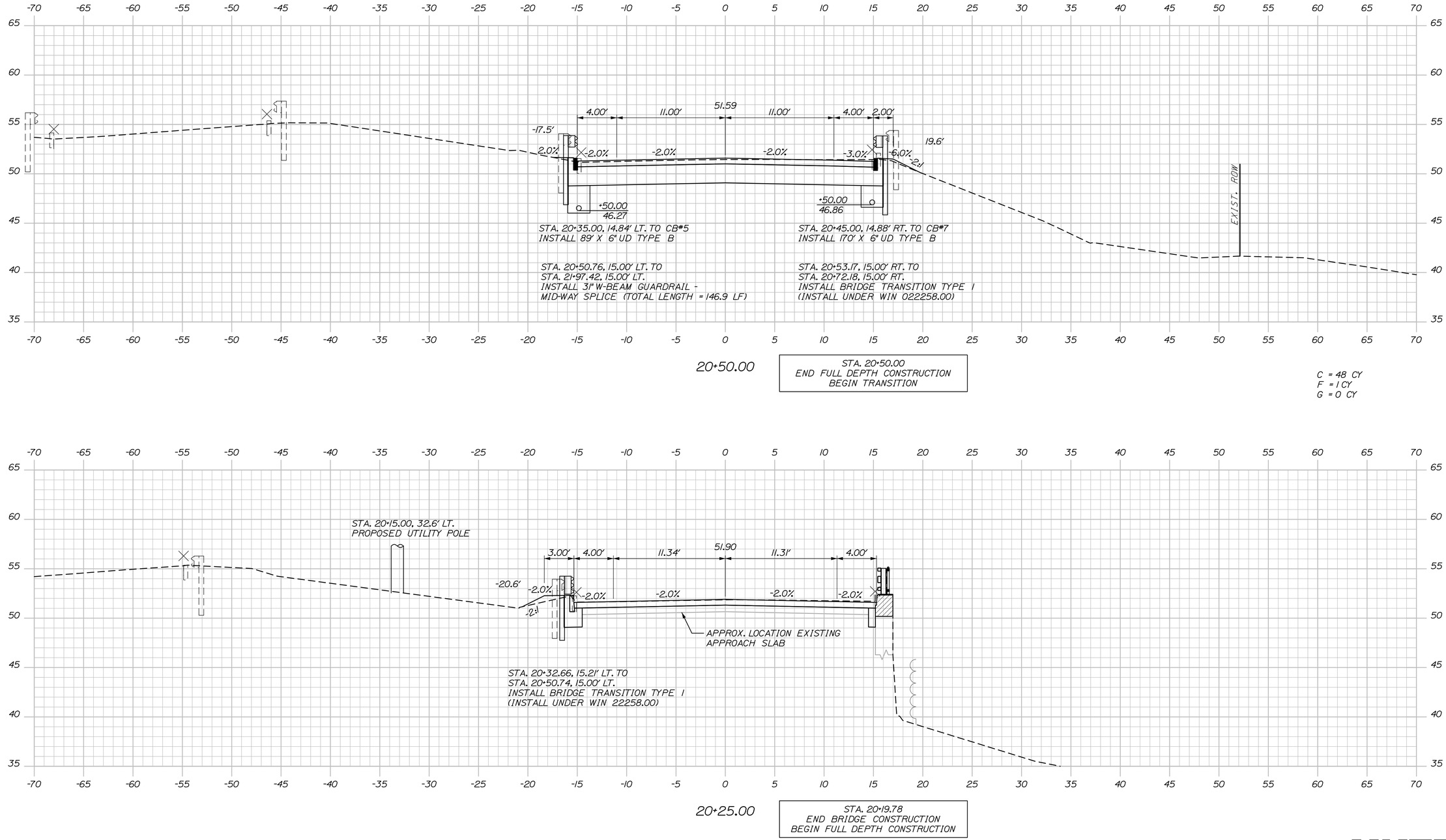
Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn

Sta. 14+80.00 to Sta. 15+00.00



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

	BY	DATE
D. Coombs	D. Burton	9\2023
C. Hémick	R. Hanf	9\2023
L. Driscoll		

PROJ. MANAGER	D. Coombs
DESIGN-DETAILED	C. Hémick
CHECKED-REVIEWED	L. Driscoll
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

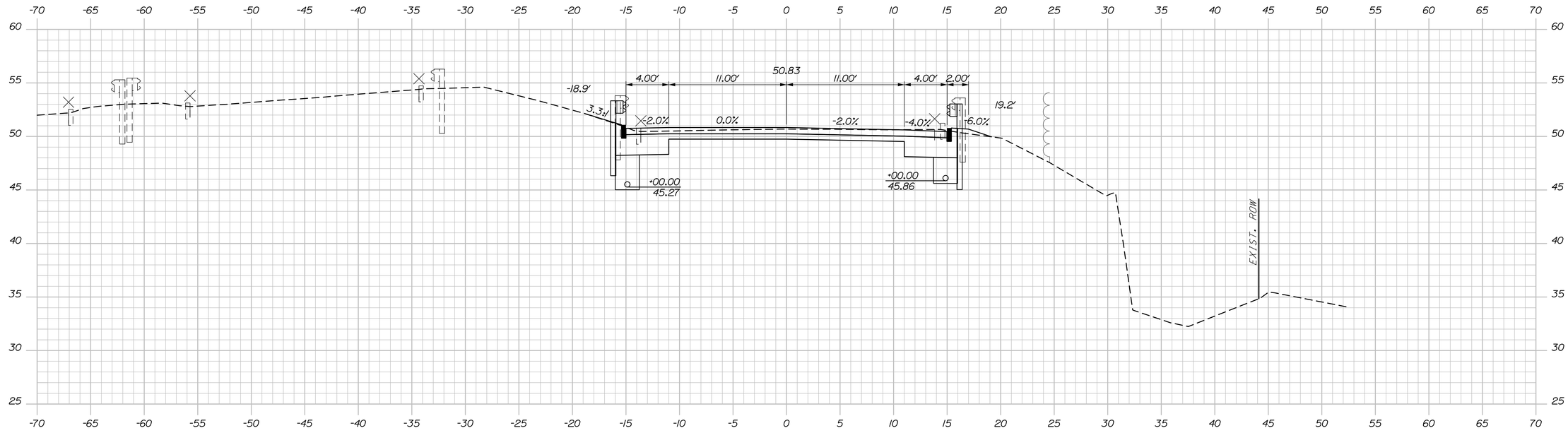
H31

OF H77

HNTB

Sta. 20+25.00 to Sta. 20+50.00

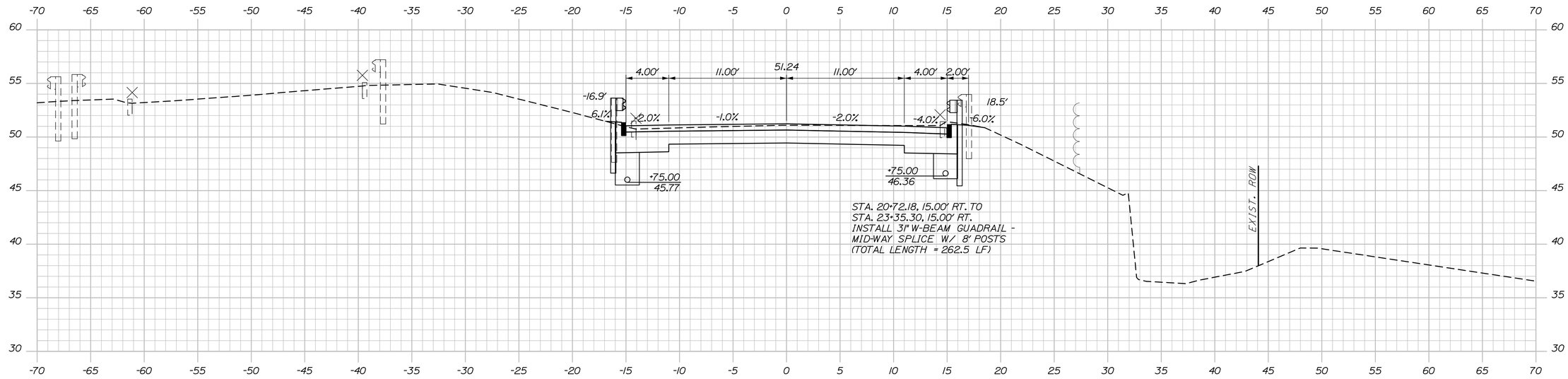
Filename: X_Sect_Route1_SP40n.dgn Division: Username: Date:2/14/2024



21+00.00

STA. 21+00.00
END PROJECT WIN 22258.00
END TRANSITION
BEGIN PROJECT WIN 12800.30
BEGIN PARTIAL DEPTH CONSTRUCTION
BEGIN SHOULDER WIDENING RT.

C = 49 CY
F = 1 CY
G = 0 CY



STA. 20+72.18, 15.00' RT. TO
STA. 23+35.30, 15.00' RT.
INSTALL 31" W-BEAM GUADRAIL -
MID-WAY SPLICE W/ 8' POSTS
(TOTAL LENGTH = 262.5 LF)

C = 65 CY
F = 0 CY
G = 0 CY

20+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H32

OF H77

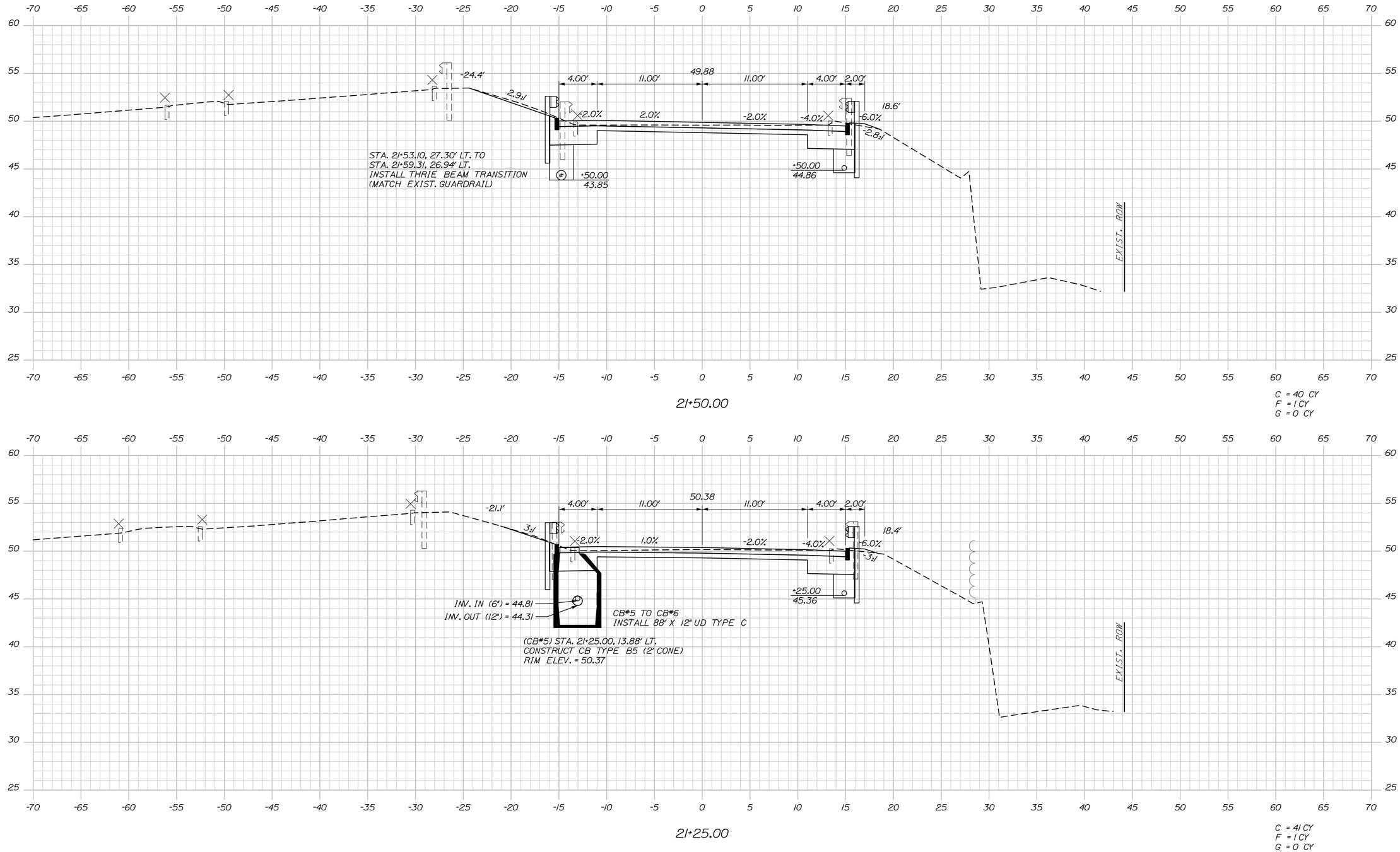
Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn

Sta. 20+75.00 to Sta. 21+00.00



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	BY	DATE
CHECKED-REVIEWED	L. Driscoll	D. Burton	9\2023
DESIGN2-DETAILED2		R. Hanf	9\2023
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H33

OF H77

HNTB

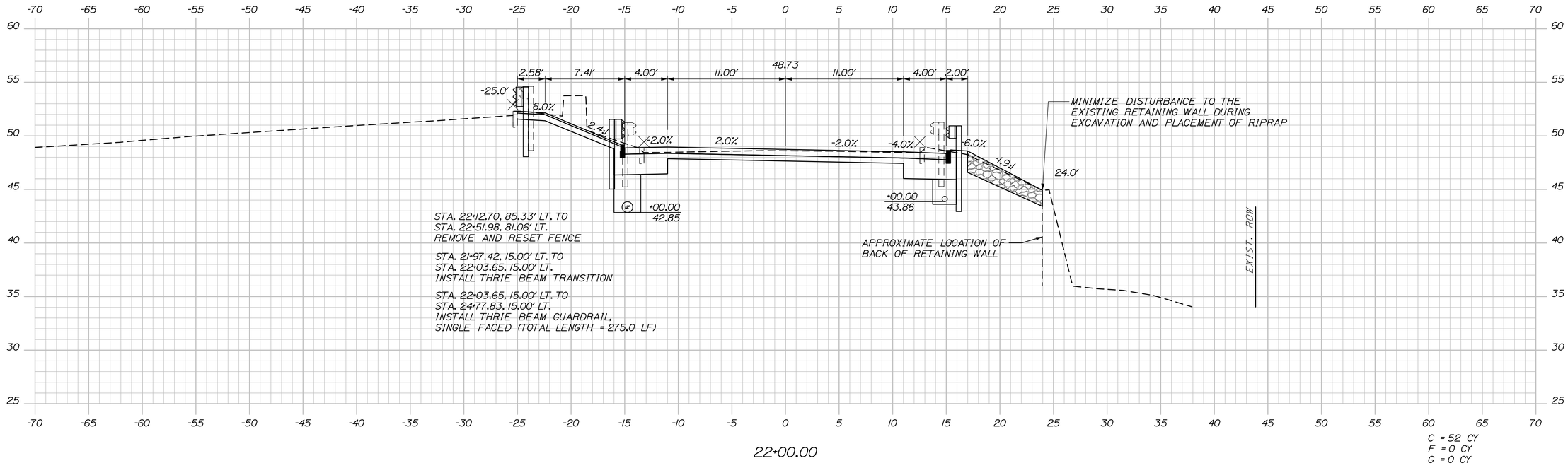
Sta. 21+25.00 to Sta. 21+50.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H34

OF H77

HNTB

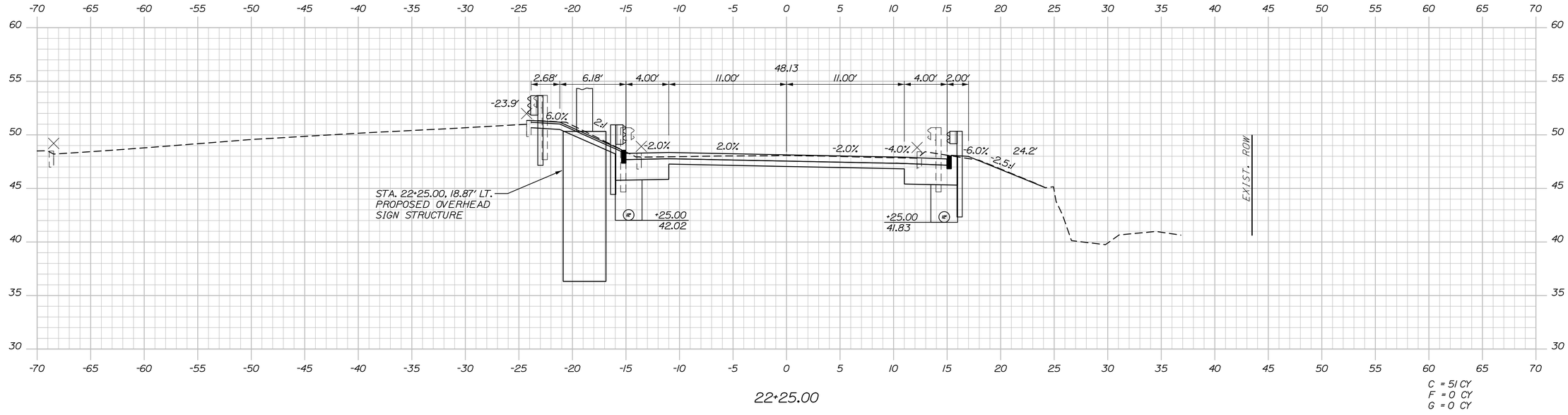
Sta. 21+75.00 to Sta. 22+00.00

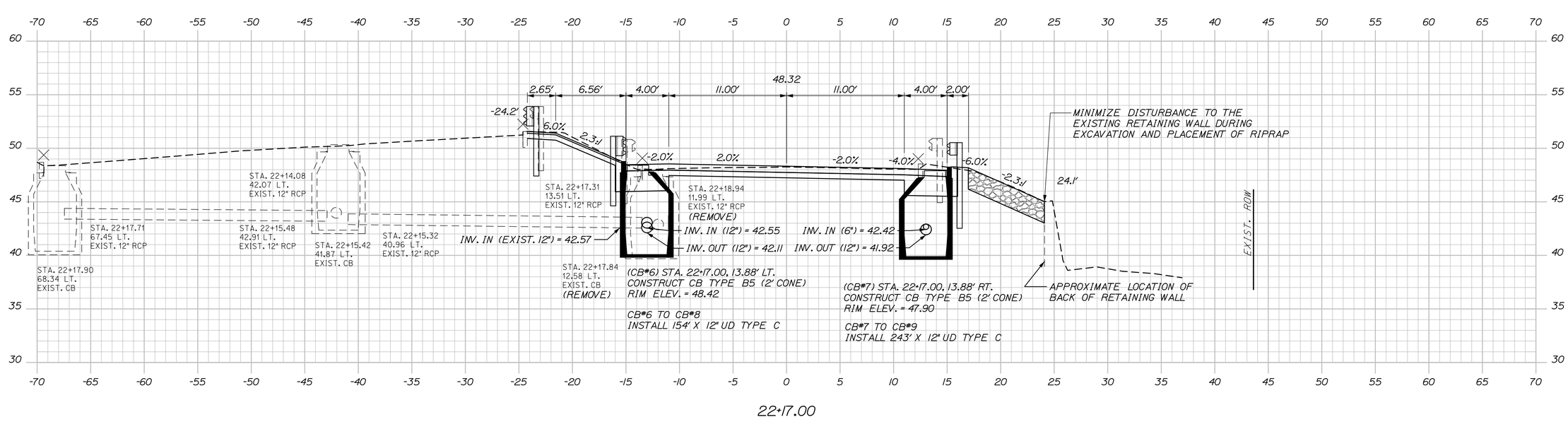
Username:

Division:

Date:2/14/2024

Filename: X_Sect_Route1_SP40n.dgn





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	BY	D. Burton
CHECKED-REVIEWED	L. Driscoll		R. Hanf
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1		DATE	9\2023
REVISIONS 2			9\2023
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

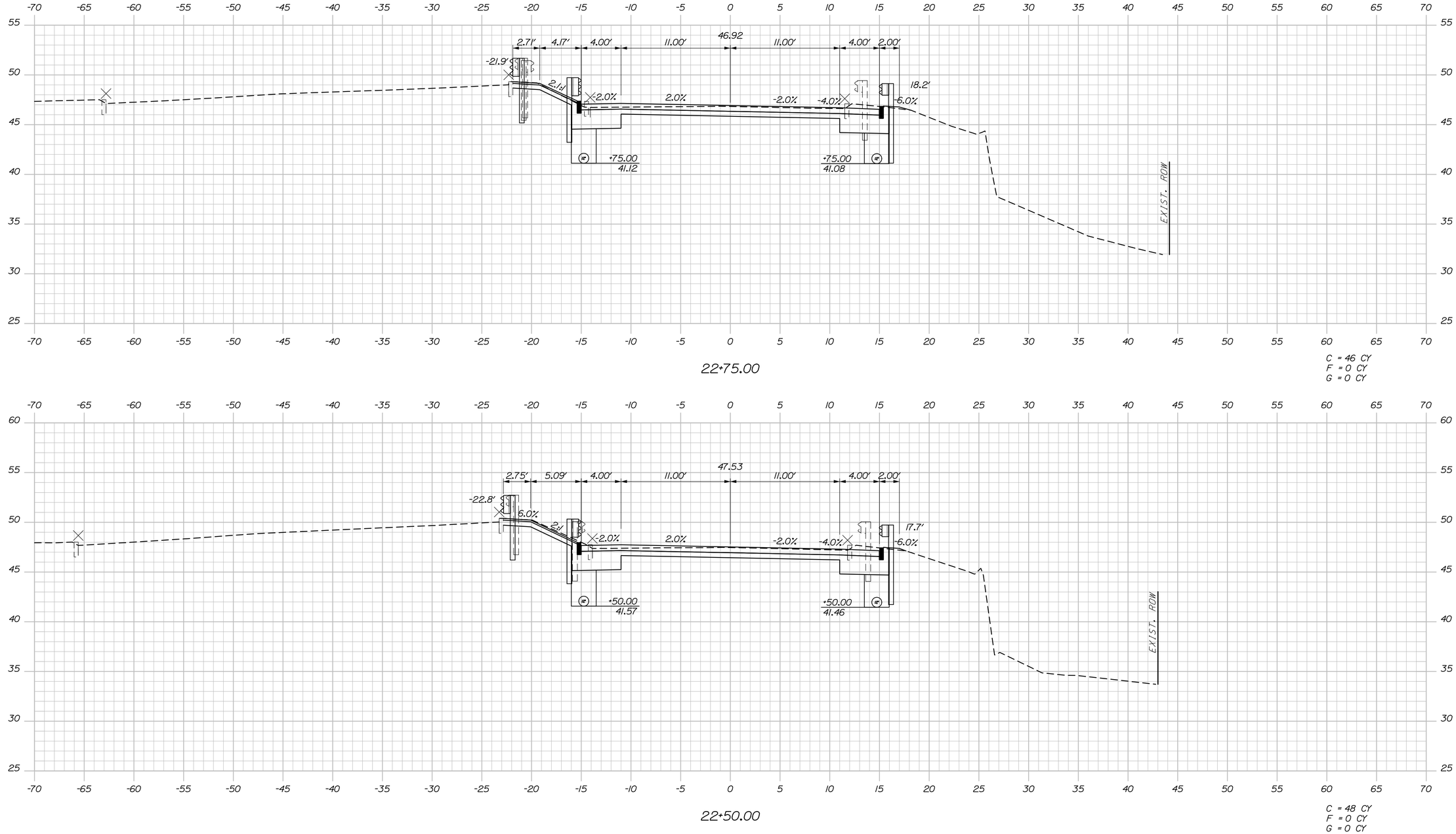
H35

OF H77

HNTB

Sta. 22+17.00 to Sta. 22+25.00

Filename: X_Sect_Route1_SP40n.dgn Division: Username: Date:2/14/2024



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

P.E. NUMBER

DATE

SIGNATURE

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

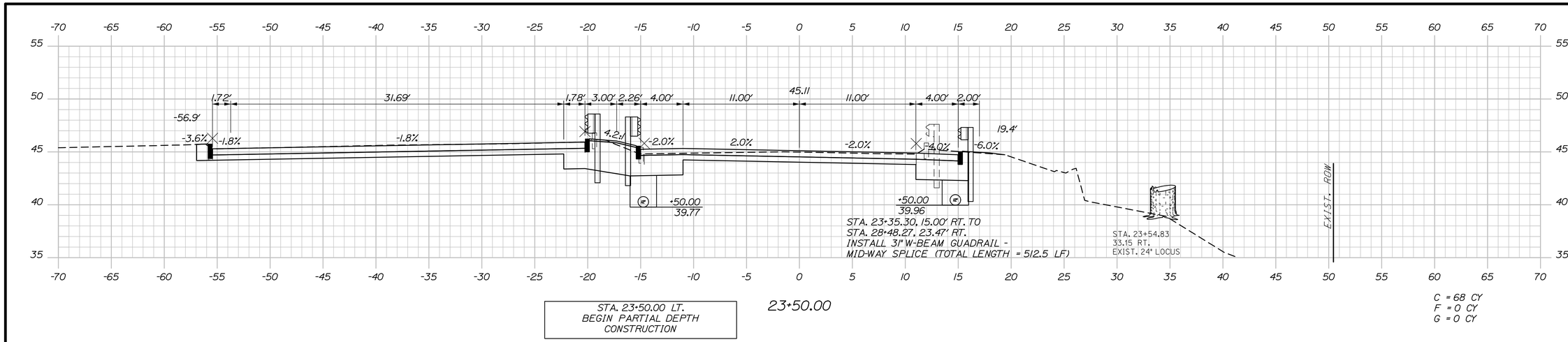
SHEET NUMBER

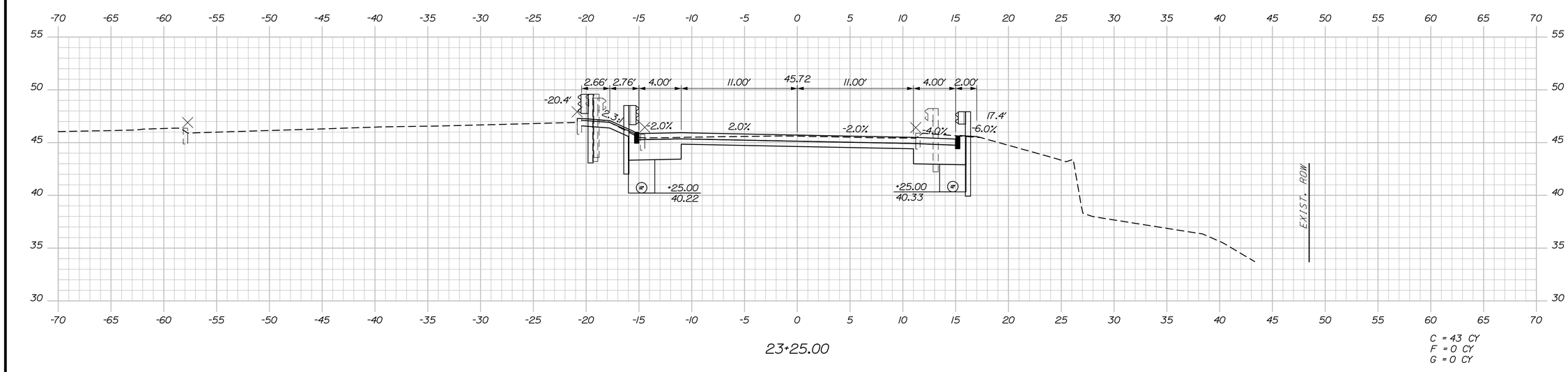
H36

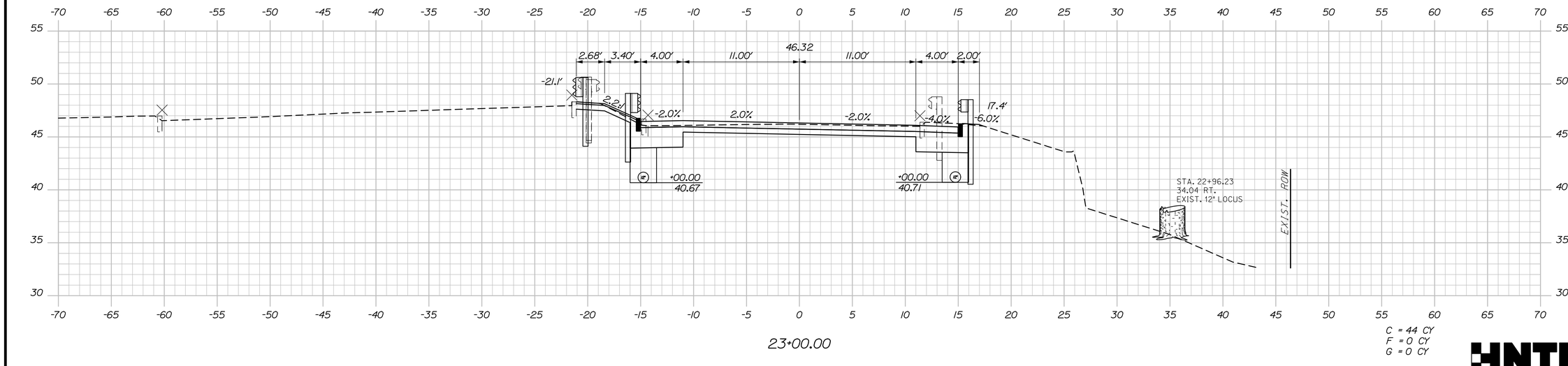
OF H77

Sta. 22+50.00 to Sta. 22+75.00

Filename: X_Sect_Route1_SP40n.dgn Division: Username: Date:2/14/2024







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

	BY	DATE
D. Coombs	D. Burton	9\2023
C. Helmick	R. Hanf	9\2023
L. Driscoll		

SIGNATURE

P.E. NUMBER

DATE

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

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H37

OF H77

HNTB

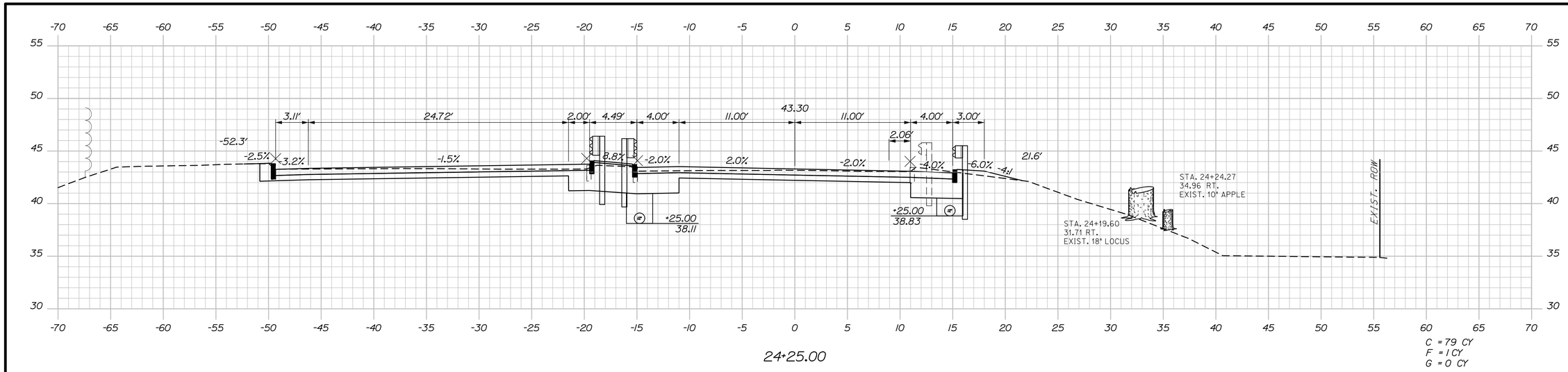
Sta. 23+00.00 to Sta. 23+50.00

Date:2/14/2024

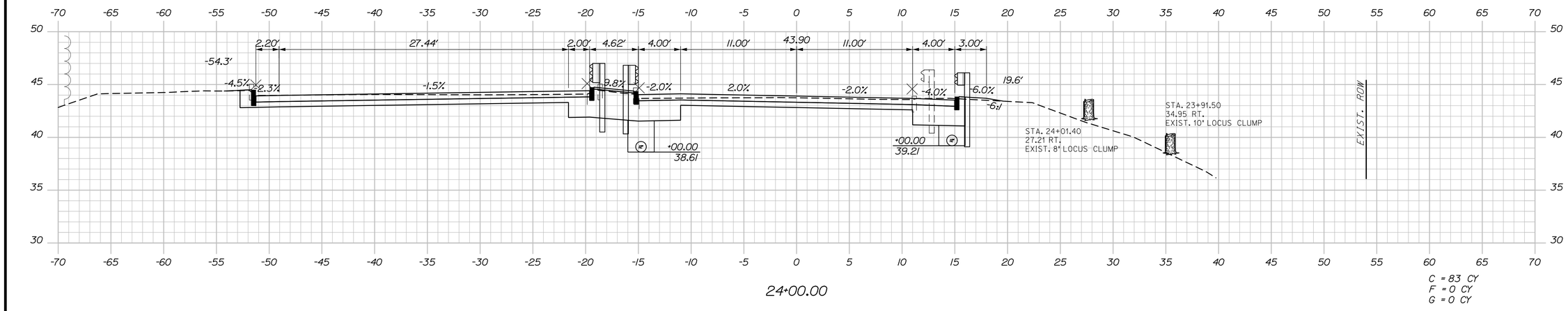
Username:

Division:

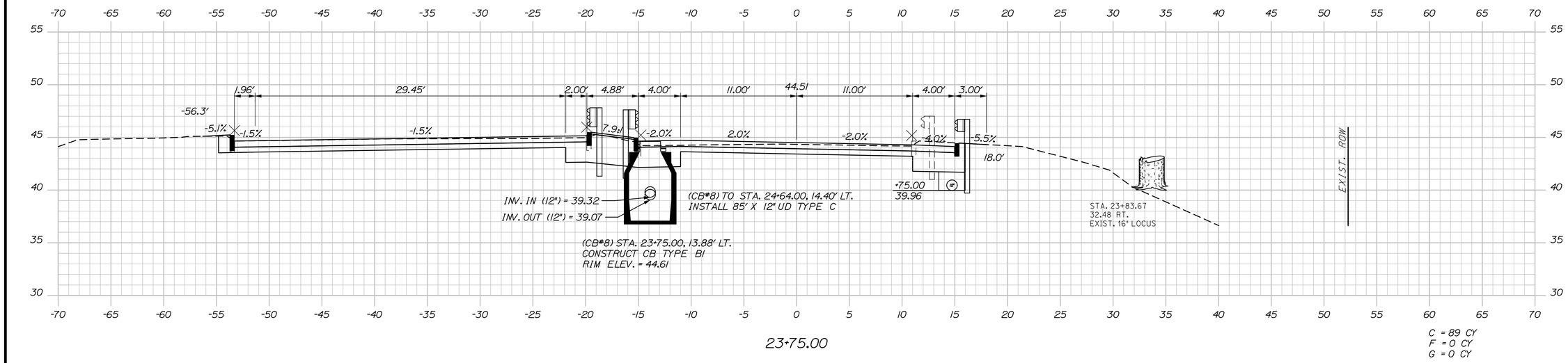
Filename: X_Sect_Route1_SP40n.dgn



24+25.00



24+00.00



23+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs
DESIGN-DETAILED	C. Helmick
CHECKED-REVIEWED	L. Driscoll
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

	BY	DATE
REVISIONS 1	D. Burton	9\2023
REVISIONS 2	R. Hanf	9\2023
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H38

OF H77

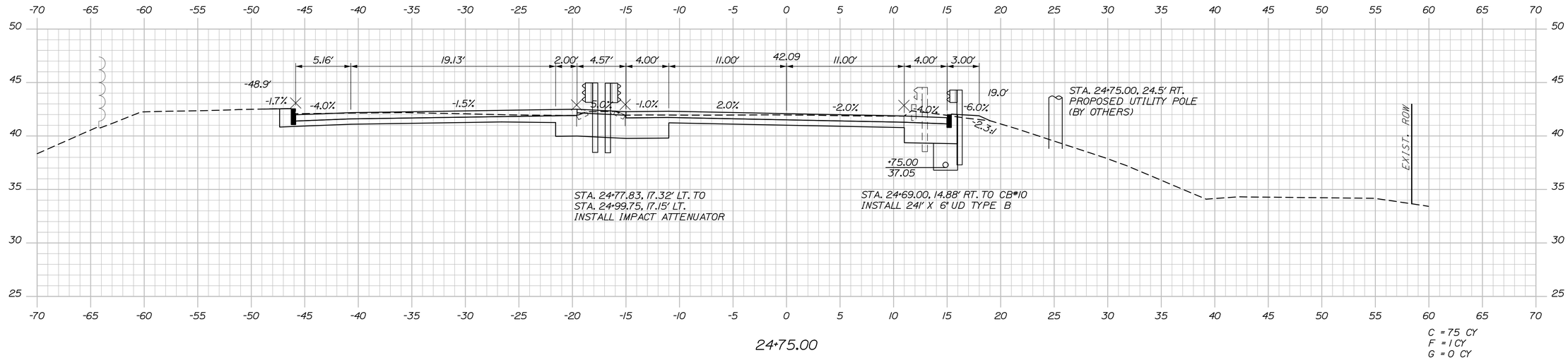
Sta. 23+75.00 to Sta. 24+25.00

Date:2/14/2024

Username:

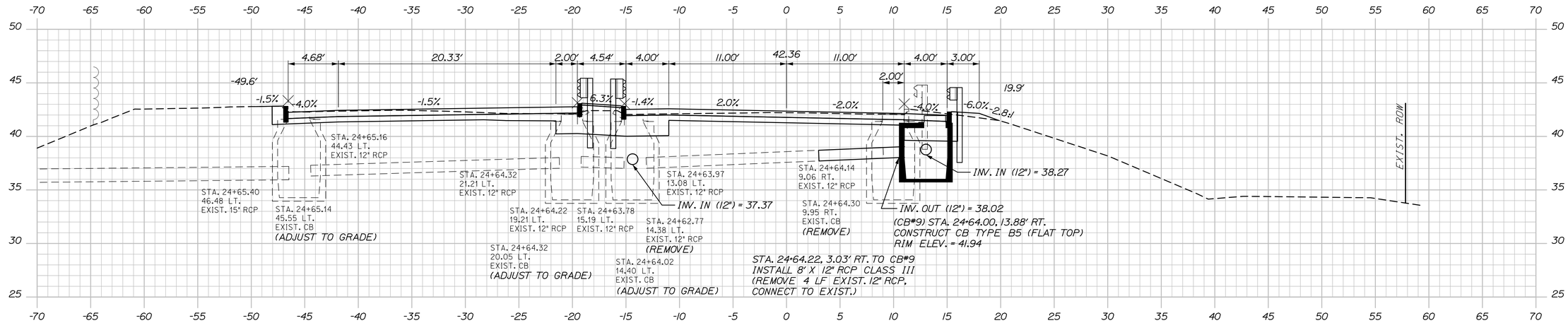
Division:

Filename: X_Sect_Route1_SP40n.dgn

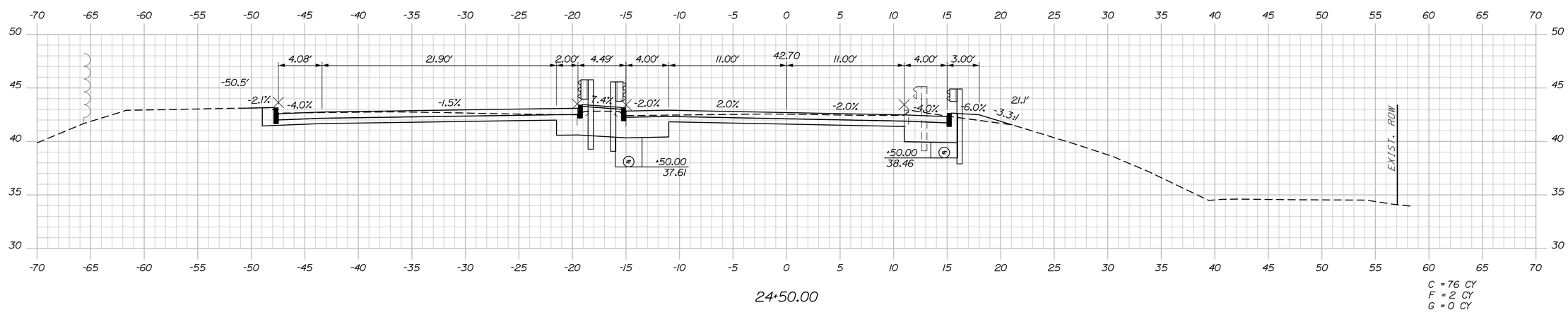


24+75.00

C = 75 CY
F = 1 CY
G = 0 CY



24+64.00



24+50.00

C = 76 CY
F = 2 CY
G = 0 CY

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Hémick	D. Burton 9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf 9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H39

OF H77

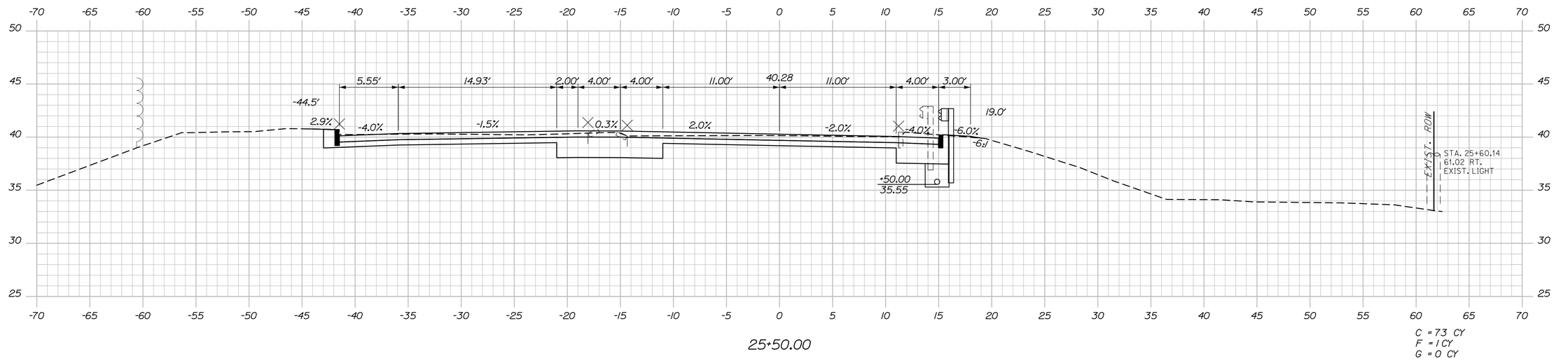
Date:2/14/2024

Username:

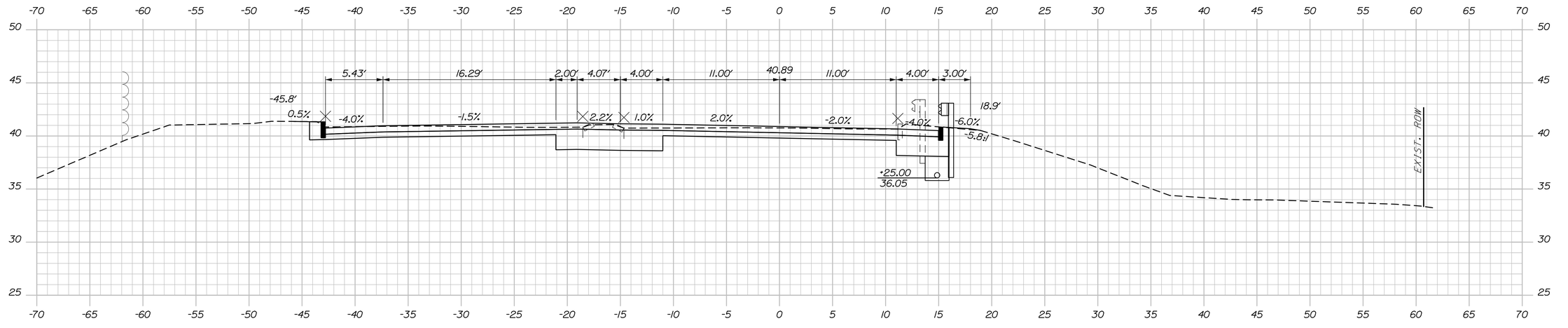
Division:

Filename: X_Sect_Route1_SP4On.dgn

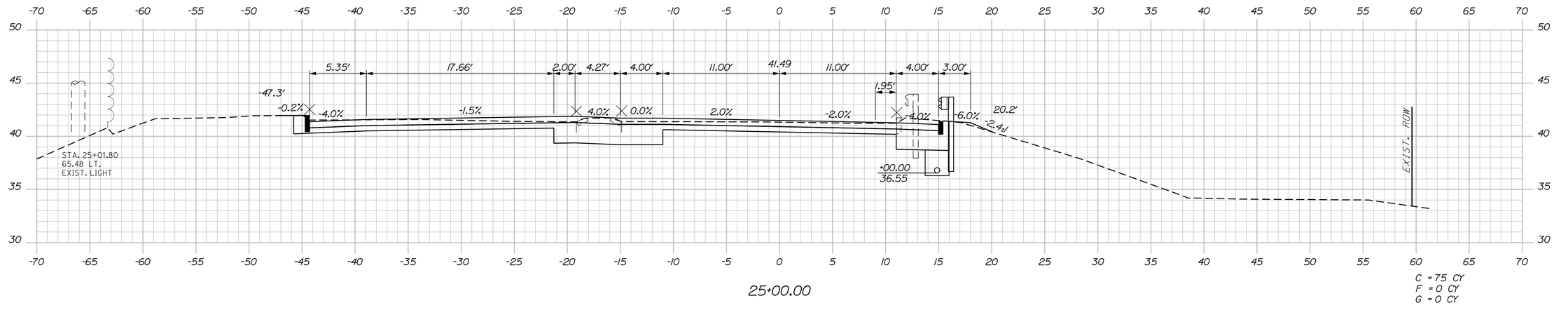
Sta. 24+50.00 to Sta. 24+75.00



25+50.00



25+25.00



25+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Hémick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H40

OF H77

HNTB

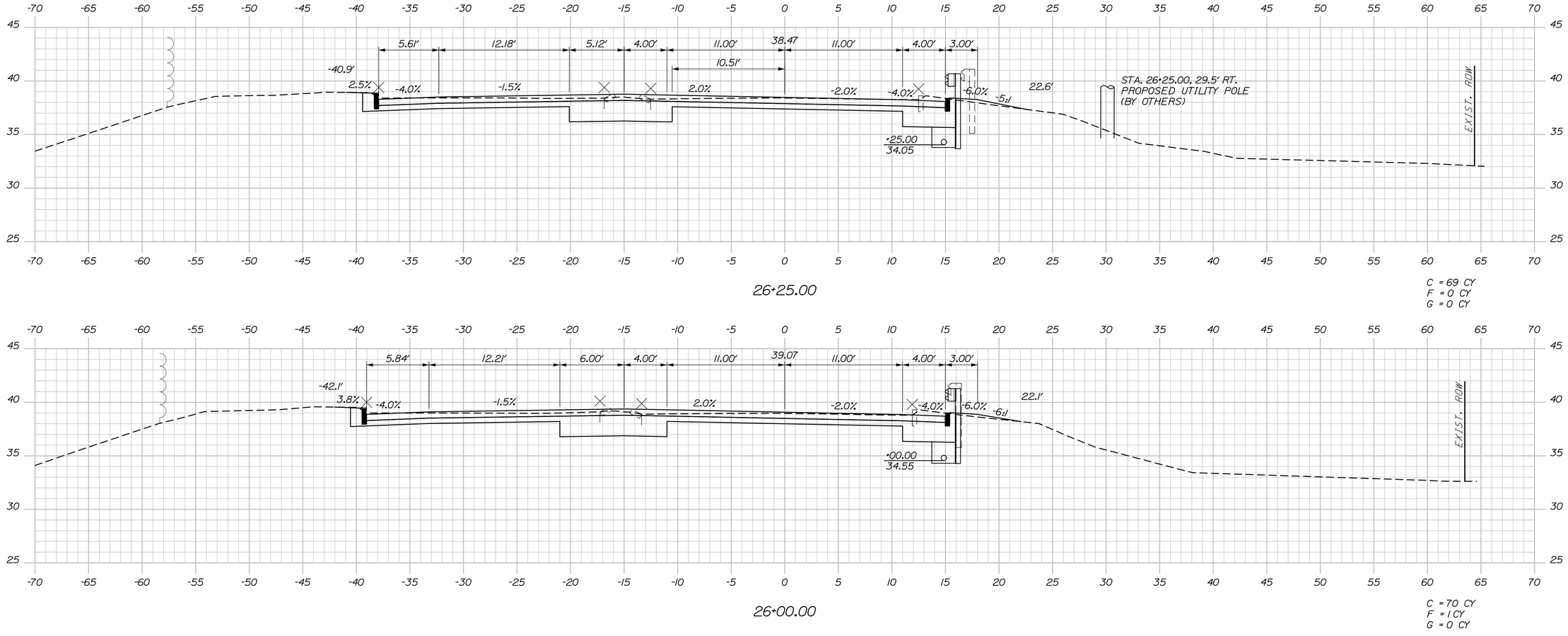
Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn

Sta. 25+00.00 to Sta. 25+50.00

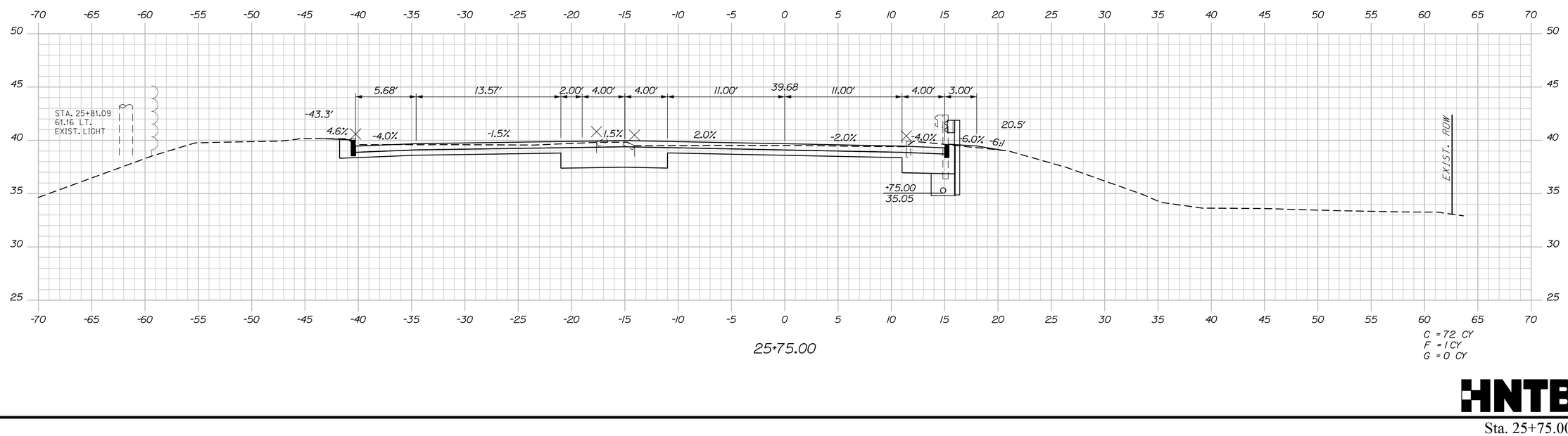


26+25.00

C = 69 CY
F = 0 CY
G = 0 CY

26+00.00

C = 70 CY
F = 1 CY
G = 0 CY



25+75.00

C = 72 CY
F = 1 CY
G = 0 CY

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	BY	D. Burton
CHECKED-REVIEWED	L. Driscoll	DATE	9\2023
DESIGN2-DETAILED2	ED2	BY	R. Hanf
DESIGN3-DETAILED3	ED3	DATE	9\2023
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H41

OF H77

Sta. 25+75.00 to Sta. 26+25.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H42

OF H77

HNTB

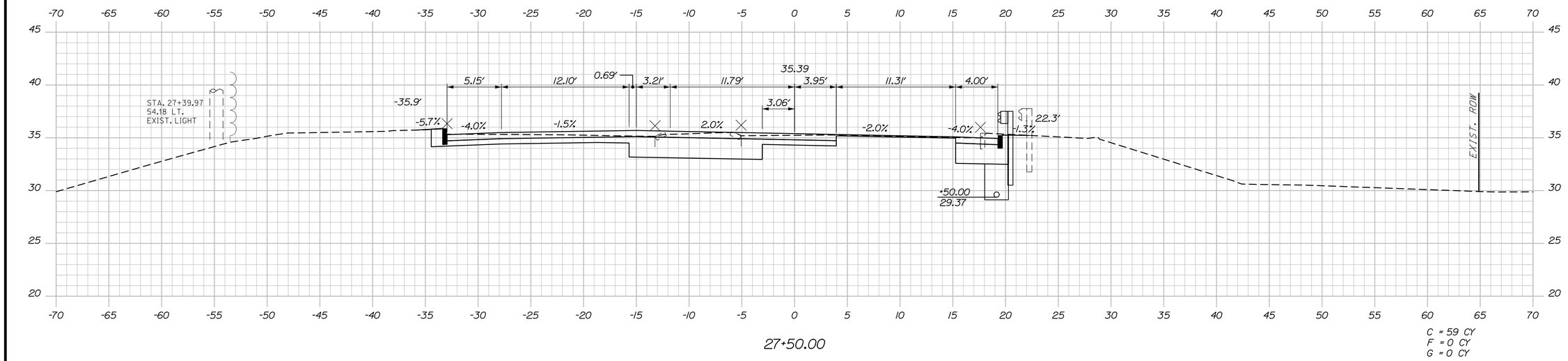
Sta. 26+50.00 to Sta. 27+00.00

Date:2/14/2024

Username:

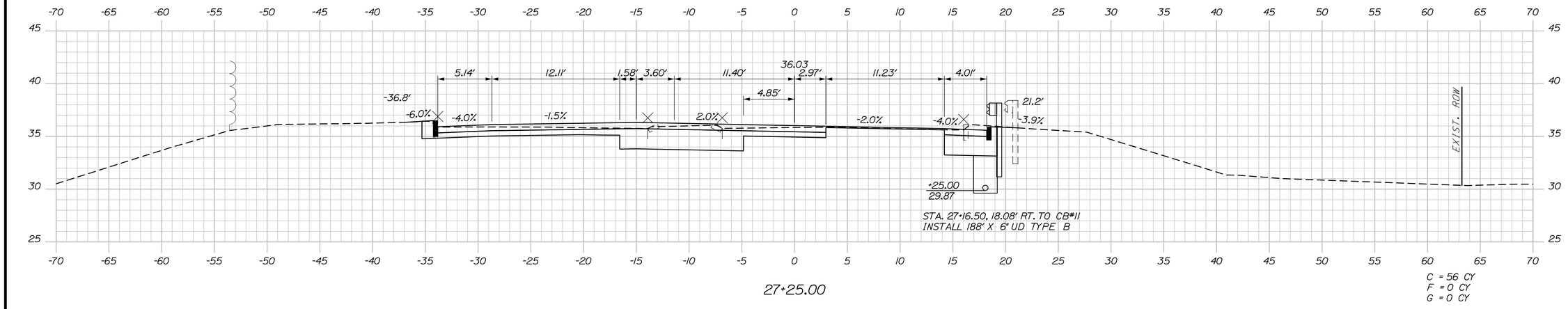
Division:

Filename: X_Sect_Route1_SP40n.dgn



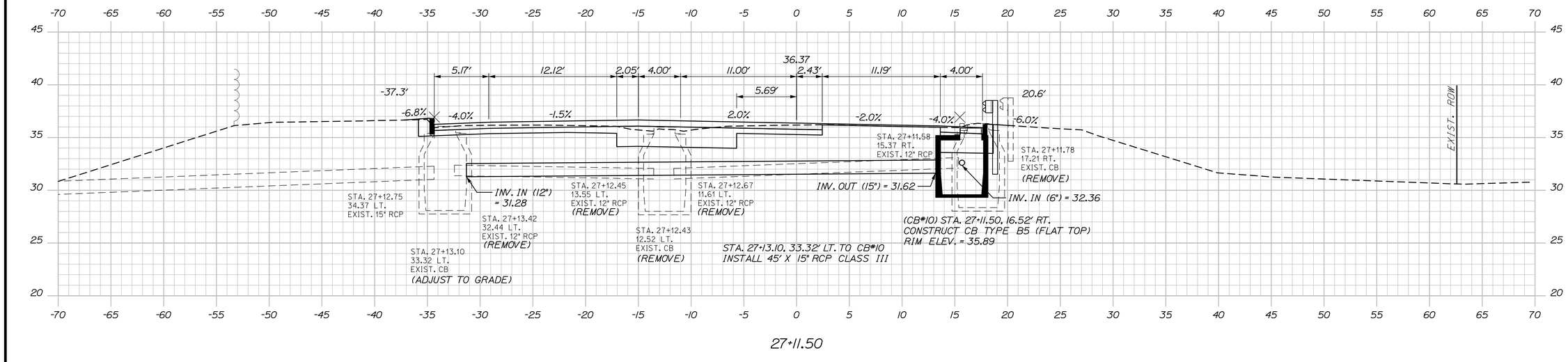
27+50.00

C = 59 CY
F = 0 CY
G = 0 CY



27+25.00

C = 56 CY
F = 0 CY
G = 0 CY



27+11.50

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

HIGHWAY PLANS

WIN 12800.30

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	9.2023	
CHECKED-REVIEWED	L. Driscoll	9.2023	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

BY / DATE / SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H43

OF H77

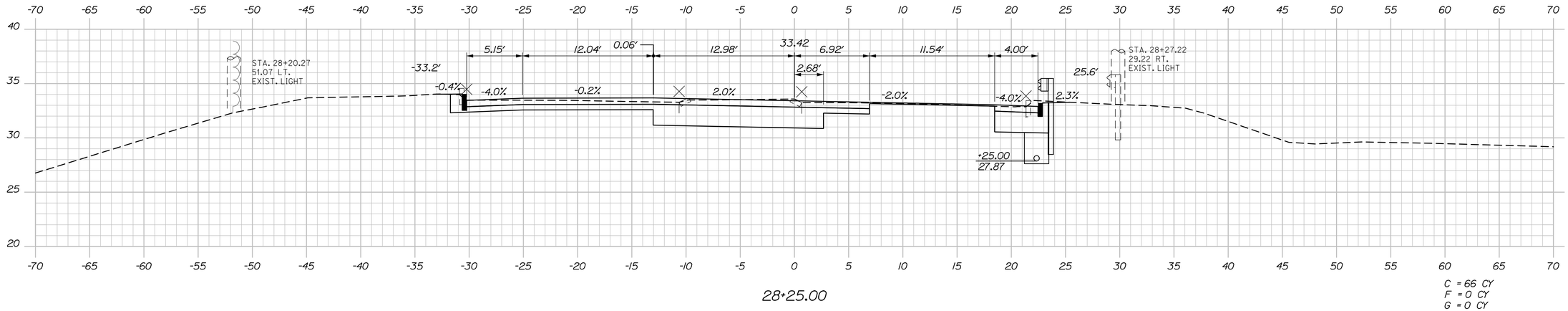
Sta. 27+11.50 to Sta. 27+50.00

Date:2/14/2024

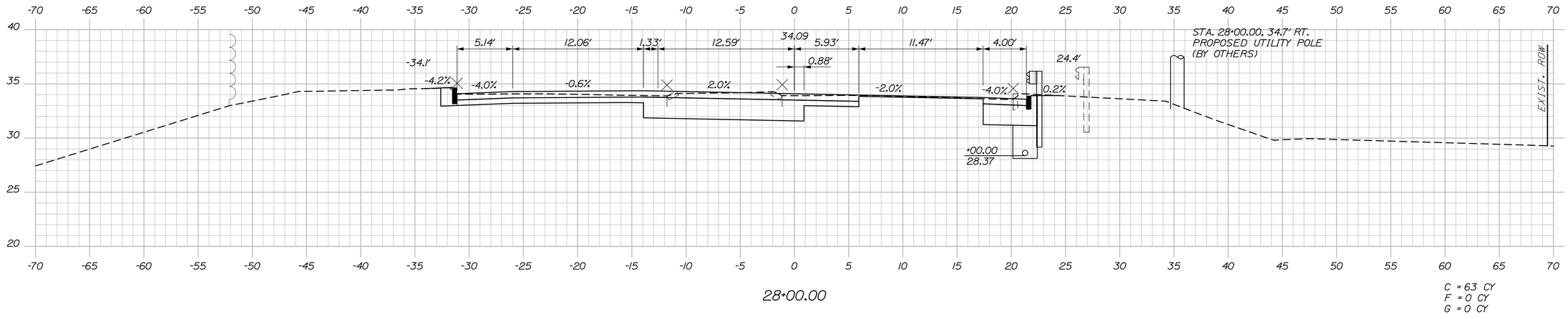
Username:

Division:

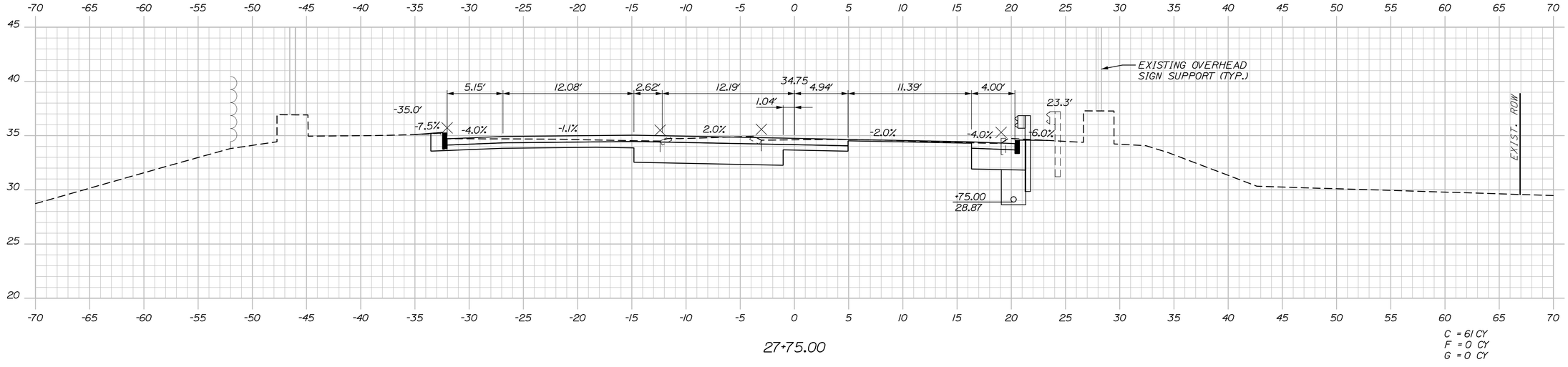
Filename: X_Sect_Route1_SP40n.dgn



28+25.00



28+00.00



27+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Helmick	9\2023
CHECKED-REVIEWED	L. Driscoll	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H44

OF H77

Sta. 27+75.00 to Sta. 28+25.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Hémick	D. Burton 9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf 9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H45

OF H77

HNTB

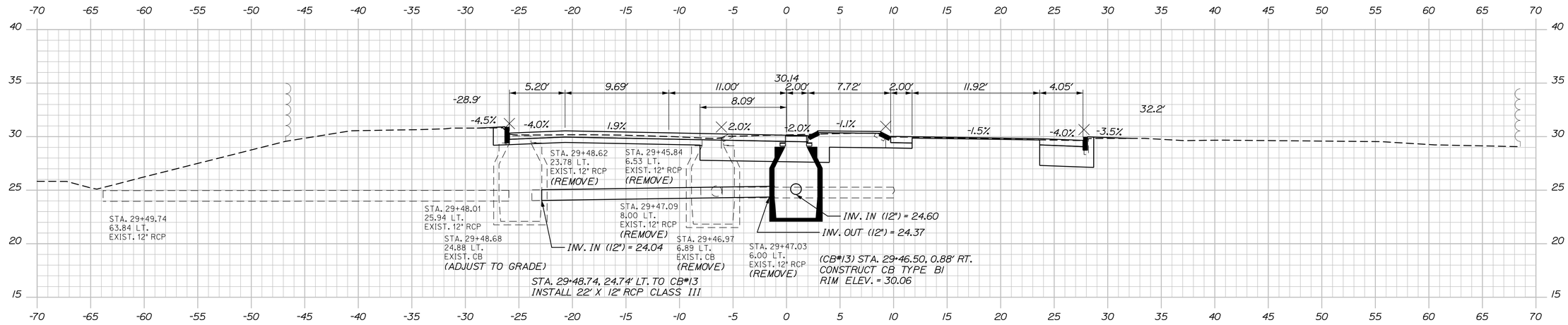
Date:2/14/2024

Username:

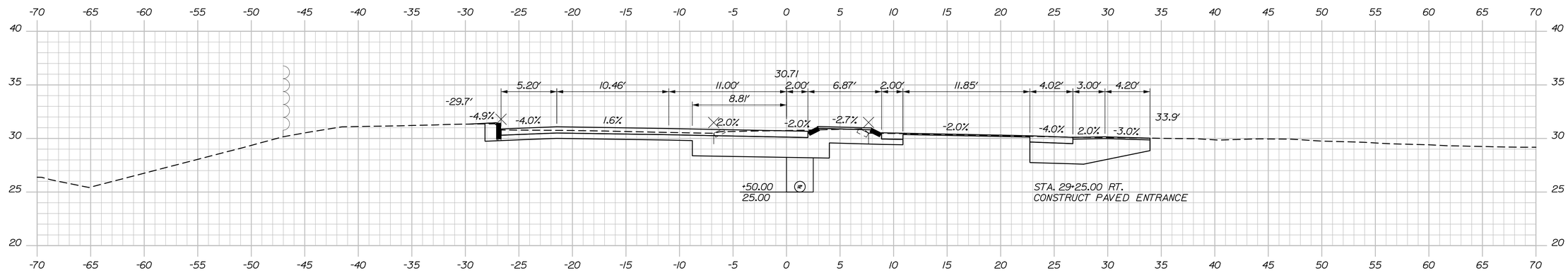
Division:

Filename: X_Sect_Route1_SP40n.dgn

Sta. 28+50.00 to Sta. 29+00.00

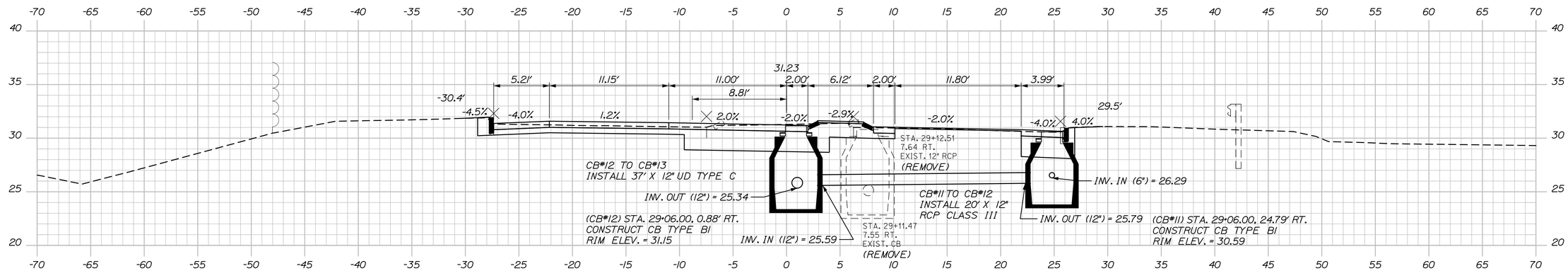


29+46.50



29+25.00

C = 62 CY
F = 0 CY
G = 0 CY



29+06.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Hémick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H46

OF H77

HNTB

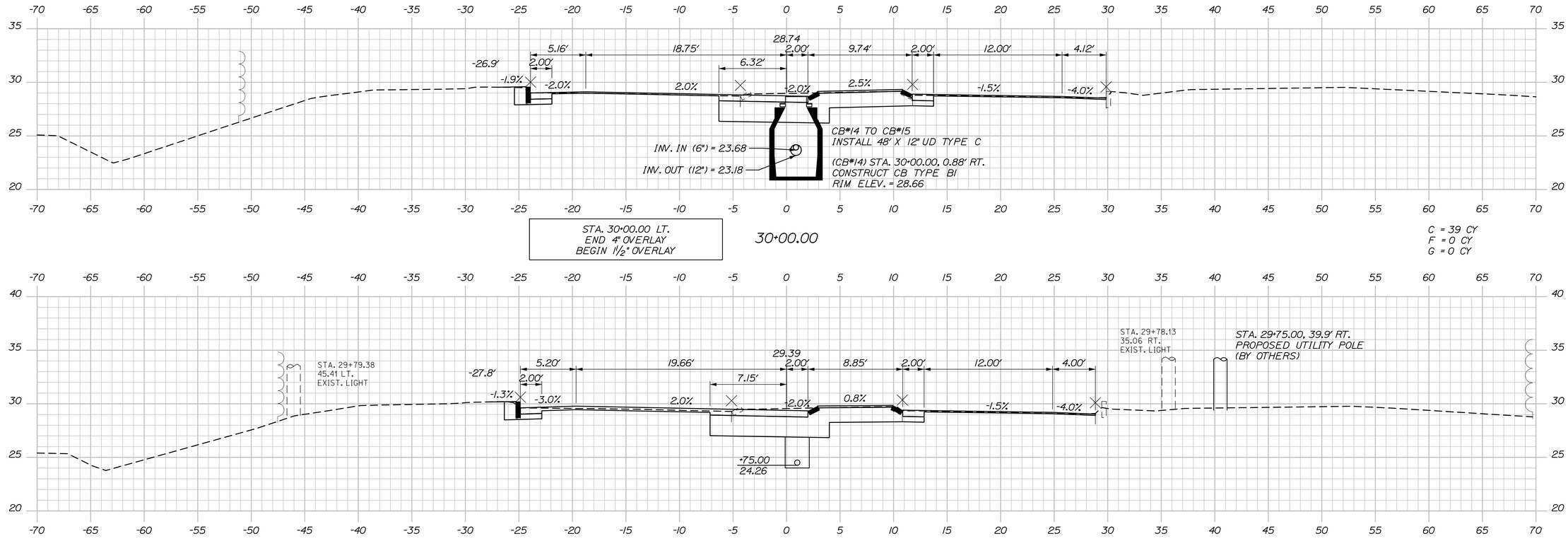
Sta. 29+06.00 to Sta. 29+46.50

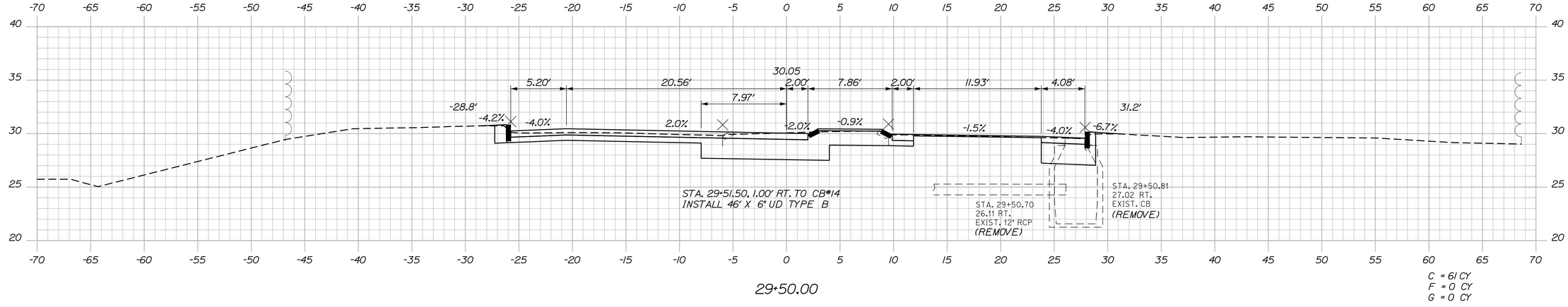
Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn





HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Helmick	9\2023
CHECKED-REVIEWED	L. Driscoll	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H47

OF H77

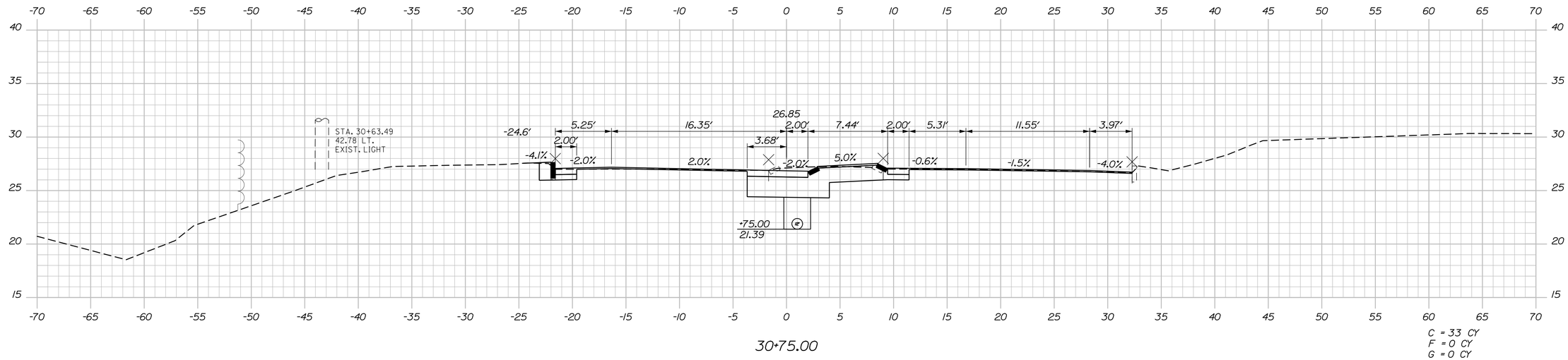
Sta. 29+50.00 to Sta. 30+00.00

Date:2/14/2024

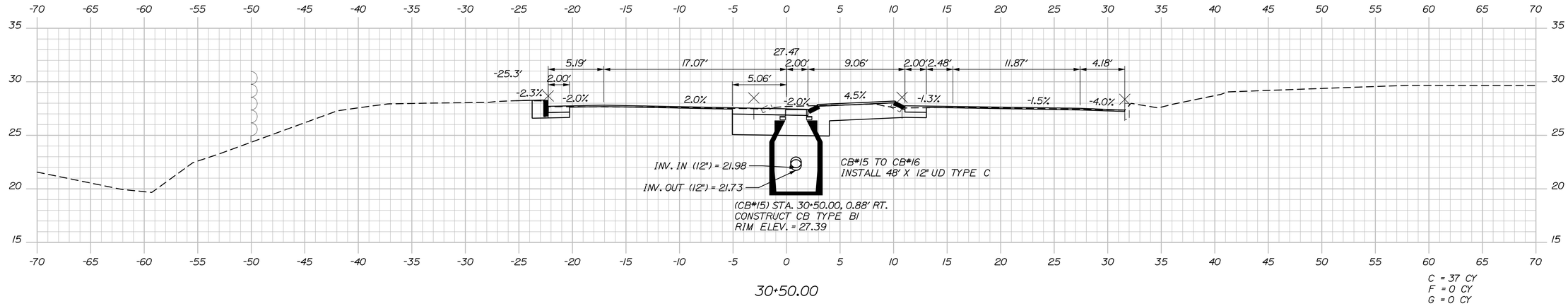
Username:

Division:

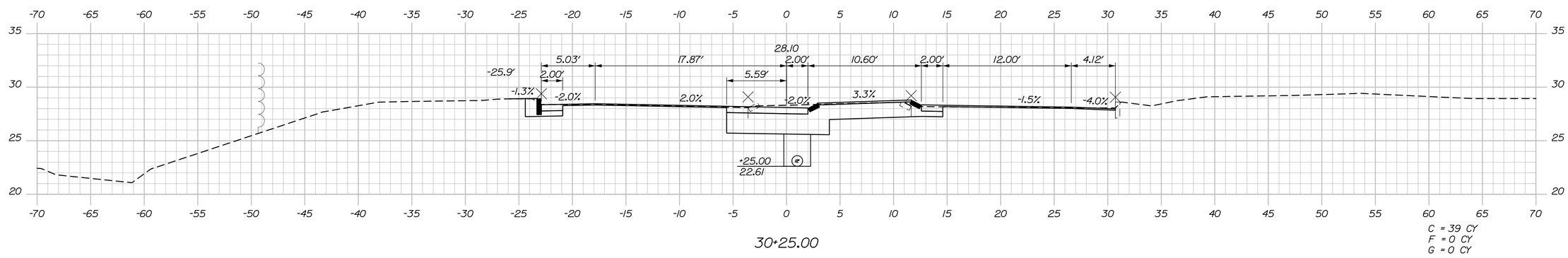
Filename: X_Sect_Route1_SP40n.dgn



30+75.00



30+50.00



30+25.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

SIGNATURE

P.E. NUMBER

DATE

	BY	DATE
D. Coombs	D. Burton	9\2023
C. Hélmick	R. Hanf	9\2023
L. Driscoll		

PROJ. MANAGER	D. Coombs
DESIGN-DETAILED	C. Hélmick
CHECKED-REVIEWED	L. Driscoll
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H48

OF H77

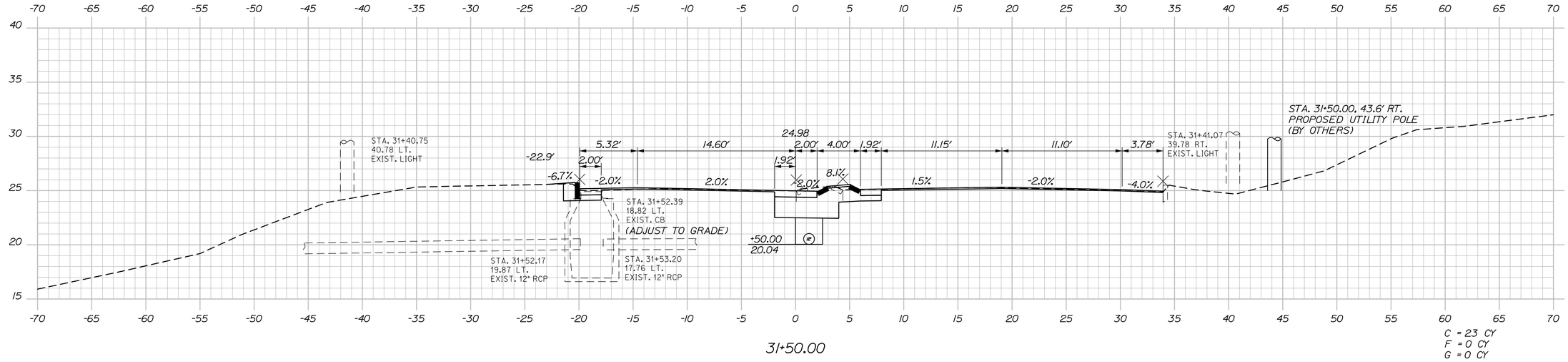
Date:2/14/2024

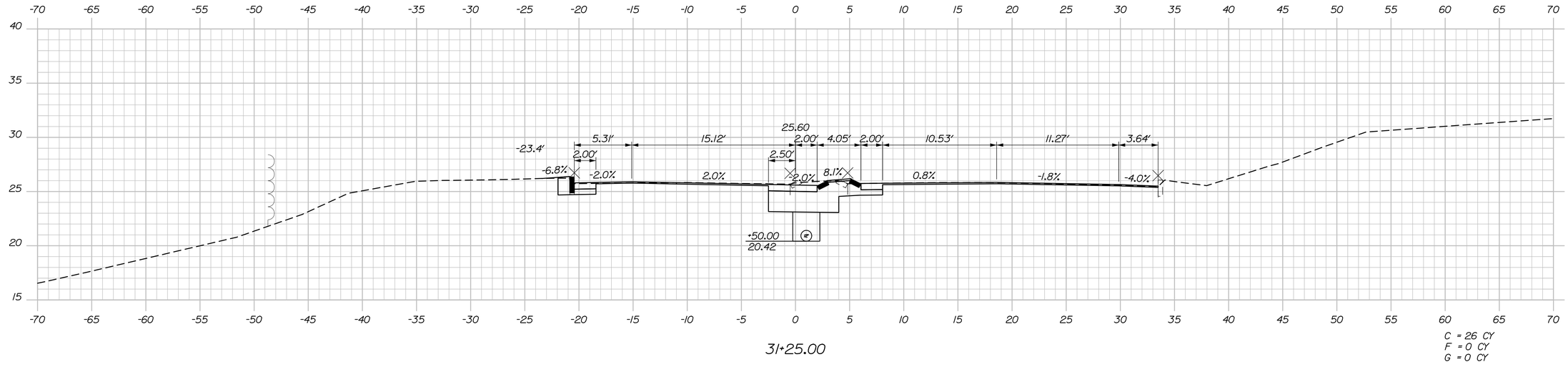
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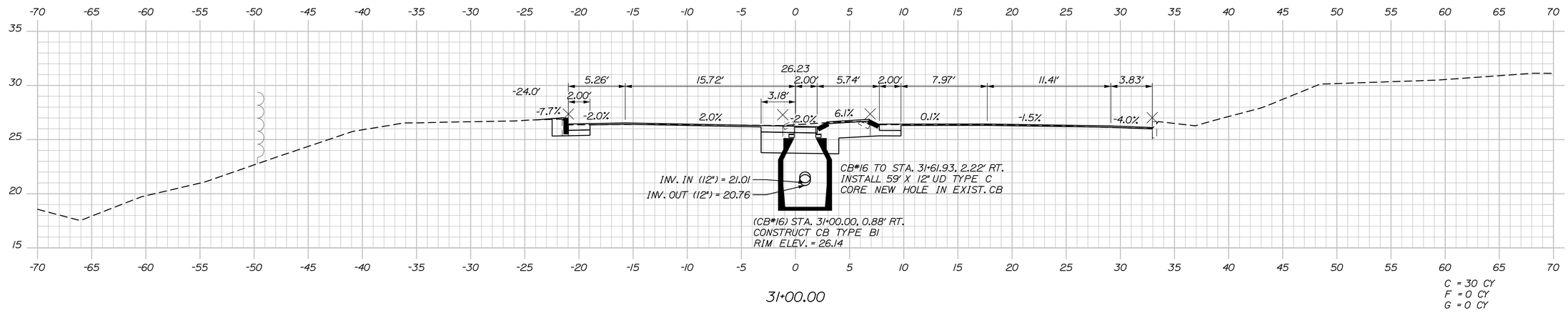
Division:

Filename: X_Sect_Route1_SP40n.dgn

Sta. 30+25.00 to Sta. 30+75.00







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H49

OF H77

HNTB

Sta. 31+00.00 to Sta. 31+50.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	BY	DATE
CHECKED-REVIEWED	L. Driscoll	D. Burton	9\2023
DESIGN2-DETAILED2		R. Hanf	9\2023
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H50

OF H77

HNTB

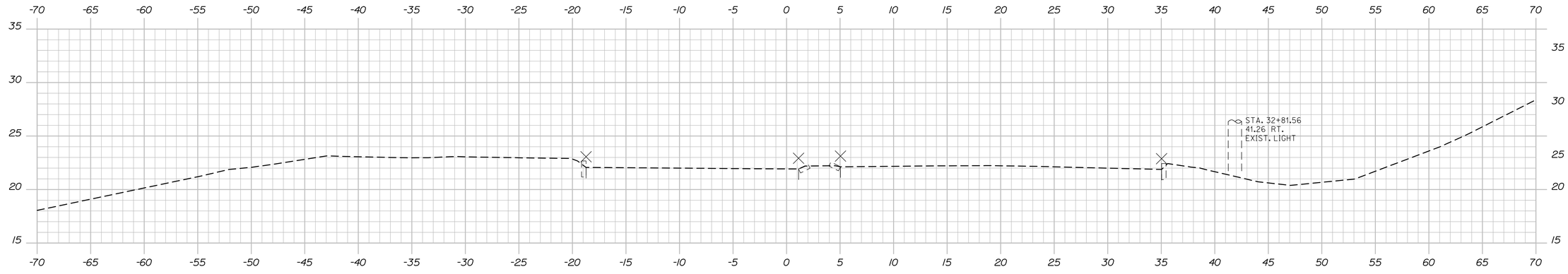
Date:2/14/2024

Username:

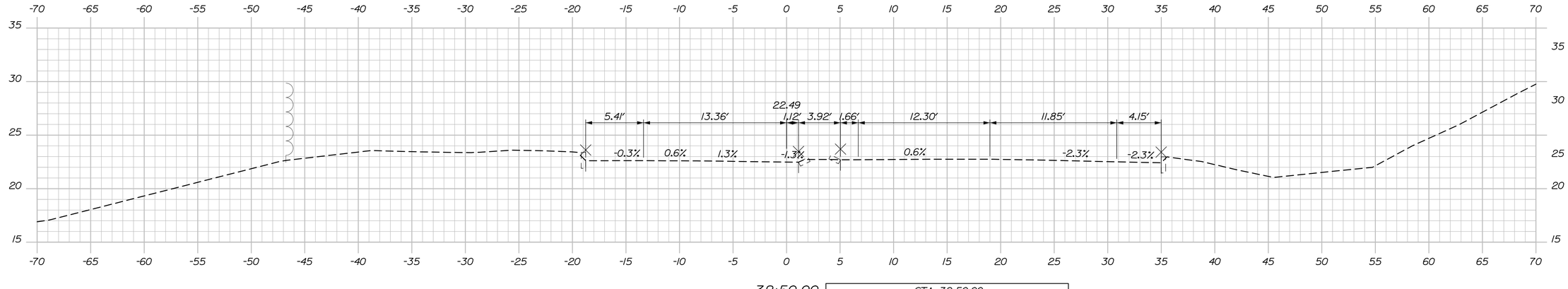
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Filename: X_Sect_Route1_SP40n.dgn

Sta. 31+62.00 to Sta. 32+00.00



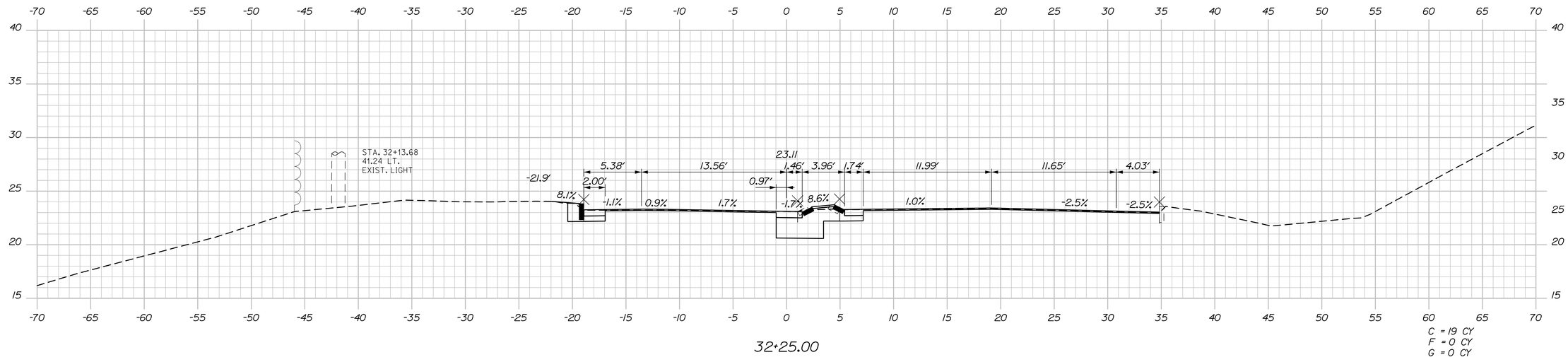
32+75.00



32+50.00

STA. 32+50.00
END PROJECT WIN 12800.30
END PARTIAL DEPTH CONSTRUCTION
END VARIABLE DEPTH
MILL, SHIM, & 1½" OVERLAY LT. & RT.
MATCH EXISTING PAVEMENT
LIMIT OF WORK

C = 9 CY
F = 0 CY
G = 0 CY



32+25.00

C = 19 CY
F = 0 CY
G = 0 CY

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED	D. Coombs	
CHECKED-REVIEWED	C. Helmick	9\2023
DESIGN2-DETAILED2	L. Driscoll	9\2023
DESIGN3-DETAILED3	D. Burton	
REVISIONS 1	R. Hanf	
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

U.S. ROUTE 1/SP-4 ON
CROSS SECTIONS

SHEET NUMBER

H51

OF H77

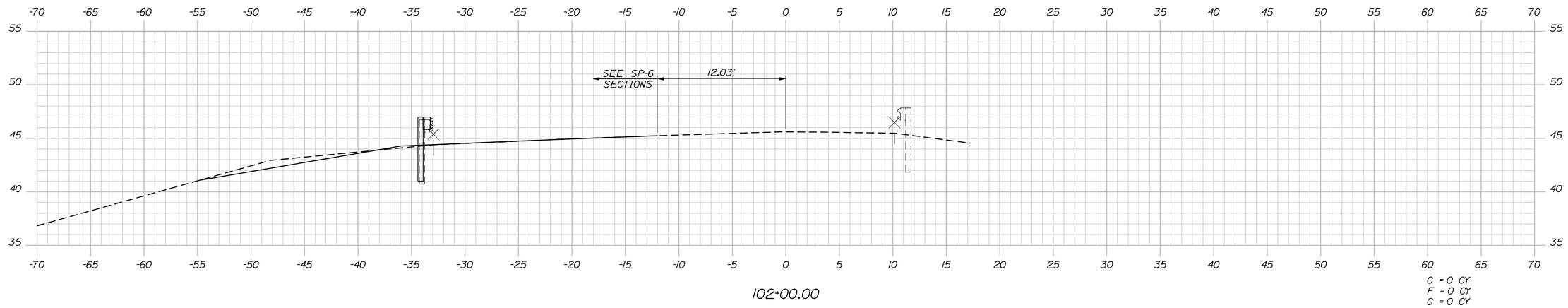
Sta. 32+25.00 to Sta. 32+75.00

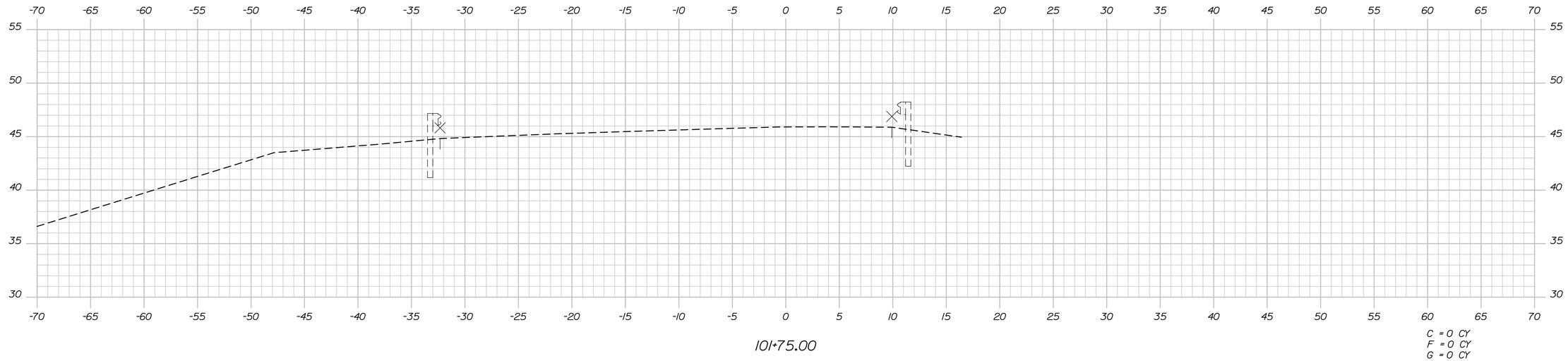
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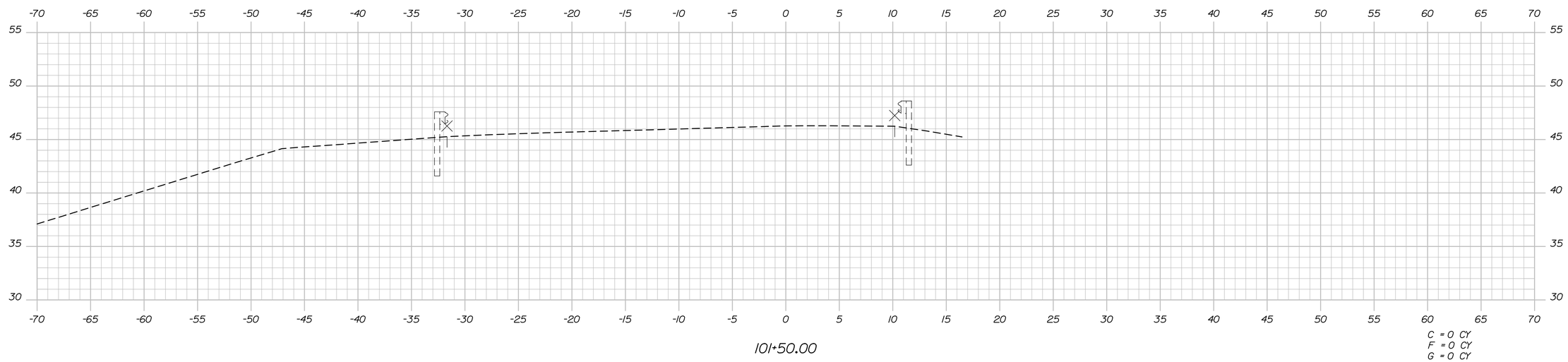
Username:

Division:

Filename: X_Sect_Route1_SP40n.dgn







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Helmick	9\2023
CHECKED-REVIEWED	L. Driscoll	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

P.E. NUMBER

SIGNATURE

DATE

SOUTH PORTLAND
EXIT 4

SP-2
CROSS SECTIONS

SHEET NUMBER

H52

OF H77

HNTB

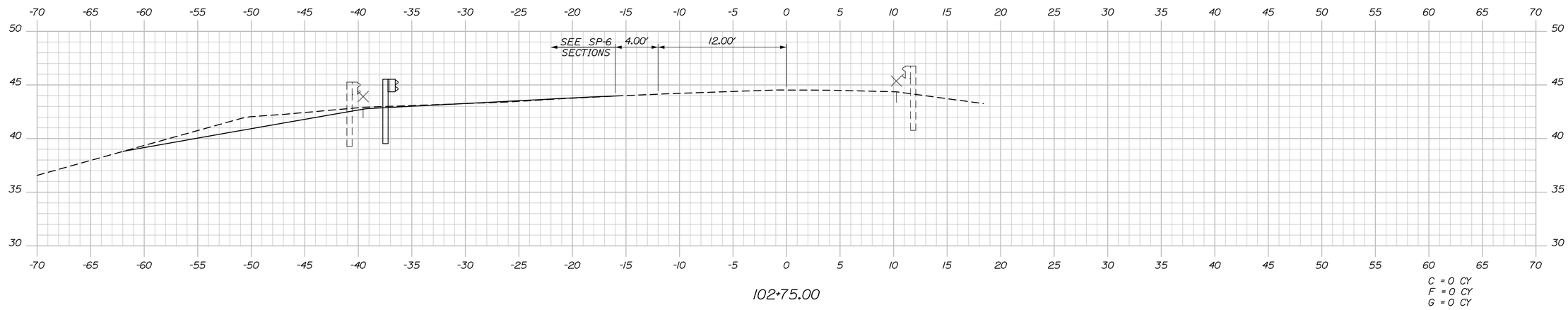
Sta. 101+50.00 to Sta. 102+00.00

Date:2/14/2024

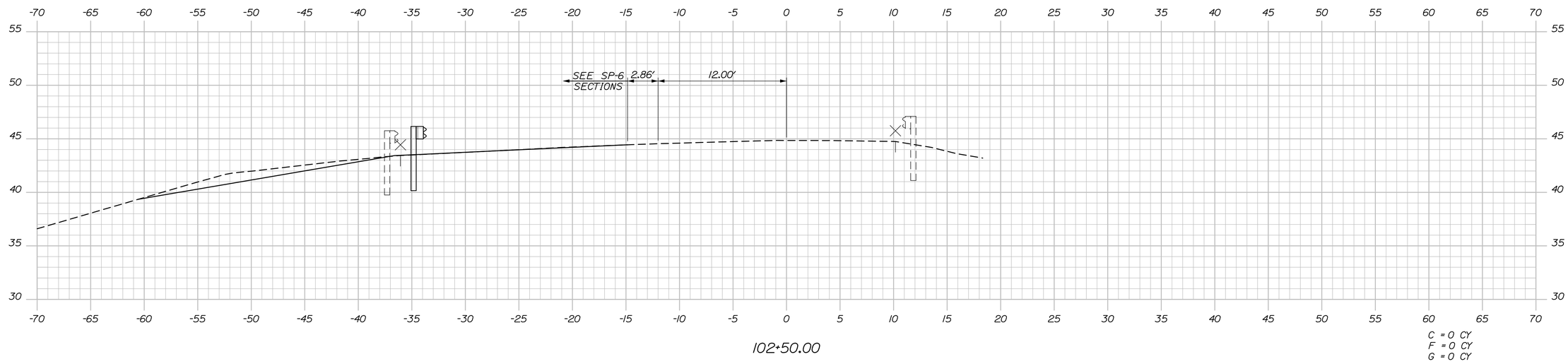
Username:

Division:

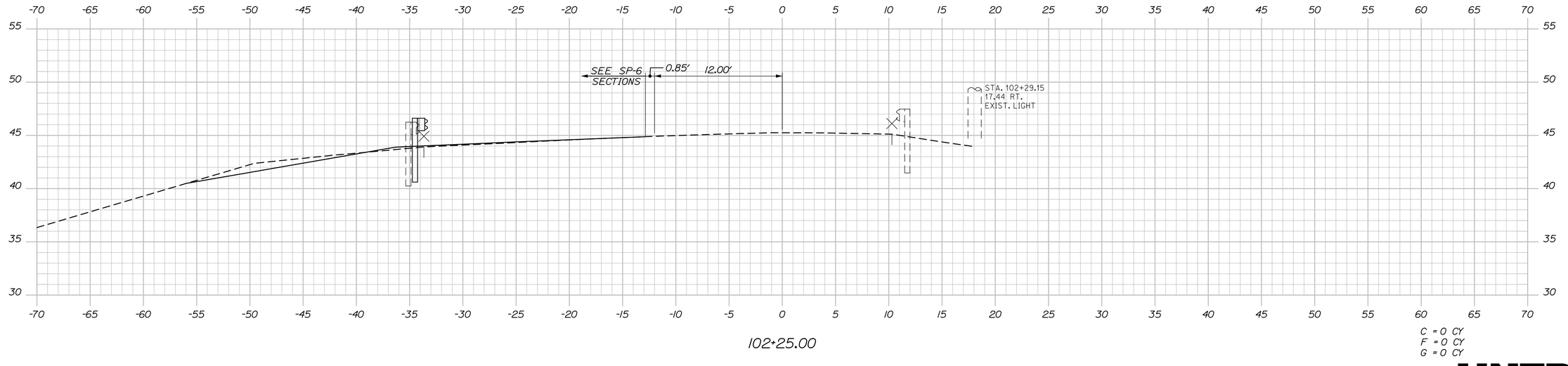
Filename: X_Sect_SP2.dgn



102+75.00



102+50.00



102+25.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	BY	D. Burton
CHECKED-REVIEWED	L. Driscoll		R. Hanf
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1		DATE	9\2023
REVISIONS 2			9\2023
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-2
CROSS SECTIONS

SHEET NUMBER

H53

OF H77

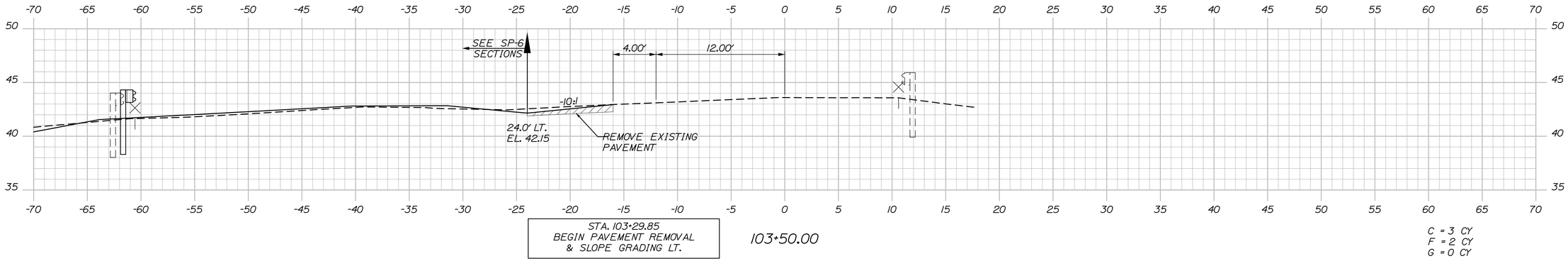
Sta. 102+25.00 to Sta. 102+75.00

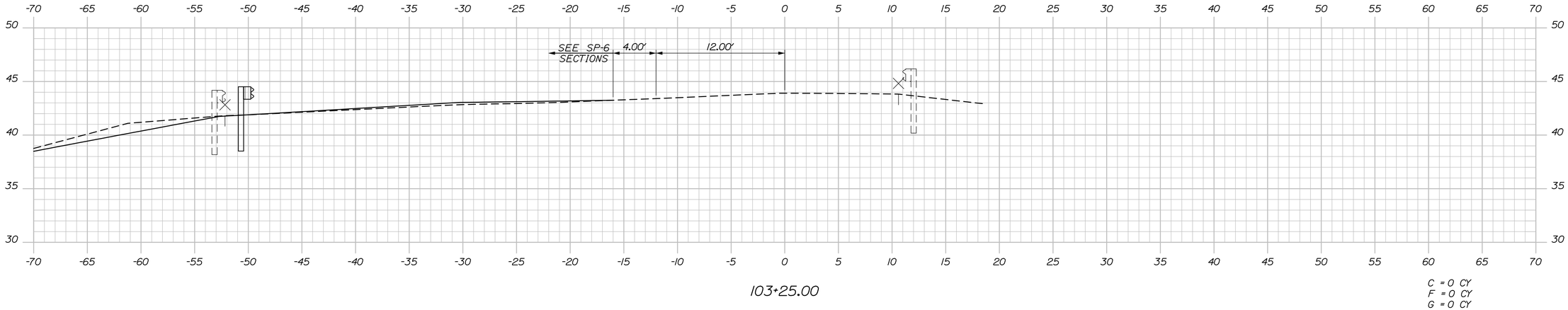
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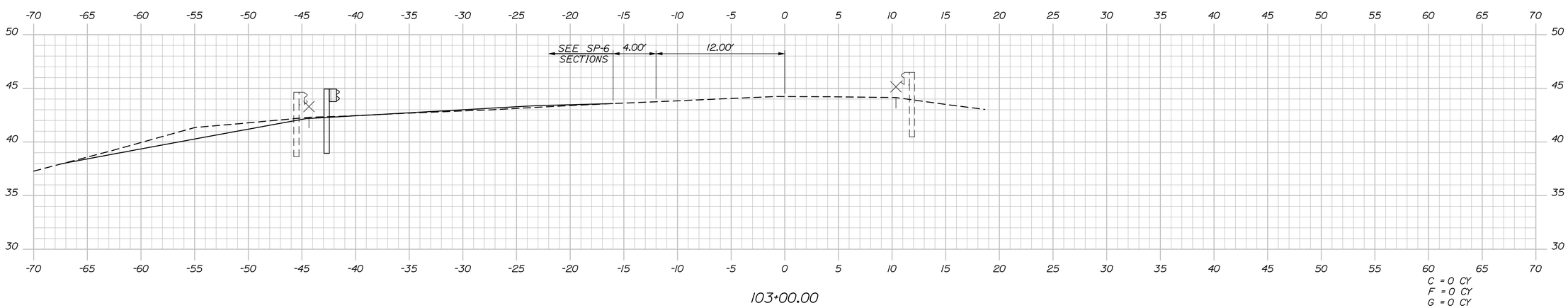
Username:

Division:

Filename: X_Sect_SP2.dgn







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Helmick	9\2023
CHECKED-REVIEWED	L. Driscoll	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-2
CROSS SECTIONS

SHEET NUMBER

H54

OF H77

HNTB

Sta. 103+00.00 to Sta. 103+50.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_SP2.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	BY	D. Burton
CHECKED-REVIEWED	L. Driscoll		R. Hanf
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1		DATE	9\2023
REVISIONS 2			9\2023
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SOUTH PORTLAND
EXIT 4

SP-2
CROSS SECTIONS

SHEET NUMBER

H55

OF H77

HNTB

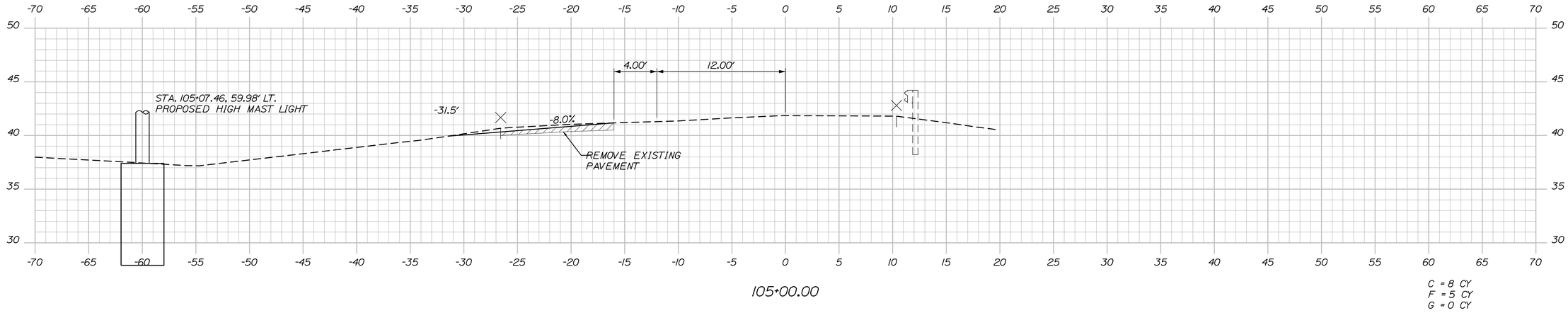
Sta. 103+75.00 to Sta. 104+25.00

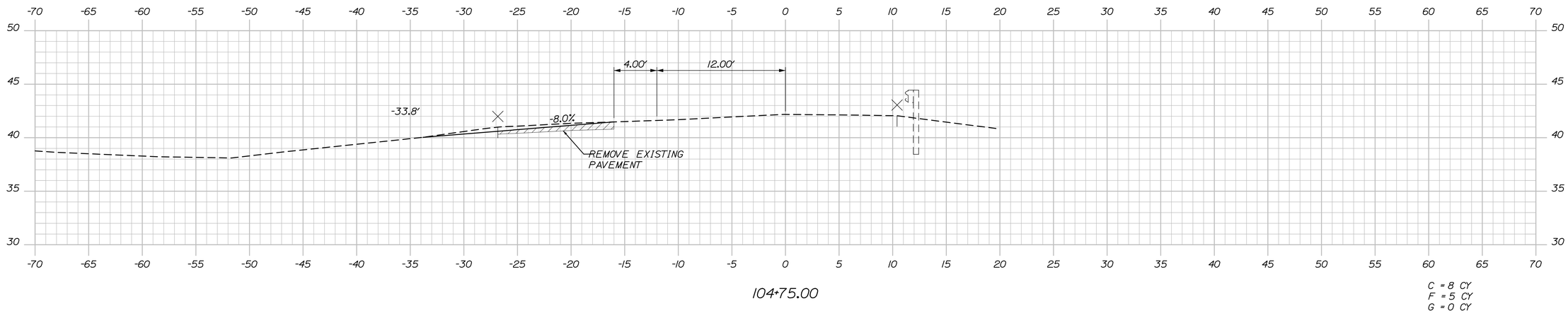
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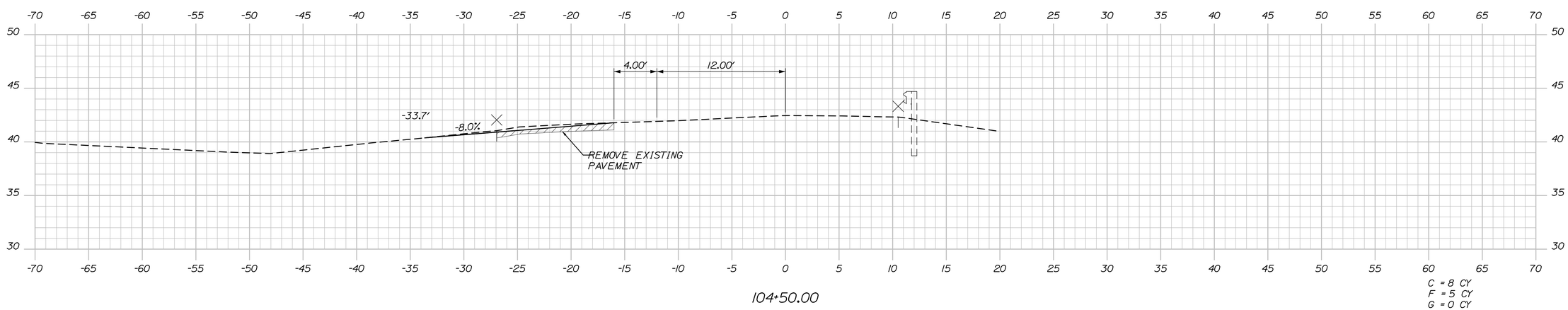
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Division:

Filename: X_Sect_SP2.dgn







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-2
CROSS SECTIONS

SHEET NUMBER

H56

OF H77

HNTB

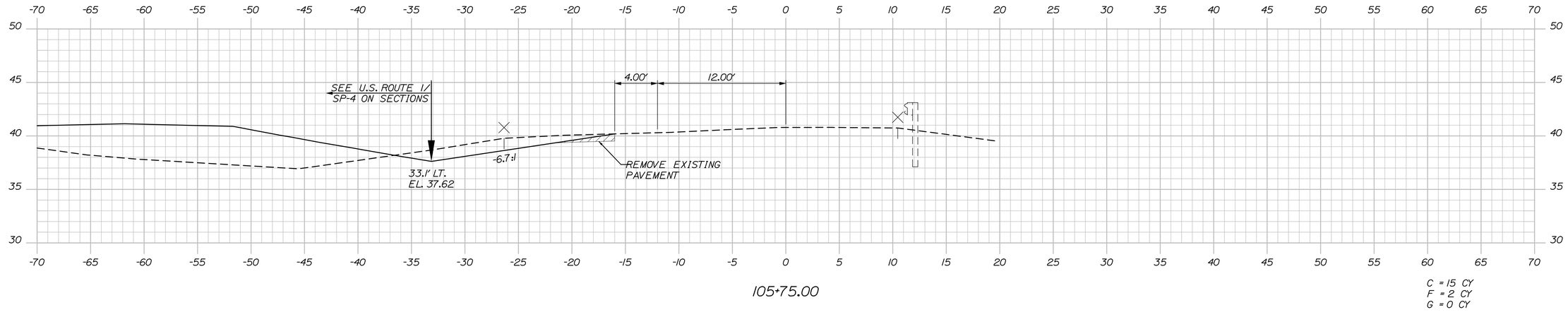
Sta. 104+50.00 to Sta. 105+00.00

Date:2/14/2024

Username:

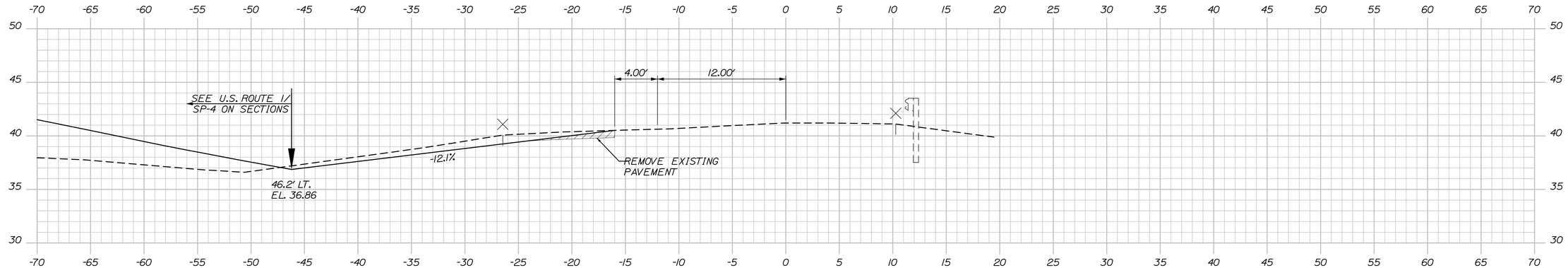
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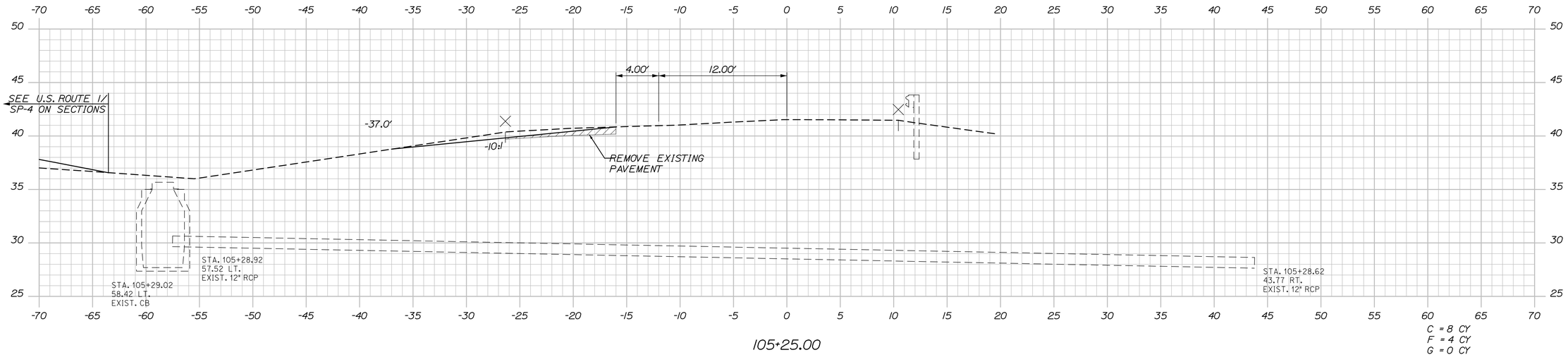
105+75.00

C = 15 CY
F = 2 CY
G = 0 CY



105+50.00

C = 13 CY
F = 3 CY
G = 0 CY



105+25.00

C = 8 CY
F = 4 CY
G = 0 CY

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-2
CROSS SECTIONS

SHEET NUMBER

H57

OF H77

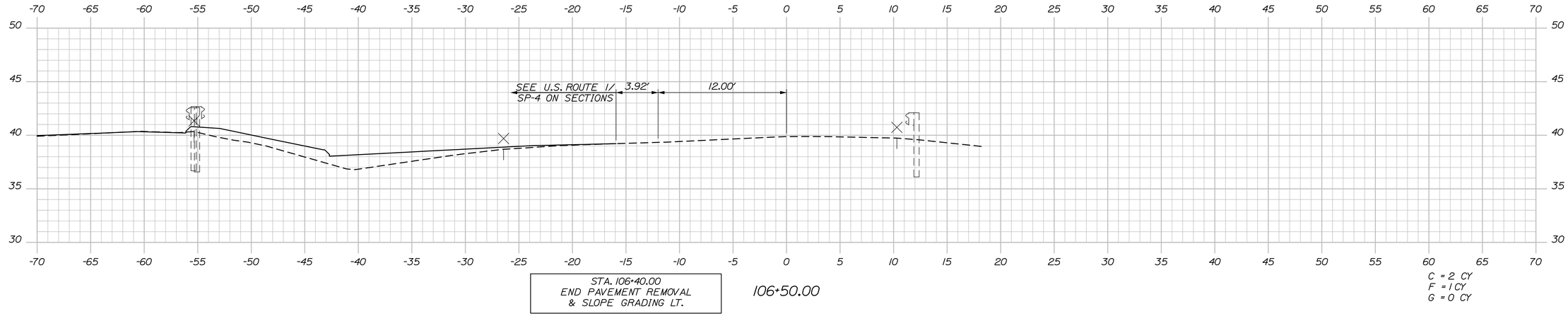
Sta. 105+25.00 to Sta. 105+75.00

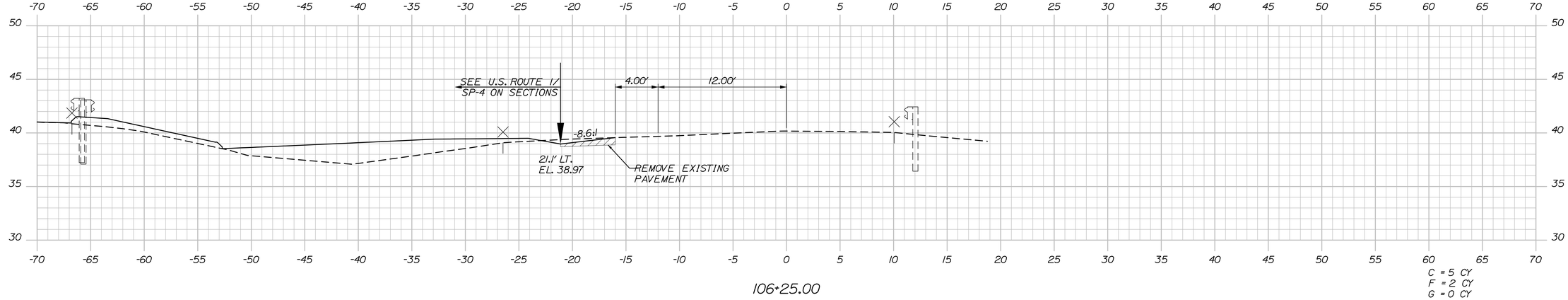
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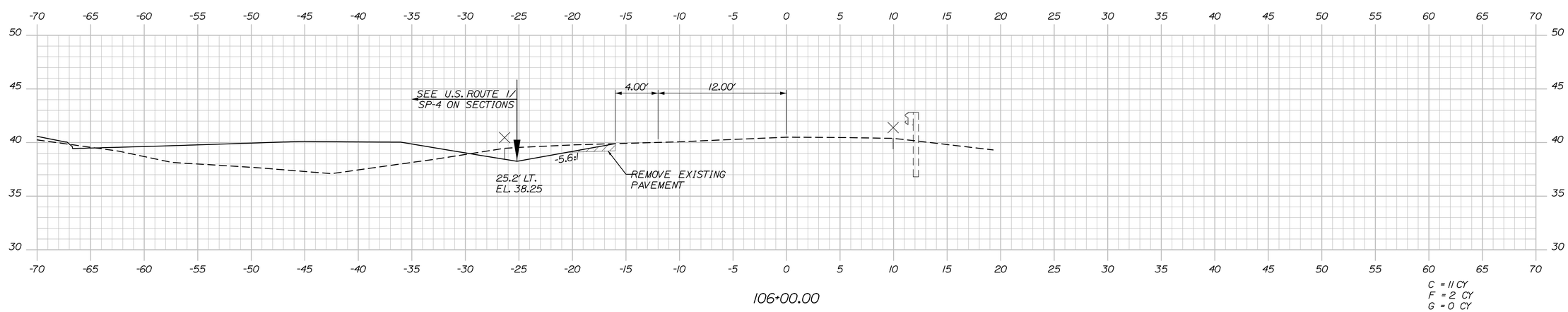
Username:

Division:

Filename: X_Sect_SP2.dgn







HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-2
CROSS SECTIONS

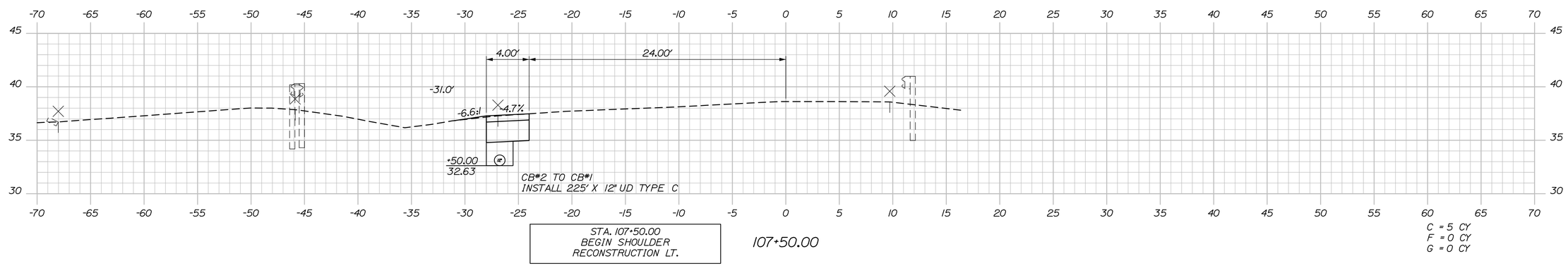
SHEET NUMBER

H58

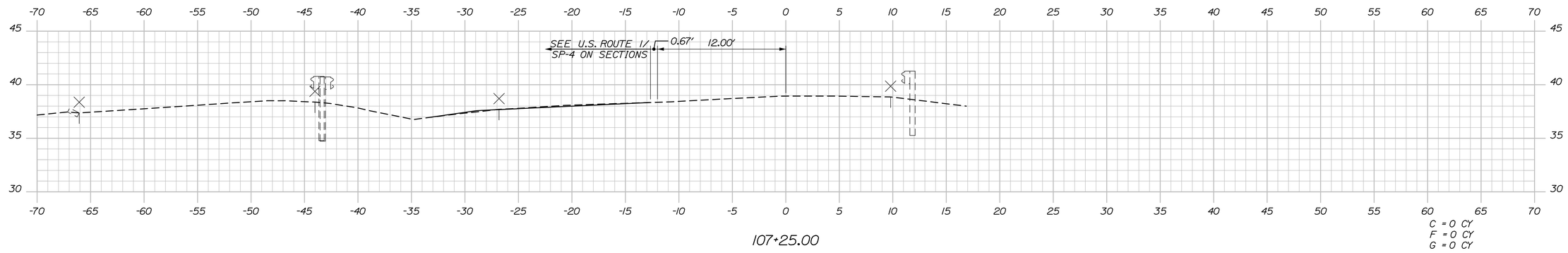
OF H77

Sta. 106+00.00 to Sta. 106+50.00

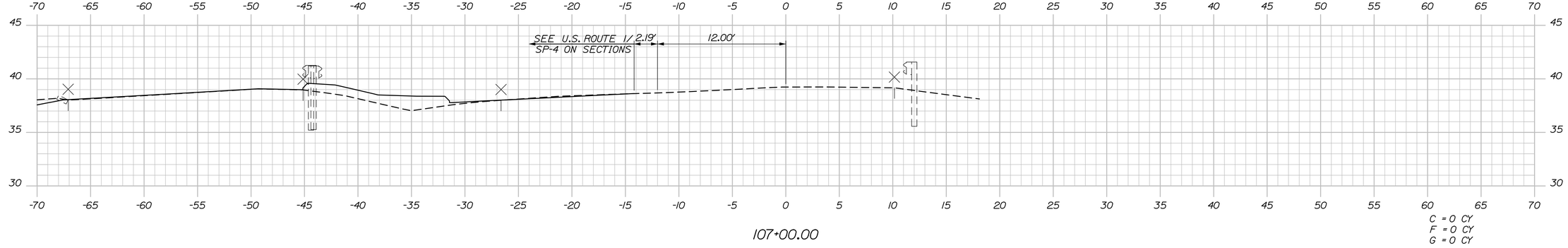
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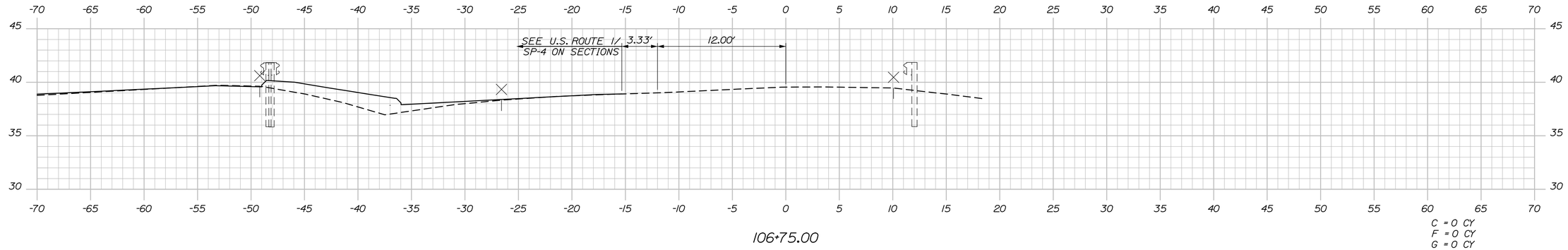
107+50.00



107+25.00



107+00.00



106+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	BY	DATE
CHECKED-REVIEWED	L. Driscoll	D. Burton	9\2023
DESIGN2-DETAILED2		R. Hanf	9\2023
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-2
CROSS SECTIONS

SHEET NUMBER

H59

OF H77

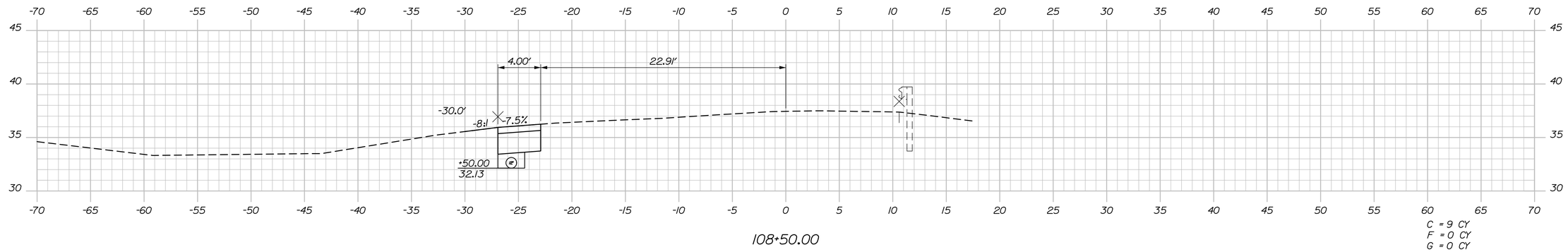
Sta. 106+75.00 to Sta. 107+50.00

Date:2/14/2024

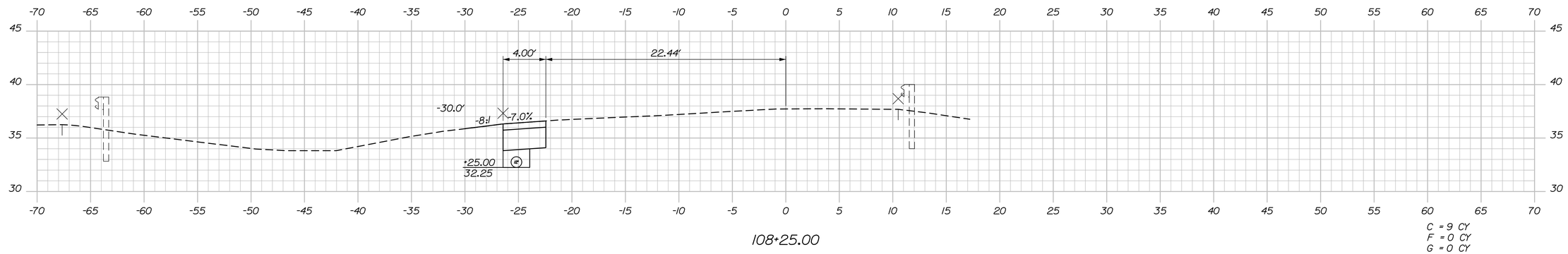
Username:

Division:

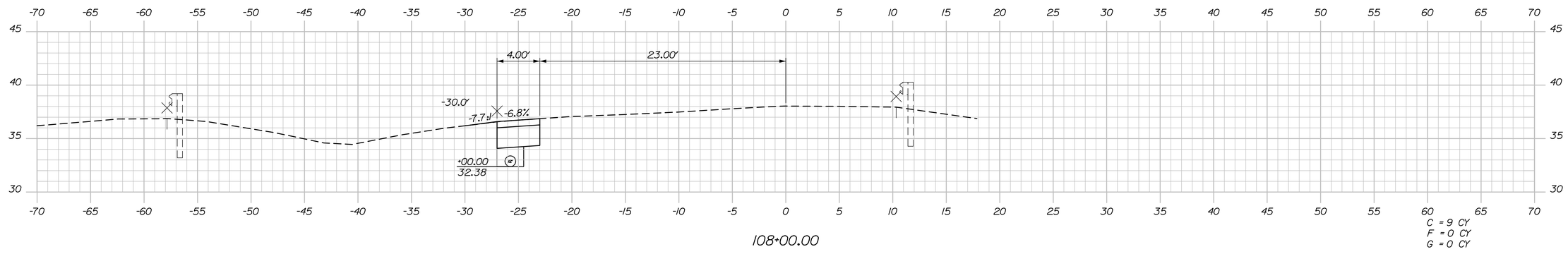
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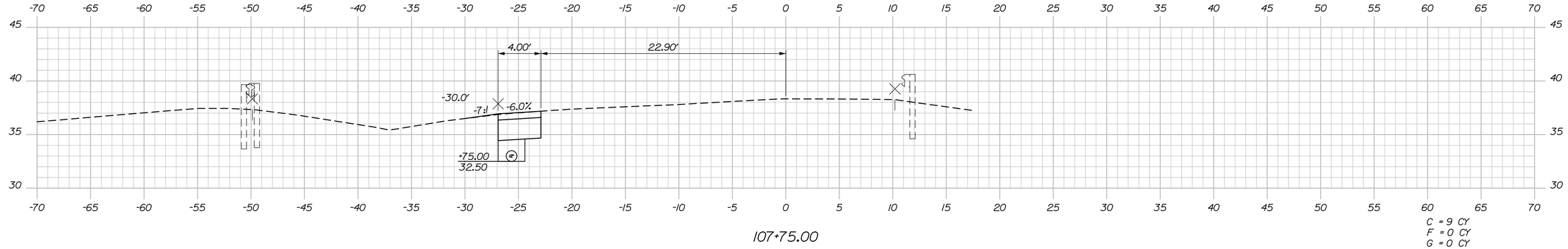
108+50.00



108+25.00



108+00.00



107+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-2
CROSS SECTIONS

SHEET NUMBER

H60

OF H77

Sta. 107+75.00 to Sta. 108+50.00

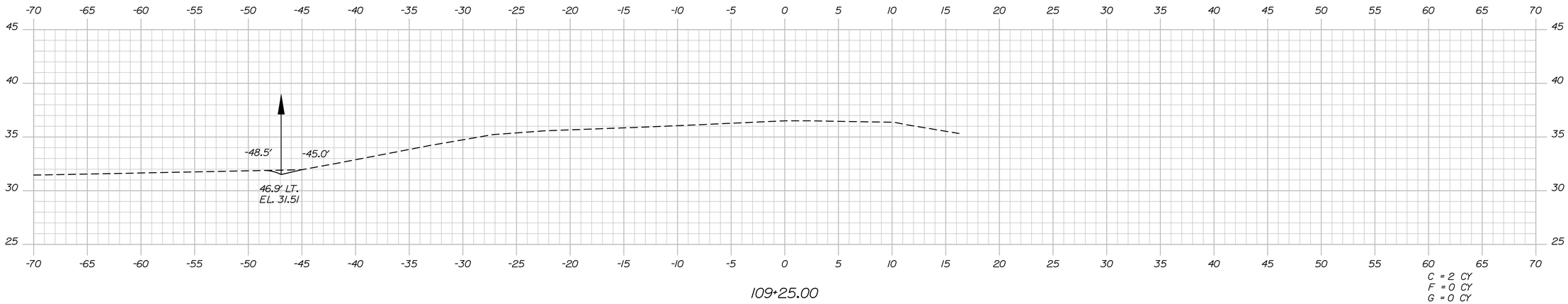
Date:2/14/2024

Username:

Division:

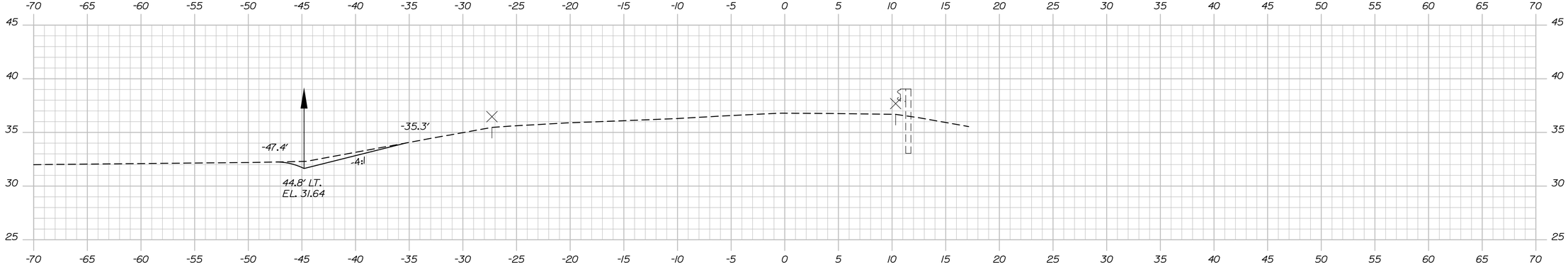
Filename: X_Sect_SP2.dgn

STA. 109+40.00
LIMIT OF WORK



109+25.00

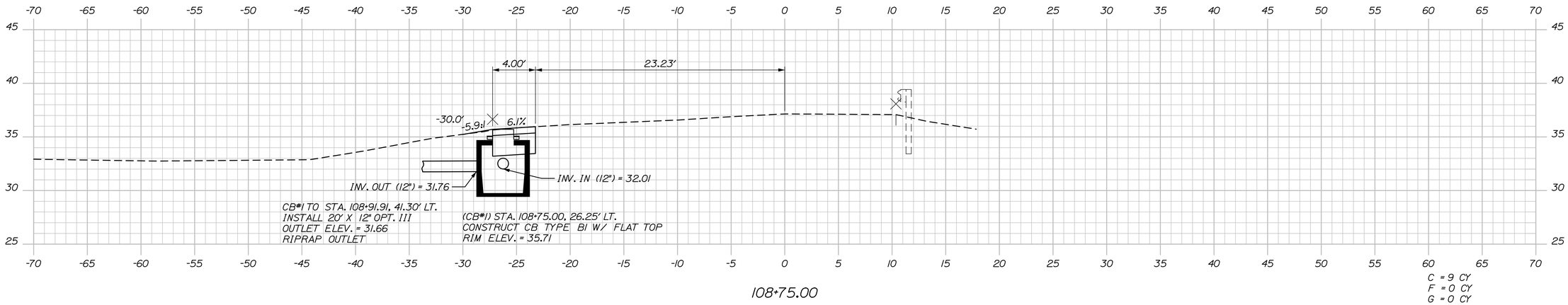
C = 2 CY
F = 0 CY
G = 0 CY



STA. 108+80.00
END SHOULDER
RECONSTRUCTION LT.

109+00.00

C = 6 CY
F = 0 CY
G = 0 CY



108+75.00

C = 9 CY
F = 0 CY
G = 0 CY

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-2
CROSS SECTIONS

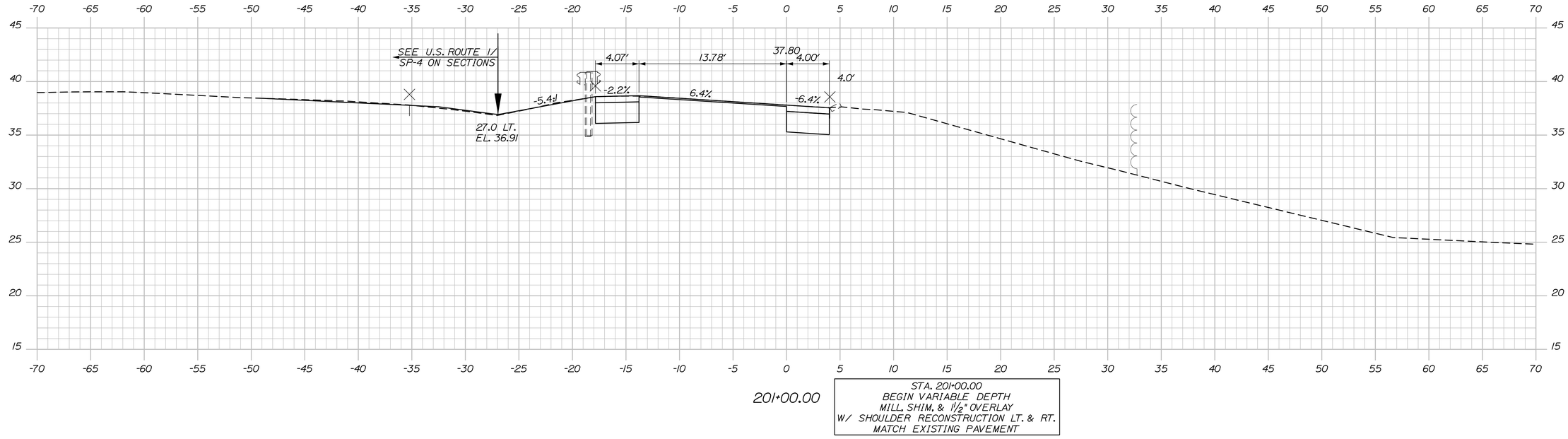
SHEET NUMBER

H61

OF H77

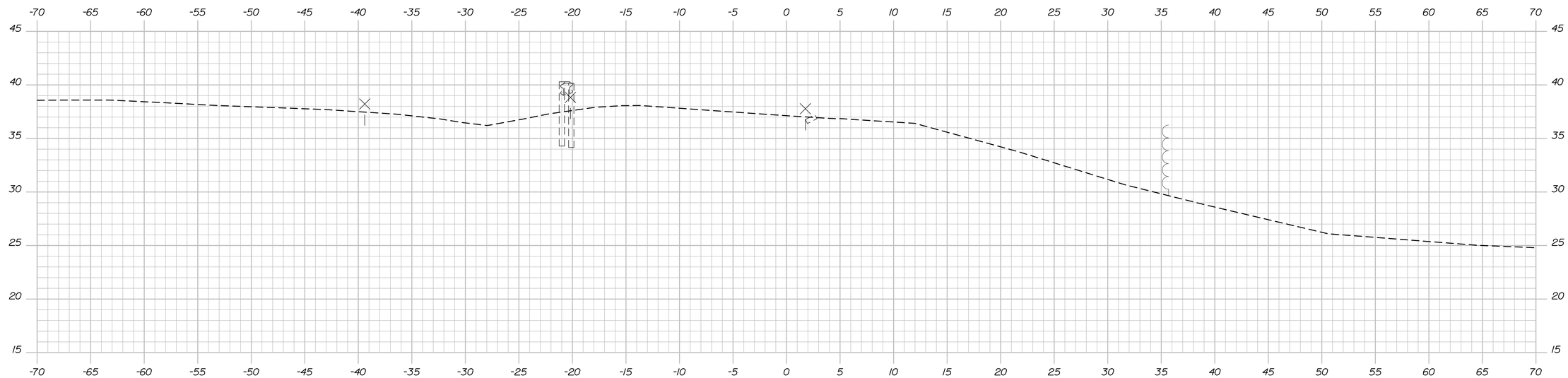
Sta. 108+75.00 to Sta. 109+25.00

Filename: X_Sect_SP2.dgn Division: Username: Date:2/14/2024



201+00.00

STA. 201+00.00
BEGIN VARIABLE DEPTH
MILL, SHIM, & 1½" OVERLAY
W/ SHOULDER RECONSTRUCTION LT. & RT.
MATCH EXISTING PAVEMENT



200+75.00

STA. 195+26.00
LIMIT OF WORK

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP4
CROSS SECTIONS

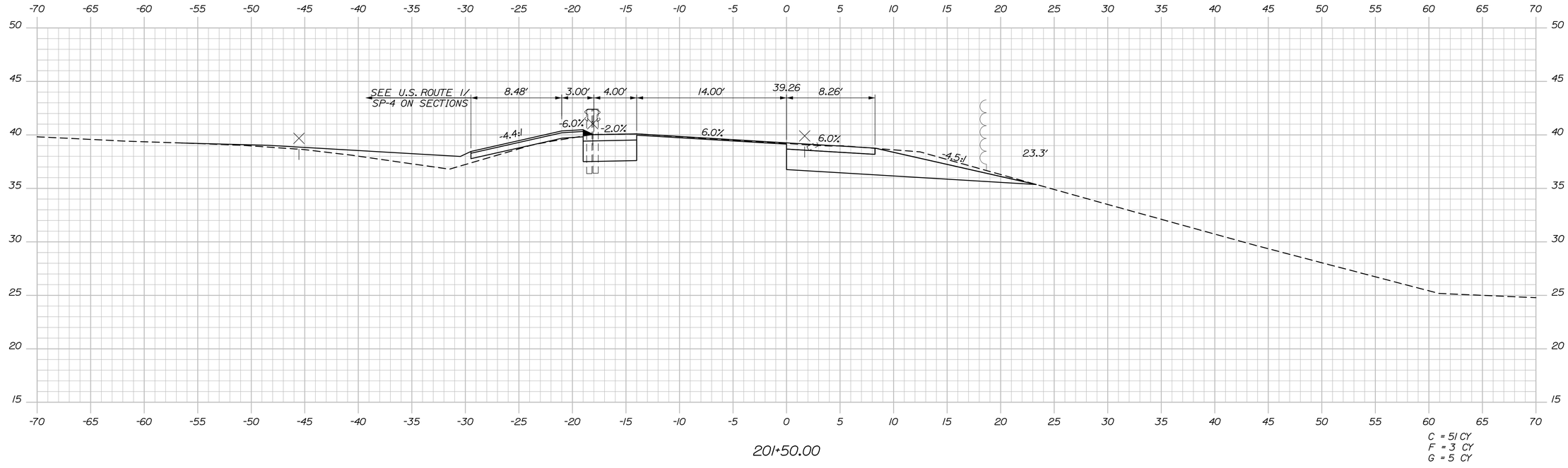
SHEET NUMBER

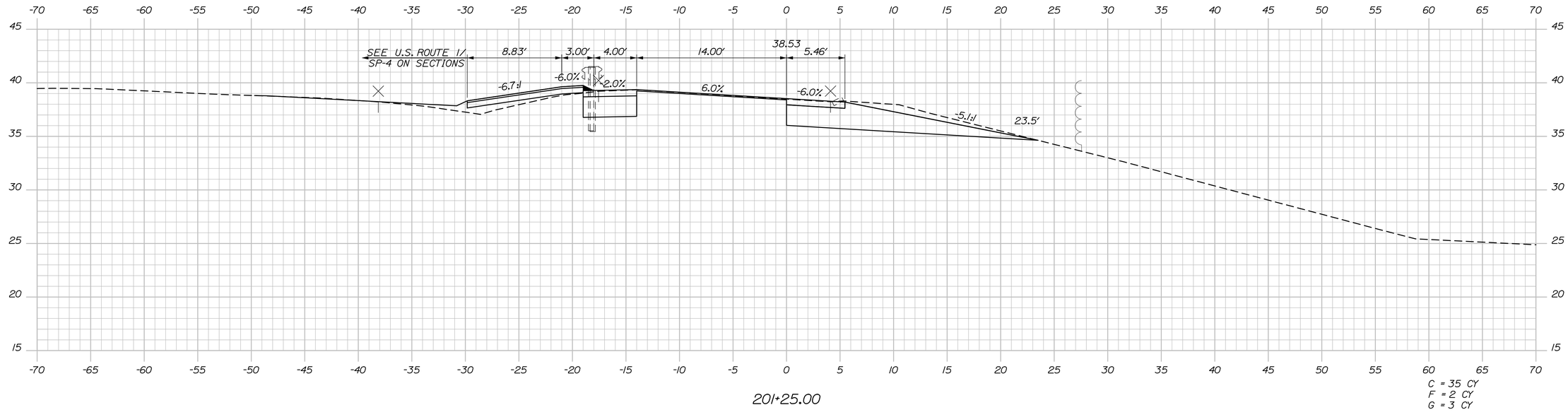
H62

OF H77

Sta. 200+75.00 to Sta. 201+00.00

Filename: X_Sect_SP4.dgn Division: Username: Date:2/14/2024





HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	BY	DATE
CHECKED-REVIEWED	L. Driscoll	D. Burton	9\2023
DESIGN2-DETAILED2		R. Hanf	9\2023
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP4
CROSS SECTIONS

SHEET NUMBER

H63

OF H77

Sta. 201+25.00 to Sta. 201+50.00

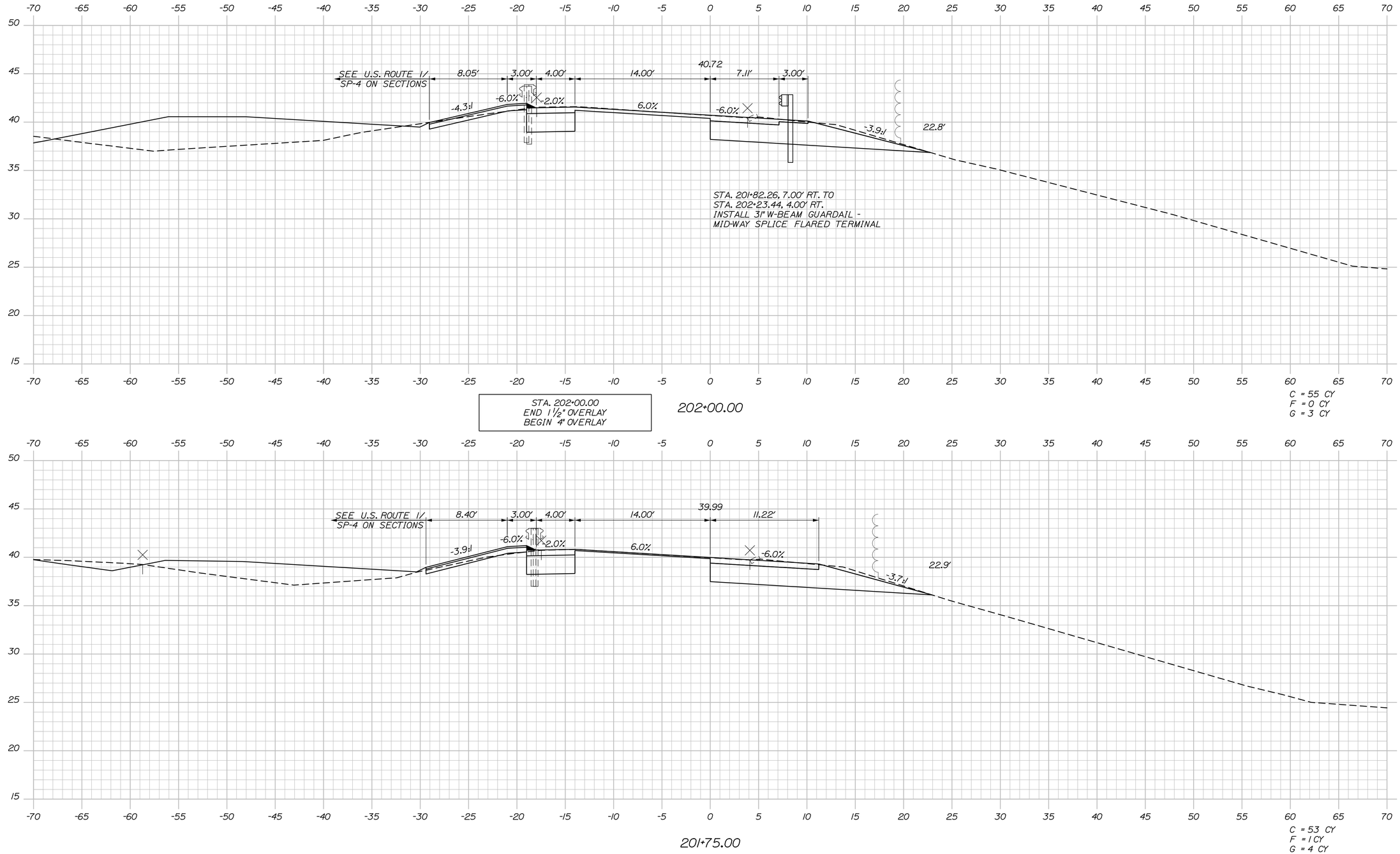
Date:2/14/2024

Username:

Division:

Filename: X_Sect_SP4.dgn

Date:2/14/2024
Username:
Division:
Filename: X_Sect_SP4.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER			
DESIGN-DETAILED	D. Coombs	BY	
CHECKED-REVIEWED	C. Helmick	D. Burton	9\2023
DESIGN2-DETAILED2	L. Driscoll	R. Hanf	9\2023
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

P.E. NUMBER

SIGNATURE

DATE

SOUTH PORTLAND
EXIT 4

SP4
CROSS SECTIONS

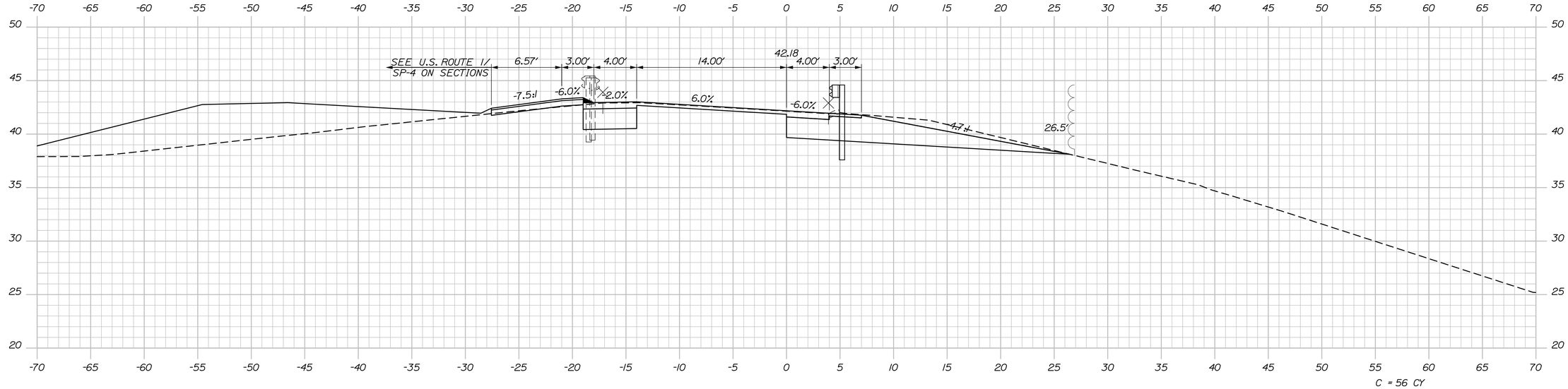
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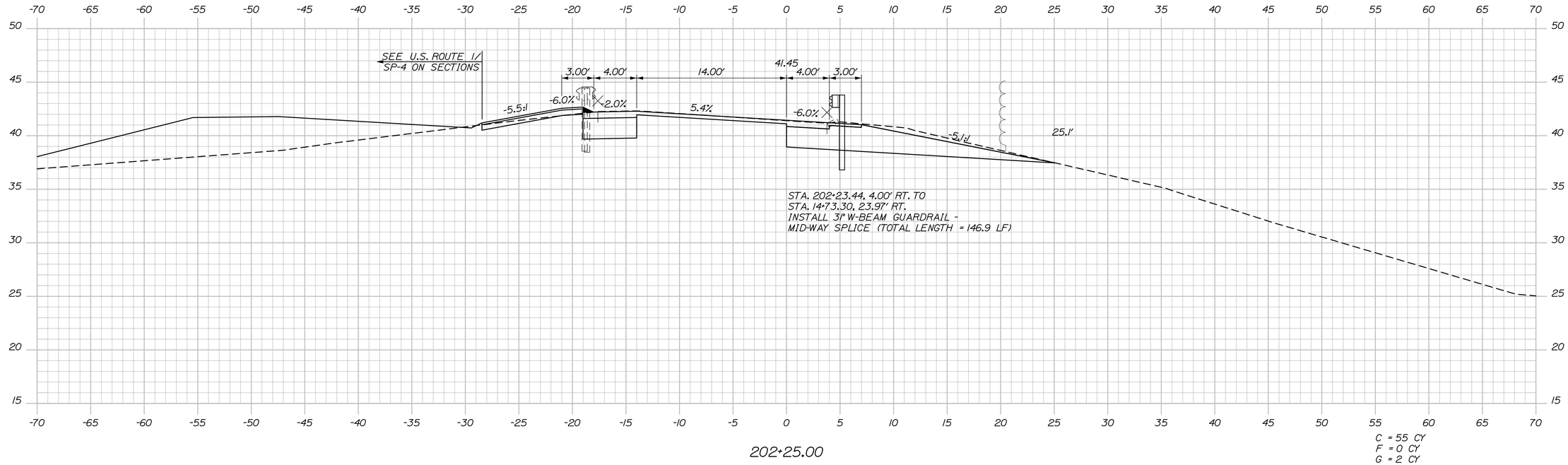
H64

OF H77

HNTB

Sta. 201+75.00 to Sta. 202+00.00





HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Csambal		
DESIGN-DETAILED	C. Hémick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP4
CROSS SECTIONS

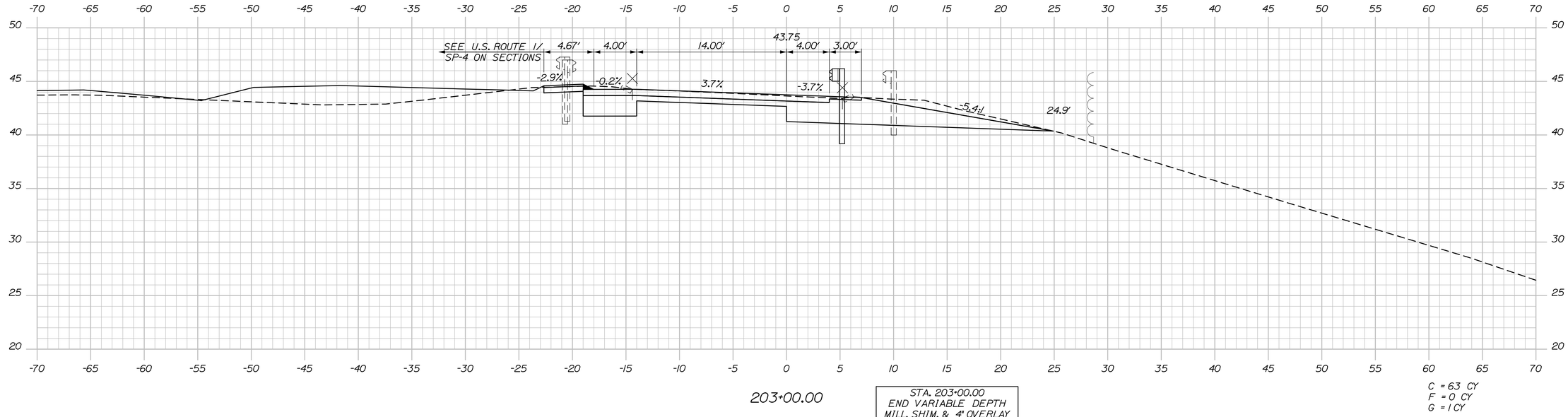
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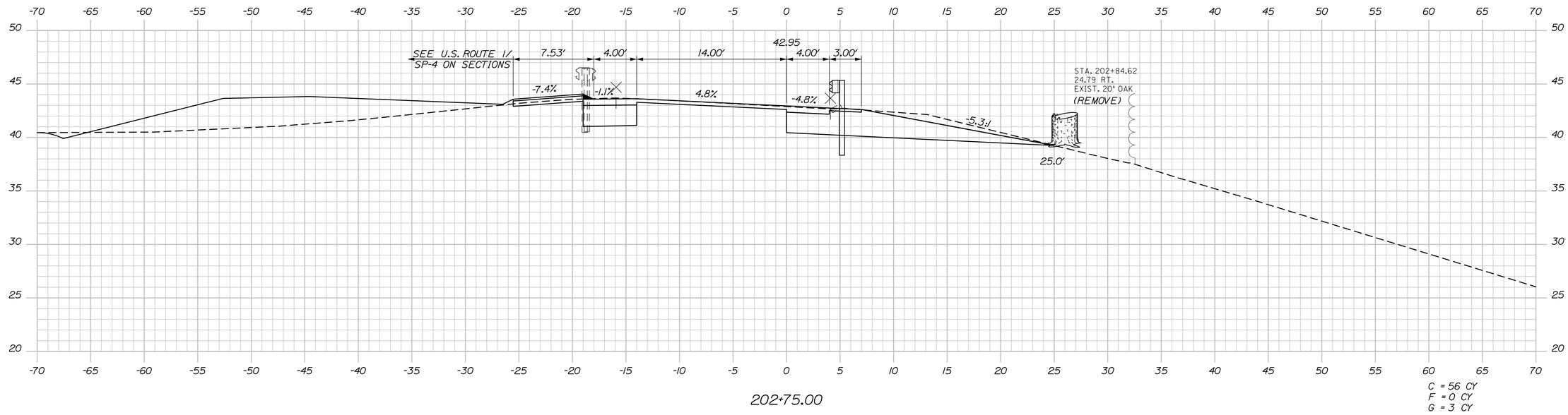
H65

OF H77

Sta. 202+25.00 to Sta. 202+50.00

Filename: X_Sect_SP4.dgn Division: Username: Date:2/14/2024





HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

	BY	DATE
D. Coombs		
C. Hémick	D. Burton	9\2023
L. Driscoll	R. Hanf	9\2023

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

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP4
CROSS SECTIONS

SHEET NUMBER

H66

OF H77

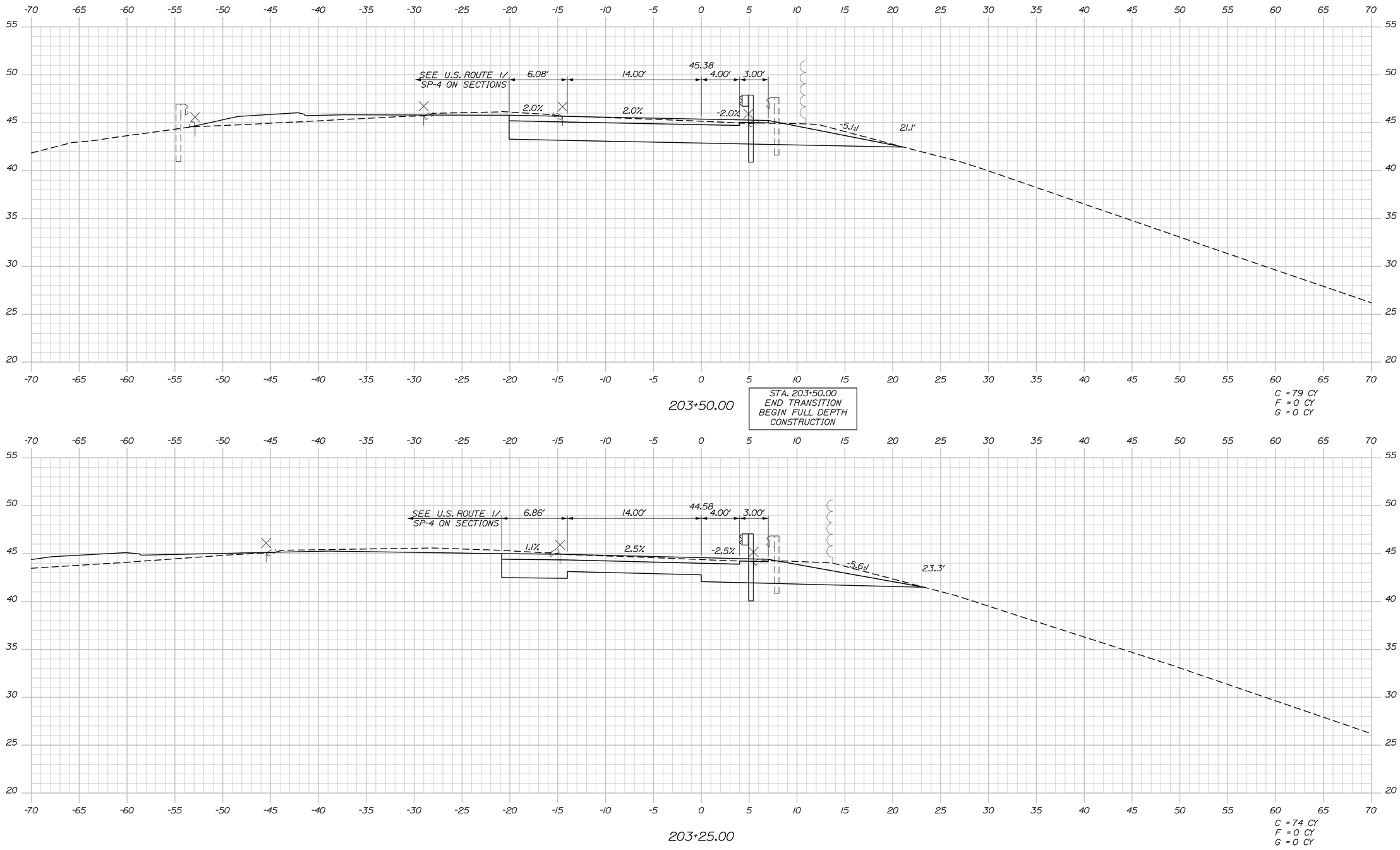
Sta. 202+75.00 to Sta. 203+00.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_SP4.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Hélmick	9\2023
CHECKED-REVIEWED	L. Driscoll	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP4
CROSS SECTIONS

SHEET NUMBER

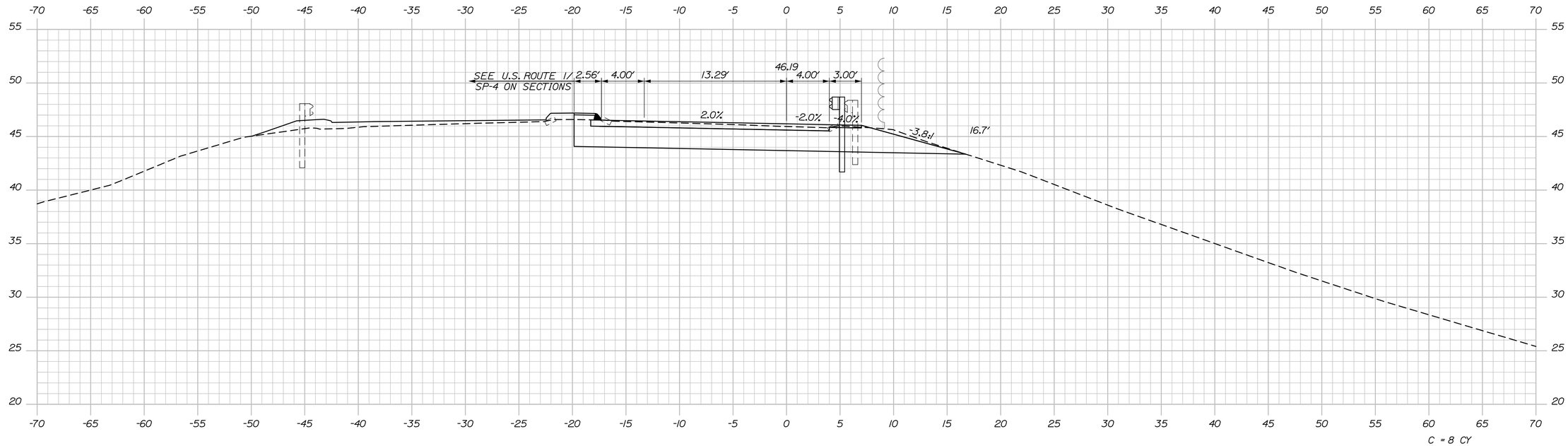
H67

OF H77

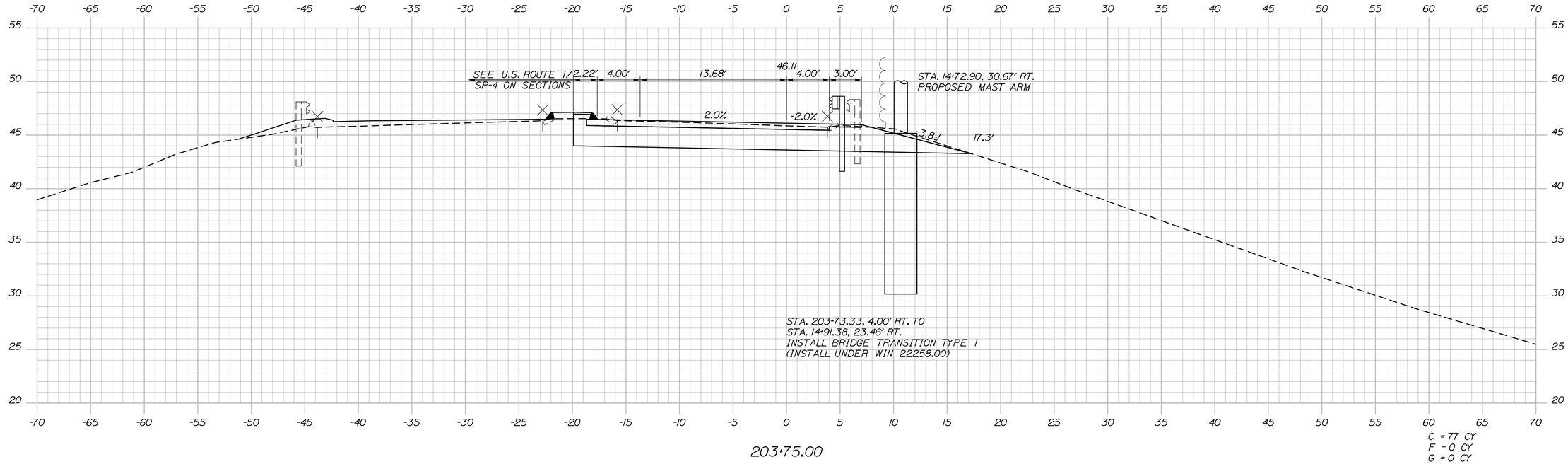
HNTB

Sta. 203+25.00 to Sta. 203+50.00

Filename: X_Sect_SP4.dgn Division: Username: Date:2/14/2024



203+77.60



203+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Helmick	9\2023
CHECKED-REVIEWED	L. Driscoll	9\2023
DESIGN2-DETAILED2	R. Hanf	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP4
CROSS SECTIONS

SHEET NUMBER

H68

OF H77

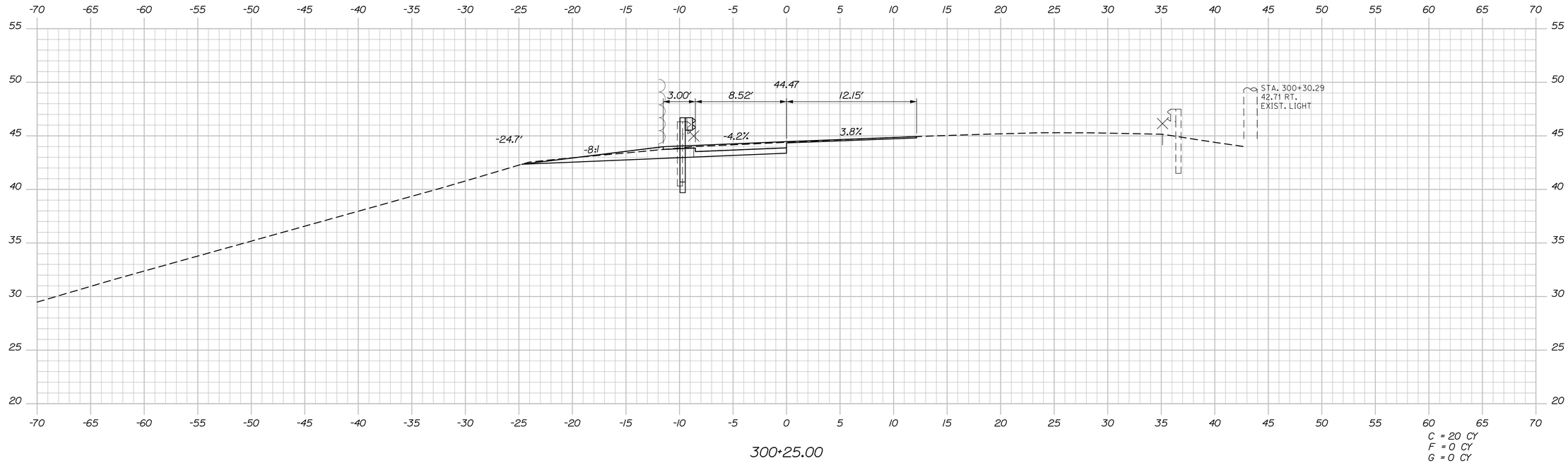
Date:2/14/2024

Username:

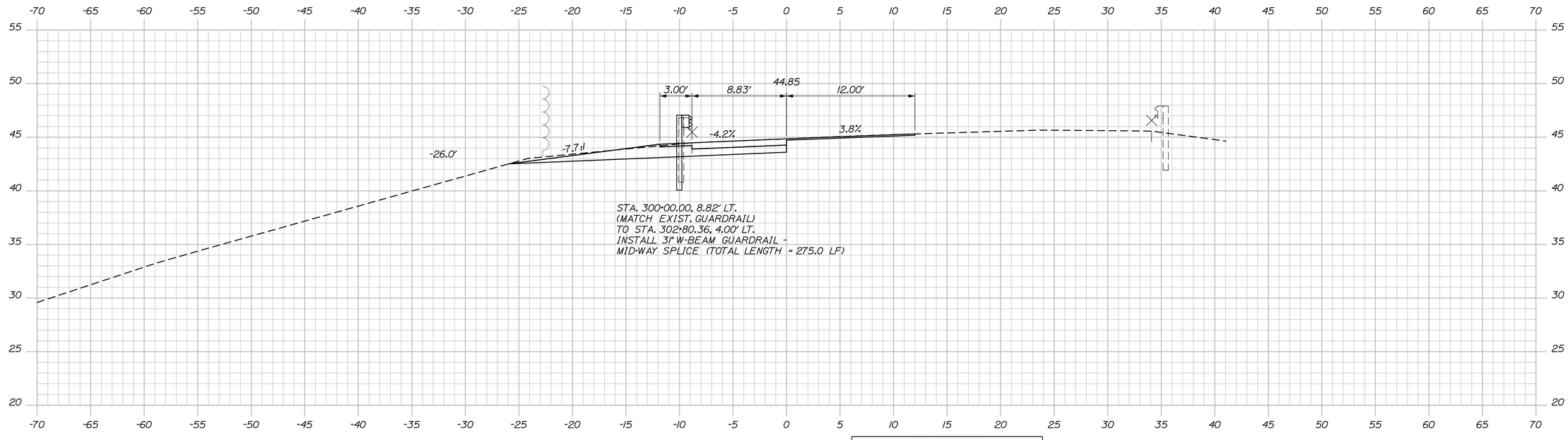
Division:

Filename: X_Sect_SP4.dgn

Sta. 203+75.00 to Sta. 203+77.60



300+25.00



300+00.00

STA. 300+00.00
BEGIN VARIABLE DEPTH
MILL, SHIM, & 1 1/2" OVERLAY
WITH SHOULDER RECONSTRUCTION
LT. MATCH EXISTING PAVEMENT

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	BY	D. Burton
CHECKED-REVIEWED	L. Driscoll	BY	R. Hanf
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

DATE 9\2023
DATE 9\2023

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-6
CROSS SECTIONS

SHEET NUMBER

H69

OF H77

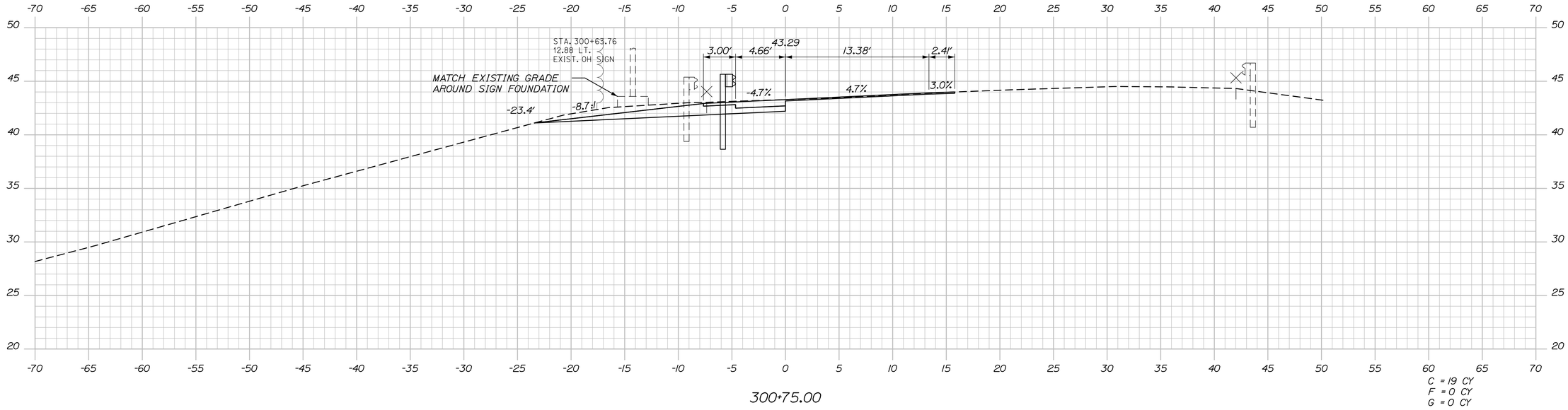
Date:2/14/2024

Username:

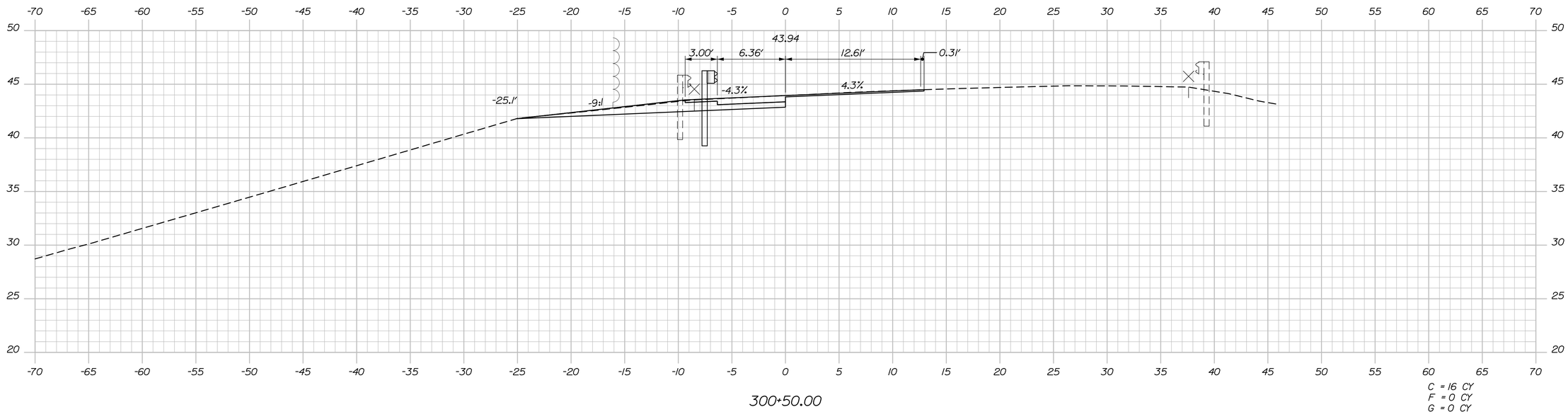
Division:

Filename: X_Sect_SP6.dgn

Sta. 300+00.00 to Sta. 300+25.00



300+75.00



300+50.00

HNTB

Sta. 300+50.00 to Sta. 300+75.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs
DESIGN-DETAILED	C. Helmick
CHECKED-REVIEWED	L. Driscoll
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

	BY	DATE
REVISIONS 1	D. Burton	9\2023
REVISIONS 2	R. Hanf	9\2023
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-6
CROSS SECTIONS

SHEET NUMBER

H70

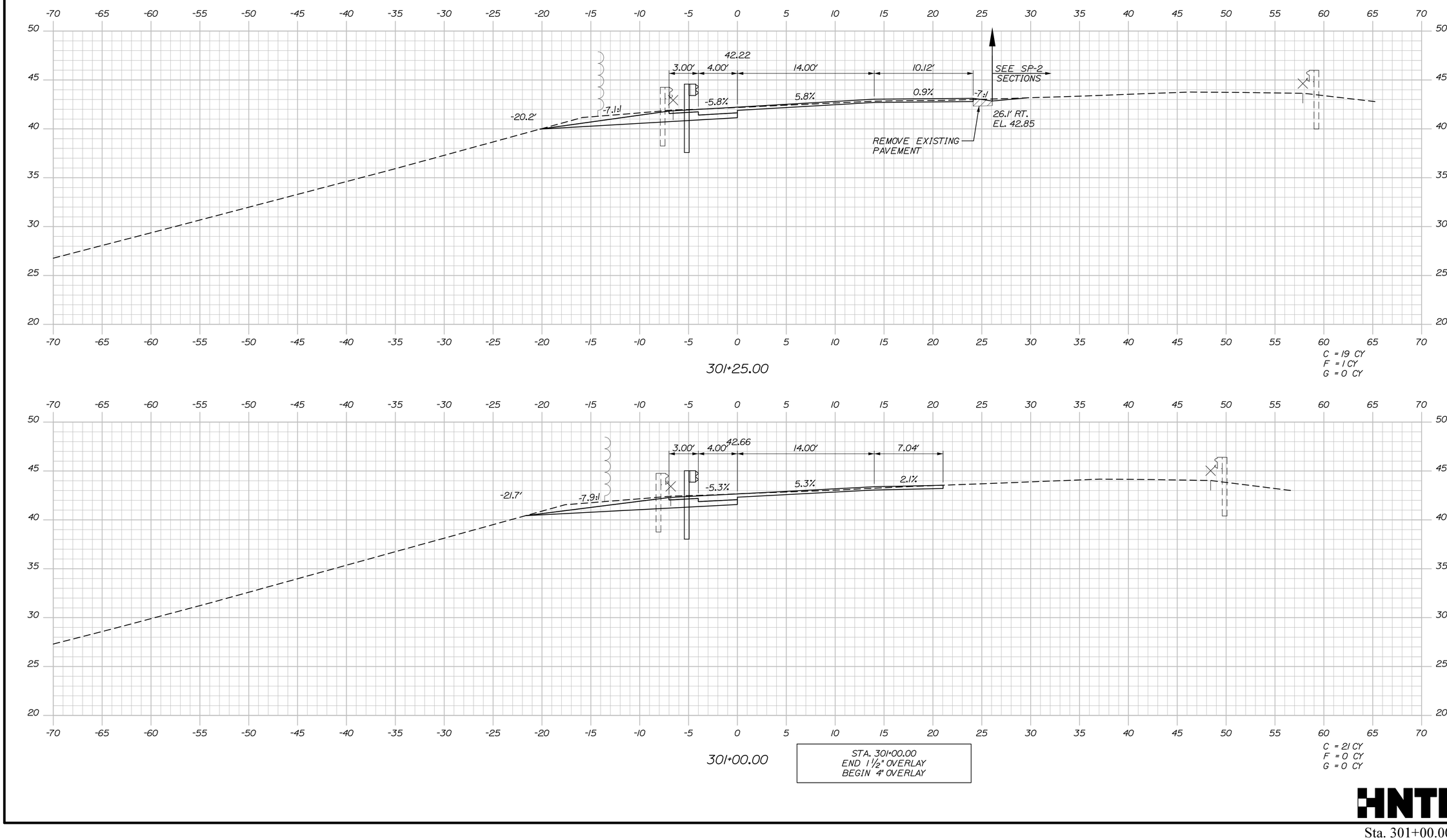
OF H77

Date:2/14/2024

Username:

Division:

Filename: X_Sect_SP6.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-6
CROSS SECTIONS

SHEET NUMBER

H71

OF H77

HNTB

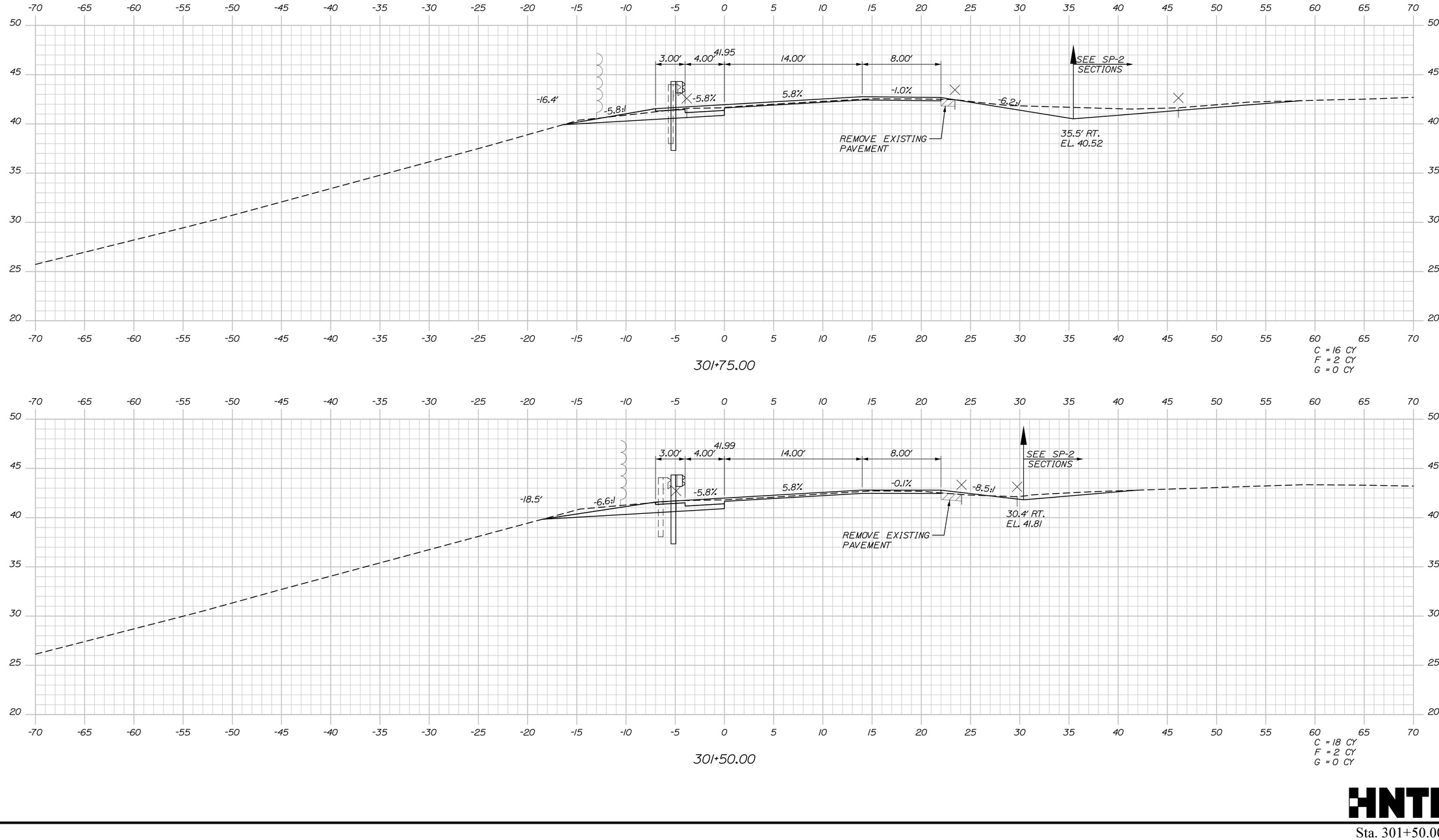
Sta. 301+00.00 to Sta. 301+25.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_SP6.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	BY	DATE
CHECKED-REVIEWED	L. Driscoll	D. Burton	9\2023
DESIGN2-DETAILED2		R. Hanf	9\2023
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-6
CROSS SECTIONS

SHEET NUMBER

H72

OF H77

HNTB

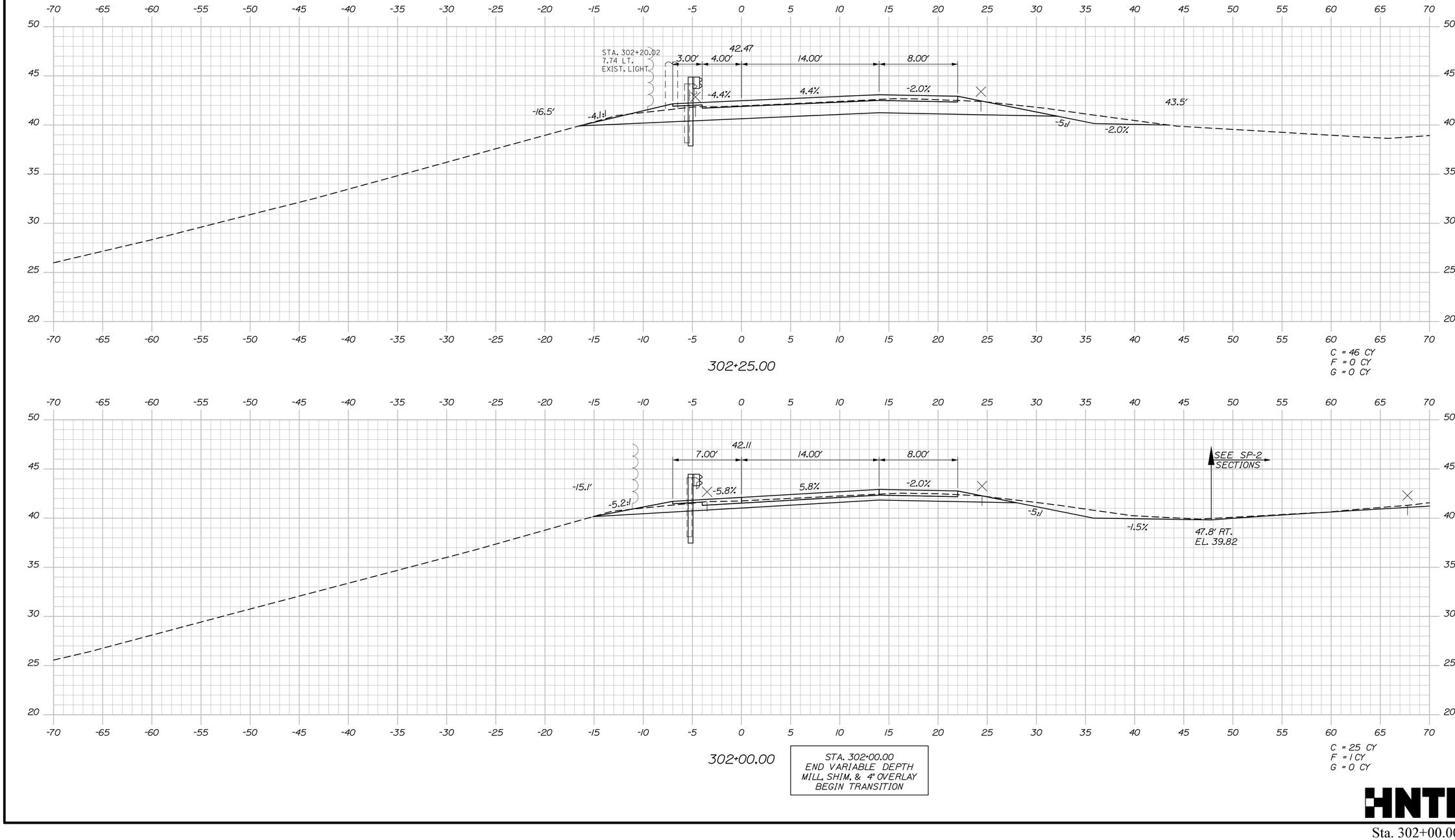
Sta. 301+50.00 to Sta. 301+75.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_SP6.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-6
CROSS SECTIONS

SHEET NUMBER

H73

OF H77

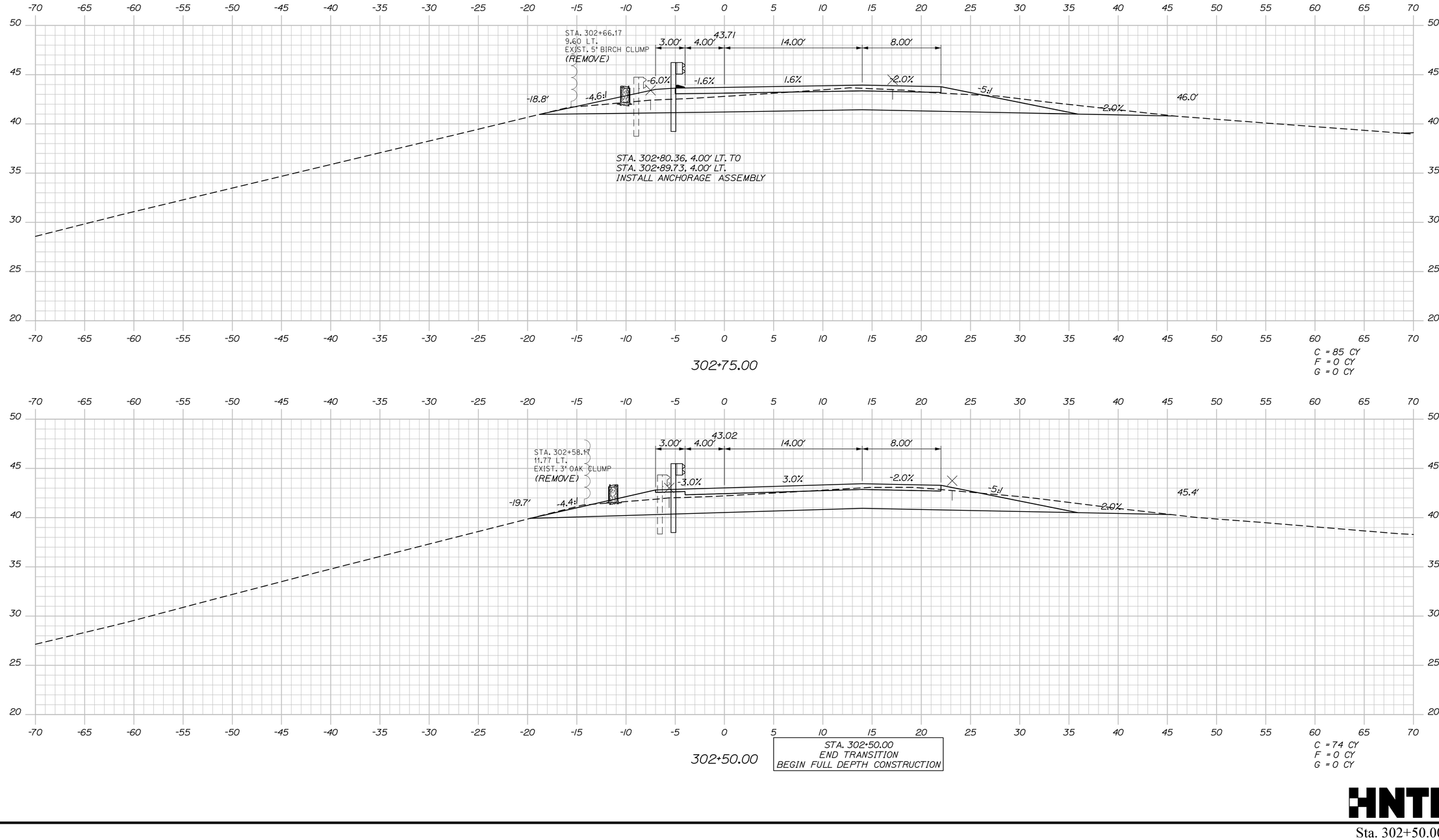
Sta. 302+00.00 to Sta. 302+25.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_SP6.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-6
CROSS SECTIONS

SHEET NUMBER

H74

OF H77

HNTB

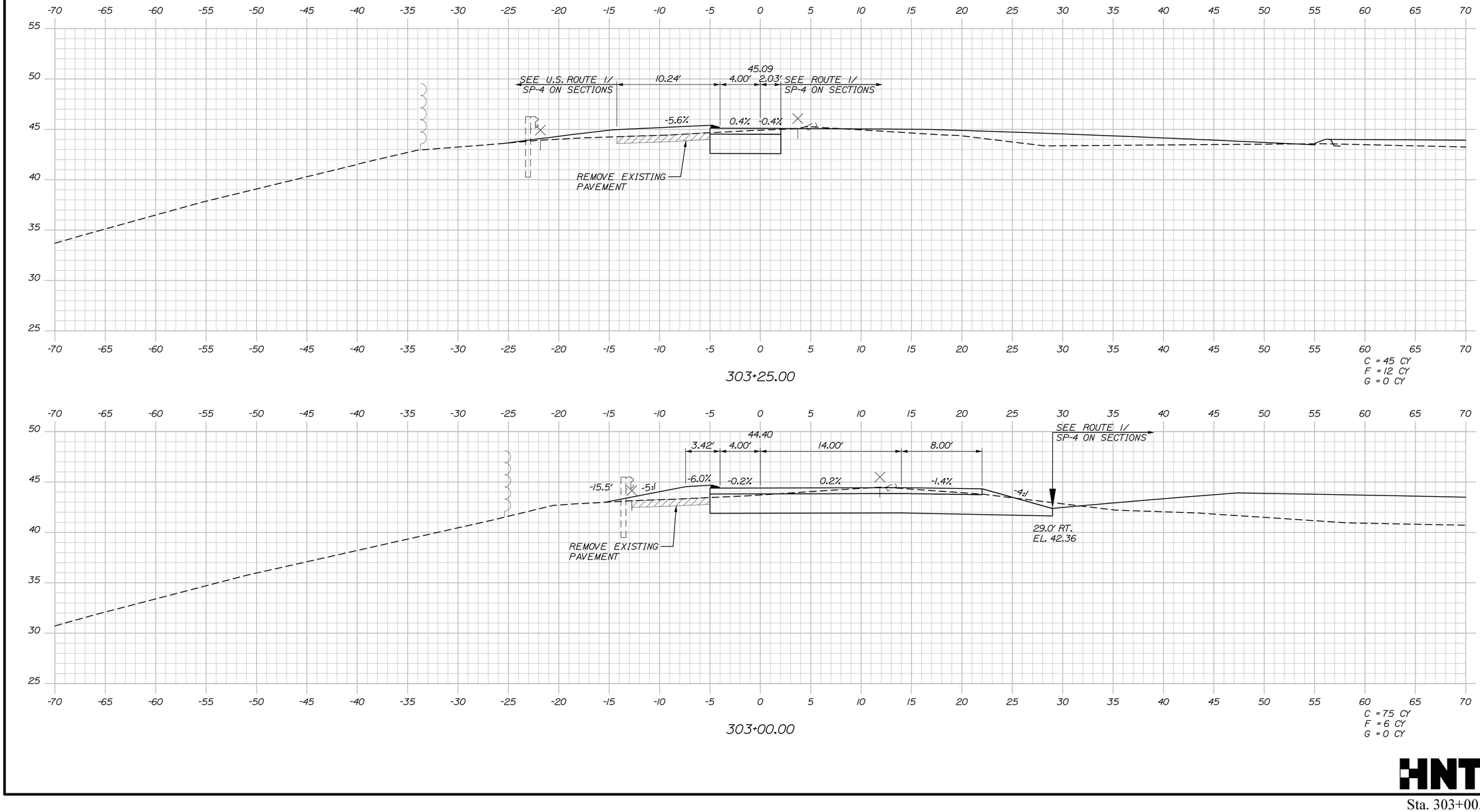
Sta. 302+50.00 to Sta. 302+75.00

Date:2/14/2024

Username:

Division:

Filename: X_Sect_SP6.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

BRIDGE NO. 1376

HIGHWAY PLANS

PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	C. Helmick	9\2023
CHECKED-REVIEWED	L. Driscoll	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

SP-6
CROSS SECTIONS

SHEET NUMBER

H75

OF H77

HNTB

Sta. 303+00.00 to Sta. 303+25.00

Date:2/14/2024

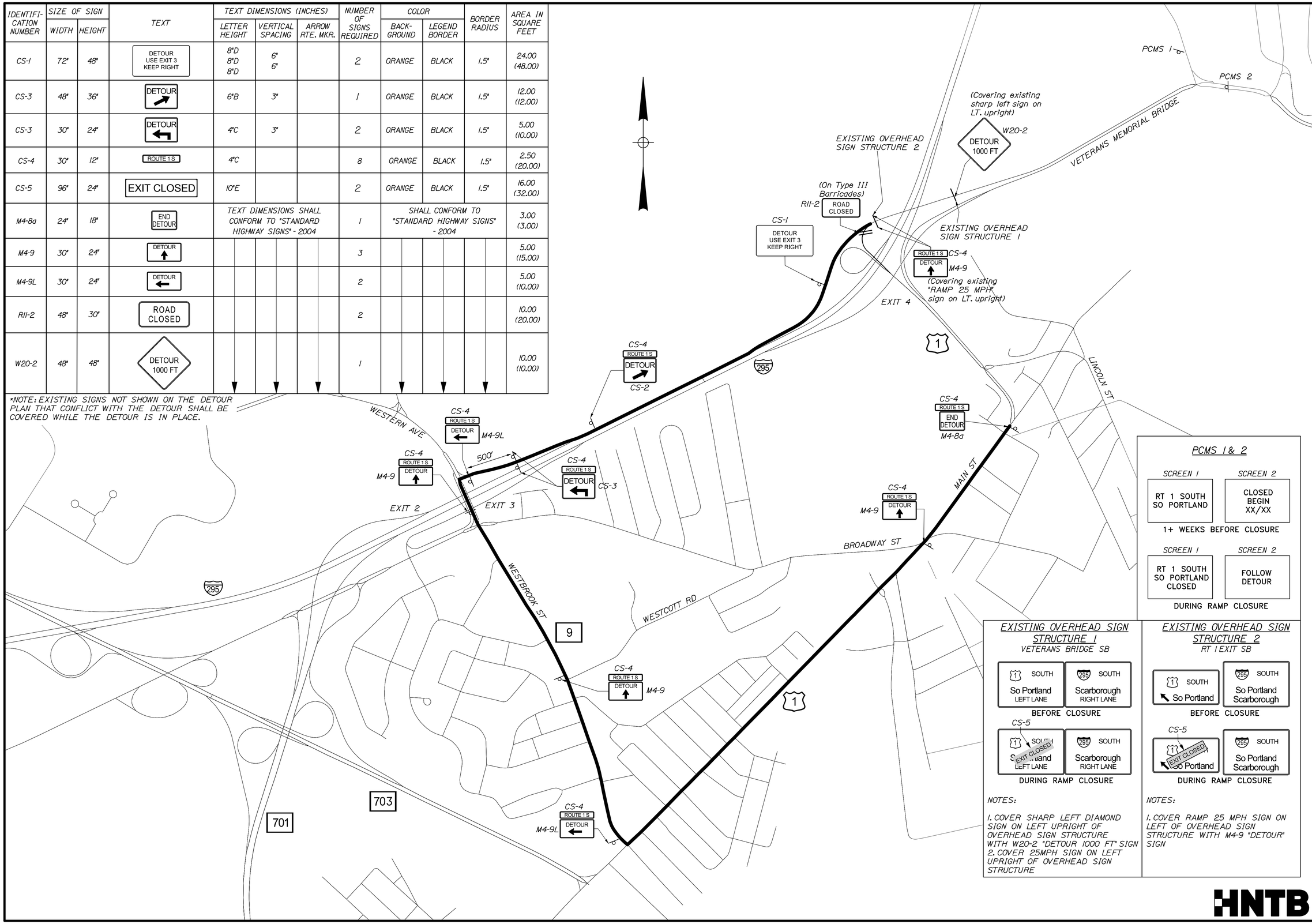
Username:

Division:

Filename: X_Sect_SP6.dgn

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 BACKGROUND	COLOR LEGEND BORDER	BORDER RADIUS	AREA IN SQUARE FEET
CS-1	72"	48"	DETOUR USE EXIT 3 KEEP RIGHT	8"D 8"D 8"D	6" 6"		2	ORANGE	BLACK	1.5"	24.00 (48.00)
CS-3	48"	36"	DETOUR	6"B	3"		1	ORANGE	BLACK	1.5"	12.00 (12.00)
CS-3	30"	24"	DETOUR	4"C	3"		2	ORANGE	BLACK	1.5"	5.00 (10.00)
CS-4	30"	12"	ROUTE 1 S	4"C			8	ORANGE	BLACK	1.5"	2.50 (20.00)
CS-5	96"	24"	EXIT CLOSED	10"E			2	ORANGE	BLACK	1.5"	16.00 (32.00)
M4-8a	24"	18"	END DETOUR	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS" - 2004			1	SHALL CONFORM TO "STANDARD HIGHWAY SIGNS" - 2004			3.00 (3.00)
M4-9	30"	24"	DETOUR				3				5.00 (15.00)
M4-9L	30"	24"	DETOUR				2				5.00 (10.00)
RII-2	48"	30"	ROAD CLOSED				2				10.00 (20.00)
W20-2	48"	48"	DETOUR 1000 FT				1				10.00 (10.00)

*NOTE: EXISTING SIGNS NOT SHOWN ON THE DETOUR PLAN THAT CONFLICT WITH THE DETOUR SHALL BE COVERED WHILE THE DETOUR IS IN PLACE.



PCMS 1 & 2

SCREEN 1	SCREEN 2
RT 1 SOUTH SO PORTLAND	CLOSED BEGIN XX/XX

1+ WEEKS BEFORE CLOSURE

SCREEN 1	SCREEN 2
RT 1 SOUTH SO PORTLAND CLOSED	FOLLOW DETOUR

DURING RAMP CLOSURE

EXISTING OVERHEAD SIGN STRUCTURE 1

VETERANS BRIDGE SB

1 SOUTH	295 SOUTH
So Portland LEFT LANE	Scarborough RIGHT LANE

BEFORE CLOSURE

CS-5

1 SOUTH	295 SOUTH
EXIT CLOSED So Portland LEFT LANE	Scarborough RIGHT LANE

DURING RAMP CLOSURE

NOTES:

1. COVER SHARP LEFT DIAMOND SIGN ON LEFT UPRIGHT OF OVERHEAD SIGN STRUCTURE WITH W20-2 "DETOUR 1000 FT" SIGN
2. COVER 25MPH SIGN ON LEFT UPRIGHT OF OVERHEAD SIGN STRUCTURE

EXISTING OVERHEAD SIGN STRUCTURE 2

RT 1 EXIT SB

1 SOUTH	295 SOUTH
So Portland	So Portland Scarborough

BEFORE CLOSURE

CS-5

1 SOUTH	295 SOUTH
EXIT CLOSED So Portland	So Portland Scarborough

DURING RAMP CLOSURE

NOTES:

1. COVER RAMP 25 MPH SIGN ON LEFT OF OVERHEAD SIGN STRUCTURE WITH M4-9 "DETOUR" SIGN

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

P.E. NUMBER

SIGNATURE

DATE

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	C. Helmick	9\2023	D. Burton
CHECKED-REVIEWED	L. Driscoll	9\2023	R. Hanf
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SOUTH PORTLAND
EXIT 4

SP-6 DETOUR PLAN

SHEET NUMBER

H76

OF H77

Date:2/14/2024

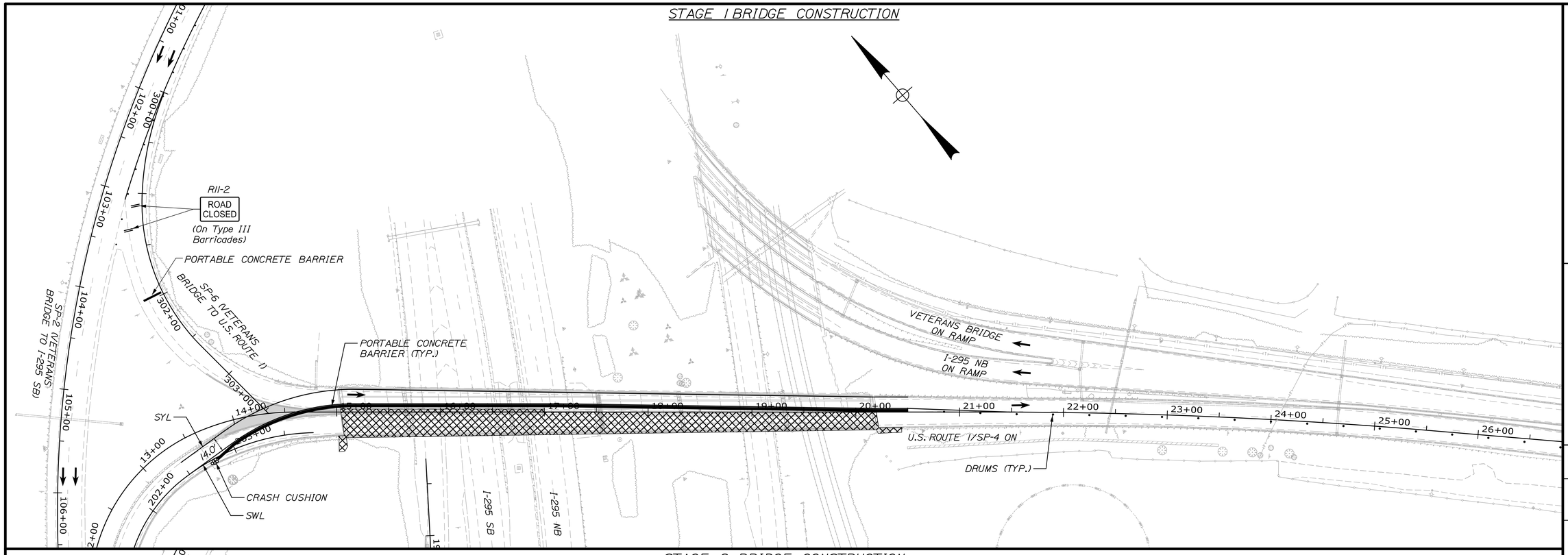
Username:

Division:

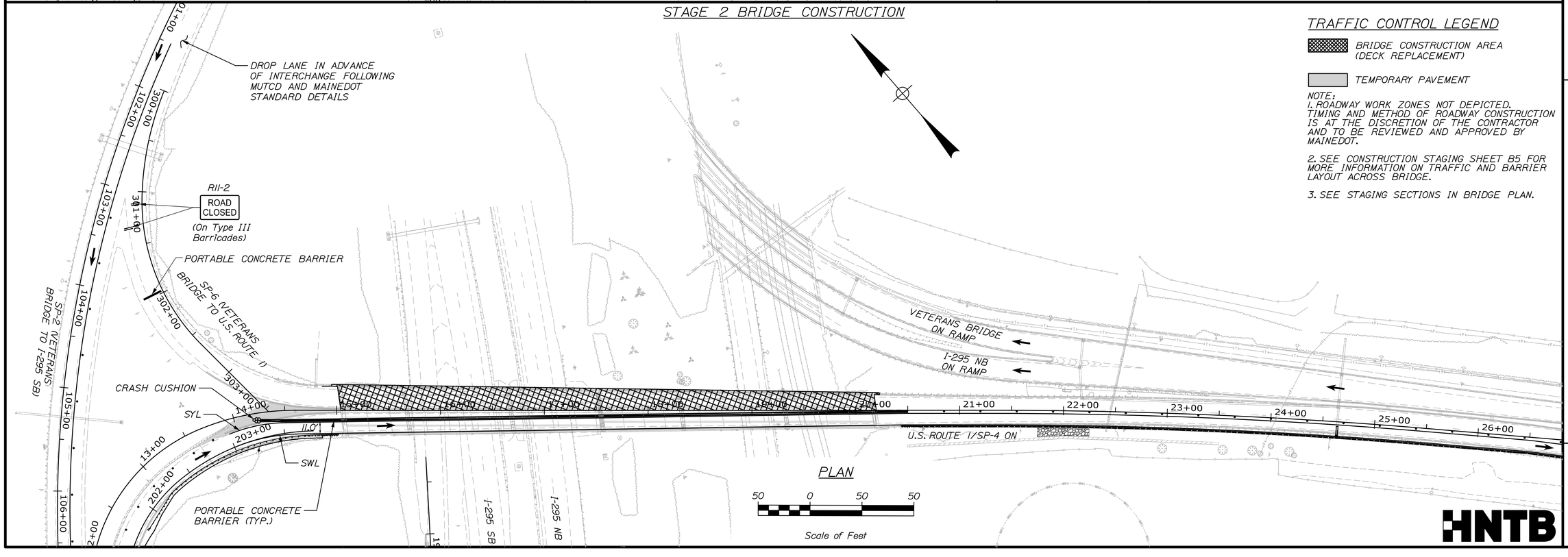
Filename: H76_Detour_Plan_01.dgn

Filename: H77_Traffic_Control_Plan_01.dgn Division: Username: Date:2/14/2024

STAGE 1 BRIDGE CONSTRUCTION



STAGE 2 BRIDGE CONSTRUCTION



TRAFFIC CONTROL LEGEND

- BRIDGE CONSTRUCTION AREA (DECK REPLACEMENT)
- TEMPORARY PAVEMENT

NOTE:
1. ROADWAY WORK ZONES NOT DEPICTED. TIMING AND METHOD OF ROADWAY CONSTRUCTION IS AT THE DISCRETION OF THE CONTRACTOR AND TO BE REVIEWED AND APPROVED BY MAINEDOT.
2. SEE CONSTRUCTION STAGING SHEET B5 FOR MORE INFORMATION ON TRAFFIC AND BARRIER LAYOUT ACROSS BRIDGE.
3. SEE STAGING SECTIONS IN BRIDGE PLAN.

PLAN

50 0 50 50

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

1280030

WIN 12800.30

HIGHWAY PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Csambok		
DESIGN-DETAILED	C. Helmick	D. Burton	9\2023
CHECKED-REVIEWED	L. Driscoll	R. Hanf	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
EXIT 4

TRAFFIC CONTROL PLAN

SHEET NUMBER

H77

OF H77

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

TRAFFIC DATA

Current (2024) AADT	5840
Future (2044) AADT	7010
DHV - % of AADT	11%
Design Hour Volume	771
Heavy Trucks (% of AADT)	11%
Heavy Trucks (% of DHV)	3%
Directional Distribution (% of DHV)	100%
18 kip Equivalent P 2.0	454
18 kip Equivalent P 2.5	432
Design Speed (mph)	35

MATERIALS

Concrete:
- Curbs ..... Class "LP"
- All Other ..... Class "A"

Reinforcing Steel:
- Plain Reinforcing Steel ..... ASTM A 615, Grade 60
- Low-Carbon Chromium ..... ASTM A1035-CS, Grade 100

BASIC DESIGN STRESSES

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

Reinforcing Bars:
- Plain Reinforcing Steel ..... f y = 60,000 psi
- Low-Carbon Chromium ..... f y = 100,000 psi

SOUTH PORTLAND
CUMBERLAND COUNTY
RAMP SP4 BRIDGE
OVER
INTERSTATE 295 AND
CSX RAILROAD

U.S. ROUTE 1
FEDERAL AID PROJECT NO. 2225800
PROJECT LENGTH 0.12 mi.
BRIDGE NO. 1376

LIST OF DRAWINGS

Title Sheet	B1
Bridge General Notes	B2
General Plan	B3
Profile	B4
Staged Construction	B5
Abutment No. 1 Modifications and Details	B6-B9
Abutment No. 2 Modifications and Details	B10-B13
Pier No. 1 Repairs	B14
Pier No. 2 Repairs	B15
Pier No. 3 Repairs	B16-B18
Pier No. 4 Repairs	B19
Pier No. 5 Repairs	B20
Bearing Details	B21
Structural Steel Details	B22-B23
Superstructure Plan	B24
Superstructure Reinforcing	B25-B26
Superstructure Details	B27
Bridge Drain Details	B28
Joint Details	B29
Fence Details	B30-B32
Reinforcing Steel Schedule	B33

UTILITIES

Central Maine Power, Portland Pipe Line Corporation, CSX Railway

MAINTENANCE OF TRAFFIC

I-295 - Maintain all lanes of traffic for the duration of the project.

Ramp SP4 - Maintain one lane of one way traffic across the bridge for the duration of the project, excluding temporary ramp closures for specific construction activities.

Ramp SP6 to be closed for the duration of the project.

PROJECT LOCATION:	Ramp SP4 Bridge carrying U.S. Route 1 over I-295 and CSX Railroad located at Exit 4. Latitude 43°38'20" N, Longitude 70°17'40" W
PROGRAM AREA:	Bridge
OUTLINE OF WORK:	Bridge Deck Replacement

HNTB

WIN 22258.00

2225800

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED
COMMISSIONER: DATE 10-23-24
CHIEF ENGINEER: DATE 10-23-2024

STATE OF MAINE JOSHUA K OLUND No. 12130 REGISTERED PROFESSIONAL ENGINEER
SIGNATURE
P.E. NUMBER 12130
DATE 9/20/2023

PROJECT INFORMATION

PROGRAM	BRIDGE
PROJECT MANAGER	DEVAN EATON, P.E.
DESIGNER	JOSH OLUND, P.E.
CONSULTANT	HNTB
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SOUTH PORTLAND
RAMP SP4 BRIDGE

TITLE SHEET

SHEET NUMBER
B1
OF B33

Date:9/20/2023
Username:
Division:
Filename:B01_Title.dgn

BRIDGE GENERAL NOTES

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

2. Unless otherwise shown, place loam 2 inches deep on all new or reconstructed side slopes or as directed by the Resident.

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

   All exposed surfaces of concrete curbs.
   Fascias down to the drip notch.
   Exposed surfaces of piers.
   Top of abutment backwalls and one foot below the top of backwalls on the back side.
   Wingwalls top face and roadway face to one foot below roadway grade.

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

5. 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.

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

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

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

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

7. The Contractor shall submit a Bridge Deck Removal Plan to the Resident at least 10 business days prior to the start of demolition work. The plan shall outline the methods and equipment to be used to remove and dispose of all materials included in the existing bridge deck. No work related to the removal of the bridge deck shall be undertaken by the Contractor until MaineDOT has reviewed the Bridge Deck Removal 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 deck removal pay item.

8. Steel portions of the existing bridge shall be assumed to be coated with a lead based paint system unless Contractor testing proves otherwise. The Contractor is responsible for the containment, proper management and disposal of all lead-containment hazardous waste generated by their work. The Contractor is responsible for implementing appropriate OSHA mandated personal protection standards related to this process. Payment for this work will not be made separately, but will be considered incidental to related Contract Items.

9. When removing existing bridge drains, the Contractor shall remove the support plate 2 inches from the girder web. Remove bridge drains and drain supports, including the connection to the existing girders. Cut ends of existing drain support plates shall be coated with a cold galvanizing compound approved by the Resident. Payment for this work shall be considered incidental to related Contract Items.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

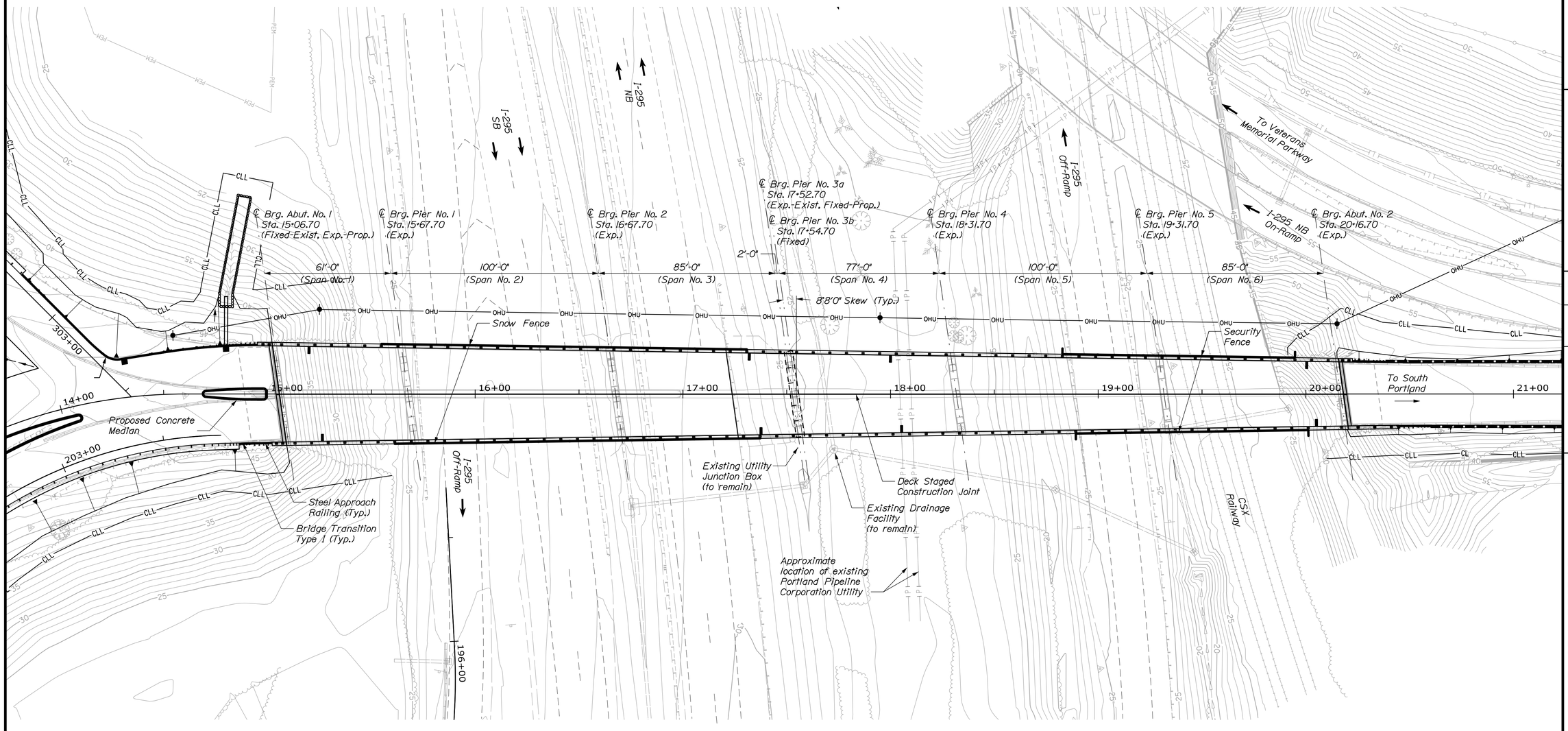
BRIDGE GENERAL NOTES

SHEET NUMBER

B2

OF B33

Filename: B02_GeneralNotes.dgn Division: Username: Date:2/14/2024



PLAN

25 0 25 50

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

GENERAL PLAN

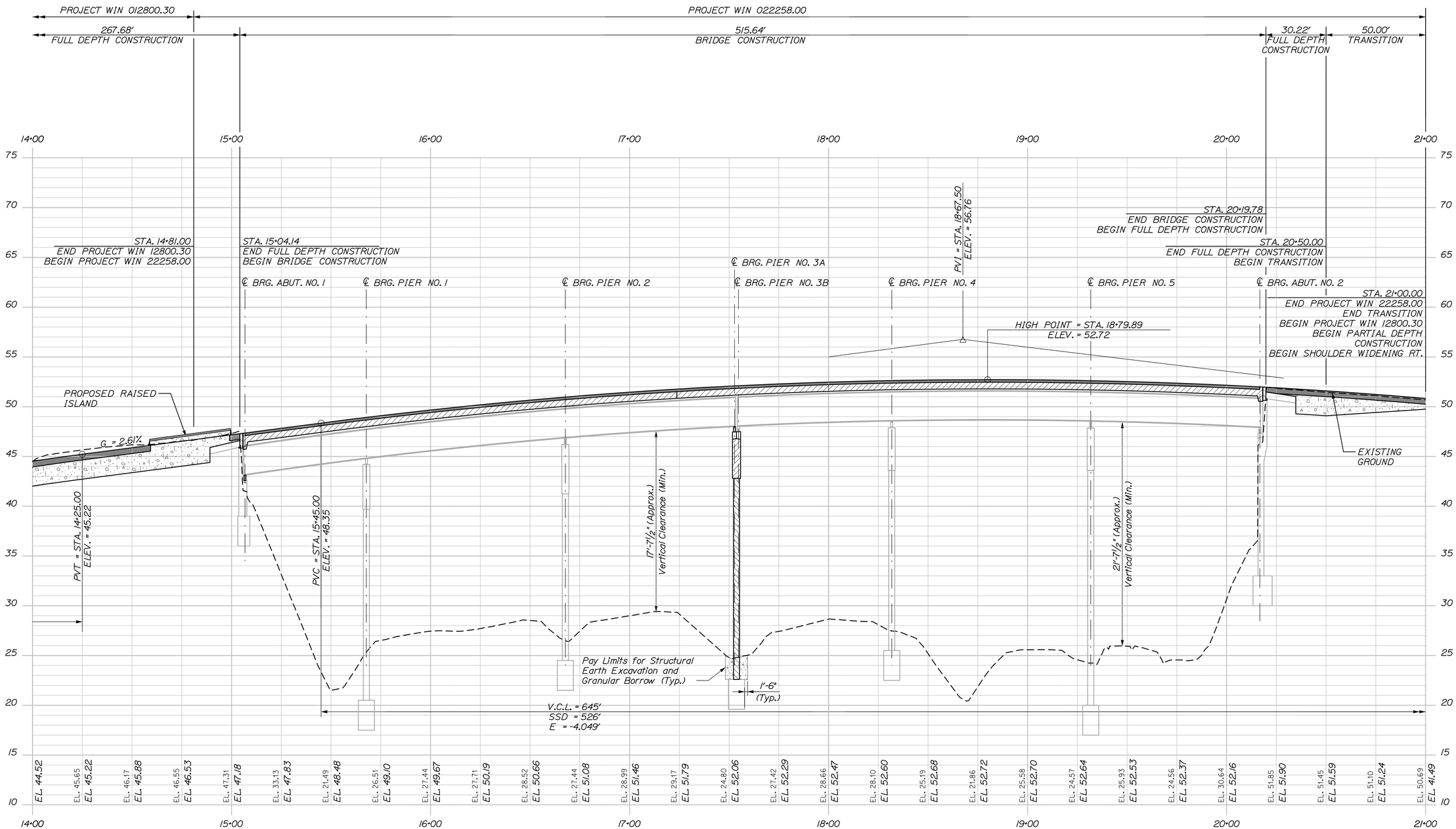
SHEET NUMBER

B3

OF B33

HNTB

Filename: B03_GeneralPlan.dgn Division: Username: Date:2/14/2024



PROFILE

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

NOTES:

1. Material depths shown represent material depths immediately to the left of the baseline.
2. Existing abutment and pier piles not shown for clarity.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

PROFILE

SHEET NUMBER

B4

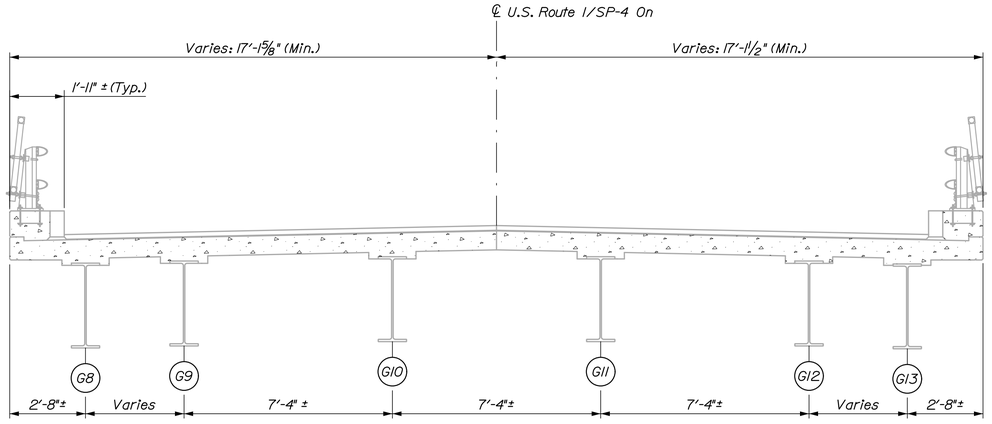
OF B33

Date:2/14/2024

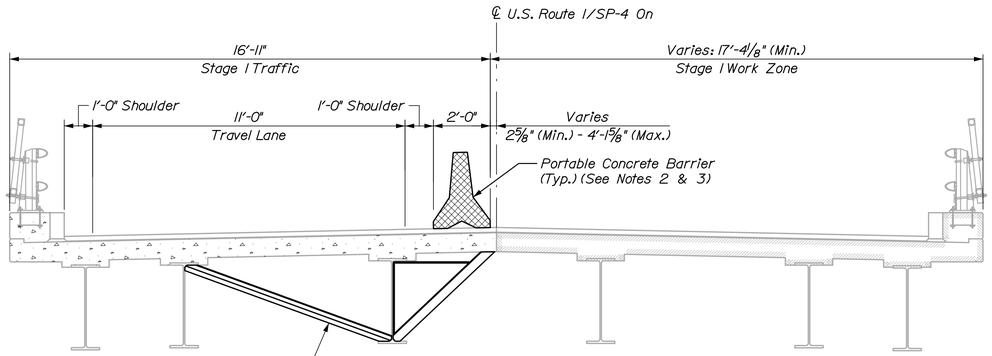
Username:

Division:

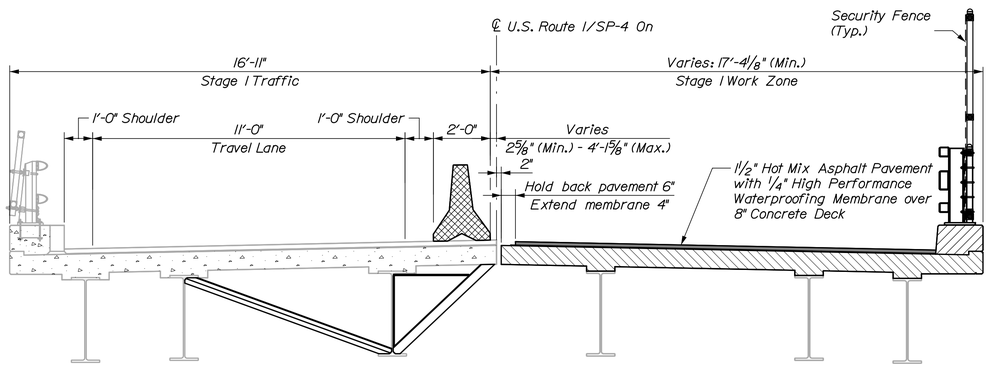
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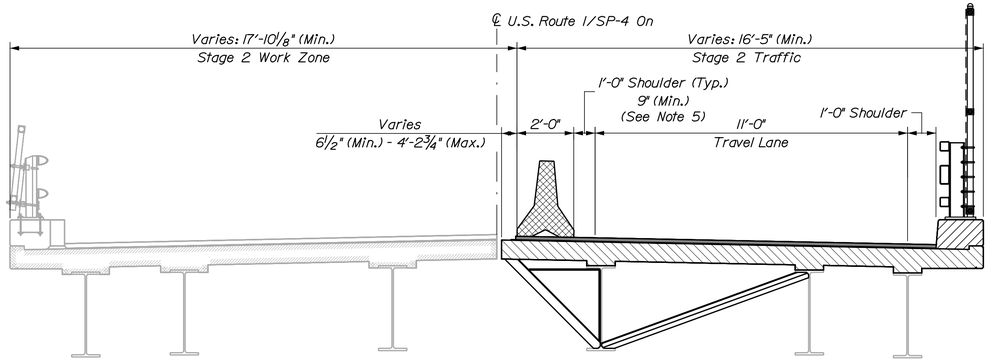
EXISTING SECTION



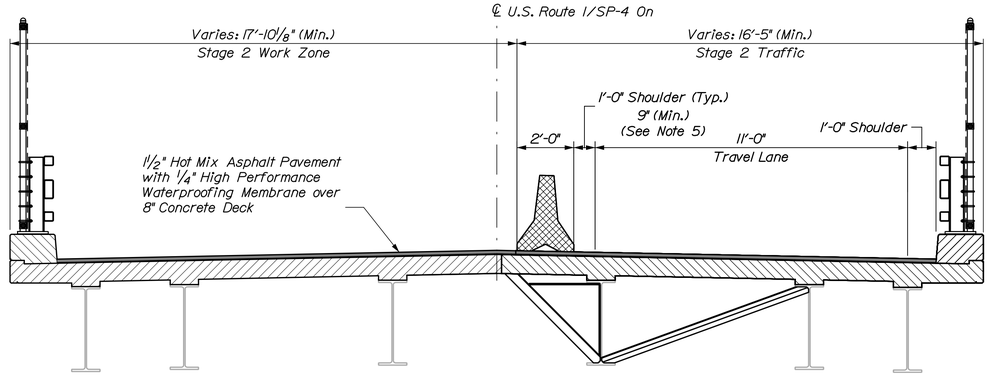
STAGE 1 DEMOLITION



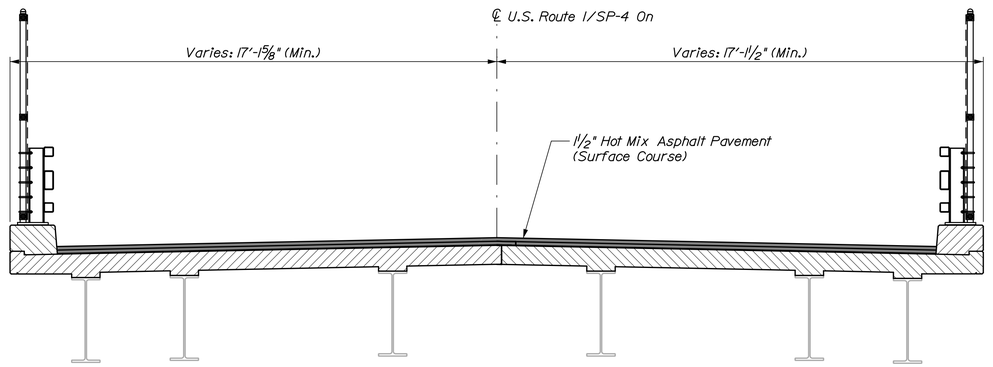
STAGE 1 CONSTRUCTION



STAGE 2 DEMOLITION



STAGE 2 CONSTRUCTION



STAGE 3 CONSTRUCTION

NOTES:

1. Sections shown are at the Abutment No. 2 end of the bridge. Sections in Spans No. 1, 2, and 3 are similar but have an additional girder.

2. Portable Concrete Barrier shall be "Anchored" Type 1 when the distance from the back of barrier to the edge of deck is less than 1'-8". Otherwise, standard Portable Concrete Barrier Type 1 shall be used.

3. No through-bolting shall be permitted on the proposed bridge deck for barrier anchorage. When Portable Concrete Barrier, Anchored - Type 1 is required on the proposed bridge deck the Contractor shall be responsible for repairing the concrete and waterproofing membrane after the barrier anchorages are removed but prior to the second lift of pavement being placed. The repair method shall be submitted for approval by the Resident. All costs related to repairing concrete and membrane on the proposed bridge deck shall be considered incidental to Pay Item 526.34 - Portable Concrete Barrier, Anchored - Type 1.

4. Removal of the existing concrete median shall occur during Stage 1. Payment for median removal shall be incidental to related Contract Items.

5. 9" Minimum shoulder width is required from Station 20+00.70 to end of Bridge Stage 2 construction only.

6. All surface course paving shall be completed in a single operation. The Contractor shall place temporary wedges/tapers at the bridge drains and gland seal locations as directed by the Resident before allowing traffic on the base pavement. Taper length shall be 4 feet per inch of transition depth. Payment for temporary wedges/tapers shall be incidental to related Contract items.

LEGEND

Concrete Removal Area

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	E. Beausoleil	9\2023
CHECKED-REVIEWED	D. Guzzi	9\2023
DESIGN2-DETAILED2	Y. Peng	
DESIGN3-DETAILED3	K. Brayley	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

STAGED CONSTRUCTION

SHEET NUMBER

B5

OF B33

Filename: B05_Staged Construction 1.dgn Division: Username: Date:2/14/2024

ABUTMENT AND WINGWALL MODIFICATION NOTES:

1. The Contractor shall use care not to damage the existing reinforcing steel which is to remain. Any damaged reinforcing steel shall be replaced as directed by the Resident at no expense to the Department.

2. The Contractor shall locate by non-destructive methods, reinforcing steel in existing concrete before drilling and grouting new reinforcing steel and anchor rods to avoid conflicts. All costs associated with this work shall be incidental to related Contract Items.

3. Reinforcing steel shall have 2 inches cover unless otherwise noted.

4. Existing concrete at abutments and wingwalls to be removed as shown on the Plans shall be sawcut 1 inch deep prior to removing existing concrete. All costs associated with this work shall be incidental to related Contract Items.

5. Where drilling and anchoring of reinforcement is specified, the Contractor shall use a material listed on the Maine Department of Transportation Qualified Products List of Concrete Adhesive Anchor Systems. The depth of embedment shall be sufficient to develop 125% of the yield strength of the bar per the manufacturer's recommendations or 12 inches, whichever is greater. Proposed anchoring material and embedment depth shall be submitted for approval. No separate payment will be made for drilling and anchoring of reinforcing steel, but shall be incidental to the related Contract Pay Item.

6. All dimensions based on or related to the existing bridge shall be verified in the field by the Contractor.

7. Prior to abutment construction, the existing backwall and wingwalls shall be cleaned so that it is free of debris and roughened ½ inch. Payment for cleaning and roughening will be considered incidental to Item 502.21 "Structural Concrete, Abutments and Retaining Walls".

8. Abutment No. 2 South Wingwall repair area shall be performed in three stages as indicated on the elevation view. Each repair stage must be complete before moving onto to the next stage. Repairs shall be completed during Stage 1 construction to minimize live load surcharge on wingwall during repair.

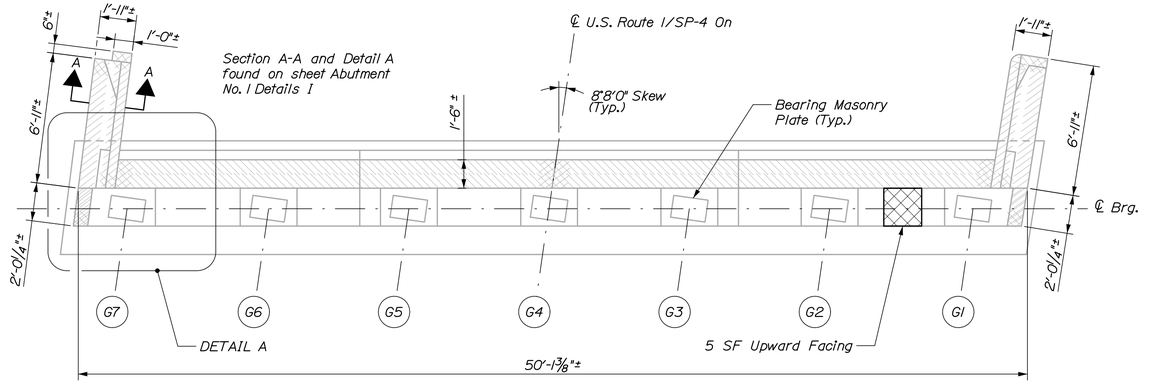
LEGEND

Concrete Removal Area

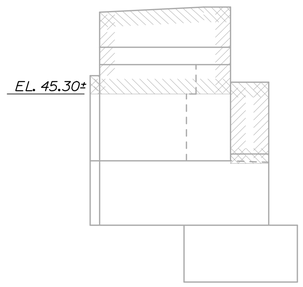
Concrete Repair Area (SF)

ABUTMENT NO. 1 - ESTIMATED CONCRETE REPAIR QUANTITIES	
Repair of Upward Facing Surfaces- to Reinforcing Steel < 8 inches (Item 518.50)	10 SF *
Repair Vertical Surfaces < 8 inches (Item 518.60)	5 SF *
Reinforcing Steel (Items 503.12 and 503.13)	10 LB **

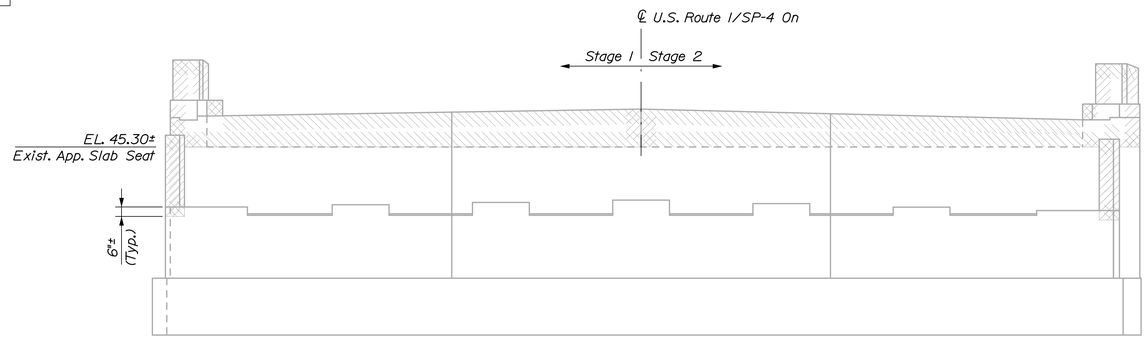
* Includes 5 SF additional quantity as a contingency
** Contingency quantity for potential supplemental bars



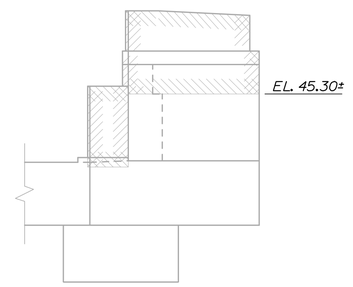
PLAN VIEW



SOUTH WINGWALL ELEVATION VIEW



ELEVATION VIEW



NORTH WINGWALL ELEVATION VIEW

ABUTMENT NO. 1 DEMOLITION AND REPAIRS

(Existing Piles, and Approach Slab not shown for clarity)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	D. Gazzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

ABUTMENT NO. 1
MODIFICATIONS 1

SHEET NUMBER

B6

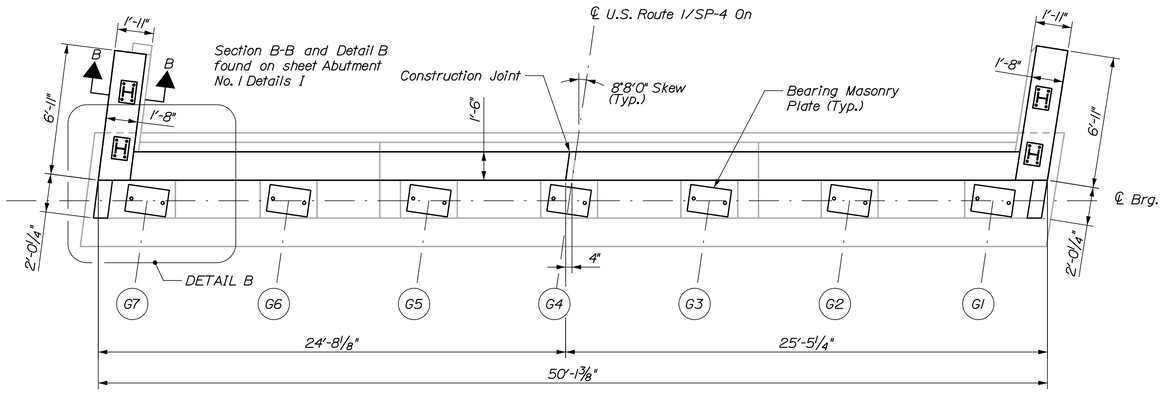
OF B33

Date:2/14/2024

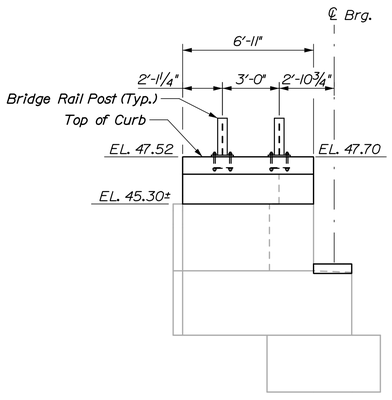
Username:

Division:

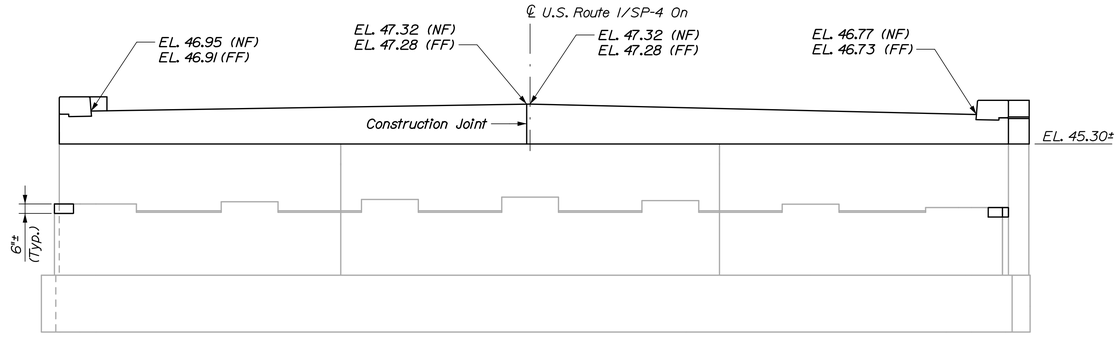
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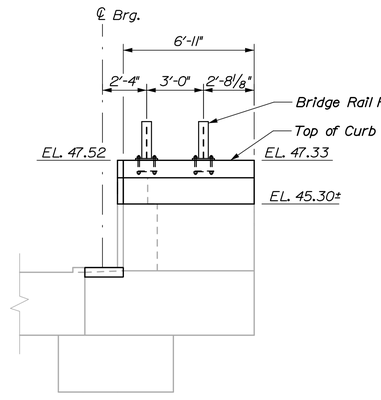
PLAN VIEW



SOUTH WINGWALL ELEVATION VIEW



ELEVATION VIEW



NORTH WINGWALL ELEVATION VIEW

ABUTMENT NO. 1 CONSTRUCTION

(Existing Piles and Approach Slab not shown for clarity)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00 BRIDGE PLANS

BRIDGE NO. 1376

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	D. Guzzi	9\2023
CHECKED-REVIEWED	Y. Peng	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1	E. Beausoleil	9\2023
REVISIONS 2	K. Brayley	9\2023
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

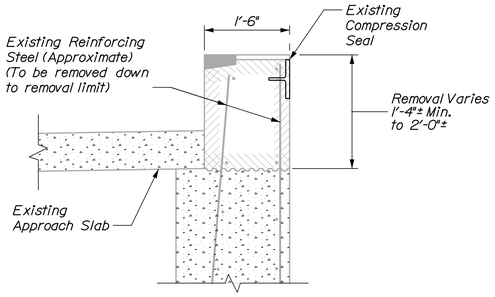
ABUTMENT NO. 1
MODIFICATIONS II

SHEET NUMBER

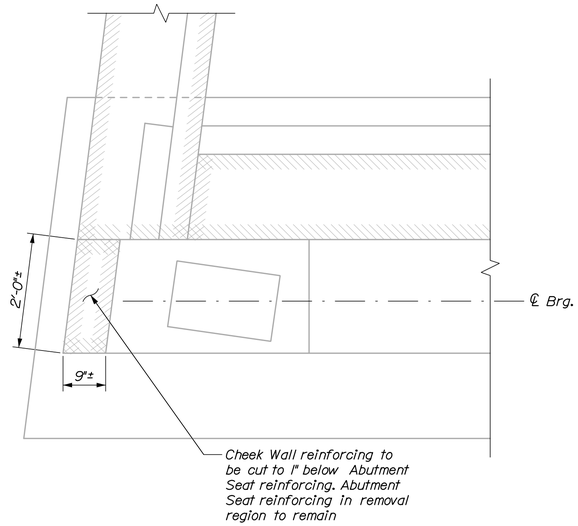
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OF B33

Filename: B07_Abutment 1_II.dgn Division: Username: Date:2/14/2024

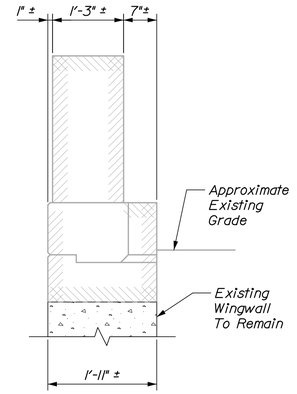


ABUTMENT NO. 1 DEMOLITION SECTION



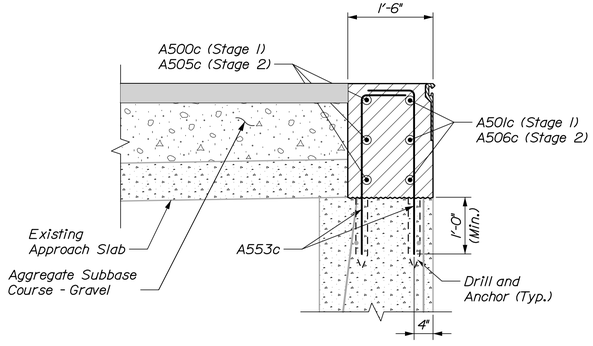
DETAIL A

(South Wingwall shown, North Wingwall similar)

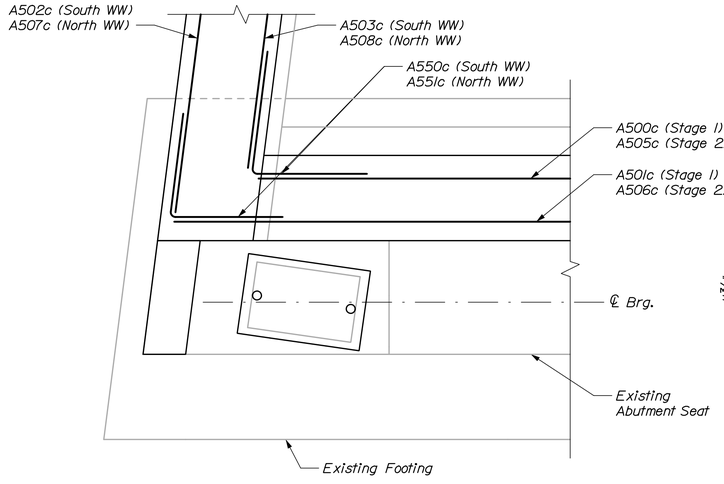


SECTION A-A

(South Wingwall shown, North Wingwall opposite hand)

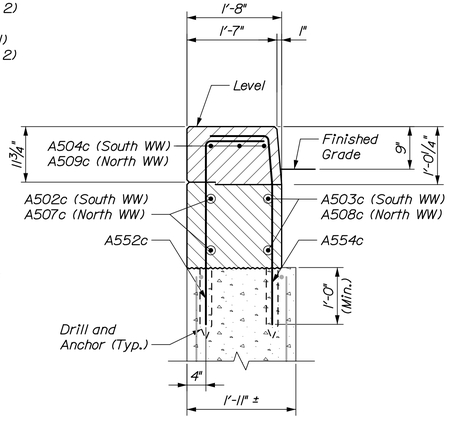


ABUTMENT NO. 1 CONSTRUCTION SECTION



DETAIL B

(South Wingwall shown, North Wingwall similar)



SECTION B-B

(South Wingwall shown, North Wingwall opposite hand)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

	BY	DATE
D. Coombs		
D. Guzzi	E. Beausoleil	9\2023
Y. Peng	K. Brayley	9\2023

	SIGNATURE	P.E. NUMBER	DATE
PROJ. MANAGER			
DESIGN-DETAILED			
CHECKED-REVIEWED			
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

ABUTMENT NO. 1 DETAILS 1

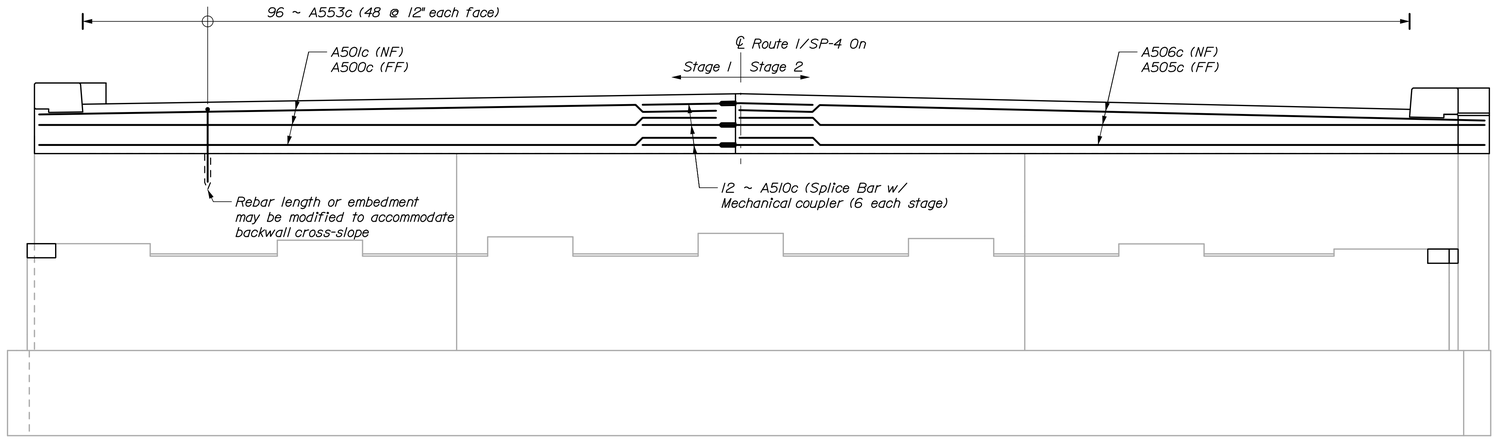
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B8

OF B33

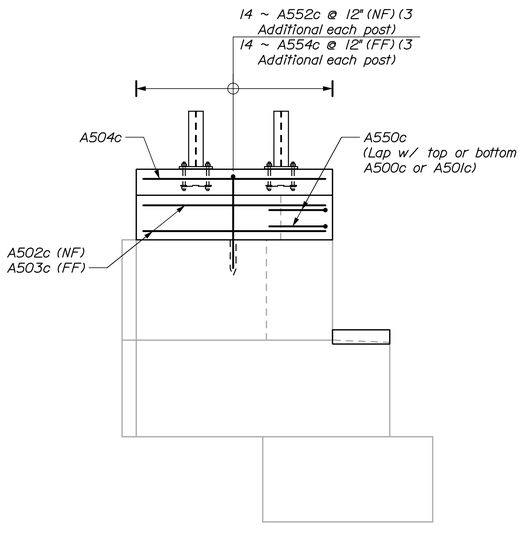
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Filename: B08_Abutment 1_Details 1.dgn Division: Username: Date:2/14/2024

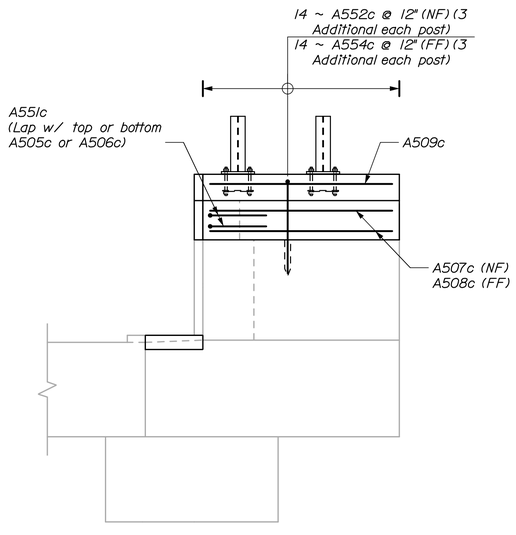


ABUTMENT NO. 1 REINFORCING ELEVATION

(Wingwall Reinforcing not shown for clarity)



SOUTH WINGWALL REINFORCING ELEVATION



NORTH WINGWALL REINFORCING ELEVATION

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

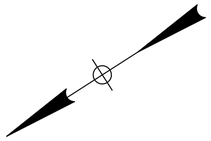
ABUTMENT NO. 1
DETAILS II

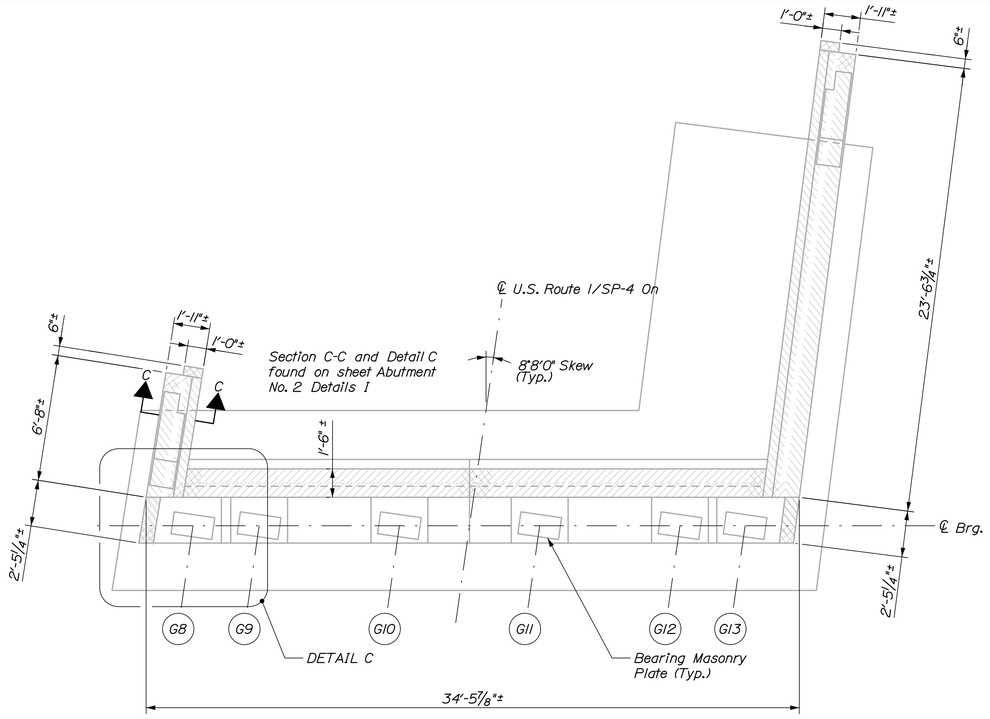
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B9

OF B33

Filename: B09_Abutment 1_Details II.dgn Division: Username: Date:2/14/2024





PLAN VIEW

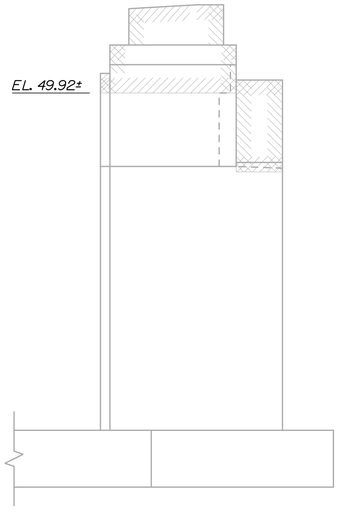
LEGEND

Concrete Removal Area

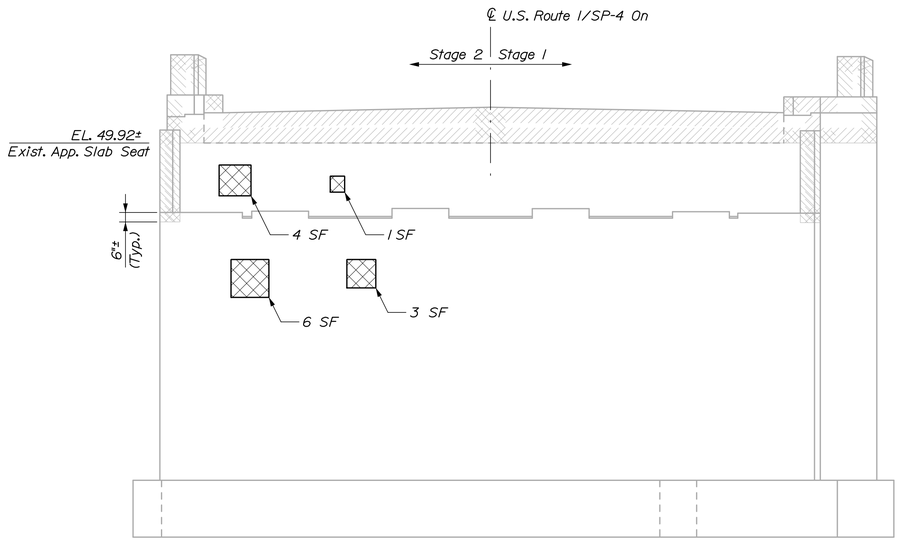
Concrete Repair Area (SF)

ABUTMENT NO. 2 - ESTIMATED CONCRETE REPAIR QUANTITIES	
Repair Vertical Surfaces < 8 inches (Item 518.60)	269 SF *
Reinforcing Steel (Items 503.12 and 503.13)	50 LB **

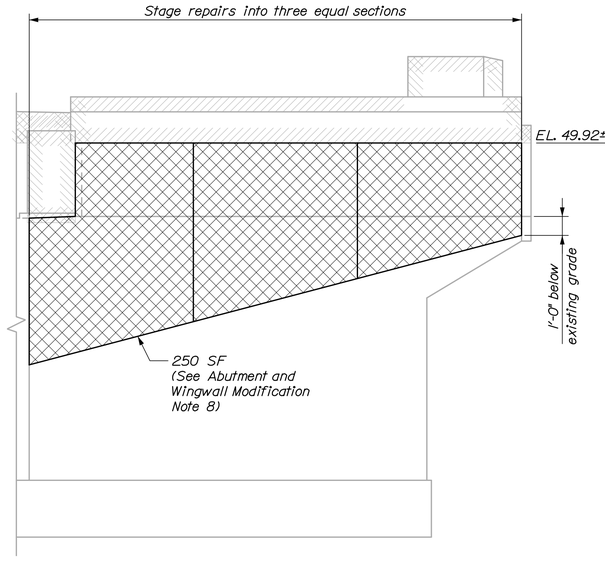
* Includes 5 SF additional quantity as a contingency
** Contingency quantity for potential supplemental bars



NORTH WINGWALL ELEVATION VIEW



ELEVATION VIEW



SOUTH WINGWALL ELEVATION VIEW

ABUTMENT NO. 2 DEMOLITION AND REPAIRS
(Existing Piles and Approach Slab not shown for clarity)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	D. Guzzi	9\2023
CHECKED-REVIEWED	V. Peng	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1	E. Beausoleil	
REVISIONS 2	K. Brayley	
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

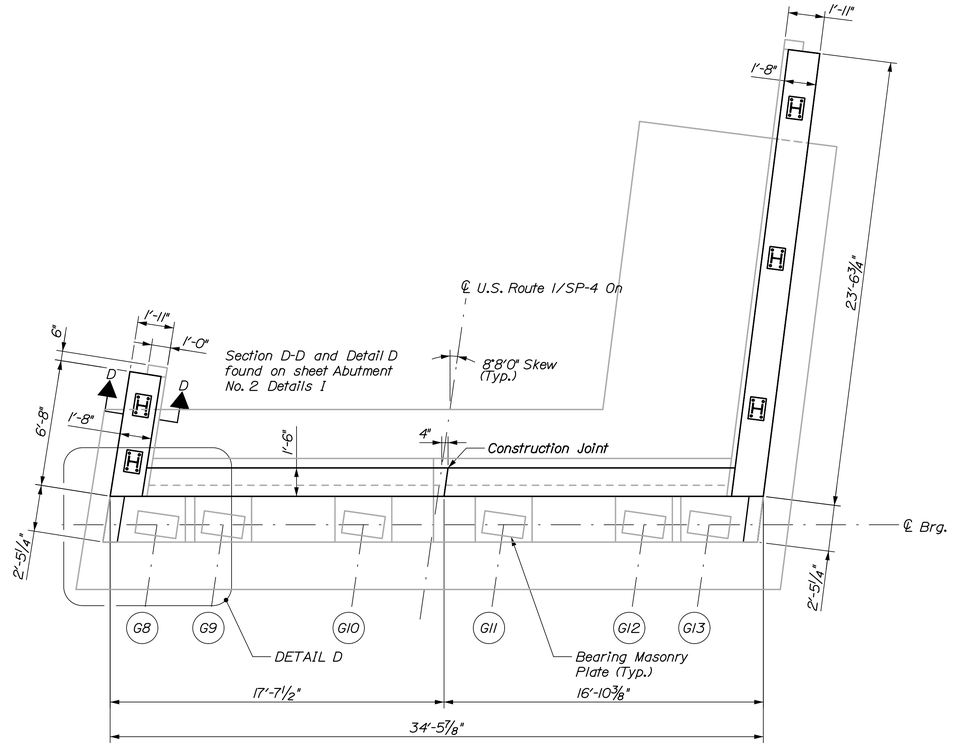
ABUTMENT NO. 2 MODIFICATIONS I

SHEET NUMBER

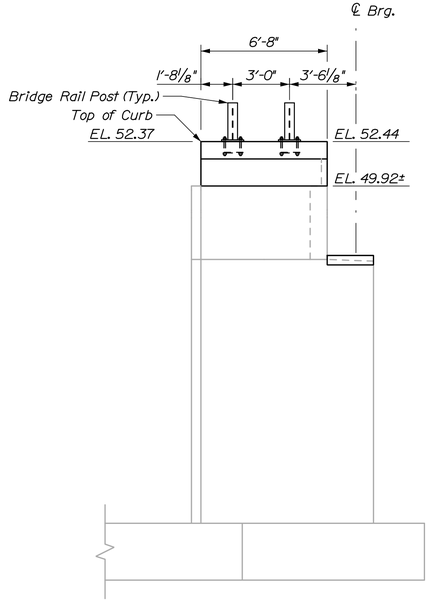
B10

OF B33

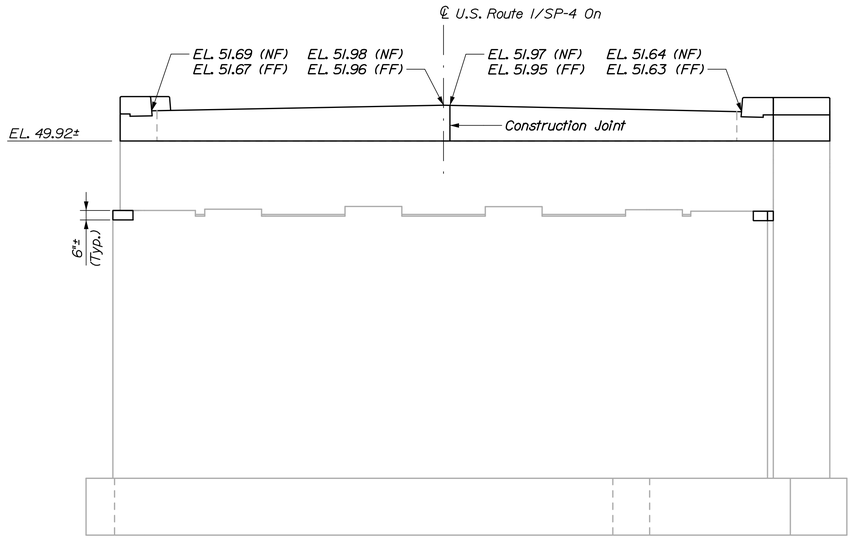
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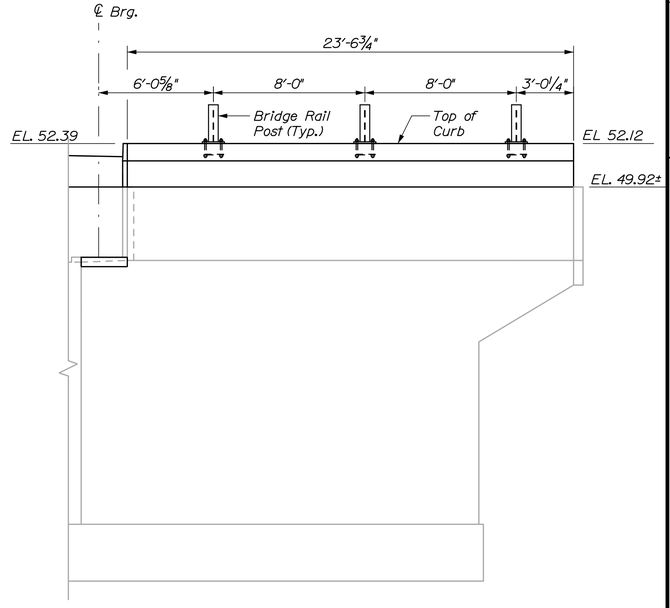
PLAN VIEW



NORTH WINGWALL ELEVATION VIEW



ELEVATION VIEW



SOUTH WINGWALL ELEVATION VIEW

ABUTMENT NO. 2 CONSTRUCTION

(Existing Piles and Approach Slab not shown for clarity)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376 BRIDGE PLANS

	BY	DATE
D. Coombs	E. Beausoleil	9\2023
D. Guzzi	K. Brayley	9\2023
Y. Peng		

	SIGNATURE
P.E. NUMBER	
DATE	

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

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

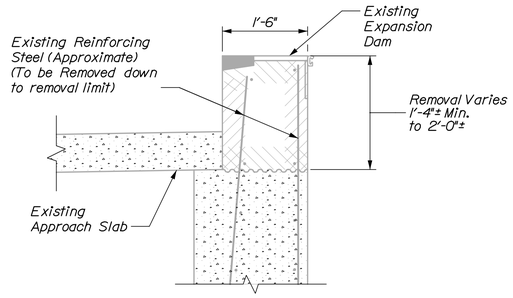
ABUTMENT NO. 2
MODIFICATIONS II

SHEET NUMBER

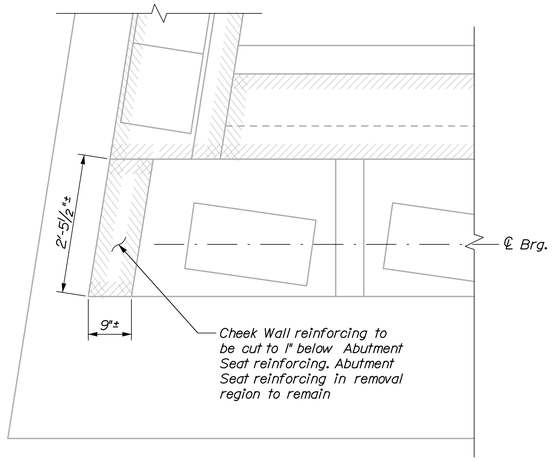
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OF B33

Filename: B11_Abutment 2_II.dgn Division: Username: Date:2/14/2024

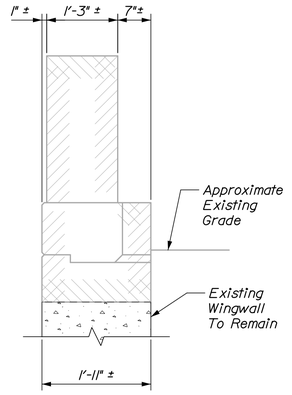


ABUTMENT NO. 2 DEMOLITION SECTION



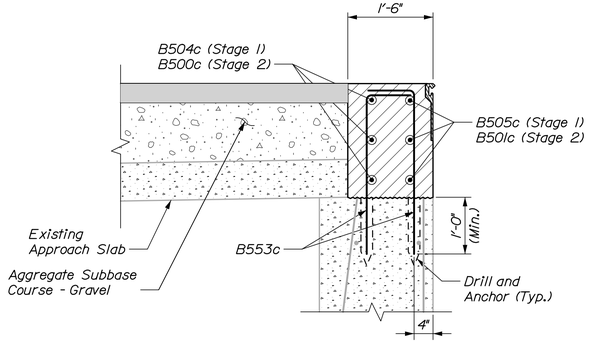
DETAIL C

(North Wingwall shown, South Wingwall similar)

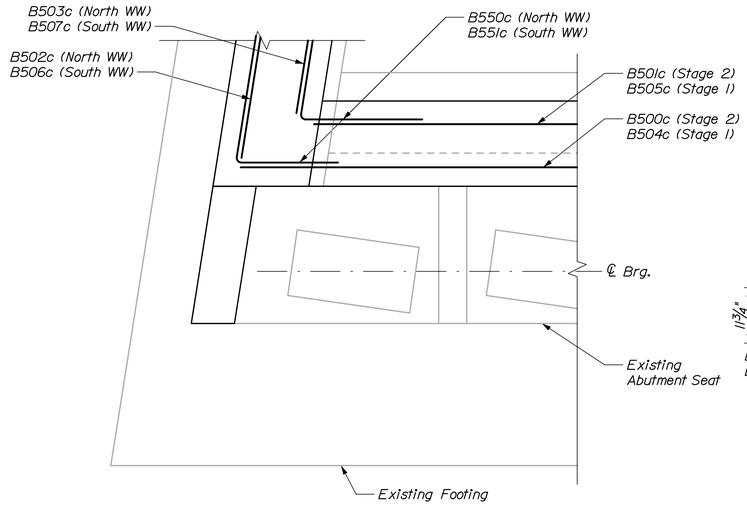


SECTION C-C

(North Wingwall shown, South Wingwall opposite hand)

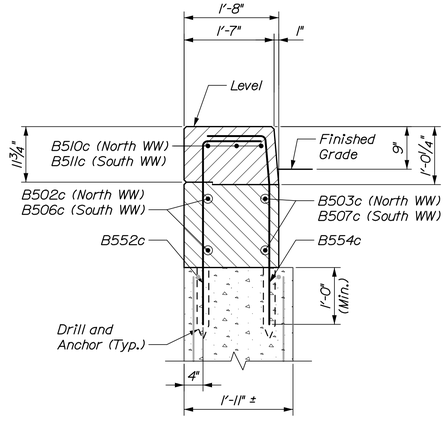


ABUTMENT NO. 2 CONSTRUCTION SECTION



DETAIL D

(North Wingwall shown, South Wingwall similar)



SECTION D-D

(North Wingwall shown, South Wingwall opposite hand)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	E. Beausoleil	9\2023
CHECKED-REVIEWED	K. Brayley	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

ABUTMENT NO. 2
DETAILS I

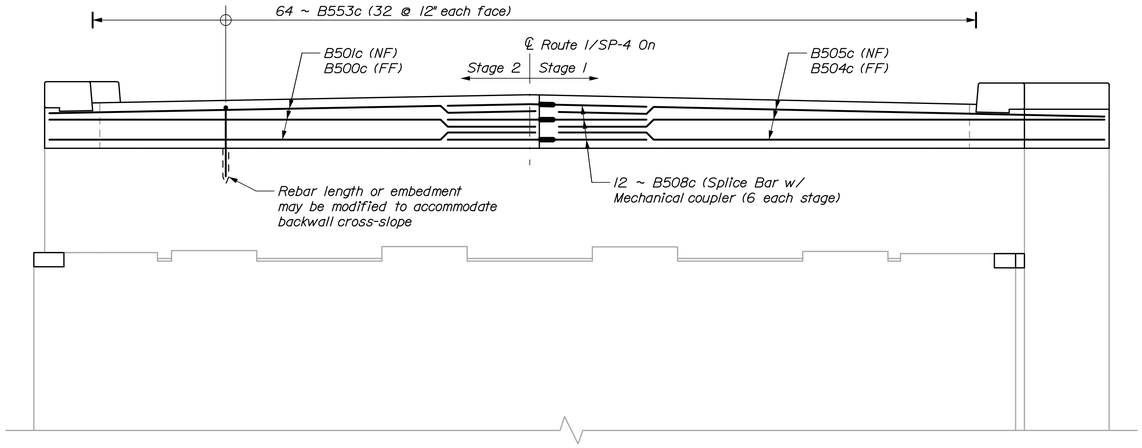
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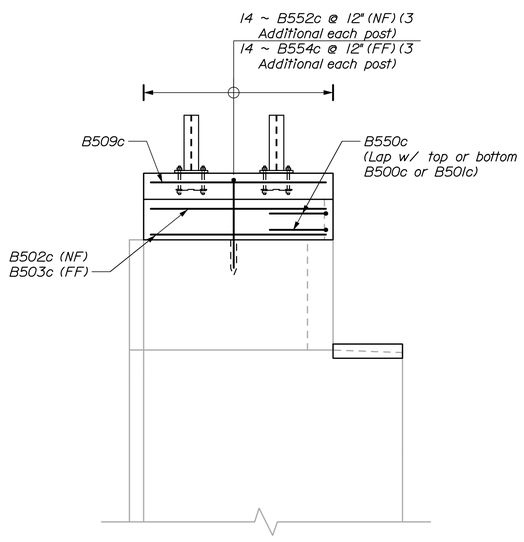
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HNTB

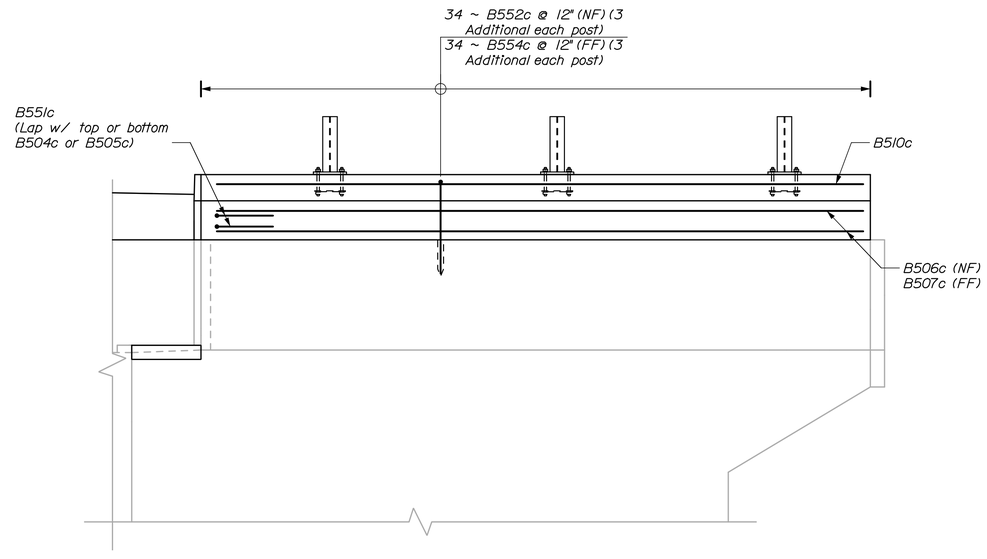
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ABUTMENT NO. 2 REINFORCING ELEVATION



NORTH WINGWALL REINFORCING ELEVATION



SOUTH WINGWALL REINFORCING ELEVATION

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

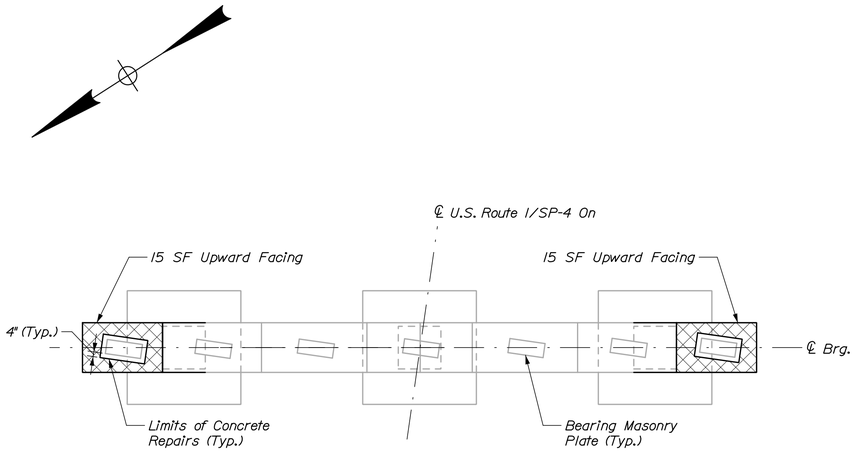
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DETAILS II

SHEET NUMBER

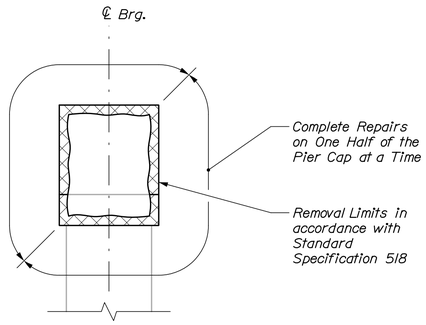
B13

OF B33

Filename: B13_Abutment 2_Details II.dgn Division: Username: Date:2/14/2024



PLAN VIEW



PIER CAP REPAIR SEQUENCE

PIER CONCRETE REPAIR NOTES:

1. The quantities of pier repairs noted on these plans are based on a visual inspection. If differences are experienced, the Resident shall be notified and quantities shall be adjusted accordingly. Actual repair areas will be determined and agreed on by the Contractor and the Resident during construction.

2. The Department must approve changes in quantity beyond what is shown or assumed.

3. All broken or corroded reinforcing bars shall be supplemented in accordance with Standard Specification Section 518.04. Supplemental reinforcing shall maintain a clear cover of 2 inches minimum. Payment for supplemental bars shall be included in items 503.12 and 503.13.

4. Pier cap overhang repairs shall be completed during a construction stage when the deck is removed to minimize dead load. Repairs shall be performed as shown in the Pier Cap Repair Sequence Detail.

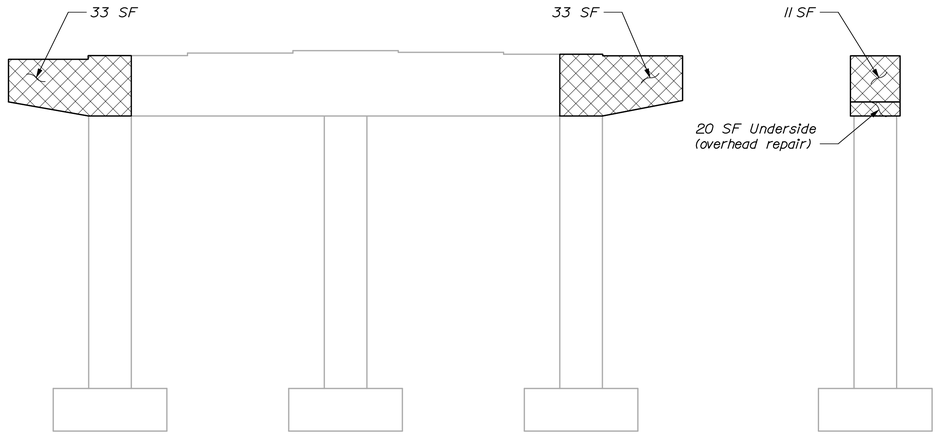
5. The existing piers have locations where abandoned bridge lighting conduit and lights are mounted to the concrete. These shall be removed when the existing deck is removed. Payment for removal shall be considered incidental to related Contract Pay Items.

LEGEND

Concrete Repair Area (SF)

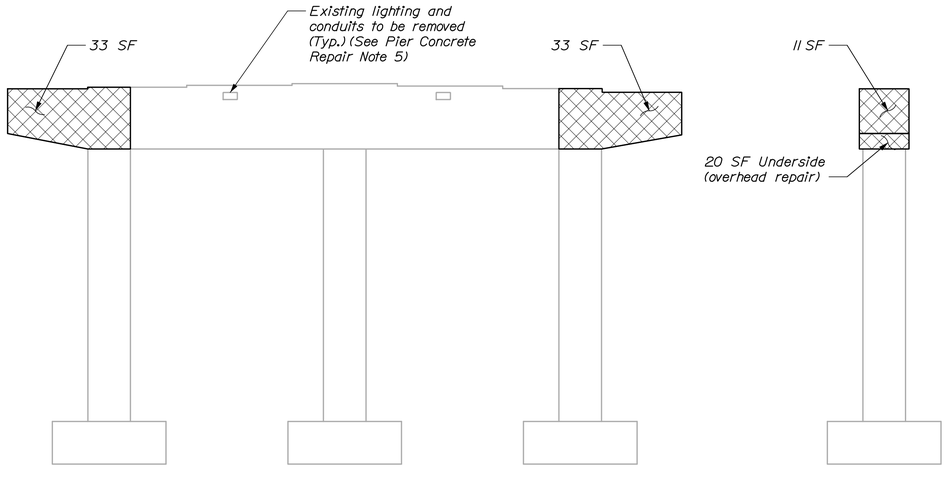
PIER NO.1 - ESTIMATED CONCRETE REPAIR QUANTITIES	
Repair of Upward Facing Surfaces- to Reinforcing Steel < 8 inches (Item 518.50)	35 SF *
Repair Vertical Surfaces < 8 inches (Item 518.60)	159 SF *
Repair of Overhead Surfaces < 8 inches (Item 518.70)	45 SF *
Reinforcing Steel (Items 503.12 and 503.13)	100 LB **
Crack Repair (Item 518.80)	10 LF ***

* Includes 5 SF additional quantity as a contingency
** Contingency quantity for potential supplemental bars
*** Included as contingency



WEST ELEVATION VIEW

SOUTH ELEVATION VIEW



EAST ELEVATION VIEW

NORTH ELEVATION VIEW

PIER NO. 1 REPAIRS
(Existing piles not shown for clarity)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

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DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

PIER NO. 1 REPAIRS

SHEET NUMBER

B14

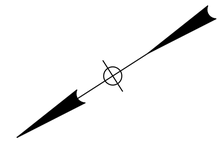
OF B33

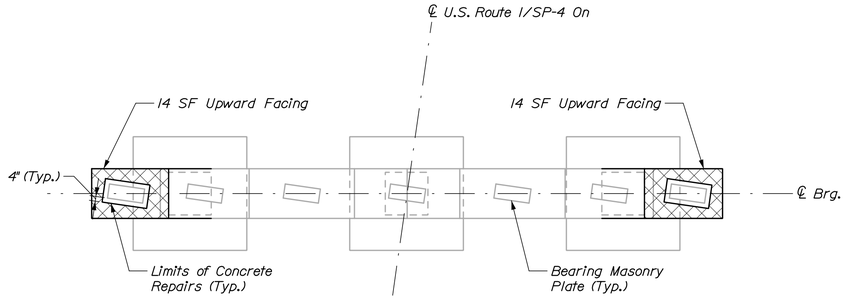
Date:2/14/2024

Username:

Division:

Filename: B14_Pier 1.dgn





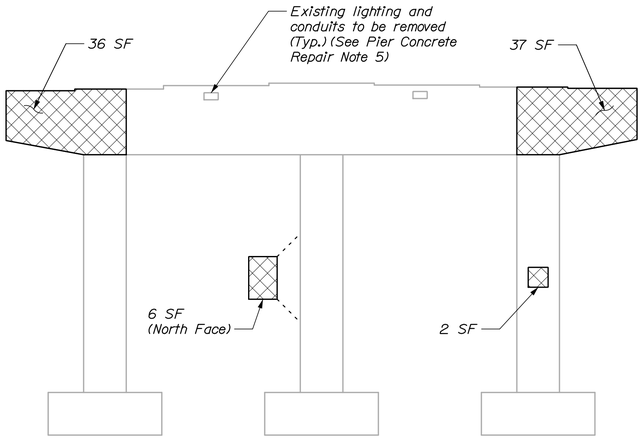
PLAN VIEW

LEGEND

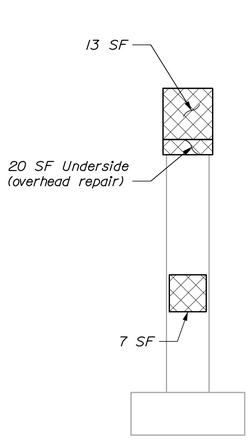
Concrete Repair Area (SF)

PIER NO. 2 - ESTIMATED CONCRETE REPAIR QUANTITIES	
Repair of Upward Facing Surfaces- to Reinforcing Steel < 8 inches (Item 518.50)	33 SF *
Repair Vertical Surfaces < 8 inches (Item 518.60)	192 SF *
Repair of Overhead Surfaces < 8 inches (Item 518.70)	45 SF *
Reinforcing Steel (Items 503.12 and 503.13)	100 LB **
Crack Repair (Item 518.80)	10 LF ***

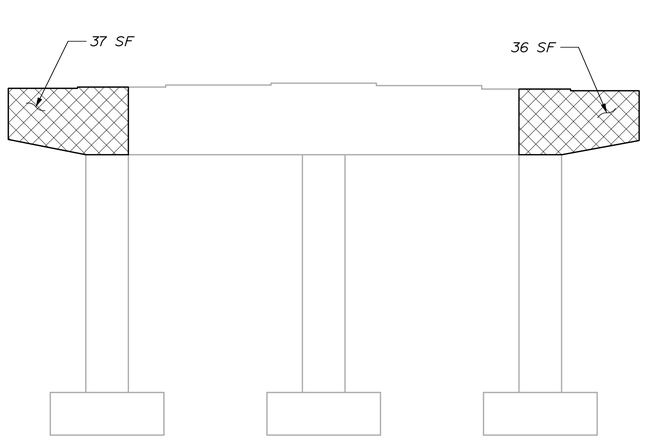
* Includes 5 SF additional quantity as a contingency
** Contingency quantity for potential supplemental bars



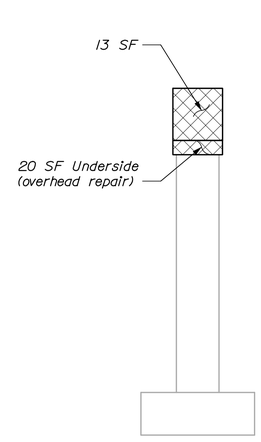
WEST ELEVATION VIEW



SOUTH ELEVATION VIEW



EAST ELEVATION VIEW



NORTH ELEVATION VIEW

PIER NO. 2 REPAIRS
(Existing piles not shown for clarity)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE PLANS

BRIDGE NO. 1376

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

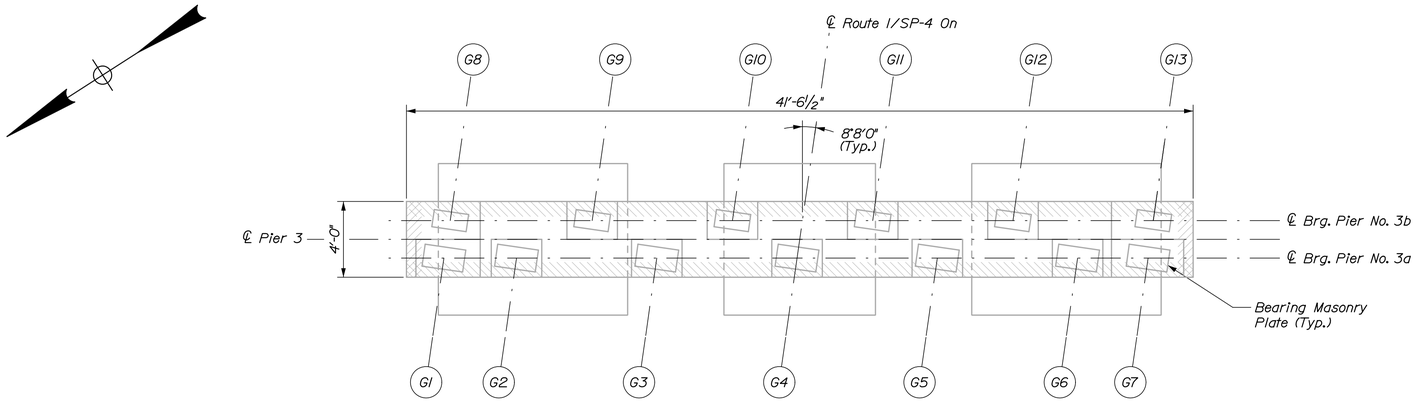
PIER NO. 2 REPAIRS

SHEET NUMBER

B15

OF B33

Filename: B15_Pier 2.dgn Division: Username: Date:2/14/2024



PLAN VIEW

PIER 3 DEMOLITION NOTES

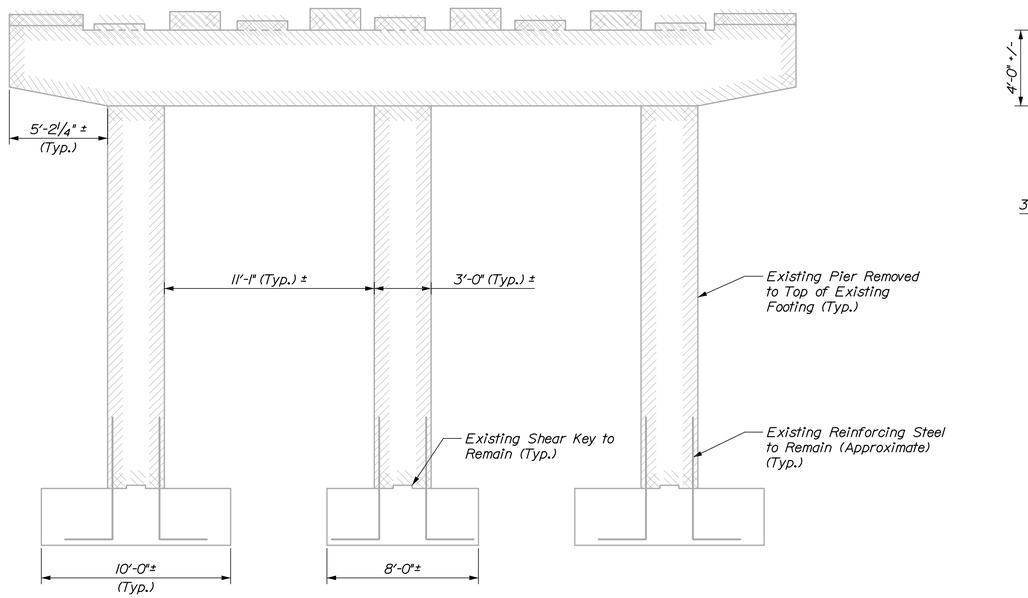
1. Existing bottom of girder elevations at the bearing lines shall be surveyed prior to temporarily supporting the girders for pier demolition, and bearing heights shall be field measured after rehabilitation in order to verify proposed Pier No. 3 step elevations and needed shim plates.

2. The Temporary Structural Support shall be designed in accordance with Special Provision Section 542 Temporary Structural Support - Pier No. 3.

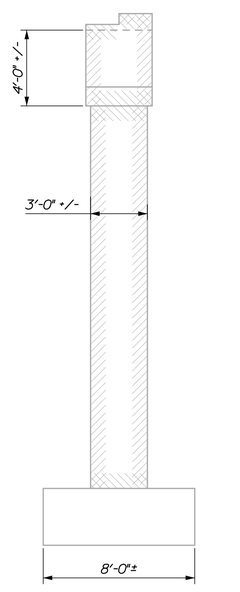
3. After demolition the footings shall be fully exposed and cleaned of debris. At that point a temporary hold shall be put on pier reconstruction to allow for full inspection of the footing condition by the Resident. If any major deficiencies are noted such as cracking, spalling or delamination the Department will develop a repair plan, prior to commencing pier reconstruction work. Footing repairs, if needed, shall be paid for using existing Contract Items, if possible, or at agreed upon prices based on scope of repair plan.

LEGEND

Concrete Removal Area



NORTH ELEVATION VIEW



WEST ELEVATION VIEW

PIER NO. 3 DEMOLITION
(Existing piles not shown for clarity)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	E. Beausoleil	9\2023
CHECKED-REVIEWED	D. Guzzi	9\2023
DESIGN2-DETAILED2	K. Brayley	
DESIGN3-DETAILED3	Y. Peng	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

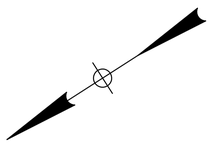
PIER NO. 3 REPAIRS I

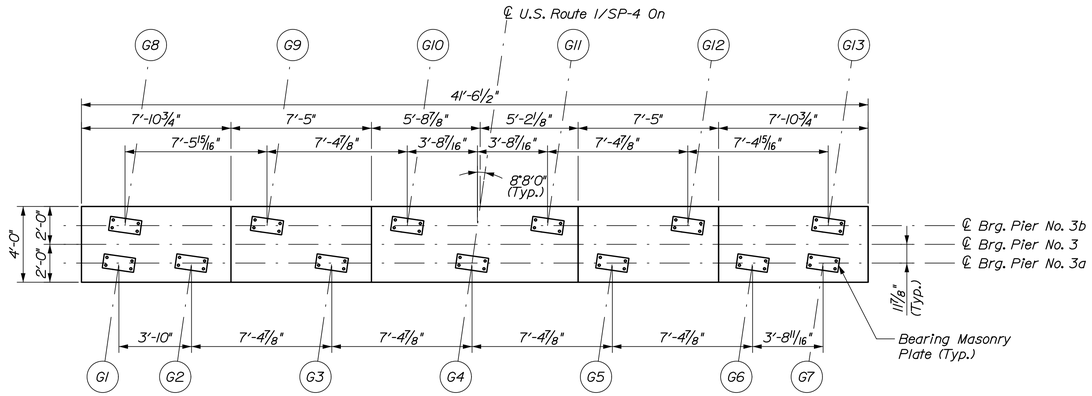
SHEET NUMBER

B16

OF B33

Filename: B16_Pier 3_I.dgn Division: Username: Date:2/14/2024





PLAN VIEW

PIER NOTES:

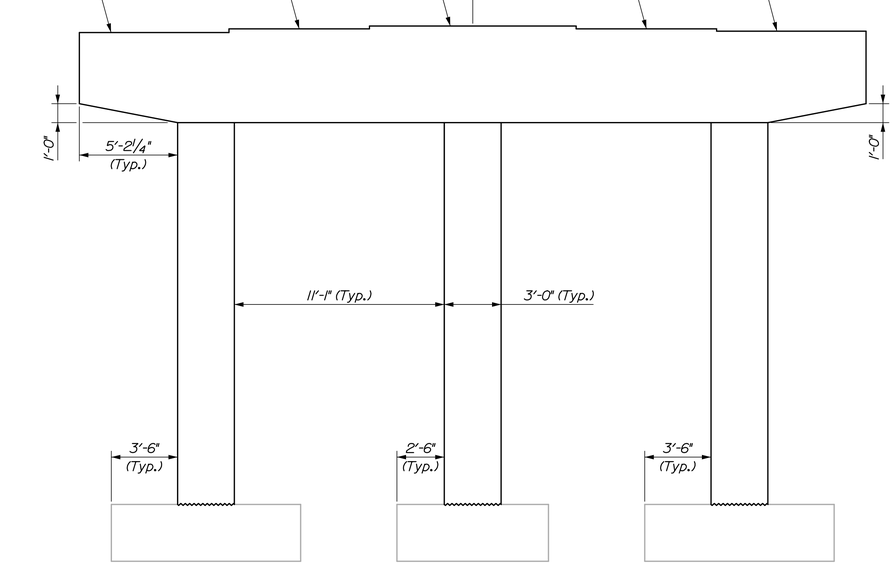
1. Reinforcing steel shall have a minimum concrete cover of 3 inches unless otherwise noted.

2. The pier pedestal elevations shown are based on original shop drawing information regarding existing bearings and will require shim plates at some bearing locations. Adjustments to pedestal elevations, if necessary, shall be made once bearing heights are field verified. Refer to Special Provision 523 for additional information.

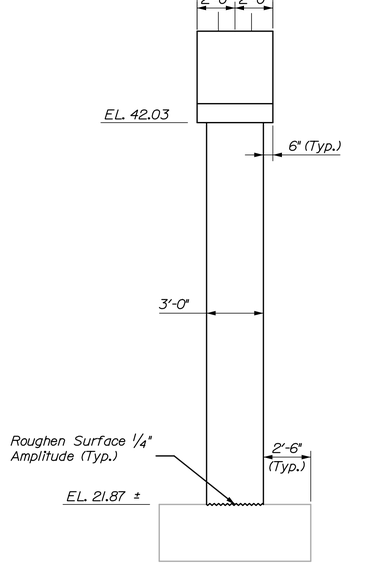
PIER DESIGN CRITERIA:

1. Controlling AASHTO Load Combinations - Strength I and Strength III Limit States.

2. Wind - 115 mph or 0.06 ksf, Strength III Limit State.



NORTH ELEVATION VIEW



WEST ELEVATION VIEW

PIER NO. 3 GEOMETRY
(Existing piles not shown for clarity)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	D. Guzzi	9\2023
CHECKED-REVIEWED	Y. Peng	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

PIER NO. 3 REPAIRS II

SHEET NUMBER

B17

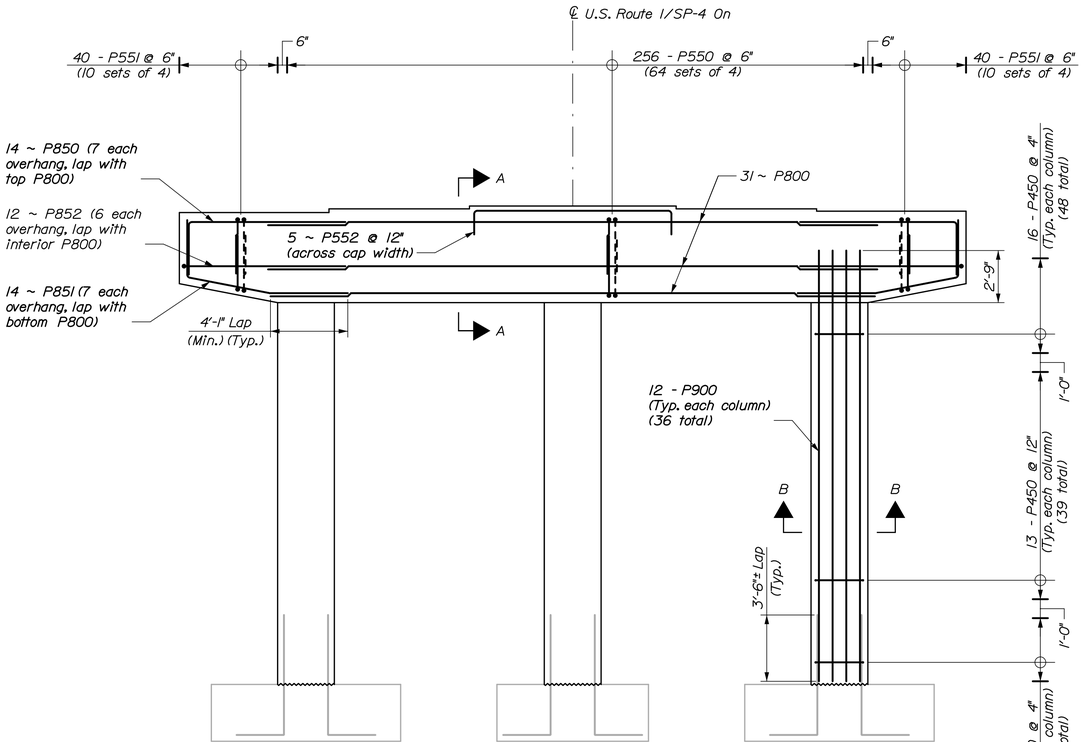
OF B33

Date:2/14/2024

Username:

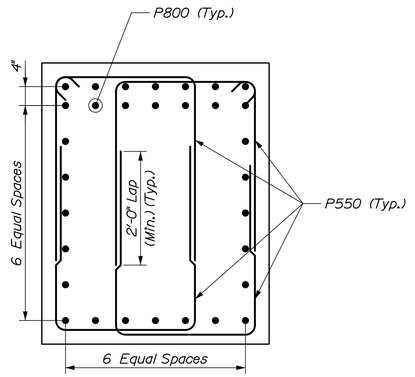
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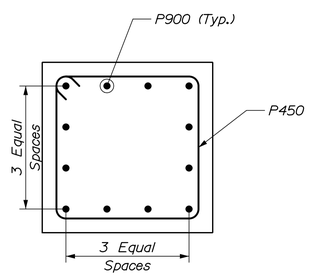


NORTH ELEVATION VIEW

PIER NO. 3 REINFORCING
(Existing piles not shown for clarity)



SECTION A-A



SECTION B-B

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376 BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	E. Beausoleil	9\2023
CHECKED-REVIEWED	D. Guzzi	9\2023
DESIGN2-DETAILED2	Y. Peng	K. Brayley
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

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DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

PIER NO. 3 REPAIRS III

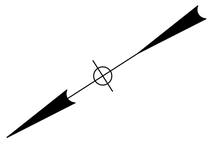
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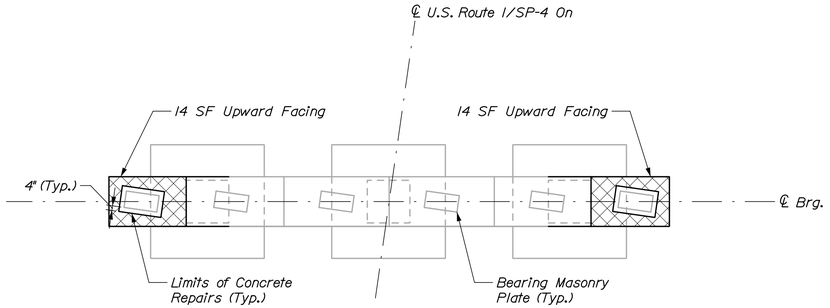
B18

OF B33

HNTB

Filename: B18_Pier 3_III.dgn Division: Username: Date:2/14/2024





PLAN VIEW

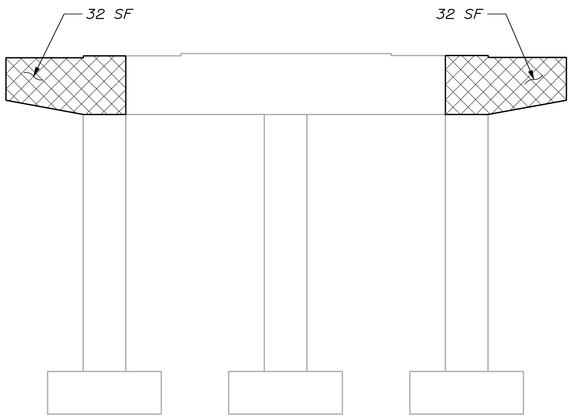
LEGEND

Concrete Repair Area (SF)

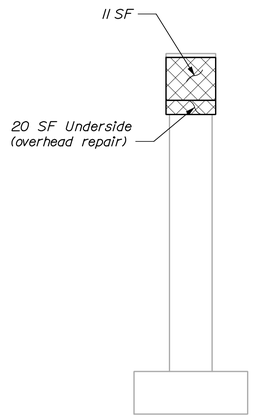
Crack Repair Area

PIER NO. 4 - ESTIMATED CONCRETE REPAIR QUANTITIES	
Repair of Upward Facing Surfaces- to Reinforcing Steel < 8 inches (Item 518.50)	33 SF *
Repair Vertical Surfaces < 8 inches (Item 518.60)	158 SF *
Repair of Overhead Surfaces < 8 inches (Item 518.70)	45 SF *
Reinforcing Steel (Items 503.12 and 503.13)	100 LB **
Crack Repair (Item 518.80)	42 LF *

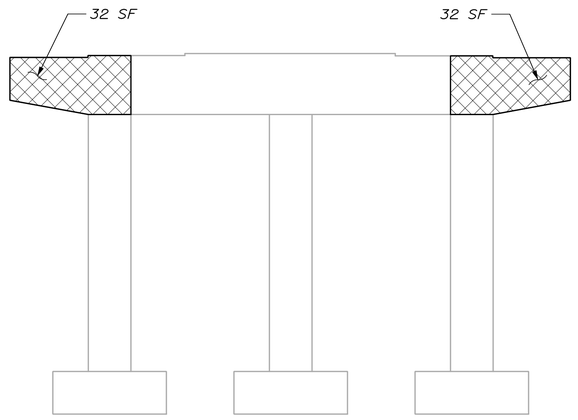
* Includes 5 SF or 10 LF additional quantity as a contingency
** Contingency quantity for potential supplemental bars



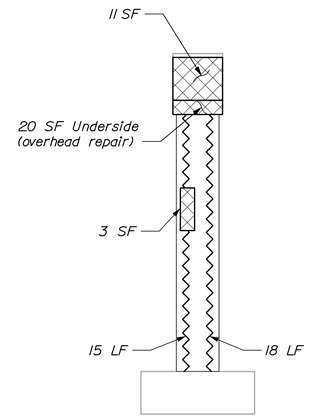
WEST ELEVATION VIEW



SOUTH ELEVATION VIEW



EAST ELEVATION VIEW



NORTH ELEVATION VIEW

PIER NO. 4 REPAIRS
(Existing piles not shown for clarity)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

PIER NO. 4 REPAIRS

SHEET NUMBER

B19

OF B33

Filename: B19_Pier 4.dgn Division: Username: Date:2/14/2024

Filename: B20_Pier 5.dgn
Division:
Username:
Date:2/14/2024

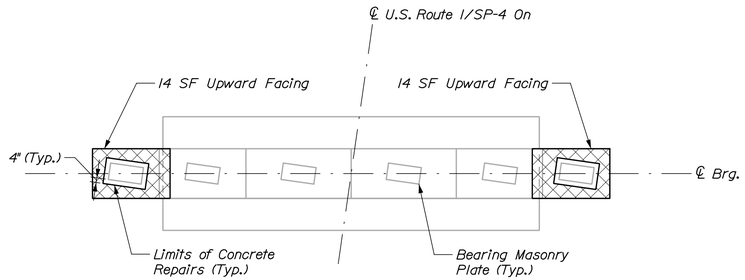
LEGEND

Concrete Repair Area (SF)

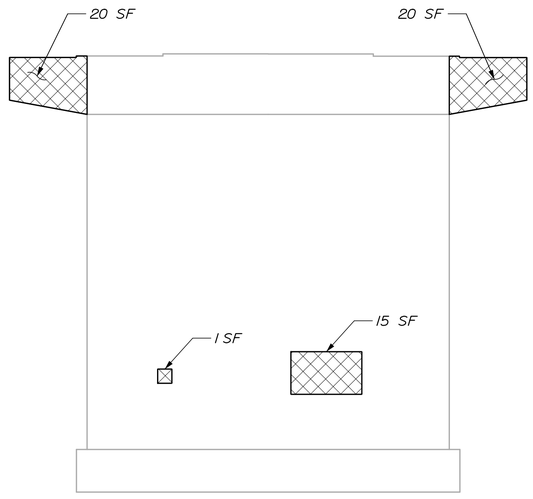
Crack Repair Area

PIER NO. 5 - ESTIMATED CONCRETE REPAIR QUANTITIES	
Repair of Upward Facing Surfaces- to Reinforcing Steel < 8 inches (Item 518.50)	33 SF *
Repair Vertical Surfaces < 8 inches (Item 518.60)	123 SF *
Repair of Overhead Surfaces < 8 inches (Item 518.70)	45 SF *
Reinforcing Steel (Items 503.12 and 503.13)	100 LB **
Crack Repair (Item 518.80)	18 LF *

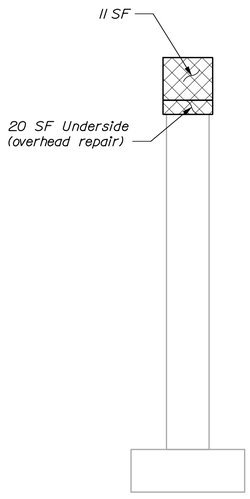
* Includes 5 SF or 10 LF additional quantity as a contingency
** Contingency quantity for potential supplemental bars



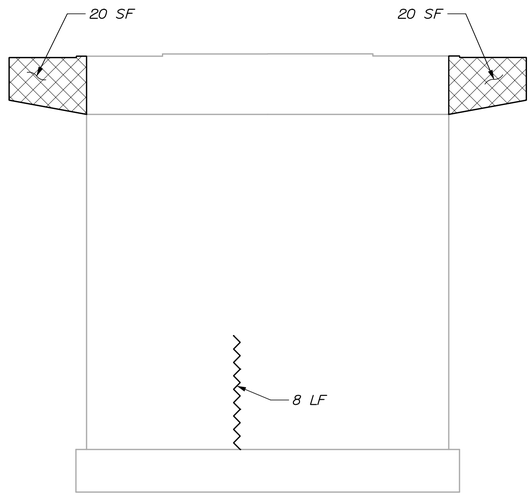
PLAN VIEW



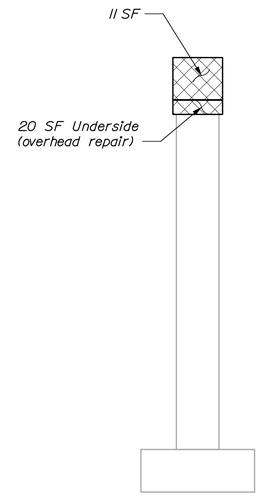
WEST ELEVATION VIEW



SOUTH ELEVATION VIEW



EAST ELEVATION VIEW



NORTH ELEVATION VIEW

PIER NO. 5 REPAIRS
(Existing piles not shown for clarity)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

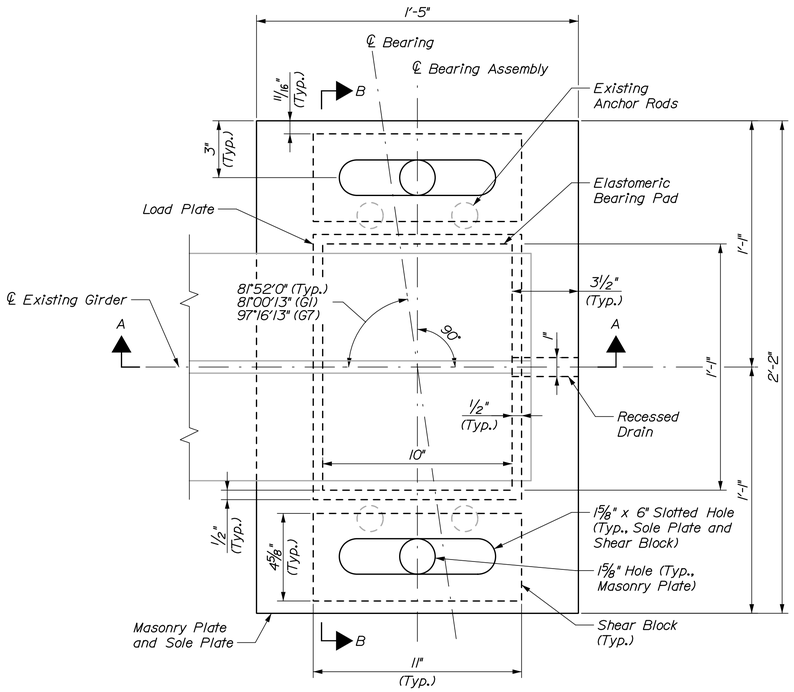
RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

PIER NO. 5 REPAIRS

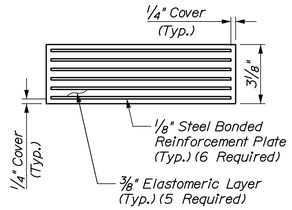
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B20

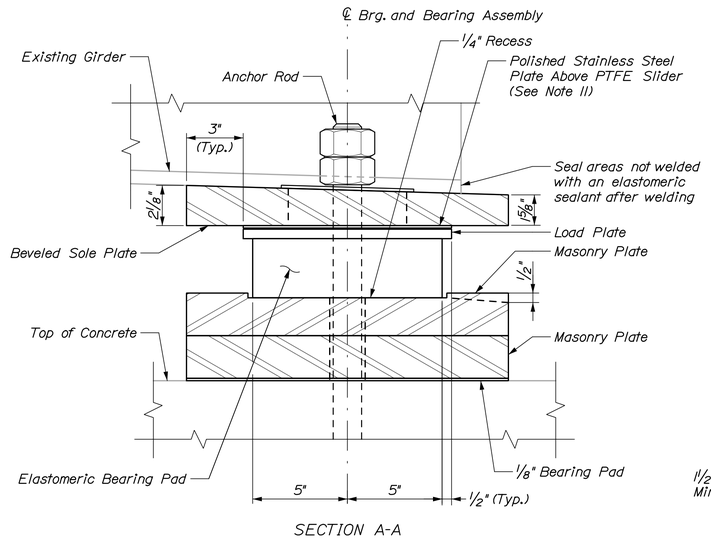
OF B33



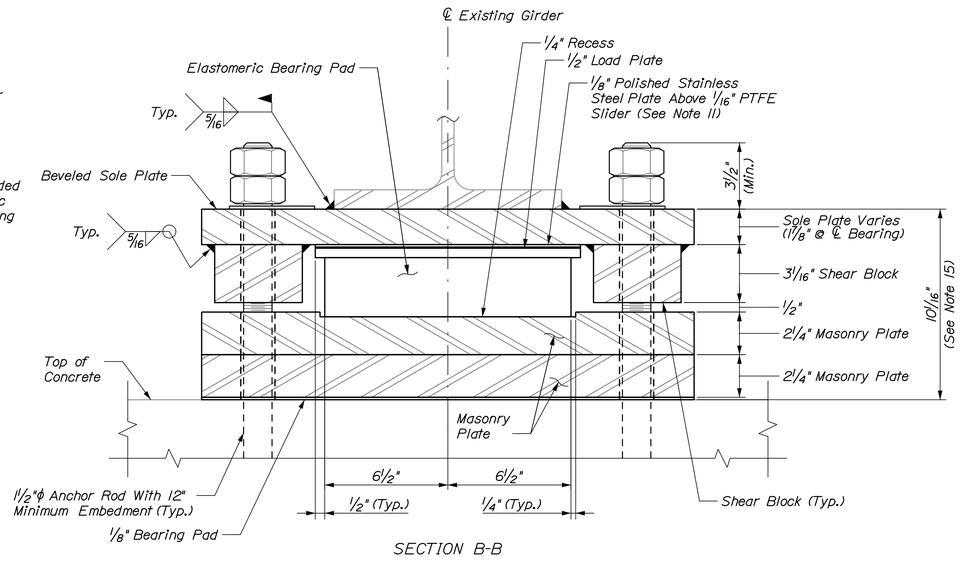
PLAN



ELASTOMERIC BEARING PAD



SECTION A-A



SECTION B-B

EXPANSION BEARING ASSEMBLY - ABUTMENT NO. 1

(7 Required)

BEARING DESIGN CRITERIA

Criteria	Abutment No. 1	Pier No. 1	Pier No. 2	Pier No. 3A	Pier No. 3B	Pier No. 4	Pier No. 5	Abutment No. 2
Unfactored Dead Load (kips)	27	Existing to Remain	Existing to Remain	Refurbished Existing Bearing from Abut No. 1	Refurbished Existing Bearing from Pier No. 3B	Existing to Remain	Existing to Remain	Existing to Remain
Unfactored Live Load (kips)	65							
Max. Longitudinal Displ. (in.)	2.30							

ELASTOMERIC BEARING NOTES:

1. Elastomer shall be 100% polychloroprene (neoprene) with durometer hardness of 50. The shear modulus of the elastomer shall be 110 psi.

2. Masonry plates, sole plates and shear blocks shall meet the requirements of ASTM A709, Grade 50. Anchor rods shall meet the requirements of ASTM F1554, Grade 105 and shall be swedged on the embedded portion of the rod. Washers shall be AASHTO F436 and nuts shall be AASHTO A563.

3. Contractor shall re-finish galvanizing and girder paint, as directed by Resident, in accordance with ASTM A780 after welding.

4. Vulcanizing of the elastomer to the load plate and masonry plate, shall be done during the primary mold process.

5. Upset the threads on the anchor rods after assembly of the bearing.

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

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

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

9. Bearing pads were designed using "Method A", and shall be subsequently tested in accordance with the specifications.

10. The bearings may be replaced when the ambient air temperature is within the range of 30°F and 90°F. If the ambient air temperature is outside this range, the bearings shall be reset as directed by the Resident.

11. PTFE slider shall be recessed 1/4" from the edge of the load plate on all edges.

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

13. The Contractor shall not weld the girders to the sole plate until after all adjustments have been made in accordance with Standard Specification Section 523.094.

14. Loads and movements reported in the Bearing Design Criteria table below are unfactored. Live load does not include impact.

15. The existing bearing assembly at Abutment 1 is assumed to be 10 1/16" from bottom of girder to top of abutment concrete. The Contractor is responsible for field verifying this dimension. Variations exceeding 1/16" shall be adjusted for by modifying the bottom masonry plate thickness. Field measurements shall be provided with the bearing fabrication drawings.

16. The proposed elastomeric expansion bearings at Abutment No. 1 shall be installed, and the superstructure set in it's final position on the bearings before placing the concrete for the proposed bridge deck in Stage 1.

STEEL BEARING NOTES:

1. Existing fixed steel bearings at Abutment No. 1 and Pier No. 3b shall be refurbished and reset in accordance with Special Provision Section 523 and reinstalled at the reconstructed Pier No. 3. Refer to original shop drawing details for additional information regarding existing fixed bearings.

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

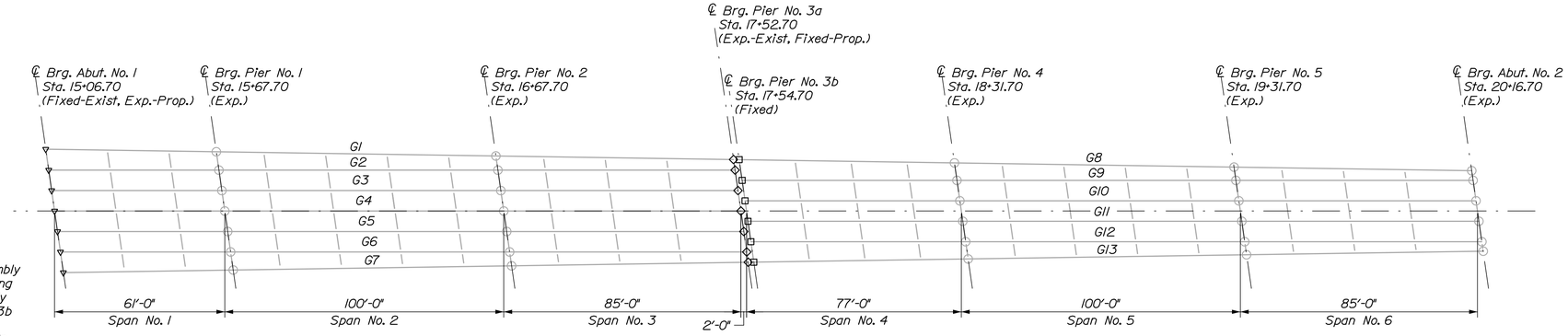
BEARING DETAILS

SHEET NUMBER

B21

OF B33

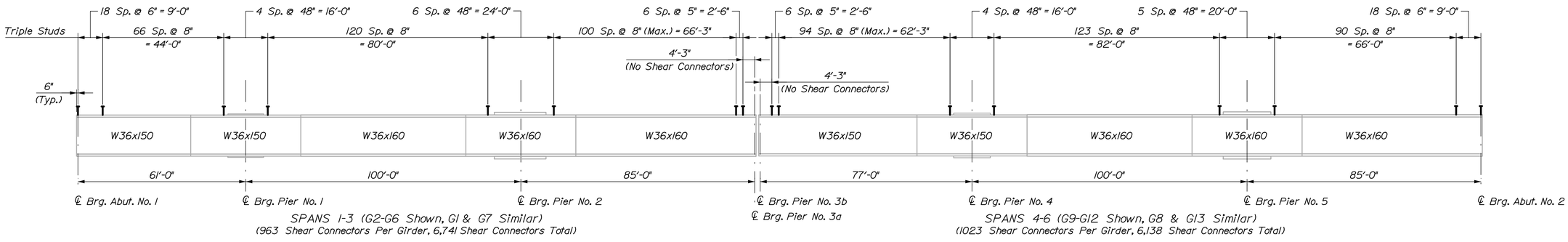
Filename: B21_Bearings_1.dgn Division: Username: Date:2/14/2024



KEY PLAN

LEGEND

- ▽ - Replace existing bearing with elastomeric expansion bearing assembly
- ◇ - Replace existing bearing with existing Abutment No. 1 fixed bearing assembly
- □ - Remove and reset existing Pier No. 3b fixed bearing assembly
- ○ - Existing expansion bearing to remain



SPANS 1-3 (G2-G6 Shown, G1 & G7 Similar)
(963 Shear Connectors Per Girder, 6,741 Shear Connectors Total)

SPANS 4-6 (G9-G12 Shown, G8 & G13 Similar)
(1023 Shear Connectors Per Girder, 6,138 Shear Connectors Total)

SHEAR CONNECTOR LAYOUT
N.T.S.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
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REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

STRUCTURAL STEEL DETAILS I

SHEET NUMBER

B22

OF B33

Username:

Division:

Date:2/14/2024

Filename: B22_SteelDetails I.dgn

NOTES:

1. Prior to installing the proposed shear connectors, the Contractor shall clean the top flange so that it is free of debris, rust, scale, oil, and other contaminates that would adversely affect the welding operation. Payment for cleaning the top flange for installation of proposed shear connectors shall be incidental to Item 505.08, Shear Connectors. If lead paint is encountered while cleaning top flanges, the Contractor is responsible for the containment, proper management and disposal of all lead-contaminated hazardous waste. See Note 8 on the Bridge General Notes sheet for more information.

2. Shear Connectors shall maintain a clear cover of 2 inches to the top of the slab. Shear Connectors shall be installed per Standard Detail 505(01).

3. Span locations provided are based on the centerline of bearing to centerline of bearing length "L" for each girder.

4. Existing shear connectors shall be removed such that they project 1 inch maximum above the top of the existing top flange unless they conflict with the installation of the new shear connectors or any other work. If the existing shear connectors interfere with installation of the new shear connectors or any other work, they shall be removed completely and ground flush with the top flange. All costs associated with this work shall be incidental to related Contract Items.

5. After deck removal and prior to proposed deck placement the Contractor shall inspect all girder top flange welded cover plate ends for cracks using non-destructive testing methods. An inspection plan shall be submitted to and approved by the Resident. Payment for this work shall be considered incidental to related Contract Items.

Bottom of Slab Elevation Table

Girder Number	℄ Brg. Abut 1	0.1 L	0.2 L	0.3 L	0.4 L	0.5 L	0.6 L	0.7 L	0.8 L	0.9 L	℄ Brg. Pier 1
G1	45.89	46.06	46.23	46.39	46.55	46.71	46.87	47.02	47.17	47.33	47.49
G2	46.07	46.23	46.40	46.56	46.72	46.88	47.03	47.18	47.33	47.49	47.64
G3	46.24	46.41	46.57	46.74	46.90	47.05	47.20	47.36	47.51	47.66	47.81
G4	46.41	46.58	46.75	46.91	47.07	47.23	47.38	47.53	47.68	47.83	47.99
G5	46.30	46.46	46.63	46.79	46.95	47.11	47.26	47.41	47.56	47.71	47.86
G6	46.18	46.34	46.51	46.67	46.83	46.99	47.14	47.29	47.44	47.59	47.74
G7	46.06	46.22	46.39	46.56	46.72	46.87	47.03	47.18	47.33	47.48	47.64
	℄ Brg. Pier 1	0.1 L	0.2 L	0.3 L	0.4 L	0.5 L	0.6 L	0.7 L	0.8 L	0.9 L	℄ Brg. Pier 2
G1	47.49	47.76	48.03	48.30	48.54	48.76	48.95	49.12	49.27	49.42	49.59
G2	47.64	47.91	48.18	48.44	48.68	48.89	49.08	49.24	49.39	49.54	49.70
G3	47.81	48.08	48.35	48.61	48.85	49.06	49.25	49.41	49.56	49.71	49.86
G4	47.99	48.25	48.52	48.78	49.02	49.23	49.41	49.58	49.73	49.87	50.03
G5	47.86	48.13	48.40	48.65	48.89	49.10	49.29	49.45	49.60	49.74	49.90
G6	47.74	48.01	48.27	48.53	48.77	48.98	49.16	49.32	49.47	49.61	49.77
G7	47.64	47.90	48.17	48.43	48.67	48.88	49.07	49.23	49.38	49.52	49.68
	℄ Brg. Pier 2	0.1 L	0.2 L	0.3 L	0.4 L	0.5 L	0.6 L	0.7 L	0.8 L	0.9 L	℄ Brg. Pier 3A
G1	49.59	49.73	49.89	50.05	50.20	50.34	50.46	50.56	50.64	50.70	50.75
G2	49.70	49.84	50.00	50.15	50.30	50.44	50.55	50.65	50.73	50.79	50.84
G3	49.86	50.01	50.16	50.31	50.46	50.60	50.71	50.81	50.89	50.95	50.99
G4	50.03	50.17	50.32	50.48	50.62	50.76	50.87	50.97	51.04	51.10	51.15
G5	49.90	50.04	50.19	50.35	50.49	50.62	50.74	50.83	50.91	50.97	51.01
G6	49.77	49.91	50.06	50.21	50.36	50.49	50.60	50.70	50.77	50.83	50.88
G7	49.68	49.83	49.98	50.13	50.28	50.41	50.53	50.62	50.70	50.76	50.81

Bottom of Slab Elevation Table

Girder Number	℄ Brg. Pier 3B	0.1 L	0.2 L	0.3 L	0.4 L	0.5 L	0.6 L	0.7 L	0.8 L	0.9 L	℄ Brg. Pier 4
G8	50.78	50.88	50.98	51.07	51.14	51.20	51.24	51.27	51.29	51.31	51.34
G9	50.93	51.04	51.14	51.22	51.29	51.34	51.38	51.41	51.42	51.44	51.46
G10	51.09	51.19	51.29	51.38	51.44	51.50	51.53	51.56	51.58	51.59	51.62
G11	51.10	51.20	51.30	51.38	51.45	51.50	51.54	51.56	51.58	51.60	51.62
G12	50.97	51.07	51.16	51.25	51.31	51.36	51.40	51.42	51.44	51.46	51.48
G13	50.83	50.93	51.03	51.11	51.18	51.23	51.27	51.30	51.32	51.33	51.36
	℄ Brg. Pier 4	0.1 L	0.2 L	0.3 L	0.4 L	0.5 L	0.6 L	0.7 L	0.8 L	0.9 L	℄ Brg. Pier 5
G8	51.34	51.38	51.44	51.49	51.53	51.55	51.54	51.51	51.46	51.41	51.37
G9	51.46	51.51	51.56	51.61	51.64	51.66	51.64	51.61	51.56	51.51	51.46
G10	51.62	51.66	51.71	51.76	51.79	51.80	51.79	51.75	51.71	51.65	51.61
G11	51.62	51.66	51.71	51.76	51.79	51.80	51.79	51.75	51.70	51.65	51.60
G12	51.48	51.52	51.57	51.61	51.65	51.66	51.64	51.60	51.55	51.50	51.45
G13	51.36	51.40	51.45	51.50	51.54	51.55	51.53	51.50	51.45	51.40	51.35
	℄ Brg. Pier 5	0.1 L	0.2 L	0.3 L	0.4 L	0.5 L	0.6 L	0.7 L	0.8 L	0.9 L	℄ Brg. Abut 2
G8	51.37	51.35	51.33	51.31	51.29	51.25	51.20	51.12	51.03	50.92	50.79
G9	51.46	51.44	51.41	51.39	51.37	51.33	51.27	51.19	51.10	50.98	50.85
G10	51.61	51.58	51.56	51.54	51.51	51.47	51.41	51.33	51.23	51.12	50.99
G11	51.60	51.57	51.55	51.53	51.50	51.46	51.40	51.32	51.22	51.11	50.97
G12	51.45	51.42	51.40	51.38	51.35	51.31	51.25	51.17	51.07	50.95	50.82
G13	51.35	51.33	51.31	51.29	51.26	51.22	51.16	51.09	50.99	50.88	50.74

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	E. Beausoleil	9\2023
CHECKED-REVIEWED	K. Brayley	9\2023
DESIGN2-DETAILED2	D. Guzzi	
DESIGN3-DETAILED3	Y. Peng	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

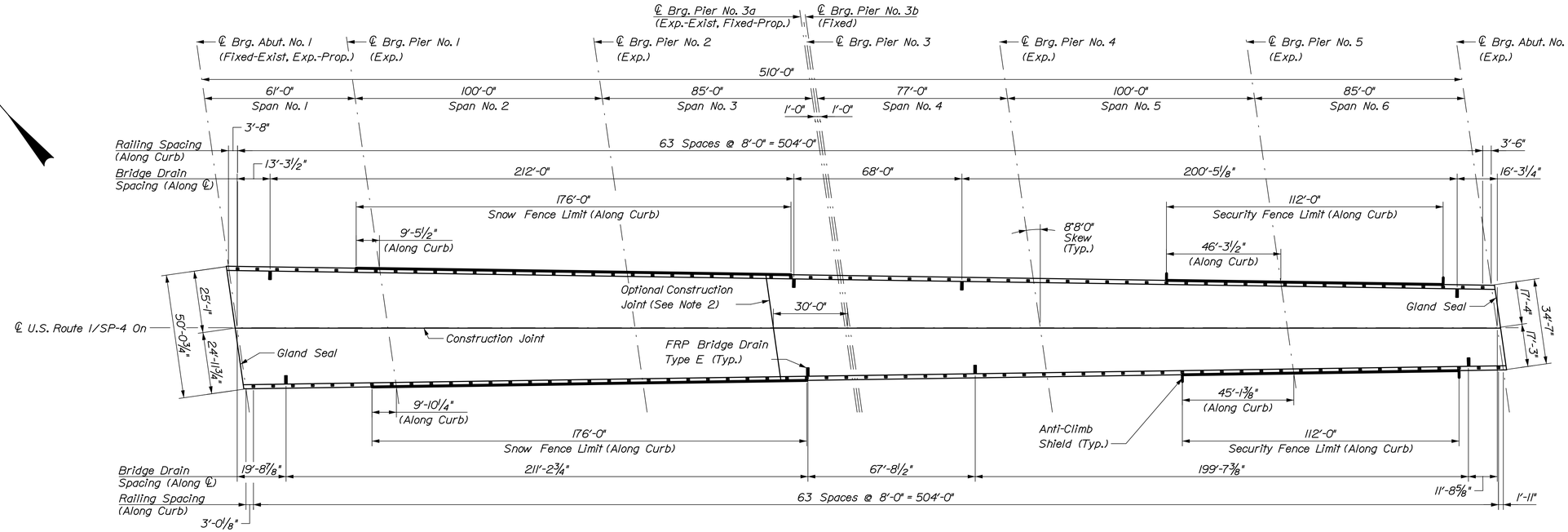
STRUCTURAL STEEL DETAILS II

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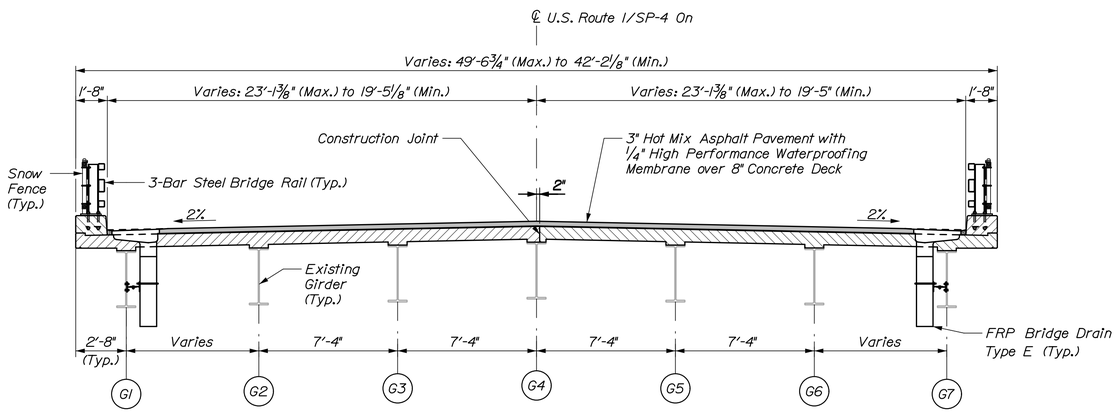
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OF B33

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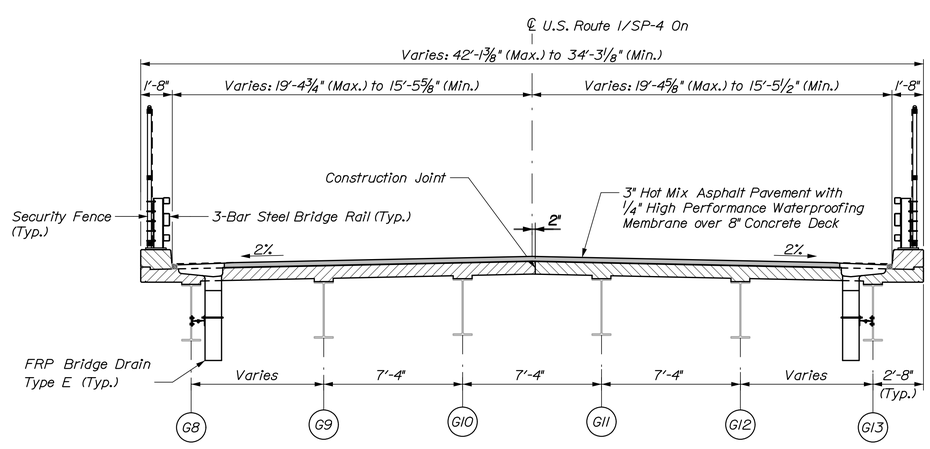


SUPERSTRUCTURE PLAN



TRANSVERSE SECTION

Span No. 1 Thru 3



TRANSVERSE SECTION

Spans No. 4 Thru 6

SUPERSTRUCTURE NOTES:

1. Form a 1 inch V-groove on the fascias at the horizontal joint between the curb and slab.

2. Unless the superstructure slab concrete is placed in one continuous operation, the initial placement shall start at Abutment No. 1 end of the deck slab and shall terminate at the completion of a positive moment section. Successive placements shall proceed from Abutment No. 2 placement, terminate at the completion of a positive moment section, and include two or more spans. Concrete in a placement shall be kept plastic one complete span behind the span being placed. A minimum of 5 days shall elapse between successive partial placements. The superstructure slab concrete placement sequence shall be approved by the Resident.

3. The use of Precast Concrete Deck Panels will not be allowed on this project.

4. See "Snow Fence Details" Sheet for additional snow fence details.

5. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.

6. Adjust reinforcing steel to fit around the bridge drains and shear studs in a manner approved by the Resident. Transverse reinforcing shall not be cut.

7. The seals to be furnished shall have a minimum movement rating of:
   Abutment 1 = 2 7/8"
   Abutment 2 = 3 1/8"

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STATE OF MAINE
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WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	E. Beausoleil	9\2023
CHECKED-REVIEWED	D. Guzzi	9\2023
DESIGN2-DETAILED2	Y. Peng	
DESIGN3-DETAILED3	K. Brayley	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

SUPERSTRUCTURE PLAN

SHEET NUMBER

B24

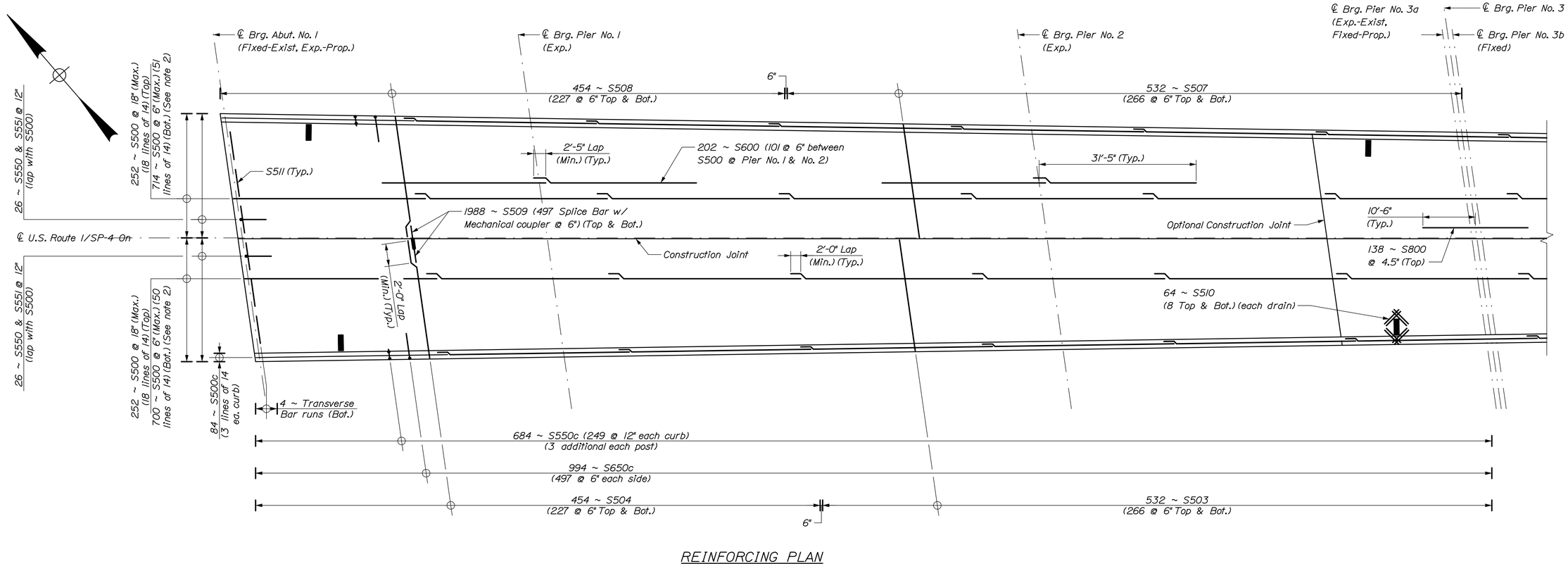
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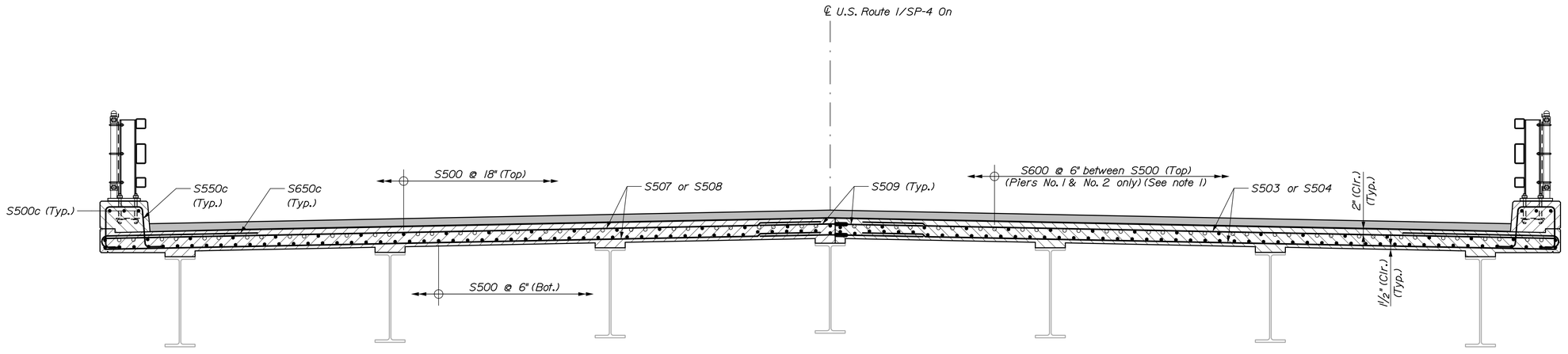
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Date:2/14/2024

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REINFORCING PLAN
(Span No. 1 thru 3)



TRANSVERSE REINFORCING SECTION
(Span No. 1 thru 3)

SUPERSTRUCTURE REINFORCING NOTES:

1. See Superstructure Details sheet for reinforcing at Pier No. 3.
2. Flare longitudinal reinforcing as needed to accommodate tapering deck width.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

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BRIDGE NO. 1376

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	E. Beausoleil	9\2023
CHECKED-REVIEWED	D. Guzzi	
DESIGN2-DETAILED2	Y. Peng	
DESIGN3-DETAILED3	K. Brayley	9\2023
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

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RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

SUPERSTRUCTURE
REINFORCING SPAN NO. 1-3

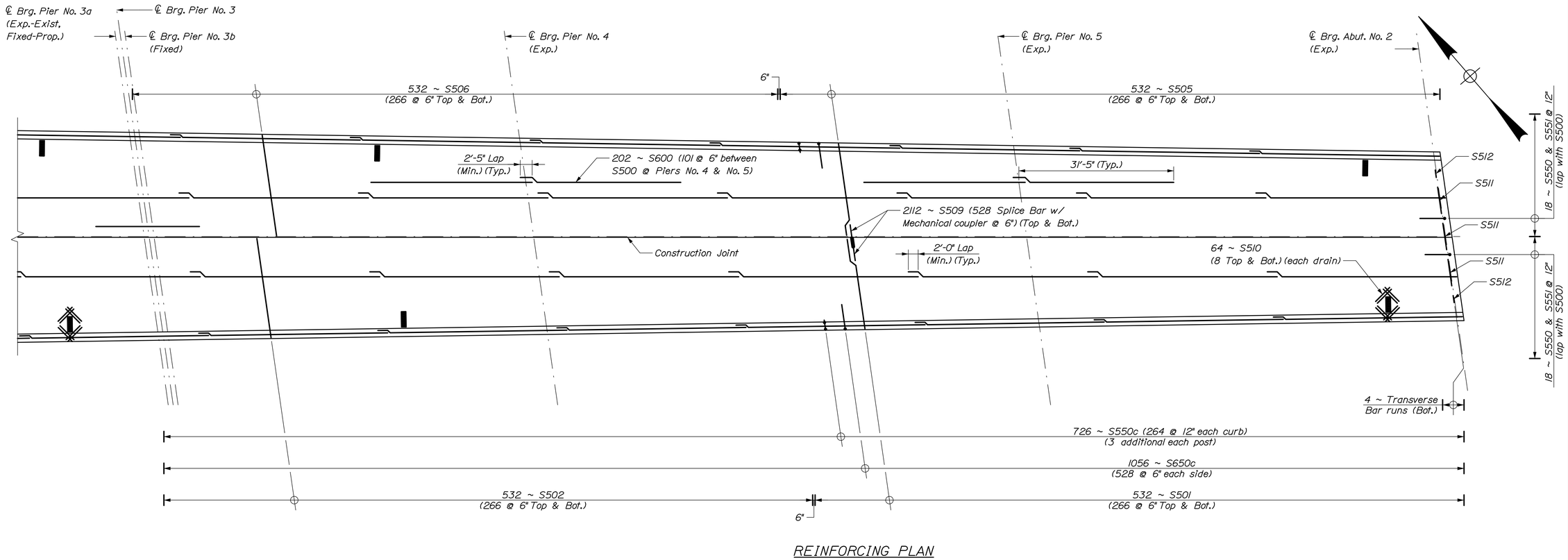
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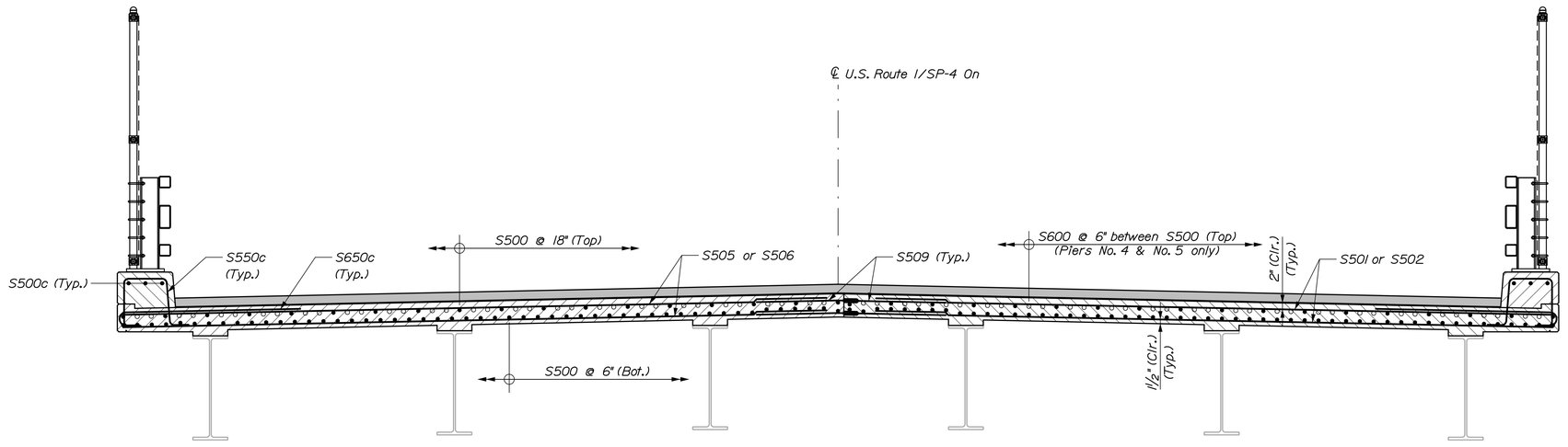
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REINFORCING PLAN
(Span No. 4 thru 6)



TRANSVERSE REINFORCING SECTION
(Span No. 4 thru 6)

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DEPARTMENT OF TRANSPORTATION

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WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

	SIGNATURE	DATE
P.E. NUMBER		
DATE		

	BY	DATE
D. Coombs		
PROJ. MANAGER		
DESIGN-DETAILED	D. Guzzi	9\2023
CHECKED-REVIEWED	Y. Peng	9\2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1	E. Beausoleil	9\2023
REVISIONS 2	K. Brayley	9\2023
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

SUPERSTRUCTURE
REINFORCING SPAN NO. 4-6

SHEET NUMBER

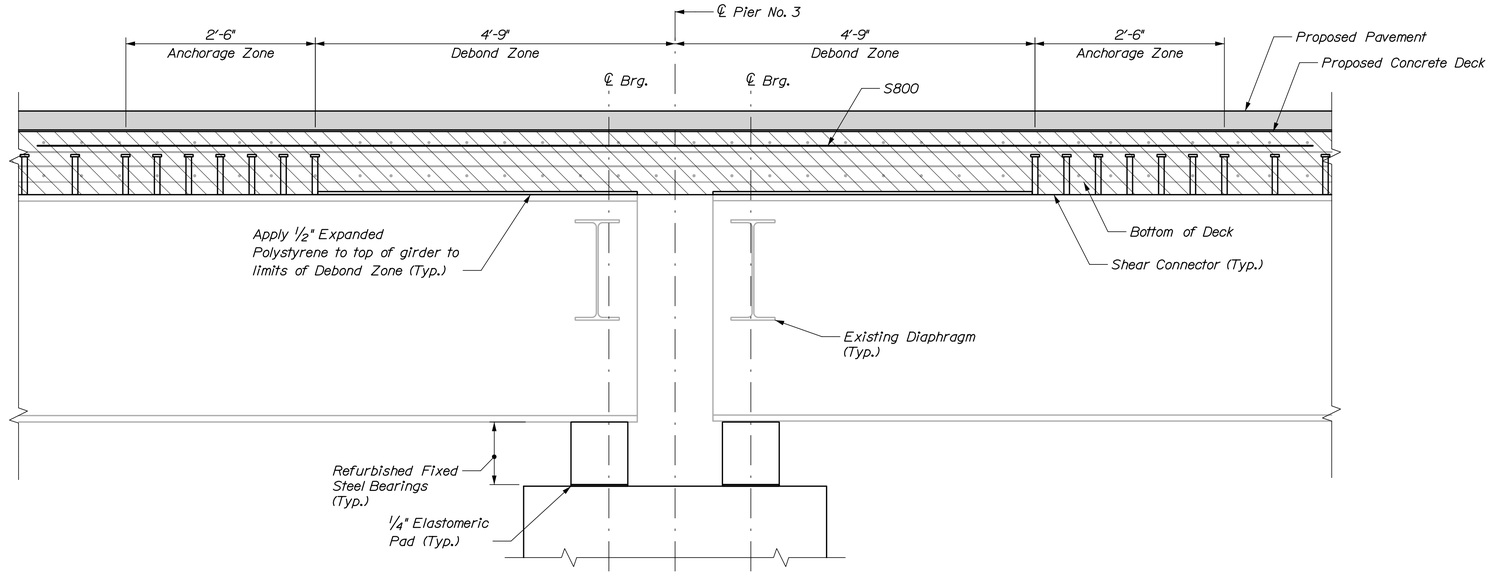
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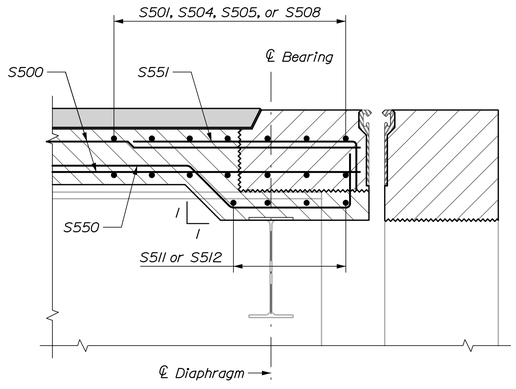
LINK SLAB NOTE:

1. Expanded Polystyrene required in debonded zone is incidental to related Contract Pay Items.

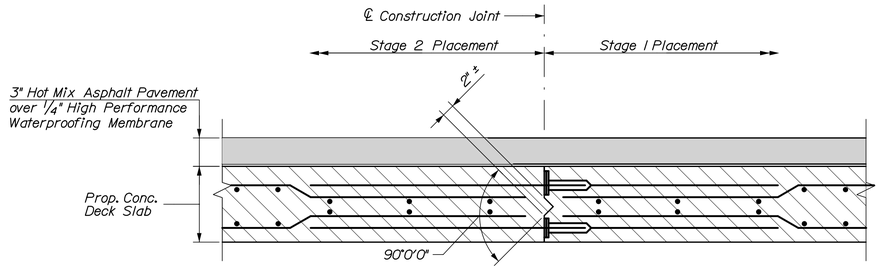


LINK SLAB AT PIER NO. 3

(Primary deck reinforcing shown screened for clarity)



THICKENED END SLAB DETAIL



LONGITUDINAL CONSTRUCTION JOINT DETAIL

(Not To Scale)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

PROJ. MANAGER	D. Coombs	BY	DATE
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
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REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

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RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

SUPERSTRUCTURE DETAILS

SHEET NUMBER

B27

OF B33

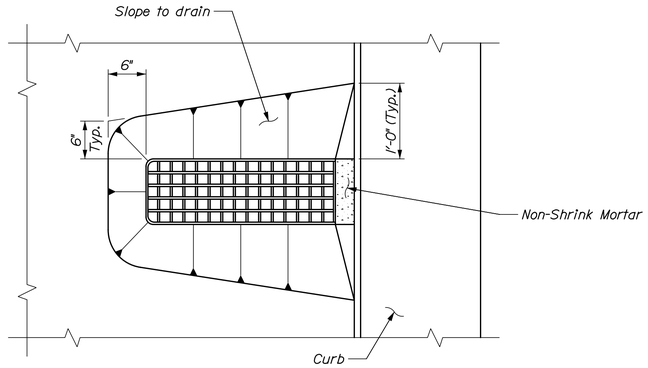
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Date:2/14/2024

Username:

Division:

Filename: B27_Superstructure Details.dgn



BRIDGE DRAIN PLAN

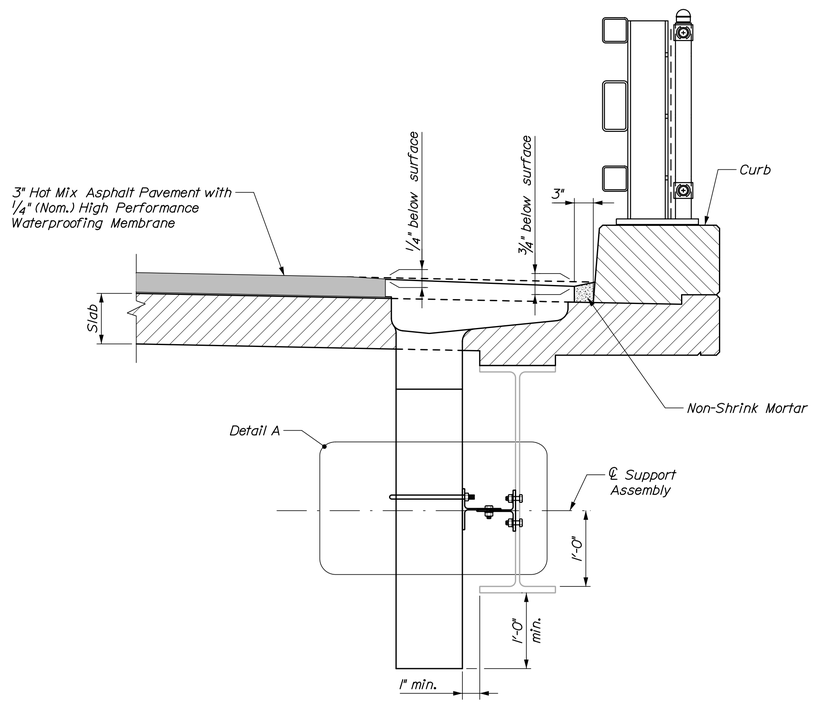
BRIDGE DRAIN NOTES

1. FRP Bridge Drains shall be designed and detailed based on the dimensions for the bridge drain details shown, and in accordance with Special Provisions Section 502, Fiber Reinforced Polymer Bridge Drains and Downspouts.

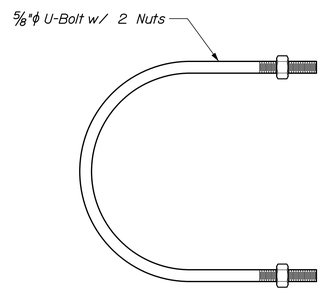
2. Shear connectors welded to the top flange of the steel beams may require adjustment to clear the bridge drains. No extra payment will be made for needed adjustments to the studs.

3. The drain support assembly and all associated hardware shall be galvanized in accordance with Standard Specification 506.

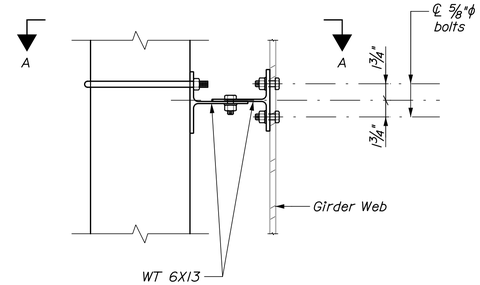
4. Non-Shrink Mortar shall be selected from the Qualified Products List. Payment Shall be incidental to Item 502.77, FRP Bridge Drain - Type E.



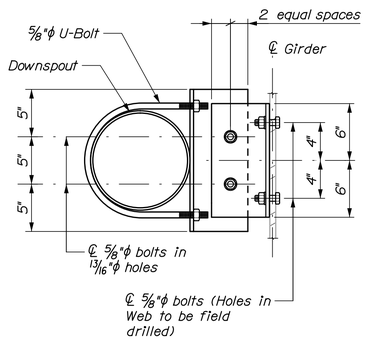
BRIDGE DRAIN ELEVATION



U-BOLT DETAIL



DETAIL A



SECTION A-A

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
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DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
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REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

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RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

BRIDGE DRAIN DETAILS

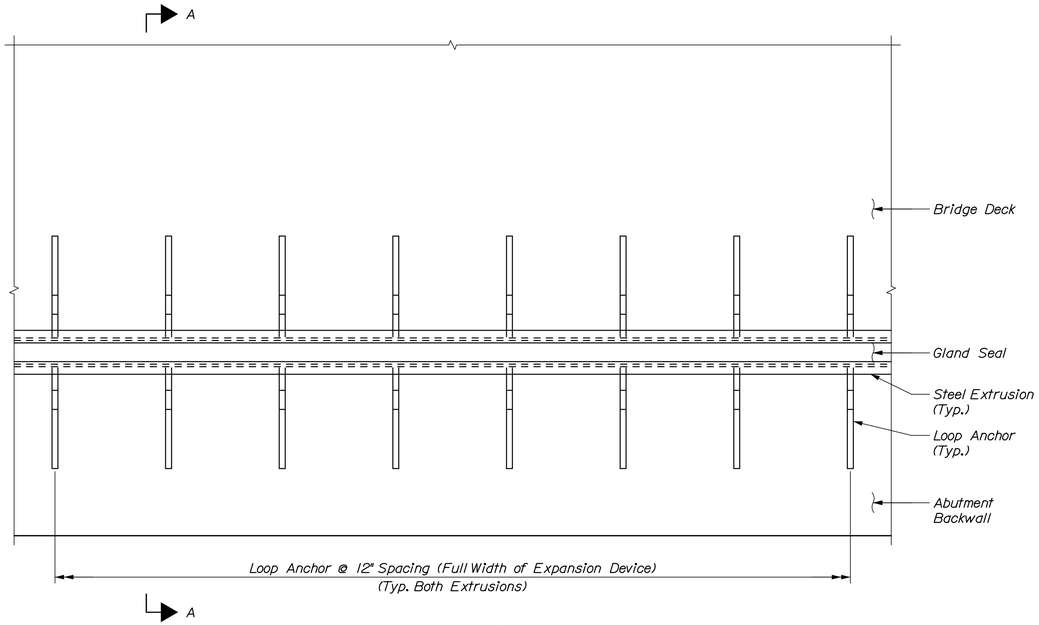
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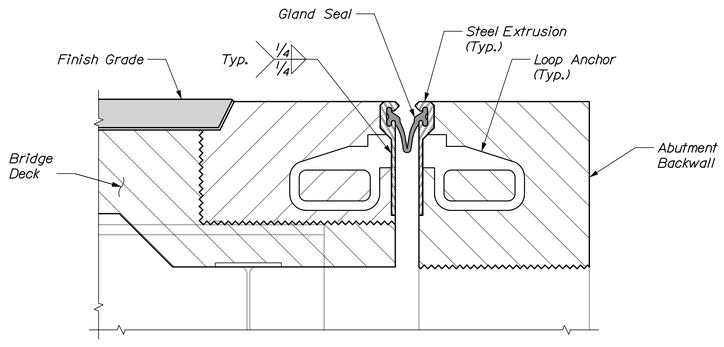
OF B33

HNTB

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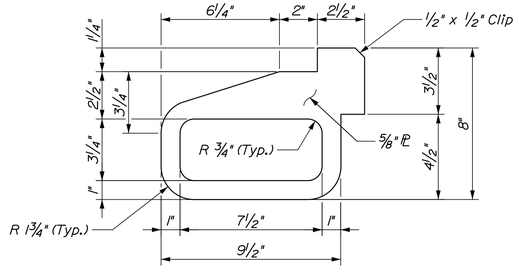


EXPANSION DEVICE PLAN



SECTION A-A

(Reinforcing steel not shown for clarity)



LOOP ANCHOR DETAIL

HEAVY DUTY JOINT NOTES

1. Expansion device shall be per Standard Detail 520 with the exception that the shear studs shall be replaced with the loop anchors detailed herein.

2. Refer to superstructure plan and transverse section for dimensions, slopes, skew and all other information necessary to fabricate and install each expansion device. The curb plates shall be flush or slightly recessed from the concrete faces to avoid catching plows.

3. The Expansion Device shall be fabricated to be installed normal to grade.

4. Prior to the installation of the seal the steel surfaces to receive the adhesive shall be blast cleaned and solvent washed per the seal manufacturer's instructions.

5. Heavy Duty Bridge Joint Loop Anchor shall be considered incidental to Pay Item No. 520.21 Expansion Device - Gland Seal.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

			DATE
PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	D. Guzzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
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DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

JOINT DETAILS

SHEET NUMBER

B29

OF B33

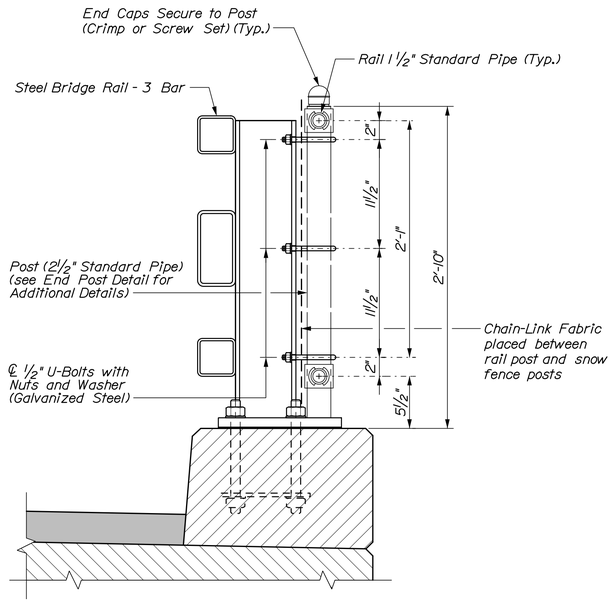
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Date:2/14/2024

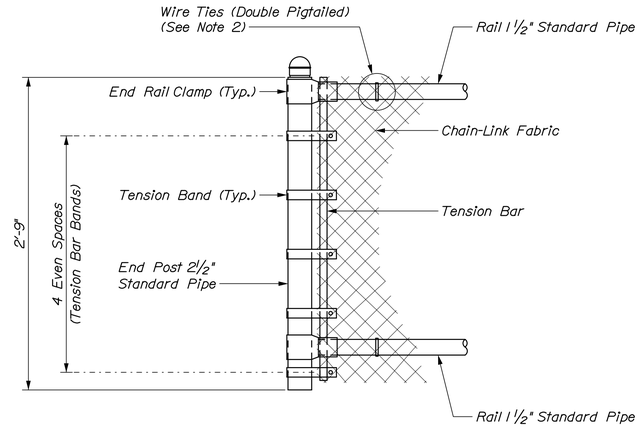
Username:

Division:

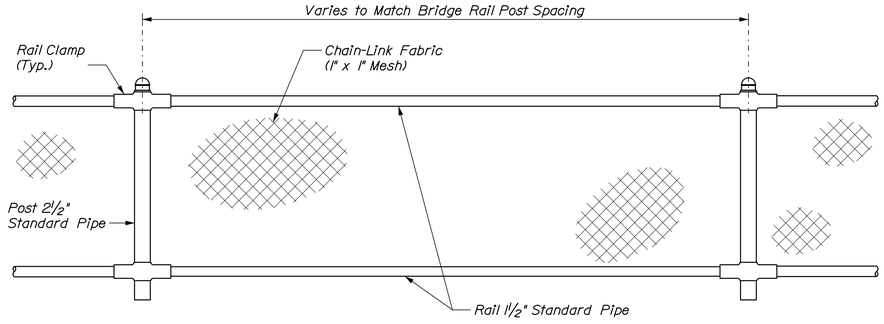
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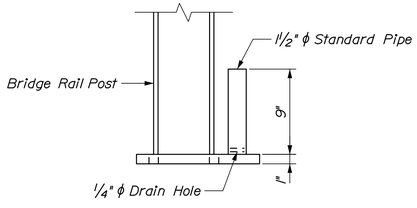
CONNECTION DETAIL - SNOW FENCE



END POST DETAIL - SNOW FENCE

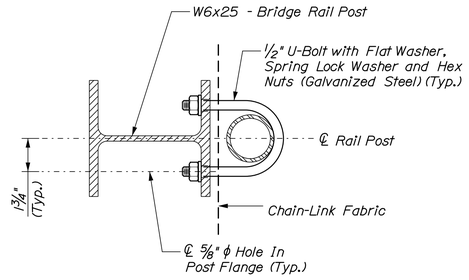


ELEVATION - SNOW FENCE

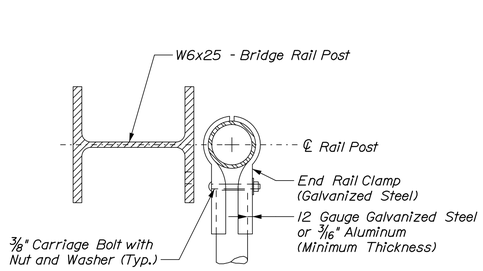


MODIFIED BASE PLATE ELEVATION

(For Snow and Security Fence)

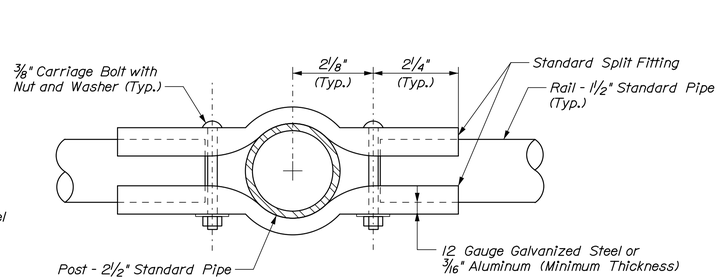


U-BOLT CONNECTION DETAIL

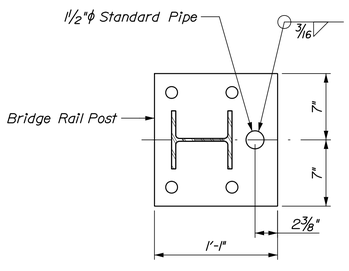


END POST DETAIL

(U-Bolt Not Shown)

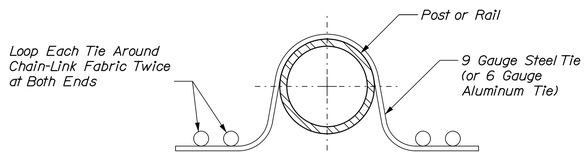


RAIL CLAMP DETAIL

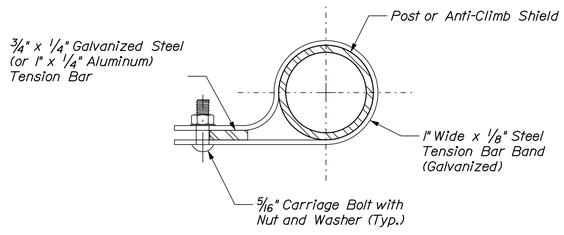


MODIFIED BASE PLATE DETAIL

(For Snow and Security Fence)



DOUBLE PIGTAILED TIE



TENSION BAND DETAIL

FENCE NOTES

1. Chain-Link fence shall conform to Section 710.03 and Special Provision Sections 607. The size of wire mesh (fabric) shall be 1 inch.

2. Wire ties shall be standard round 9 gauge zinc- or aluminum-coated steel or 6 gauge aluminum alloy conforming to ASTM F626. All ties shall be wrapped around chain-link fabric twice (double pigtailed) at both ends. Space ties @ 6 inches o.c. to bottom rail and @ 12 inches o.c. to all posts and other rails. Mechanical/Power fastened fence ties are acceptable.

3. Post, rail, and anti-climb shield pipe shall be hot-dip galvanized. All pipe shall be schedule 40, standard weight. Nominal pipe sizes are shown.

4. Tension bars, bar bands, boulevard and end rail clamps shall be steel or aluminum alloy conforming to AASHTO M181 (ASTM F626). Steel components shall be hot-dip galvanized in accordance with AASHTO M111 (ASTM A123) or AASHTO M232 (ASTM A153) as applicable.

5. All bolts and nuts shall be steel conforming to ASTM A307 and ASTM A563 grade A respectively. Washers shall be hardened steel commercial type A plain and shall meet the dimensional requirements of ANSI B18.22. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M111 (ASTM A123) or AASHTO M232 (ASTM A153) as applicable.

6. Rail may be field cut (sawn) to fit post spacing. Repair galvanizing on cut edges in accordance with ASTM A780.

7. Anti-Climb Shield shall be considered incidental to Pay Item No. 607.181, Chain Link Fence - 8 ft. High-Security Fencing.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	E. Beausoleil	9\2023
CHECKED-REVIEWED	K. Brayley	9\2023
DESIGN2-DETAILED2	D. Guzzi	
DESIGN3-DETAILED3	Y. Peng	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

FENCE DETAILS I

SHEET NUMBER

B30

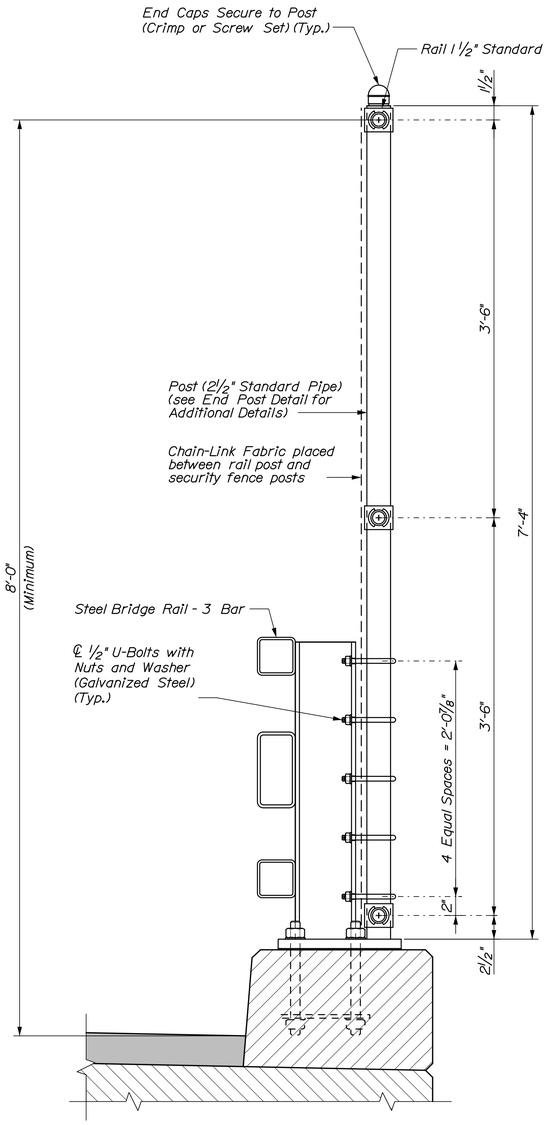
OF B33

Date:2/14/2024

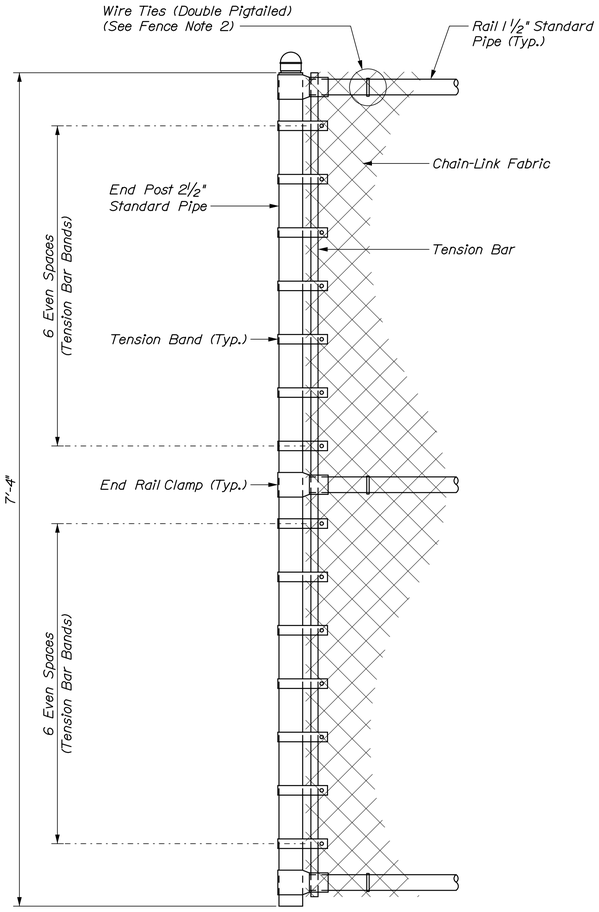
Username:

Division:

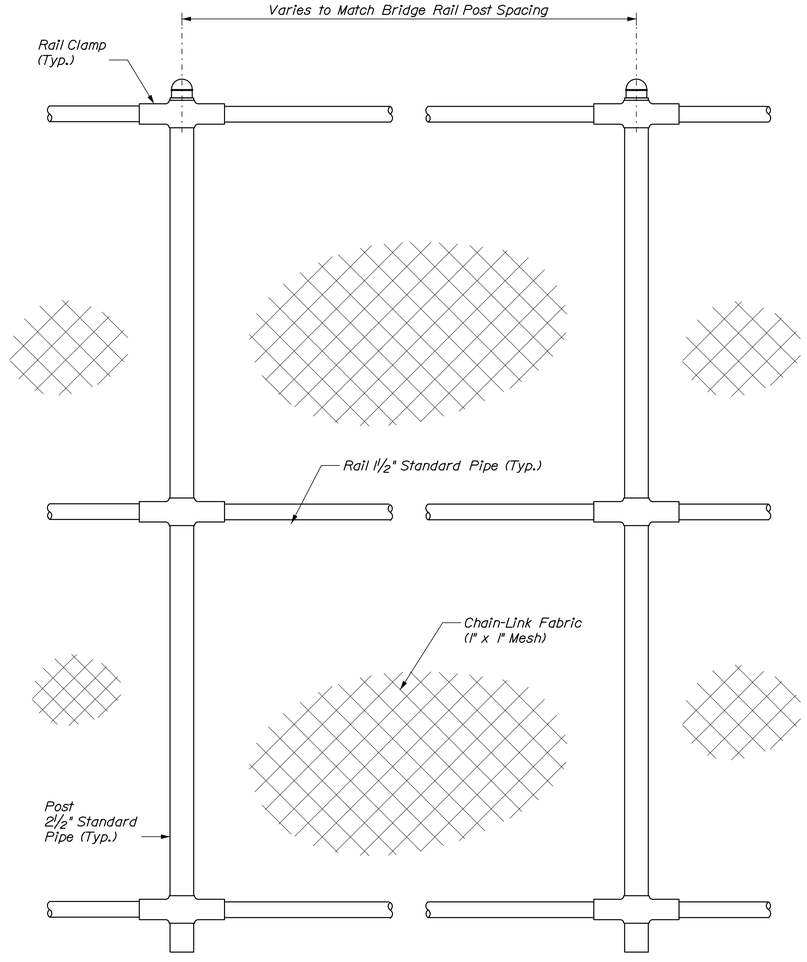
Filename: B30_Fence Details 1.dgn



CONNECTION DETAIL - SECURITY FENCE



END POST DETAIL - SECURITY FENCE



ELEVATION - SECURITY FENCE

NOTES:

1. Refer to sheet Fence Details I for notes and standard details.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376 BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	D. Gazzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

FENCE DETAILS II

SHEET NUMBER

B31

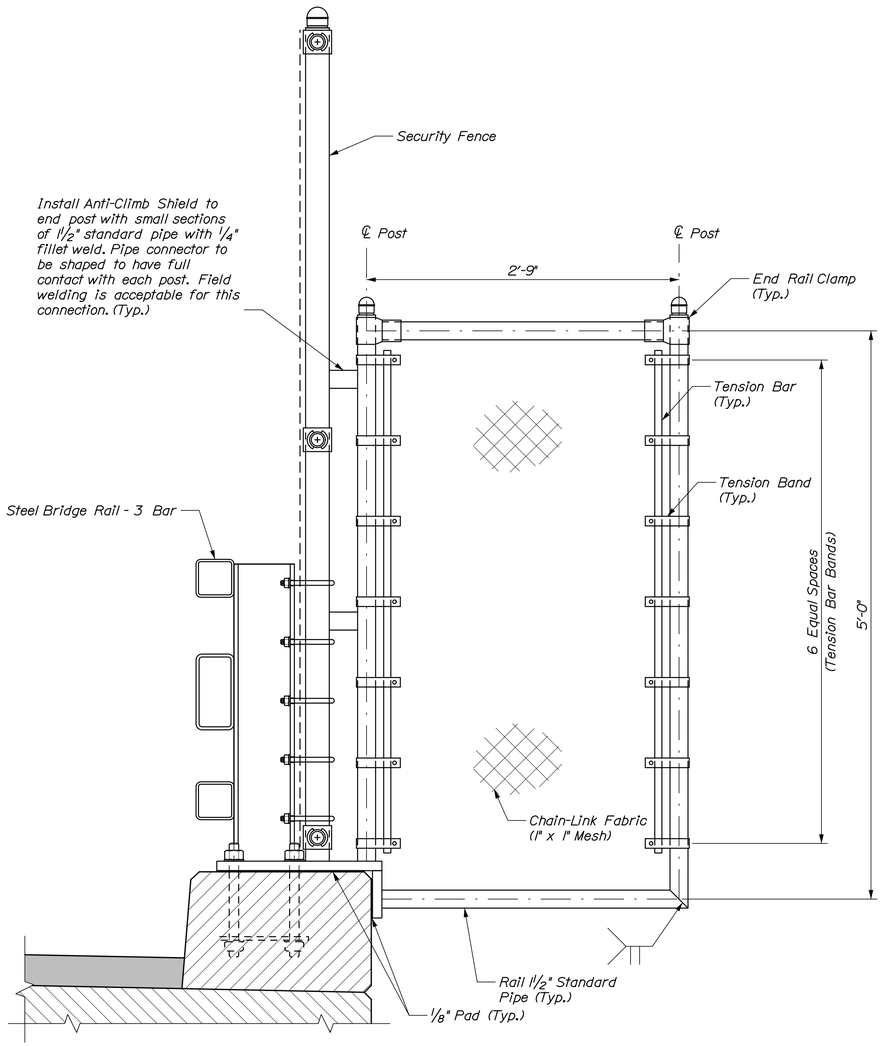
OF B33

Username:

Division:

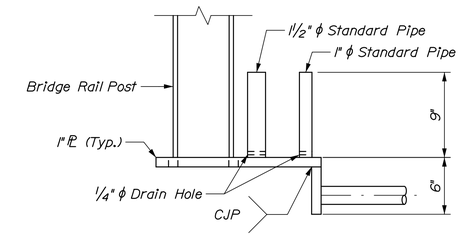
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Filename: B31_Fence Details II.dgn



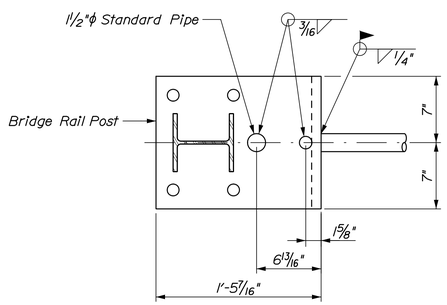
ANTI-CLIMB SHIELD DETAIL

(Installed each end of fence as shown on superstructure plan)



MODIFIED BASE PLATE ELEVATION

(at Anti-Climb Shield)



MODIFIED BASE PLATE DETAIL

(at Anti-Climb Shield)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376 BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. Coombs	
DESIGN-DETAILED	E. Beausoleil	9\2023
CHECKED-REVIEWED	K. Brayley	9\2023
DESIGN2-DETAILED2	D. Guzzi	
DESIGN3-DETAILED3	Y. Peng	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

FENCE DETAILS III

SHEET NUMBER

B32

OF B33

Filename: B32_Fence Details III.dgn Division: Username: Date:2/14/2024

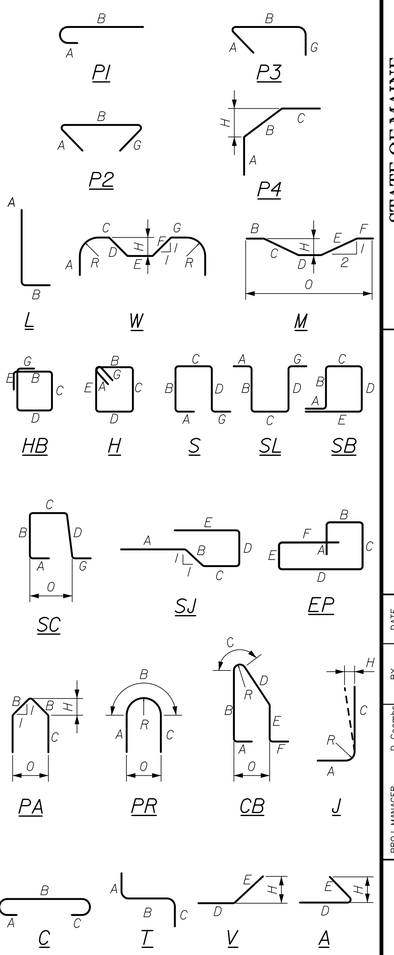
STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION
Abutment No. 1			
A500c	3	23'-2"	Backwall Longitudinal Bar Far Face, Stage 1
A501c	3	24'-3"	Backwall Longitudinal Bar Near Face, Stage 1
A502c	2	6'-5"	South Wingwall Longitudinal Bar Near Face, Stage 1
A503c	2	5'-3"	South Wingwall Longitudinal Bar Far Face, Stage 1
A504c	3	6'-4"	South Wingwall Curb Longitudinal Bar, Stage 1
A505c	3	23'-9"	Backwall Longitudinal Bar Far Face, Stage 2
A506c	3	24'-11"	Backwall Longitudinal Bar Near Face, Stage 2
A507c	2	6'-7"	North Wingwall Longitudinal Bar Near Face, Stage 2
A508c	2	5'-9"	North Wingwall Longitudinal Bar Far Face, Stage 2
A509c	3	6'-7"	North Wingwall Curb Longitudinal Bar, Stage 2
A510c	12	2'-11"	Backwall Coupler Bar at CJ
Abutment No. 2			
B500c	3	15'-11"	Backwall Longitudinal Bar Far Face, Stage 2
B501c	3	17'-2"	Backwall Longitudinal Bar Near Face, Stage 2
B502c	2	6'-3"	North Wingwall Longitudinal Bar Near Face, Stage 2
B503c	2	5'-0"	North Wingwall Longitudinal Bar Far Face, Stage 2
B504c	3	15'-4"	Backwall Longitudinal Bar Far Face, Stage 1
B505c	3	16'-4"	Backwall Longitudinal Bar Near Face, Stage 1
B506c	2	23'-2"	South Wingwall Longitudinal Bar Near Face, Stage 1
B507c	2	22'-3"	South Wingwall Longitudinal Bar Far Face, Stage 1
B508c	12	2'-11"	Backwall Coupler Bar at CJ
B509c	3	6'-1"	North Wingwall Curb Longitudinal Bar, Stage 2
B510c	3	23'-2"	South Wingwall Curb Longitudinal Bar, Stage 1
Pier No. 3			
P800	31	31'-2"	Pier No. 3 Cap Longitudinal Bar
P900	36	22'-9"	Pier No. 3 Column Vertical Bars
Deck Slab and Curb			
S500c	84	38'-7"	Longitudinal Curb Bars
S500	1918	38'-7"	Deck Primary Longitudinal
S501	532	16'-8"	Deck Primary Transverse, Stage 1
S502	532	18'-8"	Deck Primary Transverse, Stage 1
S503	532	20'-9"	Deck Primary Transverse, Stage 1
S504	454	22'-5"	Deck Primary Transverse, Stage 1
S505	532	17'-1"	Deck Primary Transverse, Stage 2
S506	532	19'-2"	Deck Primary Transverse, Stage 2
S507	532	21'-2"	Deck Primary Transverse, Stage 2
S508	454	22'-11"	Deck Primary Transverse, Stage 2
S509	4100	4'-6"	Transverse Coupler Bar
S510	128	3'-0"	Drain Reinforcing
S511	36	7'-0"	Thickened Deck Transverse (Abutment 1 and Abutment 2)
S512	8	3'-1"	Thickened Deck Transverse (Abutment 2 Only)
S600	404	32'-8"	Deck Slab Longitudinal Over Piers No. 1, 2, 4 & 5
S800	138	21'-0"	Link Slab Longitudinal Over Pier No. 3

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
Abutment No. 1														
A550c	4	5'-4"	A				2'-8"	2'-8"			2'-7"			South Wingwall Corner Bar, Stage 1
A551c	4	5'-4"	V				2'-8"	2'-8"			2'-7"			North Wingwall Corner Bar, Stage 2
A552c	28	4'-4"	L	3'-3"	1'-1"									North and South Wingwall Vertical Bar, Stage 1 and 2
A553c	96	3'-11"	L	2'-11"	1'-0"									Backwall Vertical Bar, Stage 1 and 2
A554c	28	4'-4"	P4	1'-1"	0'-10"	2'-5"					1"			North and South Wingwall Vertical Bar, Stage 1 and 2
Abutment No. 2														
B550c	4	5'-4"	A				2'-8"	2'-8"			2'-7"			North Wingwall Corner Bar, Stage 2
B551c	4	5'-4"	V				2'-8"	2'-8"			2'-7"			South Wingwall Corner Bar, Stage 1
B552c	48	4'-6"	L	3'-5"	1'-1"									North and South Wingwall Vertical Bar, Stage 1 and 2
B553c	64	3'-11"	L	2'-11"	1'-0"									Backwall Vertical Bar, Stage 1 and 2
B554c	48	4'-5"	P4	1'-1"	0'-10"	2'-6"					1"			North and South Wingwall Vertical Bar, Stage 1 and 2
Pier No. 3														
P450	120	10'-9"	H	0'-4½"	2'-6"	2'-6"	2'-6"	2'-6"		0'-4½"				Pier No. 3 Column Ties
P550	256	9'-3"	S	0'-0"	3'-4"	2'-7"	3'-4"			0'-0"				Pier No. 3 Cap Stirrups, Main Section
P551	80	9'-1"	S	0'-0"	3'-3"	2'-7"	3'-3"			0'-0"				Pier No. 3 Cap Stirrups, Overhangs
P552	5	12'-1"	S	0'-0"	10"	10'-5"	10"			0'-0"				Pier No. 3 Top Cap Additional Longitudinal Bar
P850	14	12'-4"	L	9'-1"	3'-3"									Pier No. 3 Cap Top Overhang Longitudinal Bar
P851	14	12'-7"	P4	4'-4"	5'-0"	3'-3"					0'-10"			Pier No. 3 Cap Bottom Overhang Longitudinal Bar
P852	12	22'-0"	S	0'-0"	9'-4"	3'-4"	9'-4"			0'-0"				Pier No. 3 Cap Overhang Horizontal Bar
Deck Slab and Curb														
S550c	1410	5'-7"	SC	0'-10"	1'-4"	1'-3"	1'-4"			0'-10"		1'-4"		Curb Stirrup
S550	88	4'-9"	SJ	2'-0"	0'-9"	1'-2"	0'-10"	0'-0"						Thickened Deck Bottom Longitudinal
S551	88	2'-10"	L	2'-0"	0'-10"									Thickened Deck Top Longitudinal
S650c	2050	5'-8"	C	0'-8"	5'-0"	0'-0"								Decking Overhang Primary Transverse

TYPE - BENDING DIAGRAMS



All dimensions are out-to-out of bar.

Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 315 and ACI Standard 318.

Reinforcing Bar: ASTM A615/A615M, Grade 60
ASTM A955, GRADE 75
CSA S807-10, AC1 440.1r-15

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 schedule on the plans.

3. Bar marks ending with 'c' indicate Low-Carbon Chromium. All other bars are plain (uncoated).

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2225800

WIN 22258.00

BRIDGE NO. 1376

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. Coombs		
DESIGN-DETAILED	D. Gazzi	E. Beausoleil	9\2023
CHECKED-REVIEWED	Y. Peng	K. Brayley	9\2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

RAMP SP4 BRIDGE
I-295 AND CSX RAILROAD
SOUTH PORTLAND CUMBERLAND COUNTY

REINFORCING STEEL SCHEDULE

SHEET NUMBER

B33

OF B33

Date:2/14/2024

Username:

Division:

Filename: B33_Reinforcing Schedule.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PLAN LEGEND

Town, County, State		Catch Basins	Existing ■ Proposed
Property Lines		Manholes	Existing ● Proposed
R/W Lines-Existing		Proposed Underdrain	
R/W Lines-Proposed		Proposed Ditch	
Culvert-Existing		Existing Ditch	
Culvert Proposed		Utility Poles	Existing ♦ Proposed
Curbing	Existing Proposed	Fire Hydrants	Existing ◈ Proposed
Type 1		Existing Water Line	
Type 3		Existing San. Sewer	
Type 5		Existing San. Sewer Manhole	
Outline of Bodies of Water		Guardrail-Existing	
Exposed Bedrock		Guardrail-Proposed	
Buildings		Guardrail-Cable, Other	
Trees	Conifer Deciduous	Centerline-Existing	
Tree Line		Centerline-Proposed	10+00
Clearing Limit Line		Travelway-Existing	
Railroad		Travelway-Proposed	

Boring HB-XXX-###

Pavement Core PC-#

Test Pit TP-XXX-###

Probe P-#.#X

#.# = Depth

X = W (Weathered Rock)
R (Refusal)
NR (No Refusal)

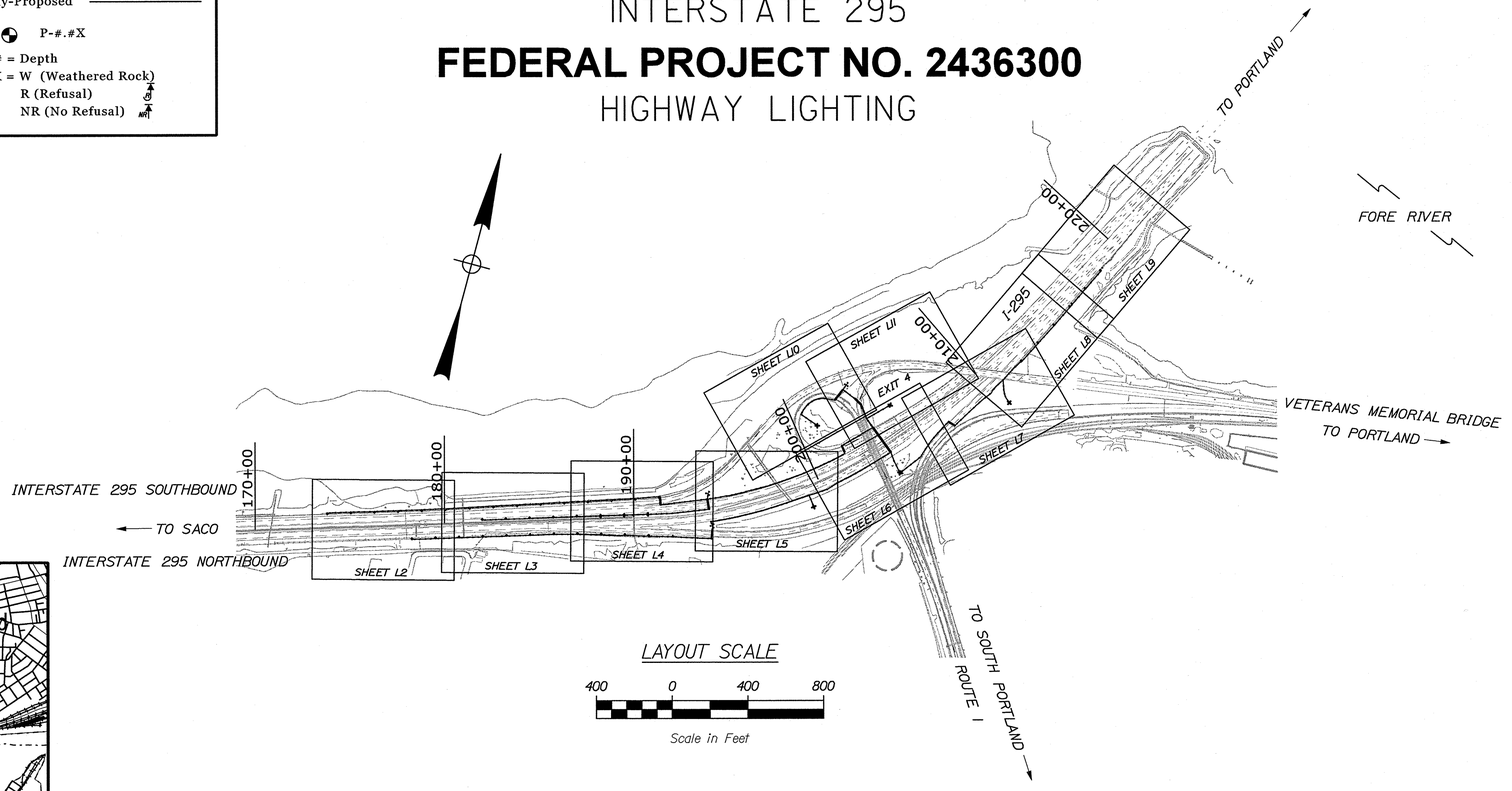
SOUTH PORTLAND

CUMBERLAND COUNTY

INTERSTATE 295

FEDERAL PROJECT NO. 2436300

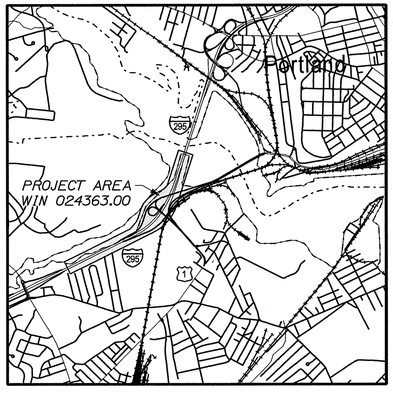
HIGHWAY LIGHTING



LAYOUT SCALE

400 0 400 800

Scale in Feet



0 1/2 1

Scale in Miles

LOCATION MAP

INDEX OF SHEETS

Description	Sheet No.
Title Sheet	L1
Lighting Plans	L2 - L11
Lighting Conduit Schedules	L12
Lighting Details	L13
Lighting Construction Notes	L14 - L15
Lighting Pole Foundation Details	L 16
Lighting Boring Location Plans	L 17-25
Lighting Boring Logs	L 26-29

PROJECT LOCATION:	Interstate 295 Exit 4 South Portland
PROGRAM AREA:	Highway Program
SCOPE OF WORK:	Highway Lighting

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED — DATE 10-23-24

COMMISSIONER: Bruce A. Van Note

CHIEF ENGINEER: Joyce Taylor — 10.23.2024

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

PROJECT INFORMATION	
PROGRAM	HIGHWAY
PROJECT MANAGER	D. COOMBS
DESIGNER	A. GODFREY
CONSULTANT	TERRA MAGNA SERVICES, INC.
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SIGNATURE 4226 — P.E. NUMBER

5/31/23 — DATE

SOUTH PORTLAND
I-295 AT EXIT 4

TITLE SHEET

24363.30 2436300

SHEET NUMBER

L1

OF L29

Filename: 001_Title.dgn

POLE SB1
LUMINAIRE D
40' POLE
STA. 173+83.00,
73.50' LT. (MEDIAN)

POLE SB2
LUMINAIRE D
40' POLE
STA. 175+08.00,
73.50' LT. (MEDIAN)

POLE SB3
LUMINAIRE D
40' POLE
STA. 176+33.00,
73.50' LT. (MEDIAN)

POLE SB4
LUMINAIRE C
26' POLE
STA. 177+58.00,
73.50' LT. (MEDIAN)

POLE SB5
LUMINAIRE C
26' POLE
STA. 178+83.00,
73.50' LT. (MEDIAN)

POLE SB6
LUMINAIRE C
26' POLE
STA. 180+08.00,
74.10' LT. (MEDIAN)

REMOVE

174+00 175+00 176+00 177+00 178+00 179+00 180+00

POLE NB1
LUMINAIRE C
30' POLE
STA. 178+25.00,
80.00' RT. (MEDIAN)

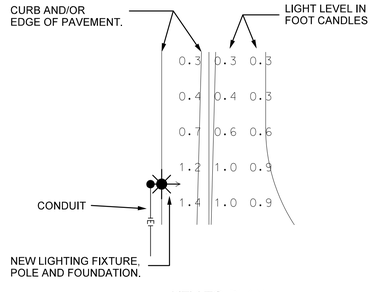
POLE NB2
LUMINAIRE D
30' POLE
STA. 179+50.00,
80.00' RT. (MEDIAN)

REPLACE BREAKERS IN EXISTING CABINET.
SEE GENERAL NOTES.

PFO

LEGEND FOR LIGHTING

- Control Cabinet and Service
- Proposed Conduit
- JB — Pull Box (Precast Junction Box)
- Lighting Pole, Luminaire and Foundation. Height as Noted. Luminaire Type and Number as Noted.
- Direction of Luminaire
- Under Pavement Conduit



KEY TO PLAN

Filename: 002_HDPlan_L2.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FED. PROJECT NO. 2436300

WIN
24363.00

LIGHTING PLANS

PROJ. MANAGER:	D. COOMBS		
	BY	DATE	SIGNATURE
DESIGN-DETAILED	MSM	05/23	
CHECKED-REVIEWED	ALG	05/23	
DESIGN2-DETAILED2			P.E. NUMBER
DESIGN3-DETAILED3			
REVISIONS 1			DATE
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SOUTH PORTLAND
I-295 AT EXIT 4

LIGHTING PLANS

SHEET NUMBER

L2

OF L29

POLE M1
LUMINAIRE E
28' POLE
STA. 182+00.00,
8.00' LT. (MEDIAN)

POLE M2
LUMINAIRE E
28' POLE
STA. 183+25.00,
8.00' LT. (MEDIAN)

POLE M3
LUMINAIRE E
28' POLE
STA. 184+50.00,
8.00' LT. (MEDIAN)

POLE M4
LUMINAIRE E
28' POLE
STA. 185+75.00,
8.00' LT. (MEDIAN)

POLE M5
LUMINAIRE E
28' POLE
STA. 187+00.00,
8.00' LT. (MEDIAN)

POLE SB6
LUMINAIRE C
26' POLE
STA. 180+08.00,
74.10' LT. (MEDIAN)

POLE SB7
LUMINAIRE C
26' POLE
STA. 181+36.00,
76.60' LT. (MEDIAN)

POLE SB8
LUMINAIRE E
26' POLE
STA. 182+61.00,
79.00' LT. (MEDIAN)

POLE SB9
LUMINAIRE E
26' POLE
STA. 183+86.00,
81.40' LT. (MEDIAN)

POLE SB10
LUMINAIRE E
26' POLE
STA. 185+11.00,
83.80' LT. (MEDIAN)

POLE SB11
LUMINAIRE E
26' POLE
STA. 186+36.00,
86.20' LT. (MEDIAN)

REMOVE

POLE NB3
LUMINAIRE D
30' POLE
STA. 180+75.00,
80.00' RT. (MEDIAN)

POLE NB4
LUMINAIRE D
30' POLE
STA. 182+00.00,
80.00' RT. (MEDIAN)

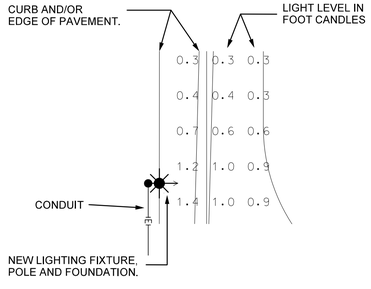
POLE NB5
LUMINAIRE D
30' POLE
STA. 183+25.00,
80.00' RT. (MEDIAN)

POLE NB6
LUMINAIRE D
30' POLE
STA. 184+50.00,
80.00' RT. (MEDIAN)

POLE NB7
LUMINAIRE D
30' POLE
STA. 185+75.00,
80.00' RT. (MEDIAN)

POLE NB8
LUMINAIRE D
30' POLE
STA. 187+00.00,
83.00' RT. (MEDIAN)

180+00 181+00 182+00 183+00 184+00 185+00 186+00 187+00



KEY TO PLAN

LEGEND FOR LIGHTING

- Control Cabinet and Service
- Proposed Conduit
- JB — Pull Box (Precast Junction Box)
- Lighting Pole, Luminaire and Foundation. Height as Noted Luminaire Type and Number as Noted.
- Direction of Luminaire
- Under Pavement Conduit

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FED. PROJECT NO. 2436300

WIN 24363.00

LIGHTING PLANS

PROJ. MANAGER:	D. COOMBS	BY	DATE
DESIGN-DETAILED	ALG	MSM	05/23
CHECKED-REVIEWED	ALG		05/23
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
I-295 AT EXIT 4

LIGHTING PLANS

SHEET NUMBER

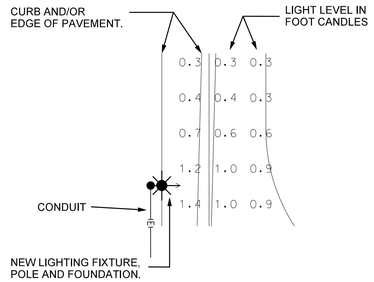
L3

OF L29

Filename: 003_HDPlan_L3.dgn

LEGEND FOR LIGHTING

- Control Cabinet and Service
- Proposed Conduit
- JB — Pull Box (Precast Junction Box)
- Lighting Pole, Luminaire and Foundation. Height as Noted. Luminaire Type and Number as Noted.
- Direction of Luminaire
- Under Pavement Conduit



KEY TO PLAN

POLE M5
LUMINAIRE E
28' POLE
STA. 187+00.00,
8.00' LT. (MEDIAN)

POLE M6
LUMINAIRE F
28' POLE
STA. 188+25.00,
8.00' LT. (MEDIAN)

POLE M7
LUMINAIRE F
28' POLE
STA. 189+50.00,
8.00' LT. (MEDIAN)

POLE M8
LUMINAIRE F
28' POLE
STA. 190+75.00,
8.00' LT. (MEDIAN)

POLE SBI2
LUMINAIRE E
26' POLE
STA. 187+61.00,
88.60' LT. (MEDIAN)

POLE SBI3
LUMINAIRE E
26' POLE
STA. 188+86.00,
91.00' LT. (MEDIAN)

POLE SBI4
LUMINAIRE E
26' POLE
STA. 190+11.00,
93.50' LT. (MEDIAN)

POLE SBI5
LUMINAIRE E
26' POLE
STA. 191+35.85,
99.30' LT. (MEDIAN)

POLE TI
LUMINAIRE B
65' POLE
STA. 194+08.44,
91.63' LT. (MEDIAN)

POLE T5
LUMINAIRE B
73' POLE
STA. 194+05.48,
80.84' RT. (MEDIAN)

POLE NB8
LUMINAIRE D
30' POLE
STA. 187+00.00,
83.00' RT. (MEDIAN)

POLE NB9
LUMINAIRE D
30' POLE
STA. 188+25.00,
90.00' RT. (MEDIAN)

POLE NBI0
LUMINAIRE D
30' POLE
STA. 189+50.00,
98.00' RT. (MEDIAN)

POLE NBII
LUMINAIRE D
30' POLE
STA. 190+75.00,
107.00' RT. (MEDIAN)

POLE NBI2
LUMINAIRE C
30' POLE
STA. 192+00.00,
116.00' RT. (MEDIAN)

REMOVE

JB7 JB8 JB9 JBI0 JBI7 JBI8 JBI9

187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 115+00 116+00 117+42

PSS SSd RU

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FED. PROJECT NO. 2436300

WIN 24363.00

LIGHTING PLANS

	BY	DATE
PROJ. MANAGER:	MES	
DESIGN-DETAILED	MSM	05/23
CHECKED-REVIEWED	ALG	05/23
DESIGN2-DETAILED2	ALG	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

D. COOMBS

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
I-295 AT EXIT 4

LIGHTING PLANS

SHEET NUMBER

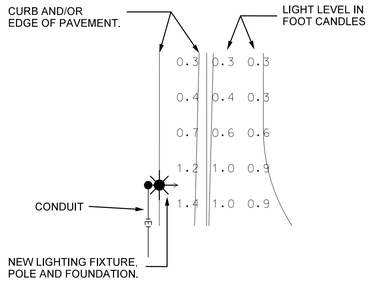
L4

OF L29

Filename: 004_HDPlan_L4.dgn

LEGEND FOR LIGHTING

- Control Cabinet and Service
- Proposed Conduit
- JB — Pull Box (Precast Junction Box)
- Lighting Pole, Luminaire and Foundation. Height as Noted. Luminaire Type and Number as Noted.
- Direction of Luminaire
- Under Pavement Conduit



KEY TO PLAN

POLE T1
LUMINAIRE B
65' POLE
STA. 194+08.44,
91.63' LT. (MEDIAN)

POLE T5
LUMINAIRE B
73' POLE
STA. 194+05.48,
80.84' RT. (MEDIAN)

POLE T6
LUMINAIRE A
110' POLE
STA. 199+25.18,
122.86' RT. (MEDIAN)

JB6 JB7 JB8 JB9 JB10 JBI6 JBI7 JBI8 JBI9

REMOVE

194+00 195+00 196+00 197+00 198+00 199+00 200+00 201+00 112+00 113+00 114+00 115

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FED. PROJECT NO. 2436300

WIN 24363.00

LIGHTING PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER:	D. COOMBS		
DESIGN-DETAILED	ALG	MSM	05/23
CHECKED-REVIEWED	ALG		05/23
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SOUTH PORTLAND
I-295 AT EXIT 4

LIGHTING PLANS

SHEET NUMBER

L5

OF L29

Filename: 005_HDPlan_L5.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FED. PROJECT NO. 2436300

WIN 24363.00

LIGHTING PLANS

PROJ. MANAGER:	D. COOMBS	DATE
DESIGN-DETAILED	ALG	05/23
CHECKED-REVIEWED	ALG	05/23
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

BY: MSM

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
I-295 AT EXIT 4

LIGHTING PLANS

SHEET NUMBER

L6

OF L29

Filename: 006_HDPlan_L6.dgn

LEGEND FOR LIGHTING

- Control Cabinet and Service
- Proposed Conduit
- JB — Pull Box (Precast Junction Box)
- Lighting Pole, Luminaire and Foundation. Height as Noted Luminaire Type and Number as Noted.
- Direction of Luminaire
- Under Pavement Conduit

KEY TO PLAN

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
1.2	1.0	0.9
1.4	1.0	0.9

CONDUIT

NEW LIGHTING FIXTURE, POLE AND FOUNDATION.

POLE T4
LUMINAIRE A
110' POLE
STA. 14+88.00,
175.00' LT.
(RTE 1/SP-4 ON)

POLE T7
LUMINAIRE A
110' POLE
STA. 203+81.74,
180.26' RT. (MEDIAN)

JB2 JB3 JB4 JB5 JB15

REMOVE

I-295 SB

I-295 NB OFF RAMP

U.S. ROUTE 1

STATE ROUTE 3 E

197+00 196+00 200+00 201+00 202+00 203+00 204+00 205+00 206+00 207+00 178+00 176+00 174+00 172+00 170+00 168+00

REMOVE

REMOVE

REMOVE

REMOVE

REMOVE

206+00 207+00 208+00 209+00 210+00 211+00 212+00 213+00

POLE NB13
LUMINAIRE D
40' POLE
STA. 212+25.00,
115.00' RT. (MEDIAN)

JB22

JB20

JB21

APPROX. LOCATION CONDUIT TO POWER SOURCE FOR 480V NAVIGATION LIGHTING WIRING. MAINTAIN CONTINUITY.

POLE T8
LUMINAIRE A
99' POLE
STA. 210+36.26,
232.58' RT. (MEDIAN)

LEGEND FOR LIGHTING

- Control Cabinet and Service
- Proposed Conduit
- JB — Pull Box (Precast Junction Box)
- Lighting Pole, Luminaire and Foundation. Height as Noted Luminaire Type and Number as Noted.
- Direction of Luminaire
- Under Pavement Conduit

KEY TO PLAN

Filename: 007_HDPlan_L7.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FED. PROJECT NO. 2436300

WIN 24363.00

LIGHTING PLANS

PROJ. MANAGER:	D. COOMBS	BY	DATE
DESIGN-DETAILED	ALG	MSM	05/23
CHECKED-REVIEWED	ALG		05/23
DESIGN2-DETAILED2	ALG		
DESIGN3-DETAILED3	ALG		
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
I-295 AT EXIT 4

LIGHTING PLANS

SHEET NUMBER

L7

OF L29

REMOVE

REMOVE

210+00

211+00

212+00

213+00

214+00

215+00

216+00

JB22

JB23

POLE NB13
LUMINAIRE D
40' POLE
STA. 212+25.00,
115.00' RT. (MEDIAN)

POLE NB14
LUMINAIRE D
40' POLE
STA. 213+50.00,
107.00' RT. (MEDIAN)

POLE NB15
LUMINAIRE D
40' POLE
STA. 214+75.00,
101.00' RT. (MEDIAN)

POLE NB16
LUMINAIRE D
40' POLE
STA. 216+00.00,
96.50' RT. (MEDIAN)

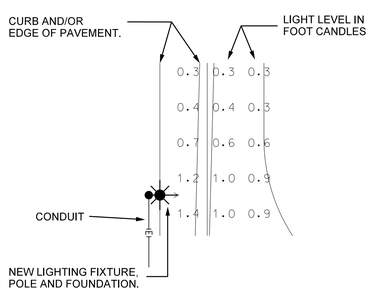
REMOVE POLE AND FOUNDATION.
INSTALL JUNCTION BOX. SPLICE
EXISTING WIRING TO MAINTAIN
WIRING CONTINUITY.

APPROX. LOCATION CONDUIT TO
POWER SOURCE FOR 480V NAVIGATION
LIGHTING WIRING. MAINTAIN CONTINUITY.

POLE T8
LUMINAIRE A
99' POLE
STA. 210+36.26,
232.58' RT. (MEDIAN)

LEGEND FOR LIGHTING

- Control Cabinet and Service
- Proposed Conduit
- JB — Pull Box (Precast Junction Box)
- Lighting Pole, Luminaire and Foundation. Height as Noted. Luminaire Type and Number as Noted.
- Direction of Luminaire
- Under Pavement Conduit



KEY TO PLAN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FED. PROJECT NO. 2436300

WIN 24363.00

LIGHTING PLANS

	BY	DATE
D. COOMBS		
PROJ. MANAGER:		
DESIGN-DETAILED	ALG	05/23
CHECKED-REVIEWED	MSM	05/23
DESIGN2-DETAILED2	ALG	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
I-295 AT EXIT 4

LIGHTING PLANS

SHEET NUMBER

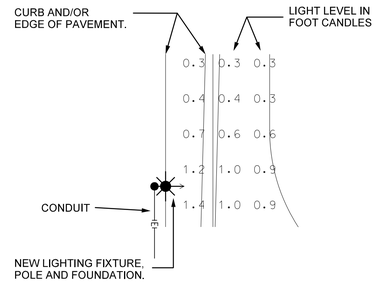
L8

OF L29

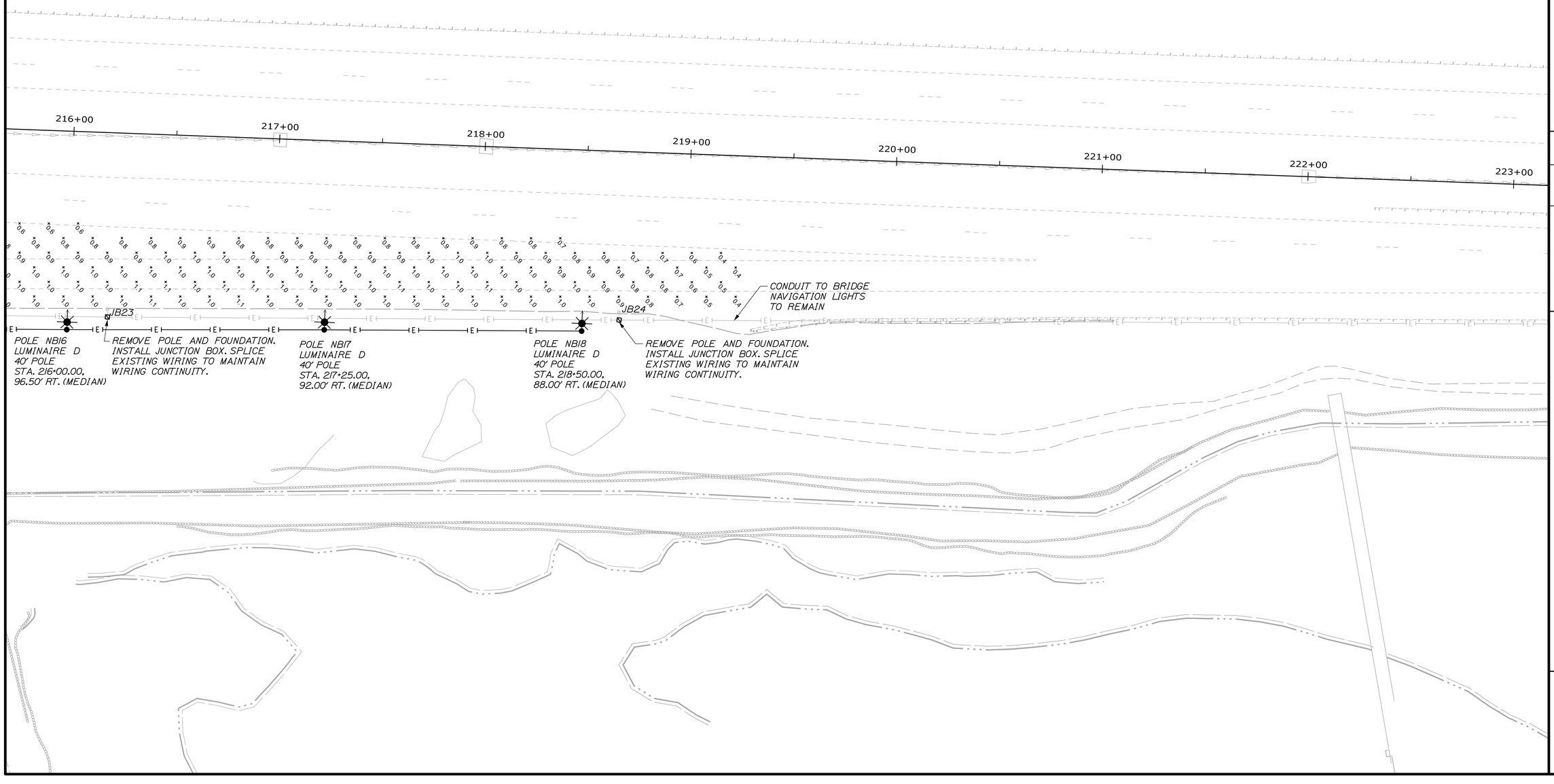
Filename: 008_HDPlan_L8.dgn

LEGEND FOR LIGHTING

- Control Cabinet and Service
- Proposed Conduit
- JB — Pull Box (Precast Junction Box)
- Lighting Pole, Luminaire and Foundation. Height as Noted. Luminaire Type and Number as Noted.
- Direction of Luminaire
- Under Pavement Conduit



KEY TO PLAN



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FED. PROJECT NO. 2436300

WIN 24363.00

LIGHTING PLANS

SIGNATURE

P.E. NUMBER

DATE

	BY	DATE
D. COOMBS	MSM	05/23
PROJ. MANAGER:	ALG	05/23
DESIGN-DETAILED	ALG	
CHECKED-REVIEWED		
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SOUTH PORTLAND
I-295 AT EXIT 4

LIGHTING PLANS

SHEET NUMBER

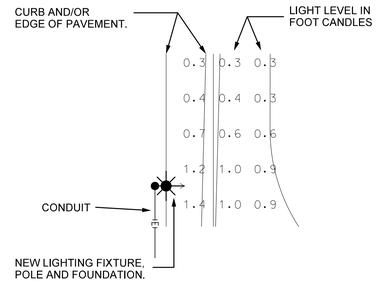
L9

OF L29

Filename: 009_HDPlan_L9.dgn

LEGEND FOR LIGHTING

- Control Cabinet and Service
- Proposed Conduit
- JB — Pull Box (Precast Junction Box)
- Lighting Pole, Luminaire and Foundation. Height as Noted. Luminaire Type and Number as Noted.
- Direction of Luminaire
- Under Pavement Conduit



KEY TO PLAN

REMOVE

S16°38'17.29"W

POLE T2
LUMINAIRE A
110' POLE
STA. 199+16.80,
98.50' RT. (SP-4)

REMOVE HIGH MAST POLE AND FOUNDATION

POLE T3
LUMINAIRE B
110' POLE
STA. 105+06.75,
59.66' LT. (SP-2)

JBI
INSTALL NEW LIGHTING CABINET WITH METER AND DISCONNECT ENCLOSURE ON CONCRETE FOUNDATION

PROP. POWER SERVICE CONNECTION TO POLE MOUNTED TRANSFORMER.

JBI1 JBI2 JBI3 JBI4

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FED. PROJECT NO. 2436300

WIN 24363.00

LIGHTING PLANS

	BY	DATE
D. COOMBS	MSM	05/23
PROJ. MANAGER:		
DESIGN-DETAILED	ALG	05/23
CHECKED-REVIEWED	ALG	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
I-295 AT EXIT 4

LIGHTING PLANS

SHEET NUMBER

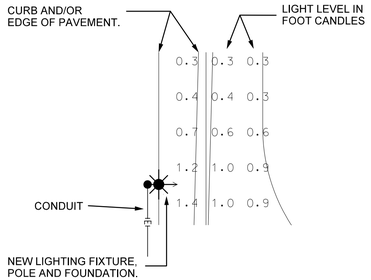
L10

OF L29

Filename: 010_HDPlan_L10.dgn

LEGEND FOR LIGHTING

- Control Cabinet and Service
- Proposed Conduit
- JB — Pull Box (Precast Junction Box)
- Lighting Pole, Luminaire and Foundation. Height as Noted. Luminaire Type and Number as Noted.
- Direction of Luminaire
- Under Pavement Conduit



KEY TO PLAN

POLE T3
LUMINAIRE B
110' POLE
STA. 105+06.75,
59.66' LT. (SP-2)

NOTE:
SEE HIGHWAY AND BRIDGE PLANS FOR DETAILS OF EXTENSION OF SECONDARY POWER SUPPLY FROM ROUTE 1TO PAD TRANSFORMER

JBI
INSTALL NEW LIGHTING CABINET WITH METER AND DISCONNECT ENCLOSURE ON CONCRETE FOUNDATION

PROP. POWER SERVICE CONNECTION TO POLE MOUNTED TRANSFORMER.

POLE T4
LUMINAIRE A
110' POLE
STA. 14+88.00,
175.00' LT.
(RTE 1/SP-4 ON)

REMOVE

JB1 JB2 JB3 JB4

106+00 105+00 104+00 103+00 102+00 101+00 100+00 301+00 302+00 303+00 304+00 305+00 306+00 307+00 308+00 209+00

VETERANS BRIDGE SB TO I-295 SB

S37°45'55.69"W

N29°32'55.57"W

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FED. PROJECT NO. 2436300

WIN 24363.00

LIGHTING PLANS

PROJ. MANAGER:	D. COOMBS	BY	DATE
DESIGN-DETAILED	ALG	MSM	05/23
CHECKED-REVIEWED	ALG		05/23
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
I-295 AT EXIT 4

LIGHTING PLANS

SHEET NUMBER

L11

OF L29

Filename: 011_HDPlan_L11.dgn

CONDUIT SUMMARY

CIRCUIT 1				WIRE SIZE: 3-WIRE, #3 AWG STRANDED COPPER XHHW-2 SINGLE PHASE 240 VOLTS
STATION	POLE	BREAKAWAY	DISTANCE (FT)	REMARKS: 40 FIXTURES | 17.01 AMPS
NEW CABINET 14+30.00, 35.0' LT.	---	---	3	
JB1	---	---	79	
JB2	---	---	58	
JB3	---	---	190	
JB4	---	---	35	UNDER PAVEMENT CONDUIT (35')
JB5	---	---	387	
JB6	---	---	390	
JB7	---	---	249	
JB8	---	---	45	UNDER PAVEMENT CONDUIT (45')
JB9	---	---	7	
191+35.85, 99.30' LT.	SB15	---	125	
190+11.00, 93.50' LT.	SB14	---	125	
188+86.00, 91.00' LT.	SB13	---	125	
187+61.00, 88.60' LT.	SB12	---	125	
186+36.00, 86.20' LT.	SB11	---	125	
185+11.00, 83.80' LT.	SB10	---	125	
183+86.00, 81.40' LT.	SB9	---	125	
182+61.00, 79.00' LT.	SB8	---	125	
181+36.00, 76.60' LT.	SB7	---	128	
180+08.00, 74.10' LT.	SB6	---	125	
178+83.00, 73.50' LT.	SB5	---	125	
177+58.00, 73.50' LT.	SB4	---	125	
176+33.00, 73.50' LT.	SB3	---	125	
175+08.00, 73.50' LT.	SB2	---	125	
173+83.00, 73.50' LT.	SB1	---	125	
182+00.00, 8.00' LT.	M1	YES	125	
183+25.00, 8.00' LT.	M2	YES	125	
184+50.00, 8.00' LT.	M3	YES	125	
185+75.00, 8.00' LT.	M4	---	125	
187+00.00, 8.00' LT.	M5	---	125	
188+25.00, 8.00' LT.	M6	---	125	
189+50.00, 8.00' LT.	M7	YES	125	
190+75.00, 8.00' LT.	M8	YES	325	
JB10	---	---	53	UNDER PAVEMENT CONDUIT (53')
JB7	---	---		
194+08.44, 91.63' LT.	T1	---	32	
JB7	---	---		
199+16.80, 98.50' RT.	T2	---	105	BASELINE SP-4
JB11	---	---	217	
JB12	---	---	68	UNDER PAVEMENT CONDUIT (68')
JB13	---	---	79	
JB14	---	---	47	UNDER PAVEMENT CONDUIT (47')
JB1	---	---		
105+06.75, 59.66' LT.	T3	---	36	BASELINE SP-2
JB13	---	---		

CONDUIT SUMMARY

CIRCUIT 2				WIRE SIZE: 3-WIRE, #4 AWG STRANDED COPPER XHHW-2 SINGLE PHASE 240 VOLTS
STATION	POLE	BREAKAWAY	DISTANCE (FT)	REMARKS: 19 FIXTURES | 11.66 AMPS
NEW CABINET 14+30.00, 35.0' LT.	---	---	3	
JB1	---	---	79	
JB2	---	---	58	
JB3	---	---	160	UNDER PAVEMENT CONDUIT (160')
JB15	---	---	475	
JB16	---	---	525	
JB17	---	---	26	
194+05.48, 80.84' LT.	T5	---	18	
JB18	---	---	50	UNDER PAVEMENT CONDUIT (50')
JB19	---	---	205	
192+00.00, 116.0' RT.	NB12	YES	129	
190+75.00, 107.00' RT.	NB11	YES	125	
189+50.00, 98.00' RT.	NB10	YES	125	
188+25.00, 90.00' RT.	NB9	YES	125	
187+00.00, 83.00' RT.	NB8	YES	125	
185+75.00, 80.00' RT.	NB7	---	125	
184+50.00, 80.00' RT.	NB6	---	125	
183+25.00, 80.00' RT.	NB5	YES	125	
182+00.00, 80.00' RT.	NB4	YES	125	
180+75.00, 80.00' RT.	NB3	YES	125	
179+50.00, 80.00' RT.	NB2	YES	125	
178+25.00, 80.00' RT.	NB1	YES		
199+25.18, 122.86' RT.	T6	---	65	
JB16	---	---		

CONDUIT SUMMARY

CIRCUIT 3				WIRE SIZE: 3-WIRE, #4 AWG STRANDED COPPER XHHW-2 SINGLE PHASE 240 VOLTS
STATION	POLE	BREAKAWAY	DISTANCE (FT)	REMARKS: 21 FIXTURES | 17.68 AMPS
New Cabinet 14+30.00, 35.0' LT.	---	---	3	
JB1	---	---	79	
JB2	---	---	58	
JB3	---	---	160	UNDER PAVEMENT CONDUIT (160')
JB15	---	---	122	
203+81.74, 180.26' RT.	T7	---	375	
JB20	---	---	40	UNDER PAVEMENT CONDUIT (40')
JB21	---	---	352	
JB22	---	---	140	
212+25.00, 115.00' RT.	NB13	YES	128	
213+50.00, 107.00' RT.	NB14	YES	128	
214+75.00, 101.00' RT.	NB15	YES	127	
216+00.00, 96.50' RT.	NB16	YES	125	
217+25.00, 92.00' RT.	NB17	YES	125	
218+50.00, 88.00' RT.	NB18	YES		
210+36.26, 232.58' RT.	T8	---	128	
JB22	---	---		
14+88.00, 175.00' LT.	T4	---	145	BASELINE RTE 1/SP-4 ON
JB2	---	---		

NOTE:
SEE ADDITIONAL CONDUIT NOTES ON SHEET L13.

Filename: 012_Lighting Conduit Schedules.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FED. PROJECT NO. 2436300

WIN 24363.00

LIGHTING PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER:	D. COOMBS		
DESIGN-DETAILED	ALG	MSM	05/23
CHECKED-REVIEWED	ALG		05/23
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SOUTH PORTLAND
I-295 AT EXIT 4

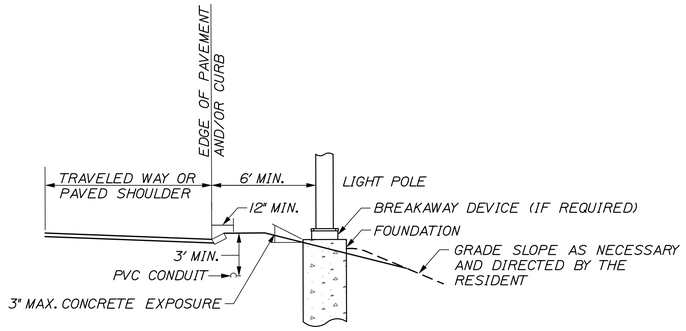
LIGHTING CONDUIT SCHEDULES

SHEET NUMBER

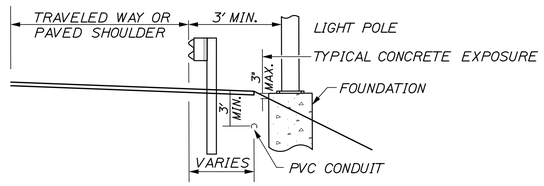
L12

OF L29

TYPICAL SECTIONS - PLACEMENT OF POLES



NORMAL SECTION



GUARDRAIL SECTION

NOTE: IF PROPOSED LIGHT POLE IS LESS THAN 3' FROM BACK OF GUARDRAIL, IT SHALL BE ON A BREAKAWAY DEVICE.

STATISTICS						
DESCRIPTION	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
295 NB OFF-DIVERGE	+	0.8 fc	1.6 fc	0.2 fc	8.0:1	4.0:1
295 NB ON-RAMP	+	0.9 fc	1.2 fc	0.4 fc	3.0:1	2.3:1
295 SB OFF-DIVERGE	+	0.8 fc	1.2 fc	0.3 fc	4.0:1	2.7:1
295 SB ON-MERGE	+	0.8 fc	1.6 fc	0.2 fc	8.0:1	4.0:1
NB RAMP TO RTE 1	+	0.5 fc	1.1 fc	0.2 fc	5.5:1	2.5:1
OVERPASS BRIDGE #1376	+	0.7 fc	1.1 fc	0.2 fc	5.5:1	3.5:1
RTE 1 SB AT 295 SB ON	+	0.7 fc	1.1 fc	0.3 fc	3.7:1	2.3:1
RTE 1 SB OVERPASS	+	0.3 fc	0.7 fc	0.2 fc	3.5:1	1.5:1

NOTE:
STATISTICS LISTED ARE FOR CONFLICT ANALYSIS AREAS SHOWN ON THE PHOTOMETRIC GRID ON THE LIGHTING PLANS. SUBSTITUTION OF FIXTURES OTHER THAN THOSE LISTED IN THE LIGHTING SCHEDULE MUST PRODUCEILLUMINATION LEVELS AND DISTRIBUTIONS RESULTING IN COMPARABLE STATISTICS FOR THOSE ANALYSIS AREAS.

CONDUIT NOTES:

1. STATION AND OFFSET REFERENCES IN CONDUIT TABLES ARE FROM MEDIAN BASELINE UNLESS NOTED.

2. JUNCTION BOX LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. THEY ARE INTENDED TO BE USED AS WIRING PULL ACCESS BOXES. LOCATIONS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE PROJECT RESIDENT.

3. ALL CONDUIT LISTED IN TABLES IS INTENDED TO BE NON-METALLIC UNLESS NOTED.

4. BURIED CONDUIT FROM CABINET TO POWER SOURCE, INCLUDING SERVICE POLE RISER, SHALL BE METALLIC CONDUIT. IT IS NOT INCLUDED IN CONDUIT TABLES. ESTIMATED LENGTH 25 L.F.

5. ANY NEW CONDUIT THAT MAY BE REQUIRED TO SEPARATE THE EXISTING I-295 MESSAGE BOARD FROM THE HIGHWAY LIGHTING SYSTEM POWER IS NOT INCLUDED IN THE CONDUIT TABLES. AN ALLOWANCE FOR THAT CONDUIT HAS BEEN INCLUDED IN THE CONDUIT BID QUANTITIES. ACTUAL QUANTITY REQUIRED IS UNCERTAIN AND SHALL BE DETERMINED IN THE FIELD.

6. TRAFFIC CAMERAS SPECIFIED TO BE INSTALLED ON HIGH MAST POLE T5 WILL REQUIRE NON-METALLIC CONDUIT TO BE INSTALLED FOR COMMUNICATIONS CONDUCTORS FROM POLE T5 TO JUNCTION BOX JB2 PARALLEL TO LIGHTING CIRCUIT 2 CONDUIT. COMMUNICATIONS CONDUIT FOR CAMERAS SHALL BE INSTALLED FROM JUNCTION BOX JB2 TO THE TRAFFIC SIGNAL CABINET. SEE PROJECT TRAFFIC SIGNAL PLANS AND SPECIFICATIONS FOR REMOTE COMMUNICATIONS REQUIREMENTS. THE CAMERA COMMUNICATIONS CONDUIT IS NOT INCLUDED IN THE LIGHTING POWER CONDUIT SUMMARY TABLES OR DEPICTED SEPARATELY ON THE LIGHTING PLANS. ESTIMATED QUANTITIES FOR COMMUNICATIONS CONDUIT ARE 1,160 L.F. ITEM 626.22 AND 160 L.F. ITEM 626.251.

LUMINAIRE NOTES:

DRIVERS FOR THE FOLLOWING LUMINAIRES SHALL BE ADJUSTED TO 85% OF RATED CAPACITY: SB4, SB5, SB6, NB1, NB12.

DRIVERS FOR THE FOLLOWING LUMINAIRES SHALL BE ADJUSTED TO 80% OF RATED CAPACITY: SB7, M6, M7, M8.

LUMINAIRE SCHEDULE									
SYMBOL	LABEL	QUANTITY	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	NUMBER LAMPS	FILENAME	LUMENS PER LAMP	LIGHT LOSS FACTOR	WATTAGE
	A	5	HOLOPHANE	HMLED4 P2 30K XXXXX AW	HMLED4 P2 Performance Package with 3000K CCT, 70CRI, AW Optic and no House Side Shield	4	HMLED4_P2_30K_X XXXX_AW.ies	43659	0.85	1180
	B	3	HOLOPHANE	HMLED4 P1 30K XXXXX AW	HMLED4 P1 Performance Package with 3000K CCT, 70CRI, AW Optic and no House Side Shield	3	HMLED4_P1_30K_X XXXX_AW.ies	30655	0.85	597
	C	6	AMERICAN ELECTRIC LIGHTING	ATB0 P203 MVOLT R3 3K UMR-GALV NR AO	Autobahn Small P203 Package Roadway Type III 3000K	1	ATB0_P203_R3_3K.ies	9470	0.85	70
	D	19	AMERICAN ELECTRIC LIGHTING	ATB0 P204 MVOLT R3 3K UMR-GALV NR AO	Autobahn Small P204 Package Roadway Type III 3000K	1	ATB0_P204_R3_3K.ies	11489	0.85	88
	E	13	AMERICAN ELECTRIC LIGHTING	ATB0 P202 MVOLT R3 3K UMR-GALV NR AO	Autobahn Small P202 Package Roadway Type III 3000K	1	ATB0_P202_R3_3K.ies	6679	0.85	49
	F	3	AMERICAN ELECTRIC LIGHTING	ATB0 P202 MVOLT R3 3K UMR-GALV NR AO	Autobahn Small P202 Package Roadway Type III 3000K	2	ATB0_P202_R3_3K.ies	6679	0.85	98

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

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WIN 24363.00

LIGHTING PLANS

SIGNATURE

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DESIGN-DETAILED	ALG
CHECKED-REVIEWED	ALG
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	BY MSM DATE 05/23
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

SOUTH PORTLAND
I-295 AT EXIT 4

LIGHTING DETAILS

SHEET NUMBER

L13

OF L29

Filename: 013_Lighting Details.dgn

CONSTRUCTION NOTES - HIGHWAY LIGHTING

1. SCOPE OF WORK - INSTALL HIGHWAY LIGHTING AND RELATED WORK AS SHOWN OR NOTED IN THESE PLANS AND SPECIAL PROVISIONS. INSTALL NEW 240V POWER SERVICE, MULTI-CIRCUIT LIGHTING CONTROL CABINET AND SERVICE DISCONNECT ENCLOSURE FOR NEW LIGHTING. FURNISH AND INSTALL CONDUIT, FOUNDATIONS, CONVENTIONAL LIGHT STANDARDS, HIGH MAST LIGHT STANDARDS, L.E.D. LUMINAIRES FOR CONVENTIONAL AND HIGH MAST STANDARDS, WIRING, AND RELATED HARDWARE. SEPARATE EXISTING DYNAMIC MESSAGE SIGN POWER FROM EXISTING LIGHTING SYSTEM. FURNISH AND INSTALL TRAFFIC MONITORING CAMERAS ON HIGH MAST LIGHT STANDARD WITH REQUIRED COMMUNICATIONS CONDUCTORS. 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 AND CAREFULLY UNLOADED AT A LOCATION TO BE DESIGNATED AT THE MAINEDOT MAINTENANCE FACILITY ON PLEASANT HILL ROAD IN SCARBOROUGH. PAYMENT FOR REMOVAL, TRANSPORT, DELIVERY AND UNLOADING 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. PAYMENT FOR REMOVAL OF FOUNDATIONS WILL BE MADE UNDER ITEM 626.36. ABANDON EXISTING CONDUIT.

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. TOPOGRAPHY DEPICTED ON THE LIGHTING PLANS IS A COMPOSITE OF RECENT SURVEY IN THE VICINITY OF THE SOUTHERLY ROUTE 1 BRIDGE OVER I-295 AND INFORMATION FROM PAST PROJECTS ON I-295 AND ROUTE 1. THE TOPOGRAPHY ON THE LIGHTING PLANS IS PROVIDED ONLY FOR GENERAL REFERENCE AND SHOULD BE CONSIDERED BY THE CONTRACTOR TO BE APPROXIMATE.

8. BASELINE STATIONS AND OFFSETS CITED ON THE PLANS FOR PROPOSED LIGHT POLE LOCATIONS ARE INTENDED TO INDICATE LONGITUDINAL SPACING OF NEW POLES ALONG THE HIGHWAY AND APPROXIMATE OFFSETS FROM BASELINES. THE CONTRACTOR SHALL STAKE THESE LOCATIONS IN THE FIELD BASED ON THE STATED STATIONS AND OFFSETS. THESE LOCATIONS SHALL BE ADJUSTED, SUBJECT TO APPROVAL OF THE PROJECT RESIDENT, IF NEEDED TO MEET REQUIRED SETBACKS NOTED ON THE LIGHTING TYPICAL SECTIONS OR TO AVOID CONLICTS WITH EXISTING ELECTRICAL CONDUIT OR OTHER ROADWAY FEATURES.

9. PROPOSED LIGHT POLE LOCATIONS ARE WITHIN THE APPROACH PATHS TO RUNWAYS OF THE PORTLAND INTERNATIONAL JETPORT (PWM). THE CONTRACTOR SHALL BE RESPONSIBLE FOR TIMELY SUBMITTAL OF REQUIRED NOTIFICATIONS TO THE FEDERAL AVIATION ADMINISTRATION (FAA) PRIOR TO COMMENCEMENT OF CONSTRUCTION AND UPON COMPLETION OF ERECTION OF EACH LIGHT POLE. AN AERONAUTICAL CASE STUDY HAS BEEN ESTABLISHED WITH FAA FOR EACH LIGHT POLE. CASE STUDIES CAN BE ACCESSED THROUGH THE FAA PERMITTING PORTAL AT https://oeaaa.faa.gov FOR FILING OF FAA FORM 7460-2 NOTICES. THE USERNAME AND PASSWORD FOR ACCESS TO THE SITE WILL BE SUPPLIED BY THE DEPARTMENT AT THE PRE-CONSTRUCTION MEETING FOR THE PROJECT.

10. THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE PWM AIRFIELD OPERATIONS MANAGER PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONSTRUCTION EQUIPMENT SHALL BE PROVIDED WITH LIGHTING AND FLAGS IN ACCORDANCE WITH FAA REGULATIONS.

11. ANY CLEARING OR TRIMMING THAT MAY BE REQUIRED FOR ACCESS TO AND INSTALLATION OF LIGHTING POLES AND FOUNDATIONS SHALL BE PAID FOR WITH HOURLY LABOR AND EQUIPMENT RENTAL ITEMS. ANY CLEARING OR TRIMMING THAT MAY BE DETERMINED IN THE FIELD BY THE RESIDENT TO BE REQUIRED SHALL BE KEPT TO A MINIMUM.

12. TEMPORARY FILL FOR CROSSING OF DITCHES WILL BE ALLOWED FOR EQUIPMENT ACCESS TO CONSTRUCT FOUNDATIONS AND TO ERECT LIGHT POLES. TEMPORARY PIPES SHALL BE INSTALLED IN TEMPORARY FILLS TO MAINTAIN DITCH FLOW. UPON COMPLETION OF WORK ON FOUNDATIONS AND ERECTION OF POLES REQUIRING FILL FOR ACCESS, TEMPORARY FILLS AND PIPE SHALL BE REMOVED, DITCHES SHALL BE LOAMED AND SEEDED WITH METHOD NO. 2, AND MULCHED. PAYMENT FOR WORK AND MATERIALS FOR TEMPORARY FILLS, REGRADING AS DIRECTED FOR FILL PLACEMENT AND REMOVAL, REROUTING OF DITCH LINES AROUND FOUNDATIONS, REGRADING AROUND FOUNDATIONS TO MEET FOUNDATION EXPOSURE LIMITATIONS, AND REPAIR OF SOIL DISTURBANCE RELATED TO INSTALLATION OR REMOVAL OF POLES AND FOUNDATIONS WILL BE INCIDENTAL TO THE CONTRACT.

13. EXISTING GUARDRAIL WILL BE ALLOWED TO BE TEMPORARILY REMOVED FOR ACCESS FOR INSTALLATION OF POLES AND FOUNDATIONS BEHIND GUARDRAIL. APPROPRIATE TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE USED AT AREAS OF GUARDRAIL REMOVAL. LENGTH OF GUARDRAIL REMOVED SHALL BE THE MINIMUM NECESSARY FOR ACCESS. GUARDRAIL SHALL BE RESET AS SOON AS PRACTICABLE. PAYMENT FOR GUARDRAIL REMOVAL AND RESETTING WILL BE INCIDENTAL TO THE CONTRACT.

14. THE EXISTING 480 VOLT SERVICE AND MULTI-CIRCUIT CONTROL CABINET LOCATED AT ABOUT STATION 178+65 RT ARE INTENDED TO REMAIN. THE EXISTING CABINET WILL CONTINUE TO SERVE PORTIONS OF THE EXISTING LIGHTING SYSTEM BEYOND THE LIMITS OF THIS PROJECT. DISCONNECT WIRING FOR LIGHT POLES THAT ARE NOTED TO BE REMOVED. MAINTAIN CIRCUIT CONTINUITY FOR REMAINING LOADS ON EXISTING CIRCUITS. REPLACE EXISTING CIRCUIT BREAKERS IN THE EXISTING LIGHTING CABINET WITH NEW CIRCUIT BREAKERS WITH VOLTAGE, AMPERE AND INTERRUPTING RATINGS EQUAL TO THOSE OF THE EXISTING BREAKERS. ACCEPTABLE CIRCUIT BREAKER MANUFACTURERS ARE SQUARE D, GENERAL ELECTRIC AND ITE-SIEMENS.

15. NEW CIRCUIT 1 WILL SERVE 26 LIGHT POLES ON THE WEST SIDE OF INTERSTATE 295. NEW CIRCUIT 2 WILL SERVE 14 LIGHT POLES ON THE EAST SIDE OF INTERSTATE 295 SOUTH OF THE OVERPASS BRIDGE. NEW CIRCUIT 3 WILL SERVE 9 LIGHT POLES ON THE EAST SIDE OF INTERSTATE 295 NORTH OF THE OVERPASS BRIDGE.

16. THE CONTRACTOR SHALL COORDINATE WITH CENTRAL MAINE POWER COMPANY AND MAINEDOT TO CONFIRM LOCATIONS AND MAKE ARRANGEMENTS FOR PROVIDING NEW ELECTRIC SERVICES.

17. INSTALL NEW 240V SERVICE AND MULTI-CIRCUIT LIGHTING CONTROL CABINET AT APPROXIMATE STATION 14+30.00, 35.00' LT 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. INSTALL METALLIC CONDUIT UNDER SERVICE METER TO THE POWER SOURCE AT THE NEW SECONDARY POWER PAD TRANSFORMER SHOWN ON THE PLANS. THE LIGHTING CONTROL CABINET AND SERVICE DISCONNECT ENCLOSURE SHALL BE LOCKABLE. 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. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATING THE ARC FLASH HAZARD LEVEL FOR EACH ELECTRICAL ENCLOSURE.

18. THE EXISTING DYNAMIC MESSAGE SIGN (DMS) LOCATED APPROXIMATELY AT STATION 167+00 RT (NOT SHOWN ON PLAN) IS POWERED FROM THE EXISTING LIGHTING SYSTEM CIRCUIT. DISCONNECT POWER TO THE DMS FROM THE LIGHTING SYSTEM. INSTALL NEW 240V SERVICE TO THE DMS FROM THE NEAREST UTILITY POLE AT THE NORTHWEST END OF LINTON STREET, CONNECTING AERIALLY TO THE EXISTING STUB POLE ADJACENT TO THE INTERSTATE 295 NOISE WALL. INSTALL A NEW METER AND METER DISCONNECT IN A SEPARATE NEMA 3R ENCLOSURE ON THE STUB POLE. INSTALL METALLIC CONDUIT (ESTIMATED 50 L.F.) BETWEEN THE METER AND THE DMS CONTROL PANEL. MAINTAIN THE EXISTING COMMUNICATIONS WIRING TO THE DMS. PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTAL COSTS TO FURNISH NEW POWER SERVICE AND CONNECT THE DMS WILL BE PAID INCIDENTAL TO ITEM 634.160.

19. NEW LIGHTING CIRCUITS ARE TO BE PHOTOCELL ACTIVATED BY A PHOTOCELL ON THE NEW LIGHTING CONTROL CABINET.

20. NEW LIGHTING FIXTURE VOLTAGE SHALL BE 240 VOLTS.

21. LIGHTING FIXTURES SHALL BE IES FULL CUTOFF LIGHT EMITTING DIODE (LED) FIXTURES WITH 3000K COLOR TEMPERATURE. IES DISTRIBUTION TYPE SHALL BE AS SPECIFIED ON THE PLANS. LED MODULES SHALL BE IP65 OR IP66 RATED.

22. ALL FIXTURES SHALL BE GASKETED AND HAVE SURGE PROTECTION AND A DOUBLE FUSE KIT. ALL FIXTURES SHALL BE GRAY. THE LIGHTING LAYOUT FOR LUMINAIRES ON CONVENTIONAL LIGHT STANDARDS WAS DONE USING AMERICAN ELECTRIC LIGHTING 'AUTOBAHN' SERIES ATBO LUMINAIRES, CATALOG NUMBERS:

ATBO P204 MVOLT R3 3K UMR-GALV NR AO, 19 LUMINAIRES ON 19 POLES

ATBO P203 MVOLT R3 3K UMR-GALV NR AO, 6 LUMINAIRES ON 6 POLES

ATBO P202 MVOLT R3 3K UMR-GALV NR AO, 19 LUMINAIRES ON 16 POLES

THE LIGHTING LAYOUT FOR LUMINAIRES ON HIGH MAST LIGHT STANDARDS WAS DONE USING HOLOPHANE HIGH MAST HMLED4 LUMINAIRES, CATALOG NUMBERS:

HMLED4 P2 30K MVOLT HGR AW AO DFD, 20 LUMINAIRES ON FIVE HIGH MAST POLES
(AREA WIDE DISTRIBUTION)

HMLED4 P1 30K MVOLT HGR AW AO DFD, 9 LUMINAIRES ON THREE HIGH MAST POLES
(AREA WIDE DISTRIBUTION)

LED COLOR TEMPERATURE FOR FIXTURES INSTALLED SHALL BE 3000K. IF DIFFERENT FIXTURES ARE PROPOSED, THEY SHALL BE IES FULL CUTOFF LED LUMINAIRES WITH THE SAME DISTRIBUTION TYPES AS USED IN THE ORIGINAL DESIGN. 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.

23. IF DIFFERENT FIXTURES ARE PROPOSED, THEY SHALL BE IES FULL CUTOFF WITH IES DISTRIBUTION TYPES AS SPECIFIED ON THE PROJECT PLANS. 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.

24. NO PROPOSED ALTERNATIVE LUMINAIRES WILL BE CONSIDERED UNLESS THE MANUFACTURER AND MODELS ARE APPROVED IN ADVANCE BY MAINEDOT'S CHIEF ELECTRICIAN. PRE-APPROVED MANUFACTURERS AND FIXTURES FOR THIS PROJECT INCLUDE:
HOLOPHANE HIGH MAST HMLED4 LUMINAIRES
AMERICAN ELECTRIC 'AUTOBAHN' SERIES ATBO LUMINAIRES
CONTACT: MARK FOWLER
ACUITY BRANDS LIGHTING, INC.
(207) 582-5106
MARK.FOWLER@ACUITYBRANDS.COM

MUSCO TLC-LED-400 HIGH MAST LUMINAIRES
CONTACT: ZACK SCHROCK
MUSCO LIGHTING, LLC
(603) 703-9879
ZACK.SCHROCK@MUSCO.COM

MUSCO TLC-LED-400 FIXTURES, IF USED, SHALL HAVE DRIVERS FACTORY ADJUSTED TO CLOSELY APPROXIMATE THE REQUIRED ILLUMINATION LEVELS AND DISTRIBUTION UNIFORMITY SHOWN ON THE PROJECT PLANS OR APPROVED BY THE DEPARTMENT.

25. THE PHOTOMETRIC GRID SHOWN ON THE LIGHTING PLANS SHOWS COVERAGE OF ILLUMINATION FOR AREAS OF POTENTIAL CONFLICTS, SIGNIFICANT CURVATURE, BRIDGE DECKS, AND OTHER AREAS OF POTENTIAL NEED FOR ENHANCED VISIBILITY. GAPS IN THE GRID ARE NOT INTENDED TO INDICATE THAT NO ILLUMINATION IS TO BE PROVIDED FOR THOSE AREAS.

26. THE LIGHTING STATISTICS SCHEDULE ON THESE PLANS INDICATES PHOTOMETRIC RESULTS OF MODELING WITH ADJUSTMENT OF LUMINAIRE DRIVERS. DRIVERS MAY BE FIELD ADJUSTED OR FACTORY ADJUSTED TO ENHANCE OUTPUT COMPLIANCE WITH ILLUMINATION RATIOS RECOMMENDED BY FHWA LIGHTING DESIGN GUIDANCE FOR INTERSTATE HIGHWAYS IN COMMERCIAL AREAS.

27. HIGH MAST LUMINAIRES, INCLUDING LEDS, DRIVERS, AND ASSOCIATED COMPONENTS SHALL BE WARRANTIED FOR TEN YEARS FROM THE DATE OF INSTALLATION. ALL COSTS ASSOCIATED WITH THE REPAIR OR REPLACEMENT OF DEFECTIVE EQUIPMENT DURING THIS PERIOD SHALL BECOME THE RESPONSIBILITY OF THE EQUIPMENT MANUFACTURER. SUCH COSTS MAY INCLUDE BUT ARE NOT LIMITED TO LABOR COSTS, EQUIPMENT REPLACEMENT, CRANE OR LIFT EQUIPMENT RENTAL, REMOVAL AND REINSTALLATION OF GUARDRAIL IF REQUIRED FOR ACCESS, SLOPE REPAIRS IF DISTURBED FOR LIGHTING MAINTENANCE ACCESS, AND TRAFFIC CONTROL.

28. PROPOSED HIGH MAST LIGHT STANDARDS THAT REQUIRE A LUMINAIRE LOWERING DEVICE SYSTEM FOR FIXTURE MAINTENANCE AND REPLACEMENT SHALL HAVE A LOWERING DEVICE SYSTEM FURNISHED AND INSTALLED ON EACH HIGH MAST POLE. THE LOWERING DEVICE SYSTEM SHALL BE HOLOPHANE HMS TYPE 05 LOWERING DEVICE SYSTEM OR APPROVED EQUAL COMPATIBLE WITH THE APPROVED LUMINAIRES. THE LOWERING DEVICE SYSTEM SHALL INCLUDE A PORTABLE ELECTRIC POWER UNIT (ONE FOR ALL WIN 024363.00 HIGH MAST POLES) WITH REMOTE CONTROL FOR OPERATION OF THE LOWERING SYSTEM. WINCH ASSEMBLY SHALL BE INTERNAL TO POLE, UNLESS OTHERWISE APPROVED BY THE MAINEDOT CHIEF ELECTRICIAN.

29. DRIVERS, FUSES AND OTHER ELECTRICAL COMPONENTS REQUIRED FOR LUMINAIRES, IF NOT ATTACHED TO A LOWERING DEVICE FOR MAINTENANCE ACCESS, SHALL BE CONTAINED IN A NEMA 3R ENCLOSURE ATTACHED TO THE HIGH MAST POLE AT A HEIGHT NOT TO EXCEED TEN FEET FROM FINISH GRADE OF THE SLOPE AT THE BASE OF THE POLE TO THE BOTTOM OF THE ENCLOSURE.

30. 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-21-21 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.

31. CONVENTIONAL LIGHT STANDARDS SHALL BE GALVANIZED STEEL AND HAVE A MINIMUM OF FOUR ANCHOR BOLTS. HIGH MAST POLES SHALL BE GALVANIZED STEEL AND HAVE A MINIMUM OF SIX ANCHOR BOLTS. POLE WALL THICKNESS SHALL BE 7 GAUGE OR GREATER, AS DEFINED IN 15 U.S. CODE SECTION 206 (0.1875").

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

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LIGHTING PLANS

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REVISIONS 4			
FIELD CHANGES			

SOUTH PORTLAND
I-295 AT EXIT 4

CONSTRUCTION NOTES

SHEET NUMBER

L14

OF L29

Filename: 014_Construction Notes.dgn

CONSTRUCTION NOTES - HIGHWAY LIGHTING

32. TIGHTENING OF ANCHOR BOLT NUTS ON POLES WITH BREAKAWAY BASES SHALL BE AS RECOMMENDED BY THE BREAKAWAY BASE MANUFACTURER. FOR POLES WITHOUT BREAKAWAY BASES, SNUG-TIGHT CONDITION OF ANCHOR BOLTS SHALL BE DEFINED AS BETWEEN 20 AND 30 PERCENT OF THE VERIFICATION TORQUE VALUE DETERMINED BY THE FORMULA IN FHWA PUBLICATION NHI 05-036. ADDITIONAL TIGHTENING BEYOND SNUG-TIGHT CONDITION SHALL BE DONE IN ACCORDANCE WITH SECTION 634.05 OF THE MAINEDOT STANDARD SPECIFICATIONS.

33. LIGHTING FIXTURES ON CONVENTIONAL LIGHT STANDARDS 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.

34. 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.

35. 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.

36. BUSHINGS SHALL BE INSTALLED ON ALL CONDUIT TERMINATIONS.

37. PULL WIRE SHALL BE INSTALLED IN ALL NEW CONDUIT.

38. ALL EXPOSED RIGID CONDUIT FITTINGS AND HARDWARE SHALL BE GALVANIZED, EXCEPT NON-CONDUCTIVE BUSHINGS FOR CONNECTION OF RIGID METAL CONDUIT TO ALUMINUM CABINETS.

39. 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.

40. 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.

41. CAP AND/OR SEAL EXPOSED ENDS OF CONDUIT TO PREVENT INTRUSION OF MOISTURE OR RODENTS. PAYMENT FOR NON-METALLIC 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.

42. BREAKAWAY DEVICES FOR CONVENTIONAL LIGHT STANDARDS 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.

43. ALL LIGHT POLES SHALL BE BONDED TO THE GROUNDING CONDUCTOR.

44. METAL FRAMES AND CONDUCTIVE COVERS OF JUNCTION BOXES SHALL BE BONDED TO THE GROUNDING CONDUCTOR.

45. JUNCTION BOXES SHALL BE HEAVY DUTY TIER 22 RATED. POLYMER JUNCTION BOXES MEETING THAT REQUIREMENT WILL BE ACCEPTABLE. JUNCTION BOXES WITH DIMENSIONS LARGER THAN SHOWN IN THE STANDARD DETAILS MAY BE ALLOWED FOR EASE OF WIRE PULLING ACCESS.

46. ALL FOUNDATIONS FOR CONVENTIONAL LIGHT STANDARDS AND HIGH MAST LIGHT POLES 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 GROUND WIRE CONDUIT IN FOUNDATIONS SHALL BE INCLUDED IN ITEM 634.160, HIGHWAY LIGHTING.

47. INSTALL TRAFFIC MONITORING CAMERAS ON HIGH MAST POLE T5. SEE SECTION 634 SPECIAL PROVISION FOR REQUIREMENTS. PAYMENT FOR CAMERAS AND COMMUNICATIONS CONDUCTORS WILL BE MADE UNDER ITEM 634.762, VIDEO CAMERA SYSTEM.

48. PAYMENT UNDER ITEM 634.2042, LED LUMINAIRES, FOR LUMINAIRES INSTALLED ON CONVENTIONAL LIGHT STANDARDS SHALL INCLUDE ALL MOUNTING HARDWARE REQUIRED TO ATTACH TO THE POLES. UNDER BRIDGE LUMINAIRES ALSO SHALL BE PAID UNDER ITEM 634.2042.

49. PAYMENT UNDER ITEM 634.207, HIGH MAST LIGHT STANDARD, SHALL INCLUDE THE LUMINAIRE LOWERING DEVICE SYSTEM IF A LOWERING DEVICE SYSTEM IS REQUIRED.

50. PAYMENT UNDER ITEM 634.210, CONVENTIONAL LIGHT STANDARD, WILL INCLUDE BUT NOT BE LIMITED TO NEW POLES, TRANSFORMER BASES, AND BREAKAWAY DEVICES.

51. 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.

52. 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.

53. CURING BOXES AND ALL REQUIRED CONCRETE TESTING LABOR, MATERIALS, AND EQUIPMENT WILL BE CONSIDERED INCIDENTAL TO PAYMENT UNDER SECTION 626 FOUNDATION ITEMS.

54. UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL FURNISH TO MAINEDOT A SET OF AS-BUILT PLANS FOR FUTURE REFERENCE AND SYSTEM MAINTENANCE.

55. REMOVAL OF EXISTING LIGHT POLES AND FIXTURES FROM THE OVERPASS BRIDGES WILL BE INCIDENTAL TO PAYMENT UNDER ITEM 634.160. CUT OFF PROJECTING ANCHOR BOLTS AND CONDUIT FLUSH WITH THE SURFACE OF THE CONCRETE LIGHTING PEDESTAL. SPRAY GALVANIZE THE SURFACE OF REMAINING EXPOSED ANCHOR BOLT SURFACES. REMOVE ANY EXPOSED WIRING. SEAL CONDUIT END TO PREVENT INTRUSION OF WATER OR RODENTS.

56. COST OF EXTENSION OF SECONDARY POWER SUPPLY FROM ROUTE 1 EAST OF INTERSTATE 295 TO PAD TRANSFORMER TO BE INSTALLED WEST OF INTERSTATE 295 OVERPASS BRIDGE IS NOT INCLUDED IN PAYMENT UNDER ITEM 634.160. SEE HIGHWAY PLANS AND SPECIFICATIONS.

57. REMOVE EXISTING UNDER-BRIDGE LIGHTING FROM I-295 OVERPASS BRIDGES. REMOVAL AND DISPOSAL OF UNDER-BRIDGE LIGHTING FIXTURES, CONDUIT, SUPPORTS, AND INCIDENTAL HARDWARE WILL BE INCIDENTAL TO ITEM 634.160.

Filename: 015_Construction Notes.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FED. PROJECT NO. 2436300

WIN 24363.00

LIGHTING PLANS

PROJ. MANAGER:	D. COOMBS	BY	DATE
DESIGN-DETAILED	ALG	MSM	05/23
CHECKED-REVIEWED	ALG		05/23
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

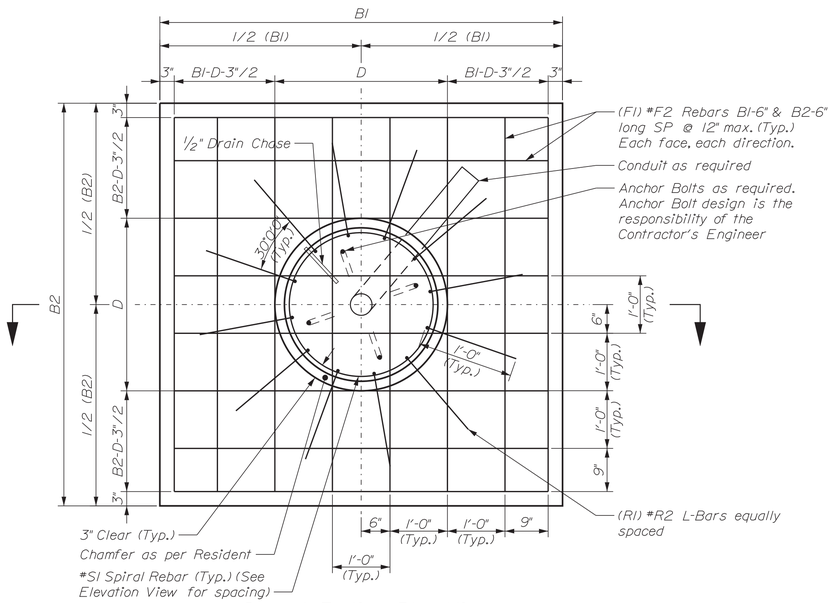
SOUTH PORTLAND
I-295 AT EXIT 4

CONSTRUCTION NOTES

SHEET NUMBER

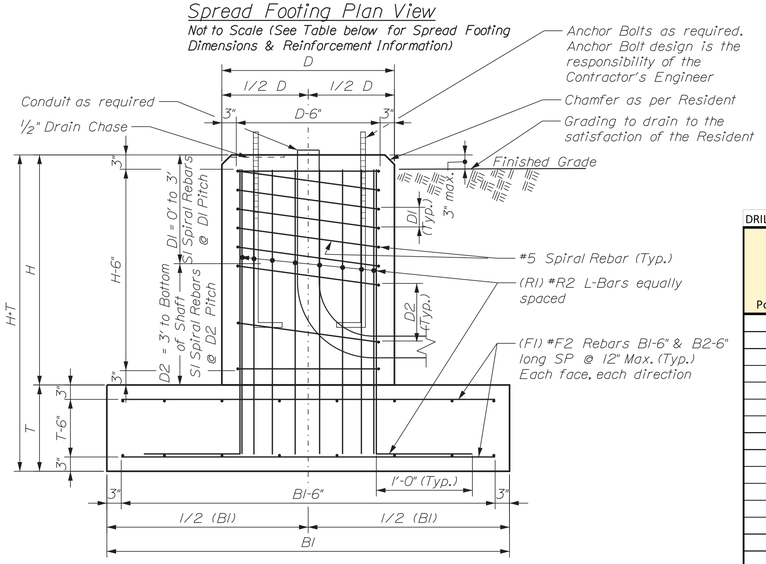
L15

OF L29



Spread Footing Plan View

Not to Scale (See Table below for Spread Footing Dimensions & Reinforcement Information)



Spread Footing Elevation View

Not to Scale (See Table below for Spread Footing Dimensions & Reinforcement Information)

LIGHT POLES: NBl, NB2, NB3, NB4, NB5 NB6, NB7, & NB8

See Spread Footing Foundations Table for Station and Offsets of Light Pole Locations.

SPREAD FOOTING FOUNDATIONS

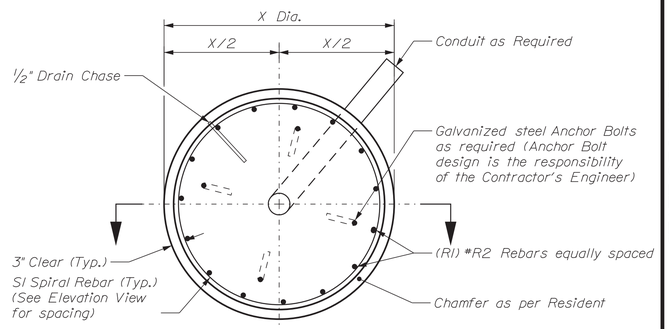
Pole No.	Station and Offset	Footing Dimensions B1 Length (feet)	Footing Dimensions B2 Length (feet)	Footing Dimensions T Footing Height (feet)	Shaft Dimensions H1 Shaft Height (feet)	Shaft Dimensions D1 Shaft Diameter (feet)	Reinforcing Steel - Footing F1 Longitudinal Rebars Quantity	Reinforcing Steel - Footing F2 Longitudinal Rebars Size	Reinforcing Steel - Footing S2 Maximum Spacing (inches)	Reinforcing Steel - Shaft R1 Longitudinal Rebars Quantity	Reinforcing Steel - Shaft R2 Longitudinal Rebars Size	Reinforcing Steel - Shaft S1 Spiral Rebars Size	Spiral Bar Spacing D1 (in) 0 to 3 ft	Spiral Bar Spacing D2 (in) 3 ft to bottom of Shaft
NB1	178+25.00, 80.0 feet Right	4.5	4.5	1.5	5.0	2.5	20	#5	12	12	#8	#5	4	8
NB2	179+50.00, 80.0 feet Right	4.5	4.5	1.5	3.0	2.5	20	#5	12	12	#8	#5	4	--
NB3	180+75.00, 80.0 feet Right	4.5	4.5	1.5	6.0	2.5	20	#5	12	12	#8	#5	4	8
NB4	182+00.00, 80.0 feet Right	4.5	4.5	1.5	3.0	2.5	20	#5	12	12	#8	#5	4	--
NB5	183+25.00, 80.0 feet Right	4.5	4.5	1.5	3.0	2.5	20	#5	12	12	#8	#5	4	--
NB6	184+50.00, 80.0 feet Right	4.5	4.5	1.5	3.0	2.5	20	#5	12	12	#8	#5	4	--
NB7	185+75.00, 80.0 feet Right	4.5	4.5	1.5	4.0	2.5	20	#5	12	12	#8	#5	4	8
NB8	187+00.00, 83.0 feet Right	4.5	4.5	1.5	5.0	2.5	20	#5	12	12	#8	#5	4	8

NOTES:

1. All reinforcing steel is to be grade 60 and conform to MaineDOT Standard Specification requirements along with any project specific Supplementals or Special Provisions.
2. All rebar shall have 3" cover unless otherwise noted.
3. For spread footing, L-Bars shall have a Min. l'-0" Leg.
4. Should there be a discrepancy between these Details and actual observed field conditions report it to the Resident immediately.
5. Do not proceed with dependent work until any such discrepancy is resolved to the satisfaction of the Resident.
6. Concrete to be Class LP with f'c = 5,000 PSI.
7. Foundation sizes are designed based on estimated loading conditions and are subject to change based on the design of the above-ground components and the actual loading conditions at the top of each foundation submitted by the Contractor in accordance with Standard Specification Section 626.034. Any increase in foundation size based on the submitted loading conditions shall be paid for at the unit price bid by the Contractor. Any reduction in foundation size shall be to the benefit of the Department at the unit price bid by the Contractor.

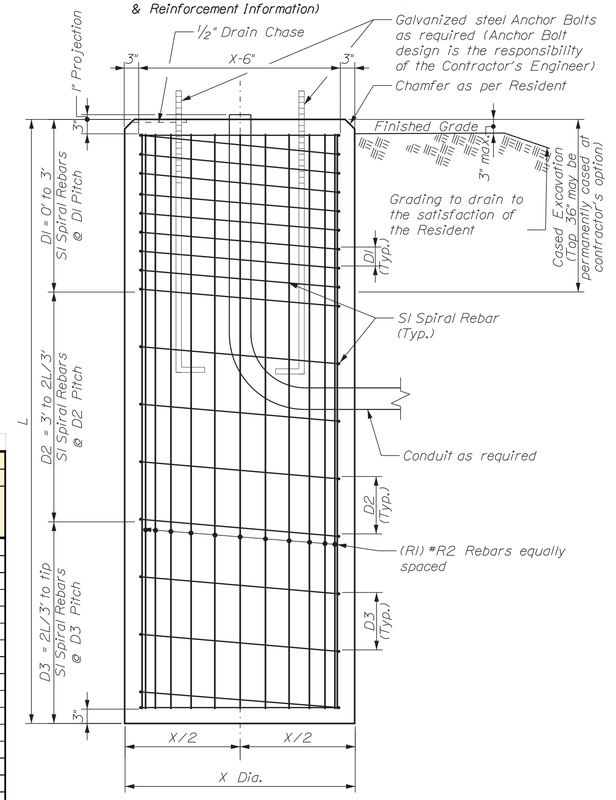
DRILLED SHAFT FOUNDATIONS

Pole No.	Station and Offset	Drilled Shaft Dimensions X Diameter (feet)	Drilled Shaft Dimensions L Length (feet)	Reinforcing Steel R1 Longitudinal Rebars Quantity	Reinforcing Steel R2 Longitudinal Rebars Size	Reinforcing Steel S1 Spiral Rebars Size	Spiral Bar Spacing D1 (in) 0 to 3 ft	Spiral Bar Spacing D2 (in) 3 ft to 2L/3 ft	Spiral Bar Spacing D3 (in) 2L/3 ft to tip
NB9	188+25.00, 90.0 feet Right	3.0	8.0	15	#8	#5	4	8	12
NB10	189+50.00, 98.0 feet Right	3.0	8.0	15	#8	#5	4	8	12
NB11	190+75.00, 107.0 feet Right	3.0	8.0	15	#8	#5	4	8	12
NB12	192+00.00, 116.0 feet Right	3.0	8.0	15	#8	#5	4	8	12
NB13	212+25.00, 115.0 feet Right	3.0	8.0	15	#8	#5	4	8	12
NB14	213+50.00, 107.0 feet Right	3.0	8.0	15	#8	#5	4	8	12
NB15	214+75.00, 101.0 feet Right	3.0	8.0	15	#8	#5	4	8	12
NB16	216+00.00, 96.5 feet Right	3.0	8.0	15	#8	#5	4	8	12
NB17	217+25.00, 92.0 feet Right	3.0	8.0	15	#8	#5	4	8	12
NB18	218+50.00, 88.0 feet Right	3.0	8.0	15	#8	#5	4	8	12
SB1	173+83.00, 73.5 feet Left	3.0	8.0	15	#8	#5	4	8	12
SB2	175+08.00, 73.5 feet Left	3.0	8.0	15	#8	#5	4	8	12
SB3	176+33.00, 73.5 feet Left	3.0	8.0	15	#8	#5	4	8	12
T1	194+08.44, 91.63 feet Left	4.0	10.0	21	#9	#5	4	4	12
T2	199+16.80, 98.5 feet Right	4.0	9.5	21	#9	#5	4	4	12
T3	105+06.75, 59.66 feet Left	4.0	9.5	21	#9	#5	4	4	12
T4	14+88.00, 175.0 feet Left	4.0	9.5	21	#9	#5	4	4	12
T5	194+05.48, 80.84 feet Right	4.0	8.5	21	#9	#5	4	4	12
T6	199+25.18, 122.56 feet Right	4.0	13.5	21	#9	#5	4	4	12
T7	203+81.74, 180.26 feet Right	4.0	9.5	21	#9	#5	4	4	12
T8	210+36.26, 232.58 feet Right	4.0	9.0	21	#9	#5	4	4	12



Drilled Shaft Plan View

Not to Scale (See Table for Drilled Shaft Dimensions & Reinforcement Information)



Drilled Shaft Elevation View

Not to Scale (See Table for Drilled Shaft Dimensions & Reinforcement Information)

LIGHT POLES: NB9, NBl0, NBll, NBl2, NBl3 NBl4, NBl5, NBl6, NBl7, NBl8, SBl, SB2, SB3, Tl, T2, T3, T4, T5, T6, T7 & T8

See Drilled Shaft Foundations Table for Station and Offsets of Light Pole Locations.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300

WIN 024363.00

HIGHWAY PLANS

STATE OF MAINE ★ ENGINEER ★ Kathleen Maguire 7120 LICENSED PROFESSIONAL

	BY	DATE
PROJ. MANAGER	D.COOMBS	
DESIGN-DETAILED	-----	-----
CHECKED-REVIEWED	K.MAGUIRE	JUL 2023
DESIGN2-DETAILED2	K.MAGUIRE	-----
DESIGN3-DETAILED3	-----	-----
REVISIONS 1	-----	-----
REVISIONS 2	-----	-----
REVISIONS 3	-----	-----
REVISIONS 4	-----	-----
FIELD CHANGES	-----	-----

SIGNATURE 7120

P.E. NUMBER 8/10/2023

DATE

SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

LIGHTING POLE FOUNDATIONS

SHEET NUMBER

L16

OF L29

Filename: ...\GEOTECH\MSTA\016_L16_LPF1.dgn Division: GEOTECH Username: terry.white Date:8/7/2023

Filename: ...\MSTA\017_L17_BLP1_24363.dgn Division: GEOTECH Username: terry.white Date:8/7/2023

POLE SB1
LUMINAIRE D
40' POLE
STA. 173+83.00,
73.50' LT. (MEDIAN)

POLE SB2
LUMINAIRE D
40' POLE
STA. 175+08.00,
73.50' LT. (MEDIAN)

POLE SB3
LUMINAIRE D
40' POLE
STA. 176+33.00,
73.50' LT. (MEDIAN)

POLE SB4
LUMINAIRE C
26' POLE
STA. 177+58.00,
73.50' LT. (MEDIAN)

POLE SB5
LUMINAIRE C
26' POLE
STA. 178+83.00,
73.50' LT. (MEDIAN)

REMOVE

HB-SP0-101

HB-1295-107

HB-SP0-102

HB-SP0-103

173+00 174+00 175+00 176+00 177+00 178+00 179+00

POLE NB1
LUMINAIRE C
30' POLE
STA. 178+25.00,
80.00' RT. (MEDIAN)

POLE NB2
LUMINAIRE D
30' POLE
STA. 179+50.00,
80.00' RT. (MEDI

REPLACE BREAKERS IN EXISTING CABINET.
SEE GENERAL NOTES.

PFO

IP

PLAN

25 0 25 50
Scale of Feet

LEGEND
BORING

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300

WIN
024363.00

HIGHWAY PLANS

STATE OF MAINE ★ ENGINEER ★ PROFESSIONAL
Kathleen Maguire
7120
LICENSED

SIGNATURE
7120

P.E. NUMBER
8/10/2023

DATE

	D.COOMBS	T.WHITE	K.MAGUIRE				
PROJ. MANAGER							
DESIGN-DETAILED							
CHECKED-REVIEWED							
DESIGN2-DETAILED2							
DESIGN3-DETAILED3							
REVISIONS 1		JUL 2023					
REVISIONS 2							
REVISIONS 3							
REVISIONS 4							
FIELD CHANGES							
BY							
DATE							

SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

BORING LOCATION PLAN

SHEET NUMBER

L17

OF L29

Filename: ...\MSTA\018_L18_BLP2_24363.dgn Division: GEOTECH Username: terry.white Date:8/7/2023

POLE M1
LUMINAIRE E
28' POLE
STA. 182+00.00,
8.00' LT. (MEDIAN)

POLE M2
LUMINAIRE E
28' POLE
STA. 183+25.00,
8.00' LT. (MEDIAN)

POLE M3
LUMINAIRE E
28' POLE
STA. 184+50.00,
8.00' LT. (MEDIAN)

POLE M4
LUMINAIRE E
28' POLE
STA. 185+75.00,
8.00' LT. (MEDIAN)

POLE SB6
LUMINAIRE C
26' POLE
STA. 180+08.00,
74.10' LT. (MEDIAN)

POLE SB7
LUMINAIRE C
26' POLE
STA. 181+36.00,
76.60' LT. (MEDIAN)

POLE SB8
LUMINAIRE E
26' POLE
STA. 182+61.00,
79.00' LT. (MEDIAN)

POLE SB9
LUMINAIRE E
26' POLE
STA. 183+86.00,
81.40' LT. (MEDIAN)

POLE SB10
LUMINAIRE E
26' POLE
STA. 185+11.00,
83.80' LT. (MEDIAN)

POLE SB11
LUMINAIRE E
26' POLE
STA. 186+36.00,
86.20' LT. (MEDIAN)

REMOVE

180+00 181+00 182+00 183+00 184+00 185+00 186+00

HB-SP0-104 HB-SP0-105 HB-SP0-106 HB-SP0-107 HB-SP0-108 HB-SP0-109

POLE NB2
LUMINAIRE D
30' POLE
STA. 179+50.00,
80.00' RT. (MEDIAN)

POLE NB3
LUMINAIRE D
30' POLE
STA. 180+75.00,
80.00' RT. (MEDIAN)

POLE NB4
LUMINAIRE D
30' POLE
STA. 182+00.00,
80.00' RT. (MEDIAN)

POLE NB5
LUMINAIRE D
30' POLE
STA. 183+25.00,
80.00' RT. (MEDIAN)

POLE NB6
LUMINAIRE D
30' POLE
STA. 184+50.00,
80.00' RT. (MEDIAN)

POLE NB7
LUMINAIRE D
30' POLE
STA. 185+75.00,
80.00' RT. (MEDIAN)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300

WIN
024363.00

HIGHWAY PLANS

STATE OF MAINE ★ Kathleen Maguire 7120 LICENSED PROFESSIONAL ENGINEER

SIGNATURE
7120

P.E. NUMBER
8/10/2023

DATE

	BY	DATE
PROJ. MANAGER	D.COOMBS	
DESIGN-DETAILED		
CHECKED-REVIEWED	T. WHITE	JUL 2023
DESIGN2-DETAILED2	K.MAGUIRE	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

BORING LOCATION PLAN

SHEET NUMBER

L18

OF L29

Filename: ...\MSTA\019_L19_BLP3_24363.dgn Division: GEOTECH Username: terry.white Date:8/7/2023

POLE M4
LUMINAIRE E
28' POLE
STA. 185+75.00,
8.00' LT. (MEDIAN)

POLE M5
LUMINAIRE E
28' POLE
STA. 187+00.00,
8.00' LT. (MEDIAN)

POLE M6
LUMINAIRE F
28' POLE
STA. 188+25.00,
8.00' LT. (MEDIAN)

POLE M7
LUMINAIRE F
28' POLE
STA. 189+50.00,
8.00' LT. (MEDIAN)

POLE M8
LUMINAIRE F
28' POLE
STA. 190+75.00,
8.00' LT. (MEDIAN)

PT = STA. 117+41.58

POLE SBI1
LUMINAIRE E
26' POLE
STA. 186+36.00,
86.20' LT. (MEDIAN)

POLE SBI2
LUMINAIRE E
26' POLE
STA. 187+61.00,
88.60' LT. (MEDIAN)

POLE SBI3
LUMINAIRE E
26' POLE
STA. 188+86.00,
91.00' LT. (MEDIAN)

POLE SBI4
LUMINAIRE E
26' POLE
STA. 190+11.00,
93.50' LT. (MEDIAN)

POLE SBI5
LUMINAIRE E
26' POLE
STA. 191+35.85,
99.30' LT. (MEDIAN)

REMOVE

PC = STA. 117+33.54

JB9

JB8

117+42

186+00 187+00 188+00 189+00 190+00 191+00 192+00 193 116+00 117+00

HB-SP0-109

POLE NB7
LUMINAIRE D
30' POLE
STA. 185+75.00,
80.00' RT. (MEDIAN)

HB-SP0-110

POLE NB8
LUMINAIRE D
30' POLE
STA. 187+00.00,
83.00' RT. (MEDIAN)

HB-SP0-111

POLE NB9
LUMINAIRE D
30' POLE
STA. 188+25.00,
90.00' RT. (MEDIAN)

HB-SP0-112

POLE NB10
LUMINAIRE D
30' POLE
STA. 189+50.00,
98.00' RT. (MEDIAN)

HB-SP0-113

POLE NB11
LUMINAIRE D
30' POLE
STA. 190+75.00,
107.00' RT. (MEDIAN)

HB-SP0-114

POLE NB12
LUMINAIRE C
30' POLE
STA. 192+00.00,
116.00' RT. (MEDIAN)

PSS RU P E

HMON UP2.5'

HMON UP2' SLIGHT LEAN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300

WIN
024363.00

HIGHWAY PLANS

STATE OF MAINE ★ ENGINEER ★ PROFESSIONAL
Kathleen Meguire
7120
LICENSED

SIGNATURE
7120

P.E. NUMBER
8/10/2023

DATE

	BY	DATE
PROJ. MANAGER	D.COOMBS	
DESIGN-DETAILED		
CHECKED-REVIEWED	K.MAGUIRE	JUL 2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1	T. WHITE	
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

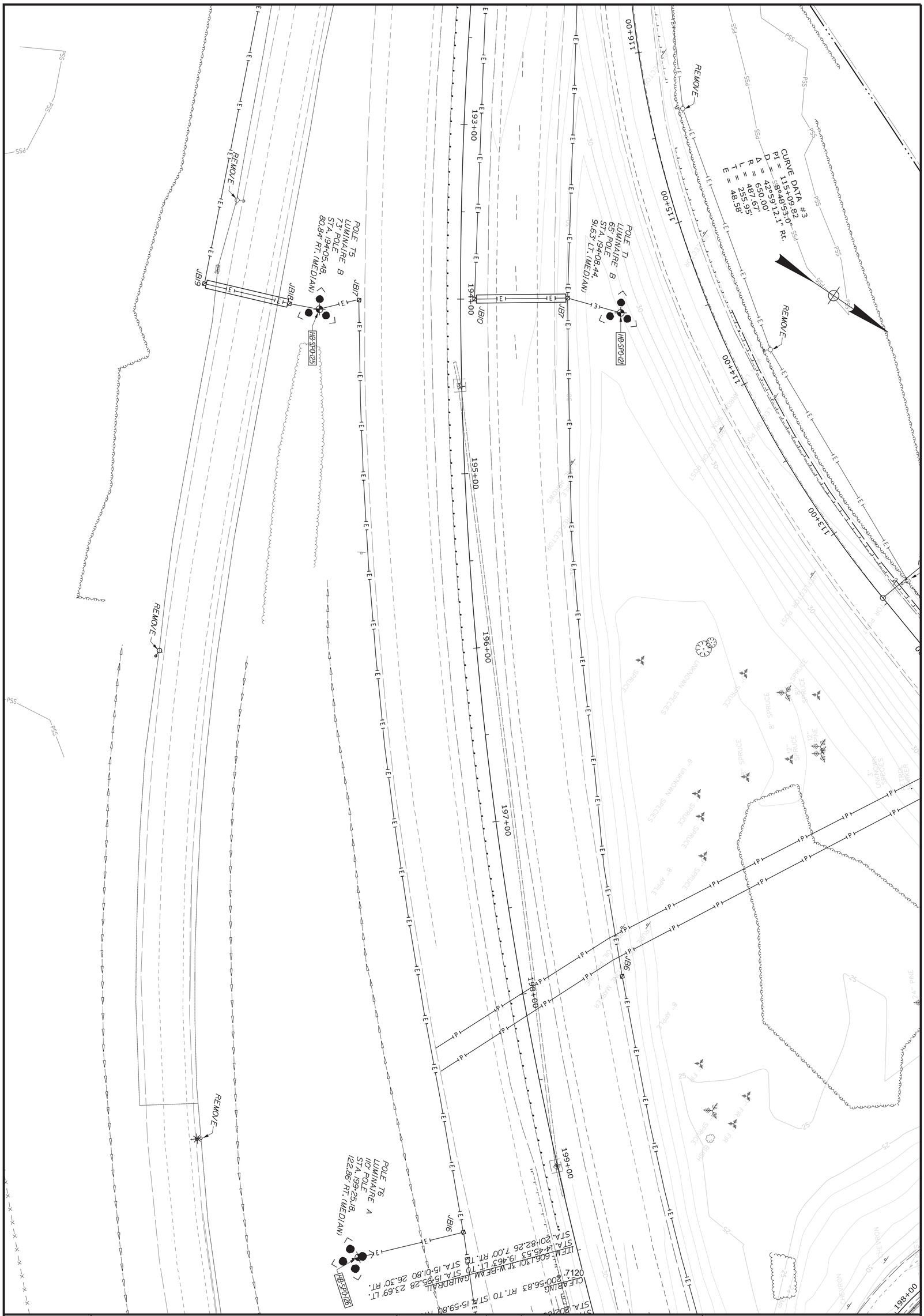
SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

BORING LOCATION PLAN

SHEET NUMBER

L19

OF L29



PROJ. MANAGER	D.COOMBS	BY	DATE
DESIGN-DETAILED			
CHECKED-REVIEWED			
DESIGN2-DETAILED2	K.MAGUIRE	T.WHITE	JUL 2023
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE 7120

P.E. NUMBER 8/10/2023

DATE

STATE OF MAINE
Kathleen Maguire
7120
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER L20 OF L29

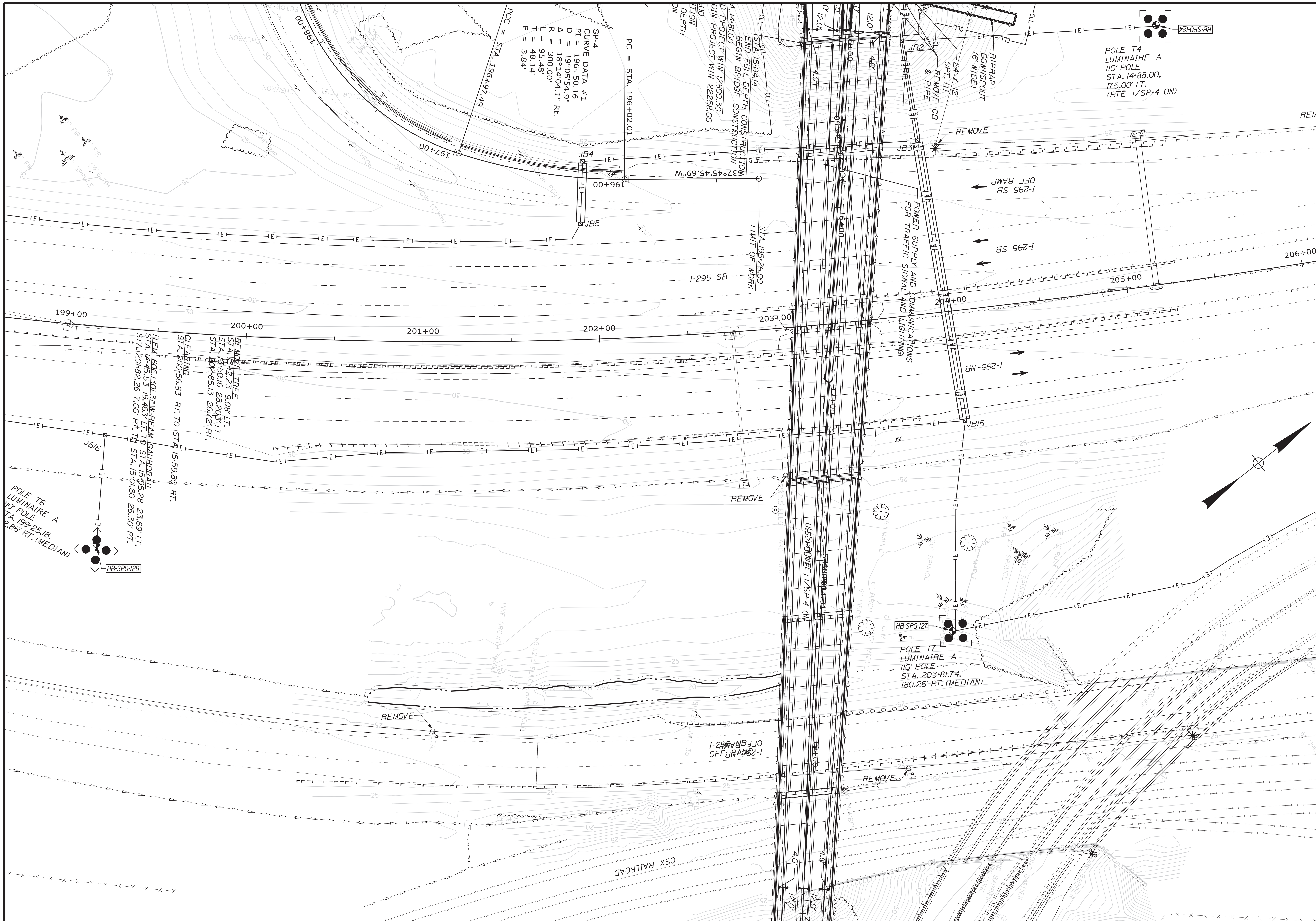
SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS
BORING LOCATION PLAN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300

WIN 024363.00 HIGHWAY PLANS

Filename: ...\MSTA\021_L21_BLP5_24363.dgn Division: GEOTECH Username: terry.white Date:8/7/2023



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300

WIN 024363.00

HIGHWAY PLANS

STATE OF MAINE
Kathleen Maguire
7120
LICENSED PROFESSIONAL ENGINEER

SIGNATURE 7120

P.E. NUMBER 8/10/2023

DATE

PROJ. MANAGER	D.COOMBS	BY	DATE
DESIGN-DETAILED			
CHECKED-REVIEWED			
DESIGN2-DETAILED2	K.MAGUIRE	T.WHITE	JUL 2023
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

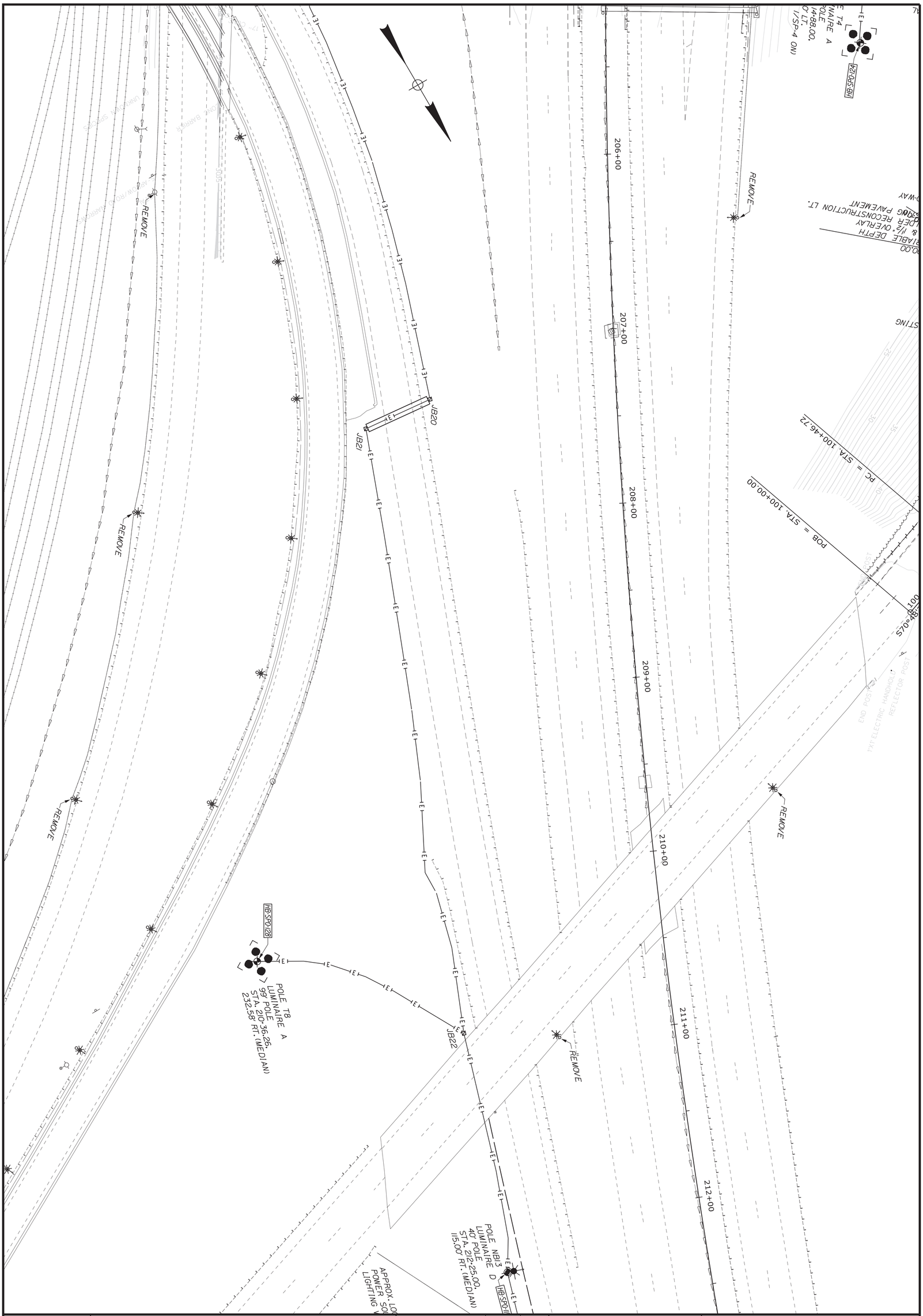
SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

BORING LOCATION PLAN

SHEET NUMBER

L21

OF L29



SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

BORING LOCATION PLAN

SHEET NUMBER L22 OF L29

PROJ. MANAGER	D.COOMBS	BY	DATE
DESIGN-DETAILED			
CHECKED-REVIEWED			
DESIGN2-DETAILED2	K.MAGUIRE	T.WHITE	JUL 2023
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE
7120
P.E. NUMBER
8/10/2023
DATE

STATE OF MAINE
Kathleen Maguire
7120
LICENSED PROFESSIONAL ENGINEER

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300

WIN 024363.00 HIGHWAY PLANS

Filename: ...\MSTA\023_L23_BLP7_24363.dgn Division: GEOTECH Username: terry.white Date:8/7/2023

PT 215+45.92

212+00 213+00 214+00 215+00 216+00 217+00 218+00

POLE NB13
LUMINAIRE D
40' POLE
STA. 212+25.00.
115.00' RT. (MEDIAN)

HB-SP0-115

HB-SP0-116

POLE NB14
LUMINAIRE D
40' POLE
STA. 213+50.00.
107.00' RT. (MEDIAN)

HB-SP0-117

POLE NB15
LUMINAIRE D
40' POLE
STA. 214+75.00.
101.00' RT. (MEDIAN)

HB-SP0-118

POLE NB16
LUMINAIRE D
40' POLE
STA. 216+00.00.
96.50' RT. (MEDIAN)

JB23

REMOVE POLE AND FOUNDATION.
INSTALL JUNCTION BOX. SPLICE
EXISTING WIRING TO MAINTAIN
WIRING CONTINUITY.

HB-SP0-119

POLE NB17
LUMINAIRE D
40' POLE
STA. 217+25.00.
92.00' RT. (MEDIAN)

HB-SP0-120

POLE NB18
LUMINAIRE D
40' POLE
STA. 218+50.00.
88.00' RT. (MEDIAN)

JB24

REMOV
INSTAL
EXIST
WIRING

APPROX. LOCATION CONDUIT TO
POWER SOURCE FOR 480V NAVIGATION
LIGHTING WIRING. MAINTAIN CONTINUITY.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

243630O

WIN
024363.00

HIGHWAY PLANS

STATE OF MAINE
Kathleen
Maguire
7120
LICENSED
PROFESSIONAL
ENGINEER

SIGNATURE
7120
P.E. NUMBER
8/10/2023
DATE

PROJ. MANAGER	D.COOMBS	BY	DATE
DESIGN-DETAILED	-------	-----	-----
CHECKED-REVIEWED	-------	-----	-----
DESIGN2-DETAILED2	K.MAGUIRE	T.WHITE	JUL 2023
DESIGN3-DETAILED3	-------	-------	-------
REVISIONS 1	-------	-------	-------
REVISIONS 2	-------	-------	-------
REVISIONS 3	-------	-------	-------
REVISIONS 4	-------	-------	-------
FIELD CHANGES	-------	-------	-------

SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

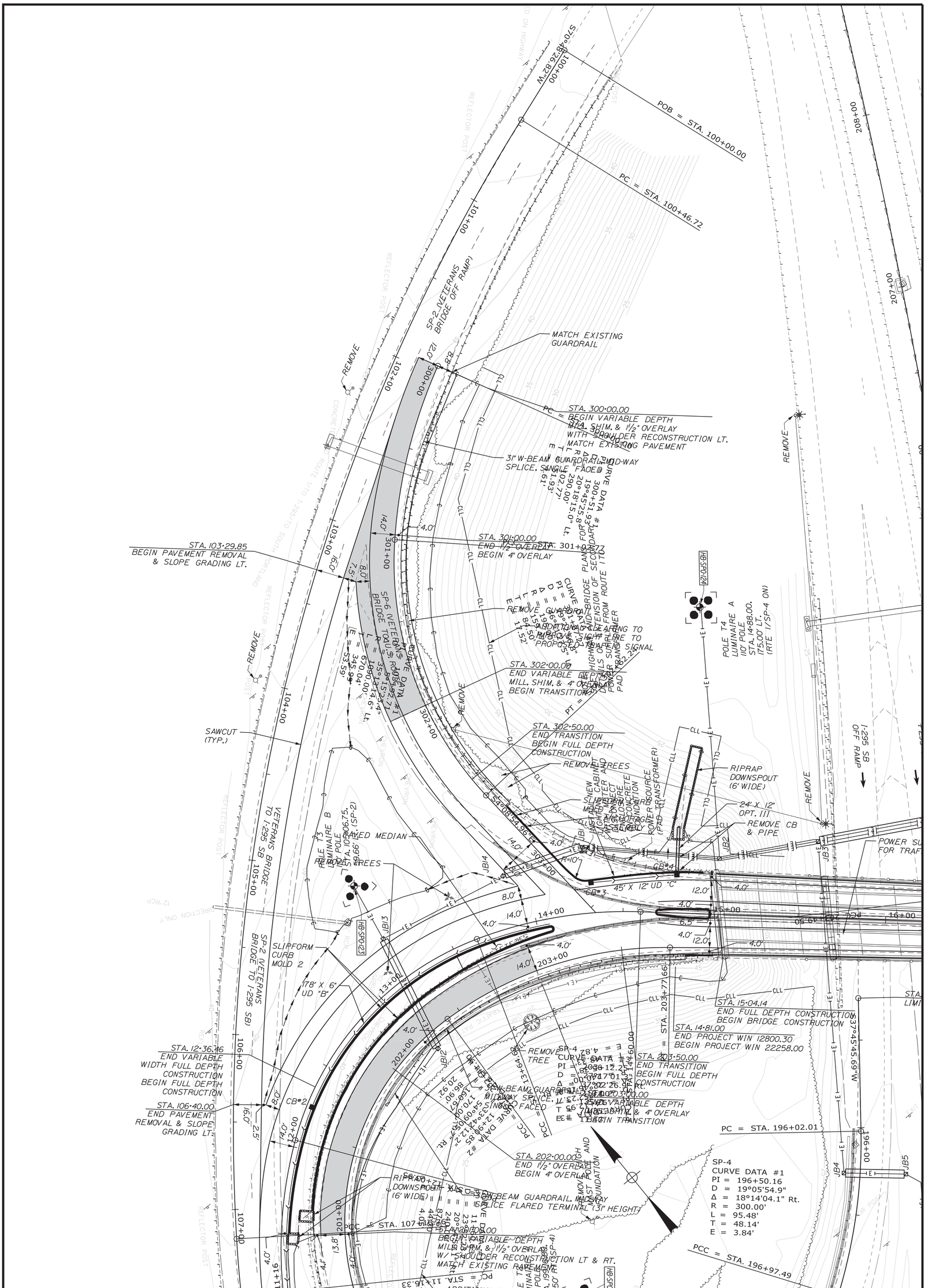
BORING LOCATION PLAN

SHEET NUMBER

L23

OF L29

Filename: ...\MSTA\024_L24_BLP8_24363.dgn Division: GEOTECH Username: terry.white Date:8/7/2023



SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

BORING LOCATION PLAN

SHEET NUMBER L24 OF L29

PROJ. MANAGER	D.COOMBS	BY	DATE
DESIGN-DETAILED			
CHECKED-REVIEWED			
DESIGN2-DETAILED2	K.MAGUIRE	T.WHITE	JUL 2023
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

STATE OF MAINE Kathleen Maguire 7120 LICENSED PROFESSIONAL ENGINEER

P.E. NUMBER 7120

8/10/2023

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300

WIN 024363.00

HIGHWAY PLANS



PROJ. MANAGER	D.COOMBS	BY	DATE
DESIGN-DETAILED			
CHECKED-REVIEWED			
DESIGN2-DETAILED2	K.MAGUIRE	T.WHITE	JUL 2023
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER 7120

DATE 8/10/2023

STATE OF MAINE — Kathleen Maguire — 7120 — LICENSED PROFESSIONAL ENGINEER

SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

BORING LOCATION PLAN

SHEET NUMBER L25 OF L29

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300

WIN 024363.00

HIGHWAY PLANS

Username: terry.white Date:8/7/2023

Filename: ...\MSTA\026_L26_BORING LOGS1.dgn Division: GEOTECH

Maine Department of Transportation — HB-SPO-101

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine

Boring No.: HB-SPO-101 — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 34.9	Auger ID/OD:	2.5" ID
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Tiungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/8/2023-6/8/2023	Drilling Methods: Hollow Stem Auger	Core Barrel:	N/A
Boring Location: 173+83. 66.1 ft Lt.	Casing ID/OD: N/A	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = 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; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; PP = Pocket Penetrometer; WOR/C = Weight of Rods or Casing; WOP = Weight of One Person; q_p = Peak/Remolded Field Vane Unrained Shear Strength (psf); q_u = Unconfined Compressive Strength (psf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor/60%=N-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 t/6 in. or Strength or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/13	0.00 - 2.00	11/17/12/10	29	46	HSA			Brown, dry, dense, fine to coarse SAND, some gravel, trace silt. (Fill), SM	
5	2D	24/15	5.00 - 7.00	8/4/7/7	11	17				Brown, dry, medium dense, fine to medium SAND, some silt, little gravel, trace coarse sand. (Fill), SM	
10	3D	24/21	10.00 - 12.00	9/10/14/12	24	38		25.9			
								22.9		Brown, moist, very stiff, Clayey SILT, some fine to coarse SAND, trace fine gravel. (Marine Deposit). ML — 13.0	
15										Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
20											
25											

Remarks: Drill Rig #283

Stratification lines represent approximate boundaries between soil typest 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.: HB-SPO-101

Maine Department of Transportation — HB-1295-107

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine

Boring No.: HB-1295-107 — WIN: 24363.00

Drilling Contractor: Maine Test Boring Inc.	Elevation (ft.): 33.1	Auger ID/OD:	2.75"/8"
Operator: Mike/Brad	Datum: NAVD 88	Sampler:	Standard Split Spoon
Logged By: B. Wilder	Rig Type: Mobile B50 Tracked	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 12/6/04-12/6/04	Drilling Methods: Hollow Stem Auger	Core Barrel:	N/A
Boring Location: 175+00; 73.0 ft Lt.	Casing ID/OD: N/A	Water Level(*):	None Observed

Definitions: S = Sample off Auger Flights; B = Bucket Sample off Auger Flights; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOP = Weight of 1 Person; WOR/C = Weight of Rods or Casing; q_p = Peak/Remolded Field Vane Unrained Shear Strength (psf); q_u = Unconfined Compressive Strength (psf); N-uncorrected = Raw Field SPT N-value; T_v = Pocket Torvane Shear Strength (psf); N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; WC = Water Content, percent; Y = Similar or Equal to; 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 t/6 in. or Strength or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0						HSA	32.70		TOPSOIL - 1.50ø±.	
							32.10		Brown, damp, gravelly medium to coarse SAND. — 0.60	
							30.60		Olive, moist, very stiff, CLAY-SILT, trace fine to coarse sand (Till?). — 2.50	
5	1D	24/16	5.00 - 7.00	8/13/14/18	27					GM175296 A-6; CL WC=21.7% LL=32 PL=20 PI=12
							24.50		Grey-brown, wet, hard, fine to medium sandy SILT, trace coarse sand and gravel, bedrock fragments (Till?) — 8.60	
10	2D/A	24/20	10.00 - 12.00	10/21/23/27	44				(2D) 10.0-11.4' bgs.	
							21.70		(2D/A) 11.4-12.0' bgs. Weathered Bedrock. — 11.40	
15	3D	24/16	12.00 - 14.00	11/9/13/9	22					
							19.10		Bottom of Exploration at 14.0 feet below ground surface. NO REFUSAL — 14.00	
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil typest 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.: HB-1295-107

Maine Department of Transportation — HB-SPO-102

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine

Boring No.: HB-SPO-102 — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 35.4	Auger ID/OD:	2.5" ID
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Tiungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/8/2023-6/8/2023	Drilling Methods: Hollow Stem Auger	Core Barrel:	N/A
Boring Location: 176+33.1. 66.4 ft Lt.	Casing ID/OD: N/A	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = 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; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of One Person; q_p = Peak/Remolded Field Vane Unrained Shear Strength (psf); q_u = Unconfined Compressive Strength (psf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor/60%=N-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 t/6 in. or Strength or RQD (%)	N-uncorrected	N60	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	10/12/14/15	26	41	HSA			Brown grey, dry, dense, fine to coarse SAND, some gravel, trace silt, well graded. (Fill), SM	
5	2D	24/20	5.00 - 7.00	3/3/4/4	7	11					
								30.4			
10	3D	24/24	10.00 - 12.00	2/4/5/7	9	14				Olive brown, moist, stiff, fine Sandy SILT to Clayey SILT, trace weathered gravel. (Marine Deposit). ML — 4.0	
								25.4			
15										Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL — 12.0	
20											
25											

Remarks: Drill Rig #283

Stratification lines represent approximate boundaries between soil typest 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.: HB-SPO-102

Maine Department of Transportation — HB-SPO-103

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine

Boring No.: HB-SPO-103 — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 35.5	Auger ID/OD:	N/A
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Tiungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/4/2023-6/4/2023	Drilling Methods: Cased Wash Boring	Core Barrels:	NQ-2"
Boring Location: 178+25. 80.0 ft Rt.	Casing ID/OD: NW-3"	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = 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; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of One Person; q_p = Peak/Remolded Field Vane Unrained Shear Strength (psf); q_u = Unconfined Compressive Strength (psf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor/60%=N-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 t/6 in. or Strength or RQD (%)	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	1/1/2/4	3	5	HP			Grey-brown, wet, medium stiff to hard, Fine Sandy SILT, Cobbles, fine to medium sand layer. (Marine Deposit). ML — 6.3	
5	2D	15.6/15.6	5.00 - 6.30	3/3/50(3.6")	---					Brown grey, wet, medium stiff to hard, fine Sandy SILT, Cobbles, fine to medium sand layer. (Marine Deposit). ML	
	R1	36/36	6.40 - 9.40	RQD = 42%			NQ-2	29.2			
10										Top of Bedrock at Elev. 29.2 ft. R1: Bedrock Grey, aphanitic SCHIST, hard, slightly to moderately weathered, joints dipping at steep angles, Secondary near vertical joints, very close to close spacing, tight to open, calcite coatings on some joint surfaces. delt2pnb.	
	R2	24/24	9.40 - 11.40	RQD = 15%						R1: Core Times (minsec) 6.4-7.4 ft (1:00) 7.4-8.4 ft (1:20) 8.4-9.4 ft (2:55) 100% Recovery R2: Bedrock: Similar to R1. R2: Core Times (minsec) 9.4-10.4 ft (1:34) 10.4-11.4 ft (1:43) 100% Recovery	
15										Bottom of Exploration at 11.4 feet below ground surface. — 11.4	
20											
25											

Remarks: Drill Rig #283

Stratification lines represent approximate boundaries between soil typest 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.: HB-SPO-103

Maine Department of Transportation — HB-SPO-104

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine

Boring No.: HB-SPO-104 — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 34.0	Auger ID/OD:	N/A
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Tiungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/4/2023-6/4/2023	Drilling Methods: Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location: 179+50; 83.0 ft Rt.	Casing ID/OD: NW-3"	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = 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; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of One Person; q_p = Peak/Remolded Field Vane Unrained Shear Strength (psf); q_u = Unconfined Compressive Strength (psf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor/60%=N-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 t/6 in. or Strength or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/24	0.00 - 2.00	1/2/2/3	4	6	HP			Brown, wet, loose, Silty fine SAND, trace medium to coarse sand, trace gravel, trace roots. (Fill), SM HP=Hydraulic Push	
5	R1	33.6/33.6	4.10 - 6.90	RQD = 21%			NQ-2	29.9			
	R2	26.4/26.4	6.90 - 9.10	RQD = 15%						Top of Bedrock at Elev. 22.4 ft. R1: Bedrock Grey, aphanitic SCHIST, moderately hard, slightly weathered, joints dipping at steep to vertical angles, very close spacing, tight to open, oxidized joint surfaces. R1: Core Times (minsec) 4.1-5.1 ft (2:10) 5.1-6.1 ft (1:30) 6.1-6.9 ft (1:24) 100% Recovery R2: Bedrock: Similar to R1, except slightly to moderately weathered. R2: Core Times (minsec) 6.9-7.9 ft (1:26) 7.9-9.1 ft (2:00) 100% Recovery	
10								24.9		Bottom of Exploration at 9.1 feet below ground surface. — 9.1	
15											
20											
25											

Remarks: Drill Rig #283

Stratification lines represent approximate boundaries between soil typest 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.: HB-SPO-104

Maine Department of Transportation — HB-SPO-105

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine

Boring No.: HB-SPO-105 — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 32.3	Auger ID/OD:	N/A
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Tiungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/5/2023-6/5/2023	Drilling Methods: Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location: 180+75. 80.0 ft Rt.	Casing ID/OD: NW-3"	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = 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; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of One Person; q_p = Peak/Remolded Field Vane Unrained Shear Strength (psf); q_u = Unconfined Compressive Strength (psf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor/60%=N-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 t/6 in. or Strength or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/9	0.00 - 2.00	3/3/2/2	5	8	HP			Brown-grey, wet, loose, fine to medium SAND, some silt, trace fine to coarse sand, little gravel, roots. (Fill), SM HP=Hydraulic Push	
5	2D	24/5	5.00 - 7.00	3/3/5/7	8	13				Grey, wet, medium dense, fine to coarse GRAVEL, trace fine to coarse sand, little silt, (piece of rock). (Fill), GP	
	R1	24/24	7.10 - 9.10	RQD = 17%			NQ-2	25.2			
10	R2	20.4/20.4	9.10 - 10.80	RQD = 0%						Top of Bedrock at Elev. 20.3 ft. R1: Bedrock Grey, aphanitic SCHIST, moderately hard, slightly weathered, joints dipping at steep angles, very close to close spacing, tight to open, oxidized joint surfaces. R1: Core Times (minsec) 7.1-8.1 ft (1:14) 8.1-9.1 ft (2:15) 100% Recovery R2: Bedrock: Similar to R1. R2: Core Times (minsec) 9.1-10.8 ft (1:46) 100% Recovery R3: Bedrock: Grey aphanitic SCHIST, moderately hard, slightly weathered, joints moderately to steeply dipping, very close to close spacing, open. R3: Core Times (minsec) 10.8-11.8 ft (2:04) 11.8-12.1 ft (2:08) 100% Recovery	
	R3	15.6/15.6	10.80 - 12.10	RQD = 69%				20.2			
15										Bottom of Exploration at 12.1 feet below ground surface. — 12.1	
20											
25											

Remarks: Drill Rig #283

Stratification lines represent approximate boundaries between soil typest 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.: HB-SPO-105

Maine Department of Transportation — HB-SPO-106

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine

Boring No.: HB-SPO-106 — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 32.3	Auger ID/OD:	N/A
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Tiungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/5/2023-6/5/2023	Drilling Methods: Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location: 182+00; 80.0 ft Rt.	Casing ID/OD: NW-3"	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = 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; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of One Person; q_p = Peak/Remolded Field Vane Unrained Shear Strength (psf); q_u = Unconfined Compressive Strength (psf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor/60%=N-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 t/6 in. or Strength or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	18/12	0.00 - 1.33	3/5/50(4")	---		HP			Grey brown, wet, loose, very dense, fine to coarse SAND, some silt, trace gravel, trace roots. (Fill), SM HP=Hydraulic Push	
5	R1	21.6/21.6	4.00 - 5.80	RQD = 0%			NQ-2	28.3			
	R2	18/18	6.00 - 7.50	RQD = 0%						Top of Bedrock at Elev. 24.3 ft. R1: Bedrock Grey aphanitic SCHIST, moderately hard, moderately weathered, joints dipping at low to moderate angles, very close spacing, open, highly fractured, highly oxidized secondary near vertical joint. R1: Core Times (minsec) 4.2-5.2 ft (1:27) 5.2-6.2 ft (2:37) 100% Recovery R2: Bedrock: Similar to R1, except secondary high angle joint. R2: Core Times (minsec) 6.2-7.2 ft (1:41) 100% Recovery R3: Bedrock Grey aphanitic SCHIST, moderately hard, fresh to slightly weathered, joints dipping at low to moderate angles, very close to moderately close, tight to open. R3: Core Times (minsec) 7.5-8.5 ft (2:04) 8.5-9.2 ft (1:50) 100% Recovery	
10	R3	20.4/20.4	7.50 - 9.20	RQD = 77%				23.1			
15										Bottom of Exploration at 9.2 feet below ground surface. — 9.2	
20											
25											

Remarks: Drill Rig #283

Stratification lines represent approximate boundaries between soil typest 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.: HB-SPO-106

Maine Department of Transportation — HB-SPO-107

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine

Boring No.: HB-SPO-107 — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 31.4	Auger ID/OD:	N/A
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Tiungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/5/2023-6/5/2023	Drilling Methods: Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location: 183+25.1. 80.0 ft Rt.	Casing ID/OD: NW-3"	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = 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; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of One Person; q_p = Peak/Remolded Field Vane Unrained Shear Strength (psf); q_u = Unconfined Compressive Strength (psf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor/60%=N-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 t/6 in. or Strength or RQD (%)	N-uncorrected	N60	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	HP			Brown, Grey, wet, loose, fine to medium SAND, little silt, little gravel, trace coarse sand, roots. (Fill), SM HP=Hydraulic Push	
5	R1	14.4/14.4	4.50 - 5.50	RQD = 0%			NQ-2	27.1			
	R2	45.6/45.6	5.50 - 9.30	RQD = 35%						Top of Bedrock at Elev. 24.9 ft. R1: Bedrock Grey, aphanitic SCHIST, hard, slightly to moderately weathered, joints moderately dipping, very close spacing, open, occasional quartz intrusions. Highly fractured throughout. R1: Core Times (minsec) 4.5-5.3 ft (2:20) 100% Recovery R2: Bedrock Grey, aphanitic SCHIST, hard, slightly to moderately weathered, primary joints low angle to moderately dipping, tight to open, very close to close spacing. Secondary joints near vertical, occasional quartz/calcite veins (4" thick), calcite coatings on some joint surfaces. R2: Core Times (minsec) 5.3-6.3 ft (2:00) 6.3-7.3 ft (1:40) 7.3-8.3 ft (1:20) 8.3-9.3 ft (1:45) 100% Recovery	
10								22.1		Bottom of Exploration at 9.3 feet below ground surface. — 9.3	
15											
20											
25											

Remarks: Drill Rig #283

Stratification lines represent approximate boundaries between soil typest 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.: HB-SPO-107

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300
WIN 024363.00
HIGHWAY PLANS

STATE OF MAINE — Kathleen Meguire — 7120 — REGISTERED PROFESSIONAL ENGINEER

	SIGNATURE	DATE	BY
PROJ. MANAGER			D.COOMBS
DESIGN-DETAILED	7120	JUL 2023	T.WHITE
CHECKED-REVIEWED	P.E. NUMBER		
DESIGN2-DETAILED2	8/10/2023		K.MAGUIRE
DESIGN3-DETAILED3	DATE		
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

BORING LOGS

SHEET NUMBER
L26
OF L29

Filename: ...\MSTA\027_L27_BORING LOGS2.dgn Division: GEOTECH Username: terry.white Date:8/7/2023

Maine Department of Transportation — Boring No.: HB-SPO-108

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 32.5	Auger ID/OD:	N/A
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Ilungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/5/2023-6/5/2023	Drilling Methods: Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location: 184+50, 85.0 ft Rt.	Casing ID/OD: NW-3"	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = Split Spoon Sample; MS = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WS = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; WS = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOR = Weight of Rods or Casing; WOH = Weight of 140lb. Hammer; WOP = Weight of One Person; q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf); q_p = Pocket Torvane Shear Strength (psf); $S_{ur\,(qu)}$ = Lab Vane Unconfined Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor=60%=Mn/uncorrected; 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 f/6 in. Penetration or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/13	0.00 - 2.00	4/22/12/7	34	54	HW			Grey, wet, very dense, fine to coarse GRAVEL, some fine to coarse sand, trace silt, weathered rock. (Fill), GW; HP=Hydraulic Push	
										1.2	
	R1	16.8/16.8	3.20 - 4.60	RQD = 0%			NQ-2	29.3		Top of Bedrock at Elev. 27.0 ft. R1: Bedrock Grey, aphanitic SCHIST, moderately hard, slightly weathered, joints dipping at moderate to steep angles, very close spacing, tight to open. R1: Core Times (minsec) 3.2-4.2 ft (1:13) 4.2-5.2 ft - not recorded 100% Recovery R2: Bedrock Similar to R1, except very close to close joint spacing. R2: Core Times (minsec) - not recorded 100% Recovery	
	R2	43.2/43.2	4.60 - 8.20	RQD = 60%							
								24.3		8.2	
										Bottom of Exploration at 8.2 feet below ground surface.	

Remarks: Drill Rig #283

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.: HB-SPO-108

Maine Department of Transportation — Boring No.: HB-SPO-109

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 30.8	Auger ID/OD:	N/A
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Ilungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/5/2023-6/5/2023	Drilling Methods: Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location: 185+75, 84.0 ft Rt.	Casing ID/OD: NW-3"	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = Split Spoon Sample; MS = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WS = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; WS = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOR = Weight of Rods or Casing; WOH = Weight of 140lb. Hammer; WOP = Weight of One Person; q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf); q_p = Pocket Torvane Shear Strength (psf); $S_{ur\,(qu)}$ = Lab Vane Unconfined Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor=60%=Mn/uncorrected; 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 f/6 in. Penetration or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/24	0.00 - 2.00	2/4/3/2	7	11	HW			Dark grey, moist, medium dense, fine to coarse SAND, trace coarse gravel, trace silt. (Fill), SM; HP=Hydraulic Push	
										5.2	
	2D	8.4/8.4	4.50 - 5.20	8/50|2.4"|	---					Grey, wet, medium dense to very dense, Sandy fine to coarse GRAVEL, trace silt, rock fragments. (Fill), GW	
	R1	15.6/15.6	5.20 - 6.50	RQD = 0%			NQ-2			Top of Bedrock at Elev. 25.9 ft. R1: Bedrock Grey, aphanitic SCHIST, hard, slightly weathered, low angles dipping, very close spacing, tight to open. R1: Core Times (minsec) 5.2-6.2 ft (2:34) 100% Recovery R2: Bedrock Similar to R1, except spacing very close to close. R2: Core Times (minsec) 6.2-7.2 ft (1:40) 7.2-8.2 ft (1:42) 8.2-9.2 ft (1:45) 9.2-10.2 ft (3:20) 100% Recovery	
	R2	44.4/44.4	6.50 - 10.20	RQD = 32%							
								20.6		10.2	
										Bottom of Exploration at 10.2 feet below ground surface.	

Remarks: Drill Rig #283

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.: HB-SPO-109

Maine Department of Transportation — Boring No.: HB-SPO-110

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 31.6	Auger ID/OD:	N/A
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Ilungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/5/2023-6/5/2023	Drilling Methods: Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location: 187+00, 83.1 ft Rt.	Casing ID/OD: NW-3"	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = Split Spoon Sample; MS = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WS = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; WS = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOR = Weight of Rods or Casing; WOH = Weight of 140lb. Hammer; WOP = Weight of One Person; q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf); q_p = Pocket Torvane Shear Strength (psf); $S_{ur\,(qu)}$ = Lab Vane Unconfined Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor=60%=Mn/uncorrected; 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 f/6 in. Penetration or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/13	0.00 - 2.00	2/2/3/3	5	8	HW			Brown, moist, loose, fine to medium SAND, some silty, little gravel, trace coarse sand. (Fill), SM; HP=Hydraulic Push	
								29.0		2.5	
	2D	16.8/16.8	5.00 - 6.40	5/7/50|4.8"|	---					Brown to rust brown, moist, medium dense to very dense, Silty fine to medium SAND, trace coarse sand, trace gravel. (Marine Deposit), SM	
	R1	19.2/19.2	6.40 - 8.00	RQD = 0%			NQ-2			Top of Bedrock at Elev. 25.6 ft. R1: Bedrock Grey, aphanitic SCHIST, moderately hard, slightly weathered, joints dipping at moderate angles, very close to close spacing, tight to open. R1: Core Times (minsec) 6.4-7.4 ft (2:25) 7.4-8.0 ft (2:00) 100% Recovery R2: Bedrock Similar to R1, except joints dipping at moderate to high angles. R2: Core Times (minsec) 8.0-9.0 ft (1:59) 9.0-10.0 ft (2:01) 10.0-11.0 ft (1:25) 11.0-11.4 ft (2:00) 100% Recovery	
	R2	40.8/40.8	8.00 - 11.40	RQD = 15%							
								20.1		11.4	
										Bottom of Exploration at 11.4 feet below ground surface.	

Remarks: Drill Rig #283

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.: HB-SPO-110

Maine Department of Transportation — Boring No.: HB-SPO-111

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 31.2	Auger ID/OD:	N/A
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Ilungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/6/2023-6/6/2023	Drilling Methods: Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location: 188+25, 90.0 ft Rt.	Casing ID/OD: NW-3"	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = Split Spoon Sample; MS = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WS = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; WS = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOR = Weight of Rods or Casing; WOH = Weight of 140lb. Hammer; WOP = Weight of One Person; q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf); q_p = Pocket Torvane Shear Strength (psf); $S_{ur\,(qu)}$ = Lab Vane Unconfined Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor=60%=Mn/uncorrected; 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 f/6 in. Penetration or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/24	0.00 - 2.00	3/3/1/2	4	6	HW			Brown, moist, loose, Silty fine to medium SAND, trace coarse sand, trace fine gravel. (Fill), SM; HP=Hydraulic Push	
								29.8		1.5	
										Brown-grey, Silty CLAY, trace fine sand. (Marine Deposit), CL	
	2D	24/20	5.00 - 7.00	3/5/8/8	13	21					
								26.3		5.0	
										Brown to rust brown, moist, medium dense, Fine to medium SAND, some silt, trace coarse sand, trace fine gravel. (Marine Deposit), SM	
	R1	9.6/9.6	8.90 - 9.70	RQD = 90%			NQ-2			Top of Bedrock at Elev. 24.1 ft. R1: Bedrock Grey, aphanitic SCHIST, moderately hard, fresh, joints dipping at low to moderate angles, very close to close spacing, tight to open, quartz intrusions 12" dia. R1: Core Times (minsec) 8.9-9.7 ft (1:35) 100% Recovery R2: Bedrock Gray aphanitic SCHIST, moderately hard, joints dipping at low to moderate angles, very close to close spacing, tight, few quartz intrusions (2) dia. R2: Core Times (minsec) 9.7-10.7 ft (1:58) 10.7-11.7 ft (2:25) 11.7-12.7 ft (1:40) 12.7-13.9 ft (2:00) 78% Recovery	
	R2	50.4/39	9.70 - 13.90	RQD = 8%				22.4		8.9	
										Bottom of Exploration at 13.9 feet below ground surface.	

Remarks: Drill Rig #283

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.: HB-SPO-111

Maine Department of Transportation — Boring No.: HB-SPO-112

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 30.8	Auger ID/OD:	2.5" ID
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Ilungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/6/2023-6/6/2023	Drilling Methods: Hollow Stem Auger	Core Barrel:	N/A
Boring Location: 189+50, 98.0 ft Rt.	Casing ID/OD: N/A	Water Level(*):	5.0 ft bgs.

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = Split Spoon Sample; MS = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WS = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; WS = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOR = Weight of Rods or Casing; WOH = Weight of 140lb. Hammer; WOP = Weight of One Person; q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf); q_p = Pocket Torvane Shear Strength (psf); $S_{ur\,(qu)}$ = Lab Vane Unconfined Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor=60%=Mn/uncorrected; 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 f/6 in. Penetration or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/24	0.00 - 2.00	1/1/1/2	2	3	HW			Grey-brown, wet, soft, Clayey SILT, trace fine to medium sand, trace organics (plant roots). (Marine Deposit), ML	
	2D	24/24	5.00 - 7.00	4/4/6/6	10	16				Grey-brown, wet, very stiff, Clayey SILT, little fine sand, trace organics. (Marine Deposit), ML	
	3D	24/24	10.00 - 12.00	3/3/4/6	7	11				Grey, wet, stiff, Silty CLAY (Marine Deposit), CL	
								20.8		10.0	
								18.8		12.0	
										Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	

Remarks: Drill Rig #283

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.: HB-SPO-112

Maine Department of Transportation — Boring No.: HB-SPO-113

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 30.2	Auger ID/OD:	2.5" ID
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Ilungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/6/2023-6/6/2023	Drilling Methods: Hollow Stem Auger	Core Barrel:	N/A
Boring Location: 190+75, 107.0 ft Rt.	Casing ID/OD: N/A	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = Split Spoon Sample; MS = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WS = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; WS = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOR = Weight of Rods or Casing; WOH = Weight of 140lb. Hammer; WOP = Weight of One Person; q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf); q_p = Pocket Torvane Shear Strength (psf); $S_{ur\,(qu)}$ = Lab Vane Unconfined Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor=60%=Mn/uncorrected; 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 f/6 in. Penetration or RQD (%)	N-uncorrected	N60	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	1/1/2/2	3	5	HW			Dark brown-grey, moist, loose, fine to medium SAND, trace coarse sand, trace silt. (Fill), SM	
	2D	24/24	5.00 - 7.00	3/3/5/6	8	13		24.7		5.5	
										2D continued Brown-grey, wet, stiff, Silty CLAY. (Marine Deposit), CL	
	3D	24/24	10.00 - 12.00	3/3/3/3	6	9				Brown-grey, wet, stiff, Silty CLAY, trace fine sand. (Marine Deposit), CL	
								18.2		12.0	
										Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	

Remarks: Drill Rig #283

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

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Page 1 of 1 — Boring No.: HB-SPO-113

Maine Department of Transportation — Boring No.: HB-SPO-114

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 30.1	Auger ID/OD:	2.5" ID
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Ilungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/6/2023-6/6/2023	Drilling Methods: Hollow Stem Auger	Core Barrel:	N/A
Boring Location: 192+00, 116.0 ft Rt.	Casing ID/OD: N/A	Water Level(*):	5.0 ft bgs.

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = Split Spoon Sample; MS = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WS = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; WS = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOR = Weight of Rods or Casing; WOH = Weight of 140lb. Hammer; WOP = Weight of One Person; q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf); q_p = Pocket Torvane Shear Strength (psf); $S_{ur\,(qu)}$ = Lab Vane Unconfined Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor=60%=Mn/uncorrected; 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 f/6 in. Penetration or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/24	0.00 - 2.00	2/3/3/2	6	9	HW			Dark grey to grey, moist, loose, fine to medium SAND; little silt, trace coarse sand, trace gravel. (Fill), SM	
										5.0	
	2D	24/24	5.00 - 7.00	3/3/3/4	6	9		25.1		Grey, wet, stiff, Silty CLAY, trace fine to medium sand. (Marine Deposit), CL	
	3D	24/24	10.00 - 12.00	2/2/2/3	4	6				Grey, wet, medium stiff, Silty CLAY, trace fine to coarse sand. (Marine Deposit), CL	
								18.1		12.0	
										Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	

Remarks: Drill Rig #283

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

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Page 1 of 1 — Boring No.: HB-SPO-114

Maine Department of Transportation — Boring No.: HB-SPO-115

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295, Exit 4 — Location: South Portland, Maine — WIN: 24363.00

Driller: Northern Test Boring	Elevation (ft.): 22.4	Auger ID/OD:	2.5" ID
Operator: M.Nadeau	Datum: NAVD88	Sampler:	Standard Split Spoon
Logged By: J.Ilungo	Rig Type: Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish: 6/7/2023-6/7/2023	Drilling Methods: Hollow Stem Auger	Core Barrel:	N/A
Boring Location: 212+25, 115.0 ft Rt.	Casing ID/OD: N/A	Water Level(*):	None Observed

Hammer Efficiency Factor: 0.947 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions: D = Split Spoon Sample; MS = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WS = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; WS = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOR = Weight of Rods or Casing; WOH = Weight of 140lb. Hammer; WOP = Weight of One Person; q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf); q_p = Pocket Torvane Shear Strength (psf); $S_{ur\,(qu)}$ = Lab Vane Unconfined Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; Hammer Efficiency Factor=60%=Mn/uncorrected; 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 f/6 in. Penetration or RQD (%)	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	2/3/7/8	10	16	HW			Brown, dry, medium dense, fine to medium SAND, trace coarse sand, trace silt. (Fill), SP	
	2D	24/15	5.00 - 7.00	10/12/19/21	31	49				Brown-grey, moist, dense, fine SAND, little silt. (Fill), SM	
	3D	24/20	10.00 - 12.00	17/17/14/12	31	49				Brown, moist, dense, fine to medium SAND, little coarse sand, little gravel, trace silt. (Fill), SP	
								10.4		12.0	
										Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	

Remarks: Drill Rig #283

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

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Page 1 of 1 — Boring No.: HB-SPO-115

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300 — WIN 024363.00 — HIGHWAY PLANS

STATE OF MAINE ★ Kathleen Meguire ★ 7120 ★ PROFESSIONAL ENGINEER

PROJ. MANAGER			
DESIGN-DETAILED	D.COOMBS		
CHECKED-REVIEWED			
DESIGN2-DETAILED2	K.MAGUIRE		
DESIGN3-DETAILED3	T.WHITE	JUL 2023	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE
7120
P.E. NUMBER
8/10/2023
DATE

SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS
BORING LOGS

SHEET NUMBER
L27
OF L29

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-116
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.):	19.6	Auger ID/OD:	2.5" ID
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/7/2023-6/7/2023	Drilling Method:	Hollow Stem Auger	Core Barrel:	N/A
Boring Location:	213+50, 107.0 ft Rt.	Casing ID/OD:	N/A	Water Level(*):	None Observed
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
WO = 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
WD = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOP = Weight of One Person
S_u = Peak/Remolded Field Vane Unrashined Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Unrashined Shear Strength (psf)
q_u = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N/C = Hammer Efficiency Factor=60%/N-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 f/6 in. Drive Strength or RQD (%)	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	1/2/3/3	5	8	HSA			Brown, moist, loose, fine to medium SAND, trace silt, (Fill), SP	
5											
	2D	24/14	5.00 – 7.00	10/12/12/14	24	38				Brown-grey, moist, dense, fine SAND, little silt, (Fill), SP	
10											
	3D	24/8	10.00 – 12.00	19/14/27/22	41	65				Brown, dry, very dense, fine to coarse SAND, little fine gravel, trace silt, (Fill), SM	
15								7.6			
								12.0		Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
20											
25											

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil typest transitions may be gradual.
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Page 1 of 1
Boring No.: HB-SPO-116

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-117
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.):	18.1	Auger ID/OD:	2.5" ID
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/7/2023-6/7/2023	Drilling Method:	Hollow Stem Auger	Core Barrel:	N/A
Boring Location:	214+75, 101.0 ft Rt.	Casing ID/OD:	N/A	Water Level(*):	None Observed
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
WO = 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
WD = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOP = Weight of One Person
S_u = Peak/Remolded Field Vane Unrashined Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Unrashined Shear Strength (psf)
q_u = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N/C = Hammer Efficiency Factor=60%/N-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 f/6 in. Drive Strength or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0											
	1D	24/24	0.00 – 2.00	2/2/3/3	5	8	HSA			Dark brown, moist, loose, fine to medium SAND, trace silt, (Fill), SP	
5											
	2D	24/20	5.00 – 7.00	5/7/10/12	17	27				Brown, moist, medium dense, Silty SAND, (Fill), SM	
10											
	3D	24/20	10.00 – 12.00	16/14/10/10	24	38				Grey, moist, medium dense, fine to medium SAND, little silt, trace fine gravel, (Fill), SM	
15								6.1			
								12.0		Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
20											
25											

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil typest transitions may be gradual.
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Page 1 of 1
Boring No.: HB-SPO-117

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-118
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.):	15.7	Auger ID/OD:	2.5" ID
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/7/2023-6/7/2023	Drilling Method:	Hollow Stem Auger	Core Barrel:	N/A
Boring Location:	216+00, 96.4 ft Rt.	Casing ID/OD:	N/A	Water Level(*):	None Observed
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
WO = 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
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WOR/C = Weight of Rods or Casing
WOP = Weight of One Person
S_u = Peak/Remolded Field Vane Unrashined Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Unrashined Shear Strength (psf)
q_u = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N/C = Hammer Efficiency Factor=60%/N-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 f/6 in. Drive Strength or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0											
	1D	24/18	0.00 – 2.00	2/2/3/3	5	8	HSA			Dark brown, moist, loose, fine to medium SAND, little silt, trace coarse sand, trace gravel, (Fill), SM	
5											
	2D	24/17	5.00 – 7.00	10/7/6/6	13	21				Brown, moist, medium dense, fine to medium SAND, some silt, trace coarse sand, occasionally bandes, (Fill), SM	
10											
	3D	24/24	10.00 – 12.00	3/3/3/3	6	9				SD similar to 2D, except loose, (Fill), SM	
15								3.7			
								12.0		Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
20											
25											

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil typest transitions may be gradual.
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Page 1 of 1
Boring No.: HB-SPO-118

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-119
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.):	15.4	Auger ID/OD:	2.5" ID
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/7/2023-6/7/2023	Drilling Method:	Hollow Stem Auger	Core Barrel:	N/A
Boring Location:	217+25, 92.0 ft Rt.	Casing ID/OD:	N/A	Water Level(*):	None Observed
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
WO = 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
WD = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOP = Weight of One Person
S_u = Peak/Remolded Field Vane Unrashined Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Unrashined Shear Strength (psf)
q_u = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N/C = Hammer Efficiency Factor=60%/N-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 f/6 in. Drive Strength or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0											
	1D	24/18	0.00 – 2.00	2/2/3/4	5	8	HSA			Dark brown to brown, dry, loose, fine to medium SAND, some silt, trace coarse sand, trace gravel, (Fill), SM	
5											
	2D	24/24	5.00 – 7.00	3/4/14/16	18	28				2D similar to 1D, except moist, medium dense, (Fill), SM	
10											
	3D	24/20	10.00 – 12.00	14/17/16/19	33	52				3D similar to 1D, except moist, very dense, (Fill), SM	
15								3.4			
								12.0		Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
20											
25											

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil typest transitions may be gradual.
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Page 1 of 1
Boring No.: HB-SPO-119

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-120
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.):	15.3	Auger ID/OD:	2.5" ID
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/7/2023-6/7/2023	Drilling Method:	Hollow Stem Auger	Core Barrel:	N/A
Boring Location:	218+50, 88.0 ft Rt.	Casing ID/OD:	N/A	Water Level(*):	None Observed
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
WO = 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
WD = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOP = Weight of One Person
S_u = Peak/Remolded Field Vane Unrashined Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Unrashined Shear Strength (psf)
q_u = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N/C = Hammer Efficiency Factor=60%/N-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 f/6 in. Drive Strength or RQD (%)	N-uncorrected	N60	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	2/3/2/3	5	8	HSA			Dark brown, moist, loose, fine to medium SAND, some gravel, trace coarse sand, trace silt, (Fill), SP	
5											
	2D	24/24	5.00 – 7.00	2/7/10/14	17	27				Brown-grey, moist, medium dense, fine to medium SAND, little silt, trace coarse sand, trace gravel, (Fill), SM	
10											
	3D	24/17	10.00 – 12.00	15/14/22/27	36	57				Brown, moist, very dense, fine SAND, little silt, (Marine Deposit), SM	
15								5.3			
								10.0			
								3.3			
								12.0		Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
20											
25											

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil typest 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.: HB-SPO-120

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-121
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.):	29.1	Auger ID/OD:	N/A
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/8/2023-6/8/2023	Drilling Method:	Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location:	114463.3, 48.4 ft Lt.	Casing ID/OD:	NW-3"	Water Level(*):	None Observed
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
WO = 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
WD = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOP = Weight of One Person
S_u = Peak/Remolded Field Vane Unrashined Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Unrashined Shear Strength (psf)
q_u = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N/C = Hammer Efficiency Factor=60%/N-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 f/6 in. Drive Strength or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0											
	1D		0.00 – 2.00	2/2/3/5	5	8	HP			Brown, moist, loose, fine SAND, trace medium sand, trace silt, (Marine Deposit), SP HP=Hydraulic Push	
5											
	2D	24/24	5.00 – 7.00	2/2/2/2	4	6				2D continued Grey, wet, medium stiff, Silty CLAY, fine sandy silt layers, (Marine Deposit), CL	
10								23.6		-5.5-	
	3V1	24/24	10.00 – 12.00	WOH/WOH/WOH/WOH Su=685/95 psf	---					Grey, wet, stiff, Silty CLAY, (Marine Deposit), CL 65x130 mm vane raw torque readings: V1: 290/40 lin-lbs Failed 65x130 mm vane attempt.	
	MV		11.00 – 11.57	Vane Refusal							
15	4V2	24/24	15.00 – 17.00	WOH/WOH/WOH/WOH Su=1140/10 psf	---					Grey, wet, stiff, Silty CLAY, (Marine Deposit), CL 65x130 mm vane raw torque readings: V2: 480/50 lin-lbs Failed 65x130 mm vane attempt.	
	MV		16.00 – 16.57	Vane Refusal							
20	5V3	24/24	20.00 – 22.00	1/2/2/3 Su= 1211 psf	4	6				Grey, wet, stiff, Silty CLAY, (Marine Deposit), CL 65x130 mm vane raw torque readings: *is greater than maximum torque	
			21.00					7.1			
25								22.0		Bottom of Exploration at 22.0 feet below ground surface. NO REFUSAL	

Remarks:
Drill Rig #283

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Page 1 of 1
Boring No.: HB-SPO-121

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-122
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.):	23.5	Auger ID/OD:	2.5" ID
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/8/2023-6/8/2023	Drilling Method:	Hollow Stem Auger	Core Barrel:	N/A
Boring Location:	199+10.1, 100.5 ft Rt.	Casing ID/OD:	N/A	Water Level(*):	None Observed
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

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SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOP = Weight of One Person
S_u = Peak/Remolded Field Vane Unrashined Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Unrashined Shear Strength (psf)
q_u = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N/C = Hammer Efficiency Factor=60%/N-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 f/6 in. Drive Strength or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0											
	1D	24/18	0.00 – 2.00	2/3/3/5	6	9	HSA			Brown-grey, moist, loose, fine SAND, little silt, trace medium to coarse sand, (Fill), SM	
5											
	2D	24/18	5.00 – 7.00	24/25/31/37	56	88				Brown, moist, very dense, fine SAND, little silt, trace medium to coarse sand, (Fill), SM	
10											
	3D	24/17	10.00 – 12.00	38/31/34/37	65	103				3D similar to 2D, except trace fine gravel, (Fill), SM	
15											
	4D	24/19	15.00 – 17.00	25/24/30/33	54	85				Brown, moist, very dense, fine SAND, some silt, trace medium to coarse sand, trace fine gravel, (Fill), SM	
20								1.5			
	5D	24/24	20.00 – 22.00	39/41/45/47	86	136				Brown, wet, very dense, fine SAND, some silt, trace medium to coarse sand, trace fine gravel, (Fill), SM	
25								22.0		Bottom of Exploration at 22.0 feet below ground surface. NO REFUSAL	

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil typest transitions may be gradual.
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Page 1 of 1
Boring No.: HB-SPO-122

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-123
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.):	37.2	Auger ID/OD:	2.5" ID
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/8/2023-6/8/2023	Drilling Method:	Hollow Stem Auger	Core Barrel:	N/A
Boring Location:	105+06.8, 60.0 ft Lt.	Casing ID/OD:	N/A	Water Level(*):	None Observed
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
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WO = Unsuccessful Split Spoon Sample Attempt
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WU = Unsuccessful Thin Wall Tube Sample Attempt
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R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOP = Weight of One Person
S_u = Peak/Remolded Field Vane Unrashined Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Unrashined Shear Strength (psf)
q_u = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N/C = Hammer Efficiency Factor=60%/N-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 f/6 in. Drive Strength or RQD (%)	N-uncorrected	N60	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	2/4/5/7	9	14	HSA			Brown, moist, medium dense, fine SAND, some silt, trace fine to medium sand, trace fine gravel, (Fill), SM	
5											
	2D	24/17	5.00 – 7.00	29/27/37/26	64	101				Grey, dry, very dense, fine to coarse SAND, little gravel, little silt, well graded, (Fill), SM	
10											
	3D	24/14	10.00 – 12.00	37/32/32/38	64	101				Brown-grey, dry 7" top of spoon and moist 7" bottom of spoon, very dense, fine SAND, some silt, trace medium to coarse sand, trace gravel, (Fill), SM	
15											
	4D	24/14	15.00 – 17.00	21/25/29/32	54	85				Brown, moist, very dense, fine SAND, little silt, trace medium to coarse sand, trace fine gravel, (Fill), SM	
20								15.2			
	5D	24/15	20.00 – 22.00	36/32/33/39	65	103				Brown, moist, very dense, fine SAND, trace silt, trace fine to coarse sand, trace gravel, (Fill), SP	
25								22.0		Bottom of Exploration at 22.0 feet below ground surface. NO REFUSAL	

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil typest transitions may be gradual.
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Page 1 of 1
Boring No.: HB-SPO-123

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300
WIN
024363.00
HIGHWAY PLANS

STATE OF MAINE ★ Kathleen Meguire ★ 7120 ★ PROFESSIONAL ENGINEER

	BY	DATE
PROJ. MANAGER	D.COOMBS	
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGN2-DETAILED2	K.MAGUIRE	JUL 2023
DESIGN3-DETAILED3	T.WHITE	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE
7120
P.E. NUMBER
8/10/2023
DATE

SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

BORING LOGS

SHEET NUMBER
L28
OF L29

Date:8/7/2023
Username: terry.white
Filename: ...\MSTA\028_L28_BORING LOGS3.dgn Division: GEOTECH

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-124
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.)	21.8	Auger ID/OD:	2.5" ID
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/26/2023-6/26/2023	Drilling Method:	Hollow Stem Auger	Core Barrel:	N/A
Boring Location:	302+67. 162.6 ft Lt.	Casing ID/OD:	N/A	Water Level*:	None Observed
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Catheod ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test. PP = Pocket Penetrometer WOR/C = Weight of Rods or Casing
WH = Unsuccessful Field Vane Shear Test Attempt WOH = Weight of the Person
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
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)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
Nu = Hammer Efficiency Factor/60%*N-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 /6 in. (Resistance) 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								21.6		Root Material (Topsoil). 0.2	
	10	24/13	0.00 – 2.00	2/2/2/3	4	6	HSA			(101) Brown-grey, moist, loose, fine SAND, little silt, little gravel, little silt. Frequent moderately banded silty sand modules. (Marine Deposit). SM	
5	20	24/17	5.00 – 7.00	15/17/12/10	29	46				Brown-grey, moist, dense, fine to coarse SAND, little gravel, little silt. Frequent moderately banded silty sand modules. (Marine Deposit). SM	
10	30	24/20	10.00 – 12.00	16/15/16/17	31	49				Brown, moist, dense, fine SAND, little silt. (Marine Deposit). SM	
15	40	16.8/15	15.00 – 16.40	35/36/50(4.8")	---					Grey-brown, moist, very dense, fine to medium SAND, little silt, trace fine gravel. (Marine Deposit). SM	
20	50	24/19	20.00 – 22.00	12/12/15/16	27	43		-0.2		Grey-brown, wet, dense, fine to medium SAND, trace silt, trace coarse sand. (Marine Deposit). SP	
22										Bottom of Exploration at 22.0 feet below ground surface. NO REFUSAL 22.0	

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
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Page 1 of 1
Boring No.: HB-SPO-124

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-125
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.)	28.7	Auger ID/OD:	N/A
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/6/2023-6/6/2023	Drilling Method:	Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location:	194+05.5. 80.8 ft Rt.	Casing ID/OD:	NW-3"	Water Level*:	None Observed
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Catheod ☐		

Definitions:
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R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
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)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
Nu = Hammer Efficiency Factor/60%*N-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 /6 in. (Resistance) 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								28.7			
	10	24/16	0.00 – 2.00	3/5/8/9	13	21	HSA			Brown-grey, dry, medium dense, fine SAND, trace silt, trace medium to coarse sand, trace fine gravel, trace roots. (Fill). SM HP=Hydraulic Push	
5	20	24/11	5.00 – 7.00	5/7/17/24	24	38		23.7		Brown, dry to moist, medium dense, fine SAND, little silt, little gravel, trace medium to coarse sand. (Marine Deposit). SM 5.0	
10	30	24/21	10.00 – 12.00	18/21/22/24	43	68				Brown, moist, very dense, fine to medium SAND, little silt, trace coarse sand, trace gravel. Intermittently well-bonded. (Marine Deposit). SM	
15	40	24/24	15.00 – 17.00	18/22/27/29	49	77				Brown, wet, very dense, fine to medium SAND, little silt, trace coarse sand, trace fine gravel. Intermittently well-bonded. (Marine Deposit). SM	
20	50	24/13	20.00 – 22.00	12/18/18/47	36	57		6.7		Brown, dry, very dense, fine SAND, some silt, little medium to coarse, trace fine to coarse gravel. Intermittently well-bonded. (Marine Deposit). SM	
22										Bottom of Exploration at 22.0 feet below ground surface. NO REFUSAL 22.0	

Remarks:
Drill Rig #283

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Page 1 of 1
Boring No.: HB-SPO-125

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-126
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.)	30.5	Auger ID/OD:	N/A
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/6/2023-6/6/2023	Drilling Method:	Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location:	199+25. 122.7 ft Rt.	Casing ID/OD:	NW-3"	Water Level*:	5.0 ft bgs.
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Catheod ☐		

Definitions:
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RC = Roller Cone
WOH = Weight of 140lb. Hammer
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)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
Nu = Hammer Efficiency Factor/60%*N-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 /6 in. (Resistance) 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								30.5			
	10	24/24	0.00 – 2.00	1/2/4/4	6	9	HSA			Grey-brown, dry, loose, fine SAND, some silt, trace medium sand. (Fill). SM	
5	20	24/24	5.00 – 7.00	2/3/3/3	6	9	HP	25.5		Grey-brown, wet, stiff, fine Sandy SILT. (Marine Deposit). ML 5.0 HP=Hydraulic Push	
10	30	24/24	10.00 – 12.00	1/1/1/1	2	3		22.5		Encountered CLAY at 8.0 ft bgs. 8.0 Grey, wet, soft, Silty CLAY. (Marine Deposit). CL	
15	40 V1	24/24	15.00 – 17.00	Hydraulic Push Sum600/120 psf						Grey, wet, medium stiff, Silty CLAY. CL 65x130 mm vane row torque readings V1: 340/40 in-lbs	
	V2		16.00 – 16.57 – 17.00	Sum605/120 psf						V2: 340/50 in-lbs	
20	50 V3	24/24	20.00 – 22.00 49.59	Hydraulic Push Sum920/120 psf				8.5		Grey, wet, medium stiff, Silty CLAY. (Marine Deposit). CL 65x130 mm vane row torque readings V3: 350/50 in-lbs	
	V4		20.19 – 21.56 – 21.99	Sum950/120 psf						V4: 400/50 in-lbs	
22										Bottom of Exploration at 22.0 feet below ground surface. NO REFUSAL 22.0	

Remarks:
Drill Rig #283

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.: HB-SPO-126

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-127
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.)	27.2	Auger ID/OD:	N/A
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/6/2023-6/6/2023	Drilling Method:	Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location:	203+80.9. 180.2 ft Rt.	Casing ID/OD:	NW-3"	Water Level*:	10.0 ft bgs.
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Catheod ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test. PP = Pocket Penetrometer WOR/C = Weight of Rods or Casing
WH = Unsuccessful Field Vane Shear Test Attempt WOH = Weight of the Person
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
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)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
Nu = Hammer Efficiency Factor/60%*N-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 /6 in. (Resistance) 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								27.2			
	10	24/13	0.00 – 2.00	1/2/3/4	5	8	HSA			Brown, moist, loose, fine SAND, little silt, trace medium to coarse sand, trace organics. (Fill). SM HP=Hydraulic Push	
5	20	24/17	5.00 – 7.00	3/3/2/2	5	8		22.2		Brown, moist, loose, fine SAND, little silt. (Marine Deposit). SM 5.0	
10	30	24/24	10.00 – 12.00	1/1/1/1	2	3				Brown-grey, wet, very loose, fine SAND, trace silt. (Marine Deposit). SP	
15	40	24/9	15.00 – 17.00	5/4/5/7	9	14				Brown-grey, wet, medium dense, fine SAND, little silt, trace coarse gravel. (Marine Deposit). SM	
20	50	24/24	20.00 – 22.00	2/3/3/3	6	9		5.2		Brown-grey, wet, loose, fine SAND, some silt. (Marine Deposit). SM	
22										Bottom of Exploration at 22.0 feet below ground surface. NO REFUSAL 22.0	

Remarks:
Drill Rig #283

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
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Page 1 of 1
Boring No.: HB-SPO-127

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

Project: I-295, Exit 4
Location: South Portland, Maine

Boring No.: HB-SPO-128
WIN: 24363.00

Driller:	Northern Test Boring	Elevation (ft.)	38.6	Auger ID/OD:	2.5" ID
Operator:	M.Nadeau	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	J.Ilungo	Rig Type:	Diedrich D-50 (Track)	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	6/7/2023-6/7/2023	Drilling Method:	Hollow Stem Auger	Core Barrel:	N/A
Boring Location:	210+36.2. 232.5 ft Rt.	Casing ID/OD:	N/A	Water Level*:	None Observed
Hammer Efficiency Factor: 0.947		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Catheod ☐		

Definitions:
D = Split Spoon Sample
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U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample Attempt
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S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
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N-uncorrected = Raw Field SPT N-value
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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 /6 in. (Resistance) 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								38.6			
	10	24/14	0.00 – 2.00	2/6/6/7	12	19	HSA			Dark-brown, moist, medium dense, fine SAND, little medium to coarse sand, little silt, little fine to coarse gravel. (Fill). SM	
5	20	24/18	5.00 – 7.00	3/2/3/3	5	8		33.6		Brown, moist, loose, fine SAND, some silt, trace coarse gravel. (Marine Deposit). SM 5.0	
10	30	24/13	10.00 – 12.00	2/5/5/4	10	16				Brow, moist, medium dense, fine SAND, little silt. (Marine Deposit). SM	
15	40	24/20	15.00 – 17.00	7/11/11/14	22	35				Brown, moist, dense, fine SAND, little silt. (Marine Deposit). SM	
20	50	24/16	20.00 – 22.00	7/14/12/11	26	41		16.6		50 similar to 40. (Marine Deposit). SM	
22										Bottom of Exploration at 22.0 feet below ground surface. NO REFUSAL 22.0	

Remarks:
Drill Rig #283

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Page 1 of 1
Boring No.: HB-SPO-128

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2436300
WIN
024363.00

HIGHWAY PLANS

STATE OF MAINE ★ Kathleen Meguire 7120 ★ PROFESSIONAL ENGINEER

PROJ. MANAGER	D.COOMBS		
DESIGN-DETAILED	-----	BY	-----
CHECKED-REVIEWED	-----	-----	-----
DESIGN2-DETAILED2	K.MAGUIRE	T.WHITE	JUL 2023
DESIGN3-DETAILED3	-----	-----	-----
REVISIONS 1	-----	-----	-----
REVISIONS 2	-----	-----	-----
REVISIONS 3	-----	-----	-----
REVISIONS 4	-----	-----	-----
FIELD CHANGES	-----	-----	-----

SIGNATURE 7120
P.E. NUMBER
8/10/2023
DATE

SOUTH PORTLAND
I-295 EXIT 4 SB ACCESS

BORING LOGS

SHEET NUMBER
L29
OF L29

Filename: ...\MSTA\029_L29_BORING LOGS4.dgn Division: GEOTECH Username: terry.white Date:8/7/2023