

STATE OF MAINE STATE HIGHWAY COMMISSION



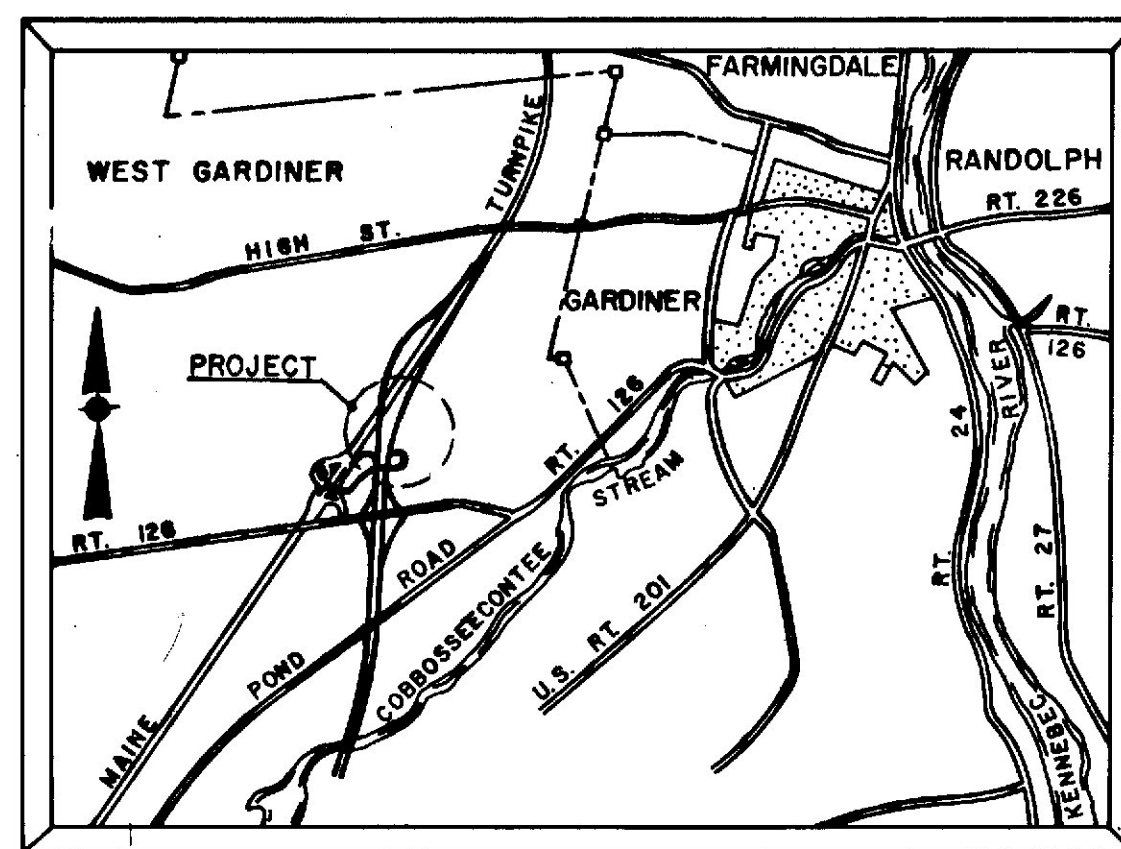
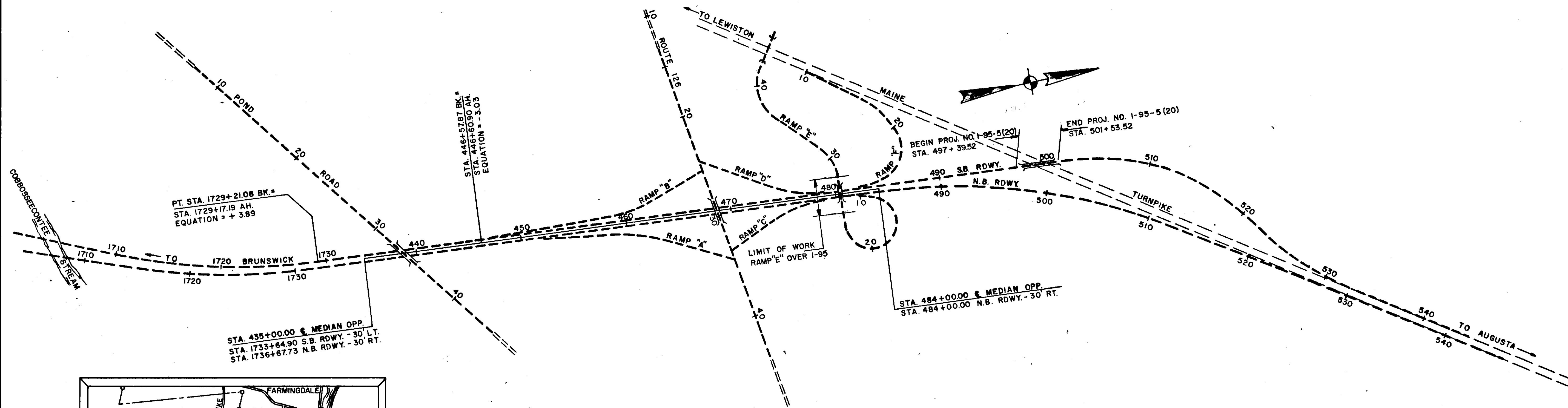
WEST GARDINER KENNEBEC COUNTY MAINE FEDERAL AID INTERSTATE PROJECT NO. 1-95-5(20)96 TOTAL LENGTH .078 MILES

2ND ON Microfilm Reel # 179

CONVENTIONAL SIGNS	
COUNTY LINES	-----
TOWN LINES	-----
PROPERTY LINES	-----
R/W LINES - EXISTING	-----
R/W LINES - NEW - ACCESS CONTROL	-----
R/W LINES - NEW - NO ACCESS CONTROL	-----
CULVERT - EXISTING	-----
CULVERT - PROPOSED	-----
CURBING - EXISTING	-----
CURBING - PROPOSED	-----
TRAVELLED WAY - EXISTING	-----
TRAVELLED WAY - PROPOSED	-----
UNDERGROUND UTILITIES - EXISTING	-----
UNDERGROUND UTILITIES - PROPOSED	-----
RAILROAD - SINGLE TRACK	-----
RAILROAD - DOUBLE TRACK	-----
UTILITY POLE - EXISTING	◆
UTILITY POLE - JOINT OCCUPANCY	◆◆
PROPOSED UTILITY POLE - TEMPORARY	×
PROPOSED UTILITY POLE - PERMANENT	×
TREES	⊗ hardwood ⊙ softwood
WOODS	-----

INDEX OF SHEETS	
1	TITLE SHEET
2	ESTIMATE OF QUANTITIES
3-19	1-95 S.B. OVER MAINE TURNPIKE BRIDGE PLANS
20-30	RAMP "E" OVER I-95 BRIDGE PLANS
31-35	TOLL PLAZA PLANS
36	MAINTENANCE OF TRAFFIC - SIGNING ARRAYS
37-43	STANDARD DETAILS

As Built Plans by W. Morrison 2-4-77



A PORTION OF KENNEBEC COUNTY
SCALE: 1" = 1 MILE

NOTE:
ALL WORK CONTEMPLATED UNDER THIS CONTRACT SHALL BE GOVERNED BY AND IN CONFORMITY WITH THE STANDARD SPECIFICATIONS (REVISION OF JUNE 1968) AND SUPPLMENTS THERETO, EXCEPT AS MODIFIED ON THE PLANS AND IN THE SPECIAL PROVISIONS.

LAYOUT PLAN
SCALE 1" = 500 FT.

TRAFFIC		
1-95 S.B.		RAMP "E"
4195	A.D.T. 1972	75
9935	A.D.T. 1992	420
1292	D.H.V.	55
10	T. (%)	10
100	D. (%)	100
	V.	
	P.S.D. (%)	
	18 KIPS	

APPROVED:
MAINE STATE HIGHWAY COMMISSION

Daniel H. Stevens
CHAIRMAN

Sylvester L. Poor
CHIEF ENGINEER

DATE
Dec. 15, 1971

Dec. 15, 1971
Dec. 15, 1971

DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
REGION 1	
APPROVED:	DATE
_____ DIVISION ENGINEER	_____ DATE



BRIDGE QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
203.20	Common Excavation	275	C.Y.
203.26	Gravel Borrow	5900	C.Y.
206.10	Structural Earth Excavation - Piers	680	C.Y.
206.11	Structural Rock Excavation - Piers	215	C.Y.
403.08	Hot Bituminous Pavement Grading C (Crushed Ledge) *	200	Ton
403.14	Asphalt Cement Hot Bituminous Surface Pavements *	12	Ton
502.21	Structural Concrete, Abutments & Retaining Walls	415	C.Y.
502.23	Structural Concrete, Piers	255	C.Y.
502.2601	Struct. Conc., Rdwy. & Slab. Slabs on Steel Bridges, I-95 S.B. over Me. Tpke.	1	L.S.
502.3101	Structural Concrete, Approach Slabs, I-95 S.B. over Me. Tpke.	1	L.S.
503.12	Reinforcing Steel Fabricated & Delivered	207,000	lbs.
503.13	Reinforcing Steel Placing	207,000	lbs.
504.7001	Structural Steel, Fabricated & Delivered, I-95 S.B. over Me. Tpke.	1	L.S.
504.7101	Structural Steel, Erection, I-95 S.B. over Maine Turnpike	1	L.S.
505.08	Shear Connectors	1	L.S.
506.1401	Field Painting Structural Steel, I-95 S.B. over Maine Turnpike	1	L.S.
507.08	Bridge Railing	875	L.F.
508.10	Membrane Waterproofing *	1780	S.Y.
513.08	Slope Protection	1185	S.Y.
514.06	Curing Box For Concrete Cylinders	1	each
515.20	Protective Coating for Concrete Surfaces	560	S.Y.
609.13	Vertical Bridge Curb - Type 1	896	L.F.
639.08	Field Office, Type "A"	1	each

Note: Estimated Quantity of Structural Steel = 560,000 lbs.
 Estimated Quantity of Shear Connectors: Studs $\frac{7}{8}$ " ϕ = 3670 lbs. - 3756 pcs.
 Estimated Quantity of Concrete in Item 502.2601 = 530 C.Y.
 Estimated Quantity of Concrete in Item 502.3101 = 57 C.Y.
 * By Others

INDEX OF SHEETS

1. — TITLE SHEET
2. — GENERAL PLAN
3. — FOUNDATION SURVEY
4. — FOUNDATION SURVEY
5. — ABUTMENT NO. 1
6. — ABUTMENT NO. 2
7. — ABUTMENT DETAILS
8. — PIERS NO. 1, 2 & 3
9. — STRUCTURAL STEEL
10. — STRUCTURAL STEEL DETAILS & BLOCKING
11. — STRUCTURAL STEEL DETAILS
12. — ROADWAY EXPANSION DAM DETAILS
13. — SUPERSTRUCTURE
14. — SUPERSTRUCTURE DETAILS
15. — SLOPE PROTECTION
16. — REINFORCING STEEL
17. — REINFORCING STEEL

STANDARD DETAIL SHEETS

- BD101-70 — BEARING PEDESTALS JAN. 1970
 BD104-71 — DIAPHRAGM, SHEAR CONNECTORS, ARMORED JOINT & DRAINS
 BD105-64 EXPANSION DAMS
 BD106-69 ALUMINUM RAIL JAN 1969 (REV. MAR. 25, 1970)
- STANDARD DETAIL GUARD RAIL Aug. 1969 (8)
 STANDARD DETAIL END TREATMENT Aug. 1969 (9)

DESIGN- TRACE- CHECK- REF.	DETAIL - S.H.R.	BRIDGE NO. SURVEY- PLOT-
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE ROUTE 95 S.B. OVER MAINE TURNPIKE IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY TITLE SHEET SHEET 1 OF 17 AUGUSTA, MAINE		

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

BOSTON

① SPIRAL DATA
 $\Delta s = 4^{\circ}30'00''$
 $L_s = 300.00'$
 $X_s = 299.81'$
 $Y_s = 7.85'$
 $P = 1.96'$
 $K = 149.97'$

SPECIFICATIONS

DESIGN:
 A.A.S.H.O. Standard Specifications for Highway Bridges 1963 with interim Specifications

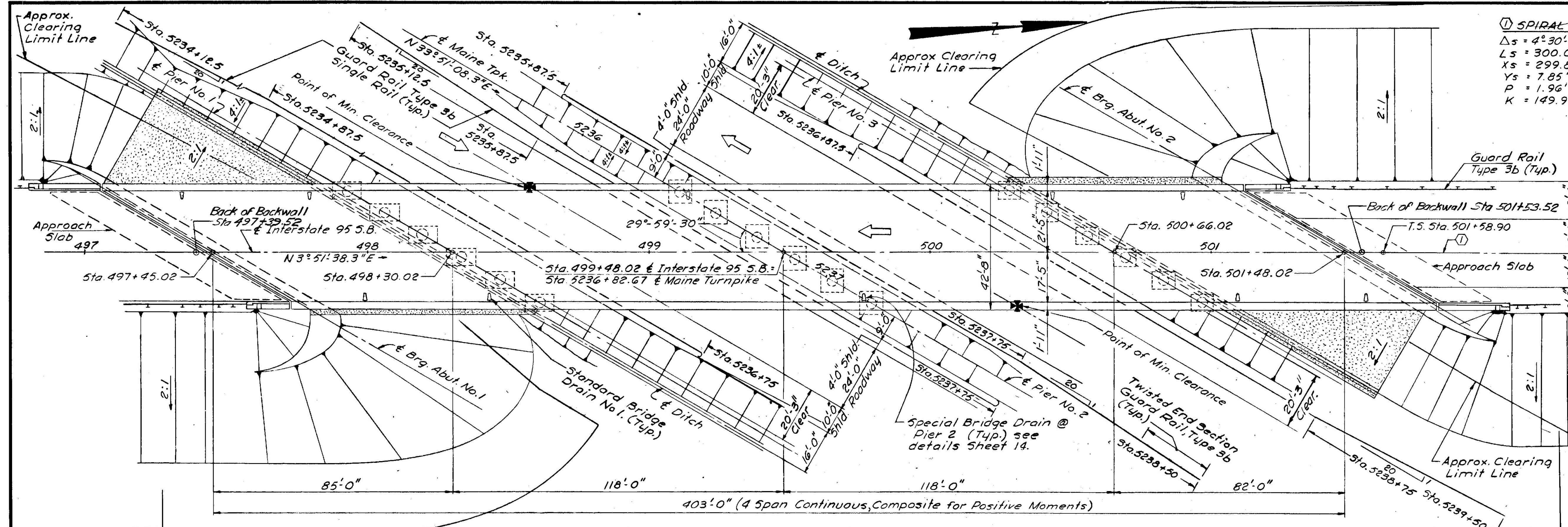
CONTRACT:
 State of Maine, State Highway Commission, Standard Specifications for Highways and Bridges, Revision of June 1968.

LOADING:
 HS 20-44 Modified for Interstate Highways.

FOUNDATIONS:
 Abutments - Spread Footing on Gravel Borrow @ 3T/5F Max. allowable.
 Piers 12x3 - Spread Footing in Ledge @ 9.5T/5.F. Max. allowable.

ALLOWABLE STRESSES:
 Concrete (n=10) - $f_c = 1200$ p.s.i.
 Reinforcing Steel ASTM Designation A615 Grade 60 $f_s = 24,000$ p.s.i.
 ASTM Designation A572-50, $f_s = 27,000$ p.s.i. for thickness up to and including 1/2" and ASTM Designation A36, $f_s = 20,000$ p.s.i. for additional data see Sheets 3 & 10.

CONCRETE CLASSIFICATION:
 All Concrete shall be Class "A" except Slope Protection, which shall be Class Y.

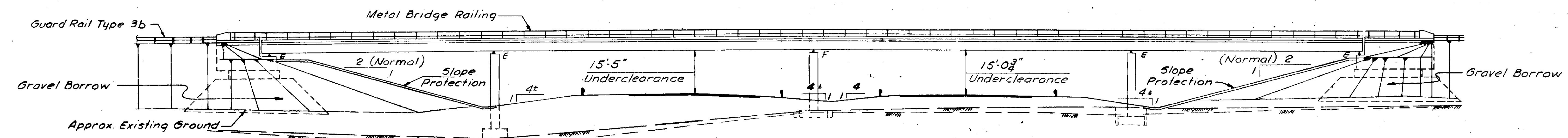


PLAN
 1" = 20'

NOTE:
 Abutments and Piers parallel to Bearing $N33^{\circ}51'08.3''E$. For embankment limits, see Sheet 15.

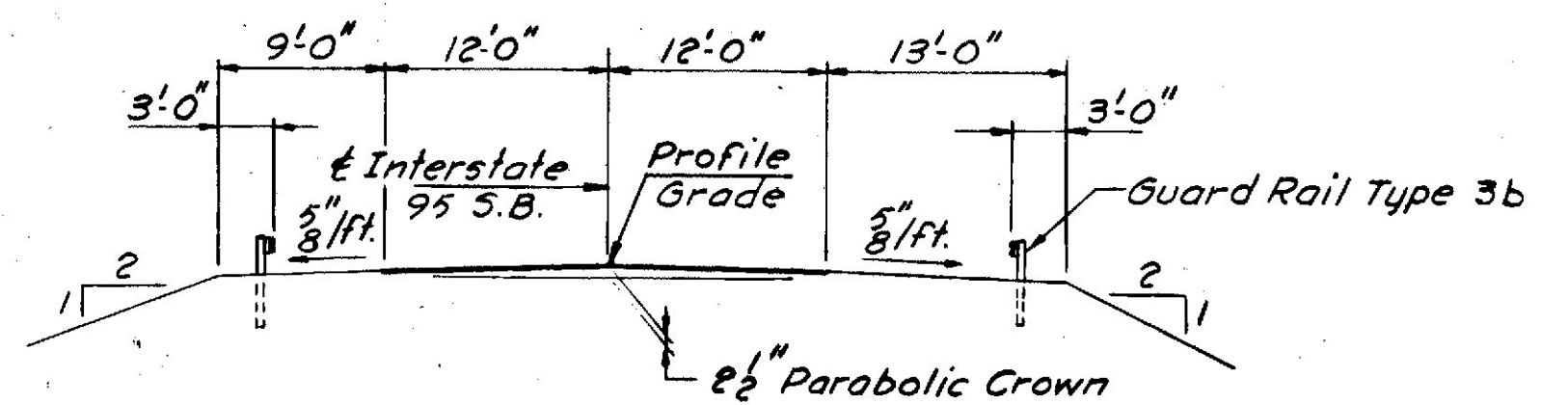
Limit of Clearing to Sta. 495+50±

Limit of clearing to bank of brook

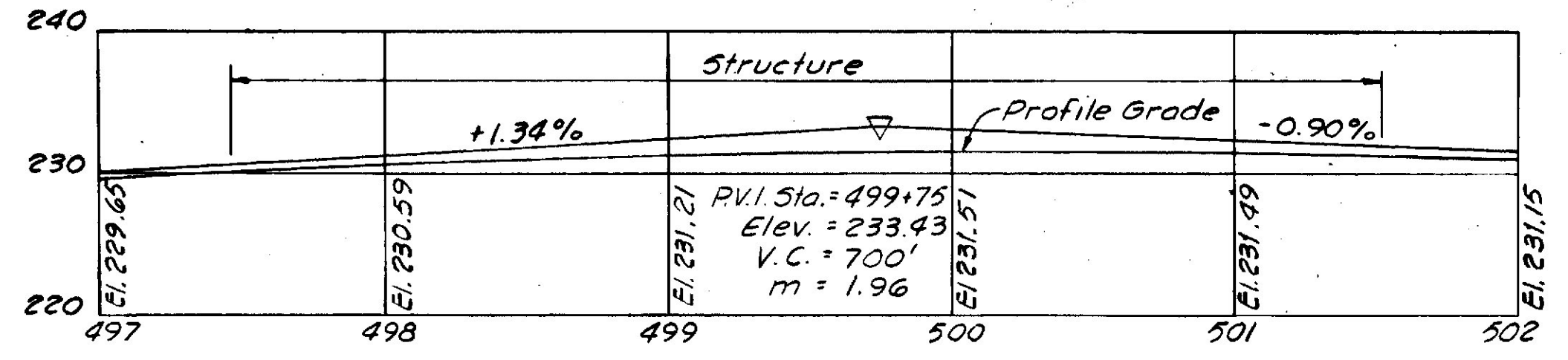


ELEVATION
 1" = 20'

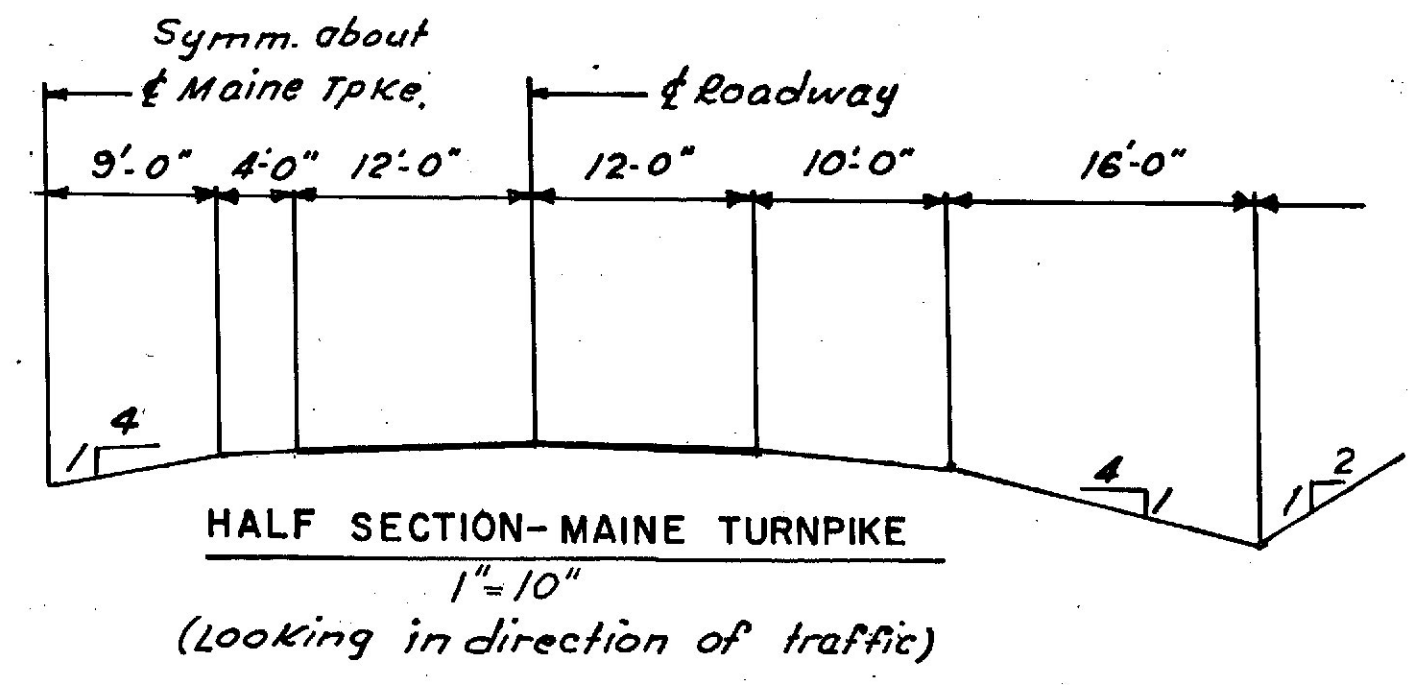
Loam, seed and hay mulch areas around pier columns as directed by the Engineer and in accordance with Sections 615, 618 and 619 of the Standard Specifications. Cast shall be incidental to the contract items.



APPROACH SECTION
 1" = 10'
 (Looking in direction of traffic)



PROFILE - INTERSTATE 95 SOUTHBOUND
 Hor. 1" = 50'
 Vert. 1" = 10'

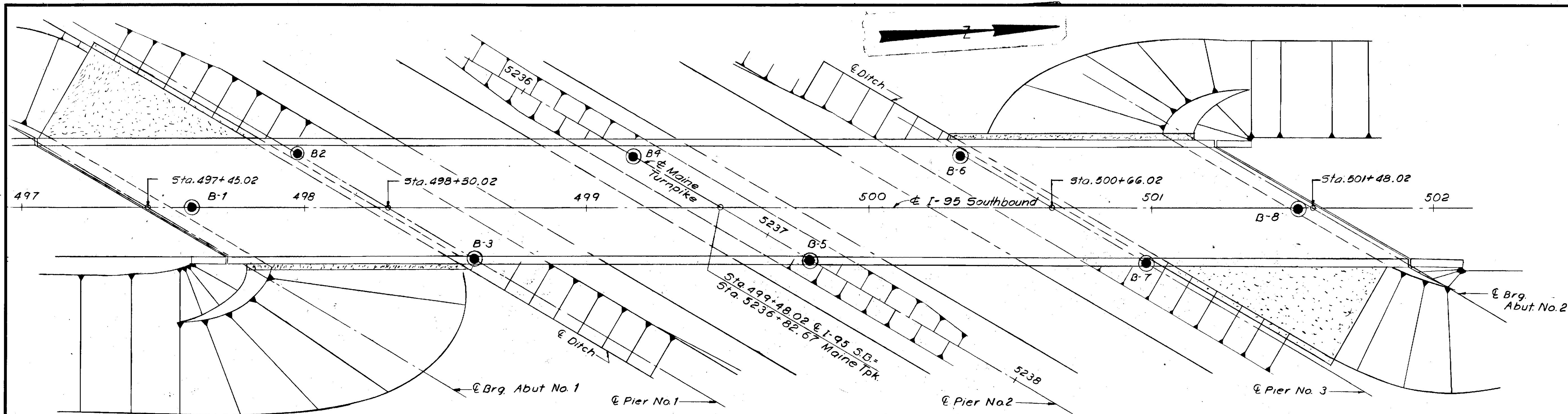


HALF SECTION - MAINE TURNPIKE
 1" = 10'
 (Looking in direction of traffic)

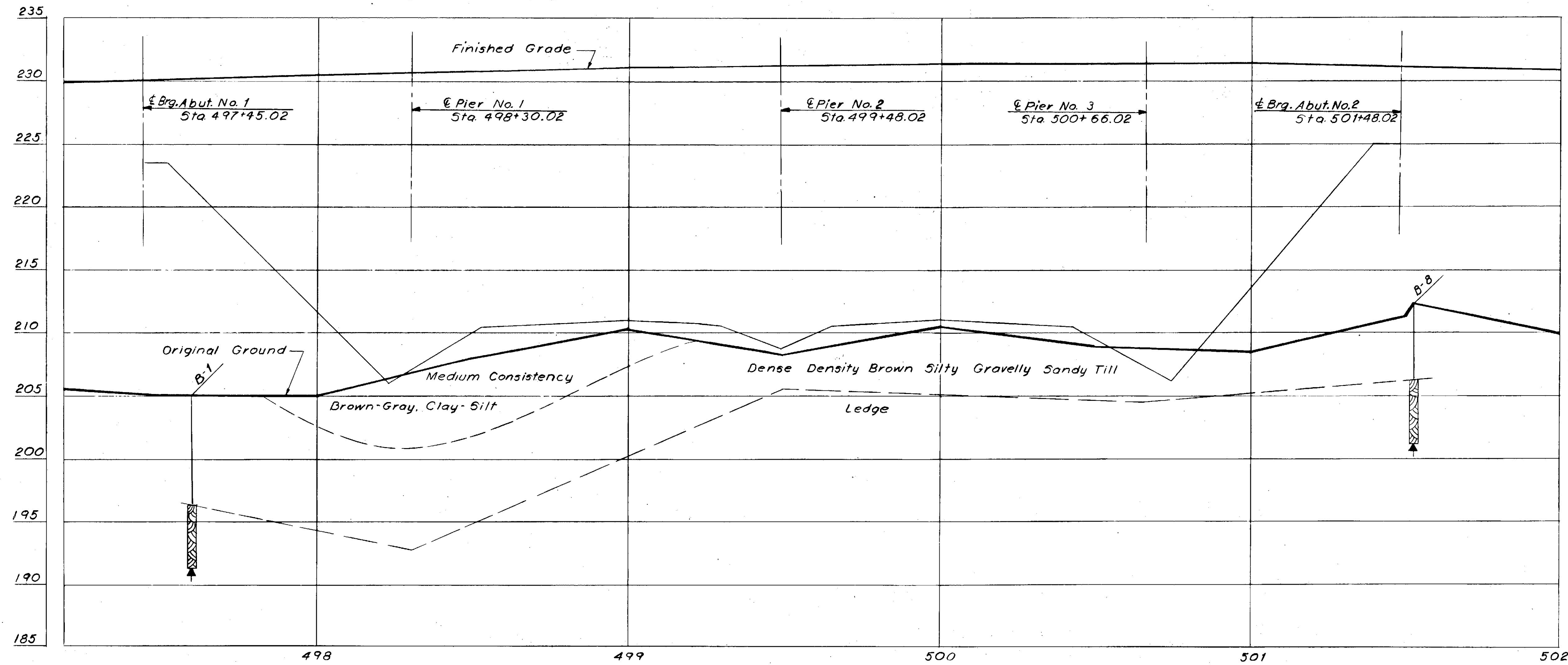
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 BOSTON

DESIGN - E.F.K. DETAIL - J.M.M.	BRIDGE NO.
TRACE - G.J.D.	SURVEY - PLOT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION	
INTERSTATE ROUTE 95 S.B. OVER MAINE TURNPIKE IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY GENERAL PLAN	
SHEET 2 OF 17 AUGUSTA, MAINE WEST GARDINER (20)	

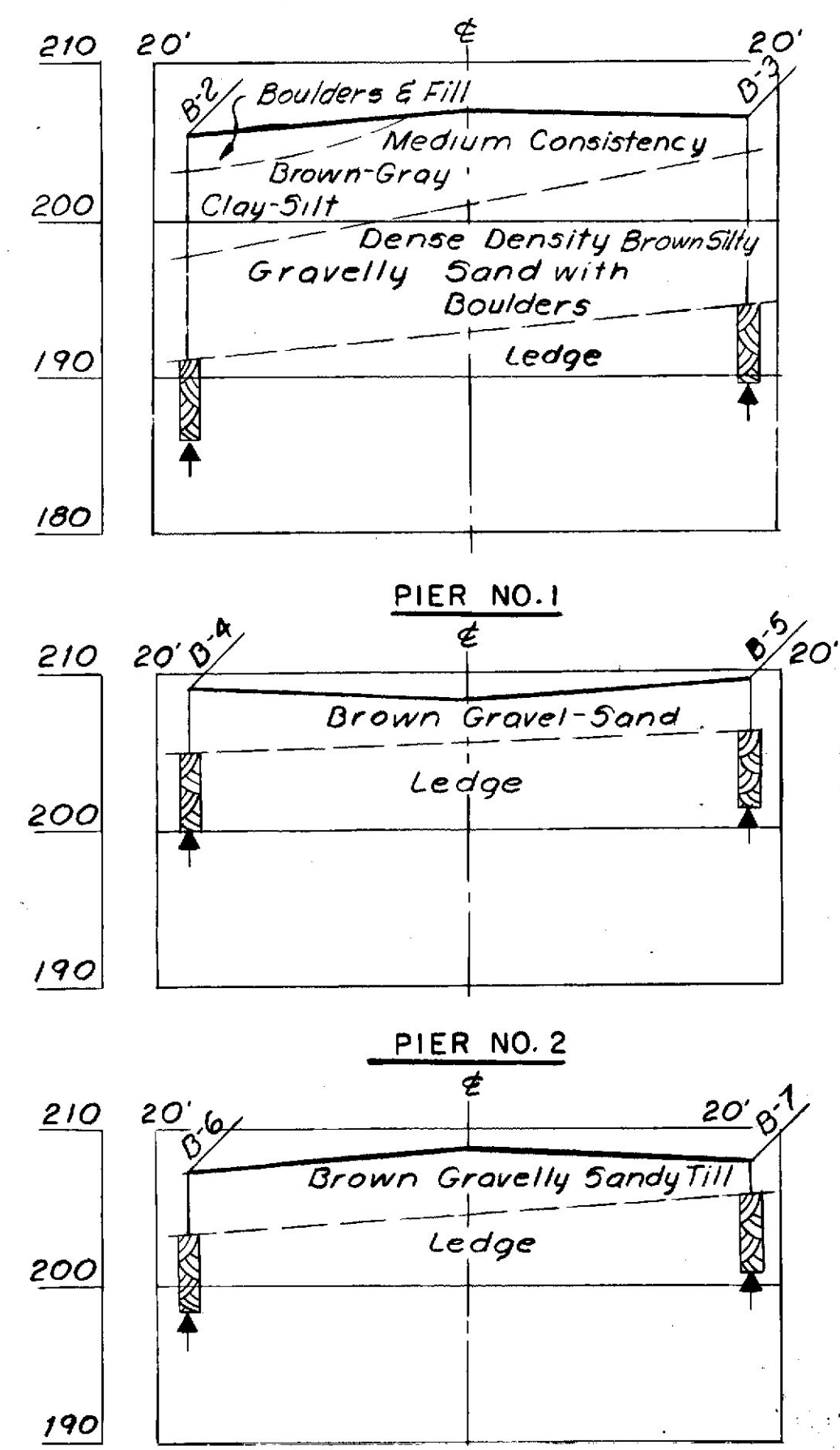
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-5 (20)	5	13



PLAN
1" = 20'



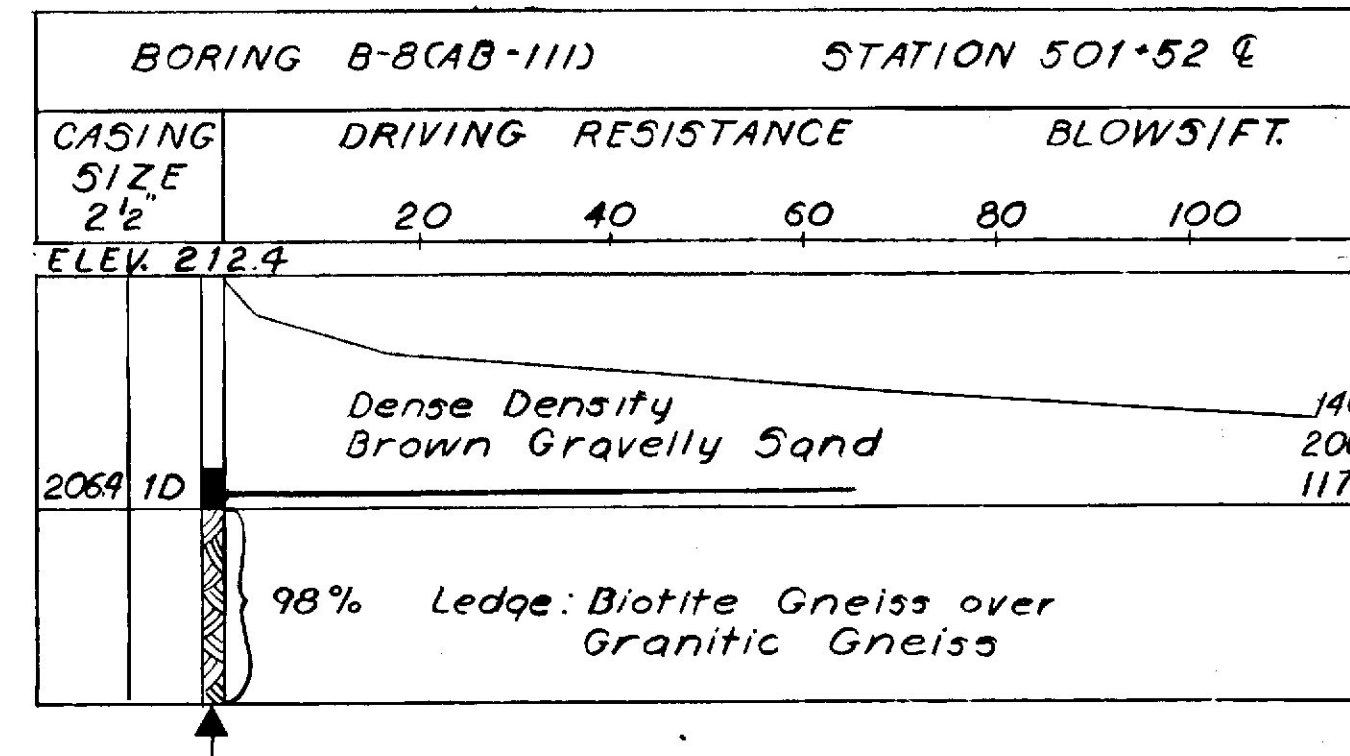
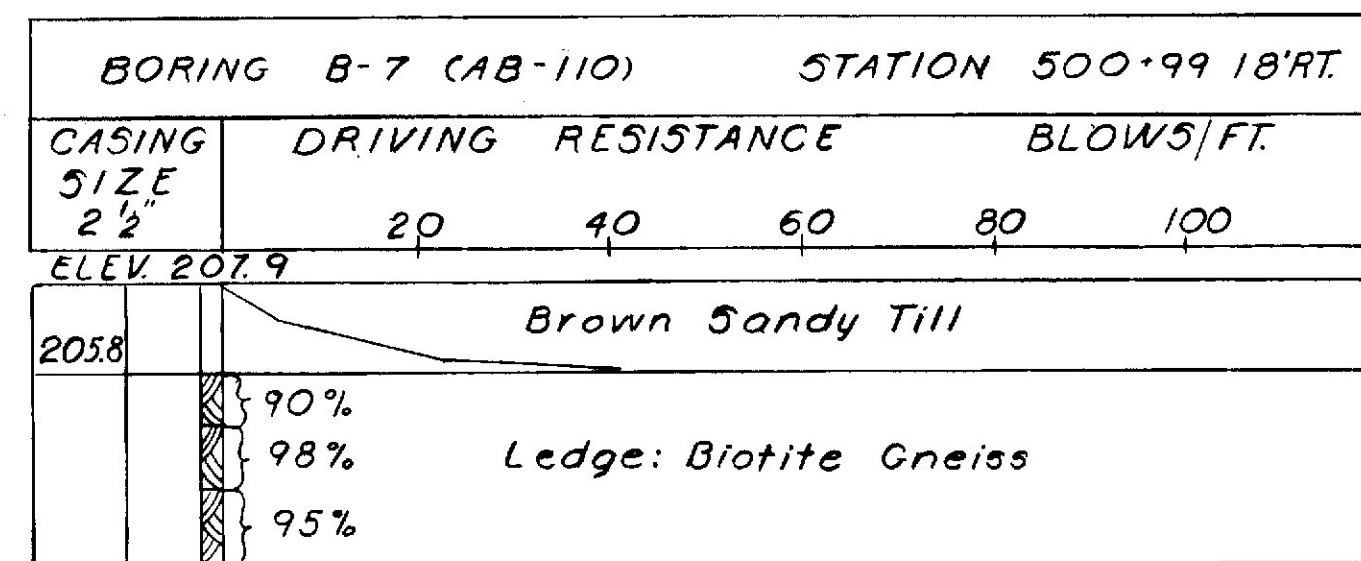
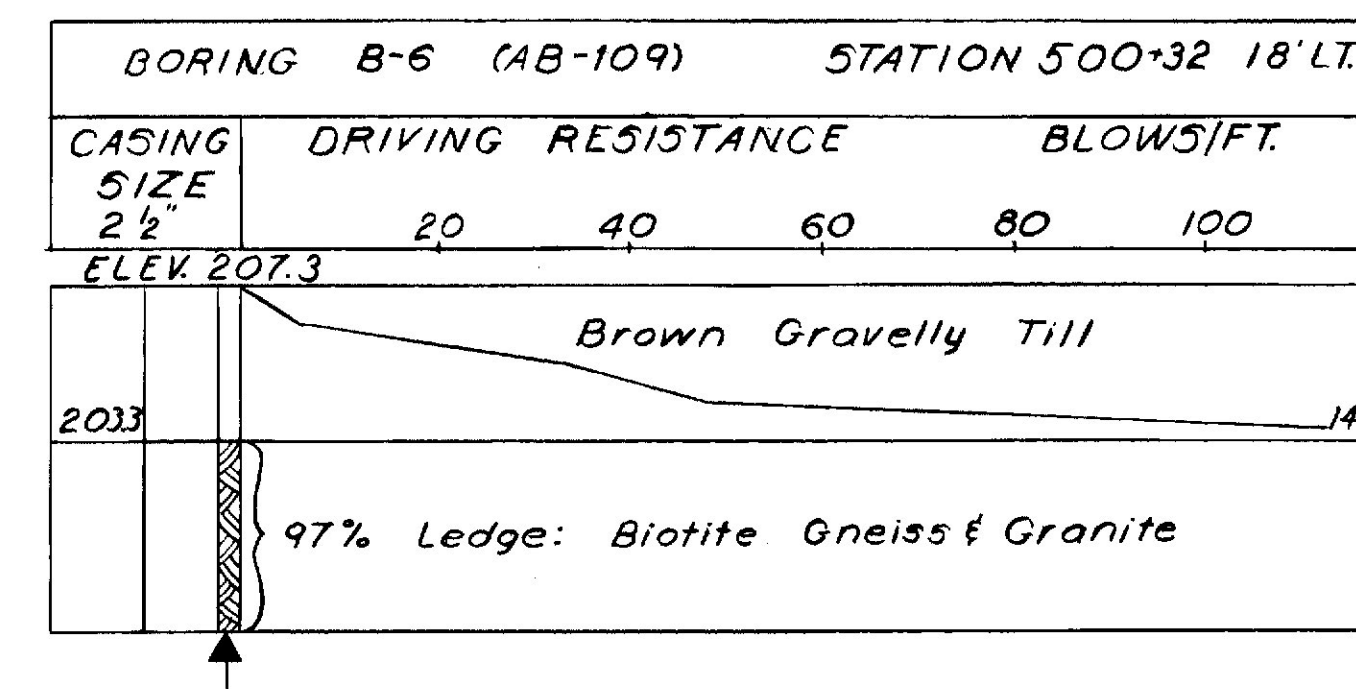
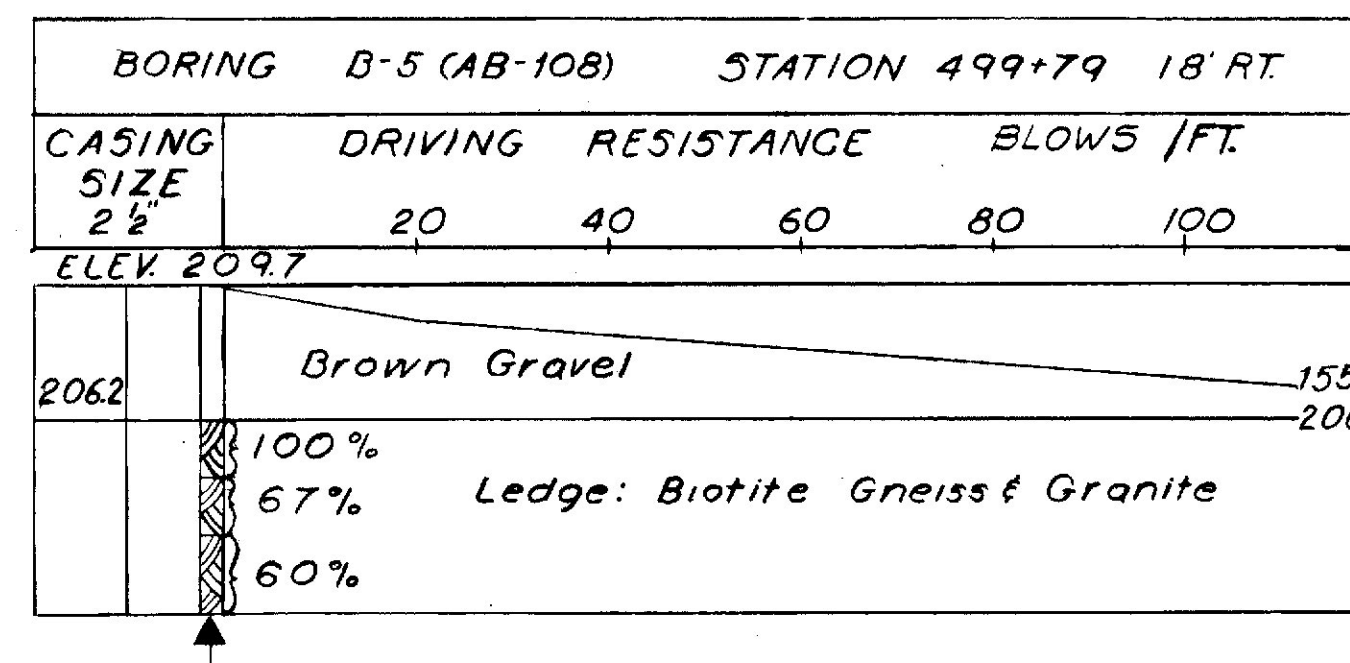
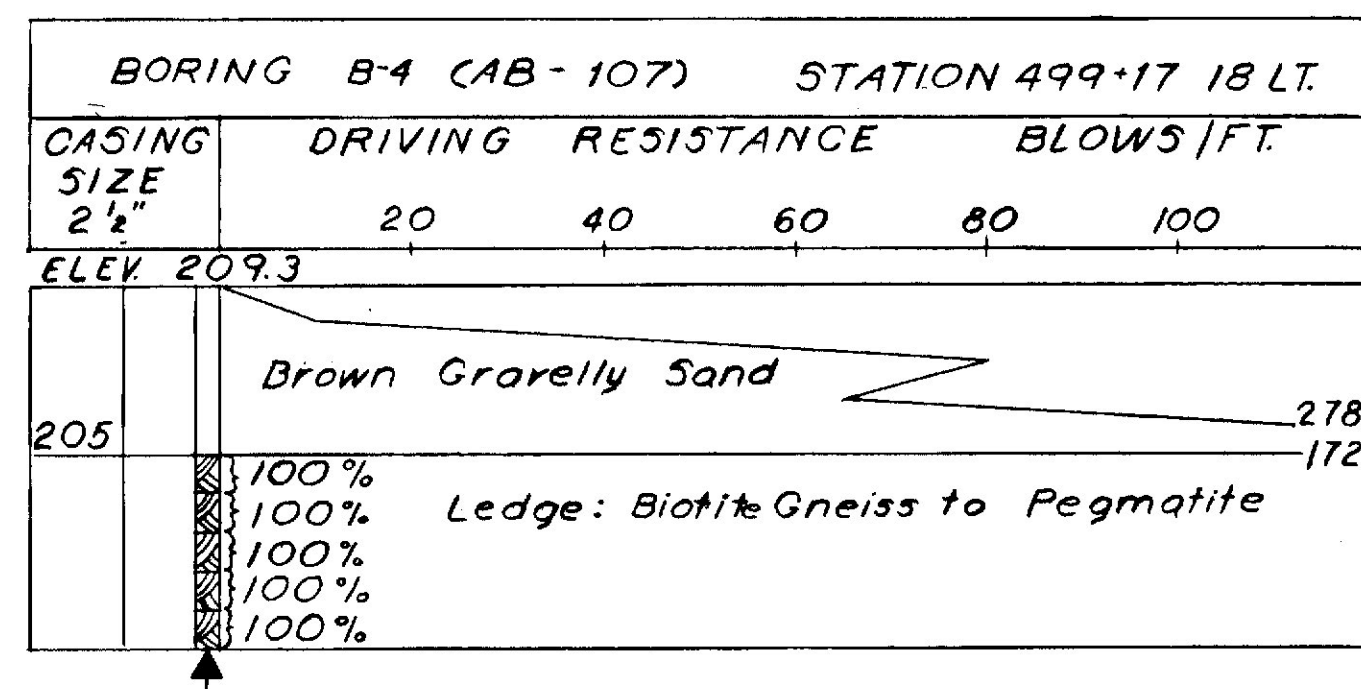
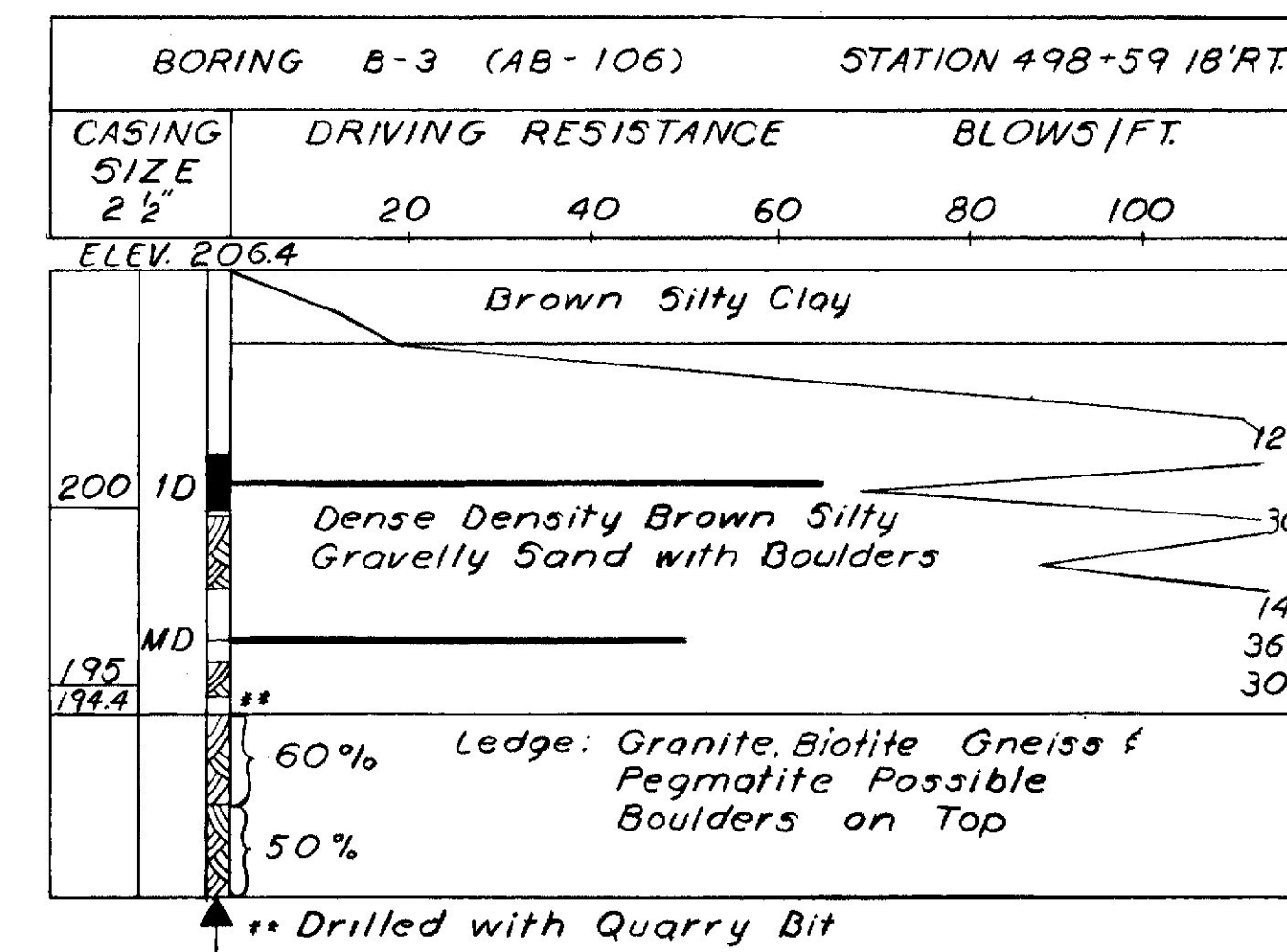
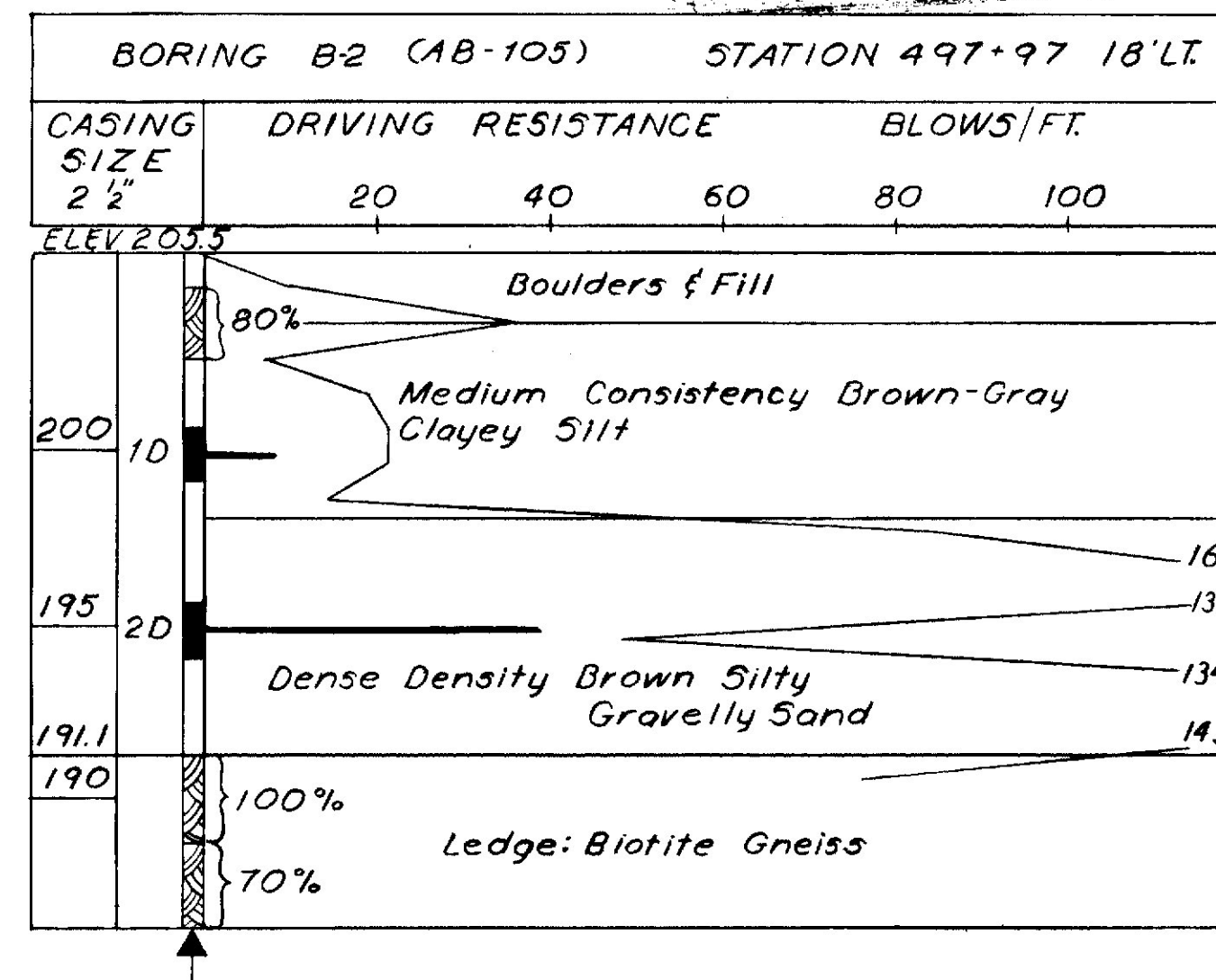
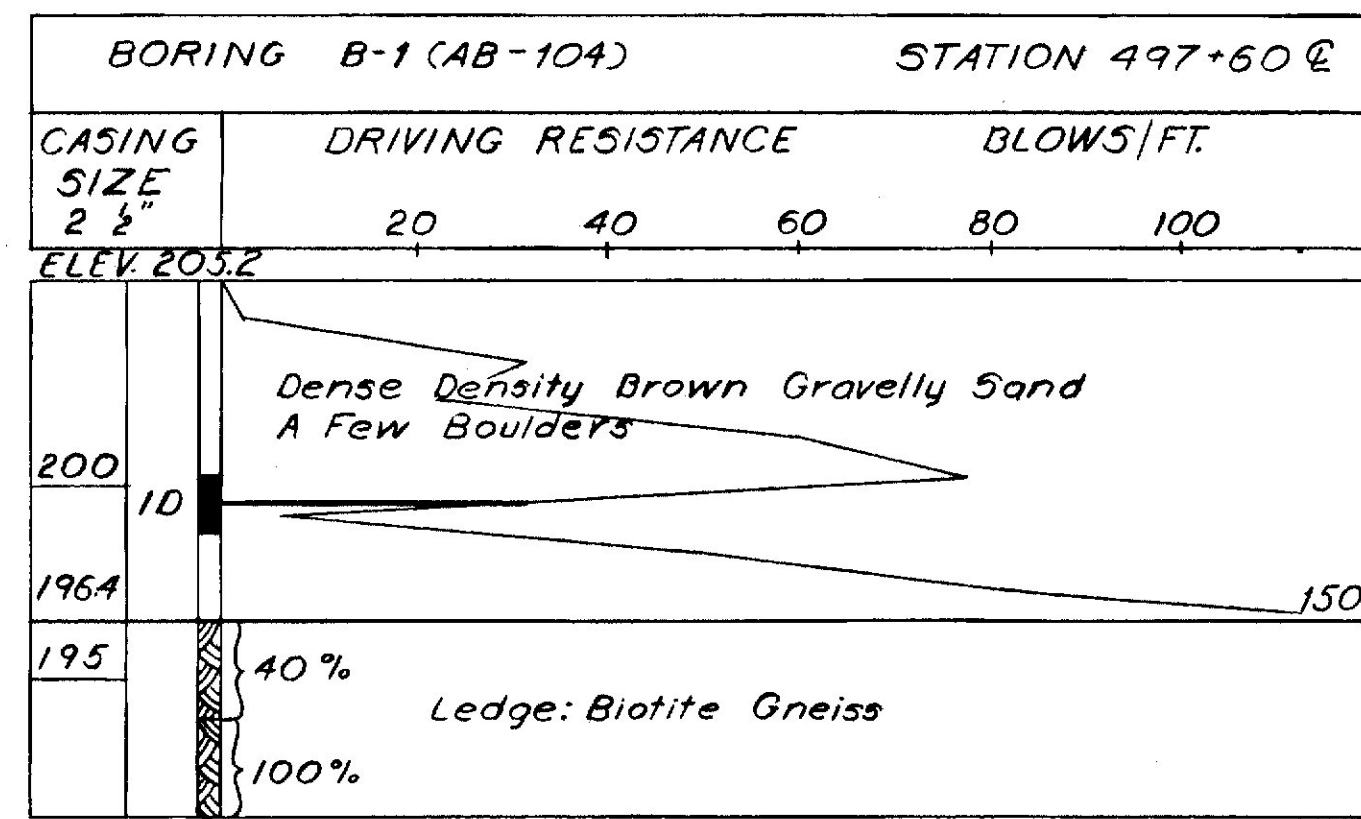
PROFILE
Hor. 1" = 20'
Vert. 1" = 5'



PIER NO. 1
PIER NO. 2
PIER NO. 3
TRANSVERSE SECTIONS
1" = 10'

DESIGN- TRACE- CHECK- G.J.D.	DETAIL-S.H.R. SURVEY- PLOT-	BRIDGE NO. - -
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE ROUTE 95 S.B. OVER MAINE TURNPIKE IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY FOUNDATION SURVEY		
SHEET 5 OF 17 AUGUSTA, MAINE		

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



BORING NOTES

- ~ Number of blows required to drive extra heavy casing one foot with 400ft lbs. of energy per blow.
- Location of sample or sample attempt
- Number and type of dry sample
- 1D S&H Sampler # 1290's
- MD 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
- ▲ Bottom of boring (may not be bottom of soil strata)
- ⊠ Locations cored by diamond bit and per cent recovery of rock

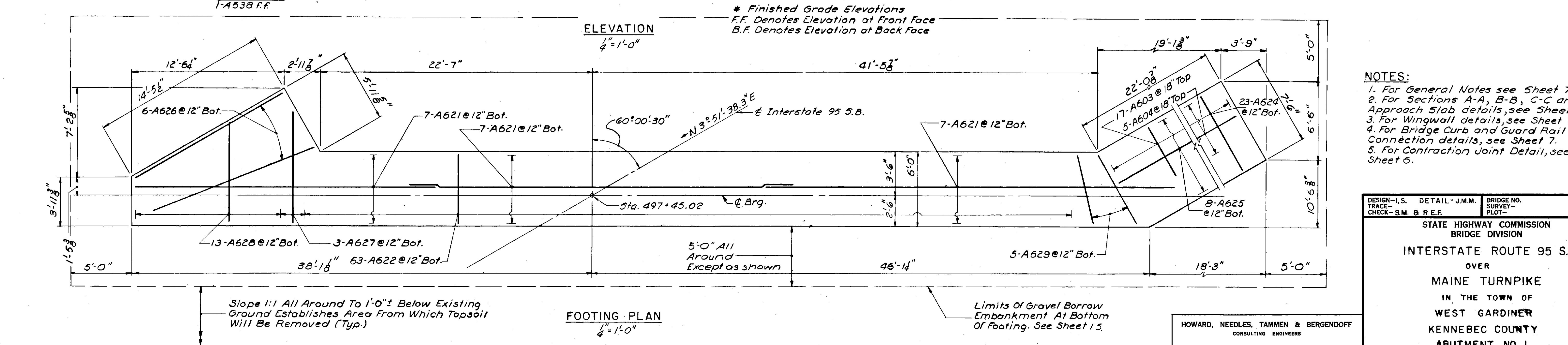
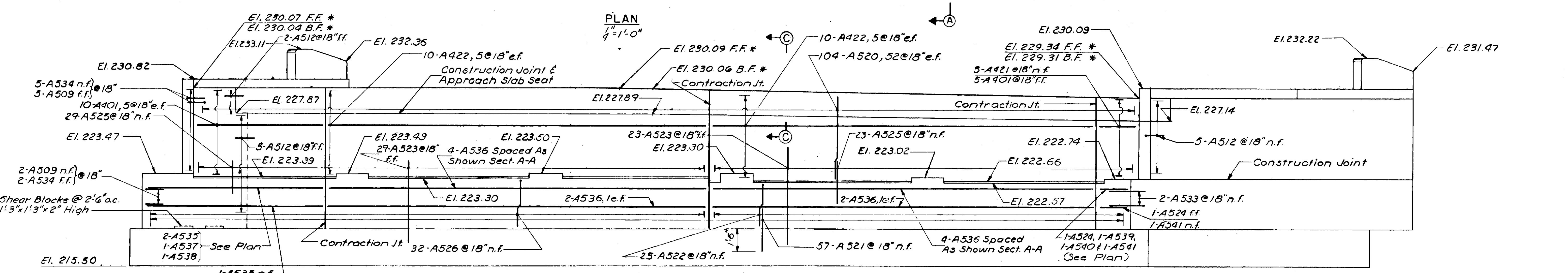
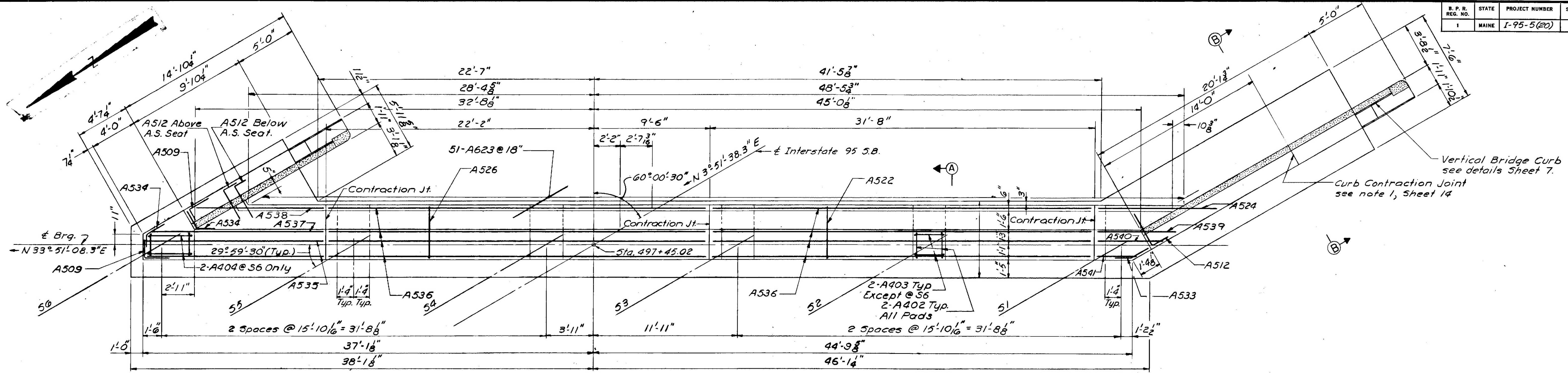
DESIGN -	DETAIL-SHR	BRIDGE NO.
TRACE -	SURVEY -	
CHECK - G.J.D.	PLOT -	

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

INTERSTATE ROUTE 95 S.B.
OVER
MAINE TURNPIKE
IN THE TOWN OF
WEST GARDINER
KENNEBEC COUNTY
FOUNDATION SURVEY
SHEET 6 OF 17 AUGUSTA, MAINE

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

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-5(20)	7	13



- NOTES:**
1. For General Notes see Sheet 7.
 2. For Sections A-A, B-B, C-C and Approach Slab details, see Sheet 7.
 3. For Wingwall details, see Sheet 7.
 4. For Bridge Curb and Guard Rail Connection details, see Sheet 7.
 5. For Contraction Joint Detail, see Sheet 6.

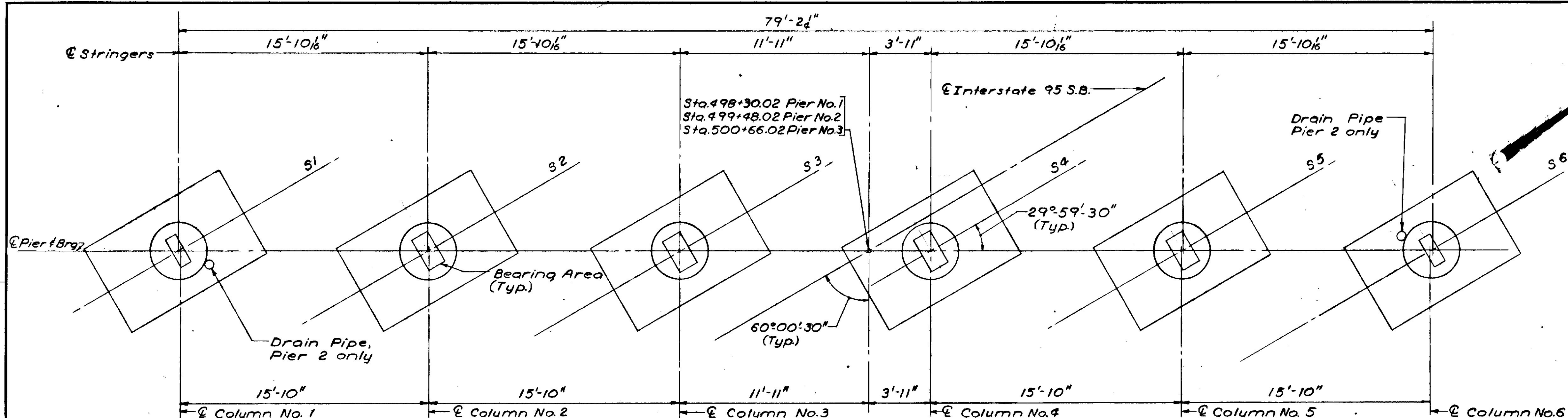
DESIGN—L.S.	DETAIL—J.M.M.	BRIDGE NO.
TRACE—S.M.	SURVEY—	
CHECK—S.M. & R.E.F.	PLOT—	

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

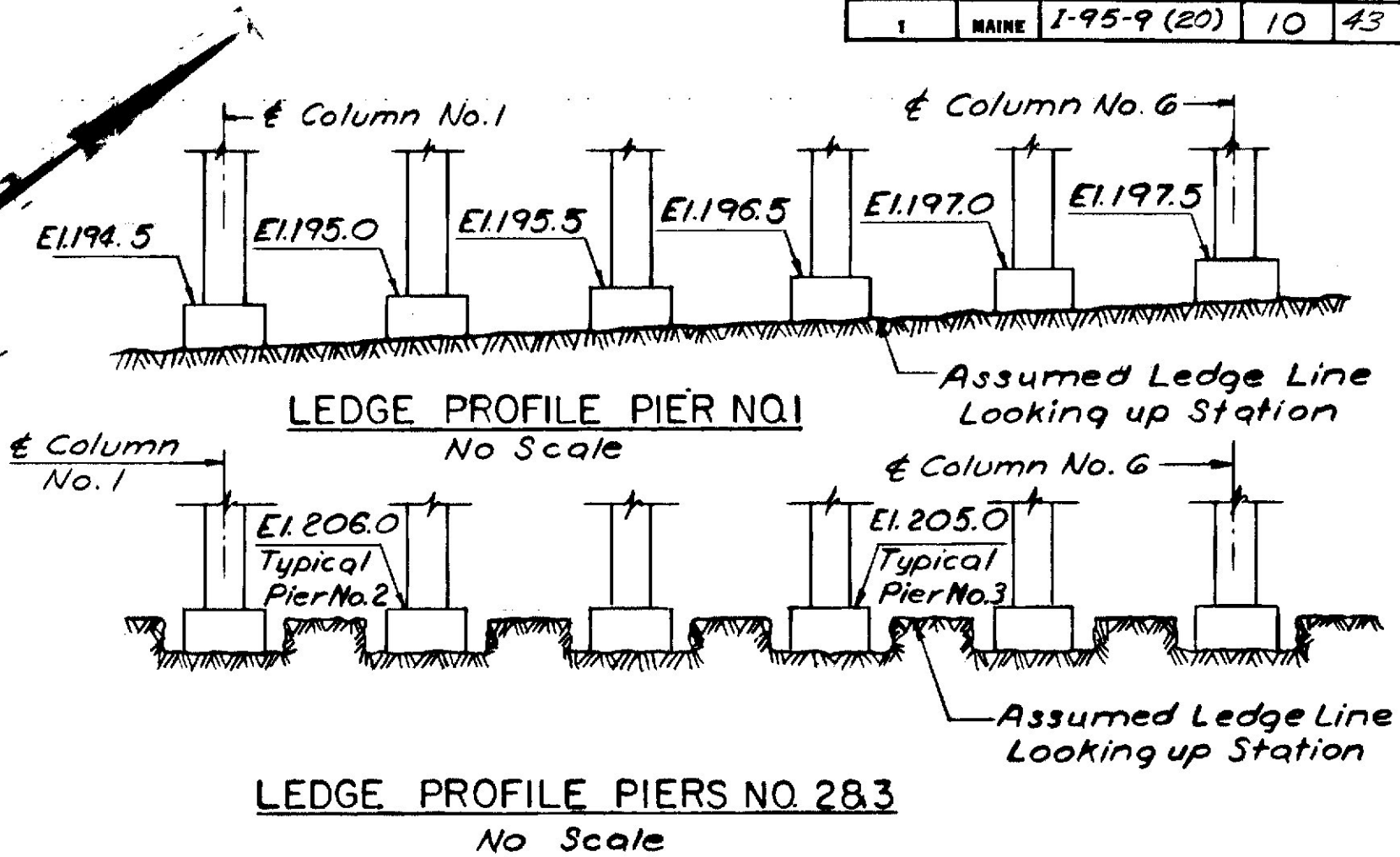
INTERSTATE ROUTE 95 S.B.
OVER
MAINE TURNPIKE
IN THE TOWN OF
WEST GARDINER
KENNEBEC COUNTY
ABUTMENT NO. 1

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

SHEET 5 OF 17 WESTGARD, MAINE



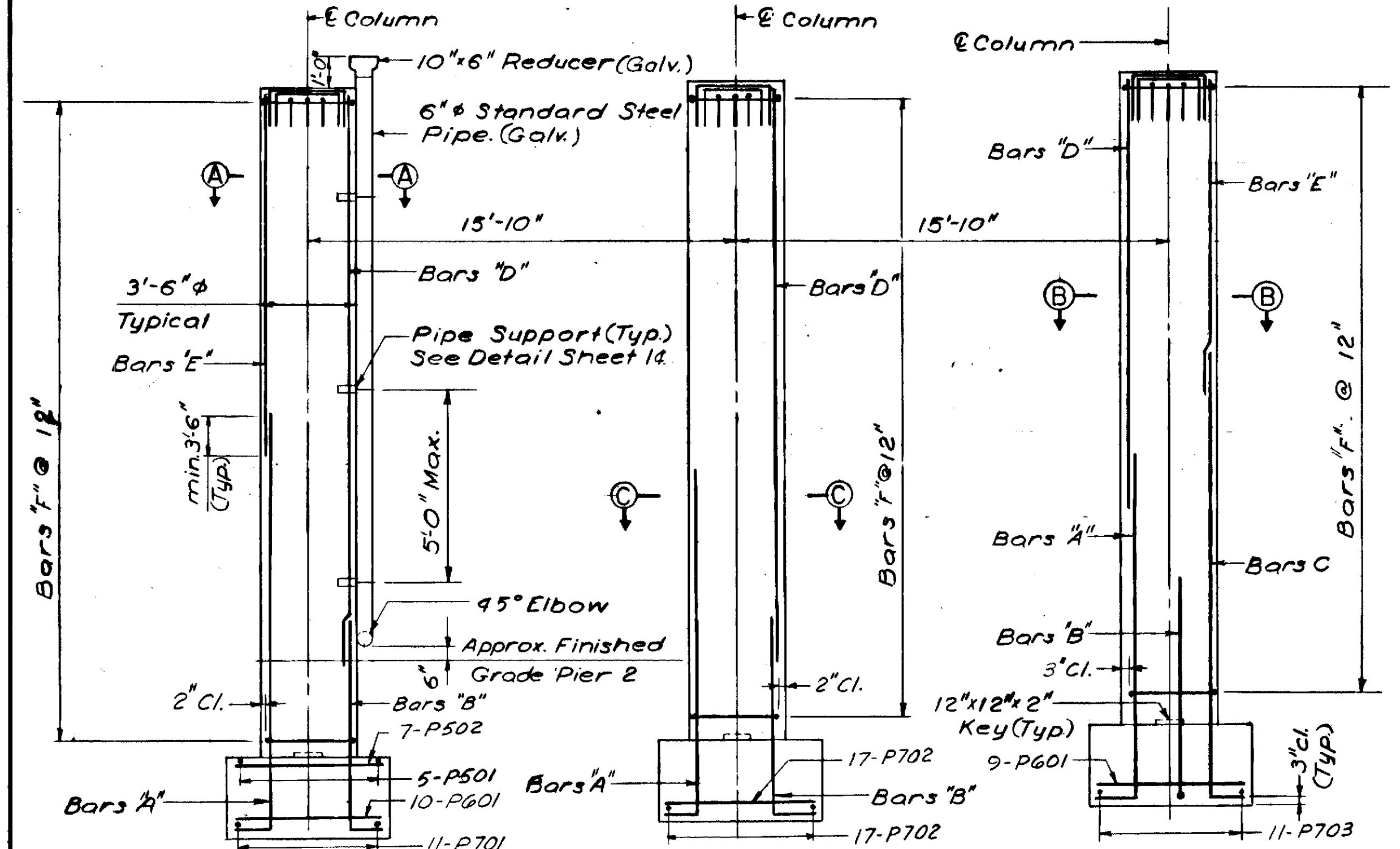
PLAN PIERS NO. 1, 2, & 3
1/4" = 1'-0"



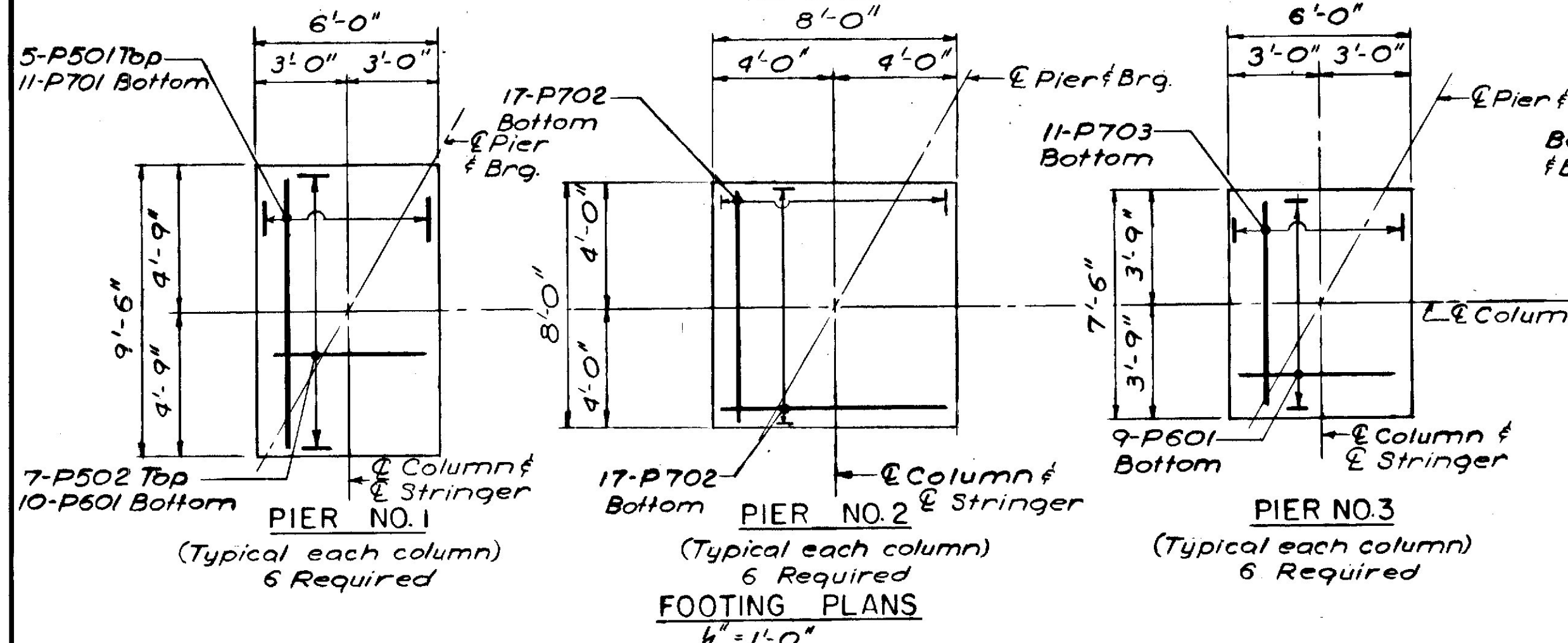
	S1	S2	S3	S4	S5	S6
Pier 1	224.19	223.56	223.79	223.96	223.91	224.73
Pier 2	224.69	224.75	224.94	225.05	224.95	225.18
Pier 3	225.19	224.46	224.60	224.66	224.50	225.22

Pier No.	Column No.	Bars A	Bars B	Bars C	Bars D	Bars E	Bars F
1	1	5-P1101	5-P1102	—	5-P1103	5-P1109	30-P503
	2	6-P1101	9-P1102	—	9-P1105	—	29-P503
	3	6-P1101	9-P1102	—	9-P1106	—	29-P503
	4	6-P1101	9-P1102	—	9-P1107	—	28-P503
	5	6-P1101	9-P1102	—	9-P1108	—	28-P503
	6	5-P1101	5-P1102	—	5-P1104	5-P1110	28-P503
2	1	5-P1111	5-P1112	—	5-P1113	5-P1115	19-P503
	2	3-P1401	6-P1402	9-P1403	3-P1114	9-P1116	19-P504
	3	3-P1401	6-P1402	9-P1403	3-P1114	9-P1116	19-P504
	4	3-P1401	6-P1402	9-P1403	3-P1114	9-P1116	19-P504
	5	3-P1401	6-P1402	9-P1403	3-P1114	9-P1116	19-P504
	6	5-P1111	5-P1112	—	5-P1113	5-P1115	19-P503
3	1	4-P1111	5-P1112	—	5-P1117	4-P1119	21-P503
	2	4-P1111	5-P1112	—	5-P1118	4-P1120	20-P503
	3	4-P1111	5-P1112	—	5-P1118	4-P1120	20-P503
	4	4-P1111	5-P1112	—	5-P1118	4-P1120	20-P503
	5	4-P1111	5-P1112	—	5-P1118	4-P1120	20-P503
	6	4-P1111	5-P1112	—	5-P1117	4-P1119	21-P503

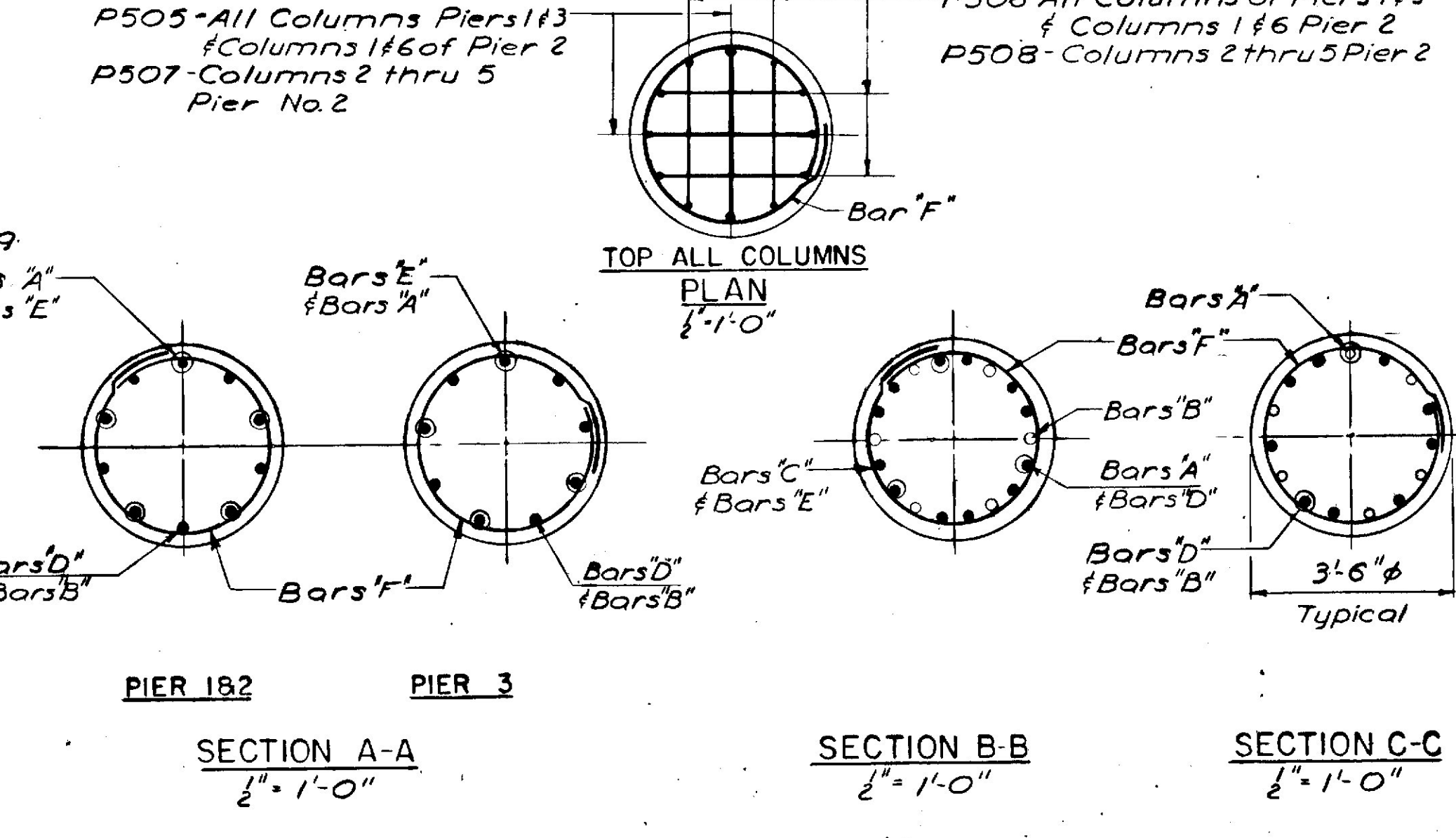
P505 - All Columns of Piers 1 & 3
 & Columns 1 & 6 of Pier 2
 P507 - Columns 2 thru 5
 Pier No. 2
 P506 All Columns of Piers 1 & 3
 & Columns 1 & 6 Pier 2
 P508 - Columns 2 thru 5 Pier 2



TYPICAL COLUMN ELEVATIONS
No Scale



FOOTING PLANS
1/4" = 1'-0"



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

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

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

FOOTING ON LEDGE—PIER NO. 1
NO Scale

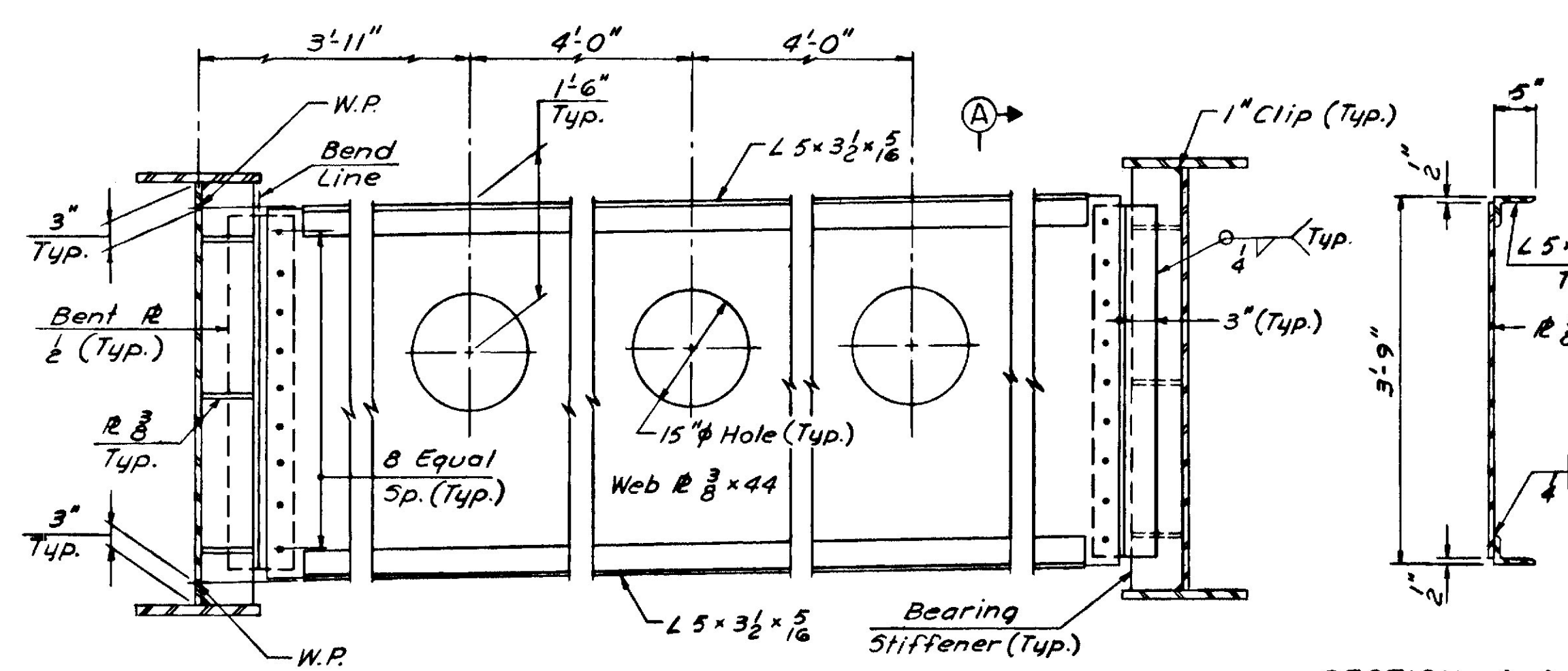
FOOTING IN LEDGE—PIERS NO. 2 & 3
NO Scale

- GENERAL NOTES:**
- Dress bearing pad areas 1" larger all around than masonry plates to exact elevations shown.
 - Reinforcing steel to have 2" minimum cover except 3" as noted.
 - Place reinforcing steel to clear anchor bolts.
 - All weathered or broken ledge shall be removed before any footing concrete is placed.
 - Top of footing elevation may be altered to suit field conditions. No change in top of footing elevations greater than 2 feet shall be made without approval of the Engineer. Top of footing shall have a minimum of one foot of earth cover.
 - Footing side forms may be omitted in rock provided rock is excavated outside the plan dimensions and if approved by the Engineer. Payment for Structural Concrete Piers will be made according to plan dimensions of footing.
 - Pier footings shall have a minimum depth of 3'-0" below the top of footing elevations. In excavating to locate bottom of the pier footing, no payment for Structural Rock Excavation Piers, or for Structural Concrete Piers, will be made below a horizontal plane located 1'-0" below the bottom of footing elevation determined by the Engineer after rock is exposed.
 - Maximum Design Footing Pressure

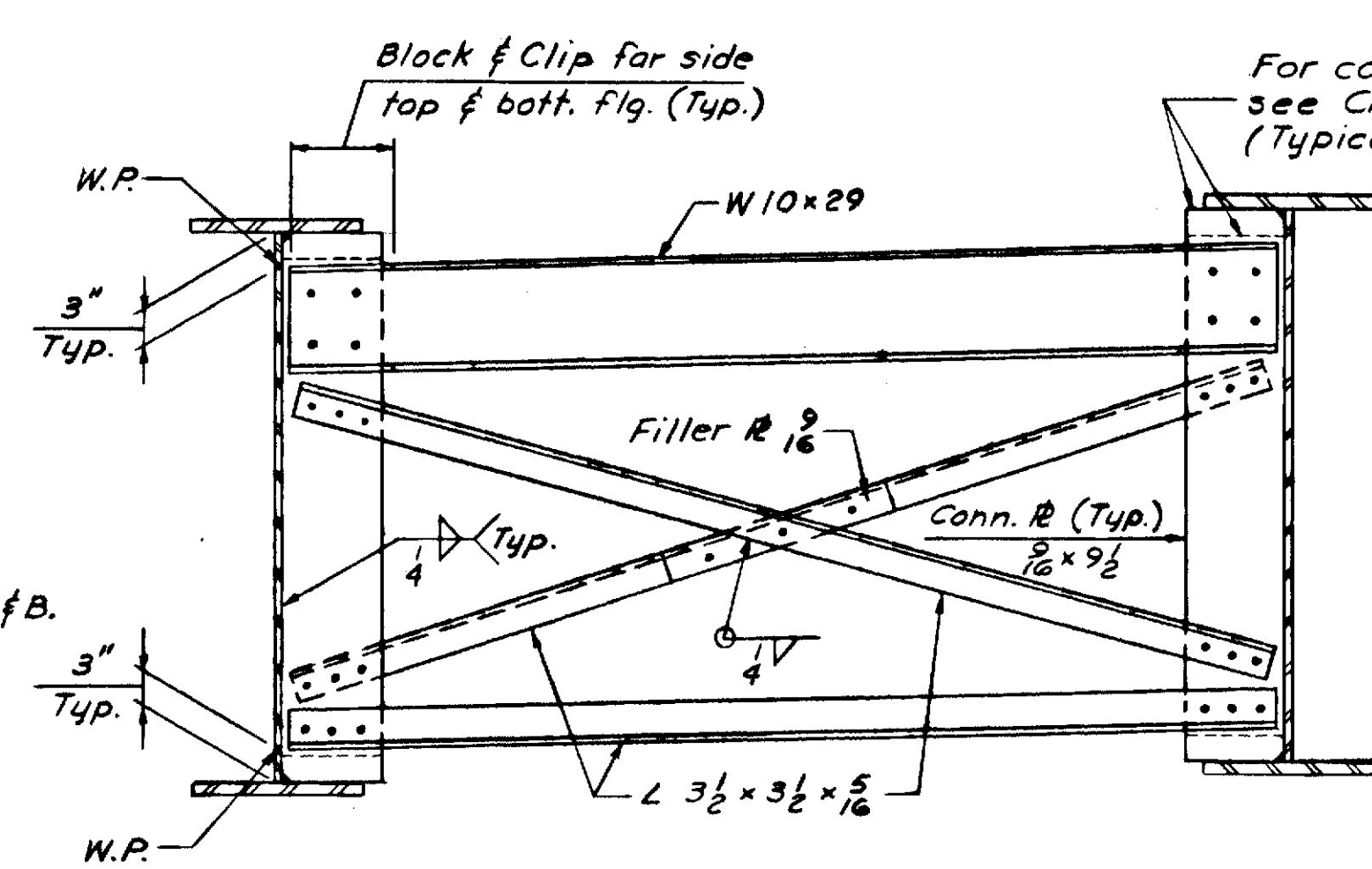
Pier No. 1	Pier No. 3
Group I 3.2 Tons/S.F.	Group I 3.3 Tons/S.F.
Group III 9.5 Tons/S.F.	Group III 8.2 Tons/S.F.
 - Pier No. 2

Group I 2.6 Tons/S.F.
Group III 9.0 Tons/S.F.

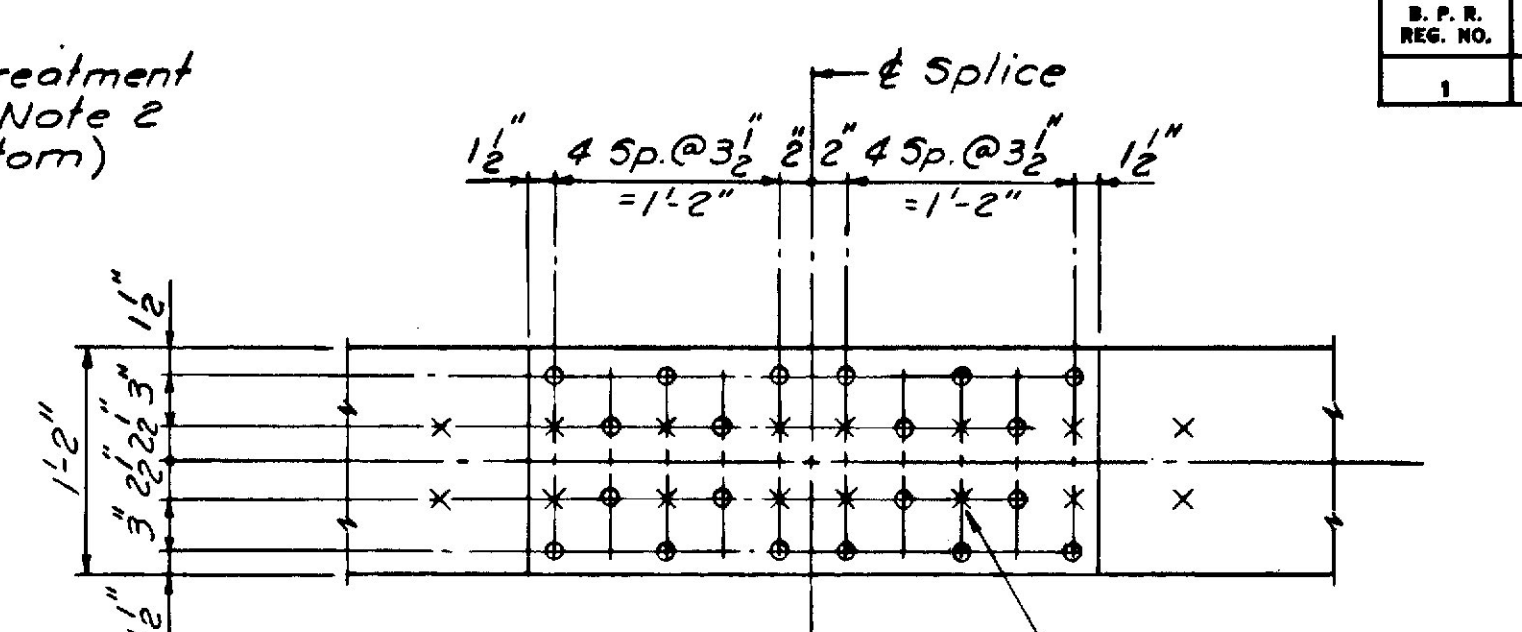
DESIGN—E.F.K. DETAIL—SHR. TRACE—SURVEY—PLOT CHECK—R.E.F.	BRIDGE NO. SURVEY—PLOT
STATE HIGHWAY COMMISSION BRIDGE DIVISION INTERSTATE ROUTE 95 S.B. OVER MAINE TURNPIKE IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY PIERS NO. 1, 2 & 3	
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS BOSTON	
SHEET 8 OF 17 AUGUSTA, MAINE WEST GARDINER (20)	



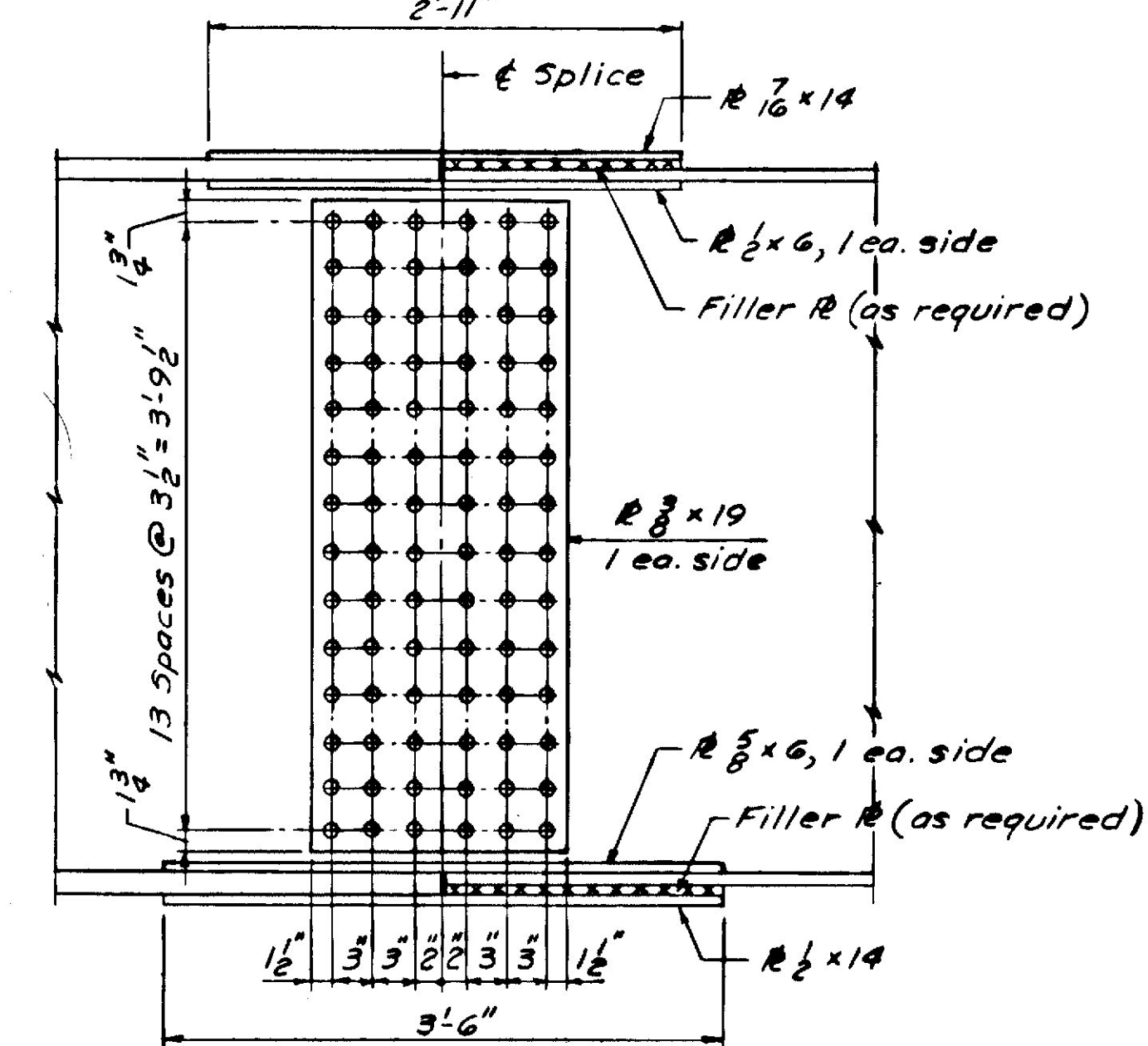
CROSS FRAME TYPE B-1
3/4" = 1'-0"



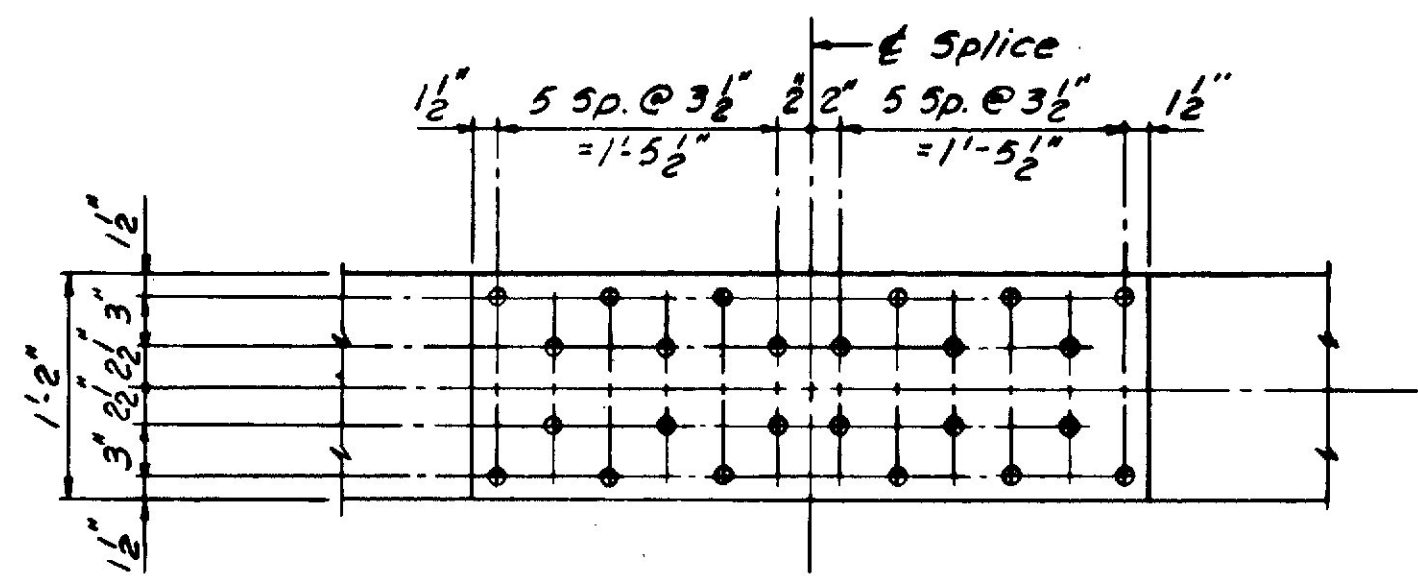
CROSS FRAME TYPE B
3/4" = 1'-0"



TOP FLANGE

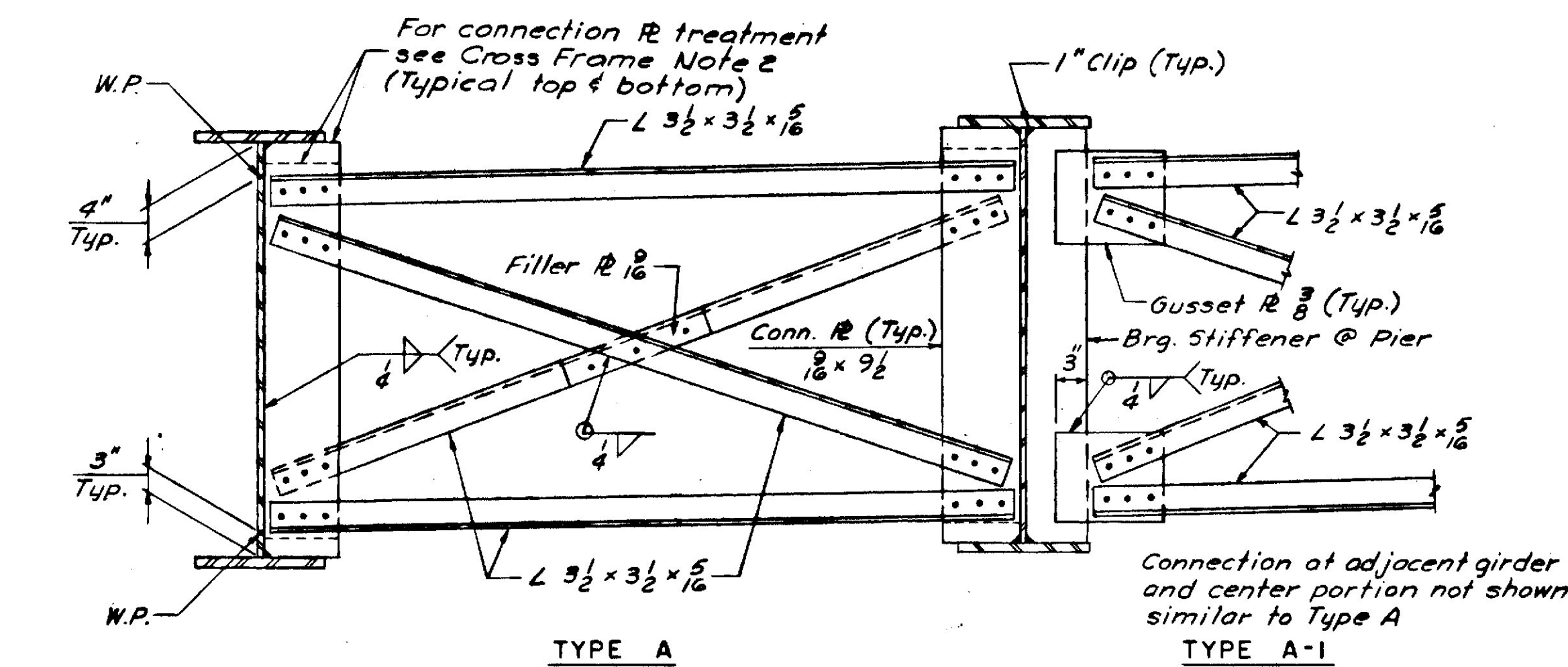


ELEVATION



BOTTOM FLANGE

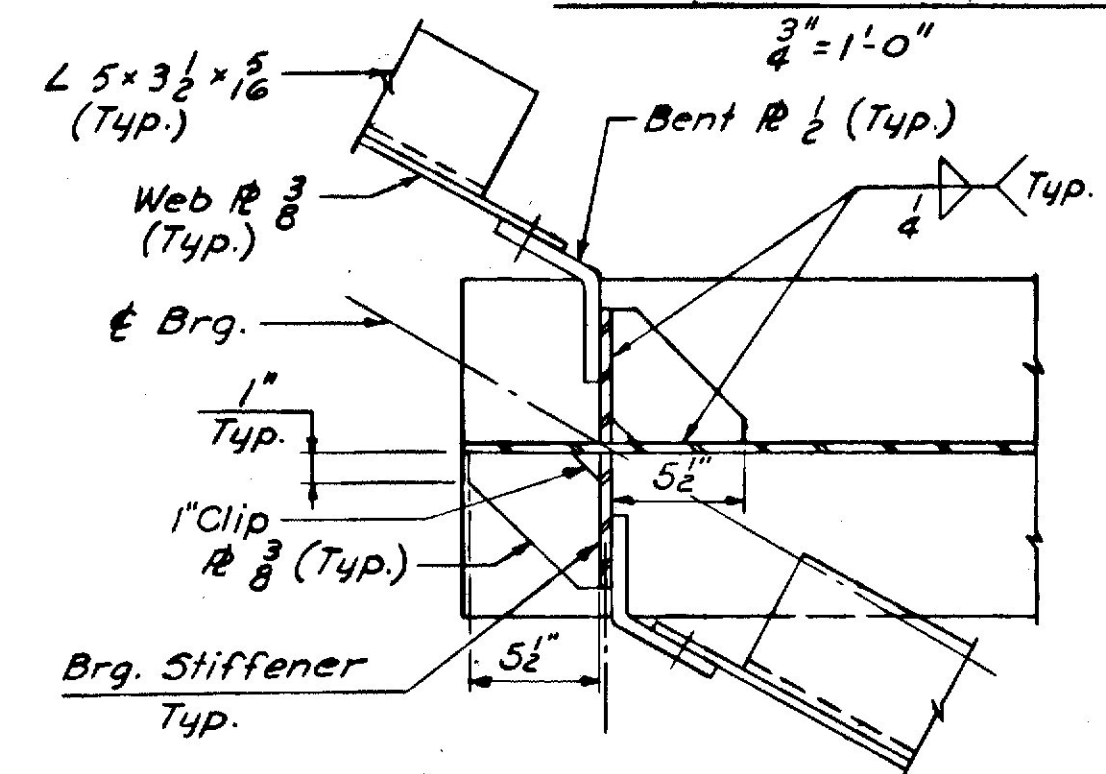
FIELD SPICE DETAILS
1" = 1'-0"



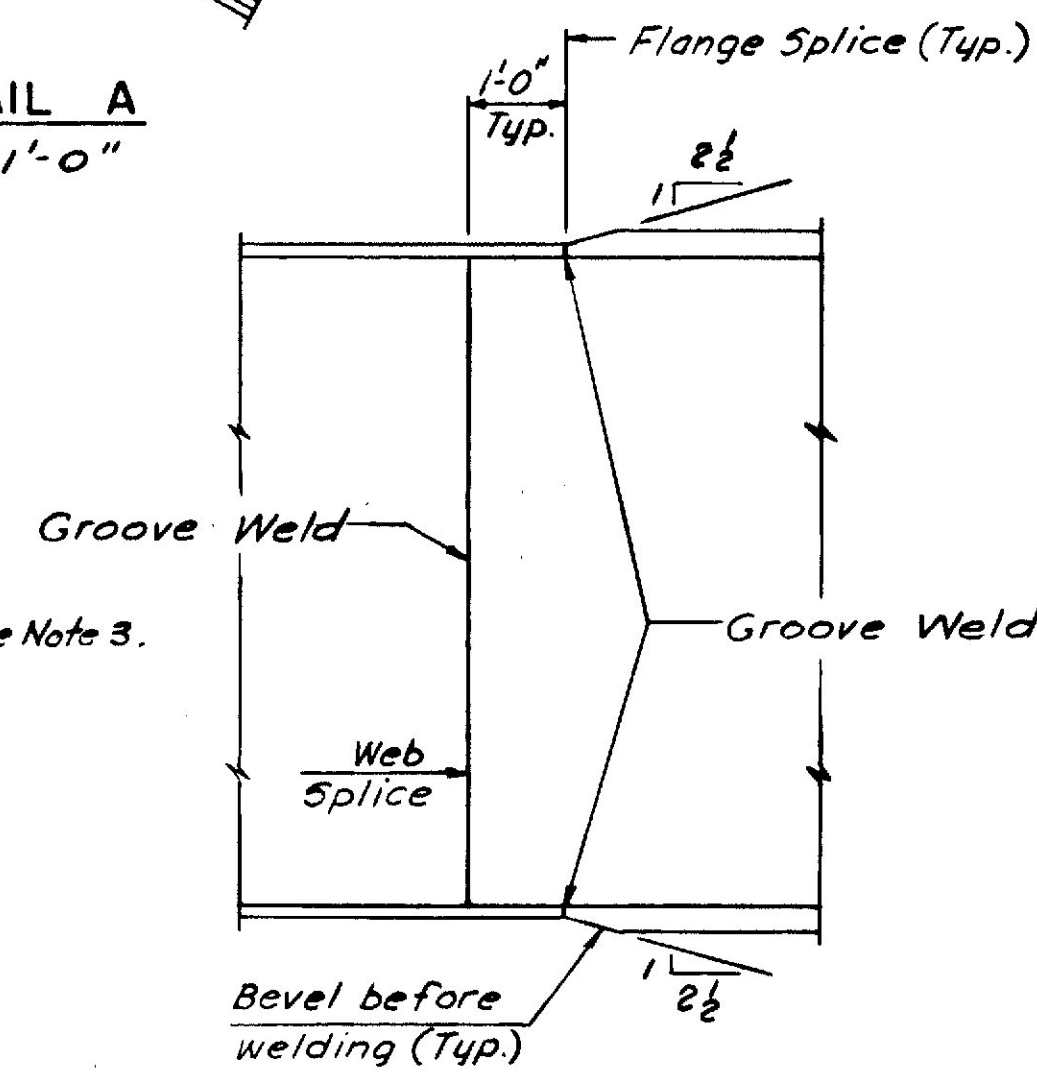
TYPE A

CROSS FRAMES
3/4" = 1'-0"

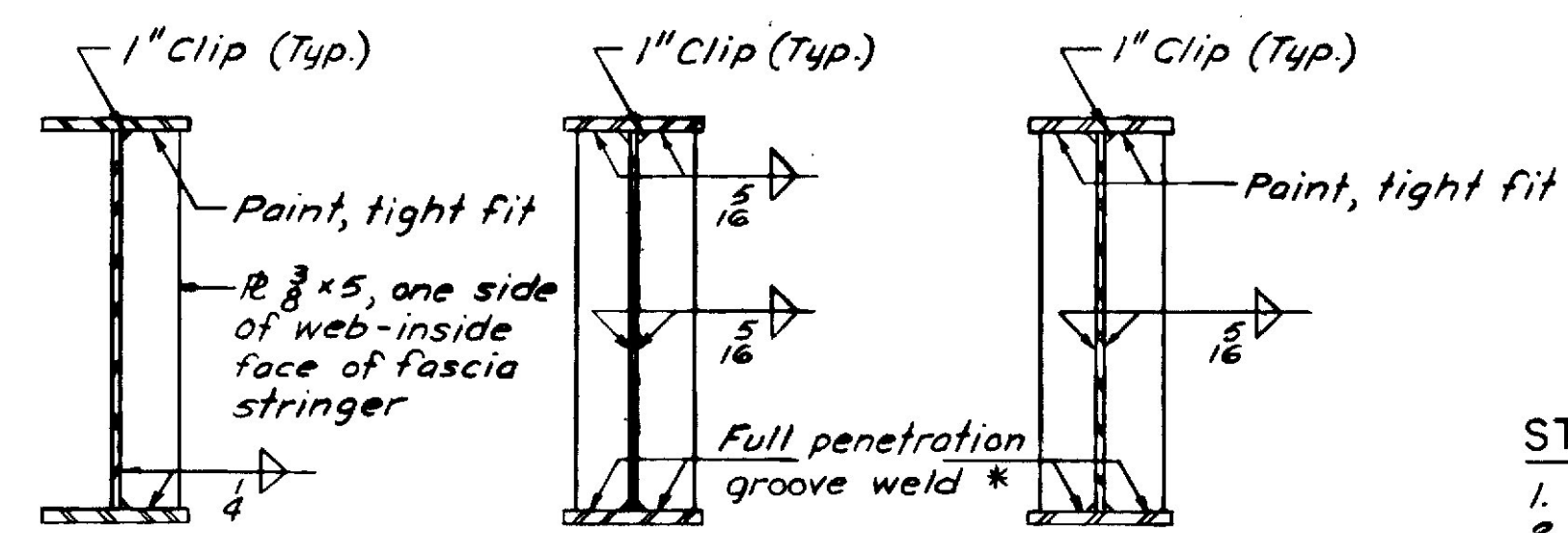
Connection at adjacent girder and center portion not shown similar to Type A
TYPE A-1



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



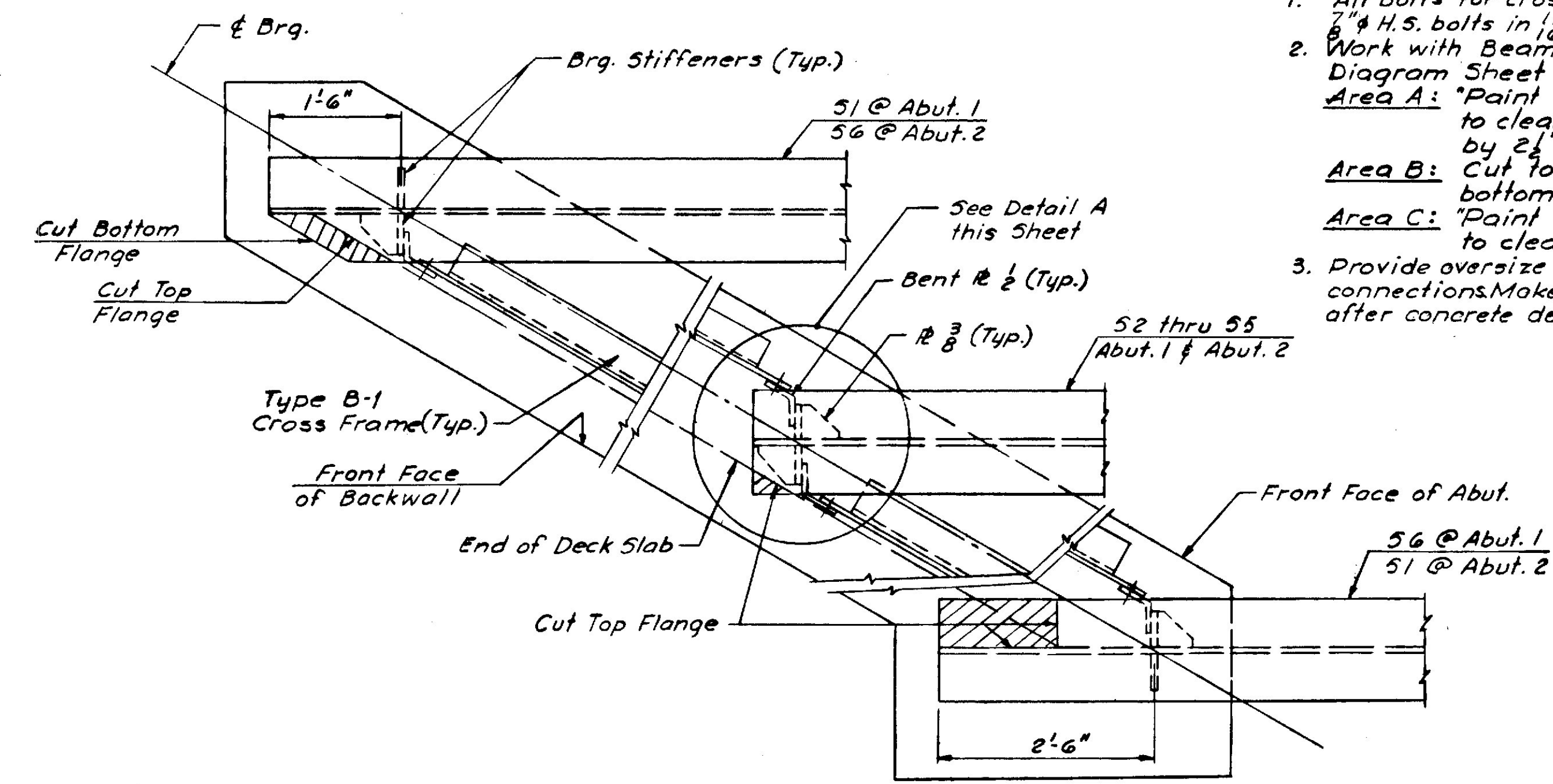
WELDED SHOP SPICE DETAILS
No Scale



INTERMEDIATE

BEARING
STIFFENER DETAILS
No Scale

* At the Contractor's option. "Mill to bear" may be substituted.



END OF STRINGER DETAILS
3/4" = 1'-0"

CROSS FRAME NOTES:

- All bolts for cross frames to be 7/8" H.S. bolts in 1/8" holes, except as noted. See Note 3.
- Work with Beam Stress Type Diagram Sheet 10.
Area A: "Paint tight fit" top-cut to clear bottom flange by 2".
Area B: Cut to clear top and bottom flange by 2".
Area C: "Paint tight fit" bottom-cut to clear top flange by 2".
- Provide oversize holes for Type A-1 connections. Make up connection only after concrete deck slab is placed.

FIELD SPICE NOTES:

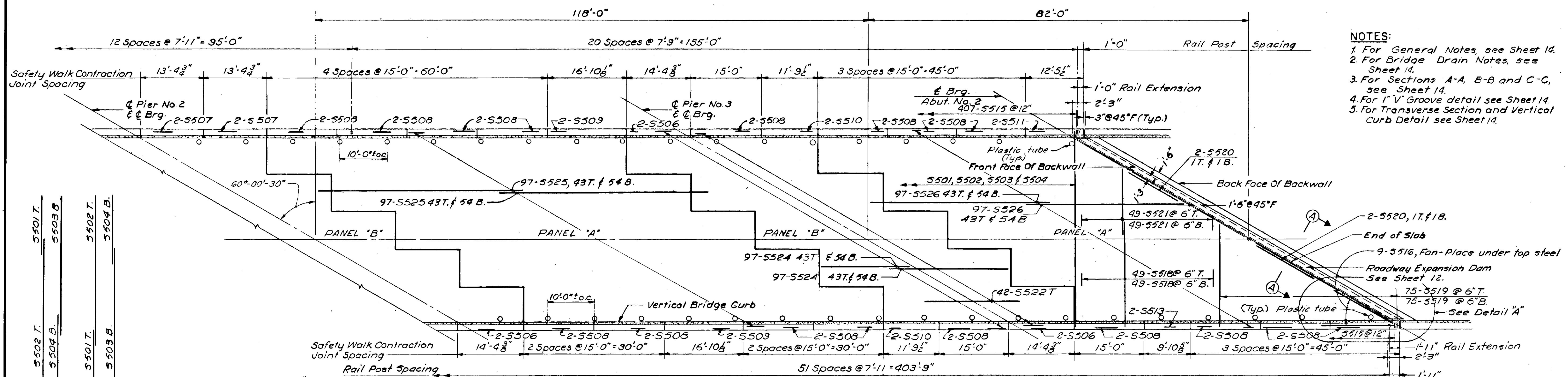
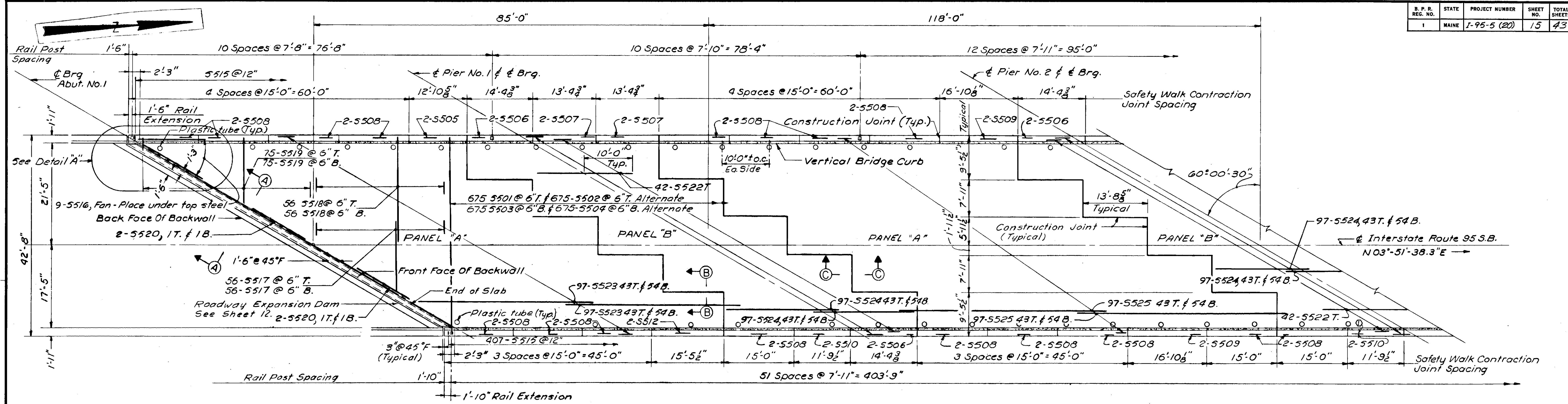
- All bolts to be 7/8" H.S. in 1/8" φ holes.
- Nuts to be on inside face of web splice at fascia stringer.
- Nuts to be up on all flange splices.

STIFFENER NOTES:

- All stiffeners shall be 90° to the web.
- Intermediate stiffeners shall be 90° to flanges.
- Bearing stiffeners shall be plumb after girder is fully deflected under dead load.

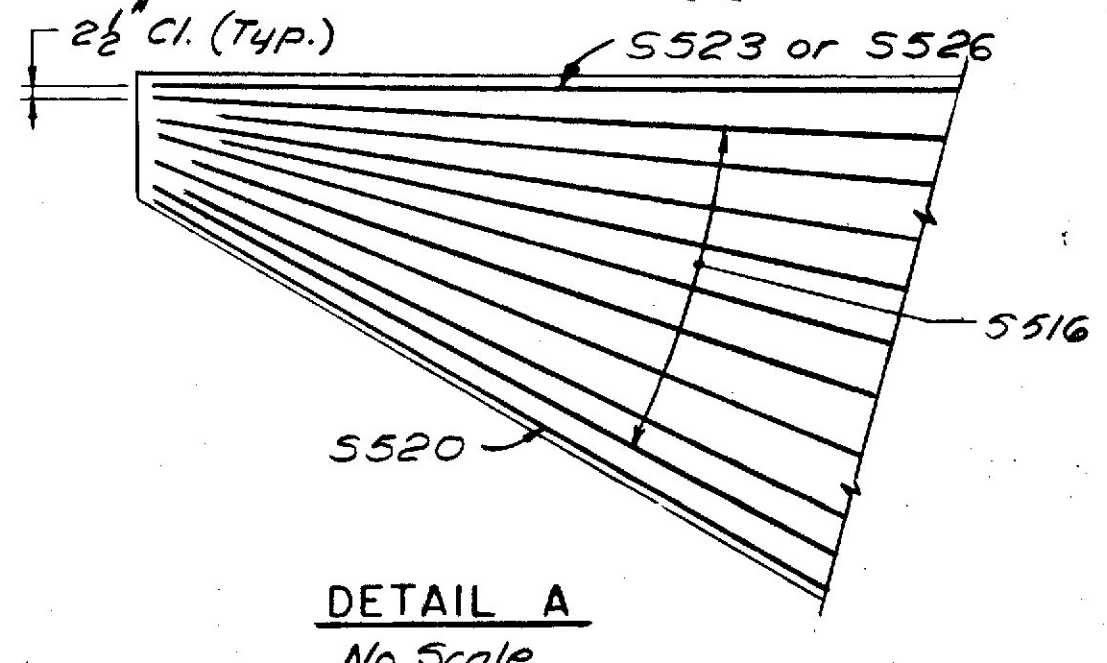
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

DESIGN - E.F.K.	DETAIL - J.M.M.	BRIDGE NO.
TRACE - I.S.	CHECK - I.S.	SURVEY - PLOT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE ROUTE 95 S.B.		
OVER		
MAINE TURNPIKE		
IN THE TOWN OF		
WEST GARDINER		
KENNEBEC COUNTY		
STRUCTURAL STEEL DETAILS		
SHEET II OF 17 AUGUSTA, MAINE		
WEST GARDINER (20)		



- NOTES:**
1. For General Notes, see Sheet 14.
 2. For Bridge Drain Notes, see Sheet 14.
 3. For Sections A-A, B-B and C-C, see Sheet 14.
 4. For 1" V Groove detail see Sheet 14.
 5. For Transverse Section and Vertical Curb Detail see Sheet 14.

TYPICAL PATTERN FOR
MAIN REINFORCING
No Scale



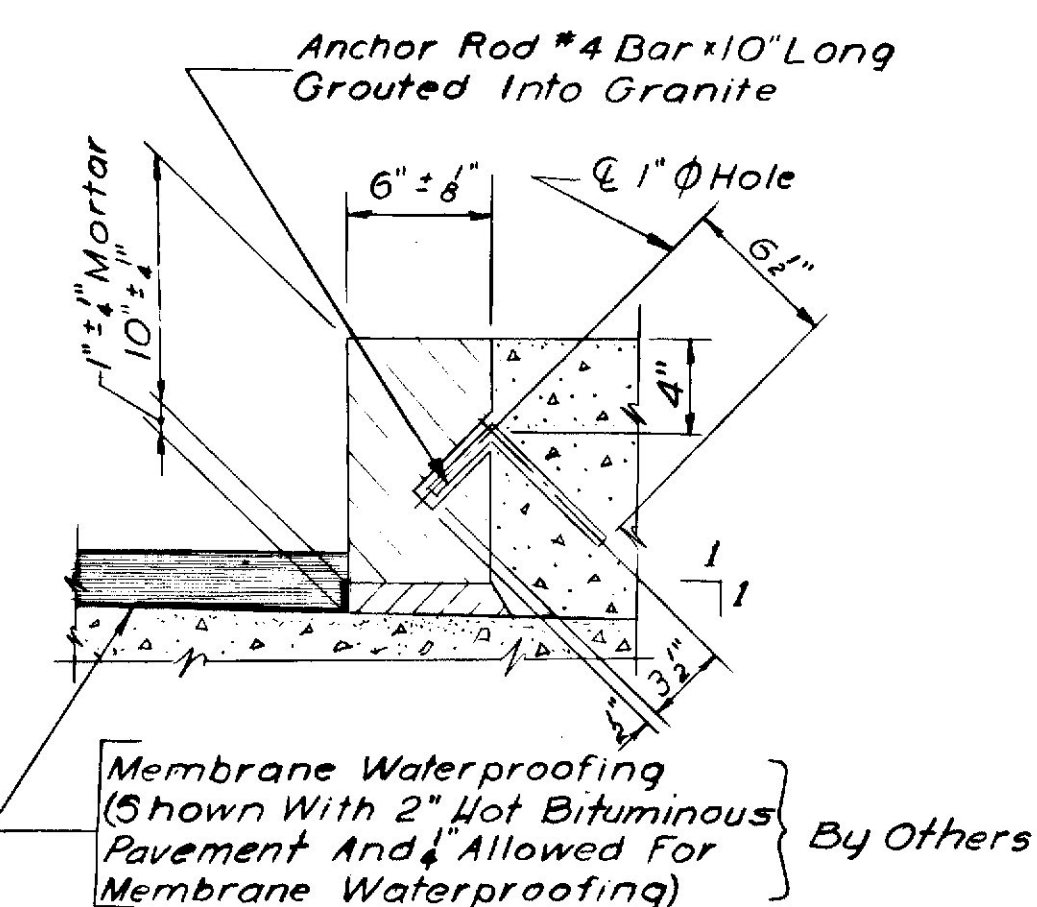
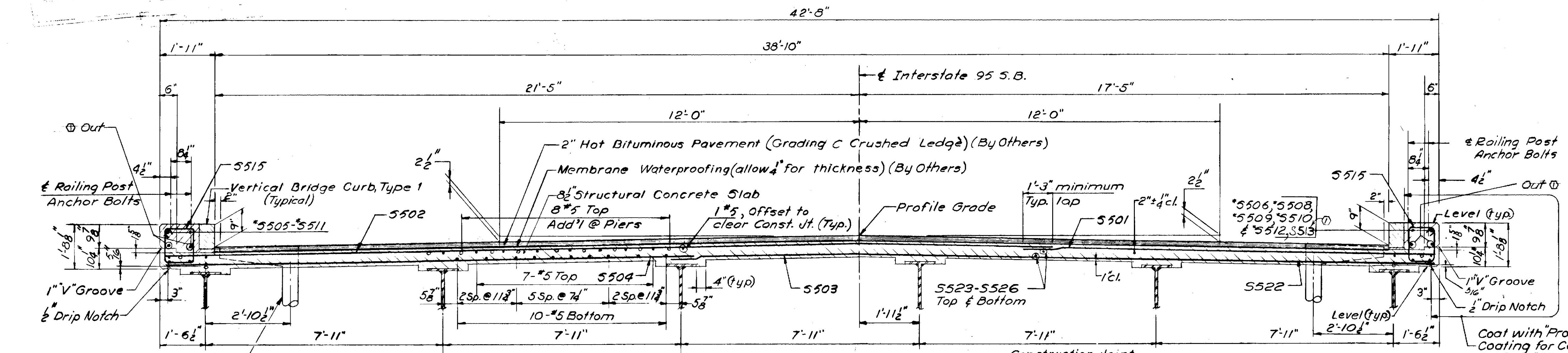
NOTE A:
As an alternate and at the Contractor's option, the deck concrete may be placed in one continuous operation, thus eliminating slab construction joints and joint sealer. Continuous placing of concrete in the deck shall be made with the use of an acceptable set-retarder. Payment for set-retarder shall be in accordance with Section 502 of the Standard Specifications.

PLAN
1" = 10'
NOTE:
Offset longitudinal bars as required to clear construction joints.

Changed 10-26-72 A.L.L.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
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BOSTON

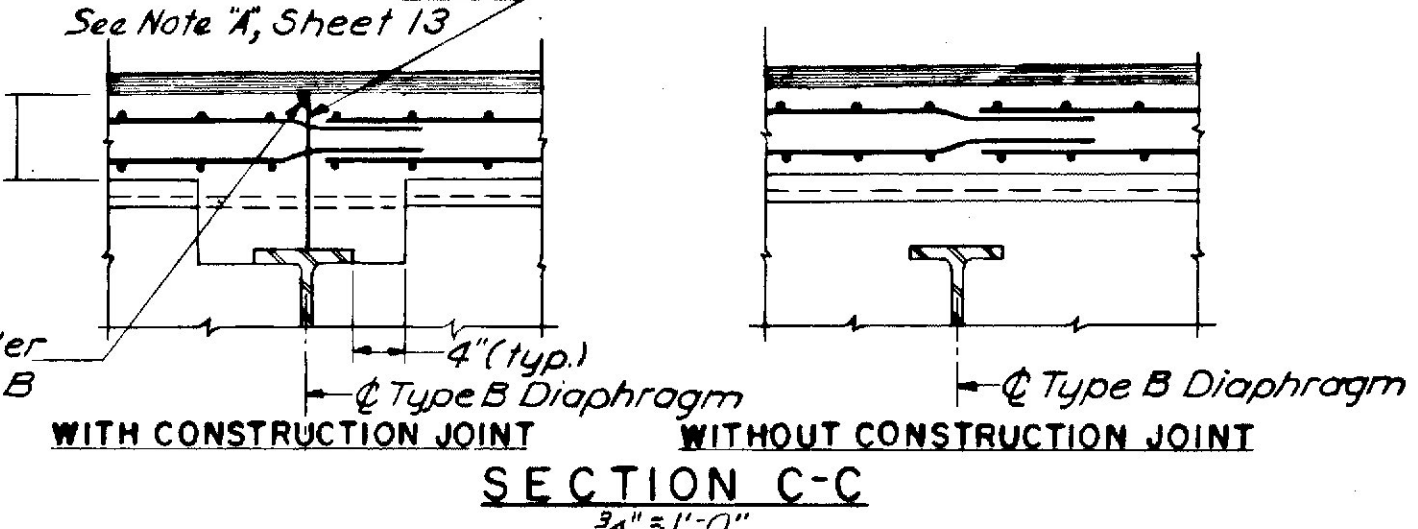
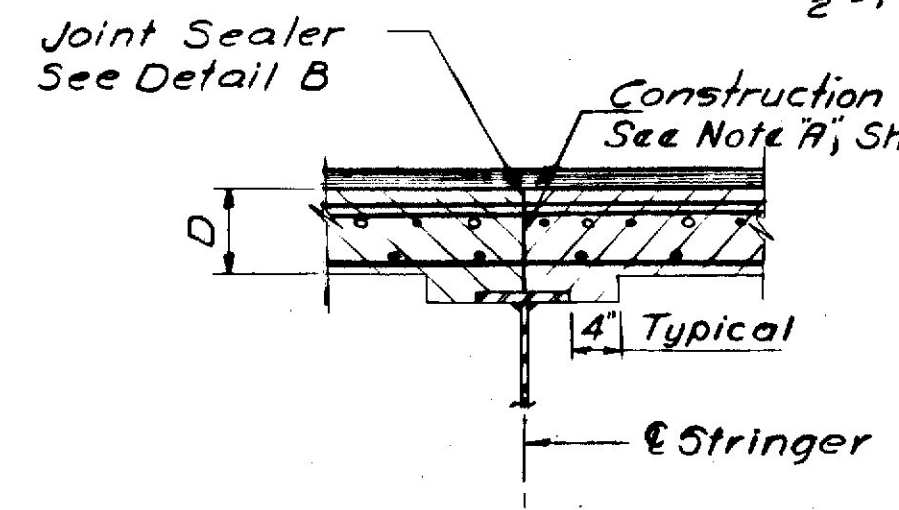
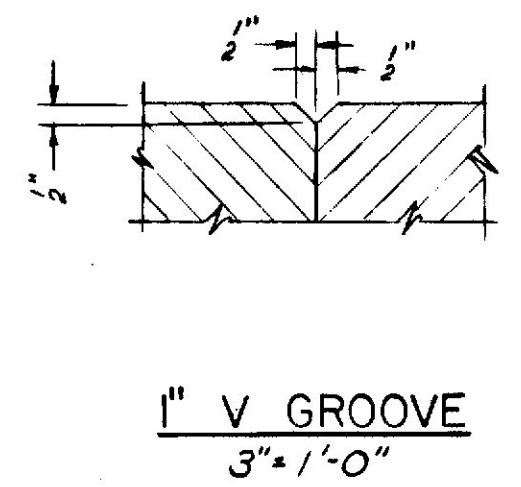
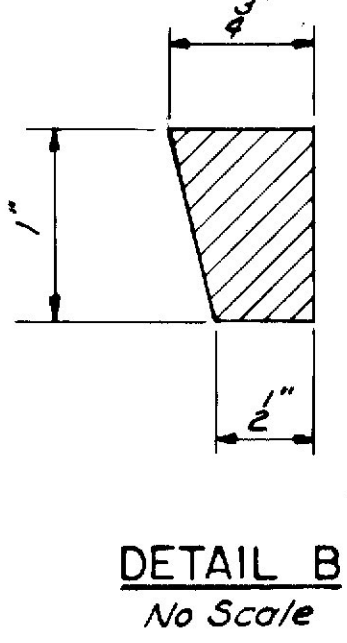
DESIGN - E.F.K.	DETAIL - S.H.R.	BRIDGE NO.
TRACE - G.J.D. & I.S.	SURVEY -	PLOT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE ROUTE 95 S.B. OVER MAINE TURNPIKE IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY SUPERSTRUCTURE		
SHEET 13 OF 17		AUGUSTA, MAINE
WEST GARDINER (20)		



NOTE:
Mortar for bedding and for joints in granite curbs shall contain an approved non-shrink additive.

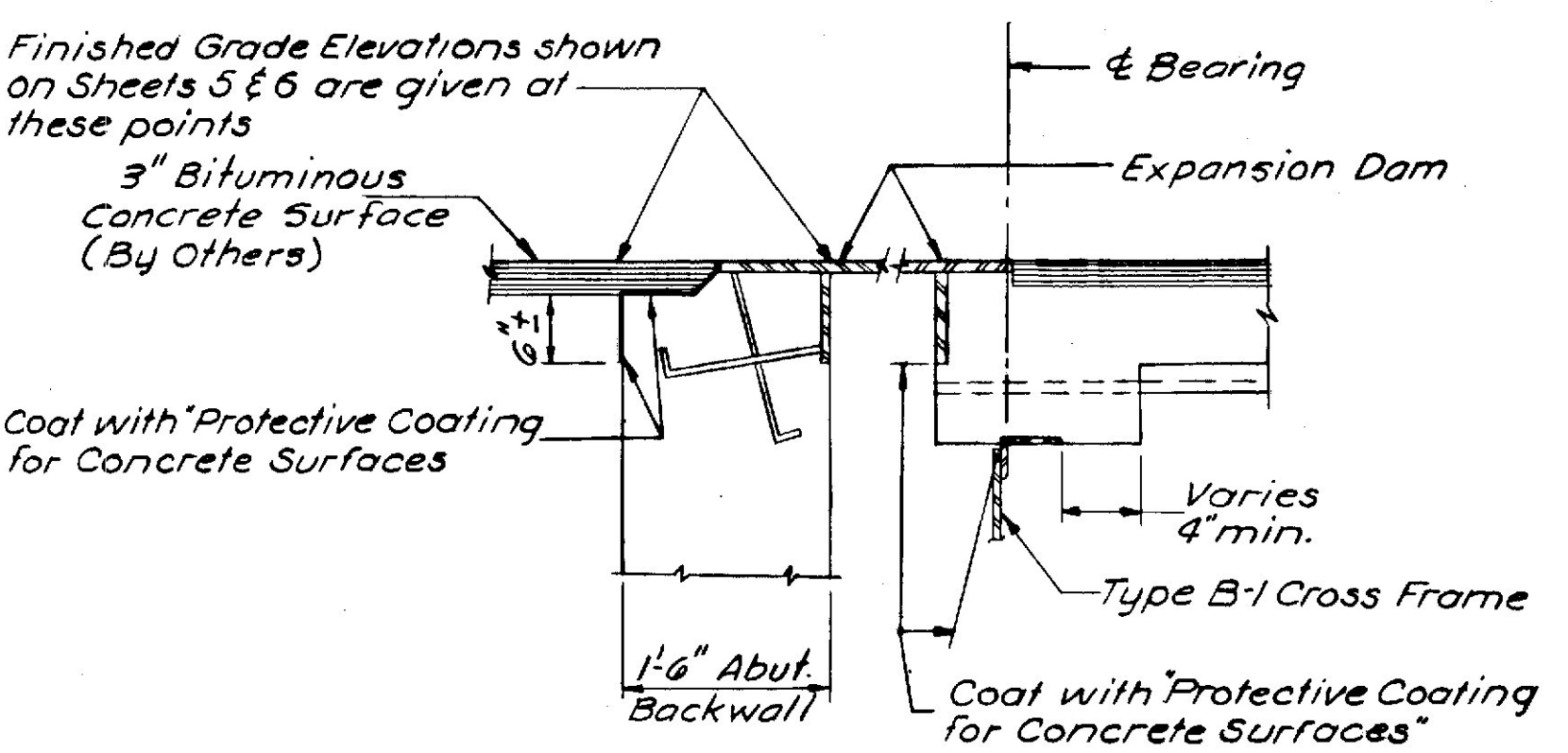
* Place to clear railing anchor bolts

Standard Bridge Drain No. 1 see Standard Details BD104-71 & Bridge Drain Notes this Sheet.

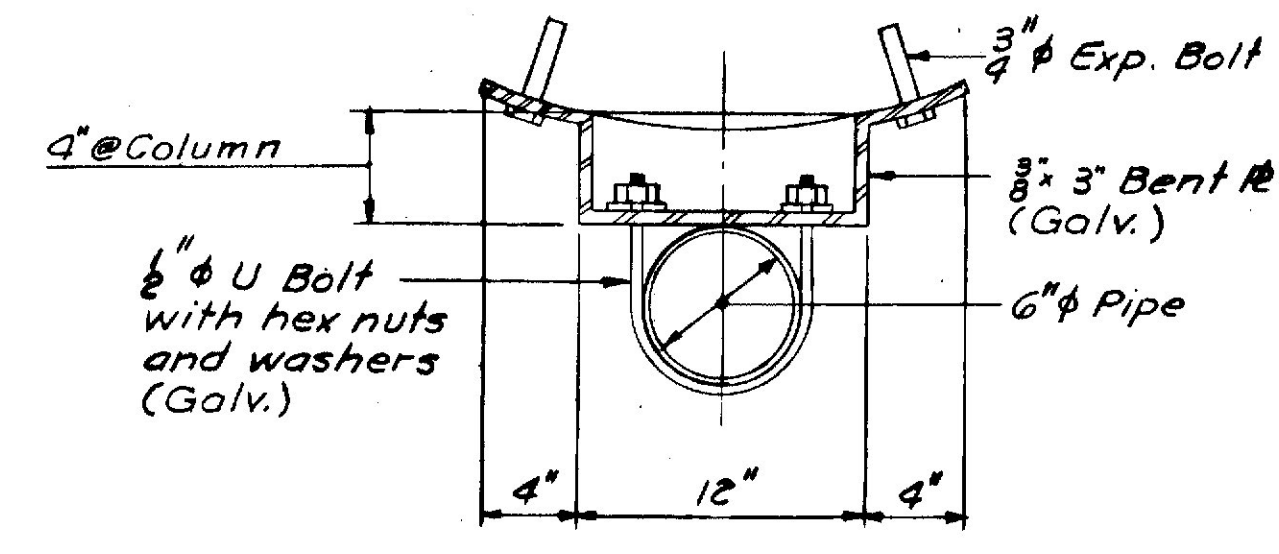


GENERAL SUPERSTRUCTURE NOTES

- At all contraction joints in concrete curbs, break the bond between concrete surfaces by a method to be approved by the Engineer. Form a 1" V-Groove on the outside faces of curbs at each curb joint. Provide a joint in the Vertical Bridge Curb at each contraction joint in the concrete curbs. Chamfer exposed edges of concrete 2" unless noted.
- Do not break the bond between the concrete surfaces of vertical construction joints in superstructure slabs. Form a 1" V-Groove on the outside faces of slabs at each Construction Joint.
- For bridge rail, see Standard Detail Sheet BD106-69.
- Vertical Bridge Curb will be paid for under Item 609.13.
- Reinforcing steel to have 2" minimum cover unless otherwise noted.
- Place concrete in "A" Panels before placing concrete in "B" Panels, see Note A Sheet 13. A minimum of 2 days time lapse shall be allowed between successive placement of "A" Panels.

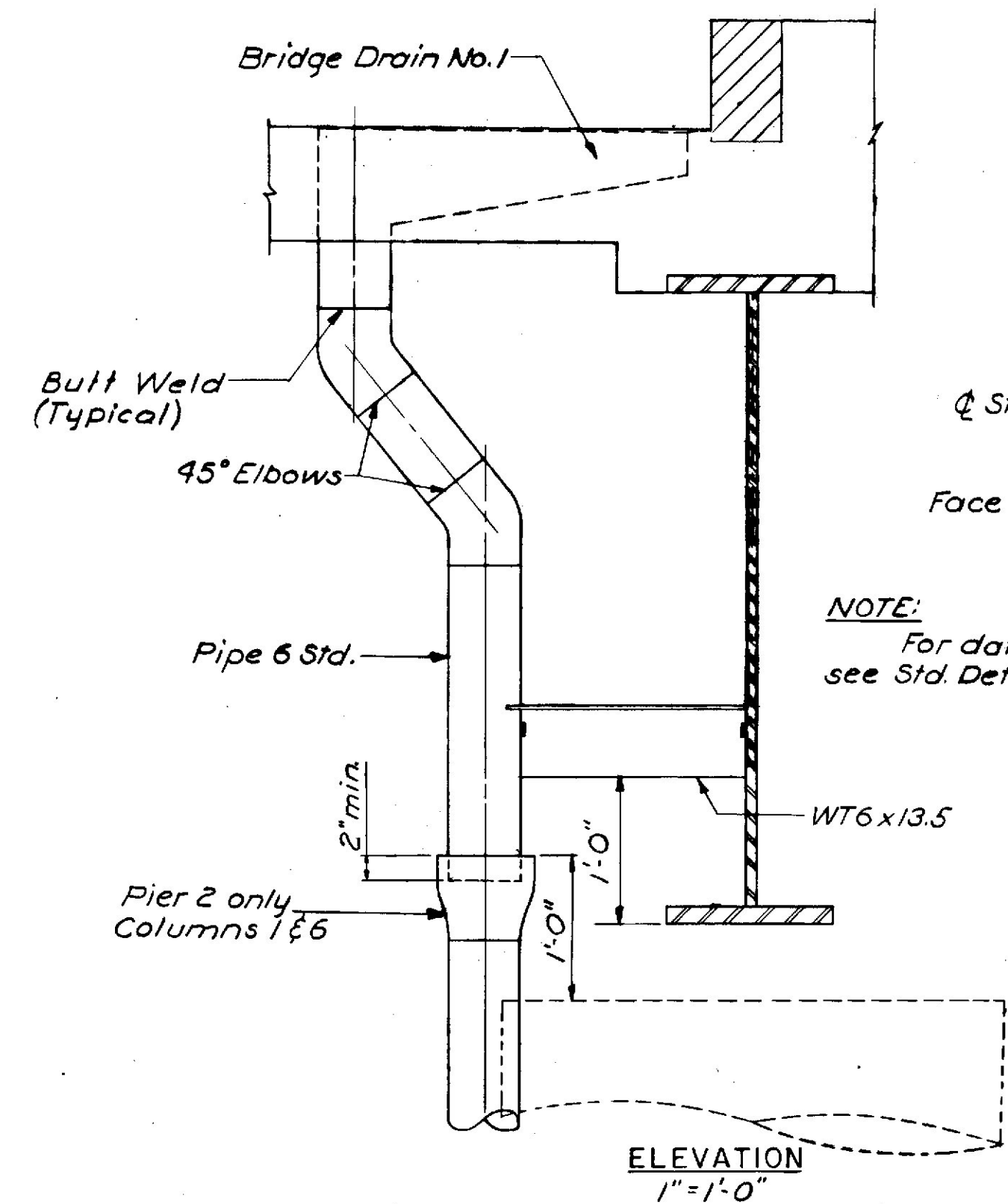


NOTE:
For details of Tooth Joint, See Sheet 12.

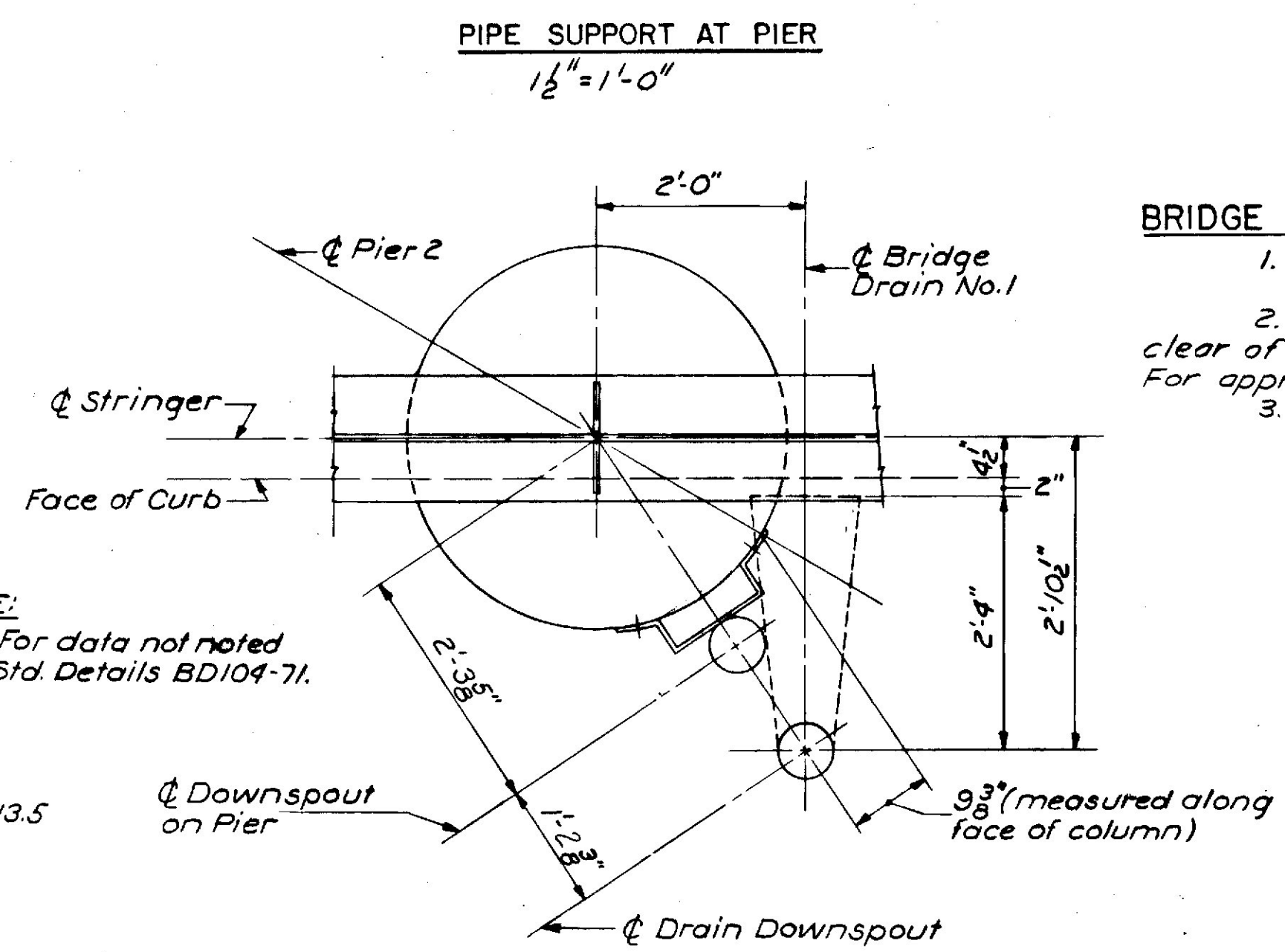


BRIDGE DRAIN NOTES

- Two bridge drains on each side of Spans 1 and 4.
- Drains shall be placed so they are at least 10'-0" clear of Piers, exact position to be determined in field. For approximate locations see Sheet 2.
- Two special bridge drains at Pier 2.



NOTE:
For data not noted see Std. Details BD104-71.



SPECIAL DRAIN DETAILS (PIER 2)

Changed 10-26-72 A.L.L.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

DESIGN - E.F.K.	DETAIL - S.H.R.	BRIDGE NO.
TRACE - G.J.D.	PLOT -	SURVEY -
CHECK - G.J.D.	PLOT -	

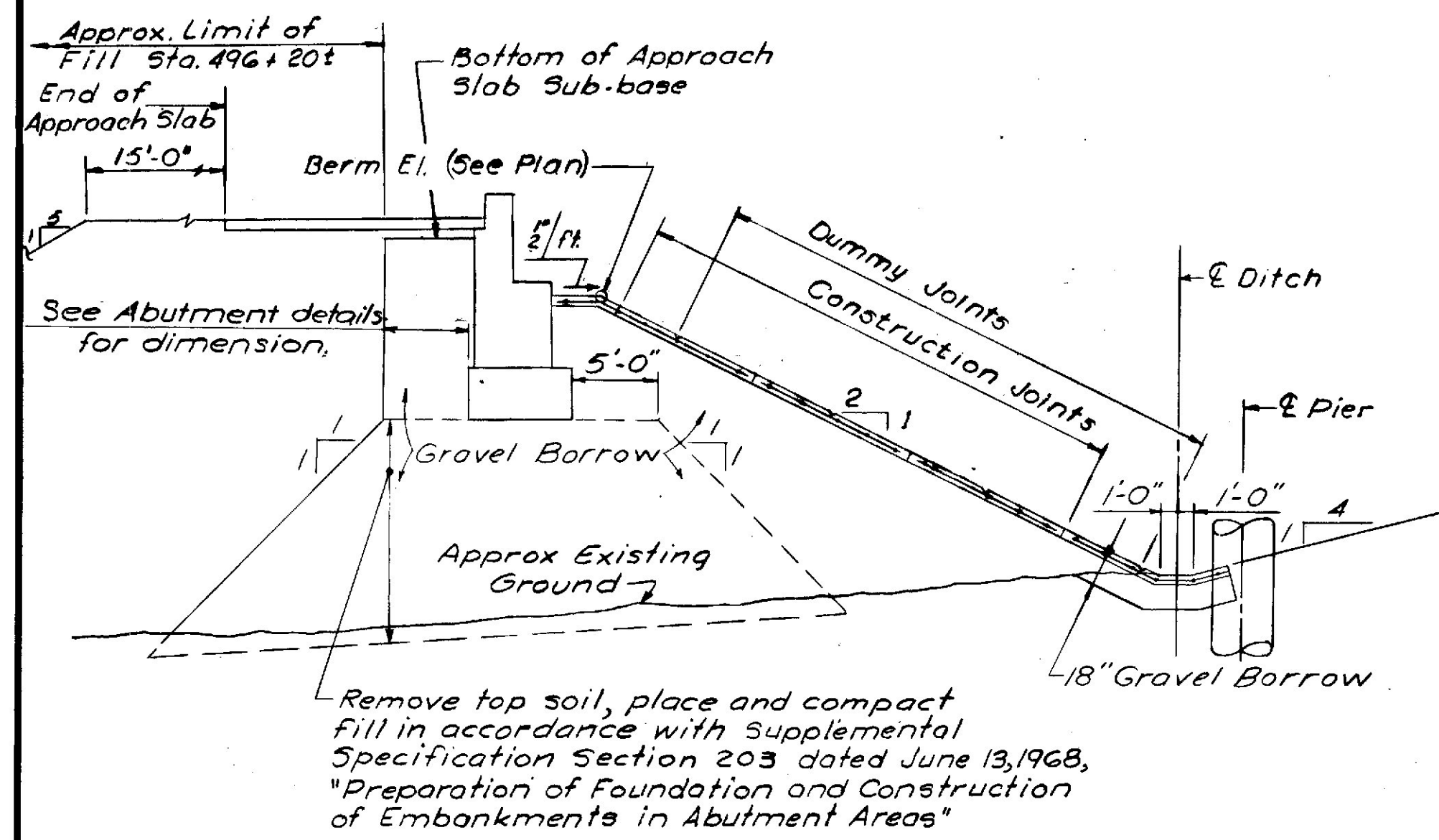
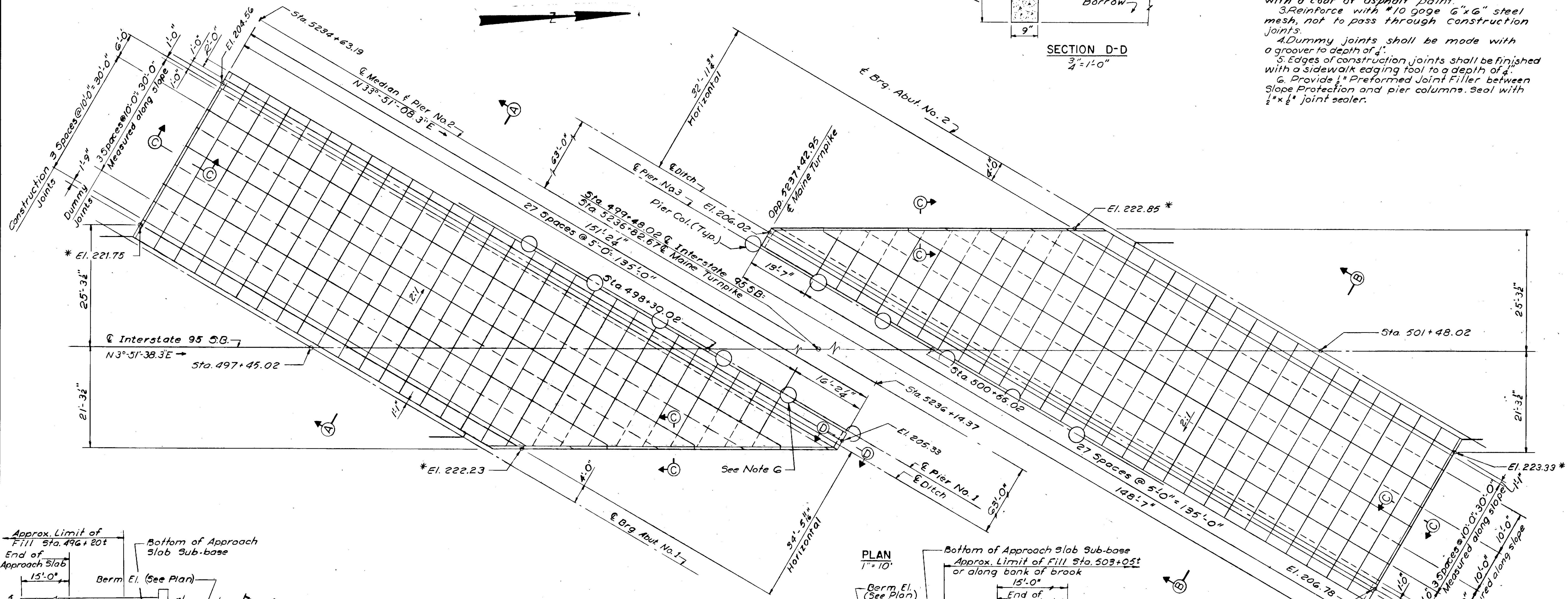
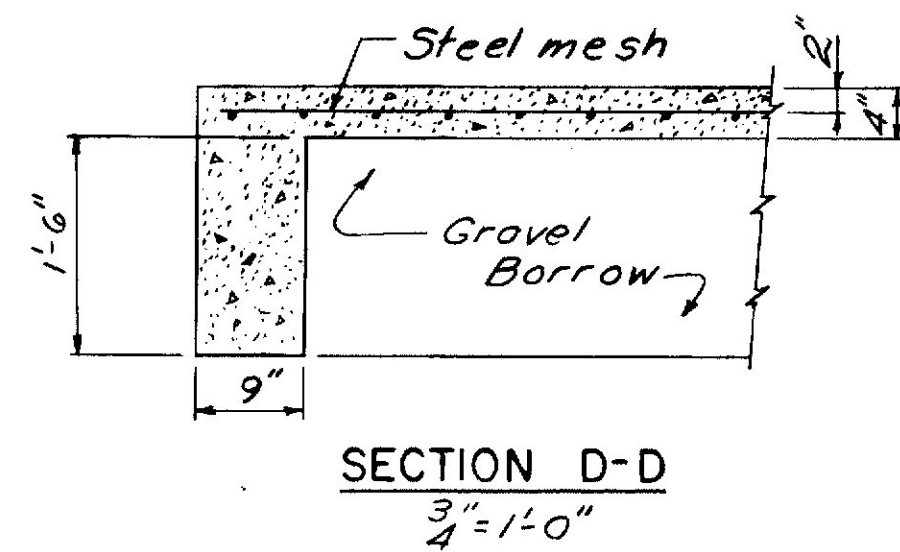
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

INTERSTATE ROUTE 95 S.B.
OVER
MAINE TURNPIKE
IN THE TOWN OF
WEST GARDNER
KENNEBEC COUNTY
SUPERSTRUCTURE DETAILS

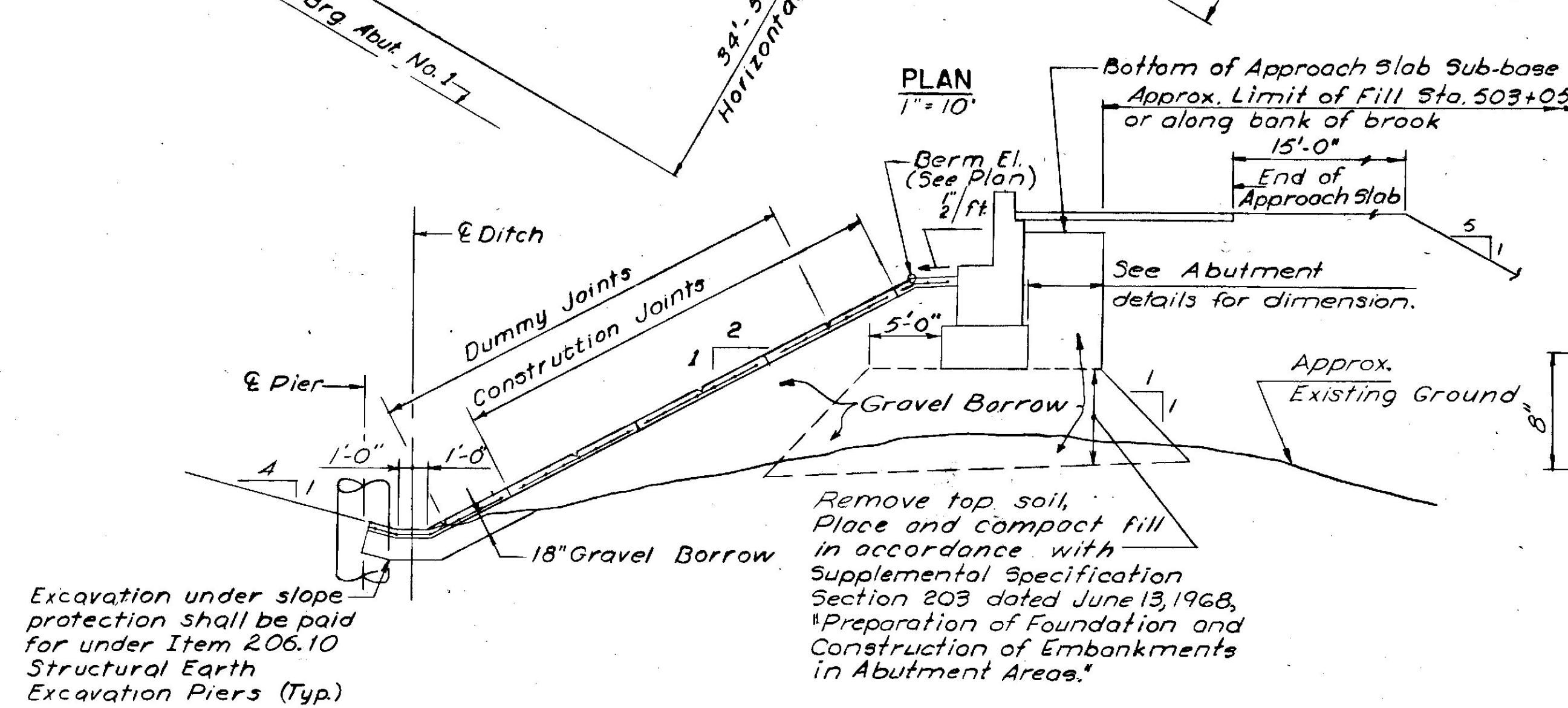
SHEET 14 OF 17 AUGUSTA, MAINE

NOTES

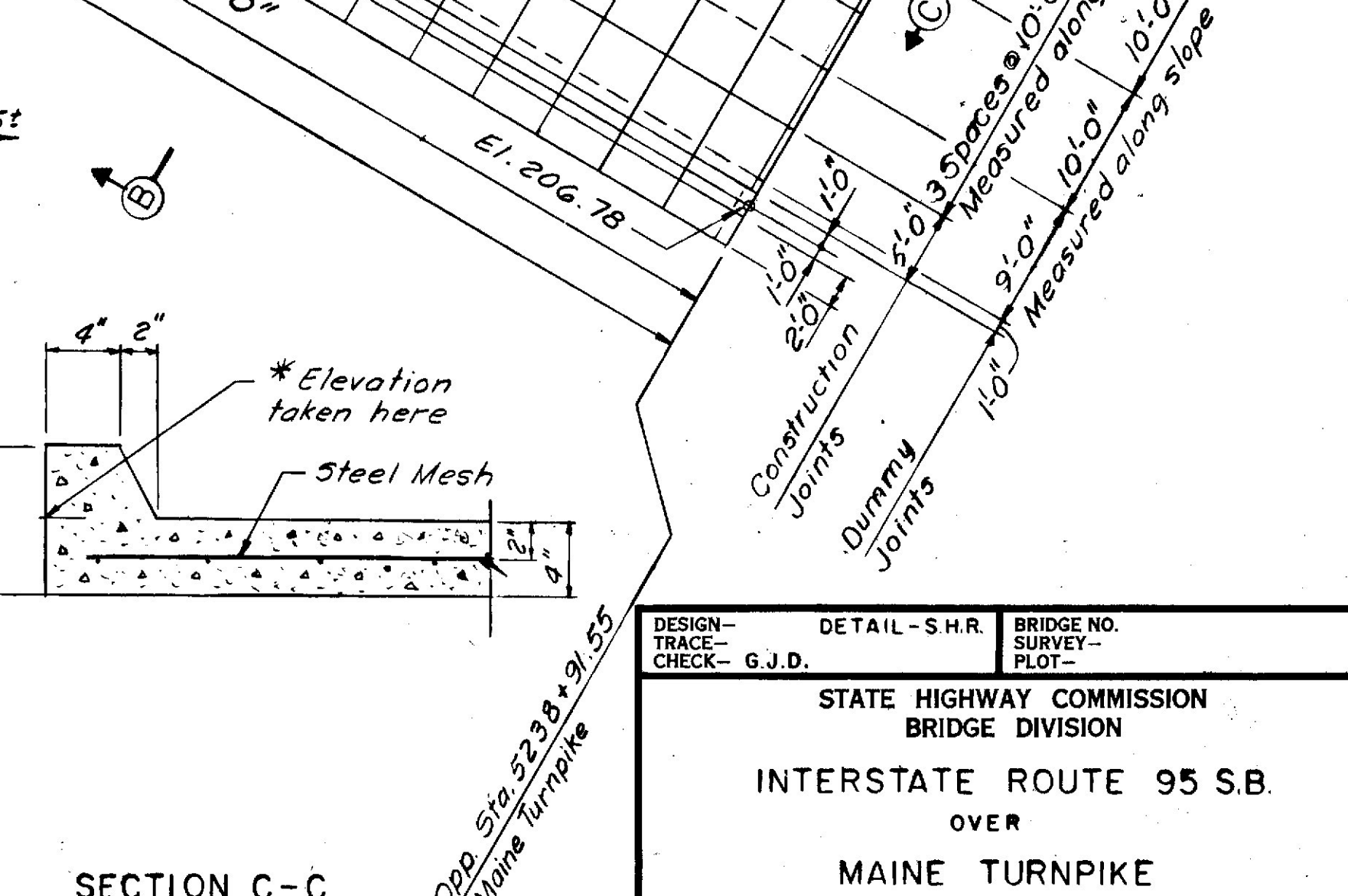
1. The 18" of Gravel Borrow under slope protection may be reduced or omitted, if in the opinion of the Engineer the existing material is suitable.
2. Break bond at construction joints with a coat of asphalt paint.
3. Reinforce with #10 gage 6"x6" steel mesh, not to pass through construction joints.
4. Dummy joints shall be made with a groover to depth of 4".
5. Edges of construction joints shall be finished with a sidewalk edging tool to a depth of 4".
6. Provide 1" Preformed Joint Filler between Slope Protection and pier columns. Seal with 1/2"x1/2" joint sealer.



SECTION A-A
3/8"=1'-0"



SECTION B-B
3/8"=1'-0"



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

NOTE:
Removal of Topsoil shall be paid for under Item 203.20 Common Excavation

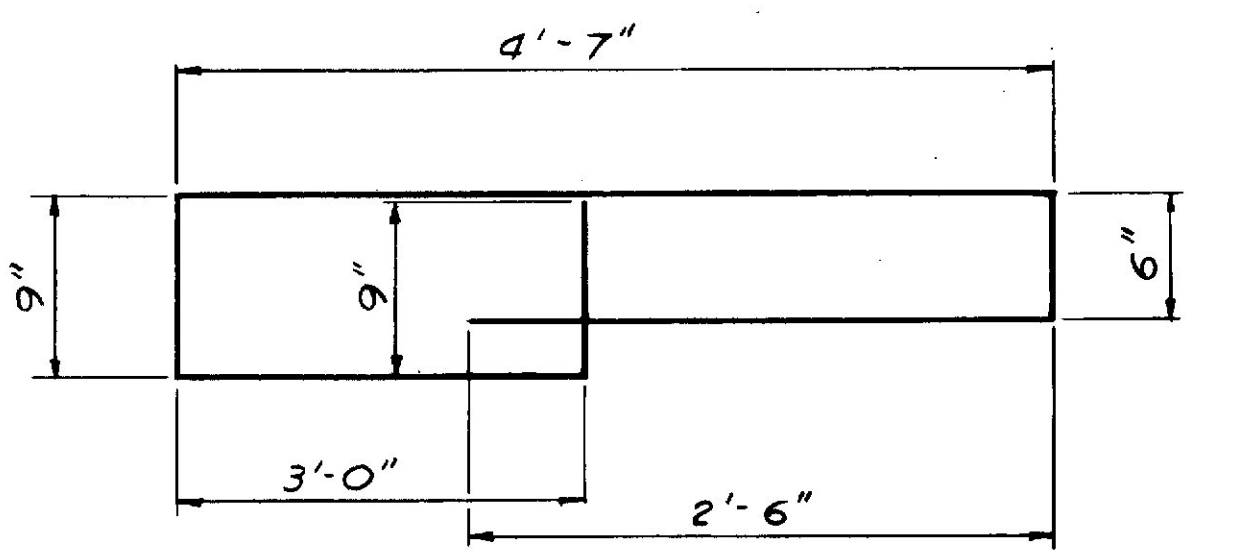
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

DESIGN-TRACE-CHECK- G.J.D.	DETAIL-S.H.R. BRIDGE NO. SURVEY- PLOT-
STATE HIGHWAY COMMISSION BRIDGE DIVISION	
INTERSTATE ROUTE 95 S.B. OVER MAINE TURNPIKE IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY SLOPE PROTECTION	
SHEET 15 OF 17 AUGUSTA, MAINE	

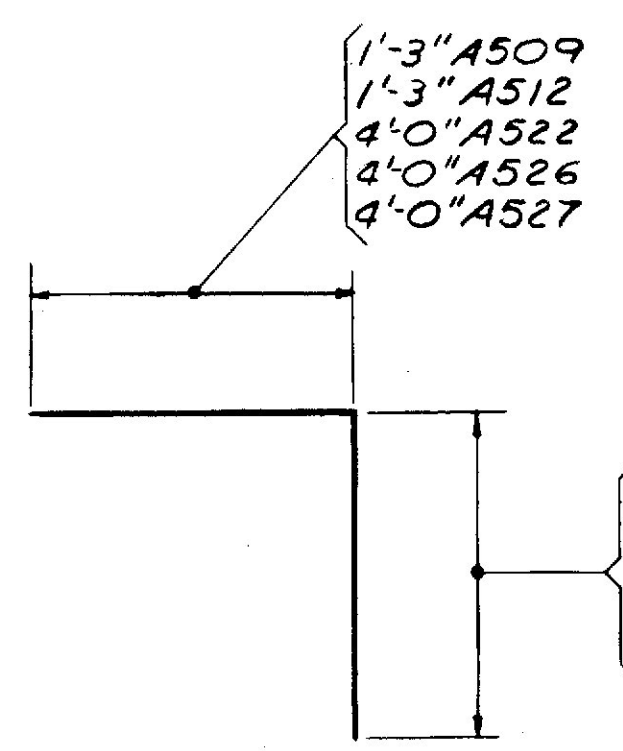
MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
ABUTMENT NO. 1					
STRAIGHT BARS					
A401	4	15	10'3"		Backwall
A421	4	5	7'6"		"
A422	4	20	3'2"		Backwall
A501	5	2	13'6"		Wingwall
A502	5	2	10'6"		"
A504	5	6	26'2"		"
A507	5	63	3'6"		"
A508	5	28	6'6"		"
A510	5	8	24'8"		"
A511	5	104	5'11"		"
A513	5	32	6'1"		"
A514	5	6	18'6"		"
A515	5	10	14'8"		Wingwall
A520	5	104	5'6"		Backwall
A521	5	57	3'6"		Stem Dowel
A523	5	52	8'5"		Backwall
A524	5	2	10'3"		Stem
A525	5	52	3'6"		Backwall Dowel
A535	5	3	14'5"		Stem
A536	5	12	3'2"		"
A537	5	1	13'9"		"
A538	5	2	10'3"		"
A539	5	1	7'0"		"
A540	5	1	5'9"		"
A541	5	2	3'6"		Stem
A603	6	17	5'4"		Wingwall
A604	6	5	23'9"		Wingwall
A621	6	21	29'2"		Footing
A622	6	63	5'6"		"
A624	6	23	7'0"		"
A625	6	8	21'6"		"
A626	6	6	13'11"		"
A627	6	3	5'6"		"
A628	6	13	3'5"	2'0"	"
A629	6	5	5'6"	7"	Footing
A402	4	12	5'6"		Pad
A403	4	10	5'10"		"
A404	4	2	7'4"		Pad
A503	5	8	9'4"		Wingwall
A505	5	4	7'11"		"
A509	5	7	2'6"		"
A512	5	12	4'1"		Wingwall
A522	5	25	8'0"		Stem
A526	5	32	8'3"		Stem
A527	5	6	8'6"		Wingwall
A533	5	2	2'6"		"
A534	5	7	3'0"		"
A542	5	32	4'10"		"
A543	5	2	4'9"		"
A544	5	2	3'1"		"
A545	5	6	12'1"		Wingwall
A623	6	51	3'6"		Approach Slab Dowel
APPROACH SLAB, ABUTMENT NO. 1					
STRAIGHT BARS					
A5401	4	44	30'0"		Approach Slab
A5402	4	22	18'0"		"
A5601	6	202	14'6"		"
A5602	6	8	29'0"		"
A5603	6	200	2'3"	3"	Approach Slab
			14'6"	3"	4 Groups of 50

MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
ABUTMENT NO. 2					
STRAIGHT BARS					
A401	4	15	10'3"		Backwall
A421	4	5	7'6"		"
A422	4	20	3'2"		Backwall
A501	5	2	13'6"		Wingwall
A502	5	2	10'6"		"
A504	5	6	26'2"		"
A506	5	52	6'8"		"
A507	5	63	3'6"		"
A508	5	28	6'6"		"
A510	5	8	24'8"		"
A511	5	52	5'11"		"
A513	5	32	6'1"		"
A514	5	6	18'6"		"
A515	5	10	14'8"		Wingwall
A520	5	104	5'6"		Backwall
A521	5	57	3'6"		Stem Dowel
A524	5	2	10'3"		Stem
A525	5	52	3'6"		Stem
A529	5	52	8'8"		Backwall
A535	5	3	14'5"		Stem
A536	5	12	3'2"		"
A537	5	1	13'9"		"
A538	5	2	10'3"		"
A539	5	1	7'0"		"
A540	5	1	5'9"		"
A541	5	2	3'6"		Stem
A603	6	17	5'4"		Wingwall
A604	6	5	23'9"		Wingwall
A621	6	21	29'2"		Footing
A622	6	63	5'6"		"
A624	6	23	7'0"		"
A625	6	8	21'6"		"
A626	6	6	13'11"		"
A627	6	3	5'6"		"
A628	6	13	3'5"	2'0"	"
A629	6	5	5'6"	7"	Footing
A405	4	12	4'10"		Pad
A406	4	10	5'2"		"
A407	4	2	6'8"		Pad
A503	5	8	9'4"		Wingwall
A505	5	4	7'11"		"
A509	5	7	2'6"		"
A512	5	12	4'1"		Wingwall
A527	5	63	8'6"		Stem
A533	5	2	2'6"		Wingwall
A534	5	7	3'0"		"
A542	5	32	4'10"		"
A543	5	2	4'9"		"
A544	5	2	3'1"		"
A545	5	6	12'1"		Wingwall
A623	6	51	3'6"		Approach Slab Dowel
APPROACH SLAB, ABUTMENT NO. 1					
STRAIGHT BARS					
A5401	4	44	30'0"		Approach Slab
A5401	4	22	18'0"		"
A5601	6	202	14'6"		"
A5602	6	8	29'0"		"
A5603	6	200	2'3"	3"	Approach Slab
			14'6"	3"	4 Groups of 50

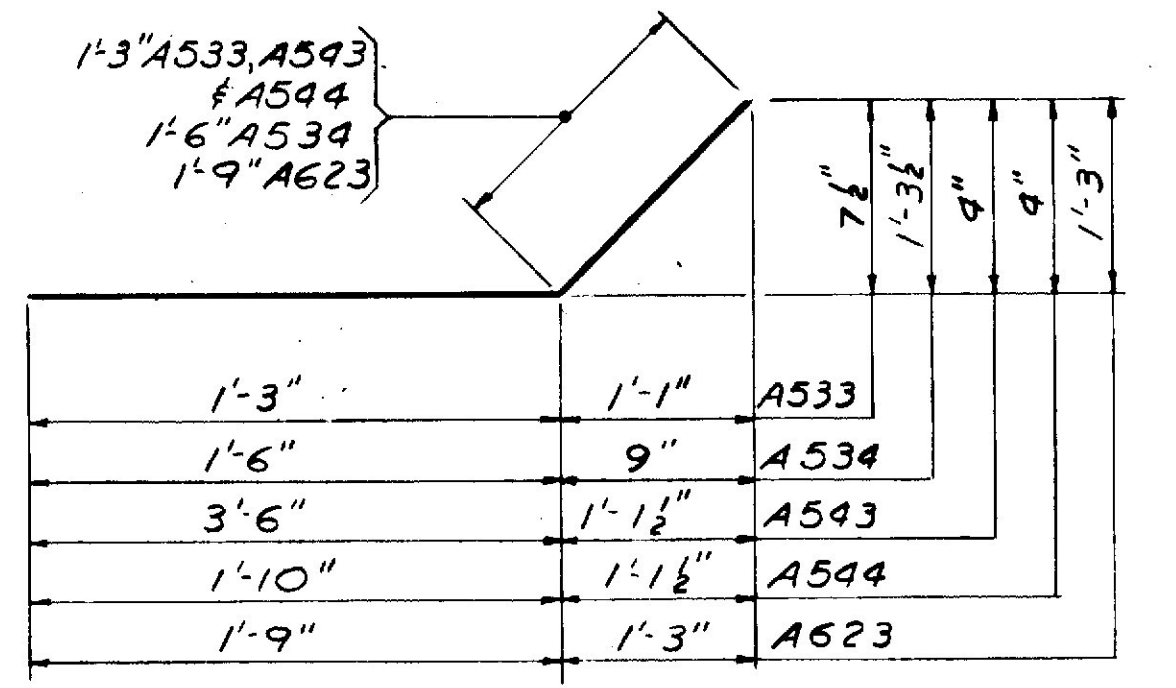
MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
PIER NO. 1					
STRAIGHT BARS					
P501	5	30	9'0"		Footing
P502	5	42	5'6"		"
P601	6	60	5'6"		"
P701	7	66	9'0"		Footing
P1103	11	5	25'4"		Column 1
P1104	11	5	22'10"		Column 6
P1105	11	9	24'3"		Column 2
P1106	11	9	24'0"		Column 3
P1107	11	9	23'2"		Column 4
P1108	11	9	22'7"		Column 5
P1109	11	5	17'40"		Column 1
P1110	11	5	15'5"		Column 6
BENT BARS					
P503	5	172	11'0"		Column Ties
P505	5	12	5'3"		All Columns
P506	5	24	4'6"		All Columns
P1101	11	34	19'9"		Columns 1 & 6
P1102	11	46	12'3"		Columns 2 thru 5



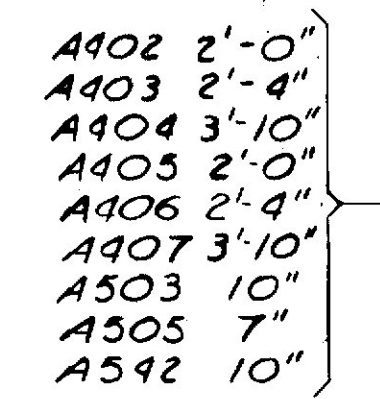
A545



A509, A512, A522, A526 & A527



A533, A534, A543, A544 & A623



A402 THRU A407, A503, A505 & A542

NOTE:
For notes see Sheet 17.

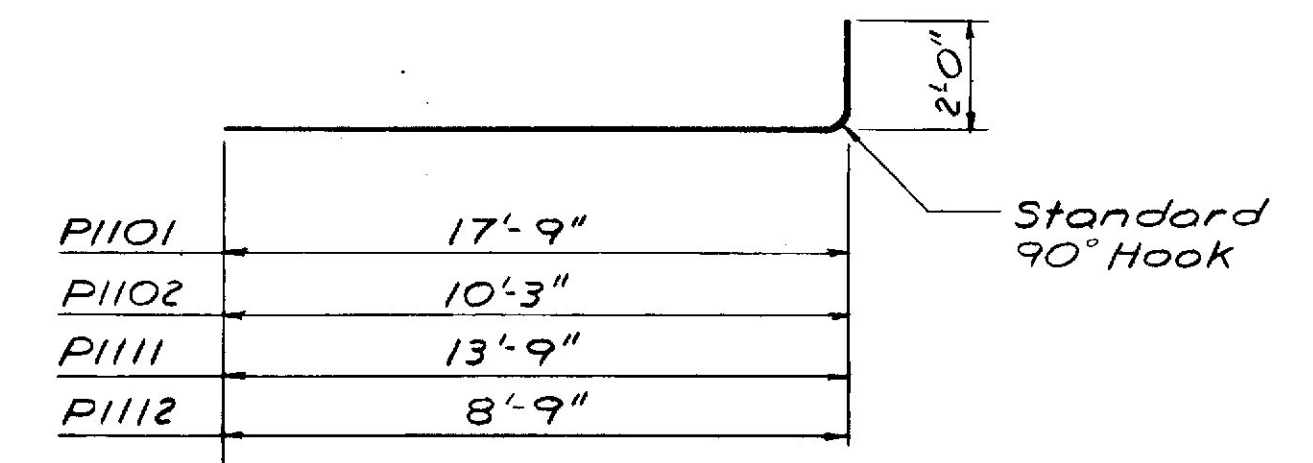
DESIGN-I.S. TRACE-CHECK-R.E.F.	DETAIL-S.H.R.	BRIDGE NO. SURVEY- PLOT-
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE ROUTE 95 S.B.		
OVER		
MAINE TURNPIKE		
IN THE TOWN OF		
WEST GARDINER		
KENNEBEC COUNTY		
REINFORCING STEEL		
SHEET 15 OF 17 AUGUSTA, MAINE		

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

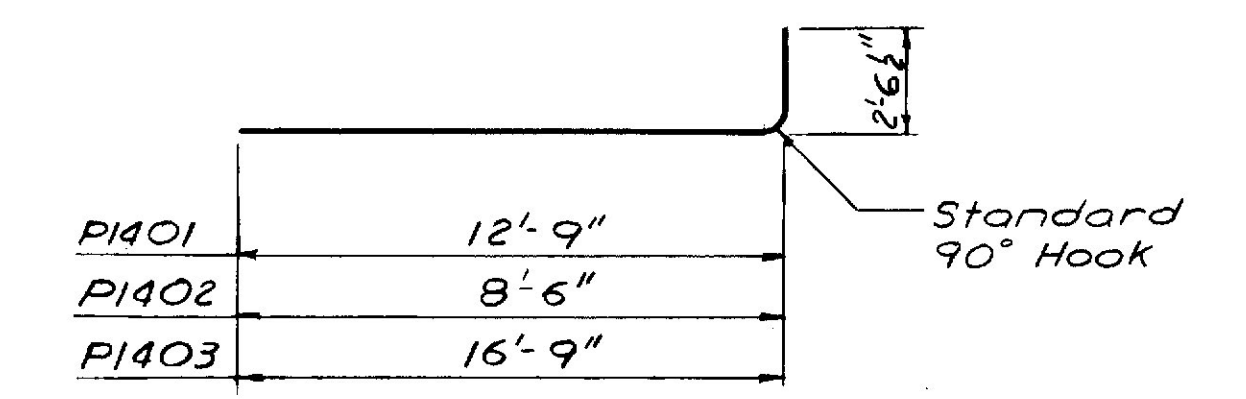
BOSTON

MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
PIER NO. 2					
STRAIGHT BARS					
P702	7	204	7'-6"		Footings
P1113	11	10	16'-4"		Columns 1 & 6
P1114	11	12	12'-3"		Columns 2 thru 5
P1115	11	10	11'-4"		Columns 1 & 6
P1116	11	36	8'-3"		Columns 2 thru 5
BENT BARS					
P503	5	38	11'-0"		Column Tie Column 1 & 6
P504	5	76	10'-6"		Column Tie Column 2 thru 5
P505	5	4	5'-6"		Columns 1 & 6
P506	5	8	9'-9"		Columns 1 & 6
P507	5	8	5'-4"		Columns 2 thru 5
P508	5	16	4'-7"		Columns 2 thru 5
P1111	11	10	15'-9"		Columns 1 & 6
P1112	11	10	10'-9"		Columns 1 & 6
P1401	14	12	15'-3 1/2"		Columns 2 thru 5
P1402	14	24	11'-0 1/2"		"
P1403	14	36	19'-3 1/2"		Columns 2 thru 5
PIER NO. 3					
STRAIGHT BARS					
P601	6	54	5'-6"		Footings
P703	7	66	7'-0"		Footings
P1117	11	10	17'-6"		Columns 1 & 6
P1118	11	20	17'-0"		Columns 2 thru 5
P1119	11	8	12'-6"		Columns 1 & 6
P1120	11	16	12'-0"		Columns 2 thru 5
BENT BARS					
P503	5	122	11'-0"		Column Ties
P505	5	12	5'-6"		All Columns
P506	5	24	4'-9"		"
P1111	11	24	15'-9"		"
P1112	11	30	10'-9"		All Columns
SUPERSTRUCTURE					
STRAIGHT BARS					
S501	5	73	13'-11"		Transverse
S502	5	73	29'-10"		"
S503	5	73	25'-10"		"
S504	5	73	17'-9"		"
S505	5	44	13'-6"	12'-7"	Longitudinal
S506	5	12	13'-10"	14'-0"	"
S507	5	20	13'-11"	13'-1"	"
S508	5	68	16'-2"	14'-8"	"
S509	5	8	12'-6"	16'-6"	"
S510	5	28	12'-7"	11'-6"	"
S511	5	2	13'-8"	12'-2"	"
S512	5	2	18'-5"	13'-2"	"
S513	5	2	21'-5"	9'-7"	"
S514	5	2	18'-2"		OUT
S516	5	18	8'-0"		Corners
S517	5	112	2'-3"	70	
S518	5	210	23'-6"	43	2 groups of 56 Transverse
S519	5	300	20'-3"	70	Transverse
S520	5	8	2'-0"	70	
S521	5	98	21'-3"	33	4 groups of 75 Transverse
S522	5	8	40'-0"		Transverse
S523	5	126	23'-6"	54	2 groups of 49 Transverse
S524	5	194	20'-0"		Longitudinal
S525	5	194	37'-4"		Longitudinal

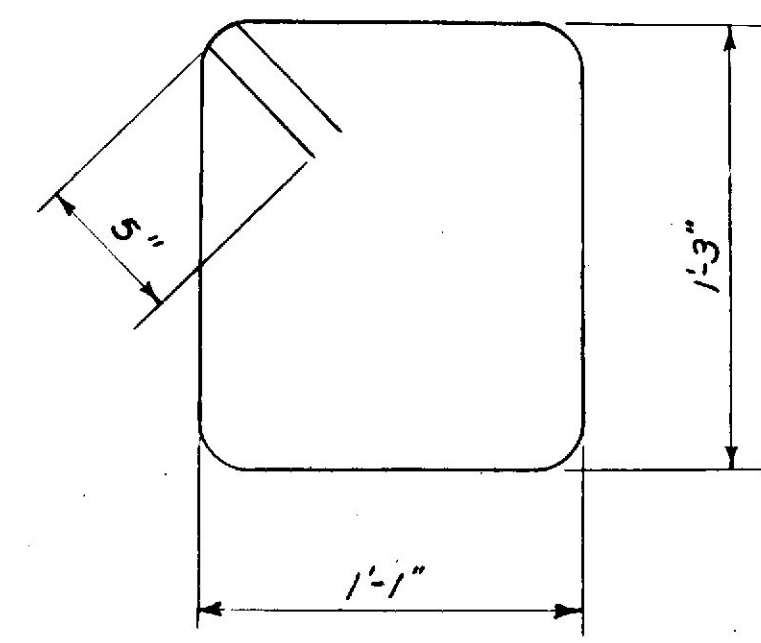
MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
SUPERSTRUCTURE					
STRAIGHT BARS					
S524	5	582	21'-3"		Longitudinal
S525	5	388	40'-0"		"
S526	5	194	35'-9"		Longitudinal
BENT BARS					
S515	5	814	5'-6"		Safety Walk



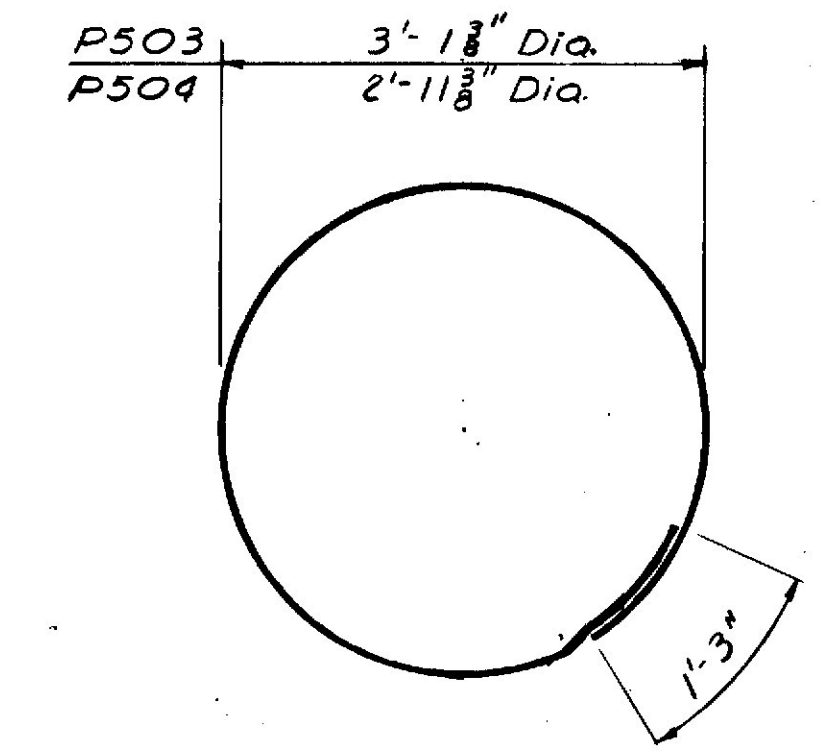
P1101, P1102, P1111 & P1112



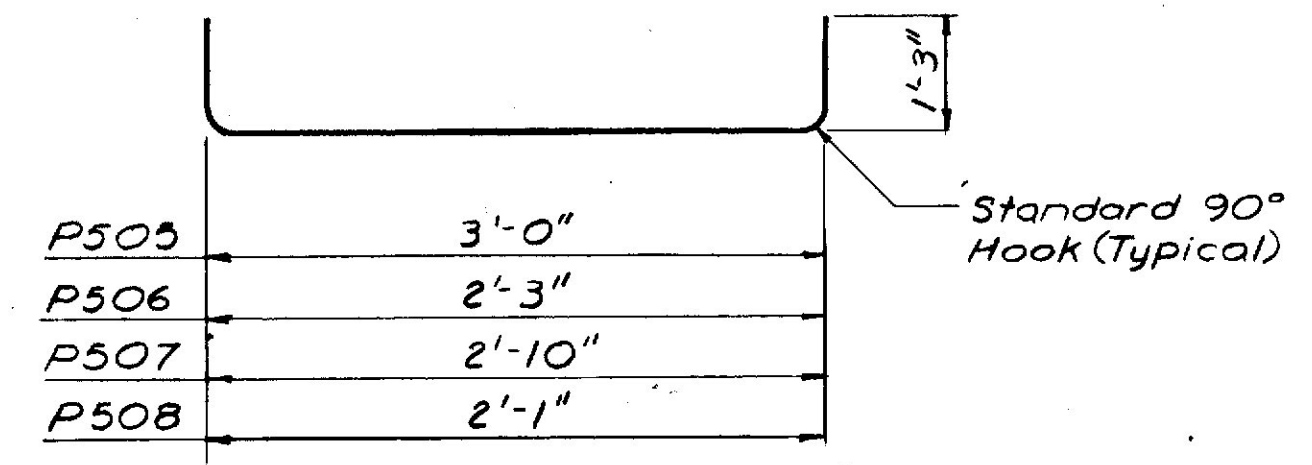
P1401, P1402 & P1403



S 515



P503 & P504



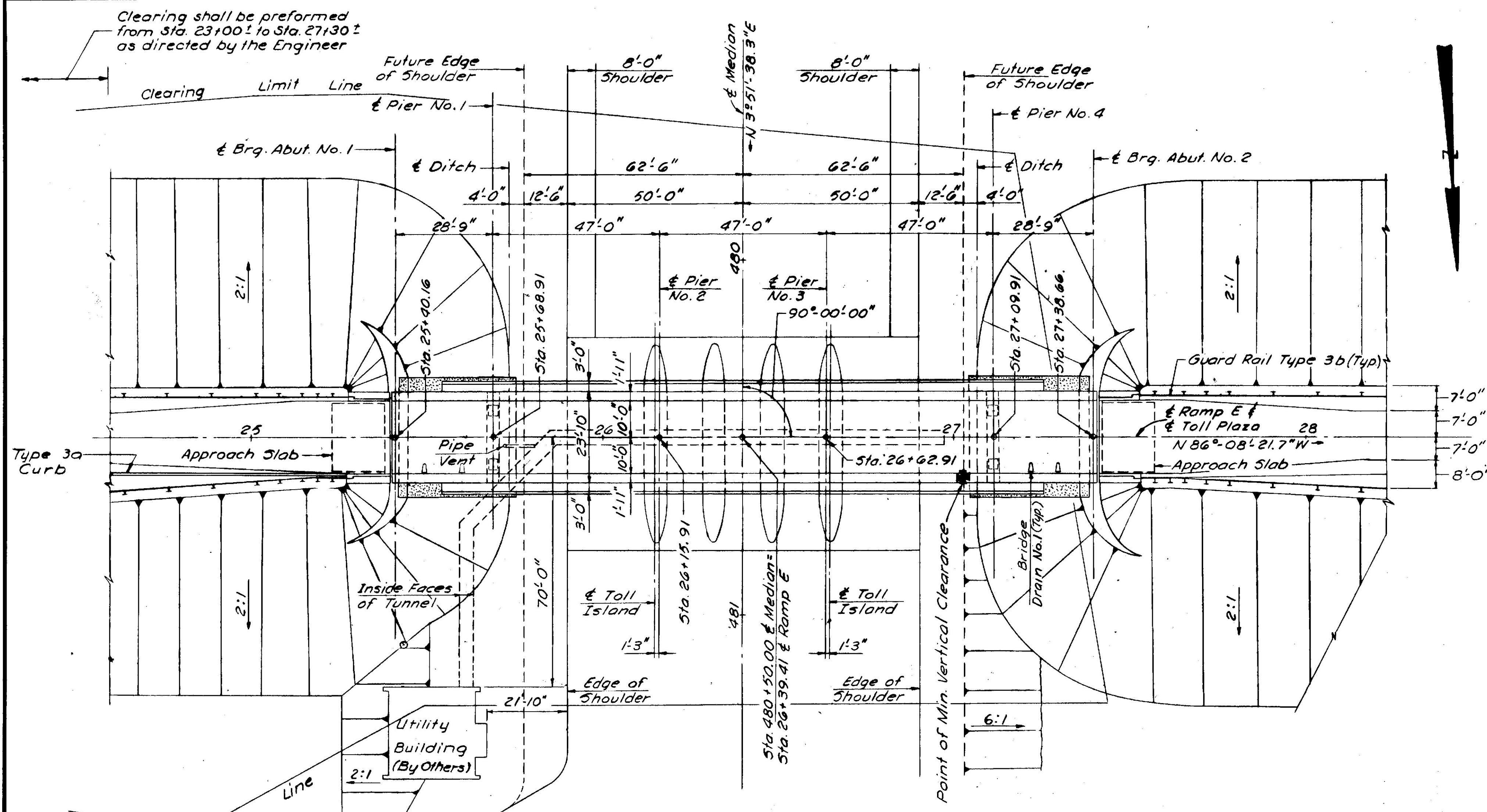
P505 THRU P508

NOTES:
1. ALL DIMENSIONS ARE TO THE ϕ OF BARS.

Changed 10-26-72 A.L.L.

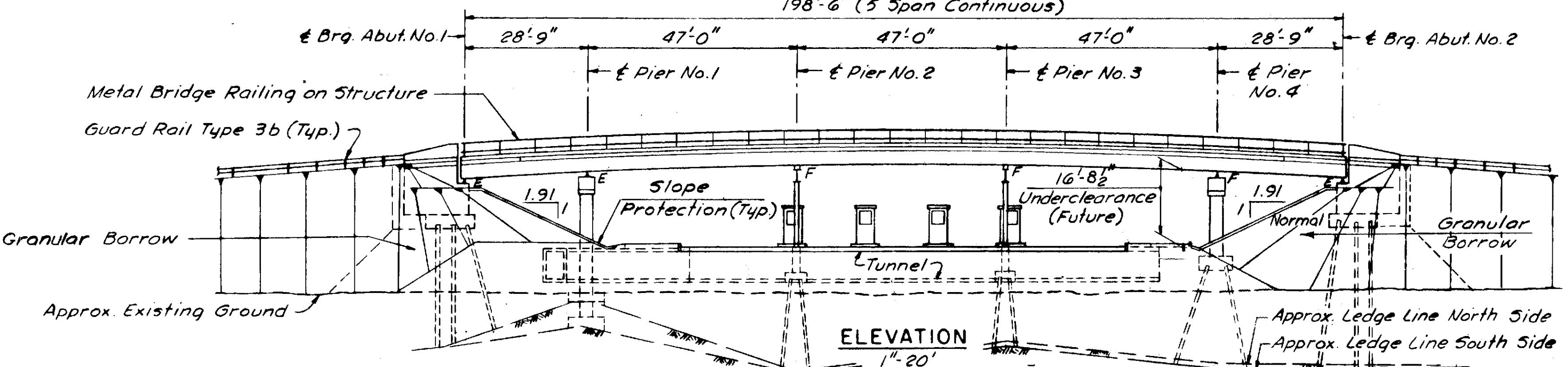
HOWARD, NEEDLES, TAMMEN & BERGENOFF
CONSULTING ENGINEERS
BOSTON

DESIGN - I.S.	DETAIL - S.H.R.	BRIDGE NO.
TRACE - R.E.F.	CHECK - R.E.F.	TRACE - SURVEY PLOT
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE ROUTE 95 S.B. OVER		
MAINE TURNPIKE IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY REINFORCING STEEL		
SHEET 17 OF 17 AUGUSTA, MAINE		

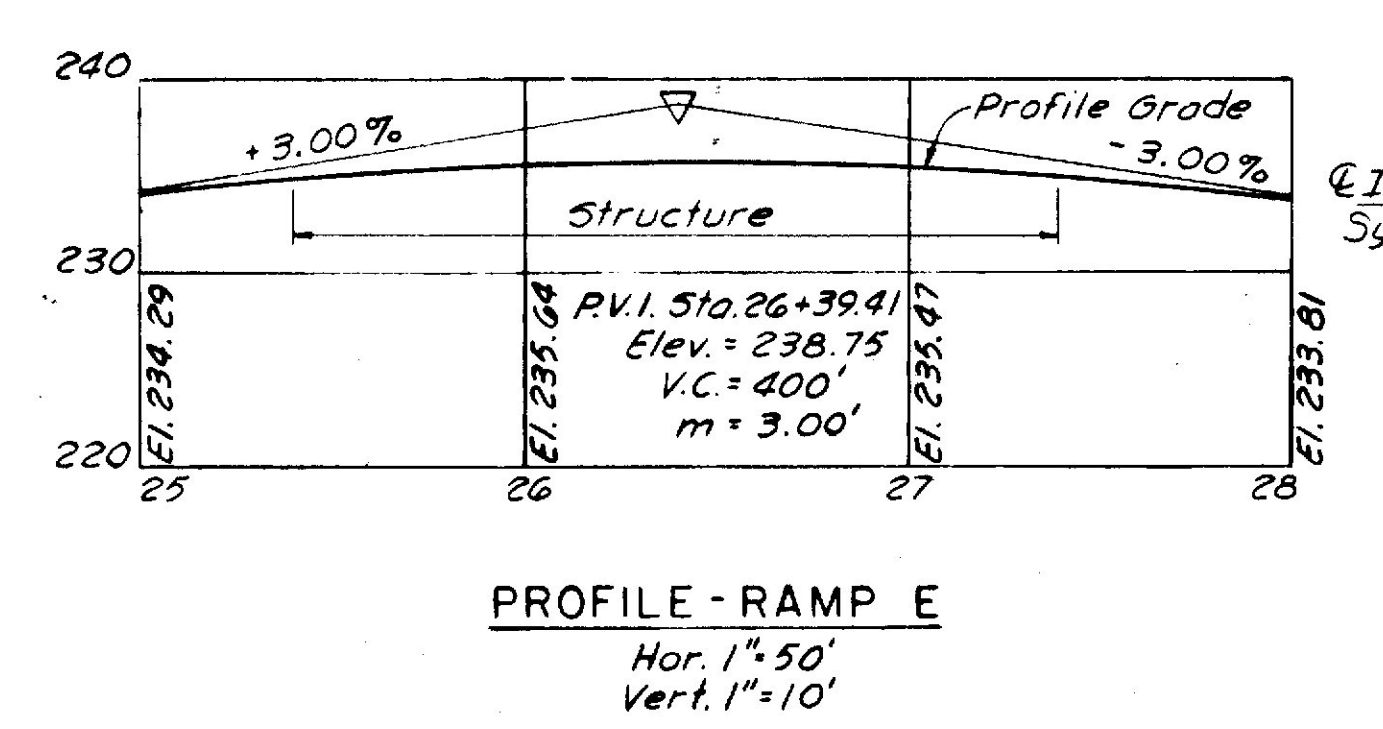


PLAN
1" = 20'

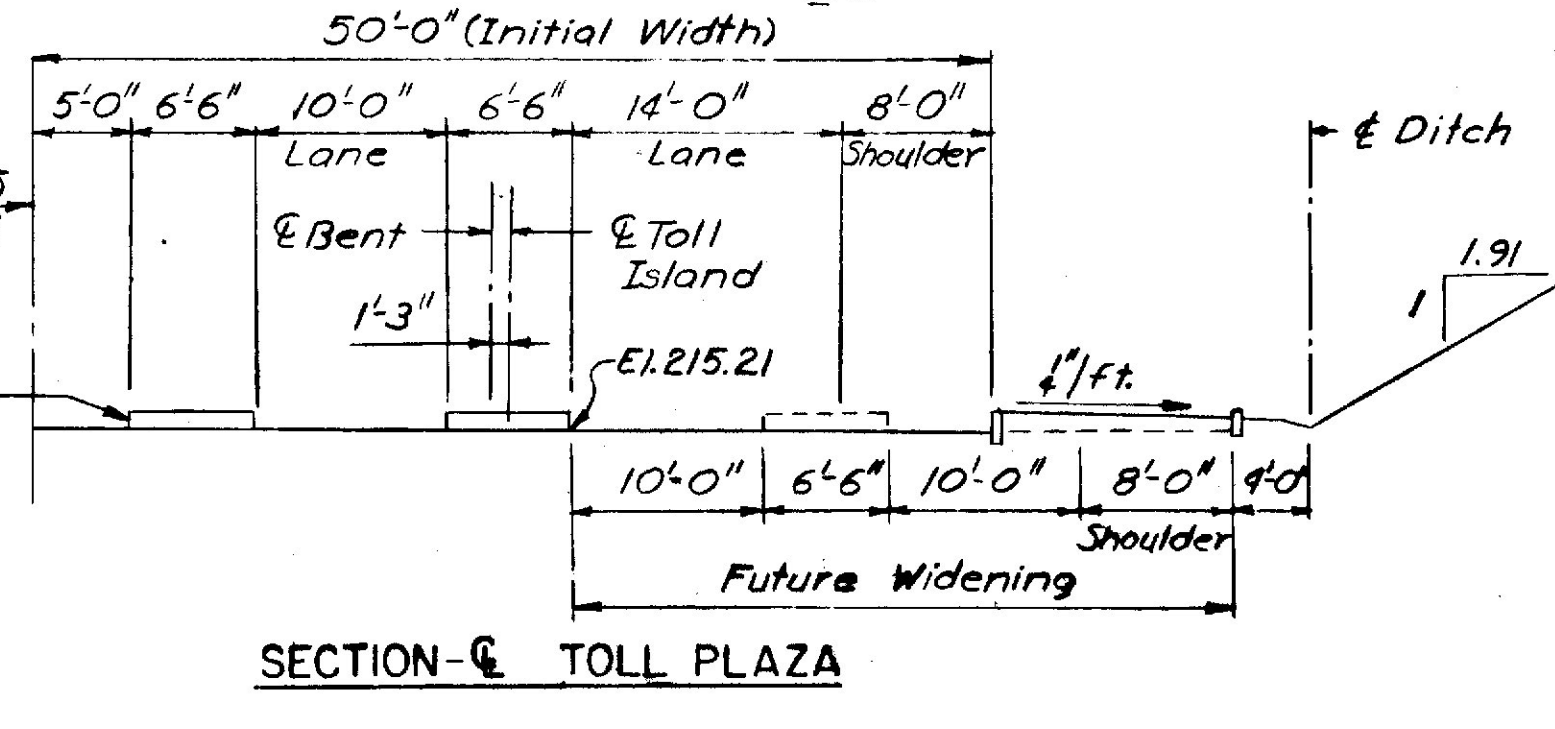
NOTES:
1. Piers and Abutments are parallel to Bearing N 3° 51' 38.3" E.
2. For limits of embankment see Sh. 10.



ELEVATION
1" = 20'



PROFILE - RAMP E
Hor. 1" = 50'
Vert. 1" = 10'



SECTION - C C TOLL PLAZA

SPECIFICATIONS

DESIGN:
A.A.S.H.O. Standard Specifications for Highway Bridges 1963 with Interim Specifications.

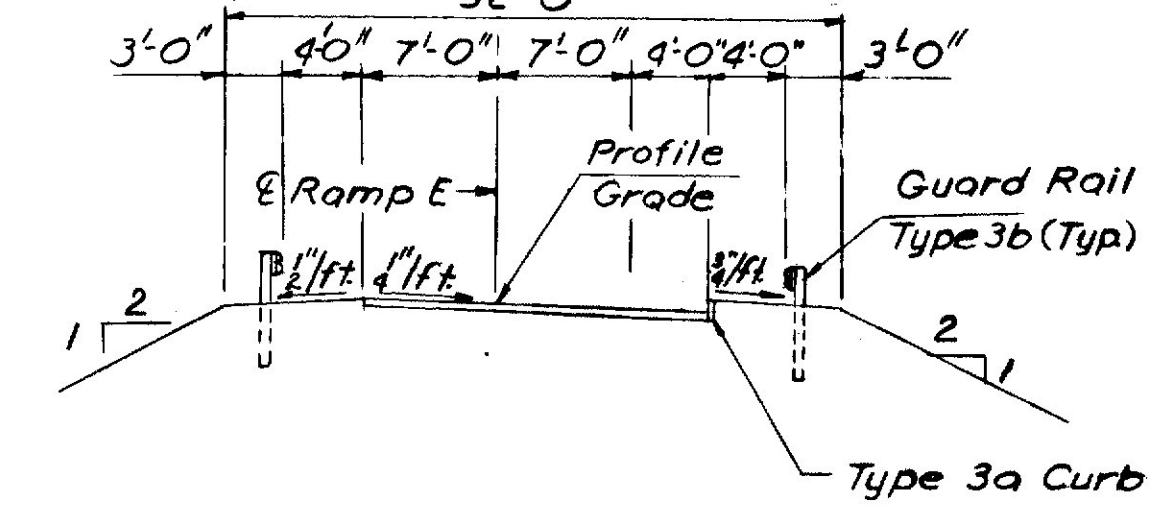
CONTRACT:
State of Maine, State Highway Commission, Standard Specifications for Highways and Bridges, Revisions of June 1968.

LIVE LOADING:
H5-20-44

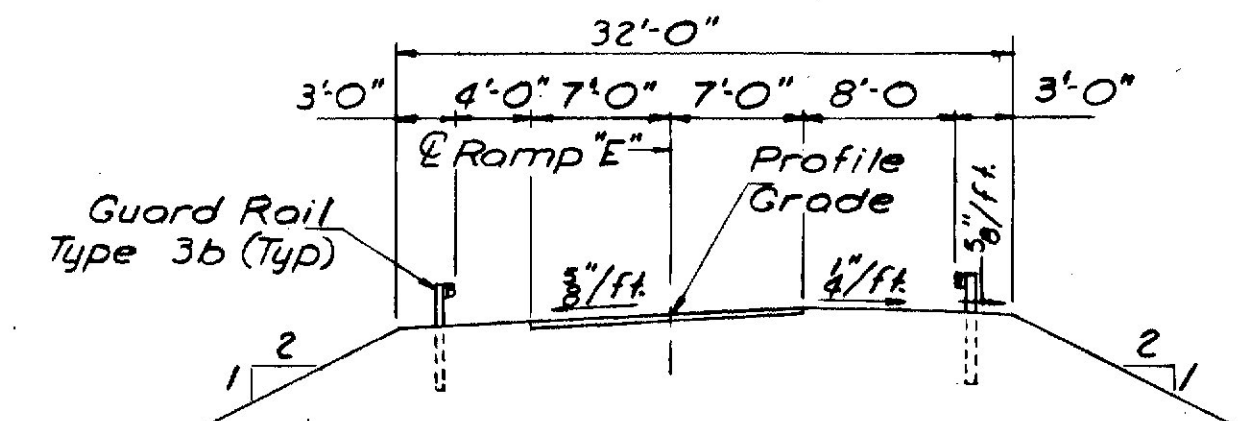
FOUNDATIONS:
Abutment No. 1 & Abutment No. 2 - HP10x42 End Bearing Piles (55 Ton Capacity).
Pier No. 1 - Spread Footing on Ledge - BT/S.F.
Piers 2, 3 and 4 - HP10x42 End Bearing Piles (55 Ton Capacity).

ALLOWABLE STRESSES:
Concrete (n=10) ~ $f_c = 1200$ p.s.i.
Reinforcing Steel, A.S.T.M. Designation A615 grade 60 $f_s = 24,000$ p.s.i.
Structural Steel ~ $f_s = 20,000$ p.s.i. (A.S.T.M. A36 except as noted)

CONCRETE CLASSIFICATION:
All Concrete shall be Class "A", except concrete fill for steel columns and Slope Protection shall be Class "Y"



APPROACH SECTION AT STA. 24+50
1" = 1'-0"



APPROACH SECTION AT STA. 28+50
1" = 1'-0"

BRIDGE QUANTITIES

Item No.	Description	Quantity	Unit
203.25	Granular Borrow	3100	C.Y.
206.10	Structural Earth Excavation - Piers	90	C.Y.
206.11	Structural Rock Excavation - Piers	5	C.Y.
403.08	Hot Bituminous Pavement (Grading) Crushed Ledge *	50	Ton
501.212	Steel H-beam Piles 42 lbs/ft	1200	L.F.
502.21	Structural Concrete - Abutts. and Ret. Walls	105	C.Y.
502.23	Structural Concrete - Piers	100	C.Y.
502.2602	Structural Concrete - Roadway and Sidewalk Slabs on Steel Bridges (Ramp E over I-95)	1	L.S.
502.3102	Struct. Concrete - Approach Slabs (Ramp E over I-95)	1	L.S.
503.12	Reinforcing Steel - Fabricated & Delivered	60,000	Lbs
503.13	Reinforcing Steel - Placing	60,000	Lbs
504.7002	Struct. Steel - Fabricated & Delivered (Ramp E over I-95)	1	L.S.
504.7102	Structural Steel - Erection (Ramp E over I-95)	1	L.S.
506.1402	Field Painting - Structural Steel (Ramp E over I-95)	1	L.S.
507.08	Bridge Railing	400	L.F.
508.10	Membrane Waterproofing	* 445	S.Y.
513.08	Slope Protection	265	S.Y.
515.20	Protective Coating for Concrete Surfaces	380	S.Y.
609.13	Vertical Bridge Curb - Type 1	450	L.F.
403.14	Asphalt Cement Hot Bituminous Surface Pavements *	3	Tons

NOTE: Estimated Quantity of Structural Steel - 125,500 Lbs.
Estimated Quantity of Concrete in Item 502.2602 = 150 C.Y.
Estimated Quantity of Concrete in Item 502.3102 = 15 C.Y.
The field office Type "A" and the Curing Box for concrete cylinders for the I-95 S.B. Bridge shall be used for this bridge also.
* By Others

INDEX OF SHEETS	
1.	GENERAL PLAN AND QUANTITIES
2.	FOUNDATION SURVEY
3.	FOUNDATION SURVEY
4.	ABUTMENT NO. 1
5.	ABUTMENT NO. 2
6.	CONCRETE PIER DETAILS
7.	STEEL DETAILS - PIERS 2 AND 3 AND DECK JOINT DETAILS - ABUTMENT NO. 2
8.	STRUCTURAL STEEL AND BLOCKING
9.	SUPERSTRUCTURE
10.	SLOPE PROTECTION
11.	REINFORCING STEEL
STANDARD DETAIL SHEETS	
BD 101-70	BEARING PEDESTALS (JAN 1970)
BD 103-64	BEAM SPLICES
BD 104-71	DIAPHRAGMS, SHEAR CONN., ARMORED JOINT AND DRAINS
BD 105-64	EXPANSION DAMS
BD 106-69	ALUMINUM RAIL JAN 1969 (REV. MAR. 25, 1970)
STANDARD DETAILS GUARD RAIL AUG. 1969 (6)	

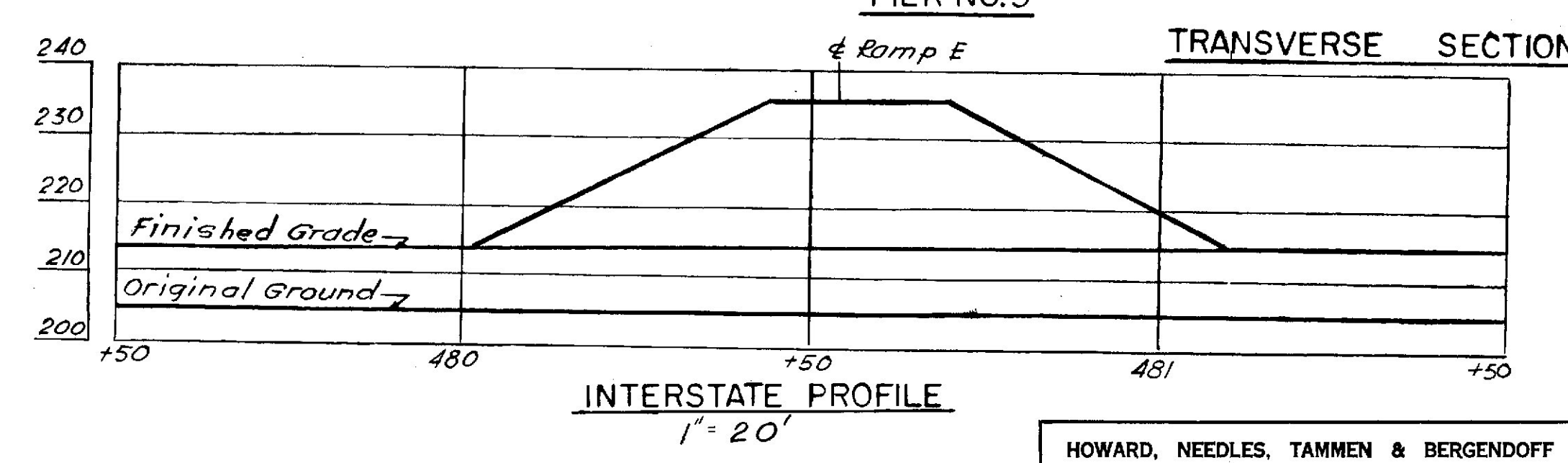
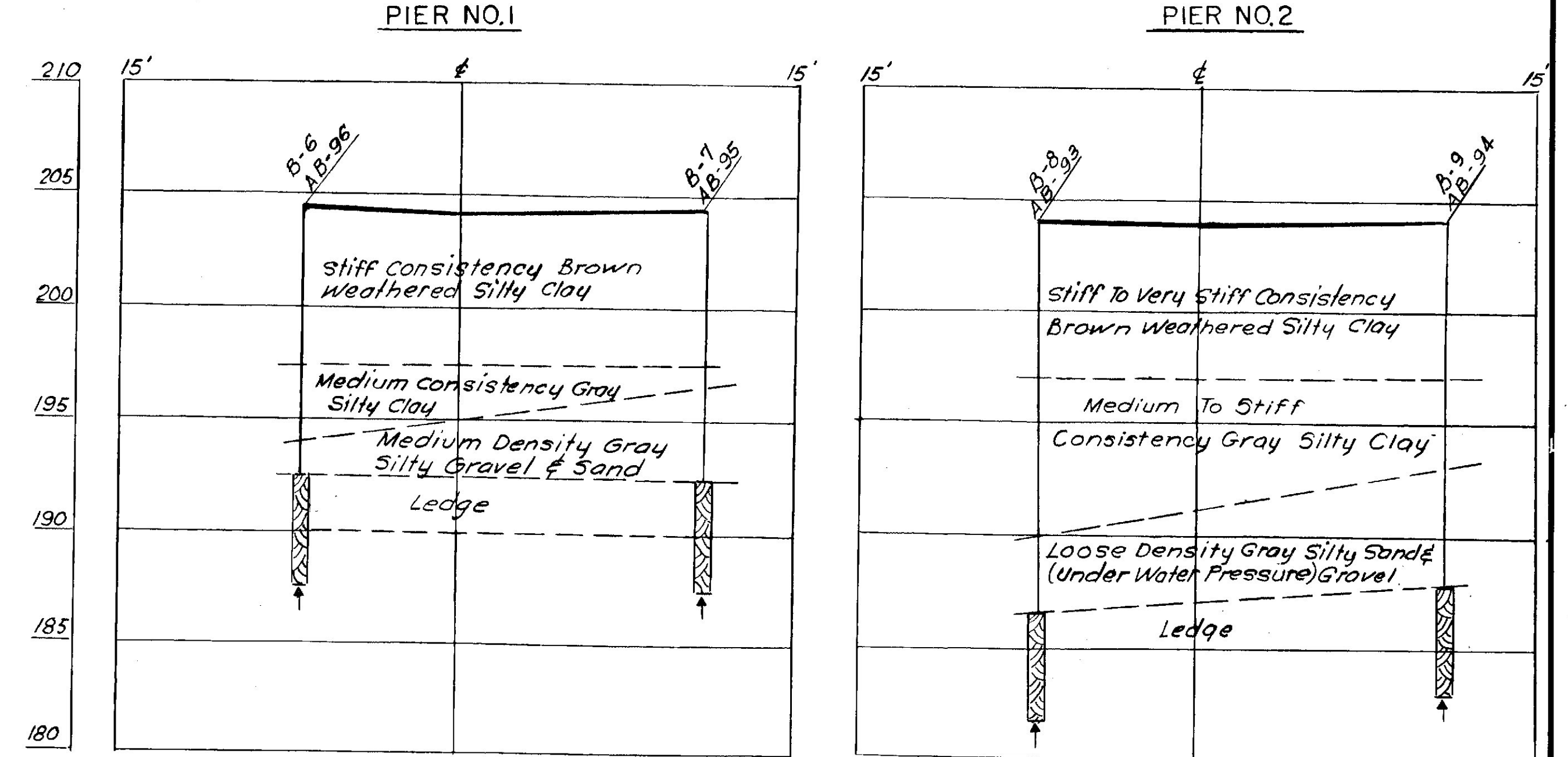
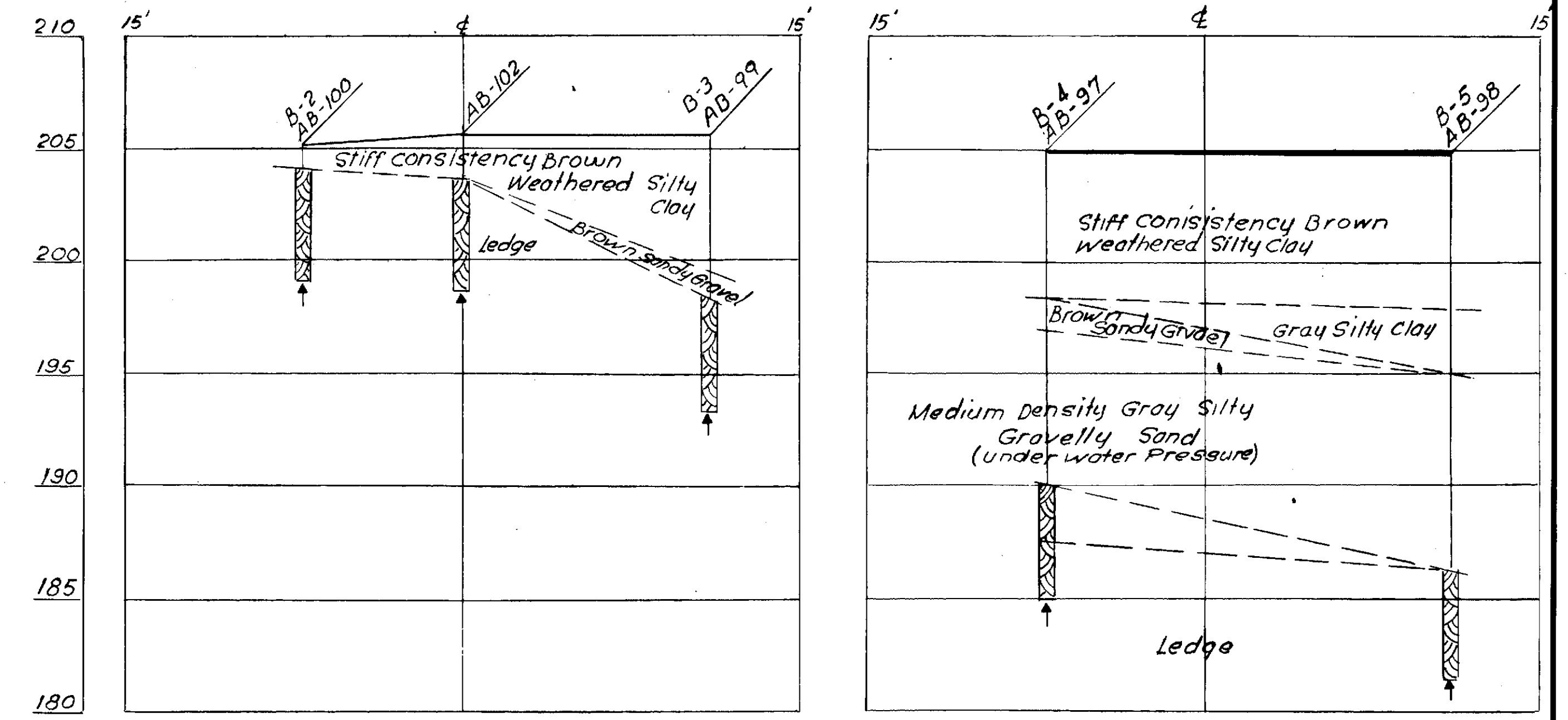
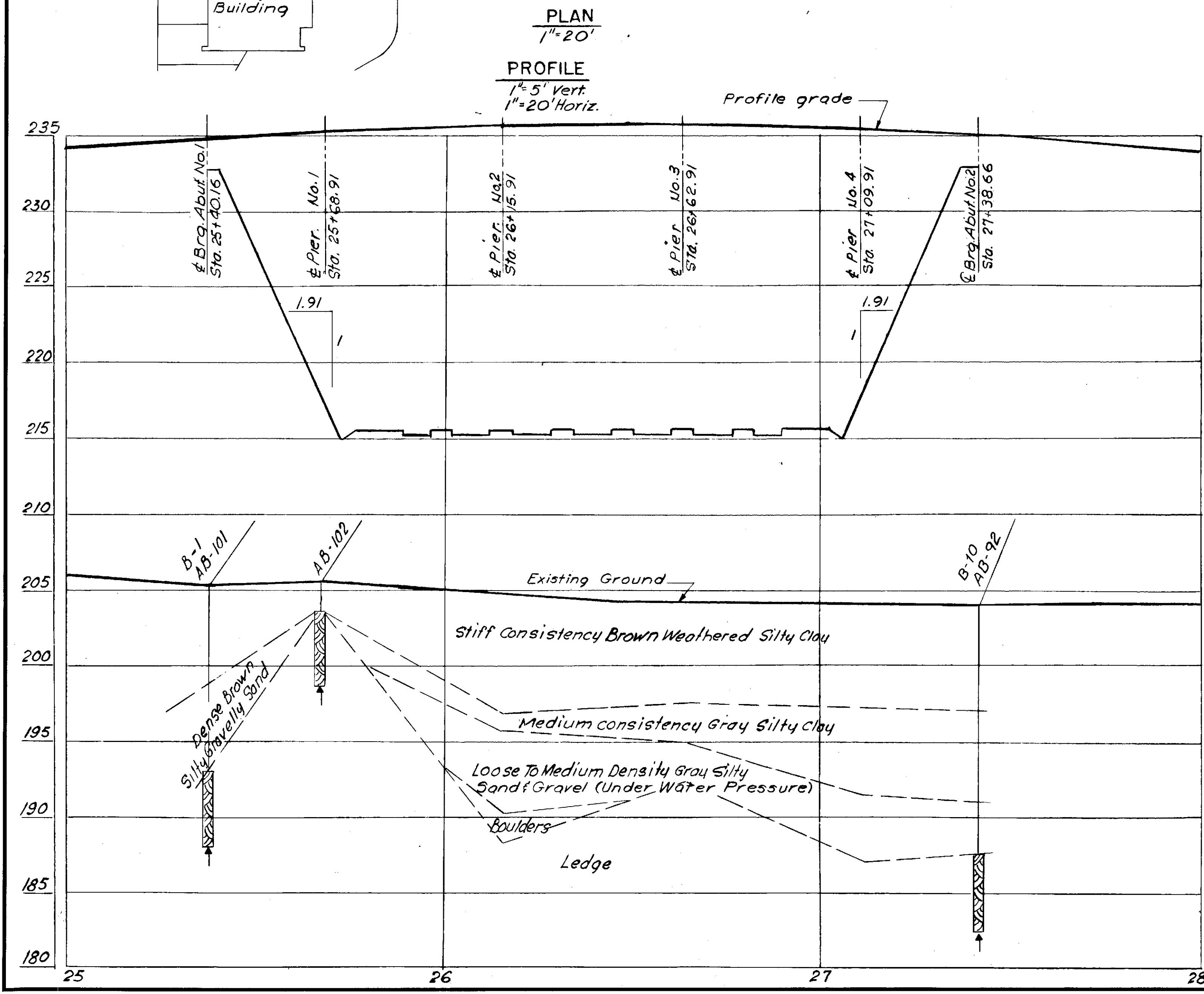
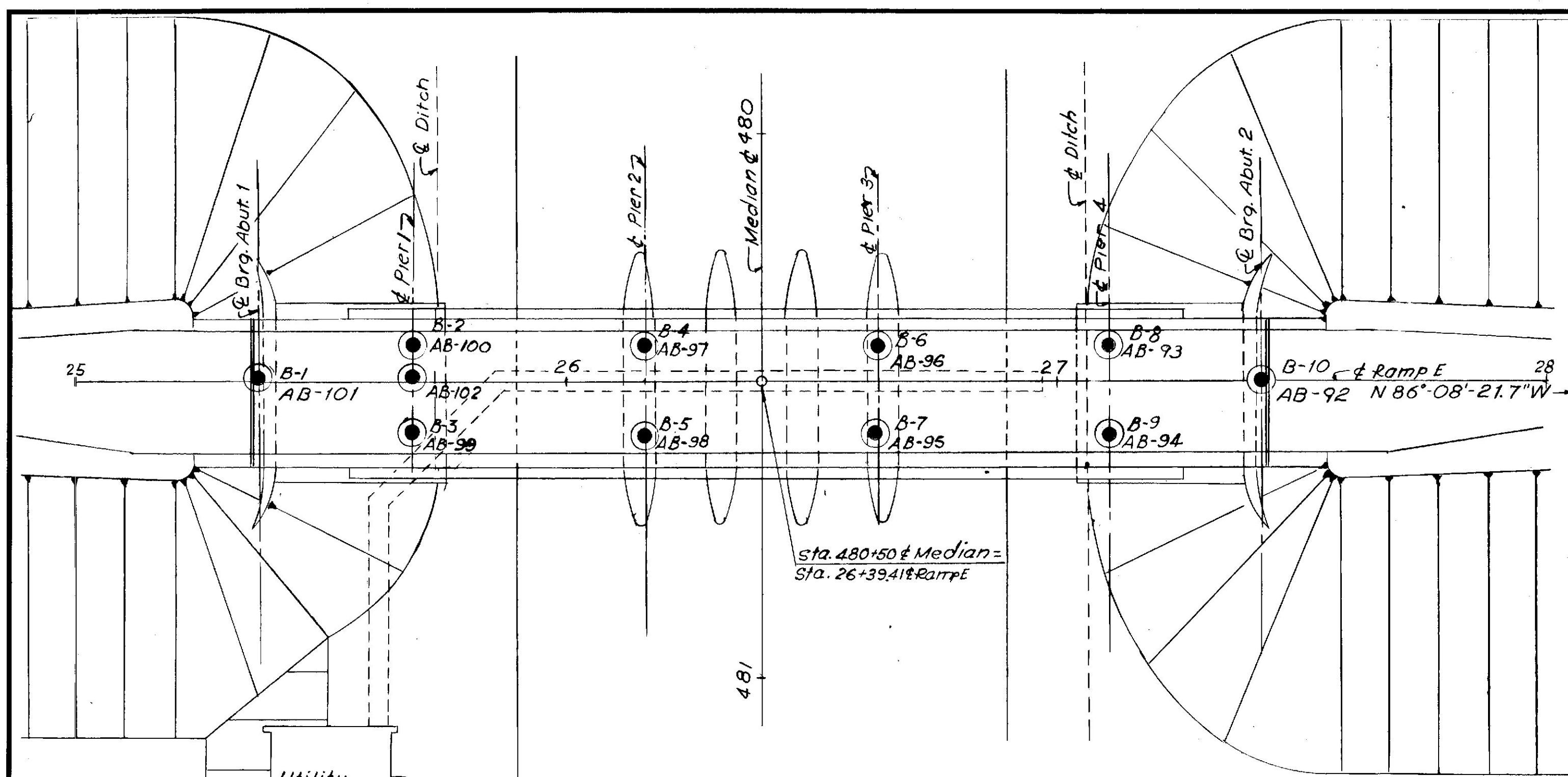
DESIGN - J.M.M. SURVEY - S.M. CHECK - S.M. BRIDGE NO. SURVEY - PLOT -

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

RAMP E
OVER
INTERSTATE 95
IN THE TOWN OF
WEST GARDINER

KENNEBEC COUNTY
GENERAL PLAN & QUANTITIES
SHEET 1 OF 11 AUGUSTA, MAINE

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON



HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

DESIGN - R.J.G.
TRACE - G.U.J.
CHECK - G.U.J.

DETAIL: R.J.G.
SURVEY - PLOT

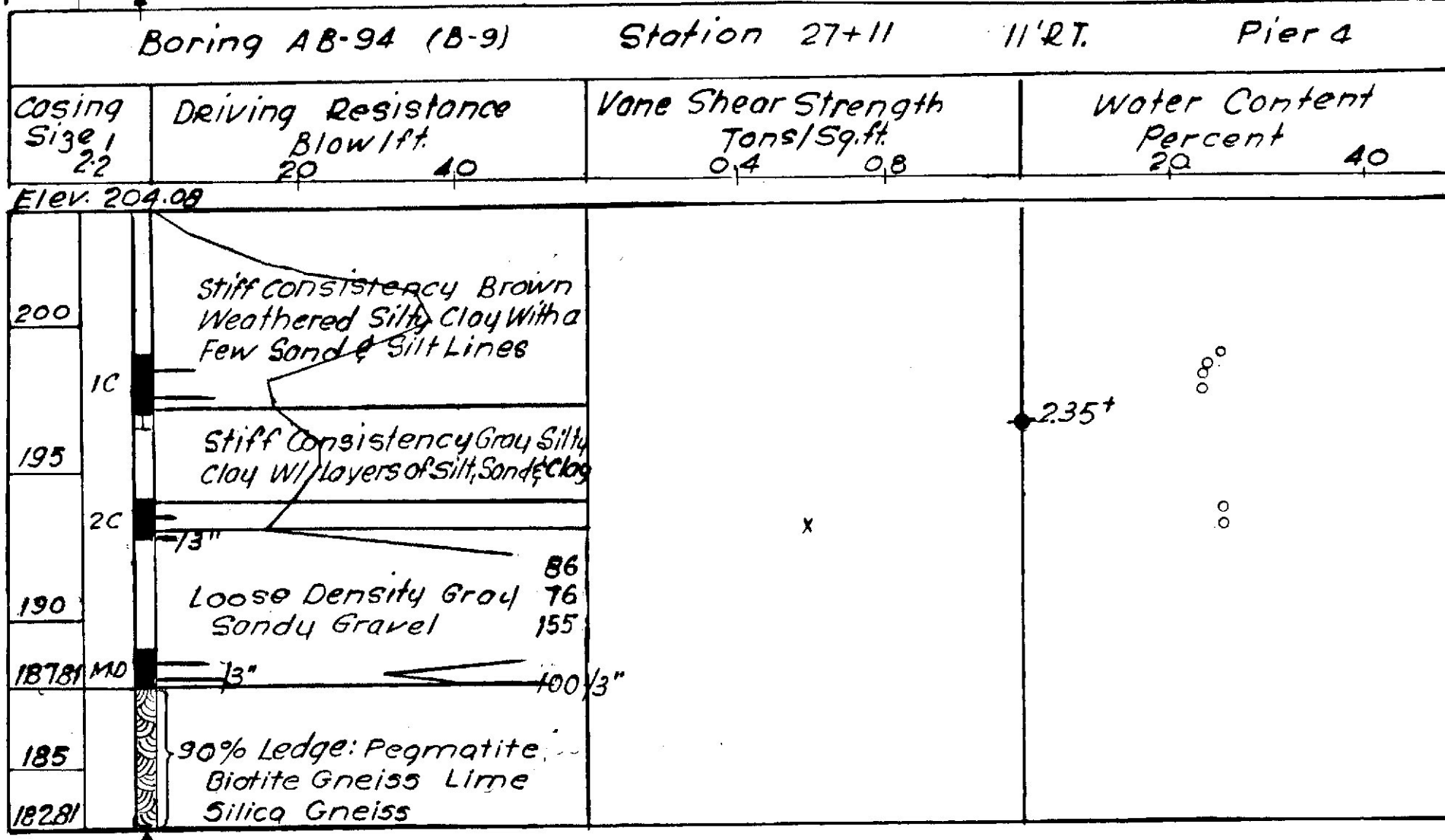
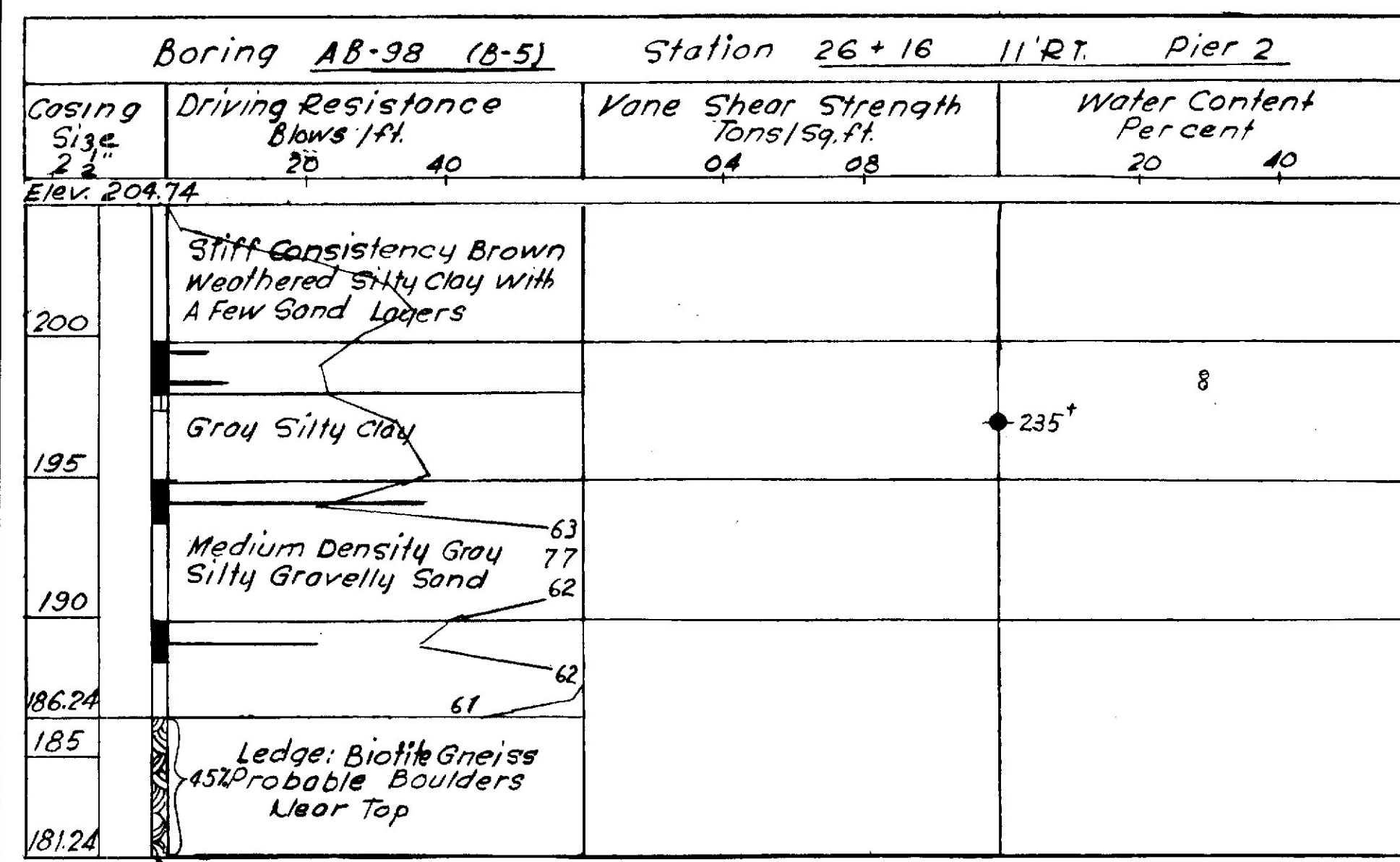
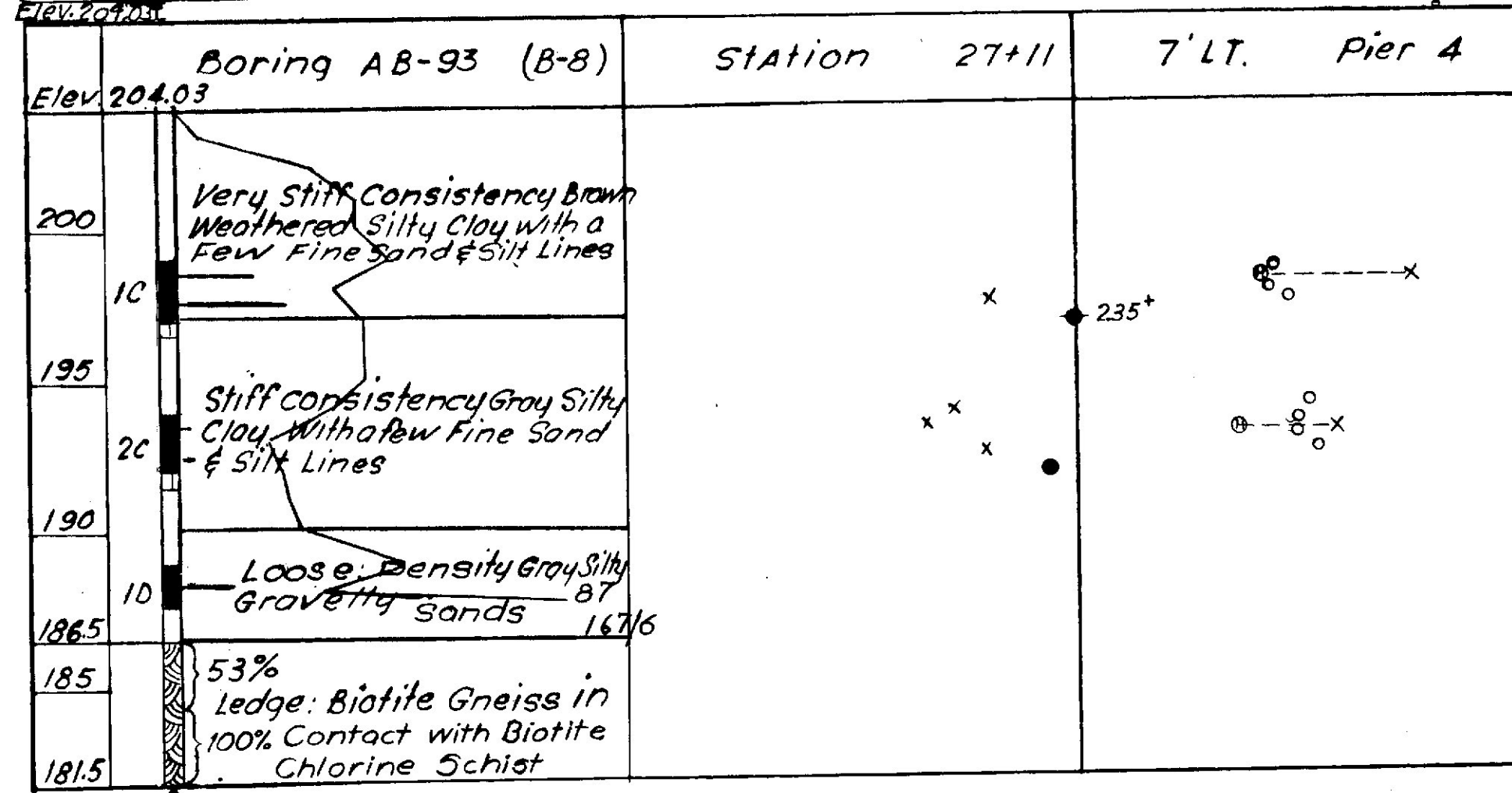
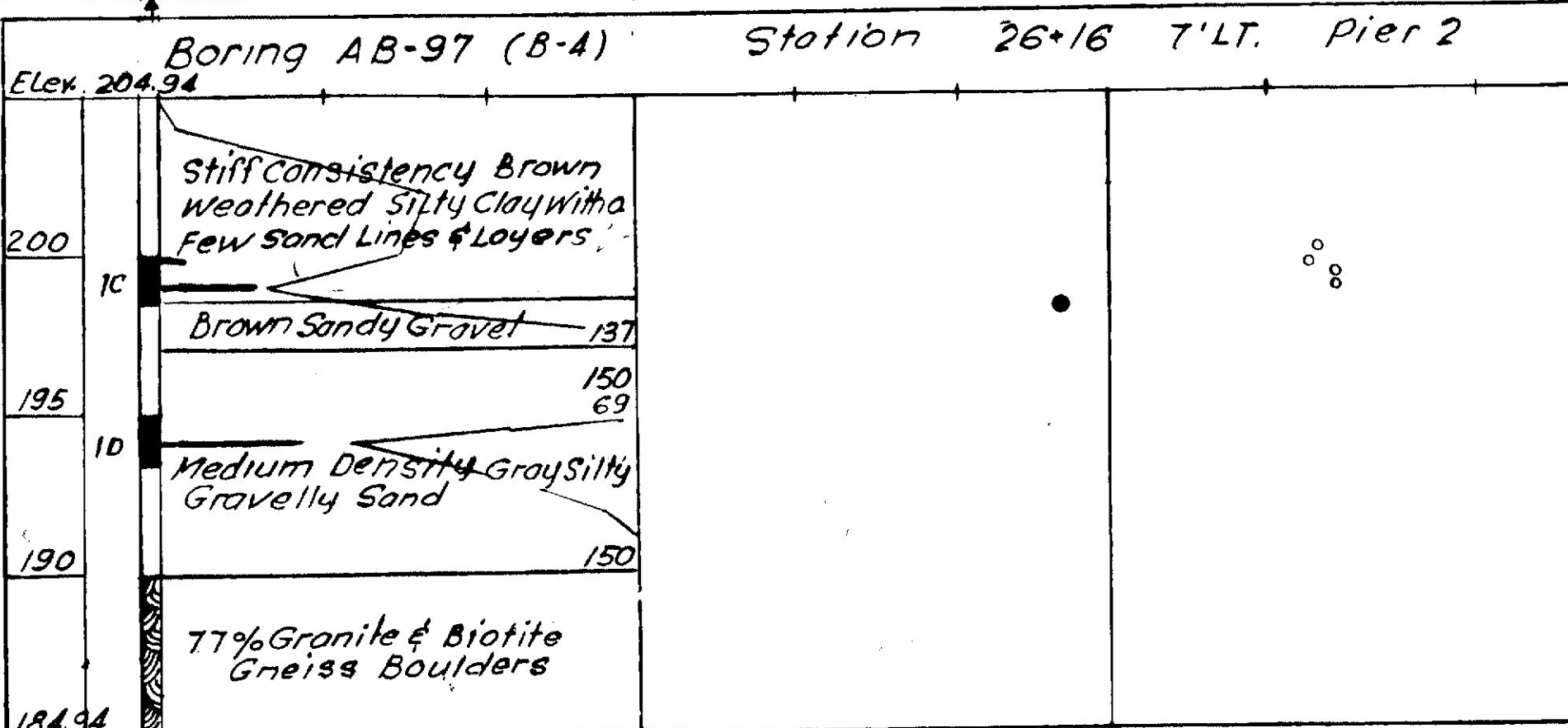
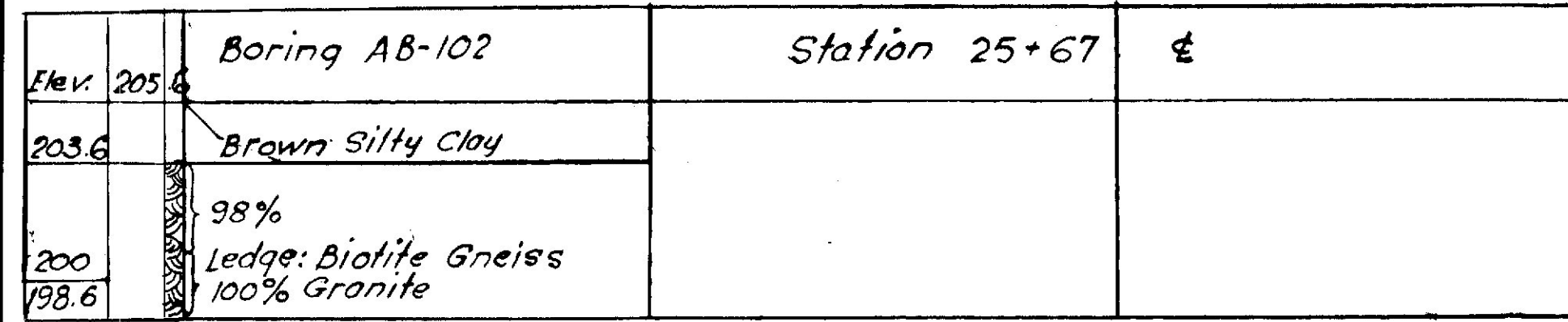
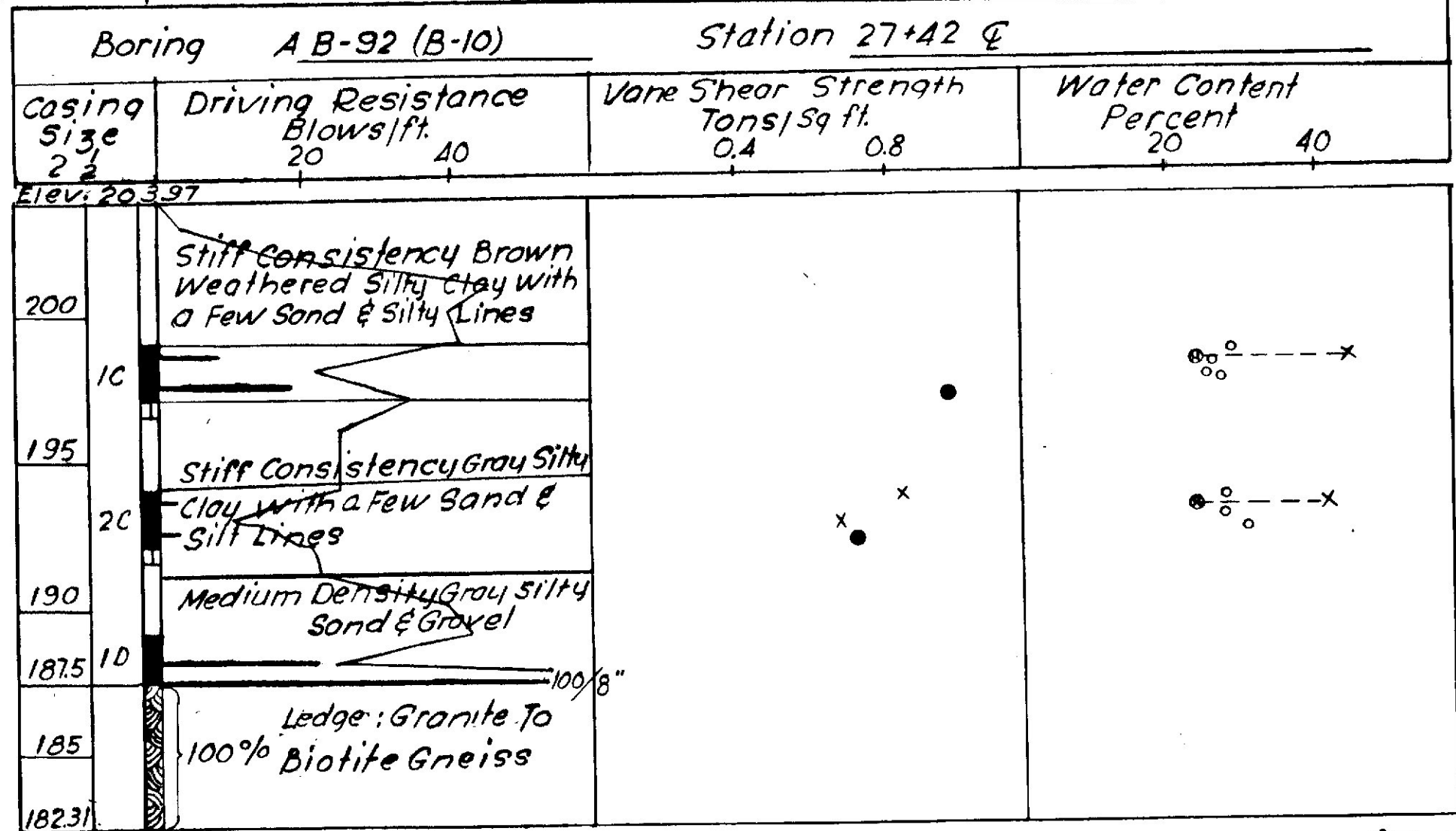
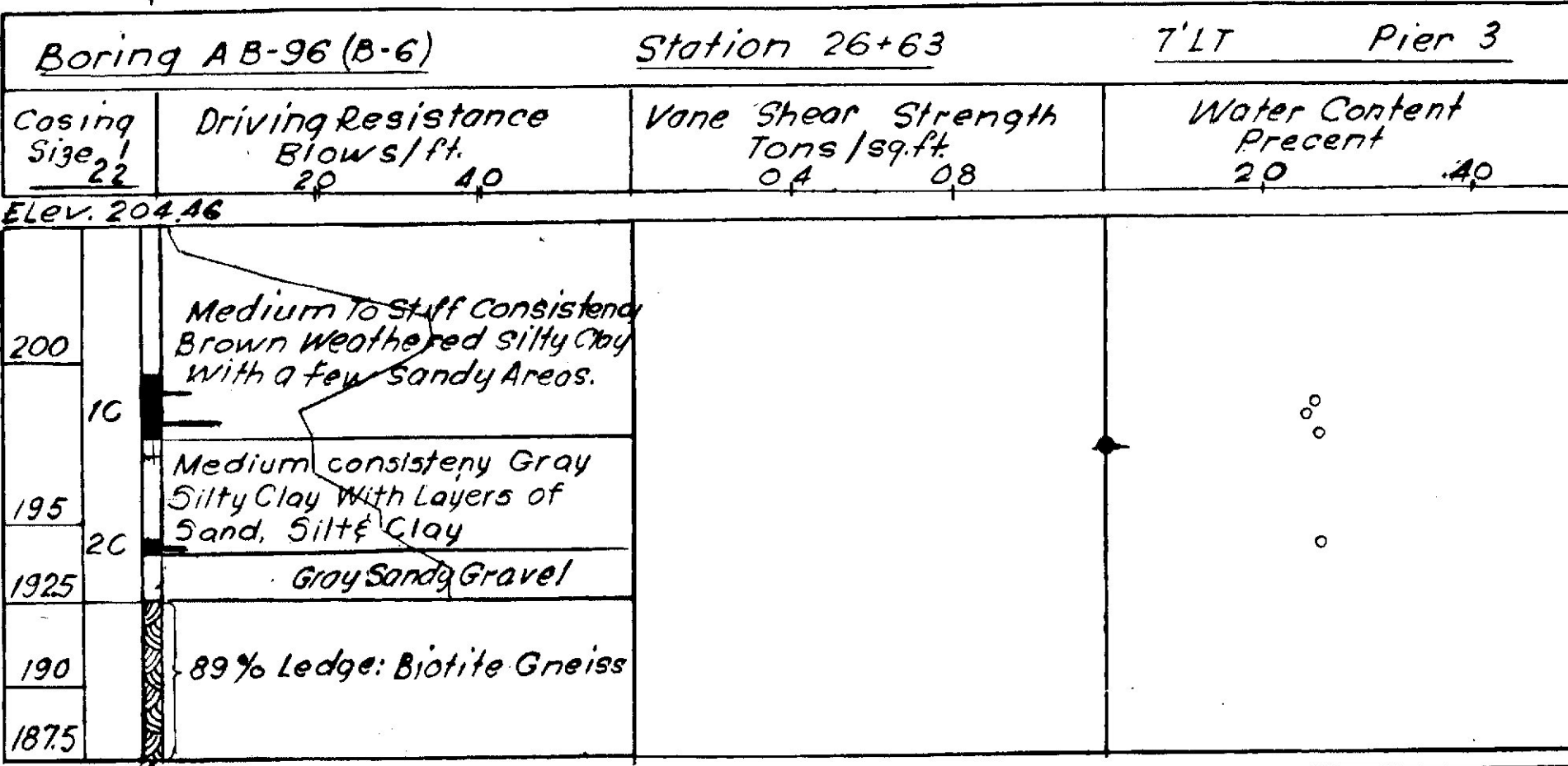
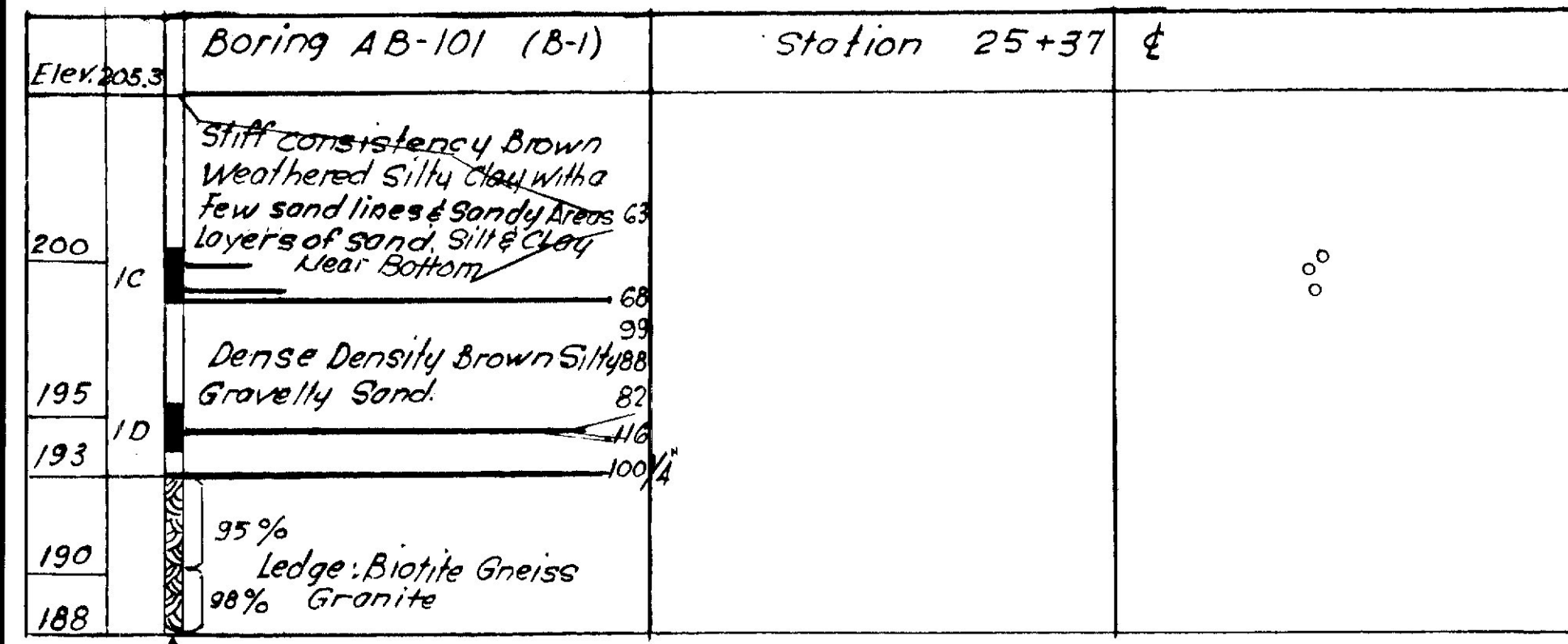
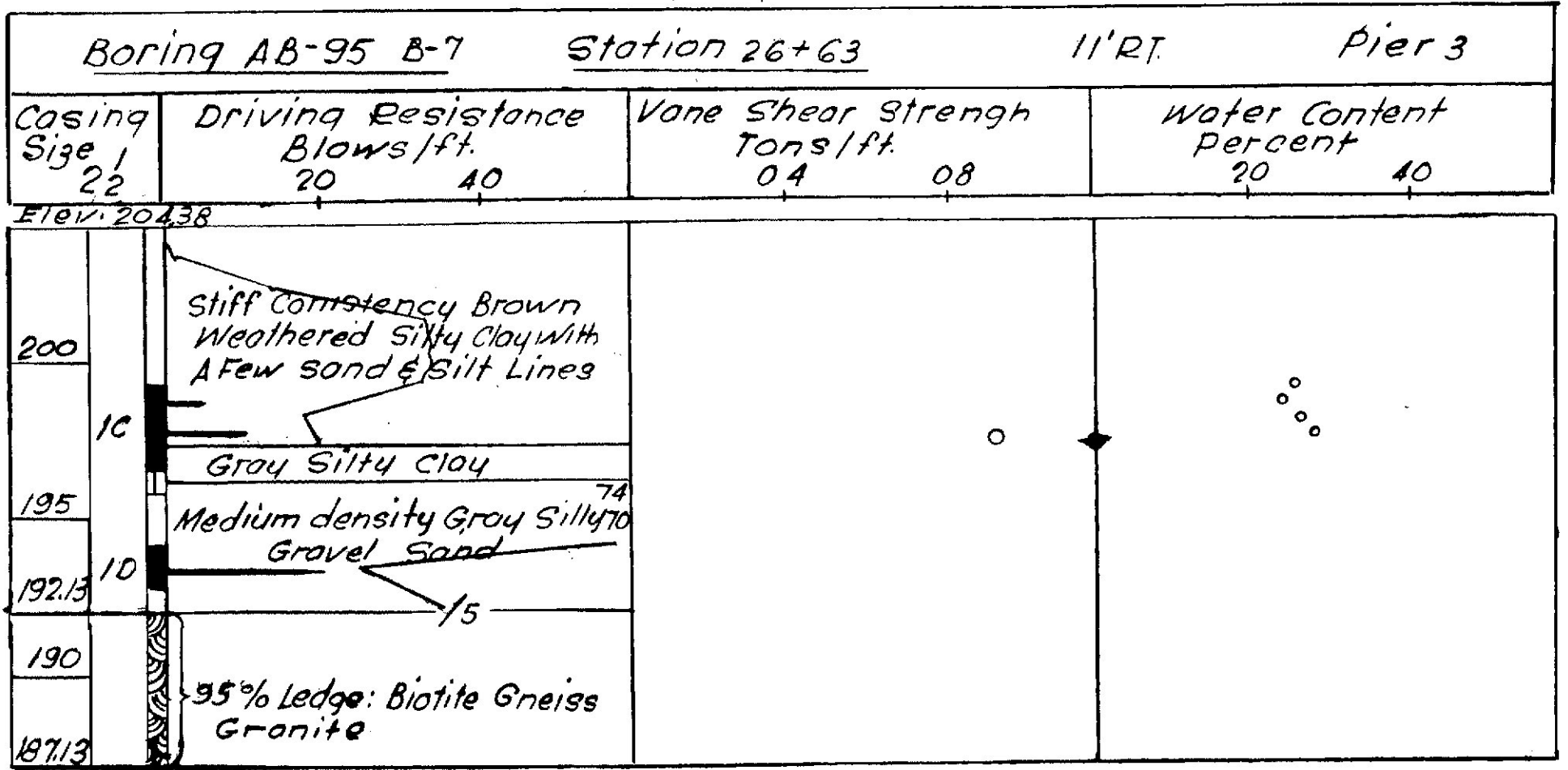
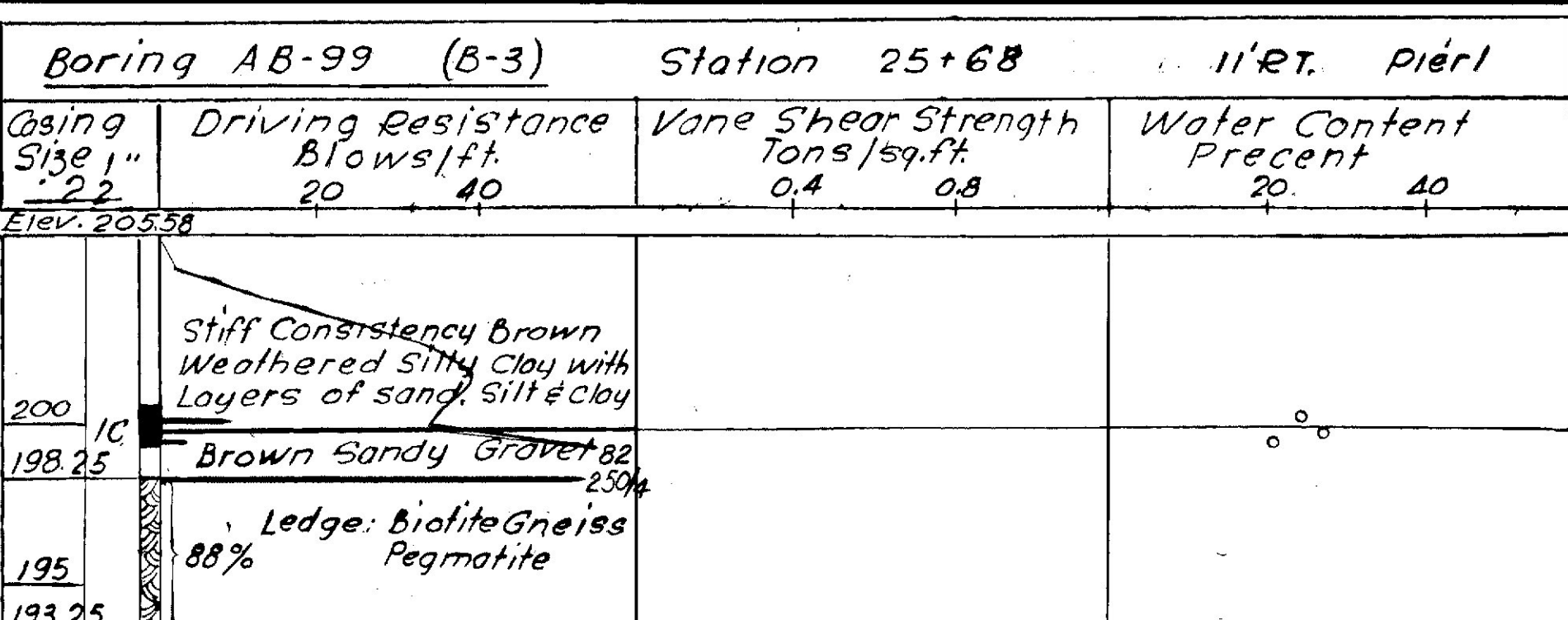
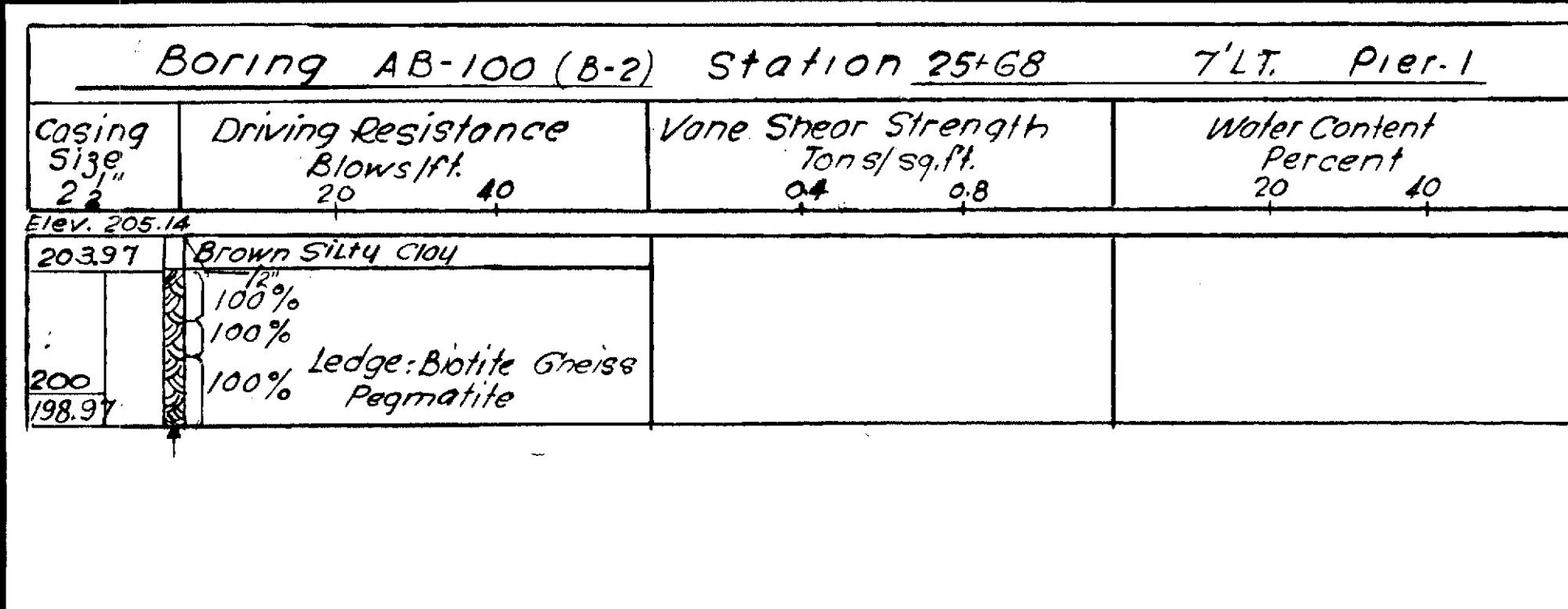
BRIDGE NO. SURVEY - PLOT

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

RAMP E
OVER
INTERSTATE 95
IN THE TOWN OF
WEST GARDINER
KENNEBEC COUNTY
FOUNDA SURVEY

SHEET 2 OF 11 AUGUSTA, MAINE

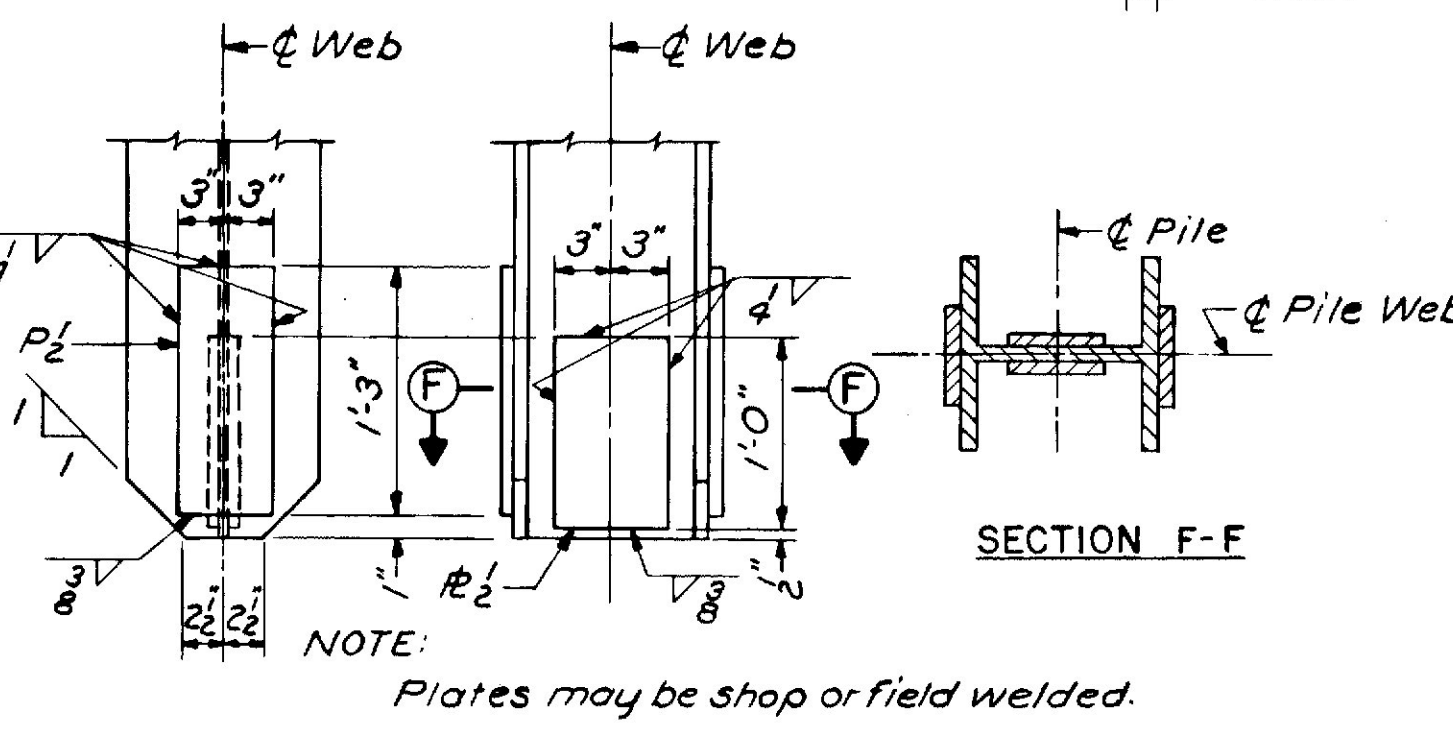
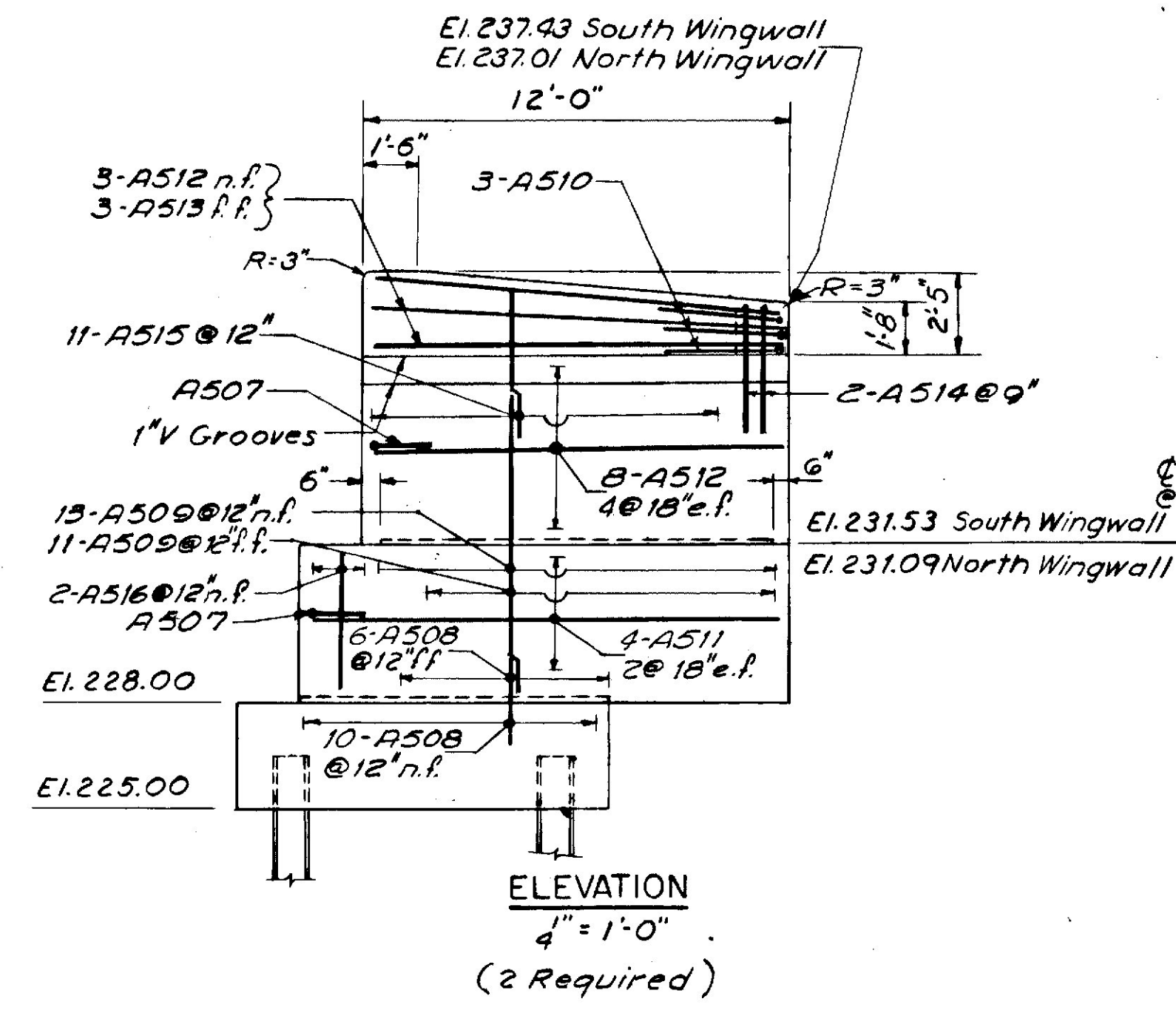
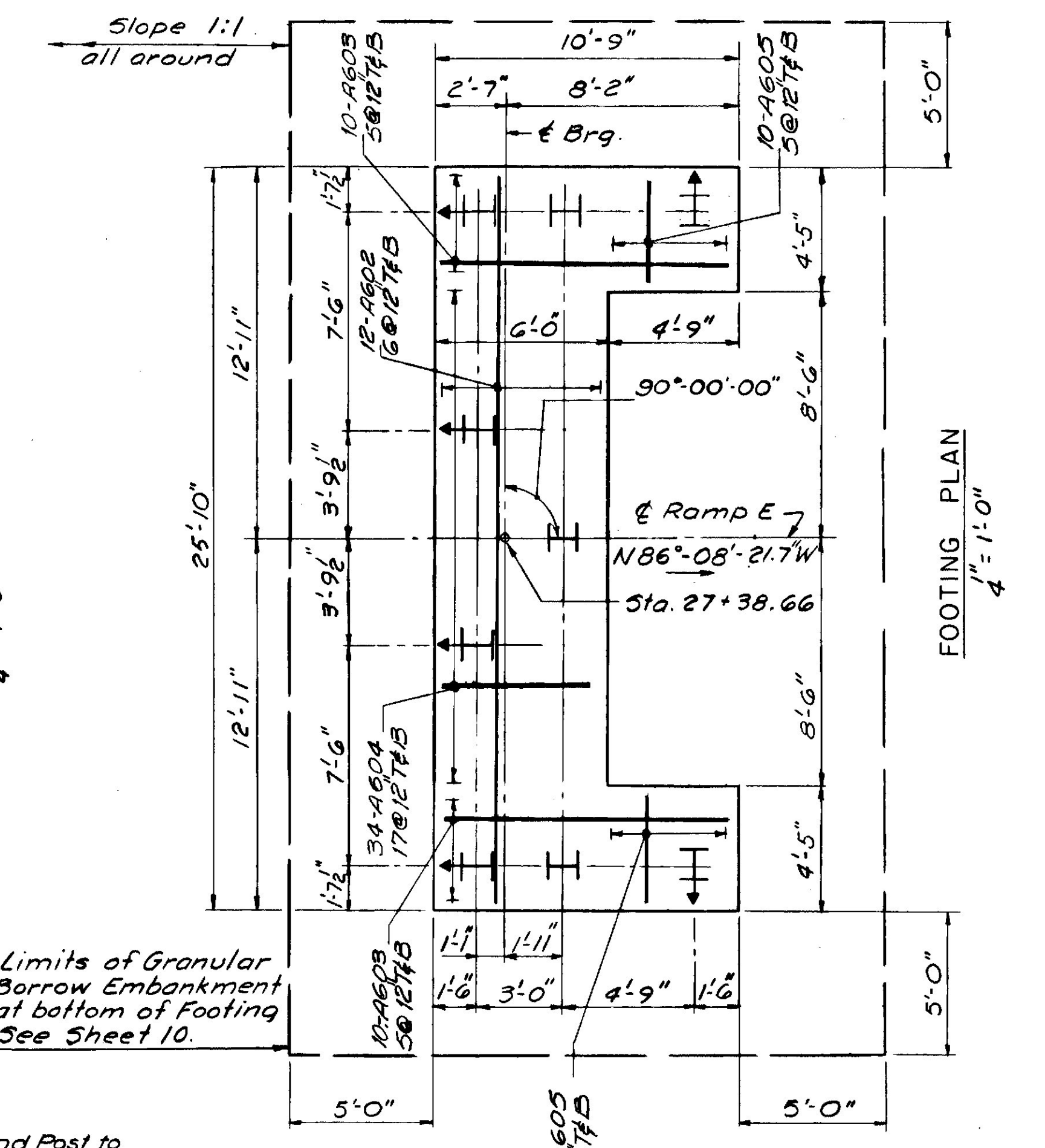
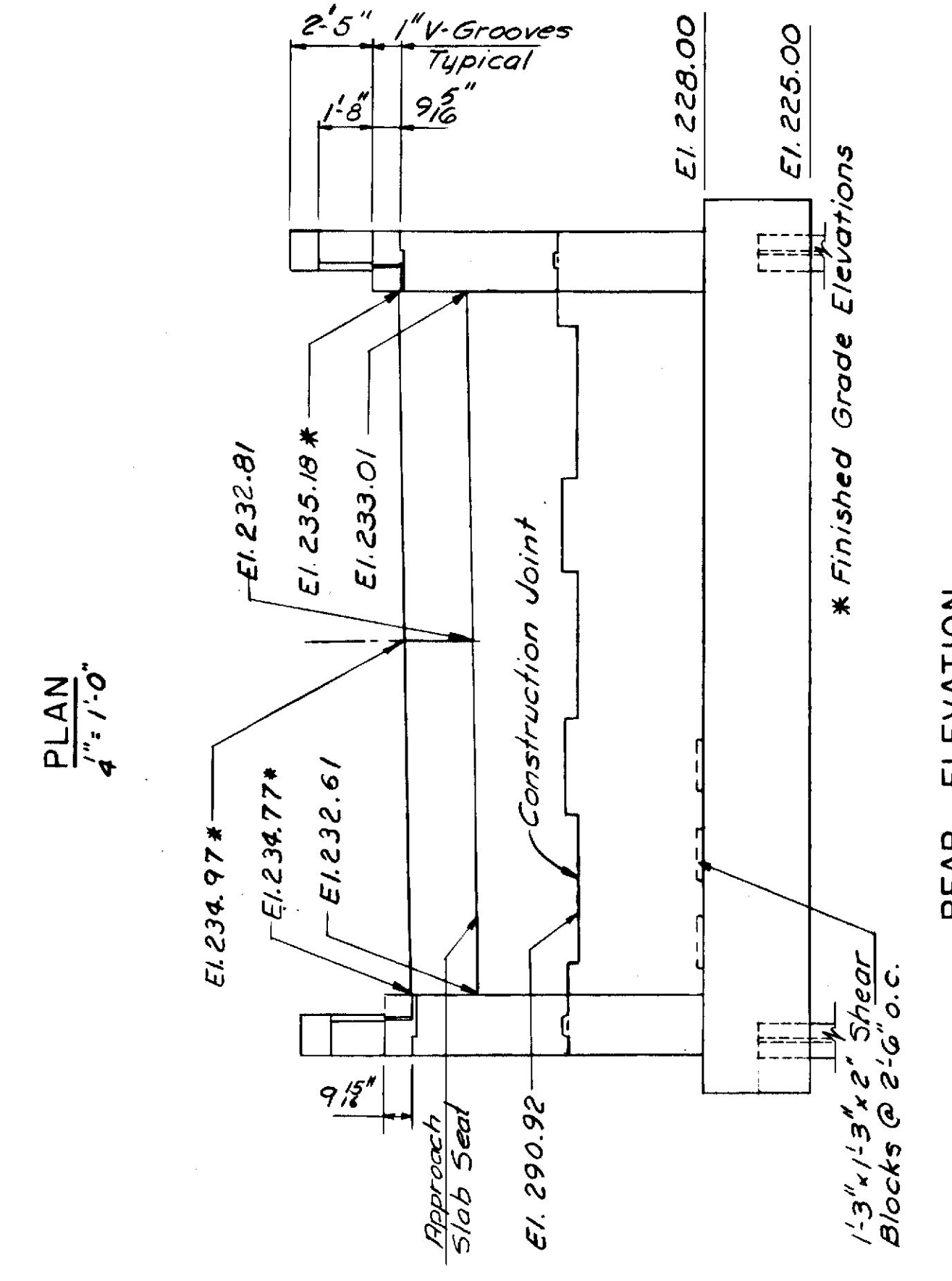
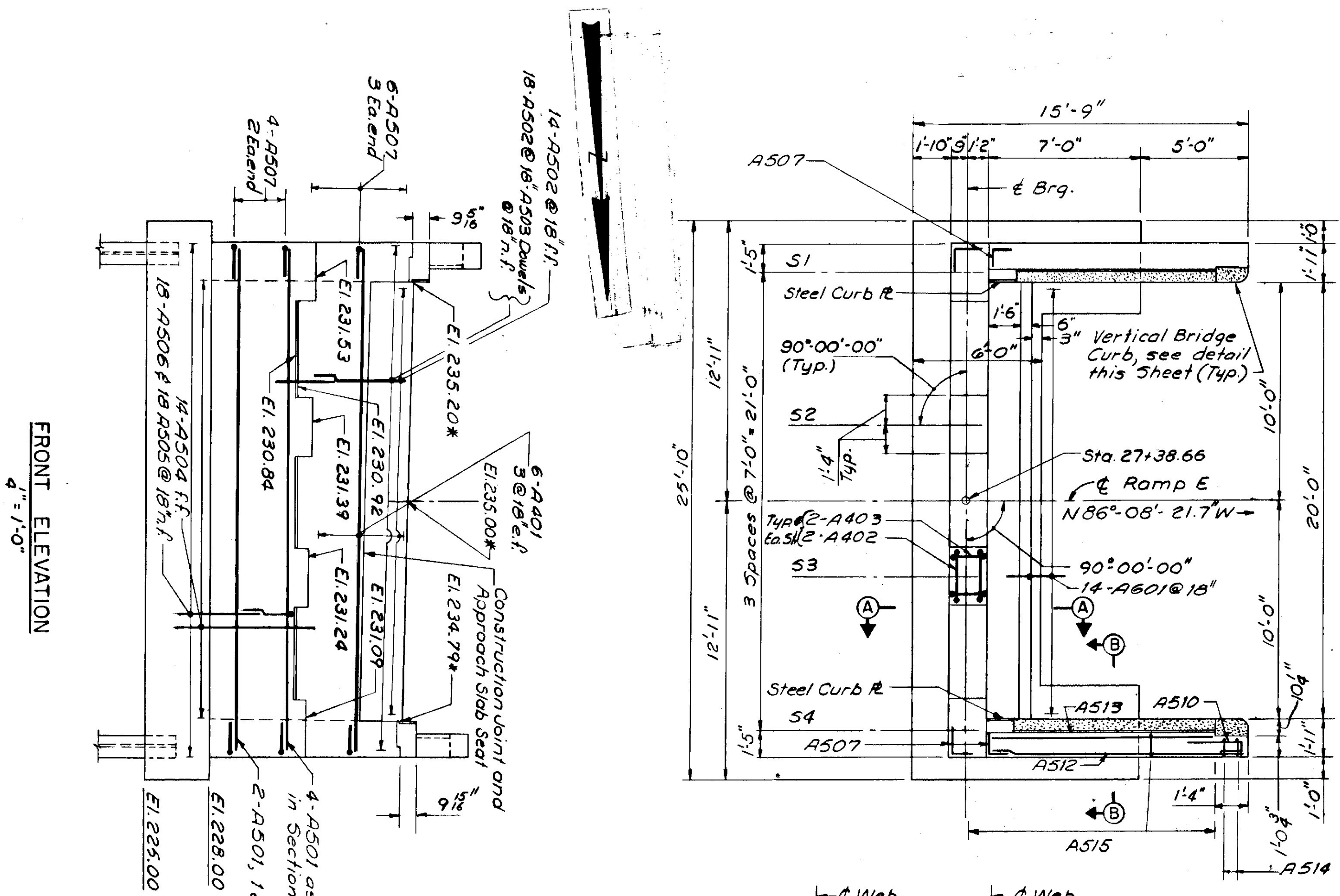
WEST GARDINER (20)



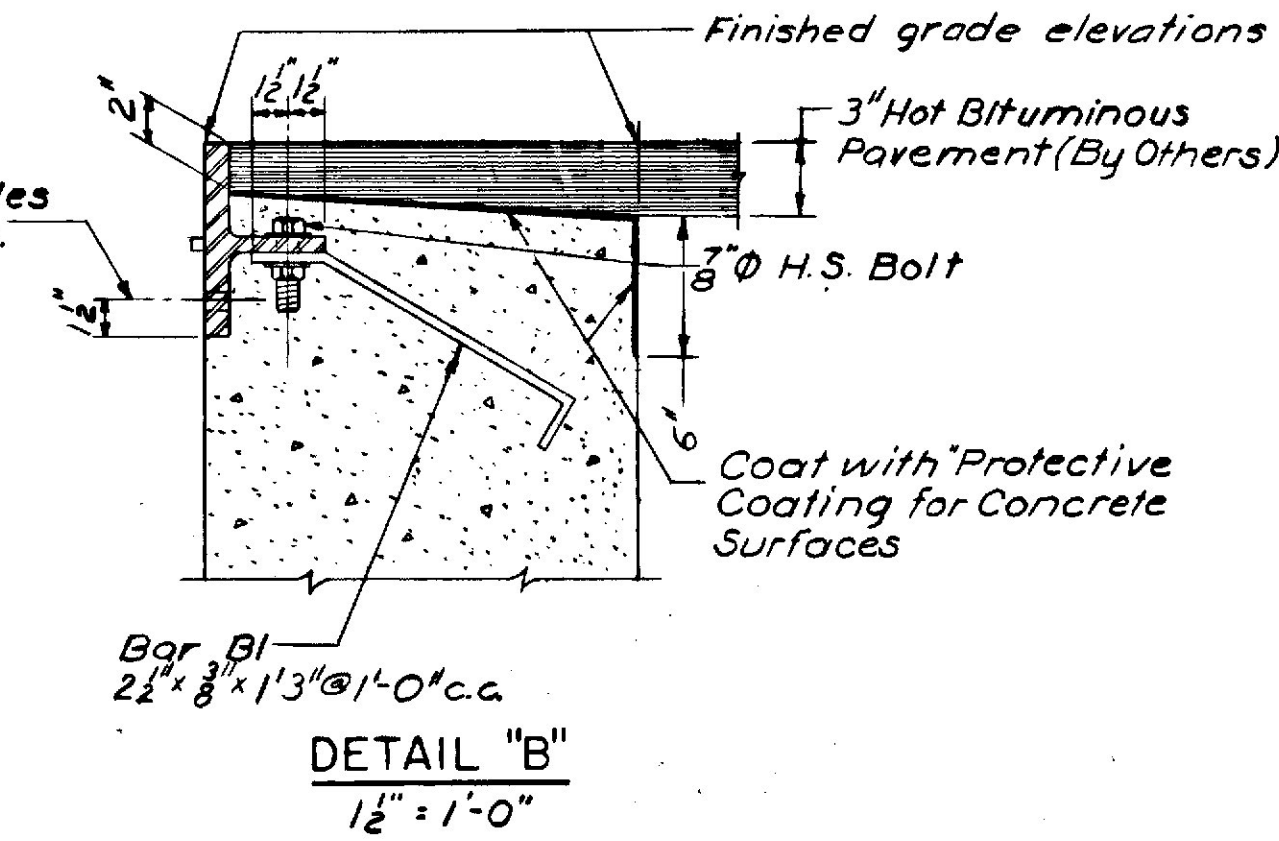
DESIGN- TRACE- CHECK-G.U.J.	DETAIL-R.J.G.	BRIDGE NO. SURVEY- PLOT
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
RAMP E OVER		
INTERSTATE 95		
IN THE TOWN OF WEST GARDINER		
KENNEBEC COUNTY		
FOUNDATION SURVEY		
SHEET 3 OF 11 AUGUSTA, MAINE		

HOWARD, NEEDLES, TAMMEN & BERGENDORFF
CONSULTING ENGINEERS

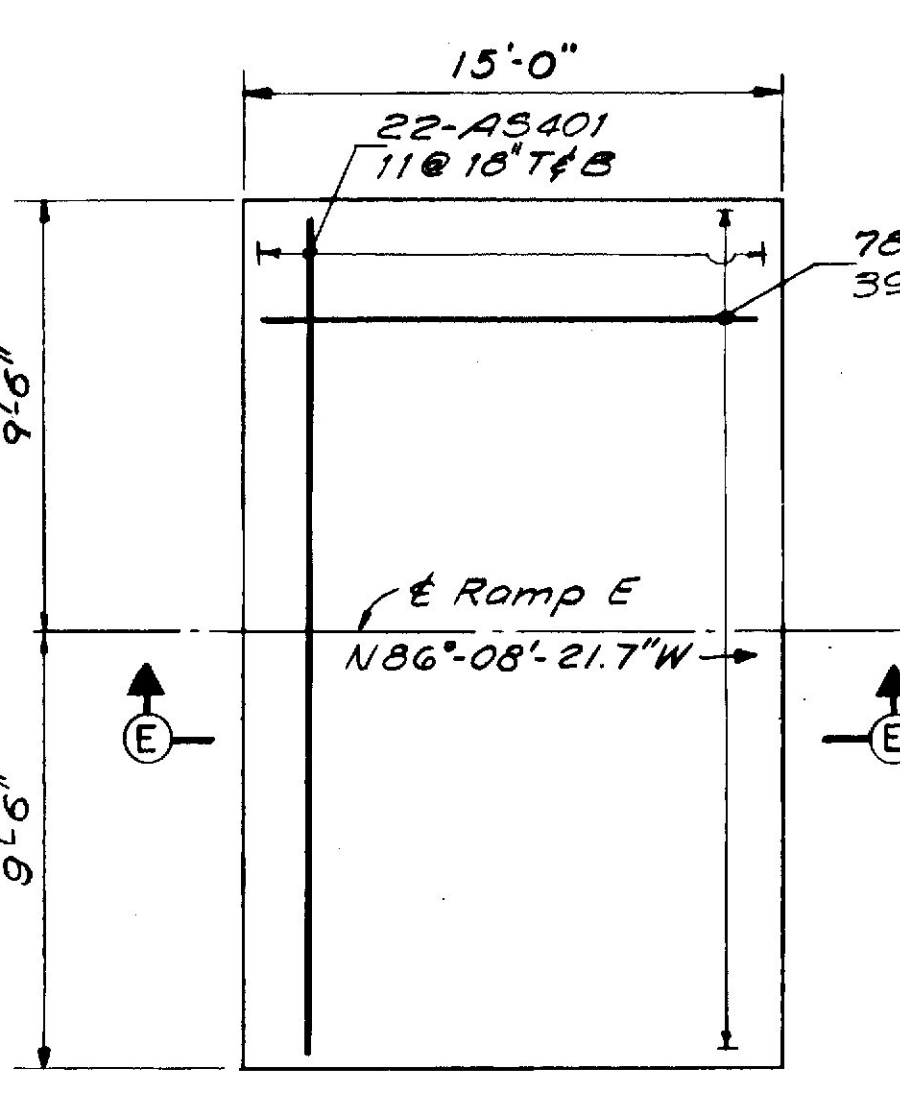
BOSTON



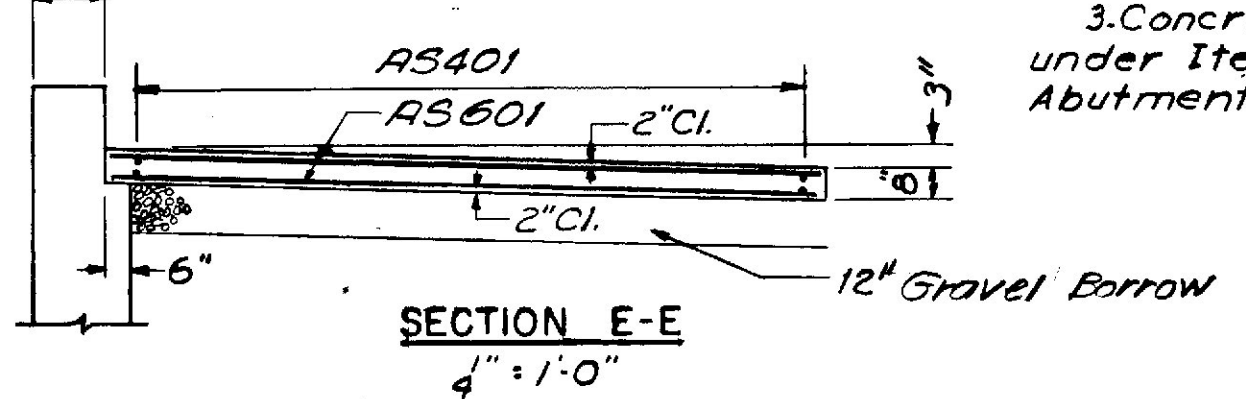
POINTED REINFORCED PILE TIP
No Scale



NOTE:
For additional details of armored joint, see Sheet 7.

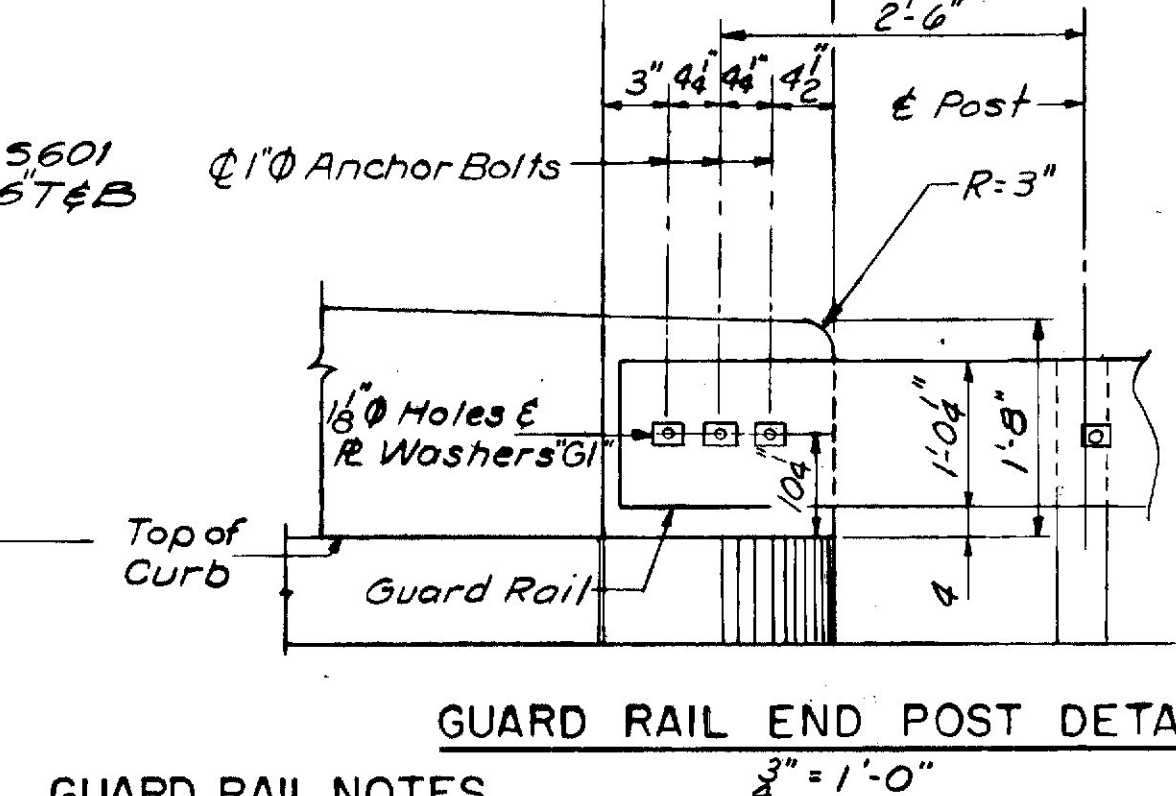


PLAN
1/8" = 1'-0"



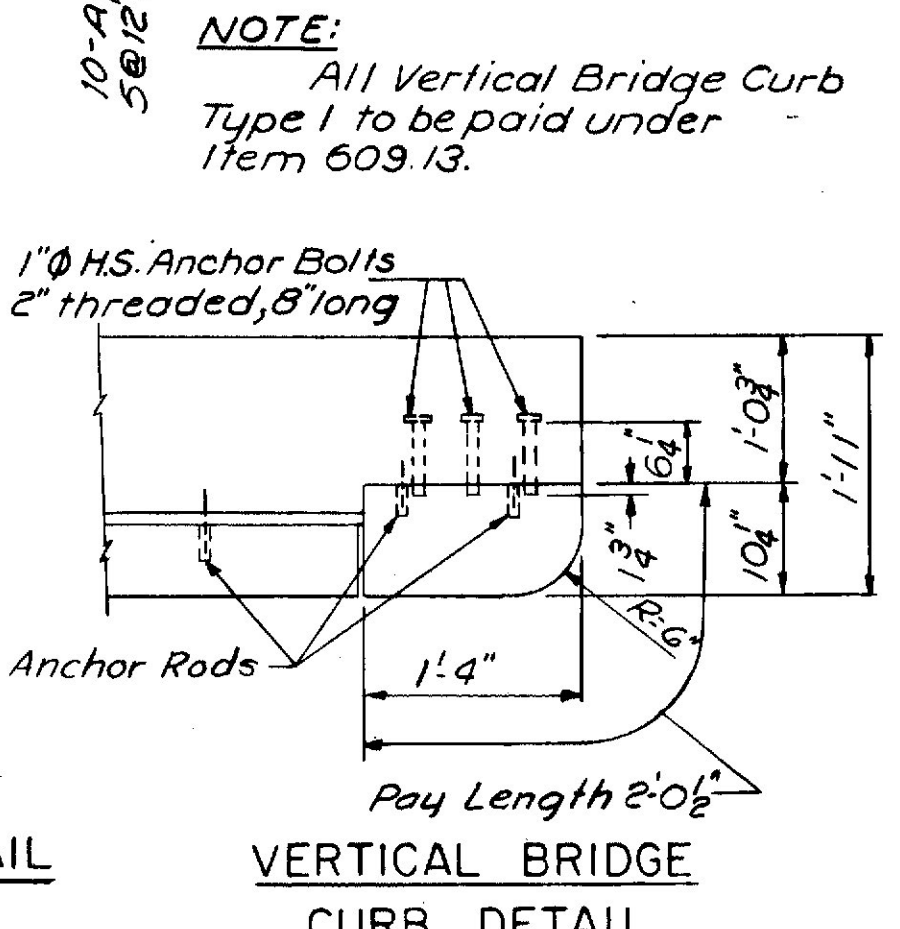
SECTION E-E
1/4" = 1'-0"

NOTE:
All faces of End Post to be coated with Protective Coating for Concrete Surfaces



GUARD RAIL END POST DETAIL
3/8" = 1'-0"

GUARD RAIL NOTES:
1. Three anchor bolts required to each end post. Bolts to be furnished with hex head, nut and washer. All parts to be galvanized. Payment for acquiring and installing anchor bolts shall be incidental to Item 502.21. (Structural concrete, abutments and retaining walls)
2. For detail of R washer "GI" see Standard Details Guard Rail August 1969 (6)
3. Concrete in Rail End Post shall be paid for under Item 502.21 Structural Concrete Abutments & Retaining Walls.

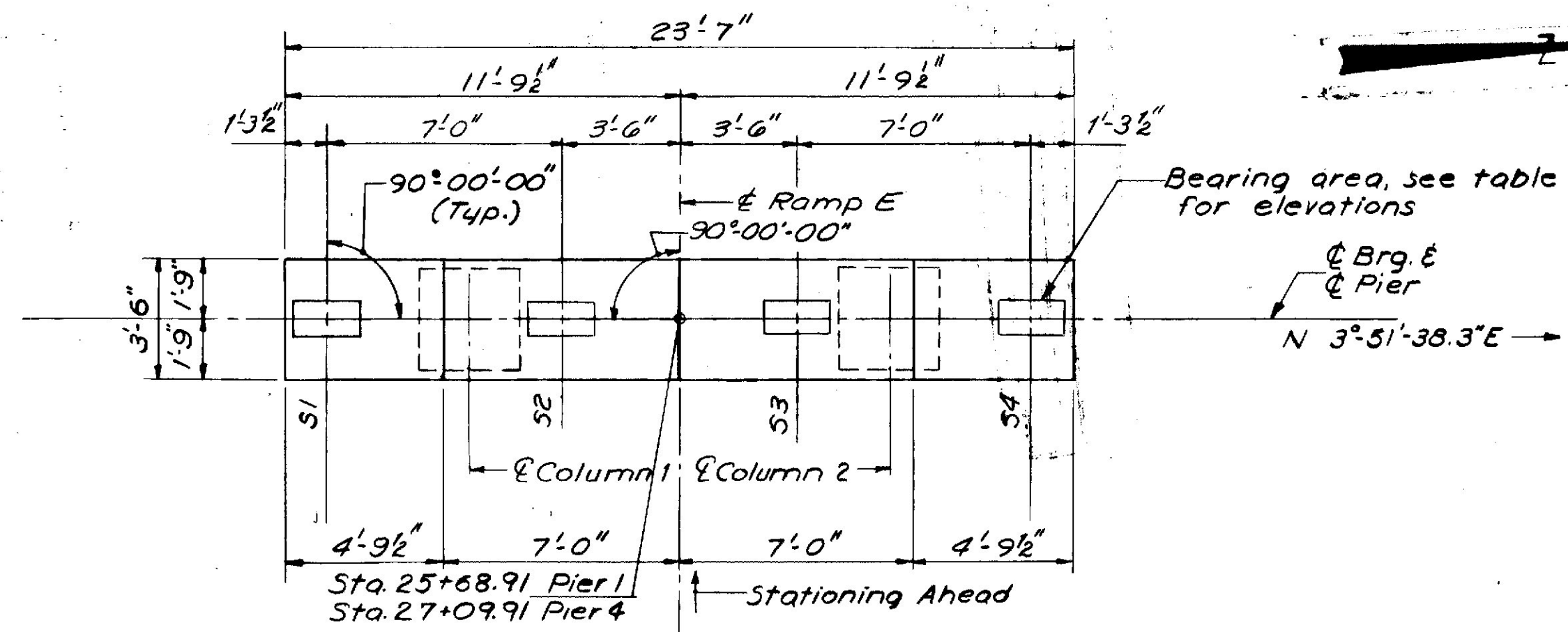


VERTICAL BRIDGE CURB DETAIL
3/4" = 1'-0"

NOTE:
For General Notes see Sheet No. 4.
For Section A-A see Sheet No. 4.
For Section B-B see Sheet No. 4.
For Pile Notes, see Sheet No. 4.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

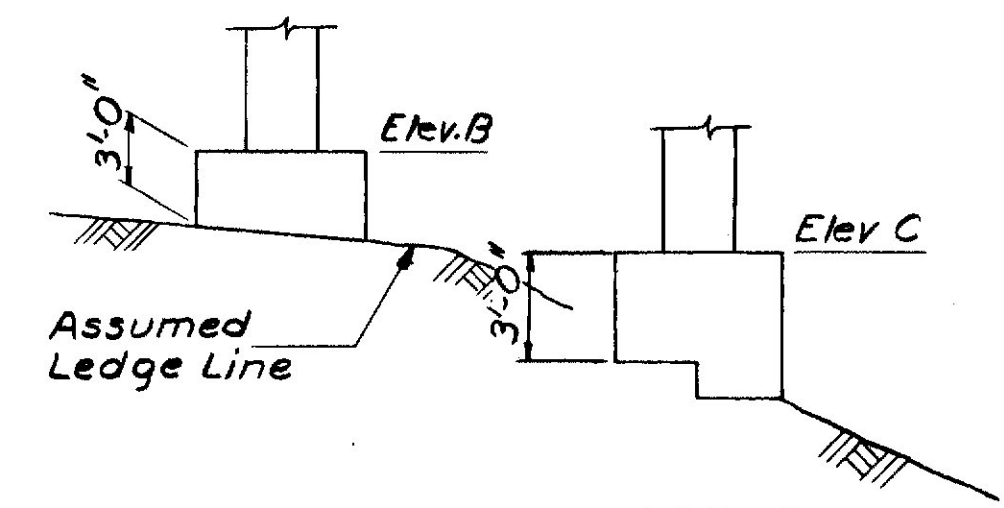
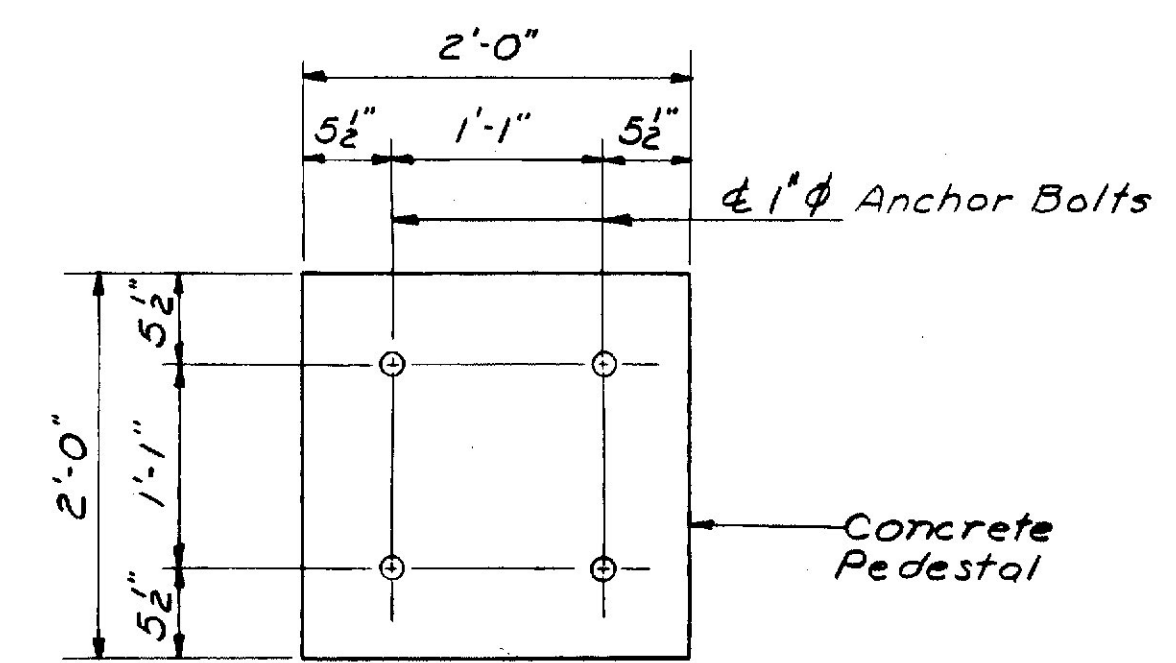
DESIGN - E.F.K. TRACE - S.M. CHECK - S.M.	DETAIL - R.D.F. PLOT	BRIDGE NO. SURVEY - PLOT
STATE HIGHWAY COMMISSION BRIDGE DIVISION RAMP E OVER INTERSTATE 95 IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY ABUTMENT NO. 2 SHEET 5 OF 11 AUGUSTA, MAINE OCT 1966 WEST GARDINER (20)		



BEAM	Pier 1	Pier 2	Pier 3	Pier 4
S1	231.17			231.31
S2	231.02			231.17
S3	230.87			231.02
S4	230.73			230.87

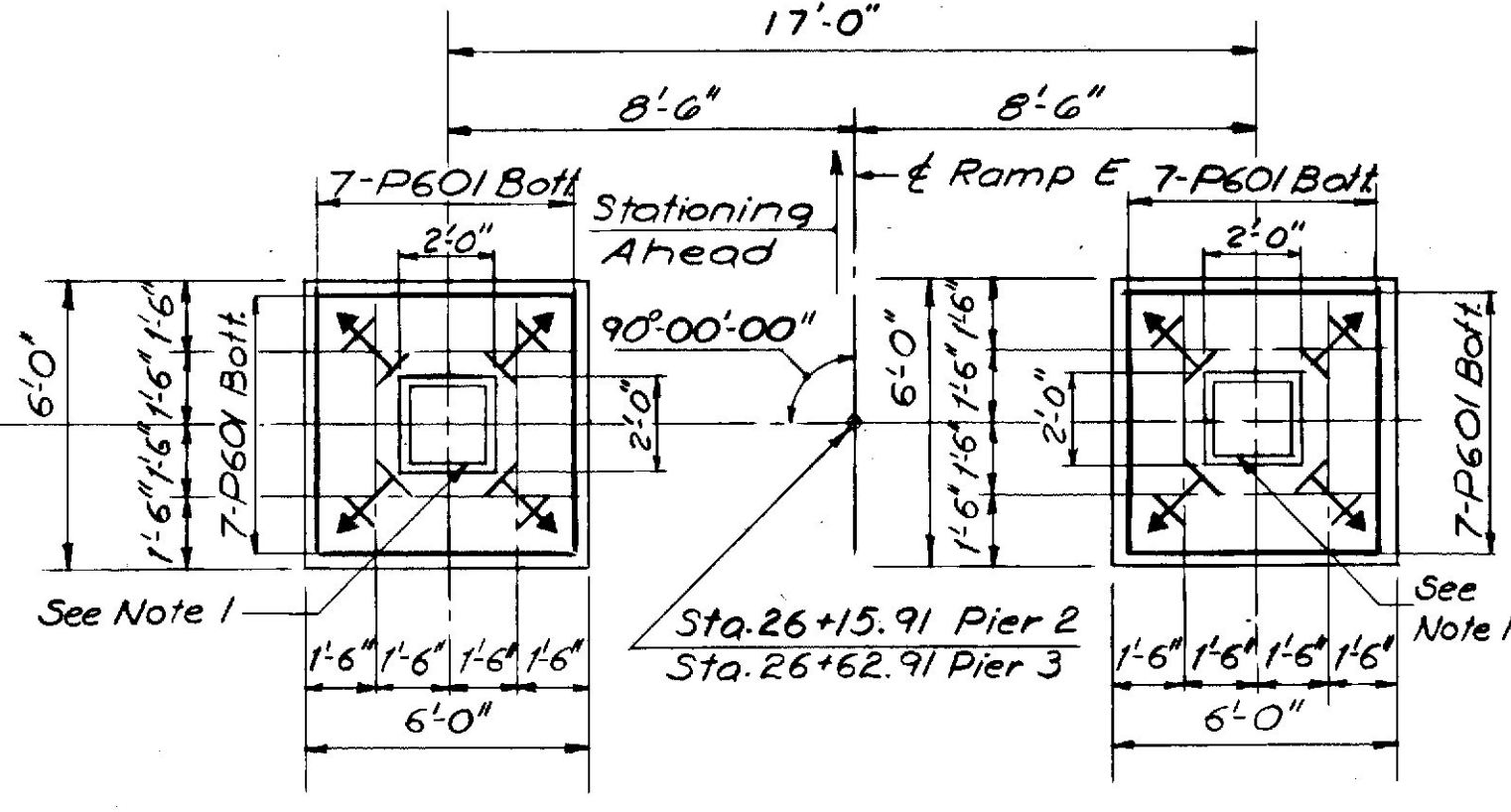
see Sheet 7

ELEVATION	Pier 1	Pier 2	Pier 3	Pier 4
A	226.73	See Sheet 7		226.87
B	207.00	210.00	210.00	210.00
C	204.00	210.00	210.00	210.00

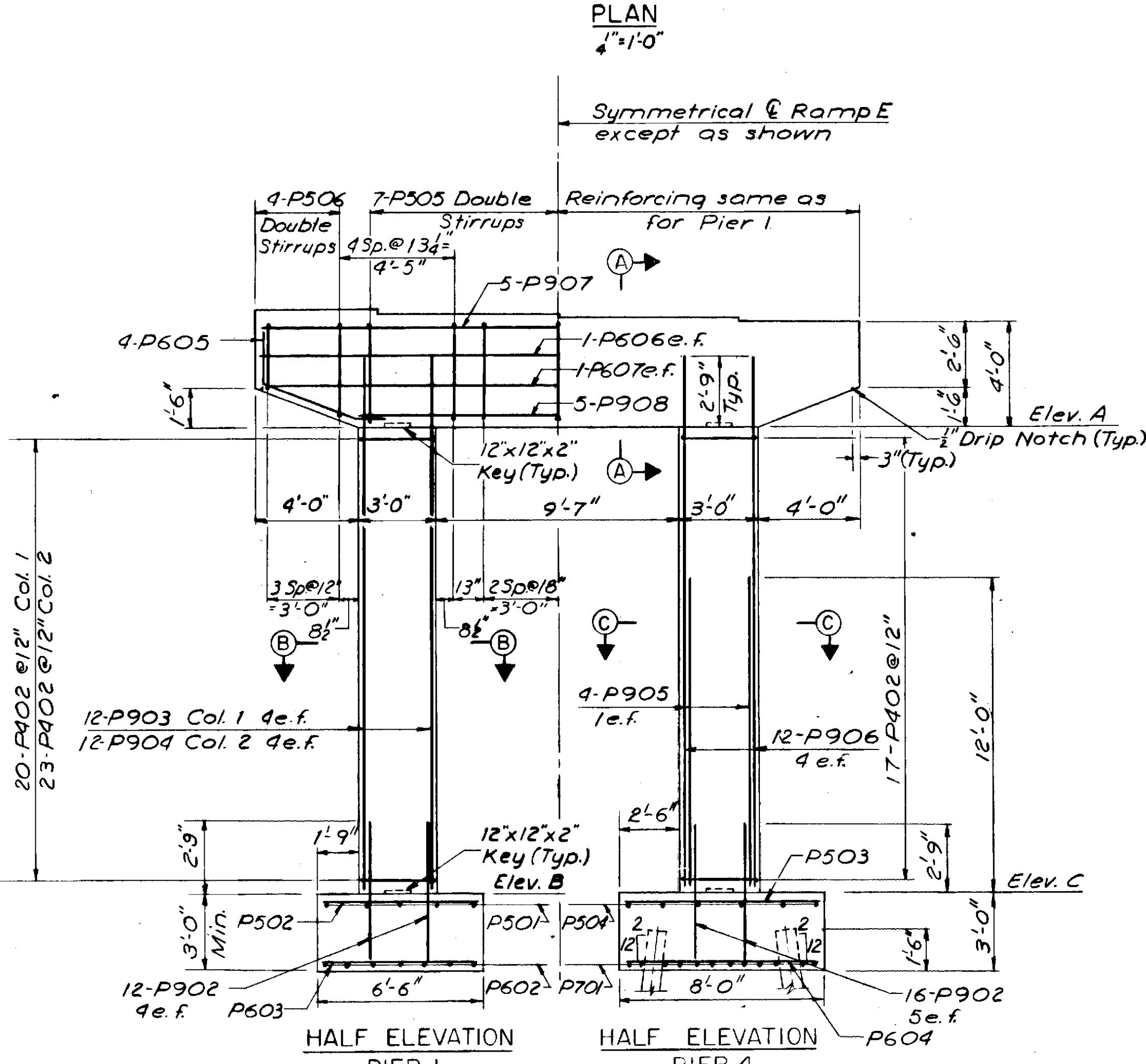


- NOTES**
- Dress bearing pad areas 1" larger all around than masonry plates to exact elevations shown.
 - Reinforcing steel to have 2" min cover, except 3" for footings.
 - Place rebar to clear anchor bolts.
 - All exposed corners to have 3/4" chamfer.
 - All weathered or broken ledge shall be removed before any footing concrete is placed.
 - Top of footing elevation may be altered to suit field conditions for Pier No. 1. No change in top of footing elevations greater than 2 feet shall be made without approval of the Engineer. Top of footing shall have a minimum of 1 foot of earth cover.
 - Footing side forms may be omitted in rock provided rock is excavated outside the plan dimensions and if approved by the Engineer. Payment for Structural Concrete-Piers, or for Structural Concrete-Piers, will be made according to plan dimensions of footing (Pier 1 only).
 - Pier footings shall have a minimum depth of 3'-0" below the top of footing elevations. In excavating to locate bottom of pier footings, no payment for Structural Rock Excavation-Piers, or for Structural Concrete-Piers, will be made below a horizontal plane located 1'-0" below bottom of footing elevation determined by the Engineer after rock is exposed.
 - Maximum footing pressure: Pier 1: Group I loading - 2917/Sq. ft. Group II loading - 5.187/Sq. ft.
 - Piers 2, 3, 4: HPI0x42 End Bearing Piles (55 ton capacity).
 - Indicates battered piles, battered 2:12 in direction of arrow. For additional pile notes, see sheet 4. All piles shall have Pointed Reinforced Tips. See Sheet 5 for Details.
 - Estimated pile lengths: Pier 2 = 8 @ 22 feet; Pier 3 = 8 @ 17 feet; Pier 4 = 8 @ 22 feet

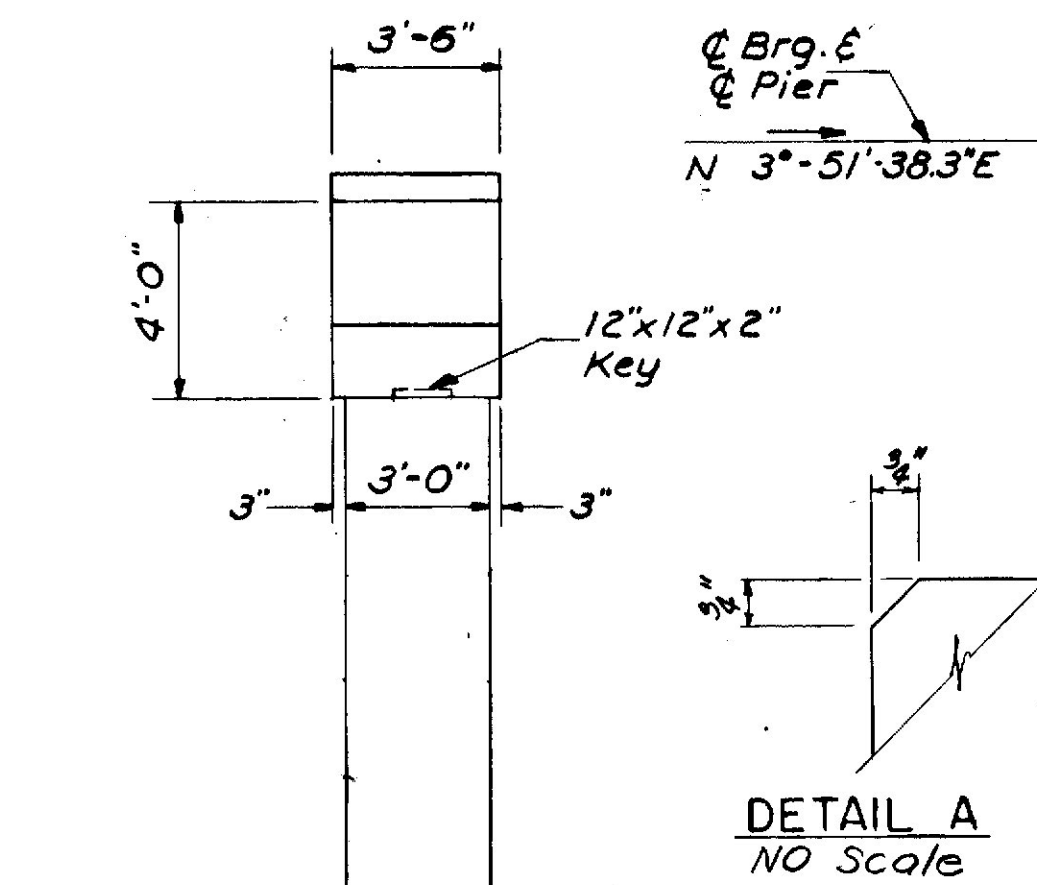
ANCHOR BOLT LAYOUT DETAIL
PIERS 2 & 3
1" = 1'-0"



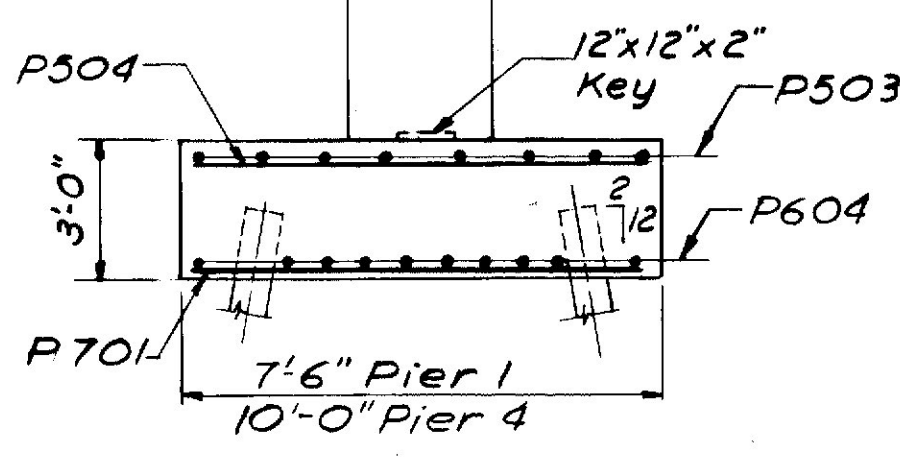
PLAN, PIER 2 & 3
1/4" = 1'-0"



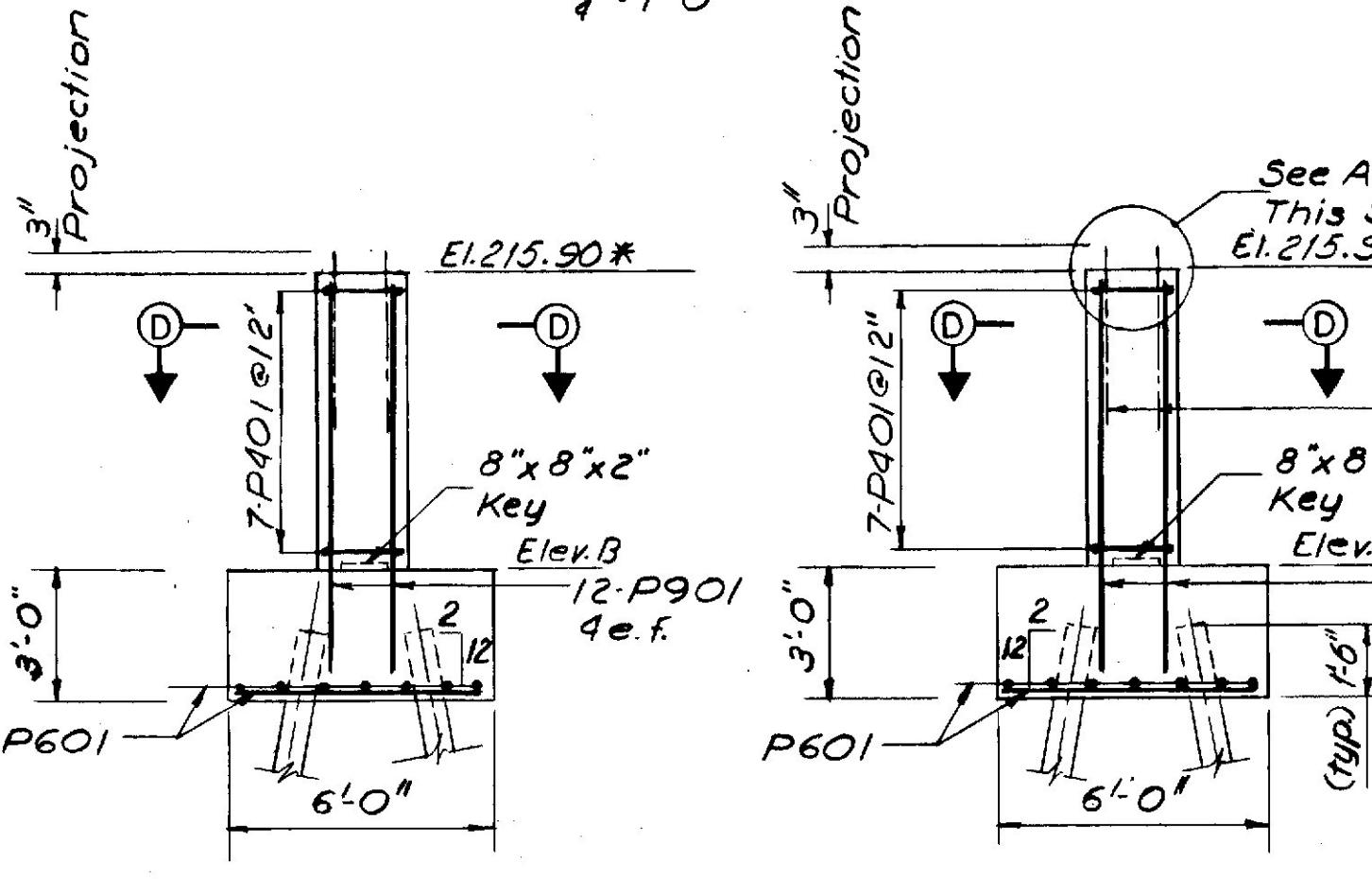
HALF ELEVATION PIER 1
HALF ELEVATION PIER 4
ELEVATION 1/4" = 1'-0"



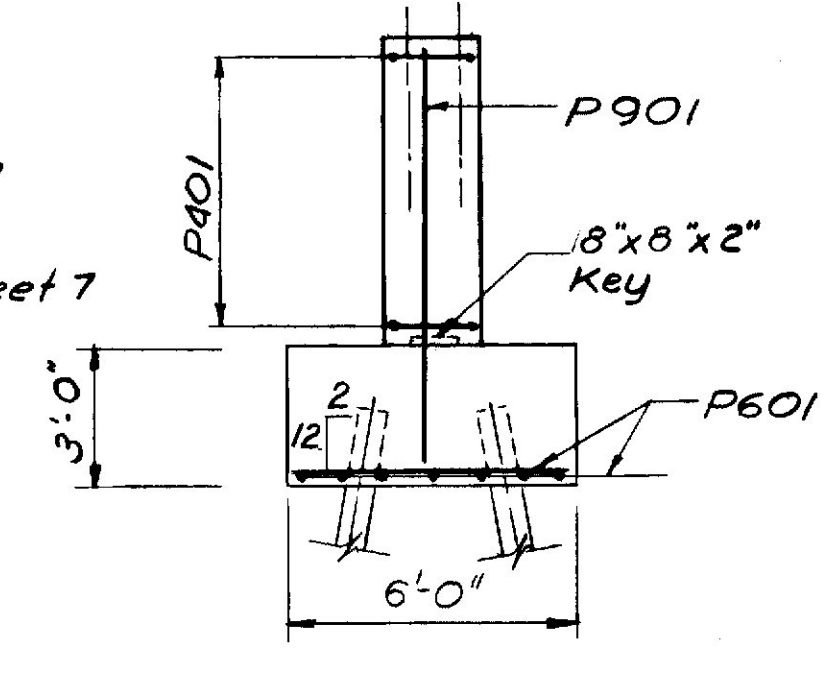
DETAIL A
NO SCALE



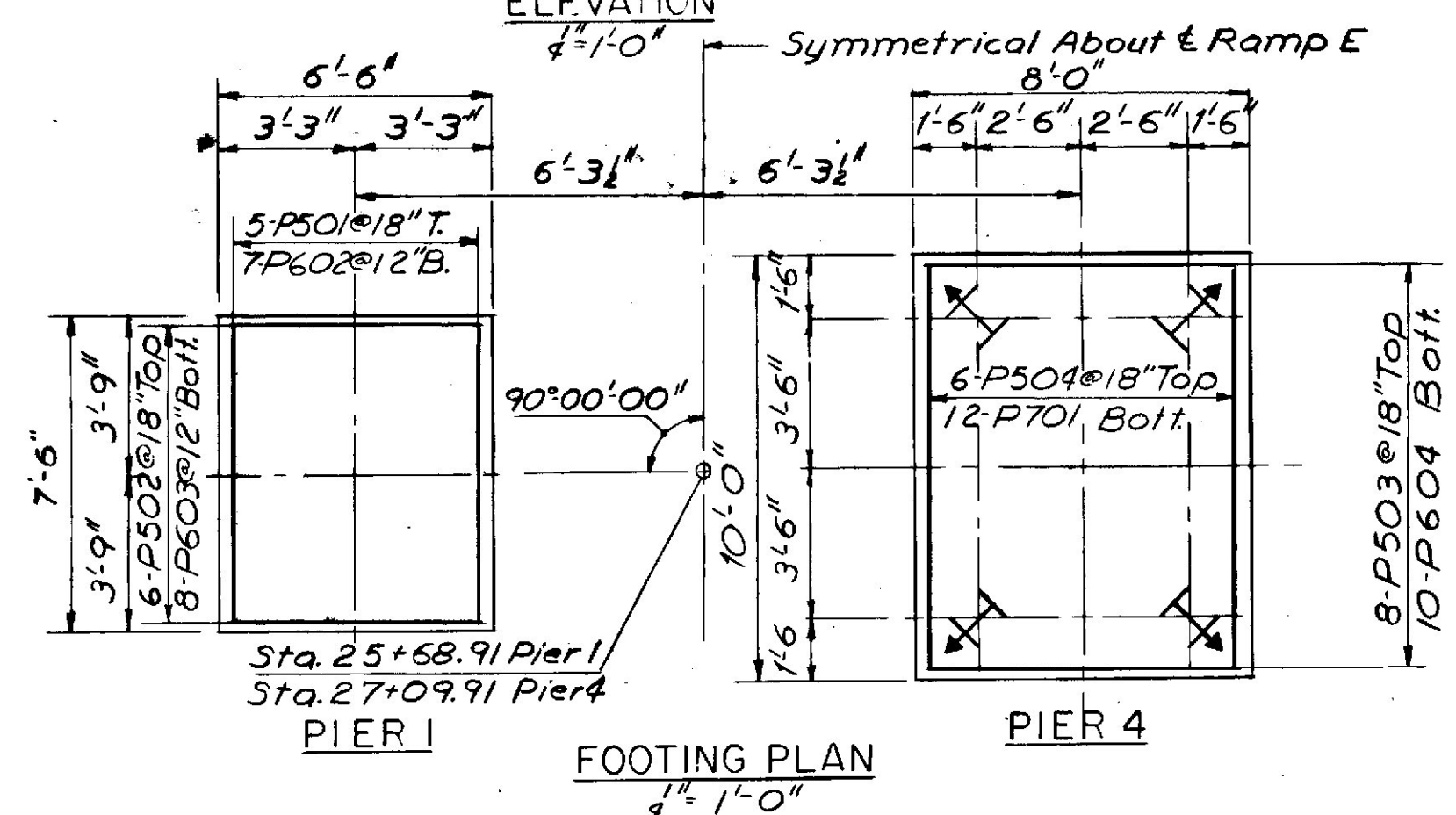
END ELEVATION PIERS 1 & 4
Piles and footing reinforcing shown for Pier 4.



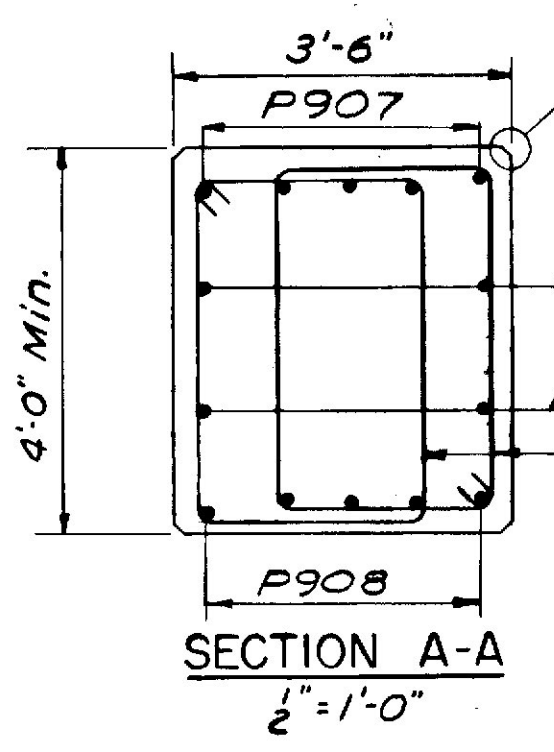
ELEVATION PIERS 2 & 3
1/4" = 1'-0"
* Bearing Area Elevation



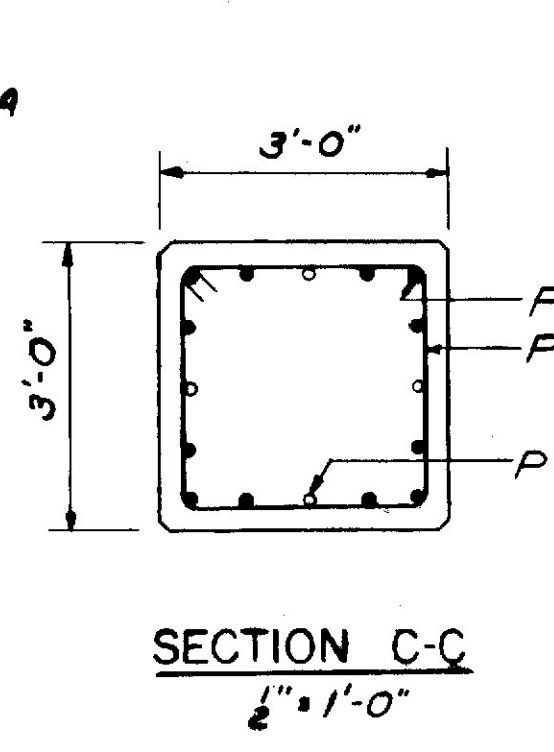
END ELEVATION PIERS 2 & 3
1/4" = 1'-0"



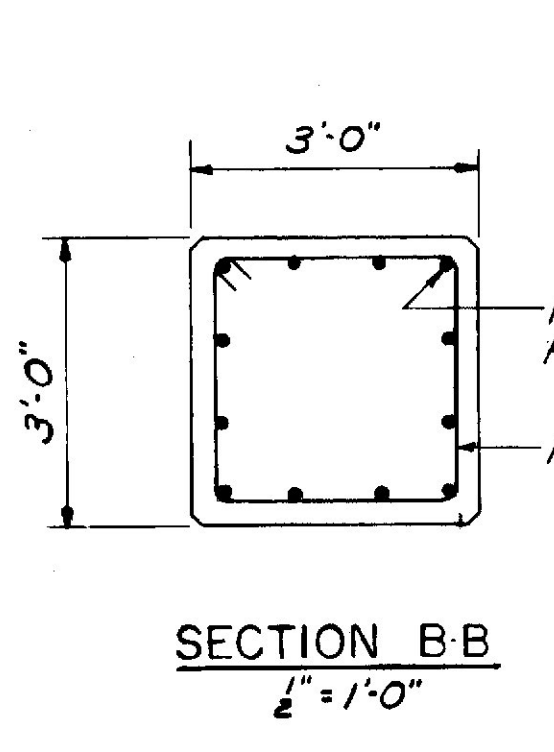
FOOTING PLAN
1/4" = 1'-0"



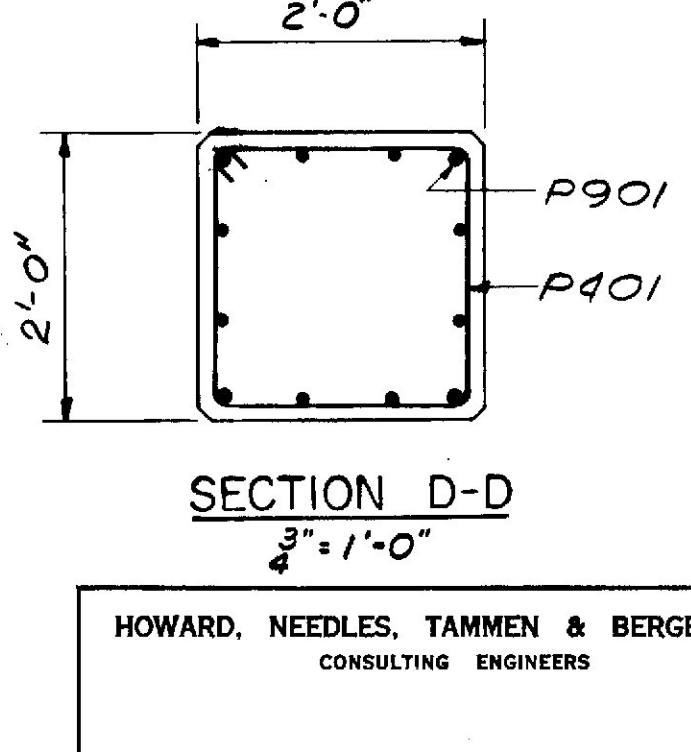
SECTION A-A
1/2" = 1'-0"



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



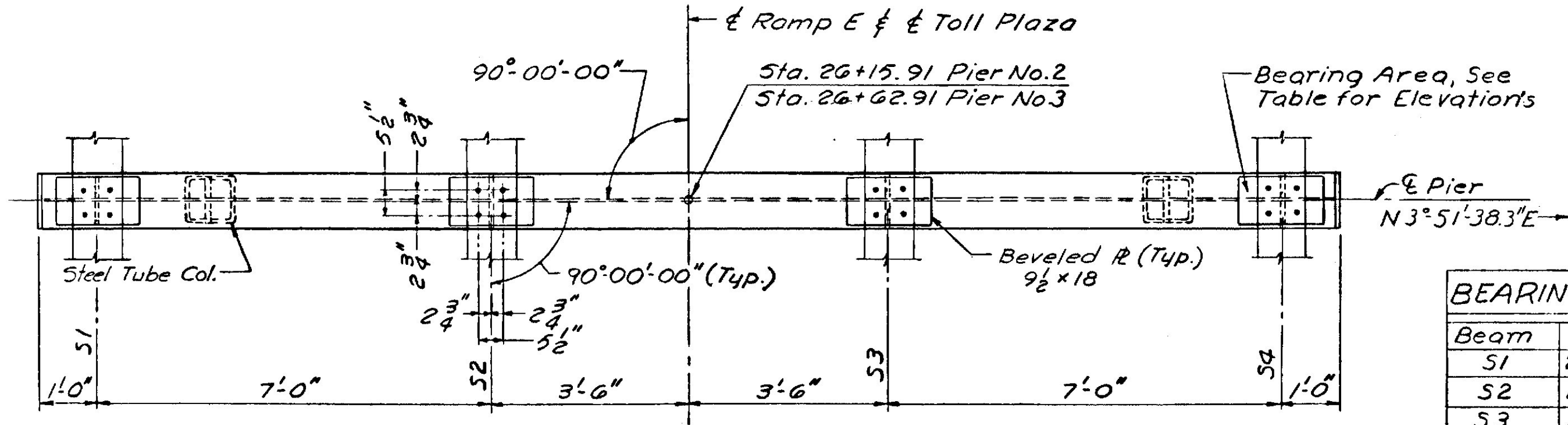
SECTION B-B
1/2" = 1'-0"



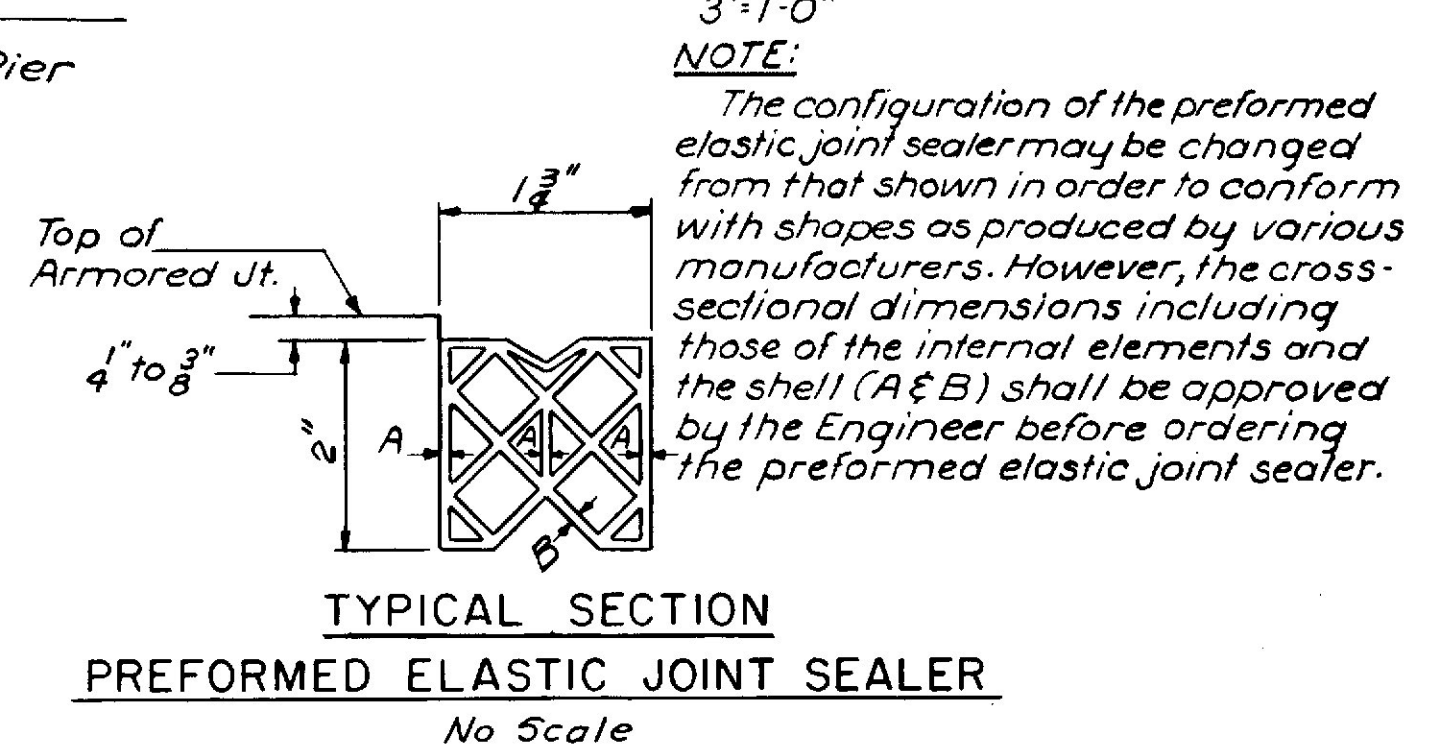
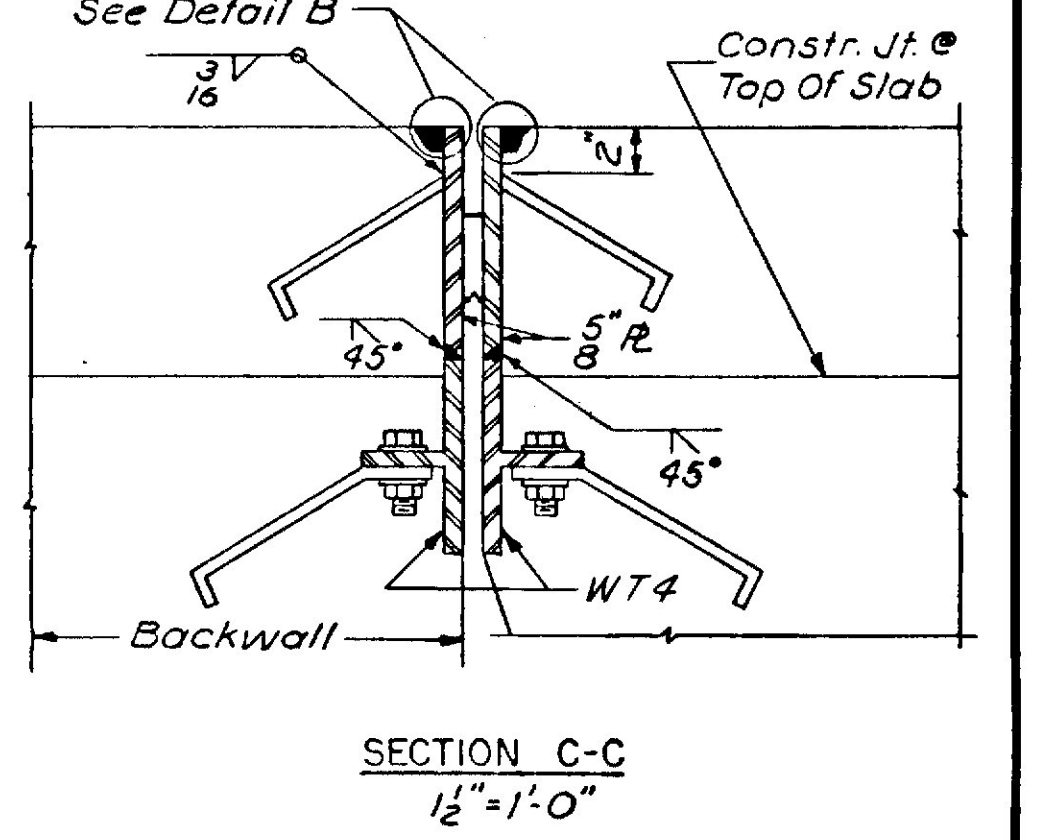
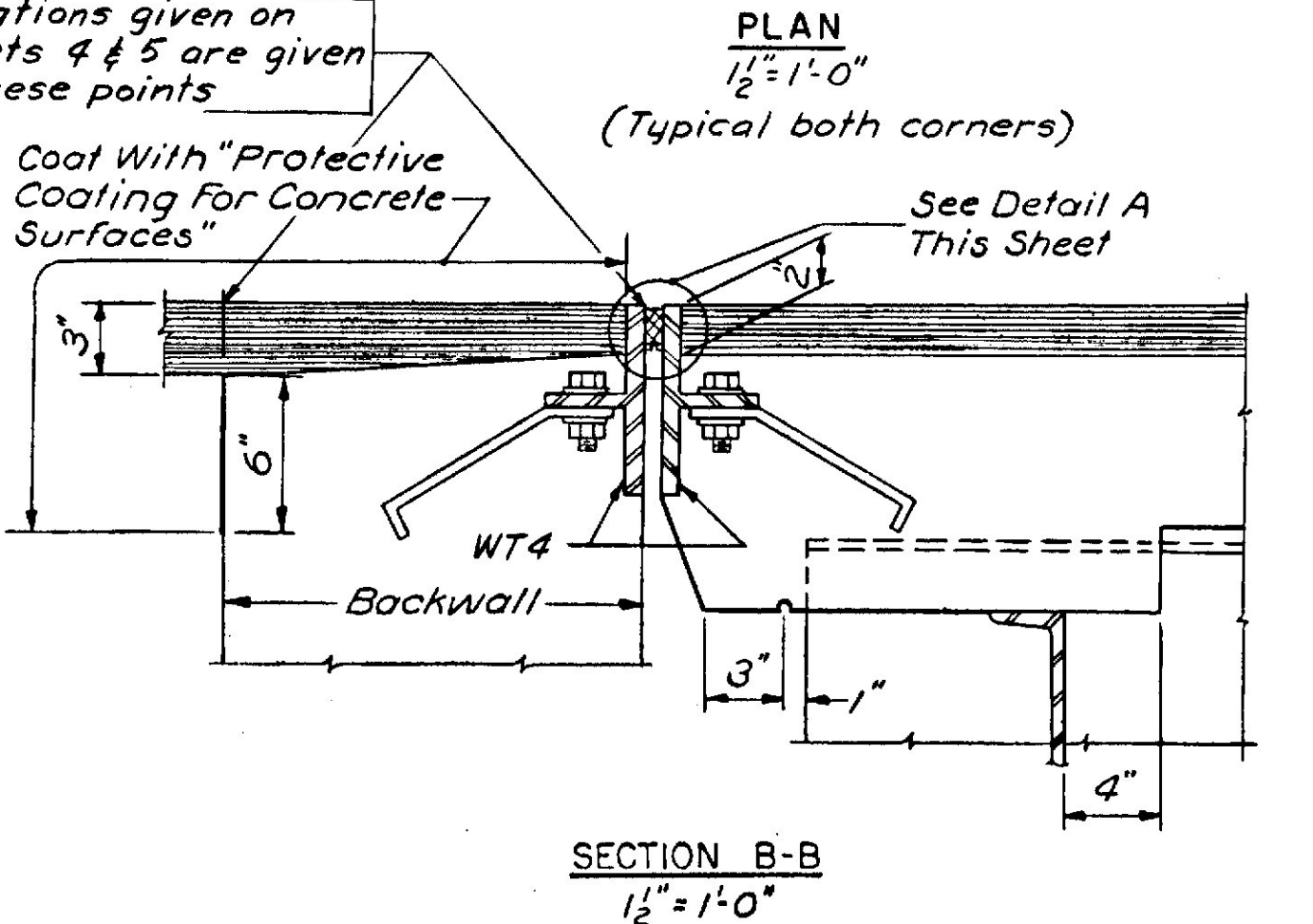
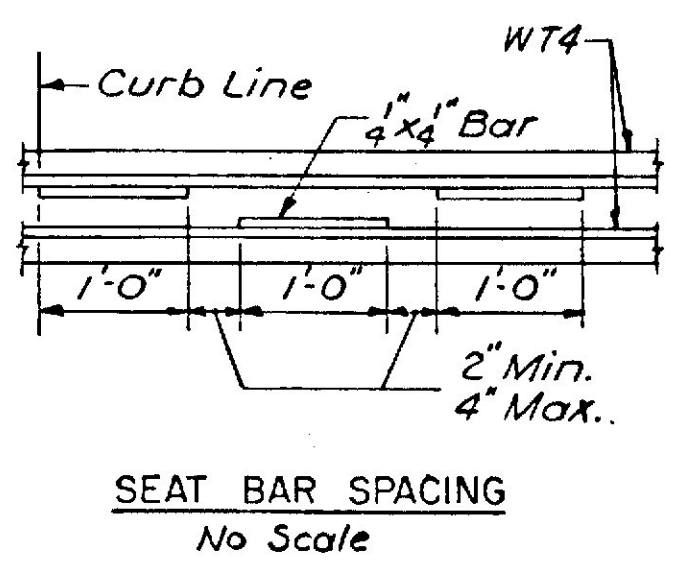
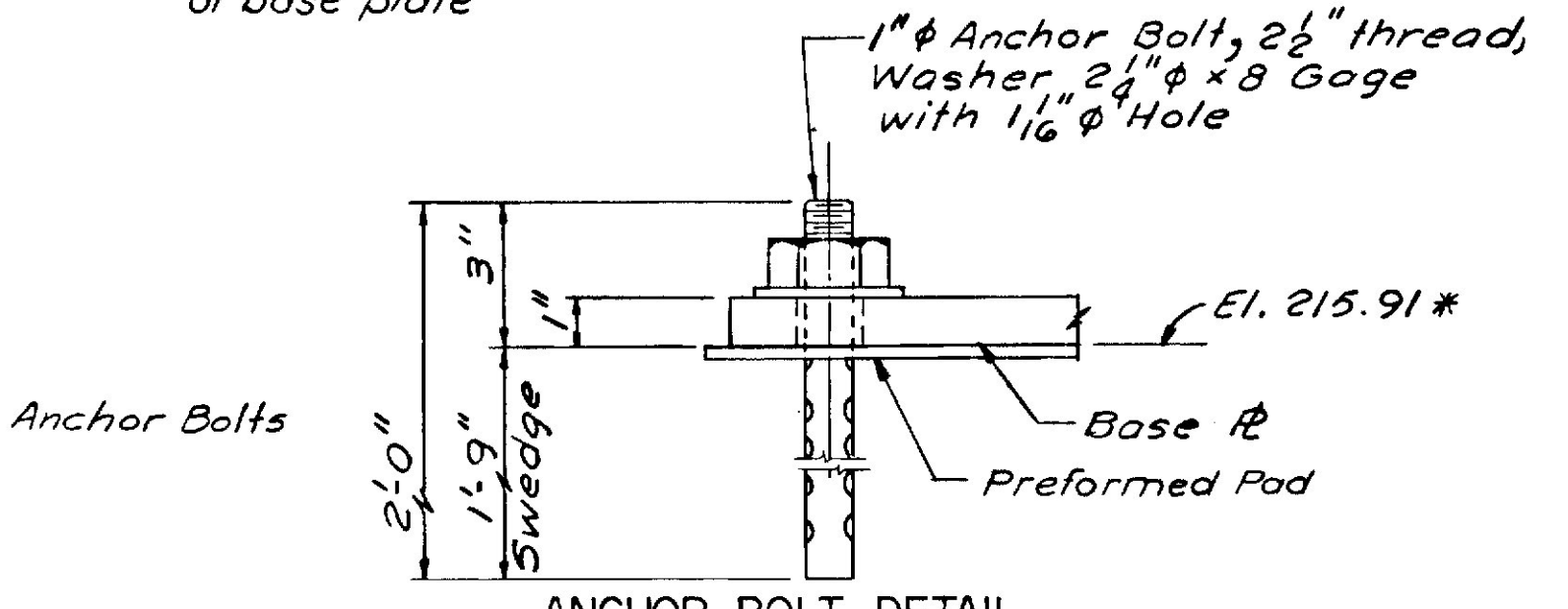
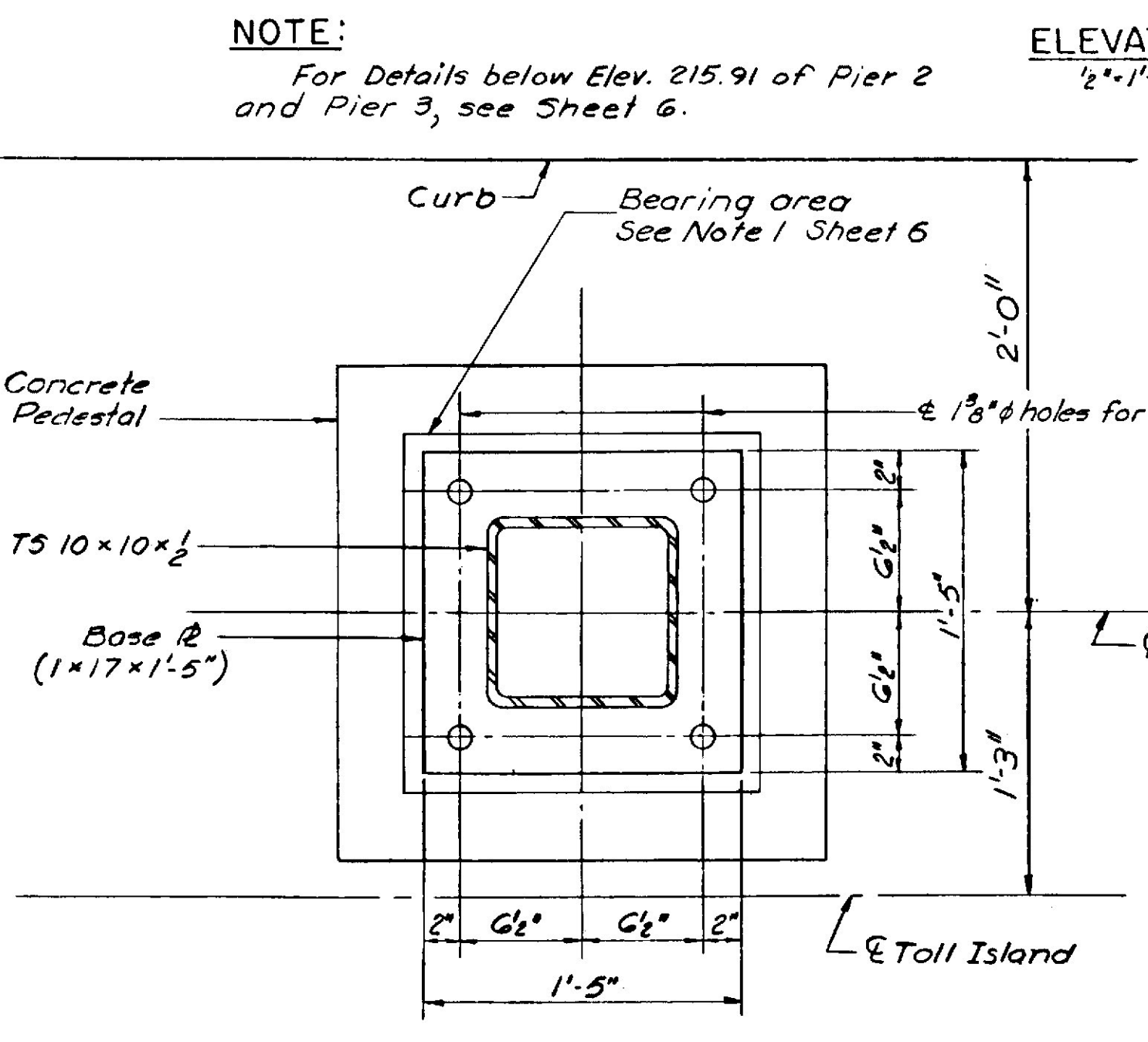
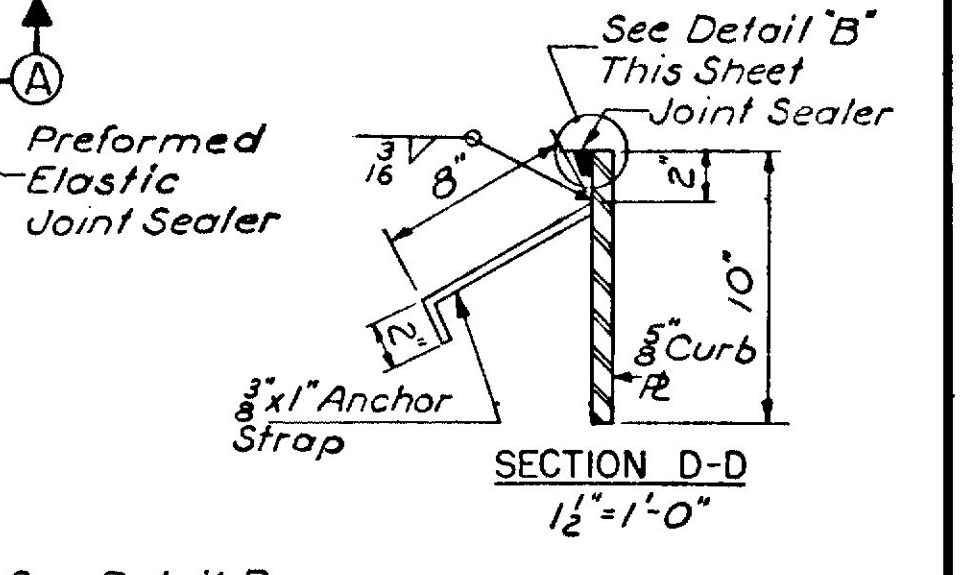
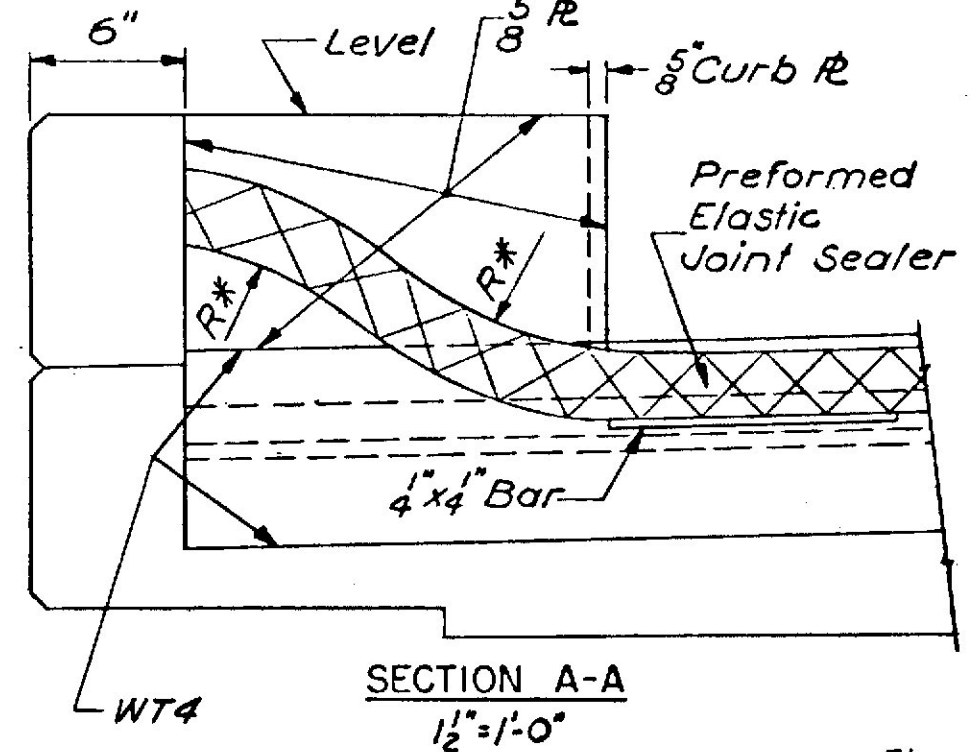
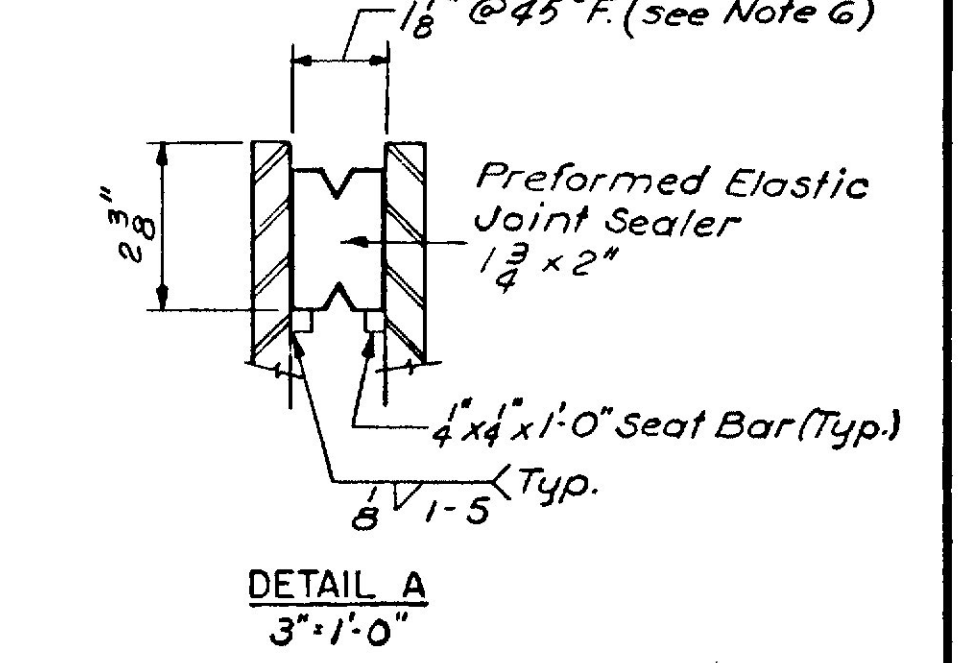
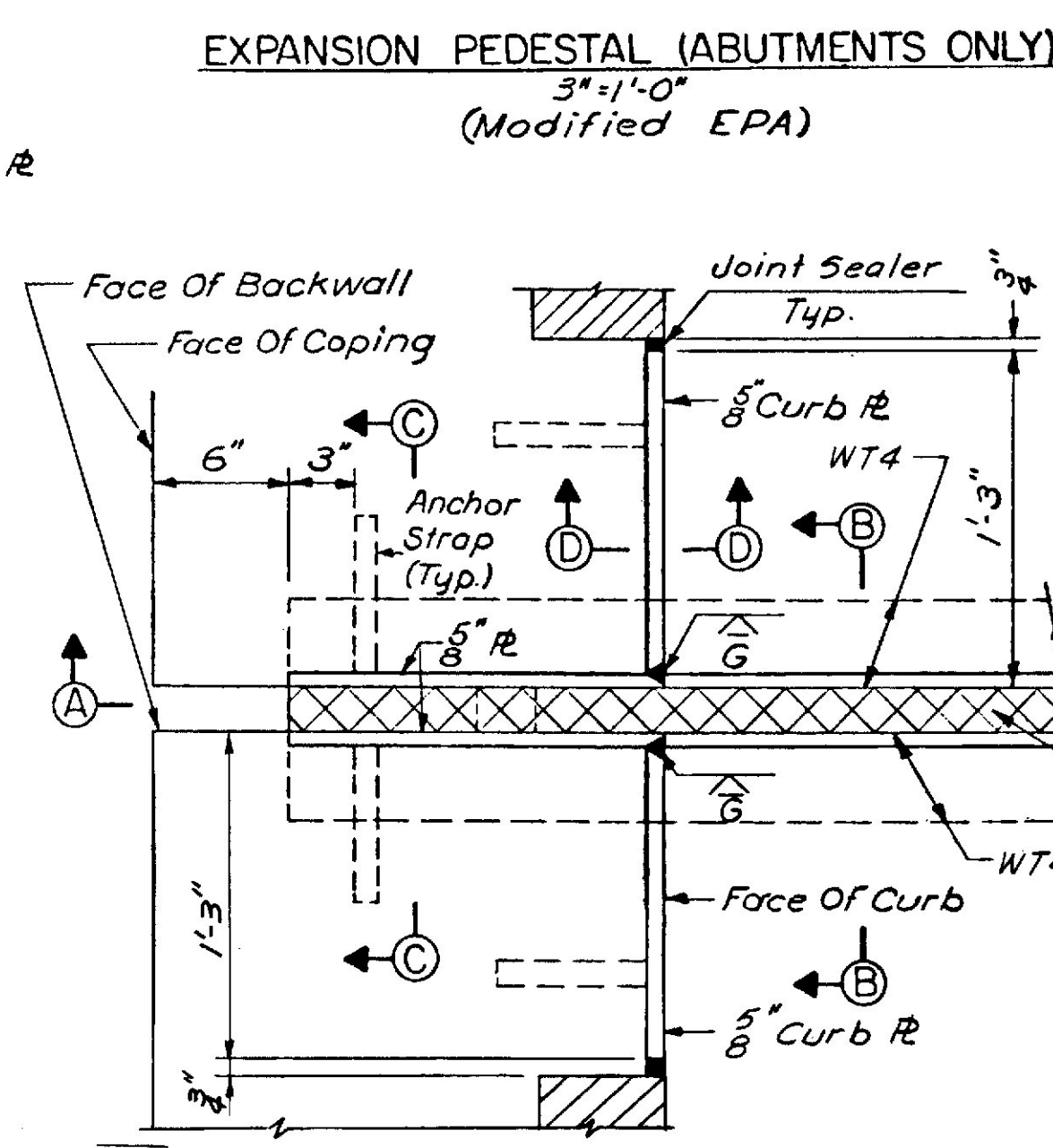
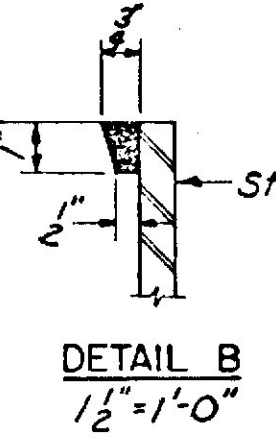
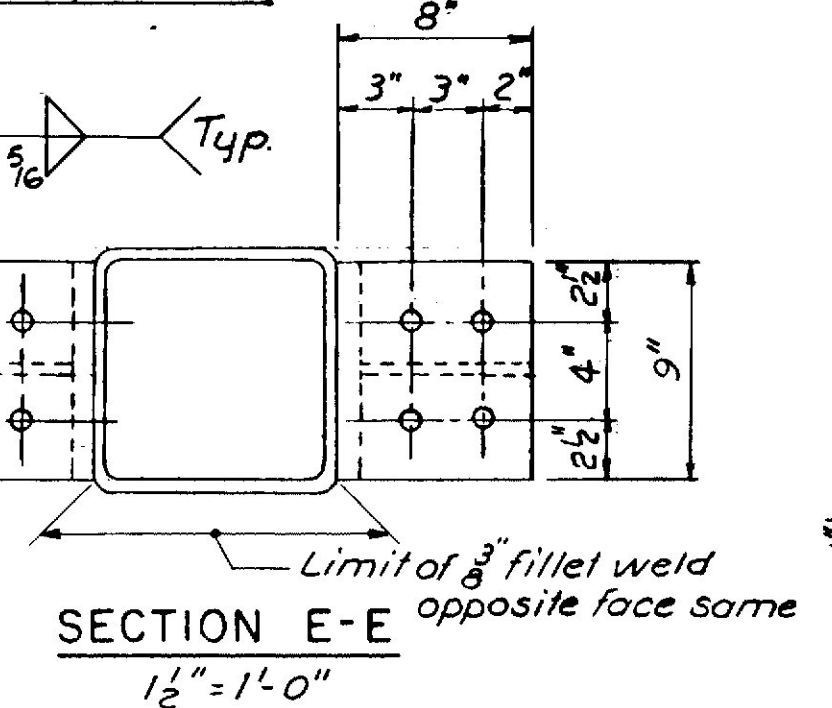
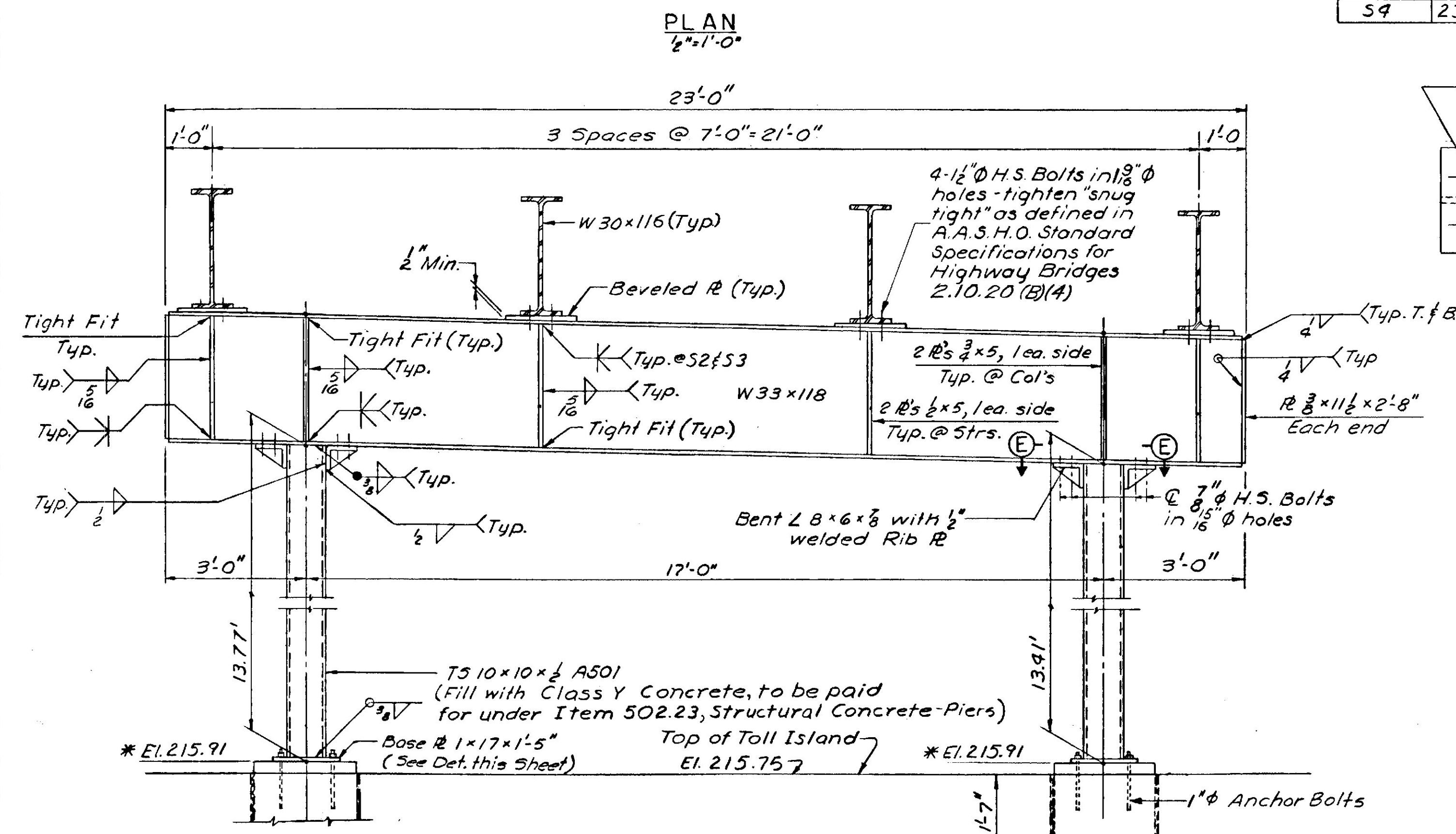
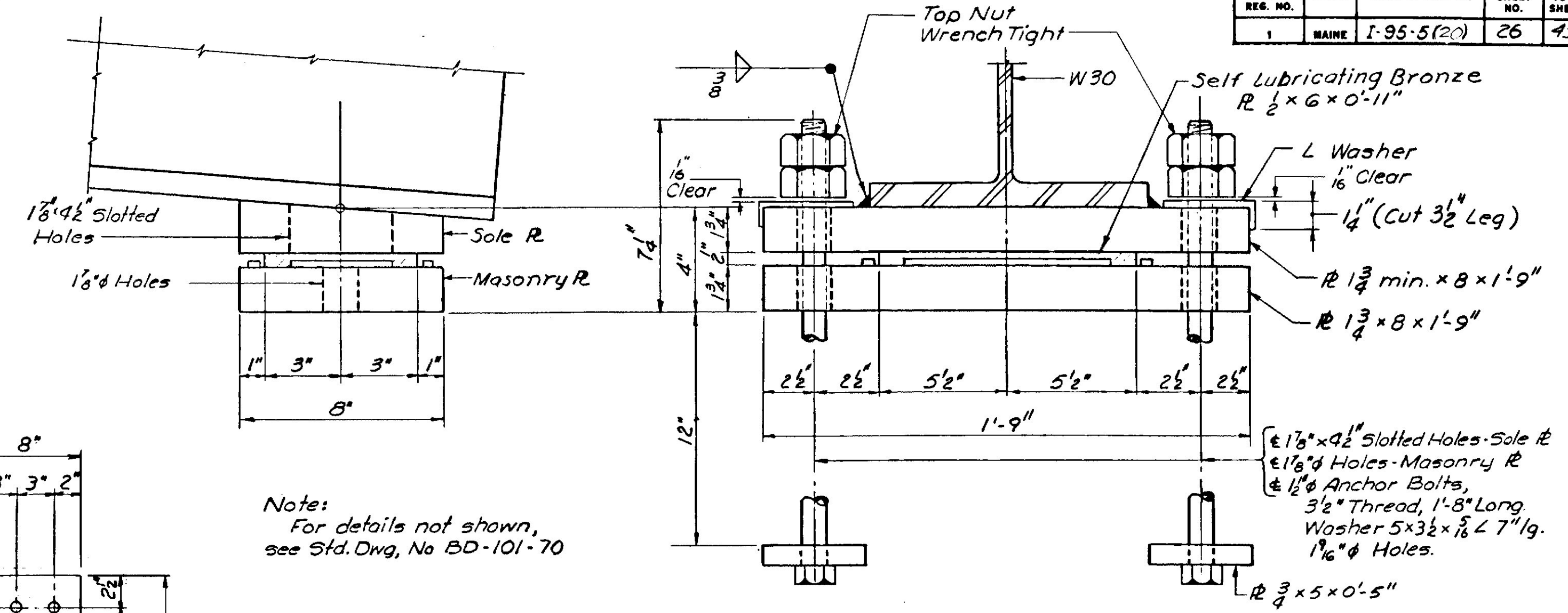
SECTION D-D
3/8" = 1'-0"

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

DESIGN-S.M.	DETAIL-S.H.R.	BRIDGE NO. SURVEY- CHECK-R.E.F.
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
RAMP E OVER INTERSTATE 95 IN THE TOWN OF WEST GARDINER		
KENNEBEC COUNTY CONCRETE PIER DETAILS		
SHEET 6 OF 11 AUGUSTA, MAINE OCT, 1966		
WEST GARDINER (20)		



Beam	Pier 2	Pier 3
S1	232.52	232.52
S2	232.37	232.37
S3	232.23	232.23
S4	232.08	232.08

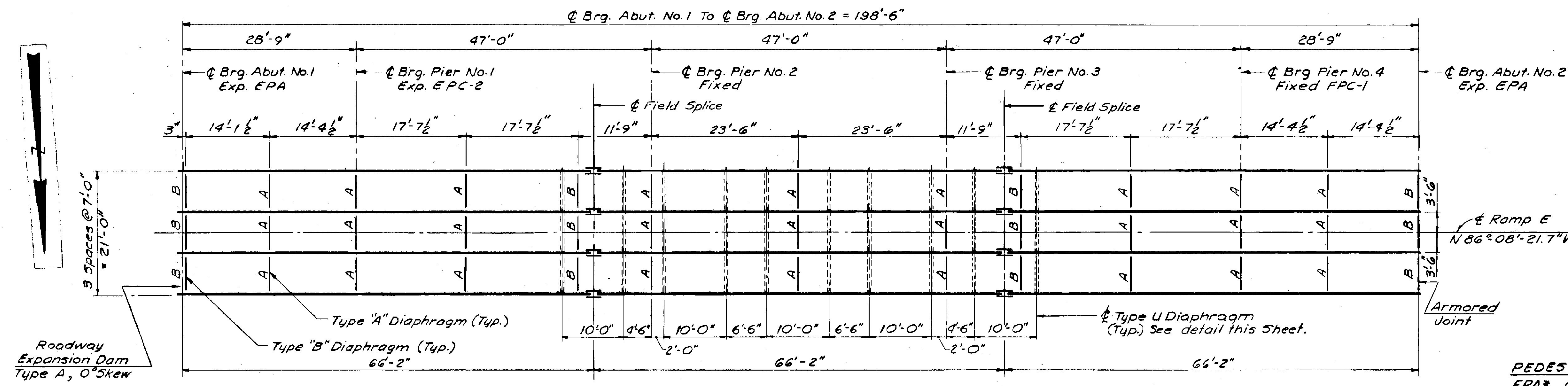


- NOTES:**
1. For additional details see Standard Detail Sheet BD104-71.
 2. All exposed welds & welds in contact with preformed elastic joint sealer to be ground smooth.
 3. Preformed elastic joint seal shall conform to Section 502 of the Supplemental Specifications.
 4. * Radius R to be large enough to prevent cutting crimping or breaking joint sealer.
 5. End posts not shown.
 6. Dimension at Abut. No. 2 increases 3/64" for every 10° fall in temp. and decreases 3/64" for every 10° rise in temp.

DECK JOINT DETAILS
ABUTMENT NO. 2
As Noted

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

DESIGN - E.F.K. DETAIL A.L.	BRIDGE NO. SURVEY - PLOT -
TRACE - I.S.	
STATE HIGHWAY COMMISSION BRIDGE DIVISION RAMP E OVER INTERSTATE 95 IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY STEEL DETAILS - PIERS 2 & 3 AND DECK JOINT DETAILS ABUTMENT NO. 2 SHEET 7 OF 11 AUGUSTA, MAINE	
WEST GARDINER (20)	



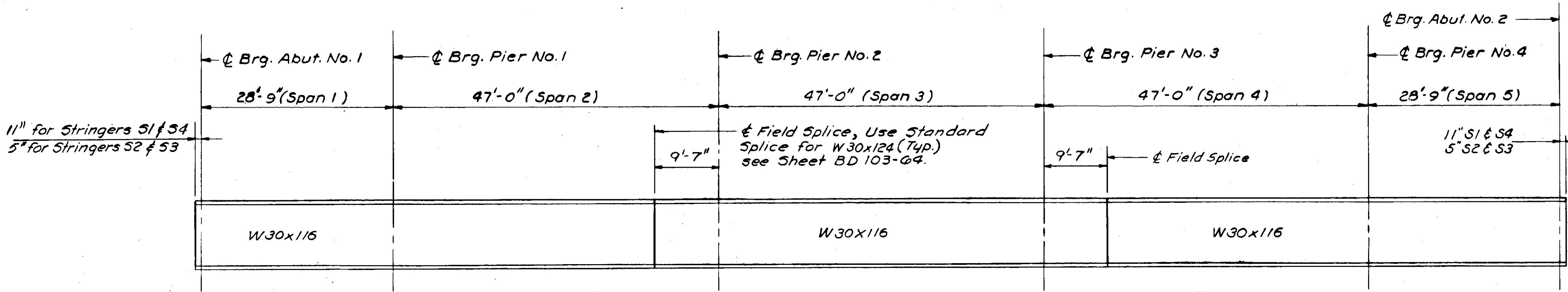
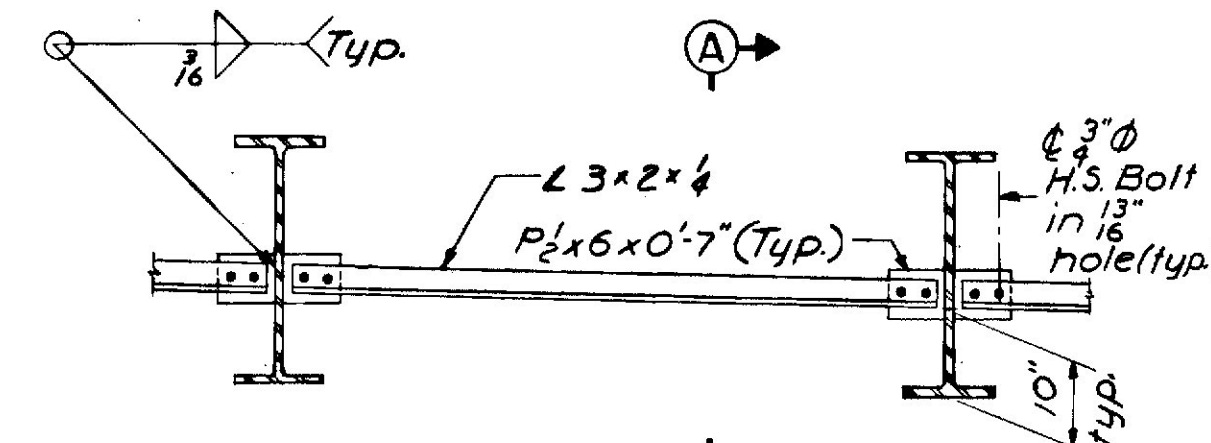
ERECTION DIAGRAM
1" = 10'

REFERENCE
 Splice - See Standard Details BD103-64
 Pedestals - See Standard Details BD101-70, & Sheet 7
 Expansion Dams - See Standard Details BD105-64
 Diaphragms - See Standard Details BD104-66 & this Sheet.
 Armored Joint - See Standard Details BD104-71 & Sheet 7.

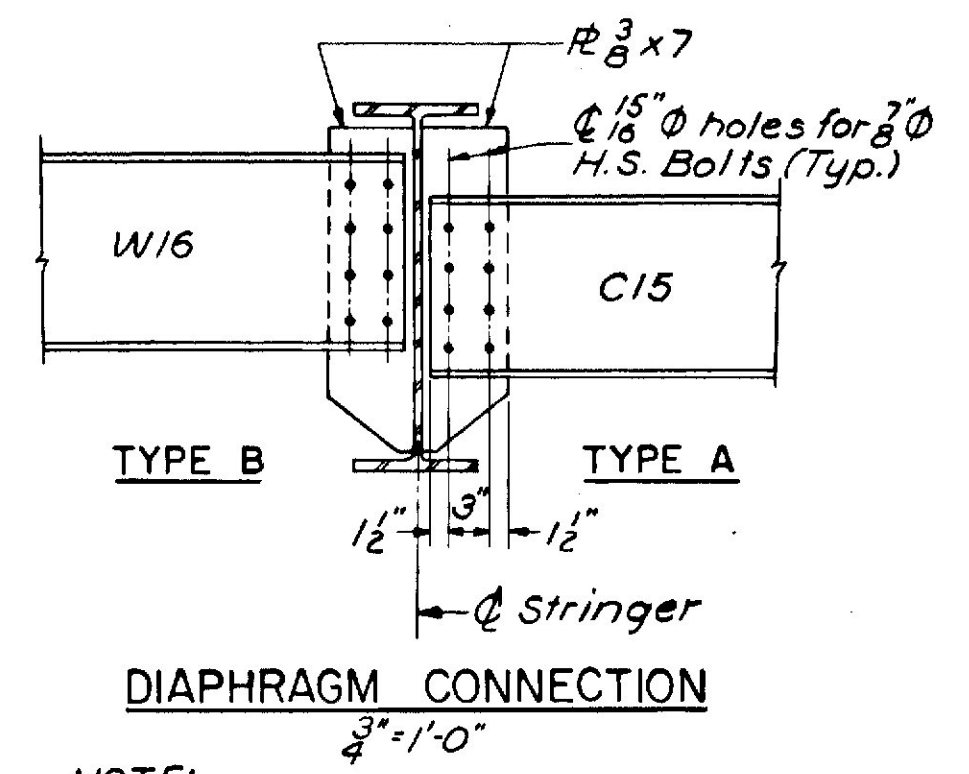
SPECIFICATIONS
 Fabrication and Erection: State of Maine Standard Specifications, Highways and Bridges, Revision of June 1968.
 Design and Detail: A.A.S.H.O. Standard Specification for Highway Bridges of 1969 with Interim Specifications.

Materials: Except as otherwise noted on the Standard Details and Sheet 7 all material shall conform to A.S.T.M. designation A-36.

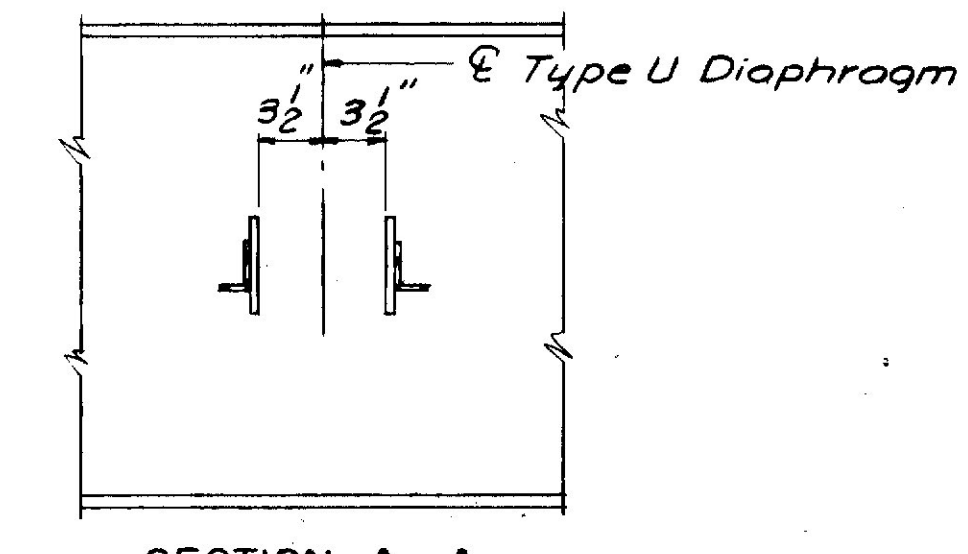
PEDESTALS
 EPA* 8 Required
 EPC-2 4 Required
 FQC-1 4 Required
 *Modified for details see sheet 7



TYPICAL STRINGER ELEVATION
No Scale



TYPE U DIAPHRAGM
1/2" = 1'-0"



NOTE:
For data not shown see Standard Details BD104-66.

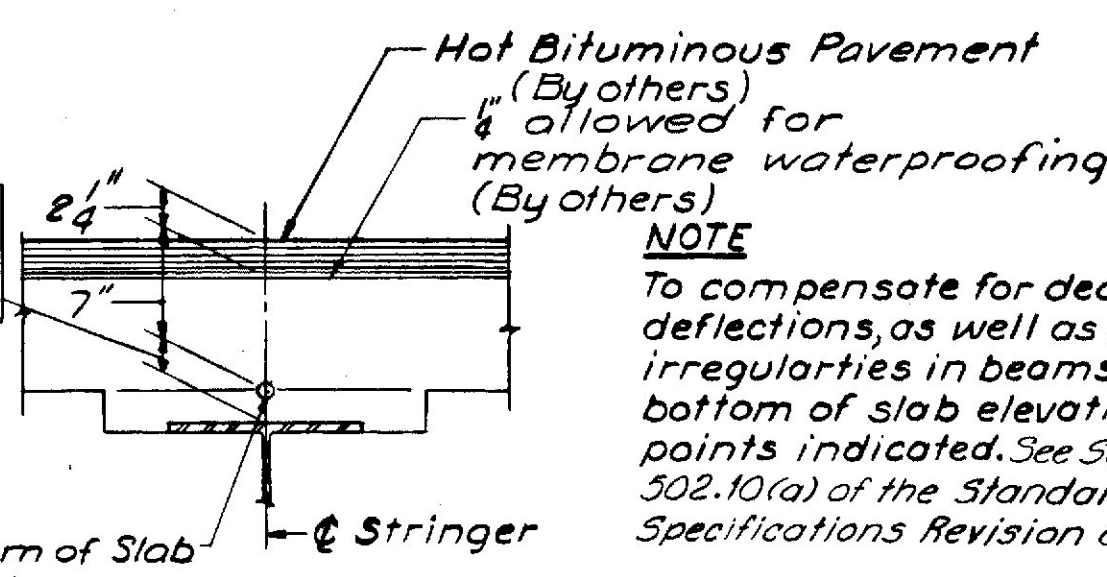
	Abut. No. 1	Pier No. 1	Pier No. 2	Pier No. 3	Pier No. 4	Abut. No. 2
Span	5 Sp @ 5'-9" = 28'-9"	5 Sp @ 9'-4 1/8" = 47'-0"	5 Sp @ 9'-4 1/8" = 47'-0"	5 Sp @ 9'-4 1/8" = 47'-0"	5 Sp @ 5'-9" = 28'-9"	
Elev. A						
Line 1						
Line 2						
Line 3						
Line 4						
Elev. B						

DIAGRAM OF BLOCKING POINTS
No Scale

	Abut. No. 1	Pier No. 1	Pier No. 2	Pier No. 3	Pier No. 4	Abut. No. 2
Span	66'-2"	66'-2"	66'-2"			
Grade	+ .972 %	0.0 %	- .972 %			
S1	+ .972 %	0.0 %	- .972 %			
S2	+ .972 %	0.0 %	- .972 %			
S3	+ .972 %	0.0 %	- .972 %			
S4	+ .972 %	0.0 %	- .972 %			

BEAM GRADES
No Scale

Blocking 1" @ Abut. and 1 1/4" @ Splices (Do not use for setting forms)



BLOCKING DETAIL
No Scale

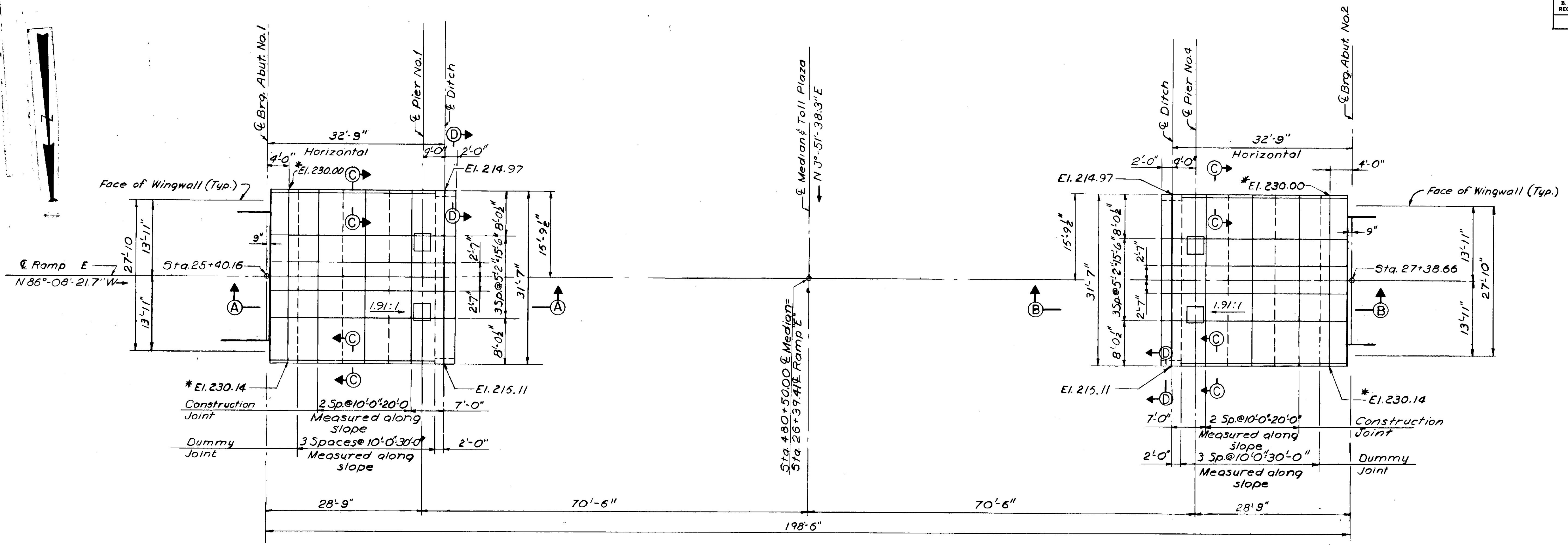
DEAD LOAD DEFLECTION DIAGRAM
ALL DEFLECTIONS IN INCHES

NOTE:
No shop camber required.
Natural mill camber to be placed up.

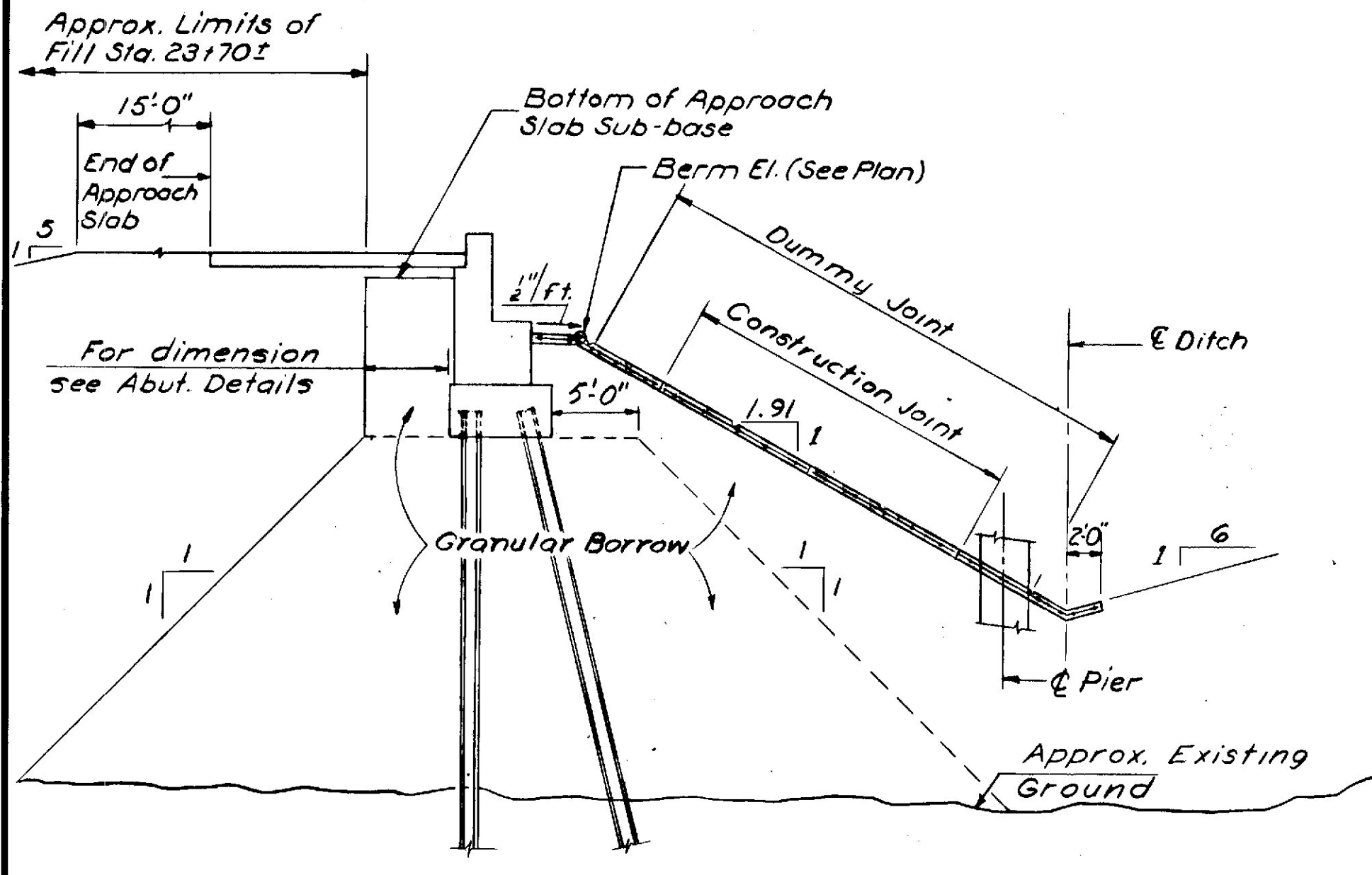
DESIGN - I.S.	DETAIL - R.D.F.	BRIDGE NO. SURVEY -
TRACE -	CHECK - S.M.	PLOT -

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
RAMP E
OVER
INTERSTATE 95
IN THE TOWN OF
WEST GARDINER
KENNEBEC COUNTY
STRUCTURAL STEEL & BLOCKING
SHEET 8 OF 11 AUGUSTA, MAINE

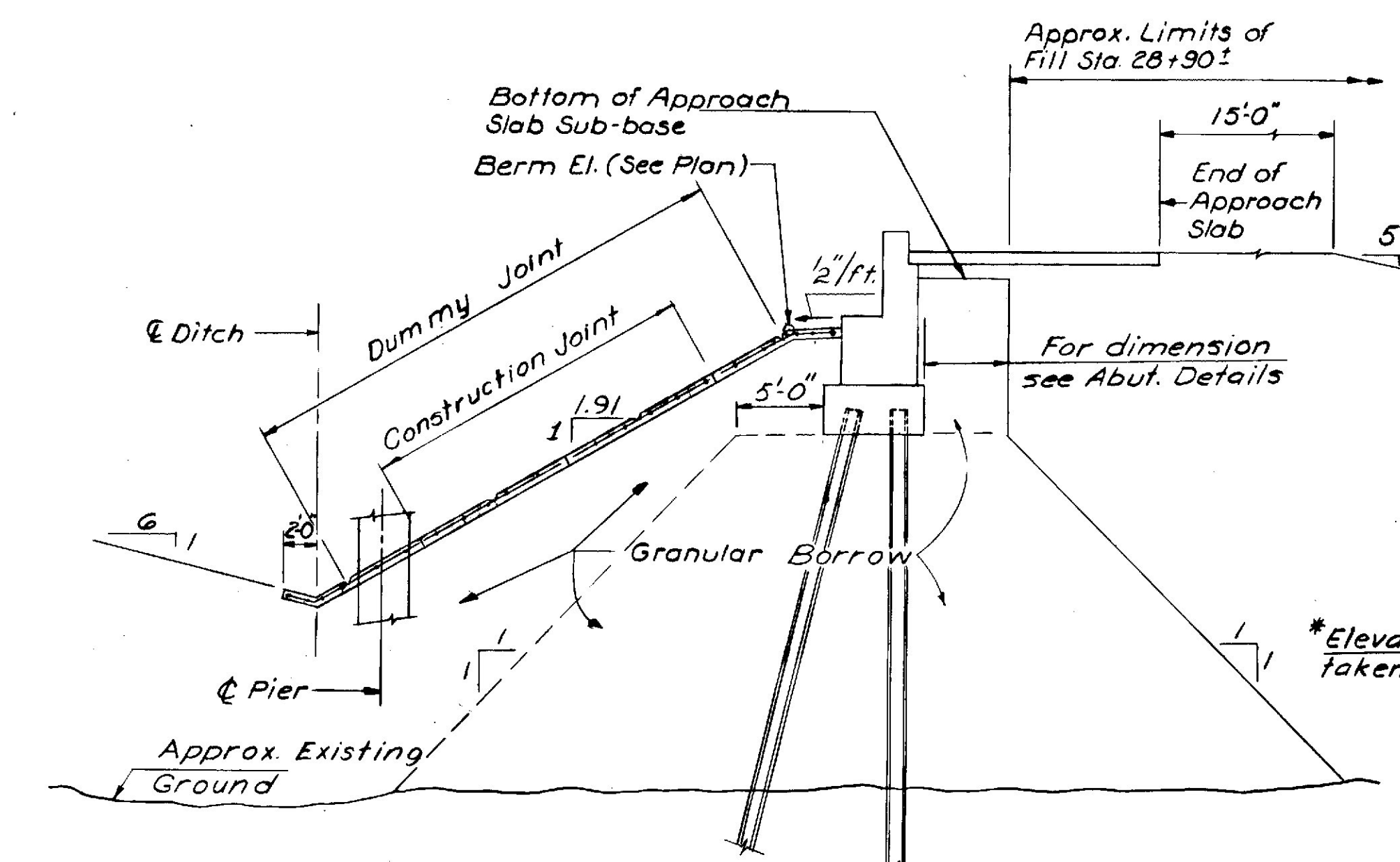
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON



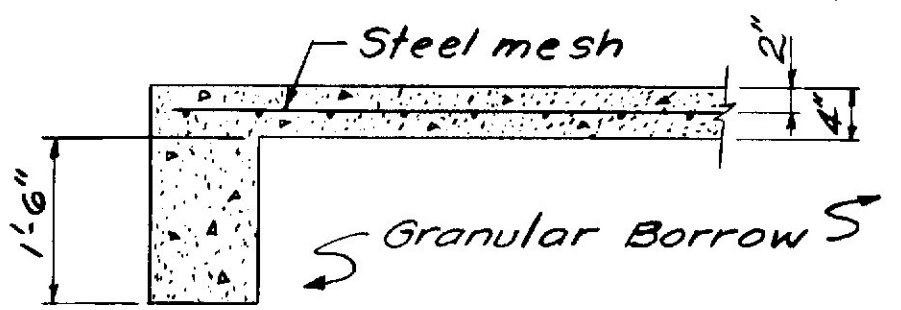
PLAN
1"=10'



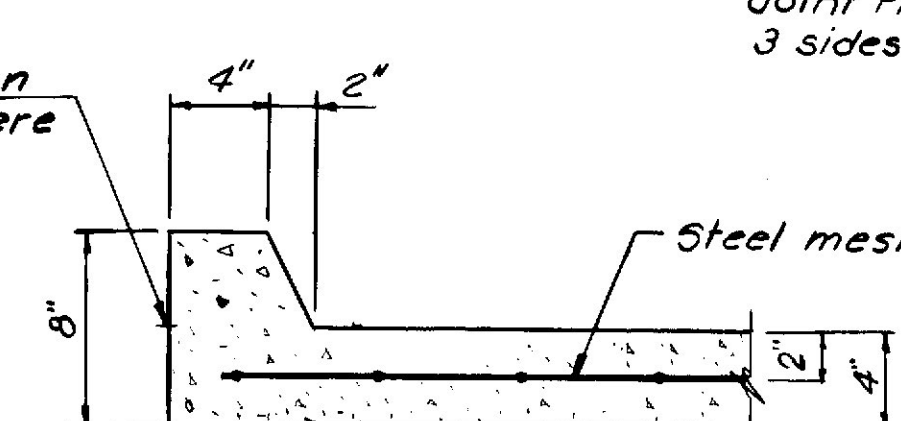
SECTION A-A
6"=1'-0"



SECTION B-B
6"=1'-0"



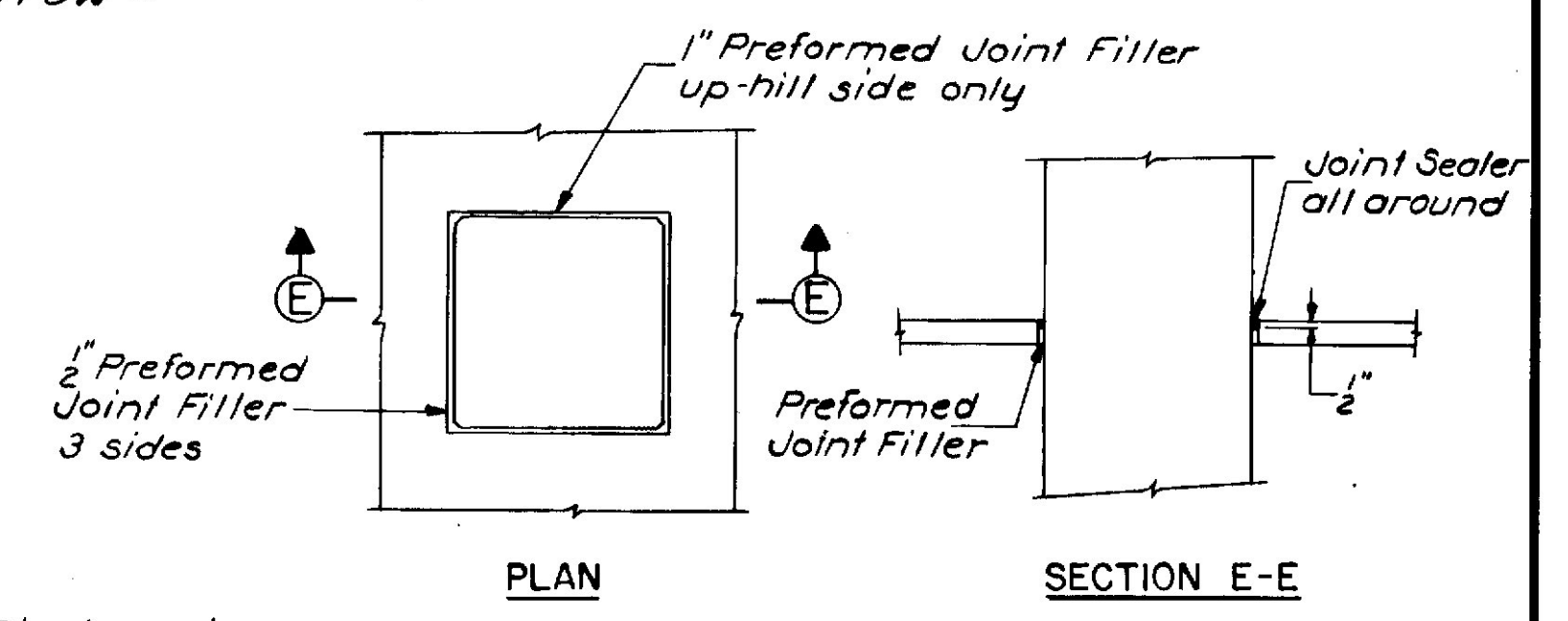
SECTION D-D
3/4"=1'-0"



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

NOTES:

1. Break bond at construction joints with a coat of asphalt paint.
2. Reinforce with #10 gage 6"x6" steel mesh, not to pass through construction joints.
3. Dummy joints shall be made with a groove to a depth of 1/4".
4. Edges of construction joints shall be finished with a sidewalk edging tool to a depth of 1/4".

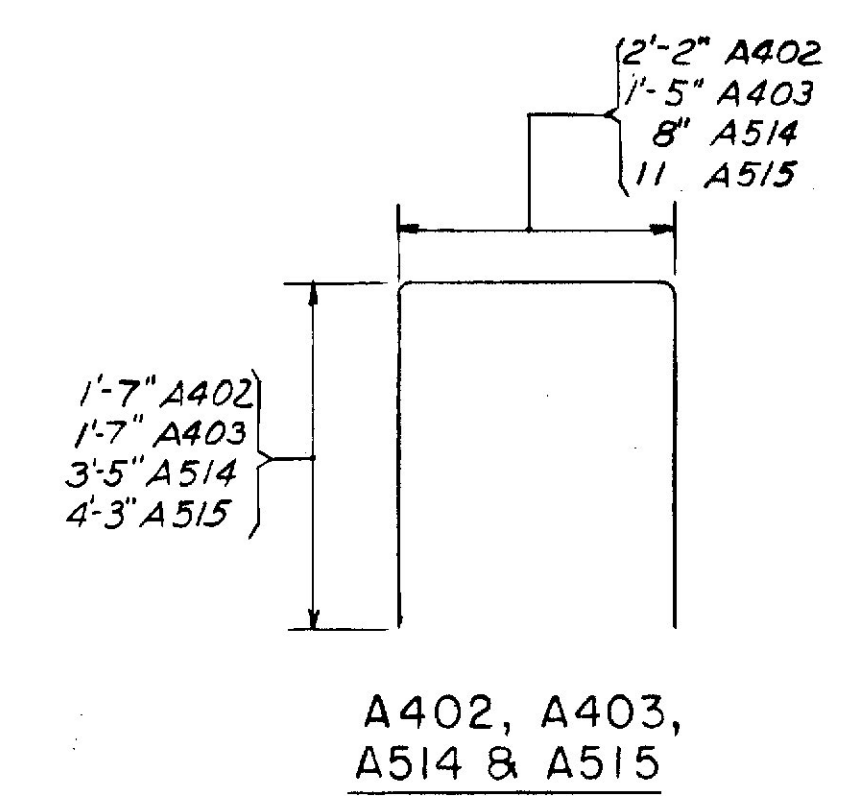


DETAIL AT PIER COLUMN
3/8"=1'-0"

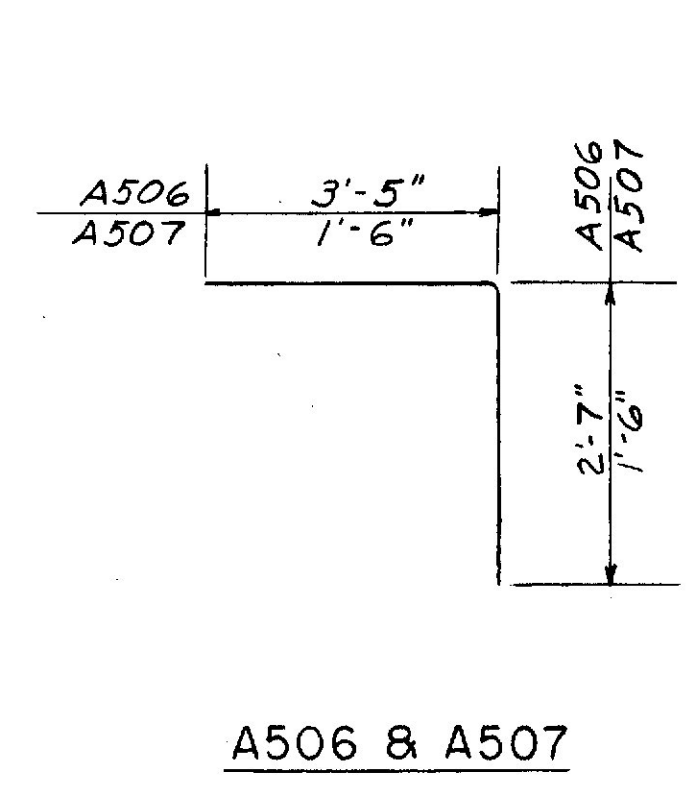
DESIGN - G. J.	DETAIL - S. H. R.	BRIDGE NO.
TRACE - S. M.	SURVEY -	
CHECK - S. M.	PLOT -	
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
RAMP E OVER		
INTERSTATE 95 IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY SLOPE PROTECTION		
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS BOSTON		SHEET 10 OF 11 AUGUSTA, MAINE OCT., 1966

MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
ABUTMENT NO. 1					
STRAIGHT BARS					
A401	4	6	23'-4"		Backwall
A501	5	6	23'-4"		Stem
A502	5	32	3'-3"		Backwall
A503	5	18	3'-5"		Backwall Dowels
A504	5	14	6'-3"		Stem
A505	5	18	2'-6"		Stem Dowels
A508	5	32	3'-0"		Wingwall Dowels
A509	5	48	6'-6"		Wingwall
A511	5	8	13'-5"		Wingwall
A512	5	22	11'-6"		Wingwall
A513	5	6	10'-0"		Wingwall
A516	5	4	2'-10"		Abutment Stem
BENT BARS					
A402	4	8	5'-4"		Pad
A403	4	8	4'-7"		Pad
A506	5	18	6'-0"		Stem
A507	5	10	3'-0"		Stem
A510	5	6	4'-8"		Wingwall
A514	5	4	7'-6"		Wingwall
A515	5	22	9'-5"		Wingwall
A601	6	14	3'-6"		Approach Slab Dowels
APPROACH SLAB, ABUTMENT NO. 1					
STRAIGHT BARS					
A5401	4	22	18'-6"		Approach Slab
A5601	6	78	14'-6"		Approach Slab
ABUTMENT NO. 2					
SAME AS ABUTMENT NO. 1					
SUPERSTRUCTURE					
STRAIGHT BARS					
S401	4	28	35'-7"		Overhang
S402	4	56	25'-6"		Overhang
S502	5	436	23'-6"		Transverse Slab
S503	5	104	15'-0"		Slab Longitudinal
S504	5	116	31'-6"		" "
S505	5	58	35'-9"		" "
S506	5	58	36'-2"		" "
S507	5	116	35'-7"		" "
S508	5	8	17'-3"		Safety Walk
S509	5	12	15'-4"		" "
S510	5	16	14'-6"		" "
S513	5	310	4'-0"		Overhang
S514	5	20	11'-5"		Safety Walk
BENT BARS					
S403	4	310	1'-10"		Overhang
S501	5	217	24'-3"		Transverse Slab
S511	5	436	4'-10"		Safety Walk
S512	5	310	5'-10"		Overhang

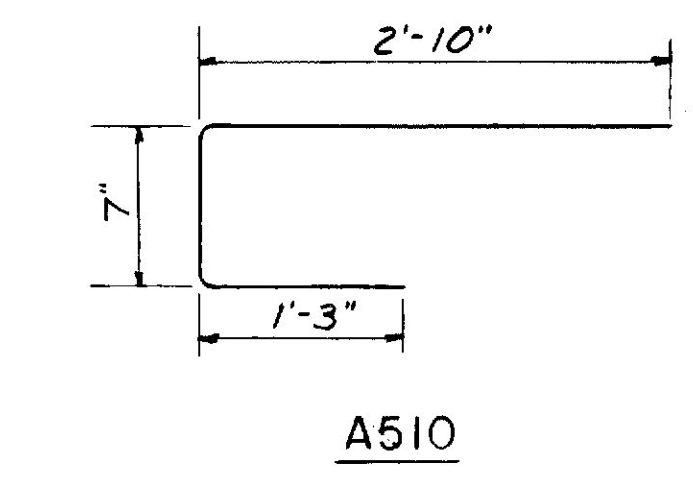
MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
PIER NO. 1					
STRAIGHT BARS					
P501	5	10	7'-0"		Footing
P502	5	12	6'-0"		Footing
P602	6	14	7'-0"		Footing
P603	6	16	6'-0"		Footing
P606	6	2	23'-3"		Cap Beam
P607	6	2	21'-9"		Cap Beam
P902	9	24	5'-6"		Dowel
P903	9	12	22'-6"		Column
P904	9	12	25'-6"		Column
P907	9	5	23'-3"		Cap Beam
P908	9	5	15'-6"		Cap Beam
BENT BARS					
P402	4	43	11'-3"		Column Ties
P505	5	26	12'-11"		Stirrups
P506	5	16	12'-4 7/8"	4 1/2"	Stirrups
P605	6	8	7'-5"		Cap Beam
PIER NO. 2					
STRAIGHT BARS					
P601	6	28	5'-6"		Footing
P901	9	24	8'-6"		Column
BENT BARS					
P401	4	14	6'-3"		Column Ties
PIER NO. 3					
STRAIGHT BARS					
P601	6	28	5'-6"		Footing
P901	9	24	8'-6"		Column
BENT BARS					
P401	4	14	6'-3"		Column Ties
PIER NO. 4					
STRAIGHT BARS					
P503	5	16	7'-6"		Footing
P504	5	12	9'-6"		Footing
P604	6	20	7'-6"		Footing
P606	6	2	23'-3"		Cap Beam
P607	6	2	21'-9"		Cap Beam
P701	7	24	9'-6"		Footing
P902	9	32	5'-6"		Dowel
P905	9	8	12'-0"		Column
P906	9	24	19'-8"		Column
P907	9	5	23'-3"		Cap Beam
P908	9	5	15'-6"		Cap Beam
BENT BARS					
P402	4	34	11'-3"		Column Ties
P505	5	26	12'-11"		Stirrups
P506	5	16	12'-4 7/8"	4 1/2"	Stirrups
P605	6	8	7'-5"		Cap Beam



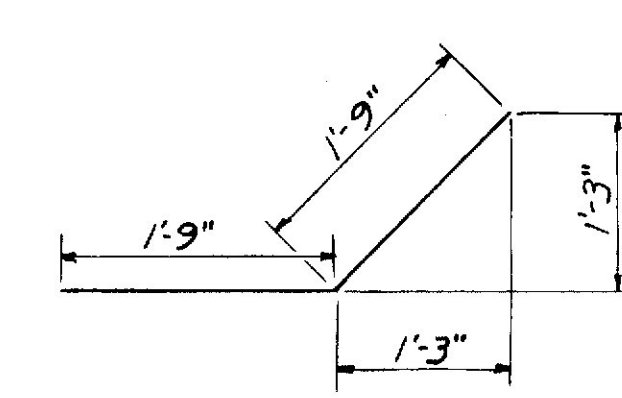
A402, A403, A514 & A515



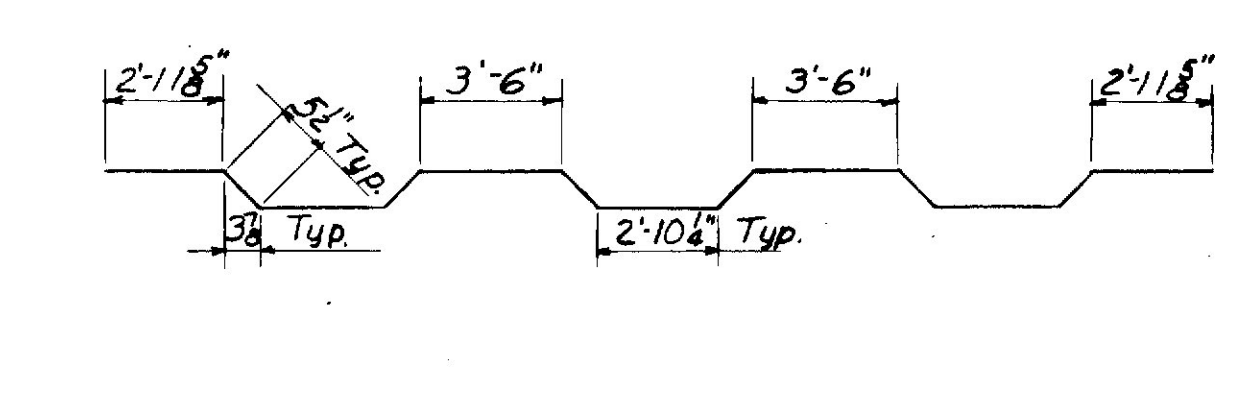
A506 & A507



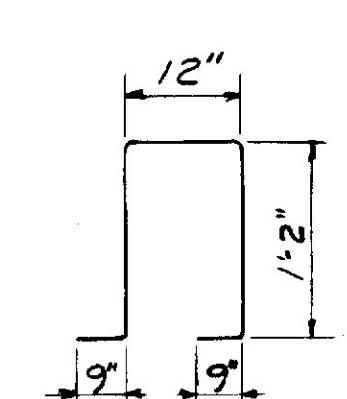
A510



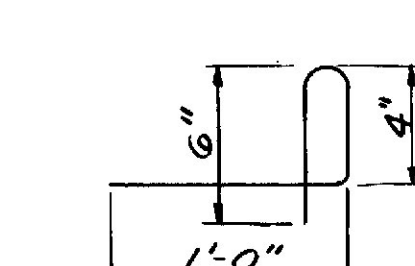
A601



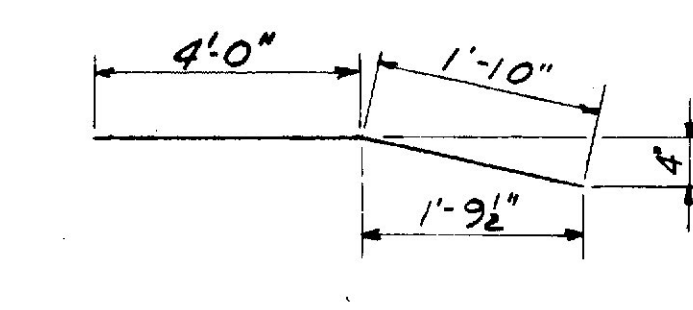
S501



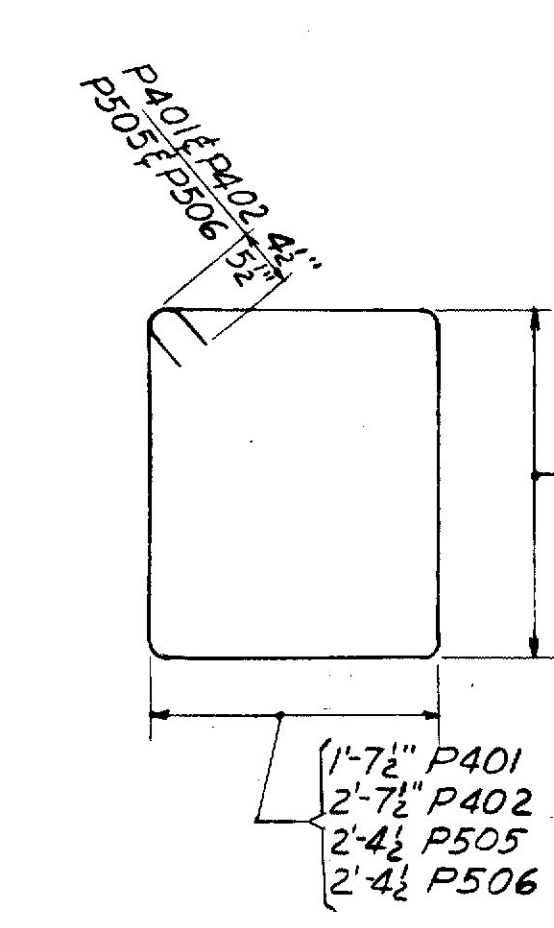
S511



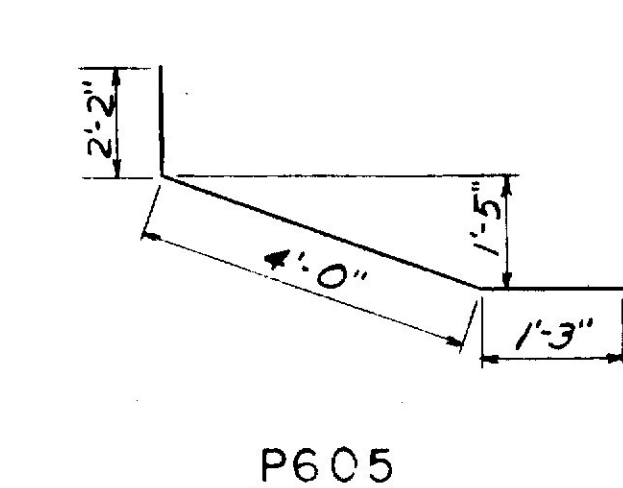
S403



S512



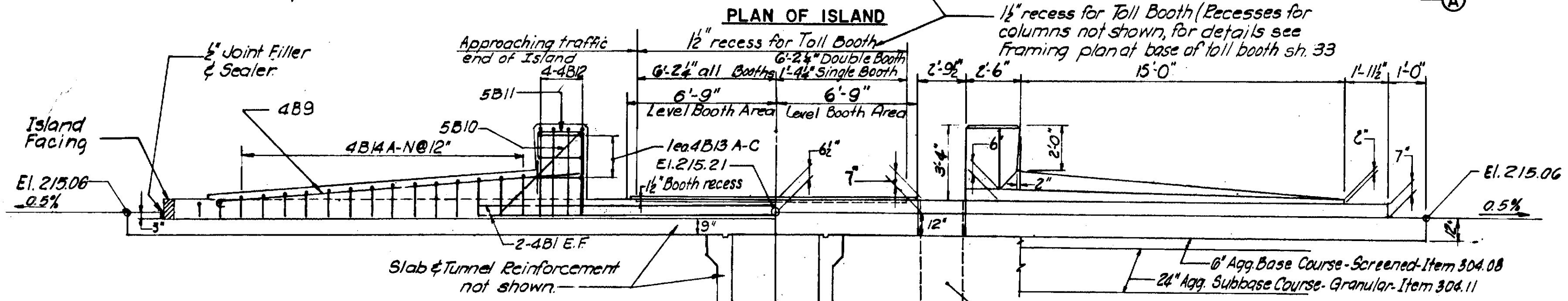
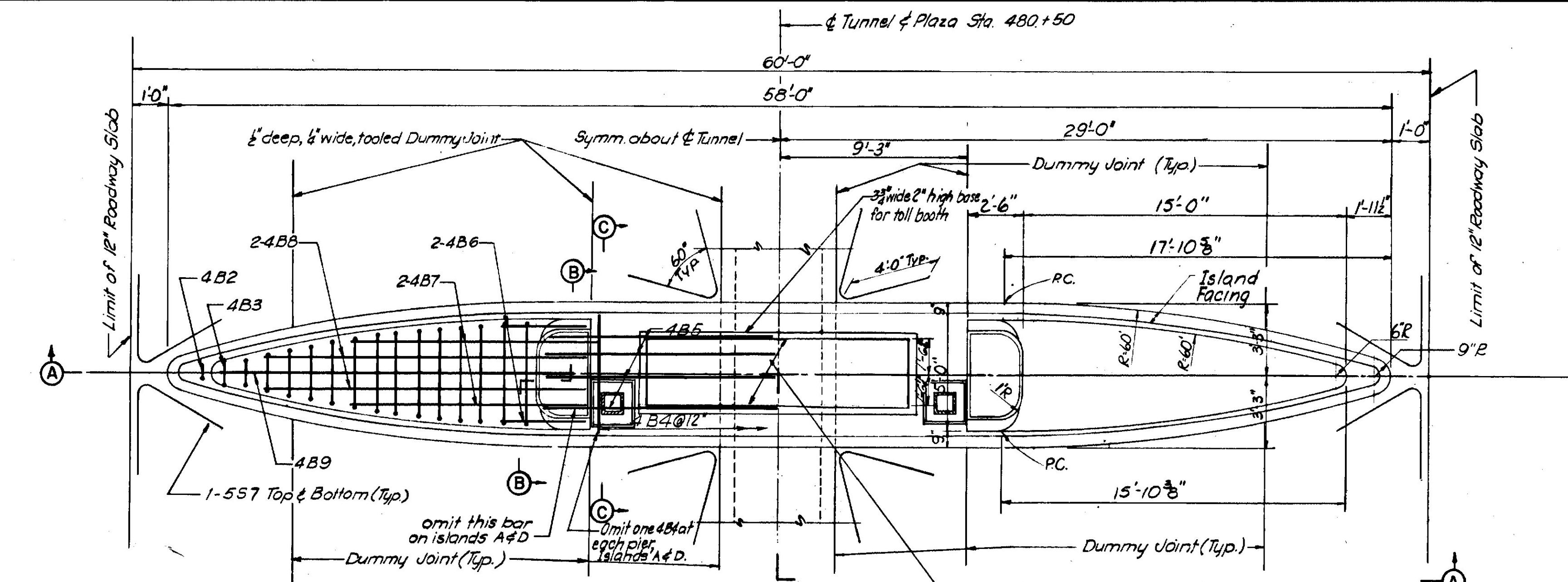
P401, P402, P505 & P506



P605

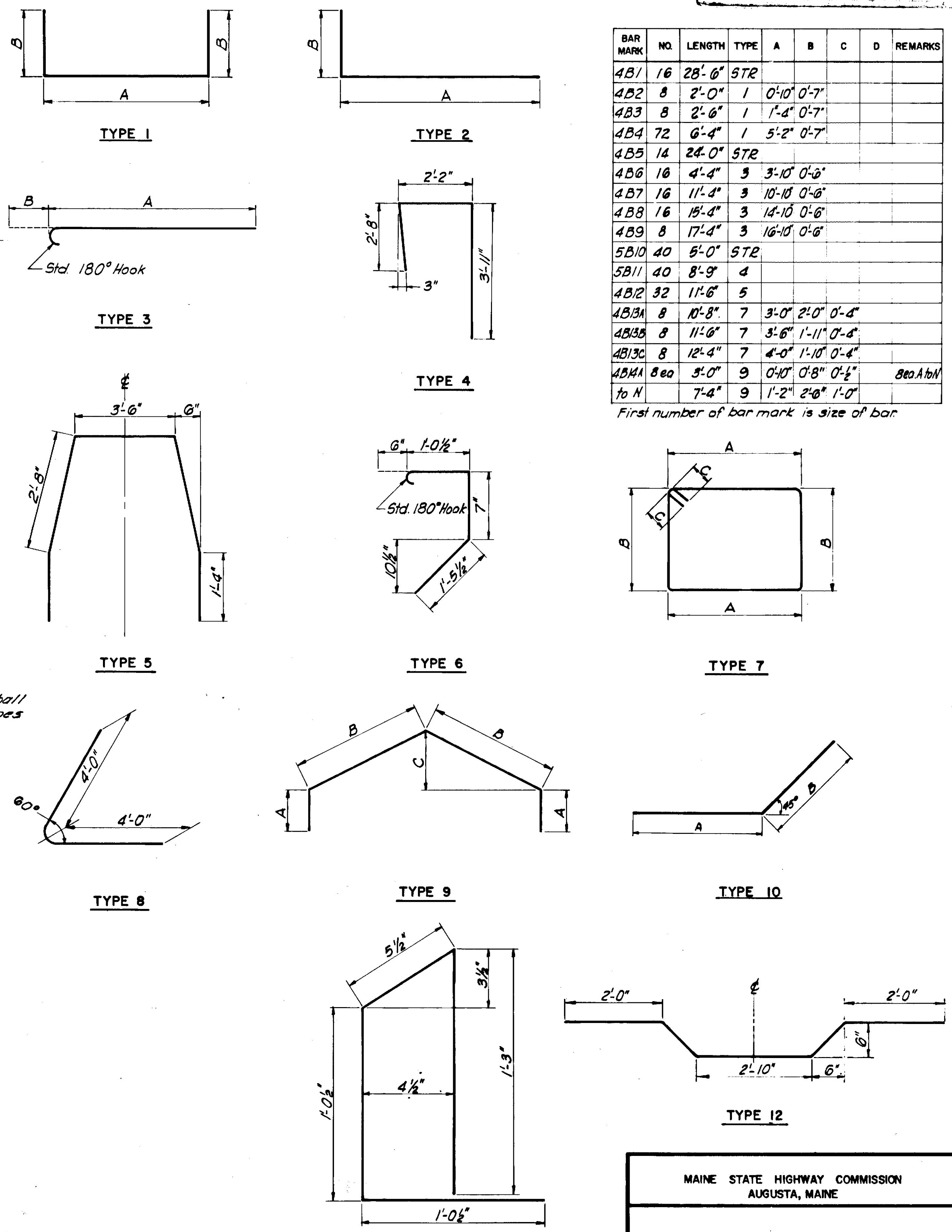
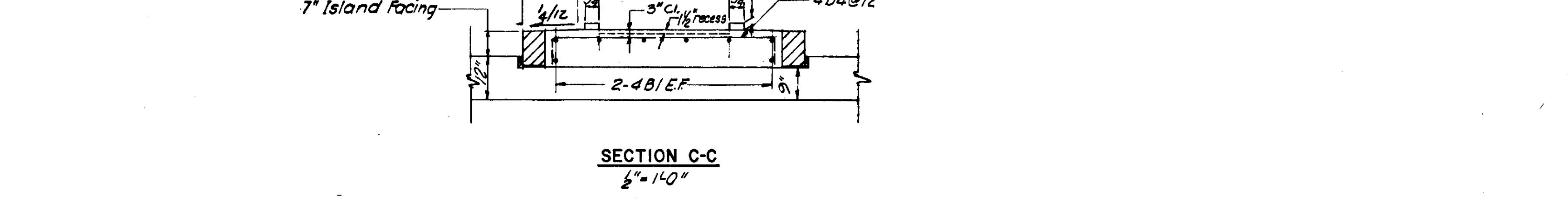
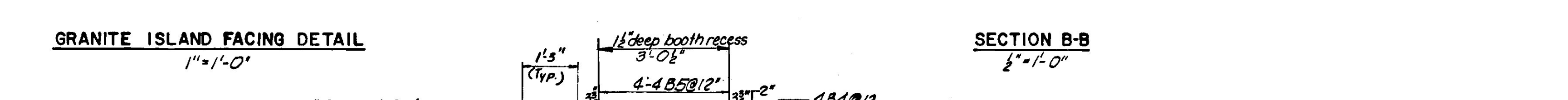
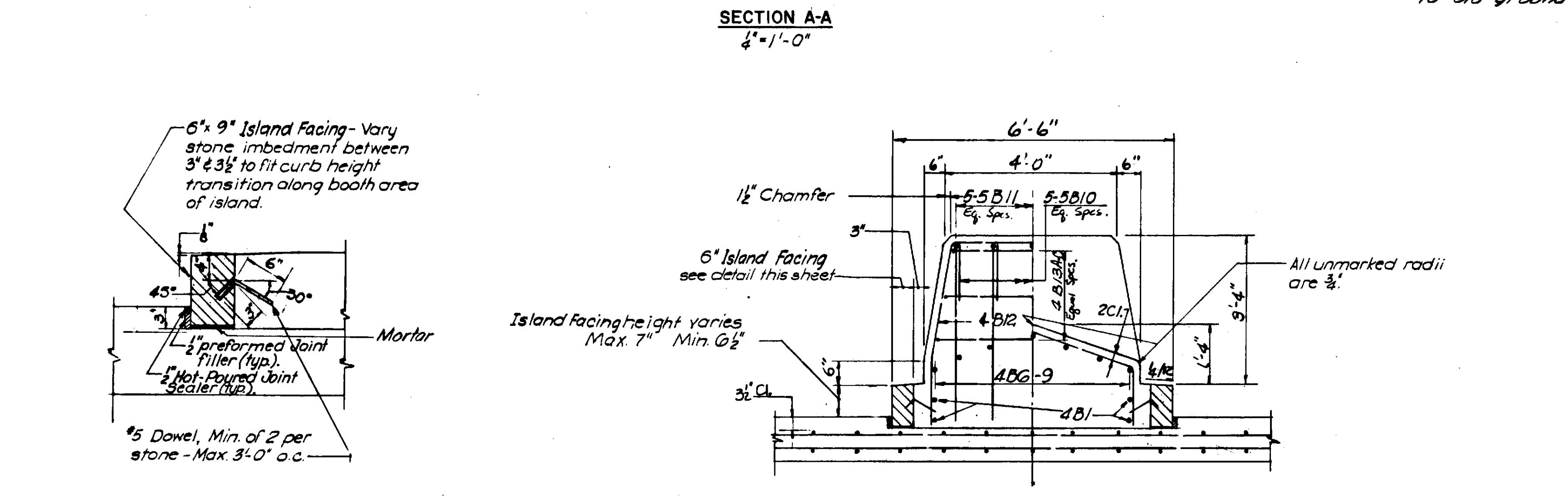
NOTES:
1. ALL DIMENSIONS ARE TO THE C OF BARS.

DESIGN- TRACE- CHECK- G.U.J.	DETAIL-M.P.G.	BRIDGE NO. SURVEY- PLOT-
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
RAMP E OVER INTERSTATE 95 IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY REINFORCING STEEL SHEET 11 OF 11 AUGUSTA, MAINE		
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS BOSTON		WEST GARDINER (20)



Note: All corners to be chamfered

Note: Items 304.08 & 304.11 shall be placed 10'-0" beyond the ends of islands. The embankment shall have 6:1 end slopes to old ground.



BAR MARK	NO.	LENGTH	TYPE	A	B	C	D	REMARKS
4B1	16	28'-6"	STR					
4B2	8	2'-0"	1	0'-10"	0'-7"			
4B3	8	2'-6"	1	1'-4"	0'-7"			
4B4	72	6'-4"	1	5'-2"	0'-7"			
4B5	14	24'-0"	STR					
4B6	16	4'-4"	3	3'-10"	0'-6"			
4B7	16	11'-4"	3	10'-10"	0'-6"			
4B8	16	15'-4"	3	14'-10"	0'-6"			
4B9	8	17'-4"	3	16'-10"	0'-6"			
5B10	40	5'-0"	STR					
5B11	40	8'-9"	4					
4B12	32	11'-6"	5					
4B13A	8	10'-8"	7	3'-0"	2'-0"	0'-4"		
4B13B	8	11'-6"	7	3'-6"	1'-11"	0'-4"		
4B13C	8	12'-4"	7	4'-0"	1'-10"	0'-4"		
4B14	8 ea	3'-0"	9	0'-0"	0'-8"	0'-1 1/2"		8 ea A to H
		7'-4"	9	1'-2"	2'-6"	1'-0"		

First number of bar mark is size of bar

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

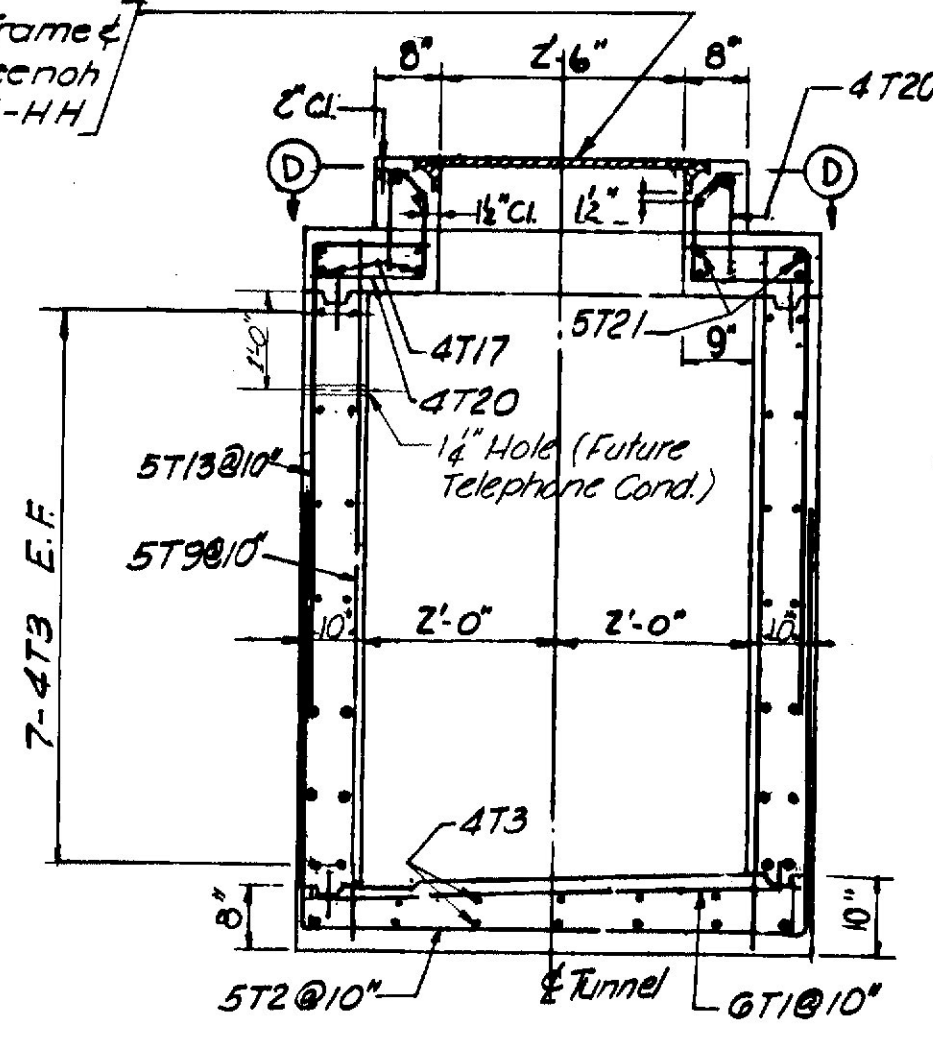
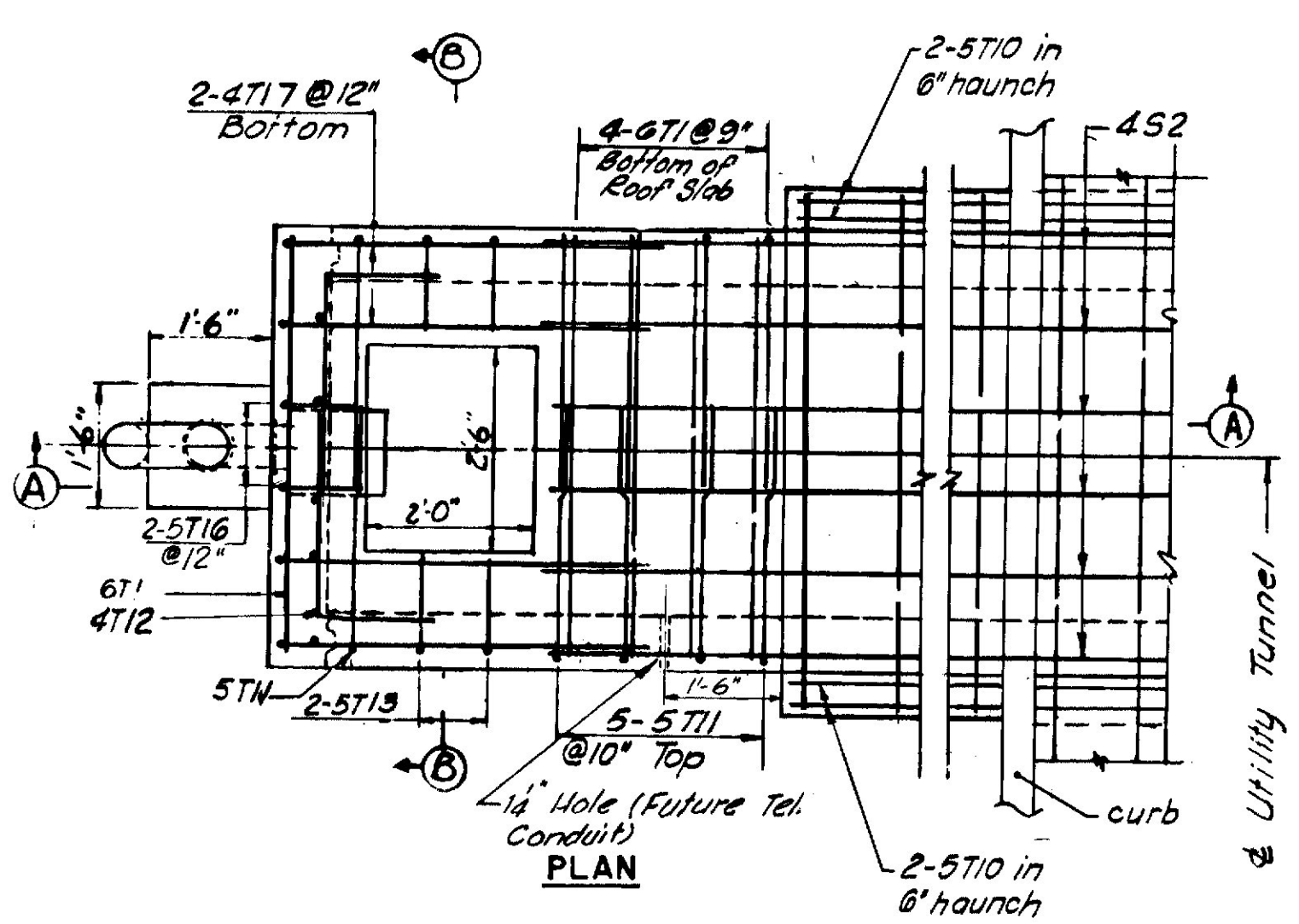
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

TOLL PLAZA
ISLAND & BAR DETAILS

B.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-5(2)	33	42

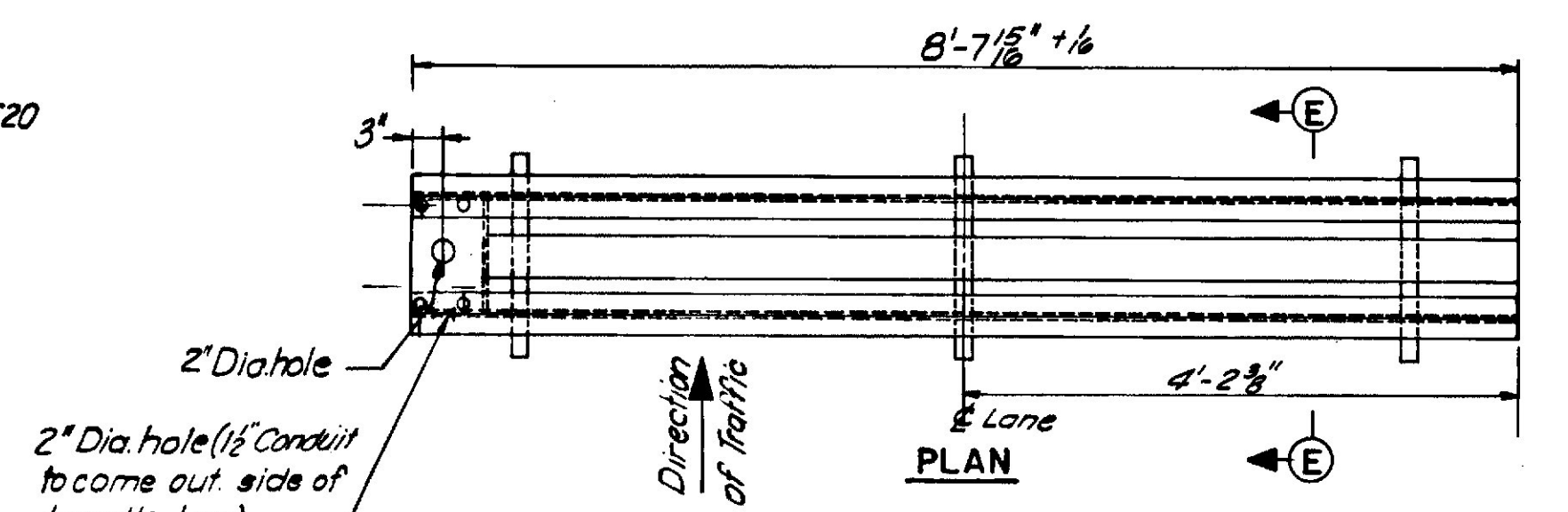
Note: Top & Bottom Bars in Tunnel Roof and Roadway Slab are shown. Raised escape hatch omitted (Section B-B). Reinf. Symm about ϕ Tunnel.

Light Duty Manhole Frame & Solid Lid, 24"x30" Neenoh Foundry Co. R-6661-HH

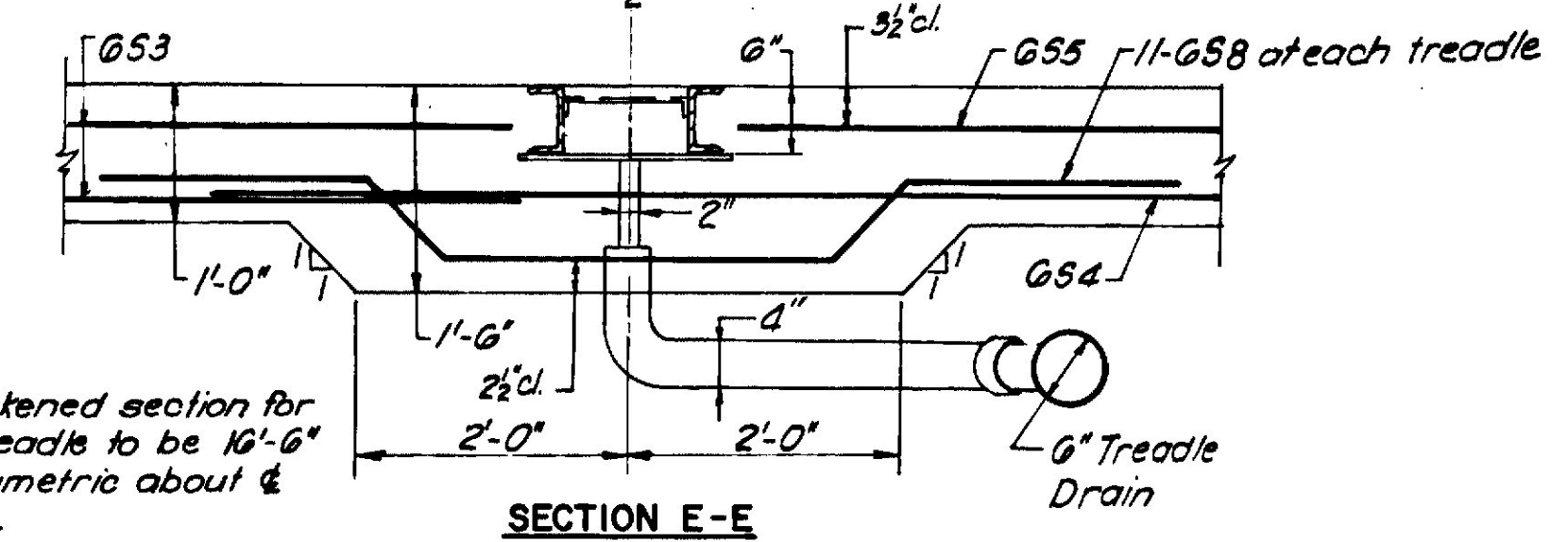


SECTION B-B
Reinforcement symm about ϕ of Tunnel. Tunnel Drainage not shown.

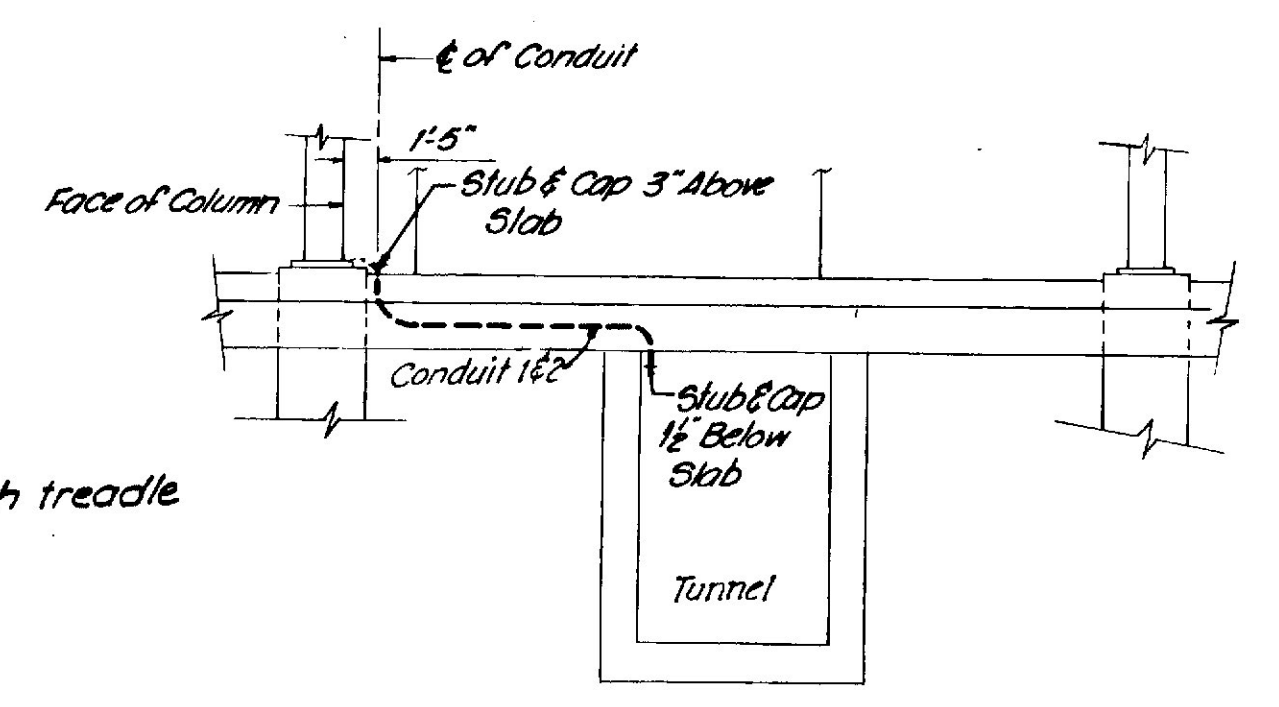
Note: For bar listings and types see sheets 31 and 32



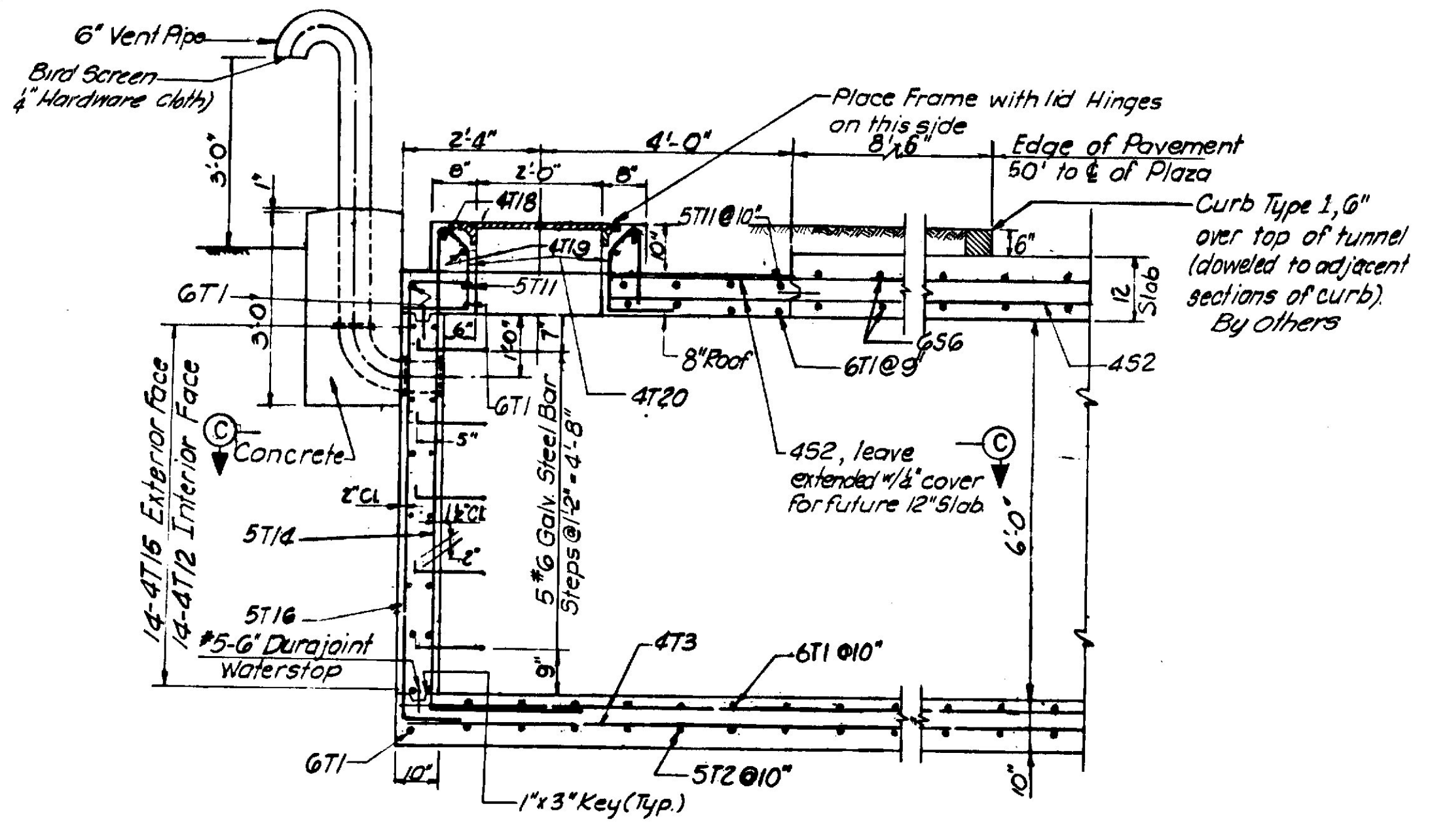
Treadle frame to be as manufactured by Teller & Cooper * TC-208 or approved equal. Dimension for drain and electrical connection to be verified with frame manufacturer.



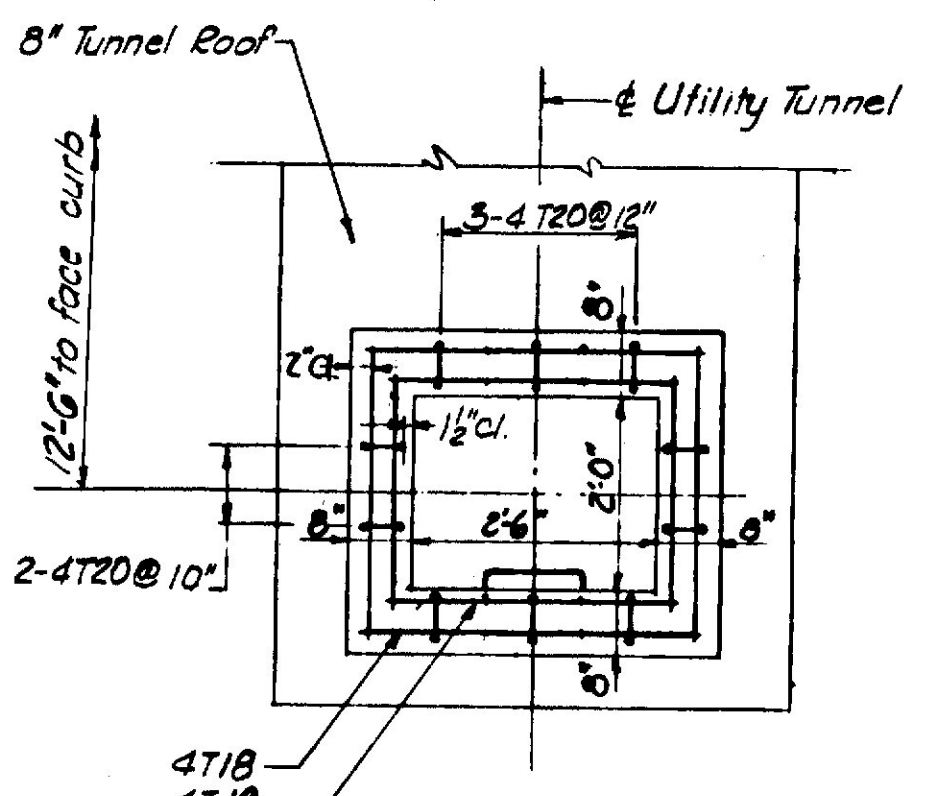
8 FT. TREADLE FRAME INSTALLATION



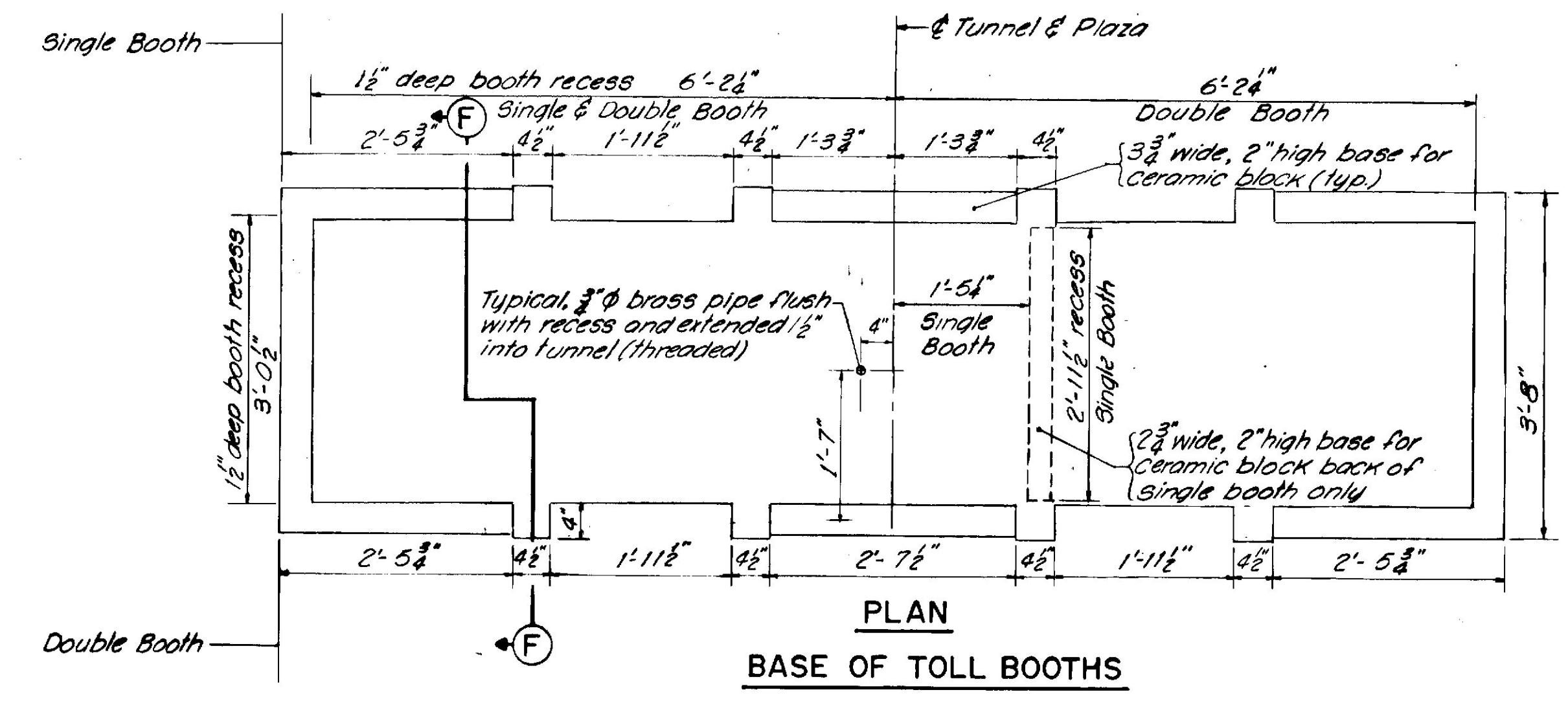
SECTION G-G
See Sheet 34



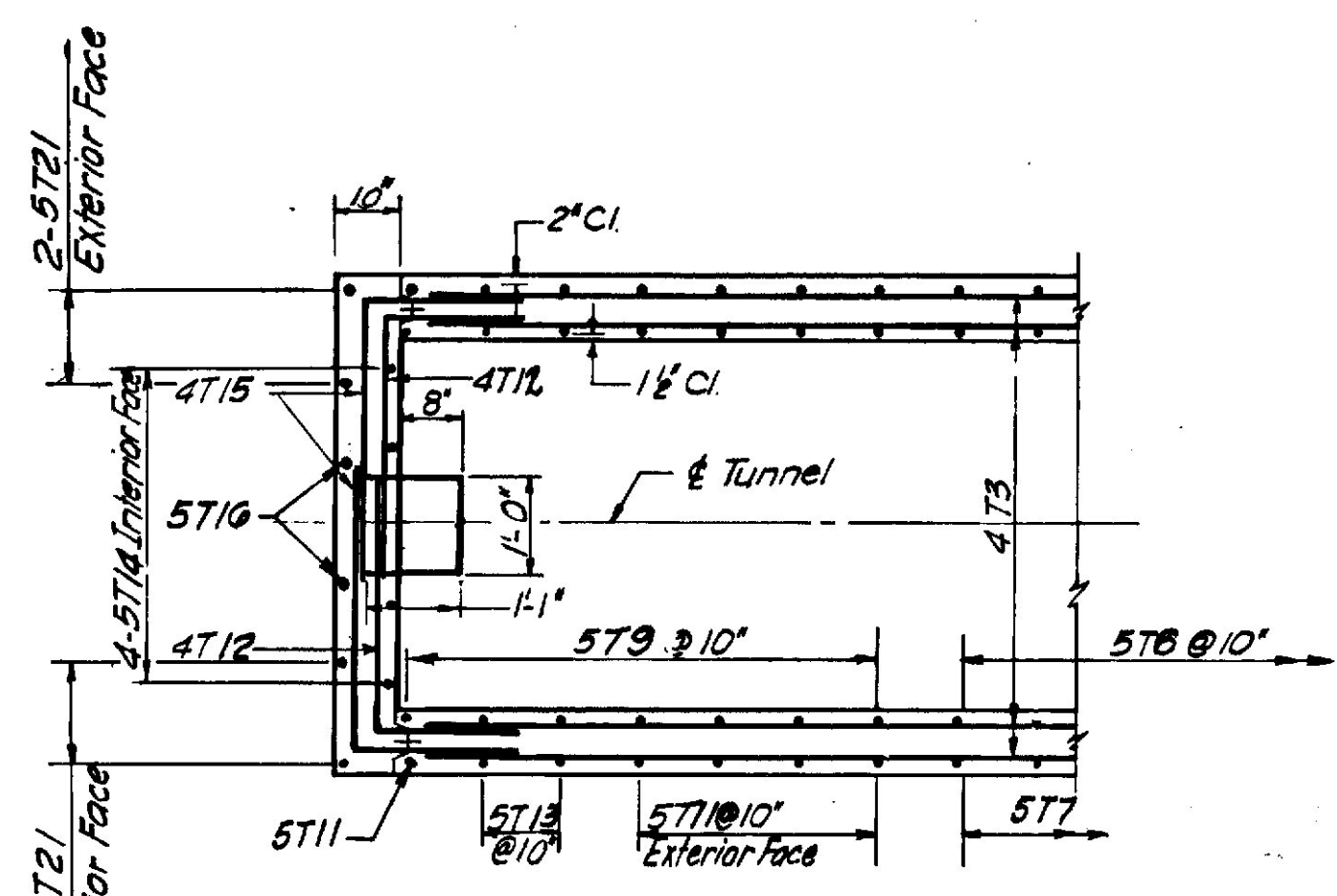
SECTION A-A



SECTION D-D

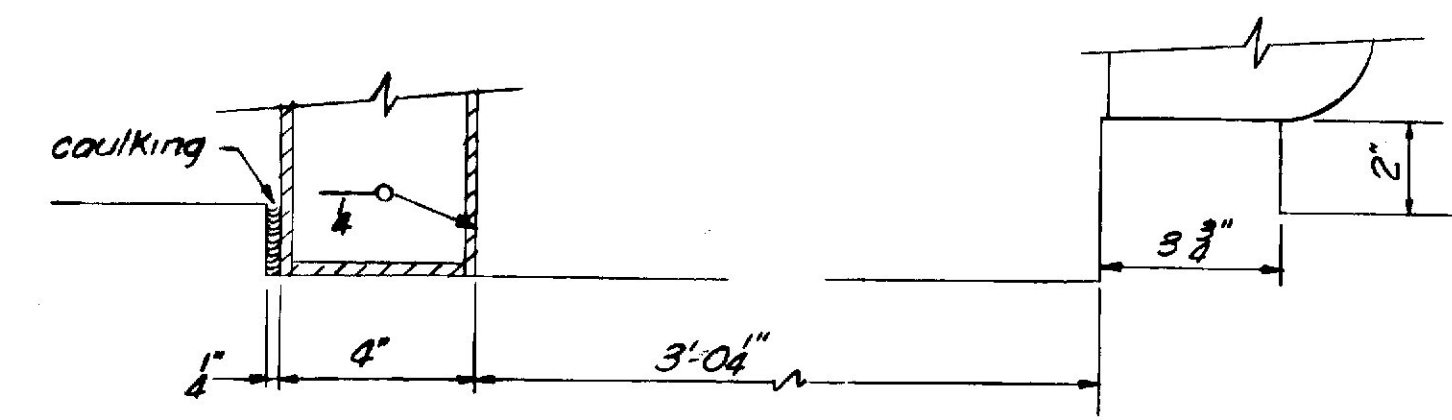


PLAN
BASE OF TOLL BOOTHS



SECTION C-C

TUNNEL END SECTION & ESCAPE HATCH
1/2" = 1'-0"

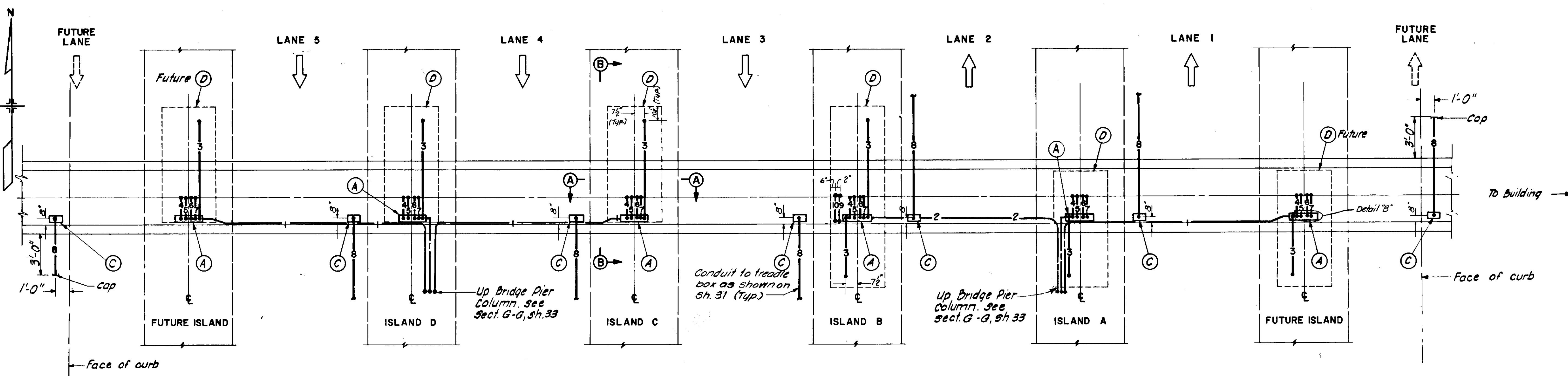


SECTION F-F

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

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

TOLL PLAZA
TUNNEL MANHOLE DETAILS

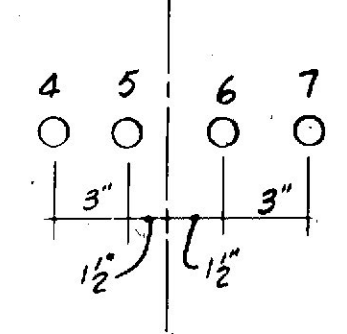


PLAN
1/4" = 1'-0"

TOLL PLAZA EQUIPMENT SCHEDULE

- (A) Toll Island Circuit Breaker Panel.
- (B) Booth Heating Unit
- (C) Treadle Terminal Box
- (D) Toll Booth

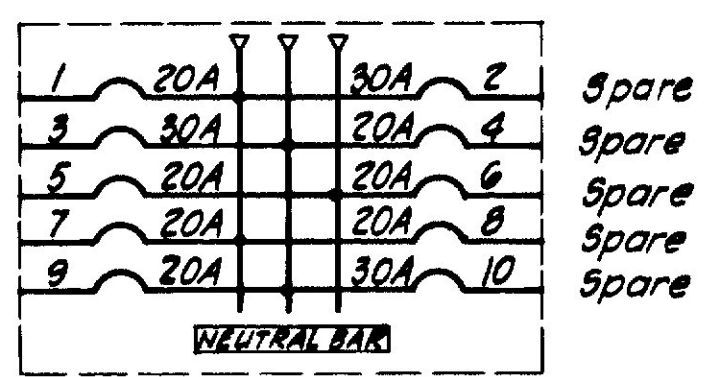
NOT IN CONTRACT



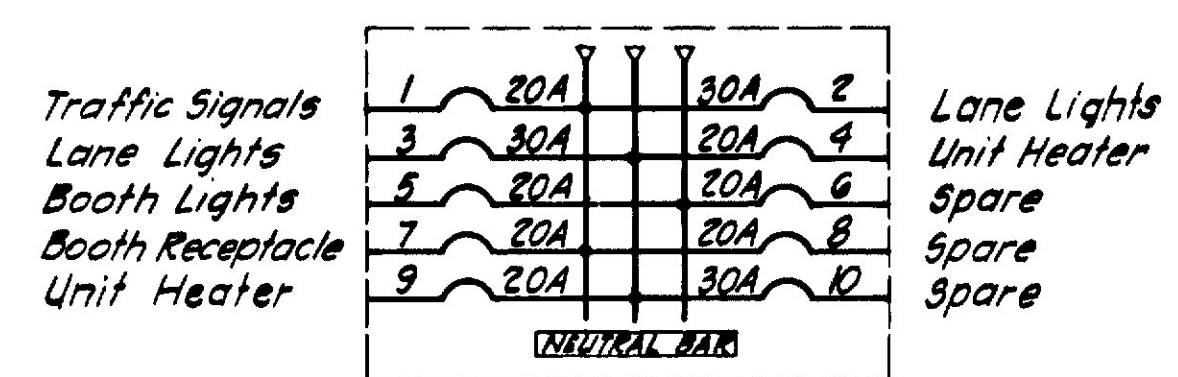
DETAIL B

CONDUIT SCHEDULE

CONDUIT NO.	DESIGNATION	FOR	CONDUIT SIZE
1	Red-Green Signal Lights and Lane Lights	Bridge Structure	1 1/4"
2	Same as Conduit No. 1 (Island B only)	Bridge Structure	1 1/4"
3	Booth Duplex Receptacle	Booths	1"
4	Unit Heater Controls	Booths	1"
5	Red-Green Signal Lights and Lane Lights	Booths	1 1/4"
6	Booth Lights	Booths	1"
7	Spare (except Island B, use same as Conduit No. 5)	Booths	1 1/4"
8	Treadle	Booths	1 1/2"
9	Radio (Island B only)	Booths	3/4"
10	Telephone (Island B only)	Booths	3/4"



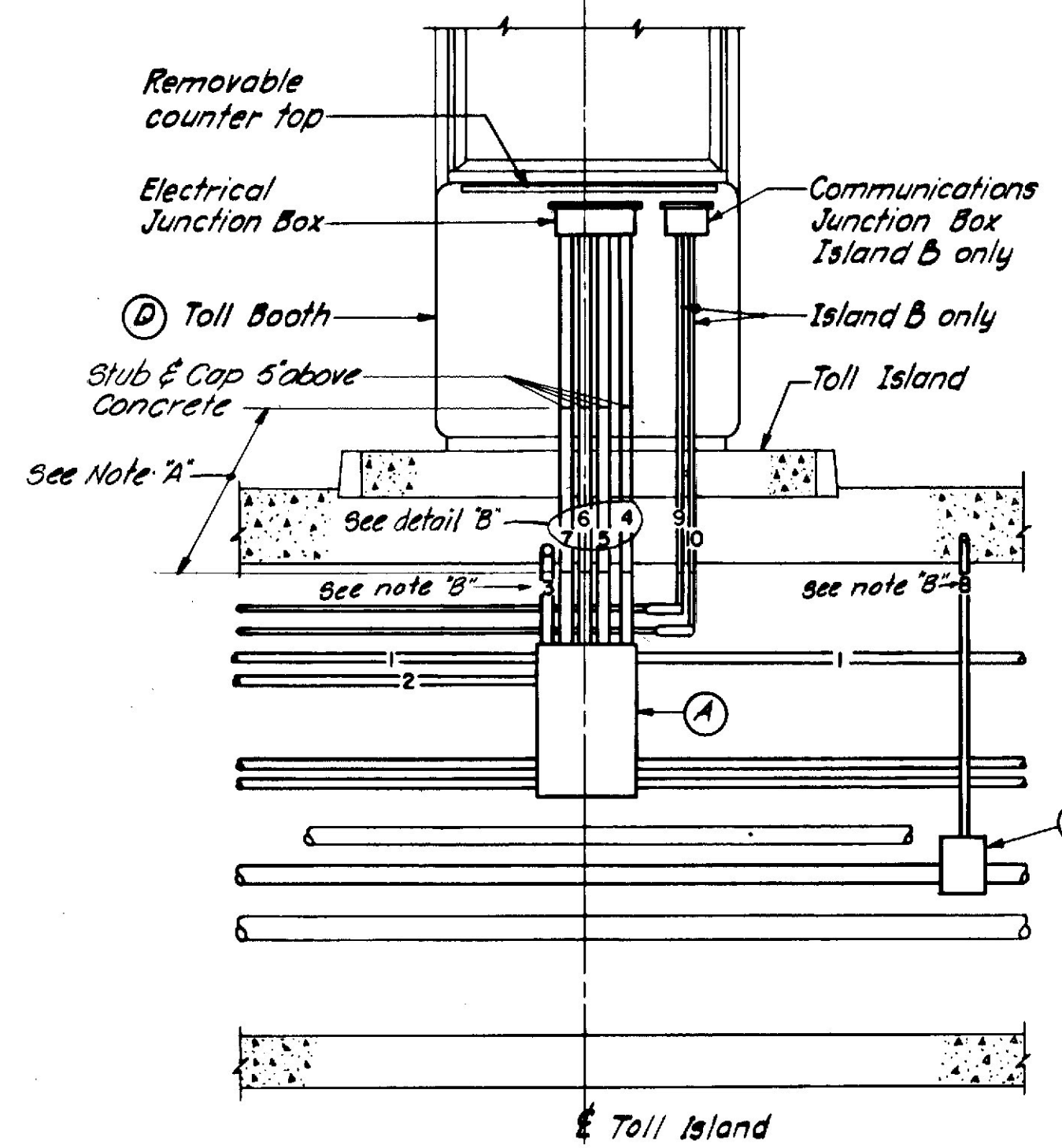
ISLANDS A, C & D



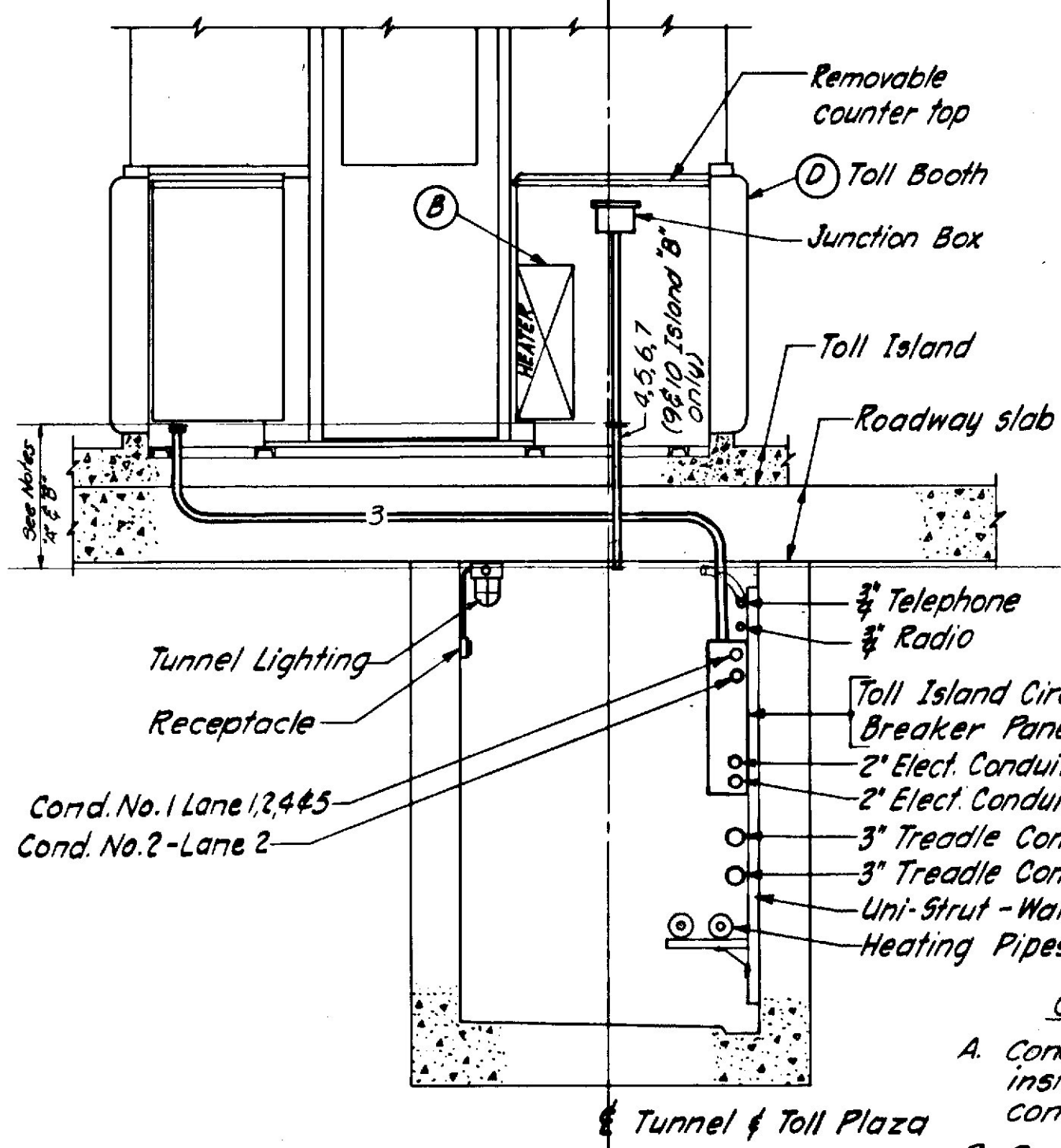
ISLAND B

TOLL ISLAND CIRCUIT BREAKER PANEL ARRANGEMENTS

(Future Islands shall have panels complete with bus, neutral bar, etc. and 10 spaces for future breaker installations)



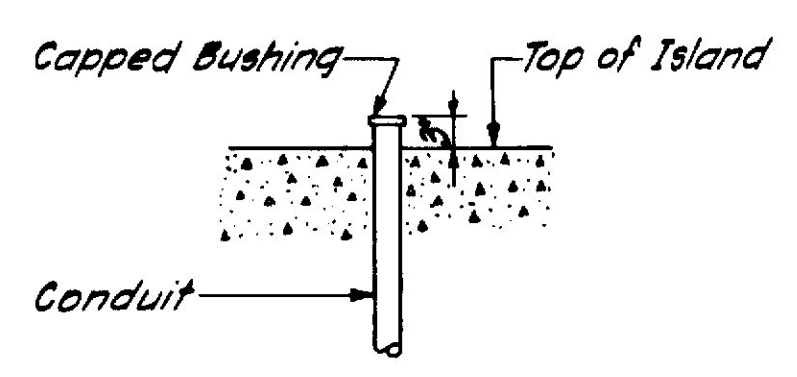
SECTION A-A
1/2" = 1'-0"



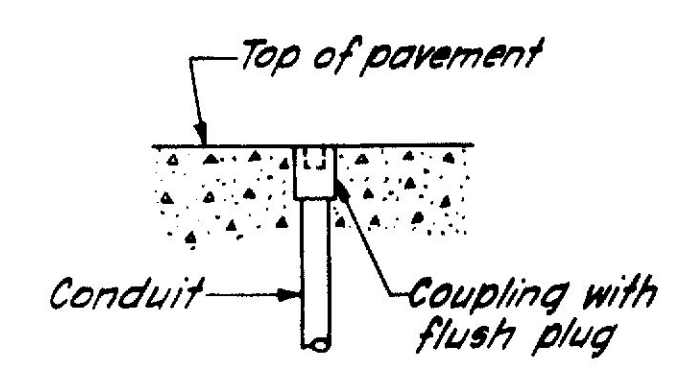
SECTION B-B
1/2" = 1'-0"

Conduit Notes

- A. Conduit No. 4, 5, 6, 7, 9 & 10 shall be installed 1 1/2" below slab to 5" above concrete.
- B. Conduit No. 3 shall be installed 1 1/2" below slab to 5" above concrete at front of booth. Conduit No. 8 shall be installed 1 1/2" below slab to treadle box.
- C. All conduits stubbed through concrete work shall be capped.



TYPICAL CONDUIT TERMINATION ON TOLL ISLAND
No Scale (See Note 3)



DETAIL A
No Scale

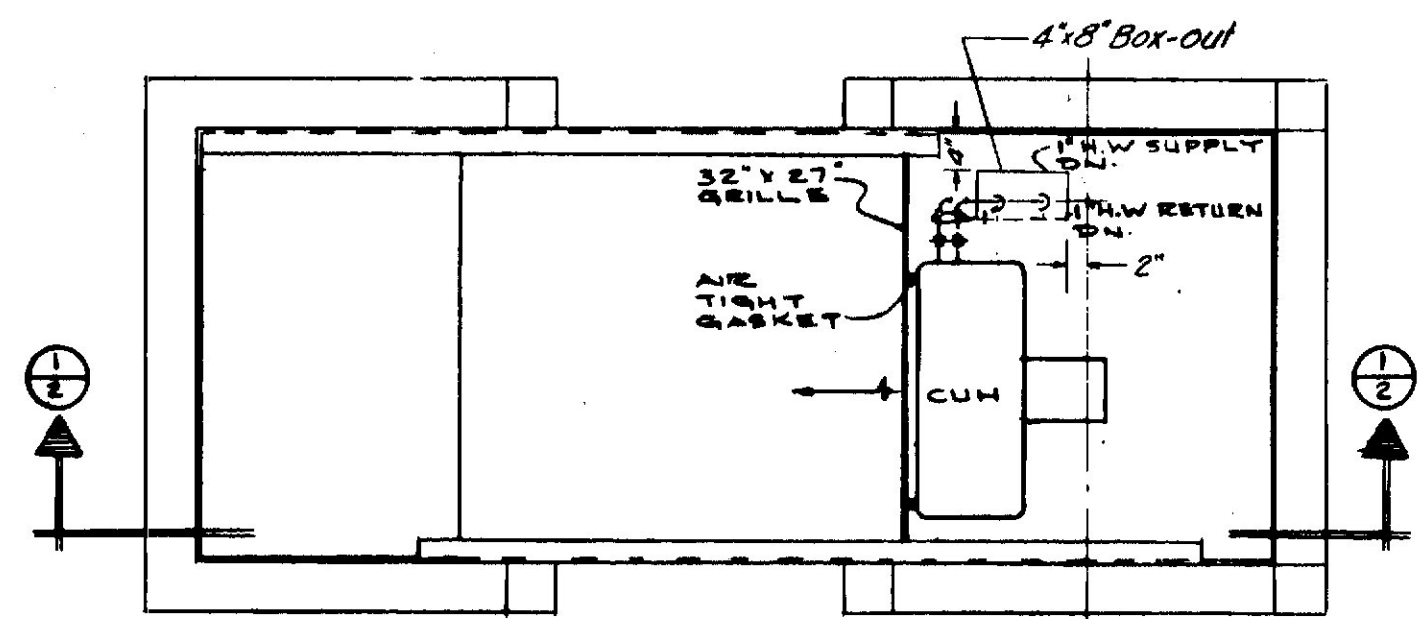
NOTES

- 1. All horizontal runs shall be installed in tunnel roof or roadway slab. All vertical runs from panel boxes on tunnel wall to roof slab shall be exposed.
- 2. Provide a Uni-Strut support system complete with fittings and connections for mounting conduits and piping.
- 3. All conduits for future Islands shall be completely installed and terminated as indicated in Detail A.
- 4. Both ends of all conduits shall be identified with brass wraparound tags embossed with 1/4" high numbers. Tags shall be equal to Seton Name Plate Co's Cable Markers.

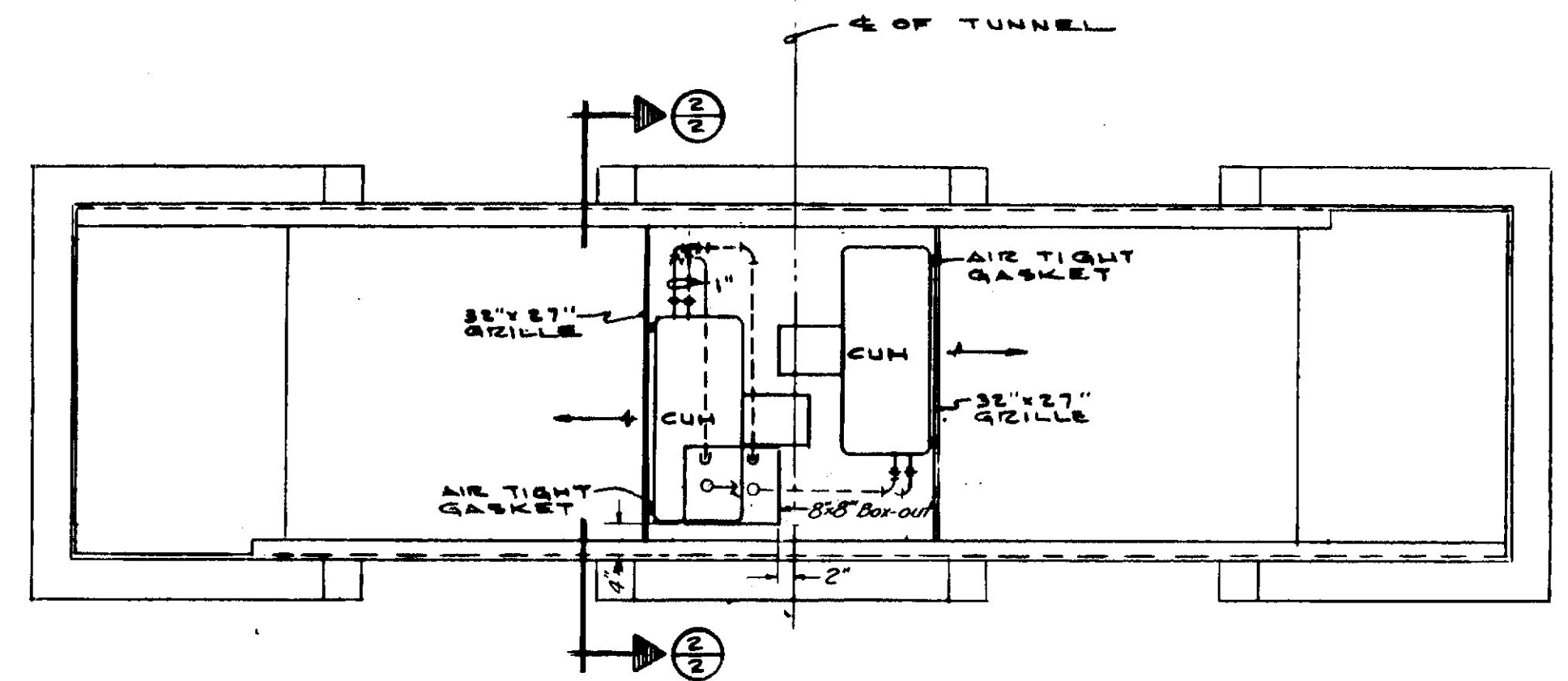
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

TOLL PLAZA ELECTRICAL DETAILS

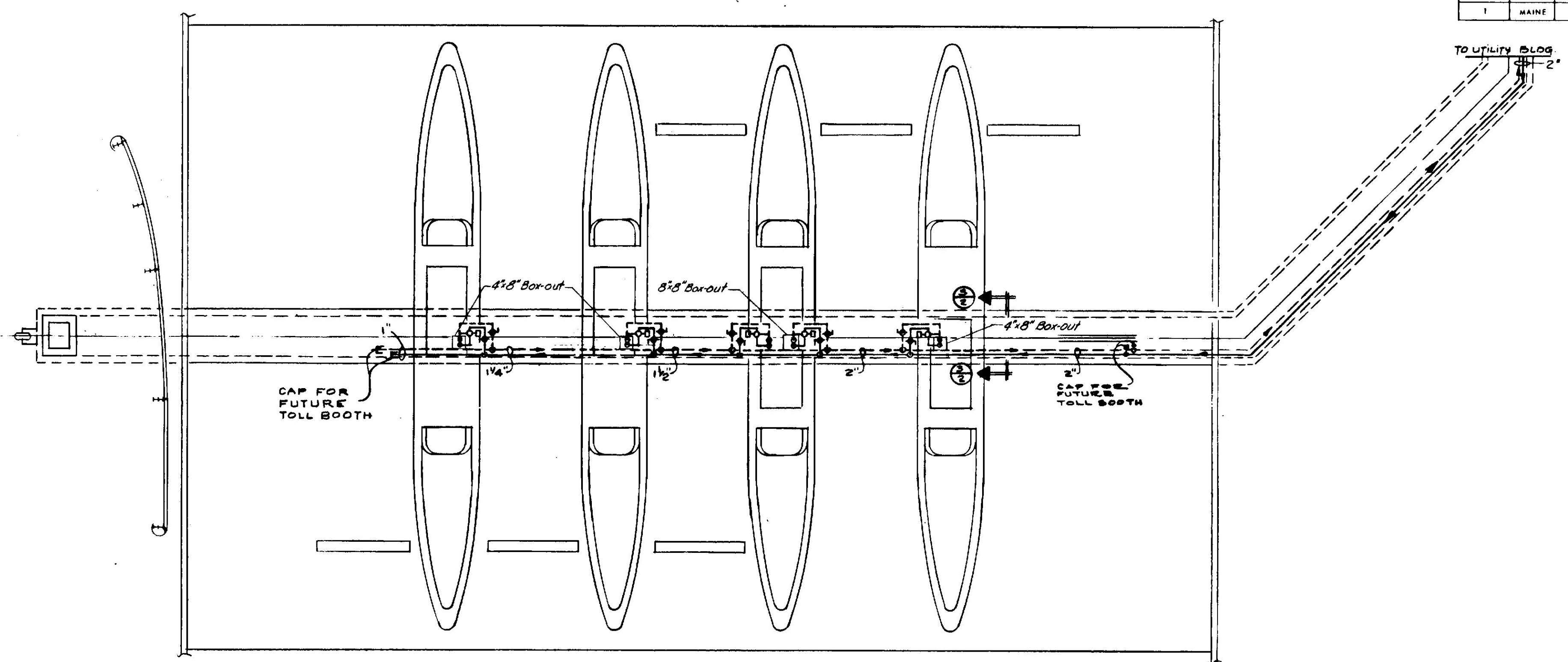
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY



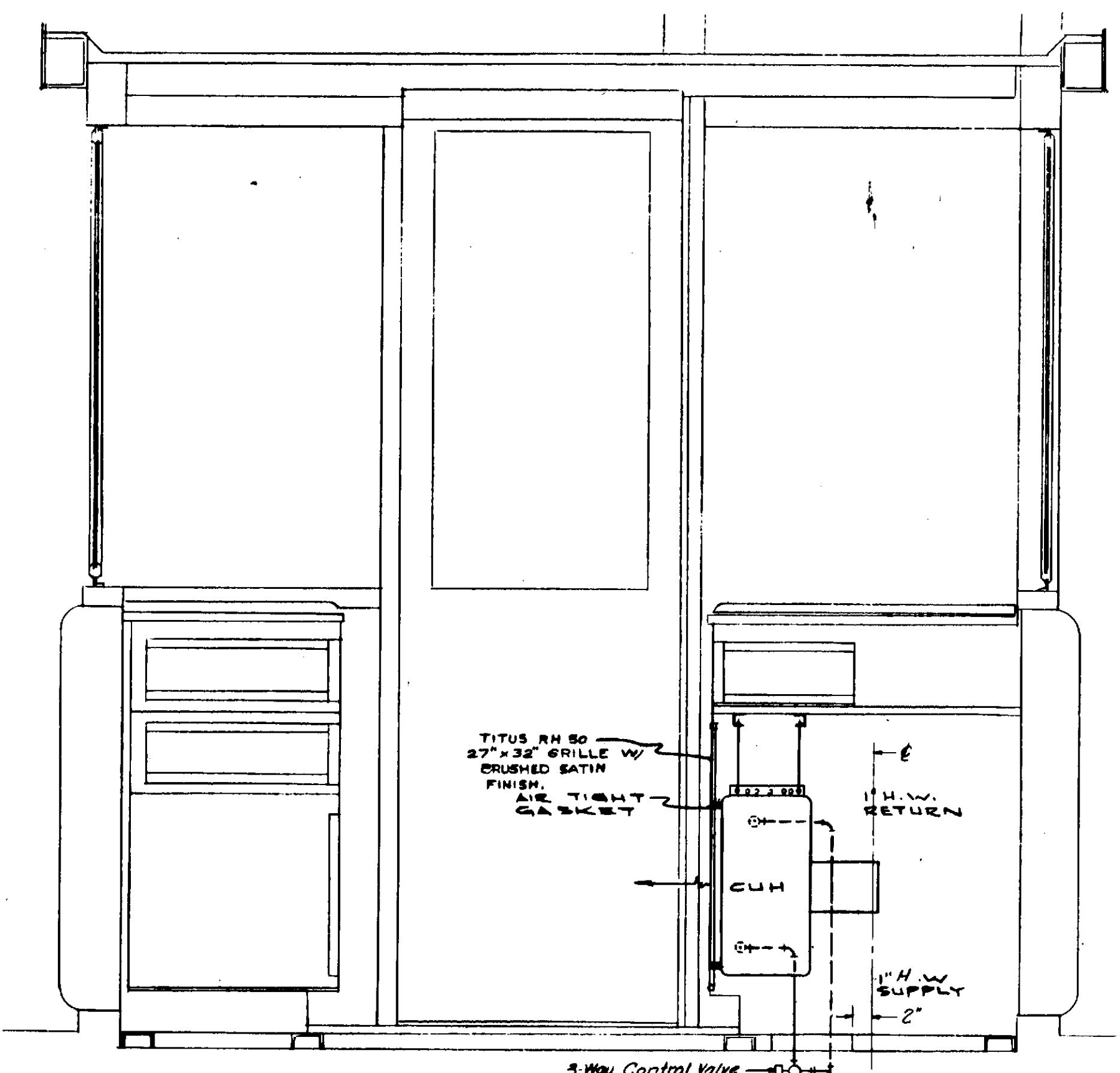
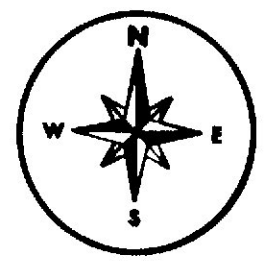
SINGLE BOOTH
SCALE: 3/4" = 1'-0"



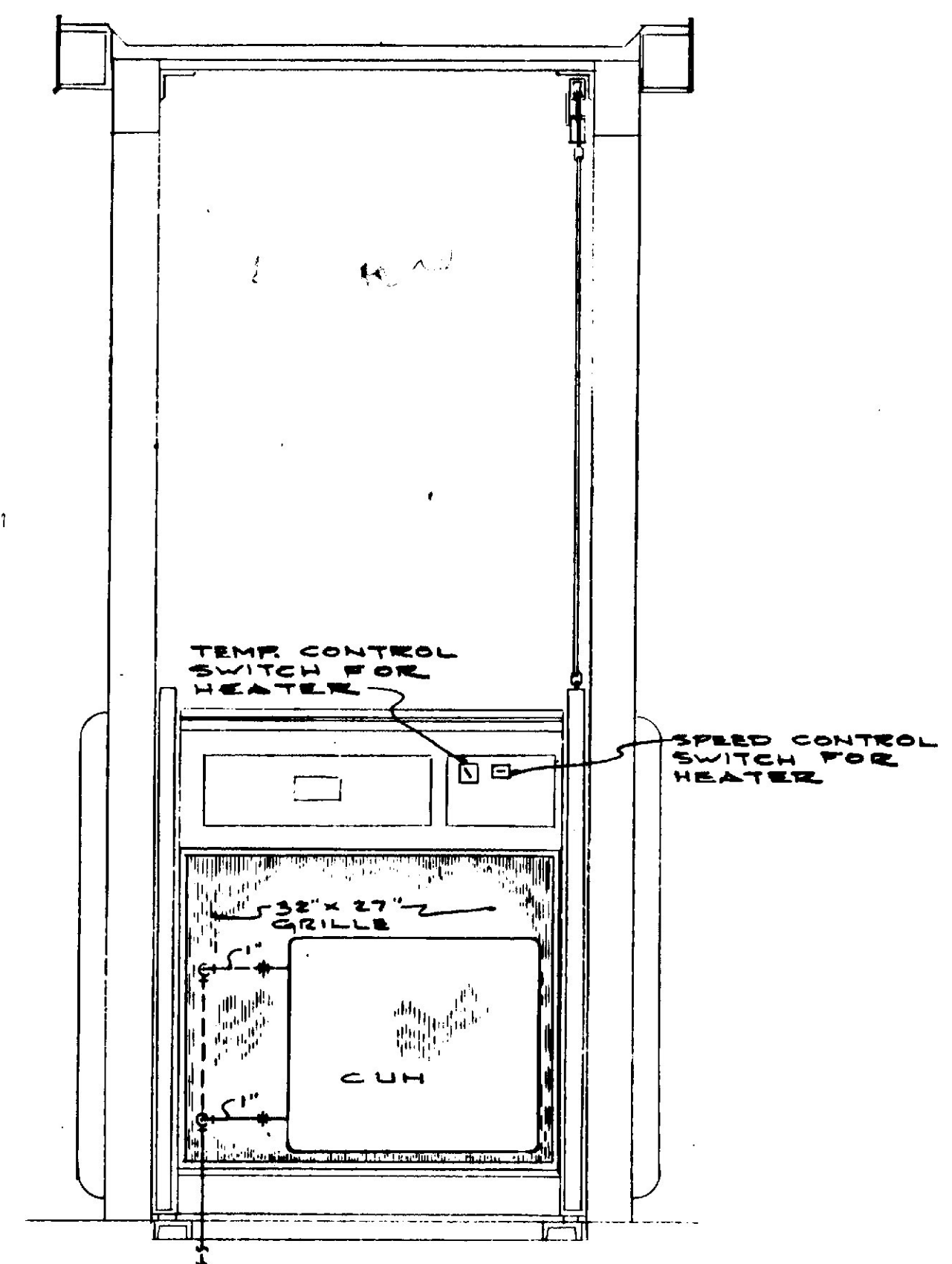
DOUBLE BOOTH
SCALE: 3/4" = 1'-0"



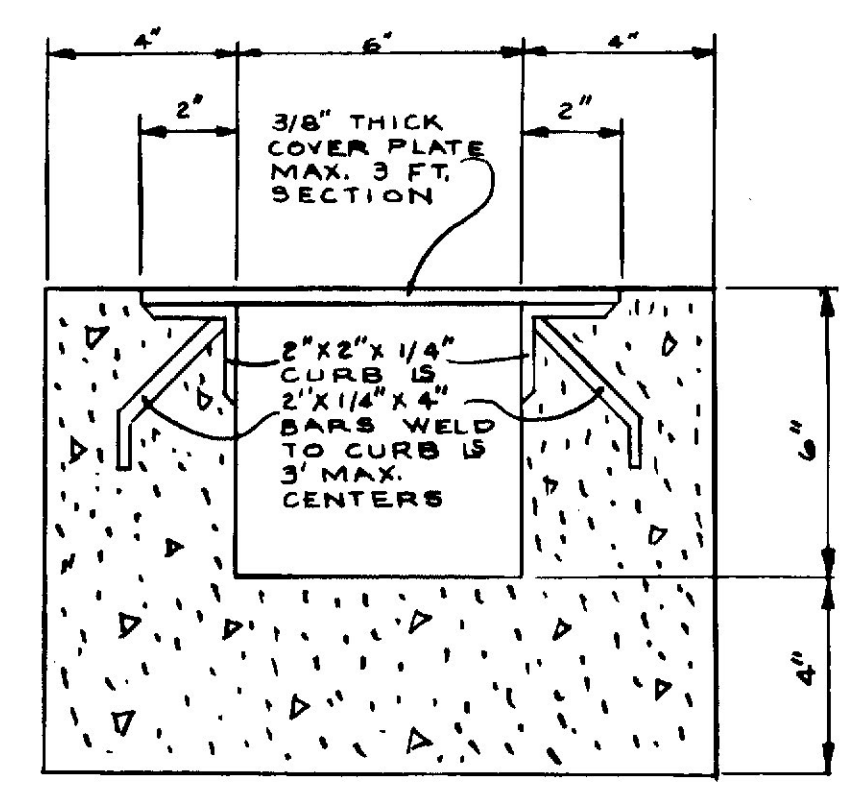
TUNNEL PLAN OF PIPING LAYOUT
SCALE: 1/8" = 1'-0"



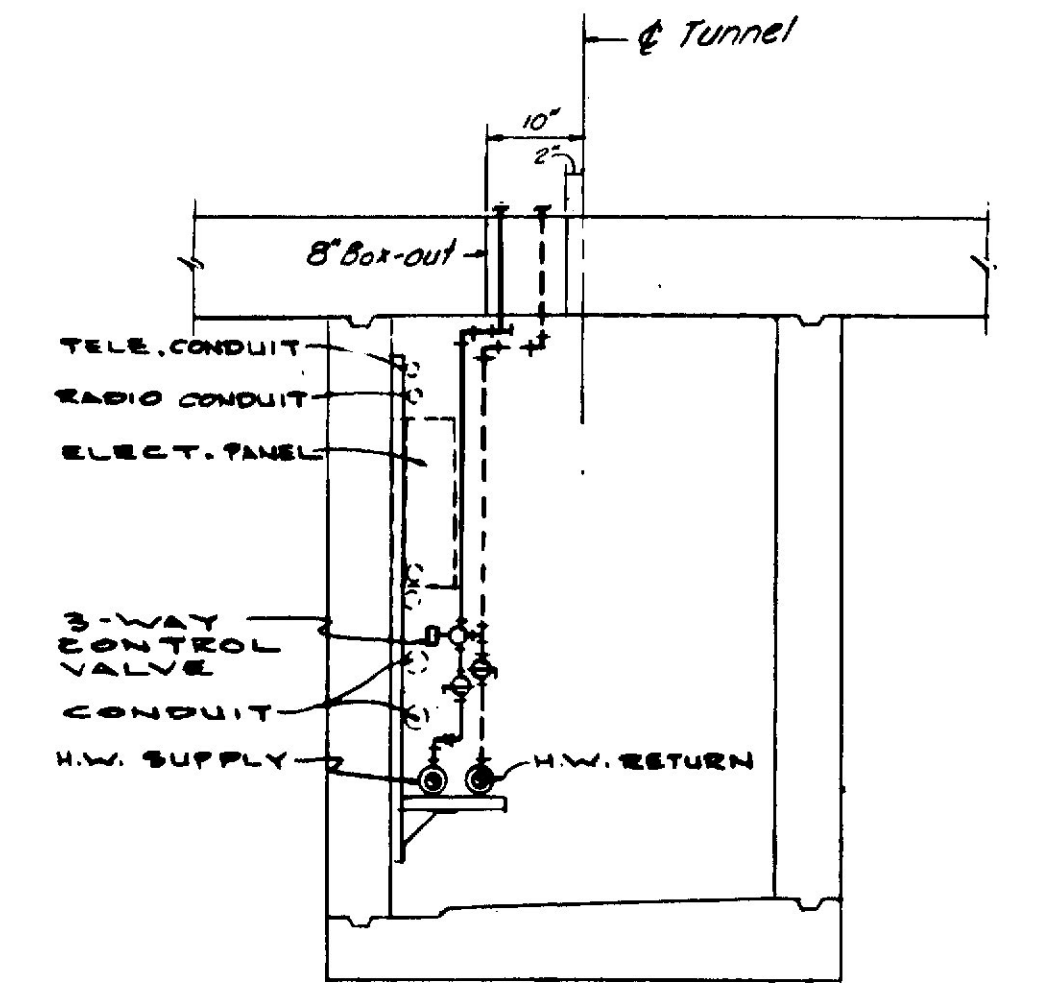
ELEVATION SECTION - 1/2
SCALE: 1" = 1'-0"



ELEVATION SECTION - 3/4
SCALE: 1" = 1'-0"

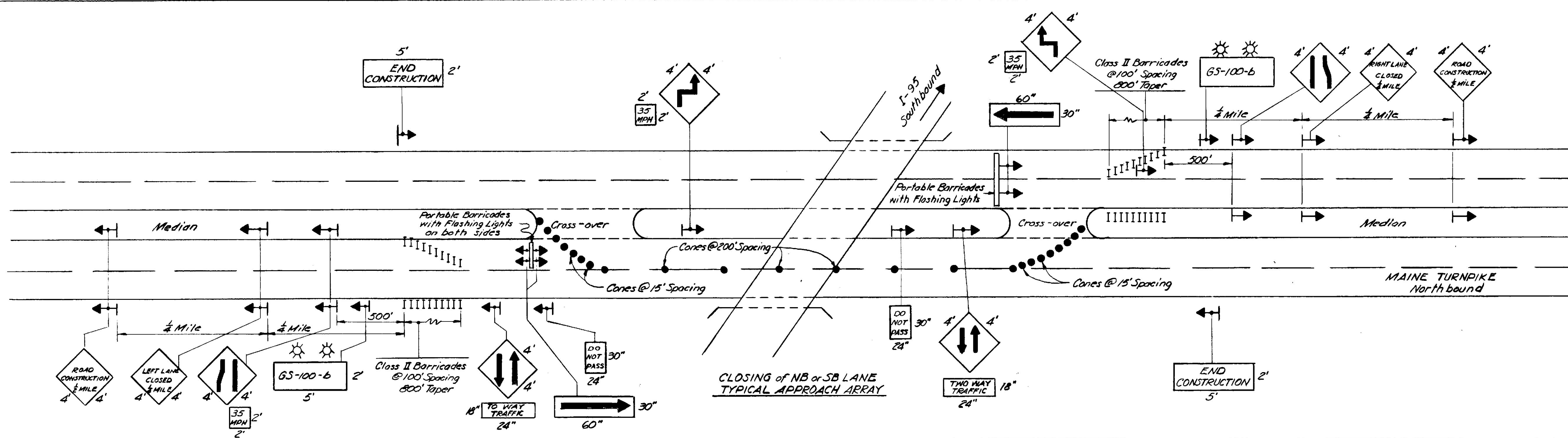
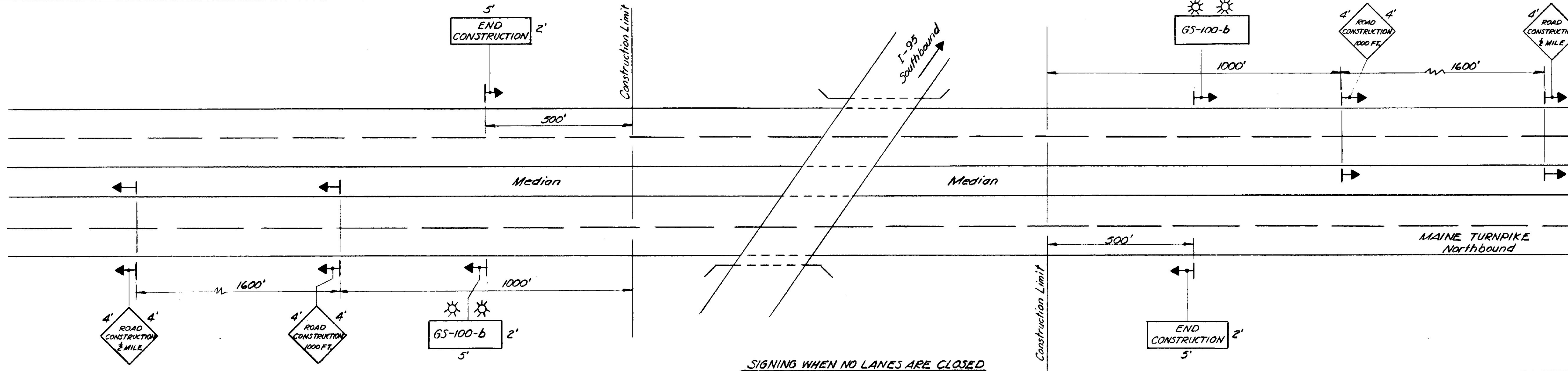
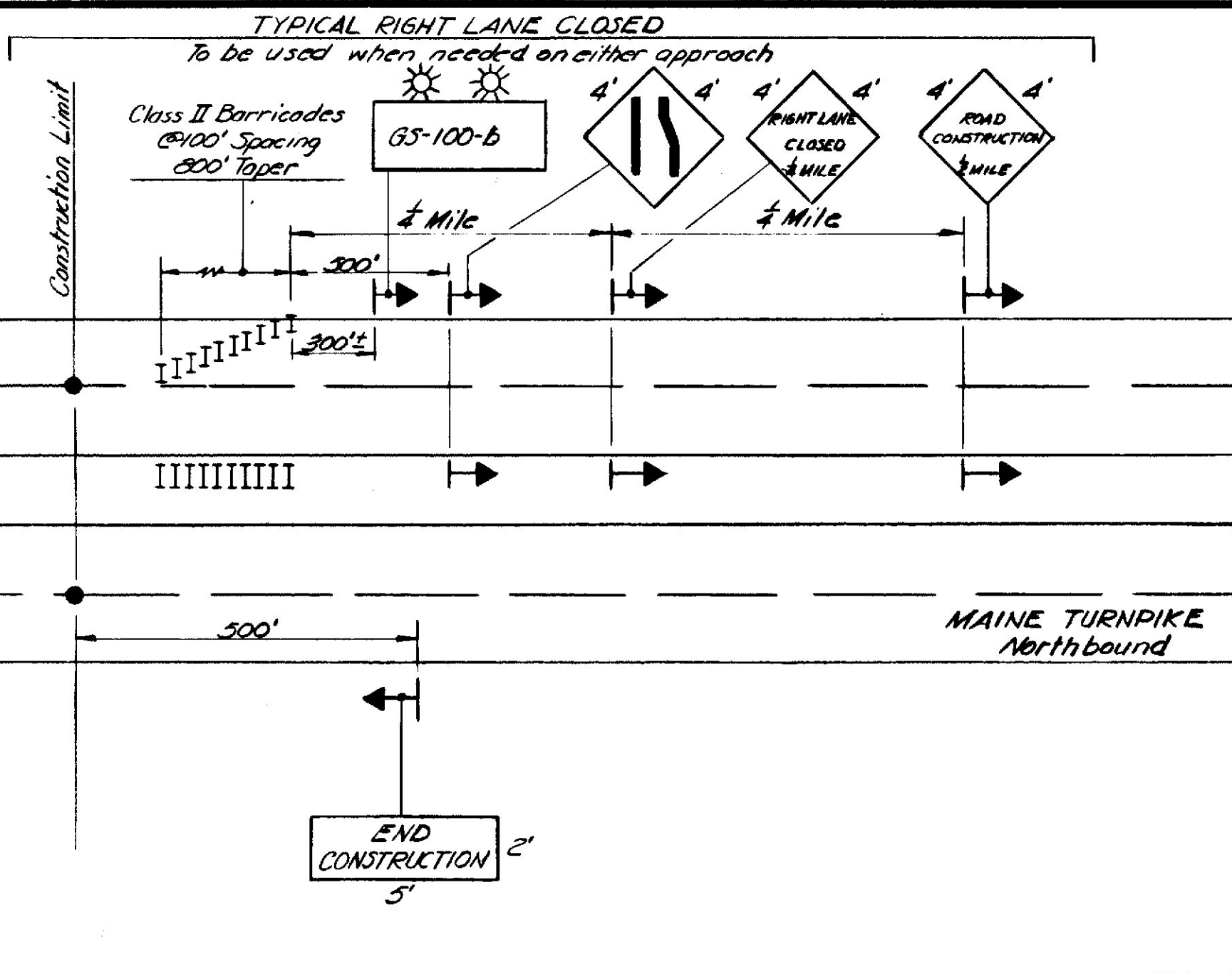
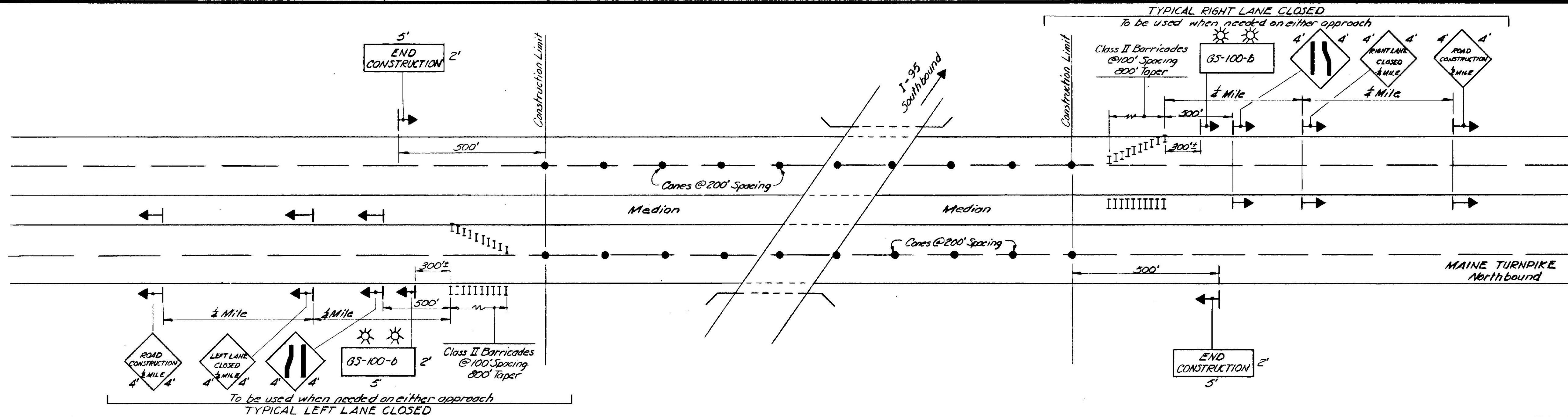


TRENCH DETAIL SECTION 4/2
NO SCALE



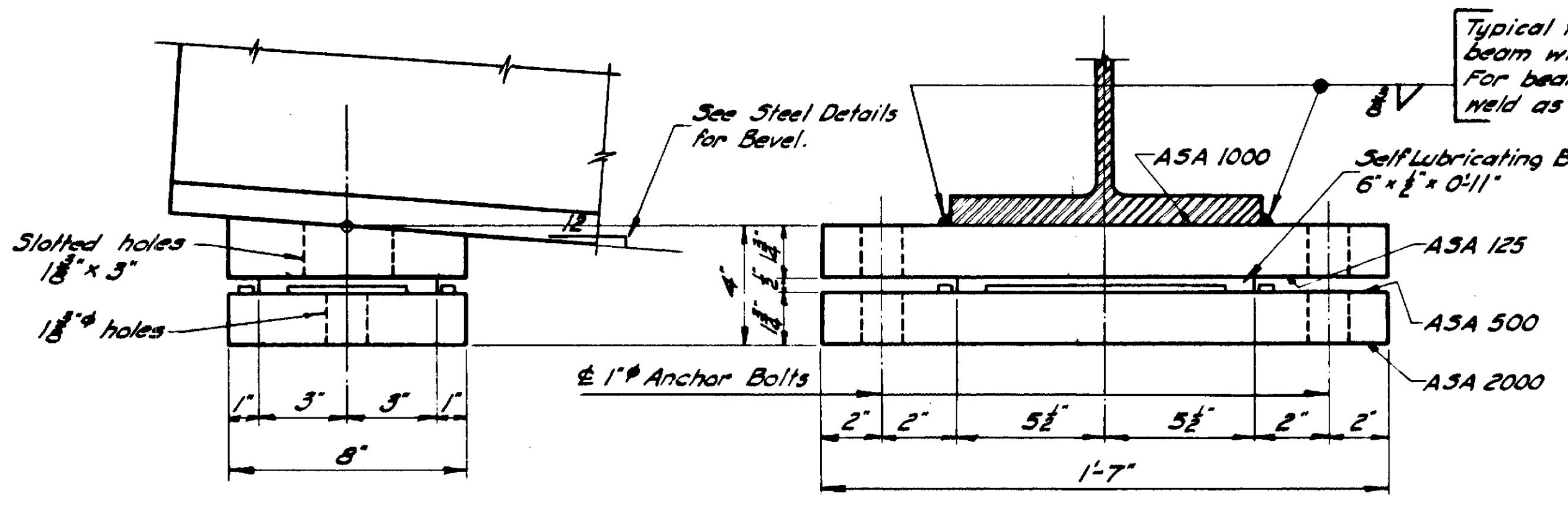
SECTION - 2/2
SCALE: 1/2" = 1'-0"

MAINE STATE HIGHWAY COMMISSION AUGUSTA, MAINE
TOLL BOOTH & TUNNEL HEATING & VENTILATING PLAN
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS NEW YORK BOSTON KANSAS CITY

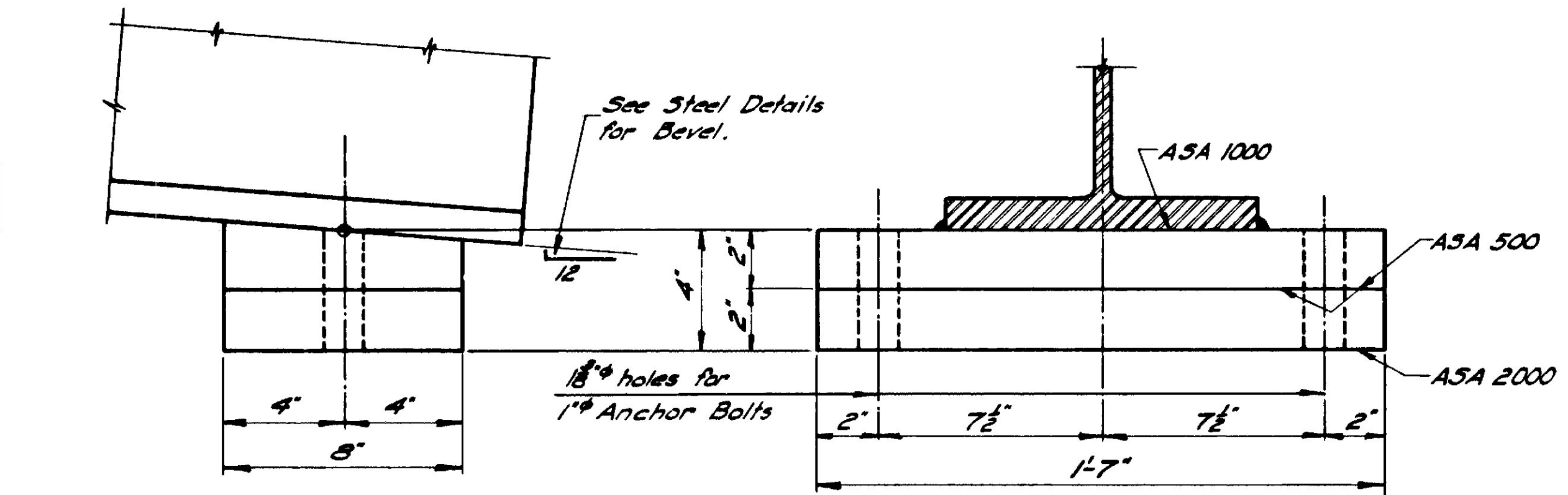


DATE	12/77
BY	W. J. [unclear]
DESIGN - DETAILED	
CHECKED	
REVISIONS	
FIELD CHANGES	
PLANS	

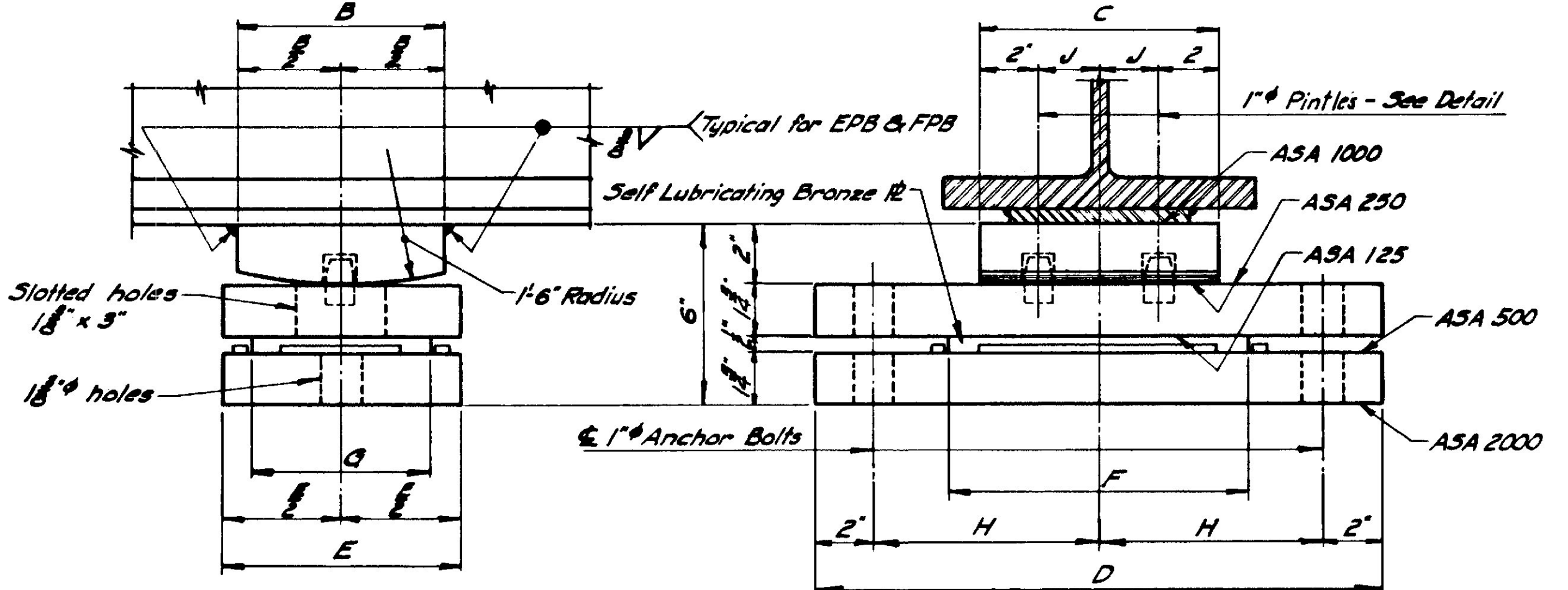
STATE HIGHWAY COMMISSION
MAINTENANCE OF TRAFFIC
 (TYPICAL SIGNING ARRAYS)
 SHEET OF AUGUSTA, MAINE
 WEST GARDINER (20)



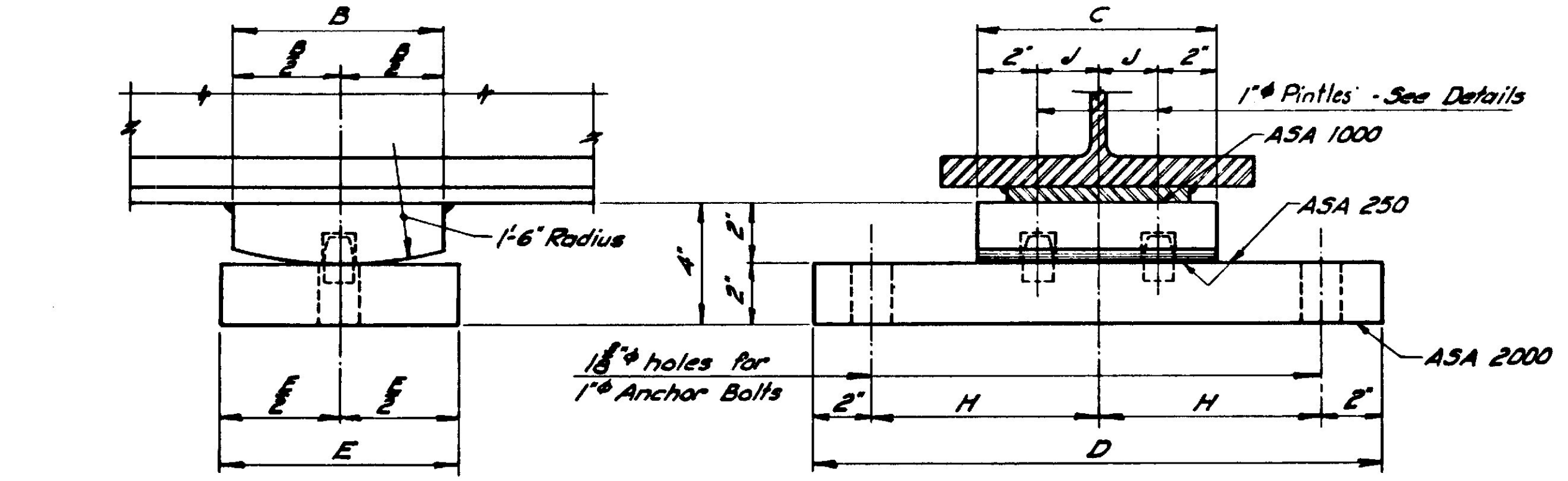
EXPANSION PEDESTAL - EPA



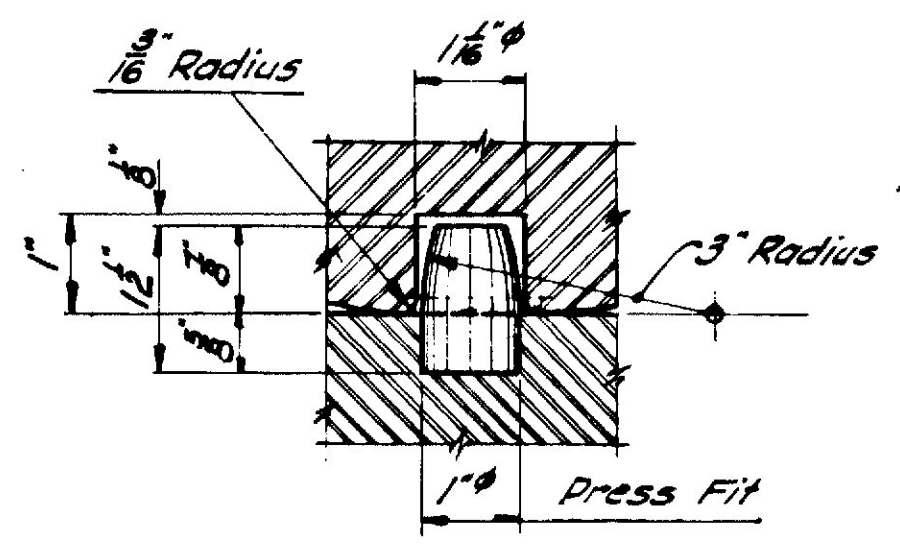
FIXED PEDESTAL - FPA



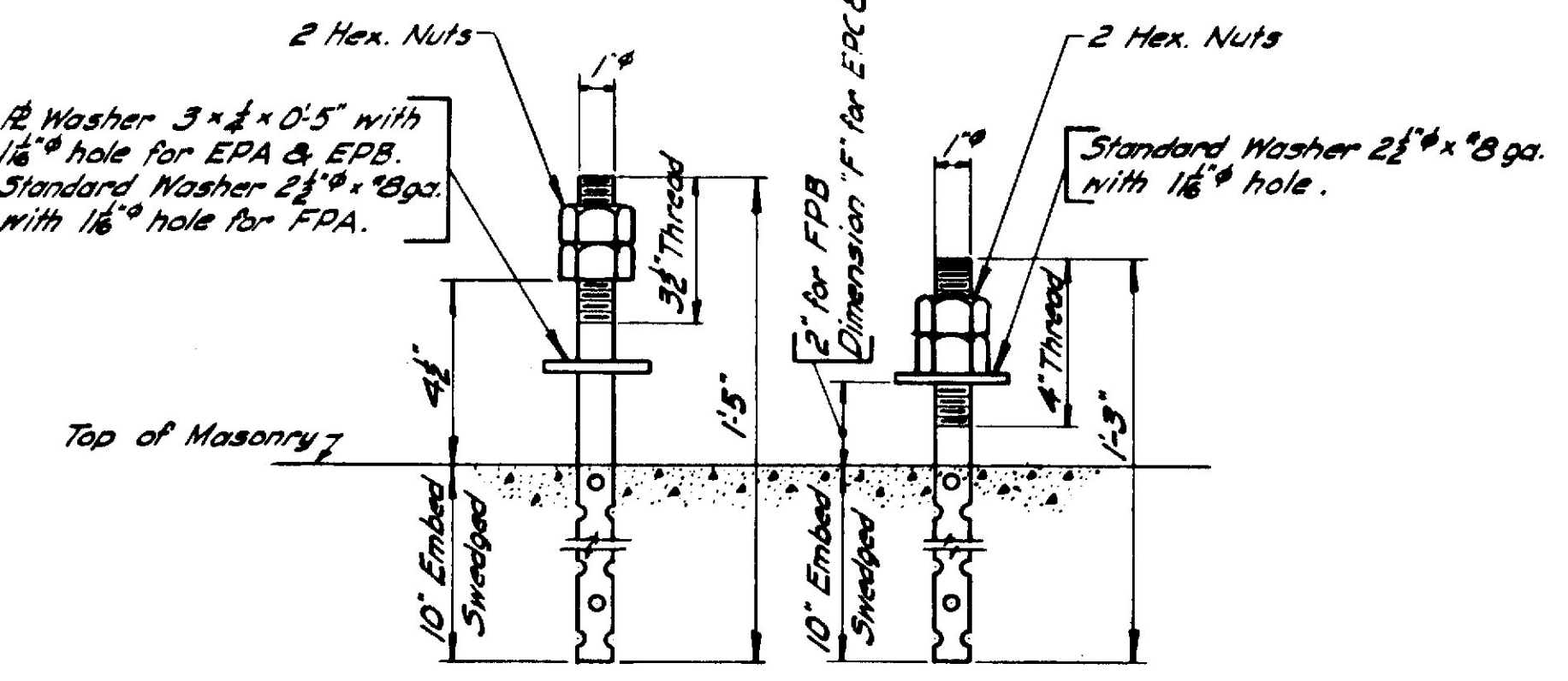
EXPANSION PEDESTAL - EPB



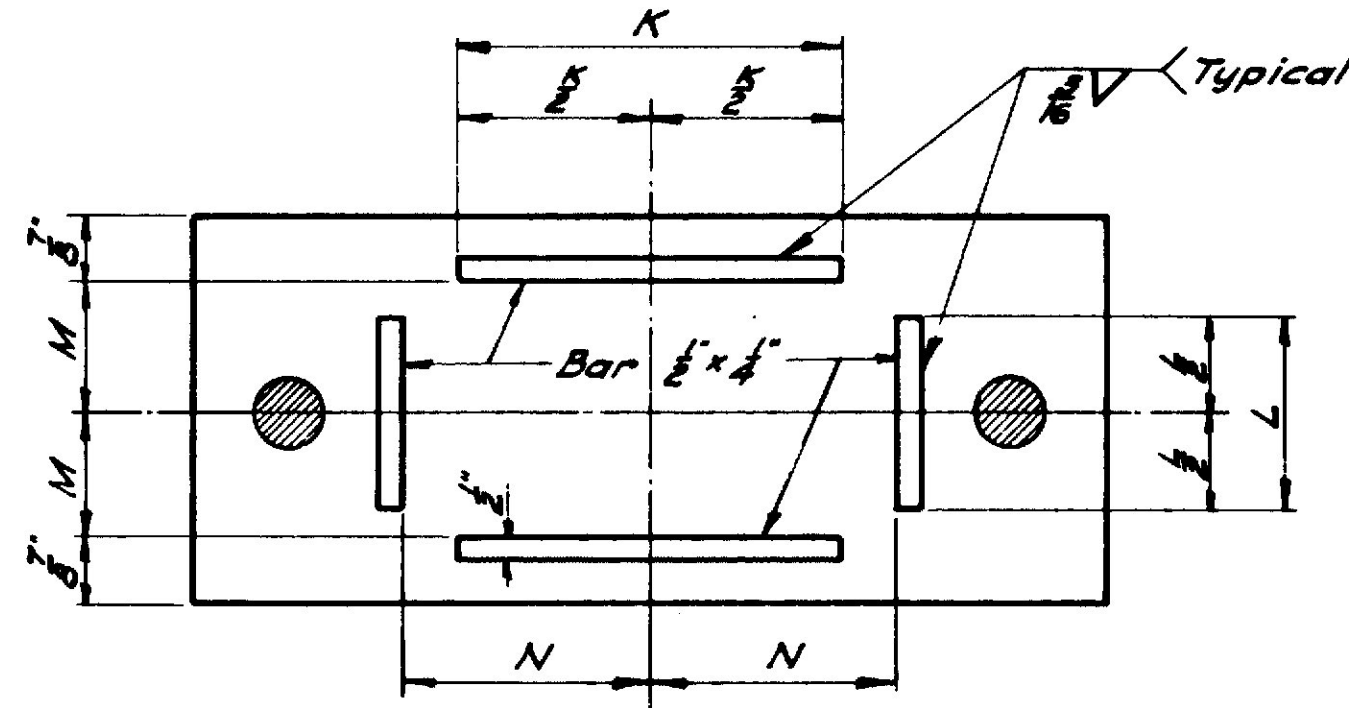
FIXED PEDESTAL - FPB



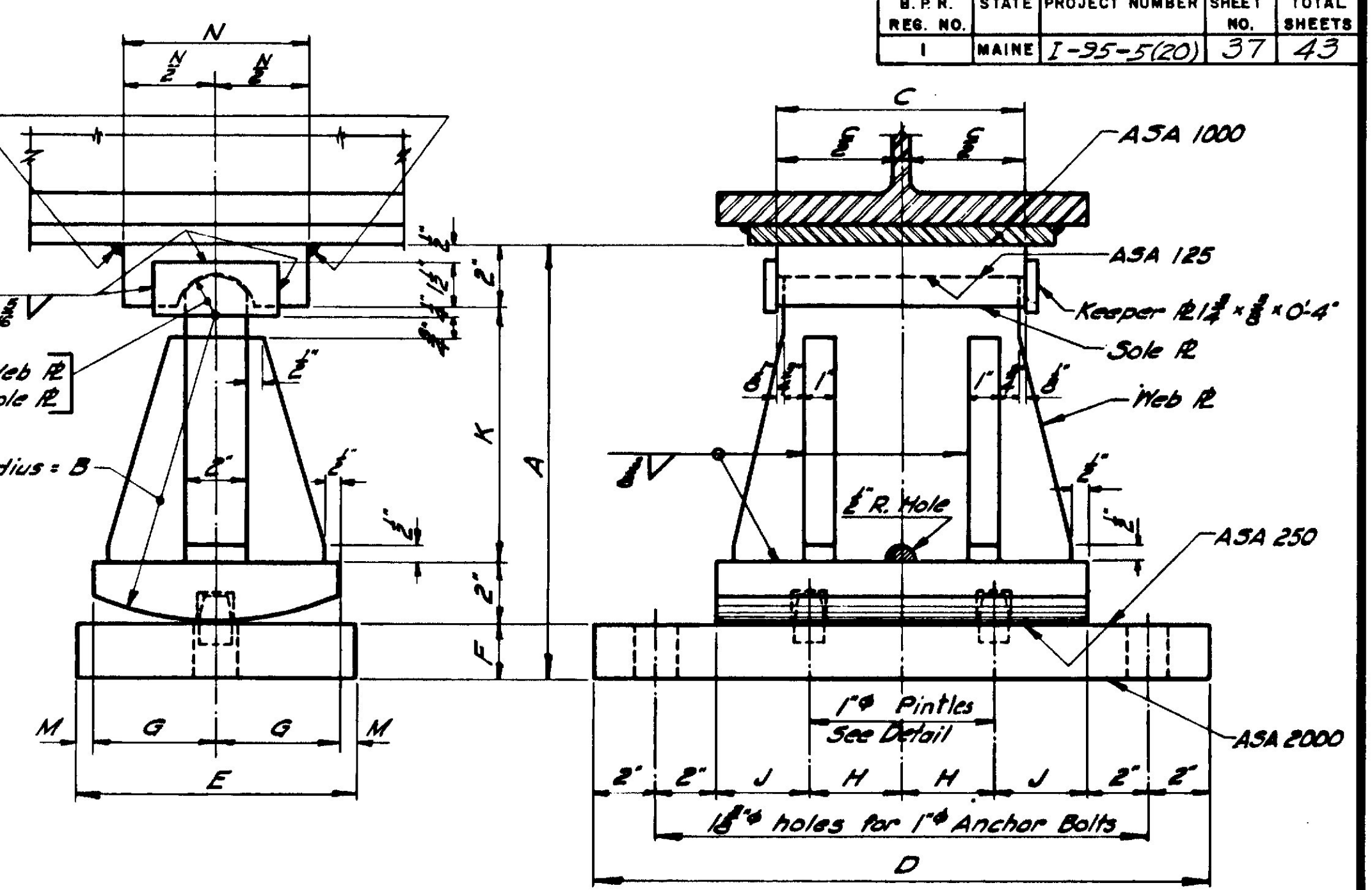
PINTLE DETAIL



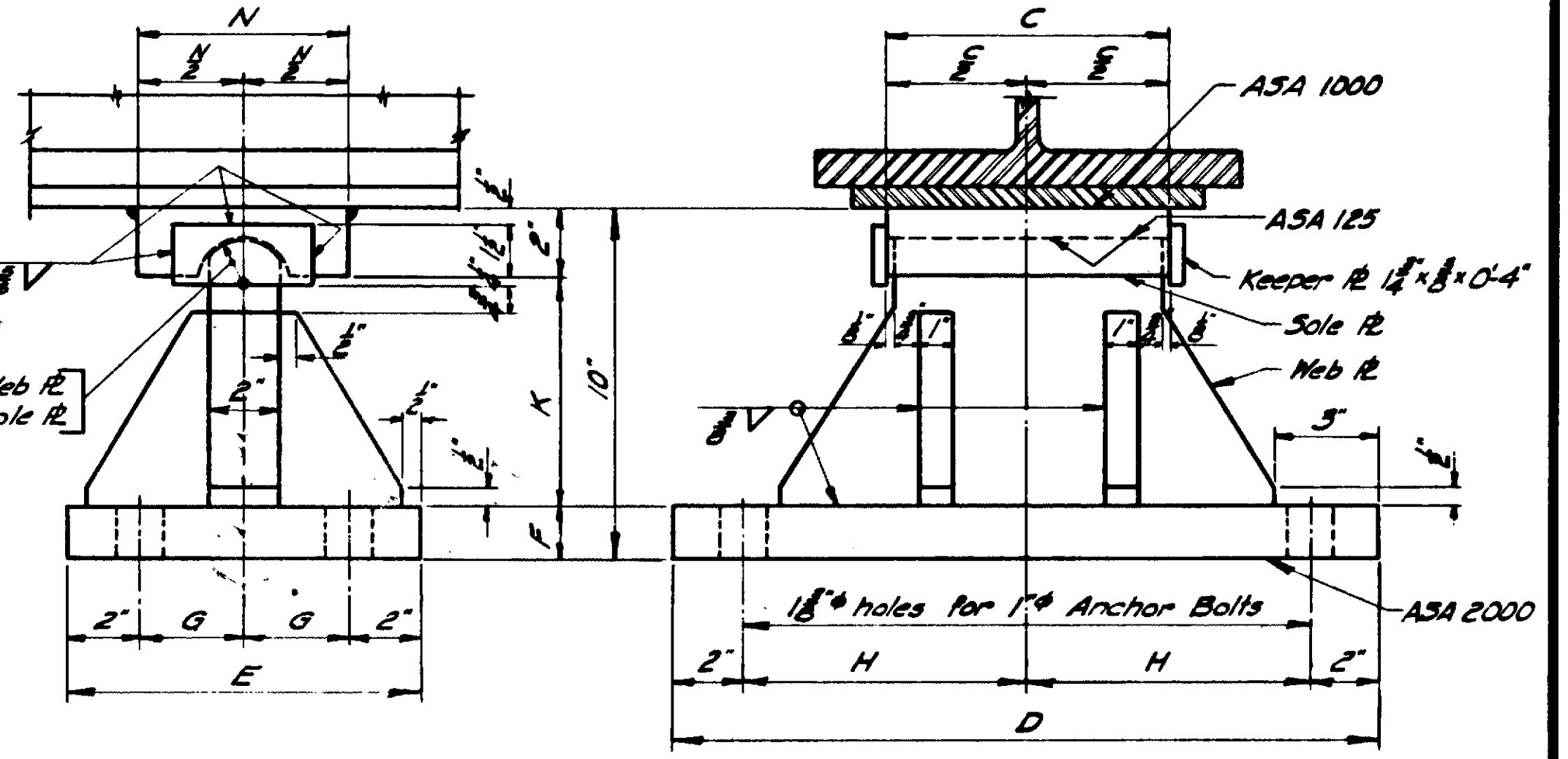
ANCHOR BOLT DETAIL



MASONRY PLATE



EXPANSION PEDESTAL - EPC



FIXED PEDESTAL - FPC

PEDESTALS - ALLOWABLE LOADS & DIMENSIONS														
Pedestal	Load	A	B	C	D	E	F	G	H	J	K	L	M	N
EPA	132K	-	-	-	-	-	-	-	-	-	8"	4"	3 1/2"	5 1/2"
FPA	130K	-	-	-	-	-	-	-	-	-	-	-	-	-
EPB-1	120K	-	6"	8"	1-7"	8"	10"	6"	7 1/2"	2"	8"	4"	3 1/2"	5 1/2"
EPB-2	165K	-	7"	10"	1-8"	9"	1-0"	7"	8"	3"	10"	5"	3 1/2"	6 1/2"
EPB-3	224K	-	8"	1-1"	2-0"	10"	1-4"	7"	10"	4 1/2"	1-2"	5"	3 1/2"	8 1/2"
FPB-1	120K	-	6"	8"	1-7"	8"	-	-	7 1/2"	2"	-	-	-	-
FPB-2	165K	-	7"	10"	1-8"	9"	-	-	8"	3"	-	-	-	-
FPB-3	224K	-	8"	1-2"	2-0"	10"	-	-	10"	5"	-	-	-	-
EPC-1	70K	9 1/2"	6"	8"	1-8"	8"	1-1/2"	3 1/2"	3"	3"	4 1/2"	-	1/2"	6"
EPC-2	100K	11 1/2"	8"	8"	1-8"	8"	1-1/2"	3 1/2"	3"	3"	6 1/2"	-	1/2"	6"
EPC-3	130K	1-2"	10"	8"	1-8"	9"	1-1/2"	4"	3"	3"	8 1/2"	-	1/2"	7"
EPC-4	160K	1-2"	10"	8"	1-10"	9"	1-1/2"	4"	4"	3"	8 1/2"	-	1/2"	7"
EPC-5	190K	1-2 1/2"	10"	9"	2-0"	10"	2"	4 1/2"	5"	3"	8 1/2"	-	1/2"	8"
EPC-6	220K	1-4 1/2"	10"	10"	2-0"	10"	2 1/2"	5"	5"	3"	10 1/2"	-	1"	8"
EPC-7	250K	1-4 1/2"	1-0"	1-0"	2-2"	1-0"	2 1/2"	5"	5"	4"	10 1/2"	-	1"	8"
FPC-1	100K	-	-	8"	1-8"	9"	1-1/2"	2 1/2"	8"	-	6 1/2"	-	-	6"
FPC-2	160K	-	-	8"	1-8"	10"	1-1/2"	3"	8"	-	6 1/2"	-	-	7"
FPC-3	190K	-	-	9"	2-0"	10"	1-1/2"	3"	10"	-	6 1/2"	-	-	8"
FPC-4	220K	-	-	10"	2-0"	1-0"	1-1/2"	4"	10"	-	6 1/2"	-	-	8"
FPC-5	250K	-	-	1-0"	2-0"	1-0"	2"	4"	10"	-	6"	-	-	8"

NOTE: At the location of bearing pedestals the concrete bridge seats shall be dressed one inch larger all around than size of masonry plates and to exact elevations shown on the plans. If dressed areas are below the surface of the surrounding bridge seat a small channel shall be cut to the edge of the bridge seat for drainage where required by the Engineer. Channels shall have a min. width of 2" and min. slope of 1/8 inch per foot. No separate payment for this work will be made as it shall be considered incidental to contract items.

DESIGN SPECIFICATIONS

A.A.S.H.O., Standard Specifications for Highway Bridges, 1969

A.S.T.M. STEEL CLASSIFICATION

Anchor Bolts - A36
 All other - A36.

Revised- Design Specifications and A.S.T.M. Steel Classification 1969

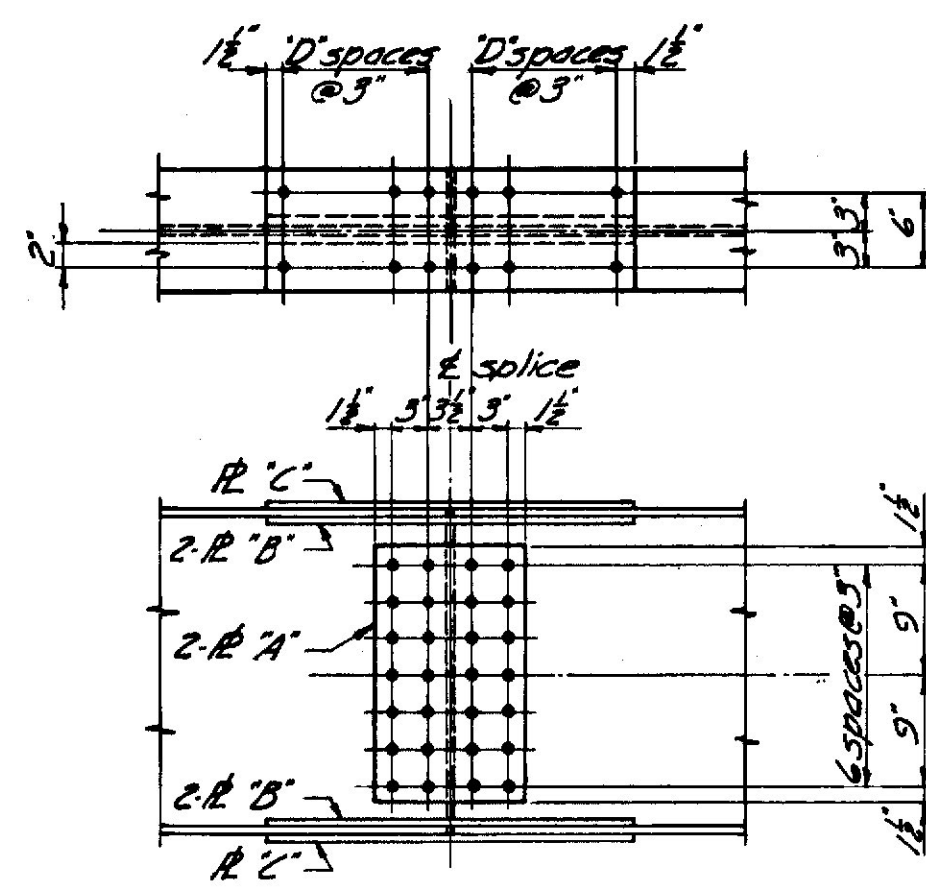
MAINE STATE HIGHWAY COMMISSION
 AUGUSTA, MAINE

STANDARD DETAILS

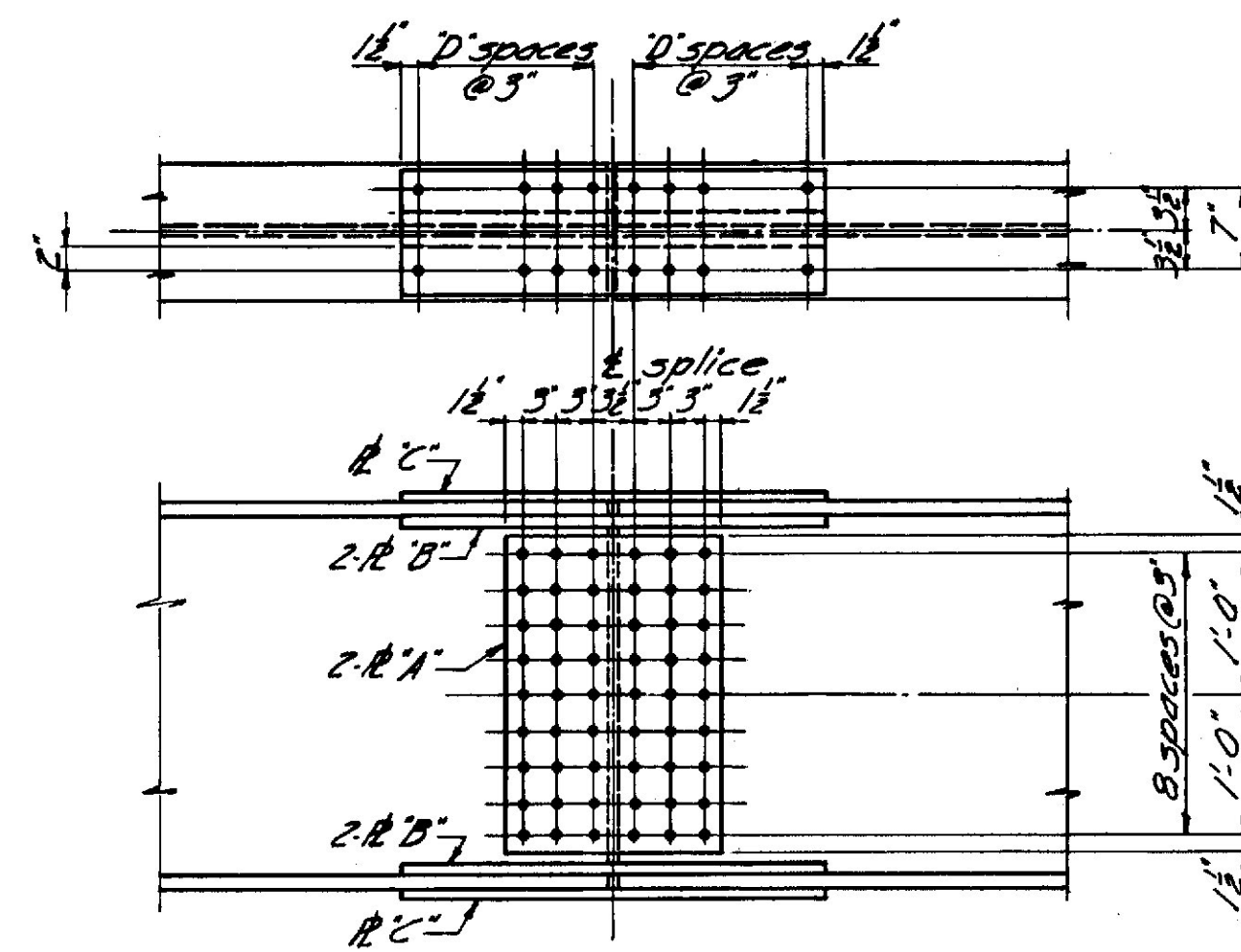
(BD 101-70)

BEARING PEDESTALS

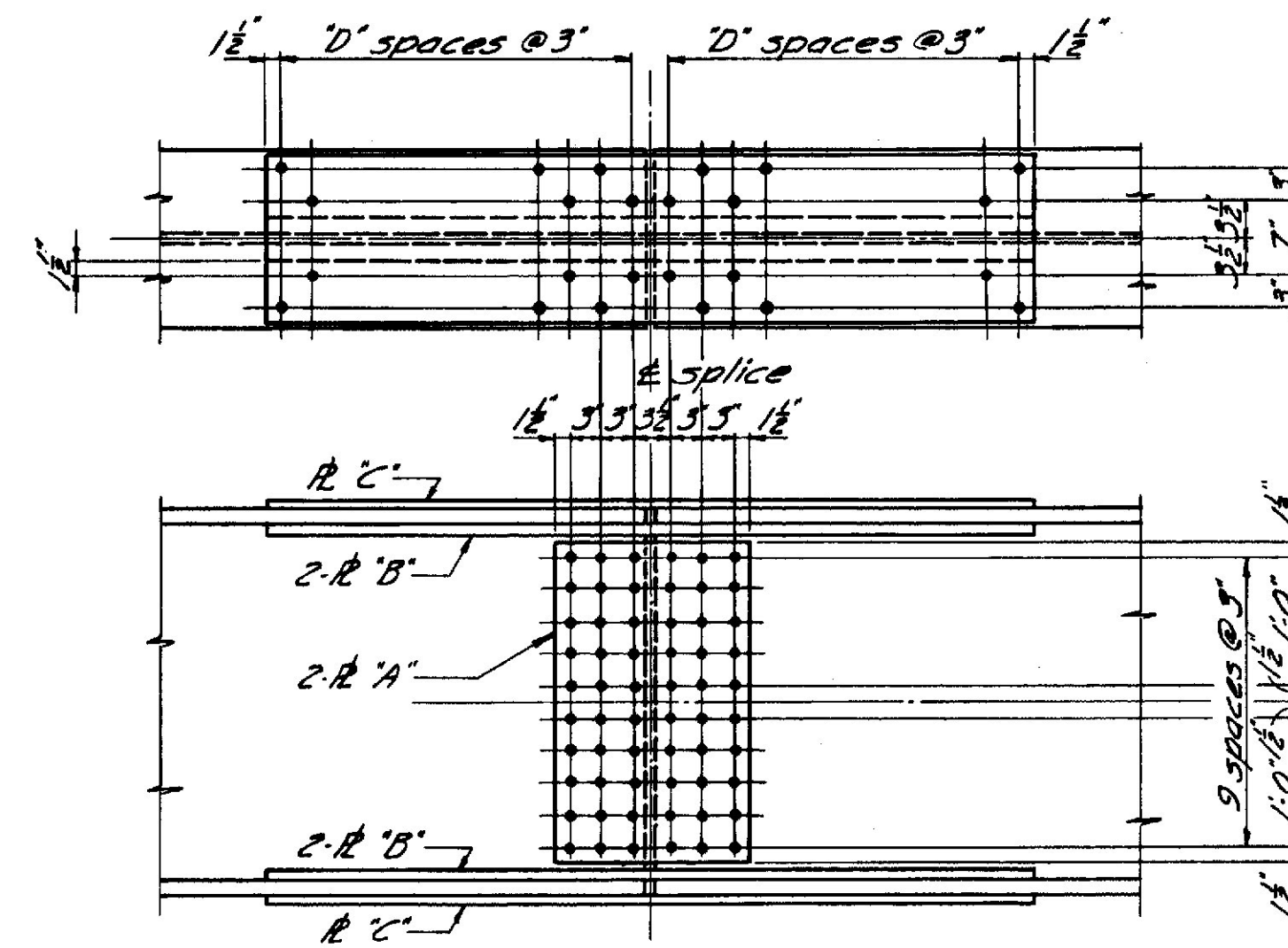
BRUNING 44-131 11224



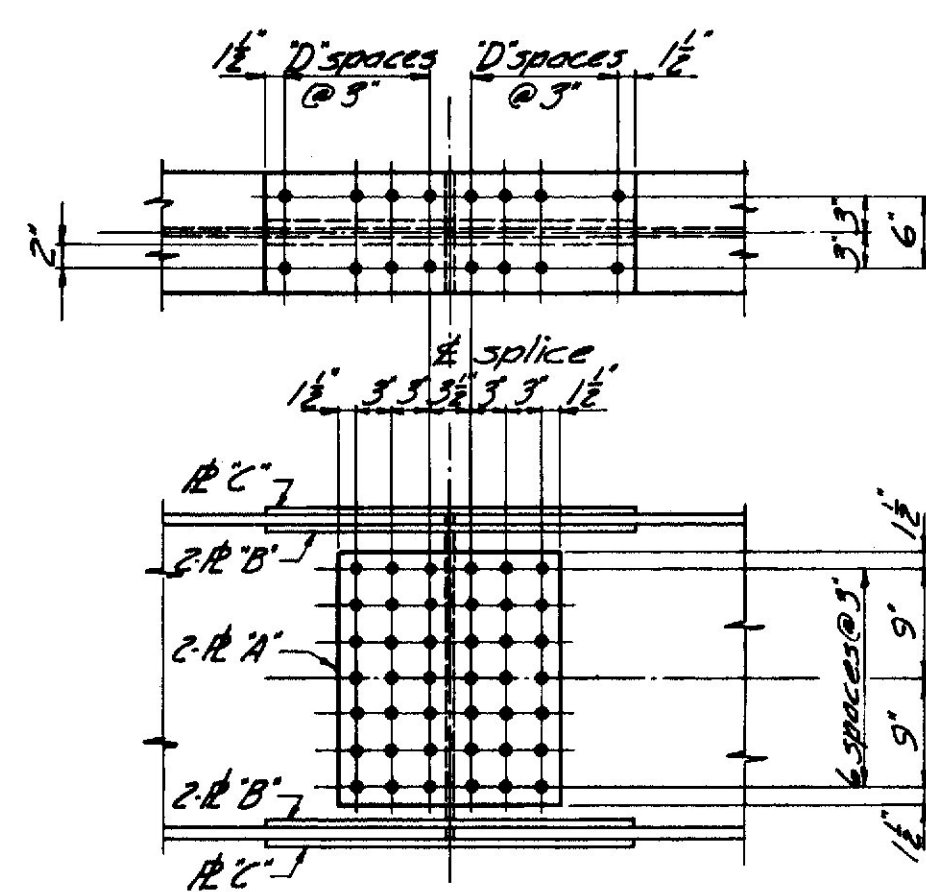
27 WF 84



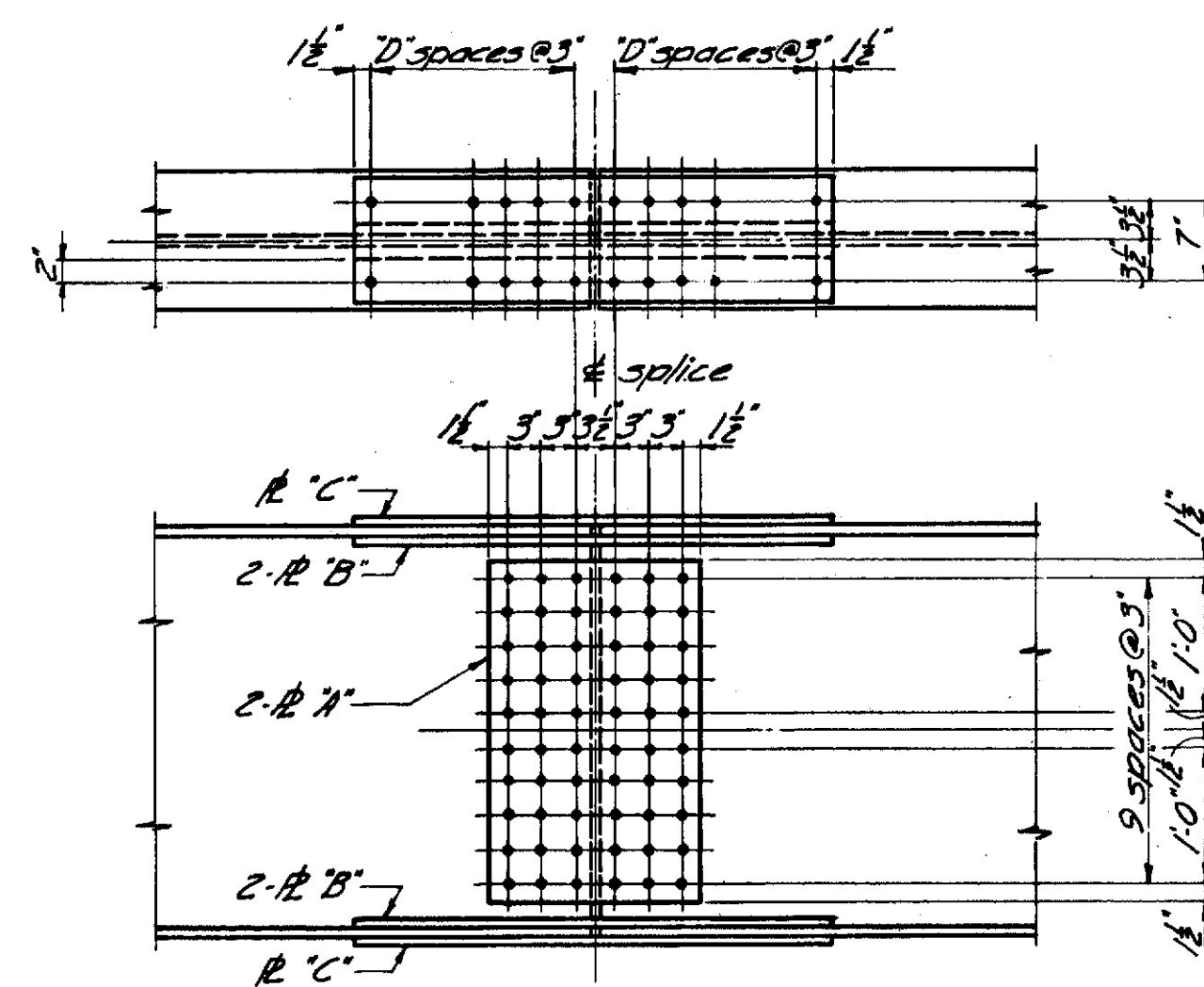
33 WF 118, 130, 141, 152



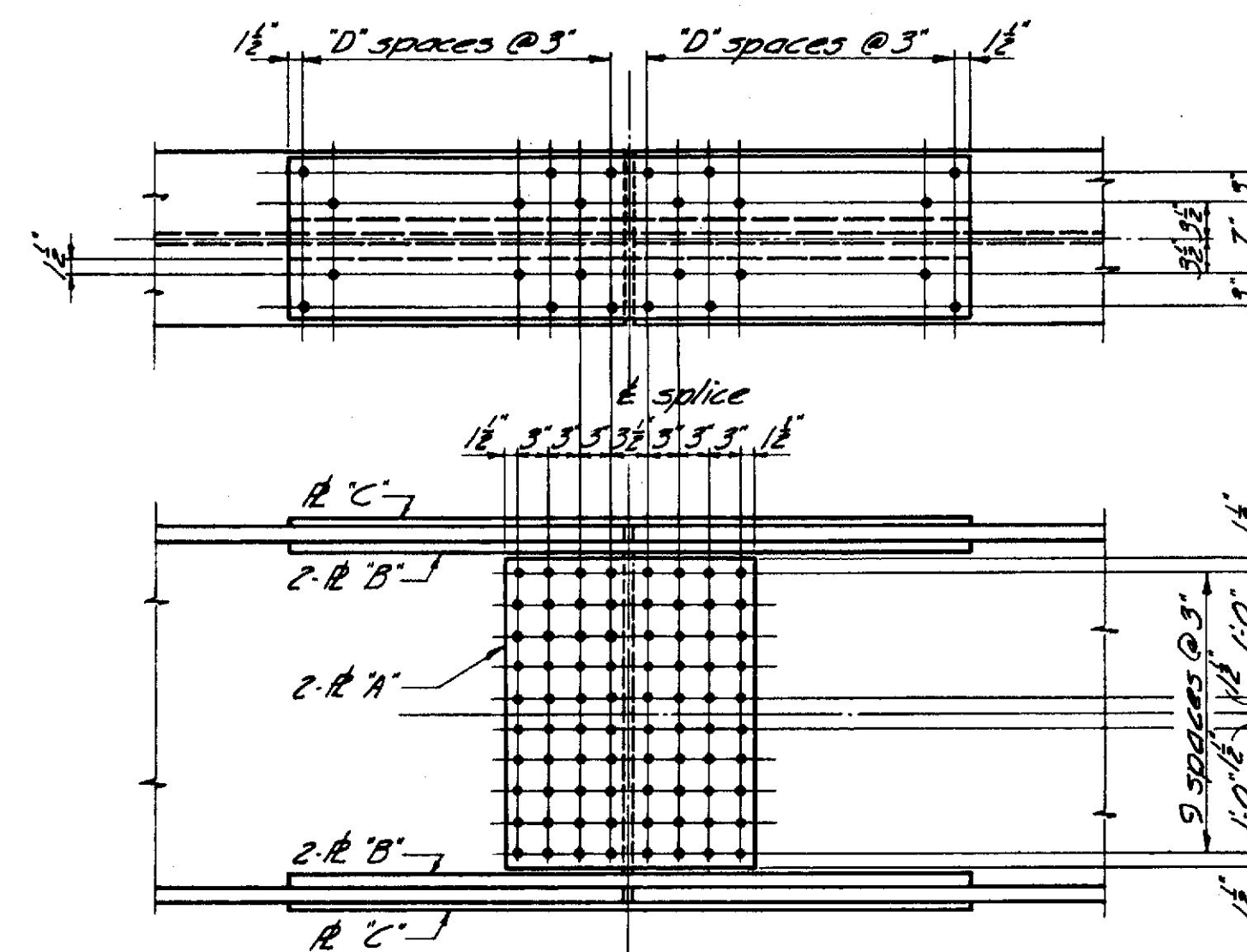
36 WF 245, 280



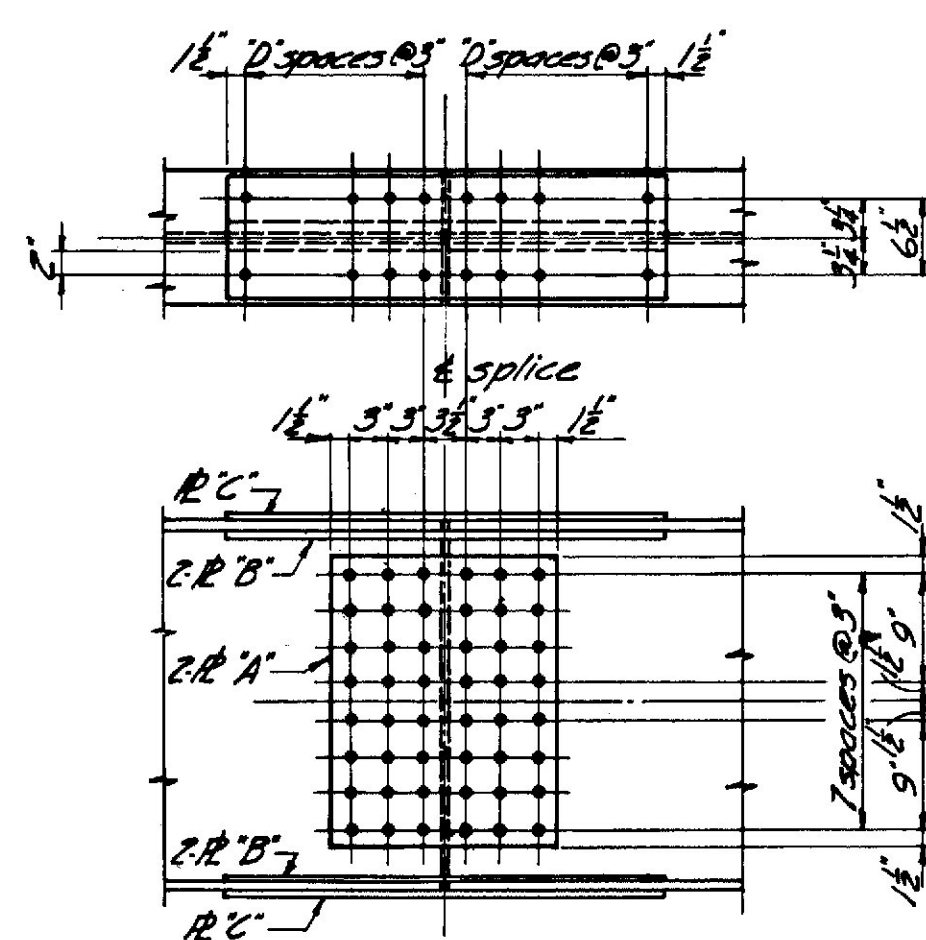
27 WF 94, 102, 114



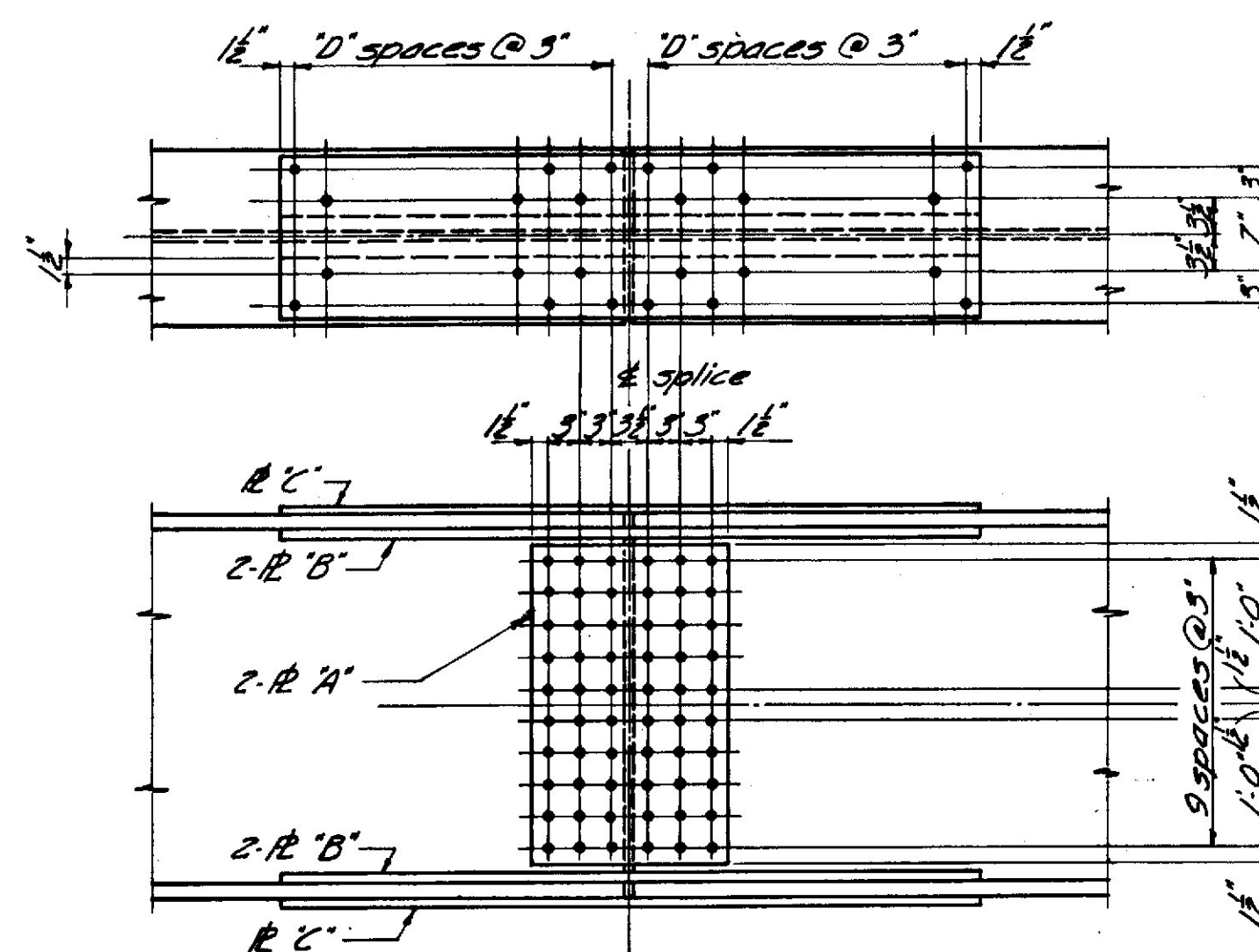
36 WF 135, 150, 160, 170, 182, 194



36 WF 300



30 WF 99, 108, 116, 124, 132



36 WF 230, 260

SPLICE DESIGN, PLATES AND FLANGE HOLES						
BEAM	BEND. M.	SHEAR	PLATE "A"	PLATE "B"	PLATE "C"	"D"
27 WF 84	3070"	111 ^k	12 1/2 x 1/2	4 x 1/2	10 x 1/2	3
27 WF 94	3520"	119 ^k	18 1/2 x 1/2	4 x 1/2	10 x 1/2	3
27 WF 102	3862"	126 ^k	18 1/2 x 1/2	4 x 1/2	10 x 1/2	4
27 WF 114	4341"	140 ^k	18 1/2 x 1/2	4 x 1/2	10 x 1/2	4
30 WF 99	3921"	139 ^k	18 1/2 x 1/2	4 x 1/2	10 x 1/2	3
30 WF 108	4360"	147 ^k	18 1/2 x 1/2	4 x 1/2	10 x 1/2	4
30 WF 116	4780"	152 ^k	18 1/2 x 1/2	4 x 1/2	10 x 1/2	4
30 WF 124	5170"	159 ^k	18 1/2 x 1/2	4 x 1/2	10 x 1/2	4
30 WF 132	5530"	168 ^k	18 1/2 x 1/2	4 x 1/2	10 x 1/2	5
33 WF 118	5287"	164 ^k	18 1/2 x 1/2	4 x 1/2	11 x 1/2	4
33 WF 130	5978"	173 ^k	18 1/2 x 1/2	4 x 1/2	11 x 1/2	5
33 WF 141	6604"	181 ^k	18 1/2 x 1/2	4 x 1/2	11 x 1/2	5
33 WF 152	7193"	191 ^k	18 1/2 x 1/2	4 x 1/2	11 x 1/2	6
36 WF 135	6473"	191 ^k	18 1/2 x 1/2	4 x 1/2	11 x 1/2	4
36 WF 150	7436"	202 ^k	18 1/2 x 1/2	4 x 1/2	11 x 1/2	5
36 WF 160	8005"	212 ^k	18 1/2 x 1/2	4 x 1/2	11 x 1/2	6
36 WF 170	8574"	221 ^k	18 1/2 x 1/2	4 x 1/2	11 x 1/2	6
36 WF 182	9204"	237 ^k	18 1/2 x 1/2	4 x 1/2	11 x 1/2	7
36 WF 194	9838"	253 ^k	18 1/2 x 1/2	4 x 1/2	11 x 1/2	8
36 WF 230	12574"	247 ^k	18 1/2 x 1/2	6 x 1	16 x 1/2	10
36 WF 245	13441"	260 ^k	18 1/2 x 1/2	6 x 1	16 x 1/2	11
36 WF 260	14330"	276 ^k	18 1/2 x 1/2	6 x 1 1/2	16 x 1/2	12
36 WF 280	15351"	291 ^k	18 1/2 x 1/2	6 x 1 1/2	16 x 1/2	13
36 WF 300	16676"	312 ^k	24 1/2 x 1/2	6 x 1 1/2	16 x 1/2	14

GENERAL NOTES

- Splice connections to be made with 5/8" high tensile strength bolts. Holes to be 1/8" φ.
- The design bending moment is 90% of the net resisting moment of the beam with an allowable stress of 20,000 p.s.i. The design shear is 75% of the shear strength of the gross section of the web with an allowable stress of 12,000 p.s.i.
- If beams of different sizes are to be spliced, use splice details shown for the smaller of the beams being spliced unless otherwise directed by design details. See design details for filler plate dimensions.
- See design details for slopes of beams in order to correctly fabricate bevels at the splices.

A.S.T.M. STEEL CLASSIFICATION

High Tensile Strength Bolts A-325
Splice Plates A-36

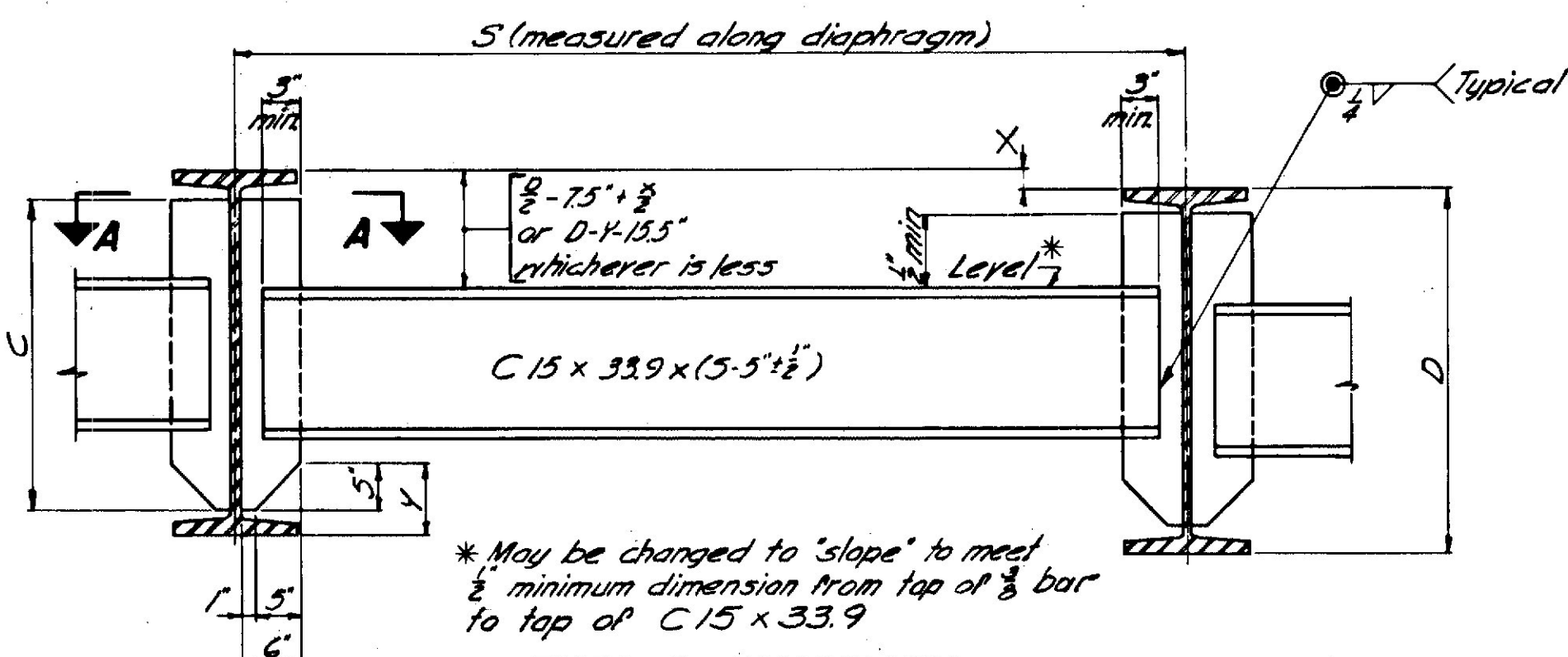
DESIGN SPECIFICATIONS

AA540 Standard Specifications for Highway Bridges, 1961 with Interim Specifications, 1961 & 1962

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

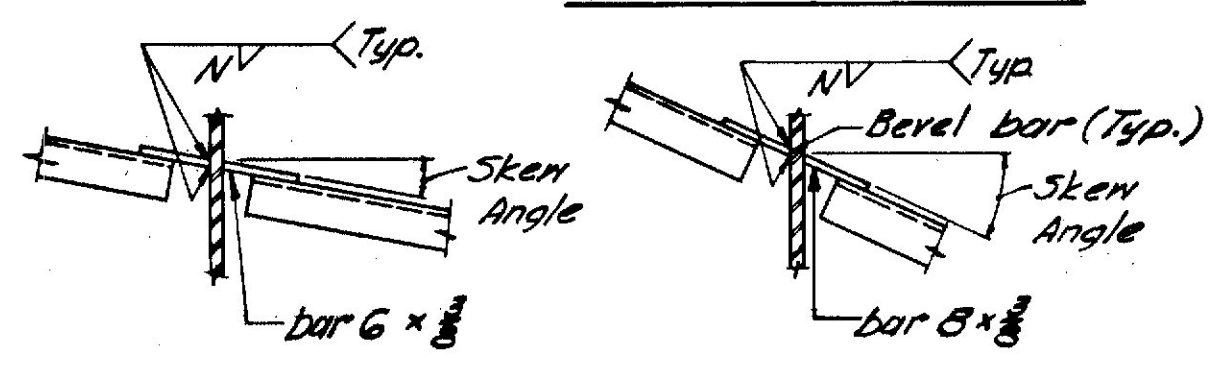
STANDARD DETAILS
(BD 103-64)

BEAM SPLICES



TYPE A DIAPHRAGM

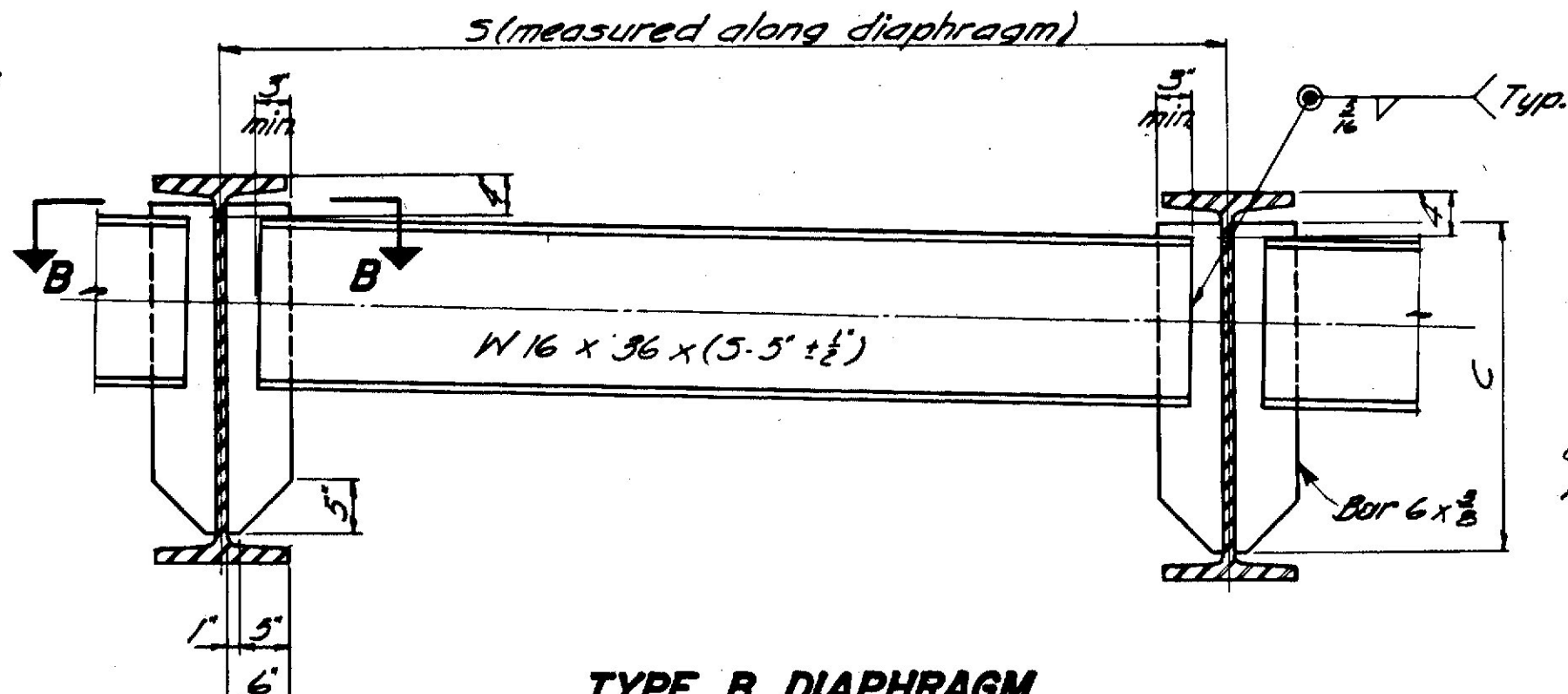
* May be changed to "slope" to meet $\frac{1}{2}$ minimum dimension from top of $\frac{3}{8}$ bar to top of C 15 x 33.9



SECTION A-A
Skew Angle 0° to 10° 00'

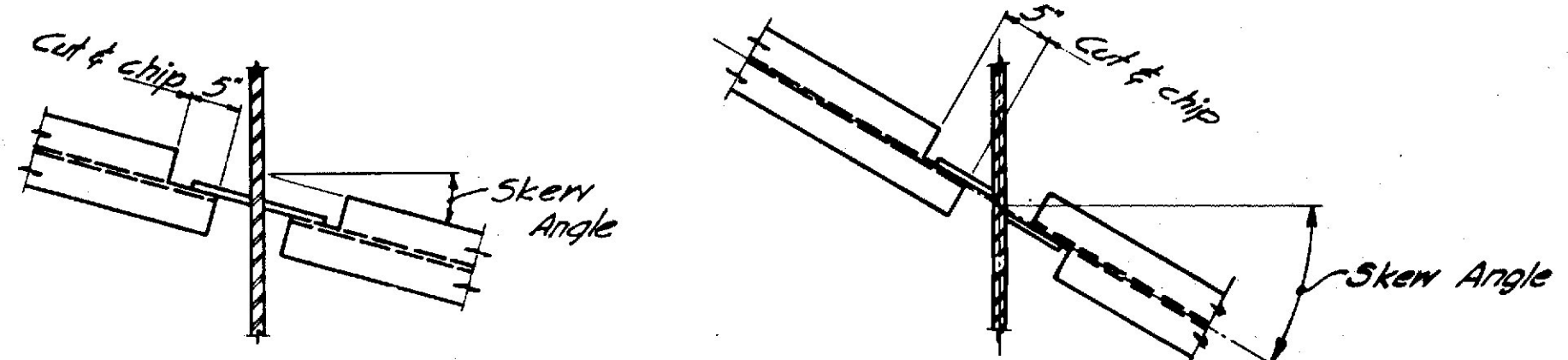
SECTION A-A
Skew Angle over 10° 00' to 20° 00'

BEAM	C	N
W 27 x 84 to 114 incl.	1'-11"	$\frac{1}{2}$ "
W 30 x 99 to 132 incl.	2'-2"	$\frac{1}{2}$ "
W 33 x 118 to 152 incl.	2'-5"	$\frac{1}{2}$ "
W 36 x 135 to 194 incl.	2'-7"	$\frac{1}{2}$ "
W 36 x 230 to 300 incl.	2'-6"	$\frac{1}{2}$ "



TYPE B DIAPHRAGM

Welding $6 \times \frac{3}{8}$ Bars to web same as for Type A Diaphragm.

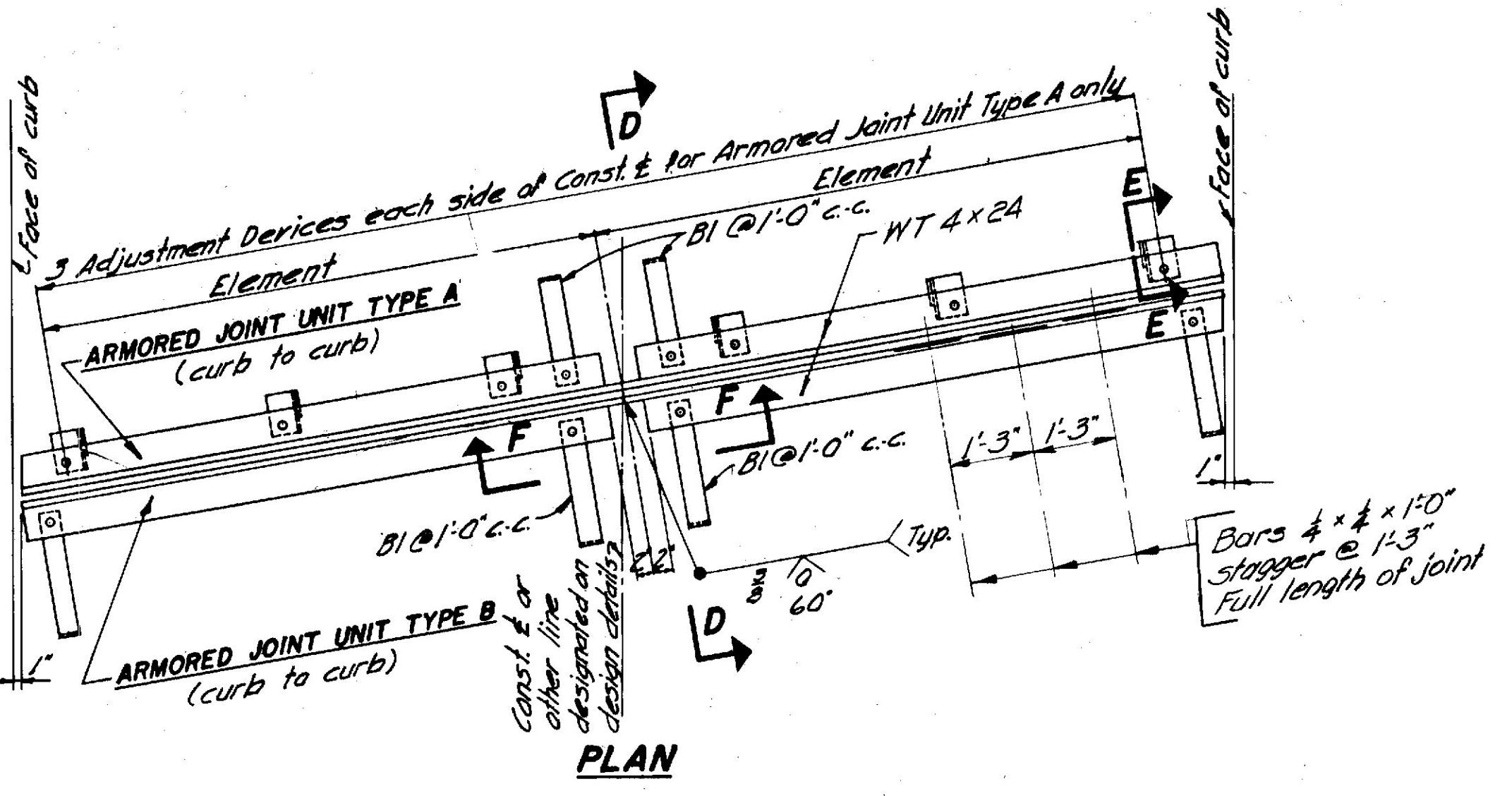


SECTION B-B
Skew Angle 0° to 10° 00'

SECTION B-B
Skew Angle over 10° 00'

NOTE
See design details for diaphragm type, location and skew.

DIAPHRAGMS



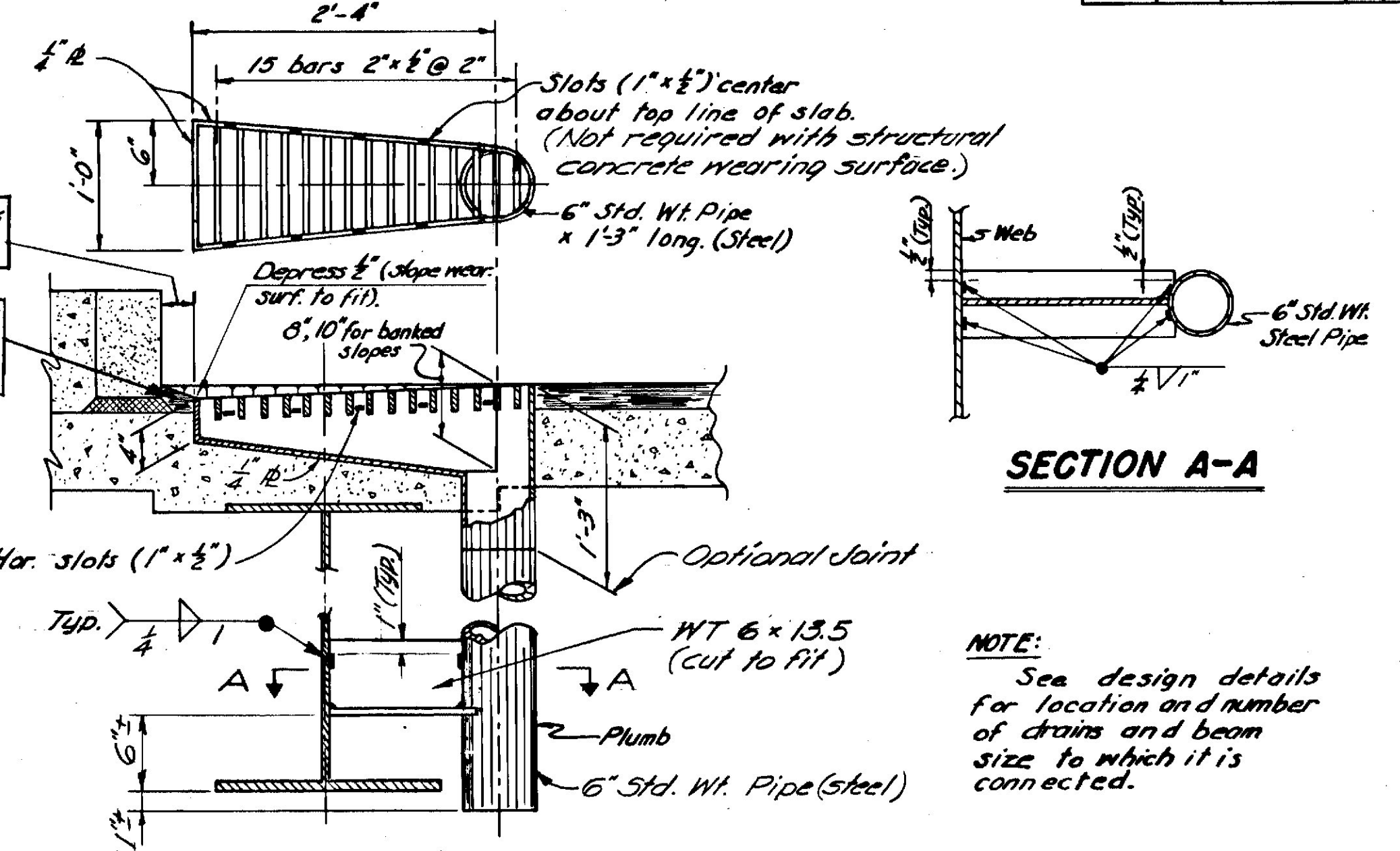
PLAN

NOTE

1. Type A Armored Joint Units are intended to be used for attachment to superstructures. Type B Armored Joint Units are intended to be used for attachment to abutments. At armored joints over piers, two (2) Type A Armored Joint Units shall be used.
2. If more elements than the two shown in the "Plan" are required by the design details, there shall be three adjustment devices for each element for Armored Joint Unit Type A and the elements of both units shall be field welded together in the same manner as shown in the "Plan".
3. Armored Joints to be paid for as Structural Steel.

ARMORED JOINT

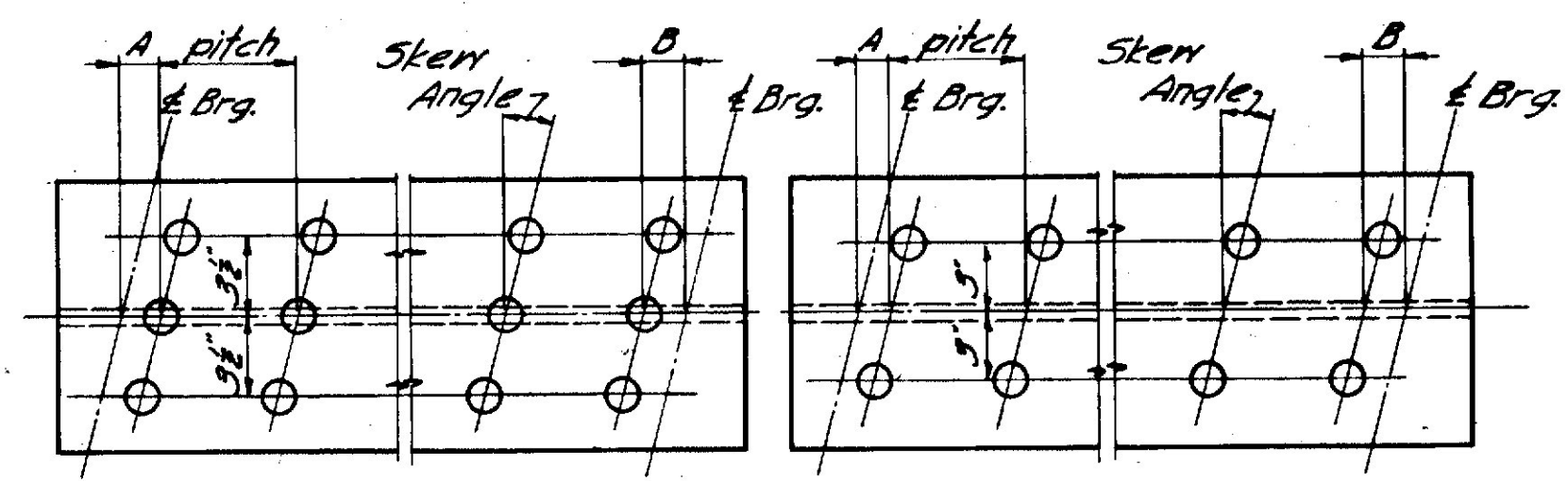
An armored joint consists of two armored joint units. See note 1.



SECTION A-A

DRAIN NO. 1

NOTE:
See design details for location and number of drains and beam size to which it is connected.



TRIPLE STUDS

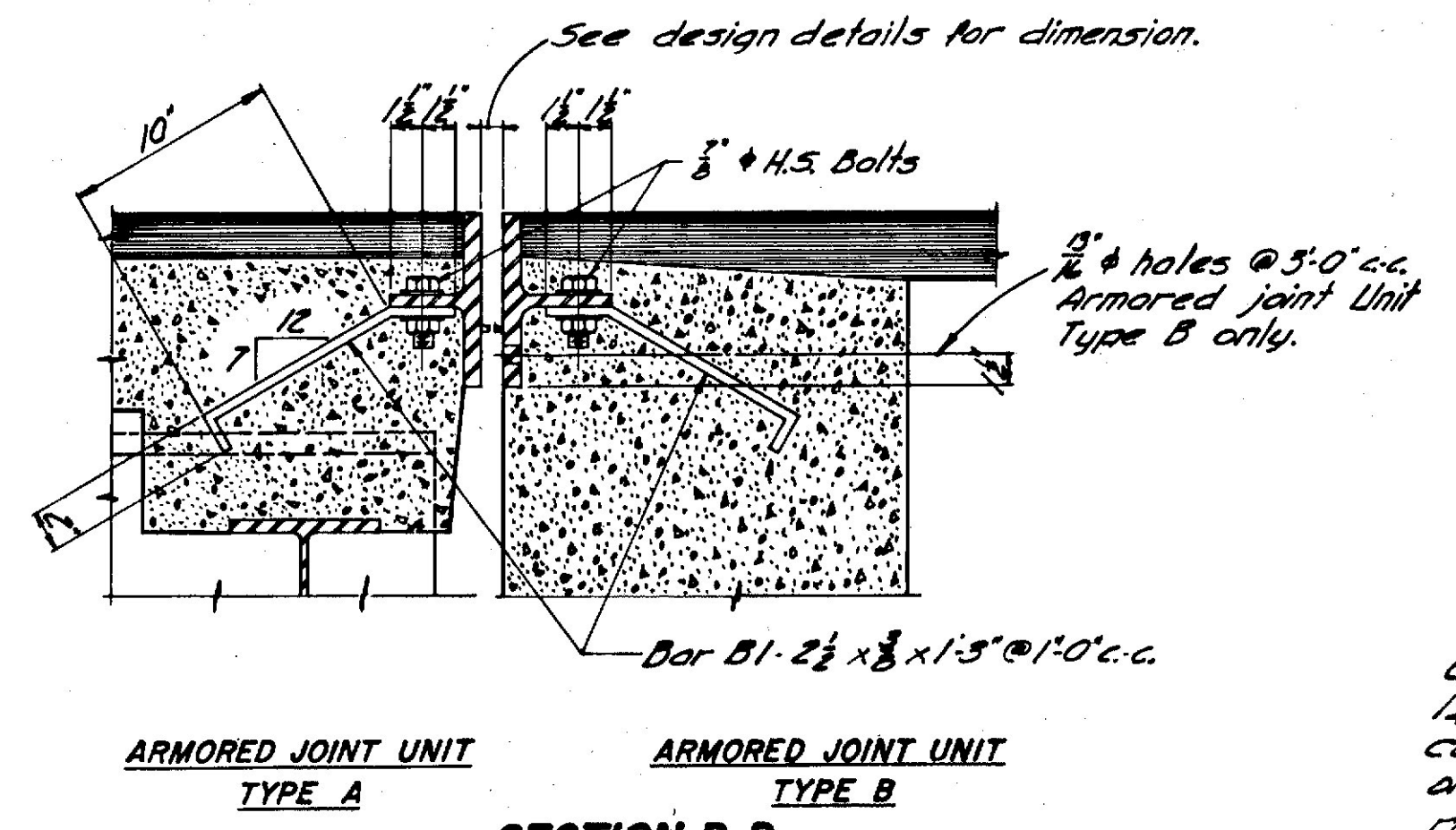
DOUBLE STUDS

STUD DETAIL

NOTE

1. Studs shall be granular or solid flux filled and automatically and welded to top flange in the shop or field.
2. See the design details for Dimensions "A" & "B", stud pitch and skew angle for studs.

SHEAR CONNECTORS

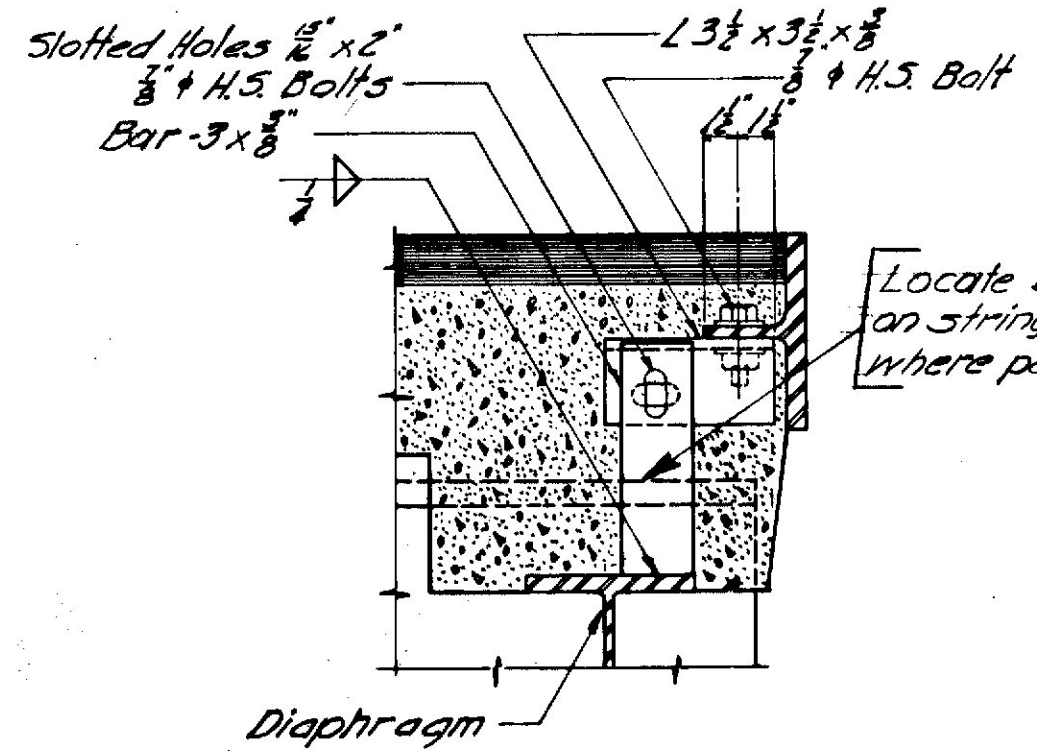


ARMORED JOINT UNIT TYPE A

ARMORED JOINT UNIT TYPE B

SECTION D-D

Cut 4 holes $\frac{1}{2}$ \"/>



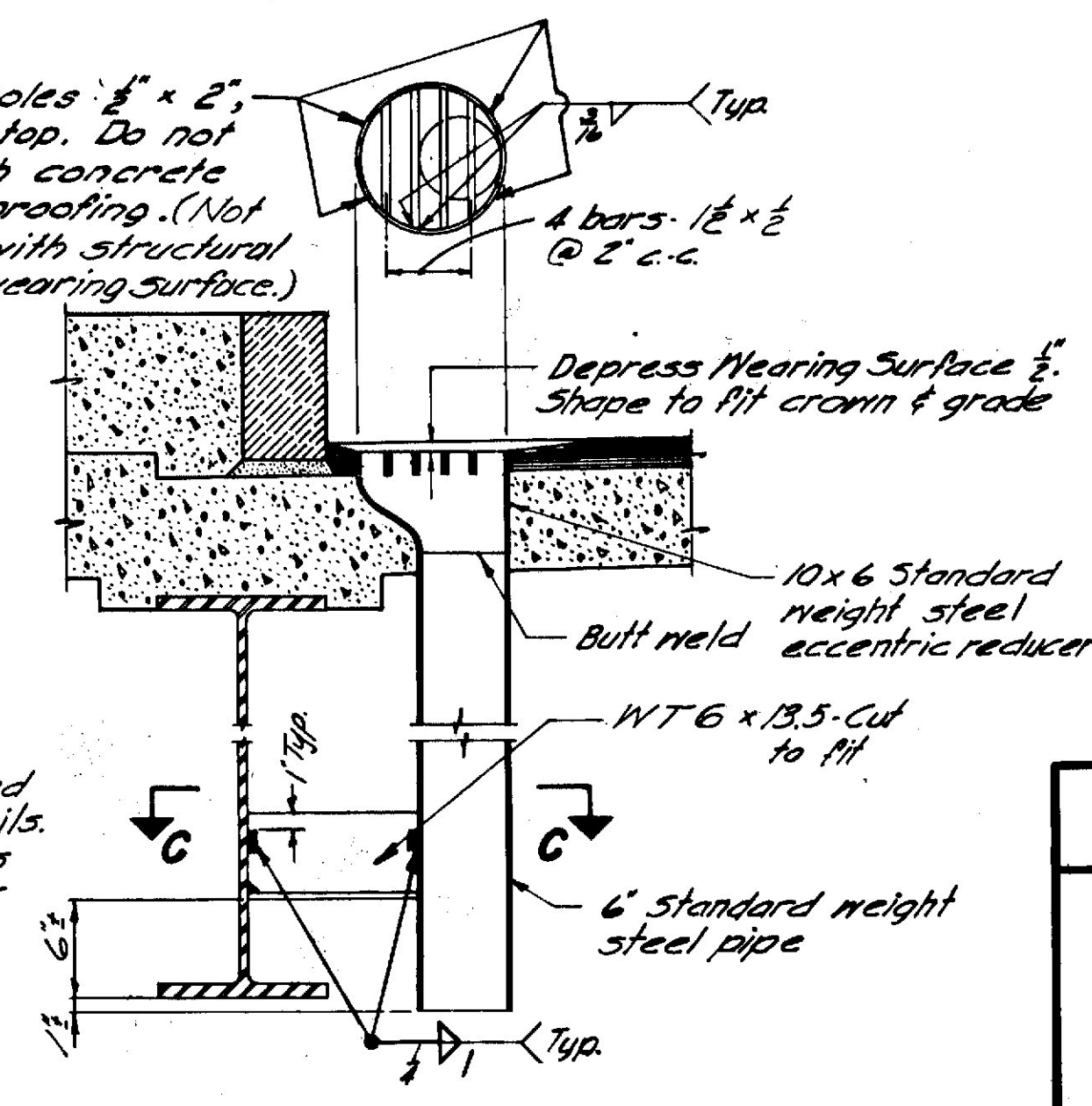
SECTION E-E

Showing Adjustment Device Armored Joint Unit Type A only - After Unit is in final position weld $\frac{3}{8}$ bar to angle with $\frac{1}{2}$ fillet

SECTION C-C

NOTE

1. Drain may be rotated 180°. See design details.
2. See design details for location and number of drains and beam size to which it is connected.



DRAIN NO. 2

GENERAL NOTE

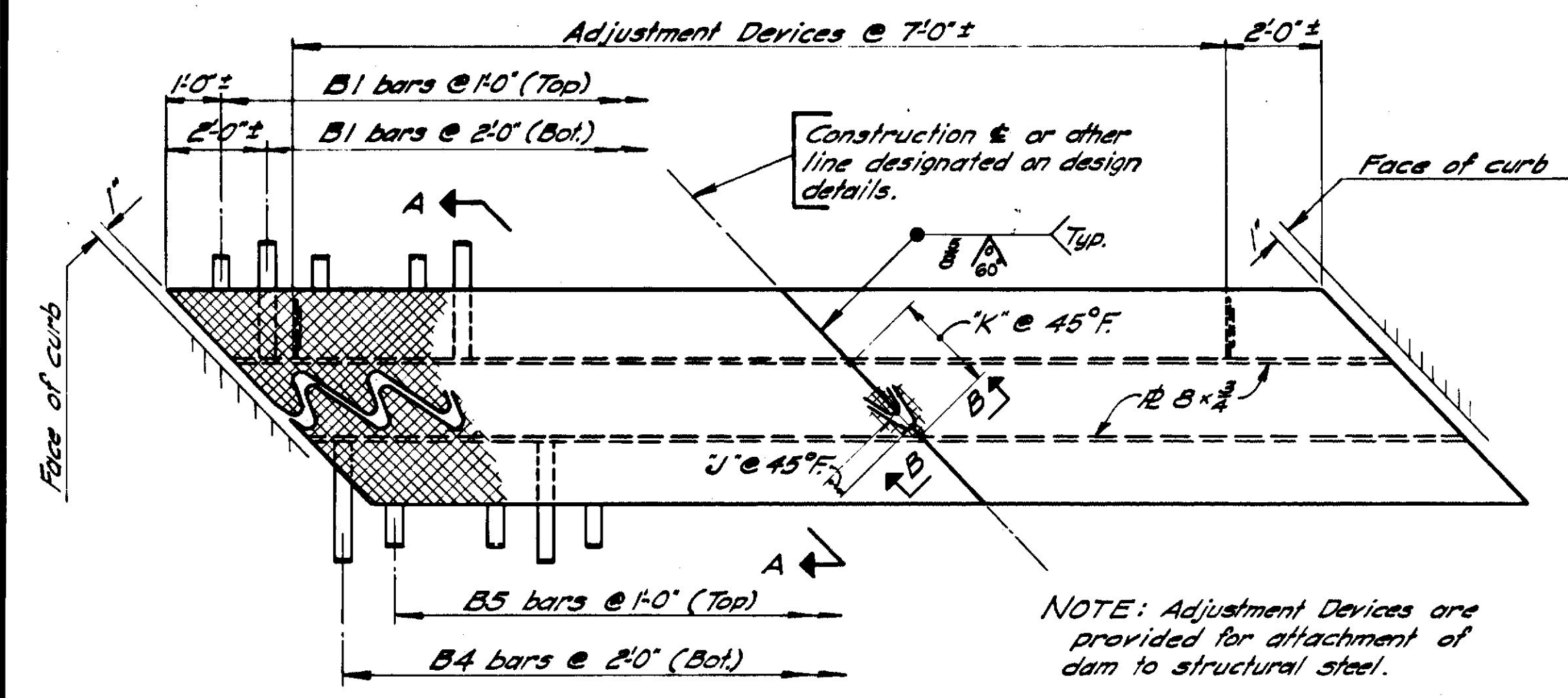
Use only those items called for on design details. In case of conflict between these Standard Details and the design details, the requirements of the design details shall be followed. Drains to be incidental, see Section 502.20

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

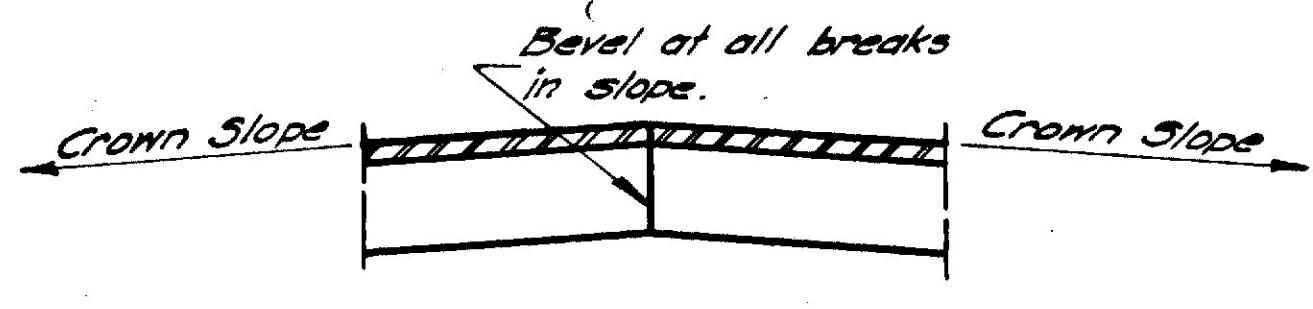
STANDARD DETAILS
(BD 104-71)
DIAPHRAGMS, ARMORED JOINT, SHEAR CONNECTORS, DRAIN

DECEMBER 1971

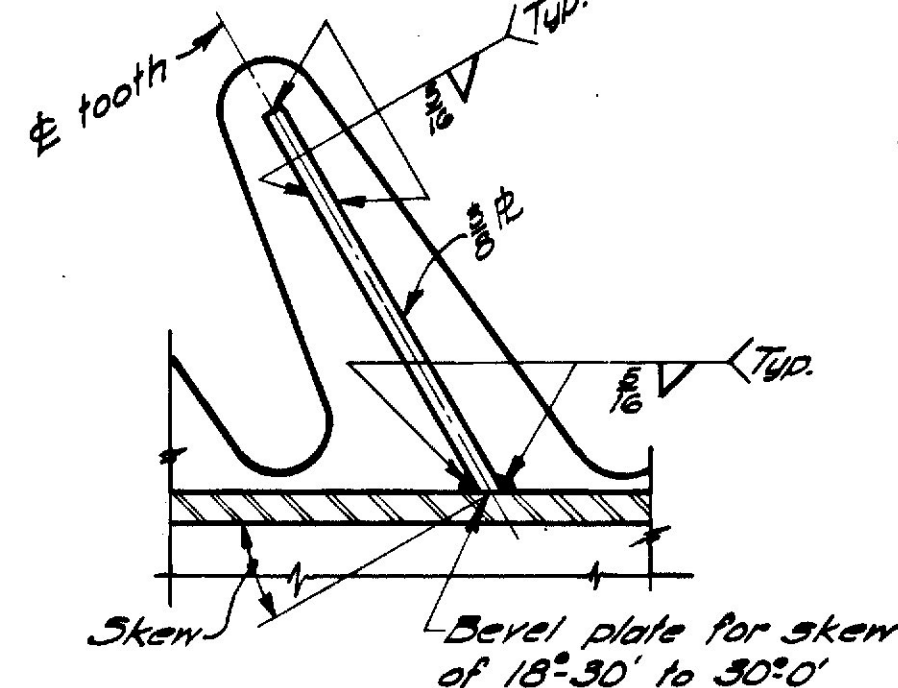
WEST GARDINER (20)



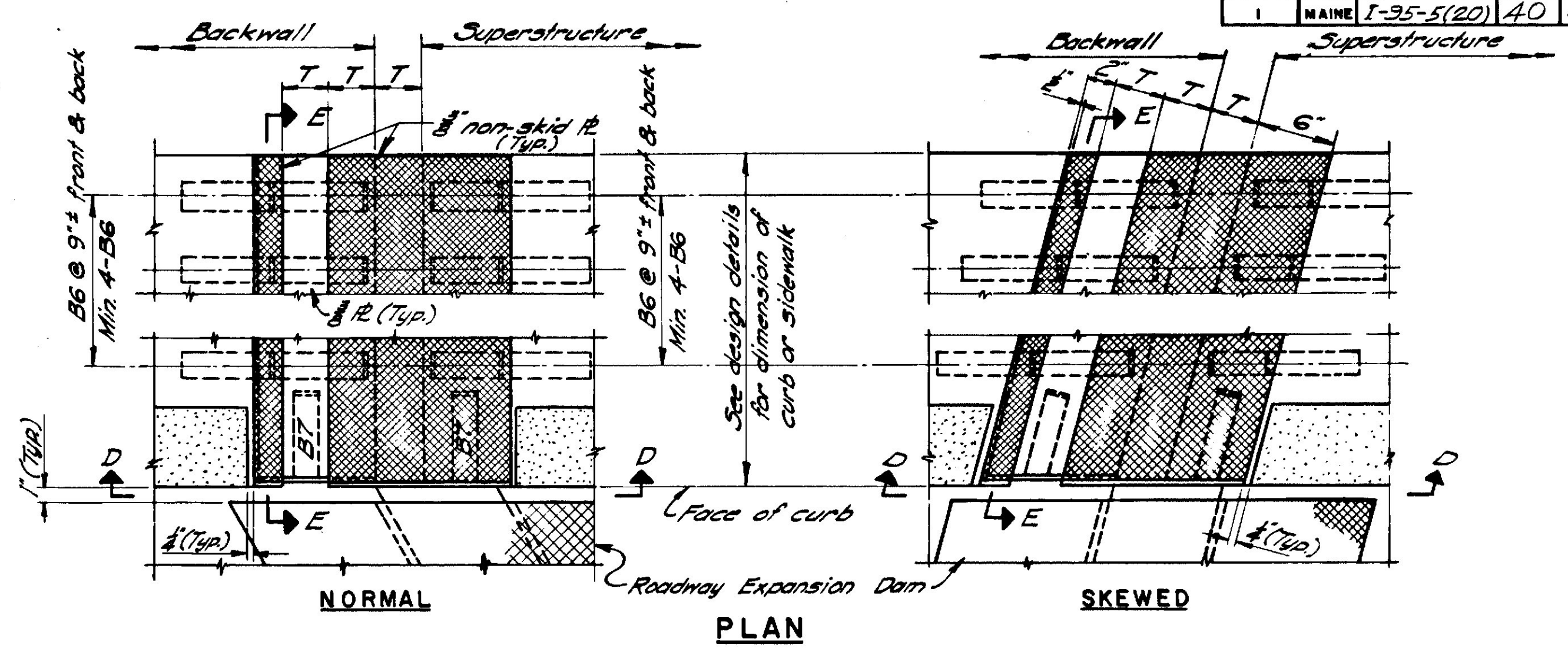
PLAN
Right skew indicated



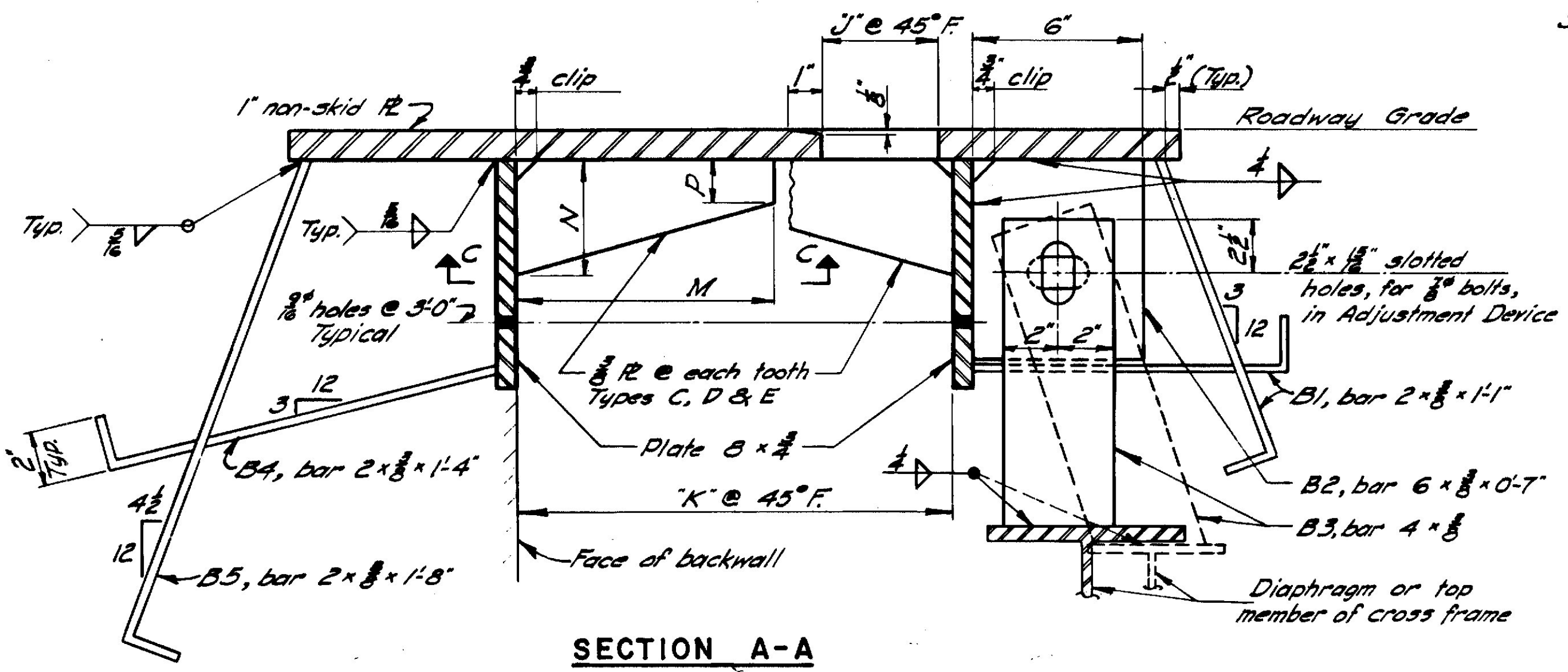
SECTION B-B
See design details for construction to curb dimensions, skew, crown slope, slab thickness, other dimensions & angles that are necessary to complete fabrication details and location of Roadway Expansion Dam.



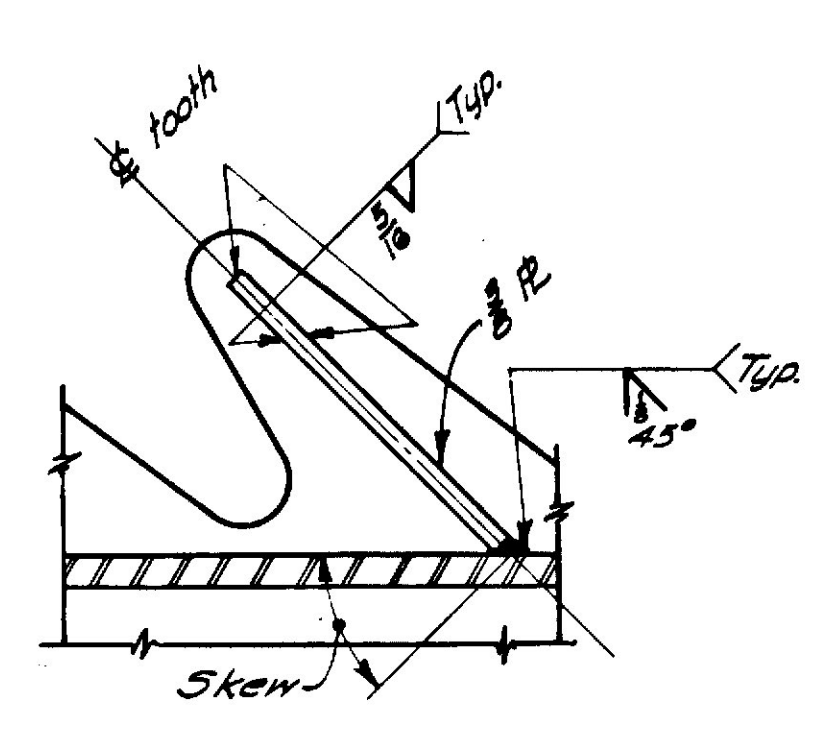
SECTION C-C
Skew ~ 0° to 30°0'



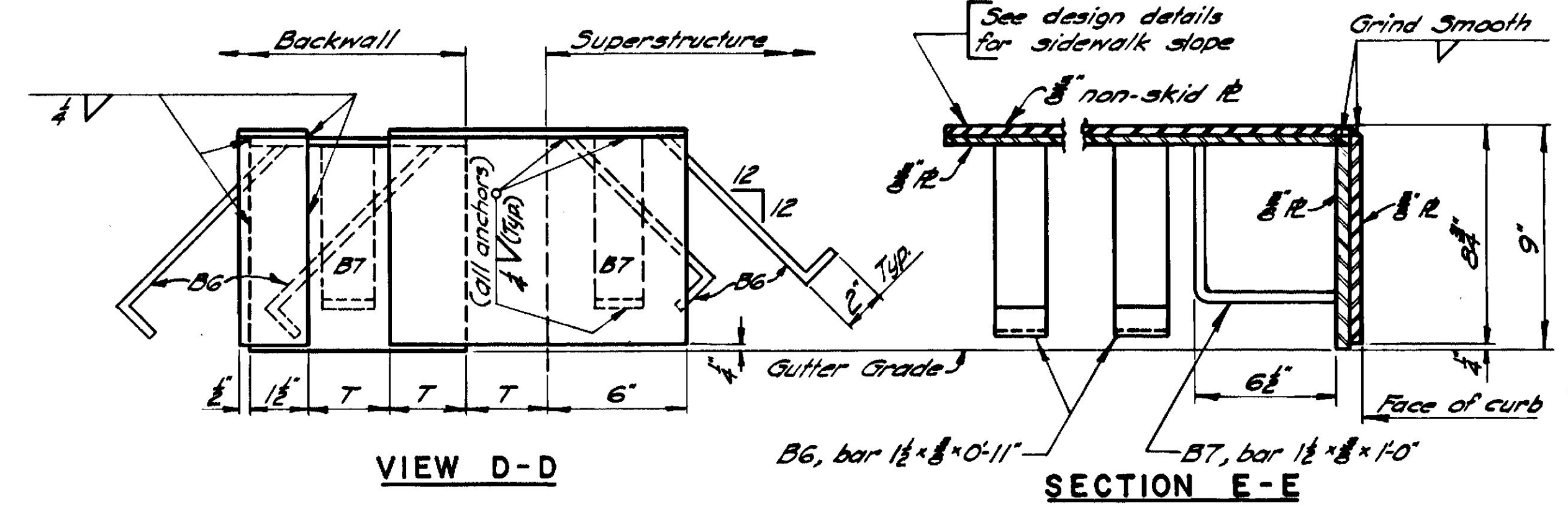
PLAN



SECTION A-A
Bar B3 may be vertical or inclined as indicated, depending on design conditions. After Adjustment Device is in final position weld bars B2 to B3 with 1/4" fillet weld.



SECTION C-C
Skew over 30°

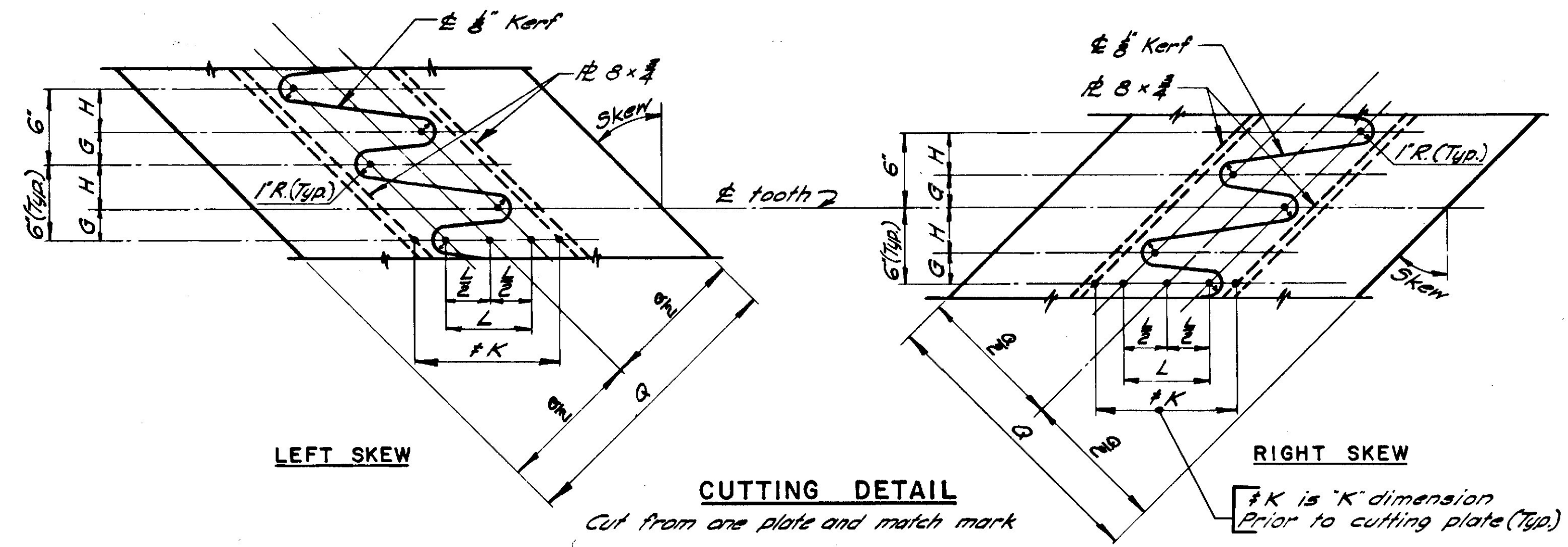


VIEW D-D

SECTION E-E

TYPE	V	W	X	Y	Z
Exp. Length	100'-280'	280'-440'	440'-600'	600'-760'	760'-920'
T	3'	4'	5'	6'	7'

CURB AND SIDEWALK EXPANSION DAM - DETAILS



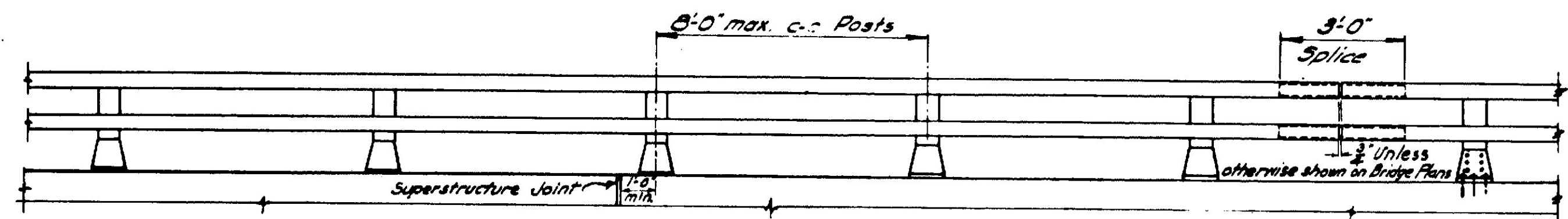
ROADWAY EXPANSION DAM - DETAILS

TABLE OF DIMENSIONS

Type	Exp. Length	Skew	#K	L	G	H	K@45°	J@45°	M	N	D	Q
A	100'-280'	0°-5° incl.	7'	4'	3'	3'	9"	28"	—	—	—	21"
		5°-10°	7 1/2'	4 1/2'	2 3/4'	3 3/4'	9 1/2"	28"	—	—	—	22"
		10°-20°	8'	4 1/2'	2 3/4'	3 3/4'	10"	28"	—	—	—	22"
		20°-30°	8 1/2'	5'	2 3/4'	3 3/4'	10 1/2"	28"	—	—	—	23"
		30°-40°	9 1/2'	5 1/2'	2 3/4'	3 3/4'	11 1/2"	28"	—	—	—	23"
B	280'-440'	0°-5° incl.	9'	6'	3'	3'	12"	38"	—	—	—	23"
		5°-10°	9 1/2'	6 1/2'	2 3/4'	3 3/4'	12 1/2"	38"	—	—	—	24"
		10°-20°	10'	6 1/2'	2 3/4'	3 3/4'	13"	38"	—	—	—	24"
		20°-30°	10 1/2'	7'	2 3/4'	3 3/4'	13 1/2"	38"	—	—	—	25"
		30°-40°	12'	8'	2 3/4'	3 3/4'	15"	38"	—	—	—	25"
C	440'-600'	0°-10° incl.	11 1/2'	8 1/2'	3'	3'	15 1/2"	48"	9"	4"	1 1/2"	26"
		10°-20°	12'	8 1/2'	2 3/4'	3 3/4'	16"	48"	10"	4"	1 1/2"	26"
		20°-30°	12 1/2'	9 1/2'	2 3/4'	3 3/4'	16 1/2"	48"	11"	4"	1 1/2"	26"
		30°-40°	14'	10'	2 3/4'	3 3/4'	18"	48"	11"	4"	1 1/2"	26"
		40°-50° incl.	15 1/2'	10 1/2'	2 3/4'	3 3/4'	19 1/2"	48"	12"	4"	1 1/2"	26"
D	600'-760'	0°-10° incl.	13 1/2'	10 1/2'	3'	3'	18 1/2"	58"	11"	5"	2"	30"
		10°-20°	14'	10 1/2'	2 3/4'	3 3/4'	19"	58"	12"	5"	2"	30"
		20°-30°	14 1/2'	11 1/2'	2 3/4'	3 3/4'	19 1/2"	58"	13"	5"	2"	30"
		30°-40°	16'	12'	2 3/4'	3 3/4'	21"	58"	15"	5"	2"	30"
		40°-50° incl.	17 1/2'	13'	2 3/4'	3 3/4'	22 1/2"	58"	15"	5"	2"	30"
E	760'-920'	0°-10° incl.	15 1/2'	12 1/2'	3'	3'	21 1/2"	68"	15"	6"	2 1/2"	36"
		10°-20°	16'	12 1/2'	2 3/4'	3 3/4'	22"	68"	14"	6"	2 1/2"	36"
		20°-30°	16 1/2'	13 1/2'	2 3/4'	3 3/4'	22 1/2"	68"	15"	6"	2 1/2"	36"
		30°-40°	18'	14'	2 3/4'	3 3/4'	24"	68"	15"	6"	2 1/2"	36"
		40°-50° incl.	19 1/2'	15'	2 3/4'	3 3/4'	25 1/2"	68"	17"	6"	2 1/2"	36"

GENERAL NOTES
Expansion Dams to be paid for as Structural Steel.
If there is conflict between this Standard Detail and the design details, the requirements of the design details shall be followed.
Steel Classification: A.S.T.M. A36

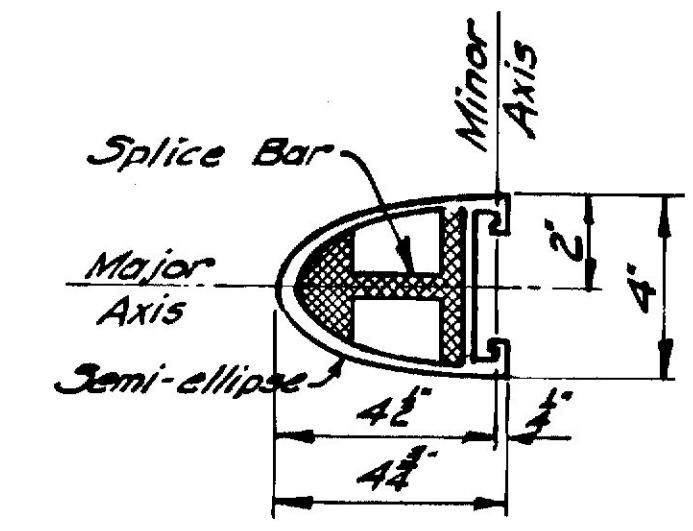
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE
STANDARD DETAILS
(BD 105 - 64)
EXPANSION DAMS



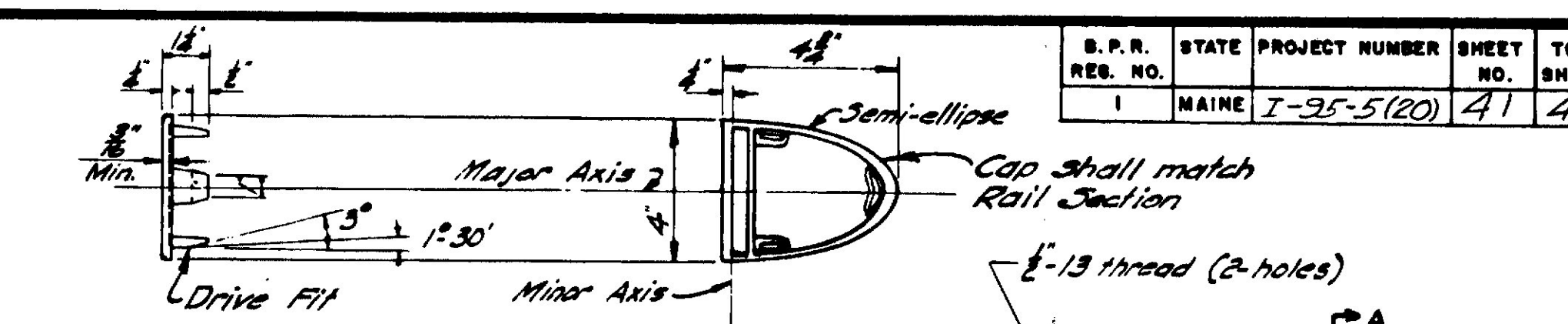
RAIL - ELEVATION

Lengths of rail shall be attached to a minimum of (4) four rail posts, wherever possible, and in any case never less than (2) two.

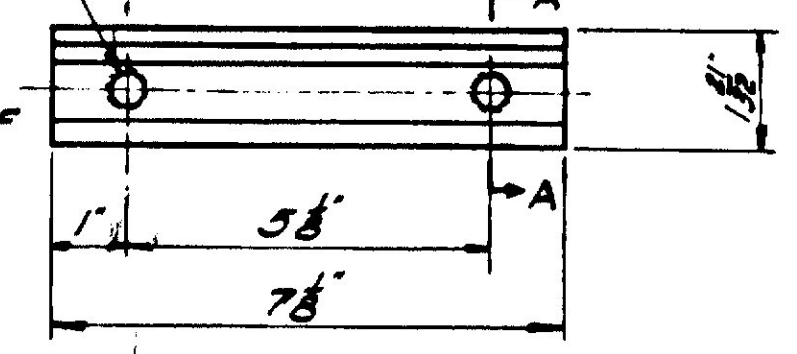
NOTE - Rail posts are to be set normal to grade unless otherwise shown on Bridge Plans.



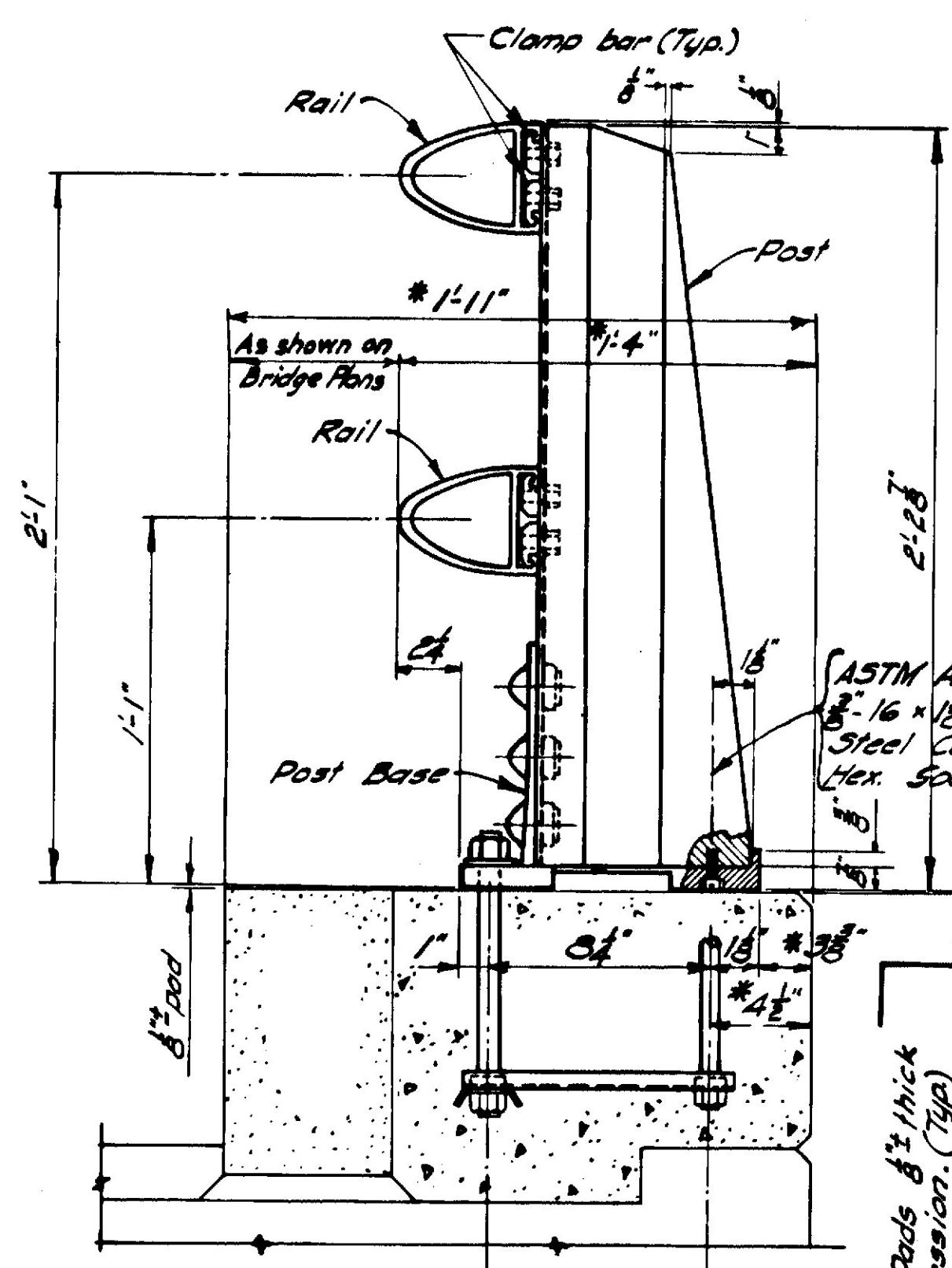
RAIL SECTION
See "Rail Detail"



RAIL CAP
ASTM B26 or B108, Aluminum Assoc. Alloy 43-F or 956-F



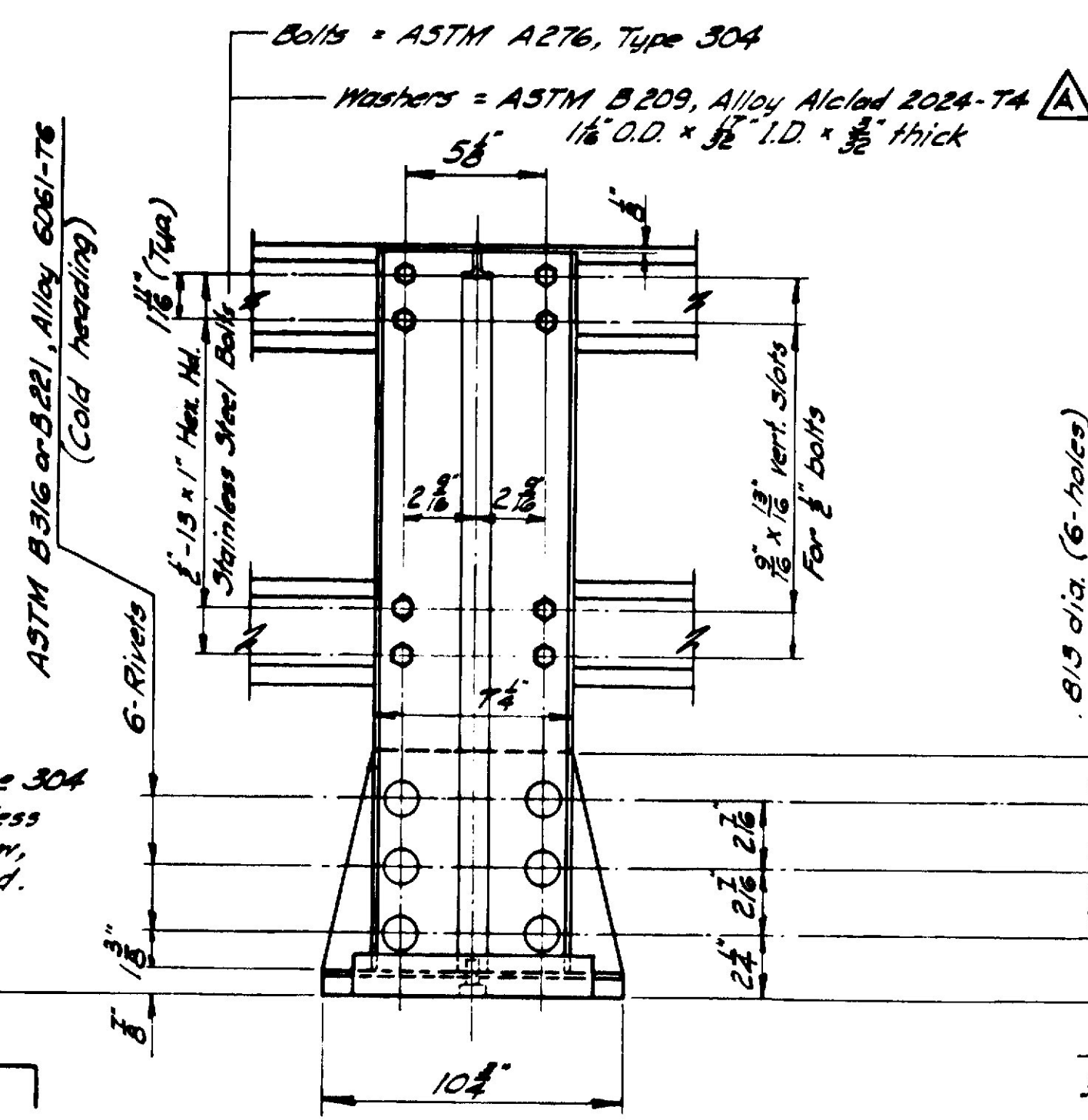
CLAMP BAR



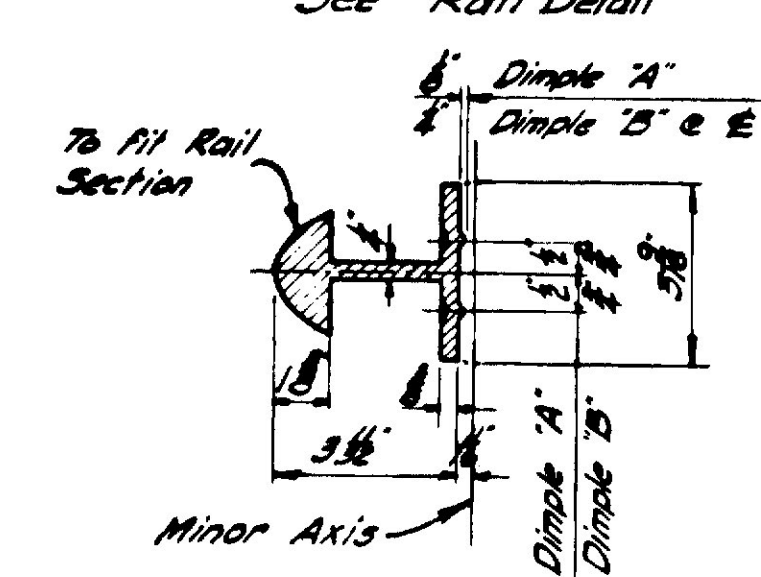
BRIDGE RAIL Assembly

* Preferable minimum dimensions.

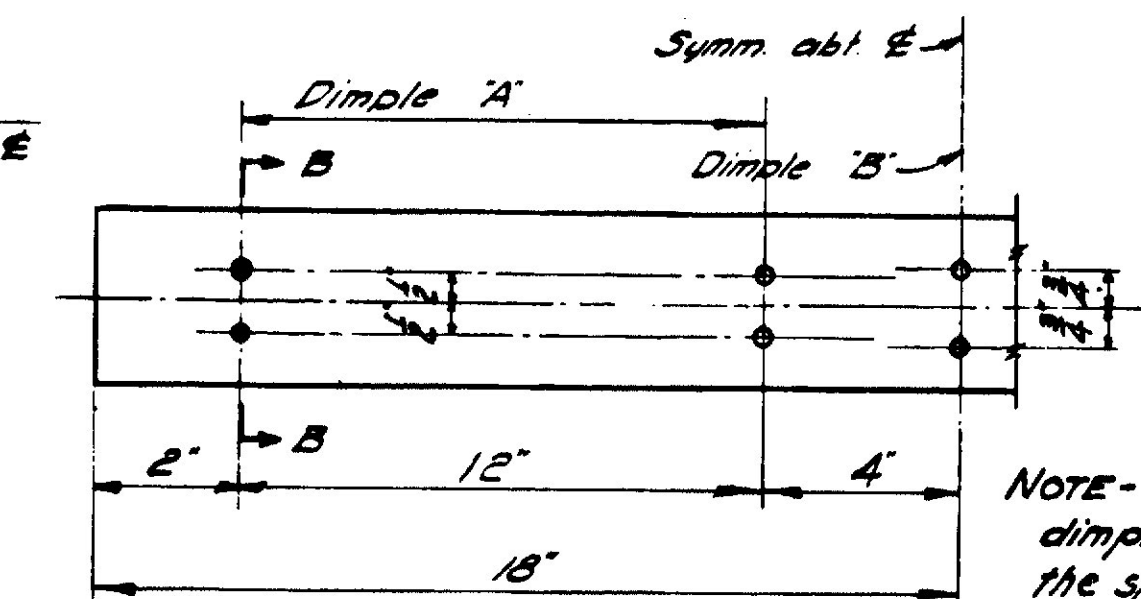
Preformed Pads 1/2" thick after compression. (Typ) At least one pad shall be placed under each post, front & back, and the number of pads supplied shall be 10% in excess of total number of posts.



REAR ELEV.



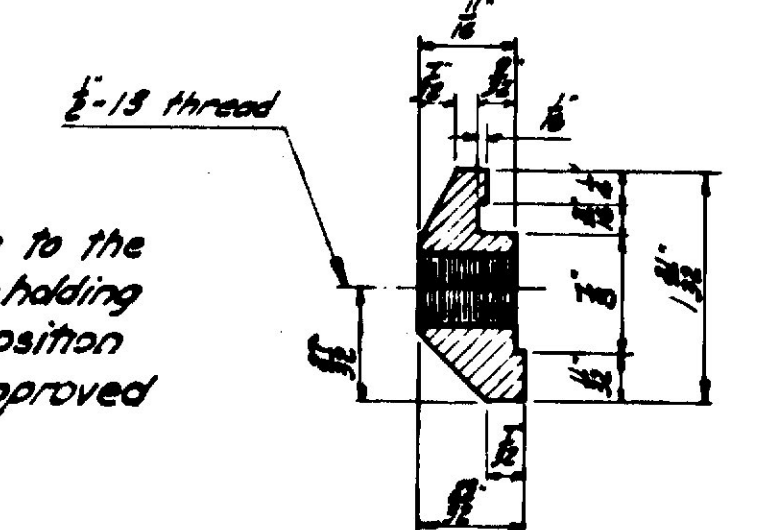
SECTION B-B



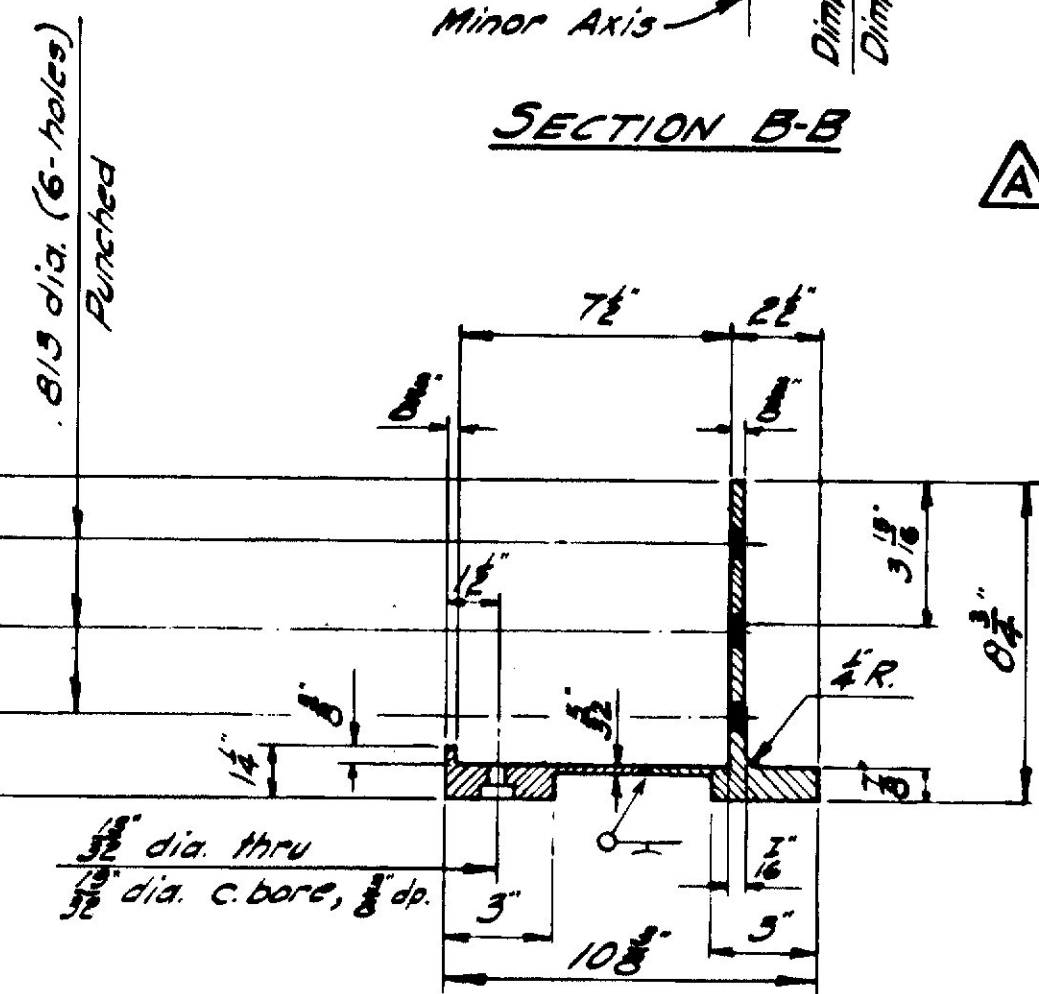
SPLICE BAR

▲ Rail, Splice Bar, & Clamp Bar = ASTM B221, Alloy 6351-T5 or 6061-T6.

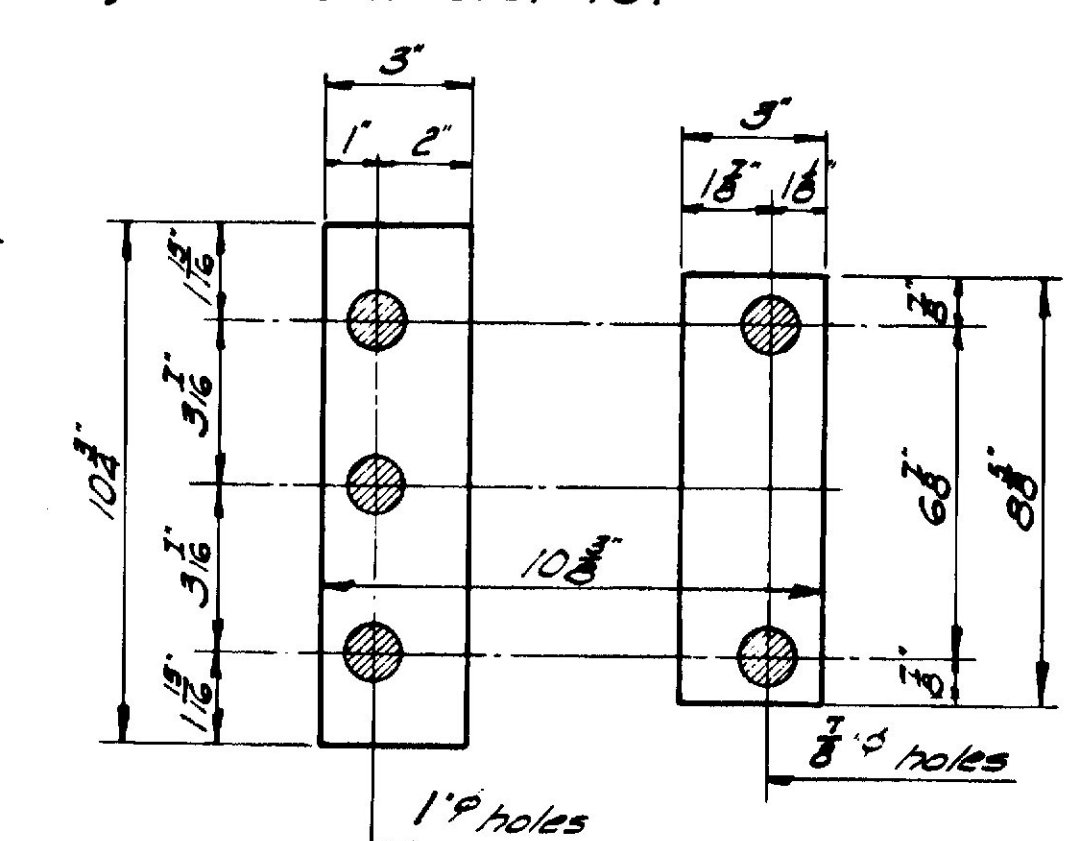
NOTE - An alternate to the dimple system for holding the splice bar in position may be used if approved by the Engineer.



SECTION A-A

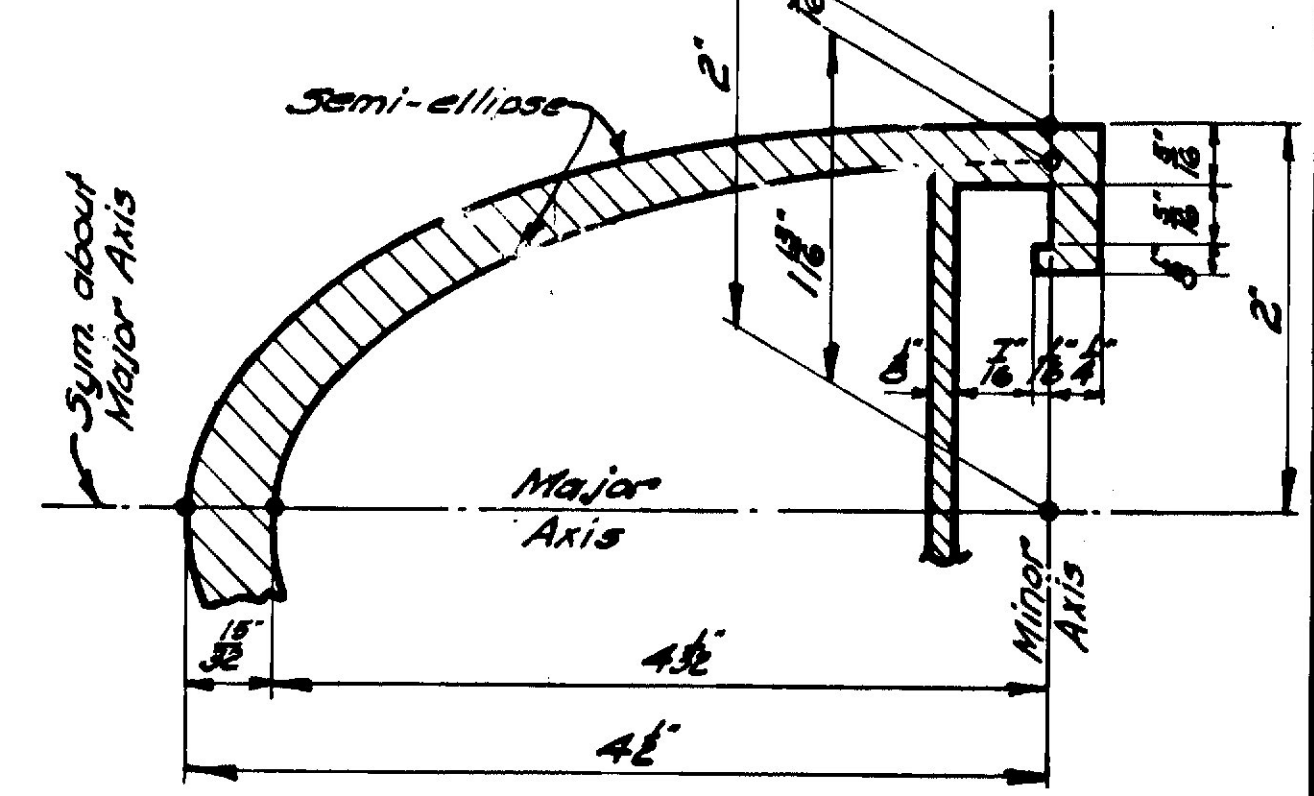


POST BASE SECTION

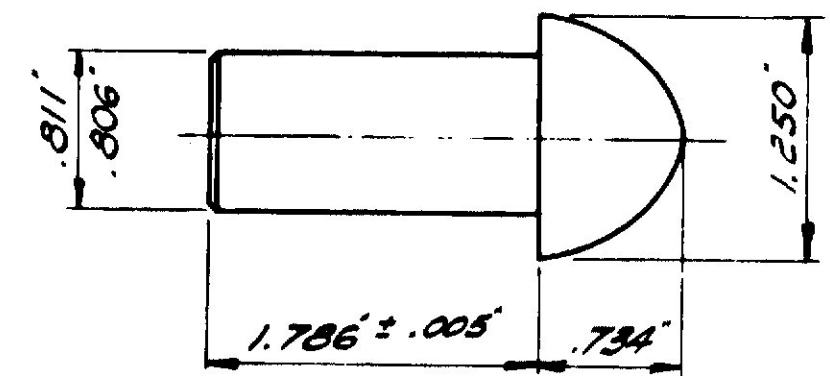


PREFORMED PADS

See Subsection 713.03 Standard Specifications Revision of June 1968 for pad.

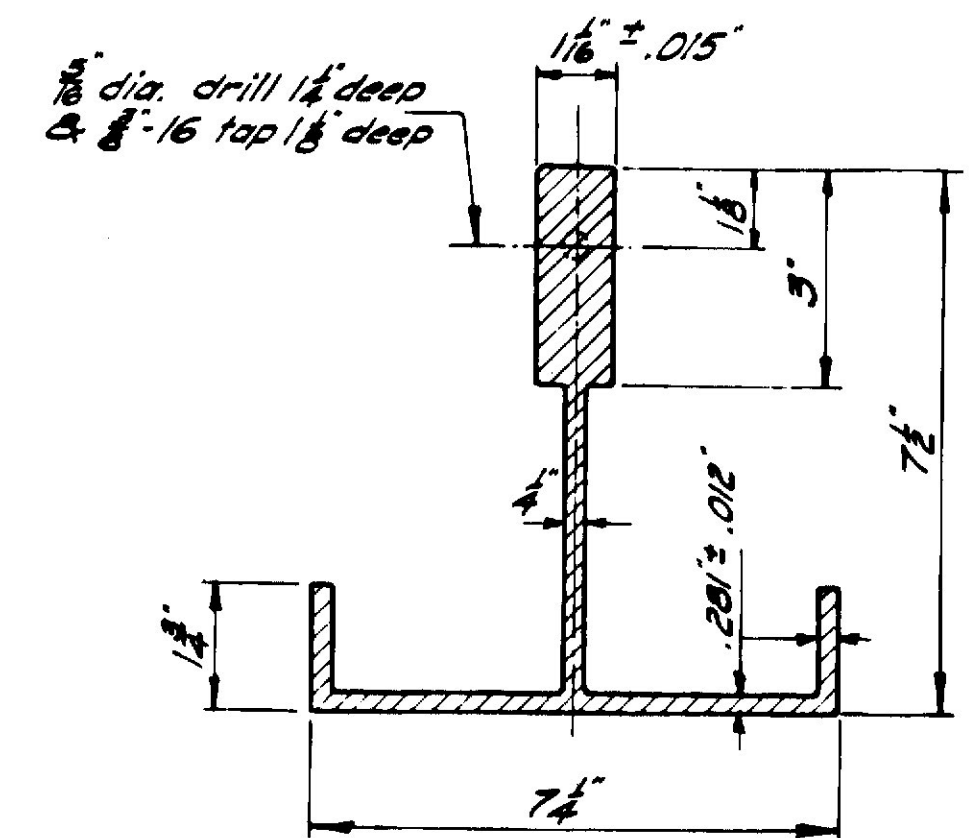


RAIL DETAIL



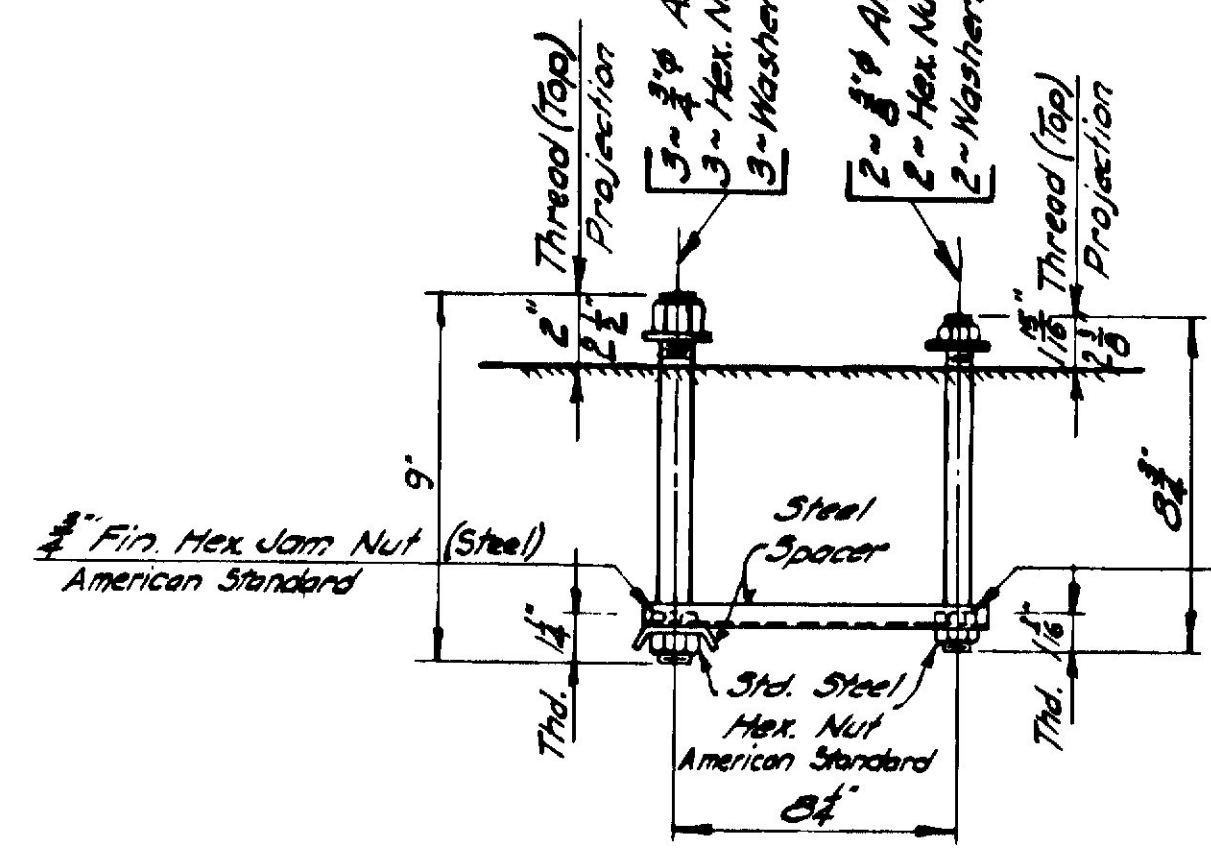
RIVET

Shop rivet rail post to base



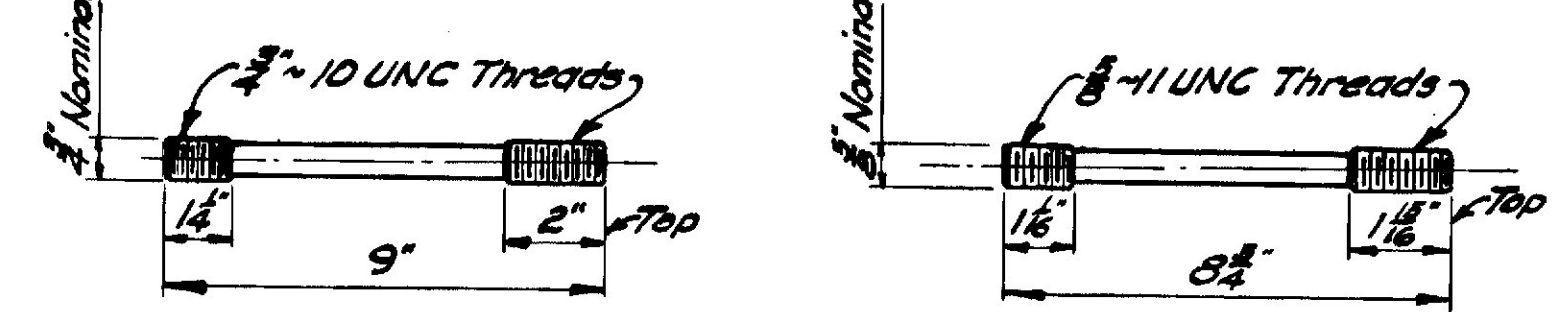
POST SECTION

Post & Post Base = ASTM B221, Alloy 6061-T6.



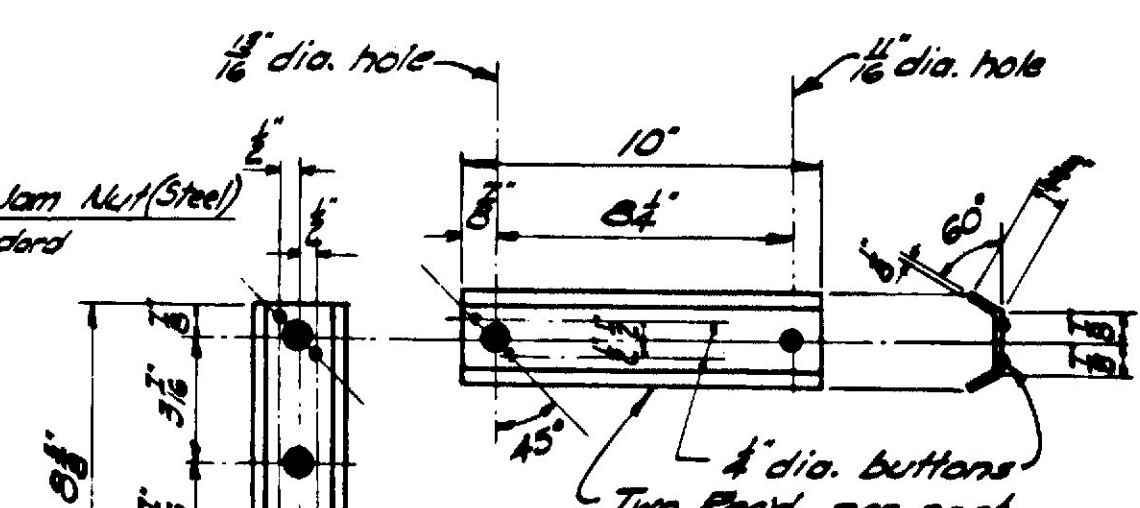
RAIL POST ANCHORAGE Assembly

NOTE: Anchor Bolts, exposed Hex Nuts (Amer. Std. Heavy) and washers shall conform to Designation "Stainless" *ASTM A 276, Type 304, minimum tensile strength 100,000 psi. Elongation 15-25% minimum. Hex Nuts embedded in concrete shall conform to Steel Designation ASTM A 307. * See Supplemental Specification.



ANCHOR BOLTS

If cut threads are used bolt diameter shall be not less than nominal diameter. If rolled threads are used bolt diameter shall be not less than root diameter of nominal diameter.



STEEL SPACERS
FOR ANCHORAGE
ASTM A 36

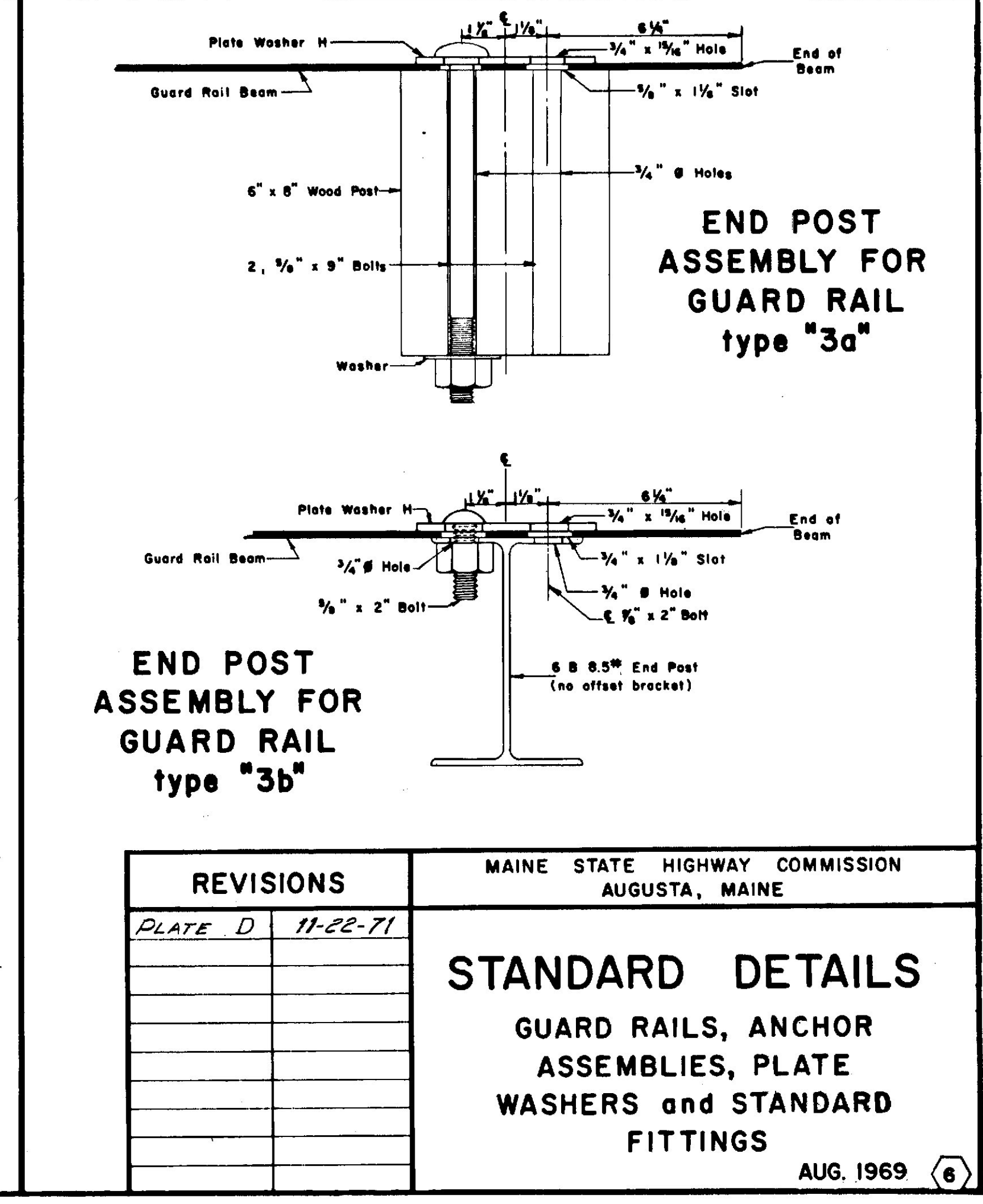
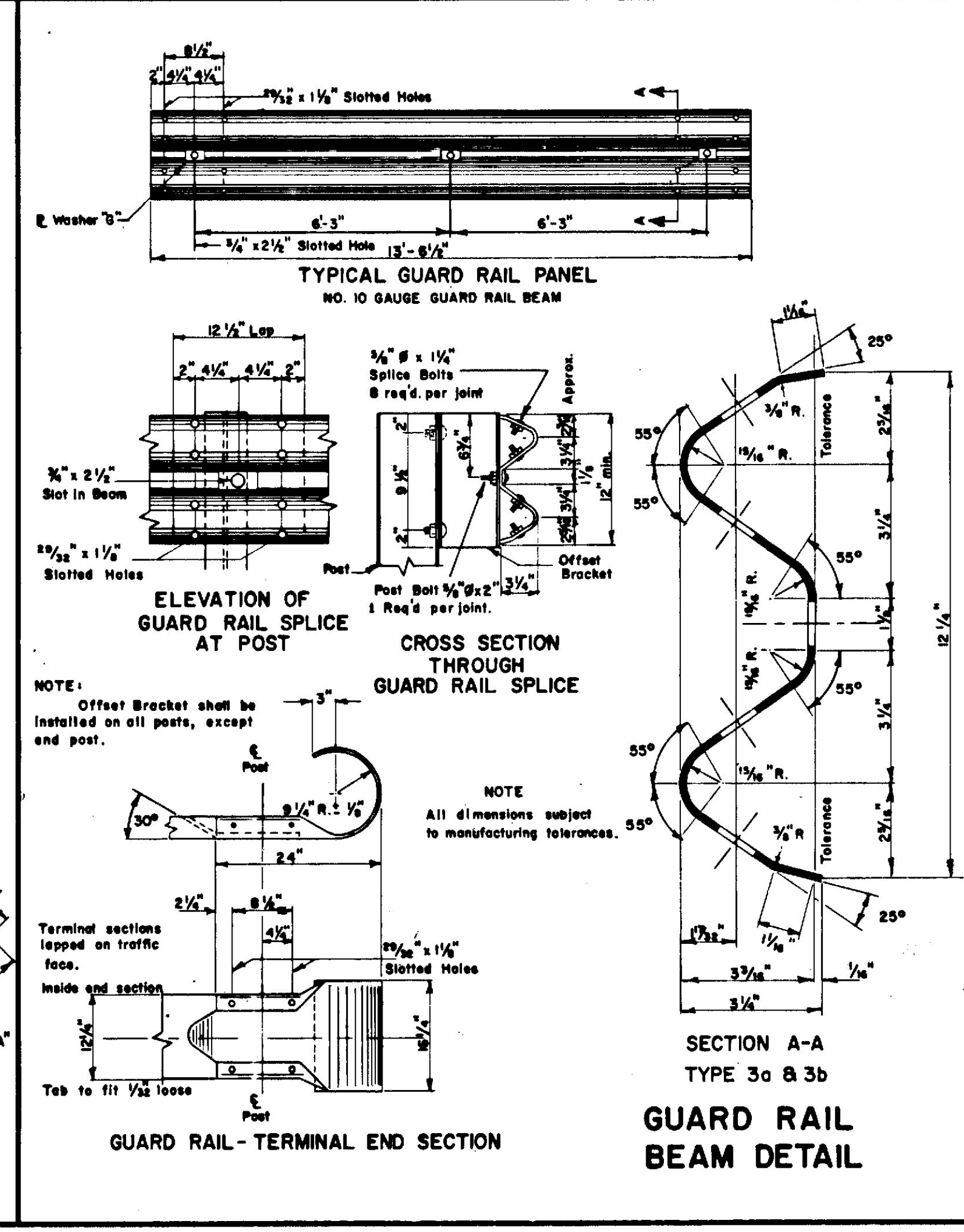
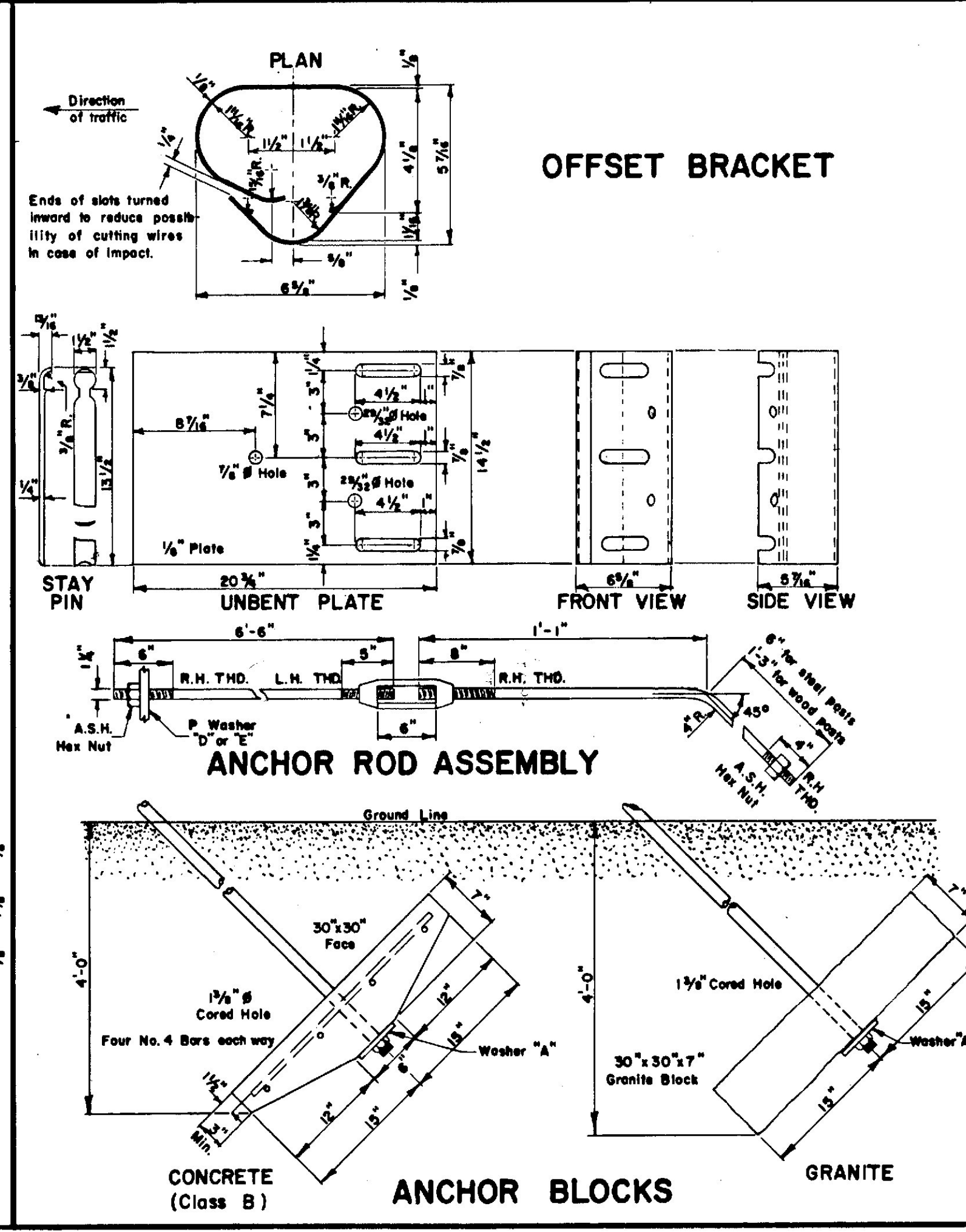
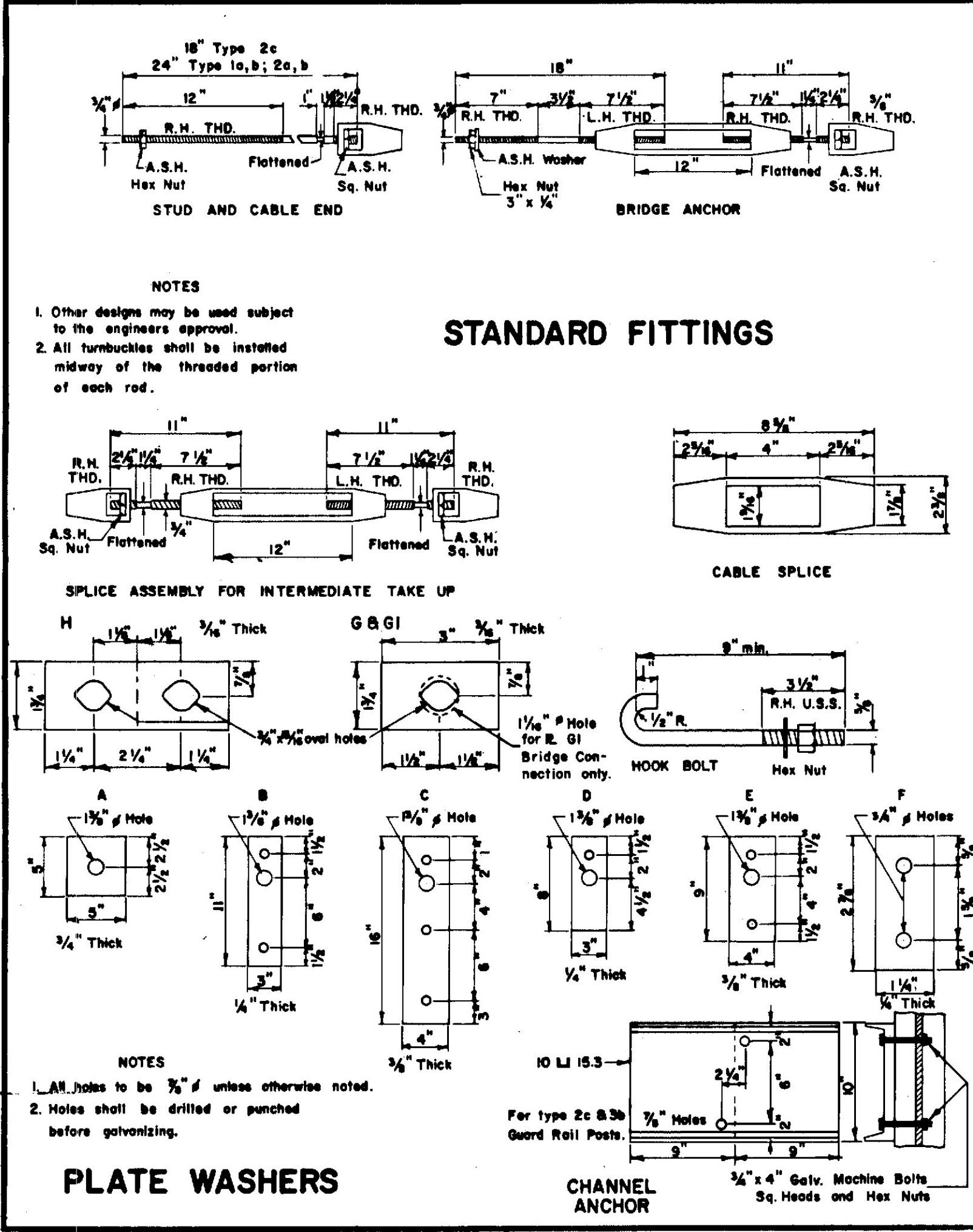
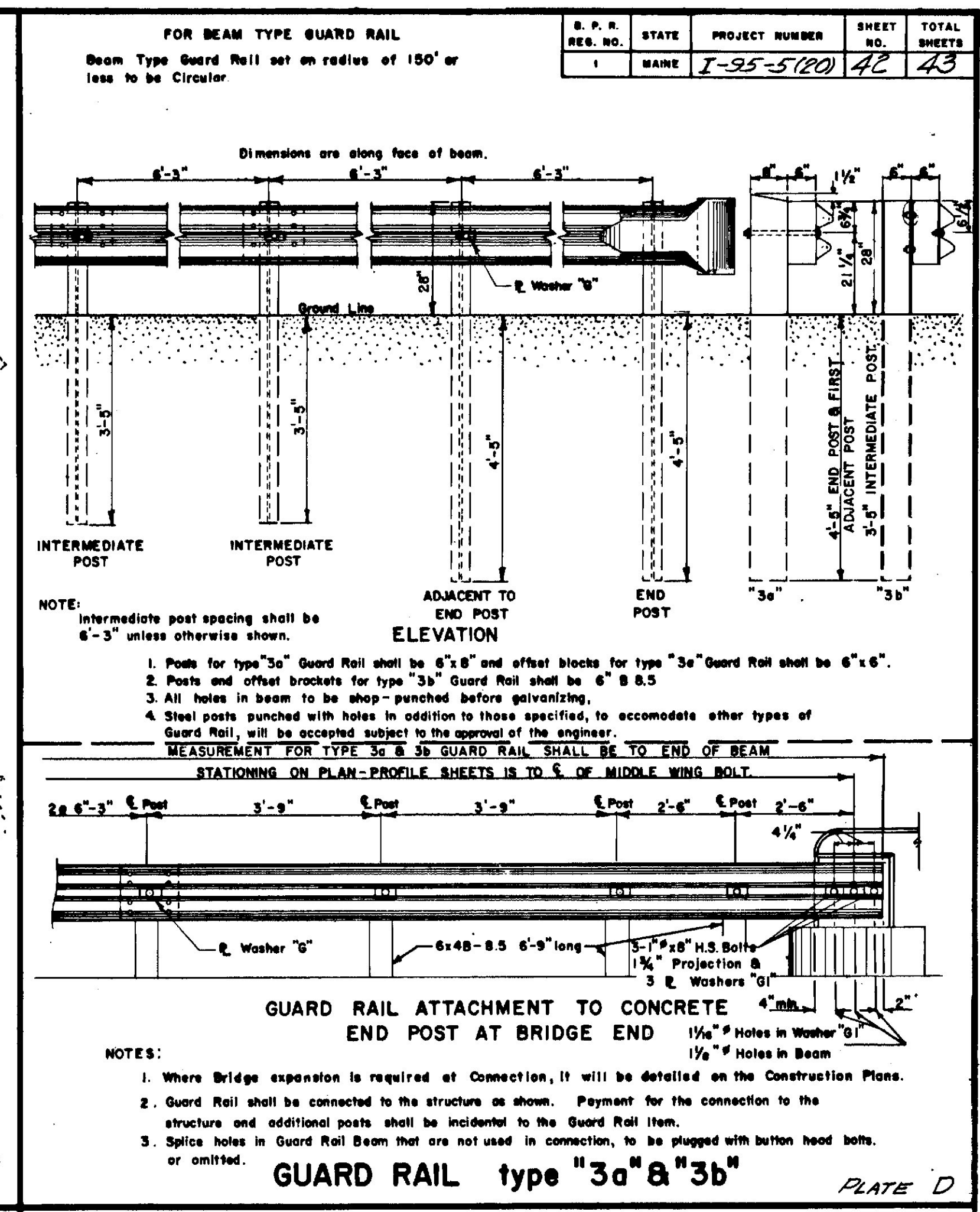
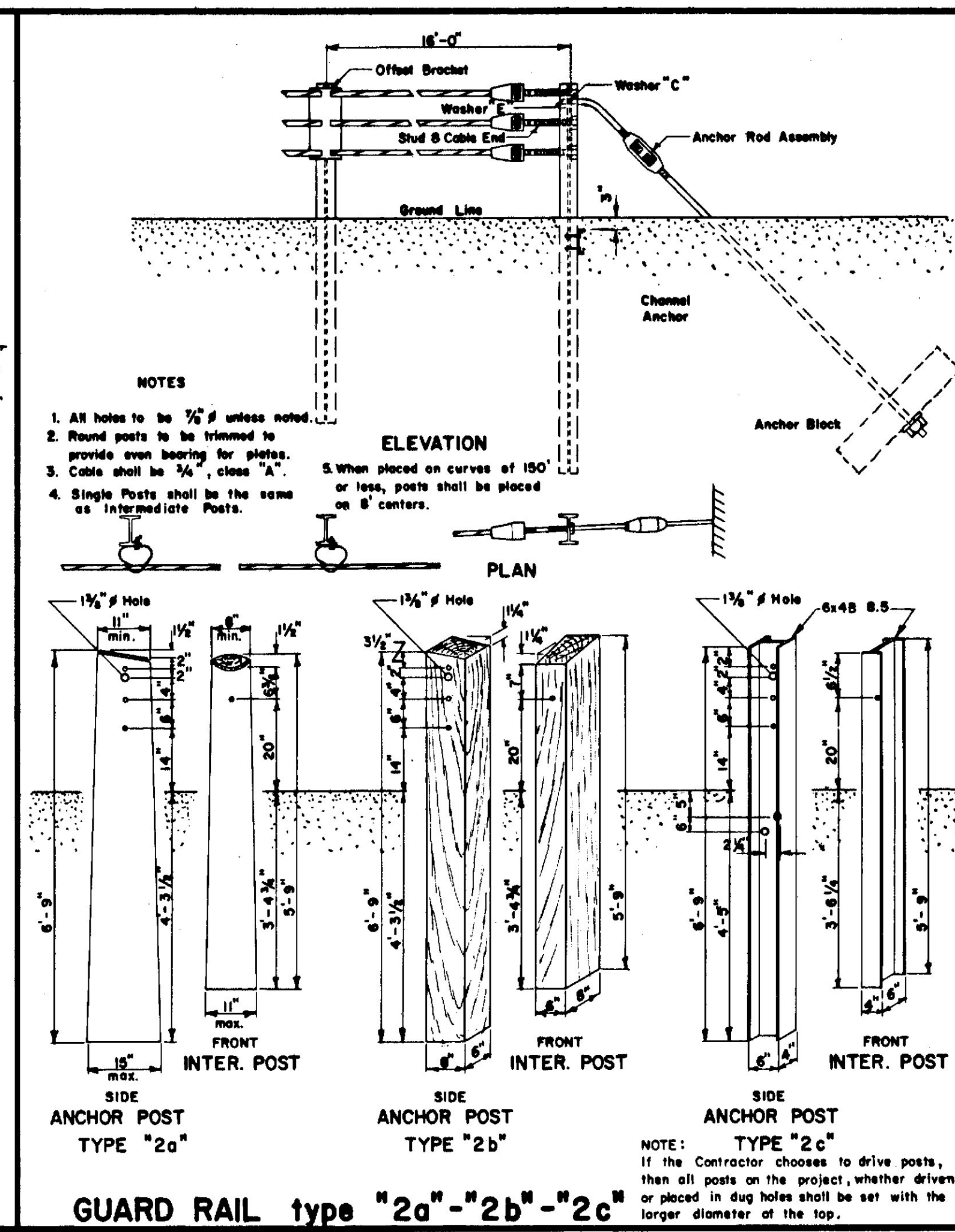
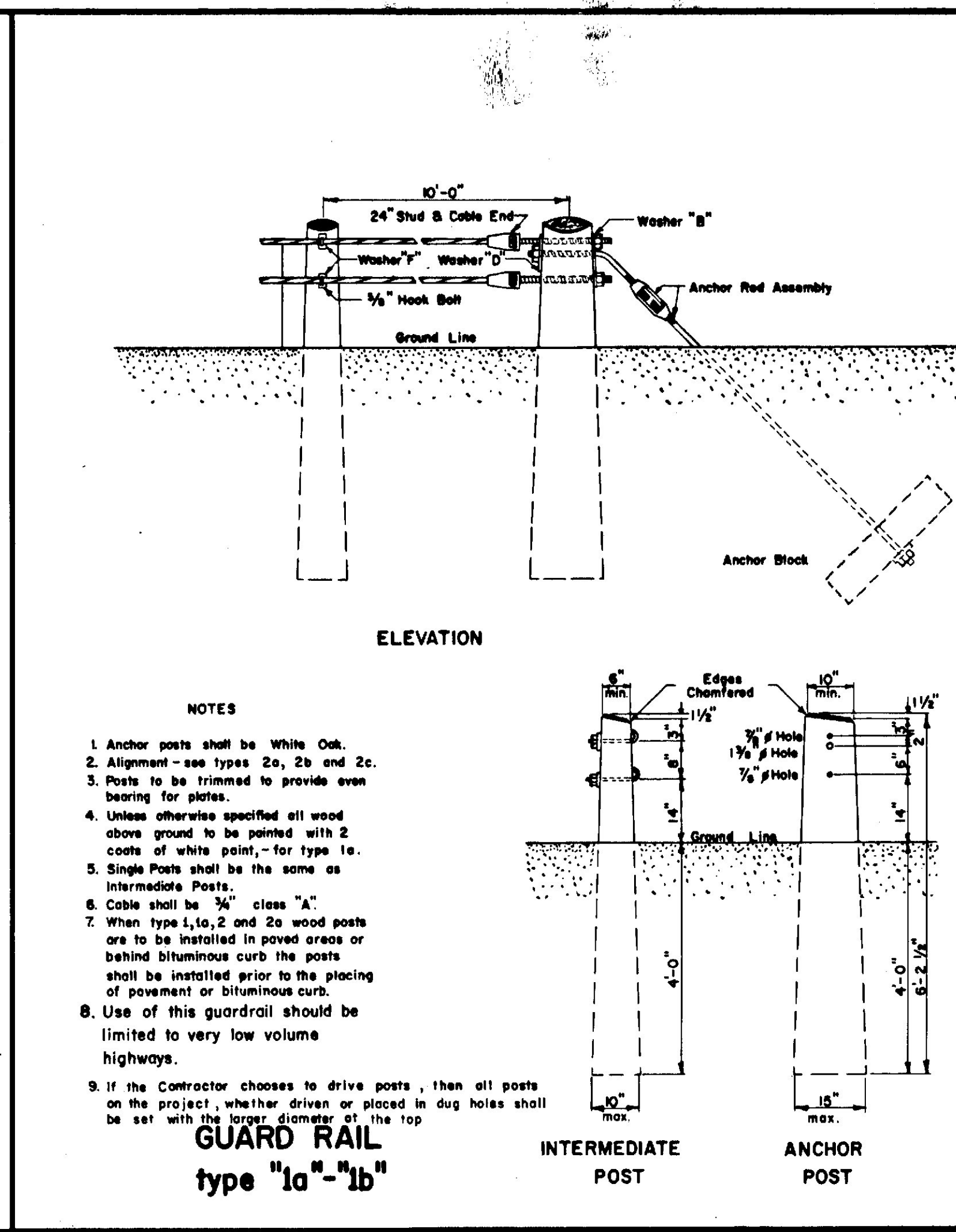
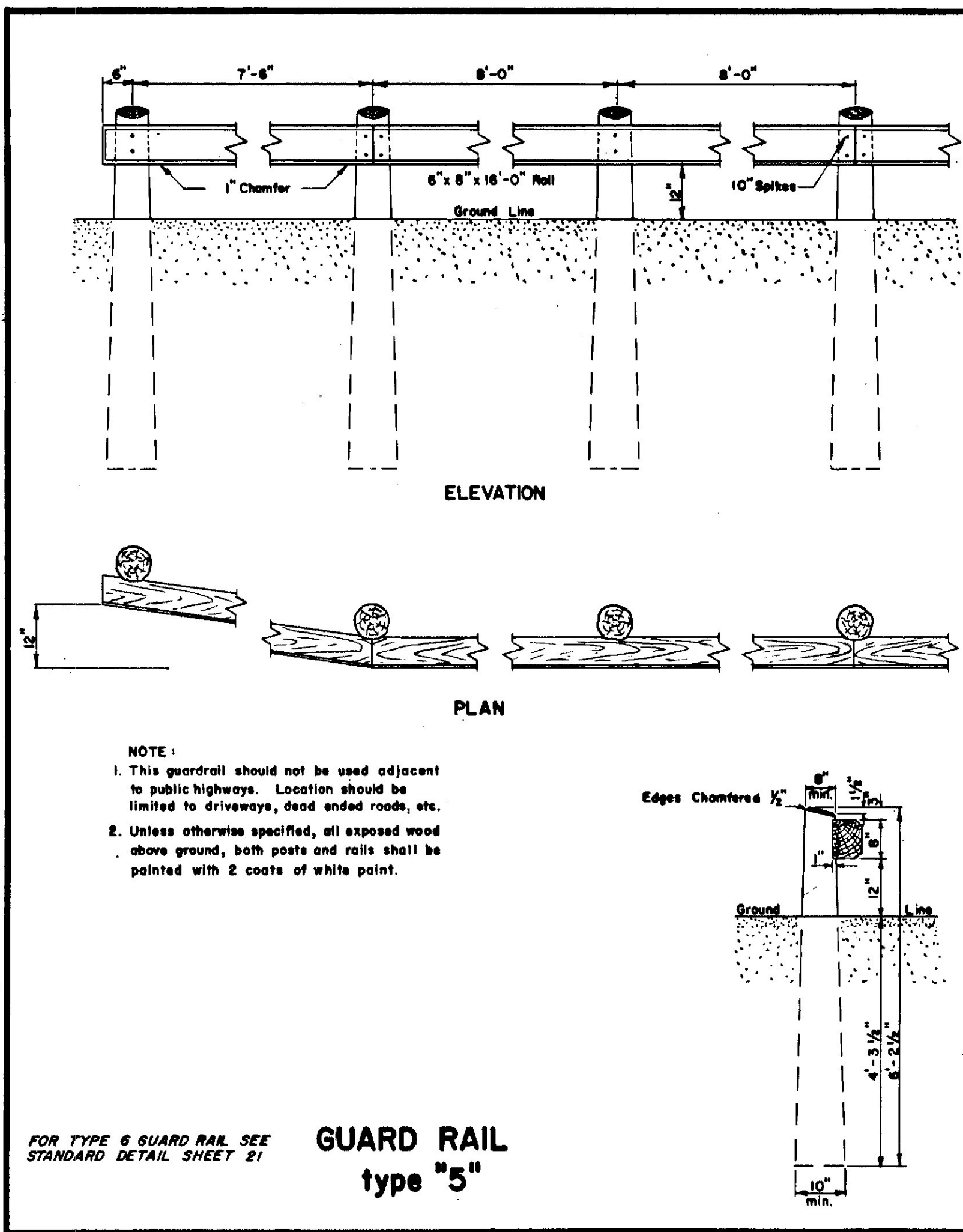
DESIGN SPECIFICATIONS
A.A.S.H.O. 1969 and
Interim Specifications.

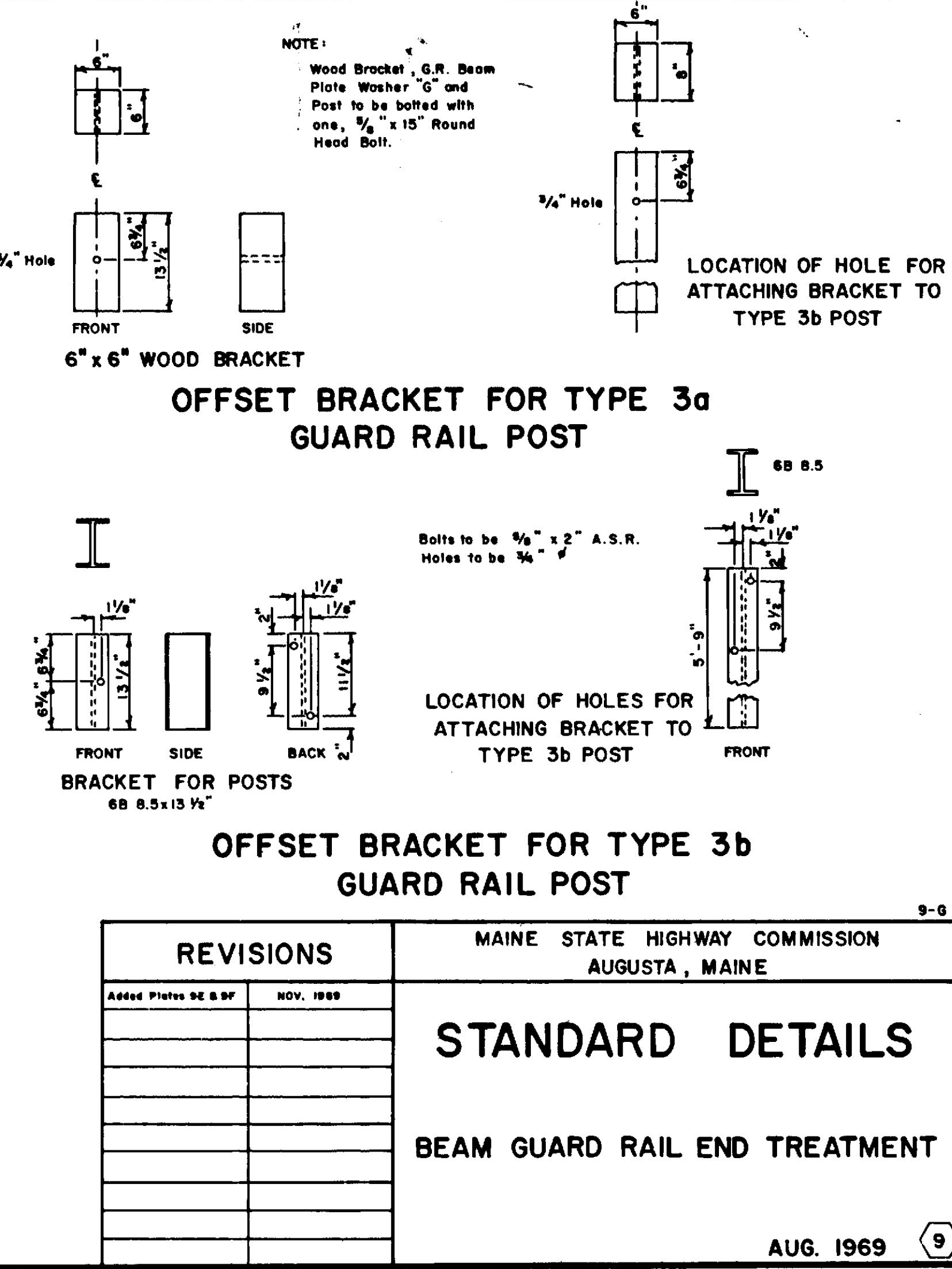
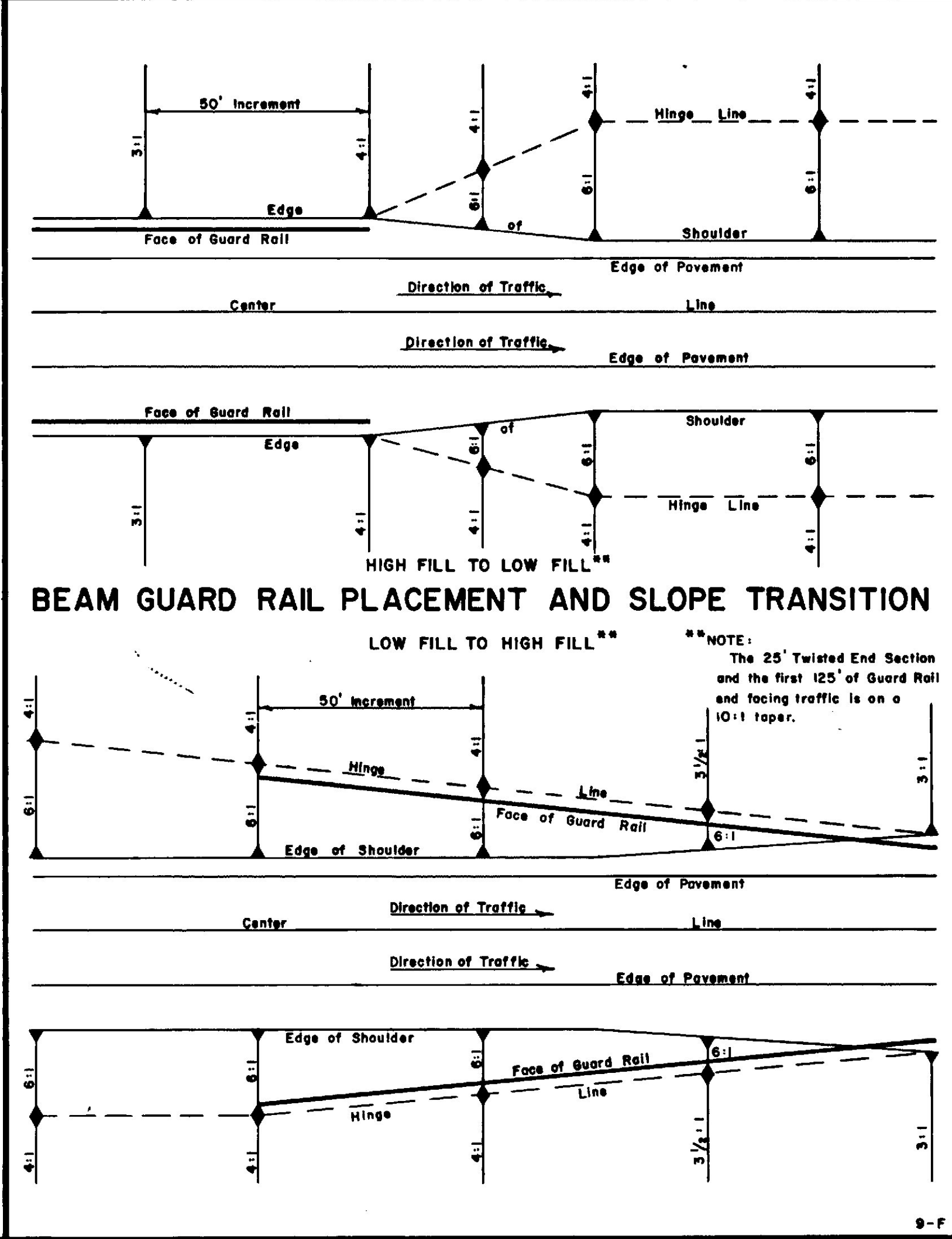
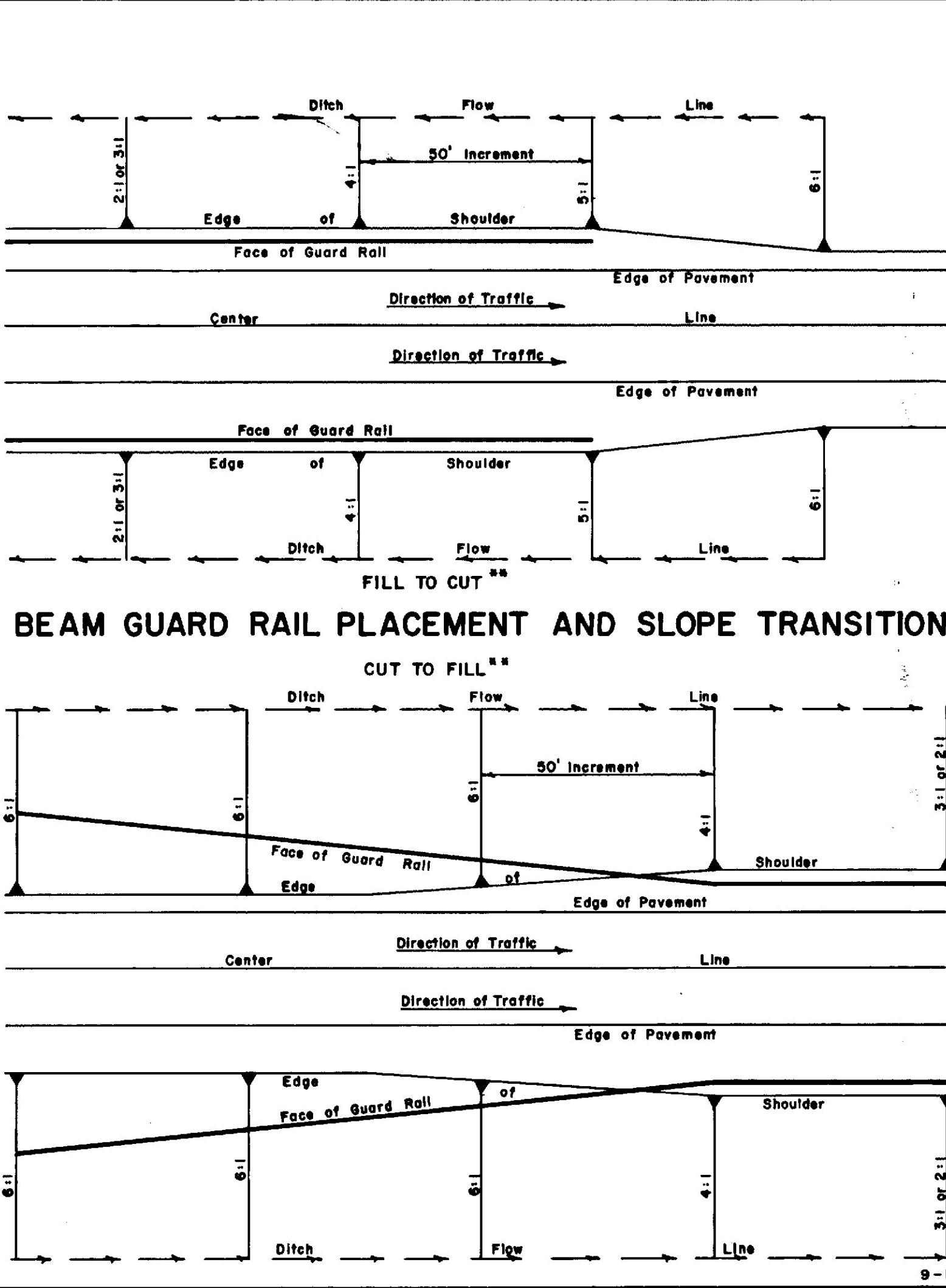
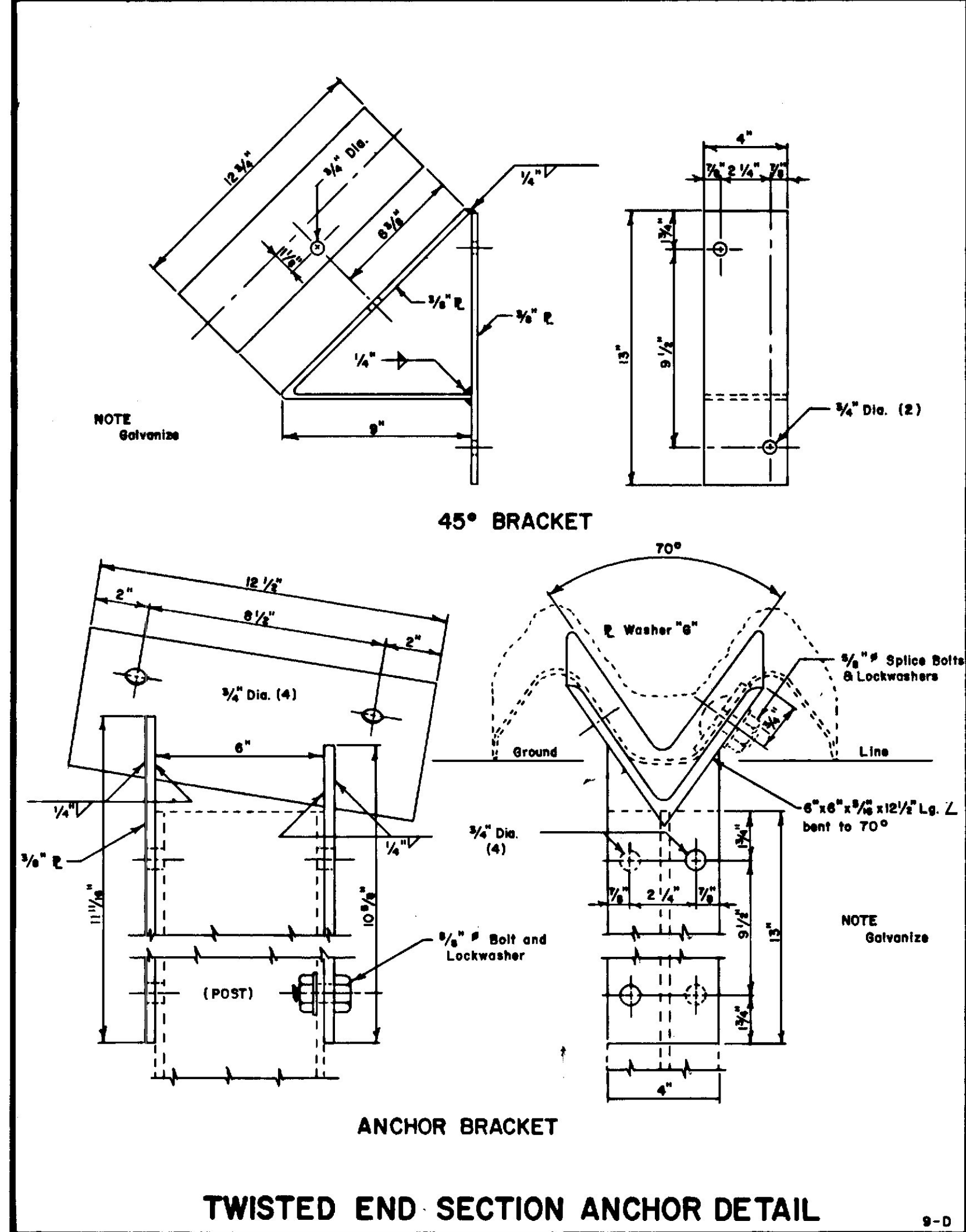
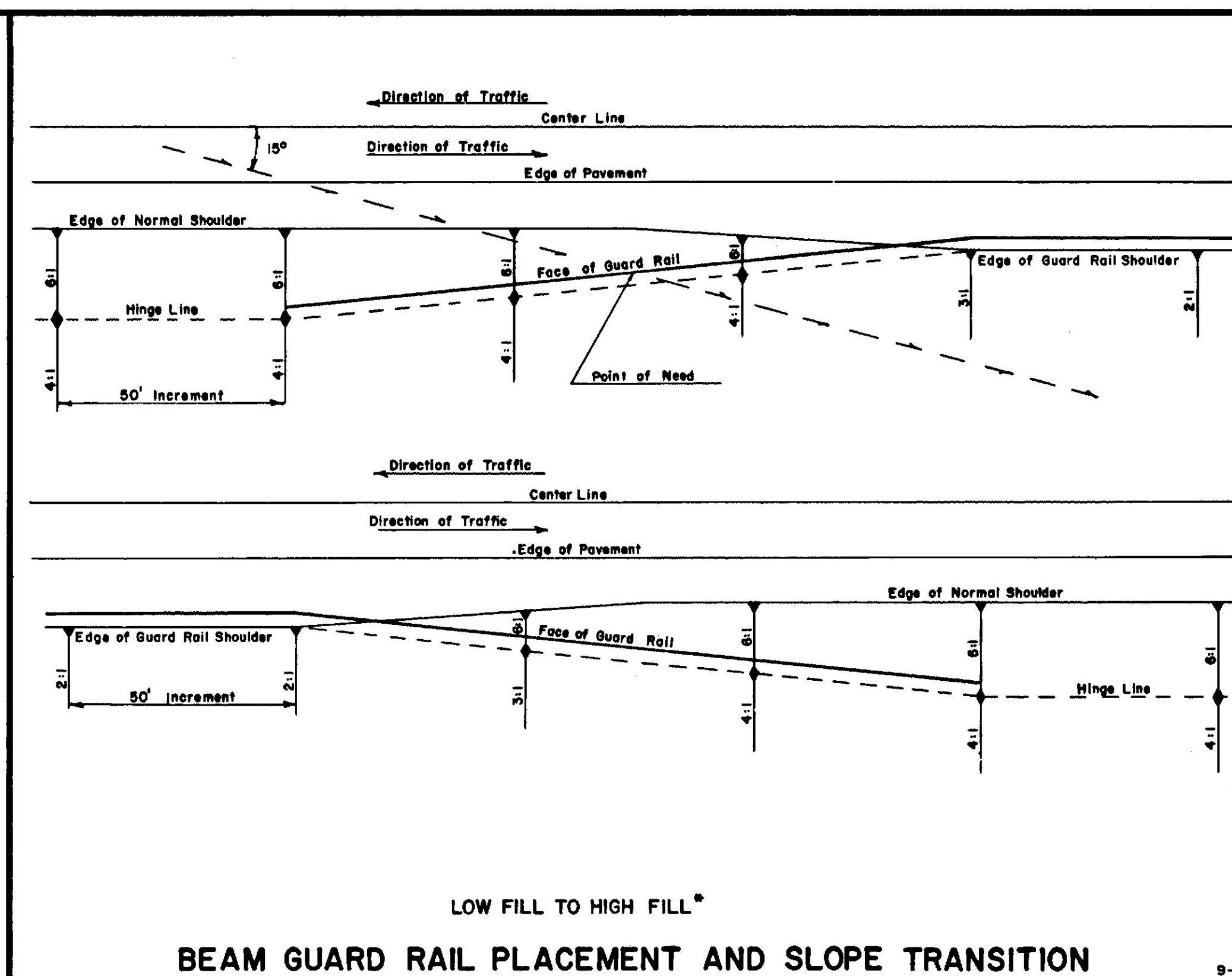
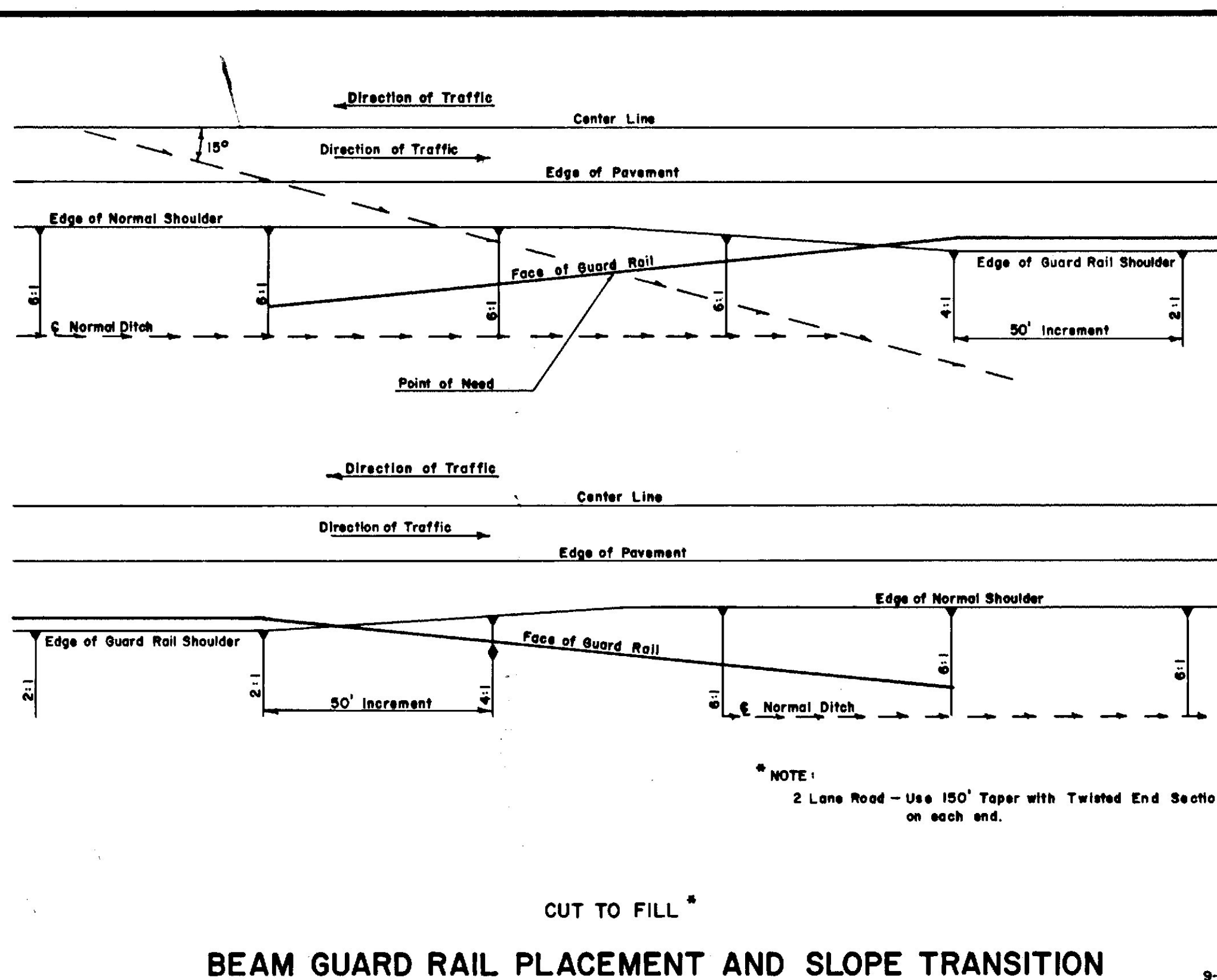
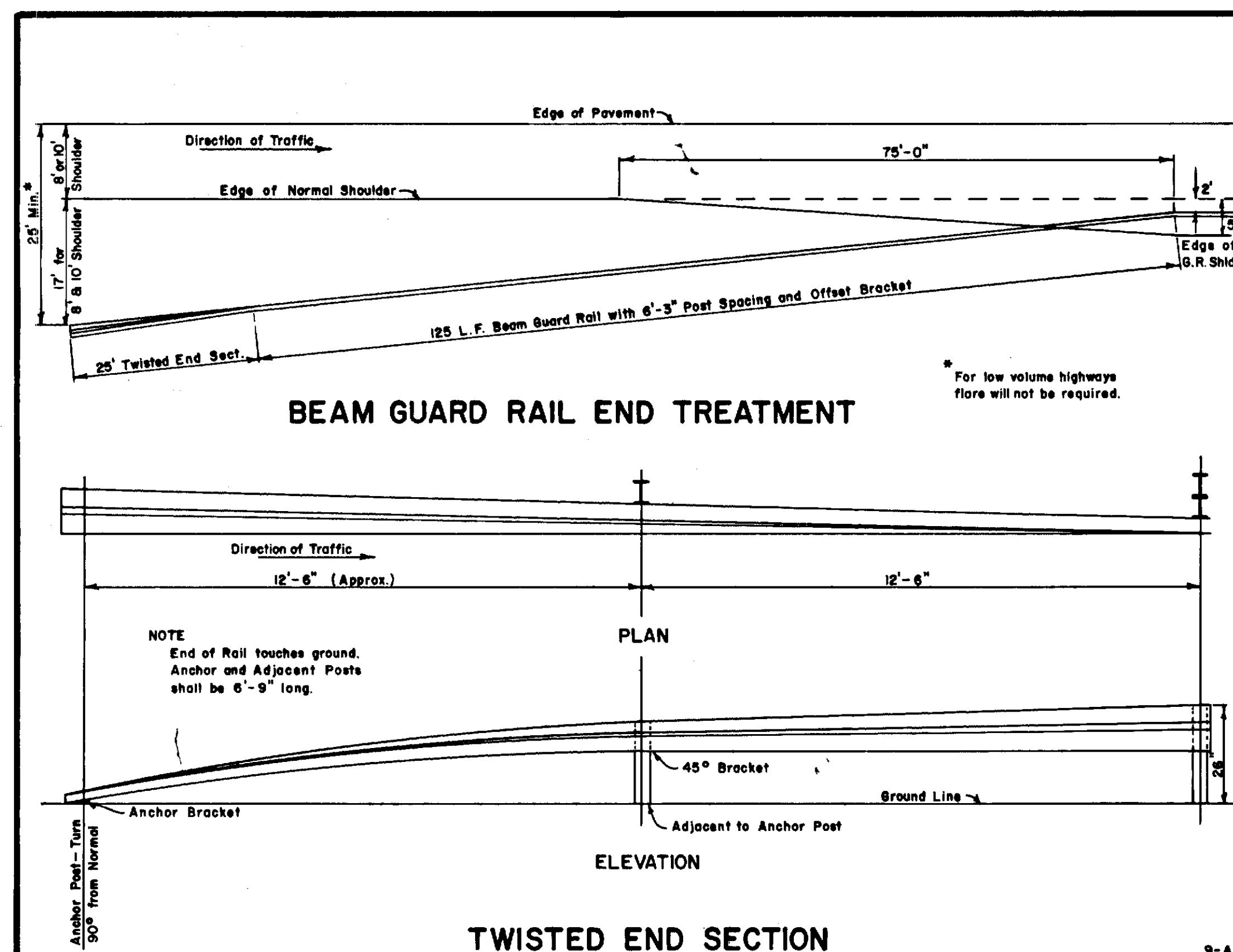
▲	Changed ASTM B221, to include Alloy 6351-T5 for Rail, Splice & Clamp Bars.
▲	Changed ASTM Designations A 276 & B 209 A 276 to 304 (Post Anchorage) B 209 - T3 to T4 (Washers) 5-25-70
▲	Changed AASHTO Design Specifications from 1965 to 1969.
MARK	ALTERATIONS

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS
(BD 106 - 69)
ALUMINUM RAILING
2 - BAR (SEMI-ELLIPSE)
EXTRUDED POST

JANUARY 1969





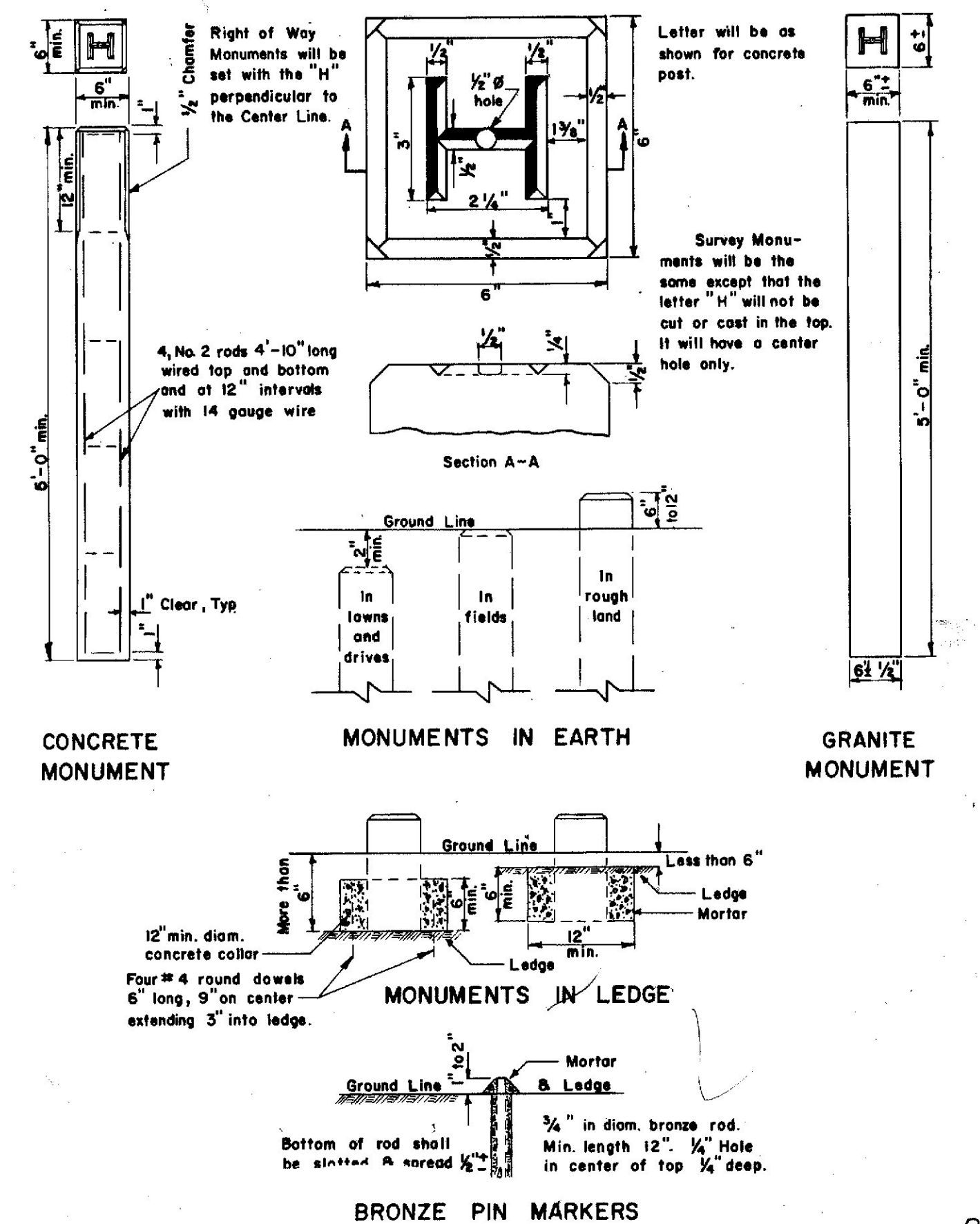
REVISIONS		MAINE STATE HIGHWAY COMMISSION AUGUSTA, MAINE	
Added Plate 92 & 97	NOV. 1988		

STANDARD DETAILS

BEAM GUARD RAIL END TREATMENT

AUG. 1969

RIGHT OF WAY & SURVEY MONUMENTS



GENERAL NOTES - BARRICADES

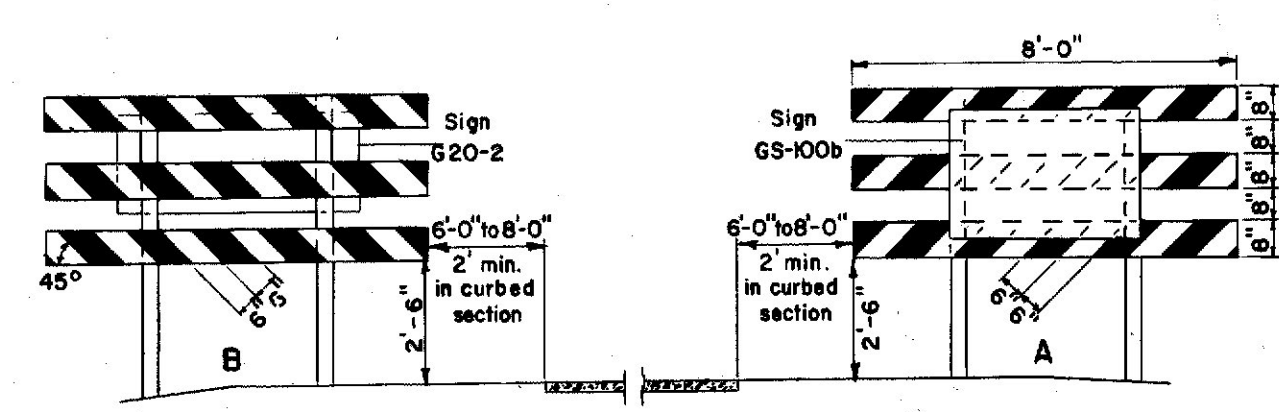
- Unless otherwise designated, sign designation letters shall refer to the "Manual of Uniform Traffic Control Devices for Streets and Highways", published by the Department of Commerce, Bureau of Public Roads.
- White stripes shall be of silver reflective sheeting bonded to 0.019 minimum gauge aluminum, 16 minimum gauge galvanized steel, or 1/4" plywood. Individual white sheets may be attached to a black pointed background to form the black and white stripes. At the Contractor's option the reflective sheeting and backing may extend the full width of the barricade with an opaque film or paint applied to form the stripes.
- All signs shall be of reflective sheeting on 5/8" thick plywood. The plywood shall conform to subsection 712.25, Maine State Highway Commission, Standard Specifications, June 1965.
- Pressure sensitive reflective sheeting will be on acceptable alternate to the reflective sheeting required by Maine State Highway Commission, Standard Specifications.

NOTES - PORTABLE BARRICADES

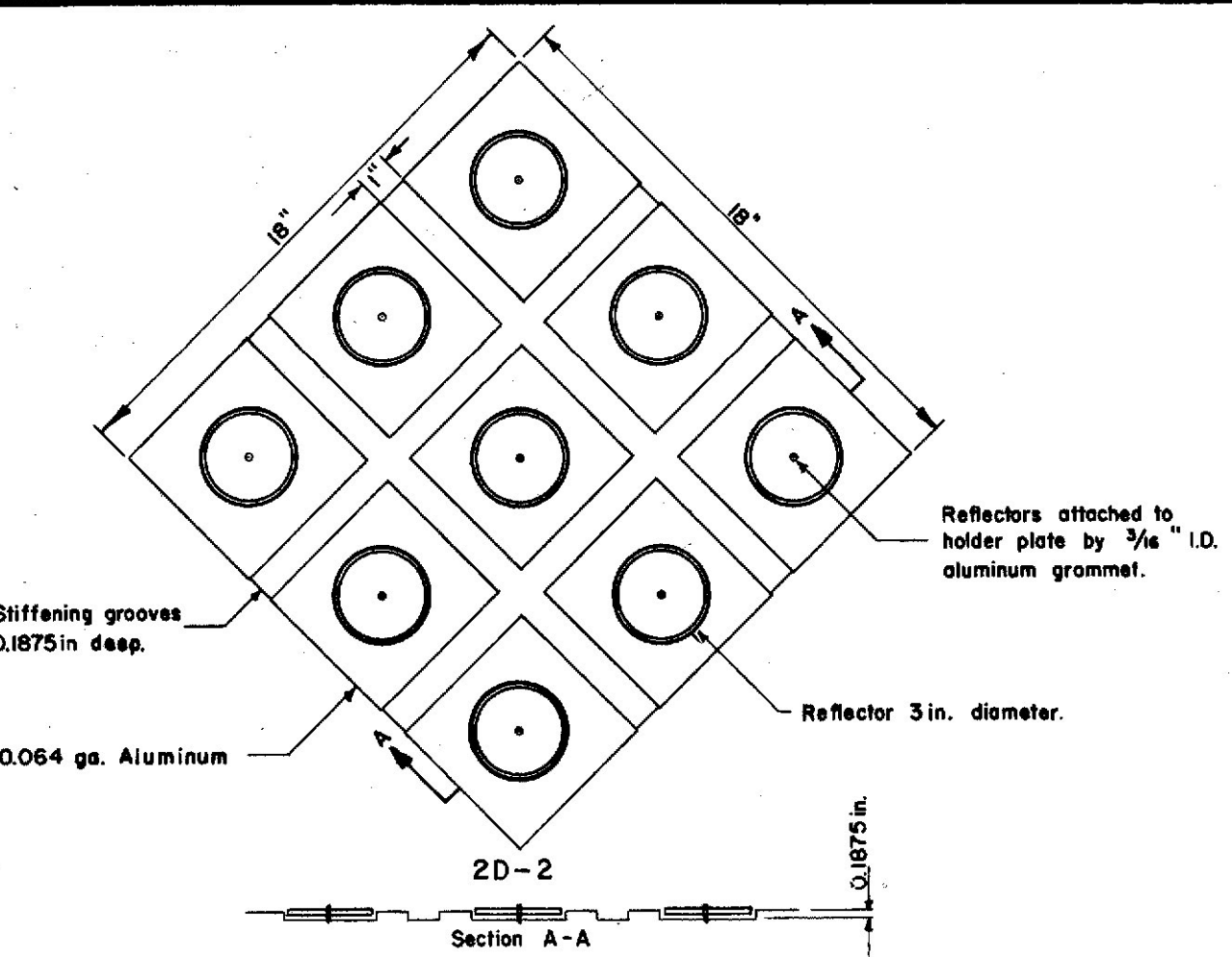
- Lumber sizes for portable barricades shall be 2" x 8" except posts which shall be 4" x 4" (nominal sizes).
- The detour sign shall be an oversized M5-7 sign with a demountable "DETOUR" message which shall be made of screened reflective sheeting on 1/4" plywood, masonite, sheet steel or sheet aluminum.
- Hazard markers shall be attached to the barricade with a bolt assembly of steel cadmium plated 5/16" bolt, lock washer and vandal resistant nuts.
- When two W1-6 signs are required, R10-2 or R10-3 signs shall be omitted.
- Flashing lights housings shall be mounted to permit rotating in a vertical axis to allow for adjustment to face oncoming traffic.
- Location of electric service and meter to be determined after the power source has been located.

NOTES - WING BARRICADES

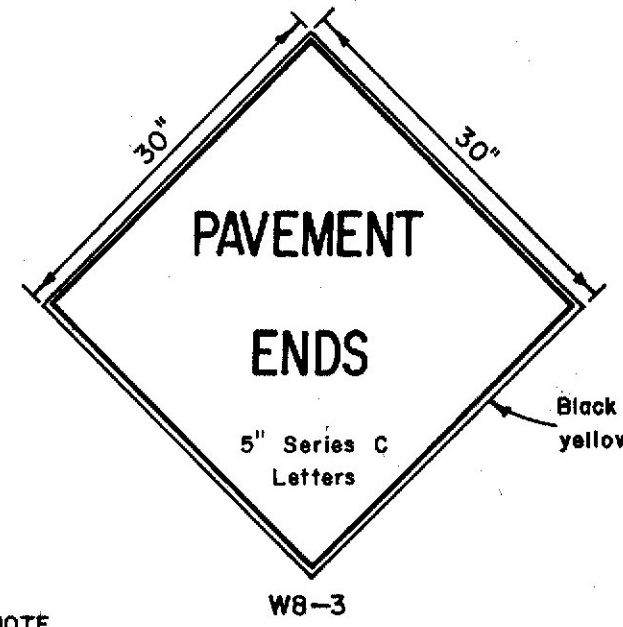
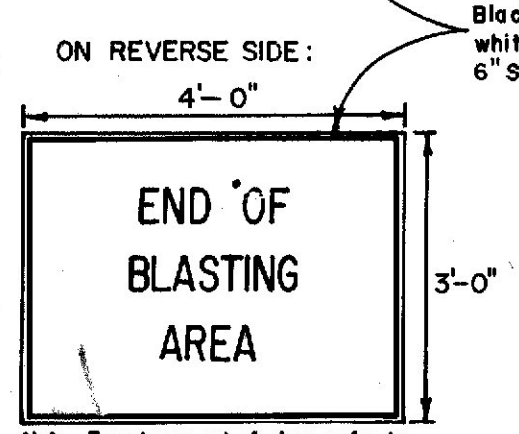
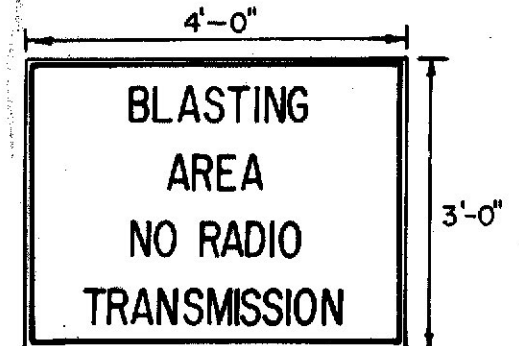
- Lumber sizes for wing barricades shall be 1" x 8" except posts which shall be 4" x 4" (nominal sizes).
- Wing barricades will not be required unless specifically called for in the special provisions.
- Location of signs and barricades will be determined by the Engineer.



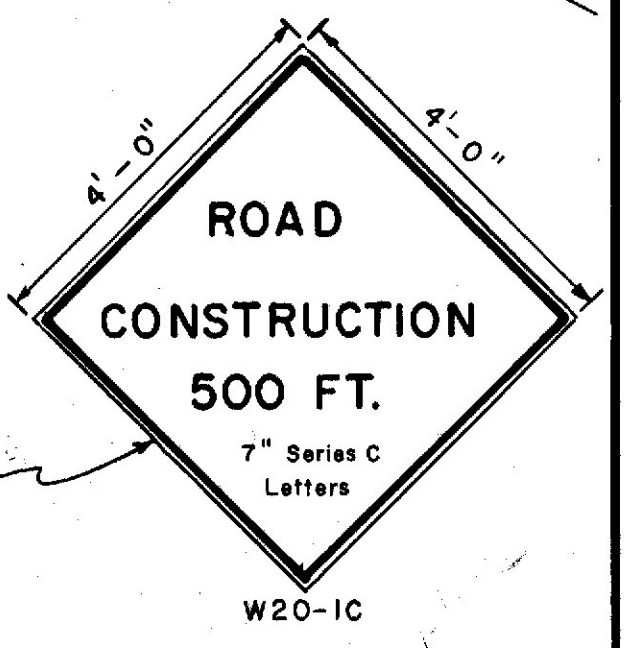
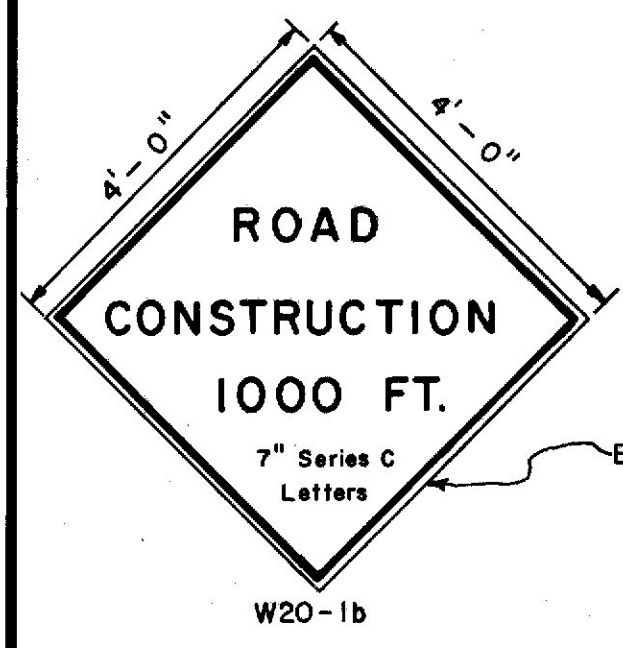
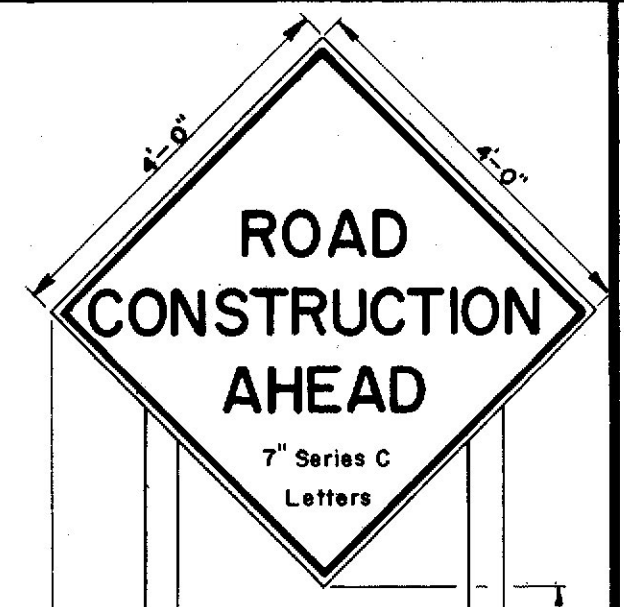
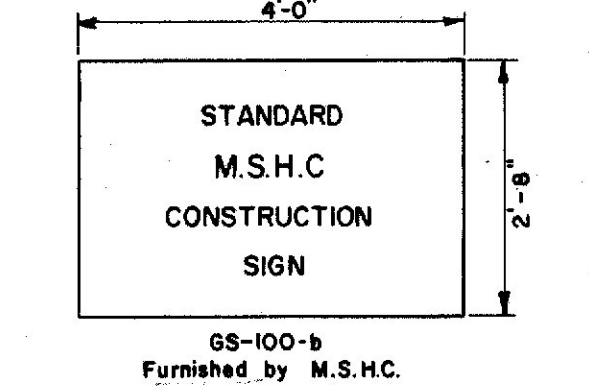
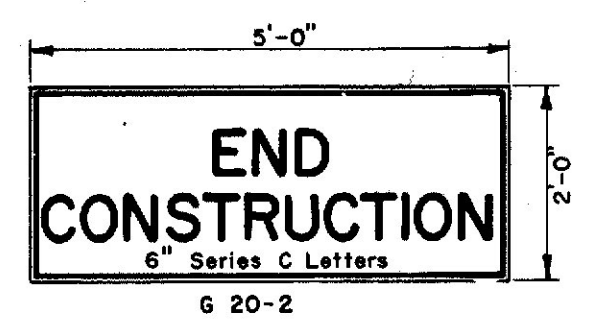
WING BARRICADES



HAZARD MARKER

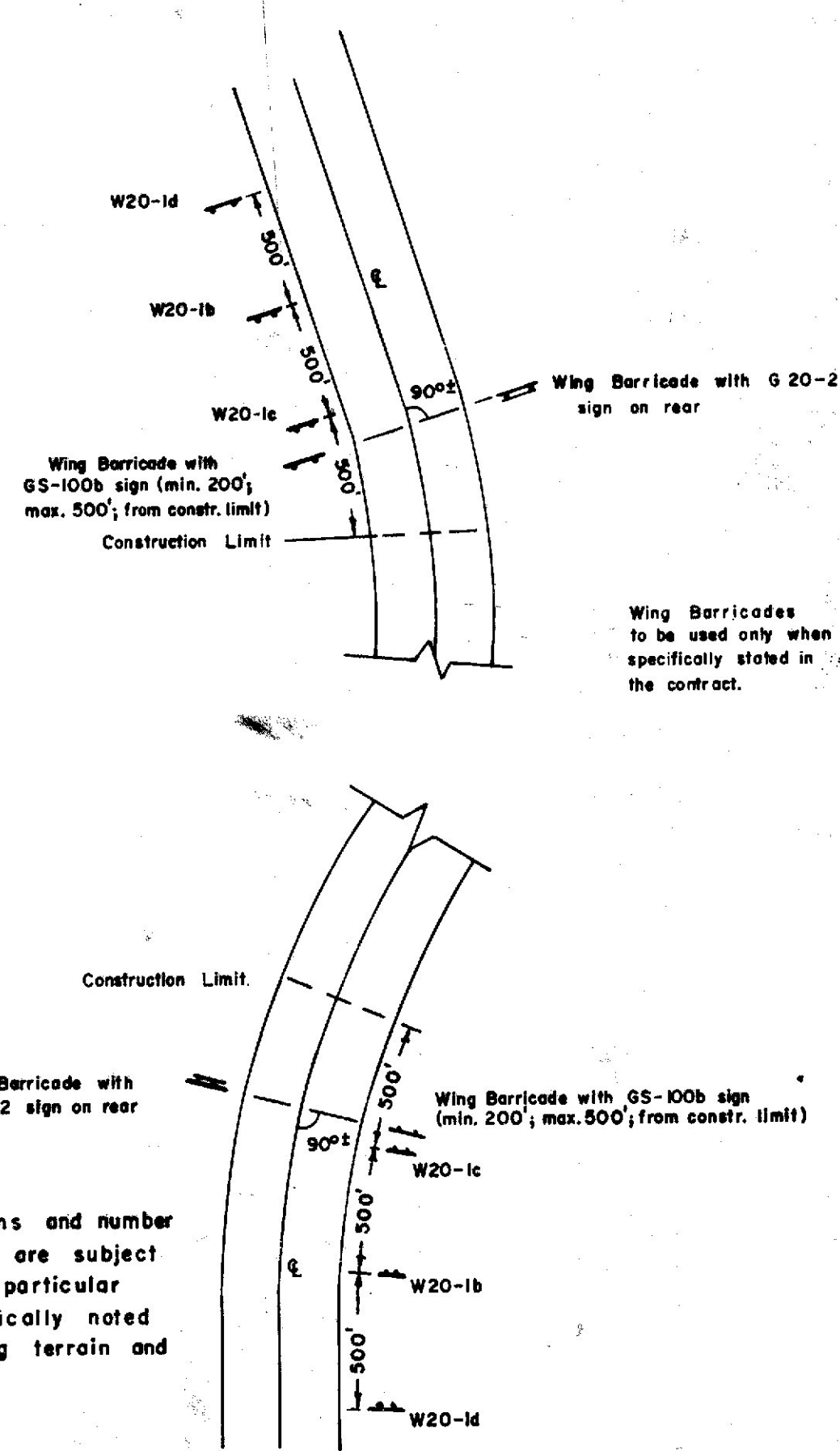


GENERAL NOTE
Construction Signs
I. Sign Borders: All signs shall have borders conforming to the sizes and spacing as shown below:
a. 30" x 30" Sign - 3/4" Border, 1/2" Space from sign edge.
b. 2' x 5' Sign - 3/8" Border, 3/8" Space from sign edge.
c. 3' x 4' Sign - 3/4" Border, 1/2" Space from sign edge.
d. 4' x 4' Sign - 1/4" Border, 3/4" Space from sign edge.

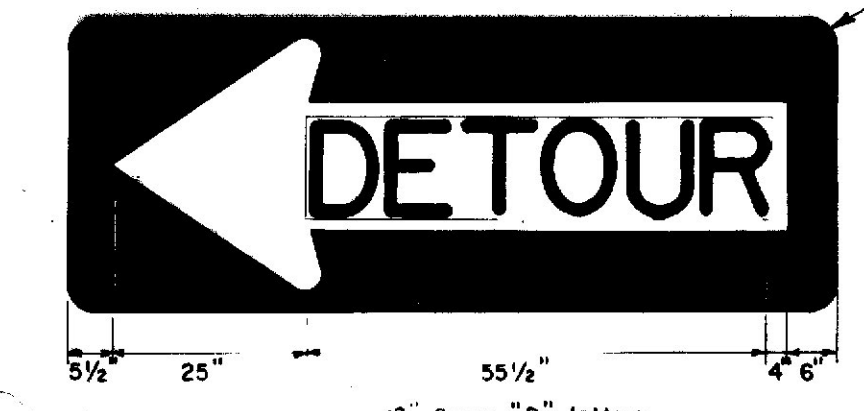
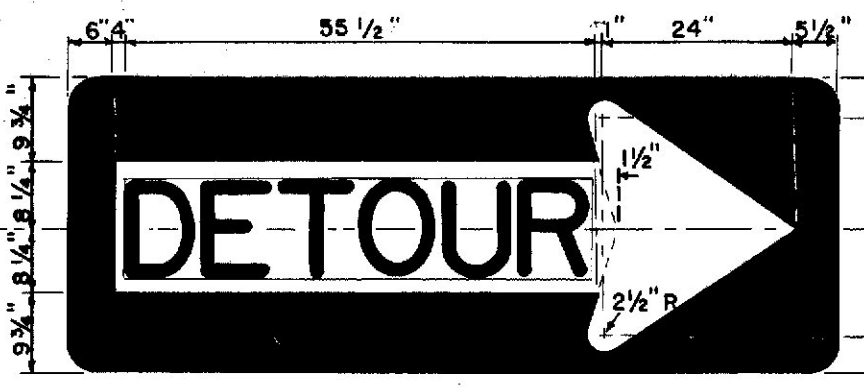


CONSTRUCTION SIGNS

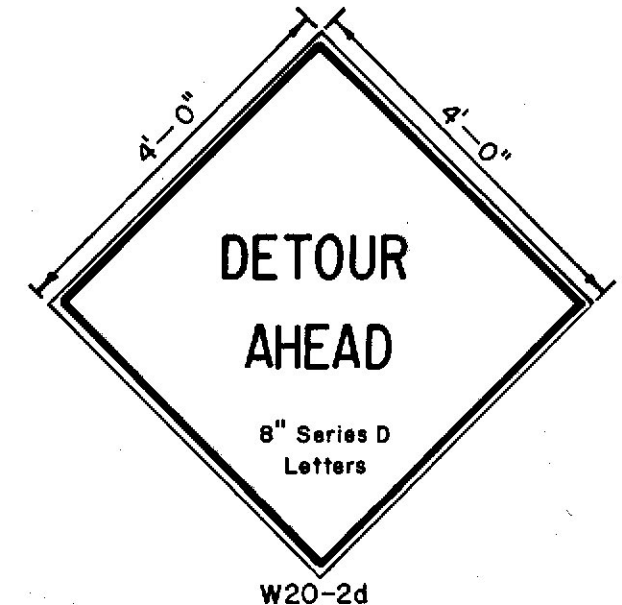
STANDARD SIGN LOCATIONS



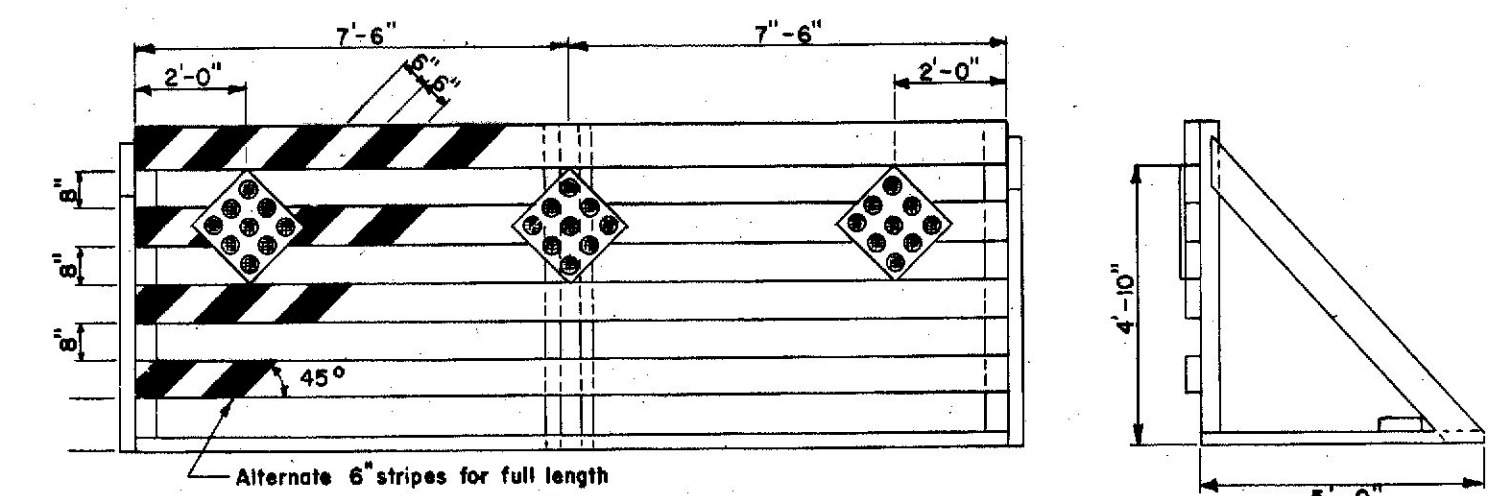
NOTE:
Standard locations and number of signs required are subject to variation on particular projects if specifically noted due to surrounding terrain and land use.



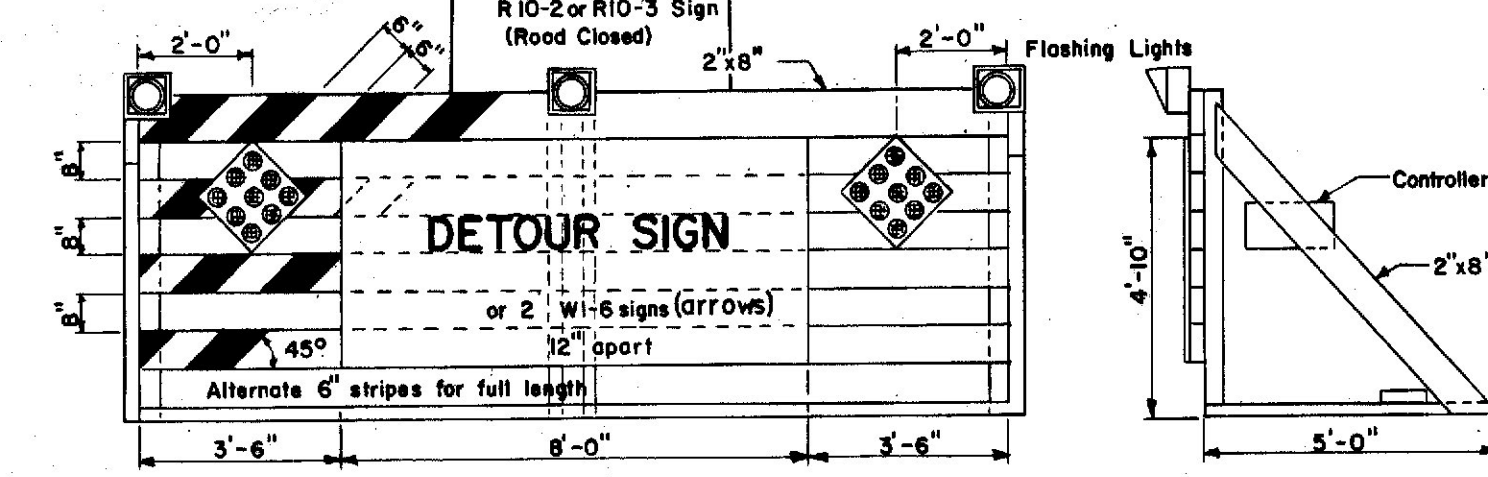
DETOUR SIGN M5-7(L)



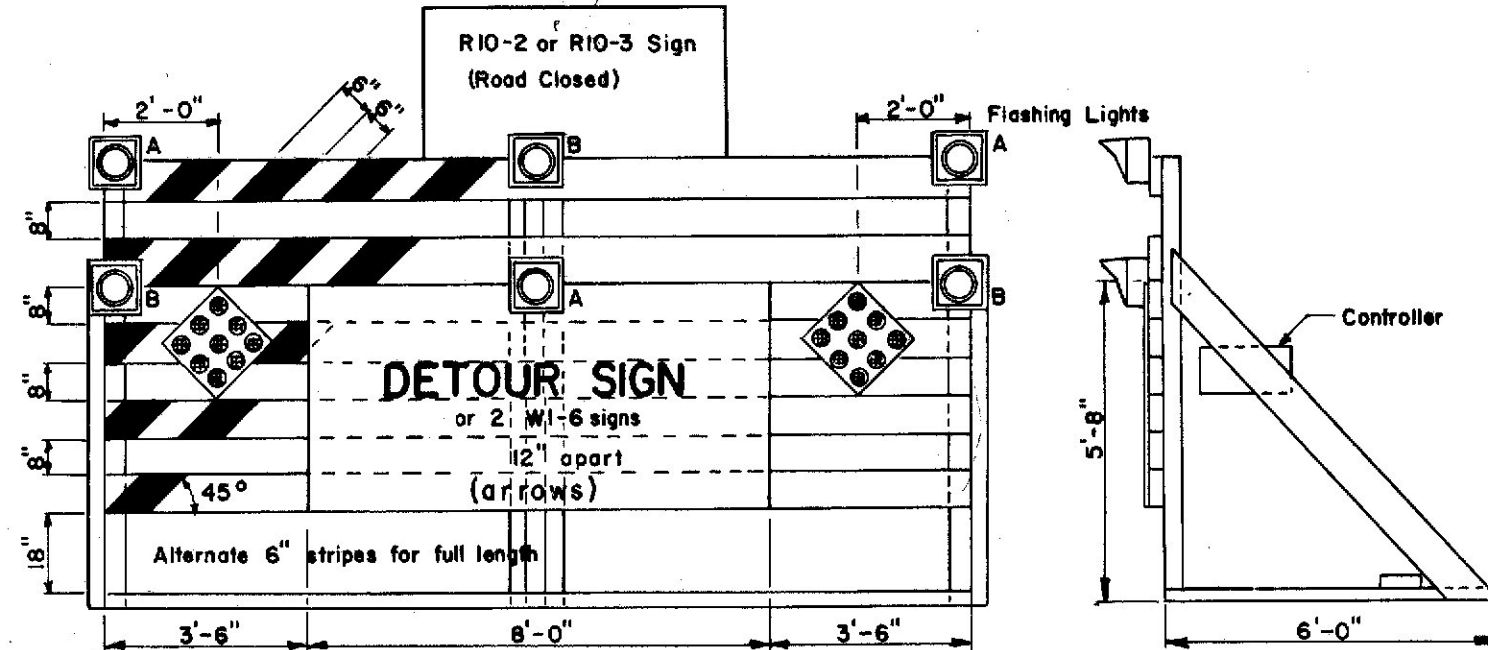
W20-2d



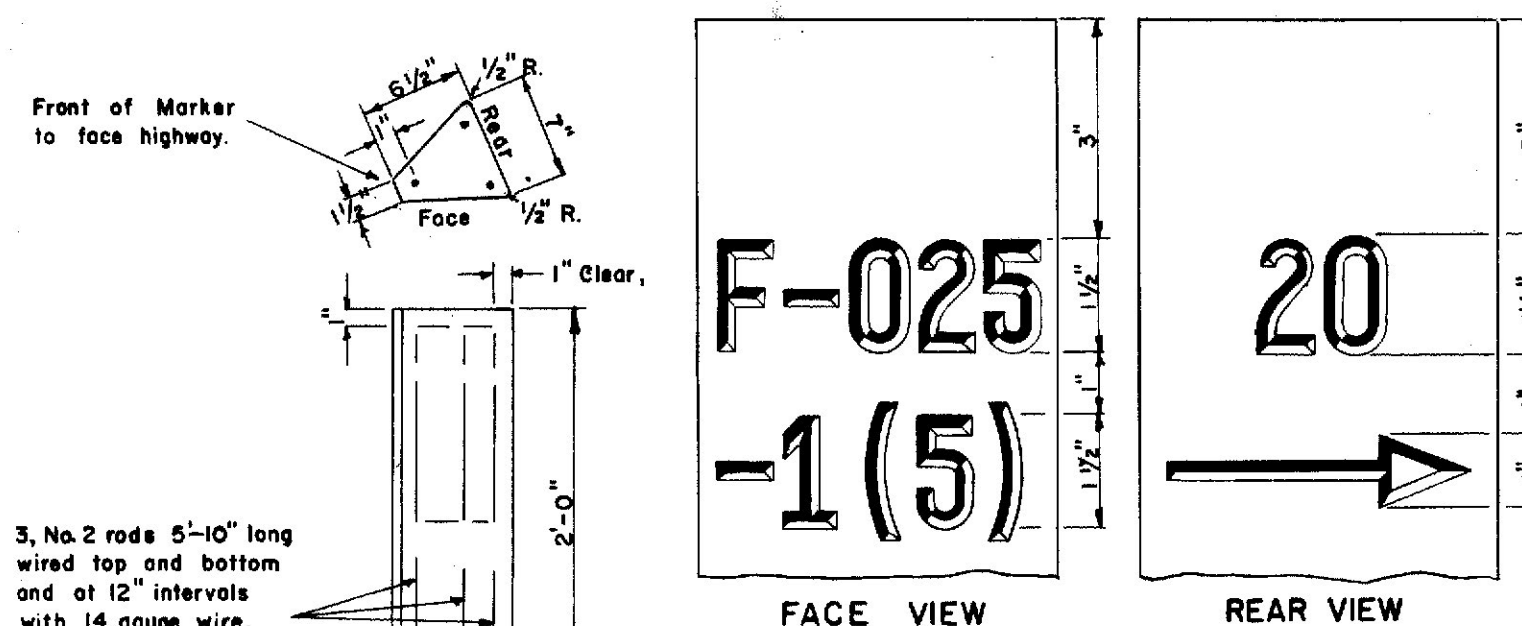
PORTABLE BARRICADE



PORTABLE BARRICADE WITH FLASHING LIGHTS (NORMAL SIZE)



OVERSIZED PORTABLE BARRICADE WITH FLASHING LIGHTS BARRICADES



FACE VIEW REAR VIEW

NOTES

- Distance from roadway shall be 30' minimum.
- When posts cannot be set on the exact station, the front of the post shall be painted black from the top to 3" down, and the offset distance marked on rear with an arrow pointing in direction of beginning or end of project.
- All markings to be 1/4" deep and 3/4" wide.

PROJECT MARKERS

REVISION		MAINE STATE HIGHWAY COMMISSION AUGUSTA, MAINE	
Plate "B"	12-21-70	BARRICADES WARNING SIGNS MONUMENTS PROJECT MARKERS	
		AUG. 1969	

MAINE TURNPIKE

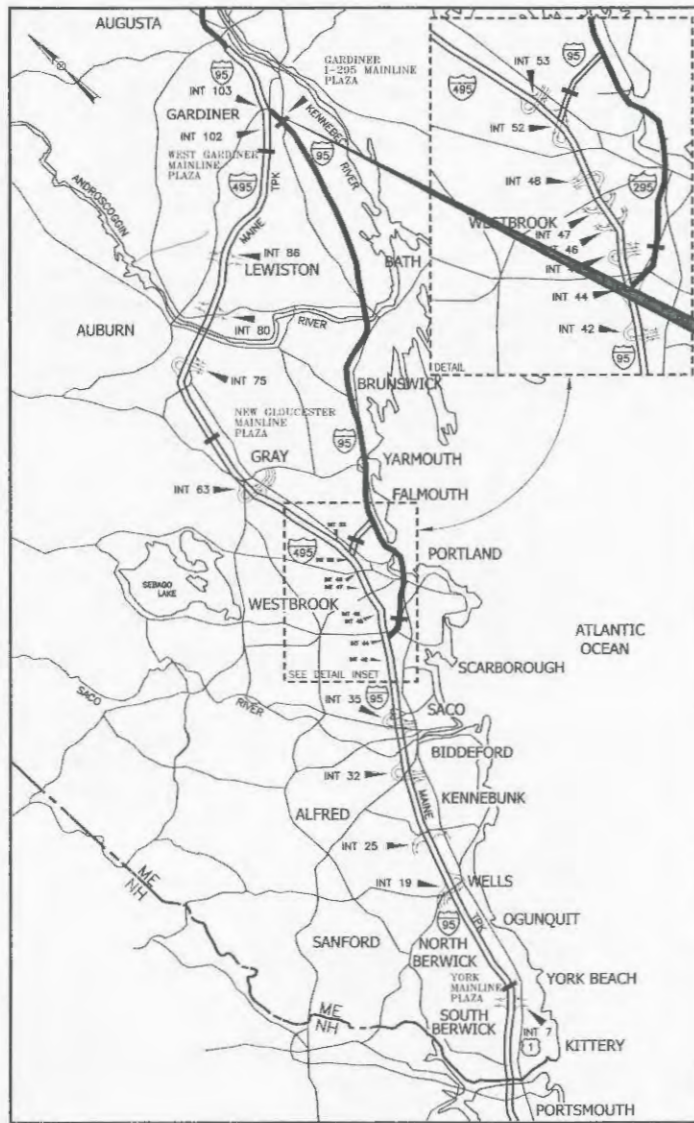


THE GOLD STAR
MEMORIAL HIGHWAY

MAINE TURNPIKE AUTHORITY

GERARD P. CONLEY, SR., CHAIRMAN
 LUCIEN B. GOSSELIN, VICE CHAIRMAN
 EARL L. ADAMS, MEMBER
 SAMUEL M. ZAITLIN, MEMBER
 HARLAND C. GOODWIN, MEMBER
 DOUGLAS A. VOLK, MEMBER
 GREGORY G. NADEAU, MEMBER EX-OFFICIO
 PAUL E. VIOLETTE, EXECUTIVE DIRECTOR

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES AND QUANTITIES
3-8	MAINTENANCE OF TRAFFIC
9-10	STANDARD DETAILS
11	GENERAL PLAN
12-31	STRUCTURAL PLANS
32-39	AS-BUILT DRAWINGS



CONTRACT 2006.02
 BRIDGE REHABILITATION
 I-295 SOUTHBOUND UNDERPASS

CONTRACT 2006.02 I-295 SOUTHBOUND UNDERPASS BRIDGE REHABILITATION MILE 103.0

LOCATION MAP

Date: 02/15/05

Filename: 001_MTATitle.dgn

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION

COMMISSIONER _____ DATE _____
 BUREAU DIRECTOR AND CHIEF ENGINEER _____ DATE _____

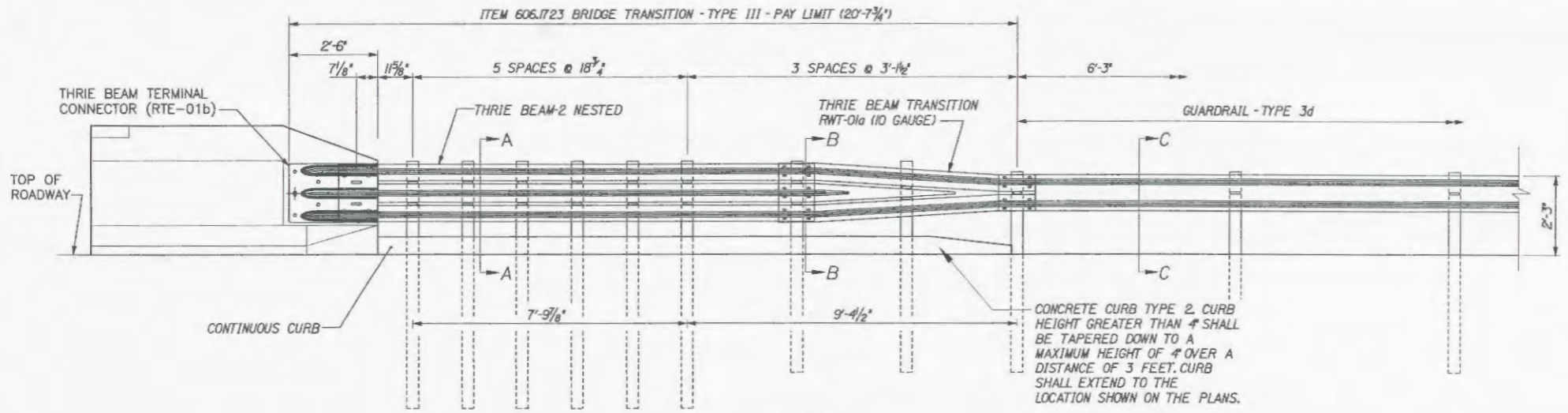
HNTB



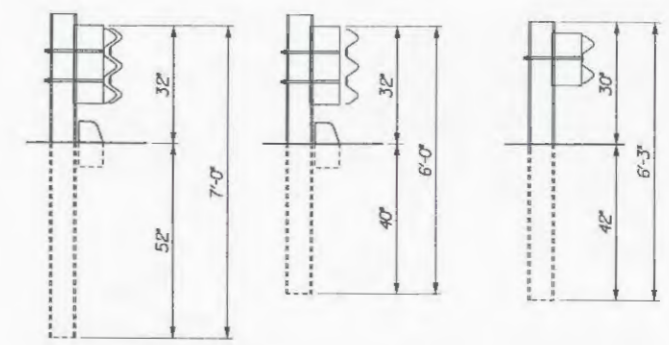
Roland A. Lavallee
 ROLAND A. LAVALLEE P.E., PLS
 VICE PRESIDENT
 DIRECTOR OF OPERATIONS
 DATE 2/22/05

APPROVED: _____
 MAINE TURNPIKE AUTHORITY
 _____ CHAIRMAN
 _____ EXECUTIVE DIRECTOR
 DATE _____

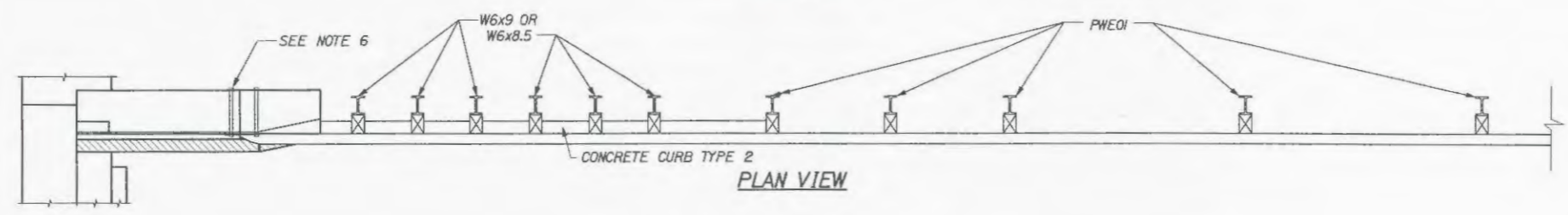
CONTRACT 2006.02



ELEVATION



SECTION A-A SECTION B-B SECTION C-C



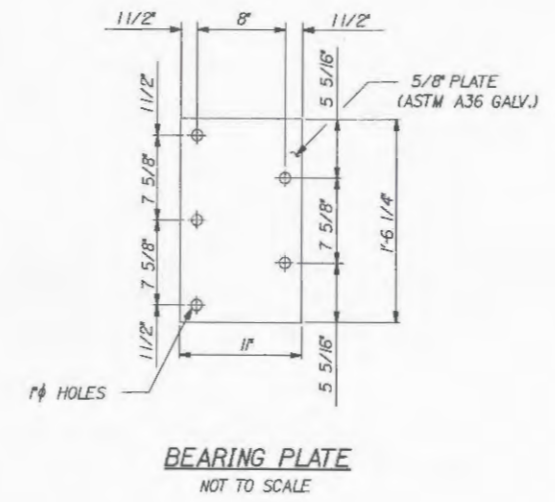
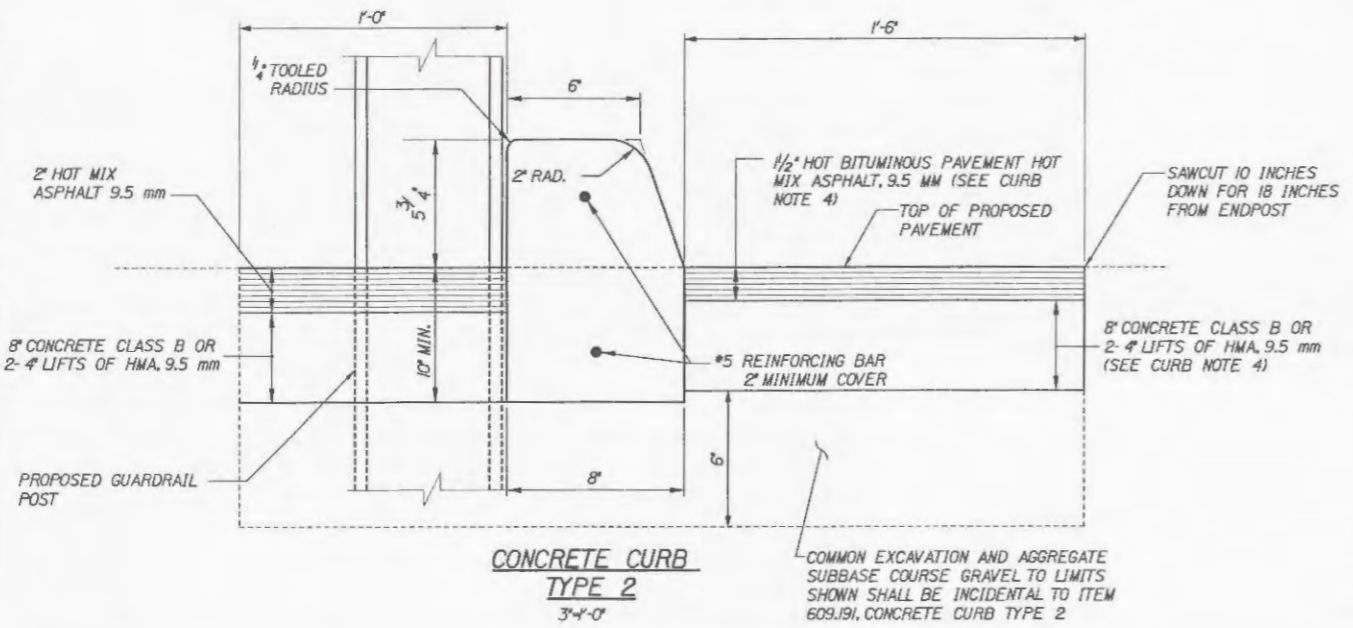
THRIE-BEAM BRIDGE TRANSITION
1/2'-1'-0"

CURB NOTES:

- CURBING SHALL BE EITHER PRECAST CONCRETE, CAST-IN-PLACE CONCRETE OR GRANITE TO MEET THE DIMENSIONS SHOWN ON THE PLANS. CURBING SHALL BE PAID FOR UNDER ITEM 609.191 CONCRETE CURB TYPE 2.
- CONCRETE CURBS USED IN CONJUNCTION WITH THRIE-BEAM BRIDGE ATTACHMENT SHALL BE TYPE 2, SEE DETAIL THIS SHEET. CONCRETE CURBS SHALL BE CONTINUOUS WITHOUT DRAINAGE CUTS.
- CURB TRANSITION SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 609.191 CONCRETE CURB TYPE 2.
- SAWCUTTING EXISTING PAVEMENT, CONCRETE FILL AND PAVEMENT TO THE LIMITS SHOWN SHALL BE INCIDENTAL TO ITEM 609.191.

GENERAL NOTES:

- ADDITIONAL HOLES MAY BE MADE IN THE THRIE-BEAM PANELS BY DRILLING, PUNCHING, OR OTHER MEANS THAT PRODUCE A NEAT, CLEAN HOLE. BURNING HOLES WILL NOT BE ALLOWED.
- THRIE-BEAM SHALL BE PLACED WITH THE TIMBER OR COMPOSITE BLOCKOUT FACE IN FRONT OF OR DIRECTLY ABOVE THE CURB FACE.
- RAIL ELEMENT SHALL MEET ALL REQUIREMENTS OF AASHTO M-180 EXCEPT AS MODIFIED ON THE PLANS. THE THRIE-BEAM TRANSITION TO W-BEAM SHALL BE OF THE SAME MATERIAL, BUT SHALL NOT BE LESS THAN 10 GAUGE.
- AFTER INSTALLATION 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.
- STANDARD BARRIER HARDWARE HAS BEEN USED TO DEVELOP THESE GUARDRAIL ATTACHMENTS. DESIGNATIONS PROVIDED IN PARENTHESIS RELATE TO STANDARD ELEMENTS DETAILED IN "A GUIDE TO STANDARDIZED BARRIER RAIL HARDWARE." 1979. AASHTO-AGC-ARTBA JOINT COOPERATE COMMITTEE.
- 1" HOLES IN CONCRETE SHALL BE FORMED BY A METHOD APPROVED BY THE ENGINEER.



Date: 2/27/2006

Filename: ...010_GuardrailDtlis.dgn

Scale:

No.	Revision	By	Date

Designed by:

HNTB

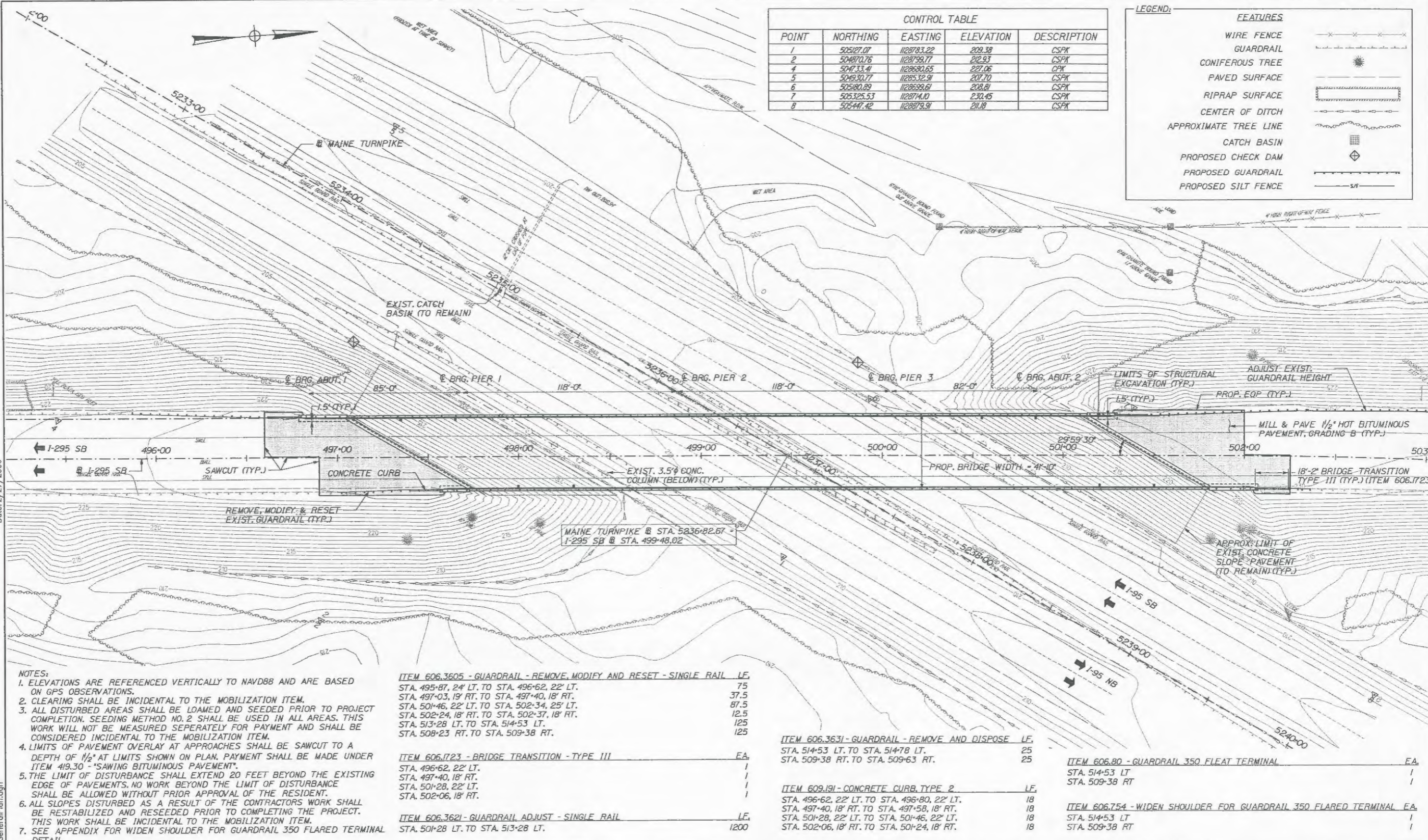
By	Date	Checked	By	Date
TMH	02/05	RJD	RJD	02/05
SJM	02/05	In Charge of	RAL	02/05

HNTB CORPORATION
2 Thomas Drive
Westbrook, ME 04092
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FAX (207) 772-7410

THE GOLD STAR
MEMORIAL HIGHWAY

I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION
GUARDRAIL DETAILS
BRIDGE TRANSITION - TYPE III

SHEET NUMBER: SD-C2
CONTRACT: 2006.02
10 OF 39



CONTROL TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	505127.07	1128783.22	209.38	CSPK
2	504870.76	1128799.77	202.93	CSPK
4	504733.41	1128680.65	227.06	CPK
5	504930.77	1128532.91	207.70	CSPK
6	505180.89	1128699.61	208.81	CSPK
7	505325.53	1128714.0	230.45	CSPK
8	505447.42	1128879.91	211.8	CSPK

LEGEND:		FEATURES
		WIRE FENCE
		GUARDRAIL
		CONIFEROUS TREE
		PAVED SURFACE
		RIPRAP SURFACE
		CENTER OF DITCH
		APPROXIMATE TREE LINE
		CATCH BASIN
		PROPOSED CHECK DAM
		PROPOSED GUARDRAIL
		PROPOSED SILT FENCE

Date: 2/21/2006

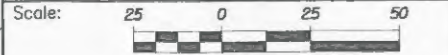
Filename: ...066 I-295 011_GeneralPlan.dgn

- NOTES:**
- ELEVATIONS ARE REFERENCED VERTICALLY TO NAVD88 AND ARE BASED ON GPS OBSERVATIONS.
 - CLEARING SHALL BE INCIDENTAL TO THE MOBILIZATION ITEM.
 - ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED PRIOR TO PROJECT COMPLETION. SEEDING METHOD NO. 2 SHALL BE USED IN ALL AREAS. THIS WORK WILL NOT BE MEASURED SEPARATELY FOR PAYMENT AND SHALL BE CONSIDERED INCIDENTAL TO THE MOBILIZATION ITEM.
 - LIMITS OF PAVEMENT OVERLAY AT APPROACHES SHALL BE SAWCUT TO A DEPTH OF 1/2" AT LIMITS SHOWN ON PLAN. PAYMENT SHALL BE MADE UNDER ITEM 419.30 - "SAWING BITUMINOUS PAVEMENT".
 - THE LIMIT OF DISTURBANCE SHALL EXTEND 20 FEET BEYOND THE EXISTING EDGE OF PAVEMENTS. NO WORK BEYOND THE LIMIT OF DISTURBANCE SHALL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE RESIDENT.
 - ALL SLOPES DISTURBED AS A RESULT OF THE CONTRACTORS WORK SHALL BE RESTABILIZED AND RESEEDED PRIOR TO COMPLETING THE PROJECT. THIS WORK SHALL BE INCIDENTAL TO THE MOBILIZATION ITEM.
 - SEE APPENDIX FOR WIDEN SHOULDER FOR GUARDRAIL 350 FLARED TERMINAL DETAIL.

- ITEM 606.3605 - GUARDRAIL - REMOVE, MODIFY AND RESET - SINGLE RAIL LF**
- | | |
|--|------|
| STA. 495+87, 24' LT. TO STA. 496+62, 22' LT. | 75 |
| STA. 497+03, 19' RT. TO STA. 497+40, 18' RT. | 37.5 |
| STA. 501+46, 22' LT. TO STA. 502+34, 25' LT. | 87.5 |
| STA. 502+24, 18' RT. TO STA. 502+37, 18' RT. | 12.5 |
| STA. 513+28 LT. TO STA. 514+53 LT. | 125 |
| STA. 508+23 RT. TO STA. 509+38 RT. | 125 |
- ITEM 606.1723 - BRIDGE TRANSITION - TYPE III EA**
- | | |
|----------------------|---|
| STA. 496+62, 22' LT. | 1 |
| STA. 497+40, 18' RT. | 1 |
| STA. 501+28, 22' LT. | 1 |
| STA. 502+06, 18' RT. | 1 |
- ITEM 606.3621 - GUARDRAIL ADJUST - SINGLE RAIL LF**
- | | |
|------------------------------------|------|
| STA. 501+28 LT. TO STA. 513+28 LT. | 1200 |
|------------------------------------|------|

- ITEM 606.3631 - GUARDRAIL - REMOVE AND DISPOSE LF**
- | | |
|------------------------------------|----|
| STA. 514+53 LT. TO STA. 514+78 LT. | 25 |
| STA. 509+38 RT. TO STA. 509+63 RT. | 25 |
- ITEM 609.191 - CONCRETE CURB, TYPE 2 LF**
- | | |
|--|----|
| STA. 496+62, 22' LT. TO STA. 496+80, 22' LT. | 18 |
| STA. 497+40, 18' RT. TO STA. 497+58, 18' RT. | 18 |
| STA. 501+28, 22' LT. TO STA. 501+46, 22' LT. | 18 |
| STA. 502+06, 18' RT. TO STA. 501+24, 18' RT. | 18 |

- ITEM 606.80 - GUARDRAIL 350 FLARED TERMINAL EA**
- | | |
|-----------------|---|
| STA. 514+53 LT. | 1 |
| STA. 509+38 RT. | 1 |
- ITEM 606.754 - WIDEN SHOULDER FOR GUARDRAIL 350 FLARED TERMINAL EA**
- | | |
|-----------------|---|
| STA. 514+53 LT. | 1 |
| STA. 509+38 RT. | 1 |



Designed by:



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



**THE GOLD STAR
MEMORIAL HIGHWAY**

**I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION**

GENERAL PLAN

No.	Revision	By	Date

	By	Date		By	Date
Designed	TRC	02/06	Checked	TMH	02/06
Drawn	MPC	02/06	In Charge of	RAL	02/06

SPECIFICATIONS

DESIGN

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR HIGHWAY BRIDGES
THIRD EDITION, 2004.

CONTRACT

STATE OF MAINE, DEPARTMENT OF TRANSPORTATION,
STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES,
REVISION OF DECEMBER 2002.

DESIGN LOADING

LIVE LOAD

AASHTO HL93

DESIGN METHOD

LOAD AND RESISTANCE FACTOR DESIGN (LRFD)

MATERIALS

CONCRETE

UNLESS NOTED OTHERWISE.....CLASS AAA

REINFORCING STEEL

ASTM A615/A615M GRADE 60 PLAIN AND EPOXY COATED

BASIC DESIGN STRESSES

CAST IN PLACE CONCRETE

f'c = 4,500 P.S.I.

REINFORCING STEEL

fy = 60,000 P.S.I.

NOTES

- 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.
- ALL PROPOSED ELEVATIONS REFERENCE THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988. THE ELEVATIONS REFERENCED ON THE BORING LOGS AND AS-BUILT PLANS MAY DIFFER.
- FOR ADDITIONAL DETAILS REFERENCED IN THESE DRAWINGS, SEE THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD DETAILS, HIGHWAYS AND BRIDGES DECEMBER 2002 AND LATEST REVISIONS.
- REINFORCING STEEL SHALL HAVE A CLEAR COVER OF 2", UNLESS OTHERWISE NOTED.
- CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" UNLESS OTHERWISE NOTED.
- THE AUTHORITY'S PERSONNEL SHALL PROFILE THE TOPS OF THE EXTERIOR GIRDERS BEFORE THE FORMWORK IS STARTED AND SHALL SUPPLY THE CONTRACTOR WITH THE FINAL BOTTOM OF SLAB ELEVATIONS. TEN (10) WORKING DAYS SHALL BE ALLOWED FOR THE BLOCKING POINT TURN AROUND TIME.
- SHIELDING REQUIRED DURING CONSTRUCTION SHALL NOT PROJECT BELOW THE BOTTOM FLANGES OF GIRDERS.
- ALL PAINT ON THE EXISTING STRUCTURAL STEEL DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED, AT NO ADDITIONAL COST TO THE AUTHORITY, IN ACCORDANCE WITH SPECIAL PROVISION 506, AND TO THE SATISFACTION OF THE RESIDENT.
- ALL BRIDGE PARAPET, WINGWALL AND ENDPPOST CONCRETE, INCLUDING INSIDE FACE, TOP AND OUTSIDE FACE, PLUS DECK FASCIA SHALL HAVE A RUBBED FINISHED PRIOR TO THE APPLICATION OF THE PROTECTIVE COATING FOR CONCRETE SURFACE.
- EXISTING ALUMINUM BRIDGE RAILING & STEEL ROCKER BEARINGS SHALL BE REMOVED AND STACKED AT THE AUTHORITY'S GARDINER MAINTENANCE FACILITY. PAYMENT SHALL BE INCIDENTAL TO ITEMS 202.122 "REMOVING SUPERSTRUCTURE CONCRETE" AND 523.5404 "SEISMIC ISOLATION BEARINGS", RESPECTIVELY.

SUMMARY OF BRIDGE QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
202.12	REMOVING EXISTING STRUCTURAL CONCRETE	CY	9
202.122	REMOVING EXISTING SUPERSTRUCTURE CONCRETE (226 CY)	LS	1
202.202	REMOVING PAVEMENT SURFACE	SY	1,210
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES, PLAN QUANTITY	CY	23
403.209	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	TON	6
403.210	HOT MIX ASPHALT, 9.5MM NOMINAL MAXIMUM SIZE	TON	196
409.15	BITUMINOUS TACK COAT, APPLIED	GAL	
419.30	SAWING BITUMINOUS PAVEMENT	LF	405
502.26	STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLAB ON STEEL BRIDGES (165 CY)	LS	1
502.264	STRUCTURAL CONCRETE PARAPETS (97 CY)	LS	1
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	LB	46,350
503.13	REINFORCING STEEL, PLACING	LB	46,350
503.14	EPOXY-COATED REINFORCING STEEL, FABRICATED AND DELIVERED	LB	24,250
503.15	EPOXY-COATED REINFORCING STEEL, PLACING	LB	24,250
503.171	MECHANICAL SPLICE	EA	3,220
504.7211	JACKING EXISTING SUPERSTRUCTURE	LS	1
505.09	STUD WELDED SHEAR CONNECTORS	EA	850
507.091	ALUMINUM BRIDGE RAILING, 1 BAR	LF	876
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE (1740 SY)	LS	1
513.09	SLOPE PROTECTION - PORTLAND CEMENT CONCRETE	SY	7
515.201	PIGMENTED CONCRETE PROTECTIVE COATING	SY	615
515.202	CLEAR CONCRETE PROTECTIVE COATING	SY	660
518.6313	ABUTMENT AND BRIDGE SEAT REPAIRS	SF	160
518.6314	PIER REPAIRS	SF	1,100
518.80	PARTIAL DEPTH CONCRETE DECK REPAIRS	SF	550
518.81	FULL DEPTH CONCRETE DECK REPAIRS	SF	50
523.5404	SEISMIC ISOLATION BEARINGS - FABRICATED & DELIVERED	EA	30
523.5405	SEISMIC ISOLATION BEARINGS - INSTALLATION	EA	30
524.40	PROTECTIVE SHIELD	SY	730
606.355	BRIDGE PIER MARKER	EA	4
609.15	SLOPED CURB TYPE 1	LF	896
609.191	CONCRETE CURB, TYPE 2	LF	73

ABBREVIATIONS

S.B.	SOUTHBOUND
N.B.	NORTHBOUND
N.F.	NEAR FACE
F.F.	FAR FACE
E.F.	EACH FACE
T. & B.	TOP AND BOTTOM
TYP.	TYPICAL
CL.	CLEAR
ABUT.	ABUTMENT
PROP.	PROPOSED
EXIST.	EXISTING
E.S.	EQUAL SPACES

INDEX OF DRAWINGS

SHEET NO.	TITLE
I295-S1	BRIDGE NOTES, INDEX AND QUANTITIES
I295-S2	SEQUENCE OF CONSTRUCTION
I295-S3	DECK DEMOLITION AND REPAIR PLAN
I295-S4	PROPOSED TRANSVERSE SECTION
I295-S5	SUPERSTRUCTURE DETAILS I
I295-S6	SUPERSTRUCTURE DETAILS II
I295-S7	SUPERSTRUCTURE DETAILS III
I295-S8	SUPERSTRUCTURE DETAILS IV
I295-S9	BRIDGE RAIL - 1 BAR
I295-S10	SEISMIC ISOLATION BEARING DETAILS 1
I295-S11	SEISMIC ISOLATION BEARING DETAILS 2
I295-S12	WINGWALL & ENDPPOST MODIFICATIONS I
I295-S13	WINGWALL & ENDPPOST MODIFICATIONS II
I295-S14	SUBSTRUCTURE REPAIRS LAYOUT PLAN AND REPAIR DETAILS
I295-S15	SUBSTRUCTURE REPAIRS ABUTMENT NO. 1
I295-S16	SUBSTRUCTURE REPAIRS ABUTMENT NO. 2
I295-S17	SUBSTRUCTURE REPAIRS PIER NO. 1
I295-S18	SUBSTRUCTURE REPAIRS PIER NO. 2
I295-S19	SUBSTRUCTURE REPAIRS PIER NO. 3
I295-S20	REINFORCING STEEL SCHEDULE

AS-BUILT PLANS

SHEET NO.	TITLE
32 of 39	AS-BUILTS - GENERAL PLAN
33 of 39	AS-BUILTS - ABUTMENT NO. 1
34 of 39	AS-BUILTS - ABUTMENT NO. 2
35 of 39	AS-BUILTS - ABUTMENT DETAILS
36 of 39	AS-BUILTS - PIERS NO. 1, 2 & 3
37 of 39	AS-BUILTS - STRUCTURAL STEEL
38 of 39	AS-BUILTS - SUPERSTRUCTURE
39 of 39	AS-BUILTS - SUPERSTRUCTURE DETAILS

Date: 2/27/2006

Filename: ... \012_BridgeIndexQty.dgn

Scale:

Designed by:

HNTB

HNTB CORPORATION
2 Thomas Drive
Westbrook, ME 04092
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FAX (207) 772-7410



**THE GOLD STAR
MEMORIAL HIGHWAY**

**I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION
BRIDGE NOTES, INDEX AND
QUANTITIES**

No.	Revision	By	Date

	By	Date	Checked	By	Date
Designed	TRC	02/06		TMH	02/06
Drawn	MPC	02/06	In Charge of	RAL	02/06

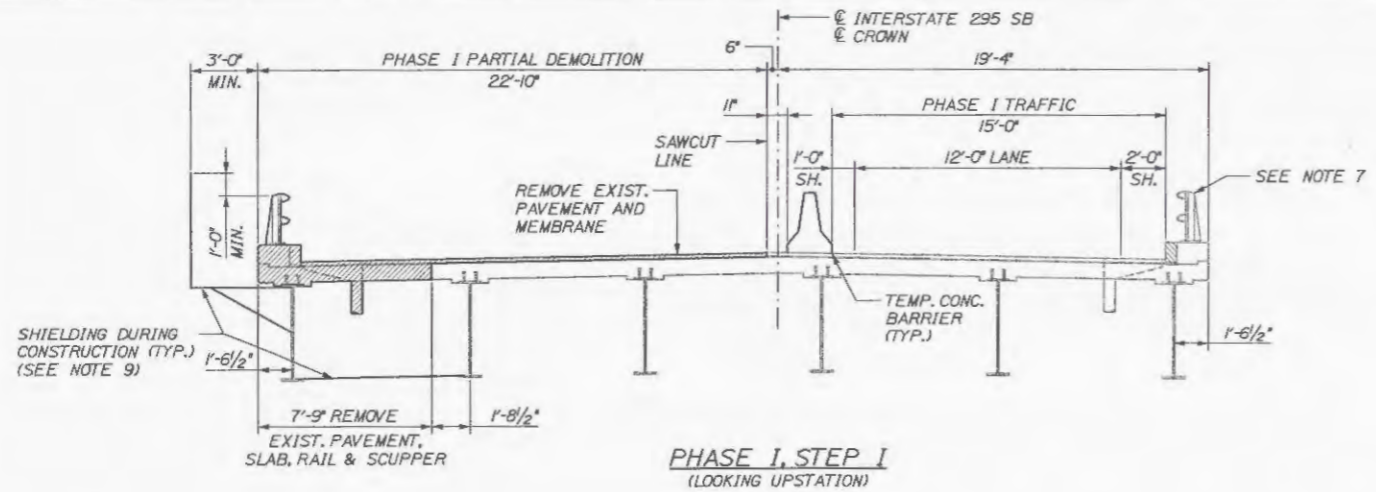
SHEET NUMBER: I295-S1

CONTRACT: 2006.02

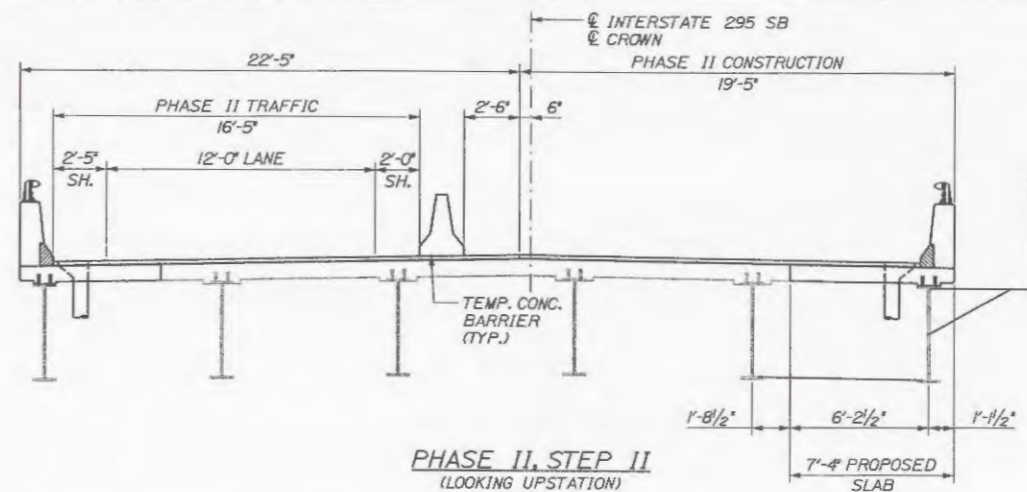
12 OF 39

Date: 2/27/2006

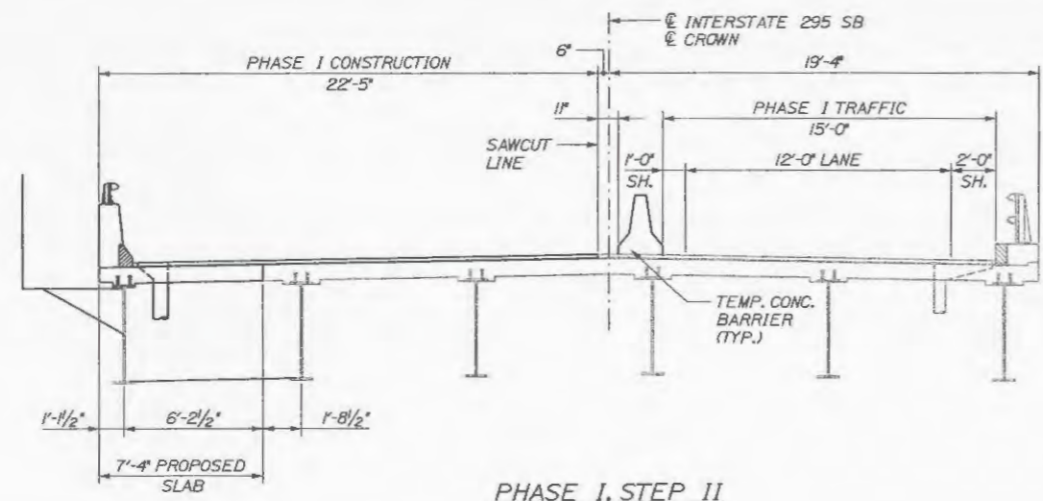
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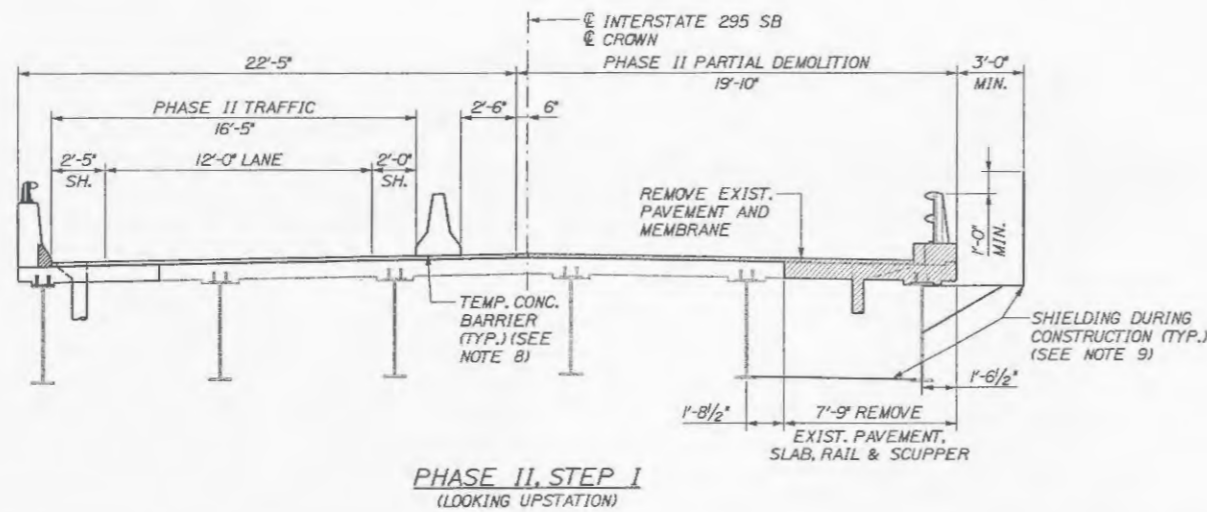
PHASE I, STEP I
(LOOKING UPSTATION)



PHASE II, STEP II
(LOOKING UPSTATION)



PHASE I, STEP II
(LOOKING UPSTATION)



PHASE II, STEP I
(LOOKING UPSTATION)

- NOTES:
- FOR ADDITIONAL EXISTING STRUCTURE DETAILS SEE AS-BUILT DRAWINGS AT BACK OF THIS PLAN SET.
 - ALL SECTIONS SHOWN LOOKING UPSTATION (IN OPPOSITE OF DIRECTION OF TRAFFIC).
 - EXISTING PAVEMENT DEPTH ON BRIDGE VARIES BETWEEN 2 AND 3 INCHES. PAYMENT FOR PAVEMENT REMOVAL WITHIN LIMITS OF SLAB DEMOLITION SHALL BE CONSIDERED INCIDENTAL TO PAY ITEM 202.122 "REMOVING EXISTING SUPERSTRUCTURE CONCRETE". PAYMENT FOR REMOVAL OF PAVEMENT OUTSIDE OF DECK DEMOLITION LIMITS SHALL BE PAID SEPARATELY UNDER PAY ITEM 202.202 "REMOVING PAVEMENT SURFACE".
 - REMOVAL OF THE PAVEMENT SURFACE FROM THE BRIDGE DECK SHALL BE COMPLETED BY SCRAPING OR OTHER METHODS THAT WILL NOT DAMAGE THE DECK SURFACE. MILLING OF DECK PAVEMENT WILL NOT BE ALLOWED.
 - TEMPORARY CONCRETE BRIDGE BARRIER SHALL NOT BE ANCHORED TO THE BRIDGE DECK.
 - SLAB SECTIONS SHALL BE CLEAN AND FREE OF BOND INHIBITING MATERIALS PRIOR TO INSTALLING PROPOSED HIGH PERFORMANCE MEMBRANE WATERPROOFING. INSTALLATION OF MEMBRANE SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
 - PRIOR TO SHIFTING TRAFFIC IN PHASE I, CONTRACTOR SHALL CHECK THE EXISTING RAILING SPLICE BARS AND RE-CENTER THEM IF NECESSARY. PAYMENT SHALL BE MADE UNDER ITEM 629.05 "HAND LABOR, STRAIGHT TIME".
 - CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO ENSURE THE NEW PAVEMENT IS NOT DAMAGED BY THE CONCRETE BARRIER. IF NECESSARY PLYWOOD SHALL BE PLACED BENEATH THE BARRIER TO PREVENT MARRING OF THE NEW PAVEMENT.
 - PROTECTIVE SHIELDING SHALL BE INSTALLED IN ALL AREAS OF DEMOLITION AND WITHIN 8 FEET OF AREAS OF PARTIAL AND FULL DEPTH CONCRETE DECK REPAIR.
 - EXISTING ALUMINUM RAILING SHALL REMAIN THE PROPERTY OF THE AUTHORITY. CONTRACTOR SHALL REMOVE & STACK RAIL AT THE AUTHORITY'S GARDINER MAINTENANCE FACILITY. PAYMENT INCIDENTAL TO ITEM 202.122 "REMOVING SUPERSTRUCTURE CONCRETE".

Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

HNTB

By	Date	Checked	By	Date
TRC	02/06		TMH	02/06
MPC	02/06	In Charge of	RAL	02/06

HNTB CORPORATION
2 Thomas Drive
Westbrook, ME 04092
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FAX (207) 772-7410



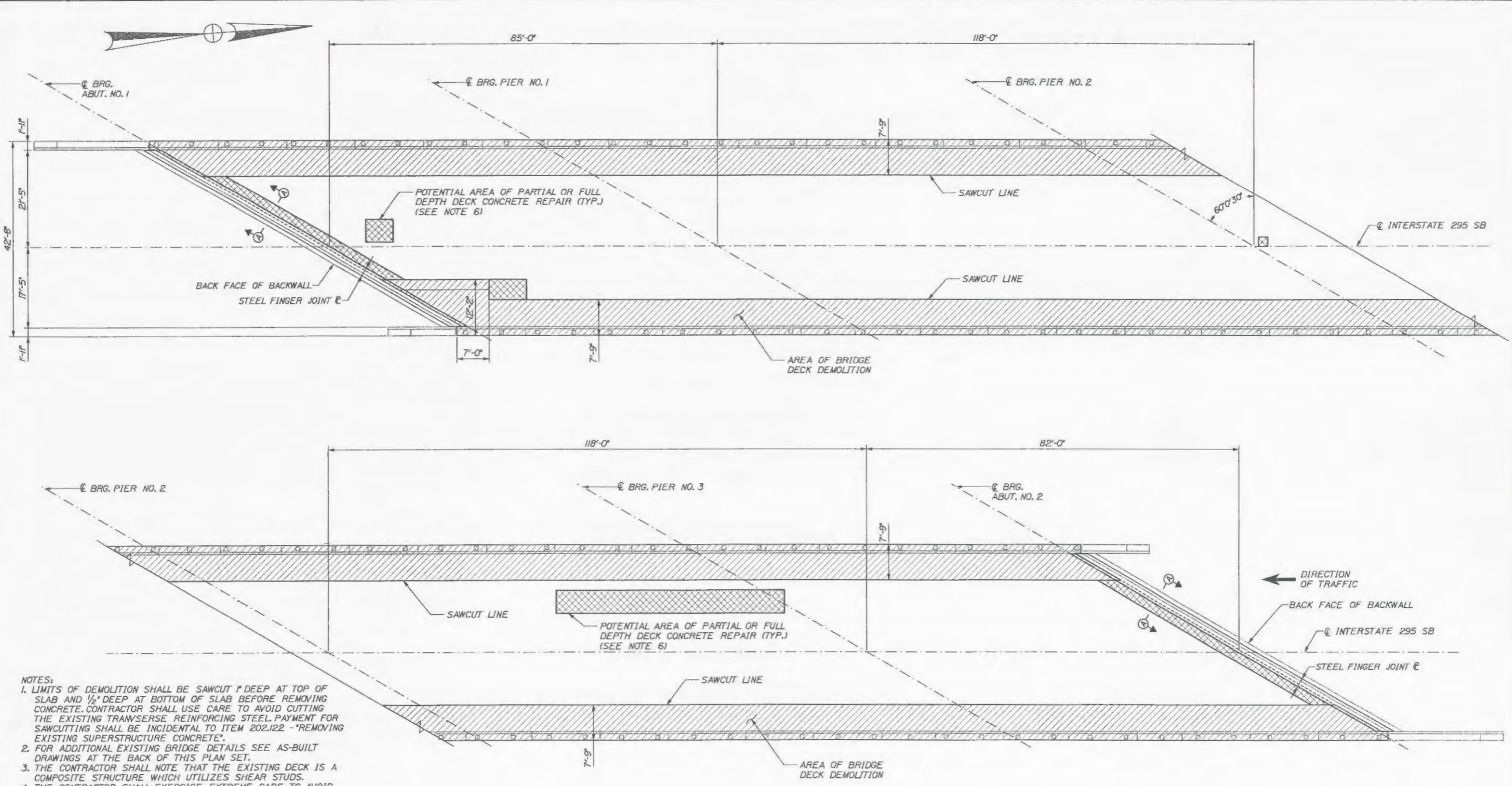
I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION

SEQUENCE OF CONSTRUCTION

SHEET NUMBER: I295-S2
CONTRACT: 2006.02
13 OF 39

Date: 2/27/2006

Filename: ...014_deckdemolition.dgn



- NOTES:
- LIMITS OF DEMOLITION SHALL BE SAWCUT 1" DEEP AT TOP OF SLAB AND 1/2" DEEP AT BOTTOM OF SLAB BEFORE REMOVING CONCRETE. CONTRACTOR SHALL USE CARE TO AVOID CUTTING THE EXISTING TRANSVERSE REINFORCING STEEL. PAYMENT FOR SAWCUTTING SHALL BE INCIDENTAL TO ITEM 202.122 - "REMOVING EXISTING SUPERSTRUCTURE CONCRETE".
 - FOR ADDITIONAL EXISTING BRIDGE DETAILS SEE AS-BUILT DRAWINGS AT THE BACK OF THIS PLAN SET.
 - THE CONTRACTOR SHALL NOTE THAT THE EXISTING DECK IS A COMPOSITE STRUCTURE WHICH UTILIZES SHEAR STUDS.
 - THE CONTRACTOR SHALL EXERCISE EXTREME CARE TO AVOID GOUGING, DEFORMING, OR OTHERWISE DAMAGING THE EXISTING STRUCTURAL STEEL DURING SUPERSTRUCTURE DEMOLITION. DAMAGE TO STEEL RESULTING FROM THE CONTRACTORS OPERATIONS, SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE AUTHORITY. PRIOR TO COMPLETING ANY REQUIRED STEEL REPAIRS THE CONTRACTOR SHALL SUBMIT A REPAIR PROCEDURE TO THE RESIDENT FOR APPROVAL.
 - FOR SECTION A-A SEE SHEET 1295-S5.
 - SHIELDING SHALL BE INSTALLED BENEATH ALL AREAS OF PARTIAL OR FULL DEPTH DECK REPAIR LOCATED OVER, OR WITHIN 10' OF, ACTIVE LANES ON THE MAINE TURNPIKE.

PLAN
3/32" = 1'-0"

Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

HNTB

	By	Date	Checked	By	Date
Designed	TRC	02/06	Checked	CAH	02/06
Drawn	MPC	02/06	In Charge of	RAL	02/06

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THE GOLD STAR
MEMORIAL HIGHWAY

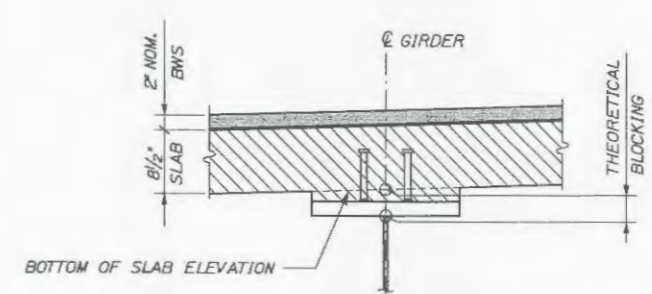
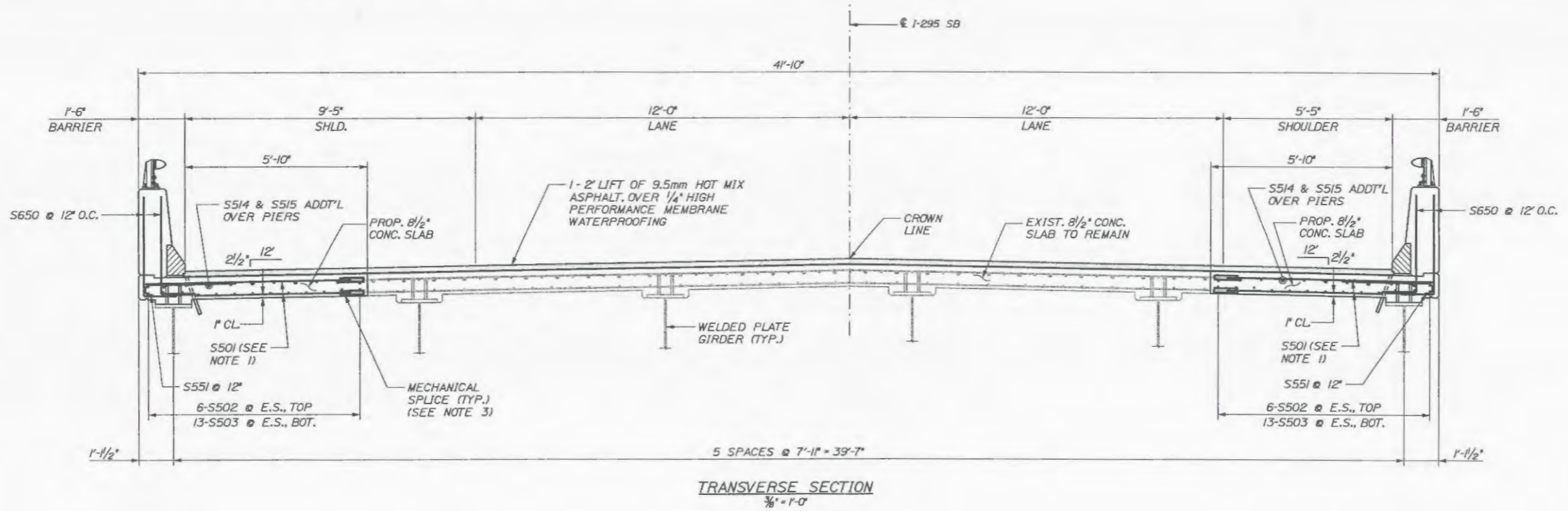
I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION

DECK DEMOLITION AND REPAIR PLAN

CONTRACT: 2006.02 SHEET NUMBER: 1295-S3 14 OF 39

Date: 2/27/2006

Filename: ...066 I-295\015_transverse.dgn



BLOCKING DETAIL
THEORETICAL BLOCKING IS 2 1/2" AT CL BRG., ABUTMENTS AND PIERS
(DO NOT USE THEORETICAL BLOCKING TO SET FORMS)

BOTTOM OF SLAB ELEVATIONS AT BLOCKING POINTS																					
GIRDER NO.	CL BRG. ABUT. 1	SPAN 1									CL BRG. PIER 1	SPAN 2									CL BRG. PIER 2
		0.1*L	0.2*L	0.3*L	0.4*L	0.5*L	0.6*L	0.7*L	0.8*L	0.9*L		0.1*L	0.2*L	0.3*L	0.4*L	0.5*L	0.6*L	0.7*L	0.8*L	0.9*L	
G1	228.020	228.129	228.232	228.328	228.415	228.494	228.564	228.629	228.691	228.753	228.820	228.926	229.039	229.148	229.245	229.326	229.388	229.435	229.472	229.505	229.546
G6	228.753	228.841	228.924	228.999	229.066	229.125	229.178	229.225	229.270	229.316	229.366	229.448	229.534	229.615	229.684	229.736	229.771	229.792	229.804	229.815	229.834

GIRDER NO.	CL BRG. PIER 2	SPAN 3									CL BRG. PIER 3	SPAN 4									CL BRG. ABUT. 2
		0.1*L	0.2*L	0.3*L	0.4*L	0.5*L	0.6*L	0.7*L	0.8*L	0.9*L		0.1*L	0.2*L	0.3*L	0.4*L	0.5*L	0.6*L	0.7*L	0.8*L	0.9*L	
G1	229.546	229.605	229.671	229.736	229.792	229.833	229.856	229.861	229.852	229.838	229.828	229.830	229.836	229.844	229.849	229.851	229.846	229.835	229.816	229.791	229.761
G6	229.834	229.868	229.908	229.946	229.974	229.986	229.981	229.959	229.926	229.869	229.856	229.842	229.832	229.822	229.810	229.793	229.770	229.740	229.702	229.658	229.609

- NOTES:
1. PROPOSED TRANSVERSE REINFORCING STEEL SPACING SHALL MATCH EXISTING TRANSVERSE REINFORCING STEEL SPACING.
 2. FOR ADDITIONAL REINFORCING DETAILS NOT SHOWN SEE SUPERSTRUCTURE DETAIL SHEETS.
 3. PAYMENT FOR MECHANICAL SPLICE SHALL BE MADE UNDER PAY ITEM 503.071 "MECHANICAL SPLICE". MECHANICAL SPLICERS SHALL BE ONE OF THE DEVICES LISTED SPECIAL PROVISION SECTION 503.
 5. ALL REINFORCING STEEL SHALL HAVE 2" CLEAR COVER UNLESS OTHERWISE NOTED.
 6. FOR ADDITIONAL DETAILS OF THE EXISTING STRUCTURE SEE AS-BUILT DRAWINGS AT THE BACK OF THIS PLAN SET.

Scale: 3/8" = 1'-0"

No.	Revision	By	Date

Designed by:

HNTB

By	Date	Checked	By	Date
TRC	02/06	CLC	CLC	02/06
MPC	02/06	In Charge of	RAL	02/06

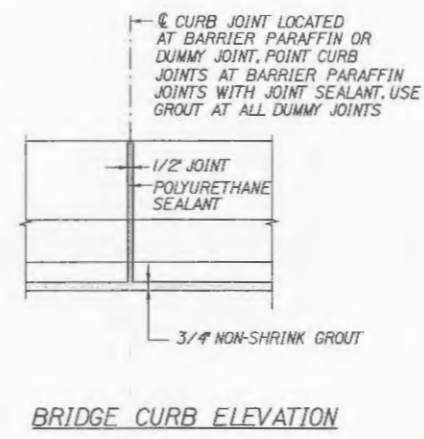
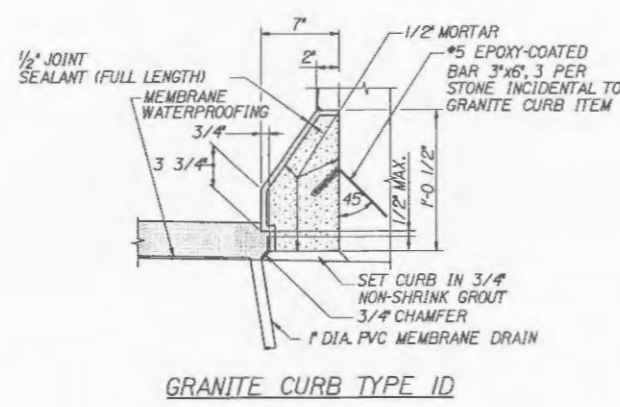
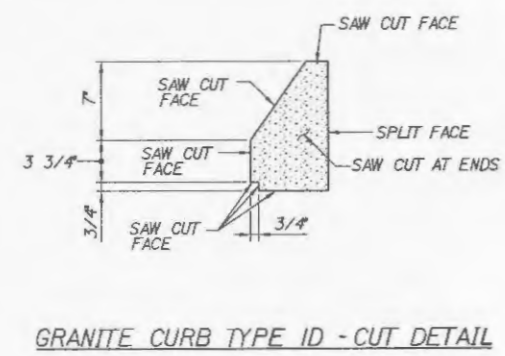
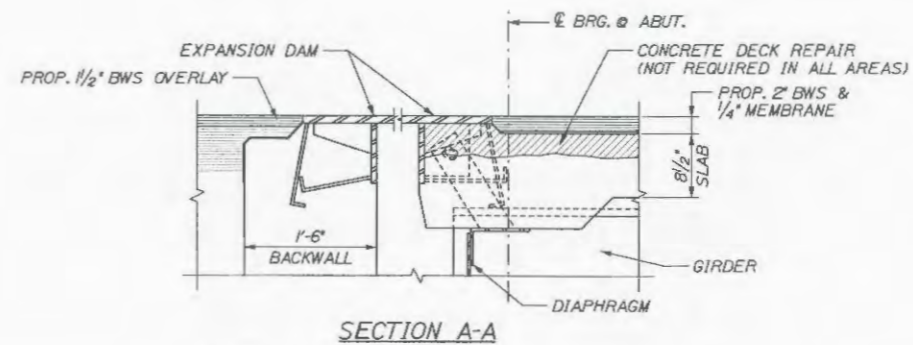
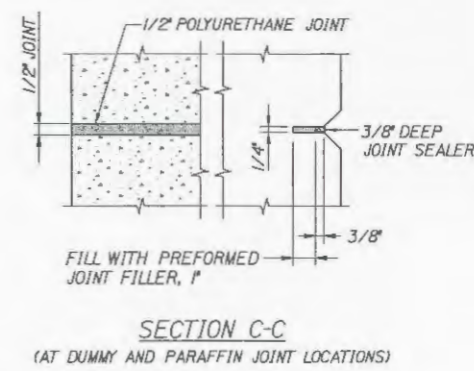
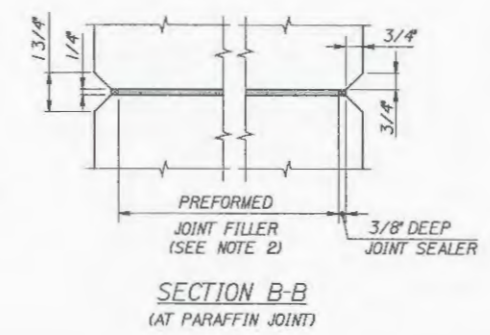
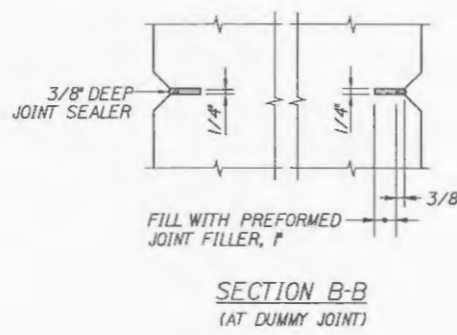
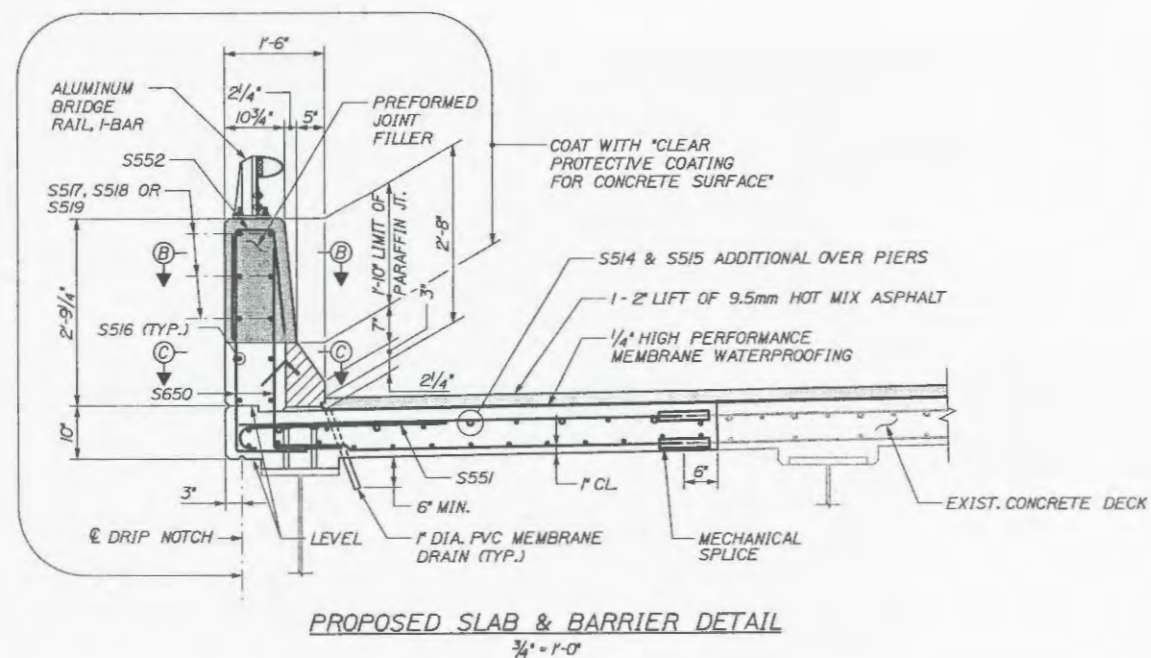
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I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION

PROPOSED TRANSVERSE SECTION

SHEET NUMBER: I295-S4
CONTRACT: 2006.02
15 OF 39



NOTE:
REINFORCING STEEL NOT SHOWN FOR CLARITY

NOTES:


1. FOR ADDITIONAL SUPERSTRUCTURE NOTES SEE SHEETS 1295-S4 & 1295-S7.

PARAFFIN AND DUMMY JOINT NOTES

1. CONSTRUCTION OF PARAFFIN JOINTS SHALL BE INCIDENTAL TO THE CONCRETE PARAPET PAY ITEM.
2. CONCRETE SHALL BE PLACED SIMULTANEOUSLY ON BOTH SIDES OF THE JOINT. THE JOINTS SHALL REMAIN PLUMB AND STRAIGHT DURING PLACEMENT. A THIN STEEL PLATE MAY BE USED TO SUPPORT THE JOINT. THE PLATE SHALL BE CAREFULLY REMOVED WHILE THE CONCRETE IS PLASTIC.
3. PREFORMED JOINT FILLER SHALL CONFORM TO ASTM DESIGNATION D1752, TYPE 1 OR D5249, TYPE 2 (I.E. CEREMAR OR CORK TYPE).
4. JOINT SEALER SHALL CONFORM TO ASTM C920, TYPE S, GRADE NS, CLASS 25 (I.E. SIKAFLEX IA OR EQUAL). PAYMENT FOR JOINT SEALANT SHALL BE INCIDENTAL TO THE RESPECTIVE BARRIER CONCRETE AND GRANITE CURB PAY ITEMS.
5. CURB JOINTS SHALL BE ALIGNED WITH PARAFFIN AND DUMMY JOINTS.
6. FOR RAILING POST SPACING, SEE SHEET 1295-S8.

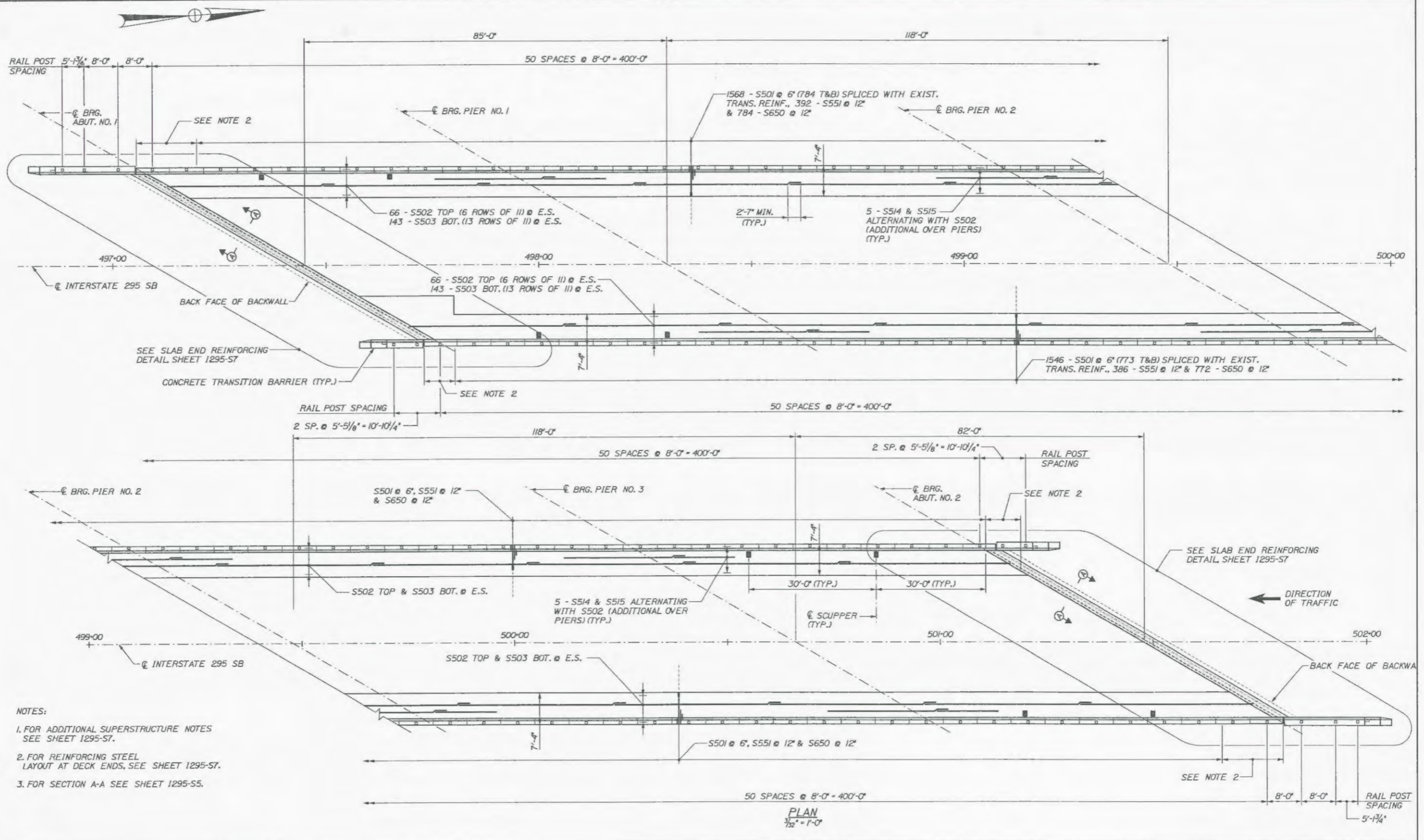
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Scale: 1/4" = 1'-0"	Designed by: HNTB	HNTB CORPORATION 2 Thomas Drive Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 772-7410	 THE GOLD STAR MEMORIAL HIGHWAY	1-295 SOUTHBOUND UNDERPASS BRIDGE REHABILITATION SUPERSTRUCTURE DETAILS I SHEET NUMBER: 1295-S5 CONTRACT: 2006.02																												
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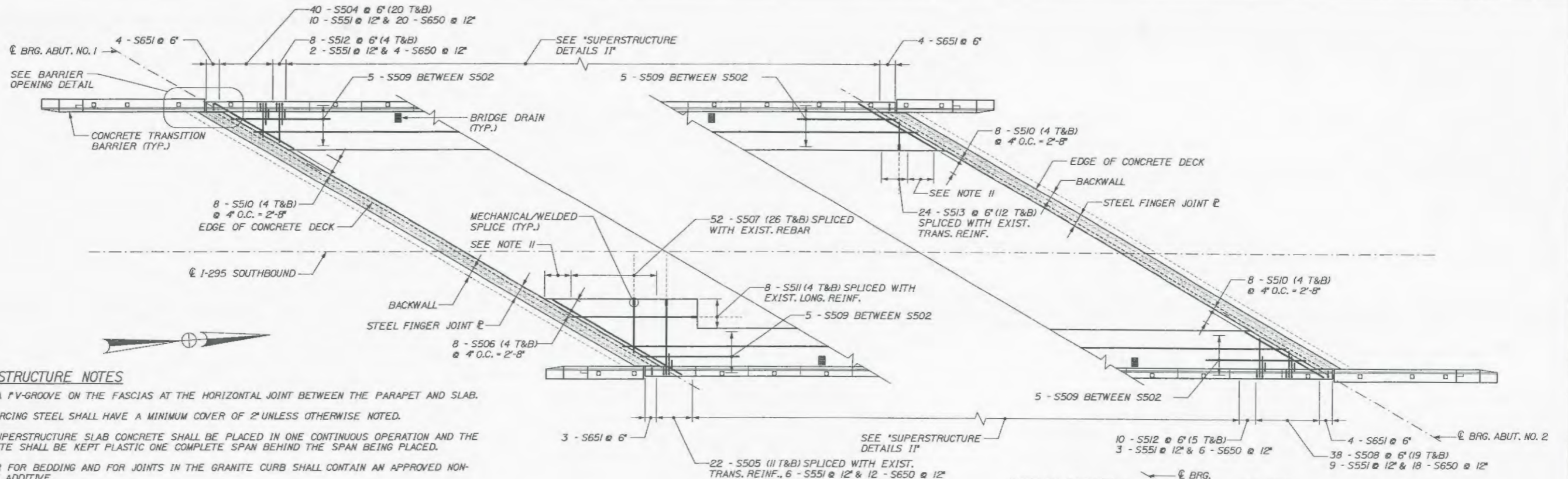
Date: 2/27/2006

Filename: ...017_superstructure2.dgn



- NOTES:
1. FOR ADDITIONAL SUPERSTRUCTURE NOTES SEE SHEET 1295-S7.
 2. FOR REINFORCING STEEL LAYOUT AT DECK ENDS, SEE SHEET 1295-S7.
 3. FOR SECTION A-A SEE SHEET 1295-S5.

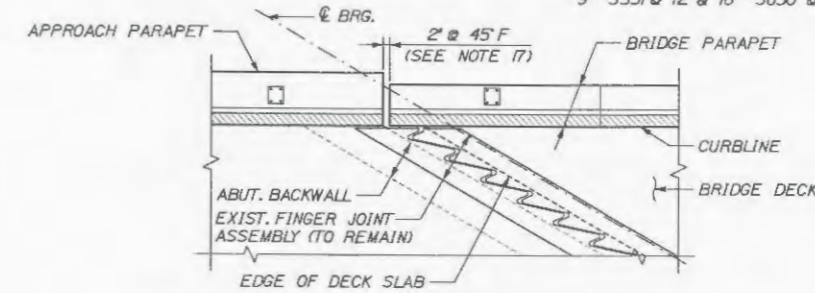
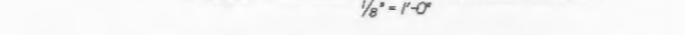
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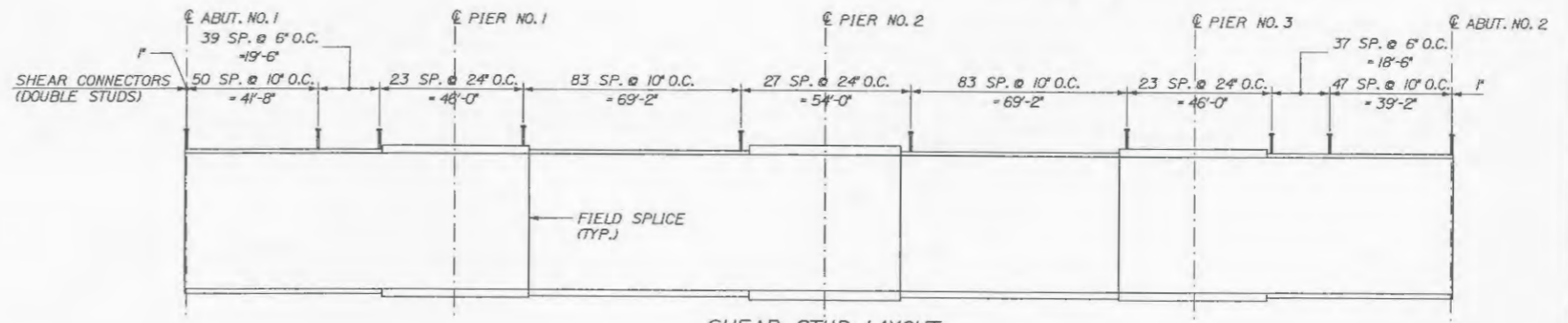
SUPERSTRUCTURE NOTES

1. FORM A V-GROOVE ON THE FASCIAS AT THE HORIZONTAL JOINT BETWEEN THE PARAPET AND SLAB.
2. REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2" UNLESS OTHERWISE NOTED.
3. THE SUPERSTRUCTURE SLAB CONCRETE SHALL BE PLACED IN ONE CONTINUOUS OPERATION AND THE CONCRETE SHALL BE KEPT PLASTIC ONE COMPLETE SPAN BEHIND THE SPAN BEING PLACED.
4. MORTAR FOR BEDDING AND FOR JOINTS IN THE GRANITE CURB SHALL CONTAIN AN APPROVED NON-SHRINK ADDITIVE.
5. BITUMINOUS PAVEMENT SHALL BE PLACED IN ONE 2 INCH "LIFT".
6. GRANITE CURB JOINTS SHALL LINE UP WITH PARAFFIN AND DUMMY JOINTS.
7. CLEAR PROTECTIVE COATING FOR CONCRETE SURFACE SHALL BE APPLIED TO THE FOLLOWING AREAS: PARAPET SURFACES, FASCIA DOWN TO DRIP NOTCH AND ALL EXPOSED CONCRETE SURFACES ON THE END POSTS.
8. ALL BRIDGE BARRIER CONCRETE, INCLUDING INSIDE FACE, TOP AND OUTSIDE FACE, END POSTS AND DECK FASCIA SHALL HAVE A RUBBED FINISH PRIOR TO THE APPLICATION OF THE CLEAR PROTECTIVE COATING FOR CONCRETE SURFACE.
9. THE CONCRETE DECK SHALL BE GIVEN A SMOOTH BULL FLOAT OR WOOD FLOAT FINISH.
10. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
11. WHERE EXISTING TRANSVERSE REINFORCING STEEL AT ENDS OF DECK SLAB IS NOT TO BE SPLICED WITH PROPOSED REINFORCING STEEL CONTRACTOR SHALL USE CARE DURING DEMOLITION TO LEAVE EXISTING BARS AS LONG AS POSSIBLE.
12. PRIOR TO INSTALLING THE PROPOSED SHEAR STUDS THE CONTRACTOR SHALL REMOVE THE EXISTING SHEAR STUDS AND CLEAN THE GIRDER TOP FLANGE SO THAT IT IS FREE OF DEBRIS, RUST, SCALE, OIL AND OTHER CONTAMINATES THAT WOULD ADVERSELY AFFECT THE WELDING OPERATION. ALL GRINDING SHALL BE PERFORMED IN THE LONGITUDINAL DIRECTION OF THE BEAM. PAYMENT FOR PREPARING GIRDER TOP FLANGE FOR INSTALLATION OF PROPOSED SHEAR STUDS SHALL BE INCIDENTAL TO ITEM 505.08.
13. EXISTING SHEAR STUDS SHALL BE REMOVED BY MECHANICALLY CUTTING THE STUDS AT A HEIGHT OF 1" ABOVE THE TOP OF THE GIRDER TOP FLANGE. PAYMENT FOR REMOVAL OF EXISTING SHEAR STUDS SHALL BE INCIDENTAL TO ITEM 202.122.
14. PROPOSED SHEAR CONNECTORS SHALL BE 7 INCHES IN HEIGHT, 7/8" DIAMETER.
15. A SINGLE ROW OF SHEAR STUDS SHALL BE USED OVER ALL FIELD SPLICE PLATES.
16. THE CONTRACTOR SHALL EXERCISE EXTREME CARE TO AVOID GOUGING, DEFORMING, OR OTHERWISE DAMAGING THE EXISTING STRUCTURAL STEEL DURING CLEANING. DAMAGE TO THE STEEL RESULTING FROM THE CONTRACTORS OPERATIONS, SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE AUTHORITY. PRIOR TO COMPLETING ANY REQUIRED STEEL REPAIRS THE CONTRACTOR SHALL SUBMIT A REPAIR PROCEDURE TO THE RESIDENT FOR APPROVAL.
17. CONCRETE PARAPET ON BRIDGE SHALL BE FORMED SO THAT BARRIER THE OPENING AT THE EXPANSION JOINT IS 2" AT 45°F. THIS OPENING DIMENSION SHALL BE INCREASED BY 3/16" FOR EACH 10° TEMPERATURE DECREASE BELOW 45°F. THE OPENING DIMENSION SHALL DECREASE BY 3/16" FOR EACH 10° TEMPERATURE INCREASE ABOVE 45°F.

SLAB END REINFORCING DETAIL



BARRIER OPENING DETAIL
(SOUTHWEST CORNER SHOWN, DIMENSIONS SIMILAR AT OTHER LOCATIONS)
3/16" = 1'-0"

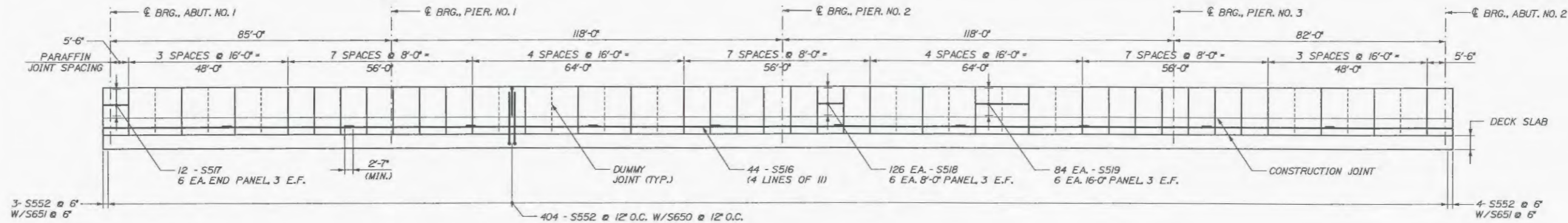


SHEAR STUD LAYOUT
(EXTERIOR GIRDERS ONLY)
(413 STUDS PER BEAM)
1" = 25'-0"

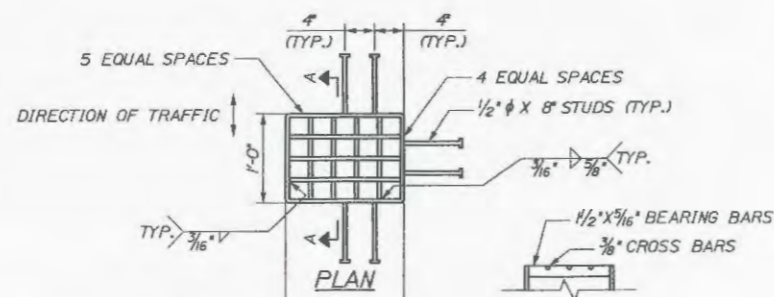
Date: 2/27/2006

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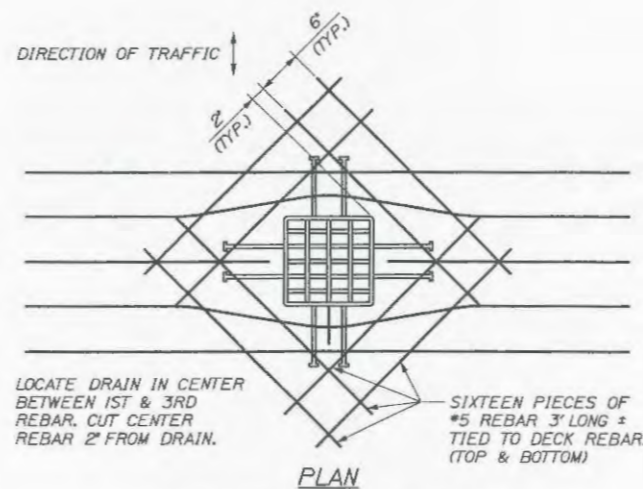
Scale: AS NOTED	Designed by: HNTB	HNTB CORPORATION 2 Thomas Drive Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 772-7410	 THE GOLD STAR MEMORIAL HIGHWAY	I-295 SOUTHBOUND UNDERPASS BRIDGE REHABILITATION SUPERSTRUCTURE DETAILS III																													
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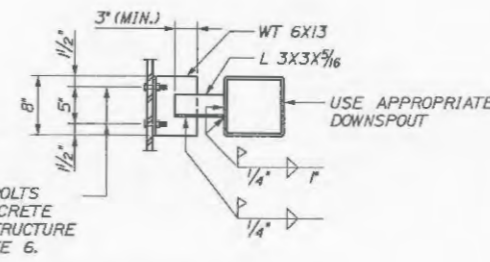
TYPICAL PARAPET ELEVATION
 (EAST PARAPET SHOWN, WEST PARAPET OPPOSITE HAND)
 1/16" = 1'-0"



SECTION A-A

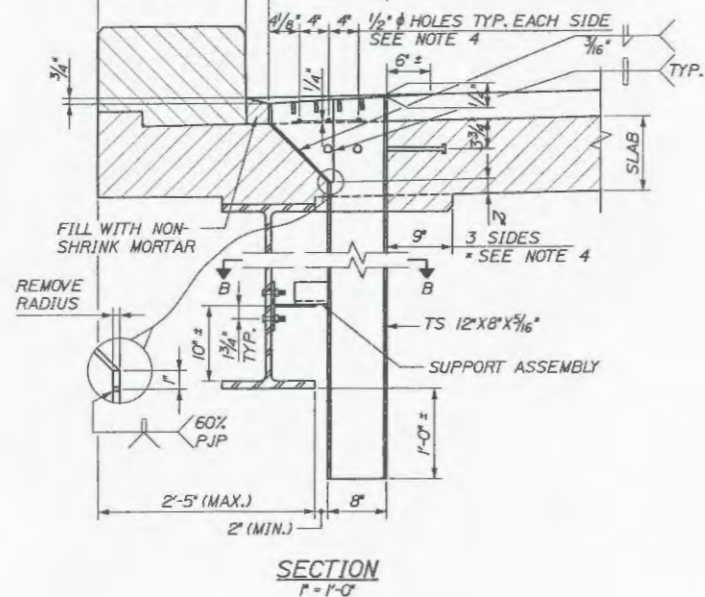


LOCATE DRAIN IN CENTER BETWEEN 1ST & 3RD REBAR, CUT CENTER REBAR 2" FROM DRAIN.
ADDITIONAL REINFORCING STEEL AROUND BRIDGE DRAINS

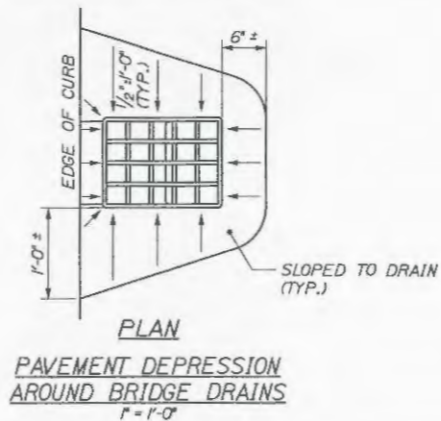


SECTION B-B
 1" = 1'-0"

- NOTES:**
1. ALL PLATES SHALL BE 5/16" THICK AND SHALL CONFORM TO ASTM A 36.
 2. THE DOWNSPOUT SHALL CONFORM TO ASTM A500.
 3. GRATING SHALL BE A COMMERCIAL HEAVY-DUTY GRATING WITH 1/2" X 5/16" BEARING BARS AND 3/8" CROSS BARS.
 4. IF THE MINIMUM THICKNESS OF CONCRETE BELOW THE DRAIN IS 2" OR LESS, THE CONCRETE HAUNCH SHALL BE EXTENDED AS SHOWN.
 5. SHEAR CONNECTORS WELDED TO TOP FLANGE OF BEAM MAY NEED TO BE BENT OUT OF THE WAY SHOULD AN INTERFERENCE WITH THE BRIDGE DRAIN OCCUR.
 6. DRAINS AND SUPPORT ASSEMBLY SHALL BE BLAST CLEANED TO THE REQUIREMENTS OF SSPC-SP6/NACE 3 AND HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A 123.
 7. PAYMENT FOR BRIDGE DRAINS SHALL BE INCIDENTAL TO ITEM 502.263 'STRUCTURAL CONCRETE ROADWAY AND END POSTS ON STEEL BRIDGES'.
 8. THE ADDITIONAL REINFORCING STEEL AROUND EACH BRIDGE DRAIN WILL NOT BE PAID FOR DIRECTLY. PAYMENT WILL BE CONSIDERED INCIDENTAL TO RELATED CONTRACT ITEMS.



SECTION P-P



PAVEMENT DEPRESSION AROUND BRIDGE DRAINS
 1" = 1'-0"

Date: 2/27/2006

Filename: ...1019_superstructure3.dgn

Scale: AS NOTED			
No.	Revision	By	Date

Designed by:					
HNTB					
Designed	By	Date	Checked	By	Date
Drawn	MPC	02/06	In Charge of	RAL	02/06

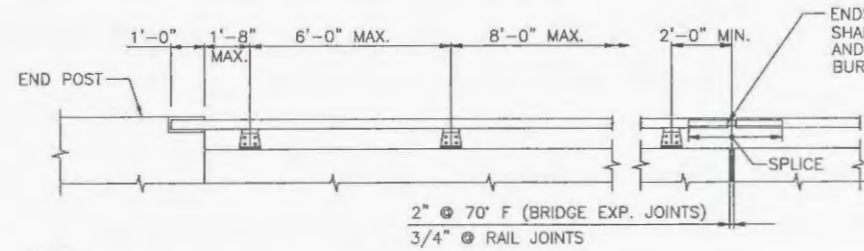
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THE GOLD STAR MEMORIAL HIGHWAY

I-295 SOUTHBOUND UNDERPASS
 BRIDGE REHABILITATION

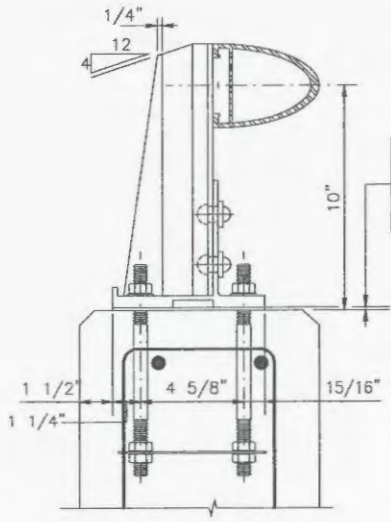
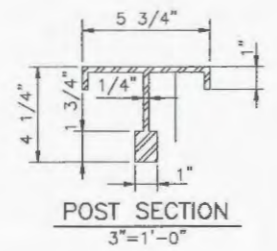
SUPERSTRUCTURE DETAILS IV

SHEET NUMBER: I295-SB
 CONTRACT: 2006.02
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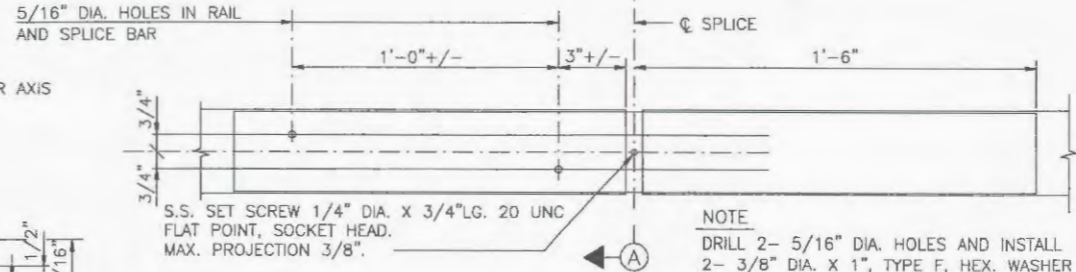
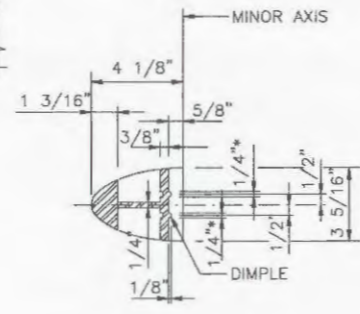
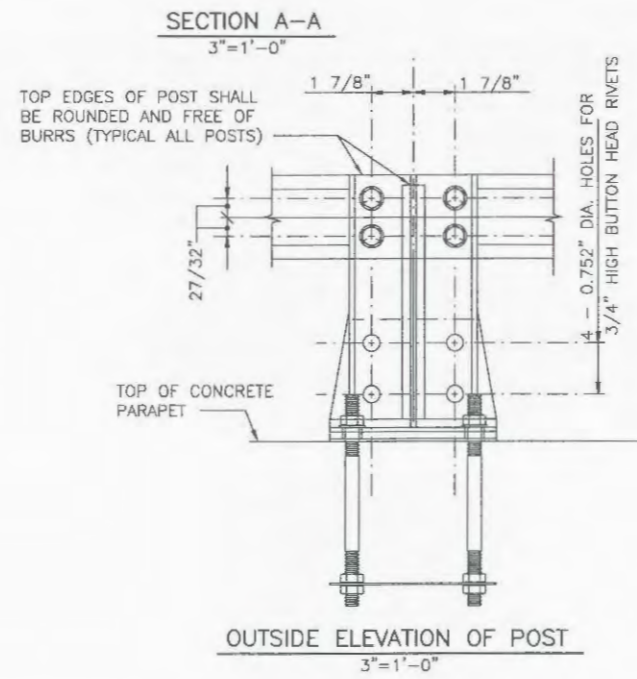
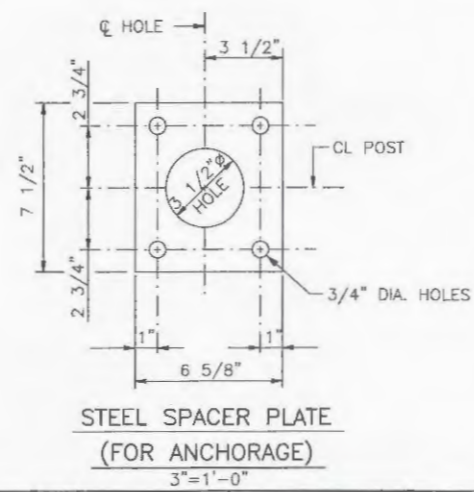
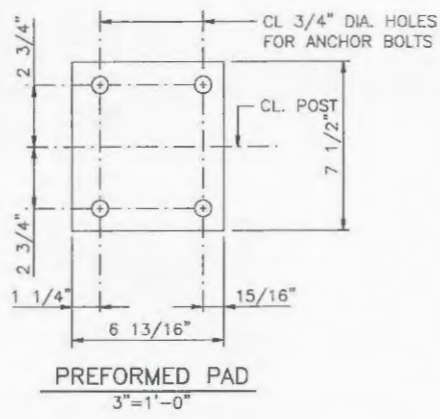
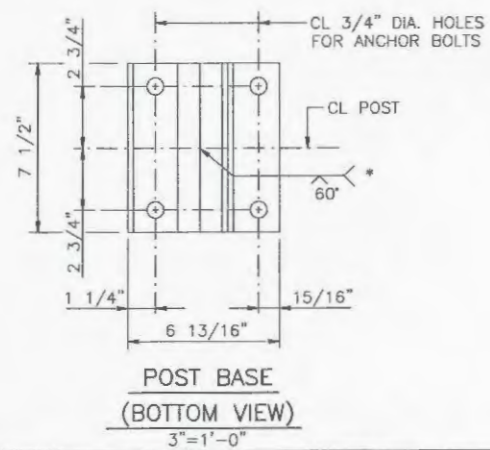


NOTE
LENGTHS OF RAIL SHALL BE ATTACHED TO A MIN. OF FOUR (4) RAIL POSTS WHENEVER POSSIBLE AND, IN ANY CASE, NEVER LESS THAN TWO (2). RAIL POSTS ARE TO BE SET NORMAL TO GRADE, UNLESS OTHERWISE SHOWN ON THE BRIDGE PLANS.

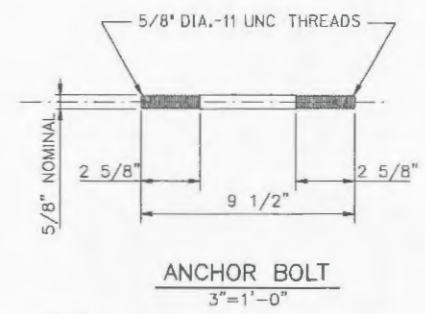
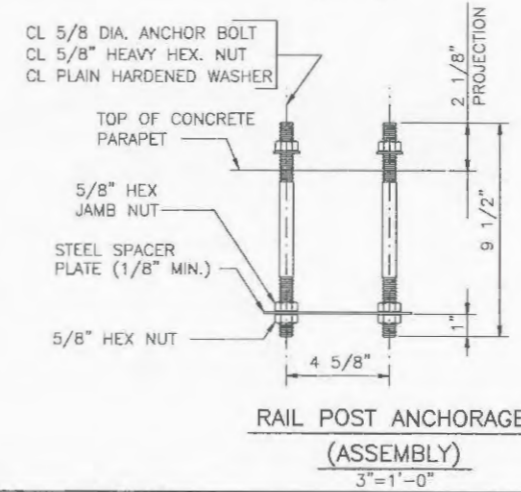
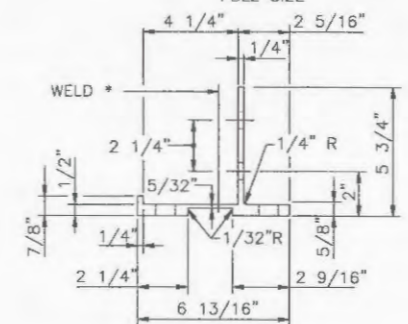
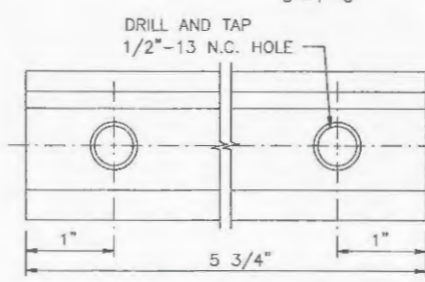
RAILING - ELEVATION
3"=1'-0"



BRIDGE RAILING ASSEMBLY
3"=1'-0"



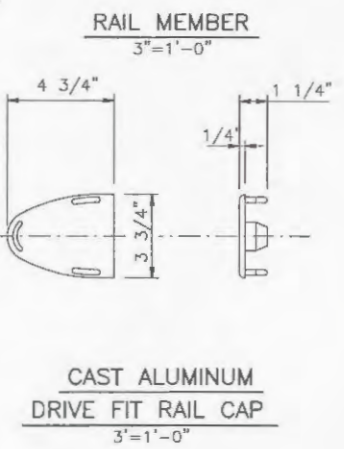
NOTE
DRILL 2- 5/16" DIA. HOLES AND INSTALL 2- 3/8" DIA. X 1", TYPE F, HEX. WASHER HEAD TAPPING SCREWS (STAINLESS).



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

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.

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



Date: 2/27/2006

Filename: ...066 I-295\020_BridgeRail.dgn

Scale: AS NOTED

No.	Revision	By	Date

Designed by: **HNTB**

By	Date	Checked	By	Date
TRC	02/06	TMH	TMH	02/06
MPC	02/06	In Charge of	RAL	02/06

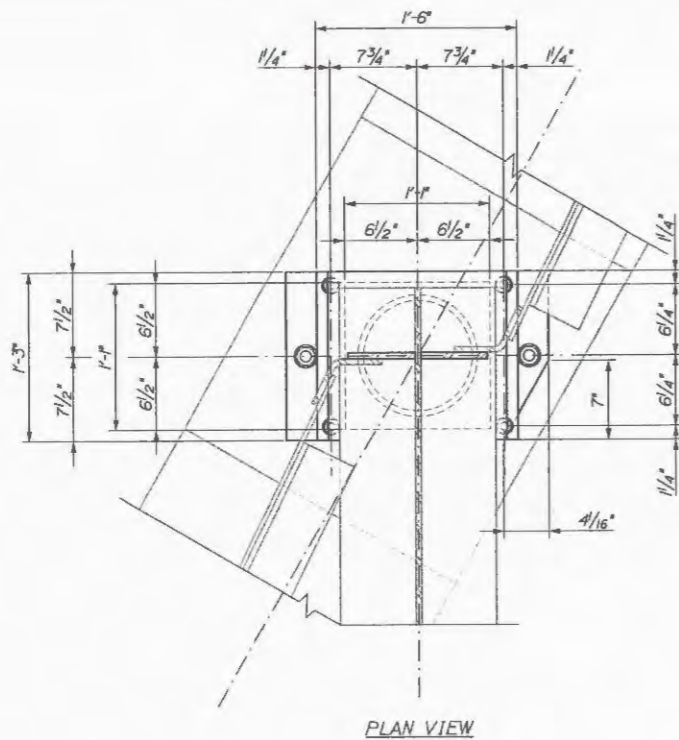
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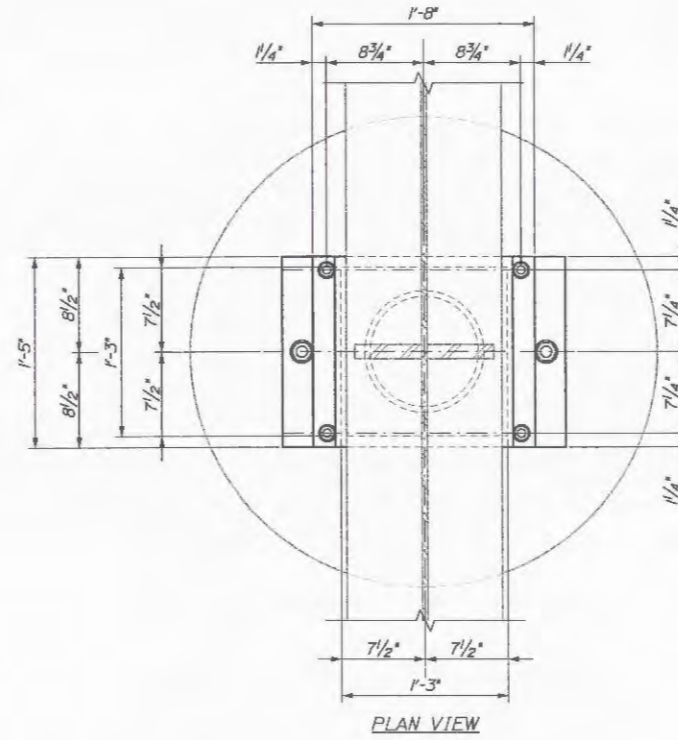
I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION

BRIDGE RAIL - 1 BAR

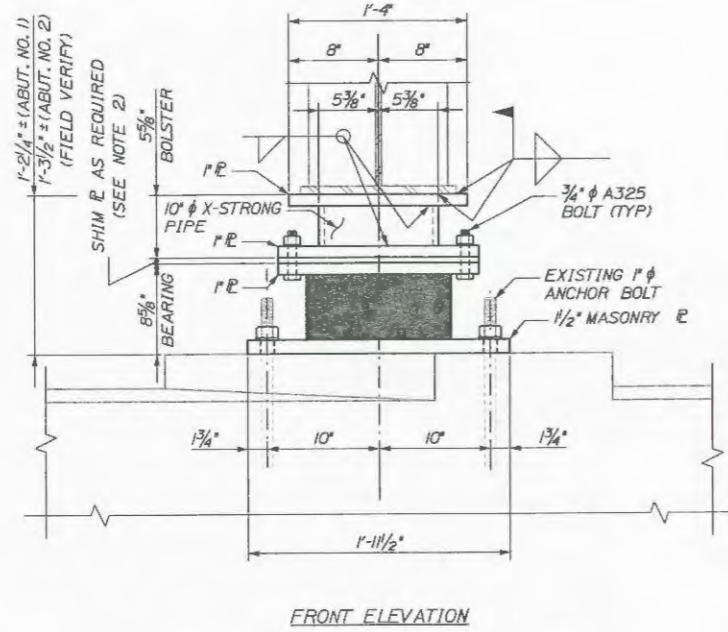
SHEET NUMBER: I295-S9
CONTRACT: 2006.02 20 OF 39



PLAN VIEW

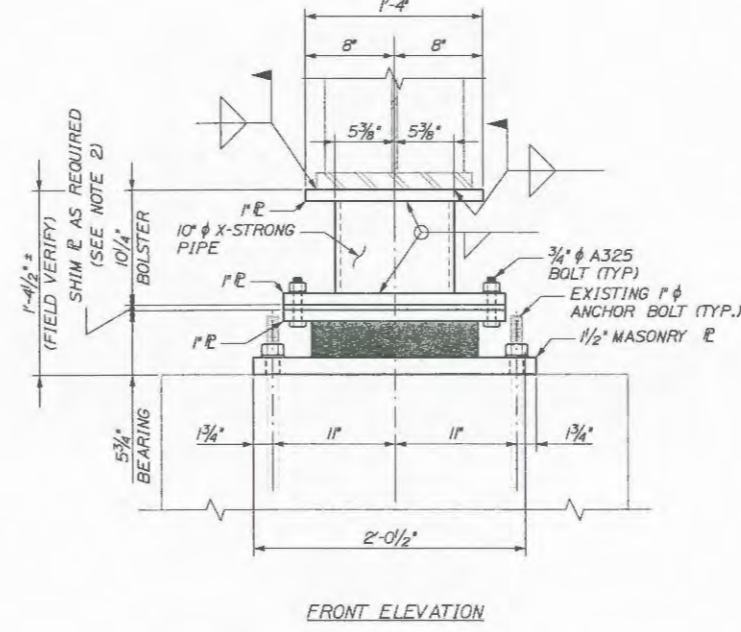


PLAN VIEW



FRONT ELEVATION

BEARING ASSEMBLY - ABUTMENTS
(12 REQUIRED)



FRONT ELEVATION

BEARING ASSEMBLY - PIERS 1 & 3
GIRDERS 2 - 5 (8 REQUIRED)

SEISMIC ISOLATION BEARINGS NOTES

1. SEISMIC LEAD/RUBBER ISOLATION BEARING SHALL BE DESIGN AND FABRICATED BY SEISMIC ENERGY PRODUCTS, LP OF ATHENS, TX OR APPROVED EQUAL.
2. DIMENSIONS SHOWN OF THE EXISTING STRUCTURE ARE BASED ON AS-BUILT DRAWINGS. ALL DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO THE FABRICATION OF BEARING, BOLSTERS AND PLATES. SHIM PLATE DIMENSIONS MAY VARY AT EACH LOCATION. ADDITIONAL ADJUSTMENTS WILL BE REQUIRED IF THE APPROVED BEARING DIMENSIONS DIFFER FROM THOSE SHOWN.
3. VULCANIZING ELASTOMER TO STEEL PLATES SHALL BE DONE DURING THE PRIMARY MOLD PROCESS.
4. UPSET THE THREADS ON THE ANCHOR BOLTS AFTER ASSEMBLY.
5. BEARINGS SHALL BE COVERED DURING TRANSIT.
6. ALL EXTERNAL PLATES SHALL MEET THE REQUIREMENTS OF ASTM A709/A709M, GRADE 36. STEEL PIPE SHALL MEET THE REQUIREMENTS OF ASTM A53, GRADE B.
7. NEW ANCHOR RODS SHALL MEET THE REQUIREMENTS OF ASTM F1554, GRADE 55 AND SHALL BE SWEDGED OR THREADED ON THE EMBEDDED PORTION OF THE ROD.
8. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE LOCATION ON THE BRIDGE AND A DIRECTION ARROW POINTING UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISABLE AFTER THE BEARING IS INSTALLED.
9. THE BEARINGS SHALL BE DESIGNED SO THAT THEY MAY BE INSTALLED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN THE RANGE OF 65°F AND 90°F.
10. ALL PRECAUTIONS NECESSARY SHALL BE TAKEN TO PROTECT BEARING COMPONENTS FROM WELD FLASH AND SPATTER. WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE OF STEEL ADJACENT TO THE ELASTOMER TO 200°F THROUGH THE USE OF TEMPERATURE INDICATING CRAYONS OR OTHER SUITABLE MEANS.
11. STEEL PLATES AND BOLSTERS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. FABRICATOR SHALL PROVIDED VENT HOLES IN THE BOLSTERS AS REQUIRED FOR THE GALVANIZATION PROCESS. ANY DAMAGE TO PAINTED OR GALVANIZED PROTECTIVE COATINGS RESULTING FROM THE INSTALLATION OR WELDING PROCESS SHALL BE REPAIRED IN ACCORDANCE ASTM 780.
12. EXISTING BEARINGS SHALL BE REMOVED AND TRANSPORTED TO THE MAINE TURNPIKE AUTHORITY'S GARDINER MAINTENANCE FACILITY AT MILE MARK 101.8. PAYMENT FOR REMOVAL AND TRANSPORTATION SHALL BE INCIDENTAL TO ITEM NO. 523.5405, SEISMIC ISOLATION BEARINGS - INSTALLATION.

Date: 2/27/2006

Filename: ...066 I-295\021_Bearings_001.dgn

Scale: 1 1/2" = 1'-0"

No.	Revision	By	Date

Designed by:

HNTB

	By	Date		By	Date
Designed	CLC	02/06	Checked	TRC	02/06
Drawn	CLC	02/06	In Charge of	RAL	02/06

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MAINE TURNPIKE

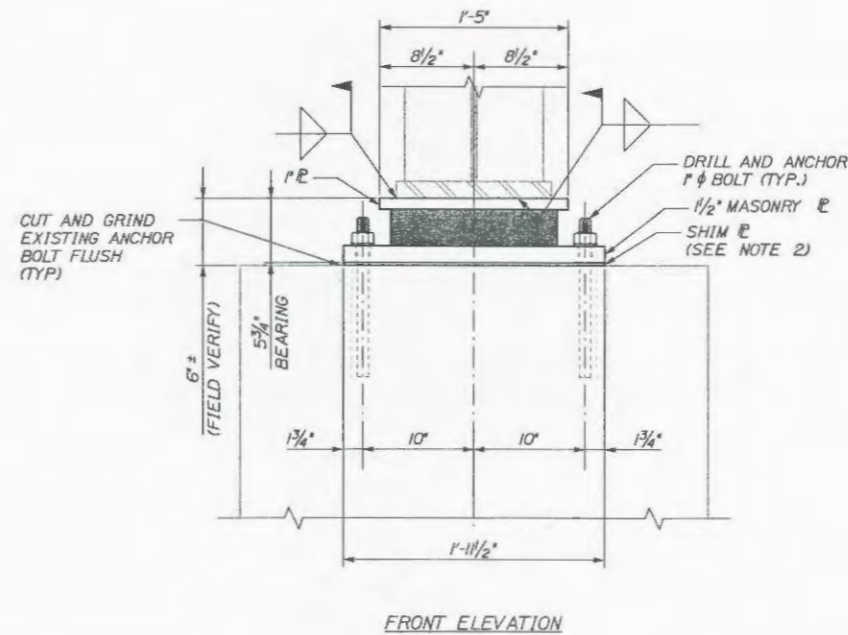
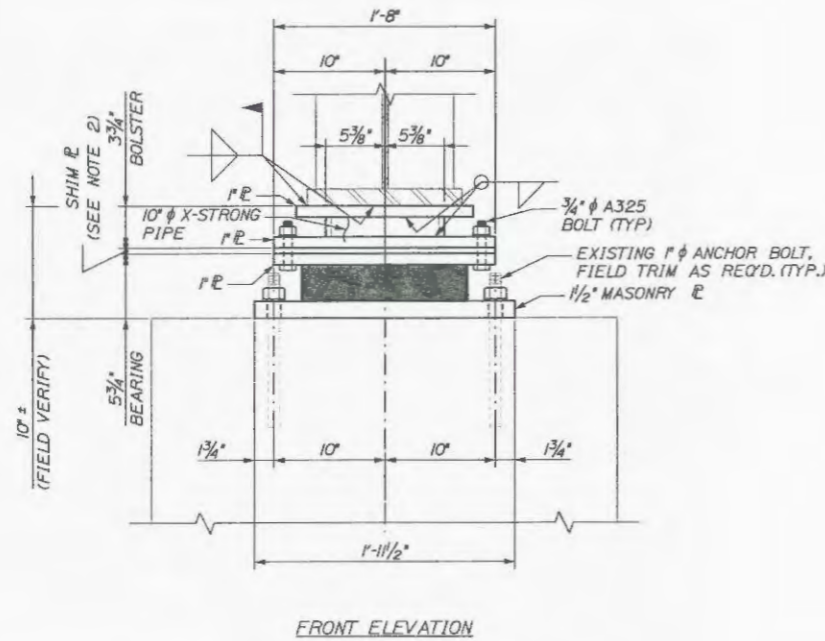
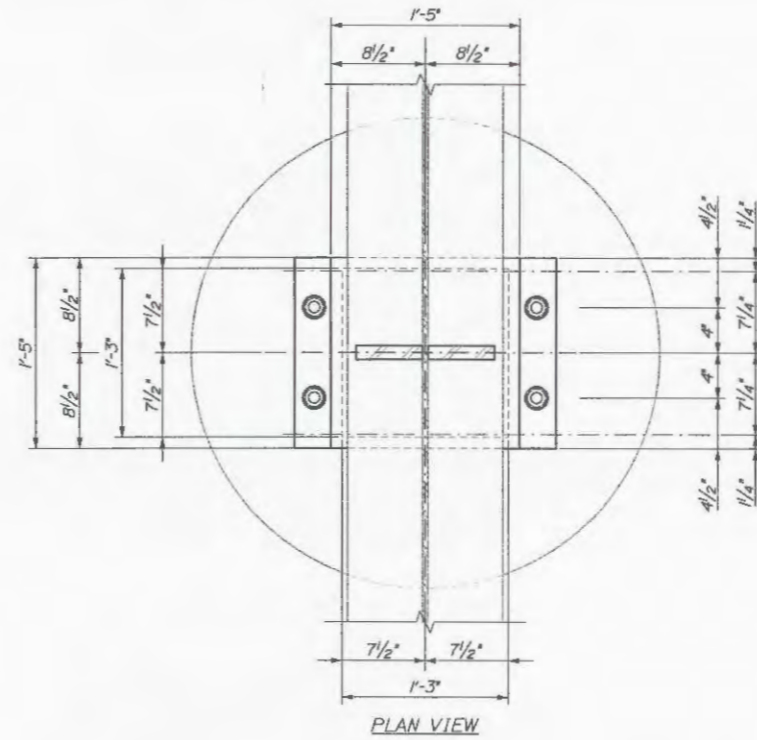
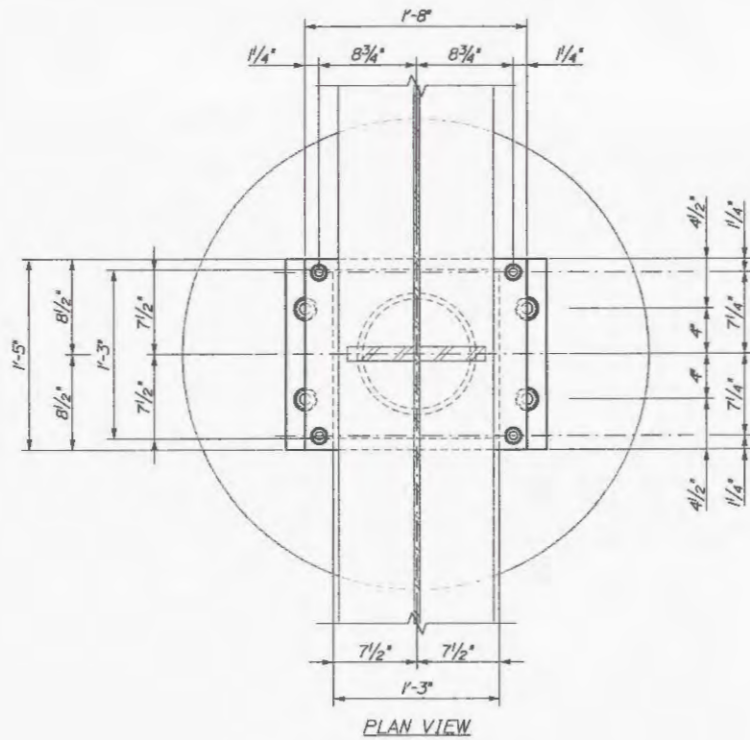
THE GOLD STAR MEMORIAL HIGHWAY

I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION
SEISMIC ISOLATION
BEARING DETAILS 1

SHEET NUMBER: I295-S10
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Date: 2/27/2006

Filename: ... \066 1-295\022_Bearings_002.dgn



BEARING ASSEMBLY - PIER 2
GIRDERS 2 - 5 (4 REQUIRED)

BEARING ASSEMBLY - PIERS
GIRDERS 1 & 6 (6 REQUIRED)

NOTE:
SEE SHEET I295-S10 FOR BEARING DETAIL NOTES.

Scale: 1 1/2" = 1'-0"

No.	Revision	By	Date

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	By	Date		By	Date
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MAINE TURNPIKE

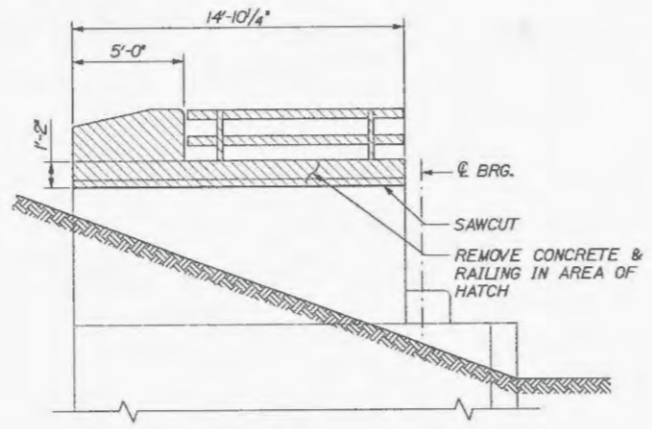
THE GOLD STAR MEMORIAL HIGHWAY

I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION
SEISMIC ISOLATION
BEARING DETAILS 2

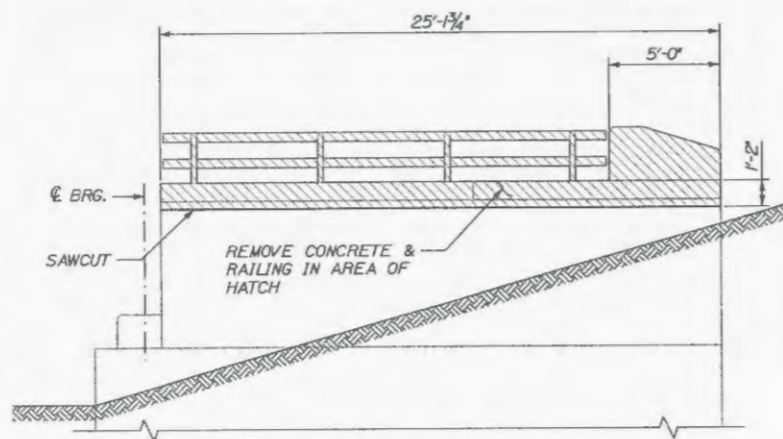
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CONTRACT: 2006.02
22 OF 39

Date: 2/27/2006

Filename: ...066 1-295\023_existdetails.dgn



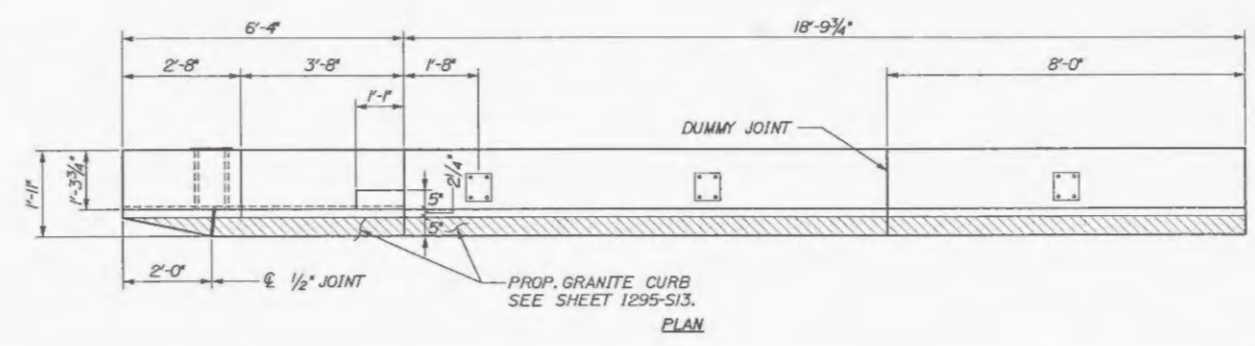
ELEVATION
(ABUT. NO. 1 EAST WINGWALL & ABUT. NO. 2 WEST WINGWALL)



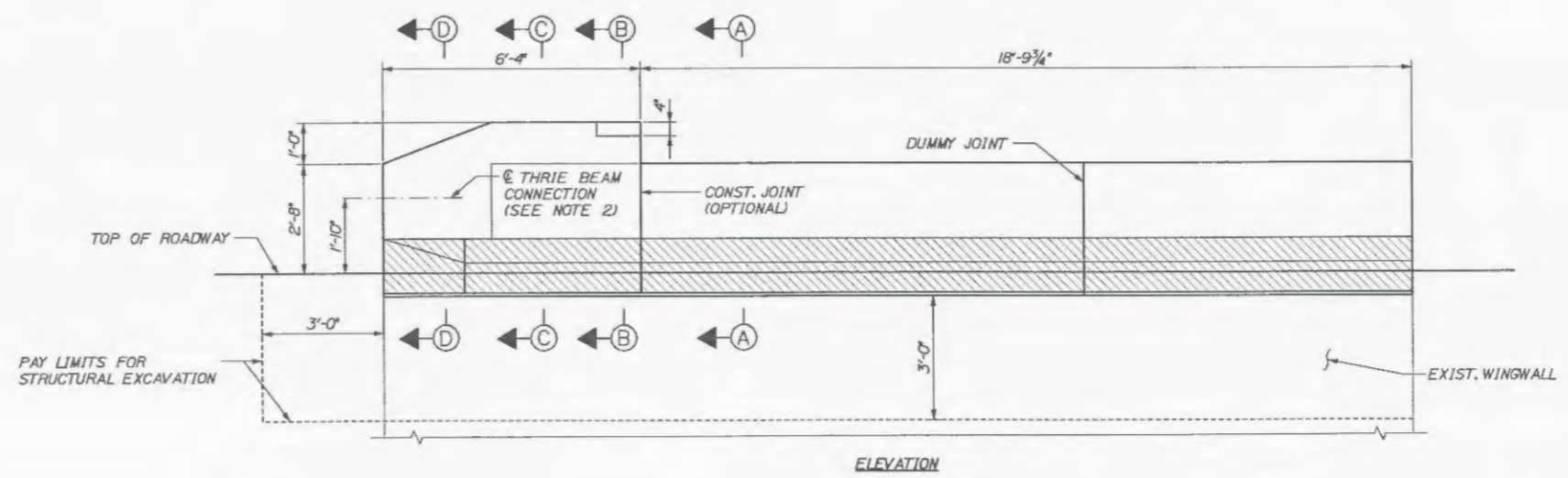
ELEVATION
(ABUT. NO. 1 WEST WINGWALL & ABUT. NO. 2 EAST WINGWALL)
WINGWALL & ENDPOST DEMOLITION DETAILS
1/4\" = 1'-0"

NOTES:

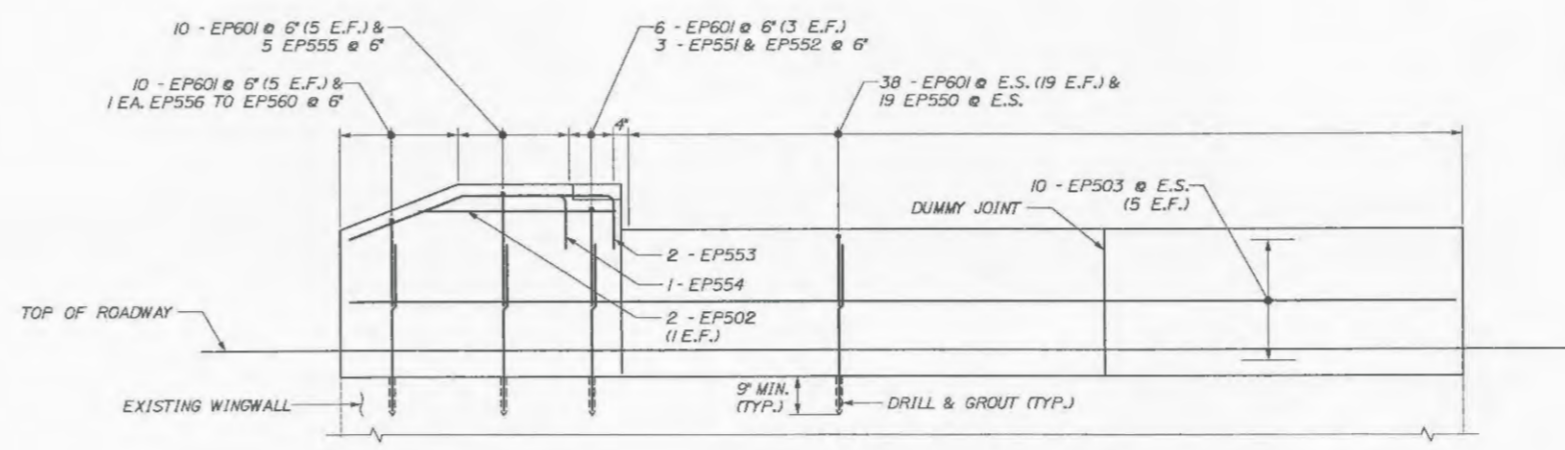
- LIMITS OF DEMOLITION SHALL BE SAWCUT 1\" DEEP (MIN.) BEFORE REMOVING CONCRETE.
- AFTER INSTALLATION OF GUARDRAIL IS COMPLETE, UPSET THE THREADS ON THE ANCHOR BOLTS IN THREE PLACES AROUND EACH BOLT, AT THE JUNCTION OF THE NUT AND THE EXPOSED THREAD, WITH A CENTER PUNCH OR SIMILAR TOOL.
- REINFORCING STEEL SHALL HAVE 2\" MIN. CONCRETE COVER.
- TERMINAL CONNECTOR ANCHORAGE SHALL BE INCIDENTAL TO THE APPLICABLE CONCRETE PAY ITEM. FOR TERMINAL CONNECTOR ANCHORAGE, SEE SHEET SD-C2.
- END POST SHALL BE CONSTRUCTED NORMAL TO GRADE, UNLESS OTHERWISE SHOWN ON THE PLANS.
- WHERE DRILLING AND ANCHORING IS SPECIFIED THE CONTRACTOR SHALL USE A MATERIAL LISTED ON THE DEPARTMENT'S LIST OF PREQUALIFIED TYPE 3 ANCHORING MATERIALS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DRILLING AND ANCHORING SHALL NOT BE PAID FOR DIRECTLY. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO THE RELATED CONTRACT ITEMS.
- REMOVAL, TRUCKING AND STACKING OF ALUMINUM RAILING AT THE AUTHORITY'S GARDINER MAINTENANCE FACILITY SHALL BE INCIDENTAL TO ITEM 202.12 - "REMOVING EXISTING STRUCTURAL CONCRETE".
- FOR SECTIONS AT PARAPET AND ENDPOST, SEE SHEET I295-S13.
- FOR DUMMY JOINT DETAILS SEE SHEET I295-S5



PLAN



ELEVATION



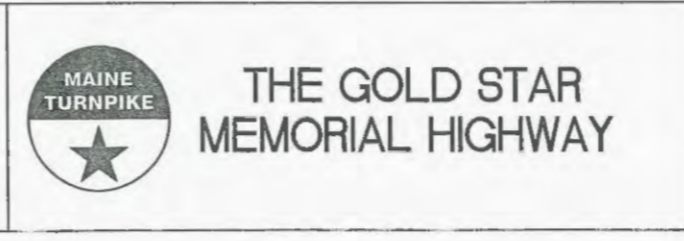
ELEVATION - REINFORCING

ABUT. NO. 1 WEST & ABUT. NO. 2 EAST WINGWALL DETAILS
1/2\" = 1'-0"

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No.	Revision	By	Date

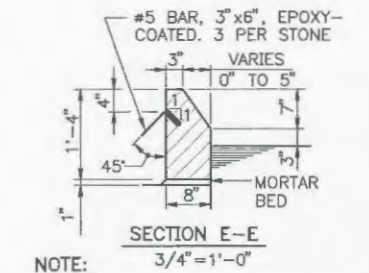
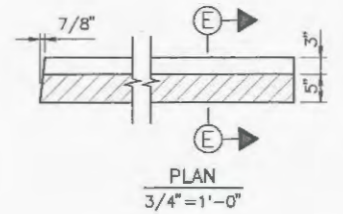
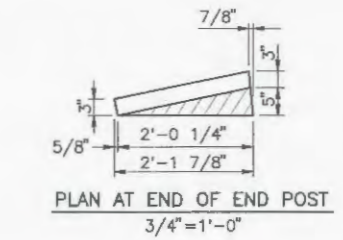
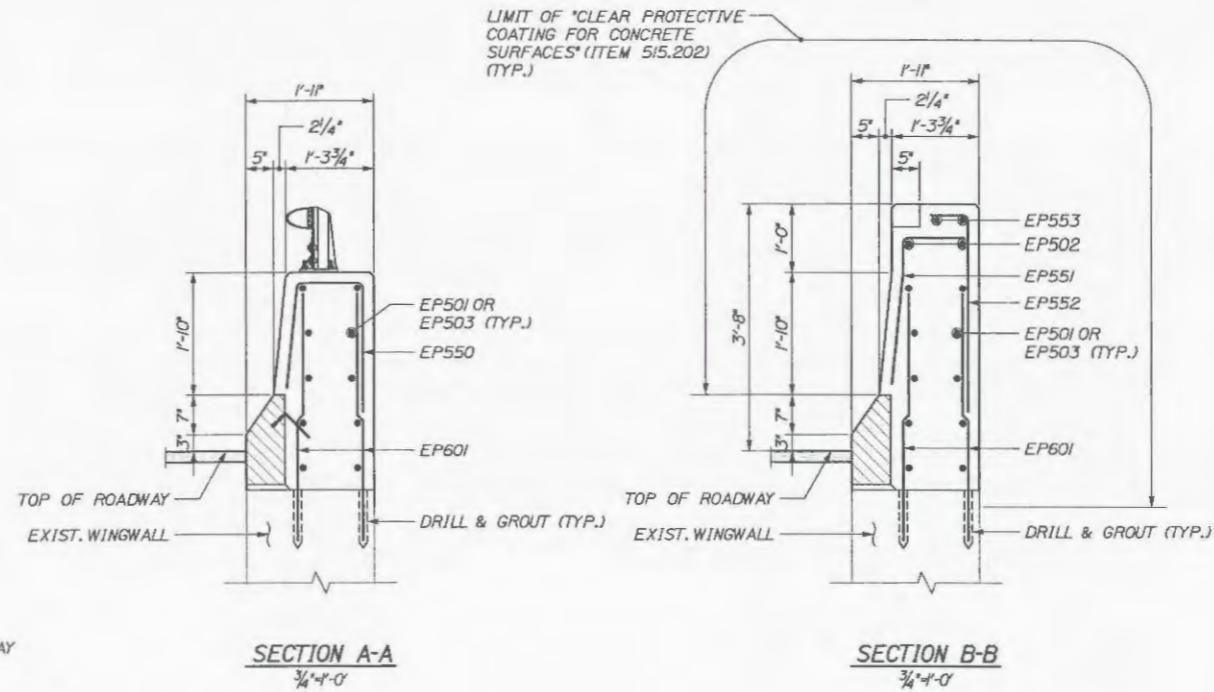
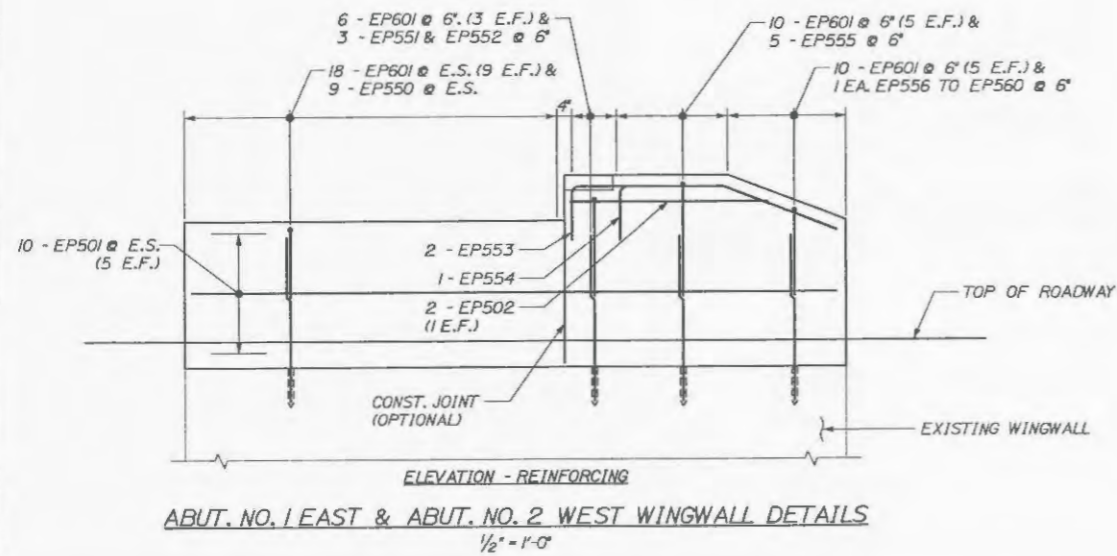
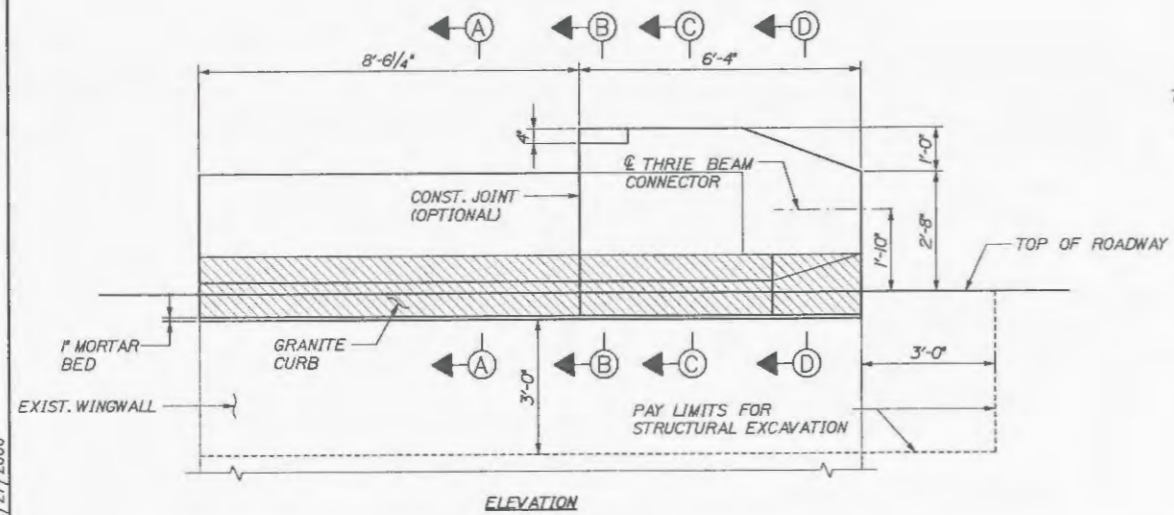
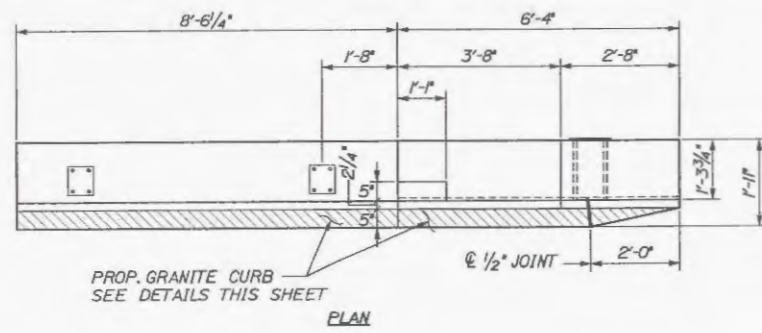
Designed by:				HNTB			
Designed	By	Date	Checked				
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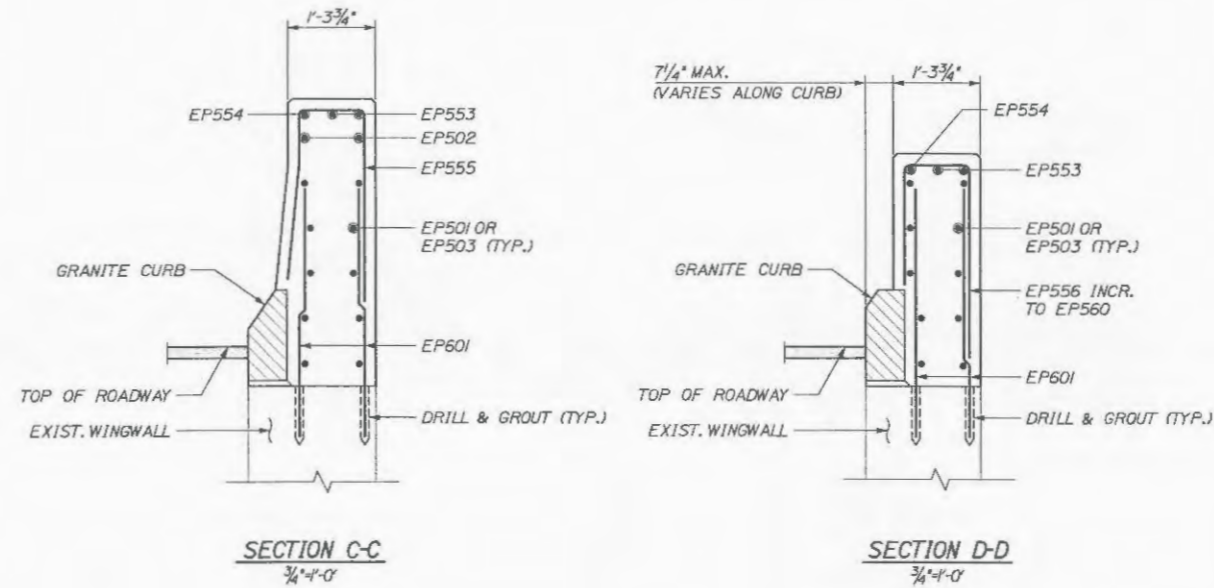
I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION
WINGWALL & ENDPOST
MODIFICATIONS I

SHEET NUMBER: I295-S12
CONTRACT: 2006.02
23 OF 39



NOTE:
ACTUAL STONE CUT DIMENSIONS SHOWN

GRANITE CURB DETAILS



Date: 2/27/2006

Filename: ...066 I-295\024_existdetails.dgn

Scale: AS NOTED

No.	Revision	By	Date

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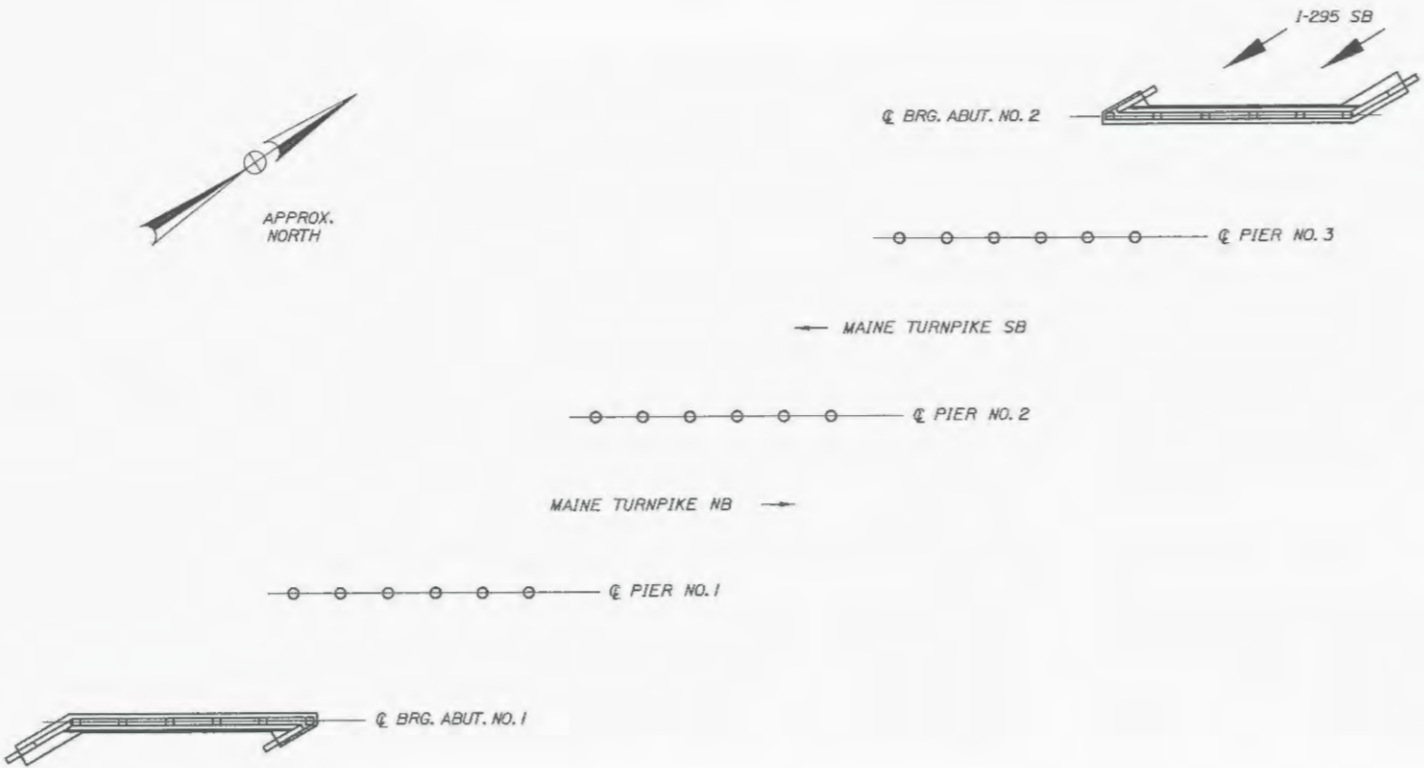
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Designed	TRC	02/06		CLC	02/06
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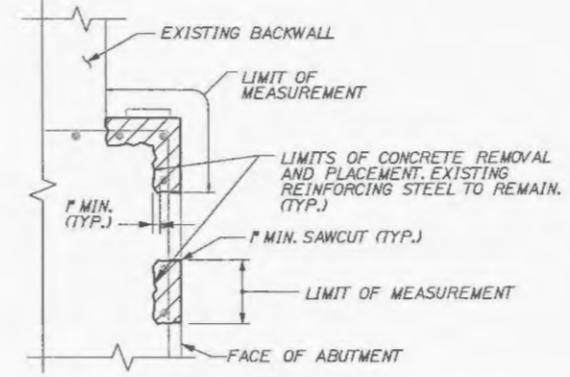
THE GOLD STAR
MEMORIAL HIGHWAY

I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION
WINGWALL & ENDPOST
MODIFICATIONS II

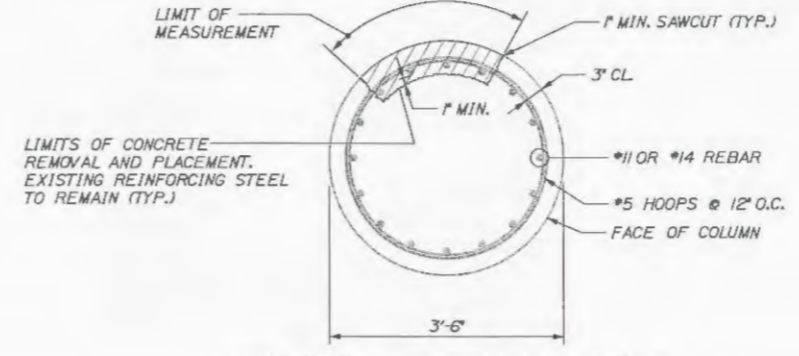
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CONTRACT: 2006.02
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LAYOUT PLAN



CONCRETE REPAIR DETAIL
1" = 1'-0"



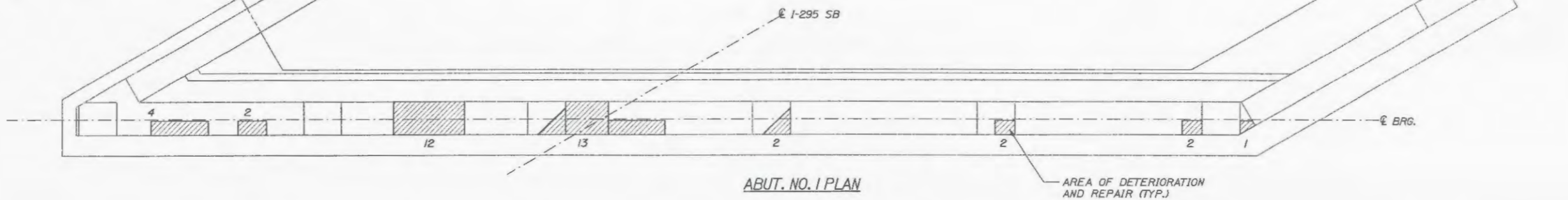
CONCRETE COLUMN REPAIR DETAIL
3/4" = 1'-0"

- NOTES:
1. PRIOR TO THE START OF CONCRETE REPAIRS, THE CONTRACTOR SHALL REMOVE THE EXISTING CHEVRON PANEL BOARDS ON THE LEADING END ELEVATION OF ALL APPROACH PIER COLUMNS (4 LOCATIONS). AFTER COMPLETION OF THE CONCRETE REPAIRS AND APPLICATION OF THE PIGMENTED PROTECTIVE COATINGS, THE CONTRACTOR SHALL INSTALL NEW CHEVRON PANEL BOARDS PROVIDED BY THE AUTHORITY. THIS WORK, INCLUDING NECESSARY MOUNTING HARDWARE SHALL BE PAID UNDER ITEM 606.355 "BRIDGE PIER MARKERS".
 2. ALL EXPOSED ABUTMENT, WINGWALL AND PIER SURFACES SHALL BE COATED WITH PIGMENTED COATING FOR CONCRETE SURFACES AFTER PATCHING IS COMPLETED AND PATCH MATERIALS HAVE CURED.
 3. WHERE INDICATED ON THE REPAIR DETAILS THE CONCRETE ABUTMENT AND PIER REPAIRS SHALL EXTEND TO 6" BELOW GRADE.
 4. EXCAVATION OF THE CONCRETE AND BITUMINOUS SLOPE PAVEMENT AND THE UNDERLYING SOIL AT THE BASE OF ABUTMENTS, WINGWALLS AND PIERS FOR INSPECTION AND REPAIR OF DAMAGED SUBSTRUCTURE CONCRETE SHALL BE PAID UNDER ITEM 206.082 - "STRUCTURAL EXCAVATION". PRIOR TO EXCAVATION THE LIMITS OF SLOPE PAVEMENT REMOVAL SHALL BE DELINEATED BY A FULL DEPTH SAW CUT. ALL EQUIPMENT AND LABOR ASSOCIATED WITH SAW CUTTING, EXCAVATION, BACKFILLING AND DISPOSAL OF THE EXISTING SLOPE PAVEMENT SHALL BE INCIDENTAL TO THE STRUCTURAL EXCAVATION ITEM.
 5. ALL SLOPE PAVEMENT REMOVED AS PART OF CONCRETE REPAIR WORK SHALL BE REPLACED IN-KIND BY THE CONTRACTOR. PAYMENT FOR ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO REPLACE THE REMOVED PORTIONS OF CONCRETE SLOPE PAVEMENT SHALL BE MADE UNDER ITEM 513.09 - "SLOPE PROTECTION - PORTLAND CEMENT CONCRETE". PAYMENT FOR ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO REPLACE THE REMOVED PORTIONS OF BITUMINOUS SLOPE PAVEMENT SHALL BE MADE UNDER ITEM 403.209 - "HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)".

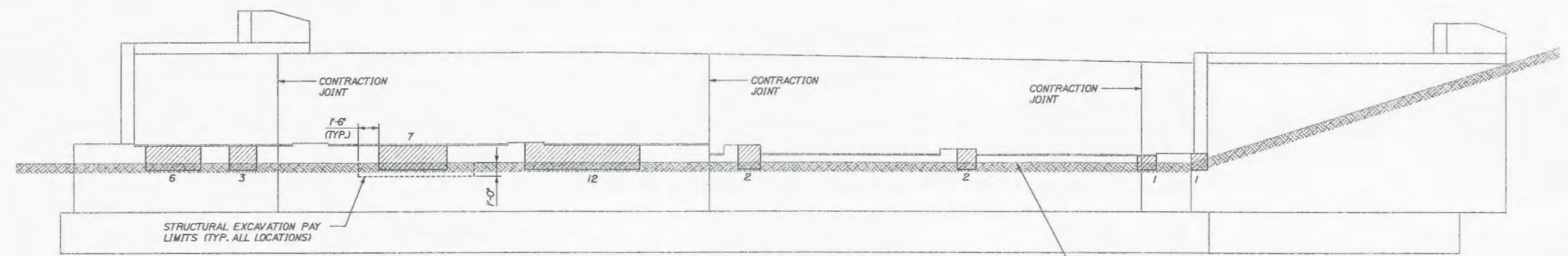
Date: 2/27/2006

Filename: ... \958\066 1-295\025 Layout.dgn

Scale: AS NOTED		Designed by: HNTB		HNTB CORPORATION 2 Thomas Drive Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 772-7410		THE GOLD STAR MEMORIAL HIGHWAY		1-295 SOUTHBOUND UNDERPASS BRIDGE REHABILITATION SUBSTRUCTURE REPAIRS LAYOUT PLAN AND REPAIR DETAILS																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Revision</th> <th>By</th> <th>Date</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		No.	Revision	By	Date													<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>By</th> <th>Date</th> <th>By</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>Designed TRC</td> <td>02/06</td> <td>Checked TMH</td> <td>02/06</td> </tr> <tr> <td>Drawn MPC</td> <td>02/06</td> <td>In Charge of RAL</td> <td>02/06</td> </tr> </tbody> </table>		By	Date	By	Date	Designed TRC	02/06	Checked TMH	02/06	Drawn MPC	02/06	In Charge of RAL	02/06			CONTRACT: 2006.02 SHEET NUMBER: 1295-S14 25 OF 39	
No.	Revision	By	Date																																
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Designed TRC	02/06	Checked TMH	02/06																																
Drawn MPC	02/06	In Charge of RAL	02/06																																



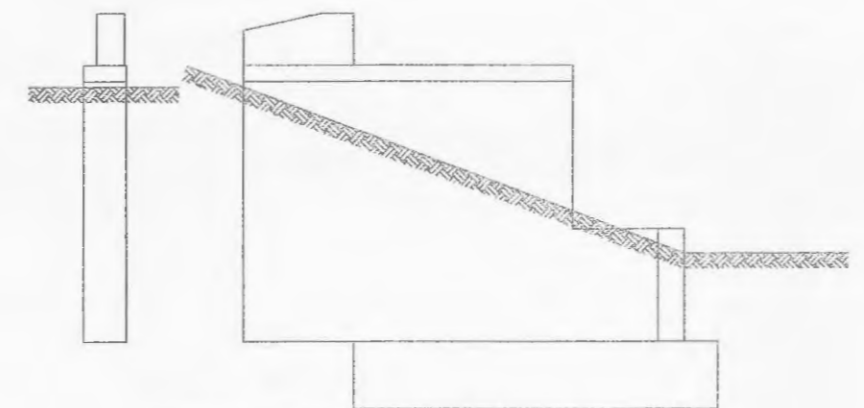
ABUT. NO. 1 PLAN



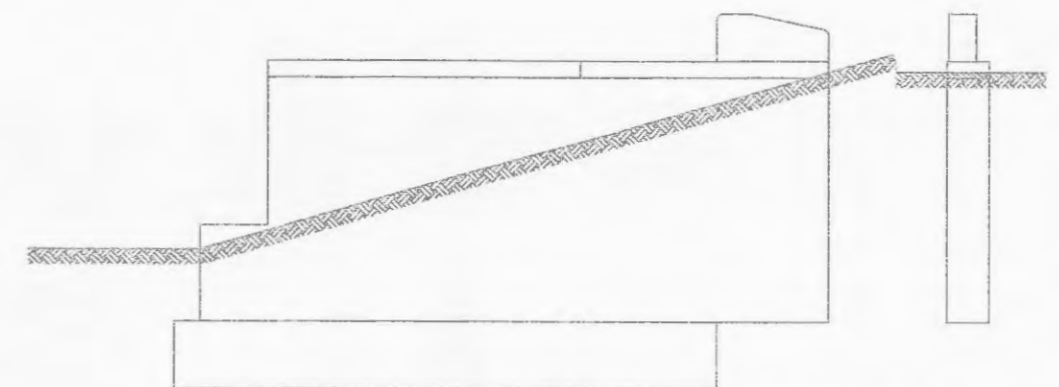
ABUT. NO. 1 ELEVATION

ABUT. NO. 1 - AREA OF REPAIR
 ABUTMENT SEAT.....38 SF
 ABUTMENT FACE.....34 SF
 BACKWALL.....0
 WINGWALL.....0

- NOTES:
1. AREAS OF ENDPOST AND WINGWALL DEMOLITION NOT SHOWN.
 2. PAY LIMITS OF STRUCTURAL EXCAVATION AND SLOPE PAVEMENT REPLACEMENT SHALL BE 1.5' OUT FROM FACE OF ABUTMENT AND 1' BELOW GRADE.
 3. FOR REPAIR DETAILS SEE SHT. I295-S13. ALL ABUTMENT AND WINGWALL CONCRETE REPAIRS SHALL BE PAID FOR UNDER ITEM 518.6313 'ABUTMENT & BRIDGE SEAT REPAIRS'.
 4. FOR LIMITS AND DETAILS OF EXISTING CONCRETE SLOPE PAVEMENT SEE AS-BUILT DRAWINGS.



ABUT. NO. 1 EAST WINGWALL ELEVATION



ABUT. NO. 1 WEST WINGWALL ELEVATION

Date: 2/27/2006

Filename: ... \956\066 I-295\026_repairs.dgn

Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

HNTB

	By	Date		By	Date
Designed	TRC	02/06	Checked	TMH	02/06
Drawn	MPC	02/06	In Charge of	RAL	02/06

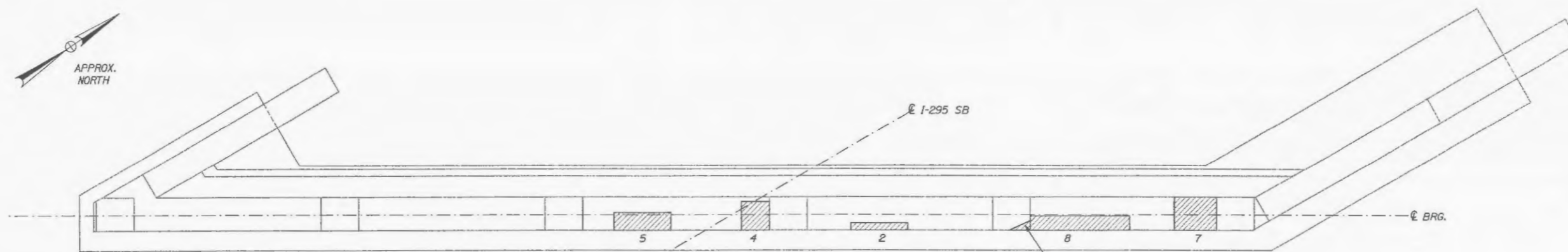
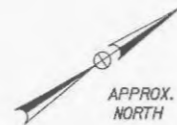
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**THE GOLD STAR
 MEMORIAL HIGHWAY**

I-295 SOUTHBOUND UNDERPASS
 BRIDGE REHABILITATION
 SUBSTRUCTURE REPAIRS
 ABUTMENT NO. 1

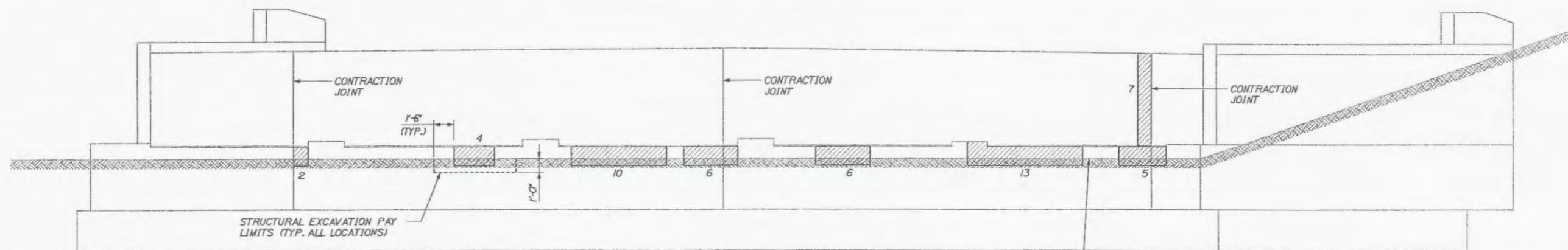
CONTRACT: 2006.02

SHEET NUMBER: I295-S15
 26 OF 39



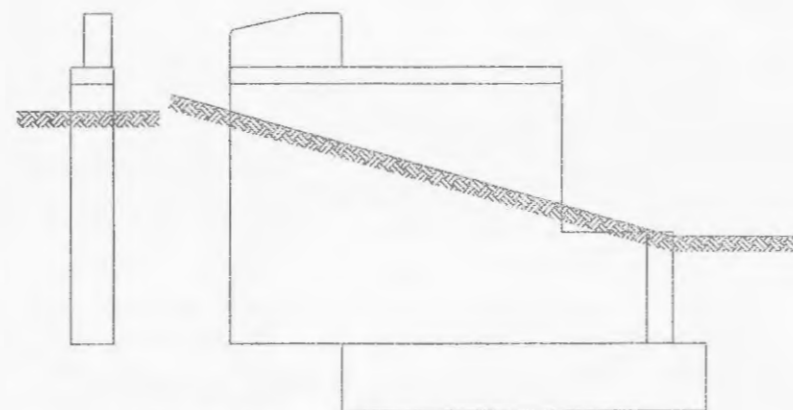
ABUT. NO. 2 PLAN

AREA OF DETERIORATION AND REPAIR (TYP.)

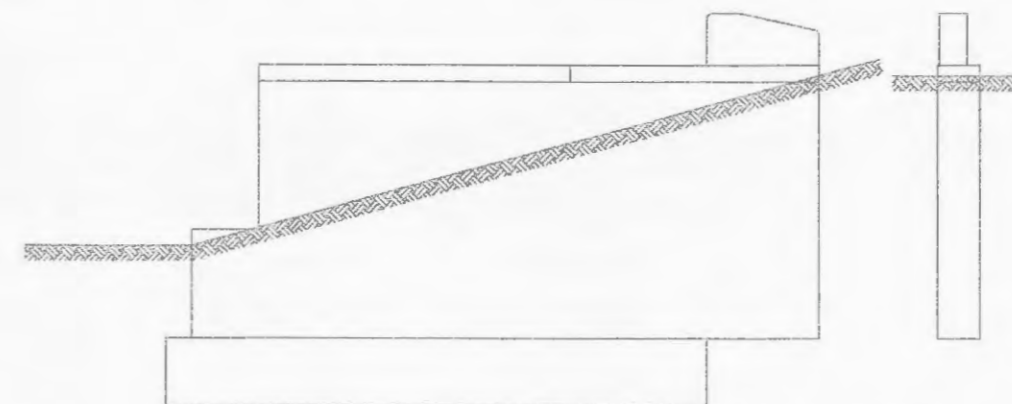


ABUT. NO. 2 ELEVATION

EXIST. GRADE/TOP OF CONCRETE SLOPE PAVEMENT (TYP.)



ABUT. NO. 2 WEST WINGWALL ELEVATION



ABUT. NO. 2 EAST WINGWALL ELEVATION

ABUT. NO. 2 - AREA OF REPAIR
 ABUTMENT SEAT.....26 SF
 ABUTMENT FACE.....46 SF
 BACKWALL.....7 SF
 WINGWALL.....0

NOTE:
 1. FOR REPAIR NOTES SEE SHEET I295-S15.

Date: 2/27/2006

Filename: ...1958\066 I-295\027_repairs.dgn

Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

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	By	Date	Checked	By	Date
Designed	TRC	02/06		TMH	02/06
Drawn	MPC	02/06	In Charge of	RAL	02/06

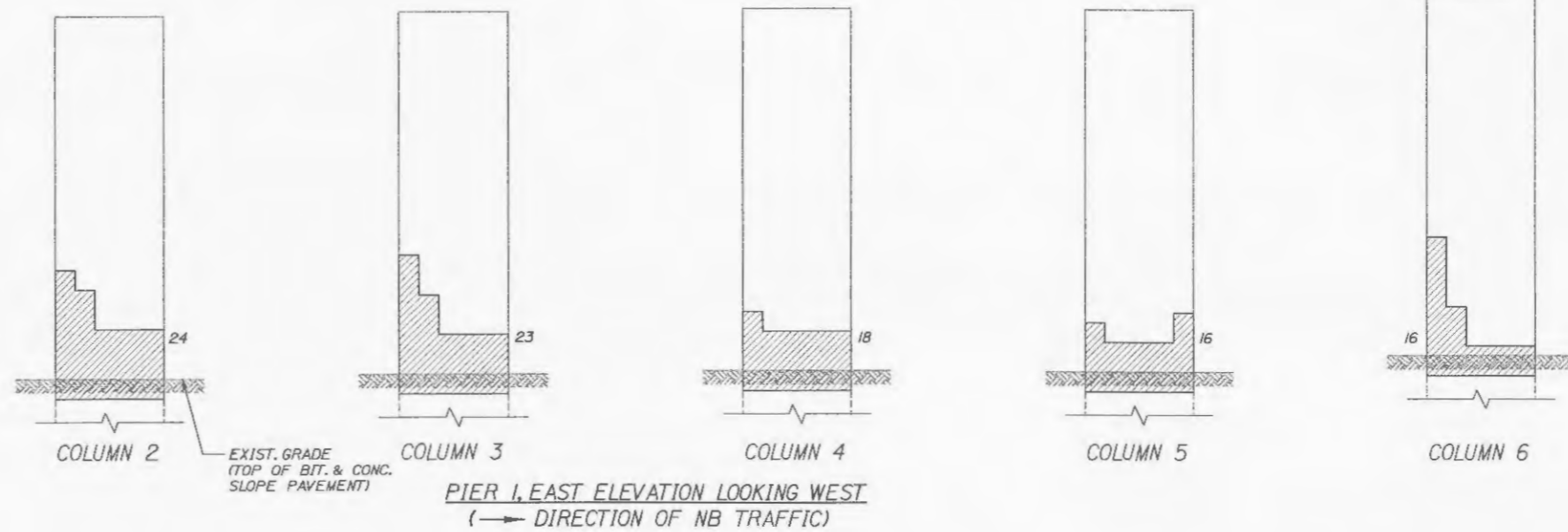
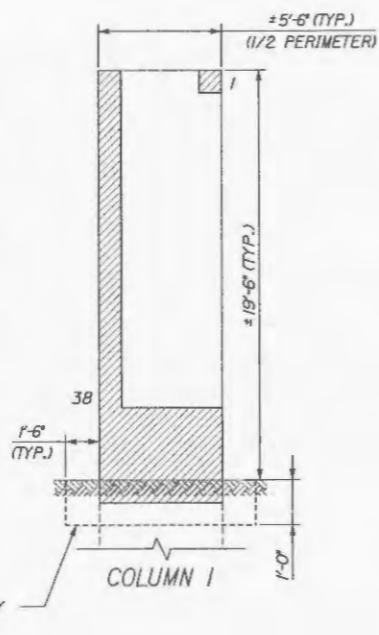
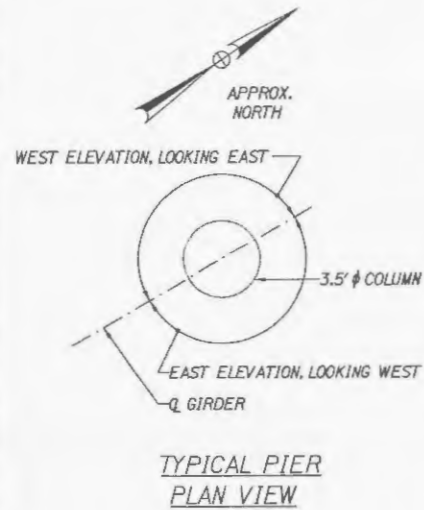
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**THE GOLD STAR
 MEMORIAL HIGHWAY**

I-295 SOUTHBOUND UNDERPASS
 BRIDGE REHABILITATION
 SUBSTRUCTURE REPAIRS
 ABUTMENT NO. 2

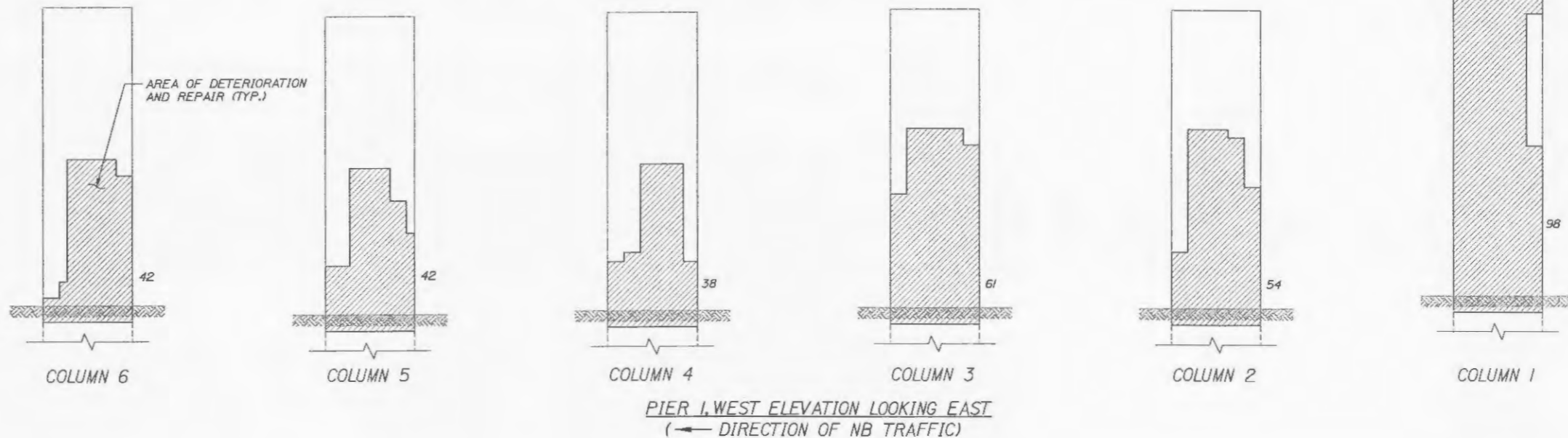
CONTRACT: 2006.02

SHEET NUMBER: I295-S16
 27 OF 39



PIER 1 - AREA OF REPAIR
COLUMN SURFACES.....471 SF

- NOTES:
- FOR REPAIR DETAILS SEE SHEET 1295-S14. ALL PIER CONCRETE REPAIRS SHALL BE PAID UNDER ITEM 518.6314 "PIER REPAIRS".
 - PAY LIMITS OF STRUCTURAL EXCAVATION AND SLOPE PAVEMENT REPLACEMENT SHALL BE 1.5' OUT FROM FACE OF PIER AND 1' BELOW GRADE. ALL AREAS OF SLOPE PAVEMENT REMOVED AT COLUMN BASES, REGARDLESS OF PAVEMENT TYPE, SHALL BE REPLACED WITH BITUMINOUS SLOPE PAVEMENT WHEN REPAIRS ARE COMPLETE.
 - CONTRACTOR SHALL NOTE THAT EXISTING GRADE AT BASE OF COLUMNS IS SLOPING. EXISTING GRADE IN DRAWING IS SHOWN LEVEL FOR SIMPLIFICATION.



Date: 2/27/2006

Filename: ... \958\066-1-295\028_repairs.dgn

Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

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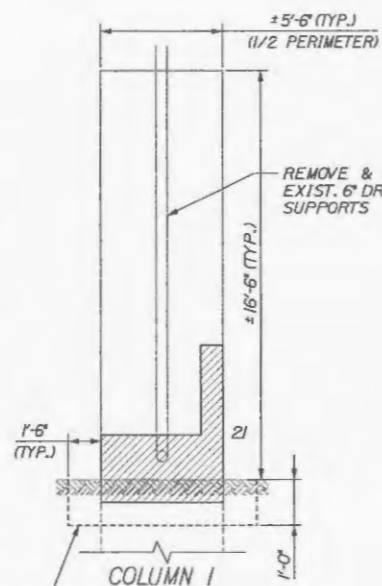
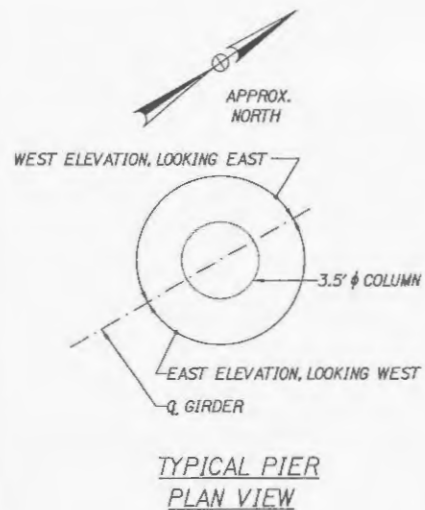
By	Date	Checked	By	Date
TRC	02/06	TMH	TMH	02/06
MPC	02/06	In Charge of	RAL	02/06

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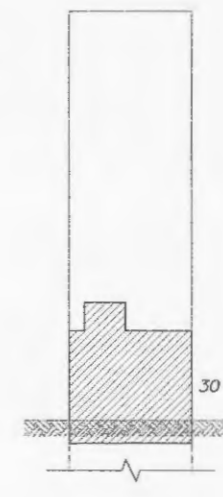
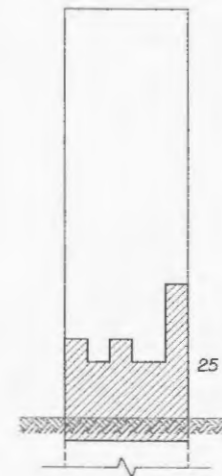
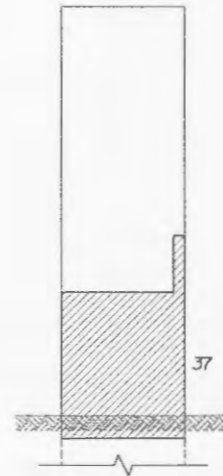
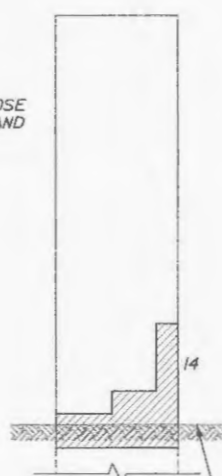
**THE GOLD STAR
MEMORIAL HIGHWAY**

I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION
SUBSTRUCTURE REPAIRS
PIER 1

SHEET NUMBER: 1295-S17
CONTRACT: 2006.02
28 OF 39

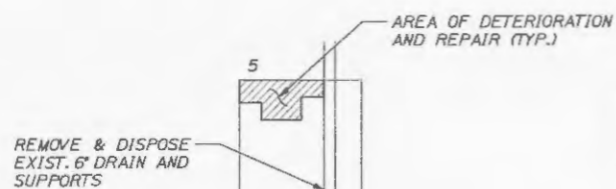


STRUCTURAL EXCAVATION PAY LIMITS (TYP. ALL COLUMNS)

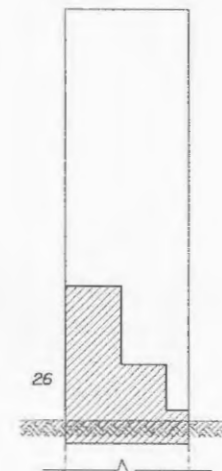
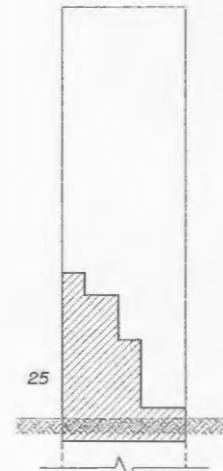
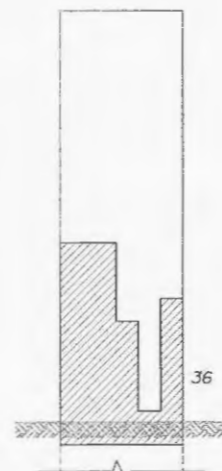
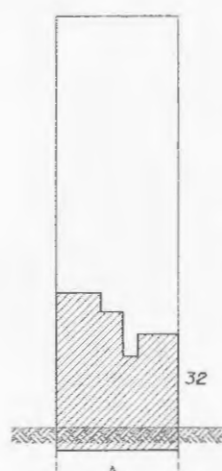
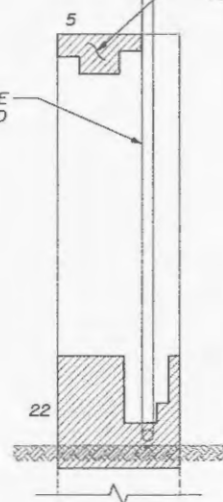


EXIST. GRADE
(TOP OF BIT. & CONC.
SLOPE PAVEMENT)

PIER 2, EAST ELEVATION LOOKING WEST
(→ DIRECTION OF NB TRAFFIC)



PIER 2 - AREA OF REPAIR
COLUMN SURFACES.....318 SF



NOTES:
1. FOR ADDITIONAL REPAIR NOTES SEE SHEET 1295-S17.

2. REMOVAL OF EXISTING DRAINS AND CONNECTION HARDWARE SHALL BE INCIDENTAL TO THE SUPERSTRUCTURE DEMOLITION ITEM.

PIER 2, WEST ELEVATION LOOKING EAST
(← DIRECTION OF NB TRAFFIC)

Date: 2/27/2006

Filename: ... \958\066 I-295\029_repairs.dgn

Scale:
1/4" = 1'-0"

Designed by:

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THE GOLD STAR
MEMORIAL HIGHWAY

I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION
SUBSTRUCTURE REPAIRS
PIER 2

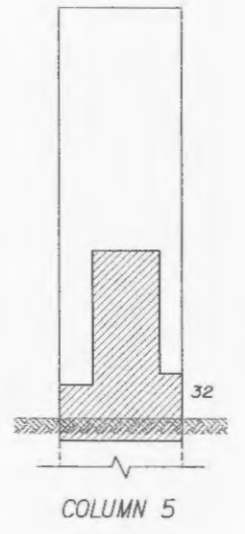
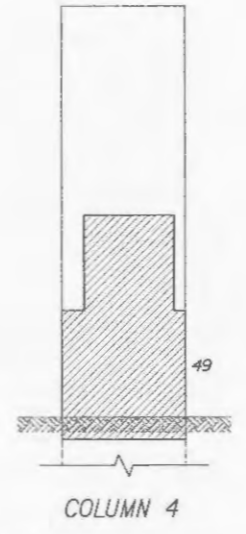
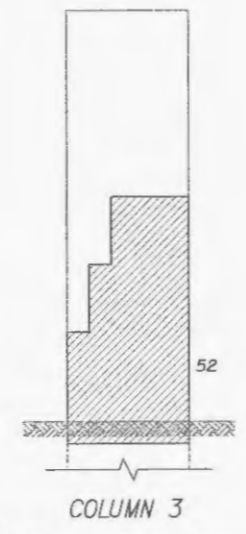
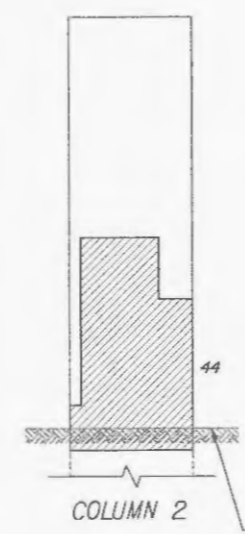
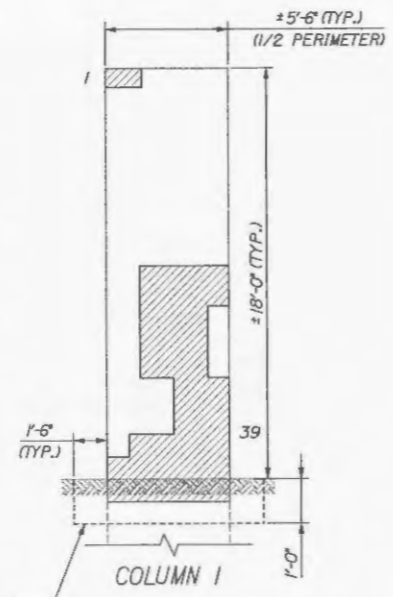
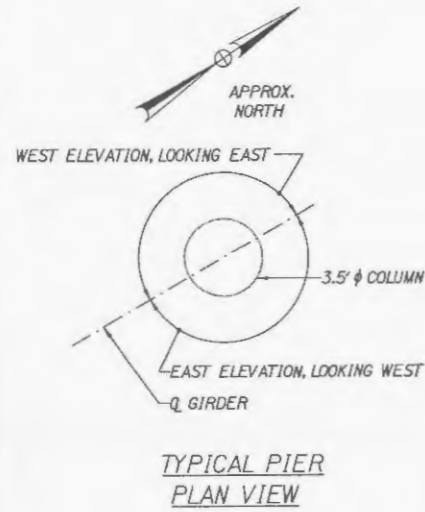
No.	Revision	By	Date

	By	Date		By	Date
Designed	TRC	02/06	Checked	TMH	02/06
Drawn	MPC	02/06	In Charge of	RAL	02/06

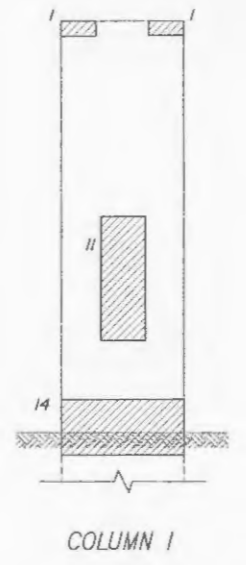
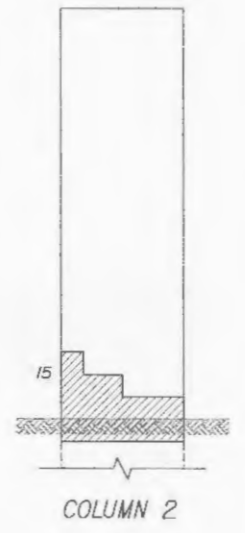
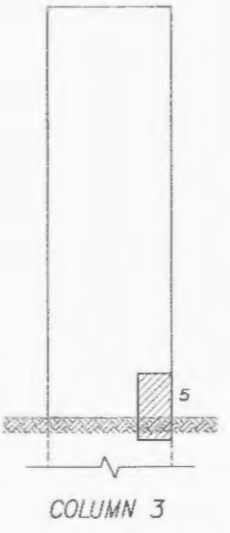
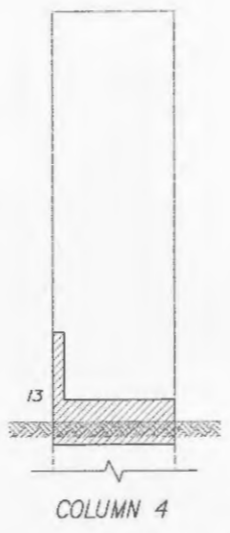
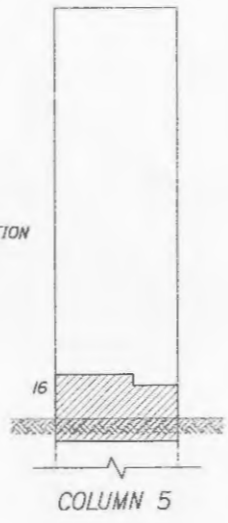
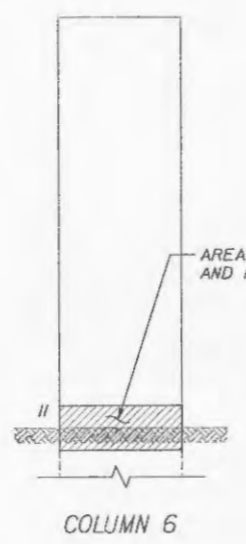
CONTRACT: 2006.02 SHEET NUMBER: 1295-S18 29 OF 39

Date: 2/27/2006

Filename: ...958\066 1-295\030_repairs.dgn



PIER 3, EAST ELEVATION LOOKING WEST
(← DIRECTION OF SB TRAFFIC)



PIER 3, WEST ELEVATION LOOKING EAST
(→ DIRECTION OF SB TRAFFIC)

PIER 3 - AREA OF REPAIR
COLUMN SURFACES.....306 SF

NOTES:
1. FOR REPAIR NOTES SEE SHEET 1295-S17.

Scale: 1/4" = 1'-0"

No.	Revision	By	Date

Designed by:

HNTB

	By	Date	Checked	By	Date
Designed	TRC	02/06	Checked	TMH	02/06
Drawn	MPC	02/06	In Charge of	RAL	02/06

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**THE GOLD STAR
MEMORIAL HIGHWAY**

I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION
SUBSTRUCTURE REPAIRS
PIER 3

SHEET NUMBER: 1295-S19
CONTRACT: 2006.02
30 OF 39

Date: 2/27/2006

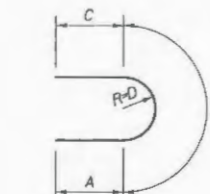
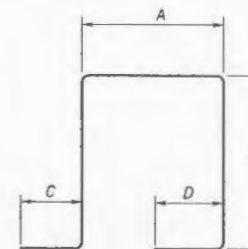
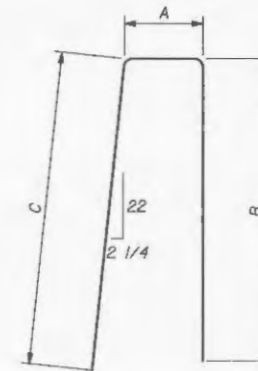
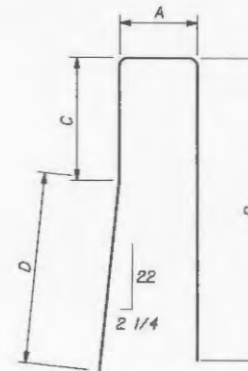
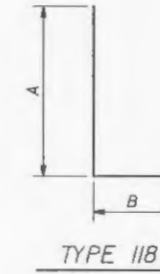
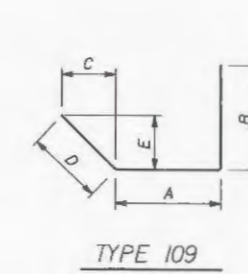
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SUPERSTRUCTURE												
MARK	SIZE	NO.	LENGTH	TYPE	A	B	C	D	E	F	R	REMARKS
S501	5	3114	6'-8"	STR								DECK SLAB - T&B TRANSVERSE
S502	5	132	39'-6"	STR								DECK SLAB - TOP LONGITUDINAL
S503	5	286	39'-6"	STR								DECK SLAB - BOTTOM LONGITUDINAL
** S504	5	40	6'-10" TO 1'-4"	STR								DECK SLAB - T&B TRANSVERSE AT SW CORNER
S505	5	22	11'-1"	STR								DECK SLAB - T&B TRANSVERSE AT SE CORNER
S506	5	8	22'-9"	STR								DECK SLAB - T&B ALONG EXPANSION JOINT AT SE CORNER
** S507	5	52	9'-4" TO 2'-1"	STR								DECK SLAB - T&B TRANSVERSE AT SE CORNER
** S508	5	38	6'-7" TO 1'-4"	STR								DECK SLAB - T&B TRANSVERSE AT NE CORNER
S509	5	20	15'-0"	STR								DECK SLAB - ADD'L LONG. AT SLAB ENDS
S510	5	24	13'-10"	STR								DECK SLAB - T&B ALONG EXPANSION JOINT
** S511	5	8	21'-3" TO 16'-1"	STR								DECK SLAB - T&B LONGITUDINAL AT SE CORNER
S512	5	18	7'-0"	STR								DECK SLAB - T&B TRANSVERSE AT NE & SW CORNER
** S513	5	24	5'-0" TO 1'-10"	STR								DECK SLAB - T&B TRANSVERSE AT NW CORNER
S514	5	30	43'-1"	STR								DECK SLAB - ADD'L LONG. AT PIERS
S515	5	30	22'-10"	STR								DECK SLAB - ADD'L LONG. AT PIERS
* S516	5	88	39'-6"	STR								PARAPET - LONGITUDINAL BOTTOM SECTION
* S517	5	24	7'-6"	STR								PARAPET - LONG. TOP SECTION, END PANELS
* S518	5	252	7'-8"	STR								PARAPET - LONG. TOP SECTION, 8' PANELS
* S519	5	168	15'-8"	STR								PARAPET - LONG. TOP SECTION, 16' PANELS
S551	5	808	3'-11"	117	3'-0"	0'-8"	0'-3"				0'-2 1/2"	DECK SLAB - TRANSVERSE HOOKS
* S552	5	822	3'-6 1/2"	127	0'-6 1/2"	1'-6"	1'-6"					PARAPET - TOP STIRRUPS
* S650	6	1616	4'-2"	118	3'-2"	1'-0"						PARAPET/DECK - HOOK BARS
* S651	6	14	6'-10 1/2"	101	0'-6 1/2"	3'-2"						PARAPET/DECK - STIRRUP BARS

* DENOTES BARS SHALL BE EPOXY COATED
 ** TWO OF EACH BAR LENGTH SHALL BE FABRICATED

ENDPOSTS & WINGWALL BARRIER												
MARK	SIZE	NO.	LENGTH	TYPE	A	B	C	D	E	F	R	REMARKS
* EP501	5	20	14'-6"	STR								WINGWALL/ENDPOST - LONGITUDINAL
* EP502	5	8	4'-8"	STR								ENDPOST - TOP LONGITUDINAL
* EP503	5	20	24'-9"	STR								WINGWALL/ENDPOST - LONGITUDINAL
* EP550	5	56	4'-5 1/2"	127	0'-11 1/2"	2'-0"	1'-6"					PARAPET - TOP STIRRUPS
* EP551	5	12	3'-1"	124A	0'-11"	0'-0"	0'-6"	1'-8"				ENDPOST - TOP STIRRUP
* EP552	5	12	3'-6"	118	3'-0"	0'-6"						ENDPOST - TOP FRONT STIRRUP
* EP553	5	8	7'-2"	109	3'-5"	1'-0"	2'-7"	2'-9"	0'-11"			ENDPOST - TOP BACK STIRRUP
* EP554	5	4	6'-1"	109	2'-4"	1'-0"	2'-7"	2'-9"	0'-11"			ENDPOST - TOP LONGITUDINAL REAR
* EP555	5	20	6'-7 1/2"	124A	1'-1 1/2"	3'-0"	0'-10"	1'-8"				ENDPOST - TOP LONGITUDINAL FRONT
* EP556	5	4	6'-7 1/2"	101	0'-11 1/2"	2'-10"						ENDPOST - TOP STIRRUP AT NOSE
* EP557	5	4	6'-5 1/2"	101	0'-11 1/2"	2'-9"						ENDPOST - TOP STIRRUP AT NOSE
* EP558	5	4	6'-1 1/2"	101	0'-11 1/2"	2'-7"						ENDPOST - TOP STIRRUP AT NOSE
* EP559	5	4	5'-5 1/2"	101	0'-11 1/2"	2'-3"						ENDPOST - TOP STIRRUP AT NOSE
* EP560	5	4	5'-1 1/2"	101	0'-11 1/2"	2'-1"						ENDPOST - TOP STIRRUP AT NOSE
* EP601	6	216	3'-8"	STR								WINGWALL/ENDPOST - DOWEL BARS

* DENOTES BARS SHALL BE EPOXY COATED
 ** TWO OF EACH BAR LENGTH SHALL BE FABRICATED



TYPE 101

TYPE 117

TYPE 124A

TYPE 127

Scale:		Designed by:	
No.	Revision	By	Date



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THE GOLD STAR
 MEMORIAL HIGHWAY

I-295 SOUTHBOUND UNDERPASS
 BRIDGE REHABILITATION
 REINFORCING STEEL SCHEDULE

S. P. E. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-5 (20)	4	73

① SPIRAL DATA
 $\Delta s = 4^{\circ}30'00''$
 $L s = 300.00'$
 $X s = 299.81'$
 $Y s = 7.85'$
 $P = 1.96'$
 $K = 149.97'$

SPECIFICATIONS

DESIGN:
 A.A.S.H.O. Standard Specifications for Highway Bridges 1963 with interim Specifications

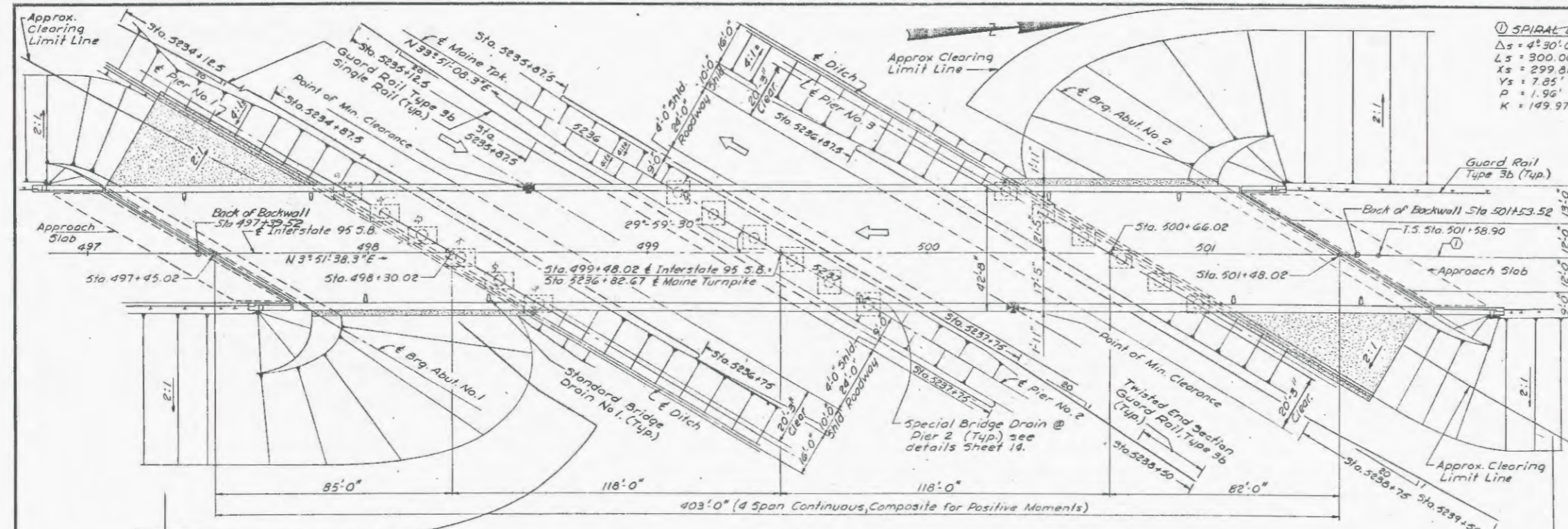
CONTRACT:
 State of Maine, State Highway Commission, Standard Specifications for Highways and Bridges, Revision of June 1968.

LOADING:
 HS 20-44 Modified for Interstate Highways.

FOUNDATIONS:
 Abutments - Spread Footing on Gravel Borrow @ 3T/5F Max. allowable.
 Piers 1, 2 & 3 - Spread Footing in Ledge @ 9.5T/5.F. Max. allowable.

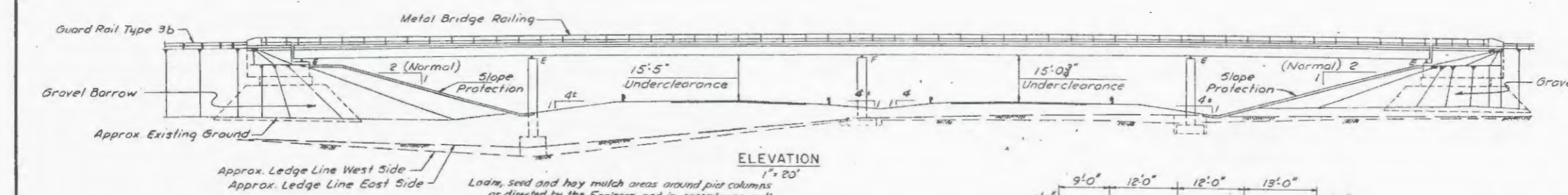
ALLOWABLE STRESSES:
 Concrete ($n=10$) - $f_c = 1200$ p.s.i.
 Reinforcing Steel A.S.T.M. Designation A615 Grade 60 $f_s = 24,000$ p.s.i.
 A.S.T.M. Designation A572-50, $f_s = 27,000$ p.s.i. for thickness up to and including 1/2" and A.S.T.M. Designation A36, $f_s = 20,000$ p.s.i. for additional data see Sheets 3 & 10.

CONCRETE CLASSIFICATION:
 All Concrete shall be Class "A" except Slope Protection, which shall be Class "Y".



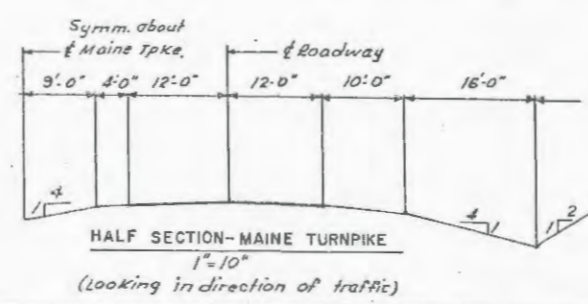
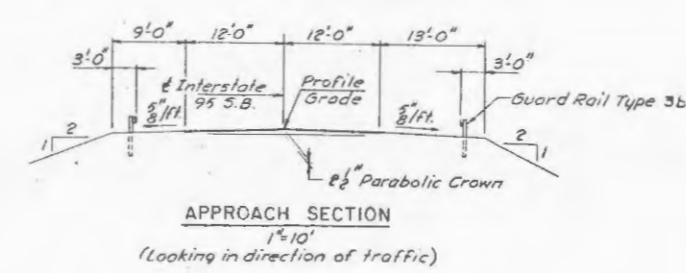
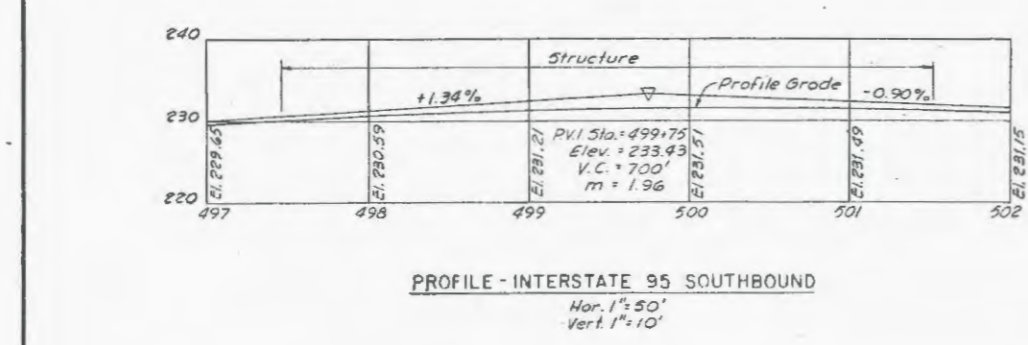
PLAN
 1" = 20'

NOTE:
 Abutments and Piers parallel to Bearing $N33^{\circ}51'08.3''E$.
 For embankment limits, see Sheet 15.



ELEVATION
 1" = 20'

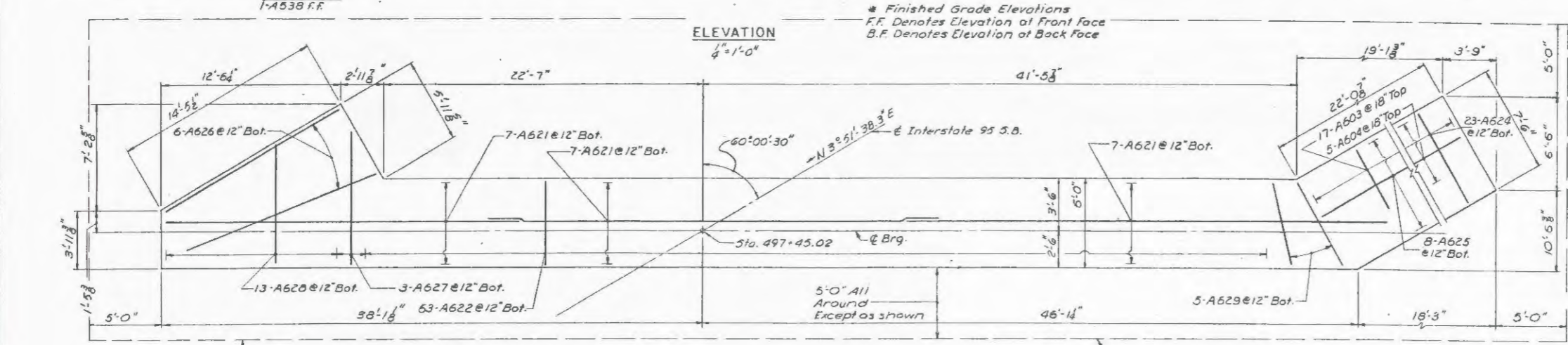
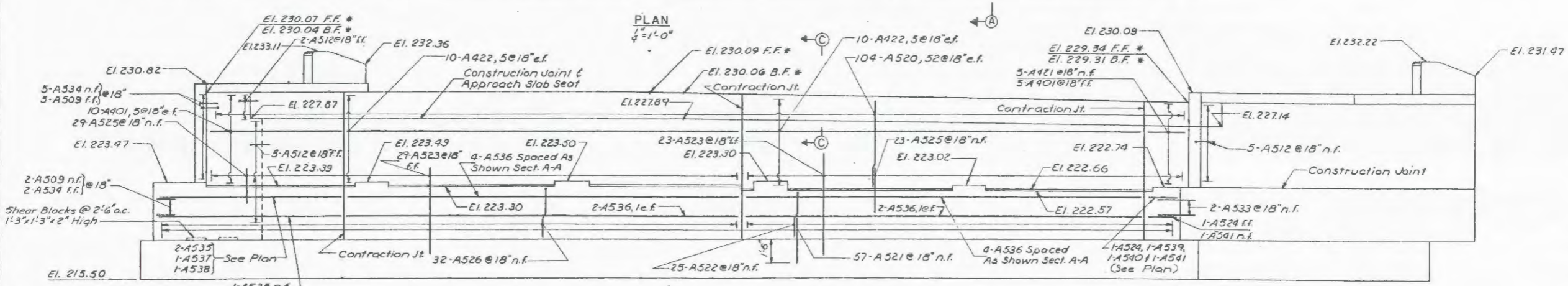
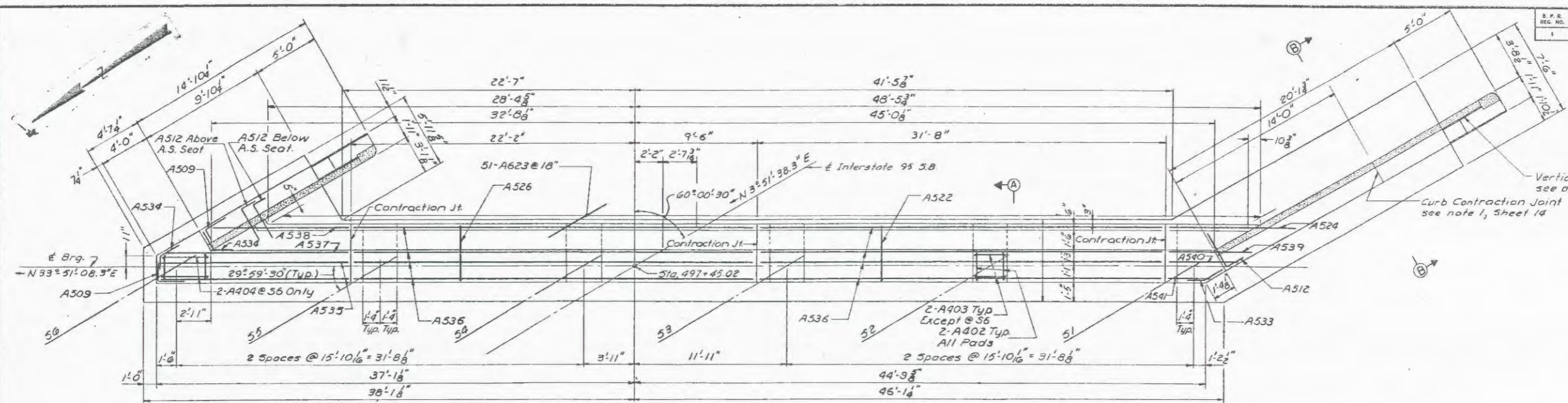
Load, seed and hay mulch areas around pier columns as directed by the Engineer and in accordance with Sections 615, 618 and 619 of the Standard Specifications. Cast shall be incidental to the contract items.



DESIGN - E.F.K. DETAIL - J.M.H.	BRIDGE NO.
TRACE -	SURVEY -
CHECK - G.J.D.	PLOT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION	
INTERSTATE ROUTE 95 S.B. OVER	
MAINE TURNPIKE IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY	
GENERAL PLAN	
SHEET 2 OF 17 AUGUSTA, MAINE	
WEST GARDINER (20)	

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 BOSTON

R.F.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-5(20)	7	23



- NOTES:**
1. For General Notes see Sheet 7.
 2. For Sections A-A, B-B, C-C and Approach Slab details, see Sheet 7.
 3. For Wingwall details, see Sheet 7.
 4. For Bridge Curb and Guard Rail Connection details, see Sheet 7.
 5. For Contraction Joint Detail, see Sheet 6.

DESIGN-LS.	DETAIL-JMM	BRIDGE NO.
TRACE-	SURVEY-	PLOT-
CHECK-S.M. B.R.F.		

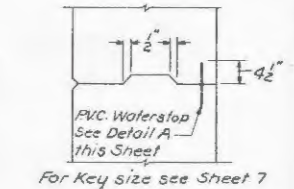
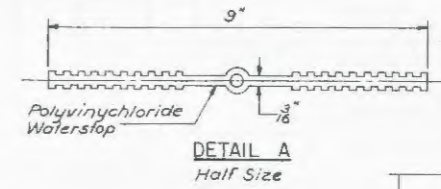
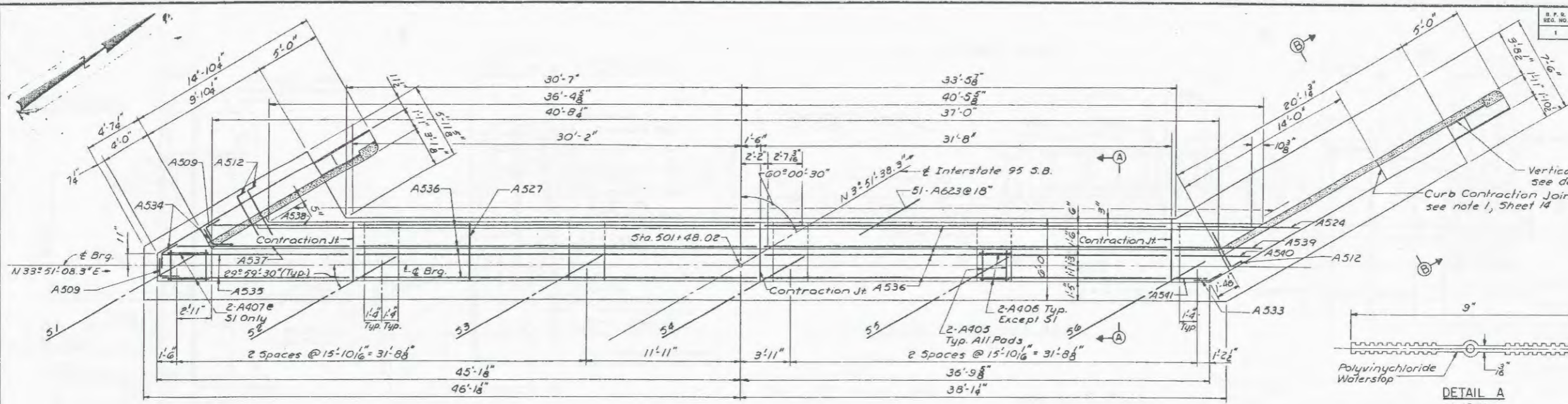
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

INTERSTATE ROUTE 95 S.B.
OVER
MAINE TURNPIKE
IN THE TOWN OF
WEST GARDINER
KENNEBEC COUNTY
ABUTMENT NO. 1

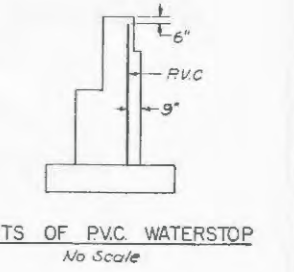
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
BOSTON

SHEET 5 OF 17 AUGUSTA, MAINE

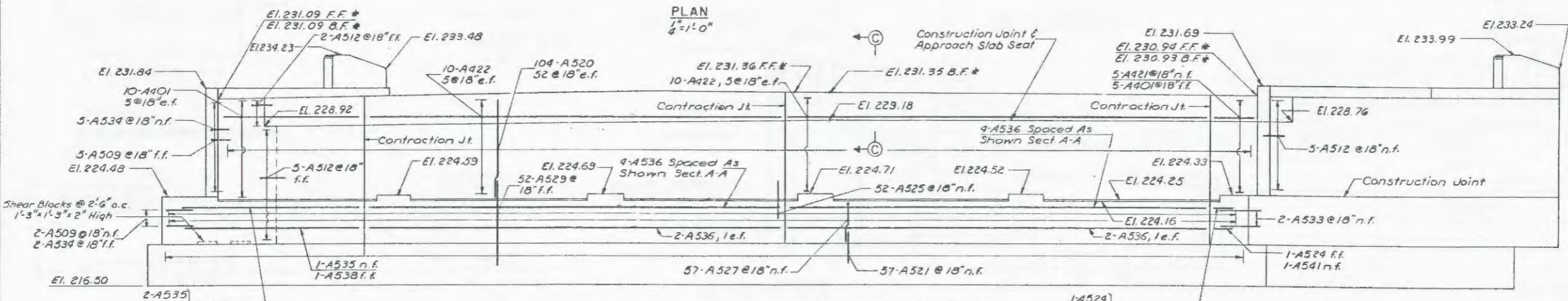
WEST GARDINER (20)



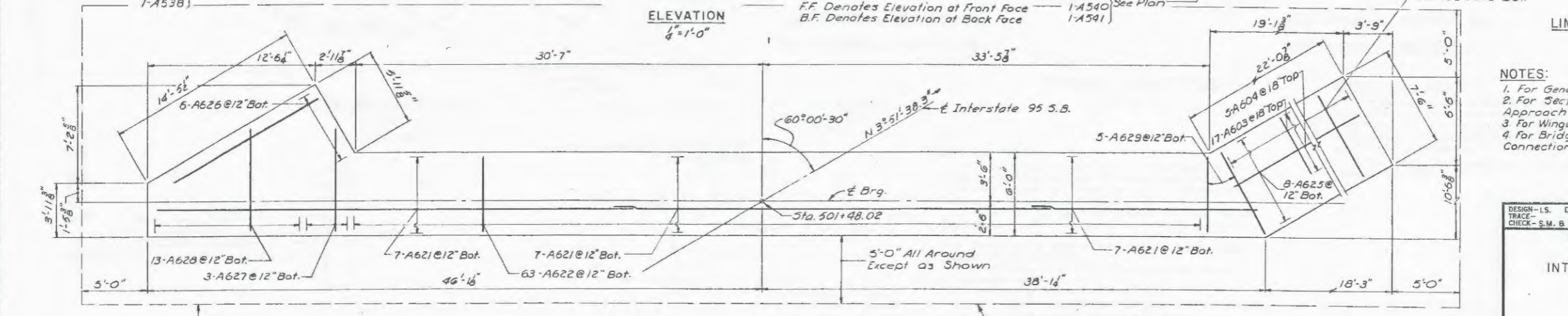
CONTRACTION JOINT DETAIL
3/4" = 1'-0"



NOTES:
 1. For General Notes see Sheet 7.
 2. For Sections A-A, B-B, C-C and Approach Slab details, see Sheet 7.
 3. For Wingwall details, see Sheet 7.
 4. For Bridge Curb and Guard Rail Connection details, see Sheet 7.



* Finished Grade Elevations
 FF Denotes Elevation at Front Face
 B.F. Denotes Elevation at Back Face



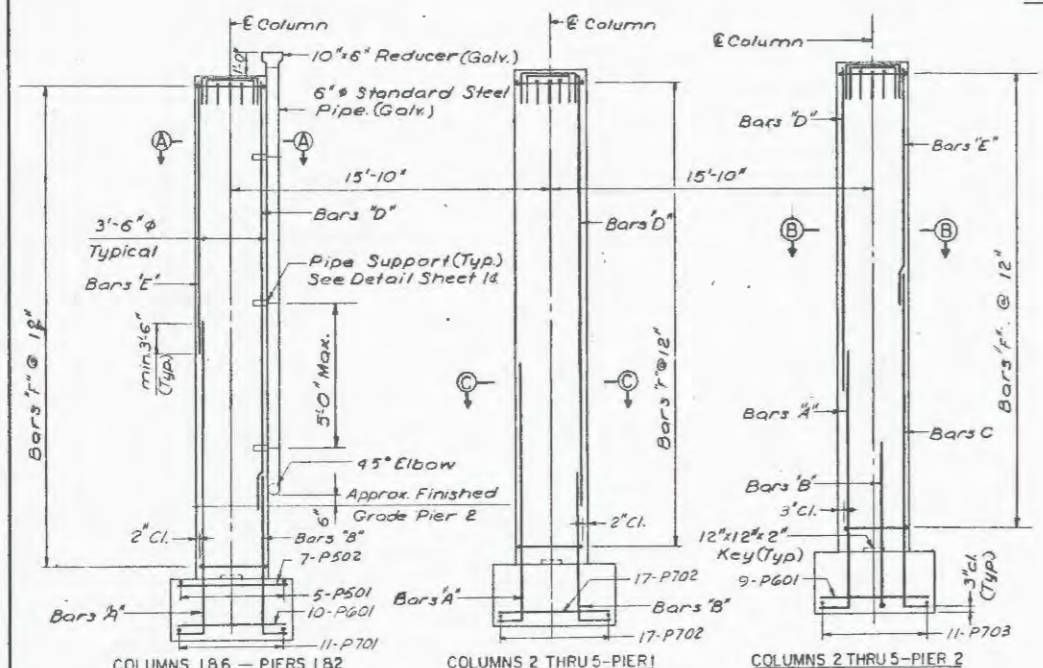
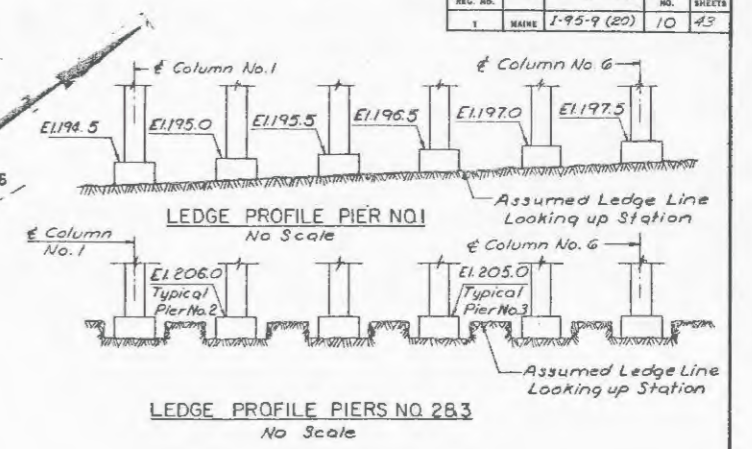
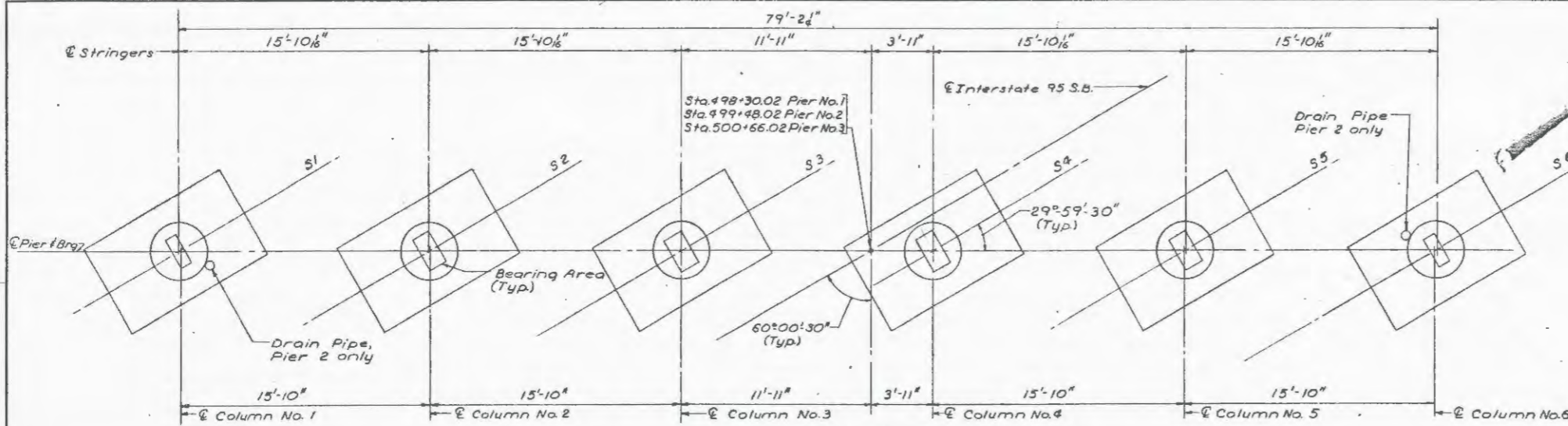
Slope 1:1 All Around To 1'-0\"/>

Limits Of Gravel Borrow Embankment At Bottom Of Footing, See Sheet 15.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 BOSTON

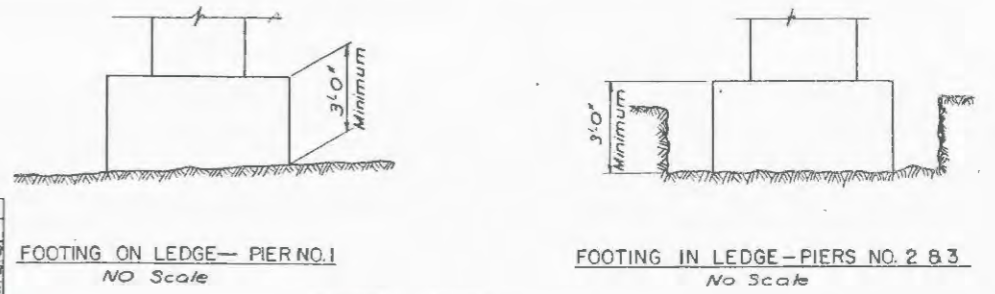
DESIGN - I.S.	DETAIL - J.M.M.	BRIDGE NO.
TRACE - S.M. B.R.E.F.		SURVEY -
CHECK - S.M. B.R.E.F.		PLAT -

STATE HIGHWAY COMMISSION
 BRIDGE DIVISION
 INTERSTATE ROUTE 95 S.B.
 OVER
 MAINE TURNPIKE
 IN THE TOWN OF
 WEST GARDINER
 KENNEBEC COUNTY
 ABUTMENT NO. 2
 SHEET 6 OF 17 AUGUSTA, MAINE



	S1	S2	S3	S4	S5	S6
Pier 1	224.19	223.56	223.79	223.96	223.91	224.73
Pier 2	224.89	224.75	224.94	225.05	224.95	225.18
Pier 3	225.19	224.46	224.60	224.66	224.50	225.22

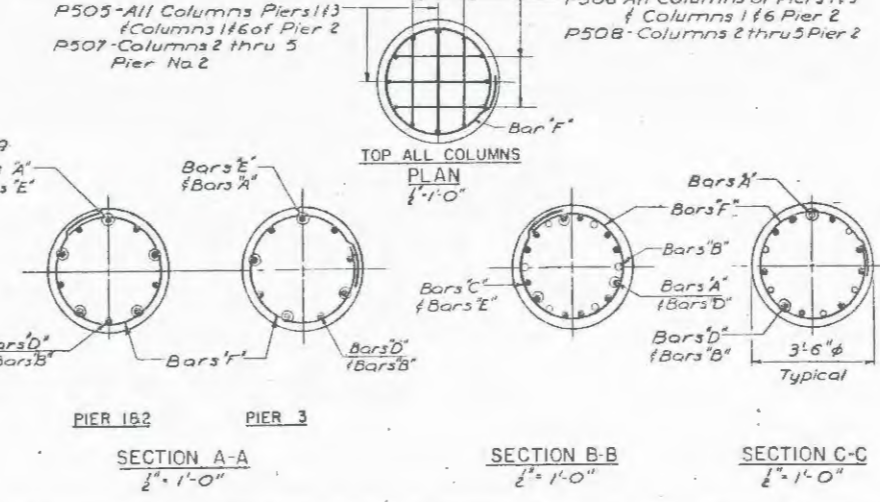
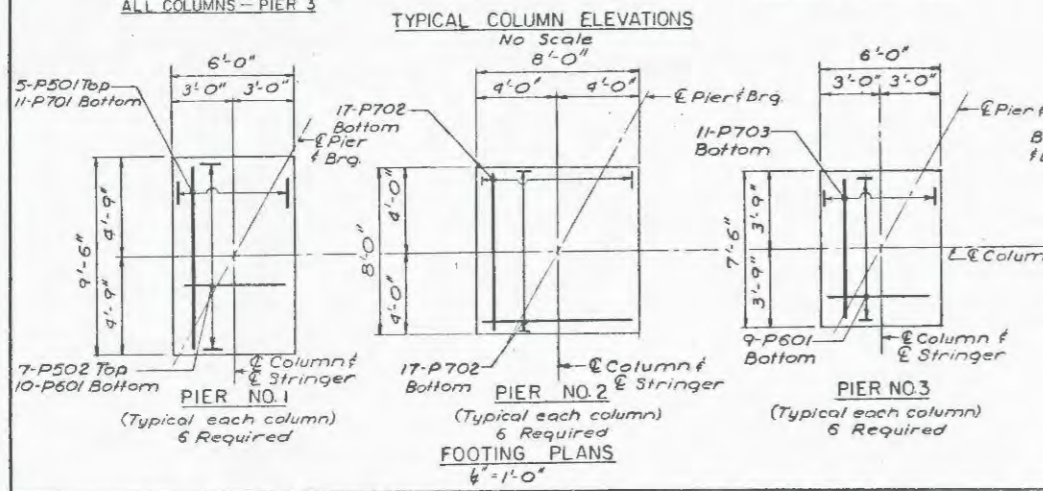
Pier No.	Column No.	Bars A	Bars B	Bars C	Bars D	Bars E	Bars F
1	1	5-P1101	5-P1102	—	5-P1103	5-P1109	30-P503
	2	6-P1101	9-P1102	—	9-P1105	—	29-P503
	3	6-P1101	9-P1102	—	9-P1106	—	29-P503
	4	6-P1101	9-P1102	—	9-P1107	—	28-P503
	5	6-P1101	9-P1102	—	9-P1108	—	28-P503
	6	3-P1101	5-P1102	—	5-P1104	5-P1110	28-P503
2	1	5-P1111	5-P1112	—	5-P1113	5-P1115	19-P503
	2	3-P1401	6-P1402	9-P1403	3-P1114	9-P1116	19-P504
	3	3-P1401	6-P1402	9-P1403	3-P1114	9-P1116	19-P504
	4	3-P1401	6-P1402	9-P1403	3-P1114	9-P1116	19-P504
	5	3-P1401	6-P1402	9-P1403	3-P1114	9-P1116	19-P504
	6	5-P1111	5-P1112	—	5-P1113	5-P1115	19-P503
3	1	4-P1111	5-P1112	—	5-P1117	4-P1119	21-P503
	2	4-P1111	5-P1112	—	5-P1118	4-P1120	20-P503
	3	4-P1111	5-P1112	—	5-P1118	4-P1120	20-P503
	4	4-P1111	5-P1112	—	5-P1118	4-P1120	20-P503
	5	4-P1111	5-P1112	—	5-P1118	4-P1120	20-P503
	6	4-P1111	5-P1112	—	5-P1117	4-P1119	21-P503



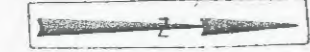
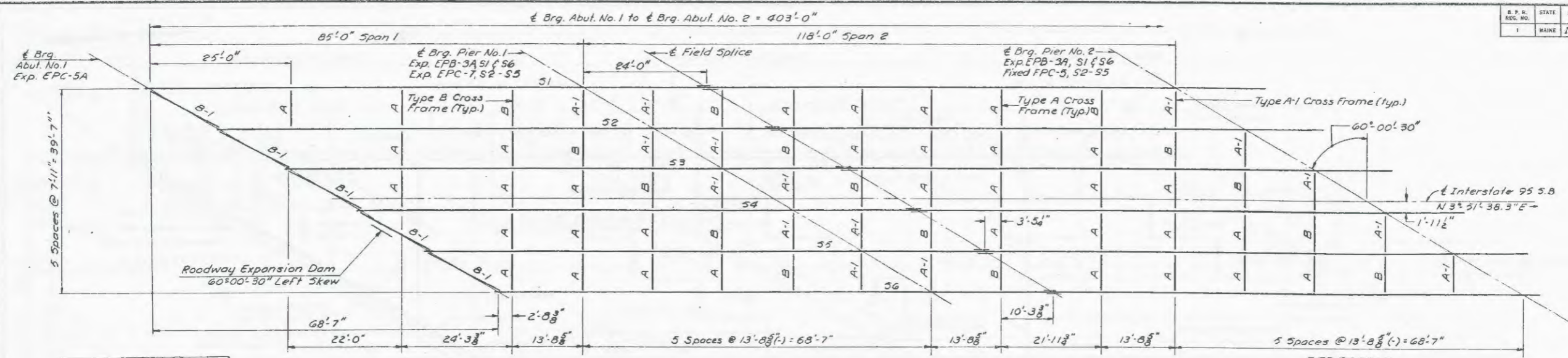
- GENERAL NOTES:**
- Dress bearing pad areas 1" larger all around than masonry plates to exact elevations shown.
 - Reinforcing steel to have 2" minimum cover except 3" as noted.
 - Place reinforcing steel to clear anchor bolts.
 - All weathered or broken ledge shall be removed before any footing concrete is placed.
 - Top of footing elevation may be altered to suit field conditions. No change in top of footing elevations greater than 2 feet shall be made without approval of the Engineer. Top of footing shall have a minimum of one foot of earth cover.
 - Footing side forms may be omitted in rock provided rock is excavated outside the plan dimensions and if approved by the Engineer. Payment for Structural Concrete Piers will be made according to plan dimensions of footing.
 - Pier footings shall have a minimum depth of 3'-0" below the top of footing elevations. In excavating to locate bottom of the pier footing, no payment for Structural Rock Excavation Piers, or for Structural Concrete Piers, will be made below a horizontal plane located 1'-0" below the bottom of footing elevation determined by the Engineer after rock is exposed.
 - Maximum Design Footing Pressure

Pier No. 1	Group I 3.2 Tons/S.F.	Pier No. 3	Group I 3.3 Tons/S.F.
	Group III 9.5 Tons/S.F.		Group III 8.2 Tons/S.F.
 - Pier No. 2

Group I 2.6 Tons/S.F.
Group III 9.0 Tons/S.F.

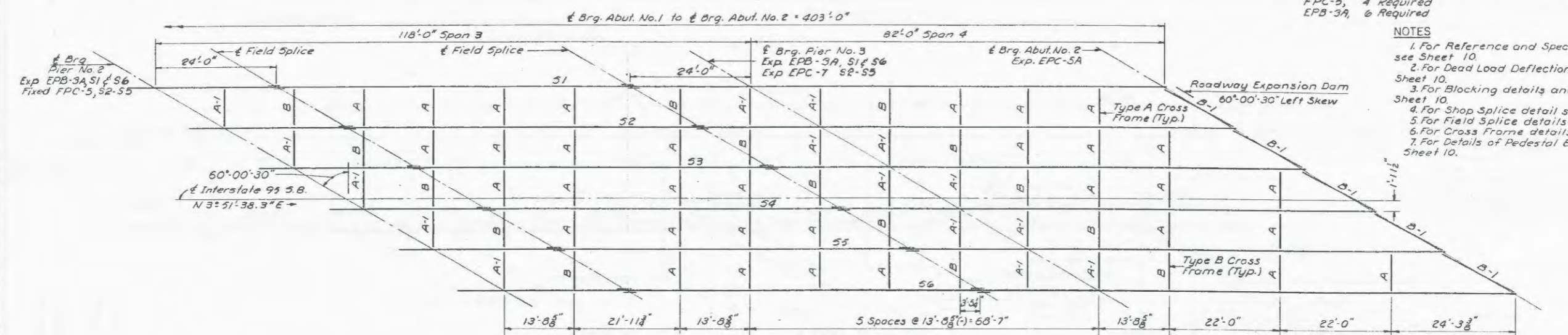


DESIGN - E.F.K. DETAIL - SHR.	BRIDGE NO.
TRACE -	SURVEY -
CHECK - R.E.E.	PLAT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION INTERSTATE ROUTE 95 S.B. OVER MAINE TURNPIKE IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY PIERS NO 1, 2 B 3	
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS	
BOSTON	
SHEET 8 OF 17 AUGUSTA, MAINE	
WEST GARDINER (20)	

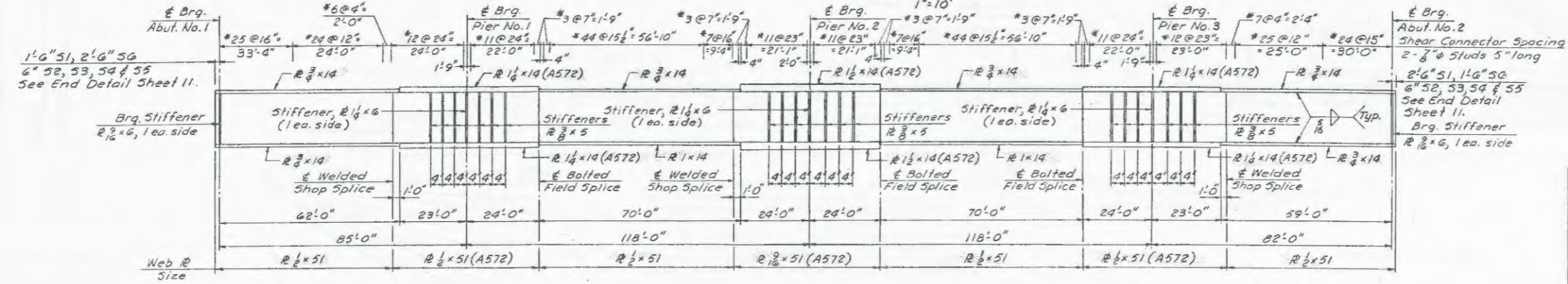


PEDESTALS
 EPC-5A 12 Required (See Sh. 10 for masonry plate modifications)
 EPC-7, 8 Required
 EPC-5, 4 Required
 EPB-3A, 6 Required

- NOTES**
1. For Reference and Specification notes see Sheet 10.
 2. For Dead Load Deflection Diagram see Sheet 10.
 3. For Blocking details and elevation see Sheet 10.
 4. For Shop Splice detail see Sheet 11.
 5. For Field Splice details see Sheet 11.
 6. For Cross Frame details see Sheet 11.
 7. For Details of Pedestal EPB-3A, see Sheet 10.



ERECTION DIAGRAM



NOTE:
 No shop flange or web splices will be allowed except as shown on the stringer elevation.

TYPICAL STRINGER ELEVATION
 All dimensions are horizontal

* Indicates number of spaces

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 BOSTON

DESIGN - I.S.	DETAIL - J.M.M.	BRIDGE NO.
TRACE - M.K.B.I.S.	PLOT -	SURVEY -
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE ROUTE 95 S.B. OVER MAINE TURNPIKE IN THE TOWN OF WEST GARDINER KENNEBEC COUNTY STRUCTURAL STEEL		
SHEET 9 OF 17 AUGUSTA, MAINE		
WEST GARDINER (20)		

NOTES & TOLERANCES:

1) TOLERANCES: BEARINGS

THICKNESS OF INDIVIDUAL RUBBER LAYERS: ±20% OF DESIGN VALUE, NOT TO EXCEED ±1/8"

EXTERNAL PLAN DIMENSIONS, SHIM: ±1/16"

PLAN DIMENSIONS: ±1/4"

FLATNESS OF EXTERIOR TOP AND BTM SURFACES OF COMPLETED BEARING: ±1/64" FROM MEAN SURFACE

VARIATION FROM PLANE PARALLEL TO THE THEORETICAL SURFACE:
TOP: SLOPE RELATIVE TO THE BTM OF NO MORE THAN 0.005 RADIAN

SIDES: ±1/4"

OVERALL BEARING HEIGHT: ±1/4"

2) TOLERANCES: PLATES

HOLE LOCATION: ±1/16"

HOLE SIZE: ±1/32"

PLAN DIMENSIONS: ±1/8"

THICKNESS: ±1/16"

3) HOLES IN SOLE PLATE PERPENDICULAR TO THE BEVEL (IF APPLICABLE)

4) THE PERMISSIBLE VARIATION FROM FLATNESS FOR SOLE PLATES AND MASONRY PLATES IS ±1/16" PER 36 INCHES.

5) INTERNAL SHIMS - ALL EDGES ON SURFACES TO BE BONDED TO THE ELASTOMER (INCLUDING PERIMETER OF THE CENTRAL HOLE) WILL BE SLIGHTLY ROUNDED BY GRINDING TO REMOVE ANY SHARPNESS. ALL CORNERS (IN PLAN) WILL HAVE A 1/4" MIN. RADIUS.

6) EXPOSED STEEL SURFACES SHALL BE GALVANIZED PER ASTM A123.

7) ISOLATORS SHALL BE MARKED WITH SUBSTRUCTURE (PIER OR ABUTMENT), BEARING ID NO. (SERIAL NUMBER), AND MANUFACTURER (S.E.P.). MARKINGS SHALL BE PAINT STENCILED ON THE RUBBER.

8) ISOLATORS SHALL BE SHIPPED IN PROTECTIVE PACKAGING, AS A UNIT.

9) AT NO TIME MAY ANY BEARING BE DISASSEMBLED WITHOUT AUTHORIZATION FROM THE BEARING MANUFACTURER.

10) ALL PRECAUTIONS NECESSARY SHALL BE TAKEN TO PROTECT BEARING COMPONENTS FROM WELD FLASH AND SPLATTER. WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE OF STEEL ADJACENT TO THE ELASTOMER TO 200°F. TEMPERATURE SHALL BE MONITORED DURING WELDING THROUGH THE USE OF TEMPERATURE INDICATING CRAYONS OR OTHER SUITABLE MEANS. MULTIPLE WELD PASSES MAY BE REQUIRED.

11) CONTRACTOR SHALL VERIFY ALL PLATE AND BEARING DIMENSIONS, HOLE LOCATIONS, AND HOLE DIMENSIONS FOR SUITABILITY WITH FIELD CONDITIONS.

12) CONTRACTOR TO REMOVE ANCHOR ROD EXTENSIONS AFTER INSTALLATION OF ISOLATORS.

APPROVAL

"This Shop Drawing has been thoroughly checked and complies with the Contract Documents and field measurements and the fits with adjoining work except as noted."

Reviewed by

SHEETS 1-5

SHOP DRAWING REVIEW
HNTB CORPORATION

Review is for general compliance with contract documents. Sole responsibility for correctness of dimensions, details, quantities and safety during fabrication and erection shall remain with the contractor.

No Exceptions Taken

Make Corrections Noted By TRC 5/3/06

Amend and Resubmit

Rejected - See Remarks Date

DESIGNER APPROVAL

CONTRACTOR APPROVAL
STAMP & SIGNATURE

MAINE TURNPIKE AUTHORITY: CONTRACT NO. 2006-02
1-295 SOUTHBOUND UNDERPASS

BRIDGE REHABILITATION

SEISMIC ISOLATION BEARING DETAILS

CONTRACTOR:
TECHNICAL CONSTRUCTION
302A AUBURN ROAD
TURNER, ME. 04282
(207) 225-3006

Seismic Energy Products, L.P.
EARTHQUAKE PROTECTION PRODUCTS
ATHEMS, TEXAS

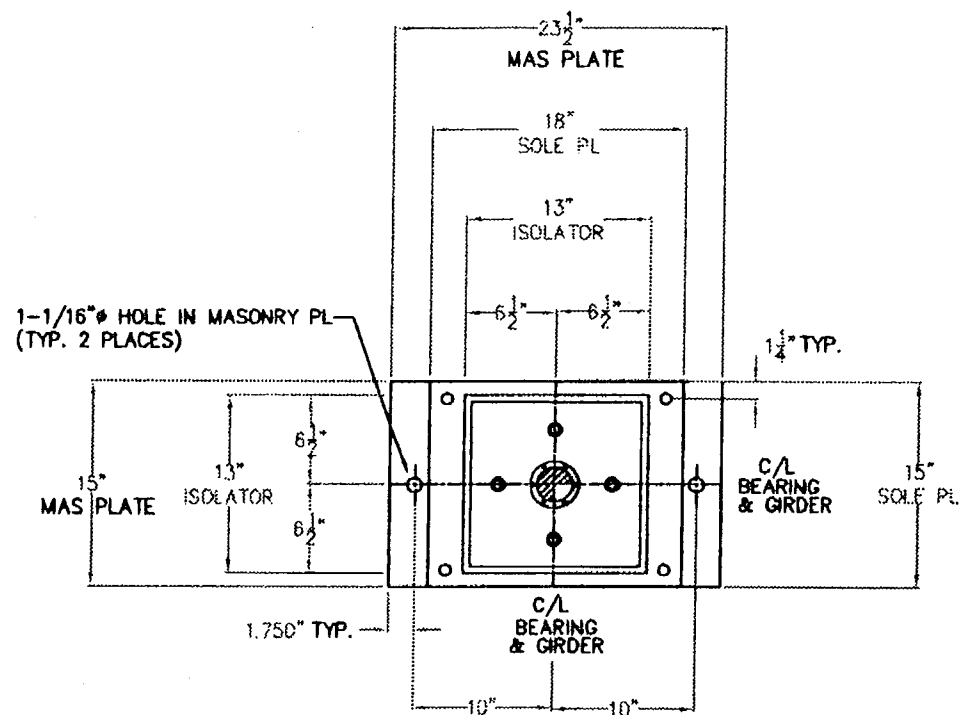
FINAL									
DRN.	JON	04/07/06	P.O. NO.	09732	S.O. NO.	29661			
CHKD.									
CAD FILE:	29661ME-1	DWG. NO.	29661ME	SHT	1 OF 5				

REVISION C 4/12/06
REVISION B 4/10/06
REVISION A 4/5/06

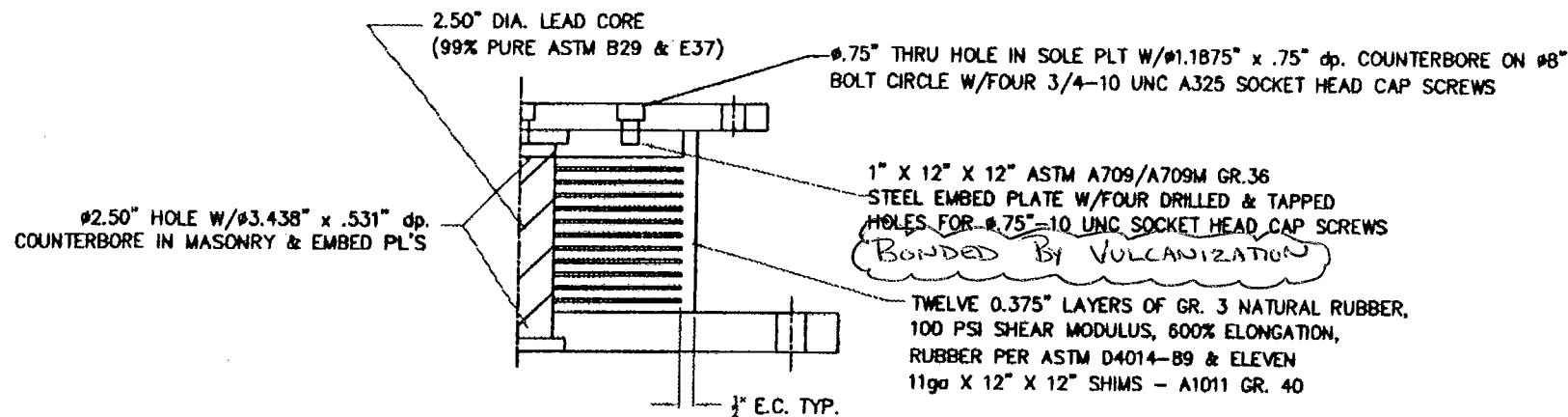
REVISION	BY	CK'D	DATE

TYPE 1 ISOLATOR BEARING

NOTES & TOLERANCES - SEE NOTES SHEET

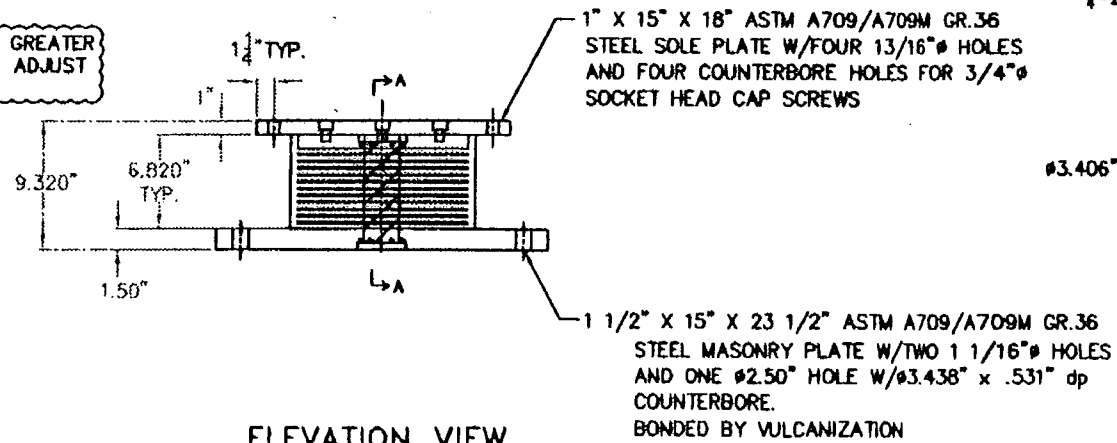


PLAN VIEW



ISOLATOR DETAIL VIEW (SECT AA)

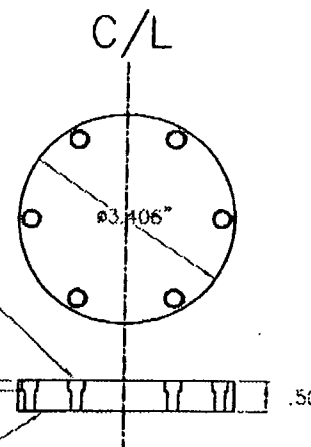
NOTE: HEIGHT OF BEARING IS GREATER THAN SHOWN ON PLANS. ADJUST BOLSTER HEIGHT TO FIT.



ELEVATION VIEW

MK 01
 (12) REQ'D
 ABUTMENTS 1 & 2
 SERIAL NO'S. 101 THROUGH 112

DRILL 5/8" HOLE THRU ON #3" BOLT CIRCLE & COUNTER BORE #3/4" x 1/4" dp. TYP. (6) PLACES FOR 1/2"-20 UNC ASTM F835 CSK CAP SCREWS



ISOLATOR CAP (2) REQ'D PER ISOLATOR

APPROVAL

DESIGNER APPROVAL

CONTRACTOR APPROVAL
 STAMP & SIGNATURE

MAINE TURNPIKE AUTHORITY: CONTRACT NO. 2006.02
 I-295 SOUTHBOUND UNDERPASS
 BRIDGE REHABILITATION
 SEISMIC ISOLATION BEARING DETAILS

CONTRACTOR: TECHNICAL CONSTRUCTION
 302A AUBURN ROAD
 TURNER, ME. 04282
 (207) 225-3008

Seismic Energy Products, L.P.
 EARTHQUAKE PROTECTION PRODUCTS
 ATHENS, TEXAS

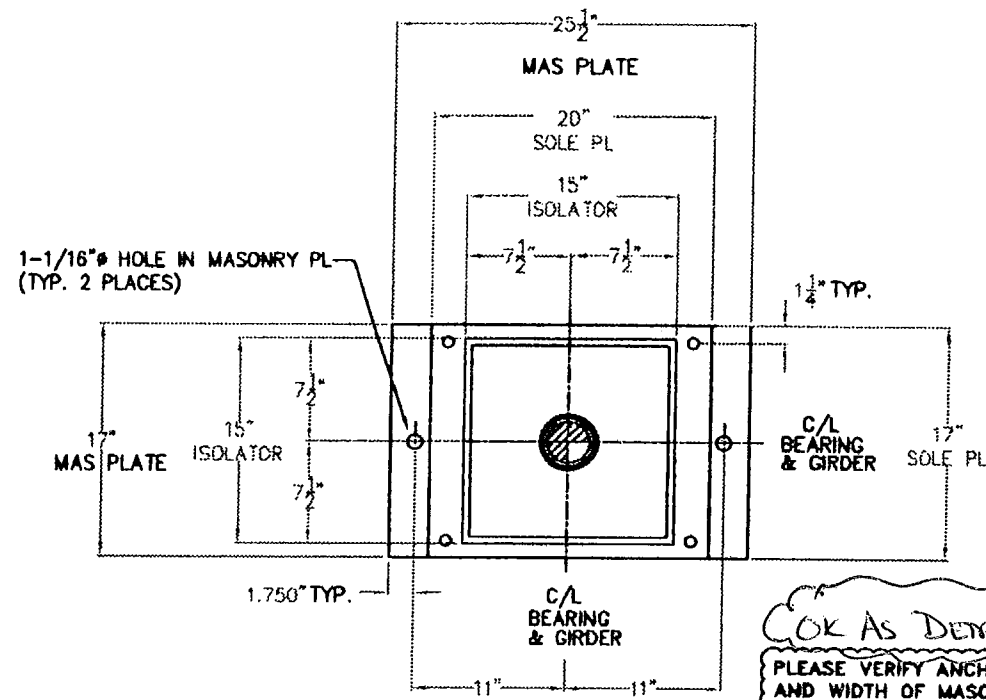
REVISION C 4/12/06
 REVISION B 4/10/06
 REVISION A 4/5/06

REVISION	BY	CK'D	DATE

DRN. JON	04/04/06	P.O. NO.	09732	S.O. NO.	29661
CHKD.					
CAD FILE: 29661ME-2	DWG. NO. 29661ME	SHT 2 OF 5			

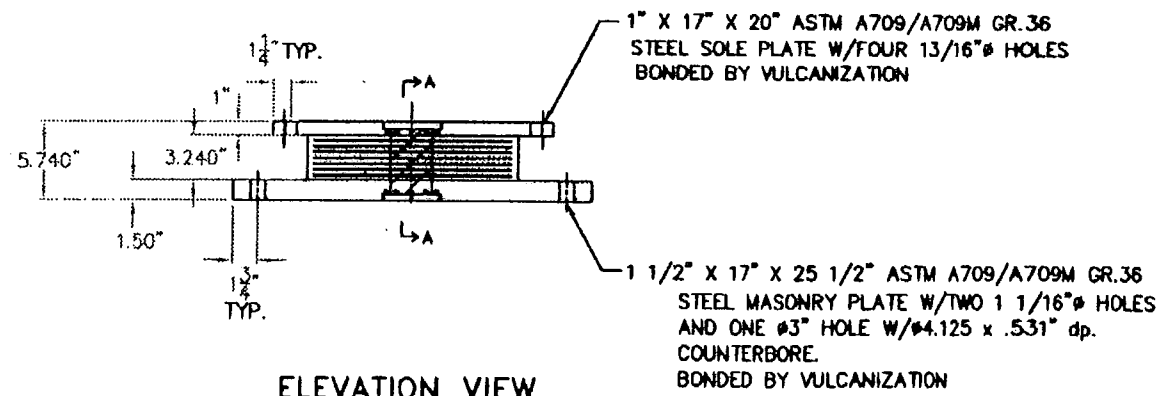
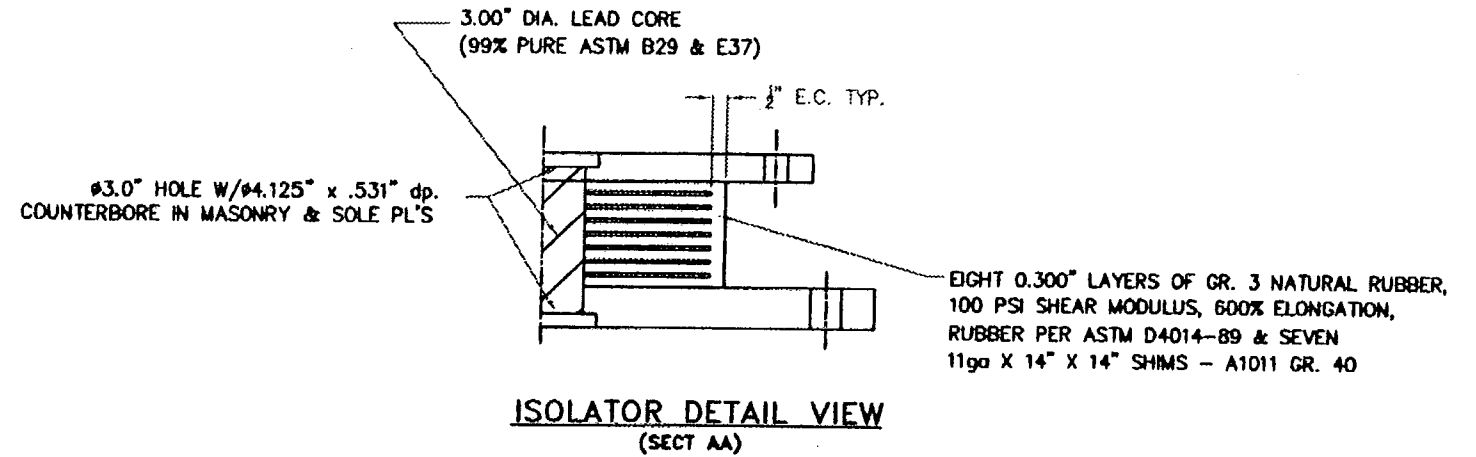
TYPE 2 ISOLATOR BEARING

NOTES & TOLERANCES - SEE NOTES SHEET



PLAN VIEW

OK AS DETAILED TRC 5/3/06
PLEASE VERIFY ANCHOR ROD HOLE LOCATIONS AND WIDTH OF MASONRY PLATE.

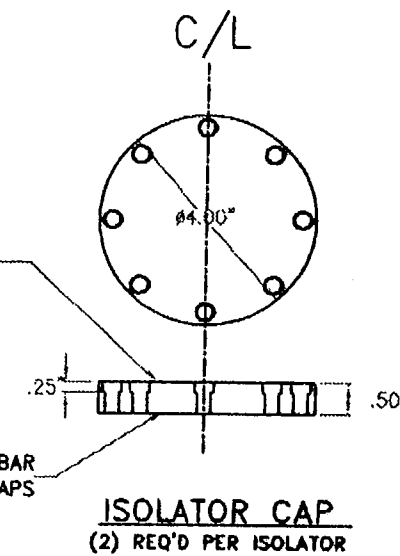


MK 02
(B) REQ'D
PIERS 1 & 3
GIRDERS 2-5
SERIAL NO'S 210 THROUGH 208

201

DRILL 5/8" HOLE THRU ON #3/8" BOLT CIRCLE & COUNTER BORE 1/2" x 1/4" dp. TYP. (6) PLACES FOR 1/2"-20 UNC ASTM F835 CSK CAP SCREWS

#4" x 1/2" UNS G1045 OR UNS G1018 BAR ASTM A709/A709M GR.50 STEEL CAPS



APPROVAL

DESIGNER APPROVAL

CONTRACTOR APPROVAL STAMP & SIGNATURE

MAINE TURNPIKE AUTHORITY: CONTRACT NO. 2006.02
1-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION
SEISMIC ISOLATION BEARING DETAILS

CONTRACTOR: TECHNICAL CONSTRUCTION
302A AUBURN ROAD
TURNER, ME 04282
(207) 225-3008

Seismic Energy Products, L.P.
EARTHQUAKE PROTECTION PRODUCTS
ATHENS, TEXAS

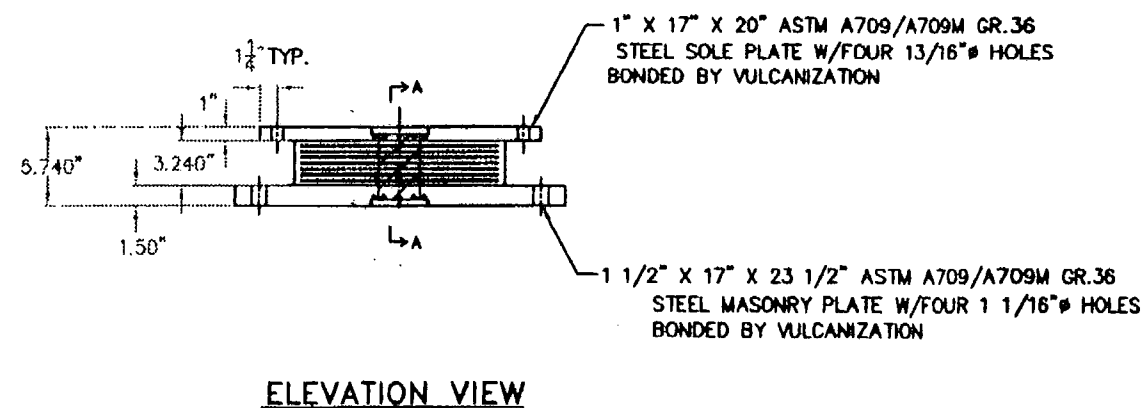
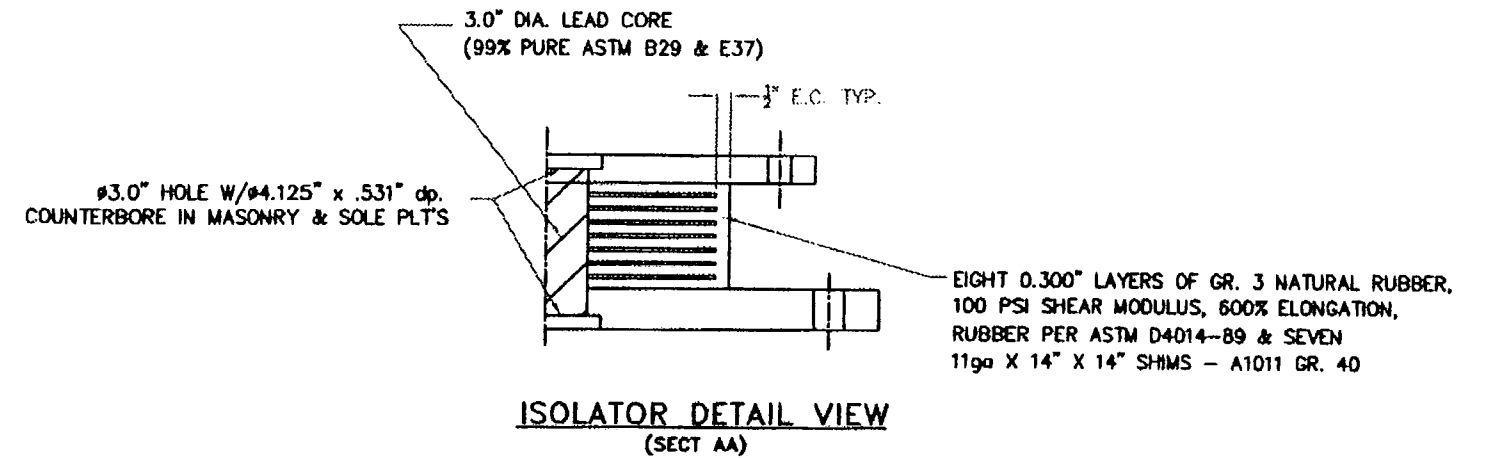
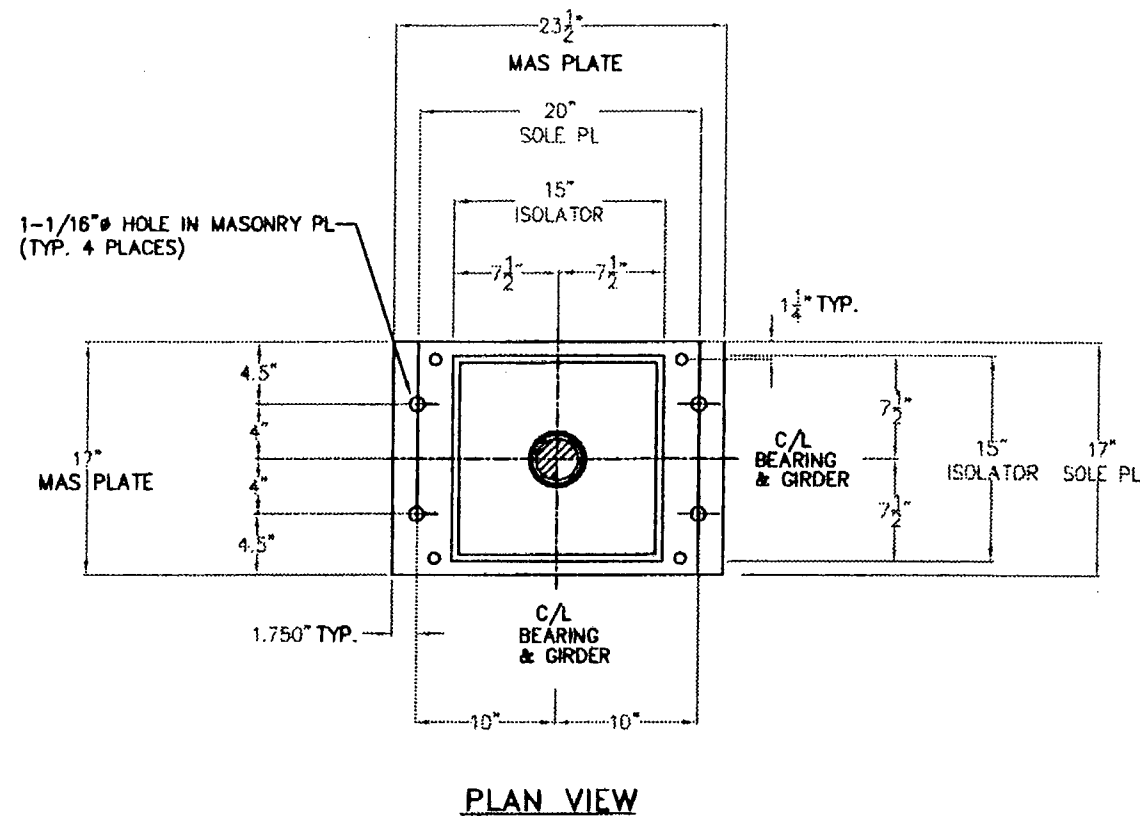
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CHKD.		09732	29661
CAD FILE: 29661ME-3	DWG. NO. 29661ME	SHT 3 OF 5	

REVISION C 4/12/06
REVISION B 4/10/06
REVISION A 4/5/06

REVISION	BY	CHK'D	DATE

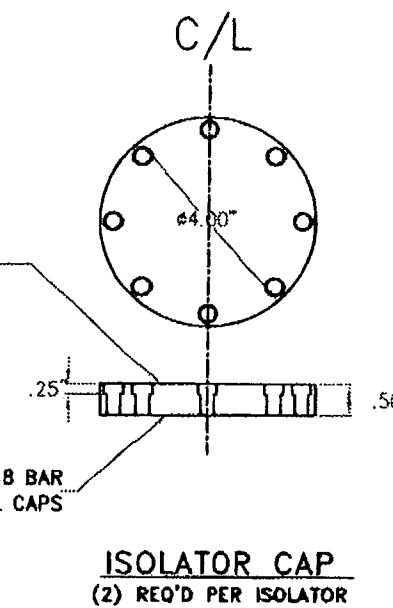
TYPE 2 ISOLATOR BEARING

NOTES & TOLERANCES - SEE NOTES SHEET



DRILL 5/8" HOLE THRU ON 3 3/8" BOLT CIRCLE & COUNTER BORE 1/2" x 1/4" dp TYP. (6) PLACES FOR 1/2"-20 UNC ASTM F835 CSK CAP SCREWS

4" x 1/2" UNS G1045 OR UNS G1018 BAR ASTM A709/A709M GR.50 STEEL CAPS



MK 03
(4) REQ'D
PIER 2
GIRDERS 2-5
SERIAL NO'S 301 THROUGH 304

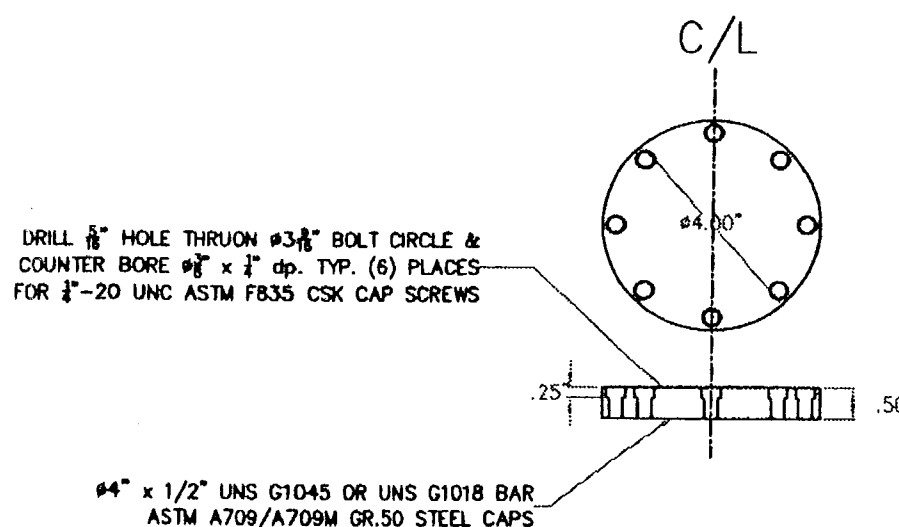
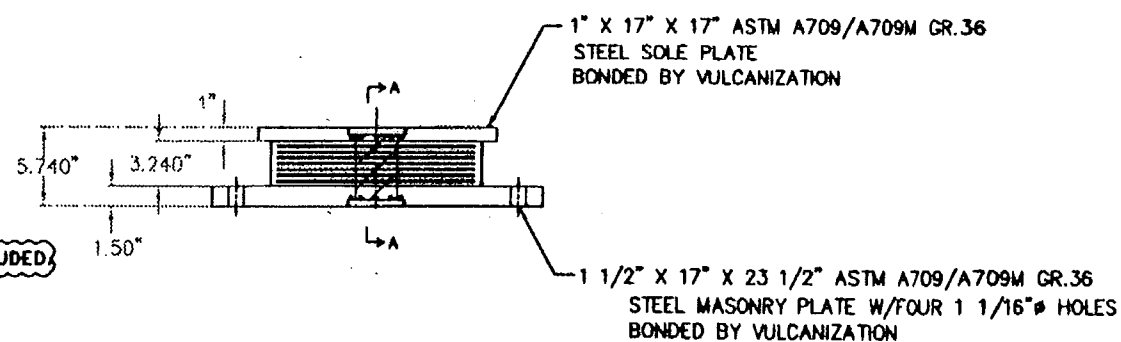
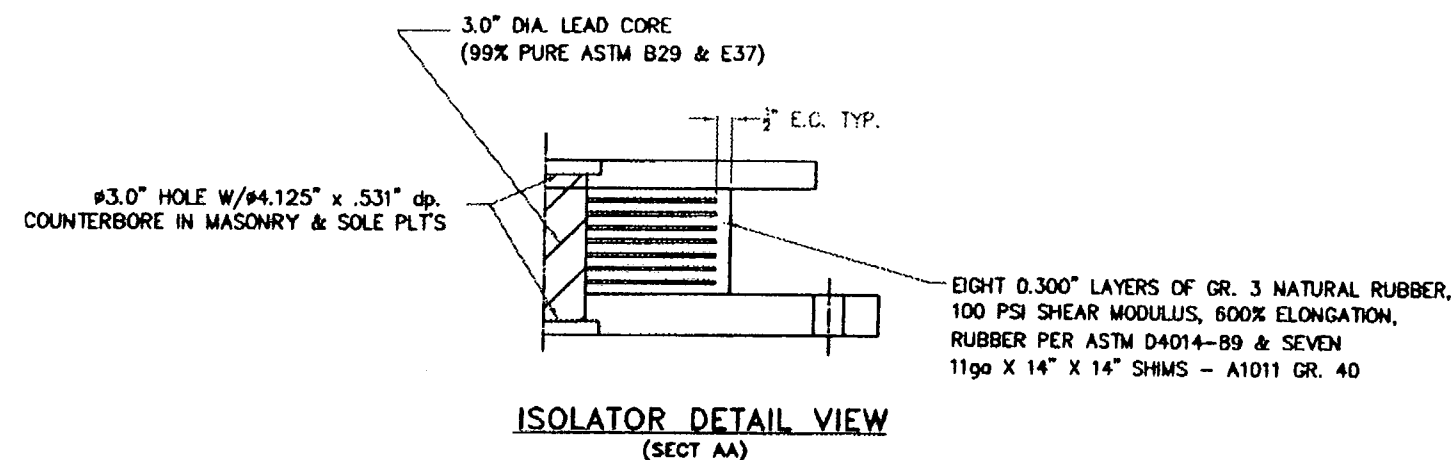
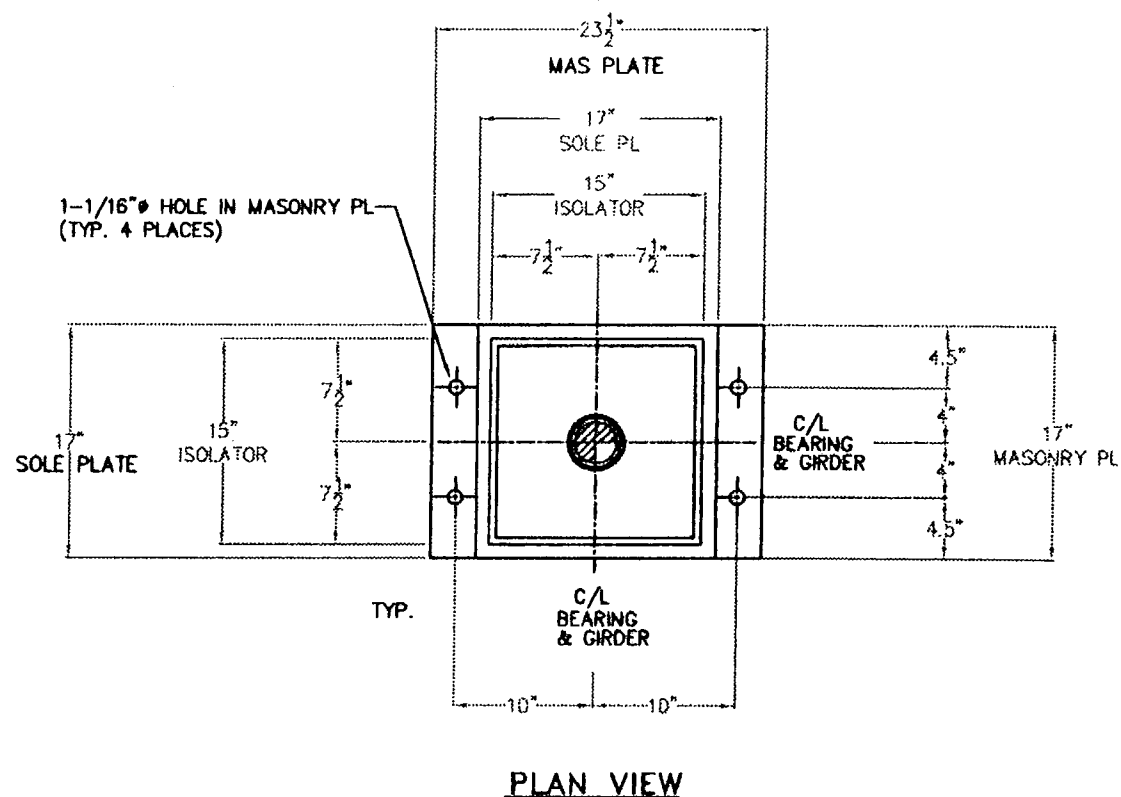
REVISION B 4/12/06
REVISION B 4/10/06
REVISION A 4/5/06

REVISION	BY	CKD	DATE
FINAL			

APPROVAL	
DESIGNER APPROVAL	CONTRACTOR APPROVAL STAMP & SIGNATURE
MAINE TURNPIKE AUTHORITY: CONTRACT NO. 2006.02 I-295 SOUTHBOUND UNDERPASS BRIDGE REHABILITATION SEISMIC ISOLATION BEARING DETAILS	
CONTRACTOR: TECHNICAL CONSTRUCTION 302A AUBURN ROAD TURNER, ME 04282 (207) 225-3008	
Seismic Energy Products, L.P. EARTHQUAKE PROTECTION PRODUCTS ATHENS, TEXAS	
DRN. JWH 04/05/06	P.O. NO. 09732
CHKD.	S.O. NO. 29661
CAD FILE: 29661ME-4	DWG. NO. 29661ME SHT 4 OF 5

TYPE 2 ISOLATOR BEARING

NOTES & TOLERANCES - SEE NOTES SHEET



NOTE: SHIM PLATE IS NOT INCLUDED

ELEVATION VIEW
MK 04
(6) REQ'D
PIERS 1, 2 & 3
GIRDERS 1 & 6
SERIAL NO'S 401 THROUGH 406

APPROVAL

DESIGNER APPROVAL
CONTRACTOR APPROVAL
STAMP & SIGNATURE

MAINE TURNPIKE AUTHORITY: CONTRACT NO. 2006.02

I-295 SOUTHBOUND UNDERPASS
BRIDGE REHABILITATION

SEISMIC ISOLATION BEARING DETAILS

CONTRACTOR: TECHNICAL CONSTRUCTION
302A AUBURN ROAD
TURNER, ME. 04282
(207) 225-3006

Seismic Energy Products, L.P.
EARTHQUAKE PROTECTION PRODUCTS
ATHENS, TEXAS

DRN. JON 04/06/06 P.O. NO. S.O. NO.
CHKD. 09732 29661

CAD FILE: 29661ME-5 DWG. NO. 29661ME SHT 5 OF 5

REVISION C 4/12/06
REVISION B 4/10/06
REVISION A 4/5/06

REVISION	BY	CK'D	DATE
FINAL			