

# STATE OF MAINE DEPARTMENT OF TRANSPORTATION



PLANS

## INTERSTATE 395 OVER MAINE CENTRAL RAILROAD (BUCKSPORT BRANCH)

IN THE CITY OF  
BREWER  
PENOBSCOT COUNTY

PROJECT NO. IG-395-8(9)176

PROJECT LENGTH 0.00 MILES

### CONVENTIONAL SIGNS

COUNTY LINES	=====	TRAVELLED WAY - PROPOSED	=====
TOWN LINES	=====	UNDERGROUND UTILITIES - EXISTING	-----
PROPERTY LINES	=====	UNDERGROUND UTILITIES - PROPOSED	-----
R/W LINES - EXISTING	=====	RAILROAD - SINGLE TRACK	=====
R/W LINES - NEW - ACCESS CONTROL	=====	RAILROAD - DOUBLE TRACK	=====
R/W LINES - NEW - NO ACCESS CONTROL	=====	UTILITY POLE - EXISTING	o
CULVERT - EXISTING	=====	UTILITY POLE - JOINT OCCUPANCY	o
CULVERT - PROPOSED	=====	PROPOSED UTILITY POLE - TEMPORARY	x
CURBING - EXISTING	=====	PROPOSED UTILITY POLE - PERMANENT	x
CURBING - PROPOSED	=====	TREES	o
TRAVELLED WAY - EXISTING	=====	WOODS	=====

### SPECIFICATIONS

DESIGN: Load Factor Design per AASHTO  
Standard Specifications for Highway  
Bridges 1977 and Interim Specifications  
1978 thru 1982.

CONTRACT: State of Maine, Department of  
Transportation, Standard Specifications,  
Highways and Bridges, Revision of  
January 1984.

### DESIGN LOADING

LIVE LOAD: HS25 (AS MODIFIED FOR INTERSTATE)

### MATERIALS

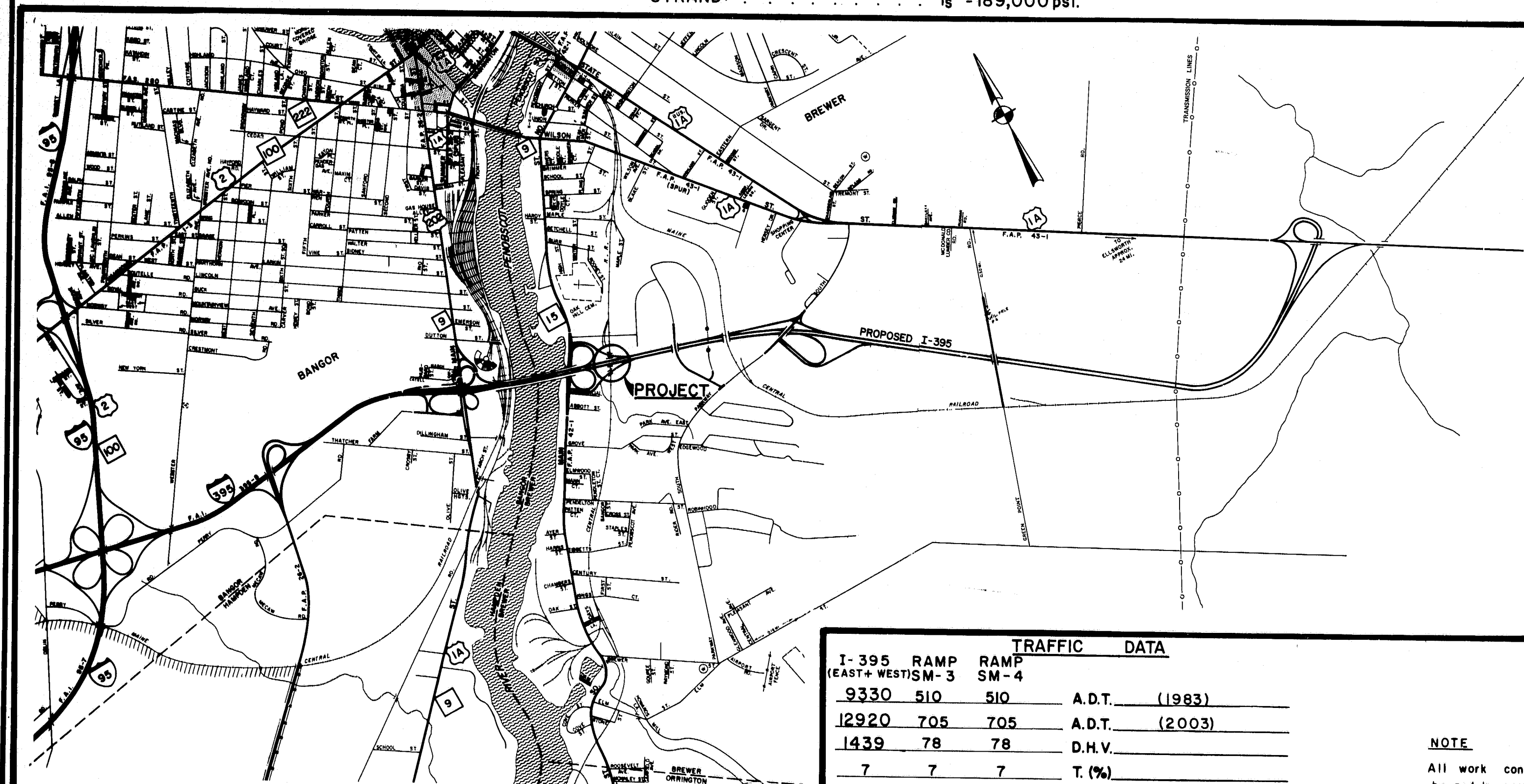
CONCRETE: CLASS A  
PRECAST CONCRETE: CLASS A, MODIFIED  
REINFORCING STEEL: ASTM A615, GRADE 60  
STRAND: 2 # 270ksi

### BASIC ALLOWABLE STRESSES

CONCRETE:  $f_c = 3000$  psi.  
PRECAST CONCRETE:  $f_c = 5000$  psi.  
REINFORCING STEEL:  $f_y = 60,000$  psi.  
STRAND:  $f_s = 189,000$  psi.

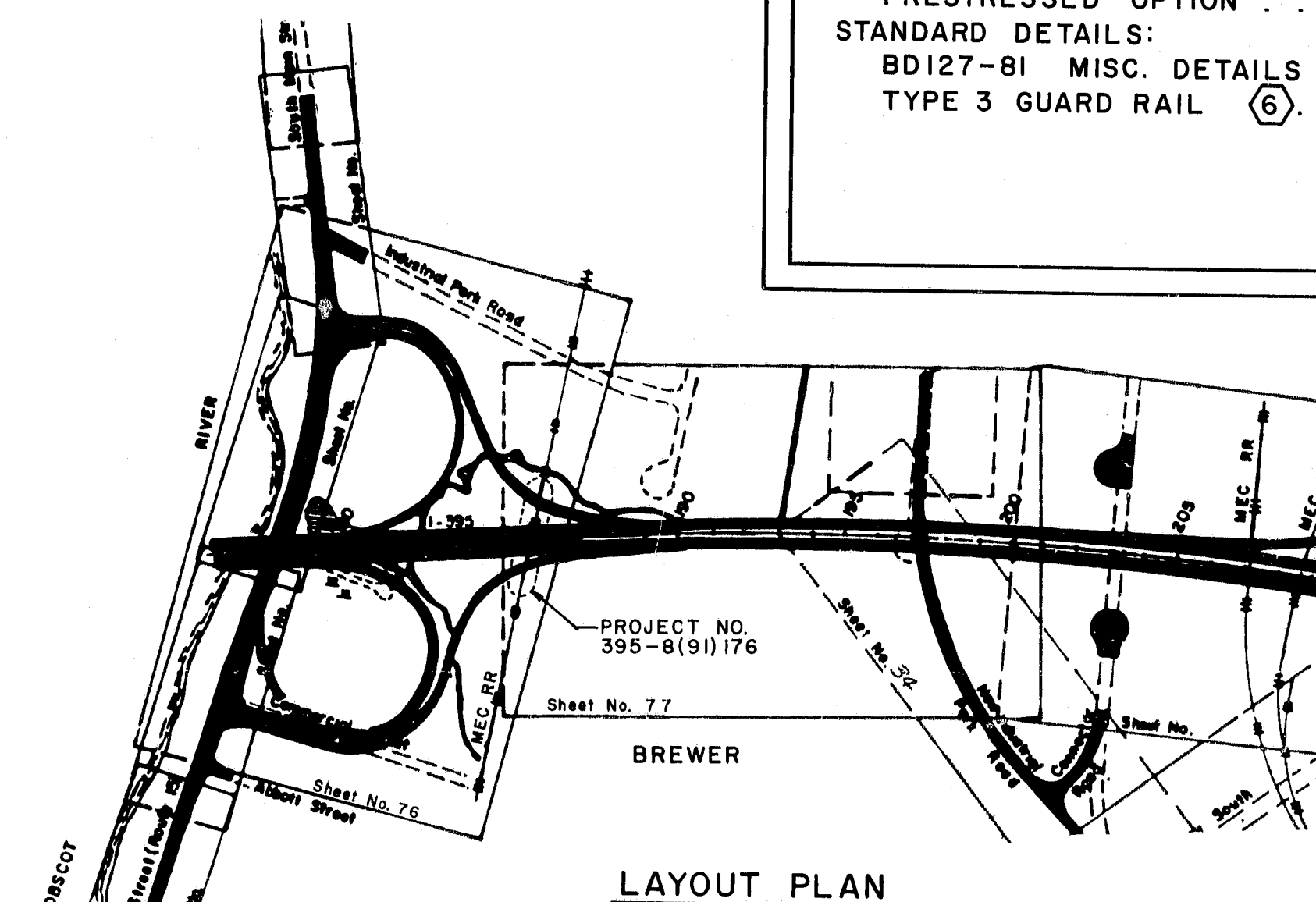
### INDEX OF SHEETS

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SURVEY PLAN	4
FOUNDATION SURVEY:	
PLAN & PROFILES	5
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TYPE 3 GUARD RAIL	25



A PORTION OF PENOBSCOT COUNTY

TRAFFIC DATA					
I-395 RAMP		RAMP		SM-4	
9330	510	510	A.D.T.	(1983)	
12920	705	705	A.D.T.	(2003)	
1439	78	78	D.H.V.		
7	7	7	T. (%)		
5	5	5	D. (%)		
			V.		
			P.S.D. (%)		
269	34	34	18 KIPS	P.2.5	



LAYOUT PLAN

APPROVED:

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

DATE

*Richard A. Coleman*  
COMMISSIONER

3-6-84

*Richard A. Coleman*  
CHIEF ENGINEER

3-6-84

UNITED STATES  
DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
REGION 1

APPROVED:

DIVISION ADMINISTRATOR DATE

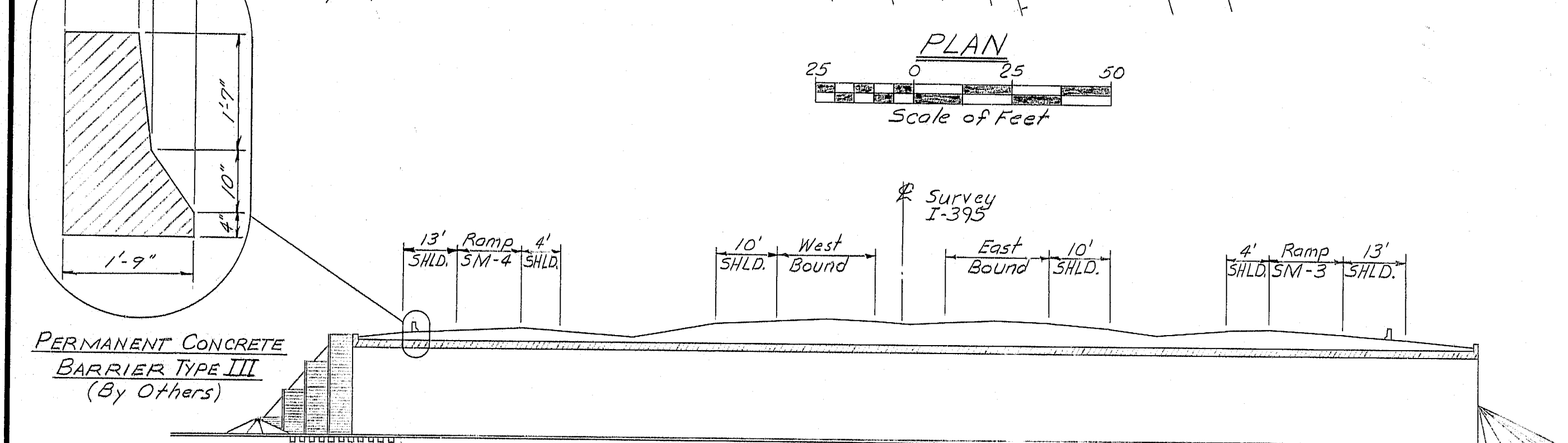
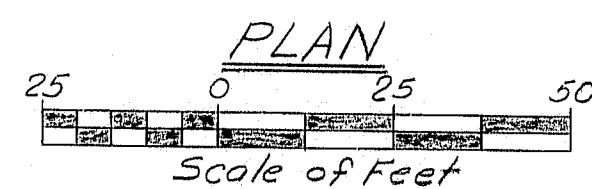
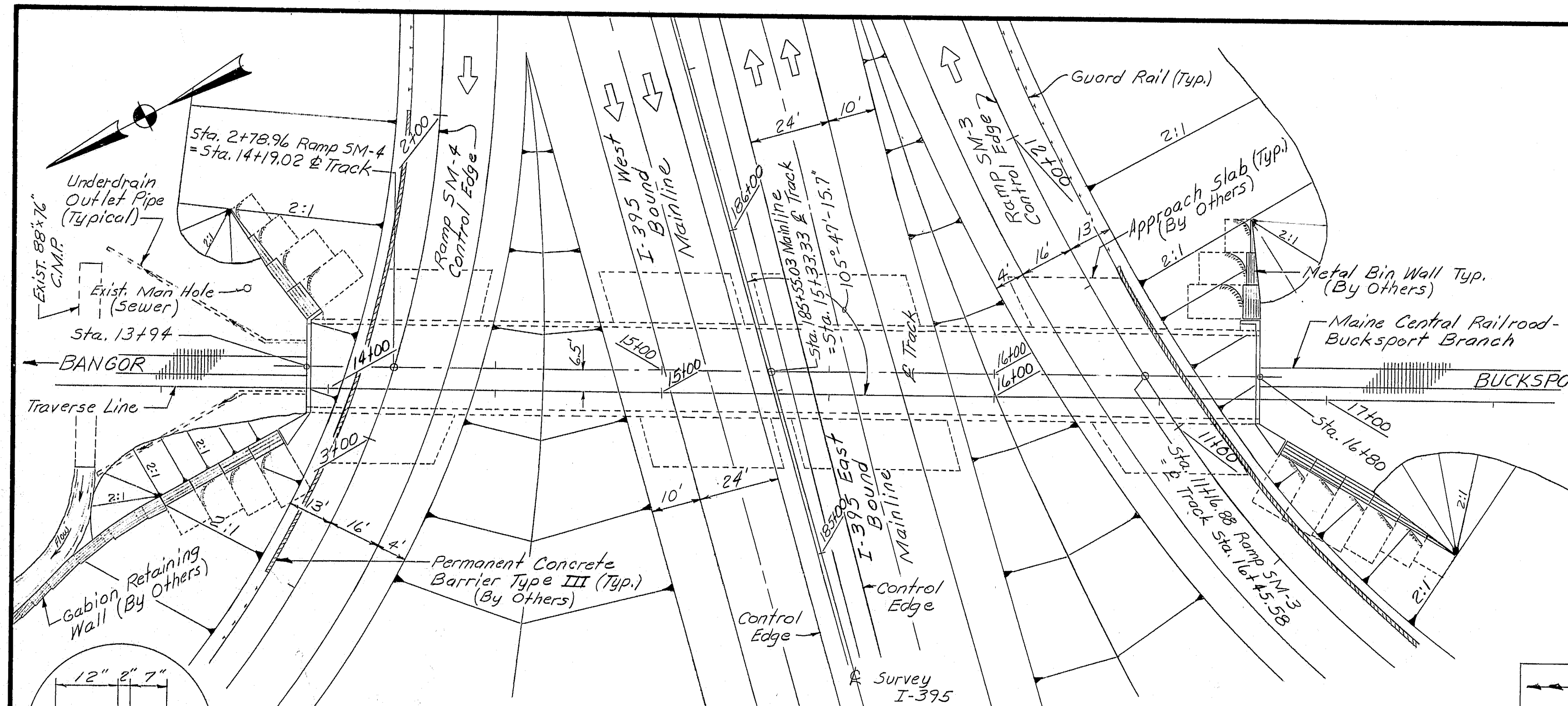
Br. # 1559

R89-261

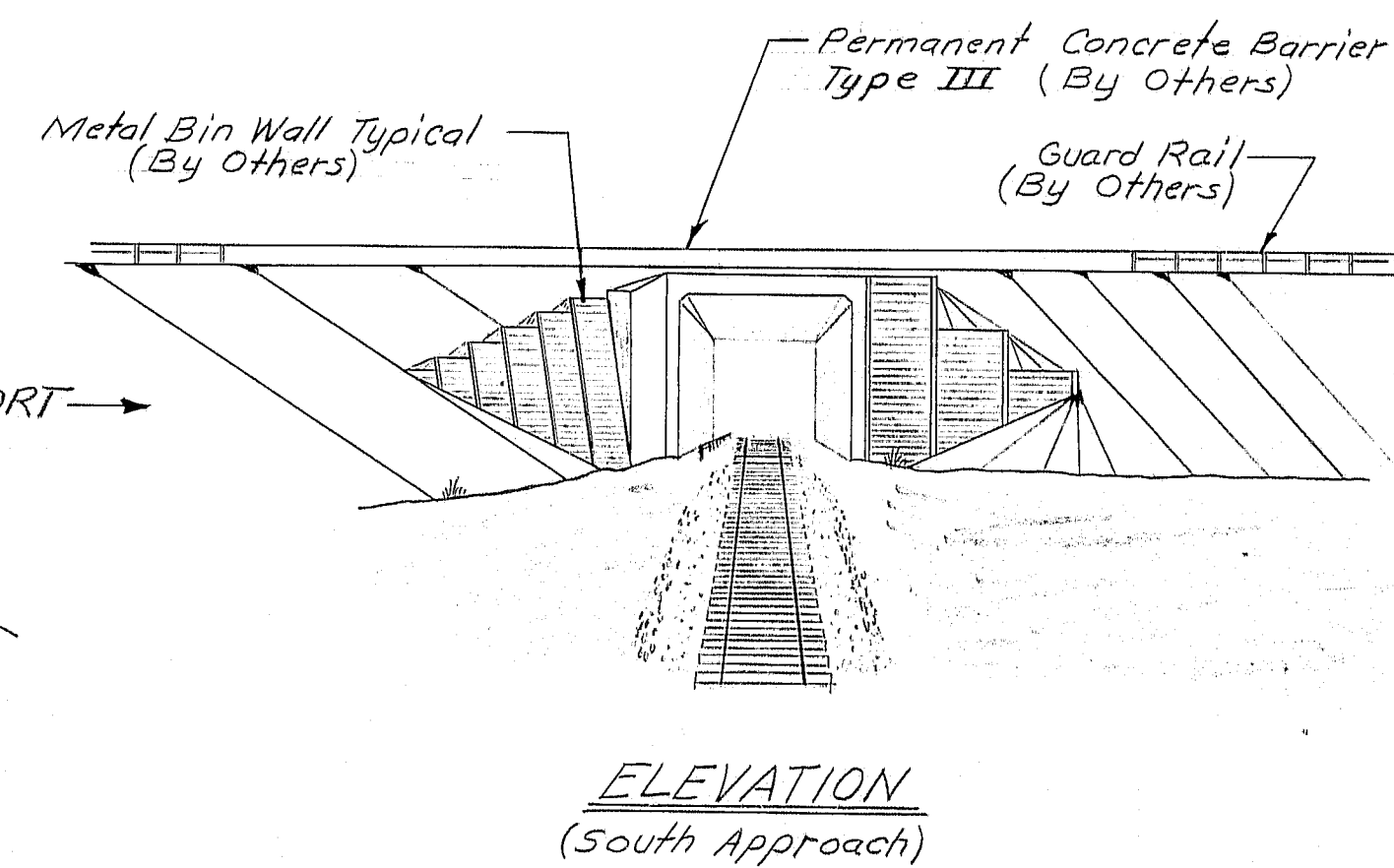
G-20

BRUNING 44132 45710-1

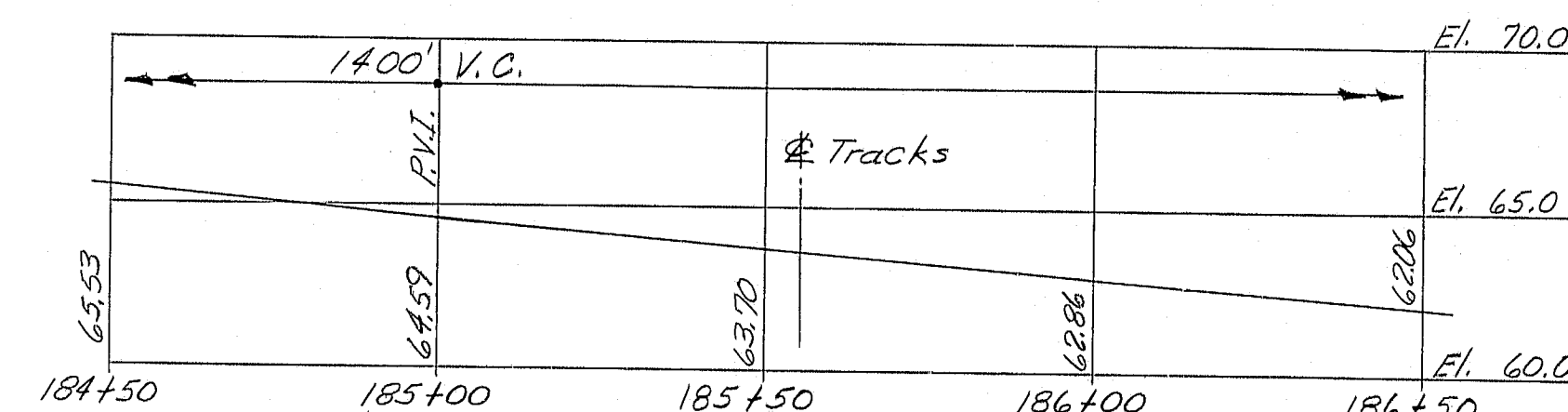
F.R.A. REQ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	395-B(91)176	2	25



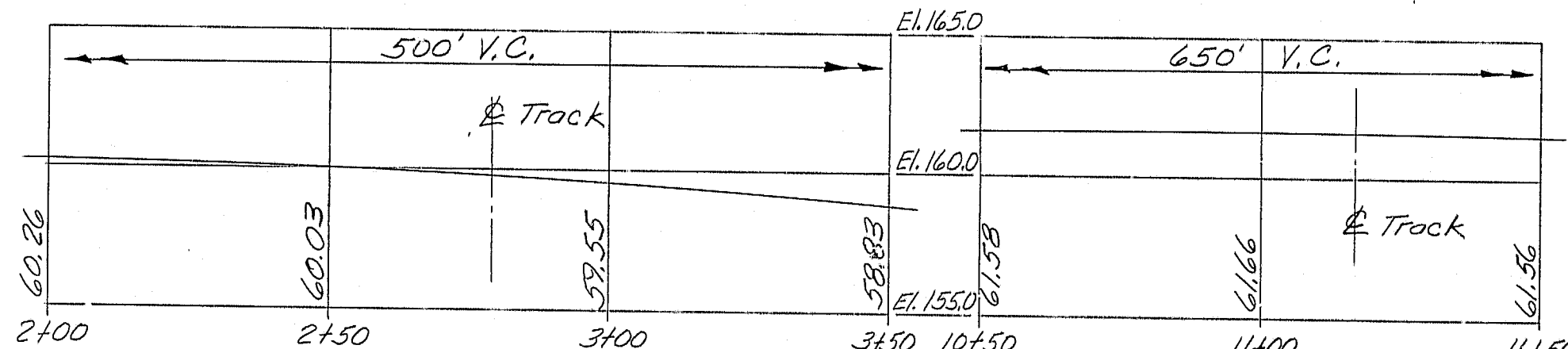
SECTION AT TRACKS



ELEVATION  
(South Approach)

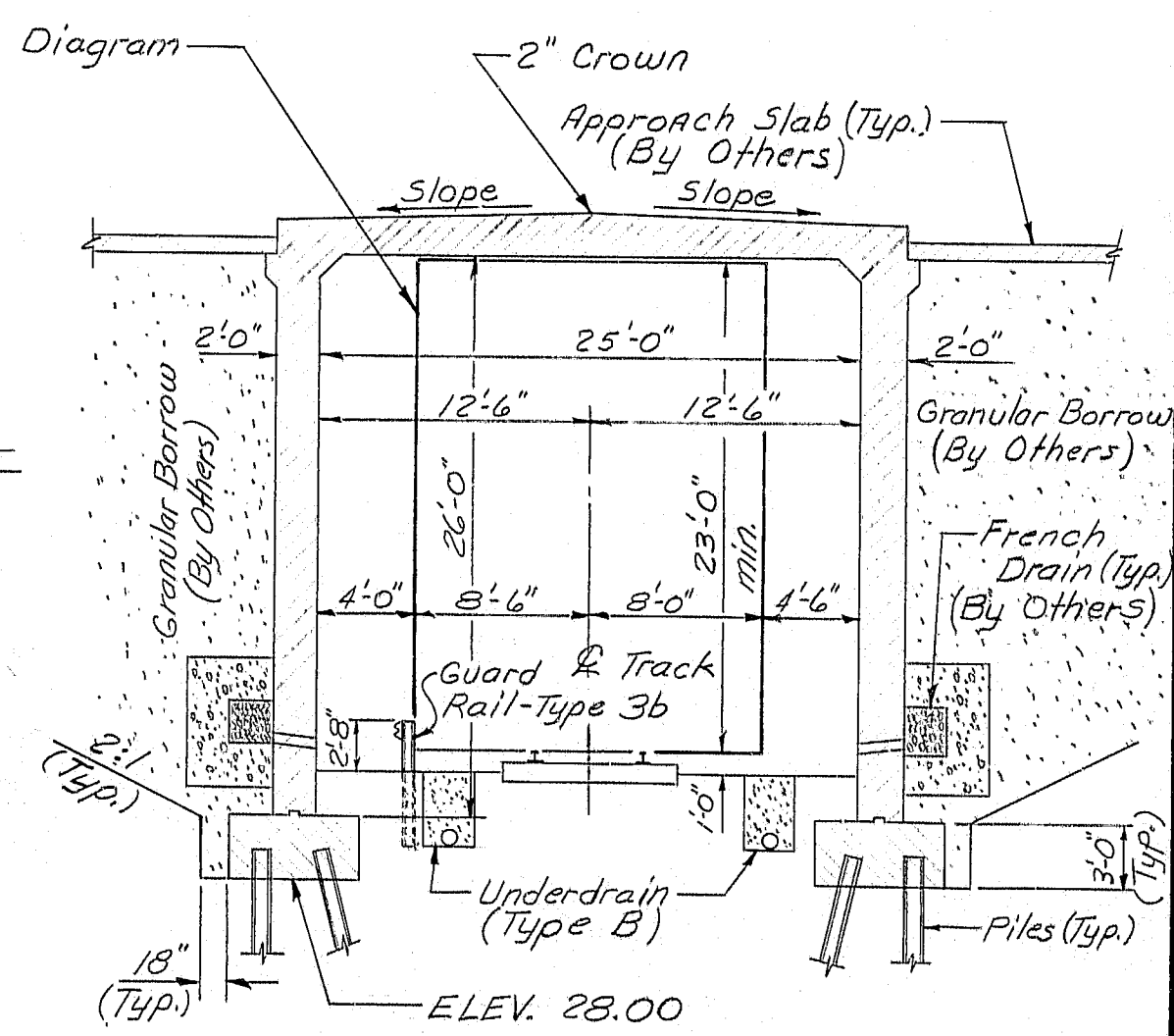


PROFILE I-395 MAINLINE

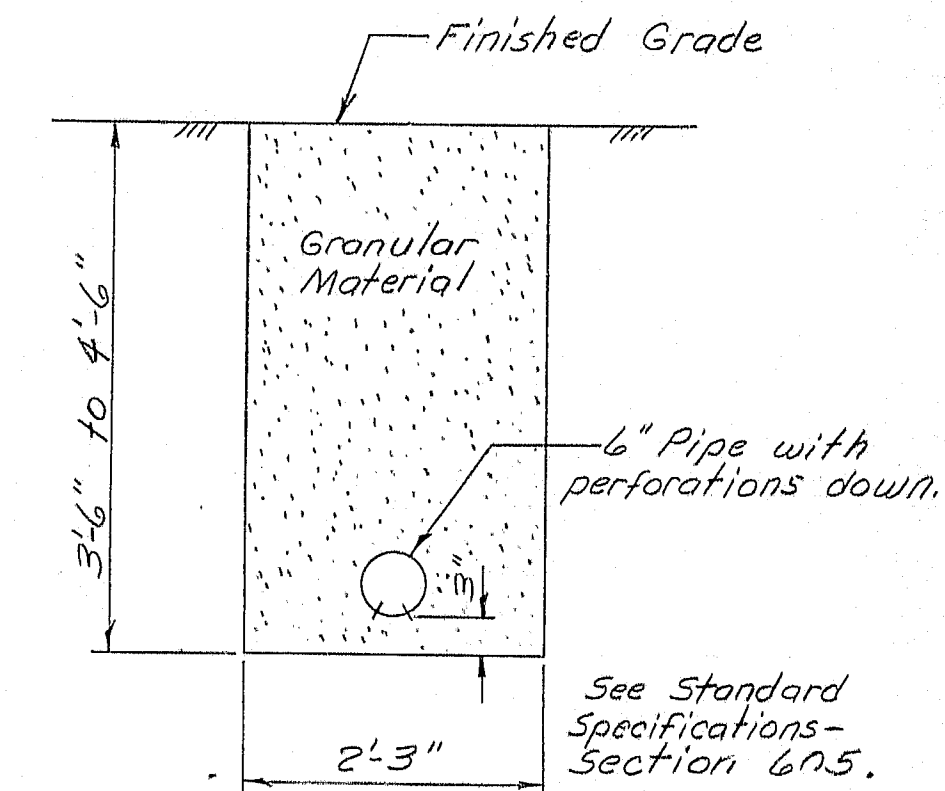


PROFILE RAMP SM-4

PROFILE RAMP SM-3



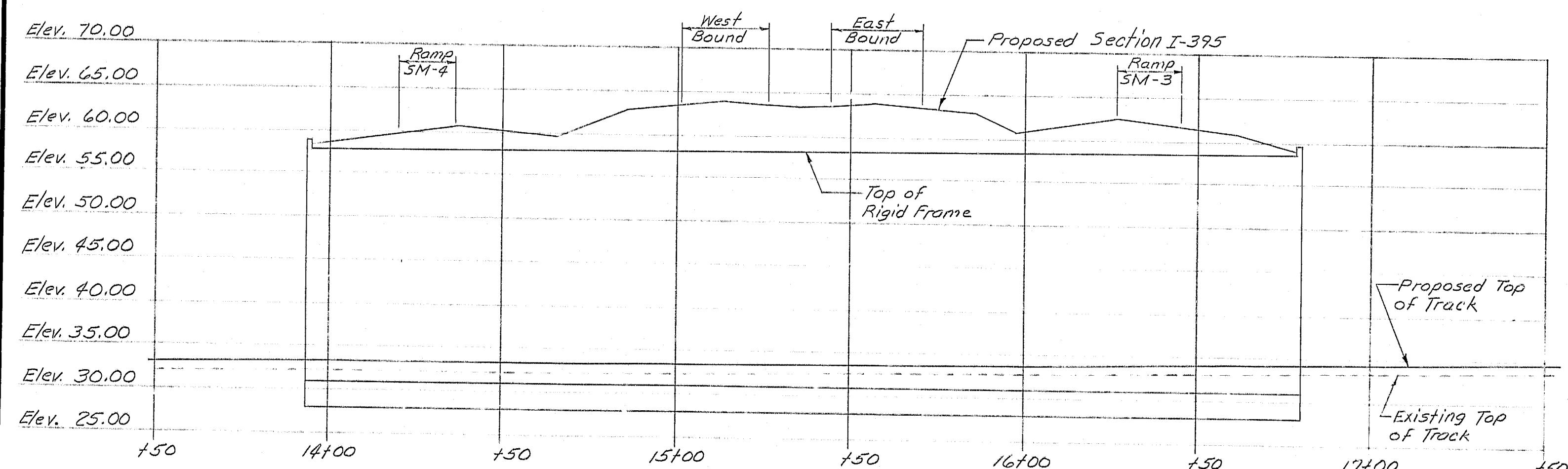
TYPICAL SECTION



UNDERDRAIN DETAIL - TYPE "B"

UNDERDRAIN NOTES

1. The material for elbows, tees & wyes shall be at least as thick as the largest size pipe being connected.
2. The invert elevation of underdrain outlets shall be a minimum of 6 inches above the flow line of a ditch or the original ground.
3. Width of the trench for underdrain outlet will be the same as the underdrain trench.
4. No allowance for payment will be made for excavating or material excavated beyond the horizontal dimensions shown.



PROFILE OF RAILROAD

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	12-23
REVISIONS	12-23
FIELD CHANGES	11-8-7

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
I-395, RAMP SM-3, SM-4
MAINE CENTRAL RAILROAD BUCKSPORT BRANCH
BREWER
GENERAL PLAN

R89-262



F.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	375-8(91)176	3	25

### ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	QUANTITY	UNIT
		RIGID FRAME OPTION	PRESTRESSED OPTION	
203.25	Granular Borrow	400	400	C.Y.
206.061	Structural Earth Exc. - Drainage and Minor Structures Below Grade	10	10	C.Y.
206.081	Structural Earth Exc. - Abutments, Retaining Walls, etc.	460	515	C.Y.
501.217	Steel H Beam Piles 89 lbs./ft.	3018	3102	L.F.
502.21	Structural Concrete, Abuts & Ret. Walls		1712	C.Y.
502.281	Structural Concrete Rigid Frame Structures	1		L.S.
503.12	Reinforcing Steel Fab. & Delivered	215 200	1448 00	Lbs.
503.13	Reinforcing Steel Placing	215 200	1448 00	Lbs.
514.06	Curing Box for Concrete Cylinders	1	1	Each
535.60	Prestressed Structural Concrete Slabs		1	L.S.
605.09	6 Inch Underdrain - Type B	572	572	L.F.
605.10	6 Inch Underdrain Outlet	142	142	L.F.
606.17	Guard Rail Type 3b - Single Rail	288	288	L.F.
606.265	Terminal End - Single Rail - Galv. Steel	2	2	Each

### ESTIMATED QUANTITIES

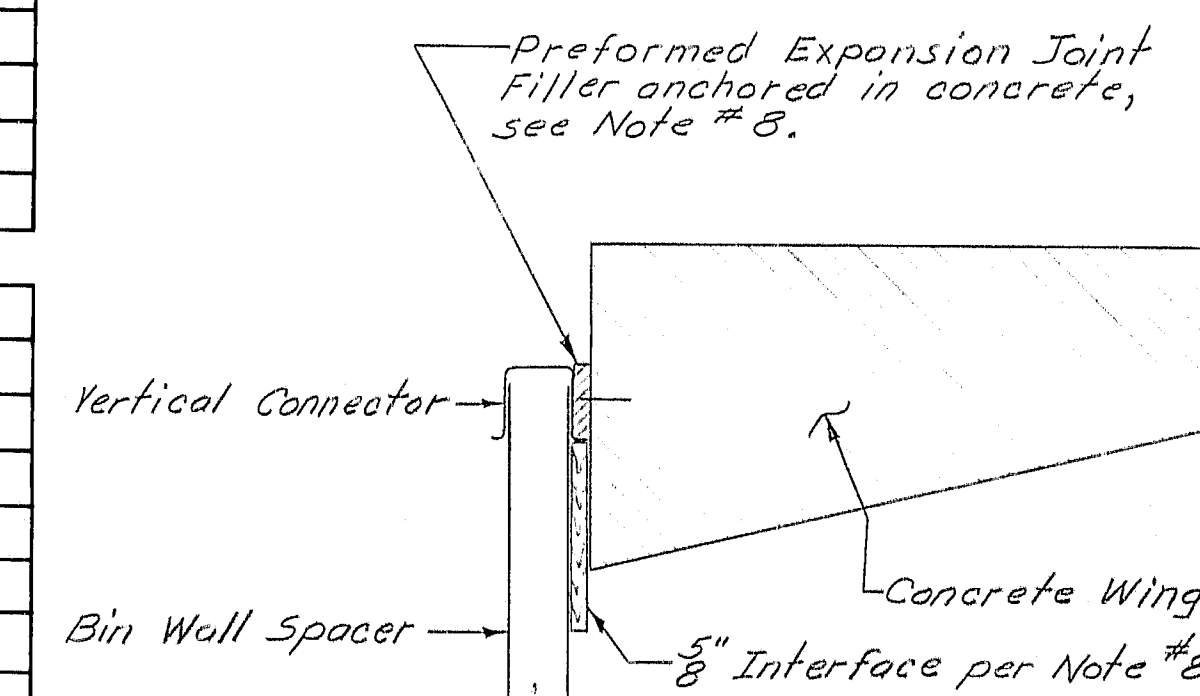
ITEM NO.	DESCRIPTION	QUANTITY	QUANTITY	UNIT
		RIGID FRAME OPTION	PRESTRESSED OPTION	
639.19	Field Office - Type B	1	1	Each
657.24	Seeding Pits	1	1	Unit
659.10	Mobilization	1	1	L.S.
660.21	On-the-Job Training (Bid)	1000	1000	M.H.

### Estimate of Lump Sum Quantities

535.50	Prestressed Structural Concrete Slabs	369	C.Y.
502.281	Structural Concrete Rigid Frame Structures	2138	C.Y.

### GENERAL CONSTRUCTION NOTES

- Form a 1" V-Groove at the front face of vertical contraction joints. Also provide 1" V-Groove in exposed joints of Rigid Frame Slab.
- Reinforcing steel shall have 2" concrete cover unless otherwise indicated.
- Place 4" diameter drains in the walls and wings at 20 foot maximum spacing. Exact location to be determined by the Engineer in the field.
- Granular Borrow shall meet the requirements of subsection 703.19, Material for Underwater Backfill.
- Cover the vertical contraction joints on the back with two layers of heavy roofing. Cover the contraction joints in the top slab of the Rigid Frame Option in the same manner but without recessing the concrete. See BD 127 for Detail.
- Install 287.5 linear feet of Guard Rail Type 3b from Sta. 13+93.25 to Sta. 16+50.75 as shown in Typical Section on General Plan. Also install Terminal End both ends. Offset brackets will not be required between rail and post.
- Install 286 feet of Underdrain (Type B) each side of track from Sta. 13+94 to Sta. 16+80. Also install Underdrain Outlet Pipes from Sta. 13+28 to Sta. 13+94, one each side of track sloped to drain into stream. See General Plan for approximate locations.
- If the wing concrete is placed after the binwall has been installed, an approved interface shall be used to separate the concrete wing and the binwall as shown in Detail "D". The thickness of the preformed expansion joint filler shall be determined by the Engineer to insure no bond between the binwall and the wing concrete.
- If the Northwest wing concrete is placed prior to the installation of the binwall then the exact length of the wing shall be determined by the Engineer to ensure the binwall will fit between the concrete wing and the gabions.
- All fill material used inside structure including backfill around footings shall be Granular Borrow meeting the requirements of underwater backfill and shall be thoroughly compacted.
- Temporary vertical clearance for falsework and formwork shall be arranged with the railroad.



DETAIL "D"

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-395, RAMP SM-3, SM-4

MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH

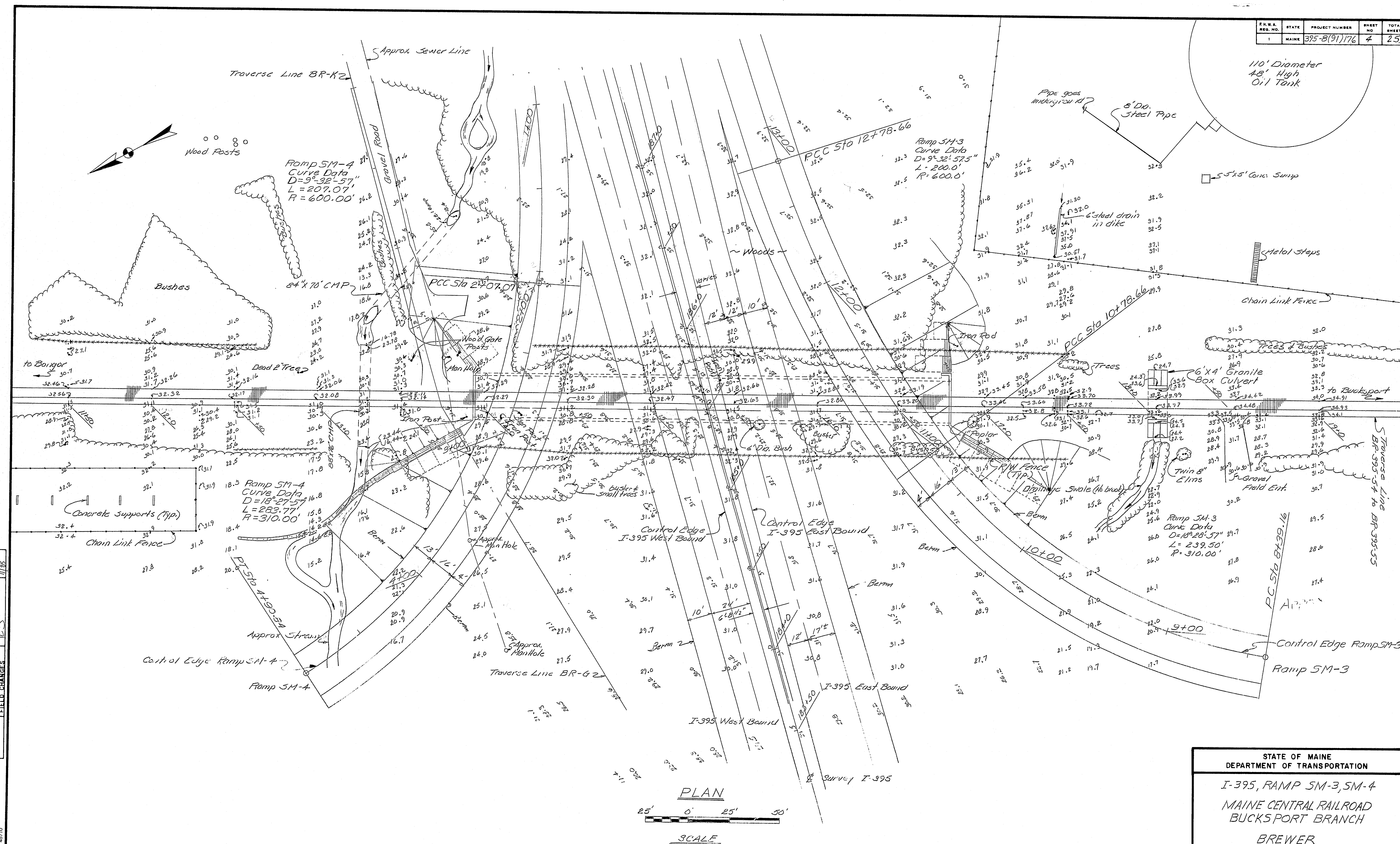
BREWER

QUANTITIES & GENERAL NOTES

SHEET 3 OF 25 AUGUSTA, MAINE March 84

R89-263

F.W.A.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	395-B(91)176	4	25



Plotted Proposed Structure BEW 11-83

PROJECT DESIGN ENGINEER	DATE
BAS	3/22
DESIGN - DETAIL	DATE
BAS	3/22
CHECKED	DATE
BAS	3/22
REVISIONS	DATE
1	3/22
FIELD CHANGES	DATE
1	3/22

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
I-395, RAMP SM-3, SM-4  
MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH  
BREWER  
SURVEY PLAN  
SHEET 4 OF 25 AUGUSTA, MAINE March 84

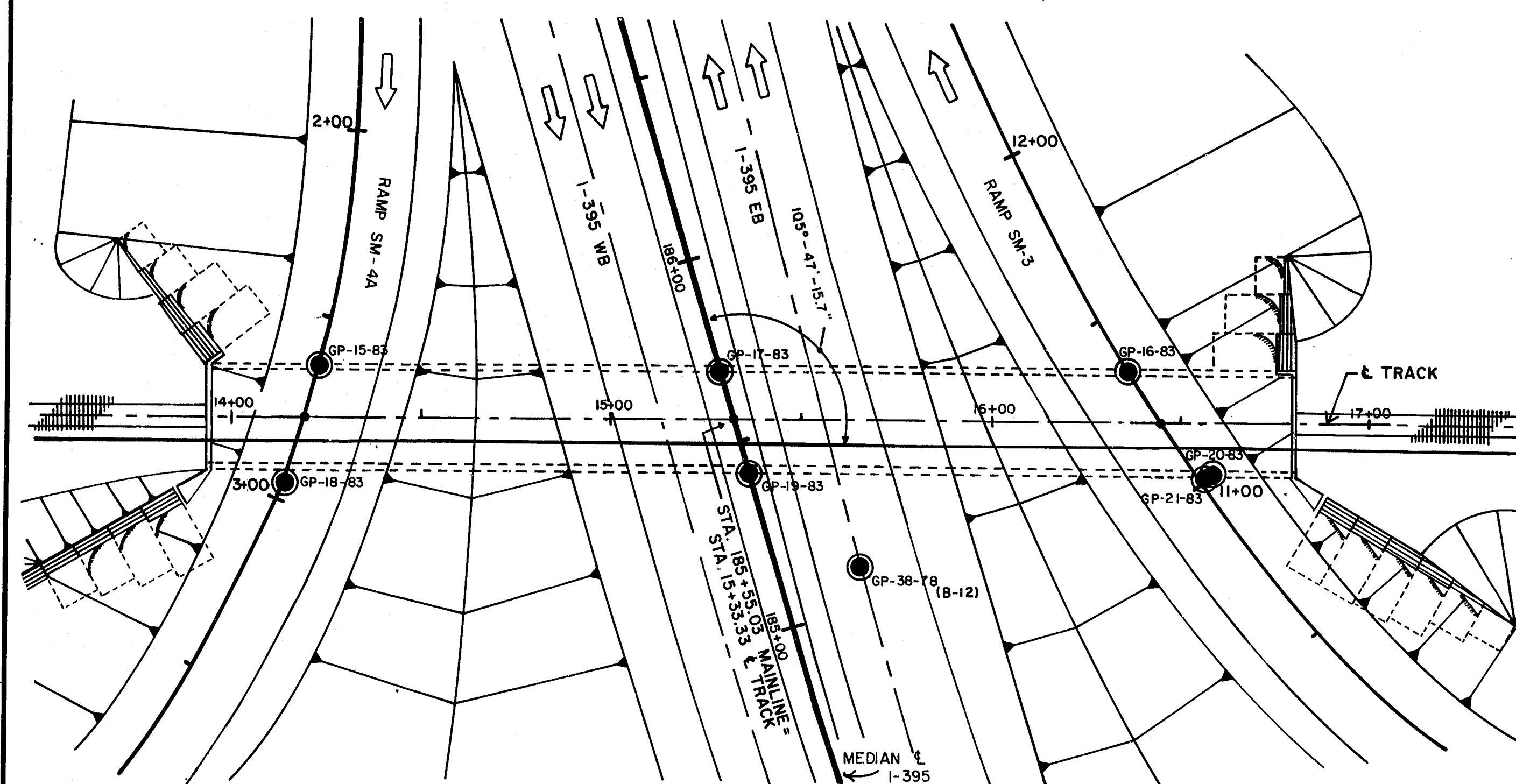
R89-264



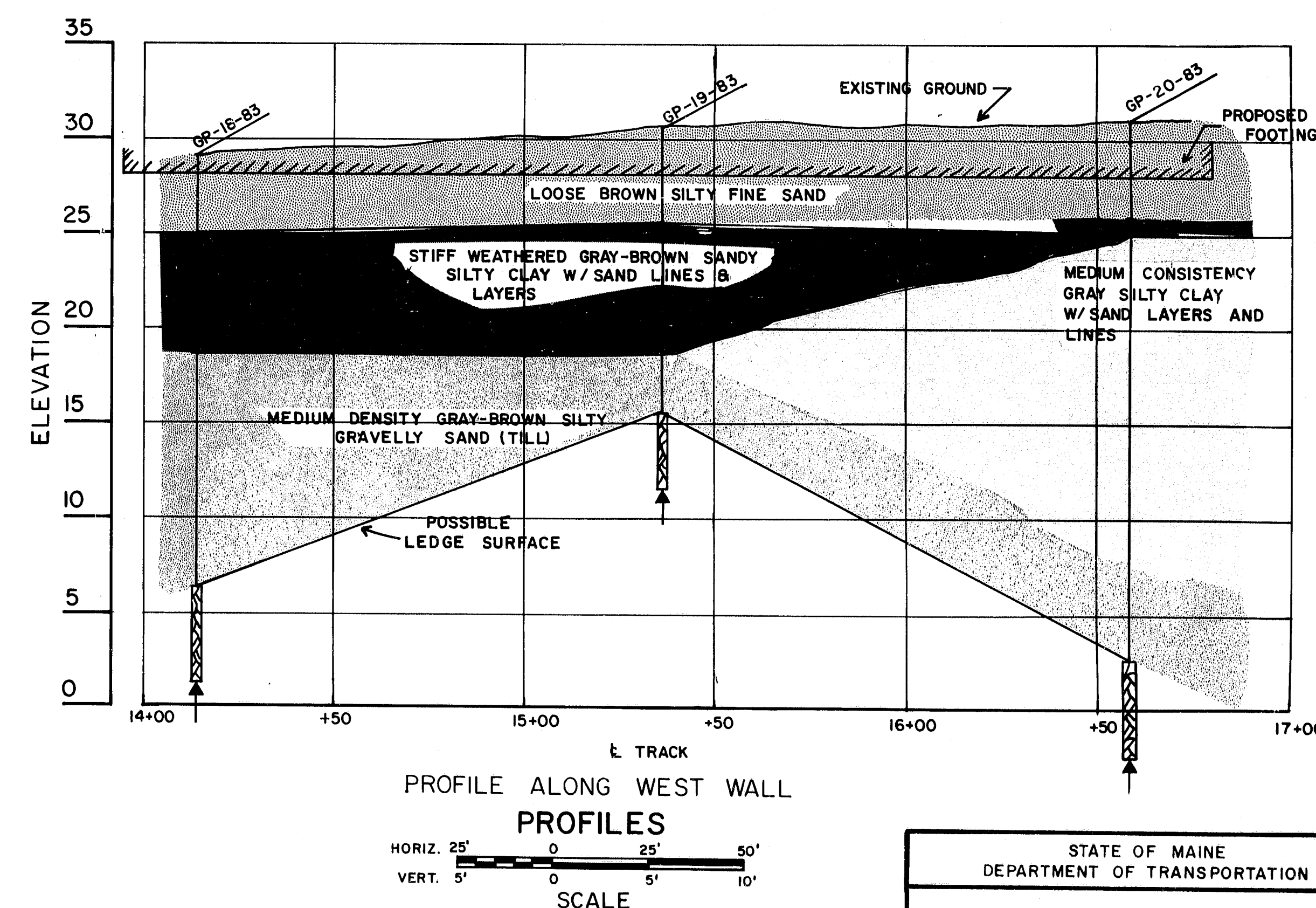
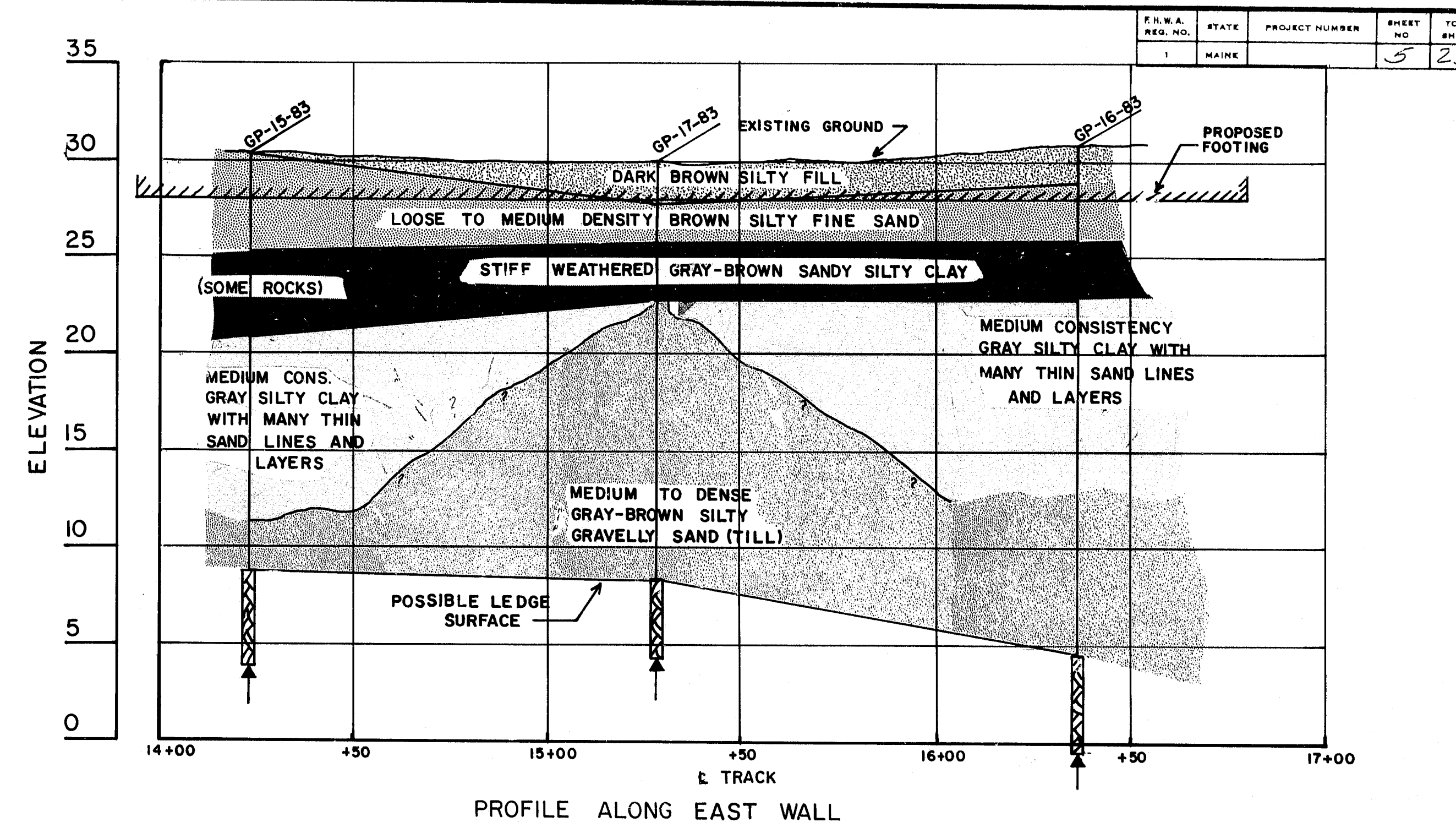
PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAIL	BAS	7-83
CHECKED		
REVISIONS		
FIELD CHANGES		

PLANS

BRUNN 44122 4710



PLAN  
SCALE  
25' 0 25' 50'



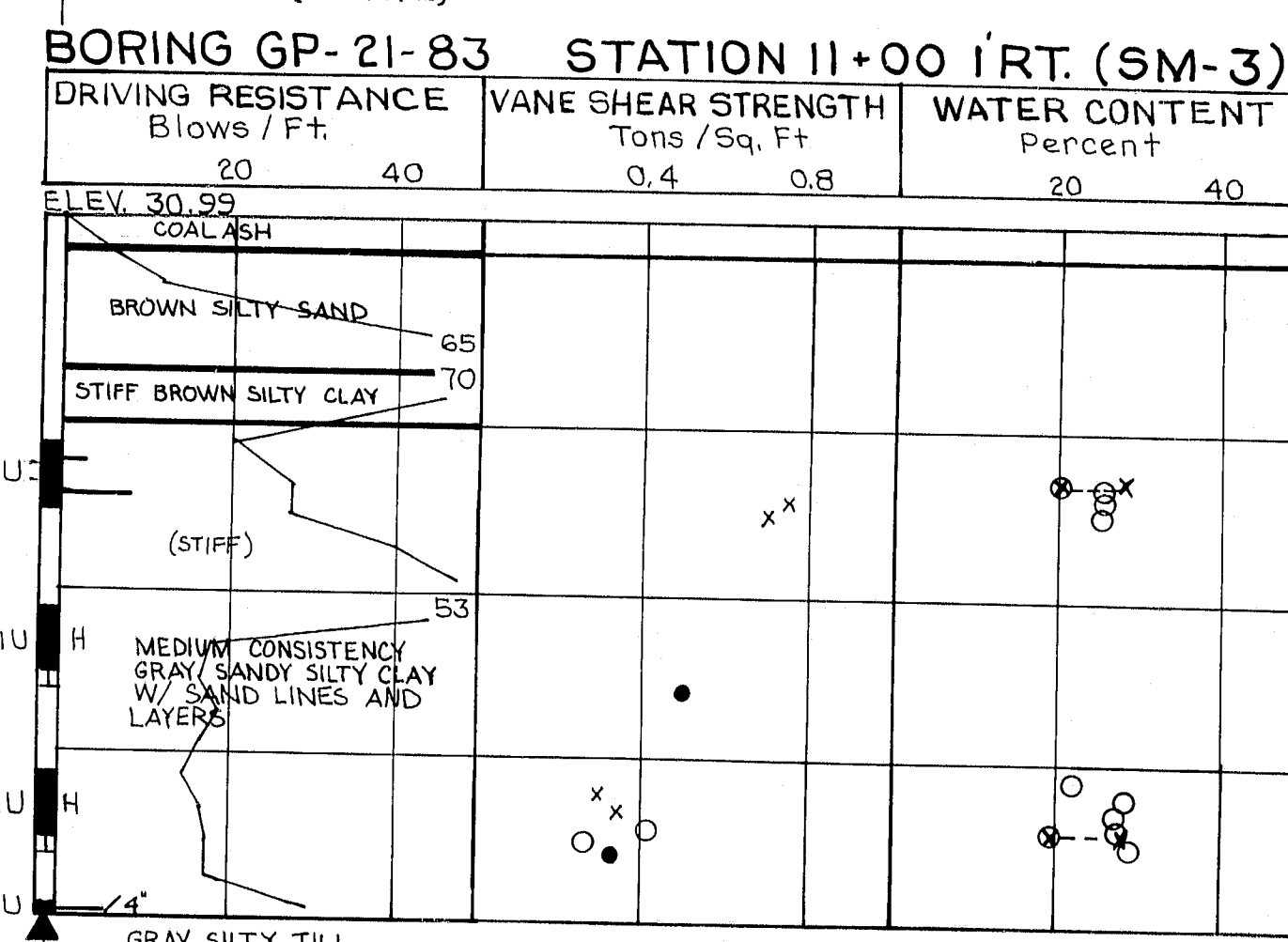
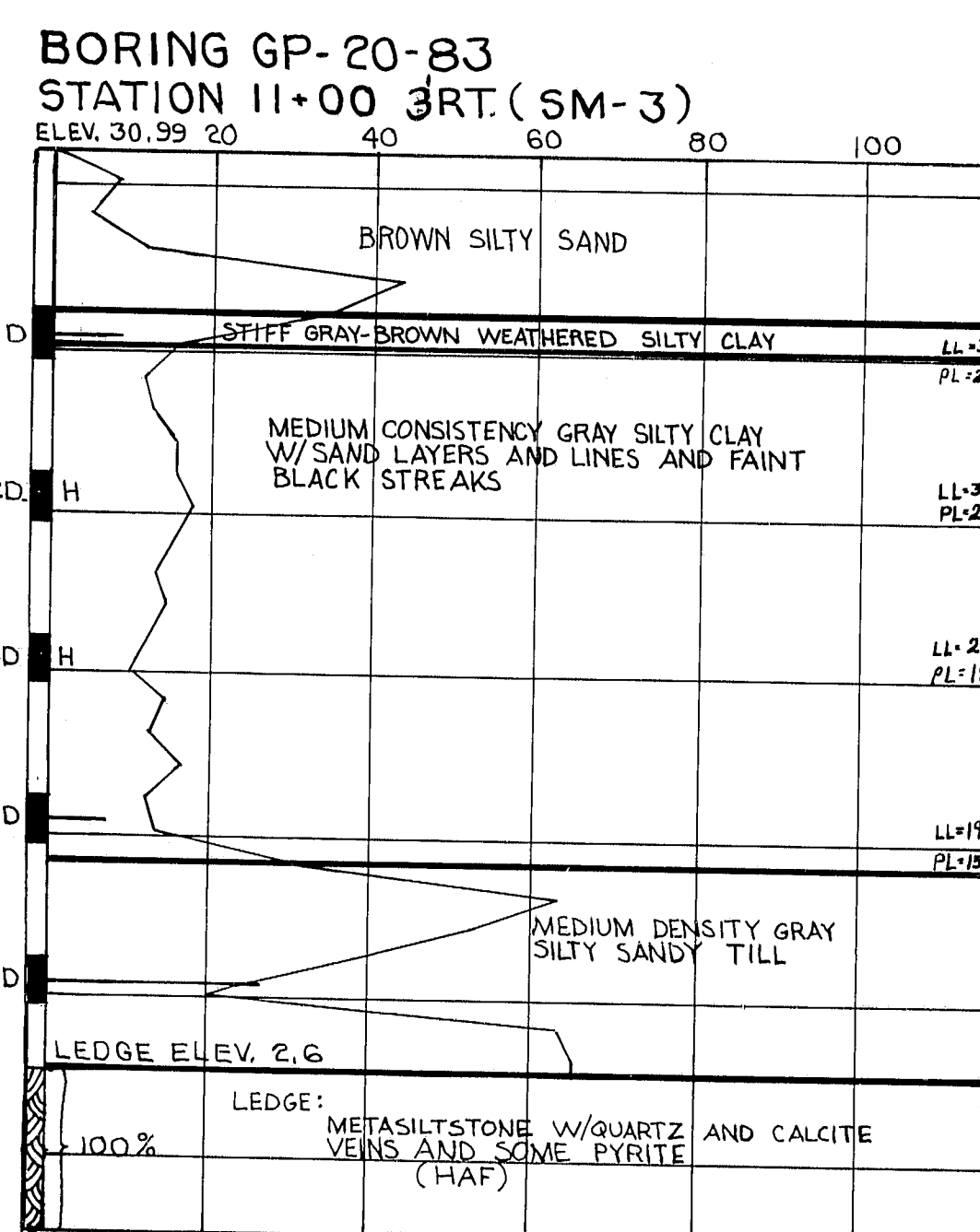
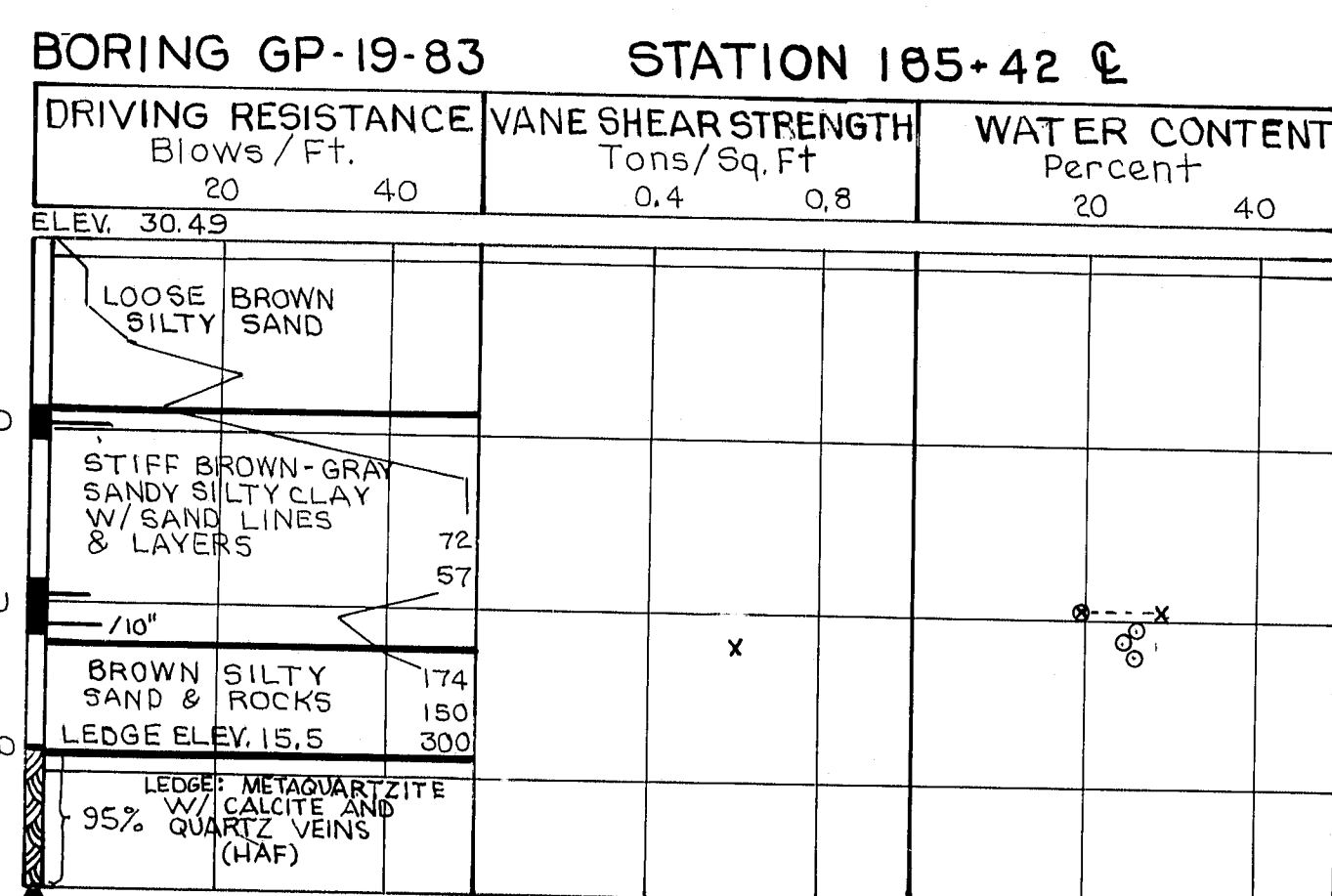
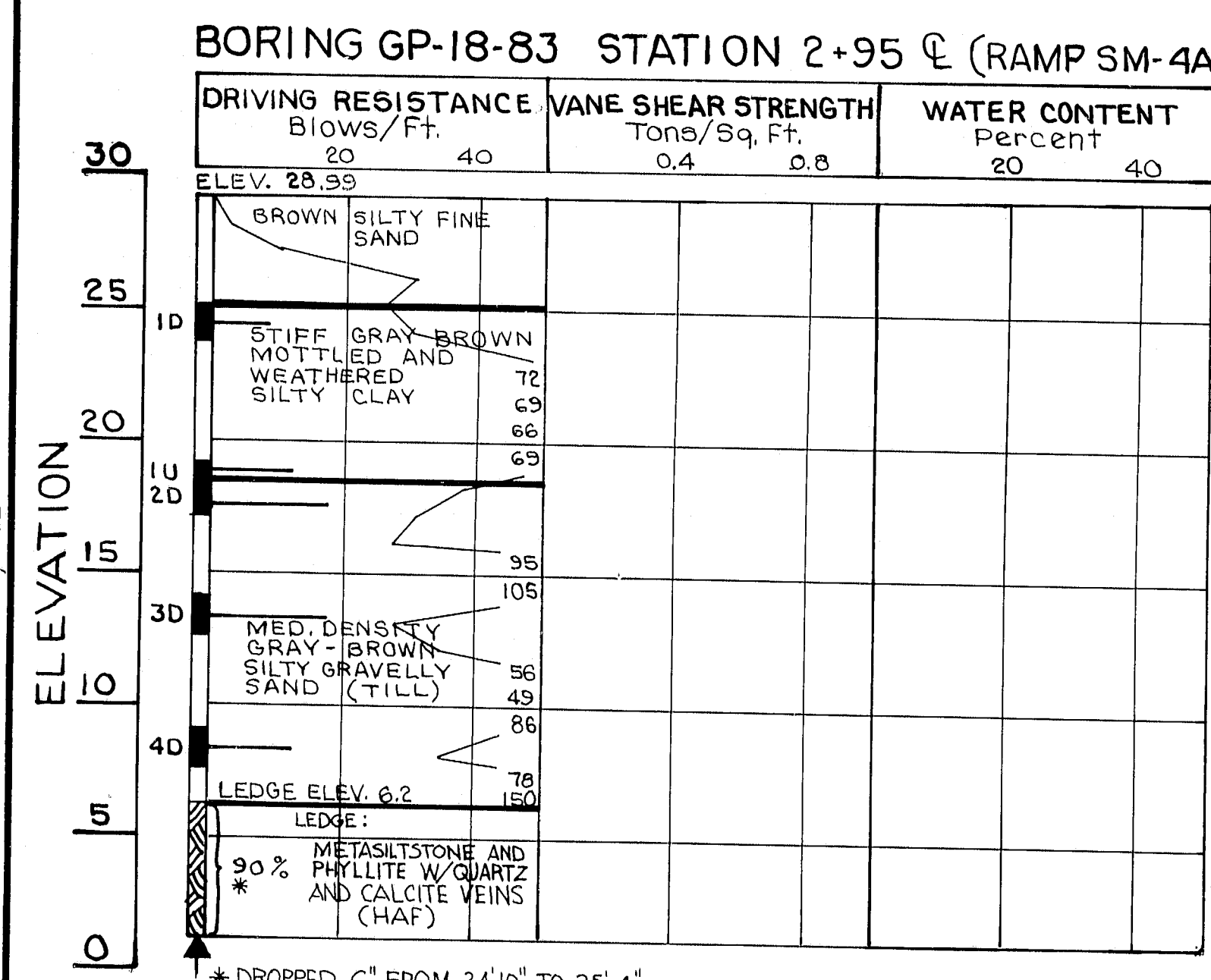
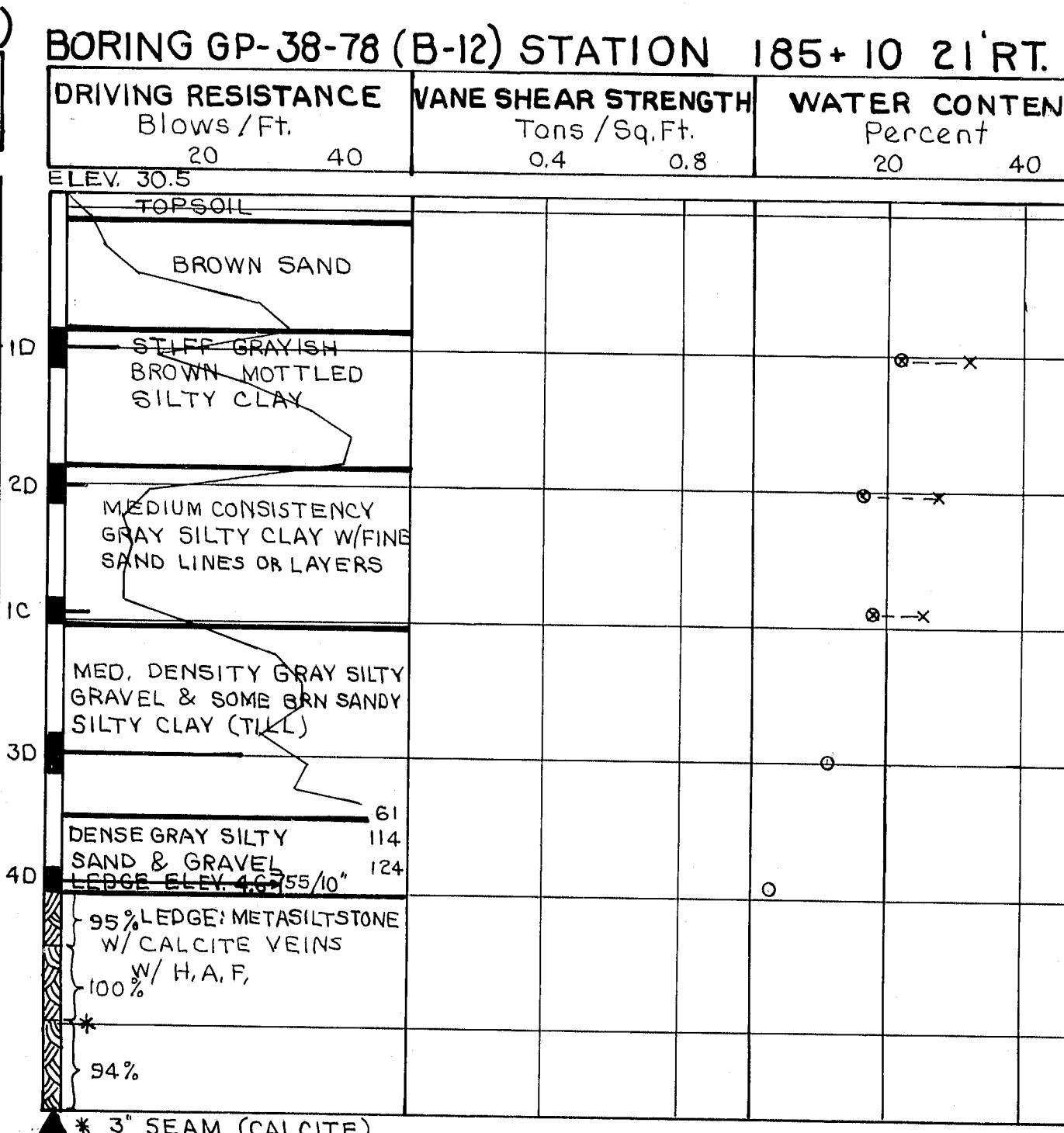
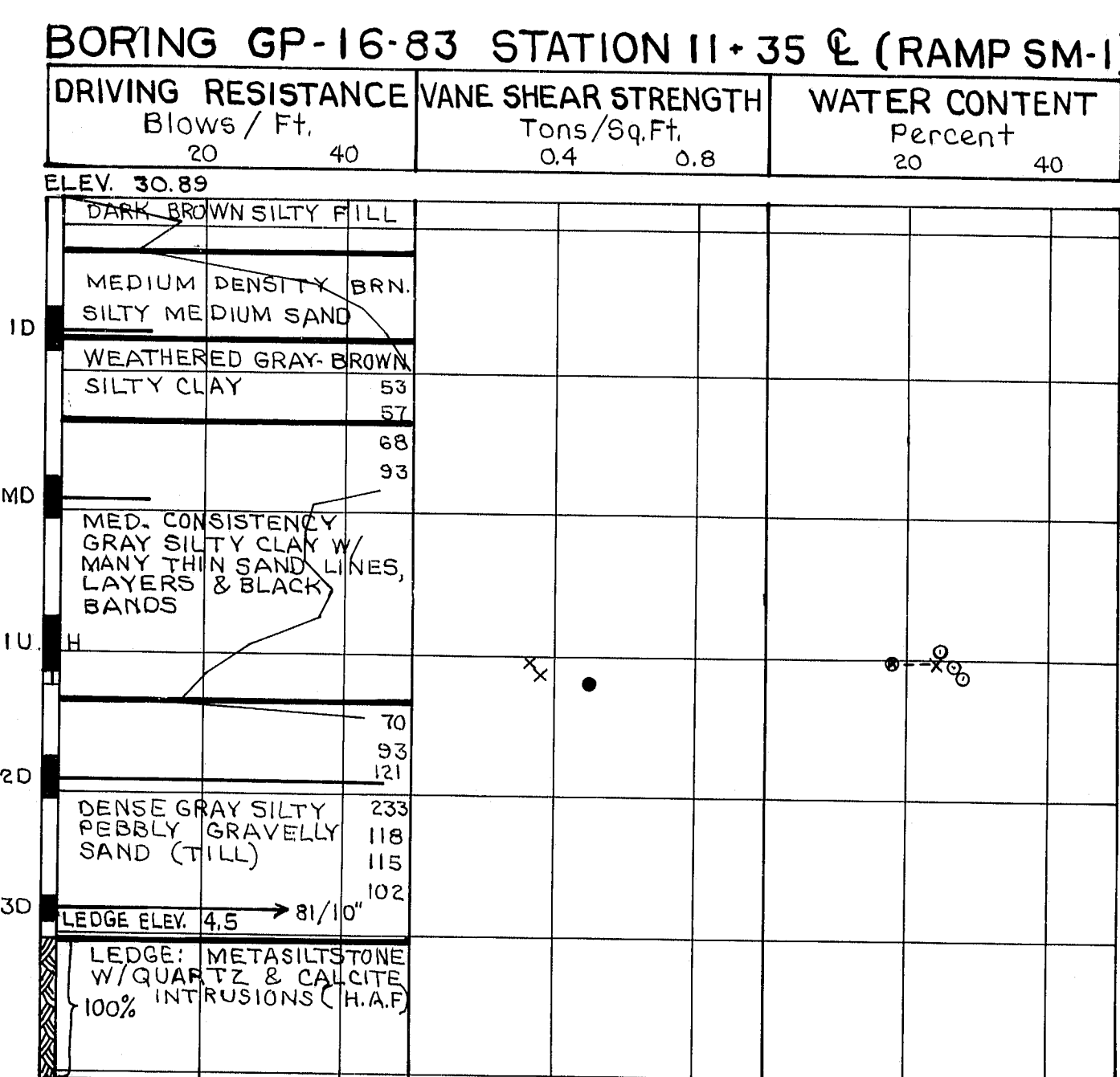
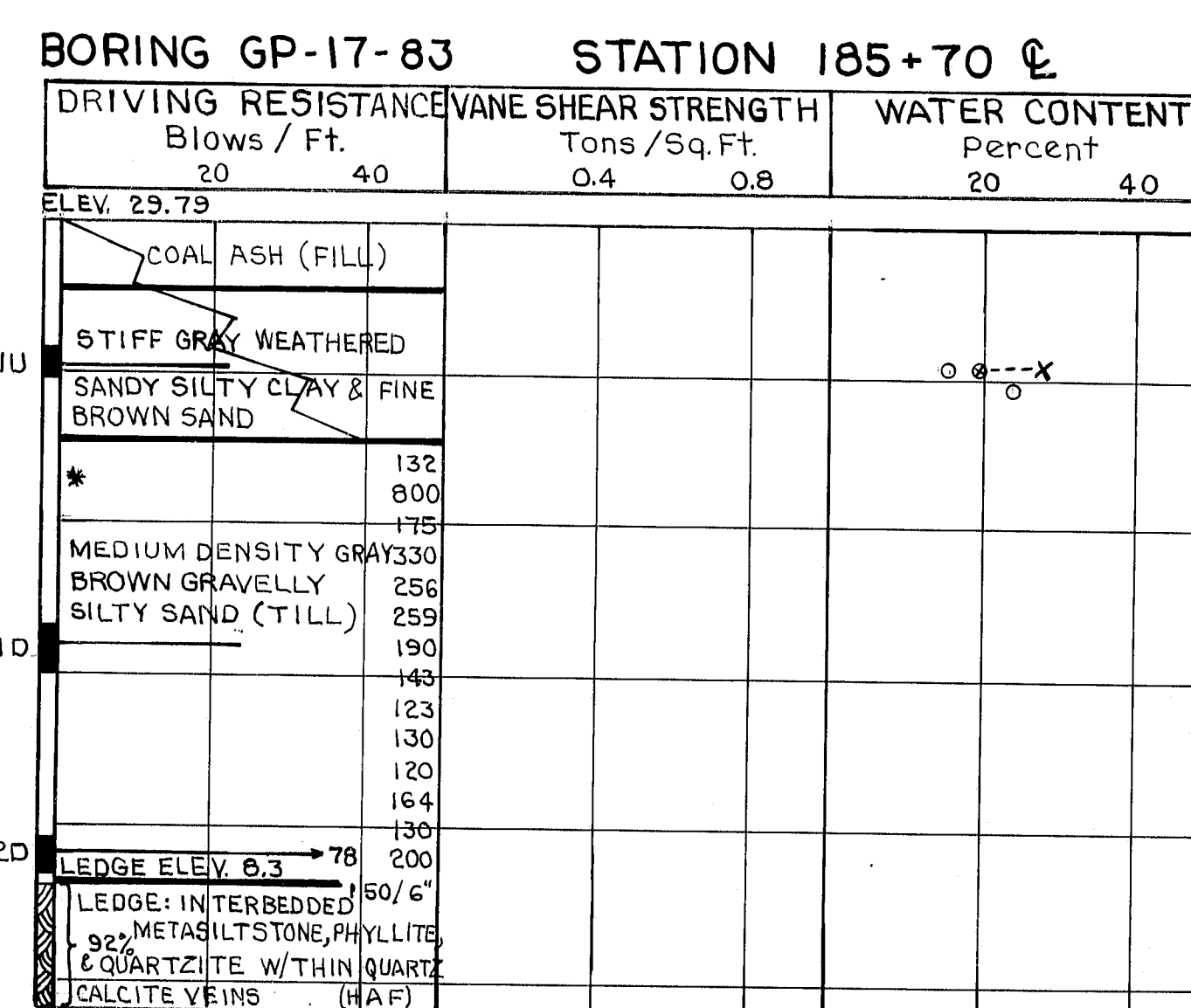
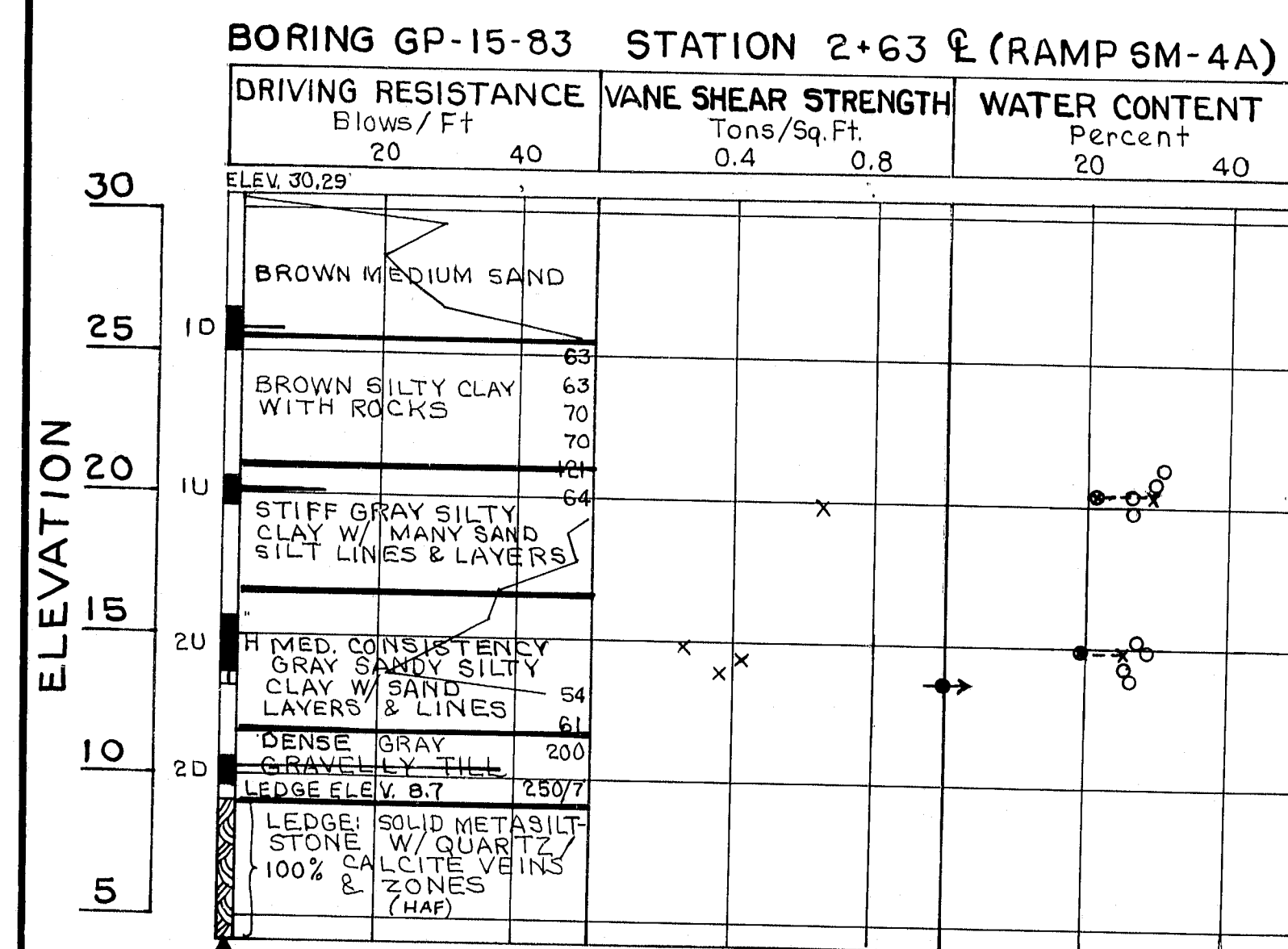
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

1-395, RAMP SM-3, SM-4A  
OVER  
MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH  
IN THE TOWN OF  
BREWER  
PENOBSCOT COUNTY  
PLAN & PROFILES

SHEET 5 OF 25 AUGUSTA, MAINE March 84

R89-265

F.B.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE		6	25



### BORING NOTES

- All samples and vane tests are made ahead of casing.
- Number of blows required to drive extra heavy casing one foot with 400 ft. lbs. of energy per blow.
- Location of sample or sample attempt.
- Number and type of dry sample.
- S & H Sampler #1290's.
- 2" O.D. 16ga. seamless tubing.
- 3 1/2" O.D. 16ga. seamless tubing.
- Unsuccessful sample attempt and type of sampler.
- Number of blows required to drive spoon or tubing one foot with 350 ft. lbs. of energy per blow.
- Sampling spoon or seamless tubing driven by static weight of drill rods and hammer.
- Field vane test.
- Bottom of boring (may not be bottom of soil strata).
- Refusal of drill rods or casing (may not be ledge).
- Locations cored by diamond bit and percent recovery of rock.

### SHEAR NOTES

- Field vane shear strengths.
- Laboratory vane shear strengths.
- One half unconfined compressive strengths.

### WATER CONTENT NOTES

- Natural water contents, given as percent of dry weight.
- Plastic and liquid limits.

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	BAST	7-83
RECORDED		
FIELD CHANGES	ELC	11/85

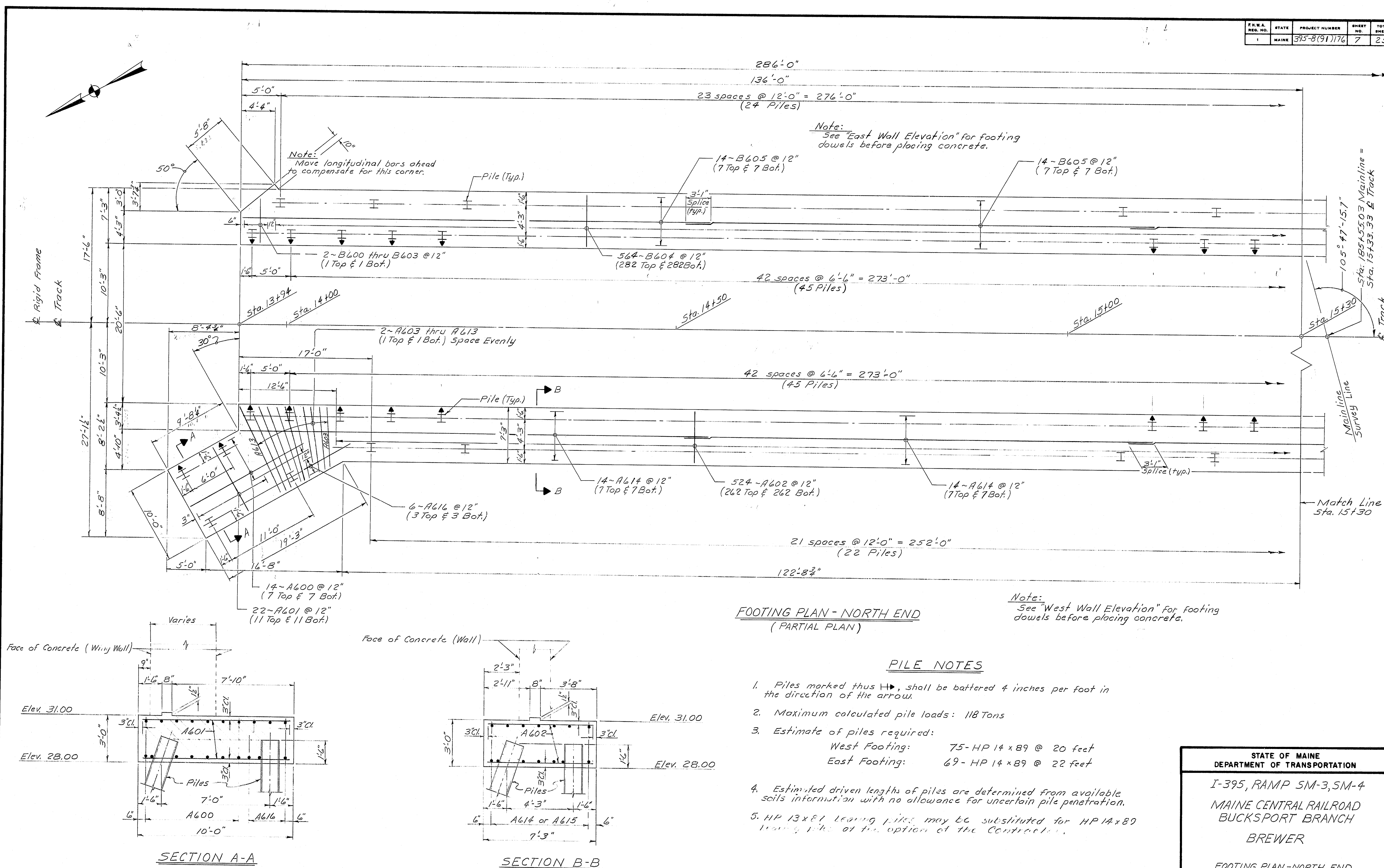
BORING 44-182-5710

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
1-395, RAMP SM-3, SM-4A  
OVER  
MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH  
IN THE TOWN  
BREWER  
PENOBSCOT COUNTY  
BORING DETAILS  
SHEET 6 OF 25 AUGUSTA, MAINE March 84

R89-266



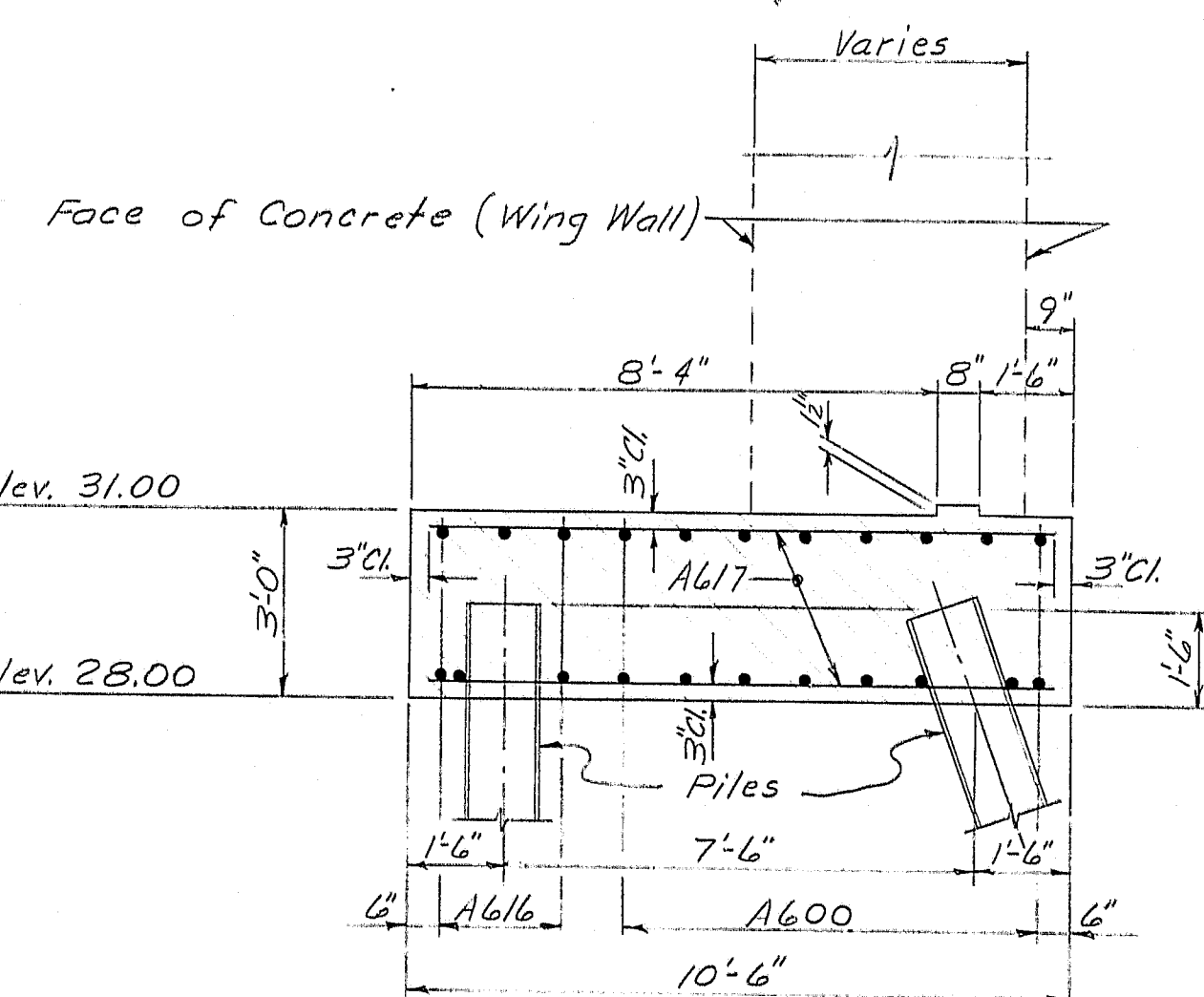
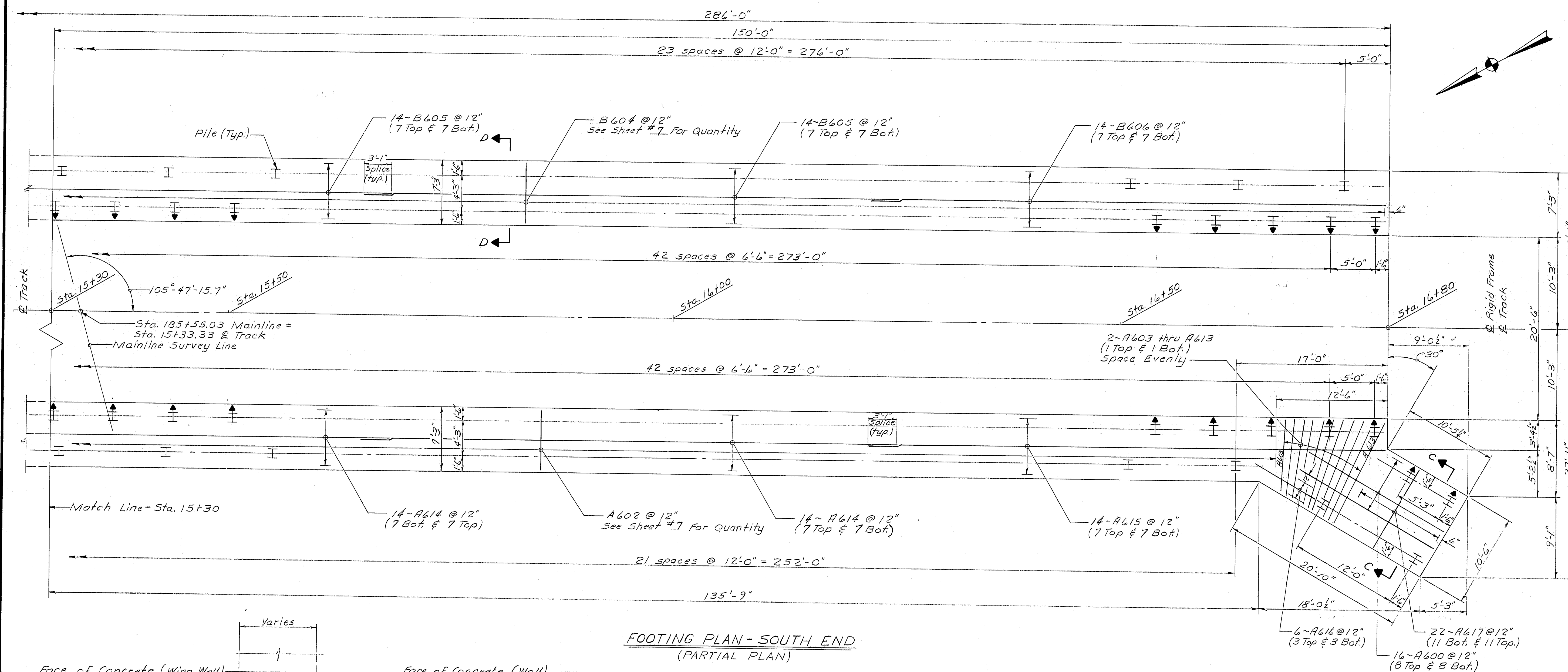
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1	MAINE	395-B(91)176	7	25



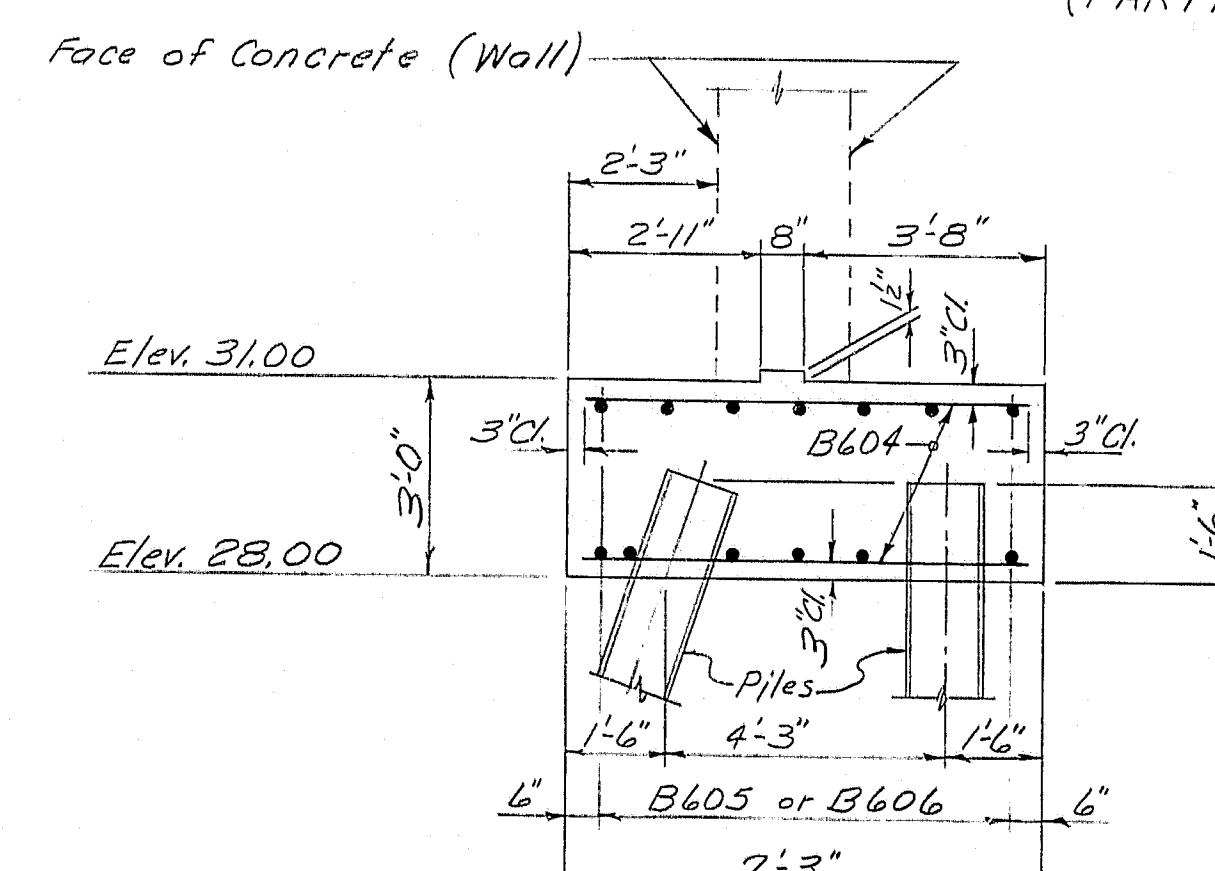
R89-267

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
I-395, RAMP SM-3, SM-4 MAINE CENTRAL RAILROAD BUCKSPORT BRANCH BREWER
FOOTING PLAN - NORTH END RIGID FRAME SHEET 7 OF 25 AUGUSTA, MAINE March 84

F.R.A. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	395-8(1)/76	8	25



SECTION C-C



SECTION D-D

FOOTING PLAN - SOUTH END  
(PARTIAL PLAN)

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAIL	BAS	11-83
CHECKED	RVD	2-84
REVISIONS		
FIELD CHANGES	1/3	11-85

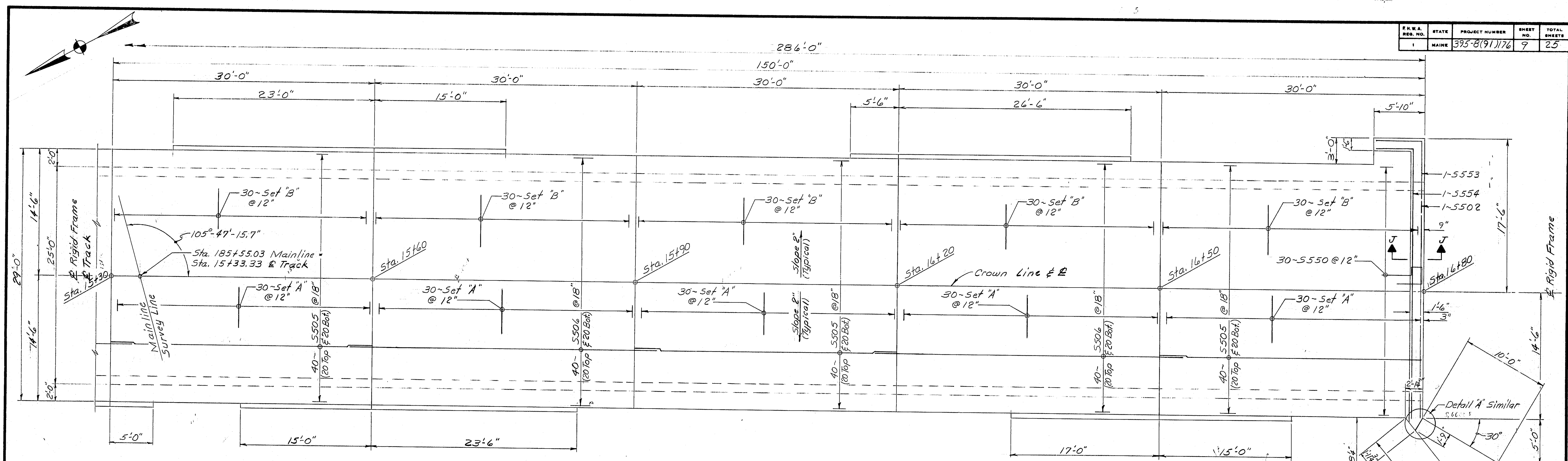
BRUNING 44-132 6710-1

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
I-395, RAMP 5M-3, 5M-4  
MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH  
BREWER  
FOOTING PLAN - SOUTH END  
RIGID FRAME  
SHEET 8 OF 25 AUGUSTA, MAINE March 84

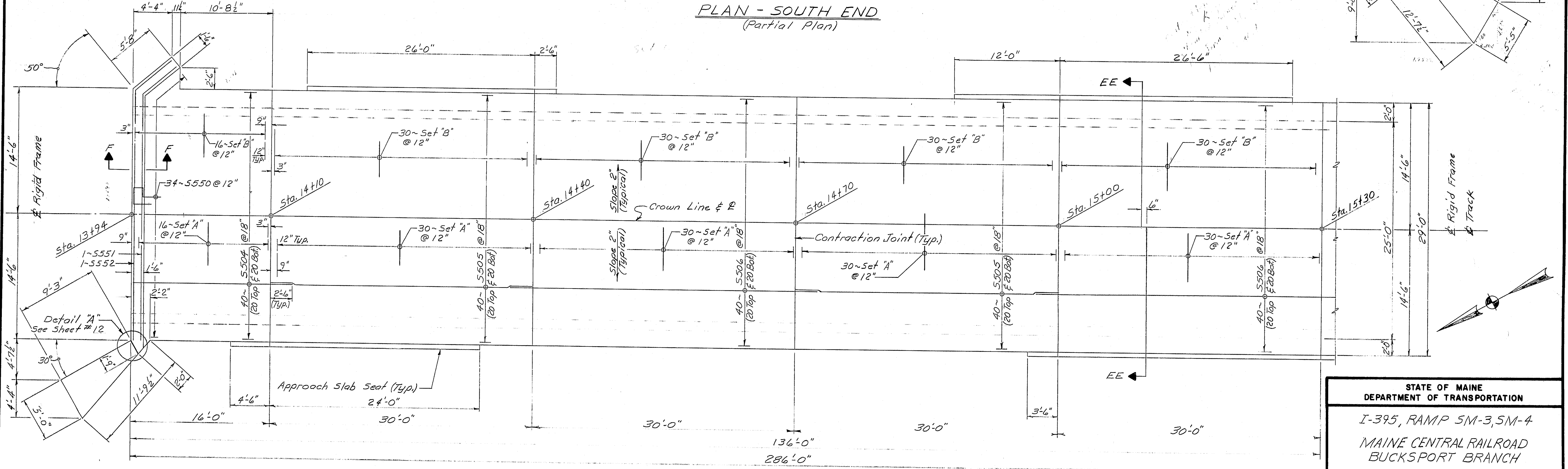
R89-268



F.R.A. No.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	395-8(91)176	9	25



PLAN - SOUTH END  
(Partial Plan)



PLAN - NORTH END  
(Partial Plan)

NOTE:  
1 group of Set 'A' bars includes  
2-S5950, 2-W501 & 1-S5951  
1 group of Set 'B' bars includes 1-S5501, 1-S5502,  
2-S5503 & 2-S5650.

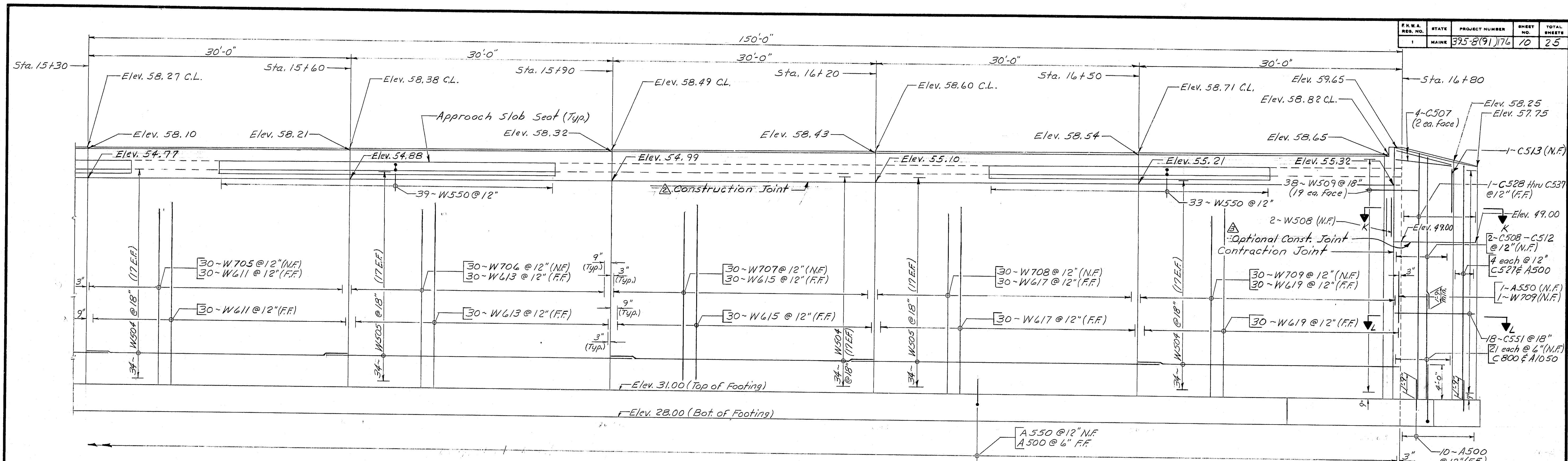
References: For Section F-F see Sheet #12  
For Section J-J see Sheet #13

Reinforcing	5/8"
Sheet No.	5/8"
Revision	Date

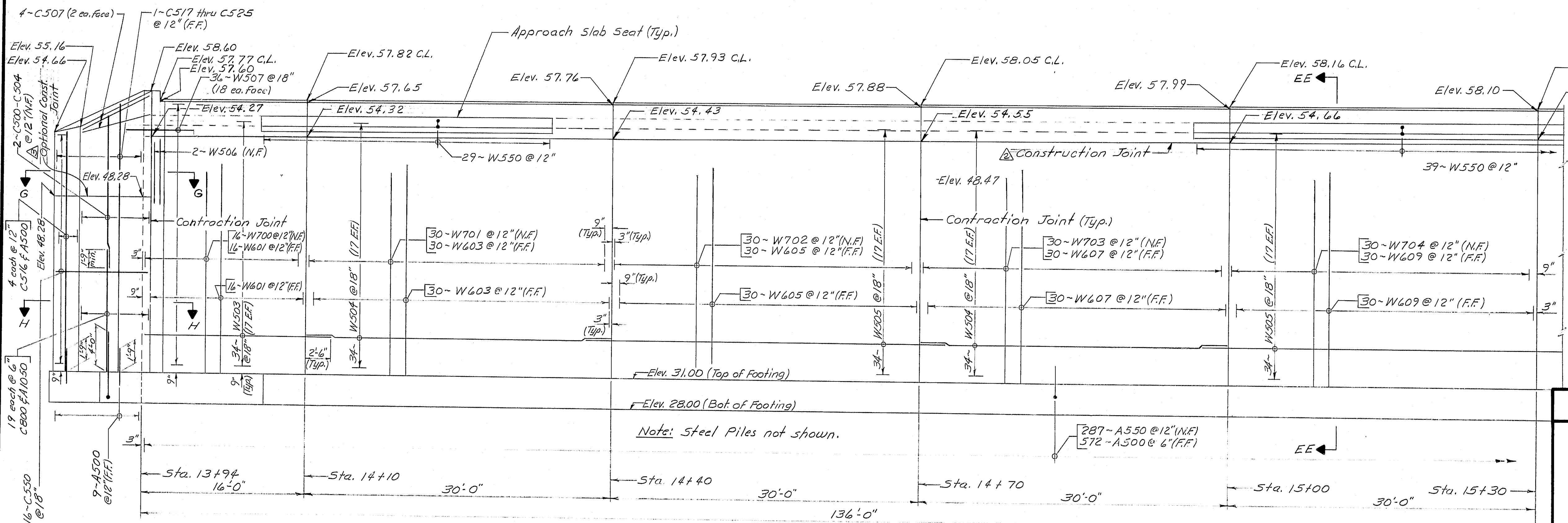
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
I-395, RAMP SM-3, SM-4  
MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH  
BREWER  
RIGID FRAME-PLAN  
SHEET 9 OF 25 AUGUSTA, MAINE March 84

R89-269

PROJECT DESIGN ENGINEER	BY	DATE
PLANS	DESIGN-DETAILED	2-84
REVISIONS	REVISED	2-84
FIELD CHANGES	AS BUILT	11-88



WEST WALL - SOUTH END  
(PARTIAL ELEVATION)



WEST WALL - NORTH END  
(PARTIAL ELEVATION)

**References**  
 For Section G-G, see Sheet # 12  
 For Section H-H, see Sheet # 12  
 For Section K-K, see Sheet # 13  
 For Section L-L, see Sheet # 13  
 For Section EE-EE, see Sheet # 12A  
 For Approach Slab Seat dimensions see "Rigid Frame Plan" on Sheet # 9

**ABBREVIATIONS**  
 (N.F.) = Near Face  
 (F.F.) = Far Face  
 (C.L.) = Crown Line

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 I-395, RAMP 5M-3, 5M-4  
 MAINE CENTRAL RAILROAD  
 BUCKSPORT BRANCH  
 BREWER

WEST WALL ELEVATION  
 Rigid Frame

Optional Const. Jt.	5/84
Relocate Const. Jt.	5/84
Change Sht. No.	5/84
Revision	Date

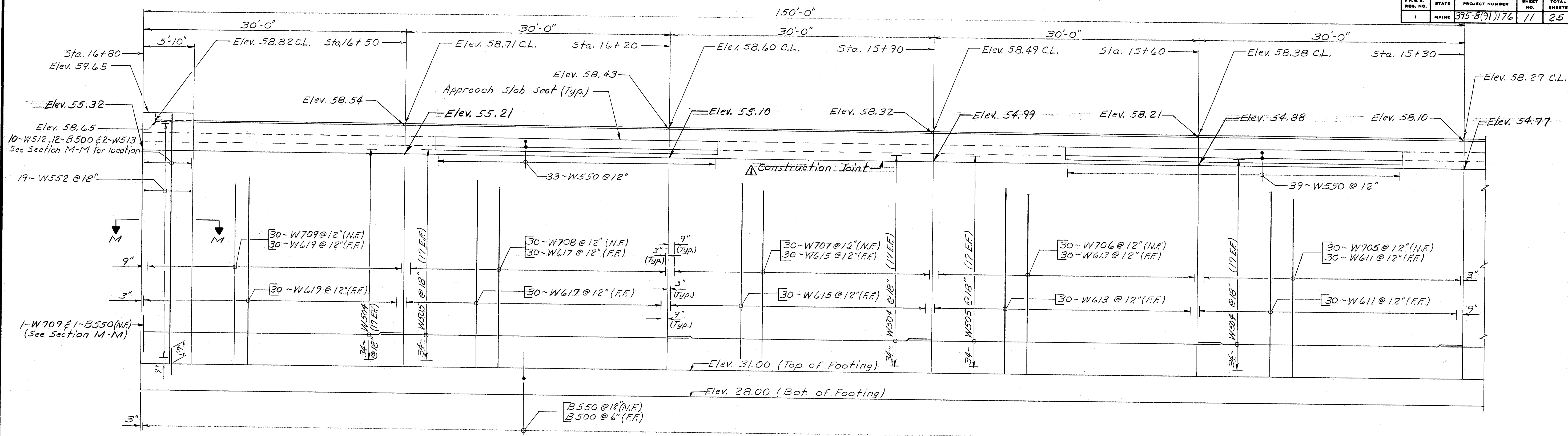
R89-270

PROJECT DESIGN ENGINEER	DATE
BY	DES
CHECKED	REV
REVISIONS	1-84
FIELD CHANGES	2-84
PLANS	2-84

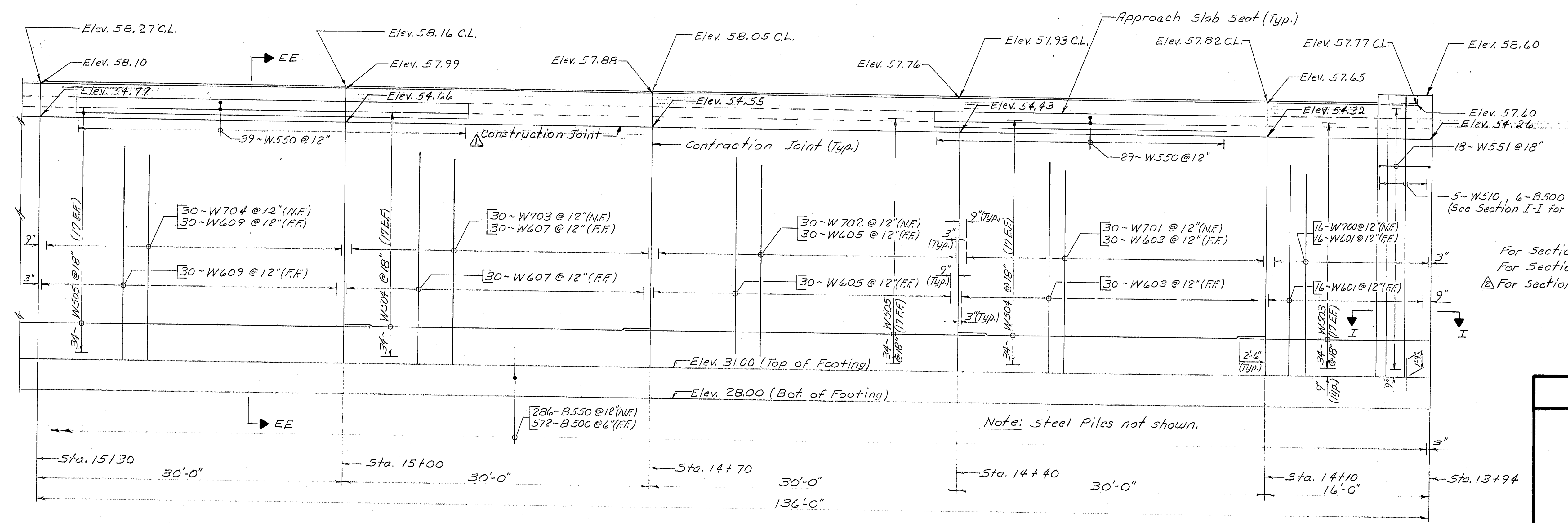
BRUNING 44-132 45710-1



F.R.W.A.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	395-8(91)176	11	25



**EAST WALL - SOUTH END**  
(PARTIAL ELEVATION)



**EAST WALL - NORTH END**  
(PARTIAL ELEVATION)

**References**  
 For Section I-I, see Sheet # 12  
 For Section M-M, see Sheet # 13  
 For Section EE-EE, see Sheet # 12A

Added Reference	5/84
Relocate Const. Jt.	5/84
Revision	Date

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-395, RAMP SM-3, SM-4  
MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH  
BREWER

**EAST WALL ELEVATION**  
RIGID FRAME

SHEET 11 OF 25 AUGUSTA, MAINE March 84

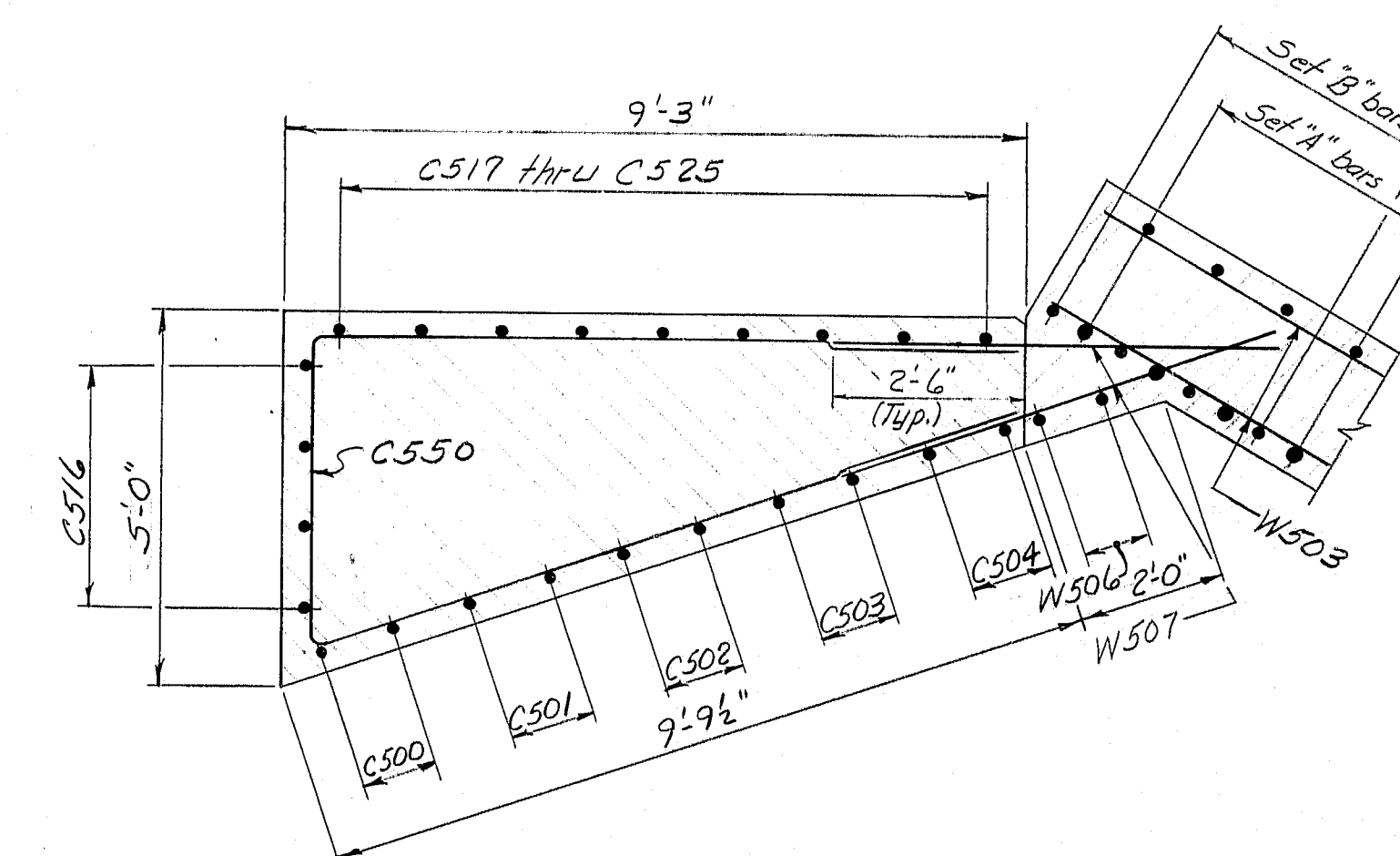
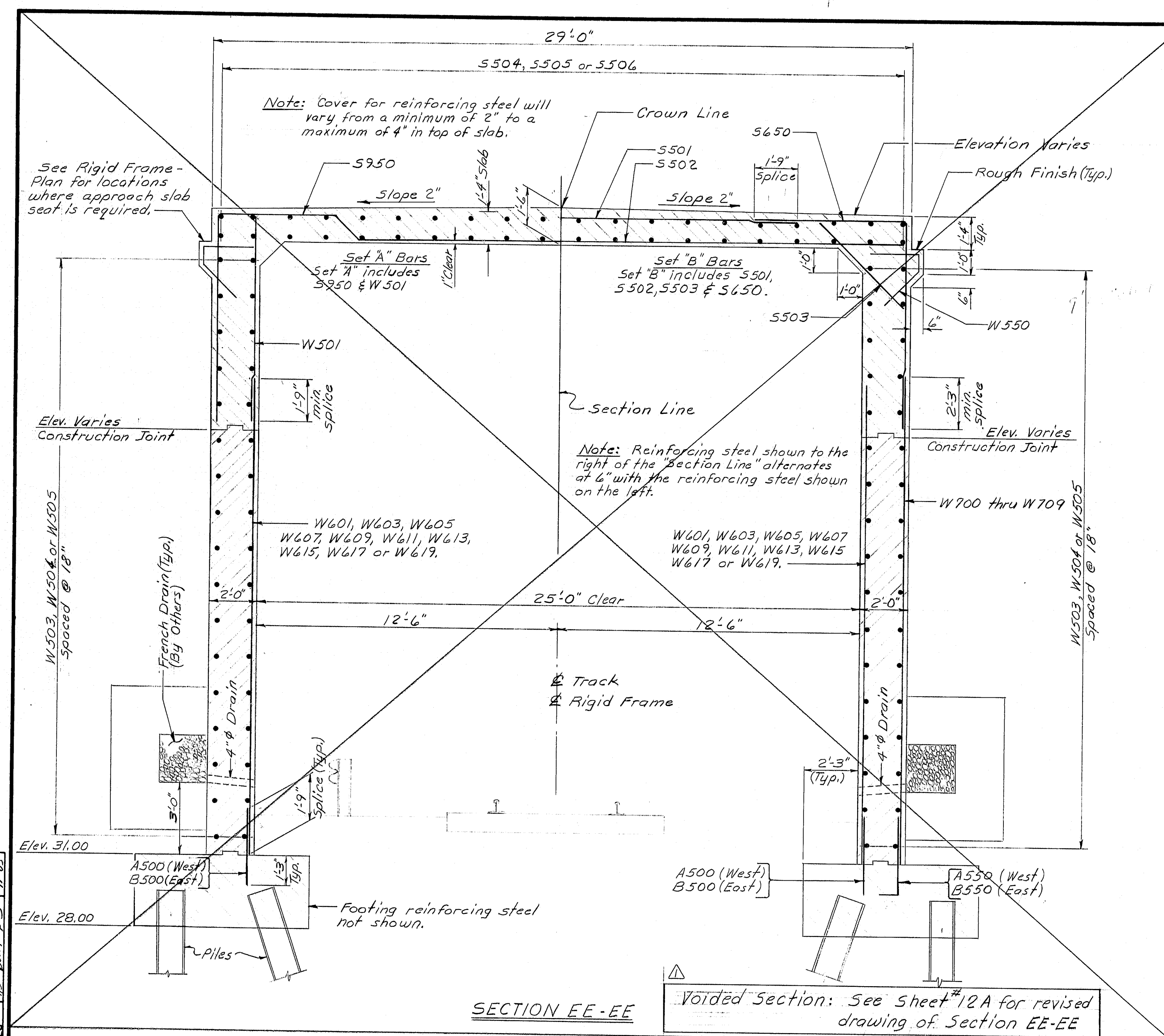
**R89-271**

3.9333

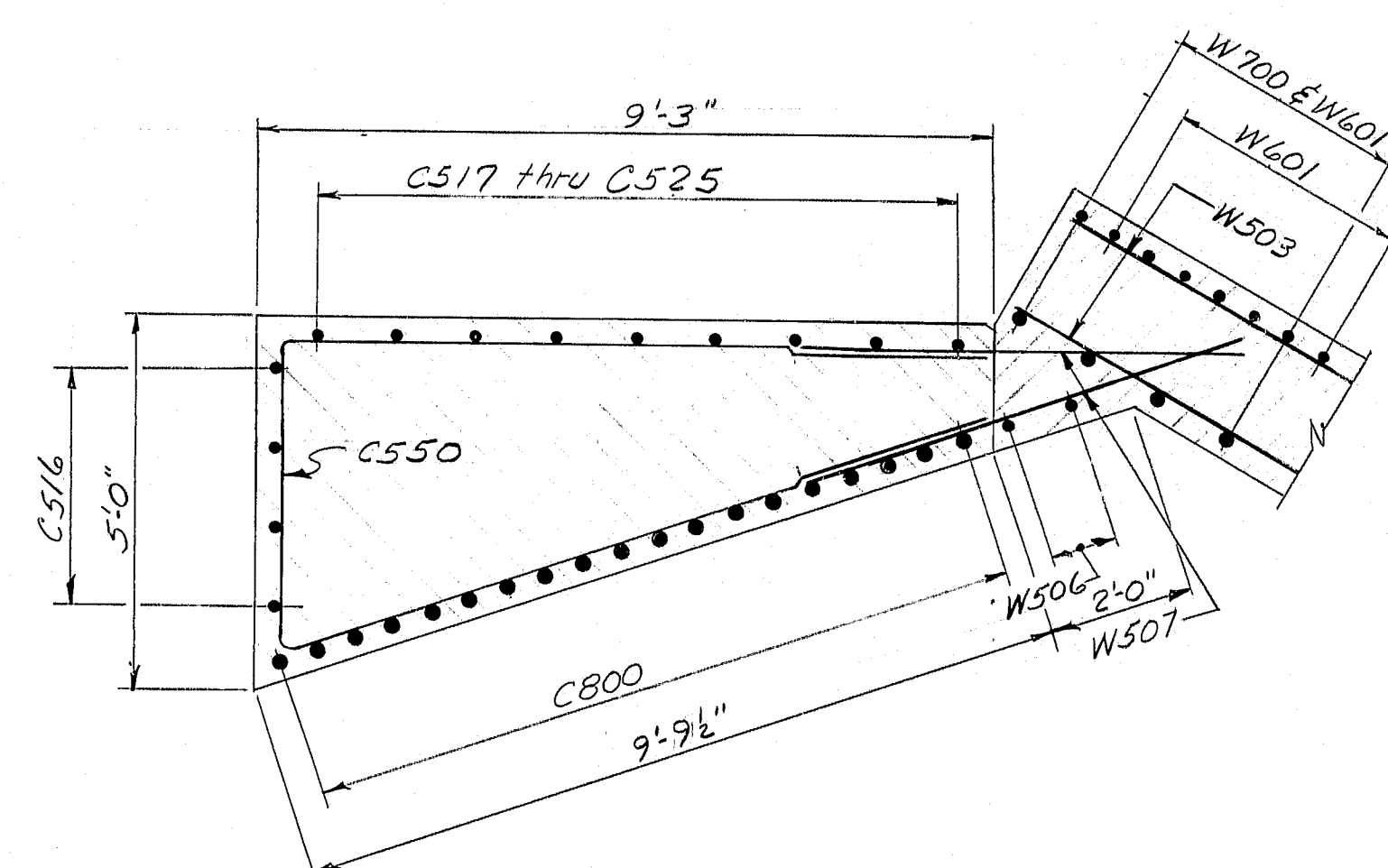
PROJECT DESIGN ENGINEER	DATE
BY BAS BEW	1-83
CHECKED RVD	2-84
REVISIONS	
FIELD CHANGES	AS SHOWN

BRUNING 44.32 47101

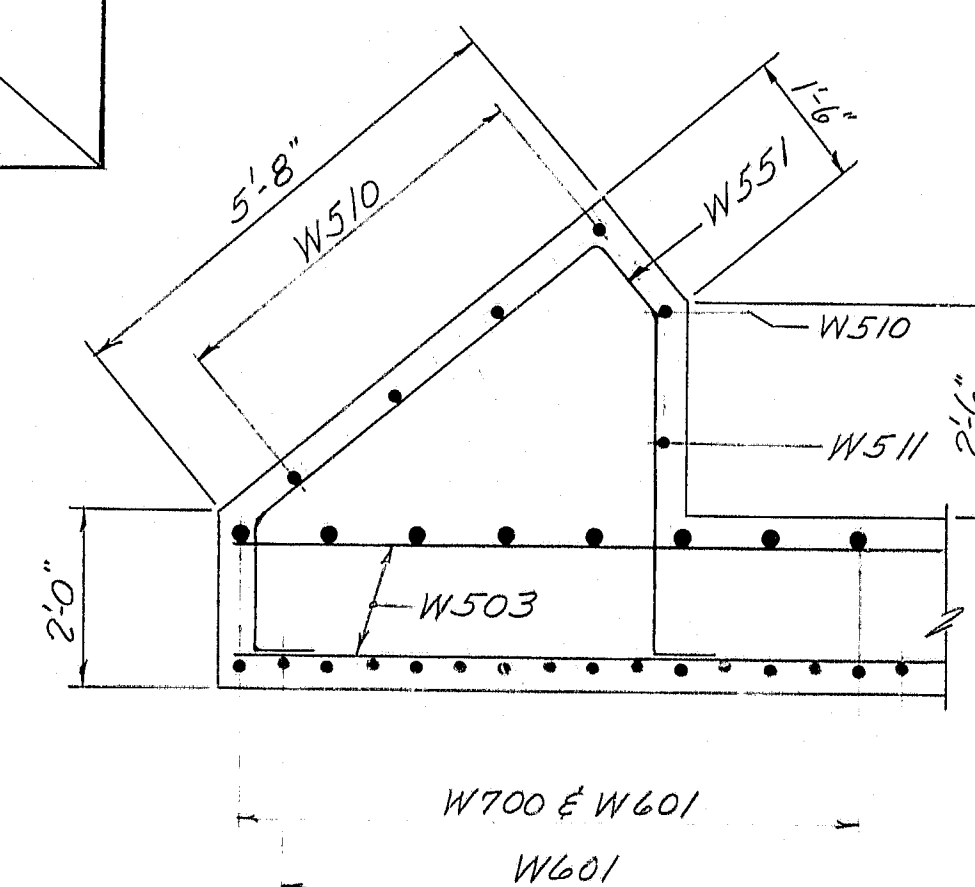
F.R.W.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	395-8(91)176	12	25



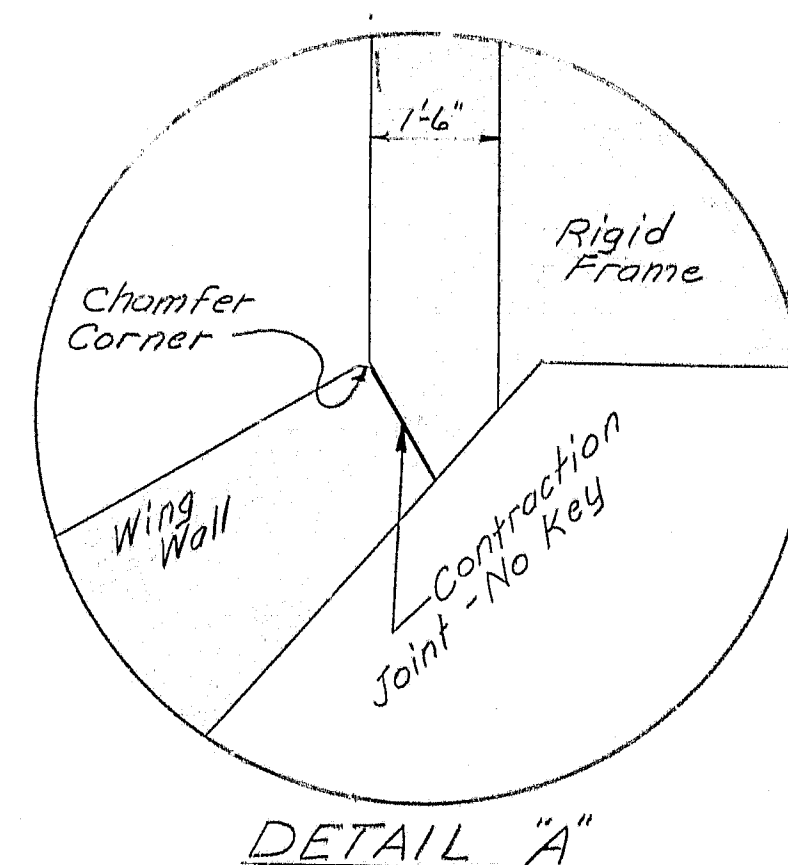
SECTION G-G



SECTION H-H



SECTION I-I



SECTION F-F

Section EE-EE	5/84
Revised on SH-12A	
Revision	Date

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
I-395, RAMP SM-3, SM-4  
MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH  
BREWER

SECTIONS & DETAILS  
RIGID FRAME

SHEET 12 OF 25 AUGUSTA, MAINE March 84

R89-272

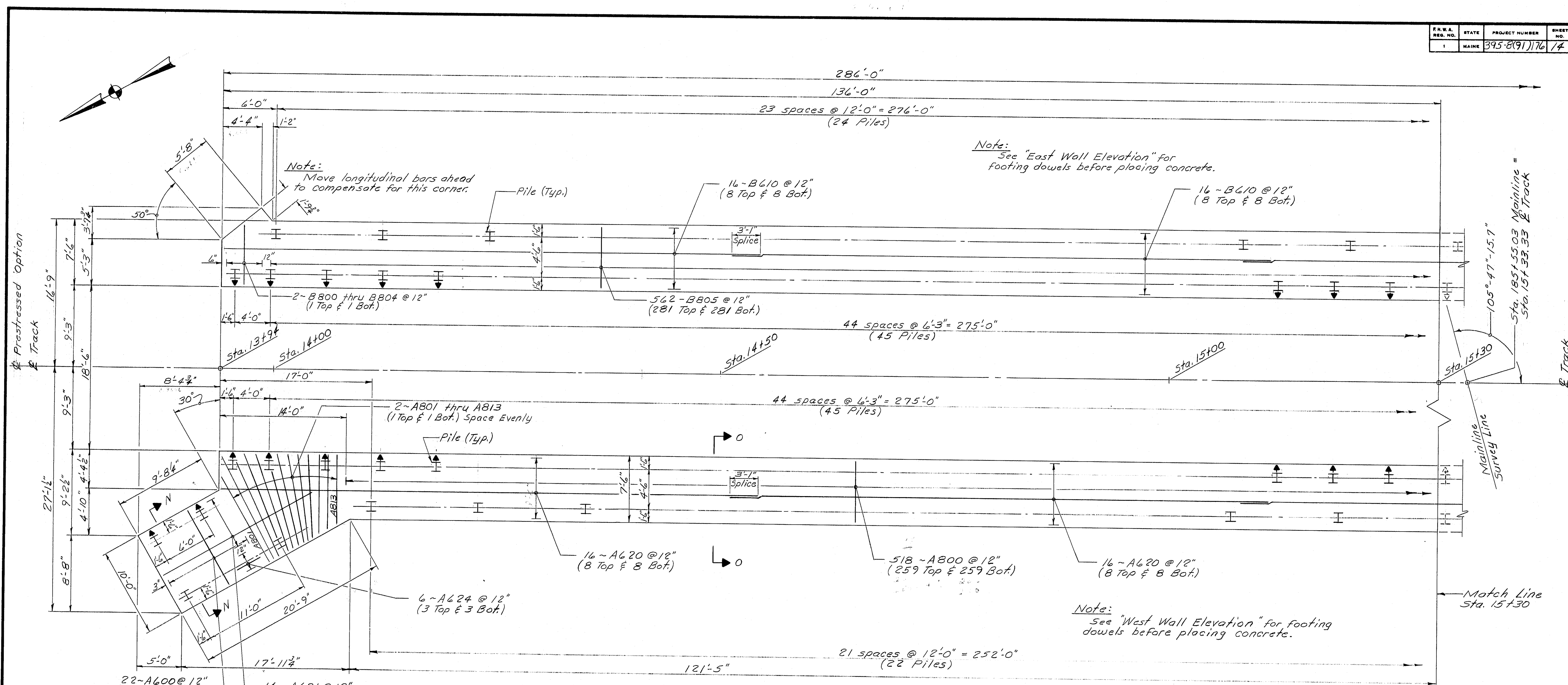




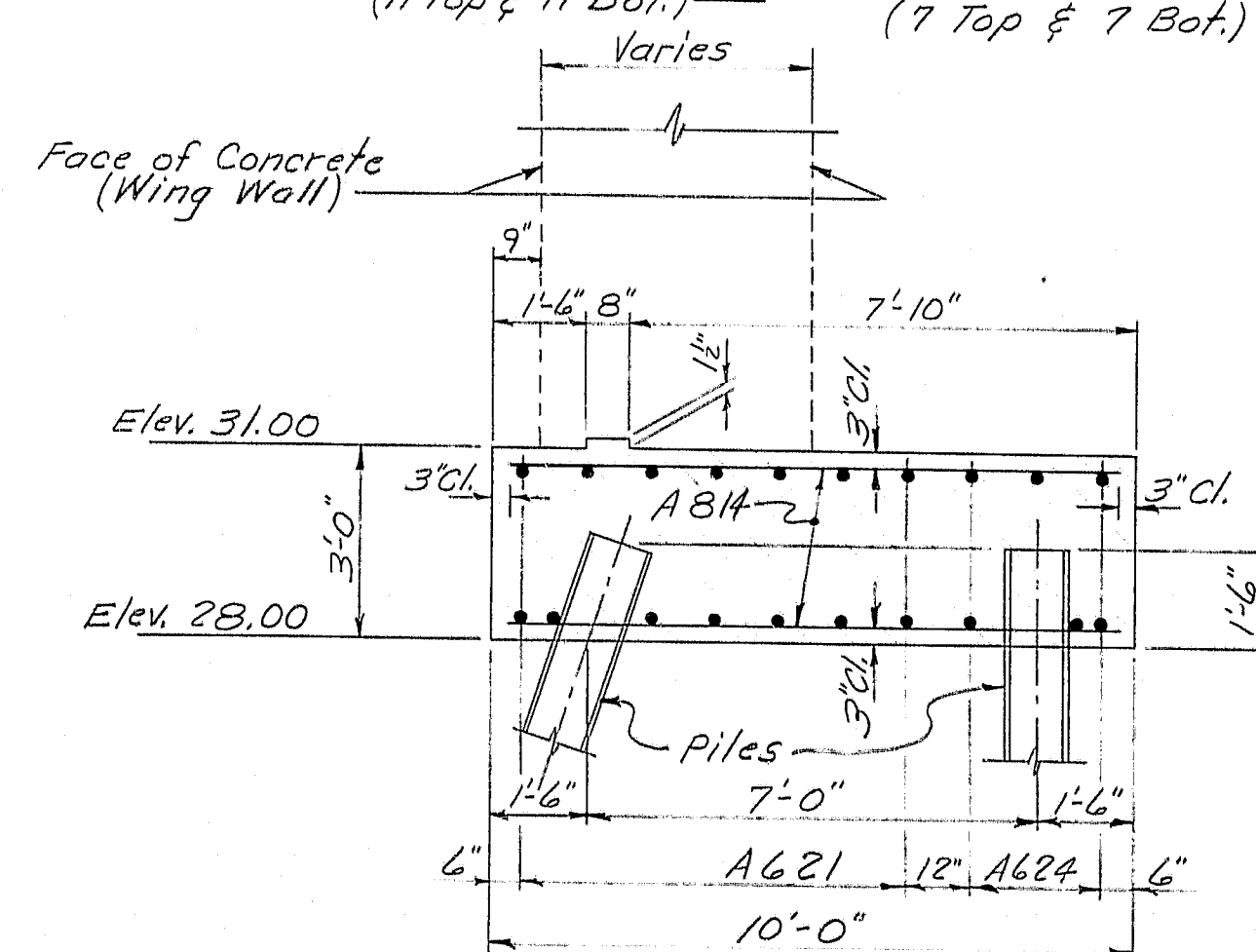




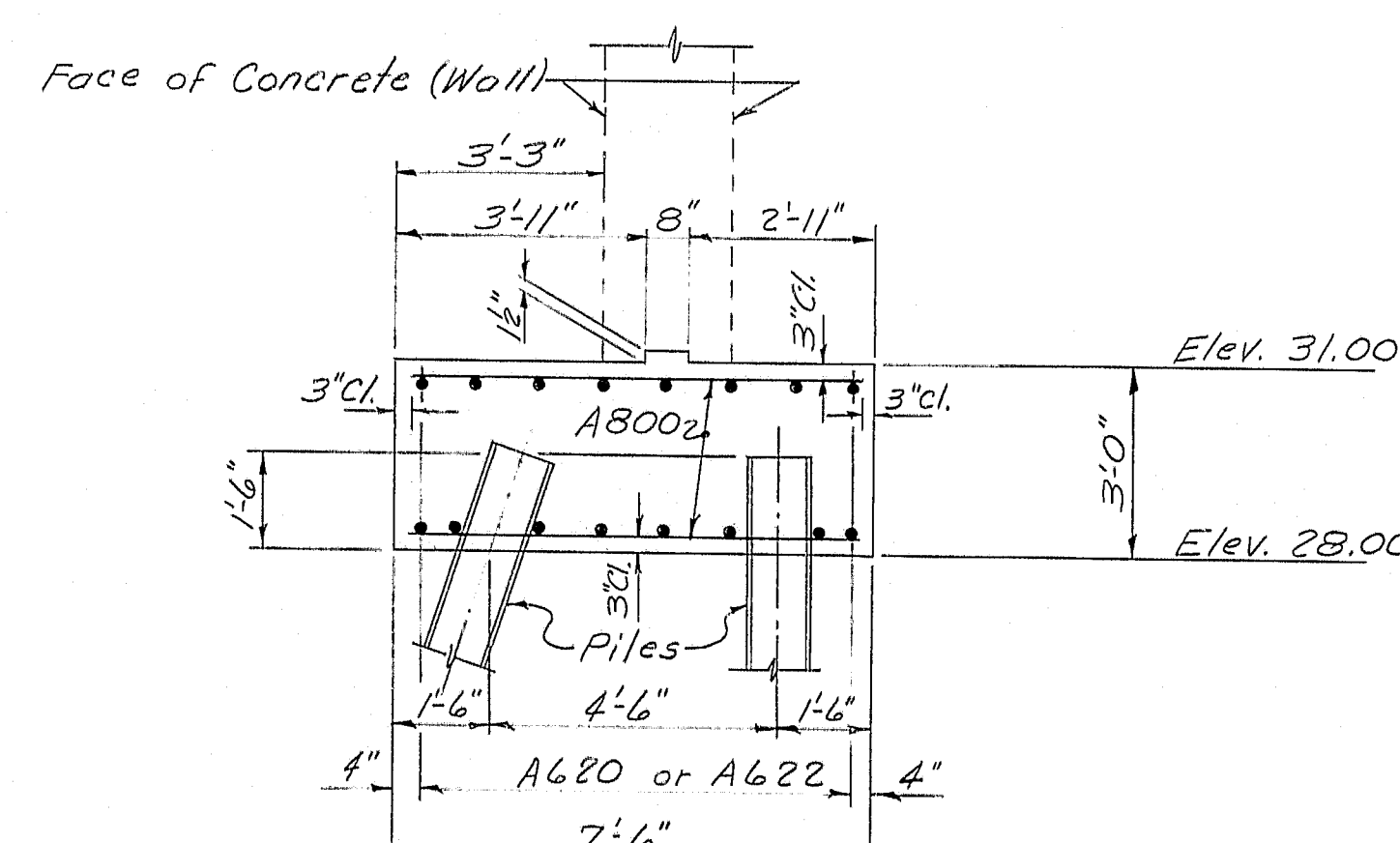
F.R.W.A. SHEET NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	395-2(91)176	14	25



FOOTING PLAN - NORTH END  
(Partial Plan)



SECTION N-N



SECTION O-O

#### PILE NOTES

- Piles marked thus  $\rightarrow$ , shall be battered 4 inches per foot in the direction of the arrow.
- Maximum calculated pile loads: 118 Tons
- Estimate of piles required:  
West Footing: 77-HP 14x89 @ 20 feet  
East Footing: 71-HP 14x89 @ 22 feet
- Estimated driven lengths of piles are determined from available soils information with no allowance for uncertain pile penetration.
- HP 13x87 bearing piles may be substituted for HP 14x89 bearing piles at the option of the Contractor.

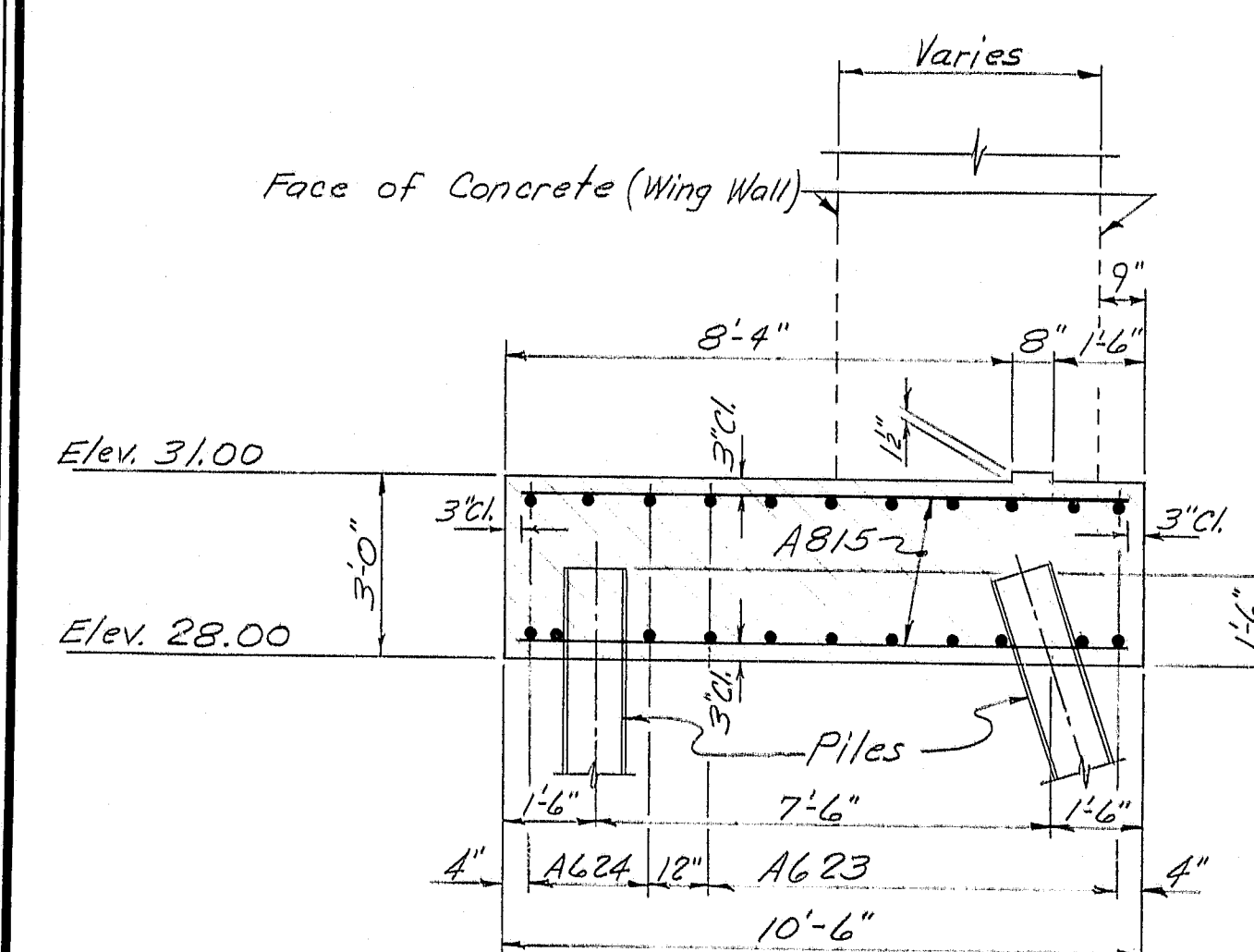
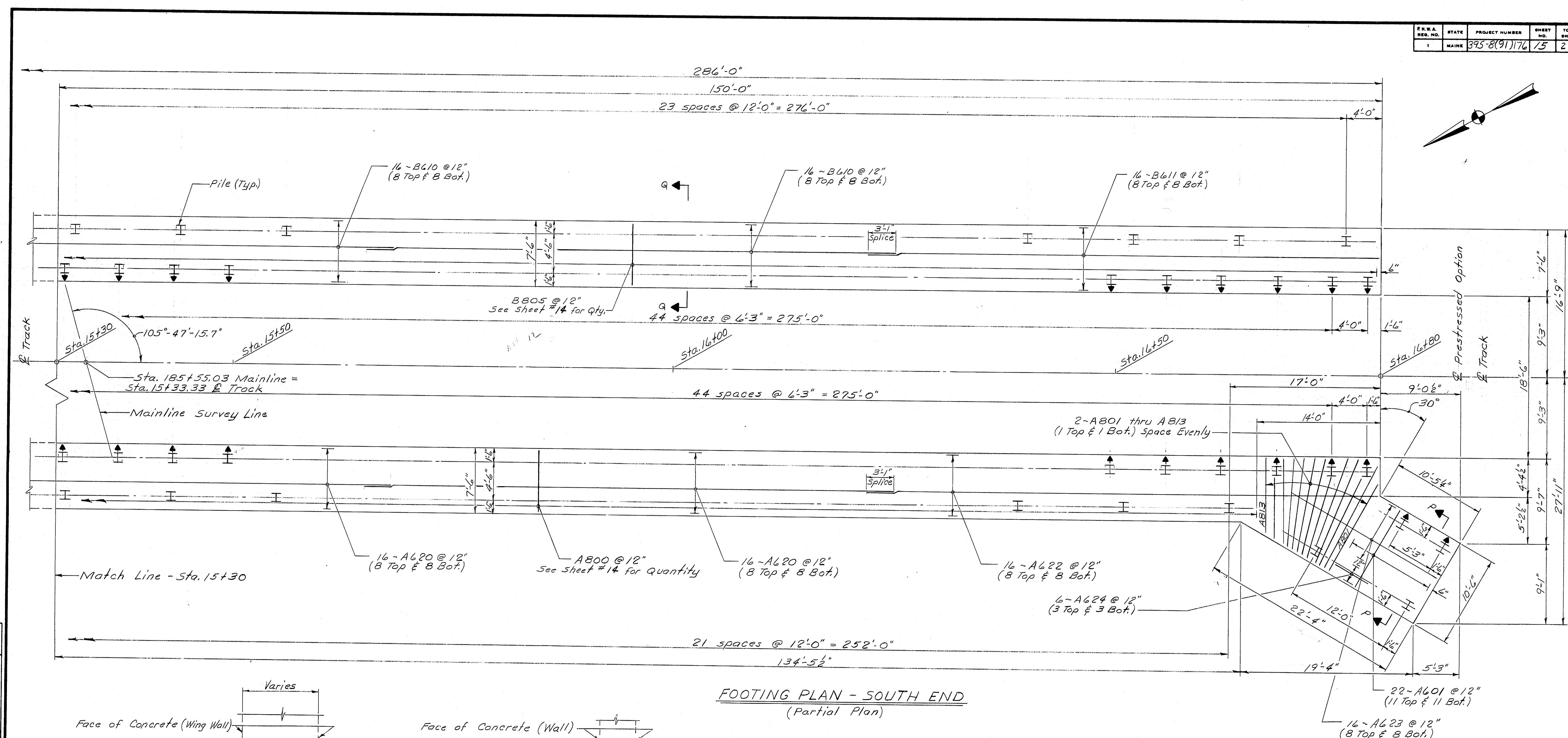
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-395, RAMP SM-3, SM-4  
MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH  
BREWER

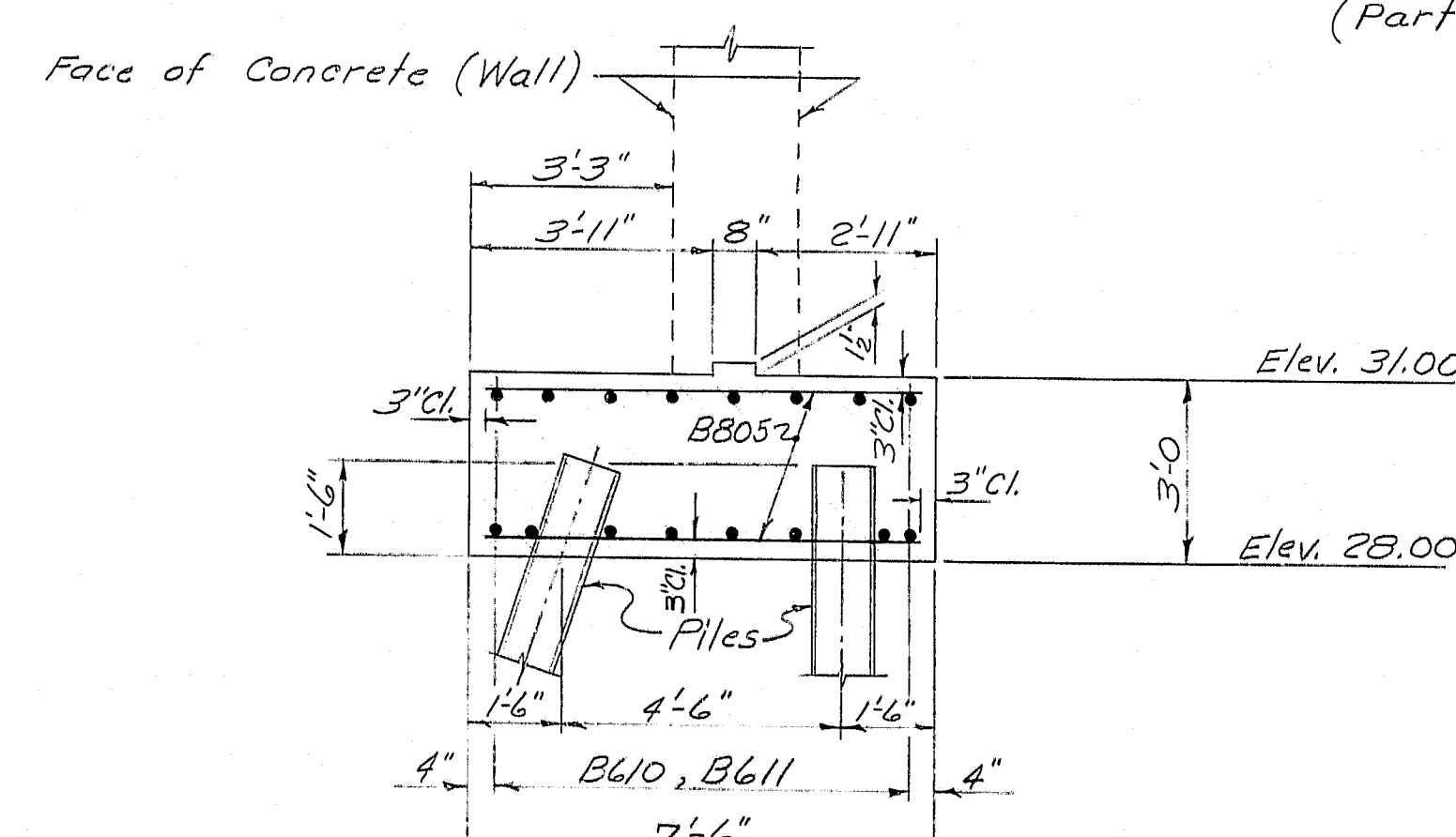
FOOTING PLAN - NORTH END  
PRESTRESSED OPTION  
SHEET 14 OF 25 AUGUSTA, MAINE March 84

R89-275

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	395-8(91)176	15	2



SECTION P-P



SECTION Q-Q

FOOTING PLAN - SOUTH END  
(Partial Plan)

R89-276

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

*I-395, RAMP SM-3, SM-4*

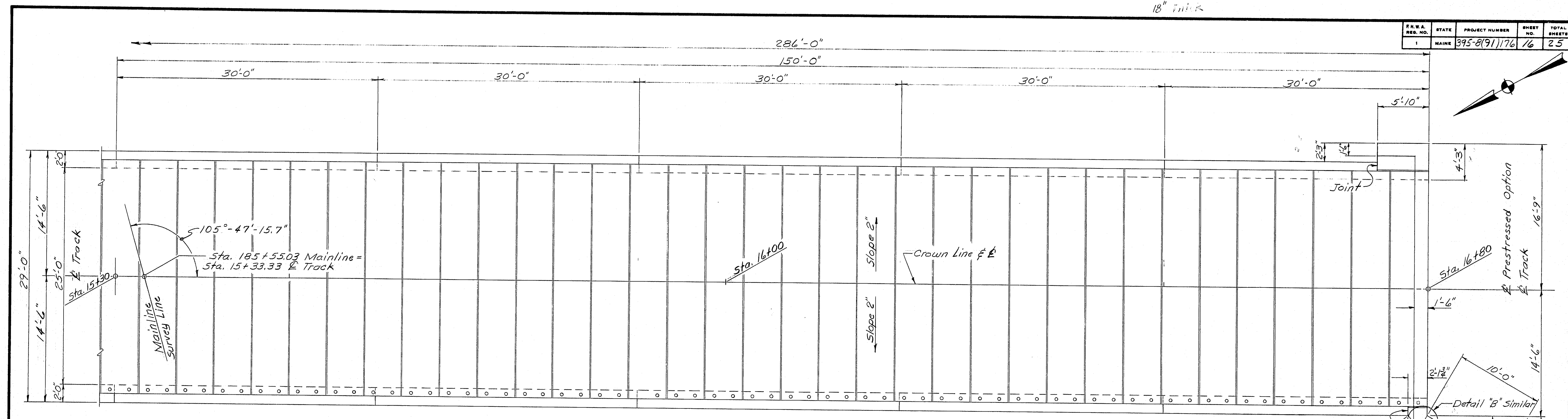
*MAINE CENTRAL RAILROAD*  
*BUCKSPORT BRANCH*

*BREWER*

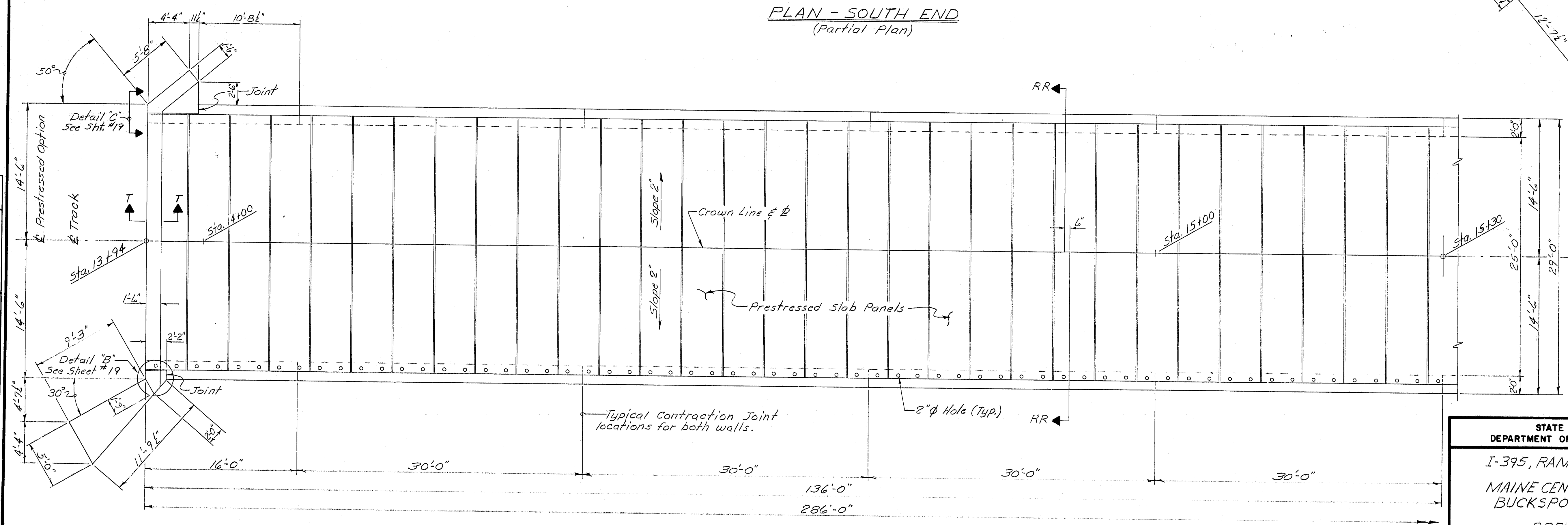
FOOTING PLAN - SOUTH END  
PRESTRESSED OPTION  
SHEET 15 OF 25 AUGUSTA, MAINE March 84



F.R.W.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	395-8(91)176	16	25



PLAN - SOUTH END  
(Partial Plan)



PLAN - NORTH END  
(Partial Plan)

References  
For Prestressed Slab Panel Details - See Sht. # 21

R89-277

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
I-395, RAMP SM-3, SM-4  
MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH  
BREWER  
PRESTRESSED OPTION - PLAN  
SHEET 16 OF 25 AUGUSTA, MAINE March 84

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	BAS	11/83
CHECKED	RVD	1-84
REVISIONS		
FIELD CHANGES		

BRUNING 44-28-8710-1



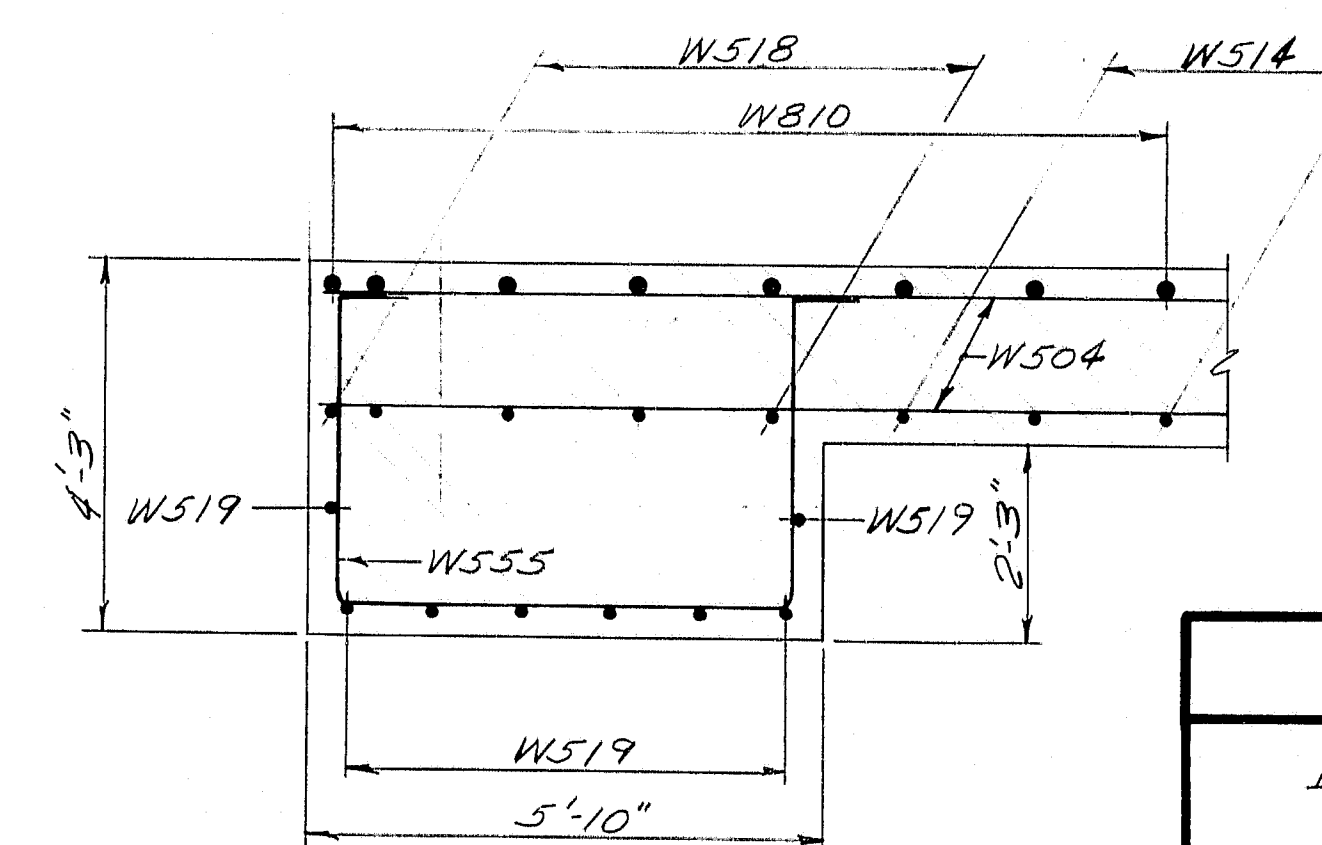
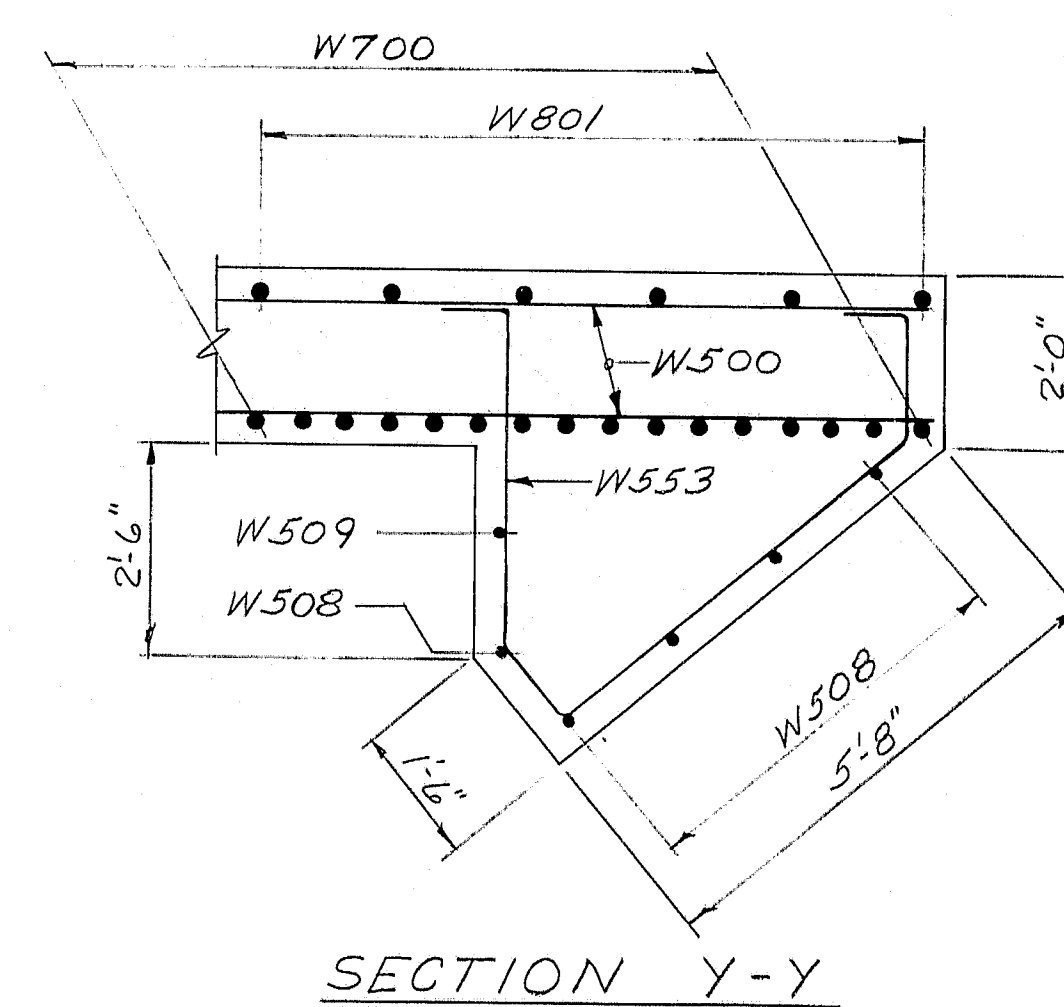
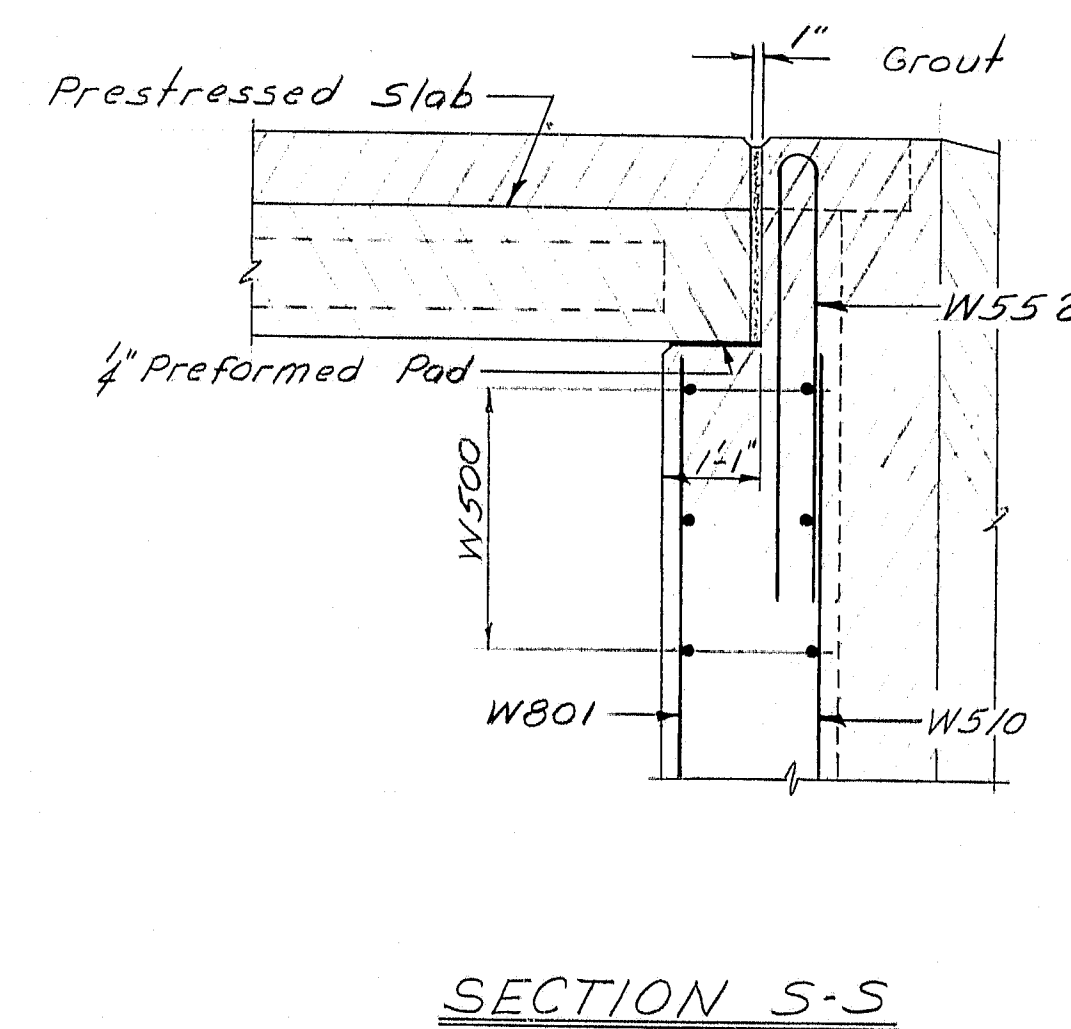
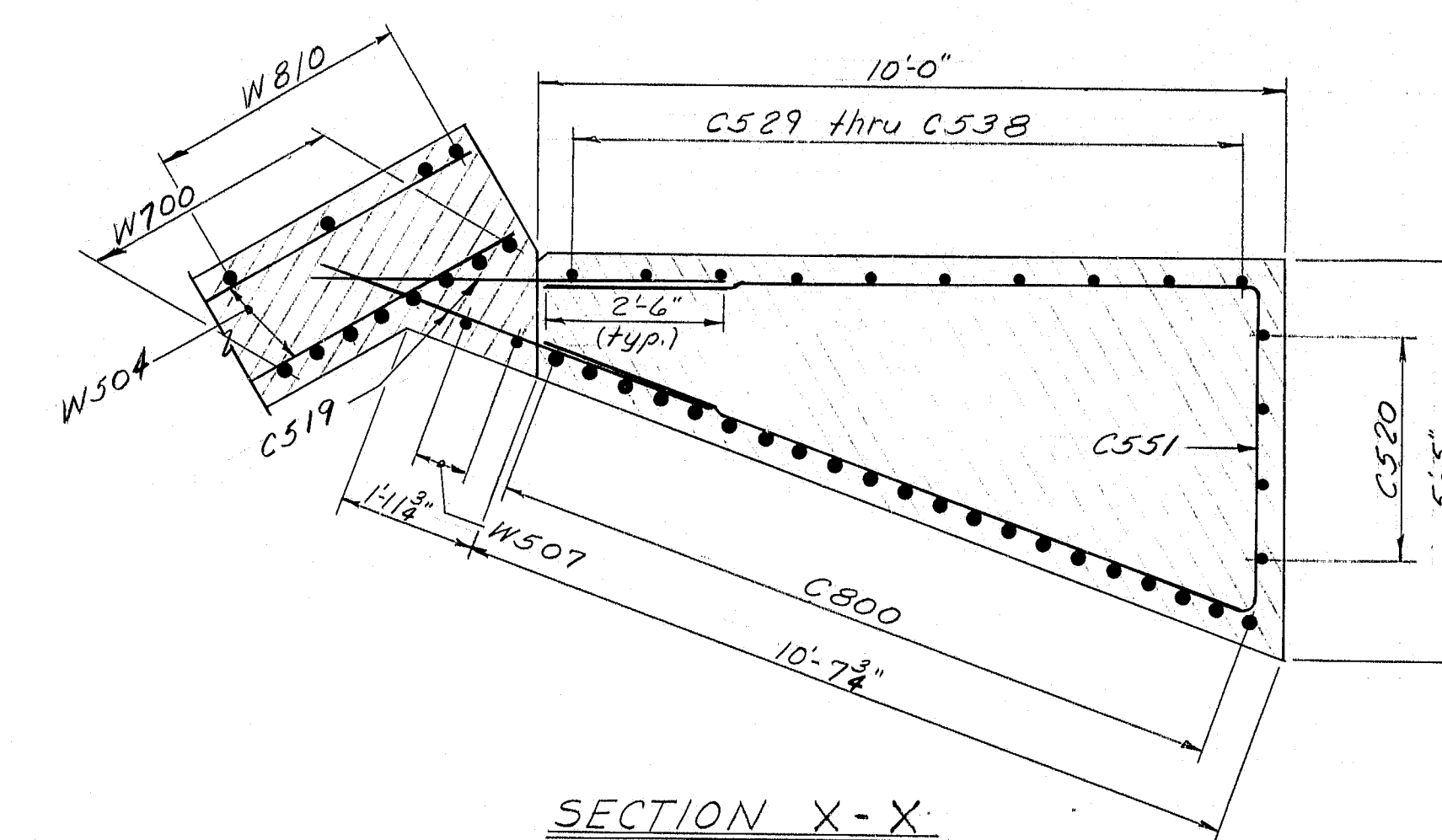
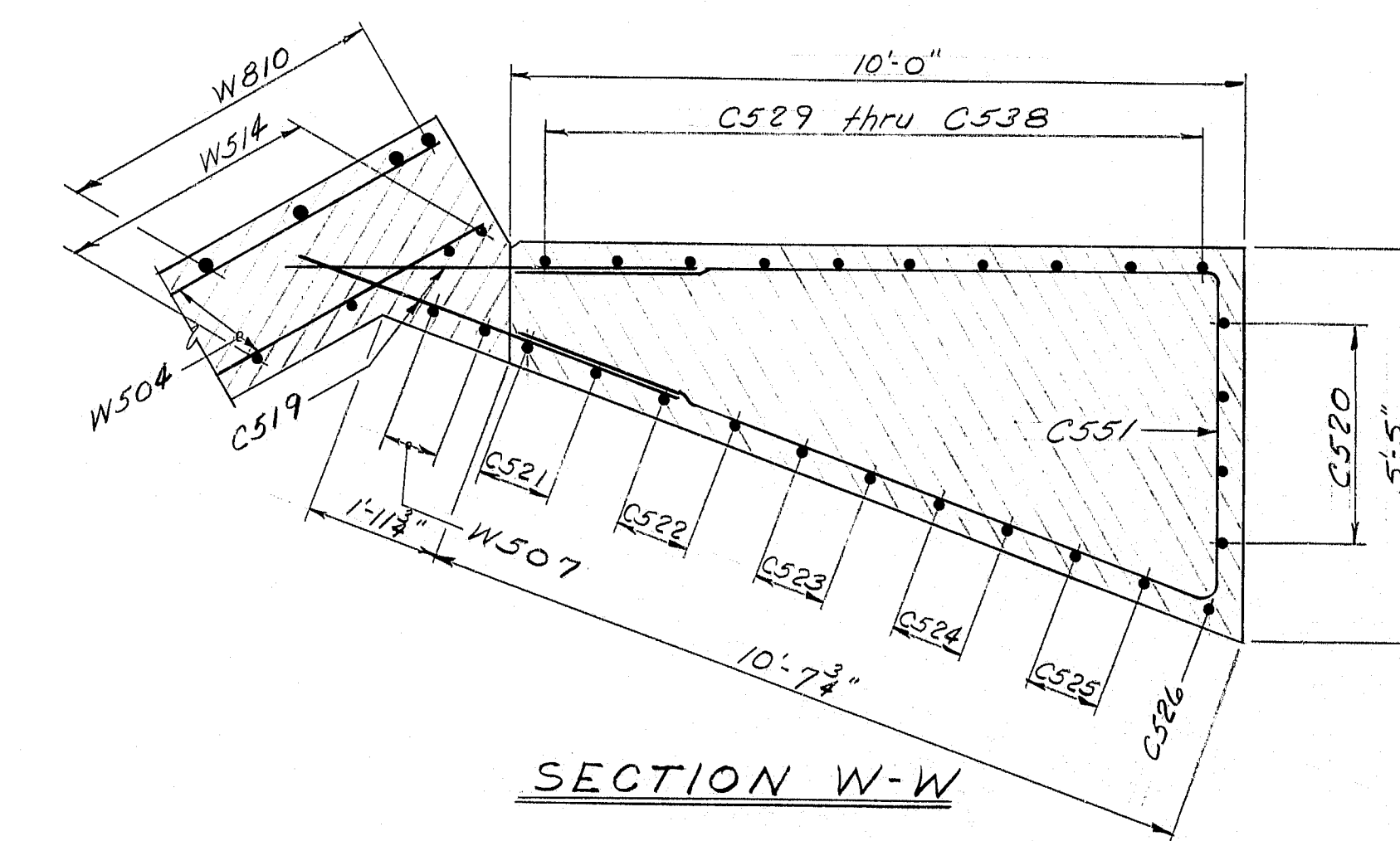








F.R.W.A. DES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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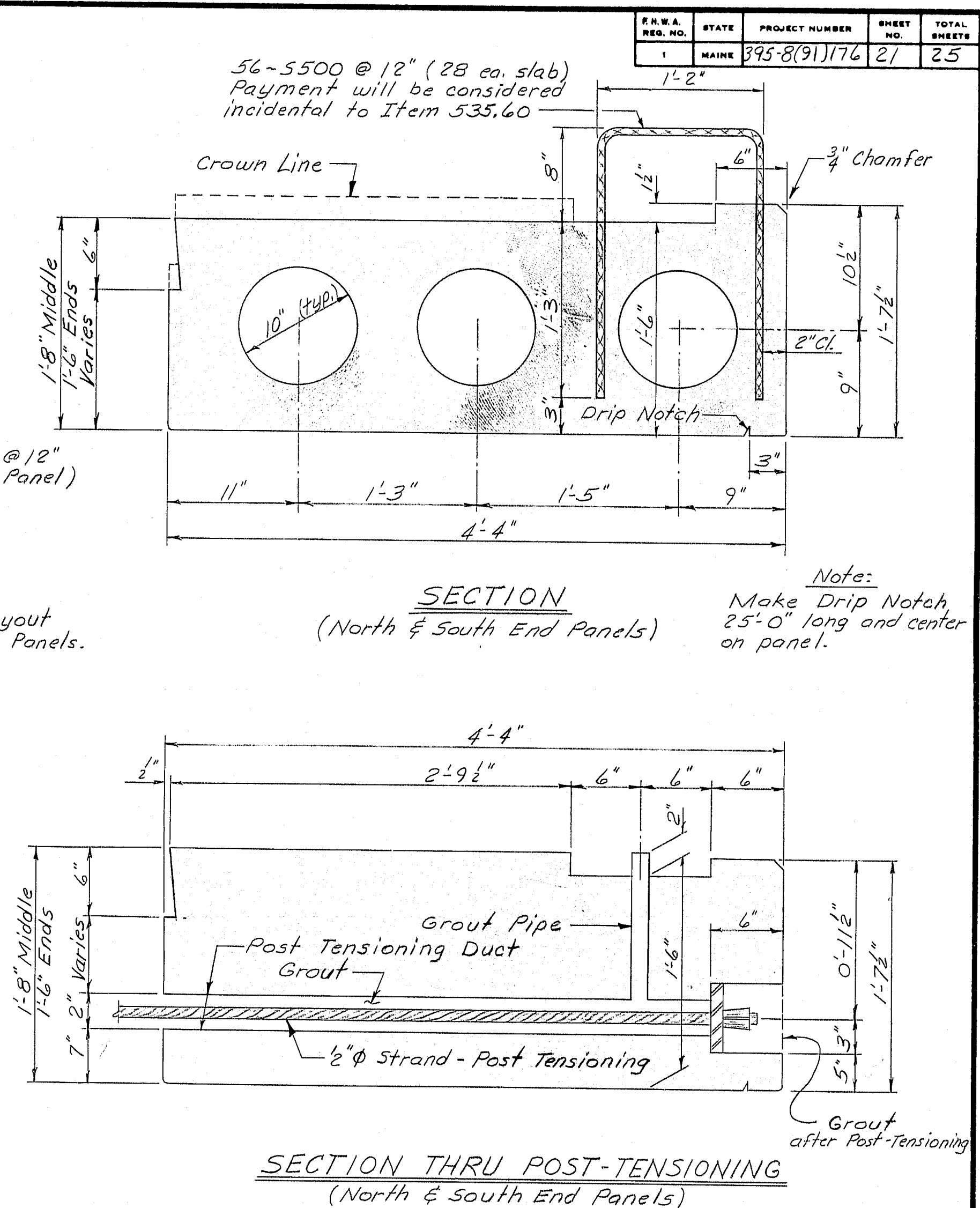
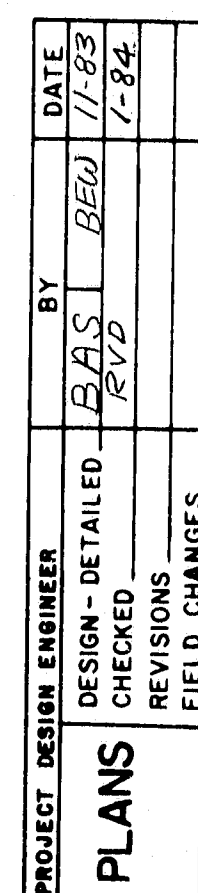


STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
I-395, RAMP SM-3, SM-4  
MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH  
BREWER  
SECTIONS  
PRESTRESSED OPTION  
SHEET 20 OF 25 AUGUSTA, MAINE March 84

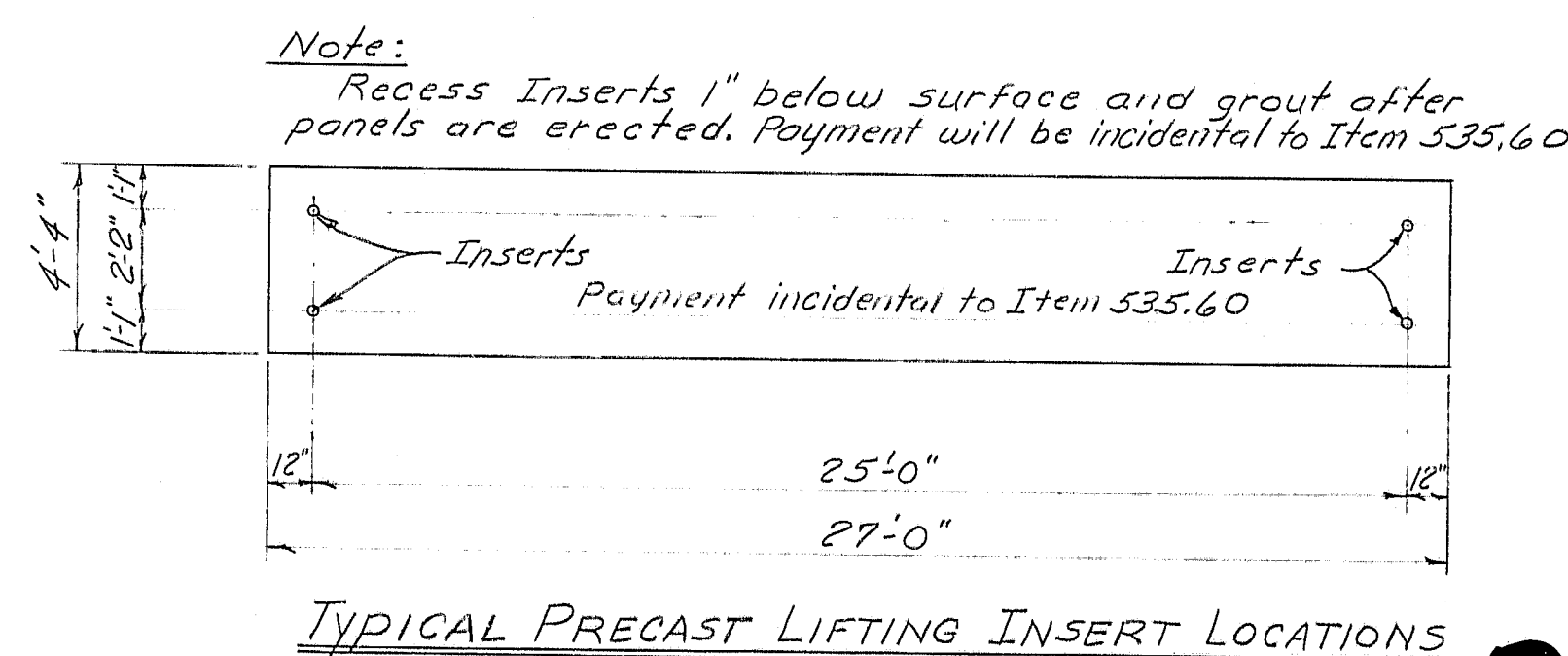
R89-281

PROJECT DESIGN ENGINEER	BY	DATE
PLANS	DESIGN-DETAILED REVISIONS FIELD CHANGES	1/23 2-84

BRUNING 44-132-45710-1



1. A substituted width of voided prestressed slab panel may be used as approved by the Engineer.
2. The prestressed slab panels shall be placed and laterally post tensioned in a manner such that a minimum of one slab panel in a previously post tensioned group of slab panels shall be used to anchor the next group of slab panels to be post tensioned. In no case shall a group be made up of more than 6 slab panels.  
At the Contractor's option a method of using threaded 5/8" diameter post tensioning bars may be used subject to approval of the Engineer.
4. All post tensioning ducts shall be accessible by grout pipes, and all post tensioning ducts shall be completely filled with grout after post tensioning is complete. Payment incidental to Item 535.60.
5. See Detail "C" on Sheet # 19 for additional chamfers required on end panels.
6. Grout post tensioning holes in end panels, after post tensioning is complete, and rub to a smooth finish compatible with surrounding concrete.
7. Sealant at end of Prestressed Slab Panels shall conform to requirements of Subsection 714.04 of the standard specifications. Payment will be considered incidental to related contract items.
8. The Post Tensioning Ducts may be Galvanized Metal or Polyvinylchloride as approved by the Engineer.



Payment for 5300 & 5301 will  
be considered incidental to  
Item 535.60

R89 - 282

# SPECIFICATIONS

$f'_c = 5000 \text{ psi}$   
 $f_{ci} = 4000 \text{ psi}$   
 $P_i = 28.9 \text{ k/Strand}$   
 $P.T. \text{ Initial } 1000^\#$   
 $P.T. \text{ Final } 15,000^\#$   
 $LL \text{ HS } 25 (\text{As Modified for Interstate})$   
 $\text{Reinforcement} = 60,000 \text{ psi ASTM } 615$   
 $\text{Bearing surface} = \frac{1}{4}" \text{ Preformed Pads}$   
 $\text{Strand} = \frac{1}{2}" \phi \text{ } 270^\#$

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

*I-395, RAMP 5M-3, 5M-4  
MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH  
BREWSTER*

*PRESTRESSED SLAB DETAILS*  
*PRESTRESSED OPTION*

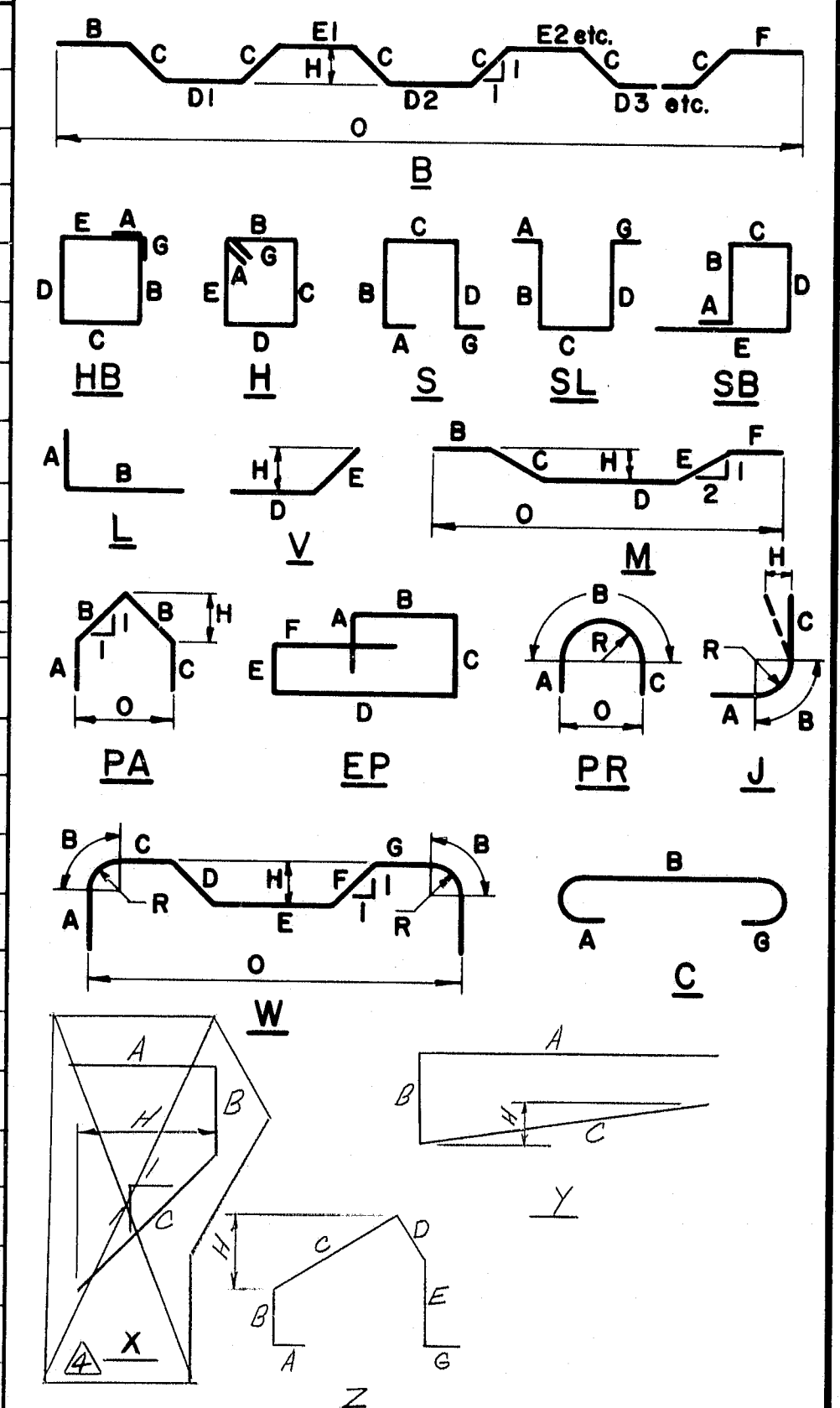
*SHEET 21 OF 25 AUGUSTA, MAINE March 84*



# REINFORCING STEEL SCHEDULE

REINFORCING STEEL SCHEDULE																											
STRAIGHT BARS													BENT BARS														
MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION	
WEST FOOTING				WALL BARS CONT.				WING WALLS				WEST FOOTING															
A500	599	3'-0"	Dowels	W512	10	28'-6"	Wing - Vertical	C500	2	14'-4"	Vertical	A550	287	3'-9"	L	0'-9"	3'-0"										Dowels
A600	30	16'-3"	Transverse				do	C501	2	15'-0"																	
A601	22	9'-6"	Longitudinal					C502	2	15'-9"																	
A602	524	6'-9"	Transverse					C503	2	16'-5"		A1050	40	8'-6"	L	1'-10"	6'-8"										Dowels - Wing Walls
A603	4	7'-9"		W601	64	19'-3"	Vertical																				
A604	4	8'-0"																									
A605	4	8'-6"		W603	120	19'-4"	Vertical	C507	8	9'-10"	Horizontal - Wings	B550	287	3'-9"	L	0'-9"	3'-0"										Dowels
A606	4	9'-0"						C508	2	18'-2"	Vertical	W550	280	5'-0"	S	-	2'-2"	0'-8"	2'-2"								Approach Slab Seat
A607	4	9'-6"		W605	120	19'-5"	Vertical	C509	2	17'-11"		W550	280	5'-0"	X	2'-4"	0'-8"	2'-6"									Approach Slab Seat
A608	4	9'-9"						C510	2	17'-8"		W551	18	12'-9"	Z	0'-6"	1'-6"	5'-2"	1'-2"	3'-11"							Wing - Horizontal
A609	4	10'-3"		W607	120	19'-7"	Vertical	C511	2	17'-5"		W552	19	15'-4"	S	0'-6"	4'-6"	5'-4"	4'-6"								do
A610	4	10'-9"						C512	2	17'-1"																	
A611	4	11'-3"		W609	120	19'-8"	Vertical	C513	1	16'-11"																	
A612	4	11'-9"																									
A613	4	12'-6"		W611	120	19'-9"	Vertical					5550	64	9'-1"	SB	2'-5"	1'-2"	1'-2"	1'-11"	2'-5"							Slab - Both Ends
A614	56	60'-0"	Longitudinal									5551	1	33'-3"	V				28'-3"	5'-0"							Slab - North End
A615	14	58'-0"		W613	120	19'-11"	Vertical					5552	1	34'-3"	V				28'-9"	5'-6"							do
A616	12	22'-0"						C516	4	23'-6"	Vertical	5553	1	37'-3"	L	5'-6"	31'-9"										Slab - South End
A617	22	10'-0"	Transverse	W615	120	20'-0"	Vertical	C517	1	23'-10"		5554	1	35'-2"	L	4'-5"	30'-9"										do
				W617	120	20'-1"	Vertical	C518	1	24'-3"																	
								C519	1	24'-8"		5650	572	15'-4"	L	6'-4"	9'-0"										Transverse - Slab
								C520	1	25'-1"																	
B500	590	3'-0"	Dowels	W619	120	20'-3"	Vertical	C521	1	25'-6"		5950	572	17'-5"	L	8'-4"	9'-11"										Transverse - Slab
								C522	1	25'-11"		5950	286	47'-9"	N	9'-4"		5'-0"	1'-6"	16'-6"	1'-6"	5'-0"	1'-1"	28'-6"			Transverse - Slab
B600	2	4'-2"	Transverse					C523	1	26'-4"																	
B601	2	5'-0"		W700	32	19'-8	Vertical	C524	1	26'-9"																	
B602	2	5'-10"		W701	60	19'-9"		C525	1	27'-2"		C550	16	22'-10"	Y	8'-11"	4'-6"	9'-5"									
B603	2	6'-8"		W702	60	19'-11"						C551	18	24'-11"	Y	9'-8"	4'-11"	10'-4"									
B604	564	6'-9"		W703	60	20'-0"		C527	4	26'-8"	Vertical																
B605	56	60'-0"	Longitudinal	W704	60	20'-1"		C528	1	26'-7"																	
B606	14	58'-0"	do	W705	60	20'-3"		C529	1	26'-9"																	
				W706	60	20'-4"		C530	1	27'-0"																	
				W707	60	20'-5"		C531	1	27'-2"																	
				W708	60	20'-7"		C532	1	27'-4"																	
				W709	62	20'-8"		C533	1	27'-6"																	
								C534	1	27'-9"																	
								C535	1	27'-11"																	
								C536	1	28'-1"																	
								C537	1	28'-3"																	
W501	572	9'-0"	Top of Wall - Vert.																								
W503	68	18'-4"	Horizontal	5501	286	19'-6"	Transverse	C537	1	28'-3"																	
W504	340	29'-10"		5502	287	28'-8"	do																				
W505	272	35'-0"		5503	572	5'-0"	Corner Bar	C800	40	12'-0"	Vertical																
W506	2	27'-5"	Wing - Vertical	5504	40	18'-4"	Longitudinal																				
W507	36	5'-6"	Wing - Horizontal	5505	200	29'-10"																					
W508	2	27'-5"	Wing - Vertical	5506	160	35'-0"																					
W509	38	5'-6"	Wing - Horizontal																								
W510	5	27'-5"	Wing - Vertical	5951	286	20'-2"	Transverse Slab																				
W511	1	26'-5"	Wing - Vertical																								
													MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION

## TYPE-BENDING DIAGRAMS



All dimensions are out to out of reinf. bar.  
Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 318.  $\Delta$   
Reinforcing Bar: ASTM A 615 Grade 60

## GENERAL NOTES

- First digit(s) following the letter of the Mark indicates size of reinf. bar.  
Mark (A 502) bar size - #5  
Mark (P 1001) bar size - #10  
Mark (S 603) bar size - #6
- Each truss bar, Type B, may be replaced by two (2) straight bars (one top & one bottom) of the same bar size as the truss bar. Payment in either case shall be based on truss bars as scheduled on plans.

REVISIONS	DATE
Voided Bending Detail X	5/84
Added 5951 Bars	5/84
Revised 3950 and W550 Bars	5/84
Revised ACI Standard	5-12-83

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-395, RAMP SM-3, SM-4

MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH

BREWER

REINFORCING STEEL SCHEDULE

RIGID FRAME  
SHEET 22 OF 25 AUGUSTA, MAINE March 84

R89-283



REINFORCING STEEL SCHEDULE																												
STRAIGHT BARS												BENT BARS																
MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION		
<u>WEST FOOTING</u>				<u>WALL BARS</u>				<u>WING WALLS</u>				<u>WEST FOOTING</u>																
A500	219	3'-0"	Dowels	W500	68	18'-4"	North End - Horiz.	C500	4	23'-6"	Vertical	A750	572	7'-0"	L	1'-3"	5'-9"											Dowels
				W501	2	16'-2"	do	C501	2	14'-2"																		
A800	518	7'-0"	Transverse	W502	296	29'-10"	Horizontal	C502	2	14'-11"		A1050	40	8'-6"	L	1'-10"	6'-8"											Dowels - Wing Wall
A801	4	10'-9"		W503	296	35'-0"		C503	2	15'-7"																		
A802	4	12'-9"		W504	72	29'-9"		C504	2	16'-4"																		
A803	4	12'-6"		W505	2	27'-8"		C505	2	17'-2"																		
A804	4	12'-0"		W506	2	27'-5"	Wing Vertical					B750	572	7'-0"	L	1'-3"	5'-9"										Dowels	
A805	4	11'-6"		W507	2	27'-5"																						
A806	4	11'-0"		W508	5	27'-5"		C508	4	9'-4"	Wing - Horiz.																	
A807	4	10'-6"		W509	1	26'-7"		C509	1	23'-10"	Vertical																	
A808	4	10'-0"		W510	58	19'-0"	Vertical	C510	1	24'-3"																		
A809	4	9'-6"		W511	80	19'-3"		C511	1	24'-8"		W550	557	5'-8"	S	-	2'-6"	0'-8"	2'-6"								Top of Wall	
A810	4	9'-3"		W512	80	19'-6"		C512	1	25'-1"																		
A811	4	8'-9"		W513	80	19'-9"		C513	1	25'-6"		W552	6	9'-8"	PR	4'-6"	0'-8"	4'-6"							0'-5"	0'-2 1/2"	West Wall - Top	
A812	4	8'-4"		W514	77	19'-11"		C514	1	25'-11"		W553	17	12'-11"	Z	0'-6"	1'-8"	5'-2"	1'-2"	3'-11"					0'-6"	3'-4"	Wing - Horiz.	
A813	4	7'-9"		W515	4	20'-5"		C515	1	26'-4"		W554	1	13'-0"	H	0'-6"	4'-10"	1'-2"	4'-10"	1'-2"					0'-6"		Wing - Top	
A600	22	9'-6"		W516	2	13'-2"	Horiz. Top	C516	1	26'-9"		W555	18	13'-10"	S	0'-6"	3'-9"	5'-4"	3'-9"					0'-6"		Wing - Horiz.		
A601	22	10'-0"		W517	2	24'-0"	do	C517	1	27'-2"		W556	1	13'-8"	H	0'-6"	1'-0"	5'-4"	1'-0"	5'-4"					0'-6"		do	
				W518	5	21'-5"	Wall Vertical	C518	4	9'-9"	Wing Horiz.	W557	2	13'-9"	Z	4'-0"	0'-2"	5'-2"	1'-2"	2'-5"					-	3'-4"	Wing - Horiz.	
A620	64	60'-0"	Longitudinal	W519	8	28'-6"	Wing Vertical	C519	70	5'-6"	Wings - Horiz.	W558	2	16'-6"	H	0'-6"	5'-4"	2'-5"	5'-4"	2'-5"					0'-6"		Wing - Horiz.	
A621	14	18'-9"						C520	4	26'-8"	Vertical	W559	1	7'-10"	H	0'-6"	1'-0"	2'-5"	1'-0"	2'-5"					0'-6"		do	
A622	16	58'-0																										

FHWA RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	395-8(91)176	23	25

Figure 1 consists of 18 diagrams labeled A through Z, illustrating various types of structural joints and connections. The diagrams are arranged in a grid-like fashion, with some diagrams showing multiple views or details of a joint.

- A:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- B:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- C:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- D:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- E:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- F:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- G:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- H:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- I:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- J:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- K:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- L:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- M:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- N:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- O:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- P:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- Q:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- R:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- S:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- T:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- U:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- V:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- W:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- X:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- Y:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.
- Z:** A joint connecting a horizontal beam to a vertical column, showing a rigid connection with a moment transfer.

*All dimensions are out to out of reinf. bar*

*Bending details and hooks shall conform to the recommendations of ACI Standard 315-65.*

*Reinforcing Bar: ASTM A615 Grade 60*

1. First digit(s) following the letter of the Mark indicates size of reinf. bar.  
Mark (A502) bar size - #5  
Mark (P1001) bar size - #10  
Mark (S603) bar size - #6
2. Letter of Marks A, P & S locates bars of Abutments, Piers, and Superstructure parts respectively.
3. W560 bars shall be ASTM A615 Grade 40.

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

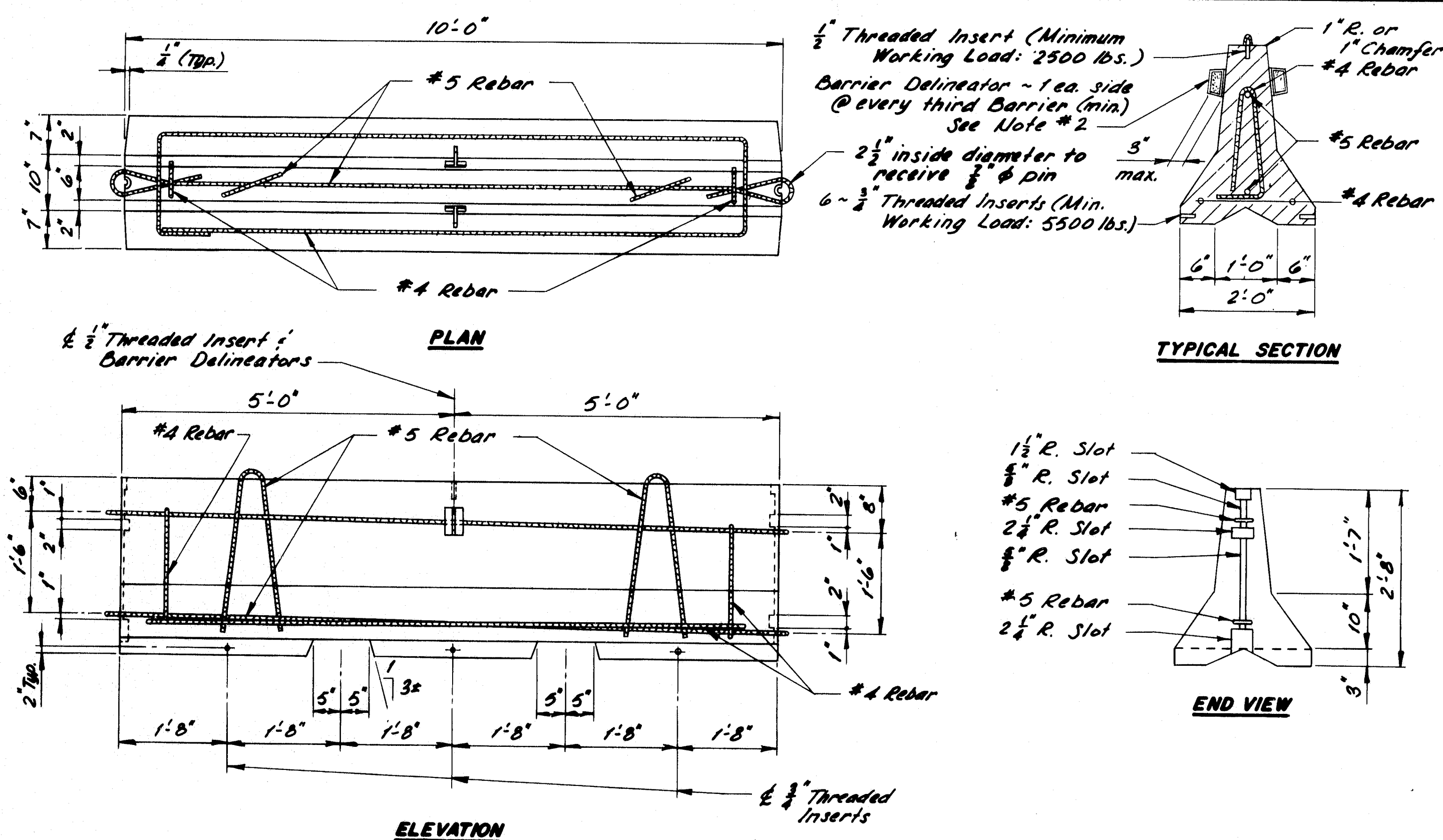
I-395, RAMP SM-3, SM-4  
MAINE CENTRAL RAILROAD  
BUCKSPORT BRANCH  
BREWER

REINFORCING STEEL SCHEDULE  
PRESTRESSED OPTION  
SHEET 23 OF 25 AUGUSTA, MAINE March 84

R89-284



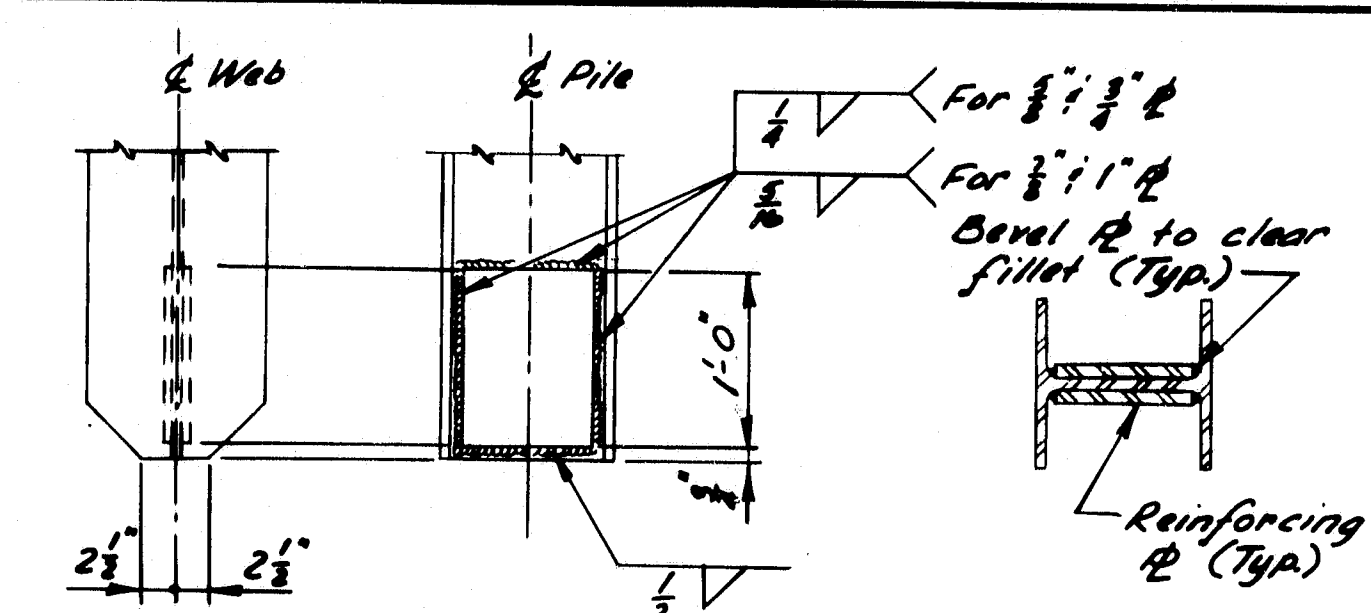
F.B.R. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	995-8(91)176	24	25



#### NOTES:

- The reinforcing steel, and connections, lifting arrangement, and sizes and locations of hold-down inserts are advisory only. It shall be the Contractor's responsibility to provide adequate reinforcing, and connections, lifting points, and hold-down arrangements.
- Barrier Delineators shall be bi-directional with a minimum effective reflex area of 8.0 square inches as approved by the Engineer. The Reflector shall preferably be of Methyl Methacrylate, and the Housing of Acrylonitrile Butadiene Styrene.

**TEMPORARY CONCRETE BARRIER - TYPE 1**

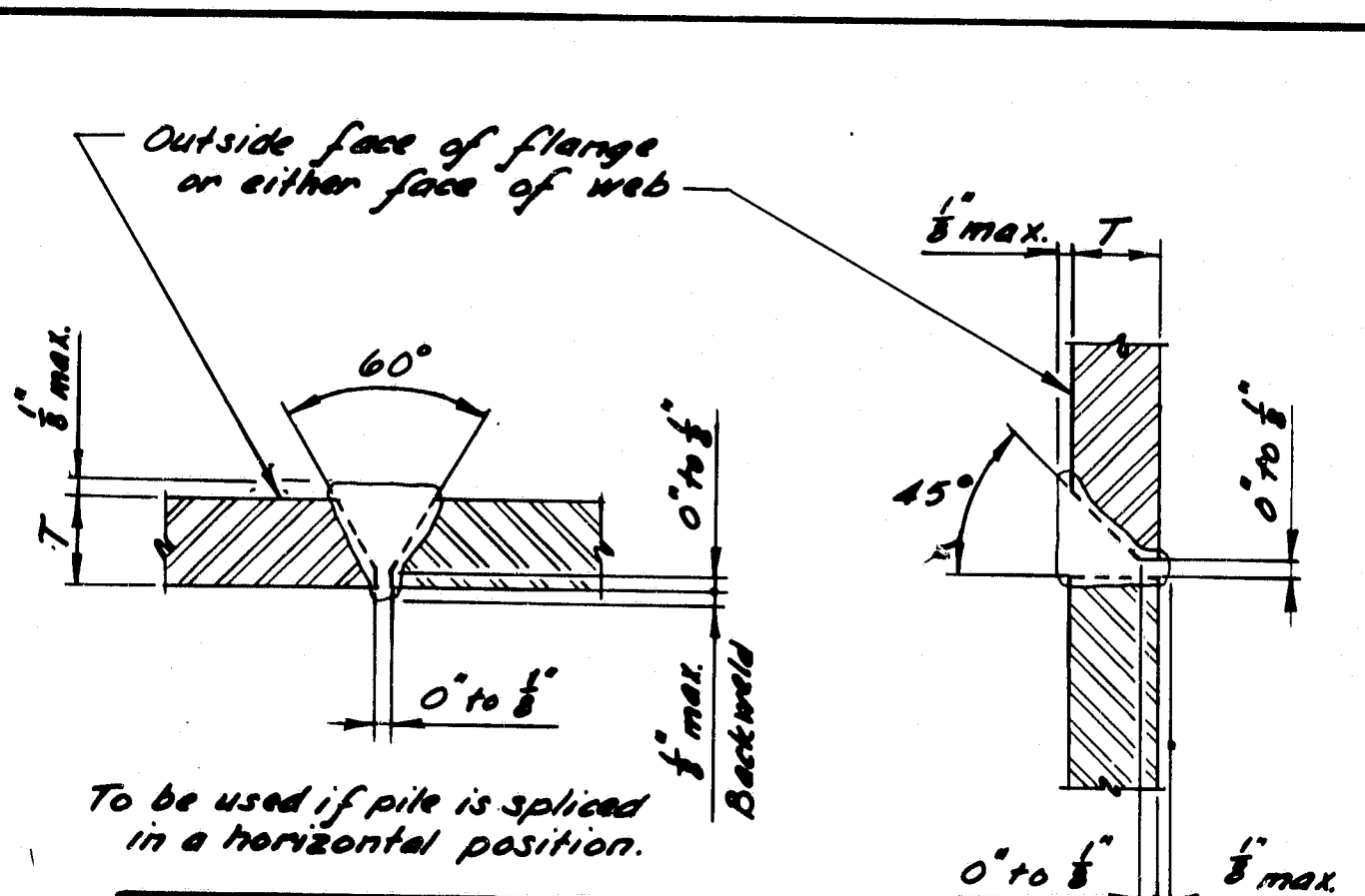


Pile Size	Reinf. R Size	Pile Size	Reinf. R Size
HP 10x42	8 3/4" x 3/8" x 1'-0"	HP 13x60	11 1/2" x 3/4" x 1'-0"
HP 10x57	8 3/4" x 3/8" x 1'-0"	HP 13x73	11 1/2" x 3/4" x 1'-0"
HP 12x53	10 3/4" x 3/8" x 1'-0"	HP 13x87	11 1/2" x 3/4" x 1'-0"
HP 12x63	10 3/4" x 3/8" x 1'-0"	HP 14x73	12 1/2" x 3/4" x 1'-0"
HP 12x74	10 3/4" x 3/8" x 1'-0"	HP 14x89	12 1/2" x 3/4" x 1'-0"

#### NOTES:

- Alternate Pointed Reinforced Pile Tips may be used if they have at least the cross-sectional area of the pile tip shown and are approved by the Engineer.
- Plates may be shop or field welded.
- Use Manual Shielded Metal-Arc Process and 6010, 6011, or 6012 electrodes, unless a different process has been approved by the Engineer.
- Electrodes shall be dry when used, in accordance with the provisions of A.W.S. Spec. D1.1, as amended by AASHTO.

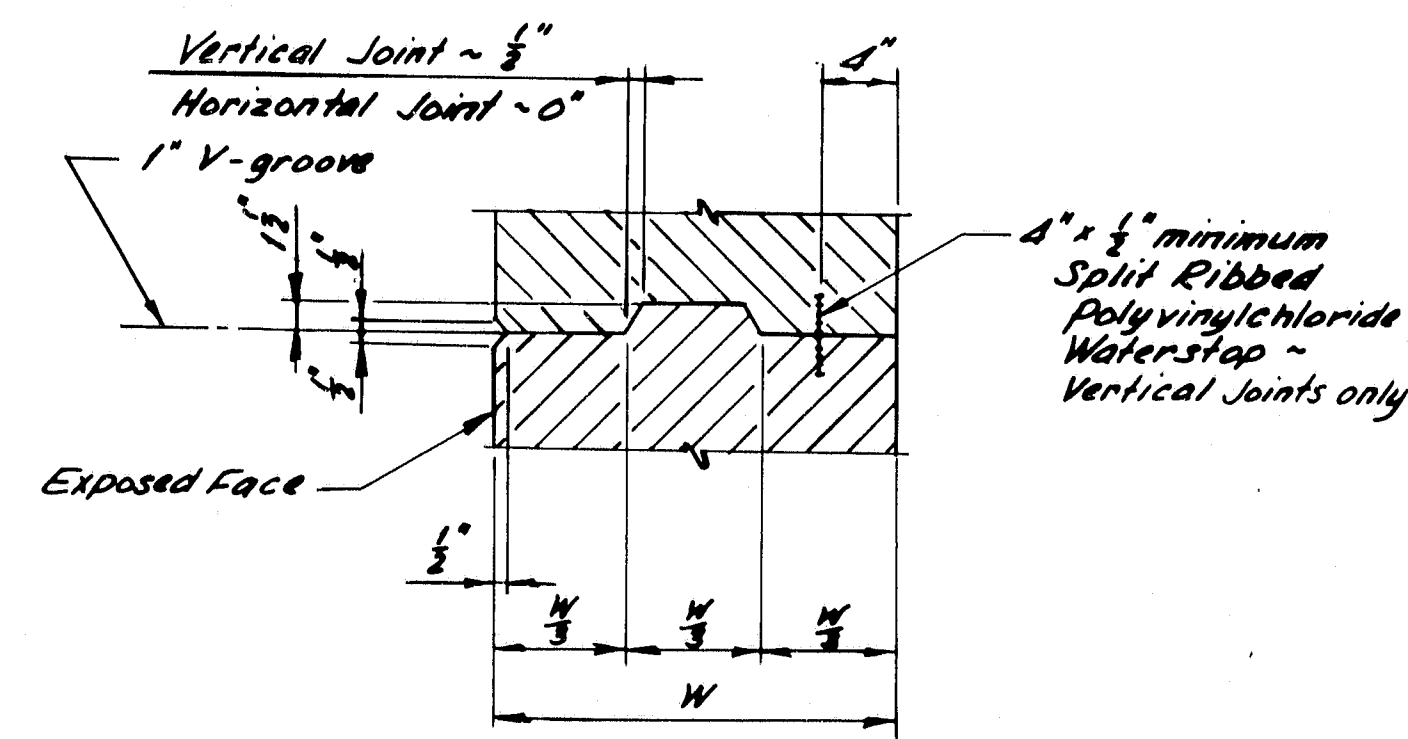
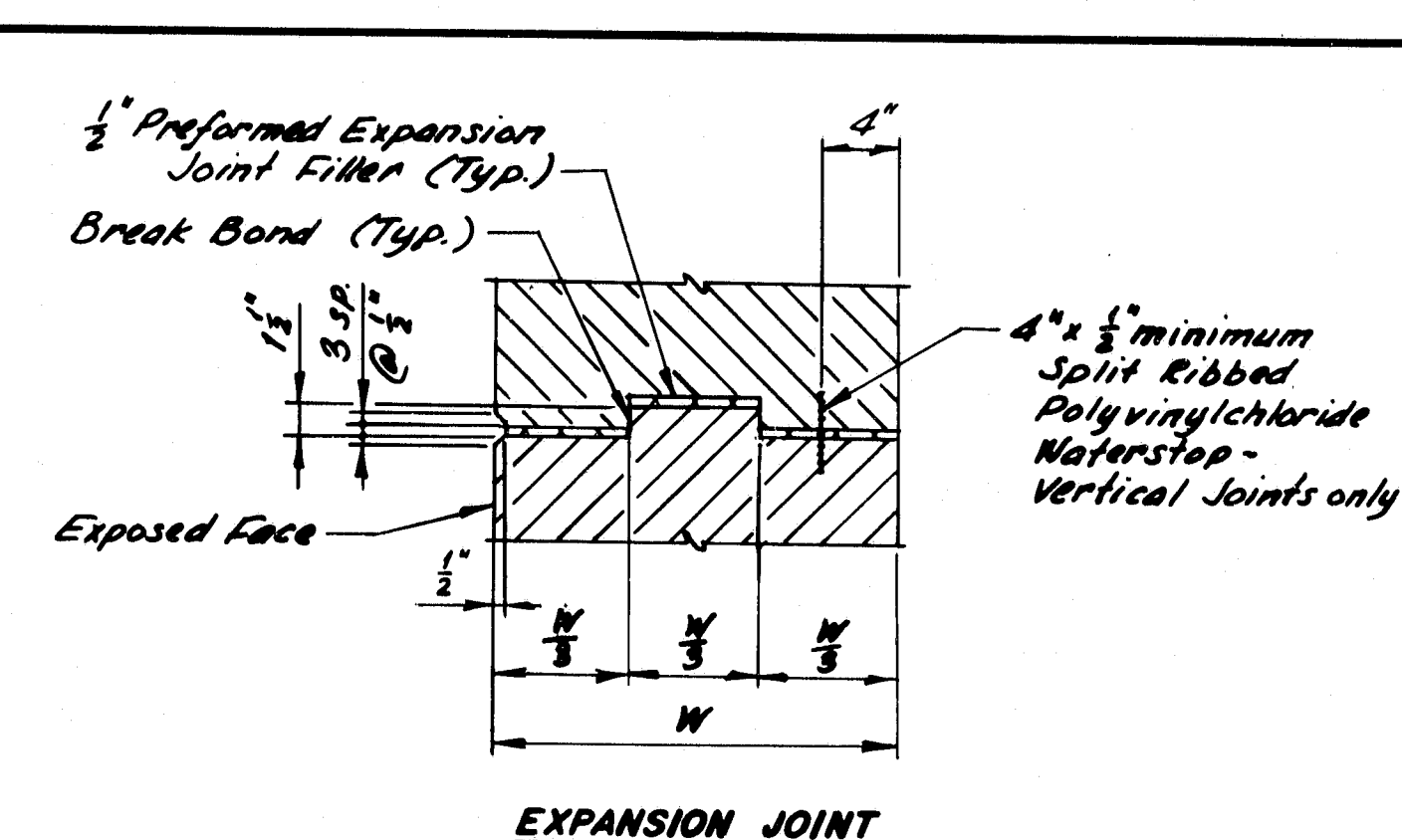
**POINTED REINFORCED PILE TIP**



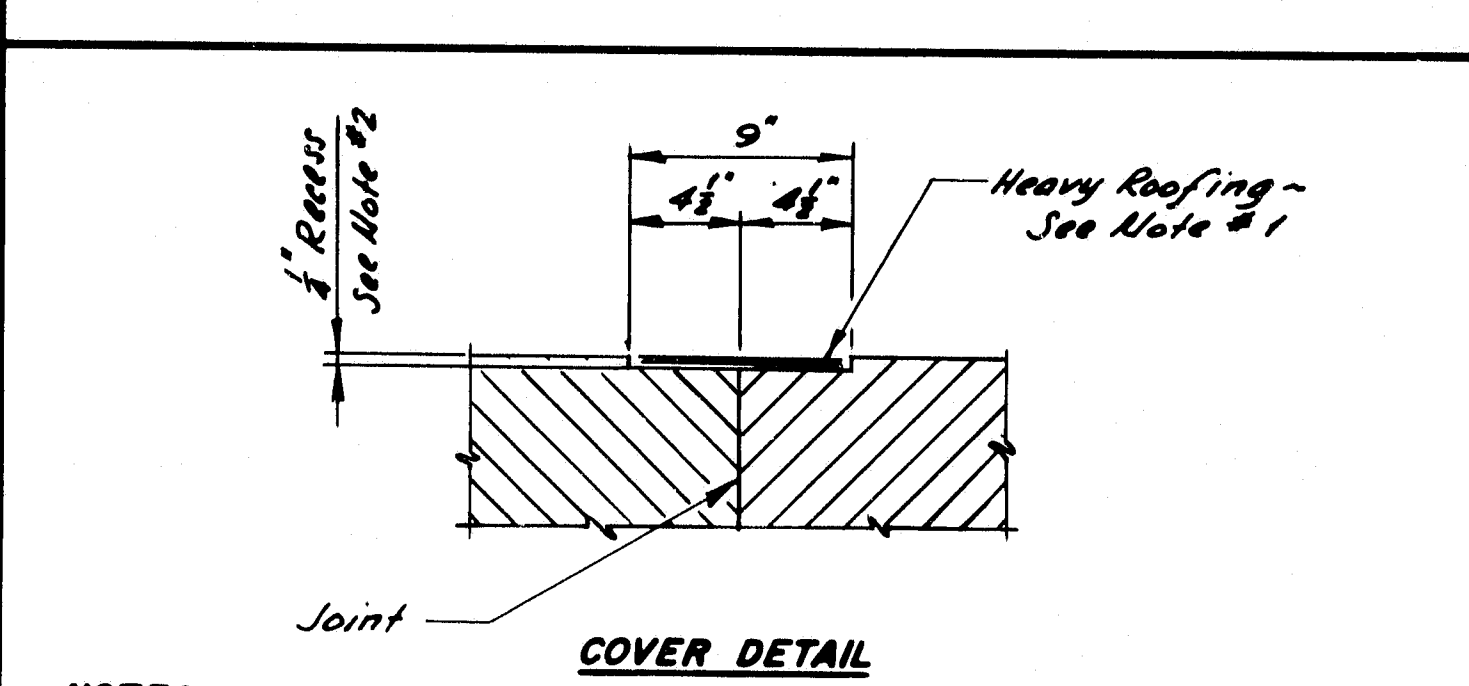
#### NOTES:

- All cutting shall be done with the use of a mechanical guide.
- Use Manual Shielded Metal-Arc Process and 6010, 6011, or 6012 electrodes, unless a different process has been approved by the Engineer.
- Electrodes shall be dry when used, in accordance with the provisions of A.W.S. Spec. D1.1, as amended by AASHTO.
- Gauge root before welding second side.

**PILE SPLICE**



**CONCRETE JOINTS**



#### NOTES:

- Where called for, cover horizontal and vertical construction, contraction, or expansion joints with two (2) 9" wide layers of heavy roofing felt. Coat the concrete and back of each layer as applied with plastic roofing cement.
- Recess the covered area 1/2" unless otherwise indicated on Design Drawings.

**CONCRETE JOINT COVER**

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**STANDARD DETAILS**  
(BD 127-81)

**MISCELLANEOUS DETAILS**  
TEMP. CONC. BARRIER - TYPE 1  
POINTED REIN. PILE TIP  
PILE SPLICE - CONC. JOINTS  
CONCRETE JOINT COVER

Added 13 HP's 7-83  
REVISED Date

SHEET 24 OF 25 AUGUSTA, MAINE JUNE 1991

R89-285

