

F.R.W.A. PROJ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(05)50	405	575

# GENERAL NOTES

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES AND INTERIM SPECIFICATIONS 1984.

CONTRACT SPECIFICATIONS: STATE OF MAINE, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, REVISION OF JANUARY, 1984.

DESIGN LOADING:  
LIVE LOAD - HS25.  
FUTURE WEARING SURFACE - 25 P.S.F.

MATERIALS:  
CONCRETE:  
SUPERSTRUCTURE, EXCEPT CURBS AND MEDIAN BARRIER - CLASS P.  
ALL OTHER CONCRETE SHALL BE CLASS A.  
REINFORCING STEEL: ASTM A615, GRADE 60.  
PRESTRESSING STEEL: ASTM A416, GRADE 270.  
STRUCTURAL STEEL: ASTM A36 (UNLESS OTHERWISE NOTED).

BASIC DESIGN STRESSES:  
CONCRETE:  
CLASS A  $F'_C = 3000$  PSI  
CLASS P  $F'_C = 5000$  PSI  
 $F'_{CI} = 4500$  PSI AT TIME OF PRESTRESSING

REINFORCING STEEL:  $F_y = 60,000$  PSI  
PRESTRESSING STEEL:  $F'_s = 270,000$  PSI

CONSTRUCTION:  
ALL REINFORCEMENT SHALL BE EPOXY COATED.  
CONCRETE COVER FOR REINFORCEMENT SHALL BE 2 INCHES UNLESS OTHERWISE SHOWN.

EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 1/2" UNLESS OTHERWISE SHOWN.

SURFACES DESIGNATED ON THE PLANS OR IN THE SPECIFICATIONS TO RECEIVE A RECESSED FINISH SHALL BE RECESSED 1-1/2".

PROTECTIVE COATING FOR CONCRETE SURFACES SHALL BE APPLIED TO THE FOLLOWING AREAS:

EXPOSED HORIZONTAL AND VERTICAL SURFACES OF CURB AND FASCIA.  
CONCRETE END POSTS, CONCRETE BARRIER.  
TOP AND BACK OF ABUTMENT BACKWALLS TO 1 FT. BELOW TOP.

FORMWORK SHALL BE REMOVED FROM INSIDE OF BOX GIRDERS. NUMBER AND LOCATION OF TOP SLAB CONSTRUCTION JOINTS FOR THIS PURPOSE SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

CONCRETE IN CURBS SHALL NOT BE PLACED UNTIL ALL POST-TENSIONING HAS BEEN COMPLETED.

POST-TENSIONING:  
DETAILS ON THE PLANS ARE BASED ON TENDONS CONSISTING OF 0.6-INCH STRANDS IN GALVANIZED, SEMI-RIGID, SPIRAL FERROUS METAL DUCT HAVING A FRICTION CURVATURE COEFFICIENT  $\mu = 0.25$  AND A FRICTION WOBBLE COEFFICIENT  $K = 0.0002$ .

THE DESIGN IS BASED ON GRADE 270 STRAND TENSIONED TO 0.75  $F'_s$  AND ANCHORED AT AN EQUIVALENT ANCHOR SET OF 1/4-INCH.

BEGINNING WITH THE END BEAM TENDONS, ALL TRANSVERSE TENSIONING SHALL BE COMPLETED BEFORE TENSIONING THE MAIN LONGITUDINAL GIRDER TENDONS. SEQUENCE OF TENSIONING SHALL BE AS INDICATED ON THE PLANS.

*All anchorage assemblies were painted w/ ZRC to prevent water seepage.*

FOUNDATION PILES: FOUNDATION PILES ARE HP14x73 (OR HP13x73 AT THE OPTION OF THE CONTRACTOR) HAVING A DESIGN BEARING VALUE OF 128 TONS. PILES SHALL BE DRIVEN TO REFUSAL ON ROCK. POINTED REINFORCED PILE TIPS SHALL BE USED FOR ALL PILES.

# ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
203.25	GRANULAR BORROW	C.Y.	2630
501.216	STEEL H-BEAM PILES - 73 LBS./FT.	L.F.	3,620
*502.21	STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS	C.Y.	1,320
502.3103	STRUCTURAL CONCRETE, APPROACH SLABS	L.S.	1
502.482	STRUCTURAL CONCRETE, CURBS AND SIDEWALKS	C.Y.	20
503.14	EPOXY COATED REINFORCING STEEL, FABRICATED AND DELIVERED	LBS.	285,700
503.15	EPOXY COATED REINFORCING STEEL, PLACING	LBS.	285,700
507.092	ALUMINUM BRIDGE RAILING, 2 BAR	L.F.	298
512.08	FRENCH DRAINS	L.F.	280
514.06	CURING BOX FOR CONCRETE CYLINDERS	EA.	1
515.2103	PROTECTIVE COATING FOR CONCRETE SURFACES	L.S.	1
516.2103	LATEX MODIFIED CONCRETE WEARING SURFACE ON BRIDGE	L.S.	1
520.21	EXPANSION DEVICE - GLAND SEAL	EA.	2
523.10	POT BEARINGS	EA.	8
526.31	PERMANENT CONCRETE BARRIER - TYPE II	L.F.	155
535.72	PRESTRESSED CONCRETE SUPERSTRUCTURE I-295 MAINLINE BRIDGE	L.S.	1
609.13	VERTICAL BRIDGE CURB - TYPE 1	L.F.	320
609.133	VERTICAL BRIDGE CURB - SPECIAL	L.F.	294

# APPROXIMATE QUANTITIES IN LUMP SUM PAY ITEMS:

502.3103	STRUCTURAL CONCRETE APPROACH SLABS STRUCTURAL CONCRETE, CLASS A	C.Y.	60
535.72	PRESTRESSED CONCRETE SUPERSTRUCTURE, I-295 MAINLINE BRIDGE STRUCTURAL CONCRETE, CLASS P PRESTRESSING STEEL	C.Y. 1,085 L BS. 58,000	

# NOTE:

ACCESS MANHOLES, DRAINS, AND ALL MATERIALS, LABOR, AND EQUIPMENT FOR PRESTRESSING WILL BE CONSIDERED INCIDENTAL TO ITEM 535.72. (QUANTITY SHOWN IS FOR 0.6" DIA. STRAND ONLY.)

\*ITEM 502.21 INCLUDES CURBS AND END POSTS ON ABUTMENTS.

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STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

INDEX, QUANTITIES &  
GENERAL NOTES

SHEET 1 OF 43 AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	7/85
CHECKED	8/85
REVISIONS	
FIELD CHANGES	

BURNING 44.132 427161











[illegible][illegible]

SECTION N-N  
NO SCALE

Access Man hole 3 requ'd Abut. 1  
2 requ'd Abut. 2  
Gray iron casting, with drop handle and Lock,  
Approx. wt. 295 lbs. No direct payment; will  
be considered incidental to item 502.21

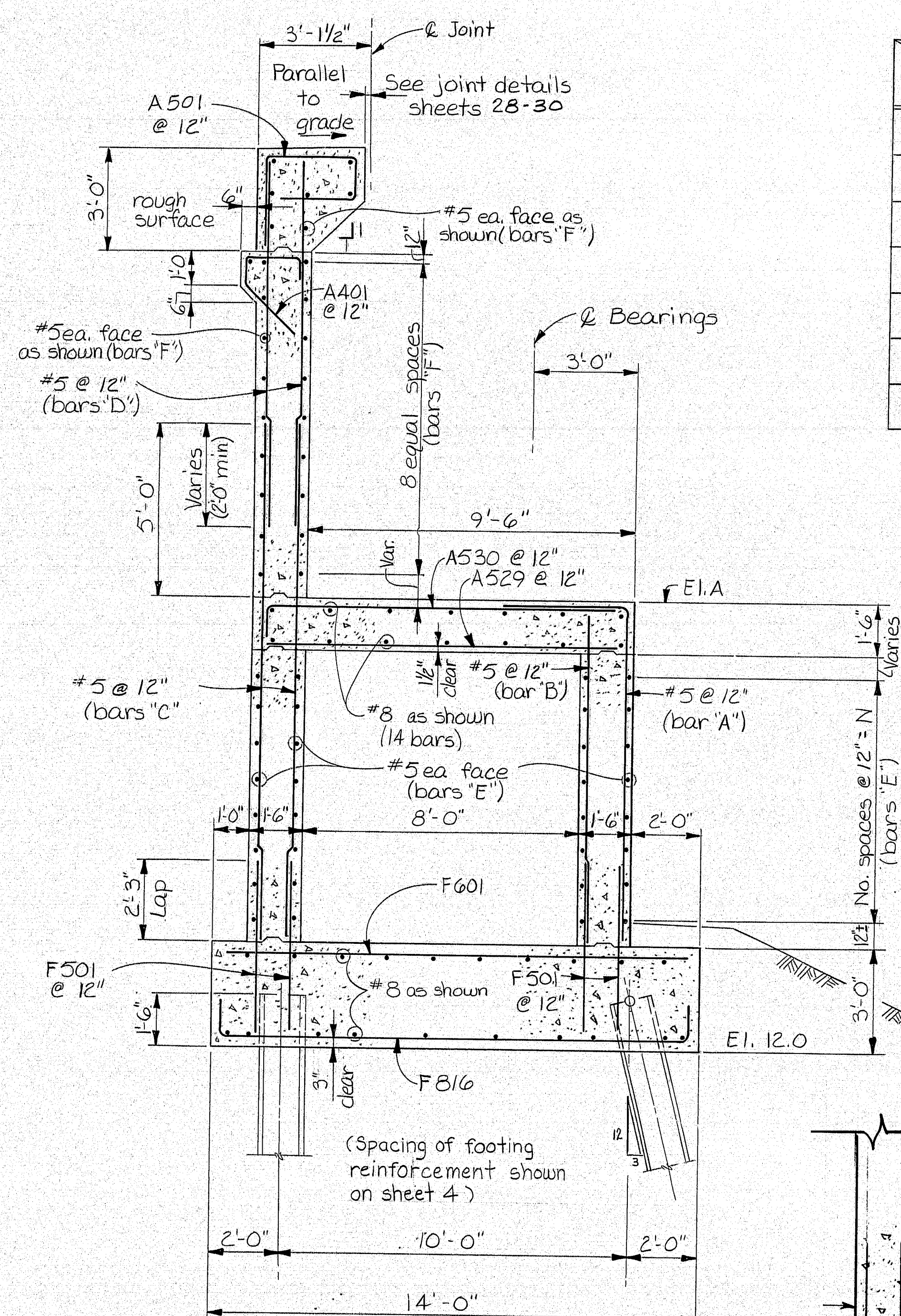
### ABUTMENT I REINFORCEMENT

SHEET 4 OF 43 AUGUSTA, MAINE

102-143



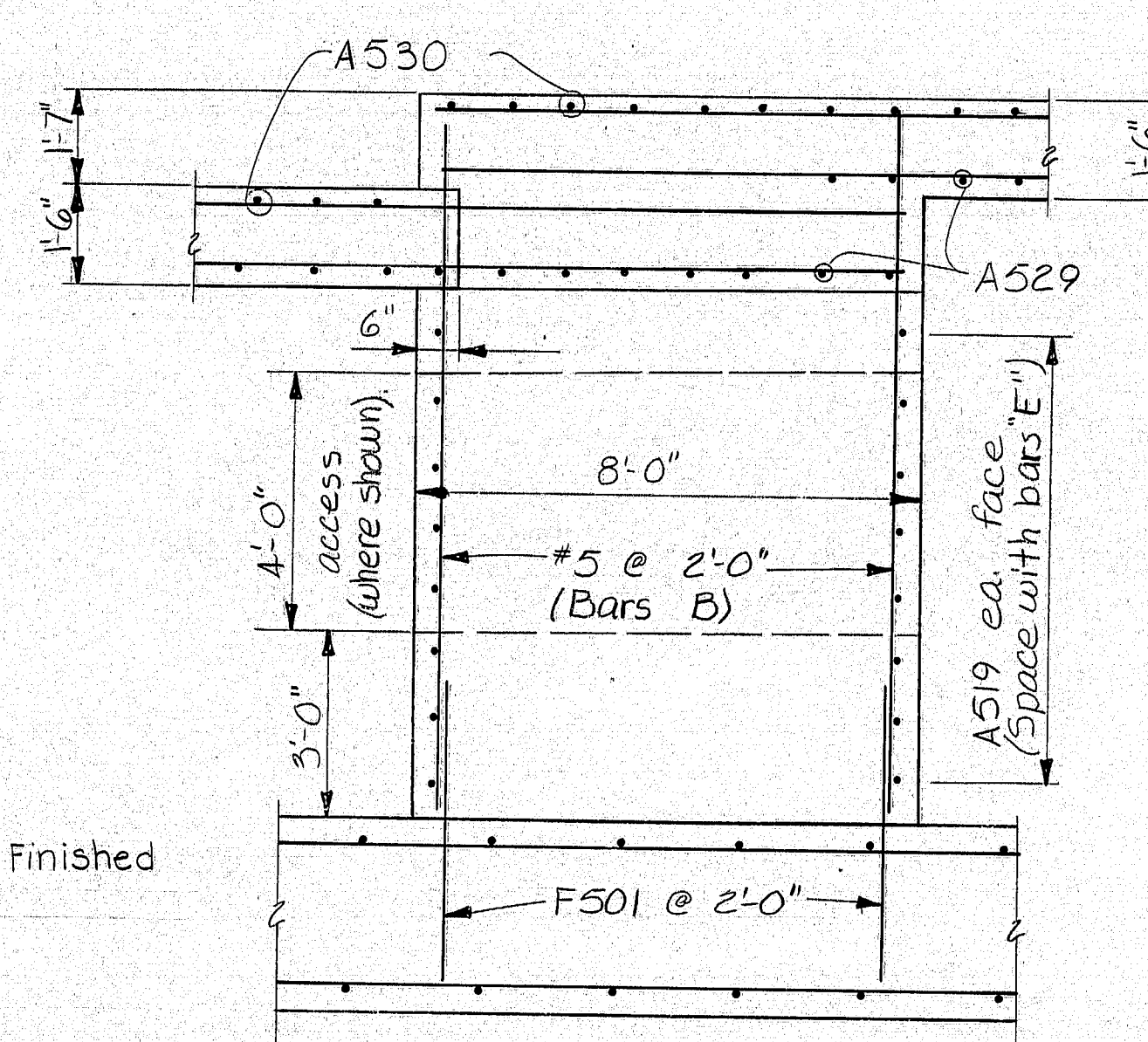
F.R.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(95)50	409	515



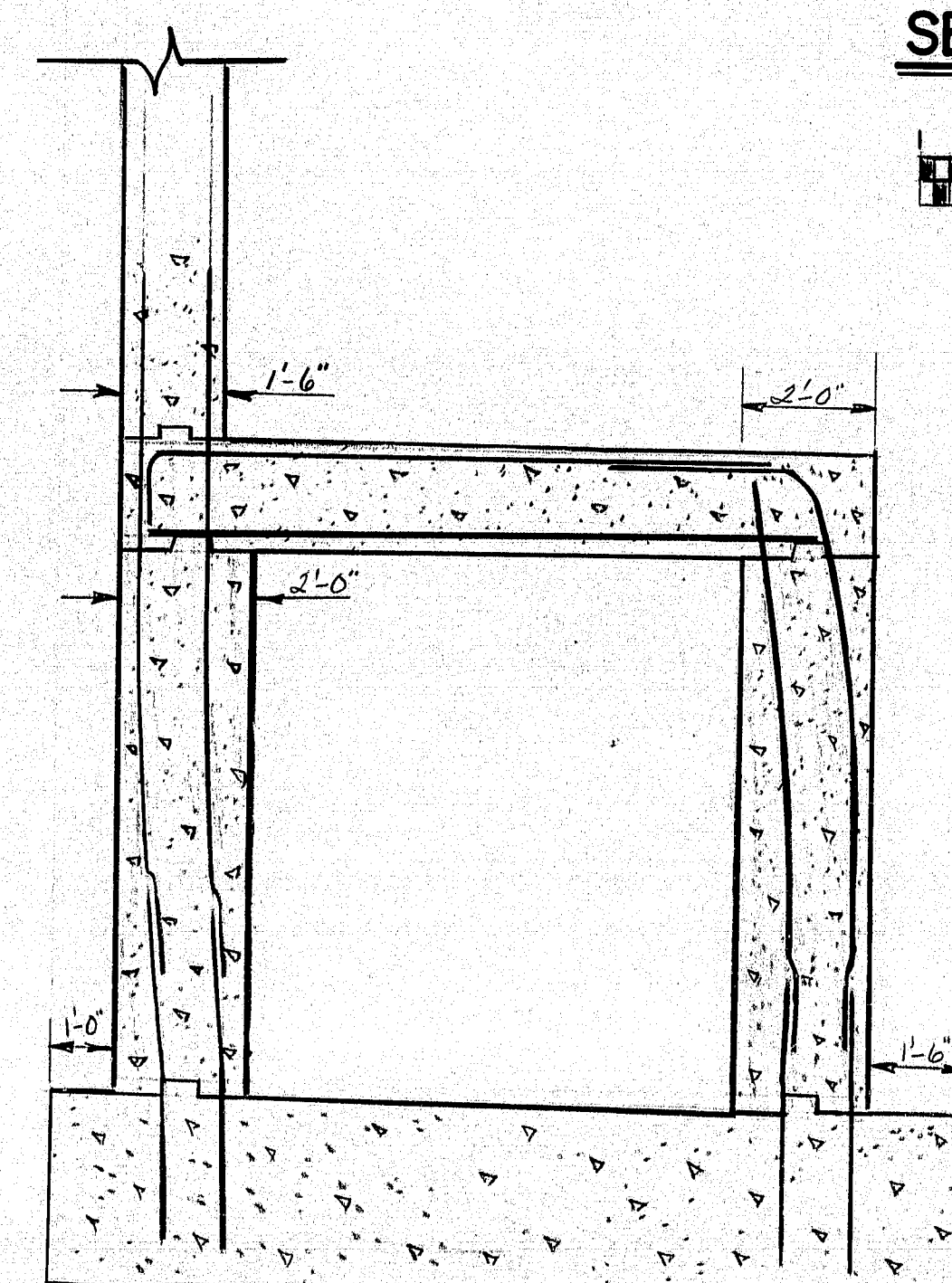
### SECTION A-A

DETAILS TYPICAL FOR SECTIONS  
A1 THRU A5. SEE TABLE FOR  
BARS A THRU F.  
(Sections on Sheet 3)

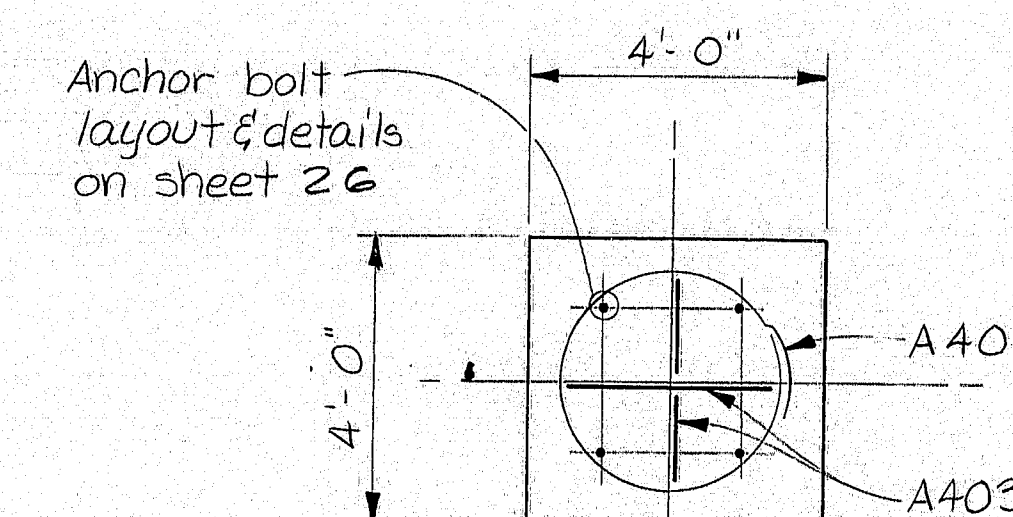
SECTION ITEM	A1	A2	A3	A4	A5
Elev. A	21.99	21.99	23.49	24.99	26.49
Bars A	A502	A502	A503	A504	A505
B	A506	A506	A507	A508	A509
C	A510	A510	A511	A512	A513
D	A514	A515	A516	A517	A518
Bars E No. Spaces N	A521 4	A522 4	A521 7	A521 8	A521 8
Bars F	A521	A522	A521	A521	A521



### SECTION C-C

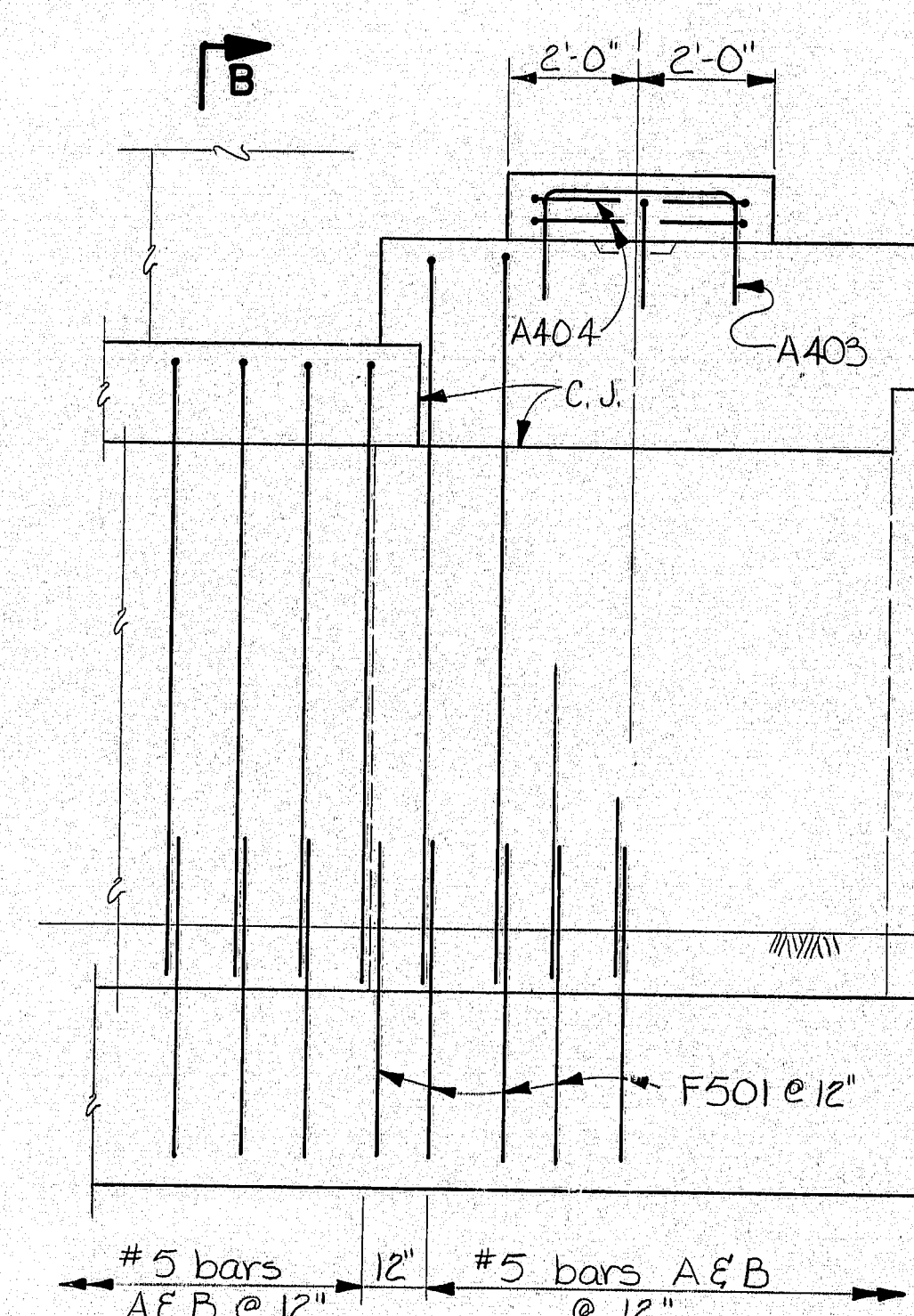


Note: Dowels out of footing were improperly installed, transposed & ahead. Consequently, crosswall & endwall were increased 6" in depth. Vertical bars were then bent back to enter top slab & backwall in proper location. This section shows only those bars affected for clarity. all other steel was placed as per plans. PLB 1-91



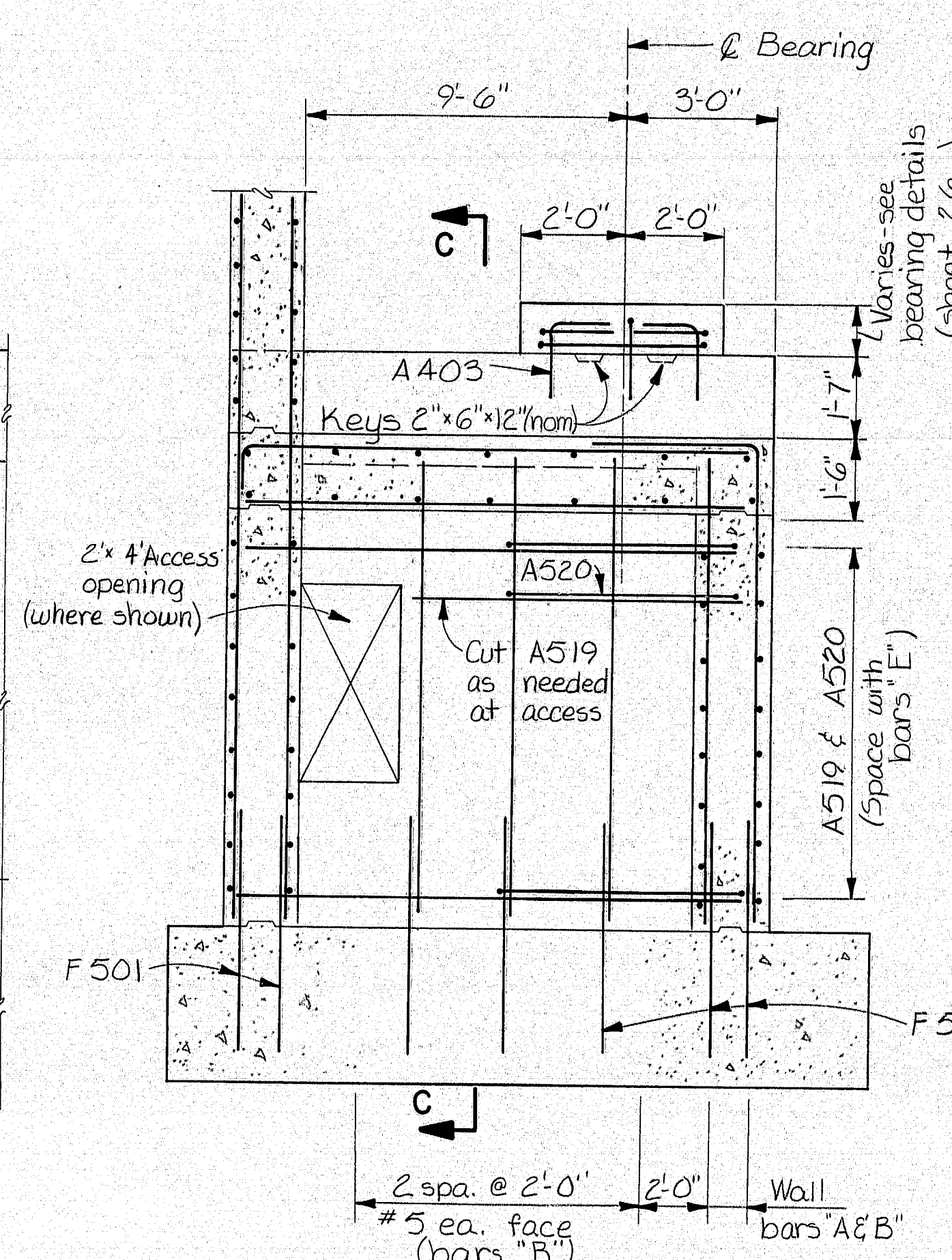
### BEARING PEDESTAL (PLAN)

(Typ. both abutments)



### PART ELEVATION AT GIRDER BEARINGS

FOR REINFORCEMENT NOT SHOWN,  
SEE SECTION A-A



### SECTION B-B

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I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

ABUTMENT 1 - DETAILS (I)

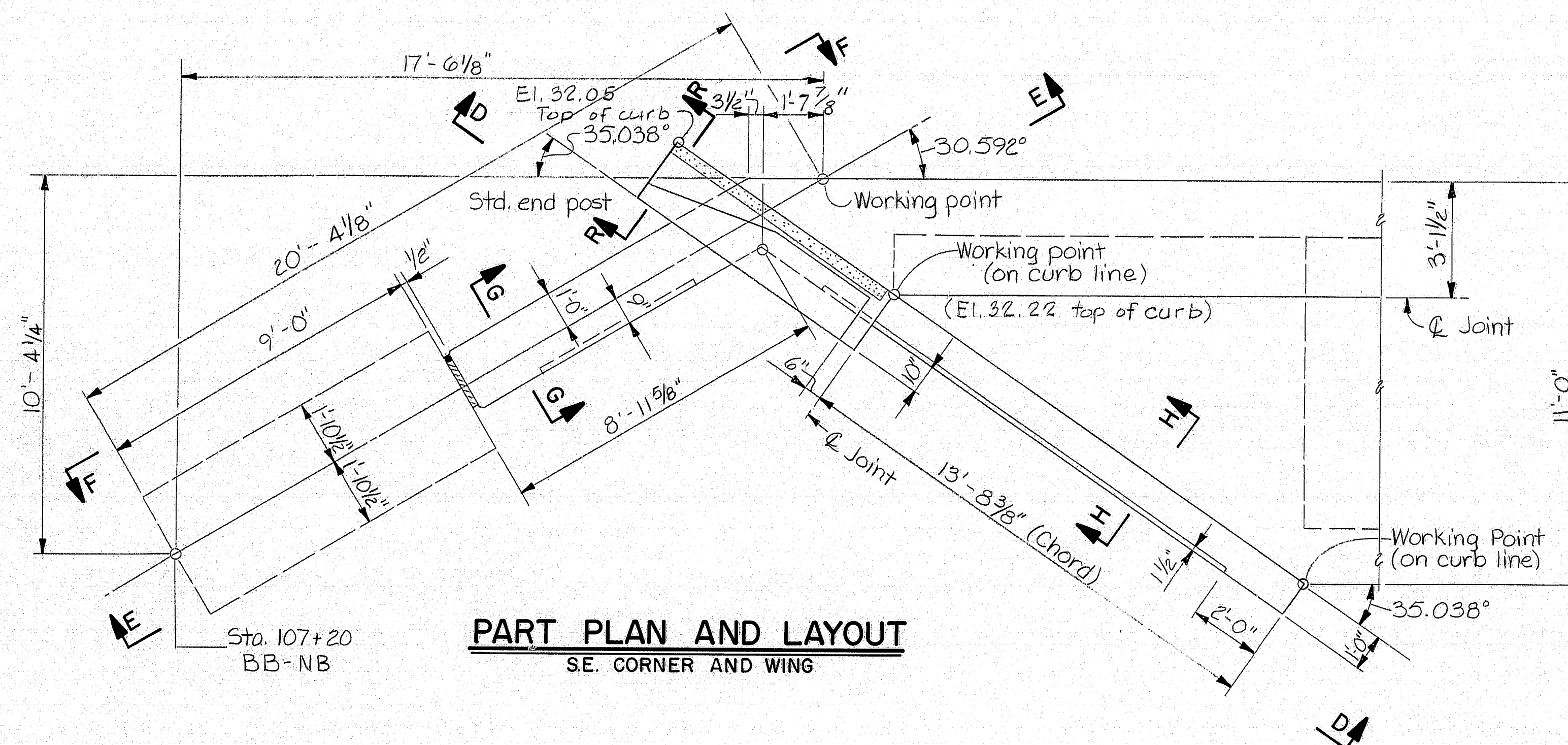
SHEET 5 OF 43 AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	11-85
CHECKED	
APPROVED	
FIELD CHANGES	

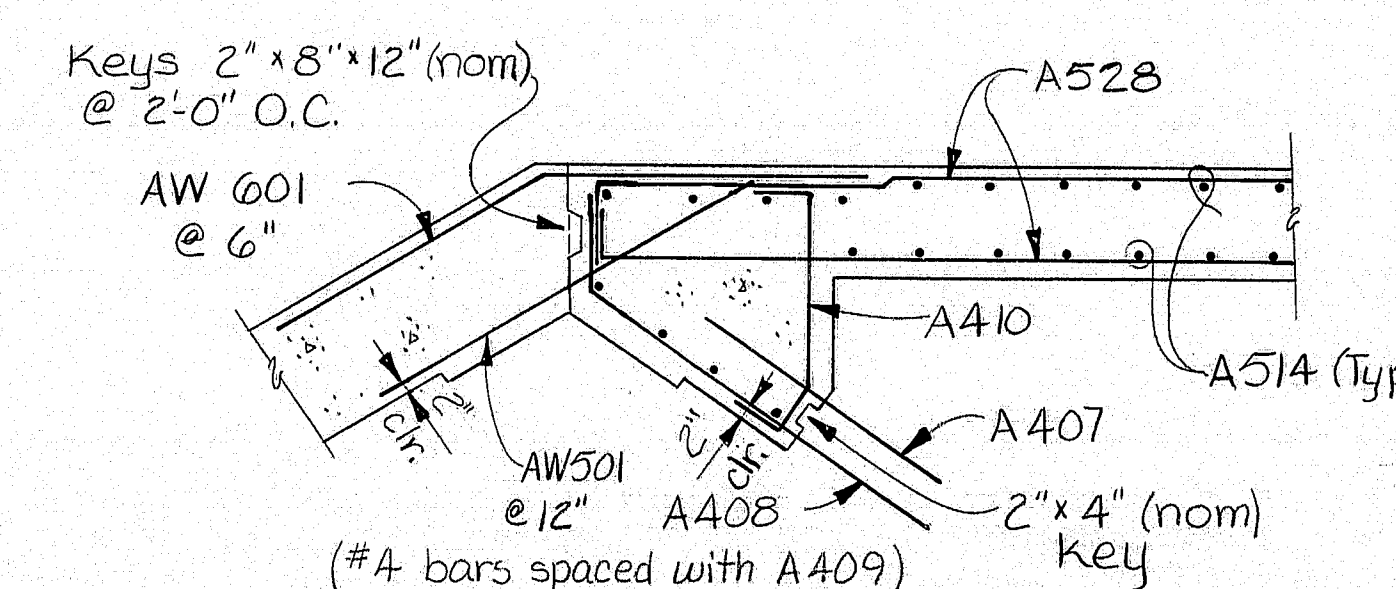
BRUNING 44-132-457(10-1)



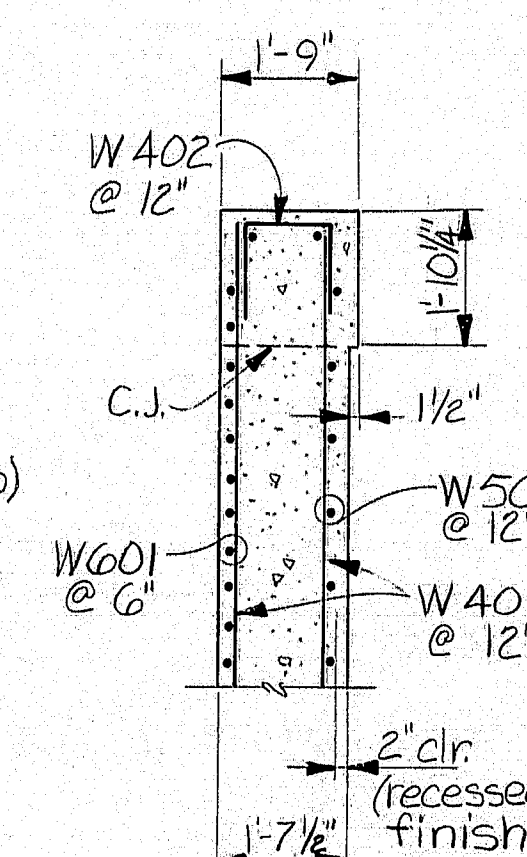
F.R.W.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(99)50	410	515



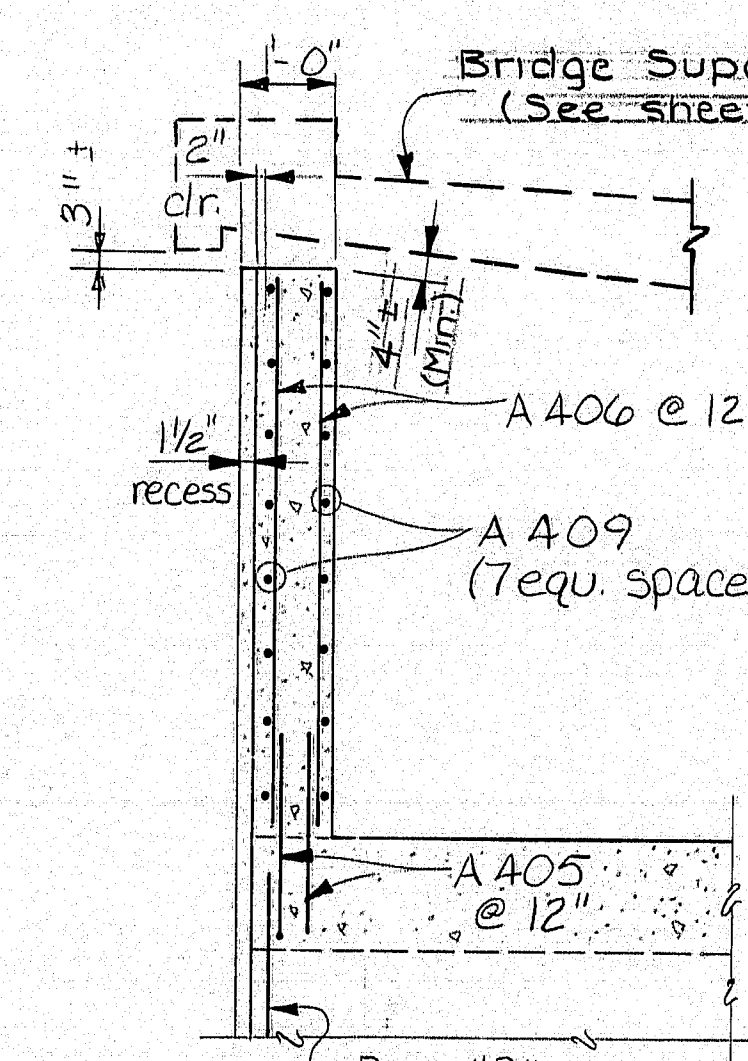
**PART PLAN AND LAYOUT**  
SE. CORNER AND WING



**PART HORIZ. SECTION**  
(ABOVE BRIDGE SEAT)  
(W-BARS NOT SHOWN)

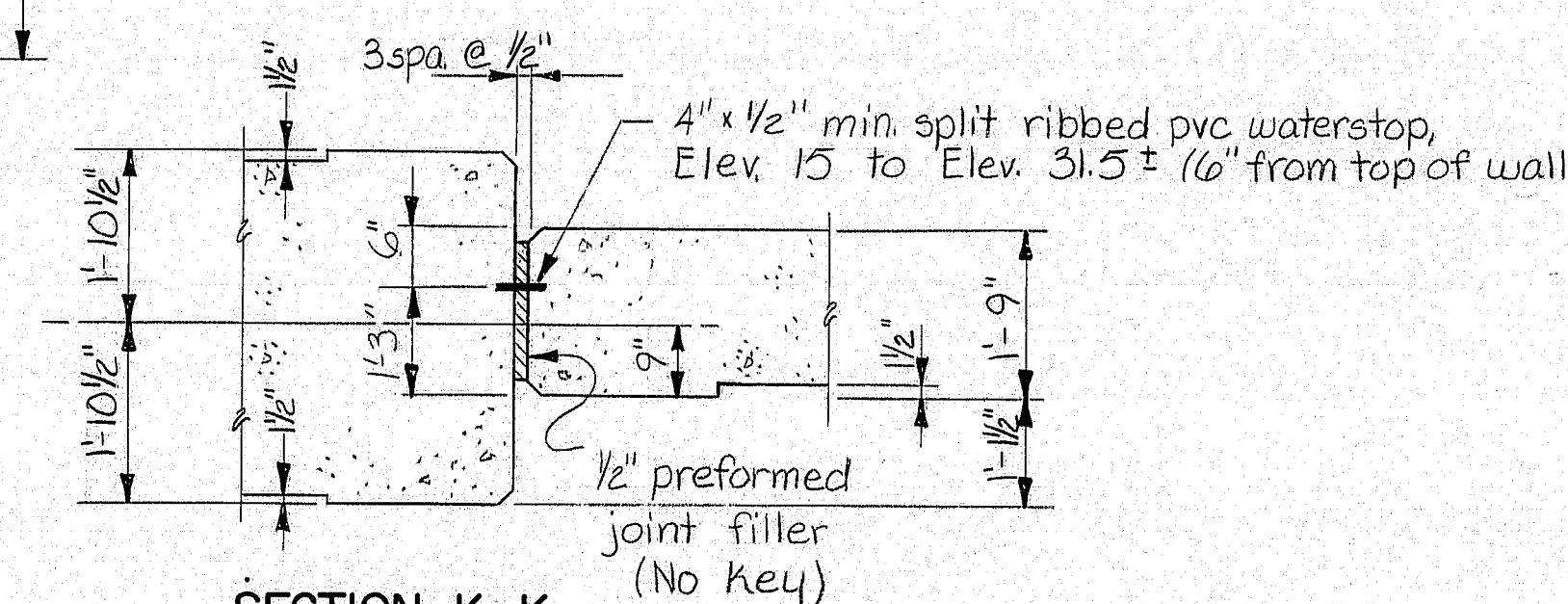


**SECTION G-G**

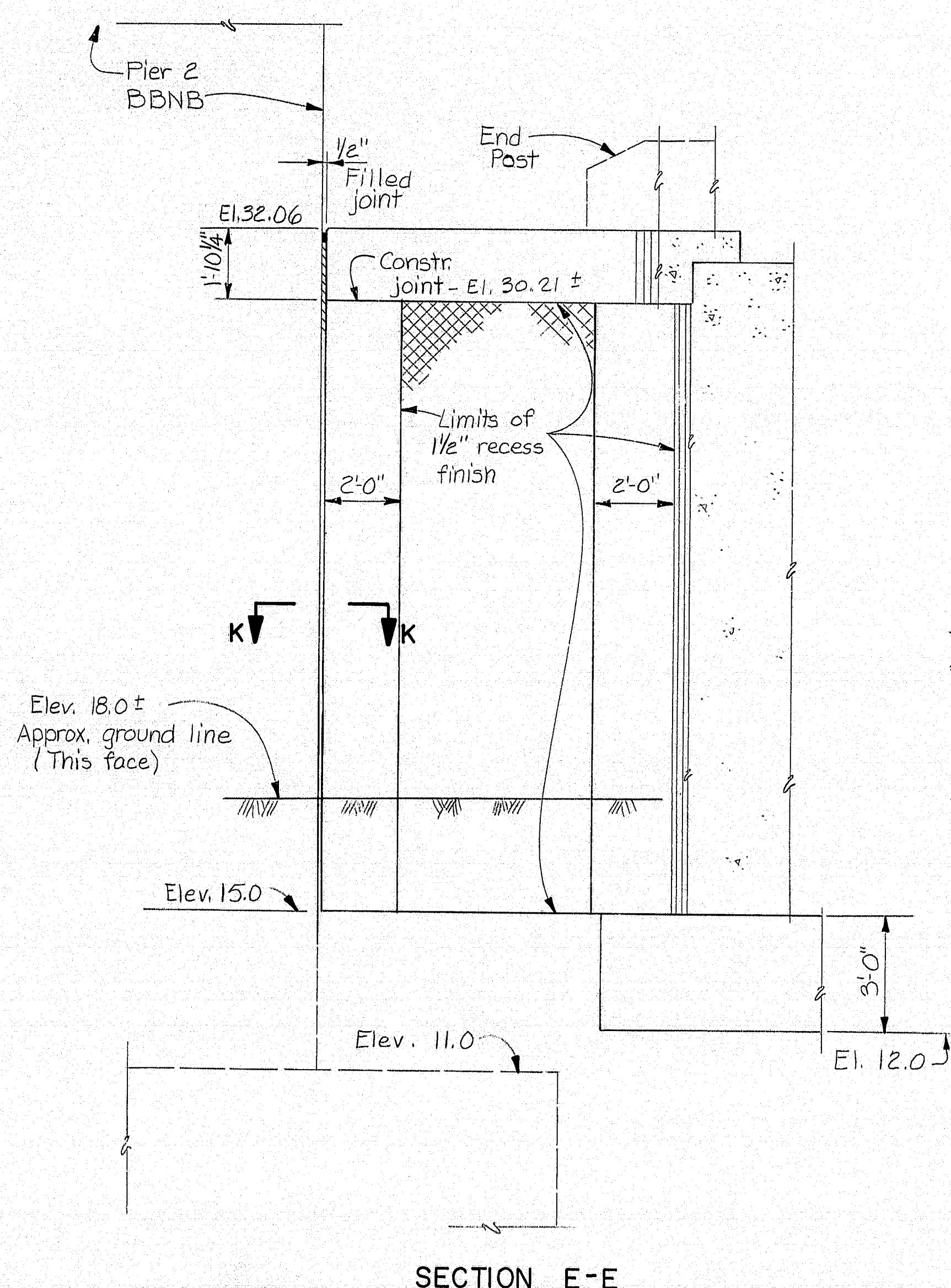


**SECTION H-H**

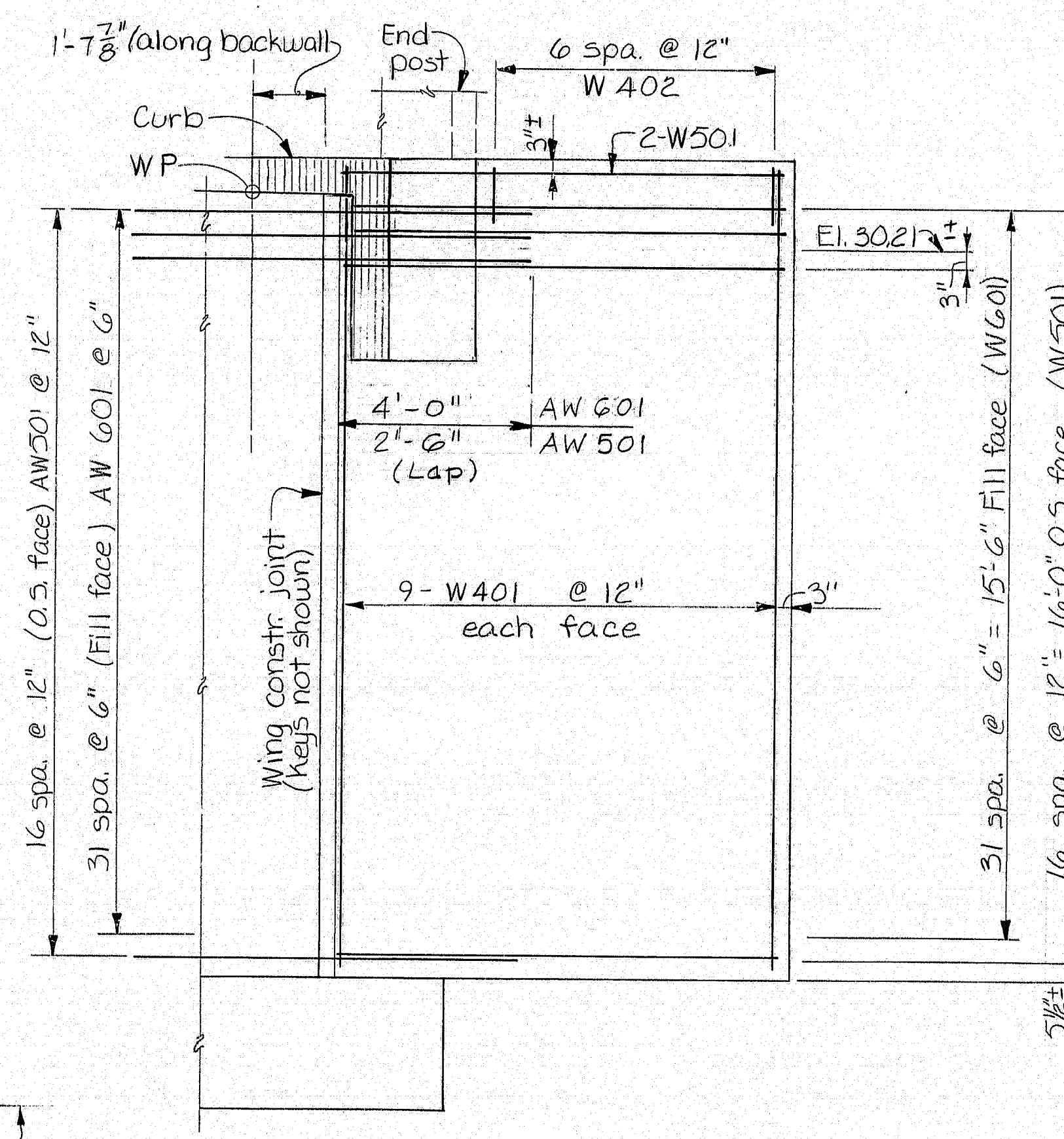
Typ. for all curtain walls  
(except bar marks)



**SECTION K-K**  
(NO SCALE)

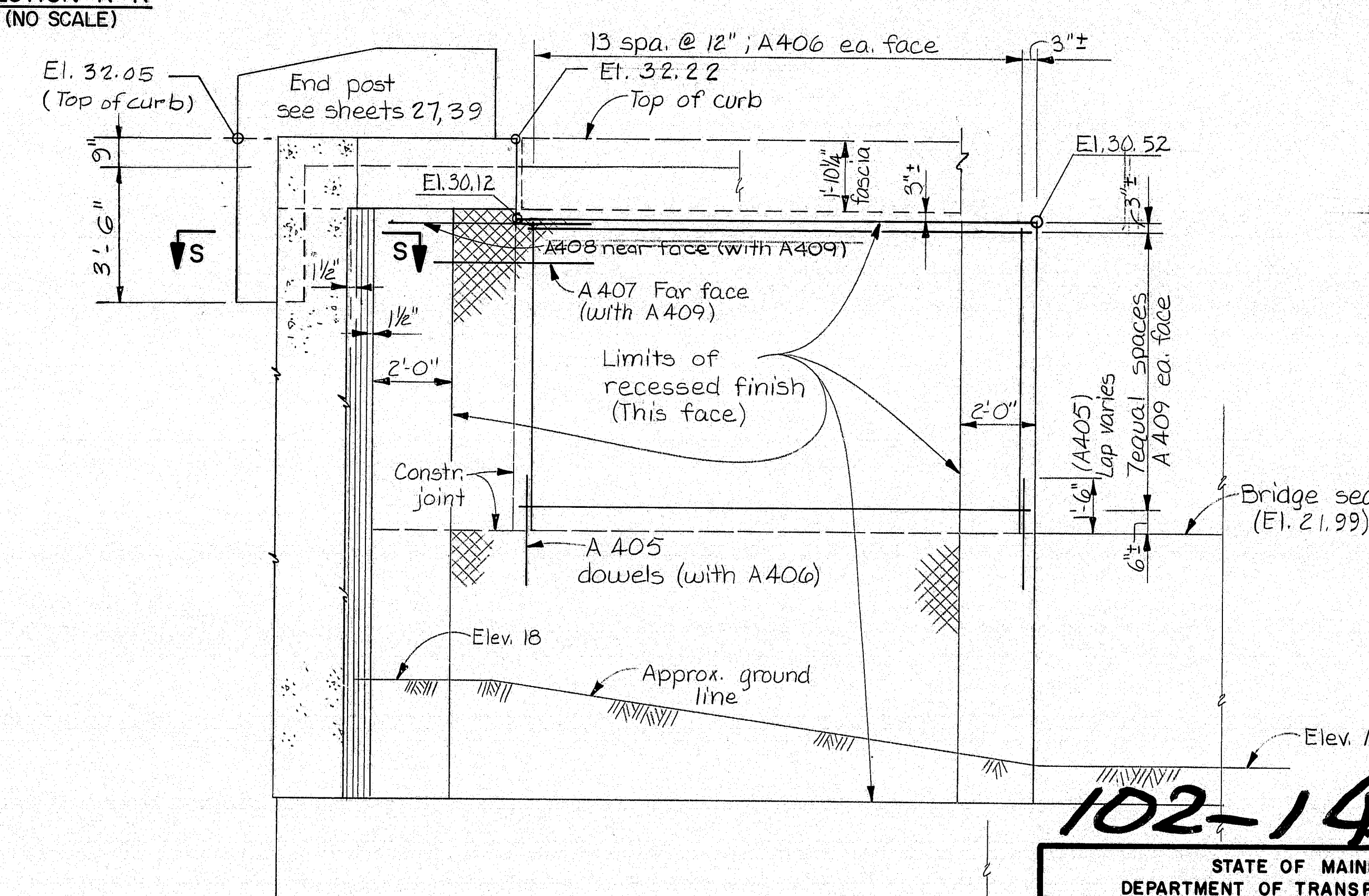


**SECTION E-E**



**VIEW F-F**

**SE. CORNER & WINGWALL DETAILS**



**SECTION D-D**

Note: For Sections R-R #55 and  
curb end details, see sheets 12 & 27.

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STATE OF MAINE  
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**ABUTMENT 1 - DETAILS (2)**

SHEET 6 OF 43 AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	11-25
REVISIONS	AG
FIELD CHANGES	

BRUNING 44-132-45710-1



GRUNING 44-132 45710-1













3-1/2"

4 Joint

Parallel to grade

See joint details  
Sheets 28-30

A 501 @ 12"

3'-0"

6"

Rough Surface

# 5 ea. Face as shown (bars "F")

#5 @ 12" (bars "D")

Varies (2'-0" min)

5'-0"

8 equal Spaces (bars "F")

A 401 @ 12"

9'-6"

4 Bearings

3'-0"

Elev. A

A 530 @ 12"

A 529 @ 12"

#5 @ 12" (bars "B")

#5 @ 12" (bars "C")

#8 as shown

#5 ea. face (bars "E")

#5 @ 12" (bars "A")

Varies

1'-0"

8'-0"

2'-0"

1'-6"

1'-6"

2'-5"

Lap

F 601 @ 12"

2'-0"

No Spaces @ 12" N (bars "E")

12" ± (bars "E")

3'-0"

Elev. 14.50

F 501 @ 12"

#8 as shown

3" Clear

F B16 (Spacing of footing reinforcement Sht. 9)

Front row bars 3/12

2'-0"

10'-0" (HP 14 x 73)

14'-0"

**ABUTMENTS:**

1. Reinforcing steel shall have 2" cover unless otherwise shown
2. Cover at expansion joints on the back with two layers of heavy roofing. See BD/27 for details.
3. Protective coating for concrete surfaces shall be applied to the following areas:
  - a. Top of concrete curbs, Top of abutment backwalls and one foot below top of backwalls on back side; All exposed surfaces of concrete and seats and concrete barrier.
4. Place 4" dia. drains in abutments as shown on the drawings; exact location to be determined by the Engineer in the field.
5. Backwalls (above bridge seat) shall not be constructed until main box girder tendons have been tensioned. Curtain walls at stressing end of end beams shall not be constructed until end beams have been tensioned.

PILES:

1. Piles marked thus  $\rightarrow$  shall be battered 3" per foot in the direction of the arrow.
2. Maximum calculated pile loads ( @ 1/4000 p.s.f. )  
 Abutment 1 - 115 Tons (including 15 Tons allowed for negative skin friction)  
 Abutment 2 - 105 Tons
3. Estimate of piles required:  
 Abutment 1 - 56 HP 14"x73 @ 40' long = 2240 Ft.  
 Abutment 2 - 46 HP 14"x73 @ 30' long = 1380 Ft.
4. HP 13"x73 bearing piles may be substituted for HP 14"x73 bearing piles at the option of the Contractor.

Lighting: See lighting plans for details of attachments to structure.

**SECTION A-A**

Details typical for Sections  
A1 thru A4. See table for  
bars A thru F.

SECTION ITEM	A1	A2	A3	A4
Elev. A	25.69	26.86	28.03	29.20
Bars A	A534	A535	A536	A537
B	A538	A539	A540	A541
C	A542	A543	A544	A545
D	A546	A547	A548	A549
Bars E No. Spaces N	A550 5	A551 6	A552* 8	A552* 8
Bars F	A550	A551	A553	A553

\* A552 Backwall  
A553 Breastwall  
(See Sheet 9)

### ABUTMENT DRAIN DETAIL

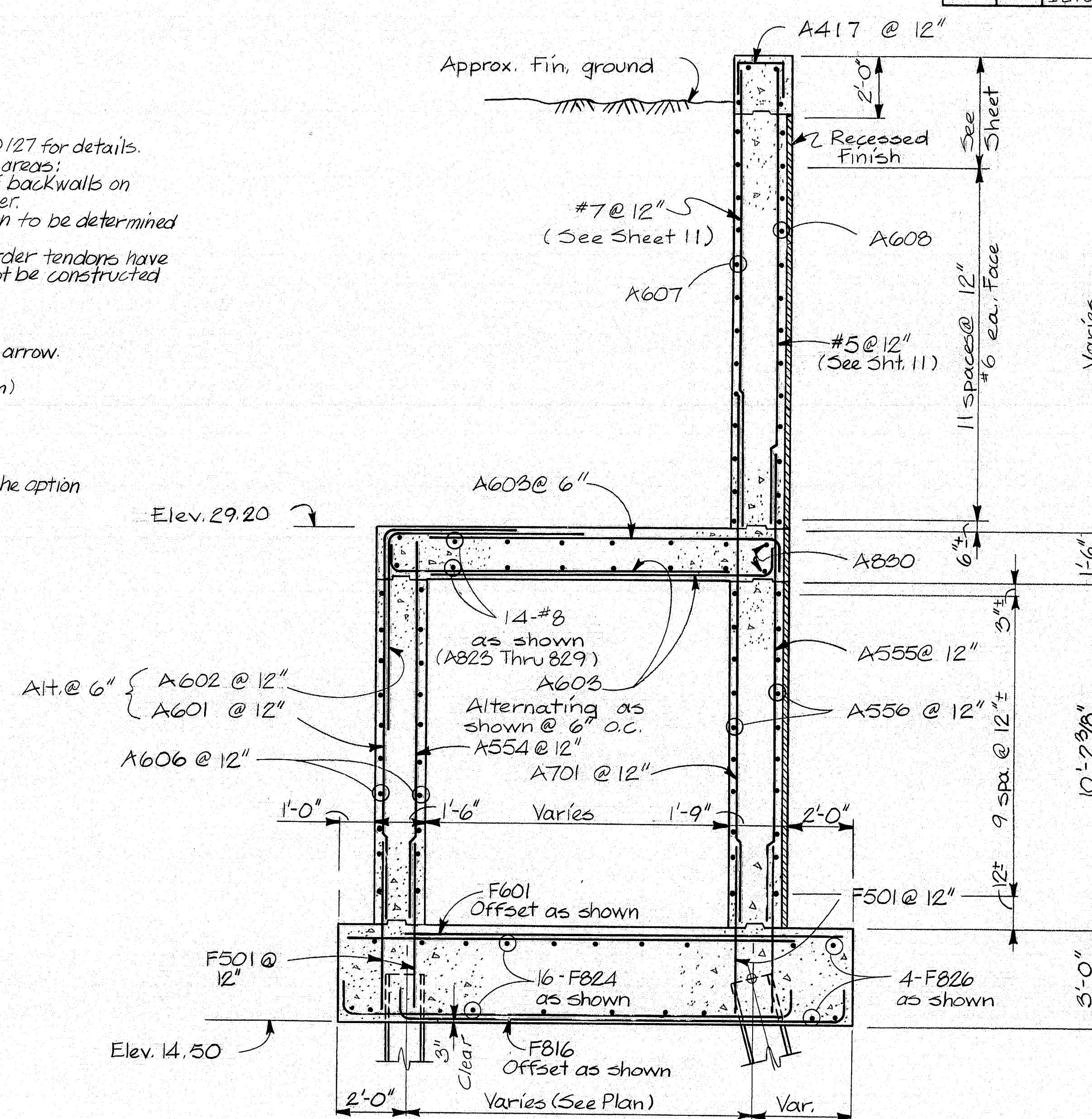
No Scale

Locate drains near center of bearing pedestal, as shown on abutment layout drawings. Final elevations to be determined by the Engineer.

Construct french drain in accordance with Section 512 of the specifications. Place 4'x4' filter fabric, back of abutment, centered on drain openings. (No direct payment - incidental to item 512.08). Details shown are typical for both abutments, except that, at Abutment 2, extend 4" pvc pipe to face of landscape wall, as directed.

NOTE: French drains were eliminated; replaced w/ MIRADRAIN GEOTEXTILE. It spanned the Abutments wings from footing to approach slab seat elevation. Pipes installed as per plan.  
TYPICAL, BOTH ABUTMENTS. PLR 1-91

**SECTION B-B**



PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	BAR TH	11-85
CHECKED	BSA	
REVISIONS		
FIELD CHANGES		

RUNING 44-132 45710.1

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STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

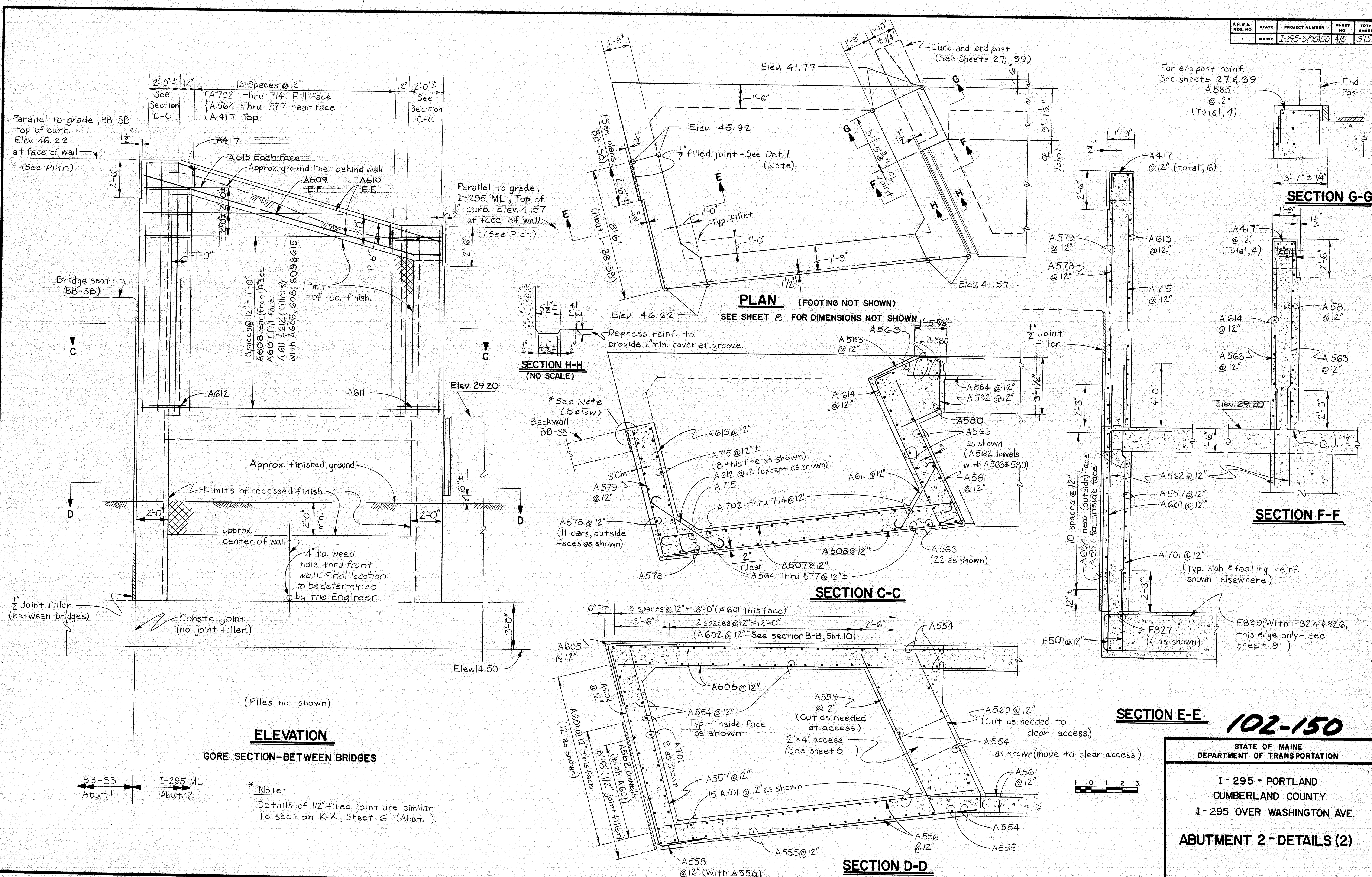
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CUMBERLAND COUNTY  
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ABUTMENT 2 DETAILS (1)

SHEET 10 OF 43 AUGUSTA, MAINE



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1	MAINE	I-295-3/85/501	415	515



PROJECT DESIGN ENGINEER	DATE
BY	11-85
DESIGN - DETAILED	
CHECKED	
REVISIONS	
FIELD CHANGES	

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

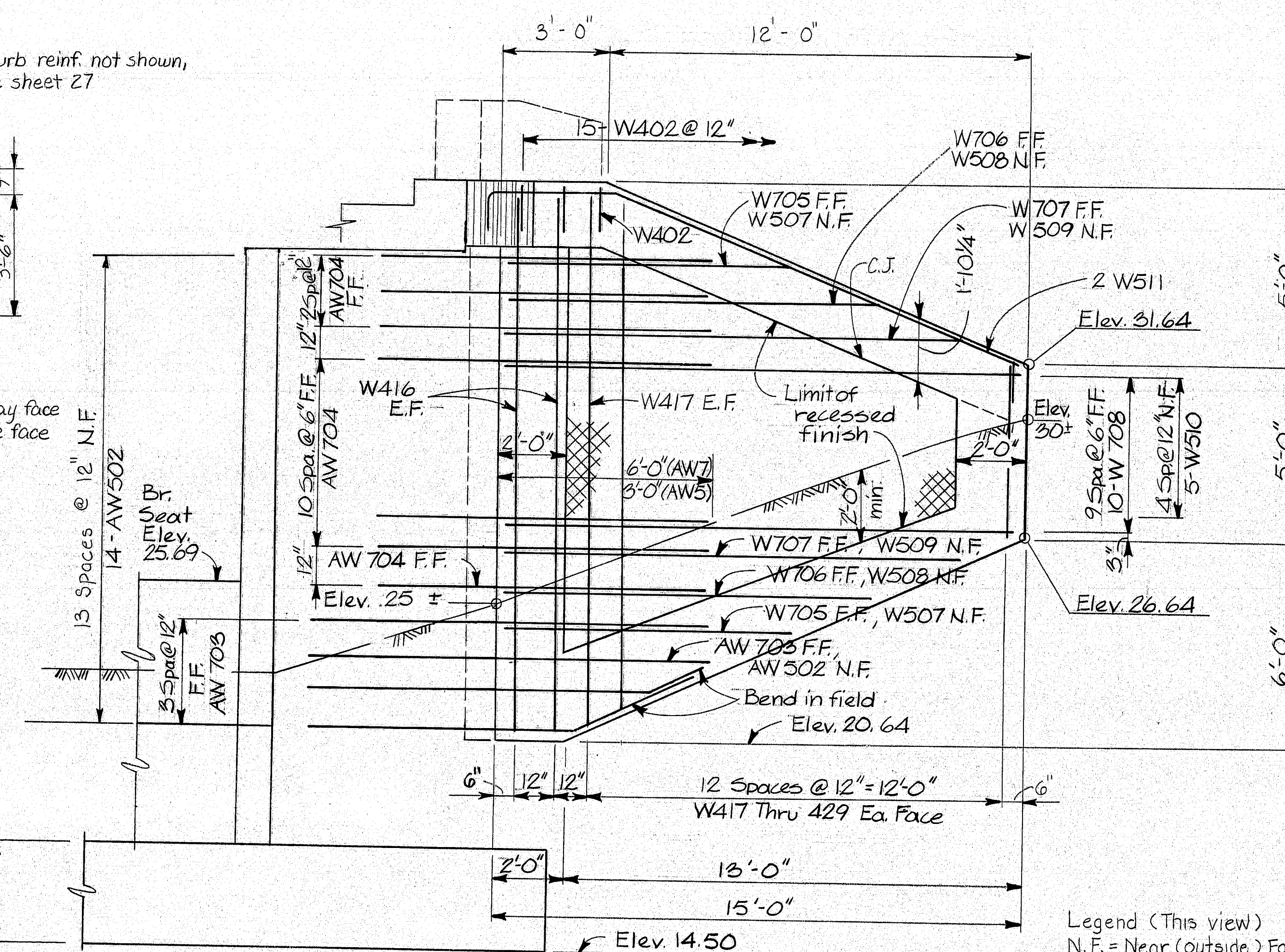
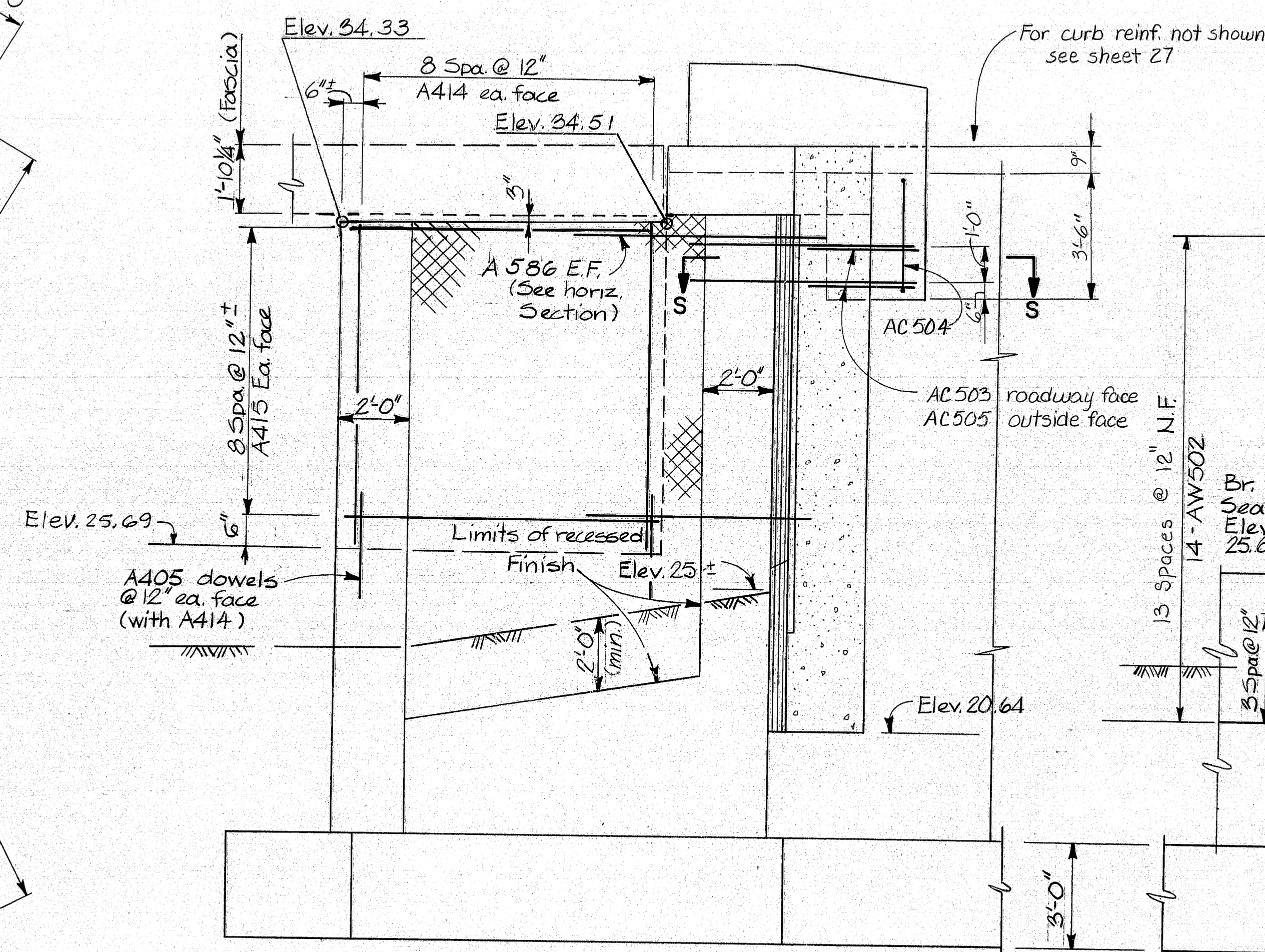
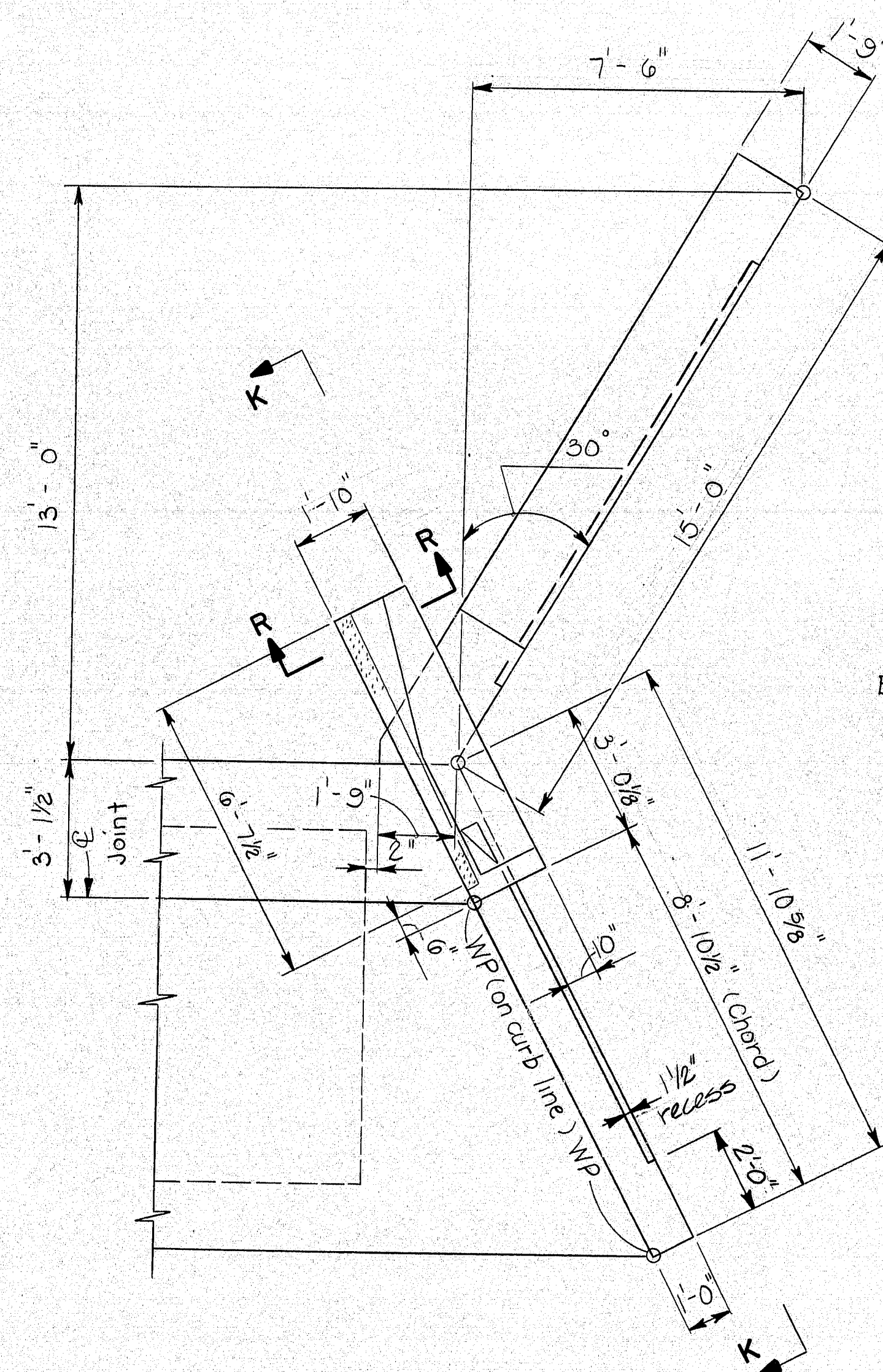
I-295 - PORTLAND  
CUMBERLAND COUNTY  
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ABUTMENT 2 - DETAILS (2)

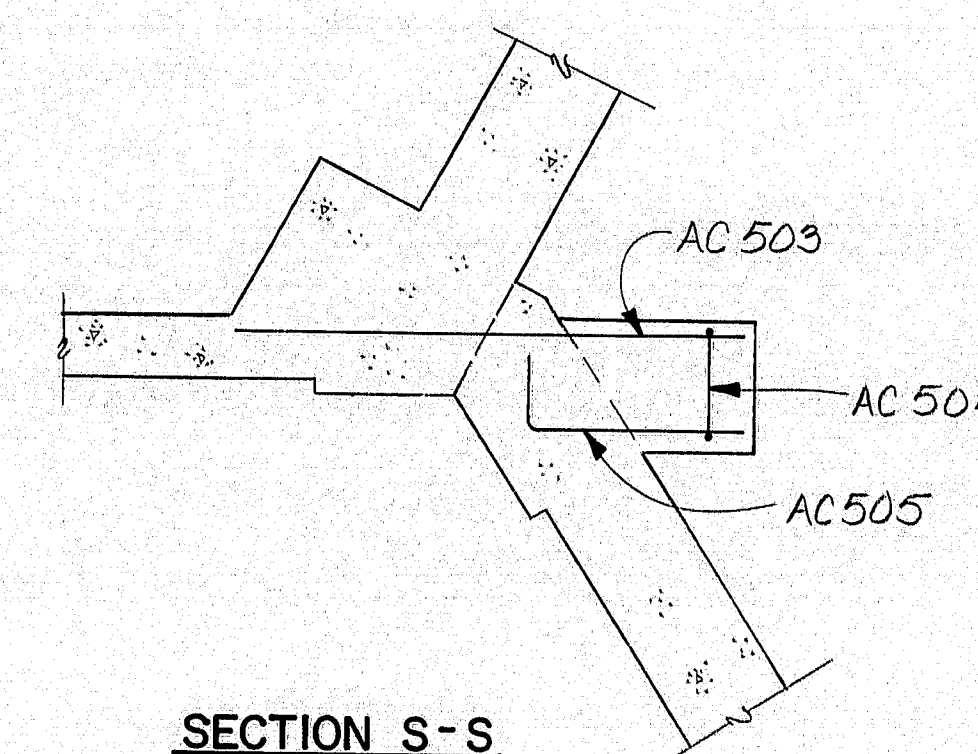
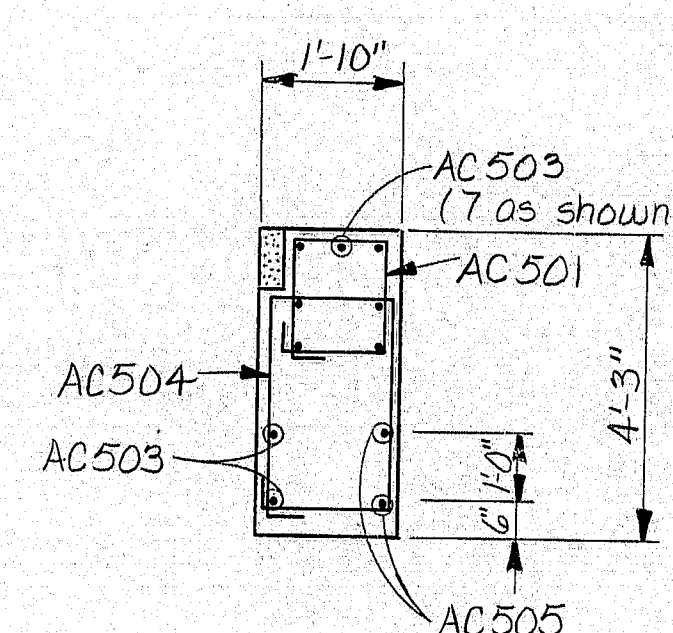
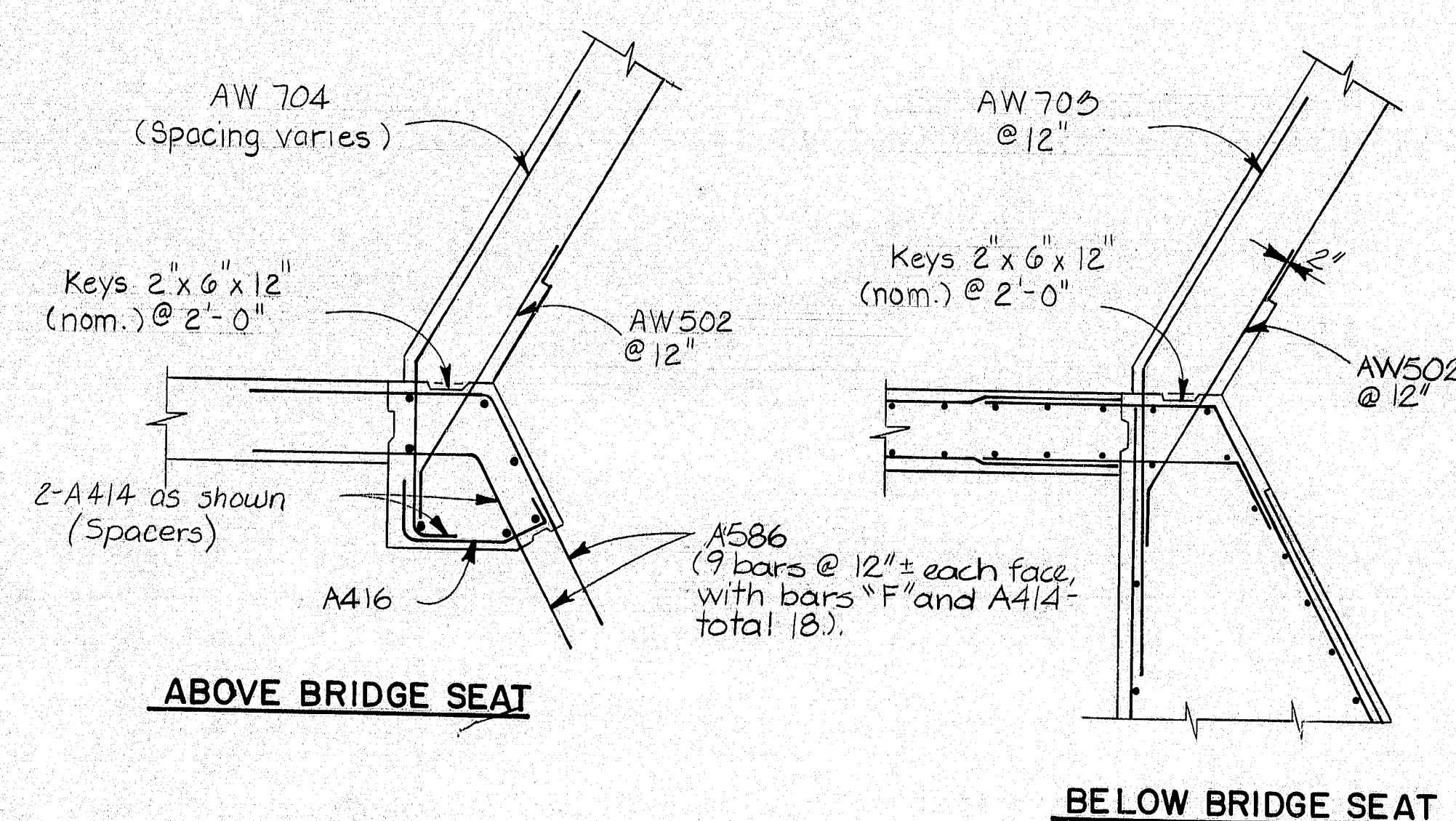
SHEET 11 OF 43 AUGUSTA, MAINE



F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(25)50	416	515



Legend (This view)  
N.F. = Near (outside) Face  
F.F. = Fill (Far) Face  
E.F. = Each Face



CURB END DETAILS

(See sheet 27)

Details shown are typical except at N.W. corner,  
Abutment 2

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STATE OF MAINE  
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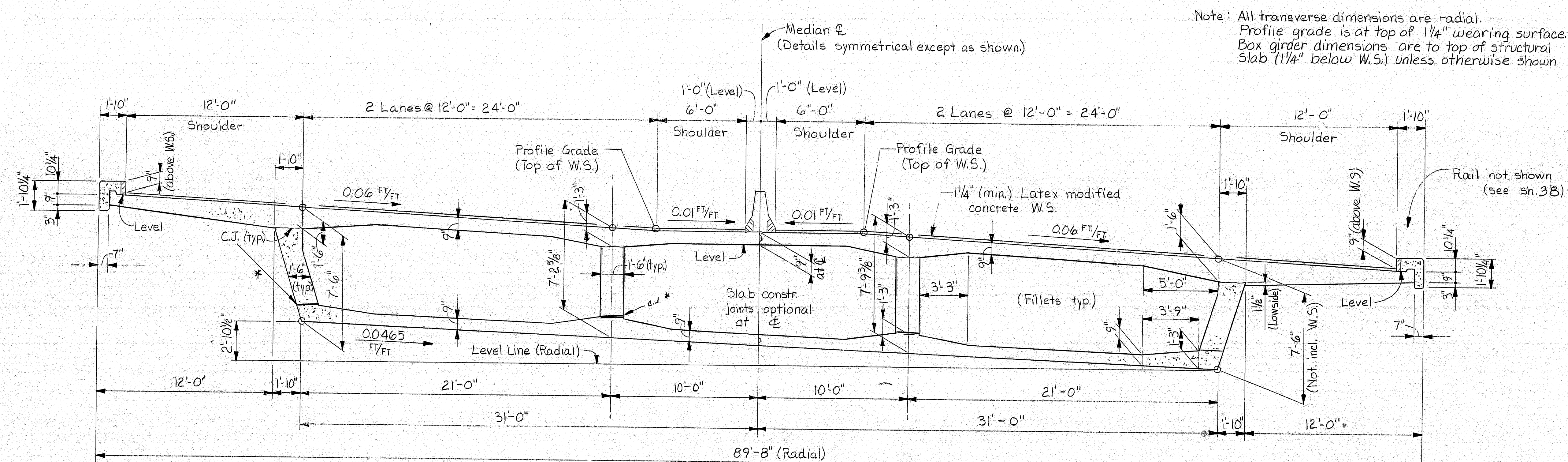
I-295 - PORTLAND  
CUMBERLAND COUNTY  
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**ABUTMENT 2 DETAILS (3)**

SHEET 12 OF 43 AUGUSTA, MAINE



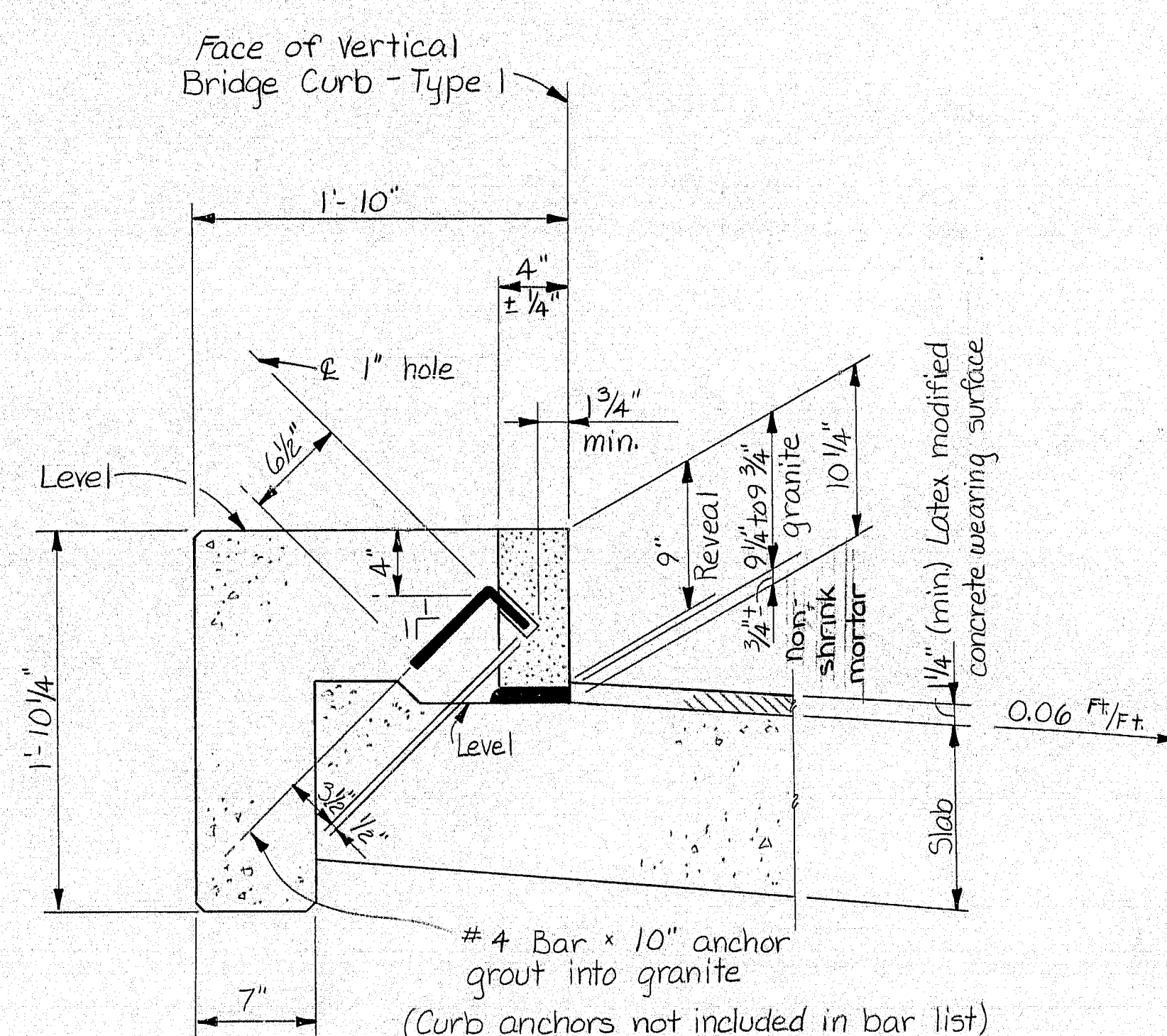
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TO SHEET
1	MAINE	T-295-3(95)50	417	51



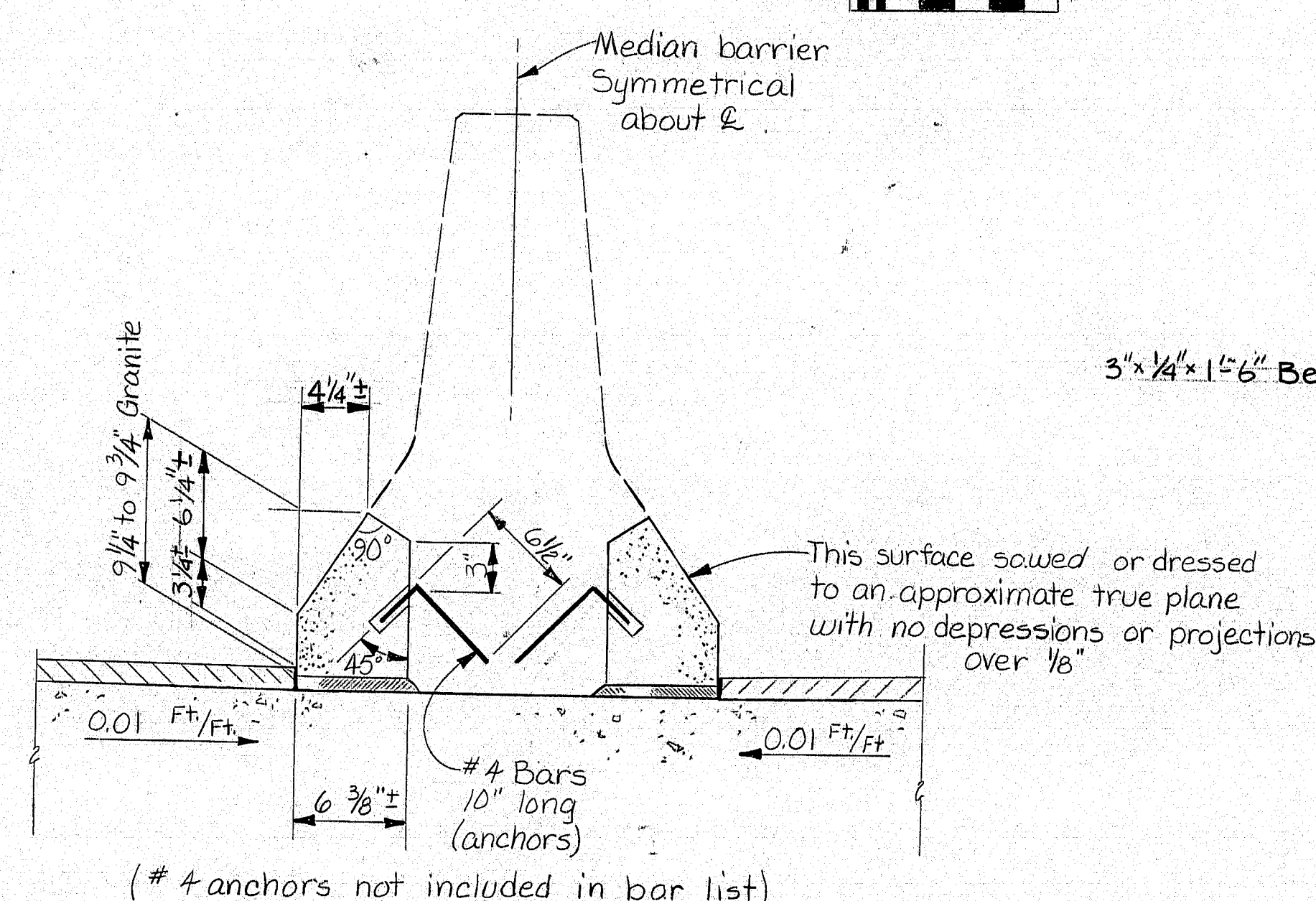
\* Note: In order to facilitate construction; to reduce fluid loads, a construction joint was allowed between the bottom slab; girder walls.

TRANSVERSE SECTION

(NEAR MIDSPAN)

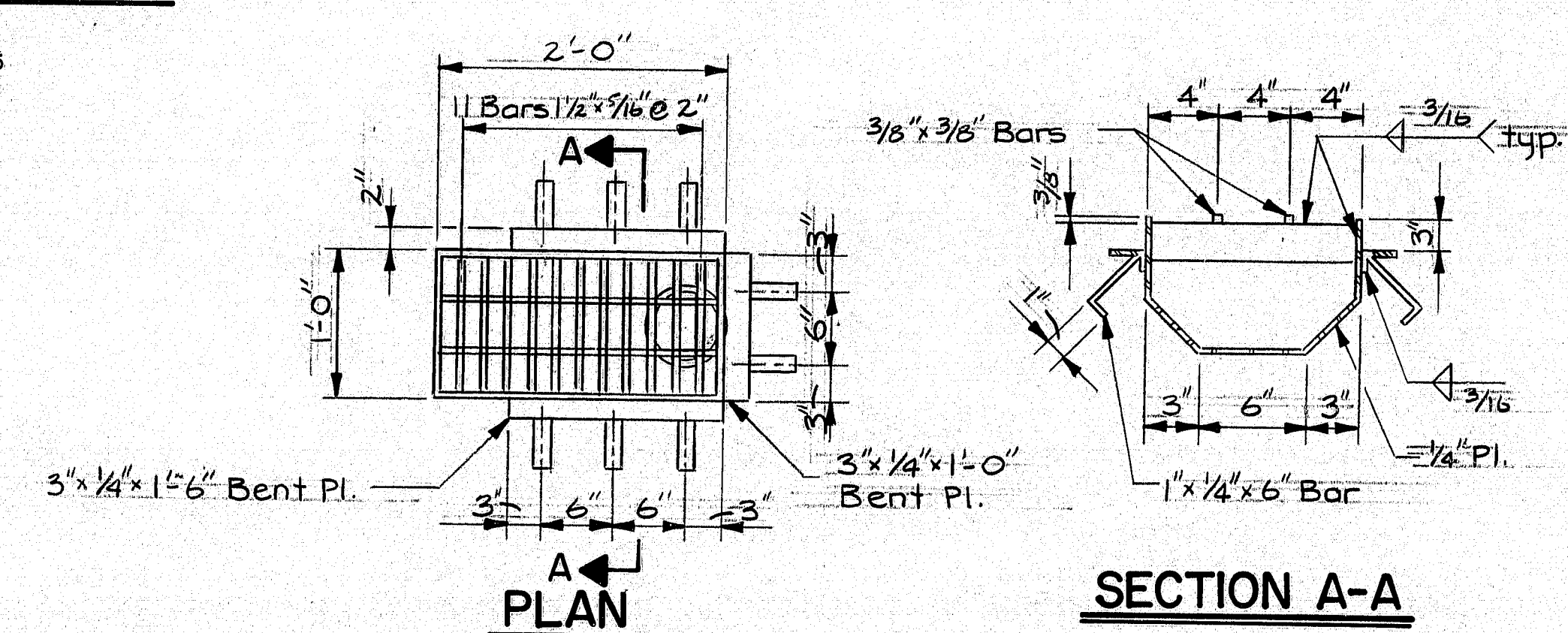


### VERTICAL BRIDGE CURB - TYPE I

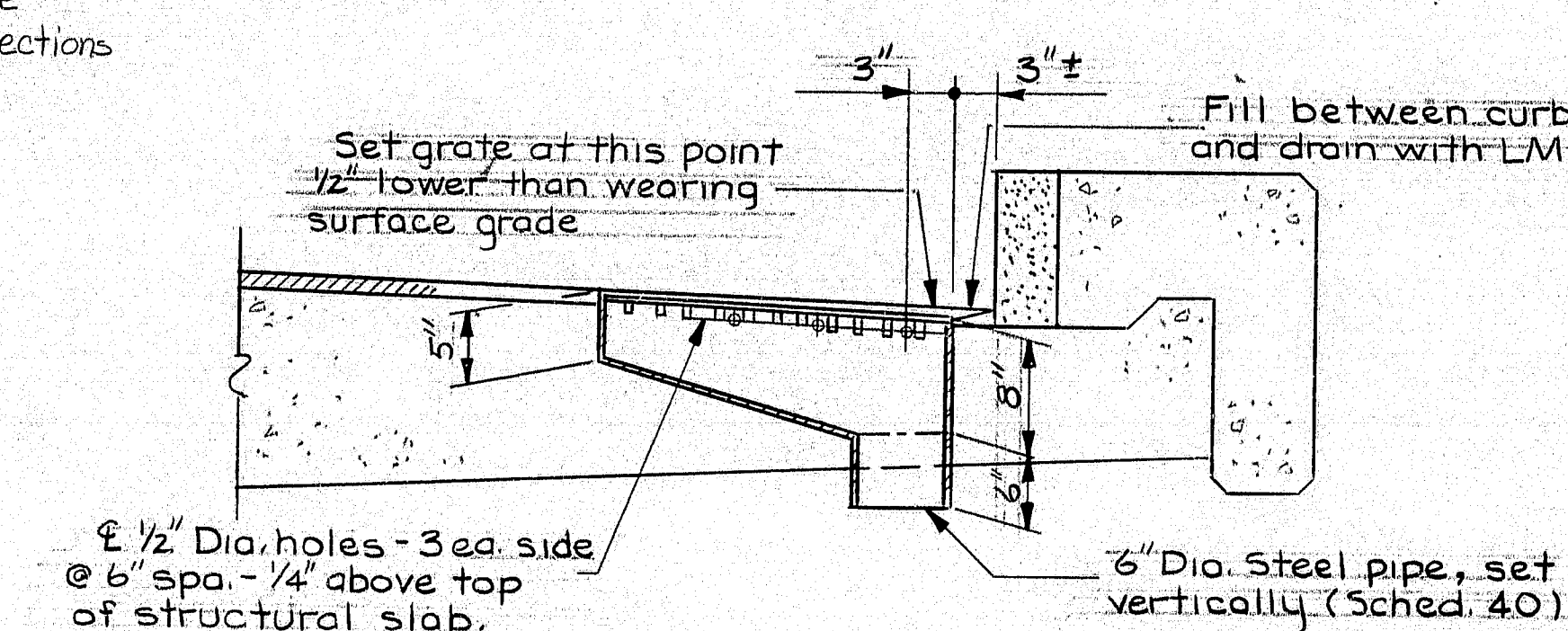


VERTICAL BRIDGE CURB-SPECIAL

Details and dimensions not shown are as shown for Vertical Bridge Curb - Type 1



SECTION A-A



BRIDGE DRAIN

102-152

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STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

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CUMBERLAND COUNTY  
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### TRANSVERSE SECTION

SHEET 13 OF 43 AUGUSTA, MAINE



Notes:

- Transverse reinforcement normal to layout line; spacing is 12" O.C. measured along layout line (chord)
- Longitudinal reinforcement concentric with  $\bar{\ell}$ ; spacing is radial.
- Curb details on sheet 27
- Barrier details on sheet 27
- Web reinforcement on sheet 21
- Cross-section details and dimensions on sheet 13
- Slab post-tensioning on sheets 19 & 20
- \* Flatten, drop or rotate S504 and S505 as needed

TS 301  
(Ties) see  
sheet 19

do not cut; do not drop below S503.

Median  $\mathcal{L}$

6"  $\pm$

TS5163 Top & Bottom as shown  
(Spacing symmetrical about med.  $\mathcal{L}$  except as shown)

TS. 506

TS 502

G 604

TS 504

TS 501

G 603

G 602

TS 503

G 601

G 501

S506

G 502

S503

\* S 505

G 501 ea. face (typ. except at N end)

5 equal spaces

1" clear (min.) (1/2" dir. at face of girder)

G 501 ea. face (typ. except at N end)

5 equal spaces

\* S 504

S 501

G 506 top & bottom as shown

3"  $\pm$

Optional joint, if used, move longitudinal bars as shown.

G2

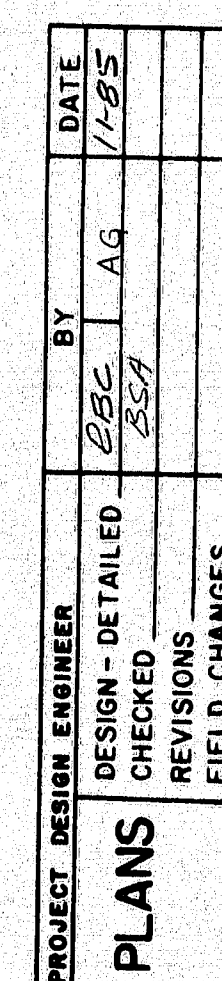
G3

G4

102-153

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**CROSS SECTION NEAR MIDSPAN**  
(Slab reinforcement shown is typical except near ends - see plan views)



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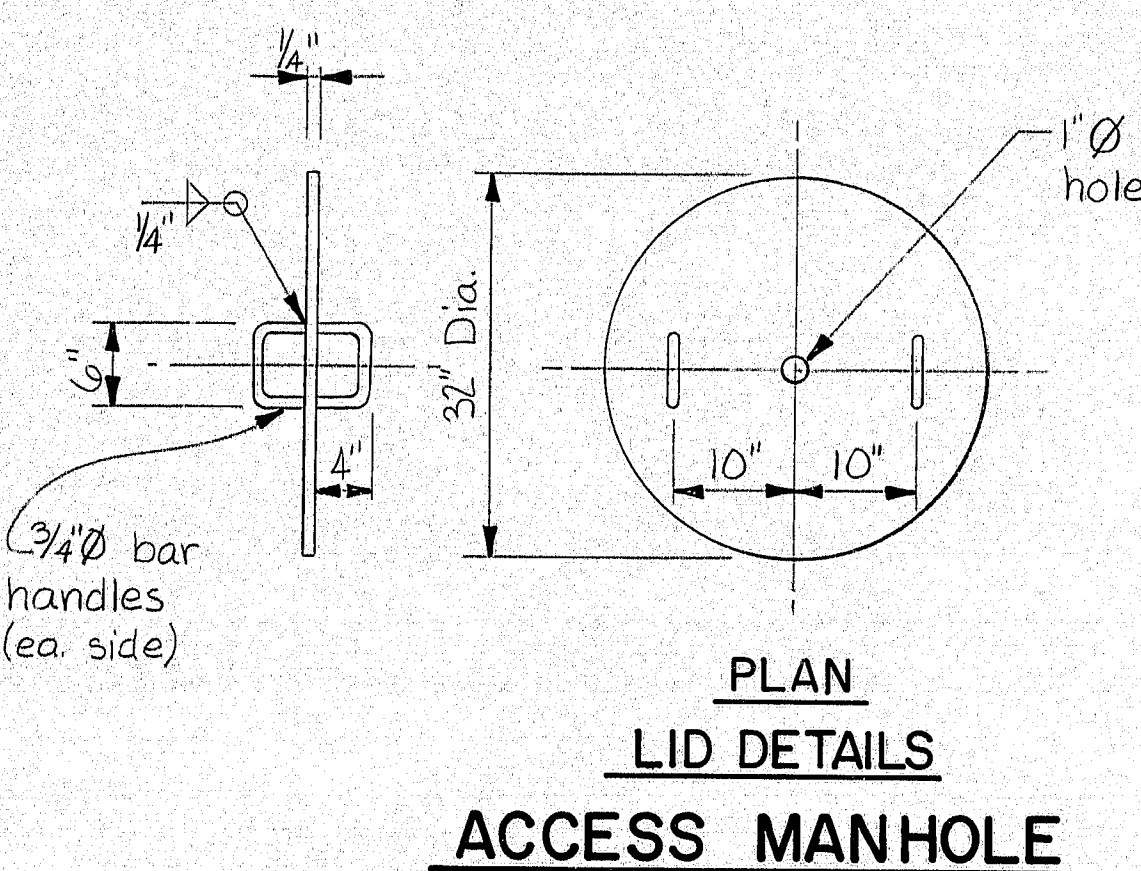
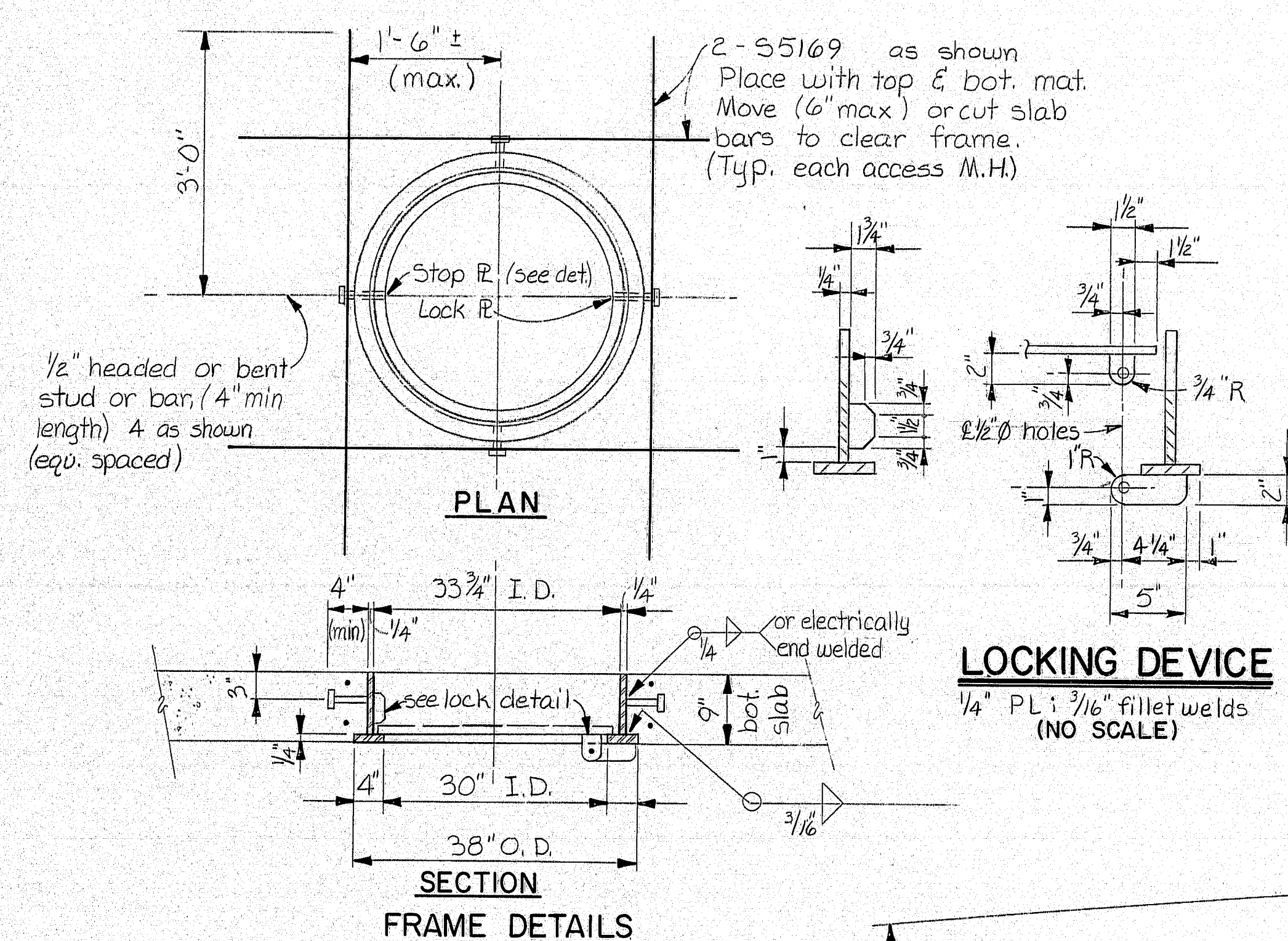
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CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

## CROSS-SECTION REINFORCEMENT

SHEET 14 OF 43 AUGUSTA, MAINE



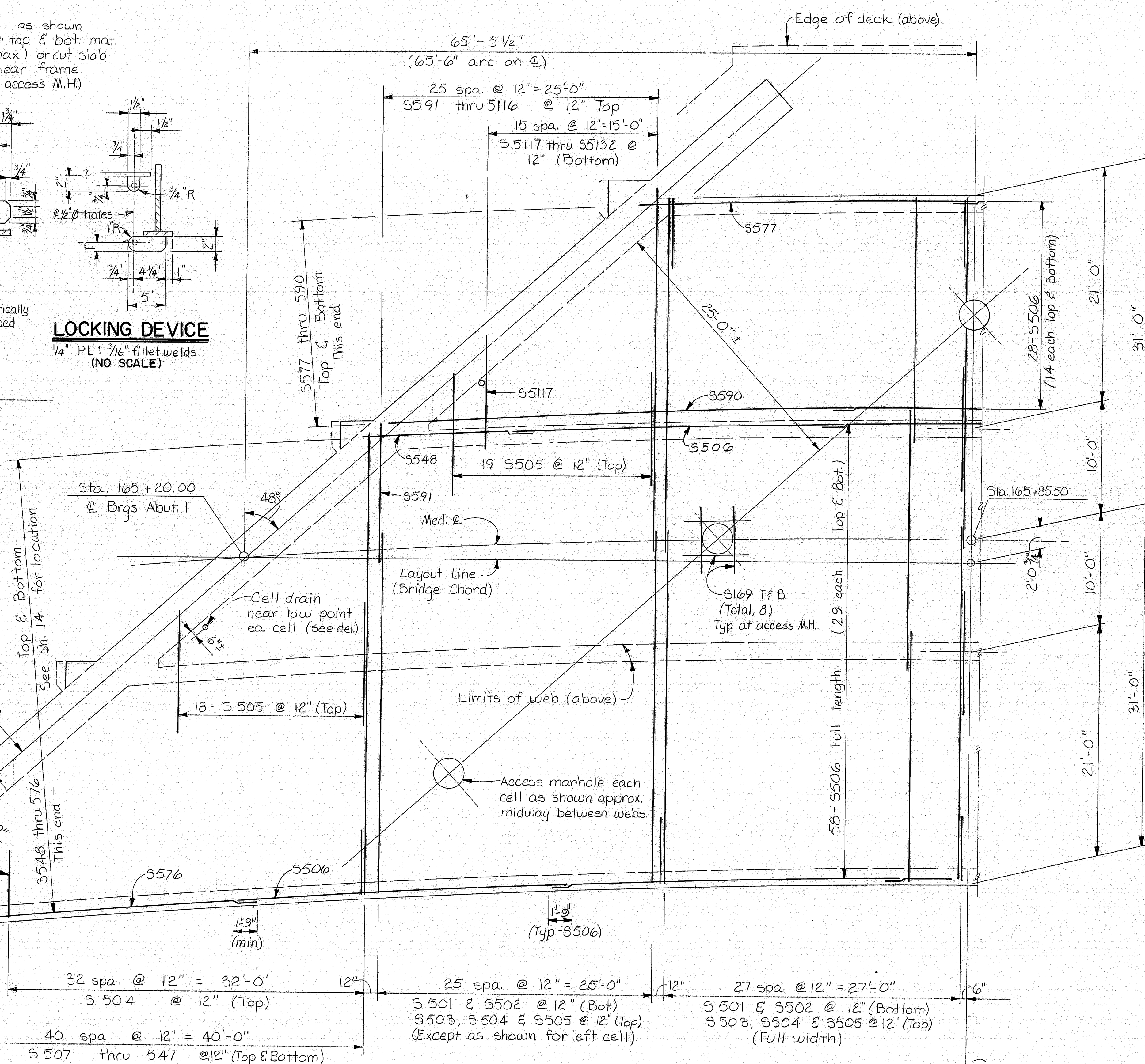
F.R.W.A. NO. 1	STATE MAINE	PROJECT NUMBER I-295-3(98)50	SHEET NO. 419	TOTAL SHEETS 513
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Note:  
Manhole lid must be inside box girder before deck is completed - can not be installed thru manhole.

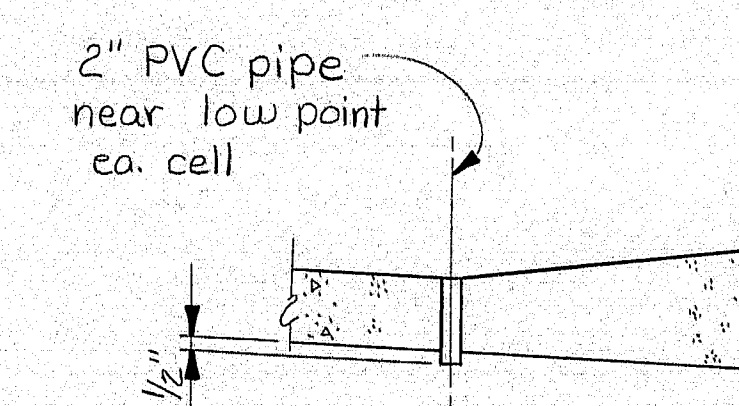
End beam details on sheet 23

### ACCESS MANHOLE



### PART PLAN - BOTTOM SLAB

Note:  
Transverse reinforcement is normal to layout line.  
Longitudinal reinforcement is concentric with R.  
Cell drains and access manholes will not be paid for directly, but will be considered incidental to item 535.72.



### CELL DRAIN-BOTTOM SLAB

3 REQUIRED  
No Scale

102-154

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

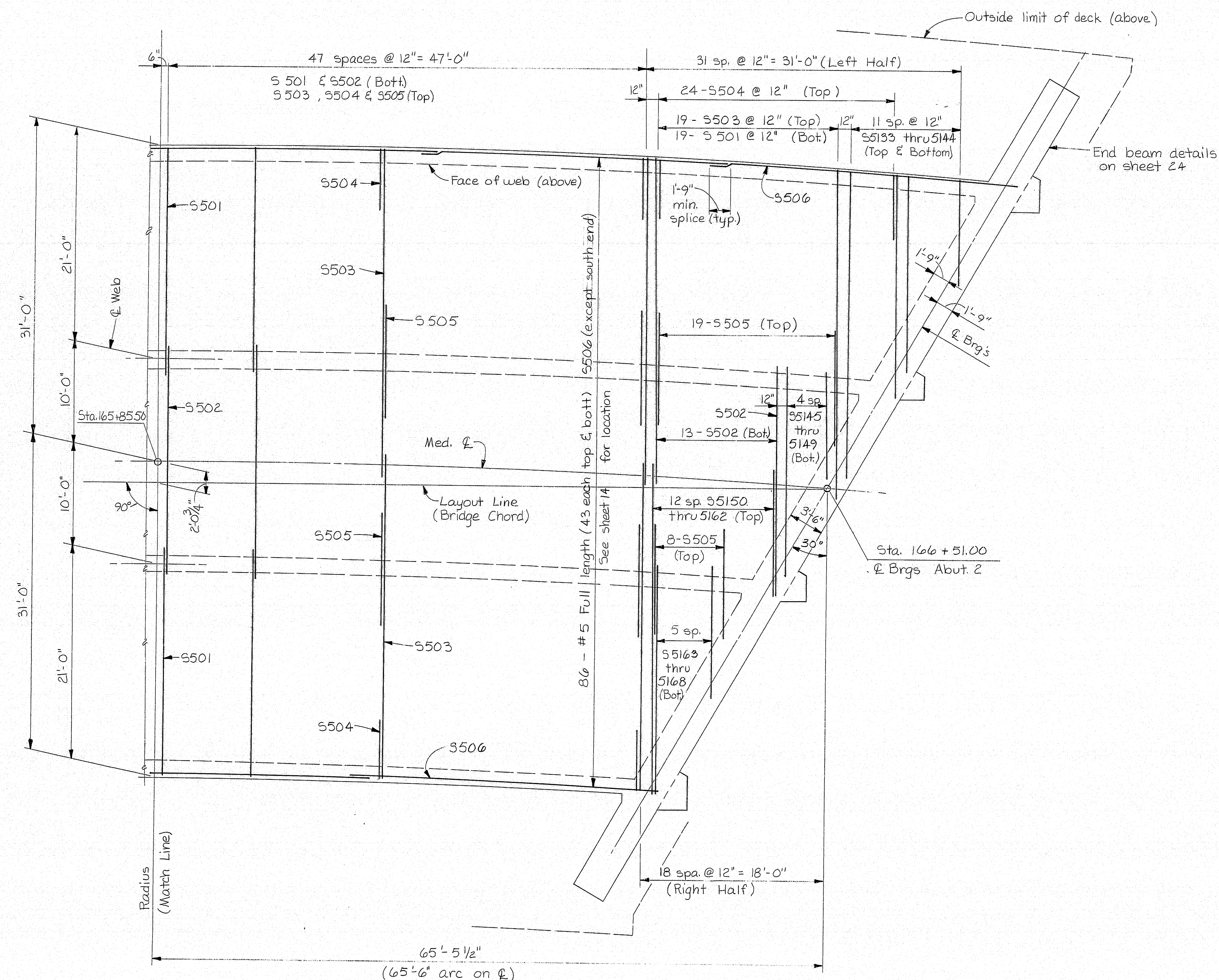
I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

### BOTTOM SLAB-1

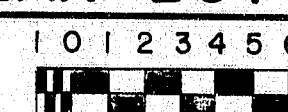
SHEET 15 OF 43 AUGUSTA, MAINE



F.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(95)50	420	515



PART PLAN-BOTTOM SLAB



102-155

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

BOTTOM SLAB-2

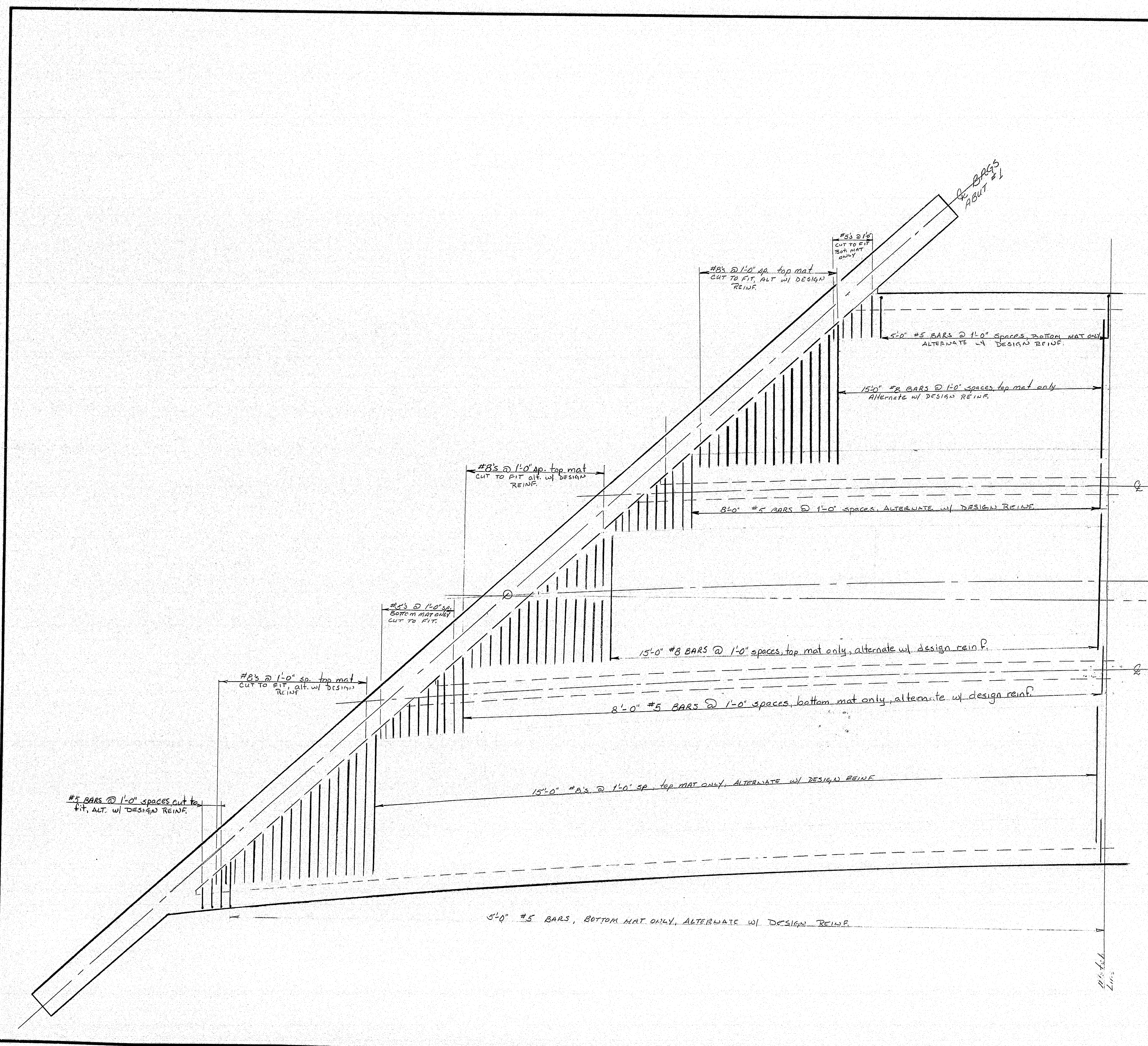
SHEET 16 OF 43 AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	DEC AG	11-85
CHECKED	237	
APPROVED		
FIELD CHANGES		

BRUNING 44-132-45710-1



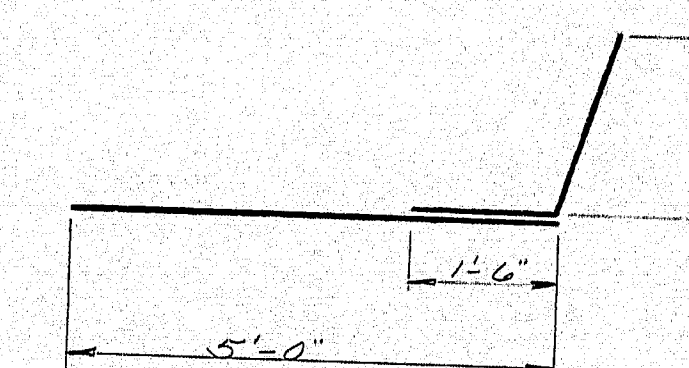
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE			



NOTE

Due to contractor's falsework design (i.e. mudslab) additional reinforcing was required for short-term dead loads. It was felt by designers that point loads from girder walls, and ultimately top slab through girder walls, would cause undue deflection to the unreinforced concrete form. This could result in damage to the structure, therefore additional reinforcing was added as shown in detail @ left. DESIGN

219



DETAIL OF BARS FOR EXTERIOR GIRDER

<b>PLANS</b>	<b>PROJECT DESIGN ENGINEER</b>		<b>BY</b>	<b>DATE</b>
	DESIGN - DETAILED		<i>ALB</i>	<i>2/22/97</i>
	CHECKED			
	REVISIONS			
	ELECT. & MECHANICAL			

102-156

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-295 PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

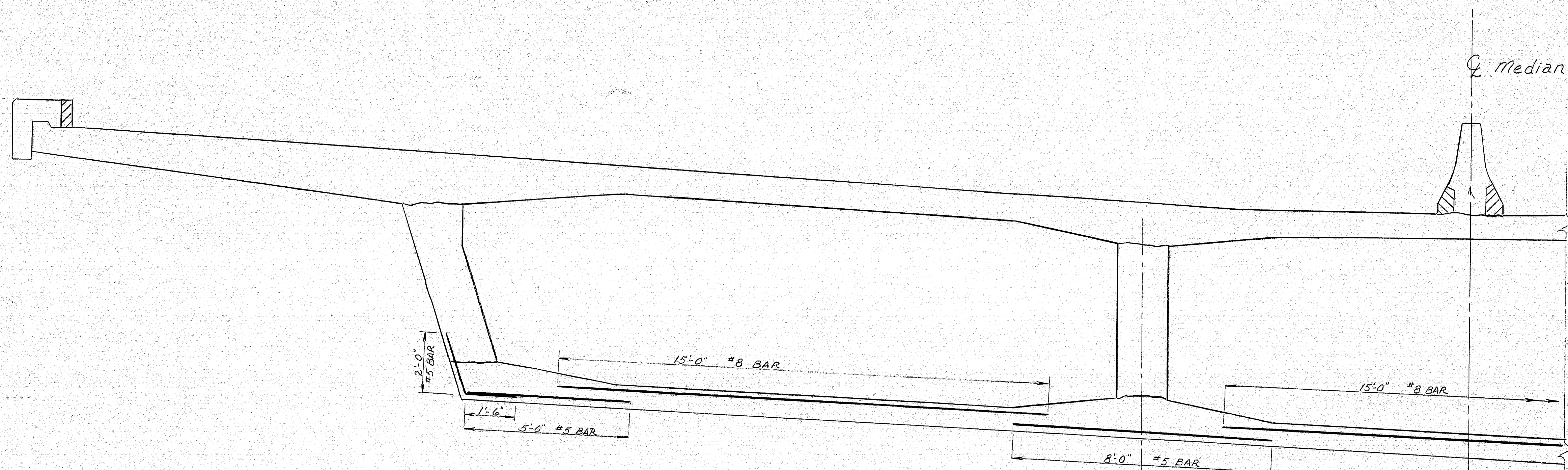
PLAN-VIEW  
OF ADDITIONAL

## REINFORCEMENT

**REINFORCEMENT**  
SHEET 16 OF 43 AUGUSTA, MAINE



F.H.W.A. NO. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE			



Extra reinforcing steel shown above is symmetrical about g. Alternated with design reinforcing.

This change was required as a result of Contractor's method of falsework, no extra payment made for additional steel.

Work this section with plan view on preceding sheet.

Revised as built by P.B. 2/11

**102-157**

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-295 PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

CROSS-SECTION  
OF ADDITIONAL  
REINFORCEMENT

SHEET 16 OF 43 AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	2/11	2/11
CHECKED		
REVISIONS		
FIELD CHANGES		

BRUNING 45710-1



Note  
For slab edge and curb  
reinforcement, see sheets 19 and 27.



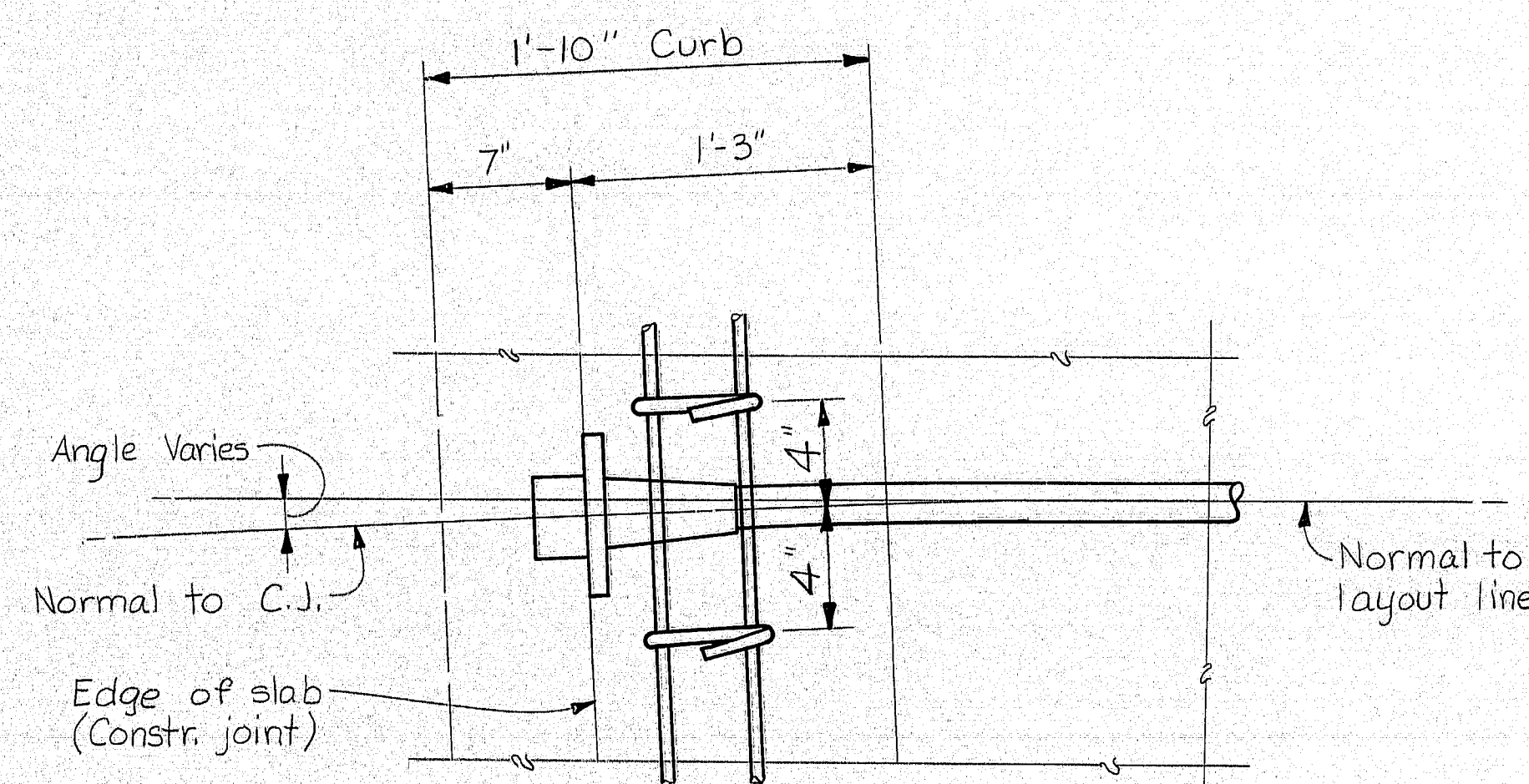
SHEET 17 OF 43 AUGUSTA, MAINE



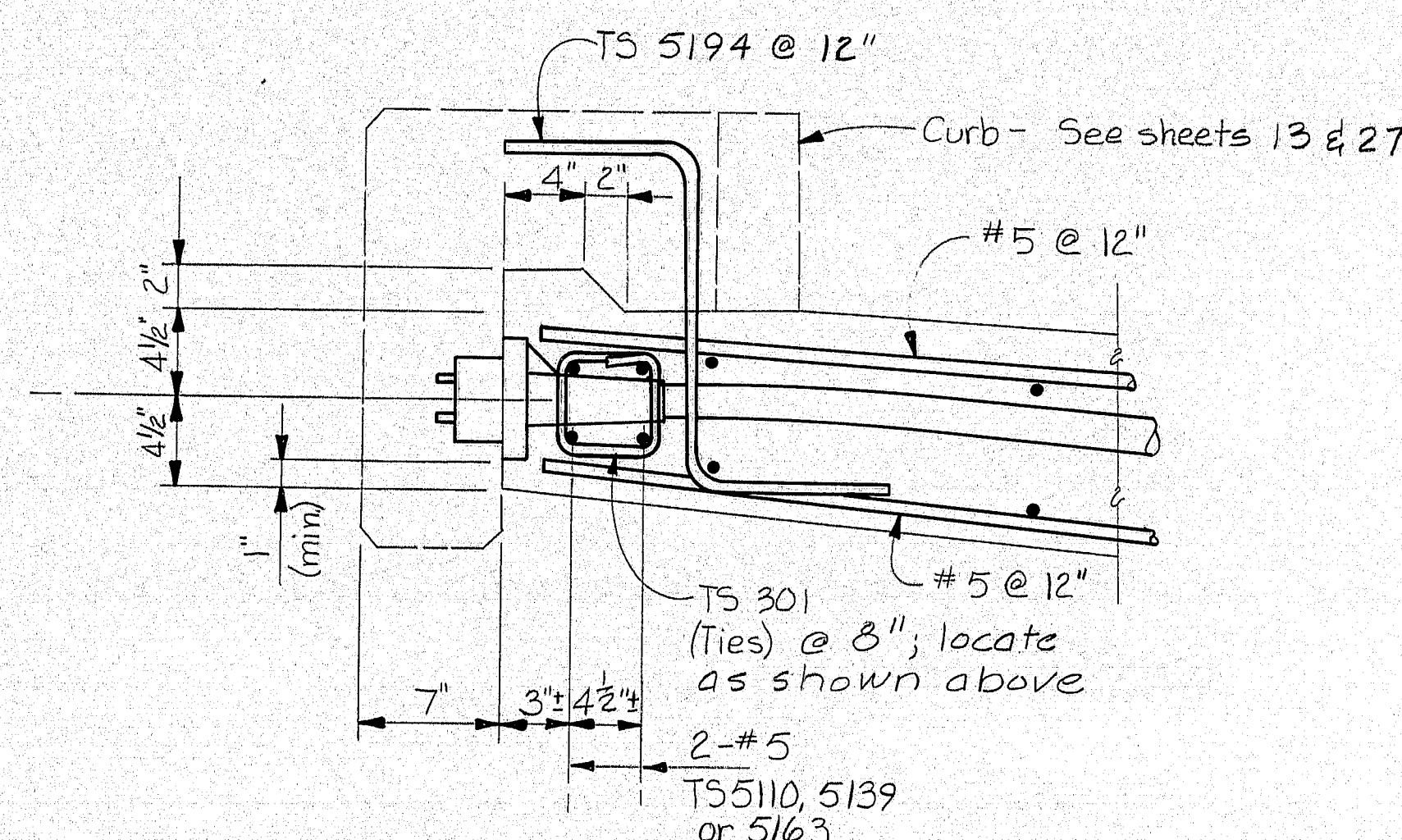




F.R.A. RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(95)50	423	515



**PLAN**  
(Typ slab reinf. not shown)



**SECTION B-B**  
(Sheets 17 and 18)

**STRESSING ANCHOR DETAILS**



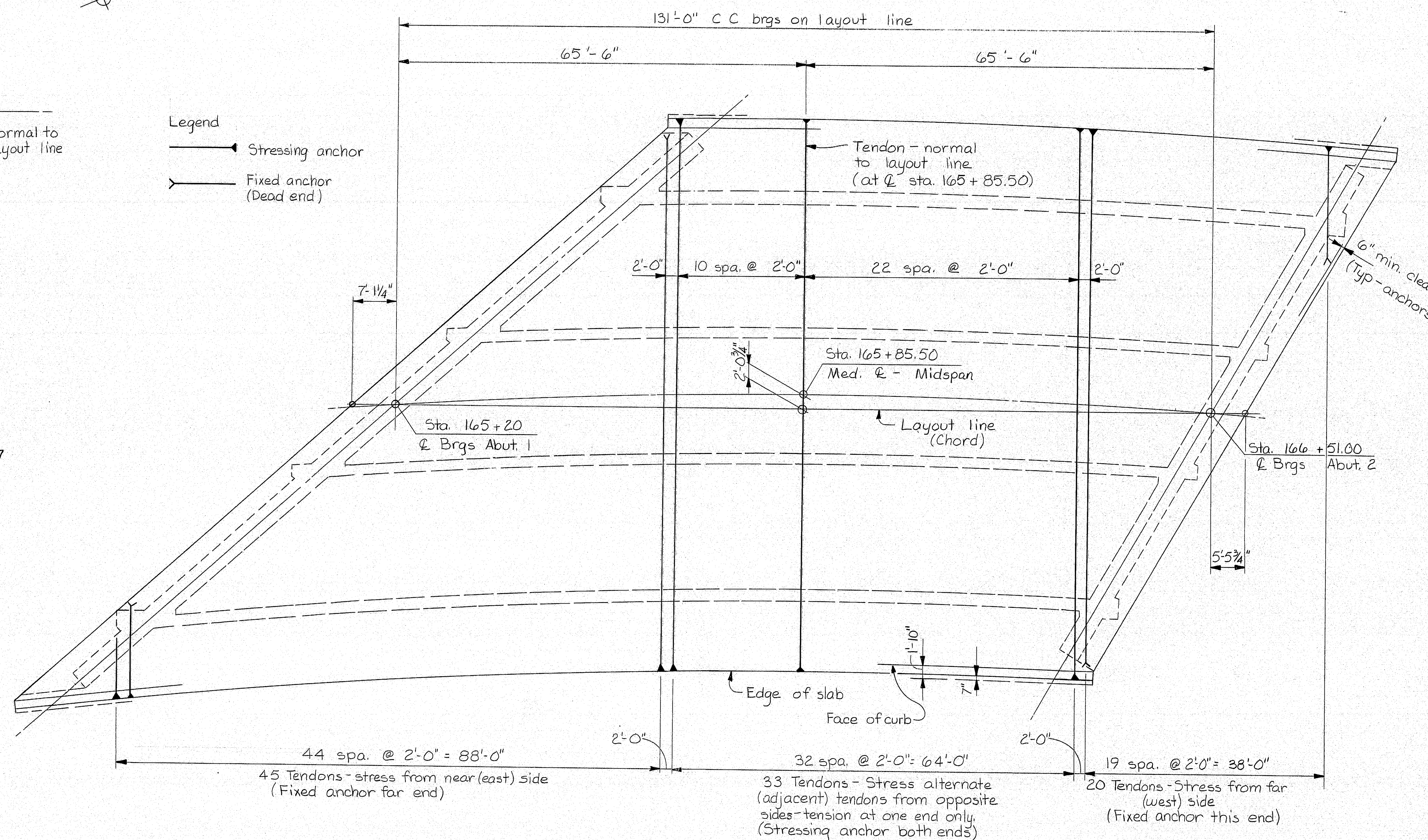
**Notes:**

Layout and details shown are based on tendons consisting of four 0.6" dia., 270<sup>k</sup> strand in 2" (t) dia. galvanized, rigid conduit, tensioned to 0.75 f's and anchored at 1/4" anchor set.

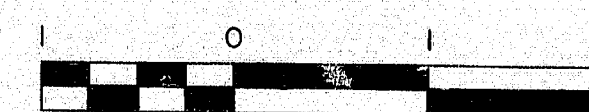
**Assumptions:**

P<sub>j</sub> (Jacking force) = 0.75 f's = 176 Kips per 4-strand tendon.  
K = 0.0002; μ = 0.25  
Long-term losses = 33,000 psi  
Anchor set = 0.25 inch  
Tendons are normal to Layout Line, spaced at 2'-0" C.C.  
See sheet 20 for tendon profiles and fixed-end anchors.

**Legend**  
→ Stressing anchor  
→ Fixed anchor (Dead end)



**TOP SLAB TRANSVERSE TENDON LAYOUT**



**102-160**

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

**TOP SLAB-  
TENDON LAYOUT**

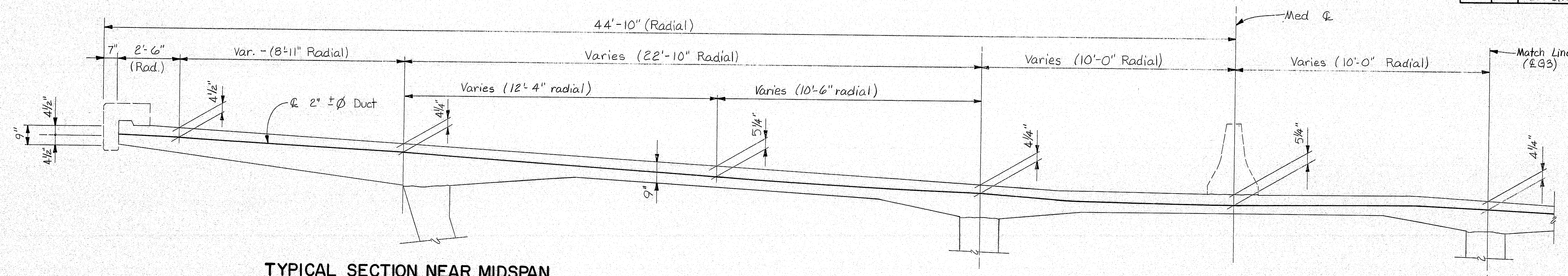
SHEET 19 OF 43 AUGUSTA, MAINE

PROJECT ENGINEER	BY	DATE
DESIGN - DETAILED	1/16	1/1/85
CHECKED	1/16	
REVISIONS		
FIELD CHANGES		

BRUNING 44-132-45710-1

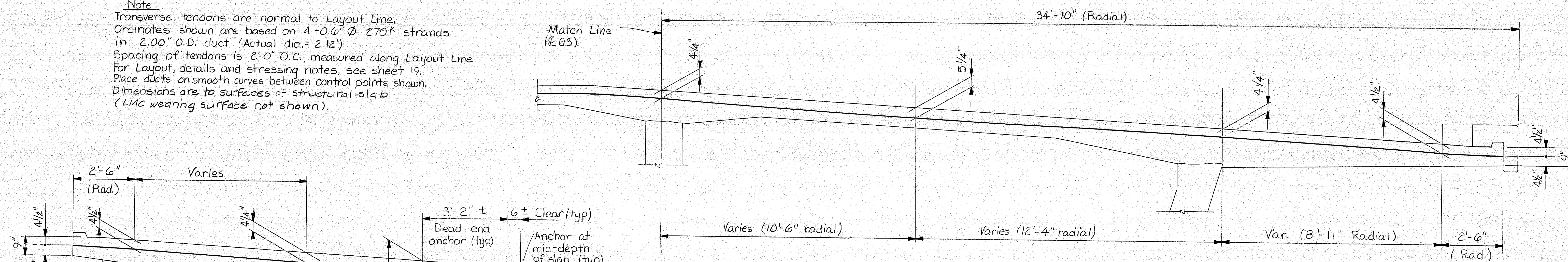


F.H.W.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(95)50	424	515



**TYPICAL SECTION NEAR MIDSPAN**

Note:  
Transverse tendons are normal to Layout Line.  
Ordinates shown are based on 4-0.6"  $\phi$  E70K strands  
in 2.00" O.D. duct (Actual dia. = 2.12")  
Spacing of tendons is 2'-0" O.C., measured along Layout Line  
for Layout, details and stressing notes, see sheet 19.  
Place ducts on smooth curves between control points shown.  
Dimensions are to surfaces of structural slab  
(LMC wearing surface not shown).



**TYPICAL SECTIONS NEAR ACUTE CORNERS**  
(Abutment 2 Shown)

Note:  
Exterior cell shown; tendon ordinates typical for all cells.  
Dead-end anchor shown is based on YSL fixed-end anchorage  
for 4-0.6" strands in 2.12" O.D. duct. Other systems and  
details may be proposed for the Engineer's consideration.  
Grout vents required at fixed-end anchors.



**102-161**

STATE OF MAINE  
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I-295 - PORTLAND  
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**SLAB TENDONS**

SHEET 20 OF 43 AUGUSTA, MAINE

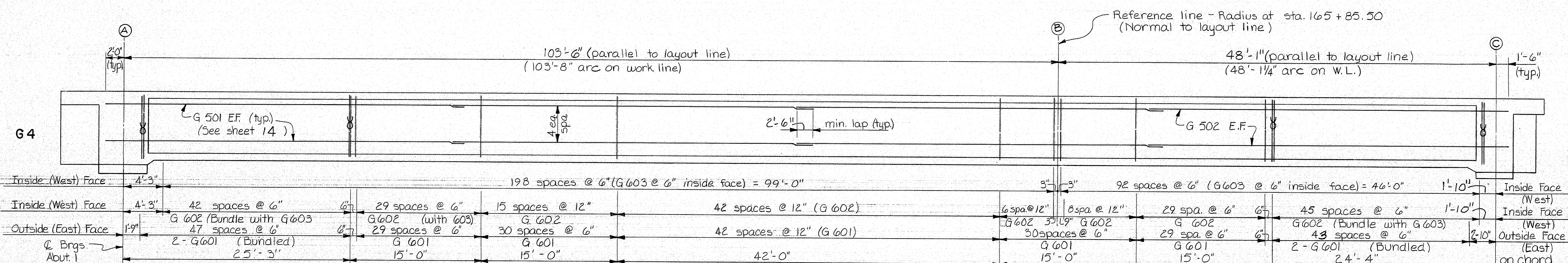
PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	AB	11-85
CHECKED	SSA	
REVISIONS		
FIELD CHANGES		

**PLANS**

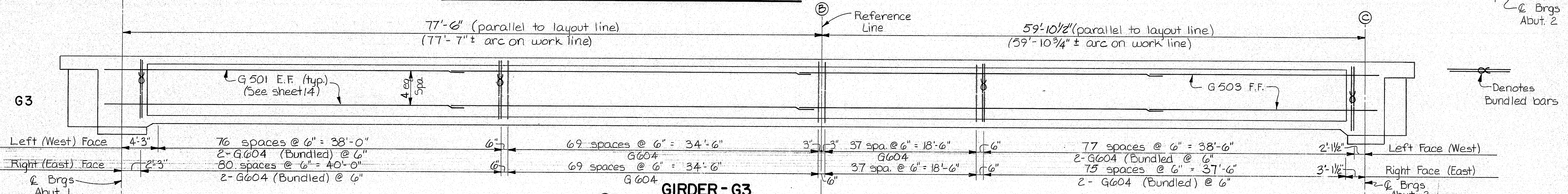
PRINTING 44-132-45710-1



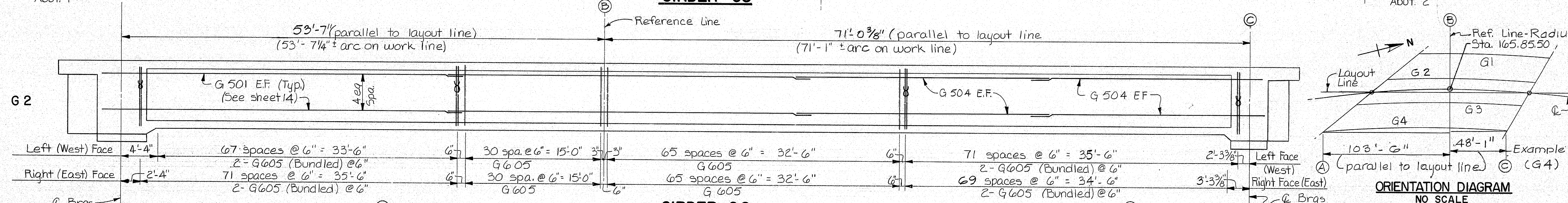
F.R.A. REL. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-395/50	425	516



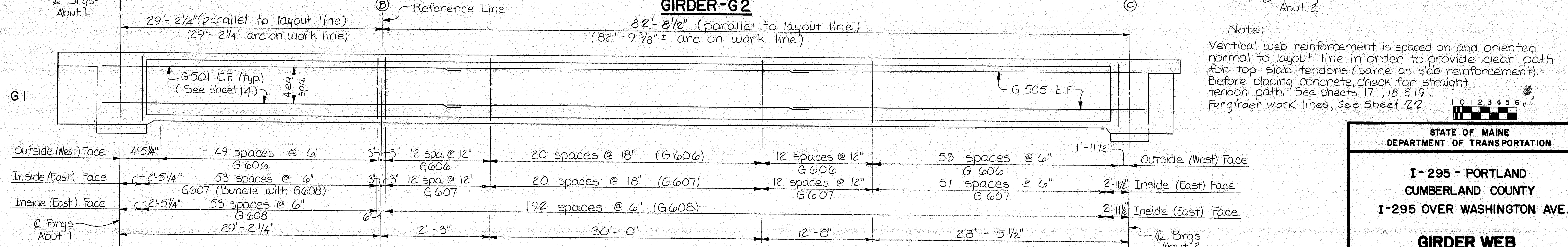
**GIRDER G4 - SPACING OF WEB REINFORCEMENT**



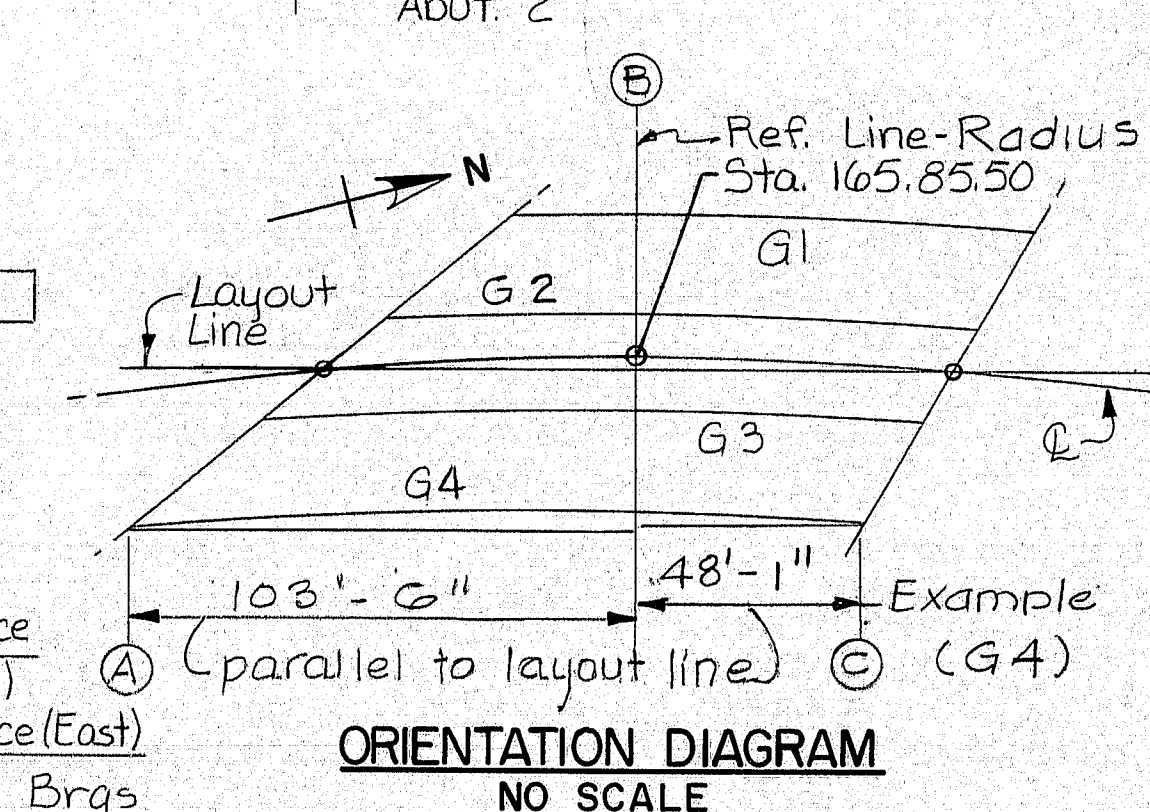
**GIRDER G3**



**GIRDER G2**



**GIRDER G1**



Note:  
Vertical web reinforcement is spaced on and oriented normal to layout line in order to provide clear path for top slab tendons (same as slab reinforcement). Before placing concrete, check for straight tendon path. See sheets 17, 18 & 19.  
For girder work lines, see Sheet 22

STATE OF MAINE  
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CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

**GIRDER WEB  
REINFORCEMENT**

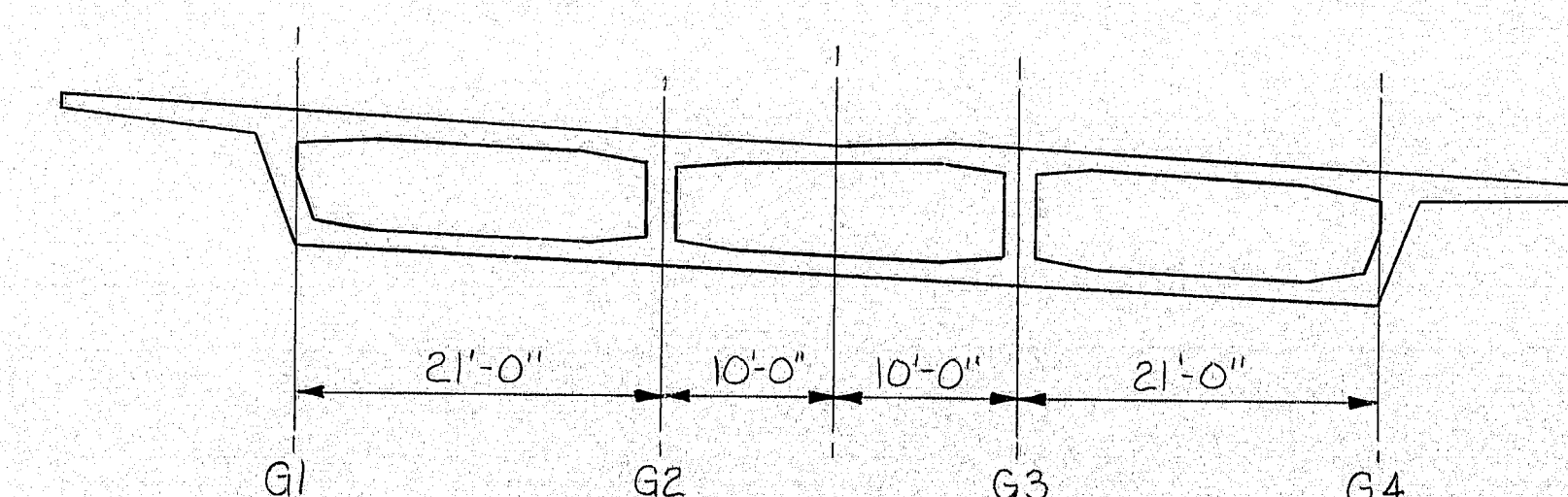
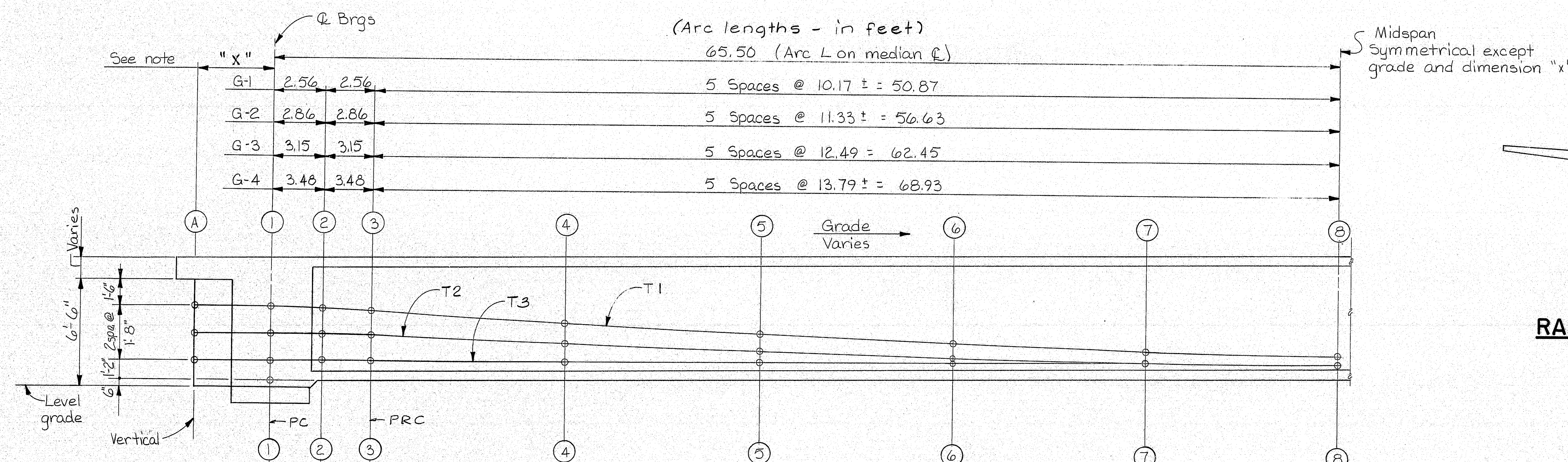
102-162

SHEET 21 OF 43 AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	11/85
CHECKED	4/86
REVISIONS	2/87
FIELD CHANGES	

BRUNING 44-132 4710-1





**RADIAL OFFSETS TO GIRDER WORK LINES**  
No Scale

**PRESTRESSING NOTES:**

**CONCRETE:**  $f_{ci} = 4500$  psi at time of prestressing.

**PRESTRESSING STEEL:** 270 K, 7-wire, stress-relieved strand in galvanized rigid ducts.

**DESIGN ASSUMPTIONS:**  $\mu = 0.25$  (horizontal & vertical curvature)  
 $K = 0.0002$

Loss of prestress due to elastic shortening, shrinkage, and creep of concrete and steel is estimated at 27,000 psi in accordance with AASHTO 9.16.2.1.

**CONSTRUCTION:** Ducts shall be tied to vertical reinforcement on outside of curve (west side of girder webs), except that tendon T3 shall be moved laterally one duct diameter in a smooth curved path between points ① and ⑤.

Tendons shall be tensioned in cycles of one tendon per web, beginning with the 2 center webs, in the order T1, T2 and T3.

Tendons may be tensioned from either end (one end stressing), for anchor set not exceeding  $\frac{1}{4}$ "  $\pm$   $\frac{1}{8}$ ". Anchor set exceeding this value may require redesign.

Details shown are based on 3 tendons in each web, consisting of 31-0.6" dia. strands in 5 1/2" O.D. ducts, tensioned to 0.75 f's and anchored at 1/4" anchor set.

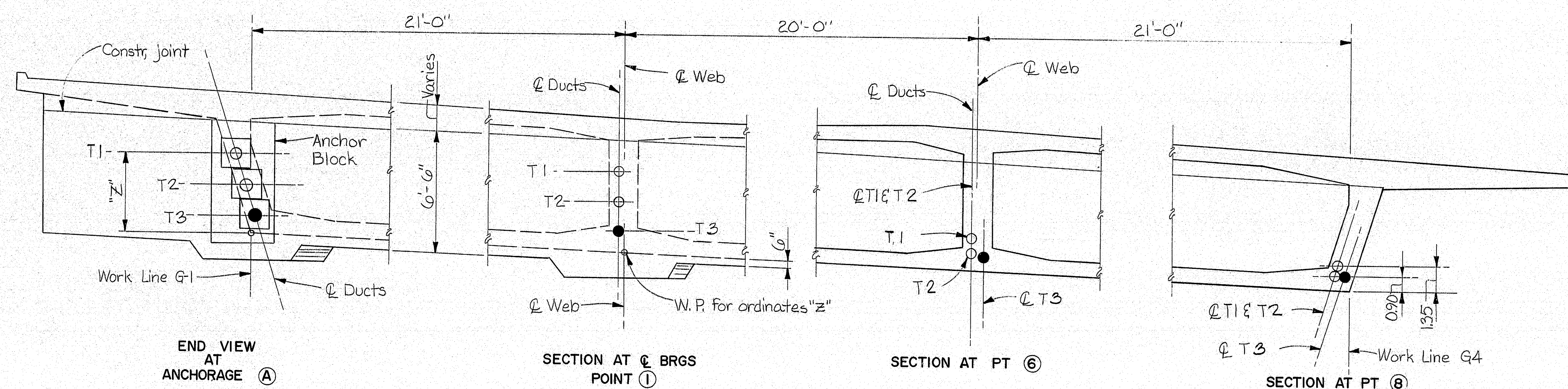
P(jack) = 1362 kips per tendon.

Any equivalent system meeting the specifications and producing substantially equal stresses may be used subject to the Engineer's approval of all computations and details.

**POST-TENSIONING TENDON PROFILES**

Ordinates shown are vertical distance "Z", in feet, from soffit level of bottom slab, on work lines shown, to  $\ell$  of duct.  
Arc lengths are horizontal, on work lines.  
Distance "x" varies with anchor block details; ordinates are constant between ① and ⑤.

CGS ordinates are to center of gravity of prestressing force.



**TYPICAL SECTION (RADIAL)**

**102-163**

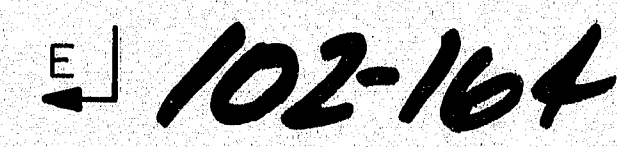
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

**GIRDER PRESTRESSING**



PROJECT DESIGN ENGINEER		BY	DATE
DESIGN - DETAILED		RBC	A.G.
CHECKED		BSA	11-85
REVISONS			
FIELD CHANGES			



2 Tendons, each 15-0.6" dia. 270 k strands in  $3\frac{3}{4}'' \pm$  O.D. ducts  
Tension to 0.75 f's (Pjack = 659 k) from North end only (Lt. side of bridge)  
Tension top tendon first.

Except as noted for straight segments, tendons are on parabolic curves between points shown.  
See sheet 25 for anchorage details.  
Dimensions and elevations are on  $\pm$  Bearings.

I - 295 - PORTLAND  
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**END BEAM-ABUTMENT-I**

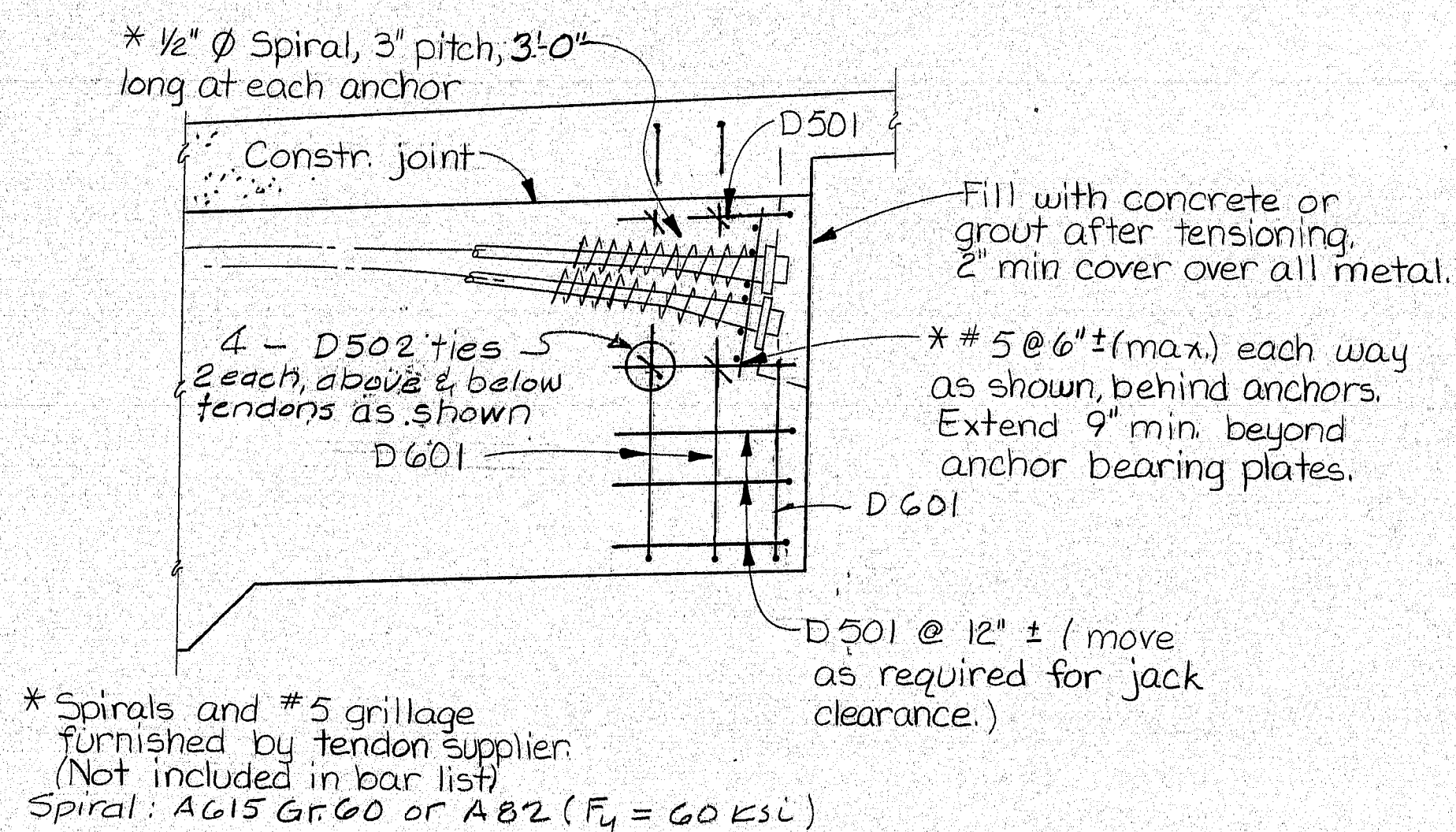
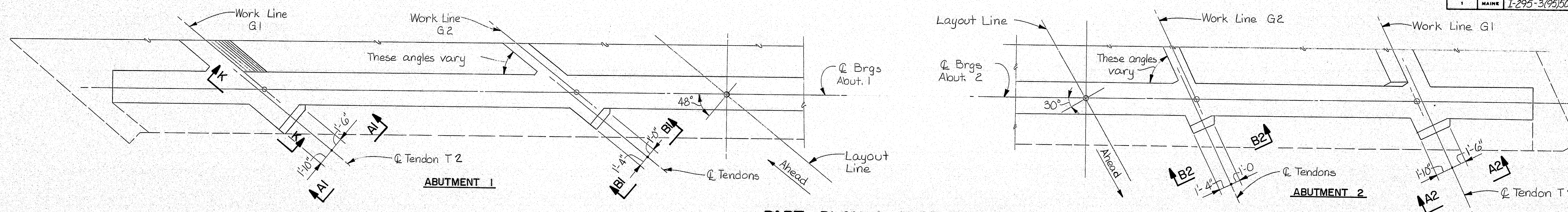
SHEET 23 OF 43 AUGUSTA, MAINE



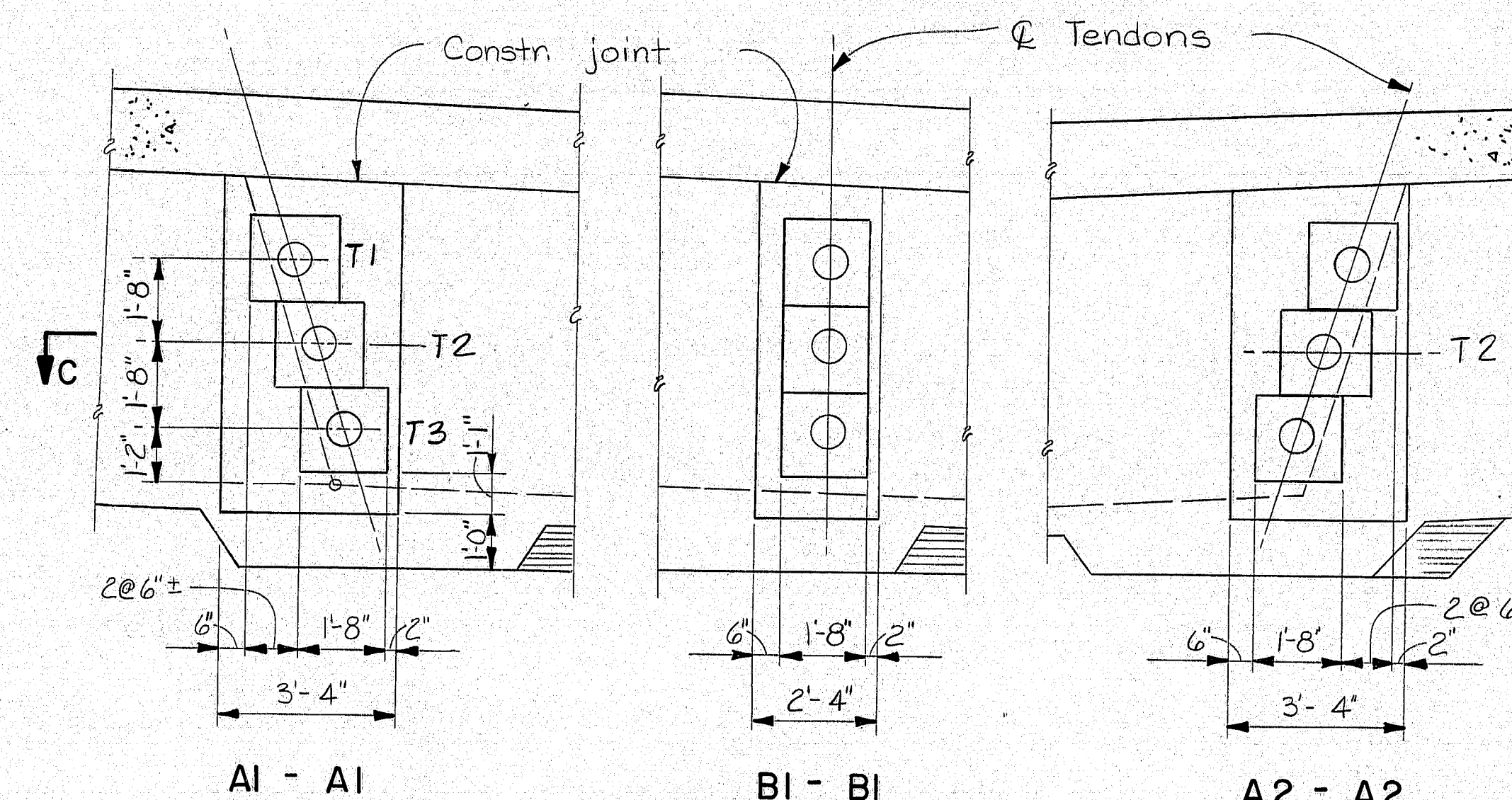




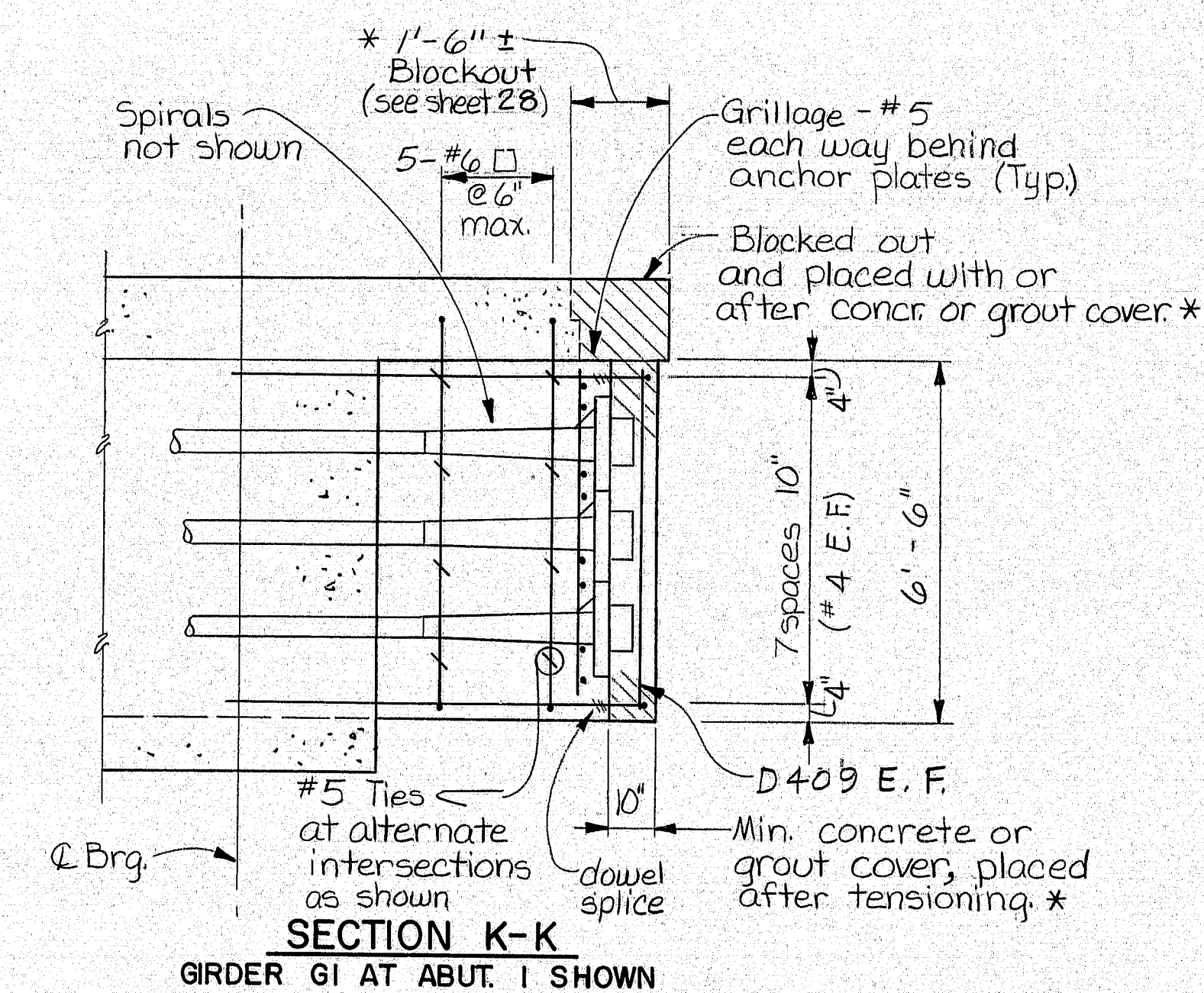
F.R.E.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(95)50	429	513



**PART SECTION G-G AT TENDON ANCHORAGE (F-F SIMILAR)**  
(Sheets 23 & 24)



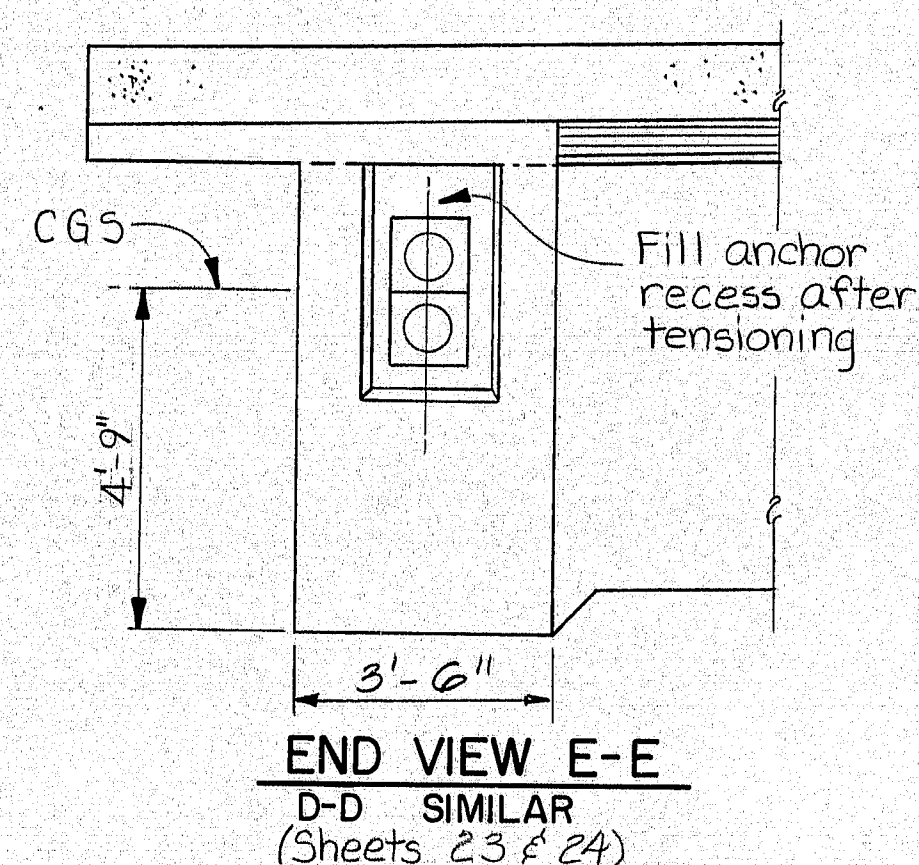
**PART PLAN ANCHOR BLOCKS (HORIZONTAL SECTION AT SLAB CONSTR. JOINT) MAIN GIRDER TENDON ANCHORS**  
1 0 1 2 3 4 5 6



**SECTION K-K GIRDER G1 AT ABUT. 1 SHOWN**

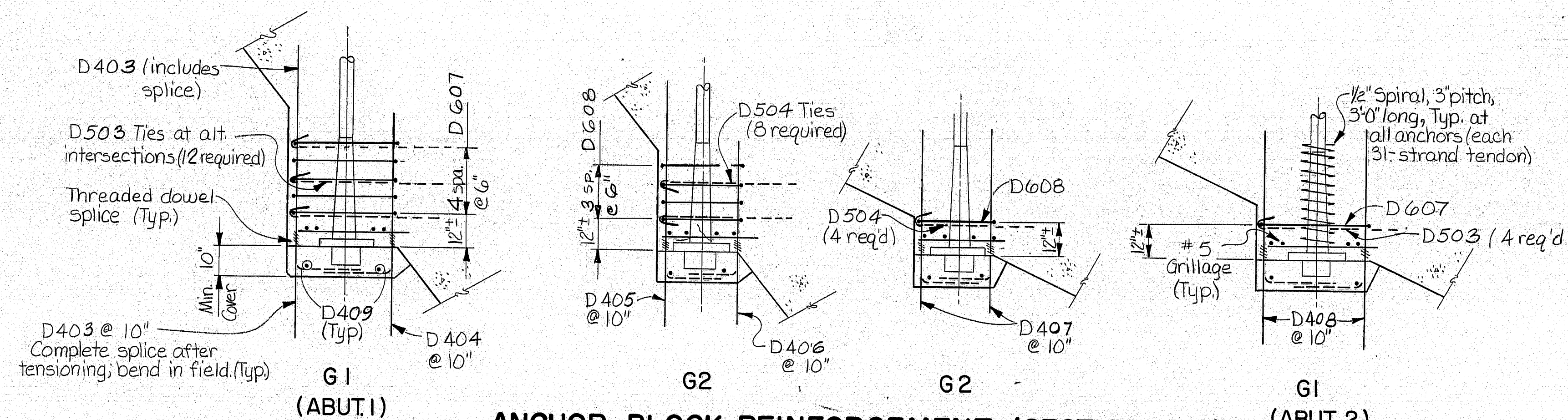
Note: Details typical where applicable. See horizontal section (C-C) for variations at other anchor blocks. (Bar designations shown on C-C)

\* Cover over anchorages may be placed with concrete in 1'-6" ± top slab blockout at expansion joints. See sheet 28.



Note: Anchorage details shown are typical for 12 and 15 strand tendons in end beams. Exact details and dimensions will depend on system used.

**END BEAM TENDON ANCHORS**



**ANCHOR BLOCK REINFORCEMENT (SECTION C-C)**  
G1 AND G2 SHOWN; G3 & G4 SIMILAR

Note: Spirals and grid of #5 ea. way behind anchor plates to be furnished by prestress supplier; not included in bar list. Details shown are based on 31-strand tendons in 5 1/2" O.D. Ducts; 20" square x 3" brg. plates. Other systems may require different details. Spirals shall meet the requirements of ASTM A615, Gr. 60, or A62 (F<sub>y</sub> = 60 Ksi, min.).

**102-166**

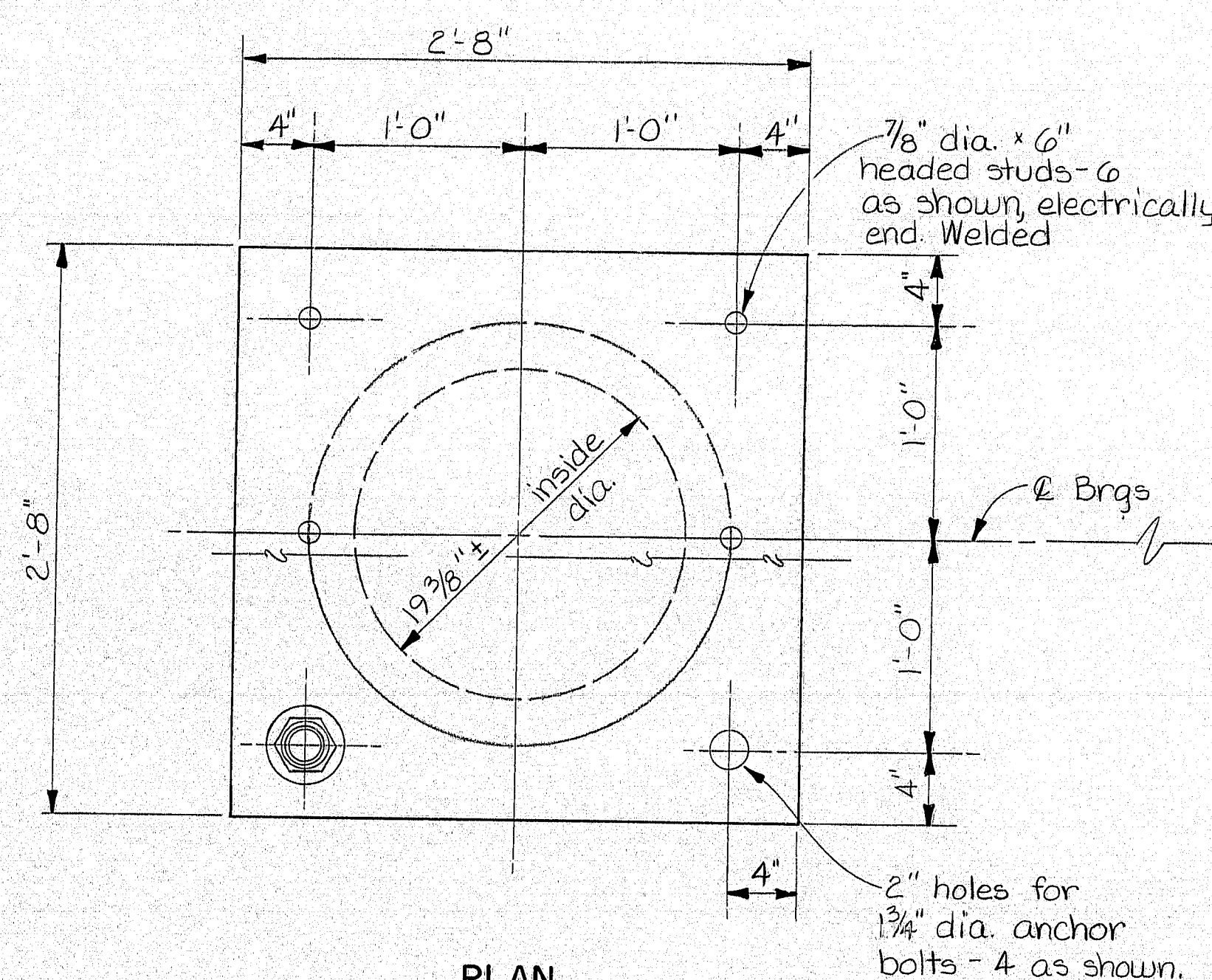
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

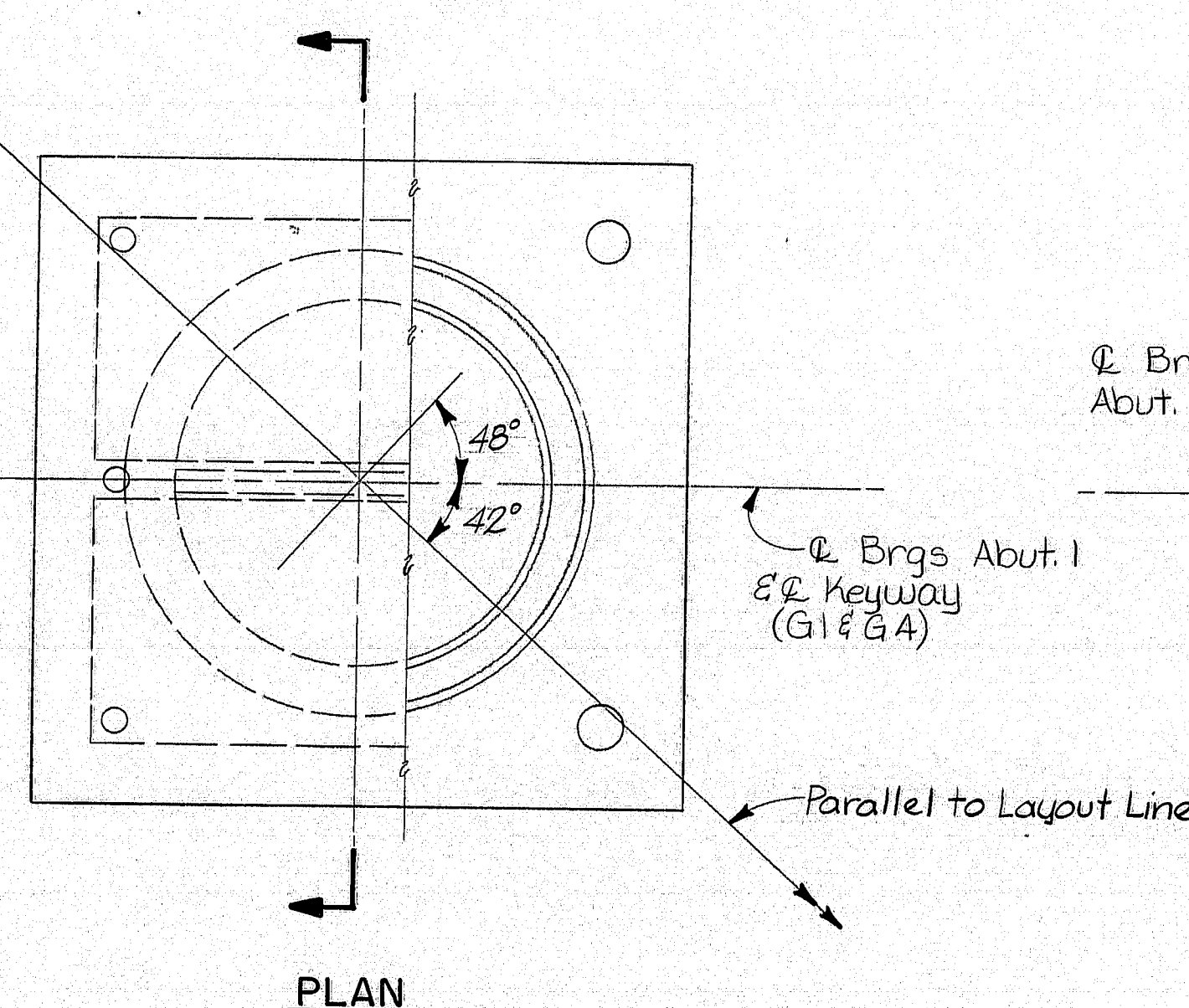
**TENDON ANCHORS**

PROJECT	DESIGN ENGINEER	DATE
PLANS	1/1/85	1/1/85
DESIGN - DETAILED	1/1/85	1/1/85
CHECKED	1/1/85	1/1/85
REVISIONS	1/1/85	1/1/85
FIELD CHANGES	1/1/85	1/1/85

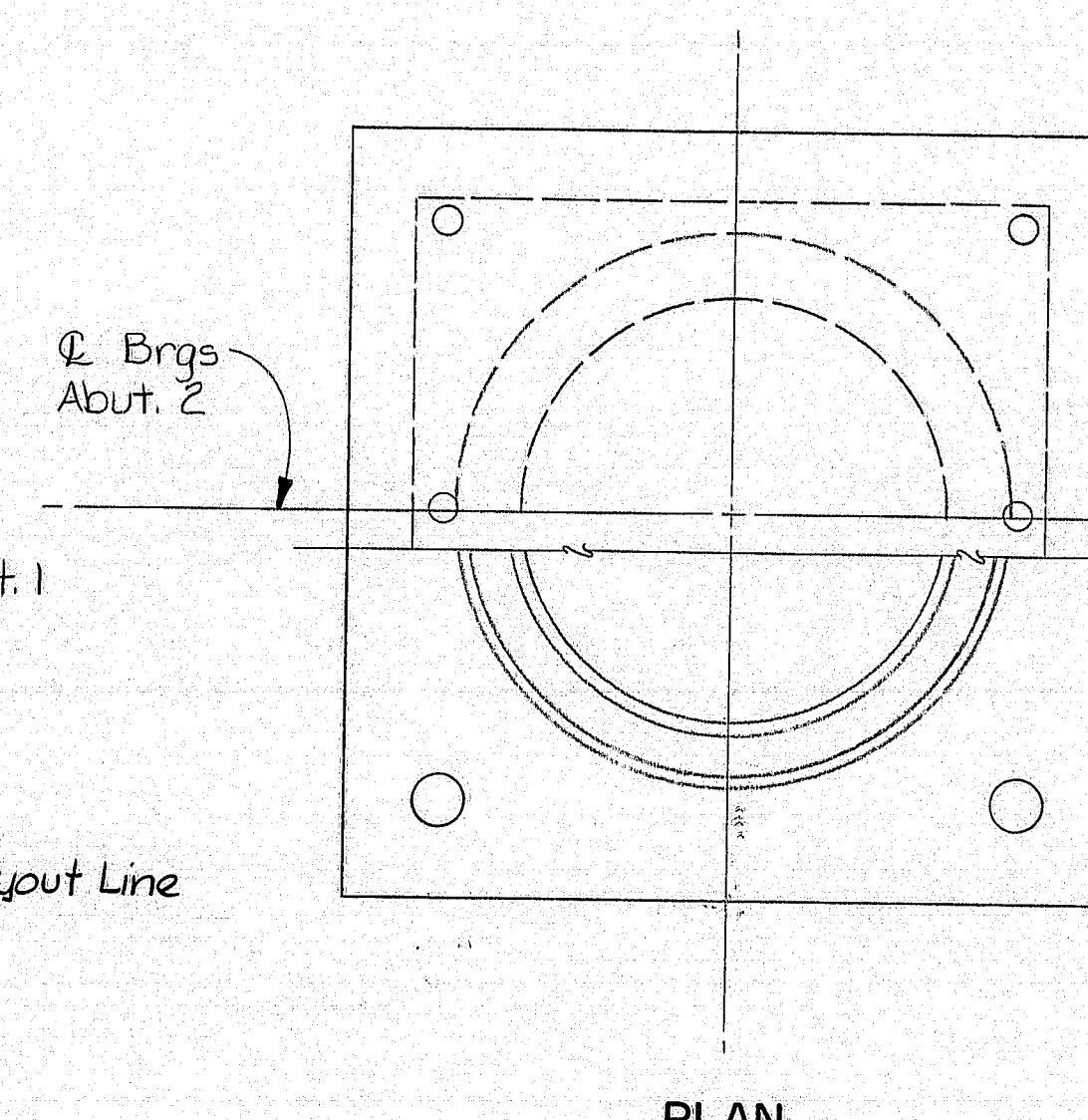




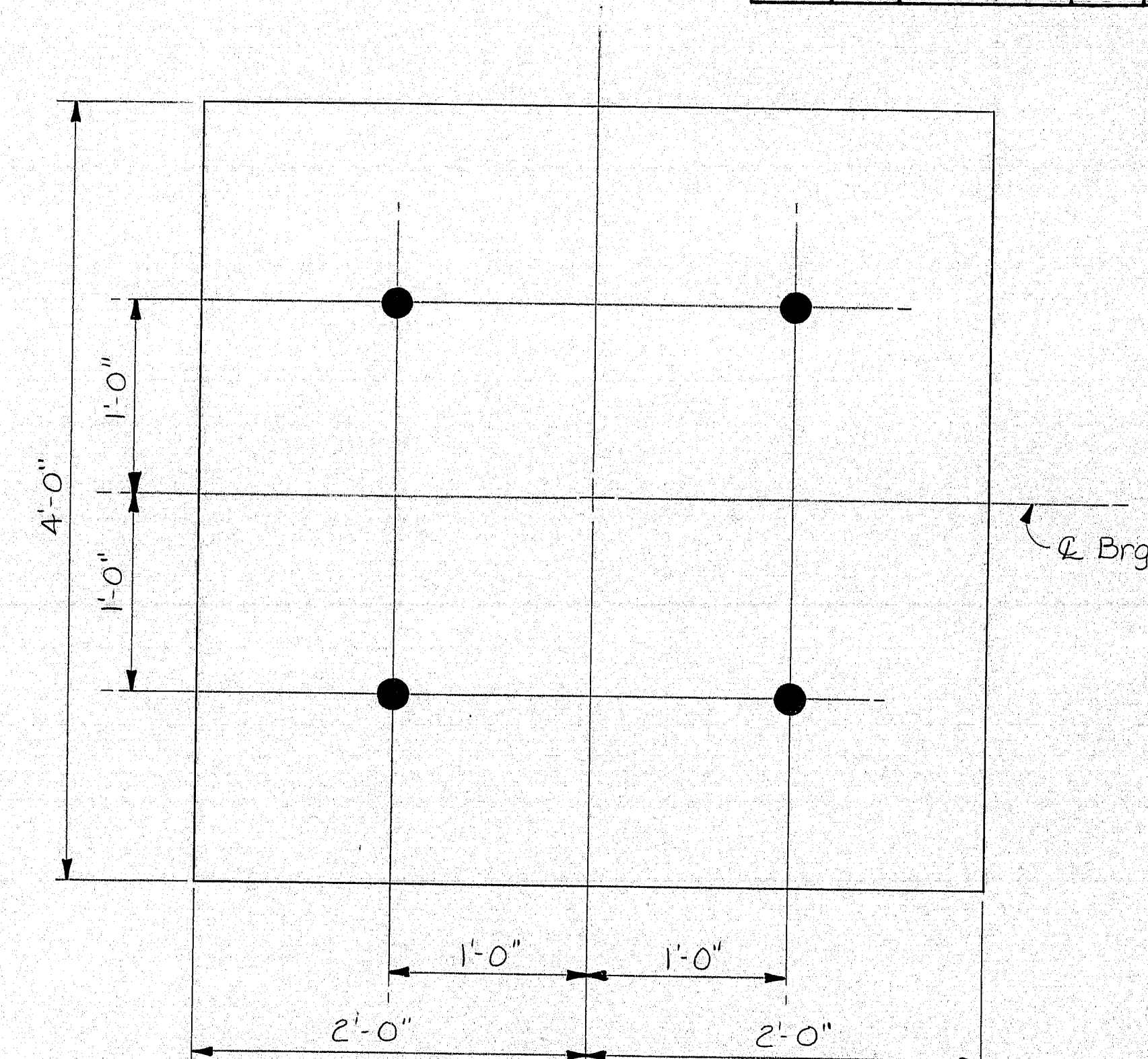
PLAN  
**ABUTMENT 1 - G2 & G3**



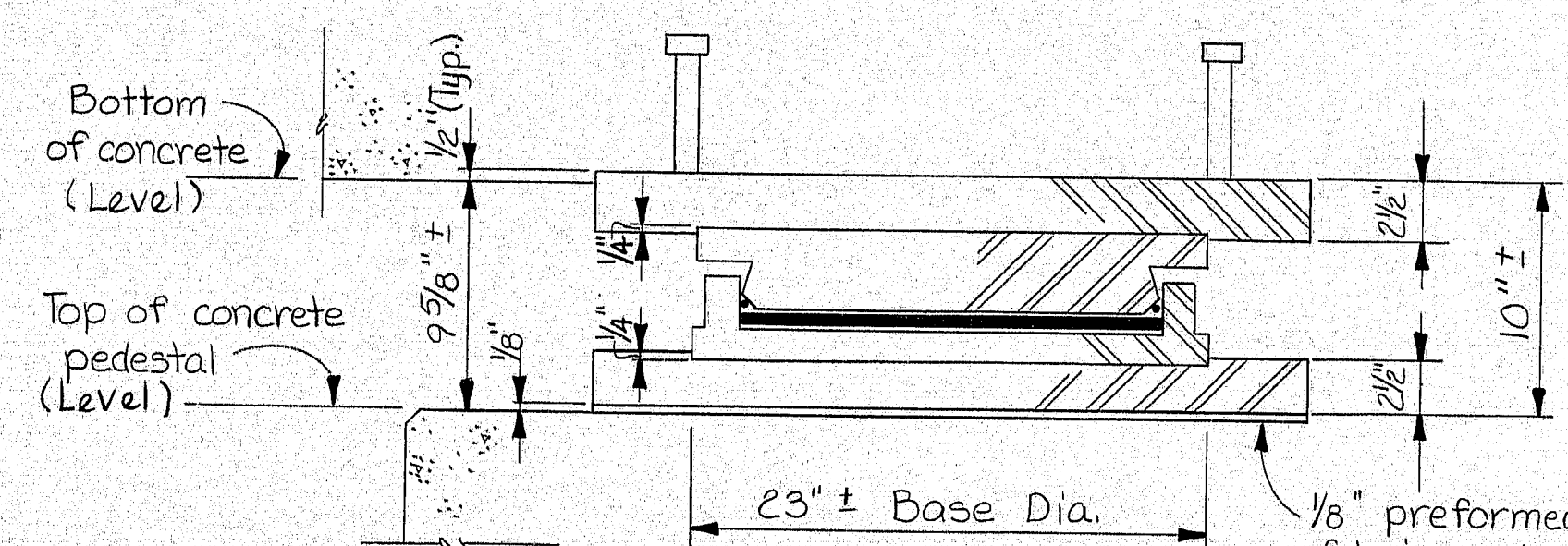
PLAN  
**ABUTMENT 1 - G1 & G4**



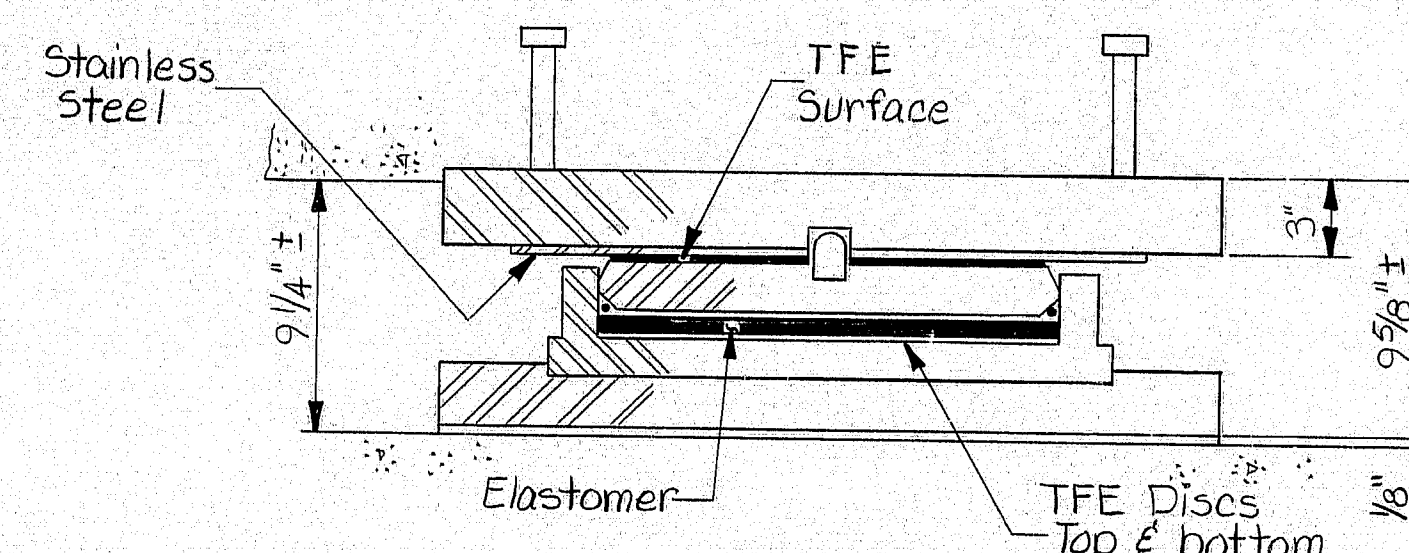
PLAN  
**ABUTMENT 2 - G1 & G4**



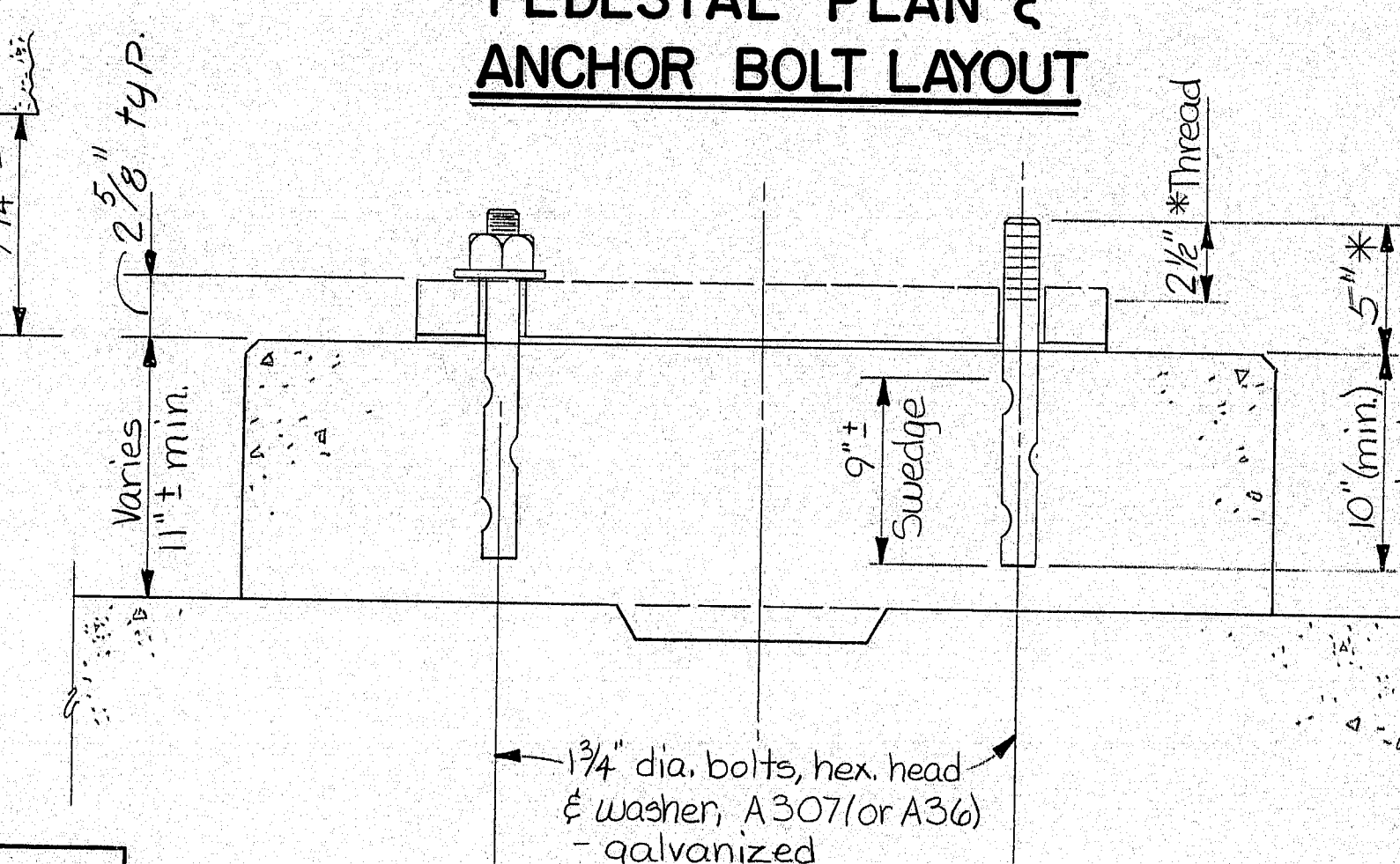
**PEDESTAL PLAN & ANCHOR BOLT LAYOUT**



SECTION  
**FIXED BEARING**  
Dimensions and details typical for all bearings except as shown or noted.



SECTION  
**UNRESTRAINED BEARING**  
Provide for movement as shown for G2 & G3



SECTION

\*Dimensions based on bearing heights shown.  
Final dimensions and pedestal finish elevations will depend on bearings supplied.  
For pedestal details, see sheet 5.  
(Details apply to both abutments)

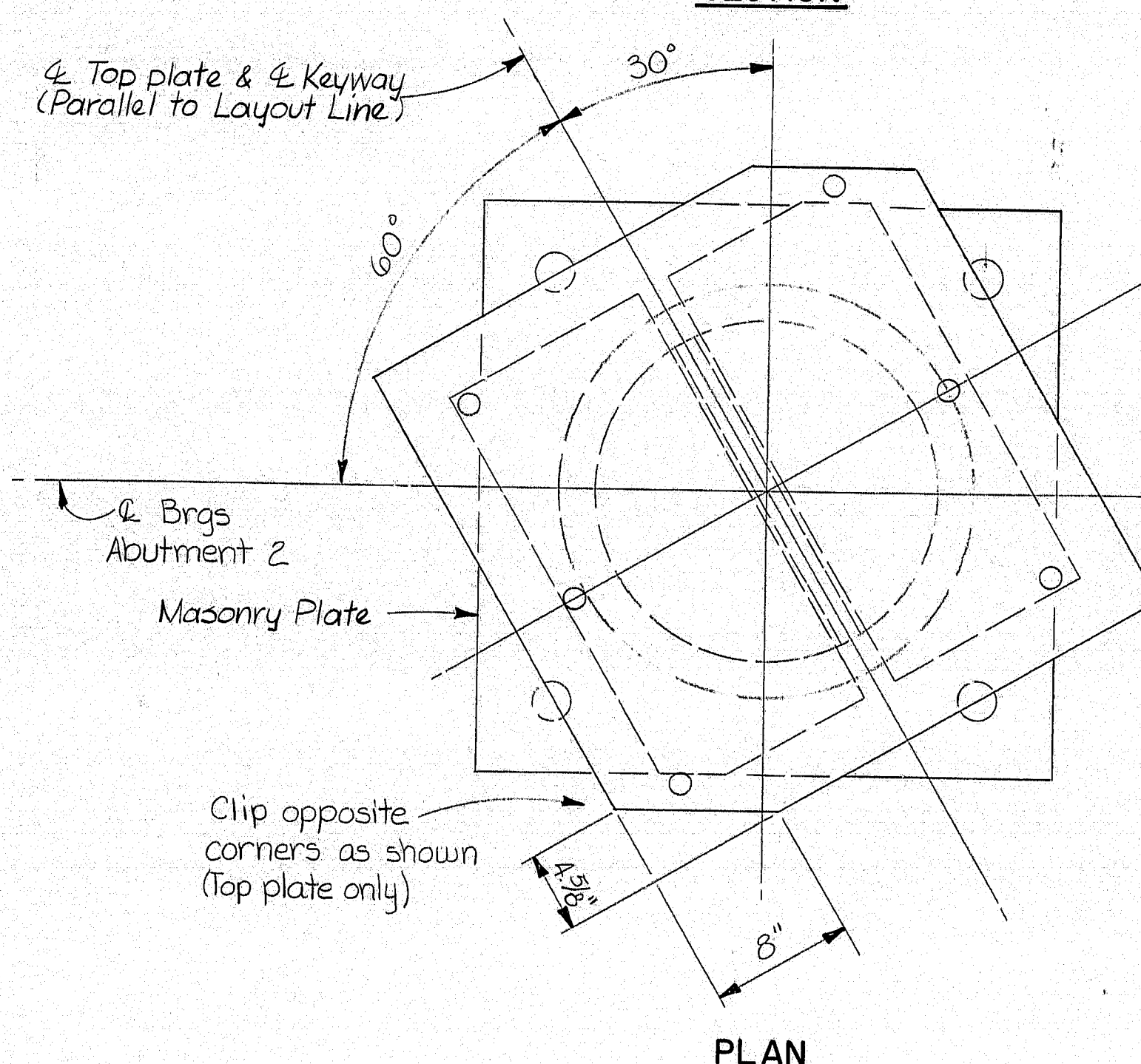
Note:  
For makeup of bearings shown including pot, elastomer, seals, TFE and stainless steel surfaces, see specifications.

Dimensions may vary to meet manufacturers standard, except that size and thickness of top and bottom plates shall not be reduced.

Preformed fabric pads shall conform to 713.03

Bearings shall be installed in accordance with 504.45, as applicable. Percussion drilling of anchor bolt holes (if drilled) will not be permitted.

The hold down requirements, as stated in the Special Provisions, Section 523, may be omitted.



PLAN  
**ABUTMENT 2 - G2 & G3  
LATERALLY RESTRAINED BEARING**

BEARING DESIGN DATA							
LOCATION		TYPE	DESIGN LOAD-KIPS			REMARKS	
			MAX. VERT.	MIN. VERT.	LAT-ERAL		
ABUT. 1	G2, G3	F	900	775	90*	* any direction	
	G1, G4	LR	900	775	90*	* normal to Keyway	
ABUT. 2	G2, G3	LR	900	775	90*	* normal to Keyway	
	G1, G4	U	900	775	N.A.		
BEARING MOVEMENTS (INCHES)- ABUT. 2. (ALL BEARINGS)							
From	100°	90	60	30	0	-30°	REMARKS
TEMP. PRE-STRESS	+0.38	+0.28	0	-0.28	-0.57	-0.85	+ Lengthening - North - Shortening - South
INITIAL OFFSET	+1.00	+1.00	+1.00	+1.00	+1.00	+1.00	Includes shrinkage & creep Initial Δ = 0.5" ±
TOTAL	+0.38	+0.28	0	-0.28	-0.57	-0.85	When Setting brgs., off-set 1.0" North (Parallel to Layout Line)
Movement Rating : Calculated = 1.23" Required = 2.00" (min.)							
Note: Brgs. Type LR at Abut. 1 and Type U at Abut. 2 provide for nominal transverse movements from prestress, shrinkage, creep and thermal effects. Legend: F=Fixed LR=Laterally Restrained U=Unrestrained							

102-167

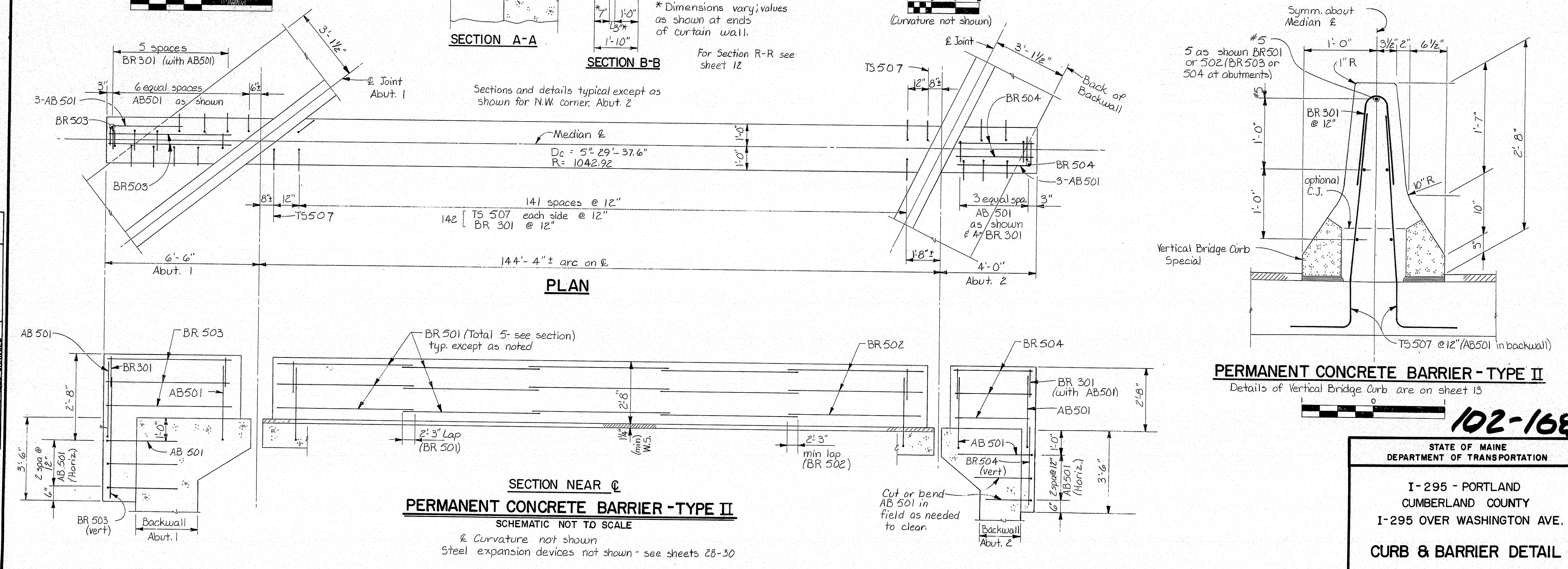
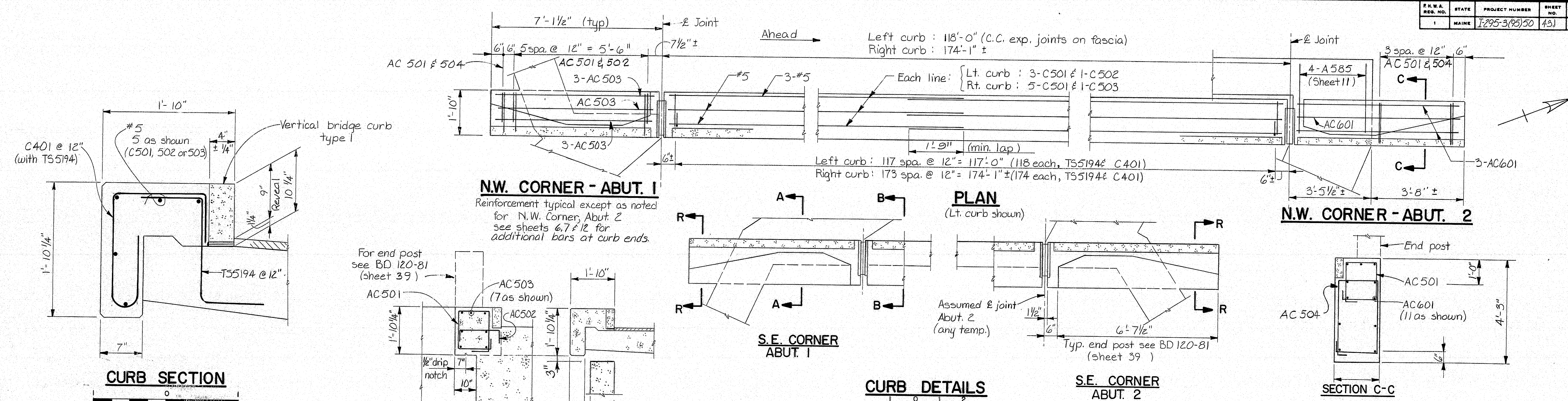
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

BEARINGS



F.R.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(BS)50	431	518



**PERMANENT CONCRETE BARRIER - TYPE II**  
Details of Vertical Bridge Curb are on sheet 13

102-168

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.  
**CURB & BARRIER DETAIL**

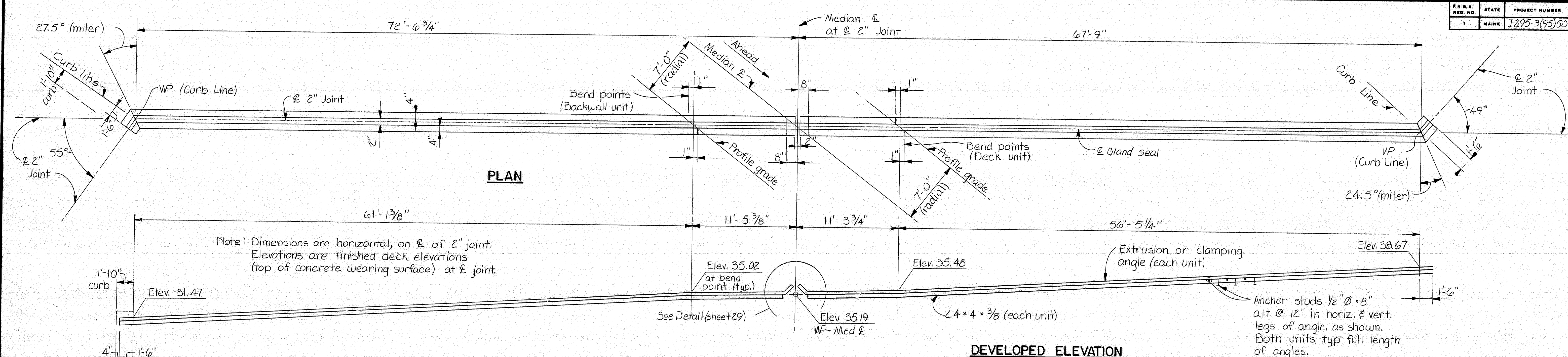
SHEET 27 OF 43 AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	11/85
CHECKED	AG
REVISIONS	
FIELD CHANGES	

BRIDGE 44 123 45704

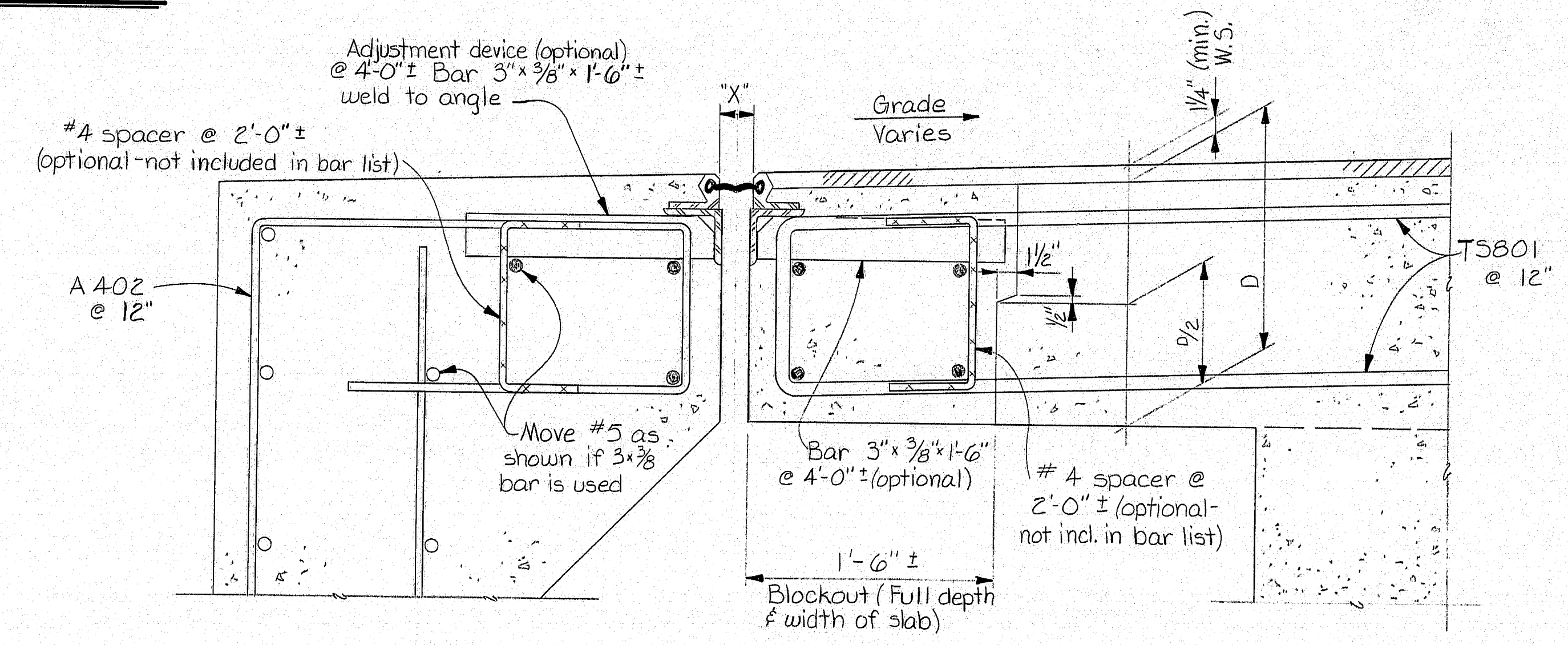
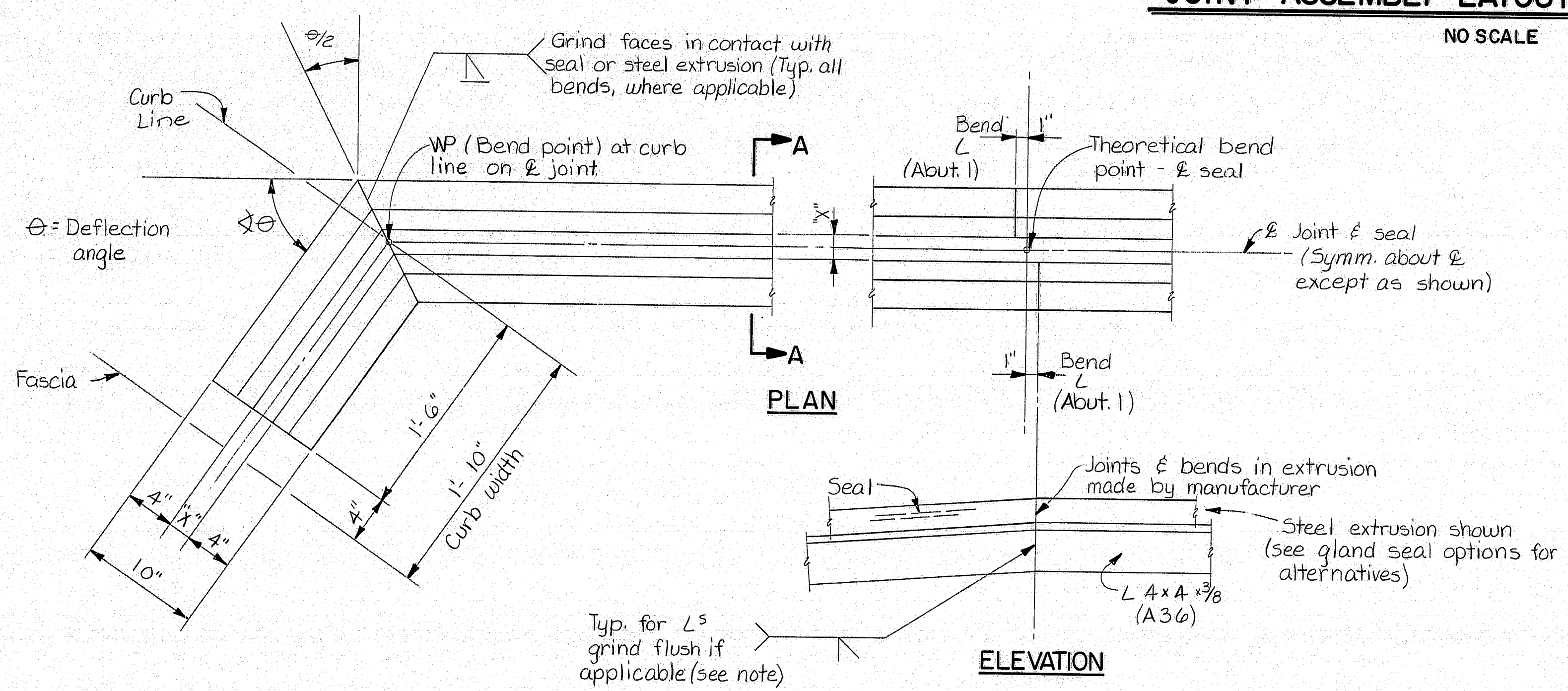


F.R.W.A. DES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(95)50	432	515



### JOINT ASSEMBLY LAYOUT ABUTMENT 1

NO SCALE



### SECTION A-A

Abutment 1 shown - Abut. 2 similar except grade



Note: Set expansion joints with down leg of L5 vertical (not normal to grade). Dimension "X" is normal to E joint (not along E roadway). At Abut. 1, "X" = 2" for all temperatures. See table, sheet 29 for "X" at Abutment 2. Details apply to both abutments except as shown or noted. Paint all steel surfaces not in contact with steel or concrete.

PROJECT DESIGN ENGINEER	DATE
DESIGNED	11-85
CHECKED	
REVISIONS	
FIELD CHANGES	

BUILDING 44-132 45710-1

**102-169**

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.  
**EXPANSION DEVICE  
ABUTMENT 1**

SHEET 28 OF 43 AUGUSTA, MAINE



[illegible]

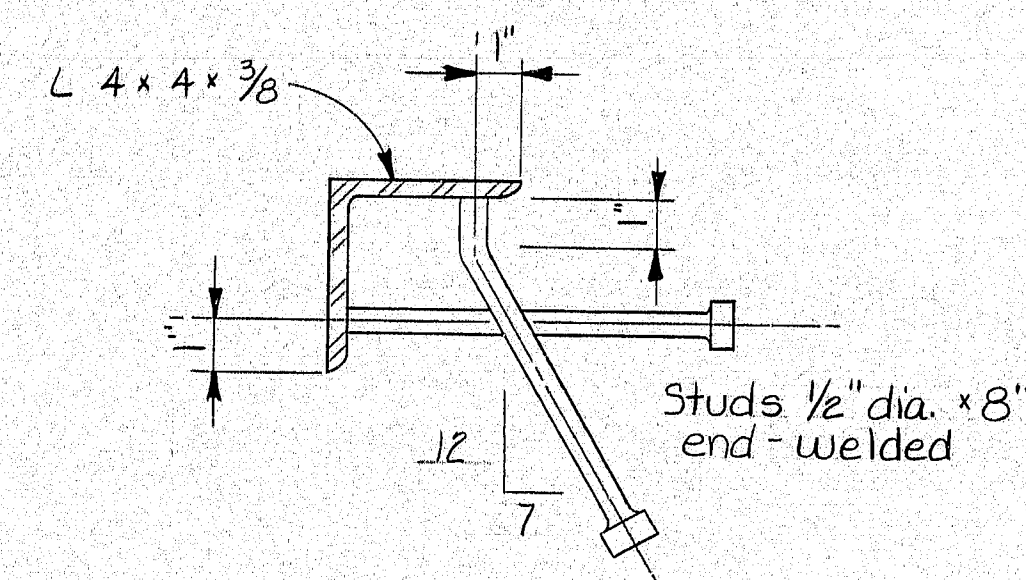
NO SCALE

\* Thermal movements plus  $\frac{3}{8}'' \pm$  shortening from creep of concrete (due to prestress) after joint assembly is installed.

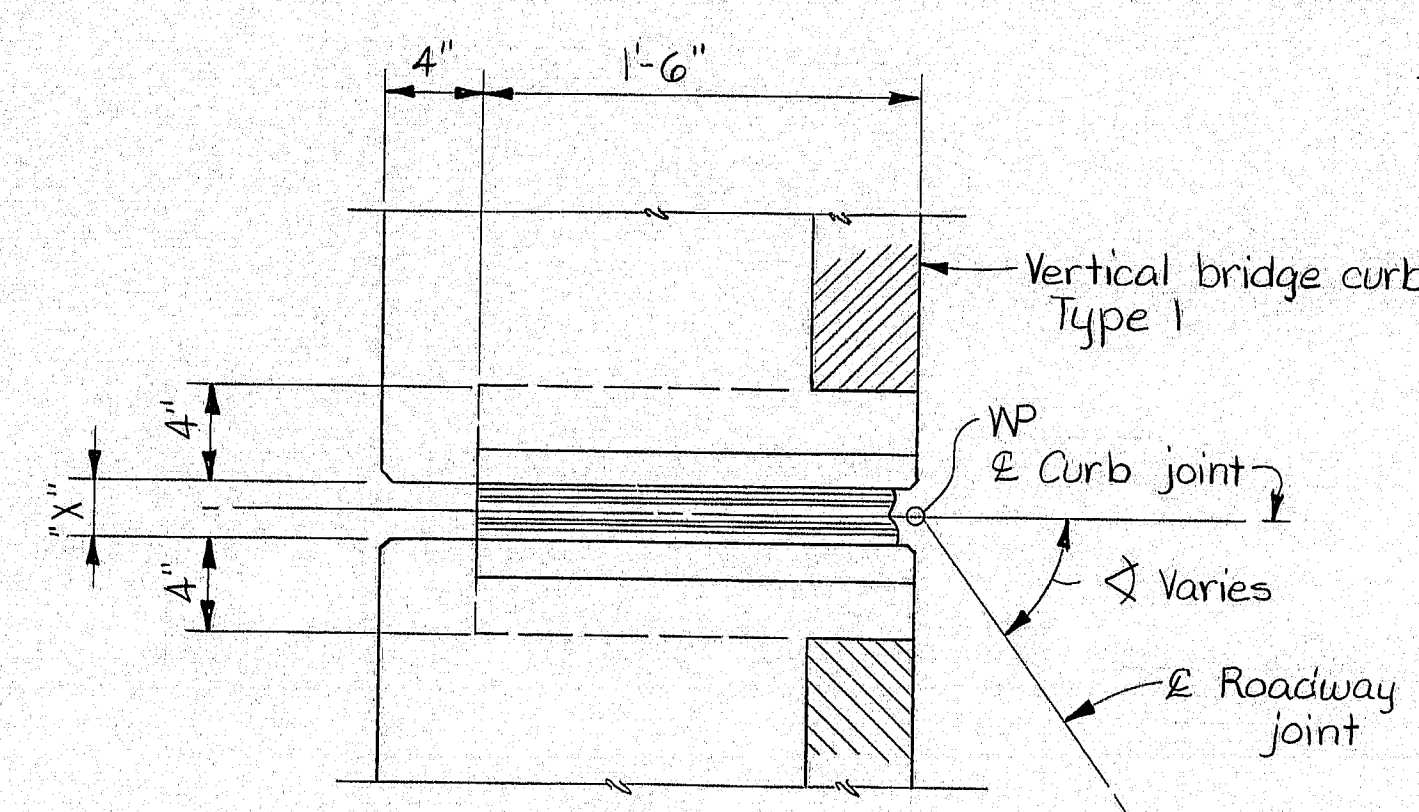
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

## EXPANSION DEVICE

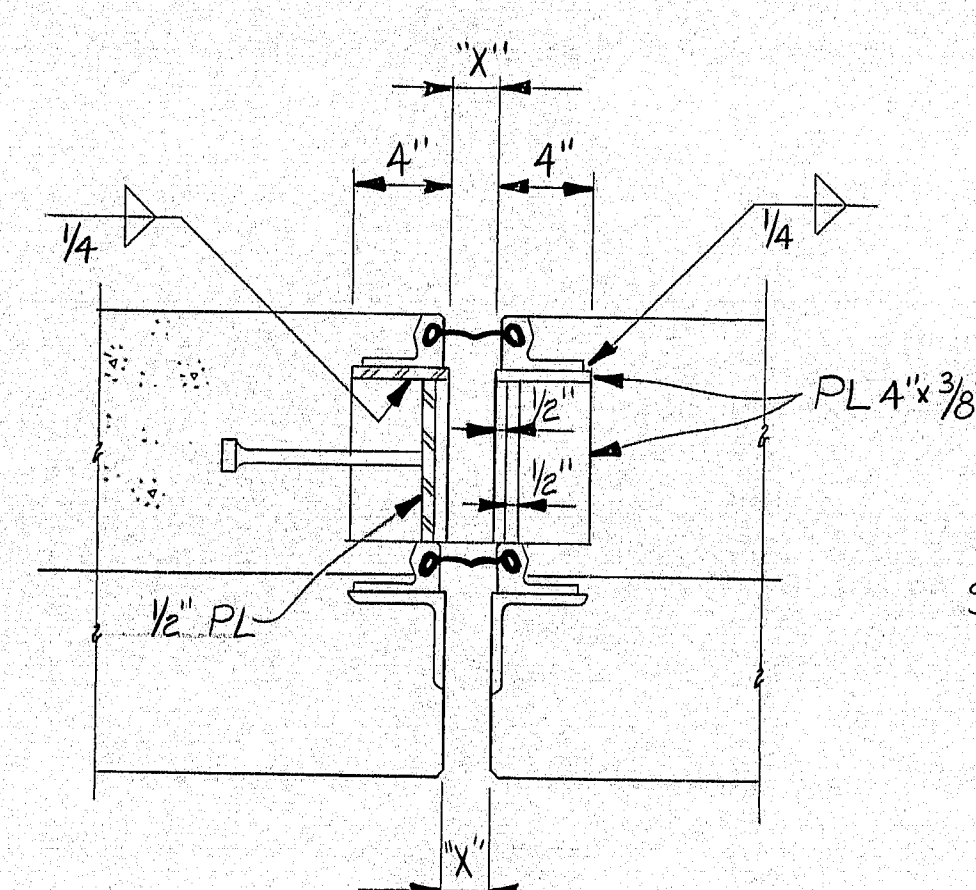
SHEET 29 OF 43 AUGUSTA, MAINE



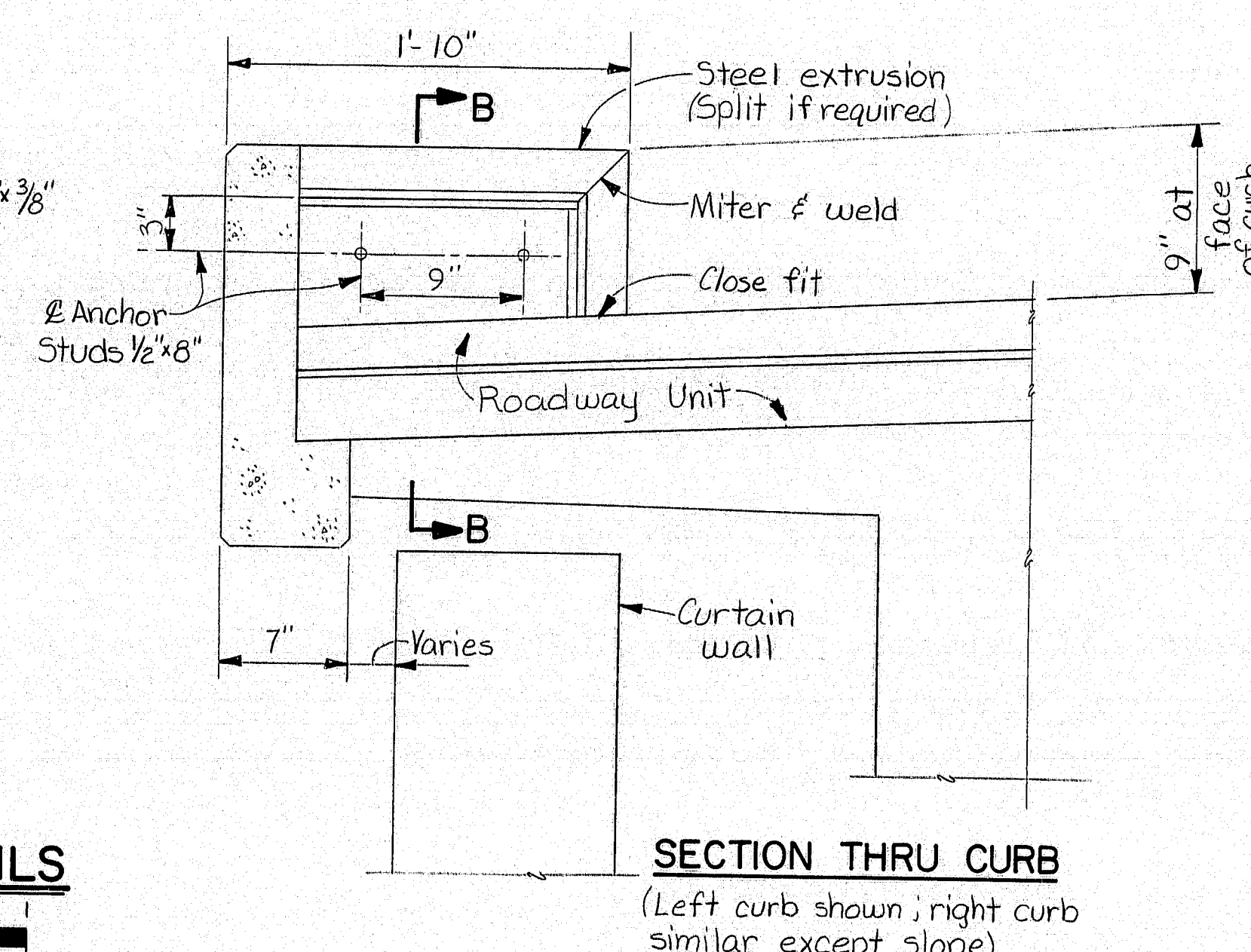
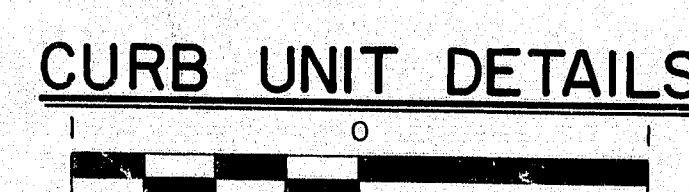
NO SCALE



## PLAN



SECTION B - B

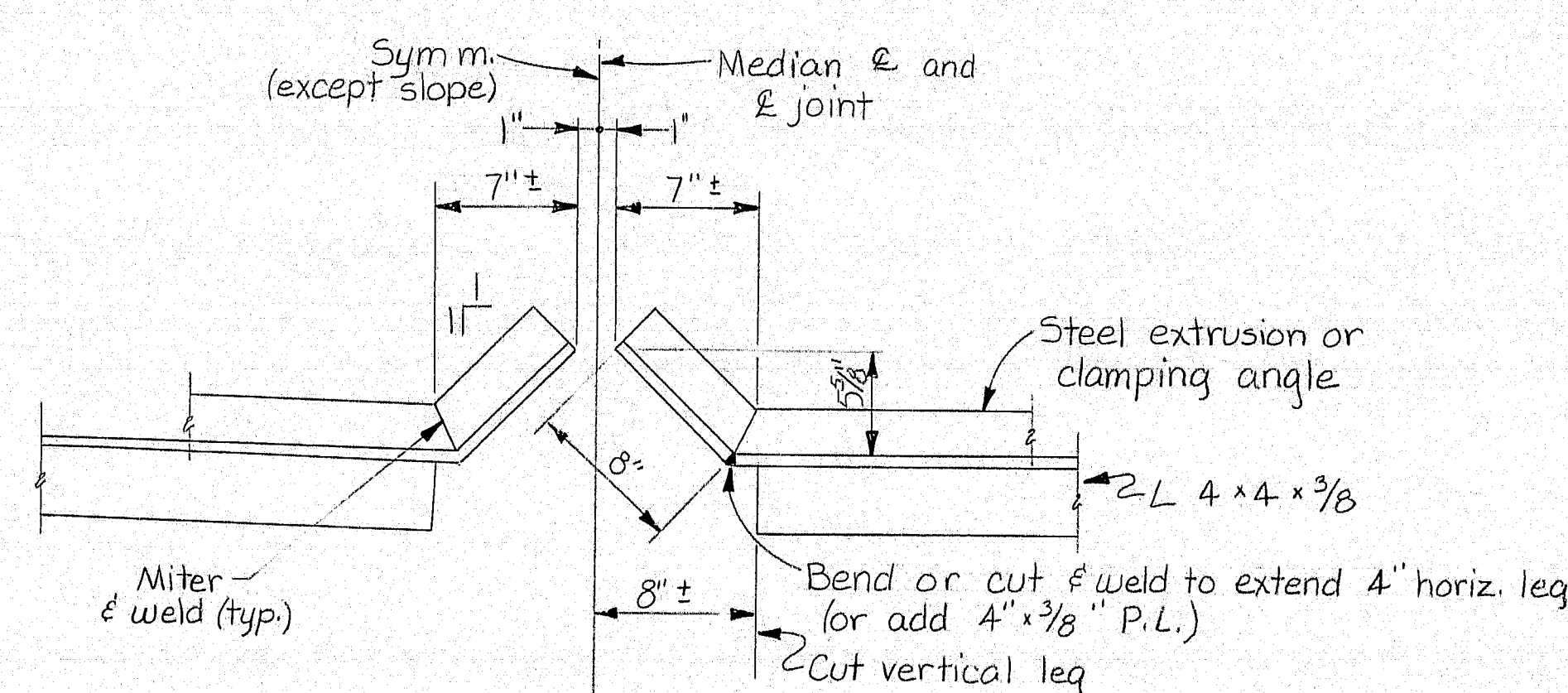


SECTION THRU CURB

(Left curb shown; right curb similar except slope)

- Notes:

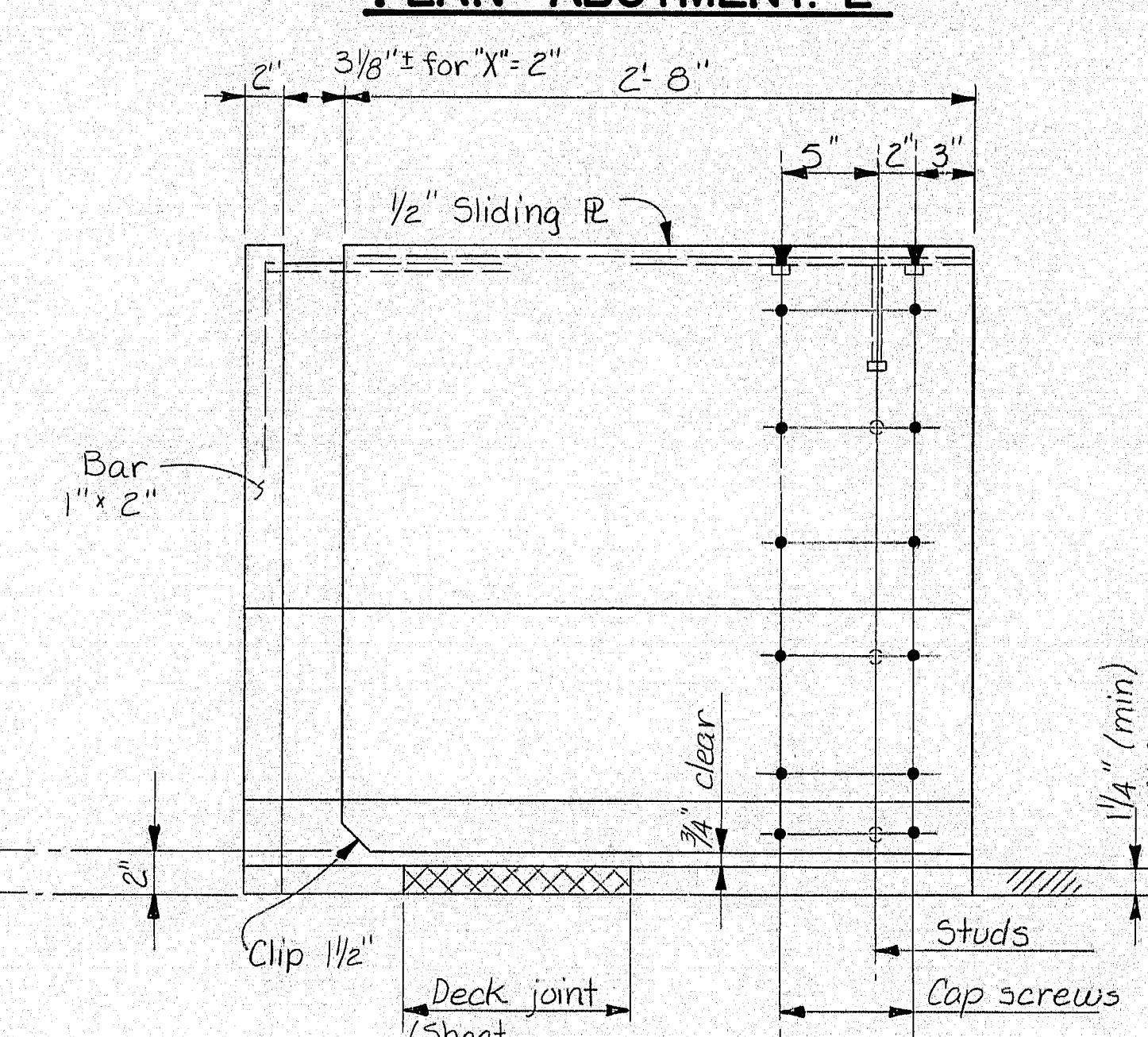
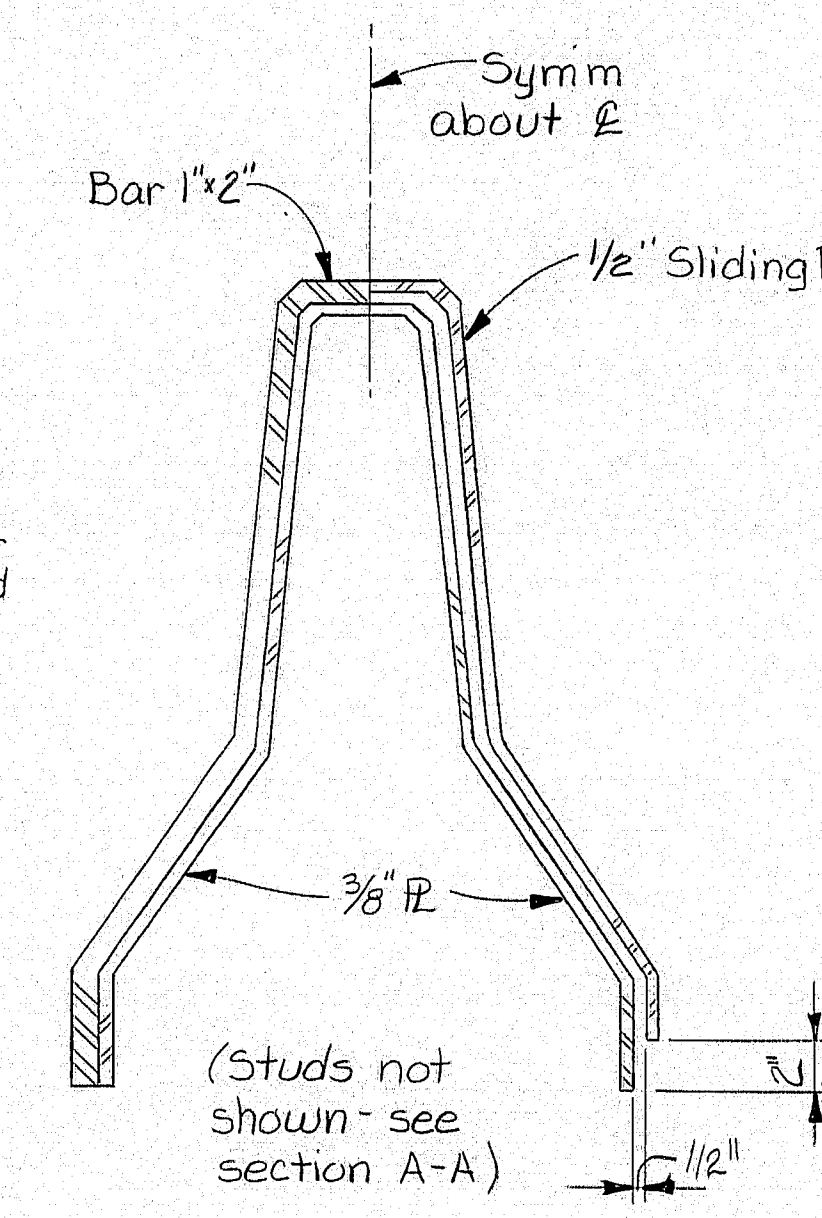
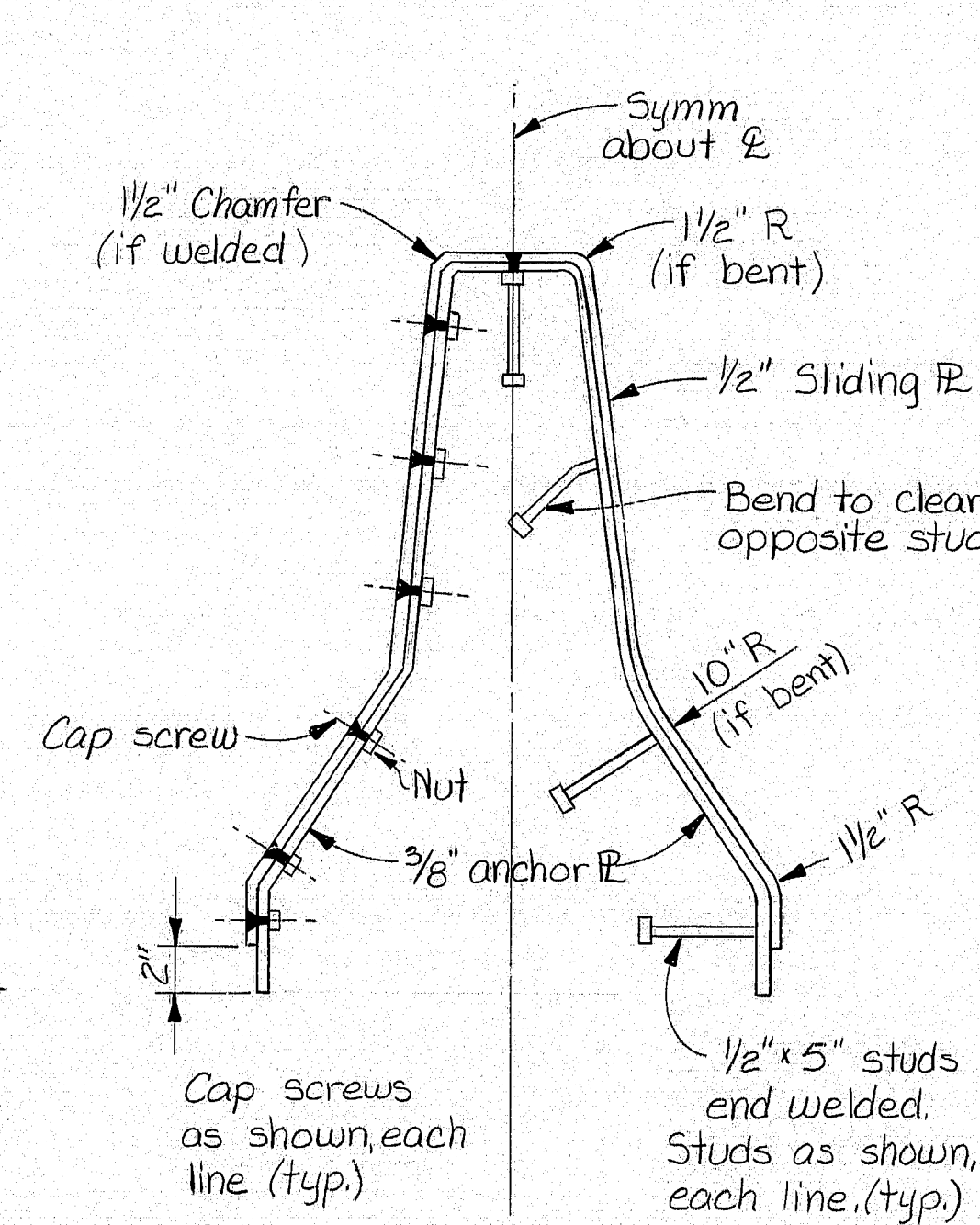
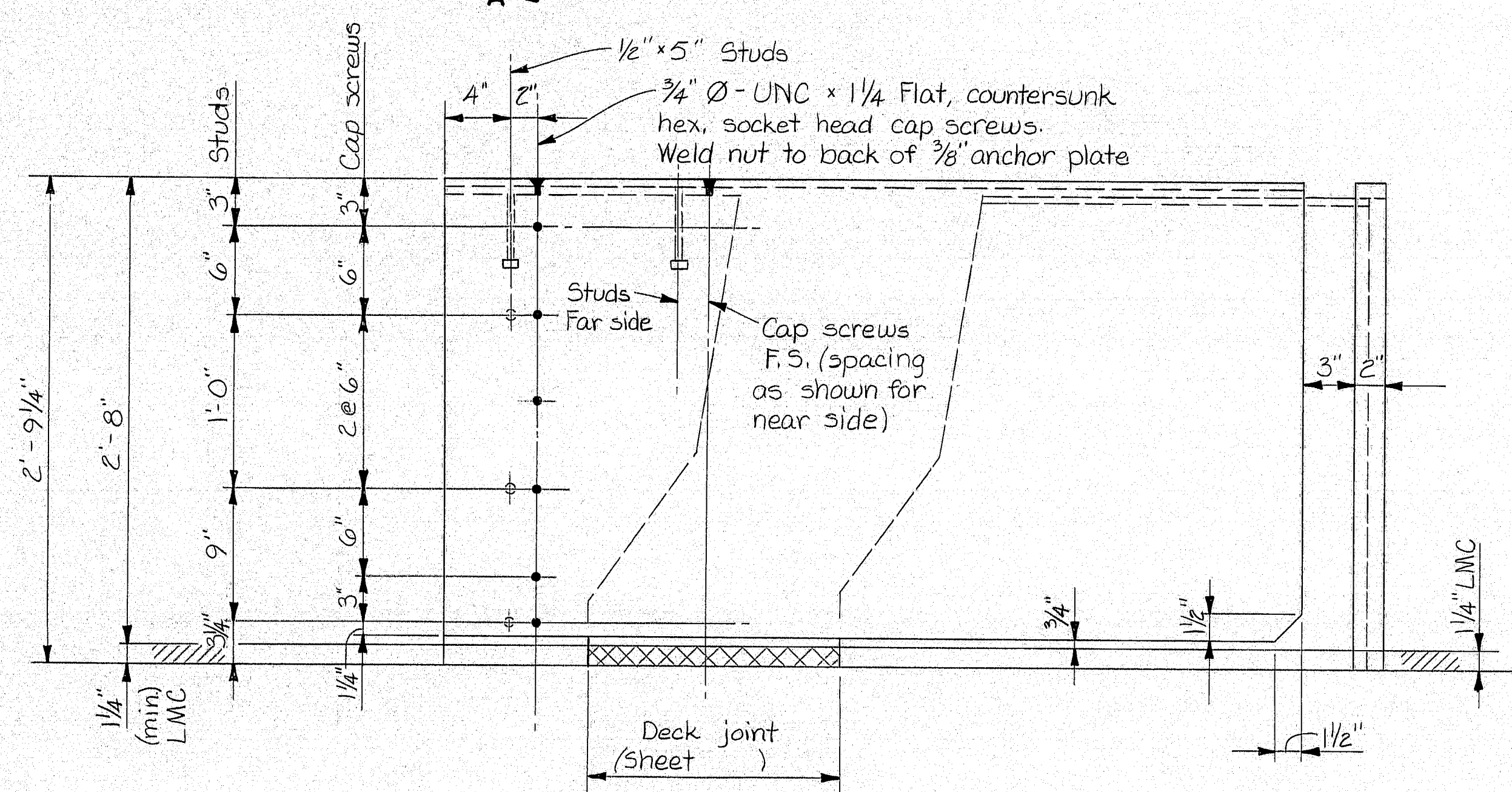
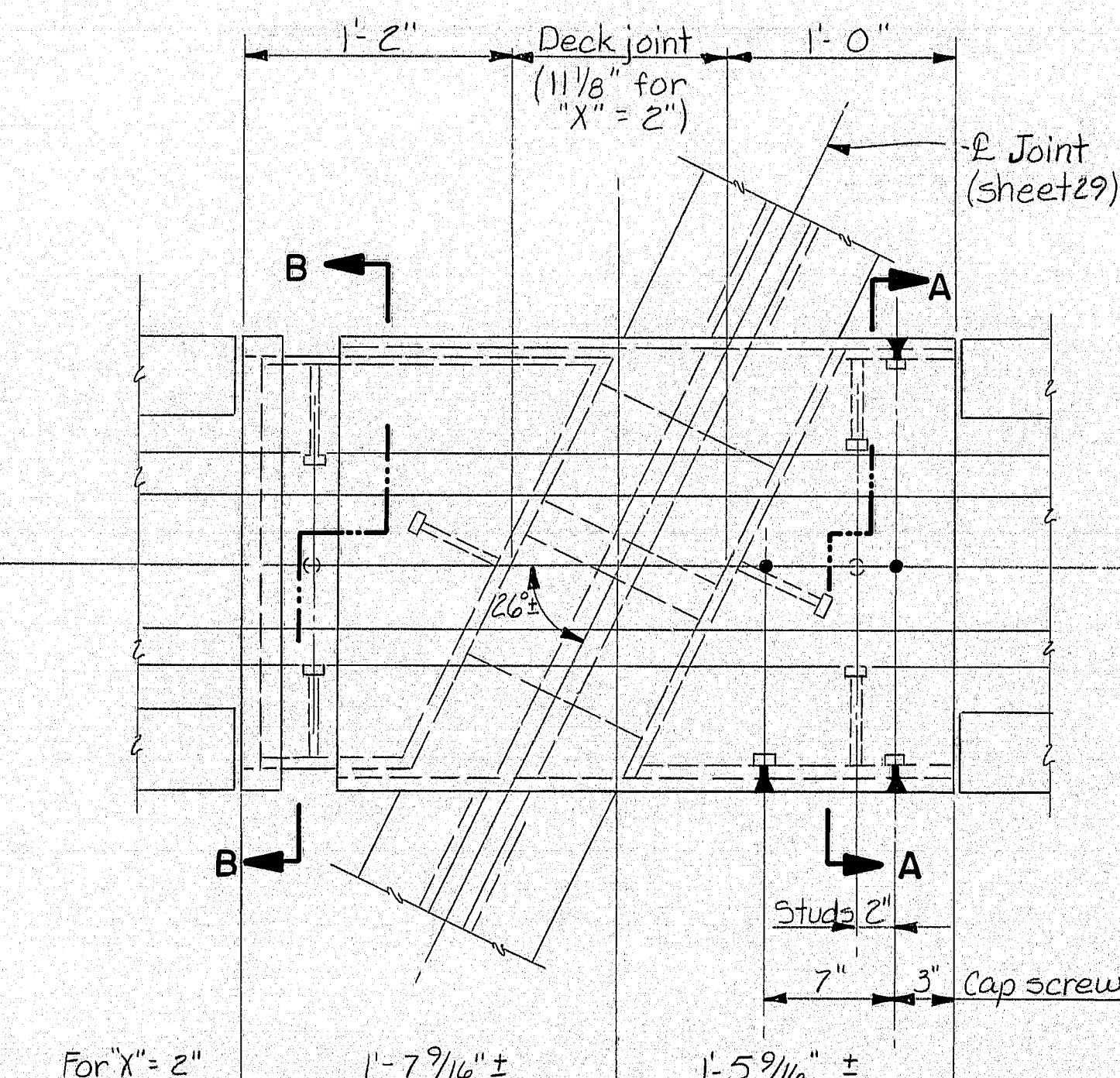
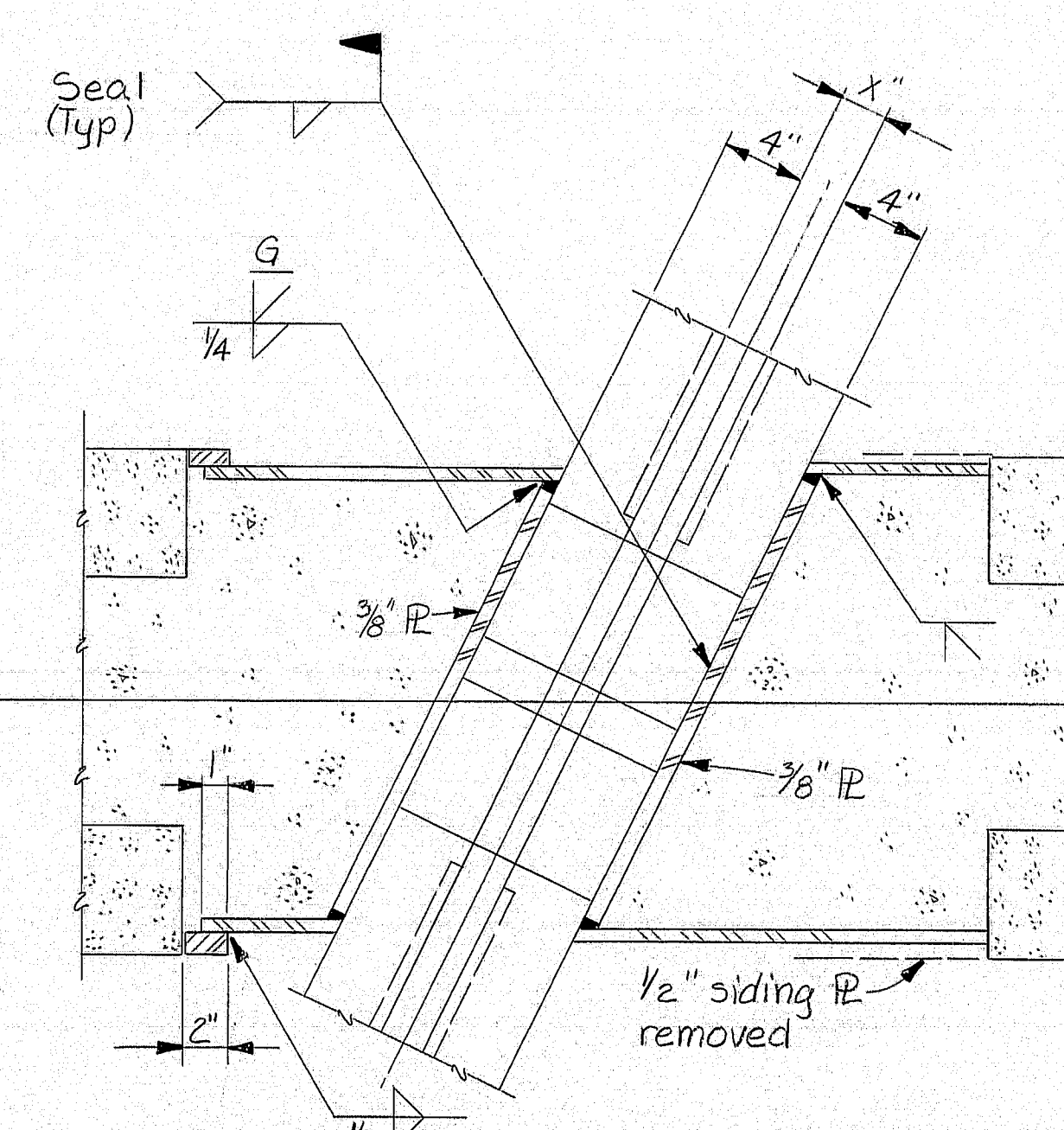
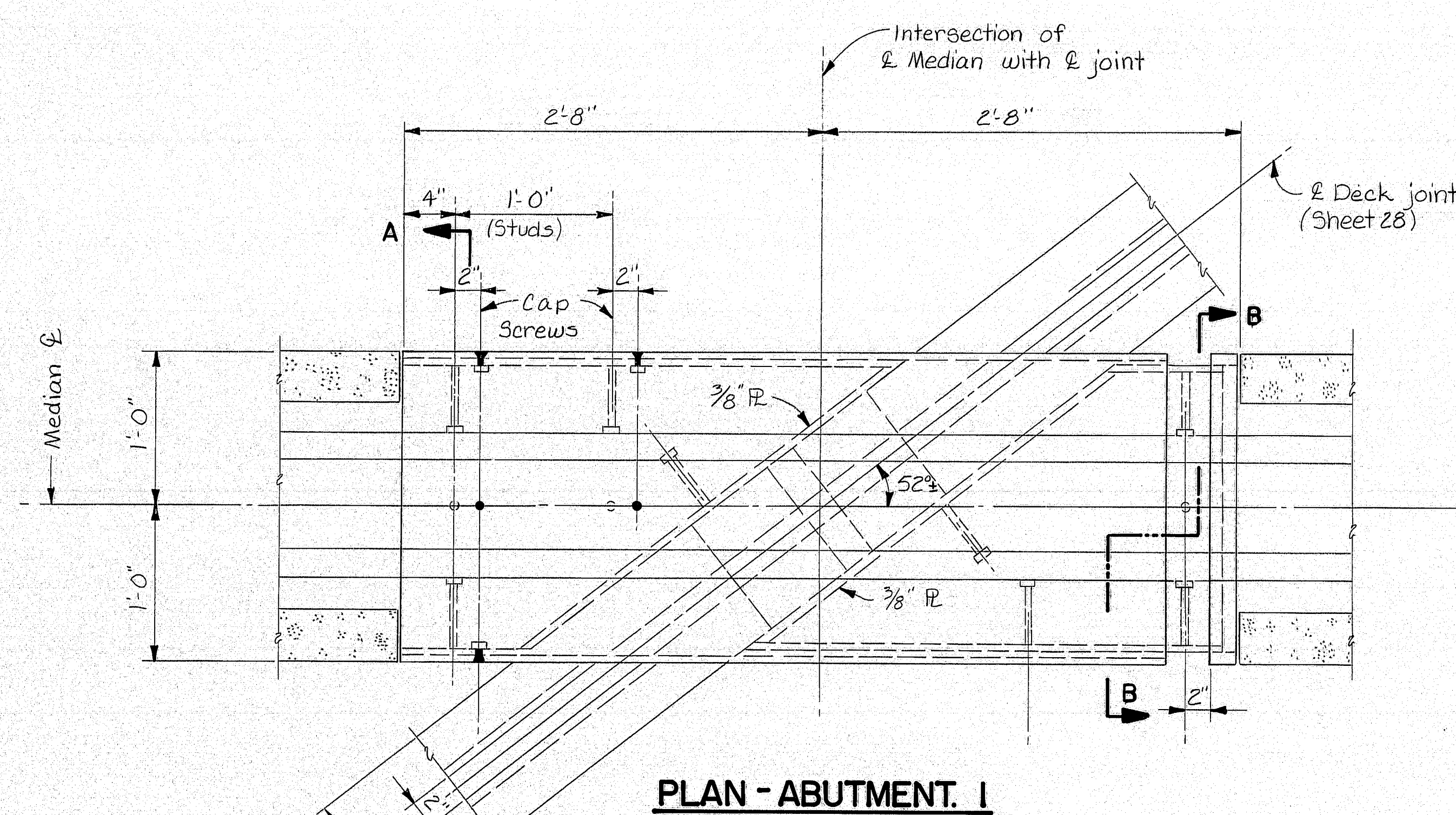
1. Each expansion device or joint seal unit consists of two pairs of matching elements (including curb and median units) and one pair of permanent concrete barrier units (sheet 30) and expansion dams as required.
2. Welding to reinforcing steel will be allowed in the top 1'-6" of the abutment backwalls.
3. Details shown apply to both abutments. See abutment and superstructure drawings for additional dimensions, slopes, skewes and all other information necessary to fabricate and install the units.
4. Expansion devices shall be installed plumb/down leg of angles vertical), adjusted in elevation if required by roadway grade.
5. Concrete in slab blockouts at joint seals shall meet the requirements for superstructure concrete (Class,  $f_c = 5000$  psi) Blockouts may be utilized to place concrete in abutment curtain walls after tensioning end beams.



**MEDIAN      UNIT**



STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
MAINE	I-295-319550	43A	515



Note: Except as shown, outside dimensions shall conform to permanent concrete barrier, type II (Sheet 27.). Plates may be bent, welded or both. ASTM A36

Payment for furnishing and installing the permanent concrete barrier expansion joints will be considered incidental to items 520.211 and 520.212.

Paint all steel surfaces not in contact with concrete.

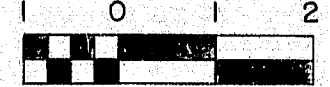
PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	AG	11/85
CHECKED	AG	
APPROVED		
FIELD EXAMINER		

**102-171**

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

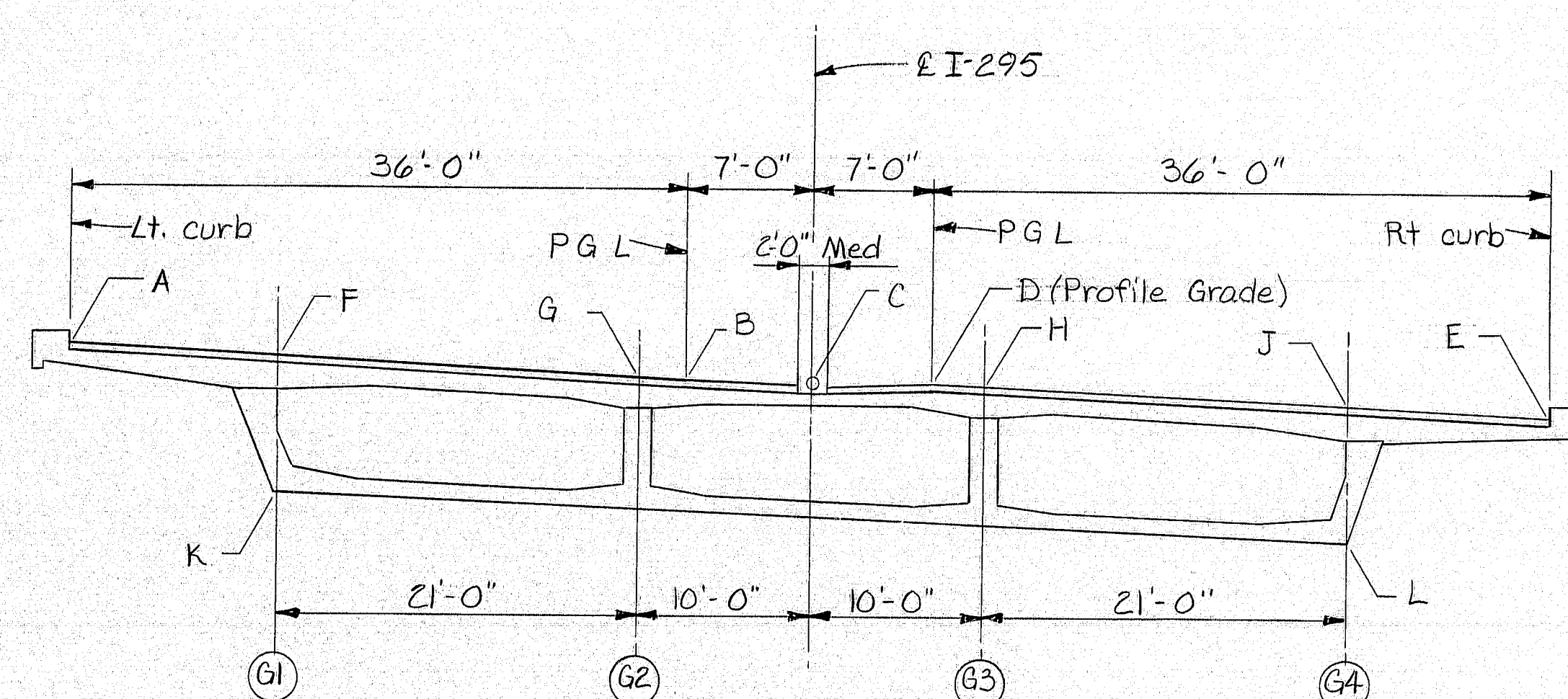
I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.  
PERMANENT CONCRETE  
BARRIER, TYPE II  
EXPANSION DEVICE

SHEET 30 OF 43 AUGUSTA, MAINE



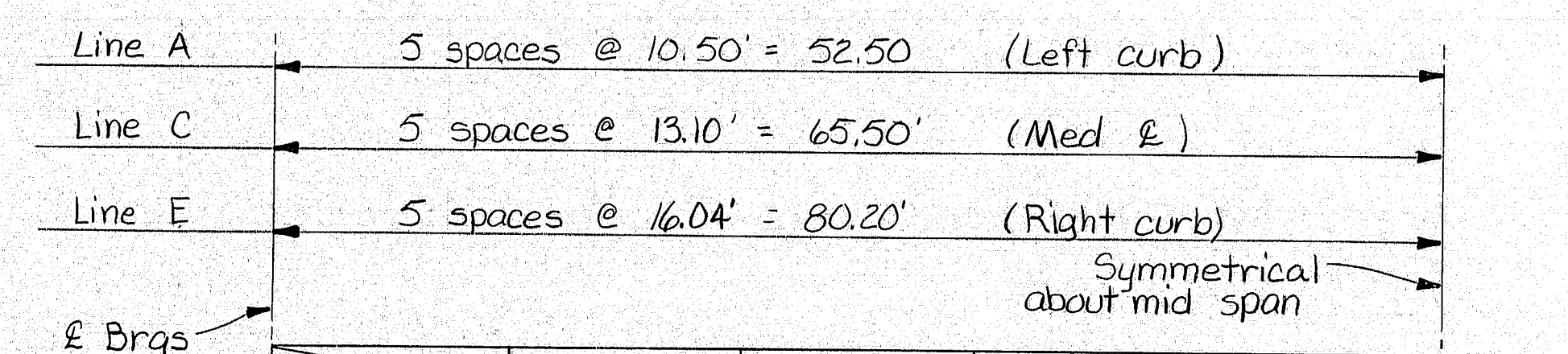


F.R.E.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(95)50	43B	515



**TRANSVERSE SECTION**

1 0234 567 89 10



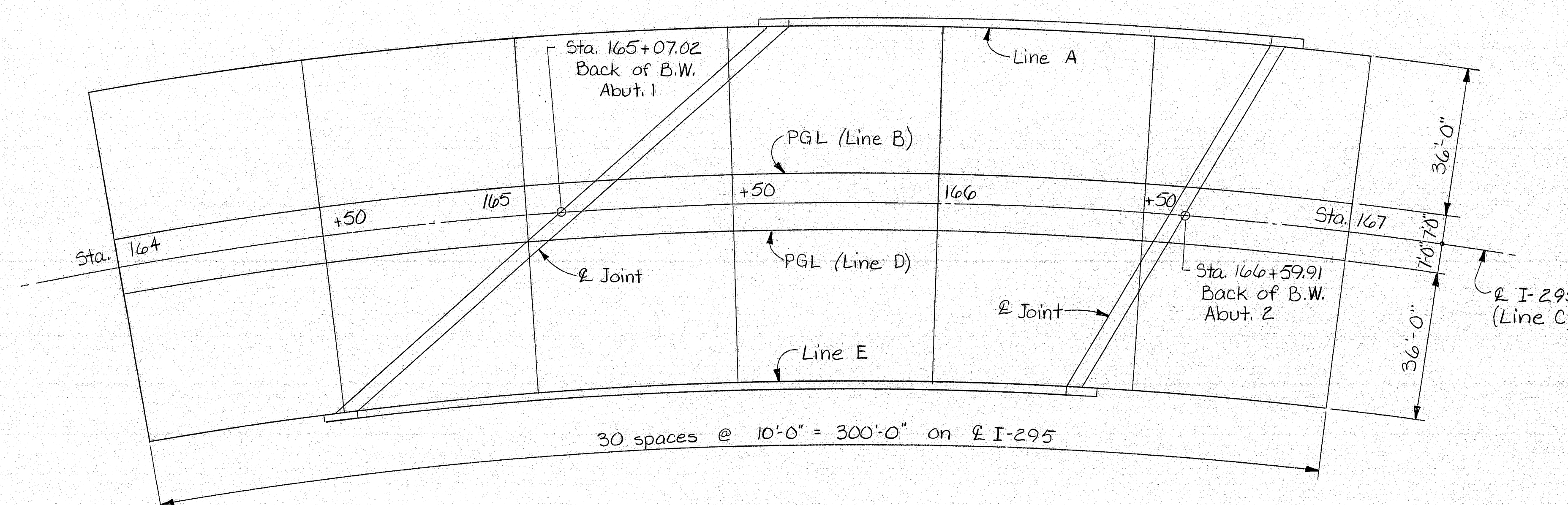
At	ℓ Brg	0.1L	0.2L	0.3L	0.4L	0.5L
Line A	0	0.015 Ft	0.032	0.047	0.057	0.060
Line C	0	0.020	0.043	0.063	0.076	0.080
Line E	0	0.025	0.053	0.078	0.094	0.100

**DEFLECTION DIAGRAM (Feet)**  
NO SCALE

Values shown are estimated ultimate deflections due to dead load and prestressing, including time effects. Initial deflections are about 1/3 the values shown. Dimensions are in feet. Camber corrections in elevation tables (next sheet) are based on ultimate deflections tabulated above. Additional camber should be provided for estimated falsework deflection or settlement.

**Superstructure Notes:**

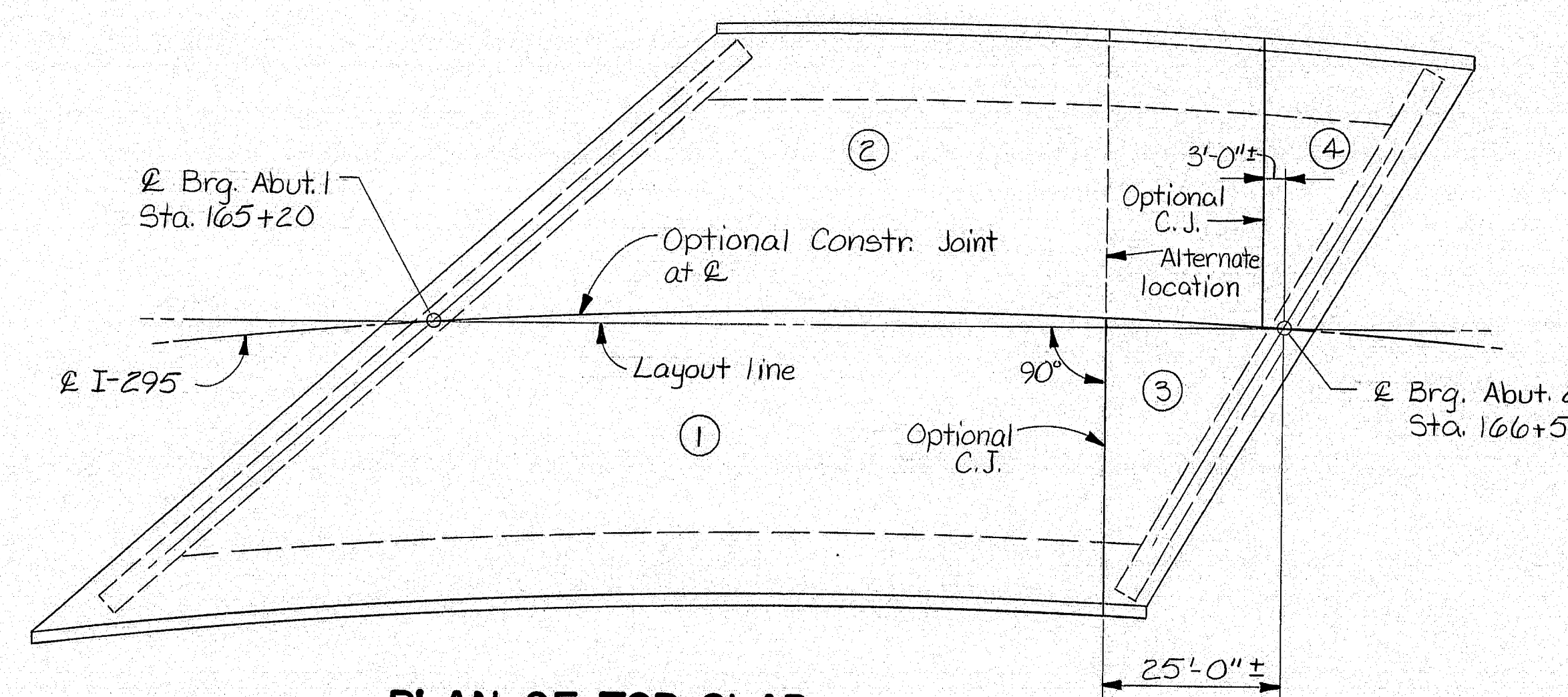
1. Reinforcing steel shall have a minimum cover of 2" unless otherwise indicated.
2. The placement sequence of the superstructure concrete shall be approved by the Engineer.
3. Mortar for bedding and for joints in the granite curb shall contain an approved non-shrink additive.
4. Protective coating for concrete surfaces shall be applied to the following areas:  
Top of concrete curbs  
Fascia and bottom horizontal surface (7") of concrete curbs.  
All concrete surfaces of concrete barrier.



**DECK PLAN**



See next sheet for deck and soffit elevations on grid shown.



**PLAN OF TOP SLAB**

Construction joints are optional at recommended locations shown. Longitudinal C.J. at ℓ applies to both top and bottom slabs. Transverse joint in top slab are intended to permit formwork removal. If transverse joints are utilized, place sections ① and ② before placing ③ and ④. Any or all sections may be combined in one operation. (Total volume of concrete in top slab is approximately 460 cubic yards). For slab blockouts at expansion joints, see sheet 2B.

**102-172**

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

**CONSTRUCTION DETAILS**

SHEET 31 OF 43 AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	AG	11-85
CHECKED	AG	
REVISIONS		
FIELD CHANGES		

BURNING 44-132-45710-1



F.R.E. REG. NO. 1 STATE MAINE PROJECT NUMBER I-295-39550 SHEET NO. 436 TOTAL SHEETS 515																																	
At:		Station - 2 I-295																															
Deck Elevations		164+00	+10	+20	+30	+40	+50	+60	+70	+80	+90	165+00	+10	+20	+30	+40	+50	+60	+70	+80	+90	166+00	+10	+20	+30	+40	+50	+60	+70	+80	+90	167+00	
Profile Grade Elevations		32.026	32.340	32.649	32.953	33.252	33.546	33.844	34.117	34.395	34.668	34.935	35.198	35.455	35.707	35.954	36.195	36.431	36.663	36.888	37.109	37.325	37.535	37.740	37.940	38.135	38.324	38.508	38.688	38.861	39.030	39.194	
Line A Lt. Curb	Fin. Grade Camber Total											37.095	37.358	37.615	37.867	38.105	38.355	38.591	38.823 0	39.048 .014	39.269 .030	39.485 .045	39.695 .056	39.900 .059	40.100 .058	40.295 .047	40.484 .034	40.668 .017	40.848 0	41.021	41.190	41.354	
Line B PG (Lt.)	F.G. Camber Total													35.455 0	35.707 .002	35.954 .018	36.195 .035	36.431 .051	36.663 .064	36.888 .074	37.109 .077	37.325 .074	37.535 .054	37.740 .054	37.940 .039	38.135 .022	38.324 .007	38.508 0					
Line C Med. E	F.G. Camber Total								34.335	34.608	34.875	35.138	35.395 0	35.647 .016	35.894 .032	36.135 .048	36.371 .063	36.603 .074	36.828 .079	37.049 .080	37.265 .075	37.475 .064	37.680 .049	37.880 .033	38.075 .017	38.264 0	38.448	38.628					
Line D PG (Rt.)	F.G. Camber Total											35.198 0	35.445 .015	35.707 .030	35.954 .048	36.195 .062	36.431 .075	36.663 .081	36.888 .083	37.109 .080	37.325 .072	37.535 .059	37.740 .044	37.940 .027	38.135 .011	38.324 0							
Line E Rt. Curb	F.G. Camber Total	29.866	30.180	30.489	30.793	31.092	31.386	31.674 0	31.957 .014	32.235 .031	32.508 .047	32.775 .062	33.038 .077	33.295 .088	33.547 .096	33.794 .099	34.035 .099	34.271 .095	34.503 .087	34.728 .075	34.949 .061	35.165 .045	35.375 .029	35.580 .013	35.780 0	35.975	36.164						
Line F Girder G1	F.G. Camber Total																37.635 0	37.871 .004	38.103 .020	38.328 .036	38.549 .051	38.765 .061	38.975 .063	39.180 .054	39.380 .054	39.575 .041	39.764 .025	39.948 .009	40.128 0				
Line G Girder G2	F.G. Camber Total													35.887 0	36.134 .012	36.375 .028	36.611 .039	36.843 .059	37.068 .070	37.289 .074	37.505 .068	37.715 .055	37.920 .040	38.120 .025	38.315 .013	38.504 .007	38.688 0						
Line H Girder G3	F.G. Camber Total										34.755 0	35.018 .003	35.275 .021	35.527 .037	35.774 .053	36.015 .067	36.251 .079	36.483 .084	36.708 .085	36.929 .080	37.145 .070	37.355 .056	37.560 .041	37.760 .026	37.955 .009	38.144 0							
Line J Girder G4	F.G. Camber Total							32.677 0	32.955 .002	33.228 .019	33.495 .034	33.758 .040	34.015 .065	34.267 .078	34.514 .088	34.755 .092	34.991 .094	35.223 .089	35.448 .083	35.669 .070	35.885 .055	36.095 .039	36.300 .024	36.500 .007	36.695 0								
Soffit Elevations																																	
Line K (Left corner) (7.604' below F)	F.G. Camber Total																	30.267 .004	30.500 .020	30.724 .036	30.945 .051	31.161 .061	31.371 .065	31.576 .063	31.776 .054	31.971 .041	31.971 .041	32.160 .025	32.344 .009				
Line L (Right corner) (7.604' below J)	F.G. Camber Total								25.351 .002	25.624 .019	25.891 .034	26.154 .040	26.411 .065	26.663 .078	26.910 .088	27.151 .092	27.387 .094	27.619 .089	27.844 .083	28.065 .070	28.281 .055	28.491 .039	28.696 .024	28.896 .007									
Deck Elevations at Abutments		Abutment 1				Abutment 2																											
		Back of Backwall		E. Exp. Joint		Back of Backwall		E. Exp. Joint																									
Line A (Lt. Curb)	Station	165+58.83		165+63.44		166+79.88		166+76.58																									
	Elevation	38.57		38.67		41.02		40.97																									
Line B (PG.-Lt.)	Station	165+15.97		165+20.98		166+63.29		166+59.84																									
	Elevation	35.36		35.48		38.57		38.51																									
Line C (Med E)	Station	165+07.02		165+12.11		166+59.91		166+56.44																									
	Elevation	35.05		35.19		38.44		38.38																									
Line D (P.G.-Rt)	Station	164+97.84		165+03.03		166+56.49		166+52.98																									
	Elevation	34.88		35.02		38.44		38.38																									
Line E (Rt. Curb)	Station	164+46.67		164+52.42		166+38.01		166+34.34																									
	Elevation	31.31		31.47		35.94		35.87																									
<div>Note:</div> <div>Deck elevations given are top of LMC wearing surface (1 1/4" above surface of structural concrete slab).</div> <div>Abutment elevations are finished grade, top of concrete, or grade line at E expansion joints.</div> <div>Camber ordinates included above are based on ultimate dead load and prestress deflections. No allowance is included for falsework settlement or deflection.</div> <div>For elevations at end beams, bearings and bridge seats, see sheets 3, 8, 23 &amp; 24.</div>																																	
<div>102-173</div> <div>STATE OF MAINE DEPARTMENT OF TRANSPORTATION</div> <div>I-295 - PORTLAND CUMBERLAND COUNTY I-295 OVER WASHINGTON AVE.</div> <div>DECK AND SOFFIT ELEVATIONS</div> <div>SHEET 32 OF 43 AUGUSTA, MAINE</div>																																	

SHEET 32 OF 43 AUGUSTA, MAINE



REINFORCING STEEL SCHEDULE																												
STRAIGHT BARS												BENT BARS																
MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION		
			ABUTMENT 1												ABUTMENT 1													
											WING WALL DOWELS																	
F501	618	4'-6"	Footings dowels - Vertical	A517	64	9'-8"	Vertical Bars D Backwall	AW501	34	5'-0"	Front Face, Both Wings	F816	97	16'-2"	EP			1'-4"	13'-6"	1'-4"							Transverse, Bot	
F601	86	13'-6"	Transverse - top	A518	35	10'-6"	d o.					F817		5'-8"					3'-0"								do. (end)	
F602		3'-0"										Thru	2 ea.	to	EP			1'-4"	to	1'-4"								
Thru	2 ea.	to	d o. (ends)	A519	72	10'-0"	Horiz. in cross-walls					F821		14'-4"					11'-8"									
F606		11'-8"																	(2'-2" increments)									
		(2'-2"	increments)					W401	18	16'-6"	Vert. ea. face S.E. wing																	
				A521	166	30'-0"	Horiz. - Bars E & F	W403	6	18'-6"	Vert. ea. face N.W. wing																	
F801	20	60'-0"	Longitudinal, Top & Bottom	A522	46	42'-0"	d o.	W404		18'-3"		A401	143	4'-6"	SJ		1'-7"	8"	1'-7"	8"							Approach Slab Seat	
F802	8	59'-0"	d o. East end					Thru	2 ea.	to	d o.	A403	8	7'-6"	EP				2'-3"	3'-0"	2'-3"							
F803	2	54'-10"	d o.	A523	31	5'-0"	Horiz. dowels	W410		15'-9"		A404	8	10'-6"	R							3'-1"	1'-6 1/2"			Bearing pedestals		
F804	2	52'-0"								(5"	increments)	A408	8	7'-7"	SJ		5'-6"	1'-5"	8"							d o.		
F805	2	49'-2"		A529	132	10'-7"	Bridge Seat, Transverse, Bottom	W411		7'-10"		A410	8	4'-9"	SK	8"	2'-9"	8"	8"							Backwall, Horiz. S.E. Corner		
F806	2	47'-9"						Thru	2 ea.	to		A413	11	5'-5"	SK	8"	3'-5"	8"	8"							d o.		
F807	2	44'-8"		A531	4	6'-7"	Bridge Seat Transverse Top & Bottom (ends)	W415		6'-2"		A501	137	8'-9"	EP	2'-0"	1'-3"	2'-9"	2'-9"							Backwall, Horiz. N.W. Corner		
F808	2	44'-0"	d o.	A532	4	8'-0"	d o.			(5"	increments)	A502	48	10'-3"	L	3'-6"	6'-9"									Top of Backwall		
				A533	4	9'-5"	d o.					A503	33	11'-9"	L	3'-6"	8'-3"									Bars A (Vert.) Front Wall		
F809	2	35'-8"	Longit. Top & Bot. West end					W501	19	8'-6"	Horiz. Outside Face, & Top S.E. Wing	A504	32	13'-3"	L	3'-6"	9'-9"									d o.		
F810	2	36'-2"	d o.									A505	14	14'-9"	L	3'-6"	11'-3"									d o.		
F811	2	38'-8"		A801	14	40'-0"	Br. Seat T & B Longitudinal	W502	8	9'-9"	Horiz. Outside, Face N.W. Wing	A520	27	18'-8"	HB	6"	5'-0"	7'-8"	5'-0"	6"							Bars A, Vert. Front Wall & Corner	
F812	2	39'-10"		A802	28	39'-0"	d o.	W503	7	14'-9"	d o.																Horizontal-in Cross-Walls	
F813	2	42'-2"		A803	4	35'-6"	d o., S.E. end	W504	1	12'-4"	d o.	W505	1	9'-11"	d o.	A524	10	6'-0"	V			5'-0"	1'-0"	7"			Horiz. dowels S.E. Corner	
F814	2	44'-6"						W506	2	7'-6"	d o.																	
F815	3	47'-0"	d o.	Thru	2 ea.	to	d o.					A525	10	20'-4"	SK	6"												

[illegible]

GENERAL NOTES

- 102-174

REVISIONS	DATE
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I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

REINFORCEMENT  
ABUTMENT I

SHEET 33 OF 43      AUGUSTA, MAINE

PLANS	DESIGN - DETAIL	BY	DATE
	CHECKED	TP/1282	11-85
	REVISIONS	BSI	
	FIELD CHANGES		



REINFORCING STEEL SCHEDULE																															
STRAIGHT BARS													BENT BARS																		
MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION					
			ABUTMENT 2				GORE SECTION				S.E. WINGWALL	F816	84	16'-2	EP												Footing, Transverse, Bot				
F501	538	4'-6"	Footing dowels - Vert	A563	22	12'-0"	Vert. Wall, near West Curb	W416	4	15'-6"	Vert., Ea. Face	F830	10	16'-5"	EP	7'-0"	2'-5"	7'-0"									Left end of fig.				
				A564		12'-2"		W417		5'-0"																					
				Thru	1ea.	to	Gore Wall, Front Face	Thru	2ea.	thru	do.	A401	95	4'-6"	SJ		1'-7"	8"	1'-7"	8"							Approach Slab Seat				
F601	76	13'-6"	Transverse, Top	A577		16'-6"		W429		15'-0"		A403	8	7'-6"	EP			2'-3"	3'-0"	2'-3"							Bearing Pedestals				
						(4")	increments)			(10")	increments)	A404	8	10'-6"	R												do.				
F822	20	50'-0"	Longit. Top & Bottom	A578	11	16'-8"	Gore Walls, Front and West side					A416	11	4'-4"	SK	8"	9"	2'-3"	8"					4"	3'-1"	1'-6 1/2"	Horiz. Backwall East Corner				
F823	20	31'-0"	do. East end					W507	2	8'-0"	Horizontal Outside Face	A417	24	2'-7"	EP			8"	1'-3"	8"							Gore Section Top of Wall				
F824	18	50'-0"	do. West end	A580	5	11'-6"	Vertical Backwall West Corner	W508	2	10'-4"	do.	A501	95	8'-9"	EP	2'-0"	1'-3"	2'-9"	2'-9"								Top of Backwall				
F825	2	35'-0"	do.					W509	2	12'-9"	do.	A520	31	18'-8"	HB	6"	5'-0"	7'-8"	5'-0"	6"							Horizontal - In Cross Walls				
F826	4	21'-0"	do.	A584	11	5'-0"	Horiz. dowels, Backwall West Corner					A530	96	11'-5"	L	10"	10'-7"									Bridge Seat, Transverse, Top					
F827	4	16'-4"	Transverse, T & B West edge of Footing					W510	5	14'-6"	Horiz. Outside Face	A534	28	11'-6"	L	3'-6"	8'-0"										Front Wall, Bars "A"				
F828	2	11'-6"	Transv. T & B, East end	A604	11	13'-0"	West end wall horiz.					A535	22	12'-8"	L	3'-6"	9'-2"										do.				
F829	2	7'-8"	do.					W705	2	8'-0"	Horiz., Fill Face	A536	23	13'-10"	L	3'-6"	10'-4"										do.				
				A606	20	24'-6"	Backwall, E.F. (Gore Section)	W706	2	10'-4"	do.	A537	18	15'-0"	L	3'-6"	11'-6"										do.				
A405	18	3'-0"	Vertical dowels - Br. Seat, Curtain Wall					W707	2	12'-9"	do.	Gore Section (A558-A535)																			
A414	20	8'-6"	Curtain Wall Vertical, ea. face	A608	12	19'-6"	Gore Section, Front wall horiz.	W708	10	14'-6"	do.	A558	10	6'-0"	L	3'-0"	3'-0"										West Front Corner				
A415	18	8'-6"	Curtain Wall, Horiz., Ea. face	A609	2	14'-0"	do.					A560	10	11'-0"	V					10'-0"	1'-0"				5 1/2"		Horizontal in Cross - Wall				
				A615	2	8'-0"	do.					A579	17	9'-8"	L	1'-6"	8'-2"										Horiz. Outside face, end wall				
A519	68	10'-0"	Horiz. - in cross walls					CURB & BARRIER				A581	12	11'-6"	VA					10'-0"	1'-6"				1'-5"		Horiz. Wall Near West Curb				
A523	6	5'-0"	Horiz. dowels, Breastwalls, S.E. Corner	A616	3	6'-0"	At access opening, Gore section	AC503	7	6'-7"	Curb-Longit. S.E. Corner	A582	11	5'-6"	V					2'-9"	2'-9"				2'-6"		Horiz., Backwall West Corner				
A529	96	10'-7"	Bridge seat, Transverse, Bottom					AC601	7	6'-7"	do. N.W. Corner	A583	11	6'-8"	V					3'-4"	3'-4"					1'-5"		do.			
A538	53	7'-9"	Front Wall & Corner Vertical Bars "B"	A701	23	15'-6"	Gore Section, End Wall, Vert.					A585	4	6'-11"	EP					2'-0"	2'-11"	2'-0"					West Curb				
A539	28	8'-11"	Front Wall Bars "B"																												
A540	29	10'-1"	do.	A702		12'-0"						A586	18	9'-0"	V					4'-6"	4'-6"				4'-0"		Backwall, East Corner				
A541	23	11'-3"	do.	Thru	1ea.	to	Gore Section, Front Wall, Vertical					A587	6	5'-6"	V					4'-6"	1'-0"				10 1/2"		Backwall, horiz. dowels, E. Corner				
A542	61	13'-2"	Backwall & Corner Vert. Bars "C"	A714		16'-4"						A588	6	16'-6"	SK					4'-6"	11'-6"	6"			4'-0"		East Corner Horiz				
A543	44	14'-4"	Backwall Bars "C"			(4")	increments)					A589	6	9'-6"	V					9'-0"	6"				3"		do.				
A544	46	15'-6"	do.	A715	9	16'-9"	West end wall, Vertical					A601	31	15'-6"	L	4'-0"	11'-6"										Vert., outside face, West end & backwalls				
A545	40	16'-8"	do.									A602	13	12'-0"	L	6'-0"	6'-0"										Gore section, corner, br. seat & backwall				
A546	61	8'-6"	Backwall & Corner Vert. Bars "D"									A603	93	11'-6"	L	1'-0"	10'-6"										Bridge seat, T & B, West end				
A547	44	8'-6"	Backwall, Bars "D"	A815		37'-6"						A605	10	8'-0"	VA					4'-0"	4'-0"				3'-10 1/2"		Corner bars Horiz., West end				
A548	46	8'-6"	do.	Thru	2ea.	to	Bridge Seat, Longit. T & B					A607	12	20'-7"	C	8"	19'-3"						8"				Front Wall, horiz. Fill Face				
A549	40	8'-6"	do.	A821		42'-6"						A610	4	20'-0"	V					17'-6"	2'-6"			9"			Gore Wall, Front, ea. face (Top)				
A550	50	40'-0"	Front & Backwalls, Horiz. Bars "E" & "F"			(10")	increments)					A611	12	5'-10"	C	8"	4'-6"										Gore Wall, Fillet				
A551	54	25'-0"	do.	A822	28	30'-0"	do.					A612	14	6'-10"	C	8"	5'-6"						8"				do.				
A552	44	33'-0"	do.									A613	17	9'-3"	L	1'-0"	8'-3"										West end wall, fill face horiz.				
A553	18	30'-0"	do.	A823		41'-3"	do.					A614	12	12'-4"	EP					1'-0"	10'-4"	1'-0"					Wall of West curb horiz. Fill face				
			GORE SECTION	Thru	2ea.	to	do.					AW502	14	6'-0"	V					5'-0"	1'-0"				6"		S.E. Wing dowels				
A554	35	8'-0"	Backwall, West Corner & Cross-wall, Vert.	A829		38'-6"						AW703	4	12'-0"	V					6'-0"	6'-0"				3'-0"		do.				
A555	20	13'-6"	Front Wall, Vertical			(5 1/2")	increments)					AW704	15	9'-3"	SK					6'-0"	3'-1"	1'-2"				3'-0"	do.				
A556	20	20'-0"	Front Wall, Horiz. E.F.	A830	2	22'-0"	do.					S.E. WINGWALL																			
A557	11	13'-0"	West end wall, Horiz. inside face									W402	15	2'-9"	EP					8"	1'-5"	8"									
												W511	2	16'-0"	SK					12'-6"	2'-8"	10"				5'-3"					
A559	11	11'-0"	Horiz. in cross wall									CURB & BARRIER																			
								Note: Curb reinforcement				AB501	11	3'-10"	L	10"	3'-0"			*Incidental to pay item 52632. (Not included in item 50314)							Barrier dowels Backwall				
A561	20	6'-0"	Horizontal, with A556					Continued on sheet 35				AC501	11	6'-8"	HB	6"	1'-6"	1'-4"	1'-6"	1'-4"								Curbs - Transverse			
A562	34	6'-0"	Vertical Dowels									AC502	11	2'-6"	EP					6"	1'-6"	6"						do (S.E. corner)			
MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION																	

FWMA REV. NO. 1	STATE MAINE	PROJECT NUMBER I-295-349550	SHEET NO. 438	TOTAL SHEETS 515
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### TYPE-BENDING DIAGRAMS

Diagram labels: HB, SB, SL, PA, PR, SK, VA, W, SJ, R, O, D, E, F, G, H, I, J, K, L, M, N, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ

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

### GENERAL NOTES

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

**102-175**  
New Bent Bar Type SJ  
Revised ACI Standard - 5-12-83

REVISIONS	DATE

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

**ABUTMENT 2**

SHEET 34 OF 43 AUGUSTA, MAINE



REINFORCING STEEL SCHEDULE																												
STRAIGHT BARS				BENT BARS																								
MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION						
Abutments 1 & 2																												
4 End Posts																												
EP401	32	1'-10"	End Post Dowels					EP402	16	4'-9"	S		2'-1"	7"	2'-1"								End Post					
EP405	16	1'-5"	End Post					EP403	16	4'-9"	H	4"	1'-0"	1'-0"	1'-0"	1'-0"		4"										
EP508	16	4'-0"	End Post					EP404	16	3'-1"	S		1'-3"	7"	1'-3"													
								EP408	12	4'-3"	S		1'-10"	7"	1'-10"													
								EP409	8	4'-2"	S		1'-10"	6"	1'-10"													
								EP410	4	4'-6"	S		1'-10"	10"	1'-10"								End Post					
2 Approach Slabs																												
Abut. 1								EP501	16	5'-3"	V				3'-0"	2'-3"			4"				End Post					
AS400	64	30'-0"						EP502	12	4'-11"	S		1'-11"	7"	1'-11"				6"									
AS401	16	25'-0"						EP503	8	4'-10"	S		1'-11"	6"	1'-11"				6"									
AS600	171	15'-0"						EP504	4	6'-5"	H	5"	1'-11"	10"	1'-11"	10"			5"				End Post					
Abut. 2								Curb Reinforcement - Continued from sheets 33 and 34.																				
AS400	48	30'-0"						AC504	7	10'-4"	HB	6"	3'-2"	1'-6"	3'-2"	1'-6"			6"				Curb ends, vert.					
AS402	16	9'-0"						AC505	6	3'-7"	L	10"	2'-9"										do. horiz.					
AS600	171	15'-0"																										
* Incidental to pay Item 502.310 (Not included in Item 503.14)																												

Figure 1 illustrates various types of bending diagrams for beams under different loading conditions. The diagrams are labeled A through R:

- A:** Cantilever beam with a point load at the free end.
- B:** Beam with multiple point loads (B, C, D, E, F) and a distributed load (G).
- C:** Beam with a single point load (B) and a distributed load (G).
- D:** Beam with a triangular load (B) and a distributed load (G).
- E:** Beam with a trapezoidal load (B) and a distributed load (G).
- F:** Beam with a parabolic load (B) and a distributed load (G).
- G:** Beam with a triangular load (B) and a distributed load (G).
- H:** Beam with a trapezoidal load (B) and a distributed load (G).
- I:** Beam with a parabolic load (B) and a distributed load (G).
- J:** Beam with a triangular load (B) and a distributed load (G).
- K:** Beam with a trapezoidal load (B) and a distributed load (G).
- L:** Beam with a parabolic load (B) and a distributed load (G).
- M:** Beam with a triangular load (B) and a distributed load (G).
- N:** Beam with a trapezoidal load (B) and a distributed load (G).
- O:** Beam with a parabolic load (B) and a distributed load (G).
- P:** Beam with a triangular load (B) and a distributed load (G).
- Q:** Beam with a trapezoidal load (B) and a distributed load (G).
- R:** Beam with a parabolic load (B) and a distributed load (G).

## 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 - #16
2. Each truss bar, Type B, may be replaced by two (2) straight bars (one top & one bottom) of the same bar size as the truss bar. Payment in either case shall be based on truss bars as scheduled on plans.

102-176

REVISIONS		DATE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		

I-295 - PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVE.

ABUTMENTS 1 & 2

SHEET 35 OF 43 AUGUSTA, MAINE

PLANS		BY	DATE
DESIGN - DETAIL	<i>PBC</i>	<i>SRC</i>	11/85
CHECKED		<i>BSI</i>	
REVISIONS			
FIELD CHANGES			



# REINFORCING STEEL SCHEDULE

STRAIGHT BARS								BENT BARS																			
MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION	
BOTTOM SLAB				GIRDERS (WEBS)				BOTTOM SLAB																			
S502	115	22'-0"	Transverse, Bott.	(LONGITUDINAL, EACH FACE)				S501	197	23'-6"	V								22'-0"	1'-6"			1'-5 1/2"			Transverse, Bot	
S506	316	30'-0"	Longit., T#B	G501	100	40'-0"	All Girders - horiz.	S503	197	33'-6"	V								32'-0"	1'-6"			1'-5 1/2"			Transverse, Top	
S548	2 ea.	17'-0"	Longit., T#B (South end) (1'-0" increments)	G502	10	43'-0"	G4 - horiz.	S504	236	8'-0"	V								6'-6"	1'-6"			1'-4 1/2"			d.o. outside web	
thru				G503	10	28'-6"	G3 - horiz.	S505	242	11'-0"	V								5'-6"	5'-6"			1'-8"			d.o. interior web	
S576				45'-0"	G504	20	28'-0"	G2 - horiz.																			
				G505	10	40'-6"	G1 - horiz.																				
S577	2 ea.	33'-3"	Longit., T#B (South end) (11" increments)	END BEAMS (AT TENDON ANCHORS)				S5133	2 ea.	11'-0"	V								8'-0"								
thru				45'-2"	D403	16	8'-8"	6'-0" 2'-8" Abut. 1 - G1 & G4		thru			to								to	1'-6"		1'-5 1/2"			Transverse, T#B
S590					D404	16	6'-8"	4'-0" 2'-8" do. do.		S5144			31'-2"									41'-4"	(10" increments)				
				D405	16	7'-4"	5'-0" 2'-4" do. G2 & G3												29'-8"	(1'-10" increments)						(North End Left)	
S591	1 ea.	12'-6"	Transverse, Top (S. end Left) (10" increments)	D406	16	5'-4"	3'-0" 2'-4" do. do.	GIRDERS (WEBS)																			
thru				33'-4"	D407	32	6'-4"	4'-0" 2'-4" Abut. 2 - G2 & G3	(VERTICAL STIRRUPS)																		
S5116					D408	32	6'-8"	4'-0" 2'-8" do. G1 & G4	G601	345	10'-5"	VL								7'-5"	1'-6"			1'-5 1/2"			G4 - Outside Face
				D602	4	33'-0"	Abut. 1 - Longit., each Face	G602	220	10'-5"	VN								7'-5"	1'-6"			1'-5 1/2"			G4 - Inside Face	
S5117	1 ea.	10'-6"	Transverse, Bott. (S. end Left) (10" increments)	D603	8	35'-0"	do.	G603	294	12'-11"	VM	4'-0"							7'-5"	7'-6"	3'-10 1/2"	1'-0"	1'-5 1/2"			G4 - Inside Face	
thru				23'-0"	D604	4	36'-0"	do.	G604	840	9'-4"	VK							7'-6"	10 1/2"	(135° hooks)	6 1/2"			G3 - Each Face		
S5132					D605	8	47'-0"	Abut. 2 - Longit., each Face	G605	758	8'-9"	VK								6'-11"	10 1/2"	(do.)	6 1/2"			G2 - Each Face	
				D901	3	49'-4"	Abut. 1 - Longit., Bottom	G606	148	10'-8"	VL								7'-8"	1'-6"			1'-5"			G1 - Outside Face	
S5145	1 ea.	13'-0"	Transverse, Bott. (North End - center) (1'-10" increments)	D902	3	35'-10"	do.	G607	150	10'-8"	VN								7'-8"	1'-6"			1'-5"			G1 - Inside Face	
thru				20'-4"	D903	3	52'-0"	do.	G608	247	13'-2"	VM	4'-0"							7'-8"	1'-6"	3'-9 1/4"	1'-4"	1'-5"			G1 - Inside Face
S5149					D904	2	60'-0"	Abut. 2 - Longit., Bottom	END BEAMS																		
				D905	2	35'-0"	do.	D401	40	7'-6"	SL								2'-0"	3'-6"	2'-0"					Bearing areas	
S5150	1 ea.	11'-0"	Transverse, Top (North End - center) (1'-10" increments)	D906	6	48'-3"	Abut. 2 - Longit., Top	D402	24	11'-9"	SL								2'-0"	7'-9"	2'-0"					do.	
thru				33'-0"	D1001	4	35'-0"	Abut. 1 - Longit., Top	D501	28	9'-3"	SL								3'-0"	3'-3"	3'-0"					Ends of End Beam
S5162					D1002	4	38'-3"	do.	D502	16	4'-8"	SL								6"	3'-3"	6"					Ties at End Beam
				D1003	4	39'-6"	do.	D503	32	6'-0"	C	10"							5'-1 1/2"							Ties at Girder	
S5163	1 ea.	13'-0"	Transverse, Bott. (North End - Right) (1'-10" increments)	D1004	4	37'-0"	do.	D504	24	5'-0"	C	10"							4'-2"							Tendon Anchorage	
thru				22'-2"	D601	115	20'-4"	HB	1'-0"										7'-7"	3'-2"	7'-7"	1'-0"				do.	
S5168					D607	12	19'-2"	HB	1'-0"											7'-0"	3'-2"	7'-0"	1'-0"				Vertical Stirrups
				D608	10	18'-2"	HB	1'-0"											7'-0"	2'-2"	7'-0"	1'-0"				Vertical Stirrups	
S5169	24	6'-0"	T#B at access manholes																							at Girder Tendon	
																										Anchorage	
																		</									

PRWA REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3/95/50	440	515

## TYPE-BENDING DIAGRAMS

All dimensions are out to out of reinf. bar  
Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 318.  $\Delta$   
Reinforcing Bar: ASTM A615 Grade 60  
Epoxy Coated

## GENERAL NOTES

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

**102-177**

$\Delta$ New Bent Bar Type SJ	9-26-83
$\Delta$ Revised ACI Standard	5-12-83

## REVISIONS

REVISIONS	DATE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
I-295 - PORTLAND CUMBERLAND COUNTY I-295 OVER WASHINGTON AVE.	

## REINFORCEMENT - BOTTOM SLAB, GIRDERS & END BEAMS

SHEET 36 OF 43 AUGUSTA, MAINE



REINFORCING STEEL SCHEDULE																													
STRAIGHT BARS												BENT BARS																	
MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION			
<u>TOP SLAB</u>								<u>TOP SLAB</u>																					
TS501	229	23'-0"	Transverse, bottom	TS539	6	8'-0"	d.o. - includes 4 bars in slab edge.					TS301	438	2'-8"	HB	4"	6"	6"	6"	6"		4"					Ties in edges of slab		
TS502	109	21'-6"	d.o.									TS503	256	20'-0"	JV	11'-6"	1'-6"	7'-0"									6'-3" Transv. Bot. T. & G		
TS505	237	37'-0"	Transverse, top	TS5140		9'-0"						TS504	240	11'-6"	JV	5'-3"	1'-0"	5'-3"									3'-3" d.o. at G2 & G3		
TS506	119	24'-0"	d.o.	thru	2 ea.	to	Longit. T & B (South end)																						
TS508		16'-0"		TS5162		27'-4"						TS507	286	3'-10"	L	10"	3'-0"	*Incidental to Pay Item 526.32 (not included in Item 503.14)											Dowels - Med. Barrie
thru	2 ea.	to	Transverse, Top & Bott.				(10" increments)																						
TS531		36'-1 1/2"	(South end)									TS5194	292	3'-0"	SB	10"	1'-4"	10"									Curb dowels		
			(10 1/2" increments)	TS5163	556	30'-0"	Long. Top & Bottom, except South end.																						
							(Includes 36 bars in slab edges)					TS801	224	13'-0"	EP				5'-0"	1'-0"	7'-0"						Slab Cantilever at end beams (N/S ends)		
TS532		13'-6"																											
thru	1 ea.	to	Transverse, Bottom	TS5164		19'-6"																							
TS546		25'-2"	(South end)	thru	2 ea.	to	Transverse, Top & Bottom, North end																						
			(10" increments)	TS5171		32'-4"																							
							(1'-10" increments)																						
TS547	4	12'-0"	S.E. corner, S. end of slab, skew, Top																										
				TS5172		17'-0"																							
TS548	12	40'-0"	End of Slab (Skew) T & B, South end.	thru	2 ea.	to	d.o.					TS501	40	30'-0"															
TS549	4	27'-0"	d.o.	TS5182		35'-4"						TS502	5	35'-0"															
							(1'-10" increments)					TS503	5	35'-6"															
TS550		13'-6"																											
thru	2 ea.	to	Transverse, Top & Bott.	TS5183		20'-0"																							
TS572		31'-10"	(South end)	thru	2 ea.	to	d.o.																						
			(10" increments)	TS5191		34'-8"																							
							(1'-10" increments)																						
TS573		12'-6"																											

FHWA REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(95)50	44.1	515

All dimensions are out to out of reinf. bar  
Bending details and hooks shall conform to  
the recommendations of the current revision  
of ACI Standard 318.  $\Delta$   
Reinforcing Bar: ASTM A615 Grade 60  
Epoxy Coated

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. Each truss bar, Type B, may be replaced by two (2) straight bars (one top & one bottom) of the same bar size as the truss bar. Payment in either case shall be based on truss bars as scheduled on plans.

102-178

2	New Bent Bar Type SJ	9-26-83
1	Revised ACI Standard	5-12-83

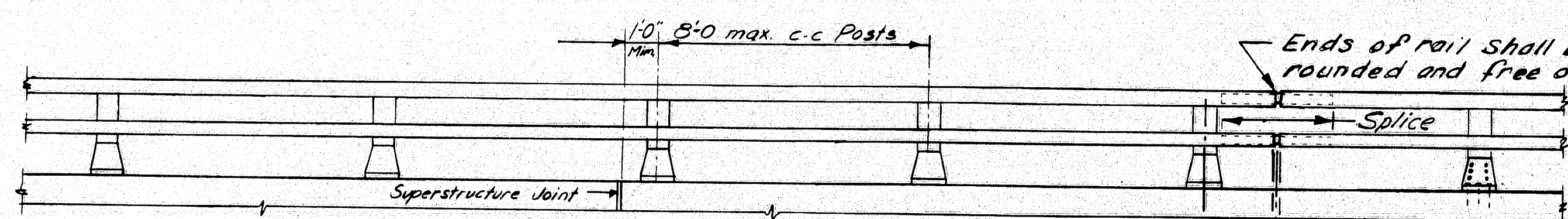
REVISIONS	DATE
-----------	------

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**REINFORCEMENT-TOP SLAB,  
CURB & CONCRETE BARRIER**

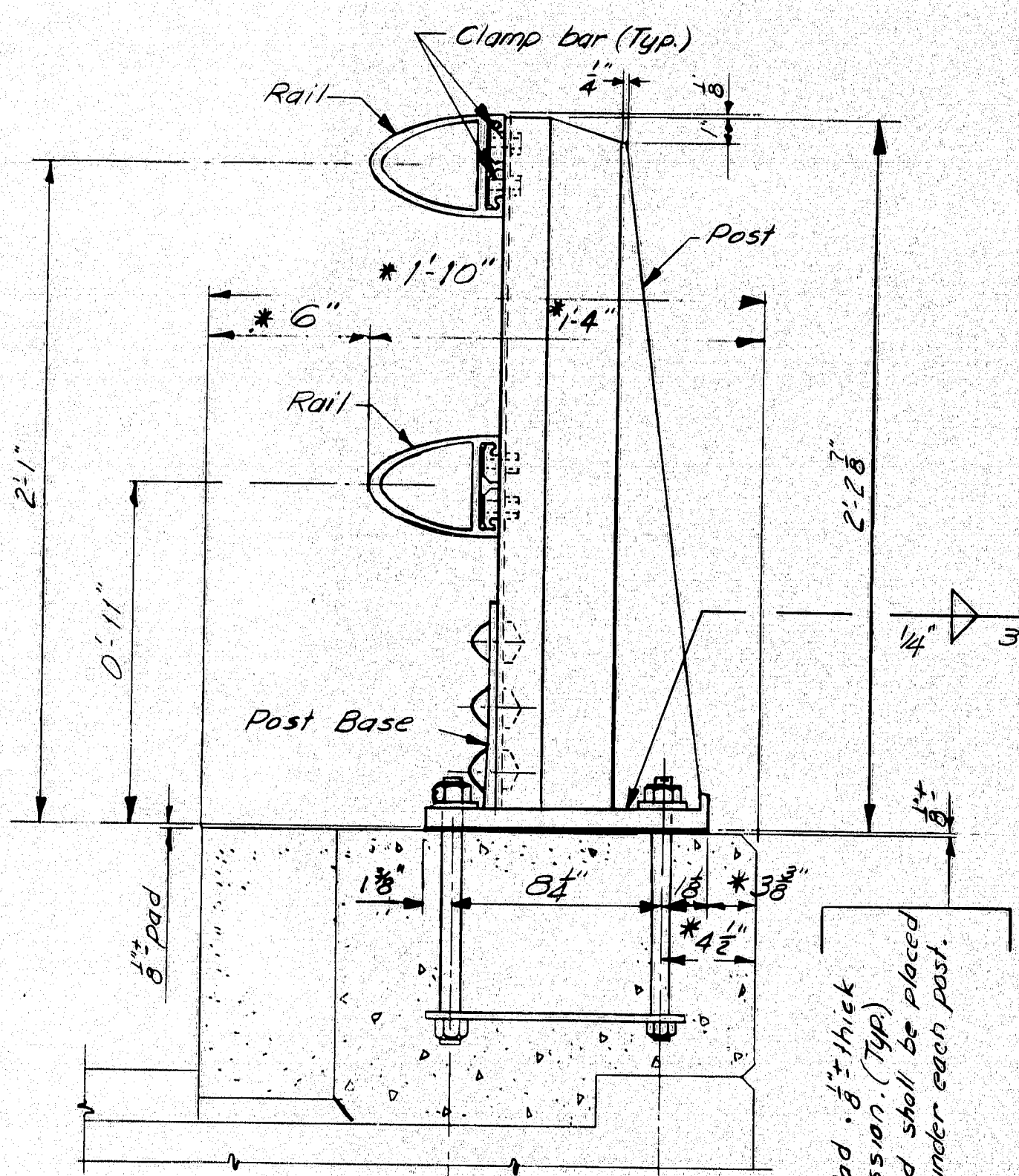
SHEET 37 OF 43 AUGUSTA, MAINE





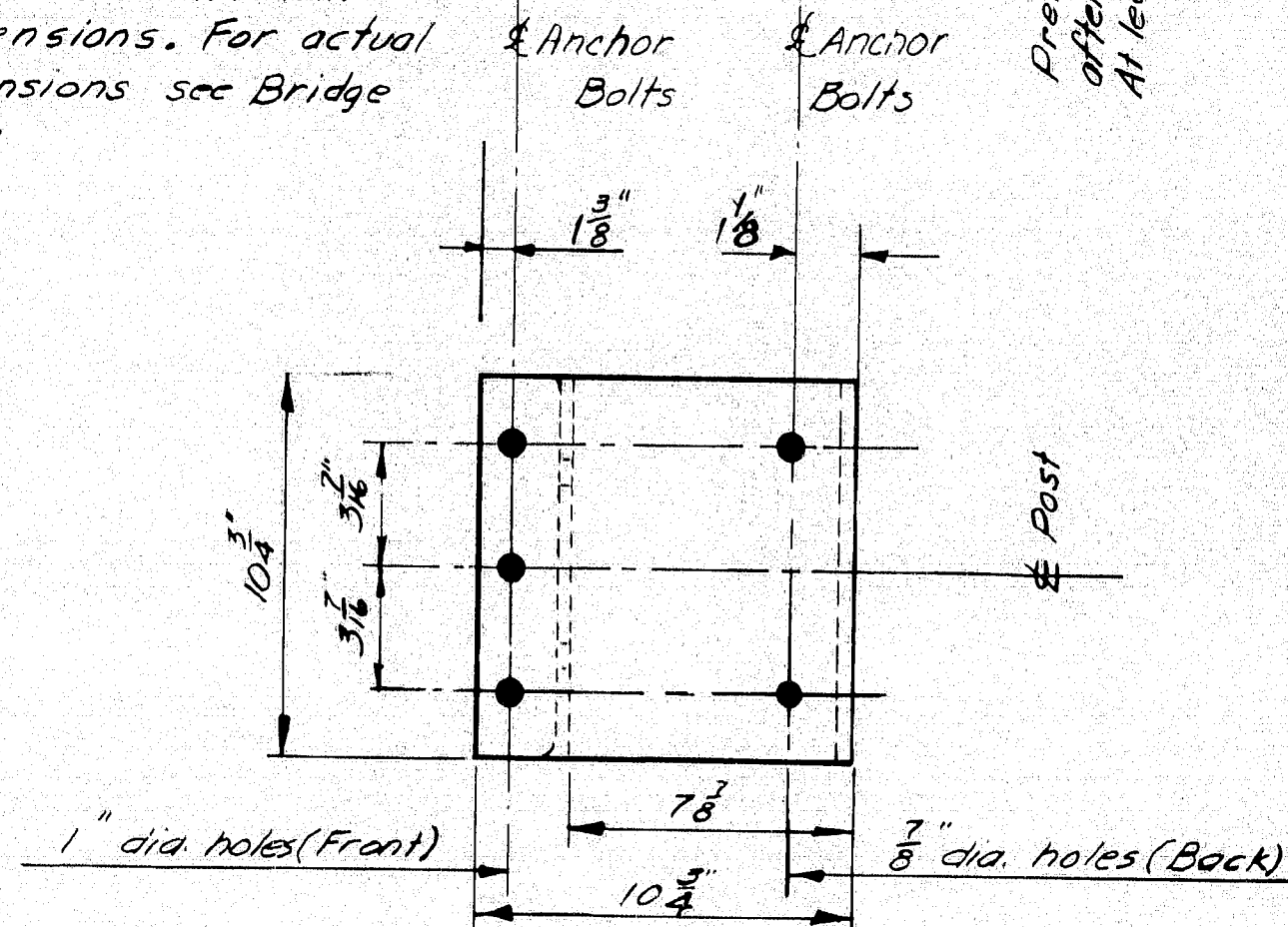
RAILING - ELEVATION

Lengths of rail shall be attached to a minimum of four (4) rail posts wherever possible, and in any case never less than two (2). Rail posts are to be set normal to grade unless otherwise shown on the Bridge Plans.

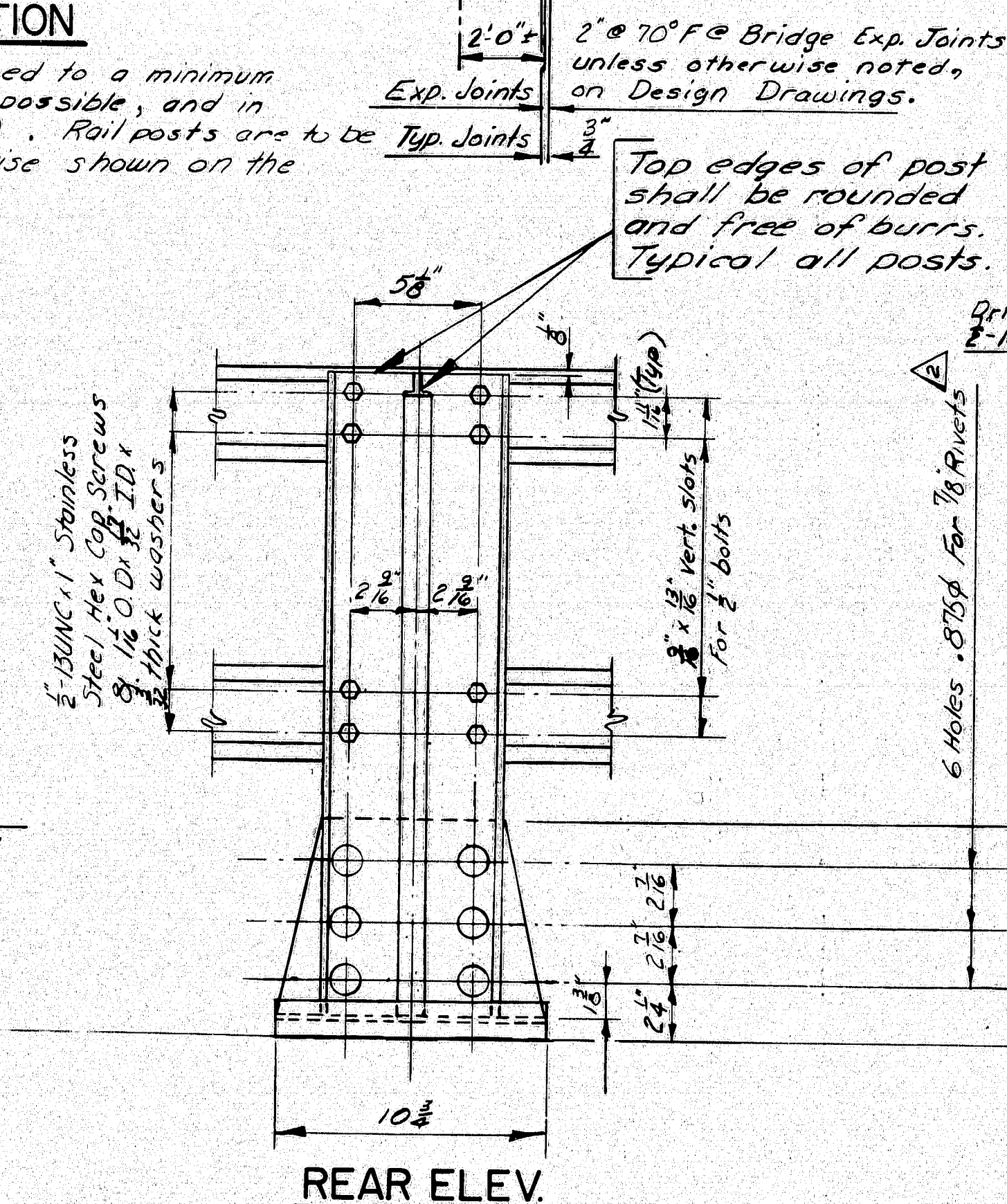


BRIDGE RAILING (Assembly)

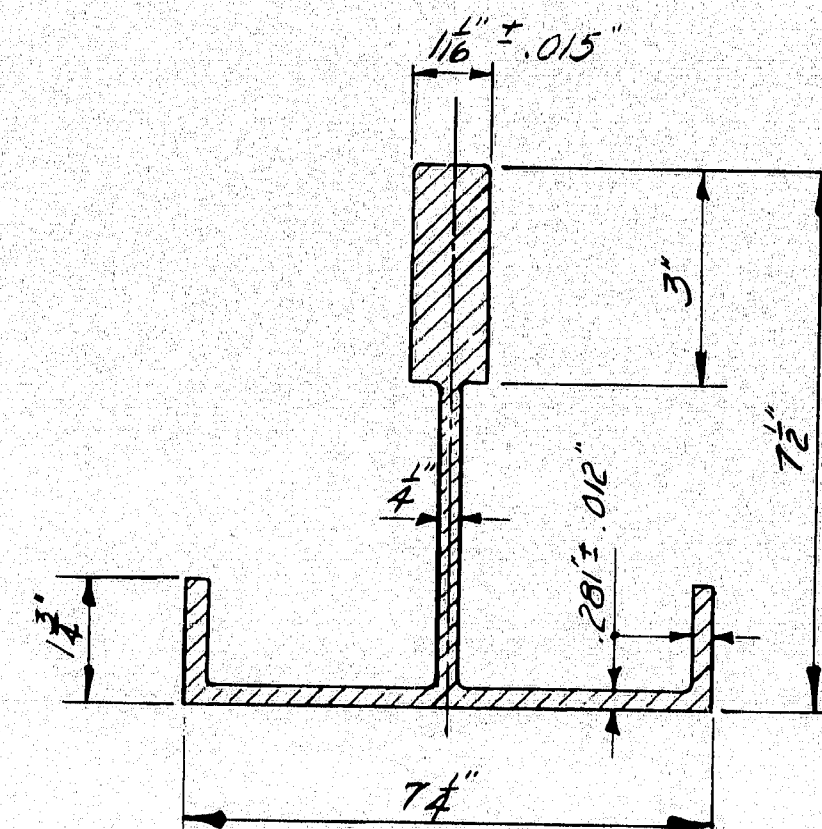
\* Preferable minimum dimensions. For actual dimensions see Bridge Plan.



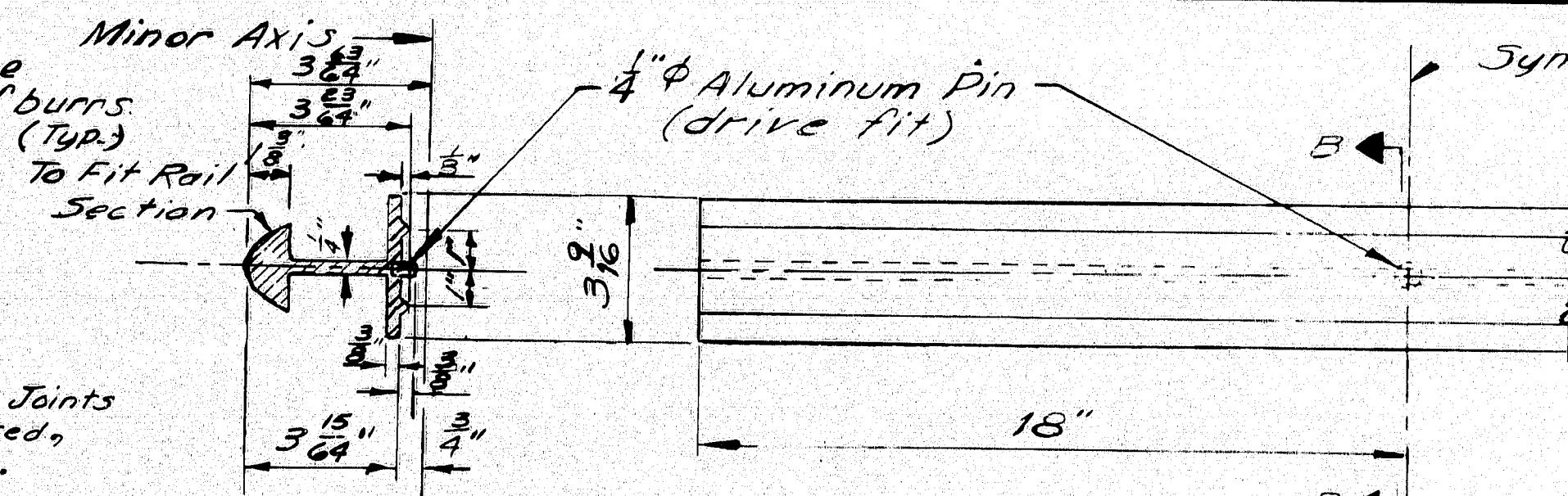
POST BASE (Bottom View)



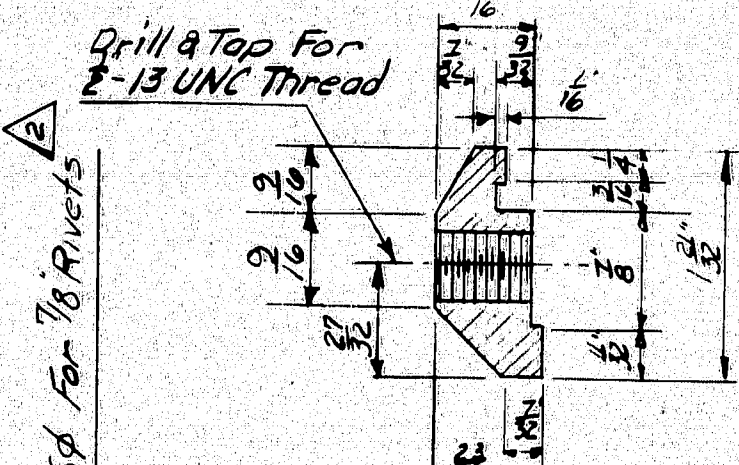
REAR ELEV.



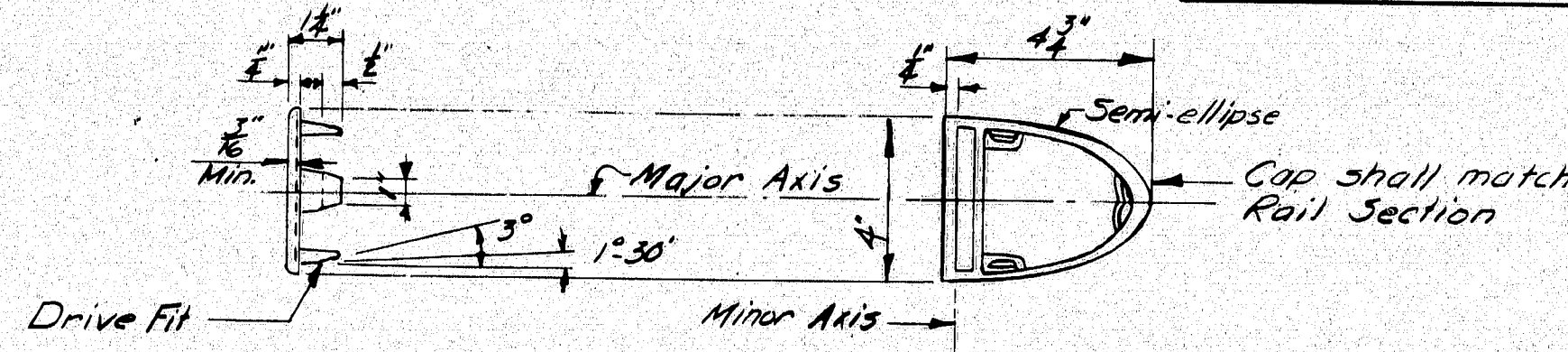
POST SECTION



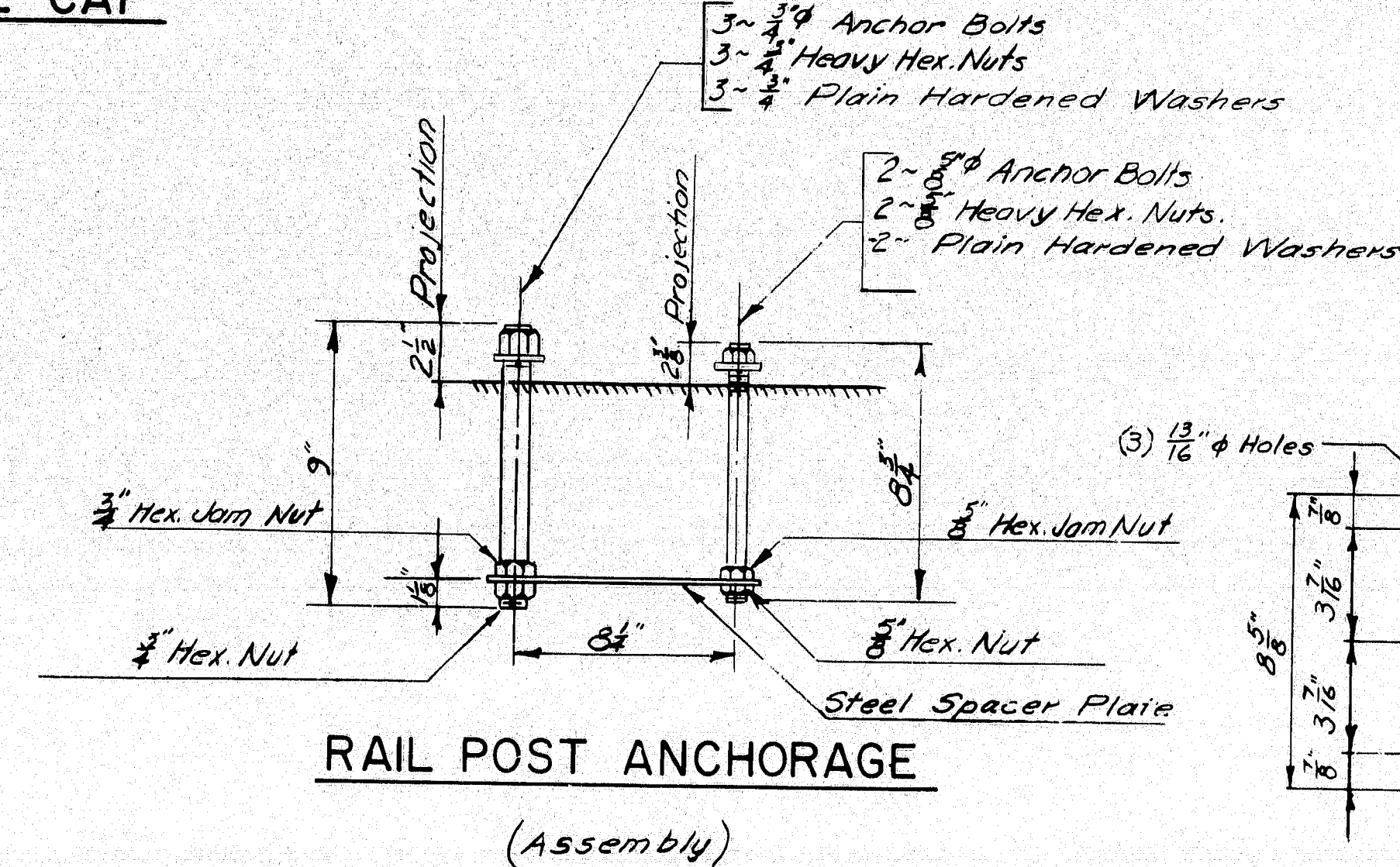
SECTION B-B



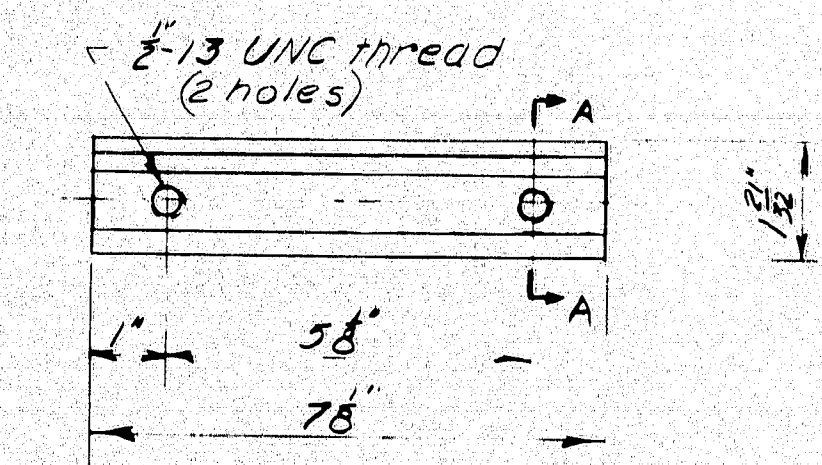
SECTION A-A



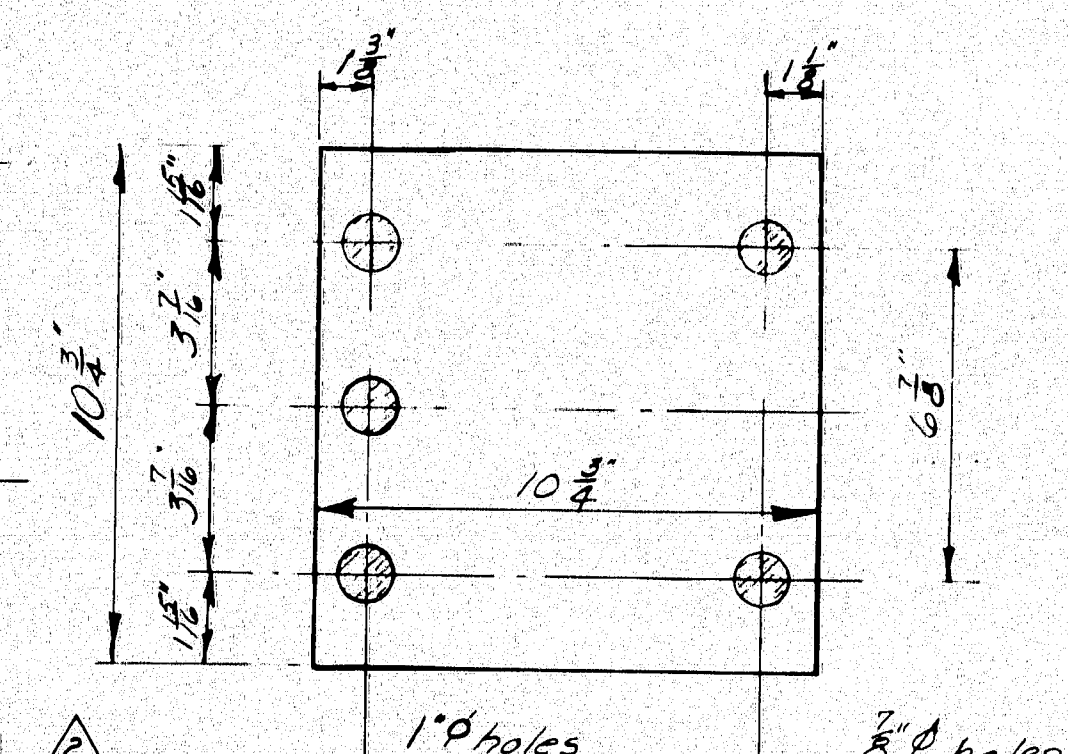
RAIL CAP



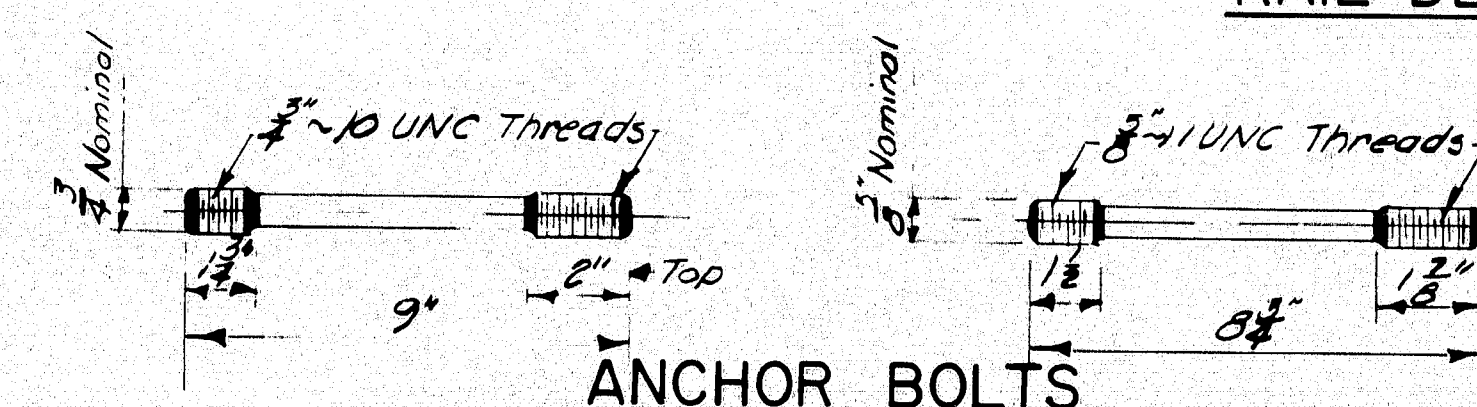
RAIL POST ANCHORAGE (Assembly)



CLAMP BAR

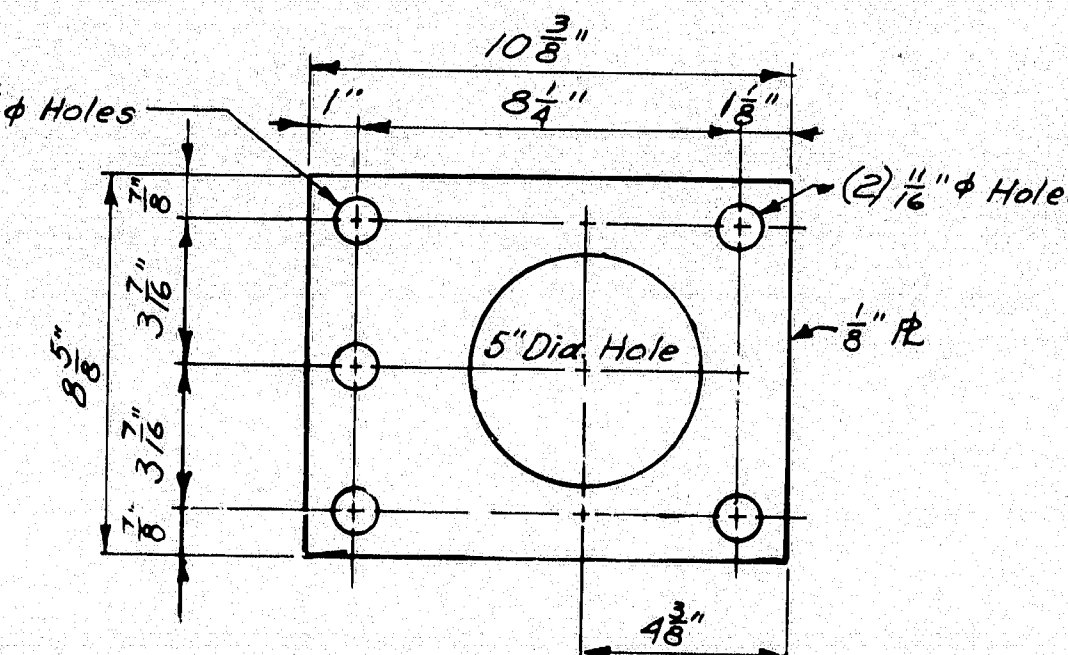


PREFORMED PAD



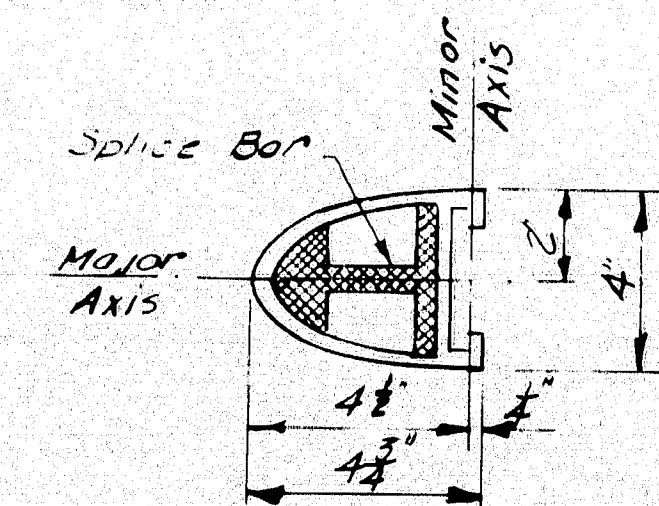
ANCHOR BOLTS

If cut threads are used, body diameter shall be not less than nominal diameter.  
If rolled threads are used, body diameter shall be not less than pitch diameter of the threads.

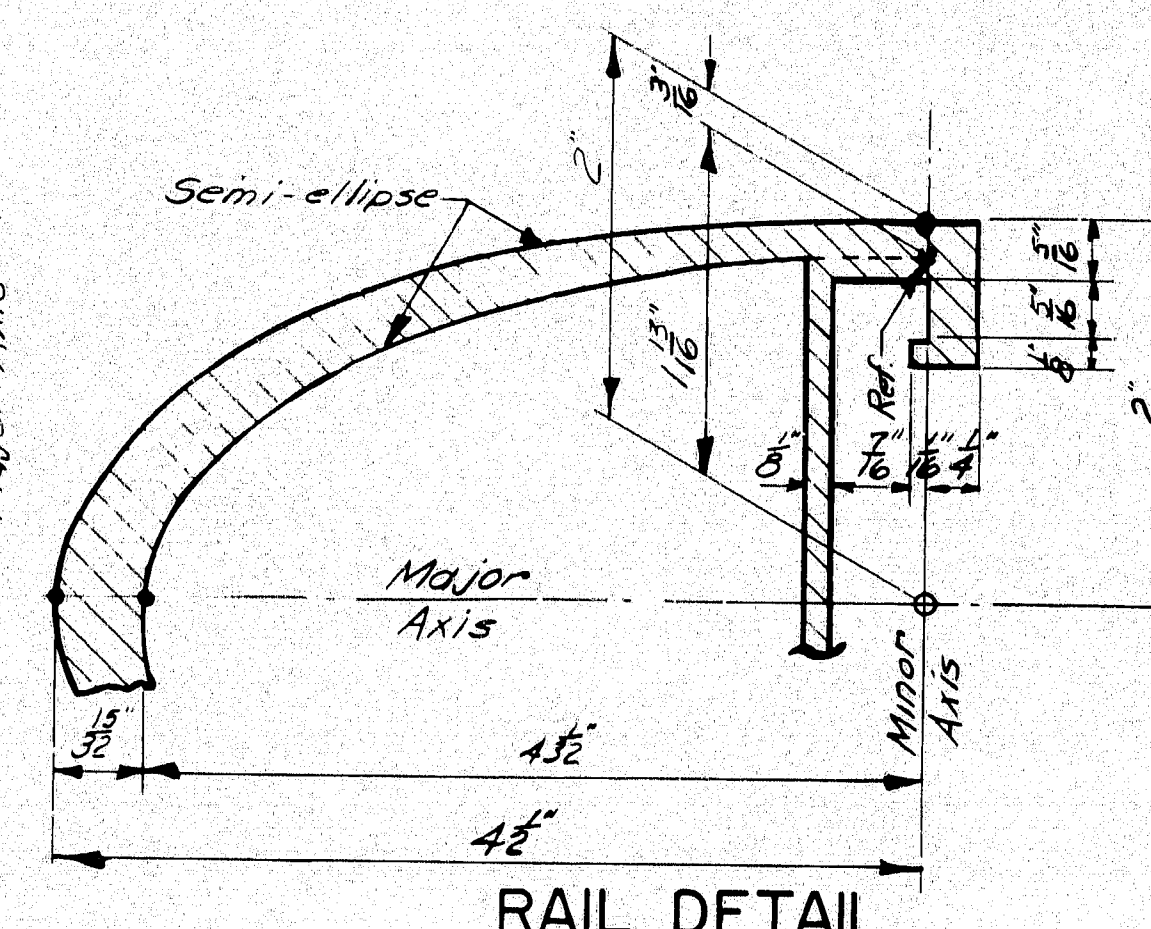


STEEL SPACER PLATE (For Anchorage)

It there is a conflict between this standard Detail and the Design Drawings, the requirements of the Design Drawings shall be followed.



RAIL SECTION



RAIL DETAIL

FW. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(95)50	442	515

DESIGN - DETAILED	CHECKED	FIELD CHANGES
BY DATE		
1/1/81		

102-179	
Added Note	12-84
Revised Post Base	8-84
Altered base dimensions	7-83
REVISIONS	
DATE	
STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
STANDARD DETAILS	
(BD 114-81)	
ALUMINUM BRIDGE RAILING	
2-BAR (SEMI-ELLIPSE)	
SHEET 38 OF 43 AUGUSTA, MAINE JUNE 1981	



FIELD CHANGES

This figure contains detailed technical drawings for concrete end posts and guard rail anchorage, organized into several sections:

- TYPICAL PLAN:** Shows the plan view of a guard rail section with dimensions for slab width, post spacing, and reinforcement details.
- ELEVATION:** Shows the elevation view of the guard rail section, detailing the height, post placement, and reinforcement bars.
- MODIFIED GUARD RAIL SECTIONS:** Provides alternative configurations for guard rail sections, labeled as Section A and Section B.
- RAILING - ELEVATION:** Details the elevation of the railing system, showing the post and rail assembly.
- SECTION M-M:** A cross-section view of the railing system, showing the internal structure and reinforcement.
- CUSHION BLOCK:** Details the cushion block used for the end post, showing its shape and dimensions.
- SECTION A-A:** A cross-section view of the guard rail anchorage, showing the connection between the rail and the concrete structure.
- SECTION B-B:** Another cross-section view of the guard rail anchorage, providing a different perspective.
- VIEW N-N:** A side view of the guard rail anchorage, showing the profile of the rail and its support.

The drawings include numerous dimensions, material specifications (e.g., ASTM A36, ASTM A325), and reinforcement bar callouts (e.g., #4, #5, #6). Notes provide additional instructions and clarifications regarding the design and construction of the end posts and guard rail system.

P.R.W.A.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
REG. NO.	MAINE	I-295-3(95)50	443	515

### NOTES

- For locations of End Posts on the structure, see Design Drawings.
- At times, an End Post Wing may be cantilevered for all or part of its length. For details, see Design Drwgs.
- If an End Post Wing is cantilevered, bars EP401 to be omitted as needed.
- When End Post Wing is cantilevered more than 2'-0", all #5 bars shall be replaced by #7 bars.
- Nuts for  $\frac{3}{4}" \phi$  anchor bolts shall be incidental to Guard Rail Pay Items. Nuts shall conform to A.S.T.M. A303, Grade DH, galvanized in accordance with A.S.T.M. A153, or Grade C3, plain.
- Additional holes in the Modified Guard Rail Sections may be made by drilling, punching, or any other method that produces a neat, clean hole of the required size. Burning of holes will not be allowed.
- Cushion Block material shall be as specified for Wood Posts in Subsection 710.07 (a). Payment for Cushion Blocks and Log Bolts shall be incidental to the Guard Rail Pay Items.
- Reinforcing Steel shall have 2" min. concrete cover.
- 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.
- Guard Rail Anchorage shall be incidental to the applicable concrete pay item.
- End Posts shall be constructed normal to grade unless otherwise shown on Design Drawings.
- If there is a conflict between this Standard Detail and the Design Drawings, the requirements of the Design Drawings shall be followed.

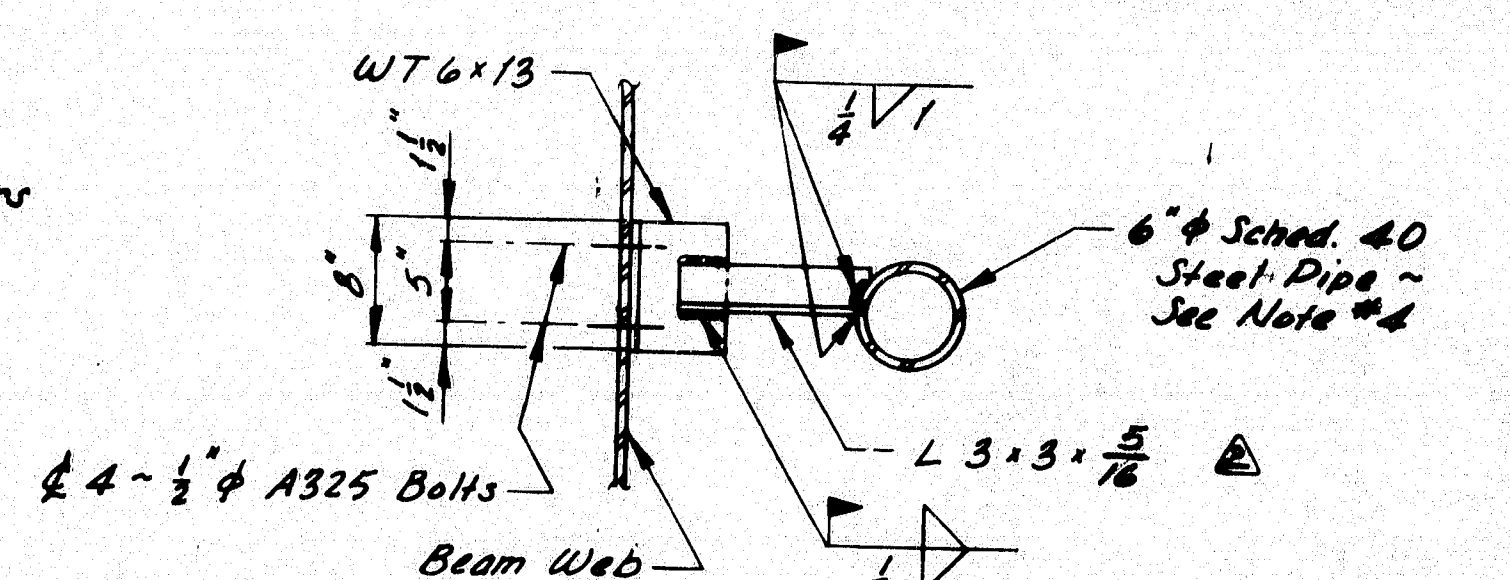
REVISIONS	DATE
General Revisions I-83	
Added Note # 12	1-85

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
  
**STANDARD DETAILS**  
 (BD 120 - 81)  
  
**CONCRETE END POSTS**

102-180

SHEET 39 OF 43    AUGUSTA, MAINE    JUNE 1981



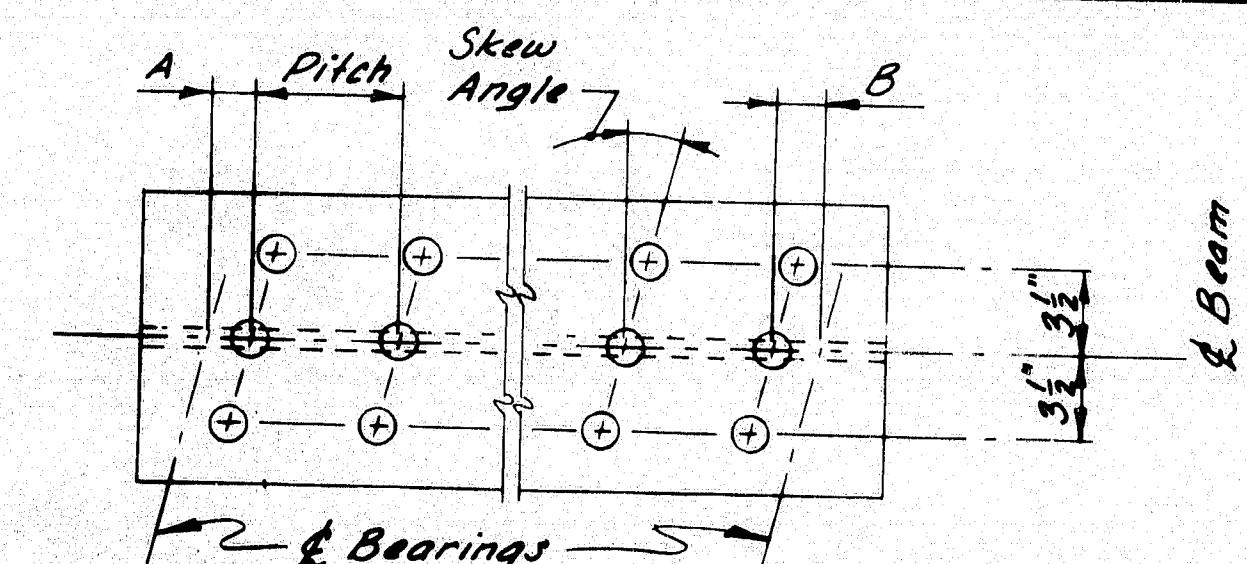


**SECTION A-A**

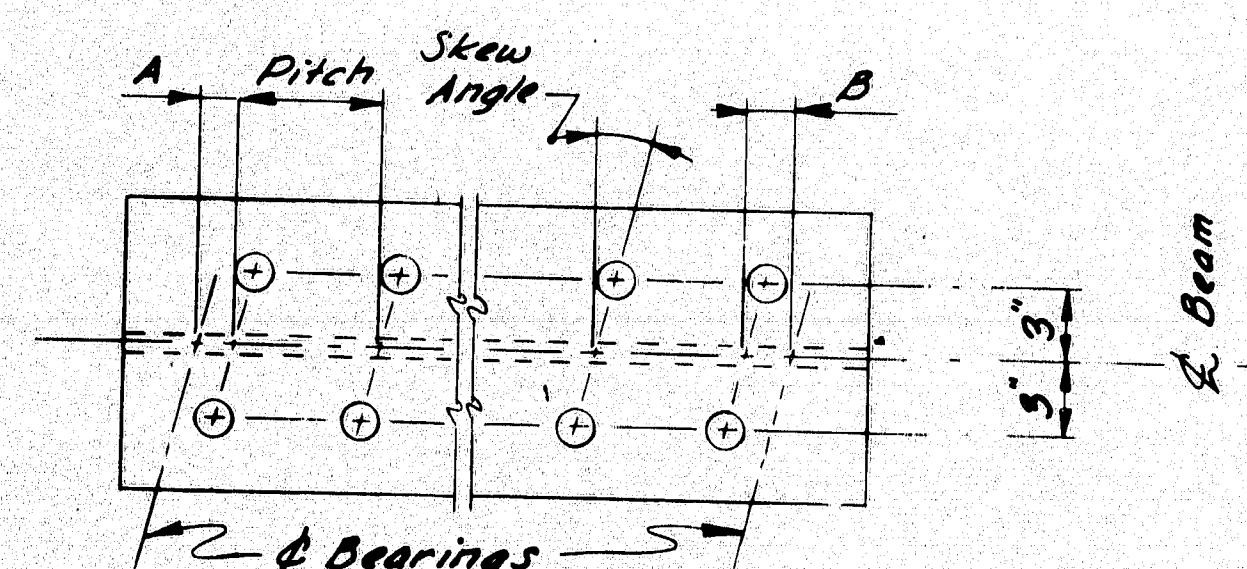
**NOTES:**

1. Grating shall be a commercial heavy-duty grating with  $1\frac{1}{2}$ " bearing bars spaced at  $2\frac{1}{2}$ " c.t.c. and  $\frac{3}{8}$ " cross bars spaced at 4" c.t.c.
2. Plates shall be A.S.T.M. A36,  $\frac{1}{2}$ " thick.
3. WT6x13 shall be of the same material as the beam web.
4. At the option of the Contractor, the Bridge Drain may be modified to allow the use of TS 6x6x $\frac{1}{2}$ " conforming to A.S.T.M. A501 or A.S.T.M. A500, Gr. "A", in place of the 6"  $\phi$  steel pipe.
5. If the minimum thickness of concrete below the Drain is 2" or less, the haunch shall be extended as shown.
6. Painting will not be required when the structural steel is specified to be unpainted.
7. Payment for Bridge Drain shall be as specified under subsection 502.19 of the Standard Specifications.

### BRIDGE DRAIN



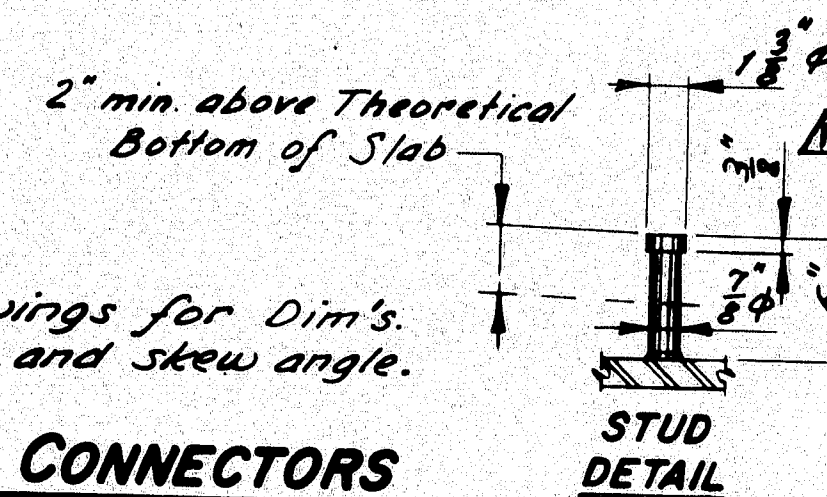
### TRIPLE STUDS



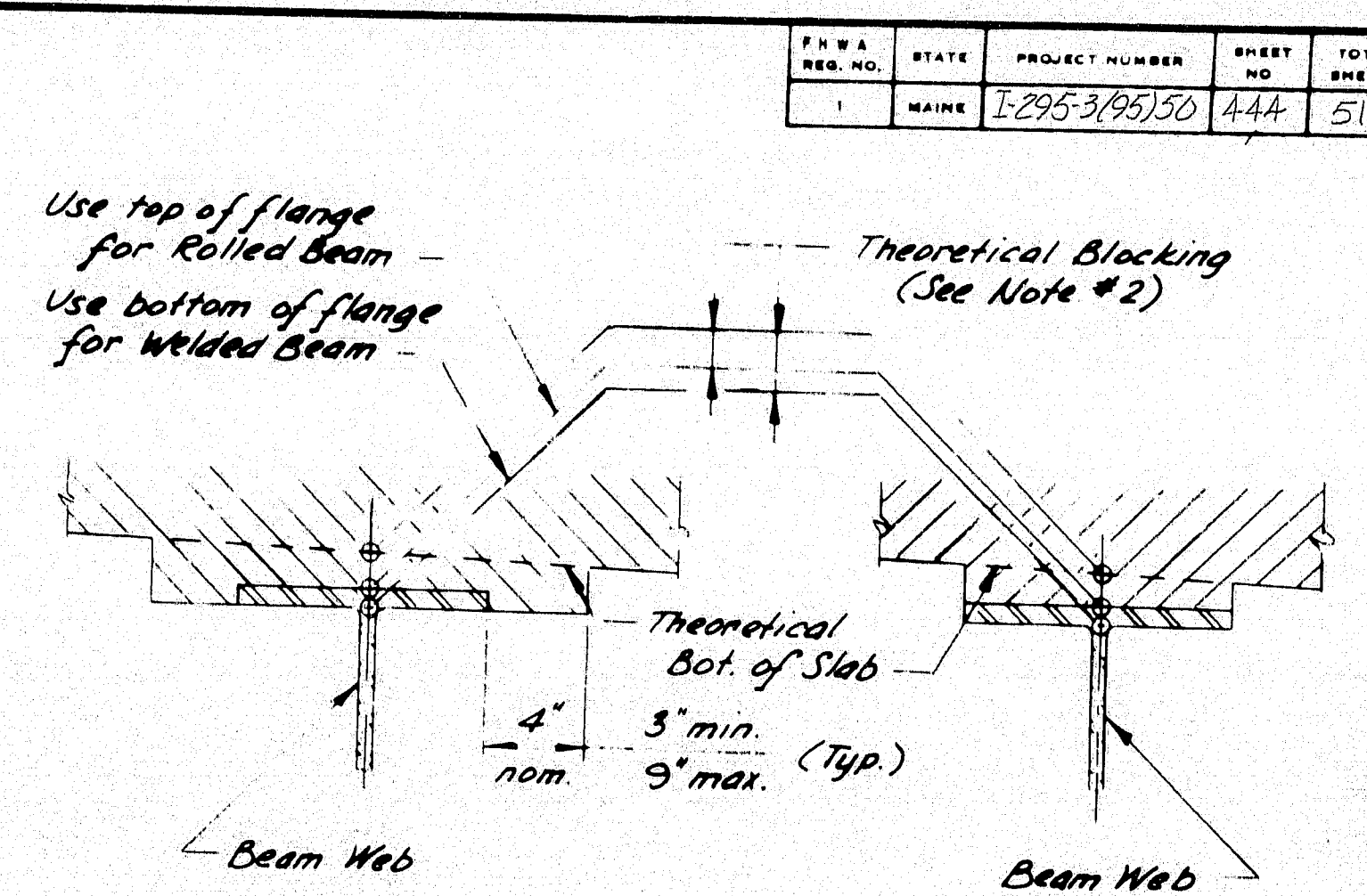
### DOUBLE STUDS

**NOTE:**

1. — See Design Drawings for Dim's.  
"A" & "B", stud pitch, and skew angle.



## SHEAR CONNECTORS



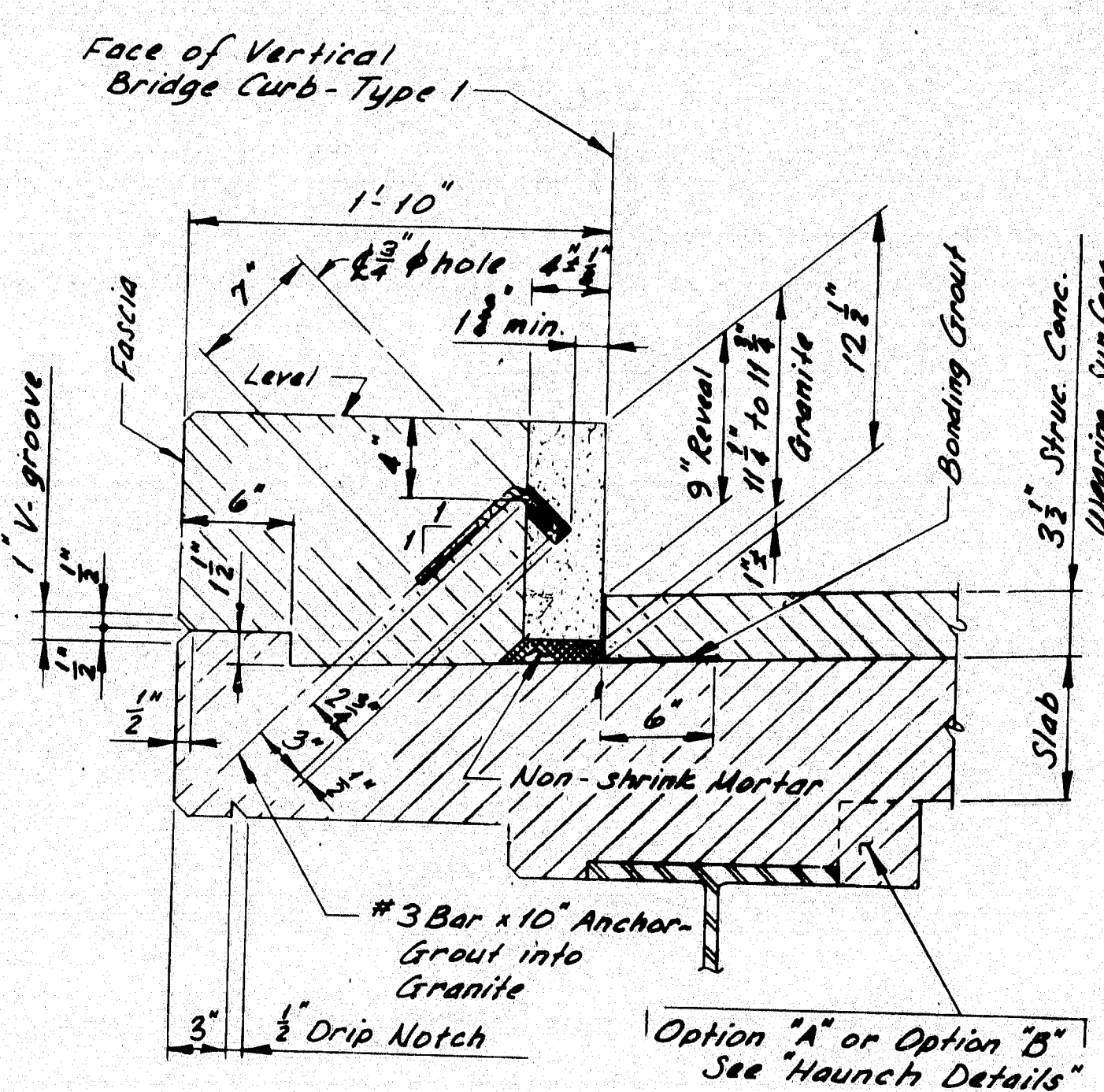
**OPTION "A"**

**OPTION "B"**

**NOTE:**

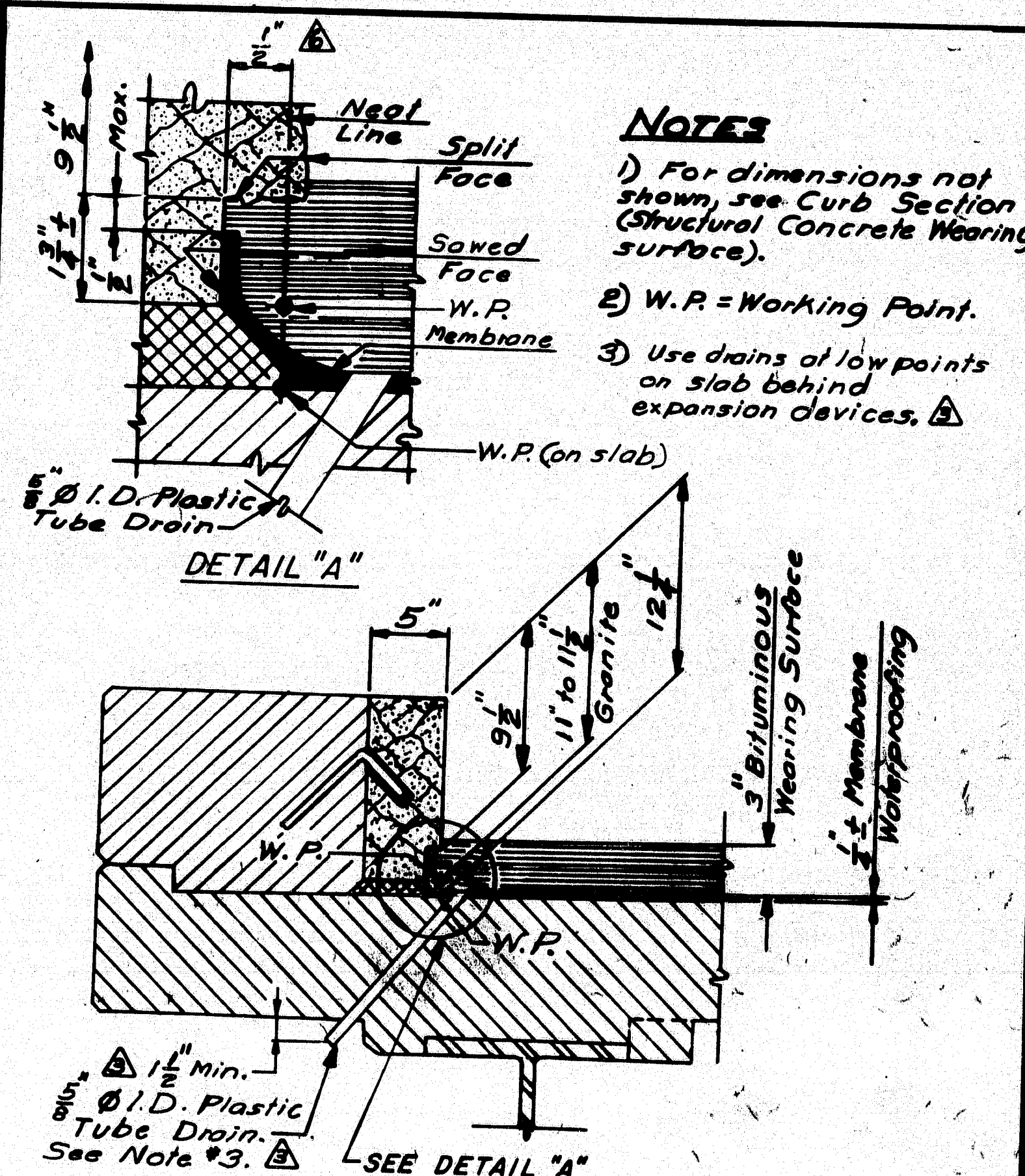
1. \_\_\_\_\_ Haunch Option "A" or Option "B" may be used at the Contractor's discretion. Only one option shall be used on each structure, except that Option "A" must always be used on the fascia side of all fascia beams and on beams designed without shear connectors.
2. \_\_\_\_\_ Theoretical Blocking shall be as indicated on Design Drawings.
3. \_\_\_\_\_ Do not use Theoretical Blocking for setting of form-work.

### HAUNCH DETAILS



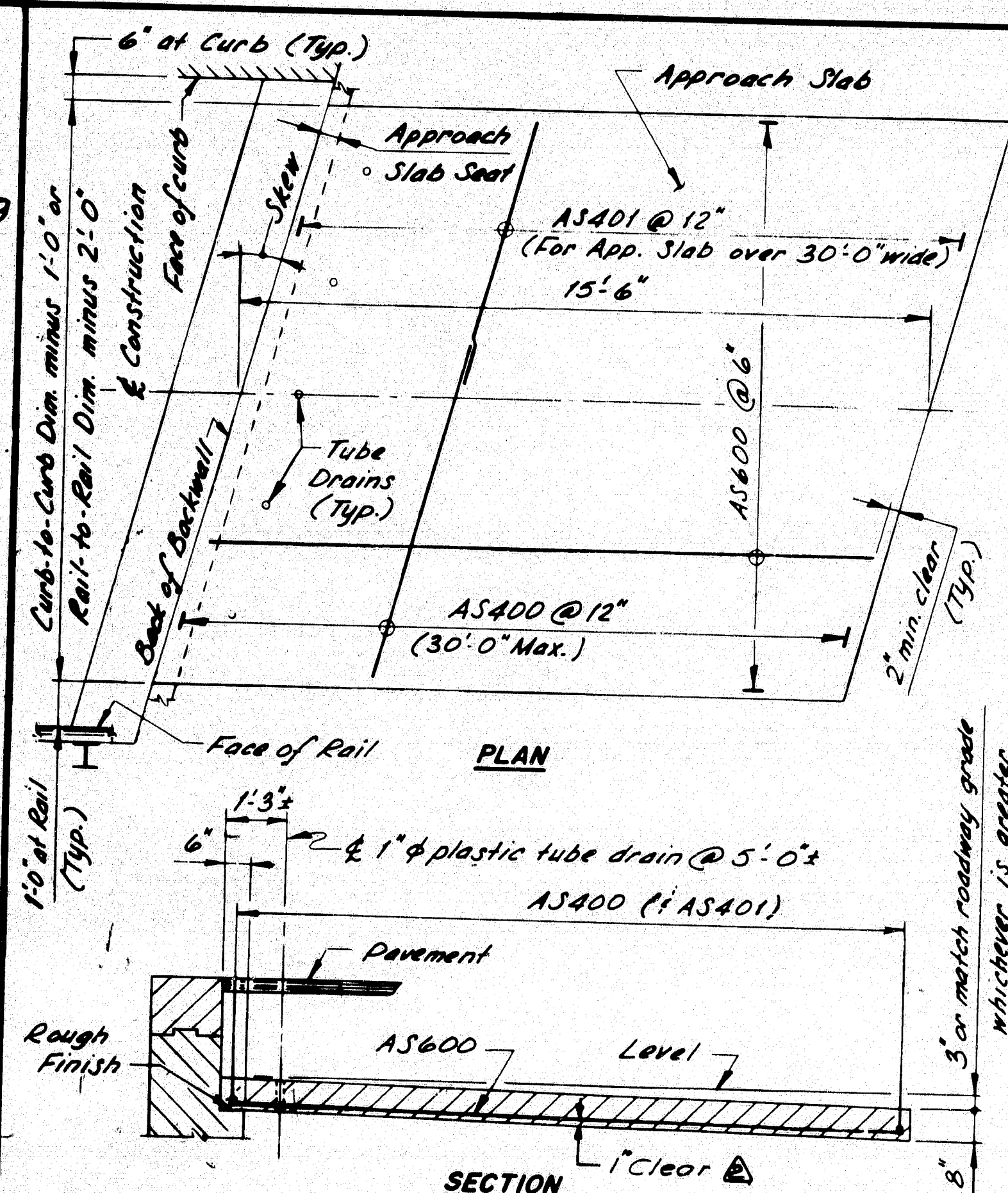
CURB SECTION TYPE 1A    ▲ ▲ ▲

(STRUCTURAL CONCRETE WEARING SURFACE)

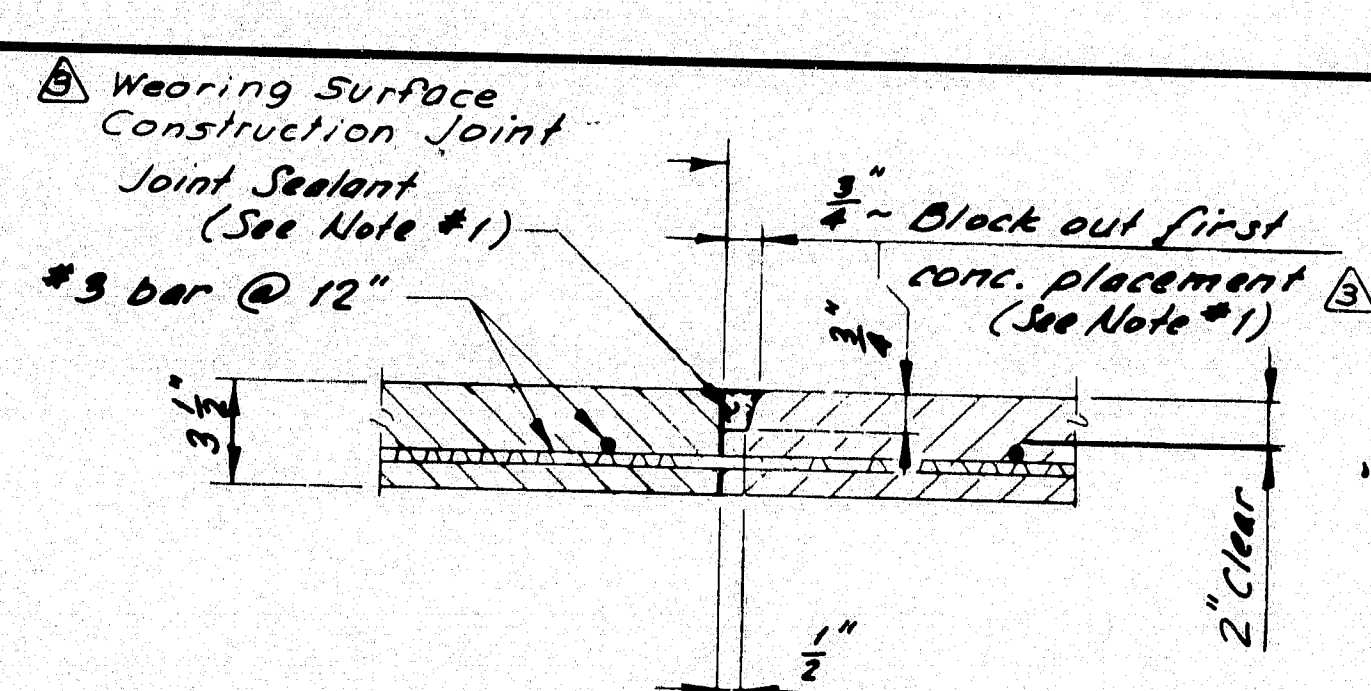


CURB SECTION TYPE 1B A A A A

(BITUMINOUS WEARING SURFACE)



**APPROACH SLAB**










**STRUCTURAL CONCRETE**  
**WEARING SURFACE**

**NOTE:**

- ③ 1. Use Block-out and Sealant only at Wearing Surface Construction Joints over Structural Slab Construction Joints. At all other joints, brush joint with neat cement paste before making adjacent concrete placement.

**NOTE:** If there is a conflict between this Standard Detail and the Design Drawings, the requirements of the Design Drawings shall be followed.

REVISIONS		DATE
	Revised stud Detail	5-82
	Added Curb Section	7-82
	Added Plastic Tube Drain & modified Structural Concrete Wearing Surface.	11-82
	Revise Curb Anchorage	2-83
	Revise Curb Tilt	6-83
	Revise Curb Type I B	11-83
	Added Note	1-85

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

## STANDARD DETAILS

(BD 126 - 81)

### MISCELLANEOUS DETAILS

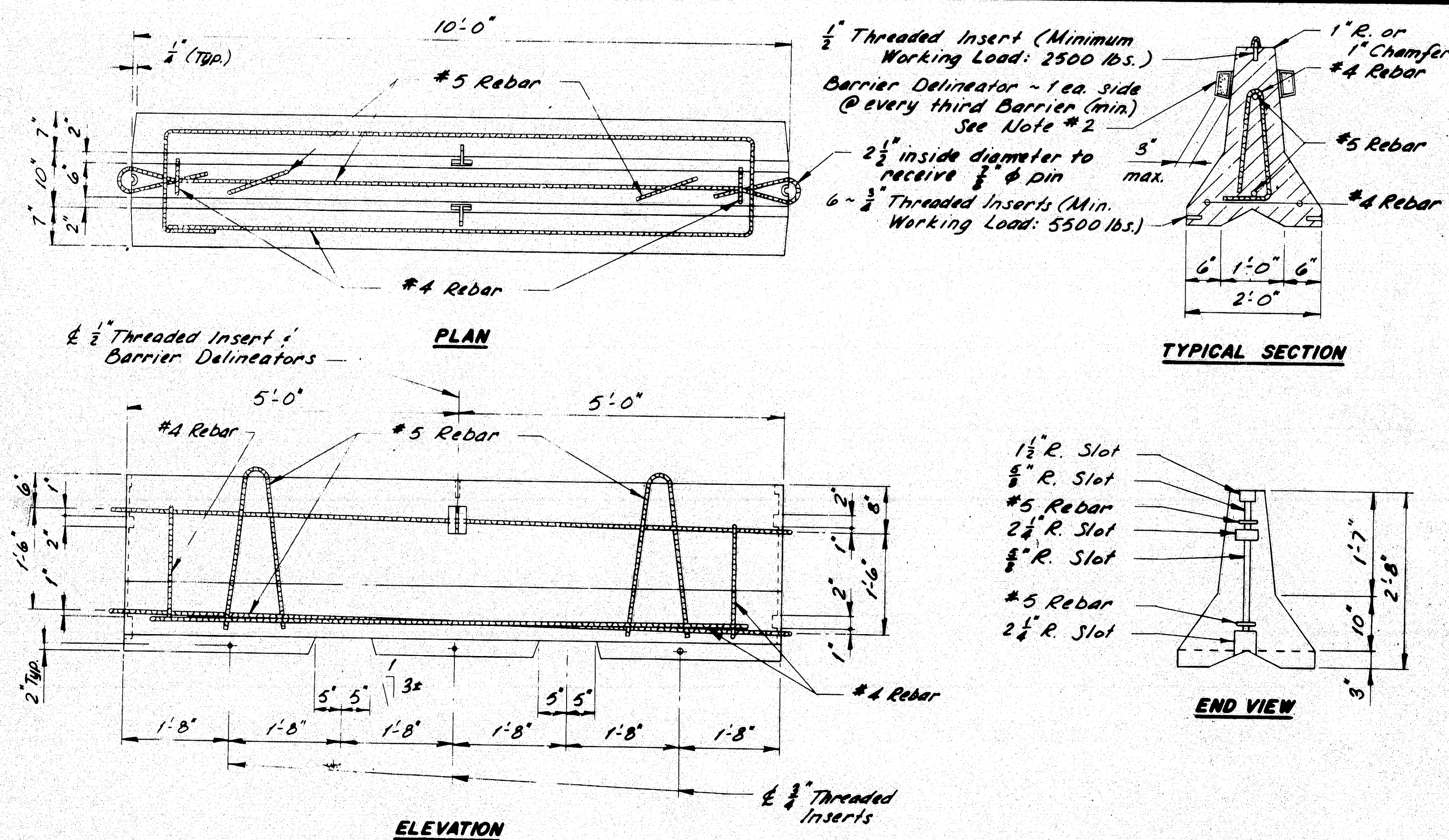
BRIDGE DRAIN - SHEAR CONNECTORS  
STRUC. CONC. WEAR. SURFACE  
CURB SECTION - APPROACH SLAB  
HAUNCH DETAILS

SHEET 40 OF 43 AUGUSTA, MAINE JUNE 1981

<b>PLANS</b>	<b>PROJECT DESIGN ENGINEER</b>		<b>BY</b>	<b>DATE</b>
	DESIGN - DETAILED		<i>D. Dawson</i>	<i>Oct. '91</i>
	CHECKED			
	REVISIONS			
	FIELD CHANGES			



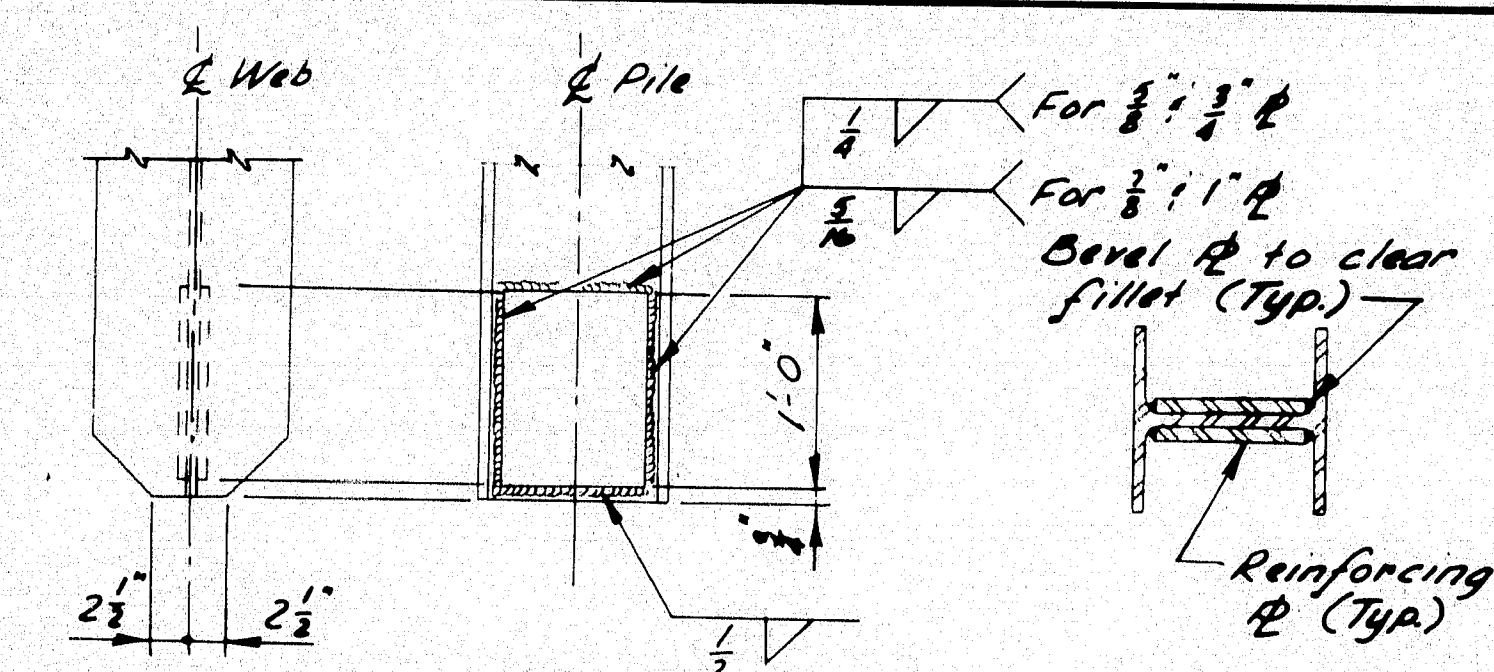
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
MAINE	I-295-3(05)50	445	515



#### NOTES:

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

#### TEMPORARY CONCRETE BARRIER - TYPE 1

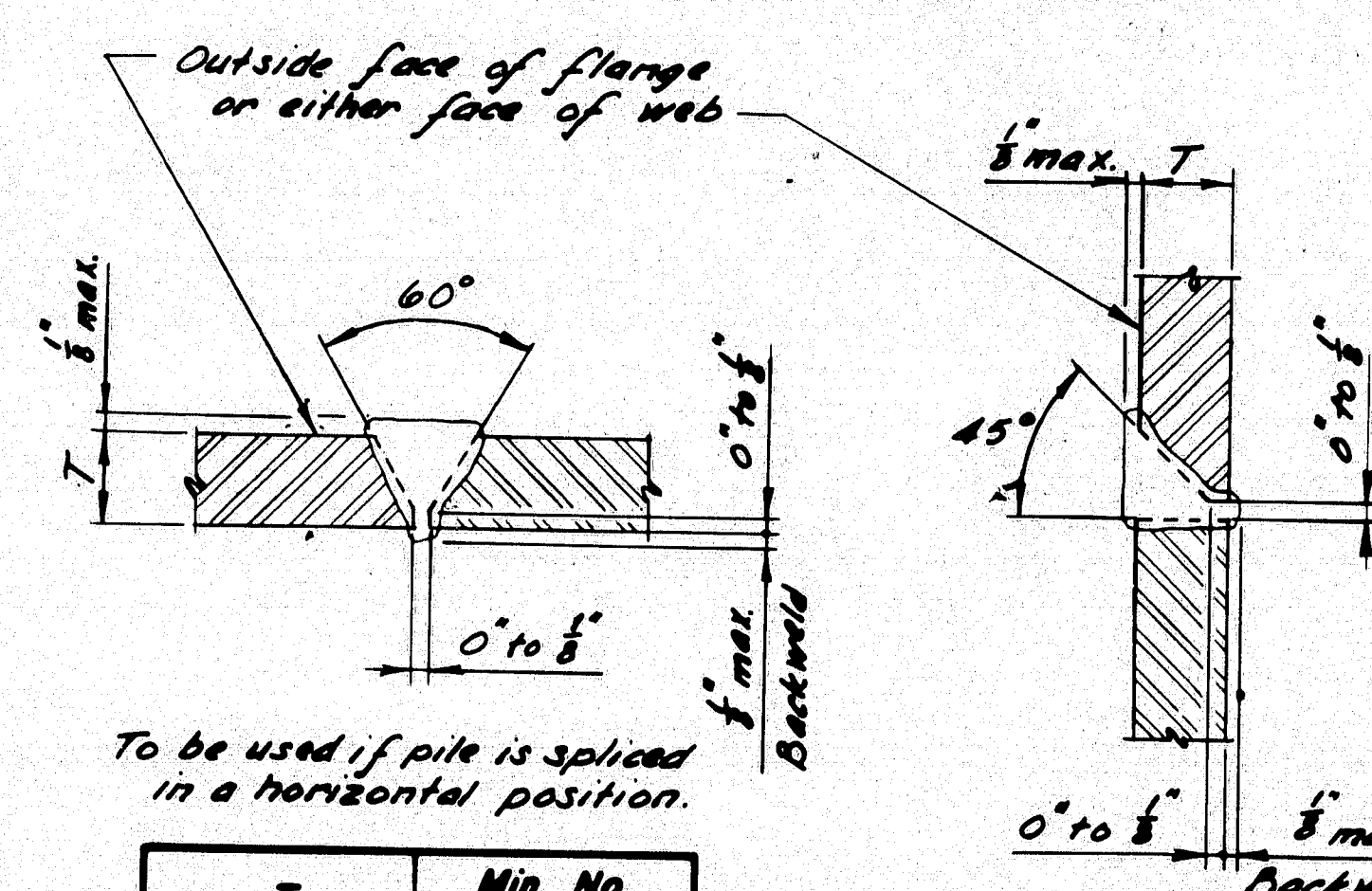


Pile Size	Reinf. $\phi$ Size	Pile Size	Reinf. $\phi$ Size
HP 10x42	8 3/4" x 5/8" x 1'-0"	HP 13x60 $\Delta$	11 1/2" x 3/4" x 1'-0"
HP 10x57	8 3/4" x 7/8" x 1'-0"	HP 13x73 $\Delta$	11 1/2" x 7/8" x 1'-0"
HP 12x53	10 3/4" x 5/8" x 1'-0"	HP 13x87 $\Delta$	11 1/2" x 1" x 1'-0"
HP 12x63	10 3/4" x 3/4" x 1'-0"	HP 14x73	12 1/2" x 7/8" x 1'-0"
HP 12x74	10 3/4" x 7/8" x 1'-0"	HP 14x89	12 1/2" x 1" x 1'-0"

#### NOTES:

- At the Contractor's option, prefabricated cast steel pointed pile tips may be used in lieu of the reinforced pile tip shown, provided they have a cross-sectional area of 1 1/2 times the area of the pile at a point 3/4 inches above the bottom of the prefabricated tip, and are approved by the Engineer.
- Plates may be shop or field welded.
- Use Manual Shielded-Arc Process and 6010, 6011, or 6012 electrodes, unless a different process has been approved by the Engineer.
- Electrodes shall be dry when used, in accordance with the provisions of A.W.S. Spec. D11, as amended by AASHTO.

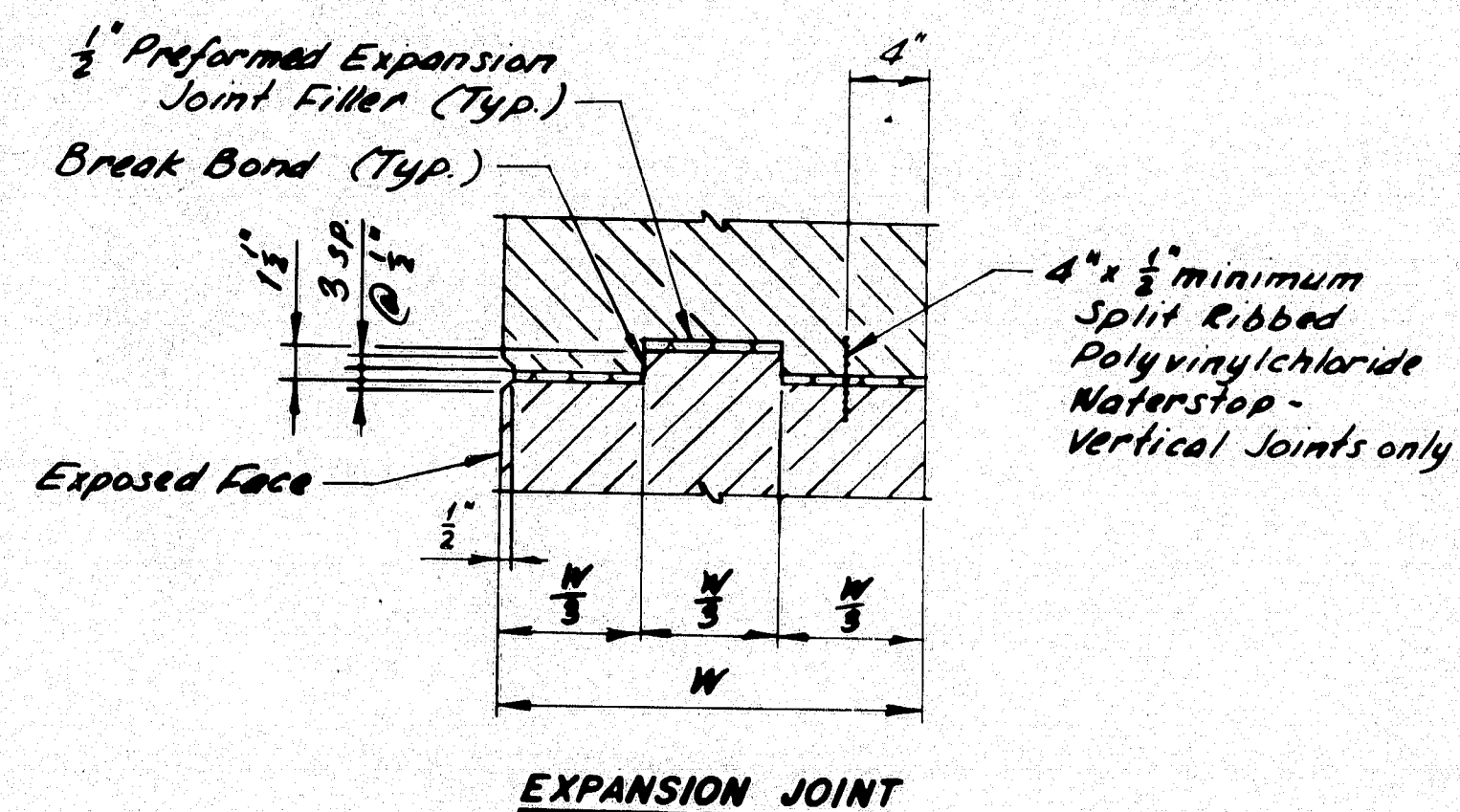
#### POINTED REINFORCED PILE TIP



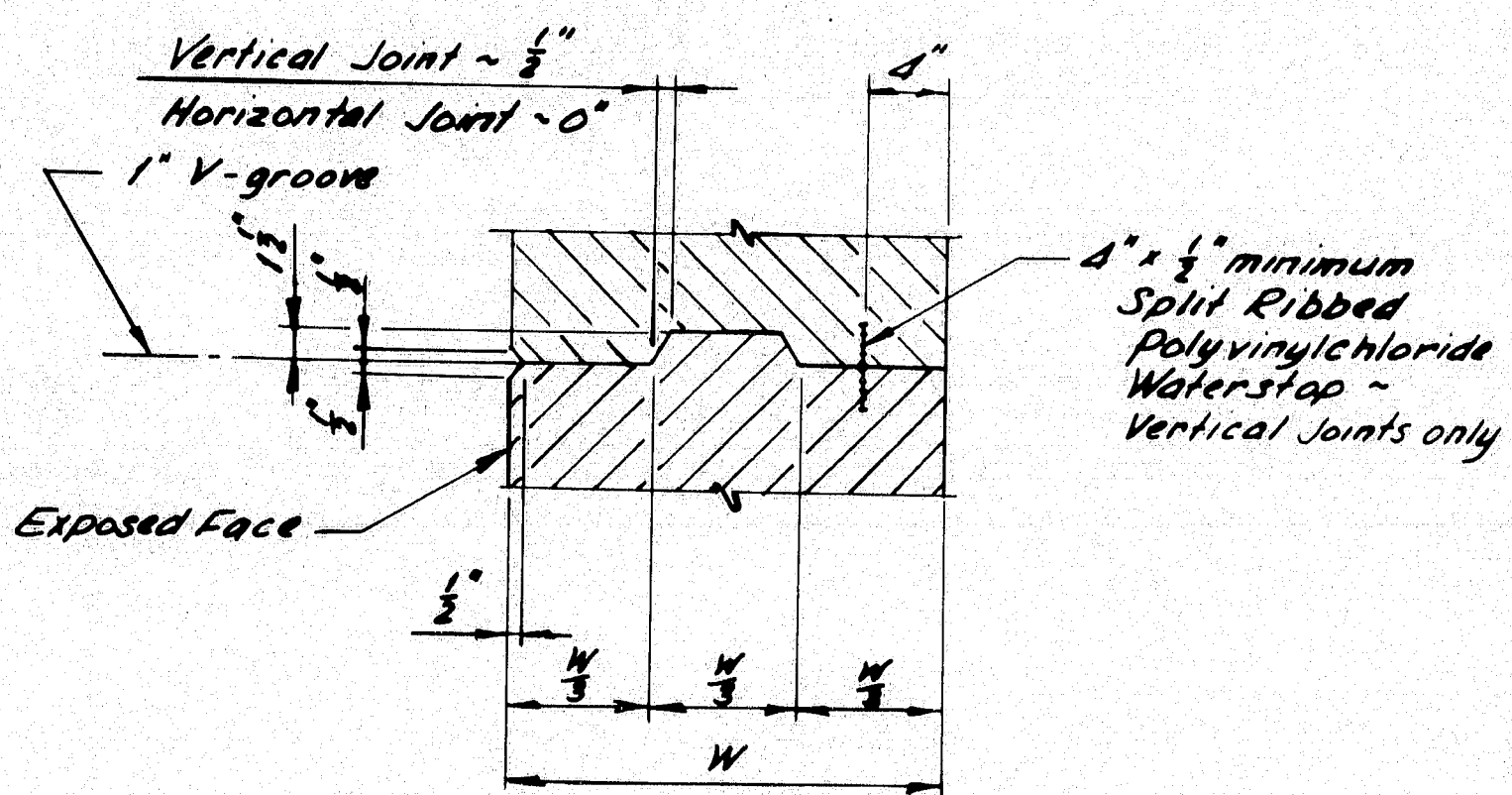
#### NOTES:

- All cutting shall be done with the use of a mechanical guide.
- Use Manual Shielded Metal-Arc Process and 6010, 6011, or 6012 electrodes, unless a different process has been approved by the Engineer.
- Electrodes shall be dry when used, in accordance with the provisions of A.W.S. Spec. D11, as amended by AASHTO.
- Gauge root before welding second side.

#### PILE SPLICE

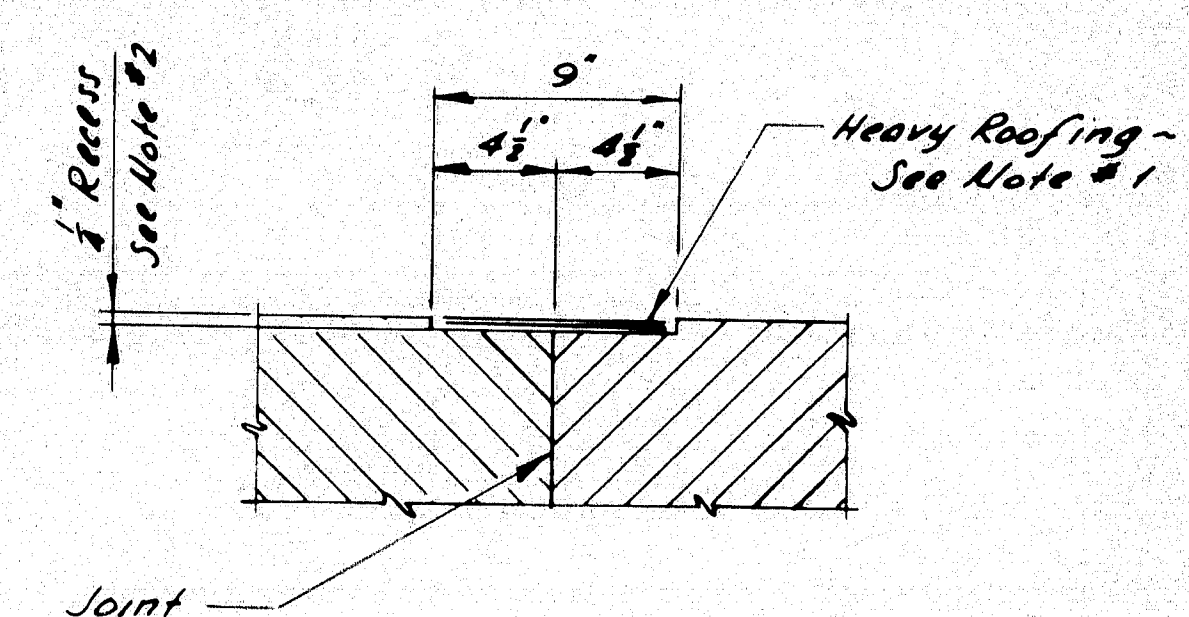


#### EXPANSION JOINT



#### CONSTRUCTION OR CONTRACTION JOINTS

#### CONCRETE JOINTS



#### NOTES: CONCRETE JOINT COVER

- Where called for, cover horizontal and vertical construction, contraction, or expansion joints with two (2) 9" wide layers of heavy roofing felt. Coat the concrete and back of each layer as applied with plastic roofing cement.
- Recess the covered area 1/4" unless otherwise indicated on Design Drawings.

NOTE: If there is a conflict between this Standard Detail and the Design Drawings, the requirements of the Design Drawings shall be followed.

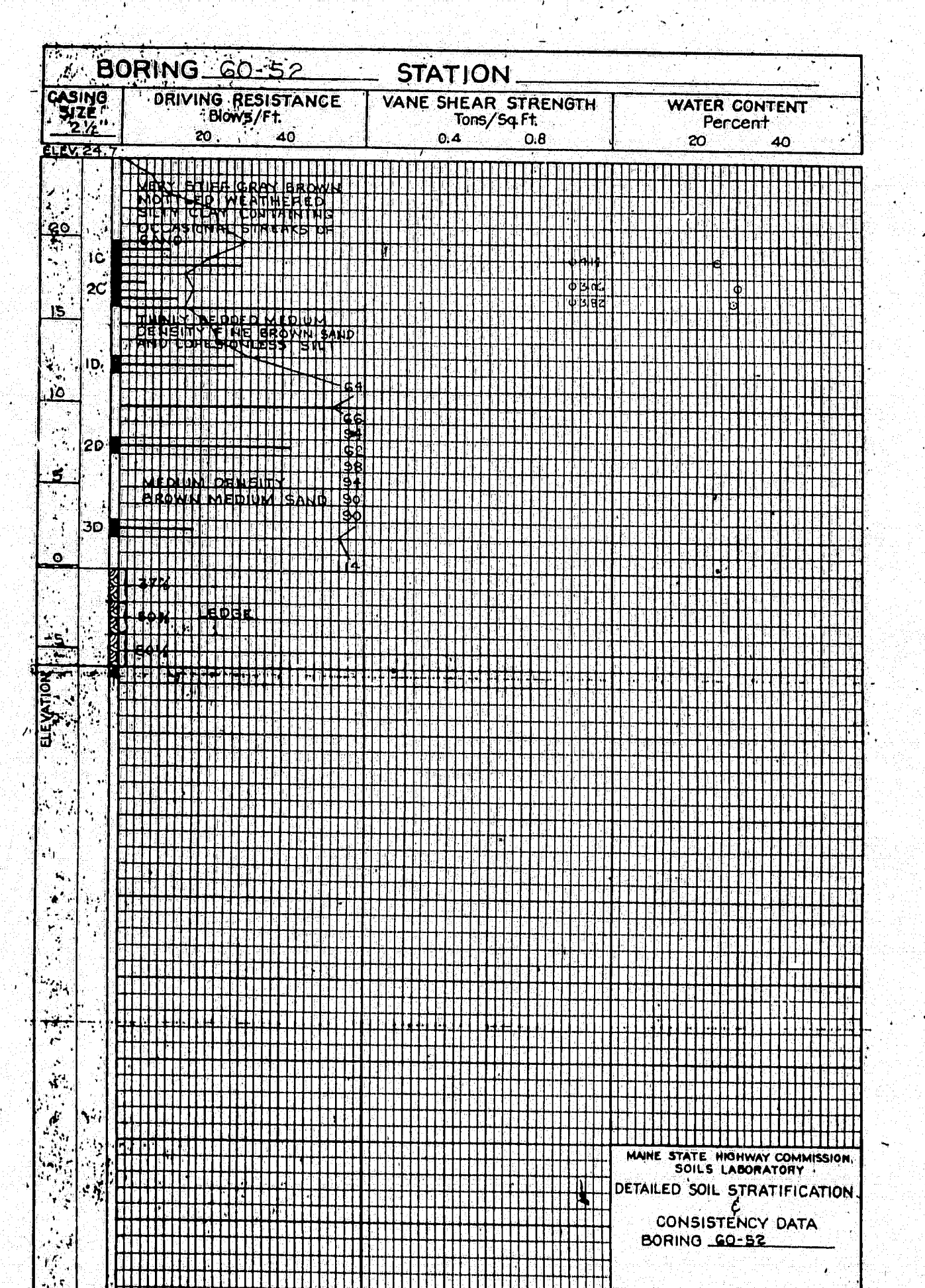
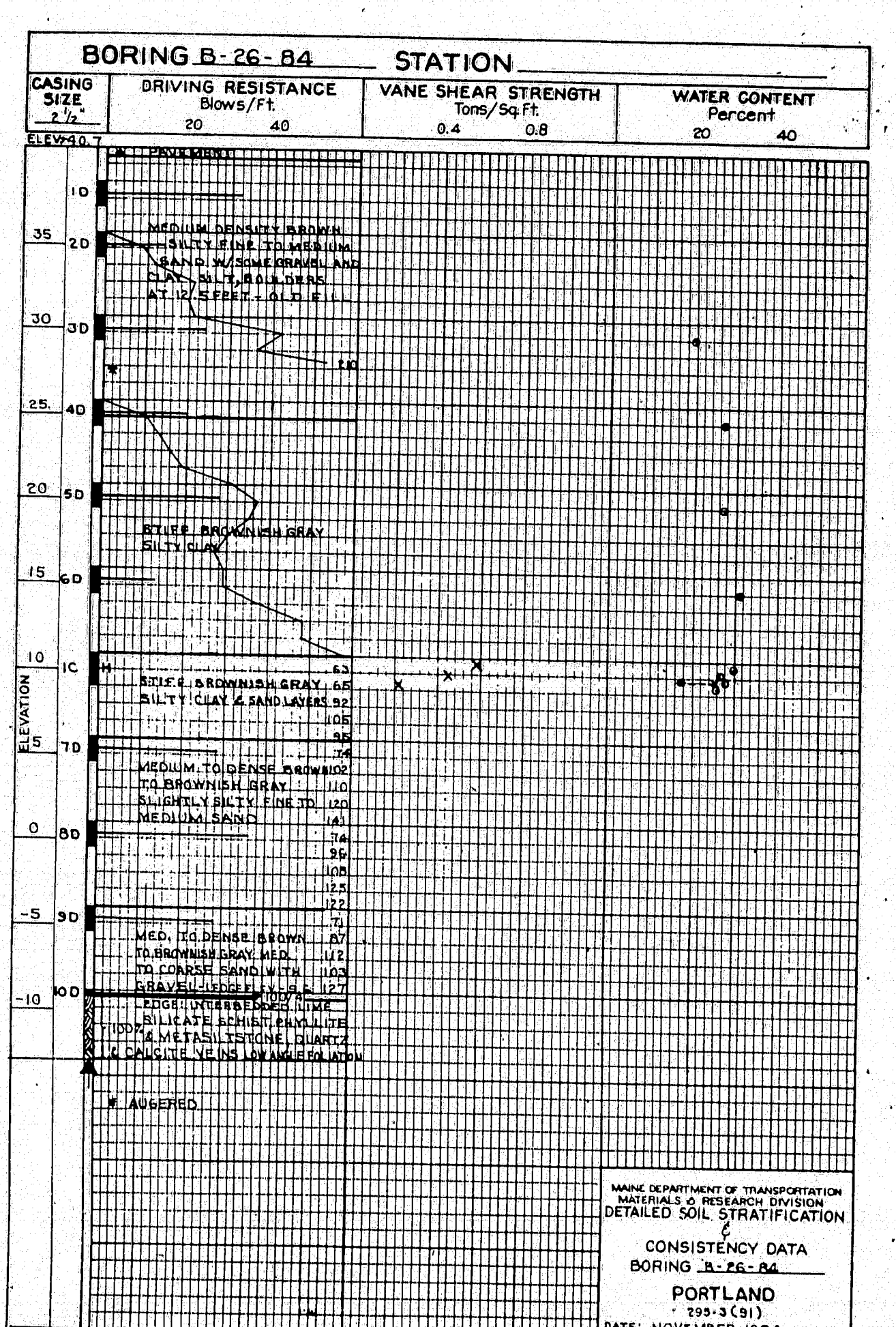
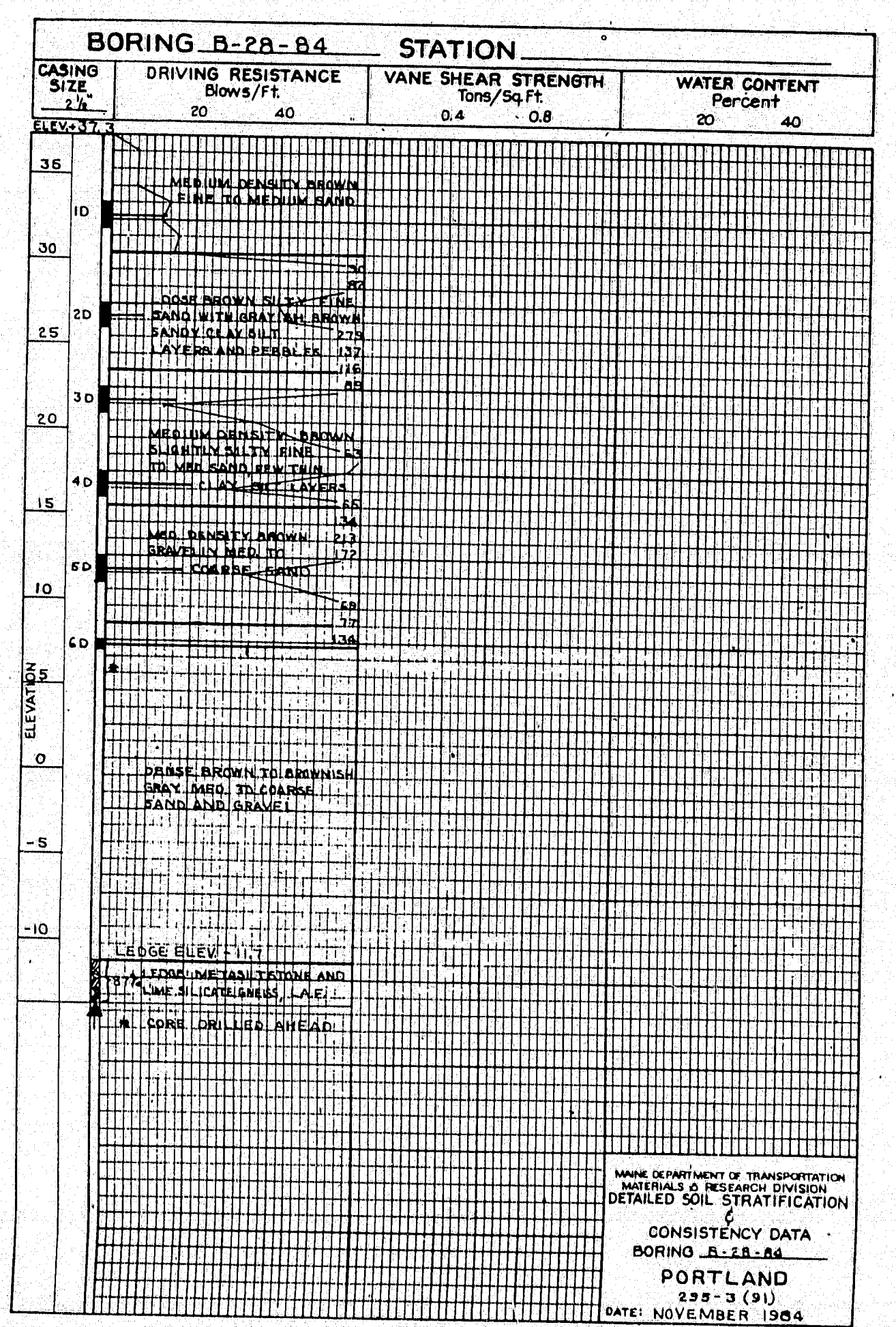
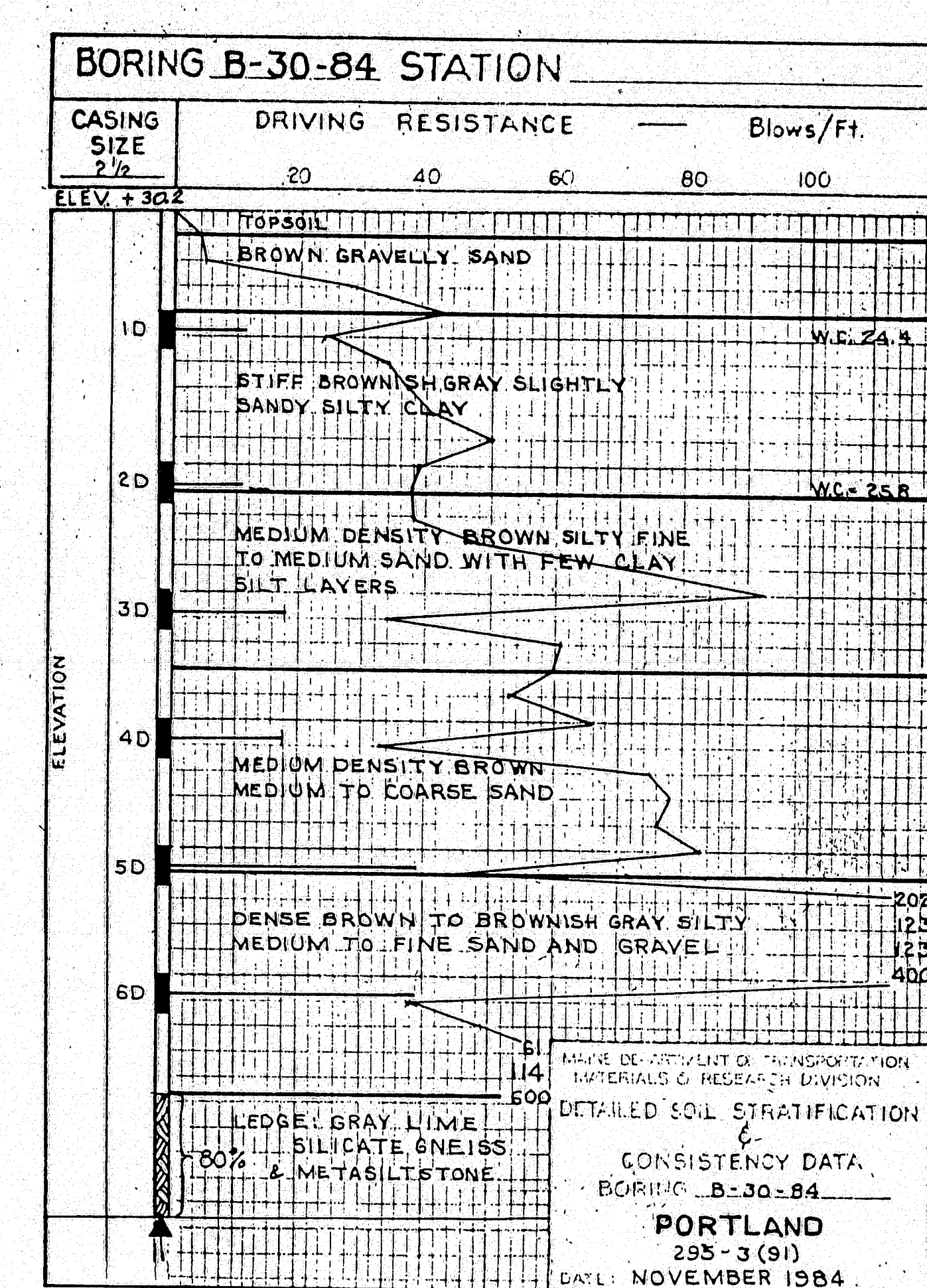
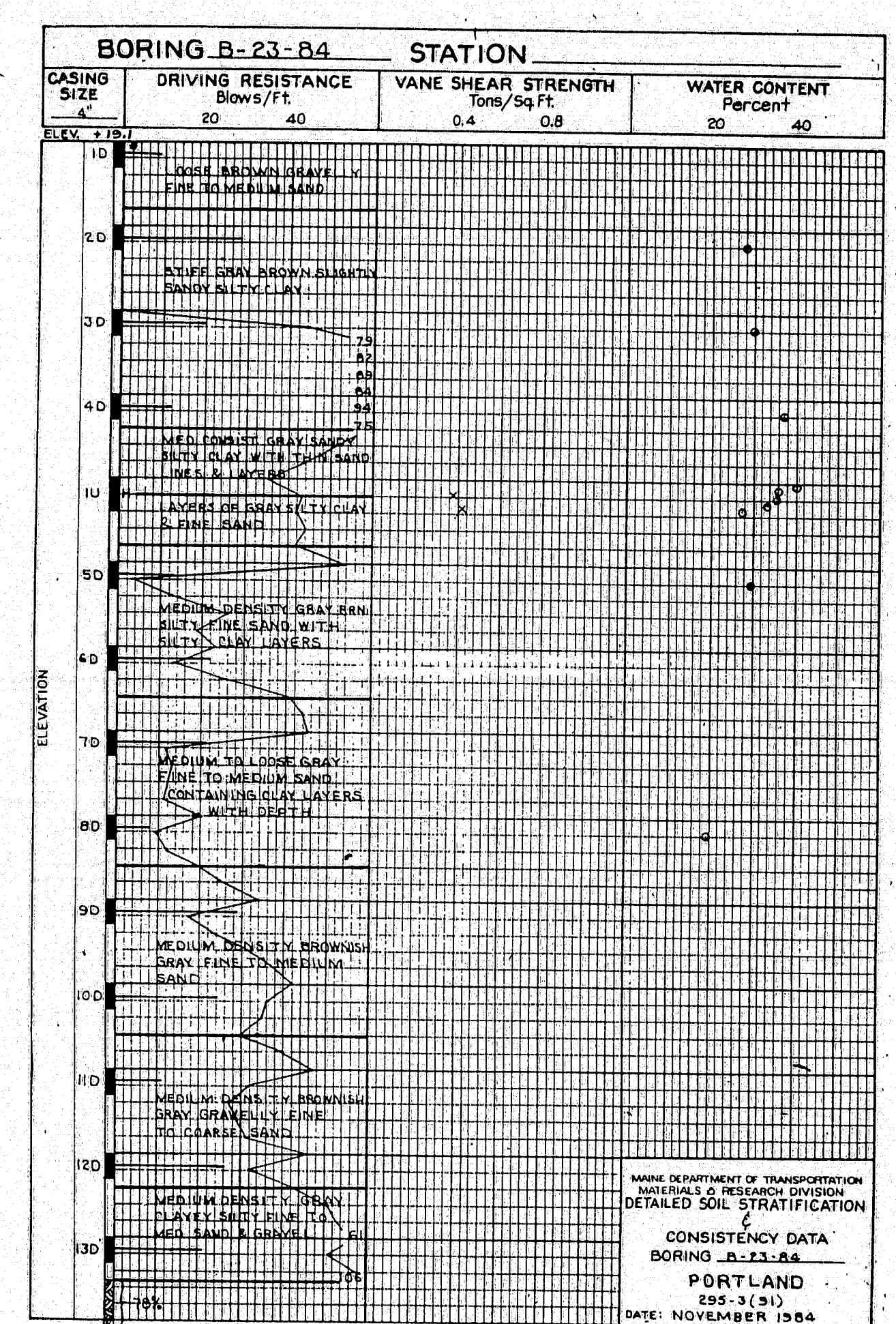
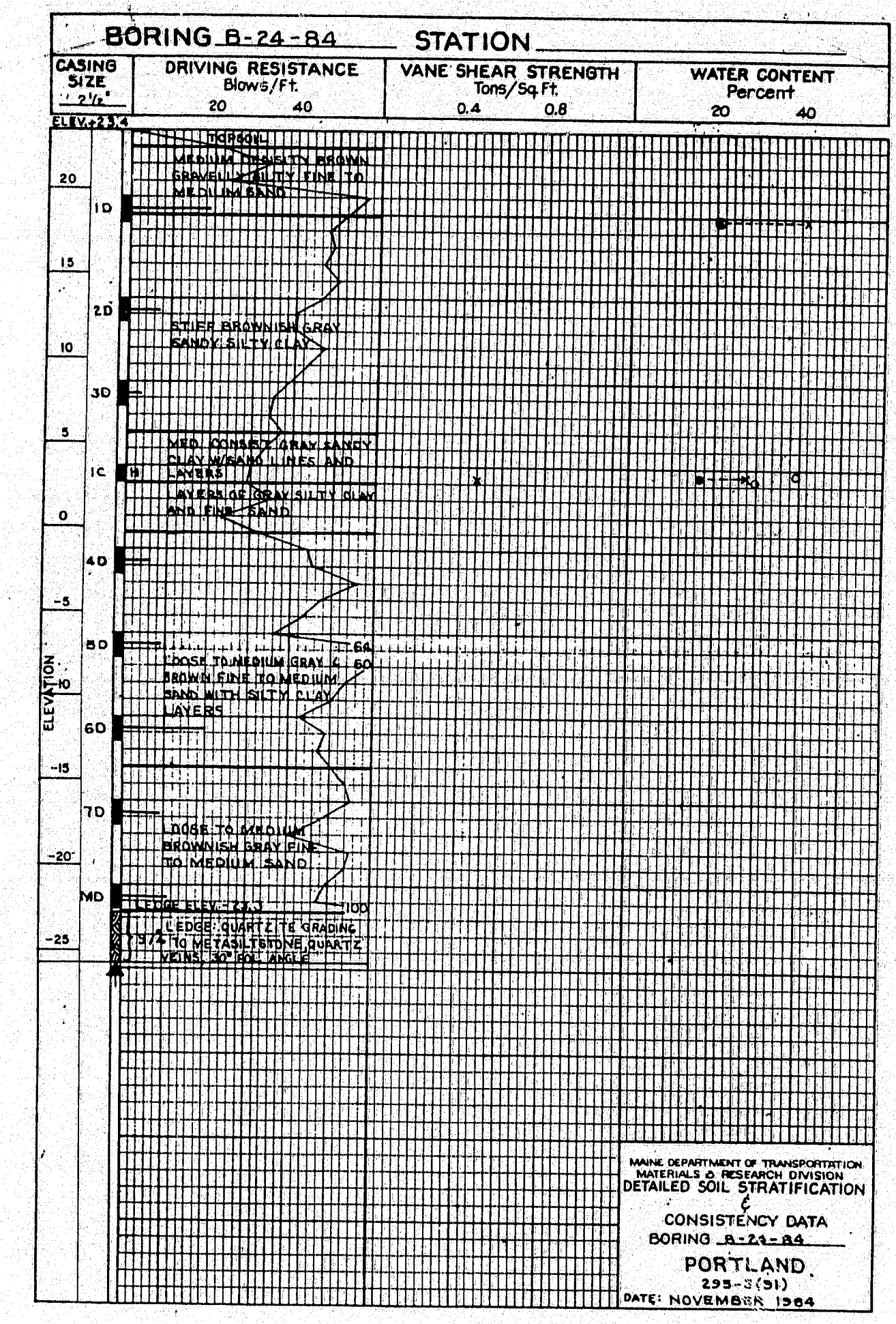
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

STANDARD DETAILS  
(BD 127-81)

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

102-182  
Revd Pile Tip Note 1 1-86  
ADDED NOTE 1 85  
Added 13 HP's 7-83  
REVISIONS Date  
SHEET 41 OF 43 AUGUSTA, MAINE JUNE 1981





NOTES  
1. SEE SHEET NO. 446 FOR EXPLORATION LOCATIONS, GENERALIZED SOIL PROFILES, AND REFERENCE NOTES.

102-183

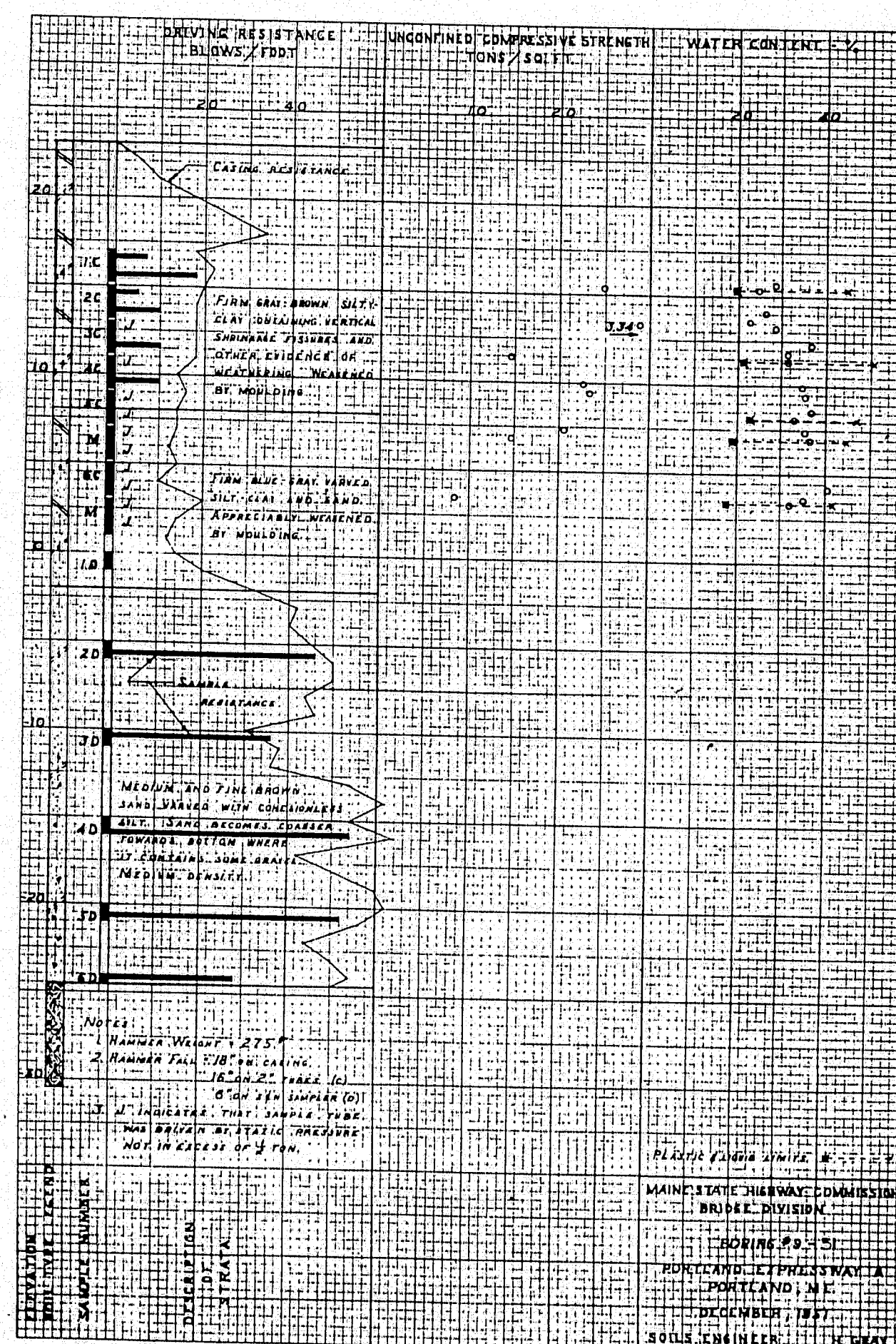
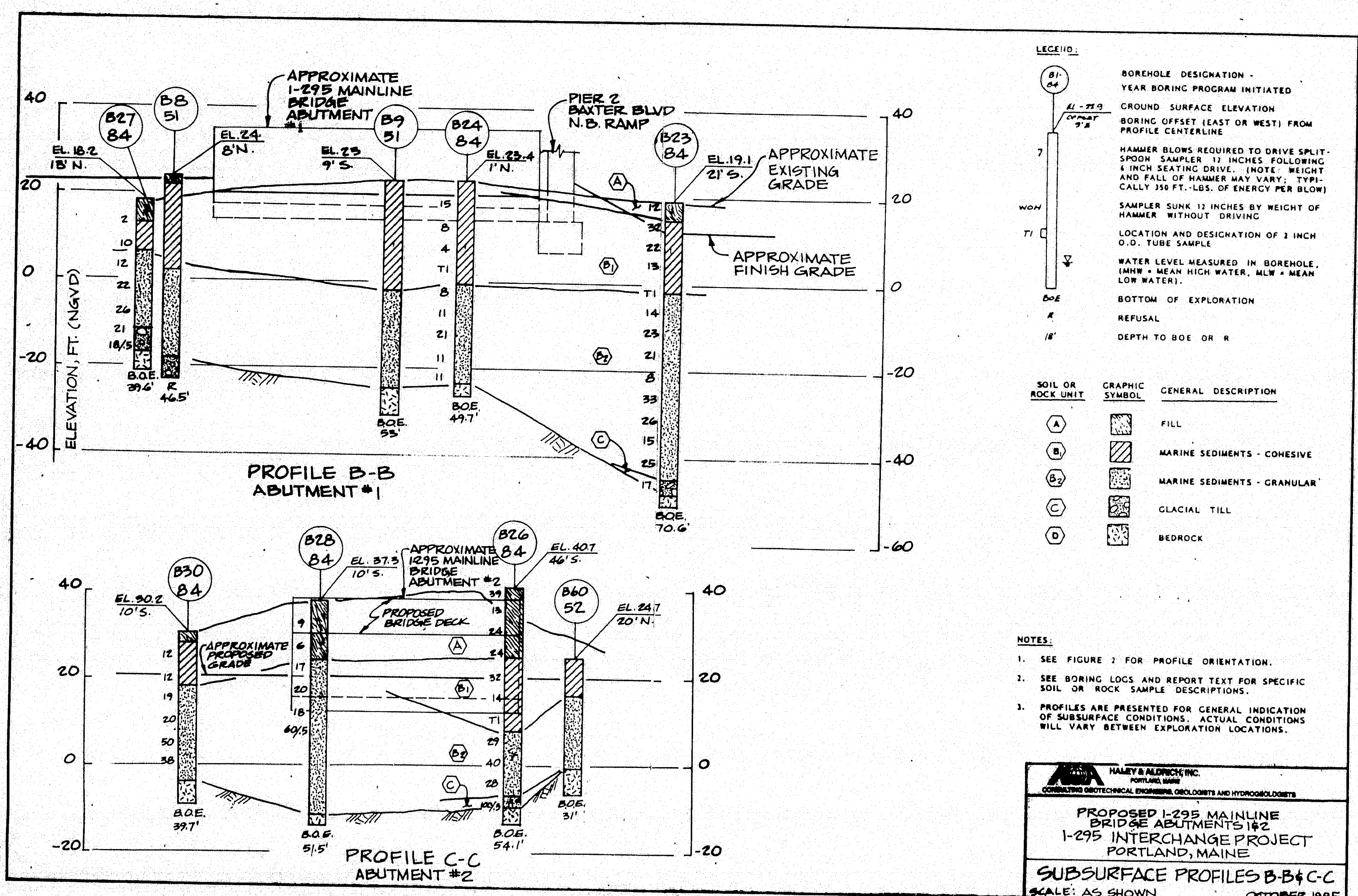
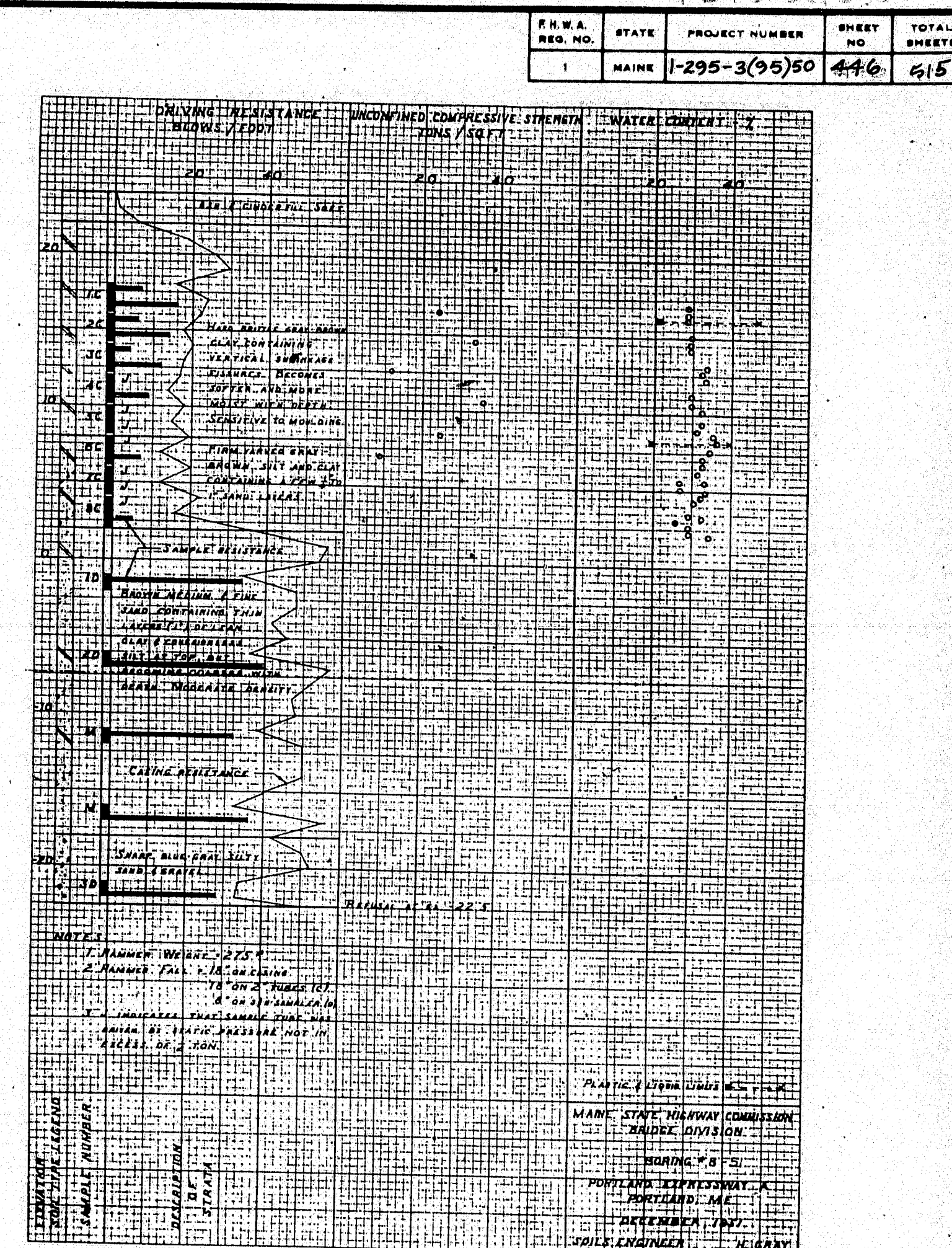
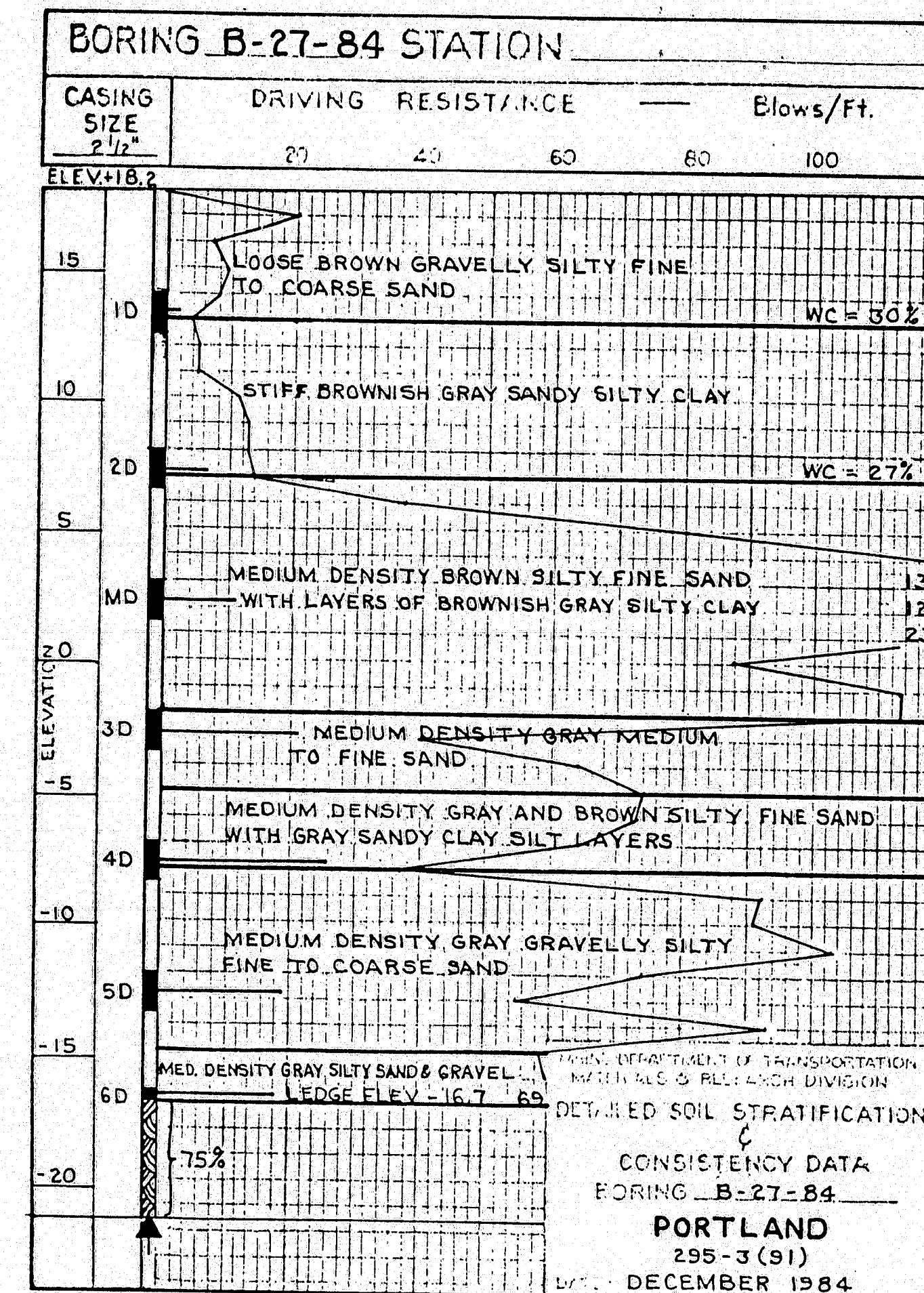
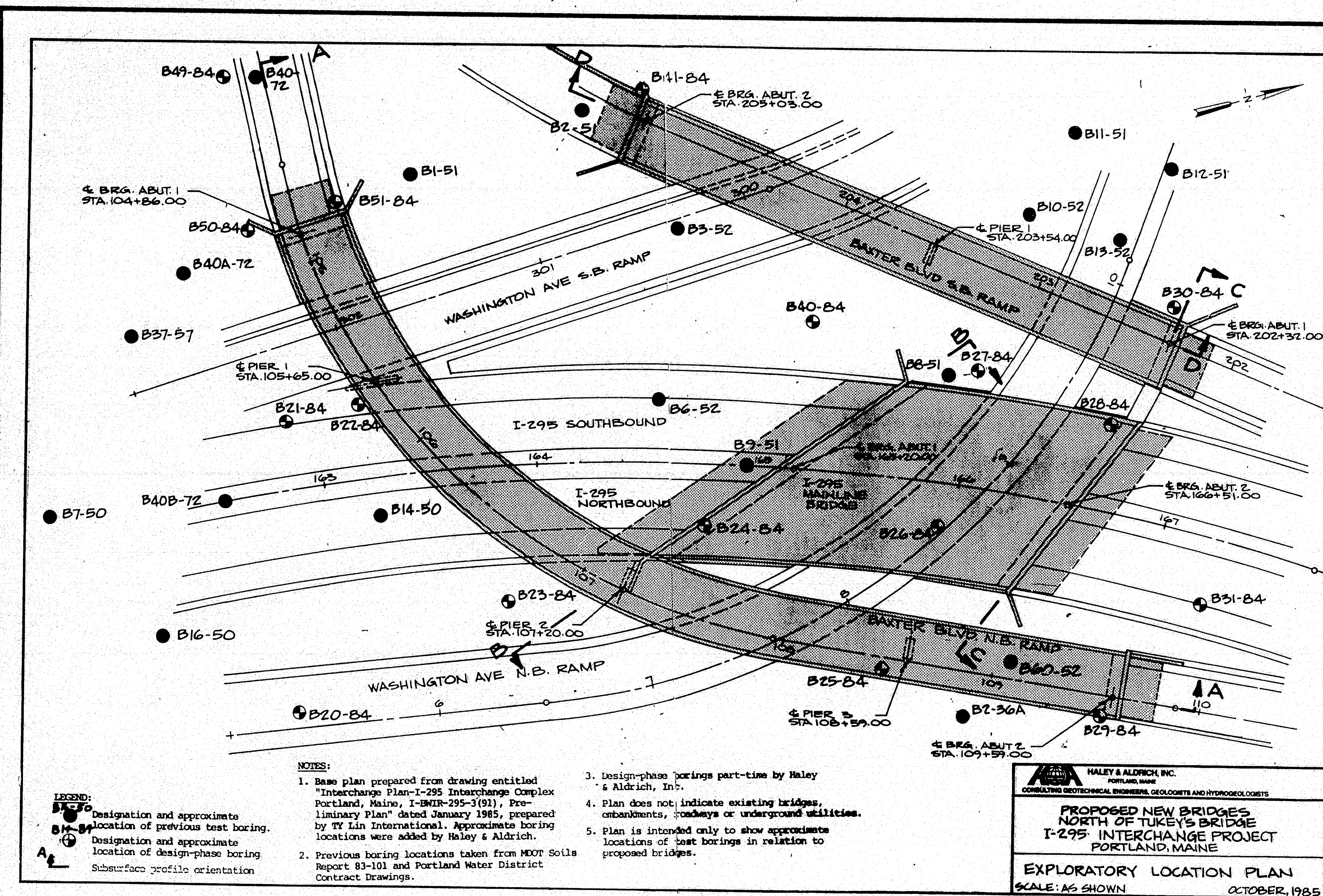
PROJECT DESIGN ENGINEER  
DESIGN - DETAILED  
CHECKED  
REVISIONS  
FIELD CHANGES

DATE

PLANS

BORING 44-132-4570.1





- NOTES**
1. BORING LOCATION PLAN AND SOIL-PROFILES WERE TAKEN FROM "REPORT ON PROPOSED BAXTER BOULEVARD NORTHBOUND RAMP, I-295 MAINLINE BRIDGE AND BAXTER BOULEVARD SOUTHBOUND RAMP, I-295 INTERCHANGE PROJECT PORTLAND, MAINE" PREPARED BY HALEY & ALDRICH, INC. AND DATED 3 OCTOBER 1985.
  2. REFER TO THE ABOVE REFERENCED GEOTECHNICAL REPORT FOR DISCUSSION OF SUBSURFACE CONDITIONS AND FOUNDATION CONSTRUCTION CONSIDERATIONS.
  3. TEST BORING LOGS PREPARED BY MATERIAL & RESEARCH DIVISION, MAINE DEPARTMENT OF TRANSPORTATION.
  4. BORINGS DRILLED PRIOR TO 1984 REPRESENT GROUND SURFACE ELEVATIONS AND SUBSURFACE STRATIFICATIONS WHICH EXISTED AT THE TIME OF DRILLING.

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STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
I-295 PORTLAND  
CUMBERLAND COUNTY  
I-295 OVER WASHINGTON AVENUE  
SUBSURFACE SOILS DATA  
SHEET 42 OF 43 AUGUSTA, MAINE