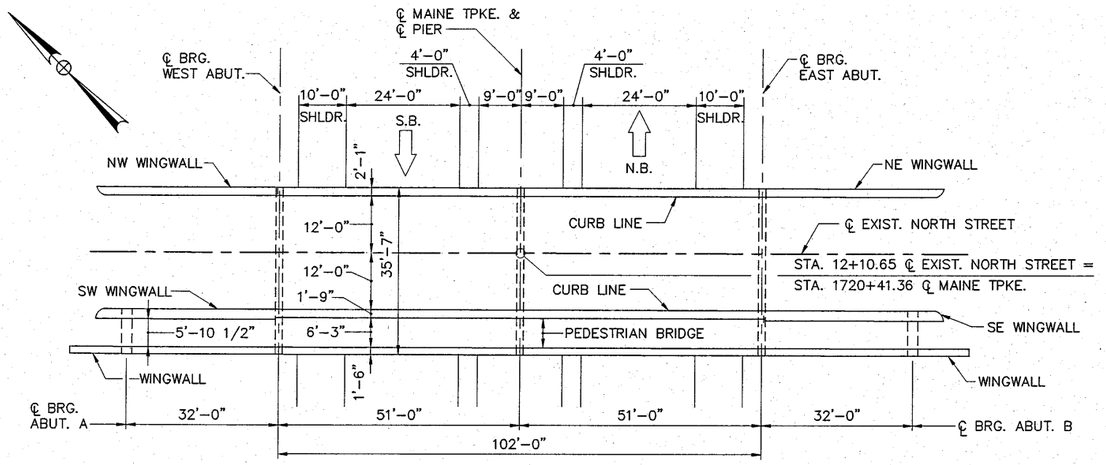
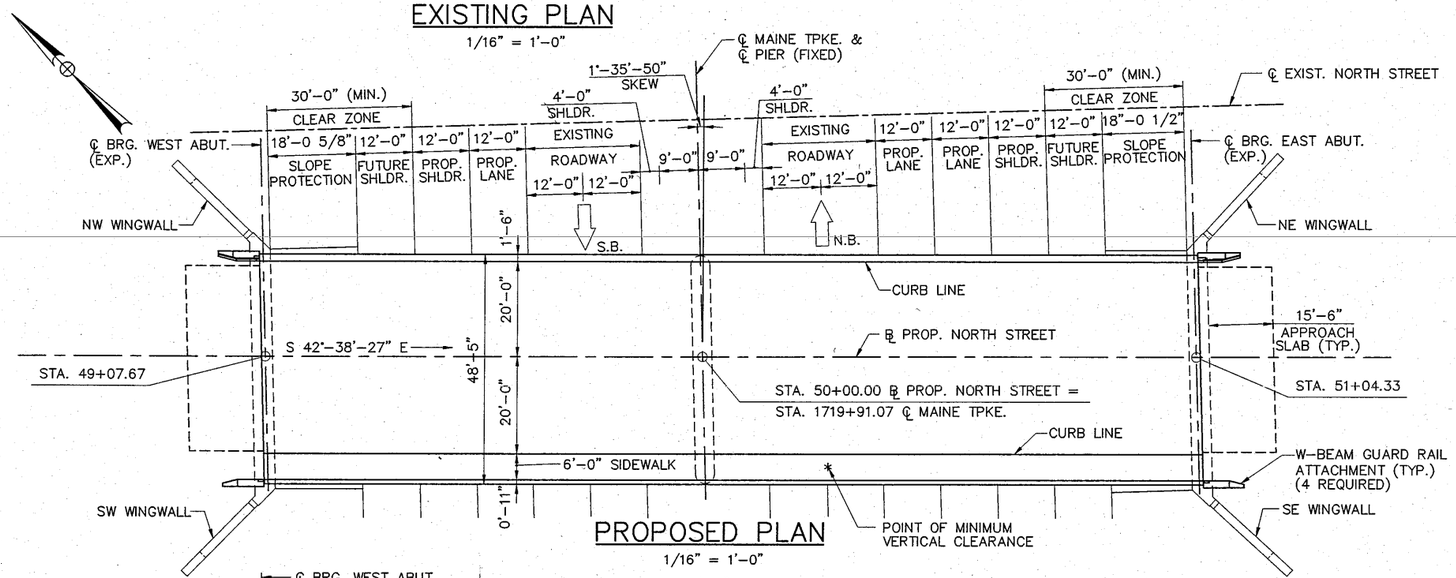


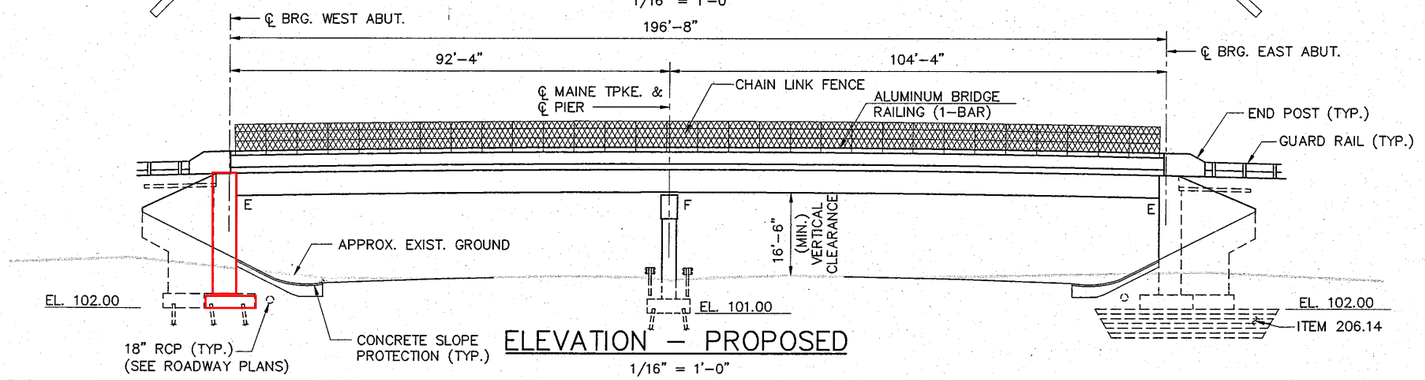
EXISTING PLAN

1/16" = 1'–0"



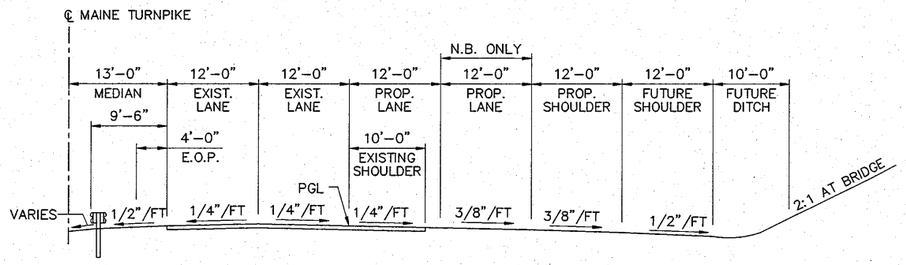
PROPOSED PLAN

1/16" = 1'–0"



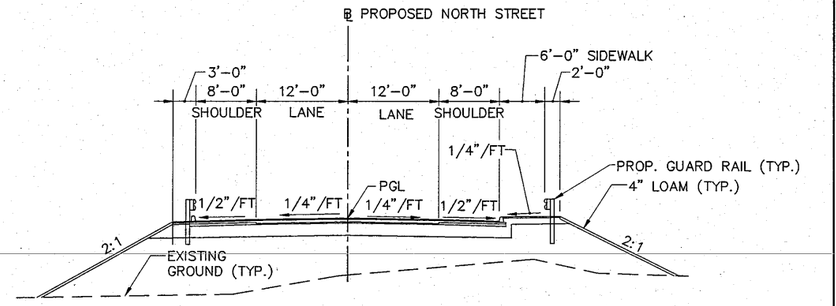
ELEVATION – PROPOSED

1/16" = 1'–0"



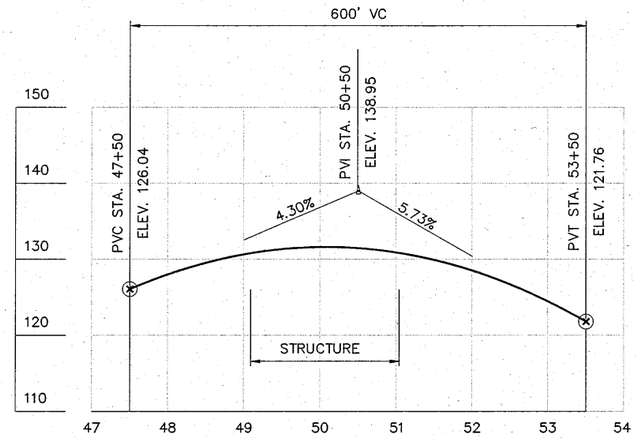
HALF APPROACH SECTION MAINE TURNPIKE

1" = 10'



APPROACH SECTION NORTH STREET

1" = 10'



PROPOSED PROFILE

HORIZ. 1" = 100'
VERT. 1" = 10'

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Scale:

No.	Revision	By	Date

Designed by: Edwards AND Kelcey
THE SCHRAFFT CENTER
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	By	Date		By	Date
Designed	SBH	DEC. 2001	Checked	DWC	DEC. 2001
Drawn	SMG	DEC. 2001	In Charge of	DWC	DEC. 2001

PE Stamp:

Approved by: HNTB
HNTB CORPORATION
ARCHITECTS ENGINEERS PLANNERS
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FAX (207) 772–7410

MAINE TURNPIKE AUTHORITY
MODERNIZATION AND WIDENING PROJECT
The Widening

BRIDGE REPLACEMENT NORTH STREET UNDERPASS PLAN & ELEVATION

CONTRACT: 2002.01

SHEET NUMBER: NS–S1
191 OF 257

GENERAL NOTES

SPECIFICATIONS

DESIGN

AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES SIXTEENTH EDITION 1996 WITH LATEST INTERIM REVISIONS.

CONSTRUCTION

STATE OF MAINE, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, REVISION OF APRIL 1995.

DESIGN LOADING

LIVE LOAD

HS 25–44, 500,000 CYCLES

DESIGN METHOD

LOAD FACTOR DESIGN

MATERIALS

CONCRETE

f'c = 4,500 P.S.I. (CLASS AAA)

REINFORCING STEEL

AASHTO M31 GRADE 60, (EPOXY–COATED AND UNCOATED BARS).

fy = 60,000 P.S.I.

STRUCTURAL STEEL

WELDED GIRDERS: FLANGES, WEBS, SPLICE PLATES, BEARING STIFFENERS AND BEARING REINFORCEMENT PLATES SHALL BE AASHTO M270, GRADE 50, Fy = 50,000 P.S.I.

ALL OTHER STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 36, Fy = 36,000 P.S.I.

HIGH STRENGTH BOLTS SHALL BE AASHTO M164

SUMMARY OF BRIDGE QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
202.1933	REMOVING EXISTING BRIDGE – NORTH STREET	L.S.	1
206.082	STRUCTURAL EARTH EXCAVATION – MAJOR STRUCTURES	C.Y.	3000
206.10	STRUCTURAL EARTH EXCAVATION – PIERS	C.Y.	150
206.14	SPECIAL BACKFILL	C.Y.	770
304.10	AGGREGATE SUBBASE COURSE – GRAVEL	C.Y.	1850
403.08	HOT BITUMINOUS PAVEMENT, GRADING C	TON	150
501.231	DYNAMIC LOADING TEST	EACH	2
501.40	STEEL H–BEAM PILES 53 LBS/FT, DELIVERED	L.F.	1350
501.401	STEEL H–BEAM PILES 53 LBS/FT, IN PLACE	L.F.	1350
501.90	PILE TIPS	EACH	89
502.2192	STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS – NORTH STREET (830 C.Y.)*	L.S.	1
502.239	STRUCTURAL CONCRETE PIERS (84 C.Y.)*	L.S.	1
502.263	STRUCTURAL CONCRETE ROADWAY AND END POSTS ON STEEL BRIDGES (280 C.Y.)*	L.S.	1
502.264	STRUCTURAL CONCRETE PARAPETS (39 C.Y.)*	L.S.	1
502.265	STRUCTURAL CONCRETE SIDEWALK (58 C.Y.)*	L.S.	1
502.31	STRUCTURAL CONCRETE APPROACH SLAB (30 C.Y.)*	L.S.	1
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	LB.	68,200
503.13	REINFORCING STEEL, PLACING	LB.	68,200
503.14	EPOXY–COATED REINFORCING STEEL, FABRICATED AND DELIVERED	LB.	128,400
503.15	EPOXY–COATED REINFORCING STEEL, PLACING	LB.	128,400
504.702	STRUCTURAL STEEL FABRICATED AND DELIVERED, WELDED (21,100 LBS. GRADE 36, 259,300 LBS. GRADE 50)*	L.S.	1
504.71	STRUCTURAL STEEL ERECTION (280,400 LBS.)*	L.S.	1
505.09	STUD WELDED SHEAR CONNECTORS (2,800 EA.)*	L.S.	1
506.30	SHOP COATING OF STRUCTURAL STEEL (280,400 LBS.)*	L.S.	1
506.31	FIELD REPAIR OF DAMAGED COATING	L.S.	1
507.091	ALUMINUM BRIDGE RAILING, 1–BAR (202 L.F.)*	L.S.	1
507.0922	ALUMINUM BRIDGE RAILING, 2–BAR (202 L.F.)*	L.S.	1
508.132	MEMBRANE WATERPROOFING – NORTH STREET (950 S.Y.)*	L.S.	1
511.0912	TEMPORARY EARTH SUPPORT SYSTEM – NORTH STREET	L.S.	1
512.0812	FRENCH DRAINS (180 L.F.)* – NORTH STREET	L.S.	1
513.09	SLOPE PROTECTION – PORTLAND CEMENT CONCRETE	S.Y.	240
514.06	CURING BOX FOR CONCRETE CYLINDERS	EACH	1
515.202	CLEAR PROTECTIVE COATING FOR CONCRETE SURFACES	S.Y.	670
520.221	EXPANSION DEVICE – LOCKING COMPRESSION SEAL WITH STEEL EDGE BEAMS (95 L.F.)*	EACH	2
523.31	ELASTOMERIC BEARING ASSEMBLY	EACH	18
524.40	PROTECTIVE SHIELD	S.Y.	1000
607.18	CHAIN LINK FENCE, 9–FT.–2–IN.	L.F.	196
609.132	VERTICAL BRIDGE CURB TYPE 1B	L.F.	213
609.15	SLOPED CURB TYPE 1	L.F.	214

* QUANTITIES FOR ESTIMATING PURPOSES ONLY

INDEX OF DRAWINGS

NOTES

1. COPIES OF AS–BUILT PLANS ARE ON FILE AT THE MAINE TURNPIKE AUTHORITY. A PORTION OF THESE PLANS ARE INCLUDED IN THIS CONTRACT FOR THE CONTRACTOR'S CONVENIENCE. THE COMPLETENESS AND ACCURACY OF THESE PLANS IS NOT GUARANTEED.
2. ALL PROPOSED ELEVATIONS REFERENCE THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988. THE ELEVATIONS REFERENCED ON THE AS–BUILT PLANS MAY DIFFER.
3. FOR ADDITIONAL DETAILS REFERENCED OR NOT SHOWN IN THESE DRAWINGS, SEE THE STATE OF MAINE, DEPARTMENT OF TRANSPORTATION, STANDARD DETAILS, HIGHWAYS AND BRIDGES, APRIL 1997.
4. ALL EXISTING DIMENSIONS AND DETAILS ARE TAKEN FROM ORIGINAL DESIGN DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND EXISTING DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENT AND SURVEY.
5. NORTH STREET WAS FORMERLY KNOWN AS BUXTON ROAD – STATE ROUTE 112.

ABBREVIATIONS

S.B.	SOUTHBOUND
N.B.	NORTHBOUND
N.F.	NEAR FACE
F.F.	FAR FACE
E.F.	EACH FACE
T	TOP
B	BOTTOM
&	AND
TYP.	TYPICAL
EXIST.	EXISTING
PROP.	PROPOSED
ABUT.	ABUTMENT
U.O.N.	UNLESS OTHERWISE NOTED

AS–BUILT PLANS

SHEET NO.	TITLE
IC83.1	GENERAL PLAN AND ELEVATION
IC83.2	ABUTMENTS
IC83.3	CENTER PIER
IC83.4	FRAMING PLAN AND BEAM DETAILS
11 OF 17	DECK REINFORCING
2	GENERAL PLAN & ELEVATION
3	FOOTING PLAN, ABUTMENTS & WINGWALL DETAILS
4	PIER DETAILS
5	FRAMING PLAN & STEEL DETAILS
6	DECK PLAN & DETAILS

Scale:

No.	Revision	By	Date

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	By	Date		By	Date
Designed	JJW	DEC. 2001	Checked	SBH	DEC. 2001
Drawn	SMG	DEC. 2001	In Charge of	DWC	DEC. 2001

PE Stamp:

Approved by: HNTB
HNTB CORPORATION
ARCHITECTS ENGINEERS PLANNERS
2 Thomas Drive
Westbrook, ME 04092
TEL (207) 774–5155
FAX (207) 772–7410

MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT
THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
INDEX & QUANTITIES

SHEET NUMBER: NS–S2
CONTRACT: 2002.01
192 OF 257

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TEST PIT LOG B33-1

Project: Buxton Road Bridge
Location: Saco, Maine
Approximate Surface Elevation: 125.3
Ground Water Depth: 20' ±
Client: HNTB Corporation
Date: 7-27-99
Project No. 600-36

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE #	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	GRAIN SIZE %	Lab Tests
0			S-1	Asphalt (0.4').	12	67	120		
				FILL: gravelly sand, very dense, dry, coarse to fine sand, some gravel, trace silt, brown (roadway base/subbase material).		50 50			
			S-2	FILL: sand, dense, dry then moist, medium to fine sand, trace to little silt, brown.	14	15 25 26 29	55		
5			S-3		16	13 21 29	50	13	GS
10			S-4		14	16 20 24	44		
			S-5	Becomes silty.	14	25 10 30	70		
15			S-6		20	40 44 23	35		
			S-7	SILTY CLAY (CL); hard, dry, olive-brown. Pocket Penetrometer: Su = 4.5 ksf.	24	21 14 16 18	34		
20			S-8	Becomes moist.	24	23 36 18 30 47 51	77		
25			S-9	Some thick (6" to 8") sand-silty sand seams/lenses, stratified.	24	32 13 11 10	24		
				GRAVELLY SILTY SAND (SM); dense, wet, coarse to fine sand, some coarse to fine gravel, little silt, trace cobbles, brown then gray (Glacial Till).					
30			S-10		20	28 29 13 21	42		
			S-11		10	8			

R.W. Gillespie & Associates, Inc.
Saco, Maine

TEST PIT LOG B33-1

Project: Buxton Road Bridge
Location: Saco, Maine
Approximate Surface Elevation: 125.3
Ground Water Depth: 20' ±
Client: HNTB Corporation
Date: 7-27-99
Project No. 600-36

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE #	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	GRAIN SIZE %	Lab Tests
35				Top of Bedrock at 34.8'. Began 2" diameter rock core at 36'. R-1 (36' to 41'); medium hard, moderately weathered, light gray, fine grain PHYLITE, Cape Elizabeth Formation with close, moderately dipping to high angle, undulating, smooth, decomposed, closed foliation joints with some secondary mineralization and healed jointing.		31 4 25/0	56+		
40				Recovery = 36/60, RQD = 0 Depth (Ft) Time (min) 36.0 to 37.0 1.0 37.0 to 38.0 3.0 38.0 to 39.0 5.0 39.0 to 40.0 6.0 40.0 to 41.0 6.0					
45				R-2 (41 to 46'); same as R-1. Rec. = 40/60 RQD = 6 41.0 to 42.0 5.0 42.0 to 43.0 5.0 43.0 to 44.0 6.0 44.0 to 45.0 7.0 45.0 to 46.0 6.0					
50				Bottom of Exploration at 46.0'.					
55									
60									
65									

R.W. Gillespie & Associates, Inc.
Saco, Maine

TEST PIT LOG B33-2-OW

Project: Buxton Road Bridge
Location: Saco, Maine
Approximate Surface Elevation: 109.8
Ground Water Depth: 6.8'
Client: HNTB Corporation
Date: 07-07-99
Project No. 600-36

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE #	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	GRAIN SIZE %	Lab Tests
0			S-1	Topsoil and Organic Material (0.8').	12	7	36	17	MC
				SILTY CLAY (CL); hard, dry, olive brown.		18 18 28			
5			S-2	Becomes moist.	12	19 29 36 48	65	21	MC
10			S-3	Becomes coarse at 8.5'. Pocket Penetrometer: Undrained Shear Strength, Su = 1.0 ksf Becomes stiff to medium stiff. Seam of fine sand (1") thick at 9.5'.	24	4 7 9	13	31	MC
15			S-4	Cobble at 13.5'. Becomes wet, gray. Seam of fine sand (1/4") thick at 15.5'. Atterberg Limits: L = 25, PL = 15. Attempted Field Vane at 17.1', too stiff, probable cobble.	24	WOR/ 24"		31	AL
20			S-5	GRAVELLY SILTY SAND (SM); very dense, wet, coarse to fine sand, some coarse to fine gravel, trace silt, gray, (GLACIAL TILL).	0.5	15 93/5 29 26	54		
				Top of bedrock at 22.3'. Began 2" diameter rock core at 24'. R-1 (24.0' to 29.0'); moderately hard, slightly to moderately weathered, gray, fine grained, SCHIST, Cape Elizabeth Formation, extremely to very close, high angle joints, undulating, slickensided, discolored, partly open with secondary mineralization. Recovery= 87%, RQD= 0					
25				Depth (Ft) Time (min) 24.0 to 25.0 5.5 25.0 to 26.0 3.5 26.0 to 27.0 3.0 27.0 to 28.0 3.5 28.0 to 29.0 4.0					
30				R-2 (29.0 to 34.0); same as R-1 except medium to soft, moderately to					

R.W. Gillespie & Associates, Inc.
Saco, Maine

TEST PIT LOG B33-2-OW

Project: Buxton Road Bridge
Location: Saco, Maine
Approximate Surface Elevation: 109.8
Ground Water Depth: 6.8'
Client: HNTB Corporation
Date: 07-07-99
Project No. 600-36

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE #	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	GRAIN SIZE %	Lab Tests
35				Highly weathered, discolored to decomposed. Recovery= 40%, RQD= 0 29.0 to 30.0 5.5 30.0 to 31.0 3.5 31.0 to 32.0 3.0 32.0 to 33.0 2.0 33.0 to 34.0 1.5					
40				Bottom of Exploration at 34.0'.					
45									
50									
55									
60									
65									

R.W. Gillespie & Associates, Inc.
Saco, Maine

GENERAL NOTES

1 SOIL AND ROCK (WHERE ENCOUNTERED) CLASSIFICATION, PROPERTIES AND DESCRIPTIONS ARE BASED ON ENGINEERING INTERPRETATION OF AVAILABLE SUBSURFACE INFORMATION BY R.W. GILLESPIE AND ASSOCIATES, INC. AND MAY NOT NECESSARILY REFLECT ACTUAL VARIATIONS IN SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED BETWEEN INDIVIDUAL BORING OR SAMPLE LOCATIONS.

2 OBSERVED WATER LEVELS AND/OR WATER CONDITIONS INDICATED ARE AS RECORDED AT THE TIME OF EXPLORATION AND MAY VARY ACCORDING TO THE PREVAILING RAINFALL, METHODS OF EXPLORATION AND OTHER FACTORS.

3 SOUND ENGINEERING JUDGEMENT WAS EXERCISED IN PREPARING THE SUBSURFACE INFORMATION PRESENTED HEREIN. ANALYSIS AND INTERPRETATION OF SUBSURFACE DATA WAS PERFORMED AND INTENDED FOR AUTHORITY DESIGN AND ESTIMATE PURPOSES ONLY. PRESENTATION OF THE INFORMATION ON THE PLANS OR ELSEWHERE IS FOR THE PURPOSE OF PROVIDING INTENDED USERS WITH ACCESS TO THE SAME DATA AVAILABLE TO THE AUTHORITY. THE SUBSURFACE INFORMATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION, INDEPENDENT INTERPRETATIONS, INDEPENDENT ANALYSIS OR JUDGEMENT BY THE CONTRACTOR.

4 THE SURFACE EXPLORATIONS SHOWN HEREIN WERE MADE BETWEEN JUNE 28, 1999 AND JULY 27, 1999 BY NORTHEAST DRILLING. BORING LOGS WERE MADE BY R.W. GILLESPIE AND ASSOCIATES, INC.

5 BORINGS ARE TAKEN FOR THE PURPOSE OF DESIGN, AND SHOW CONDITIONS OF BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.

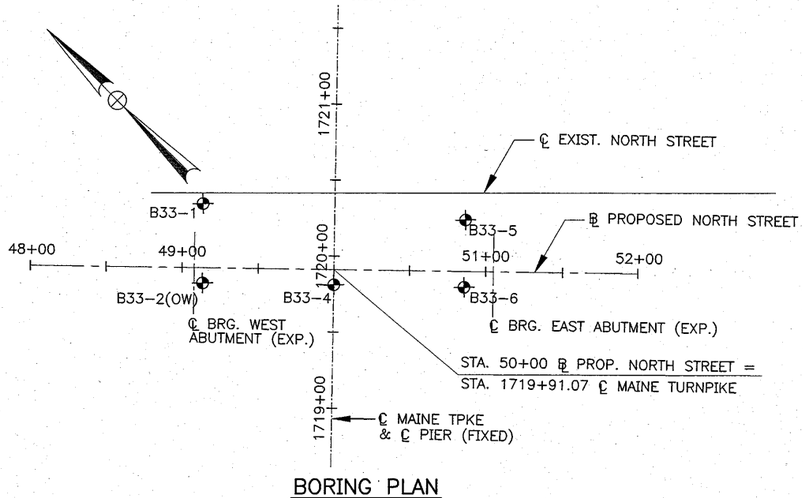
6 MEAN SEA LEVEL DATUM (NAVD 1988) IS USED THROUGHOUT.

7 AS-DRILLED BORING LOCATIONS WERE SURVEYED BY DES LAURIERS ASSOCIATES OF SCARBOROUGH, MAINE.

KEY TO SYMBOLS

Symbol	Description
Strata symbols	
	Topsoil
	Silty low plasticity clay
	Clayey sand and gravel
	Basalt (or generic rock)
	Paving
	Fill

Symbol	Description
Strata symbols	
	Weathered
	Clayey sand
Misc. Symbols	
	Water table during drilling
Soil Samplers	
	California sampler
	EXTRA: (generic sampling interval)



BORING PLAN

SCALE: 1" = 50'

Scale:

No.	Revision	By	Date

Designed by: Edwards AND Kelcey
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MAINE TURNPIKE AUTHORITY
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THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
BORING PLAN AND LOGS

SHEET NUMBER: NS-S3
CONTRACT: 2002.01
193 OF 257

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TEST PIT LOG B33-4

Project: Buxton Road Bridge
Location: Saco, Maine
Approximate Surface Elevation: 107.9
Ground Water Depth: 1.5'
Client: HNTB Corporation
Date: 06-28-99
Project No. 600-36

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE #	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	GRAIN SIZE %	Lab Tests
0				Asphalt (0.5').					
			S-1	FILL: sandy gravel, loose, wet, coarse to fine gravel, some sand, gray-brown.	1	8 5 5	10		
5			S-2	SILTY CLAY (CL); hard, moist, olive brown. Pocket Penetrometer: Undrained Shear Strength, Su= 4.5 ksf	24	11 16 PPD 13	37		
			S-3			6 PPD 6	9		
10				Becomes gray, stiff to medium stiff and wet at 10.0'.					
			FV	Field Vane: Su= 1.02 ksf, Remolded Su= 0.12 ksf					
			S-4	GRAVELLY SILTY SAND (SM); dense, wet, coarse to fine sand, medium to fine gravel, trace silt, gray (Glacial Till).	1	13 14 PPD 21	35		
15				Trace weathered Bedrock in washings at 18.3'.					
20			S-5	Top of bedrock at 19.0'. R-1 (19.0' to 24.0'); moderately hard, slightly weathered, fine grained, SCHIST, Cape Elizabeth Formation, very close to close, high angle, undulating, slickensided, discolored, open joints. Recovery= 100%, RQD= 68% Depth (ft) Time (min) 19.0 to 20.0 7.5 20.0 to 21.0 5.0 21.0 to 22.0 3.5 22.0 to 23.0 4.5 23.0 to 24.0 5.0 R-2 (24.0 to 29.0); same as R-1. Recovery= 98%, RQD= 38% 24.0 to 25.0 5.5 25.0 to 26.0 5.0 26.0 to 27.0 4.5 27.0 to 28.0 5.0 28.0 to 29.0 6.0	0.5	100/ 1"			
25				Bottom of Exploration at 29.0'.					
30									

R.W. Gillespie & Associates, Inc.
Saco, Maine

TEST PIT LOG B33-5

Project: Buxton Road Bridge
Location: Saco, Maine
Approximate Surface Elevation: 125.6
Ground Water Depth: 19' ±
Client: HNTB Corporation
Date: 7-23-99
Project No. 600-36

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE #	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	GRAIN SIZE %	Lab Tests
0				Asphalt (0.5').					
			S-1	FILL: gravelly sand, medium dense, dry, coarse to fine sand, little gravel, trace silt, brown.	10	24 30 34 30	64		
5			S-2	FILL: sand, dense, dry to moist, medium to fine sand, trace silt, brown.	12	18 21 29 34	50		
			S-3		14	12 15 20 34	38		
10			S-4		16	13 20 24 30	43	17	GS
			S-5	Becomes silty.	14	24 15 15 17	30		
15			S-6		15	12 17 20 20	37		
			S-7		16	22 20 19 12	31		
			S-8	SILTY CLAY (CL); hard to very stiff, moist, olive-brown. Pocket Penetrometer: Undrained Shear Strength, Su = 3.5 to 4.0 ksf.	24	17 10 11 17	28		
20						22			
25			S-9	Becomes stiff, wet. Pocket Penetrometer: Su = 1.5 to 2.0 ksf	24	9 10 13 11	23		
			S-10	Becomes gray with thin sand seams.	24	2 1 2 1	3		
30				GRAVELLY SILTY SAND (SM); dense, wet, coarse to fine sand, little gravel, little silt, gray (Glacial Till).					
			S-11		16	27			

R.W. Gillespie & Associates, Inc.
Saco, Maine

TEST PIT LOG B33-5

Project: Buxton Road Bridge
Location: Saco, Maine
Approximate Surface Elevation: 125.6
Ground Water Depth: 19' ±
Client: HNTB Corporation
Date: 7-23-99
Project No. 600-36

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE #	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	GRAIN SIZE %	Lab Tests
35						PPD 24 44	49		
				Top of Bedrock at 36.0'. Began 2" diameter rock core at 38'.					
40				R-1 (38' to 43'); Soft, highly weathered, light gray, Fine grained PHYLITE, Cape Elizabeth Formation, with close, moderatly to high angle, undulating, smooth, decomposed, closed foliation joints with mineralization and healed jointing. Recovery = 14/60, RQD = 0 Depth (ft) Time (min) 38.0 to 39.0 2.5 39.0 to 40.0 2.5 40.0 to 41.0 2.5 41.0 to 42.0 2.5 42.0 to 43.0 4.0					
45									
50				R-2 (43' to 48'); Transitions to: medium hard, fresh, light gray, Fine grained PHYLITE with closely spaced, moderately dipping, undulating, smooth, fresh to decomposed, closed foliation joints. Rec. 48/60 RQD = 20% Depth (ft) Time (min) 43.0 to 44.0 4.0 44.0 to 45.0 4.0 45.0 to 46.0 4.5 46.0 to 47.0 5.0 47.0 to 48.0 5.0 47.0 to 48.0 5.0					
55									
60				Bottom of Exploration at 48.0'.					
65									

R.W. Gillespie & Associates, Inc.
Saco, Maine

TEST PIT LOG B33-6

Project: Buxton Road Bridge
Location: Saco, Maine
Approximate Surface Elevation: 109.2
Ground Water Depth: 1.0' ±
Client: HNTB Corporation
Date: 7-20-99
Project No. 600-36

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE #	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	GRAIN SIZE %	Lab Tests
0			S-1	Topsoil and Organic Materials (1.0').	10	PPD 6 PPD	9		
				SILTY CLAY (CL); very stiff, moist, olive-brown.					
5			S-2	Pocket Penetrometer: Undrained Shear Strength, Su = 3.5 to 4 ksf.	24	6 9 16 18	25		
			S-3	Becomes stiff.	24	PPD 6 11 13	16		
10				Pocket Penetrometer: Su = 1.5 to 2.0 ksf.					
				SILTY SAND (SP-SM); medium dense, wet, medium to fine sand, little to trace silt, with silt seans, stratified, brown.					
15			S-4	GRAVELLY SILTY SAND (SM); dense, wet, coarse to fine sand, coarse to fine gravel, little silt, gray (Glacial Till).	10	9 50/ 5" 50/ 0"	100+		
				Top of bedrock at 14.9'. Began 2" diameter rock core at 16'.					
20				R-1 (16' to 21') soft to medium hard, slightly weathered, dark gray, fine grained PHYLITE, Cape Elizabeth Formation with very close, high angle undulating, smooth, discolored to decomposed closed jointing (except open fracture from 18.3 to 18.8) trace secondary mineralization. Recovery = 36/60 RQD = 0 Depth (ft) Time (min) 16.0 to 17.0 4.0 17.0 to 18.0 3.5 18.0 to 19.0 3.0 19.0 to 20.0 7.0 20.0 to 21.0 8.0 R-2 (24' to 26'); same as R-1. Rec. = 58/60 RQD = 45 21.0 to 22.0 4.0 22.0 to 23.0 6.0 23.0 to 24.0 7.0 24.0 to 25.0 8.0 25.0 to 26.0 8.0					
25				Bottom of exploration at 26'.					
30									

R.W. Gillespie & Associates, Inc.
Saco, Maine

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Scale:

No.	Revision	By	Date

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Drawn	SMG	DEC. 2001	In Charge of	DWC	DEC. 2001

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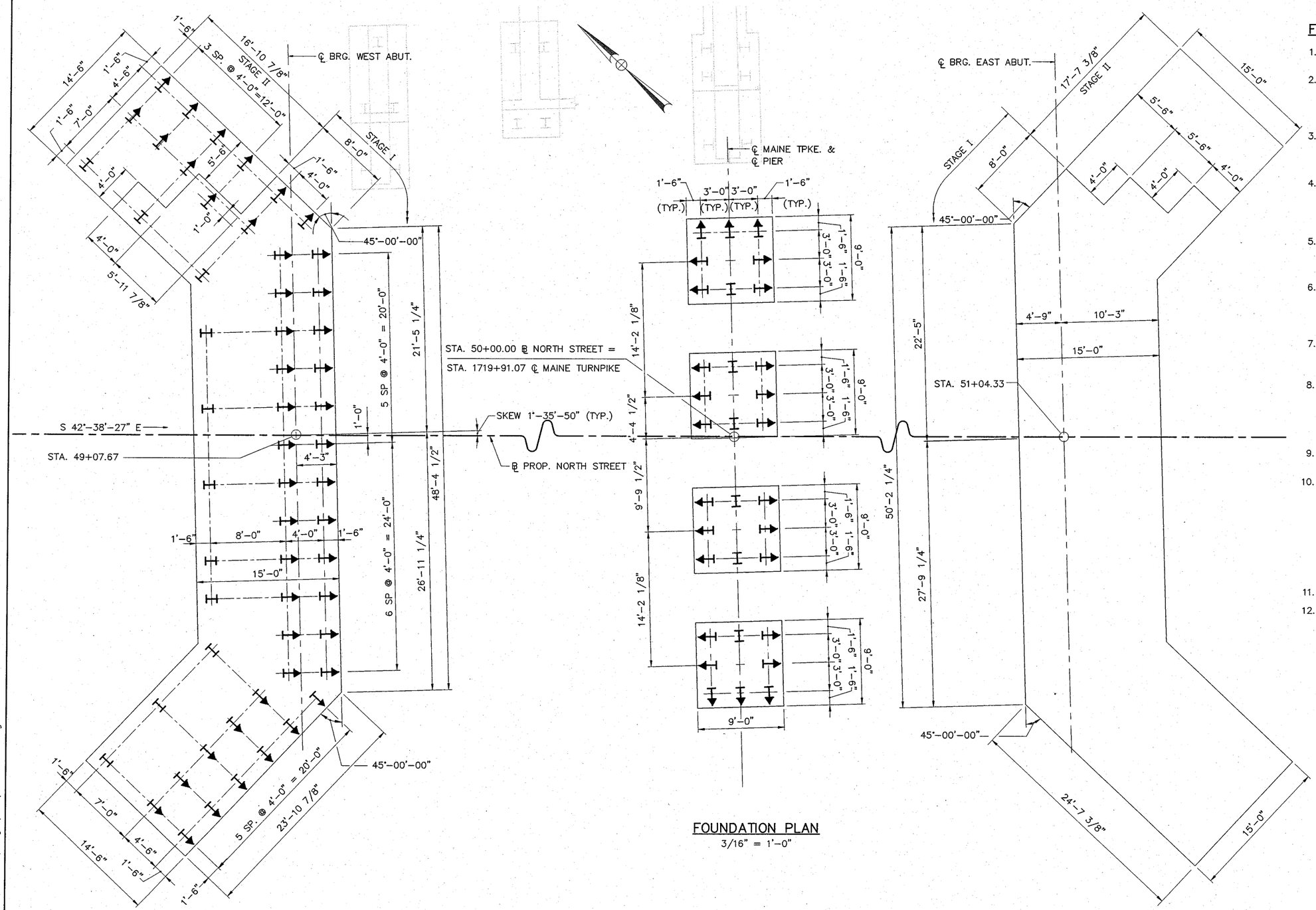
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT

THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
BORING LOGS

SHEET NUMBER: NS-S4

CONTRACT: 2002.01



FOUNDATION NOTES:

1. ALL PROPOSED PILES SHALL CONFORM TO AASHTO DESIGNATION M270, GRADE 50.
2. PROPOSED PILE LAYOUT SHALL BE VERIFIED IN THE FIELD NOT TO INTERFERE WITH THE EXISTING PILES. ANY CHANGES TO PROPOSED PILE LAYOUT SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
3. ⊢ – INDICATES VERTICAL PILES
   ⊢→ – INDICATES PILES BATTERED 3 IN./FT. IN DIRECTION OF ARROW
4. ESTIMATE OF PILES REQUIRED:
   WEST ABUTMENT: 57–HP12x53 @ 15' = 855'
   PIER: 32–HP12x53 @ 15' = 480'
   THESE PILE LENGTHS SHALL BE CONSIDERED A MINIMUM LENGTH FOR EACH LOCATION.
5. PIER:
   HP 12x53 PILES SHALL BE DRIVEN TO AN ULTIMATE CAPACITY OF 320 KIPS. DESIGN LOAD = 140 KIPS AND F.S. = 2.25.
6. WEST ABUTMENT:
   HP 12x53 PILES SHALL BE DRIVEN TO AN ULTIMATE CAPACITY OF 350 KIPS. DESIGN LOAD = 140 KIPS WITH AN ALLOWANCE OF 30 KIPS FOR DOWNDRAG AND F.S. = 2.25.
7. EAST ABUTMENT:
   SPREAD FOOTING – 8.0 KIPS/SF ALLOWABLE SOIL BEARING PRESSURE.
8. CONSTRUCTION CONTROL: WAVE EQUATION ANALYSIS AND DYNAMIC LOADING TEST (MEASUREMENT AND ANALYSIS) ARE REQUIRED FOR TWO (2) PILES PRIOR TO INSTALLATION OF PRODUCTION PILES. CONDUCT ONE (1) TEST AT WEST ABUTMENT AND PIER LOCATIONS.
9. FOR PIER FOOTING DOWELS AND SPIRAL REINFORCING DETAILS, SEE SHEET NO. NS–S16.
10. PILES SHALL BE DRIVEN TO THE REQUIRED PENETRATION RESISTANCE DETERMINED BY WAVE EQUATION ANALYSIS, VERIFIED BY DYNAMIC TESTING, AND APPROVED OF BY THE ENGINEER. THE AVERAGE RESISTANCE, FOR THE FINAL SIX INCHES OF DRIVING, SHOULD EQUAL OR EXCEED THE ESTABLISHED CRITERIA. IF ABRUPT REFUSAL IS ENCOUNTERED, DRIVING MAY BE TERMINATED WHEN THE PILE PENETRATION IS LESS THAN 1/2 INCH FOR TEN SUCCESSIVE HAMMER BLOWS.
11. EXISTING PILES SHALL BE CUT AT EL. 103.0.
12. A TEMPORARY EARTH SUPPORT SYSTEM IS REQUIRED TO BE IN PLACE, AT THE PIER LOCATIONS, PRIOR TO PILE DRIVING.

FOUNDATION PLAN

3/16" = 1'-0"

P:\Land Projects\0213014\DWG\Mainest\Bridge\R14\NS33BFD01.dwg

Scale: AS NOTED

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MAINE TURNPIKE AUTHORITY
MODERNIZATION
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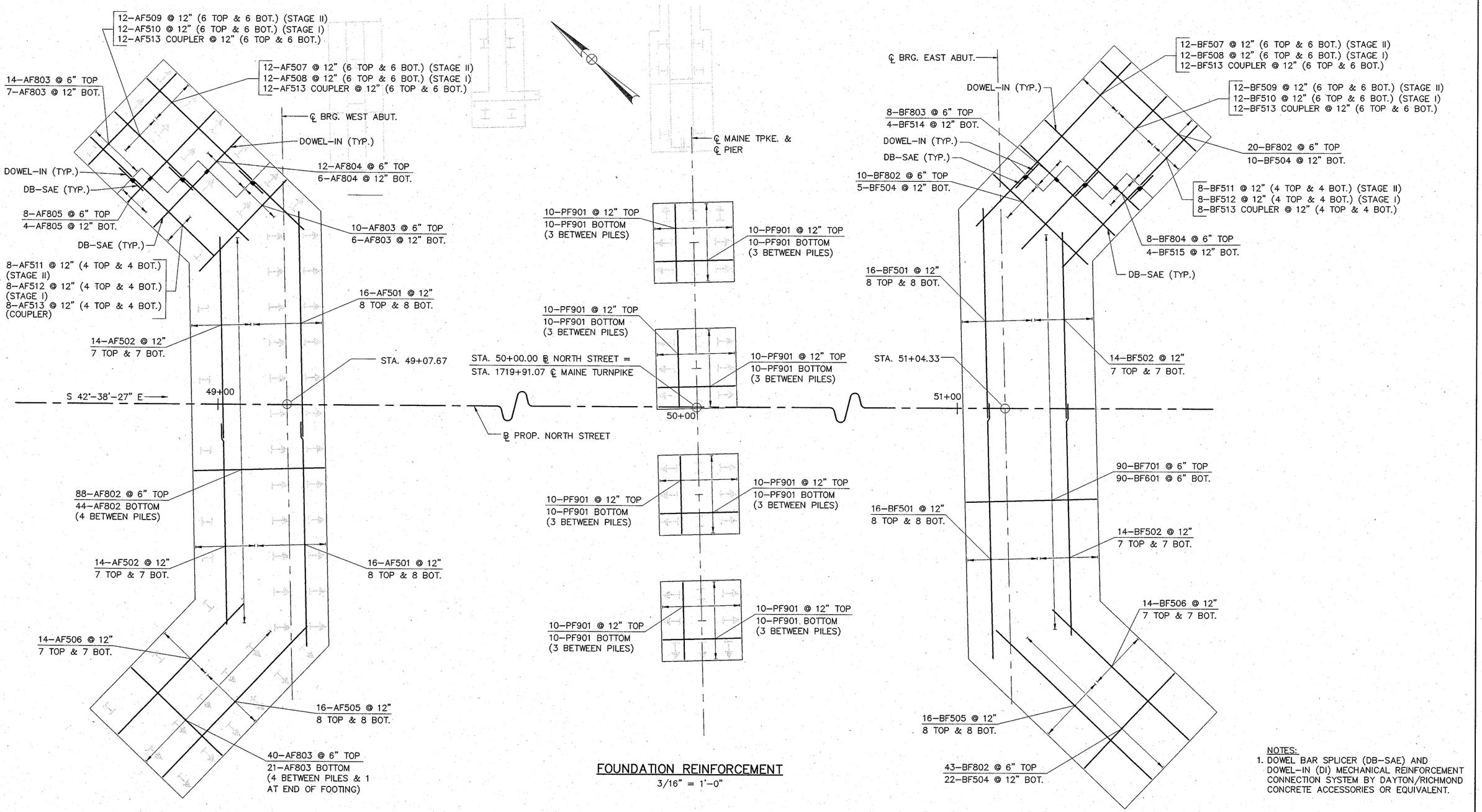
BRIDGE REPLACEMENT NORTH STREET UNDERPASS

FOUNDATION PLAN

SHEET NUMBER: NS–S5

CONTRACT: 2002.01



FOUNDATION REINFORCEMENT
3/16" = 1'–0"

NOTES:
1. DOWEL BAR SPLICER (DB–SAE) AND DOWEL–IN (DI) MECHANICAL REINFORCEMENT CONNECTION SYSTEM BY DAYTON/RICHMOND CONCRETE ACCESSORIES OR EQUIVALENT.

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MAINE TURNPIKE AUTHORITY
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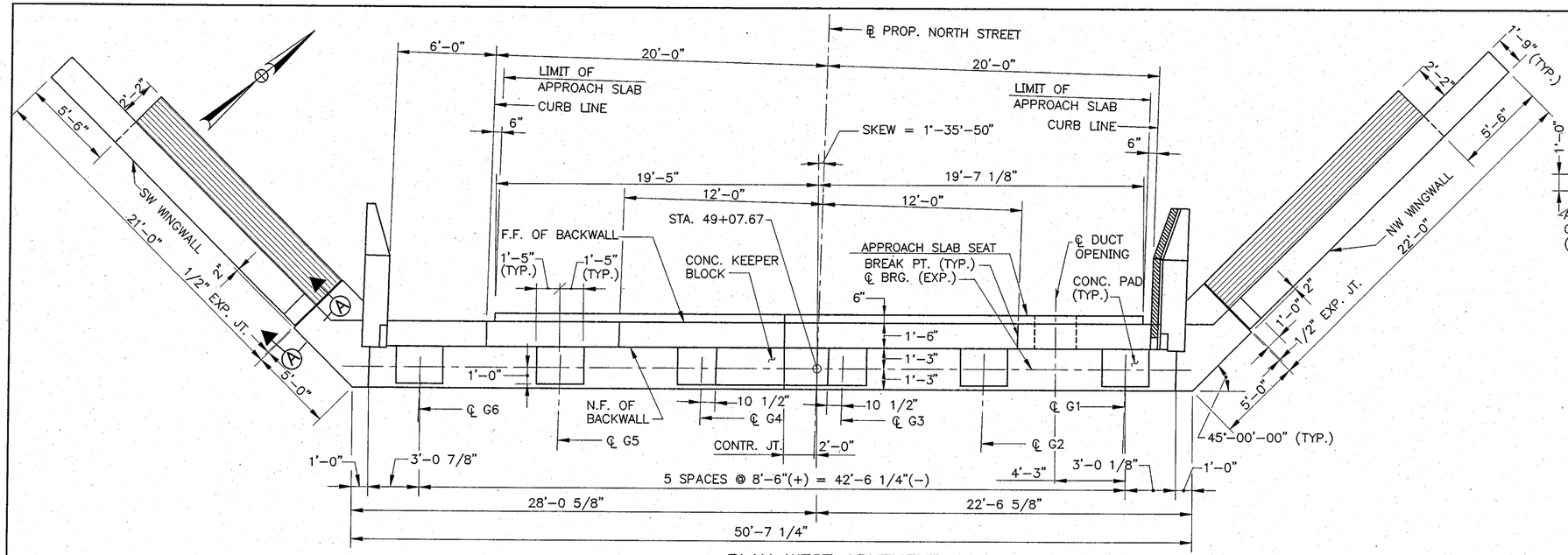
THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS

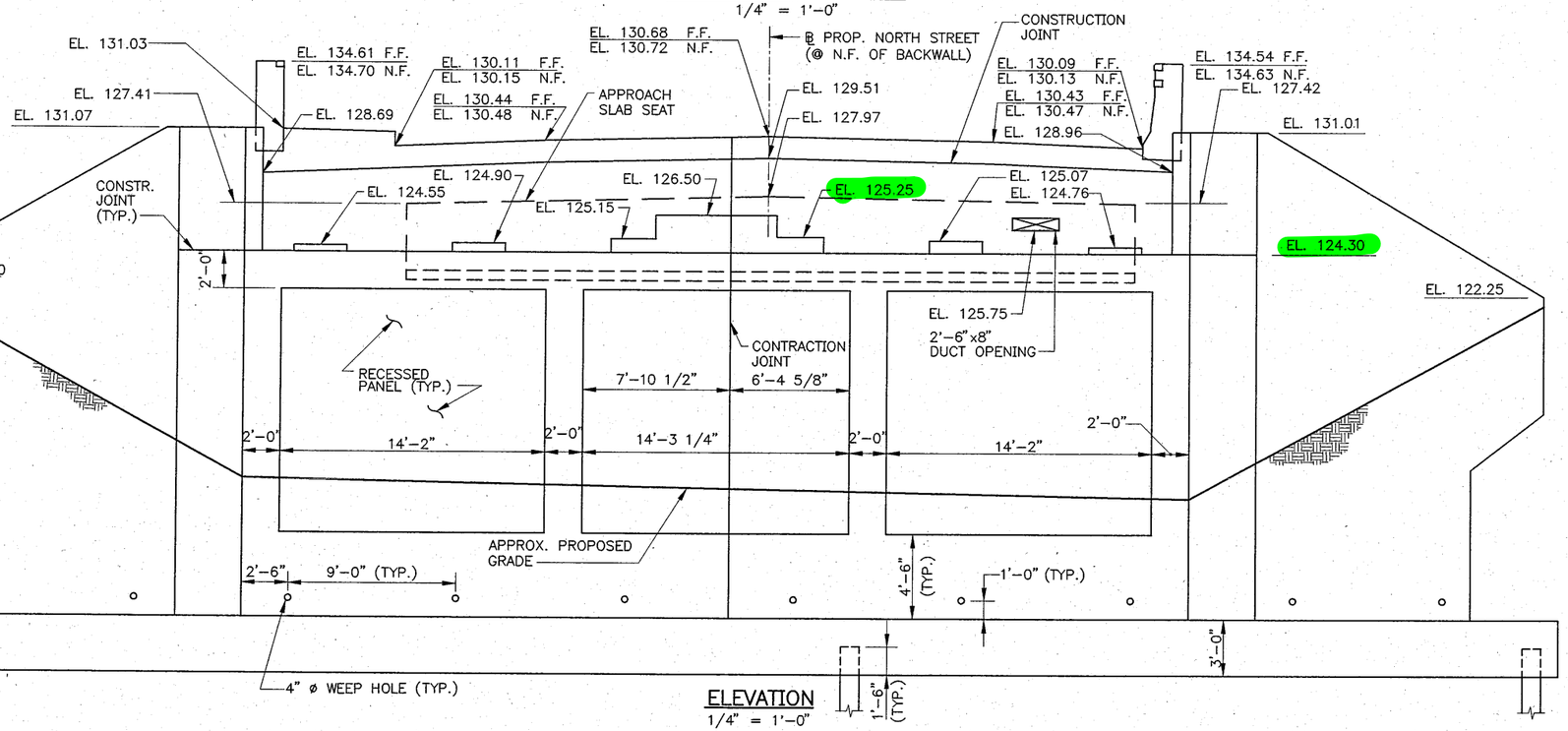
FOUNDATION REINFORCEMENT

SHEET NUMBER: NS–S6

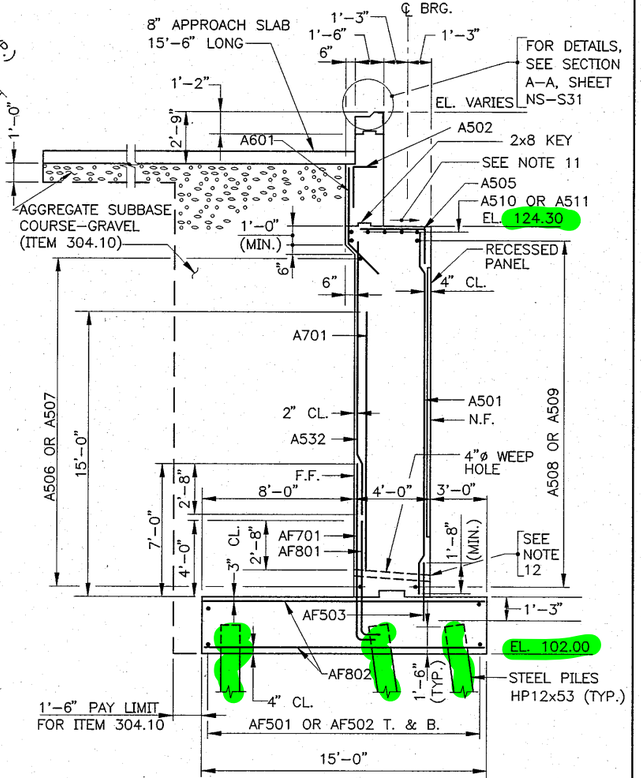
CONTRACT: 2002.01



PLAN WEST ABUTMENT
1/4" = 1'-0"



ELEVATION
1/4" = 1'-0"



TYPICAL WEST ABUTMENT SECTION
1/4" = 1'-0"

ABUTMENT NOTES

1. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4", UNLESS OTHERWISE INDICATED.
2. REINFORCING STEEL SHALL HAVE 2" COVER, UNLESS OTHERWISE INDICATED.
3. PVC WATERSTOPS, AS SHOWN ON SHEET NS-S11, SHALL BE PLACED IN ALL VERTICAL EXPANSION AND CONTRACTION JOINTS.
4. WATERSTOPS ARE REQUIRED IN HORIZONTAL CONSTRUCTION JOINTS.
5. THE TOP PORTION OF THE ABUTMENT BACKWALLS SHALL BE PLACED AFTER ALL SUPERSTRUCTURE STRUCTURAL SLAB CONCRETE IS IN PLACE AND AFTER ALL NECESSARY ADJUSTMENTS TO THE JOINT ARMOR HAVE BEEN MADE.
6. BREAK BOND AT VERTICAL CONTRACTION JOINTS BY A METHOD TO BE APPROVED OF BY THE ENGINEER.
7. FOR BEARING DETAILS, SEE SHEET NS-S19.
8. FOR APPROACH SLAB DETAILS, RECESSED PANEL DETAILS, EXPANSION, CONTRACTION AND CONSTRUCTION JOINT DETAILS, SEE SHEET NS-S11.
9. APPROACH SLAB SEATS SHALL HAVE A ROUGHENED SURFACE TO THE SATISFACTION OF THE ENGINEER.
10. ALL CONCRETE KEYS SHALL BE FORMED.
11. TOP OF ABUTMENT SEAT SHALL BE SLOPED 1/8"/FT. BETWEEN CONCRETE BEARING PADS. ELEVATION GIVEN IS AT FACE OF BACKWALL.
12. SEE SHEET NO. NS-S11 FOR FRENCH DRAIN DETAILS TO BE LOCATED BEHIND ABUTMENT AND WINGWALL STEMS RESPECTIVELY.
13. FOR SECTION A-A, SEE SHEET NO. NS-S8.
14. CONCRETE BEARING PADS AND KEEPER BLOCK SHALL BE CAST MONOLITHICALLY WITH THE ABUTMENT SEAT.
15. EACH WEEP HOLE LOCATION SHALL INCLUDE 0.3 C.Y. OF CRUSHED STONES WITH A POROUS GEOTEXTILE WICK MATERIAL CONCENTRICALLY PLACED AGAINST THE FRONT FACE OF ABUTMENT OR WINGWALL STEM. THE CRUSHED STONES SHALL CONFORM TO SECTION 703.24 OF THE MDOT STANDARD SPECIFICATIONS AND PAYMENT SHALL BE INCIDENTAL TO ITEM 512.0812.

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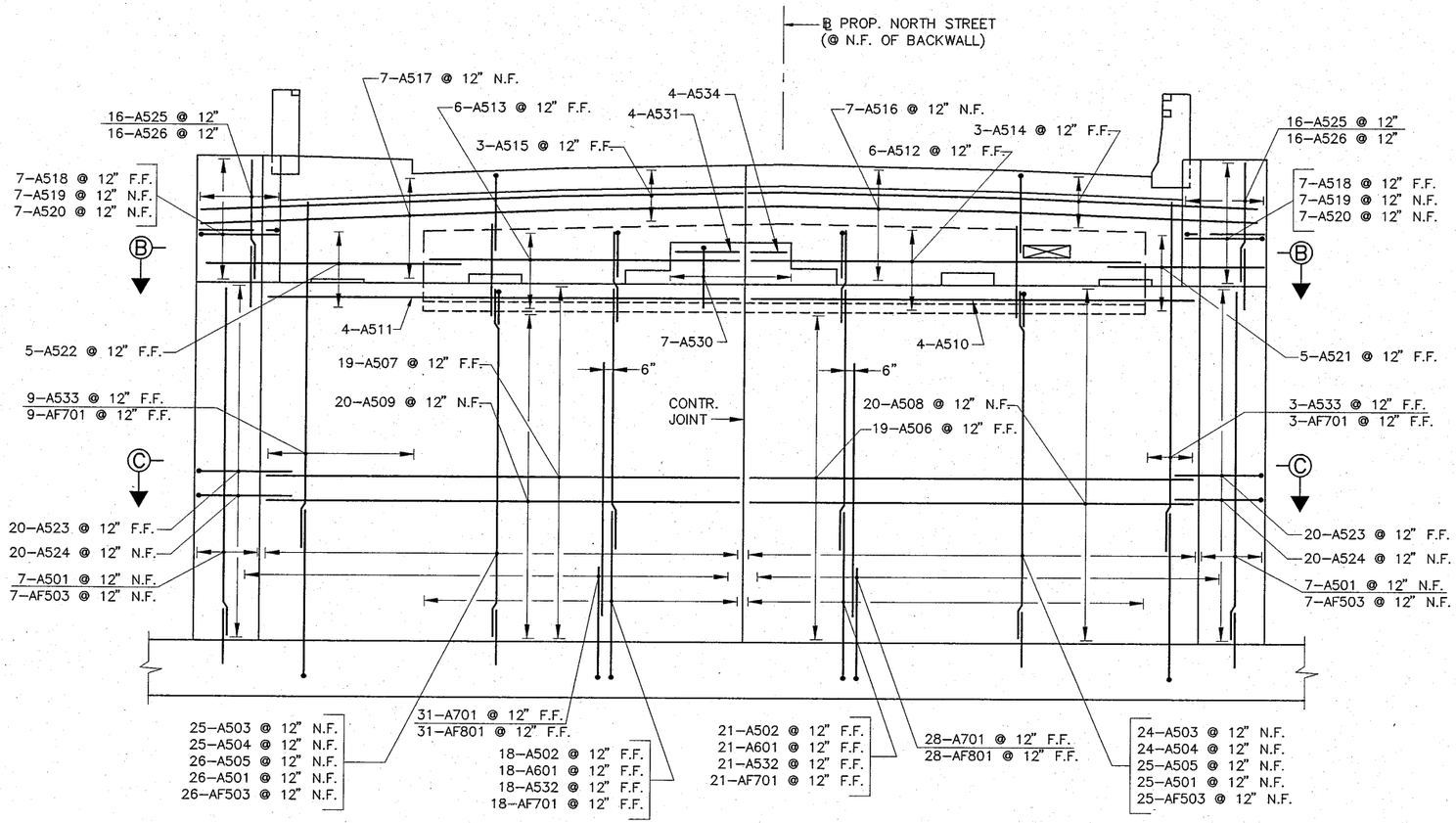
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT

THINKING AHEAD The Widening

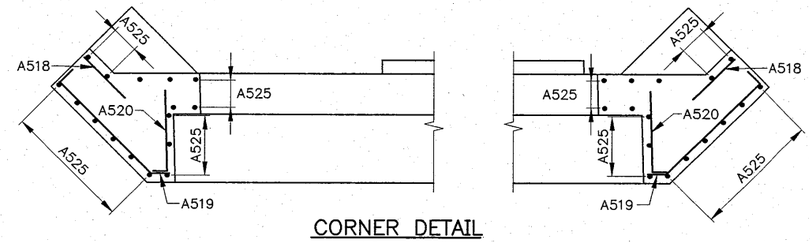
BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
WEST ABUTMENT

SHEET NUMBER: NS-S7

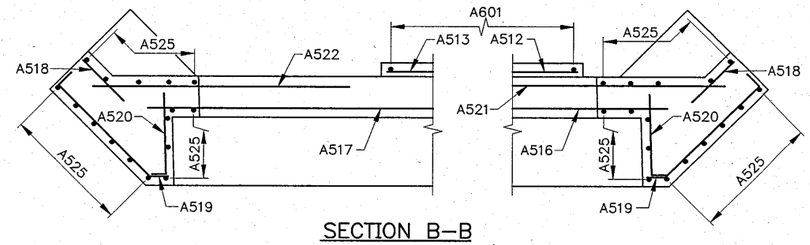
CONTRACT: 2002.01



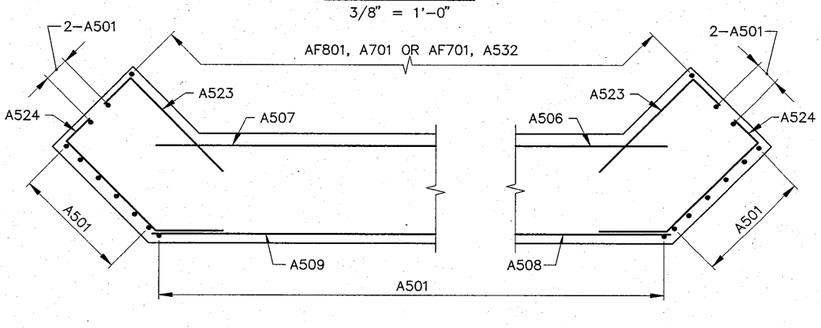
ELEVATION WEST ABUTMENT
1/4" = 1'–0"



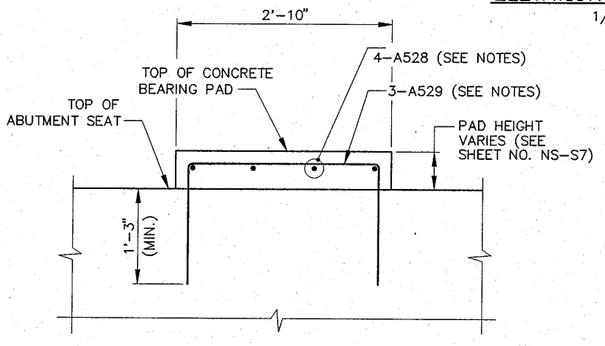
CORNER DETAIL
3/8" = 1'–0"



SECTION B–B
3/8" = 1'–0"



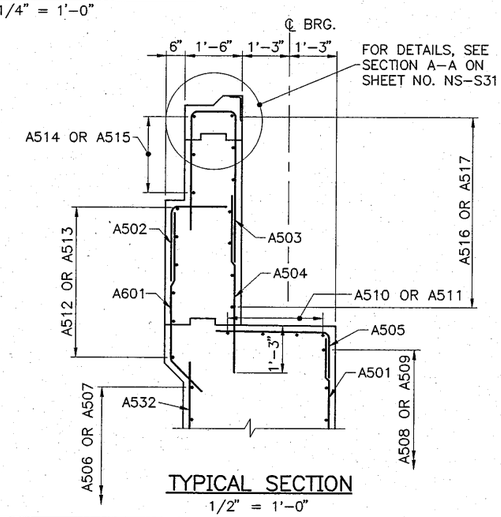
SECTION C–C
3/8" = 1'–0"



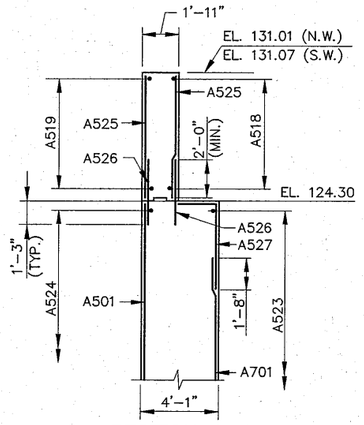
NOTES:

1. SEE NOTE 14 ON SHEET NO. NS–S7.

CONCRETE BEARING PAD DETAIL
1" = 1'–0"

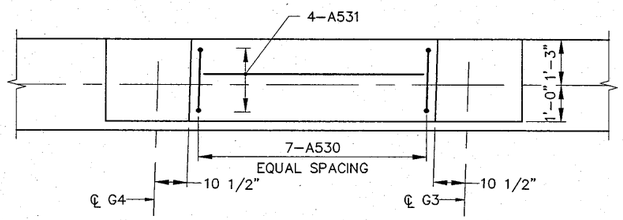


TYPICAL SECTION
1/2" = 1'–0"



SECTION A–A
1/4" = 1'–0"

FOR SECTION A–A LOCATION, SEE SHEET NO. NS–S7



DETAIL – CONCRETE KEEPER BLOCK
1/2" = 1'–0"

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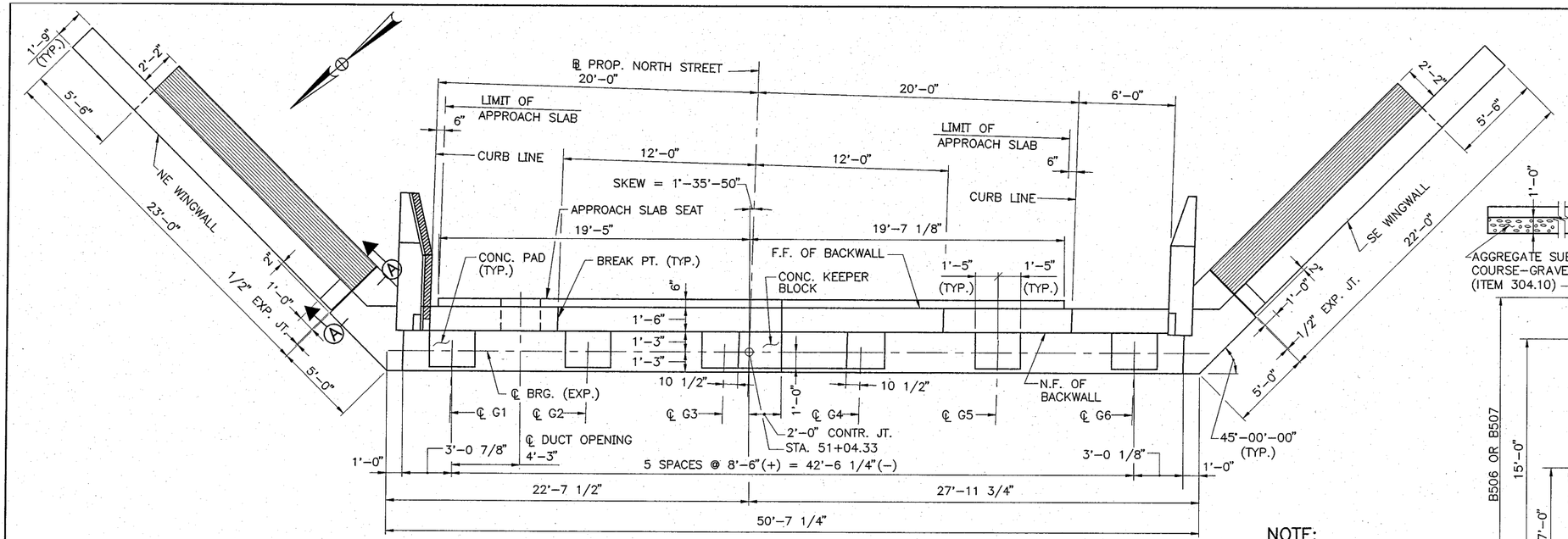
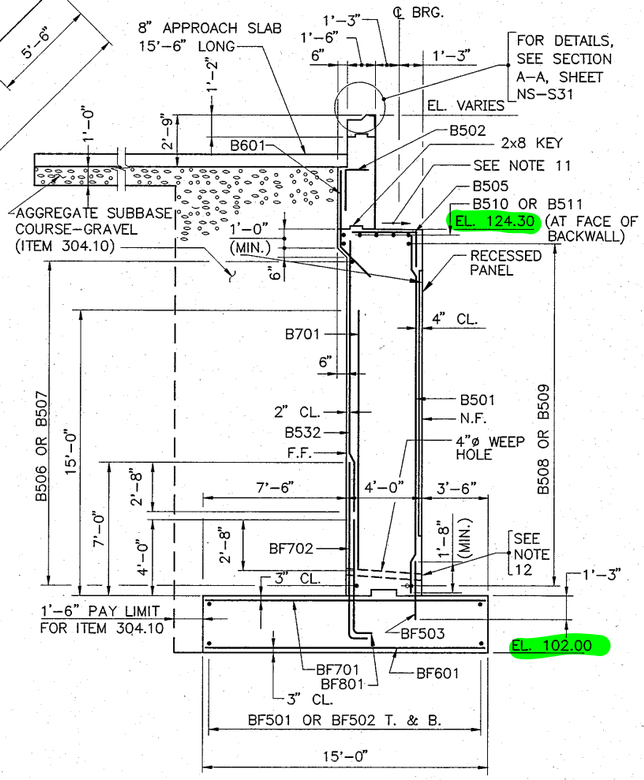
Scale:				Designed by: Edwards AND Kelcey	PE Stamp:	Approved by: HNTB	MAINE TURNPIKE AUTHORITY MODERNIZATION AND WIDENING PROJECT	BRIDGE REPLACEMENT NORTH STREET UNDERPASS WEST ABUTMENT REINFORCEMENT
No.	Revision	By	Date	THE SCHRAFFT CENTER 529 MAIN STREET, SUITE 203 BOSTON, MASSACHUSETTS 02129-1107 PHONE: (617) 242-9222 FAX: (617) 242-9824		HNTB CORPORATION ARCHITECTS ENGINEERS PLANNERS 2 Thomas Drive Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 772-7410	The Widening	SHEET NUMBER: NS–S8
				Designed JJW DEC. 2001 Checked SBH DEC. 2001				CONTRACT: 2002.01 198 OF 257
				Drawn SMG DEC. 2001 In Charge of DWC DEC. 2001				

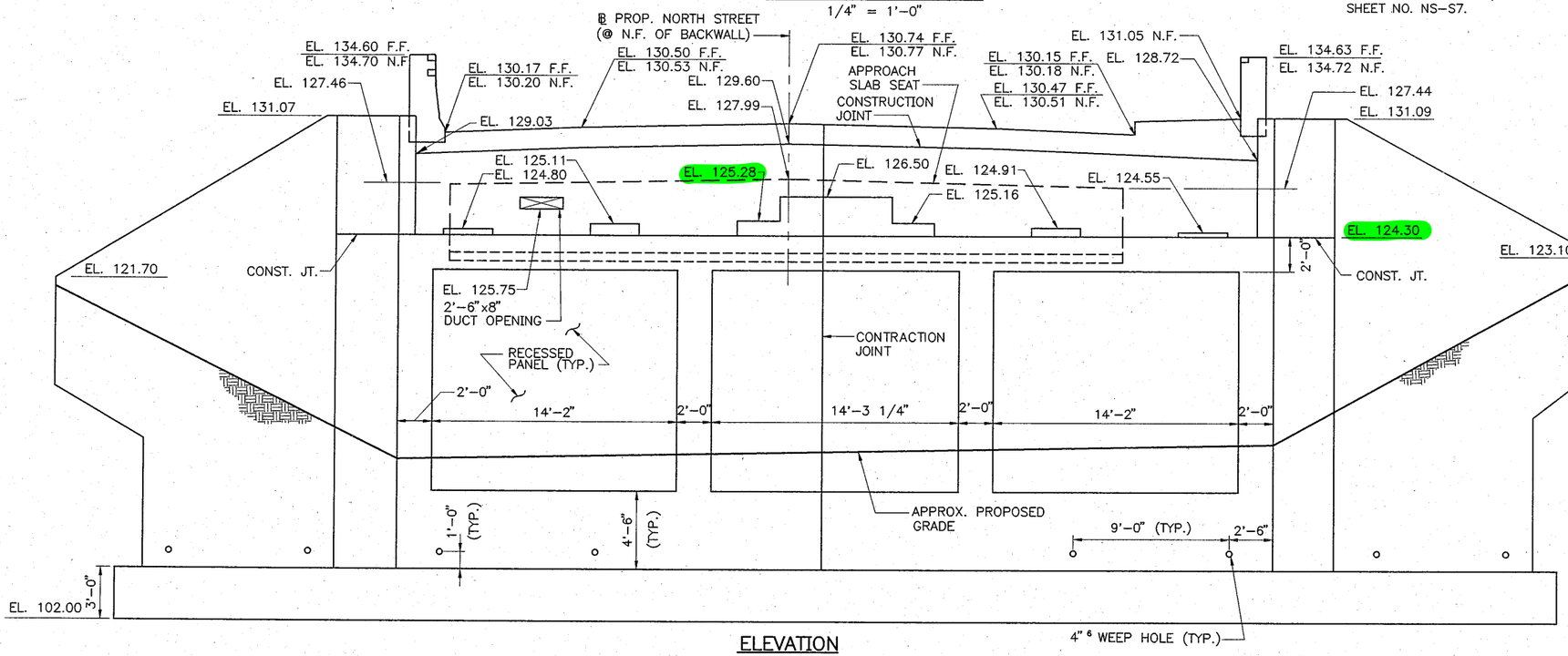


PLAN EAST ABUTMENT
1/4" = 1'-0"

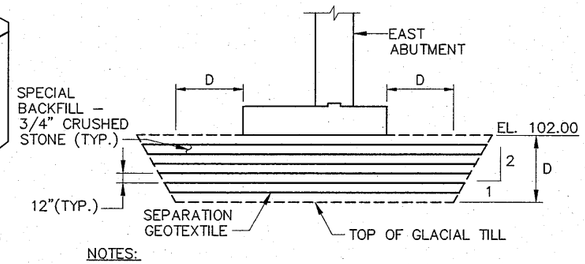
NOTE:
FOR ABUTMENT NOTES, SEE SHEET NO. NS-S7.



TYPICAL EAST ABUTMENT SECTION
1/4" = 1'-0"



ELEVATION
1/4" = 1'-0"



NOTES:

1. 3/4" CRUSHED STONE SHALL BE PLACED IN 12" LIFTS AND COMPACTED WITH 4 PASSESOF A DUAL-DRUM VIBRATORY ROLLER.
2. EACH STONE FILL LIFT SHALL BE COMPLETELY WRAPPED IN WOVEN GEOTEXTILE MIRAFI 600X OR EQUIVALENT.
3. D IS ESTIMATED TO VARY BETWEEN 6-8 FEET.
4. PAYMENT FOR ITEM 206.14, SPECIAL BACKFILL SHALL INCLUDE MATERIAL, PLACING AND COMPACTING TO THE SATISFACTION OF THE ENGINEER. WOVEN GEOTEXTILE SHALL BE INCIDENTAL TO PAY ITEM 206.14.

SUBFOOTING DETAIL
1/8" = 1'-0"

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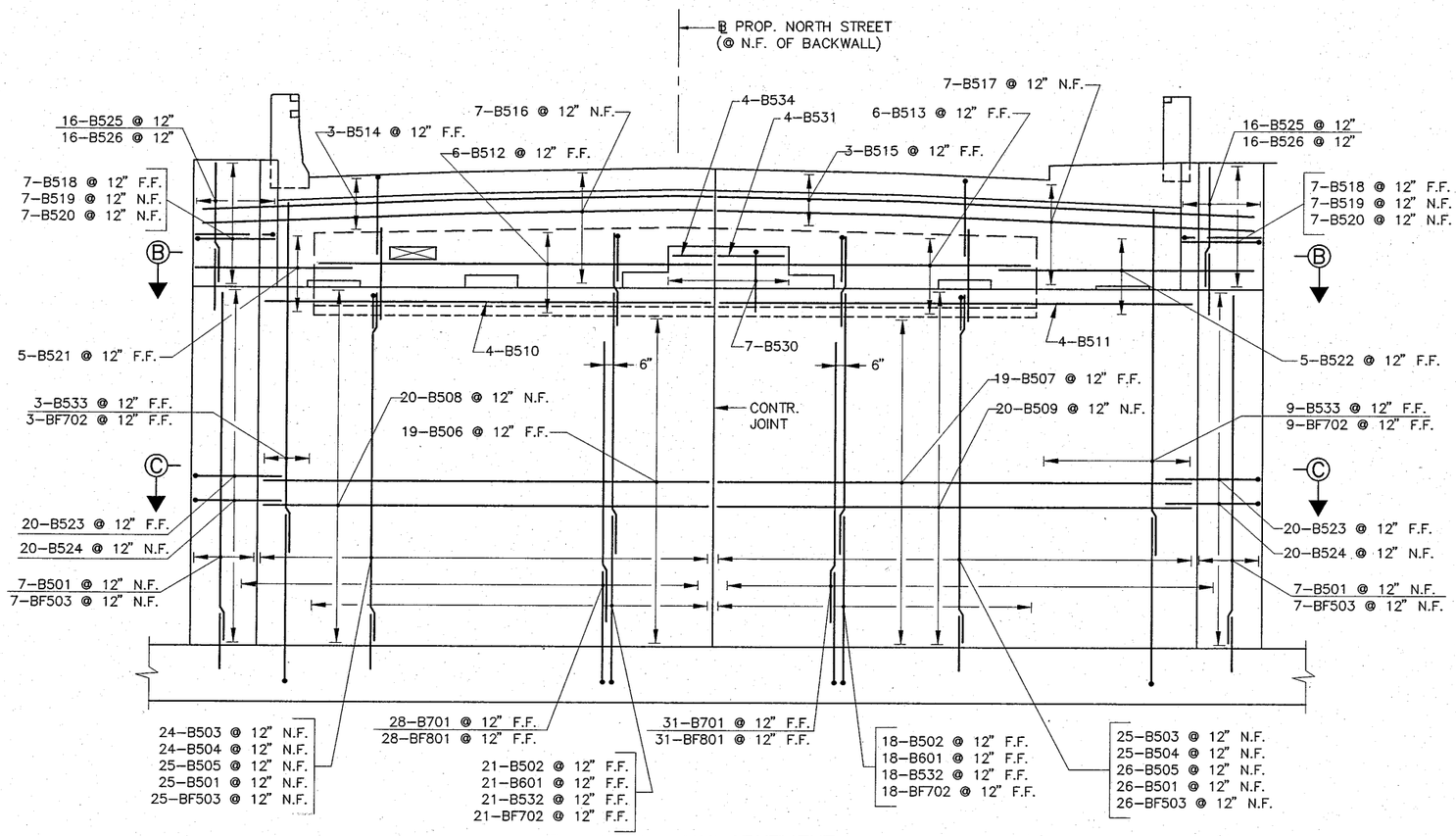
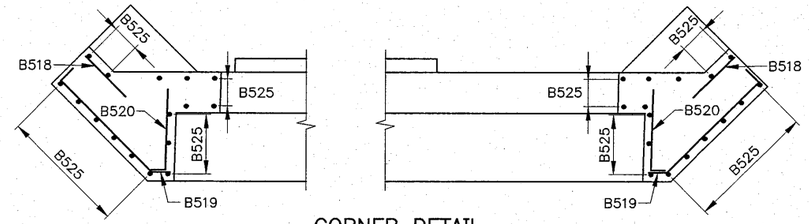
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT
The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
EAST ABUTMENT

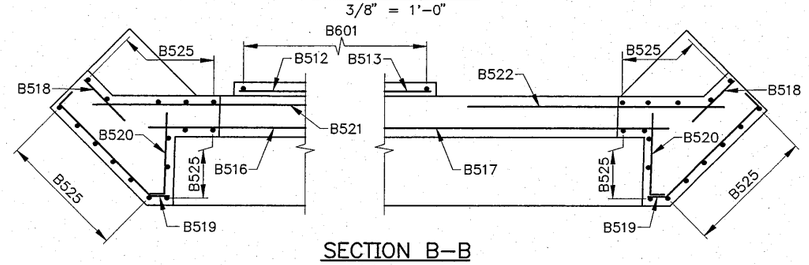
SHEET NUMBER: NS-S9
CONTRACT: 2002.01
199 OF 257



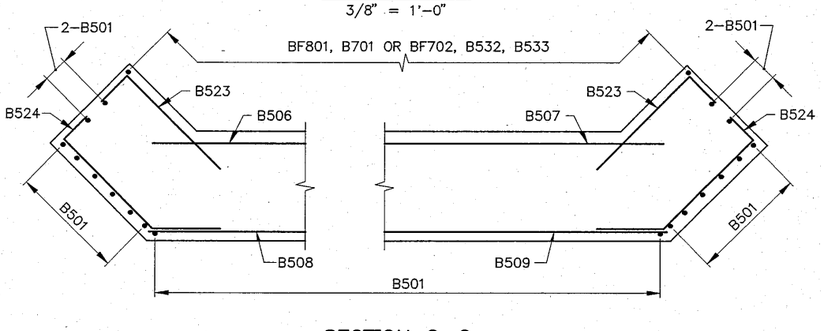
ELEVATION EAST ABUTMENT
1/4" = 1'–0"



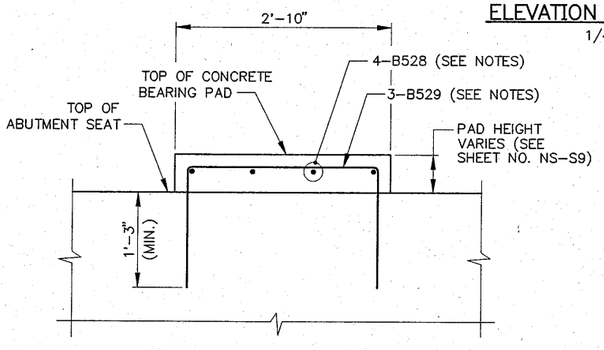
CORNER DETAIL
3/8" = 1'–0"



SECTION B–B
3/8" = 1'–0"



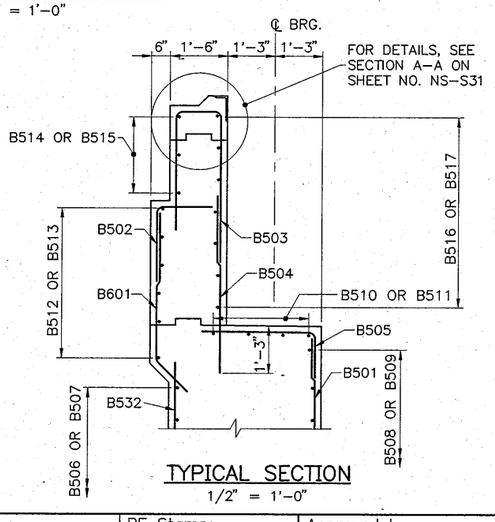
SECTION C–C
3/8" = 1'–0"



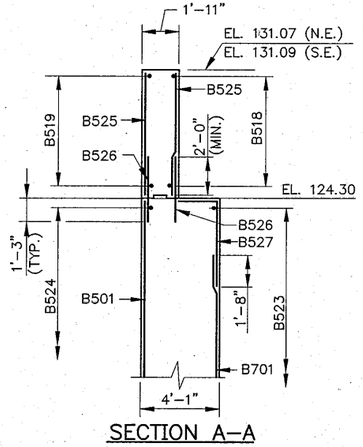
NOTE:

1. SEE NOTE 14 ON SHEET NO. NS–S7.

CONCRETE BEARING PAD DETAIL
1" = 1'–0"

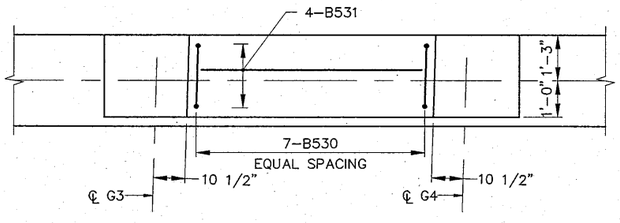


TYPICAL SECTION
1/2" = 1'–0"



SECTION A–A
1/4" = 1'–0"

FOR SECTION A–A LOCATION
SEE SHEET NO. NS–S9



DETAIL – CONCRETE KEEPER BLOCK
1/2" = 1'–0"

P:\Land Projects\0213014\DWG\Mainest\Bridge\R14\NS33BBT04.dwg

Scale:

No.	Revision	By	Date

Designed by:

Edwards AND Kelcey
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Designed	JJW	DEC. 2001	Checked	SBH	DEC. 2001
Drawn	SMG	DEC. 2001	In Charge of	DWC	DEC. 2001

PE Stamp:

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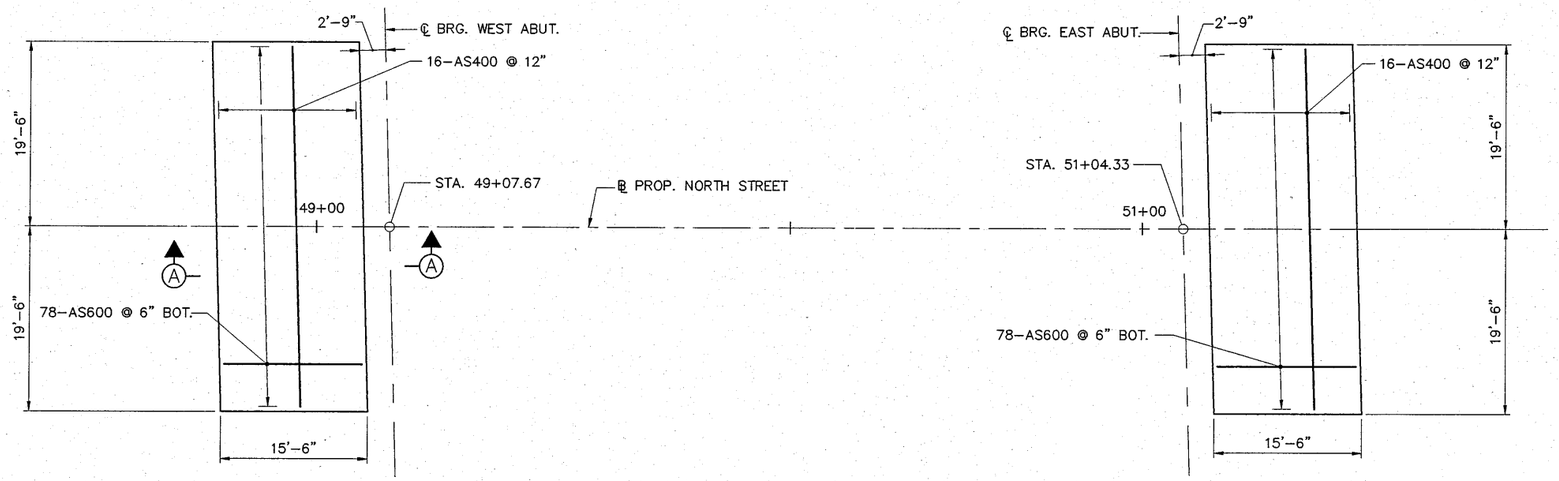
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT

The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
EAST ABUTMENT REINFORCEMENT

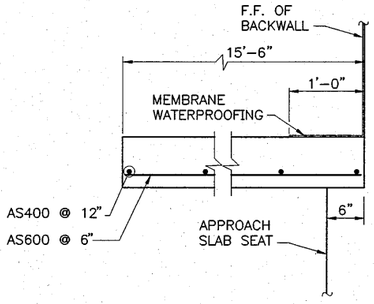
SHEET NUMBER: NS–S10

CONTRACT: 2002.01

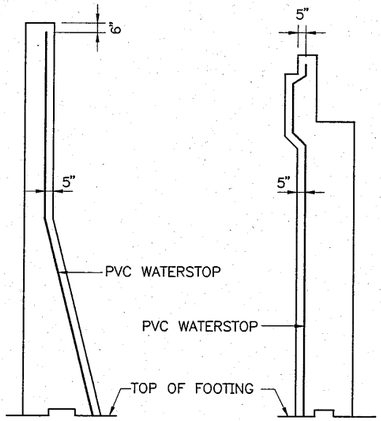


WEST APPROACH SLAB
1/8" = 1'-0"

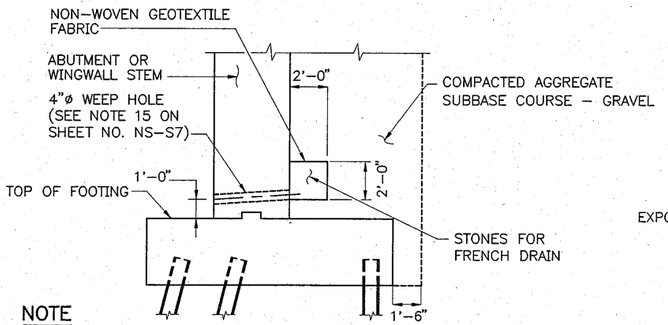
EAST APPROACH SLAB
1/8" = 1'-0"



SECTION A-A
1" = 1'-0"



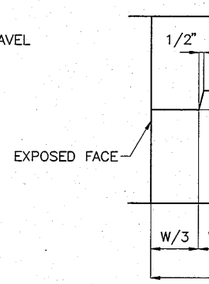
LIMITS OF PVC WATERSTOP
NO SCALE



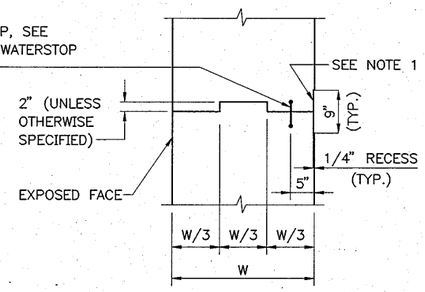
NOTE

THE FRENCH DRAIN SHALL EXTEND THE ENTIRE LENGTH OF THE STRUCTURE, NOT INCLUDING THE FLYING WINGWALL. A POROUS GEOTEXTILE WICK MATERIAL SHALL BE INSTALLED OVER THE WEEP HOLES, ALONG THE BACKFACE OF THE ABUTMENT OR WINGWALL STEM PRIOR TO CONSTRUCTING THE FRENCH DRAIN. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED AROUND THE FRENCH DRAIN STONES, SEPARATING THEM FROM THE AGGREGATE SUBBASE COURSE-GRAVEL. (PAYMENT SHALL BE INCIDENTAL TO ITEM 512.0812. PILES AT WEST ABUTMENT AND WEST WINGWALLS ONLY)

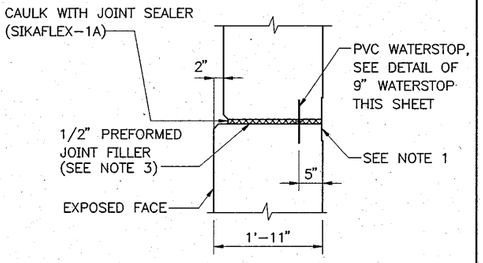
FRENCH DRAIN DETAIL
1/4" = 1'-0"



CONTRACTION JOINT

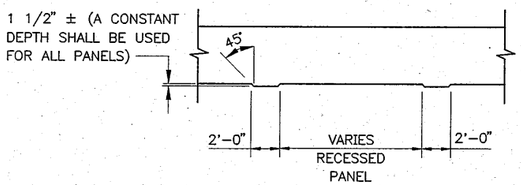


CONSTRUCTION JOINT
(SIMILAR AT HORIZONTAL JOINTS)



EXPANSION JOINT

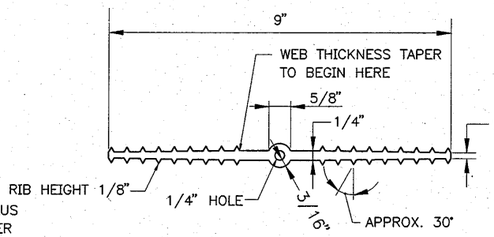
VERTICAL JOINT DETAILS
3/4"=1'-0"



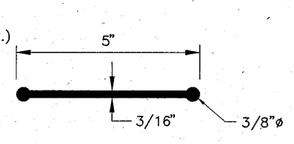
RECESSED PANEL DETAIL
3/16" = 1'-0"

NOTE FOR RECESSED PANEL

RECESSED PANEL FORMS SHALL BE SUFFICIENTLY RIGID, SECURELY BRACED, STRUTTED AND TIED TO PREVENT MOTION PLUS DISTORTION DUE TO THE PRESSURE OF THE CONCRETE OR OTHER LOADS GENERATED BY THE CONSTRUCTION OPERATIONS, SUCH AS VIBRATION. RECESSED PANEL FORMS SHALL BE CONSTRUCTED TO PRODUCE MORTAR-TIGHT JOINTS AND SMOOTH EVEN CONCRETE SURFACES.



9" WATERSTOP



5" WATERSTOP

WATERSTOP DETAILS
NO SCALE

NOTES:

1. APPLY TWO LAYERS OF HEAVY ROOFING FELT. COAT THE CONCRETE AND EACH LAYER WITH PLASTIC ROOFING CEMENT. (TYPICAL AT HORIZONTAL AND VERTICAL CONTRACTION, CONSTRUCTION AND EXPANSION JOINTS.)
2. PLASTIC DRAIN TUBES SHALL BE INCIDENTAL TO ITEM 502.31.
3. PREFORMED EXPANSION JOINT FILLER SHALL BE NON-EXTRUDING AND RESILIENT NON-BITUMINOUS TYPES CONFORMING TO AASHTO M153.

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Scale:

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Drawn	SMG	DEC. 2001	In Charge of	DWC	DEC. 2001

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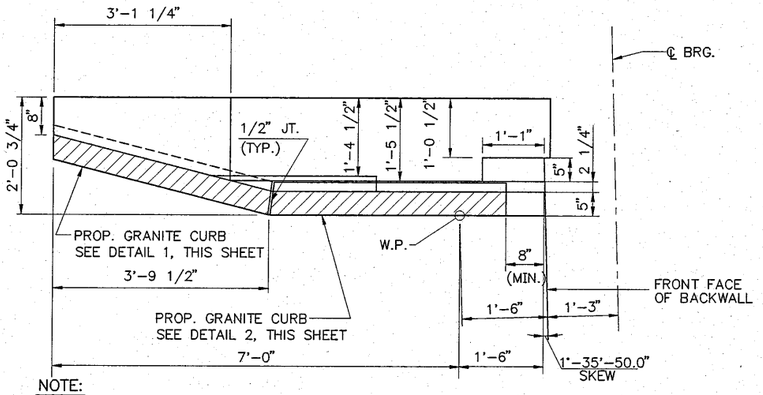
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT
THINKING AHEAD The Widening

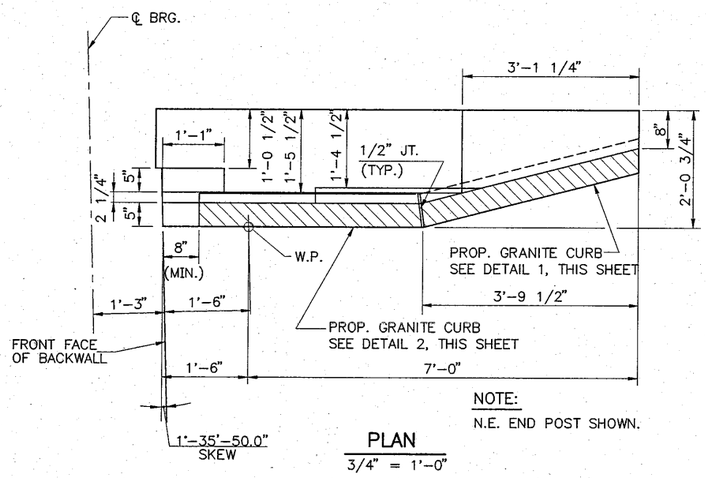
BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
APPROACH SLAB &
MISCELLANEOUS DETAILS

SHEET NUMBER: NS-S11
CONTRACT: 2002.01
201 OF 257



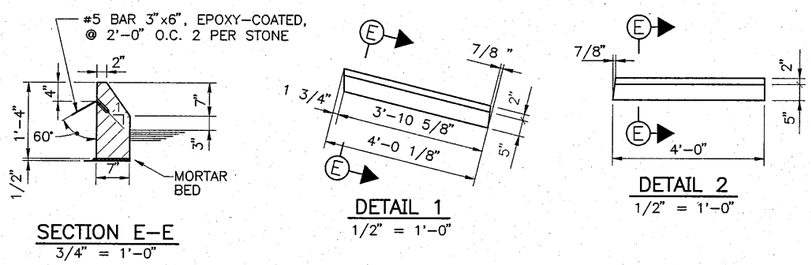
NOTE:
N.W. END POST SHOWN

PLAN
3/4" = 1'-0"



NOTE:
N.E. END POST SHOWN.

PLAN
3/4" = 1'-0"



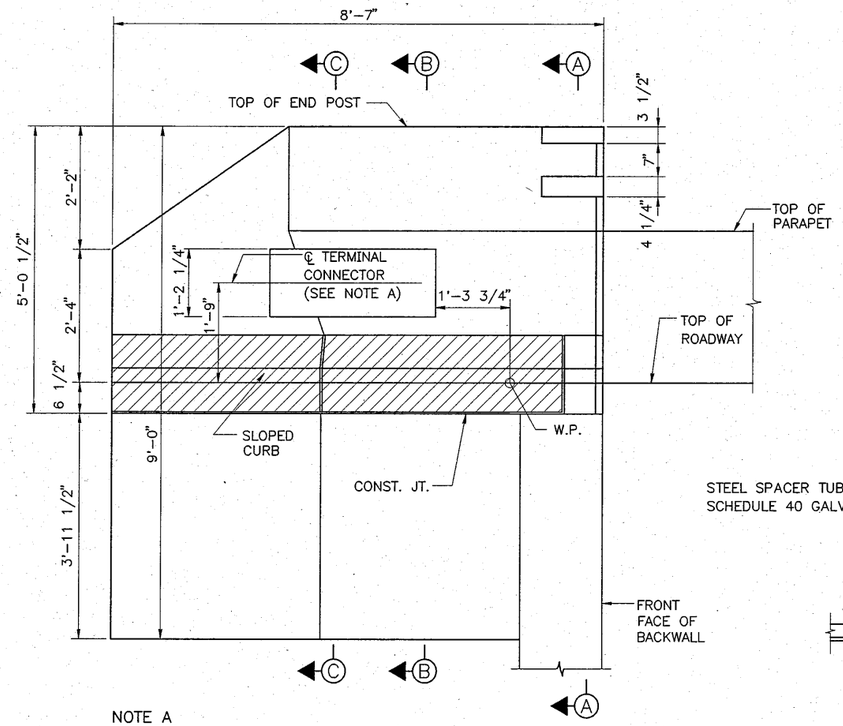
SECTION E-E
3/4" = 1'-0"

DETAIL 1
1/2" = 1'-0"

DETAIL 2
1/2" = 1'-0"

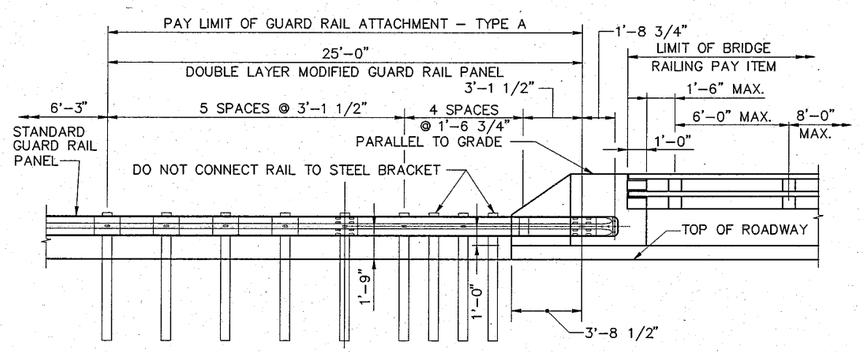
TYPICAL GRANITE CURB

Shoulder Side



NOTE A
FOR TERMINAL CONNECTOR ANCHORAGE, SEE THIS SHEET FOR DETAILS.

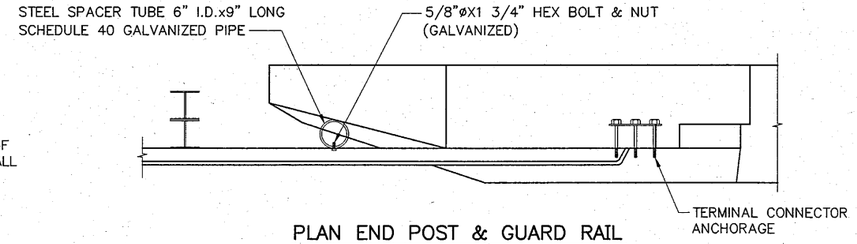
ELEVATION
3/4" = 1'-0"



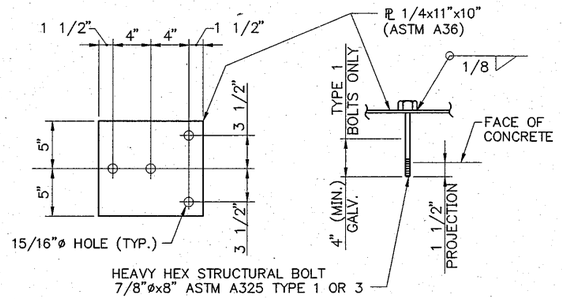
HIGHWAY GUARD RAIL ATTACHMENT TO BRIDGE END POST
1" = 4'-0"

NOTES:

1. LIMITS FOR CONCRETE TYPE ARE SHOWN IN THE RESPECTIVE SECTIONS.
2. FOR SECTIONS A-A, B-B AND C-C, SEE SHEET NO. NS-S13
3. NUTS AND WASHERS FOR 7/8"ø ANCHOR BOLTS SHALL BE INCIDENTAL TO GUARD RAIL PAY ITEMS. NUTS SHALL CONFORM TO ASTM A563, GRADE DH, GALVANIZED IN ACCORDANCE WITH ASTM A153, OR GRADE C3, PLAIN.
4. ADDITIONAL HOLES IN THE MODIFIED GUARD RAIL PANEL MAY BE MADE BY DRILLING, PUNCHING OR ANY OTHER METHOD THAT PRODUCES A NEAT, CLEAN HOLE OF THE REQUIRED SIZE. BURNING OF HOLES WILL NOT BE ALLOWED.
5. SPACER TUBE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A53, GALVANIZED, GRADE B TYPE E OR S. HEX BOLT AND NUT ON SPACER TUBE SHALL CONFORM TO ASTM A307. PAYMENT FOR SPACER TUBE, BOLT AND NUT SHALL BE INCIDENTAL TO THE GUARD RAIL PAY ITEM.
6. REINFORCING STEEL SHALL HAVE 2" MIN. CONCRETE COVER.
7. AFTER INSTALLATION OF GUARD RAIL IS COMPLETE, UPSET THE THREAD ON THE ANCHOR BOLTS IN THREE PLACES AROUND EACH BOLT, AT THE JUNCTION OF THE NUT AND THE EXPOSED THREAD, WITH A CENTER PUNCH OR SIMILAR TOOL.
8. TERMINAL CONNECTOR ANCHORAGE SHALL BE INCIDENTAL TO THE APPLICABLE CONCRETE PAY ITEM.
9. END POST SHALL BE CONSTRUCTED NORMAL TO GRADE, UNLESS OTHERWISE SHOWN ON THE DESIGN DRAWINGS.



PLAN END POST & GUARD RAIL
3/4" = 1'-0"



TERMINAL CONNECTOR ANCHORAGE
1 1/2" = 1'-0"

RAIL NOTE:
THE W-BEAM TERMINAL CONNECTORS SHALL BE INCIDENTAL TO ITEM 606.1735 GUARD RAIL ATTACHMENT TYPE A.

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Scale:

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Drawn	SMG	DEC. 2001	In Charge of	DWC	DEC. 2001

PE Stamp:

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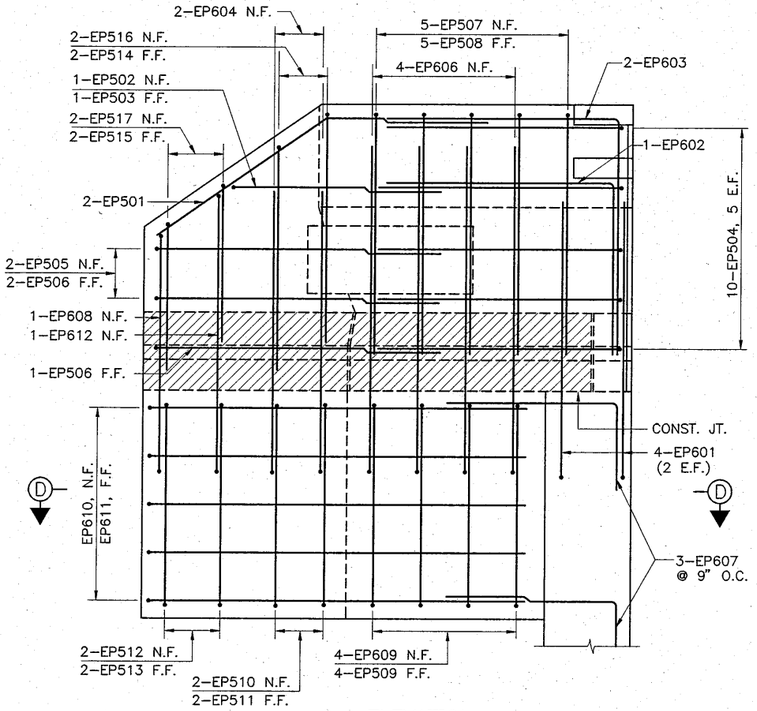
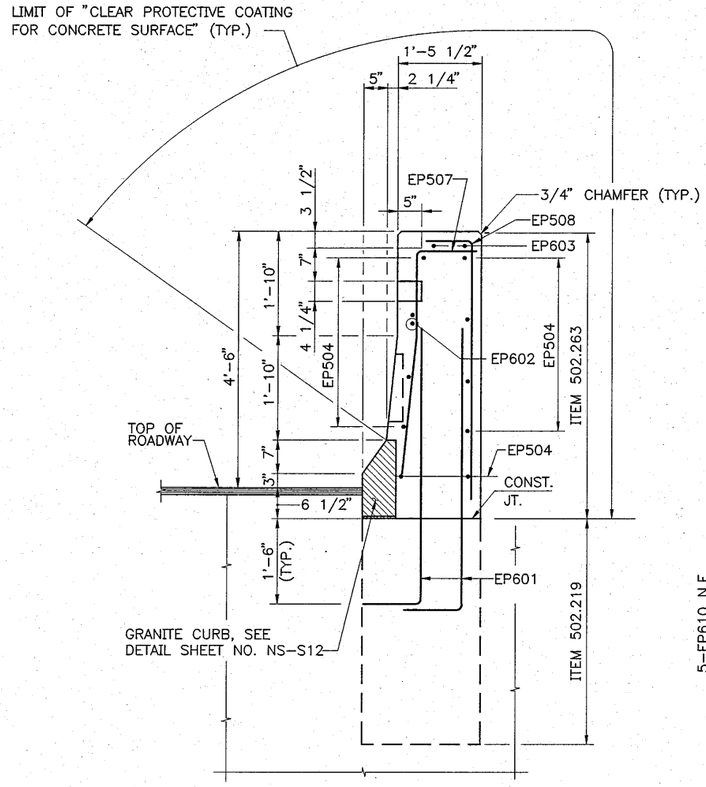
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT
THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
END POST DETAILS I

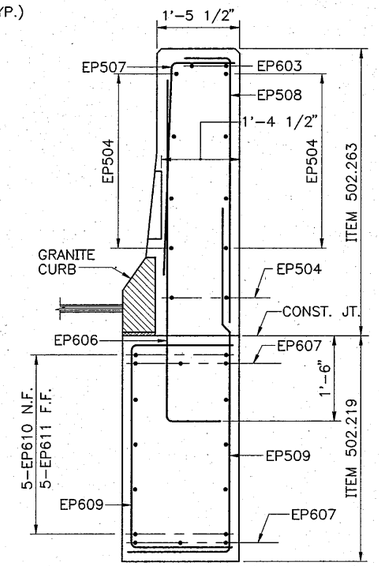
SHEET NUMBER: NS-S12
CONTRACT: 2002.01
202 OF 257



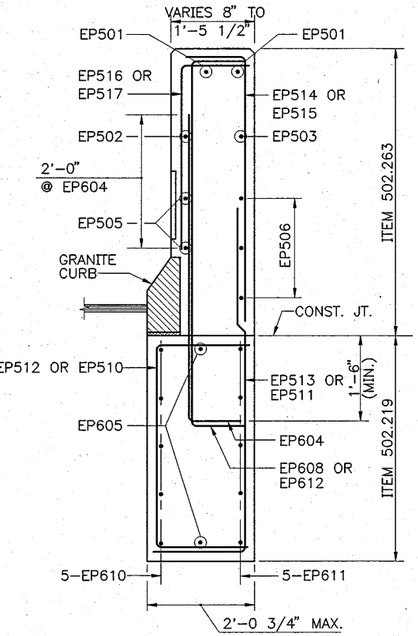
ELEVATION
REINFORCEMENT
3/4"=1'-0"



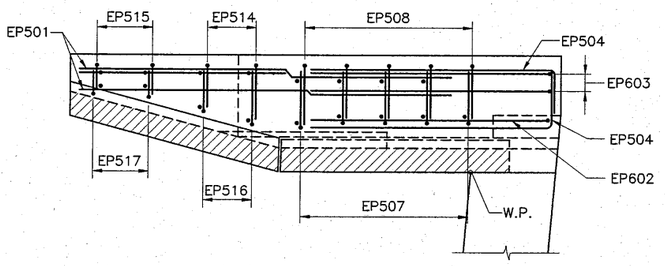
SECTION A–A
3/4"=1'-0"



SECTION B–B
3/4"=1'-0"



SECTION C–C
3/4"=1'-0"



PLAN
REINFORCEMENT
3/4"=1'-0"

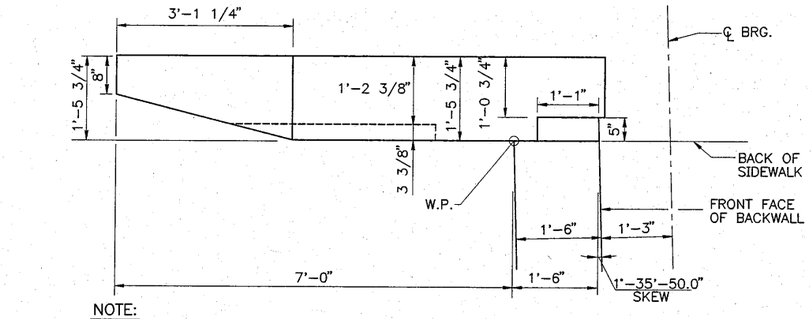
NOTES:

1. SEE END POST DETAILS I, SHEET NO. NS–S12 FOR NOTES.
2. FOR SECTION LOCATIONS A–A, B–B AND C–C, SEE SHEET NO. NS–S12.

P:\Land Projects\0213014\DWG\Mainest\Bridge\R14\NS33BDT03.dwg

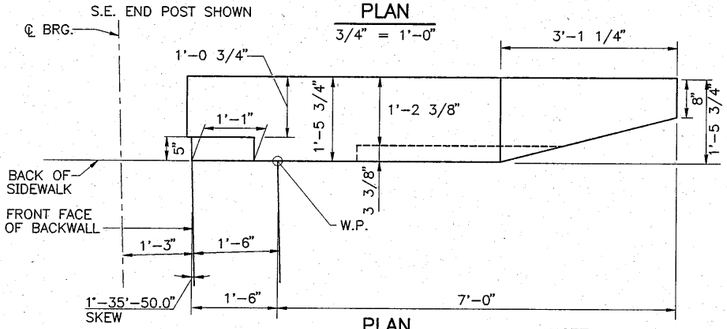
Scale:				Designed by: Edwards AND Kelcey	PE Stamp:	Approved by: HNTB	MAINE TURNPIKE AUTHORITY MODERNIZATION AND WIDENING PROJECT	BRIDGE REPLACEMENT NORTH STREET UNDERPASS END POST DETAILS II
No.	Revision	By	Date	THE SCHRAFFT CENTER 529 MAIN STREET, SUITE 203 BOSTON, MASSACHUSETTS 02129-1107 PHONE: (617) 242-9222 FAX: (617) 242-9824		HNTB CORPORATION ARCHITECTS ENGINEERS PLANNERS 2 Thomas Drive Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 772-7410	The Widening	SHEET NUMBER: NS–S13
				Designed SBH DEC. 2001 Checked GTS DEC. 2001				CONTRACT: 2002.01 203 OF 257
				Drawn SMG DEC. 2001 In Charge of DWC DEC. 2001				

Sidewalk Side

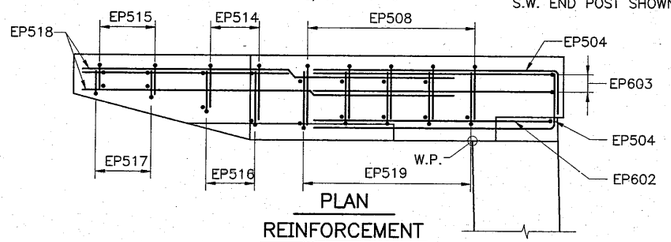


NOTE:
S.E. END POST SHOWN

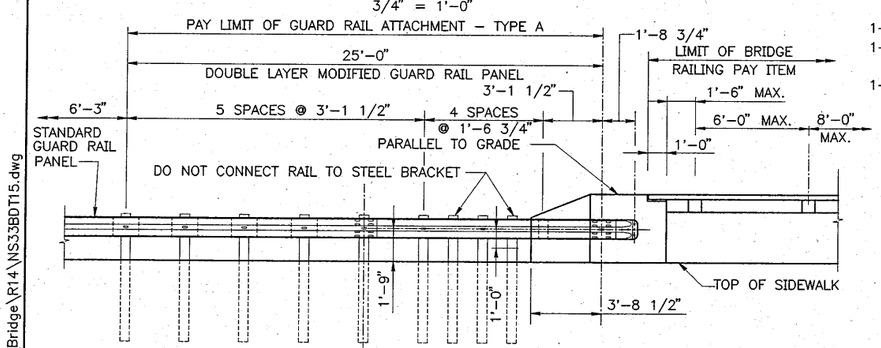
PLAN
3/4" = 1'-0"



NOTE:
S.W. END POST SHOWN.

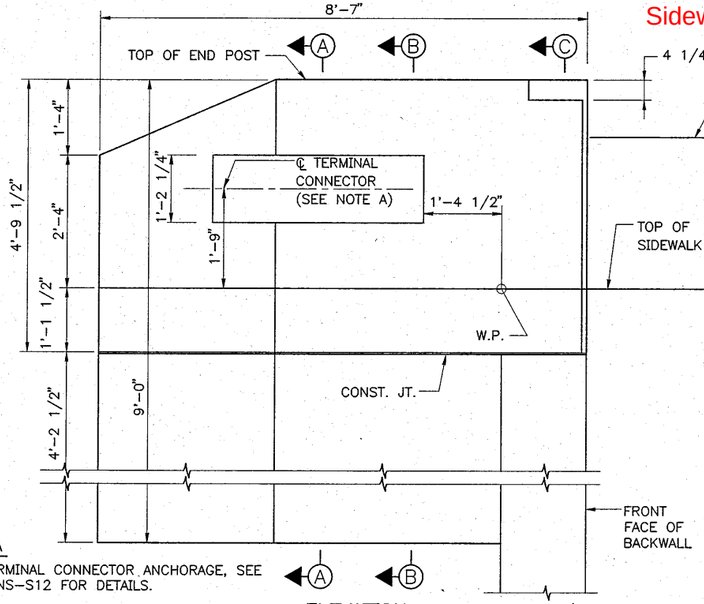


PLAN
REINFORCEMENT
3/4" = 1'-0"



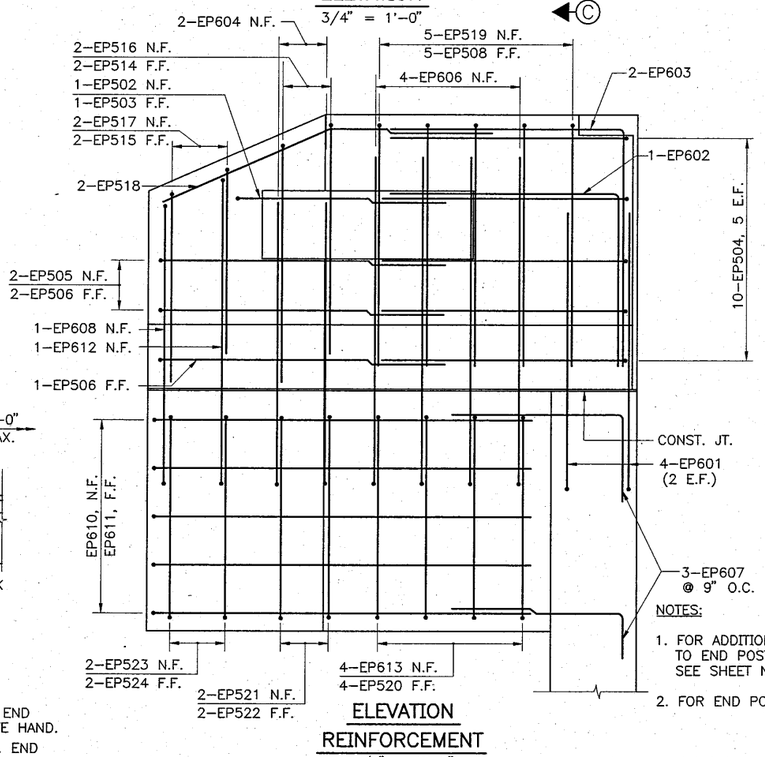
HIGHWAY GUARD RAIL ATTACHMENT TO BRIDGE END POST
1" = 4'-0"

NOTE:
1. S.E. END POST SHOWN. S.W. END POST IS SIMILAR BUT OPPOSITE HAND.
2. FOR DETAILS AT N.W. AND N.E. END POST, SEE SHEET NO. NS-S12.



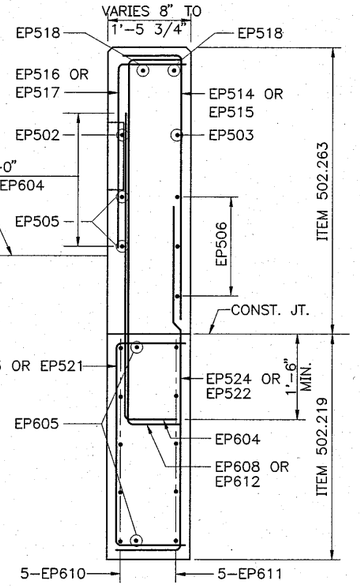
NOTE A
FOR TERMINAL CONNECTOR ANCHORAGE, SEE SHEET NS-S12 FOR DETAILS.

ELEVATION
3/4" = 1'-0"

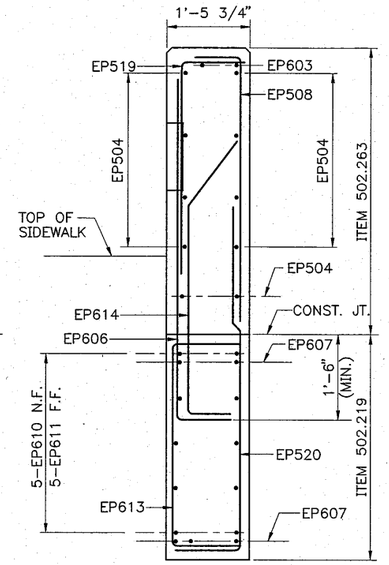


ELEVATION
REINFORCEMENT
3/4" = 1'-0"

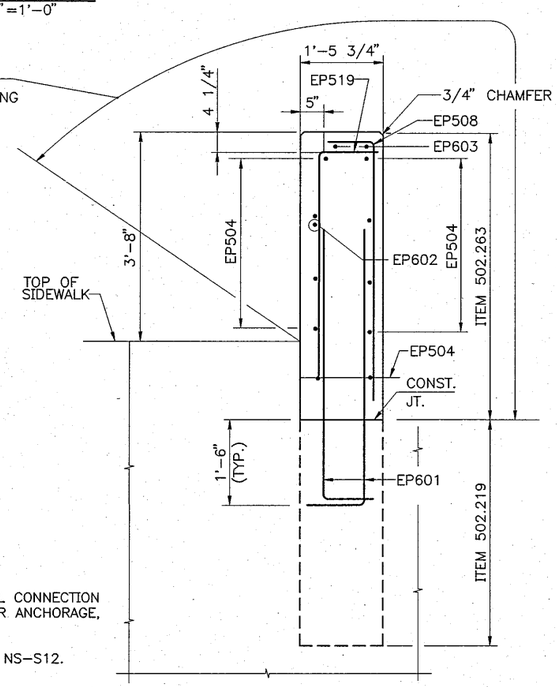
NOTES:
1. FOR ADDITIONAL DETAILS OF GUARD RAIL CONNECTION TO END POST AND TERMINAL CONNECTOR ANCHORAGE, SEE SHEET NO. NS-S12.
2. FOR END POST NOTES, SEE SHEET NO. NS-S12.



SECTION A-A
3/4"=1'-0"



SECTION B-B
3/4"=1'-0"



SECTION C-C
3/4"=1'-0"

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Scale:			
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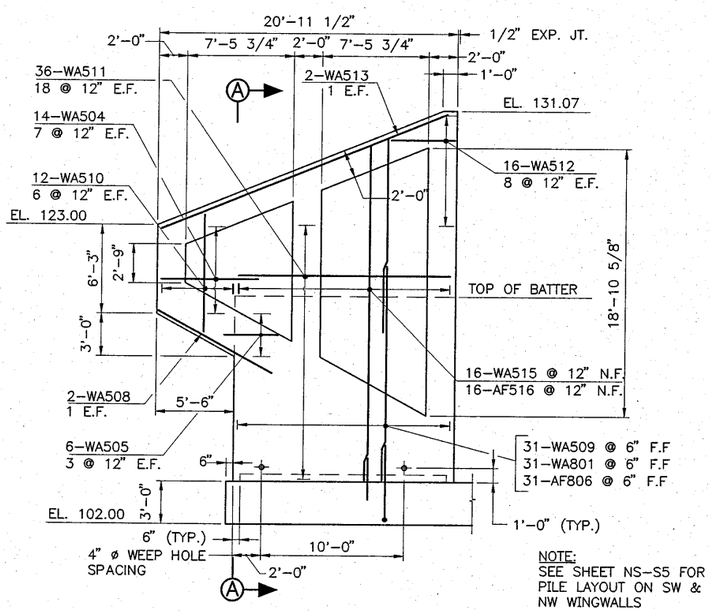
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT
The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
END POST DETAILS III

CONTRACT: 2002.01

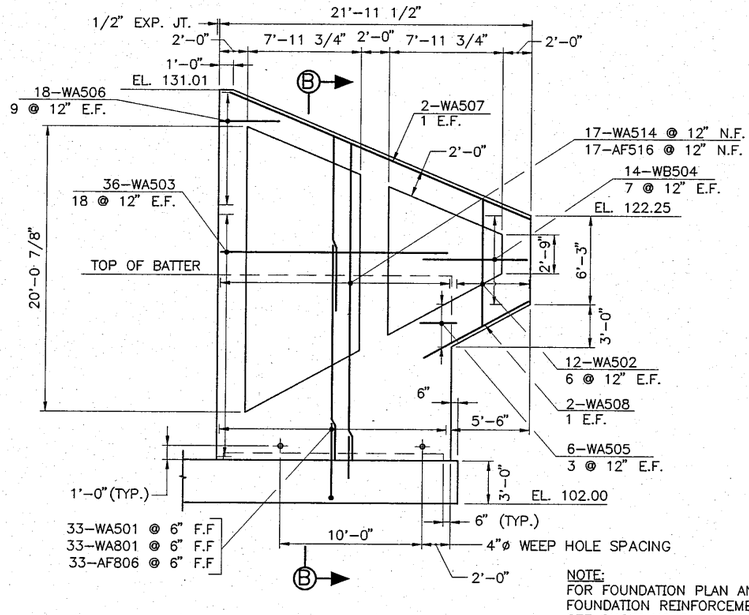
SHEET NUMBER: NS-S14
204 OF 257



NOTE:
SEE SHEET NS-S5 FOR PILE LAYOUT ON SW & NW WINGWALLS

ELEVATION OF S.W. WINGWALL

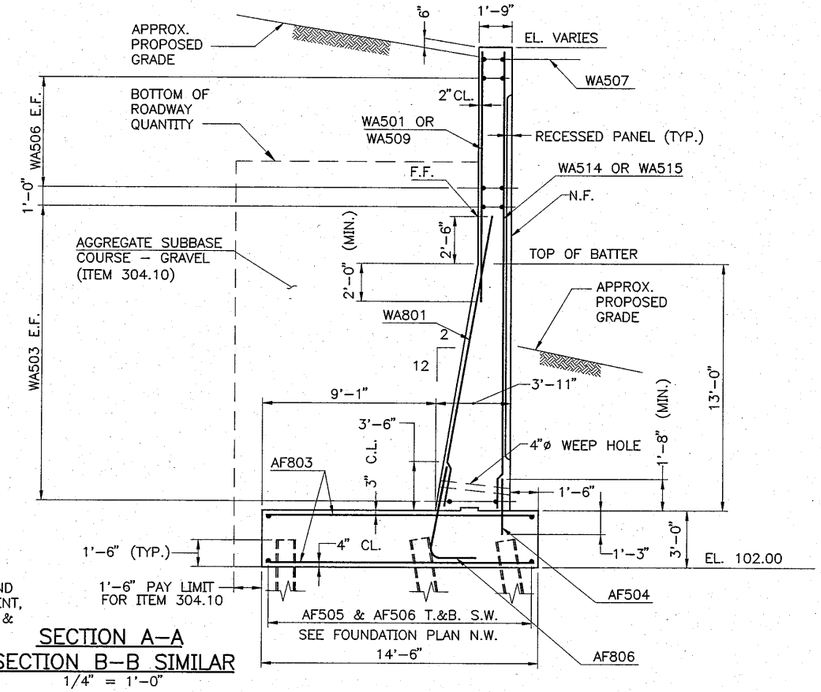
3/16" = 1'-0"



NOTE:
FOR FOUNDATION PLAN AND FOUNDATION REINFORCEMENT, SEE SHEET NO.'S NS-S5 & NS-S6, RESPECTIVELY.

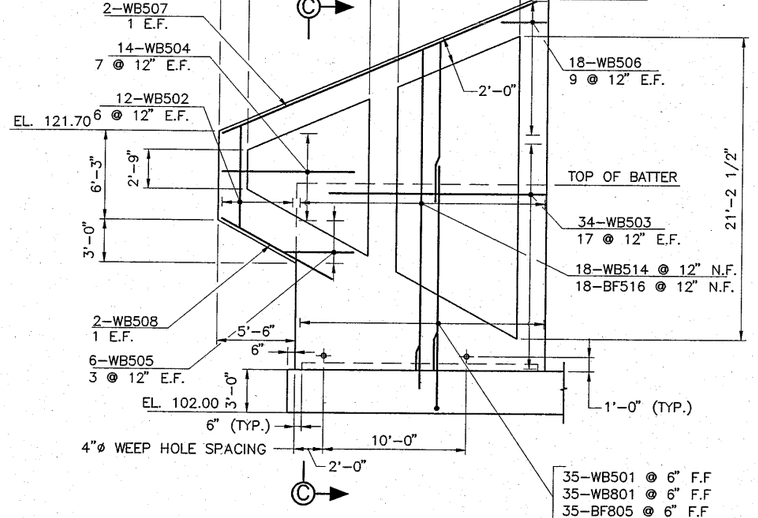
ELEVATION OF N.W. WINGWALL

3/16" = 1'-0"



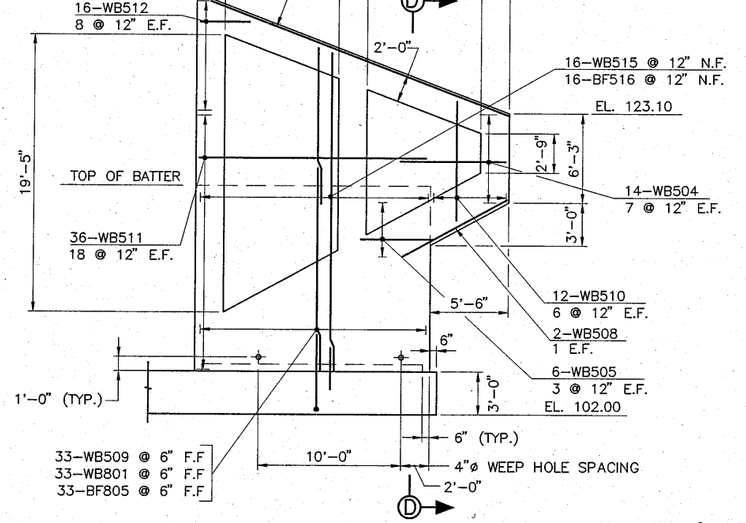
SECTION A-A
SECTION B-B SIMILAR

1/4" = 1'-0"



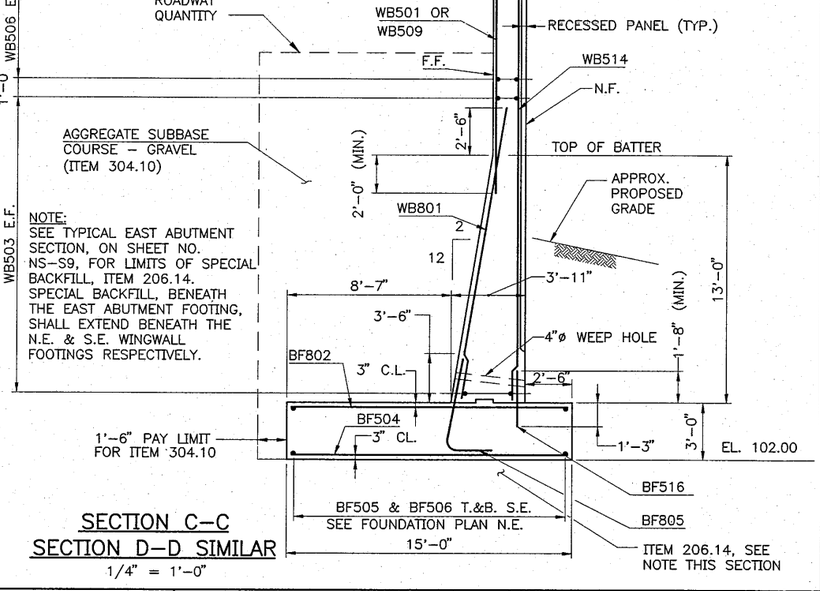
ELEVATION OF N.E. WINGWALL

3/16" = 1'-0"



ELEVATION OF S.E. WINGWALL

3/16" = 1'-0"



NOTE:
SEE TYPICAL EAST ABUTMENT SECTION, ON SHEET NO. NS-S9, FOR LIMITS OF SPECIAL BACKFILL, ITEM 206.14. SPECIAL BACKFILL, BENEATH THE EAST ABUTMENT FOOTING, SHALL EXTEND BENEATH THE N.E. & S.E. WINGWALL FOOTINGS RESPECTIVELY.

SECTION C-C
SECTION D-D SIMILAR

1/4" = 1'-0"

Scale:

No.	Revision	By	Date

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MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT

The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
WINGWALL DETAILS

CONTRACT: 2002.01

SHEET NUMBER: NS-S15
205 OF 257

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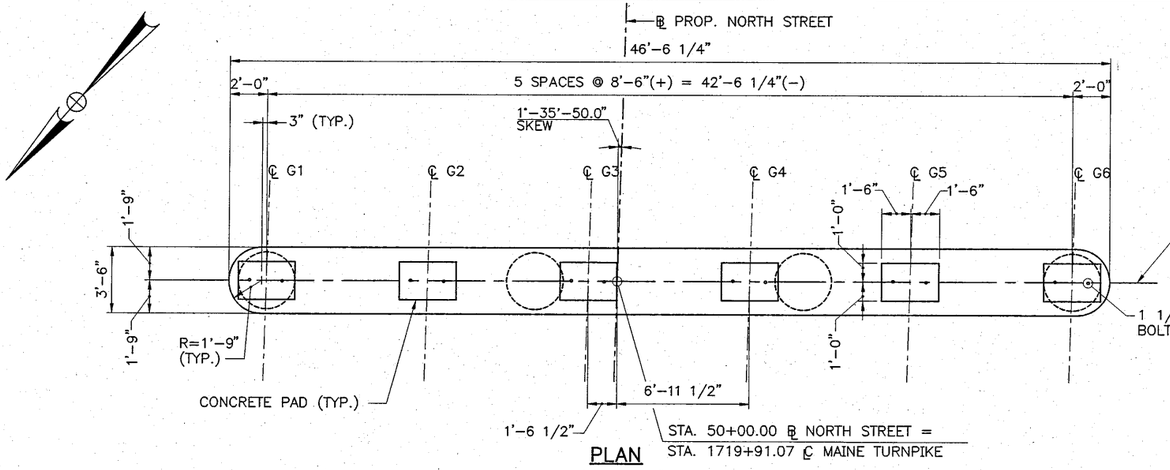
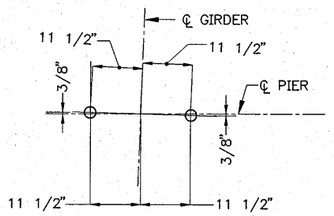
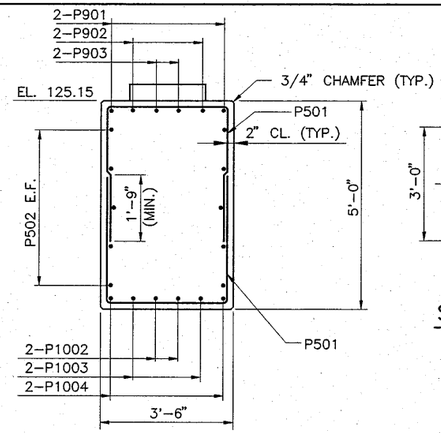


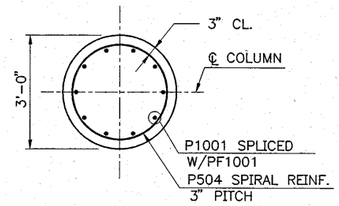
PLAN
1/4" = 1'-0"



ANCHOR BOLT LAYOUT
3/4" = 1'-0"



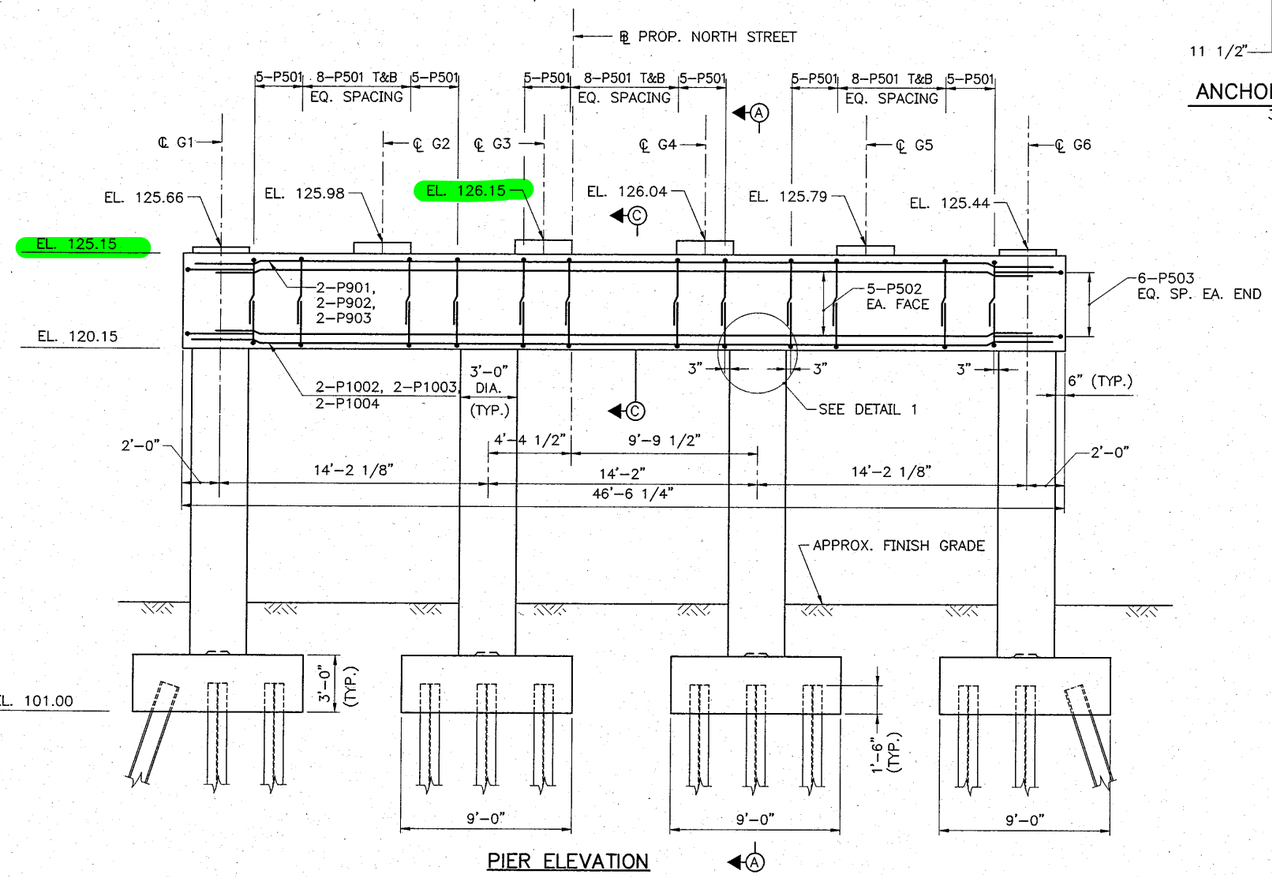
SECTION C-C
1/2" = 1'-0"



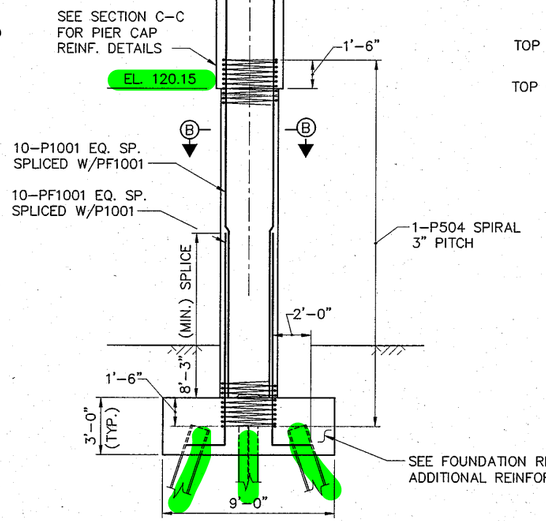
SECTION B-B
1/2" = 1'-0"

NOTES

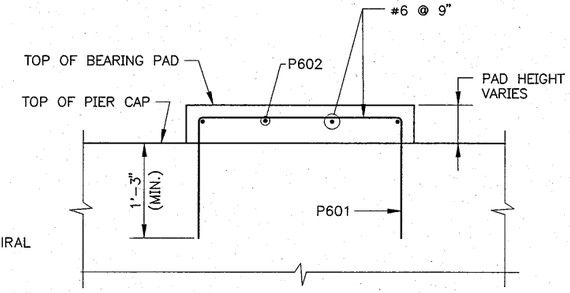
1. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4", UNLESS OTHERWISE INDICATED.
2. REINFORCING STEEL SHALL HAVE A 2" MINIMUM COVER, UNLESS OTHERWISE INDICATED.
3. PLACE REINFORCING STEEL ON PIER CAP & BEARING PADS TO CLEAR BEARING ANCHOR BOLTS.
4. FOR FOUNDATION PLAN AND FOUNDATION REINFORCEMENT, SEE SHEET NS-S5, & NS-S6.
5. CONCRETE BEARING PADS SHALL BE CAST MONOLITHICALLY WITH THE PIER CAP.
6. COAT ALL EXPOSED SURFACES OF PIER WITH CLEAR PROTECTIVE COATING FOR CONCRETE SURFACE, ITEM 515.202.



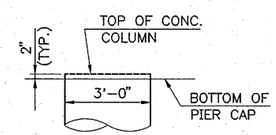
PIER ELEVATION
1/4" = 1'-0"



SECTION A-A
1/4" = 1'-0"



BEARING PAD DETAIL
1" = 1'-0"



DETAIL 1
N.T.S.

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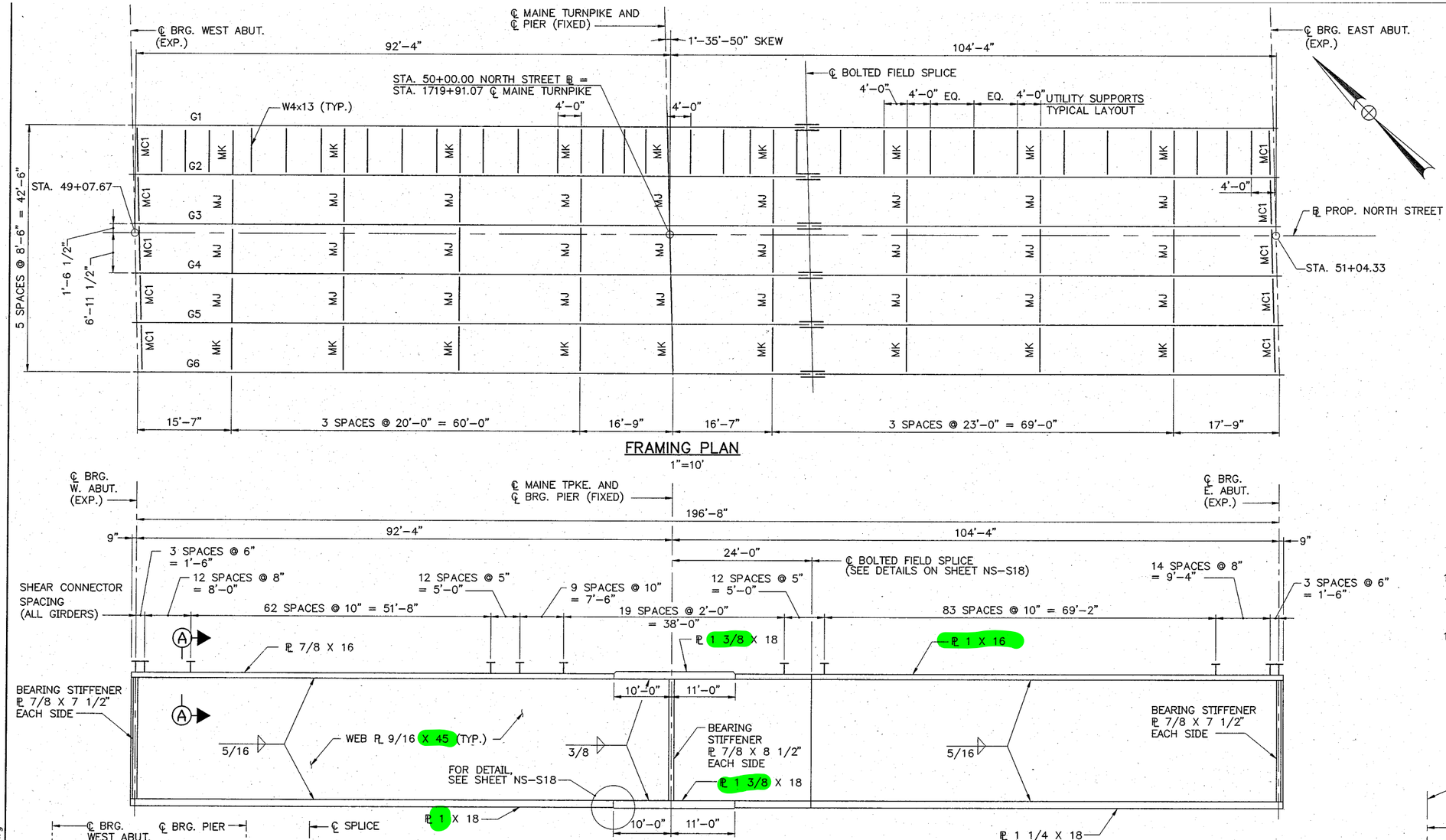
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT
THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
PIER DETAILS

SHEET NUMBER: NS-S16
CONTRACT: 2002.01
206 OF 257

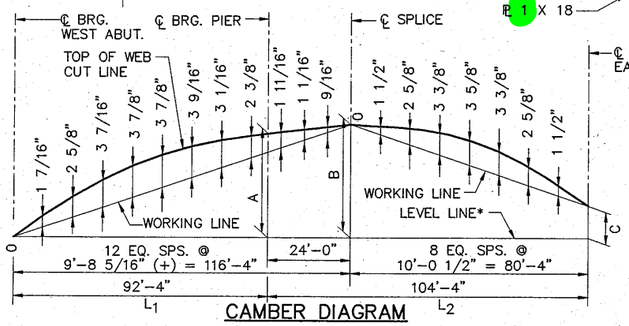


FRAMING PLAN

1"=10'

GIRDER ELEVATION

NO SCALE



CAMBER DIAGRAM

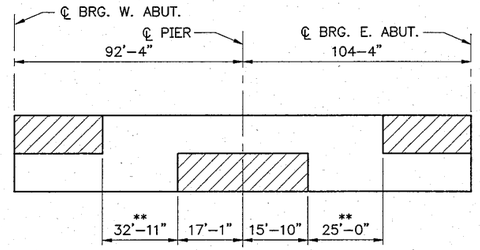
NO SCALE

* LEVEL LINE IS THE HORIZONTAL REFERENCE LINE THROUGH LOWEST POINT ON CUT LINE.

GIRDER NO.	DIMENSIONS IN FEET		
	A	B	C
G1	0.834	0.914	0.062
G2	0.831	0.909	0.054
G3	0.827	0.904	0.046
G4	0.823	0.900	0.038
G5	0.820	0.895	0.030
G6	0.816	0.890	0.023

STRUCTURAL STEEL NOTES

1. CAMBER ORDINATES, AS SHOWN; ARE COMPUTED TO COMPENSATE FOR ALL DEAD LOAD DEFLECTIONS AND FOR THE CURVATURE OF THE FINISHED GRADE PROFILE.
2. NO TRANSVERSE BUTT-WELD SPLICES WILL BE ALLOWED IN THE FLANGE PLATES OR WEB PLATES WITHIN 10 FT. OR 10 PERCENT OF THE SPAN LENGTH (WHICHEVER IS GREATER) FROM THE POINTS OF MAXIMUM NEGATIVE MOMENT OR MAXIMUM POSITIVE MOMENT. BUTT-WELD SPLICES IN FLANGES SHALL BE NOT LESS THAN 3 FT. FROM TRANSVERSE BUTT-WELDS IN THE WEB PLATES AND NO TRANSVERSE WEB OR FLANGE BUTT-WELDS SHALL BE LOCATED WITHIN 3 FEET OF OTHER TRANSVERSE WELDS (E.G. CONNECTION PLATES TO WEB WELDS) ON EITHER FLANGE OR WEB. NO TRANSVERSE BUTT-WELD SPLICES WILL BE ALLOWED IN AREAS OF STRESS REVERSAL.
3. SECTIONS OF FLANGE PLATES OR WEB PLATES BETWEEN TRANSVERSE SHOP SPLICES OR BETWEEN A TRANSVERSE SHOP SPLICE AND A FIELD SPLICE SHALL BE NOT LESS THAN 52 FT. IN LENGTH, UNLESS OTHERWISE SHOWN ON THE PLANS.
4. BUTT WELDS AT WEB SPLICES AND FLANGE SPLICES SHALL BE GROUND FLUSH IN LONGITUDINAL DIRECTION OF GIRDER.
5. BEARING STIFFENERS SHALL BE PLUMB AFTER ERECTION AND DEAD LOADING OF THE STRUCTURE.
6. CROSSFRAME OR DIAPHRAGM CONNECTION PLATES MAY BE EITHER PLUMB OR NORMAL TO THE TOP FLANGE.
7. FOR DETAILS OF DIAPHRAGM AND CROSSFRAME TYPES MC1, MJ AND MK, SEE STANDARD DETAILS, PAGES 504(15), 504(17) AND 504(21). SEE NOTE 3 ON SHEET NO. NS-S2.
8. WELDED GIRDERS: FLANGES, WEBS, SPLICE PLATES AND BEARING STIFFENERS SHALL BE AASHTO M270, GRADE 50. BOLTS SHALL BE AASHTO M164. ALL OTHER STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 36.
9. ALL FLANGE AND WEB PLATES SHALL BE DESIGNATED "CVN" WITH THE MATERIAL MEETING SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS IN ACCORDANCE WITH AASHTO SPECIFICATIONS (TEMPERATURE ZONE 2 DESIGNATION).
10. FOR SECTION A-A, SEE SHEET NS-S18.
11. SIGN SUPPORTS SHALL BE GALVANIZED AND INCIDENTAL TO ITEM 504.702. SEE SHEET NS-S18 FOR DETAILS.
12. FOR UTILITY SUPPORT DETAIL AND CONDUIT NOTES, SEE SHEET NS-S24.



GIRDER STRESS DIAGRAM

NO SCALE

AREAS OF GIRDER WHICH WILL ALWAYS BE IN COMPRESSION. ALL OTHER AREAS WILL BE IN TENSION OR ARE AREAS OF STRESS REVERSALS.

** STRESS REVERSALS

P:\Land Projects\0213014\DWG\Mainest\Bridge\R14\NS33BFP01.dwg

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MAINE TURNPIKE AUTHORITY
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THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
FRAMING PLAN

SHEET NUMBER: NS-S17
CONTRACT: 2002.01
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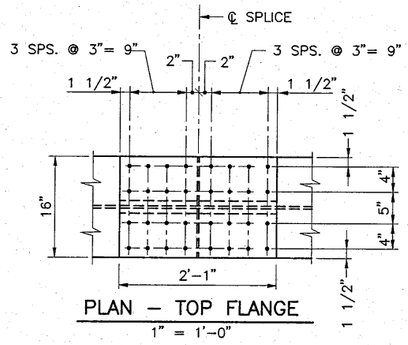
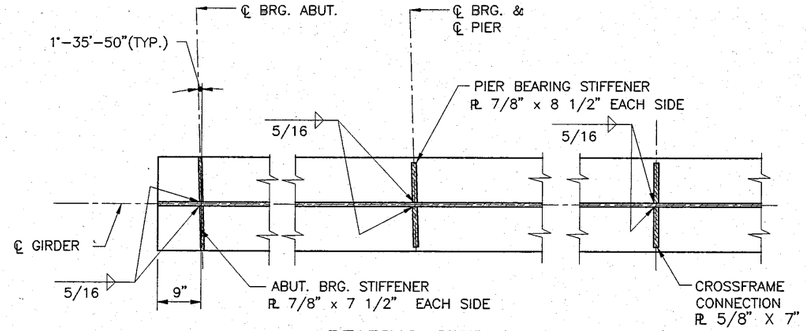
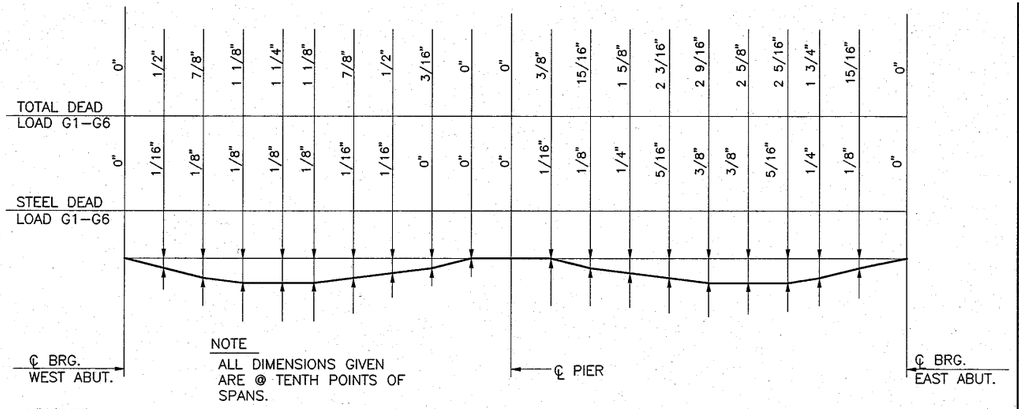


PLAN – TOP FLANGE
1" = 1'-0"

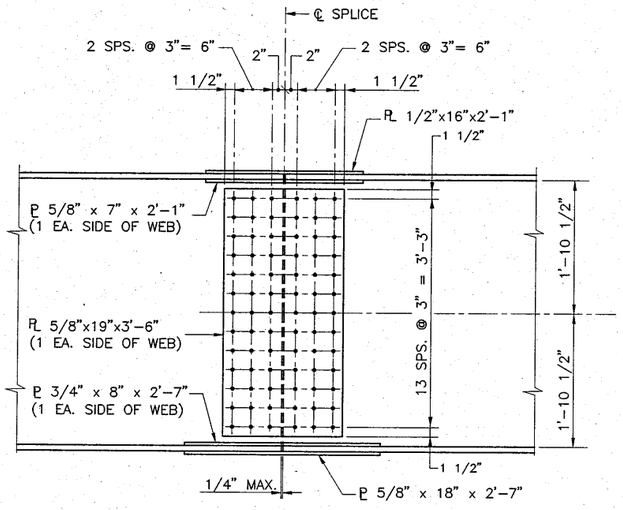


BEARING STIFFENER DETAILS
NO SCALE

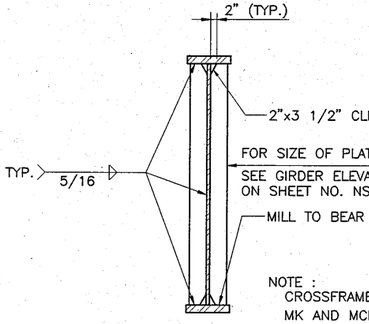


NOTE
ALL DIMENSIONS GIVEN ARE @ TENTH POINTS OF SPANS.

DEAD LOAD DEFLECTION DIAGRAM
HORIZ. 1" = 20'
VERT. 1" = 1"



ELEVATION
1" = 1'-0"



BEARING STIFFENER DETAIL
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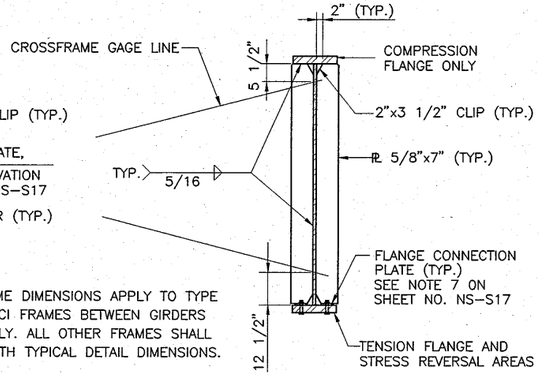
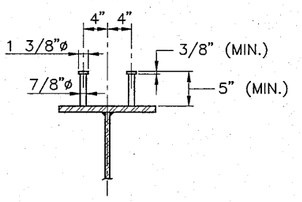
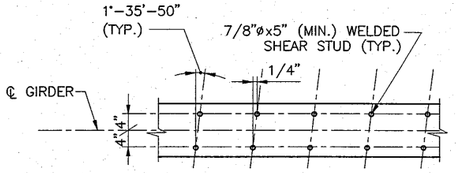


NOTE :
CROSSFRAME DIMENSIONS APPLY TO TYPE MK AND MCI FRAMES BETWEEN GIRDERS 1 & 2 ONLY. ALL OTHER FRAMES SHALL COMPLY WITH TYPICAL DETAIL DIMENSIONS.

CROSSFRAME CONNECTION PLATE DETAILS
NO SCALE

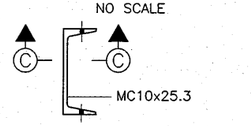


SECTION A–A
NO SCALE



SHEAR CONNECTOR LAYOUT
NO SCALE

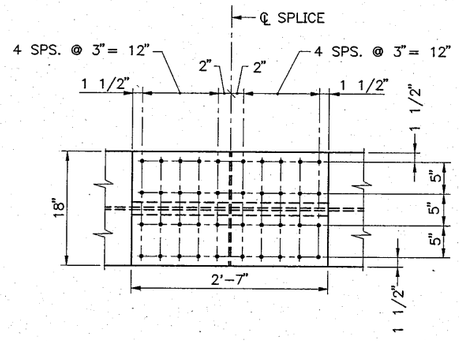
NO SCALE



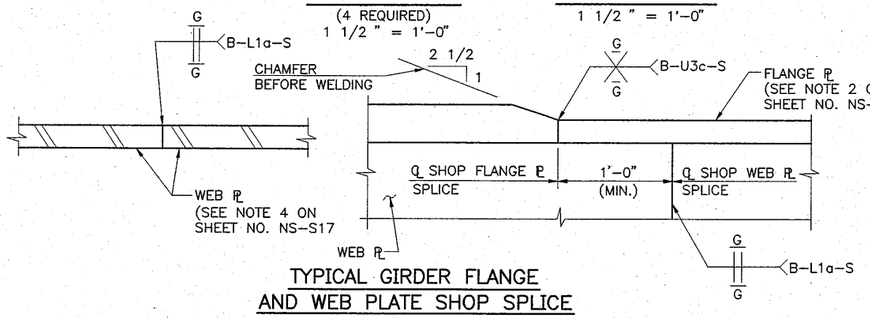
NOTE:
LOCATION OF SIGN SUPPORT WILL BE DETERMINED IN FIELD.

SIGN SUPPORT
(4 REQUIRED)
1 1/2 " = 1'-0"

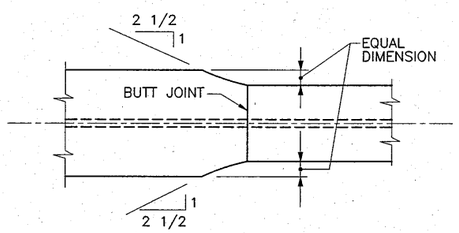
SECTION C–C
1 1/2 " = 1'-0"



PLAN – BOTTOM FLANGE
1" = 1'-0"



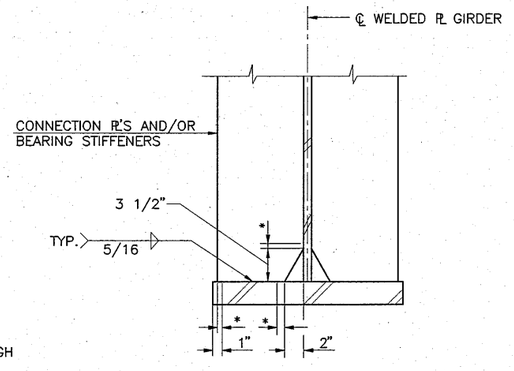
TYPICAL GIRDER FLANGE AND WEB PLATE SHOP SPLICE
NO SCALE



FLANGE TRANSITION DETAIL
NO SCALE

NOTES

1. ALL BOLTS SHALL BE 7/8"ø , AASHTO M164, HIGH STRENGTH BOLTS. HOLES SHALL BE 15/16"ø.
2. NUTS SHALL BE ON INSIDE FACE OF WEB SPLICE FOR FASCIA GIRDERS.
3. NUTS SHALL BE UP ON ALL FLANGE SPLICES.
4. FOR STRUCTURAL STEEL NOTES, SEE SHEET NO. NS–S17.



* NO WELD FOR 1/4" MIN., 1/2" MAX. (EXCEPT MUST MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE)

WELD TERMINATION AND COPING DETAILS FOR WELDED PLATE GIRDERS
NO SCALE

Scale:

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NORTH STREET UNDERPASS
STRUCTURAL STEEL DETAILS

SHEET NUMBER: NS–S18
CONTRACT: 2002.01
208 OF 257

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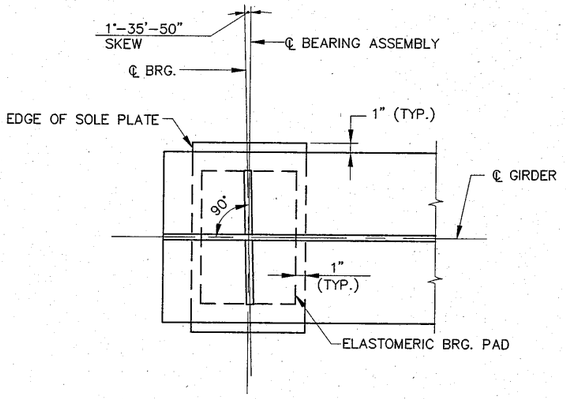
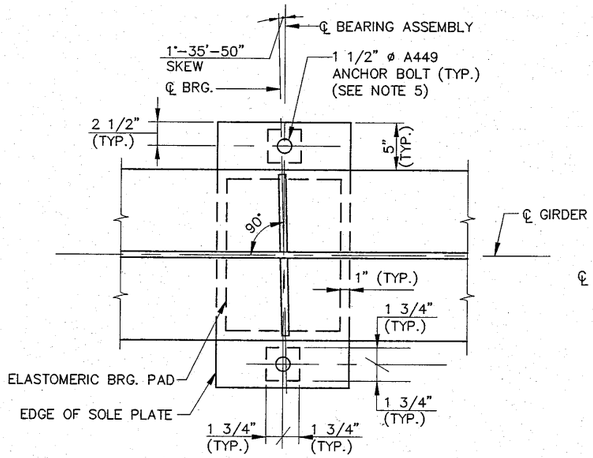
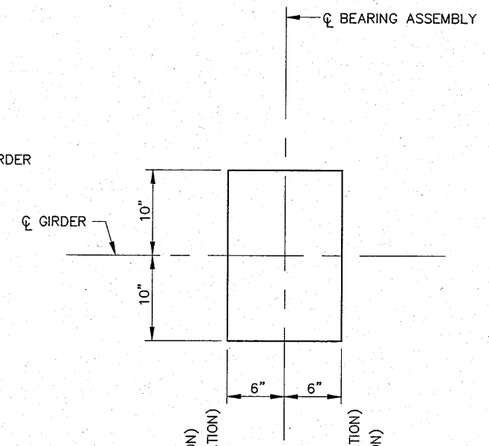


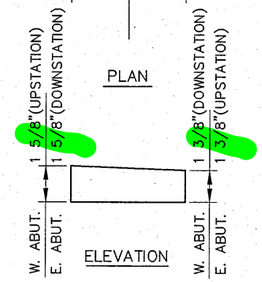
PLAN



PLAN



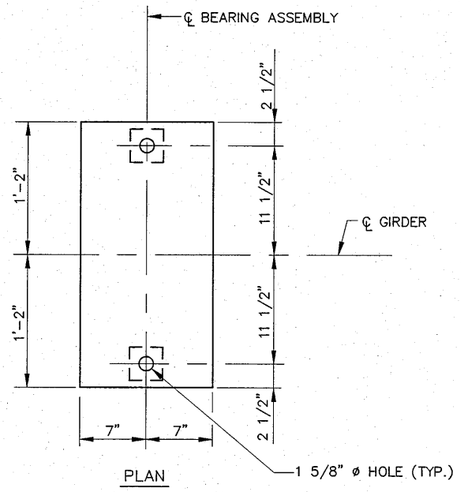
PLAN



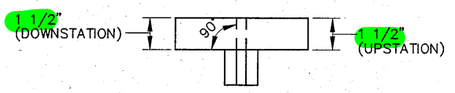
ELEVATION

SOLE PLATE – EXPANSION WEST & EAST ABUTMENTS

N.T.S.



PLAN



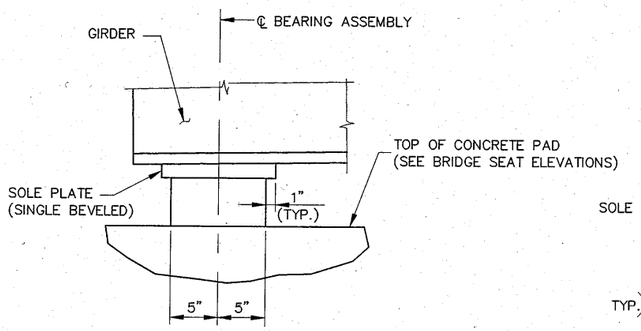
ELEVATION

SOLE PLATE – FIXED PIER

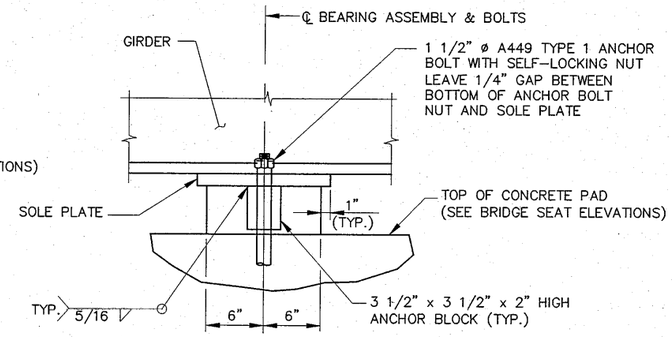
N.T.S.

NOTES:

1. ELASTOMER SHALL BE 100% POLYCHLOROPRENE (NEOPRENE) WITH DUROMETER HARDNESS OF 60.
2. SOLE PLATE, ANCHOR BOLTS, WASHER AND NUTS SHALL BE GALVANIZED.
3. CONTRACTOR SHALL RE–FINISH GALVANIZING AS DIRECTED BY ENGINEER AFTER WELDING.
4. BEARING PADS WERE DESIGNED USING METHOD B, AASHTO 1998 INTERIM SPECIFICATION AS REVISED TESTING SHALL BE REQUIRED FOR BEARING PADS.
5. ANCHOR BOLTS SHALL BE SWEDGED OR THREADED.



ELEVATION



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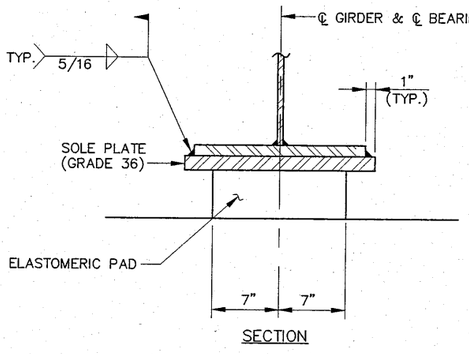
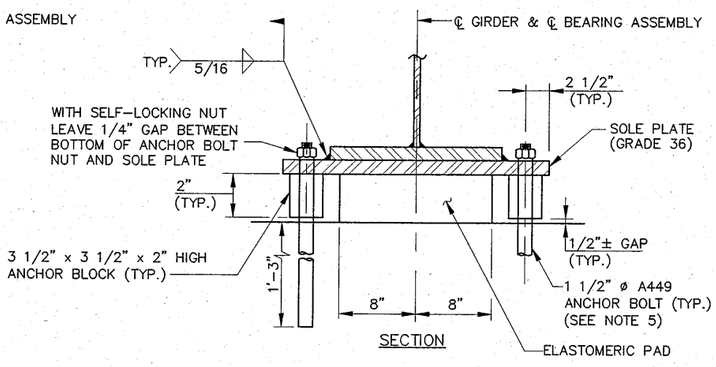


SECTION

BEARING ASSEMBLY – EXPANSION WEST & EAST ABUTMENTS (12 REQUIRED)

1 1/2" = 1'–0"



SECTION

BEARING ASSEMBLY – FIXED PIER (6 REQUIRED)

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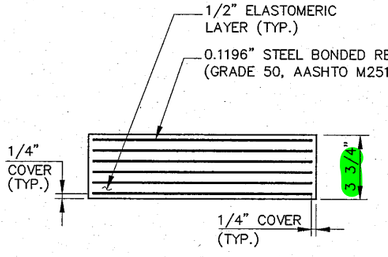
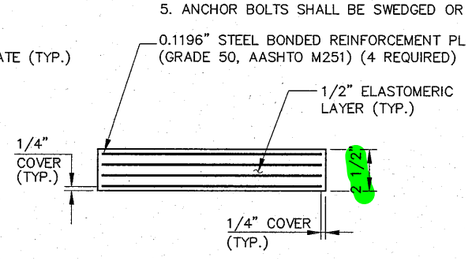


ELASTOMERIC BEARING PAD – EXPANSION WEST AND EAST ABUTMENTS

N.T.S.



ELASTOMERIC BEARING PAD – FIXED PIER

N.T.S.

ELASTOMERIC BEARING PAD

N.T.S.

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Drawn	SMG	DEC. 2001	In Charge of	DWC	DEC. 2001

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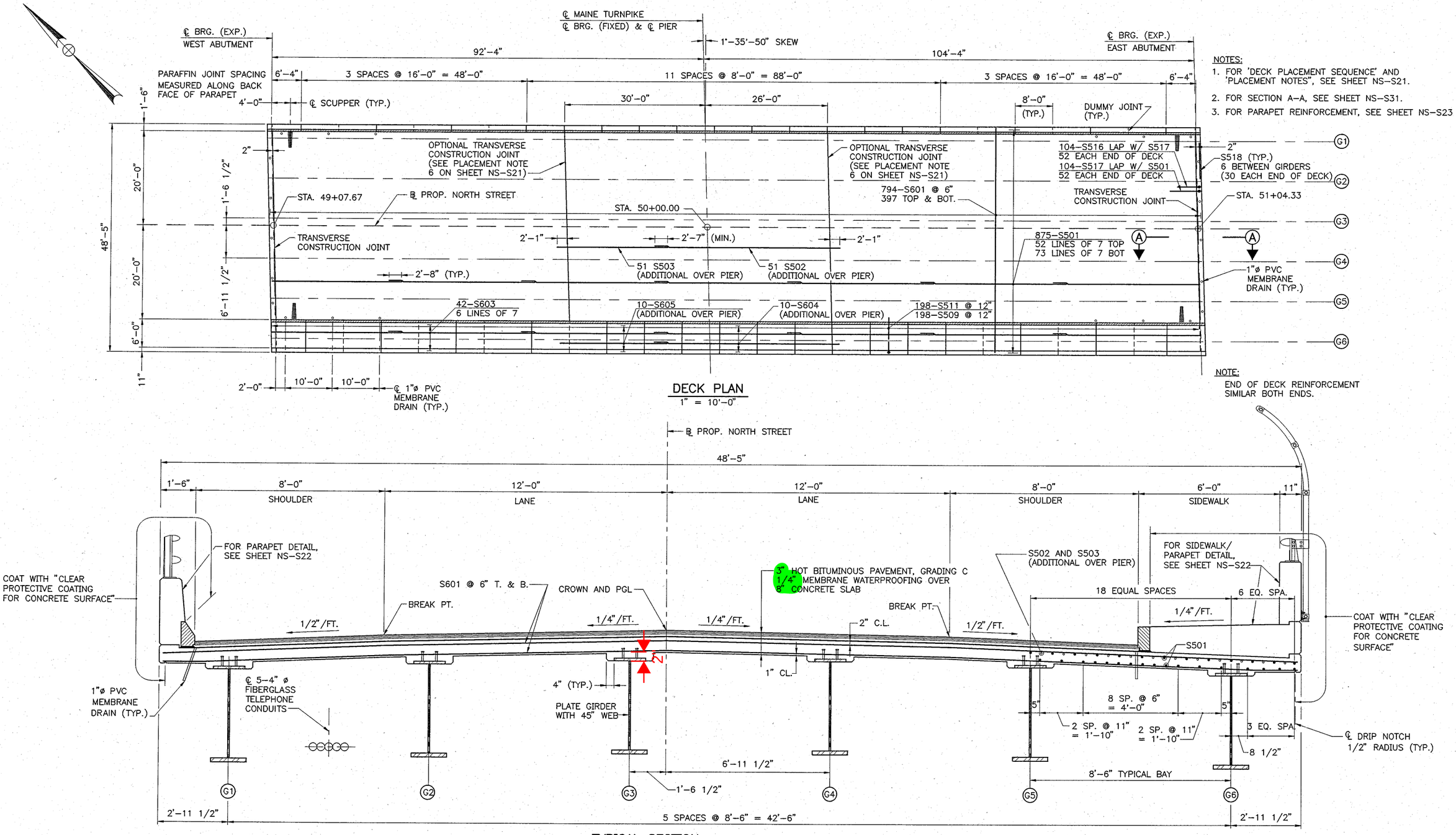
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT
The Widening

BRIDGE REPLACEMENT NORTH STREET UNDERPASS BEARING DETAILS

SHEET NUMBER: NS–S19
CONTRACT: 2002.01
209 OF 257



NOTES:

1. FOR 'DECK PLACEMENT SEQUENCE' AND 'PLACEMENT NOTES", SEE SHEET NS-S21.
2. FOR SECTION A-A, SEE SHEET NS-S31.
3. FOR PARAPET REINFORCEMENT, SEE SHEET NS-S23

DECK PLAN

1" = 10'-0"

NOTE:

END OF DECK REINFORCEMENT SIMILAR BOTH ENDS.

TYPICAL SECTION

1/2" = 1'-0"

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MAINE TURNPIKE AUTHORITY
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BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
DECK REINFORCEMENT & TYPICAL SECTION

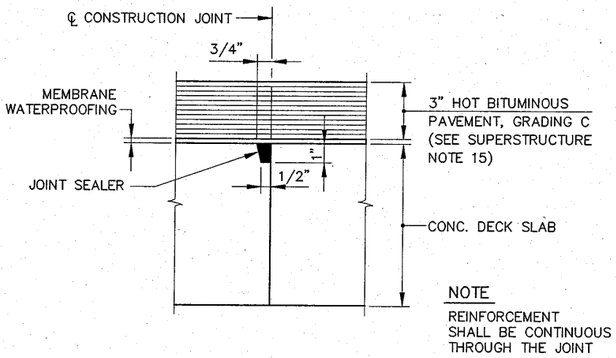
SHEET NUMBER: NS-S20
CONTRACT: 2002.01
210 OF 257

NOTE

TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, AS WELL AS POSSIBLE IRREGULARITIES IN GIRDERS, SET THE BOTTOM OF SLAB ELEVATIONS AT THE POINTS INDICATED BEFORE ANY OF THE SLAB FORMWORK IS STARTED. SEE SUBSECTION 502.10(a) OF THE STANDARD SPECIFICATIONS.

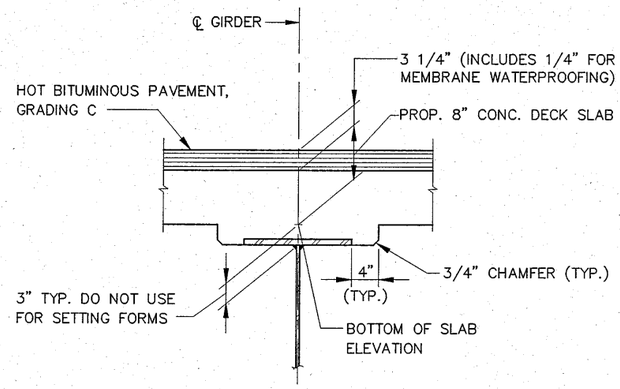
BOTTOM OF SLAB ELEVATIONS AT BLOCKING POINTS

GIRDER	℄ BRG. W. ABUT.	SPAN 1									℄ PIER ℄ BRG.	SPAN 2									℄ BRG. E. ABUT.
		.1L_1	.2L_1	.3L_1	.4L_1	.5L_1	.6L_1	.7L_1	.8L_1	.9L_1		.1L_2	.2L_2	.3L_2	.4L_2	.5L_2	.6L_2	.7L_2	.8L_2	.9L_2	
G1	129.28	129.46	129.62	129.76	129.87	129.96	130.01	130.05	130.07	130.09	130.11	130.14	130.17	130.19	130.18	130.13	130.05	129.93	129.76	129.57	129.34
G2	129.59	129.78	129.94	130.08	130.19	130.27	130.33	130.37	130.39	130.41	130.42	130.45	130.48	130.50	130.49	130.44	130.36	130.24	130.08	129.88	129.65
G3	129.78	129.96	130.12	130.26	130.37	130.45	130.51	130.54	130.57	130.58	130.60	130.63	130.66	130.67	130.66	130.62	130.54	130.41	130.25	130.05	129.82
G4	129.67	129.85	130.01	130.15	130.26	130.34	130.40	130.43	130.45	130.47	130.49	130.52	130.55	130.56	130.55	130.50	130.42	130.30	130.13	129.93	129.70
G5	129.42	129.60	129.77	129.90	130.01	130.09	130.15	130.18	130.21	130.22	130.24	130.27	130.30	130.31	130.30	130.25	130.17	130.05	129.88	129.68	129.45
G6	129.07	129.25	129.41	129.55	129.66	129.74	129.80	129.83	129.85	129.87	129.89	129.91	129.94	129.95	129.94	129.90	129.81	129.69	129.52	129.32	129.09



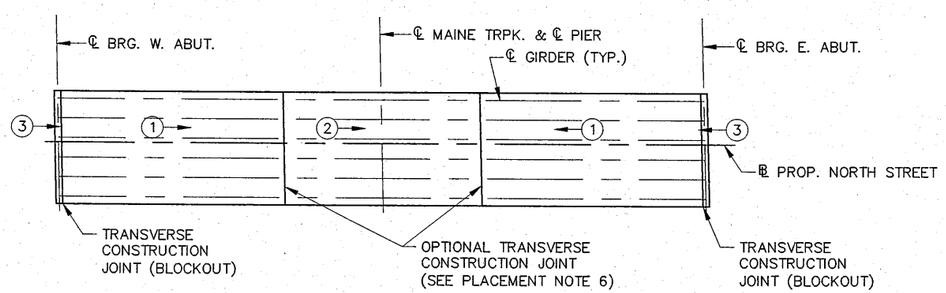
TRANSVERSE CONSTRUCTION JOINT DETAIL

3"=1'-0"



BLOCKING POINT DETAIL

NOT TO SCALE



DECK PLACEMENT SEQUENCE

NO SCALE

PLACEMENT NOTES

1. THE NUMBER IN CIRCLES INDICATE PLACING SEQUENCE. THE ARROWS INDICATE DIRECTION OF PLACEMENT.
2. THE FORM WORK FOR THE CONSTRUCTION JOINTS SHALL REMAIN IN PLACE UNTIL A MINIMUM OF 48 HOURS HAS ELAPSED AFTER PLACEMENT OF THE SLAB. AFTER WHICH, REMOVAL OF FORM WORK MEETING THE REQUIREMENTS FOR FORM REMOVAL OF SECTION 502 (STRUCTURAL CONCRETE) OF THE STANDARD SPECIFICATIONS, MAY PROCEED.
3. PLACEMENTS DESIGNATED BY THE SAME NUMBER DO NOT NECESSARILY HAVE TO BE PLACED THE SAME DAY. A WAITING PERIOD OF 72 HOURS IS NECESSARY BETWEEN ADJACENT PLACEMENTS.
4. STAY-IN-PLACE FORMS ARE NOT TO BE USED.
5. BEGIN PLACEMENT AT THE LOW END OF THE BLOCK.
6. THE OPTIONAL TRANSVERSE CONSTRUCTION JOINT MAY BE OMITTED, PROVIDED THAT THE CONCRETE OF THE ENTIRE DECK SLAB REMAINS PLASTIC UNTIL THE COMPLETION OF THE LAST PLACEMENT AND ALL OTHER SPECIFICATIONS FOLLOWED.

SUPERSTRUCTURE NOTES

1. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4", UNLESS OTHERWISE NOTED.
2. REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2", UNLESS OTHERWISE NOTED.
3. MORTAR FOR BEDDING AND FOR JOINTS IN THE GRANITE CURB SHALL CONTAIN A NON-SHRINK ADDITIVE.
4. CLEAR PROTECTIVE COATING FOR CONCRETE SURFACE SHALL BE APPLIED TO THE FOLLOWING AREAS: PARAPET SURFACES, FASCIA DOWN TO DRIP NOTCH, SIDEWALK, AND ALL EXPOSED CONCRETE SURFACES ON THE END POSTS.
5. FOR 1-BAR ALUMINUM BRIDGE RAILING DETAILS, SEE SHEET NS-S25. FOR 2-BAR ALUMINUM BRIDGE RAILING DETAILS, SEE SHEET NS-S26.
6. IF THE SLAB PLACEMENT HAS TO BE TERMINATED, THE TERMINATION POINT MUST BE AT THE POINTS INDICATED IN THE DECK PLACEMENT SEQUENCE.
7. ADJUST REINFORCING STEEL TO FIT AROUND THE DRAINS IN A MANNER APPROVED OF BY THE ENGINEER. DO NOT CUT TRANSVERSE REINFORCING BARS. CUT LONGITUDINAL REINFORCING STEEL IN THE FIELD TO SUIT, THEN EPOXY-COAT CUT ENDS.
8. FOR REINFORCING STEEL SCHEDULE, SEE SHEET NOS. NS-S36 AND NS-S37.
9. FOR PVC MEMBRANE DRAIN AND SCUPPER DETAILS, SEE SHEET NOS. NS-S22 AND NS-S24 RESPECTIVELY.
10. FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET NOS. NS-S22 AND NS-S23.
11. FOR ROADWAY EXPANSION JOINT DETAILS, SEE SHEET NOS. NS-S29, NS-S30, AND NS-S31.
12. THE CONCRETE DECK SHALL BE GIVEN A SMOOTH BULL FLOAT OR WOOD FLOAT FINISH.
13. FOR SECTION A-A, LOCATED ON SHEET NO. NS-S20, SEE SHEET NO. NS-S31.
14. GRANITE CURB JOINTS SHALL LINE UP WITH PARAFFIN AND DUMMY JOINTS.
15. BITUMINOUS PAVEMENT SHALL BE PLACED IN TWO (2) 1 1/2 INCH "LIFTS".
16. FOR RAIL POST SPACING, SEE SHEET NO. NS-S23.
17. ALL BRIDGE PARAPET CONCRETE, INCLUDING INSIDE FACE, TOP AND OUTSIDE FACE, END POSTS, SIDEWALK AND DECK FASCIA SHALL HAVE A RUBBED FINISH PRIOR TO THE APPLICATION OF THE CLEAR PROTECTIVE COATING FOR CONCRETE SURFACE.
18. THE AUTHORITY'S PERSONNEL SHALL PROFILE THE TOP OF ALL GIRDERS BEFORE THE FORM WORK IS STARTED AND SHALL SUPPLY THE CONTRACTOR WITH FINAL BOTTOM OF SLAB ELEVATIONS. TEN (10) DAYS SHALL BE ALLOWED FOR THE BLOCKING POINT TURN AROUND TIME.
19. CONTRACTOR SHALL HAVE THE OPTION OF USING PRECAST CONCRETE DECK PANELS AS AN ALTERNATE FROM THE CONCRETE SLAB DETAILS SHOWN ON CONTRACT PLANS. THE REQUIREMENTS SHOWN ON PAGES 502(7)-502(12) OF MDOT STANDARD DETAILS SHALL APPLY. ALSO, THE DESIGN MUST MEET THE SATISFACTION OF THE ENGINEER AND THE RESPECTIVE SHOP DRAWINGS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
20. BARS IN CONCRETE SIDEWALK SHALL BE CONTINUOUS.
21. SIDEWALK JOINTS SHALL MATCH BARRIER JOINT SPACING.
22. SHOP DRAWINGS, FOR BAR CHAIRS USED WITH REINFORCING STEEL IN SLAB CONSTRUCTION, SHALL BE SUBMITTED WITH REQUIRED SPACING TO THE ENGINEER FOR APPROVAL. BAR CHAIRS SHALL BE EPOXY-COATED OR PLASTIC PROTECTED.

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MAINE TURNPIKE AUTHORITY
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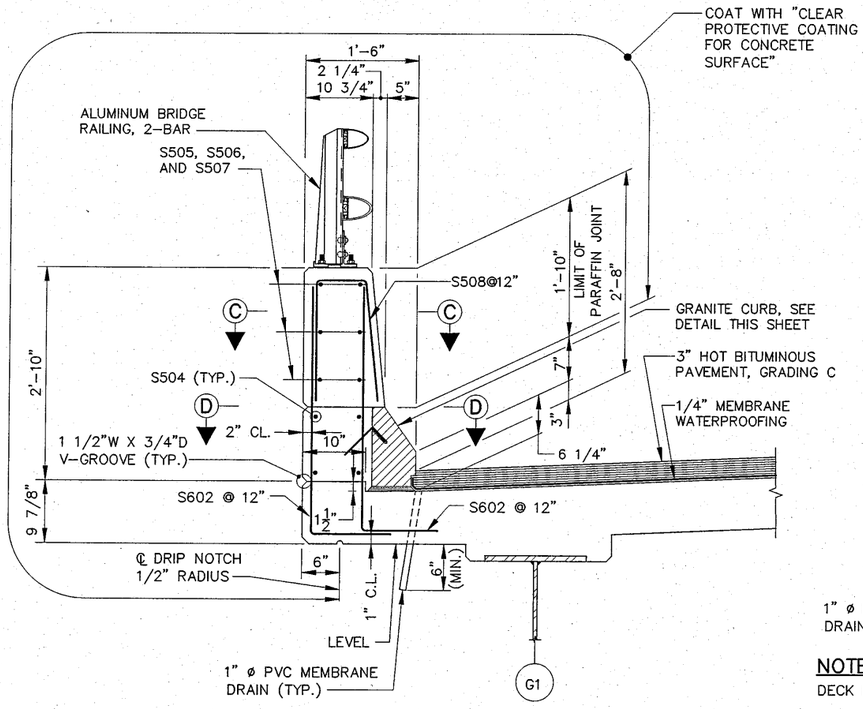
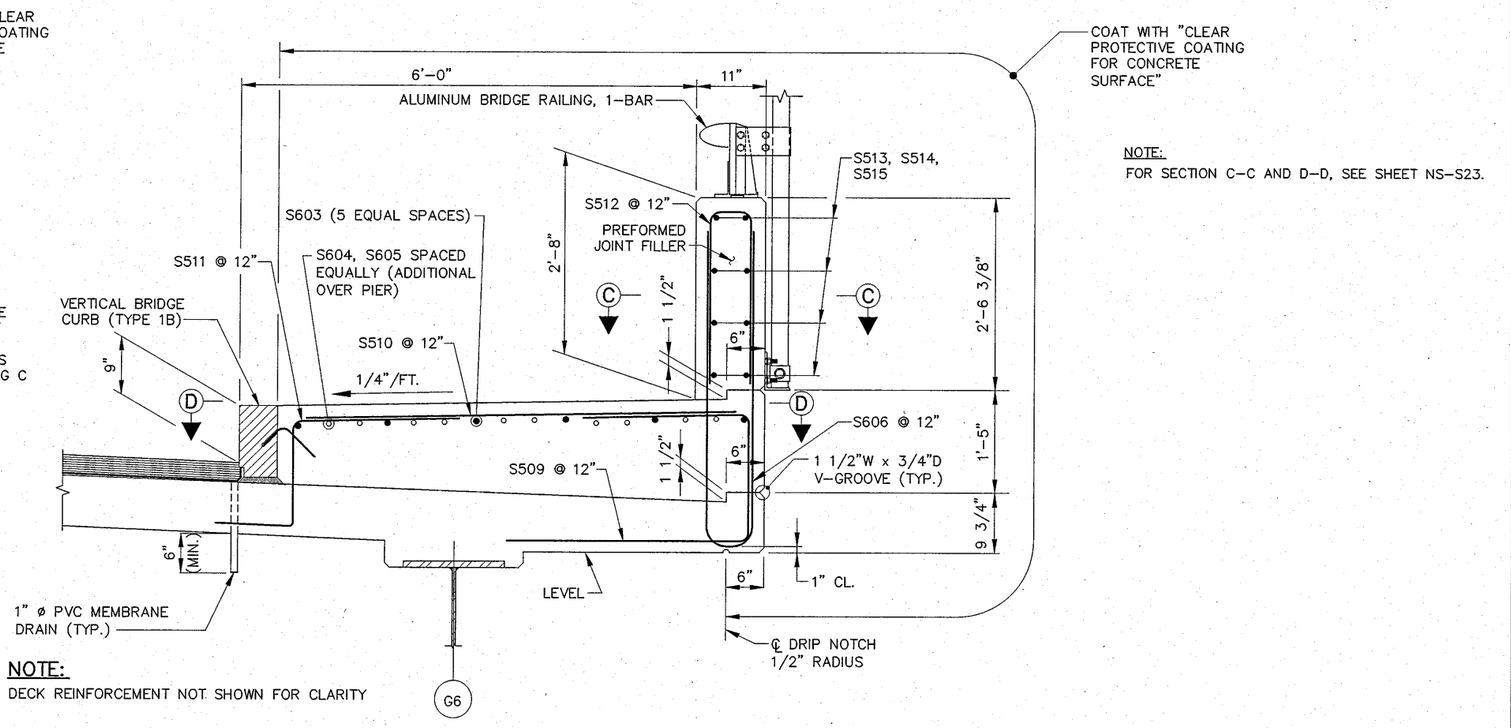
THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
SUPERSTRUCTURE DETAILS I

SHEET NUMBER: NS-S21
CONTRACT: 2002.01
211 OF 257



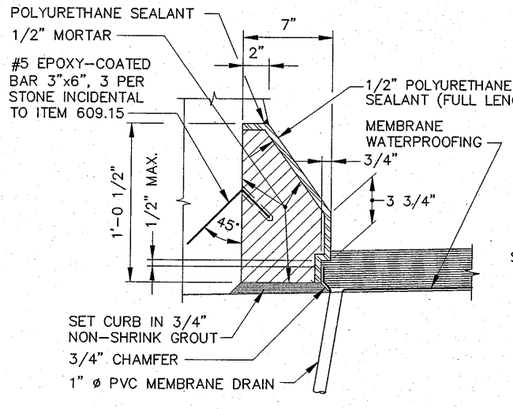
PARAPET DETAIL
1"=1'-0"



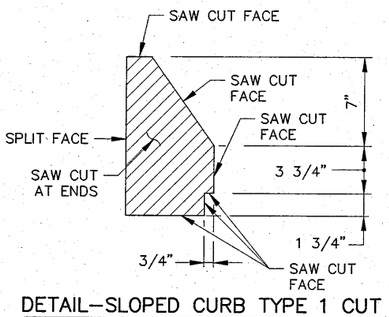
NOTE:
DECK REINFORCEMENT NOT SHOWN FOR CLARITY

SIDEWALK/PARAPET
1"=1'-0"

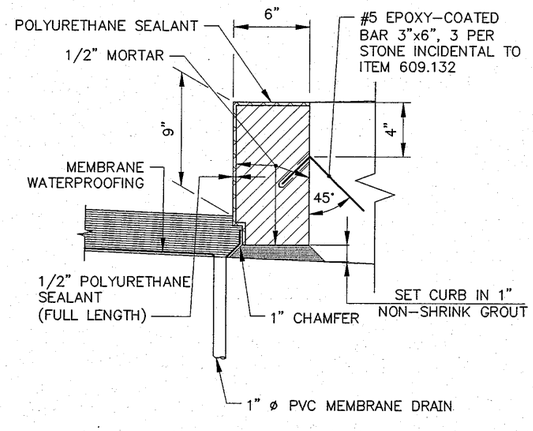
NOTE:
FOR SECTION C-C AND D-D, SEE SHEET NS-S23.



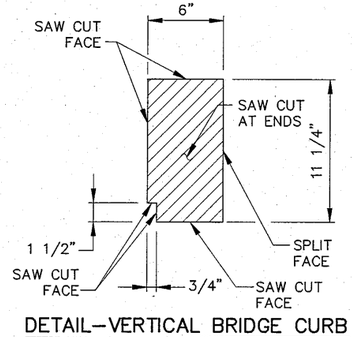
DETAIL-SLOPED CURB TYPE 1
1" = 6"



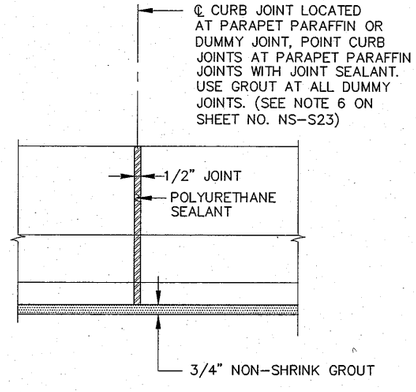
DETAIL-SLOPED CURB TYPE 1 CUT
1" = 6"



DETAIL-VERTICAL BRIDGE CURB TYPE 1B
1" = 6"



DETAIL-VERTICAL BRIDGE CURB TYPE 1B CUT
1" = 6"



BRIDGE CURB ELEVATION
1" = 6"

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MAINE TURNPIKE AUTHORITY
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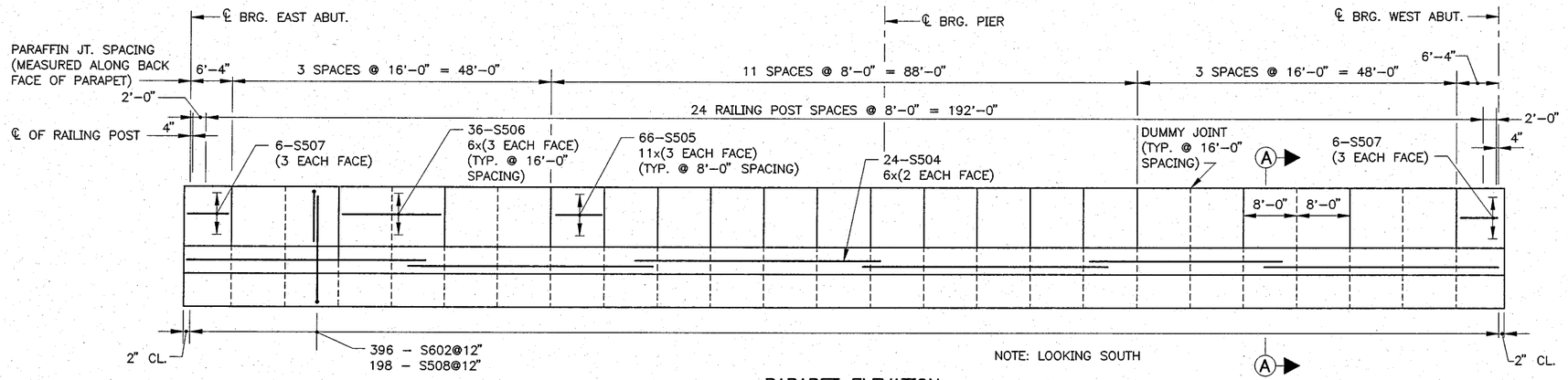
The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
SUPERSTRUCTURE DETAILS II

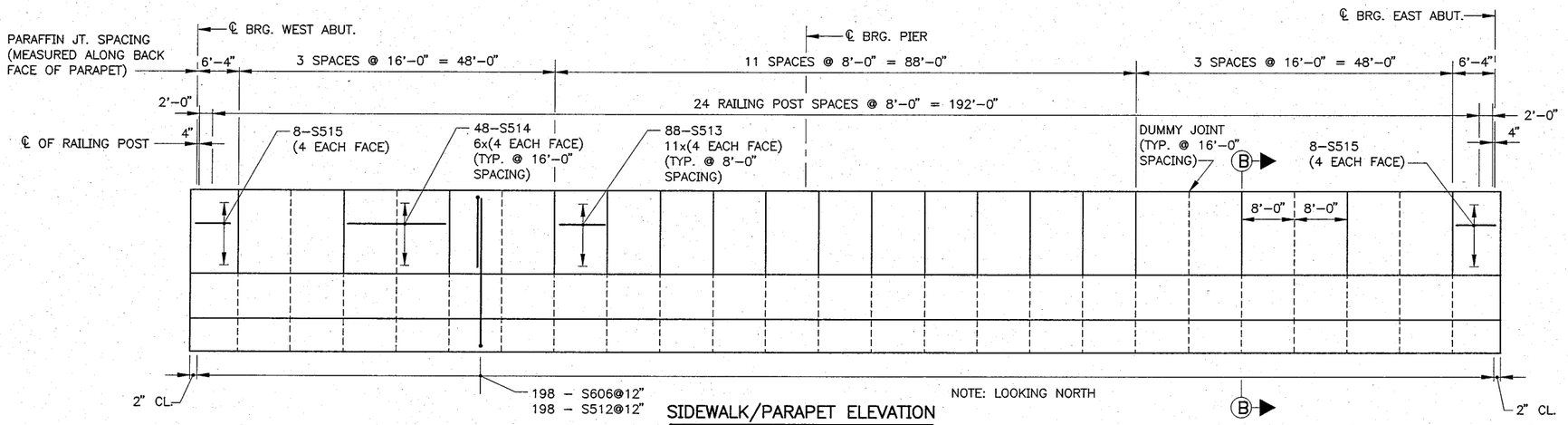
CONTRACT: 2002.01

SHEET NUMBER: NS-S22
212 OF 257



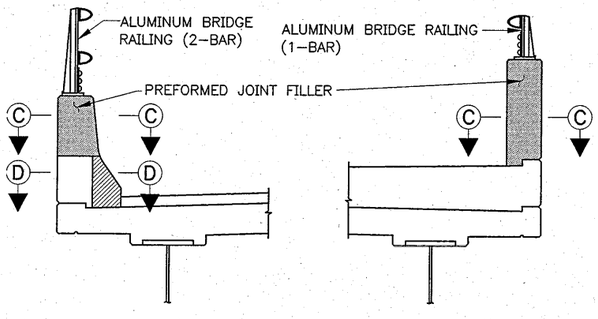
PARAPET ELEVATION

NO SCALE



SIDEWALK/PARAPET ELEVATION

NO SCALE

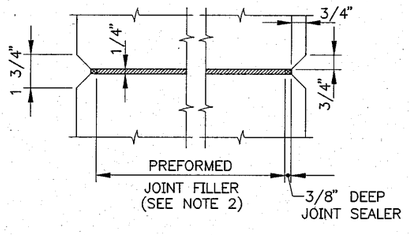


SECTION A–A

1/2"=1'-0"

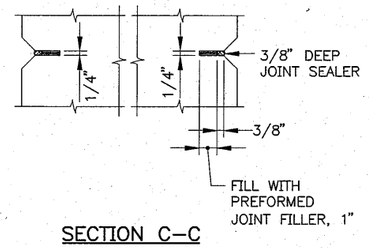
SECTION B–B

1/2"=1'-0"



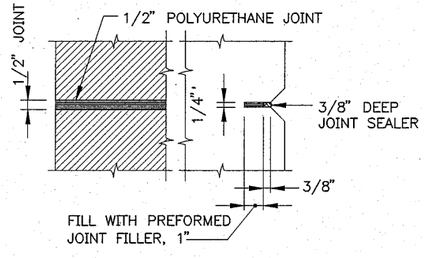
SECTION C–C PARAFFIN JOINT

3" = 1'-0"



SECTION C–C DUMMY JOINT

3" = 1'-0"



SECTION D–D

3" = 1'-0"

NOTES

1. CONCRETE SHALL BE PLACED SIMULTANEOUSLY ON BOTH SIDES OF JOINT. ASPHALT TYPE JOINT FILLER SHALL NOT BE USED. ONLY CERAMAR OR CORK TYPE SHALL BE PERMITTED.
2. PREFORMED JOINT FILLER SHALL CONFORM TO ASTM DESIGNATION D1752 AND MAY BE SUPPORTED WITH A THIN STEEL PLATE. THE PLATE SHALL BE REMOVED CAREFULLY WHILE THE CONCRETE IS STILL PLASTIC.
3. SECTION D–D ALSO APPLIES TO DUMMY JOINT LOCATIONS.
4. JOINT SEALER SHALL BE SIKAFLEX–1A OR AN APPROVED EQUAL.
5. PREFORMED JOINT FILLER AND JOINT SEALER SHALL BE INCIDENTAL TO ITEM 502.264, STRUCTURAL CONCRETE PARAPETS.
6. CURB JOINTS SHALL BE ALIGNED WITH PARAFFIN AND DUMMY JOINTS.
7. FOR RAILING DETAILS, SEE SHEETS NS–S25 AND NS–S26.
8. FOR FENCE DETAILS, SEE SHEETS NS–S27 AND NS–S28.

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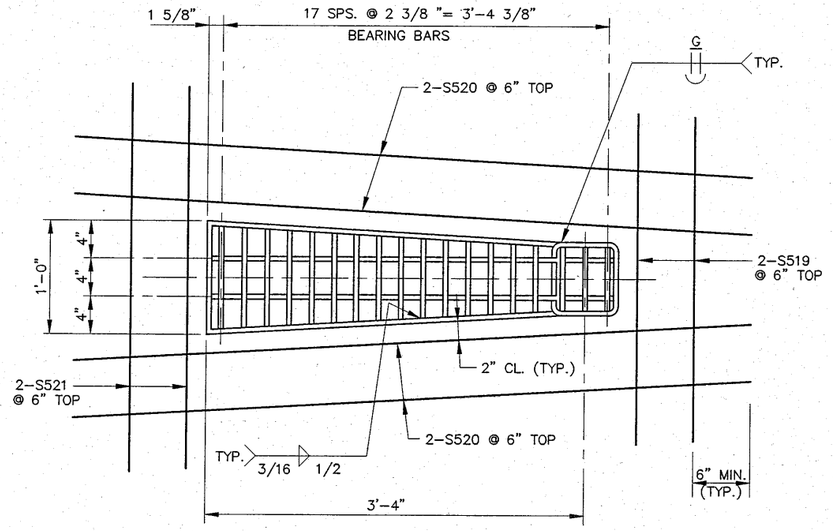
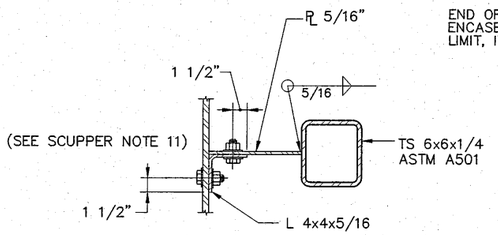
BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
SUPERSTRUCTURE DETAILS III

SHEET NUMBER: **NS–S23**
CONTRACT: **2002.01**
213 OF **257**



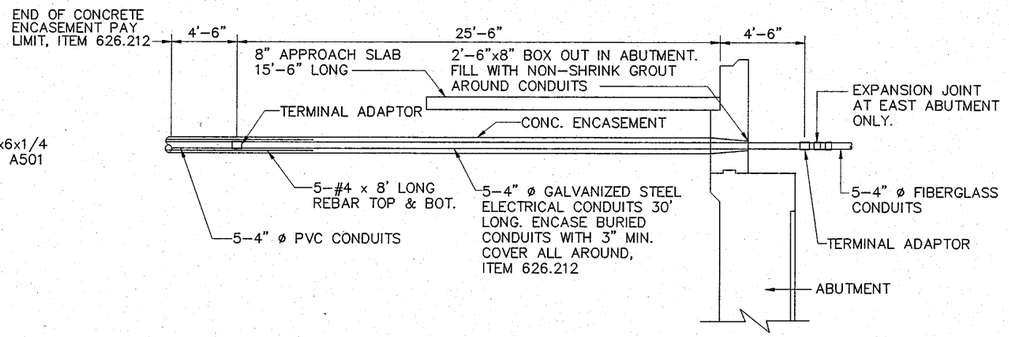
SCUPPER PLAN

1 1/2" = 1'–0"



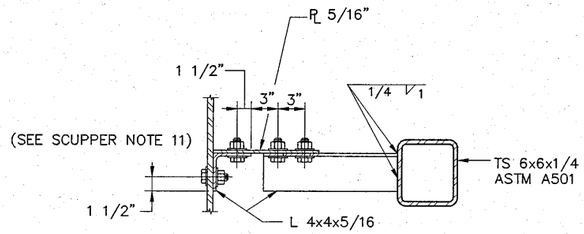
SECTION B–B

1 1/2"=1'–0"



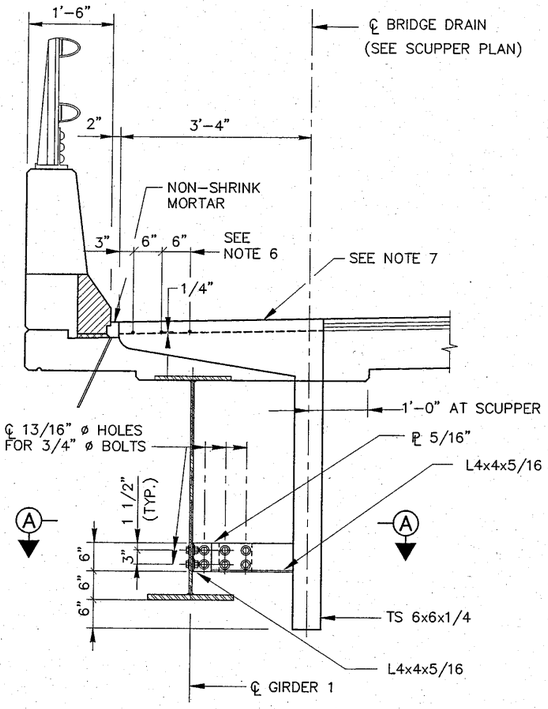
CONDUIT CROSSING AT ABUTMENT

1/4" = 1'–0"



SECTION A–A

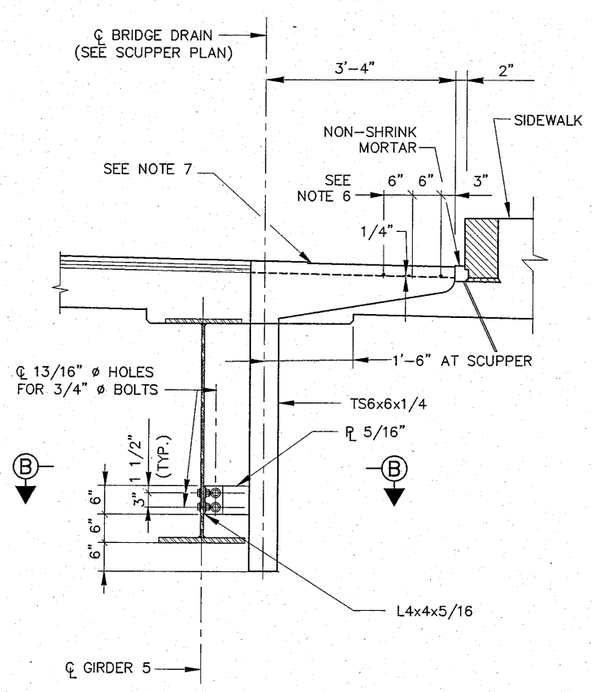
1 1/2"=1'–0"



(2 REQUIRED)

BRIDGE DRAIN – NORTH SIDE

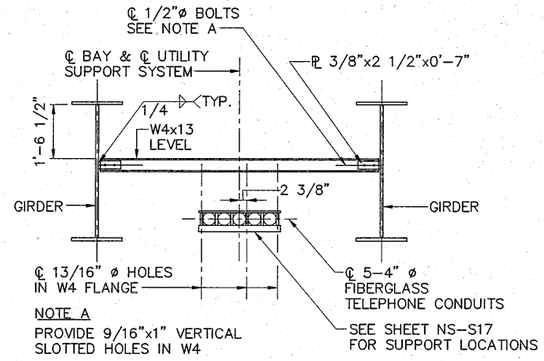
3/4" = 1'–0"



(2 REQUIRED)

BRIDGE DRAIN – SOUTH SIDE

3/4" = 1'–0"



NOTE A

PROVIDE 9/16"x1" VERTICAL SLOTTED HOLES IN W4

UTILITY SUPPORT DETAIL

NO SCALE

SCUPPER NOTES

1. AT THE OPTION OF THE CONTRACTOR, THE BRIDGE DRAIN MAY BE MODIFIED TO ALLOW THE USE OF A 6" ø SCHEDULE 40 STEEL PIPE IN PLACE OF THE TS 6x6x1/4.
2. GRATING SHALL BE A COMMERCIAL HEAVY–DUTY GRATING WITH 1 1/2"x5/16" BEARING BARS AND 3/8" ø CROSS BARS.
3. PLATES SHALL BE AASHTO M270 GRADE 36, 1/4" THICKNESS.
4. PAYMENT FOR BRIDGE DRAINS, ANGLES AND CONNECTION PLATES SHALL BE INCIDENTAL TO ITEM 502.263.
5. THE BRIDGE DRAIN, ANGLES AND CONNECTION PLATES SHALL BE GALVANIZED TO ASTM A123.
6. 1/2" ø HOLES FOR BITUMINOUS WEARING SURFACE ONLY.
7. THE TOP OF THE BRIDGE DRAIN SHALL BE SET 1/4" BELOW FINISHED PAVEMENT SURFACE.
8. FOR ADDITIONAL DETAILS NOT SHOWN, SEE MDOT STANDARD DETAILS MANUAL, PAGES 502(5) AND 502(6).
9. DO NOT COVER DECK DRAINS WITH MEMBRANE WATERPROOFING. DEPRESS DRAINS 1/2" BELOW TOP OF SLAB, PROVIDE 23 GAUGE GALVANIZED SCREENS (1/4" MESH) OVER DRAINS.
10. FOR LOCATION OF SCUPPERS, SEE SHEET NS–S20.
11. HOLES THROUGH WEB SHALL BE FIELD DRILLED, THEN PAINTED TO THE SATISFACTION OF THE ENGINEER PRIOR TO INSTALLING BOLTS.

CONDUIT NOTES

1. SUPPORT SYSTEM SHALL BE AS MANUFACTURED BY AMERICAN U–TEL FOR FIBERGLASS (4.5" O.D.) CONDUIT OR APPROVED EQUAL. MATERIALS TO BE FURNISHED BY VERIZON.
2. CONTRACTOR TO MANDREL AND PLACE PULLWIRE IN 4" CONDUITS AND MANDREL AND PLACE MEASURING TAPE IN ONE CONDUIT AND PLACE PLUGS AT ALL ENDS.
3. COST OF INSTALLING SUPPORT SYSTEM, CONDUIT, PULLWIRE AND FITTINGS SHALL BE PAID UNDER ITEM 626.211 (DOES NOT INCLUDE W4's OR 3/8" PL's)
4. SEE SHEET NS–S7 AND NS–S9 FOR OPENINGS AT ABUTMENTS.
5. SELECT CONDUIT LENGTHS SO THAT COUPLING LOCATIONS DO NOT COINCIDE WITH SUPPORT LOCATIONS.

P:\Land Projects\0213014\DWG\Mainest\Bridge\R14\NS33BDT07.dwg

Scale:

No.	Revision	By	Date

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Drawn	JJW	DEC. 2001	In Charge of	DWC	DEC. 2001

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Approved by: HNTB

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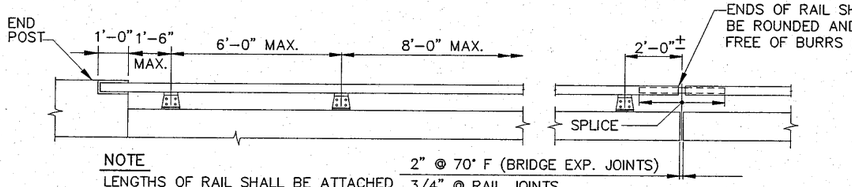
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT

THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
SCUPPER DETAILS

SHEET NUMBER: NS–S24

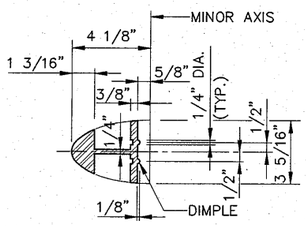
CONTRACT: 2002.01



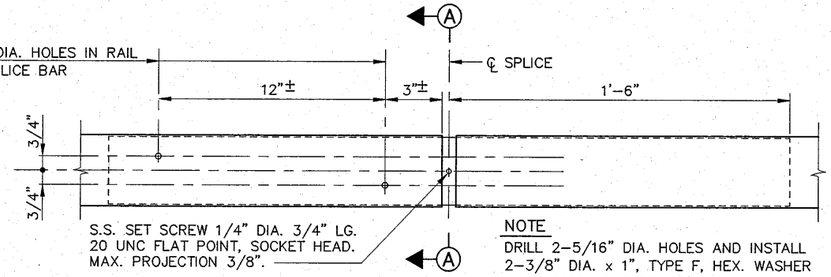
NOTE

LENGTHS OF RAIL SHALL BE ATTACHED TO A MIN. OF FOUR (4) RAIL POST WHENEVER POSSIBLE, AND IN ANY CASE NEVER LESS THAN TWO (2). RAIL POST ARE TO BE SET NORMAL TO GRADE UNLESS OTHERWISE SHOWN ON THE BRIDGE PLANS.

RAILING – ELEVATION
3/8"=1'-0"



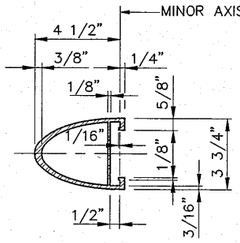
SECTION A–A
3"=1'-0"



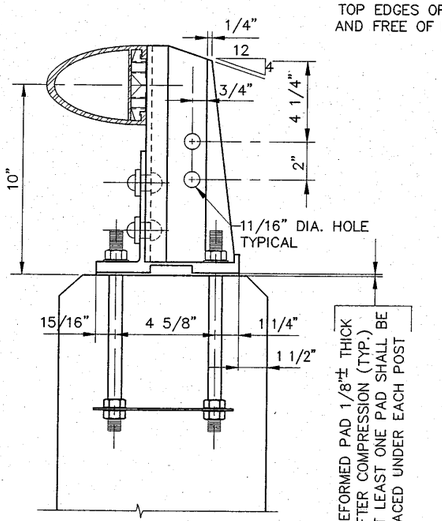
NOTE

DRILL 2–5/16" DIA. HOLES AND INSTALL 2–3/8" DIA. x 1", TYPE F, HEX. WASHER HEAD TAPPING SCREWS (STAINLESS).

SPLICE DETAIL
3"=1'-0"

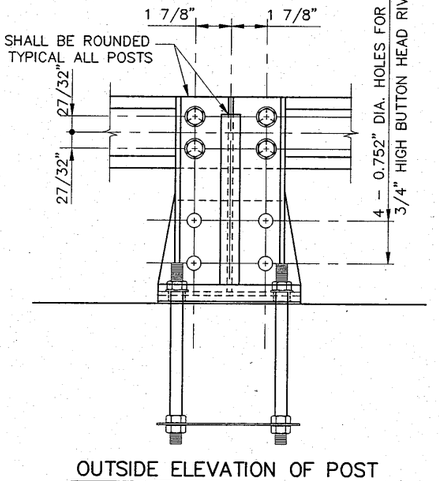


RAIL MEMBER
3"=1'-0"

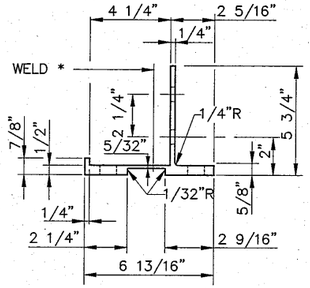


BRIDGE RAILING (ASSEMBLY)
3"=1'-0"

PREFORMED PAD 1/8"± THICK AFTER COMPRESSION (TYP.) AT LEAST ONE PAD SHALL BE PLACED UNDER EACH POST



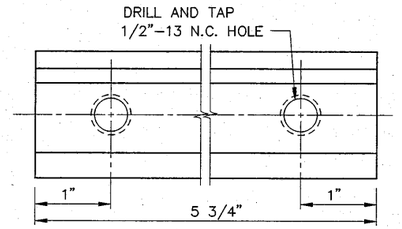
OUTSIDE ELEVATION OF POST
3"=1'-0"

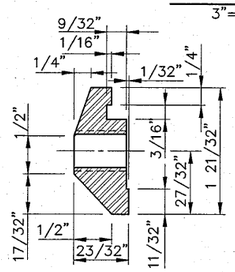


POST BASE SECTION
3"=1'-0"

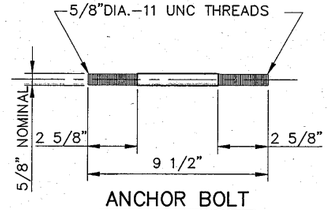
NOTE

* ONE–PIECE BASE PLATE MAY BE SUBSTITUTED, PROVIDED THAT THE REQUIRED LENGTH IS CUT FROM A ONE–PIECE EXTRUSION AND HAS THE GEOMETRIC SHAPE OF THE TWO–PIECE BASE PLATE

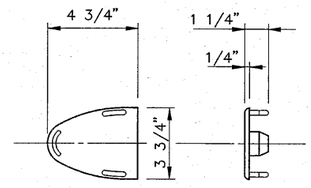




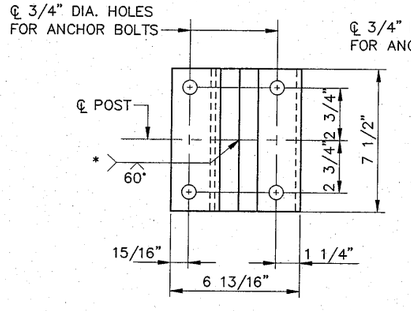
CLAMP BAR DETAILS
FULL SIZE



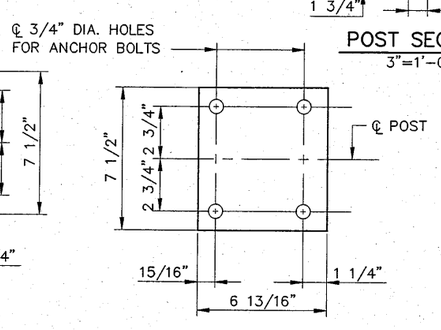
ANCHOR BOLT
3"=1'-0"



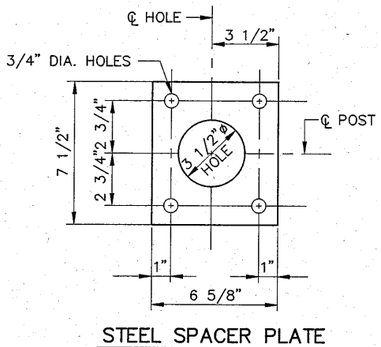
CAST ALUMINUM DRIVE FIT RAIL CAP
3"=1'-0"



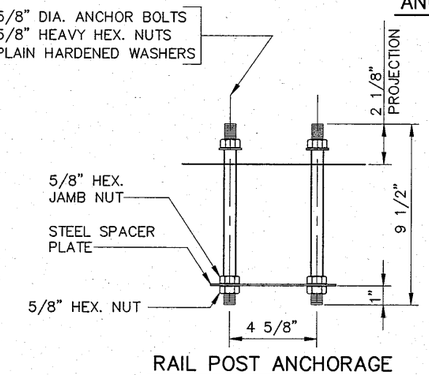
POST BASE (BOTTOM VIEW)
3"=1'-0"



PREFORMED PAD
3"=1'-0"



STEEL SPACER PLATE (FOR ANCHORAGE)
3"=1'-0"



RAIL POST ANCHORAGE (ASSEMBLY)
3"=1'-0"

NOTE

IF CUT THREADS ARE USED, BODY DIAMETER SHALL BE NOT LESS THAN NOMINAL DIAMETER. IF ROLLED THREADS ARE USED, BODY DIAMETER SHALL BE NOT LESS THAN PITCH DIAMETER OF THE THREADS.

P:\Land Projects\0213014\DWG\Mainest\Bridge\R14\NS33BDT08.dwg

Scale: AS NOTED

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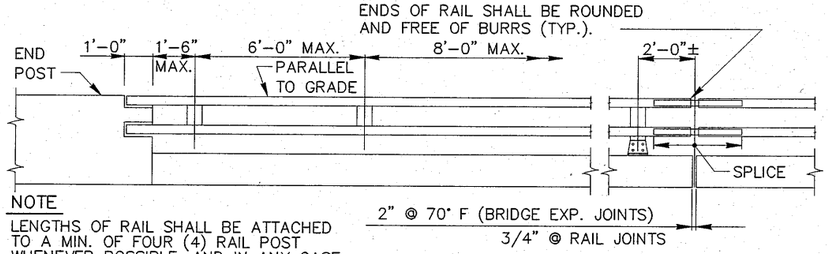
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT
The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
ALUMINUM BRIDGE RAILING (1–BAR) DETAILS

SHEET NUMBER: NS–S25

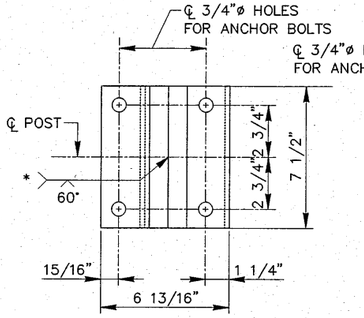
CONTRACT: 2002.01



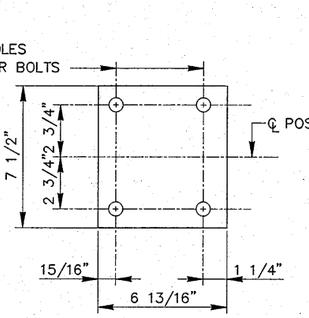
NOTE

LENGTHS OF RAIL SHALL BE ATTACHED TO A MIN. OF FOUR (4) RAIL POST WHENEVER POSSIBLE, AND IN ANY CASE NEVER LESS THAN TWO (2). RAIL POST ARE TO BE SET NORMAL TO GRADE UNLESS OTHERWISE SHOWN ON THE BRIDGE PLANS.

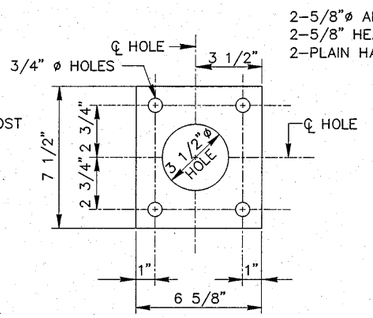
RAILING – ELEVATION
3/8"=1'-0"



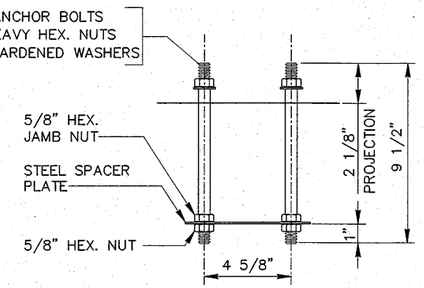
POST BASE (BOTTOM VIEW)
3"=1'-0"



PREFORMED PAD
3"=1'-0"



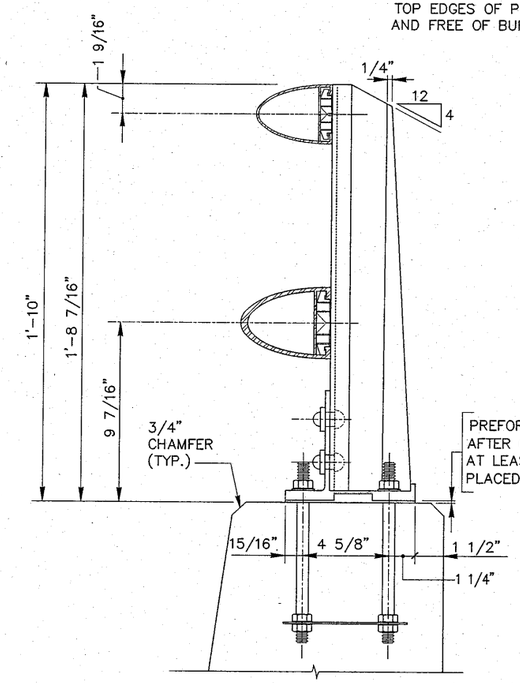
STEEL SPACER PLATE (FOR ANCHORAGE)
3"=1'-0"



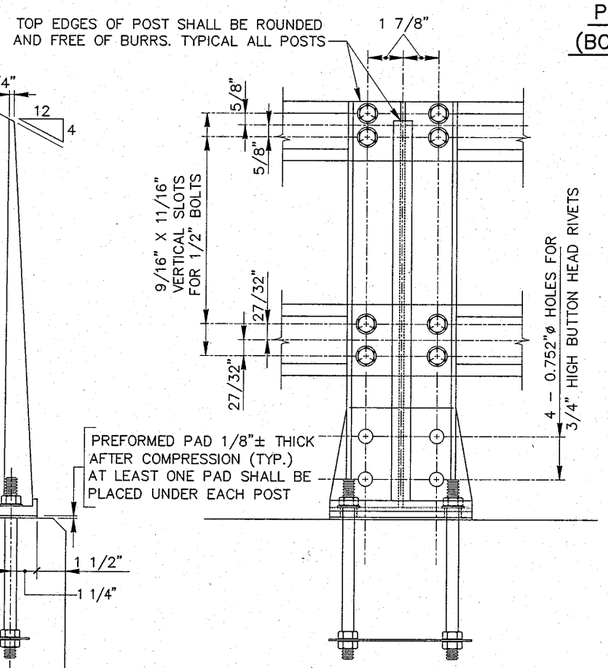
RAIL POST ANCHORAGE (ASSEMBLY)
3"=1'-0"

NOTE

FOUR (4) BOLT, NUT AND WASHER SETS ARE REQUIRED PER ASSEMBLY.
ALL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED.



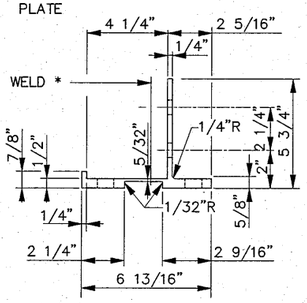
BRIDGE RAILING (ASSEMBLY)
3"=1'-0"



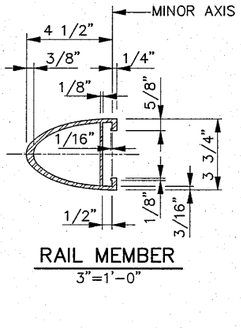
OUTSIDE ELEVATION OF POST
3"=1'-0"

NOTE

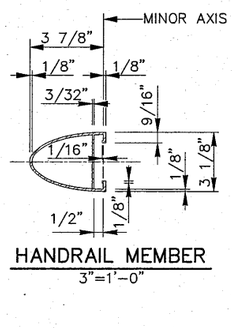
* ONE-PIECE BASE PLATE MAY BE SUBSTITUTED, PROVIDED THAT THE REQUIRED LENGTH IS CUT FROM A ONE-PIECE EXTRUSION AND HAS THE GEOMETRIC SHAPE OF THE TWO-PIECE BASE PLATE



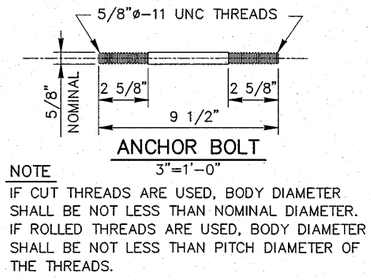
POST BASE SECTION
3"=1'-0"



RAIL MEMBER
3"=1'-0"



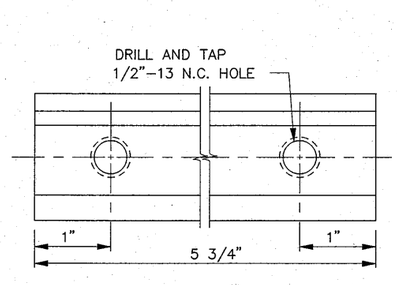
HANDRAIL MEMBER
3"=1'-0"

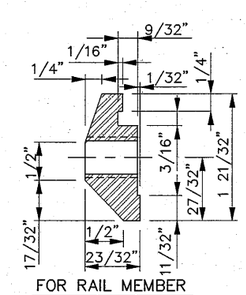


ANCHOR BOLT
3"=1'-0"

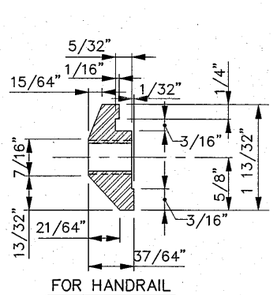
NOTE

IF CUT THREADS ARE USED, BODY DIAMETER SHALL BE NOT LESS THAN NOMINAL DIAMETER. IF ROLLED THREADS ARE USED, BODY DIAMETER SHALL BE NOT LESS THAN PITCH DIAMETER OF THE THREADS.



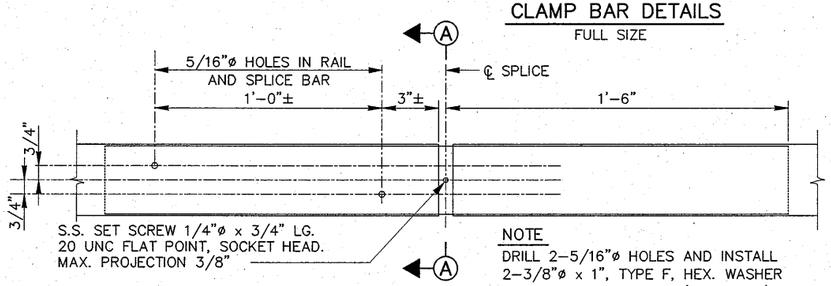


FOR RAIL MEMBER



FOR HANDRAIL

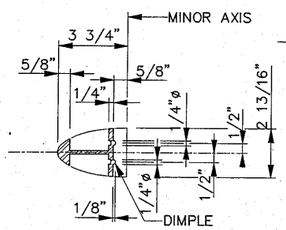
CLAMP BAR DETAILS
FULL SIZE



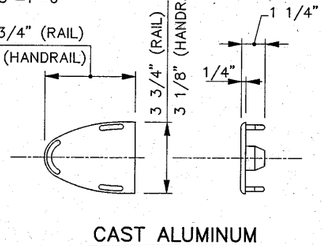
NOTE

DRILL 2-5/16"ø HOLES AND INSTALL 2-3/8"ø x 1", TYPE F, HEX. WASHER HEAD TAPPING SCREWS (STAINLESS).

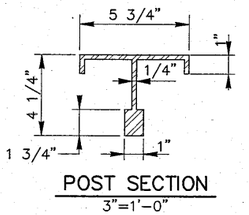
SPLICE DETAIL
3"=1'-0"



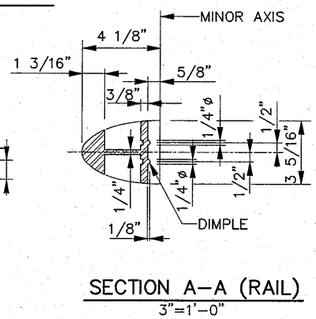
SECTION A–A (HANDRAIL)
3"=1'-0"



CAST ALUMINUM DRIVE FIT RAIL CAP
3"=1'-0"



POST SECTION
3"=1'-0"



SECTION A–A (RAIL)
3"=1'-0"

Scale:						
No.	Revision	By	Date			

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	By	Date		By	Date
Designed	JJW	DEC. 2001	Checked	SBH	DEC. 2001
Drawn	SMG	DEC. 2001	In Charge of	DWC	DEC. 2001

PE Stamp:

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MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT
THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
ALUMINUM BRIDGE RAILING (2-BAR) DETAILS

SHEET NUMBER: NS-S26
CONTRACT: 2002.01
216 OF 257

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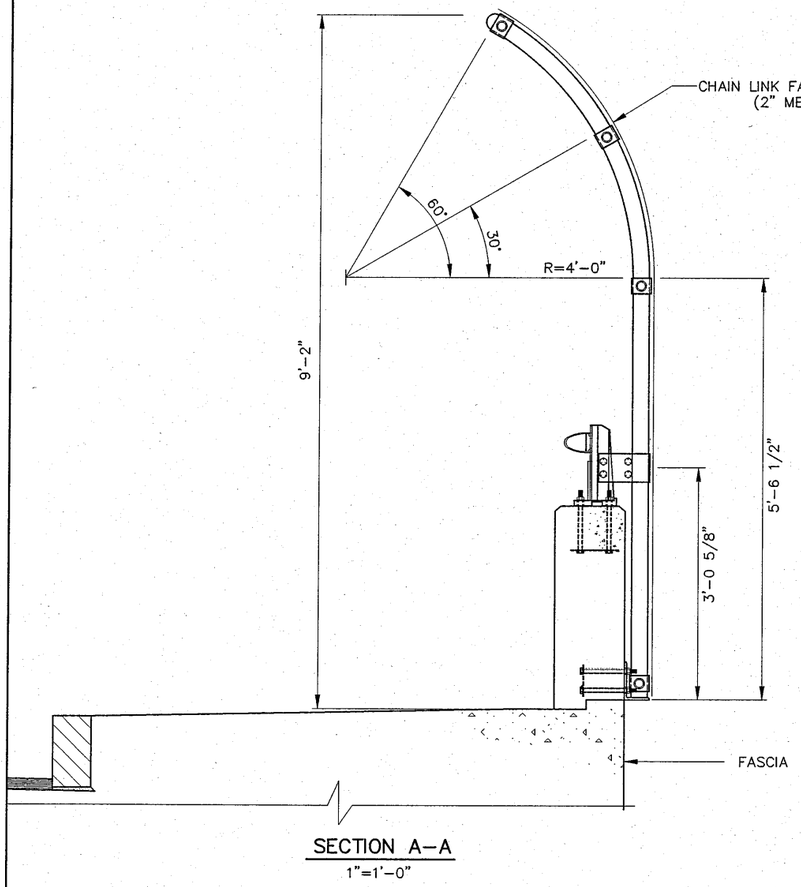
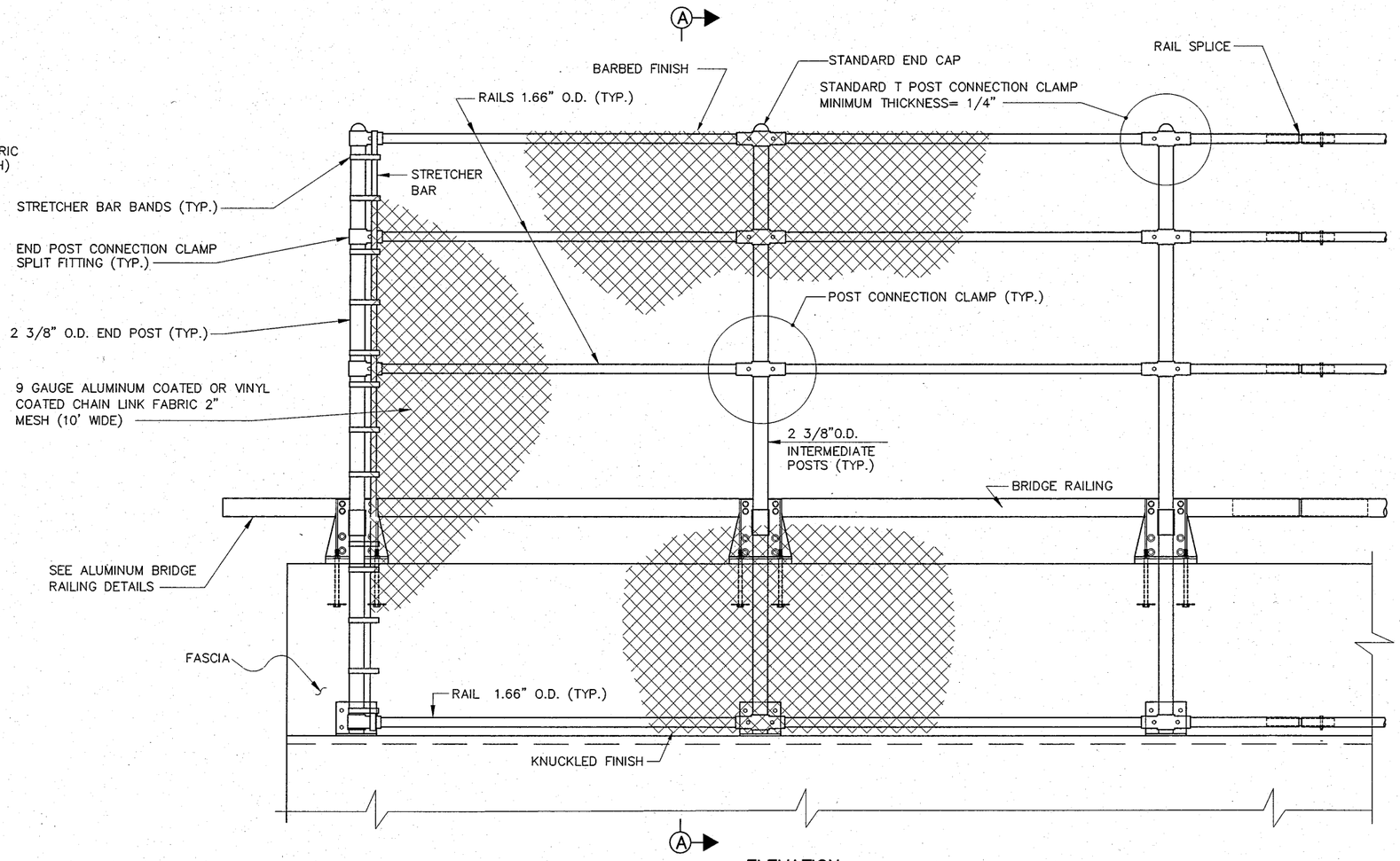


SECTION A–A
1"=1'-0"



ELEVATION
1"=1'-0"

NOTES

1. FABRIC TIES TO ALL POSTS AND TOP THREE RAILS SHALL BE SPACED AT 12" O.C. TIES TO BOTTOM RAIL SHALL BE SPACED AT 6" O.C.
2. PROVIDE SPLICES AT EACH BRIDGE DECK JOINT AND AT BRIDGE RAILING SPLICES.

P:\Land Projects\0213014\DWG\Mainest\Bridge\R14\NS33BDT10.dwg

Scale: 1"=1'-0"

No.	Revision	By	Date

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Edwards AND Kelcey
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Designed	JJW	DEC. 2001	Checked	SBH	DEC. 2001
Drawn	SMG	DEC. 2001	In Charge of	DWC	DEC. 2001

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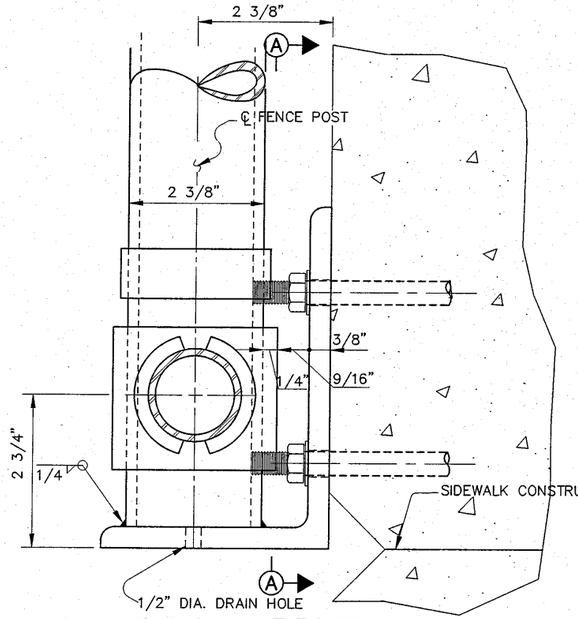
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT
The Widening

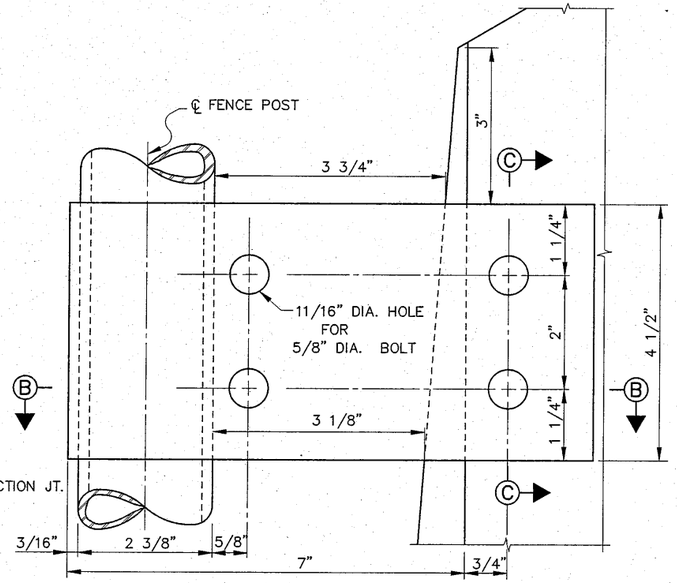
BRIDGE REPLACEMENT
NORTH STREET UNDERPASS

CHAIN LINK FENCE DETAILS I

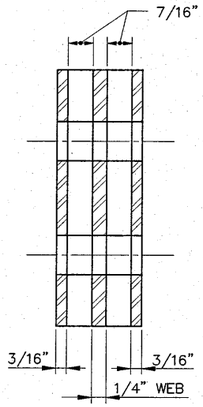
SHEET NUMBER: NS-S27
CONTRACT: 2002.01
217 OF 257



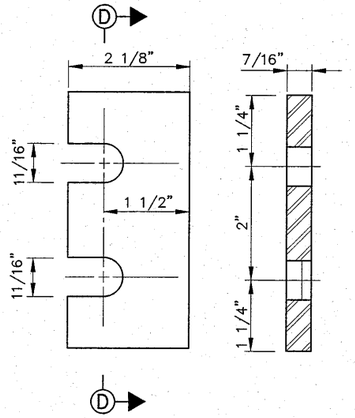
ELEVATION
LOWER SUPPORT
3/4" = 1'-0"



ELEVATION
UPPER CLAMP
3/4" = 1'-0"

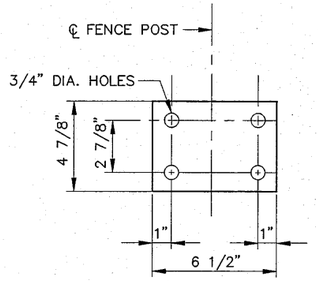


SECTION C–C
3/4' = 1'-0"

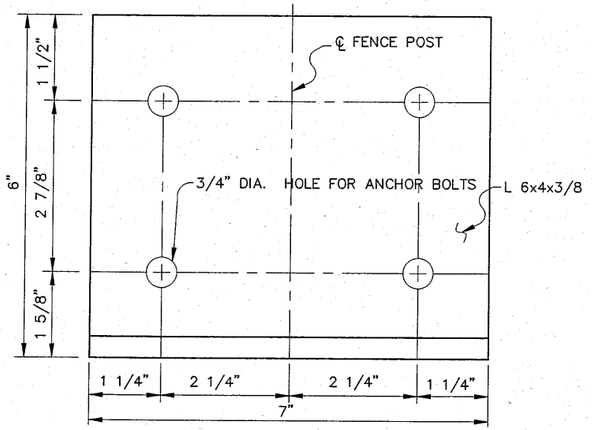


ELEVATION SECTION D–D

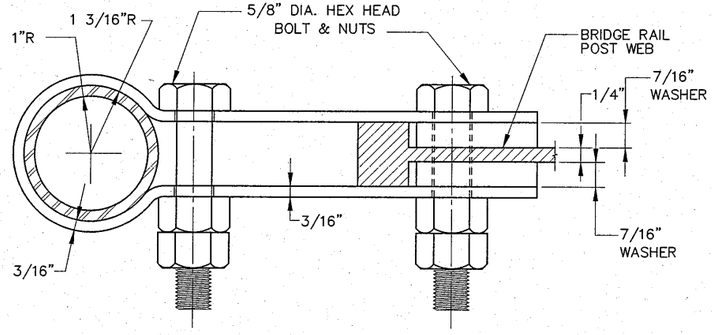
UPPER CLAMP WASHER
3/4" = 1'-0"



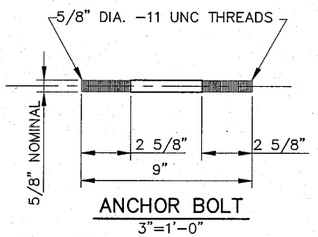
STEEL SPACER PLATE
(FOR ANCHORAGE)
3"=1'-0"



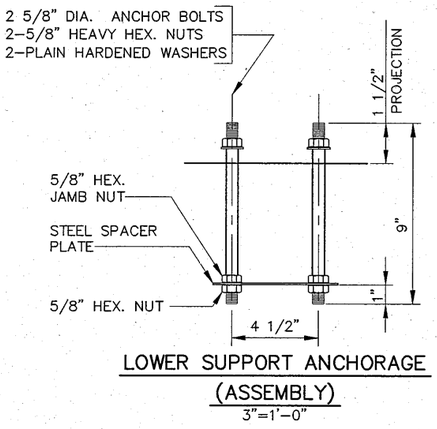
VIEW A–A
3/4" = 1'-0"



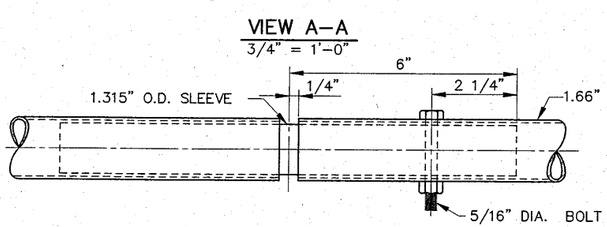
SECTION B–B
3/4" = 1'-0"



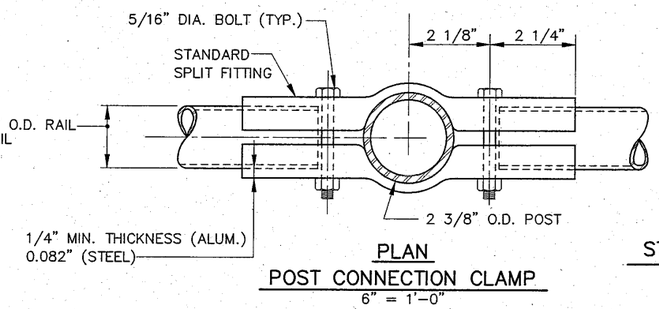
ANCHOR BOLT
3"=1'-0"



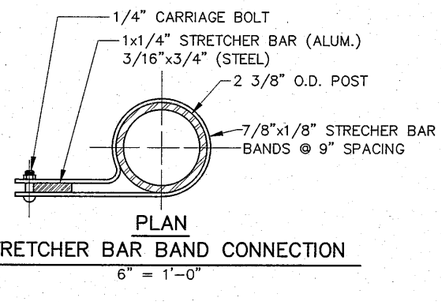
LOWER SUPPORT ANCHORAGE
(ASSEMBLY)
3"=1'-0"



RAIL SPLICE DETAIL
6" = 1'-0"



PLAN
POST CONNECTION CLAMP
6" = 1'-0"



PLAN
STRETCHER BAR BAND CONNECTION
6" = 1'-0"

NOTES

1. LOWER SUPPORT AND FENCE POST SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH SECTION 710 OF THE STANDARD SPECIFICATIONS.
2. UPPER CLAMPS SHALL BE FABRICATED FROM ALUMINUM ALLOY 6061–T6 OR 6063–T6 CONFORMING TO ASTM B221.
3. UPPER CLAMP WASHER SHALL BE FABRICATED FROM ALUMINUM ALLOY 6061–T6 CONFORMING TO ASTM B221.

P:\Land Projects\0213014\DWG\Maine\Bridge\R14\NS33BDT11.dwg

Scale: AS NOTED

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Drawn	SMG	DEC. 2001	In Charge of	DWC	DEC. 2001

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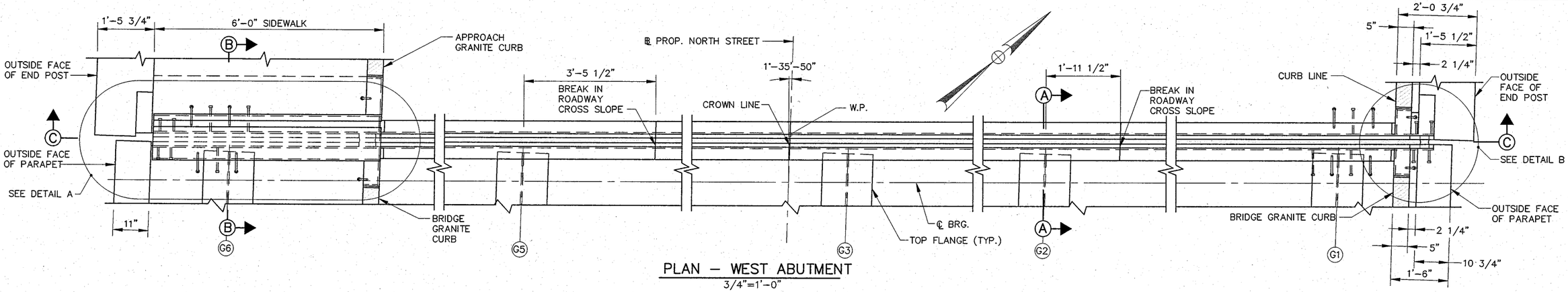
MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT
The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS

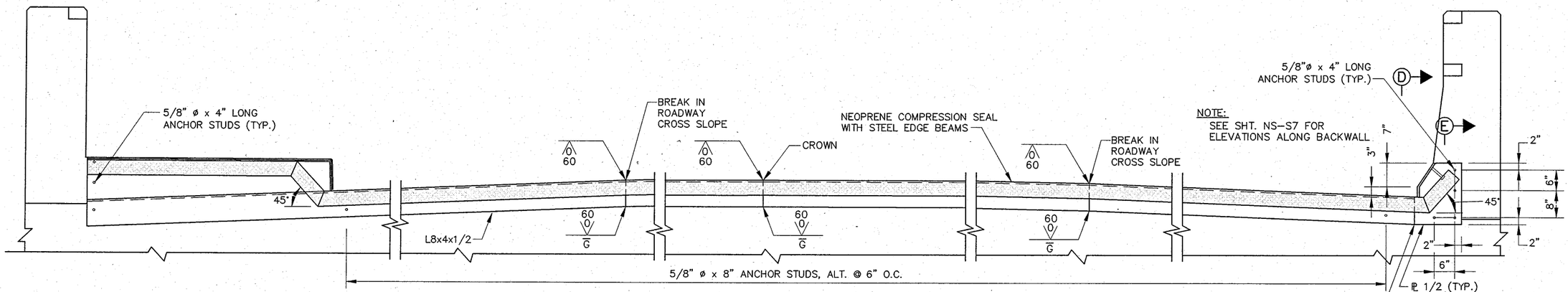
CHAIN LINK FENCE DETAILS II

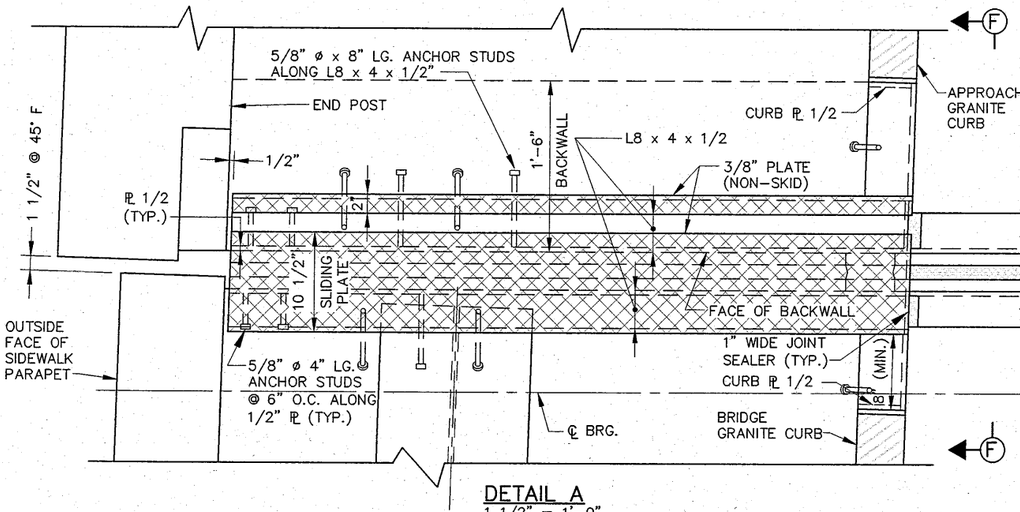
CONTRACT: 2002.01

SHEET NUMBER: NS–S28
218 OF 257



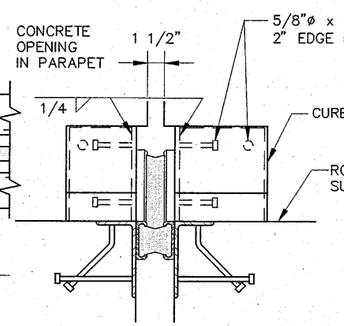
PLAN – WEST ABUTMENT
3/4"=1'-0"



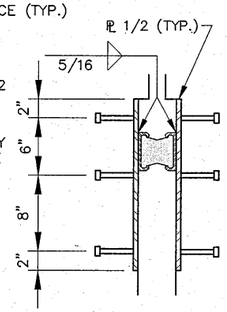


DETAIL A
1 1/2" = 1'-0"

SECTION C–C
3/4"=1'-0"



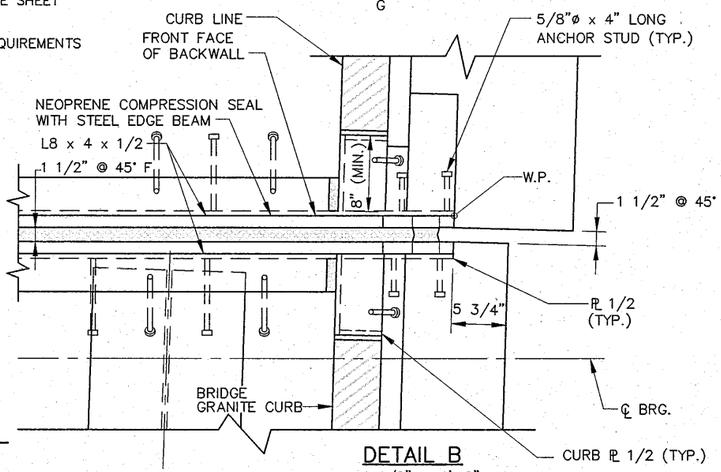
SECTION D–D
1 1/2"=1'-0"



SECTION E–E
1 1/2"=1'-0"

NOTES

1. FOR SECTIONS A–A, B–B AND F–F SEE SHEET NO. NS–S31.
2. SEE SHEET NO. NS–S7 FOR SLOPE REQUIREMENTS AT TOP OF ABUTMENT BACKWALL.



DETAIL B
1 1/2" = 1'-0"

Scale:

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Drawn	SMG	DEC. 2001	In Charge of	DWC	DEC. 2001

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MAINE TURNPIKE AUTHORITY
MODERNIZATION
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THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
EXPANSION JOINT WEST ABUTMENT

SHEET NUMBER: NS–S29
CONTRACT: 2002.01
219 OF 257

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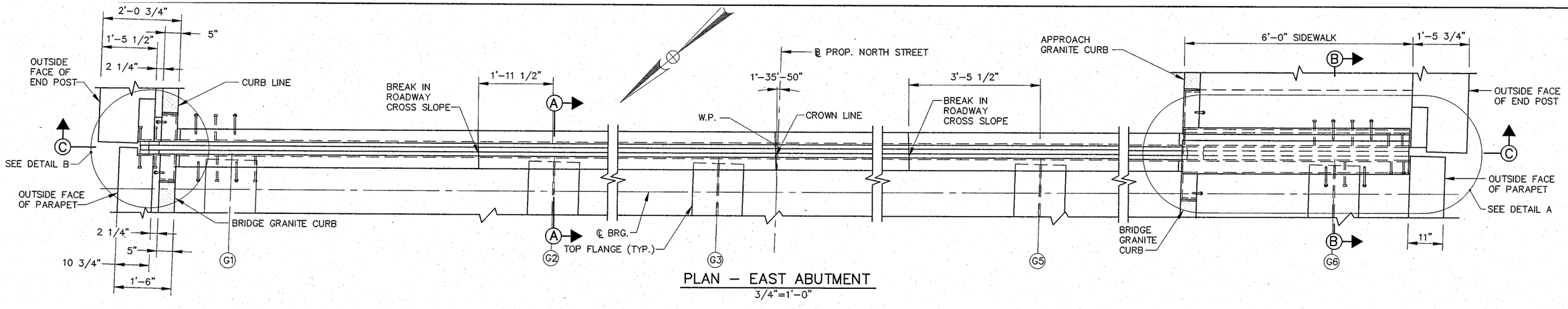
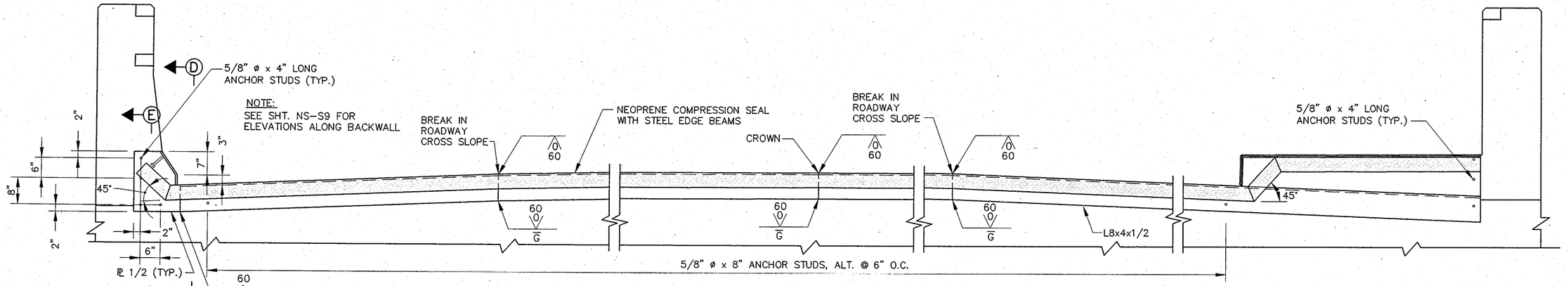
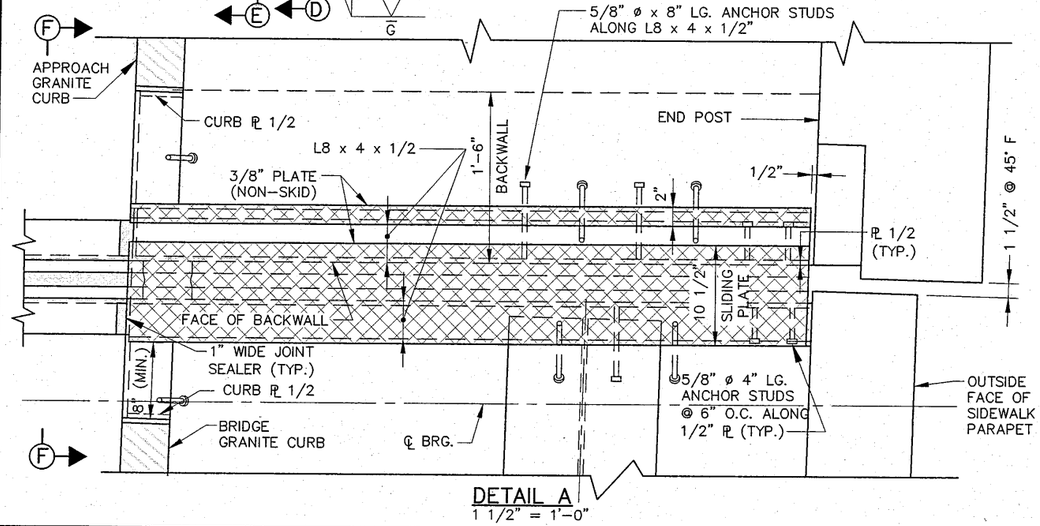


PLAN – EAST ABUTMENT
3/4"=1'-0"



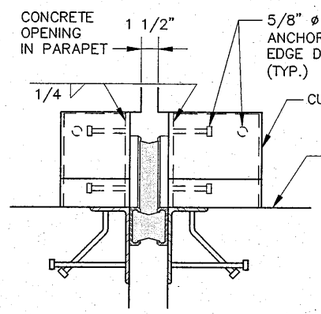


DETAIL A
1 1/2" = 1'-0"

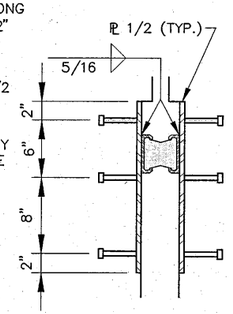
SECTION C–C
3/4"=1'-0"

NOTES

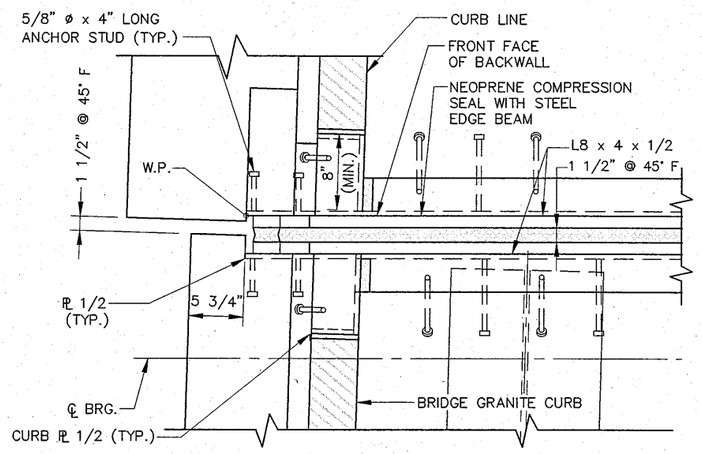
1. FOR SECTIONS A–A, B–B AND F–F SEE SHEET NO. NS–S31.
2. SEE SHEET NO. NS–S9 FOR SLOPE REQUIREMENTS AT TOP OF ABUTMENT BACKWALL.



SECTION D–D
1 1/2"=1'-0"



SECTION E–E
1 1/2"=1'-0"



DETAIL B
1 1/2" = 1'-0"

Scale:			
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MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT
The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
EXPANSION JOINT EAST ABUTMENT

SHEET NUMBER: NS–S30
CONTRACT: 2002.01
220 OF 257

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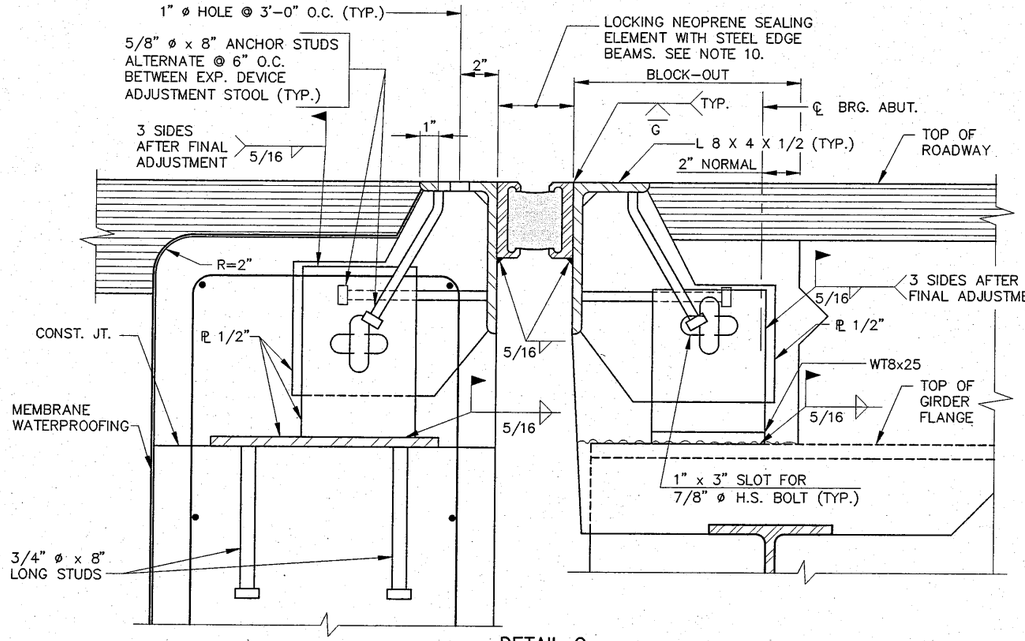
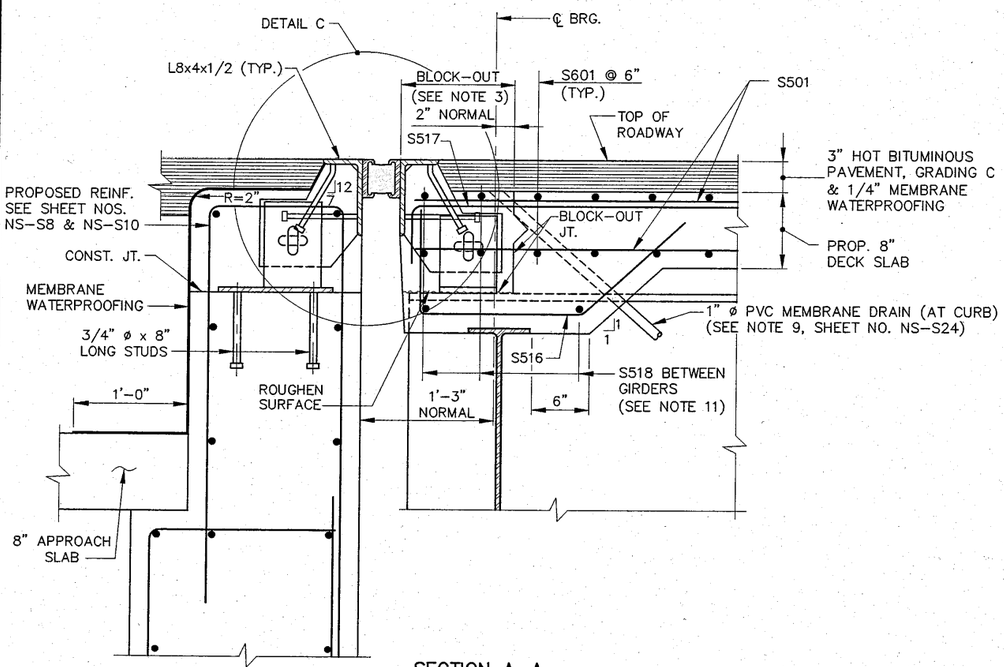
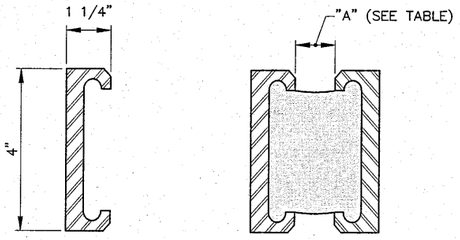


DETAIL C
3" = 1'-0"

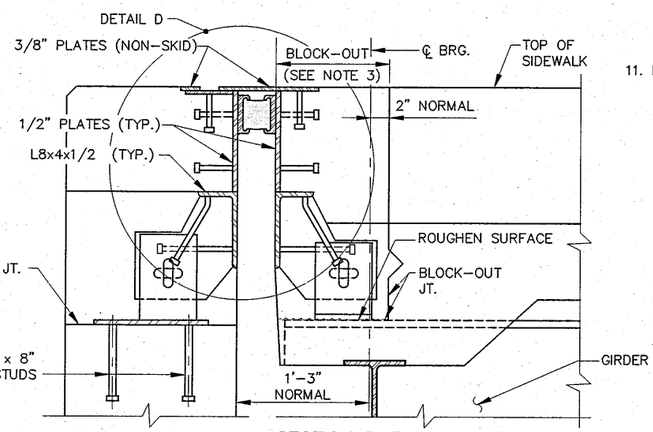


SECTION A-A
1 1/2" = 1'-0"

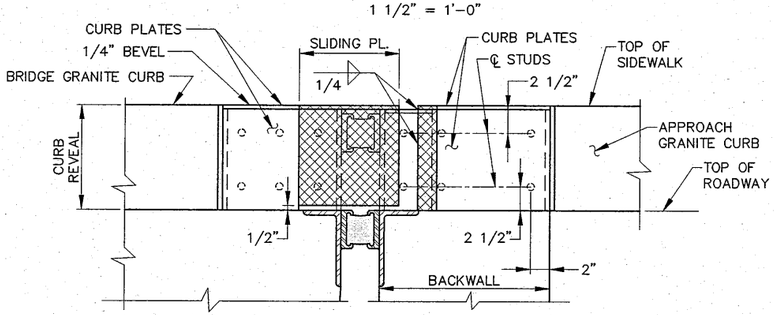


DETAIL - NEOPRENE COMPRESSION SEAL WITH STEEL EDGE BEAMS
N.T.S.

SEAL OPENING TABLE (DIM. "A")								
TEMPERATURE	0° F	15° F	30° F	45° F	60° F	75° F	90° F	105° F
W. ABUT.	1 13/16"	1 11/16"	1 5/8"	1 1/2"	1 3/8"	1 5/16"	1 3/16"	1 1/16"
E. ABUT.	1 7/8"	1 3/4"	1 5/8"	1 1/2"	1 3/8"	1 1/4"	1 1/8"	1"



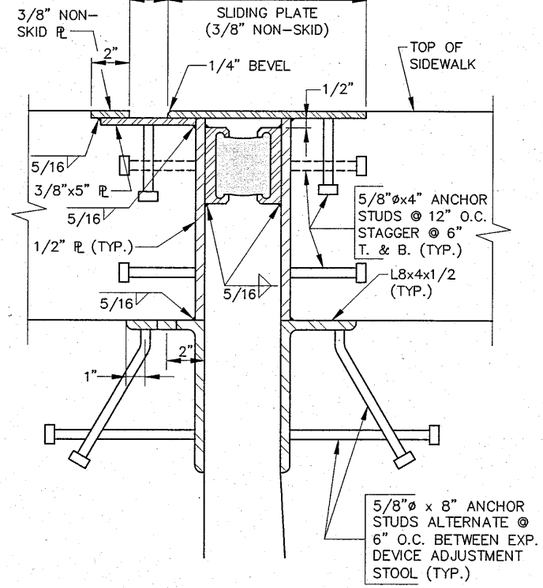
SECTION B-B
1 1/2" = 1'-0"



SECTION F-F
(WEST ABUTMENT SHOWN, EAST ABUTMENT OPPOSITE HAND)
1 1/2" = 1'-0"

EXPANSION DEVICE NOTES:

1. SHOP DRAWINGS OF THE EXPANSION DEVICE SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER.
2. THE EXPANSION DEVICE SHALL BE SET TO AN OPENING OF 1 1/2 INCHES IN THE FABRICATION SHOP AND SHALL BE SECURED TO THE GIRDER AND/OR ANCHOR BOLTS WHEN THE AMBIENT TEMPERATURE IS BETWEEN 40° AND 80° F. THE OPENING SHALL BE ADJUSTED TO REFLECT THE TEMPERATURE OF THE STRUCTURE AT THE TIME OF INSTALLATION. SEE TABLE FOR OPENING DIMENSIONS. OPENING IS TO BE MEASURED PARALLEL TO THE CENTER LINE OF CONSTRUCTION.
3. THE CONTRACTOR SHALL APPLY AN EPOXY BONDING AGENT, APPROVED BY THE ENGINEER, TO ALL VERTICAL SURFACES OF THE BLOCK-OUT BEFORE MAKING THE FINAL CONCRETE PLACEMENT AT THE END OF THE DECK SLAB.
4. ALL EXPOSED SURFACES OF ANGLES AND STEEL EDGE BEAMS SHALL BE FIELD PAINTED.
5. ALL STEEL COMPONENTS SHALL BE AASHTO M270 GRADE 36, UNLESS OTHERWISE NOTED.
6. ALL WELDS ARE 5/16" CONTINUOUS FILLETS, EXCEPT AS NOTED.
7. ALL STEEL SURFACES THAT WILL BE EMBEDDED IN CONCRETE SHALL BE COATED WITH AN EPOXY BONDING COMPOUND.
8. FOR LOCATION OF SECTIONS A-A, B-B AND F-F, SEE SH. NOS. NS-S29 AND NS-S30.
9. ONLY BARS PARALLEL TO THE ABUTMENT ARE SHOWN. BARS PERPENDICULAR TO GIRDERS ARE NOT SHOWN FOR CLARITY.
10. THE NEOPRENE COMPRESSION SEALS TO BE FURNISHED SHALL HAVE A MINIMUM MOVEMENT RATING OF:
    W. ABUTMENT - 3 INCHES
    E. ABUTMENT - 3 INCHES
11. FIELD CUT REINFORCING STEEL TO FIT AND EPOXY-COAT THE CUT ENDS.



DETAIL D
3" = 1'-0"

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Scale:

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PE Stamp:

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HNTB CORPORATION
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MAINE TURNPIKE AUTHORITY
MODERNIZATION
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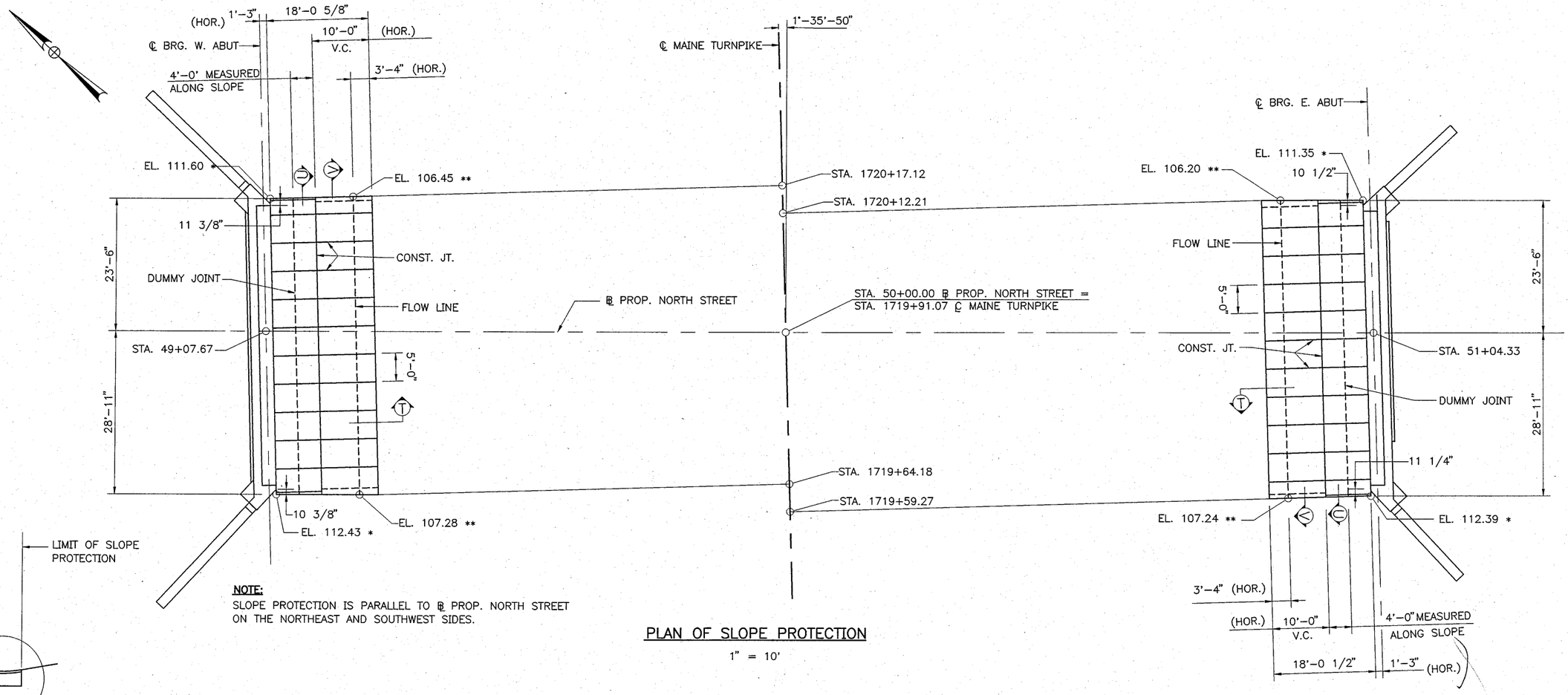
THINKING AHEAD The Widening

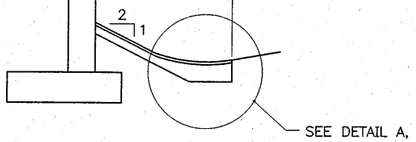
BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
EXPANSION JOINT DETAILS

SHEET NUMBER: NS-S31
CONTRACT: 2002.01
221 OF 257

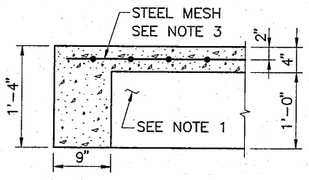


NOTE:
SLOPE PROTECTION IS PARALLEL TO ℄ PROP. NORTH STREET ON THE NORTHEAST AND SOUTHWEST SIDES.

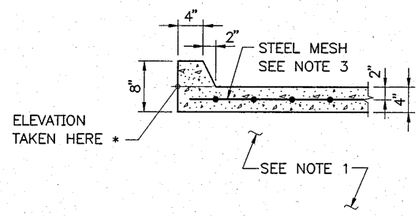
PLAN OF SLOPE PROTECTION
1" = 10'



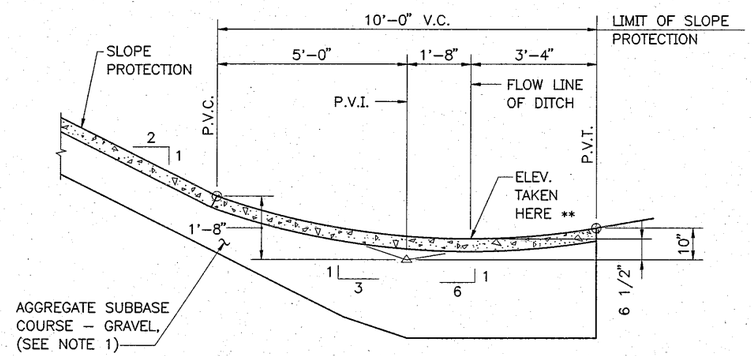
SECTION T–T
1" = 10'



SECTION V–V
1" = 1'-0"



SECTION U–U
1" = 1'-0"



DETAIL A
1/2" = 1'-0"

SLOPE PROTECTION NOTES:

1. THE 1'–0" OF AGGREGATE SUBBASE COURSE – GRAVEL UNDER SLOPE PROTECTION MAY BE REDUCED OR OMITTED IF, IN THE OPINION OF THE ENGINEER, THE EXISTING MATERIAL IS SUITABLE.
2. BREAK BOND AT CONSTRUCTION JOINTS WITH A COAT OF ASPHALT PAINT.
3. REINFORCE WITH EPOXY–COATED WWF6X6–W2XW2, NOT TO PASS THRU CONSTRUCTION JOINTS.
4. DUMMY JOINTS SHALL BE MADE WITH A GROOVER TO A DEPTH OF 1/4".
5. EDGES OF CONSTRUCTION JOINTS SHALL BE FINISHED WITH A SIDEWALK EDGING TOOL TO A DEPTH OF 1/4".
6. * ELEVATIONS TAKEN AT TOP OF 4" CONCRETE SLAB.
   ** ELEVATIONS TAKEN AT LOW POINT OF DITCH.

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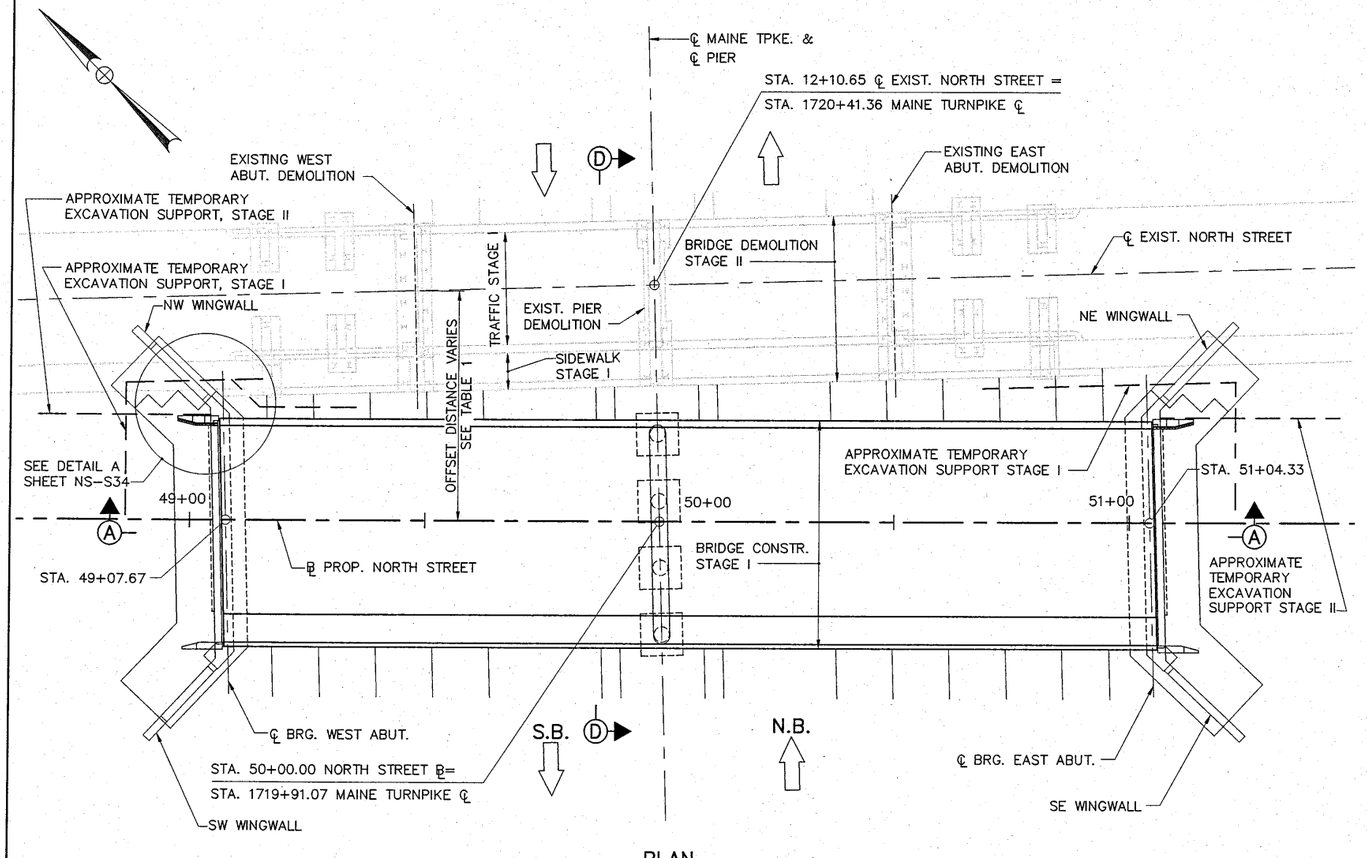
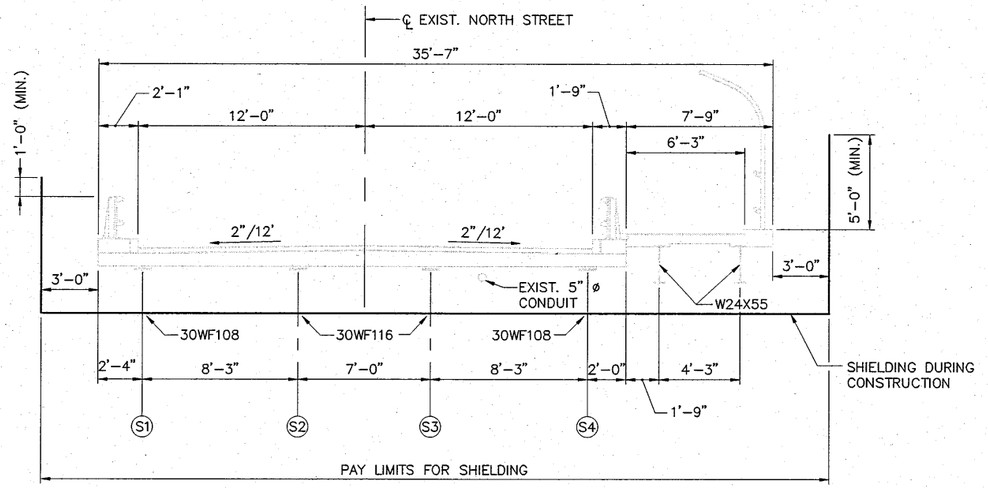
MAINE TURNPIKE AUTHORITY
MODERNIZATION AND WIDENING PROJECT
THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS
SLOPE PROTECTION

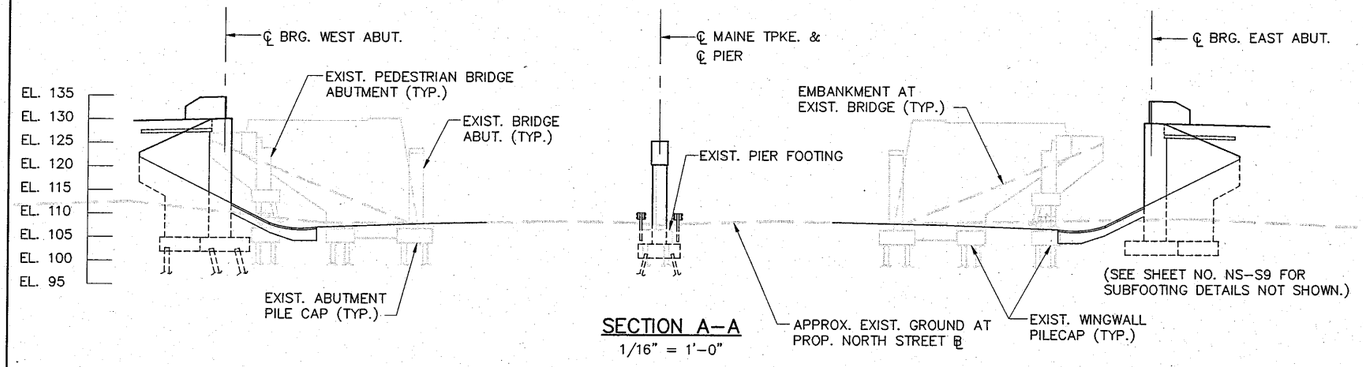
SHEET NUMBER: NS
CONTRACT: 2002.01



PLAN
1/16" = 1'-0"



EXISTING DECK REMOVAL
1/4" = 1'-0"



SECTION A-A
1/16" = 1'-0"

TABLE 1

PROP. ℄ STA.	OFFSET
49+00	47.50' LT
49+50	48.88' LT
50+00	50.29' LT
50+50	51.67' LT
51+00	53.04' LT

NOTES

1. REMOVAL OF EXISTING PIER WITHIN PROPOSED EXCAVATION LIMITS SHALL BE PAID FOR UNDER ITEM 202.1933.
2. ALL EXISTING FOOTINGS SHALL BE COMPLETELY REMOVED AND THE RESULTING DEPRESSIONS SHALL BE FILLED WITH GRAVEL BORROW AND COMPACTED TO 95% OF MAXIMUM DENSITY. THE COST OF FURNISHING, PLACING AND COMPACTING GRAVEL BORROW SHALL BE INCIDENTAL TO ITEM 202.1933.
3. FOR DETAIL A, SEE SHEET NO. NS-S34.
4. FOR SECTION D-D, SEE SHEET NO. NS-S35.
5. EXISTING PILES SHALL BE CUT AT ELEVATION 103.0 FOR EXISTING ABUTMENT, WINGWALL AND PIER FOOTINGS.
6. NO ADDITIONAL PAYMENT SHALL BE MADE SHOULD THE LOCATION OF EXISTING PIER OR ABUTMENT PILES OR FOOTINGS INTERFERE WITH THE CONTRACTOR'S PROPOSED TEMPORARY EARTH SUPPORT SYSTEM.

Scale: AS NOTED

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MAINE TURNPIKE AUTHORITY
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BRIDGE REPLACEMENT NORTH STREET UNDERPASS

CONSTRUCTION SEQUENCE I

SHEET NUMBER: NS-S33

CONTRACT: 2002.01

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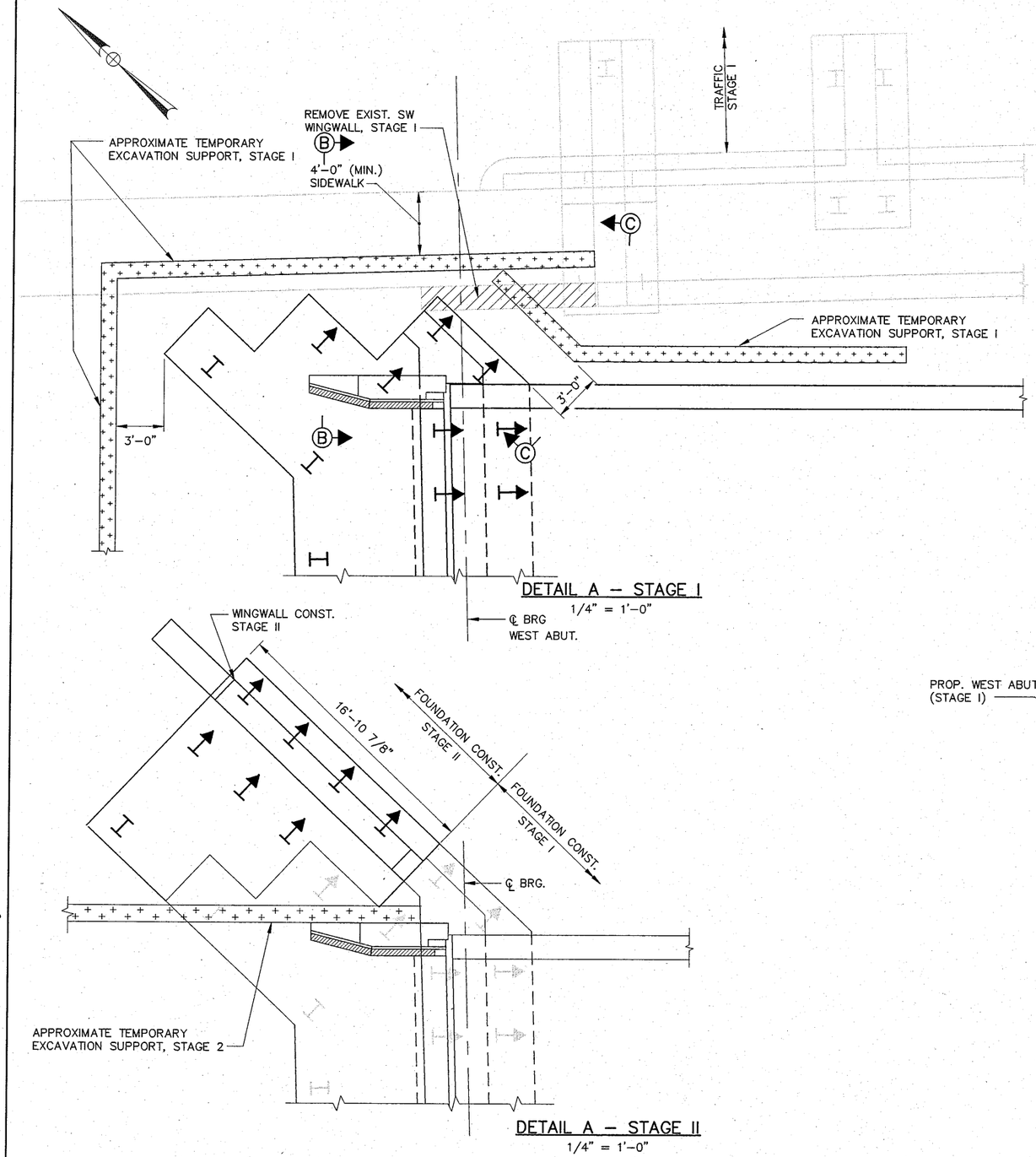
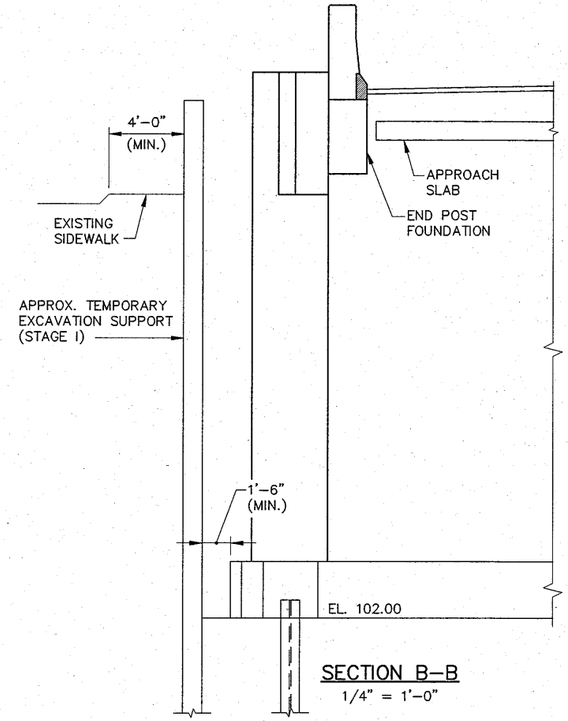
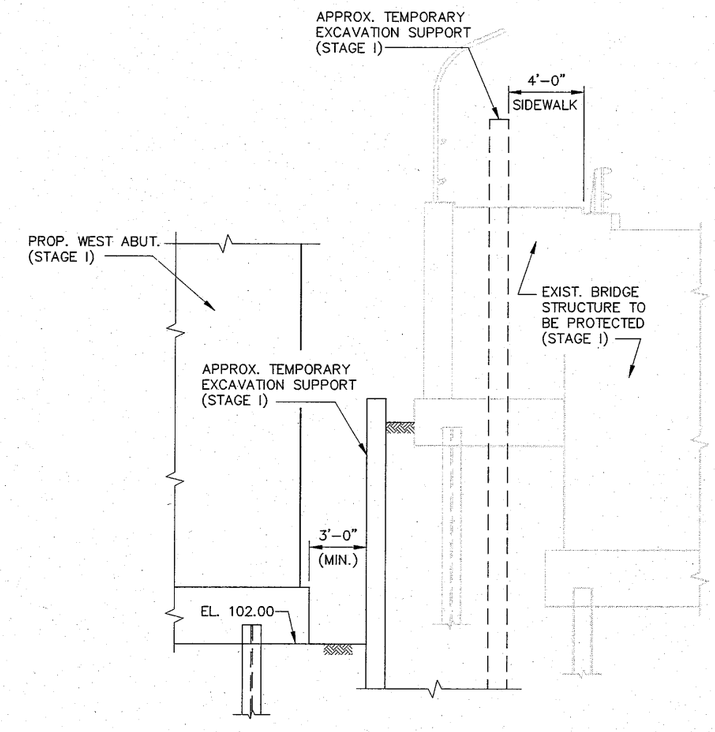


DETAIL A – STAGE I
1/4" = 1'-0"

DETAIL A – STAGE II
1/4" = 1'-0"



SECTION B–B
1/4" = 1'-0"



SECTION C–C
1/4" = 1'-0"

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Drawn	EJS	DEC. 2001	In Charge of	DWC	DEC. 2001

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MAINE TURNPIKE AUTHORITY
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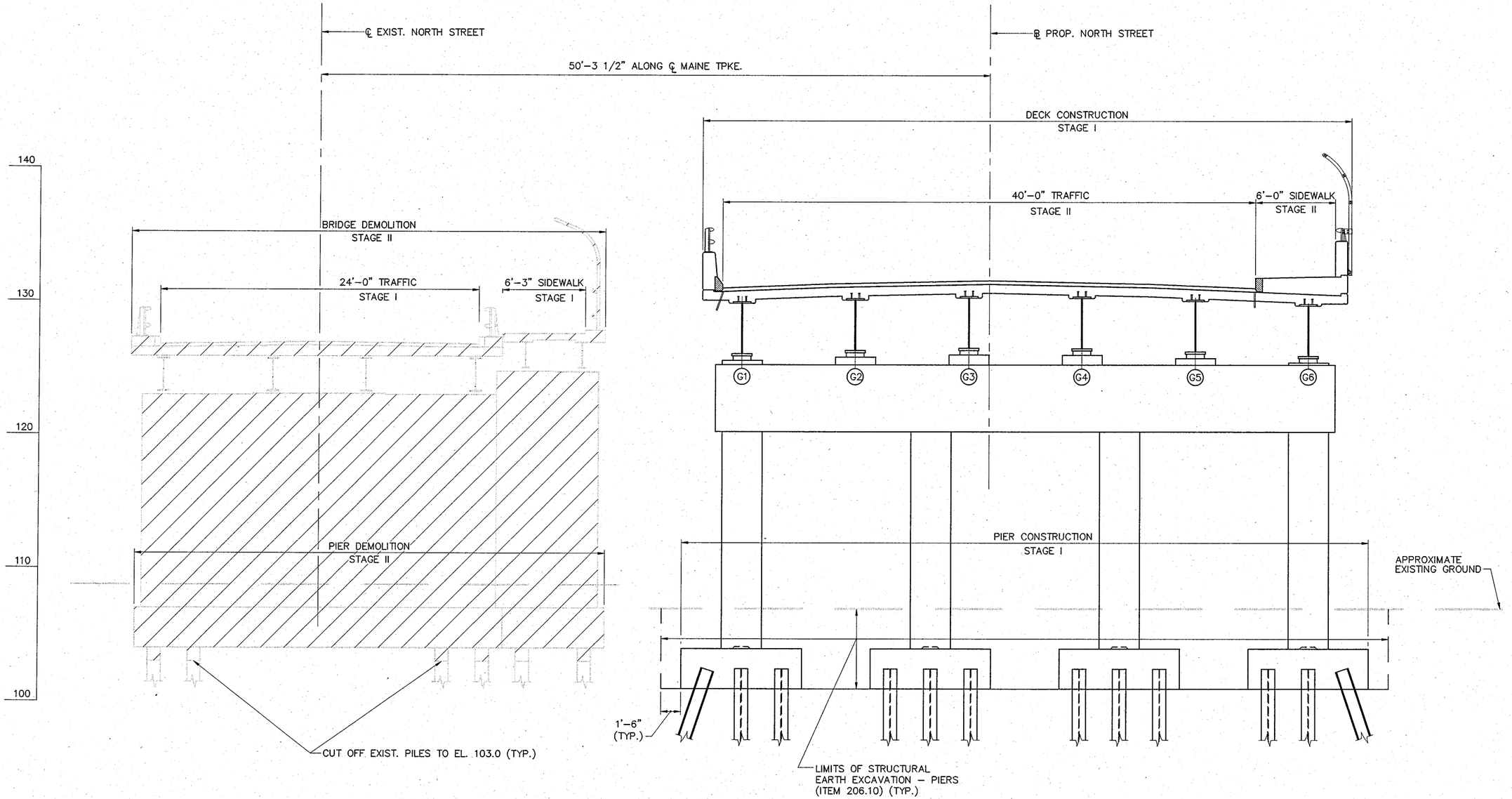
THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS

CONSTRUCTION SEQUENCE II

SHEET NUMBER: NS–S34

CONTRACT: 2002.01



SECTION D–D
1/4" = 1'–0"

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HNTB

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MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT

THINKING AHEAD The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS

CONSTRUCTION SEQUENCE III

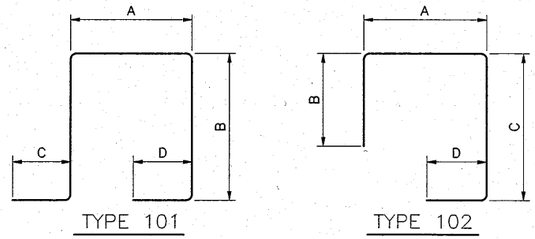
SHEET NUMBER: **NS–S35**

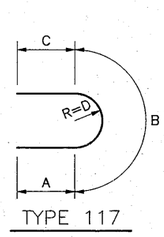
CONTRACT: **2002.01**

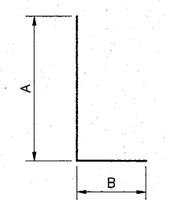
MARK	SIZE	NO.	LENGTH FT	LENGTH IN	TYPE	A FT	A IN	B FT	B IN	C FT	C IN	D FT	D IN	INCR. FT	INCR. IN	REMARKS
WEST ABUTMENT																
A501	5	65	19	0	STR											N.F. VERTICAL
* A502	5	39	3	7	118	2	0	1	7							TOP STEM VERTICAL
* A503	5	49	8	3	102	1	2	3	1	4	0	0	0			TOP STEM VERTICAL
* A504	5	49	4	8	STR											TOP STEM VERTICAL
* A505	5	51	4	4	118	3	0	1	4							TOP STEM VERTICAL
A506	5	19	23	7	STR											F.F. HORIZONTAL
A507	5	19	25	0	STR											F.F. HORIZONTAL
A508	5	20	24	3	STR											N.F. HORIZONTAL
A509	5	20	25	8	STR											N.F. HORIZONTAL
* A510	5	4	24	3	STR											TOP STEM HORIZONTAL
* A511	5	4	25	8	STR											TOP STEM HORIZONTAL
* A512	5	6	21	1	STR											BACKWALL F.F. HORIZONTAL
* A513	5	6	17	0	STR											BACKWALL F.F. HORIZONTAL
* A514	5	3	25	10	STR											BACKWALL F.F. HORIZONTAL
* A515	5	3	27	4	STR											BACKWALL F.F. HORIZONTAL
* A516	5	7	25	9	STR											BACKWALL N.F. HORIZONTAL
* A517	5	7	27	3	STR											BACKWALL N.F. HORIZONTAL
* A518	5	14	2	6	STR											CORNER HORIZONTAL
* A519	5	14	6	9	109	4	9	1	3	0	6	0	9			CORNER HORIZONTAL
* A520	5	14	4	2	118	3	6	0	8							CORNER HORIZONTAL
A521	5	5	6	6	STR											CORNER HORIZONTAL
A522	5	5	11	9	STR											CORNER HORIZONTAL
A523	5	40	6	6	118	4	3	2	3							CORNER HORIZONTAL
A524	5	40	7	0	109	4	9	1	3	0	9	1	0			CORNER HORIZONTAL
* A525	5	32	6	5	STR											BACKWALL VERT. AT CORNER
* A526	5	32	3	3	STR											BACKWALL DOWEL AT CORNER
A527	5	8	7	10	118	5	10	2	0							BACKWALL VERT. AT CORNER
* A528	5	20	1	11	STR											BEARING PAD HORIZONTAL
* A529	5	15	7	1	101	2	1	2	6	0	0	0	0			BEARING PAD VERTICAL
* A530	5	7	9	11	101	1	11	4	0	0	0	0	0			KEEPER BLOCK VERTICAL
* A531	5	4	3	8	STR											KEEPER BLOCK HORIZONTAL
A532	5	39	14	9	STR											F.F. VERTICAL
* A533	5	12	18	10	STR											F.F. VERTICAL
A534	5	4	2	2	STR											KEEPER BLOCK HORIZONTAL
* A601	6	39	5	1	119	3	10	1	3	1	0					TOP STEM VERTICAL
A701	7	59	13	7	STR											F.F. VERTICAL
EAST ABUTMENT																
B501	5	65	19	0	STR											N.F. VERTICAL
* B502	5	39	3	7	118	2	0	1	7							TOP STEM VERTICAL
* B503	5	49	8	3	102	1	2	3	1	4	0	0	0			TOP STEM VERTICAL
* B504	5	49	4	8	STR											TOP STEM VERTICAL
* B505	5	51	4	4	118	3	0	1	4							TOP STEM VERTICAL
B506	5	19	23	7	STR											F.F. HORIZONTAL
B507	5	19	25	0	STR											F.F. HORIZONTAL
B508	5	20	24	3	STR											N.F. HORIZONTAL
B509	5	20	25	8	STR											N.F. HORIZONTAL
* B510	5	4	24	3	STR											TOP STEM HORIZONTAL
* B511	5	4	25	8	STR											TOP STEM HORIZONTAL
* B512	5	6	21	1	STR											BACKWALL F.F. HORIZONTAL
* B513	5	6	17	0	STR											BACKWALL F.F. HORIZONTAL
* B514	5	3	25	10	STR											BACKWALL F.F. HORIZONTAL
* B515	5	3	27	4	STR											BACKWALL F.F. HORIZONTAL
* B516	5	7	25	9	STR											BACKWALL N.F. HORIZONTAL
* B517	5	7	27	3	STR											BACKWALL N.F. HORIZONTAL
* B518	5	14	2	6	STR											CORNER HORIZONTAL
* B519	5	14	6	9	109	4	9	1	3	0	6	0	9			CORNER HORIZONTAL, E = 6"
* B520	5	14	4	2	118	3	6	0	8							CORNER HORIZONTAL
* B521	5	5	6	6	STR											CORNER HORIZONTAL
B522	5	5	11	9	STR											CORNER HORIZONTAL
B523	5	40	6	6	118	4	3	2	3							CORNER HORIZONTAL
B524	5	40	7	0	109	4	9	1	3	0	9	1	0			CORNER HORIZONTAL, E = 9"
* B525	5	32	6	5	STR											BACKWALL VERT. AT CORNER
* B526	5	32	3	3	STR											BACKWALL DOWEL AT CORNER
B527	5	8	7	10	118	5	10	2	0							BACKWALL VERT. AT CORNER
* B528	5	20	1	11	STR											BEARING PAD HORIZONTAL
* B529	5	15	7	1	101	2	1	2	6	0	0	0	0			BEARING PAD VERTICAL
* B530	5	7	9	11	101	1	11	4	0	0	0	0	0			KEEPER BLOCK VERTICAL
* B531	5	4	3	8	STR											KEEPER BLOCK HORIZONTAL
B532	5	39	14	9	STR											F.F. VERTICAL
* B533	5	12	18	10	STR											F.F. VERTICAL
B534	5	4	2	2	STR											KEEPER BLOCK HORIZONTAL
* B601	6	39	5	1	119	3	10	1	3	1	0					TOP STEM VERTICAL
B701	7	59	13	7	STR											F.F. VERTICAL

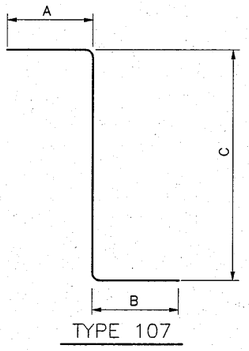
* EPOXY-COATED BAR

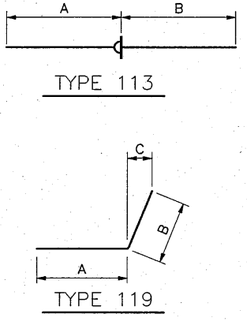
MARK	SIZE	NO.	LENGTH FT	LENGTH IN	TYPE	A FT	A IN	B FT	B IN	C FT	C IN	D FT	D IN	INCR. FT	INCR. IN	REMARKS
N.W. AND S.W. WINGWALL																
WA501	5	33	8'-4"	14'-10"	STR									0	2 1/2	NW F.F. VERTICAL
WA502	5	12	5'-11"	11'-4"	STR											NW FWW VERTICAL
WA503	5	36	16	2	STR											NW HORIZONTAL
WA504	5	28	7	2	STR											NW & SW FWW HORIZONTAL
WA505	5	12	2'-4"	6'-0"	STR									1	10	NW & SW FWW HORIZONTAL
WA506	5	18	1'-6"	20'-8"	STR									2	4 3/4	NW HORIZONTAL
WA507	5	2	22	8	STR											NW HORIZONTAL
WA508	5	4	8	4	STR											NW & SW FWW HORIZONTAL
WA509	5	31	9'-2"	14'-9 1/2"	STR									0	2 1/4	SW F.F. VERTICAL
WA510	5	12	5'-11"	11'-0"	STR									1	1/4	S FWW HORIZONTAL
WA511	5	36	15	2	STR											SW HORIZONTAL
WA512	5	16	1'-6"	18'-10"	STR									2	5 3/4	SW HORIZONTAL
WA513	5	2	22	10	STR											SW HORIZONTAL
WA514	5	17	19'-5"	25'-10"	STR									0	4 13/16	NW N.F. VERTICAL
WA515	5	16	20'-1"	25'-10"	STR									0	4 5/8	SW N.F. VERTICAL
WA801	8	64	15	7	STR											NW & SW F.F. VERTICAL
N.E. AND S.E. WINGWALL																
WB501	5	35	7'-11"	15'-0"	STR									0	2 1/2	NE F.F. VERTICAL
WB502	5	12	5'-11"	11'-2"	STR											NE FWW VERTICAL
WB503	5	34	16	2	STR											NE HORIZONTAL
WB504	5	28	7	2	STR											NE & SE FWW HORIZONTAL
WB505	5	12	2'-4"	6'-0"	STR											NE & SE FWW HORIZONTAL
WB506	5	18	2'-0"	21'-0"	STR									2	4 1/2	NE HORIZONTAL
WB507	5	2	23	10	STR											NE HORIZONTAL
WB508	5	4	8	4	STR											NE & SE FWW HORIZONTAL
WB509	5	33	9'-0"	15'-0"	STR									0	2 1/4	SE F.F. VERTICAL
WB510	5	12	5'-11"	11'-0"	STR									1	1/4	SE FWW VERTICAL
WB511	5	36	16	2	STR											SE HORIZONTAL
WB512	5	16	1'-11"	20'-4"	STR									2	7 1/2	SE HORIZONTAL
WB513	5	2	22	4	STR											SE HORIZONTAL
WB514	5	18	18'-11"	25'-9"	STR									0	4 13/16	NE N.F. VERTICAL
WB515	5	16	20'-0"	25'-11"	STR									0	4 3/4	SE N.F. VERTICAL
WB801	8	68	15	7	STR											NE & SE F.F. VERTICAL
PIER CAP & COLUMN																
* P501	5	54	9	7	101	3	2	3	2 1/2	0	0	0	0			CAP STIRRUPS
* P502	5	10	42	11 1/4	STR											CAP HORIZONTAL E.F.
* P503	5	12	8	9 5/8	117	1	11	4	11 5/8	1	11	1	7			CAP HORIZONTAL EA. END
* P504	5	4	628	4	SPIR	2	6	0	3	80						COLUMN SPIRAL
* P601	6	18	6	7	101	2	8	2	0	0	0	0	0			BEARING PAD STIRRUPS
* P802	8	24	1	8	STR											BEARING PAD LONGIT.
* P901	9	2	44	6 1/4	STR											CAP - TOP HORIZONTAL
* P902	9	2	45	7 3/4	STR											CAP - TOP HORIZONTAL
* P903	9	2	46	3/4	STR											CAP - TOP HORIZONTAL
* P1001	10	40	21	1 1/2	STR											COLUMN VERTICAL
* P1002	10	2	46	3/4	STR											CAP - BOTTOM HORIZONTAL
* P1003	10	2	45	7 3/4	STR											CAP - BOTTOM HORIZONTAL
* P1004	10	2	44	6 1/4	STR											CAP - BOTTOM HORIZONTAL

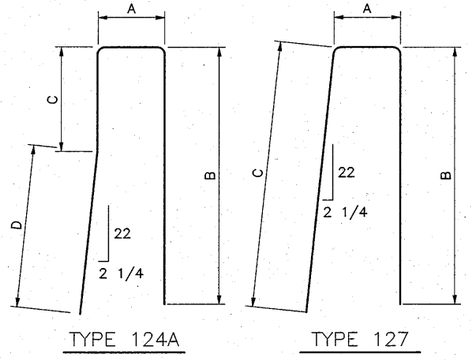


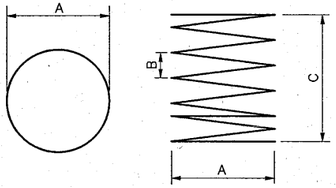












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Scale:

No.	Revision	By	Date

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	By	Date		By	Date
Designed	JJW	DEC. 2001	Checked	SBH	DEC. 2001
Drawn	EJS	DEC. 2001	In Charge of	DWC	DEC. 2001

PE Stamp:

Approved by:

HNTB

HNTB CORPORATION
ARCHITECTS ENGINEERS PLANNERS
2 Thomas Drive
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 772-7410

MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT

THINKING AHEAD. The Widening

BRIDGE REPLACEMENT
NORTH STREET UNDERPASS

REINFORCING STEEL SCHEDULE I

SHEET NUMBER: NS-S36

CONTRACT: 2002.01

MARK	SIZE	NO.	LENGTH FT	LENGTH IN	TYPE	A FT	A IN	B FT	B IN	C FT	C IN	D FT	D IN	INCR. FT	INCR. IN	REMARKS
WEST ABUTMENT & WINGWALL FOOTING																
AF501	5	32	25	3	STR											ABUT. LONGITUDINAL T & B
AF502	5	28	22	7	STR											ABUT. LONGITUDINAL T & B
AF503	5	60	3	0	STR											ABUTMENT DOWEL
AF504	5	33	3	0	STR											WINGWALL DOWEL
AF505	5	16	23	7	STR											WW LONGITUDINAL T & B
AF506	5	14	20	3	STR											WW LONGITUDINAL T & B
AF507	5	12	16	5	STR											NW WW LONGIT. T & B (ST. II)
AF508	5	12	7	10	STR											NW WW LONGIT. T & B (ST. I)
AF509	5	12	10	5	STR											NW WW LONGIT. T & B (ST. II)
AF510	5	12	11	1	STR											NW WW LONGIT. T & B (ST. I)
AF511	5	8	6	5	STR											NW WW LONGIT. T & B (ST. II)
AF512	5	8	12	6	STR											NW WW LONGIT. T & B (ST. I)
AF513	5	32	3	8	113	1	10	1	10							NW WW T & B LONGIT. COUPLERS
AF701	7	51	10	0	118	9	0	1	0							F.F. VERTICAL
AF801	8	59	7	0	118	6	0	1	0							ABUT. F.F. VERTICAL
AF802	8	88	14	8	STR											ABUT. TRANSVERSE T & B
AF803	8	98	14	2	STR											WW TRANSVERSE T & B
AF804	8	18	14	2	113	5	4	8	10							NW WW TRANS. COUPLERS
AF805	8	12	14	2	113	3	10	10	4							NW WW TRANS. COUPLERS
AF806	8	65	8	6	118	6	0	2	6							WW F.F. VERTICAL
EAST ABUTMENT & WINGWALL FOOTING																
BF501	5	32	23	6	STR											ABUT. LONGITUDINAL T & B
BF502	5	28	20	10	STR											ABUT. LONGITUDINAL T & B
BF503	5	65	3	0	STR											ABUT. DOWEL
BF504	5	37	14	8	STR											WW TRANSVERSE, BOTTOM
BF505	5	16	24	2	STR											WW LONGITUDINAL T & B
BF506	5	14	21	2	STR											WW LONGITUDINAL T & B
BF507	5	12	17	1	STR											NW WW LONGIT. T & B (ST. II)
BF508	5	12	7	10	STR											NW WW LONGIT. T & B (ST. I)
BF509	5	12	13	2	STR											NW WW LONGIT. T & B (ST. II)
BF510	5	12	11	1	STR											NW WW LONGIT. T & B (ST. I)
BF511	5	8	9	2	STR											NW WW LONGIT. T & B (ST. II)
BF512	5	8	12	6	STR											NW WW LONGIT. T & B (ST. I)
BF513	5	32	3	8	113	1	10	1	10							NE WW LONGIT. COUPLERS T & B
BF514	5	4	14	8	113	5	4	9	4							NE WW TRANS. COUPLERS, BOT.
BF515	5	4	14	8	113	3	10	10	10							NE WW TRANS. COUPLERS, BOT.
BF516	5	33	3	0	STR											WW DOWEL
BF601	6	90	14	8	STR											ABUT. TRANSVERSE, BOTTOM
BF701	7	90	14	8	STR											ABUT. TRANSVERSE, TOP
BF702	7	51	10	0	118	9	0	1	0							ABUT. F.F. VERTICAL
BF801	8	59	7	0	118	6	0	1	0							ABUT. F.F. VERTICAL
BF802	8	73	14	8	STR											WW TRANSVERSE, TOP
BF803	8	8	14	8	113	5	4	9	4							NE WW TOP TRANS. COUPLERS
BF804	8	8	14	8	113	3	10	10	10							NE WW TOP TRANS. COUPLERS
BF805	8	65	8	6	118	6	0	2	6							WW F.F. VERTICAL
PIER FOOTING																
* PF1001	10	40	11	0	118	9	6	2	0							COLUMN VERTICAL
PF901	11	160	8	6	STR											TRANSV. & LONGIT. T & B

* EPOXY-COATED BAR

MARK	SIZE	NO.	LENGTH FT	LENGTH IN	TYPE	A FT	A IN	B FT	B IN	C FT	C IN	D FT	D IN	INCR. FT	INCR. IN	REMARKS
DECK SLAB AND PARAPET																
* S501	5	875	30	4	STR											DECK LONGITUDINAL
* S502	5	51	40	0	STR											DECK LONGITUDINAL OVER PIER
* S503	5	51	22	9	STR											DECK LONGITUDINAL OVER PIER
* S504	5	24	34	8	STR											PARAPET LONGITUDINAL
* S505	5	66	7	8	STR											PARAPET LONGITUDINAL
* S506	5	36	15	8	STR											PARAPET LONGITUDINAL
* S507	5	12	6	11	STR											PARAPET LONGITUDINAL
* S508	5	198	3	9 1/4	127	0	6 3/4	1	7	1	7 1/2					PARAPET VERTICAL
* S509	5	198	7	0	114	1	8	3	2	0	1/4	2	2			SIDEWALK END
* S510	5	198	5	7 1/2	STR											SIDEWALK TRANSVERSE
* S511	5	198	4	9	107	2	2	1	3	1	4					SIDEWALK
* S512	5	198	4	11	101	0	7	2	2	0	0	0	0			SIDEWALK BARRIER VERTICAL
* S513	5	88	7	8	STR											SIDEWALK BARRIER LONGIT.
* S514	5	48	15	8	STR											SIDEWALK BARRIER LONGIT.
* S515	5	16	6	11	STR											SIDEWALK BARRIER LONGIT.
* S516	5	104	3	6 1/2	109	1	5	0	11	0	10 1/2	1	2 1/2			DECK AT EXP. JOINT, E = 9.5"
* S517	5	104	4	9	118	4	0	0	9							DECK AT EXP. JOINT
* S518	5	60	8	0	STR											DECK AT EXP. JOINT
* S519	5	8	3	9	STR											SCUPPER
* S520	5	16	6	9	STR											SCUPPER
* S521	5	8	4	6	STR											SCUPPER
* S601	6	794	48	1	STR											DECK TRANSVERSE T & B
* S602	6	396	4	3	118	3	3	1	0							PARAPET VERTICAL
* S603	6	42	36	0	STR											SIDEWALK LONGITUDINAL
* S604	6	10	40	0	STR											SIDEWALK LONGIT. OVER PIER.
* S605	6	10	23	3	STR											SIDEWALK LONGIT. OVER PIER
* S606	6	198	8	7 1/4	117	3	10	0	11 1/4	3	10	0	3 3/4			SIDEWALK BARRIER VERTICAL
APPROACH SLABS																
AS400	4	32	38	8	STR											TRANSVERSE
AS600	6	156	15	2	STR											LONGITUDINAL
END POST																
* EP501	5	4	6	6	104	2	10	3	8	2	1	0	0			HORIZONTAL
* EP502	5	4	6	6	104	2	8	3	10	0	11	0	0			HORIZONTAL
* EP503	5	4	6	6	STR											HORIZONTAL
* EP504	5	40	5	3	118	4	3	1	0							HORIZONTAL
* EP505	5	8	6	5	104	3	0	3	5	0	9	0	0			HORIZONTAL
* EP506	5	12	6	1	118	5	9	0	4							HORIZONTAL
* EP507	5	10	4	11	124A	1	0	0	0	1	8	2	3			VERTICAL
* EP508	5	20	5	5	118	4	8	0	9							VERTICAL
* EP509	5	8	7	10	118	6	2	1	8							VERTICAL
* EP510	5	4	6	3	101	3	7	1	4	0	0	0	0			VERTICAL
* EP511	5	4	7	4	118	6	0	1	4							VERTICAL
* EP512	5	4	5	3	101	3	7	0	10	0	0	0	0			VERTICAL
* EP513	5	4	6	10	118	6	0	0	10							VERTICAL
* EP514	5	8	4	11	118	4	2	0	9							VERTICAL
* EP515	5	8	3	0	118	2	7	0	5							VERTICAL
* EP516	5	8	3	8	118	2	10	0	10							VERTICAL
* EP517	5	8	1	8	118	1	3	0	5							VERTICAL
* EP518	5	4	6	0	104	2	10	3	2	1	3	0	0			HORIZONTAL
* EP519	5	10	5	2	118	4	2	1	0							VERTICAL
* EP520	5	8	7	3	118	6	2	1	1							VERTICAL
* EP521	5	4	5	9	101	3	7	1	1	0	0	0	0			VERTICAL
* EP522	5	4	7	1	118	6	0	1	1							VERTICAL
* EP523	5	4	4	7	101	3	7	0	6	0	0	0	0			VERTICAL
* EP524	5	4	6	6	118	6	0	0	6							VERTICAL
* EP601	6	16	5	10	118	4	10	1	0							VERTICAL
* EP602	6	4	7	1	118	4	1	3	0							HORIZONTAL
* EP603	6	8	9	1	118	5	0	4	1							HORIZONTAL
* EP604	6	8	6	0	118	5	0	1	0							VERTICAL
* EP605	6	8	5	4	STR											HORIZONTAL
* EP606	6	16	6	6	118	5	6	1	0							VERTICAL
* EP607	6	24	6	1	118	4	7	1	6							HORIZONTAL
* EP608	6	4	8	0	101	4	2	1	11	0	0	0	0			VERTICAL
* EP609	6	8	6	11	101	3	7	1	8	0	0	0	0			VERTICAL
* EP610	6	20	6	9	104	3	9	3	0	0	11	0	0			HORIZONTAL
* EP611	6	20	7	9	118	6	11	0	10							HORIZONTAL
* EP612	6	4	6	10	101	4	10	1	0	0	0	0	0			VERTICAL
* EP613	6	8	4	8	101	3	7	1	1	0	0	0	0			VERTICAL
* EP614	6	8	14	0	109	3	6	9	0	1	2	1	6			VERTICAL, E = 10"

P:\Land Projects\0213014\DWG\Maine\Bridge\R14\NS33BRS02.dwg

Scale:

No.	Revision	By	Date

Designed by:

Edwards AND Kelcey

THE SCHRAFFT CENTER
529 MAIN STREET, SUITE 203
BOSTON, MASSACHUSETTS 02129-1107

PHONE: (617) 242-9222
FAX: (617) 242-9824

	By	Date		By	Date
Designed	JJW	DEC. 2001	Checked	SBH	DEC. 2001
Drawn	EJS	DEC. 2001	In Charge of	DWC	DEC. 2001

PE Stamp:

Approved by:

HNTB

HNTB CORPORATION
ARCHITECTS ENGINEERS PLANNERS
2 Thomas Drive
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 772-7410

MAINE TURNPIKE AUTHORITY
MODERNIZATION
AND WIDENING PROJECT

THINKING AHEAD The Widening

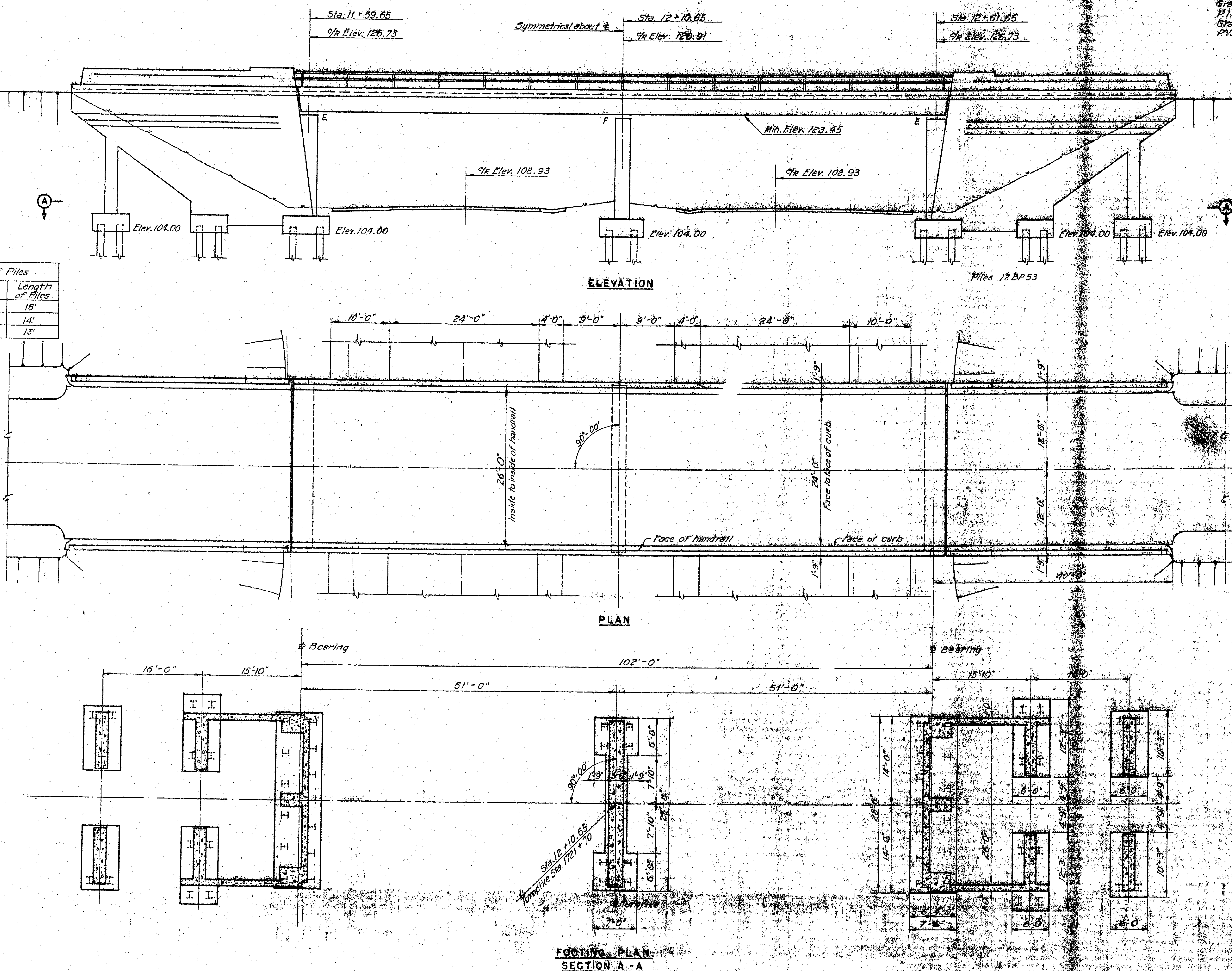
BRIDGE REPLACEMENT
NORTH STREET UNDERPASS

REINFORCING STEEL SCHEDULE II

SHEET NUMBER: NS-S37

CONTRACT: 2002.01

Vertical Curve Data
L = 630'
P.V.C. = Sta. 8+95.65 Elev. 119.82
Grade = +4.50 %
P.I. = Sta. 12+10.65 Elev. 134.00
Grade = -4.50 %
P.V.T. = Sta. 15+25.65 Elev. 119.82



Summary of Piles	
Location	Length of Piles
Southeast Abutment	16'
Center Pier	14'
Northwest Abutment	13'

LIST OF DRAWINGS

NO.	DATE	BY	REVISIONS	APPROVED
2	4-5-47	J.K.M.	Bottom of footing Elev. Corrected	
1	10-1946	GJC	Summary of Piles add.	

MAINE TURNPIKE AUTHORITY

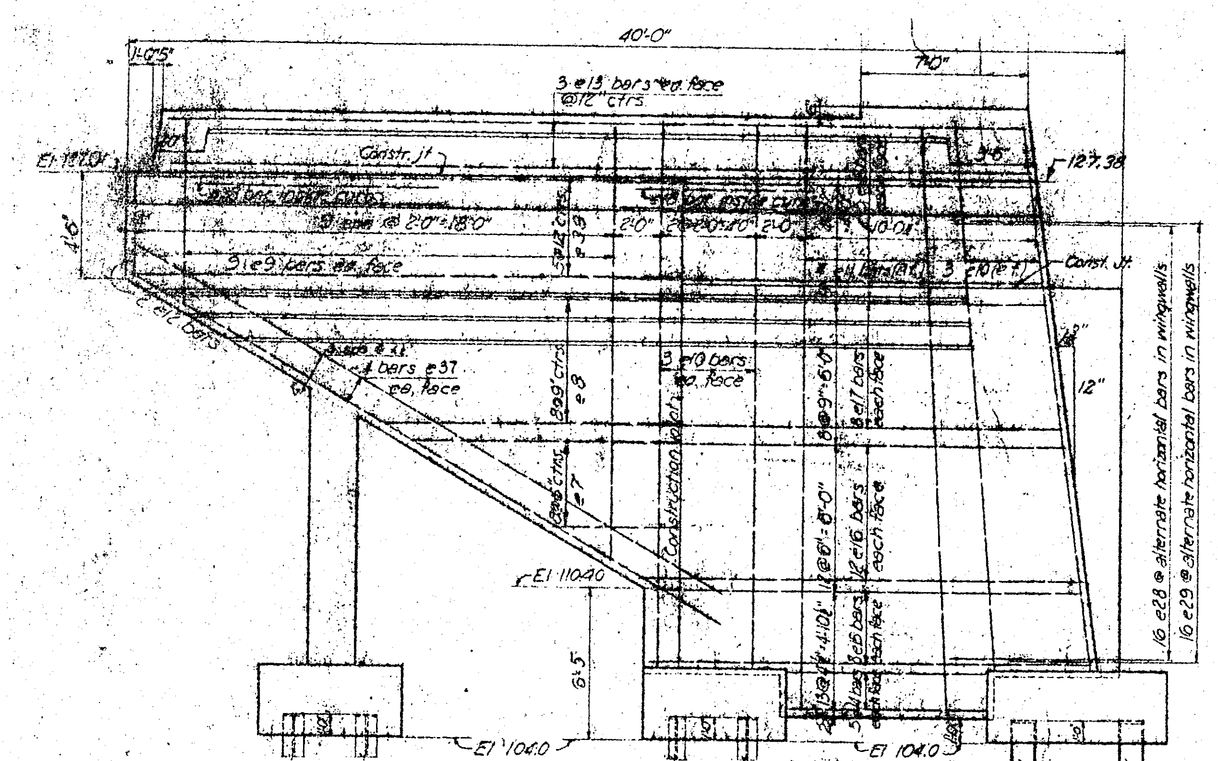
MAINE TURNPIKE

SECTION I—KITTERY TO PORTLAND

UNDERPASS AT STA. 1721 + 70
(BUXTON ROAD ; STATE ROUTE 112)
GENERAL PLAN AND ELEVATION

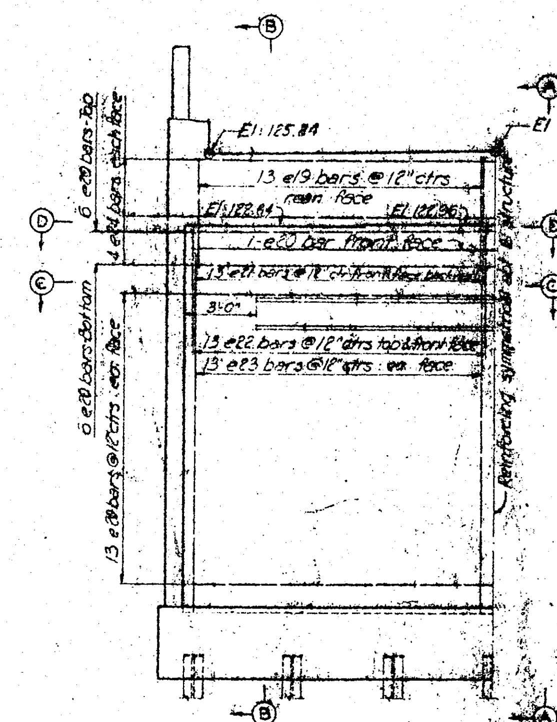
SCALE 1/8" = 1'-0"
MADE W.L.G. DATE 5-28-46
TRCD W.L.G. DATE 5-28-46
CKD T.D.B. DATE 8-22-46

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

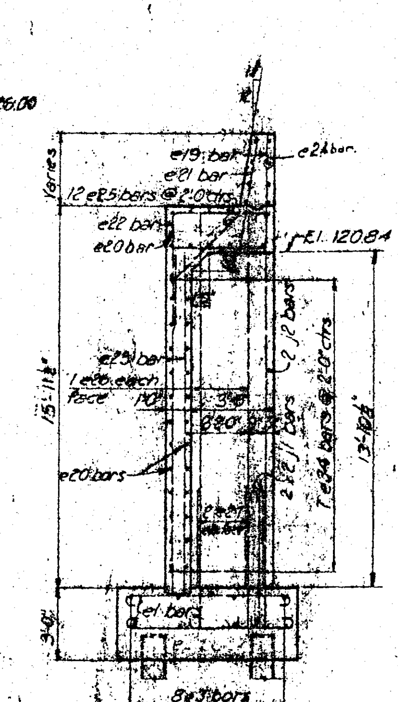


NORTH WING ABUT. 1-SOUTH WING ABUT. 2 AS SHOWN

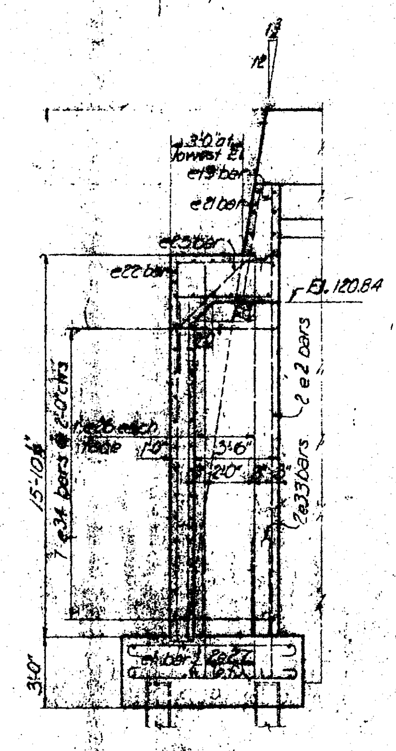
SOUTH WING ABUT. 1-NORTH WING ABUT. 2 SIMILAR



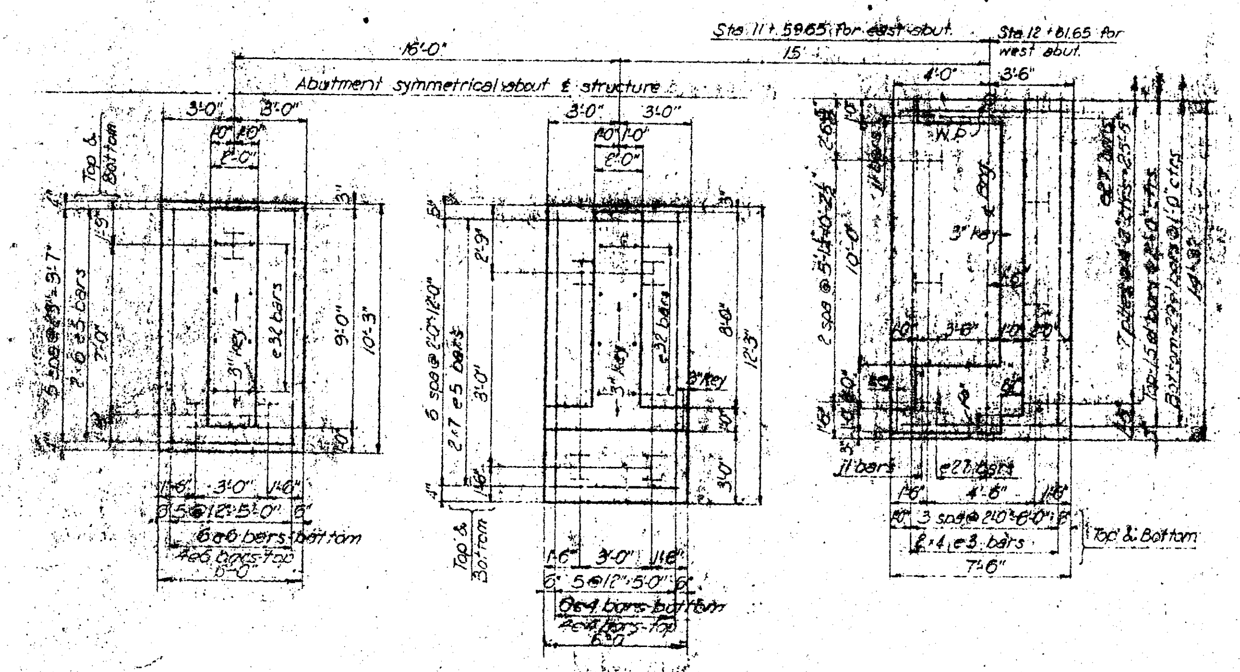
HALF FRONT ELEVATION



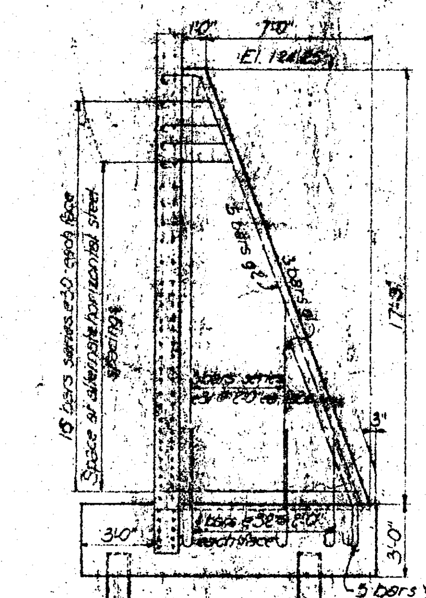
SECTION A-A



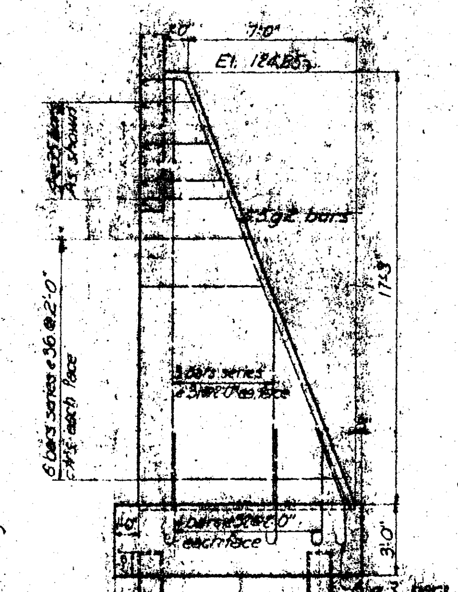
SECTION B-B



HALF FOOTING PLAN

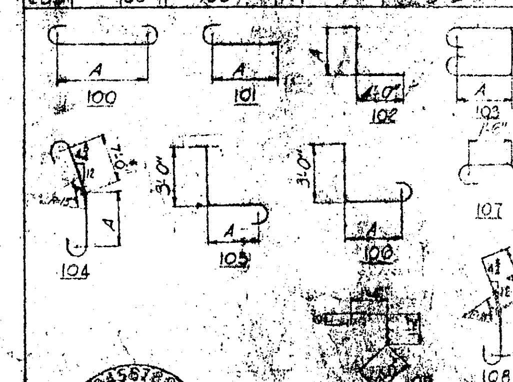


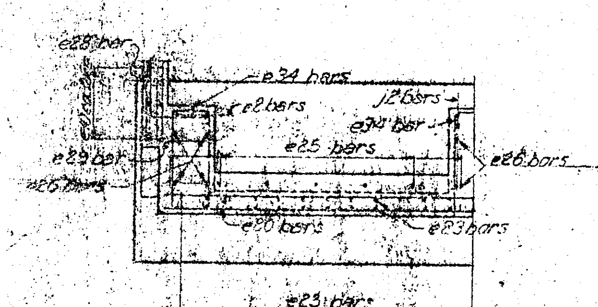
COUNTERFORT TYPE 1
4 REQ'D



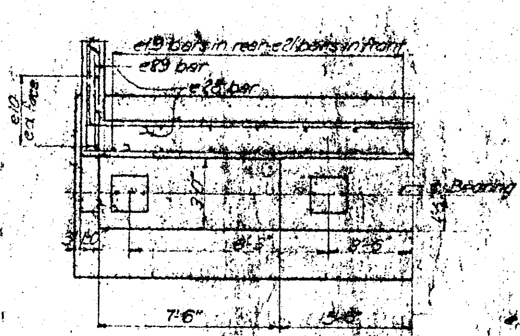
COUNTERFORT TYPE 2
4 REQ'D

REINFORCING SCHEDULE FOR TWO ABUTMENTS					
Mark	Size	No.	Diagram	A	Length
j1	1⅛"	8	100	8'-9"	11'-9"
j2	"	4	101	15'-5"	16'-11"
g1	1"φ	12	104	1'-7"	11'-3"
g2	"	40	107	18'-6"	21'-4"
g3	"	40	108	4'-0"	6'-11"
e1	¾"φ	88	100	6'-5"	8'-5"
e2	"	8	101	15'-5"	16'-11"
e3	"	16	Str		28'-0"
e4	"	40	"		11'-7"
e5	"	104	"		5'-4"
e6	"	40	"		9'-7"
e7	"	64	"		10'-6" to 15'-0"
e8	"	64	"		11'-9" to 19'-9"
e9	"	72	"		7'-9" to 17'-10"
e10	"	48	"		22'-5"
e11	"	32	"		24'-3"
e12	"	8	"		4'-0"
e13	"	12	"		31'-0"
e14	"	40	"		8'-0"
e15	"	64	"		18'-0" to 18'-3"
e16	"	96	"		19'-0" to 18'-5"
e17	"	64	"		18'-3" to 18'-10"
e18	"	48	"		17'-6" to 18'-2"
e19	"	52	102	4'-6"	8'-6"
e20	"	78	Str		25'-6"
e21	"	52	Str		4'-8"
e22	"	52	102	4'-0"	8'-11"
e23	"	52	Str		14'-0"
e24	"	16	"		27'-0"
e25	"	24	"		3'-10"
e26	"	24	"		15'-6"
e27	"	24	101	5'-3"	6'-5"
e28	"	64	105	2'-5"	6'-5"
e29	"	64	106	2'-1"	6'-1"
e30	"	128	101	2'-0" to 8'-0"	3'-0" to 9'-0"
e31	"	18	Str		7'-9" to 17'-0"
e32	"	64	101	4'-7"	5'-7"
e33	"	8	100	8'-9"	10'-9"
e34	"	42	103	3'-11"	11'-5
e35	"	32	101	2'-0" to 3'-6"	3'-0" to 4'-6"
e36	"	48	Str		4'-3" to 8'-0"
e37	"	32	"		25'-0"
e38	"	48	"		21'-2"
e39	"	80	109		5'-0"





SECTION C-C



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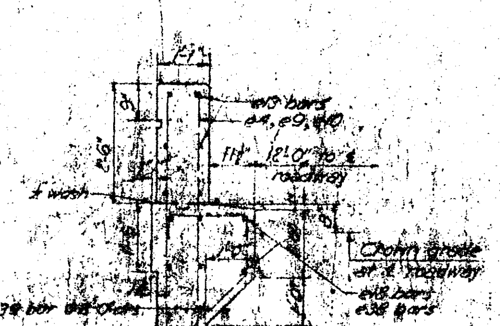


TYPICAL SECTIONAL SECTION

Note:
e.f. = each face

MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

SECTION 1 - KITTERY TO PORTLAND

UNDERPASS, STA. 1721+70

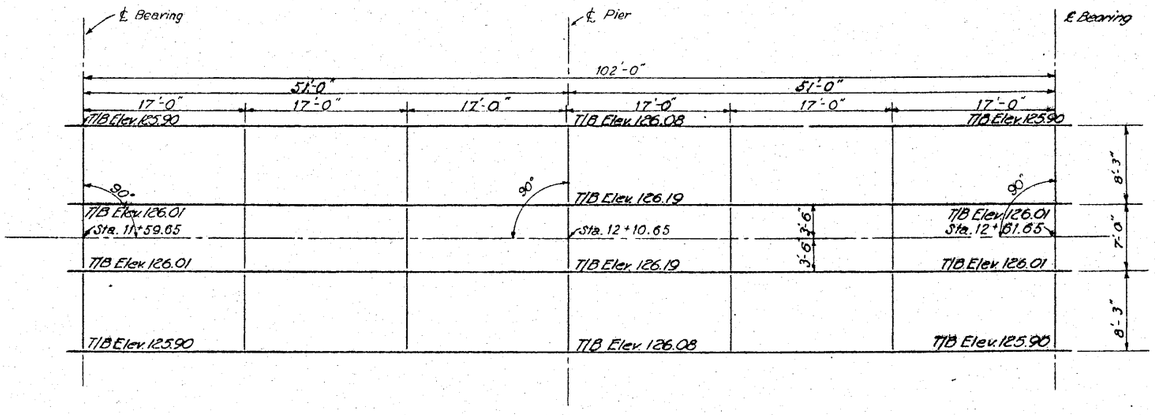
BUXTON ROAD-STATE ROUTE 112

ABUTMENTS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF

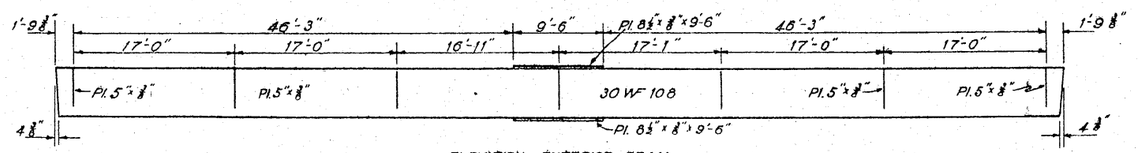
CONSULTING ENGINEERS

NEW YORK

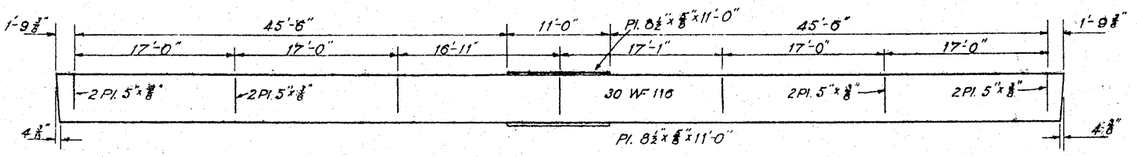


PLAN

Scale: 1/8" = 1'-0"

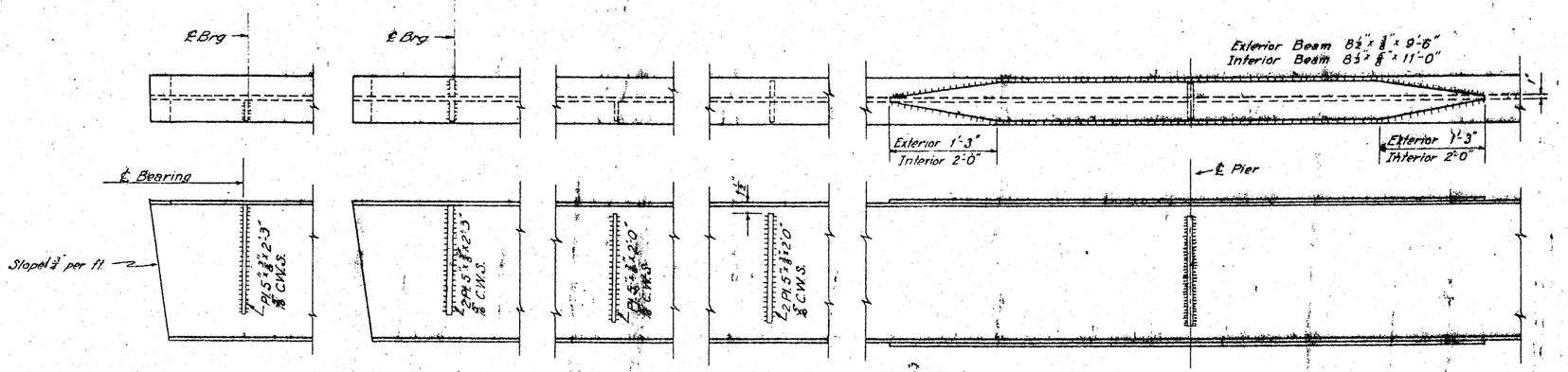


ELEVATION, EXTERIOR BEAM



ELEVATION, INTERIOR BEAM

Scale: 1/8" = 1'-0"



END DIAPHRAGM CONNECTION EXTERIOR BEAM

END DIAPHRAGM CONNECTION INTERIOR BEAM

INTERMEDIATE DIAPHRAGM CONNECTION EXTERIOR BEAM

INTERMEDIATE DIAPHRAGM CONNECTION INTERIOR BEAM

DETAILS AT PIER

Scale: ¾" = 1'-0"

MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

SECTION I—KITTERY TO PORTLAND

UNDERPASS AT STA. 1721 + 70

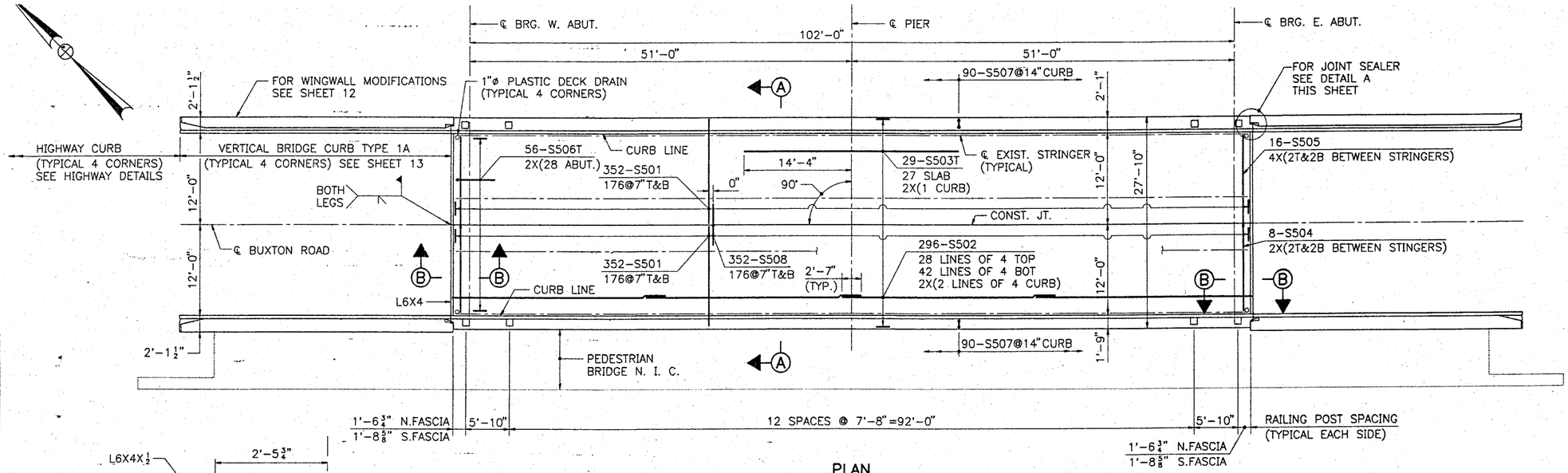
BUXTON ROAD — STATE ROUTE 112

FRAMING PLAN AND BEAM DETAILS

SCALE AS SHOWN
MADE CKV DATE 8-22-66
TRACED CKV DATE 8-22-66
CKD WD DATE 8-22-66

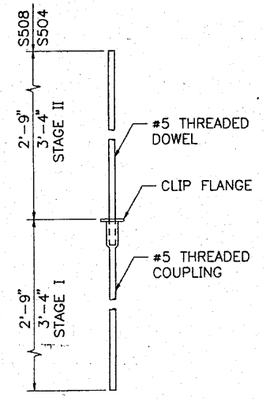
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

705 231 OF 257

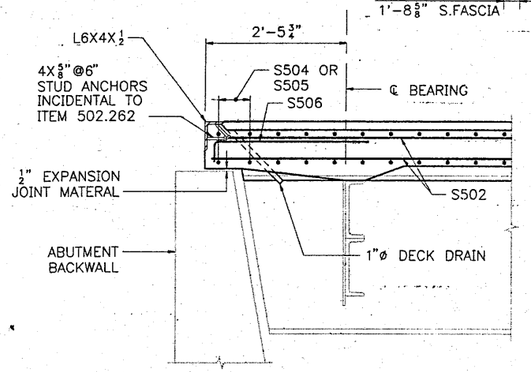


NOTES

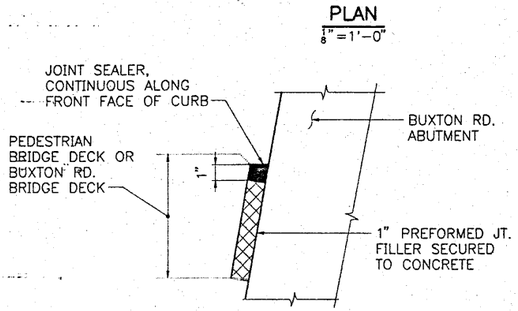
1. FOR SUPERSTRUCTURE NOTES, SEE SHEET 8.



DETAIL X
NO SCALE

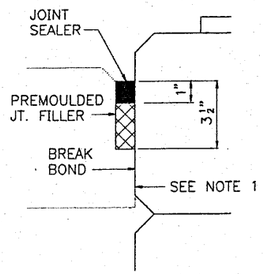


SECTION B=B
¾"=1'-0"

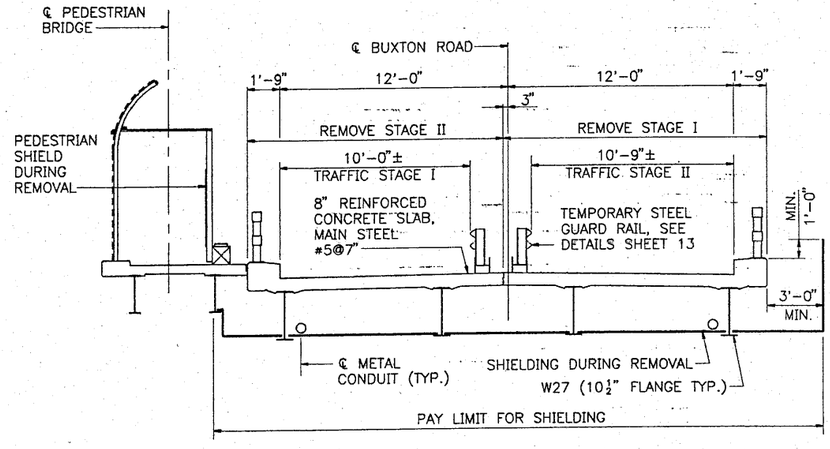


PLAN
⅛"=1'-0"

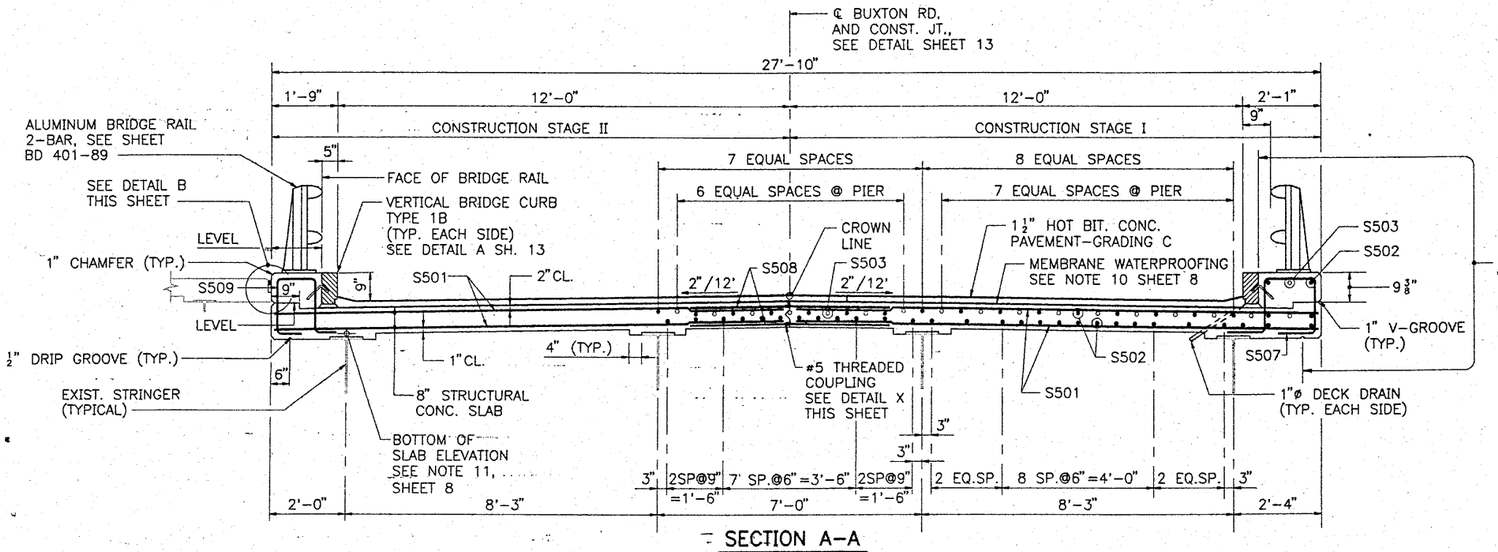
DETAIL A
3"=1'-0"



DETAIL B
3"=1'-0"



EXISTING DECK REMOVAL
(LOOKING WEST)
¼"=1'-0"



SECTION A-A
(LOOKING WEST)
½"=1'-0"

NOTES

1. ALL DETERIORATED CONCRETE SHALL BE REMOVED IN AREAS OF CONTACT BETWEEN NEW AND EXISTING CONSTRUCTION AND PATCHED BEFORE PLACING NEW CONCRETE SLAB. AN APPROVED EPOXY BONDING COMPOUND SHALL BE APPLIED TO THE AREA TO BE PATCHED JUST PRIOR TO PLACING THE PATCHING MATERIAL. COST OF REMOVAL, PATCHING MATERIAL AND BONDING COMPOUND TO BE INCIDENTAL.

Maine Turnpike Authority
Maine Turnpike

BUXTON ROAD OVER MAINE TURNPIKE DECK REINFORCING

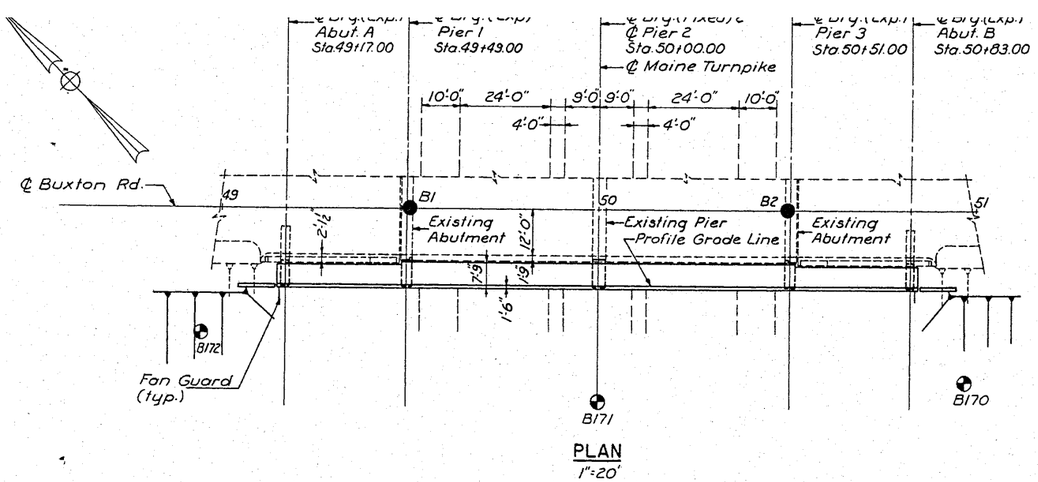
HNTB — HOWARD NEEDLES TAMMEN & BERGENDOFF ARCHITECTS ENGINEERS PLANNERS

No.	Revision	By	Date

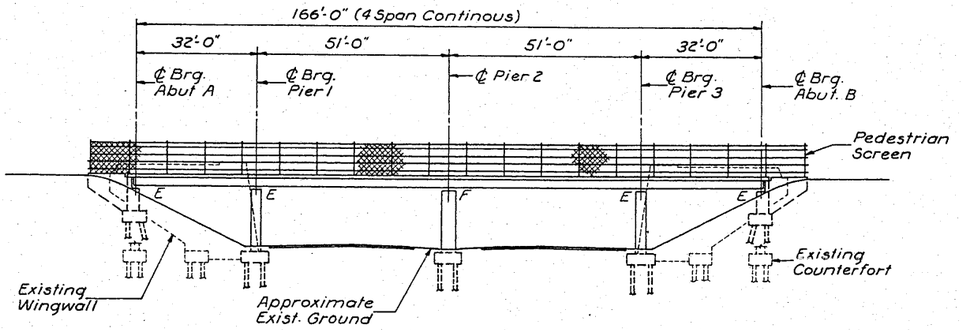
	By	Date
Designed	IS	12/92
Drawn	SHR	1/93
Checked	SHR	1/93
In Charge Of:	RAL	

Contract 93.5

Sheet No. 11 of 17
232 OF 257



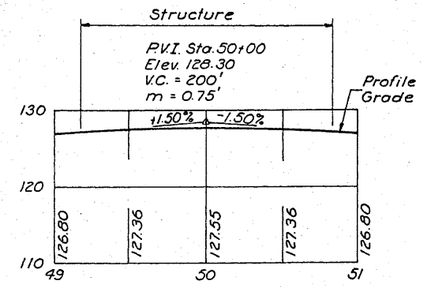
PLAN
1"=20'



ELEVATION
1"=20'

BRIDGE QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
203.25	Granular Borrow	20	C.Y.
206.08	Structural Earth Excavation Abuts. & Ret. Walls	50	C.Y.
206.10	Structural Earth Excavation - Piers	60	C.Y.
501.21	Steel H Piles 53#/ft.	170	L.F.
502.21	Structural Concrete, Abutments & Ret. Walls	34	C.Y.
502.23	Structural Concrete, Piers	61	C.Y.
502.26	Structural Concrete, Roadway & Sidewalk Slabs on Steel Bridges	1	L.S.
503.12	Reinforcing Steel, Fabricated & Delivered	9687	Lbs.
503.13	Reinforcing Steel, Placing	9687	Lbs.
* 504.70	Structural Steel, Fabricated & Delivered	1	L.S.
504.71	Structural Steel, Erection	1	L.S.
506.14	Field Painting, Structural Steel	1	L.S.
515.20	Protective Coating for Concrete Surfaces	200	S.Y.
607.39	Pedestrian Screen	188	L.F.

Approximate quantity Item 502.26 = 28 C.Y.
Approximate quantity Items 504.70* 504.71 & 506.14 = 21,000 lbs.
* Item 504.70 Structural Steel Fabricated & Delivered will be furnished by the Maine Turnpike Authority. Unloading of Structural Steel upon delivery to be included in Item 504.71.



PROFILE-BUXTON RD. PEDESTRIAN BRIDGE
Hor. 1"=50'
Vert. 1"=10'

SPECIFICATIONS

DESIGN
A.A.S.H.T.O. Standard Specifications for Highway Bridges 1973 with interim specifications.

CONTRACT
State of Maine, State Highway Commission Standard Specifications for Highways and Bridges, Revision of June 1968.

LIVE LOADING

Pedestrian Loading 85#/□'

FOUNDATIONS

Steel End Bearing Piles HP12x53 70 Ton Capacity

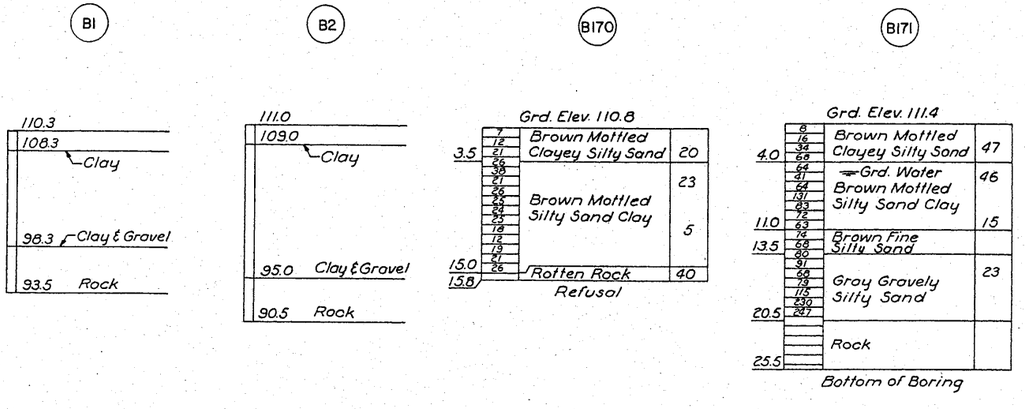
ALLOWABLE STRESSES

Concrete (n=10) ~ fc = 1200 p.s.i.
Reinforcing Steel A.S.T.M. Designation A615 Grade 60, fs. 24,000 p.s.i.
Structural Steel A.S.T.M. Designation A36 fs 20,000 p.s.i.

CONCRETE CLASSIFICATION

All concrete shall be Class "A"

INDEX OF SHEETS	
SHEET NO.	TITLE
1.	TITLE SHEET
2.	GENERAL PLAN & ELEVATION
3.	FOOTING PLAN, ABUTMENTS & WINGWALL DETAILS
4.	PIER DETAILS
5.	FRAMING PLAN & STEEL DETAILS
6.	DECK PLAN & DETAILS
7.	PEDESTRIAN SCREEN DETAILS
8.	REINFORCING STEEL SCHEDULE



BORING LOGS
1"=1'-0"

BORING NOTES:

1. Borings were made for the purpose of design and show conditions at boring locations only and do not neccessarily show the nature of materials to be encountered during construction.
2. Approximate location of borings are shown on the Plan thus:
   - ◔ Borings taken in 1973.
   - ● Borings taken for original construction. (1946)
3. Figures in the left of the boring log column indicate the depth below ground surface.
4. Figures in the left hand column of the boring log indicates the number of blows required to drive a 2½" I.D. casing 1'-0" with a 300 lb. hammer falling 16".
5. Figures in the right hand column of the boring log indicates the number of blows required to drive a 1⅜" I.D. Split Spoon Sampler 1'-0" with a 140 lb. hammer falling 30".
6. Notations indicating water in the hole does not neccessarily represent the ground water level.

NO.	REVISION	BY	DATE

	BY	DATE
MADE	R.D.F.	3-76
TRACED		
CHECKED	I.S.	3-76
IN CHARGE OF	C.J.M.	

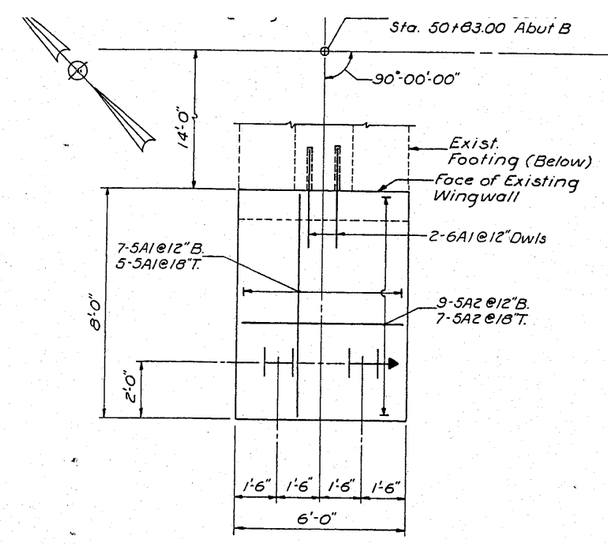
MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
SECTION 1-YORK TO PORTLAND

BUXTON ROAD PEDESTRIAN BRIDGE
OVER
MAINE TURNPIKE
GENERAL PLAN & ELEVATION

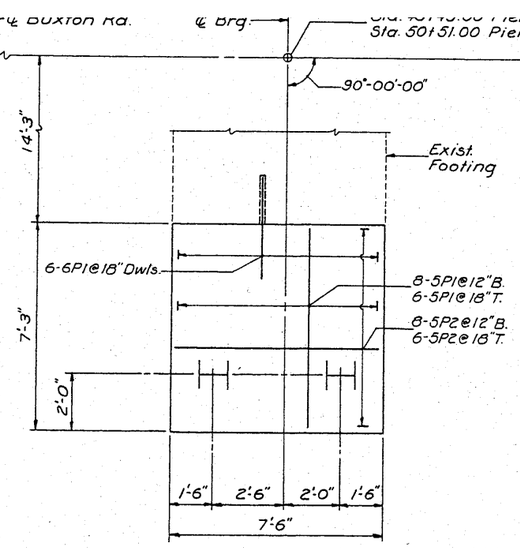
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

SCALE AS NOTED

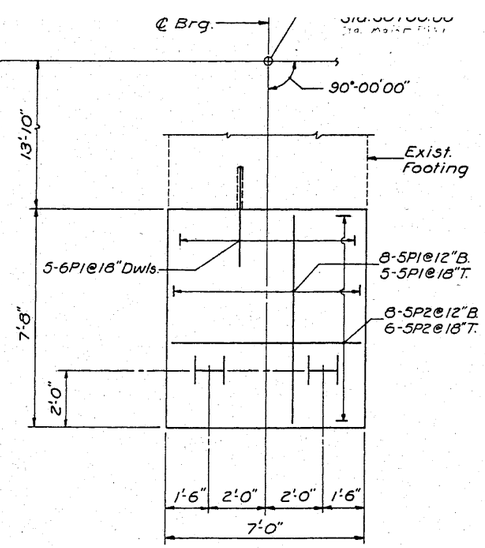
SHEET 2



ABUTMENT A
(ABUTMENT B Similar) *

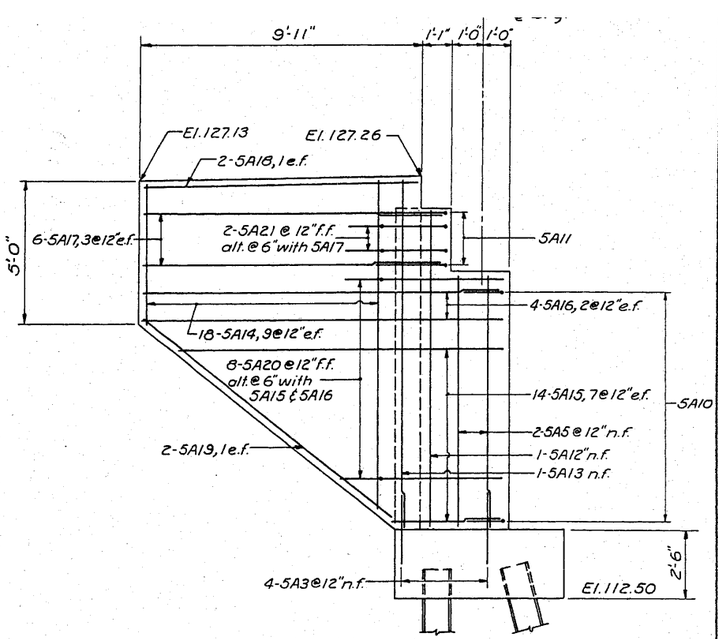


PIER 1
(PIER 3 Opposite Hand) *

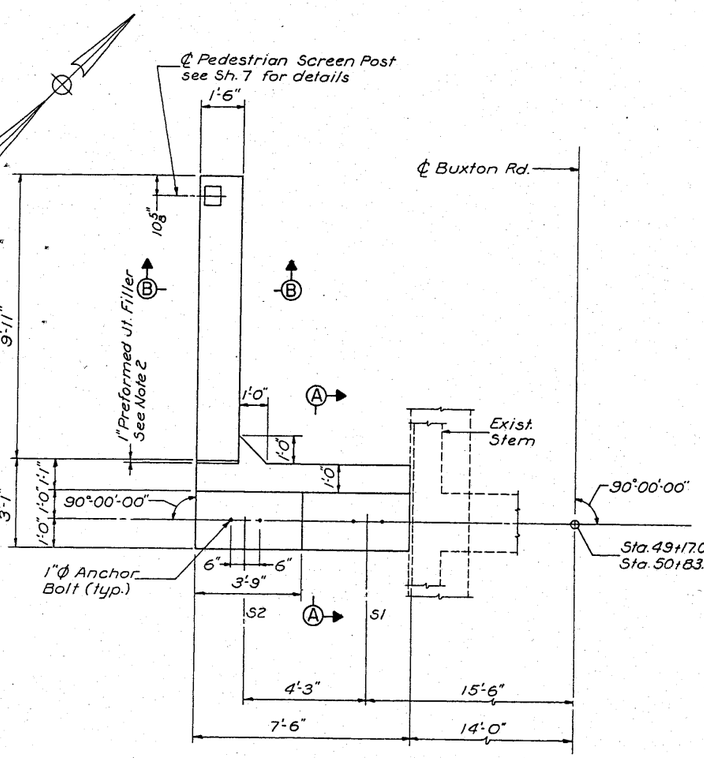


PIER 2

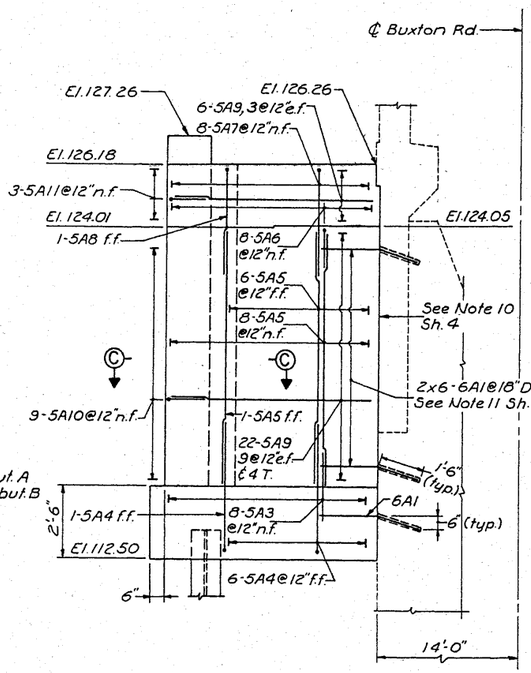
FOOTING PLAN
$\frac{3}{8}$"=1'-0"



WINGWALL ELEVATION
$\frac{3}{8}$"=1'-0"



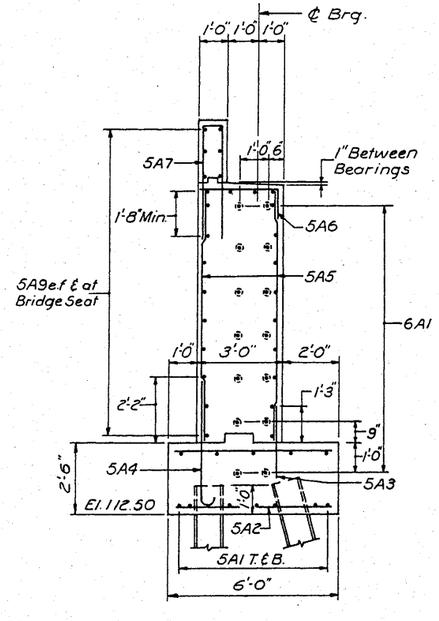
PLAN



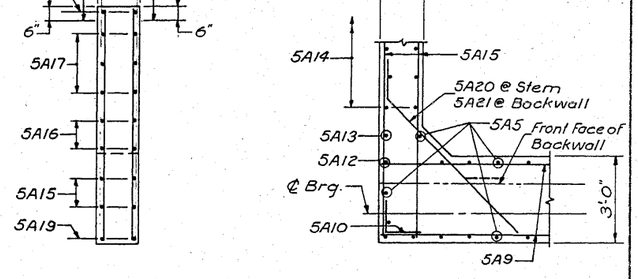
ELEVATION

ABUTMENT A
(ABUTMENT B Similar) *
$\frac{3}{8}$"=1'-0"

* Reinforcing of Abutment B similar except that bars are marked "B". Reinforcing of Pier 3 is the same as that of Pier 1.



SECTION A-A
$\frac{3}{8}$"=1'-0"



SECTION B-B
$\frac{3}{8}$"=1'-0"

SECTION C-C
$\frac{3}{8}$"=1'-0"

NOTES:
1. For Substructure Notes and Pier Details see Sh. 4.
2. Top and sides of Joint Filler to be sealed as shown in Detail A Sh. 6.

NO.	REVISION	BY	DATE

	BY	DATE
MADE	R.D.F.	3-76
TRACED		
CHECKED	I.S.	3-76
IN CHARGE OF C.J.M.		

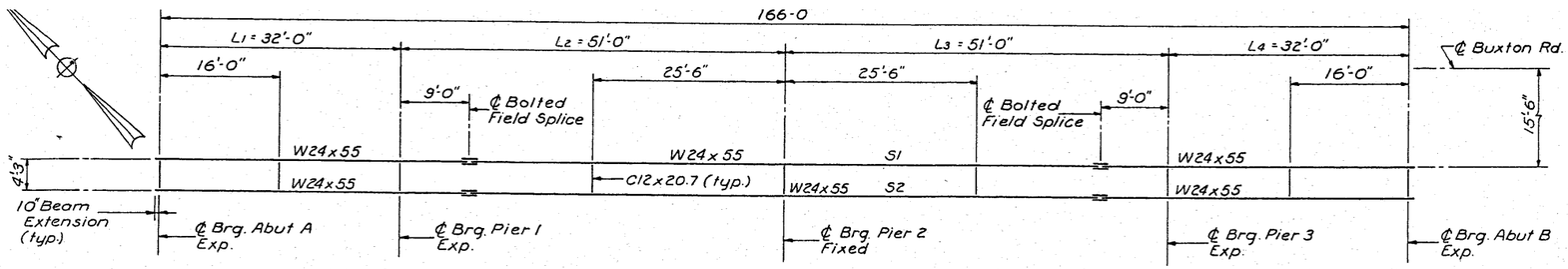
MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
SECTION 1-YORK TO PORTLAND

BUXTON ROAD PEDESTRIAN BRIDGE
OVER
MAINE TURNPIKE
FOOTING PLAN, ABUTMENTS & WINGWALL DETAILS

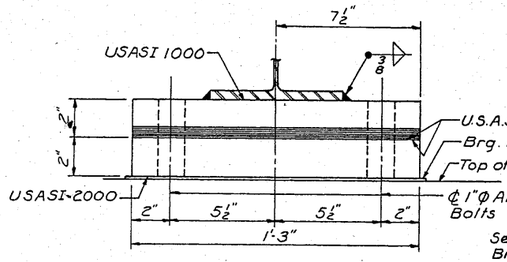
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

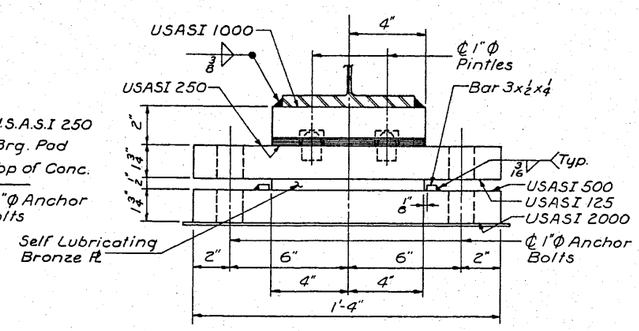
SCALE AS NOTED

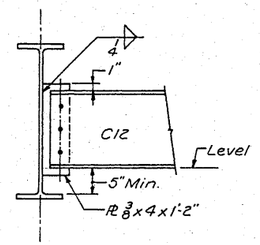
SHEET 234 OF 257



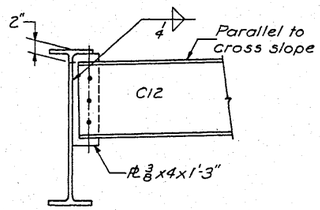
FRAMING PLAN
1" = 10'





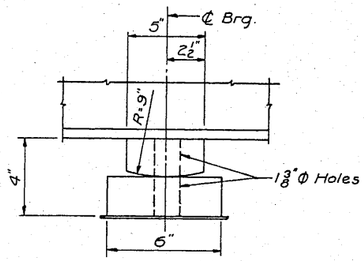


ALL OTHERS

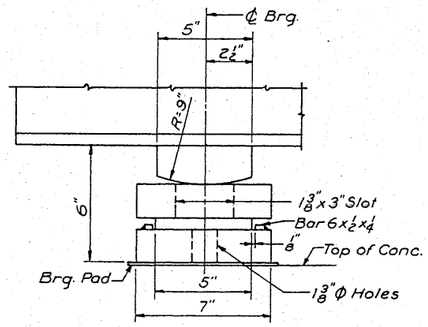


AT ABUTMENTS

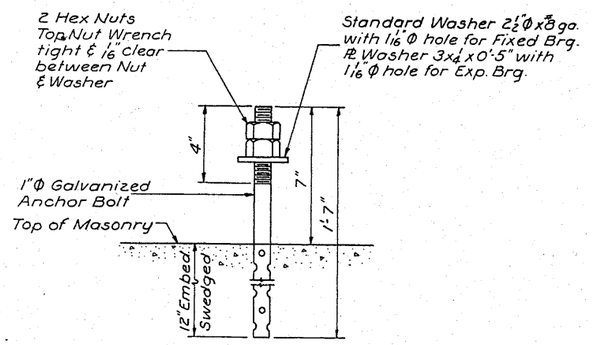
DIAPHRAGM CONNECTION
1" = 1'-0"



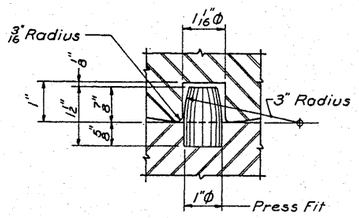
FIXED BEARING
3" = 1'-0"



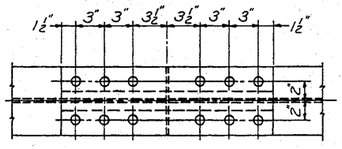
EXPANSION BEARING
3" = 1'-0"



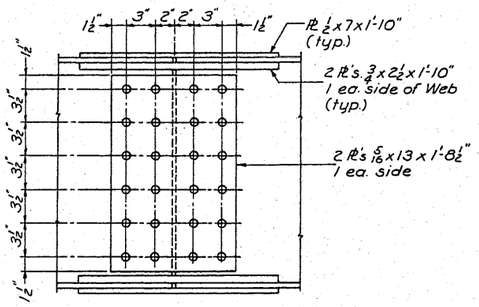
ANCHOR BOLT
3" = 1'-0"



PINTLE
½ Size



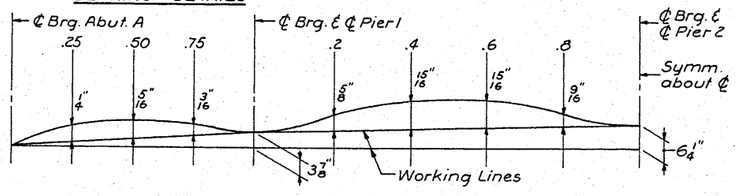
TOP & BOTTOM FLANGE



ELEVATION

SPLICE DETAILS
½" = 1'-0"

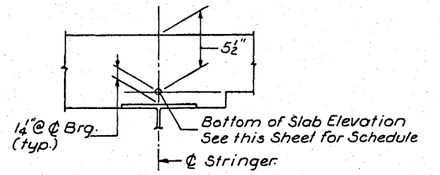
BEARING DETAILS



CAMBER DIAGRAM
No Scale

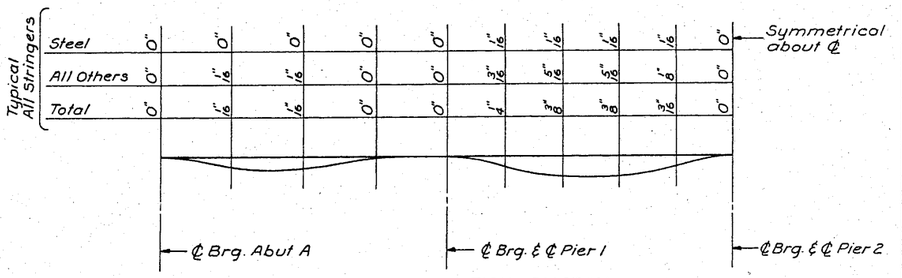
BOTTOM OF SLAB ELEVATIONS AT BLOCKING POINTS											Symmetrical about ℄ Pier 2
Stringer No.	℄ Brg. Abut. A	.25	.50	.75	℄ Pier 1	.20	.40	.60	.80	℄ Pier 2	
S1	126.62	126.72	126.81	126.88	126.94	127.03	127.10	127.13	127.14	127.14	
S2	126.58	126.68	126.76	126.83	126.90	126.99	127.05	127.09	127.10	127.10	

NOTE:
Elevations shown are finished bottom of slab elevations adjusted for total load deflection less the deflection due to steel weight. For location of points, see Blocking Detail, this Sheet.



BLOCKING DETAIL
No Scale

BLOCKING DETAIL NOTE:
To compensate for dead load deflections, as well as possible irregularities in beams, set the bottom of slab elevations at the points indicated before any slab formwork is started. See Subsection 502.10 (a.) of the Standard Specifications, Revision of June 1968.



DEAD LOAD DEFLECTION DIAGRAM
No Scale

SPECIFICATIONS

Fabrication and Erection: State of Maine Standard Specifications, Highways and Bridges, Revision of June 1968.

Design and Details: A.A.S.H.T.O. Standard Specifications for Highway Bridges 1973 with interim specifications.

Materials: All structural steel shall conform to A.S.T.M. Designation A36.

Welding: Specifications for Welded Highway and Railway Bridges American Welding Society, A.W.S. D1.1-72 as modified by the appropriate Special Provisions.

NOTES:

1. All bolts to be ⅞"Ø H.S. bolts conforming to A.S.T.M. Designation A325. All holes to be 15/16" Ø.
2. Bolt heads to be on outside of web splices - down in flange splices.

CAMBER NOTES:

1. Camber ordinates shown include total dead load deflection and V.C. correction.
2. All dimensions are horizontal and vertical
3. All ordinates are in inches.

NO.	REVISION	BY	DATE
		MADE	R.D.F. 3-76
		TRACED	
		CHECKED	I.S. 3-76
		IN CHARGE OF C.U.M.	

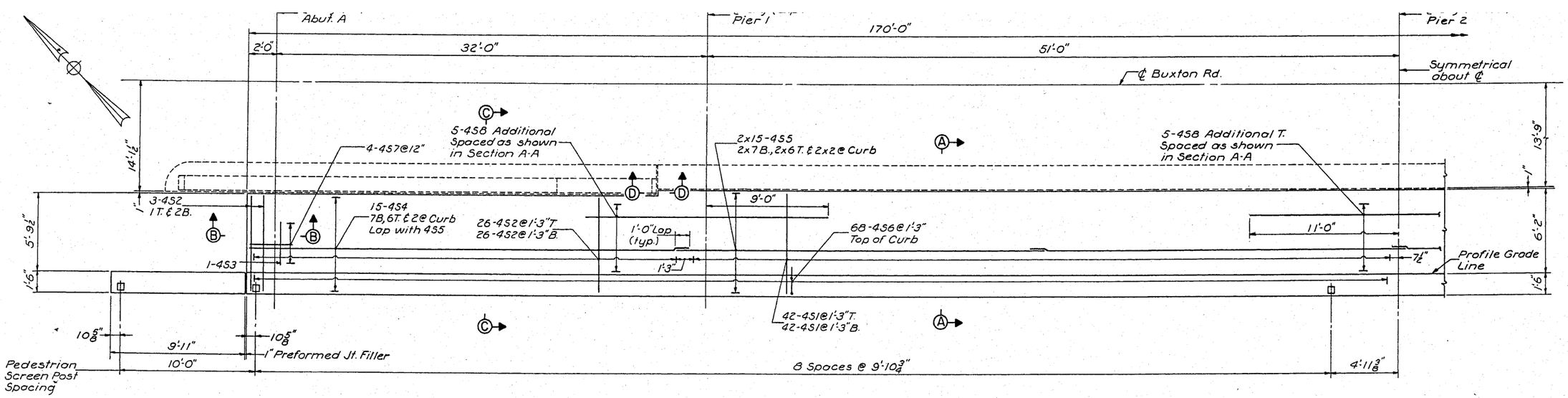
MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
SECTION 1-YORK TO PORTLAND

BUXTON ROAD PEDESTRIAN BRIDGE
OVER
MAINE TURNPIKE
FRAMING PLAN & STEEL DETAILS

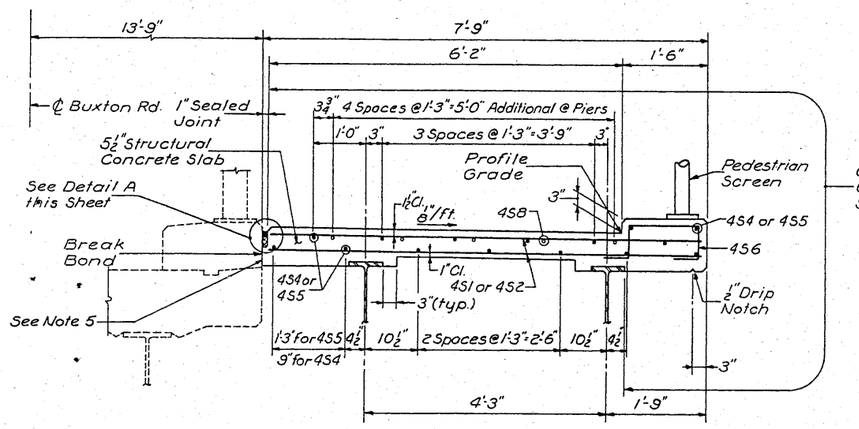
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

SCALE AS NOTED

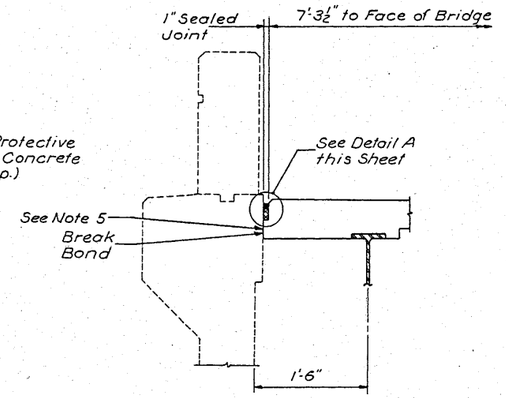
SHEET 5
236 OF 257



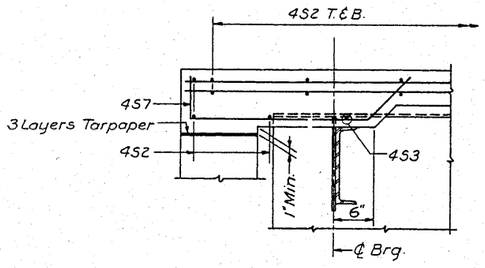
PLAN
¼"=1'-0"



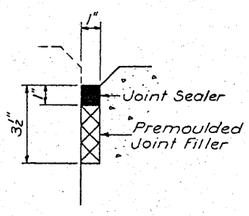
SECTION A-A
⅜"=1'-0"



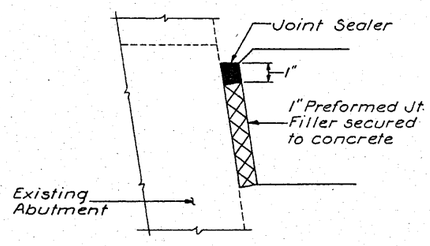
SECTION C-C
⅜"=1'-0"



SECTION B-B
1"=1'-0"



DETAIL A
3"=1'-0"



SECTION D-D
3"=1'-0"

NOTES:
1. For details of Pedestrian Screen see Sh. 7.
2. All exposed edges to be chamfered ¾ inch.
3. Continuous placing of the concrete in the deck slab shall be made with an acceptable set-retarder. Payment for the set-retarder shall be in accordance with Section 502 of the Standard Specifications.
4. Reinforcing steel to have 2" clear cover except as noted.
5. All deteriorated concrete shall be removed in areas of contact between new and existing construction and patched before placing new concrete slab. An approved epoxy bonding compound shall be applied to the area to be patched just prior to placing the patching material. Cost of removal, patching material and bonding compound to be incidental.

NO.	REVISION	BY	DATE

	BY	DATE
MADE	R.D.F.	3-76
TRACED		
CHECKED	I.S.	3-76
IN CHARGE OF C.U.M.		

MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
SECTION 1-YORK TO PORTLAND

BUXTON ROAD PEDESTRIAN BRIDGE
OVER
MAINE TURNPIKE
DECK PLAN & DETAILS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

SCALE AS NOTED

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