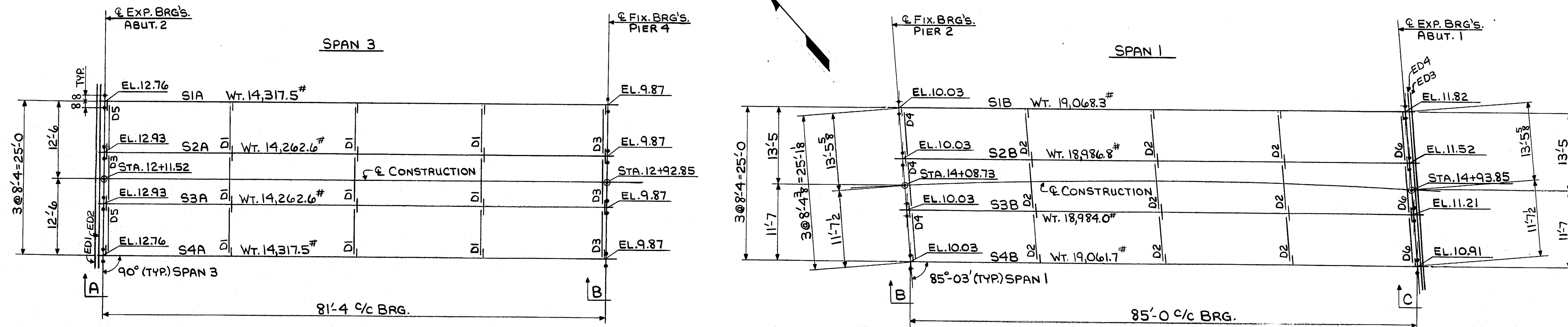
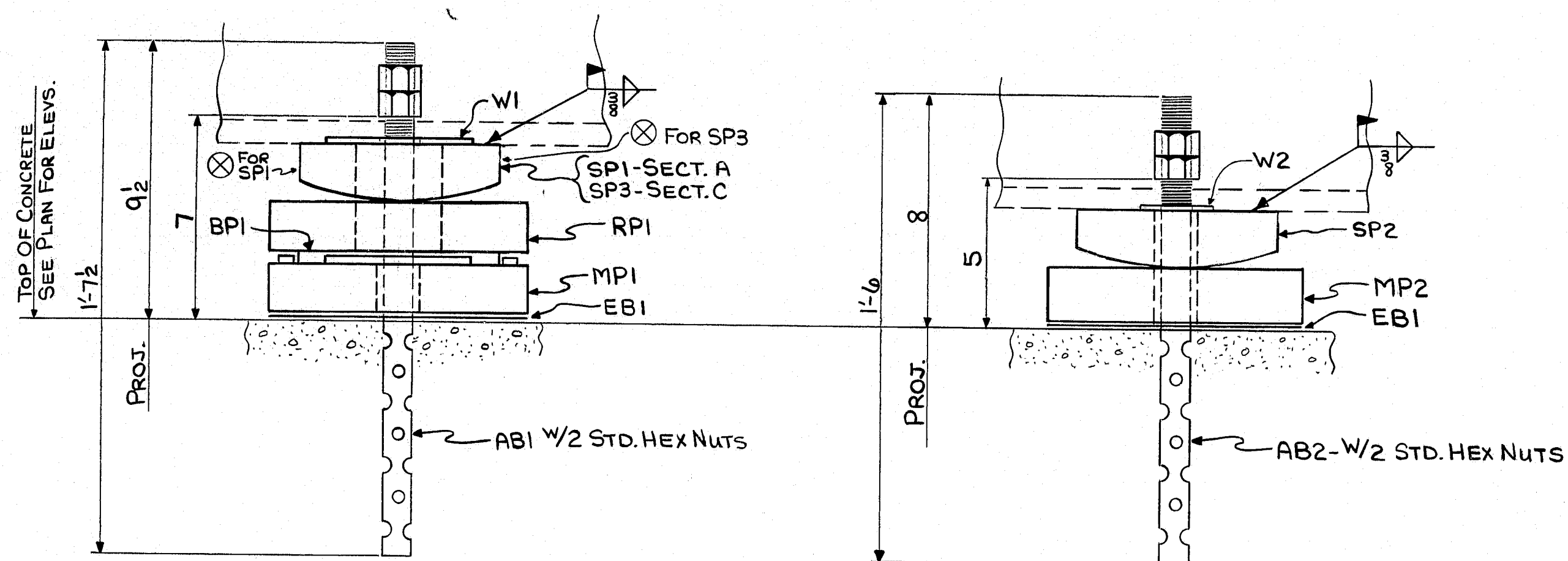


FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	ME	

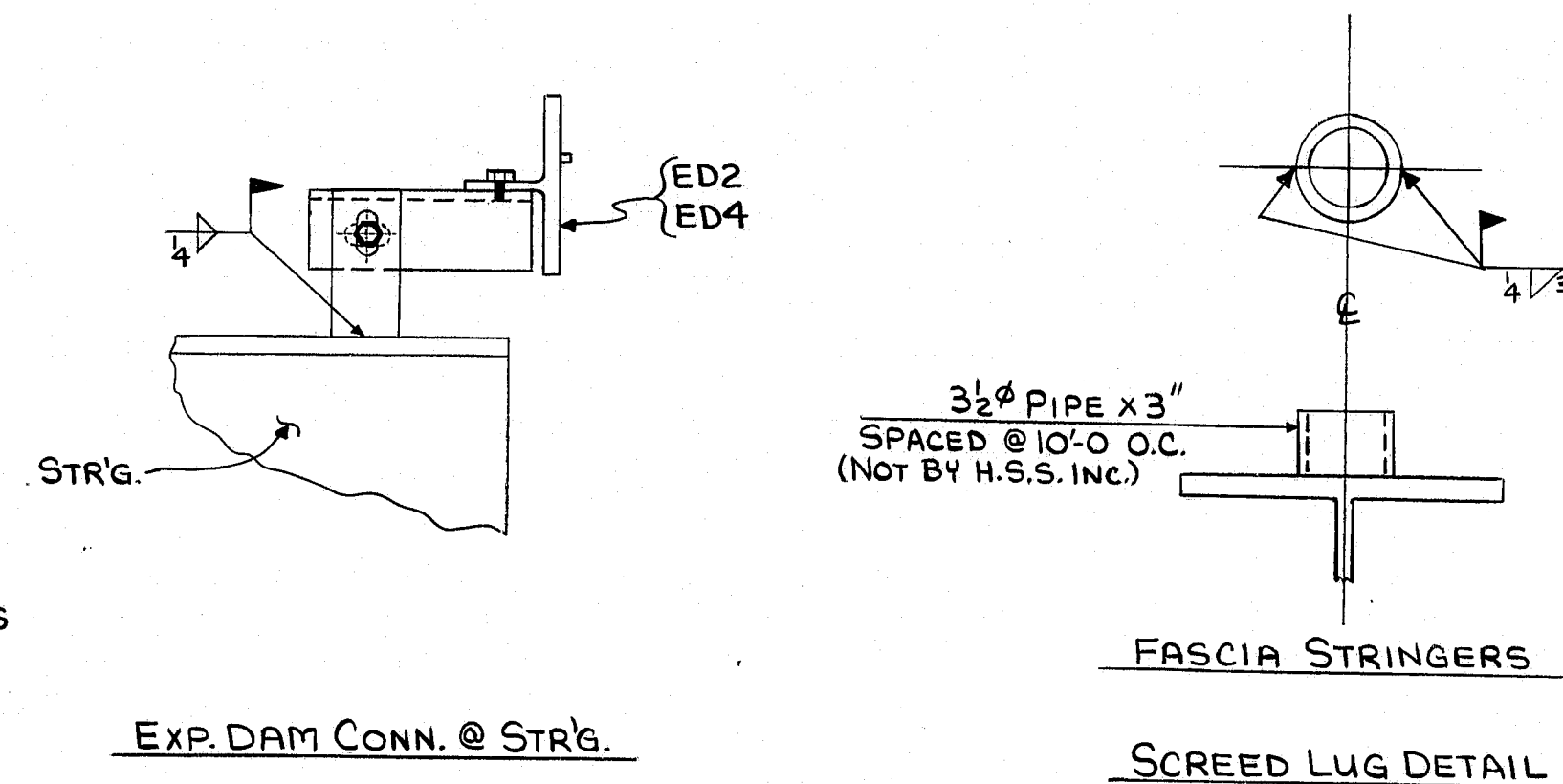


ANCHOR BOLT ERECTION PLANS



SECTIONS A & C

SECTIONS B

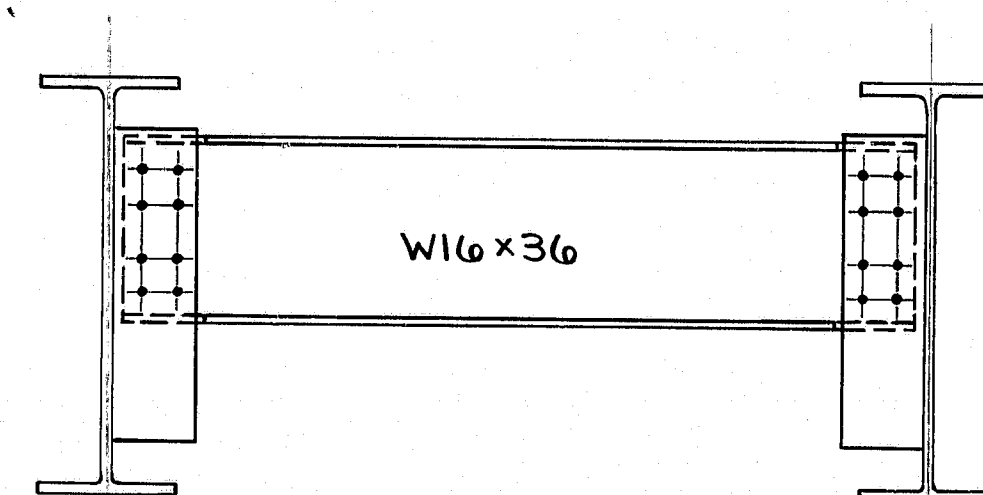


FIELD BOLT SUMMARY
 7/8" H.S. BOLTS W/HVY. HEX HD. (A325 TYPE 1) & A563
 GRADE C HVY. HEX NUT.

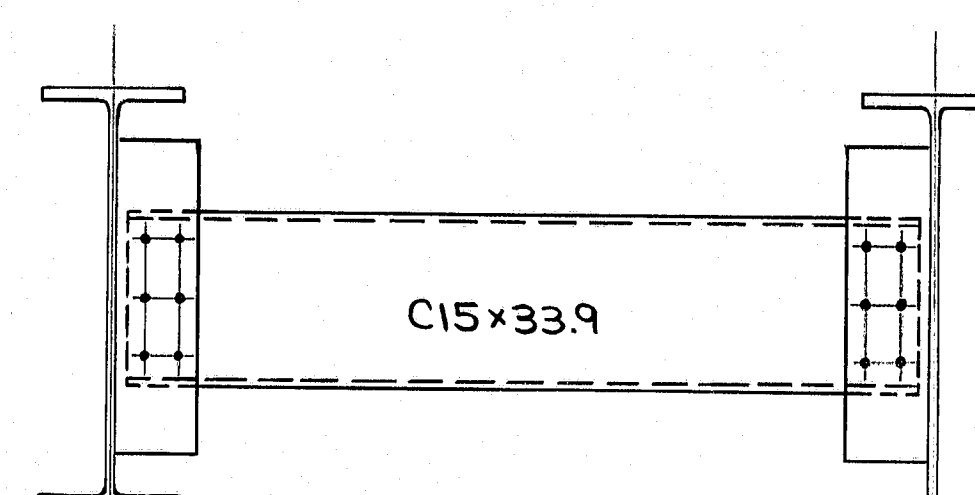
DIAPHRAGMS ~ 430 @ 2 LG.

430 FLAT, ROUND WASHERS (F436) FOR 7/8" H.S. BOLTS.

145-5/8" CARRIAGE BOLTS X 0'-1 1/2" (A307) W/HEX NUT (A563 GRADE A)
 145-STD. WASHERS FOR 5/8" BOLTS



DIAPH. @ ABUTS.



INTERM. DIAPH.

- NOTES:
- All dimensions are given horizontally.
 - Elevations are given to top of concrete slab.
 - Anchor bolt settings must be exact in every detail in accordance with this drawing.
 - Anchor bolts are furnished by High Steel Structures, Inc., and set by others.

- ALL STEEL TO BE A.S.T.M. A572 GRADE 50 (U.N.).
- (T) INDICATES CHARPY V-NOTCH TEST REQ'D.
- ⊗ INDICATES THICKER EDGE OF SOLE PLATE.
- BLAST CLEANING AS PER SSPC-SP6.
- STATE SPEC. YEAR: 1968 PLUS SUPPLEMENTAL & SPECIAL PROVISIONS.
- A.W.S. SPEC.: D1.1-'75, AS MODIFIED BY '77 AASHTO. & SUPPLEMENTAL SPEC. SECT. 50A, WELDING.
- SHOP INSPECTION BY: MAINE D.O.T.
- TYPE OF PAINT: AASHTO M-229, TYPE II; MIN. PAINT FILM THICKNESS WET-4.0 MILS. - SHOP COAT.
- STUD SHEAR CONNECTORS, FIELD MEASUREMENTS, GUARD RAIL & POSTS, WHEEL GUARDS, PREFORMED ELASTIC JOINT SEAL, FIELD PAINTING, SWING SPAN ARMOR EDGE, ANY MATERIAL IN THE "SWING SPAN" & TOP CHORD BOTTOM FLANGE PLATES NOT BY HIGH STEEL STRUCTURES, INC.
- NO PAINT WITHIN 3" OF HOLES, UNLESS NOTED P.
- STEEL NOTED "NO PAINT" TO RECEIVE ONE COAT OF BOILED LINSEED OIL.

ERECTION NOTE:

No credit will be allowed for work performed by others in replacing or correcting materials or workmanship covered by this drawing unless expressly authorized by High Steel Structures, Inc.

BRIDGE No. 2039

NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC. 1905 Old Philadelphia Pike Lancaster, Pennsylvania 17604 Phone 717/299-9211 A Subsidiary of High Industries, Inc.		
ANCHOR BOLT ERECTION PLANS BARTER'S ISLAND BRIDGE OVER BACK RIVER BARTER'S ISLAND BRIDGE STA. 12+11.52 TO STA. 14+93.85 STATE OF MAINE DEPARTMENT OF TRANSPORTATION BOOTHBAY, MAINE LINCOLN CO., MAINE		
STATE CONTRACT OR REF. NO.	BH-0005(1)	CONTRACTOR CALLAHAN BROS., INC.
IN CHARGE: HEFFNER	MADE BY: FDS	CHK. D. E.P.M. DATE: 2-8-82
CONTRACT NUMBER: ME-81163	DRAWING NUMBER: E1	

178-178

a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p
q
r
s
t
u
v
w
x
y

a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p
q
r
s
t
u
v
w
x
y

a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p
q
r
s
t
u
v
w
x
y

I. DEFINITIONS

The welding terms used in these procedures are to be interpreted according to the definitions given in Appendix I of A.W.S. Structural Welding Code D1.1.

II. PREPARATION OF MATERIAL FOR WELDING

Details of welds and welded pieces shall be in accordance with approved shop detail drawings. Dimensional tolerances, straightness and flatness of structural shapes and plates shall be within the limits prescribed by the current A.S.T.M. A-6 specifications.

The attached welding procedures and shop detail drawings shall indicate the proper joint preparation for a welding procedure proposed by the fabricator when he prefers a joint configuration not detailed on the design drawings. If the joint configuration is not prequalified, the fabricator will submit to the engineer for approval the welding procedure specification of the joint with qualification test records.

The facing surfaces of the web and flange plates and the adjacent surfaces that are to be fillet welded shall have all mill scale removed prior to assembly and welding of the web to flange joint.

III. ASSEMBLY

Butt joints to be joined by butt welds shall be cut square and true and aligned accurately within the A.W.S. D1.1 tolerances. The cross section of the weld shall not be reduced after grinding. The grinding shall produce a smooth machine-like finish which meets or exceeds a 250 mm on the surface roughness scale. (i.e. 125, 63, 32)

Parts to be joined by fillet welds shall be brought into as close contact as practicable. If the separation is 1/16" or greater, the leg of the fillet weld shall be increased by the amount of separation. The maximum separation shall not exceed 3/16".

Flux used for submerged arc welding shall be dry and free of contamination from dirt, mill scale, or other foreign material. Flux fused in welding shall not be re-used. Flux which has not fused may be re-used only after processing through the Invisibile Vacuum Corporation flux cleaner or the Ogen cleaner attached to the dart machine. Filler metals used shall be as specified on the attached weld detail sheets.

IV. PROCEDURES FOR SUBMERGED ARC WELDING WITH A SINGLE ELECTRODE

All submerged arc butt welds shall be made in the flat position. Fillet welds may be made in either the flat or horizontal position except that single-pass fillet welds made in the horizontal position shall not exceed 5/16 inch.

The thickness of weld layers, except root and surface layers, shall not exceed 1/4 inch. When the root opening is 1/2 inch or greater, a multiple-pass, split-layer technique shall be used. The split-layer technique shall also be used in making multiple-pass welds when the width of the layer exceeds 5/8 inch.

Tack welds, in the way of fillet welds 3/8 inch or smaller in size or in the root of joints requiring specific root penetration, shall be sufficiently small, generally 1/8 to 3/16 inch, that they do not produce objectionable changes in appearance of the weld surface or result in a decrease in penetration; otherwise they shall be removed or reduced in size by any suitable means prior to welding.

Each weld pass shall have all slag removed before any additional weld is deposited on it.

Groove welds shall be terminated at the ends of a joint in a manner that will ensure sound welds. This shall be done by use of extension bars or run-off plates. Extensions shall be removed upon completion and cooling of the weld and the ends of the welds shall be made smooth and flush with the edges of the abutting parts.

Roots of groove welds may be sealed with a root pass made by manual shielded metal arc welding with low-hydrogen electrodes when such sealing is necessary to prevent melt-through during the initial submerged arc welding pass.

V. FABRICATING SEQUENCE

Butt welds in flange and web plates shall be completed prior to assembling the girder. Where plates are complete they shall be straightened by heating. Flange plates shall be straightened mechanically or by heating. Flange plates up to 3/4 inch thickness may be cupped before being assembled into the girder to compensate for distortion caused by welding.

The web plates shall be trimmed along both edges to correct camber and width, with allowance for shrinkage during welding.

After the flange and web butt welds are complete they shall be assembled and tack welded, fitting the flange plates tight and square against the edges of the web. Flange to web fillet welds shall be made using the submerged arc process.

The stiffeners will then be fit and tack welded in accordance with the detail drawings. Welding of the stiffeners will be by the submerged arc process using the dart machine where practicable.

All auxiliary parts will then be fit and welded to the girder after which it will be trimmed to the detailed length.

All necessary camber adjustments will be made, as much as is possible, by proper blocking of the member when welding the flange to web joint.

Any minor camber and/or sweep adjustments will be made by the application of heat, not exceeding 1100 degrees Fahrenheit, by an experienced technician and under careful supervision.

Camber adjustments will be made by heating an area at the center and quarter points of the member, the area being determined by the amount of camber needed, the thickness and width of the flanges, and the length and weight of the member. Most camber adjustments are completed with the area heated not exceeding two inches by twelve inches at each point.

Sweep adjustments will be made by heating the convex edge of the flange or flanges. The heat shall be applied at the center and quarter points of greatest convexity.

Torsional stress will be relieved by the application of heat to the two edges of each flange the full length of the member. The amount of heat applied, as controlled by the travel speed of the torch, is dependent on the stress to be relieved, therefore the heat input is variable.

In no instance may the metal temperature exceed 1100 degrees Fahrenheit regardless of the type of adjustment to be accomplished.

*References to flange-to-web fillet welds shall also include cover plate-to-flange fillet welds.

WELDING PROCEDURE FOR A.W.S. PREQUALIFIED JOINTS

PROCEDURE SPECIFICATION	
Material Specification.....	ASTM A-36, A-572, A-441, A-588
Welding Process.....	Shielded Metal Arc
Manual or Machine.....	Manual
Position of Welding.....	1F and 2F
Filler Metal Specification.....	A.W.S. A5.1-78
Filler Metal Classification.....	E7018
Flux.....	D.W.A.
Single or Multiple Arc.....	Single
Polarity.....	DC or AC
Electrical Stick Out.....	D.W.A.
Root Treatment.....	Manual Cleaning
Preheat and Interpass Temperature.....	See attached preheat chart
Open Circuit Voltage.....	60

WELDING PROCEDURE

Pass No.	Wire Size	Welding Current Amperes/Volts	Travel IPM	Joint Detail
1	1/8	160	6-9	TACK & REPAIR WELDS
1	5/32	215	8-13	Fillet Welds
1	3/16	230	9-15	"
1	7/32	275	9-16	"
1	1/4	350	11-17	"

* Weld size determined by travel speed
* Voltage Fixed

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the "Limitation of Variables" given in the American Welding Society Code, A.W.S. D1.1.

WELDING PROCEDURE FOR A.W.S. PREQUALIFIED JOINTS

PROCEDURE SPECIFICATION	
Material Specification.....	ASTM A-36, A-572, A-441, A-588
Welding Process.....	Shielded Metal Arc
Manual or Machine.....	Manual
Position of Welding.....	4F
Filler Metal Specification.....	A.W.S. A5.1-78
Filler Metal Classification.....	E7018
Flux.....	D.W.A.
Single or Multiple Arc.....	Single
Polarity.....	DC or AC
Electrical Stick Out.....	D.W.A.
Root Treatment.....	Manual Cleaning
Preheat and Interpass Temperature.....	See attached preheat chart
Open Circuit Voltage.....	60

WELDING PROCEDURE

Pass No.	Wire Size	Welding Current Amperes/Volts	Travel IPM	Joint Detail
1	1/8	140	6-9	Tack Welds
1	5/32	200	8-11	Tack Welds

* Voltage Fixed

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the "Limitation of Variables" given in the American Welding Society Code, A.W.S. D1.1.

WELDING PROCEDURE FOR A.W.S. PREQUALIFIED JOINTS

PROCEDURE SPECIFICATION	
Material Specification.....	ASTM A-36, A-572, A-441, A-588
Welding Process.....	Submerged Arc
Manual or Machine.....	Machine (Dart) Full Automatic
Position of Welding.....	2F
Filler Metal Specification.....	A.W.S. A5.17-76
Filler Metal Classification.....	F72-EM12K
Flux.....	Lincoln 761
Single or Multiple Arc.....	Single Electrode L61
Polarity.....	DC
Electrical Stick Out.....	Standard 1"
Root Treatment.....	Manual Cleaning
Preheat and Interpass Temperature.....	See attached preheat chart
Open Circuit Voltage.....	60

WELDING PROCEDURE

Pass No.	Wire Size	Welding Current Amperes/Volts	Travel IPM	Joint Detail
1	3/32	400	14	1/4" Fillet
1	3/32	400	14	5/16" Fillet

Tolerances:
Amperes: 350 - 440
Volts: 31.7 - 39.5
Wire Feed Speed: 115 - 145

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the "Limitation of Variables" given in the American Welding Society Code, A.W.S. D1.1.

WELDING PROCEDURE FOR A.W.S. PREQUALIFIED JOINTS

PROCEDURE SPECIFICATION	
Material Specification.....	ASTM A-36, A-572, A-441, A-588
Welding Process.....	Submerged Arc
Manual or Machine.....	Machine (Squirt) Semi-Automatic
Position of Welding.....	2F
Filler Metal Specification.....	A.W.S. A5.17-76
Filler Metal Classification.....	F72-EM12K
Flux.....	Lincoln 761 or 860
Single or Multiple Arc.....	Single Electrode L 61
Polarity.....	DC
Electrical Stick Out.....	Standard 1"
Root Treatment.....	Manual Cleaning
Preheat and Interpass Temperature.....	See attached preheat chart
Open Circuit Voltage.....	60

WELDING PROCEDURE

Pass No.	Wire Size	Welding Current Amperes/Volts	Travel IPM	Joint Detail
1	3/32	450	37	1/4" Fillet
1	3/32	450	37	5/16" Fillet

Tolerances:
Amperes: 405 - 495
Volts: 34.5 - 39.5
Wire Feed Speed: 132 - 168

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the "Limitation of Variables" given in the American Welding Society Code, A.W.S. D1.1.

WELDING PROCEDURE FOR A.W.S. PREQUALIFIED JOINTS

PROCEDURE SPECIFICATION	
Material Specification.....	ASTM A-36, A-572, A-441, A-588
Welding Process.....	Submerged Arc
Manual or Machine.....	Machine (Squirt) Semi-Automatic
Position of Welding.....	1G
Filler Metal Specification.....	A.W.S. A5.17-76
Filler Metal Classification.....	F72-EM12K
Flux.....	Lincoln 860
Single or Multiple Arc.....	Single Electrode L61
Polarity.....	DC
Electrical Stick Out.....	Standard 1"
Root Treatment.....	Manual Cleaning
Preheat and Interpass Temperature.....	See attached preheat chart
Open Circuit Voltage.....	60

WELDING PROCEDURE

Pass No.	Wire Size	Welding Current Amperes/Volts	Travel IPM	Joint Detail
ALL	3/32	450	37	18 passes for 1" plate. Electrode angle 84° in direction of travel.

Tolerances:
Amperes: 405 - 495
Volts: 34.5 - 39.5
Wire Feed Speed: 82 - 107

P-1 is determined by the thickness of the thinner part.
1/4" for thicknesses 3/4" to 1"
1/2" for thicknesses over 1" to 1 1/2"
5/8" for thicknesses over 1 1/2" to 2"

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the "Limitation of Variables" given in the American Welding Society Code, A.W.S. D1.1.

MINIMUM PREHEAT AND INTERPASS TEMPERATURE

Thickness of Thickest Part at Point of Welding - Inches	ASTM A36, A41, A572 Gr42, 45, and 50; A588
Up to 3/4, incl.	50° F
Over 3/4 to 1-1/2, incl.	70° F
Over 1-1/2 to 2-1/2, incl.	150° F
Over 2-1/2	225° F

1. Welding shall not be done when the ambient temperature is lower than 0° F. When the base metal is below the temperature listed for the welding process being used and the thickness of material being welded, it shall be preheated (subject as otherwise provided) in such manner that the surface of the parts on which weld metal is being deposited are at or above the specified minimum temperature for a distance equal to the thickness of the part being welded, but not less than 3 inches, both laterally and in advance of the welding. Preheat and interpass temperatures must be sufficient to prevent crack formation. Temperatures above the minimum shown may be required for highly restrained welds.

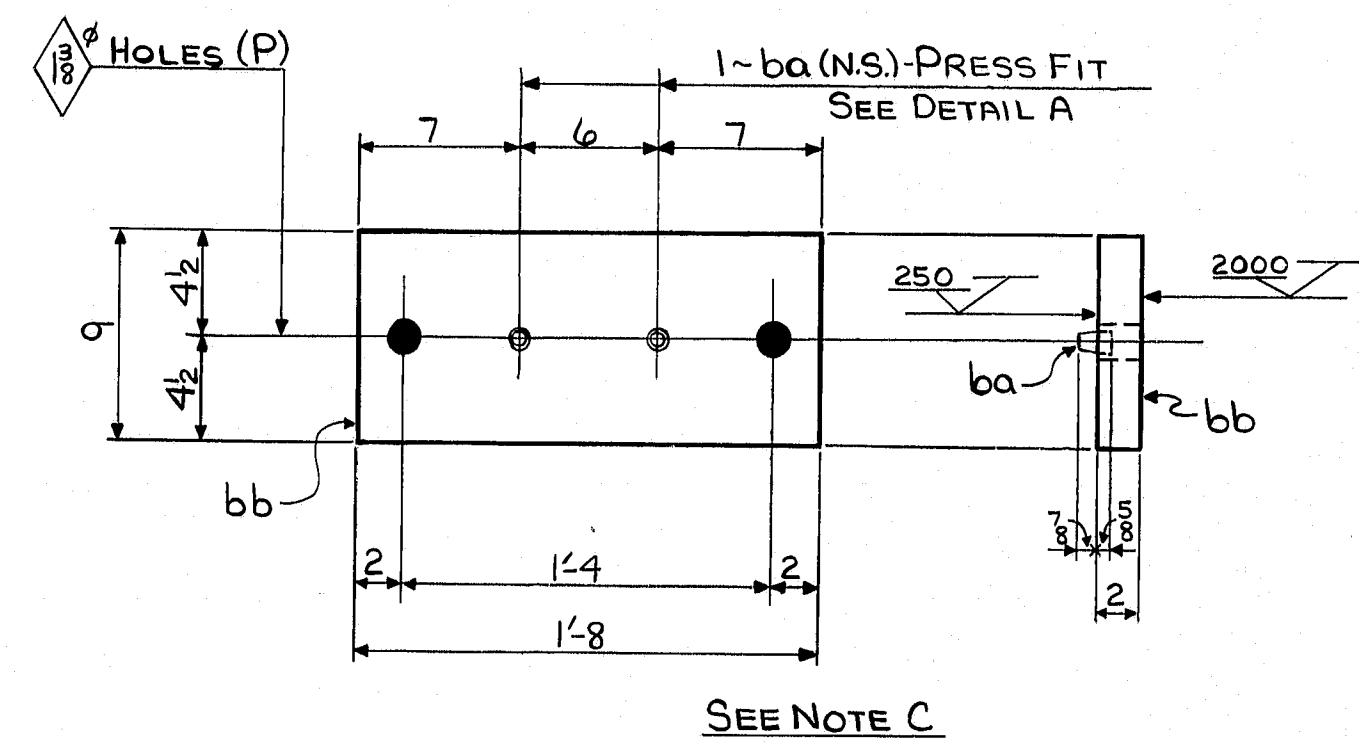
2. When the base metal temperature is below 32° F, preheat the base metal to at least 70° F and maintain this minimum temperature during welding.

BRIDGE No. 2039

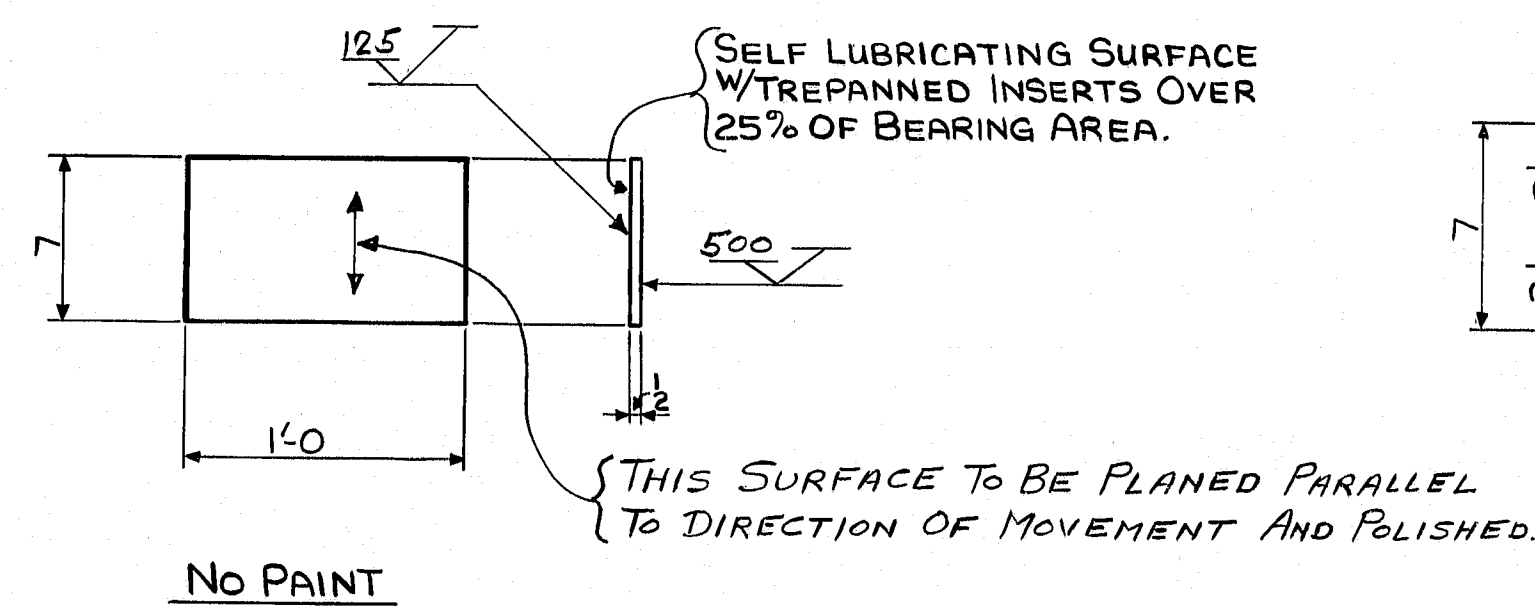
NO.	REVISION 1	DATE
<p>HIGH STEEL STRUCTURES, INC.</p> <p>1905 Old Philadelphia Pike Lancaster, Pennsylvania 17604 Phone 717/299-5211</p> <p>A Subsidiary of High Industries, Inc.</p>		
<p>WELDING PROCEDURE</p> <p>BARTER'S ISLAND BRIDGE OVER BACK RIVER</p> <p>BARTER'S ISLAND BRIDGE STA 12+115.2 TO STA 14+93.8</p> <p>STATE OF MAINE DEPT. OF TRANSPORTATION</p> <p>BOOTHBAY, MAINE</p> <p>LINCOLN CO., MAINE</p>		
STATE CONTRACT OR REF. NO.	BH-005(1)	CONTRACTOR CALLAHAN BROS. INC.
IN CHARGE	HEFFNER	MADE BY: SLWK
CHK'D BY:	CAH	DATE: 4-23-82
CONTRACT NUMBER:	ME-81163	DRAWING NUMBER: WP-1

178-179

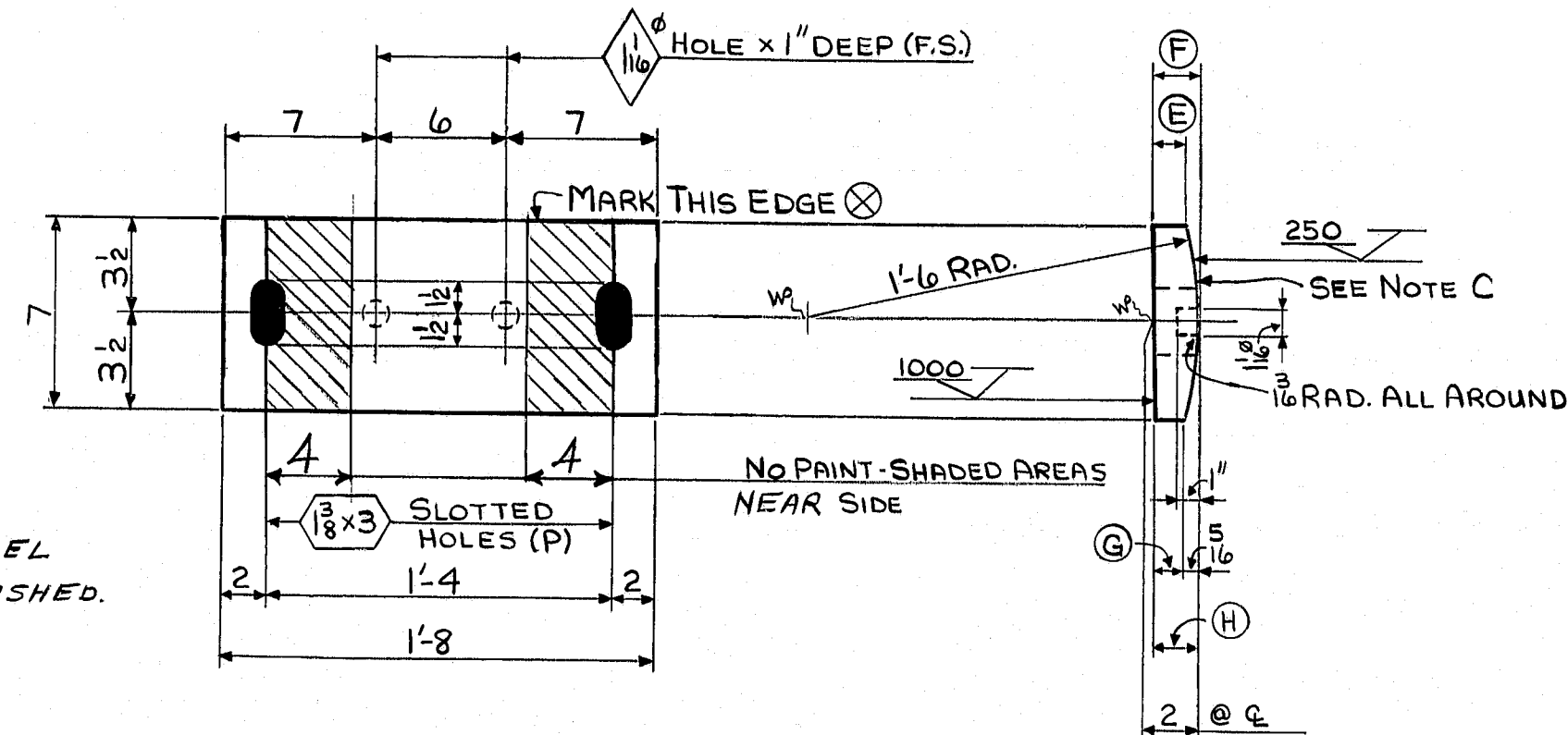
AF 13281A



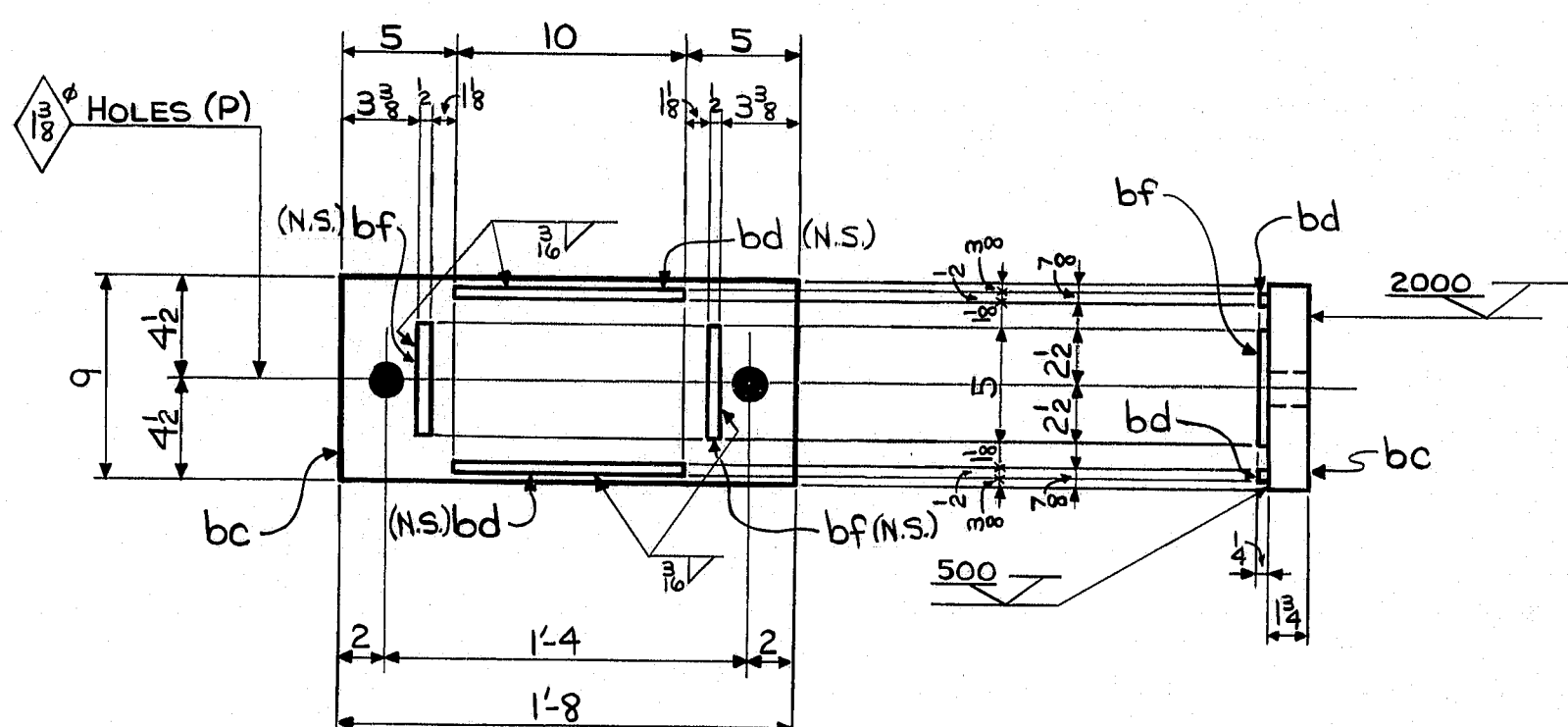
8~MASONRY R'S~MK. MP2



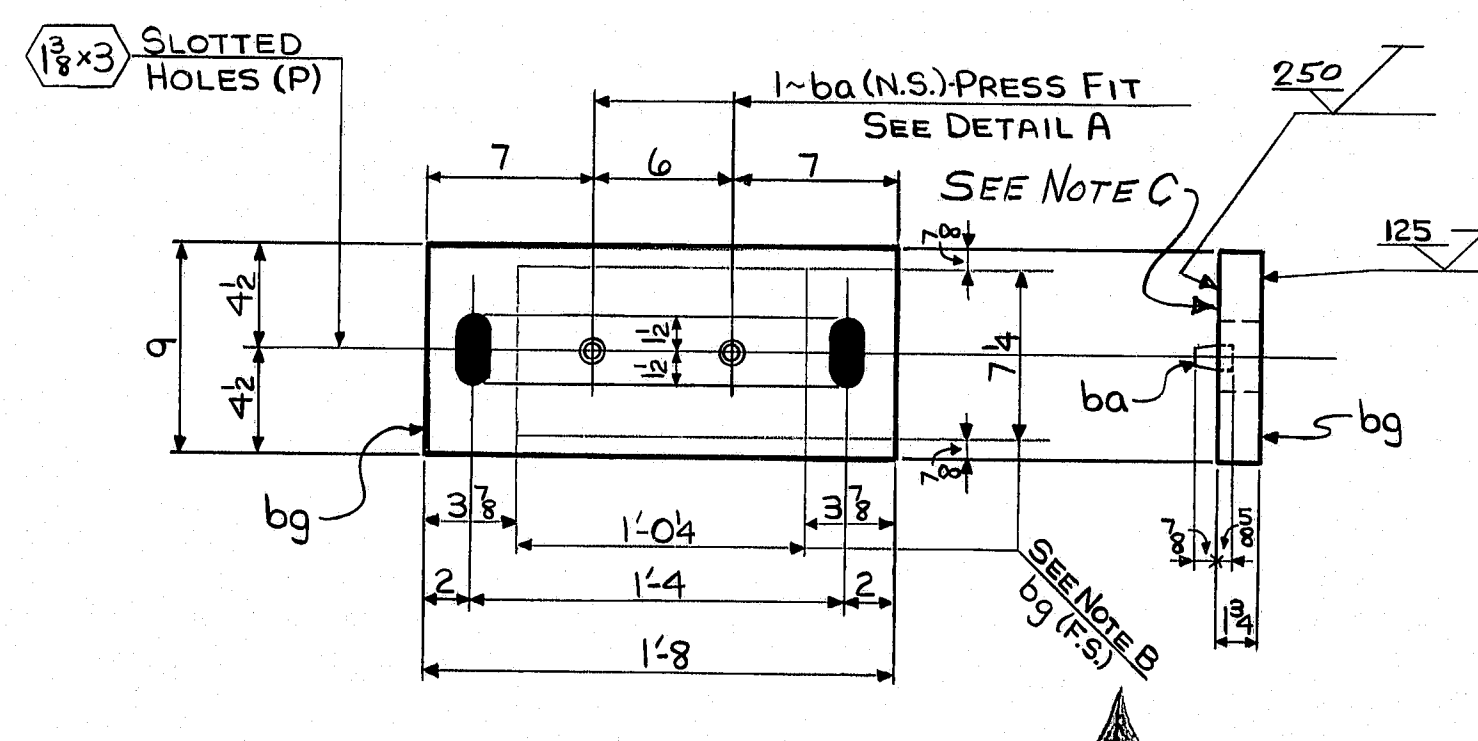
8~BRONZE R'S~MK. BPI
ASTM B22, ALLOY 911



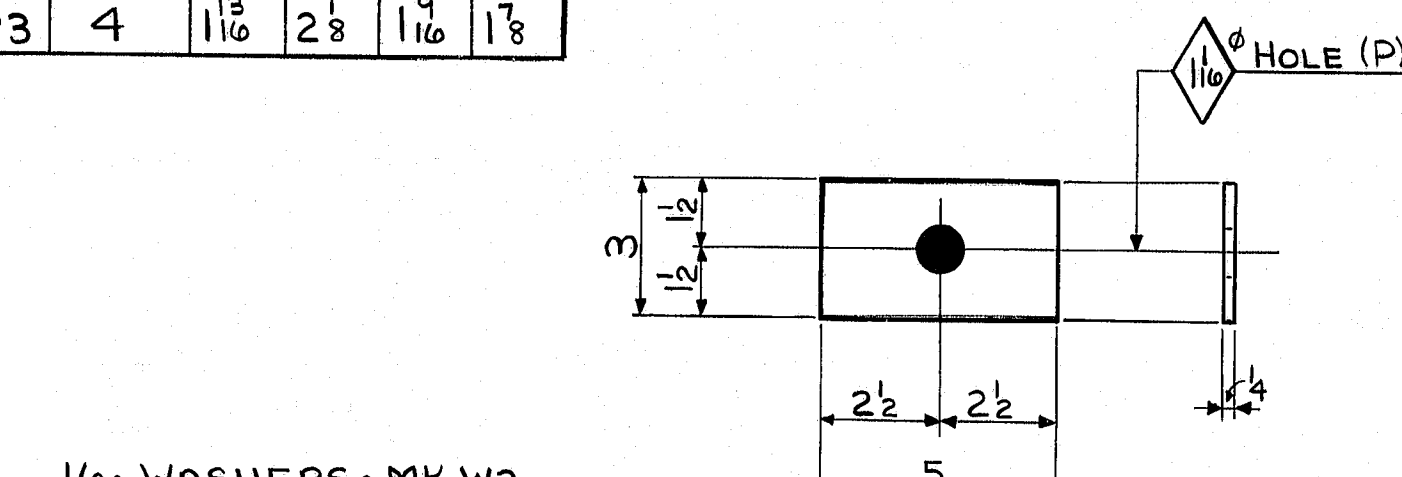
MARK	NO. REQ'D.	(E)	(F)	(G)	(H)
SPI	4	11/16	2 1/4	1 1/16	1 3/4
SP3	4	11/16	2 3/8	1 1/16	1 7/8



8~MASONRY R'S~MK. MPI

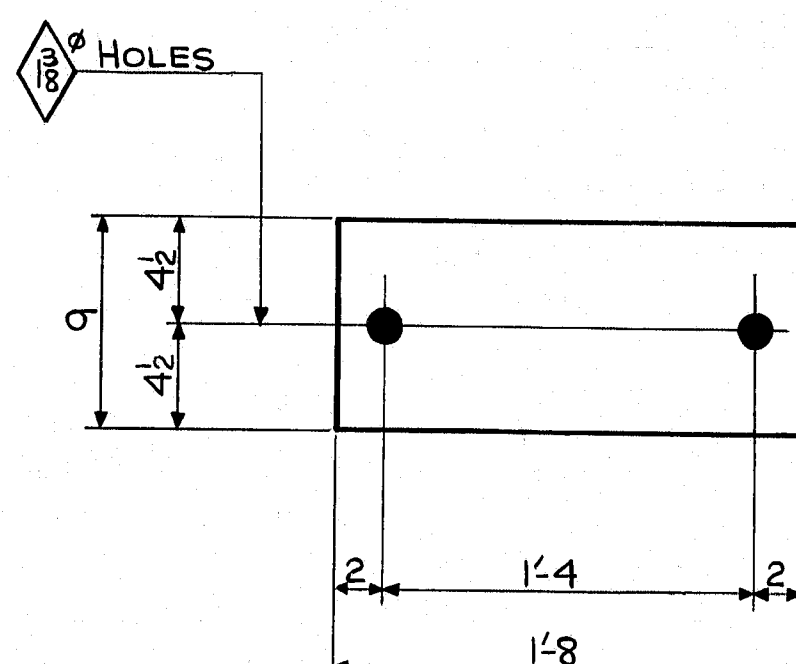


8~ROCKER R'S~MK. RPI



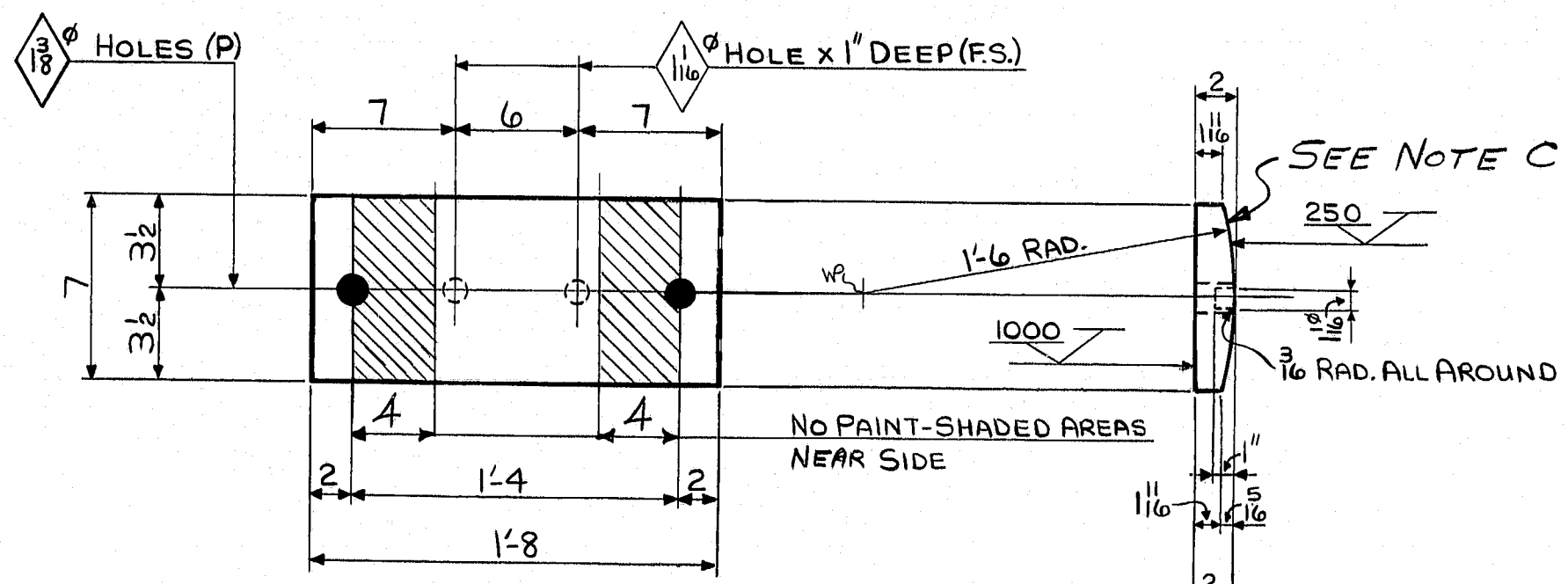
16~WASHERS~MK. W2
STD. WASHER - 2 1/2" O.D.
W/ 1/16" HOLE

16~WASHERS~MK. W1

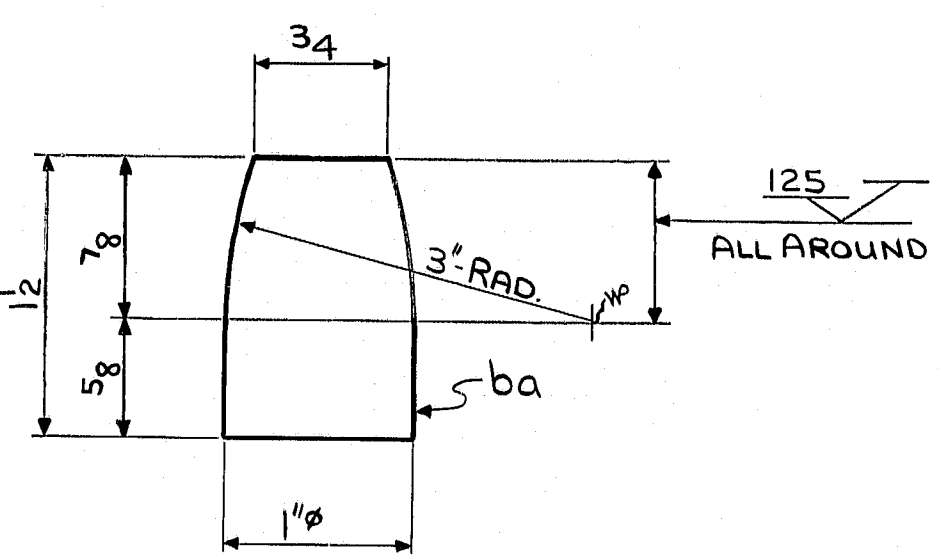


16~PREFORMED FABRIC PADS~MK. EBI

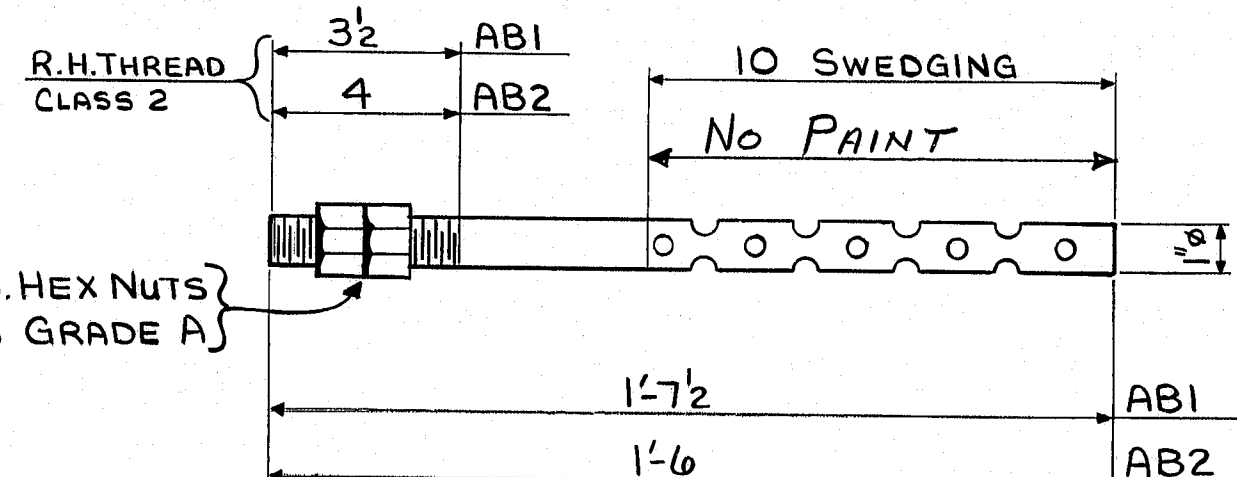
MAT'L SPEC'S: AASHTO GRADE PER
STATE SPEC. 713.03 (PAGE 444).



8~SOLE R'S~MK. SP2



DETAIL - A



16~ANCHOR BOLTS~MK. AB1

16~ANCHOR BOLTS~MK. AB2

NOTE:
ALL MASONRY, BRONZE, ROCKER
AND SOLE R'S TO BE Banded &
SHIPPED As A UNIT, SEE DWG.
E1 FOR PIECES TO BE SHIPPED
As A UNIT.

SHOP NOTE

HOLES: AS NOTED
BOLTS: NONE
PAINT: SEE DWG. E1
MAT'L: A36 (U.N.)
FOR GENERAL NOTES SEE DWG. E1.

CODE: 6000

BILL OF MATERIAL					
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	SHIP. WEIGHT
16	EBI	PREFORMED FABRIC PADS			
16		PAD 9x8	1	8	FABRIC PAD
8	MP1	MASONRY R'S			90.5
8	bc	R 9x1 1/4	1	8	
16	bd	BAR 2x4	0	10	
16	bf	BAR 2x4	0	5	
8	MP2	MASONRY R'S			102.8
16	ba	ROD 1" x	0	12	
8	bb	R 9x2	1	8	
4	SPI	SOLE R'S			79.4
4		BAR 7x(2 1/4 x 1 1/4)	1	8	
8	SP2	SOLE R'S			79.4
8		BAR 7x2	1	8	
4	SP3	SOLE R'S			79.4
4		BAR 7x(2 1/4 x 1 1/4)	1	8	
8	RPI	ROCKER R'S			90.0
16	ba	R 9x1 1/4	1	8	
8	bg	R 9x1 1/4	1	8	
8	BPI	BRONZE R'S			12.4
8		BAR 7x2	1	0	ASTM B22 ALLOY 911
16	W1	WASHERS			1.1
16		BAR 3x4	0	5	
16	W2	WASHERS			0.2
16		2 1/2 O.D. x 1/4			
16	AB1	ANCHOR BOLTS			5.1
16		1" SWEDGE BOLT	1	7 1/2	
32		1" STD. HEX NUT			AS 63 GR. A
16	AB2	ANCHOR BOLTS			4.8
16		1" SWEDGE BOLT	1	6	
32		1" STD. HEX NUT			AS 63 GR. A

NOTE B: SURFACES INDICATED ARE NOT TO BE
PAINTED, APPLY ONE COAT OF COSHES
XL LUBRICANT SUPPLIED BY BRONZE
R MANUFACTURER.

NOTE C: 2 SHOP COATS OF PAINT REQUIRED.

BRIDGE No. 2039

NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC.		
1905 Old Philadelphia Pike Lancaster, Pennsylvania 17604 Phone 717/299-5211 A Subsidiary of High Industries, Inc.		
BEARING DETAILS		
BARTER'S ISLAND BRIDGE OVER BACK RIVER		
BARTER'S ISLAND BRIDGE STA. 12+11.52 TO STA. 14+93.85		
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		
BOOTHBAY, MAINE		
LINCOLN CO., MAINE		
STATE CONTRACT OR REF. NO. BH-0005(1) CONTRACTOR CALLAHAN BROS., INC.		
IN CHARGE: HEFFNER	MADE BY: FDS	CHK'D BY: ERM. DATE: 2-3-82
CONTRACT NUMBER: ME-81163	DRAWING NUMBER: 1 OF 6	

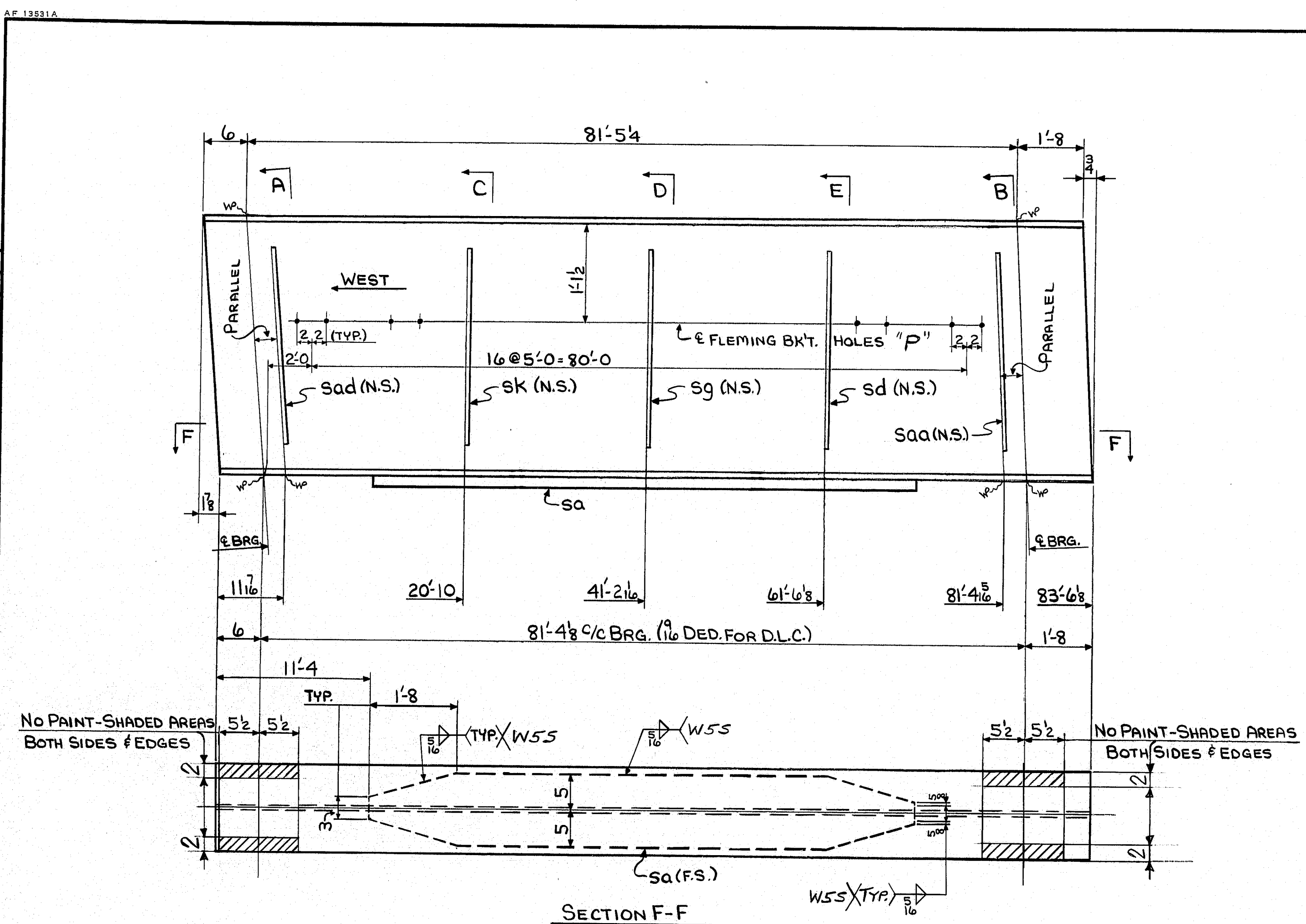
178-180

a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p
q
r
s
t
u
v
w
x
y

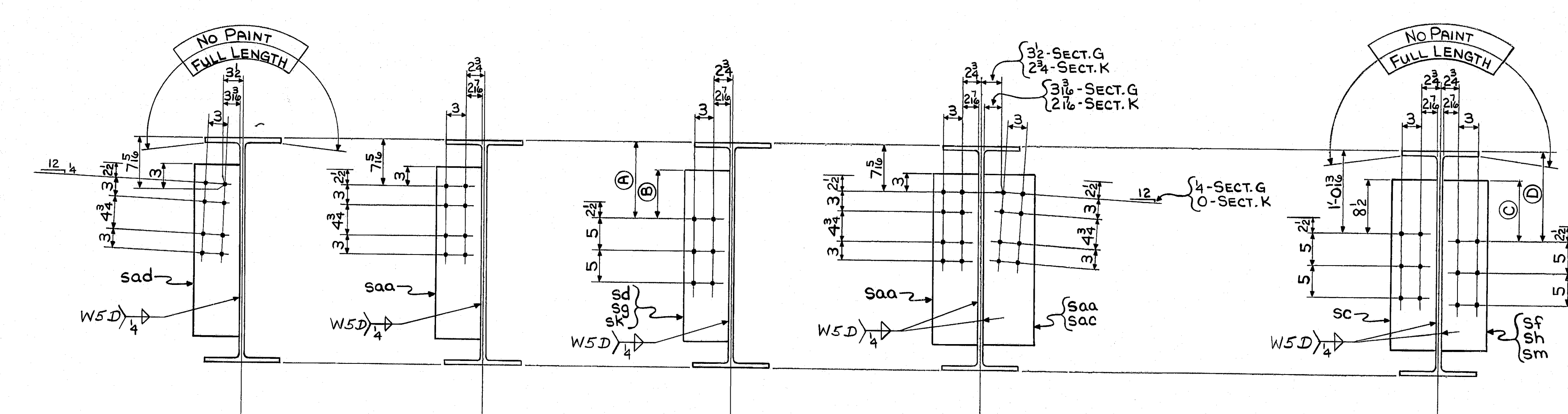
a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p
q
r
s
t
u
v
w
x
y

a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p
q
r
s
t
u
v
w
x
y

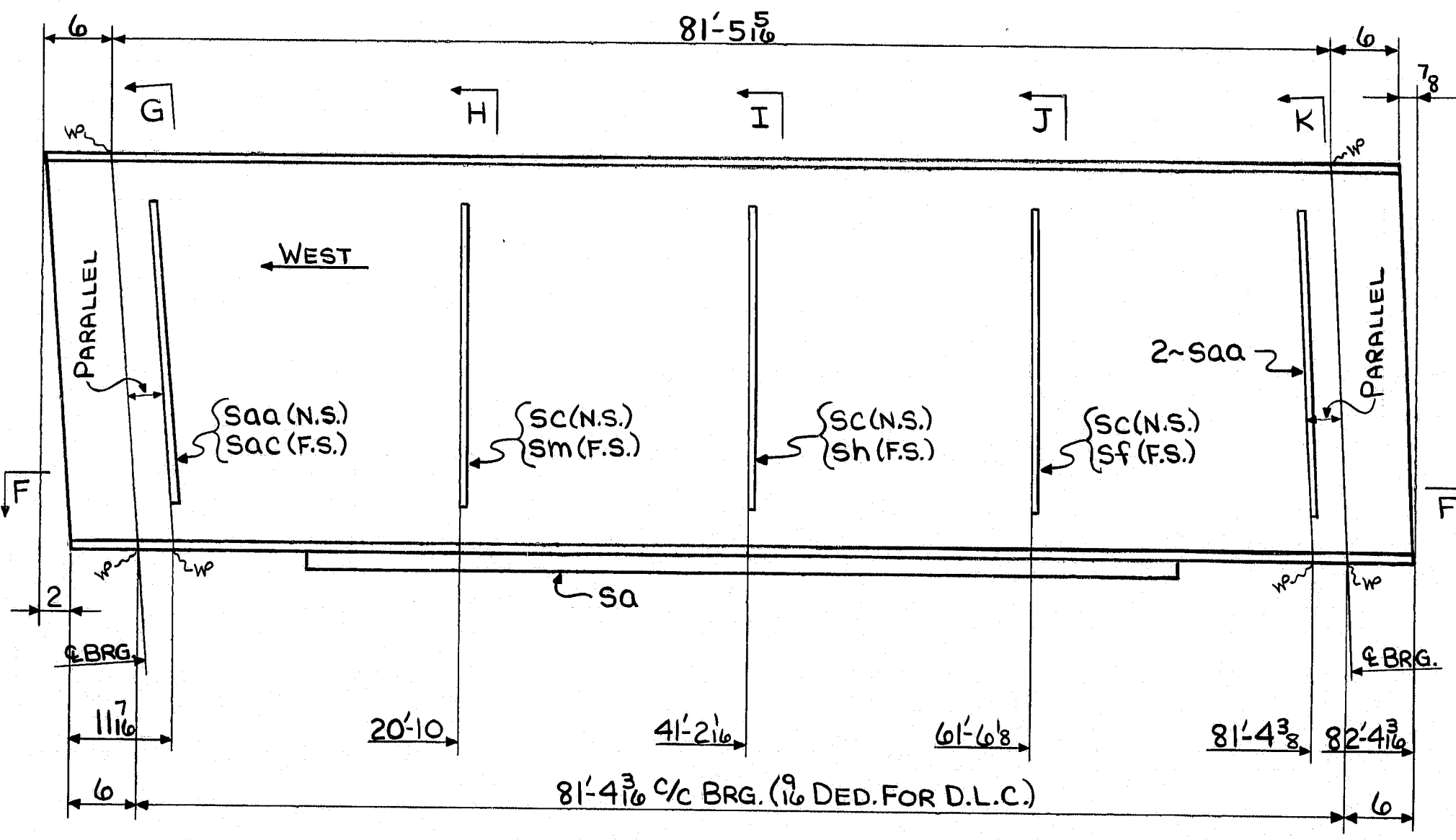
AF 12831A



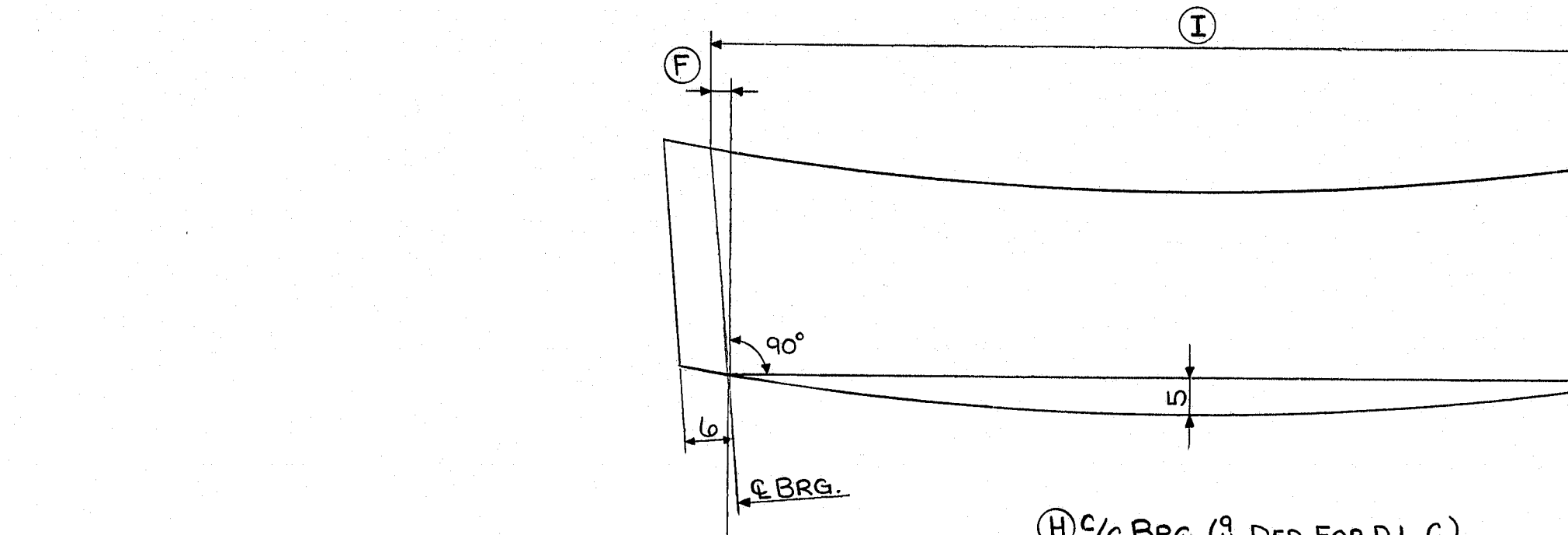
SECTION F-F
(OPP. HAND) ONE ~ STRINGER ~ MK. S1A
ONE ~ STRINGER ~ MK. S4A } SHIP. WT. EA. 14,317.5#



SECT.	A	B
C	1'-0 1/2	7 3/4
D	1'-0 1/2	8
E	1'-0 1/2	8 1/4



(OPP. HAND) ONE ~ STRINGER ~ MK. S2A
ONE ~ STRINGER ~ MK. S3A } SHIP. WT. EA. 14,262.6#



STRINGER	E	F	G	H	I
S1A & S4A	1'-8	1 3/8	3 1/4	8'-4 1/2	8'-5 1/2
S2A & S3A	6	2	7 1/8	8'-4 1/2	8'-5 1/2

SHOP NOTE
HOLES: 1 1/2"
BOLTS: NONE
PAINT: SEE DWG. E1
FOR GENERAL NOTES SEE DWG. E1.

CODE: 5000

BILL OF MATERIAL					
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	ITEM
ONE	S1A	STRINGER			
ONE	S4A	STRINGER			
2		W36 x 135	83	8 (T)	2 1/2
2	sa	R 10 x 1 1/2	54	8 (T)	2 1/2
2	sd	BAR 7 x 3/8	2	3 A36	2 1/2
2	sq	BAR 7 x 3/8	2	3 A36	2 1/2
2	sk	BAR 7 x 3/8	2	3 A36	2 1/2
2	saa	BAR 7 x 3/8	2	3 A36	2 1/2
2	sad	BAR 8 x 3/8	2	3 A36	2 1/2
ONE	S2A	STRINGER			
ONE	S3A	STRINGER			
2		W36 x 135	82	6 1/2 (T)	2 1/2
2	sa	R 10 x 1 1/2	54	8 (T)	2 1/2
6	sc	BAR 7 x 3/8	2	3 A36	2 1/2
2	sf	BAR 7 x 3/8	2	3 A36	2 1/2
2	sh	BAR 7 x 3/8	2	3 A36	2 1/2
2	sm	BAR 7 x 3/8	2	3 A36	2 1/2
6	saa	BAR 7 x 3/8	2	3 A36	2 1/2
2	sac	BAR 8 x 3/8	2	3 A36	2 1/2

BRIDGE No. 2039

NO.	REVISION	DATE

HIGH STEEL STRUCTURES, INC.

1905 Old Philadelphia Pike
Lancaster, Pennsylvania 17604
Phone 717/299-5211
A Subsidiary of High Industries, Inc.

STRINGERS
BARTER'S ISLAND BRIDGE OVER BACK RIVER
BARTER'S ISLAND BRIDGE STA. 12+11.52 TO STA. 14+93.85
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
BOOTHBAY, MAINE
LINCOLN CO., MAINE

STATE CONTRACT OR REF. NO. BH-0005 (1) CONTRACTOR CALLAHAN BROS., INC.

IN CHARGE: HEFFNER MADE BY: FDS CHK. D. BY: EPM DATE: 2-4-82

CONTRACT NUMBER: ME-81163 DRAWING NUMBER: 2 OF 6

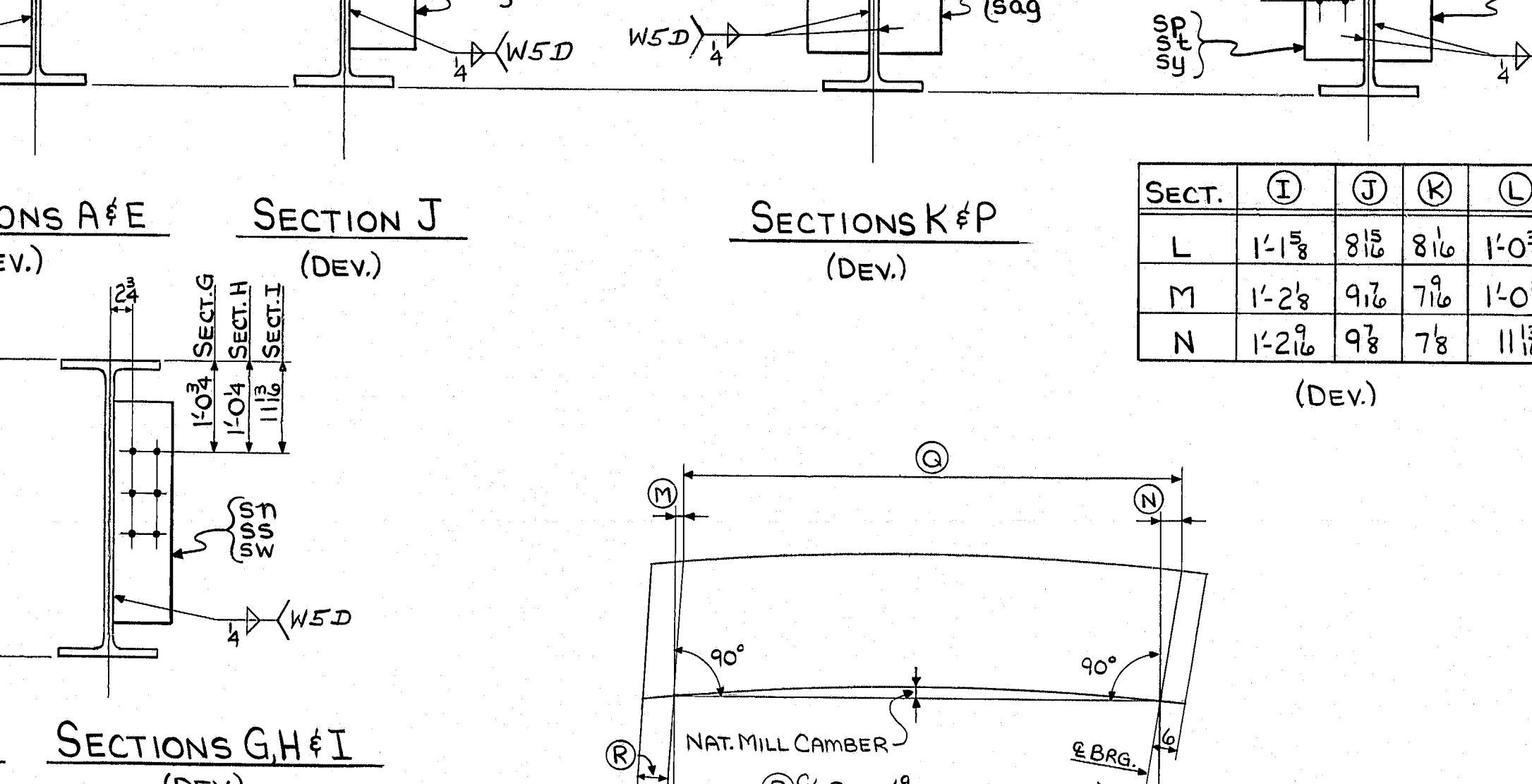
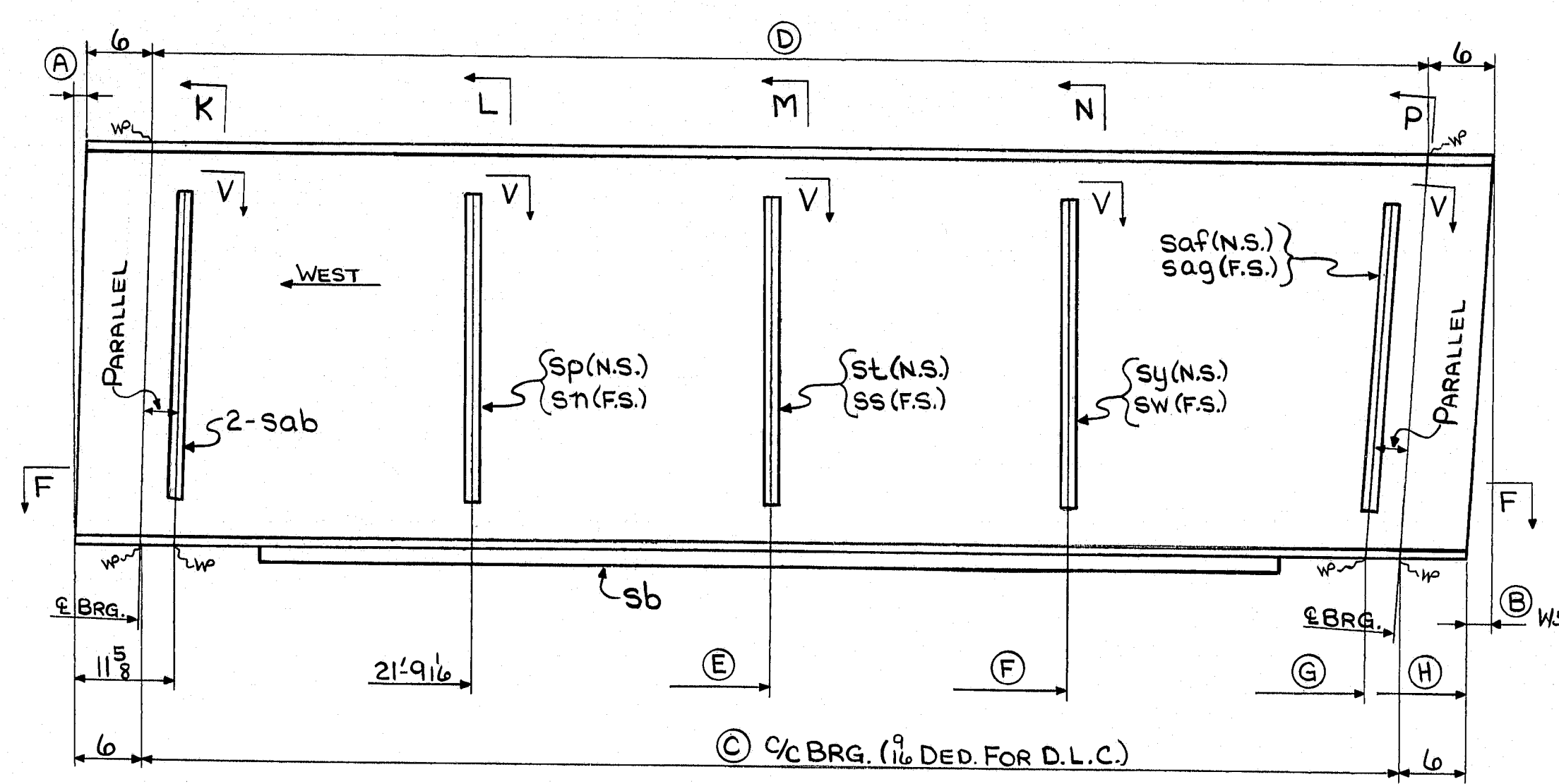
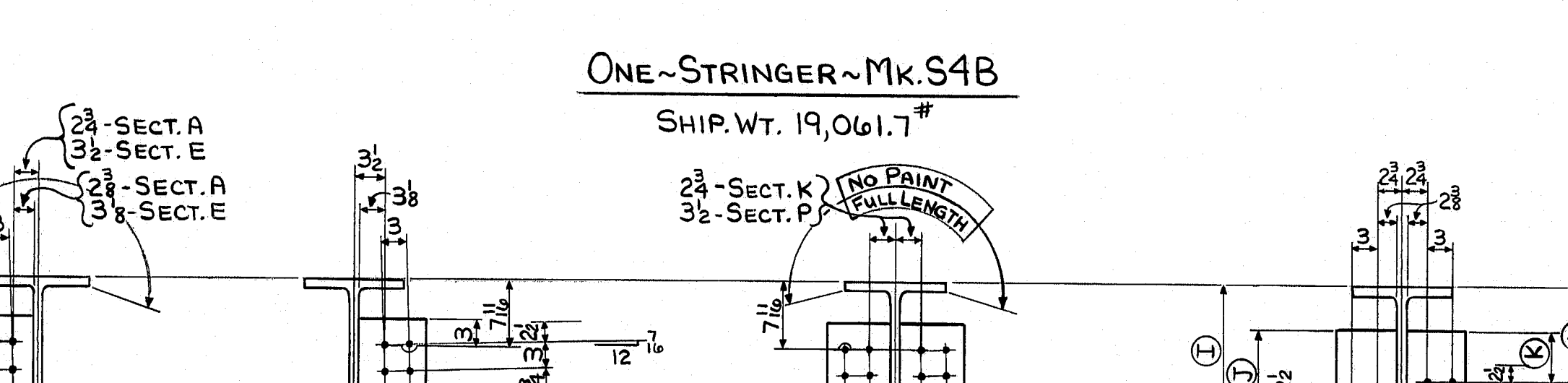
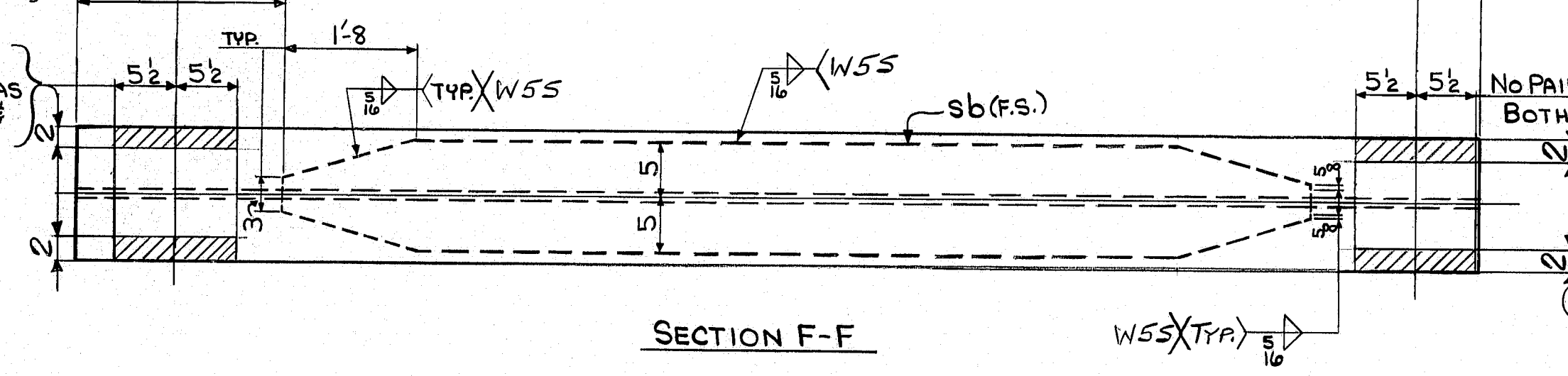
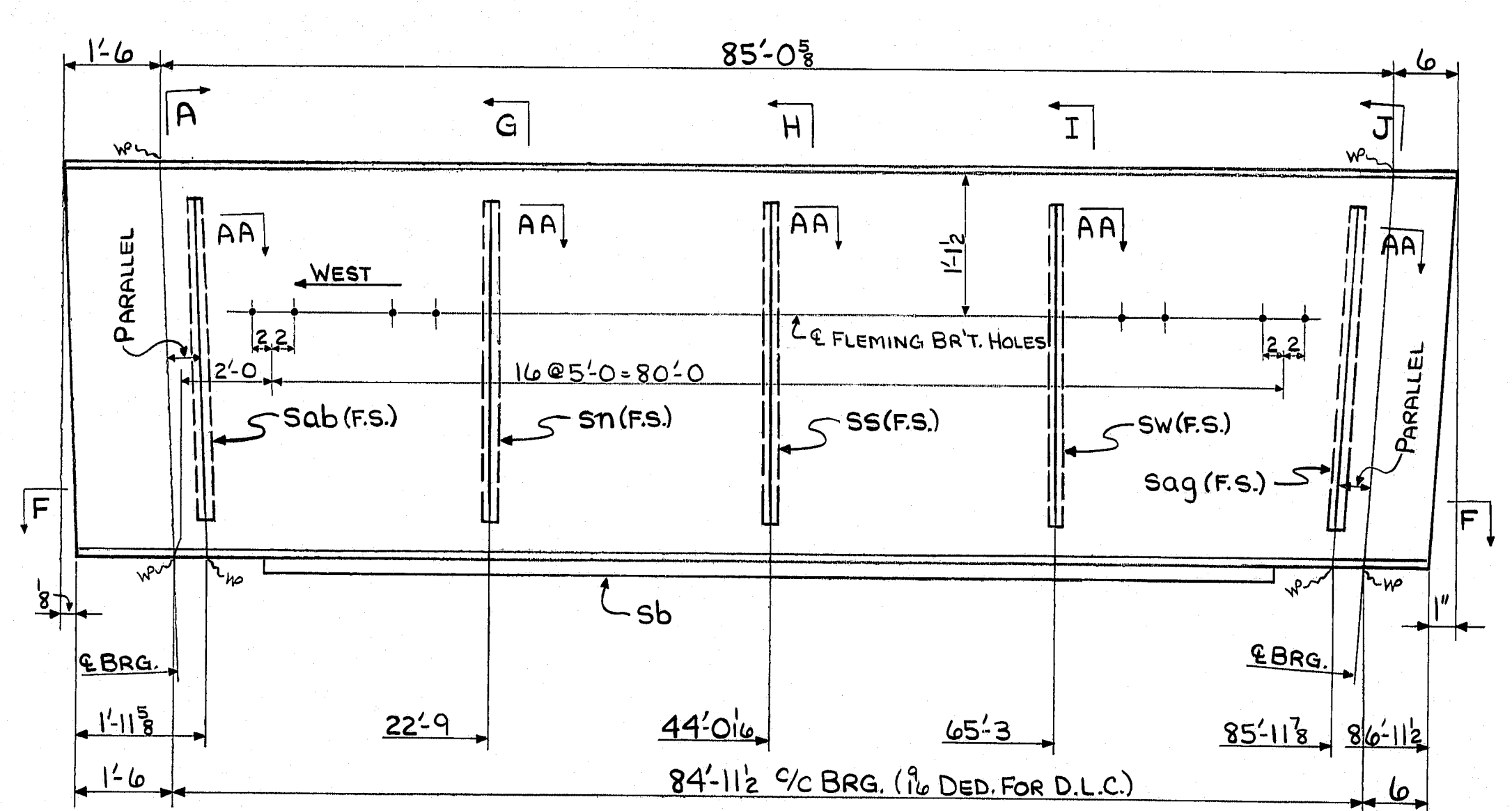
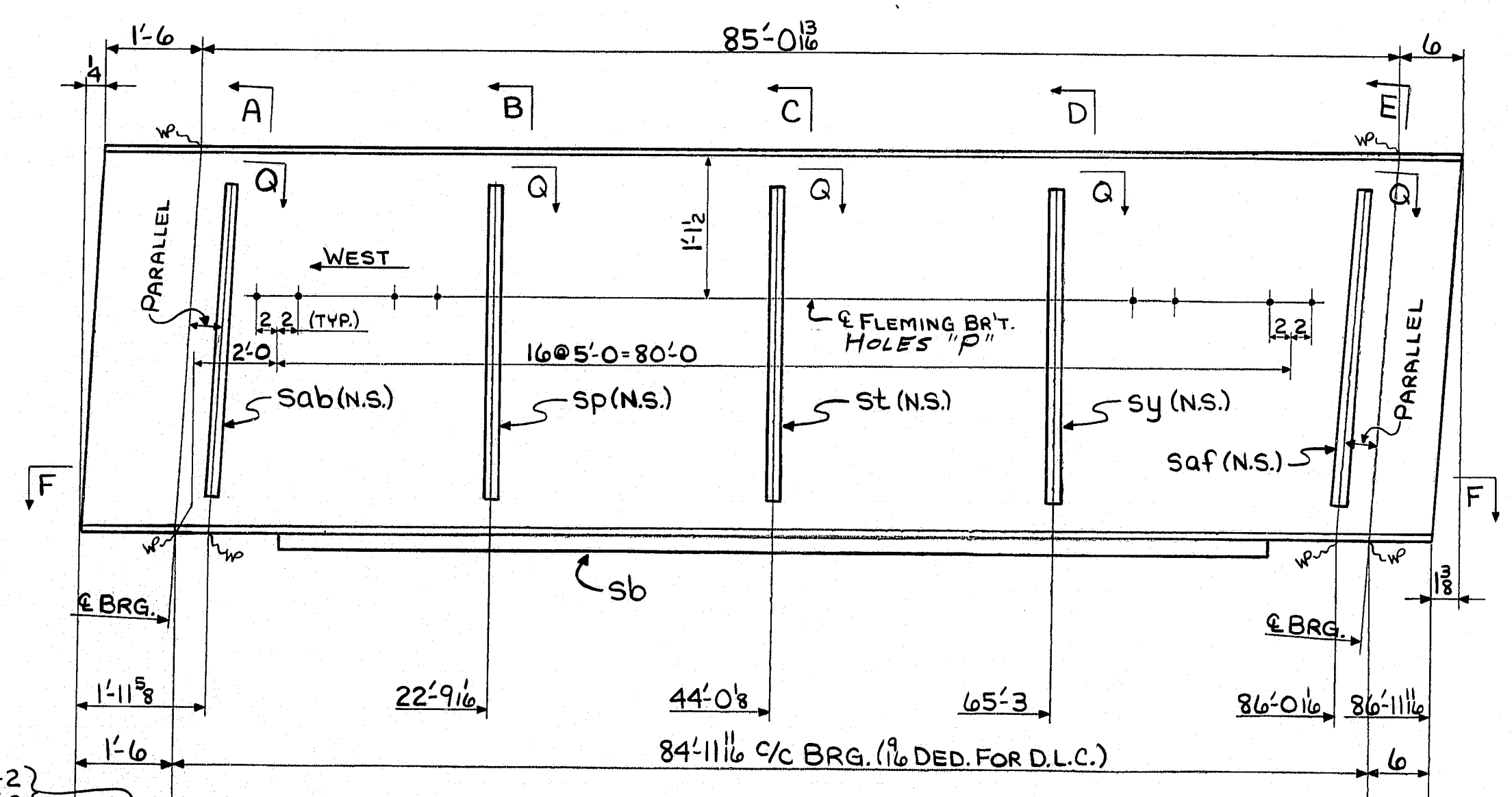
178-181

AF 13331A

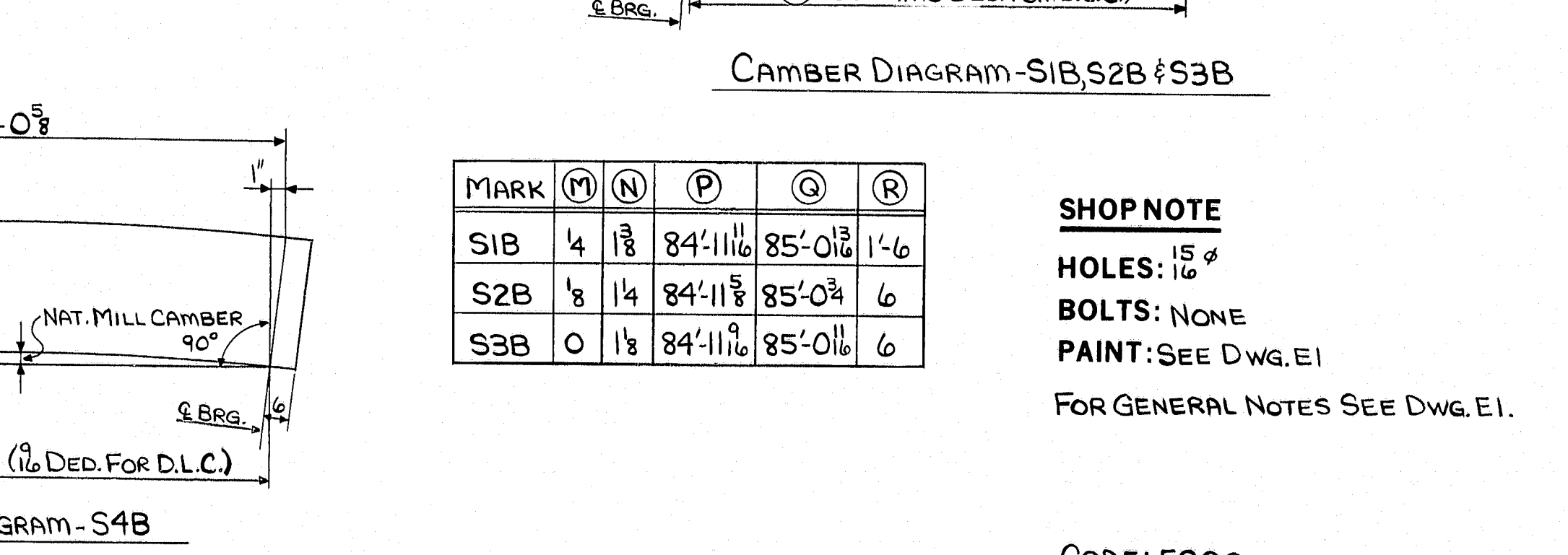
a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p
q
r
s
t
u
v
w
x
y

a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p
q
r
s
t
u
v
w
x
y

a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p
q
r
s
t
u
v
w
x
y



MARK	REQ'D	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	SHIP. WT. LB.
S2B	ONE	1/8	1/4	84'-11 3/8	85'-0 3/8	43'-0 3/8	64'-3	85'-0	85'-11 3/8	18,986.8
S3B	ONE	0	1/8	84'-11 3/8	85'-0 3/8	43'-0 3/8	64'-3	84'-11 3/8	85'-11 3/8	18,984.0



MARK	(M)	(N)	(P)	(Q)	(R)
SIB	1/4	1/8	84'-11 3/8	85'-0 3/8	1'-6
S2B	1/8	1/4	84'-11 3/8	85'-0 3/8	6
S3B	0	1/8	84'-11 3/8	85'-0 3/8	6

SHOP NOTE
HOLES: 15/16"
BOLTS: NONE
PAINT: SEE DWG. E1.
FOR GENERAL NOTES SEE DWG. E1.

CODE: 5000

BILL OF MATERIAL					
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	ITEM
ONE	SIB	STRINGER			
1		W36x182	87' 1 1/2"	(T)	2-3
1	Sb	R. 10x1 1/2	63' 8"	(T)	2-7
1	Sp	BAR 7x3/8	2	A36	2-10
1	Sy				2-10
1	Sab	BAR 7x3/8	2	A36	2-10
1	Saf	BAR 8x3/8	2	A36	2-4
ONE	S2B	STRINGER			
ONE	S3B	STRINGER			
1		W36x182	86' 0 7/8"	(T) S2B	2-4
1		W36x182	86' 0 1/2"	(T) S3B	2-4
2	Sb			(T)	2-7
2	Sn	BAR 7x3/8	2	A36	2-10
2	Sp				2-10
2	Ss	BAR 7x3/8	2	A36	2-10
2	St				2-10
2	Sw	BAR 7x3/8	2	A36	2-10
2	Sy				2-10
4	Sab				2-10
2	Saf				2-4
2	Sag	BAR 8x3/8	2	A36	2-9
ONE	S4B	STRINGER			
1		W36x182	87' 0 5/8"	(T)	2-3
1	Sb			(T)	2-7
1	Sn				2-10
1	Ss				2-10
1	Sw				2-10
1	Sab				2-10
1	Sag				2-9

BRIDGE No. 2039

NO.	REVISION	DATE
-----	----------	------

HIGH STEEL STRUCTURES, INC.

1905 Old Philadelphia Pike
Lancaster, Pennsylvania 17604
Phone 717/299-5211
A Subsidiary of High Industries, Inc.

STRINGERS
BARTER'S ISLAND BRIDGE OVER BACK RIVER
BARTER'S ISLAND BRIDGE STA. 12+11.52 TO STA. 14+93.85
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
BOOTHBAY, MAINE
LINCOLN CO., MAINE

STATE CONTRACT OR REF. NO. BH-0005(1) CONTRACTOR CALLAHAN BROS., INC.

IN CHARGE: HEFFNER MADE BY: FDS CHK'D BY: ERM. DATE: 2-5-82

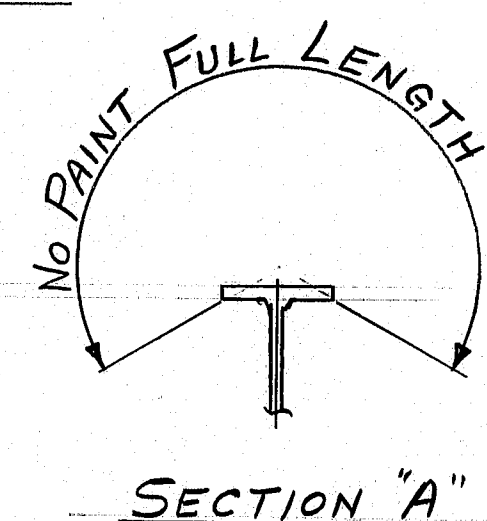
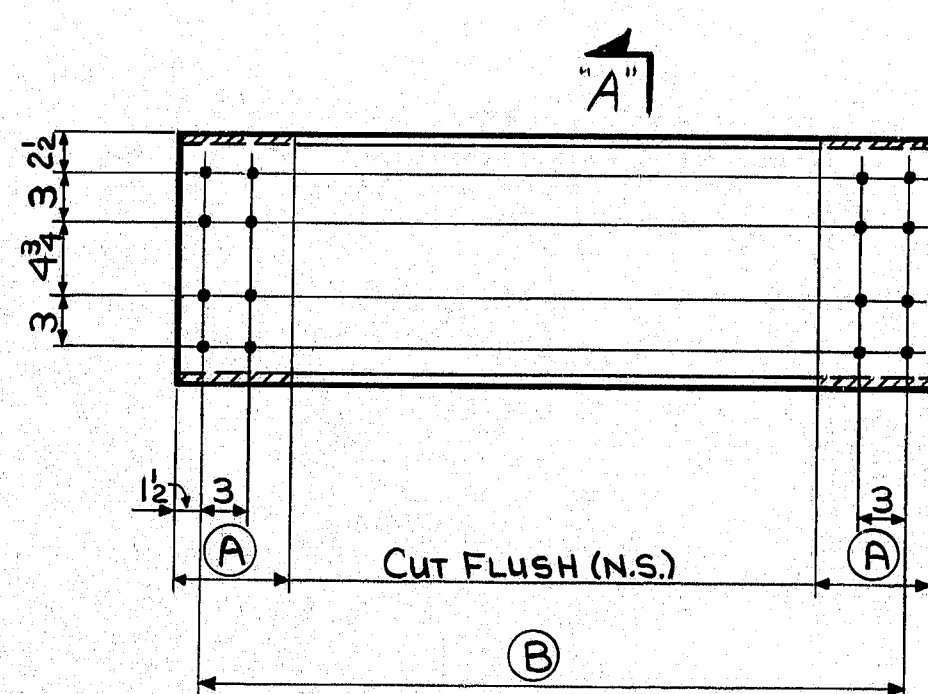
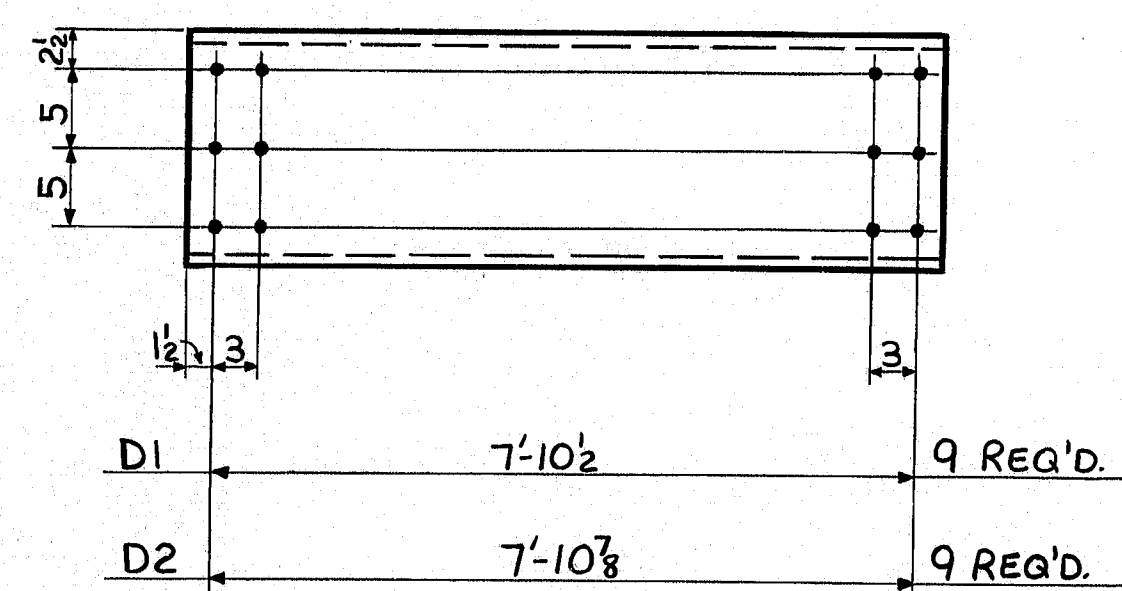
CONTRACT NUMBER: ME-81163 DRAWING NUMBER: 3 OF 6

178-182

a
b
c
d
e
f
g
h
k
m
n
p
s
t
w
y

a
b
c
d
e
f
g
h
k
m
n
p
s
t
w
y

a
b
c
d
e
f
g
h
k
m
n
p
s
t
w
y



MARK	REQ'D.	(A)	(B)
D3	4	7'4	7'-10 1/2
D4	3	7'4	7'-10 3/8
D5	2	8'4	7'-9
D6	3	8'4	7'-9 1/16

SHOP NOTE

HOLES: 15/16
BOLTS: NONE
PAINT: SEE DWG. E1

MAT'L: A36


FOR GENERAL NOTES SEE DWG. E1.
ALL RE-ENTRY CUTS TO HAVE A 3/4" (MIN.) RADIUS.
CODE: 5100

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	ME.	

BILL OF MATERIAL

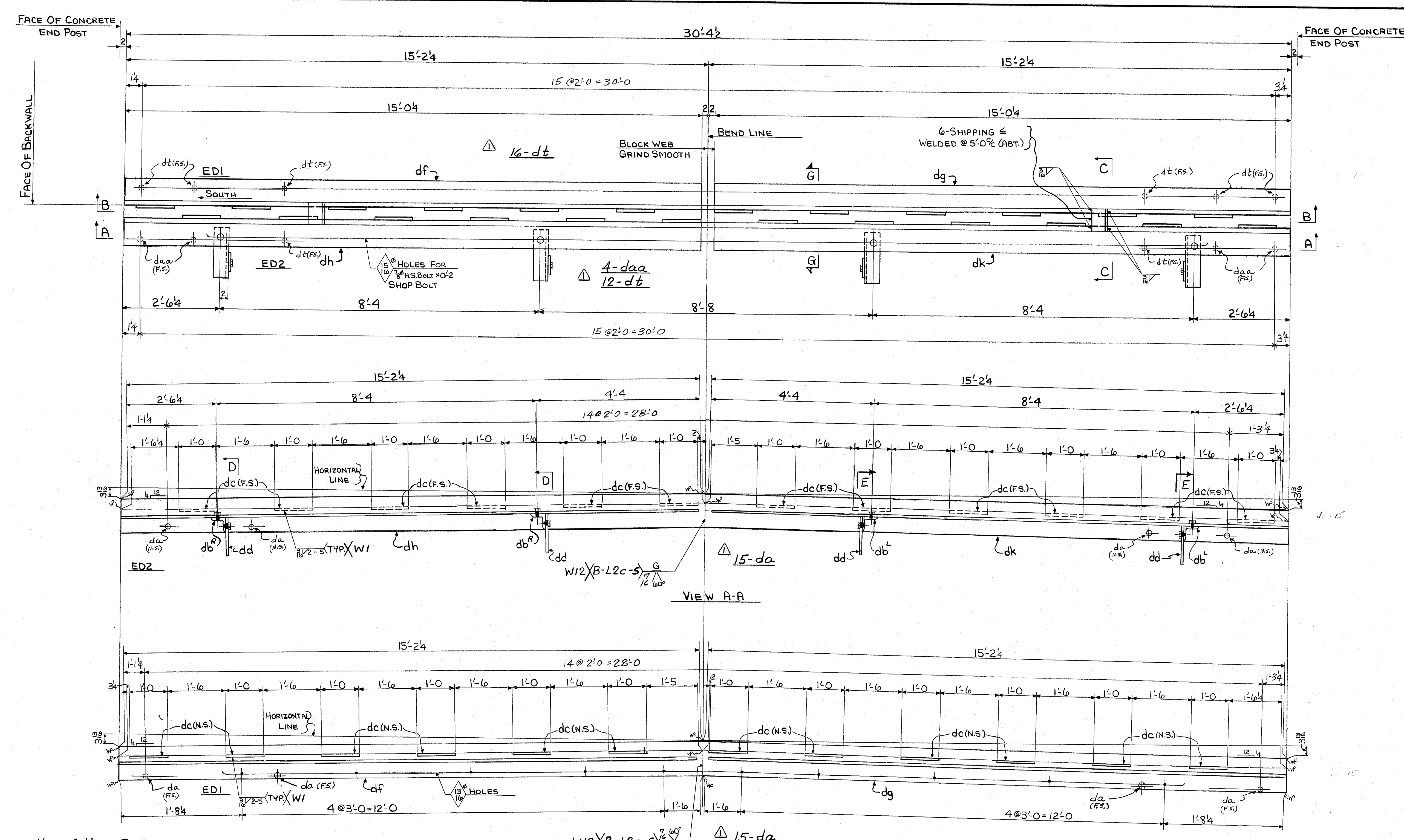
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	ITEM	SHIP. WEIGHT
9	D1	C15x33.9	8	1 1/2	2	19 275.
9	D2	C15x33.9	8	1 1/8	2	19 276.
4	D3	W16x36	8	1 1/2	2	15 293.
3	D4	W16x36	8	1 1/8	2	14 294.
2	D5	W16x36	8	0	2	17 288.
3	D6	W16x36	8	0 1/2	2	16 290.

BRIDGE No. 2039

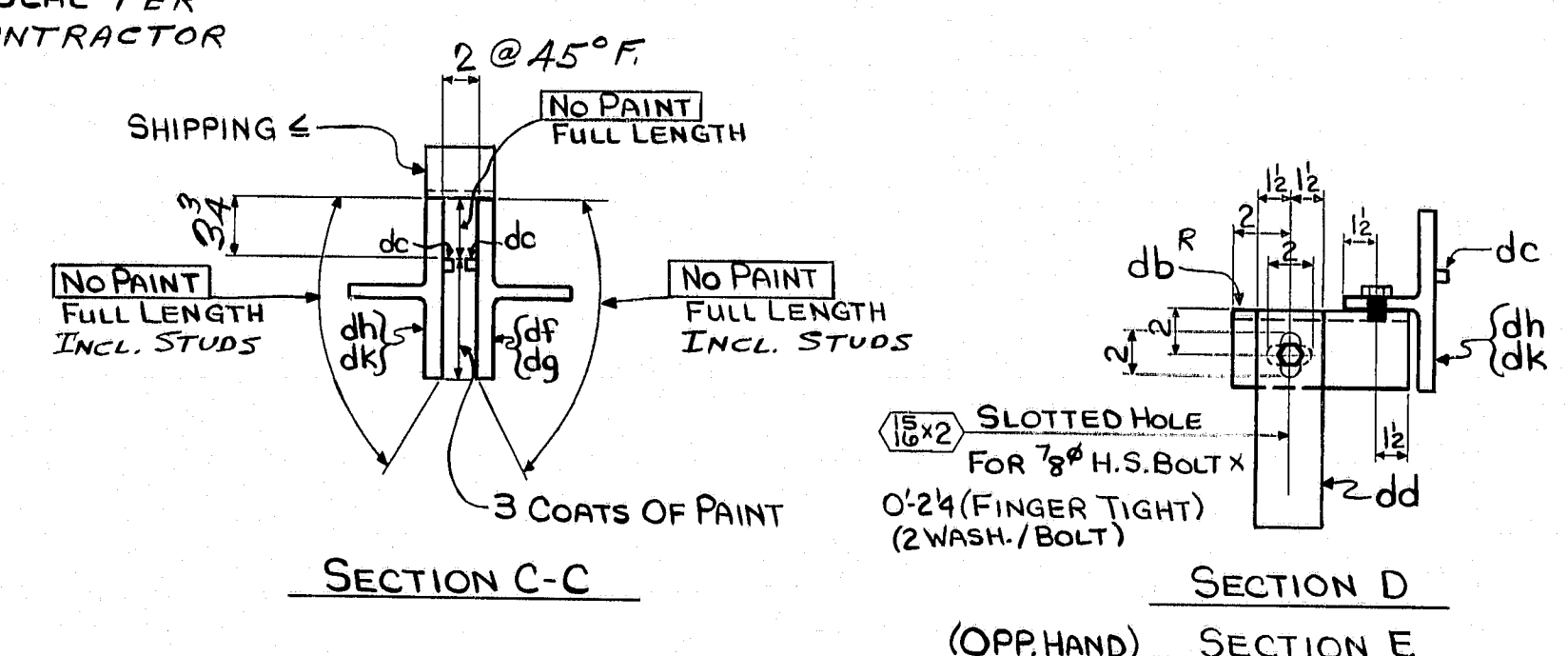
NO.	REVISION	DATE
<p>HIGH STEEL STRUCTURES, INC. </p> <p>1905 Old Philadelphia Pike Lancaster, Pennsylvania 17604 Phone 717/299-5211 A Subsidiary of High Industries, Inc.</p>		
DIAPHRAGMS		
BARTER'S ISLAND BRIDGE OVER BACK RIVER		
BARTER'S ISLAND BRIDGE STA. 12+11.52 TO STA. 14+93.85		
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		
BOOTHBAY, MAINE		
LINCOLN CO., MAINE		
STATE CONTRACT OR REF. NO. BH-0005(1) CONTRACTOR CALLAHAN BROS., INC.		
IN CHARGE: HEFFNER	MADE BY: FDS	CHK'D BY: ERM DATE: 2-5-82
CONTRACT NUMBER: ME-81163	DRAWING NUMBER: 4 OF 6	

178-183

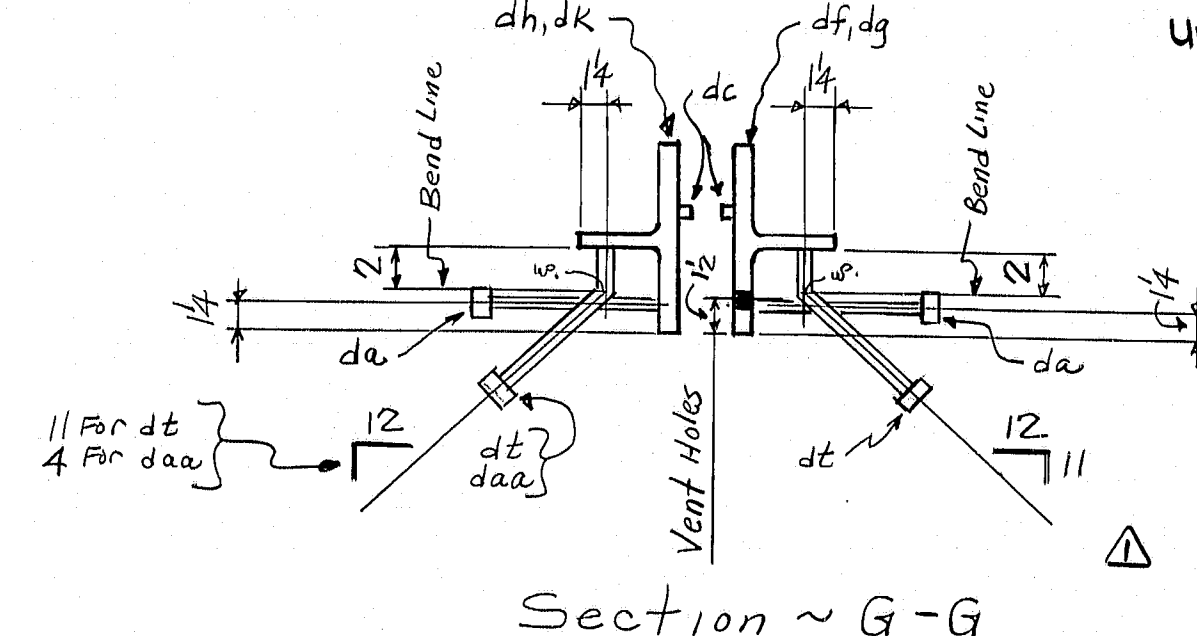
AF 135312



NOTE: USE D.S. BROWN SERIES H-3000 COMPRESSION SEAL PER GENERAL CONTRACTOR



SECTION B-B ONE EXPANSION DAM EA. MK. ~ ED1, ED2 ASSEMBLE & SHIP AS A UNIT UNIT SHIP. WT. 1794.6 #



SHOP NOTE
HOLES: AS NOTED
BOLTS: AS NOTED
PAINT: SEE DWG. E1
MAT'L.: A36 (U.N.)
FOR GENERAL NOTES SEE DWG. E1.

CODE: 5800

FED. ROAD DIV. NO.		STATE		FED. AID PROJ. NO.	
		ME.			
BILL OF MATERIAL					
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	ITEM
ONE ED1 EXPANSION DAM					
16	dt	3/4" φ stud	0	A10B Bent	2-29
15	da	DO.	0	A10B	2-29
12	dc	BAR 3/8 x 3/8	1	0	2-28
1	df	WT 4 x 24	15	24	2-24
1	dg	WT 4 x 24	15	24	2-24
ONE ED2 EXPANSION DAM					
4	daa	3/4" φ stud	0	A10B Bent	2-29
15	da	DO.	0	A10B	2-29
4	dbf	3/8 x 3/8 x 3/8	0	8	2-25
12	dc	BAR 3/8 x 3/8	0	9 3/4	2-28
4	dd	WT 4 x 24	15	24	2-24
1	dh	WT 4 x 24	15	24	2-24
1	dk	WT 4 x 24	15	24	2-24
4	7g	H.S. BOLTS	0	2	1-14
4	7g	H.S. BOLTS	0	24	1-14
12	dt	3/4" φ stud	0	8	1-17
SHIPPING MAT'L FOR ED1 & ED2					
SIZE AVAILABLE					

BRIDGE No. 2039

NO. Δ REVISION **CHANGED STRAP ANCHORS TO STUDS** DATE **5-4-82**

HIGH STEEL STRUCTURES, INC.
1905 Old Philadelphia Pike
Lancaster, Pennsylvania 17604
Phone 717/299-5211
A Subsidiary of High Industries, Inc.

EXPANSION DAMS
BARTER'S ISLAND BRIDGE OVER BACK RIVER
BARTER'S ISLAND BRIDGE STA. 12+11.52 TO STA. 14+193.85
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
BOOTHBAY MAINE
LINCOLN CO., MAINE

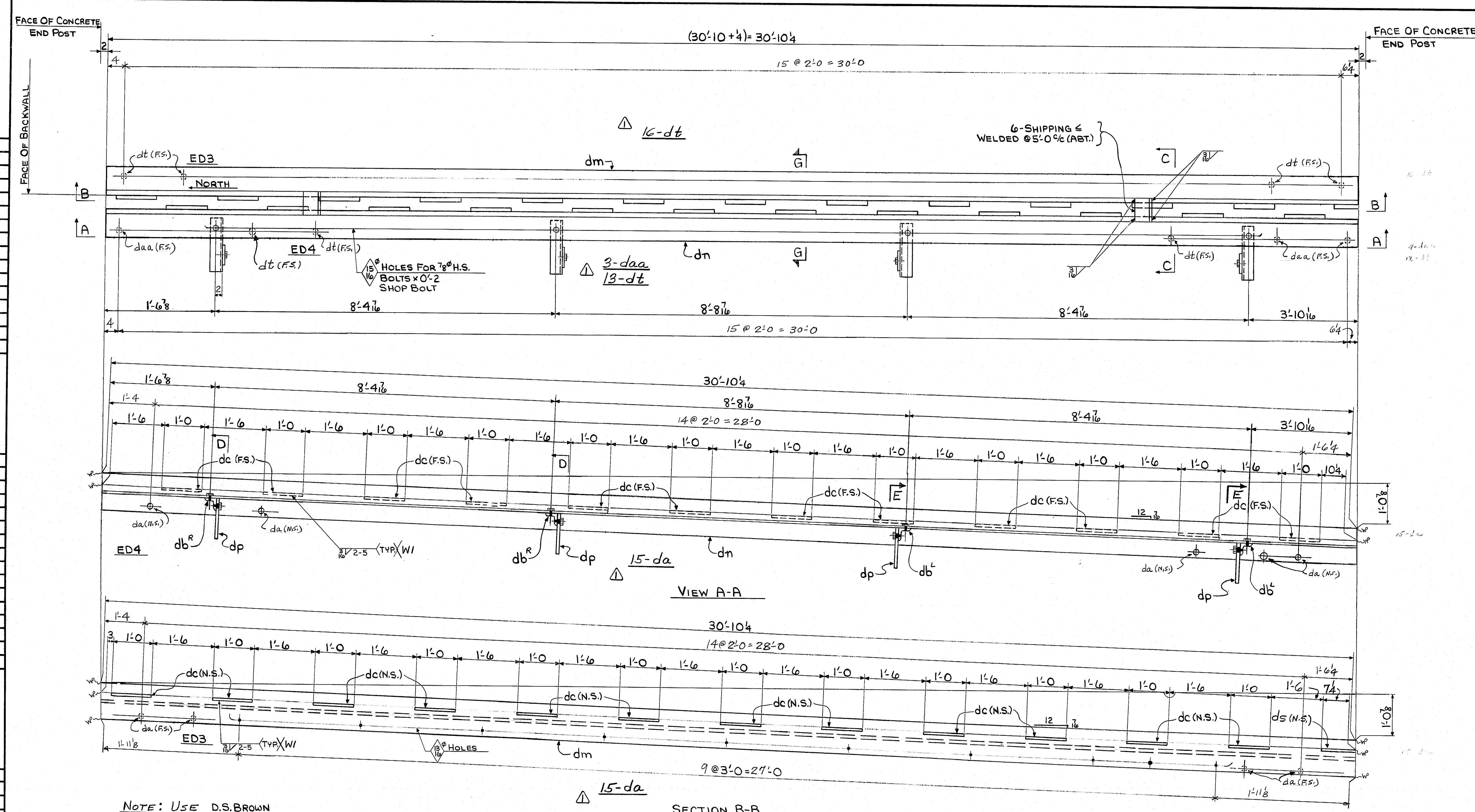
STATE CONTRACT OR REF. NO. **BH-0005(1)** CONTRACTOR **CALLAHAN BROS. INC.**

IN CHARGE: **HEFFNER** MADE BY: **FDS** CHK'D BY: **E.P.M.** DATE: **2-8-82**

CONTRACT NUMBER: **ME-81163** DRAWING NUMBER: **5 OF 6**

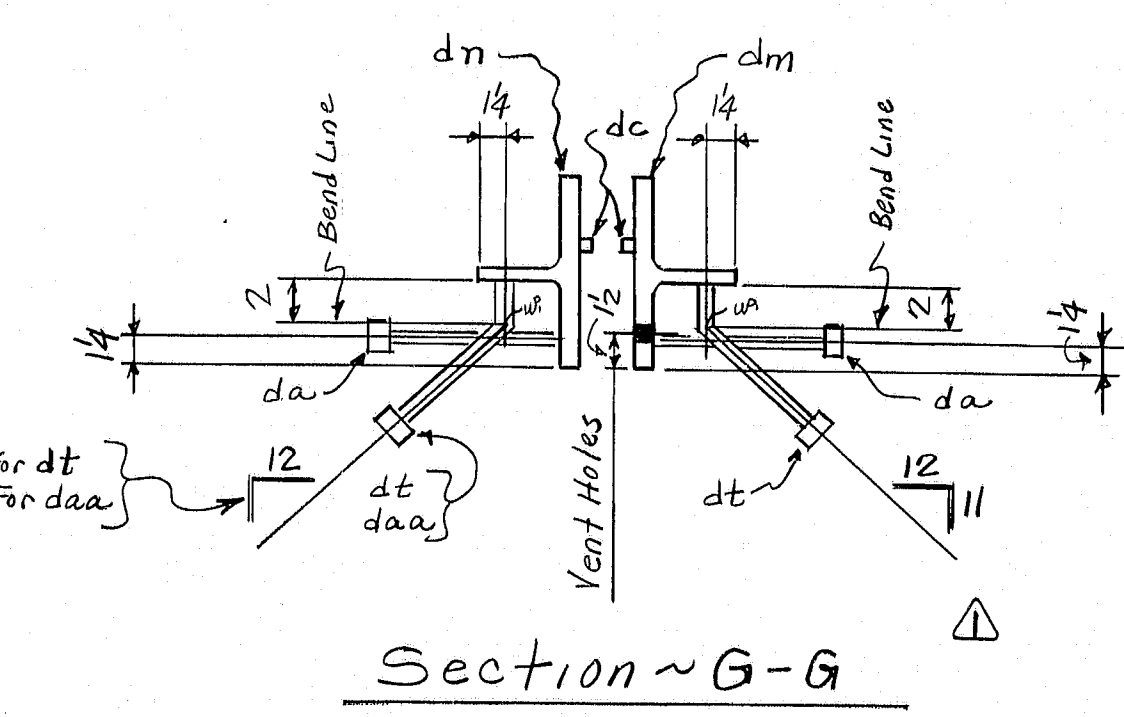
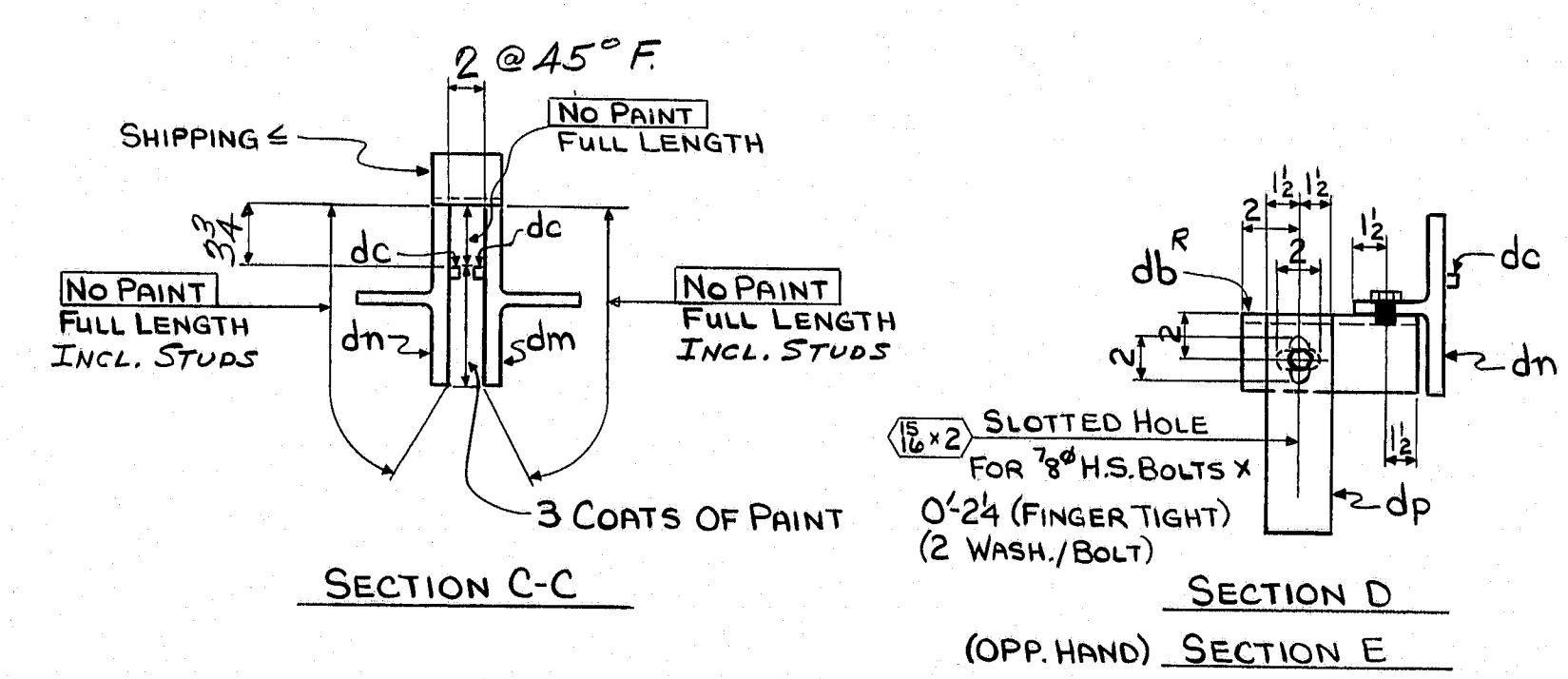
178-184

AF 12831A



NOTE: USE D.S. BROWN
SERIES H-3000 COMPRESSION
SEAL PER GENERAL CONTRACTOR.

ONE EXPANSION DAM EA. MK. ~ ED3, ED4 ASSEMBLE & SHIP AS A UNIT
UNIT. SHIP WT. 1838.9*



SHOP NOTE
HOLES: AS NOTED
BOLTS: AS NOTED
PAINT: SEE DWG. E1
MAT'L.: A36 (U.N.)
FOR GENERAL NOTES SEE DWG. E1.

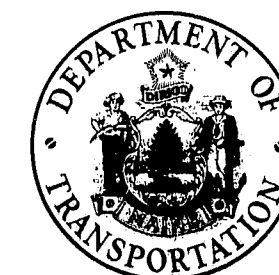
CODE: 5800

FED. ROAD DIV. NO.		STATE	FED. AID PROJ. NO.			
		ME.				
BILL OF MATERIAL						
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	ITEM	QUANTITY
ONE	ED3	EXPANSION DAM				
16	dt	3/4" Stud	0 8	A108 Bent	2-69	
15	da	Do.	0 8	A108	2-69	
12	dc	BAR 3/8"x3/8"	1 0		2-69	
1	dm	WT 4"x24"	30 104		2-69	
1	ds	BAR 3/8"x3/8"	0 74		2-69	

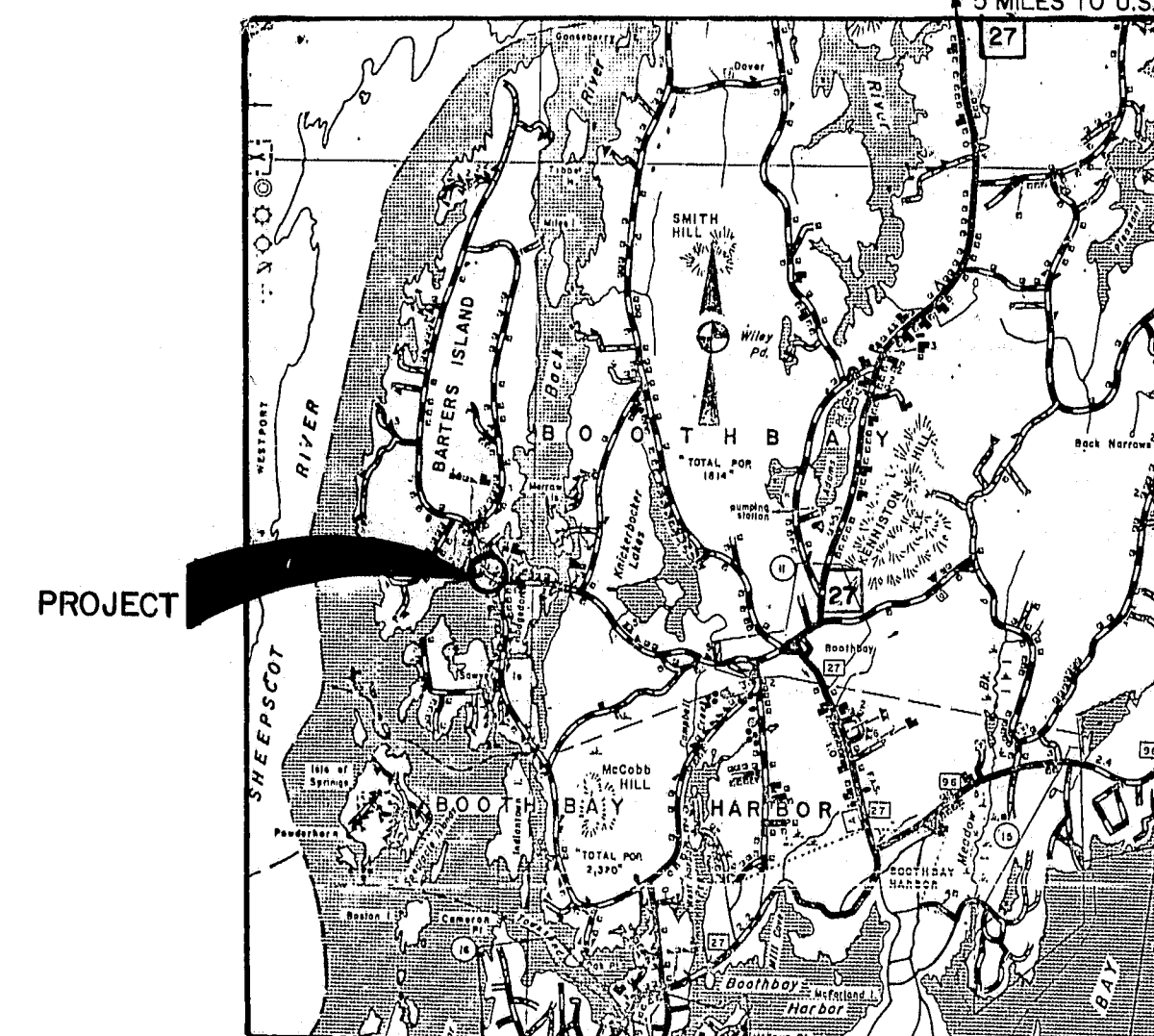
NO. 1	REVISION CHANGED STRAP ANCHORS TO STUDS	DATE 5-4-82
<p>HIGH STEEL STRUCTURES, INC.</p> <p>1905 Old Philadelphia Pike Lancaster, Pennsylvania 17604 Phone 717/299-5211</p> <p>A Subsidiary of High Industries, Inc.</p>		
<p>EXPANSION DAMS</p> <p>BARTER'S ISLAND BRIDGE OVER BACK RIVER</p> <p>BARTER'S ISLAND BRIDGE STA. 12+11.52 TO STA. 14+93.85</p> <p>STATE OF MAINE DEPARTMENT OF TRANSPORTATION</p> <p>BOOTHBAY, MAINE</p> <p>LINCOLN CO., MAINE</p>		
<p>STATE CONTRACT OR REF. NO. 6H-0005(1) CONTRACTOR CALLAHAN BROS., INC.</p>		
IN CHARGE: HEFFNER	MADE BY: FDS	CHK'D BY: E.A.M. DATE: 2-8-82
CONTRACT NUMBER: ME-81163		DRAWING NUMBER: 6 OF 6

178-185

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



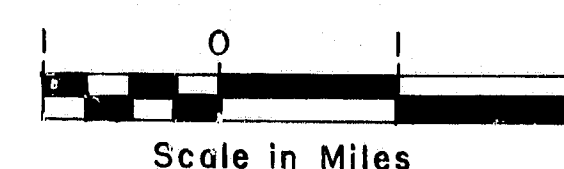
BARTERS ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
PROJECT NO. BH-000S(II)
PROJECT LENGTH 0.054 MILES



LOCATION MAP

TRAFFIC DATA

A.A.D.T. 1960-1969 _____
A.A.D.T. 2000-2069 _____
D.H.V. _____
T. (%) _____
D. (%) _____
V. _____



Plans of the existing bridge are available for the Contractor's reference at the Bridge Design Office in Augusta. The plans are reproductions of original drawings as prepared for the construction of the bridge and it is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.

SPECIFICATIONS

DESIGN: AASHTO, Standard Specifications for Highway Bridges, 1977, and Interim Specifications, 1978, 1979, 1980.

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

DESIGN LOADING

LIVE LOAD _____ HS 20-44

MATERIALS

CONCRETE: Integral Wearing Surface and Deck Slab _____ CLASS A
Seals _____ CLASS S
Grid Floor Concrete Fill _____ CLASS Y
All Other _____ CLASS A
REINFORCING STEEL _____ ASTM A615 Grade 60

STRUCTURAL STEEL _____ Beams _____ ASTM A572, Grade 50
Diaphragms, Bearings and _____
Armored Joint _____ ASTM A36
High Strength Bolts _____ ASTM A325
Bridge Rail Tubing _____ ASTM A501
All Other _____ ASTM A36

BASIC ALLOWABLE STRESSES

CONCRETE _____ $f_c = 1200$ psi _____ N=9

REINFORCING STEEL _____ $f_s = 24,000$ psi

STRUCTURAL STEEL _____ ASTM A572 Grade 50 _____ $f_s = 27,000$ psi
ASTM A36 _____ $f_s = 20,000$ psi
ASTM A325 _____ $f_v = 19,000$ psi
ASTM A501 _____ $f_s = 20,000$ psi

HYDROLOGIC DATA

Approx. Waterway Opening (in sq. ft.)
Low Tide _____ High Tide _____
Existing _____ 1500 _____ 3000
Proposed _____ 1520 _____ 2975

UTILITIES

Boothbay Harbor Water System
Central Maine Power Co.
New England Tel. and Tel. Co.

All Utility Facilities Shall be Adjusted by the Respective Utilities Unless Noted.

INDEX OF SHEETS

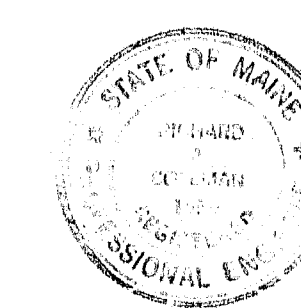
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	QUANTITIES
3	GENERAL PLAN
4,5	SURVEY
6,7	PROFILE
8	FOUNDATION SURVEY
9,10,11,12,13	CROSS SECTIONS
14	ABUTMENT NO. 2
15	PIER NO. 4
16	PIER NO. 2
17	ABUTMENT NO. 1
18,19,20,21	STRUCTURAL STEEL
22	BLOCKING & STRUCTURAL STEEL DETAILS
23,24	BLOCKING & END POSTS
25,26	SUPERSTRUCTURE
27	REINFORCING STEEL SCHEDULE
28	ELECTRICAL
29	MAINTENANCE OF TRAFFIC

STANDARD DETAILS

30	BD 101-74	BEARING PEDESTALS	April 1974 (Rev. 6-14-78).
31	BD 104-77	ARMORED JOINT, DRAIN, SHEAR CONNECTORS, AND MISC.	STRUCTURAL DETAILS _____ Feb. 1977 (Rev. 3-1-77).
32	BD 105-74	EXPANSION DAMS	May 1974 (Rev. 3-1-77).
33	BD 113-78	DIAPHRAGMS AND CROSSFRAMES	June 1978 (Rev. 9-4-80).
34	BD 120-79	CONCRETE END POSTS	Feb. 1979
35	AUG. 1969 (5)	GUARD RAIL, Etc.	(Rev. 6-1-78).
36	AUG. 1969 (6)	GUARD RAIL, Etc.	(Rev. 6-1-78).
37	AUG. 1969 (9)	BEAM GUARD RAIL END TREATMENT	(Rev. 10-14-75).
38	AUG. 1969 (11)	BARRICADES, Etc.	(Rev. 3-22-77).
39	AUG. 1969 (12)	FIELD OFFICES, Etc.	(Rev. 3-16-73).
40-42		MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES	
43,44		RIGHT OF WAY MAP	

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

COAST GUARD PERMIT NUMBER 12-81



APPROVED:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
COMMISSIONER

DATE

UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 1

APPROVED:

DIVISION ADMINISTRATOR DATE

R92-339

PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	06/22/81
CHECKED	J. J. J.
REVISIONS	
FIELD CHANGES	
PLANS	

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.09	Removal of Existing Superstructure (to be retained by Dept)	1	L.S.
202.10	Removal of Existing Superstructure (Property of Contractor)	1	L.S.
202.12	Removal of Existing Structural Concrete	115	C.Y.
202.22	Removal of Existing Wood Pier Bents	1	L.S.
203.20	Common Excavation	280	C.Y.
203.24	Common Borrow	10	C.Y.
203.26	Gravel Borrow	200	C.Y.
206.08	Str. Earth Excav. Abuts. & Ret. Walls	300	C.Y.
206.09	Str. Rock Excav. Abuts. & Ret. Walls	5	C.Y.
206.10	Str. Earth Excav. - Piers	190	C.Y.
206.11	Str. Rock Excav. - Piers	10	C.Y.
206.13	Str. Rock Excav. - Channel	110	C.Y.
304.10	Aggregate Subbase Course - Gravel	395	C.Y.
460.22	Hot Bit. Pavement	93	Ton
502.21	Structural Concrete, Abuts & Retaining Walls	130	C.Y.
502.23	Structural Concrete, Piers	300	C.Y.
502.24	Structural Concrete Piers (Placed Under Water)	350	C.Y.
502.26	Structural Concrete, Roadway and Sidewalk Slabs on Steel Bridges	1	L.S.
503.12	Reinforcing Steel, Fab. and Delivered	47,600	Lb.
503.13	Reinforcing Steel, Placing	47,600	Lb.
504.70	Structural Steel, Fab. and Delivered	1	L.S.
504.71	Structural Steel, Erection	1	L.S.
504.79	Steel Grid Flooring	2380	S.F.
505.08	Shear Connectors	1	L.S.
506.141	Field Painting New Structural Steel	1	L.S.
506.142	Field Painting Existing Structural Steel	1	L.S.
506.16	Surface Preparations of Existing Structural Steel	880	M.H.
507.08	Bridge Railing	633	L.F.
510.10	Spec. Detour 13 ft. Rdwy Width Veh. & Ped. Traffic Not Sep.	1	L.S.
511.0702	Cofferdams, Pier No. 2	1	L.S.
511.0704	Cofferdams, Pier No. 4	1	L.S.
512.07	French Drains (Stones Only)	20	C.Y.
514.06	Curing Box for Concrete Cylinders	1	Each
515.20	Protective Coating for Concrete Surfaces	670	S.Y.
525.06	Granite Masonry	1,836	S.F.
525.303	Intrusion Grouting (Pier #3)	1	L.S.
525.31	Grout	25	C.Y.
525.32	Fast Setting Underwater Concrete	1	C.Y.
525.33	Two Man Underwater Diving Team	8	Team Hour
526.30	Temporary Concrete Barrier Type I	60	L.F.
526.40	Resetting Temporary Concrete Barrier Type I	10	L.F.
606.26	Terminal Ends - Single Rail	4	each
606.35	Guard Rail Delineator Posts	7	each
606.55	Guard Rail Type 3 - Single Rail	150	L.F.
606.59	Guard Rail Type 3 - Circular - 15' Radius or less	25	L.F.
606.60	Guard Rail Type 3 - Circular - Greater than 15' Radius	63	L.F.

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
615.07	Loom	10	C.Y.
616.08	Sodding	16	S.Y.
618.14	Seeding, Method Number 2	3	Unit
618.15	Temporary Seeding	2	Lb.
619.12	Mulch	3	Unit
629.05	Hand Labor, Straight Time	10	M.H.
* 631.10	Air Compressor (inc. Operator)	10	Hour
* 631.11	Air Tool (inc. Operator)	10	Hour
* 631.171	Truck - small (inc. op.)	10	Hour
* 631.22	Front End Loader (inc. op.)	10	Hour
637.07	Sprinkling	10	M.G.
637.08	Calcium Chloride	1	Ton
639.09	Field Office, Type B	1	Each
643.72	Temporary Traffic Signals	1	L.S.
652.31	Type I Barricades	10	Each
652.33	Drums	5	Each
652.34	Cones	10	Each
652.35	Construction Signs	500	S.F.
652.36	Maintenance of Traffic Control Devices	200	C.D.
655.204	Bridge Electrical Work	1	L.S.
* 656.50	Baled Hay, In Place	8	Each
* 656.51	Sandbags, In Place	8	Each
657.201	Seed and Application, Method A	2	Unit
659.10	Mobilization	1	L.S.
660.21	On-the-job Training (Bid)	1000	M.H.

Estimate of Lump Sum Quantities			
202.09	Removal of Existing Superstructure (to be retained depth)	70,000	Lbs (Steel)
202.10	Removal of Existing Superstructure (Prop. of Contractor)	18,192	Lbs (Steel)
502.26	Structural Concrete Roadway & Sidewalk Slabs on	24,582	S.F. Duct
	Steel Bridges	169	C.Y.
504.70	Structural Steel, Fabricated and Delivered	153,300	Lbs.
504.71	Structural Steel, Erection	153,300	Lbs.
505.08	Shear Connectors	1636	Each
506.141	Field Painting New Structural Steel	192,100	Lbs.
506.142	Field Painting Existing Structural Steel	88,000	Lbs.

* = Undetermined Location

F.R.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0006(4)	2	44

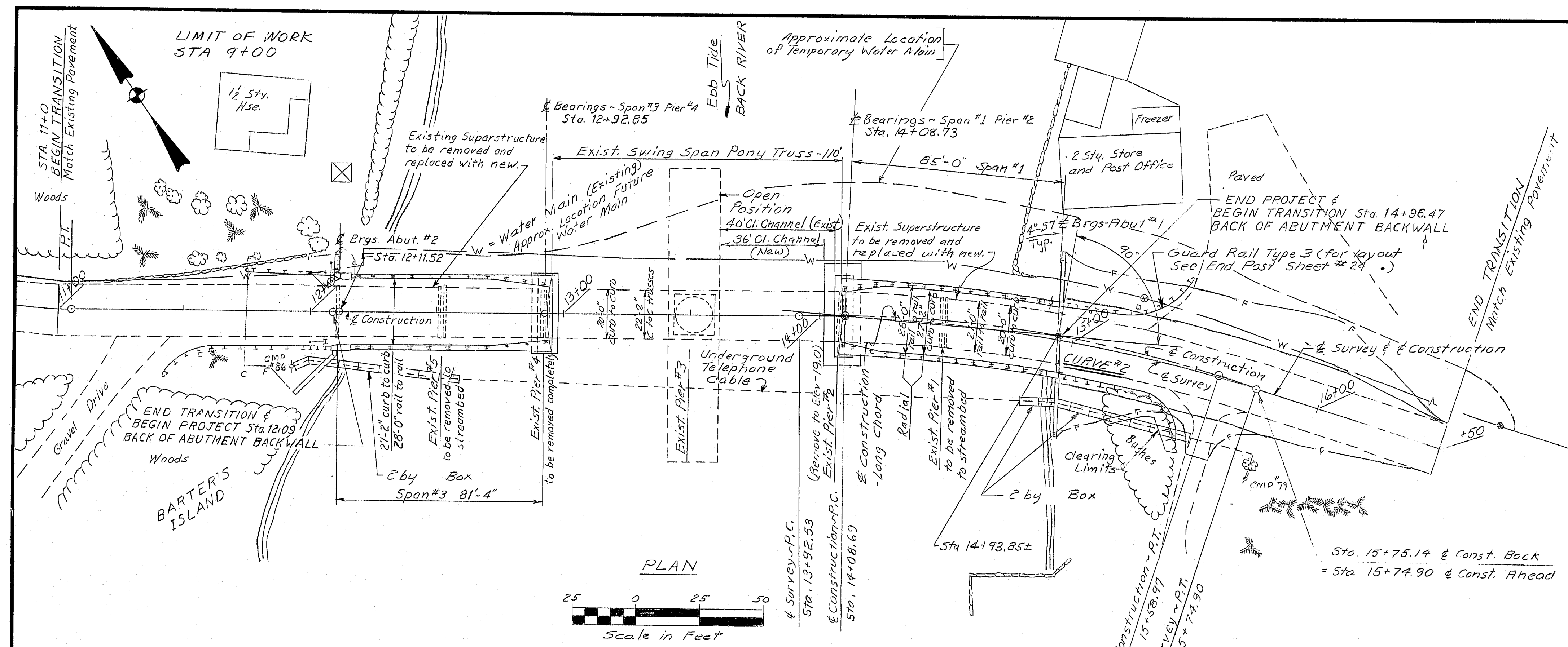
GENERAL CONSTRUCTION NOTES

- For easements, construction limits, and right of way lines refer to Right of Way Map.
- Place a 2 foot wide strip of sod on the side slopes in back of Abutment No.1 wings.
- Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Engineer. Shaping and Compacting of the existing subbase and layers of new subbase 6" or less thick, in areas where the Engineer directs the Contractor, not to excavate to the subgrade line shown on the plans, will be paid for with appropriate equipment rental items.
- Place loam, 2 inches deep, on all side slopes, unless otherwise directed by the Engineer.
- Stones which cannot be rolled or compacted into the surface of the shoulder shall be removed by hand raking. No separate payment will be made for hand raking and the cost will be considered incidental to Item 304.10.
- All slopes shall be seeded with Seeding, Method No.2 unless otherwise noted.
- Mulch shall be applied in areas seeded by Seeding Method No.2.
- The clearing limits shown on the plans are approximate. The exact limits shall be established in the field by the Engineer. Payment for clearing shall be incidental to contract items.
- The existing structural steel of the swing span which is to remain shall be field painted.
- Removing existing wood pier bents will be paid for under Item 202.22
- Removal of concrete in Pier No. 1 will be paid for under Item 206.13.
- Removal of concrete in Pier No. 2 will be paid for under Item 202.12.
- Grouting of Pier No. 3 will be paid for under Items 525.303 & 525.31
- On the existing swing span remove the following: timber floor, timber curb, existing roadway and its supporting angles down to the top of brackets and floor beam, and the bridge railing including grinding off and smoothing the steel where the supporting angles were attached; this work will be paid for under Item 202.10.
- Removal of existing superstructures, which includes removal of existing bridge railing, that are in the position of the new spans 1&3 will be paid for under 202.09.
- The swing span will be opened and closed by the state Bridge Operator for boat traffic during construction at no cost to the contractor.
- Structural Steel & Machinery modifications & alterations to the swing span assembly will be paid for under Items 504.70, 504.71, 506.141 & 506.142.

R92-340

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
BARTERS ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
QUANTITIES
SHEET 2 OF 44 AUGUSTA, MAINE June 1981

PRJ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(L)	3	44

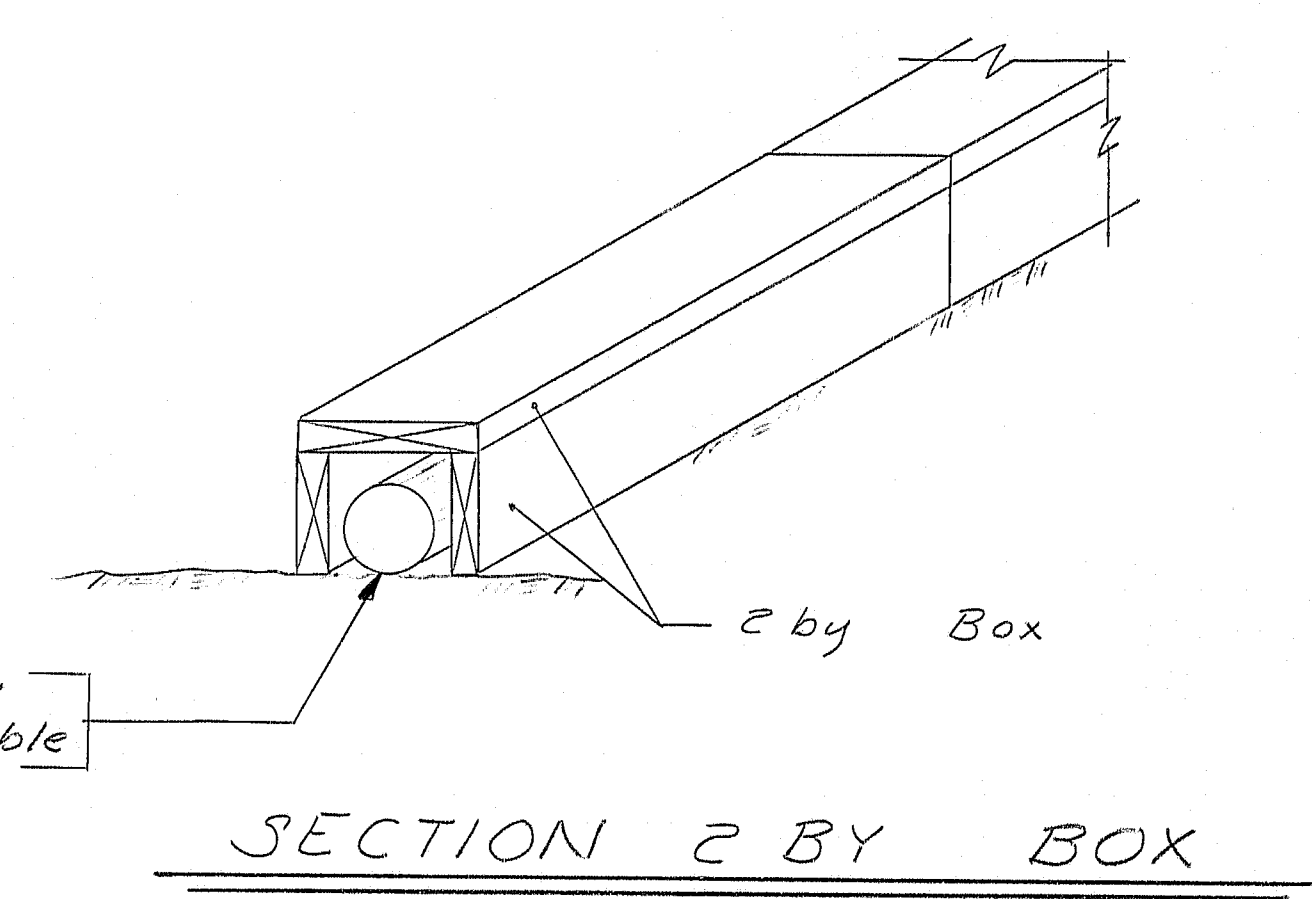
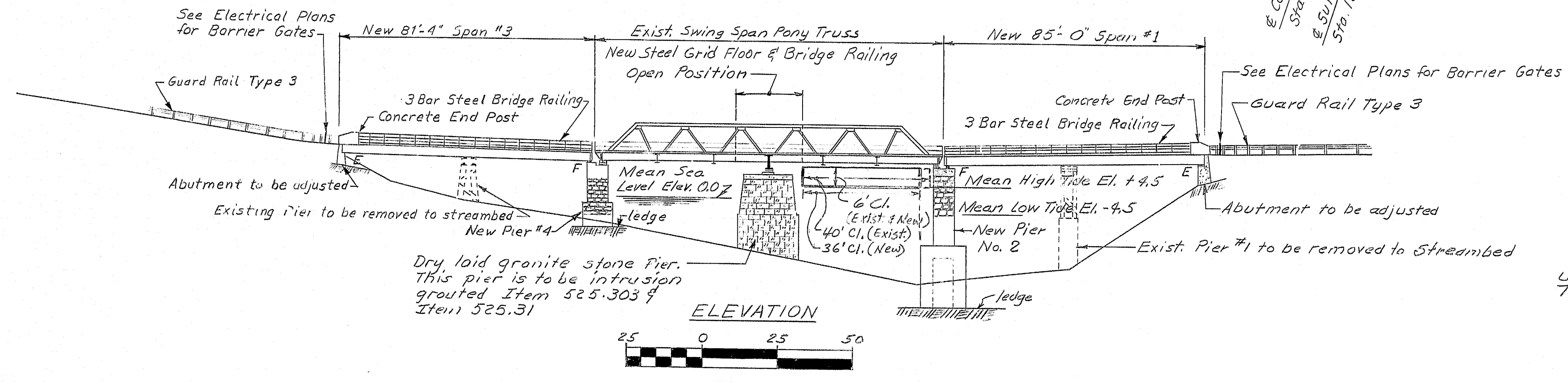


CURVE #2 ~ SURVEY

P.C. ~ 13+92.53
 P.T. ~ 14+84.92
 P.T. ~ 15+74.90
 Δ ~ 17°-26'-45" Rt.
 D ~ 9°-34'-00"
 R ~ 598.9106
 T ~ 91.89
 L ~ 182.36
 E ~ 7.01

CURVE #2 ~ CONSTRUCTION

P.C. ~ 14+08.69
 P.T. ~ 14+84.42
 P.T. ~ 15+58.97
 Δ ~ 17°-26'-45" Rt.
 D ~ 11°-34'-32"
 R ~ 493.55
 T ~ 75.73
 L ~ 150.28
 E ~ 5.78



PROJECT DESIGN ENGINEER	CDH	DATE
DESIGN - DETAILED	JM	9-79
CHECKED	DEW	6-81
REVISIONS		
FIELD CHANGES		

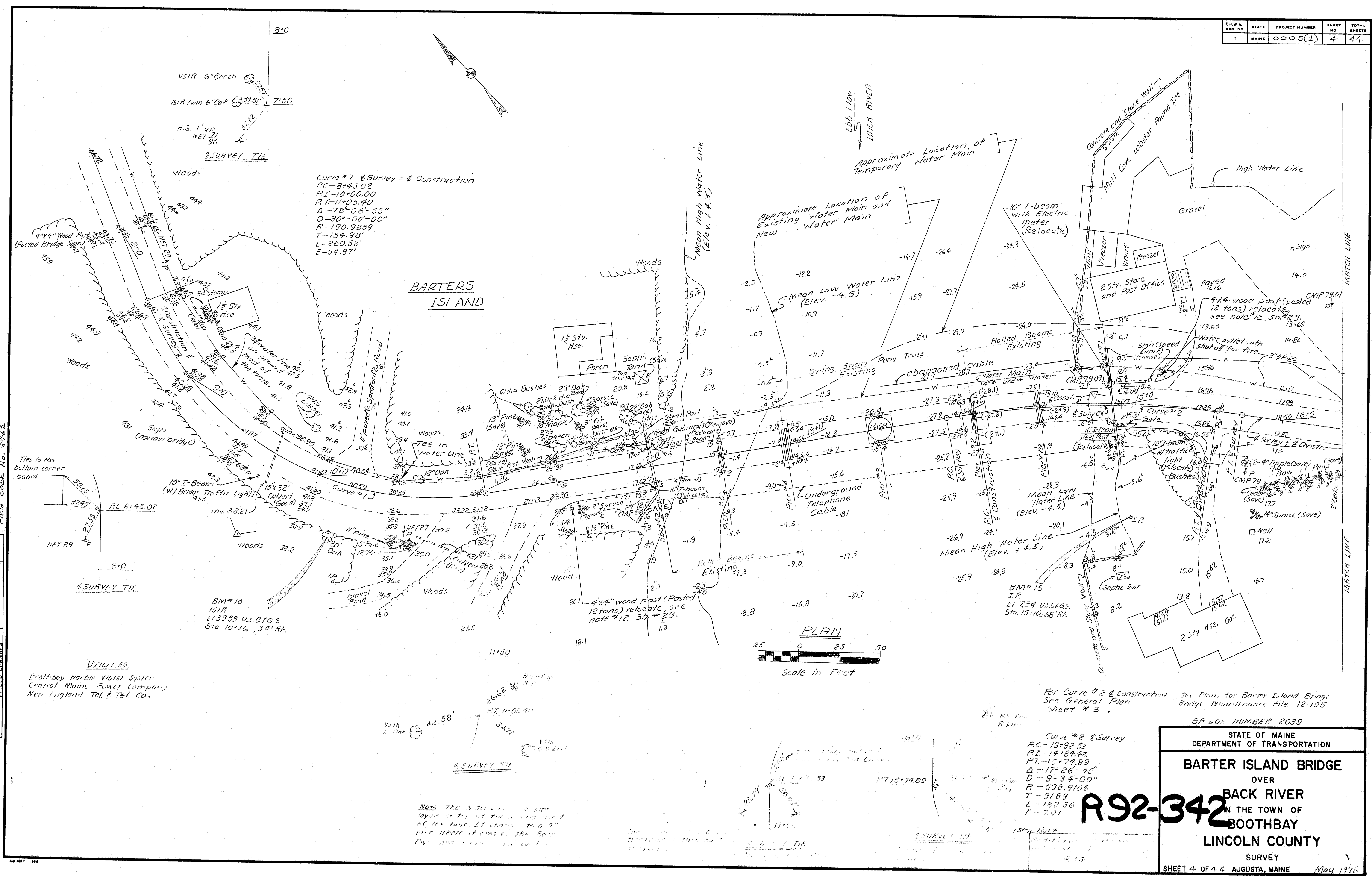
R92-341

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BARTER'S ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
GENERAL PLAN

SHEET OF 4 AUGUSTA, MAINE June 1981

F.R.B.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(1)	4	44



Survey Checked By R.V.M. 9-30-81
 Date 12-28-81

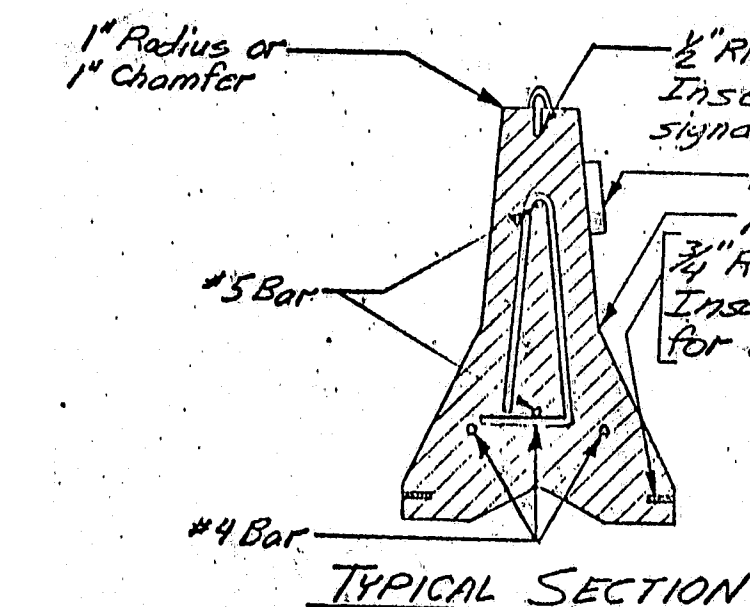
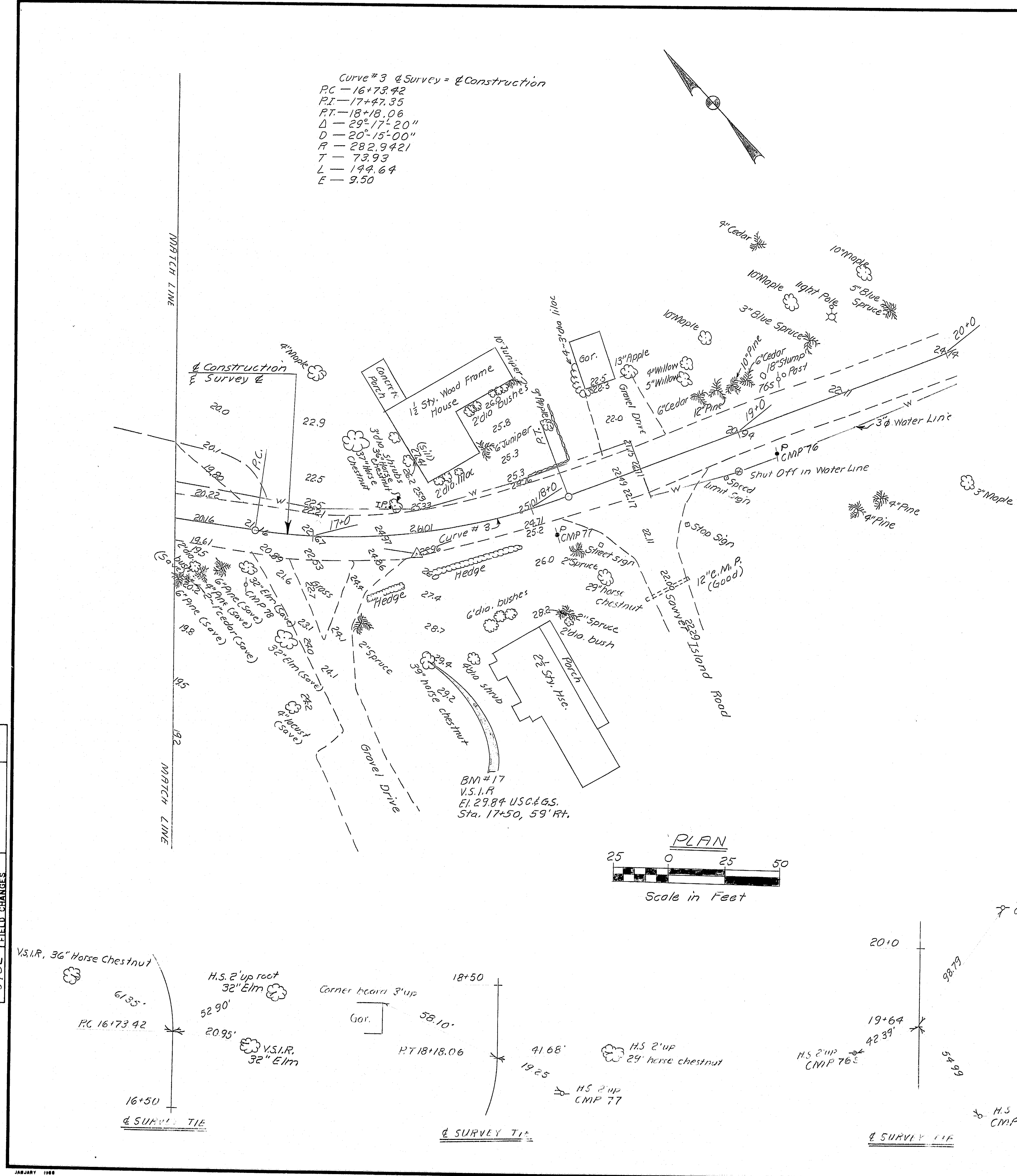
PROJECT DESIGN ENGINEER	DATE
BY	12-28-81
DESIGN-DETAILED	12-28-81
CHECKED	12-28-81
REVISIONS	12-28-81
FIELD CHANGES	12-28-81

PLANS

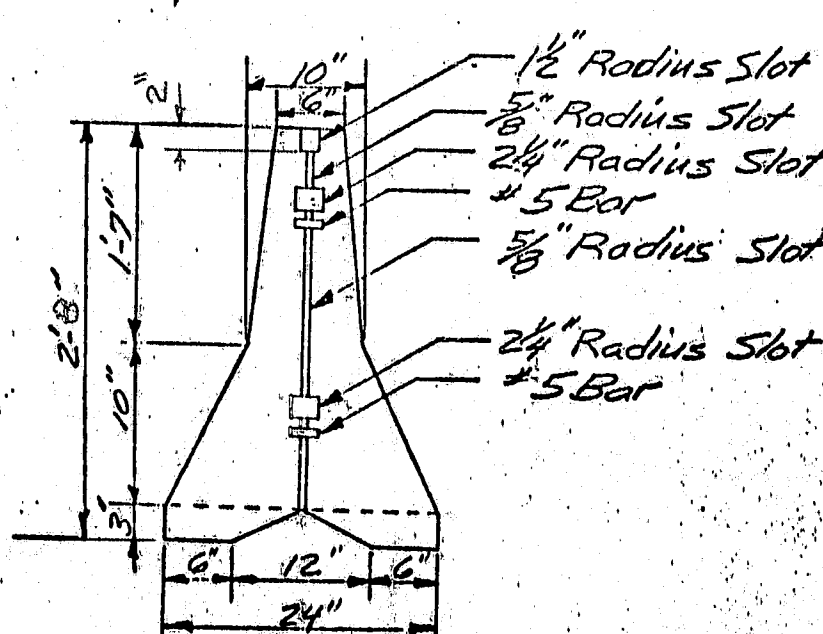
Field Book No. 8462

F.R.B.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(1)	5	44

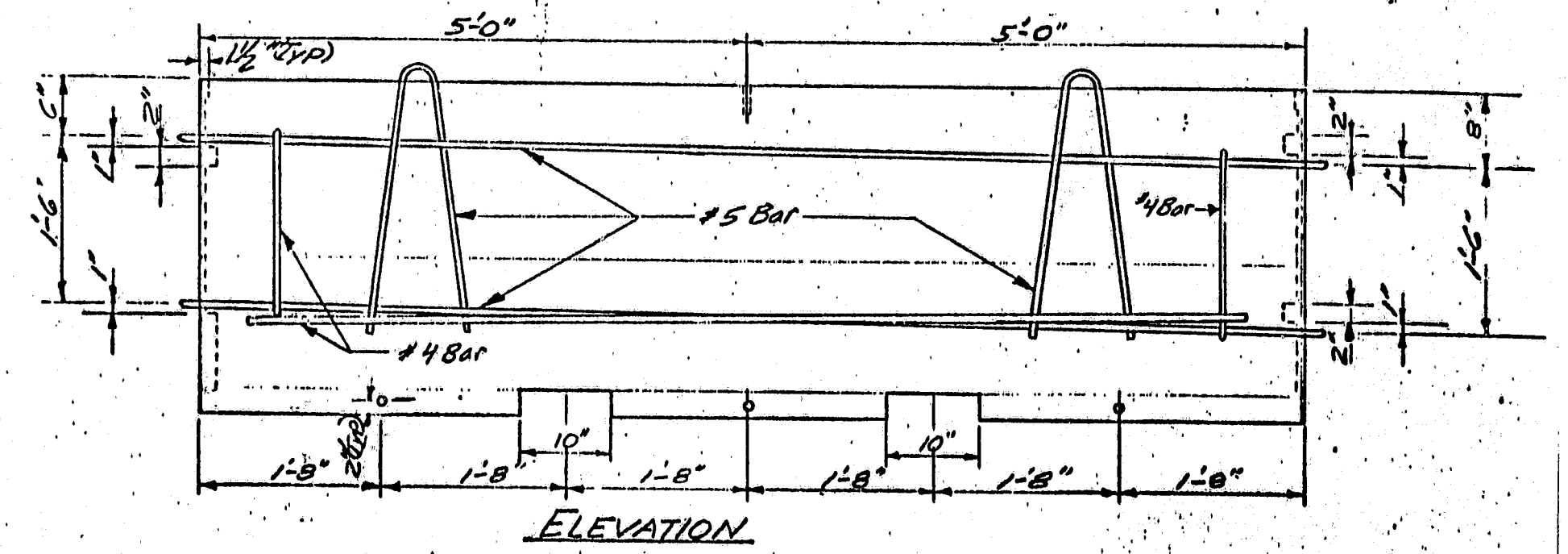
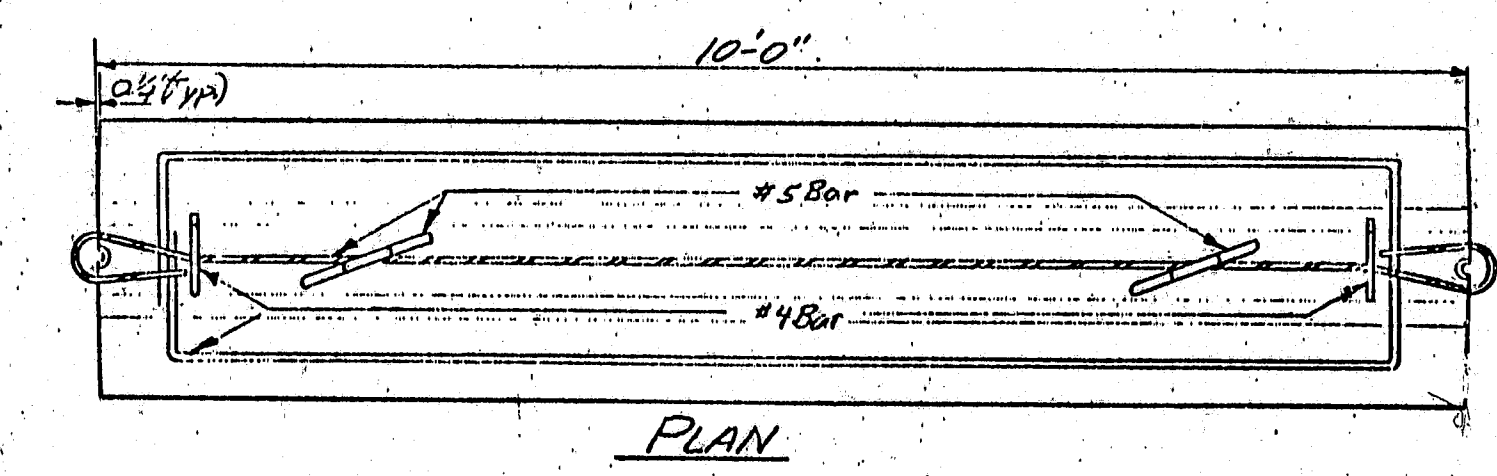
Curve # 3 @ Survey = @ Construction
 PC - 16+73.42
 PI - 17+47.35
 PT - 18+18.06
 Δ - 29° 17' 20"
 D - 20'-15'-00"
 R - 282.9421
 T - 73.93
 L - 144.64
 E - 9.50



CONNECTION PIN DETAIL



- NOTES
- Barrier Delineator spaced 10' O.C. Delineator design to be approved by the Engineer.
 - Other reinforcing details and panel connection arrangements may be used, if approved by the Engineer, for Temporary Concrete Barrier Type 1.



TEMPORARY CONCRETE BARRIER TYPE 1

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
BARTER ISLAND BRIDGE
 OVER
BACK RIVER
 IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
 SURVEY
 SHEET 5 OF 44 AUGUSTA, MAINE May 1978

R92-343

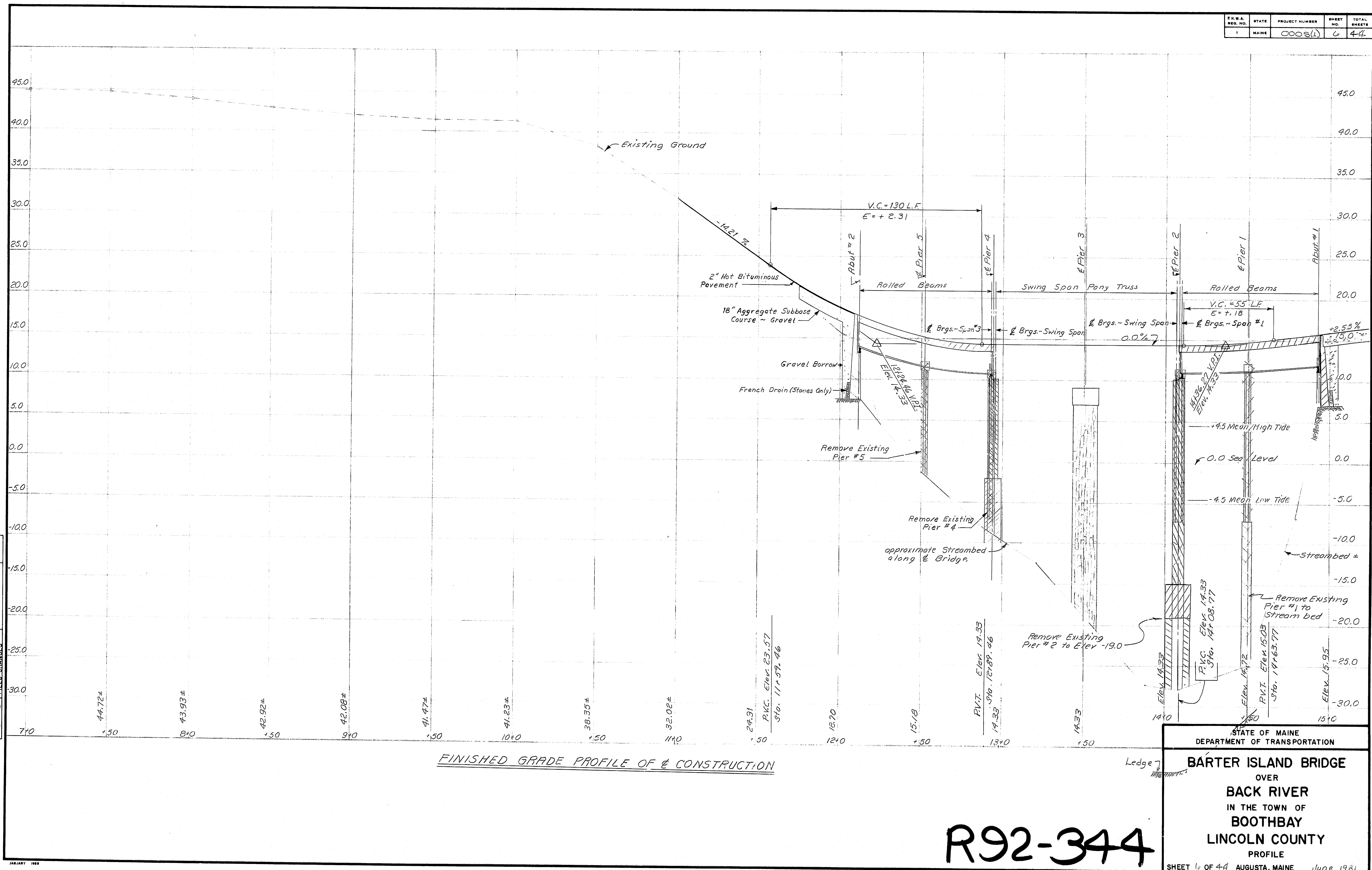
Survey Checked By R.M. 3-30-81

PROJECT	DESIGN	ENGINEER	DATE
0005	18-78	BY	DATE
DESIGN	DETAILED	CDH	1M
REVISIONS		DEW	6-71
FIELD CHANGES			

PLANS
 SURVEY
 REVISIONS
 FIELD CHANGES

Survey Checked By R.V.N. 3-36 31

PROJECT	DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	C.D.H.	J.M.H.	7/73
CHECKED	DEW		8-81
REVISIONS			
FIELD CHANGES			

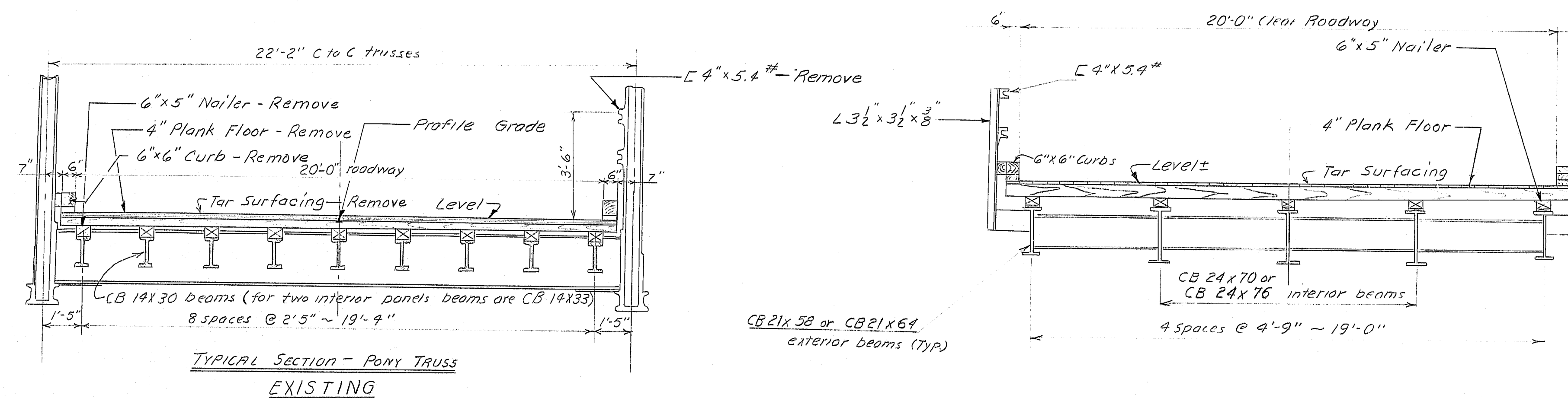


FINISHED GRADE PROFILE OF CONSTRUCTION

R92-344

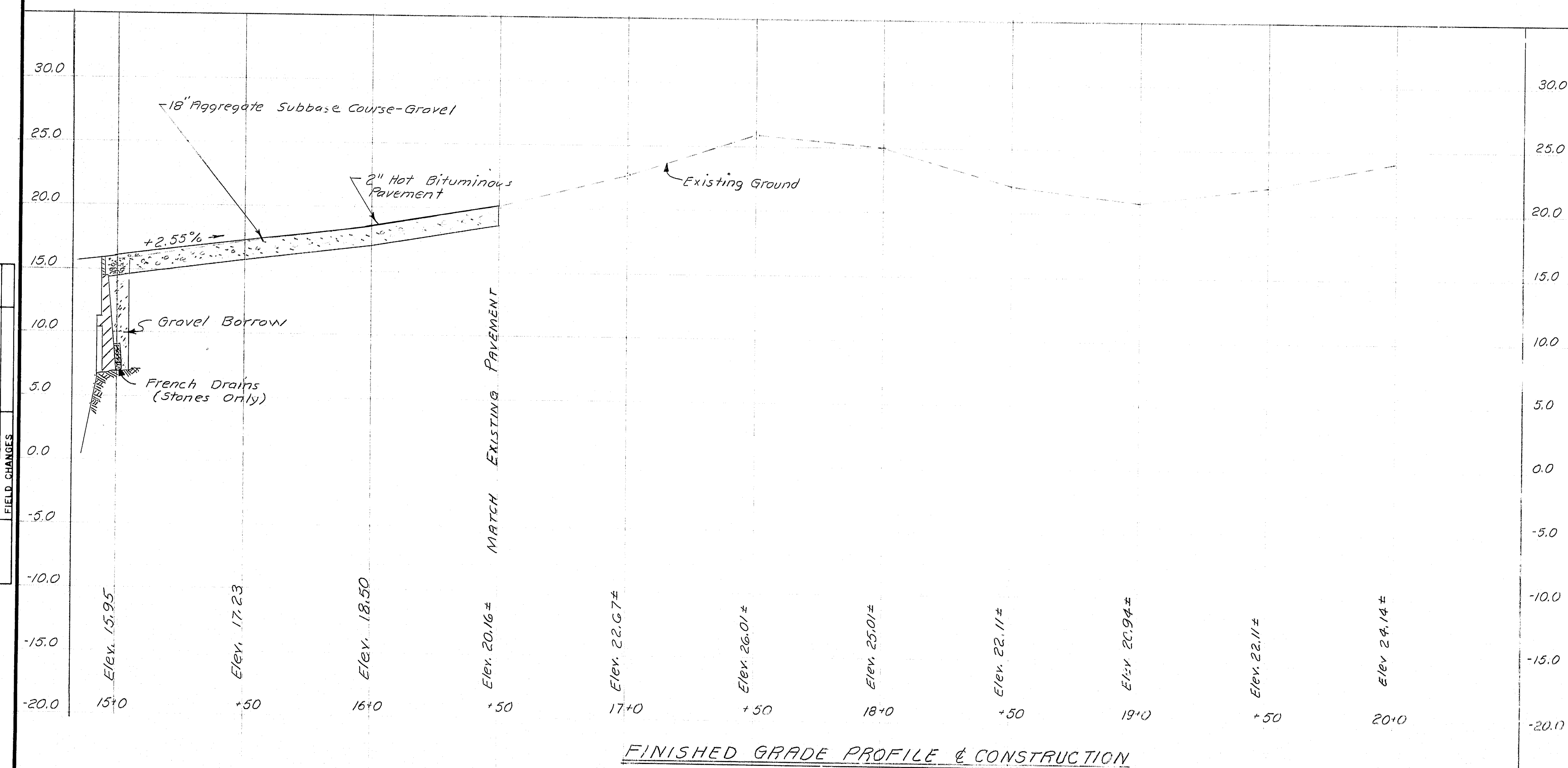
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
BARTER ISLAND BRIDGE OVER BACK RIVER IN THE TOWN OF BOOTHBAY LINCOLN COUNTY PROFILE
SHEET 10 OF 44 AUGUSTA, MAINE June 1981

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(1)	7	44



TYPICAL SECTION - PONY TRUSS
EXISTING

TYPICAL SECTION - ROLLED BEAMS
EXISTING — To Be Removed



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BARTER ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY

PROFILE

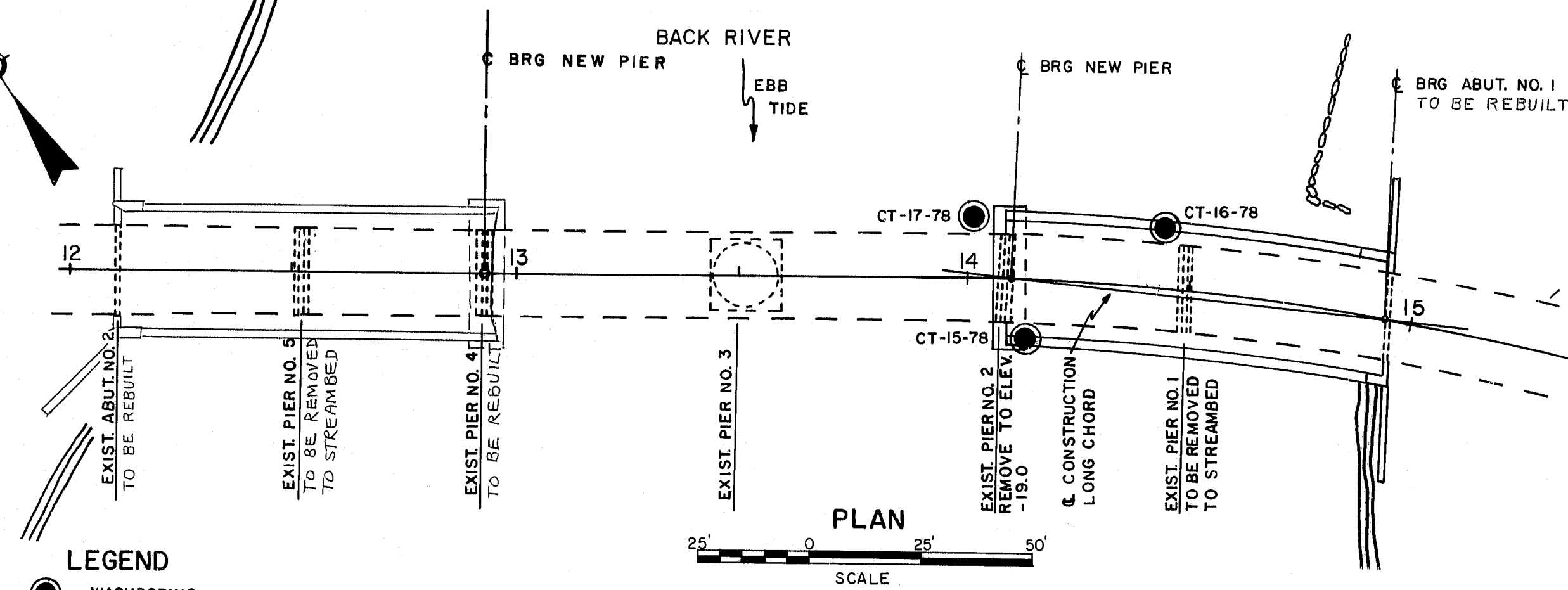
SHEET 7 OF 44 AUGUSTA, MAINE June 1981

R92-345

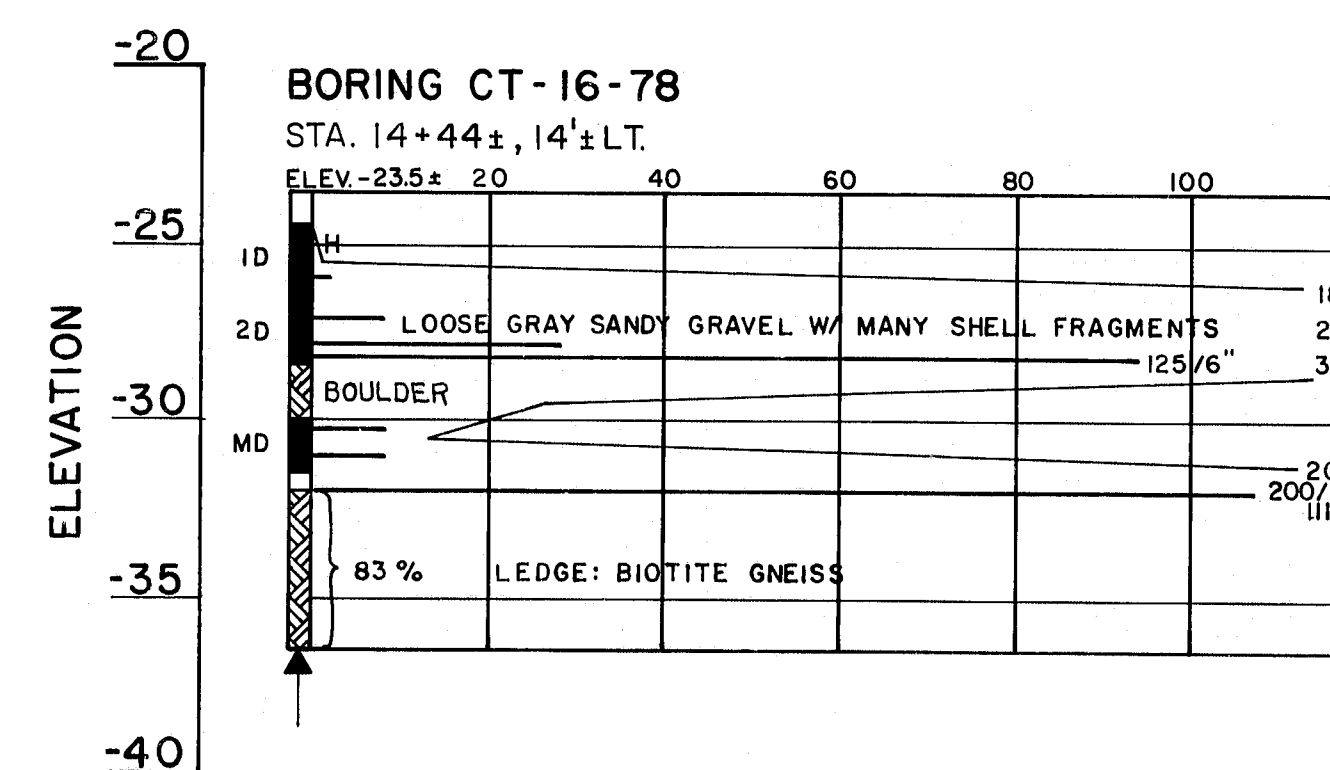
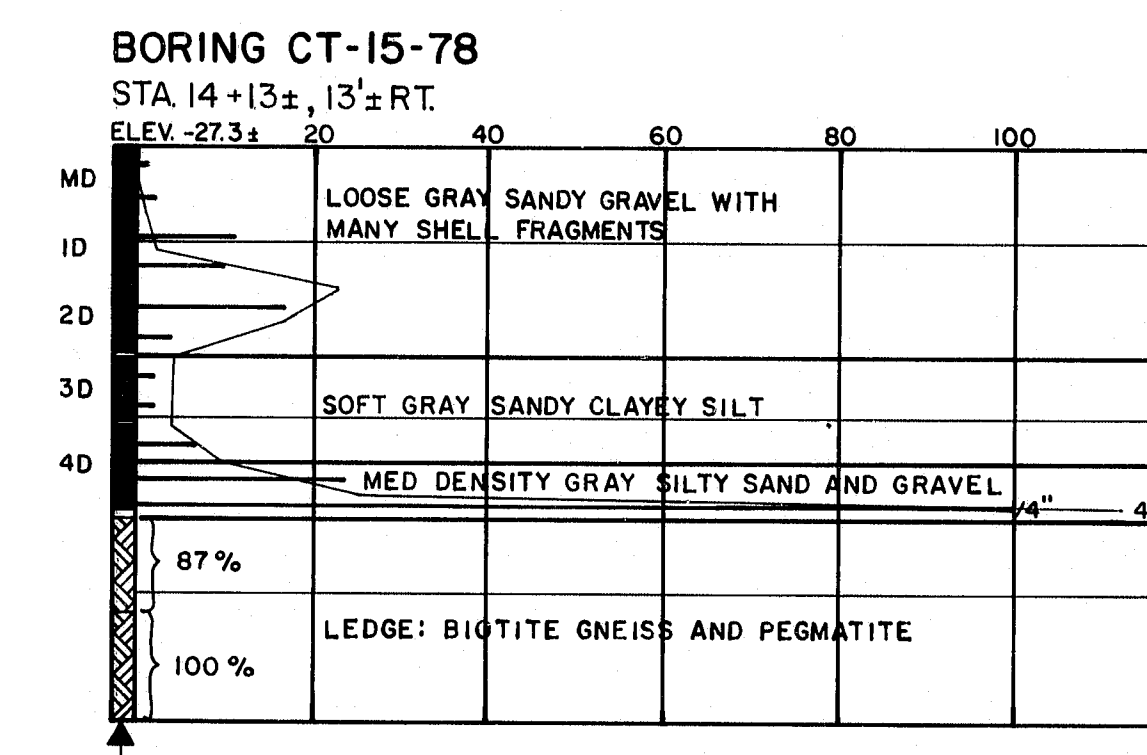
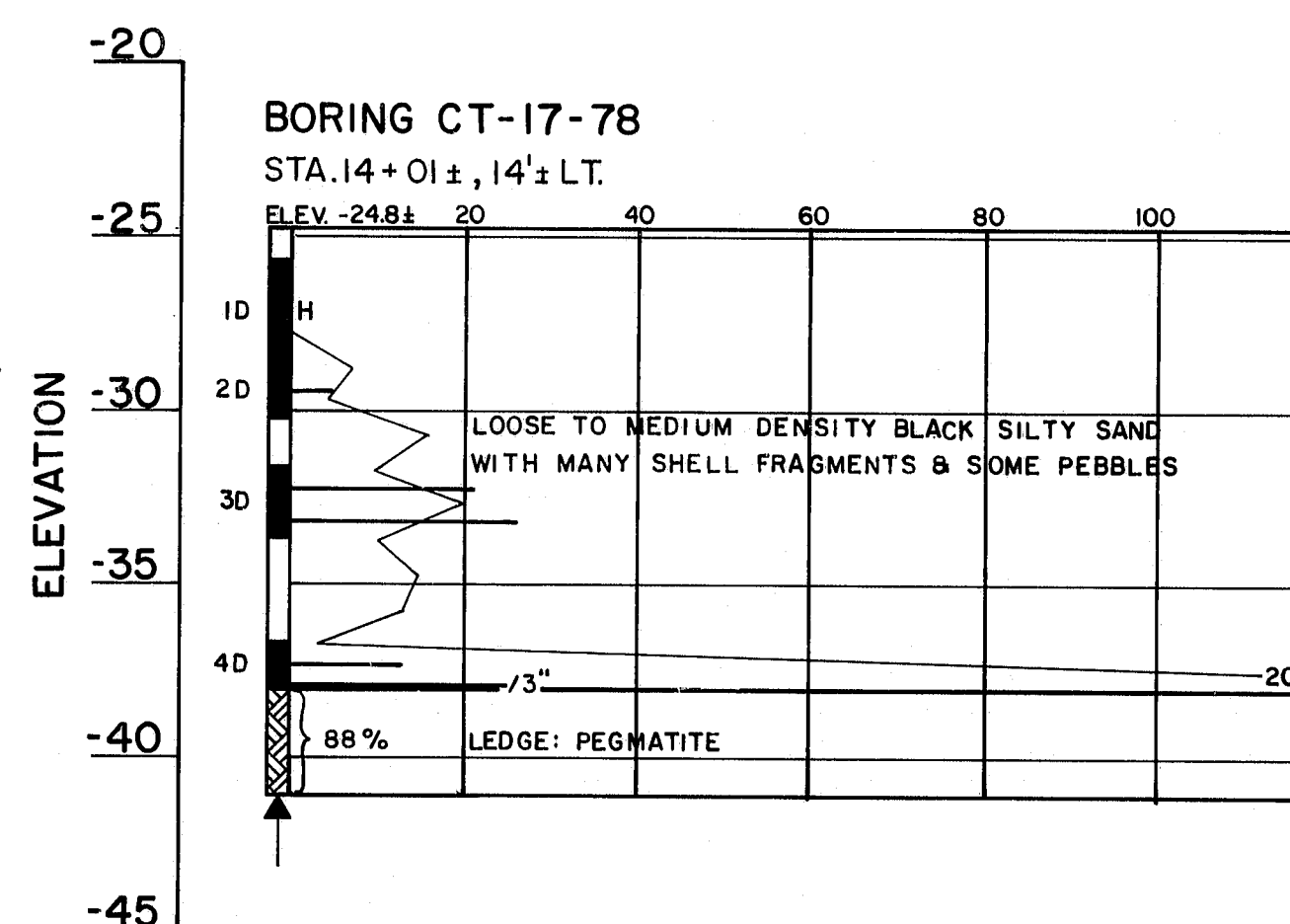
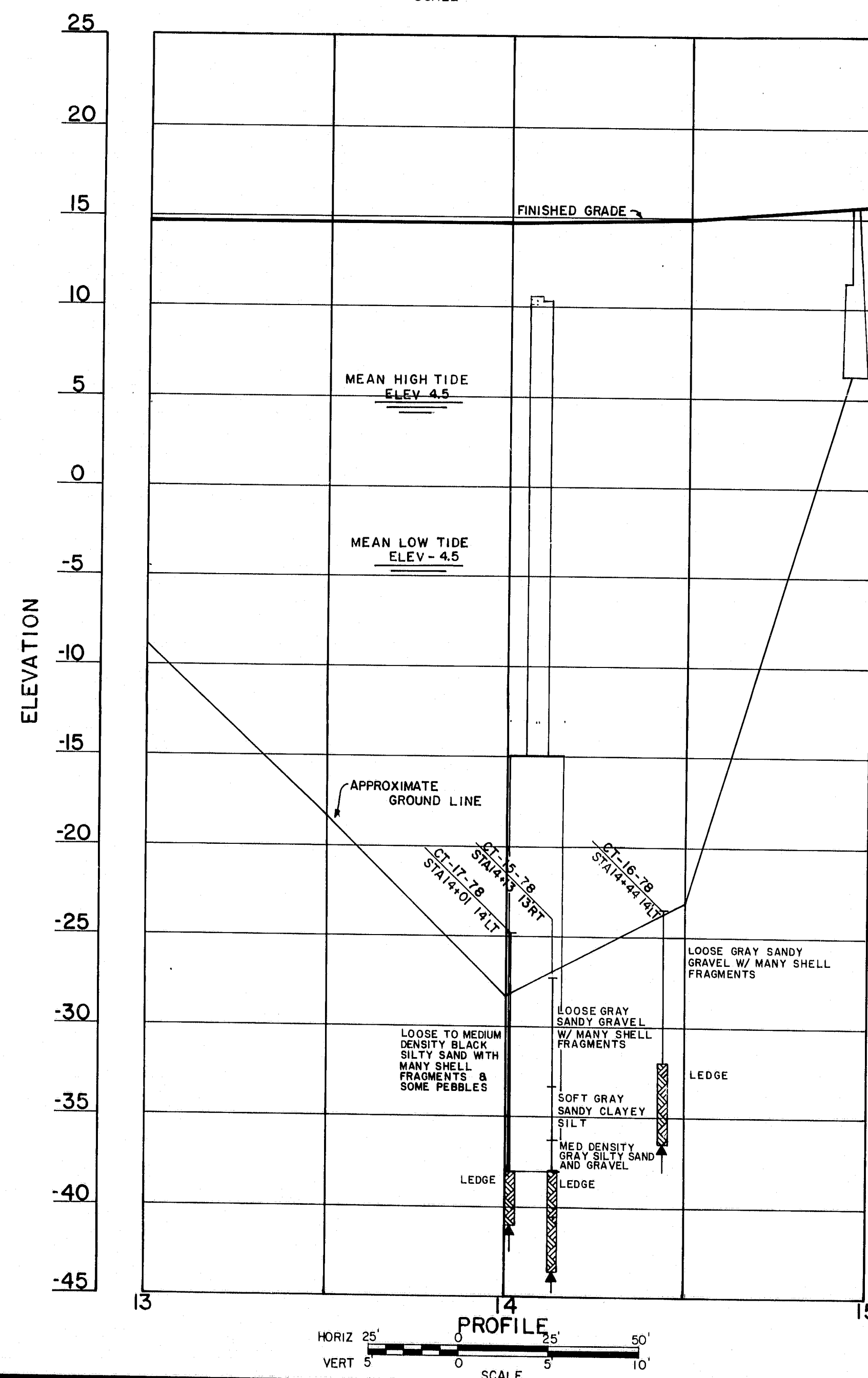
Survey Book 8462.

2001 2000

F.R.M.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(4)	8	44



LEGEND
● WASHBORING



BORING NOTES

- All samples are made ahead of casing
- Number of blows required to drive extra heavy casing one foot with 400 ft. lbs. of energy per blow
- Location of sample or sample attempt
- Number and type of dry sample
- S & H Sampler #1290's
- 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
- H Sampling spoon or seamless tubing driven by static weight of drill rods and hammer
- Bottom of boring (may not be bottom of soil strata)
- Locations cored by diamond bit and per cent recovery of rock

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BARTER'S ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
FOUNDATION SURVEY
SHEET 8 OF 44 AUGUSTA, MAINE NOV. 1975

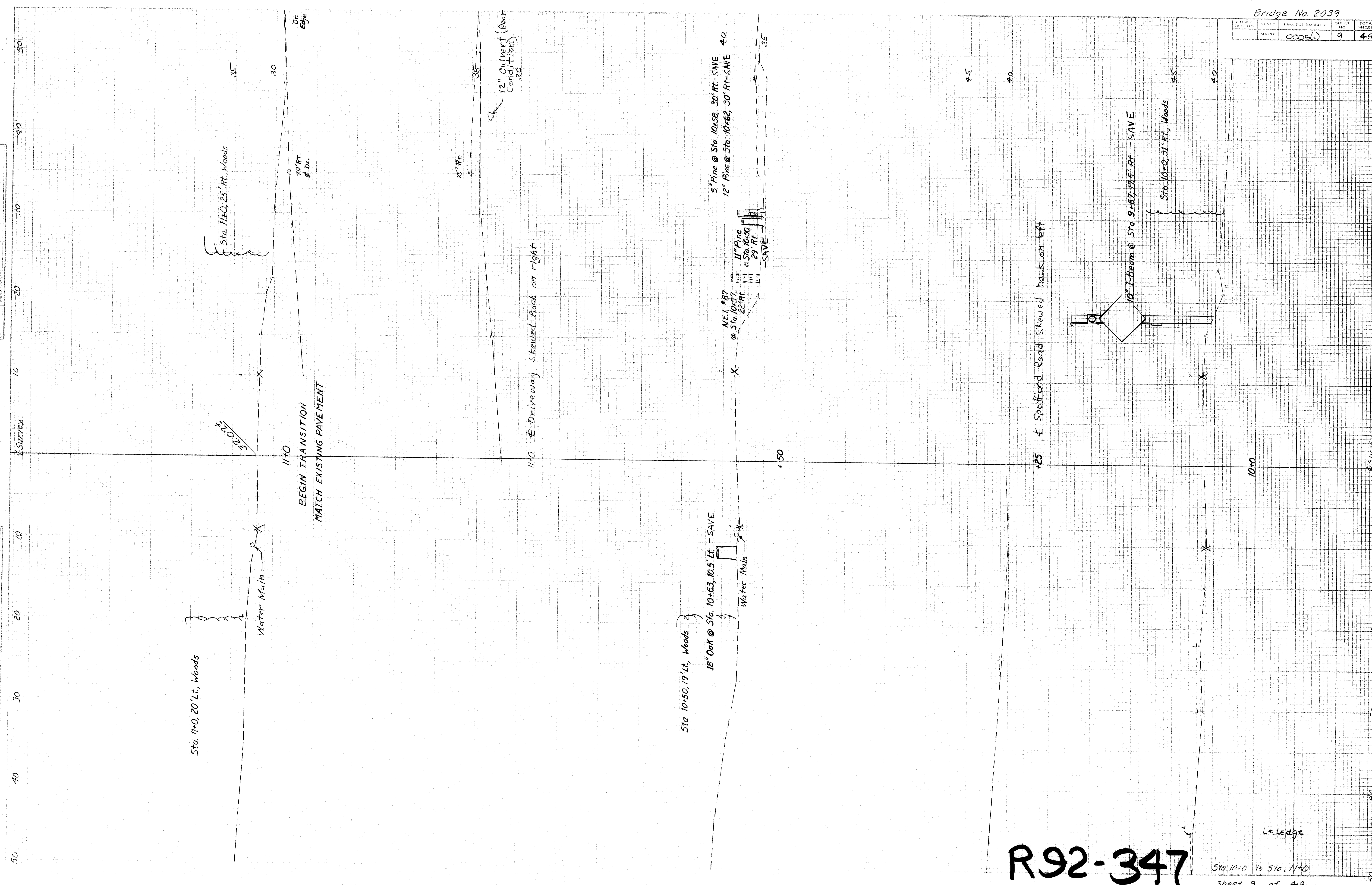
R92-346

PROJECT DESIGN ENGINEER	CDH	BY	DATE
DESIGN - DETAIL	Sal/S	Sal/S	11-78
CHECKED	Sal/S	Sal/S	11-78
REVISIONS			
FIELD CHANGES			

PLANS

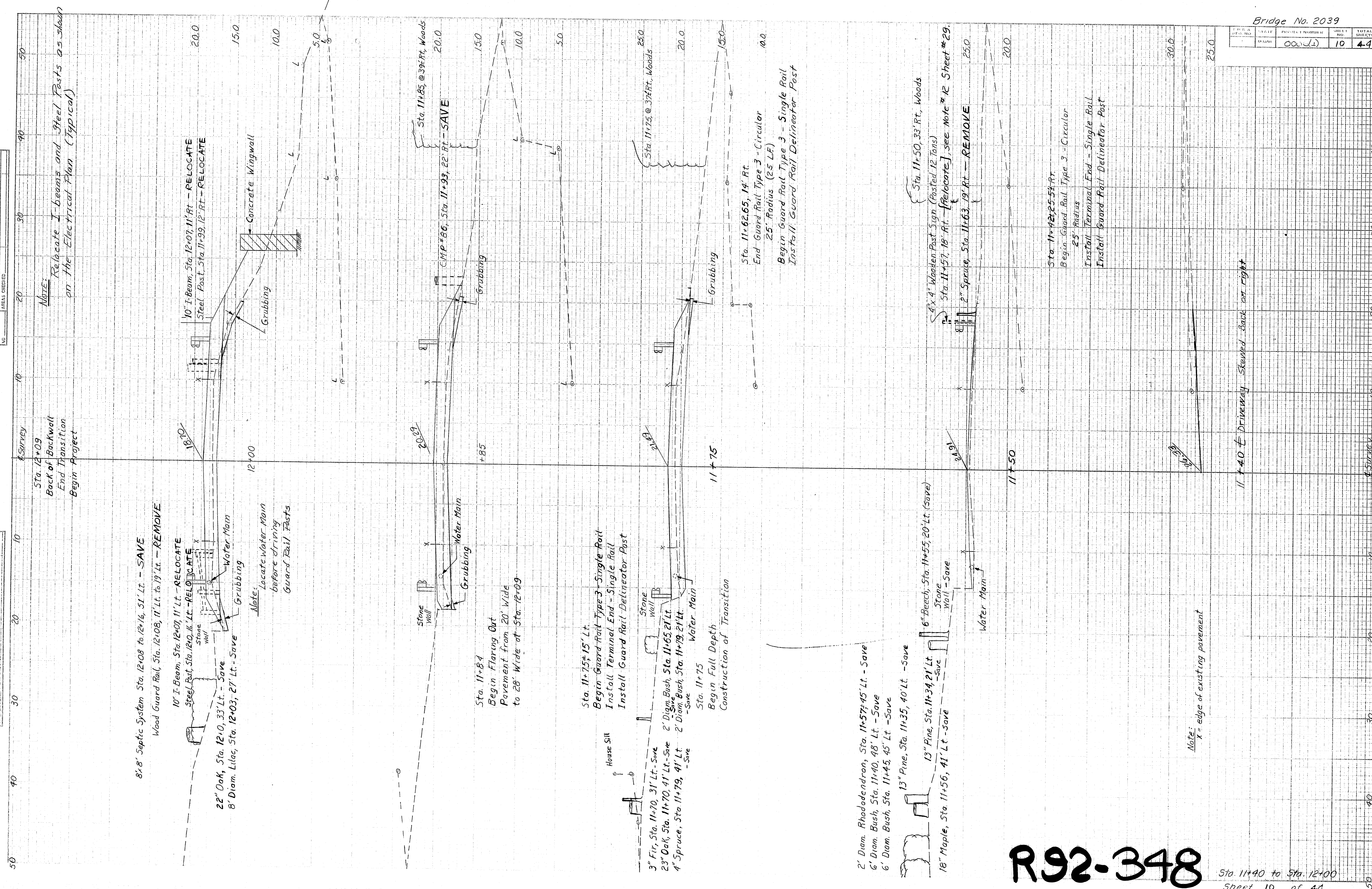
JANUARY 1981

203-1 2000

[illegible]

PROGRAM	DATE	BY
87462	12-28	858
87462	12-28	858

DATE	BY
12-28	858
12-28	858

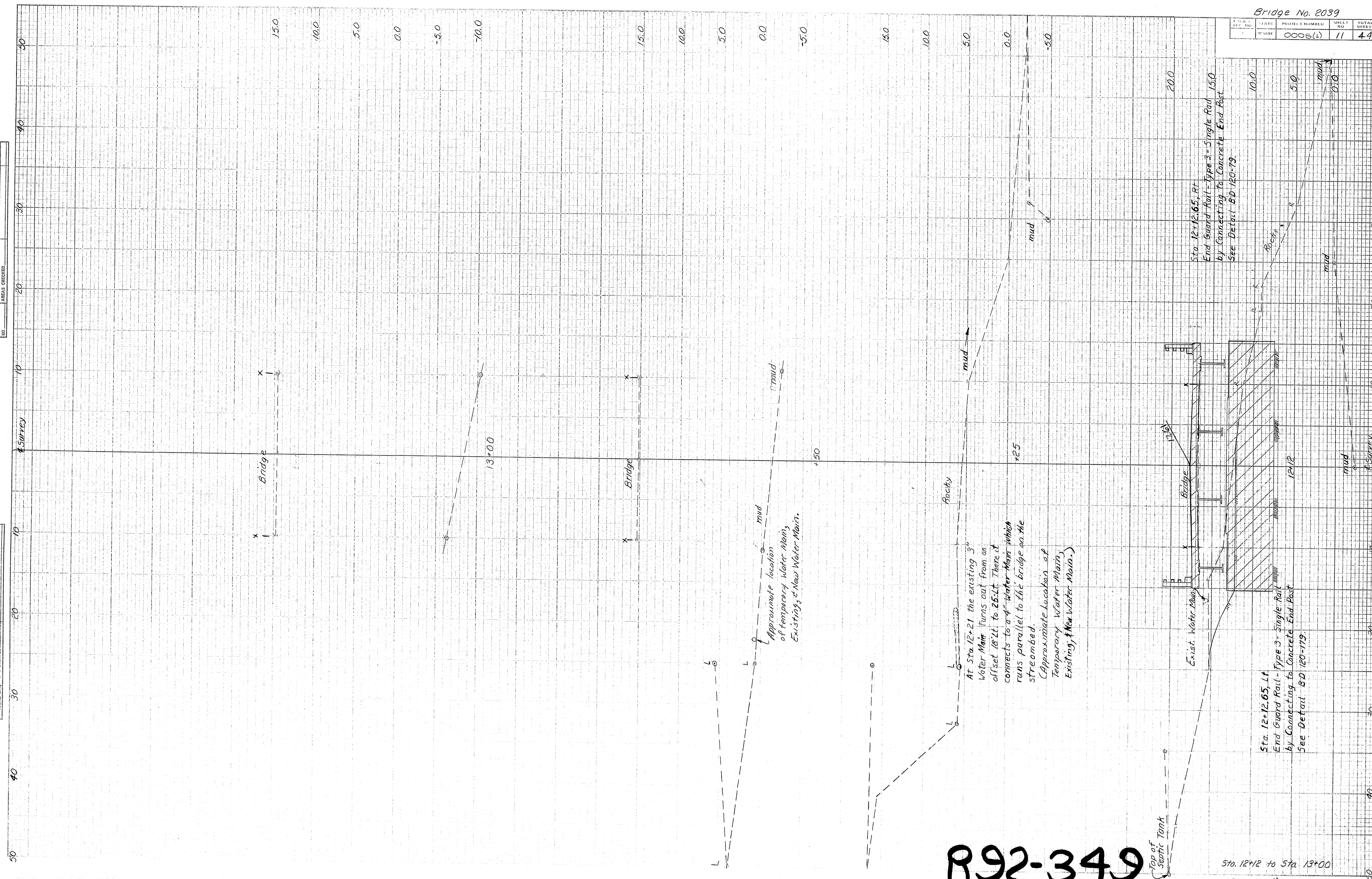


R92-348

Sta. 11+40 to Sta. 12+00
Sheet 10 of 44

ORIGINAL SURVEY	DATE	BY
DATE	12/12/65	RSB
REVISION		
NO.	8462	

FINAL SURVEY	DATE	BY
DATE		
REVISION		
NO.		

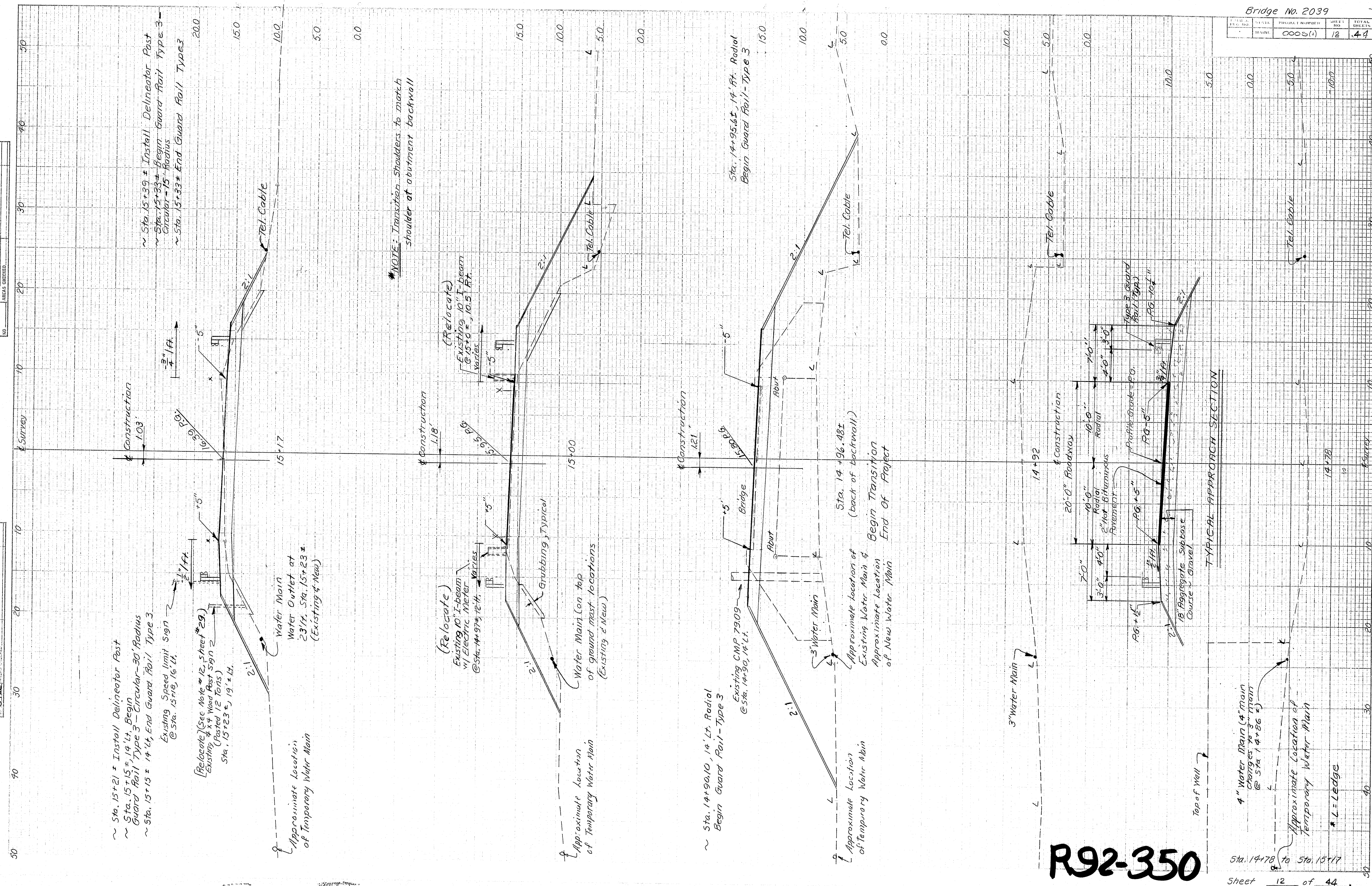


R92-349

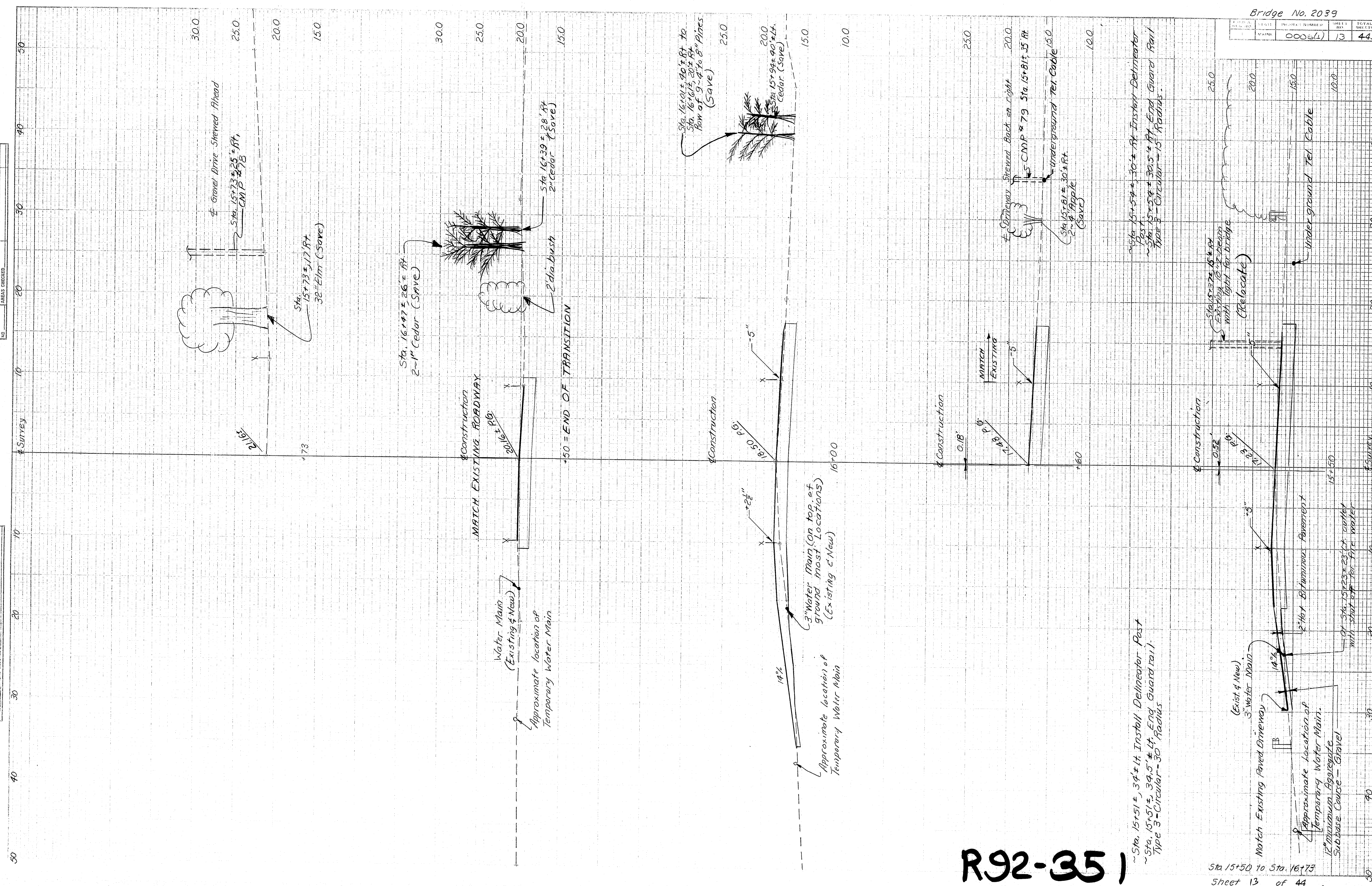
Bridge No. 2039			
DATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
12/12/65	0005(L)	11	44

Sta. 12+12 to Sta. 13+00
Sheet 11 of 44

FINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
	TEMPLATE		
	AREAS		
NOTE BOOK	AREAS CHECKED		



FINAL SURVEY NOTE BOOK		BY	DATE
	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		

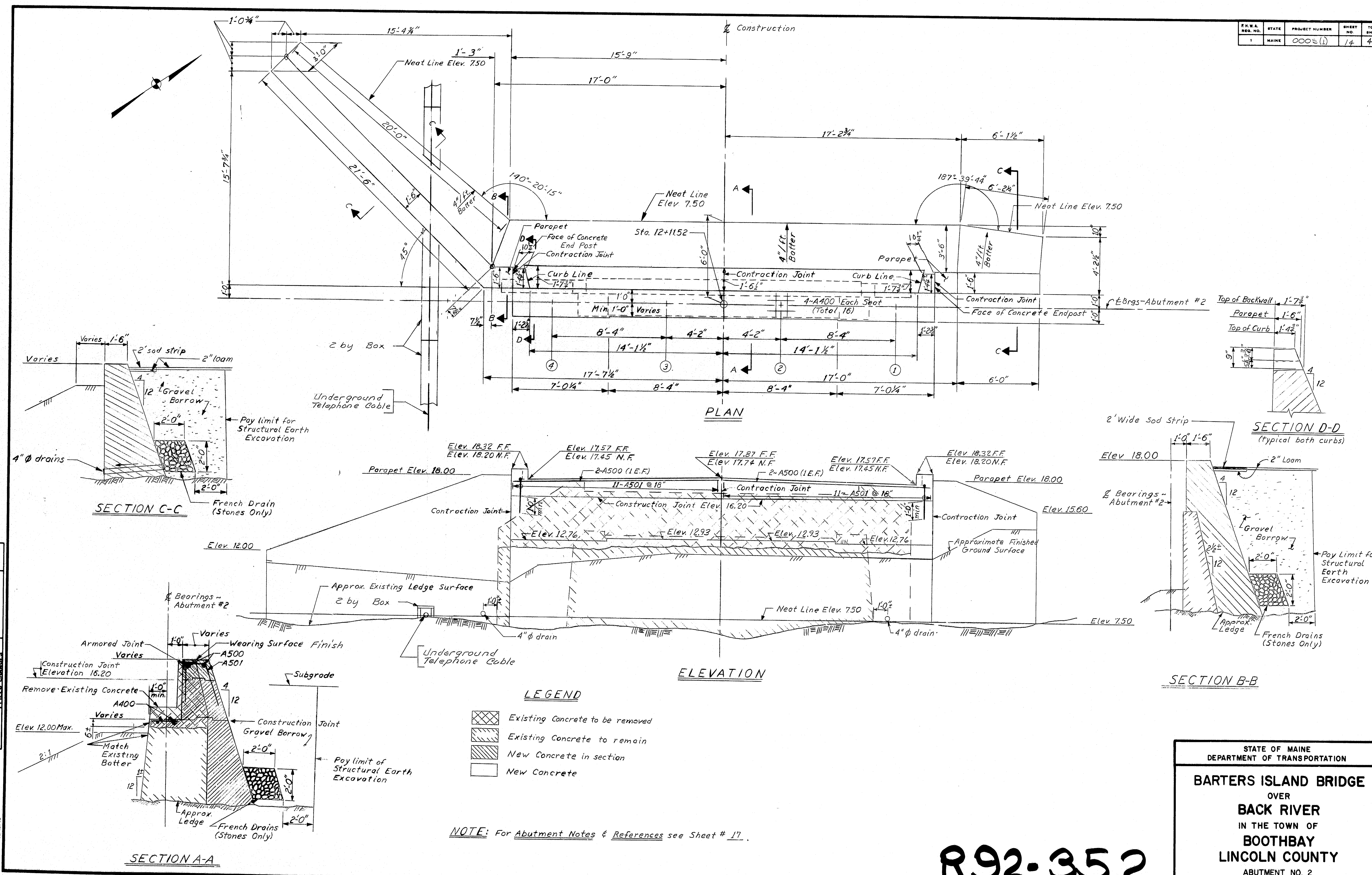


R92-351

~Sta. 15+51±, 34'± Lt. Install Delineator Post
~Sta. 15+51±, 34.5'± Lt. End Guard rail.
Type 3-Circular-30 Radius

Sta 15+50 to Sta. 16+73
Sheet 13 of 44

F.R.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005 (1)	14	44

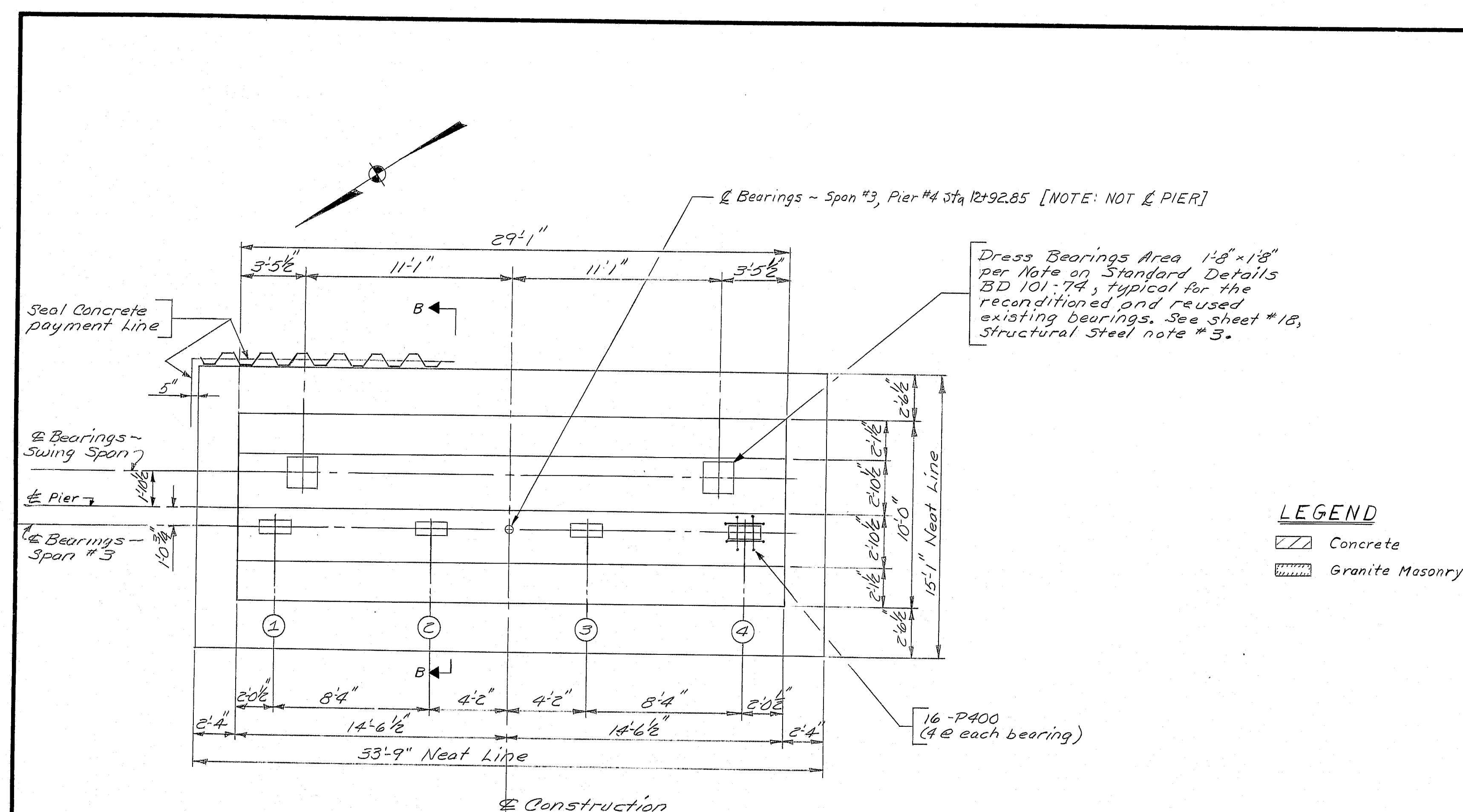


PROJECT DESIGN ENGINEER	DATE
COH	10-80
DESIGN - DETAIL	6-81
CHECKED	
REVISIONS	
FIELD CHANGES	

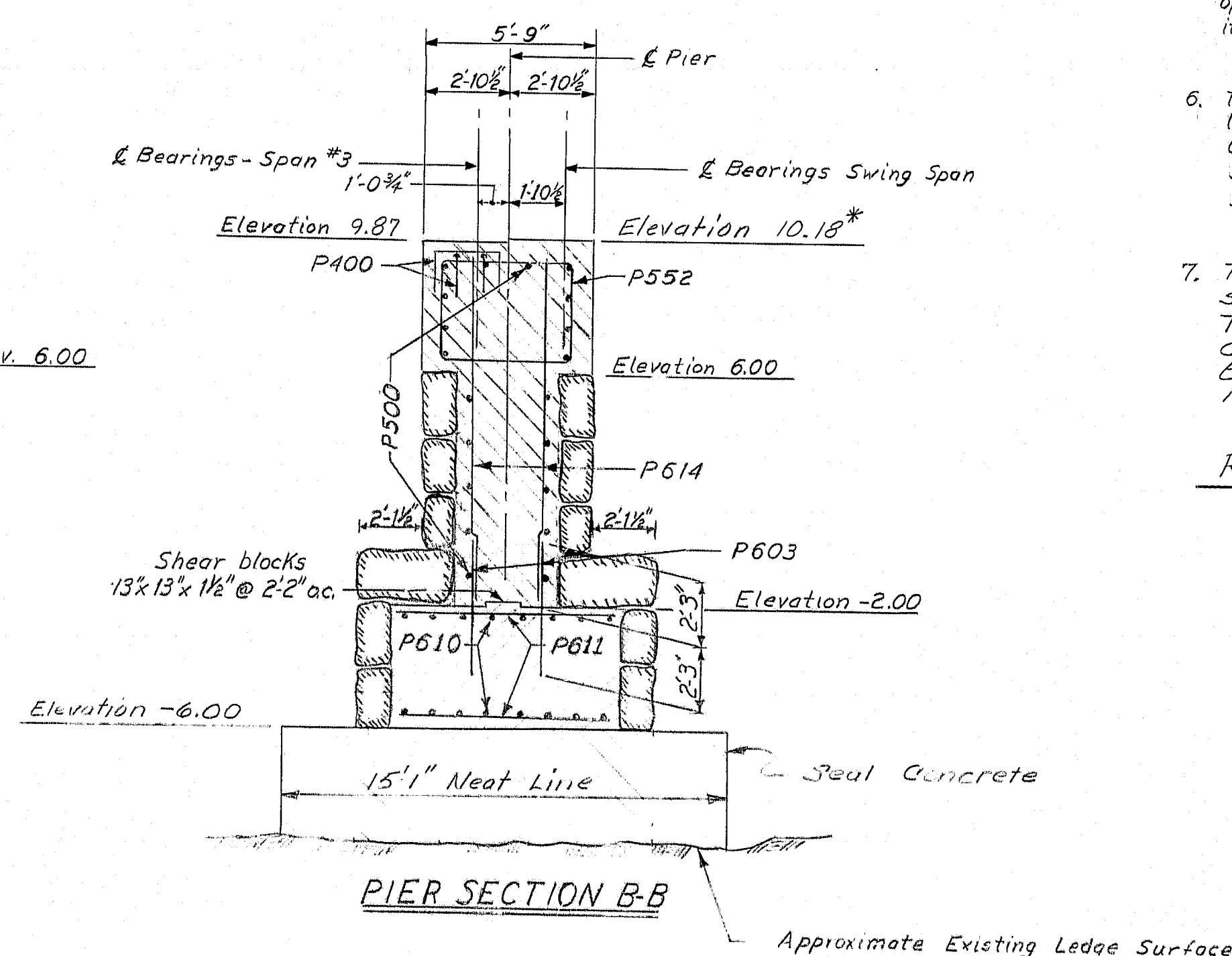
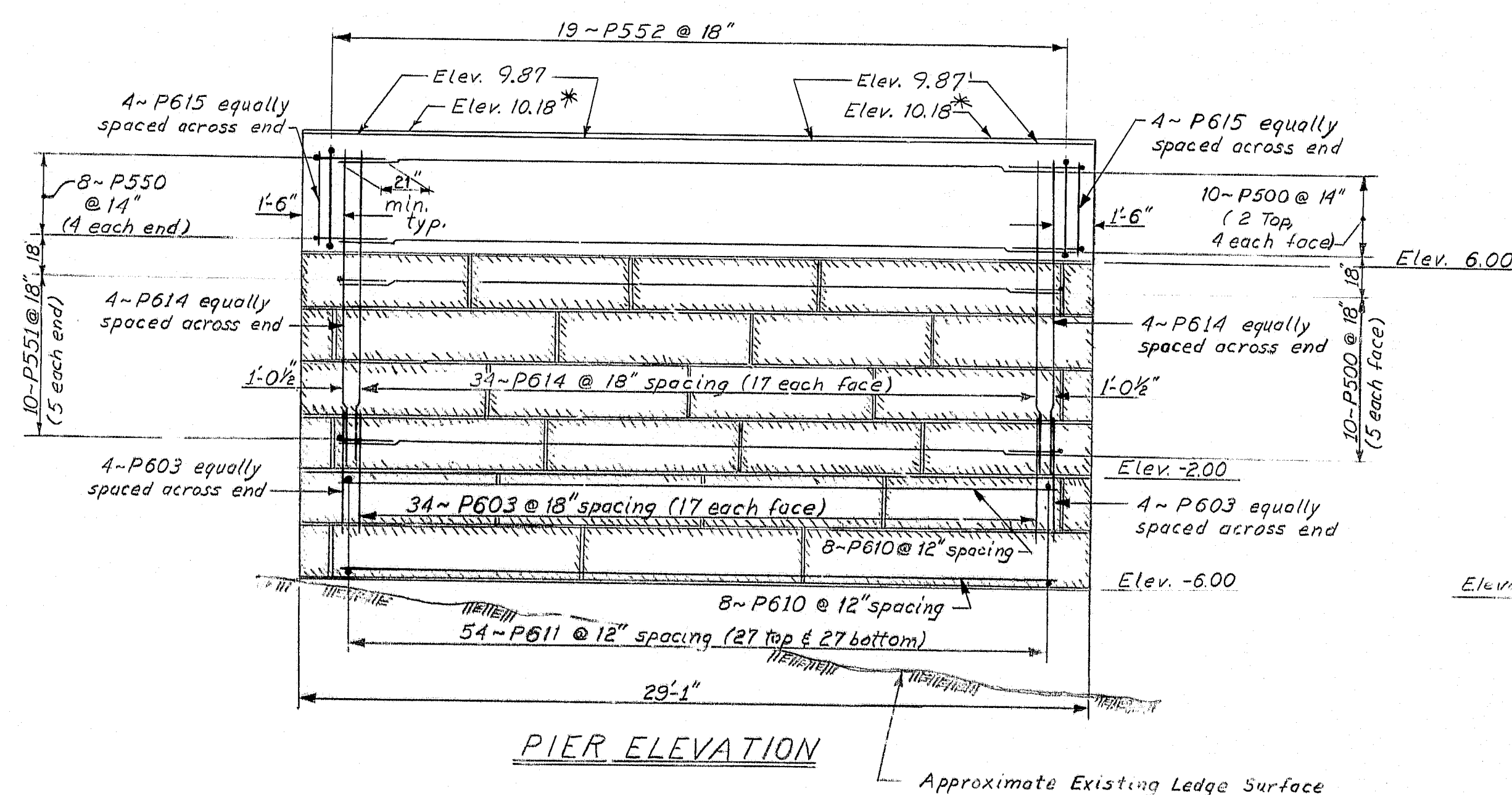
R92-352

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BARTERS ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
ABUTMENT NO. 2
SHEET 14 OF 44 AUGUSTA, MAINE June 1981

F.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0008(4)	15	44



PIER PLAN



PIER NOTES- PIER #4

- Pier Notes 1 thru 6, 8 and 9 of Pier No. 2 apply here also.
- Design Criteria of Pier #2 apply here also.
- Granite Masonry - Joint Details of Pier #2 apply here also.
- Structural Earth Excavation, Piers required below elevation -10.0 will be paid for at 1 1/2 times the contract unit price for Item 206.10
- After the pier ledge foundation is exposed, by the Contractor, the Engineer will designate the limits to which the ledge is to be removed. After the ledge is removed the Contractor shall allow time for the Engineer to evaluate the foundation. The Contractor shall schedule the construction work to allow for this foundation evaluation and any cost of delay of the Contractor's operation due to the evaluations will be considered incidental to contract items.
- The ledge foundation under the pier shall be constructed approximately level along Construction and may be stepped at right angles to the Construction. In all cases the ledge shall be removed down to ledge that will support the maximum calculated footing pressure and the ledge surface shall be roughened.
- The depth of seal concrete is not sufficient to keep any steel sheeting cofferdam stable under normal tidalwater conditions. The Contractor shall devise a method of placing the seal concrete and have his procedure approved by the Engineer before proceeding with it. Payment will be incidental to the cofferdam item.

REFERENCES

Pier No. 2 references apply here also.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BARTERS ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY

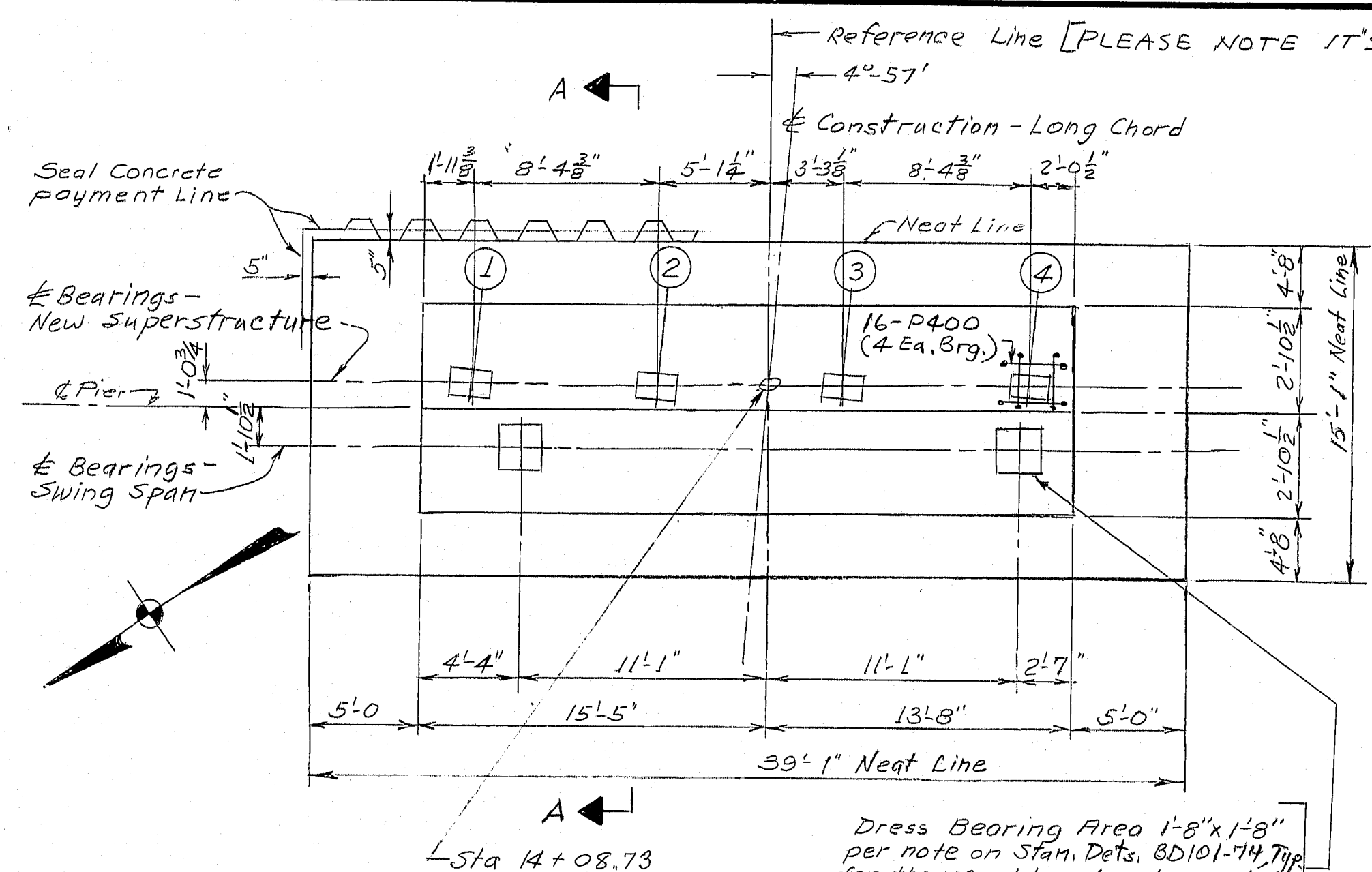
PIER NO. 4

R92-353

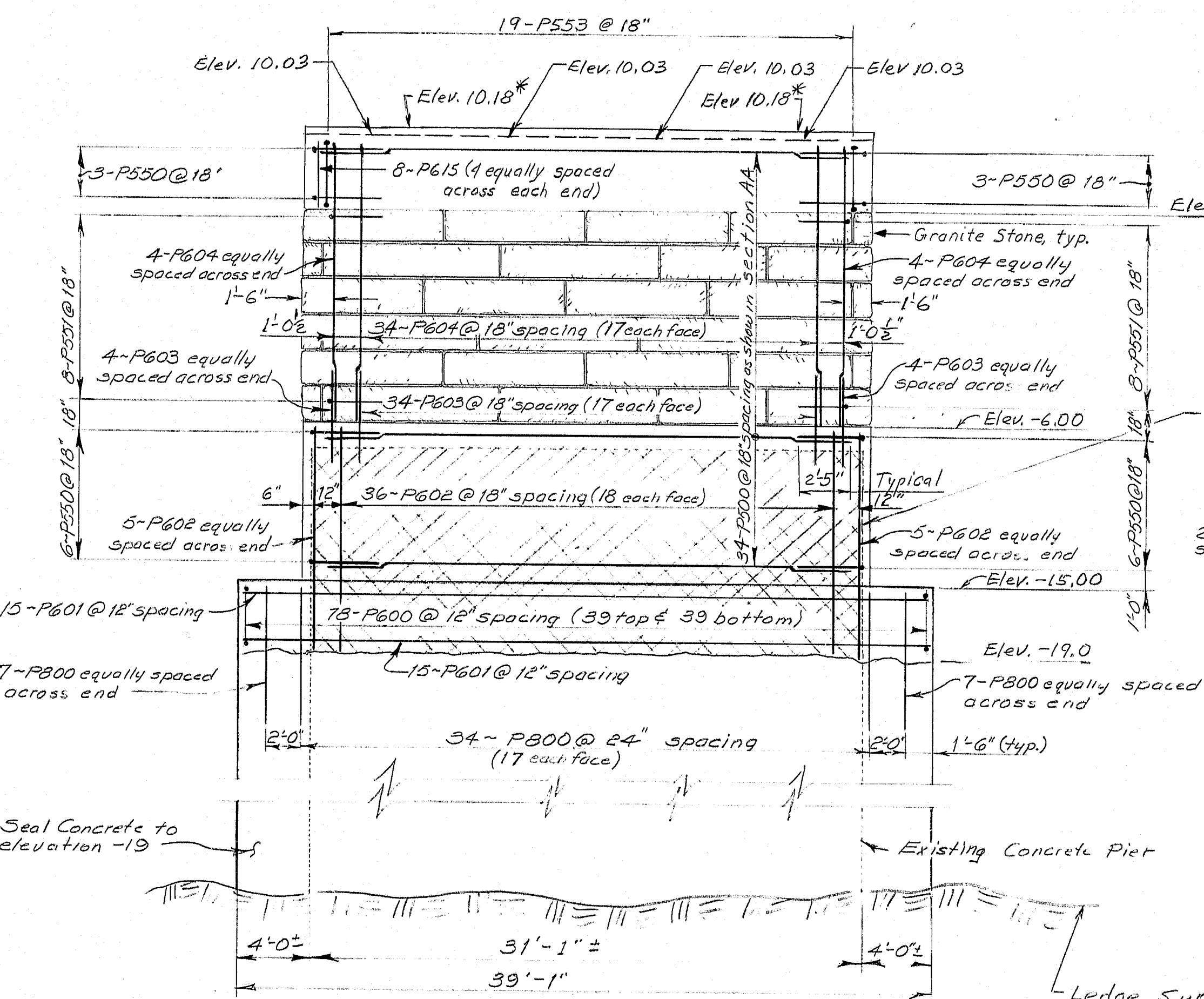
SHEET 15 OF 44 AUGUSTA, MAINE June 1981

* See note #11 sheet #16.

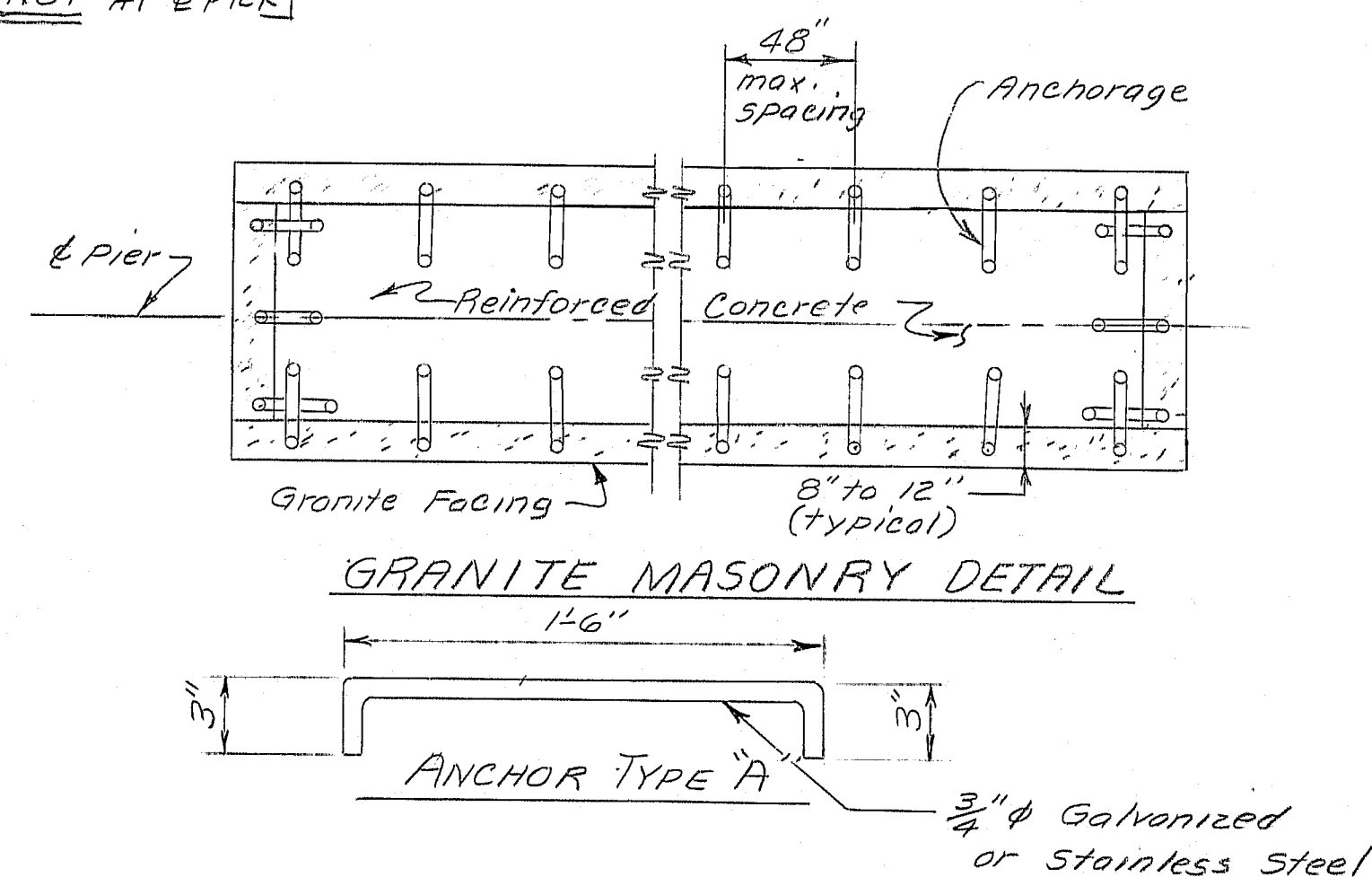
F.R.N.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	000S(L)	16	44



PIER PLAN

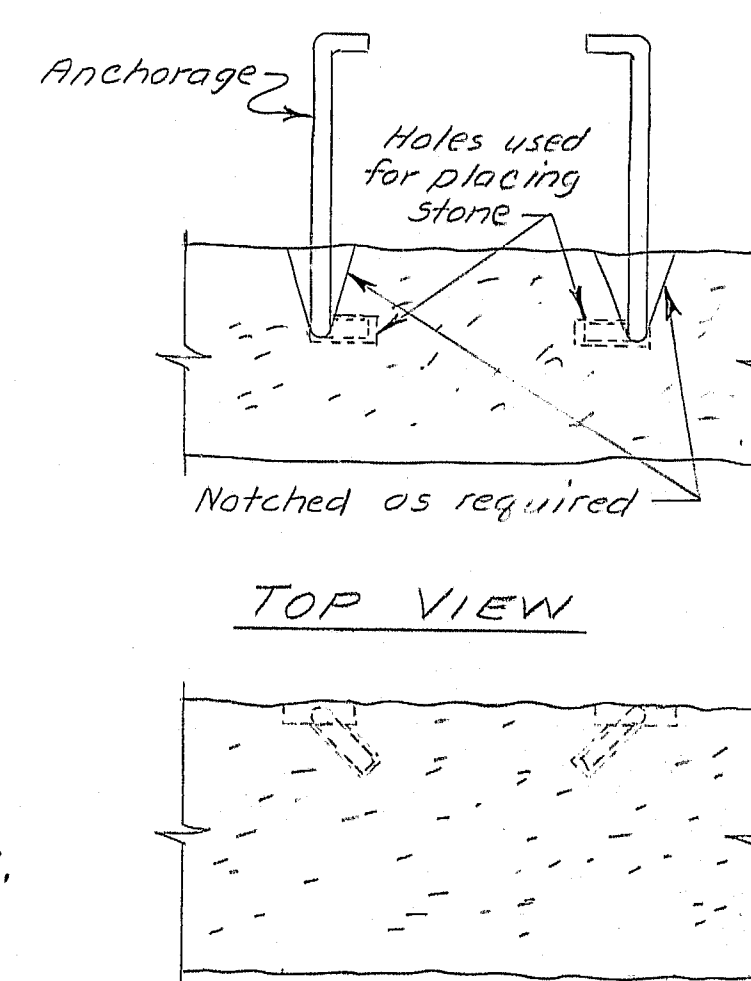


PIER ELEVATION



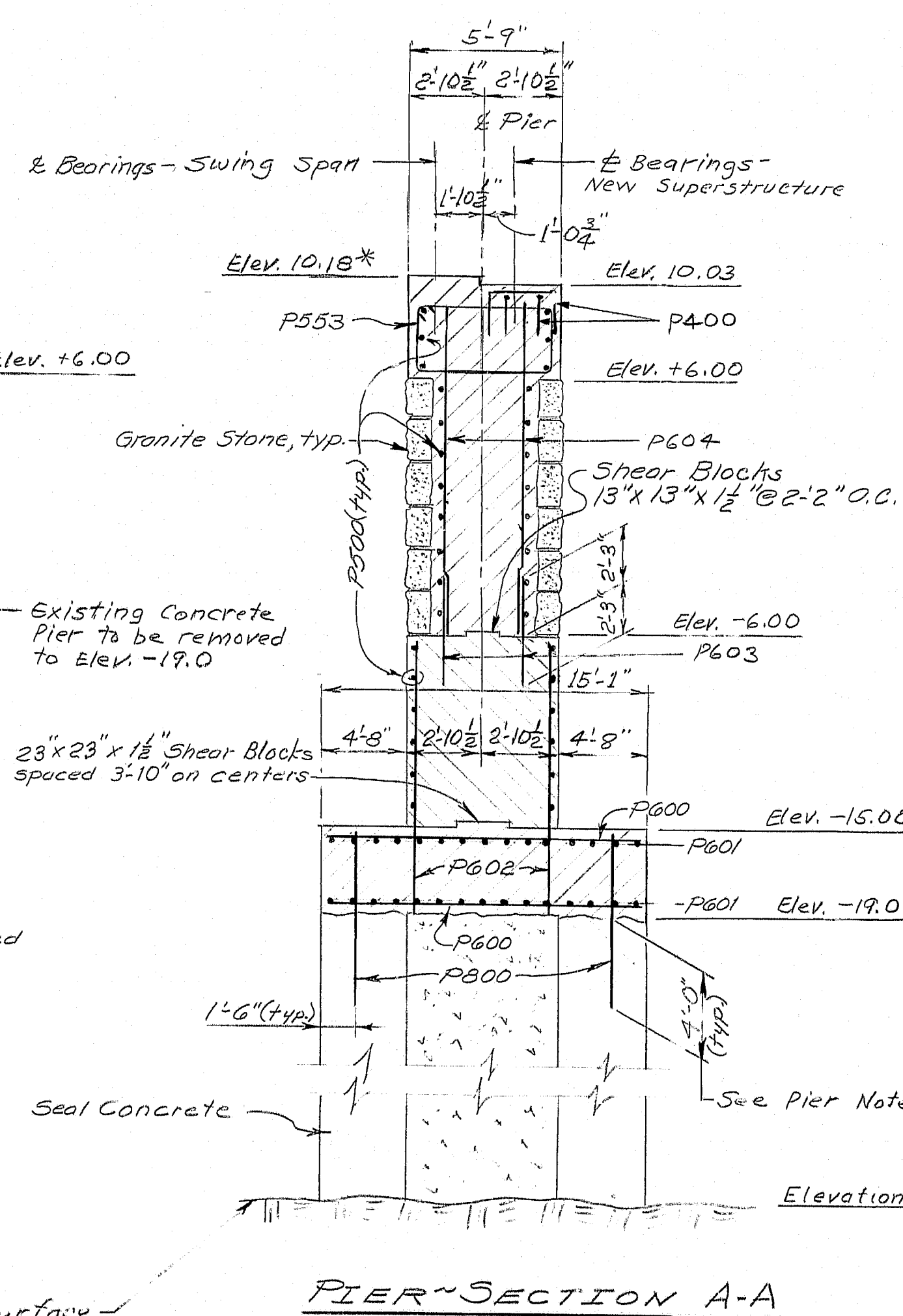
GRANITE MASONRY DETAIL

ANCHOR TYPE 'A'

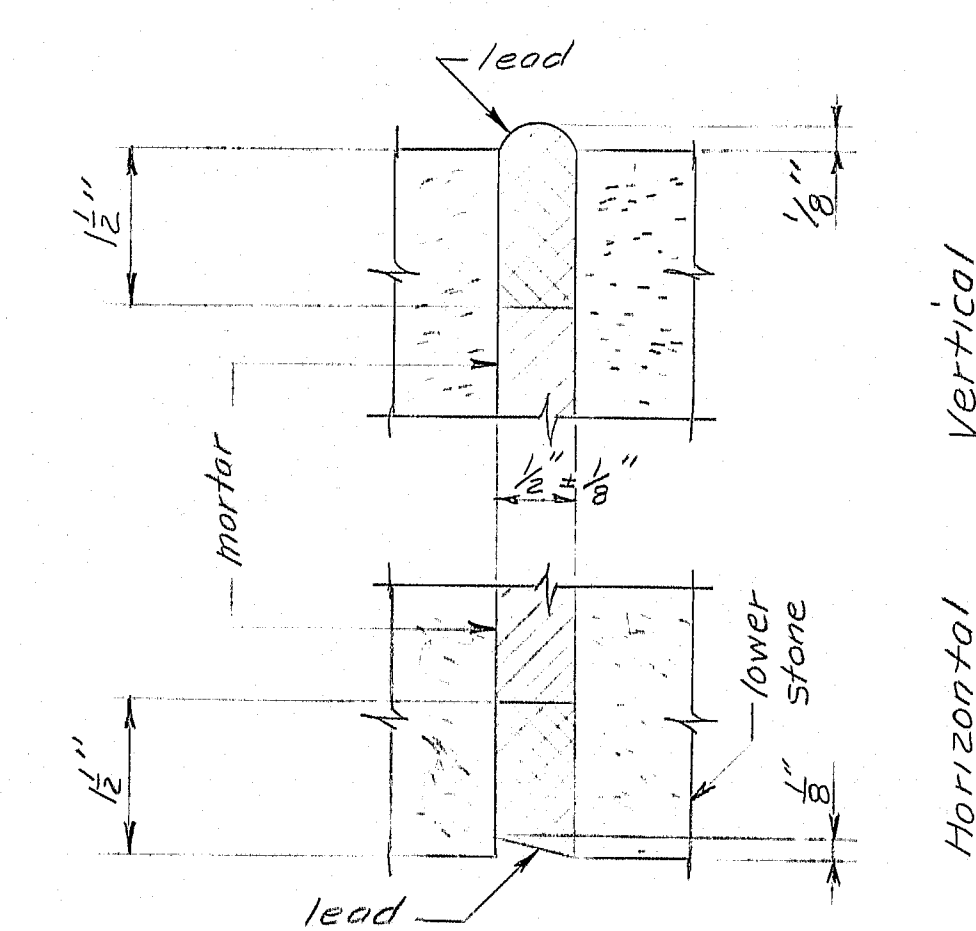


TOP VIEW

FRONT VIEW



PIER SECTION A-A



LEAD JOINT DETAIL

LEGEND

- New Concrete
- Existing Concrete to be removed
- Existing Concrete to remain
- New Granite Masonry

PIER NOTES

1. Chamfer all exposed edges of concrete, a consistent dimension between $\frac{1}{4}$ " and $\frac{3}{8}$ " inclusive unless otherwise indicated.
2. Reinforcing steel shall have 4" minimum cover unless otherwise indicated.
3. Place reinforcing steel at top of pier to clear anchor bolts.
4. The method of placing dowels in the concrete seal shall be approved by the Engineer.
5. Maximum calculated footing pressure = 4,363.1 Tons per square foot for pier No. 2 & No. 4 respectively.
6. Seal concrete dimensions are predicated on the use of standard sheet pile section PD 427 or equivalent steel sheet piling, using appropriate standard rolled corners. For dimensions for seal concrete shall be to the neat lines shown plus 5 inches all around.
7. The depth of the seal is set for a high tide elevation of +6.0. If the high tide elevation at the time of construction is higher, the depth of the seal should be adjusted.
8. Provide a minimum of (2) anchors per stone in Granite Masonry on Top. Payment for anchorage will be considered incidental to Item 525.06. Adjust granite masonry anchors to clear reinforcing steel where necessary. Other types of granite masonry anchorage may be used with prior approval of the Engineer.
9. Intermediate concrete construction joints shall be at least 6" from horizontal granite joints and 13' x 13' x 1/2" shear blocks 2-2 on centers shall be provided.
10. Construction - Long Chord and beam lines (1) thru (4) are parallel.

DESIGN CRITERIA

- Critical AASHTO Loading - Group IX.
- Buoyancy - Water level assumed at Elevation +4.5.
- Stream flow - Velocity of 1.0 feet per second. Skewed at 10° to longitudinal centerline of pier.
- Wind - 100 mph.
- Ice - 6" thick, producing 400 psi. Ice pressure skewed at 10° to longitudinal centerline of pier, with water level at Elevation +4.5.
- Ice transverse force = $4 \times 7 \times 12 \times 6 = 201.6^k$.
- Ice longitudinal force = $201.6^k \times \tan 10^\circ = 35.5^k$.
- Safety factor against overturning > 1.75.

REFERENCES

1. For Bearing Pedestals, see BD101-74.
2. For Reinforcing Schedule see sheet 27.

BRIDGE # 2039

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BARTERS ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY

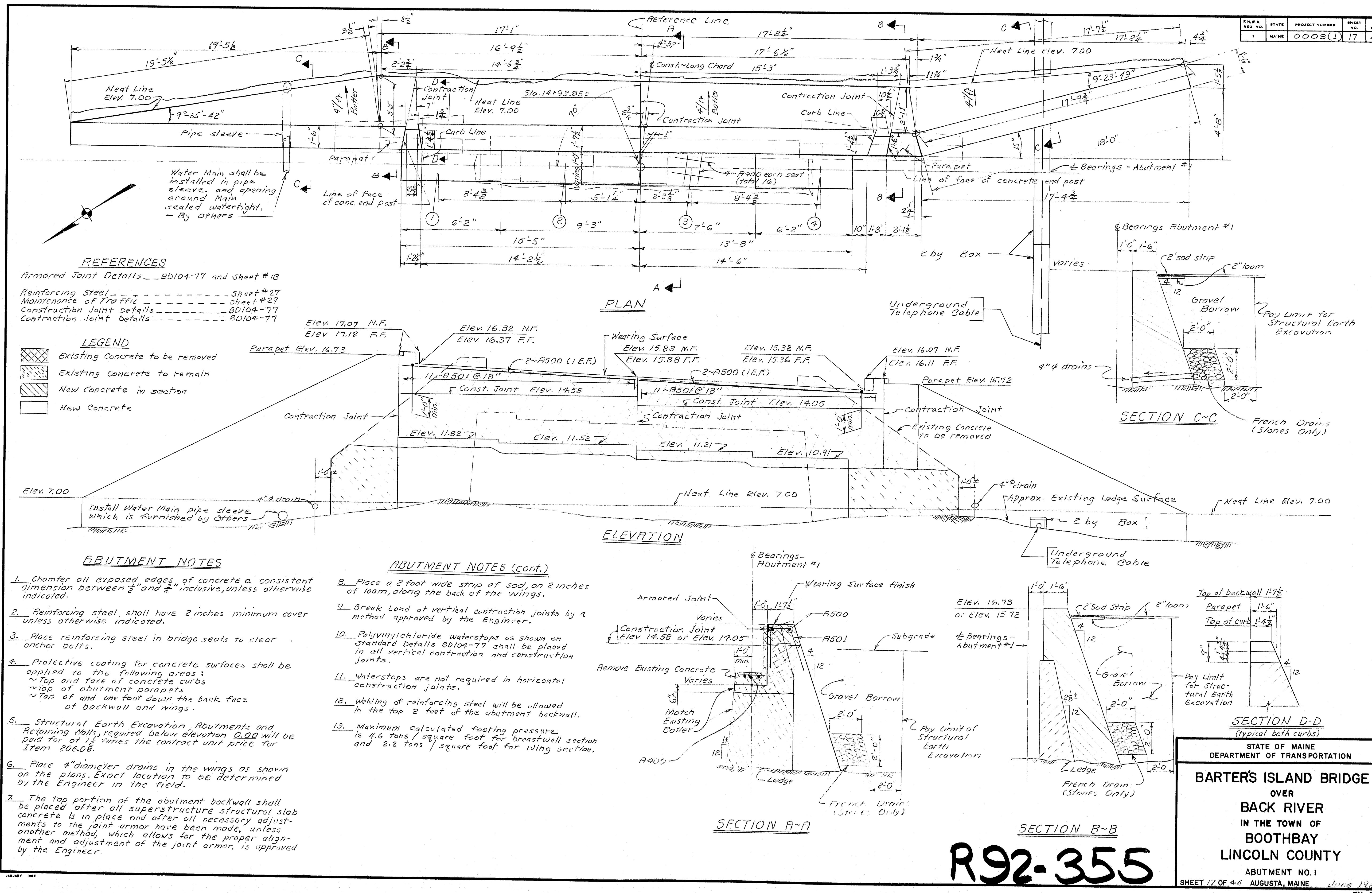
PIER NO. 2

SHEET 16 OF 44 AUGUSTA, MAINE

June 1951

R92-354

F.R.N.A. SHEET NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(1)	17	44



REFERENCES
 Armored Joint Details - BD104-77 and Sheet #18
 Reinforcing Steel - Sheet #27
 Maintenance of Traffic - Sheet #29
 Construction Joint Details - BD104-77
 Contraction Joint Details - BD104-77

LEGEND

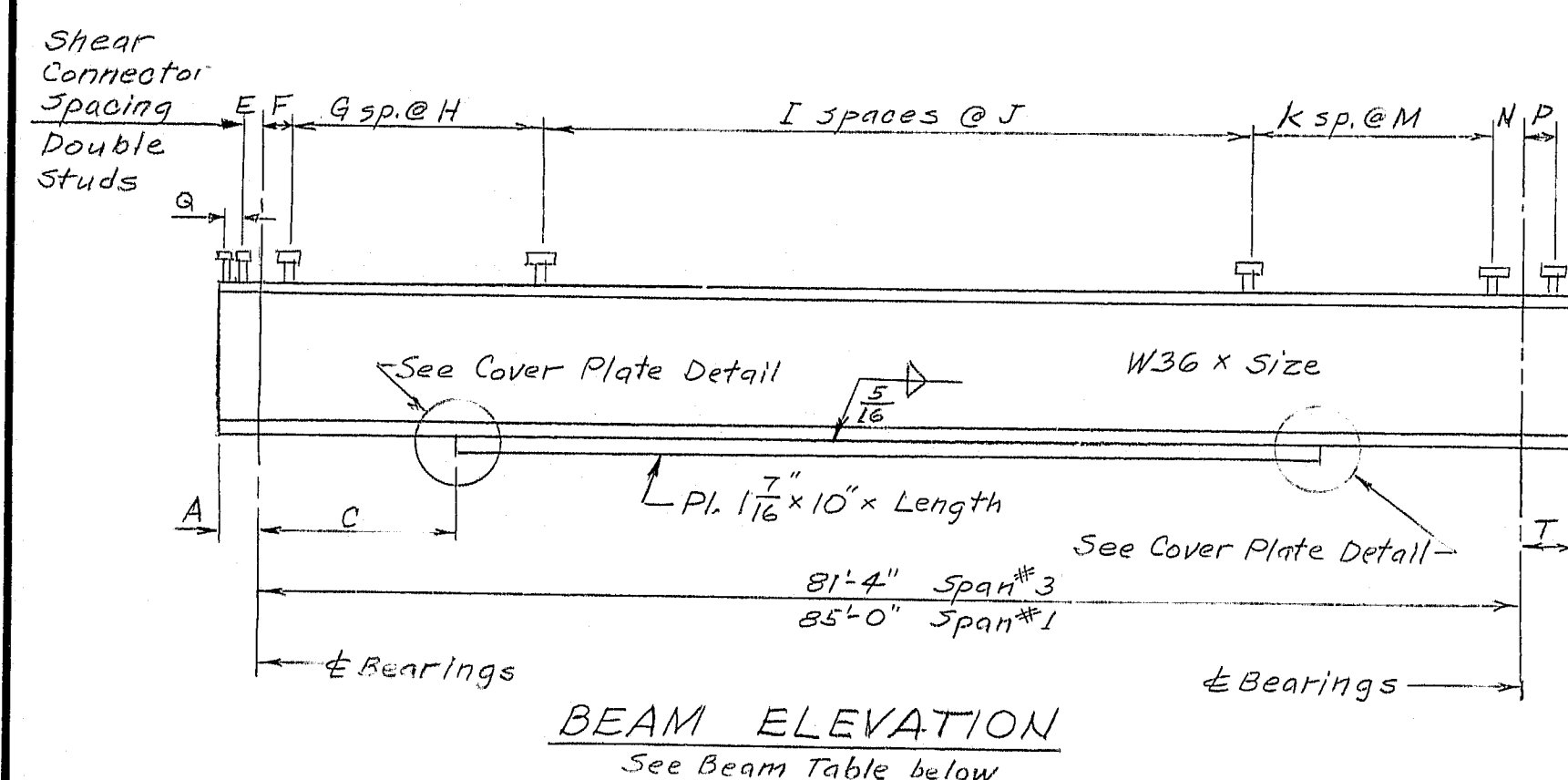
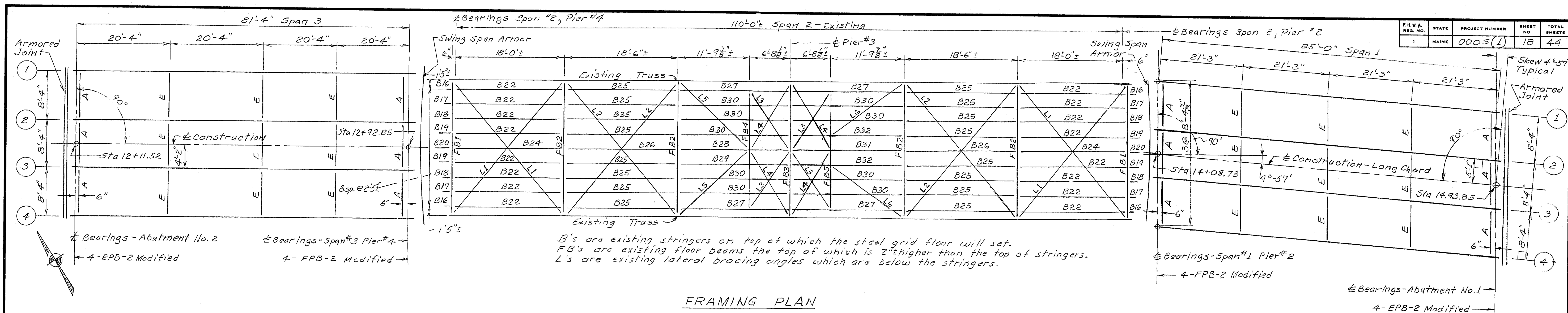
	Existing Concrete to be removed
	Existing Concrete to remain
	New Concrete in section
	New Concrete

- ABUTMENT NOTES**
- Chamfer all exposed edges of concrete a consistent dimension between $\frac{1}{2}$ " and $\frac{3}{4}$ " inclusive, unless otherwise indicated.
 - Reinforcing steel shall have 2 inches minimum cover unless otherwise indicated.
 - Place reinforcing steel in bridge seats to clear anchor bolts.
 - Protective coating for concrete surfaces shall be applied to the following areas:
 ~Top and face of concrete curbs
 ~Top of abutment parapets
 ~Top of and one foot down the back face of backwall and wings.
 - Structural Earth Excavation, Abutments and Retaining Walls, required below elevation 0.00 will be paid for at 1 1/2 times the contract unit price for Item 206.08.
 - Place 4" diameter drains in the wings as shown on the plans. Exact location to be determined by the Engineer in the field.
 - The top portion of the abutment backwall shall be placed after all superstructure structural slab concrete is in place and after all necessary adjustments to the joint armor have been made, unless another method, which allows for the proper alignment and adjustment of the joint armor, is approved by the Engineer.

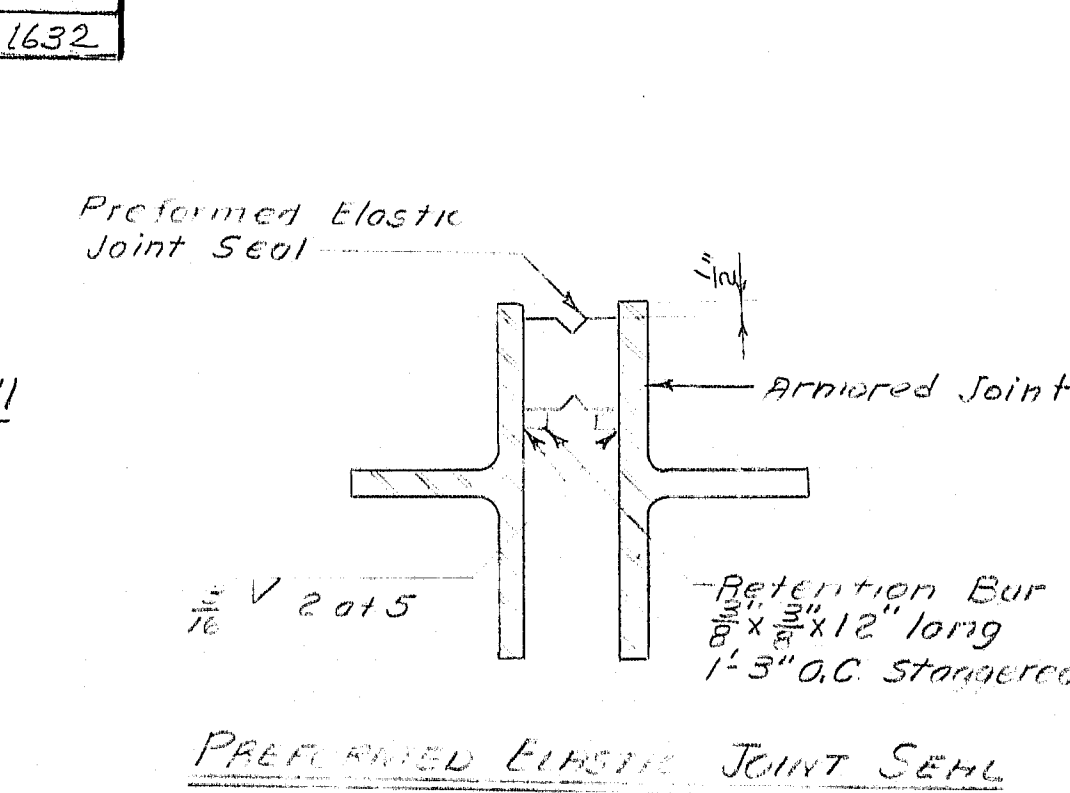
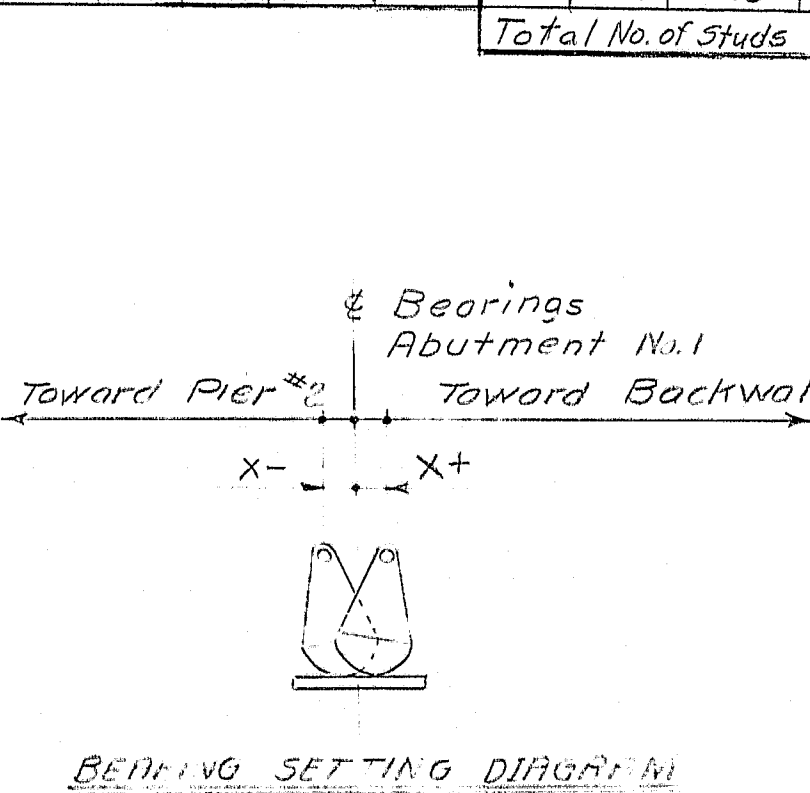
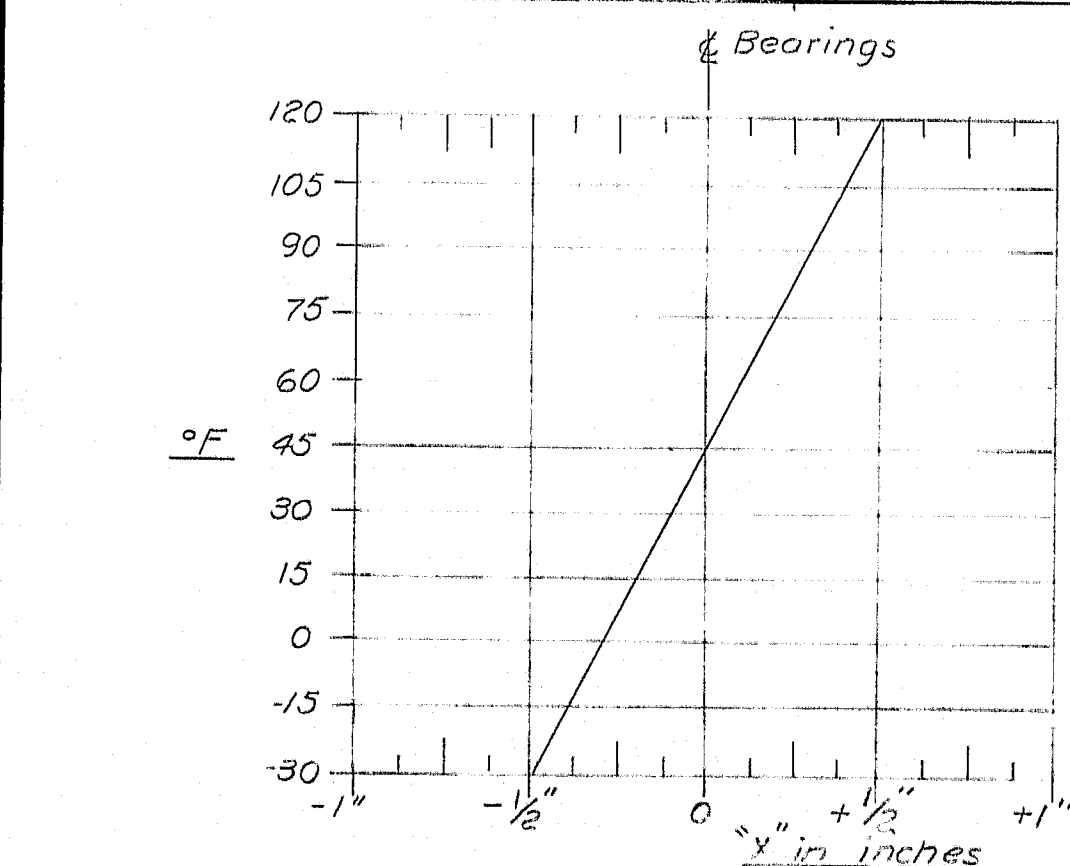
- ABUTMENT NOTES (cont.)**
- Place a 2 foot wide strip of sod, on 2 inches of loam, along the back of the wings.
 - Break bond at vertical contraction joints by a method approved by the Engineer.
 - Polyvinylchloride waterstops as shown on standard details BD104-77 shall be placed in all vertical contraction and construction joints.
 - Waterstops are not required in horizontal construction joints.
 - Welding of reinforcing steel will be allowed in the top 2 feet of the abutment backwall.
 - Maximum calculated footing pressure is 4.6 tons / square foot for breastwall section and 2.2 tons / square foot for wing section.

R92-355

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
BARTER'S ISLAND BRIDGE
 OVER
BACK RIVER
 IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
 ABUTMENT NO. 1
 SHEET 17 OF 44 AUGUSTA, MAINE June 1960



BEAM TABLE																				
SPAN No.	BEAM No.	Size	Cover Plate		End of Beam		Shear Connectors													No. of Studs
			Length	C	A	T	Q	E	F	G	H	I	J	K	M	N	P			
3	1	135	59'-8"	10'-10"	6"	1'-8"	0"	0"	2"	18	9"	54	12"	18	9"	2"	7"	184		
3	2	135	59'-8"	10'-10"	6"	1'-8"	0"	0"	2"	18	9"	54	12"	18	9"	2"	0"	182		
3	3	135	59'-8"	10'-10"	6"	1'-8"	0"	0"	2"	18	9"	54	12"	18	9"	2"	0"	182		
3	4	135	59'-8"	10'-10"	6"	1'-8"	0"	0"	2"	18	9"	54	12"	18	9"	2"	0"	182		
1	1	182	63'-8"	10'-8"	1'-6"	6"	0"	3 1/2"	4 1/2"	20	8"	64	10"	20	8"	5 1/2"	2 1/2"	224		
1	2	182	63'-8"	10'-8"	6"	6"	0"	3 1/2"	4 1/2"	20	8"	64	10"	20	8"	5 1/2"	2 1/2"	224		
1	3	182	63'-8"	10'-8"	6"	6"	0"	3 1/2"	4 1/2"	20	8"	64	10"	20	8"	5 1/2"	2 1/2"	224		
1	4	182	63'-8"	10'-8"	1'-6"	6"	0"	3 1/2"	4 1/2"	20	8"	64	10"	20	8"	5 1/2"	2 1/2"	226		
Total No. of Studs																		1632		
# Bearings																				



SEAL & ARMORED JOINT NOTES

- The seal to be furnished shall have a minimum Movement Rating of P: Abutment #1 ~ 1/8". The seal shall extend to 2 inches beyond face of concrete end posts.
- The joint opening will vary depending on the dimensions of the seal selected by the contractor. The joint opening shall be set according to the opening shown on the approved Armored Joint shop detail drawings.
- The seal shall be approved by the Engineer prior to fabrication of the armored joint.
- The Armored Joint Adjustment Chart shows the adjustment of the joint opening to compensate for temperature only. It is anticipated that the joint will open zero inches @ Abutment #1 due to the placement of the Superstructure Concrete.
- The Armored Joint shall extend to within 2 inches of the face of concrete end posts.

STRUCTURAL STEEL NOTES

- For Span #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

BASIC ALLOWABLE STRESSES:

- Structural Steel ~
- ASTM A572 $F_y = 27,000$ psi
- ASTM A36 $F_y = 20,000$ psi
- ASTM A325 $F_y = 19,000$ psi

MATERIALS:

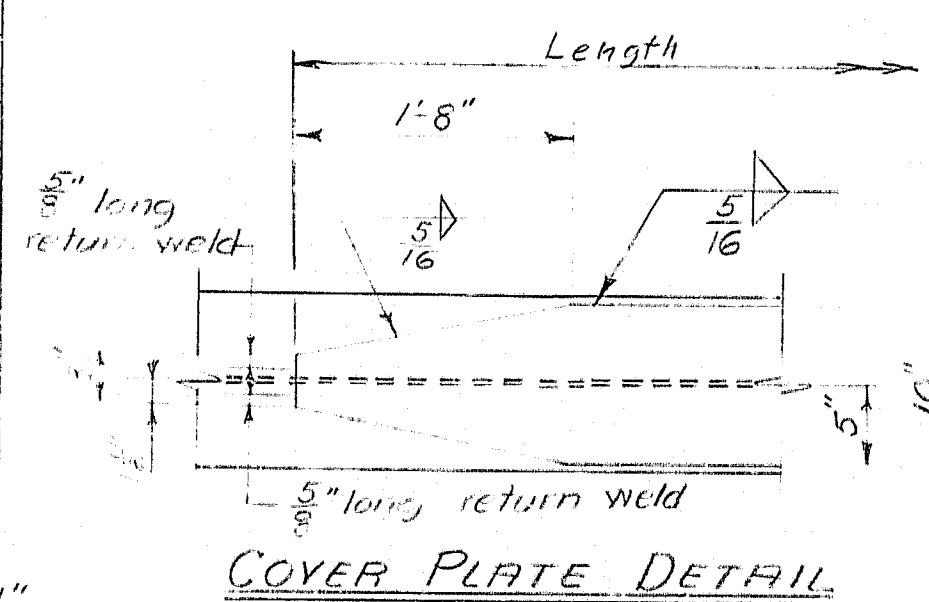
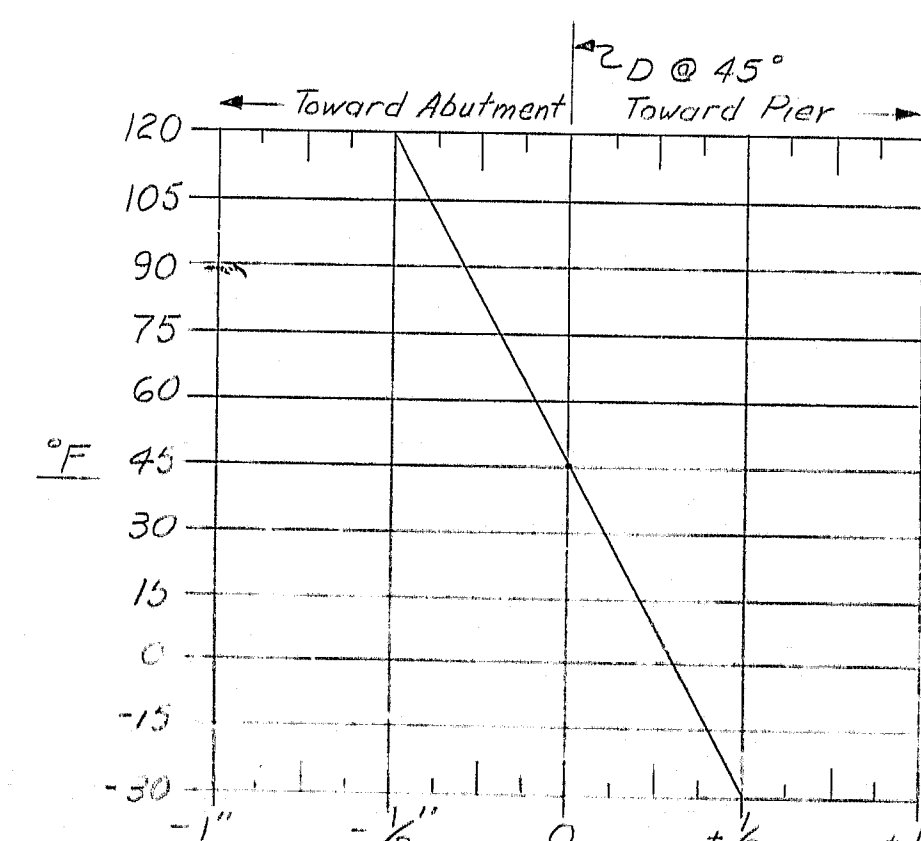
- Structural Steel ~
- Beams and Cover Plates ~
- Diaphragms, Bearings & Armored Joint ~
- All Other ~
- High Strength Bolts ~
- ASTM A572, Grade 50
- ASTM A36
- ASTM A36
- ASTM A325

MODIFIED BEARINGS

- Modify dimension C to equal D.
- Modify Anchor Bolts Length to 1'-7" (EPB) and 1'-6" (FPB).
- Modify Anchor Bolts concrete to nut dimension to equal 7" (EPB) and 5" (FPB).
- For each of the bearings provide bolt holes in the rocker plate of the same size and location as those in the bearing base plate.

REFERENCES

- For Bearing Pedestals ~
- For Armored Joint & Shear Connectors ~
- For Diaphragms & Cross Frames ~
- For Expansion Dam Details ~
- For Structural Steel Details ~
- BD101-74 ~
- BD104-77 ~
- BD113-78 ~
- BD105-74 ~
- Sheet 30
- Sheet 31
- Sheet 33
- Sheet 32
- Sheet 19



BRIDGE # 2039

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

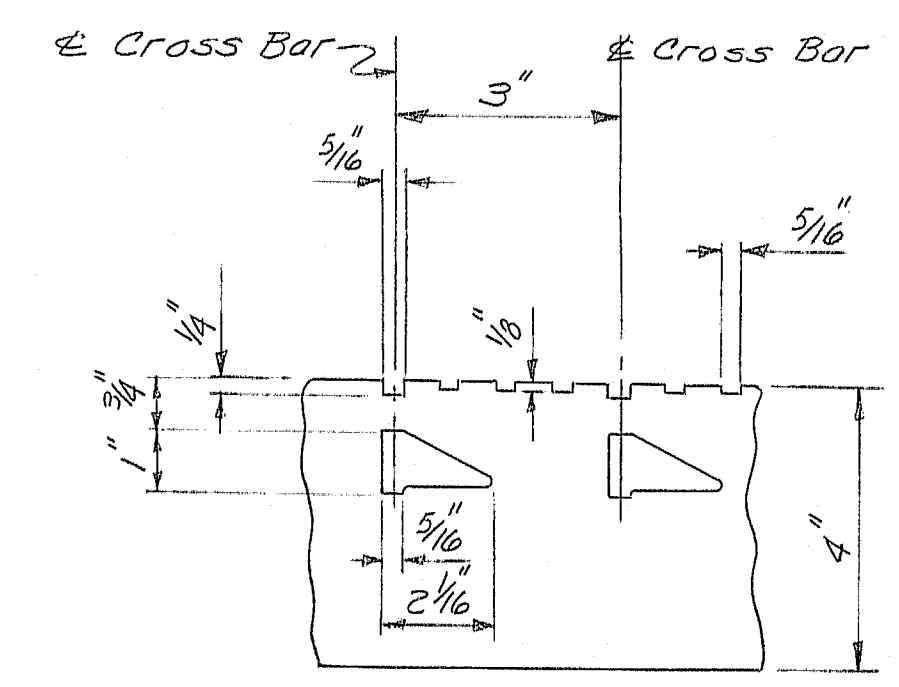
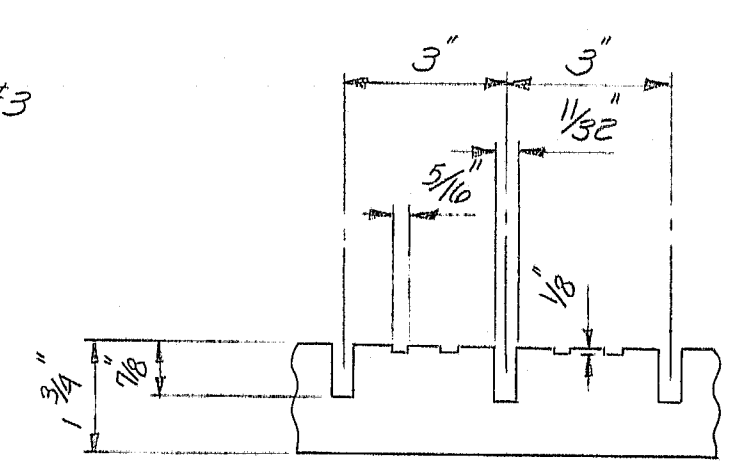
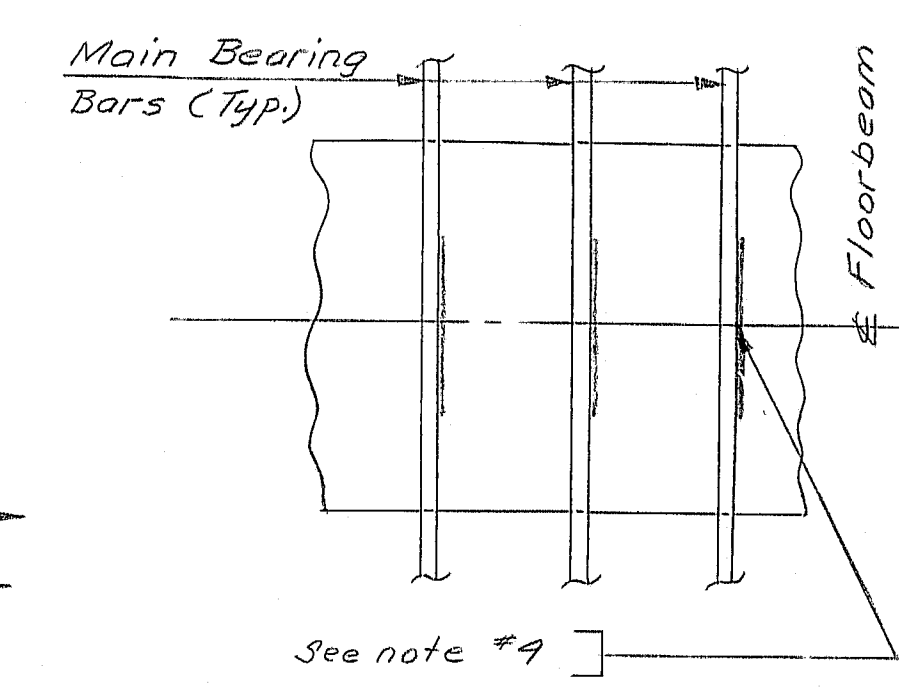
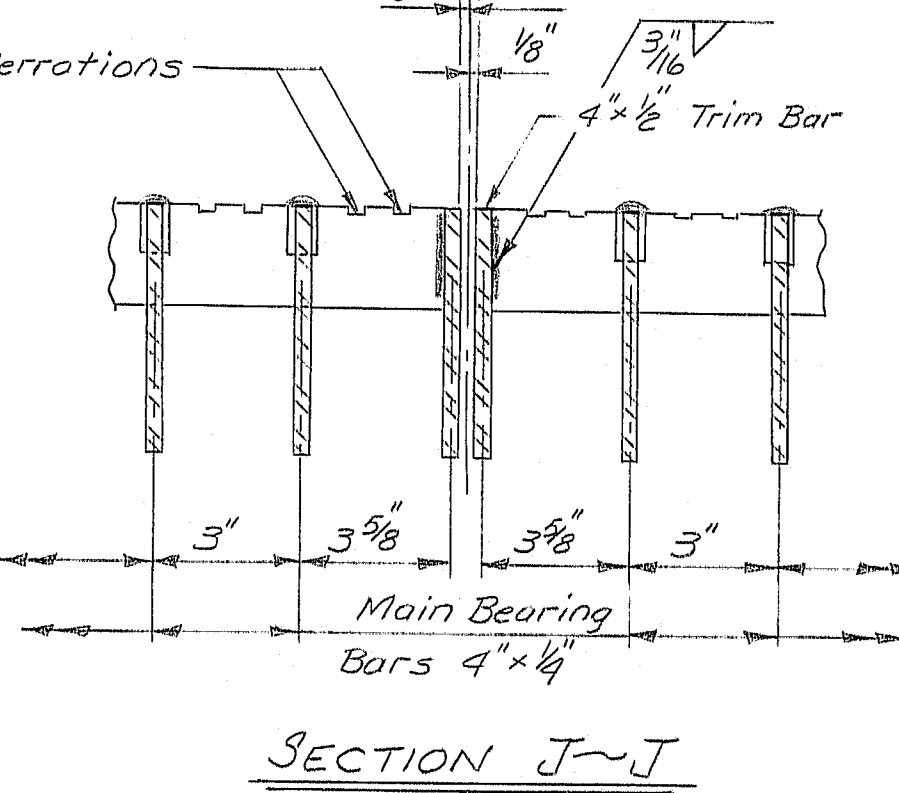
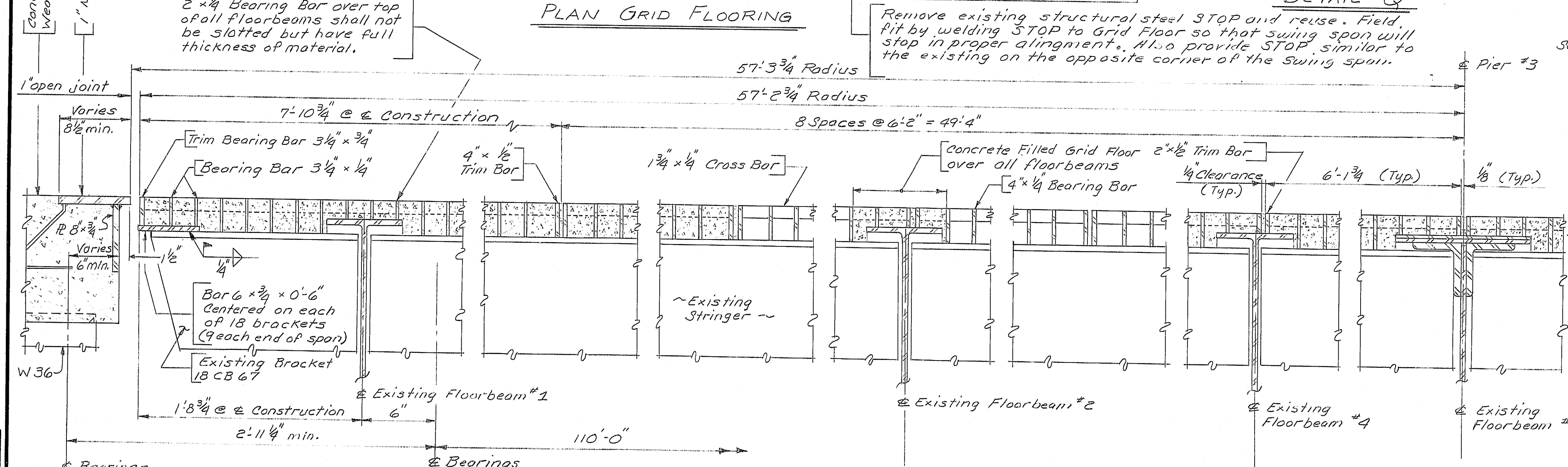
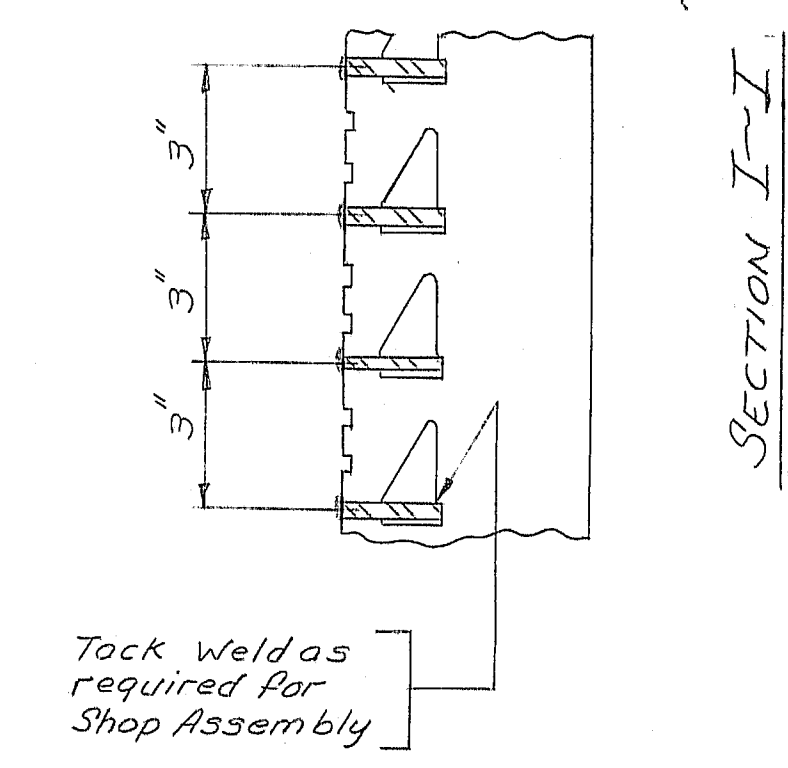
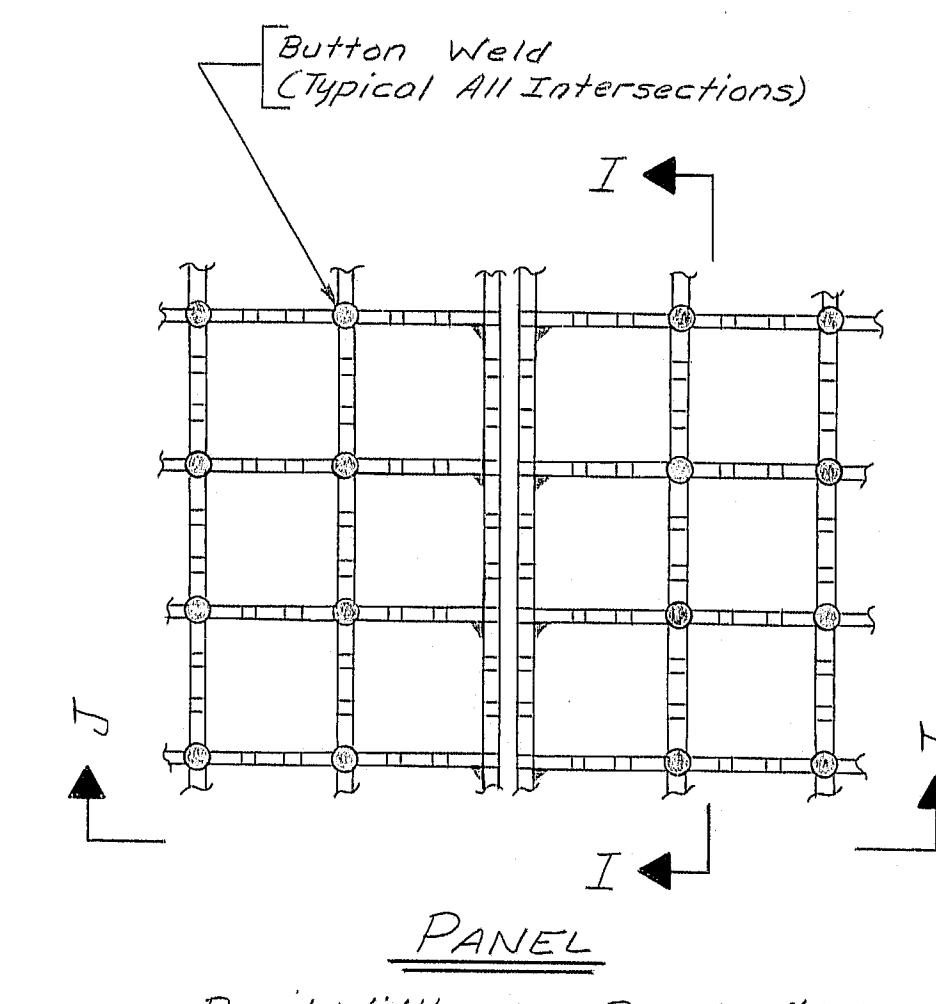
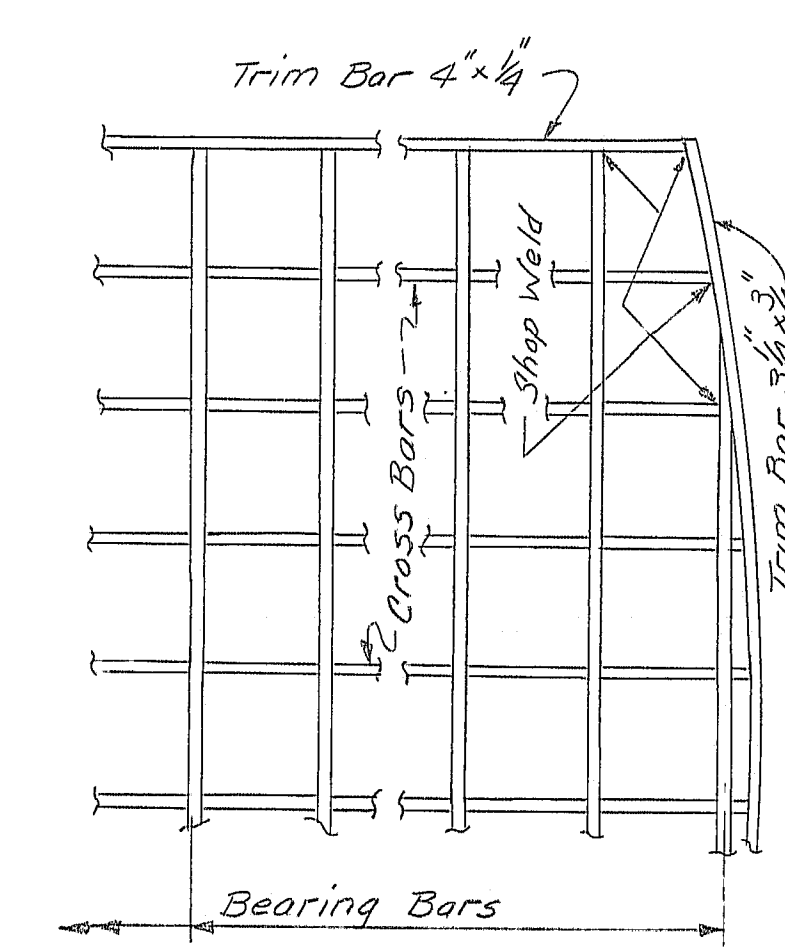
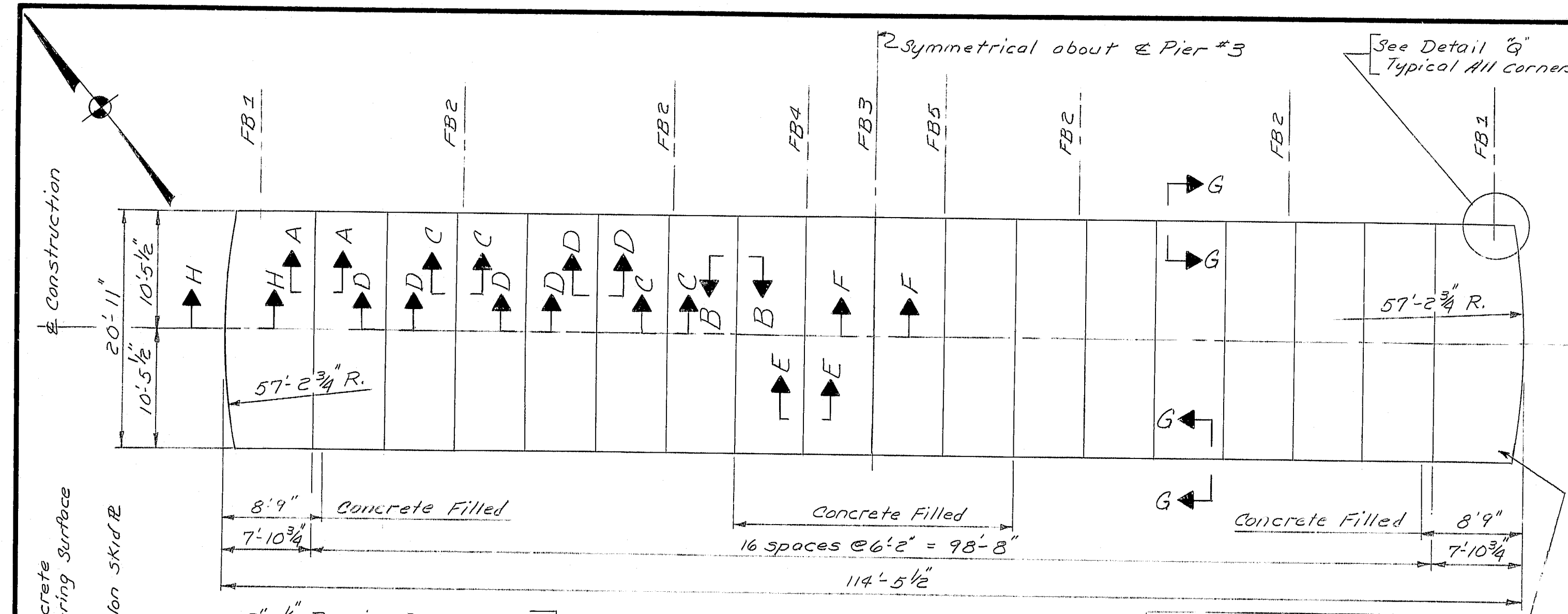
BARTER'S ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY

STRUCTURAL STEEL

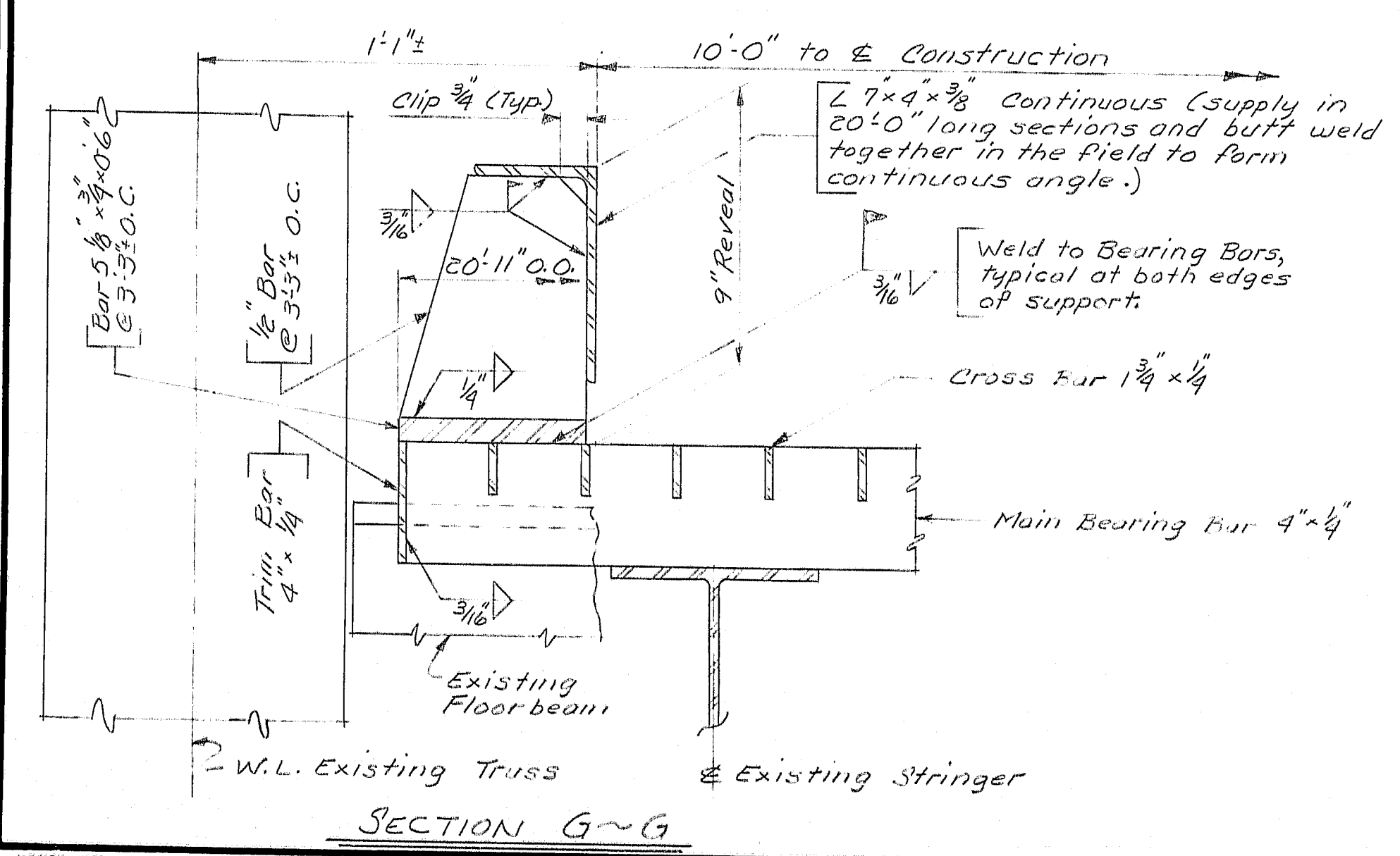
SHEET 13 OF 44 AUGUSTA, MAINE June 1981

R92-356

F.R.A.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	000 5 (1)	19	44



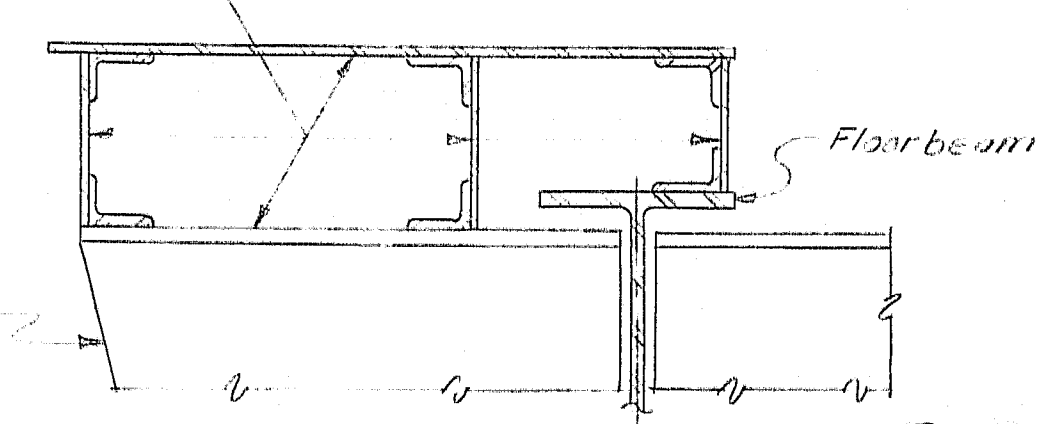
PROJECT DESIGN ENGINEER	DATE
CDH [RVN]	9-30-81
DESIGN - CHECKED	BY
DEW	9-30-81
REVISIONS	BY
1	CDH
FIELD CHANGES	BY



- STEEL GRID FLOOR NOTES**
1. All trim bars shall be supplied attached to the grid.
 2. ~~All grid floor, trim bars, and miscellaneous steel shall be A36 steel.~~
 3. Grid floor, trim bars, and miscellaneous steel shall be A36 steel.
 4. Flooring shall be attached to the existing steel stringers and floorbeams in accordance with Manufacturer's recommendations which shall be shown on the Shop Drawings.
 5. Shop Drawings shall be submitted and approval given before fabrication is started.
 6. There is 5380 sq. ft. of steel grid floor which includes trim bars, field plates, and 28 sq. ft. of concrete fill area.
 7. Concrete fill shall be class Y concrete.
 8. Live loading is HS-20.
 9. Shop painting and field painting of all steel shall be in accordance with special provisions, Section 504, Steel Grid Bridge Flooring.

Remove Existing 1/2" Roadway R and angle supports down to top of floorbeam and top of brackets.

NOTE:
Shape of Serrations may vary according to manufacturer's detail.

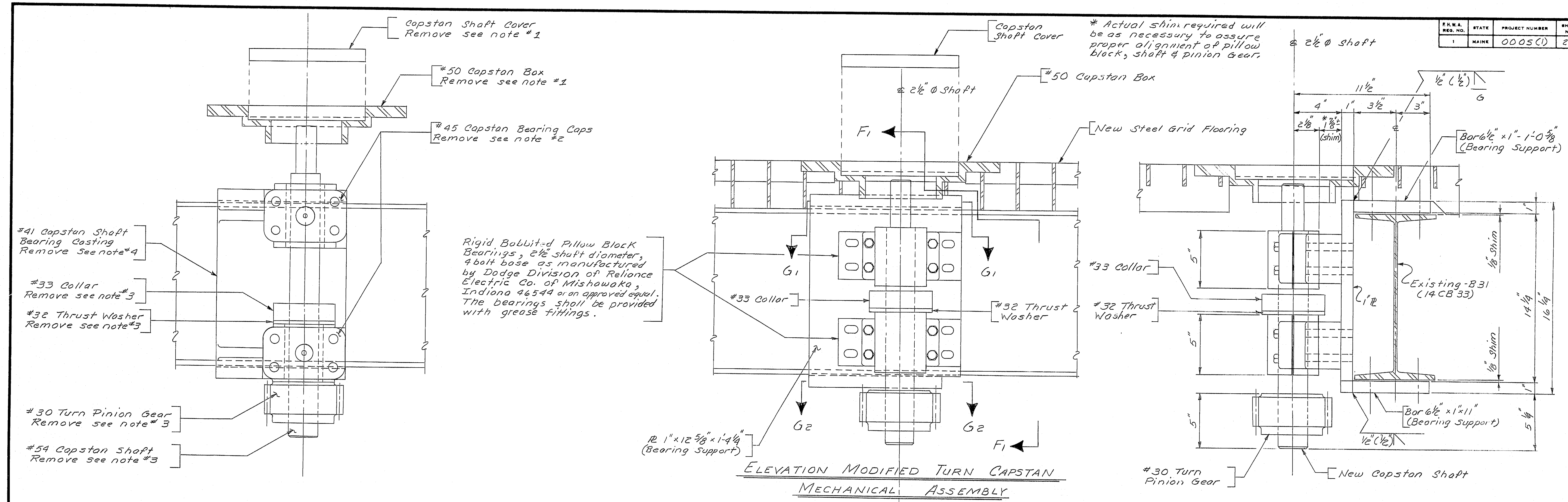


* Revisions - Sept. 30, 1981

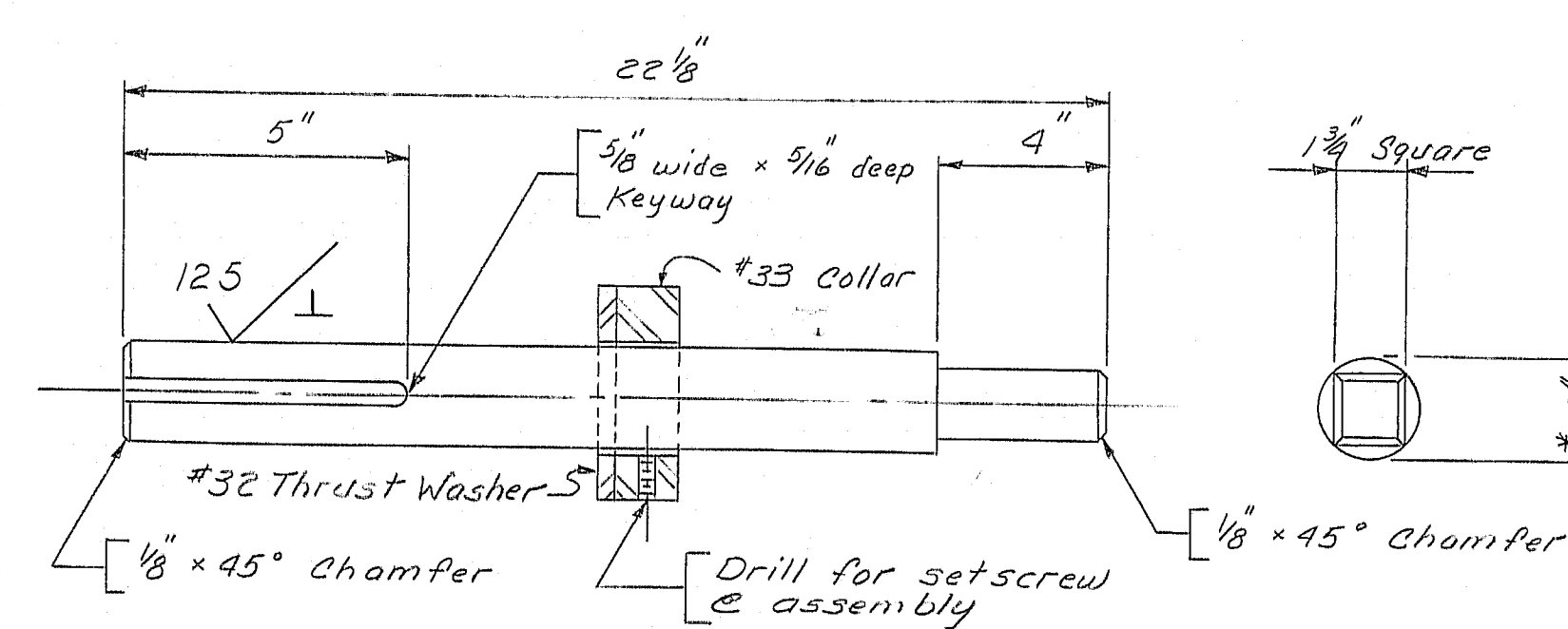
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BARTERS ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
STRUCTURAL STEEL
SHEET 19 OF 44 AUGUSTA, MAINE June 1991

R92-357

REV. NO.	DATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(1)	20	44



ELEVATION EXISTING TURN CAPSTAN
MECHANICAL ASSEMBLY



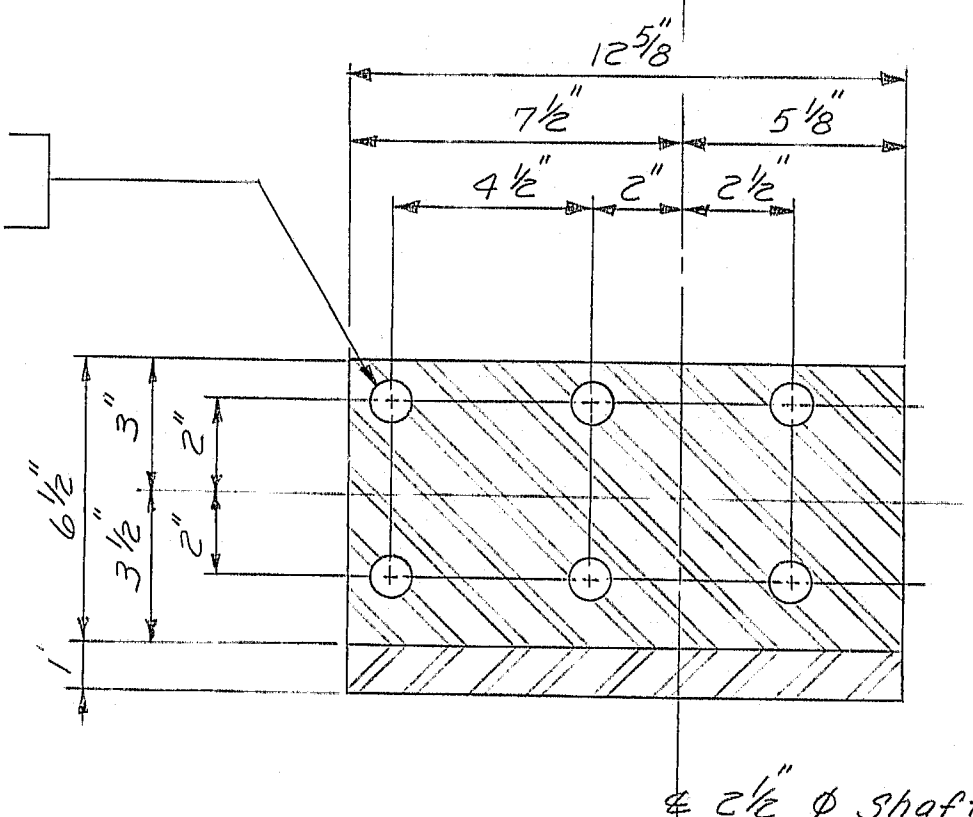
NEW CAPSTAN SHAFT
(1 Rod Cold Rolled Steel)

PROCEDURE NOTES

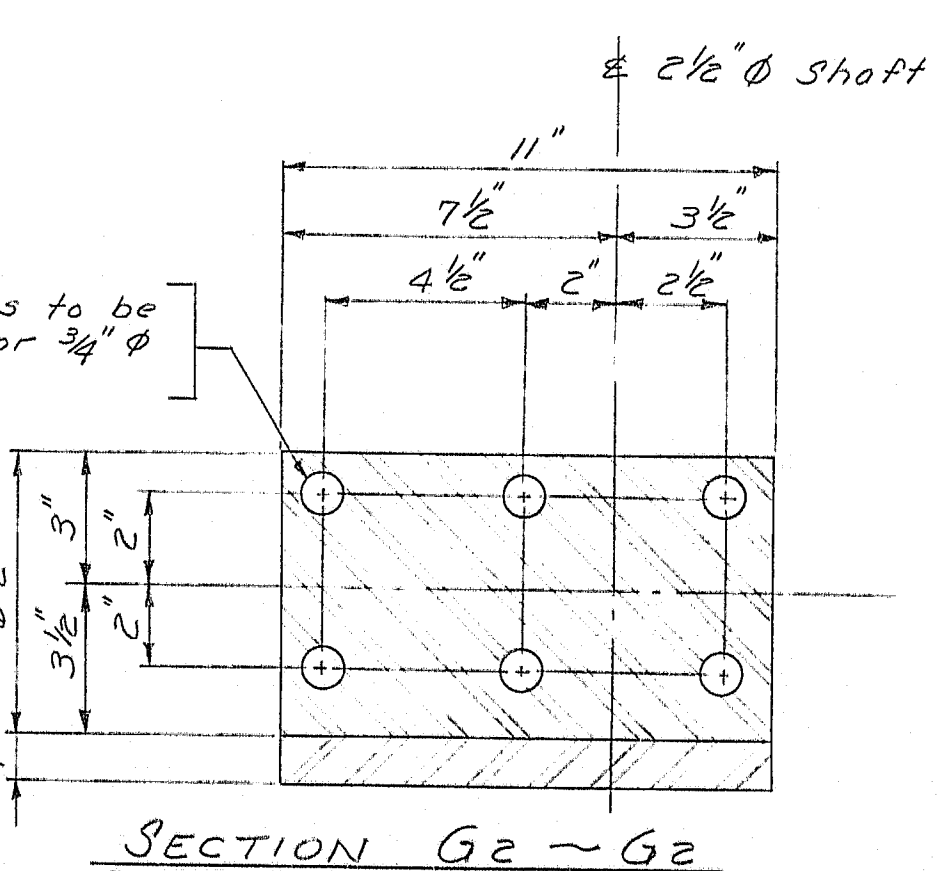
- 1---Remove Capstan shaft cover & #50 Capstan Box.
- 2---Remove #45's upper and lower Bearing caps from #41 Capstan Bearing Casting.
- 3---Remove #54 Capstan Shaft which will also bring with it #33 Collar, #32 Thrust Washer & #30 Turn Pinion.
- 4---Unfasten #41 Capstan Shaft Bearing Casting from B*28 (14 CB 33).
- 5---Install New Bearing Support, New Capstan Shaft, #30 Turn Pinion Gear, #33 Collar, #32 Thrust Washer, & New Rigid Babbitted Pillow Block Bearings.
- 6---Install #50 Capstan Box by welding it into New Steel Grid Floor, & install Capstan Shaft Cover.

*Note: the contractor shall field verify and match existing.

All holes to be 1/16 inch for 3/4 inch bolts



SECTION G1 ~ G1



SECTION G2 ~ G2

MATERIALS

- 12-3/4 inch H.S. bolts x 2 1/2 inch long, Nuts & Washers
- 2-Rigid Babbitted Pillow Blocks Bearings as specified
- 8-5/8 inch H.S. bolts x 5 inch long, Nuts & Washers
- 1-2 1/2 inch x 22 1/8 inch Shaft (A.S.T.M. A108 Grade 1016 to 1030 inclusive or A.S.T.M. A668 Class D)
- 1-Bar 6 1/2 inch x 1 inch x 10 1/8 inch
- 1-Bar 6 1/2 inch x 1 inch x 11 inch
- 1-Plate 1 inch x 12 5/8 inch x 1/4 inch

NOTE:
The bolt holes in the new Bearing Support are located here, from old shop drawings so as to match the existing bolt holes in the 14 CB 33 beam. The contractor is to verify hole locations in the field.

NOTE:
See General Construction Notes, Note #17 for pay items for work shown to be done on this sheet.

R92-358

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

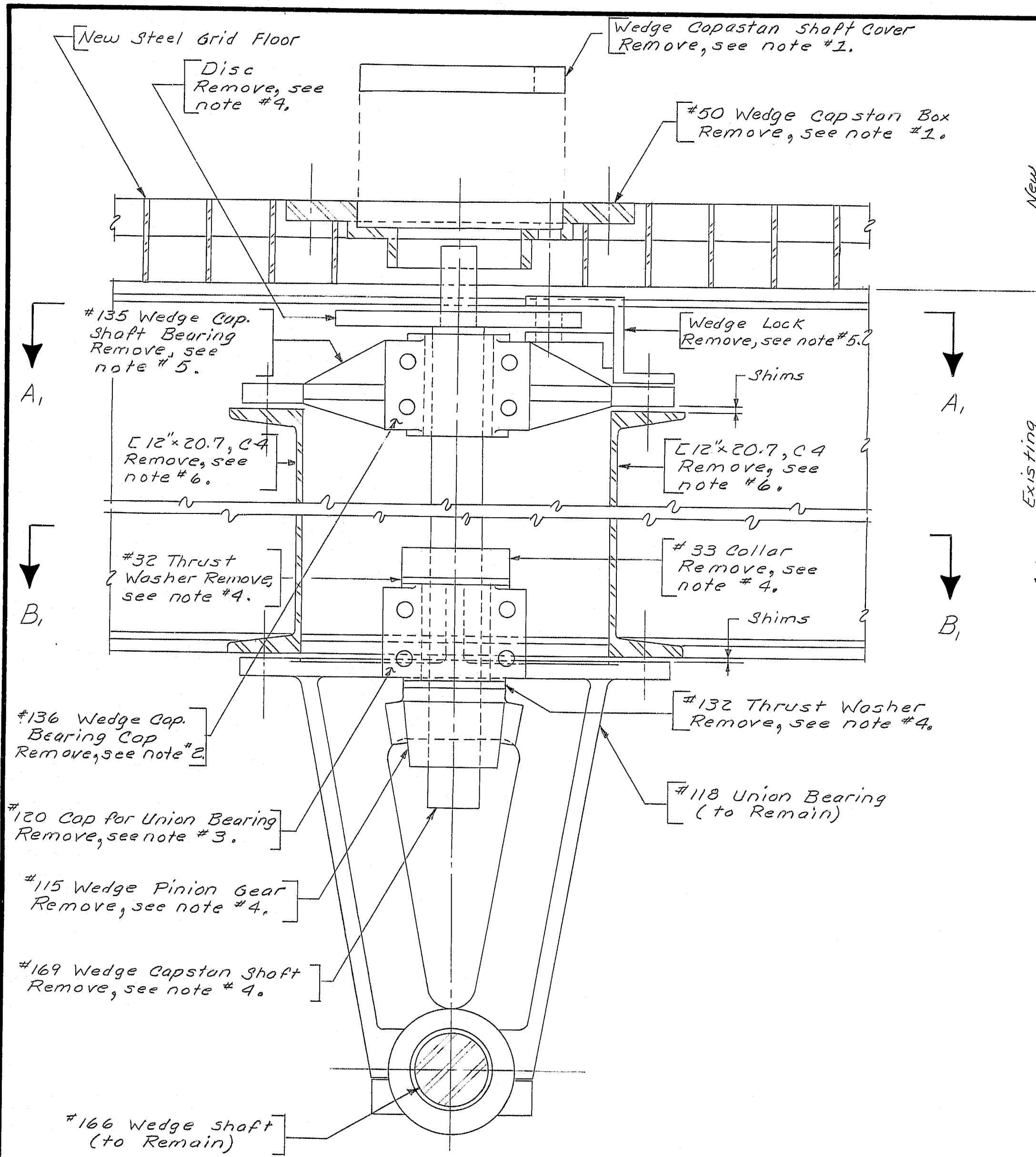
BARTER'S ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
STRUCTURAL STEEL

SHEET 20 OF 44 AUGUSTA, MAINE June 1981

PROJECT DESIGN ENGINEER	C.P.H.
DESIGN - DETAILED	C.D.H. R.V.M. 5-28-81
CHECKED	J. P. Mearns 6/1/81
REVISIONS	
FIELD CHANGES	

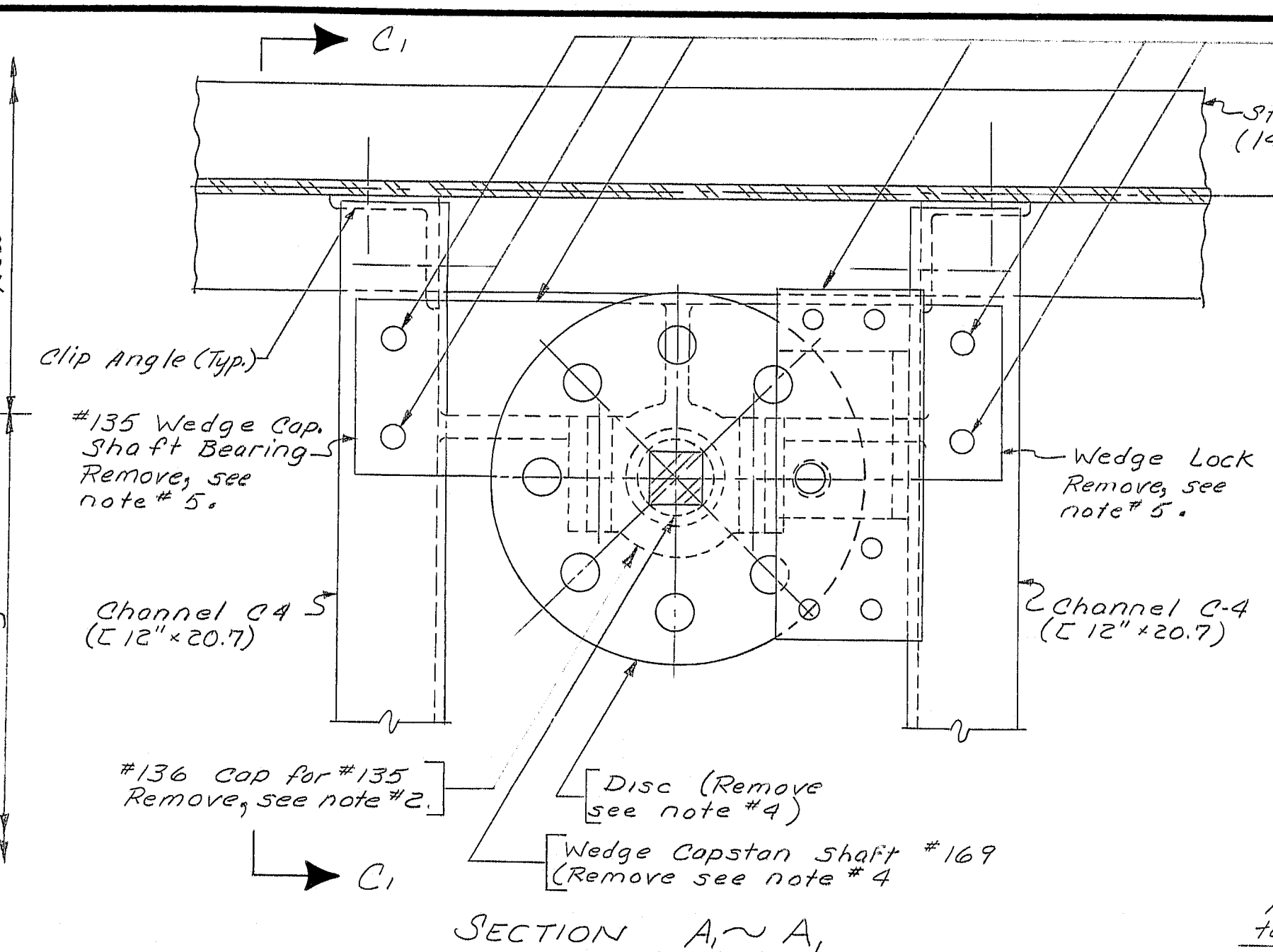
BRIDGE 44-122-4510

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
MAINE	0005(1)	21	44

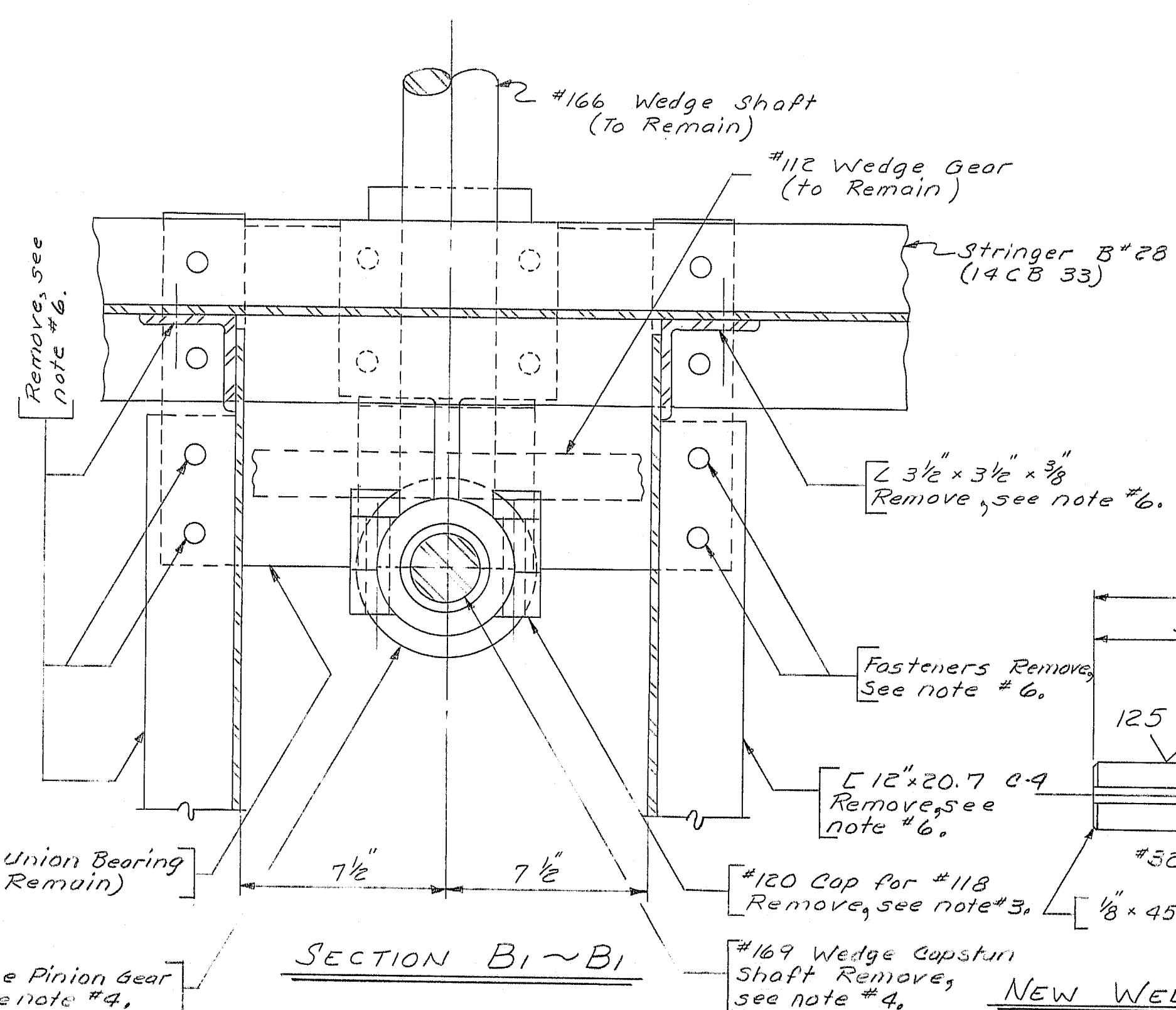


ELEVATION WEDGE LOCK MECHANICAL ASSEMBLY

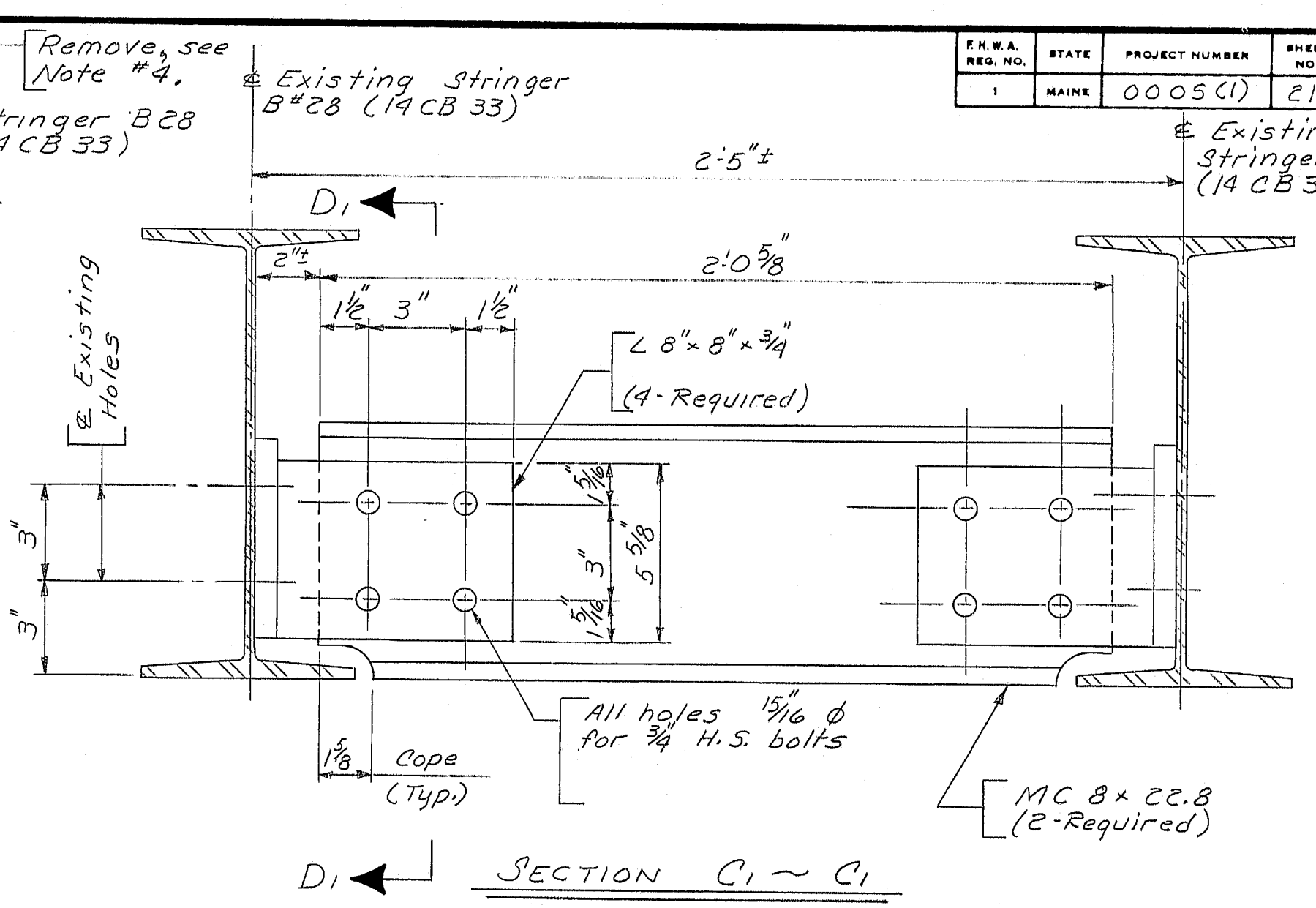
- PROCEDURE NOTES**
- Remove Wedge Capstan Shaft Cover, & #50 Wedge Capstan Box.
 - Remove #136 Wedge Capstan Bearing Cap.
 - Remove #120 Union Bearing Cap.
 - Remove #169 Wedge Capstan Shaft which will also bring with it Disc, #33 Collar, #32 Thrust Washer, #136 Thrust Washer & #115 Wedge Pinion Gear.
 - Unfasten #135 Wedge Capstan Shaft Bearing from #12x20.7 (C4) which also will bring with it the Wedge Lock.
 - Remove #12x20.7 (C4), 3/2x3/2x3/8 Angles, by unfastening its clip angles from stringers B28 & B29, 14 CB 33, also unfasten C4 from Union Bearing Casting from C4 Channels (#118 will remain in place and will be supported by other fasteners to stringer B28).
 - Install New MC 8x22.8 Channels & Clip Angles, field drill holes in Channels by using Union Bearing Casting as a template, bolt into place in the reverse order to procedure of #6 & #5 above.
 - Install New Wedge Capstan Shaft with other existing parts which shall be from old shaft & install on this new shaft. See note #4 for parts involved except do not put back the Disc & Wedge Lock, as they are no longer used and corroded extensively.
 - Install parts removed in note #3 & #2. Drill drill holes in channels and align #135 Wedge Capstan Bearing Assembly.
 - Install #50 Wedge Capstan Box by welding it into the new Steel Grid Floor, & install Capstan Shaft Cover.



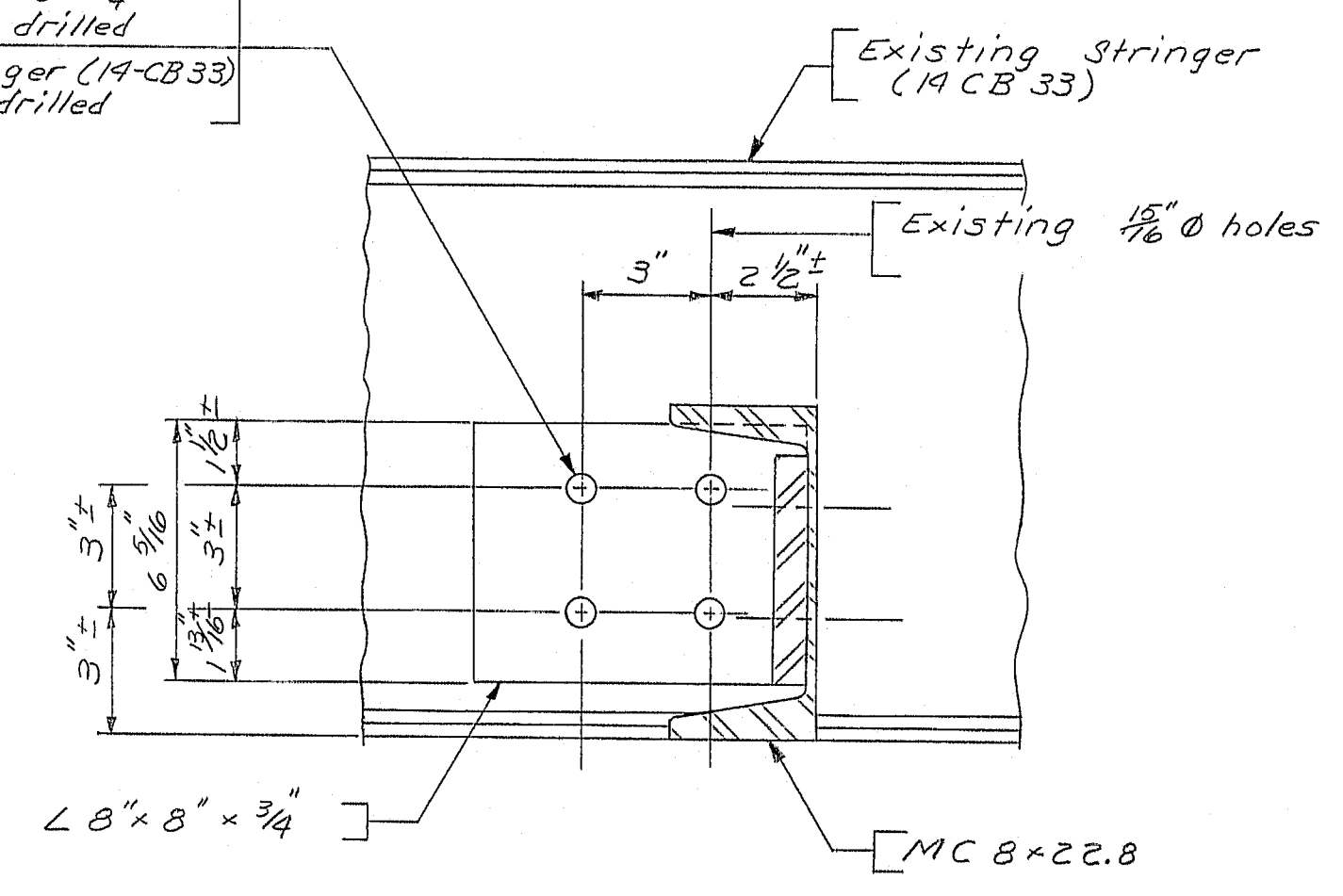
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

MATERIALS

- 2-MC 8x22.8x2-0 3/8 (ASTM A572 Grade 50 Steel)
- 4-L 8x8x3/4x0-6 1/2 (ASTM A572 Grade 50 Steel)
- 1-3/2x3/2x3/8 Shaft (110s grade 1016 to 1030 inclusive or ASTM A-668 Class D)
- 32-3/4x3/4 H.S. bolts x 0-3' long, nuts, & washers.

NEW WEDGE CAPSTAN SHAFT
(1-Rod Cold Rolled Steel)

NOTE:

See General Construction Notes, Note #17 for pay items for work shown to be done on this sheet.

Note: the Contractor shall field verify and match existing

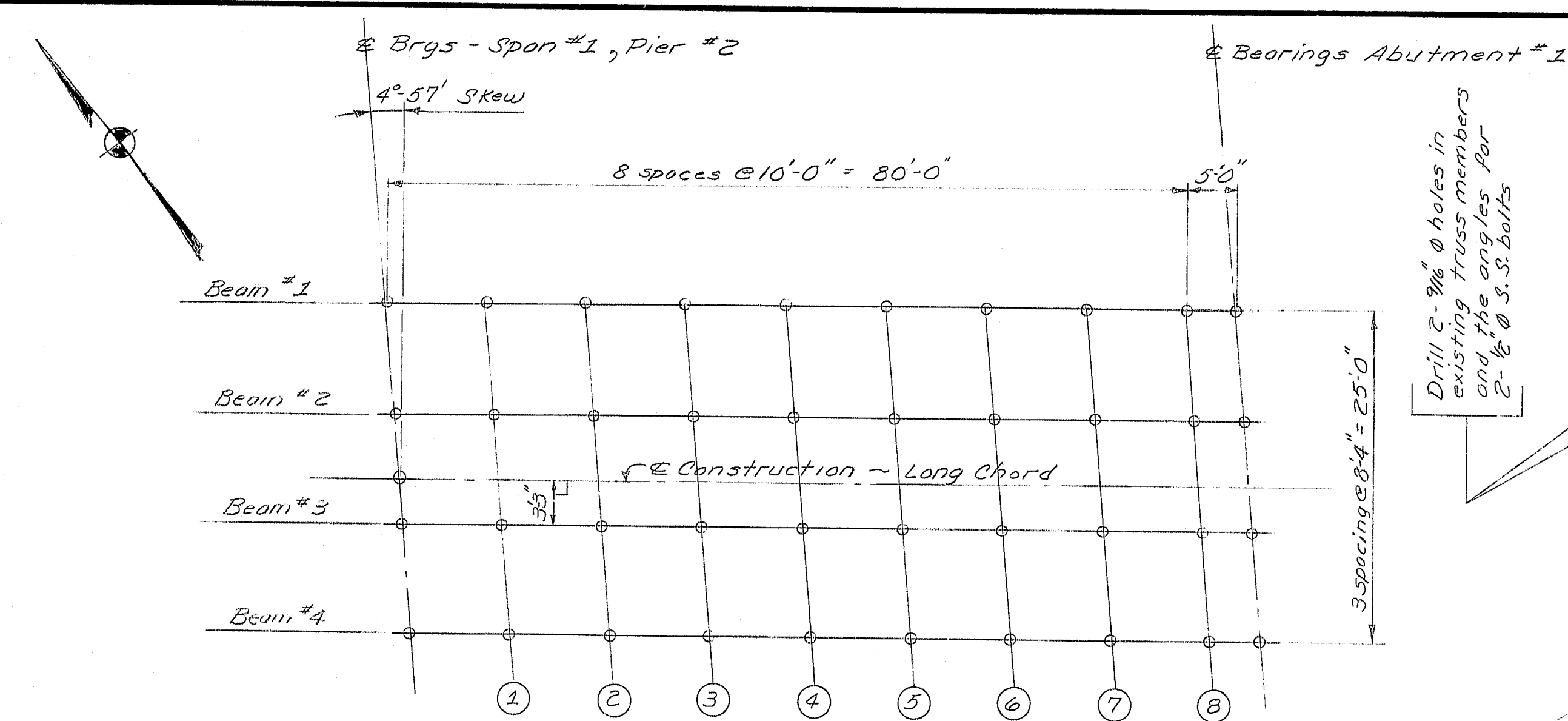
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BARTER'S ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
STRUCTURAL STEEL

SHEET 21 OF 44 AUGUSTA, MAINE June 1981

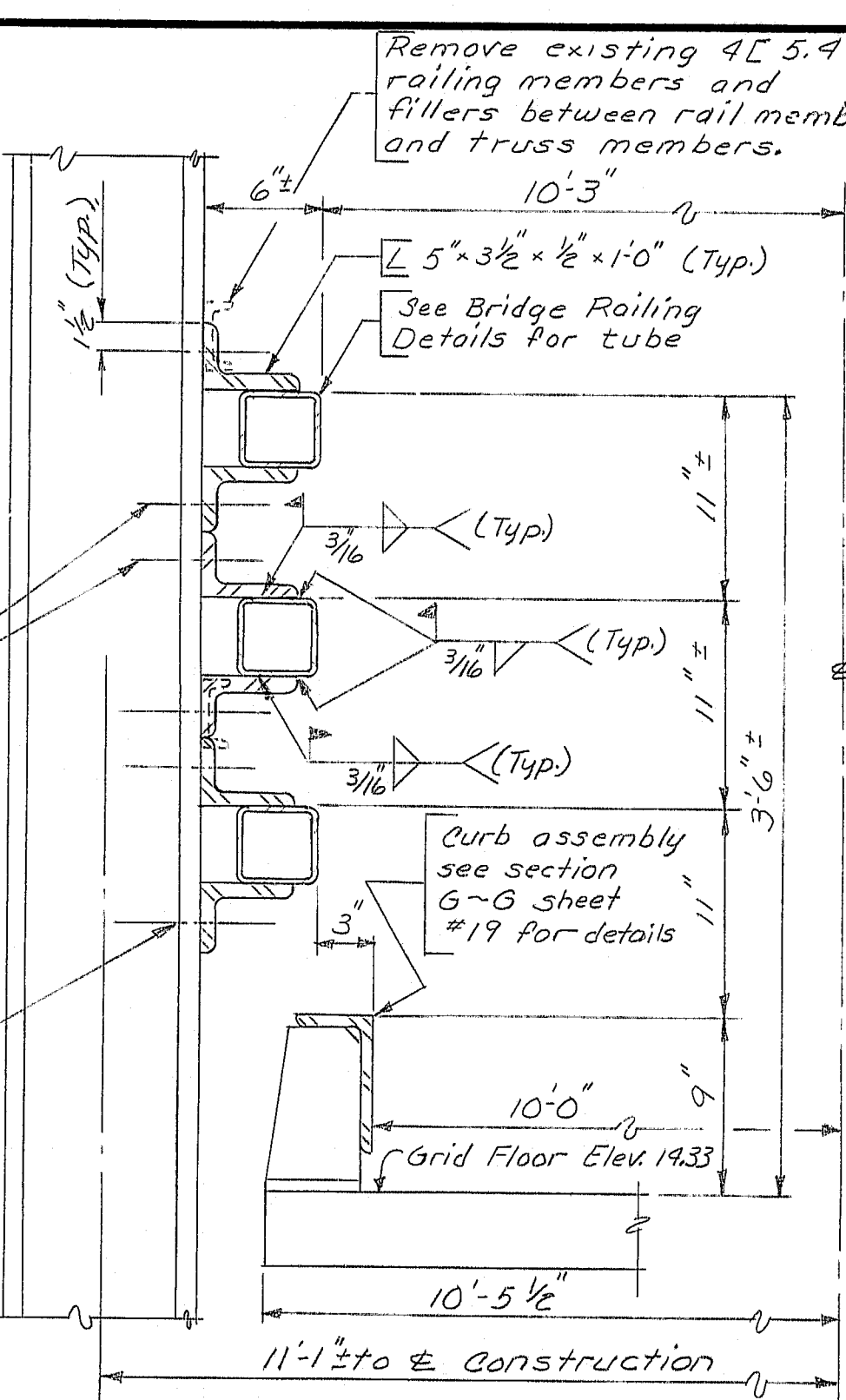
R92-359

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
MAINE	0005(L)	22	44



SPAN 1 BLOCKING LAYOUT

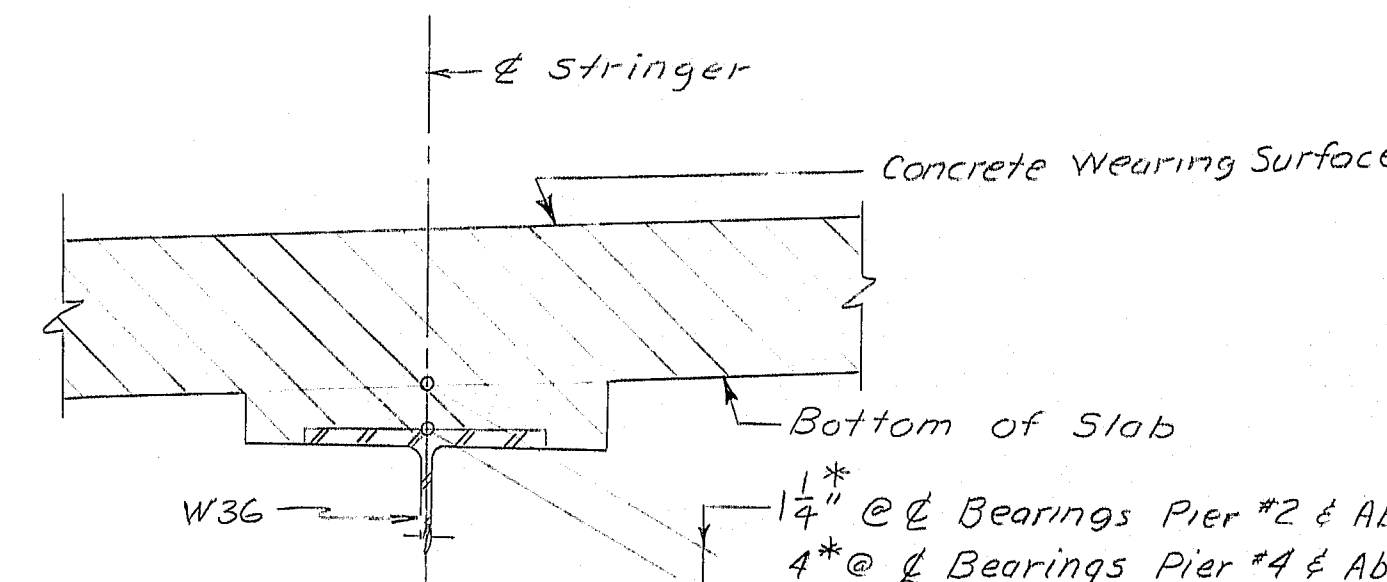
Holes shall be drilled in existing truss members so that existing and new holes result in condition no worse than existing. See Special Provision



SECTION X-X

Point Beam	Brigs. Pier #2	①	②	③	④	⑤	⑥	⑦	⑧	Brigs. Abut. #1
BEAM-1	13.50	13.66	13.85	14.06	14.29	14.54	14.81	15.07	15.32	15.45
BEAM-2	13.50	13.62	13.78	13.95	14.15	14.36	14.60	14.82	15.04	15.15
BEAM-3	13.50	13.58	13.70	13.85	14.00	14.18	14.38	14.57	14.75	14.84
BEAM-4	13.50	13.54	13.62	13.72	13.84	13.99	14.15	14.30	14.45	14.54

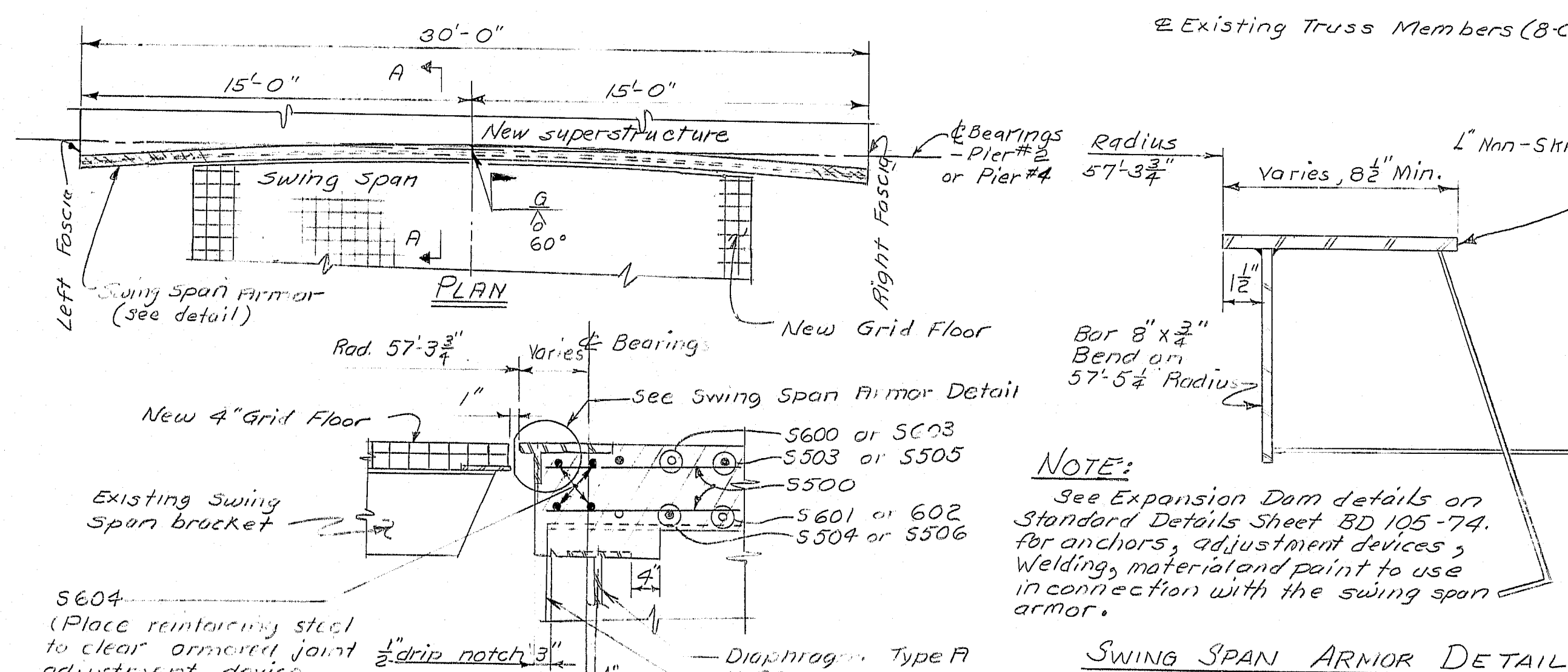
BOTTOM OF SLAB ELEVATIONS



BLOCKING DETAIL

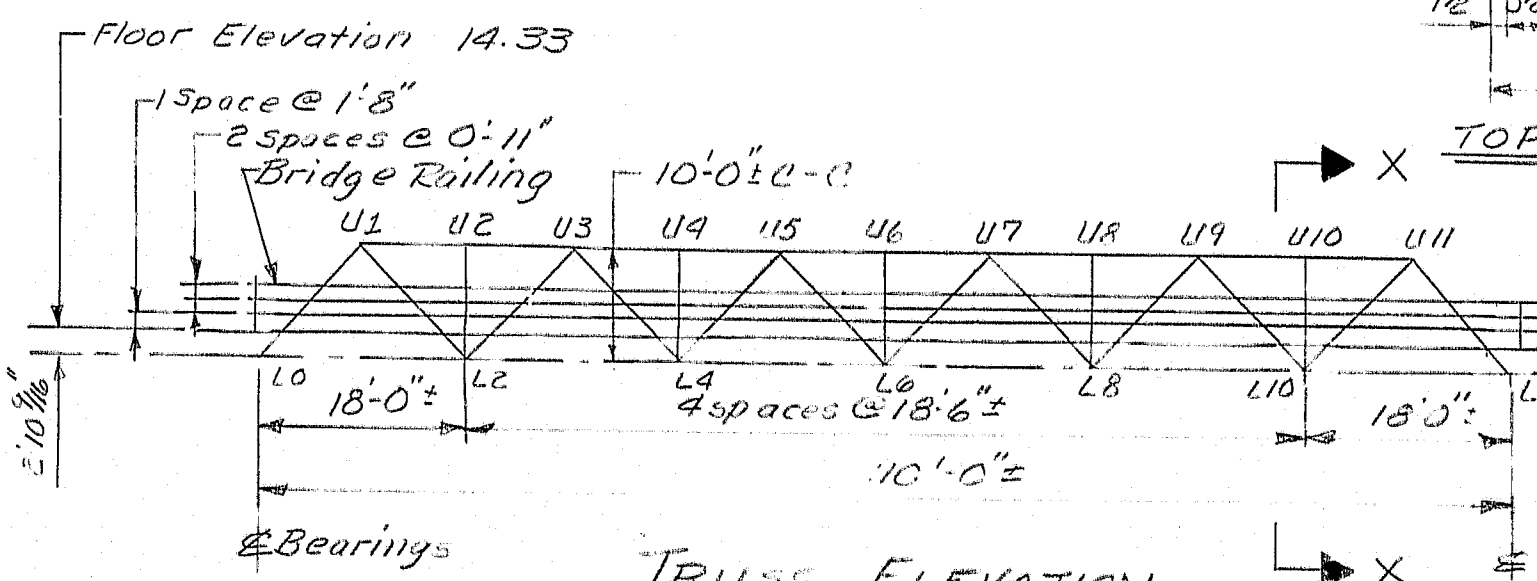
BRIDGE RAILING NOTES

- 1) Ends of railing members shall be plugged w/plate as shown in the End of Railing Detail. 1/4" holes shall be drilled in the bottom center of railing members at 8'-0" spacings.
- 2) If angles are used to form rail tubes, then they shall be continuously welded.
- 3) Lengths of rail shall be attached to a minimum of (4) posts wherever possible, and in any case never less than two posts.
- 4) Filler metal for all welds shall conform to the requirements established in the Standard Specifications under Section 504 for A.S.T.M. A572 steel.
- 5) The anchor bolts, nuts, and washers shall be ASTM A449, galvanized. Structural tubing shall be ASTM A500 or A501. All other steel shall be ASTM A572, Grade 50. Railing shall be painted.
- 6) Payment for Bridge Railing on all 3 spans will be made under Item 507.08, Bridge Railing. Painting will be paid for under Item 506.141. Removal of existing bridge railing on the swing span will be considered incidental to the wheel guard stiffener R.

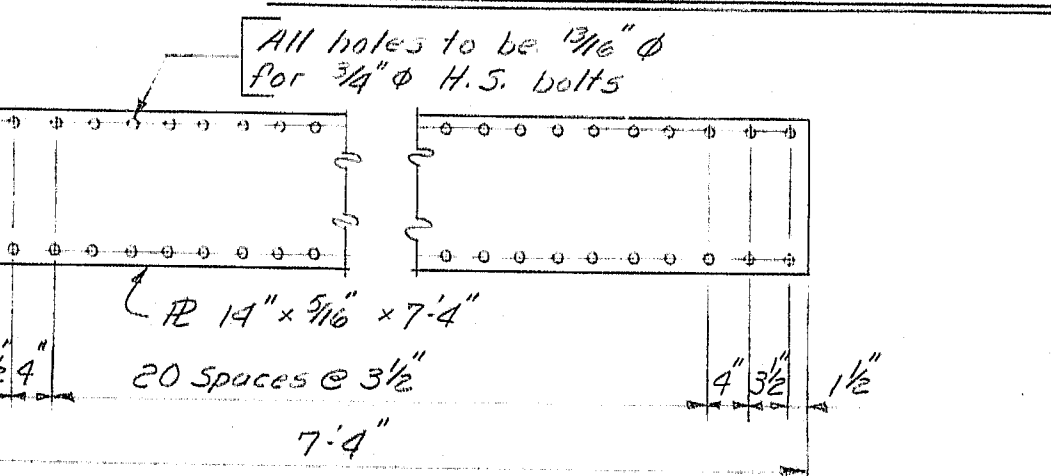


SECTION A-A

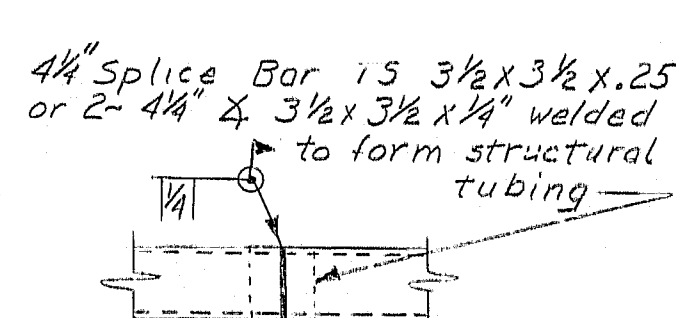
SWING SPAN JOINT DETAIL



TRUSS ELEVATION

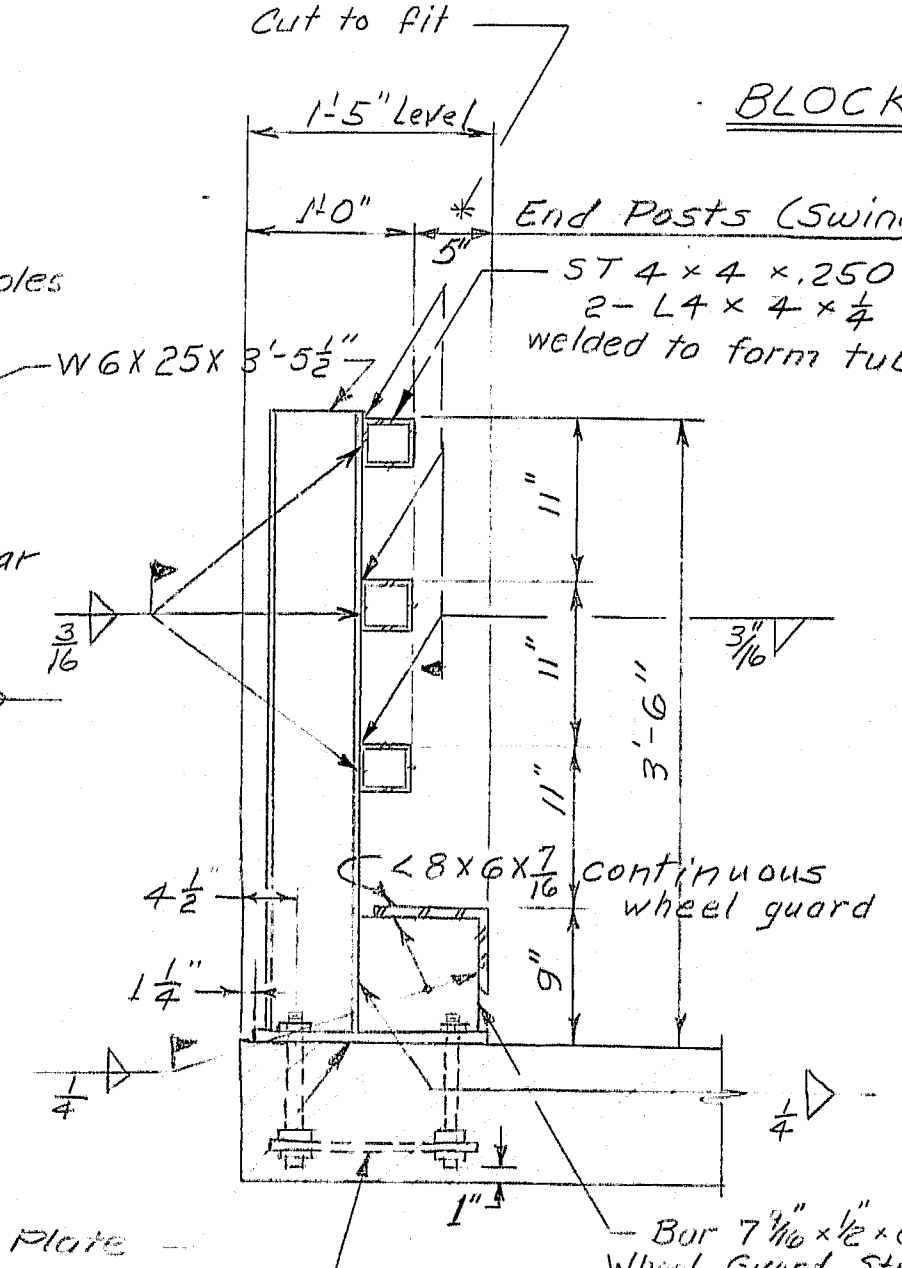


TOP CHORD BOTTOM FLANGE PLATE



RAILING

TYPICAL SPlice DETAIL



BRIDGE RAILING

- 4- 1" Heavy Hex Nuts
- 4- 1" Plain Hardened Washers
- 4- 1" Hex Jam Nuts
- 1- 1/2" x 1/2" Steel Spacer Plate with 1/4" holes in corners (1/2" ANCHOR BOLT clear all sides) 8' x 8' hole centered A36 Steel
- 4- 1" Hex Nuts
- 4- 1" Anchor Bolts

END OF RAILING DETAIL (each end)

R92-360

BRIDGE #2039

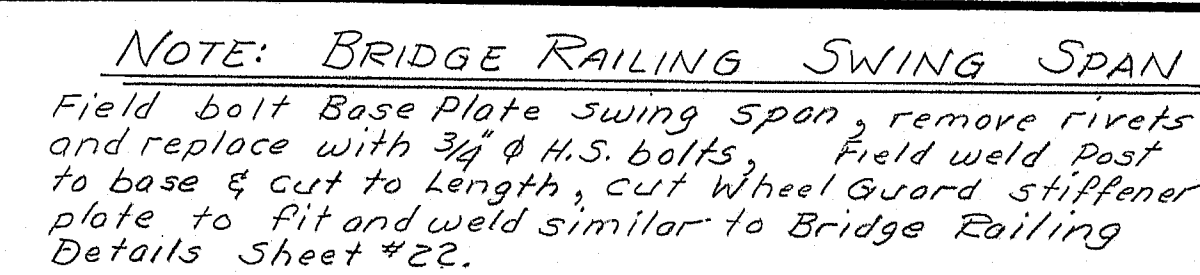
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BARTER'S ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY

BLOCKING & STRUCTURAL STEEL DETAILS
SHEET 22 OF 44 AUGUSTA, MAINE June 1988

203-1 1000

PROJECT DESIGN ENGINEER	DATE
BY	1/19
DESIGN - DETAILED	6-81
CHECKED	DEW
REVISIONS	
FIELD CHANGES	



F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(1)	23	44

BRIDGE RAILING MATERIALS
FOR ENDS OF SWING SPAN

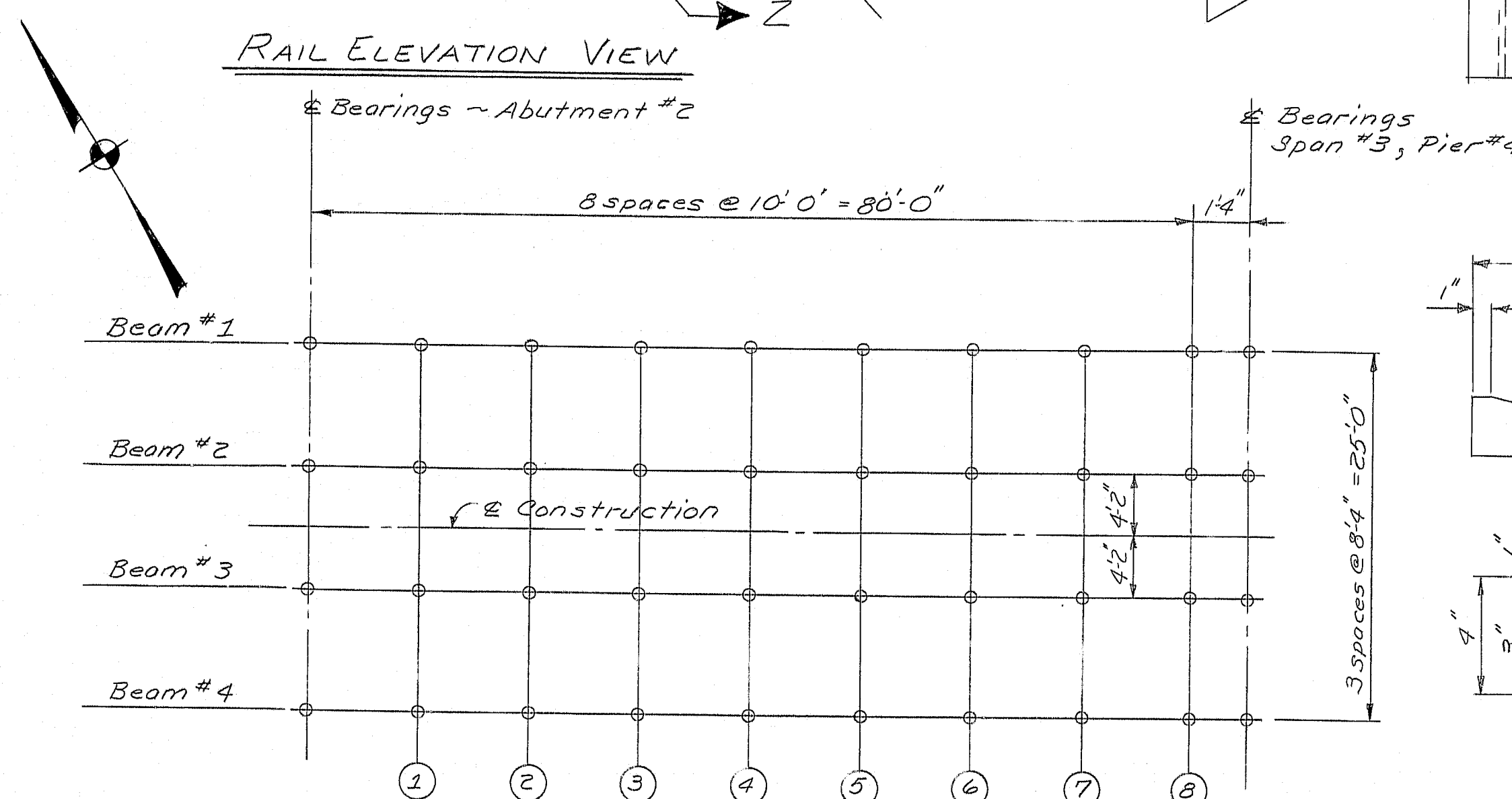
4-Base PL $1" \times 14" \times 1'7\frac{1}{2}"$

4-Post W6 x 25 x 4'-6"

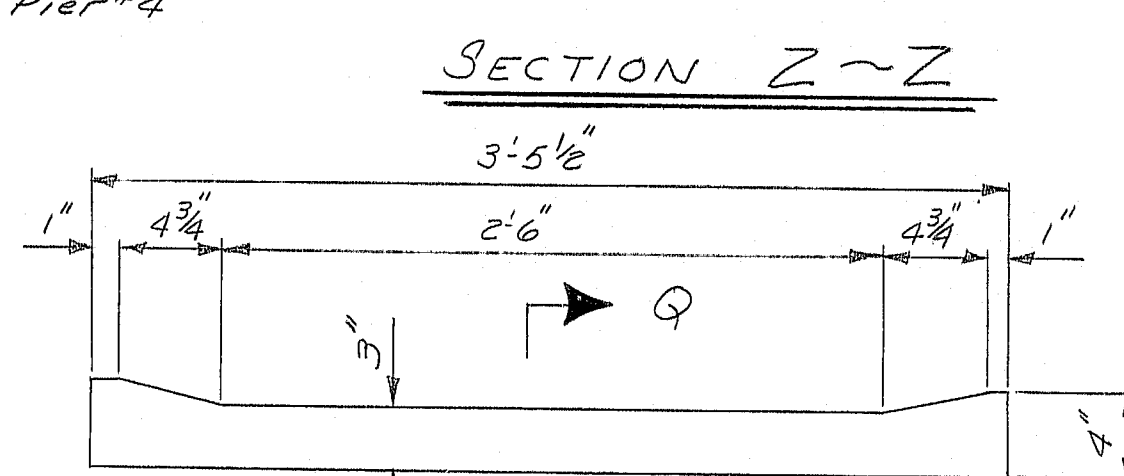
4-Bors $10'' \times \frac{1}{2}'' \times 1'-0''$

24- $\frac{3}{4}$ " ϕ H. S. bolts $\times 3\frac{1}{2}$ " Long,
Nuts & washers

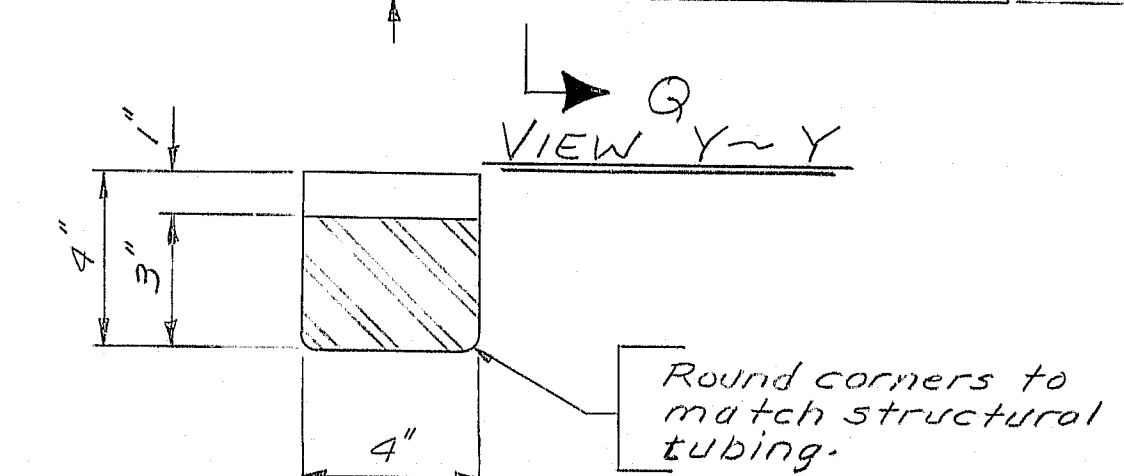
Point Beam	L Brngs. Abut. #2	Nuts & Washers								L Brngs. Span #3 Pier #4
		①	②	③	④	⑤	⑥	⑦	⑧	
BEAM - 1#4	16.56	15.89	15.31	14.82	14.40	14.06	13.79	13.61	13.51	13.50
BEAM - 2#3	16.73	16.04	15.45	14.93	14.49	14.13	13.84	13.63	13.51	13.50



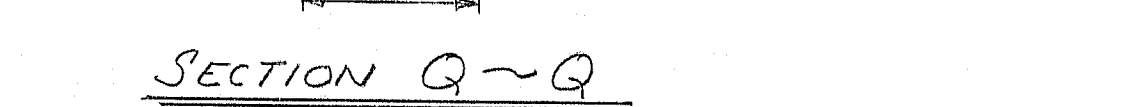
SECTION Z~Z



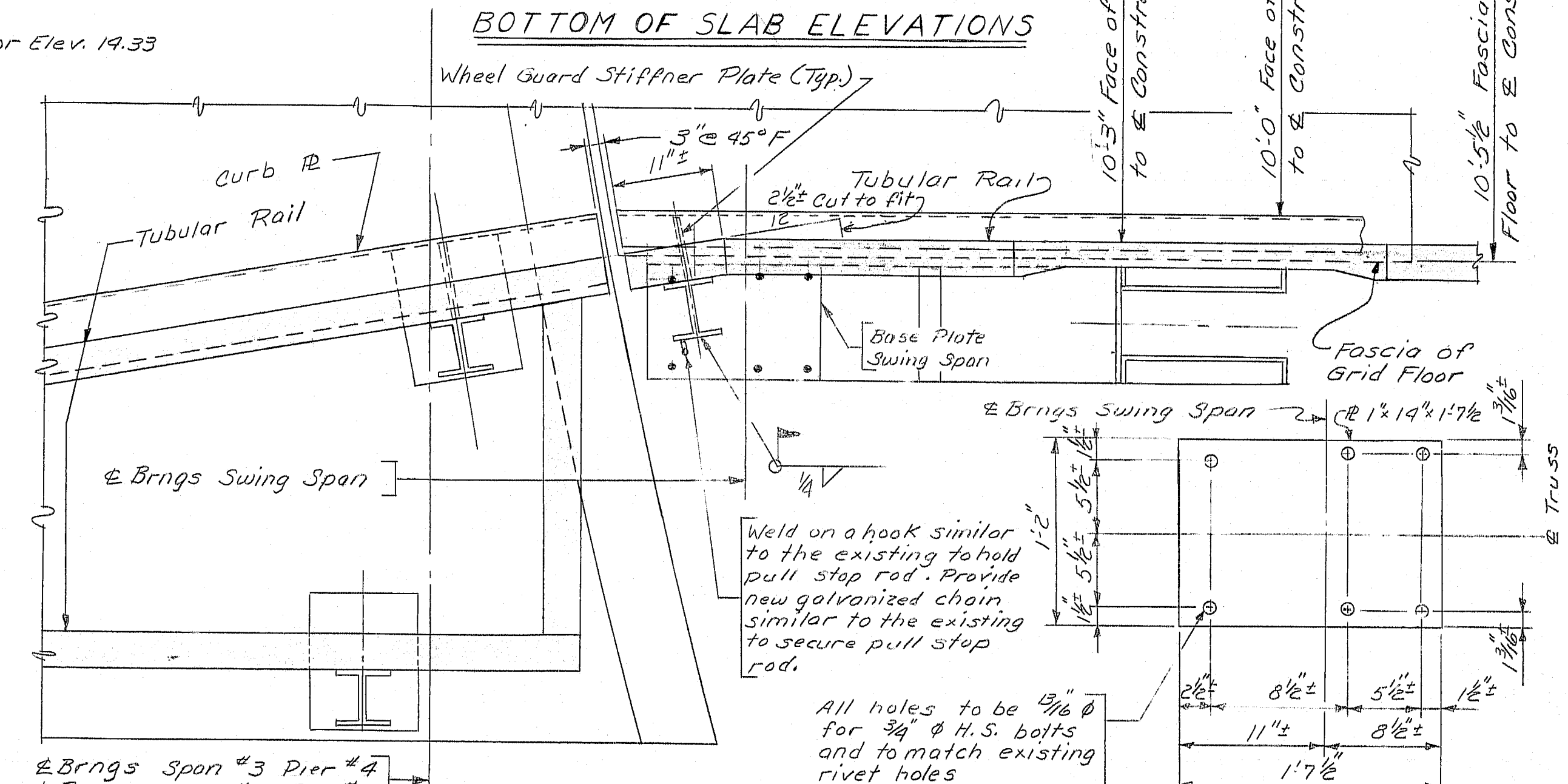
VIEW $Y \sim Y$



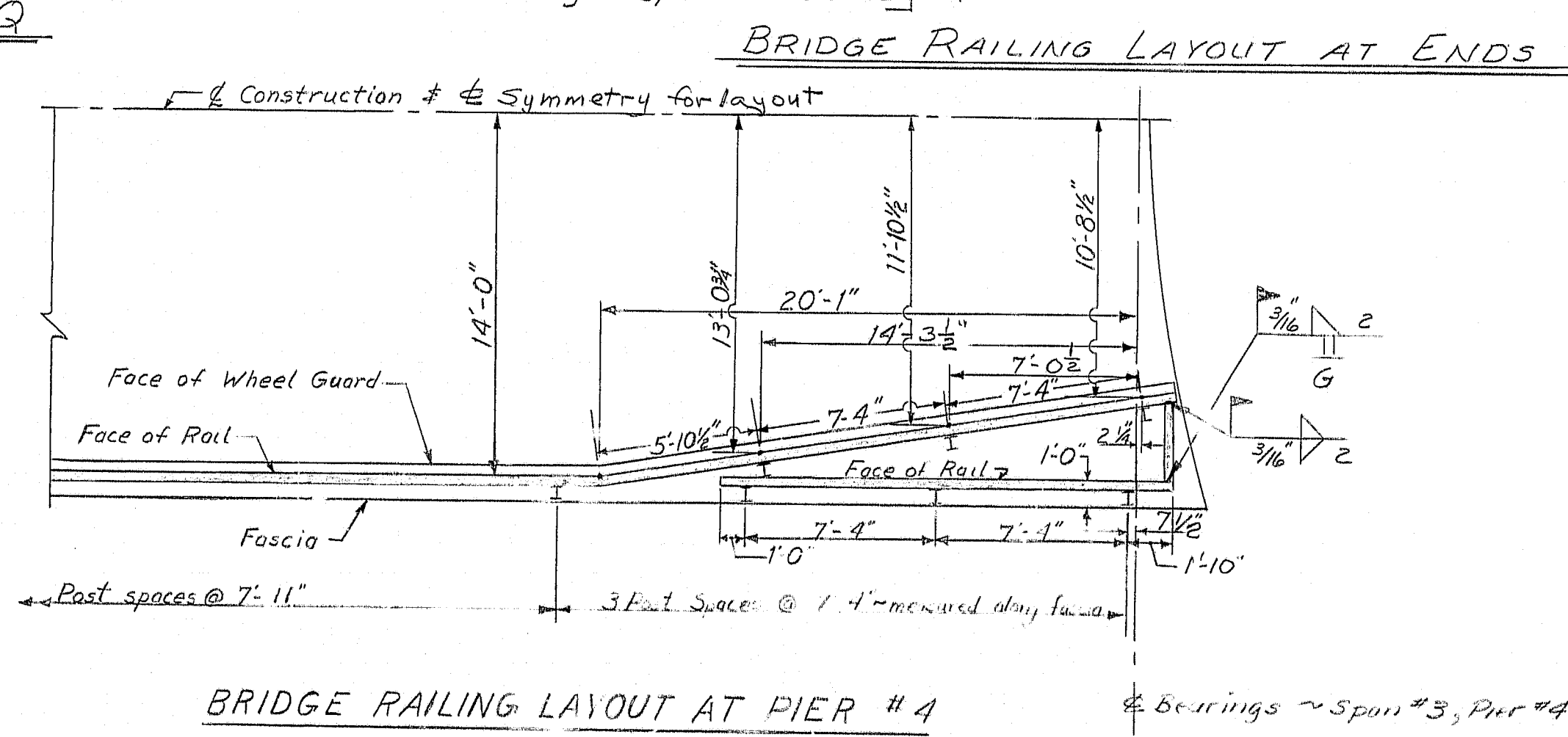
SECTION Q-Q



BOTTOM OF SLAB ELEVATIONS



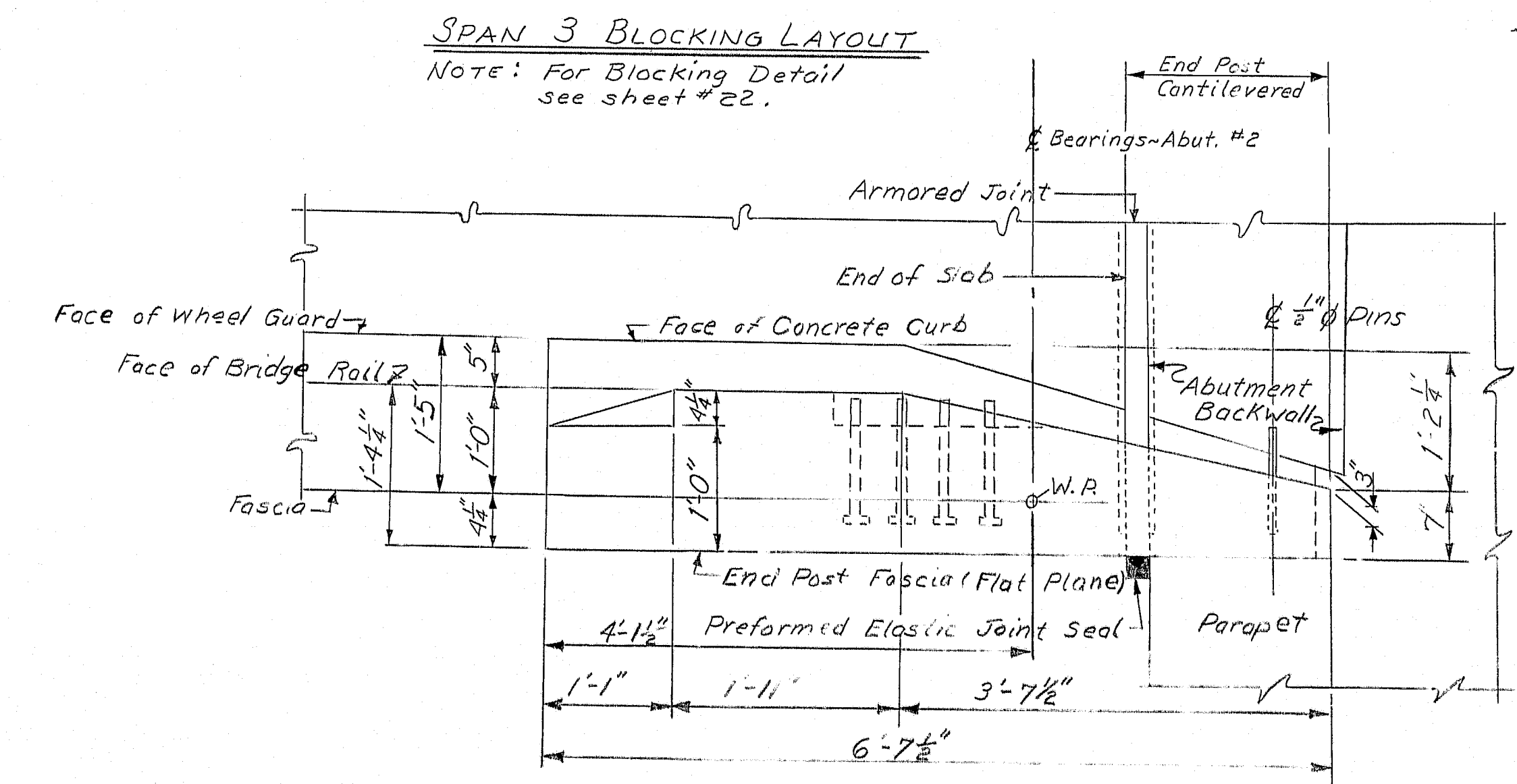
BRIDGE RAILING LAYOUT AT ENDS OF SPAN



BASE PLATE SWING SPAN

REFERENCES

- 1.) See Superstructure Sheet # 26
- 2.) References #2 thru 7 of Sheet #24 apply here also.
- 3.) See Sheet No. 24 For Elevation View of Concrete End Post.



PLAN VIEW ABUT. #2 CONC. END POST LEFT
(Abutment No. 2 Right End Post similar)

NOTE : For Base Plate Detail, Bridge Railing Notes, Bridge Railing Detail, Anchor Bolt Detail, End of Railing Detail, and Typical Splice Detail See Sheet #22

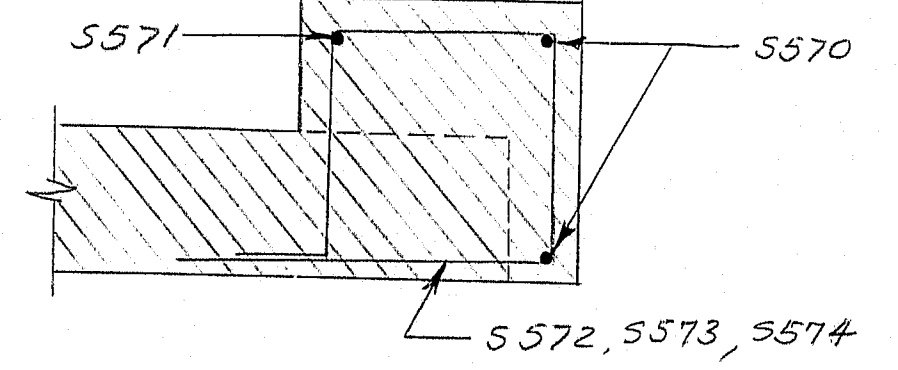
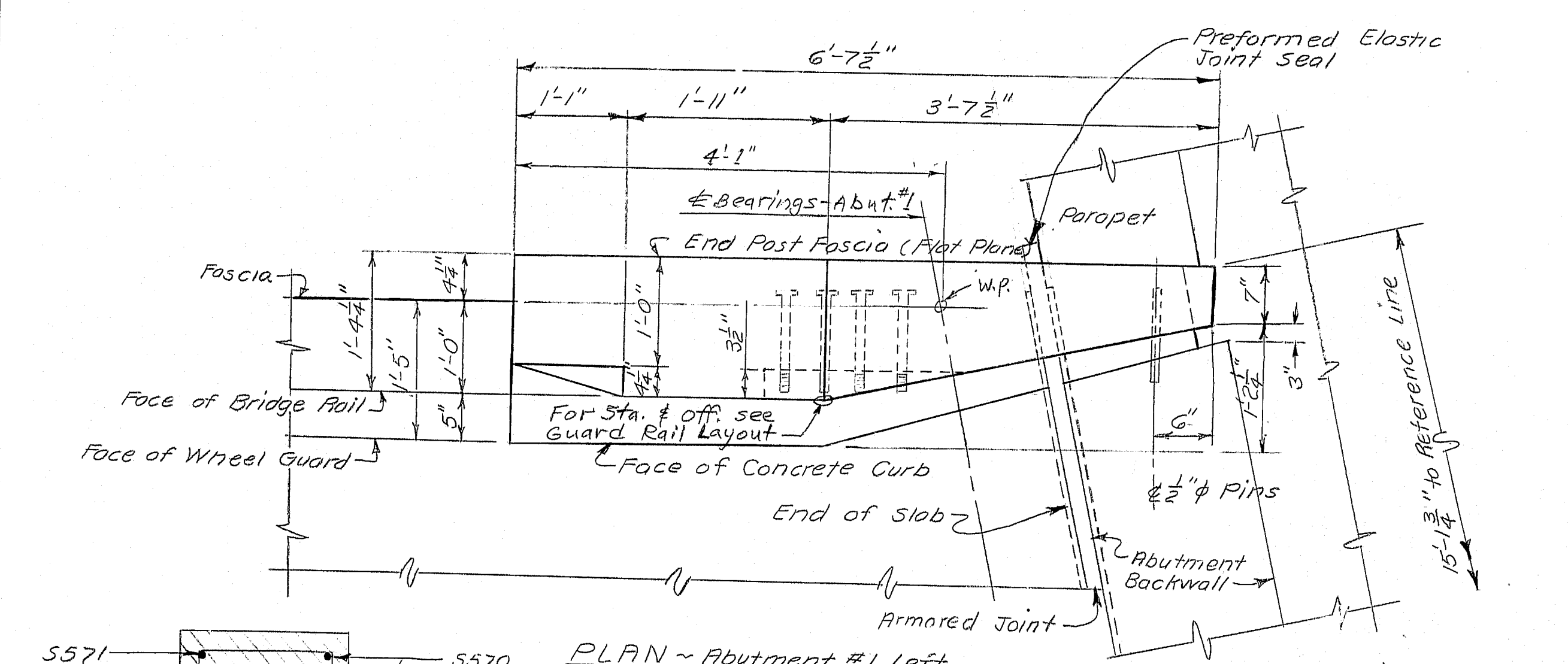
R92-361

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

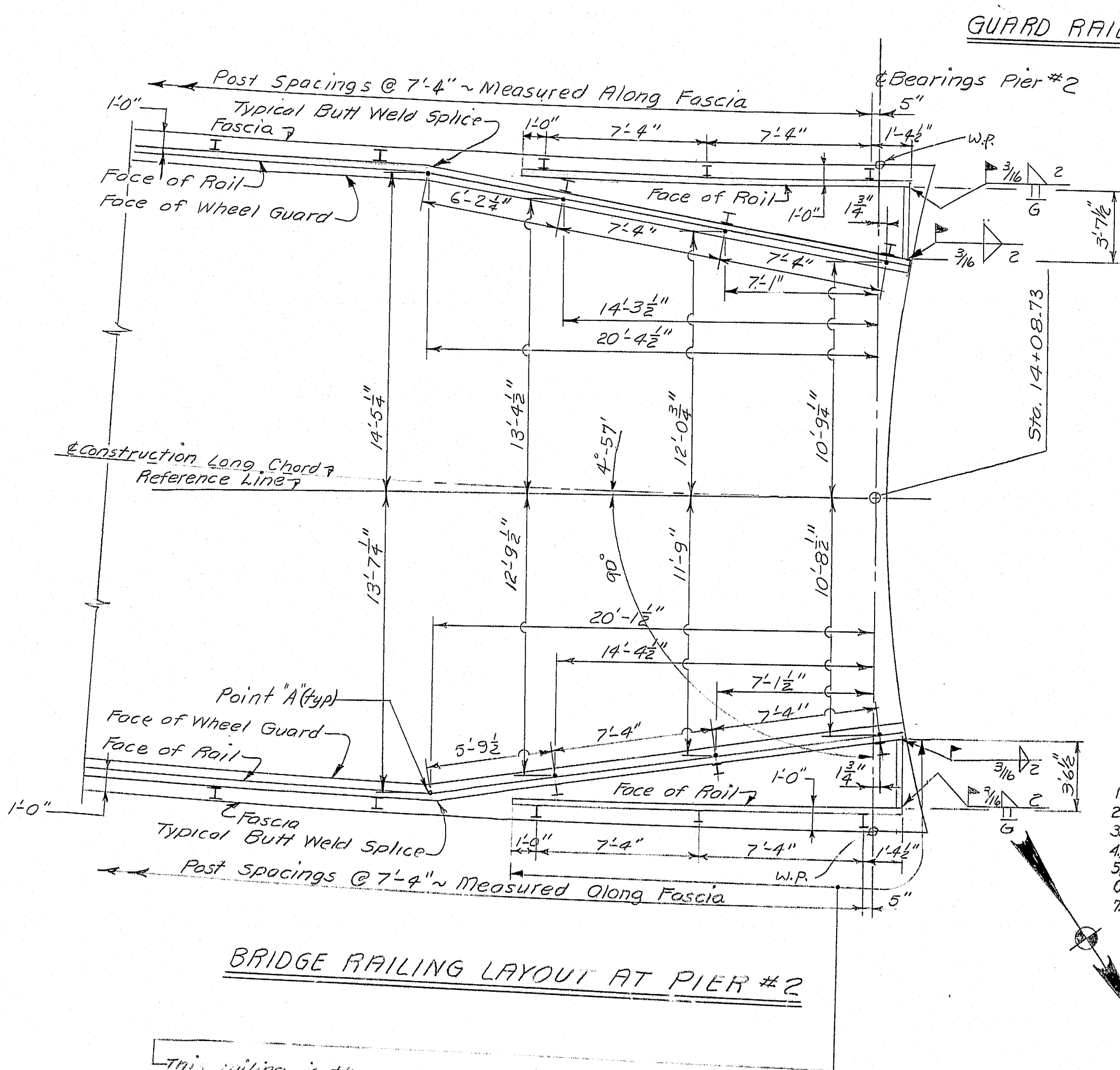
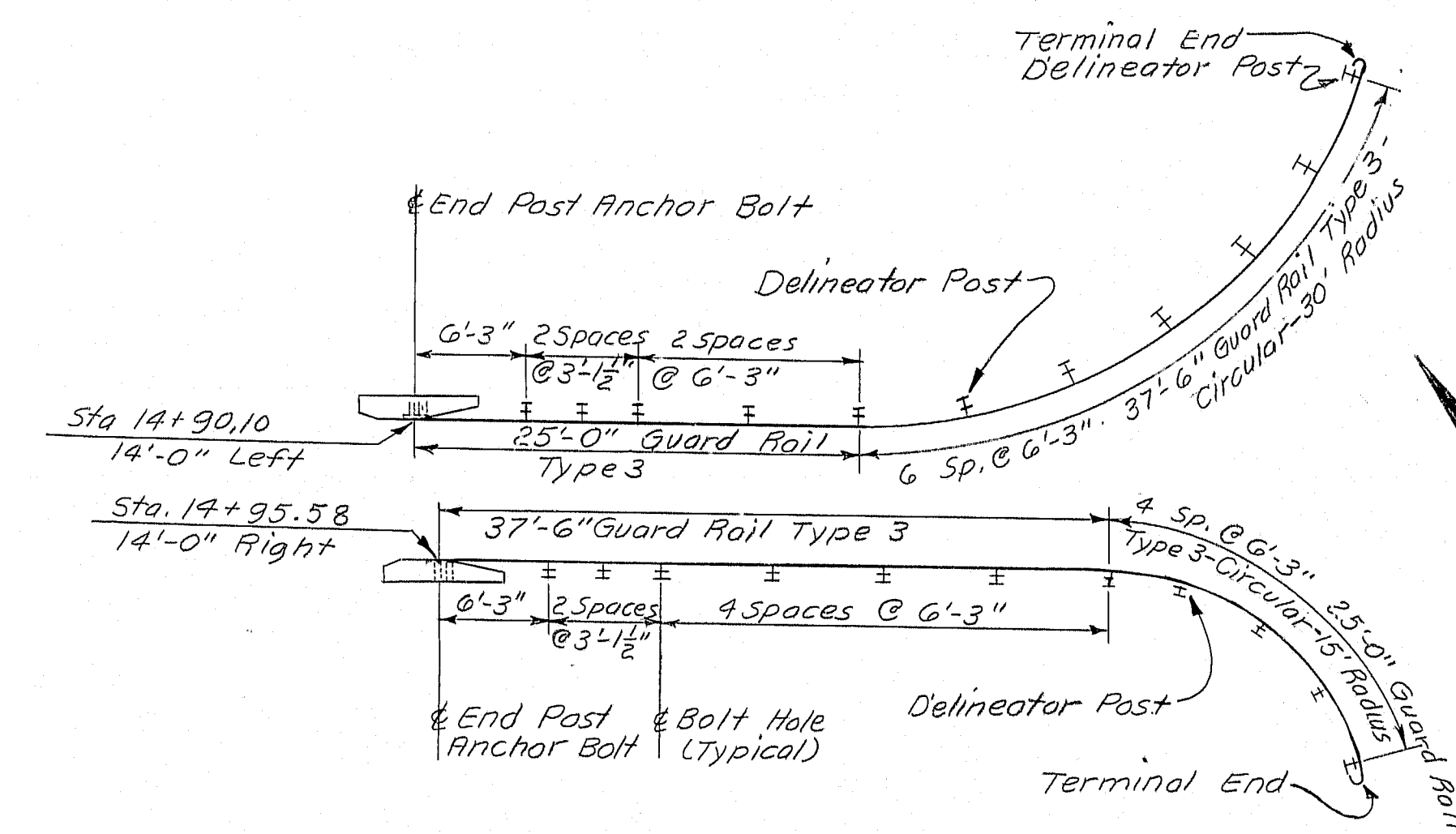
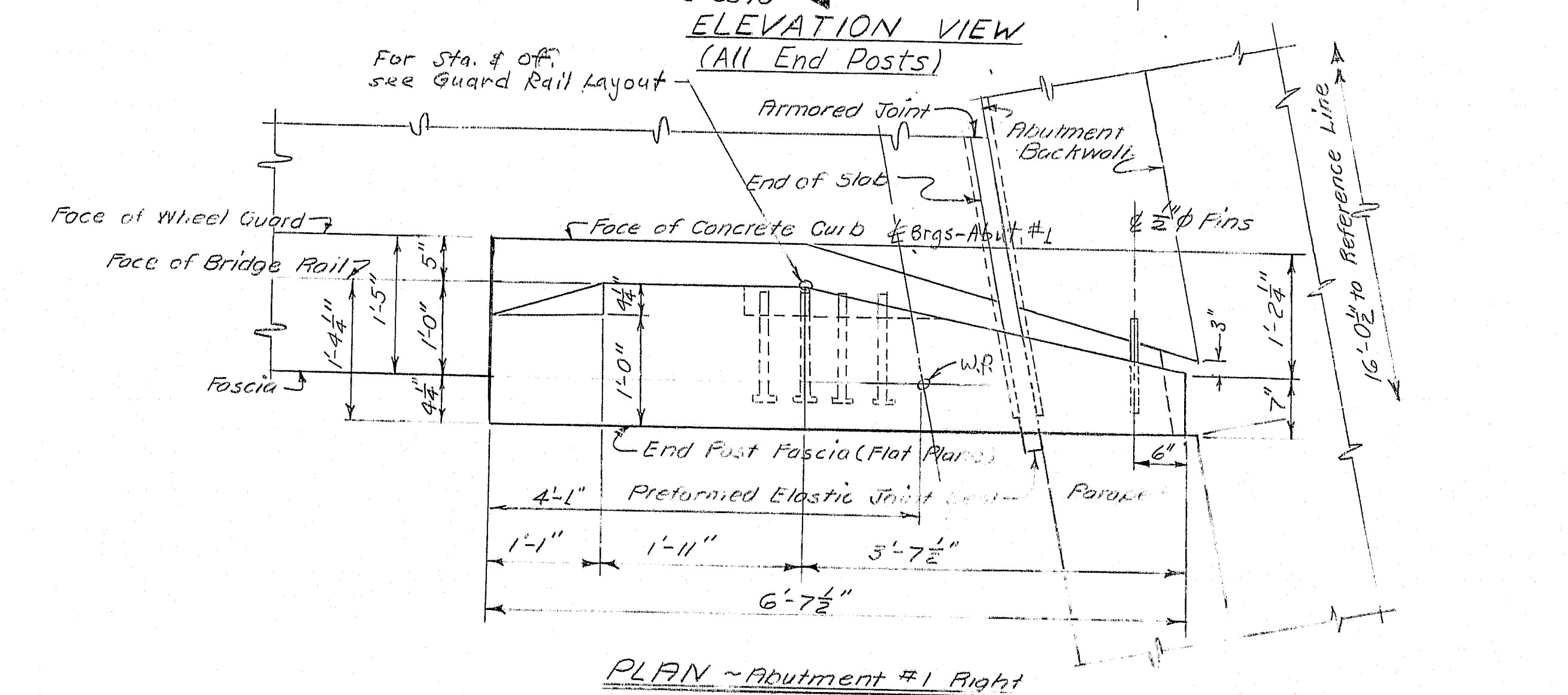
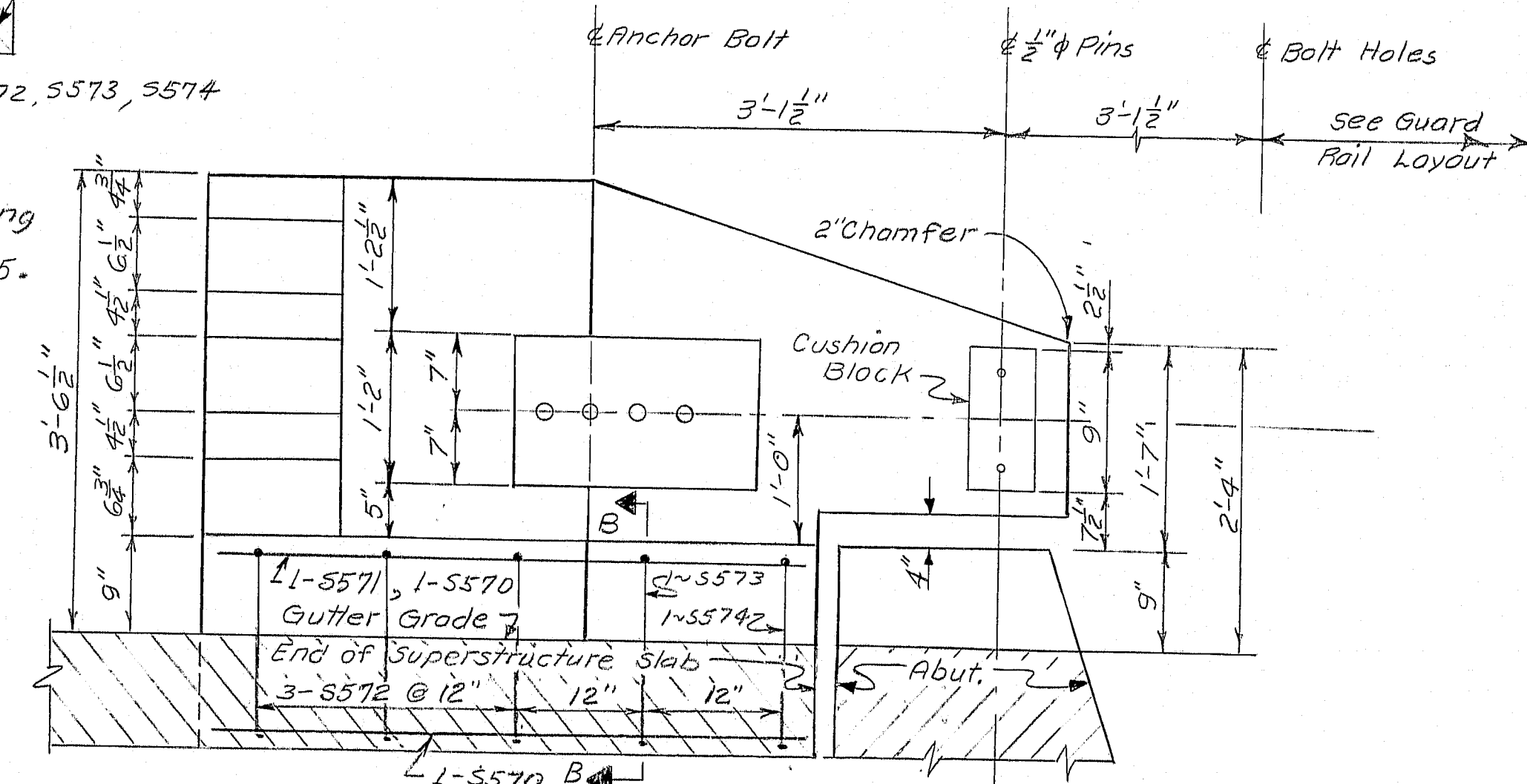
BARTERS ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
BLOCKING & END POSTS

SHEET 23 OF 44 AUGUSTA, MAINE *Aug 1914*

F.R.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(1)	24	44



Notes: For slab reinforcing steel not shown see Superstructure Sheet #25.



- NOTES**
- 1) For End Post Notes, Reinforcing Steel Layout for 3'-6 1/2" cantilevered end post, Guard Rail Anchorage, Cushion Block Details and other details of concrete End Posts not shown on this sheet see standard Details Sheet BD120-79.
 - 2) Chamfer all exposed edges of concrete a consistent dimension between 3/4" and 1" inclusive, unless otherwise indicated.
 - 3) Reinforcing steel shall have 2 inches minimum cover, unless otherwise indicated.
 - 4) Protective coating for concrete surfaces shall be applied to all exposed surfaces of the concrete end posts and concrete curbs.
 - 5) Concrete End Posts and concrete curbs will be paid for under Item 502.26.

- REFERENCES**
- 1) Superstructure - Sheet 25.
 - 2) Reinforcing Steel - Sheet 27.
 - 3) Bridge Railing - BD 120-79 - Sheet 22.
 - 4) Concrete End Posts - August 1969 - 6
 - 5) Guard Rail - August 1969 - 6
 - 6) Guard Rail - August 1969 - 6

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BARTERS ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
BLOCKING & END POSTS
SHEET 24 OF 44 AUGUSTA, MAINE June 1990

R92-362

PROJECT DESIGN ENGINEER	DATE
CON	12-81
CHECKED	1-82
REVISIONS	DEV
FIELD CHANGES	

F.R.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(4)	25	47

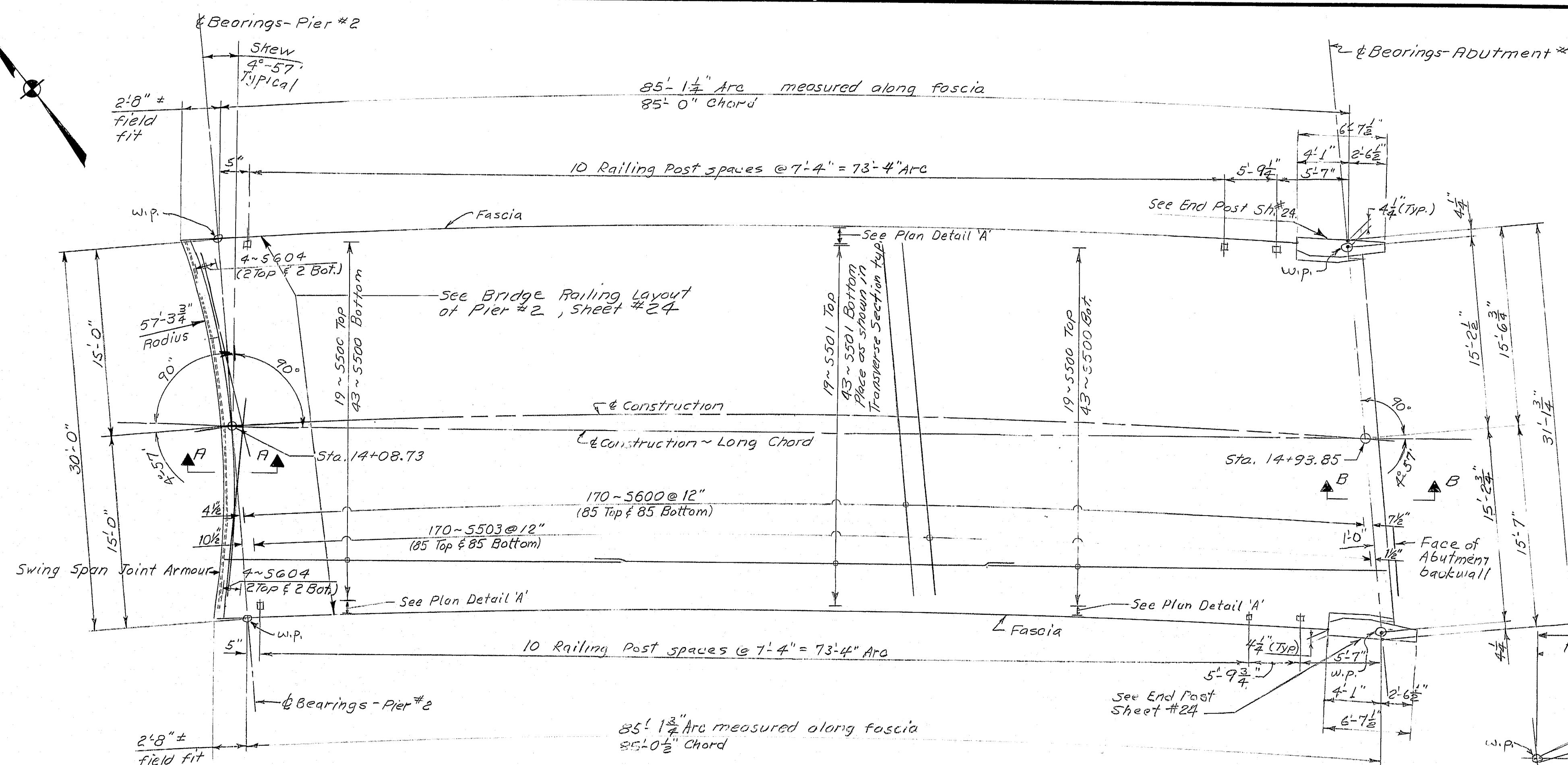
SUPERSTRUCTURE NOTES

- 1) Chamfer all exposed edges of concrete to consistent dimension between $\frac{1}{4}$ and $\frac{3}{4}$ inclusive, unless otherwise indicated.
- 2) Do not break bond in construction joints in the superstructure slab.
- 3) Reinforcing steel shall have a minimum cover of 2 inches unless otherwise indicated.
- 4) Minimum splice lengths for reinforcing bars shall be as follows:

Straight bars	1'-9"	Noted bars	#5 ~ 1'-6"
	#6		#6 ~ 1'-9"
- 5) Protective Coating for Concrete Surfaces shall be applied to the top of the slab and down the sides to the drip notch.
- 6) All S500 & S501 bars shall be placed parallel to the Construction-Long Chord

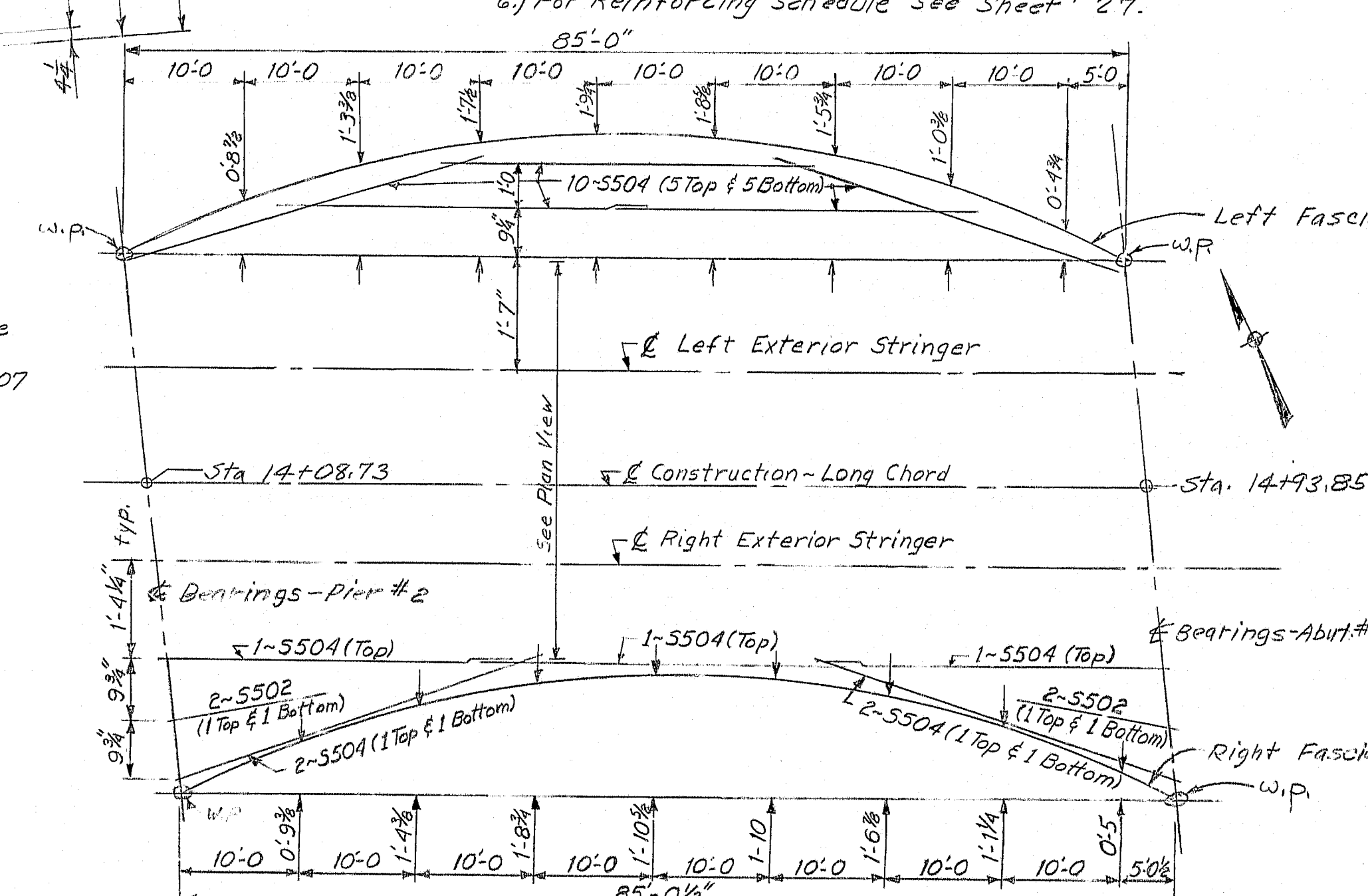
REFERENCES

- 1) For Section A-A see Swing Span Joint Detail on Structural Steel Details Sheet #22.
- 2) For Armored Joint details see sheets 18 & 31.
- 3) For Bridge Railing details see sheet #22.
- 4) For Bottom of Slab Elev. see sheet #22.
- 5) For Structural Steel see sheet #19.
- 6) For Reinforcing Schedule see sheet #27.

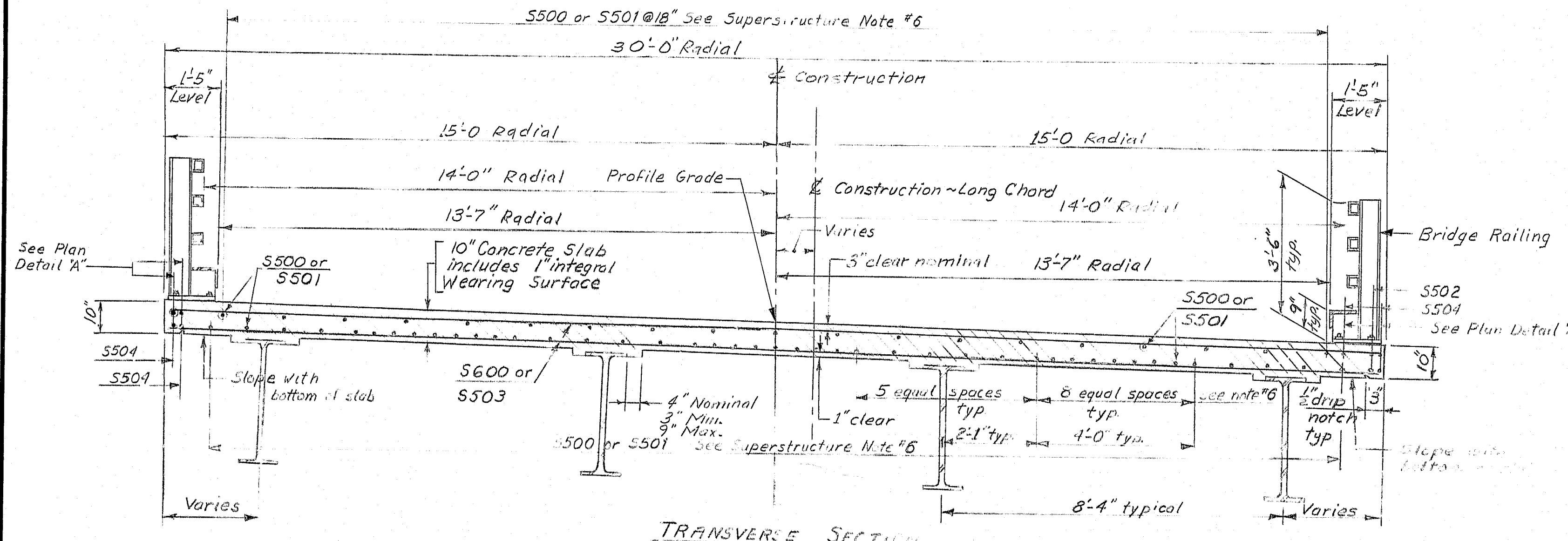


PLAN

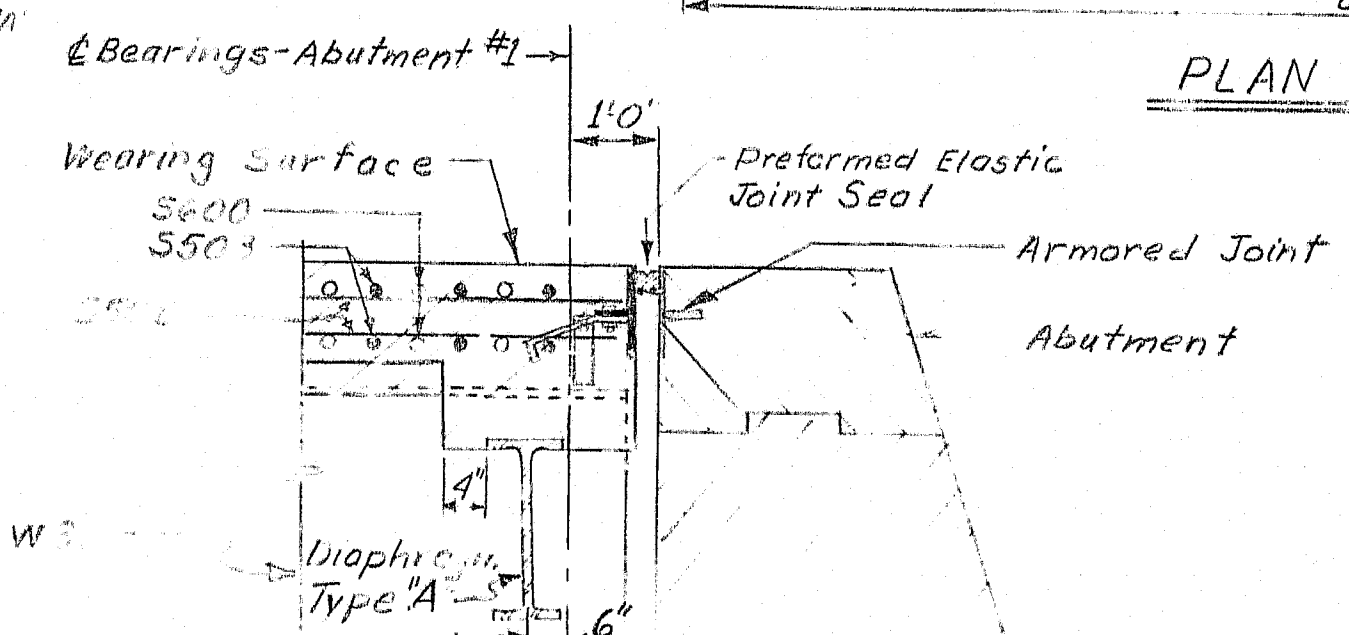
The following end post bars are embedded in the Superstructure: EP 101, EP 505, EP 506 and EP 507 typ.



PLAN DETAIL 'A'



TRANSVERSE SECTION



SECTION A-A

Variable Superelevation:
~ Bridge Deck level @ Pier #2
~ Bridge Deck superelevation @ 1/2 ft
@ Abutment #

BRIDGE # 2039

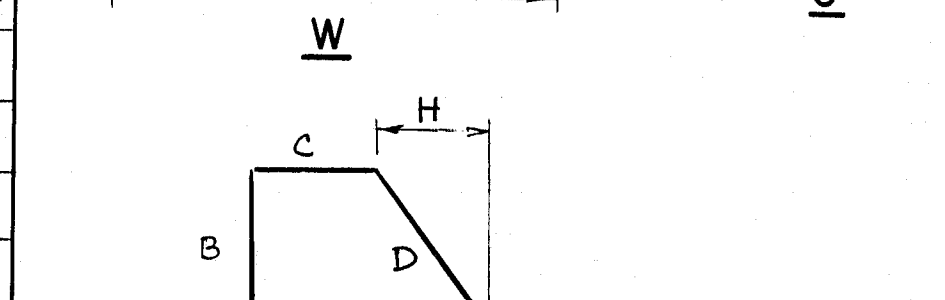
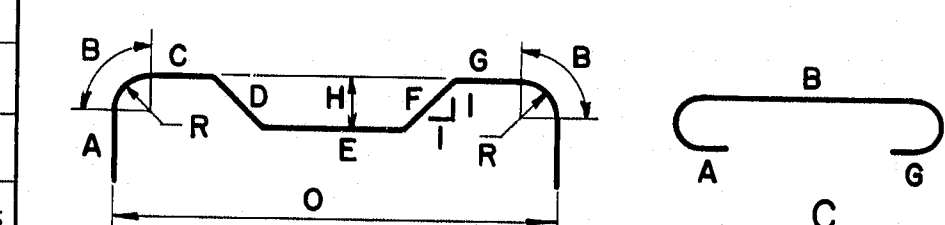
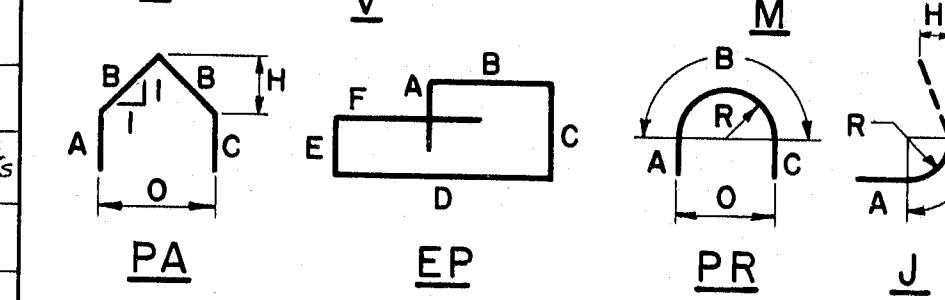
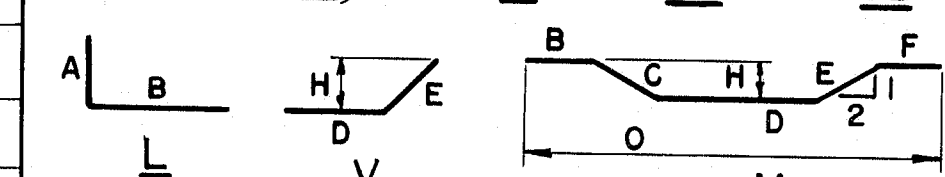
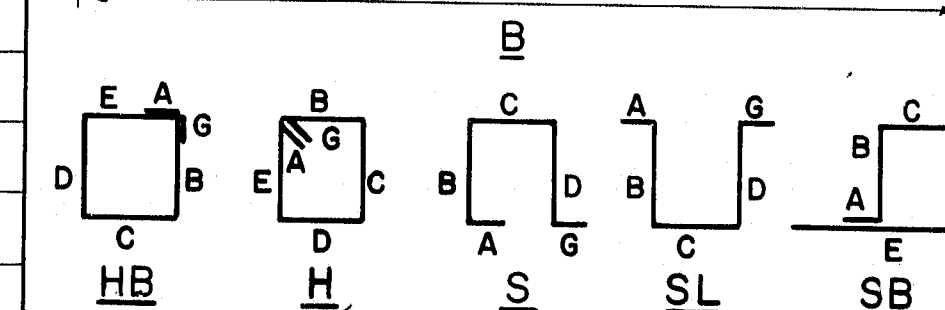
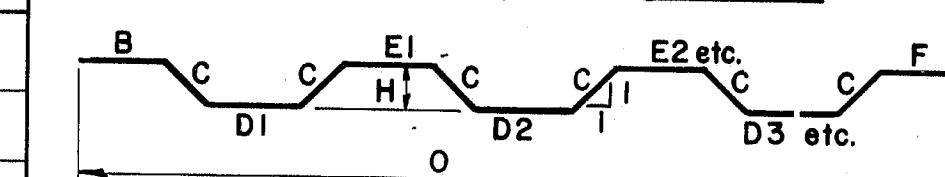
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BARTER'S ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
SUPERSTRUCTURE

SHEET 25 OF 47 AUGUSTA, MAINE June 1981

R92-363

PROJECT DESIGN ENGINEER	DATE
CMH	1/11/81
DESIGNED	BY
CMH	CMH
REVISIONS	REVISIONS
1	1
FIELD CHANGES	FIELD CHANGES

[illegible]TYPE - BENDING DIAGRAMS

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

Reinforcing Bar: ASTM A615 Grade 60

GENERAL NOTES

1. First digit(s) following the letter of the Mark indicates size of reinf. bar.
Mark (A 502) bar size = #5
Mark (P 1001) bar size = #10
Mark (S 603) bar size = #6
2. Letter of Marks A, P & S locates bars of Abutments, Piers, and Superstructure parts respectively.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

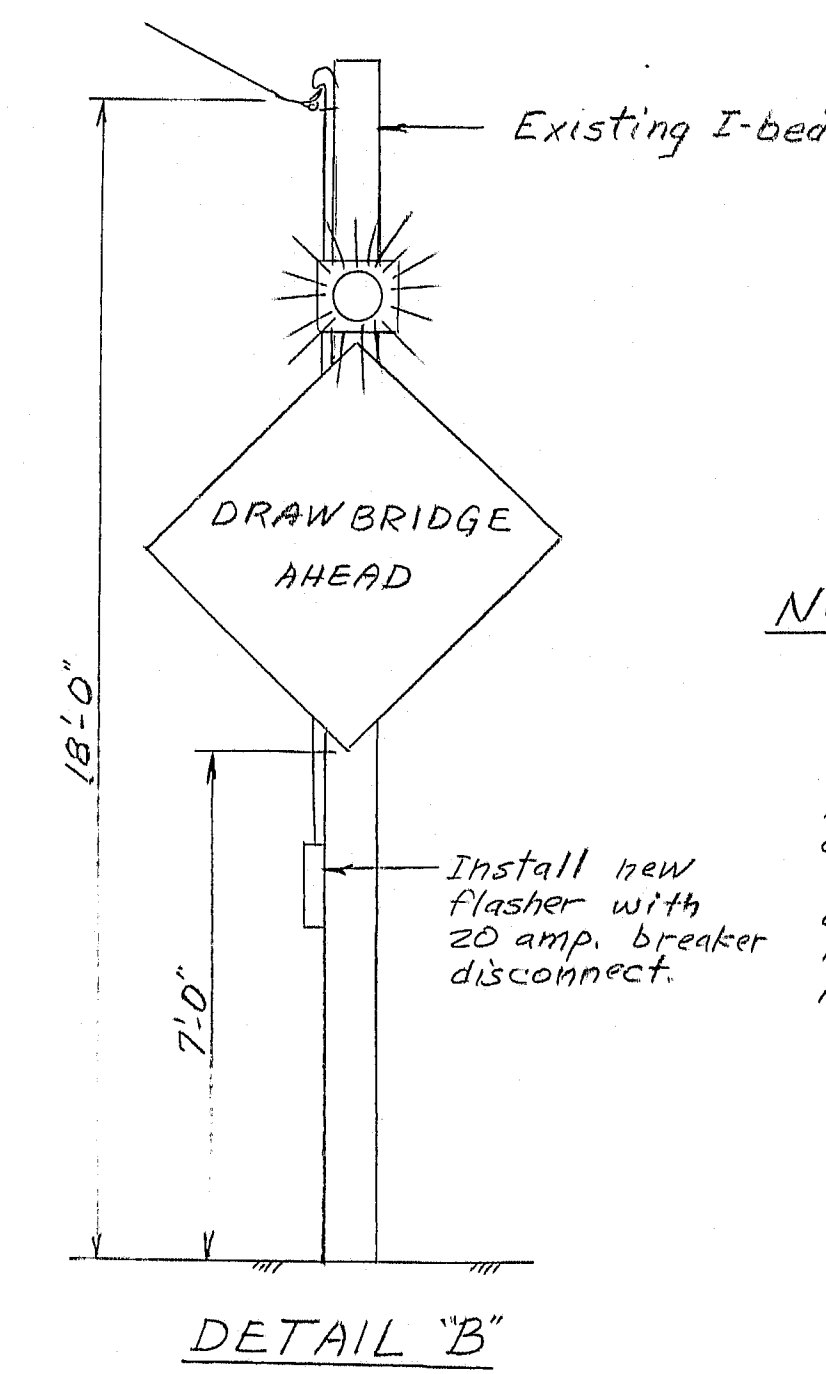
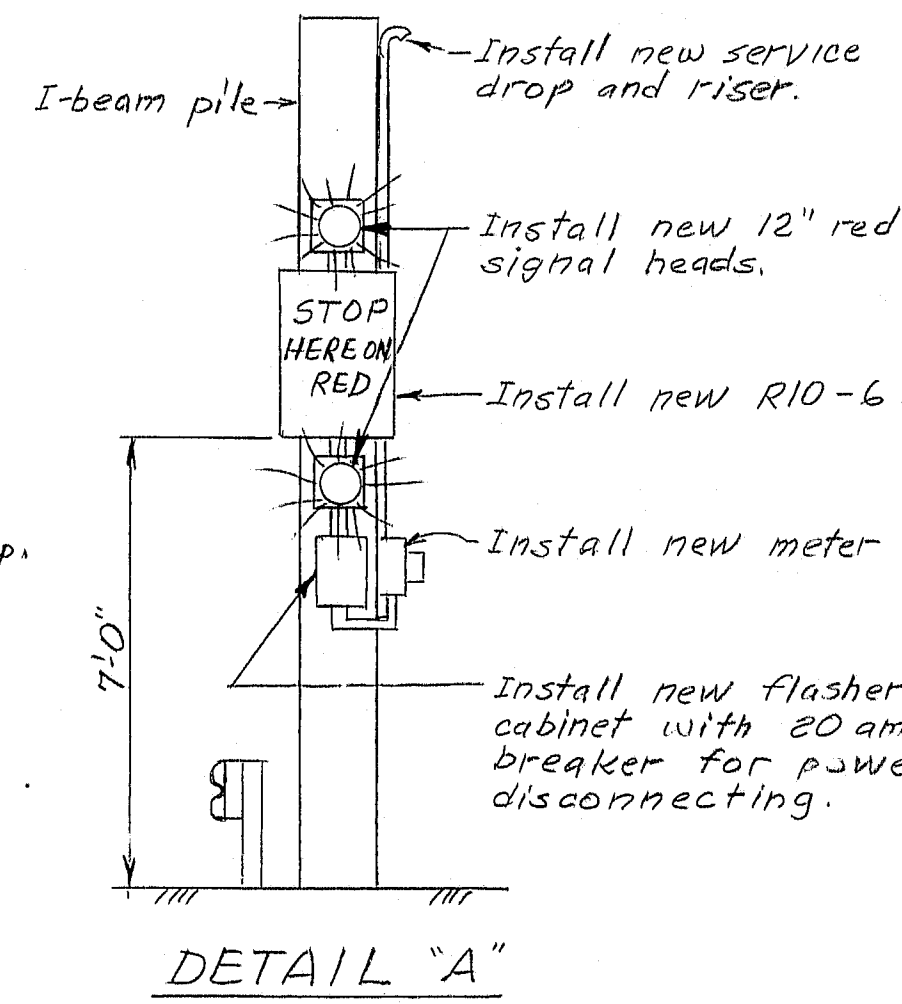
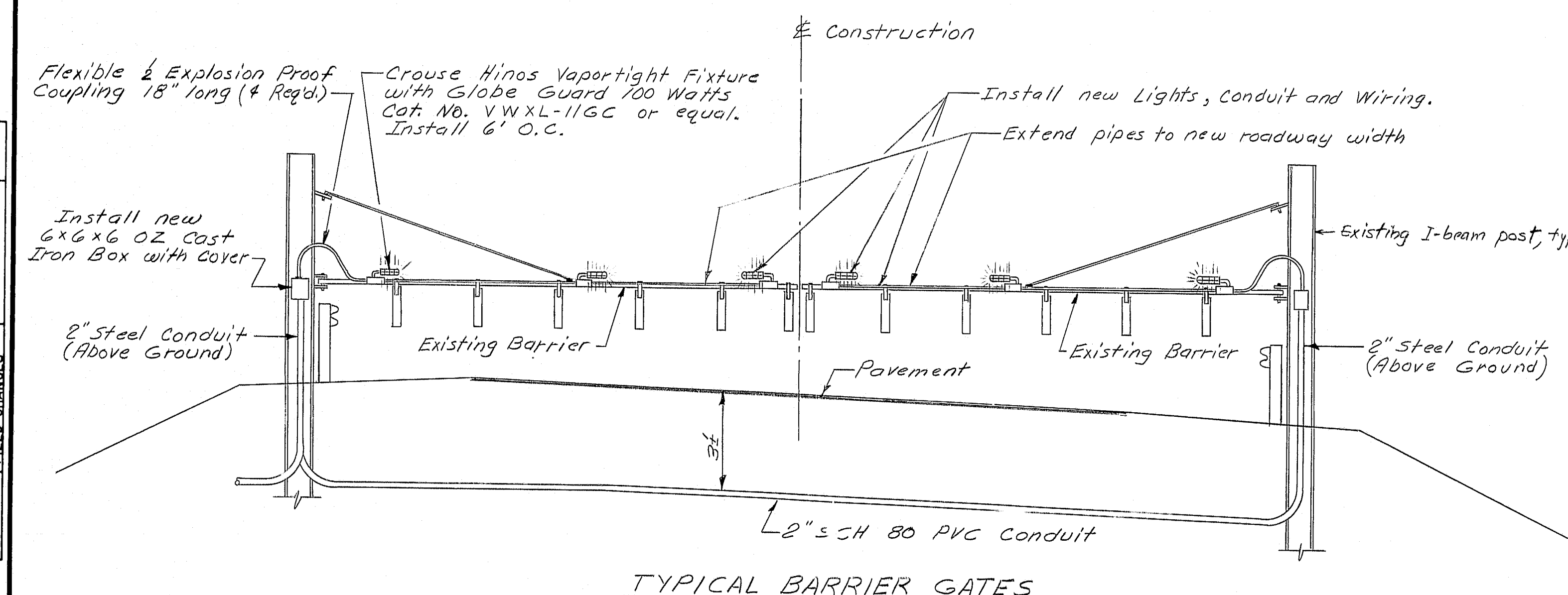
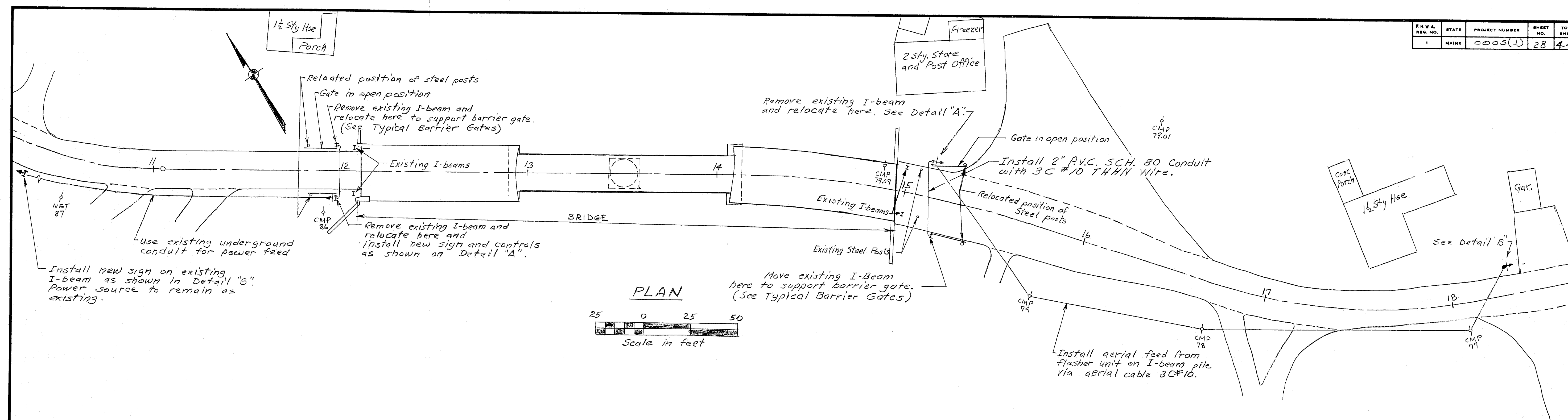
**BARTER'S ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY
REINFORCING STEEL SCHEDULE**

SHEET 27 OF 44 AUGUSTA, MAINE June 1981

R92-365

PLANS	Proj. Design Engr			CDH BY	DATE
	DESIGN - DETAIL			CDH	CDH $\frac{1}{2}$ RSB 11-80
	CHECKED				DEM
	REVISIONS				6-81

F.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0003(1)	28	44



NOTES

1. Warning gates shall be installed. Flashing red lights shall be included on the gate arm. Power for the flashing lights will be from the flasher located on the I-beam.
2. The existing structural steel and miscellaneous metals shall be field painted, as well as all new steel.

PROJECT	DESIGN ENGINEER	CDH	DATE
PLANS	DESIGN - DETAILED	CDH	9-77
	CHECKED	CDH	8-81
	REVISIONS	DEW	
	FIELD CHANGES		

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
BARTER'S ISLAND BRIDGE OVER BACK RIVER IN THE TOWN OF BOOTHBAY LINCOLN COUNTY ELECTRICAL
SHEET 25 OF 44 AUGUSTA, MAINE June 1981

R92-366

PLAN

Scale: 0 10 20 30 40 50 60 70 80 90 100 200

NOTES:

- One Way traffic control signals.
- Reference is made to the above notes for details.
- Traffic Control subject to the above notes.
- Plans for the bridge to be submitted.
- The swing spans so as not to interfere with the swing.
- Tools, material, etc. on the swing.

- 11.) The steel grid floor shall be in place on the swing span before traffic is placed over this special detour.
- 12.) The 4"x 4" wood post "Posted 12 Tons" signs shall be relocated to a location determined by the Engineer in the Field. These signs shall be in effect until the special detour is in use.



BRUNING 44-132 45710

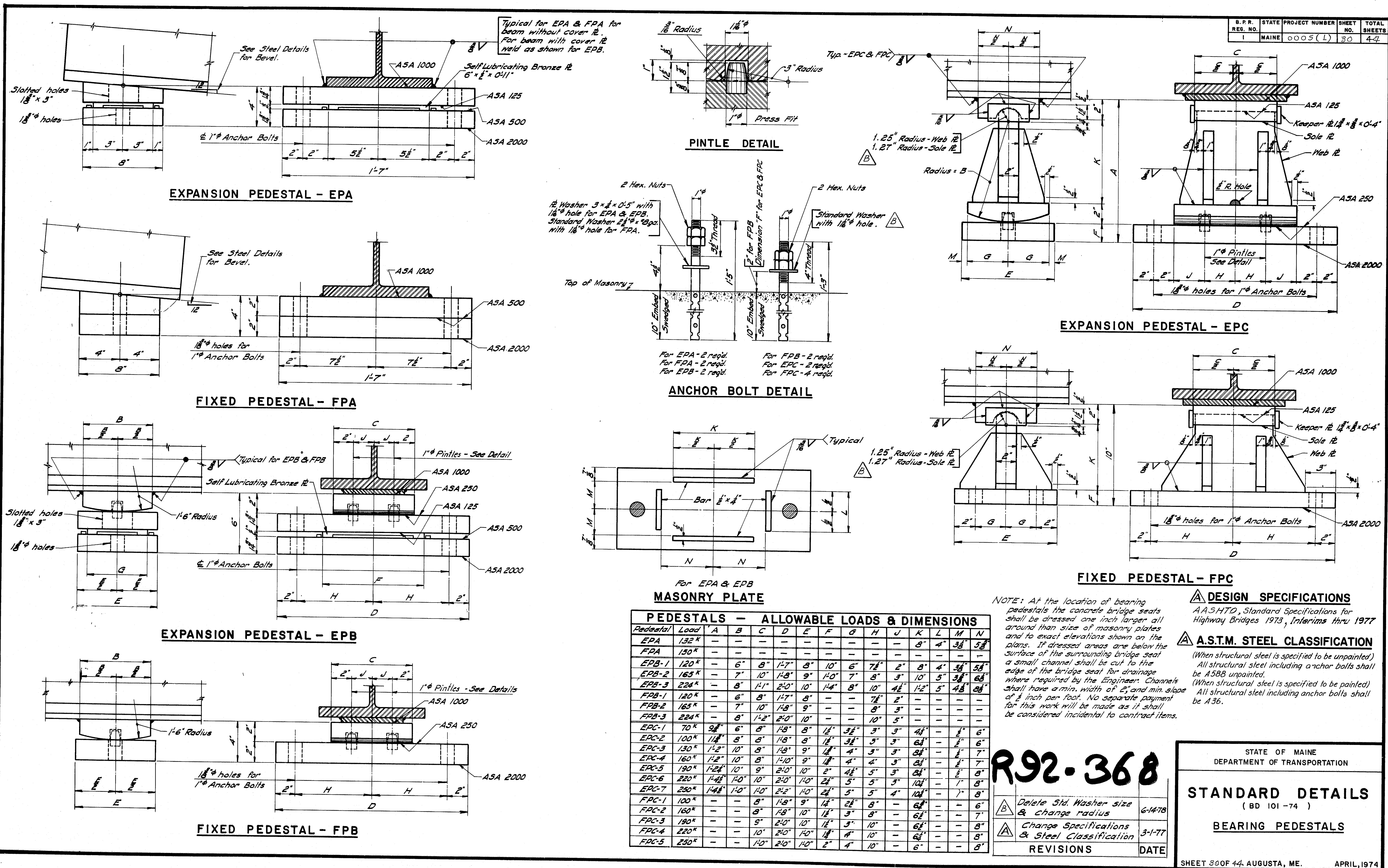
R92-367

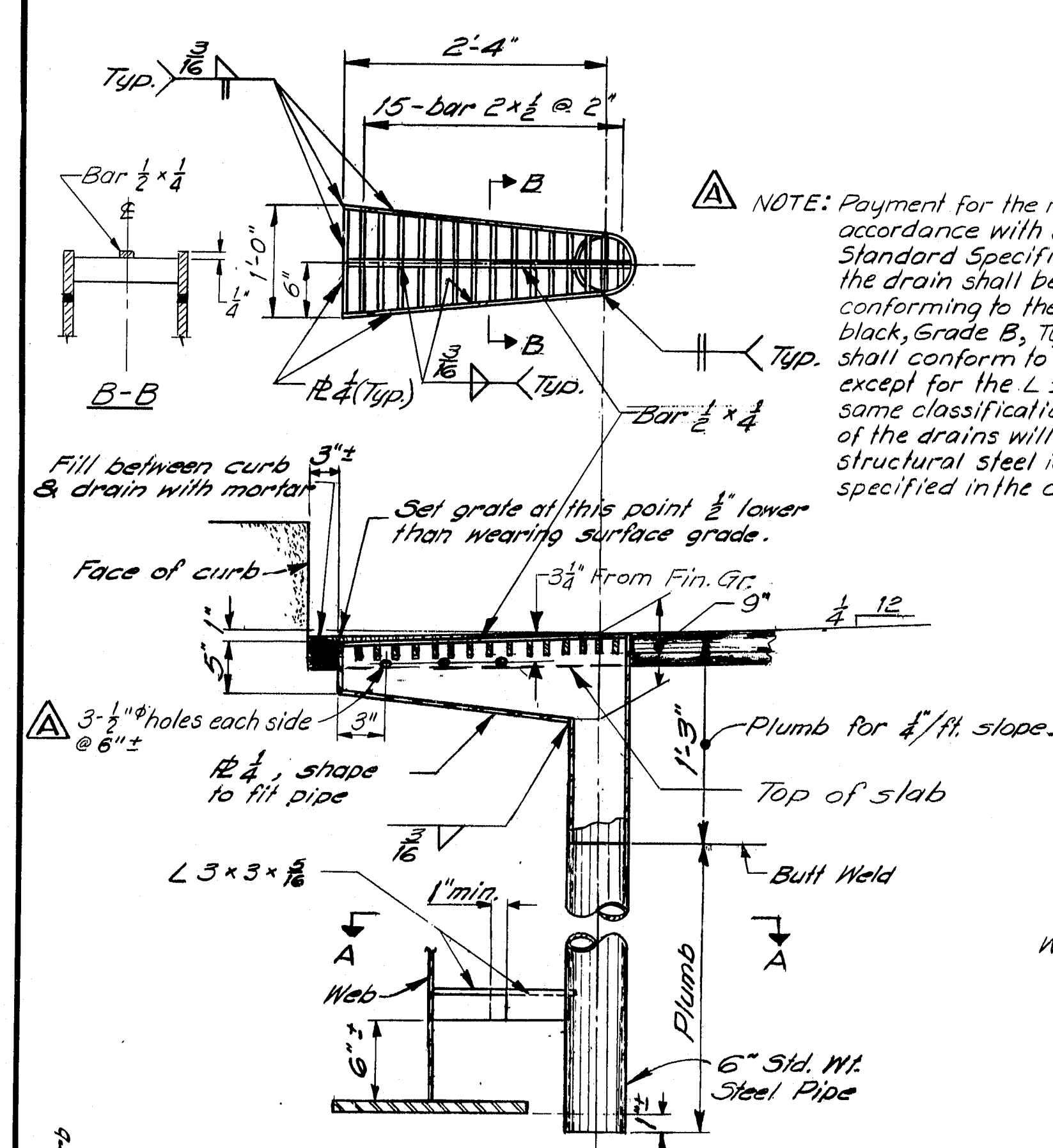
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BARTERS ISLAND BRIDGE
OVER
BACK RIVER
IN THE TOWN OF
BOOTHBAY
LINCOLN COUNTY

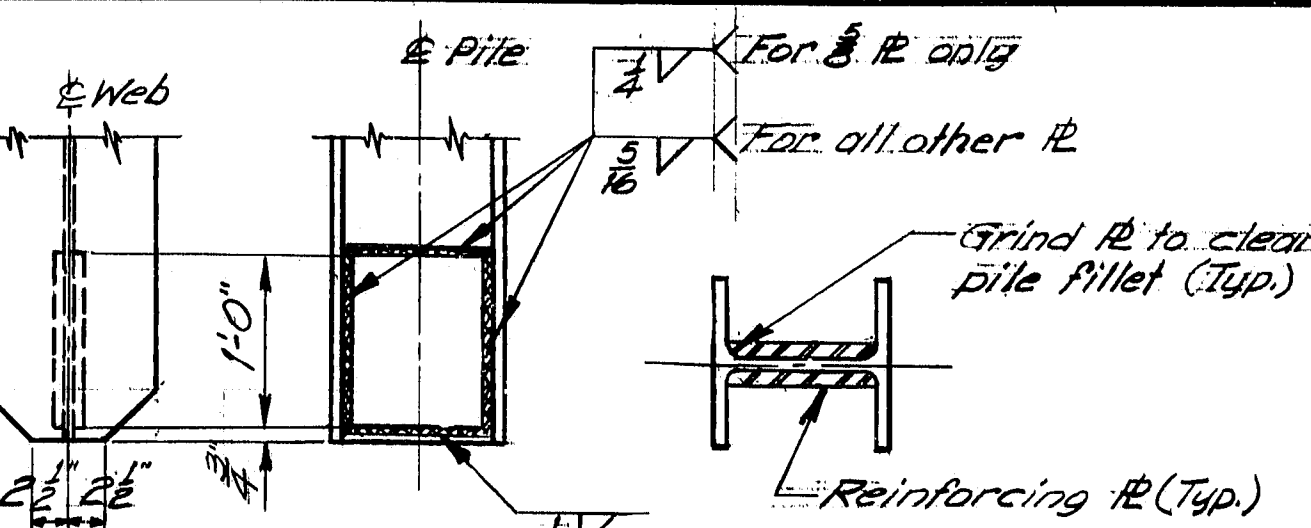
MAINTENANCE OF TRAFFIC

SHEET 29 OF 44 AUGUSTA, MAINE June 1931



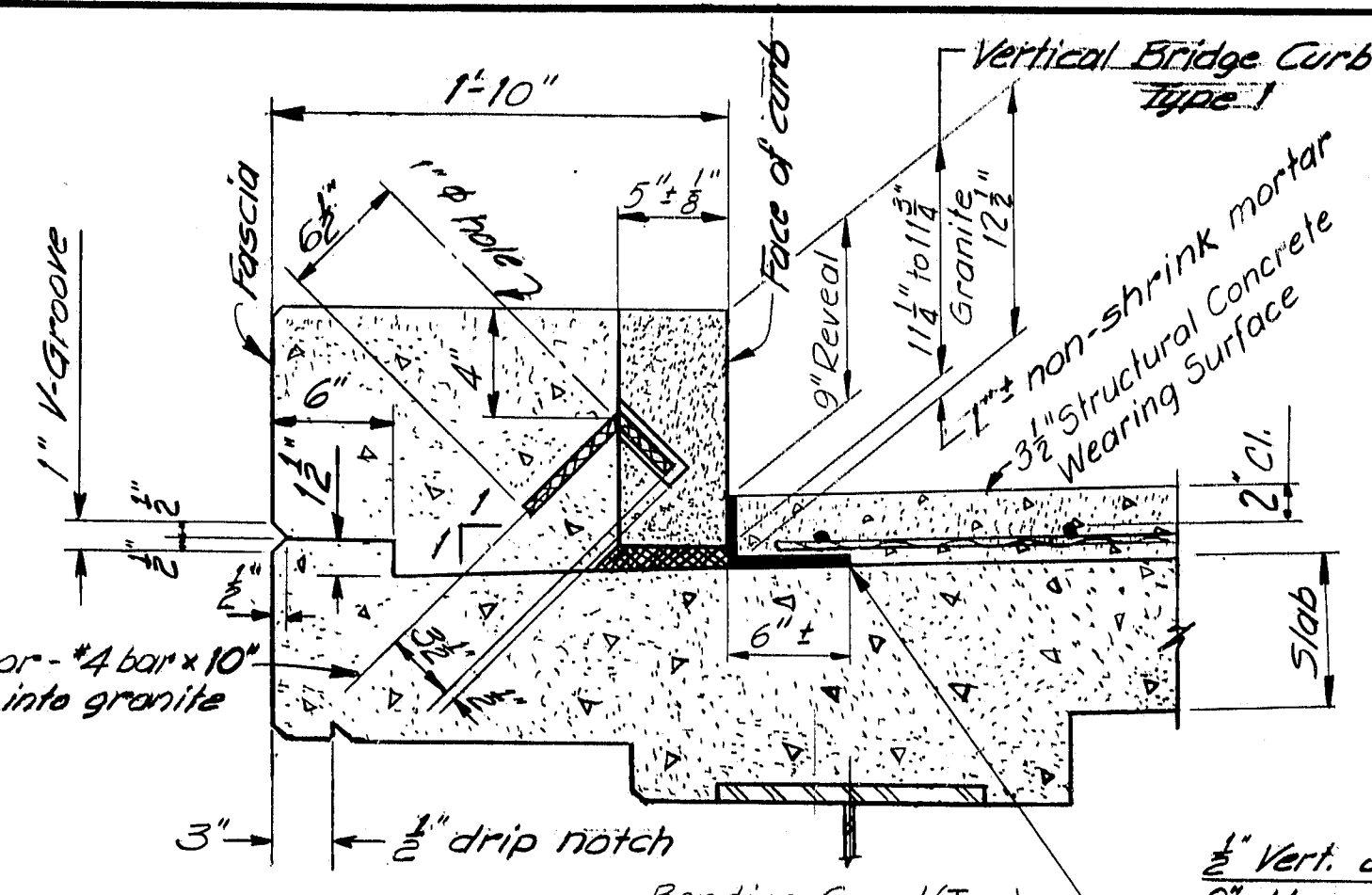


NOTE:
Alternate pointed reinforced pile tips may be used if they have at least the cross-sectional area of the pile tip shown, and are approved by the Engineer.

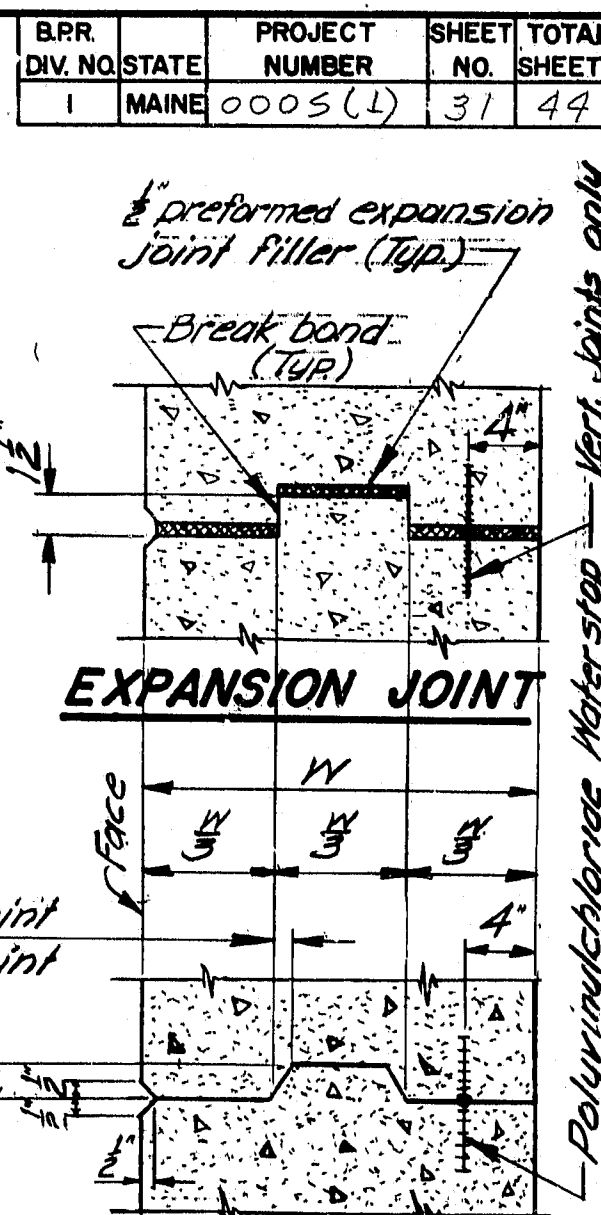


POINTED REINFORCED PILE TIP
NOTE: Plates may be shop or field welded

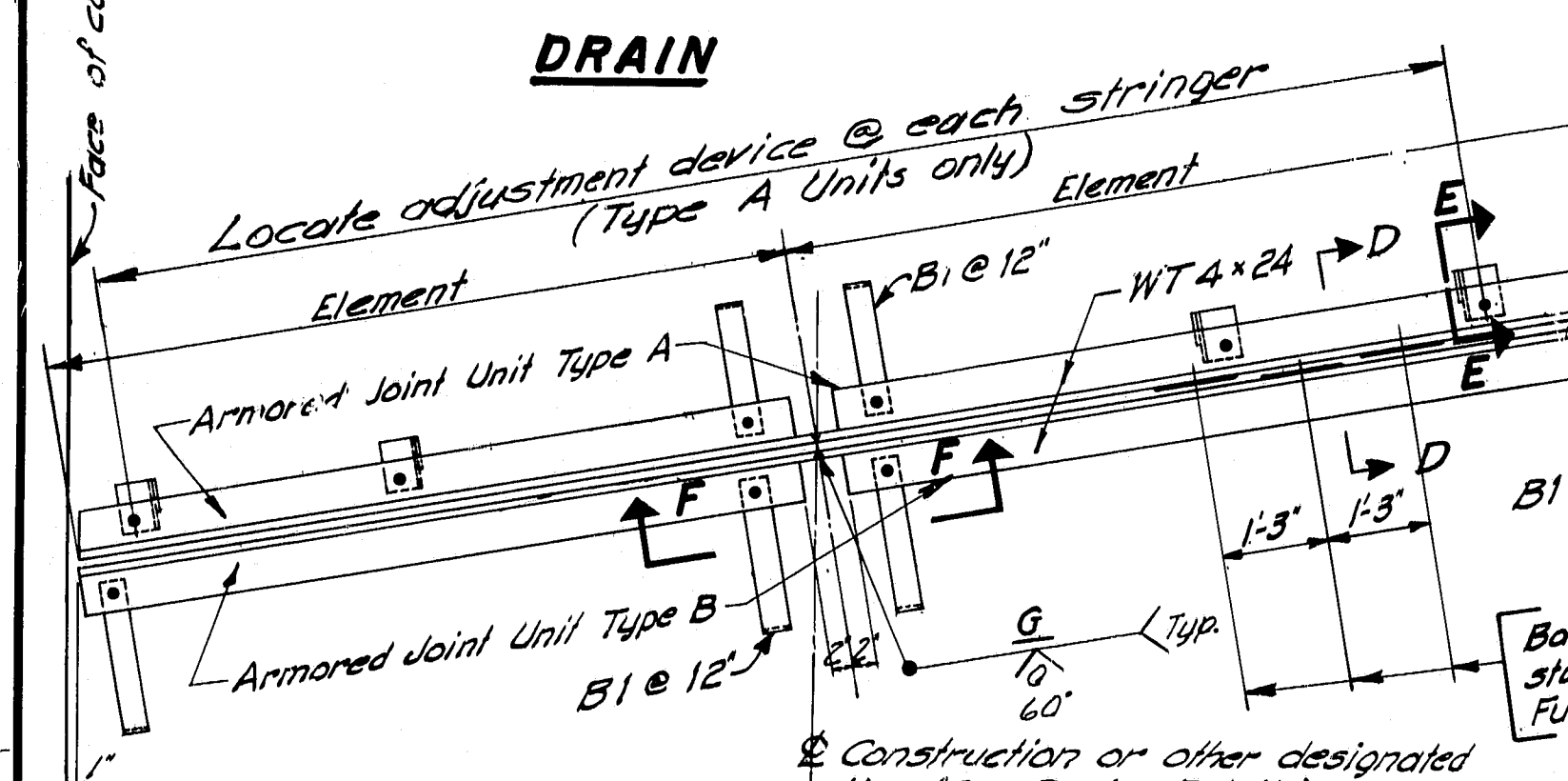
PILE SIZE	REINFC. R. SIZE
HP 10 x 42	8# x 3/8" x 1'-0"
HP 10 x 57	8# x 3/8" x 1'-0"
HP 12 x 53	10# x 3/8" x 1'-0"
HP 12 x 74	10# x 3/8" x 1'-0"
HP 14 x 73	12# x 3/8" x 1'-0"
HP 14 x 89	12# x 1" x 1'-0"



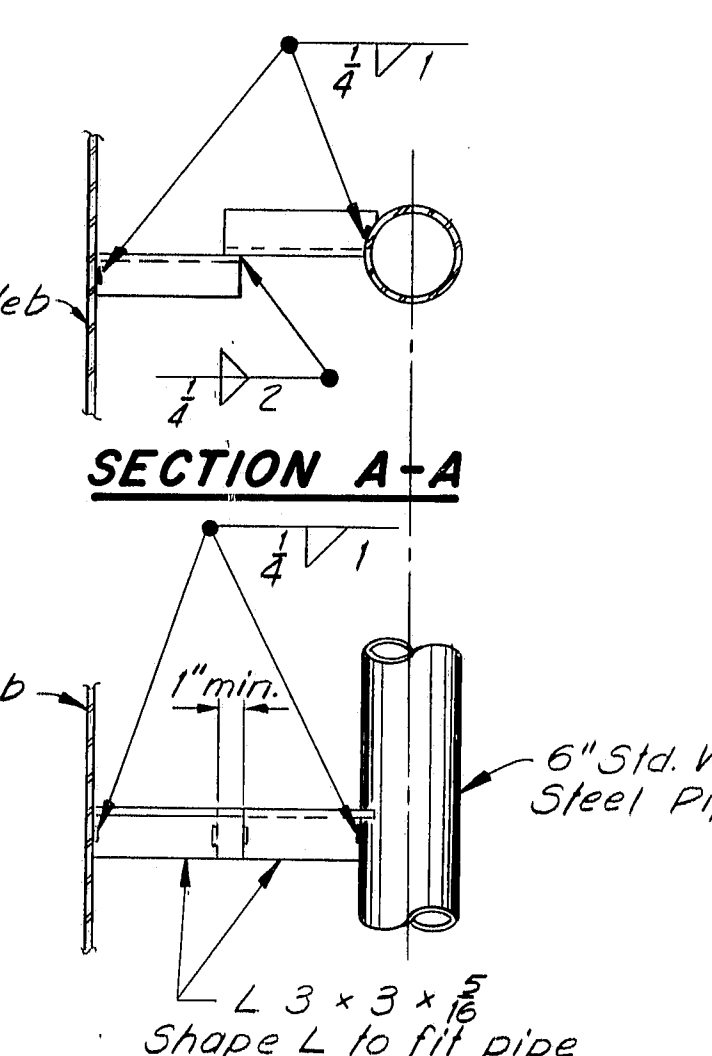
CURB SECTION



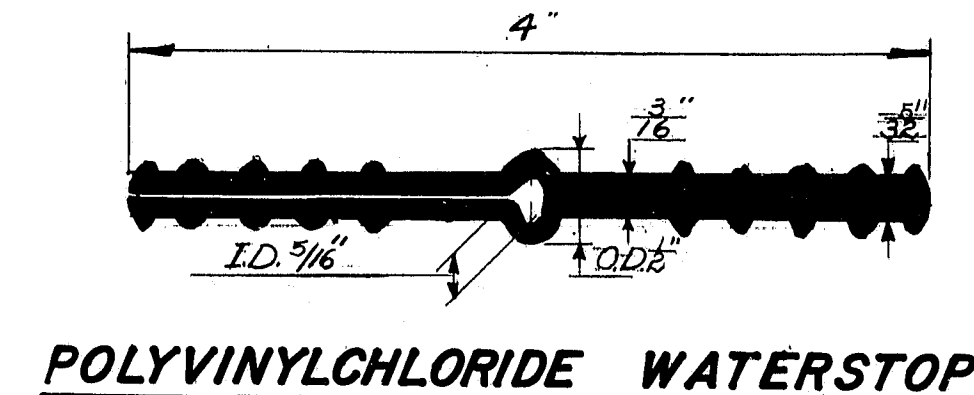
EXPANSION JOINT



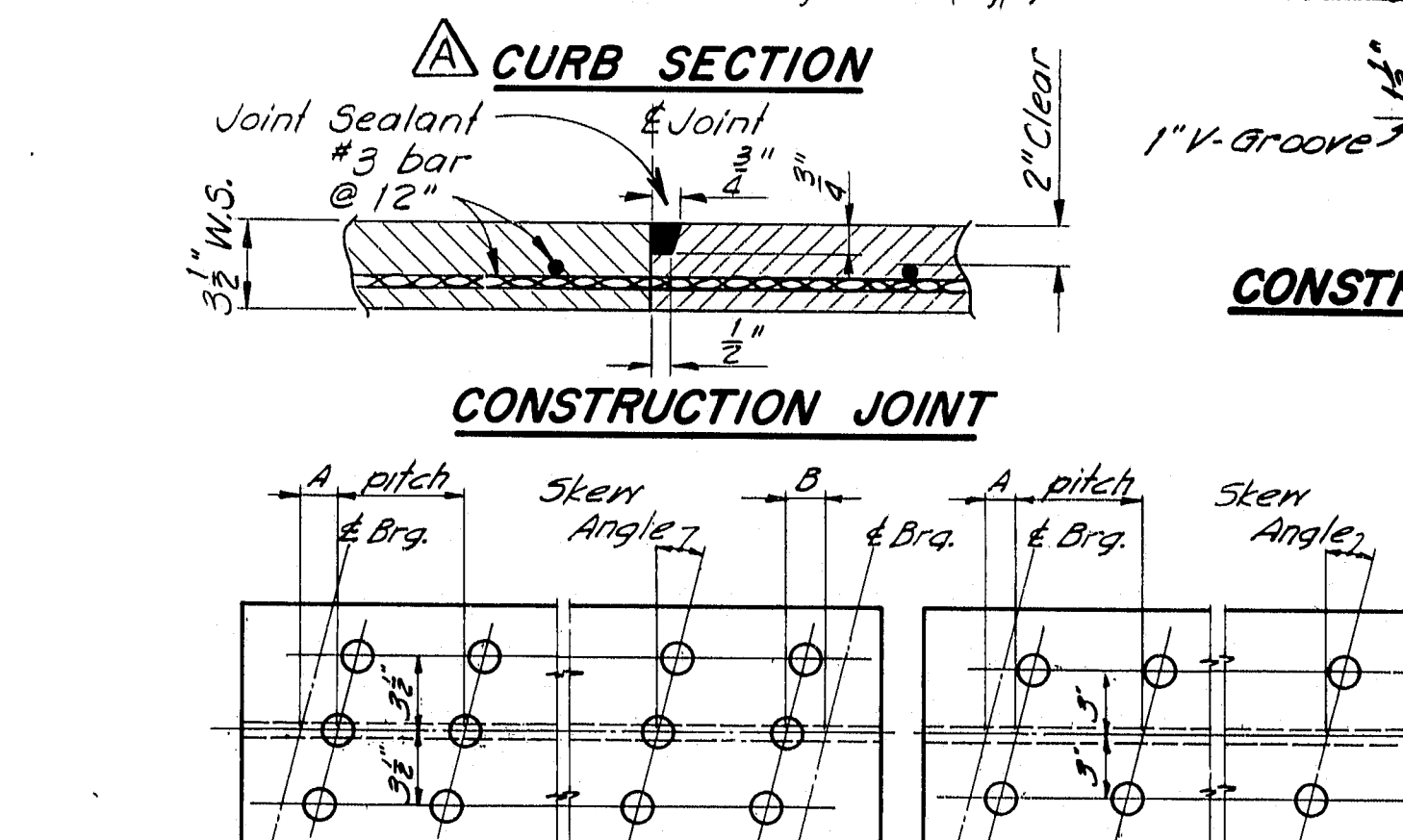
DRAIN



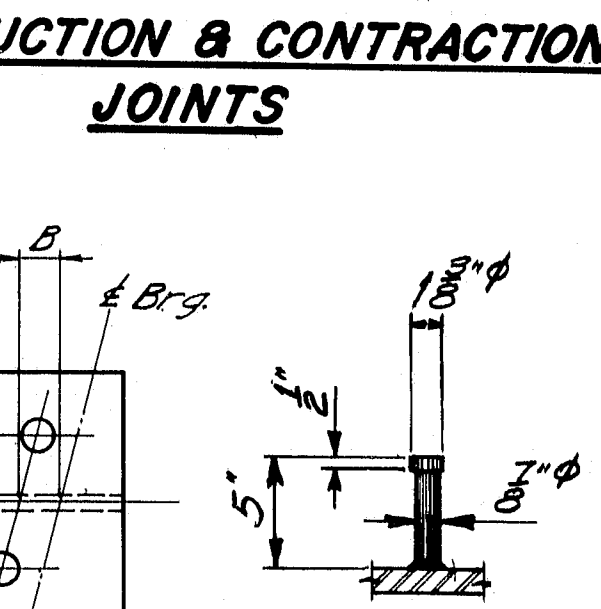
SECTION A-A



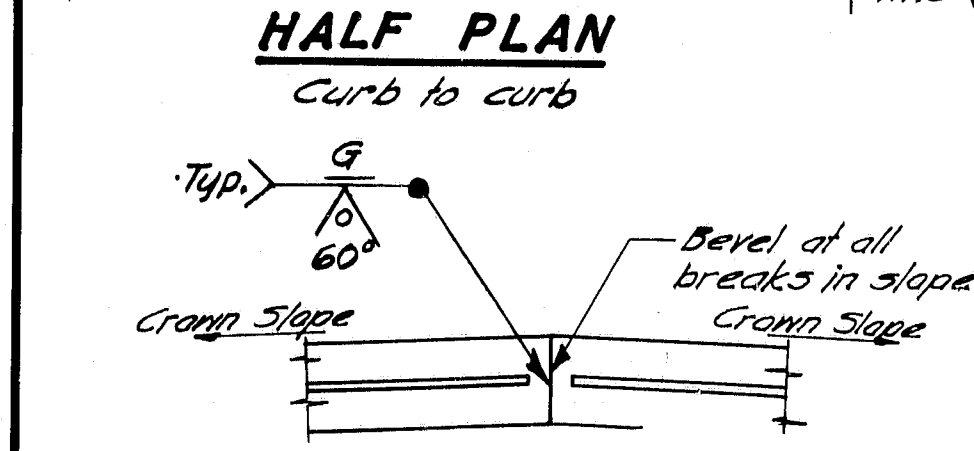
POLYVINYLCHLORIDE WATERSTOP



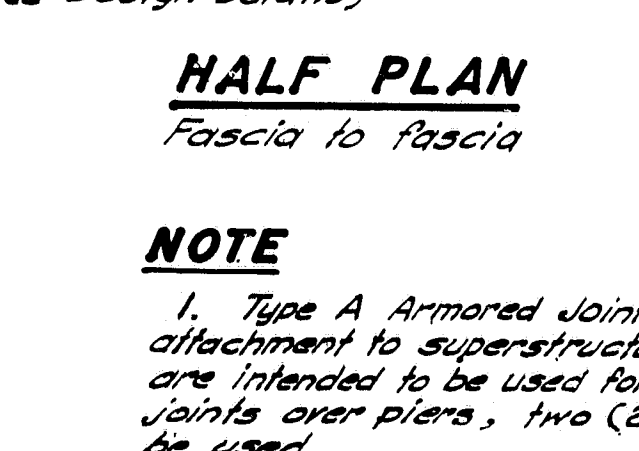
CONSTRUCTION JOINT



CONSTRUCTION & CONTRACTION JOINTS



HALF PLAN



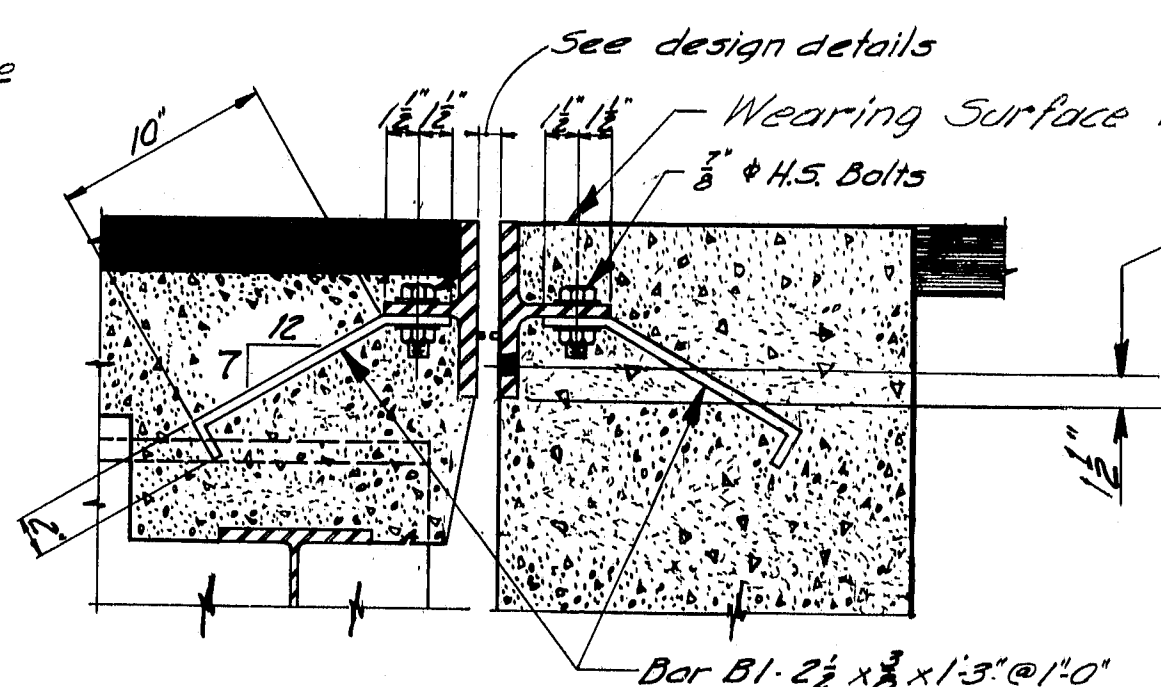
HALF PLAN

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. When more elements than two (2) are required by the design details, the elements of both units shall be field welded together in the same manner as shown in Section F-F.
3. Armored Joints to be paid for as Structural Steel.
4. All structural steel shall be A36. When structural steel is specified to be unpainted, the armored joint shall receive three coats of shop paint, on exposed areas of flanges below seal retention bars.

ARMORED JOINT

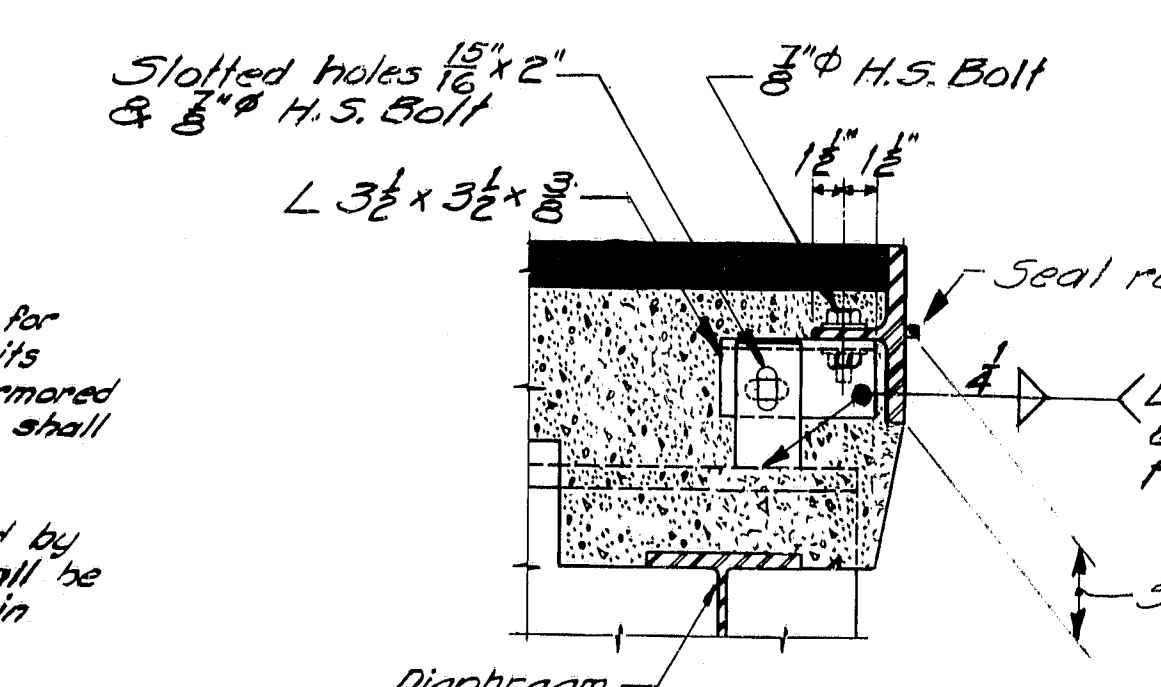
An armored joint consists of two armored joint units. See note 1.



ARMORED JOINT UNIT TYPE A

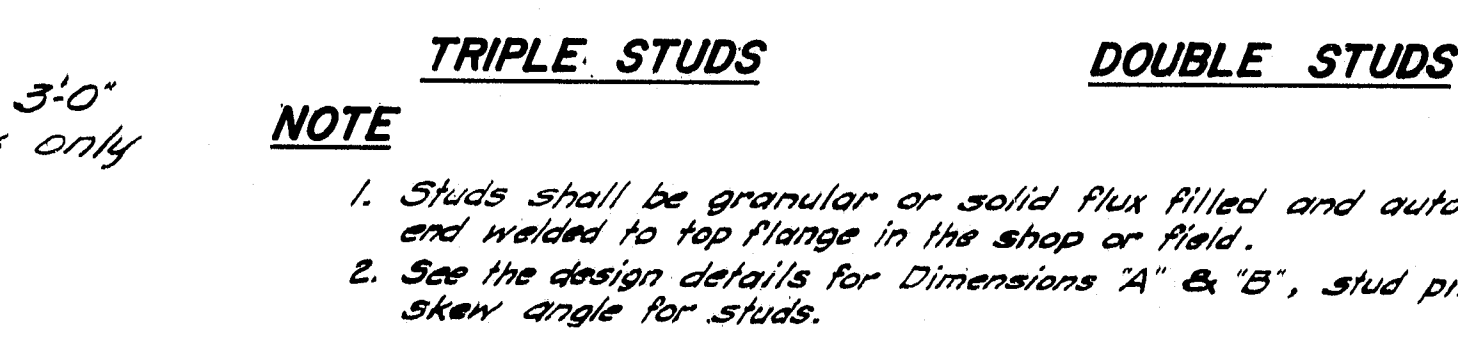
ARMORED JOINT UNIT TYPE B

SECTION D-D



SECTION E-E

Showing Adjustment Device Armored Joint Unit Type A only After Unit is in final position weld 1/2" bar to angle with 1/2" fillet



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.

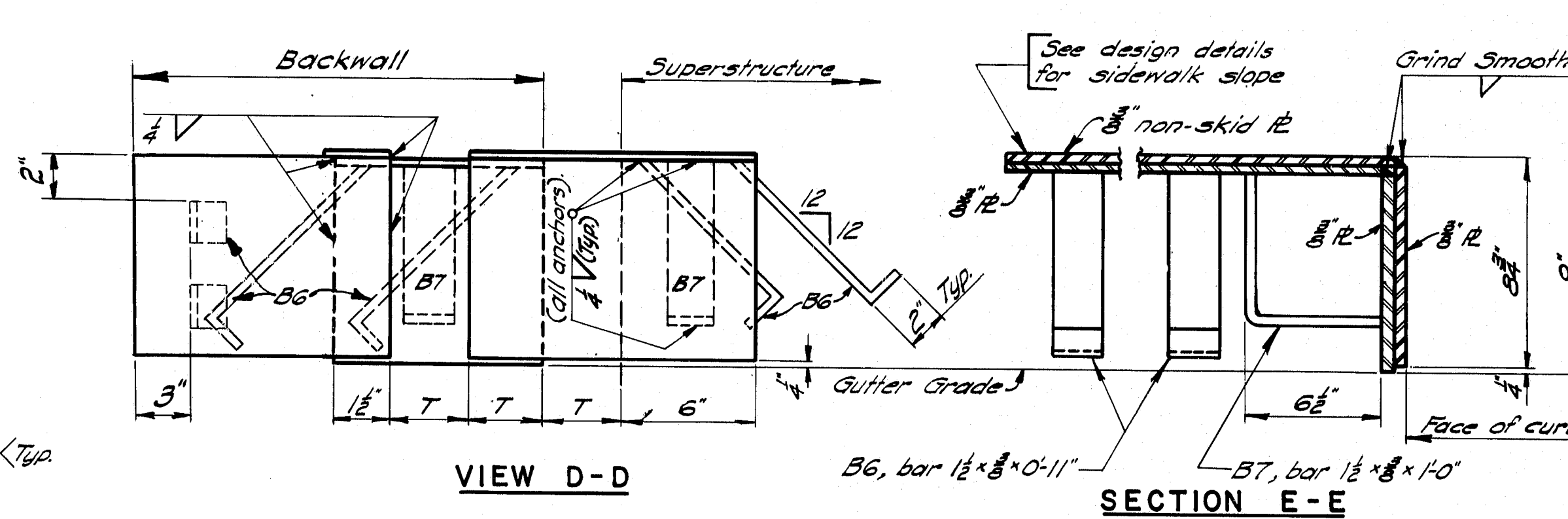
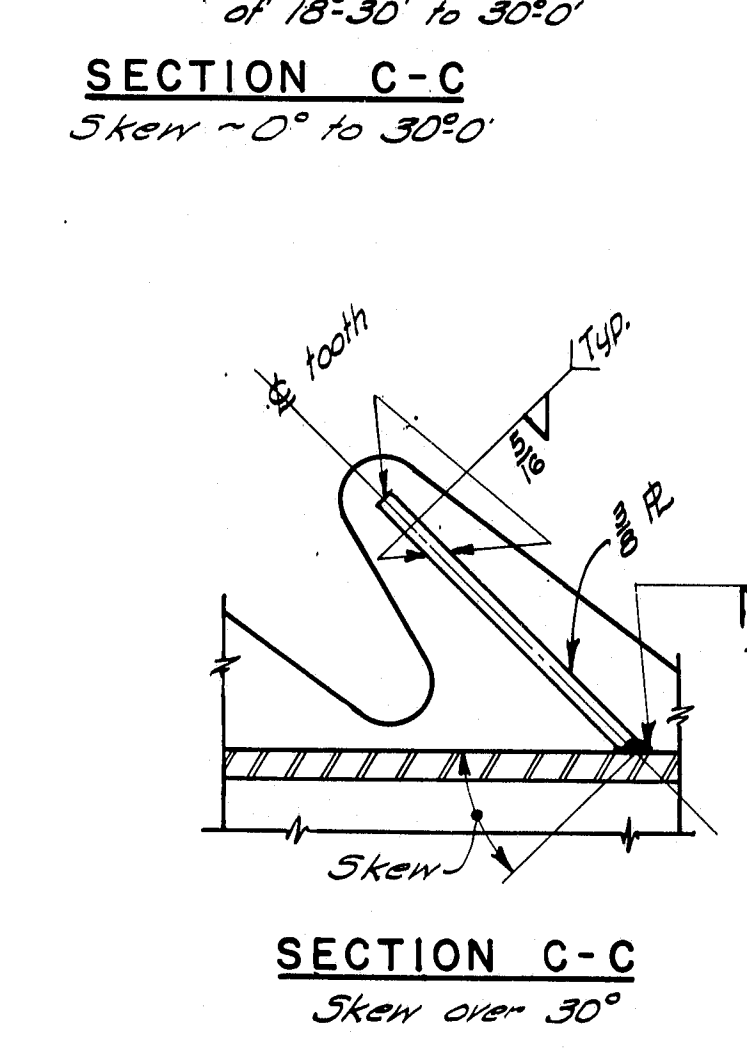
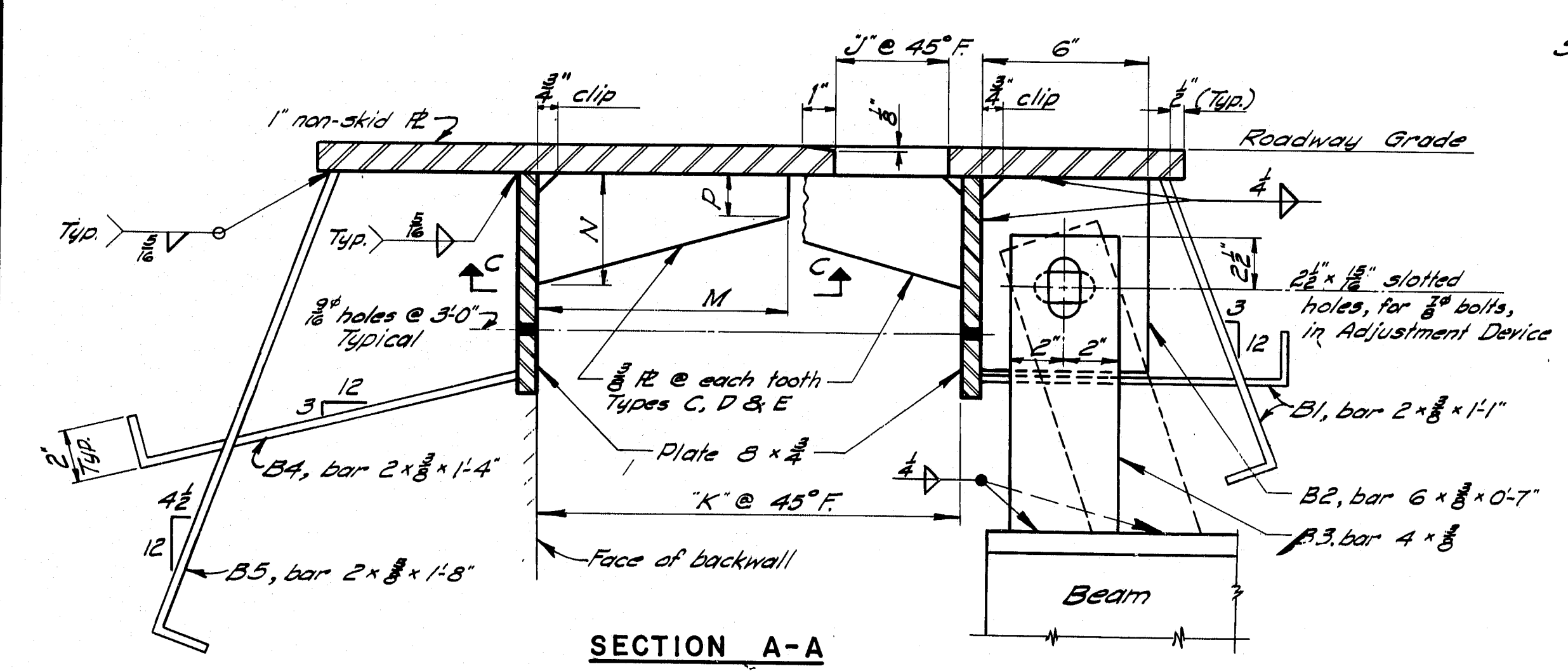
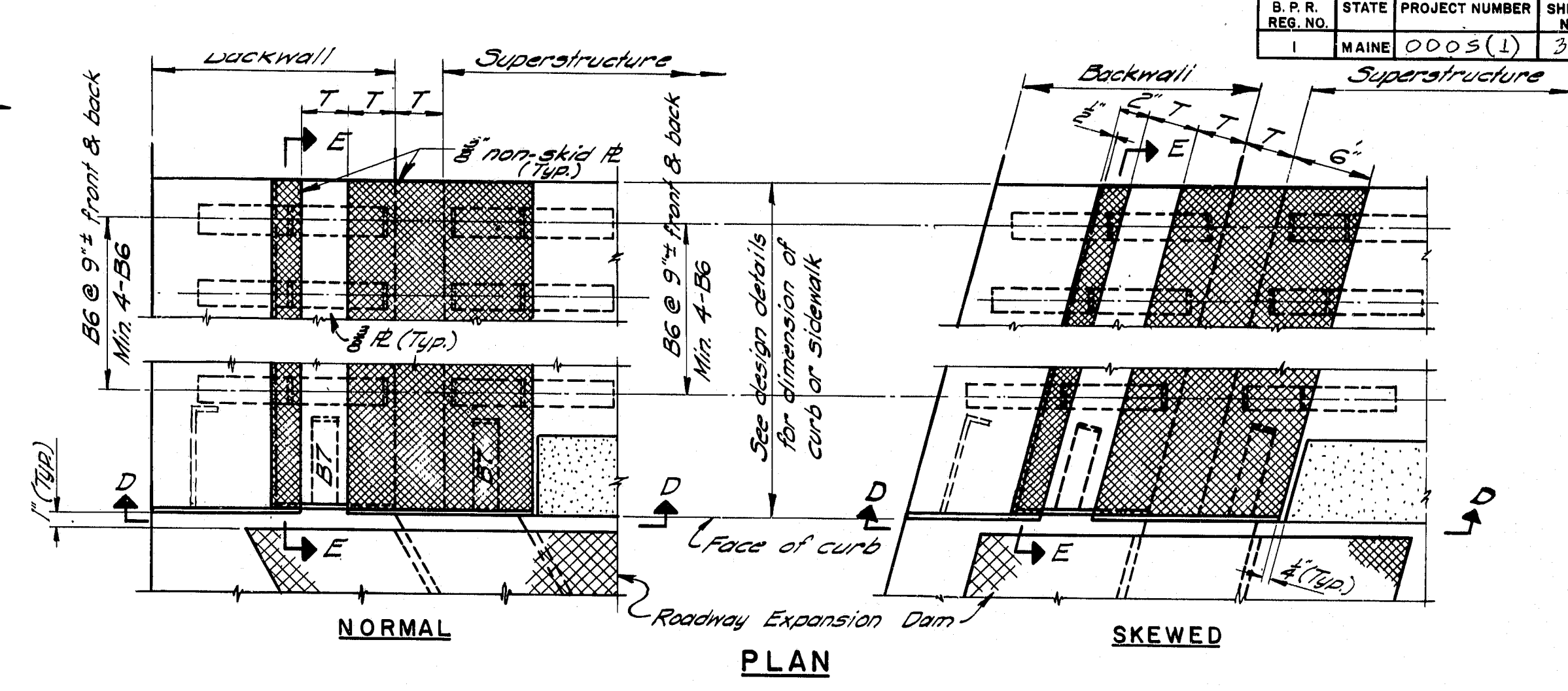
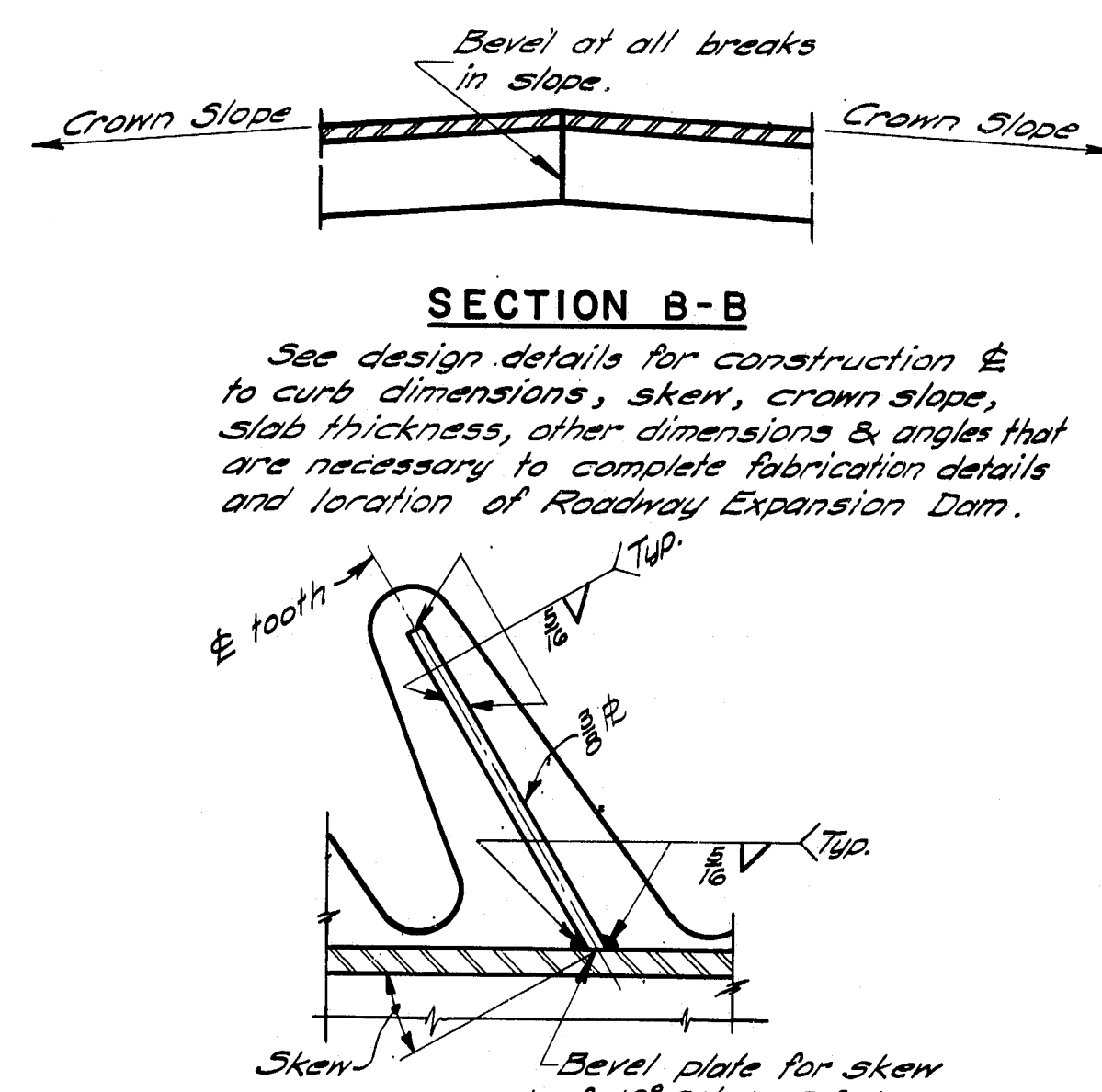
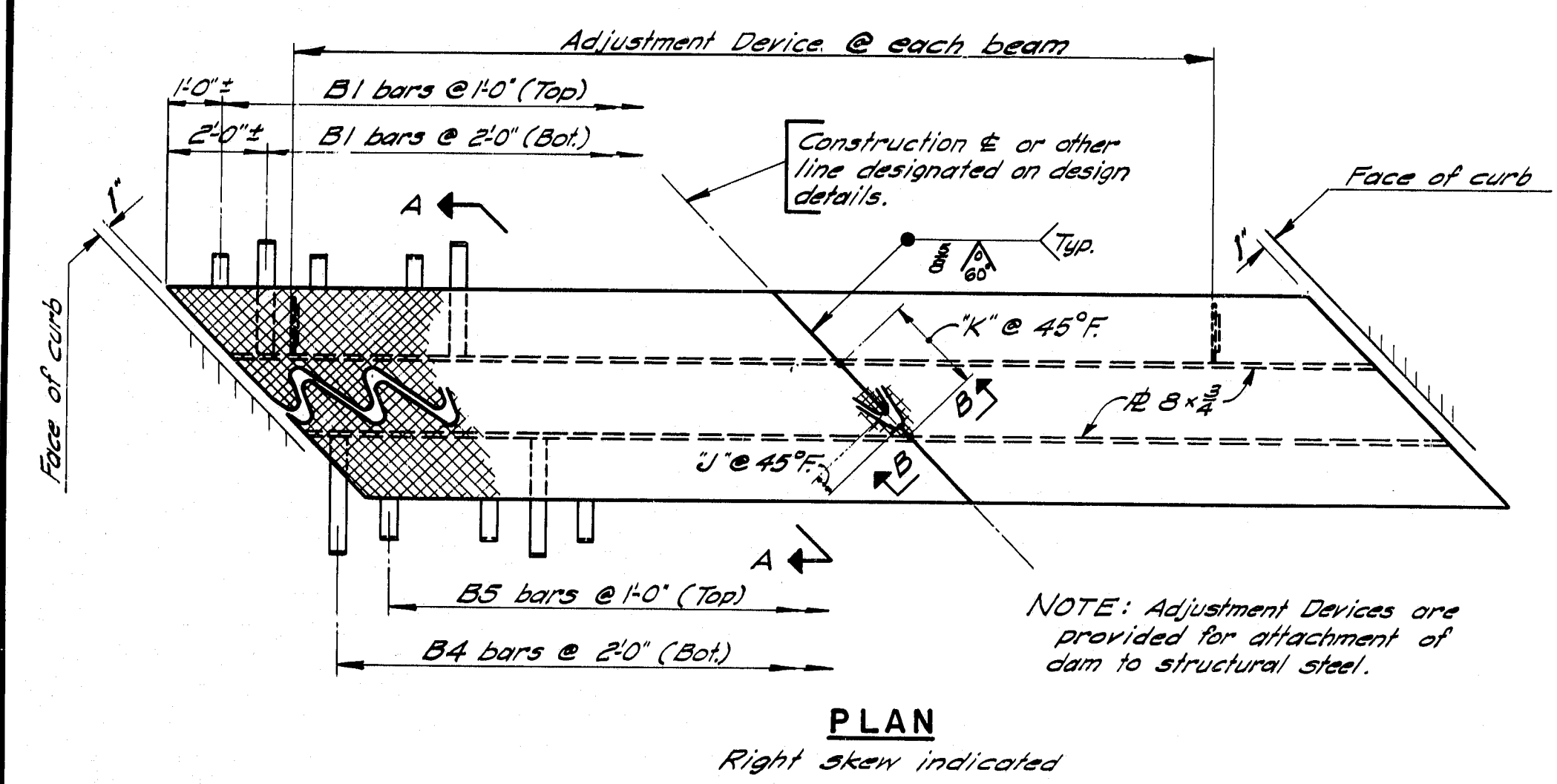
SHEAR CONNECTORS

NOTE

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

R92-369

REVISIONS	DATE
Added holes and note to roadway drain.	
Add Note 4 to Armored Joint notes.	
Eliminate Hot Bit Perch.	
Change curb and granite widths and added a concrete wearing surface	



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

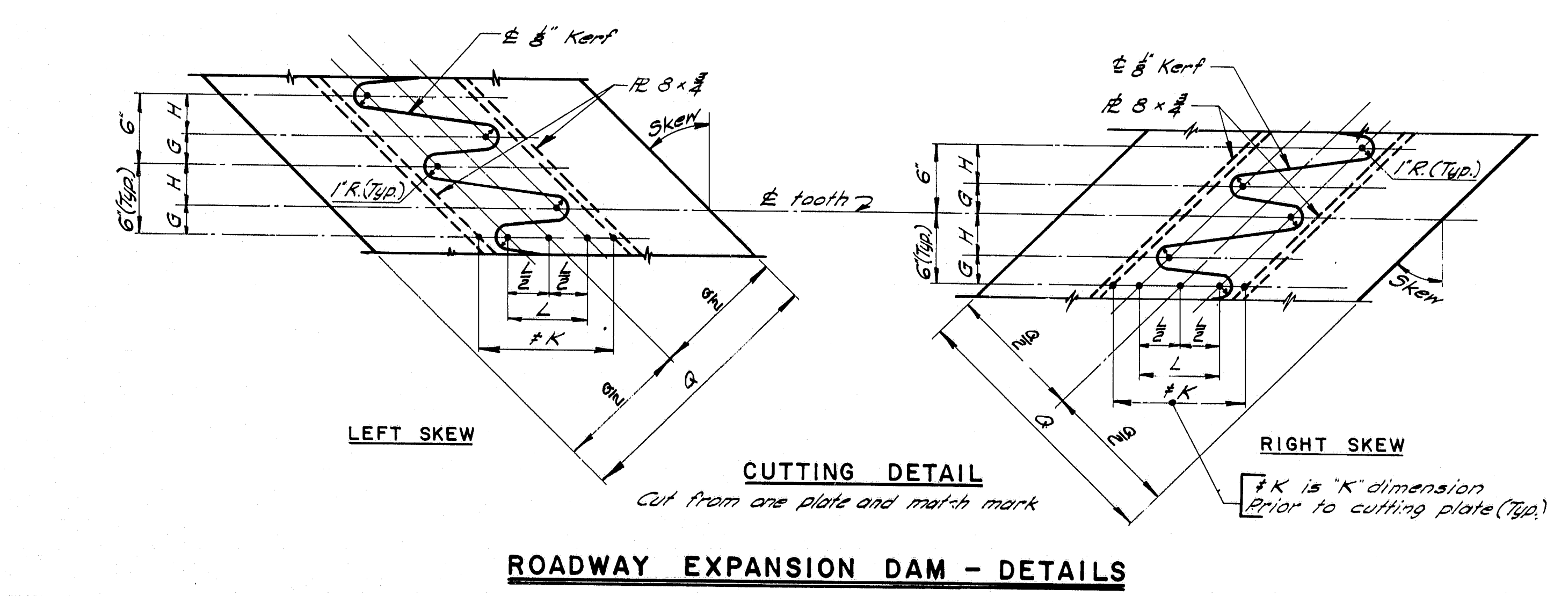


TABLE OF DIMENSIONS

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

GENERAL NOTES

Expansion Dams to be paid for as Structural Steel.

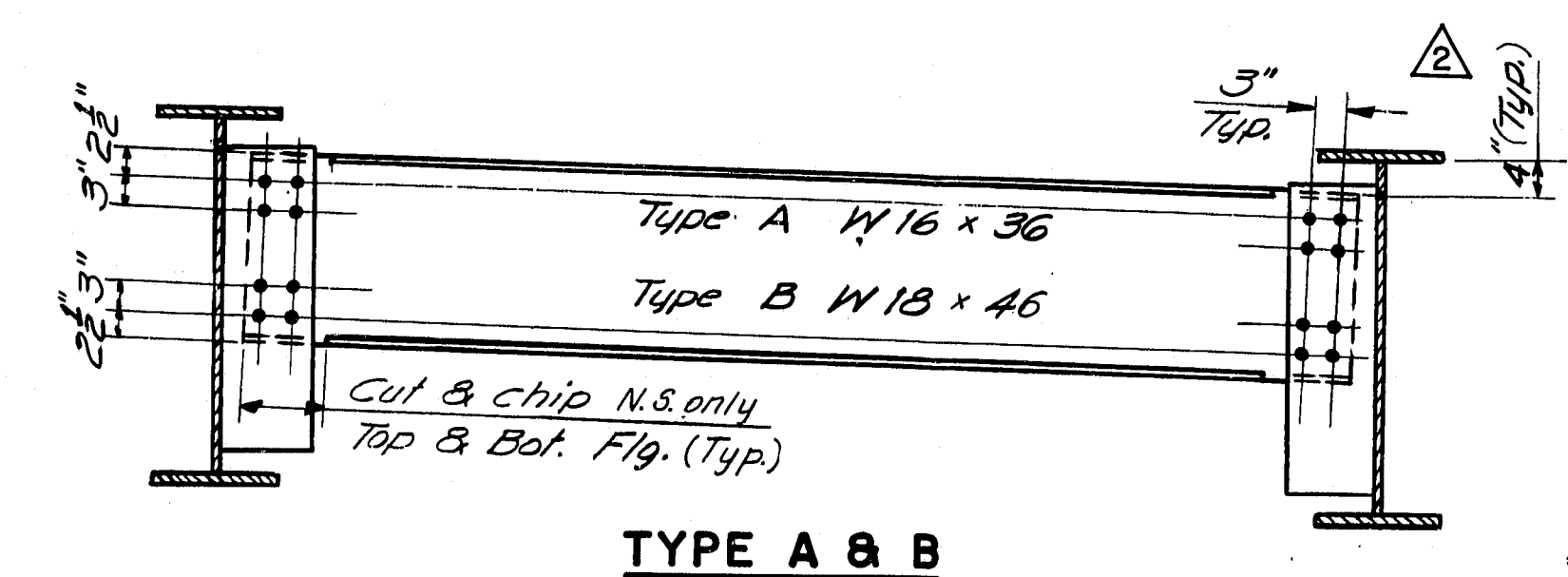
If there is conflict between this Standard Detail and the design details, the requirements of the design details shall be followed.

A.S.T.M. STEEL CLASSIFICATION

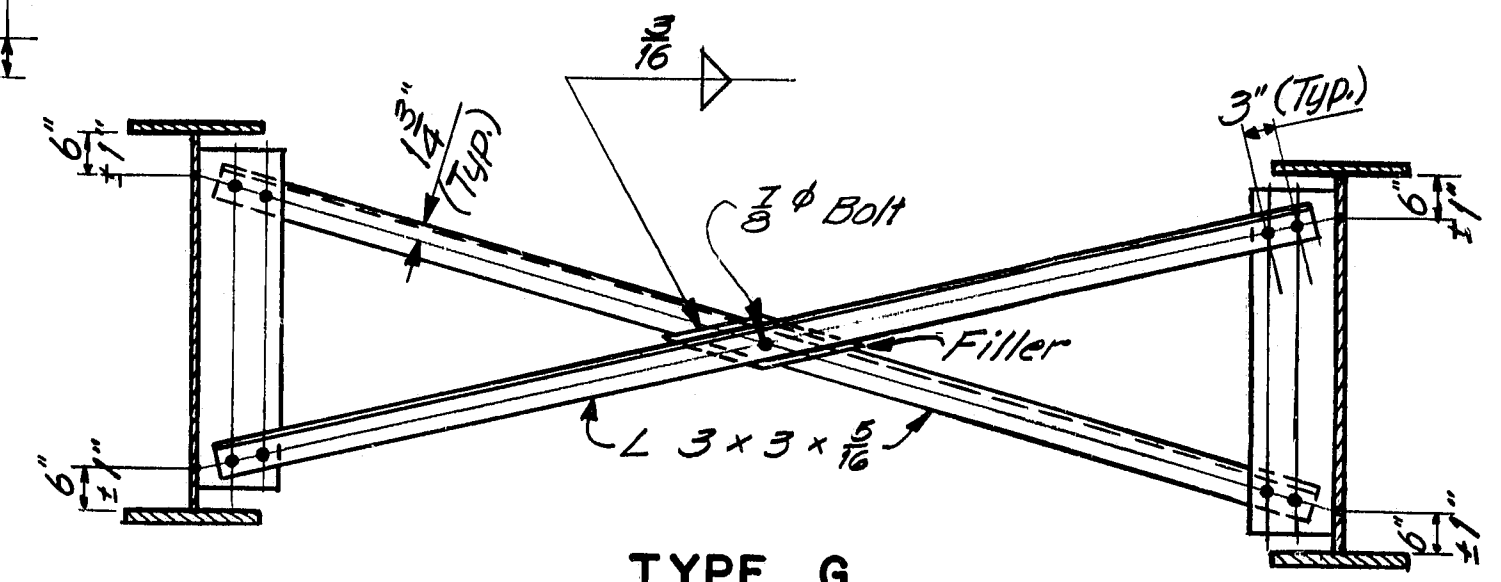
All structural steel shall be A36. When structural steel is specified to be unpainted, the expansion dam shall receive three coats of shop paint on the underside areas of exposed steel.

R92-370

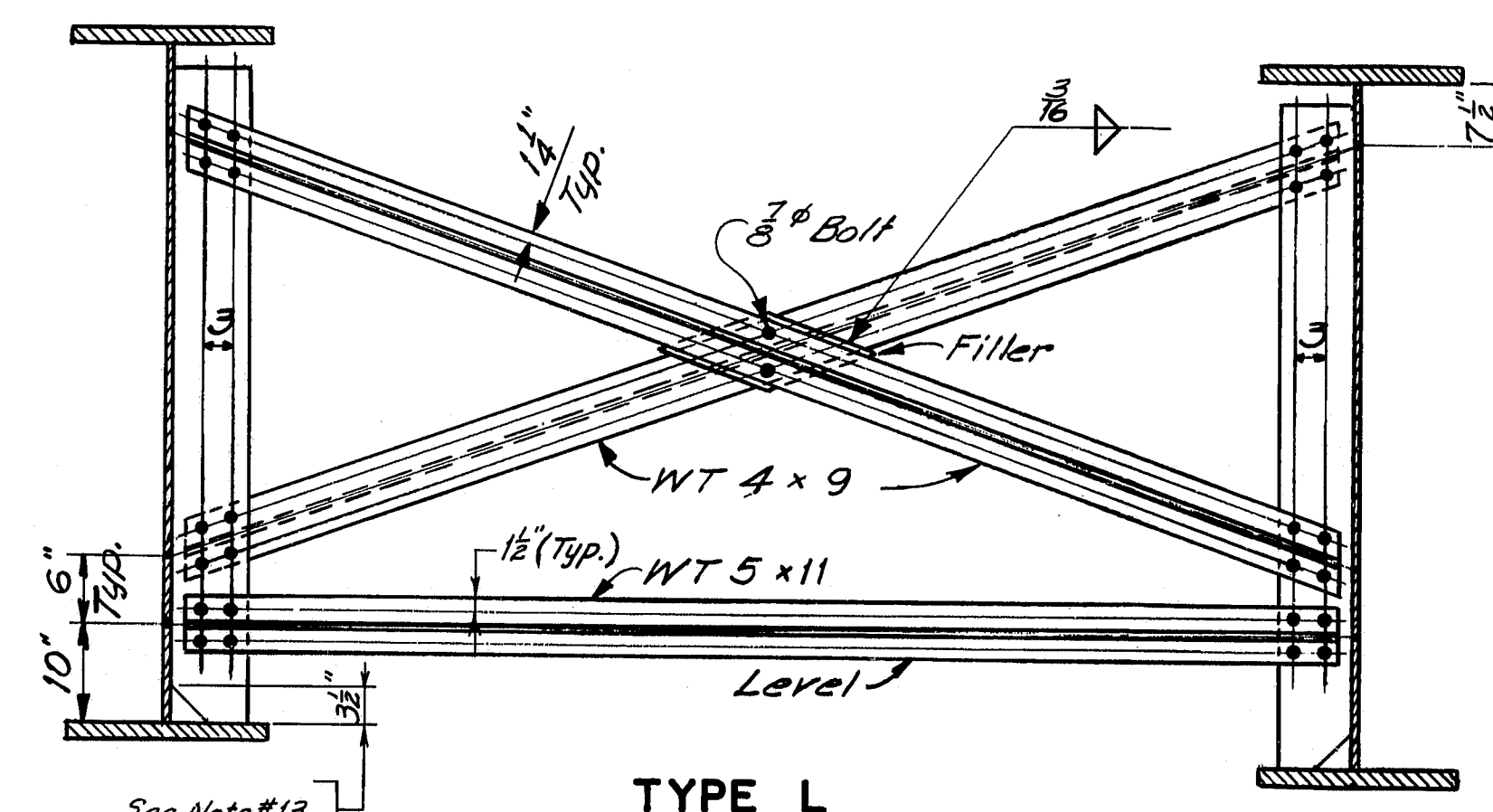
C.R.A.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(1)	33	44



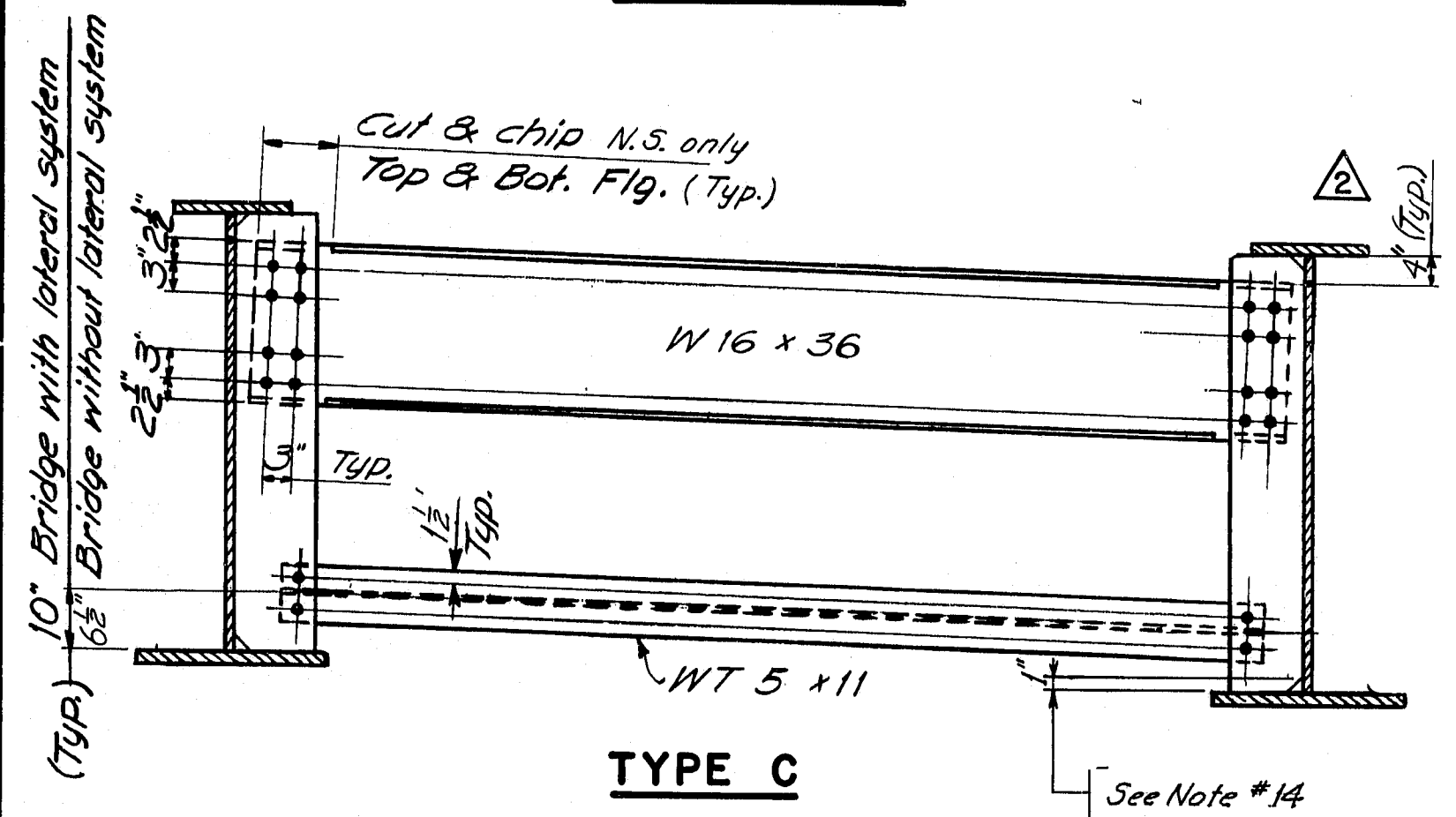
TYPE A & B



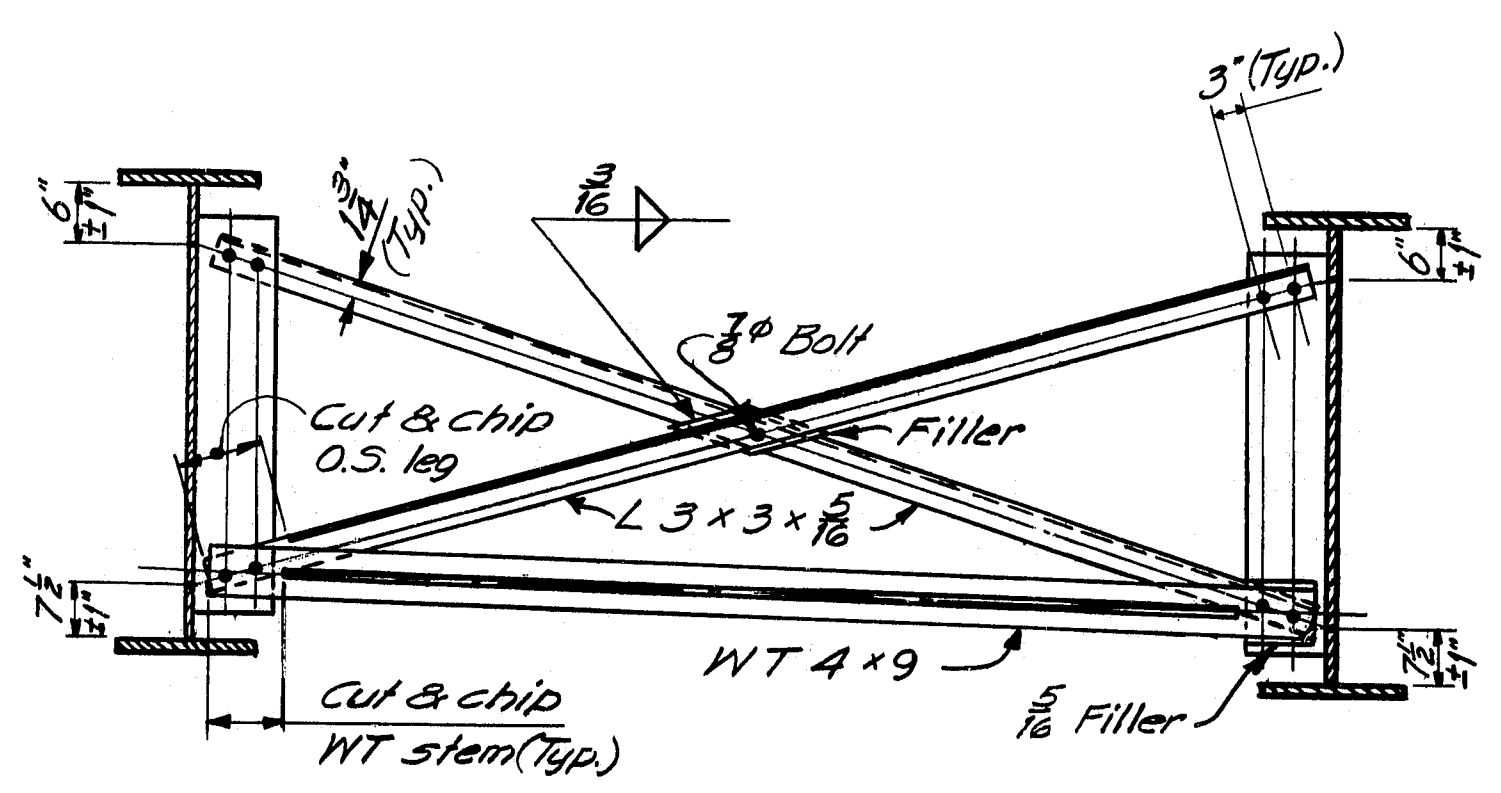
TYPE G



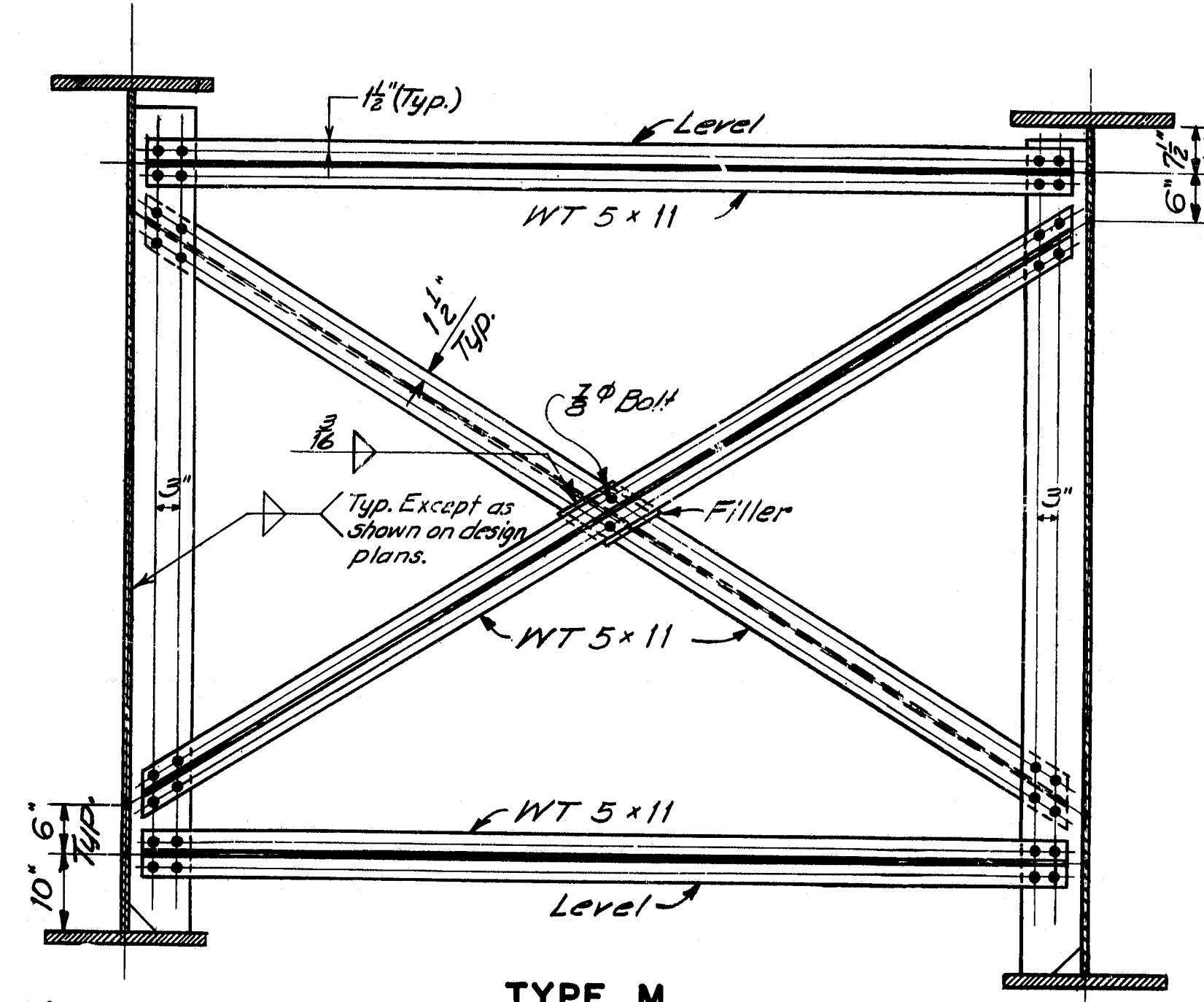
TYPE L



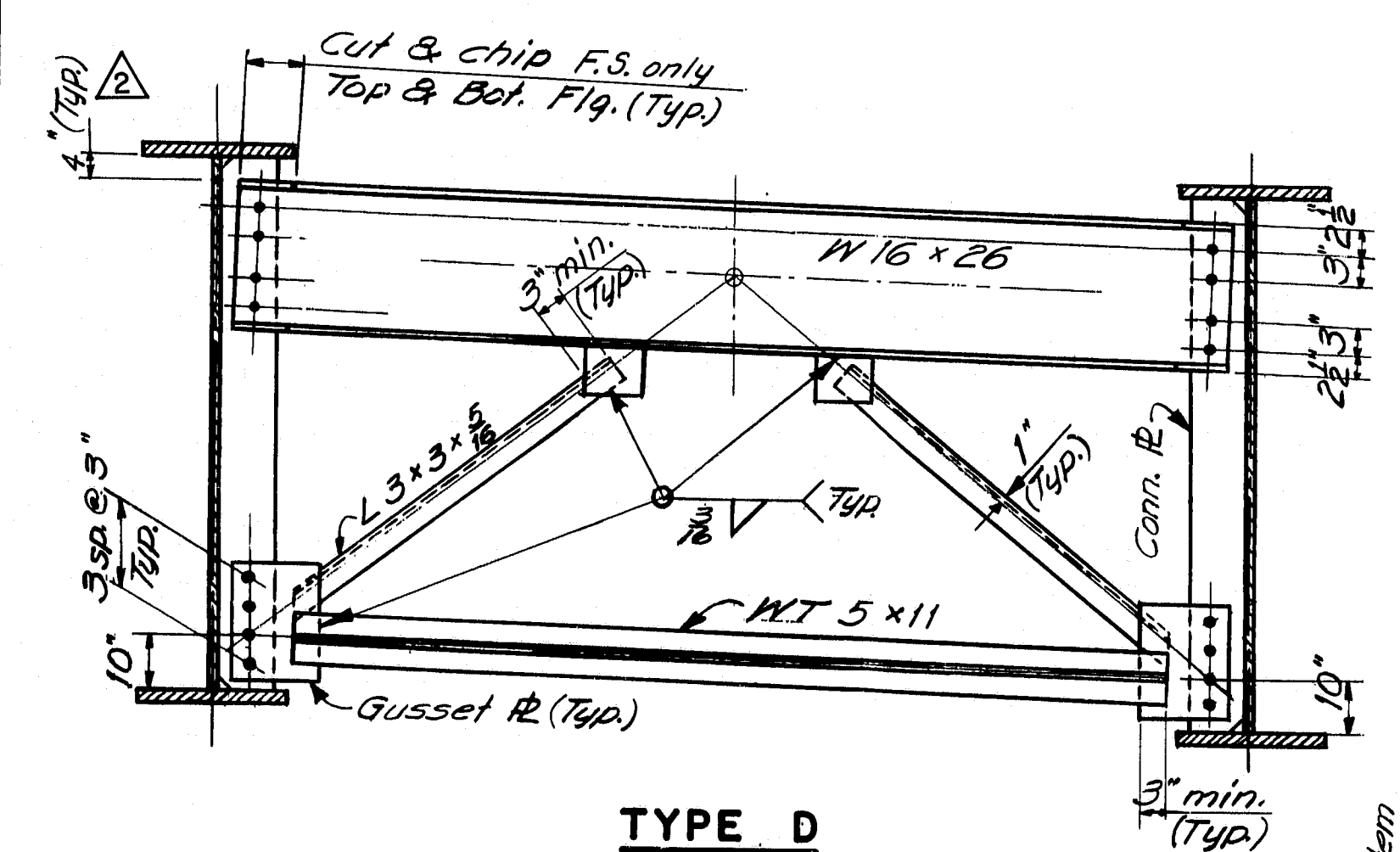
TYPE C



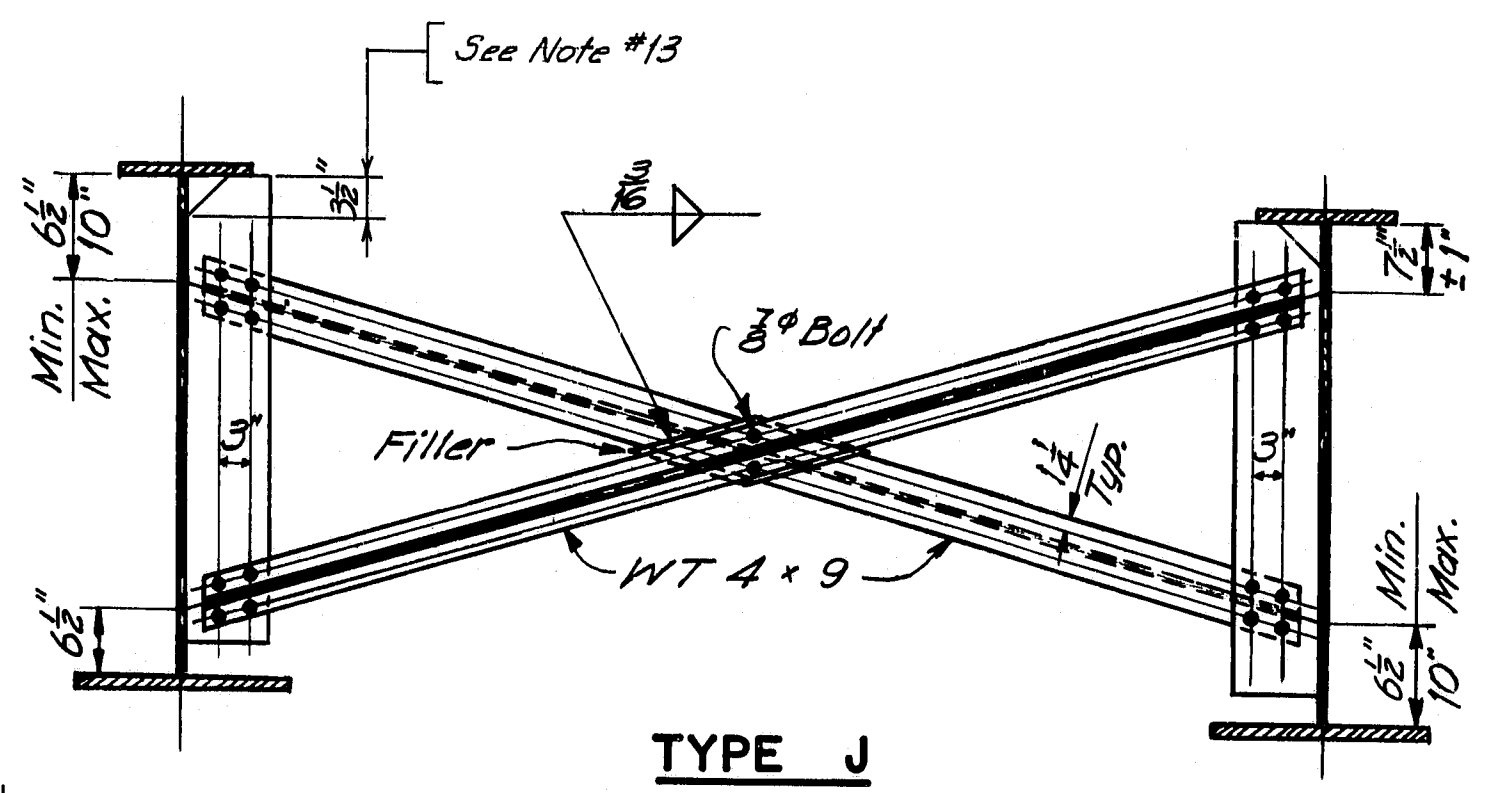
TYPE H



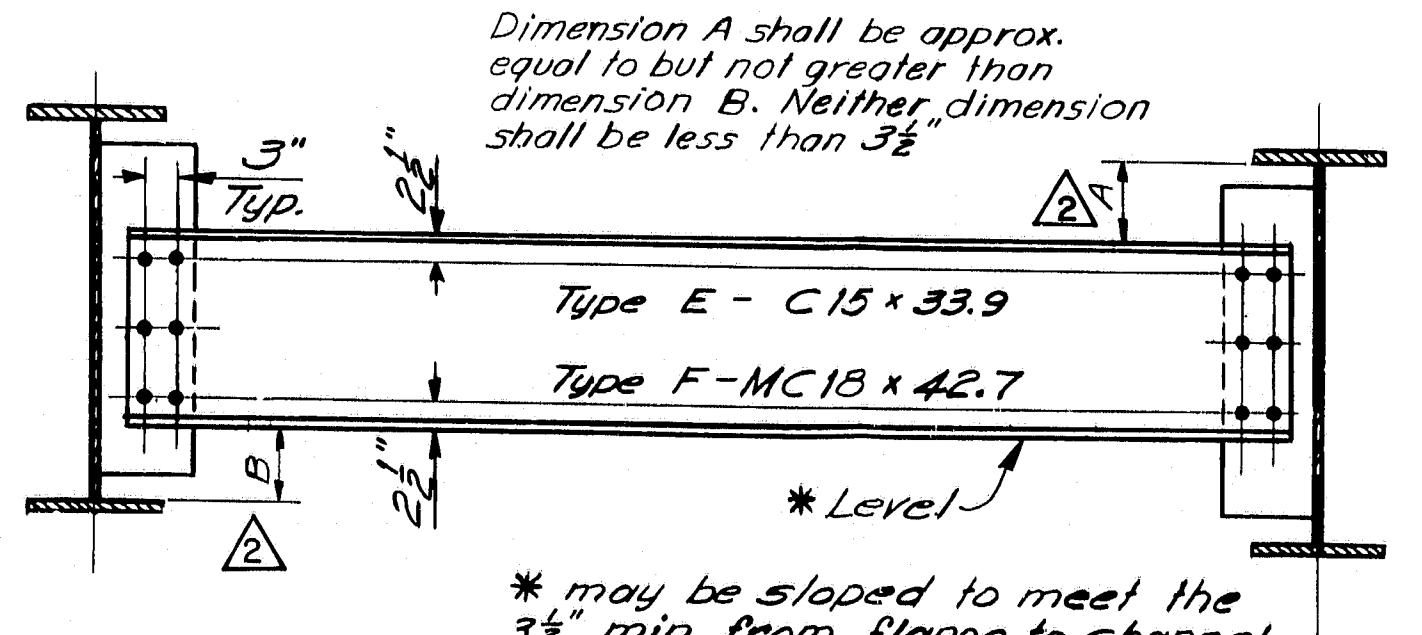
TYPE M



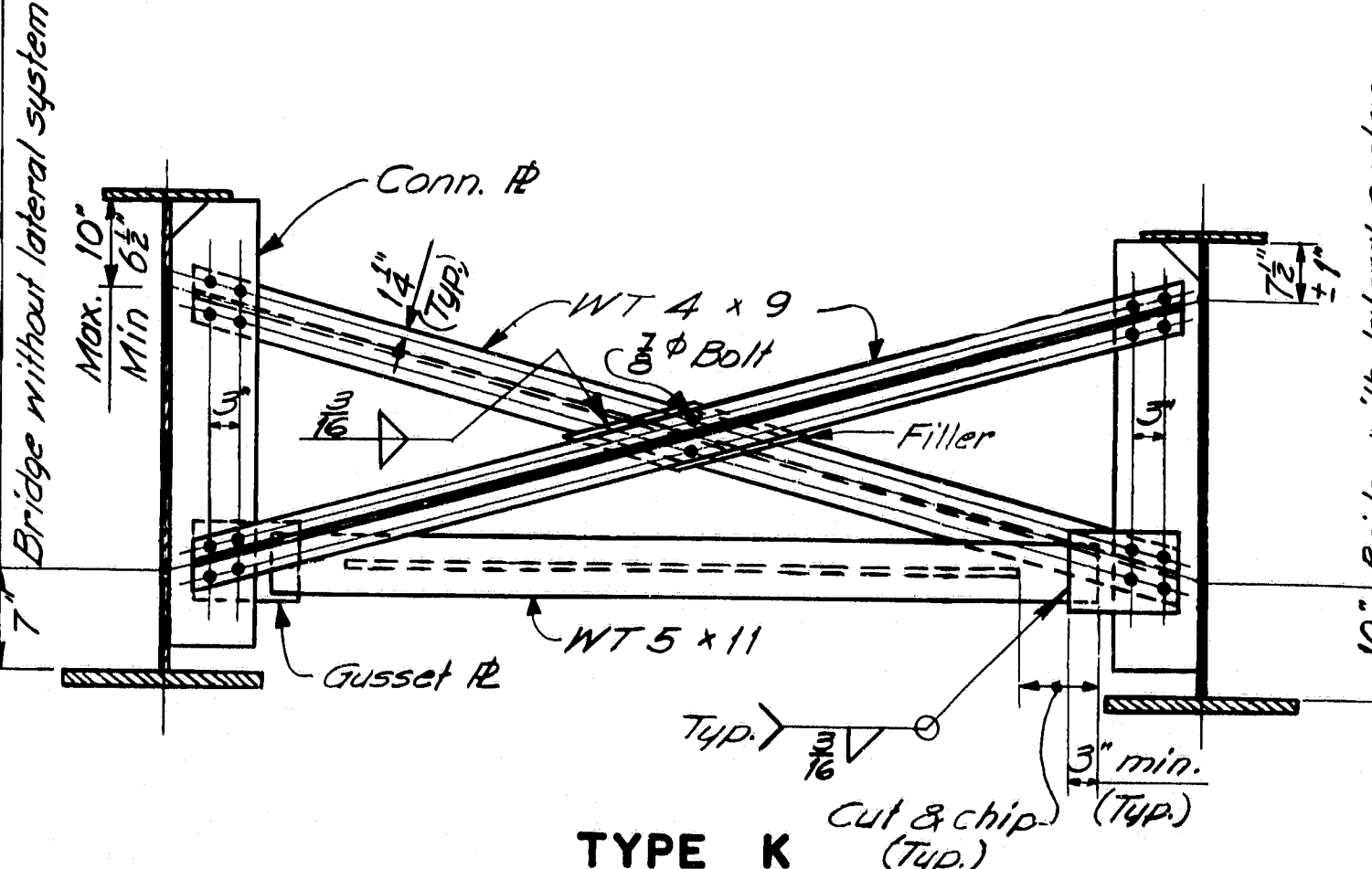
TYPE D



TYPE J



TYPE E & F



TYPE K

FABRICATION NOTES

- 1.) All bolts shall be 3/4" H.S. Bolts. Holes for bolts shall be 1/2" and edge-distances shall be 1/2" min. unless otherwise shown.
- 2.) Connection Plates and gusset plates shall have a minimum thickness of 3/8" and shall have sufficient width to provide erection clearances. For bearing stiffeners or intermediate stiffeners and for bent connection plates the plate size will be given on the design details.
- 3.) Connection Plates shall be fastened to web plates by fillet welds as shown. All fillet welds shall be the minimum size as specified in A.A.S.H.T.O. Standard Specifications for Highway Bridges, Art. I.7.21, unless otherwise shown on design plans.
- 4.) Connection Plates shall be 3/8" clear from flanges, except as indicated by notes 5 & 6.
- 5.) Connection Plates on welded beams and girders shall extend to the top flange in areas where the top flange is always in compression.
- 6.) Connection Plates shall extend to the bottom flange at points where lateral bracing is attached and on welded beams and girders in areas where the bottom flange is always in compression.
- 7.) When a connection plate is extended to a flange it shall fit within 1/8" except if the design details show it is to be welded.
- 8.) Bearing Stiffeners at end bearings shall extend to both top and bottom flanges and shall be welded to both flanges. Weld at bottom flange shall be a full penetration weld. Weld at top flange shall be a fillet weld both sides (see Note 3).
- 9.) Bearing Stiffeners at other than end bearings shall extend to both top and bottom flanges, shall be welded to the bottom flange with a full penetration weld and shall fit within 1/8" at top flange.
- 10.) Intermediate Stiffeners shall extend to both top and bottom flanges, shall be welded to the compression flange with a fillet weld on both sides (see Note 3) and shall fit within 1/8" at the tension flange.
- 11.) Use only those items called for on the design details. In case of conflict between these standard details and design details, the design details shall be followed.
- 12.) All dimensions shown as "___ ± ___" are variable in order to allow a series of crossframes to have the same slopes and/or dimensions.
- 13.) All connection plates and stiffeners that are extended to a flange shall be clipped 3/8", except as indicated by note 14.
- 14.) Bearing stiffeners at end bearings shall be clipped 1" at top and bottom. Bearing stiffeners at all other bearings and intermediate stiffeners shall be clipped 1" at the compression flange.
- 15.) For unpainted applications all steel for diaphragms and crossframes shall be A.S.T.M.-A588. For bridges specified to be painted the steel for diaphragms and connection plates shall be A.S.T.M.-A36, except other steel classifications may be used subject to the approval of the Engineer.

DATE	BY	DESIGN	DETAILS	CHECKED	REVISIONS	FIELD CHANGES

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STANDARD DETAILS
(BD 113 - 78)

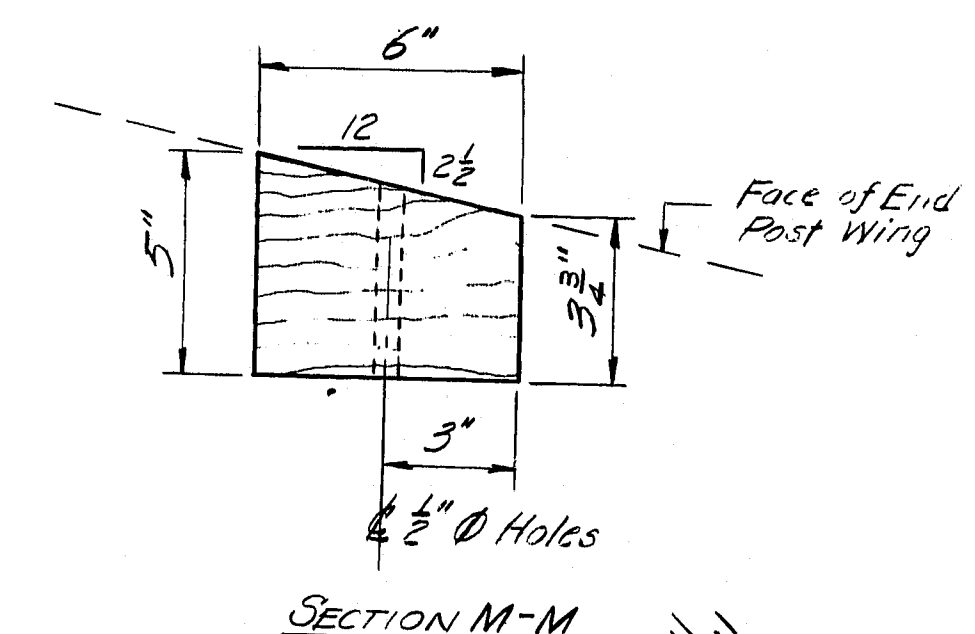
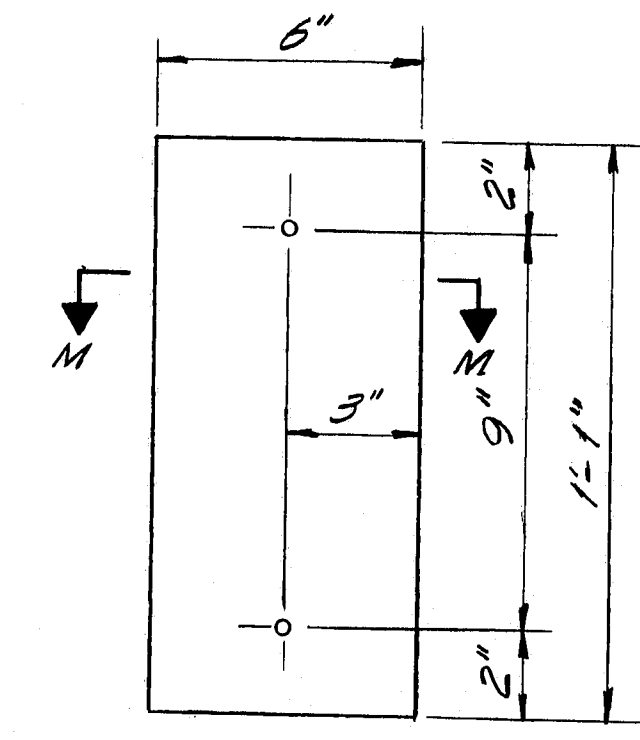
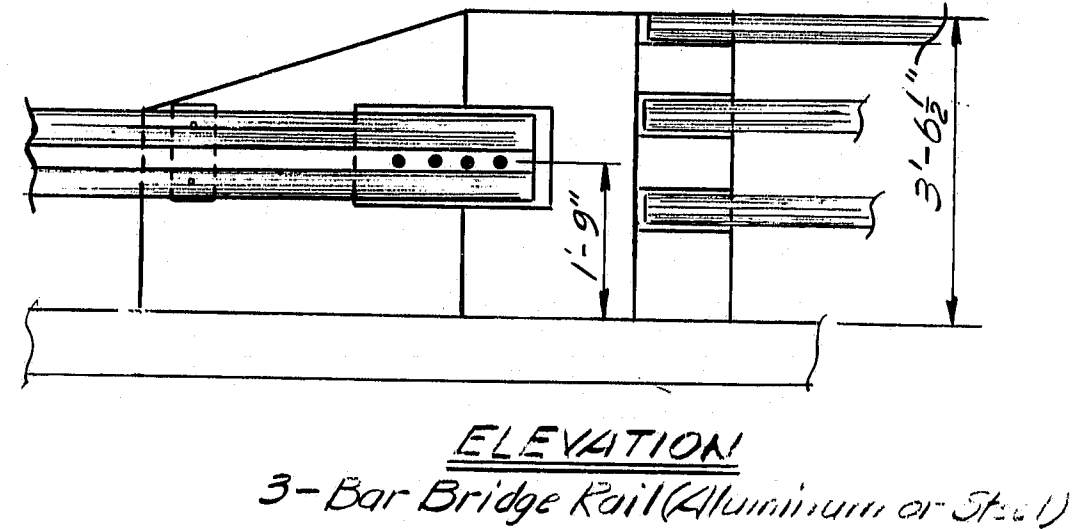
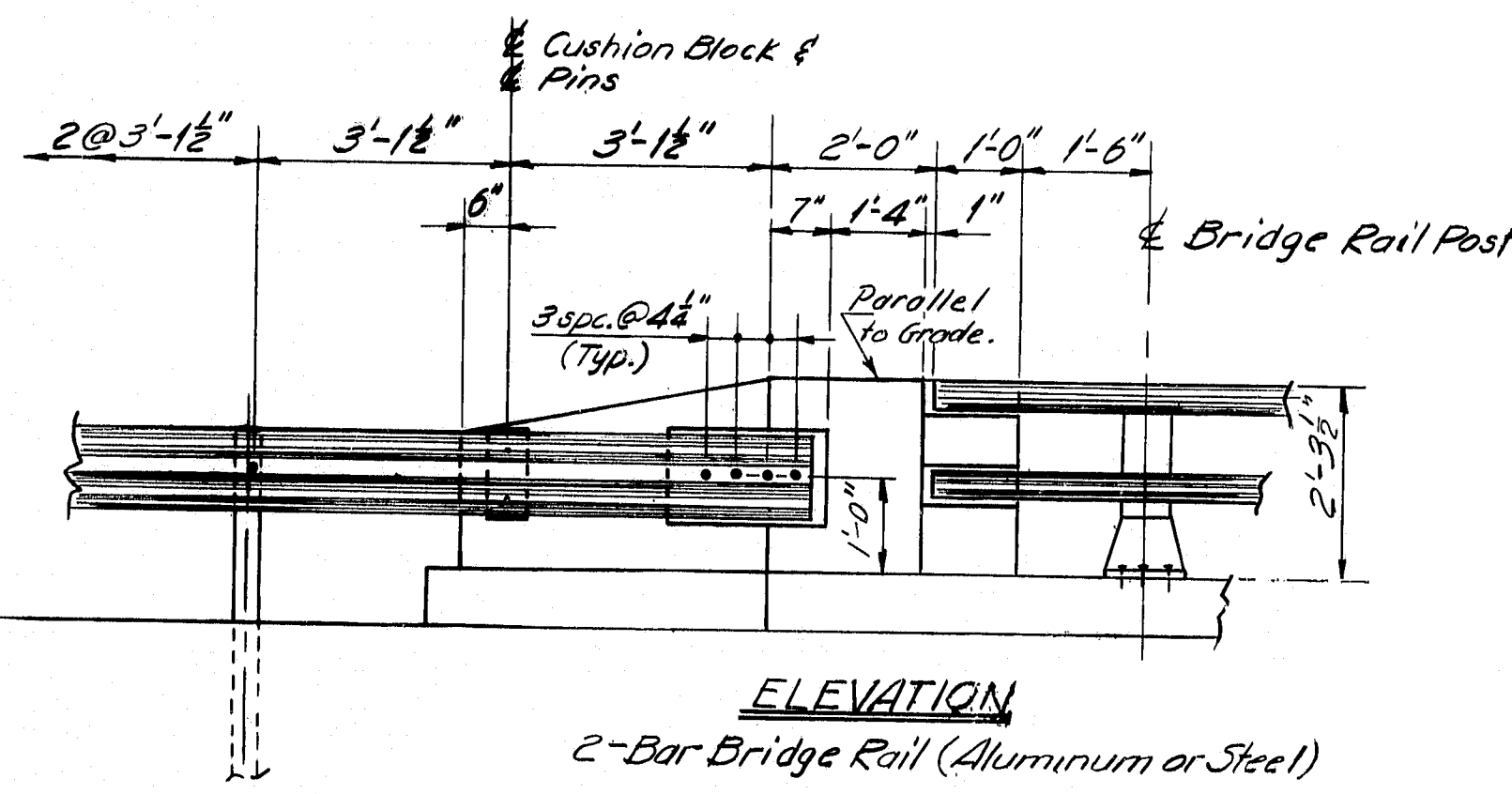
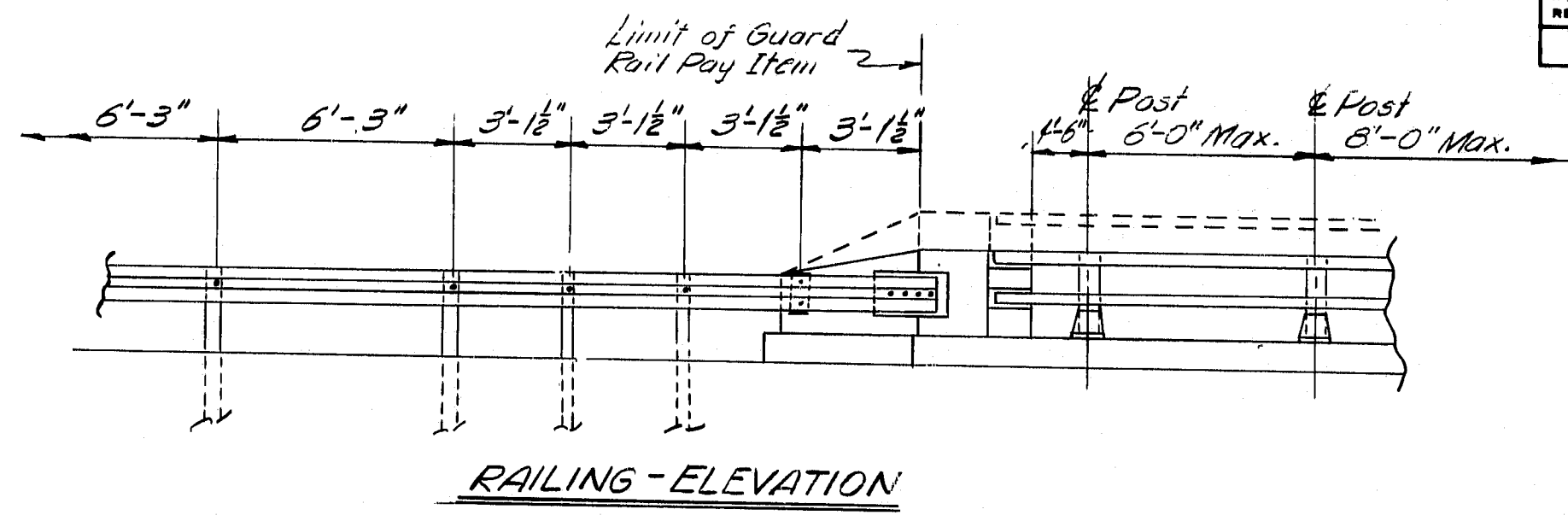
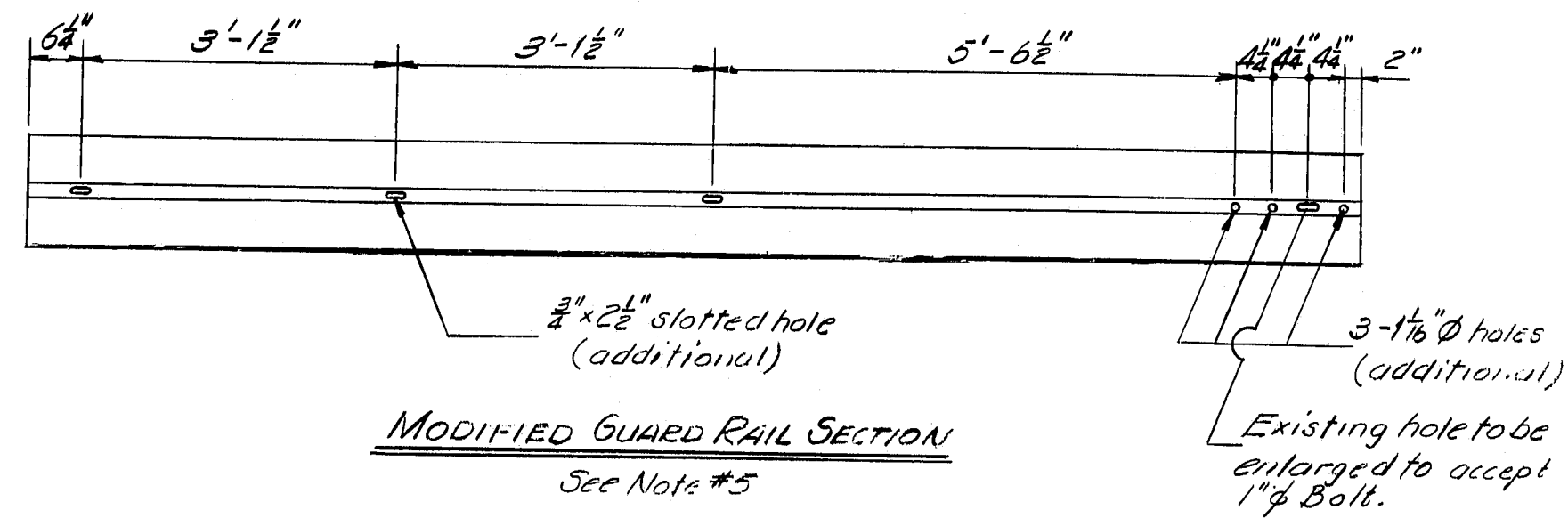
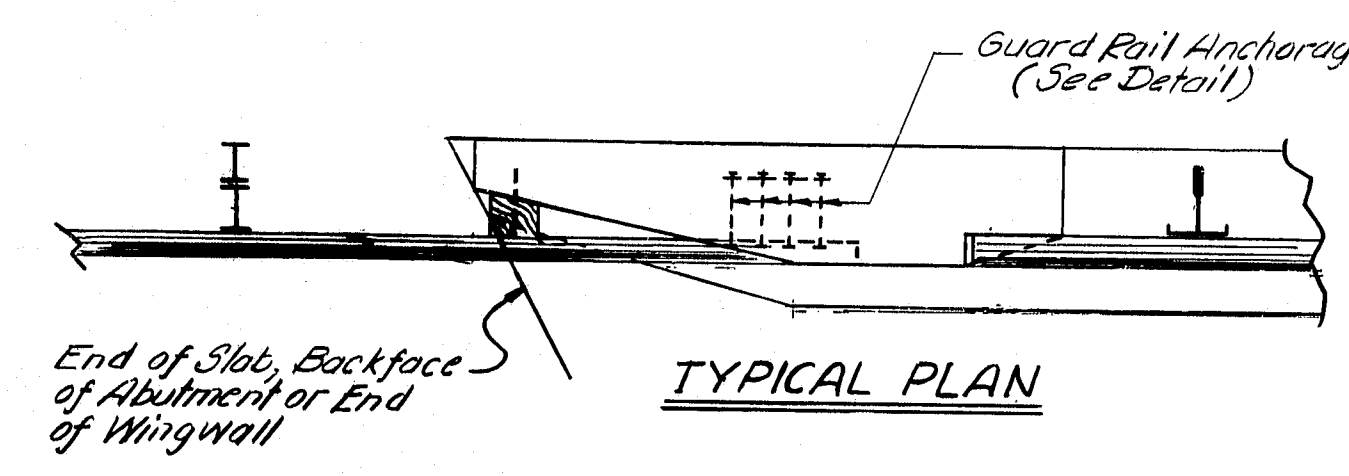
DIAPHRAGMS & CROSSFRAMES

R92-371

CHANGED NOTE #3 & TYPE A,B,C,D,E & F	D.L.P.	9-4-80
ELIMINATED - A242	G.R.W.	5-24-79

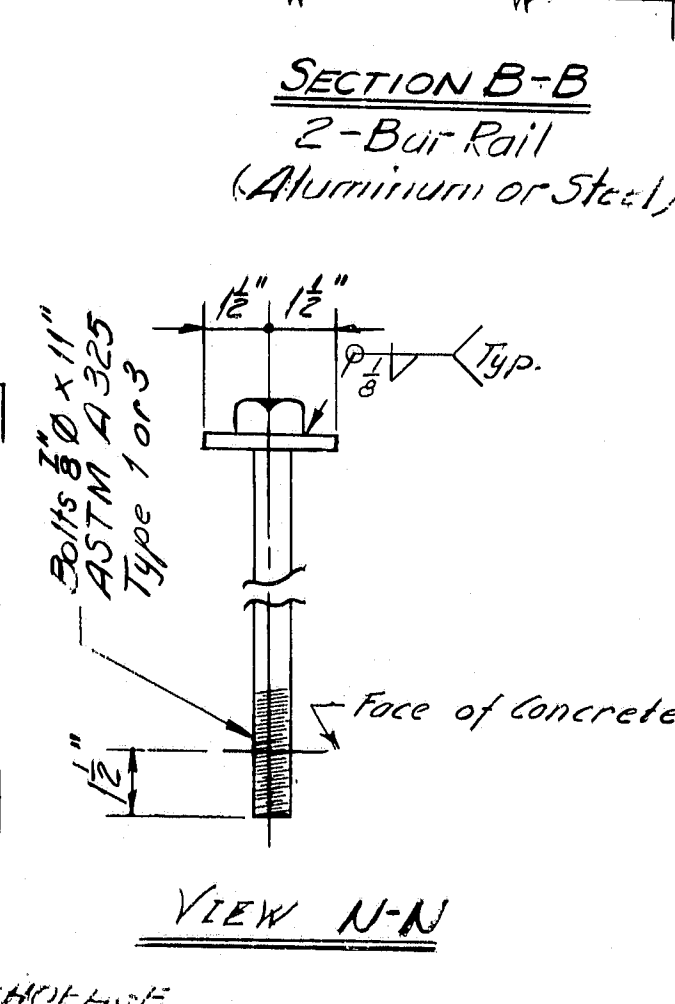
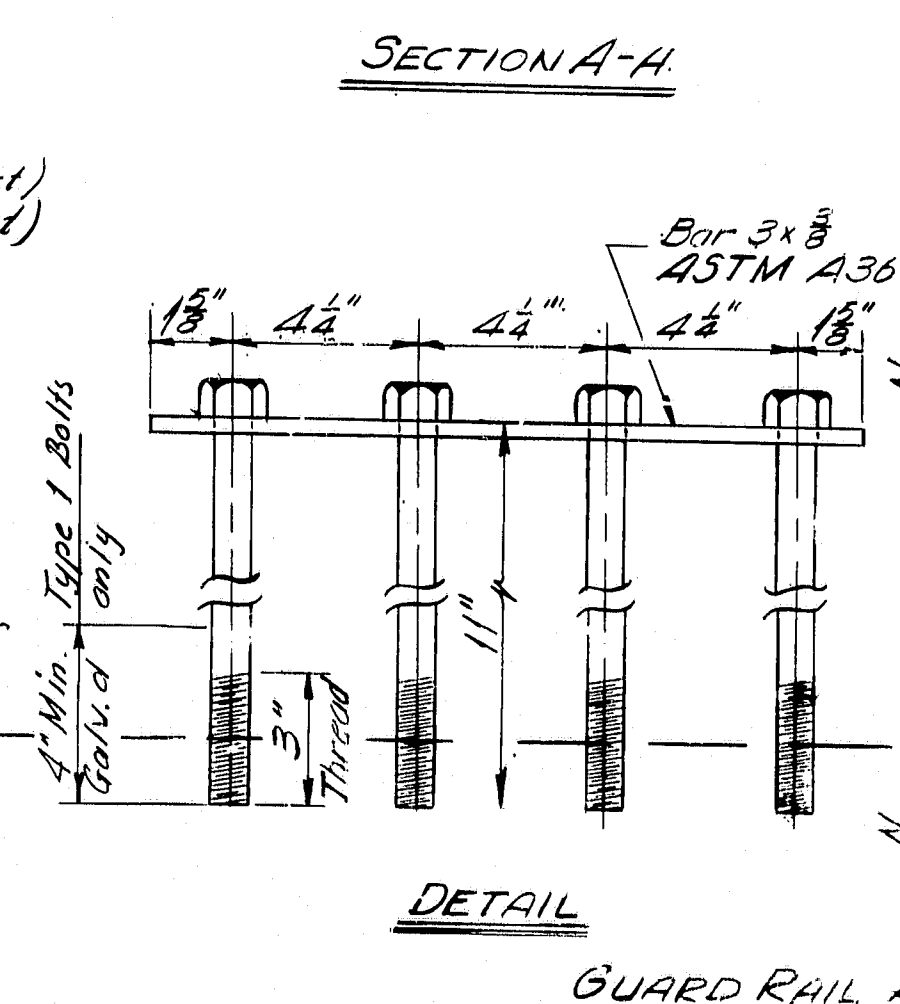
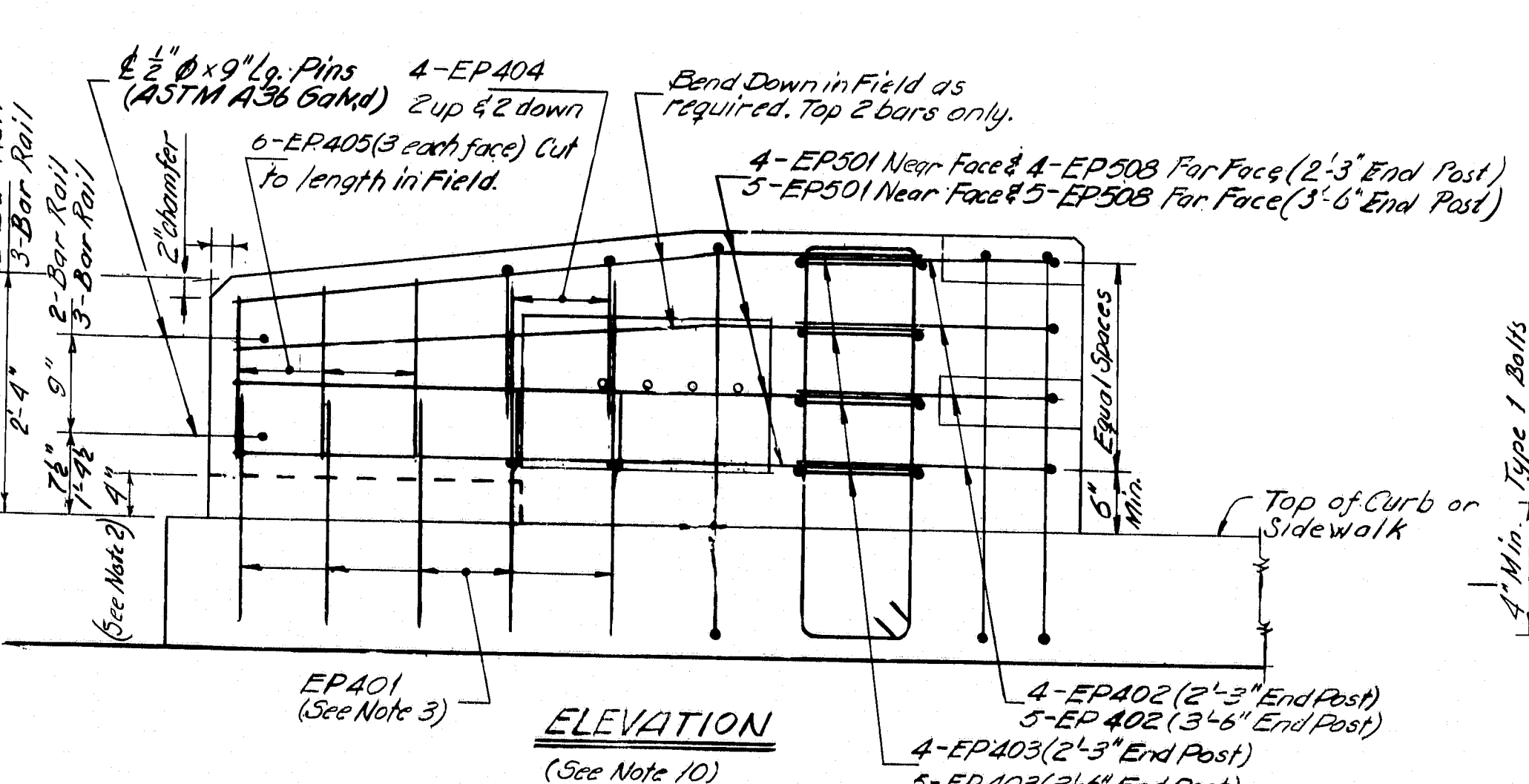
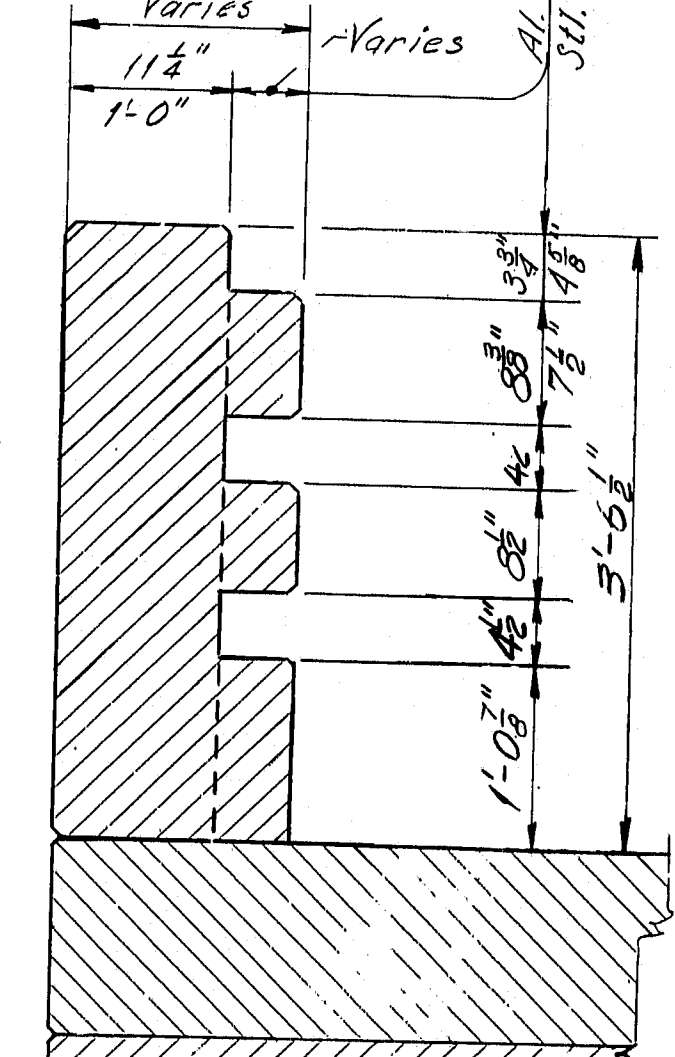
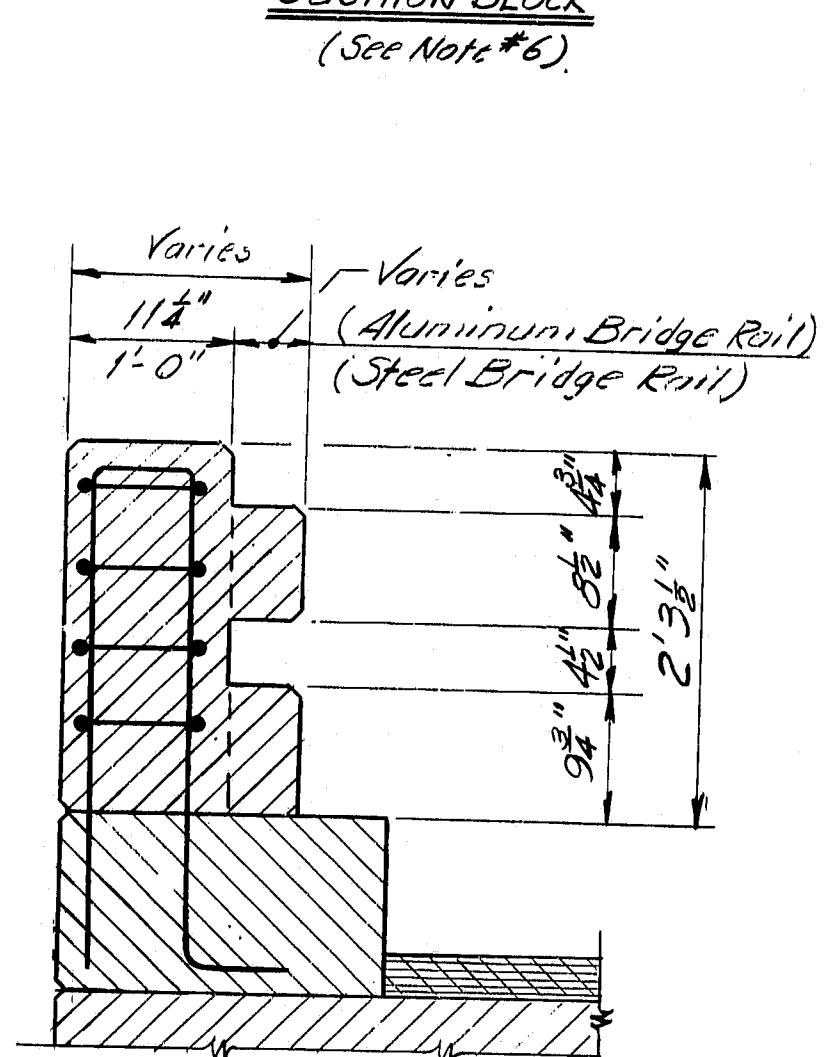
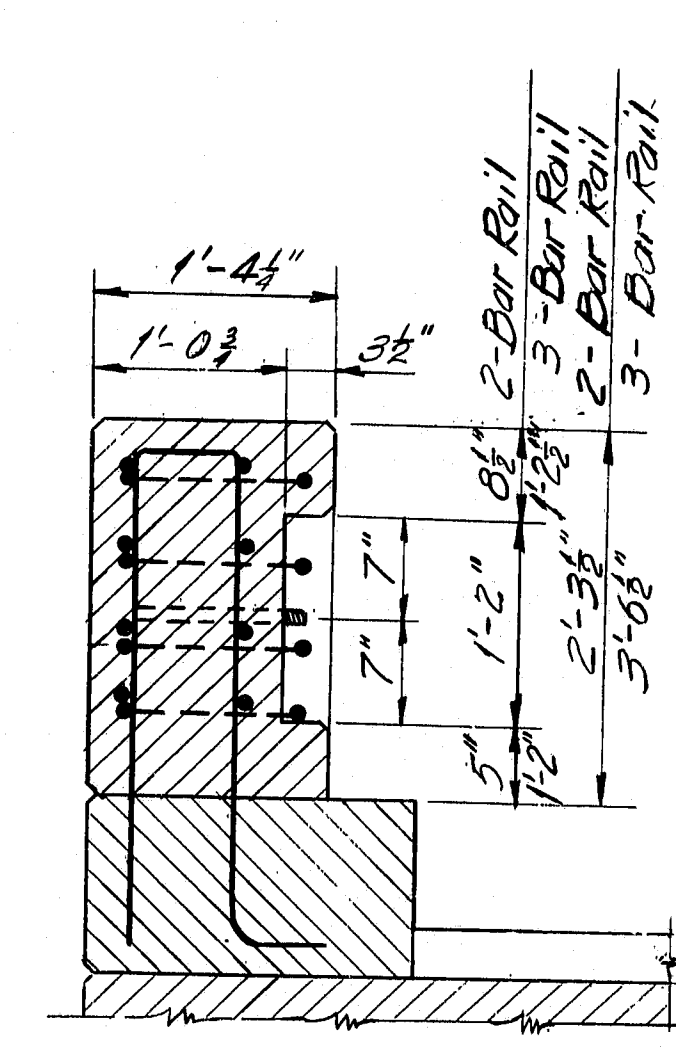
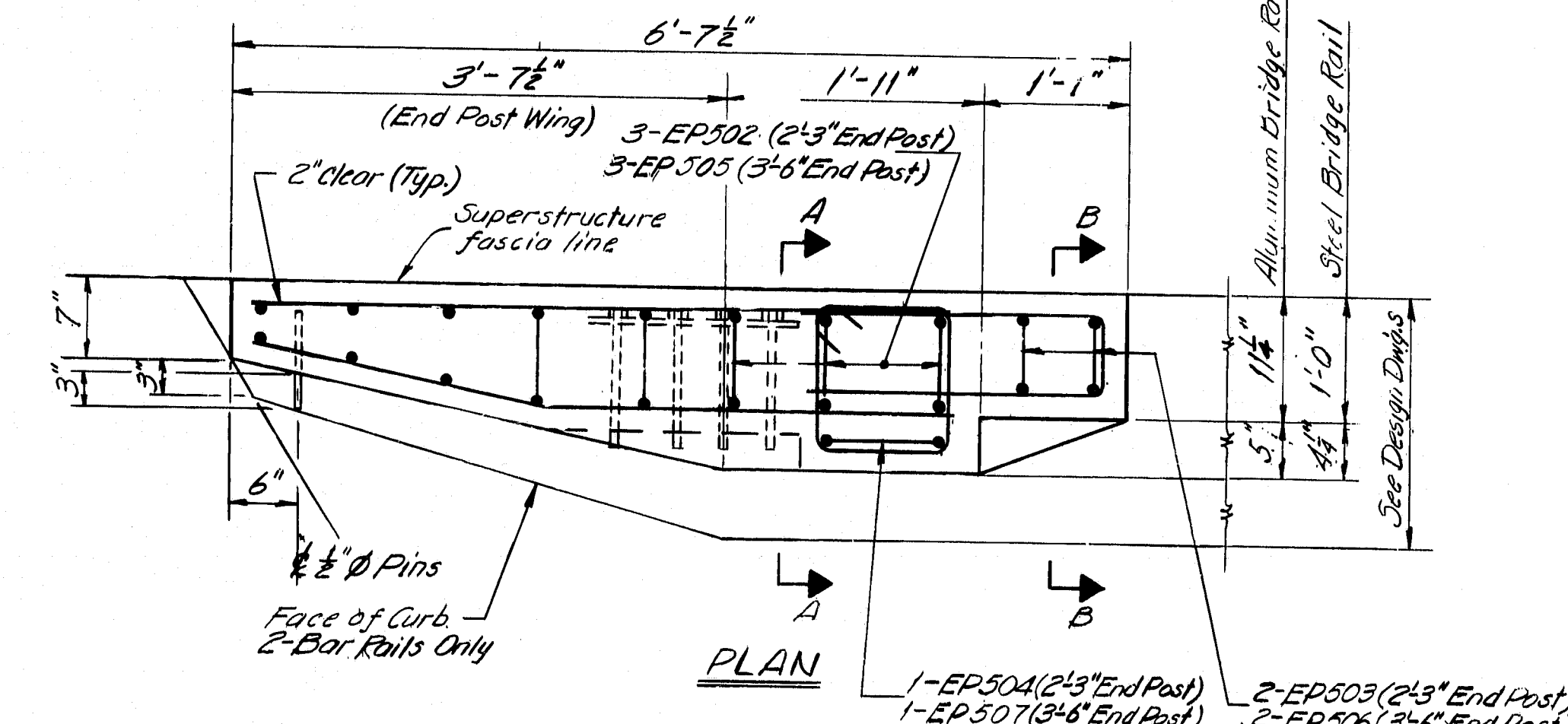
SHEET 33 OF 44 AUGUSTA, MAINE June 1978

PROJECT NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(1)	34	44



NOTES

- 1.) For locations of the end posts on the structure see design drawings.
- 2.) At times an End Post Wing may be cantilevered for all or part of its length. For details see design drawings.
- 3.) If End Post Wing is cantilevered bars EP 401 to be omitted as needed in cantilevered section.
- 4.) Nuts for 1/2 inch anchor bolts to be incidental to guard rail pay items. Nuts shall conform to A.S.T.M.-A563, Grade DH, galvanized in accordance with A.S.T.M. A153, or Grade C3, plain.
- 5.) Additional holes in the Modified Guard Rail Section shall be made by drilling, punching, or any other method that produces a neat, clean hole of the required size. Burning of holes will not be allowed.
- 6.) Cushion Block material shall be as specified in subsection 710.07, paragraph b & c and treated in accordance with the provisions of subsection 606.03(b) of the standard specifications. Payment to be incidental to Guard Rail pay item.
- 7.) After installation of guard rail is complete upset the thread on the anchor bolts in three places around each bolt, at the junction of the nut and the exposed thread, with a center punch or similar tool.
- 8.) Guard Rail Anchorage to be incidental to the applicable concrete pay item.
- 9.) End Posts to be constructed normal to grade unless otherwise shown on the plans.
- 10.) When End Post Wing is cantilevered more than 2'-0" all number 5 bars shall be replaced with number 7 bars.

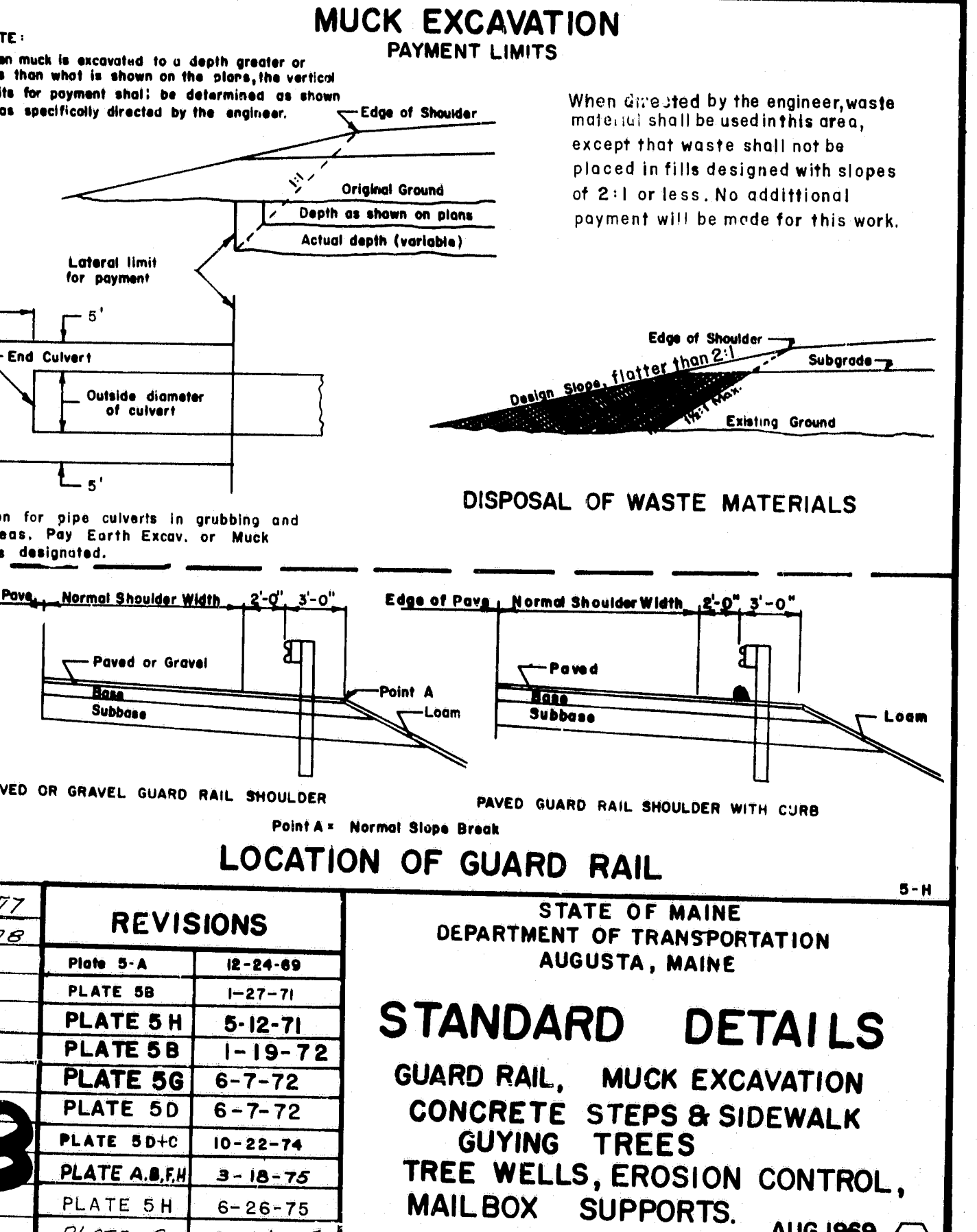
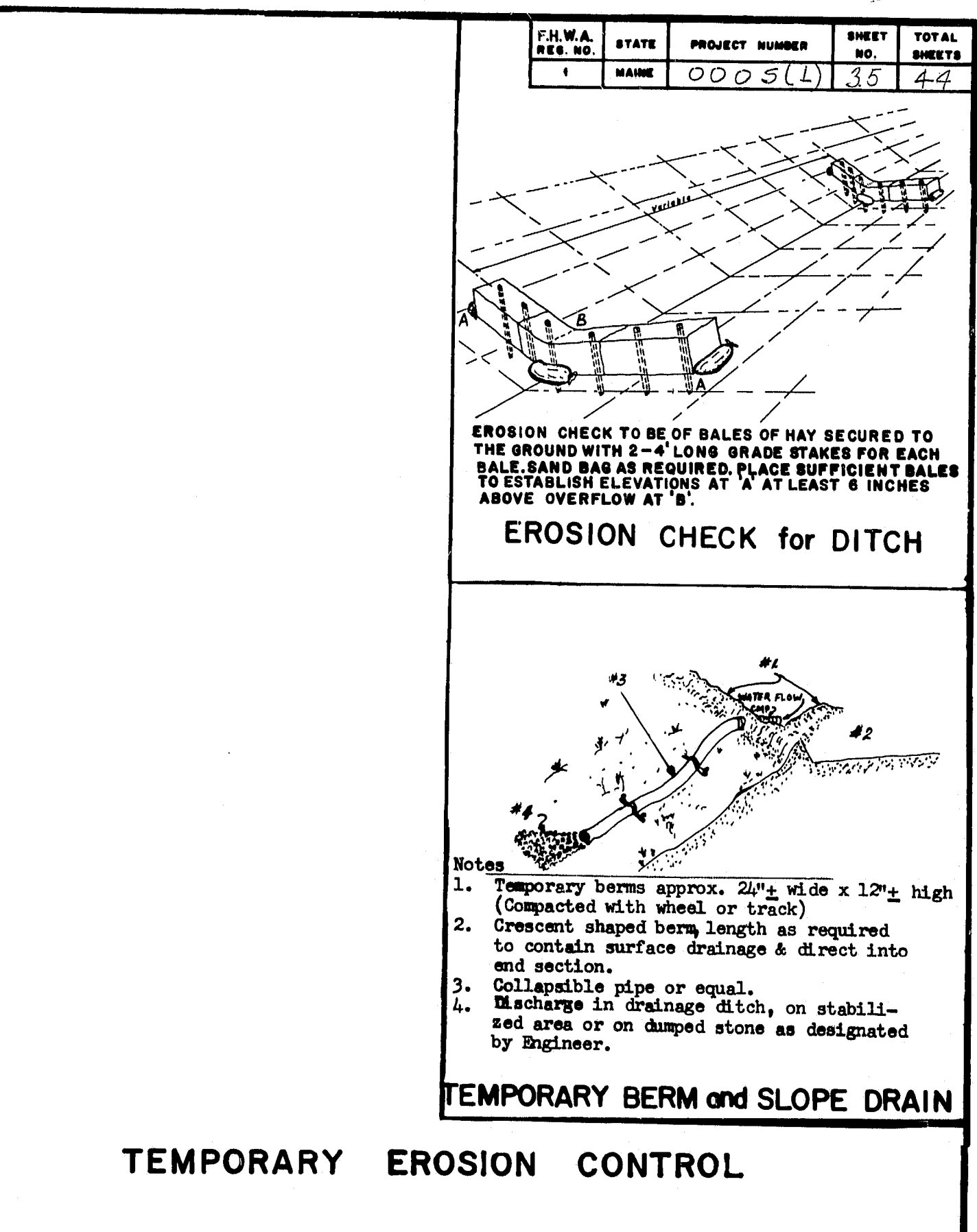
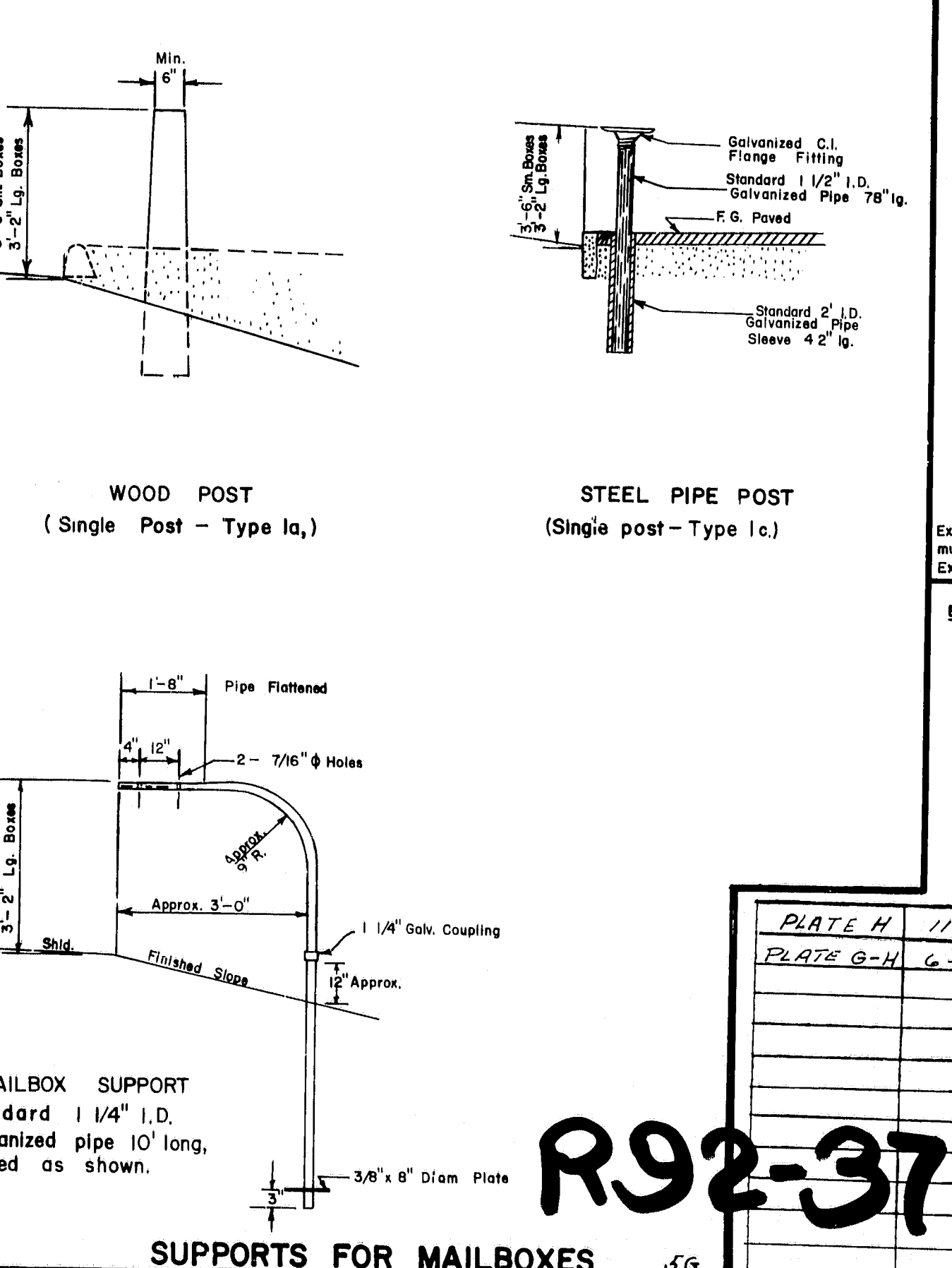
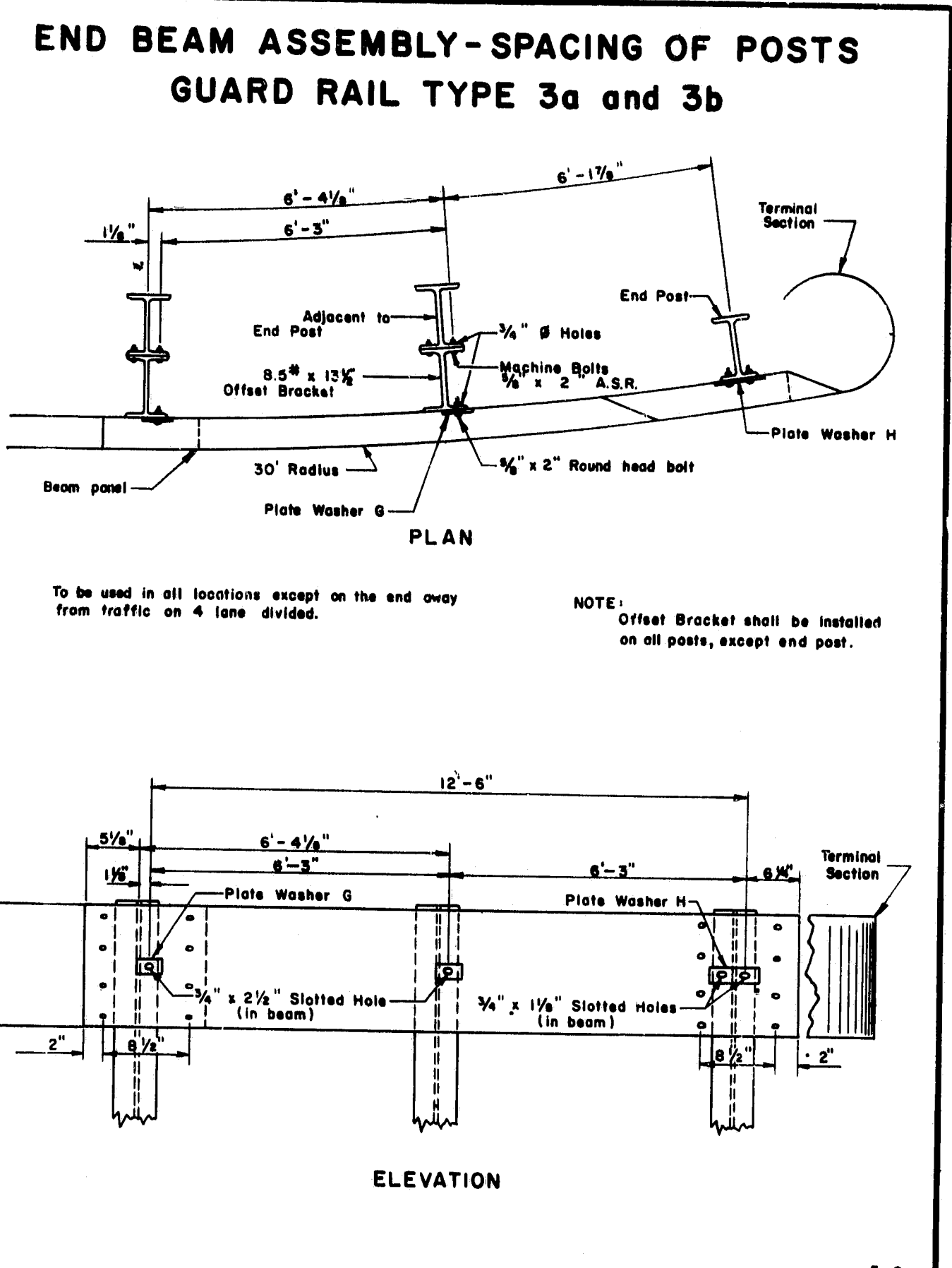
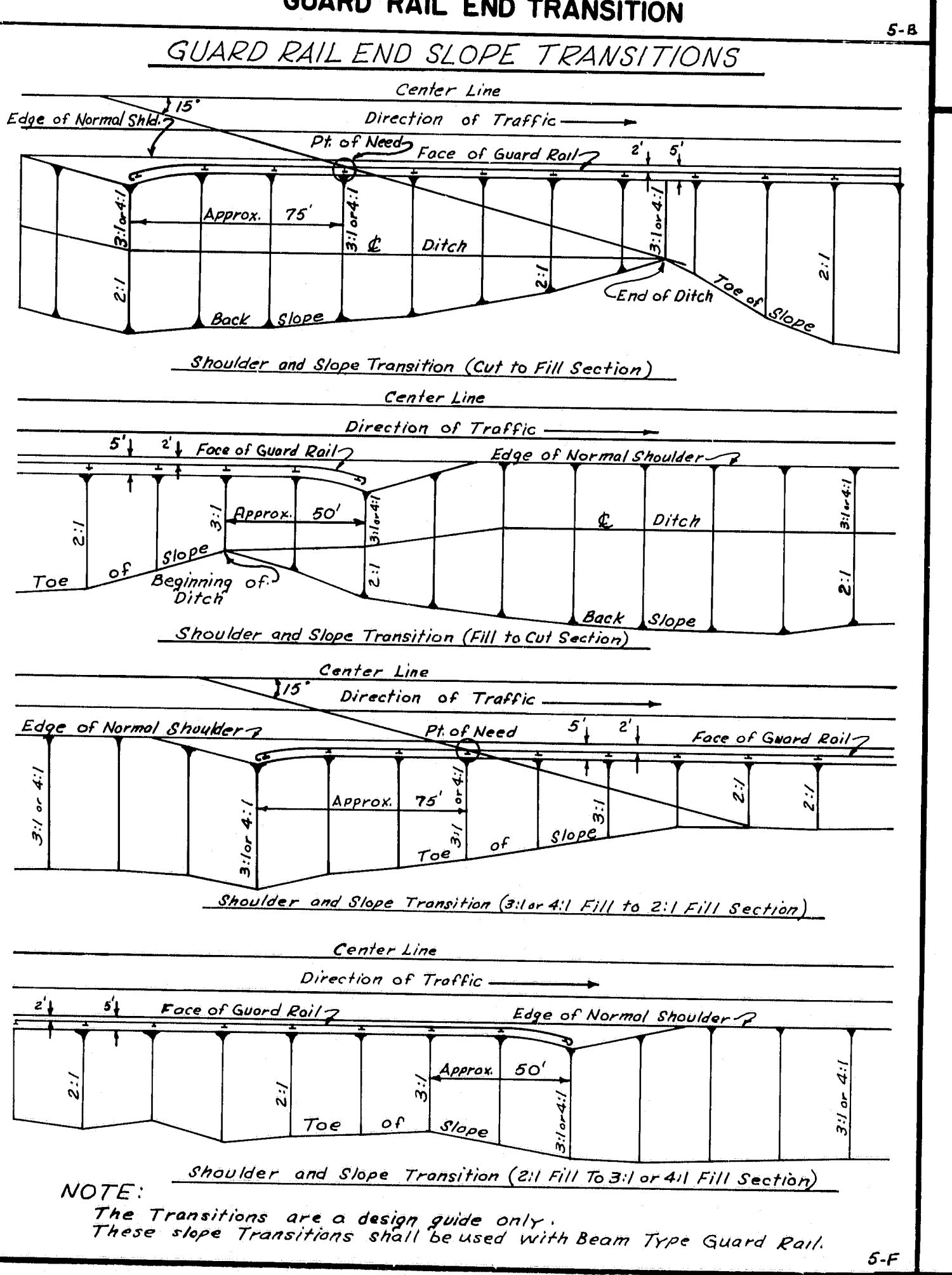
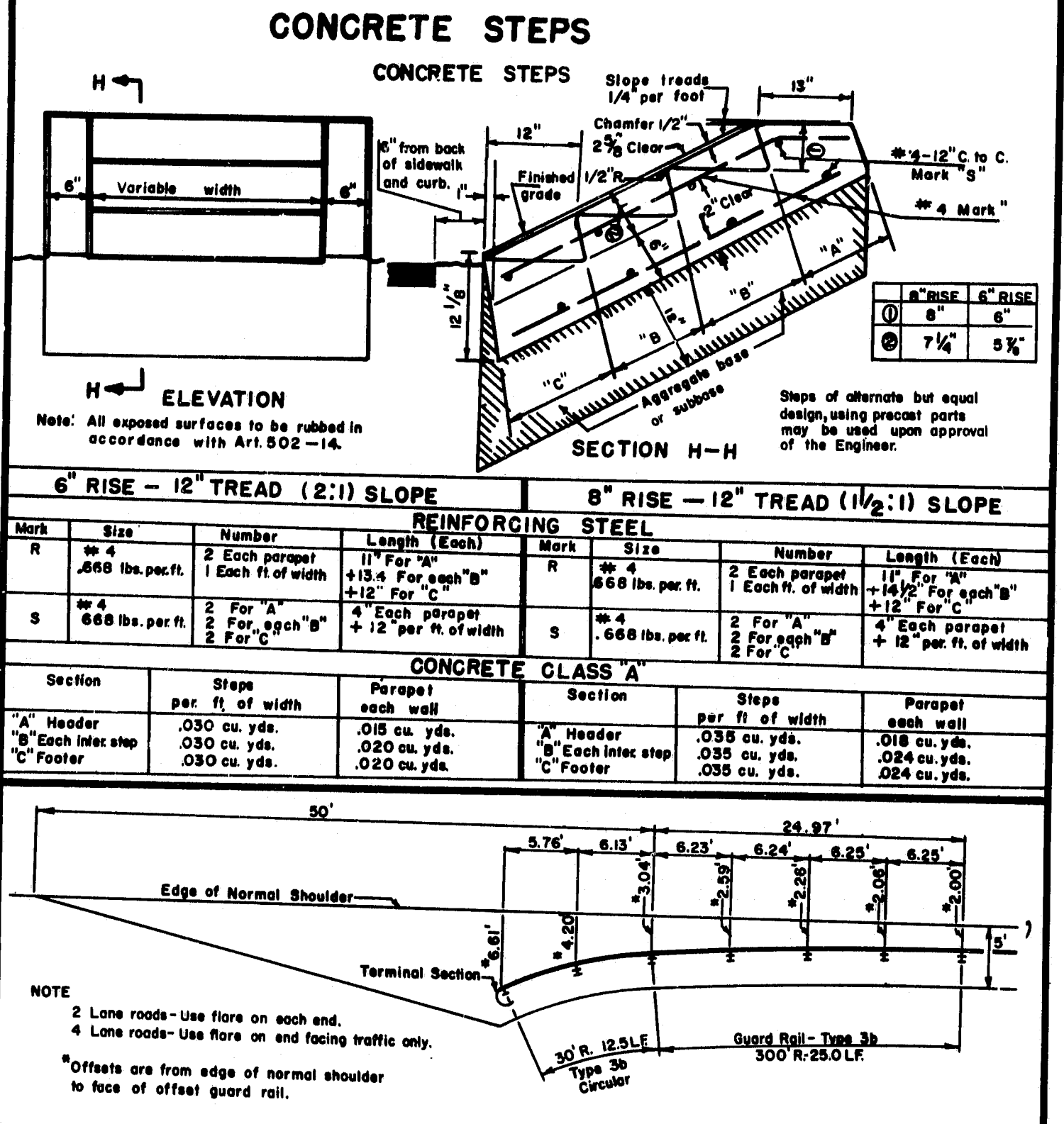
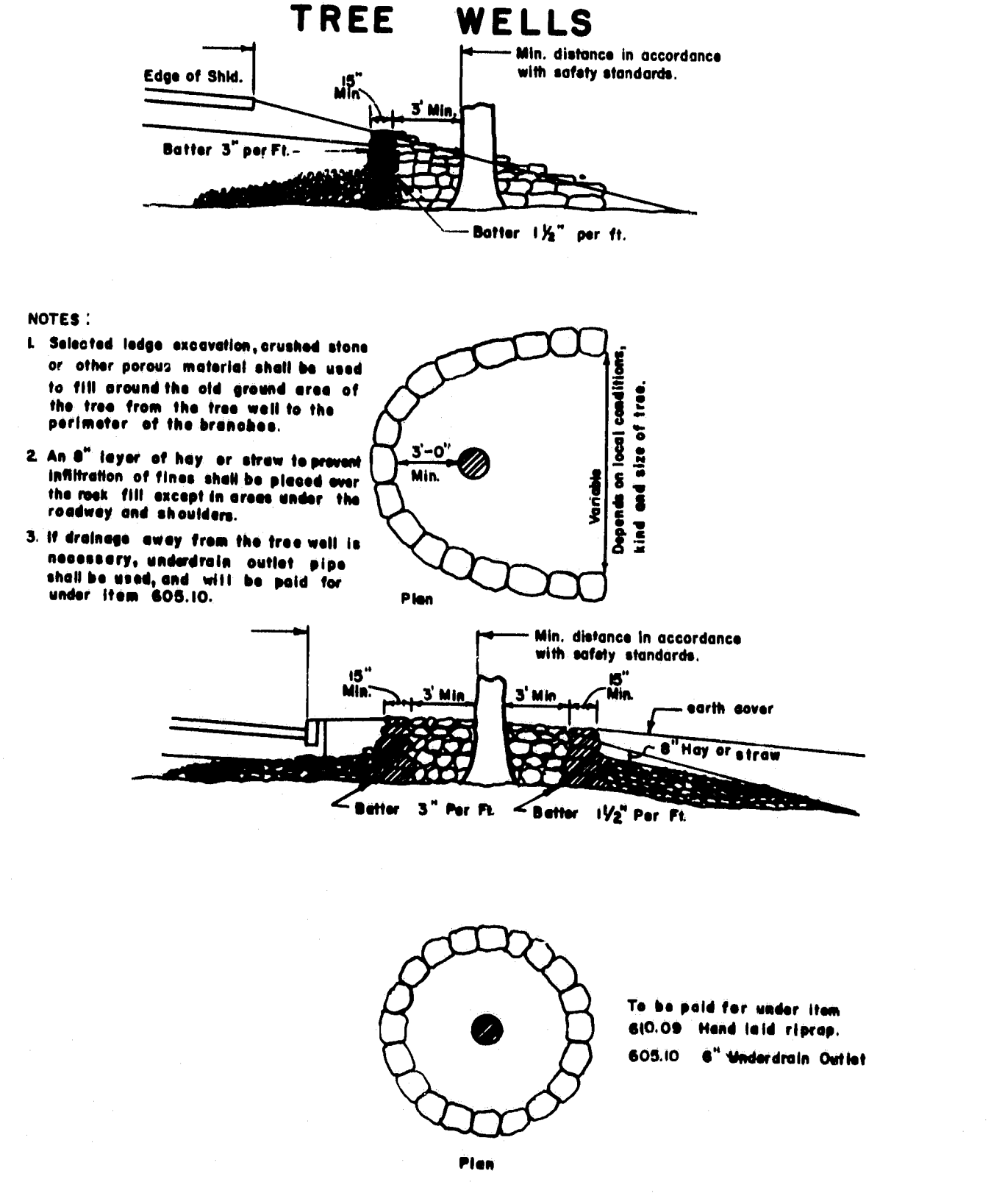
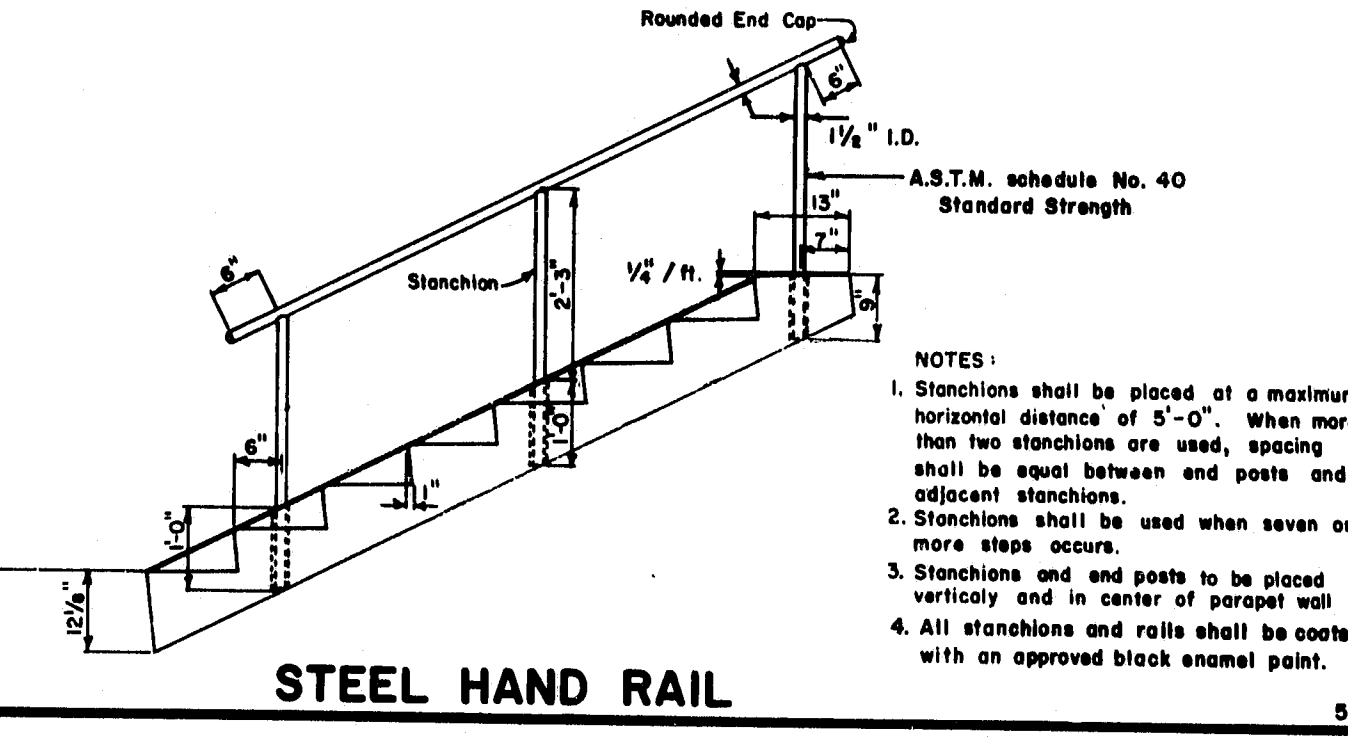
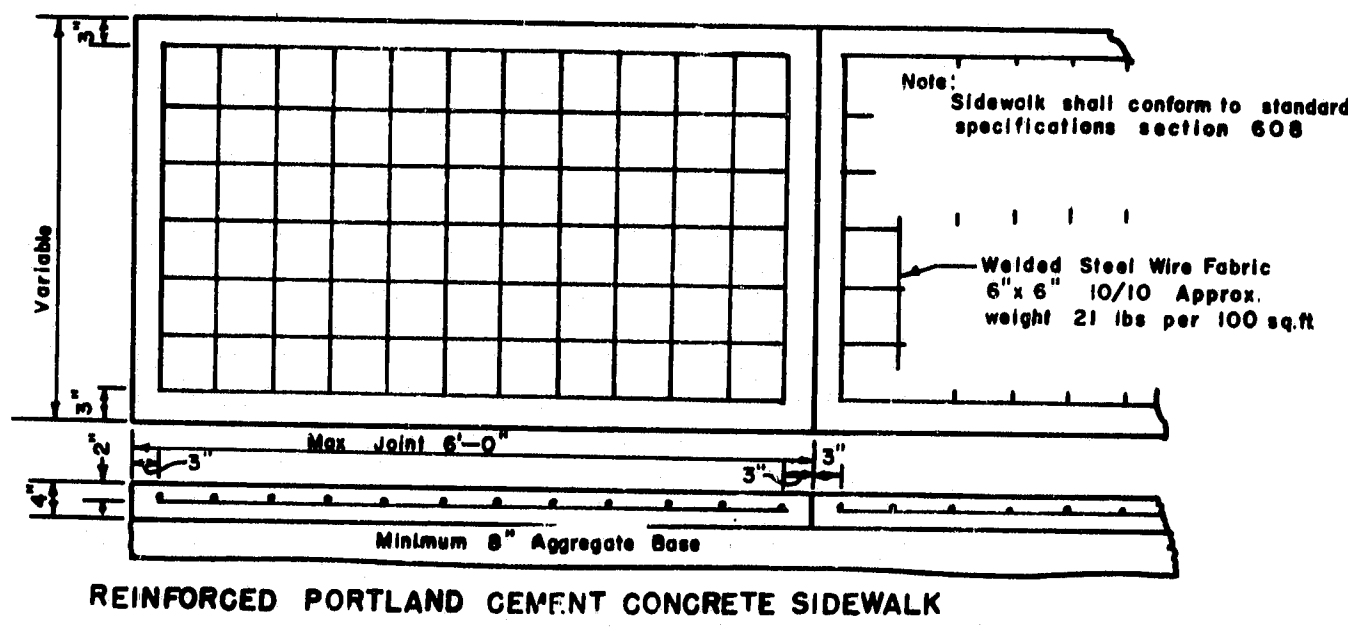


PROJECT DESIGN ENGINEER	DATE
BY: G.A.M. 1/14/21	
DESIGN - CHECKED: A. Trach	
REVISIONS	
FIELD CHANGES	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STANDARD DETAILS
(BD 120-79)
CONCRETE END POSTS

R92-372

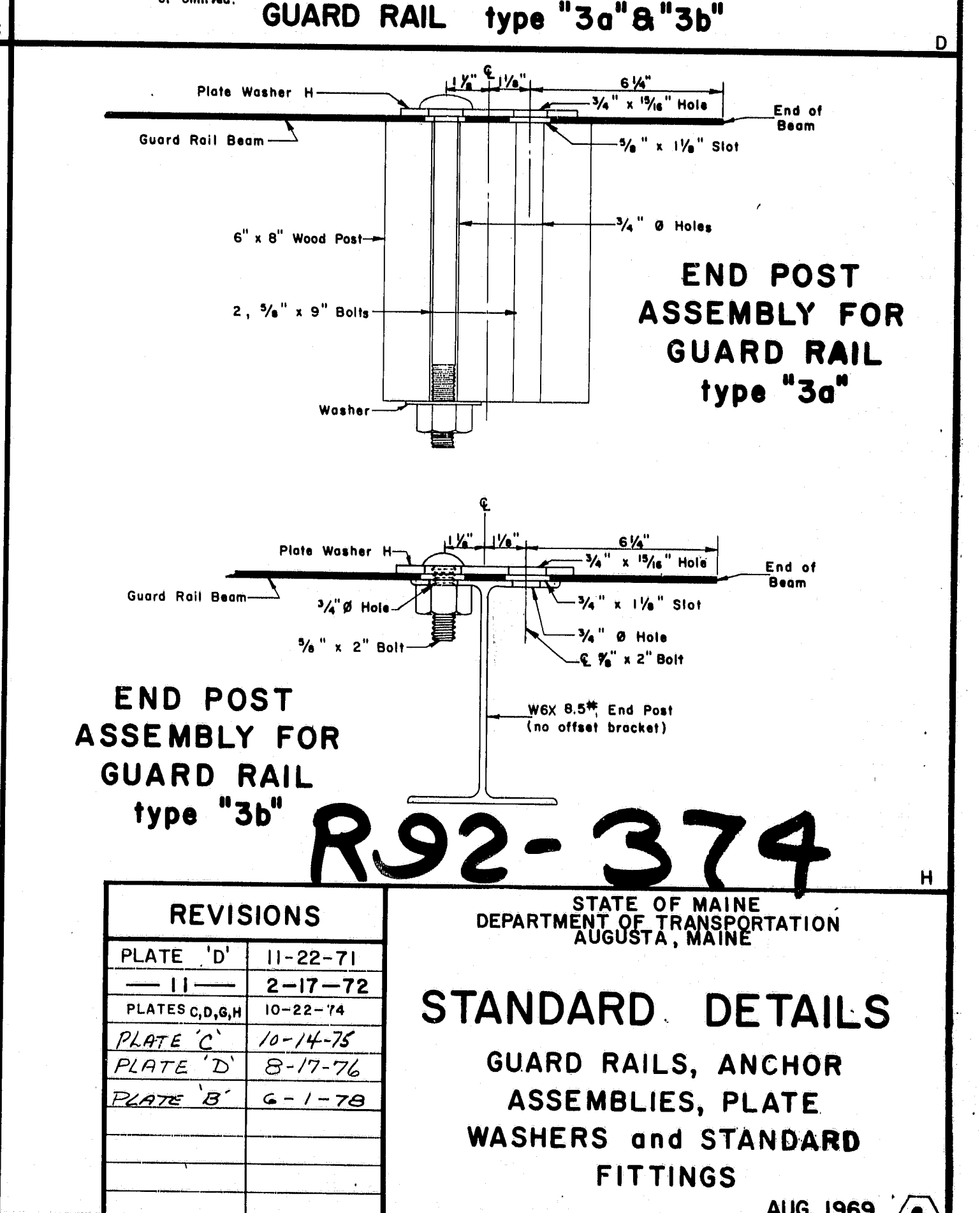
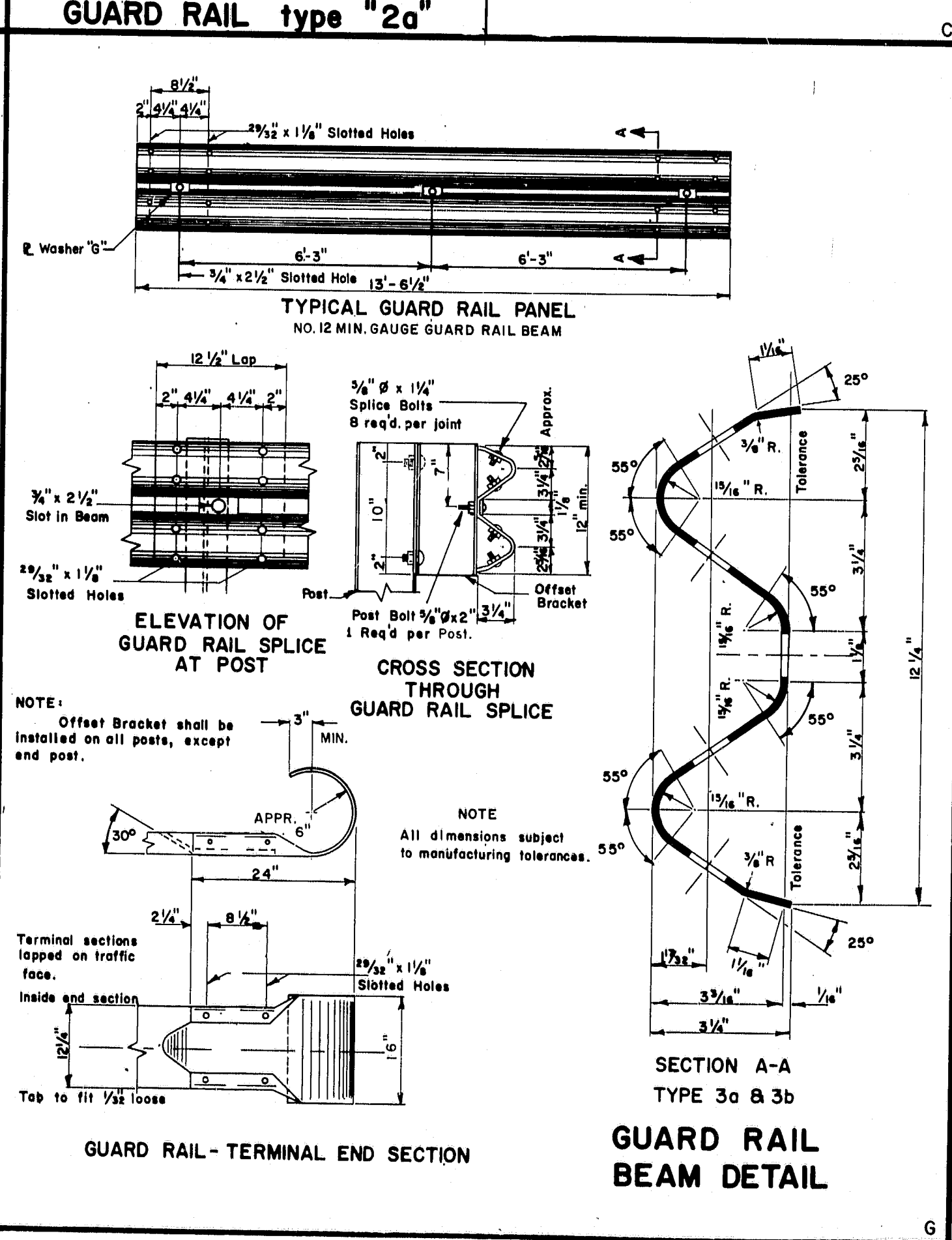
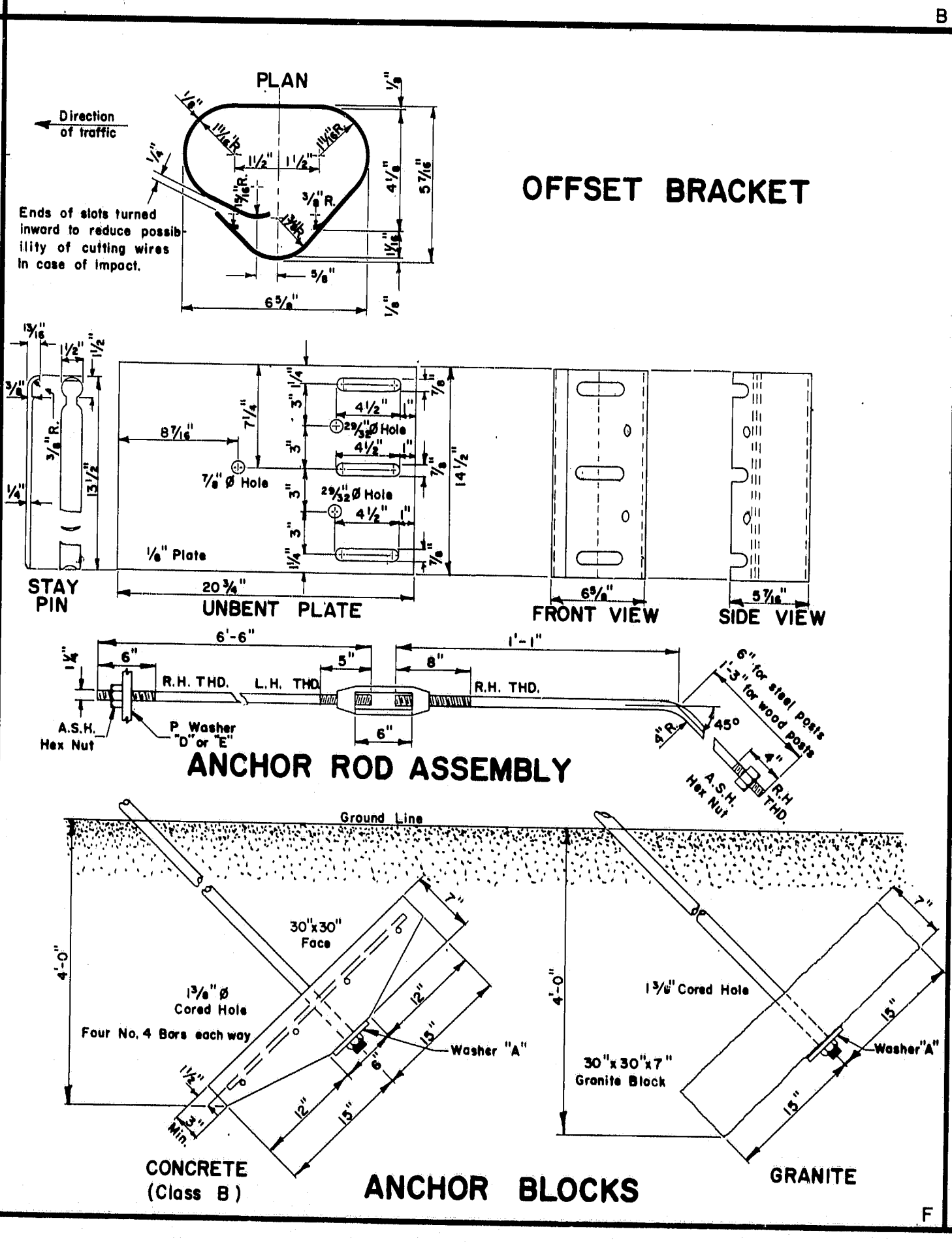
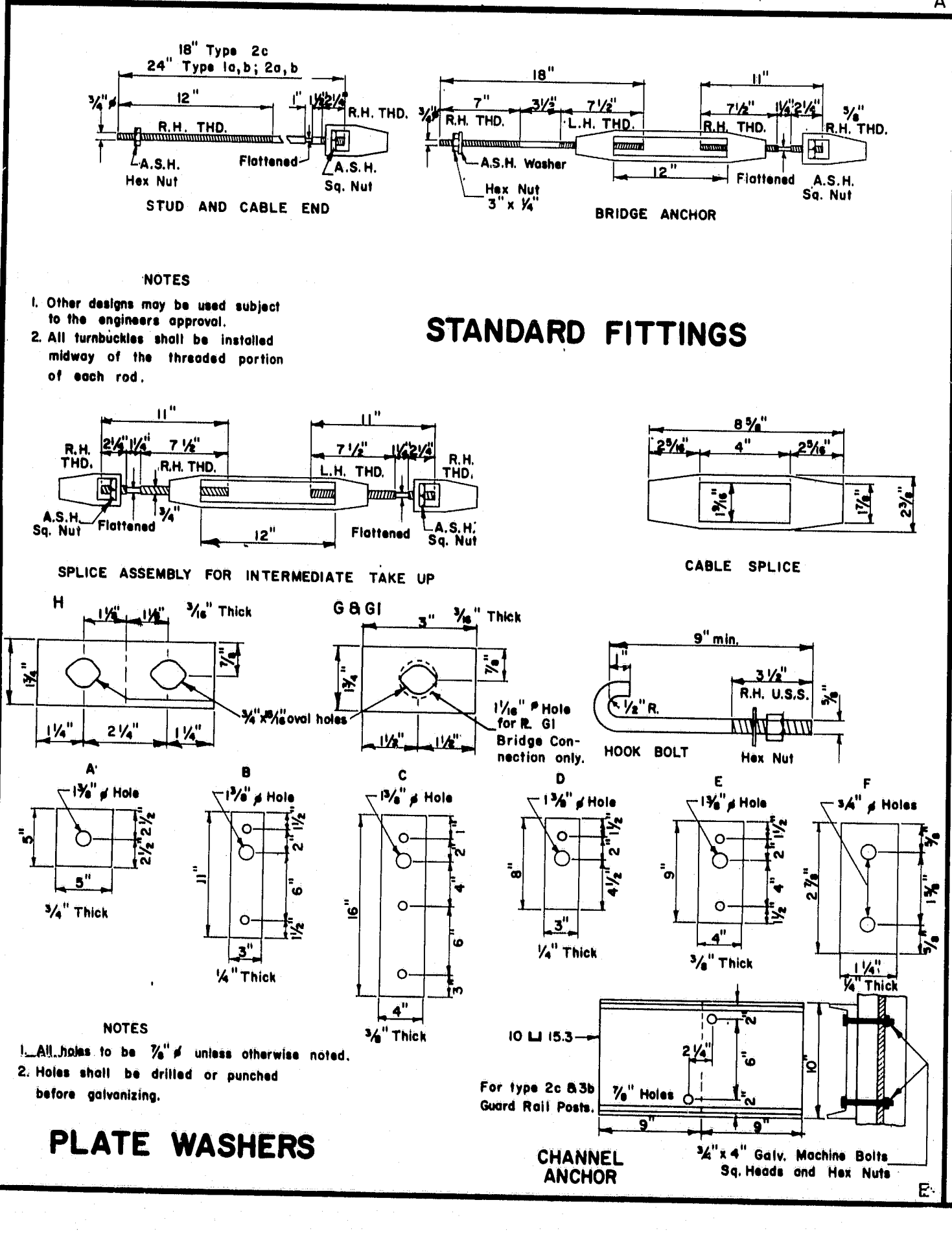
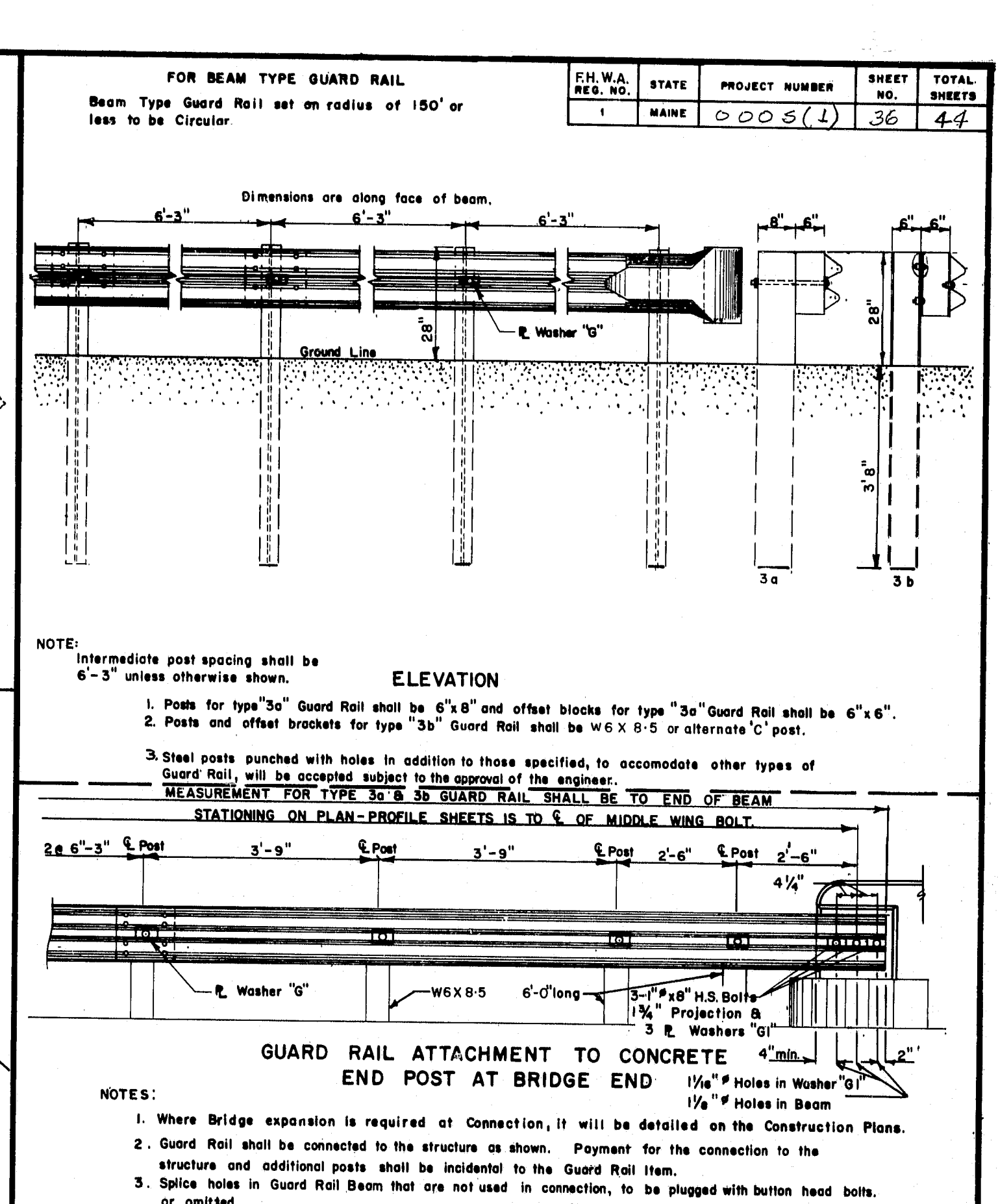
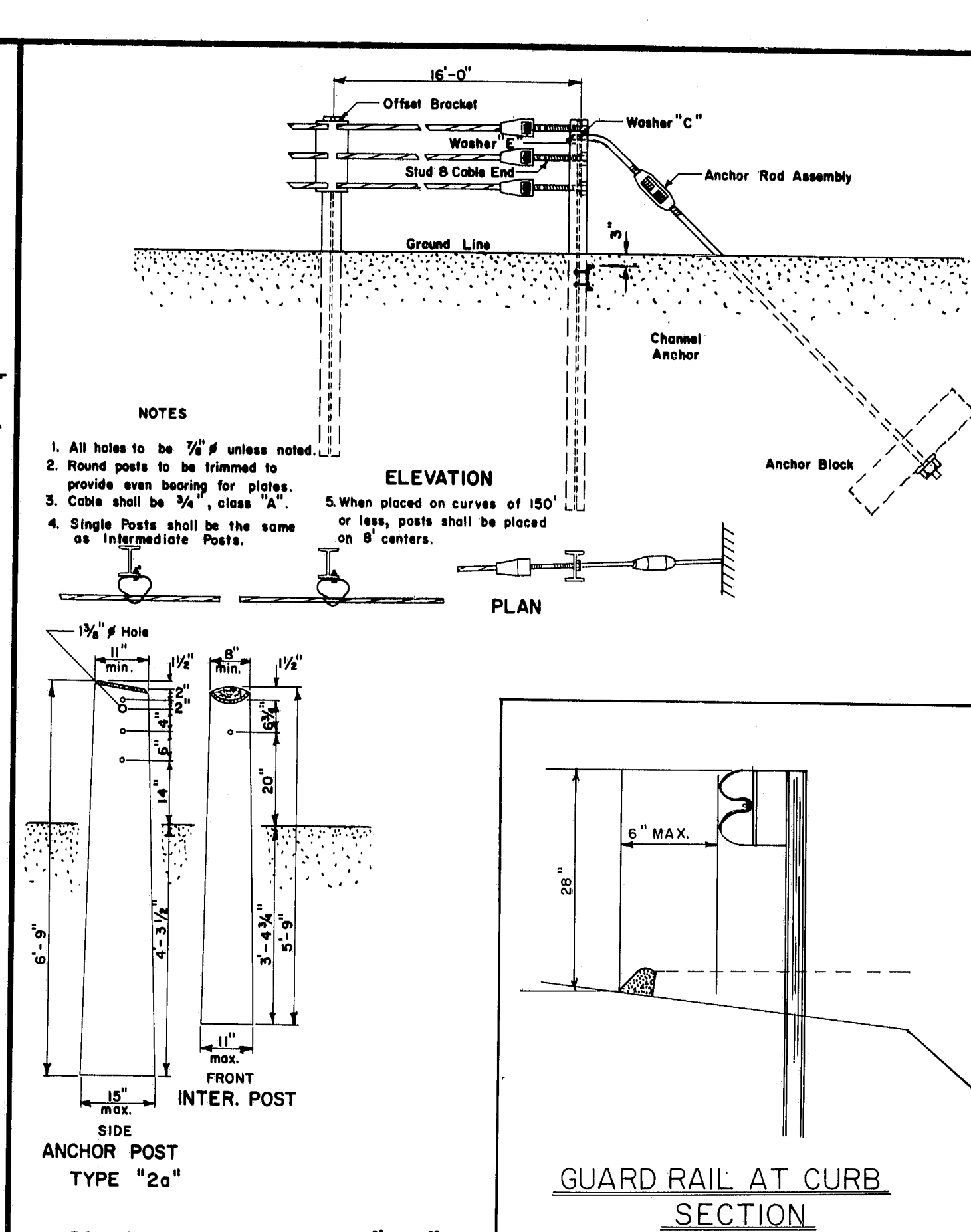
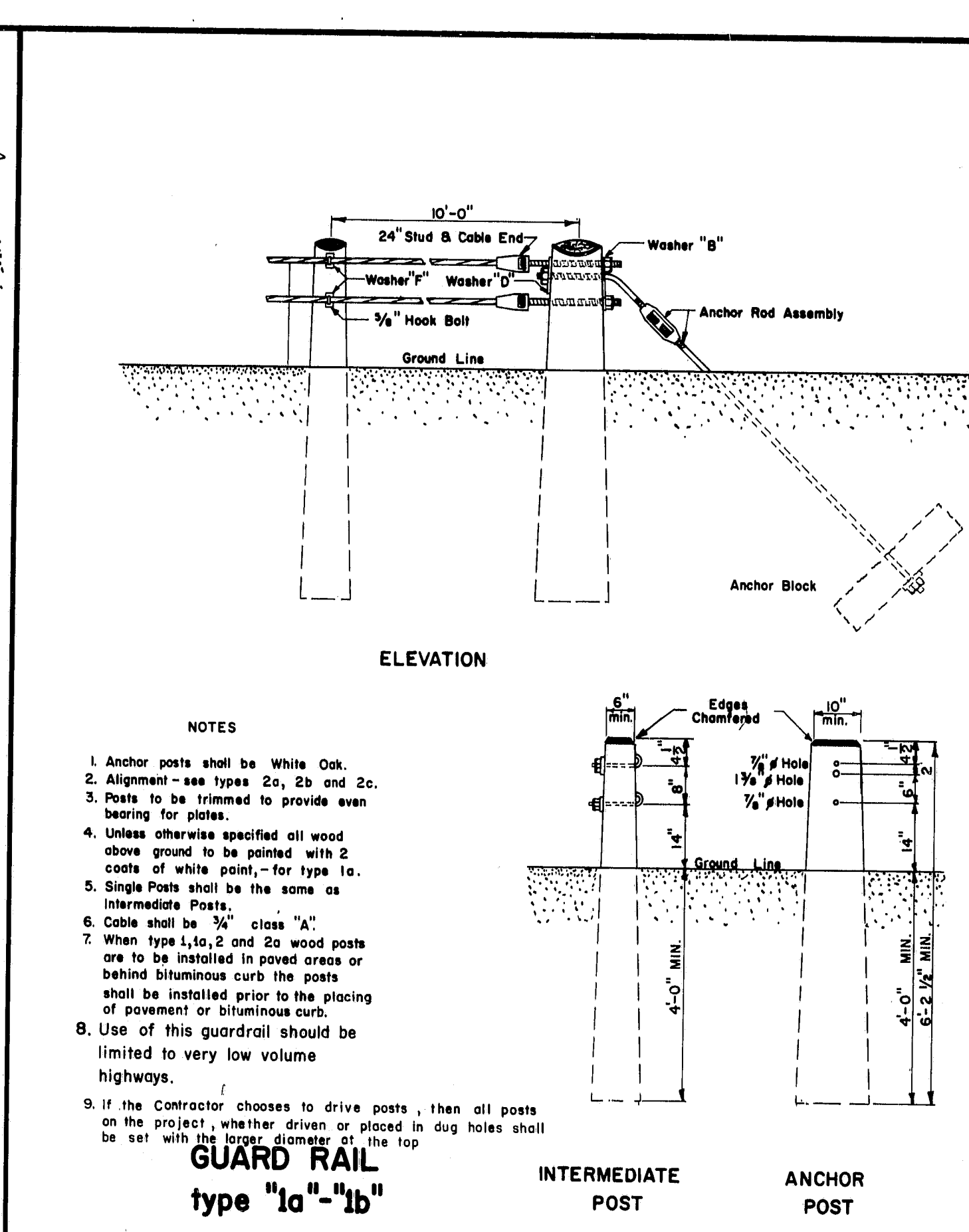
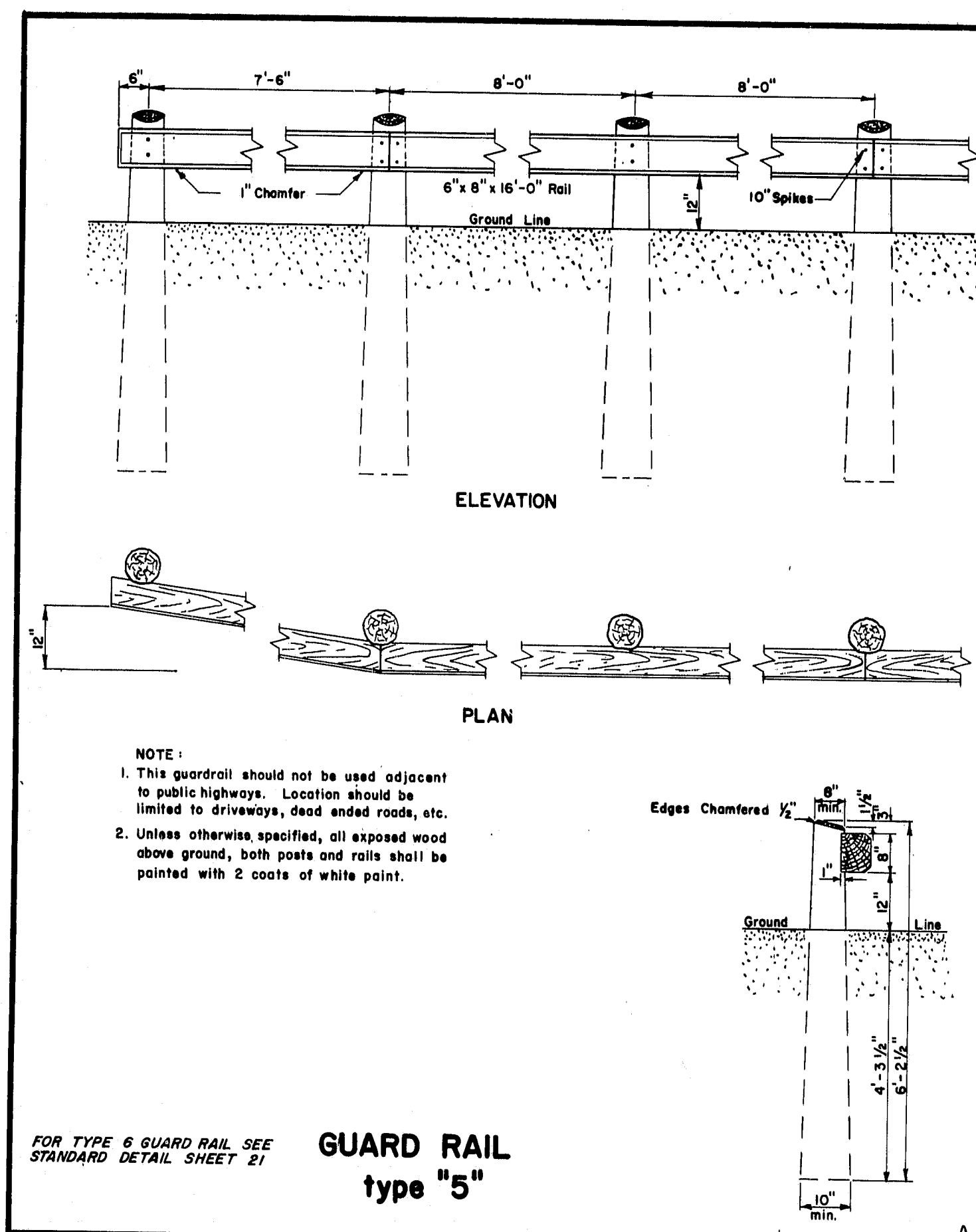


R92-373

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

STANDARD DETAILS
GUARD RAIL, MUCK EXCAVATION
CONCRETE STEPS & SIDEWALK
GUYING TREES
TREE WELLS, EROSION CONTROL,
MAIL BOX SUPPORTS.

AUG. 1969



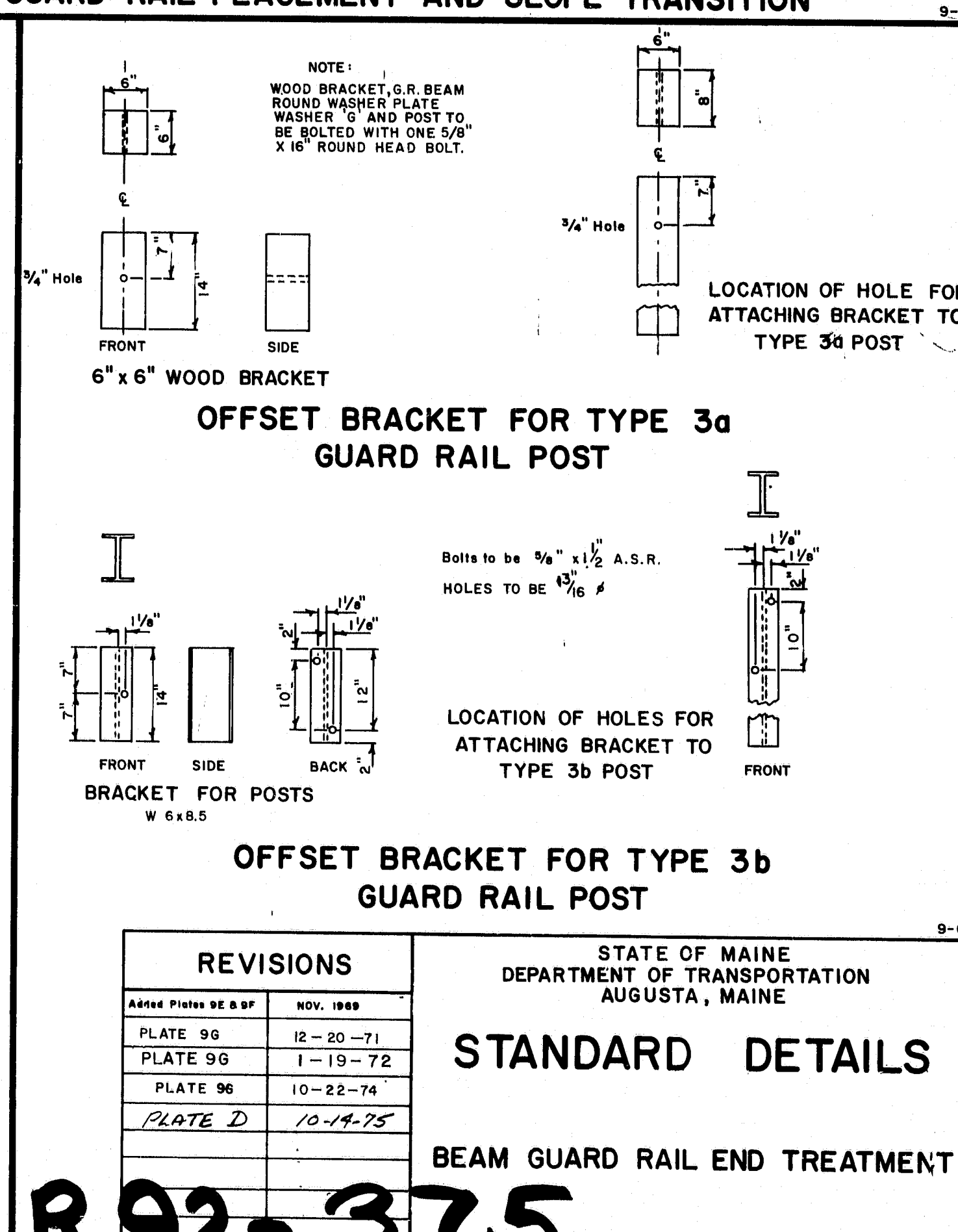
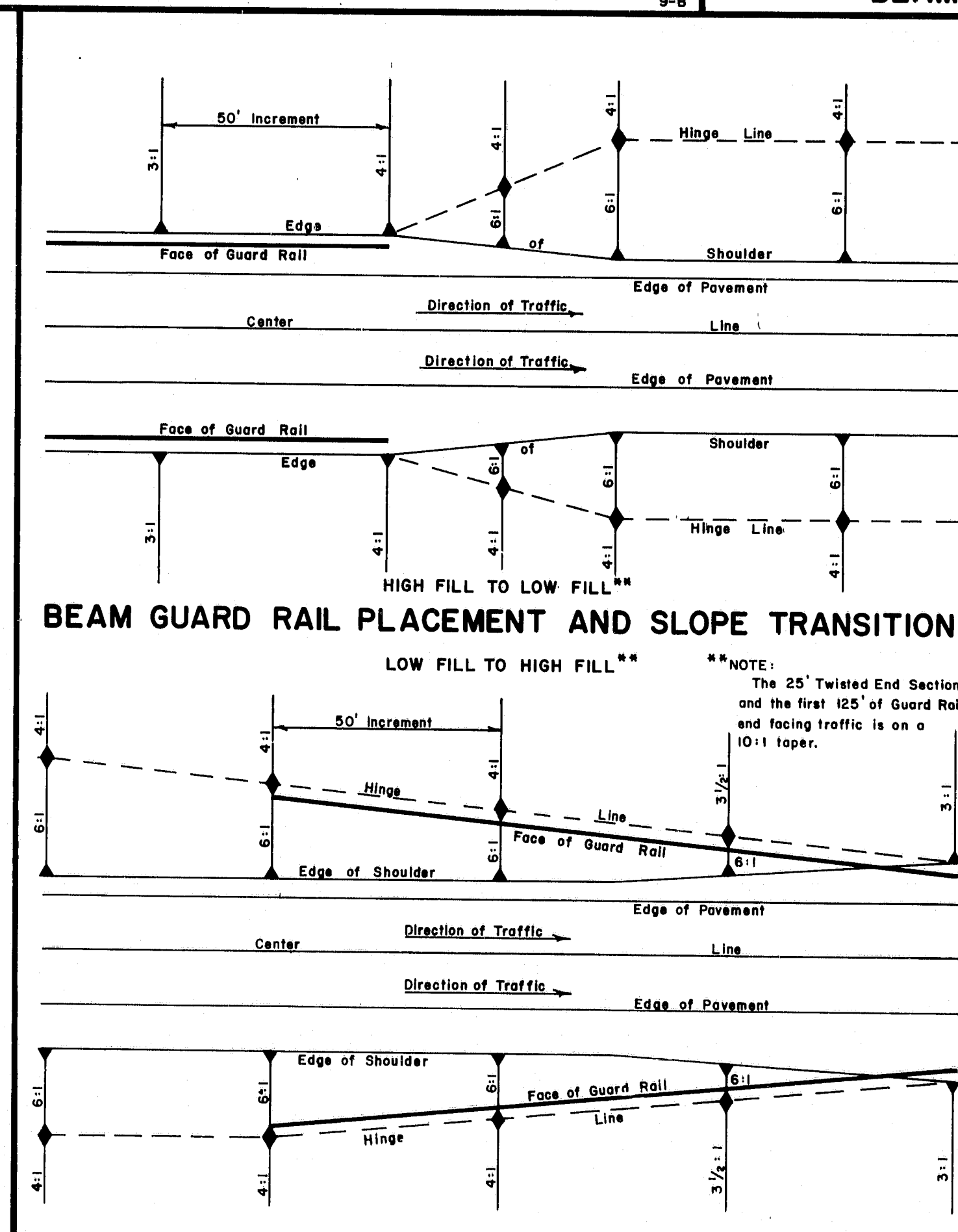
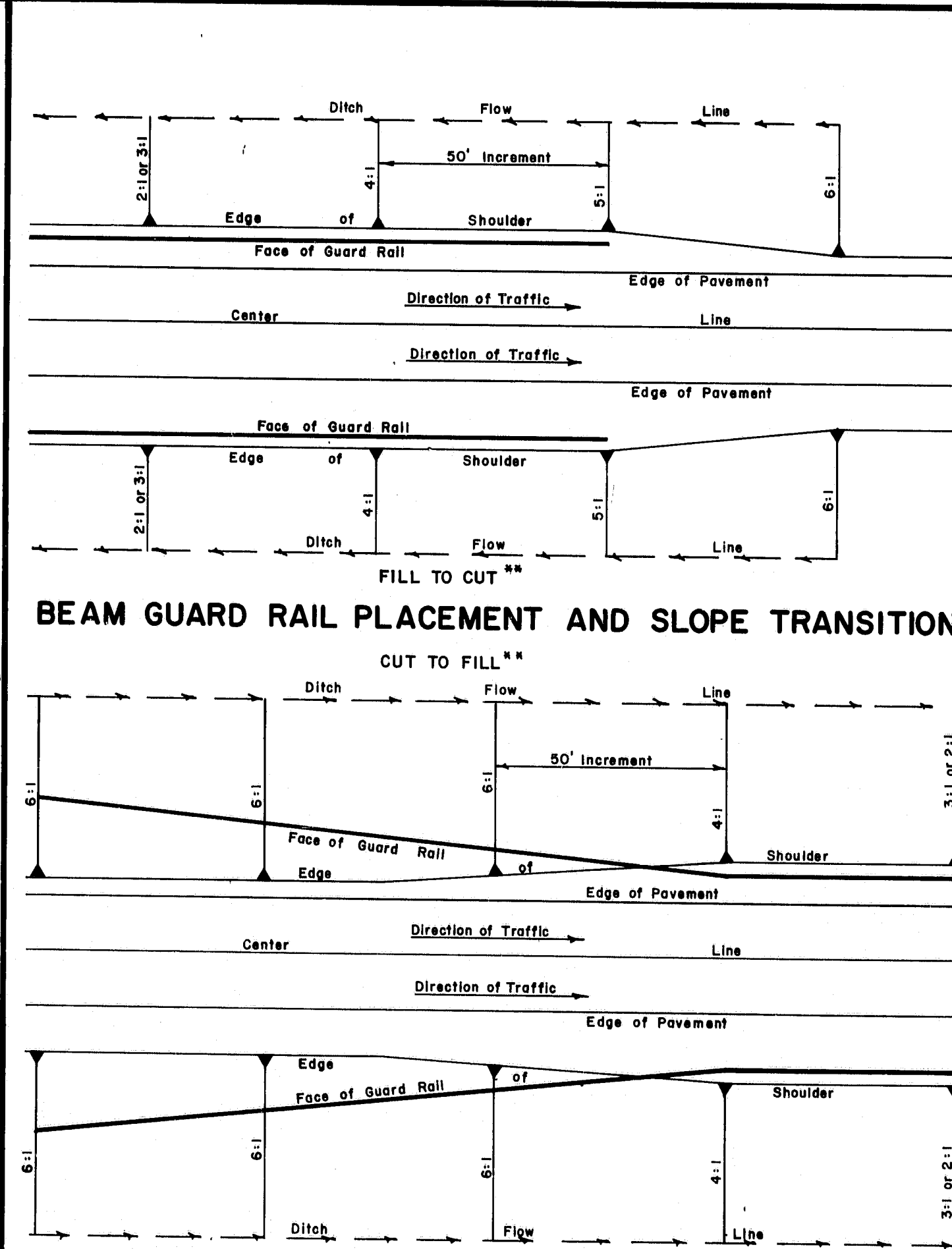
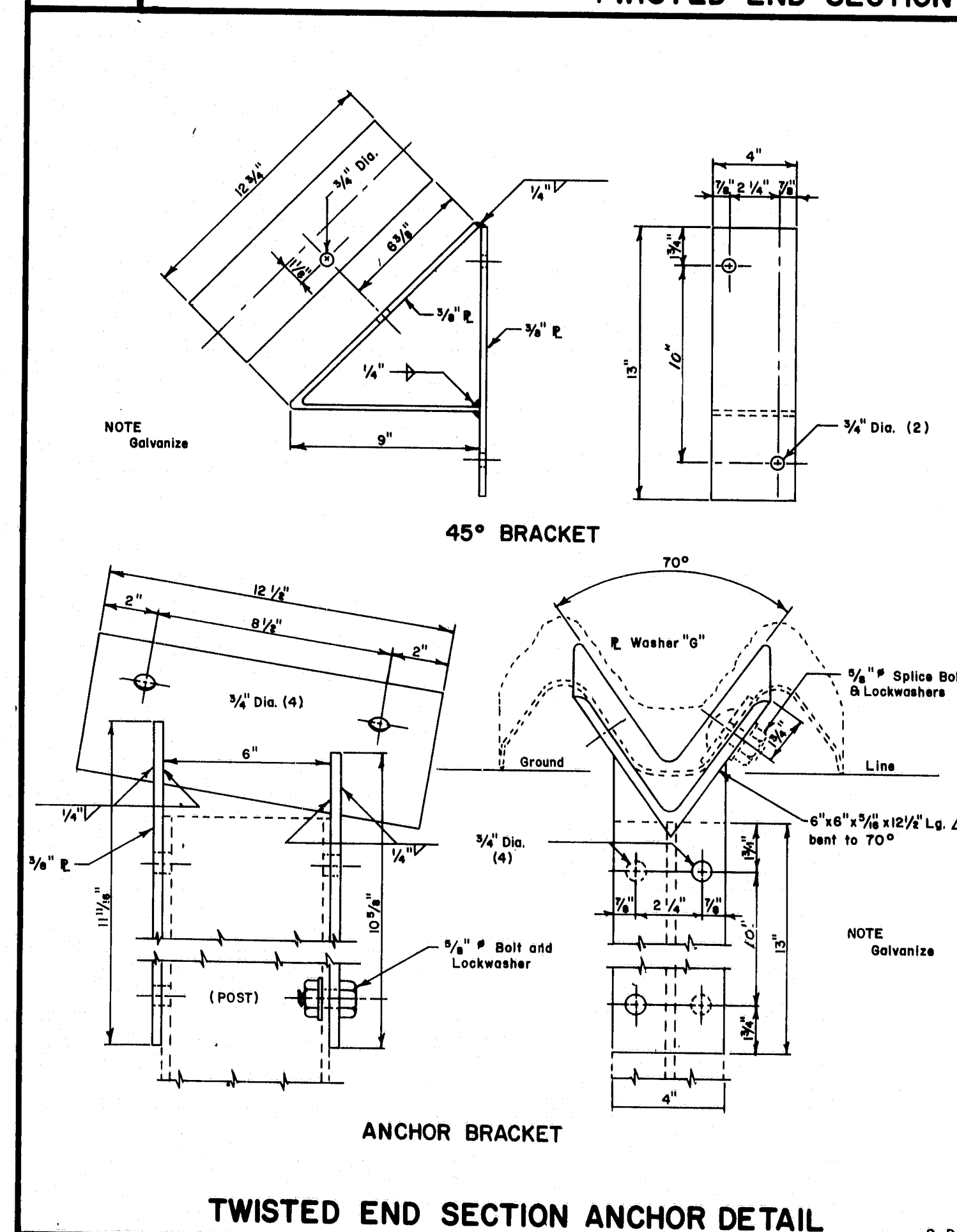
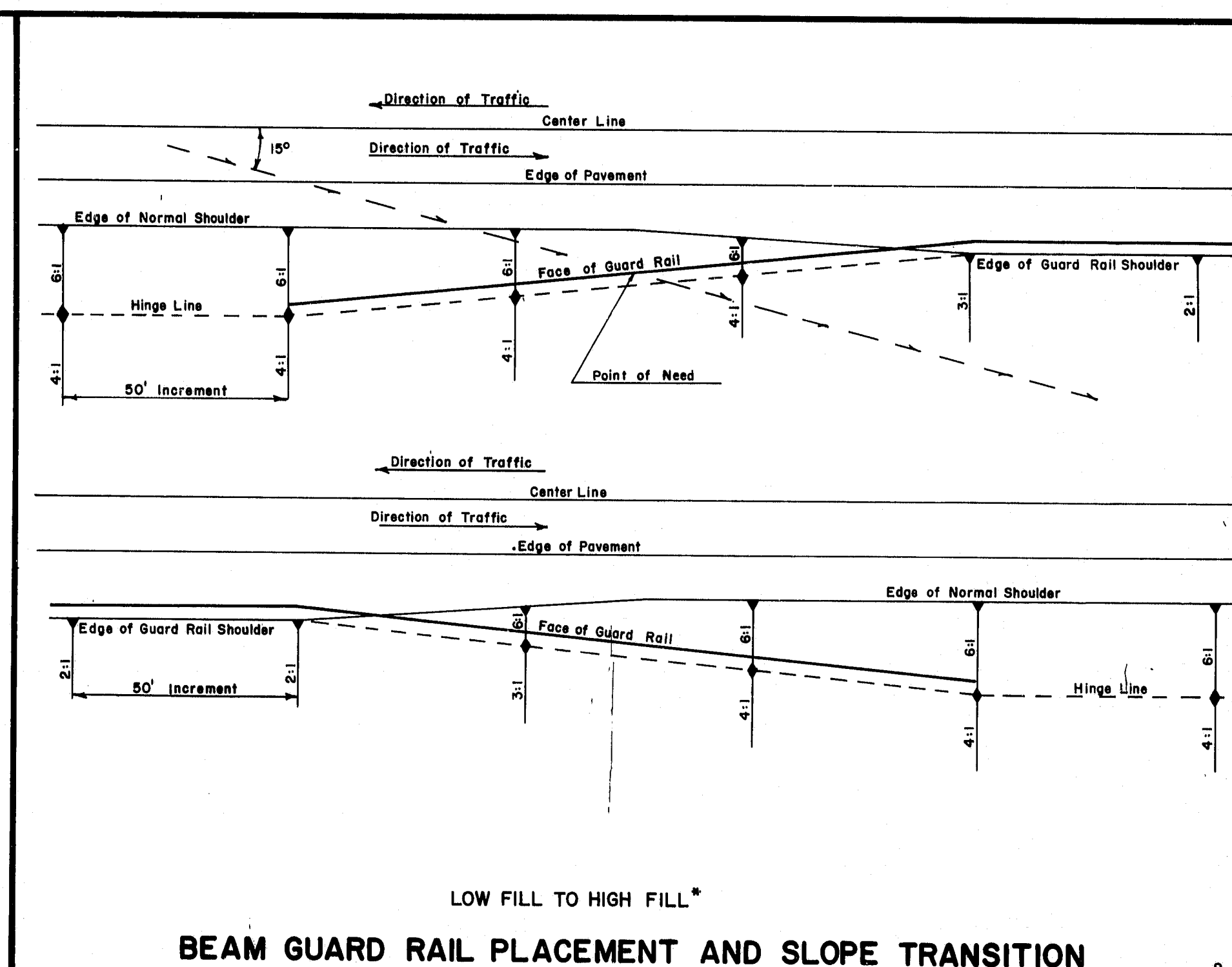
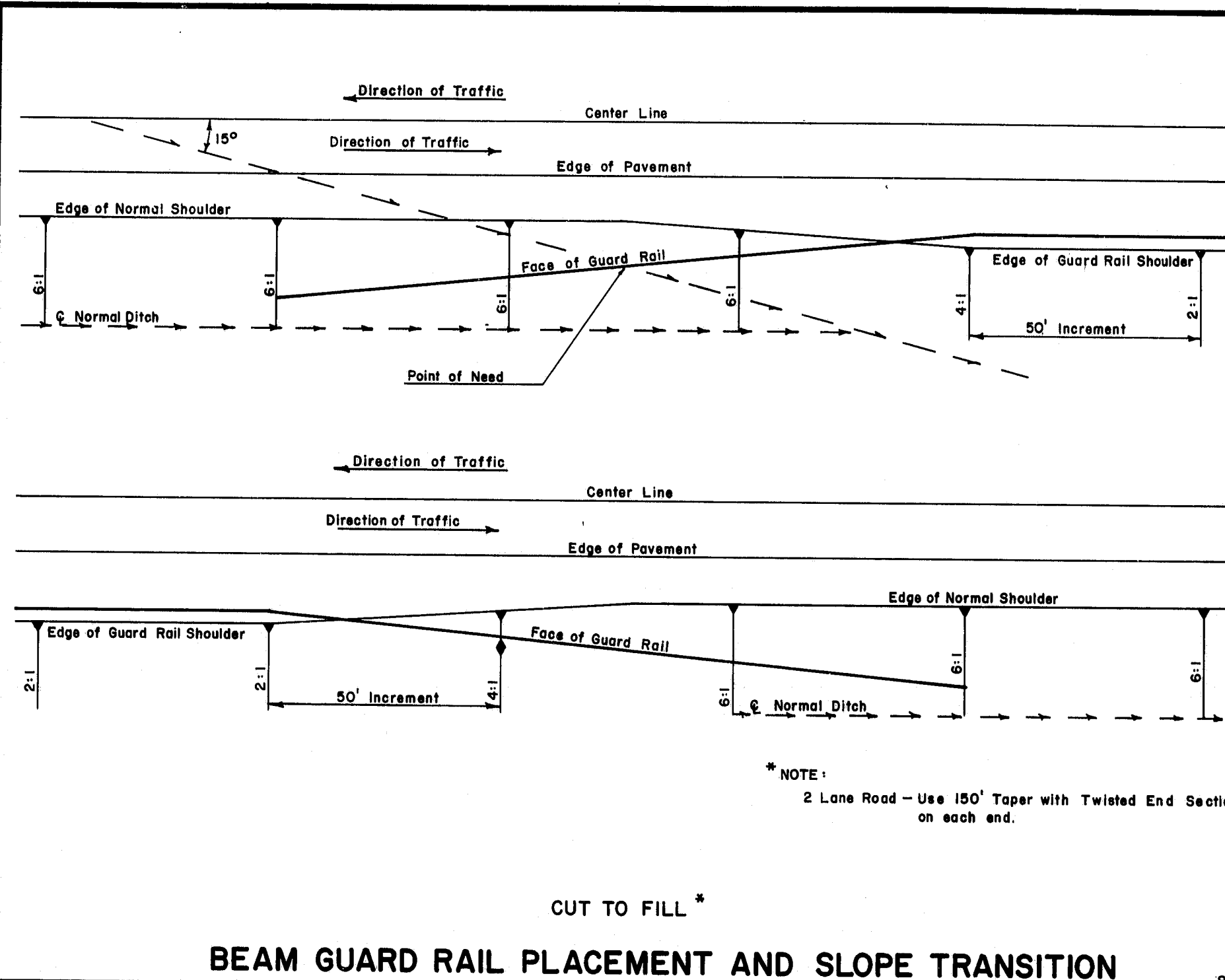
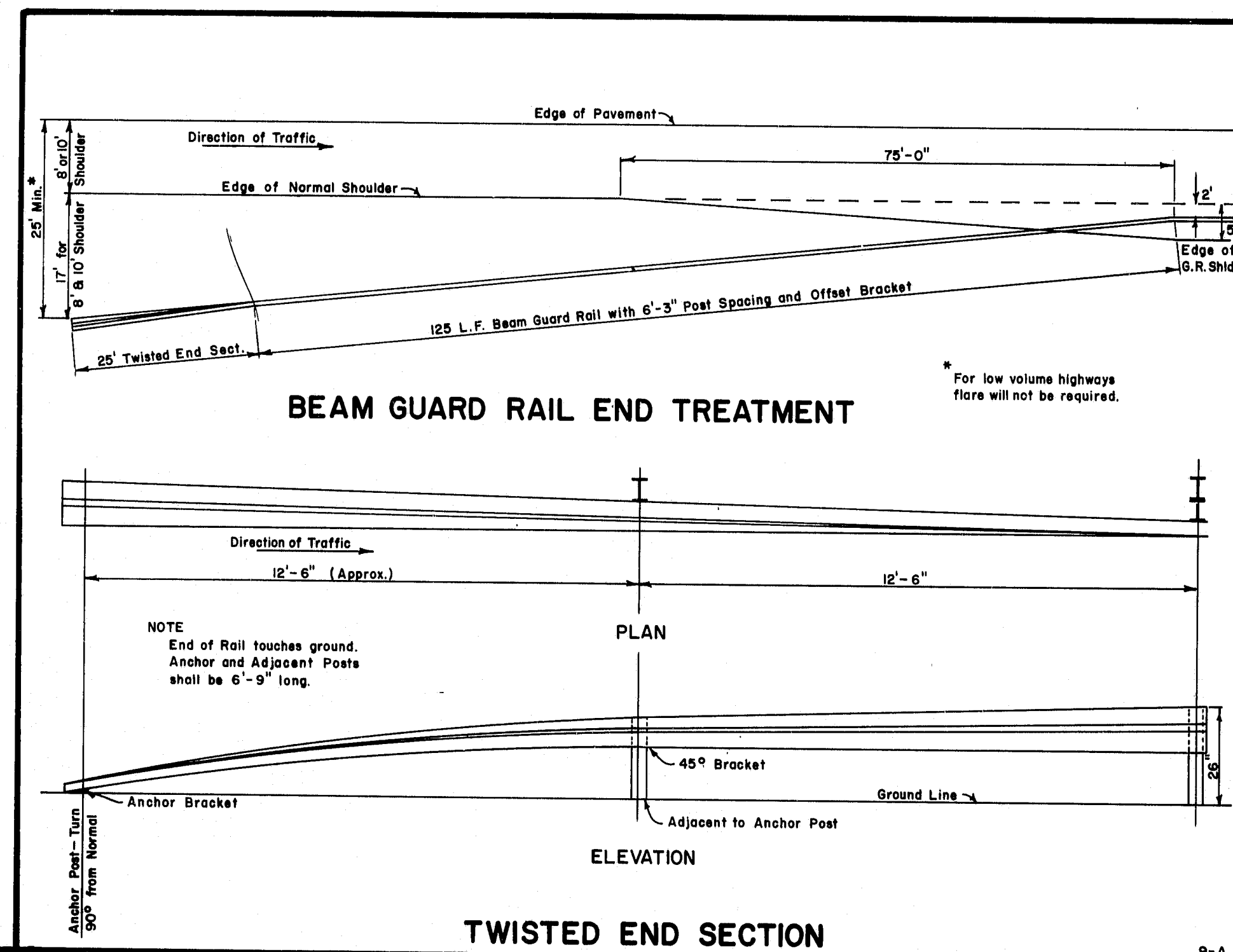
REVISIONS	
PLATE "D"	11-22-71
PLATE "C"	10-14-75
PLATE "B"	8-17-76
PLATE "A"	6-1-78

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

STANDARD DETAILS

GUARD RAILS, ANCHOR ASSEMBLIES, PLATE WASHERS and STANDARD FITTINGS

AUG, 1969



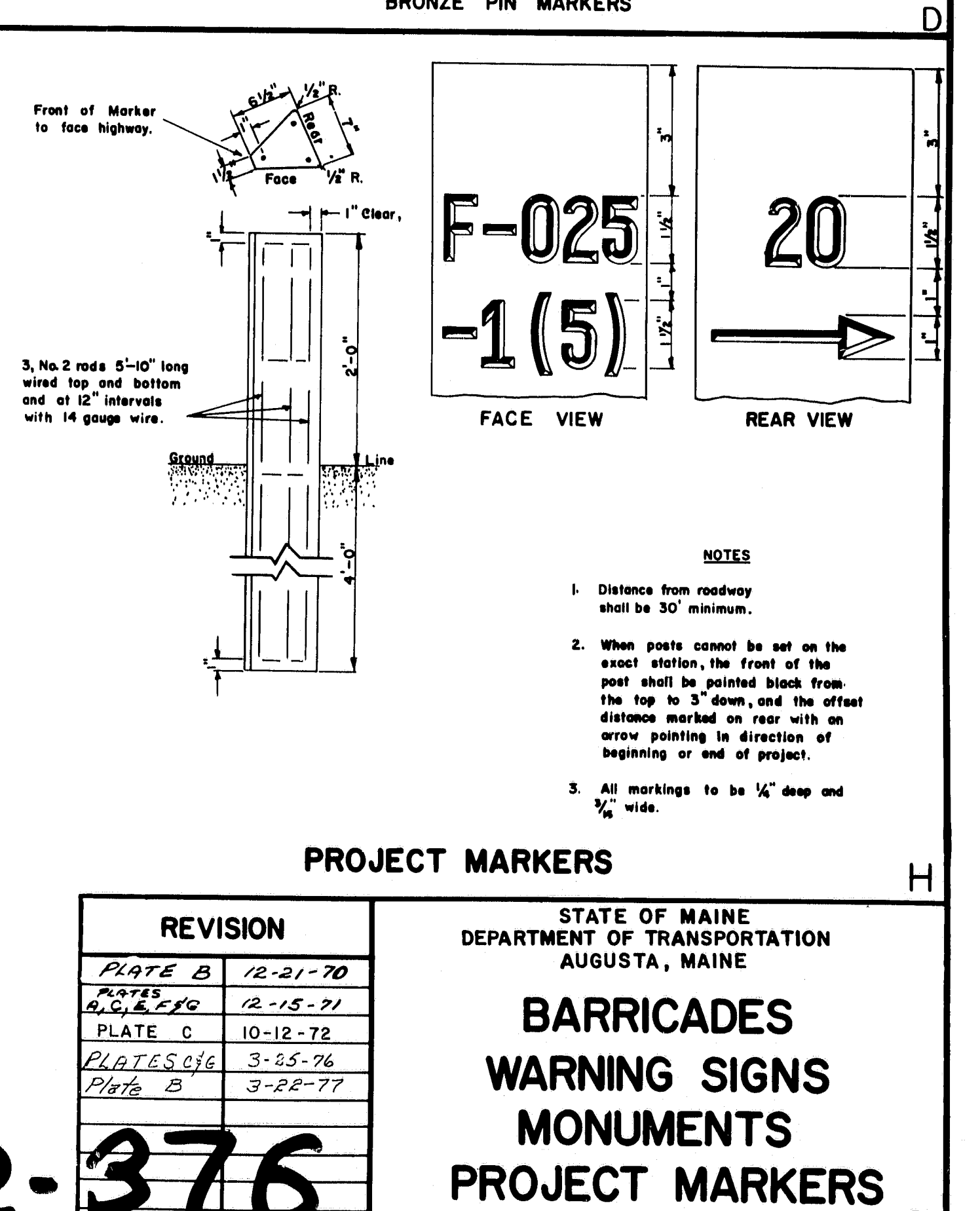
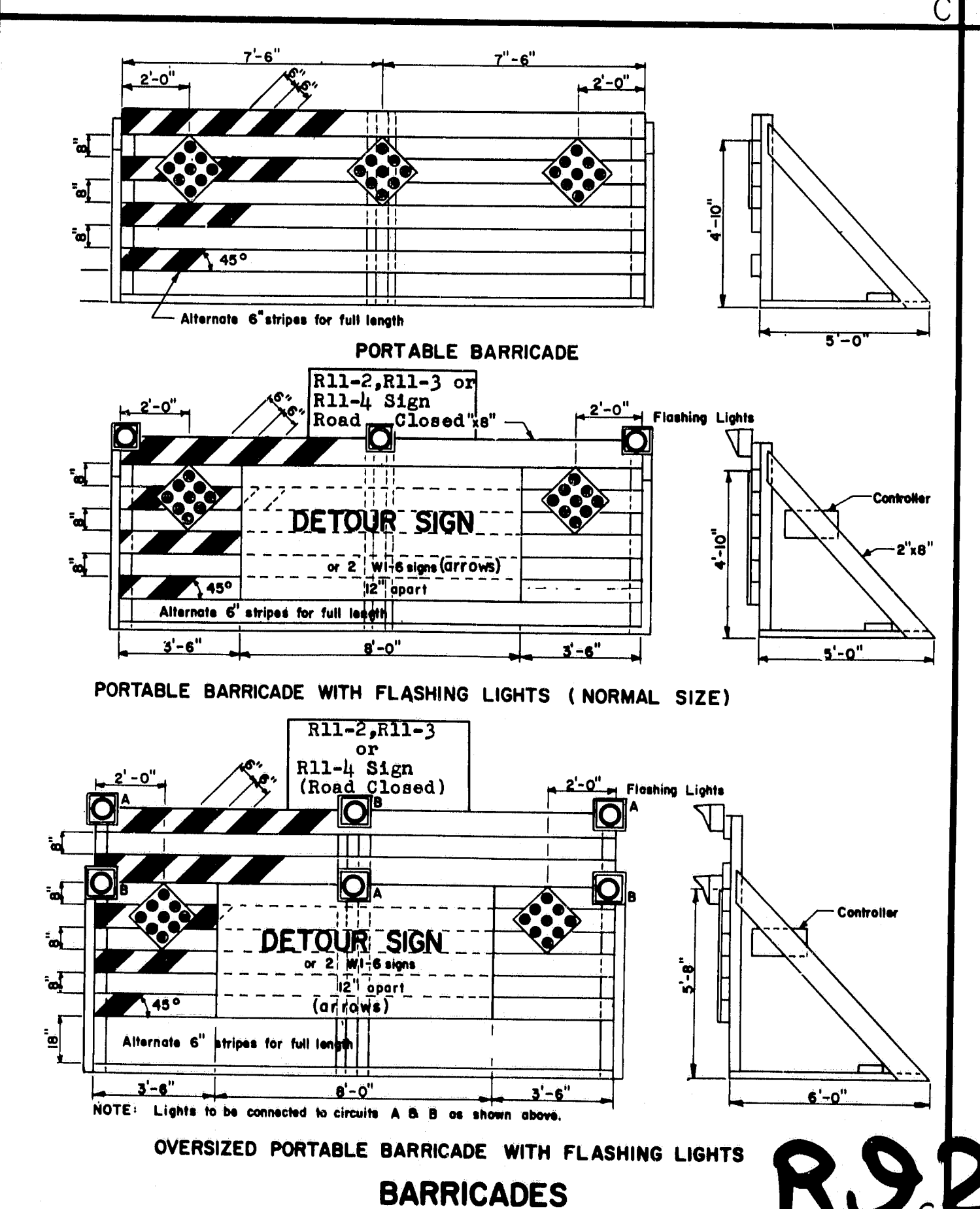
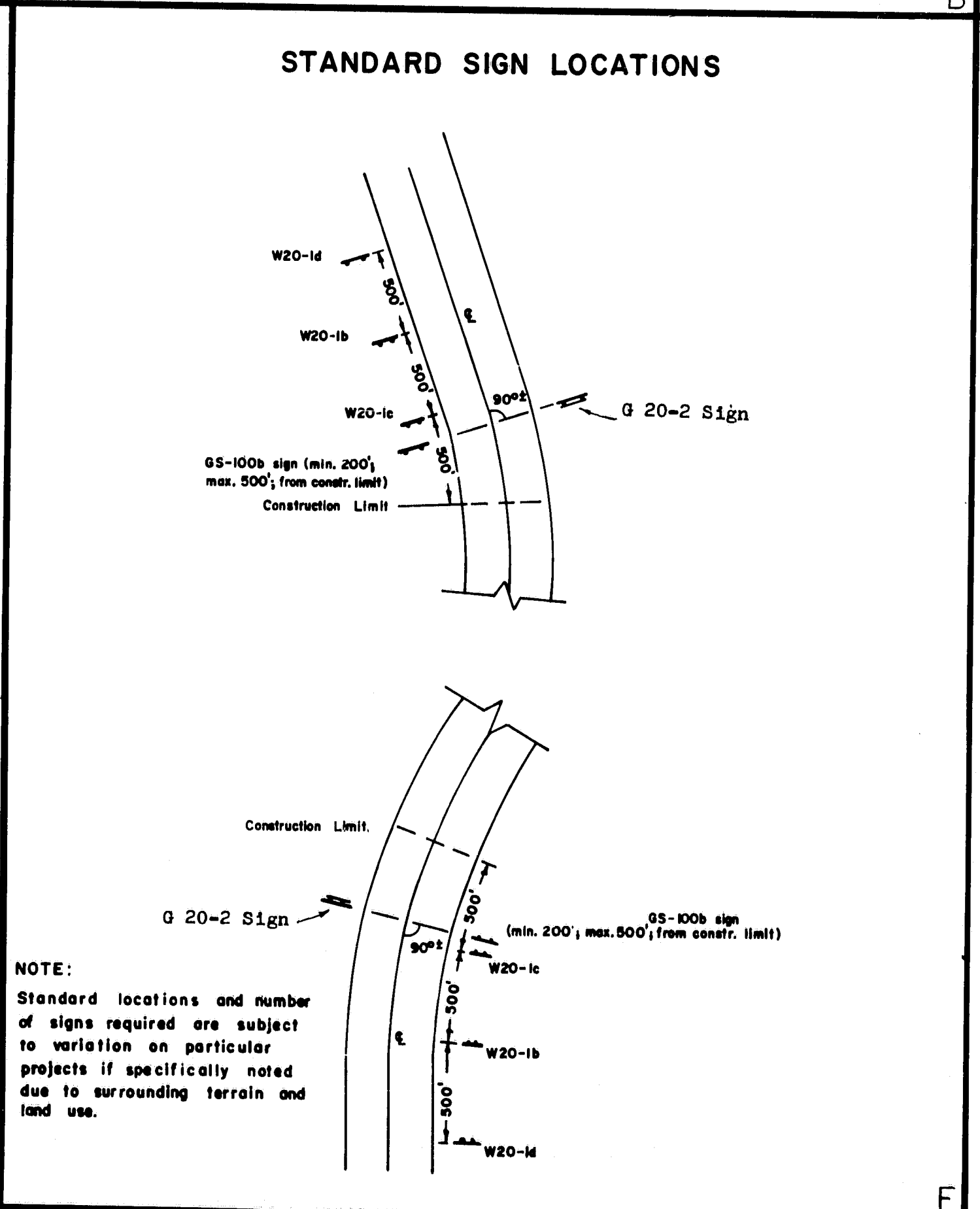
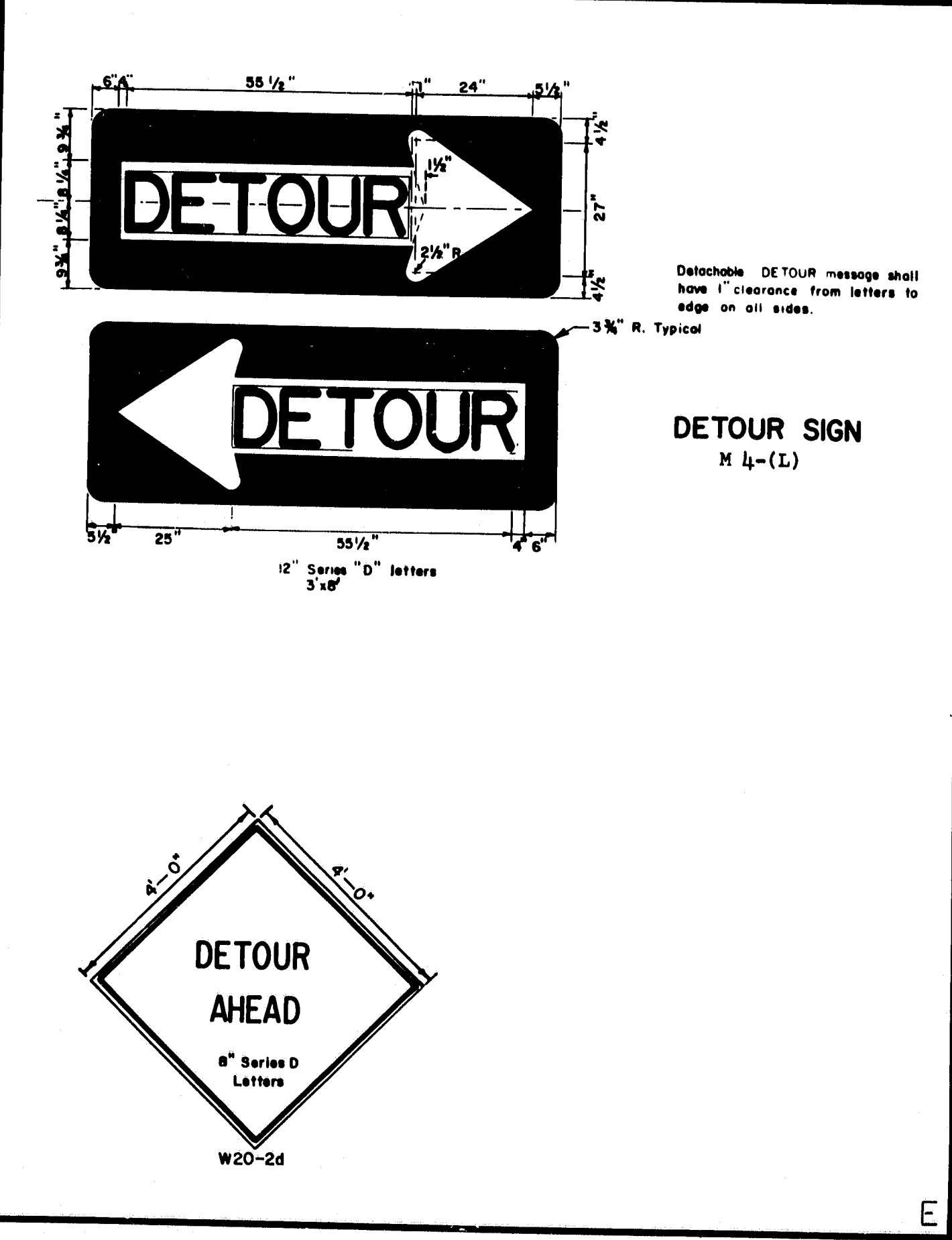
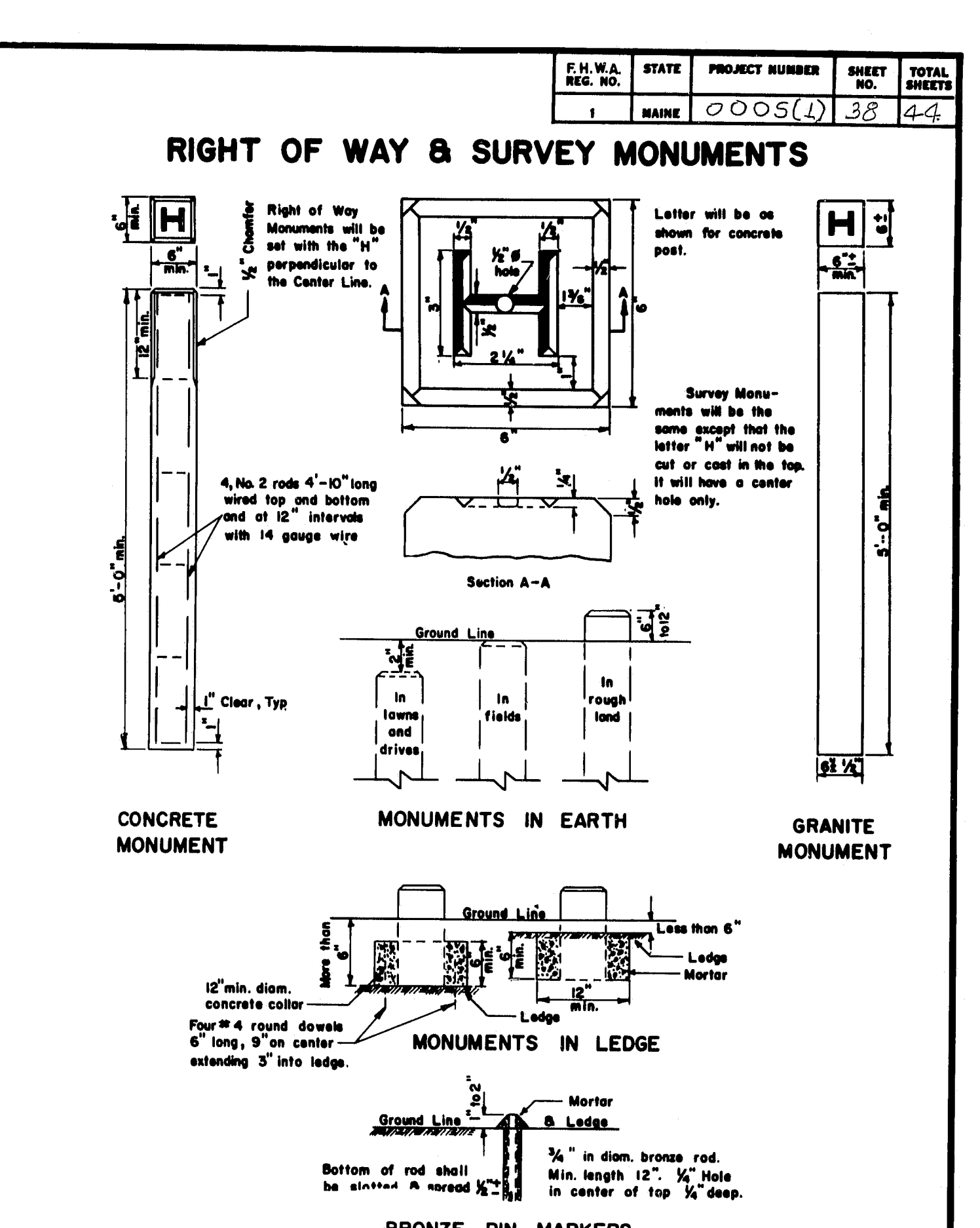
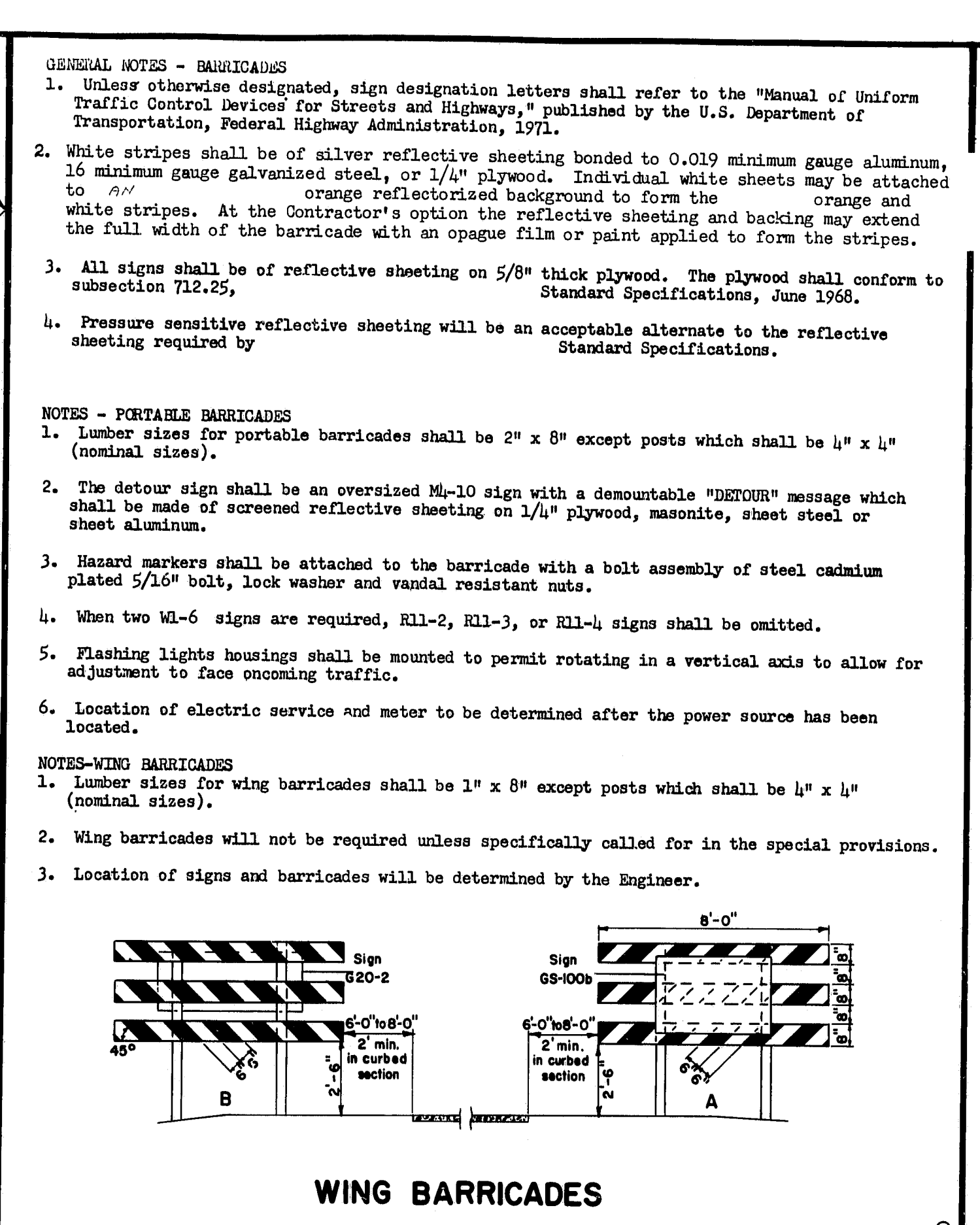
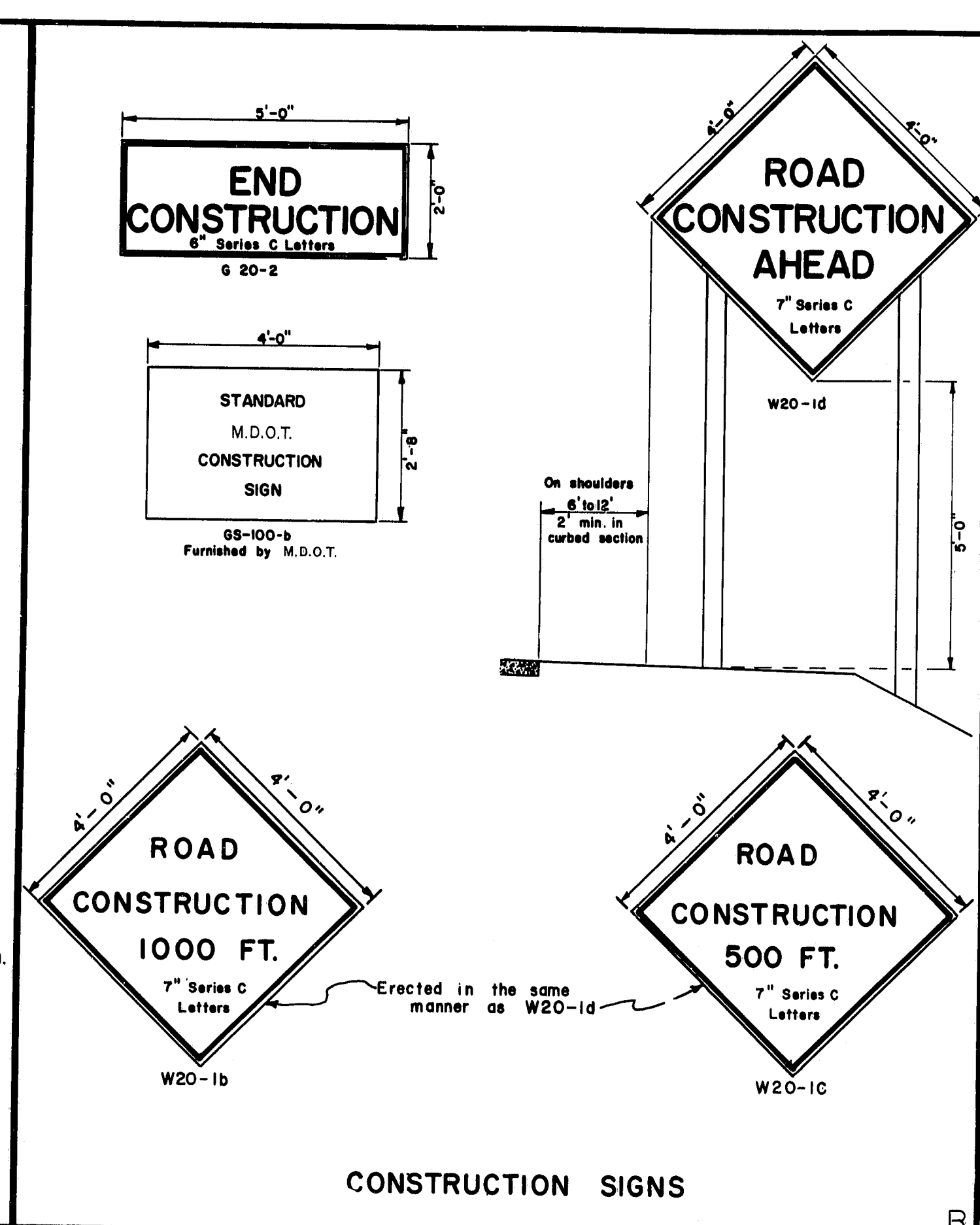
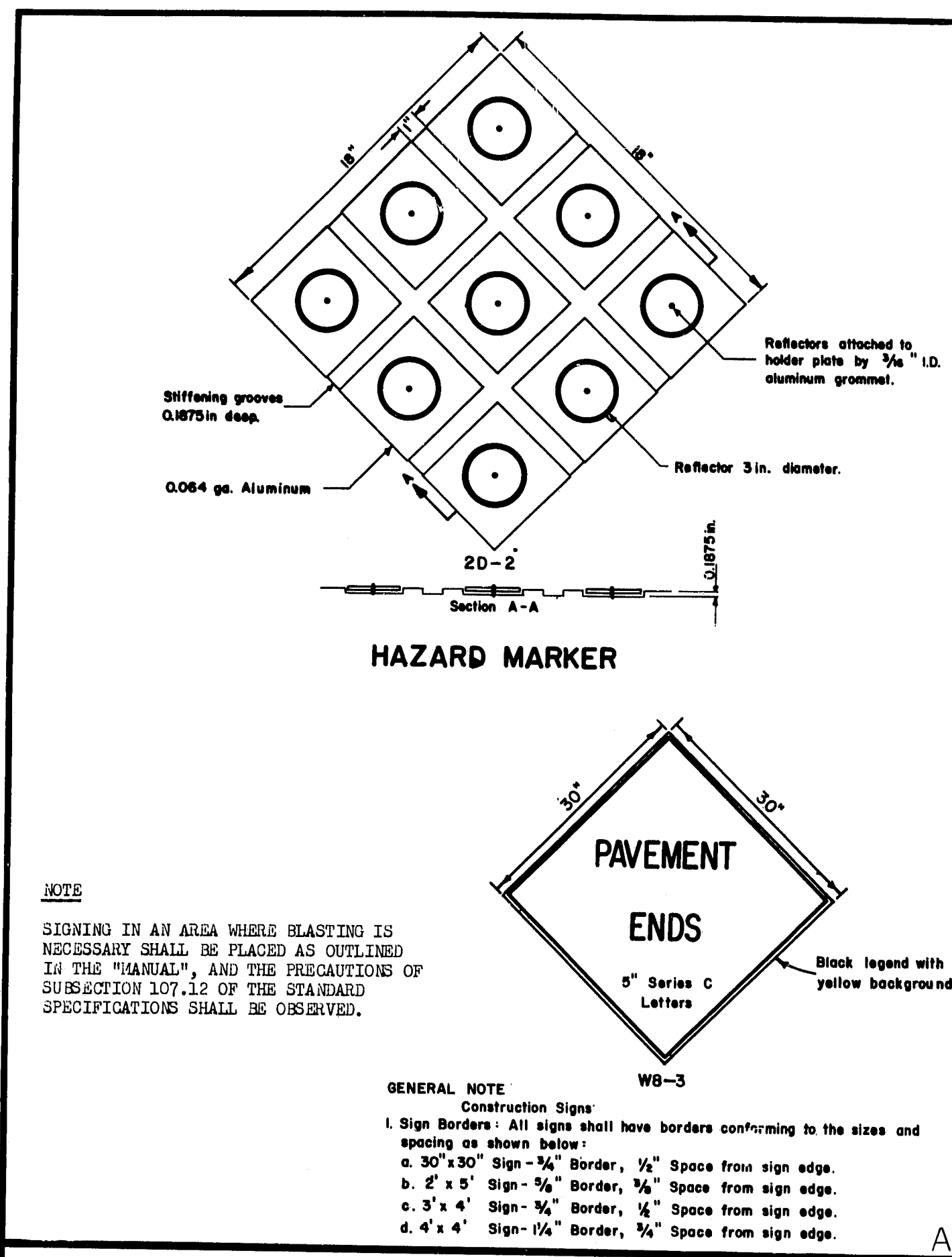
REVISIONS	
Added Plates 92, 93, 94	NOV. 1969
PLATE 90	12-20-71
PLATE 96	1-19-72
PLATE 96	10-22-74
PLATE 10	10-14-75

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

STANDARD DETAILS

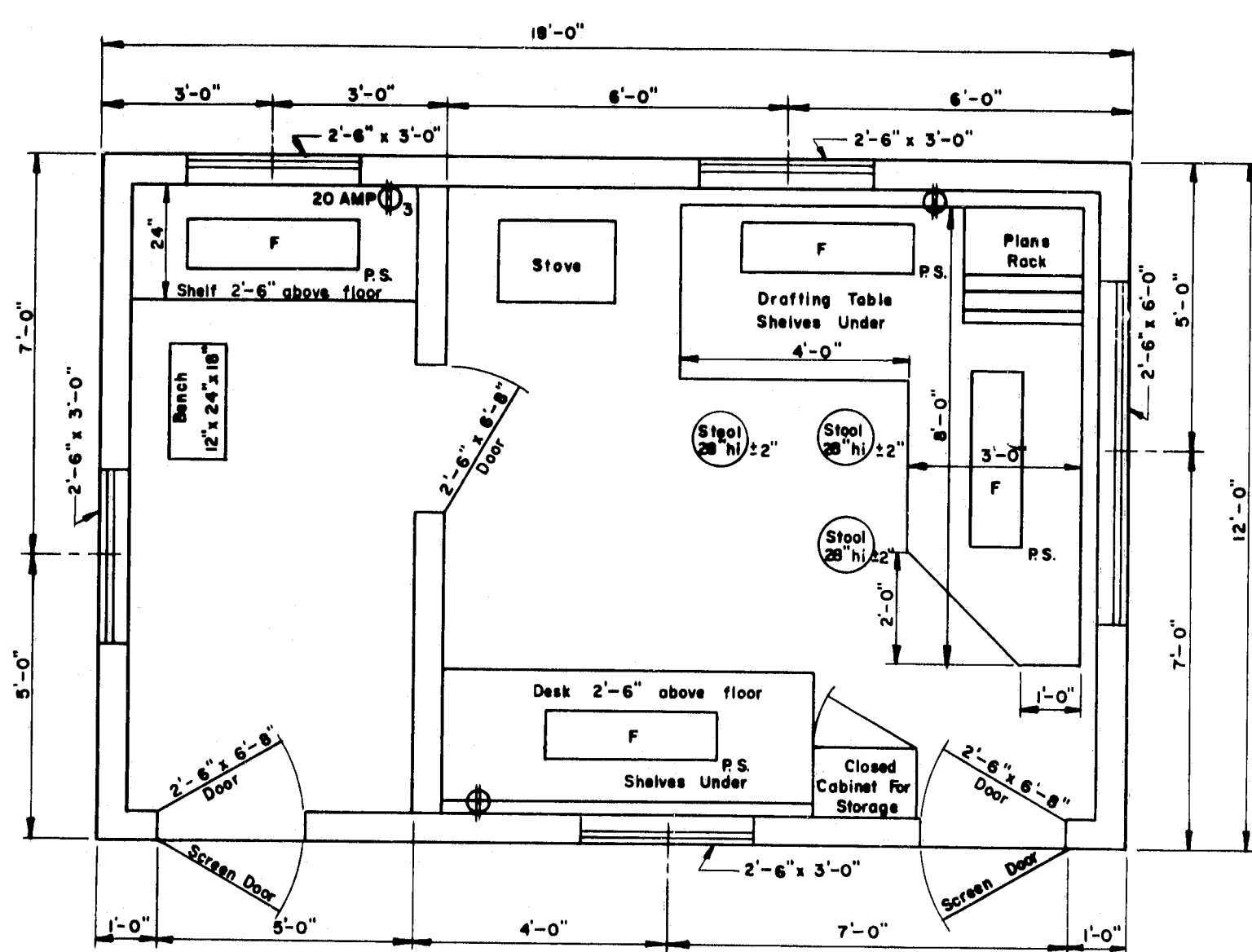
BEAM GUARD RAIL END TREATMENT

R92-375

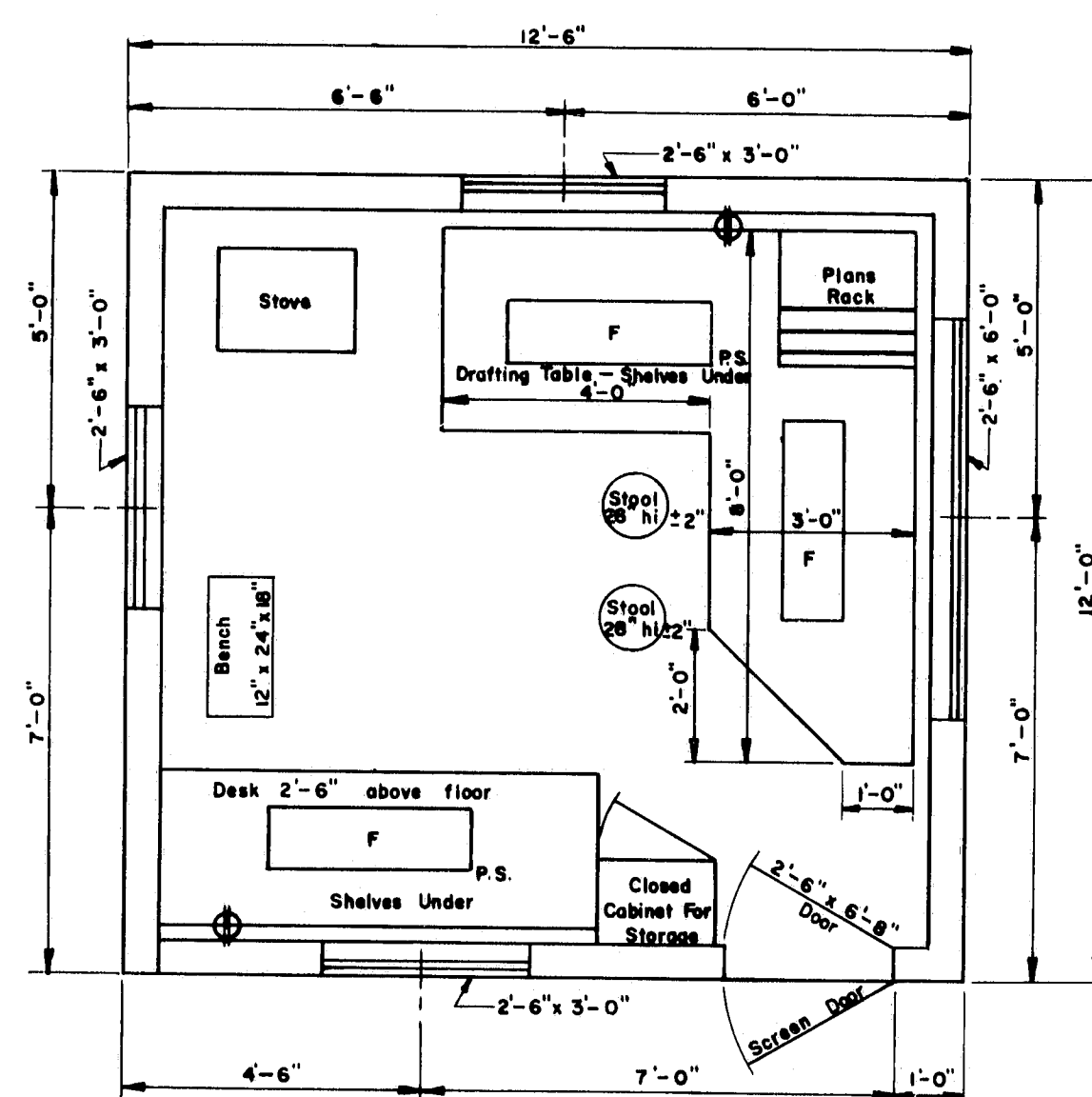


REVISION		STATE OF MAINE DEPARTMENT OF TRANSPORTATION AUGUSTA, MAINE	
PLATE B	12-21-70	BARRICADES WARNING SIGNS MONUMENTS PROJECT MARKERS AUG. 1969	
PLATE C	12-15-71		
PLATE C/E	10-12-72		
PLATE B	3-25-74		
PLATE B	3-22-77		

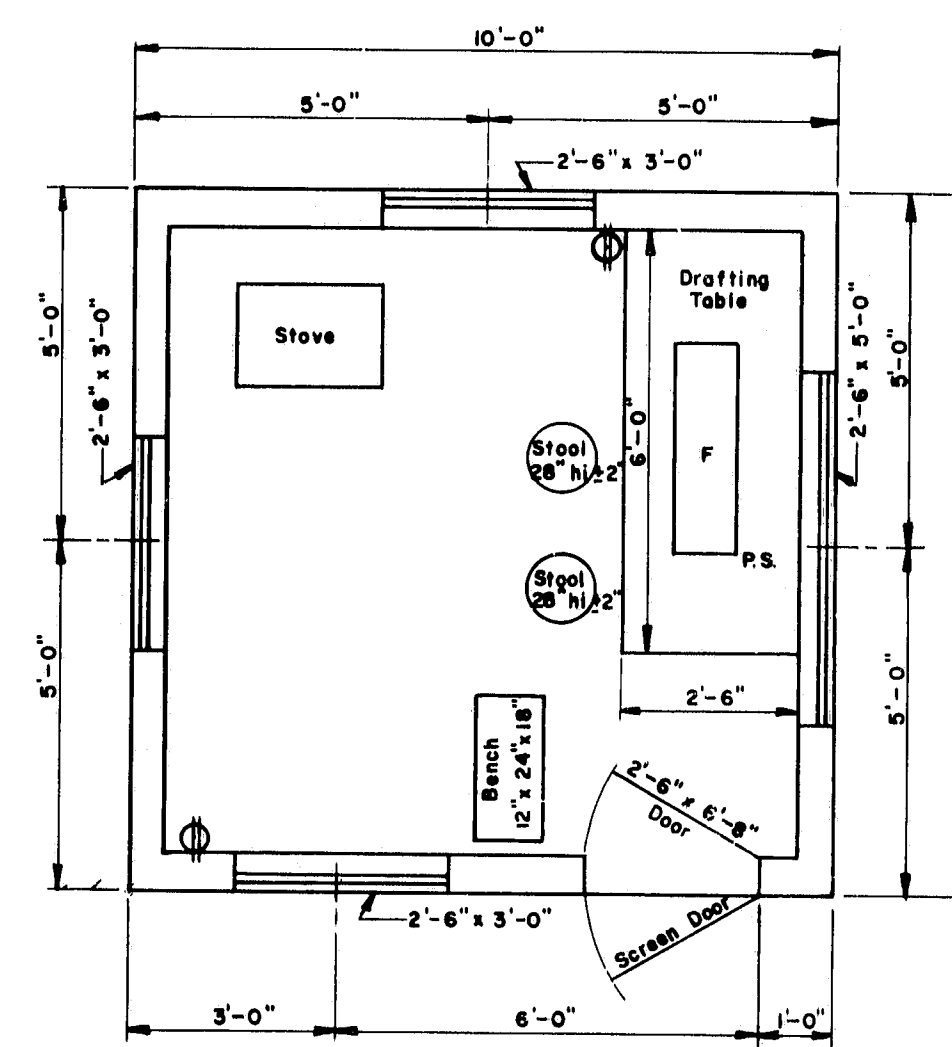
R92-376



FLOOR PLAN
TYPE "A"

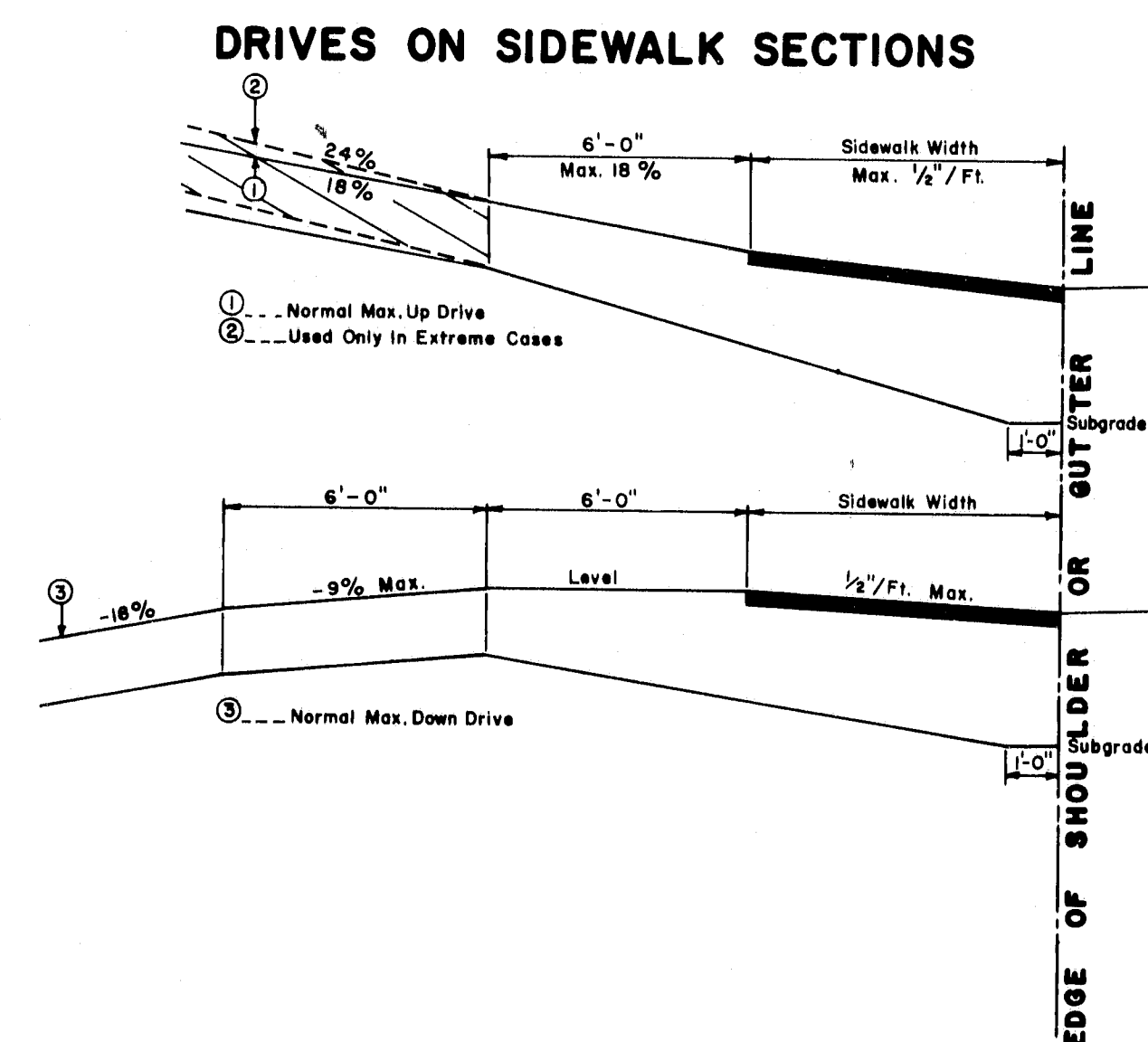


FLOOR PLAN
TYPE "B"



FLOOR PLAN
TYPE "C"

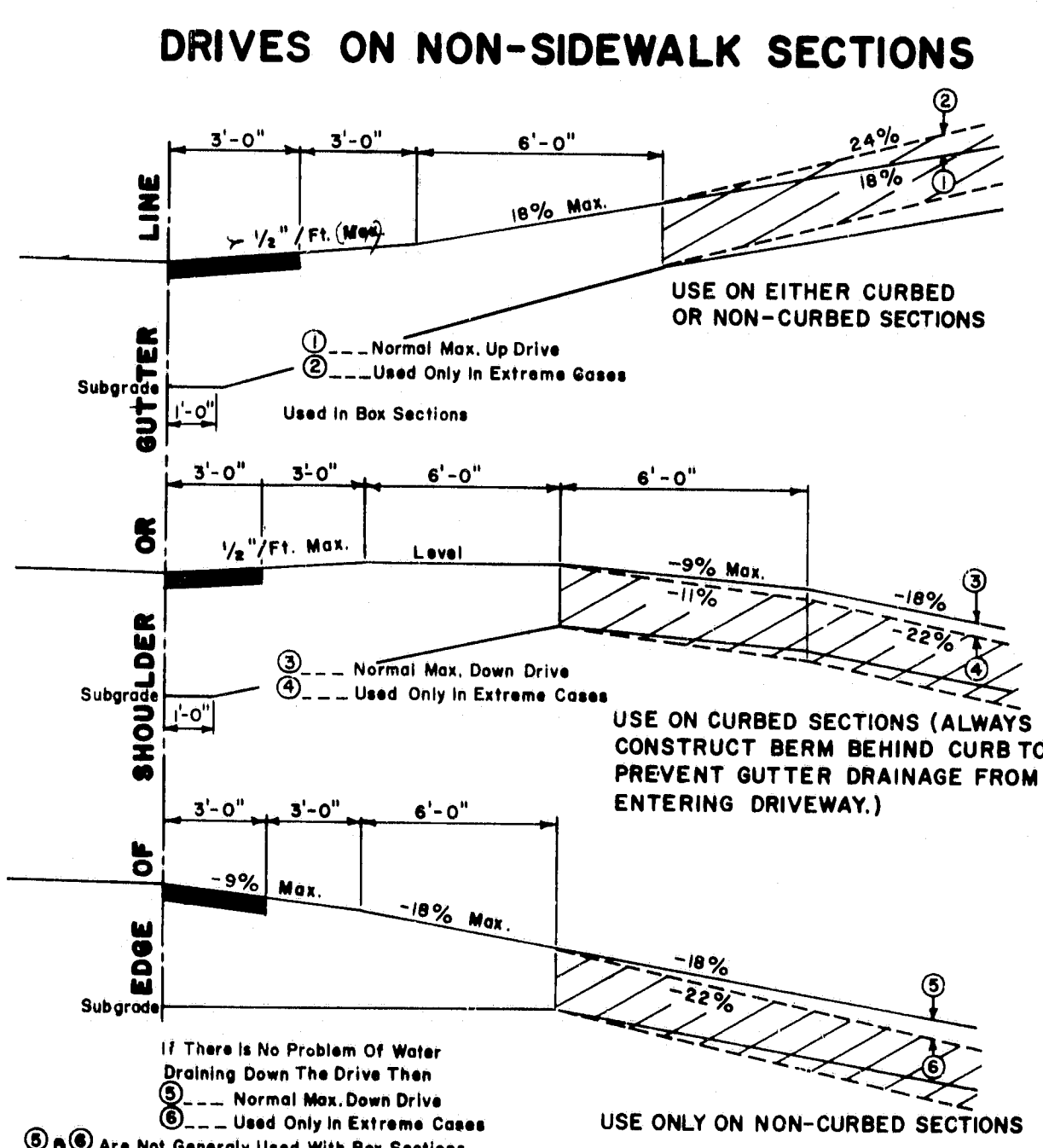
- GENERAL NOTES**
- Drafting table shall be 3'-4" high at front edge and placed 2" from studs to allow prints to hang down behind table when in use.
 - Shelves under desk shall be constructed to receive 11 1/2" x 14" x 25" transfiles.
 - Windows shall be double hung.
 - Stovepipe shall not be in direct contact with combustible material; the pipe shall be surrounded with at least 6" of fireproof material.
 - Continuous 110 volt 60 cycle electric service shall be supplied.
 - The engineer may rearrange the items shown on the plan views during construction of the field office.
 - FURNISHINGS TO BE SUPPLIED:**
 - Straight back chairs for types A and B
 - Bench for types A, B & C
 - Stool for type A
 - Stools for types B & C
 - SYMBOLS:**
 - F: Fluorescent lights (2 light, rapid start 48" strips and 40 watt bulbs.)
 - P.S.: Pull switch
 - ⊕: Duplex wall outlet—15 amp unless otherwise noted
 - ⊗: Triples Wall Outlet
 - For the Type "A" Field Office one clean 55 gal. drum shall be supplied, installed on a suitable rack and equipped with a spigot suitable for drawing off water. The drum shall be furnished with water at all times.



- GENERAL NOTES**
- The sidewalk width shall be paved in all cases.
 - All residential or commercial drives 10% and over shall be paved.

NOTES ON MAXIMUM DRIVEWAY PROFILES

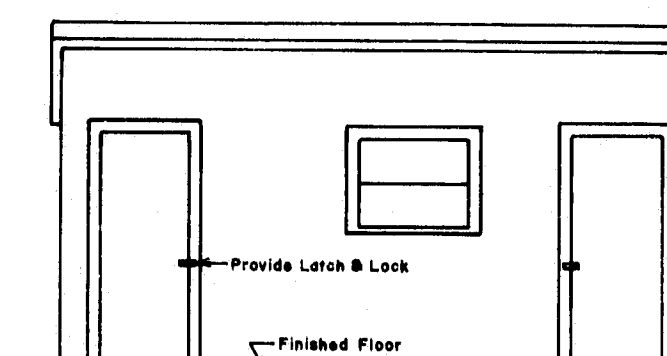
- These profiles are a guide for the majority of cases, but should be field checked when the main line grade is steep (4% to 6% or greater) or the angle of approach to the drive is unusual.
- Generally the majority of drives on a project will be built with flatter profiles than these maximum cases.
- When grading drives which are flatter than the maximum profiles the following rule of thumb should be used, do not exceed a grade % change of more than 9% in a 6 foot increment of driveway length. This applies to both up and down profiles.



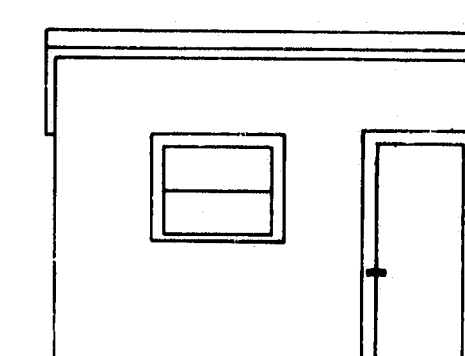
- GENERAL NOTES**
- The first 3' shown as pavement shall be paved only when abutting a paved area.
 - All residential or commercial drives 10% and over shall be paved.

NOTES ON MAXIMUM DRIVEWAY PROFILES

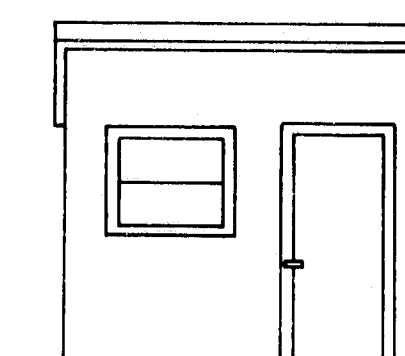
- These profiles are a guide for the majority of cases, but should be field checked when the main line grade is steep (4% to 6% or greater) or the angle of approach to the drive is unusual.
- Generally the majority of drives on a project will be built with flatter profiles than these maximum cases.
- When grading drives which are flatter than the maximum profiles the following rule of thumb should be used, do not exceed a grade % change of more than 9% in a 6 foot increment of driveway length. This applies to both up and down profiles.



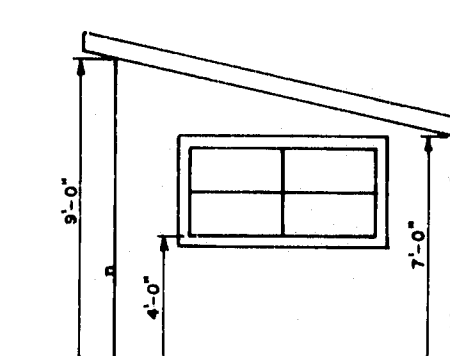
FRONT ELEVATION
TYPE "A"



FRONT ELEVATION
TYPE "B"



FRONT ELEVATION
TYPE "C"



SIDE ELEVATION
TYPES "A", "B" & "C"

REVISIONS

PLATE	DATE	BY	REVISION
1	3-16-73		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

STANDARD DETAILS

DRIVEWAY DETAILS
FIELD OFFICES
TESTING LABORATORY

AUG. 1969

R92-377