

CONTRACT No. B-9658

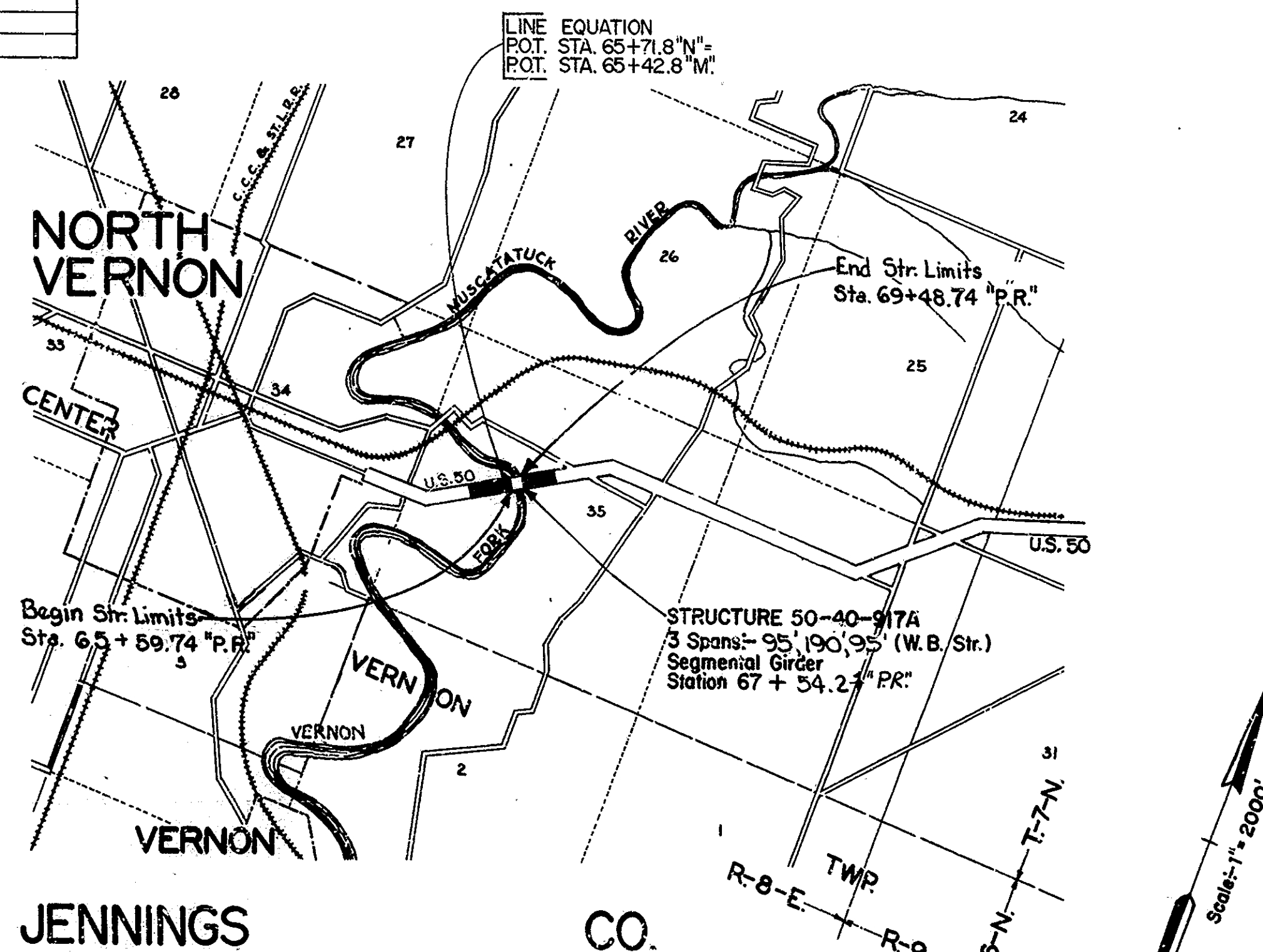
INDEX					
PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION
ST-151 E	50-40-917A	SEGMENTAL GIRDER W.B. STR.	95', 190', 95'	VERNON FORK MUSCATATUCK RIVER	67+54.24 "PR" C. STR.
SHEET NO.	SHEET DESIGNATION	SUBJECT			ENR/A APPROVAL
1		INDEX & TITLE SHEET			
2	C 1 SHEET No 9	LAYOUT Br. Proj. RF-151(12)			
3	C 2 SHEET No 10	GENERAL PLAN -- Br. Proj. RF-151(12)			
4	C 3 SHEET No 11	PLAN & ELEVATION -- W.B. STR.			
5	C 4 SHEET No 12	ABUTMENT No 1 & RETAINING WALL -- W.B. STR. -- Br. Proj. RF-151(12)			
6	C 8 SHEET No 16	PIER No 2 & No 3 DETAILS -- Br. Proj. RF-151(12)			
7	C 10 SHEET No 18	ABUTMENT No 4 & RETAINING WALL DETAILS (W.B. STR.) -- Br. Proj. RF-151(12)			
8	C 14 SHEET No 22	ERECTOR DETAILS (W.B. STR.) -- Br. Proj. RF-151(12)			
9-12	C 15-C 18 No 23-26	POST-TENSIONING DETAILS (W.B. STR.) -- Br. Proj. RF-151(12)			
13	C 19	PRECAST SEGMENT GENERAL REINFORCING DETAILS (W.B. STR.)			
14-15	C 20-C 21	PIER SEGMENT No 1 DETAILS (W.B. STR.)			
16	C 22	SEGMENTS No 2 & No 3 REINFORCING DETAILS (W.B. STR.)			
17	C 23	SEGMENT No 20 REINFORCING DETAILS (W.B. STR.)			
18	C 24	SEGMENT No 23 REINFORCING DETAILS (W.B. STR.)			
19	C 25	SEGMENT No 24A & No 24B REINFORCING DETAILS (W.B. STR.)			
20	C 26 SHEET No 34	MIDSPAN SPLICE DETAILS (W.B. STR.) -- Br. Proj. RF-151(12)			
21	C 27 SHEET No 35	MISCELLANEOUS SUPERSTRUCTURE DETAILS (W.B. STR.) -- Br. Proj. RF-151(12)			
22	C 49 SHEET No 57	TYPE H EXPANSION JOINT DETAIL, BR. PROJ. RF-151(12)			

NOTE: DISCONTINUITY IN SHEET DESIGNATION WAS DONE TO SECURE SHEET DESIGNATION CONTINUITY ON PROJ. RF-151(12).

STATE OF INDIANA
INDIANA STATE HIGHWAY COMMISSION

BRIDGE PLANS FOR SPANS OVER 20 FEET ON U.S. ROAD NO. 50 PROJECT NO. ST-151 E

BEGINNING AT A POINT ON U.S. 50 APPROX. 1107.5' SOUTHWEST OF THE EAST LINE OF THE NORTHWEST QUARTER OF SEC. 35 & EXTENDING APPROX. 389' NORTH EASTERLY TO A POINT ON U.S. 50 APPROX. 718.5' SOUTHWEST OF THE EAST LINE OF THE NORTHWEST QUARTER OF SEC. 35, ALL IN JENNINGS CO.



REVISIONS	
DATE	SHEET NO.

INDIANA STATE HIGHWAY COMMISSION
STANDARD SPECIFICATIONS DATED 1971
TO BE USED WITH THESE PLANS.

BRIDGES OVER 20' SPAN					
FEDERAL DISTRICT	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	ST-151 E	1973	1	23

INDEX CONTINUED STANDARD DRAWINGS				
SHEET NO.	SHEET DESIGNATION	SUBJECT	ENR/A APPROVAL	ADOPTED REVISION
BRIDGE STD. BR1	ALUMINUM BRIDGE RAILING			
BRIDGE STD. BR2	ALUMINUM BRIDGE RAILING DETAILS			
BRIDGE STD. BR3	STEEL BRIDGE RAILING			
BRIDGE STD. BR4	STEEL BRIDGE RAILING DETAILS			
23	BRIDGE STD. C1	MISCELLANEOUS DETAILS		R-6-1-12
BRIDGE STD. C2	MISCELLANEOUS DETAILS			
BRIDGE STD. C3	MISCELLANEOUS DETAILS			
BRIDGE STD. D	CASTING DETAILS ROADWAY DRAINS			
BRIDGE STD. PB	PRESTRESSED CONCRETE TYPE I-BEAMS			
BRIDGE STD. PB	PRESTRESSED CONCRETE TYPE I-BEAMS			
BRIDGE STD. PB6	PRESTRESSED BOX BEAMS			
BRIDGE STD. PB	PRESTRESSED COMPOSITE BOX BEAMS WIDE			
BRIDGE STD. PB	PRESTRESSED COMPOSITE BOX BEAMS WIDE			
BRIDGE STD. PB10	TOLERANCES FOR FABRICATION OF PRESTRESSED BEAMS			
BRIDGE STD. PB11	ELASTOMERIC BEARING PAD DETAILS			
BRIDGE STD.				
BRIDGE STD. R2A	BRIDGE LIGHTING DETAILS			
BRIDGE STD. S1	MISCELLANEOUS DETAILS			
BRIDGE STD. SH1	STEEL SHOE DETAILS			
BRIDGE STD. T SHEET A	STANDARD TEMPORARY BRIDGE			
BRIDGE STD. T SHEET B	STANDARD TEMPORARY BRIDGE			
BRIDGE STD.				
BRIDGE STD.				
ROAD STD. SHEET ACRC	STANDARD CONT. REINF. CONC. PAVEMENT			
ROAD STD. SHEET BCRC	STANDARD CONT. REINF. CONC. PAVEMENT			
ROAD STD. SHEET CCRC	STANDARD CONT. REINF. CONC. PAVEMENT			
ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS			
ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MB	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MB2	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MC	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MC1	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MD	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MD	MISCELLANEOUS STANDARDS			
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ROAD STD. SHEET ME	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET ME	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET ME	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MH	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MH	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MI	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MI	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MI	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MI	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MP	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MP	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MQ	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET MR	MISCELLANEOUS STANDARDS			
ROAD STD. SHEET				
ROAD STD.	STANDARD REINF. CONC. BOX CULVERTS			
ROAD STD.	STANDARD REINF. CONC. CULVERTS			
ROAD STD.				
ROAD STD. SHEET GR	GUARD RAIL CLASS			
ROAD STD. SHEET GR4	GUARD RAIL CLASS GA OR GST			
ROAD STD. SHEET GR5	ALUMINUM GUARD RAIL DETAILS			
ROAD STD. SHEET GR6	STEEL TUBE GUARD RAIL DETAILS			
ROAD STD. SHEET GR				
ROAD STD. SHEET GR10	GUARD RAIL BURIED ENDS			
ROAD STD.				
ROAD STD.	STANDARDS FOR SUPERELEVATION			
ROAD STD. SHEET 1 DETOURS	STANDARD DETOUR SIGNS			
ROAD STD. SHEET 2 DETOURS	STANDARD DETOUR SIGNS			
ROAD STD. SHEET 3 DETOURS	STANDARD DETOUR SIGNS			
ROAD STD. SHEET 3A DETOURS	STANDARD DETOUR SIGNS			
ROAD STD.	SPECIAL SIGNS			
ROAD STD. SHEET 1	CONSTRUCTION IDENTIFICATION SIGNS			
ROAD STD.				

TRAFFIC DATA	
A.D.T. (1971)	6,030 V.P.D.
A.D.T. (1991 PROJECTED)	11,450 V.P.D.
D.H.V. (1991 PROJECTED)	1,260 V.P.D.
TRUCKS	DRV. 7% ADT. 16%
DESIGN SPEED	60 M.P.H.
ACCESS CONTROL	NONE

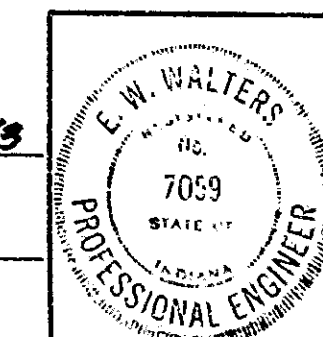
BRIDGE LENGTH: 0.074 MI.
ROADWAY LENGTH: 0.000 MI.
TOTAL LENGTH: 0.074 MI.
MAX. GRADE: +3.20 %

APPROVED 12-28-73

E. W. Walters
CHIEF HIGHWAY ENGINEER - INDIANA STATE HIGHWAY COMMISSION

RECOMMENDED FOR APPROVAL 12-28-73

E. W. Walters
ENGINEER OF BRIDGE DESIGN - INDIANA STATE HIGHWAY COMMISSION



FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION

APPROVED: _____
DIVISION ENGINEER DATE

BRIDGE FILE: 50-40-917A

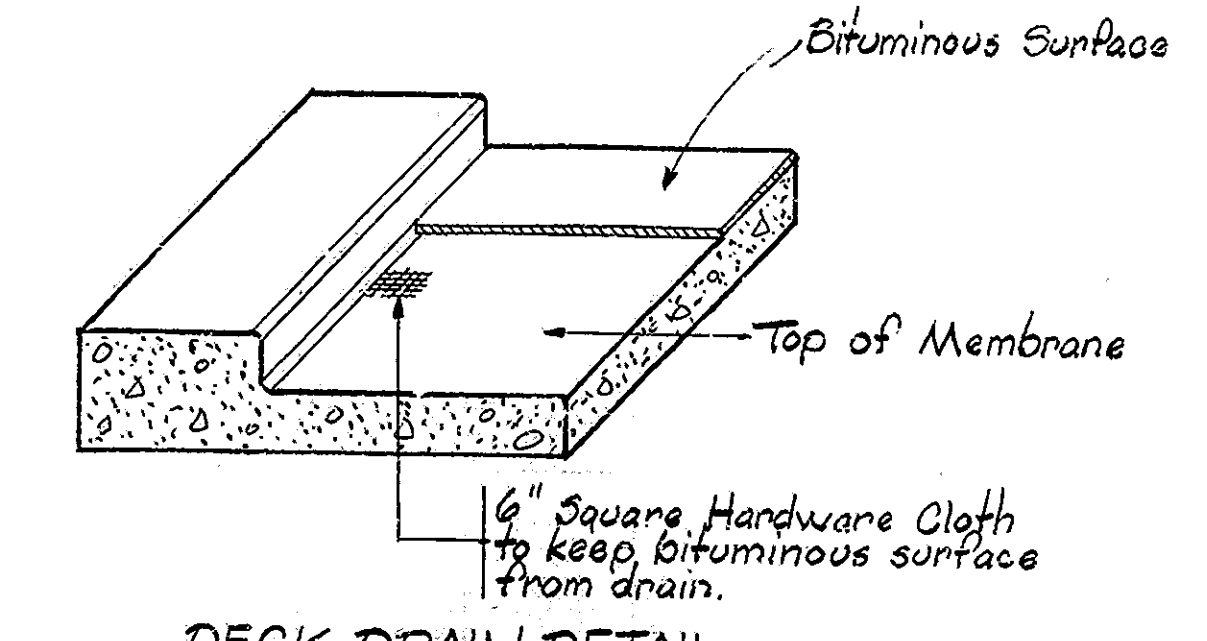
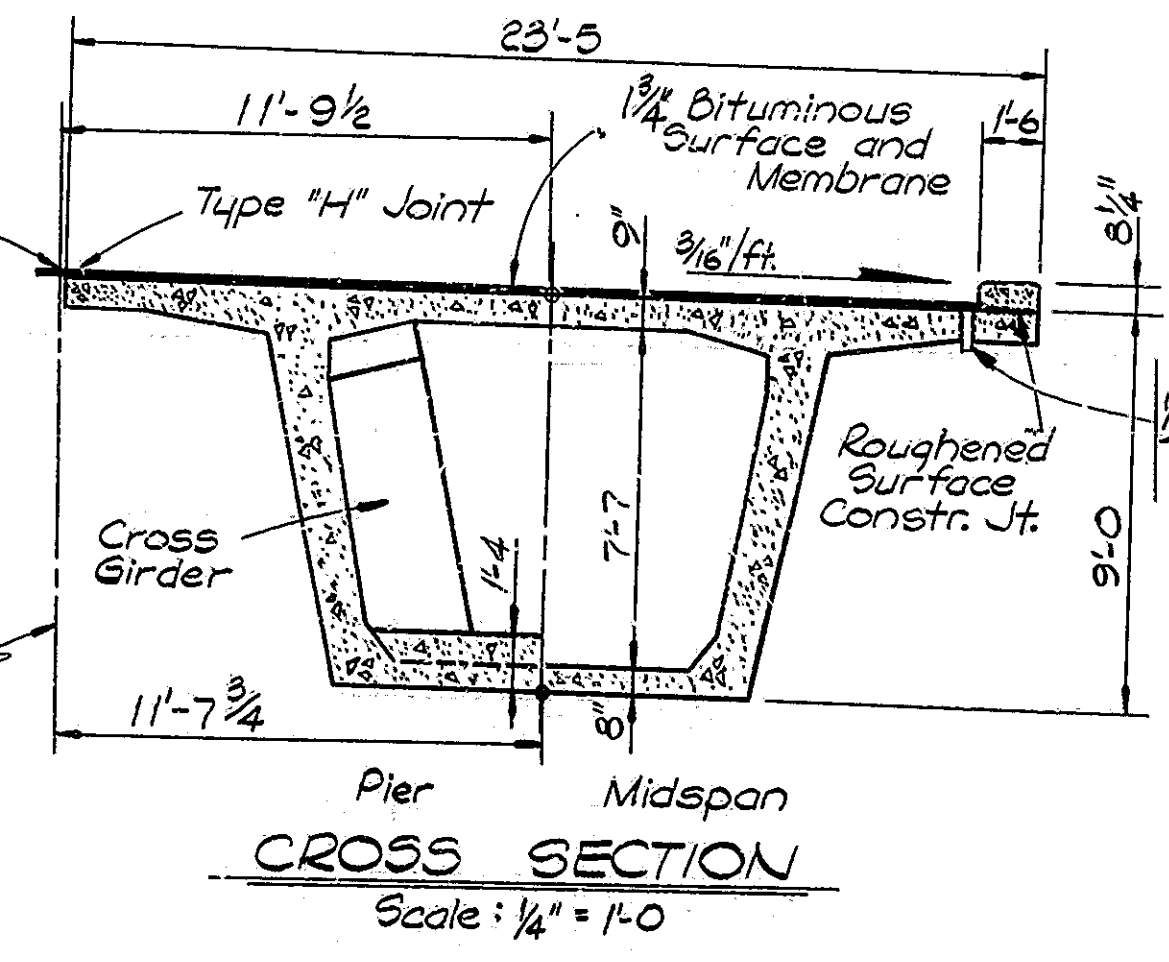
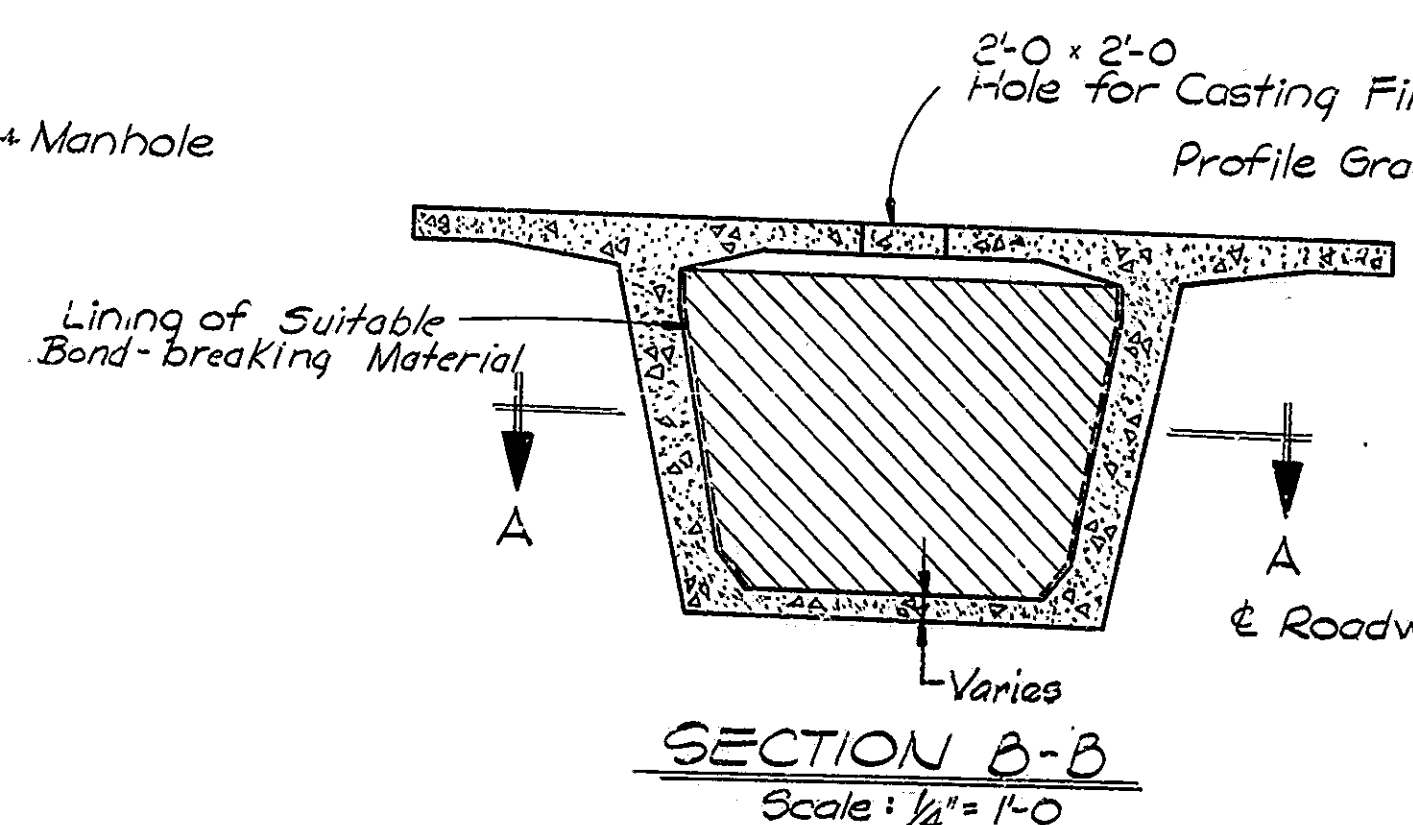
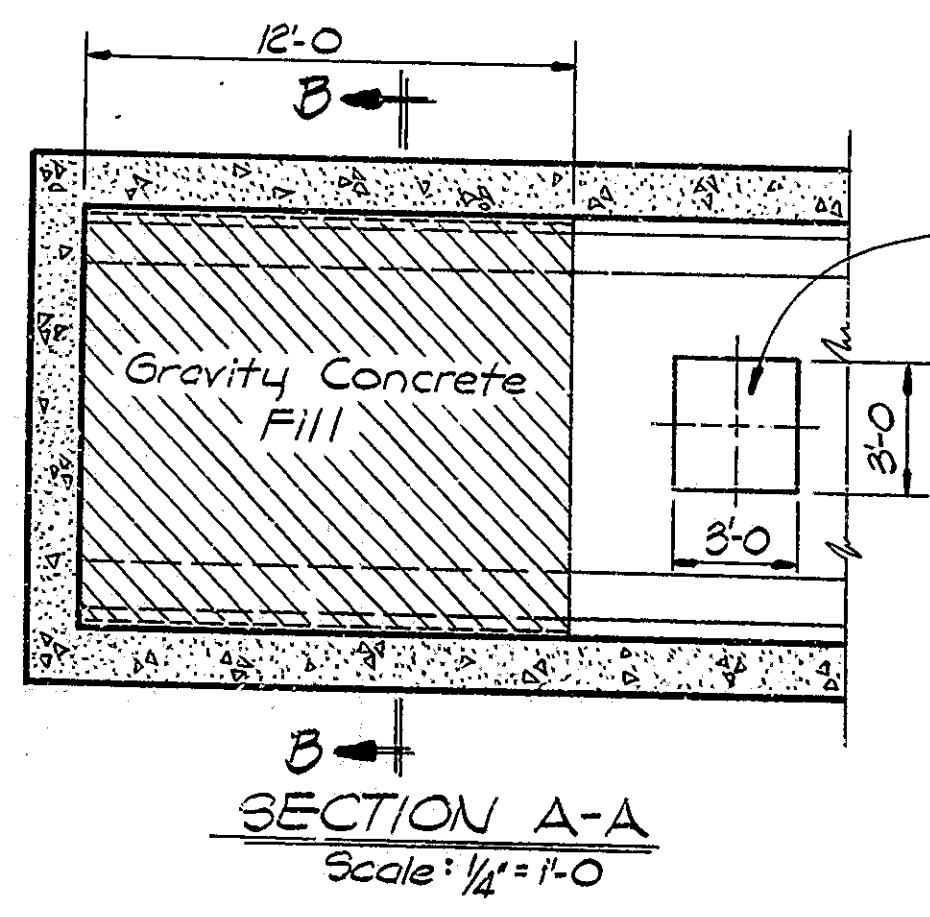
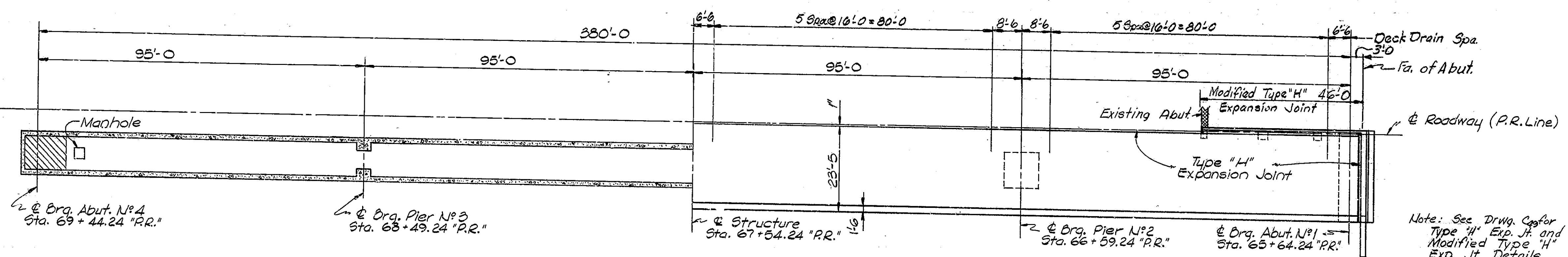
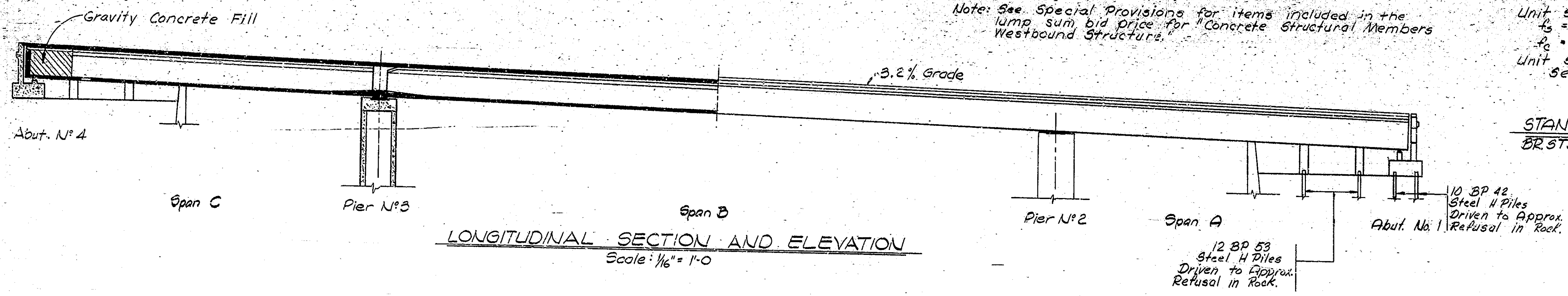
ESTIMATE OF QUANTITIES
CONCRETE STRUCTURAL MEMBERS - WESTBOUND STRUCTURE --- 1 LUMP SUM

Note: See Special Provisions for items included in the lump sum bid price for "Concrete Structural Members Westbound Structure."

DESIGN DATA

Live Load: Designed for H5 20-44 with impact in accordance with 1973 AA & H.O. Specifications.
 Dead Load: Increased 25% / sq. Ft. of roadway for future wearing surface.
 Unit Stresses: (Substructure)
 $f_c = 20,000$ p.s.i.
 $f_s = 1200$ p.s.i.
 Unit Stresses: (Superstructure)
 See Drwg's. C19 and C20

STANDARD DRAWINGS
 BRSTD. C, Reinf. Bar Notes, Bar Bending Details.



GRAVITY FILL DETAILS (Segments 23, 24A & 24B)

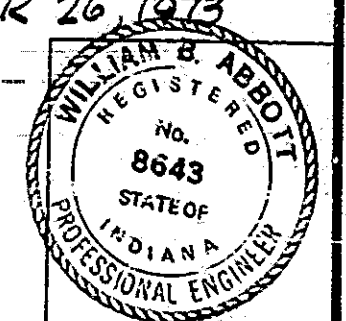
Notes: Gravity concrete is a 2500 p.s.i. (28 day strength) concrete weighing 143 lbs. per cu. ft. minimum (air-entrainment not required).
 Concreting to be done slowly with little or no vibrating in order not to exceed assumed concrete hydrostatic pressure.
 See Erection Procedure (Drwg. C14) for time of placing gravity concrete.
 See Drwg. C23 for Manhole Details.

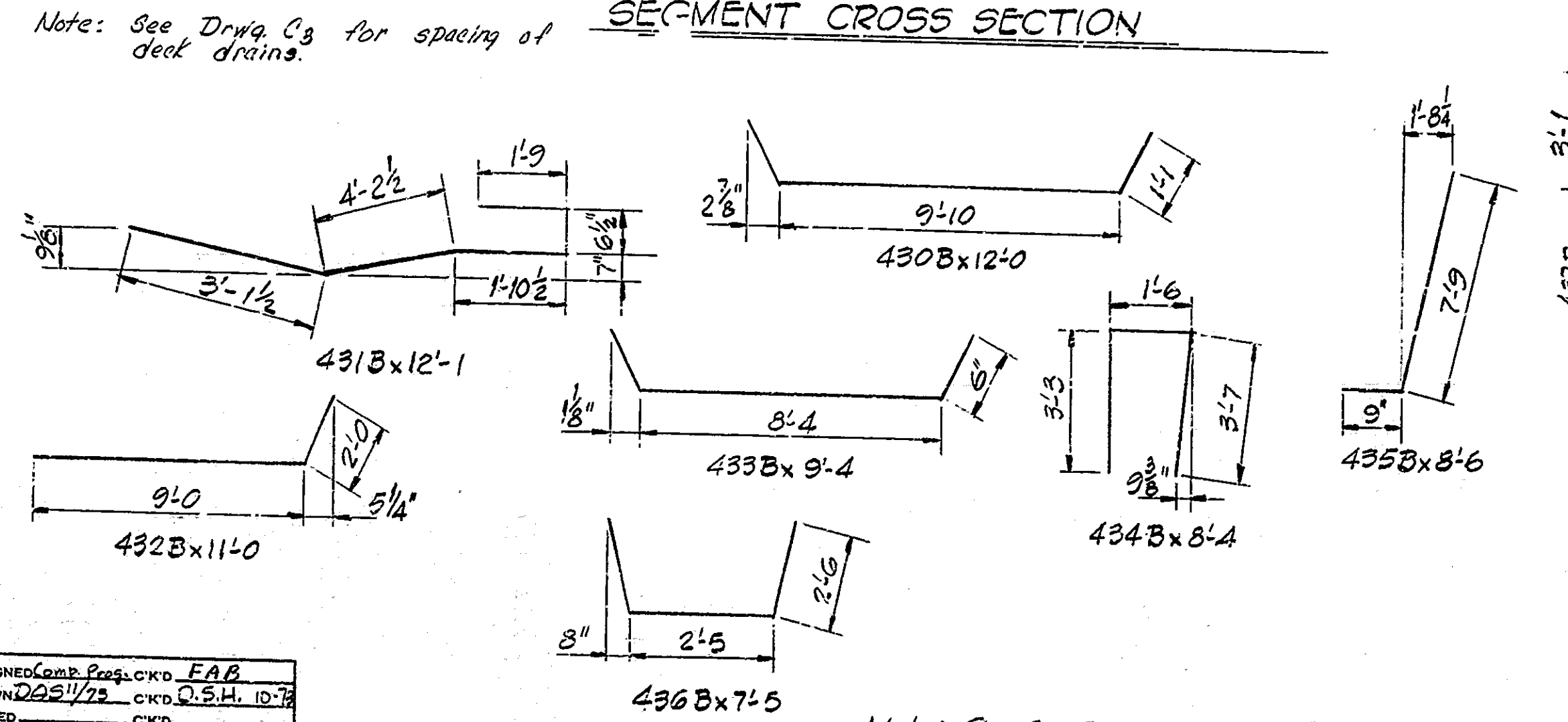
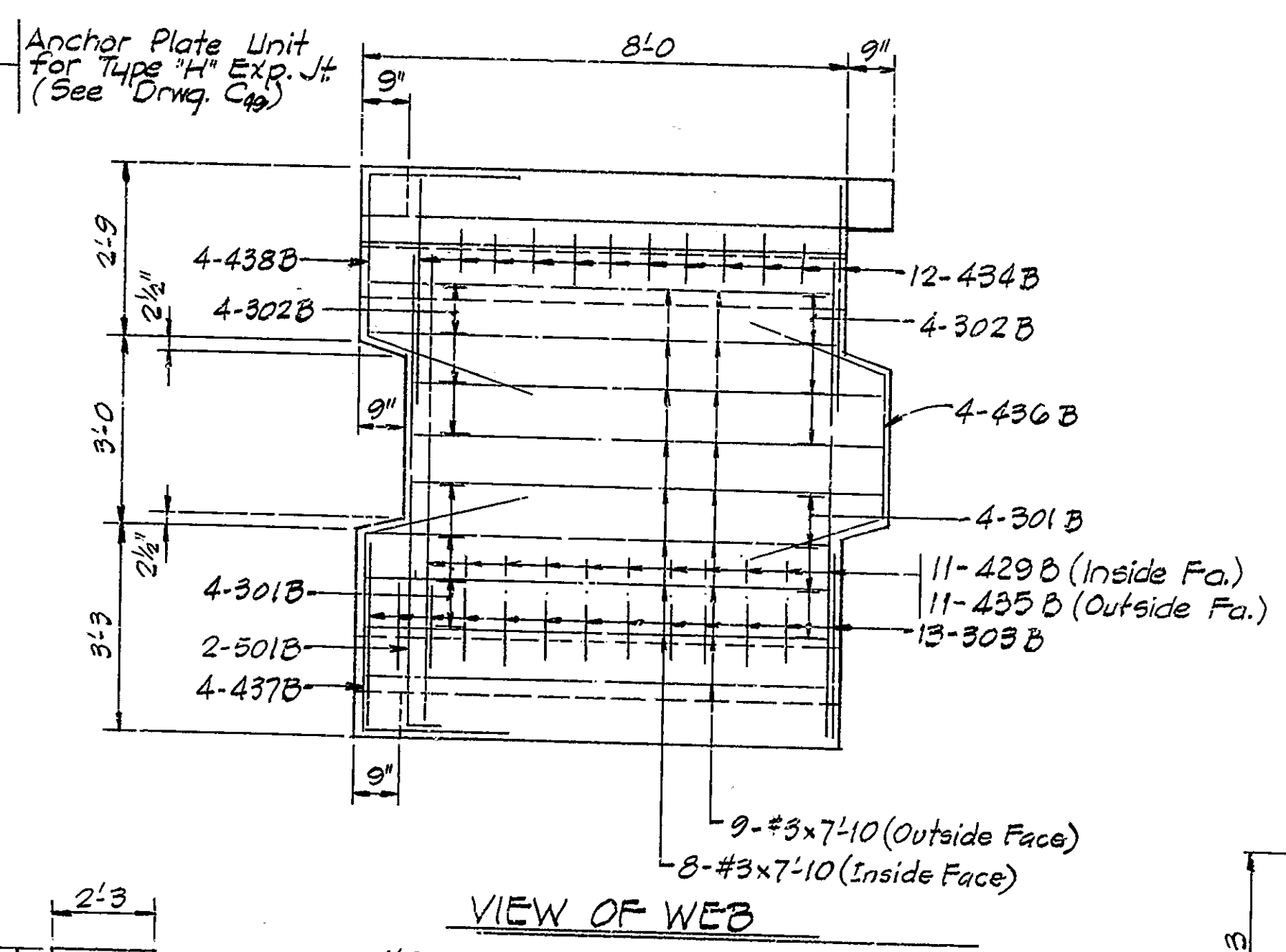
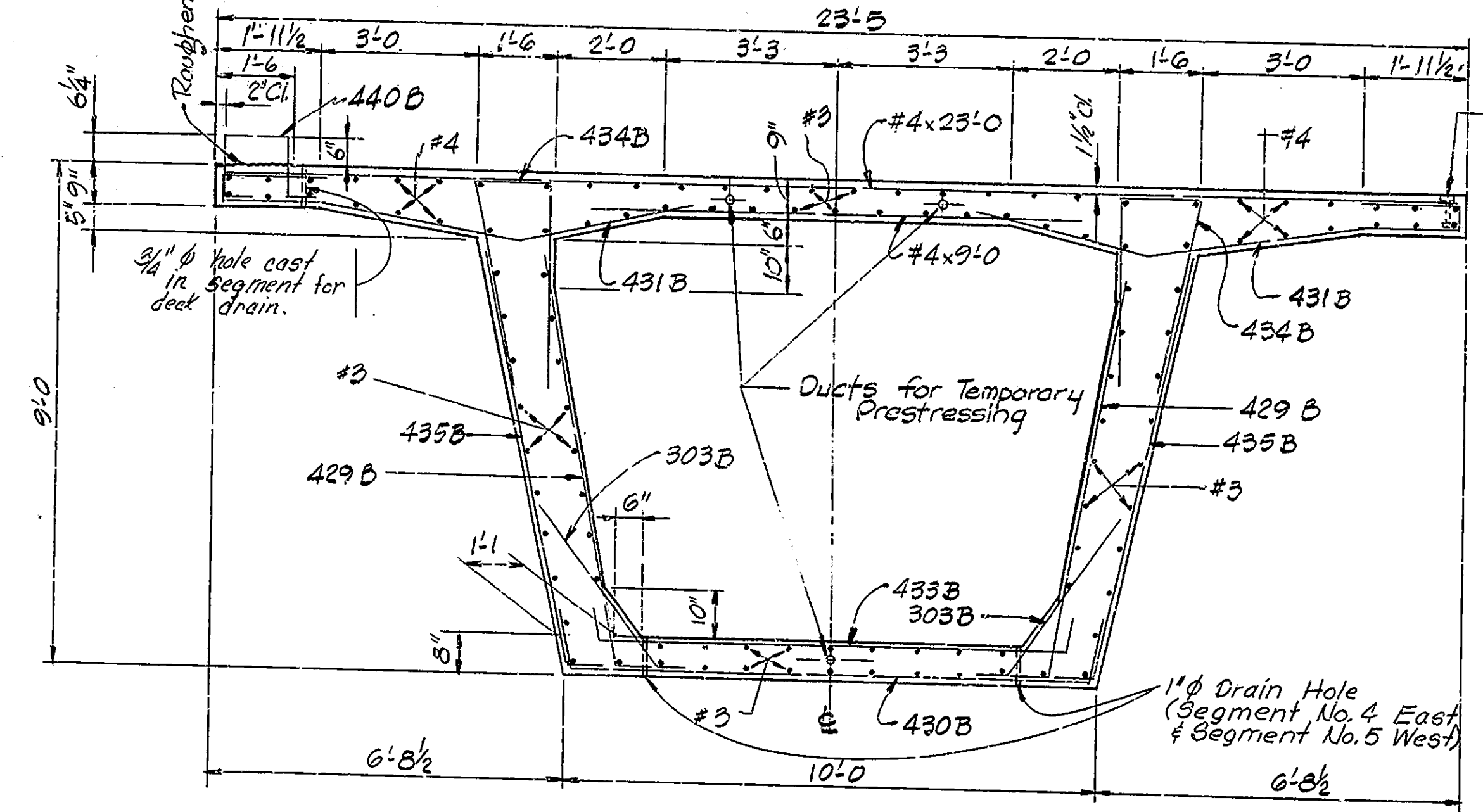
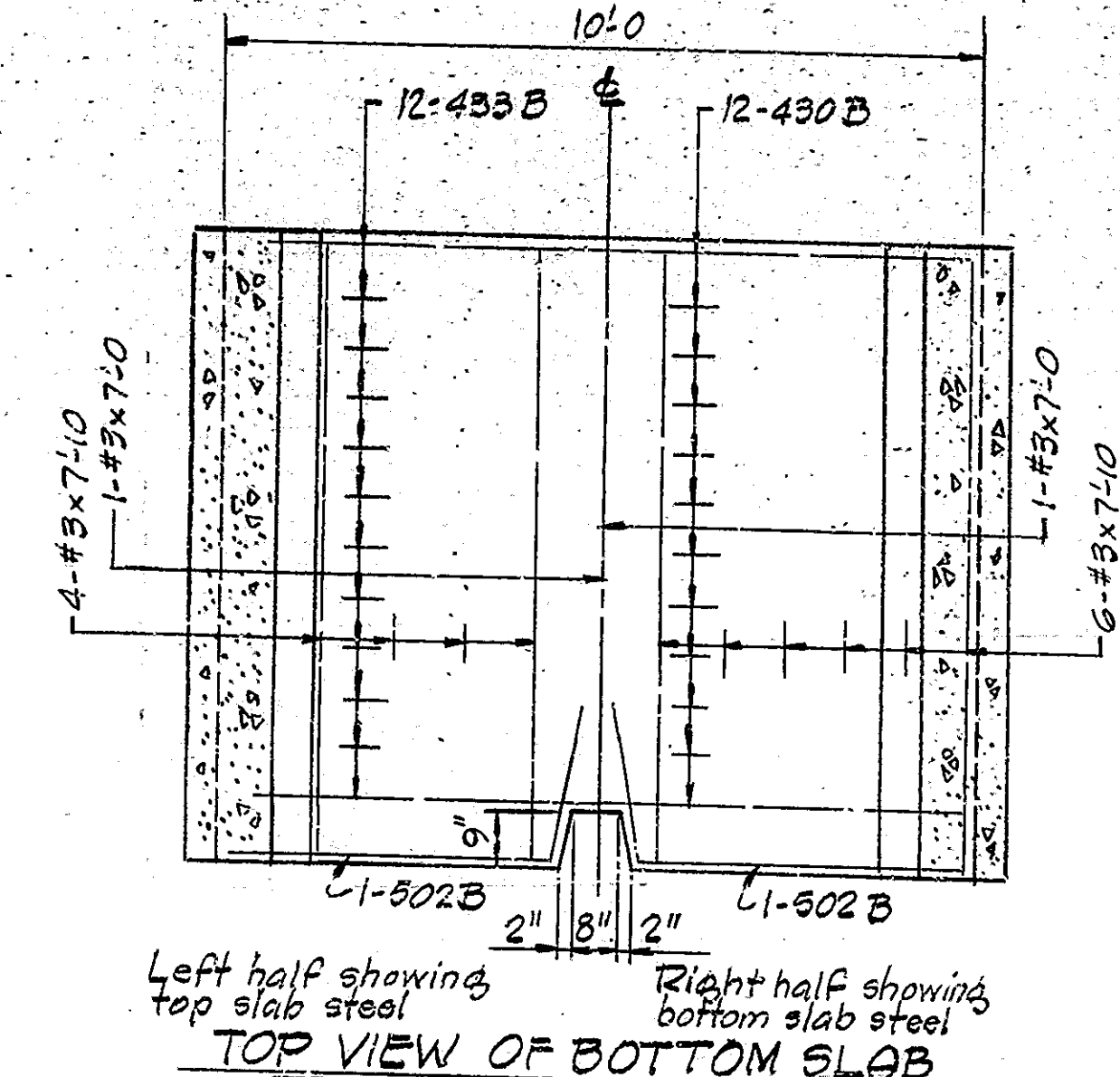
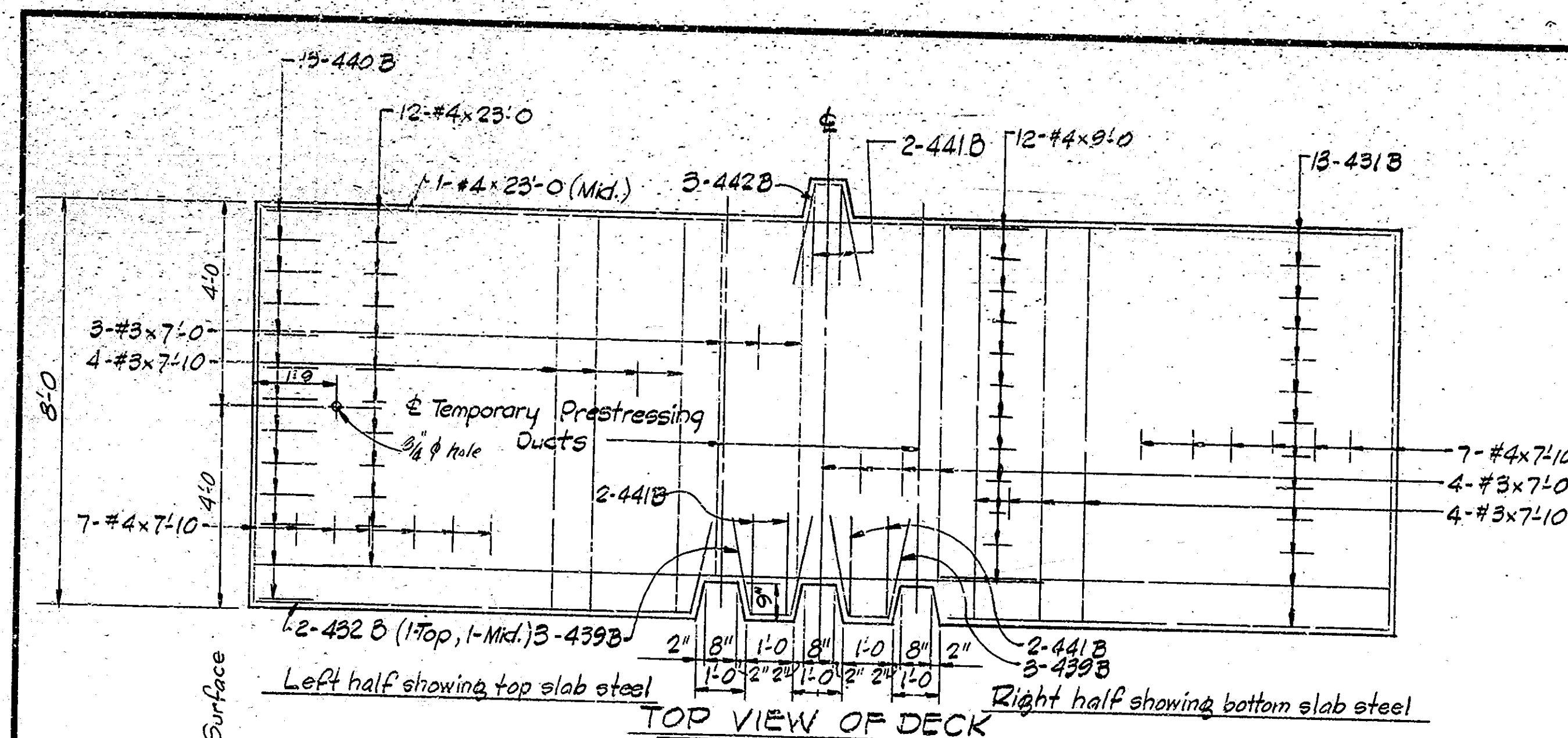
PLAN AND ELEVATION WESTBOUND STRUCTURE

INDIANA STATE HIGHWAY COMMISSION

SCALE: As Noted DATE: DECEMBER 26 1973

DESIGNED: *Comp. Proj. CKD EAB*
 DRAWN: *W. B. CKD EAB*
 TRACED: CKD
 DRAWING: Cg OF 49 SHEET: 4 OF 23
 PROJECT: ST-151E Prefab. RF-151(2) Constr.
 CONTRACT NO. B-9658 Prefab. B-9818 Constr.
 BRIDGE FILE: 50-40-917A





GENERAL NOTES

Minimum handling strength to be 3500 p.s.i.
 Minimum concrete compressive strength to be 2500 p.s.i. @ 28 days.
 Concrete compressive strength to be 2500 p.s.i. at time of post-tensioning.
 Mild steel reinforcing to be Grade 60. (See Special Provisions for use of other than Grade 60 steel.)
 All exposed corners except joint faces shall be chamfered 3/4" or rounded to 3/4" radius.
 All post-tensioning ducts to be tied to the reinforcing steel to insure that proper alignment is maintained during placement of concrete.

Mild steel reinforcing in precast units is subject to adjustments to provide clearances to the post-tensioning ducts and anchorages.

Lifting devices for lifting and erecting precast segments must be guaranteed by the segment manufacturer and approved by the Engineer on the shop drawings.

Reinforcing steel covering shall be 1/2 inches in top of deck and 1 inch in all other faces.

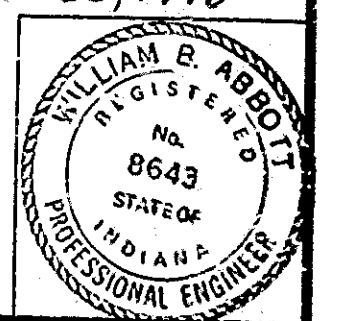
Outside vertical face of precast segment to be given initial rub in plant by the manufacturer and final rub in field by the contractor.

**PRECAST SEGMENT
 GENERAL REINFORCING DETAILS
 WESTBOUND STRUCTURE**

INDIANA STATE HIGHWAY COMMISSION

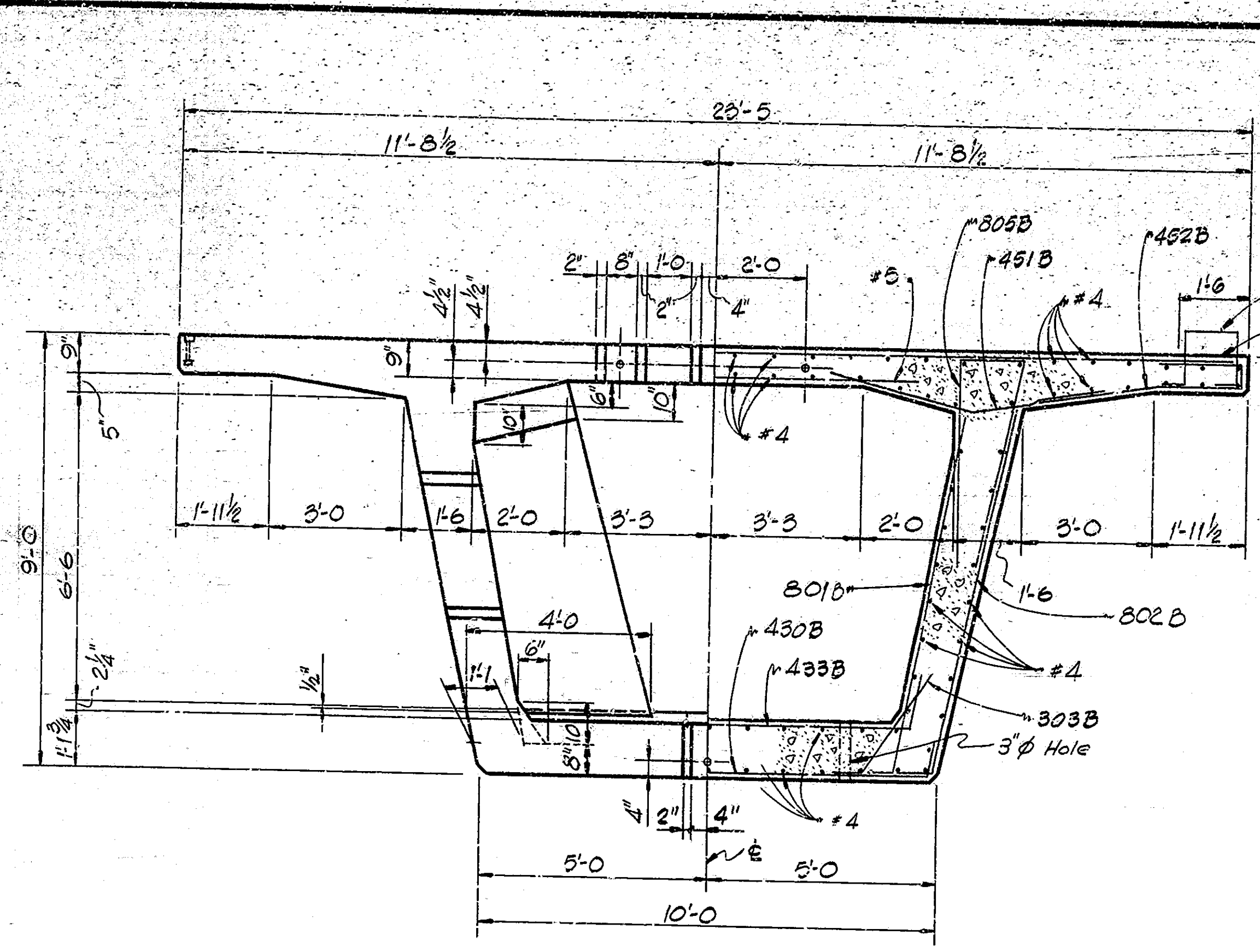
SCALE: 1/2" = 1'-0" DATE: DECEMBER 26, 1973

DRAWING: C19 of 49 SHEET: 13 OF 23
 PROJECT: ST-151E Pre-Fab. RF-151(2) Constr.
 CONTRACT NO. B-9658 Refab. B-9818 Constr.
 BRIDGE FILE: 50-40-917A



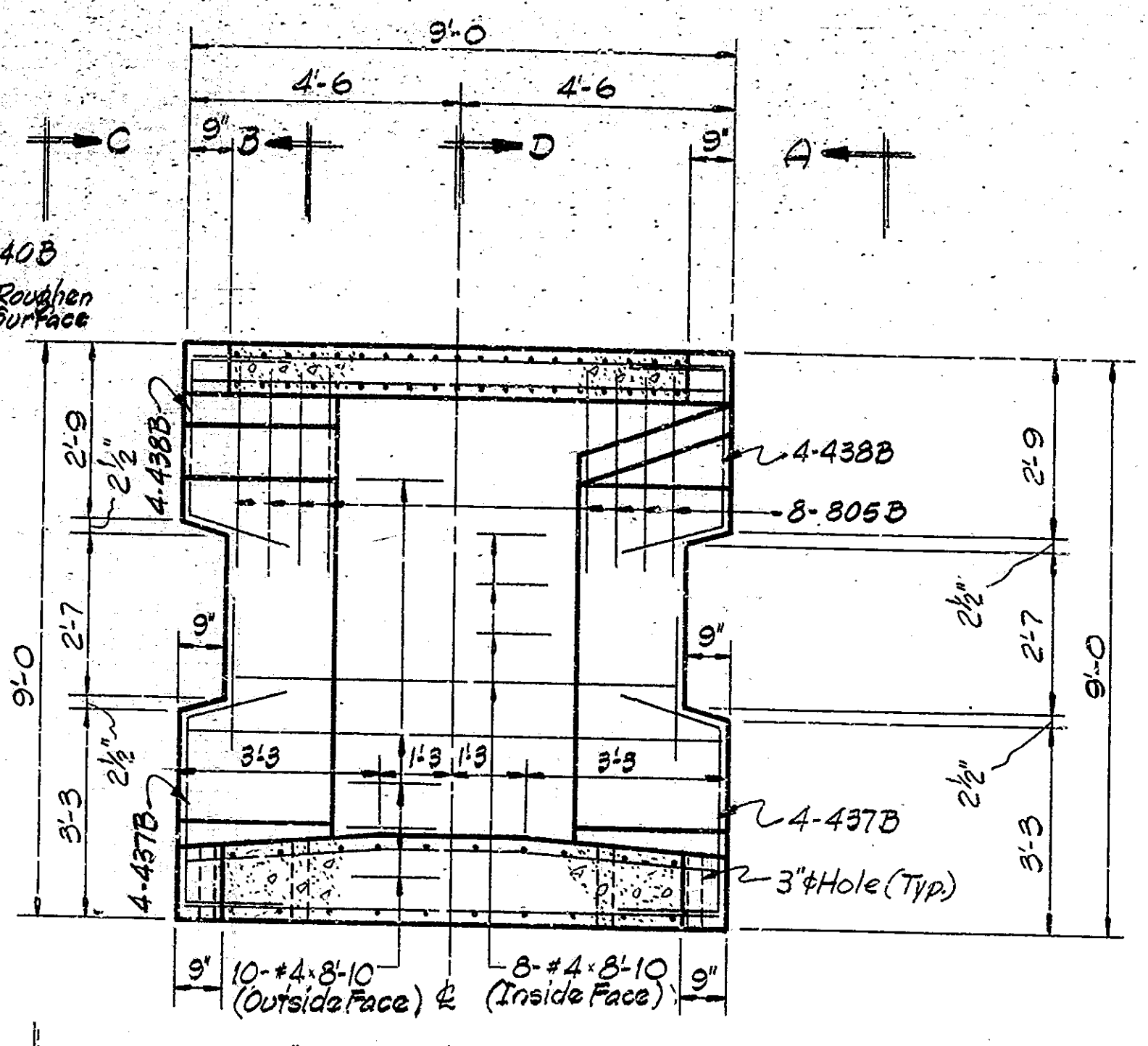
DESIGNED BY: P. S. L. CKD: FAB
 DRAWN BY: J. S. L. CKD: S.H. ID: J
 TRACED: CKD

Note: See Br. Std. C for Reinf. Bar notes.



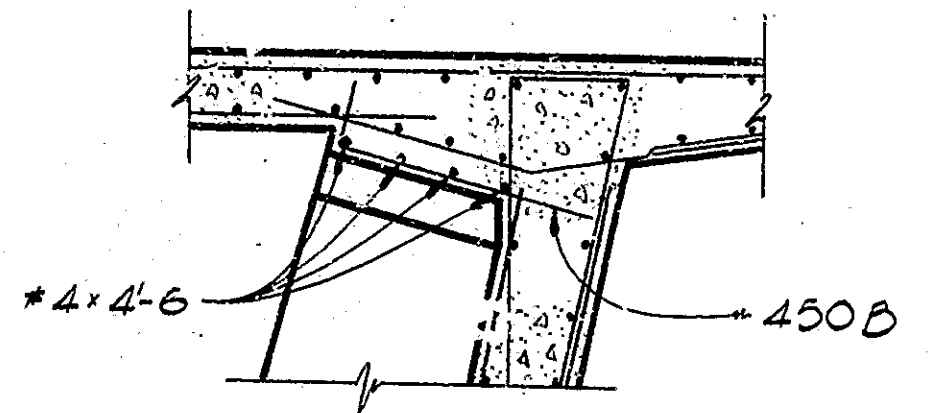
HALF VIEW A-A

HALF SECTION B-B

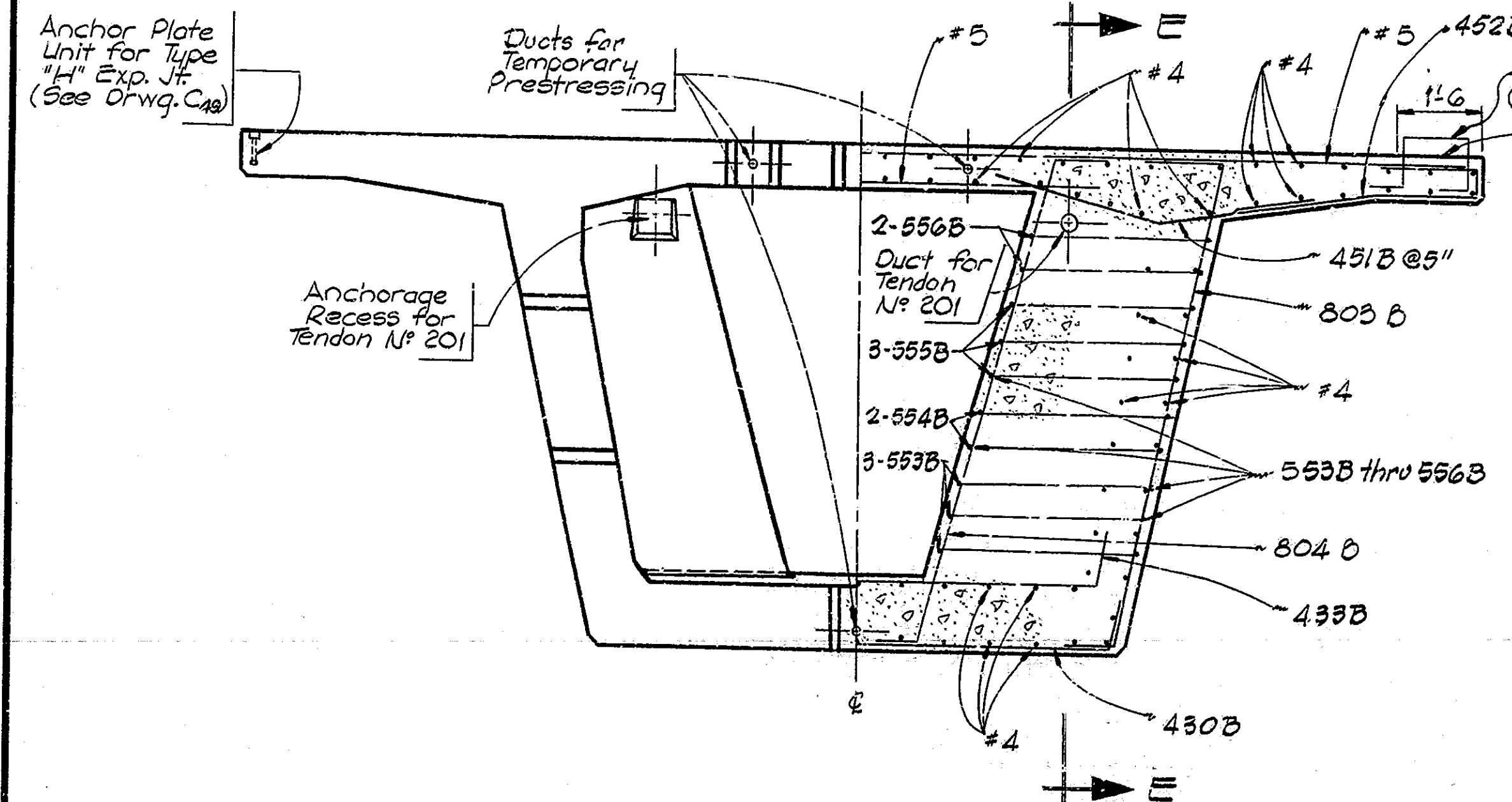
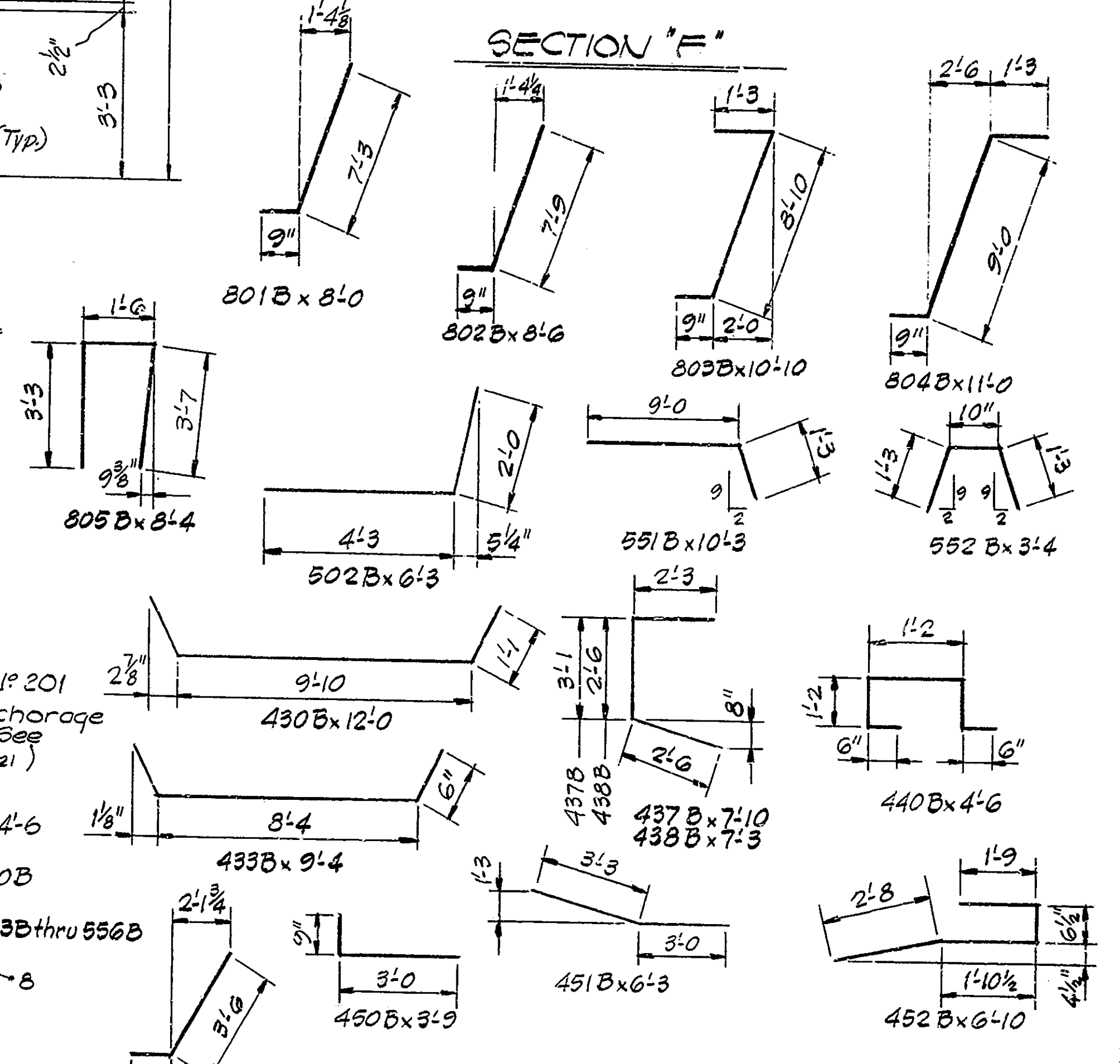


VIEW OF WEB

SECTION E-E

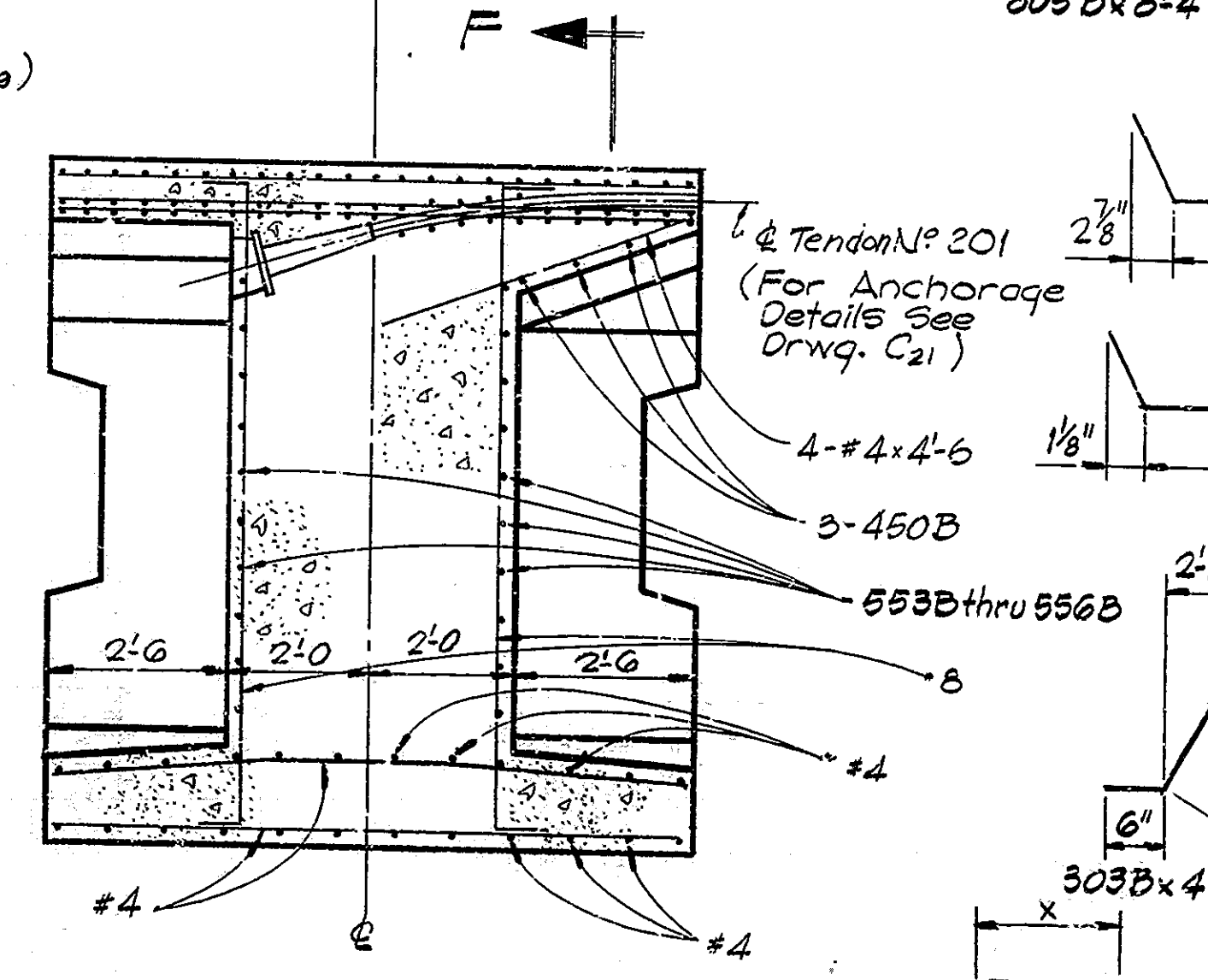


SECTION "F"



HALF VIEW C-C

HALF SECTION D-D



DESIGNED BY: PROSCKO, FAB
 DRAWN BY: 10-12 CKD
 TRACED BY: CKD

Note: See Dr. Std. C₁ for Reinf. Bar notes.

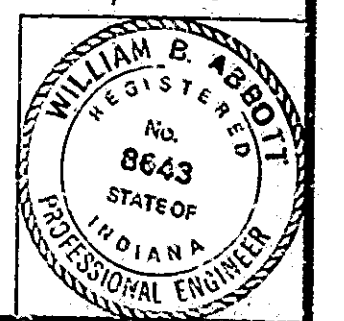
Rev. 6-28-74 Location & size of holes in bottom slab.

Mark	x	Length
553B	3'-8"	16'-0"
554B	3'-7"	15'-10"
555B	3'-6"	15'-8"
556B	3'-5"	15'-6"

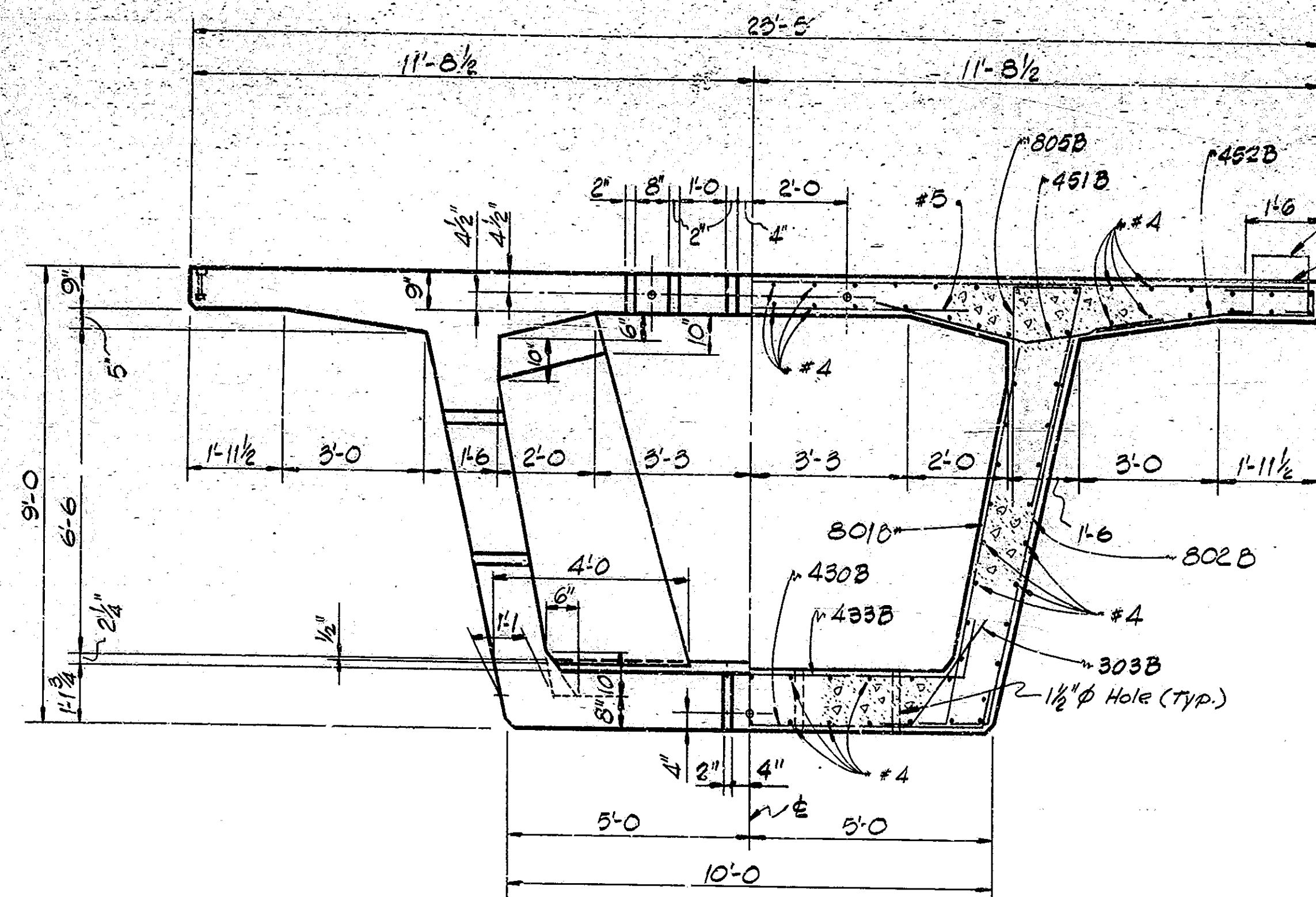
PIER SEGMENT NO. 1
 DETAILS
 WESTBOND STRUCTURE
 INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/2" = 1'-0" DATE: DECEMBER 26, 1973

PROJECT: ST-151E Prefab. RF-151(2) Constr.
 CONTRACT NO. B-9658 Prefab. B-9818 Constr.
 BRIDGE FILE: 50-40-917 A

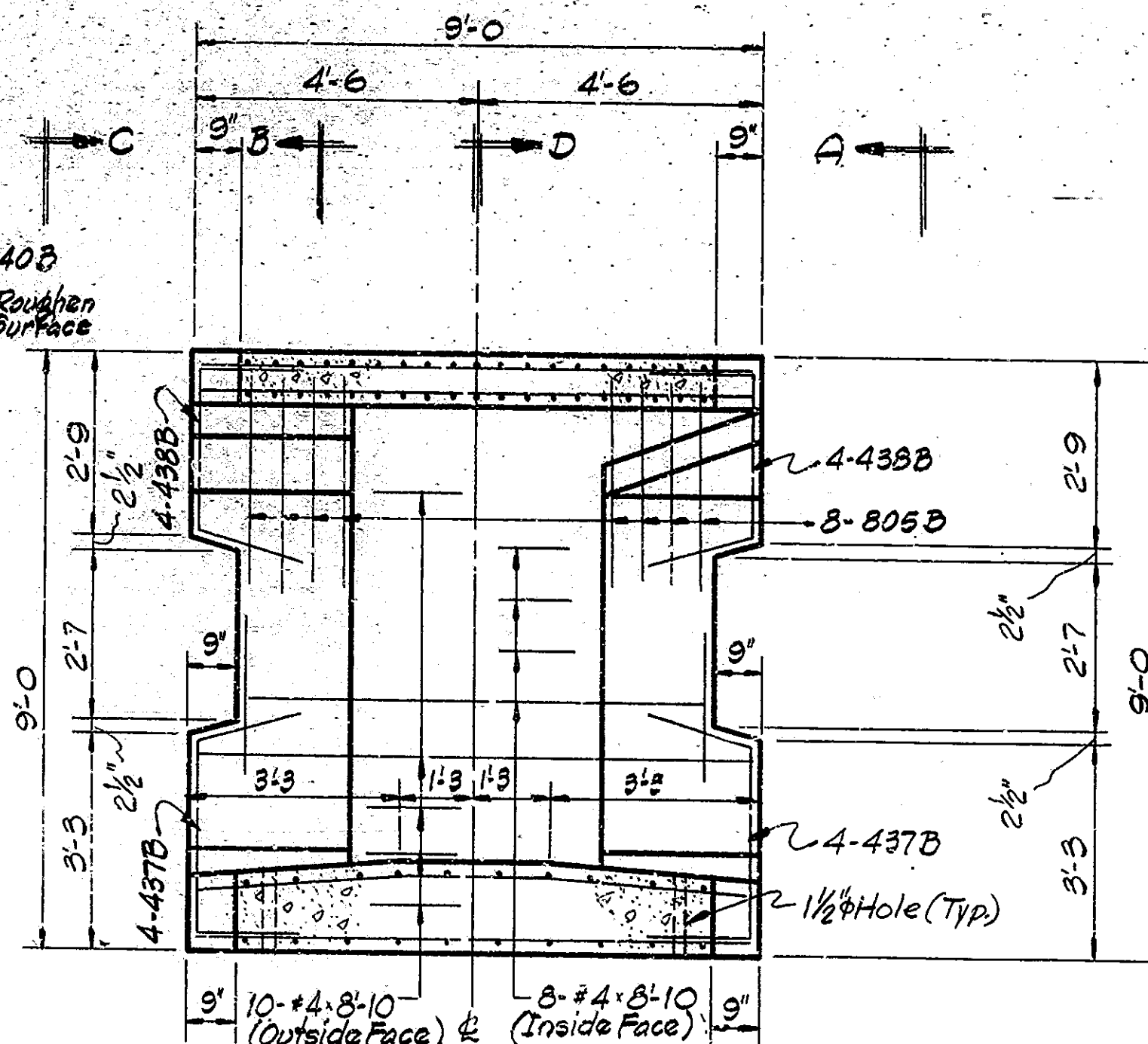


This sheet used in Project RF-151(2), Contract B-9658 only

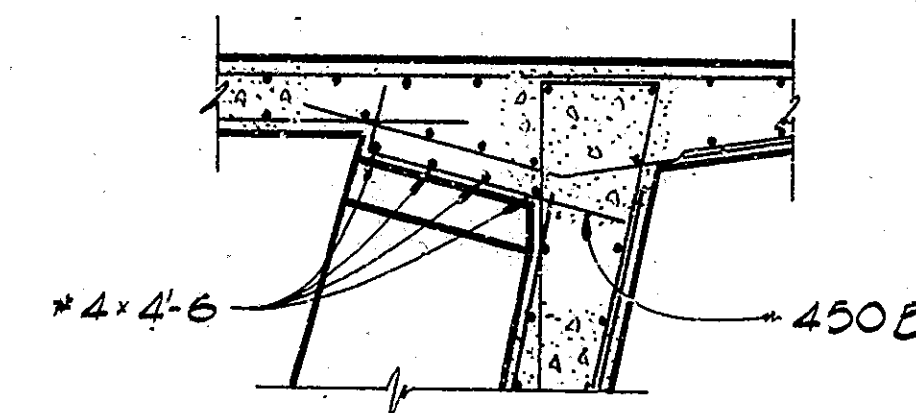


HALF VIEW A-A

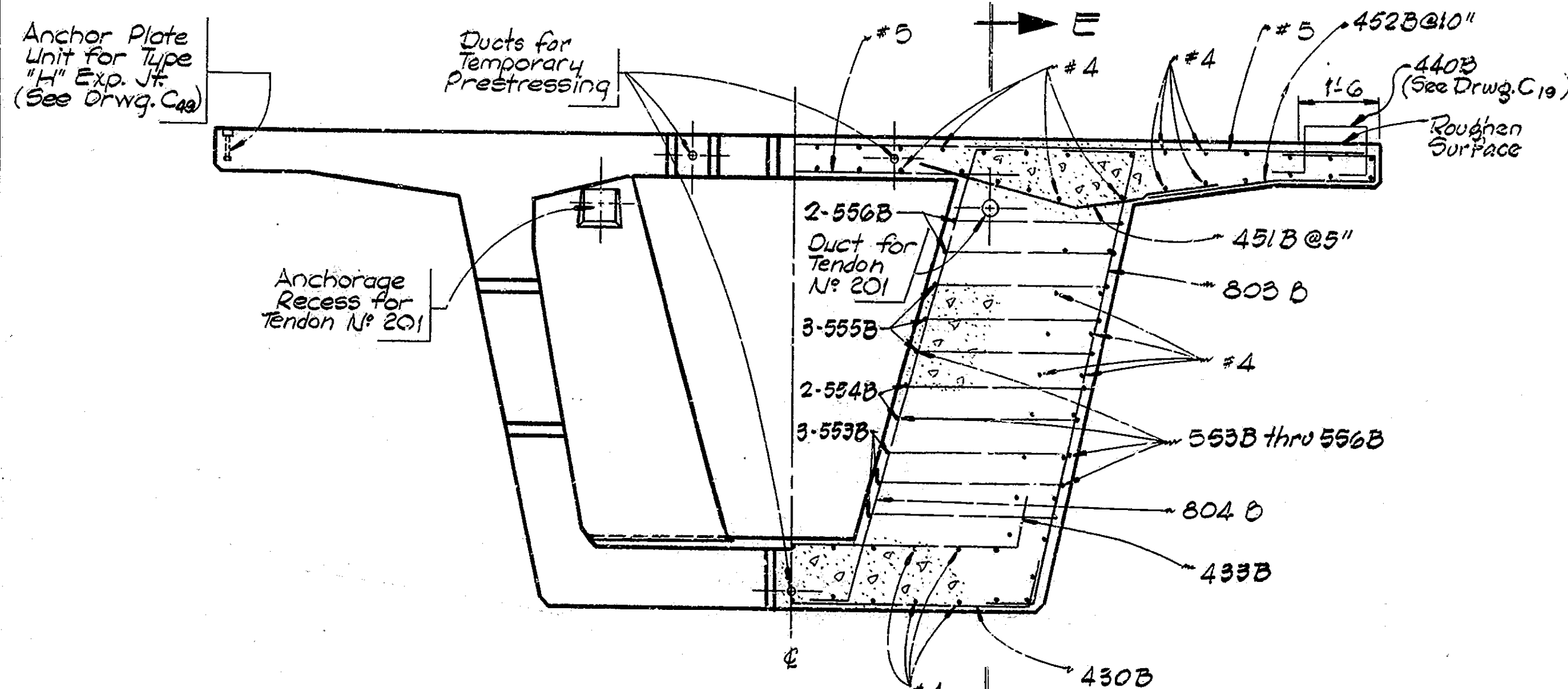
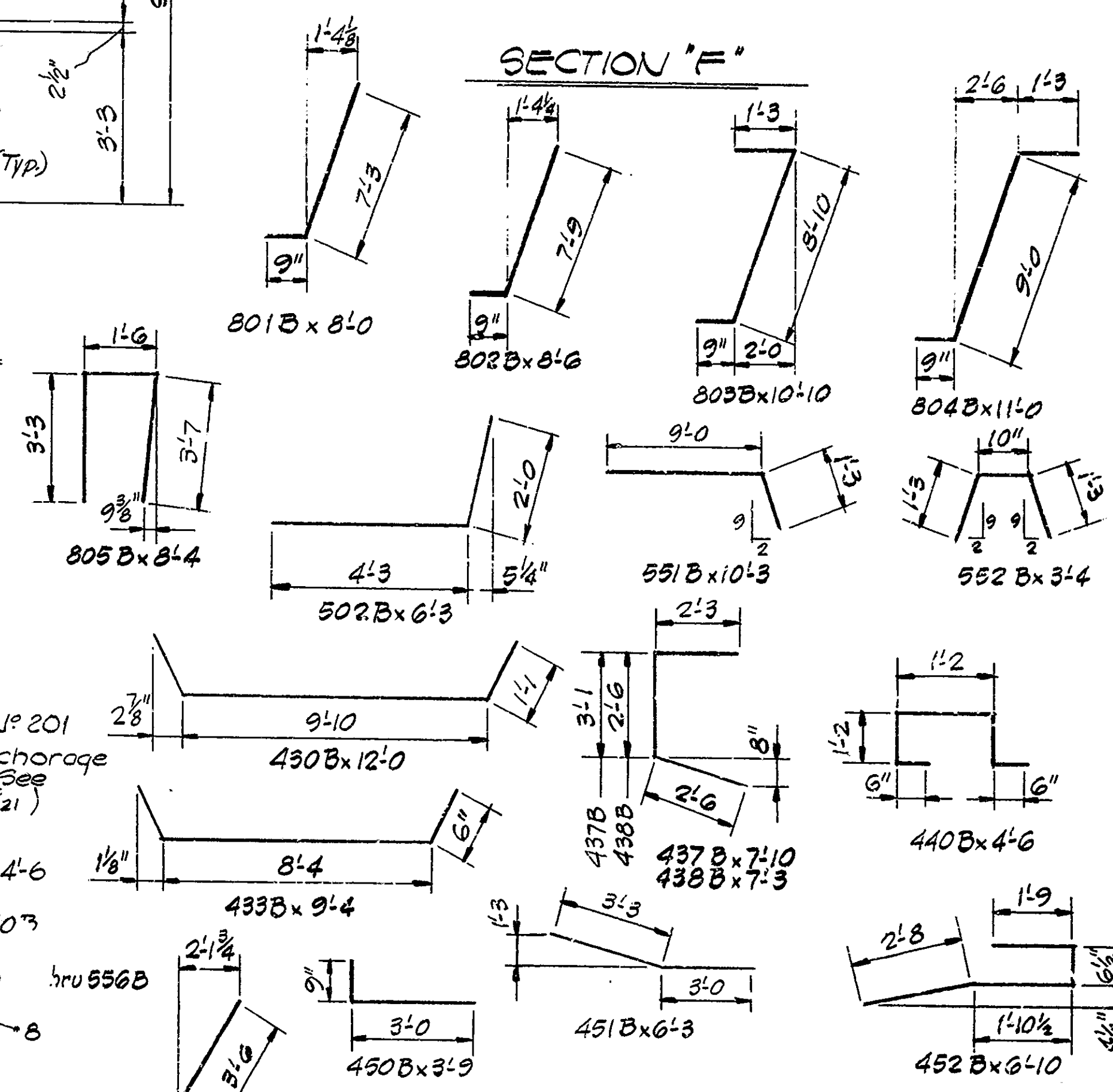
HALF SECTION B-B



VIEW OF WEB

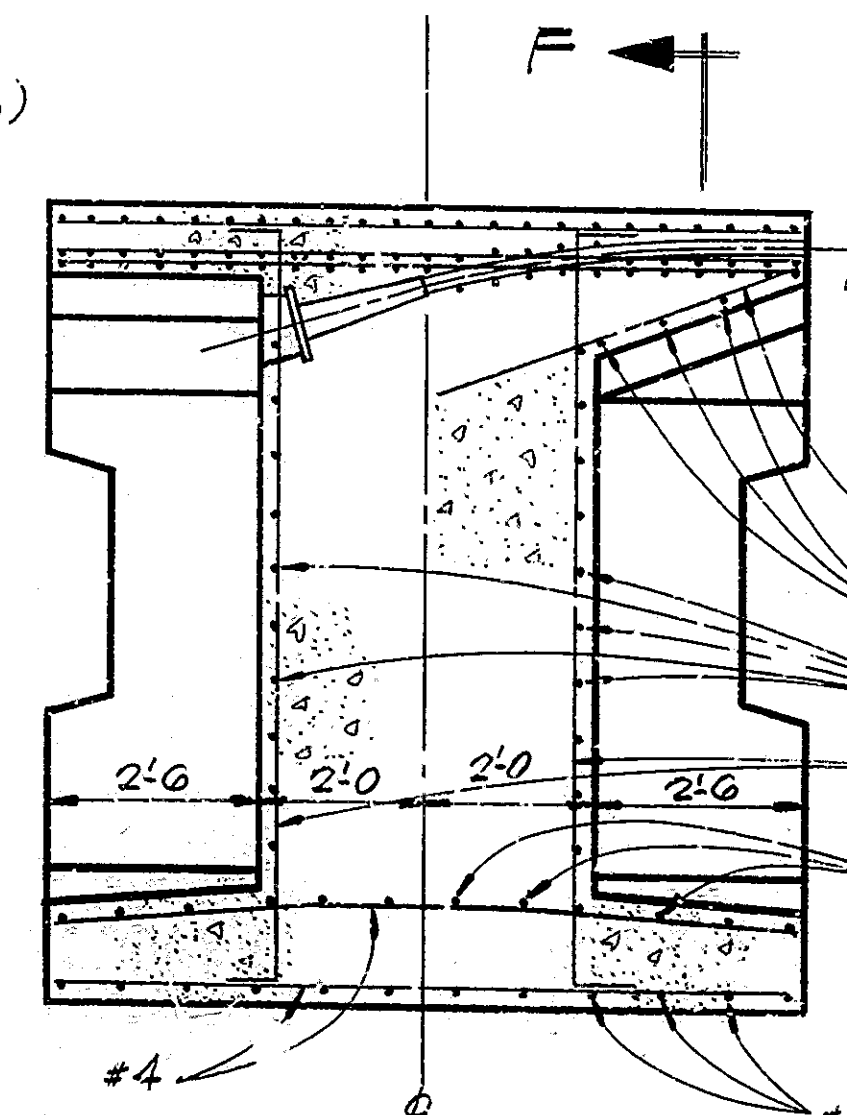


SECTION 'F'



HALF VIEW C-C

HALF SECTION D-D



SECTION E-E

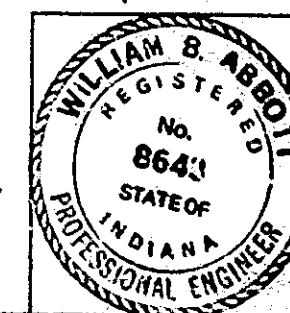
PIER SEGMENT N^o 1
DETAILS
WESTBOLINO STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

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

DATE: DECEMBER 26, 1973

William B. Wood
REGISTERED PROFESSIONAL ENGINEER

DRAWING: C20 OF 49 SHEET: 14A OF 23
PROJECT: ST-151E Prefab. RF-151(2) Constr.
CONTRACT NO. B-9658 Prefab. B-9818 Constr.
BRIDGE FILE: 50-40-917 A

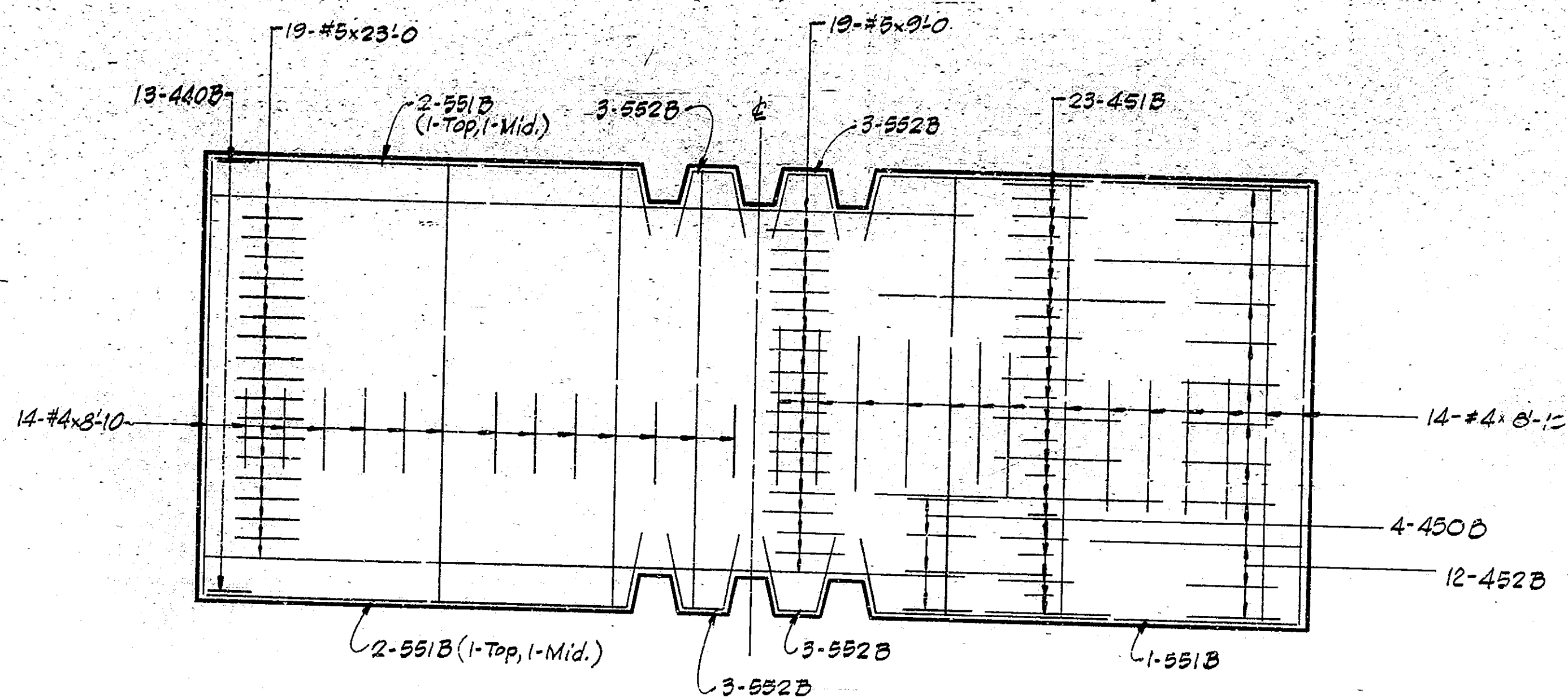


Mark	x	Length
553B	3'-8"	16'-0"
554B	3'-7"	15'-10"
555B	3'-6"	15'-8"
556B	3'-5"	15'-6"

DESIGNED: G.M.P. P. P. C. K. D. F.B.B.
DRAWN: G.M.P. P. P. C. K. D. C.K.D.
TRACED: C.K.D.

Note: See Br. Std. C₁ for Reinf. Bar notes.

This sheet used in Project ST-151E, Contract B-9658 only

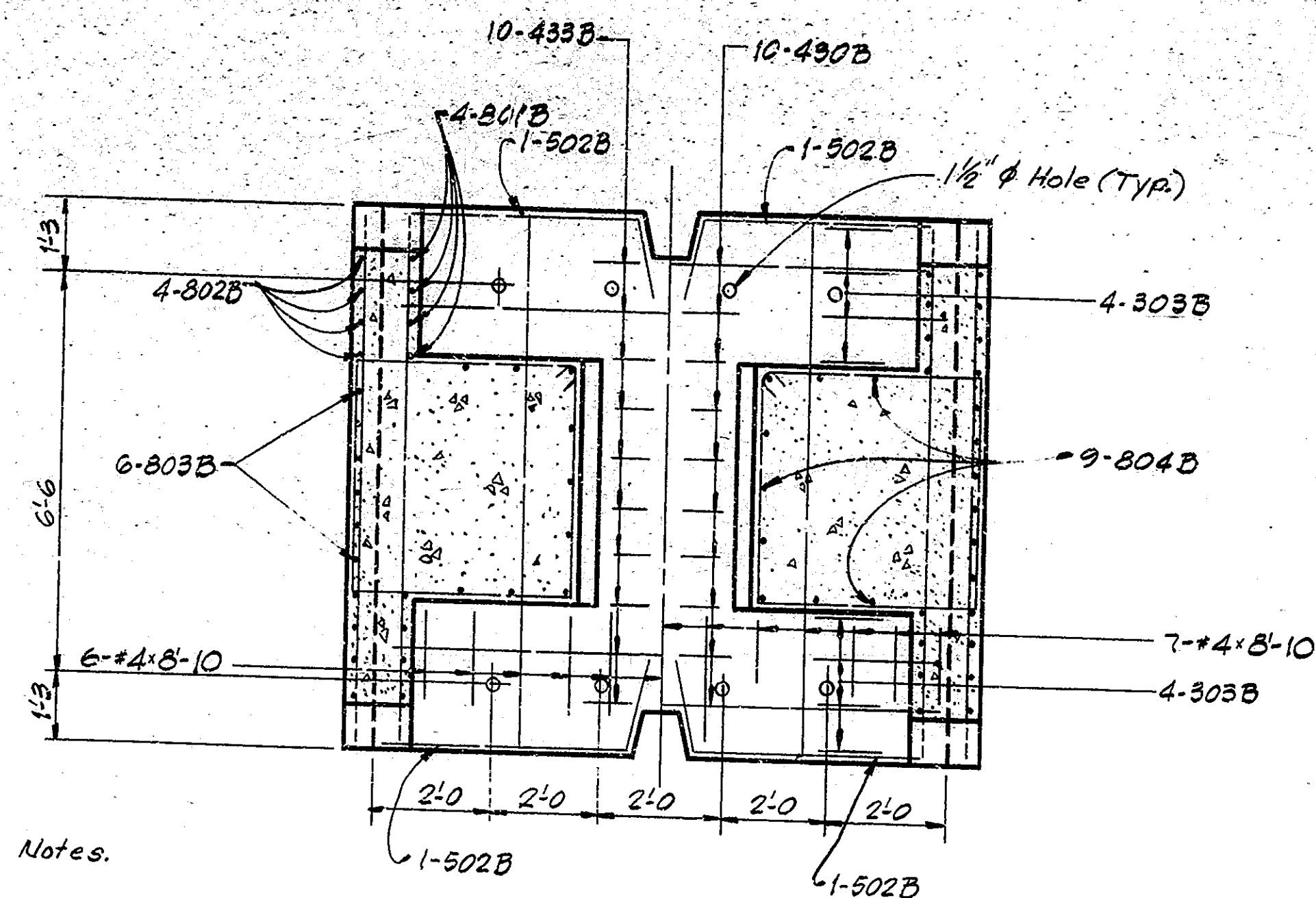


Left Half Showing
Top Steel

Right Half Showing
Bottom Steel

TOP VIEW OF DECK

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

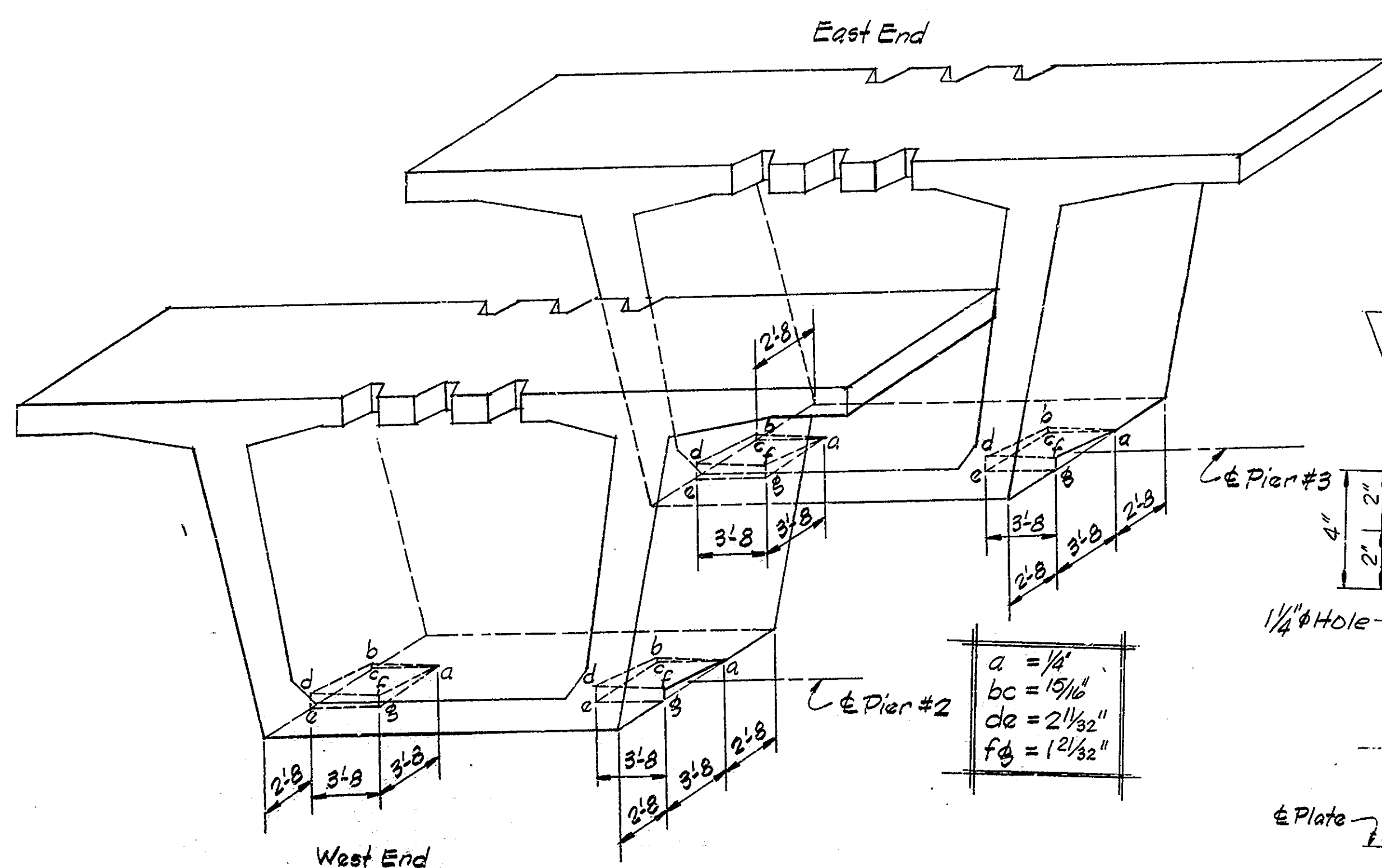


Left Half Showing
Top Steel

Right Half Showing
Bottom Steel

TOP VIEW OF BOTTOM SLAB

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

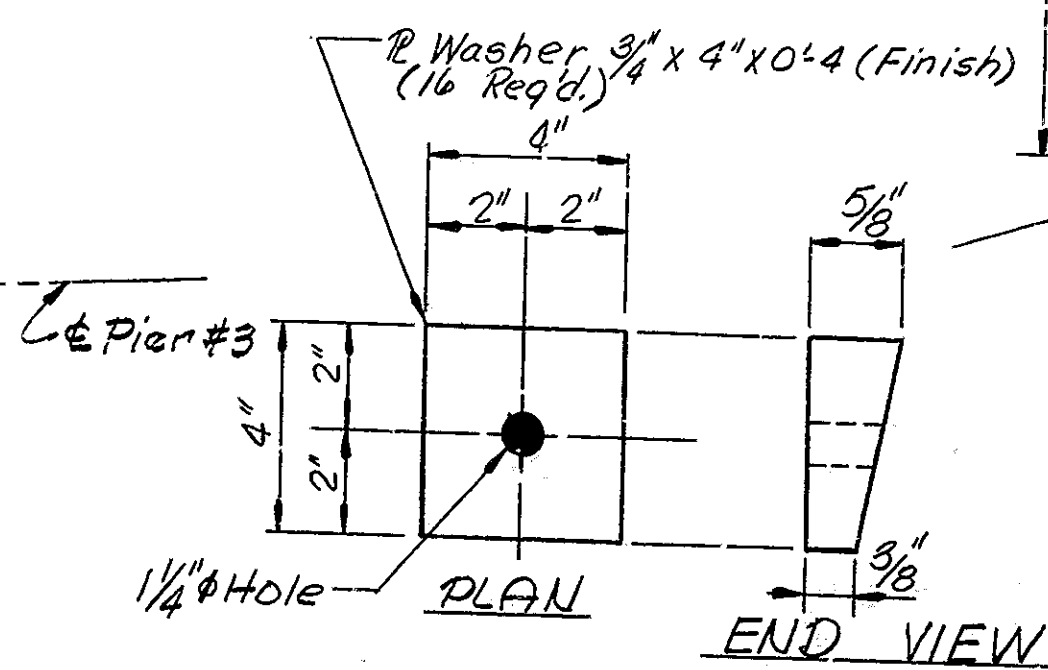


West End

East End

NOTCH DETAILS

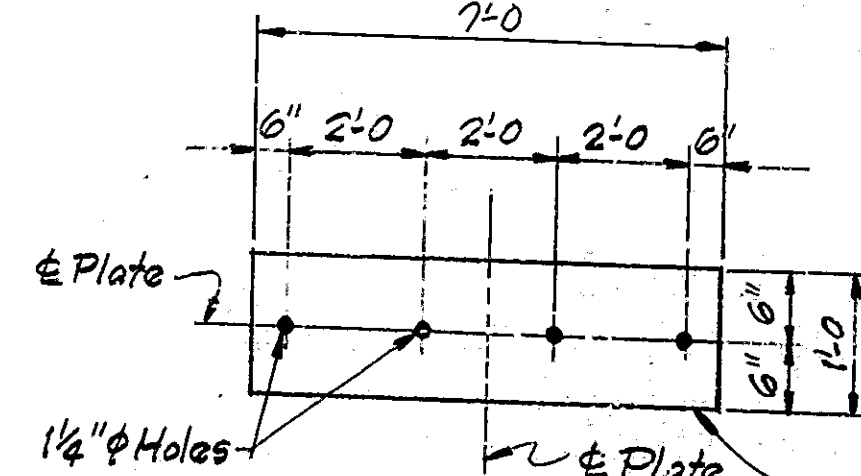
No Scale



1/4" Hole

PLAN

END VIEW



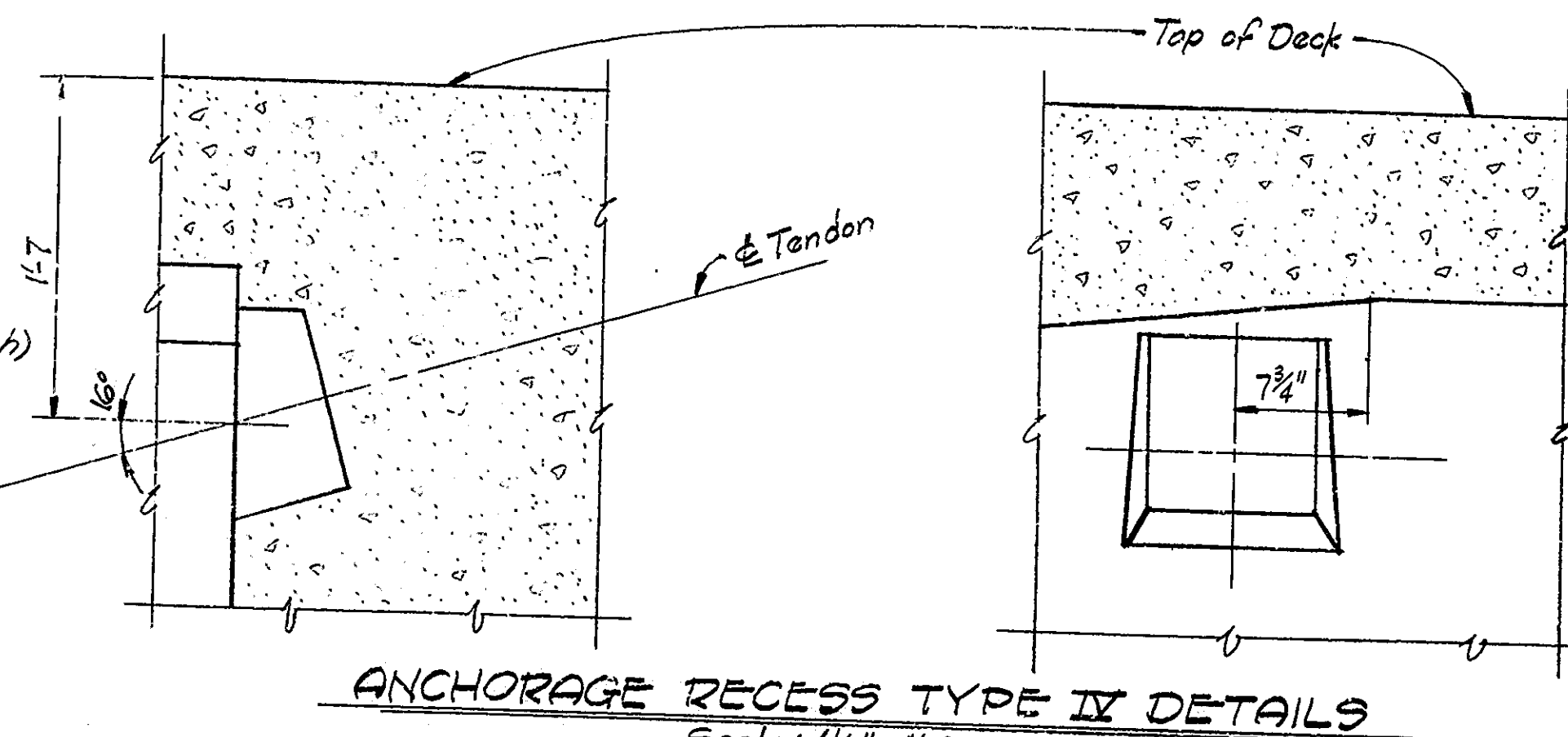
1/4" Holes

PLAN

STEEL PLATE & WASHER DETAILS

Notes:

- Vertical restraint bars dia. = 1"
- 2 1/4" I.D. Ducts in pier caps
- 2" Holes in temporary brg. pads and shims.



ANCHORAGE RECESS TYPE IV DETAILS

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

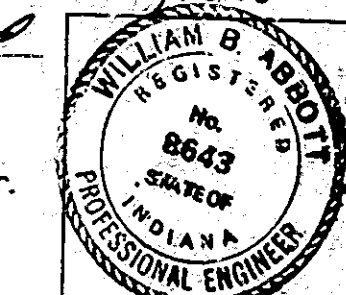
Notes: See Drwg. C16 for notes concerning anchorages.

PIER SEGMENT NO. 1
DETAILS
WESTBOLIND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: As Shown

DATE: DECEMBER 26, 1973

William B. Abbott
REGISTERED PROFESSIONAL ENGINEER

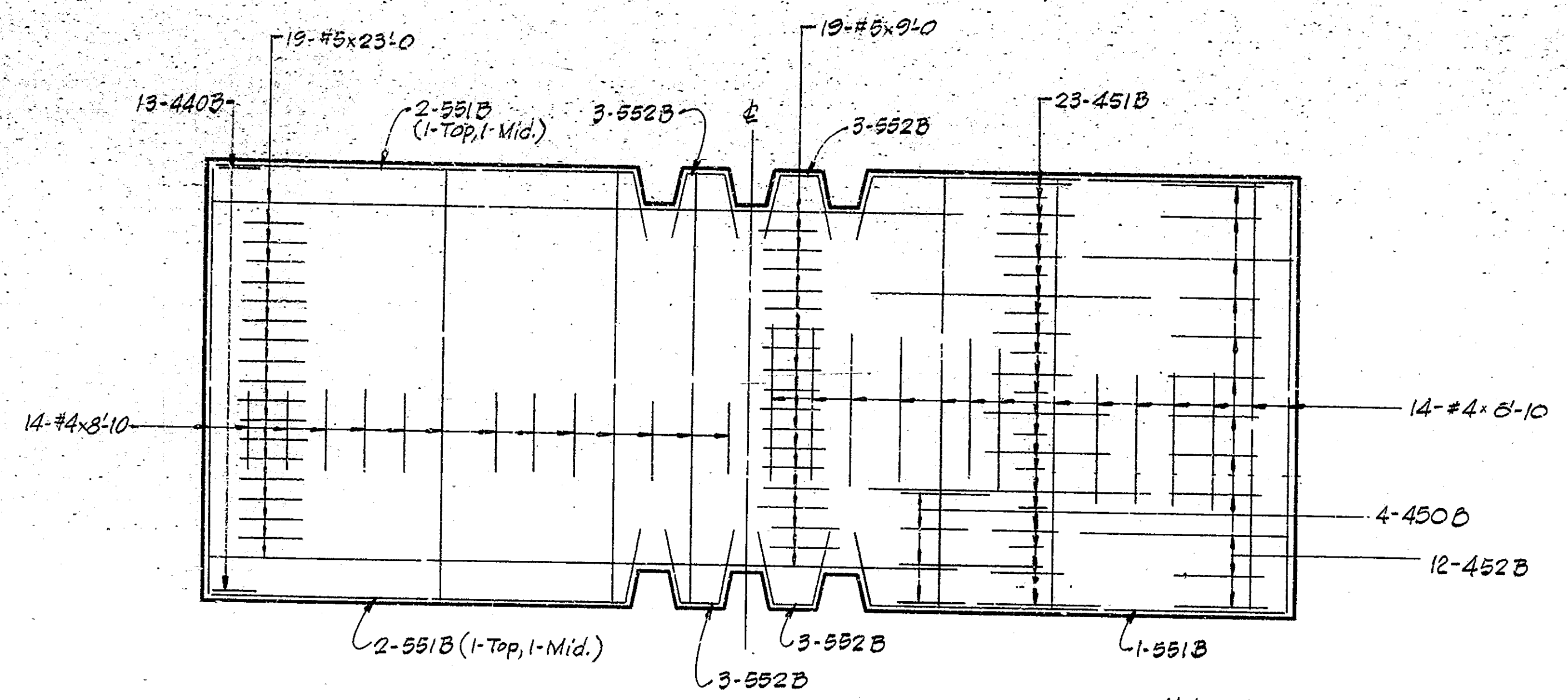


DESIGNED: Comp. Prof. CKD - F.A.B.
DRAWN: J.B. - 12-73 CKD
TRACED: CKD
DRAWING: C-21 OF 49 SHEET: 15 OF 25
PROJECT: ST-151E Prefab. RF-151 (12) Constr.
CONTRACT NO. B-9558 Prefab. B-9818 Constr.
BRIDGE FILE: 50-40-917A

This sheet used in Project ST-151E, Contract R-9558

DESIGNED: Comp. Prof. CKD - F.A.B.
DRAWN: J.B. - 12-73 CKD
TRACED: CKD

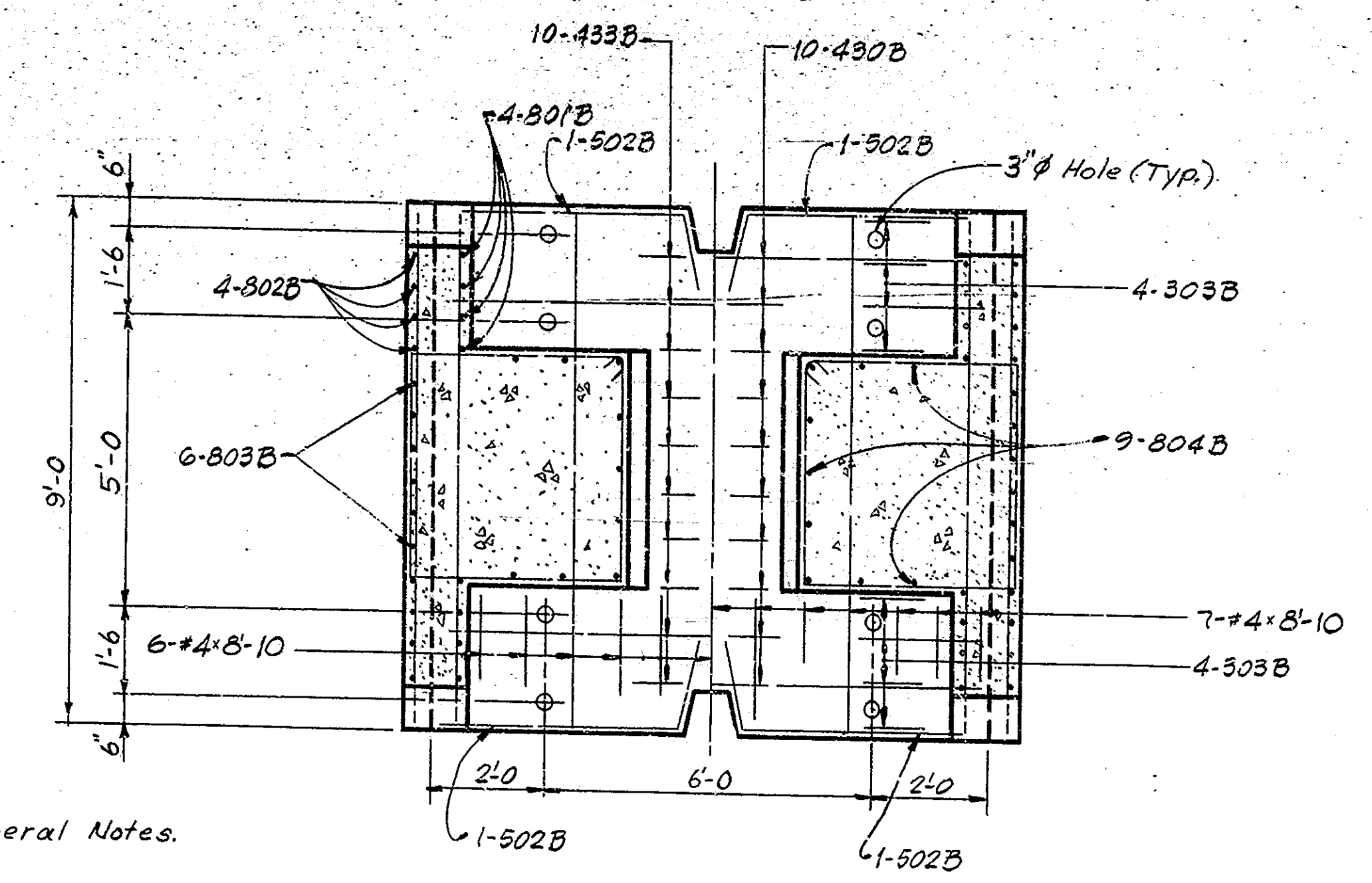
Note: See Dr. Std. C1 for Reinf. Bar notes.



Left Half Showing Top Steel

Right Half Showing Bottom Steel

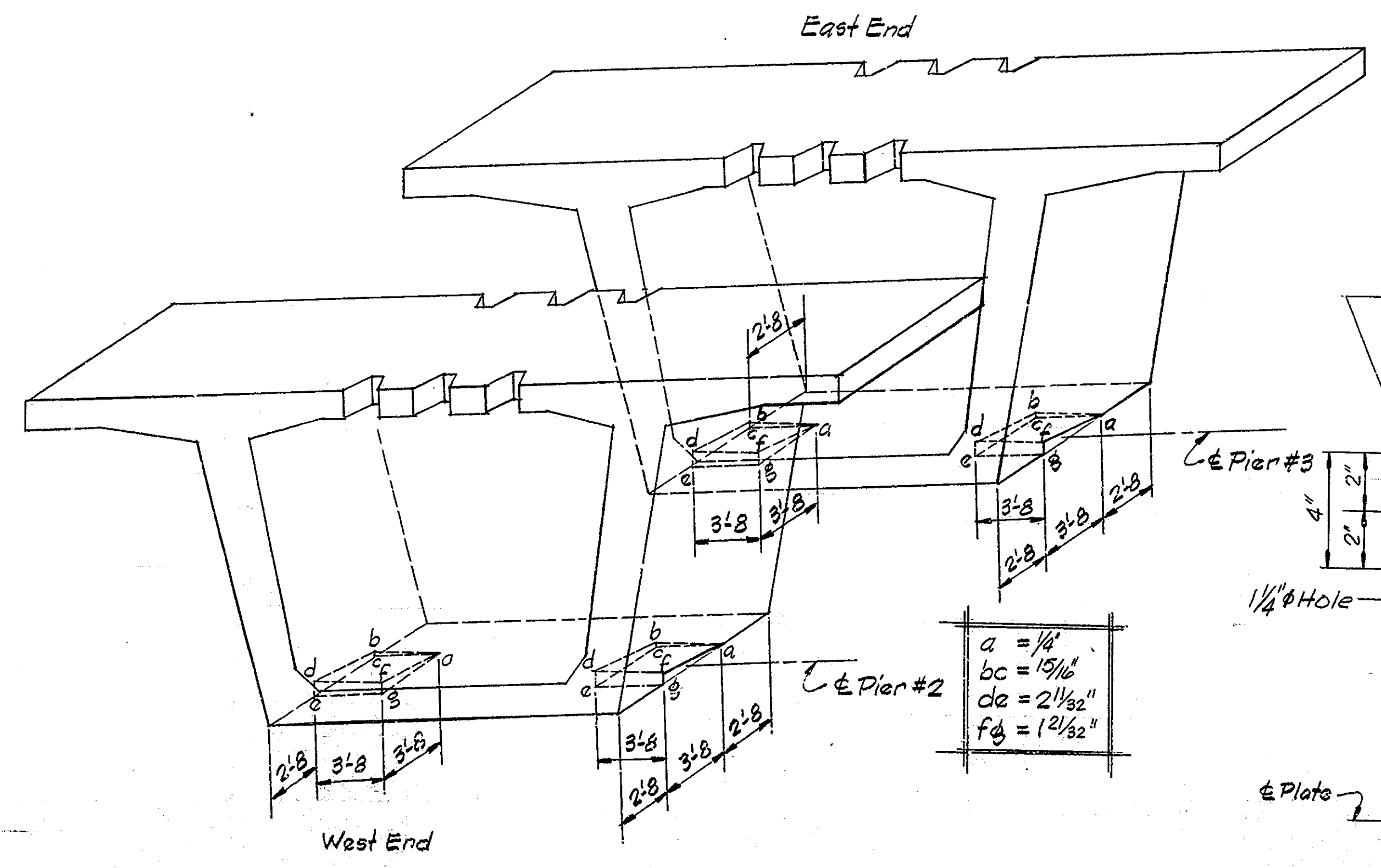
TOP VIEW OF DECK
Scale: 1/2" = 1'-0



Left Half Showing Top Steel

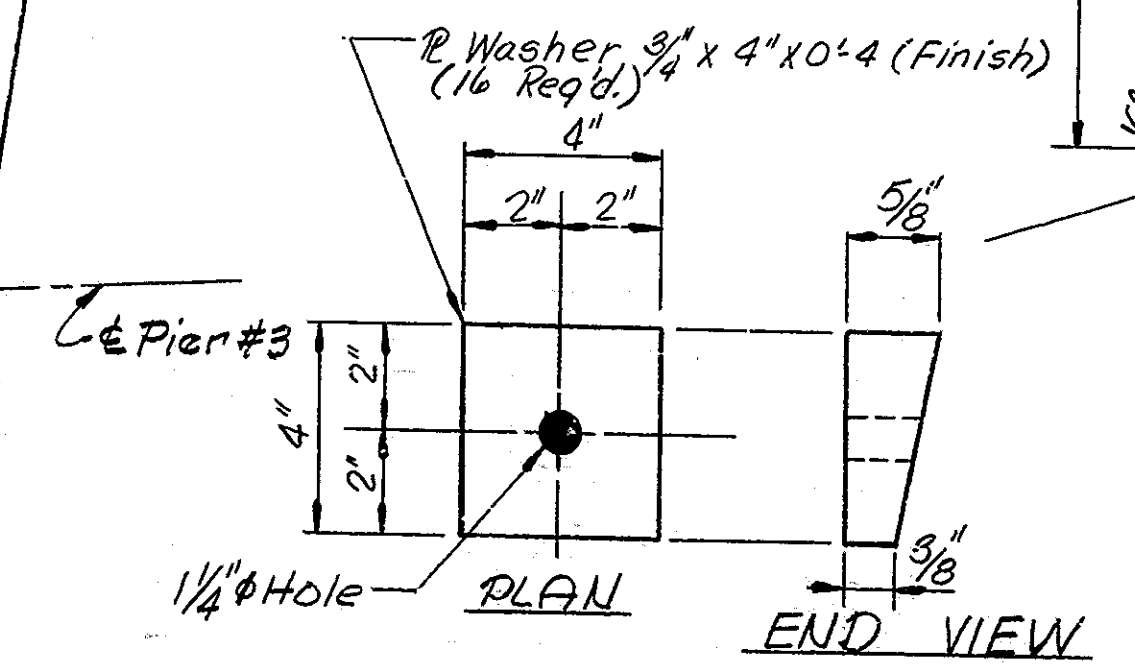
Right Half Showing Bottom Steel

TOP VIEW OF BOTTOM SLAB
Scale: 1/2" = 1'-0



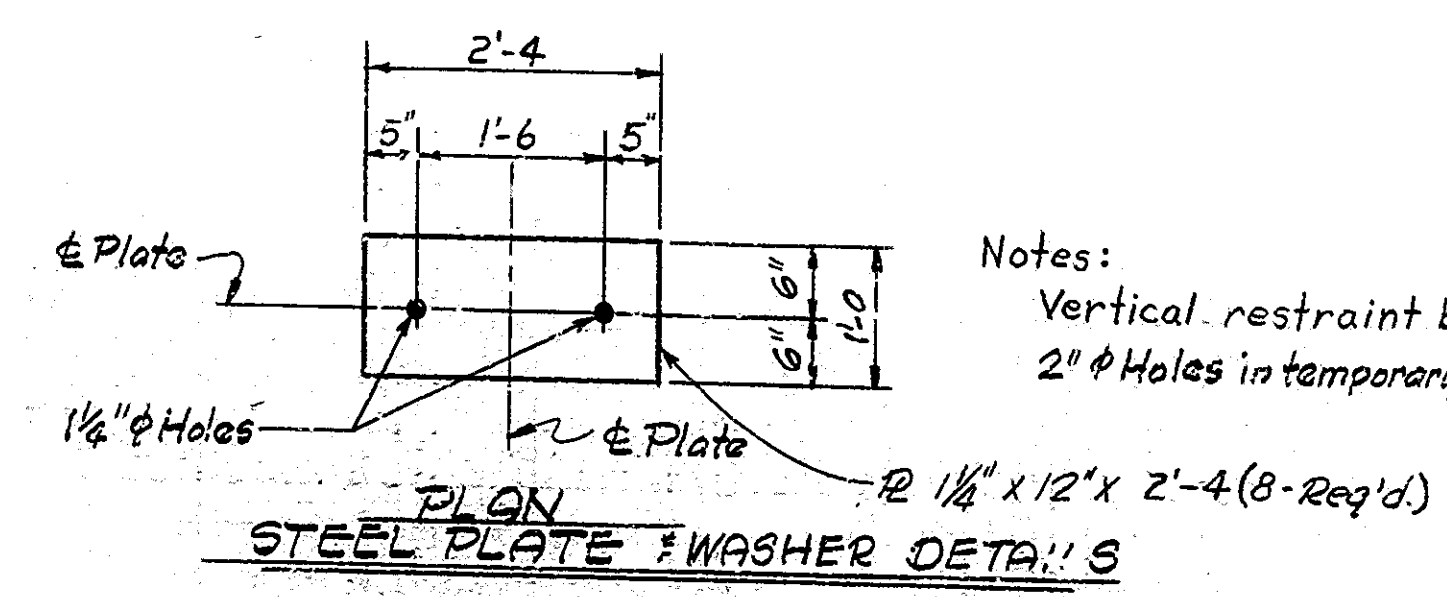
NOTCH DETAILS
- No Scale -

Note: See Dr. Std. C₁ for Reinf. Bar notes.



ANCHORAGE RECESS TYPE II DETAILS
Scale: 1 1/2" = 1'-0

Notes: See Drwg. C₁₆ for notes concerning anchorages.



STEEL PLATE WASHER DETAILS

Notes: Vertical restraint bars dia. = 1" 2" holes in temporary brg. pads and shims.

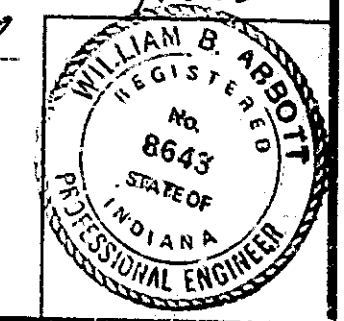
Rev. 6-28-74 Location & size of holes in bottom slab; size of steel plate.

PIER SEGMENT NO. 1
DETAILS
WESTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: - As Shown DATE: - DECEMBER 26, 1973

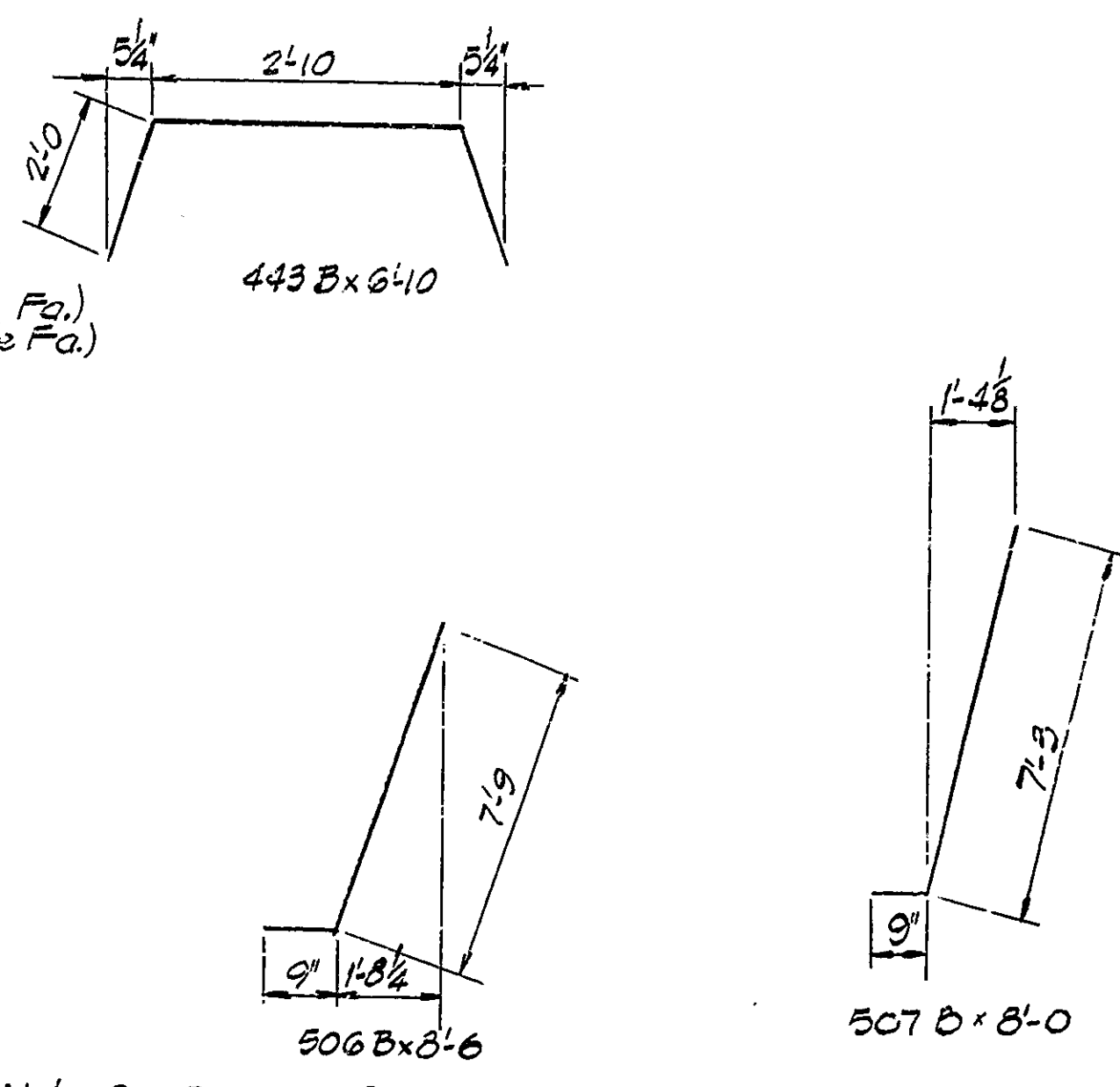
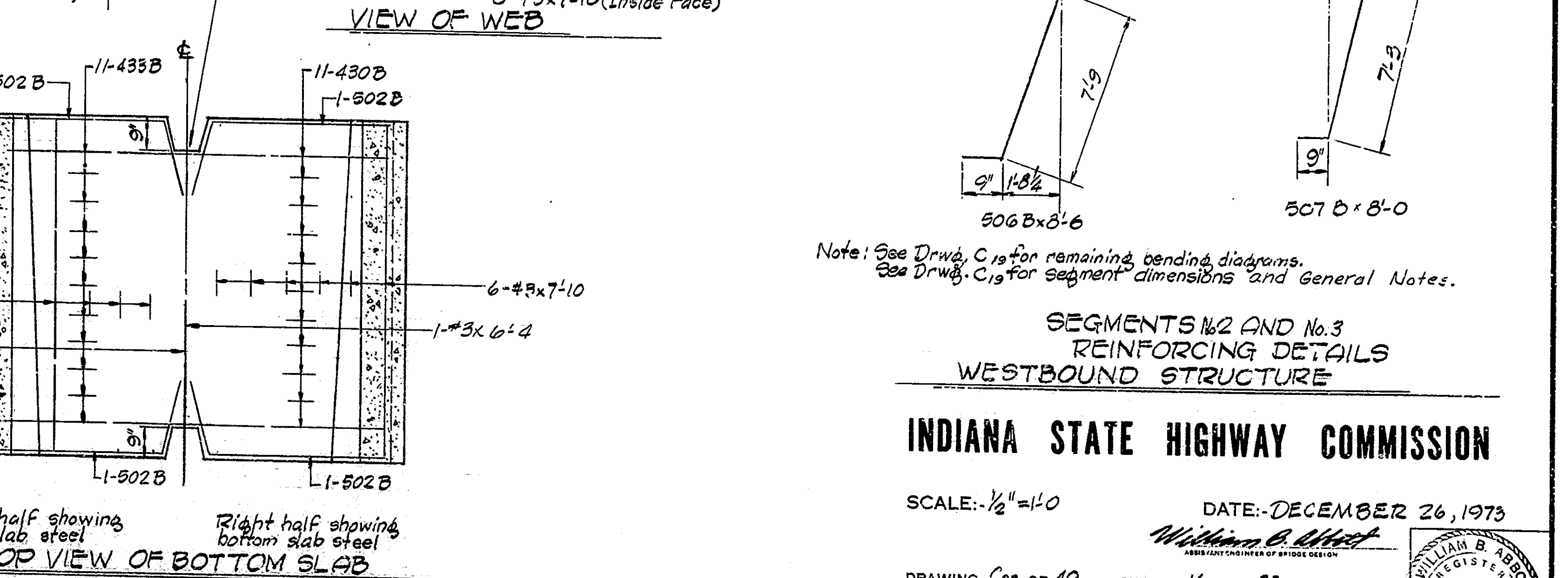
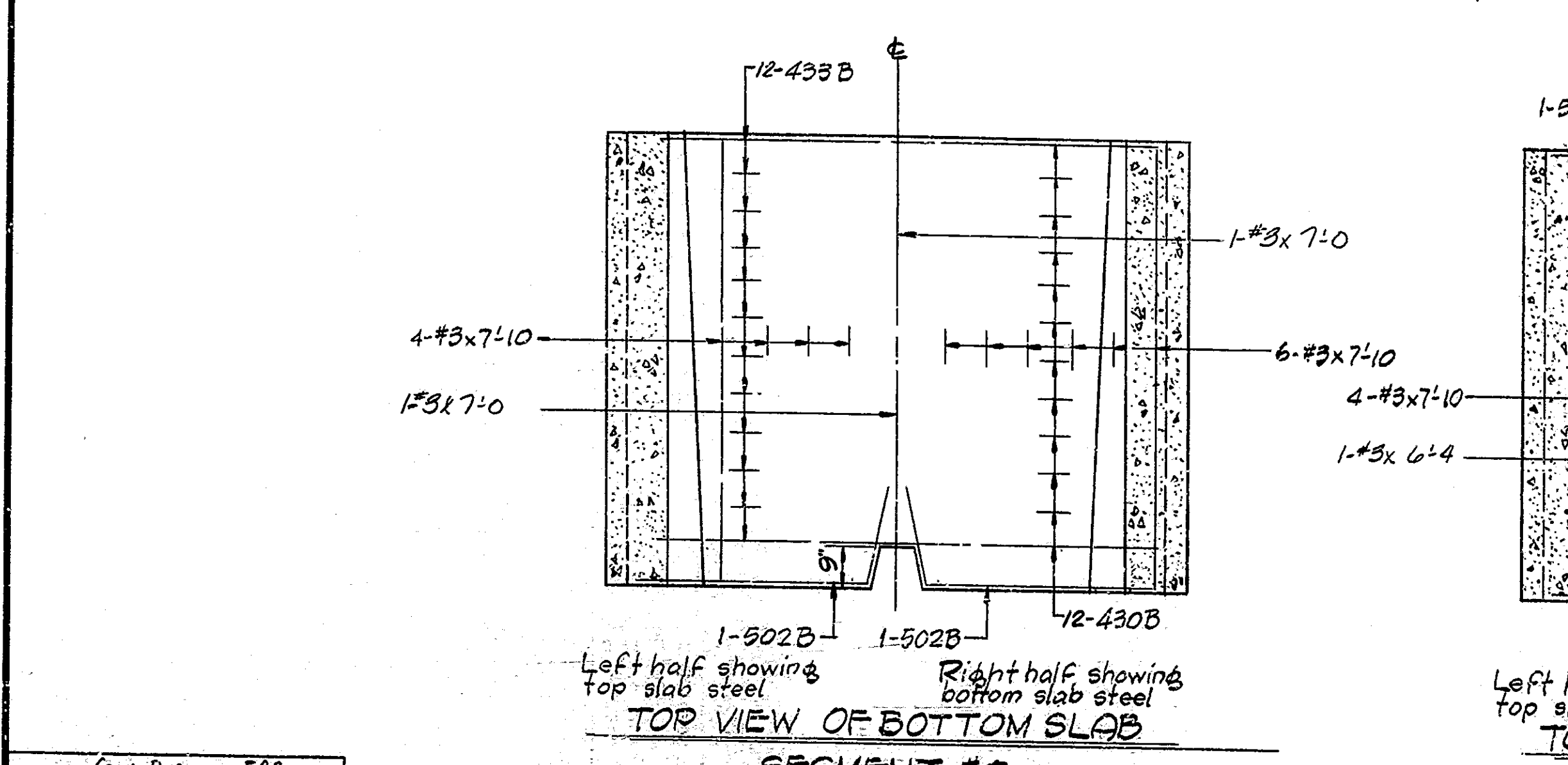
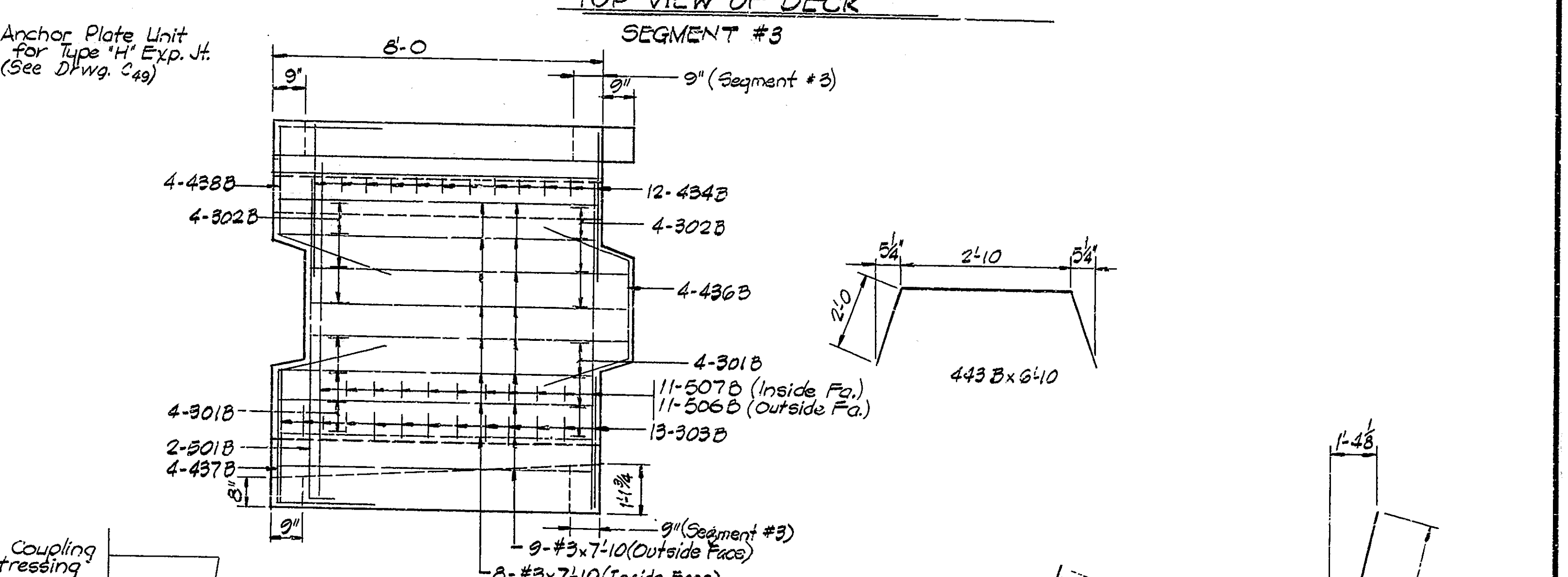
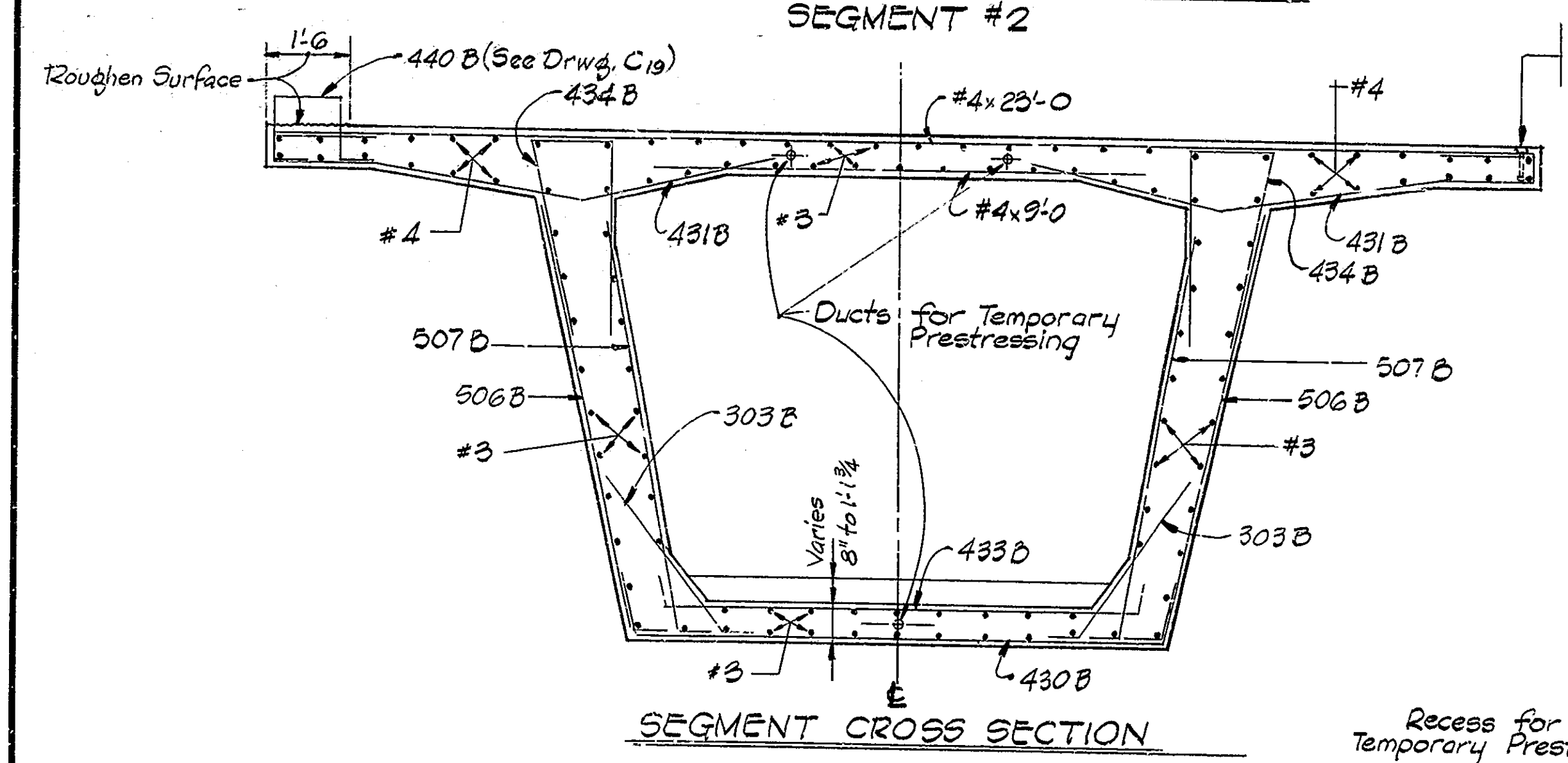
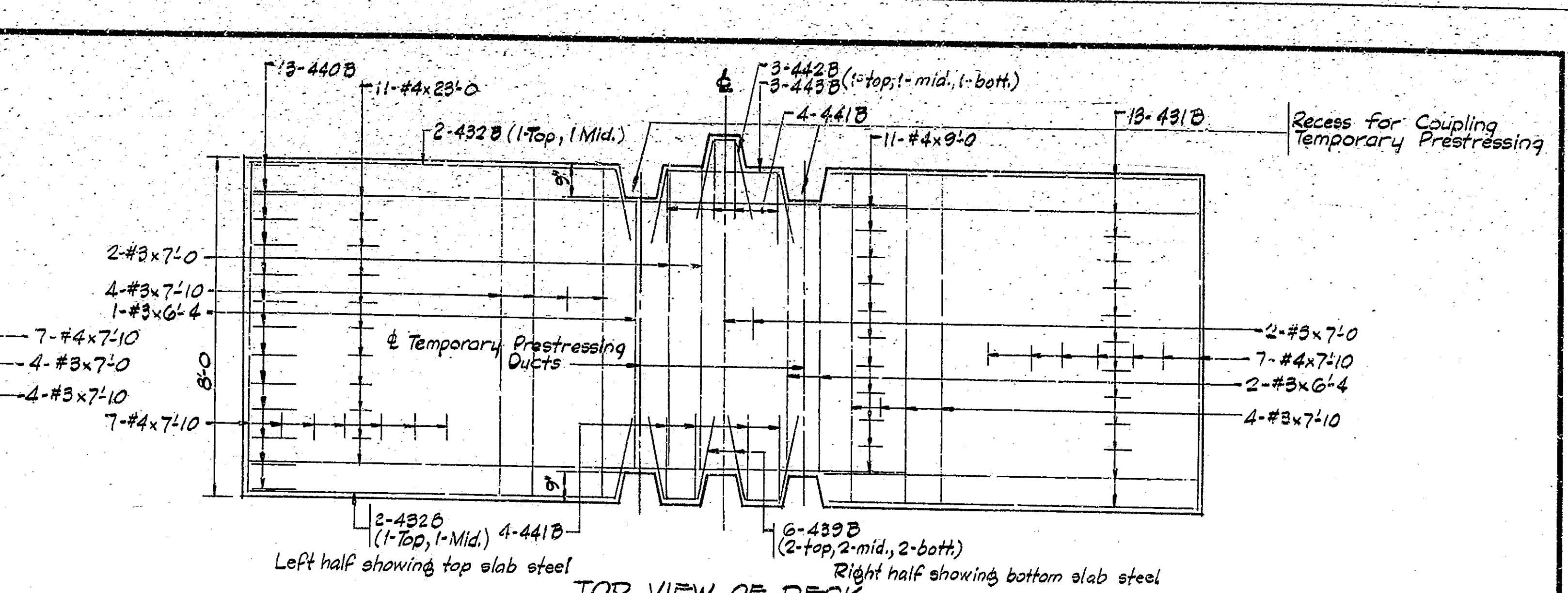
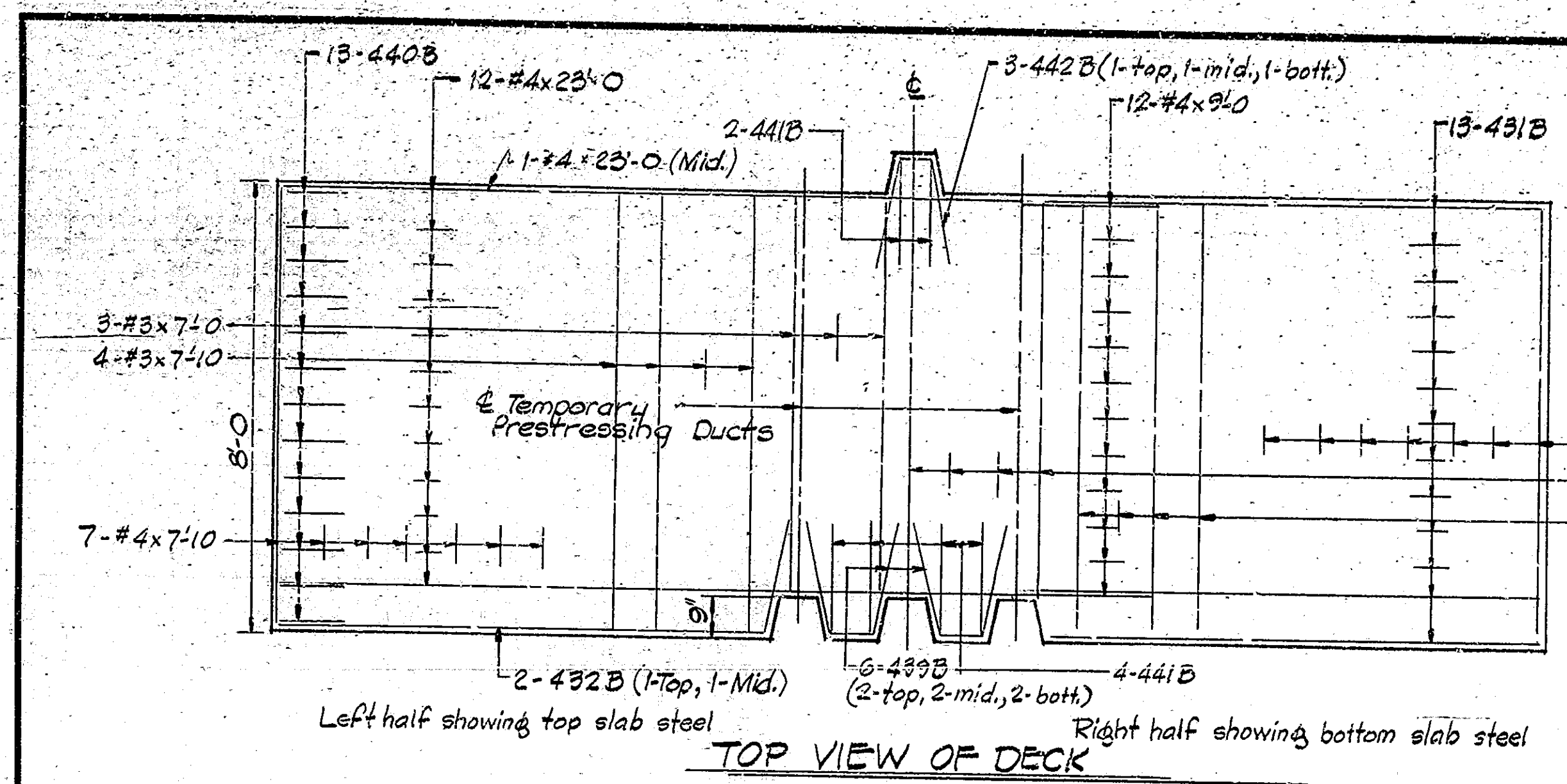
William B. Abbott
REGISTERED PROFESSIONAL ENGINEER

DRAWING: C₂₁ OF 49 SHEET: 154 OF 23
PROJECT: - ST-151E Prefab. RF-151(12) Constr.
CONTRACT NO. B-9658 Prefab. B-9818 Constr.
BRIDGE FILE: - 50-40-917A



This sheet used in Project RF-151(14), Contract B-9818 only

DESIGNED: Comp. Prof. CKD FAB
DRAWN: MB-1272 CKD
TRACED: CKD



Note: See Draw. C19 for remaining bending diagrams. See Draw. C19 for segment dimensions and General Notes.

SEGMENTS #2 AND #3
REINFORCING DETAILS
WESTBOUND STRUCTURE

INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/2"=1'-0" DATE: DECEMBER 26, 1973

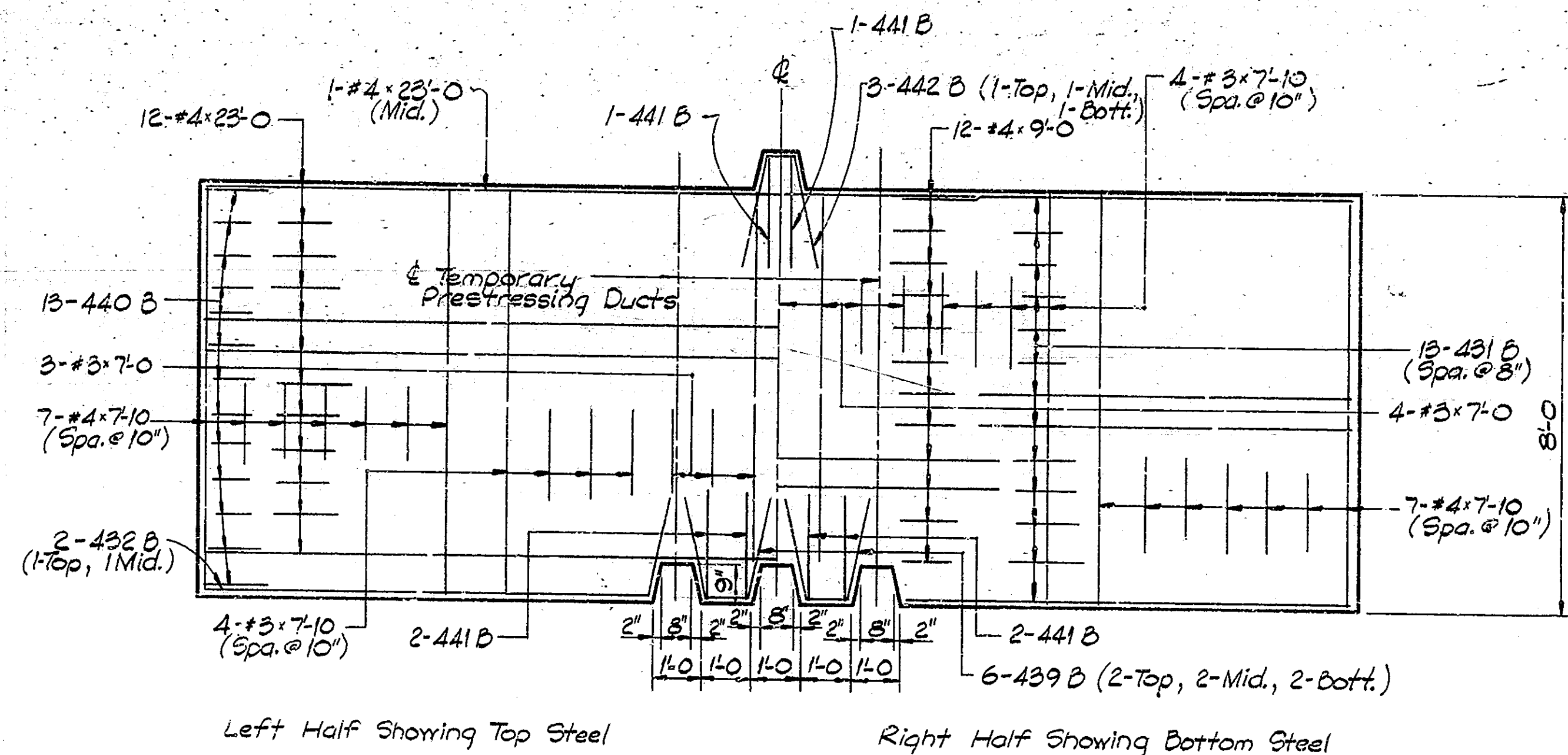
William B. Abbott
REGISTERED PROFESSIONAL ENGINEER
No. 5643
STATE OF INDIANA
DESIGNING ENGINEER

DRAWING: C22 of 49 SHEET: 16 of 23
PROJECT: ST-151E Prefab. RF-151(12) Constr.
CONTRACT NO. B-965B Prefab. B-9816 Constr.
BRIDGE FILE: 50-40-917A

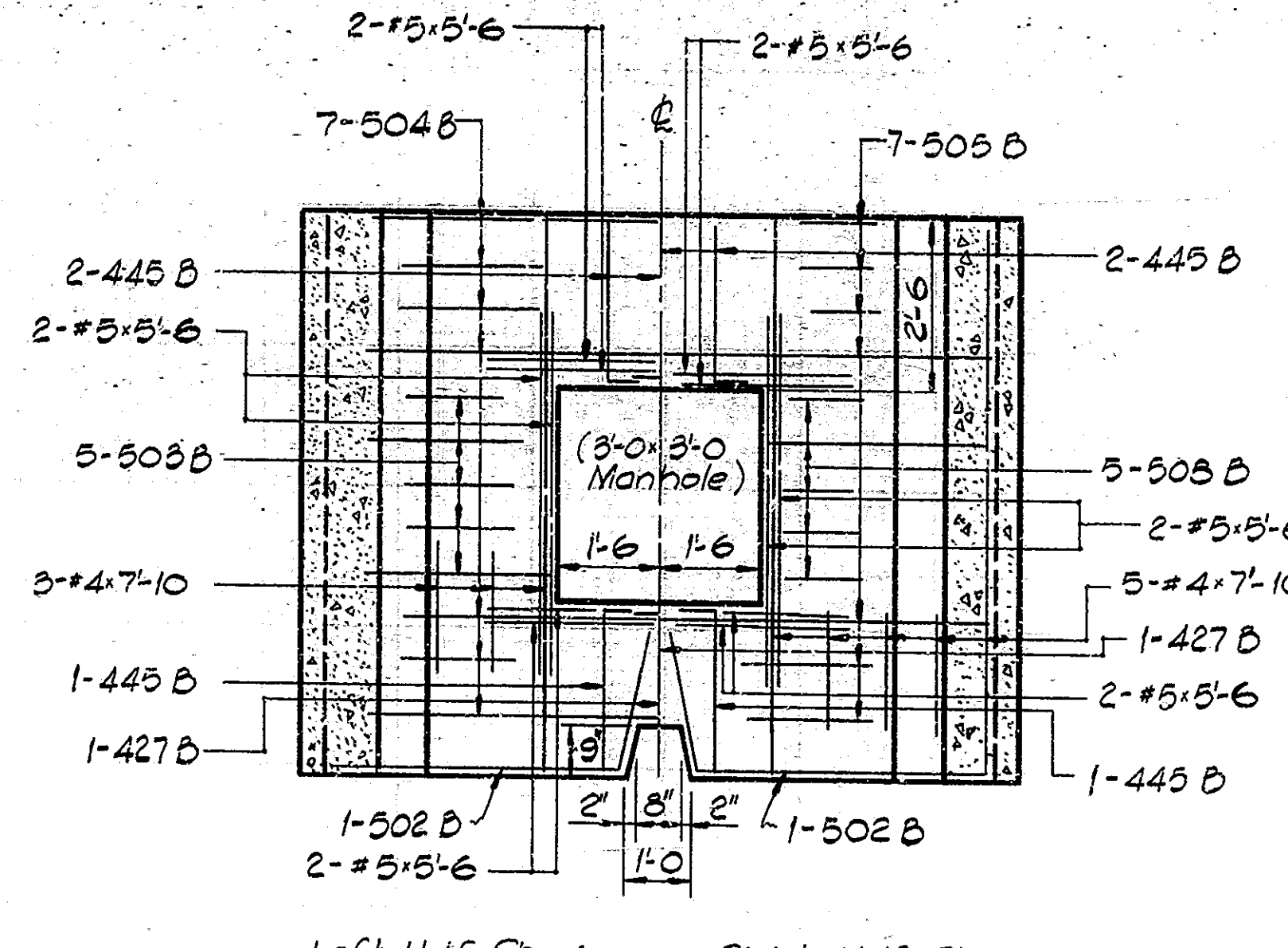
DESIGNED: Comp. Proj. C.W.B. F.A.B.
DRAWN: C.B.S. 12/23/73 C.W.B. D.S.H. 10-19-73
TRACED: C.W.B.

Note: See Dr. Std. C1 for Reinf. Bar notes.

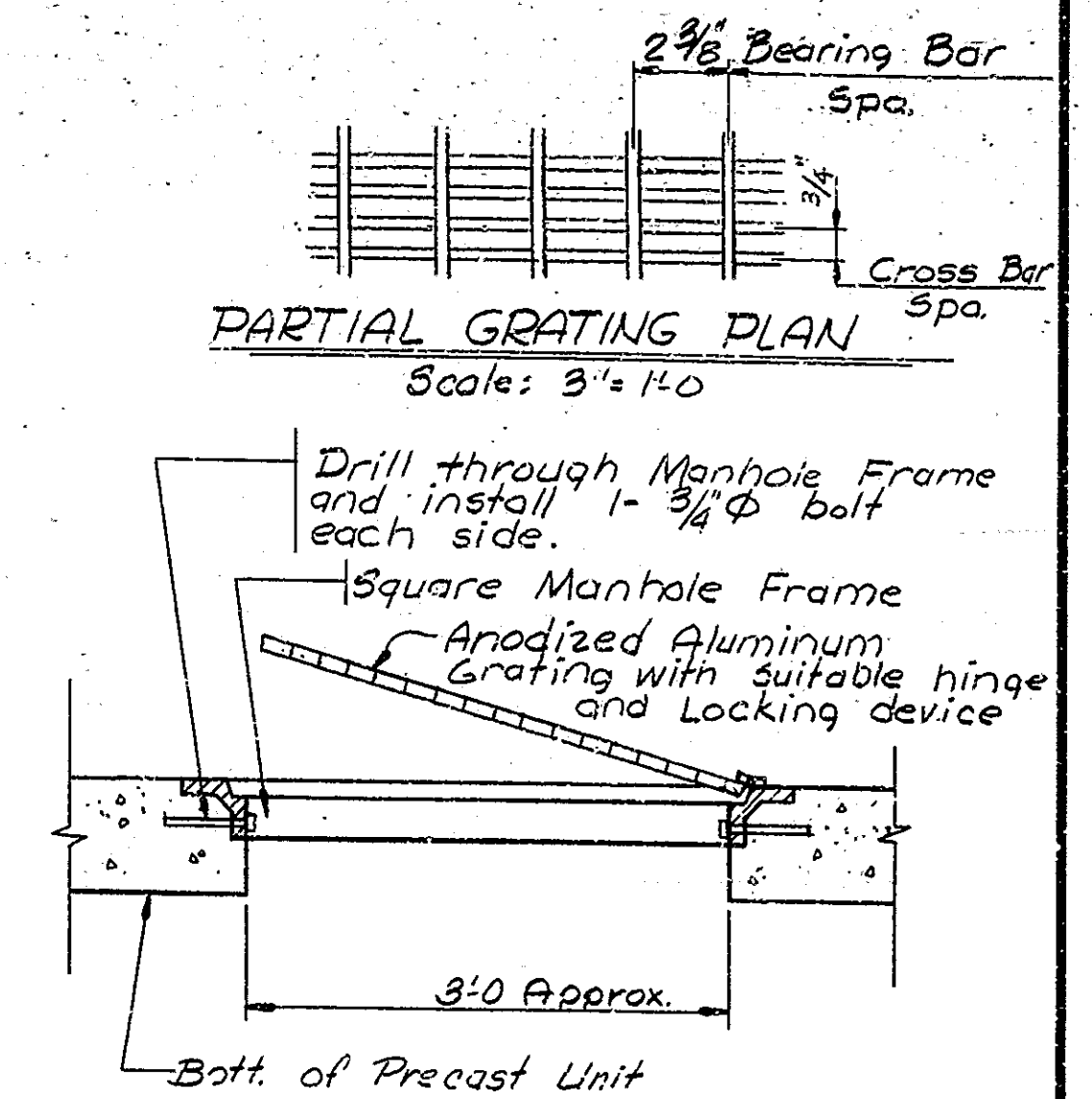
Note: Length of reinforcing bars in bottom slab subject to change to fit actual manhole frame dimensions.



TOP VIEW OF DECK

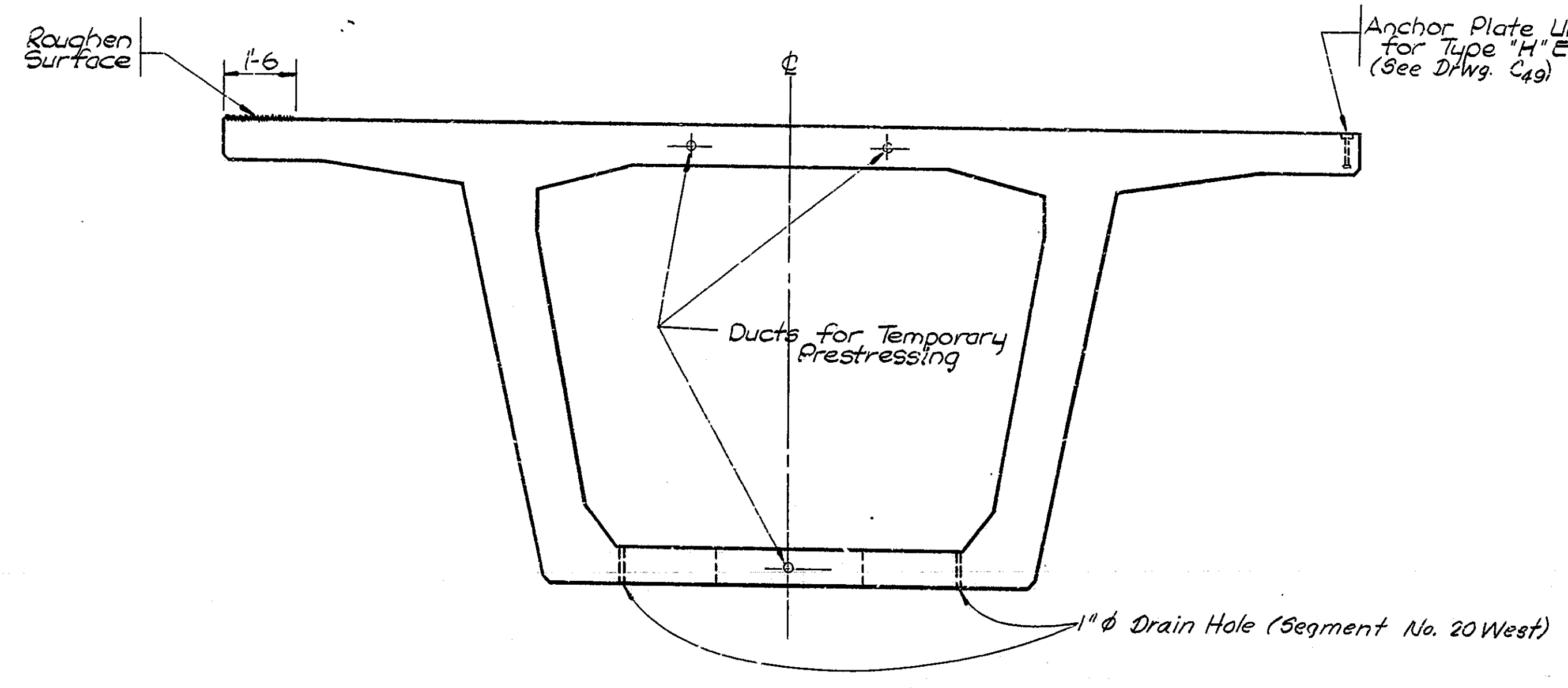


TOP VIEW OF BOTTOM SLAB

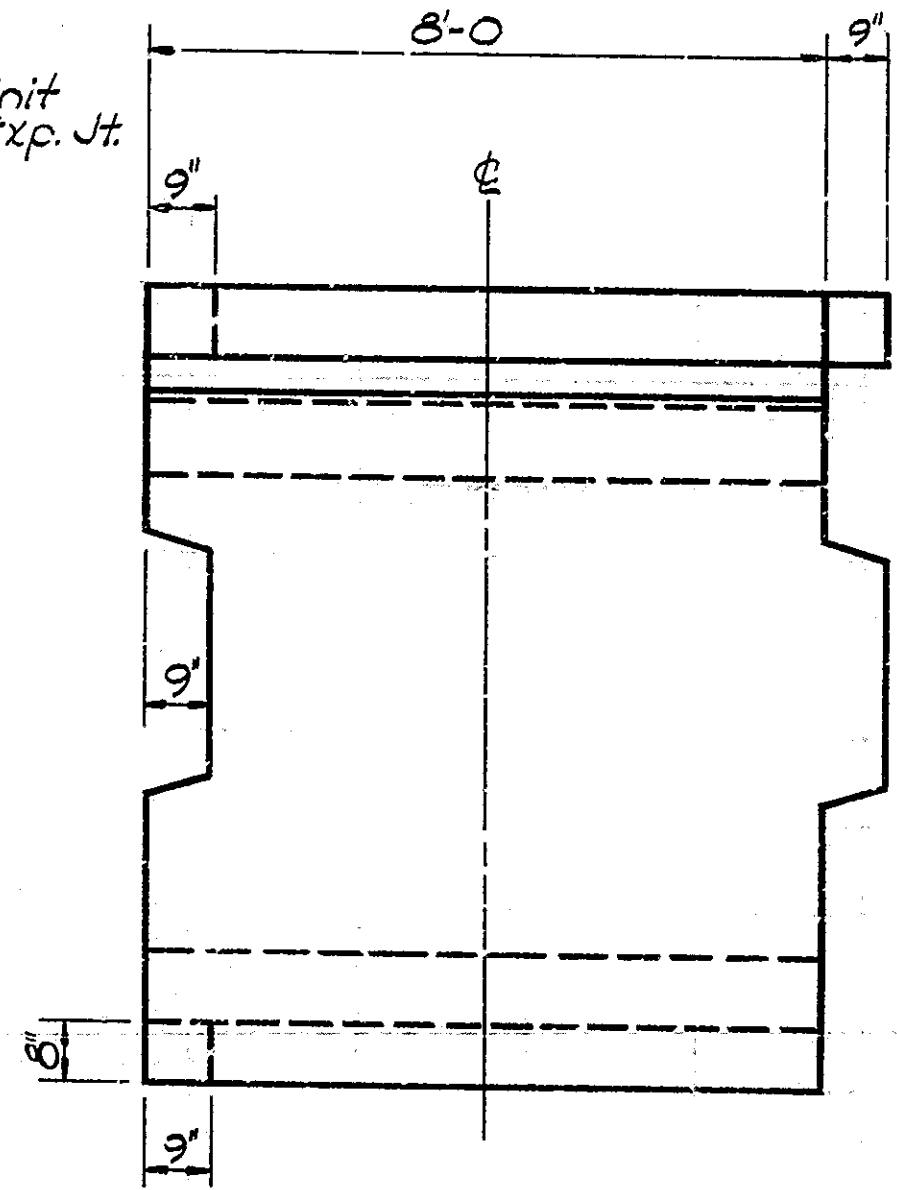


SECTION THRU MANHOLE

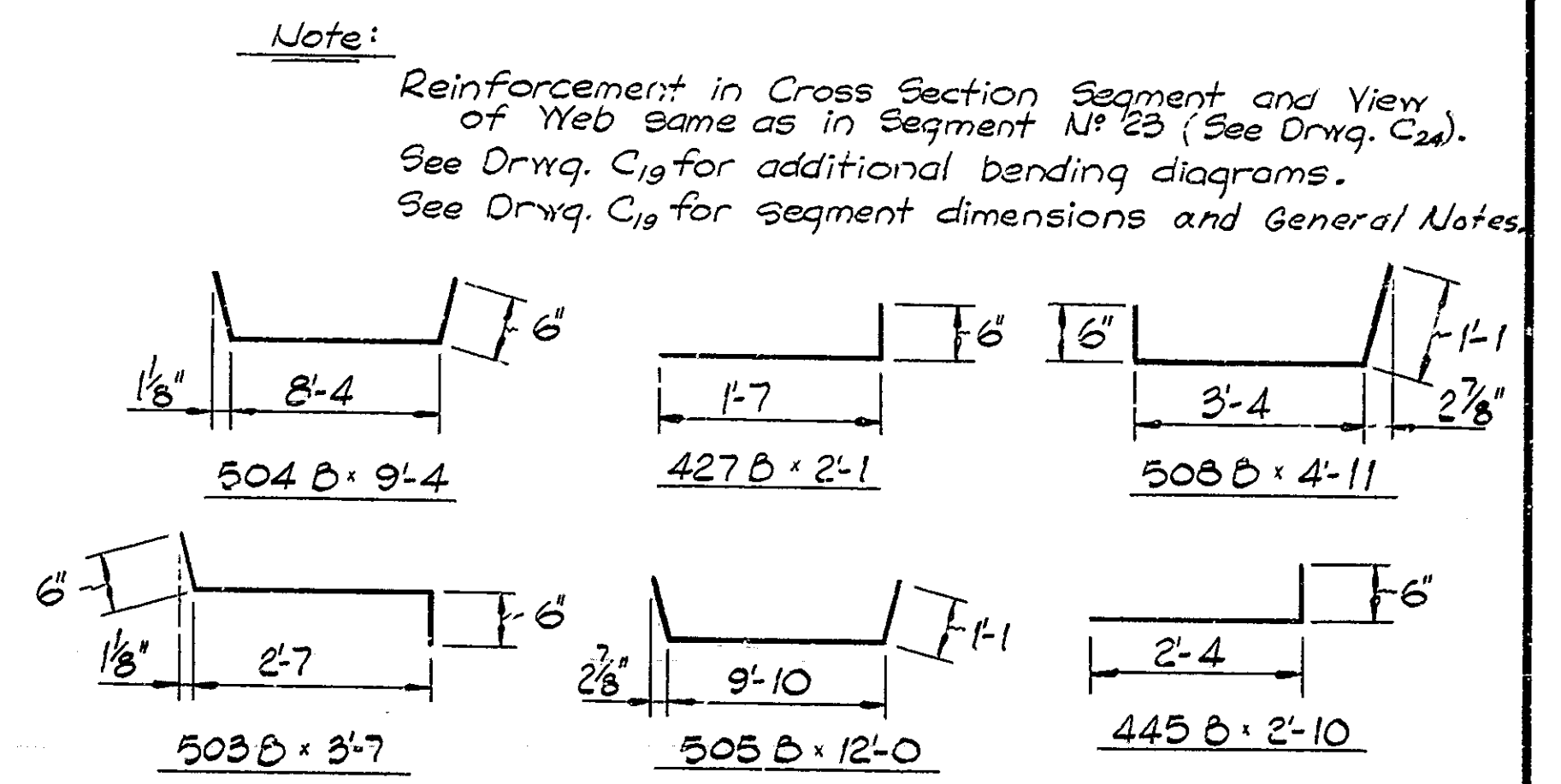
Note: Manhole frame to be preset in the precast unit.



CROSS SECTION SEGMENT



VIEW OF WEB



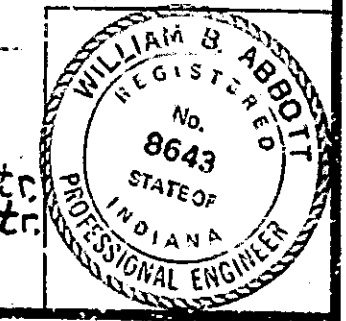
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INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/2" = 1'-0" DATE: DECEMBER 26, 1973

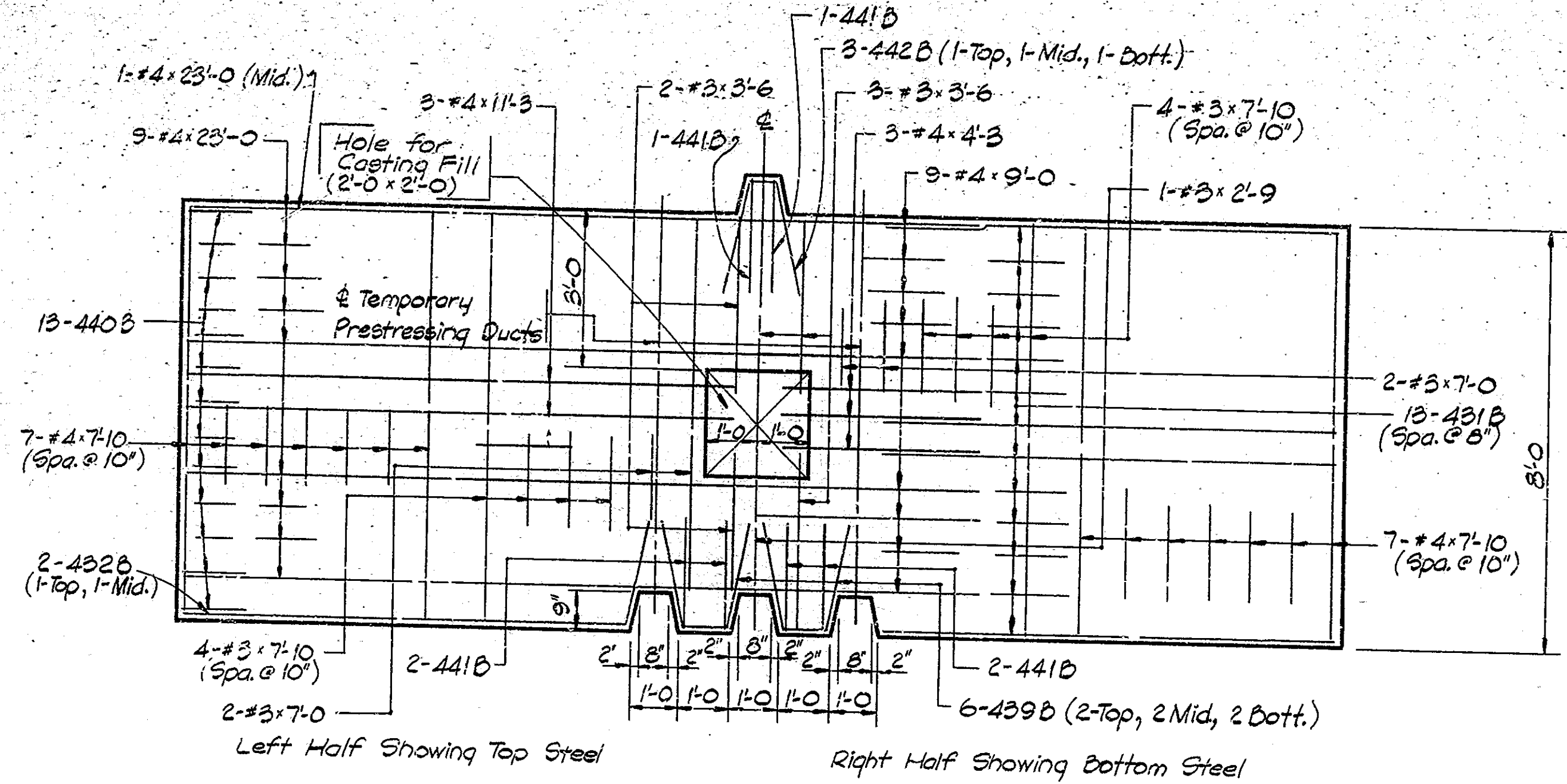
RECOMMENDED FOR APPROVAL: *William B. Miller* ASSISTANT ENGINEER OF BRIDGE DESIGN

DRAWING: C23 of 49 SHEET 17 OF 23
PROJECT: ST-151E Prefab, RF-151(2) Constr.
CONTRACT NO. B-9658 Prefab, B-9816 Constr.
BRIDGE FILE: 50-40-917A

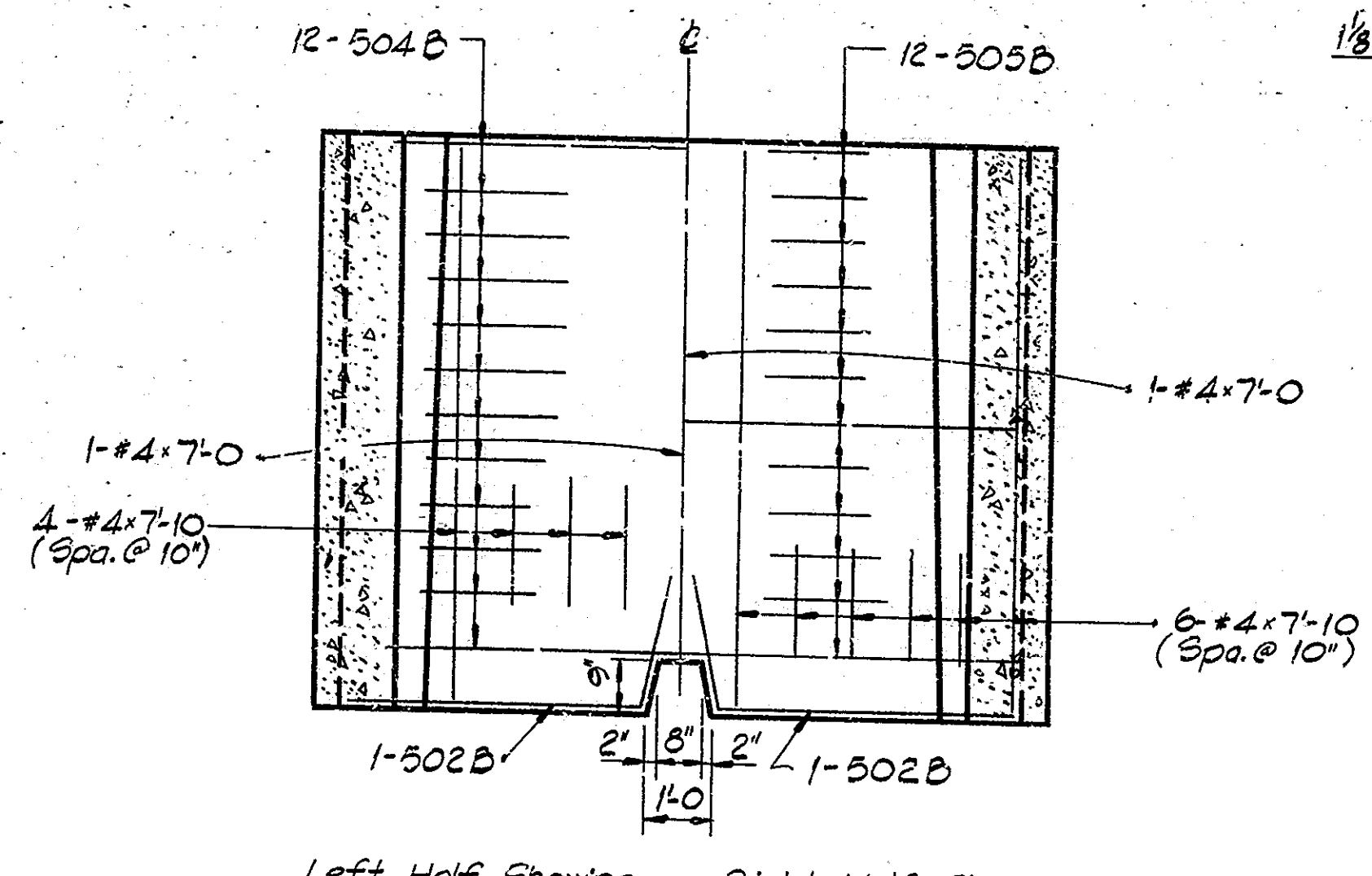


DESIGNED: Comp. P. 20, C.K.D. FAB
DRAWN: C.K.D. 9-10 C.K.D. D.A.S. 10/73
TRACED: C.K.D.

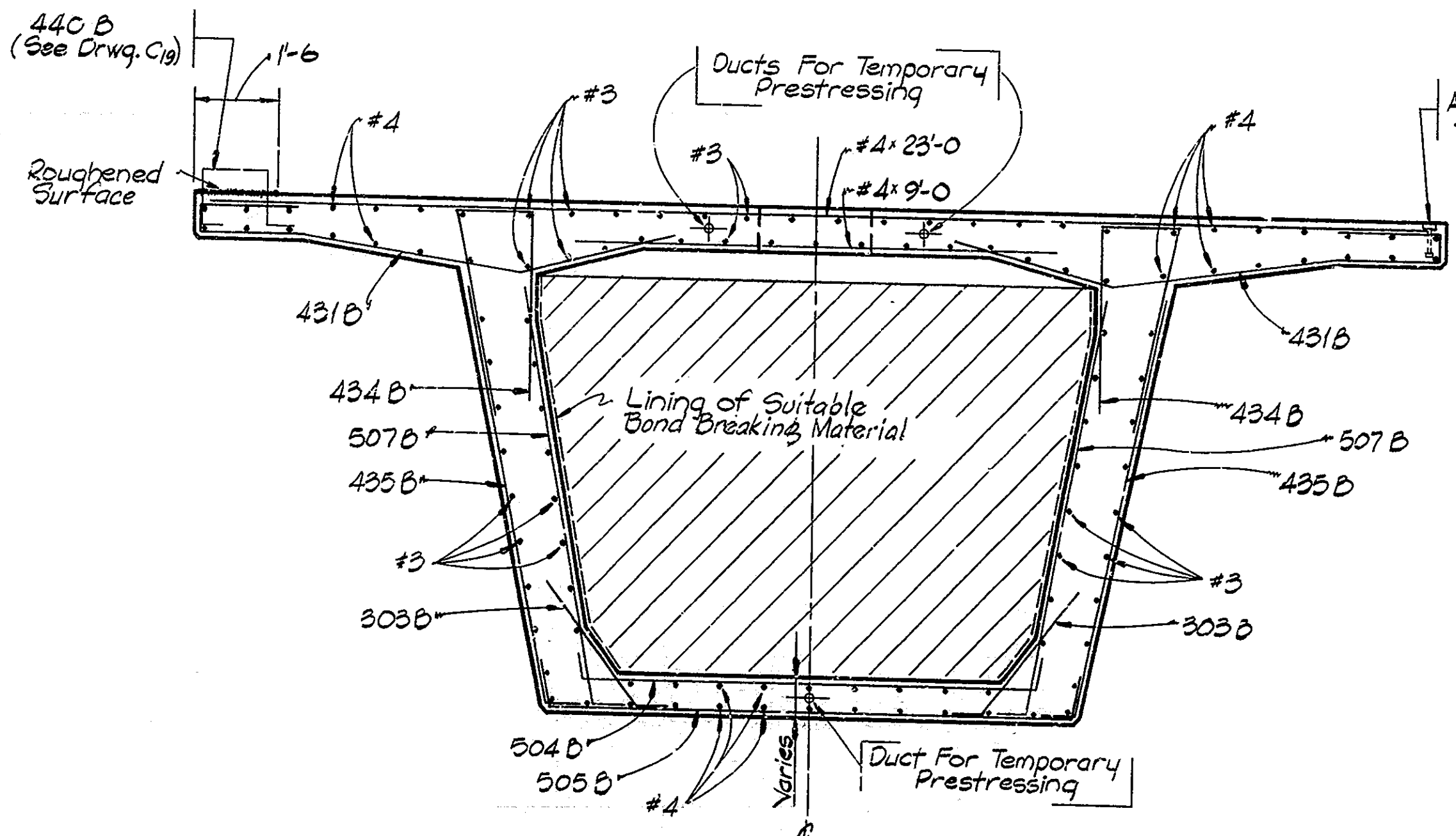
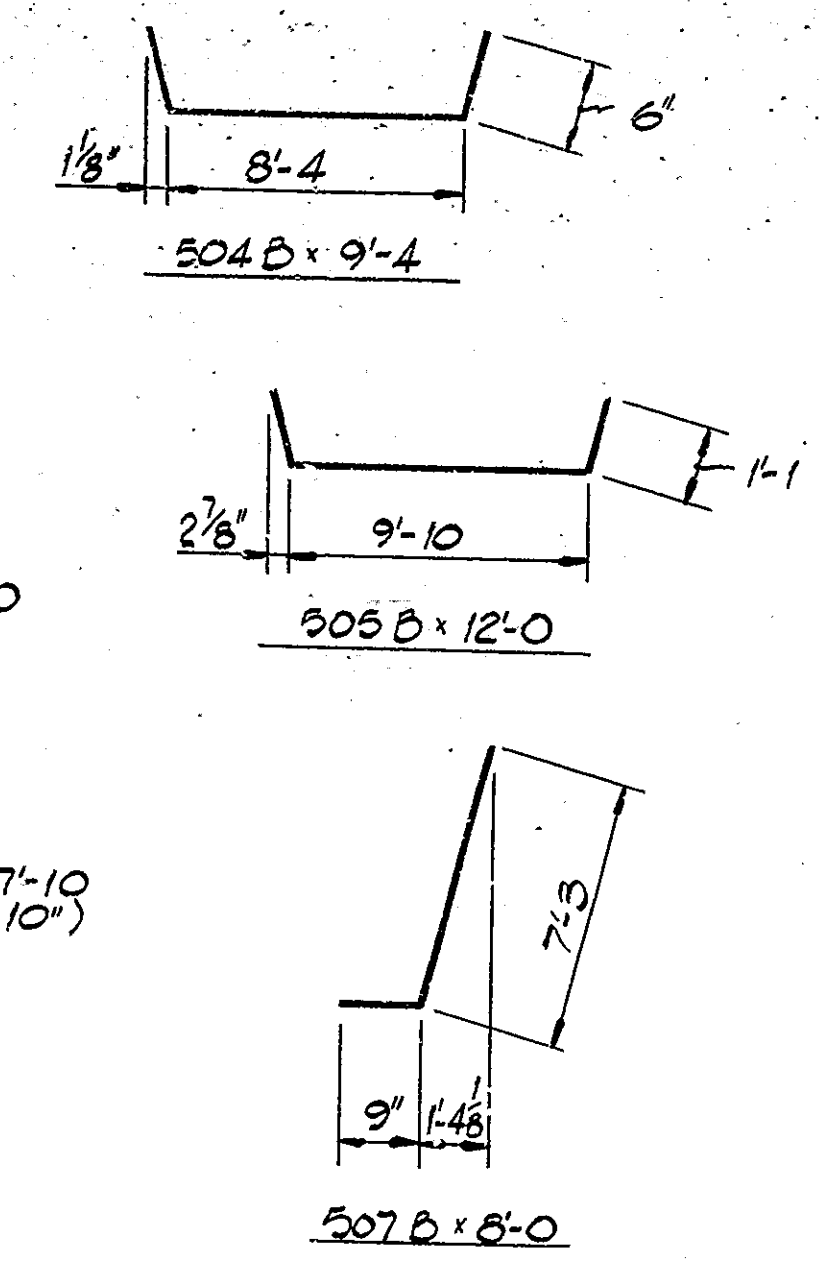
Note: See Br. Std. G for Reinf. Bar notes.



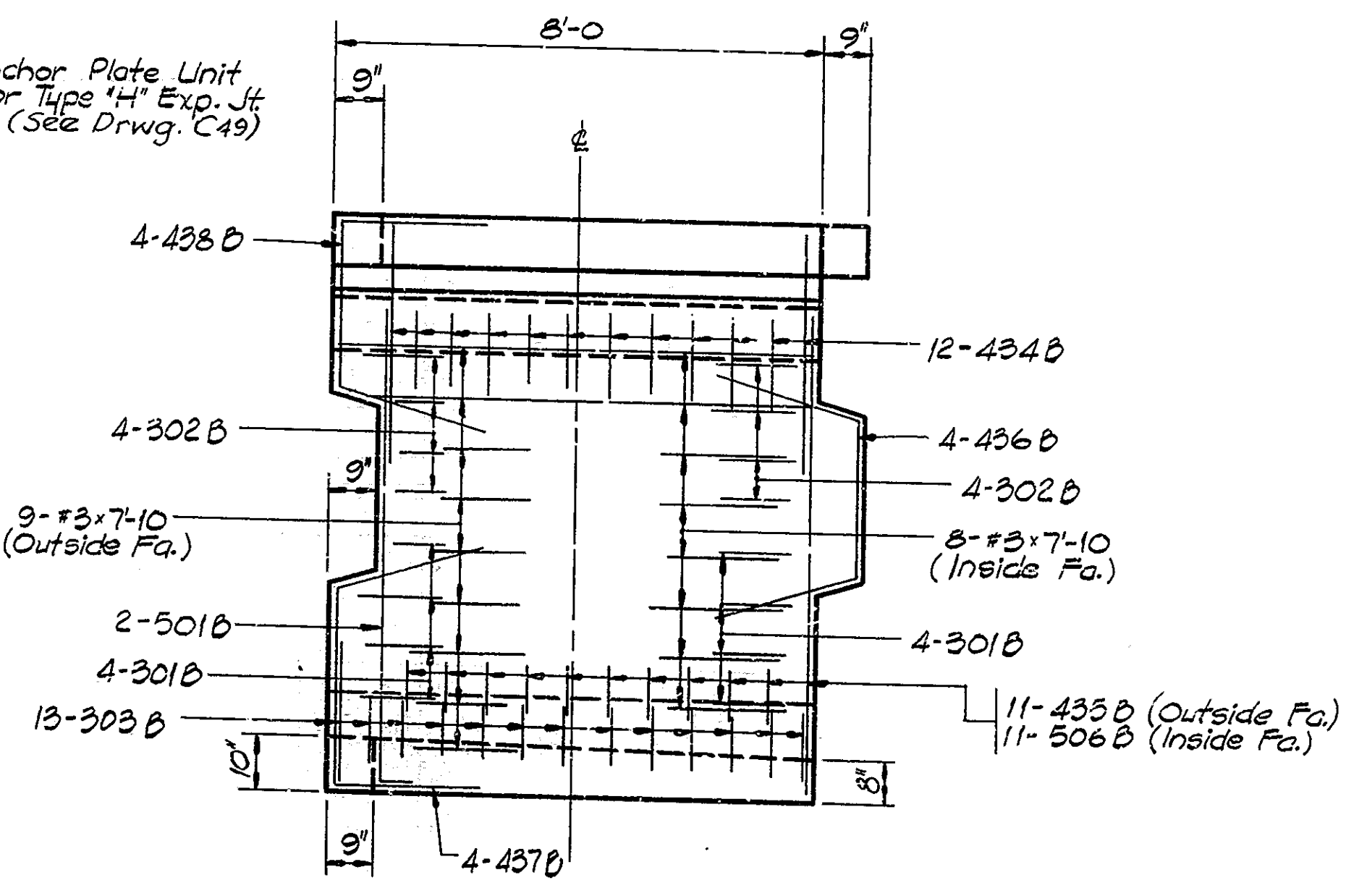
TOP VIEW OF DECK



TOP VIEW OF BOTTOM SLAB



CROSS SECTION SEGMENT



VIEW OF WEB

Note: See Drwg. C₁₉ for additional bending diagrams.
See Drwg. C₁₉ for segment dimensions & notes.
See Br. Std. C₁ for Reinforcing Bar notes.
See Drwg. C₃ for notes concerning gravity fill concrete.

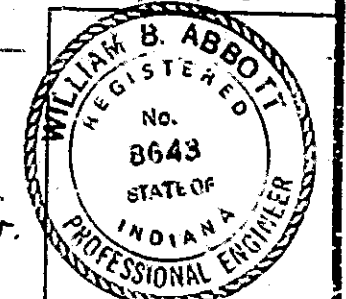
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DETAILS
WESTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

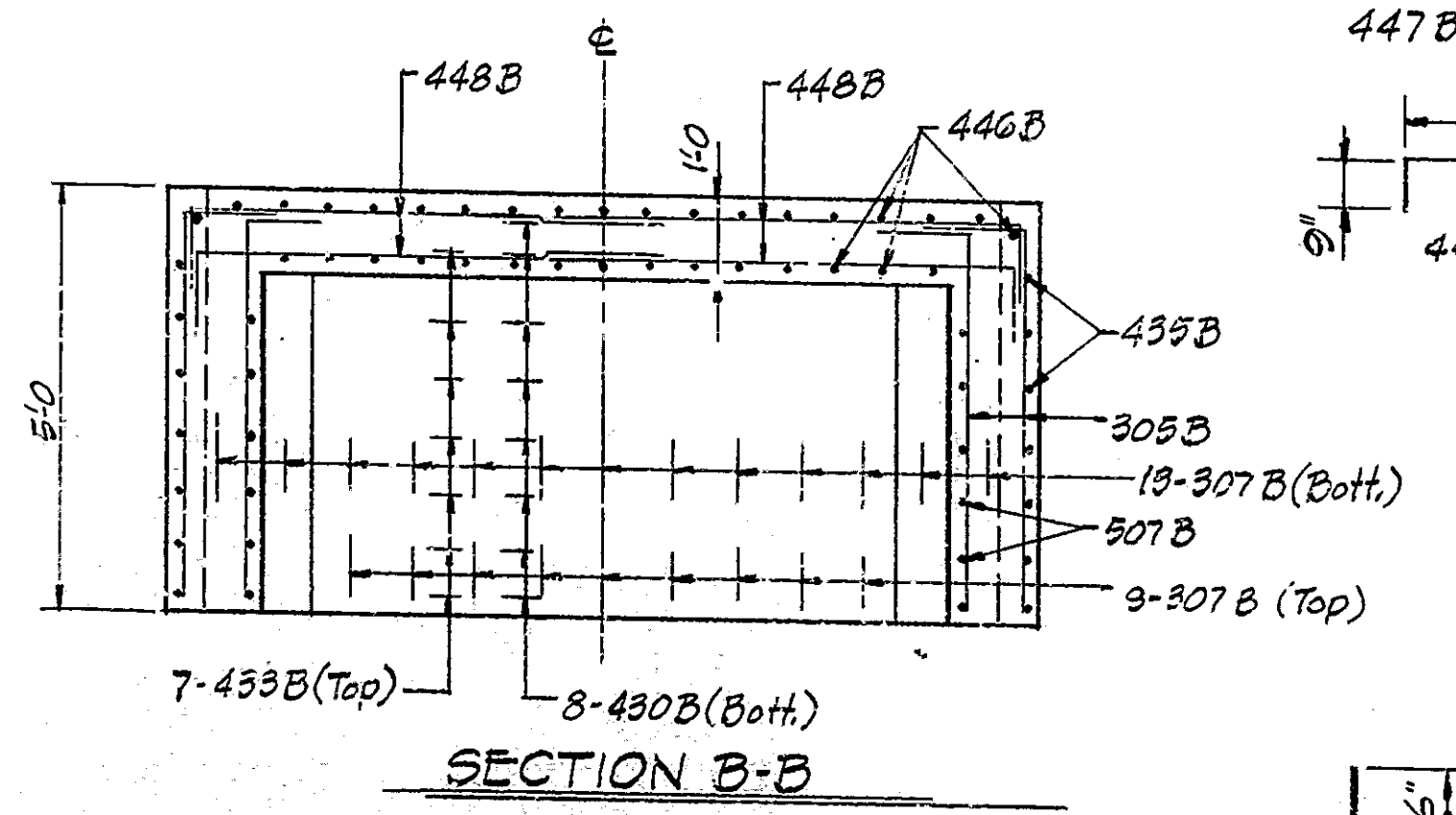
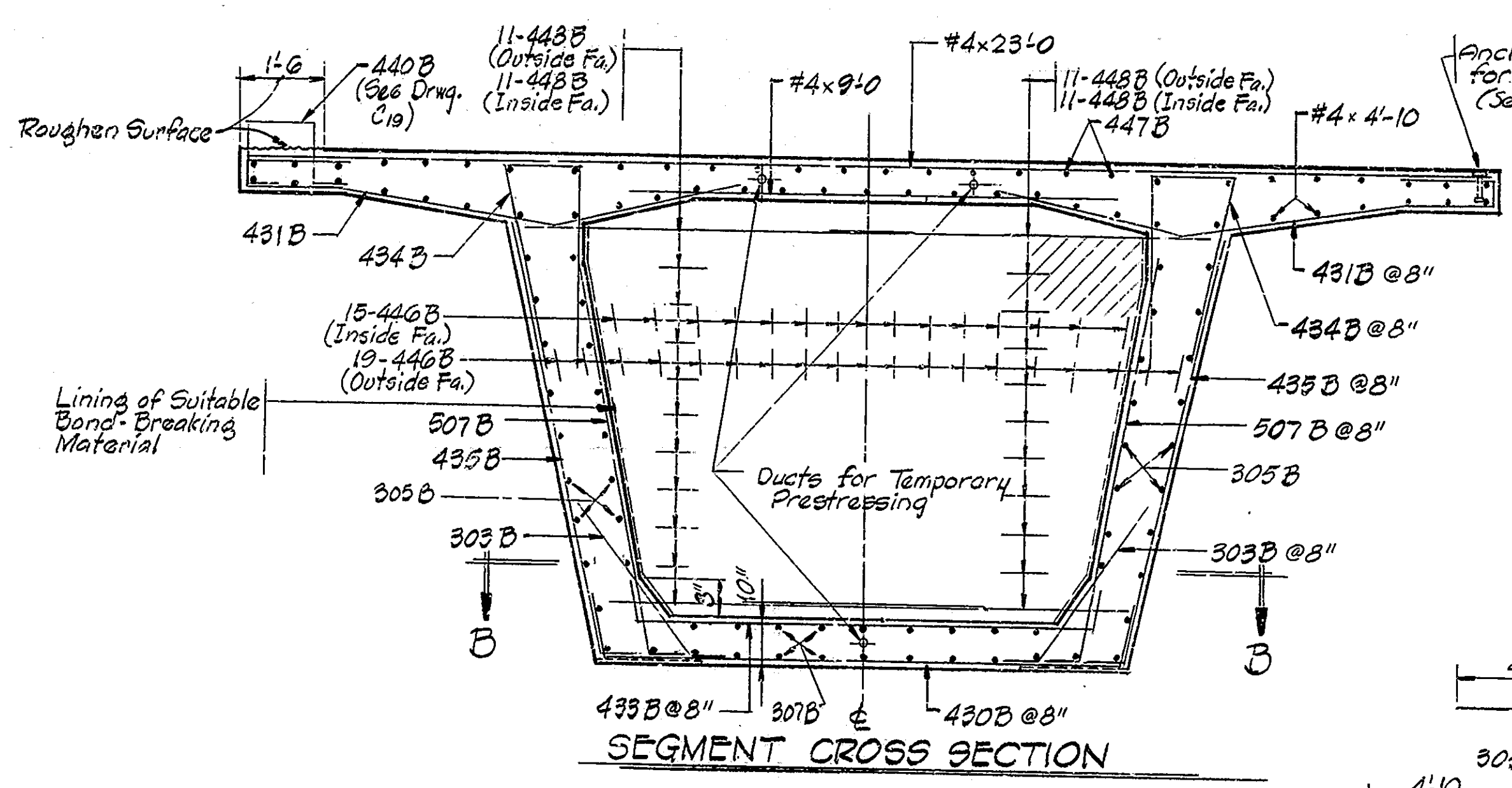
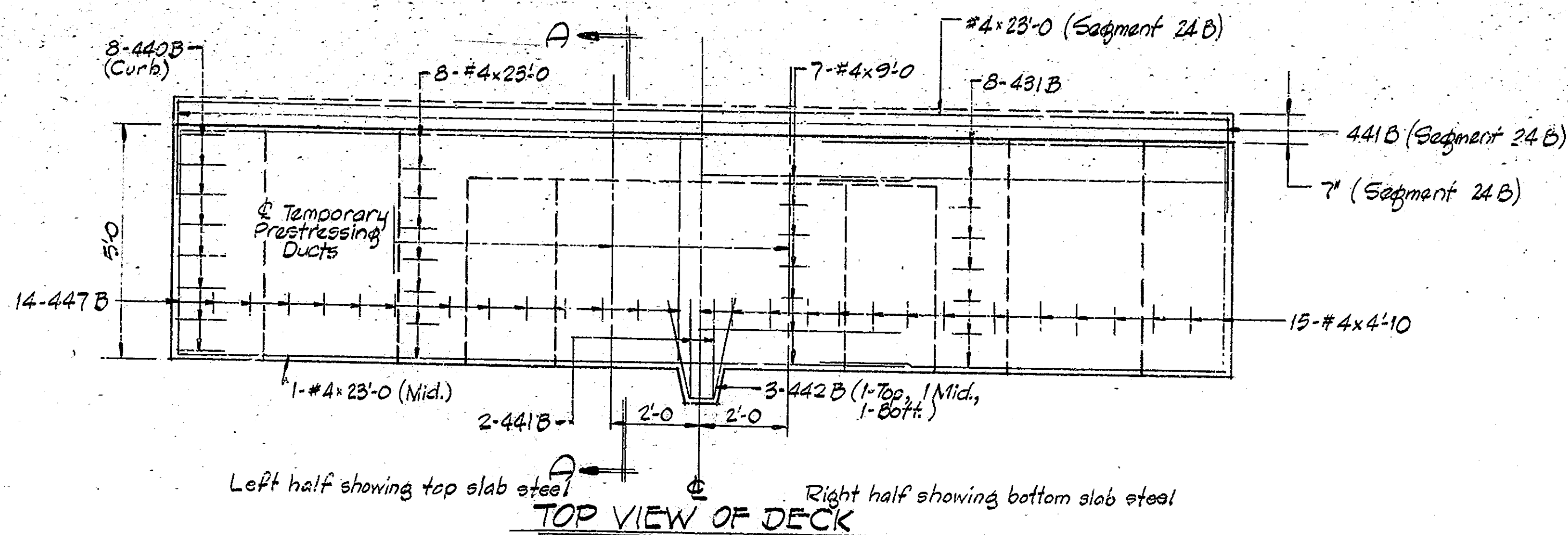
SCALE: 1/2" = 1'-0"

DATE: DECEMBER 26, 1973

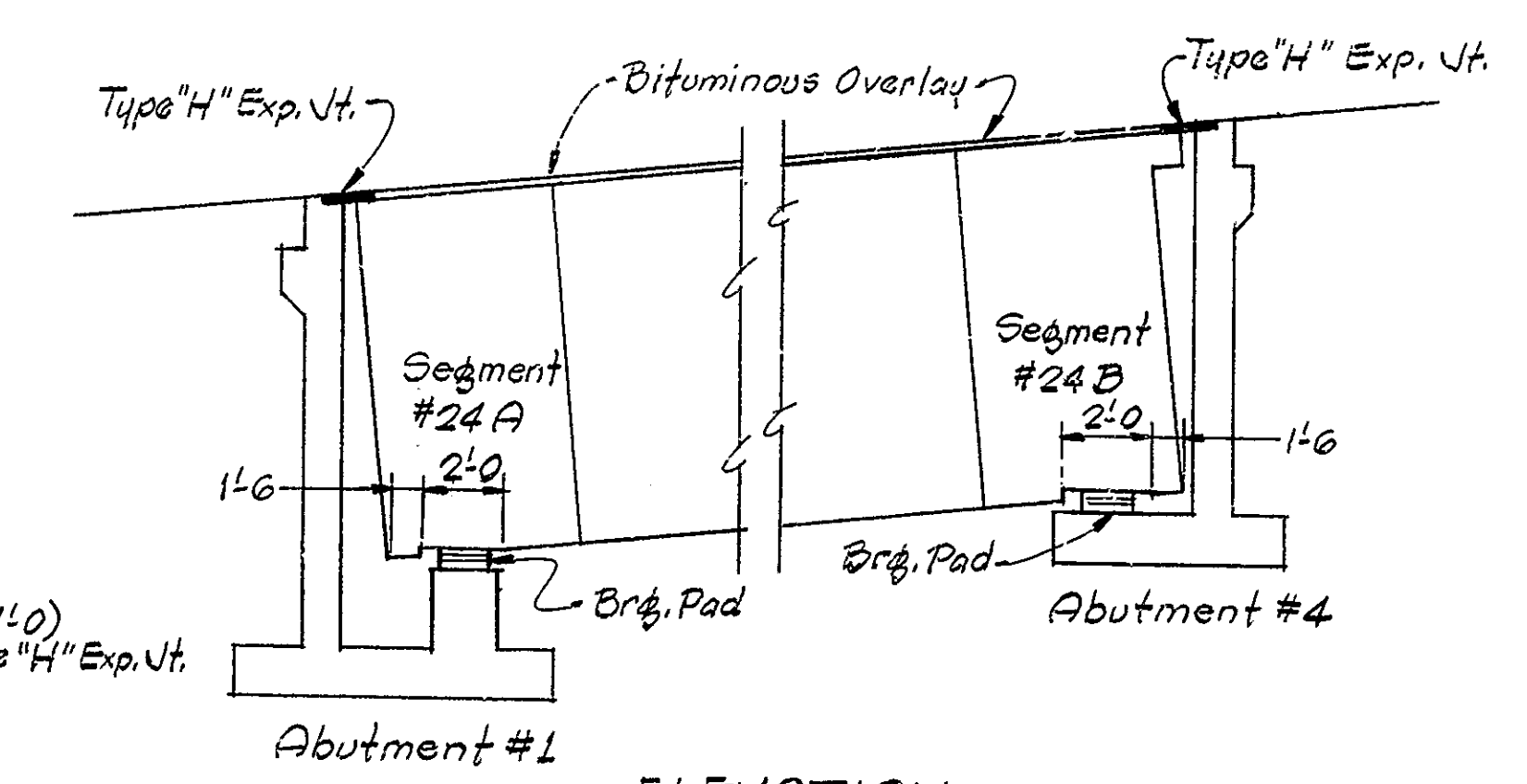
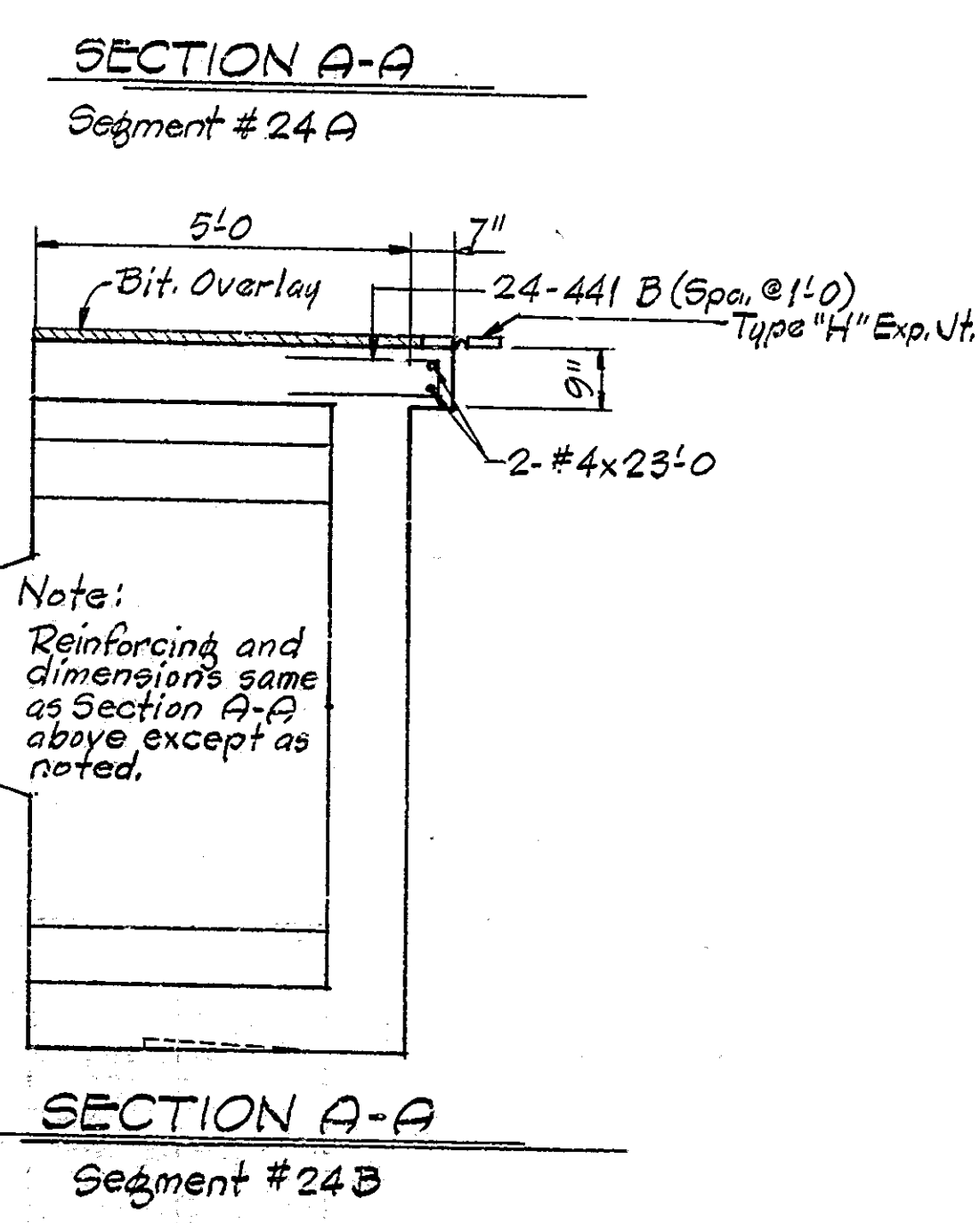
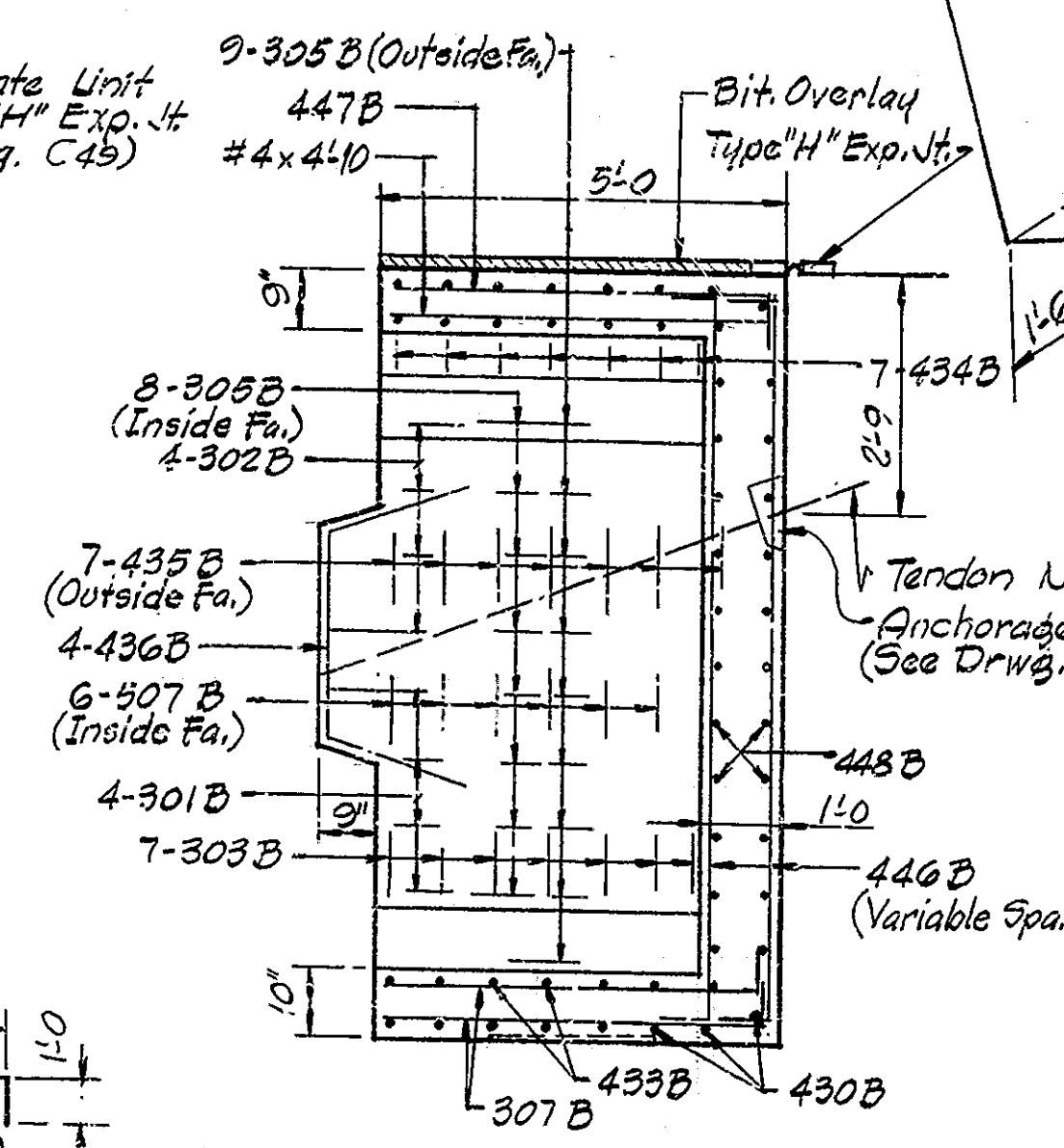
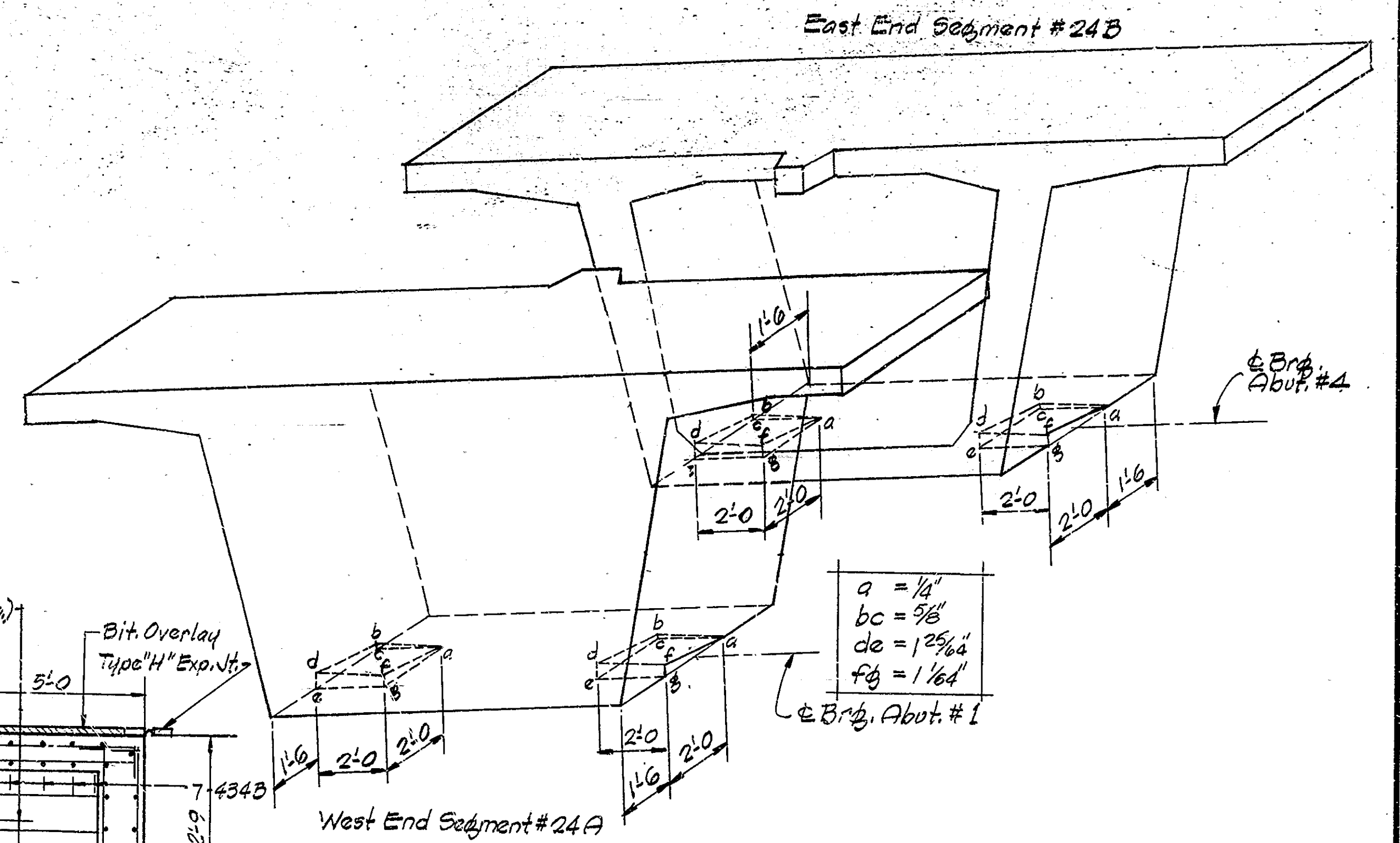
DESIGNED: Camp, Dress, & McKee, Inc. **FAB**
DRAWN: **W.C.D.** / **G.L.P.** / **C.R.D.** / **A.S.** / **10-2-73**
TRACED: **CND**

DRAWING: C₂ OF 49 SHEET: 18 OF 23
PROJECT: ST-151E Prefab. RF-151(12) Constr.
CONTRACT NO. B-9658 Prefab. B-9818 Constr.
BRIDGE FILE: 50-40-917A





Notes:
See Drwg. C19 for additional bending diagrams.
See Drwg. C19 for segment dimensions & notes.
See Drwg. C3 for notes concerning gravity fill concrete.
See Br. Std. C1 for Reinforcing Bar Notes.



DESIGNED: Comp. Prog. CKD FAB
DRAWN: DCS 10/16/73 CKD B.S.M. 10-25-73
TRACED: CKD

INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/2" = 1'-0" DATE: DECEMBER 26, 1973

DRAWING: C25 OF 49 SHEET: 10 OF 23
PROJECT: ST-151E Prefab, RF-151(12) Constr.
CONTRACT NO. B-9658 Prefab, B-9818 Constr.
BRIDGE FILE: 50-40-917A



END STR

CONTRACT NO. B-9818

INDEX

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1	ONE SHEET	INDEX & TITLE SHEET	
2-4	TWO SHEETS	TYPICAL CROSS SECTIONS	
5	ONE SHEET	ROAD PLAN & PROFILE	
6	ONE SHEET	MAINTAINING TRAFFIC DETAILS	
7-8	TWO SHEETS	R.C. BRIDGE APPROACH DETAILS	
9	C 1	SOIL BORINGS	
10	C 2	LAYOUT	
11	C 3 SHEET N#4	GENERAL PLAN	
12-15	C 4 - C 7	PLAN & ELEVATION (W.B. STR.) BR. PROJ. ST.-151E	
16-17	C 8 - C 9	ABUTMENT N# 1 & RETAINING WALL DETAILS (W.B. STR.)	
18-21	C 10 - C 13	PIER N# 2 & PIER N# 3 DETAILS (W.B. STR.)	
22	C 14	ABUTMENT N# 4 & RETAINING WALL DETAILS (W.B. STR.)	
23-26	C 15 - C 18	ERECTION DETAILS (W.B. STR.)	
27	C 19 SHEET N# 13	POST-TENSIONING DETAILS (W.B. STR.)	
28-29	C 20 - C 21 SHTS. 14-15	PRECAST SEGMENT GEN. REINFORCING DETAILS (W.B. STR.) BR. PROJ. ST.-151E	
30	C 22 SHEET N# 16	PIER SEGMENT N# 1 DETAILS (W.B. STR.) BR. PROJ. ST.-151E	
31	C 23 SHEET N# 17	SEGMENTS N# 2, C, N# 3 REINFORCING DETAILS (W.B. STR.) BR. PROJ. ST.-151E	
32	C 24 SHEET N# 18	SEGMENT N# 2C REINFORCING DETAILS (W.B. STR.) BR. PROJ. ST.-151E	
33	C 25 SHEET N# 19	SEGMENTS N# 4A & N# 24B REINFORCING DETAILS (W.B. STR.) BR. PROJ. ST.-151E	
34	C 26	MIDSPAN SPICE N# 24B REINFORCING DETAILS (W.B. STR.) BR. PROJ. ST.-151E	
35	C 27	MISCELLANEOUS DETAILS (W.B. STR.)	
36-38	C 28 - C 30	ABUTMENT N# 1 SUPERSTRUCTURE DETAILS (W.B. STR.)	
39	C 31	ABUTMENT N# 2 DETAILS (E.B. STR.)	
40	C 32	ABUTMENT N# 3 DETAILS (E.B. STR.)	
41-43	C 33 - C 35	ABUTMENT N# 4 DETAILS (E.B. STR.)	
44-46	C 36 - C 38	SUPERSTRUCTURE DETAILS SPAN A (E.B. STR.)	
47-52	C 39 - C 44	SUPERSTRUCTURE DETAILS SPAN B (E.B. STR.)	
53	C 45	SUPERSTRUCTURE DETAILS (E.B. STR.)	
54-55	C 46 - C 47	PRECAST SLAB UNIT DETAILS (E.B. STR.)	
56	C 48	SUPERSTRUCTURE BILL OF MATERIALS (E.B. STR.)	
57	C 49	TYPE 'H' EXPANSION JOINT DETAIL	
58	ONE SHEET	BRIDGE SUMMARY	
59	ONE SHEET	BRIDGE ESTIMATE OF QUANTITIES	
60-70	ELEVEN SHEETS	CROSS SECTIONS	

STATE OF INDIANA
INDIANA STATE HIGHWAY COMMISSION

BRIDGE PLANS

FOR SPANS OVER 20 FEET

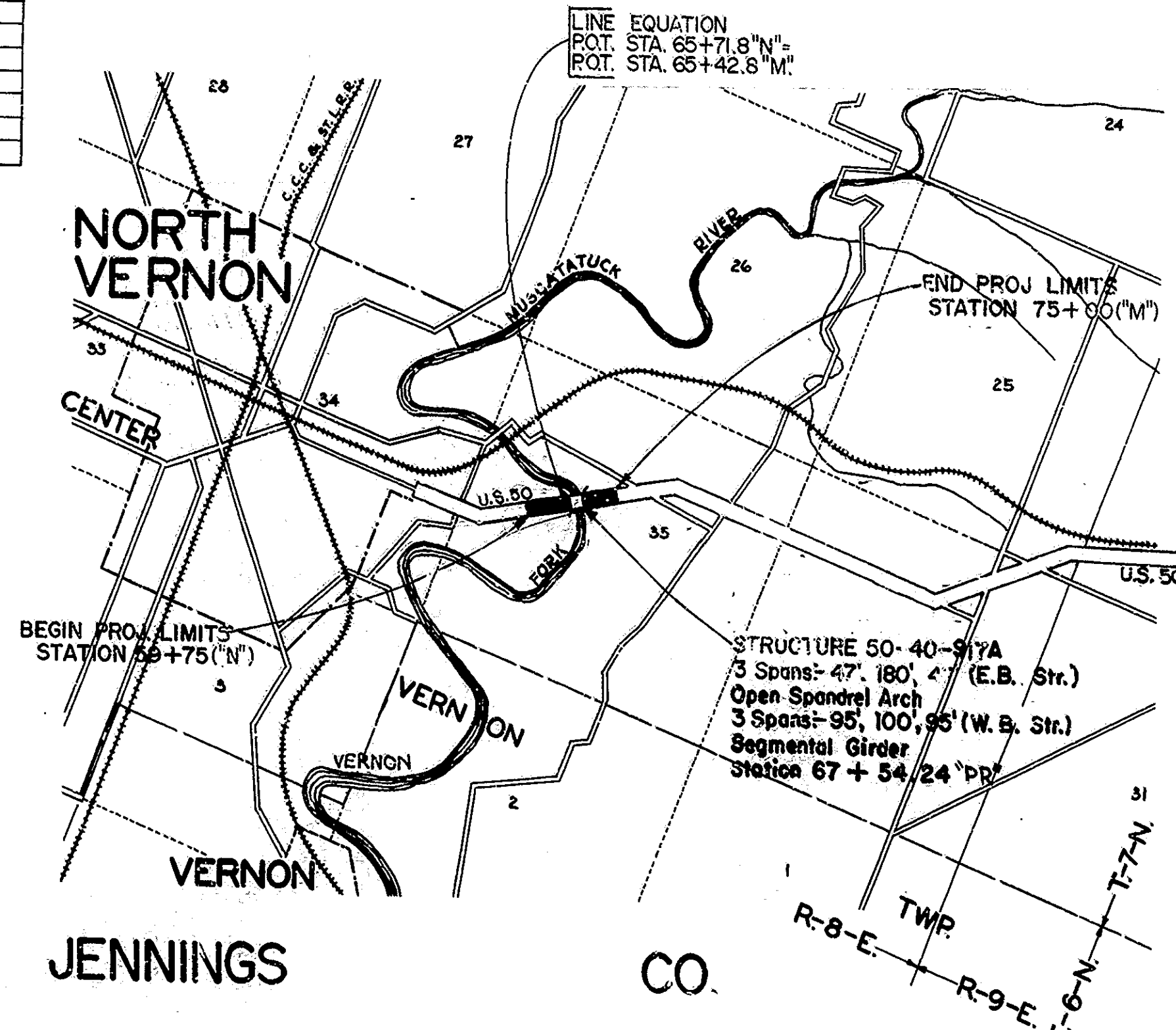
ON

U.S. ROAD NO. 50

PROJECT NO. RF-151

(12) PE.
(12) R/W
(12) CONST.

BEGINNING AT A POINT ON U.S. 50 APPROX. 1632' SOUTHWEST OF THE EAST LINE OF THE NORTHWEST QUARTER OF SEC. 35 & EXTENDING APPROX. 1554' NORTH EASTERLY TO A POINT ON U.S. 50 APPROX. 138' SOUTHWEST OF THE EAST LINE OF THE NORTHWEST QUARTER OF SEC. 35. ALL IN JENNINGS CO.



STRUCTURE 50-40-917A
3 Spans- 47', 180', 47' (E.B. Str.)
Open Spandrel Arch
3 Spans- 95', 100', 95' (W.B. Str.)
Segmental Girder
Station 67 + 54.24 'PR'

FEDERAL PROJECT NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
8	IND.	RF-151(12)	1	69

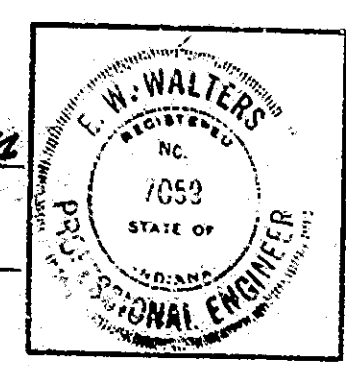
BRIDGES OVER 20' SPAN
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STANDARD DRAWINGS

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72	BRIDGE STD. BR2	ALUMINUM BRIDGE RAILING DETAILS	10-11-73	R-9-1-73
73	BRIDGE STD. BR3	STEEL BRIDGE RAILING	10-11-73	R-9-1-73
74	BRIDGE STD. BR4	STEEL BRIDGE RAILING DETAILS	10-11-73	R-9-1-73
75	BRIDGE STD. C1	MISCELLANEOUS DETAILS	10-11-73	R-9-1-73
76	BRIDGE STD. C2	MISCELLANEOUS DETAILS		
77	BRIDGE STD. C3	MISCELLANEOUS DETAILS		
78	BRIDGE STD. D	CASTING DETAILS ROADWAY DRAINS		R-6-1-72
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	BRIDGE STD. PB6	PRESTRESSED CONCRETE TYPE I-BEAMS		
	BRIDGE STD. PB	PRESTRESSED COMPOSITE BOX BEAMS		
	BRIDGE STD. PB	PRESTRESSED COMPOSITE BOX BEAMS WIDE		
	BRIDGE STD. PB10	TOLERANCES FOR FABRICATION OF PRESTRESSED BEAMS		
	BRIDGE STD. PB11	ELASTOMERIC BEARING PAD DETAILS		
	BRIDGE STD. R2A	BRIDGE LIGHTING DETAILS		
77	BRIDGE STD. S1	MISCELLANEOUS DETAILS	1-17-72	R-8-2-71
	BRIDGE STD. SH1	STEEL SHOE DETAILS		
	BRIDGE STD. TSHEET A	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD. TSHEET B	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD.			
	BRIDGE STD.			
	ROAD STD. SHEET AC0C	STANDARD CONT REINF CONC PAVEMENT		
	ROAD STD. SHEET B0C	STANDARD CONT REINF CONC PAVEMENT		
	ROAD STD. SHEET C0C	STANDARD CONT REINF CONC PAVEMENT		
76	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS		
79	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS	9-29-71	R-1-2-74
	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS		R-1-4-71
80	ROAD STD. SHEET MB	MISCELLANEOUS STANDARDS		R-1-2-74
	ROAD STD. SHEET H32	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
81	ROAD STD. SHEET MC	MISCELLANEOUS STANDARDS		R-1-2-74
82	ROAD STD. SHEET MC1	MISCELLANEOUS STANDARDS		R-10-1-70
83	ROAD STD. SHEET MD	MISCELLANEOUS STANDARDS		R-1-2-74
84	ROAD STD. SHEET MD2	MISCELLANEOUS STANDARDS		
85	ROAD STD. SHEET ME	MISCELLANEOUS STANDARDS		R-1-2-74
86	ROAD STD. SHEET ME2	MISCELLANEOUS STANDARDS	6-9-71	R-3-1-71
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		R-1-2-74
87	ROAD STD. SHEET MH	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MH1	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS	9-25-73	R-7-2-73
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
88	ROAD STD. SHEET MN	MISCELLANEOUS STANDARDS	5-26-71	R-4-1-70
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
89	ROAD STD. SHEET MP	MISCELLANEOUS STANDARDS	3-12-74	R-2-134
	ROAD STD. SHEET MQ	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MR	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET			
	ROAD STD.	STANDARD REINF CONC BOX CULVERTS		
	ROAD STD.	STANDARD REINF CONC CULVERTS		
90	ROAD STD. SHEET GR2	GUARD RAIL CLASS BS		A-Dec-1973
91	ROAD STD. SHEET GR3	GUARD RAIL CLASS BA BS BSY		A-Sep-1972
92	ROAD STD. SHEET GR4	GUARD RAIL CLASS GA OR GST		A-Feb-1972
93	ROAD STD. SHEET GR5	ALUMINUM GUARD RAIL DETAILS		R-10-1-71
94	ROAD STD. SHEET GR6	STEEL TUBE GUARD RAIL DETAILS	2-2-72	A-10-1971
95	ROAD STD. SHEET GR7	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET GR10	GUARD RAIL BURRED ENDS		R-1-2-74
	ROAD STD.			
	ROAD STD.	STANDARDS FOR SUPERELEVATION		
96	ROAD STD. SHEET I DETOURS	STANDARD DETOUR SIGNS		
97	ROAD STD. SHEET 2 DETOURS	STANDARD DETOUR SIGNS		R-1-2-74
98	ROAD STD. SHEET 3 DETOURS	STANDARD DETOUR SIGNS	7-9-73	P-4-2-73
99	ROAD STD. SHEET 4 DETOURS	STANDARD DETOUR SIGNS	7-9-73	P-4-2-73
	ROAD STD.	SPECIAL SIGNS		
	ROAD STD. SHEET I	CONSTRUCTION IDENTIFICATION SIGNS		R-2-1-73
	ROAD STD.			

TRAFFIC DATA	
A.D.T. (1971)	6050 V.P.D.
A.D.T. (1991 PROJECTED)	11,450 V.P.D.
D.H.V. (1991 PROJECTED)	1,269 V.P.D.
TRUCKS	DHV 7% A.D.T. 10%
DESIGN SPEED	60 M.P.H.
ACCESS CONTROL	NONE

BRIDGE LENGTH: 0.074 MI.
ROADWAY LENGTH: 0.220 MI.
TOTAL LENGTH: 0.294 MI.
MAX. GRADE: +5.03 %

APPROVED *P* 5-20-74
A. K. Hallock
CHIEF HIGHWAY ENGINEER—INDIANA STATE HIGHWAY COMMISSION



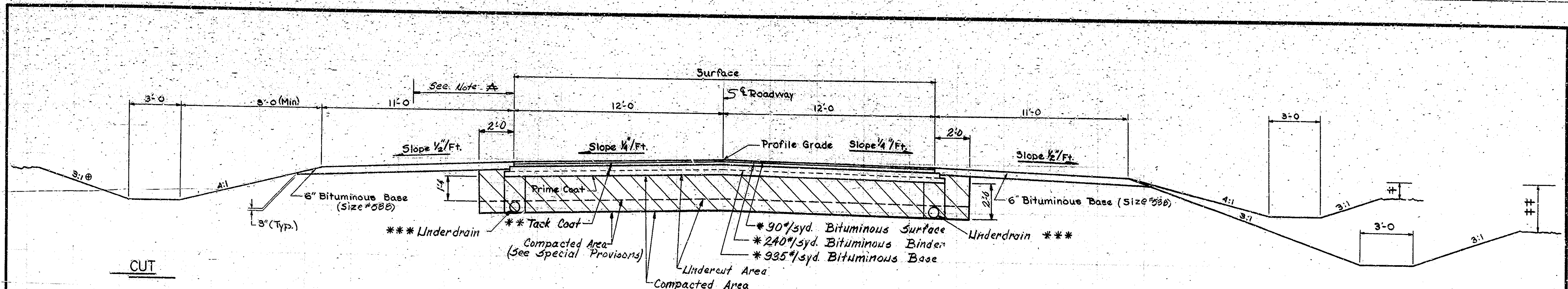
RECOMMENDED FOR APPROVAL 5-15-74
E. W. Walters
ENGINEER OF BRIDGE DESIGN, INDIANA STATE HIGHWAY COMMISSION

FEDERAL HIGHWAY ADMINISTRATION DEPARTMENT OF TRANSPORTATION	
APPROVED:	DATE
DIVISION ENGINEER	

BRIDGE FILE: 50-40-917A

INDIANA STATE HIGHWAY COMMISSION
STANDARD SPECIFICATIONS DATED 1974
TO BE USED WITH THESE PLANS.

DATE	REVISIONS	SHEET NO.
2-28-74	3, 58 & 59	
6-2-74	1, 2, 3, 5, 10, 58 & 59	
5-15-74	4, 22, 25, 52, 26, 58 & 59	
10-21-74	15	



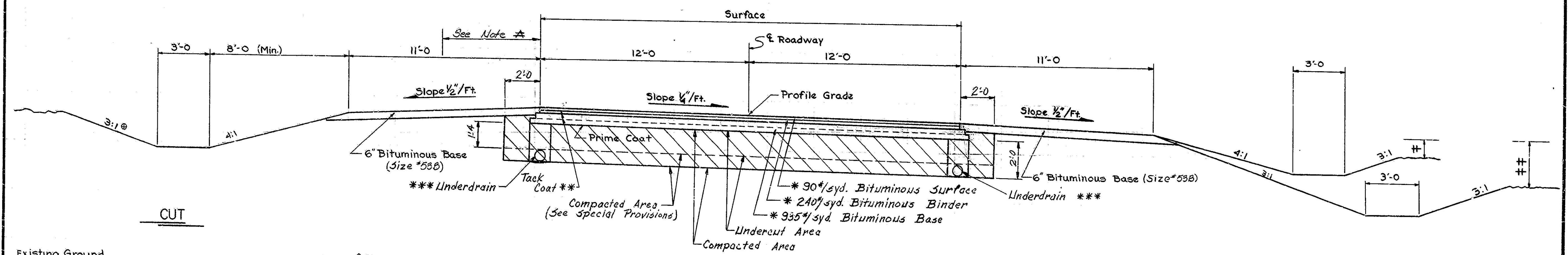
Except as shown on Cross Sections

TYPICAL CROSS SECTION

Special Subgrade Treatment (See Special Provisions)

FILL

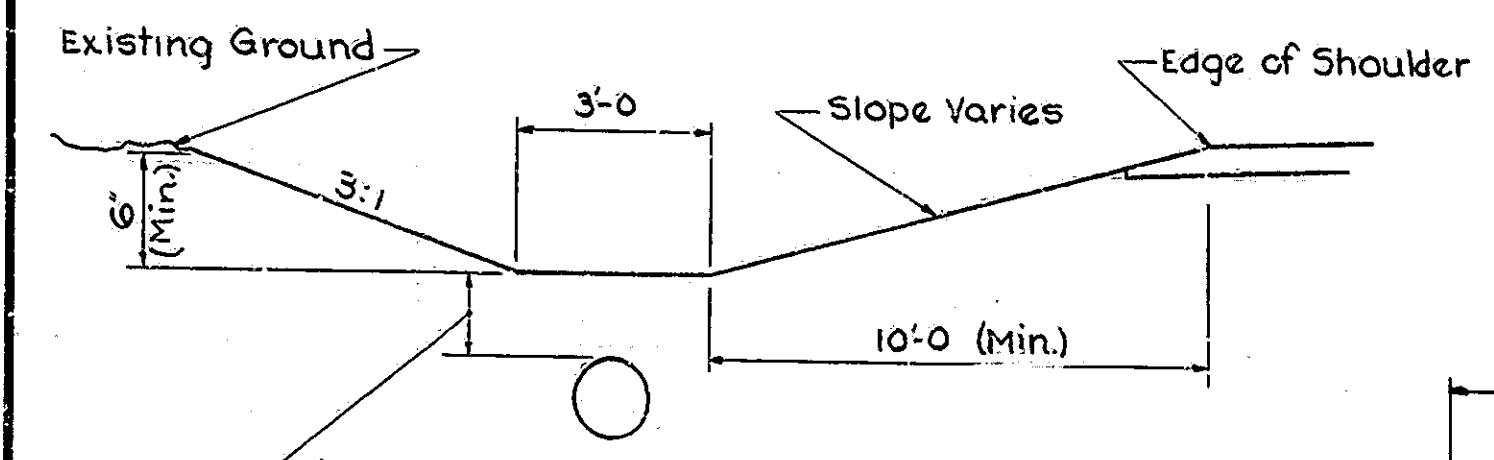
† Fill Height up to 9'-0.
 †† Fill Height over 9'-0.



CUT

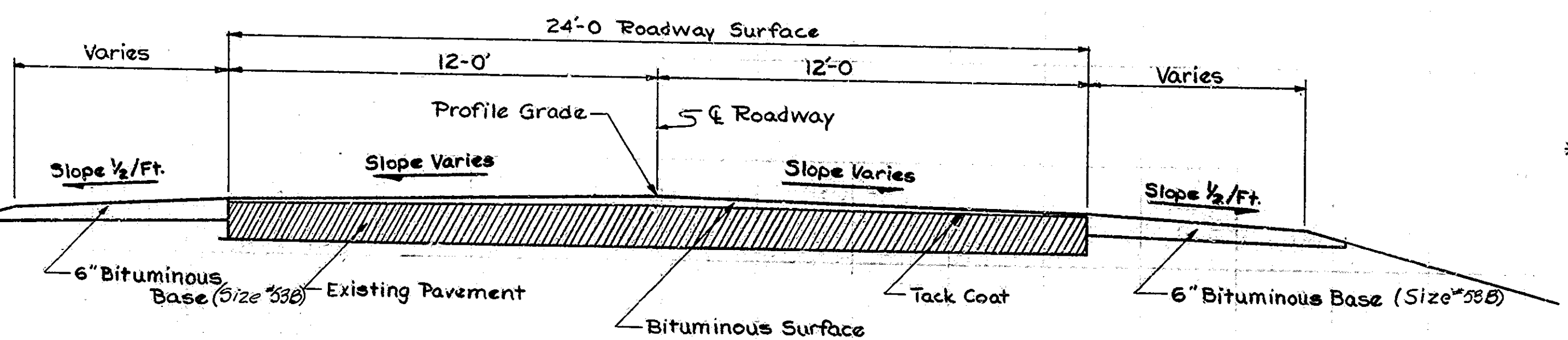
TYPICAL CROSS SECTION ON CURVE

FILL



SECTION THRU UNDERGROUND PIPE

Note: The quantity Seed Mixture "CV" shown on the estimate of quantity sheet is to be used at those locations where the slopes are 3:1 or steeper or as directed by the engineer.



SECTION THRU TAPER

(STA. 59+00 - 59+75 "L" & STA. 75+00 - 76+00 "M")

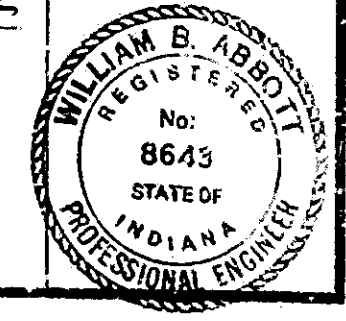
- * Bituminous Surface to be H.A.E. Surface Type III on #9 H.A.E. Binder on #4 or #5 H.A.E. Base or H.A.C. Surface Type "B" on #9 H.A.C. Binder on #4 or #5 H.A.C. Base.
- ** Tack Coat between each lift. (0.03 Gal./Syd./Lift)
- *** For details of Underdrains See Misc. Std. Sheet Mn. Underdrains required Right and Left.
- North Edge of Pavement: Sta. 59+75 to 65+60 "P.R." Sta. 69+50 to 75+30 "P.R."
- South Edge of Pavement: Sta. 59+75 to 66+10 "P.R." Sta. 69+00 to 75+30 "P.R."

TYPICAL CROSS SECTIONS
 INDIANA STATE HIGHWAY COMMISSION

SCALE: 3/8" = 1'-0" DATE: DECEMBER 26, 1973

RECOMMENDED FOR APPROVAL: *William B. Abbott*

DRAWING: OF PROJECT: RF-151-(12) SHEET 2 OF 99
 CONTRACT NO. B-9818
 BRIDGE FILE: 50-40-917A



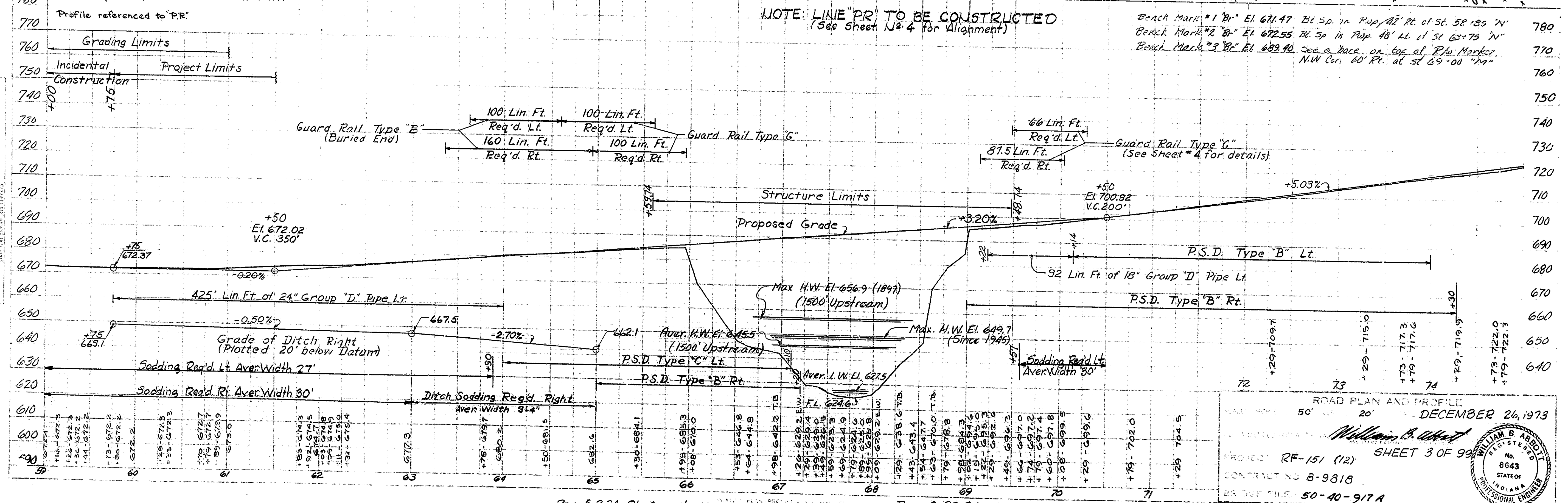
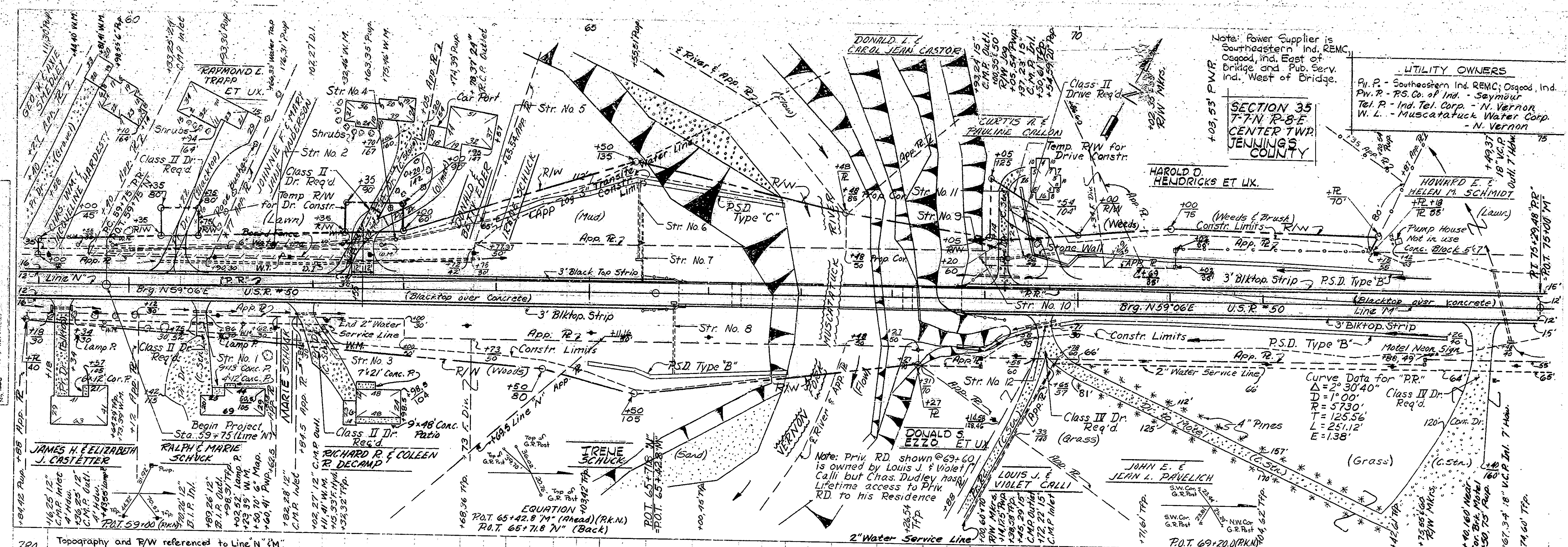
DESIGNED: CKD
 DRAWN: E.F. 9-72 CKD E.A.B. 10/72
 TRACED: CKD

* Note: See Sheet No. 5 for extent of Bituminous Widening to remain in place.

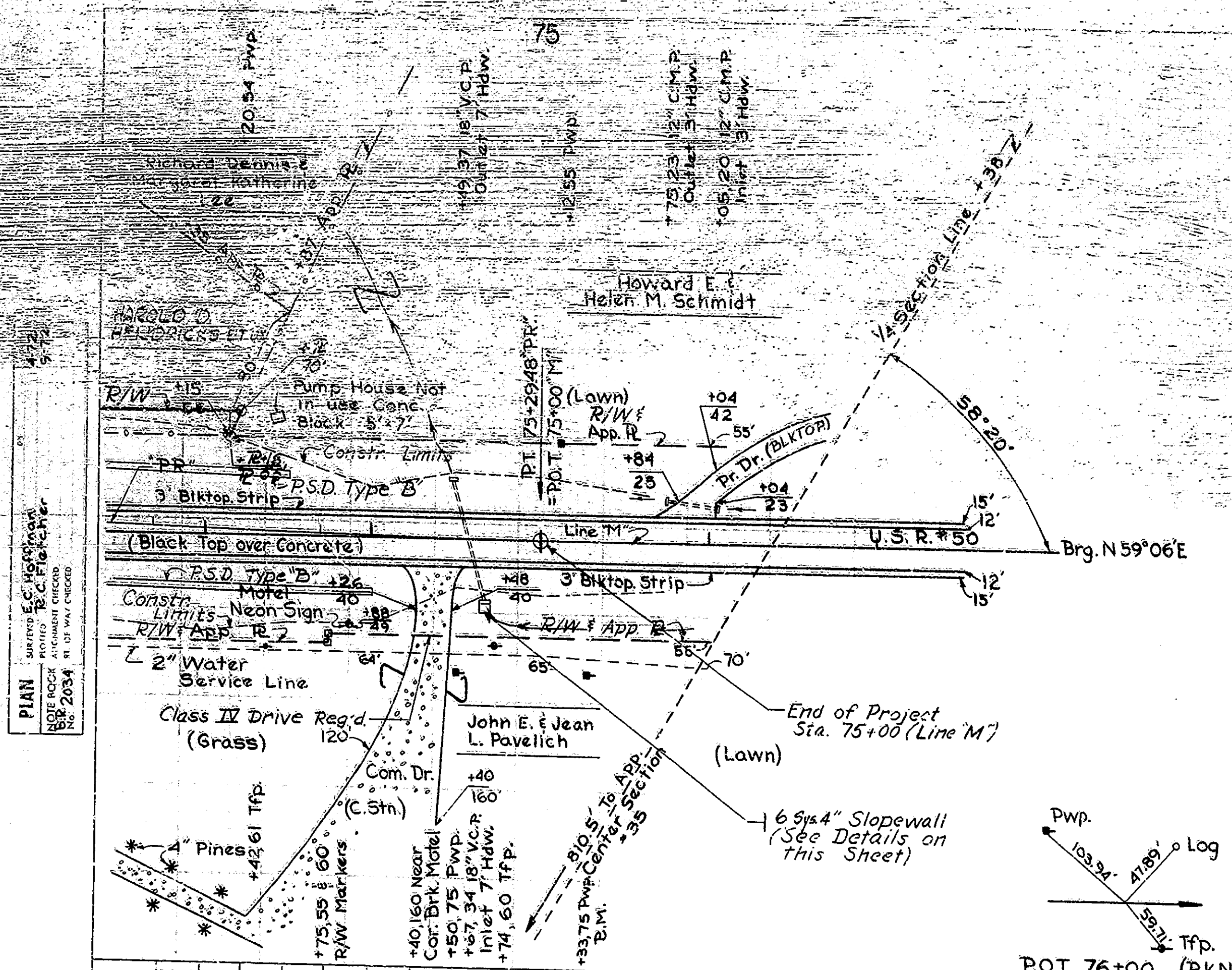
Rev. 5-2-74 Deleted Size #5, crown-etch seeding, Type I Seal and #12 Cover Aggregate. Added Size #588 and seed mixture "CV".

PLAN
 DRAWN BY E.C. HOFFMAN
 CHECKED BY E.C. FLETCHER
 DATE 4-72

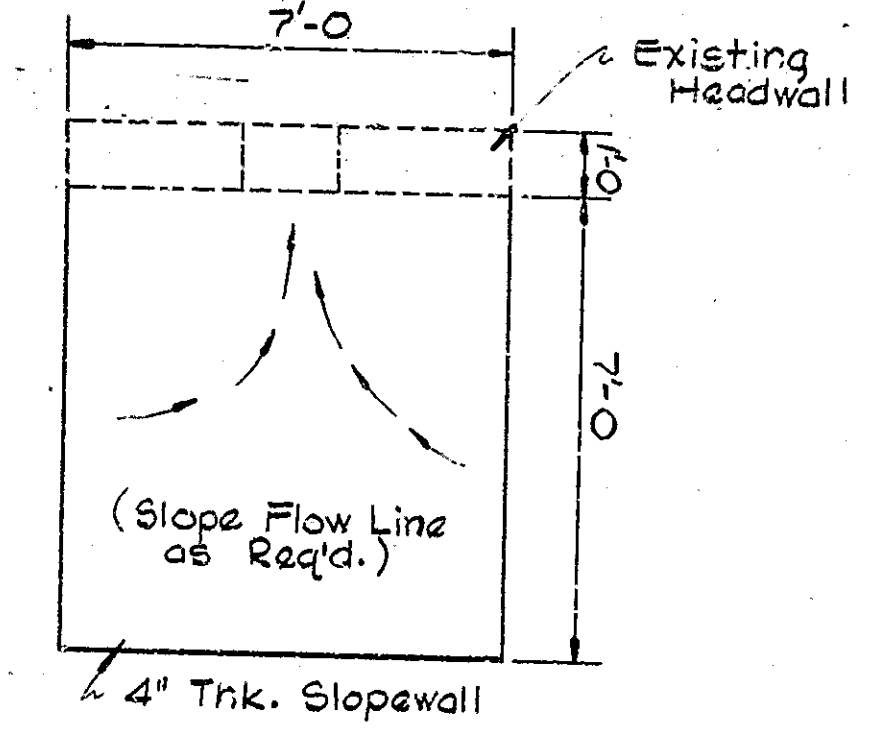
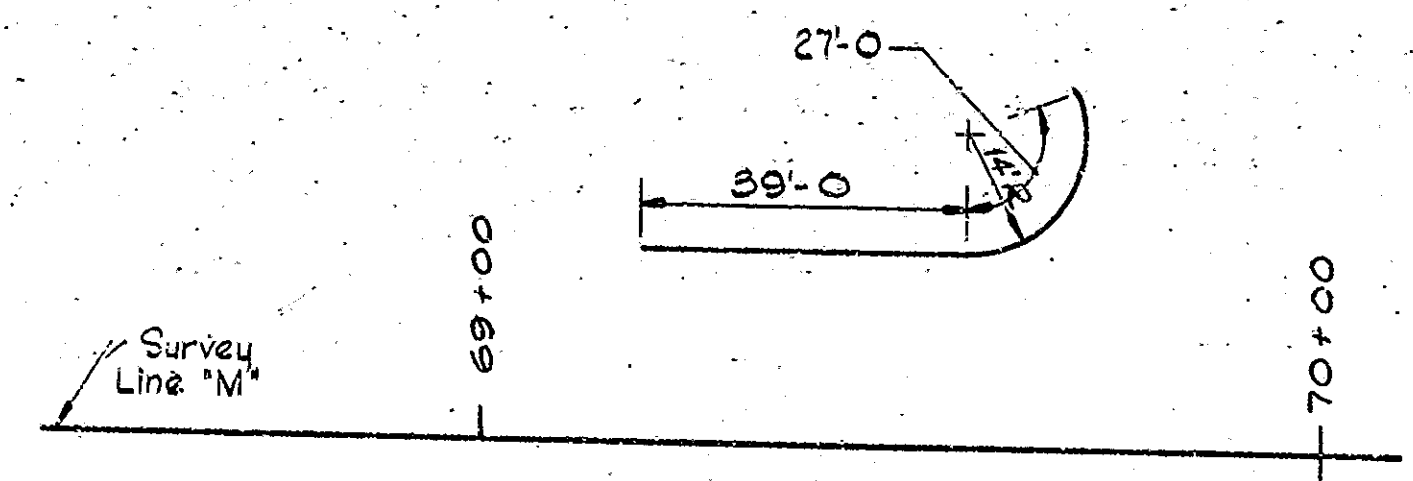
PROFILE
 DRAWN BY E.C. HOFFMAN
 CHECKED BY E.C. FLETCHER
 DATE 4-72



Rev. 5-2-74 R's from Sta. 63+00 to Sta. 63+75 Lt. Line N.
 Rev. 2-28-74 Class II Dr. at Sta. 62+55
 Class II Dr. at Sta. 63+11 deleted.

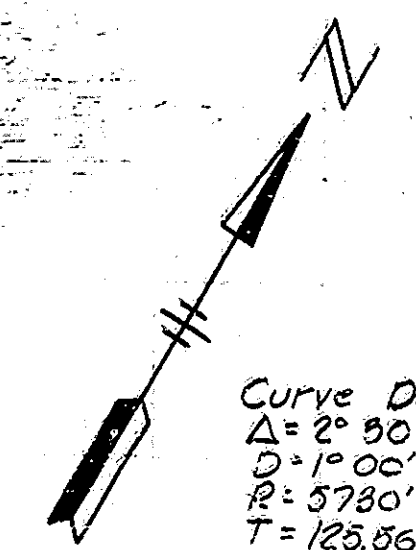


SECTION 35
T.7 N R.8 E
CENTER TWP.

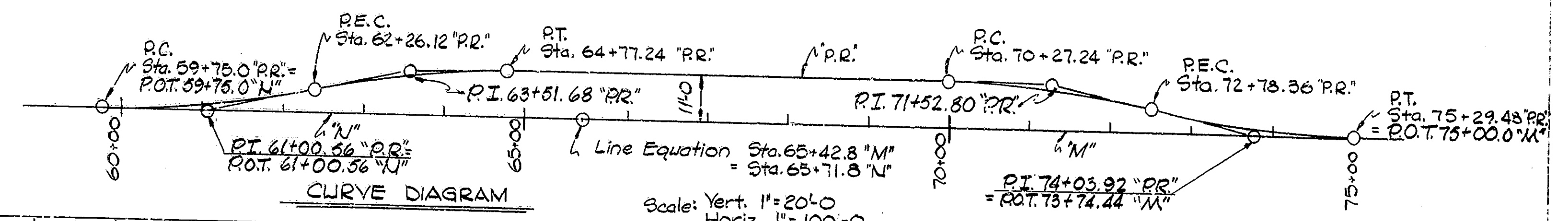


GUARD RAIL DETAILS
(@ East End of Structure)
Scale: 1" = 20'-0"

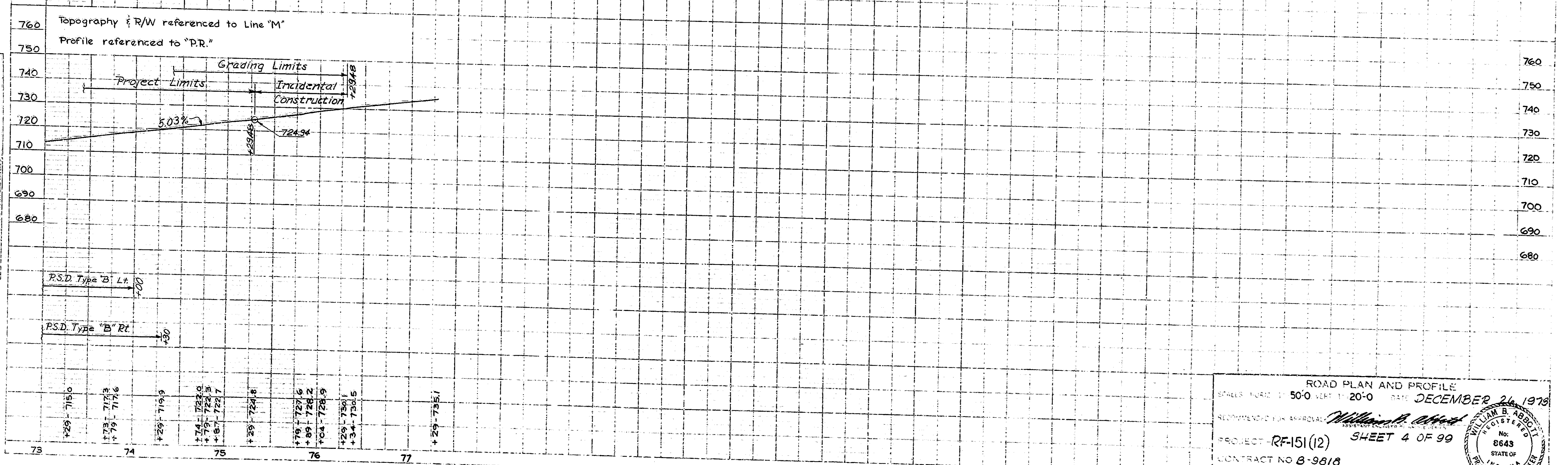
HEADWALL DETAILS
(@ Sta. 74+67 Line 'M')
Scale: 1" = 20'-0"



Curve Data for 'RR'
 $\Delta = 2^\circ 50' 40''$
 $D = 1^\circ 00'$
 $R = 5780'$
 $L = 283.86'$
 $E = 1.68'$



Bench Mark #4 'Br' El. 727.14, Pt. Sp. in Pwp. 75' Pt. of Sta. 75+35 'M'

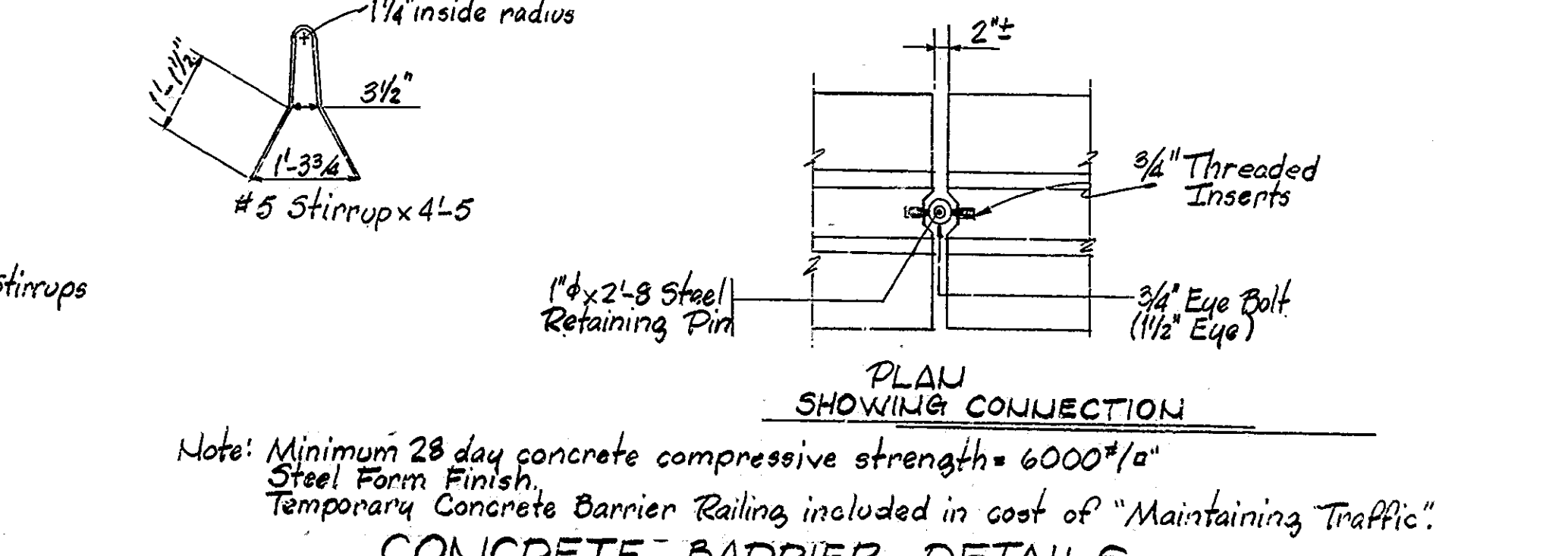
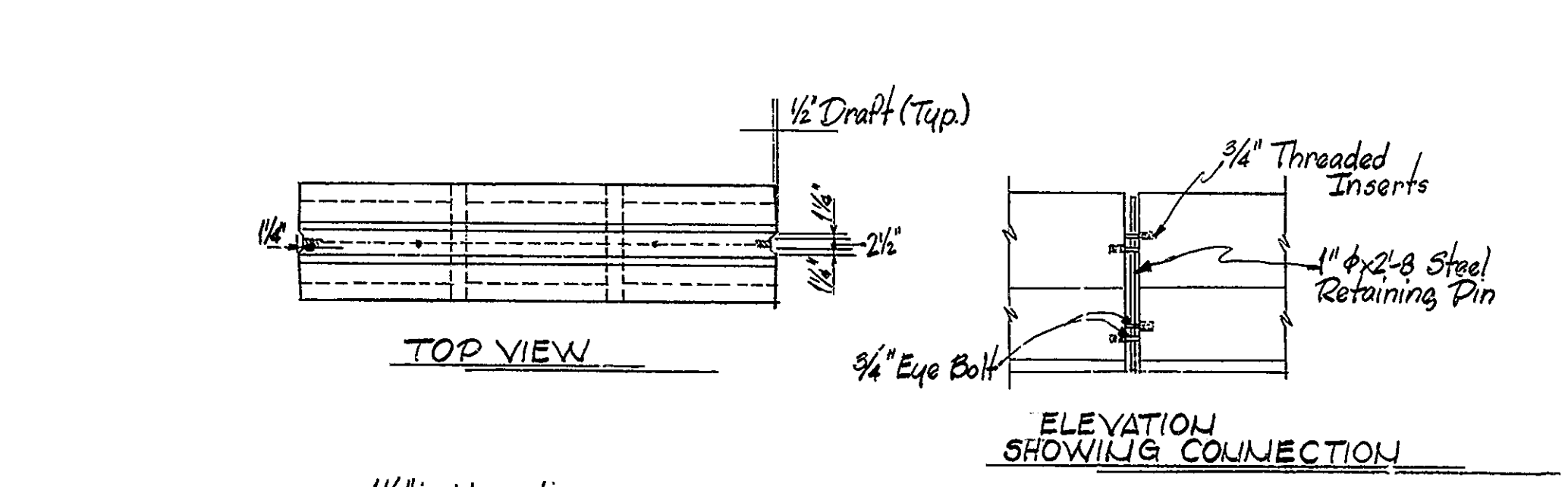
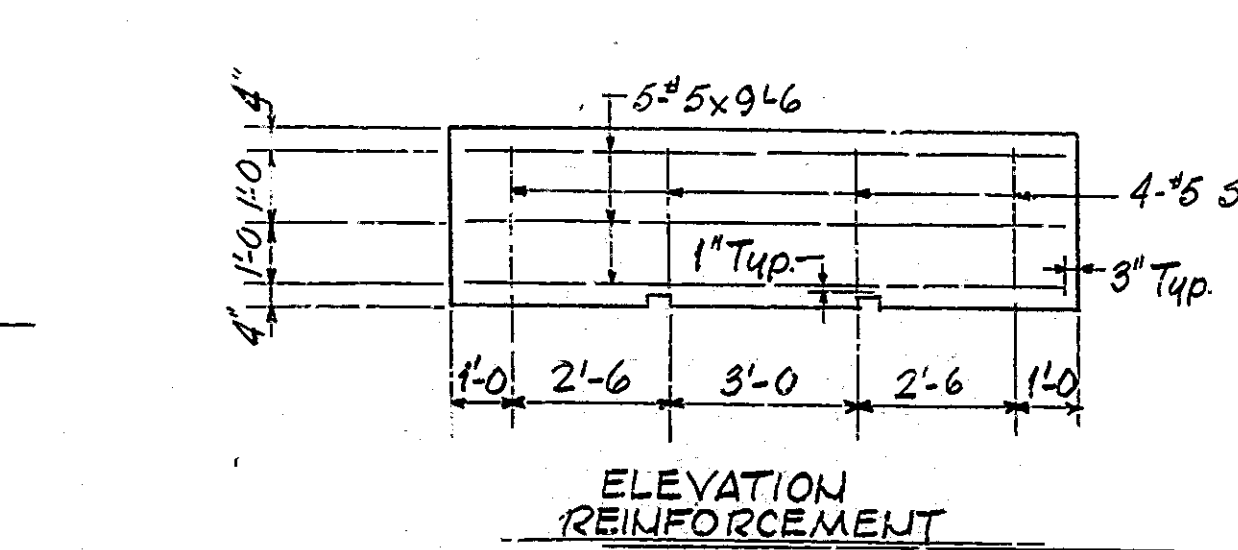
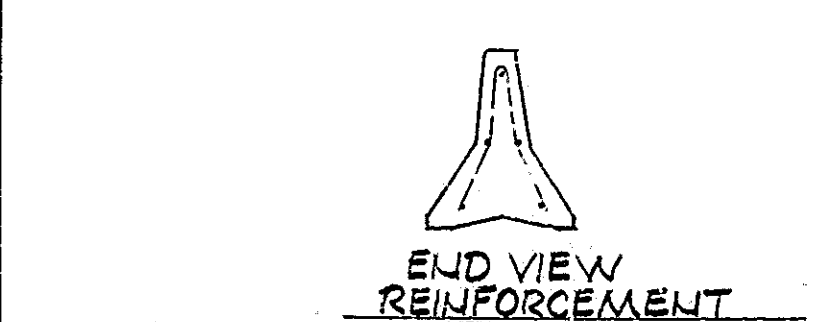
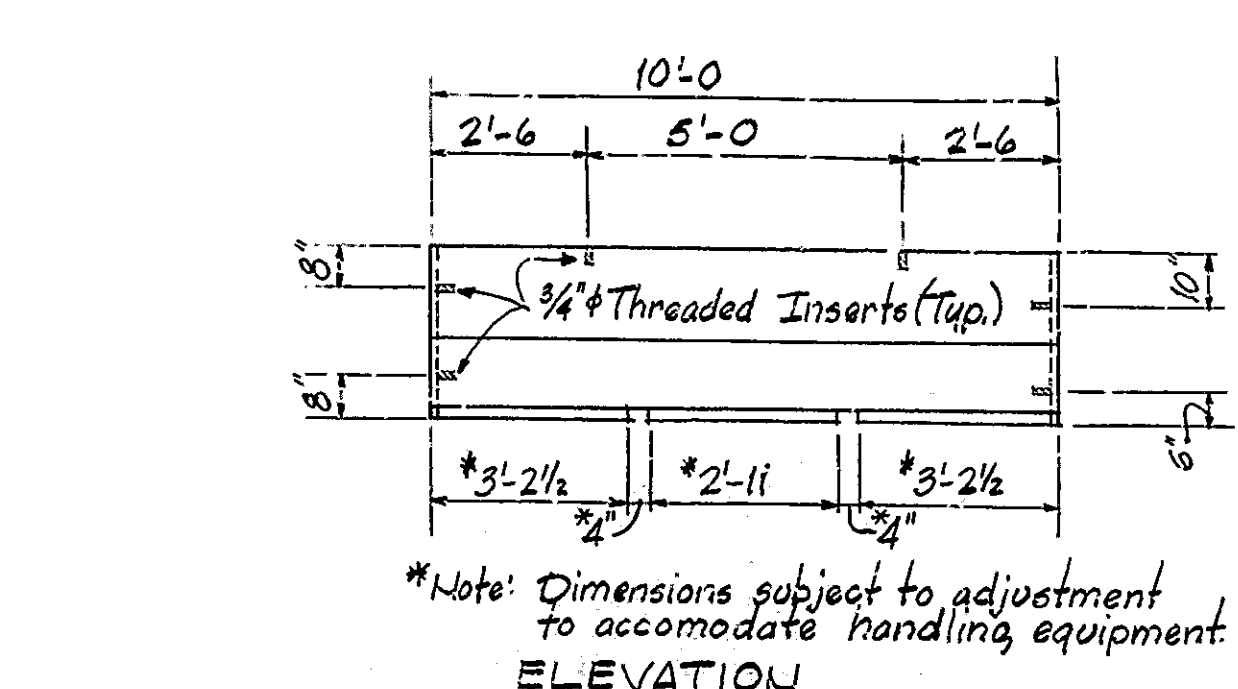
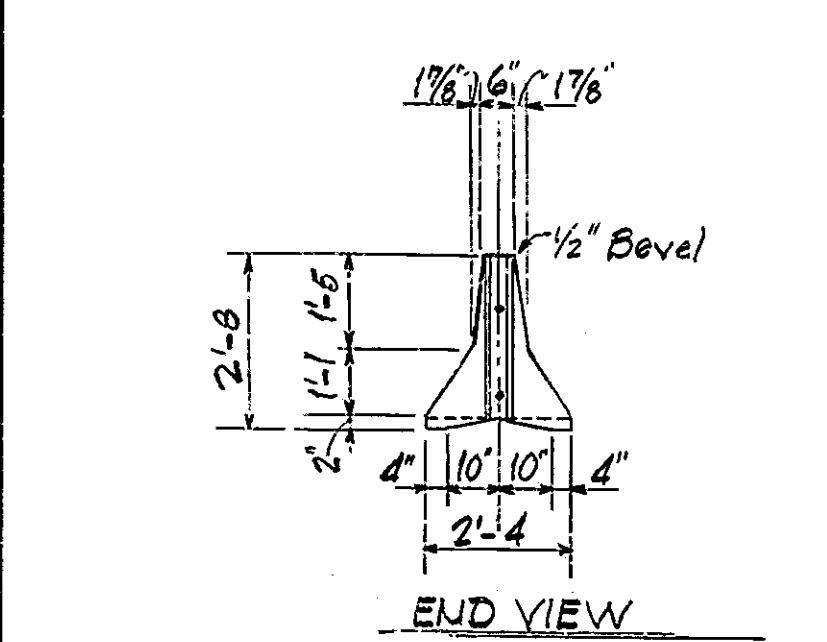
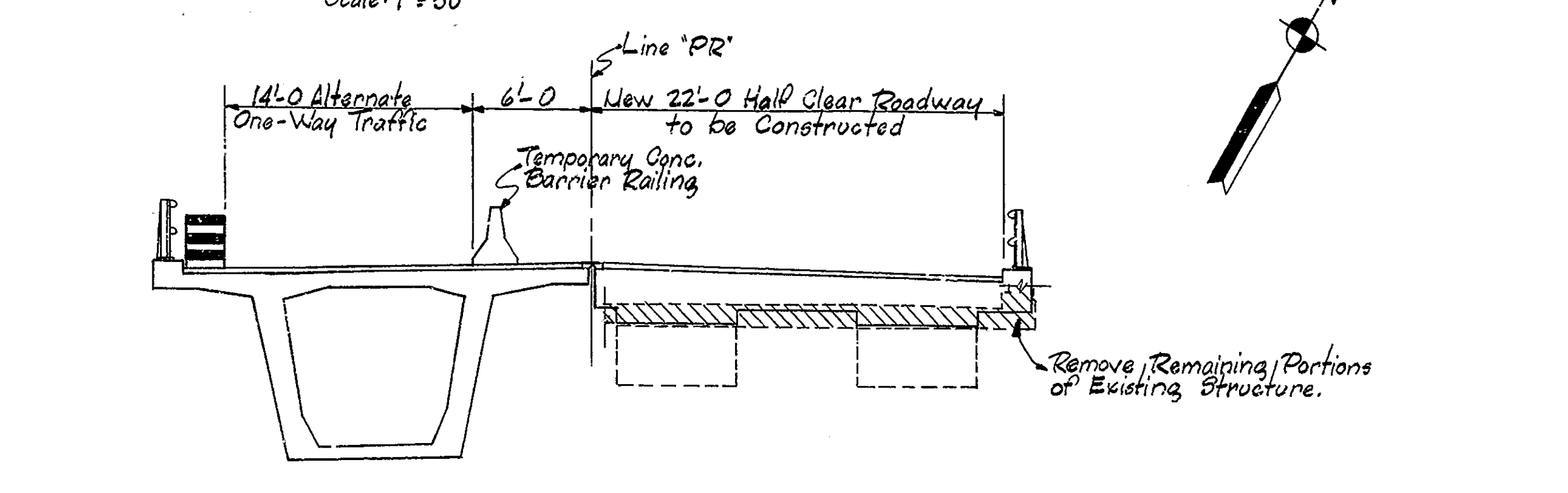
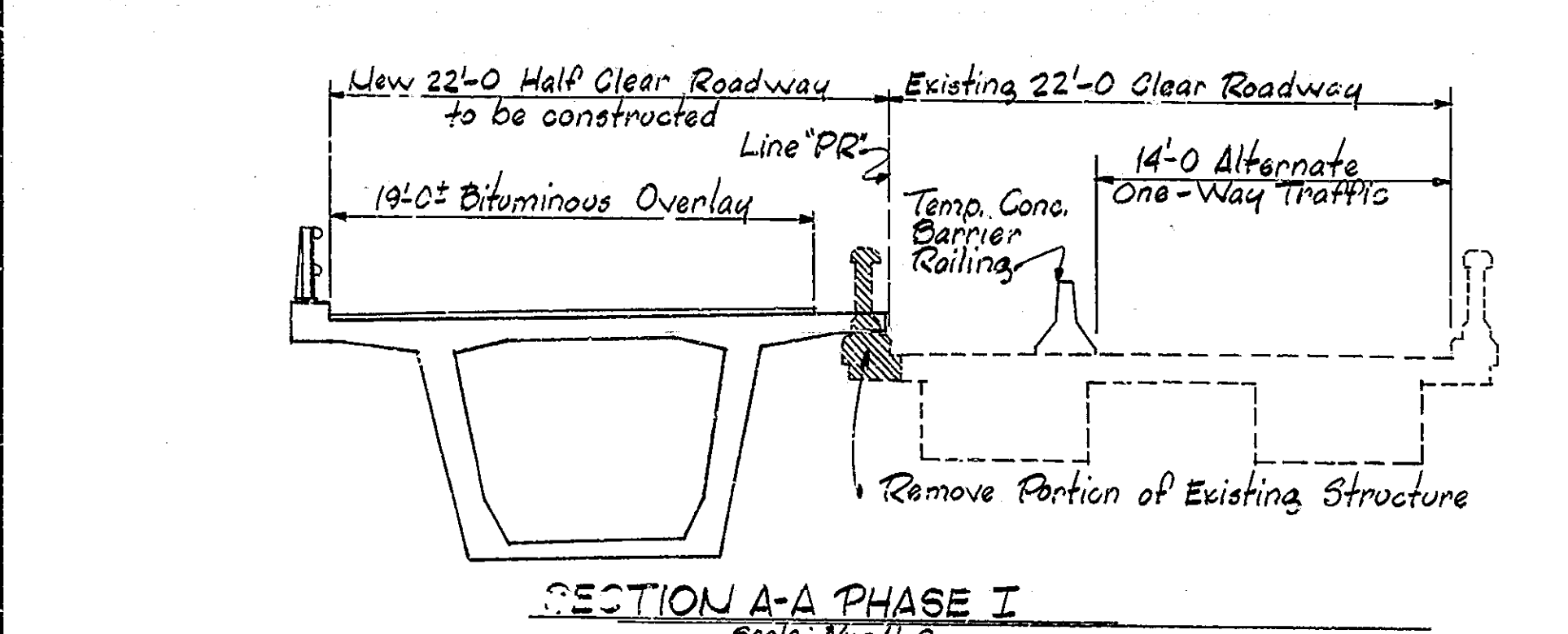
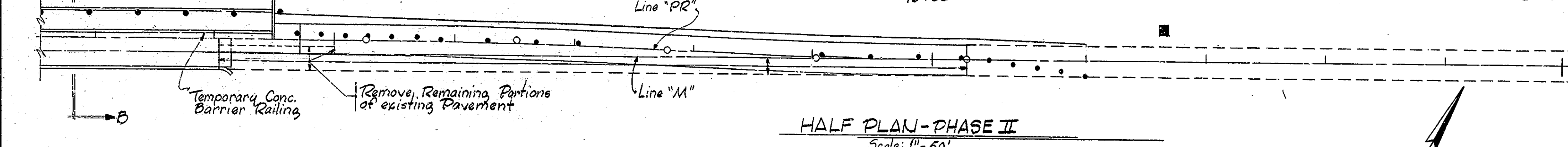
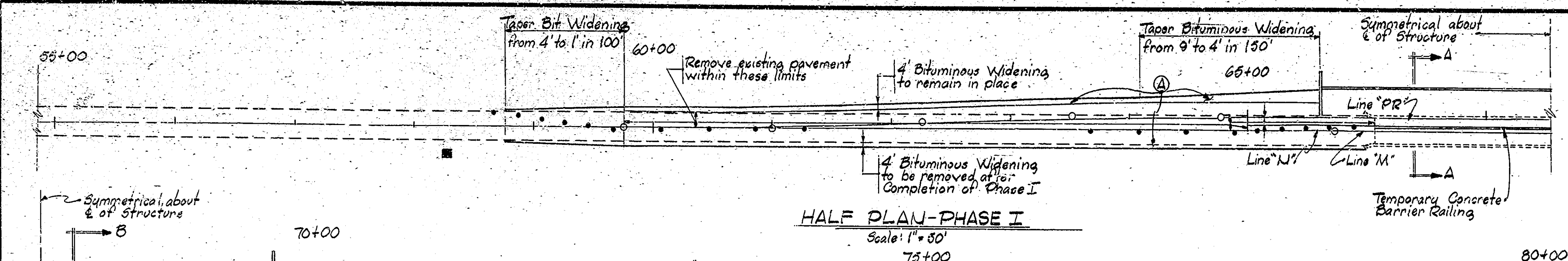


PLAN
 DRAWN BY E.C. HEFFNER
 CHECKED BY R.C. FLETCHER
 DATE 11/23/73
 PROJECT NO. 2034
 SHEET NO. 4 OF 99

PROFILE
 DRAWN BY E.C. HEFFNER
 CHECKED BY R.C. FLETCHER
 DATE 11/23/73
 PROJECT NO. 2034
 SHEET NO. 4 OF 99

ROAD PLAN AND PROFILE
 SCALE: HORIZ. 1" = 50'-0" VERT. 1" = 20'-0" DATE: DECEMBER 26, 1973
 RECOMMENDED FOR APPROVAL: *William B. Abbott*
 PROJECT: RF-151(12) SHEET 4 OF 99
 CONTRACT NO. B-9818
 BRIDGE FILE: 50-40-917A

Rev. 5-15-74 Curve Data for 'RR' added.



Note: Minimum 28 day concrete compressive strength = 6000 psi
 Steel Form Finish
 Temporary Concrete Barrier Railing included in cost of "Maintaining Traffic".
CONCRETE BARRIER DETAILS
 Scale: None

LEGEND

- Temporary Automatic Traffic Signal for Alternate One-Way Traffic
- Metal Drum or Type II Barricade with Type C Steady Burning Light
- ⊙ Bituminous Widening
 990 lbs./sq. yd. H.A.C. Base #38 or
 990 lbs./sq. yd. H.A.E. Base #52B

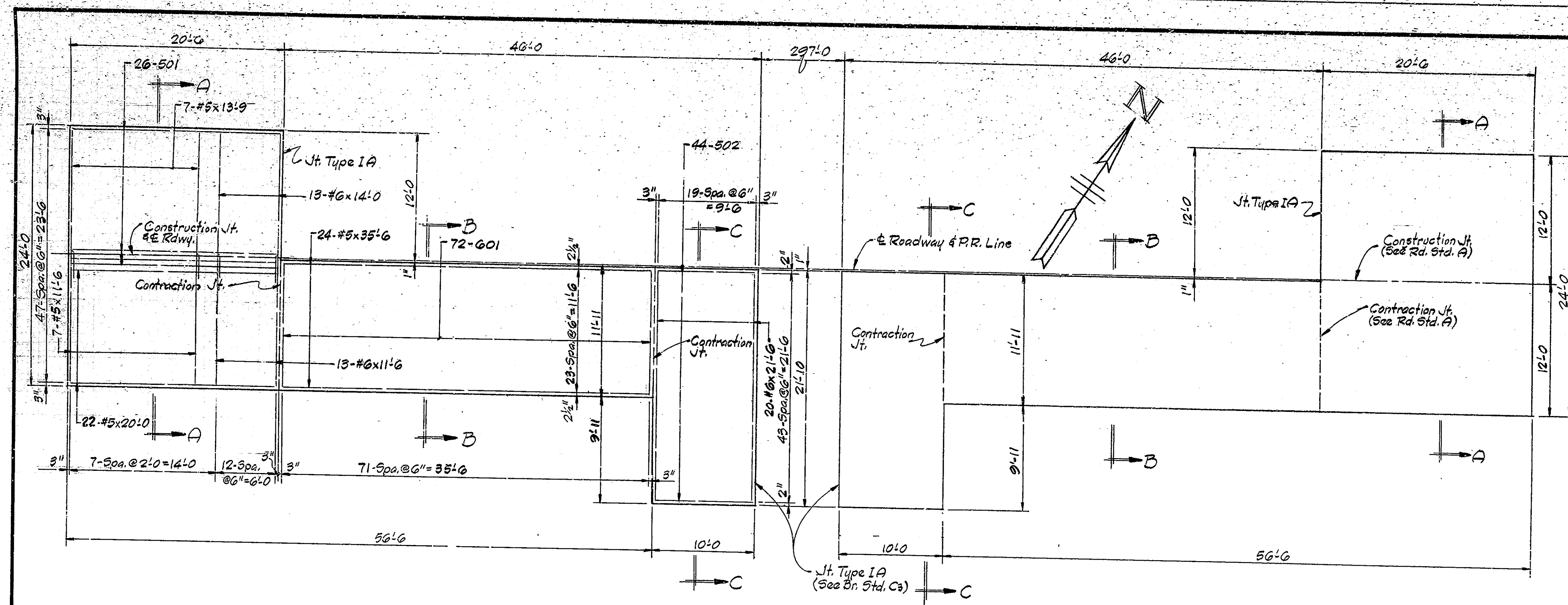
Note: All of the above listed items are included in the cost "Maintaining Traffic".

STANDARD DRAWINGS		
BR. STD.	Rd. Std.	Purpose
BR1		Aluminum Railing Type 5
BR2		Aluminum Railing Details
BR3		Steel Railing Type C
BR4		Steel Railing Details
CI		Reinf. Bar Notes, Bar Bonding Details, Splicing, Steel H Piles
C3		Joint Type A, Constr. Jt. Type A, Typ. Constr. Joint Details
SI		Backfill and Drainage Behind Abots. and Retaining Walls.
	A	Wire or Expanded Metal Fabric
	MA	Type D-1 Contr. Jt., Constr. Jt.
	MB	R/W Markers, Bridge Approach Details
	MC	Paved Side Ditch Types B & C, Sodded Ditch Detail
	MD	Type 7 Casting
	MD1	Type 14 Casting
	MD2	Type F Inlet
	MD2	Type S Inlet
	ME	Bituminous Curb
	ME2	Pipe End Sections
	MH1	Put. Drive Class II, Commercial Drive Class II
	MN	Underdrains, Backfill for Structures
	MP	Pipe for Surface Drainage
	GR4	Guard Rail Type G
	GR5	Aluminum Guard Rail Details
	GR6	Steel Tube Guard Rail Details
	GR10	Buried Ends
	SH.2 DET.	Barricades, Std. Detour Signs
	SH.3 DET.	Std. Detour Signs
	SH.4 DET.	Std. Detour Signs
	✓	Special Signs
	GR2	Guard Rail Class B5
	GR3	Guard Rail Class BA & B5T

Estimated Quantities:
 Bituminous Base #52B 625 Tons
 Temporary Concrete Barrier Railing 390 LFT.

MAINTAINING TRAFFIC DETAILS
INDIANA STATE HIGHWAY COMMISSION
 SCALE: As Noted
 DATE: DECEMBER 26, 1973
 William B. Abbott
 REGISTERED PROFESSIONAL ENGINEER
 DRAWING OF SHEET 5 OF 99
 PROJECT: RF-151(12)
 CONTRACT NO. B-9813
 BRIDGE FILE: 50-40-917A
 Rev. 5-2-74 Deleted Base #5, Type I Seal and #1/2 Cover Agg. Added Base #52B.

DESIGNED J.D.M. CKD
 DRAWN D.A.H. 12/73 CKD J.D.M.
 TRACED CKD

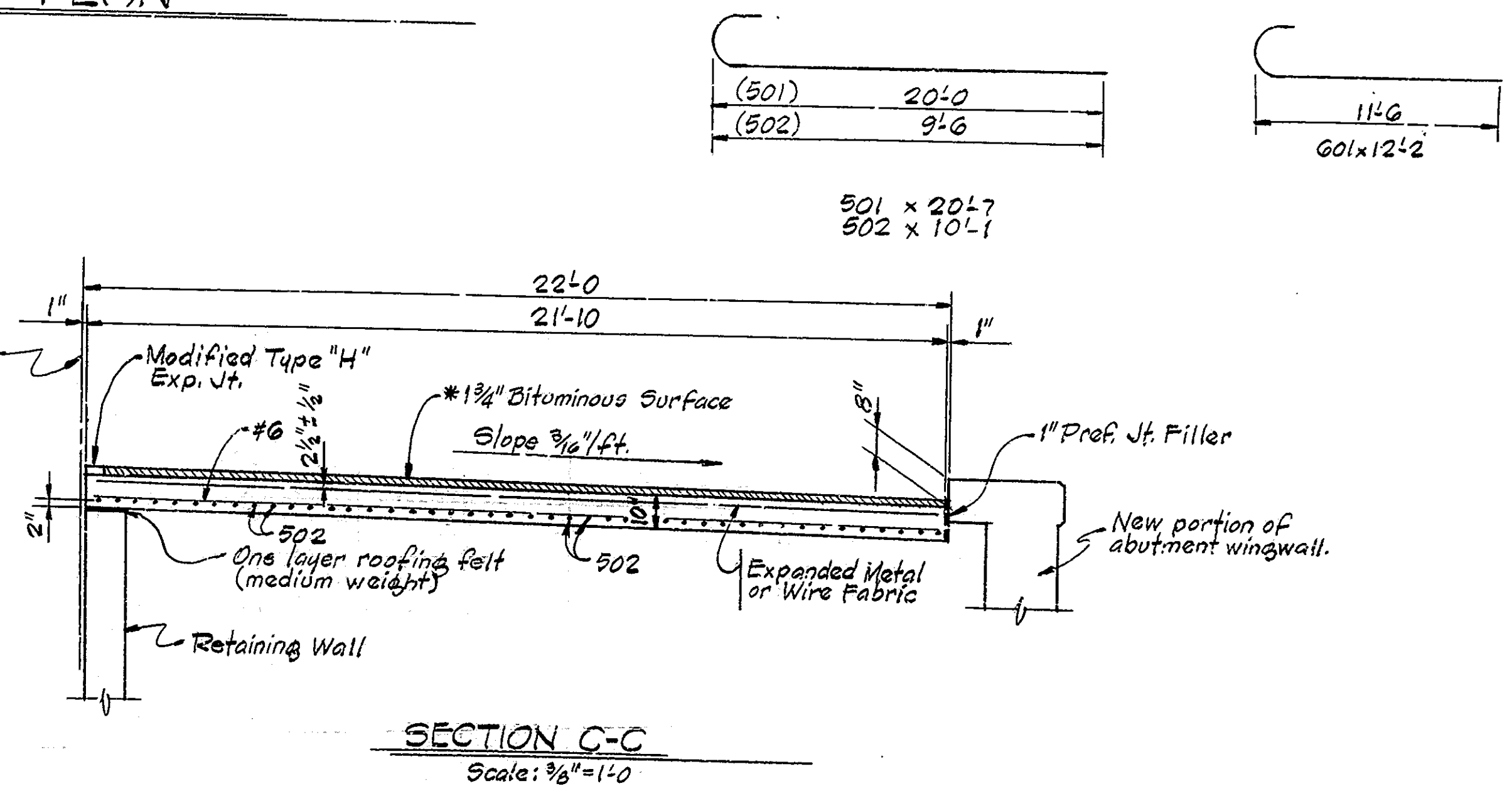
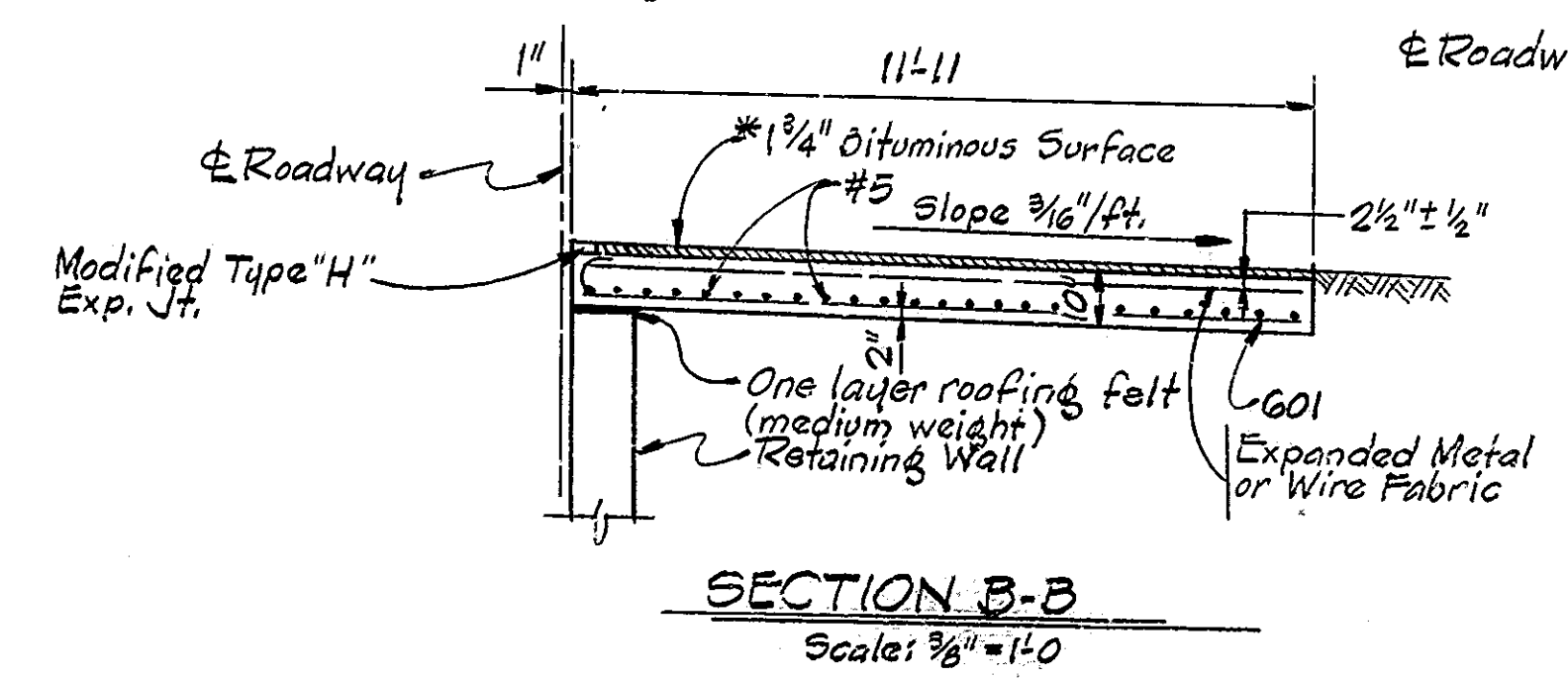
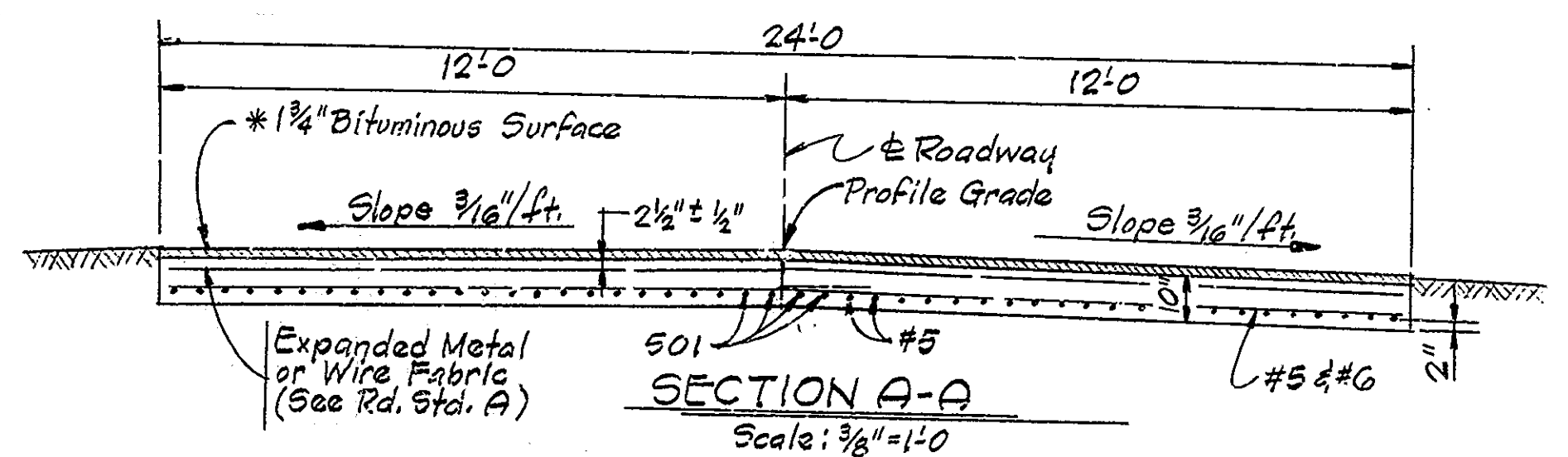


**BILL OF MATERIALS
ONE SLAB**

REINFORCING STEEL			
SIZE & MARK	NO OF BARS	LENGTH	WEIGHT (LBS)
#10	72	12'-2"	
#6	20	21'-6"	
#6	13	14'-0"	
#6	13	11'-6"	
Total #6			2460
#10	26	20'-7"	
#5	44	10'-1"	
#5	24	35'-6"	
#8	22	20'-0"	
#8	7	13'-9"	
#8	7	11'-6"	
Total #8			2553
Total Steel			5013
R.C. Pavement (10")			126.75 cu
Bituminous Mixture for Approaches			11.8 Ton

Notes: 6" Compacted Aggregate Base Type "D" shall be placed under R.C. Bridge Approaches (79Tons)

PLAN



Notes: See Br. Std. C1 for Reinforcing Bar Notes.
See Rd. Std. MA for additional Bridge Approach Details.
See Draw. C49 for Modified Type "H" Exp. Jt. Details.

*190#/Sq. Yd. H.A.C. Surface Type "B" or
190#/Sq. Yd. H.A.E. Surface Type III
(Paid for as Bituminous Mixture for Approaches)

**R.C. BRIDGE APPROACH DETAILS
INDIANA STATE HIGHWAY COMMISSION**

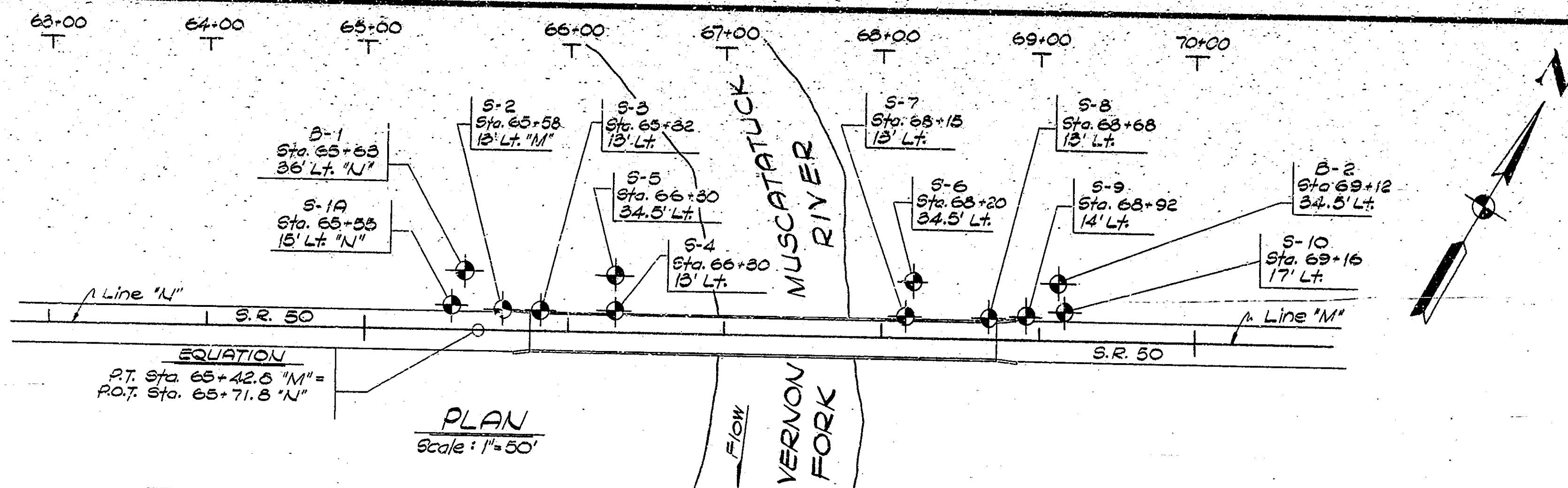
SCALE: 3/16" = 1'-0" Unless Noted DATE: DECEMBER 26, 1973

William B. Abbott
REGISTERED PROFESSIONAL ENGINEER

DRAWING: OF SHEET: 6 OF 99
PROJECT: RF-151(12)
CONTRACT NO. B-9818
BRIDGE FILE: 50-40-917A



DESIGNED: C.W.D.
DRAWN: D.A.S. 9/15/73 C.W.D. E.A.B. 10/73
TRACED: C.W.D.



EQUATION
 P.T. Sta. 65+42.6 "M" =
 P.O.T. Sta. 65+71.8 "N"

PLAN
 Scale: 1"=50'

BORING No. B-1			
STATION 65+63			
OFFSET 36' Lt.			
SURFACE ELEV. 672.5			
ELEV.	N*	DEPTH	SOIL DESCRIPTION
672.5		0.0	r Surface
	2		Brown moist medium stiff to soft silty clay with pieces of loose sandstone. Fill for present road.
	3/5		
667.0	1/2	5.5	
	2		Red-Brown moist stiff clay with pieces of loose sandstone. Natural ground.
	9/6		
	3		
	5/6		
659.0	109/4	13.5	Gray moist hard sandy shale.
658.0		14.5	
	2.0		Light Gray hard sandstone honey-combed and cracked 16.5 to 20.2. Softer 16.5 to 20.2'
	2.0		
	3.3		
652.3	3.7	20.2	
			Bottom of test boring 20.2'

BORING No. B-2			
STATION 69+12			
OFFSET 34.5' Lt.			
SURFACE ELEV. 696.0			
ELEV.	N*	DEPTH	SOIL DESCRIPTION
696.0		0.0	r Surface
	2		Brown and Gray mottled moist medium stiff silty clay loam with pieces of loose stone. Fill
	3/4		
689.8	7/13	6.2	
	1.8		Red-Brown moist stiff clay w/ pieces of loose stone. Natural ground
	2.3		
	3.7		
	4.0		Sandstone at 689.8'
680.5	2.0	15.5	
			Bottom of test boring 15.5'

BORING No. S-1A				BORING No. S-2				BORING No. S-3			
STATION 65+35				STATION 65+58				STATION 65+82			
OFFSET 15' Lt.				OFFSET 13' Lt.				OFFSET 13' Lt.			
SURFACE ELEV. 684.0				SURFACE ELEV. 684.5				SURFACE ELEV. 672.0			
ELEV.	N*	DEPTH	SOIL DESCRIPTION	ELEV.	N*	DEPTH	SOIL DESCRIPTION	ELEV.	N*	DEPTH	SOIL DESCRIPTION
684.0		0.0	r Surface	684.5		0.0	r Surface	672.0		0.0	r Surface
			Blacktop and stone for bituminous shoulder.				Red-Brown moist medium stiff mixture of silty clay and sandy clay with pieces of loose sandstone. Fill material for present structure. Loose stone - 9.0 AR Deepest of three (3) holes.				Red-Brown moist loose mixture of silty clay and sandy clay with pieces of sandstone. Backfill for cone for present structure.
			Brown moist medium stiff to stiff mixture of silty clay with pieces of loose sandstone. Fill for present road.				Bottom of test sounding 9.0'				Red-Brown sandy clay or clay with pieces of loose sandstone stiff original ground
670.0		14.0									Loose stone - 8.5 AR Deeper of two (2) holes
669.0		15.0	Dark Gray silty clay loam Topsoil.								
			Red-Brown moist medium stiff to stiff sandy clay or clay containing pieces of loose sandstone original ground.								
658.5		25.5									
657.5		26.5									
656.5		27.5	Gray-Brown dry soft weathered sandstone.								
			Gray-Brown hard sandstone.								
			Bottom of test boring 27.5'								

BORING No. S-4			
STATION 66+30			
OFFSET 13' Lt.			
SURFACE ELEV. 648.0			
ELEV.	N*	DEPTH	SOIL DESCRIPTION
648.0		0.0	r Surface
647.0		1.0	Topsoil
			Brown and Gray mottled moist medium stiff to stiff silty clay or silty clay loam.
637.0		11.0	
			Gray-Brown moist medium stiff sandy clay or sandy clay loam w/ pieces of sandstone.
634.5		13.5	
			Gray dry soft weathered shale
631.2		16.8	
630.0		18.0	
			Light Gray dry hard sandstone.
			Bottom of test sounding 18.7'

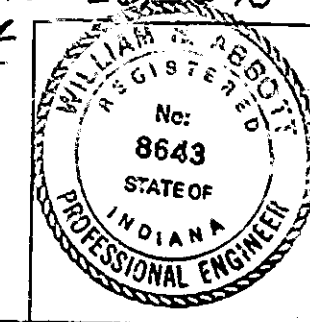
BORING No. S-5			
STATION 66+30			
OFFSET 34.5' Lt.			
SURFACE ELEV. 650.0			
ELEV.	N*	DEPTH	SOIL DESCRIPTION
650.0		0.0	r Surface
649.0		1.0	Topsoil
			Brown and Gray mottled moist medium stiff silty clay loam or clay loam.
642.0		8.0	
			Reddish Brown moist medium stiff to soft sandy clay loam or clay loam with pieces of loose sandstone.
637.0		13.0	
			Gray dry medium hard shale.
632.3		17.7	
631.3		18.7	
			Light gray dry hard sandstone
			Bottom of test sounding 18.7'

Notes:
 * "N" indicates the number of blows required to drive a 2" O.D., 1 1/8" I.D., sampler a distance of one (1) foot into undisturbed soil with a 140 pound hammer free falling a distance of 30.0 inches.
 A solid horizontal line represents an actually observed change, a dashed horizontal line represents an estimated change.

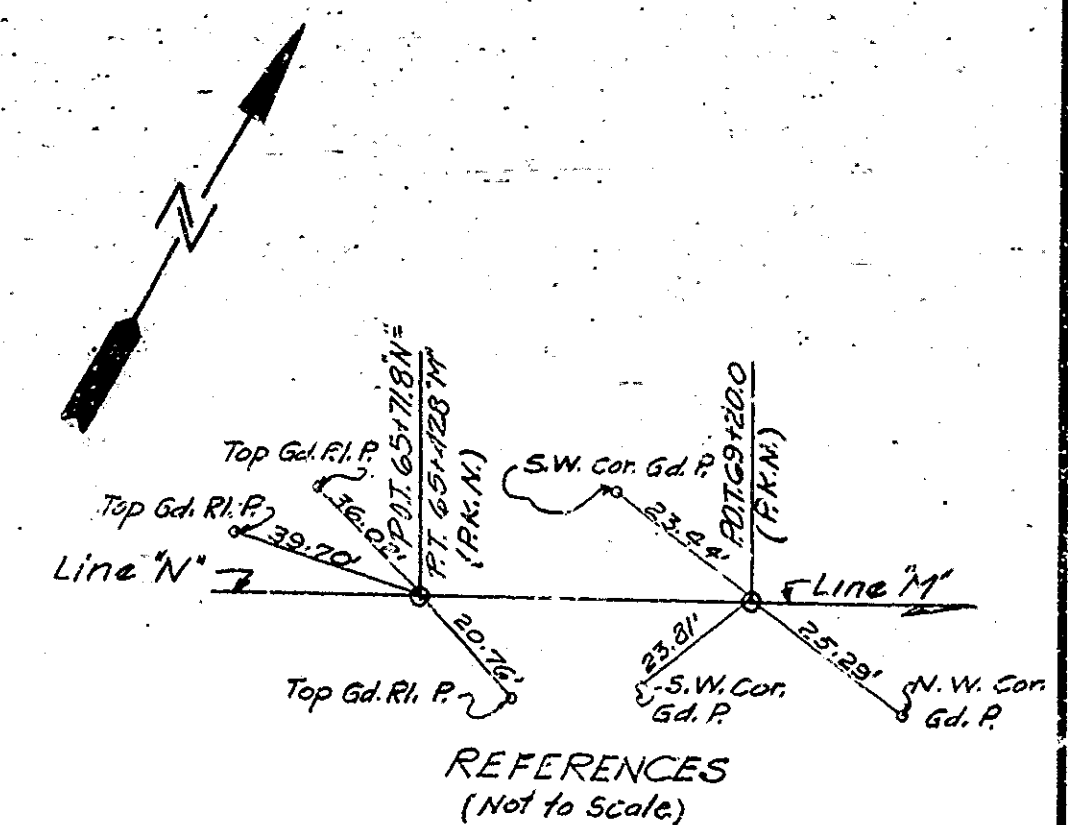
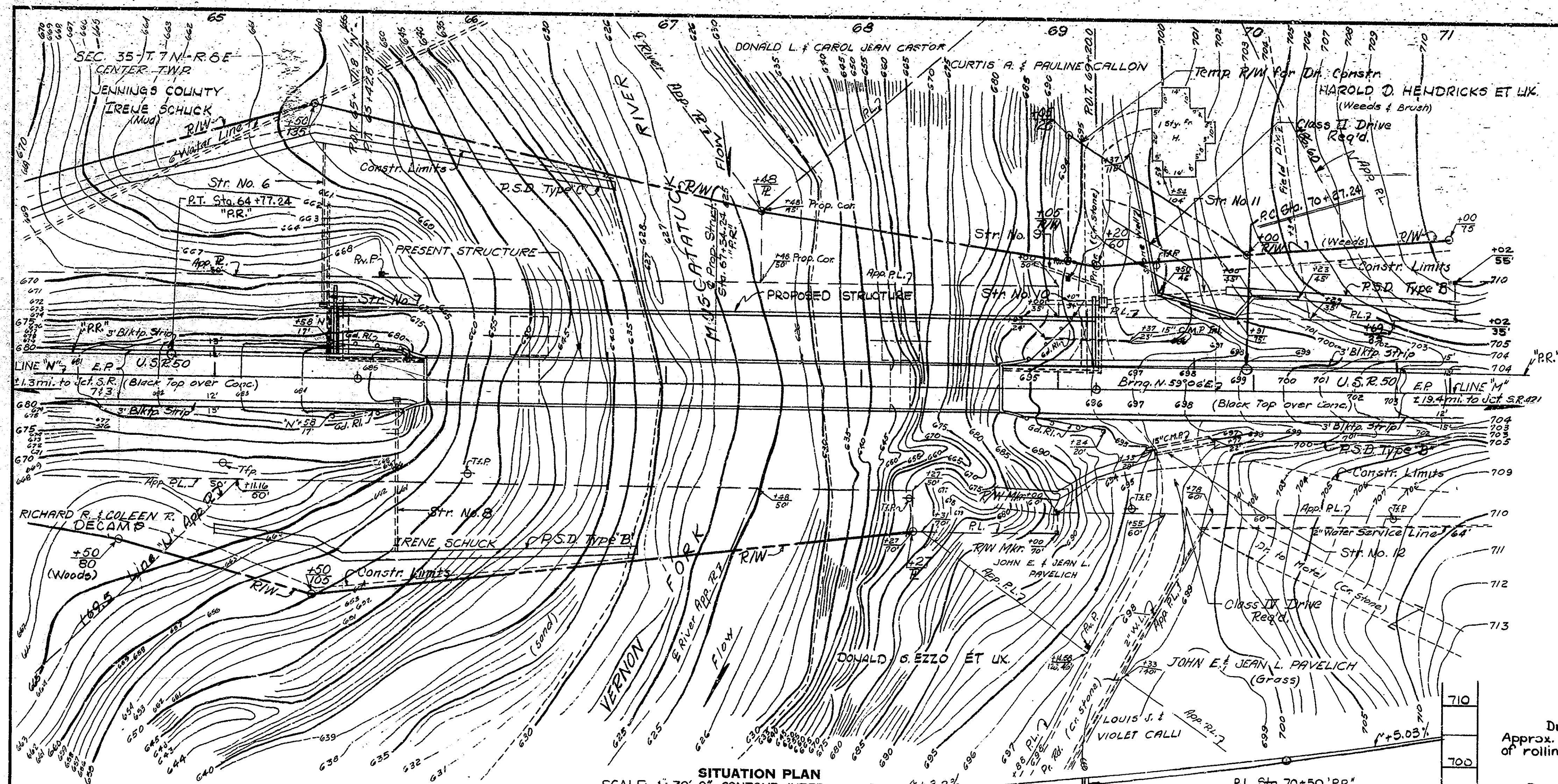
SOIL BORINGS
 INDIANA STATE HIGHWAY COMMISSION

SCALE: As Noted DATE: DECEMBER 26, 1973

DRAWING OF SHEET: 7 OF 99
 PROJECT: R-151(12)
 CONTRACT NO. B-9818
 BRIDGE FILE: 50-40-917A



DESIGNER: CKD
 DRAWN: WLB 3/73 CKD F.A.B. 9/73
 TRACED: CKD

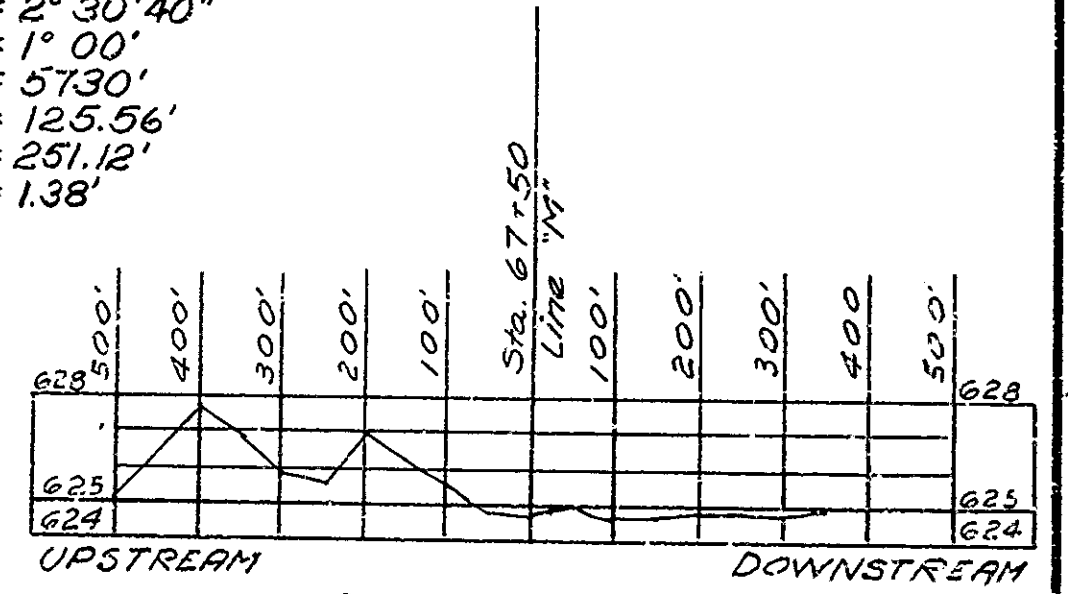


NOTE: Pres. Structure built by Indiana State Highway Commission in 1930 as 50-N-917 Contract No. 338, 3 Spans - 1 @ 47', 1 @ 30', 1 @ 47' as open spandrel R.C. Arch. Bridge, Square, Cl. Rdwy. 22'-0". Plans on file in Bridge Design Office.

NOTE: See Road Plans for Add. References and Right of Way.

Curve Data for "P.R."

$\Delta = 2^{\circ} 30' 40''$
 $D = 1^{\circ} 00'$
 $R = 5730'$
 $T = 125.56'$
 $L = 251.12'$
 $E = 1.38'$



Drainage Area: Approx. 106.3 sq. mi. (68,000 ac.)
 Scales: Horiz. 1" = 200'-0" Vert. 1" = 5'-0" of rolling to hilly land.

Design Discharge $Q_{50} = 31,300$ cfs
 Waterway Area Required = 4,385 Sq. ft.
 Waterway Area Provided = 4,385 Sq. ft.

EARTHWORK TABULATION

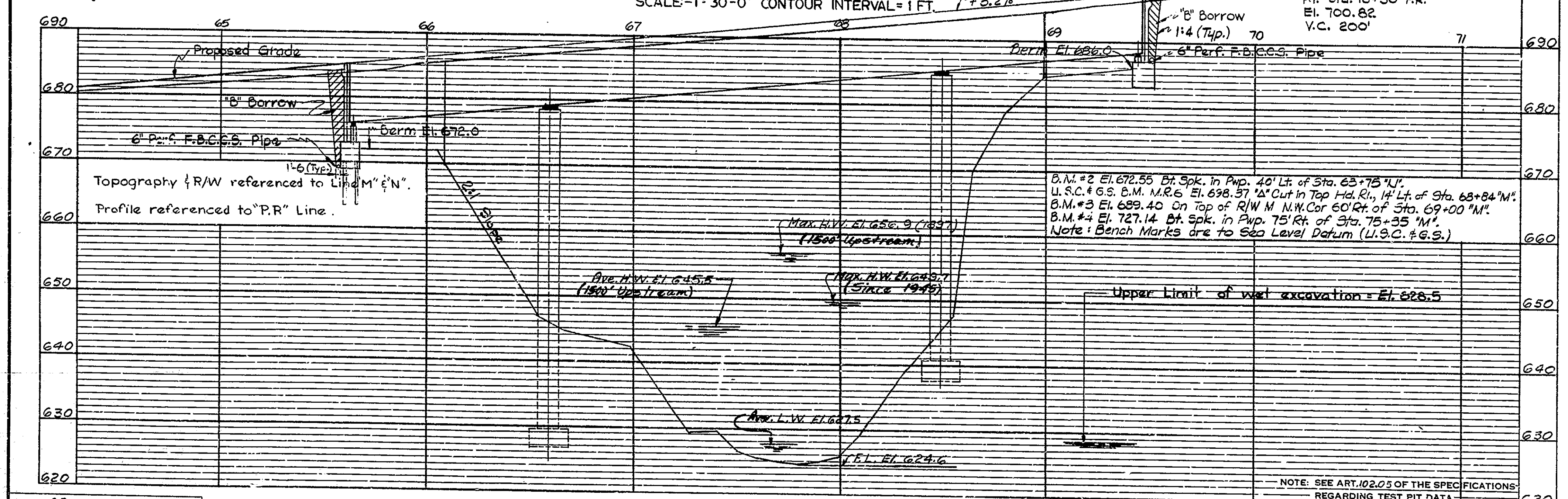
Fill +20%	5755 Cys.
Surplus Excavation =	275 Cys.
Common Excavation =	7245 Cys.
Waste =	1765 Cys.

LAYOUT
 WIDENING OF OPEN SPANDREL ARCH
 3 SPANS SEE GENERAL PLAN ~ 5 SQUARE ~ 44'-0" RDWY.
 OVER VERNON FORK MUSCATATUCK RIVER ON U.S.R. 50
INDIANA STATE HIGHWAY COMMISSION

JENNINGS COUNTY
 SCALE: AS NOTED
 DECEMBER 26, 1973

RECOMMENDED FOR APPROVAL: *William B. Arndt*
 ASSISTANT ENGINEER OF BRIDGE DESIGN

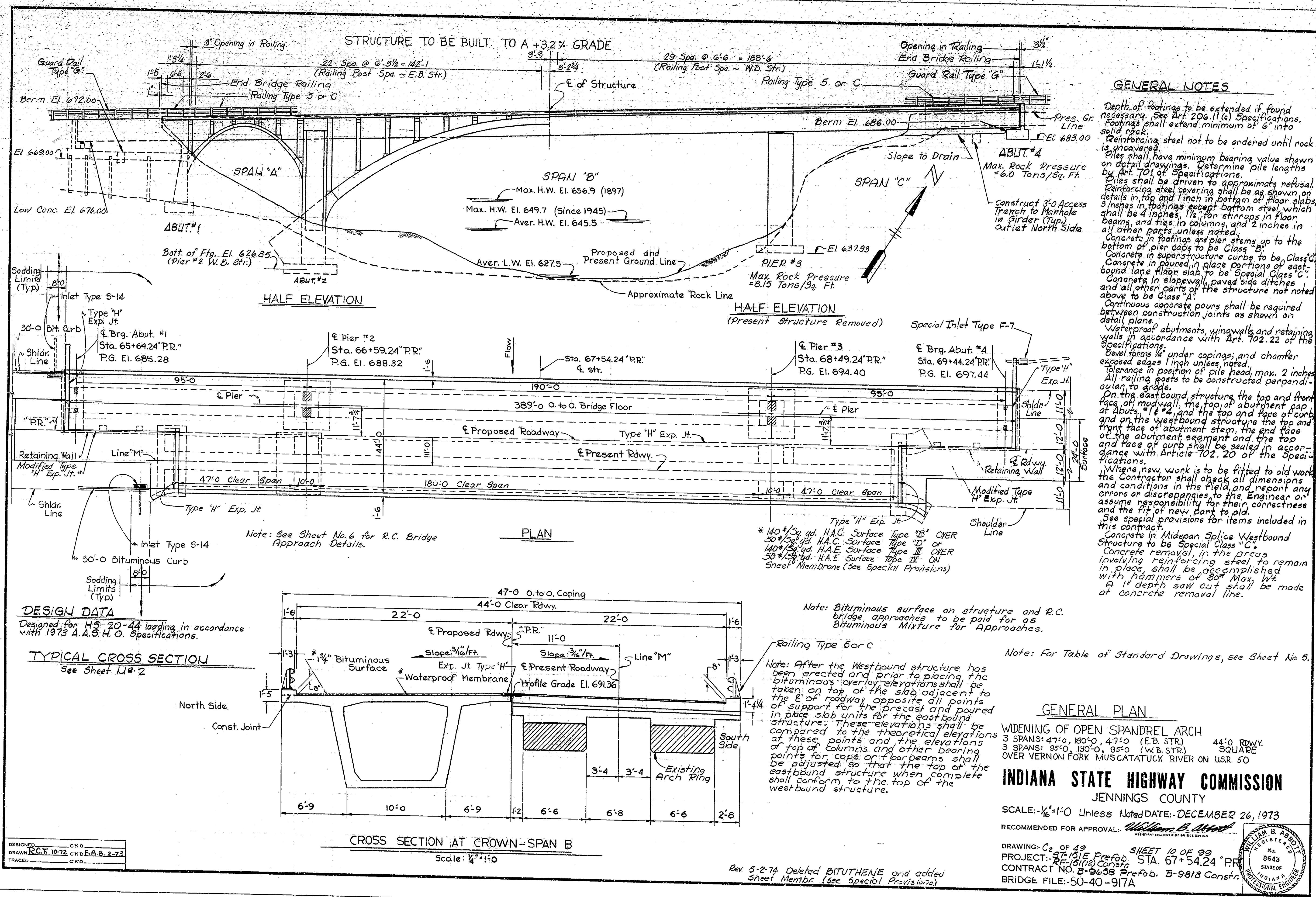
DRAWING: C₁ OF 49 SHEET 9 OF 99
 PROJECT: ST-151E Prefab STATION: - 67+54.24 "R"
 BRIDGE CONTRACT NO. B-9658 Prefab
 BRIDGE FILE: - 50-40-917A



PROFILE ON PROPOSED ROADWAY
 SCALES: HORIZ. 1" = 30'-0" VERT. 1" = 10'-0"

NOTE: FIELD NOTES, BOOK BR-2034 Pp. 1-33

DRAWN #R-7-72 CKD J.M.B. 3-72
 DESIGNED CKD
 TRACED CKD



GENERAL NOTES

Depth of footings to be extended if found necessary. See Art. 206.11(c) Specifications. Footings shall extend minimum of 6" into solid rock.

Reinforcing steel not to be ordered until rock is uncovered.

Piles shall have minimum bearing value shown on detail drawings. Determine pile lengths by Art. 701 of Specifications.

Piles shall be driven to approximate refusal. Reinforcing steel covering shall be as shown on details in top and 1 inch in bottom of floor slabs 3 inches in footings except bottom steel which shall be 4 inches, 1/2" for stirrups in floor beams, and ties in columns, and 2 inches in all other parts, unless noted.

Concrete in footings and pier stems up to the bottom of pier caps to be Class "B".

Concrete in superstructure curbs to be Class "C".

Concrete in place portions of eastbound lane floor slab to be Special Class "C".

Concrete in slope walls, paved side ditches and all other parts of the structure not noted above to be Class "A".

Continuous concrete pours shall be required between construction joints as shown on detail plans.

Waterproof abutments, wingwalls and retaining walls in accordance with Art. 702.22 of the Specifications.

Bevel forms 1/4" under copings, and chamfer exposed edges 1 inch unless noted.

Tolerance in position of pile head, max. 2 inches.

All railing posts to be constructed perpendicular to grade.

On the eastbound structure the top and front face of roadway, the top and front face of curb at Abut. #1 & #4, and the top and front face of abutment stem, the top and front face of the abutment stem, the top and face of curb shall be sealed in accordance with Article 702.20 of the Specifications.

Where new work is to be fitted to old work the Contractor shall check all dimensions and conditions in the field and report any errors or discrepancies to the Engineer or assume responsibility for their correctness and the fit of new part to old.

See special provisions for items included in this contract.

Concrete in Mason Splice Westbound Structure to be Special Class "C".

Concrete removal, in the areas involving reinforcing steel to remain in place, shall be accomplished with hammers of 30" Max. Wt. A 1" depth saw cut shall be made at concrete removal line.

DESIGN DATA
 Designed for HS 20-44 loading in accordance with 1973 A.A.S.H.O. Specifications.

TYPICAL CROSS SECTION
 See Sheet U-2

Note: See Sheet No. 6 for R.C. Bridge Approach Details.

* 140#/Sq. yd. H.A.E. Surface Type "B" OVER
 50#/Sq. yd. H.A.C. Surface Type "D" or
 140#/Sq. yd. H.A.E. Surface Type III OVER
 50#/Sq. yd. H.A.E. Surface Type III ON
 Sheet Membrane (See Special Provisions)

Note: Bituminous surface on structure and R.C. bridge approaches to be paid for as Bituminous Mixture for Approaches.

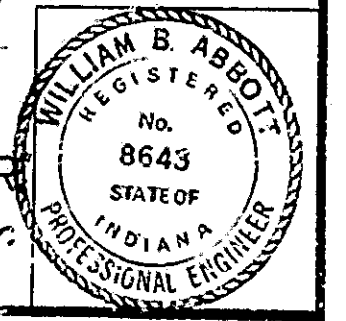
Note: After the Westbound structure has been erected and prior to placing the bituminous overlay elevations shall be taken on top of the slab adjacent to the E of roadway opposite all points of support for the precast and poured in place slab units for the eastbound structure. These elevations shall be compared to the theoretical elevations at these points and the elevations of top of columns and other bearing points for caps or floor beams shall be adjusted so that the top of the eastbound structure when complete shall conform to the top of the westbound structure.

Note: For Table of Standard Drawings, see Sheet No. 5.

GENERAL PLAN
 WIDENING OF OPEN SPANDREL ARCH
 3 SPANS: 47'-0", 180'-0", 47'-0" (E.B. STR.) 44'-0" RDWY.
 3 SPANS: 95'-0", 190'-0", 95'-0" (W.B. STR.) SQUARE
 OVER VERNON FORK MUSCATATUCK RIVER ON USR. 50

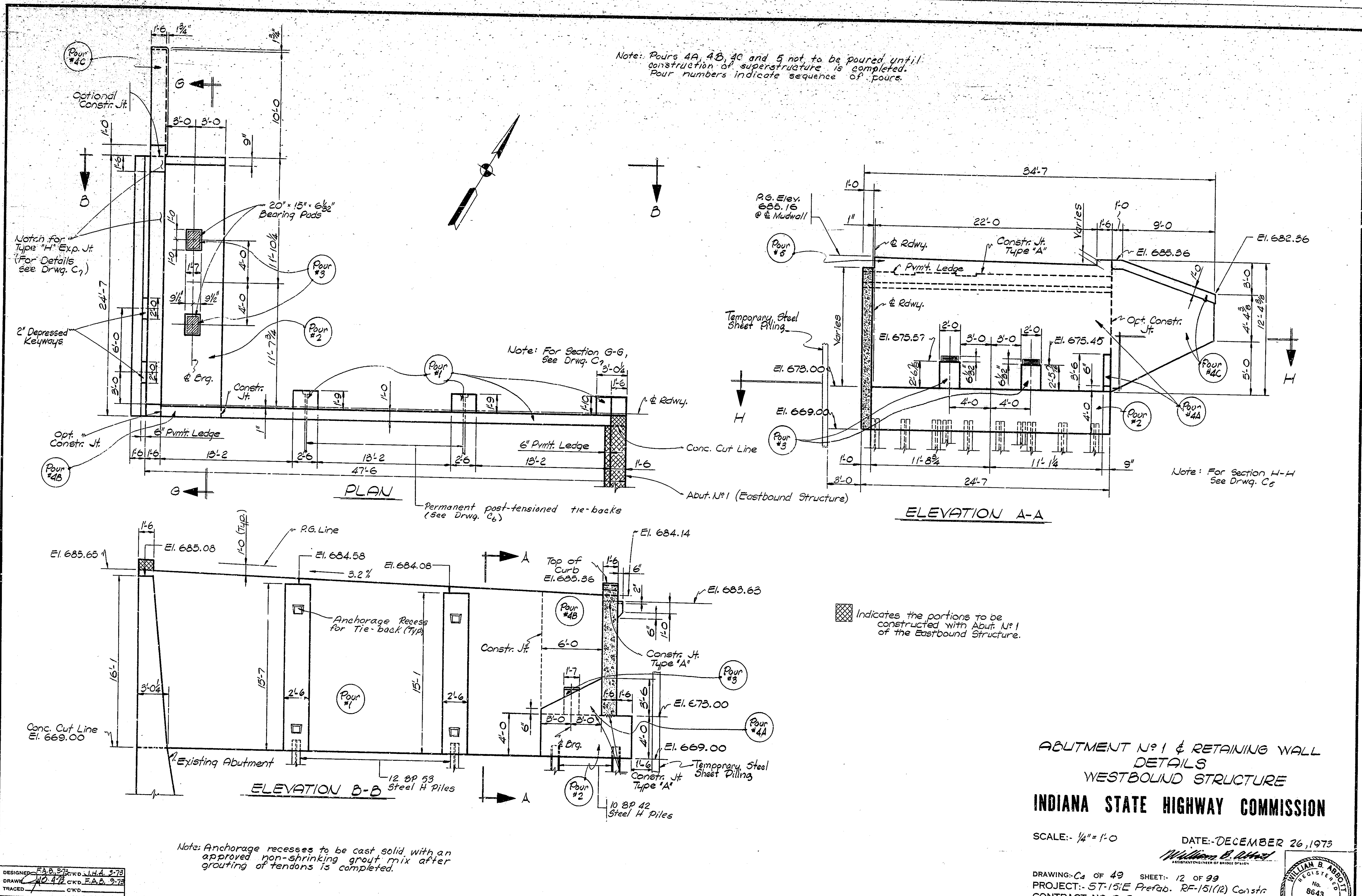
INDIANA STATE HIGHWAY COMMISSION
 JENNINGS COUNTY
 SCALE: 1/4"=1'-0" Unless Noted DATE: DECEMBER 26, 1973
 RECOMMENDED FOR APPROVAL: *William E. Wood*
 ASSISTANT ENGINEER OF BRIDGE DESIGN
 DRAWING: C₂ OF 29 SHEET 10 OF 99
 PROJECT: 27-151E Prop. STA. 67+54.24 "PR"
 CONTRACT NO. B-9038 Const. B-9818 Const.
 BRIDGE FILE: 50-40-917A

DESIGNED: C.K.D.
 DRAWN: R.C.F. 10-72 C.K.D. F.A.B. 2-73
 TRACED: C.K.D.



Rev. 5-2-74 Deleted BITUTHENE and added Sheet Membr. (See Special Provisions)

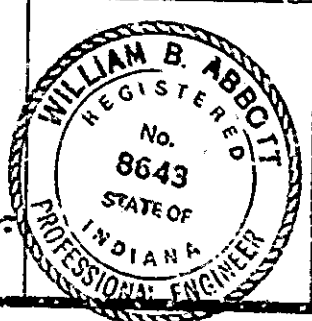
Note: Pours 4A, 4B, 4C and 5 not to be poured until construction of superstructure is completed. Pour numbers indicate sequence of pours.

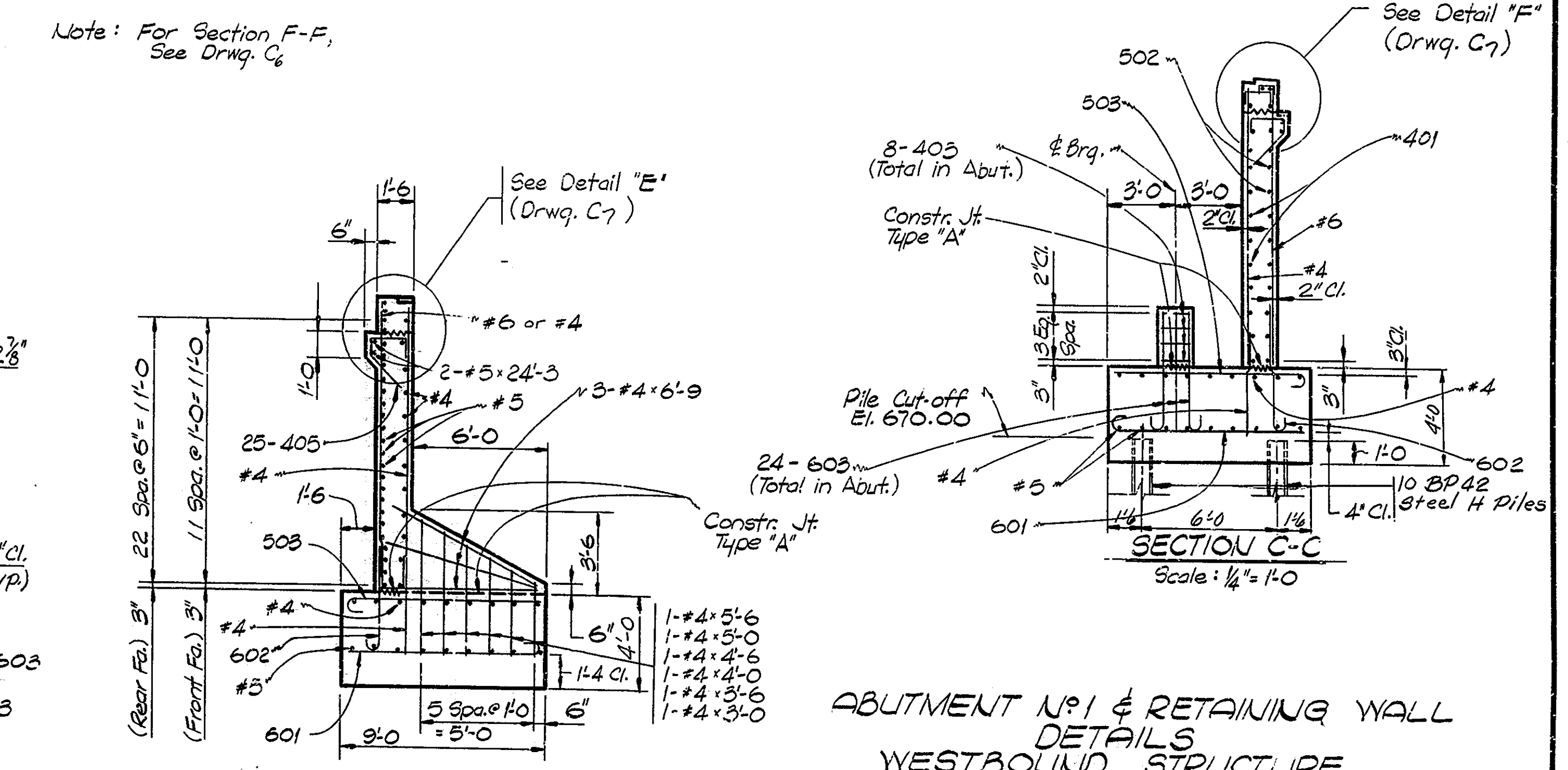
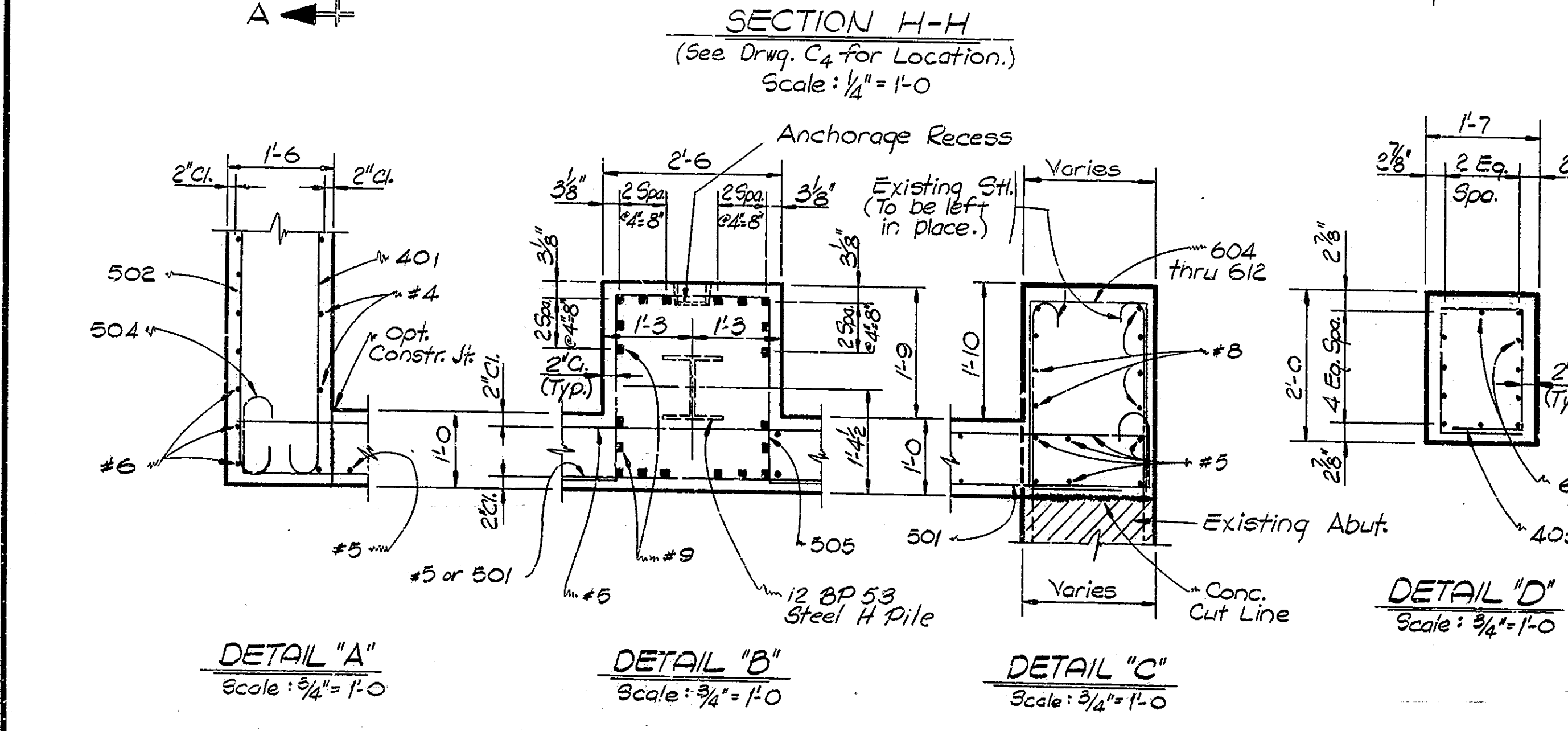
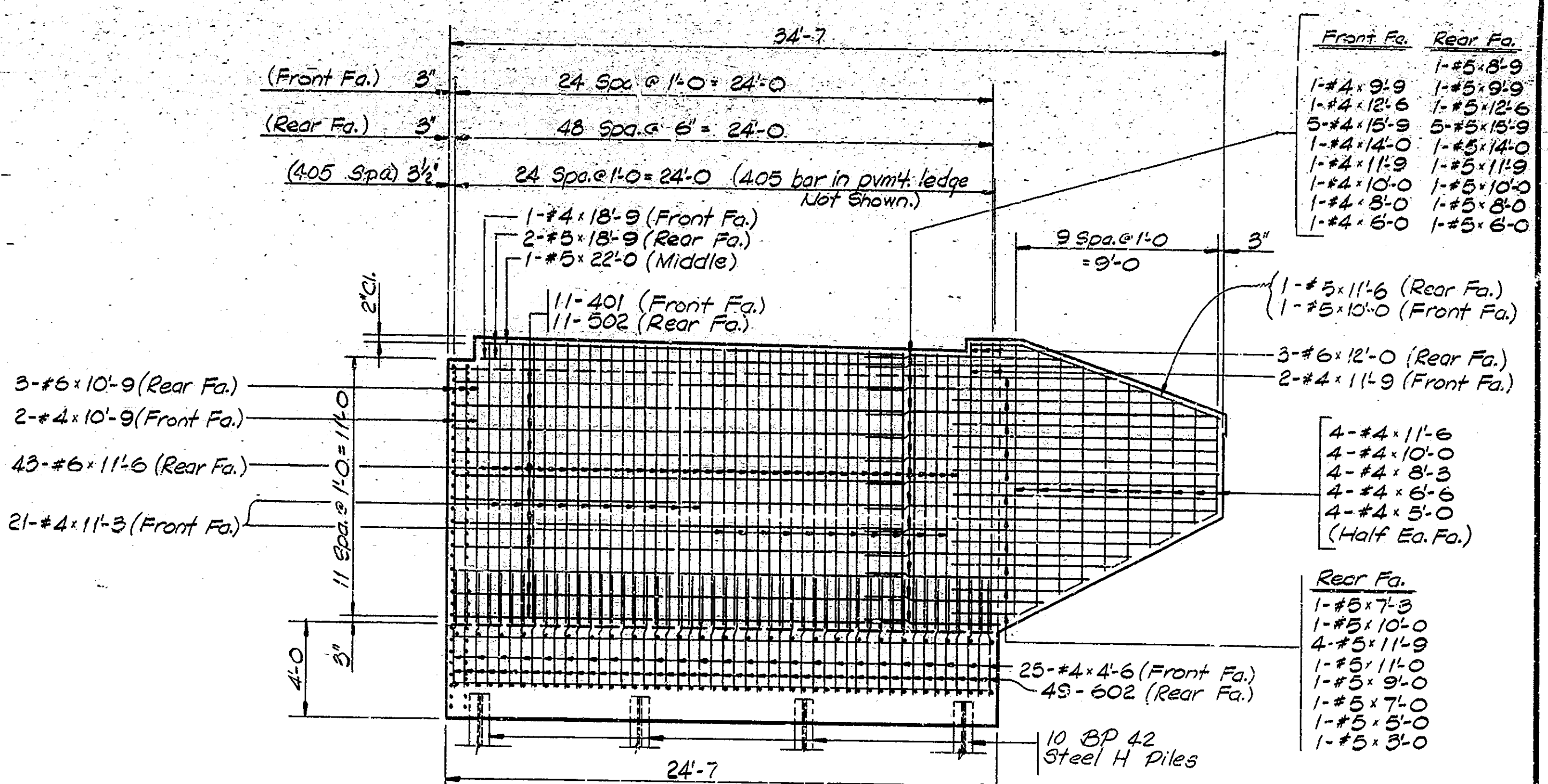
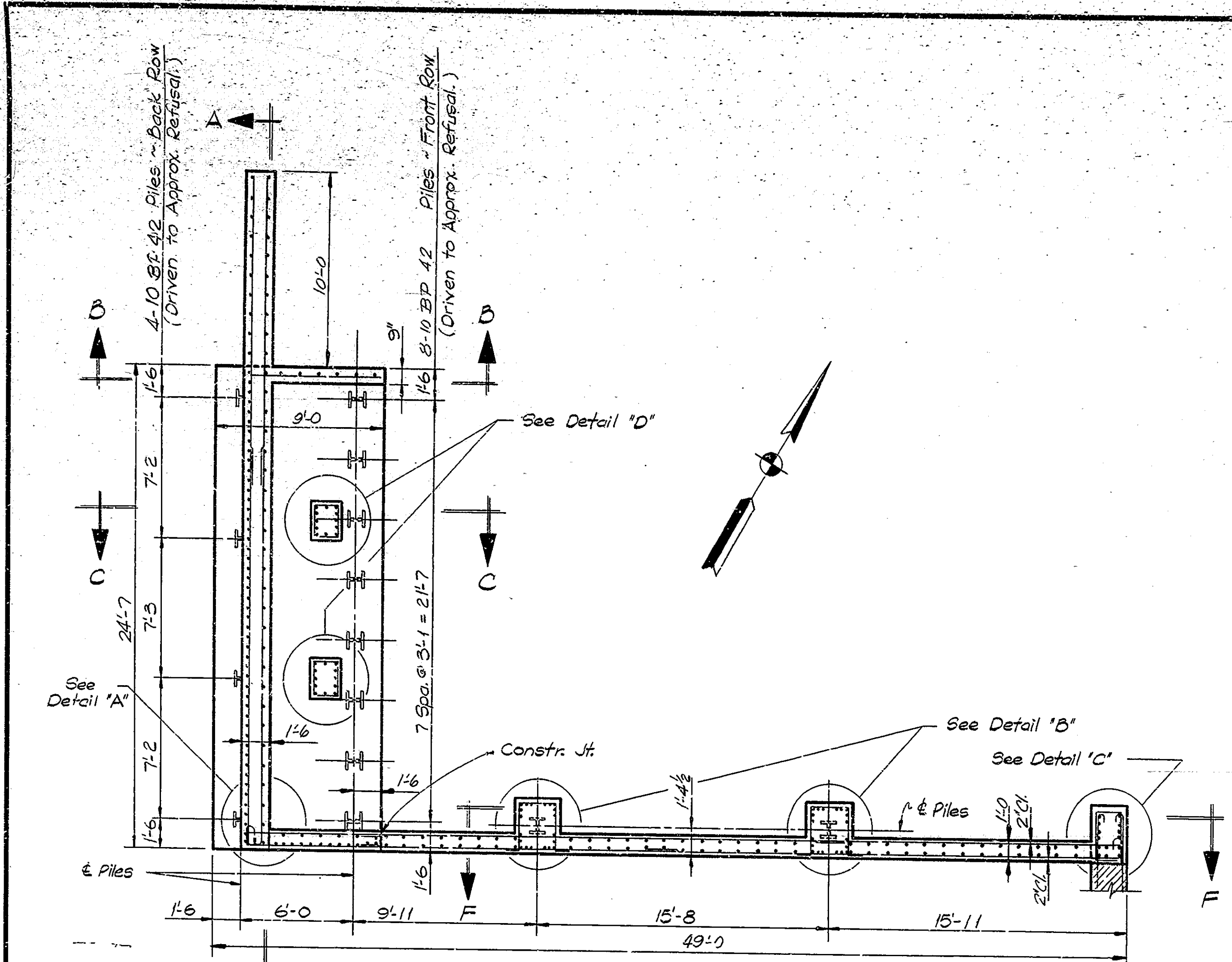


**ABUTMENT NO. 1 & RETAINING WALL
 DETAILS
 WESTBOUND STRUCTURE
 INDIANA STATE HIGHWAY COMMISSION**

SCALE: 1/4" = 1'-0" DATE: DECEMBER 26, 1973

DRAWING: C₄ OF 49 SHEET: 12 OF 99
 PROJECT: ST-151E Prefab. RF-151(12) Constr
 CONTRACT NO. B-9655 Prefab. B-9818 Constr
 BRIDGE FILE: 50-40-917A

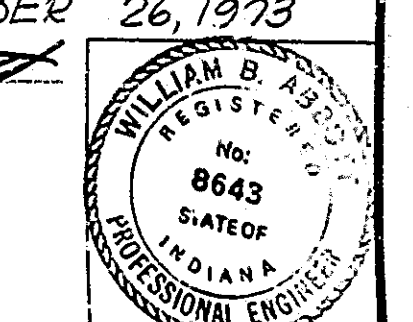




ABUTMENT NO. 1 & RETAINING WALL
 DETAILS
 WESTBOUND STRUCTURE
 INDIANA STATE HIGHWAY COMMISSION

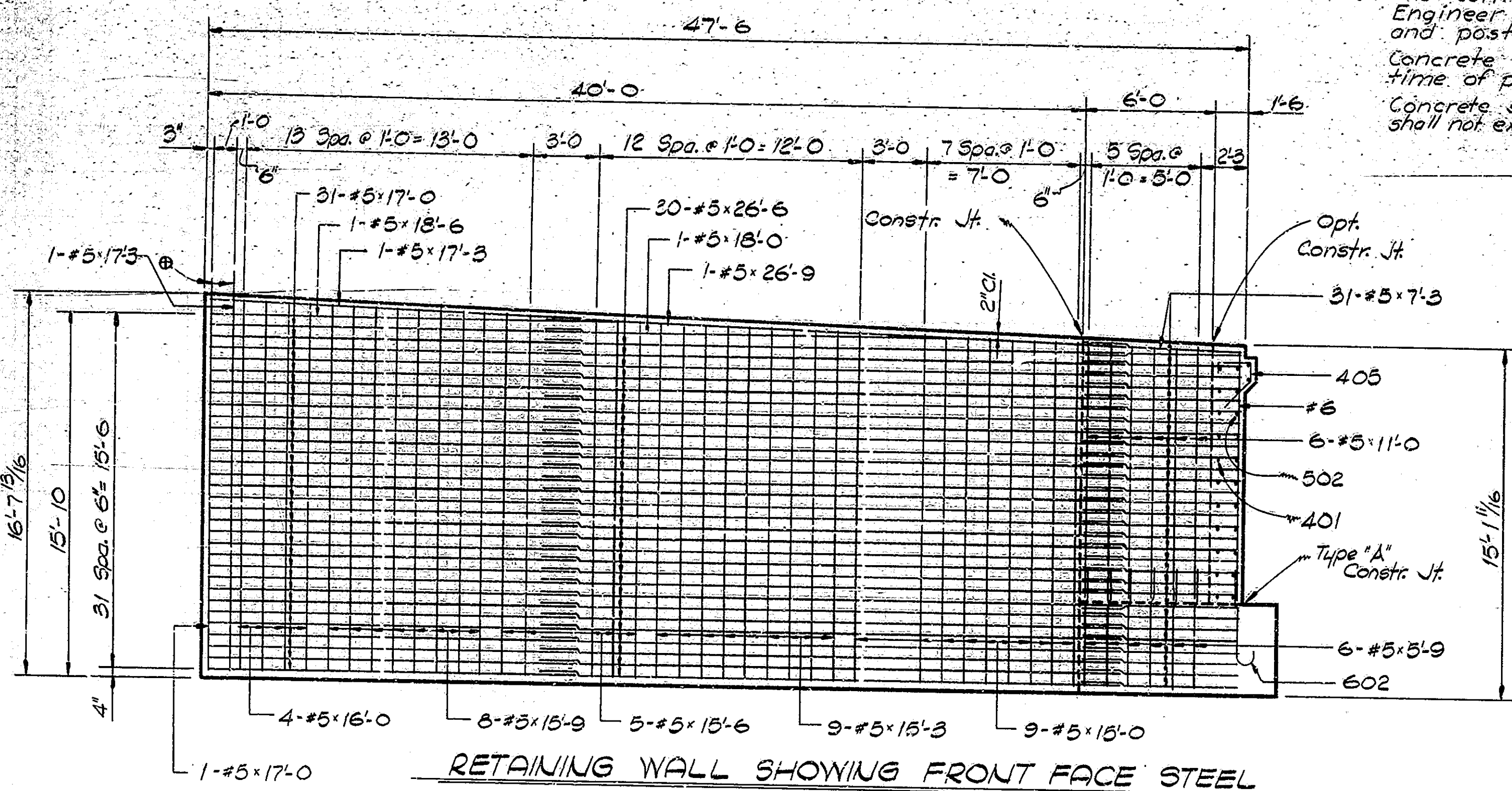
SCALE: - As Noted DATE: - DECEMBER 26, 1973

DRAWING: C5 OF 49 SHEET: 13 OF 99
 PROJECT: RF-151 (12)
 CONTRACT NO. 8-9818
 BRIDGE FILE: 50-40-917A

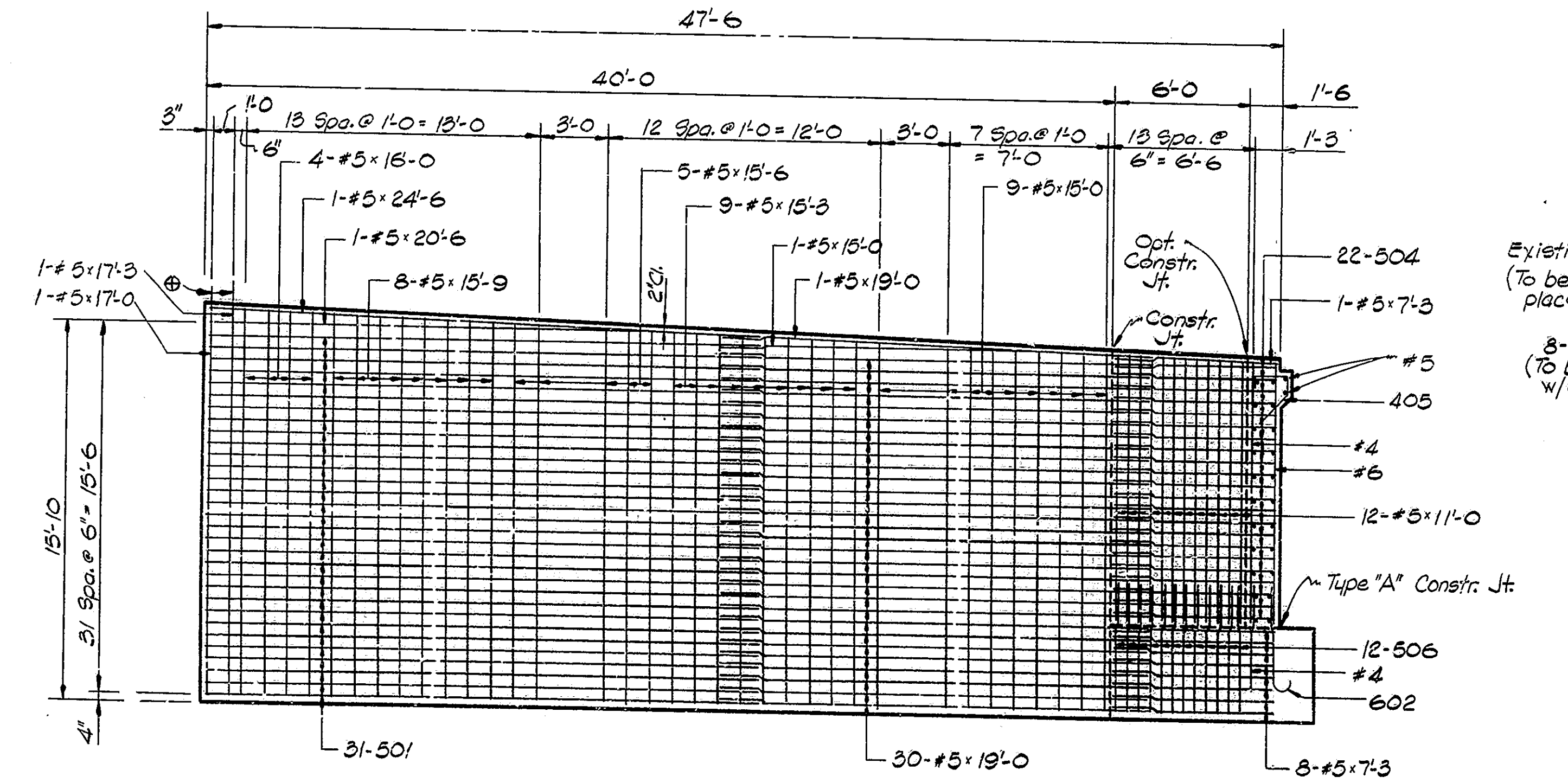


DESIGNED BY: E.A.B. 3-78 CKD: J.W.A. 3-78
 TRACED BY: M.D. 4-78 CKD: E.A.B. 3-78

Note: See Br. Std. C1 for Reinf. Bar notes.



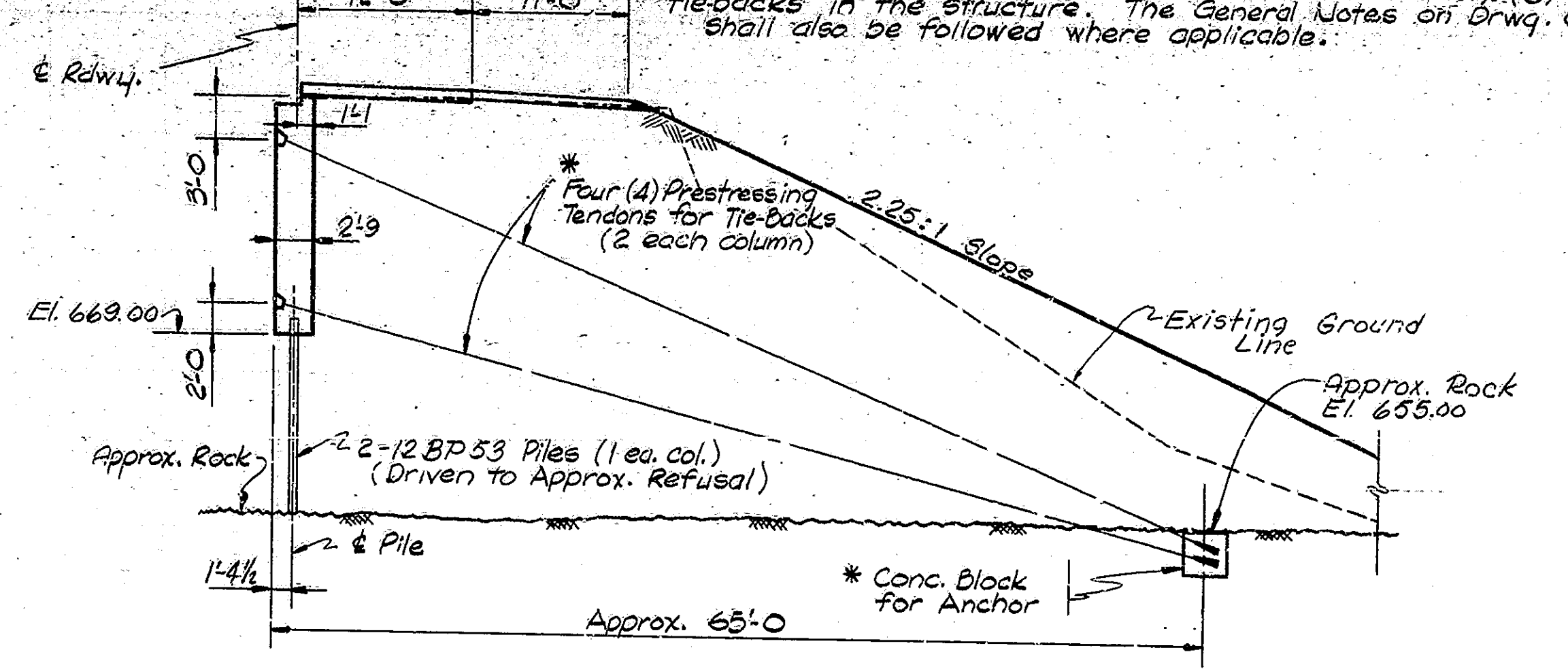
RETAINING WALL SHOWING FRONT FACE STEEL
(Column Steel Not Shown)
Scale: 1/4" = 1'-0"



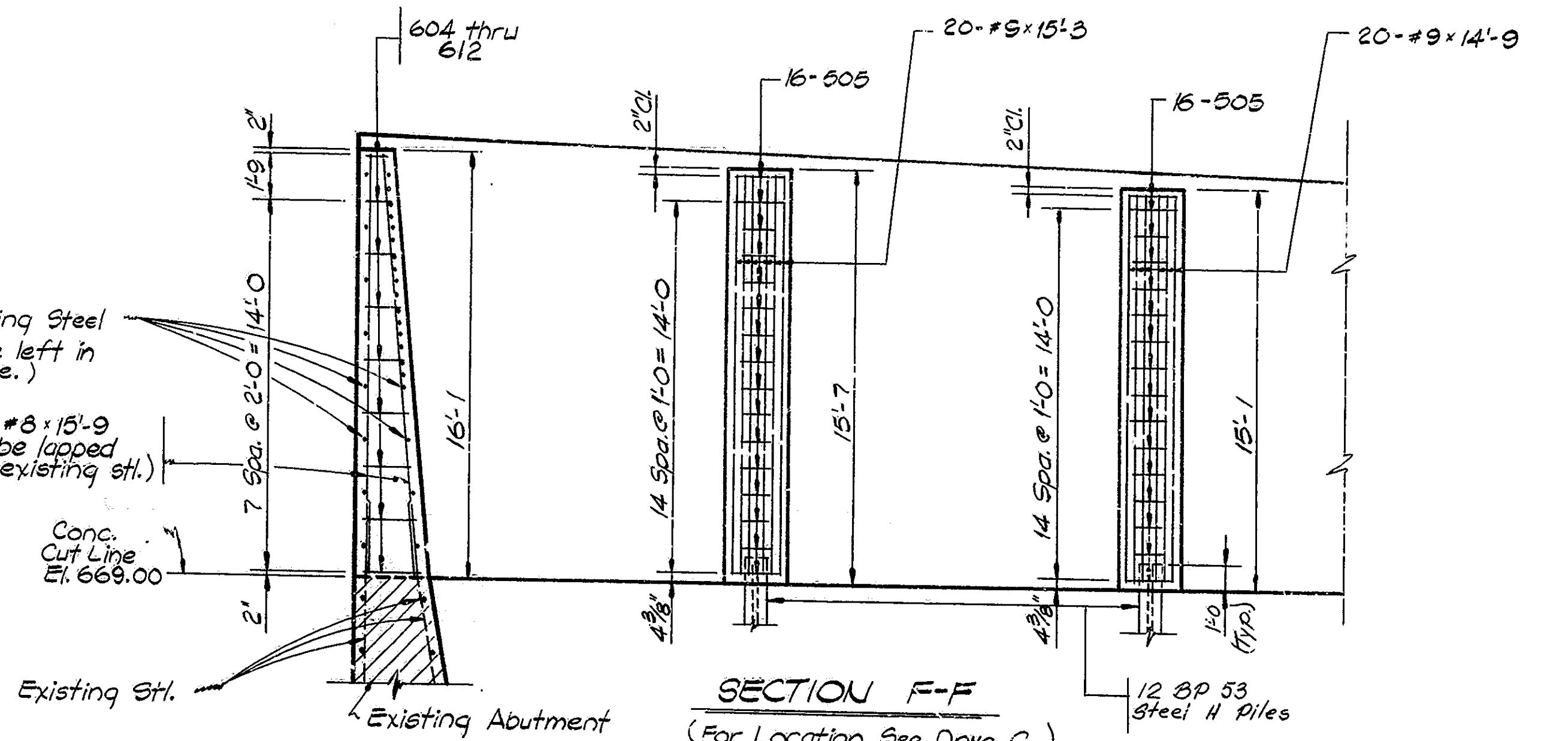
RETAINING WALL SHOWING REAR FACE STEEL
(Column Steel Not Shown)
Scale: 1/4" = 1'-0"

Notes: The Contractor shall determine and submit to the Engineer details of a proposed plan for backfilling and post-tensioning tie-back tendons in stages. Concrete compressive strength to be 5000 psi at time of post-tensioning. Concrete stresses under anchorage bearing plates shall not exceed 1800 psi.

* Required effective force in each tendon after all losses = 56k. The Contractor will provide the design of post-tensioning tendons and their anchorages. Cost of anchorage hardware including additional reinforcing steel required for anchorage zones, steel and concrete for anchorage in rock, ducts, boring through soil and rock, tendons, post-tensioning and grouting shall be included in the cost of each of the six (6) tie-backs in the structure. The General Notes on Drwg. C2 shall also be followed where applicable.



SECTION THROUGH SUPPORT COLUMN
(Perpendicular to R.R.Wy. @ C of Column ~ Typ. Ea. Column)
Scale: 1/8" = 1'-0"



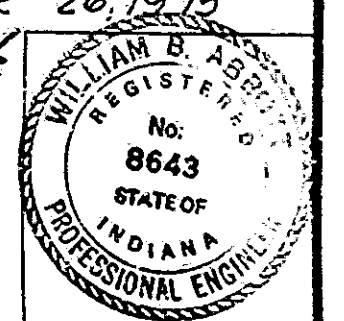
SECTION F-F
(For Location See Drwg. C5)
Scale: 1/4" = 1'-0"

⊗ Indicates reinforcement to be extended above top of retaining wall into new mudwall of Abutment No. 1 Eastbound Structure (See Drwg. C2a).

ABUTMENT No 1 & RETAINING WALL
DETAILS
WESTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: As Noted DATE: DECEMBER 26, 1973

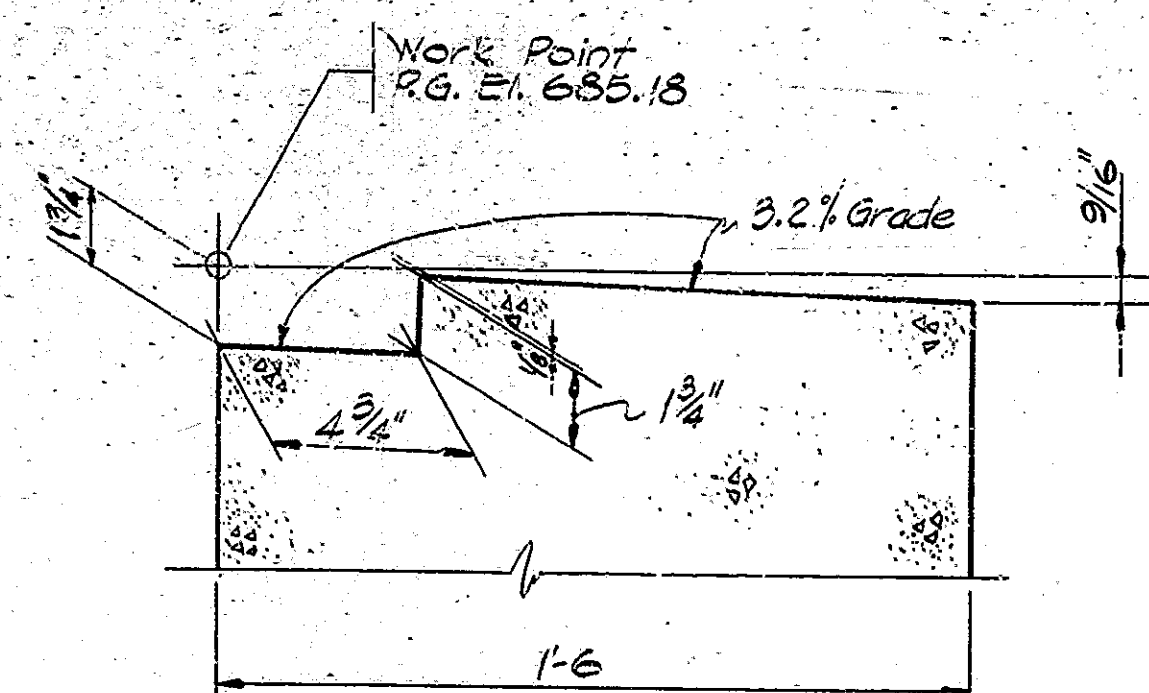
DRAWING: C6 OF 49 SHEET: 14 OF 99
PROJECT: RF-151(12)
CONTRACT NO. B-9818
BRIDGE FILE: 50-40-917A



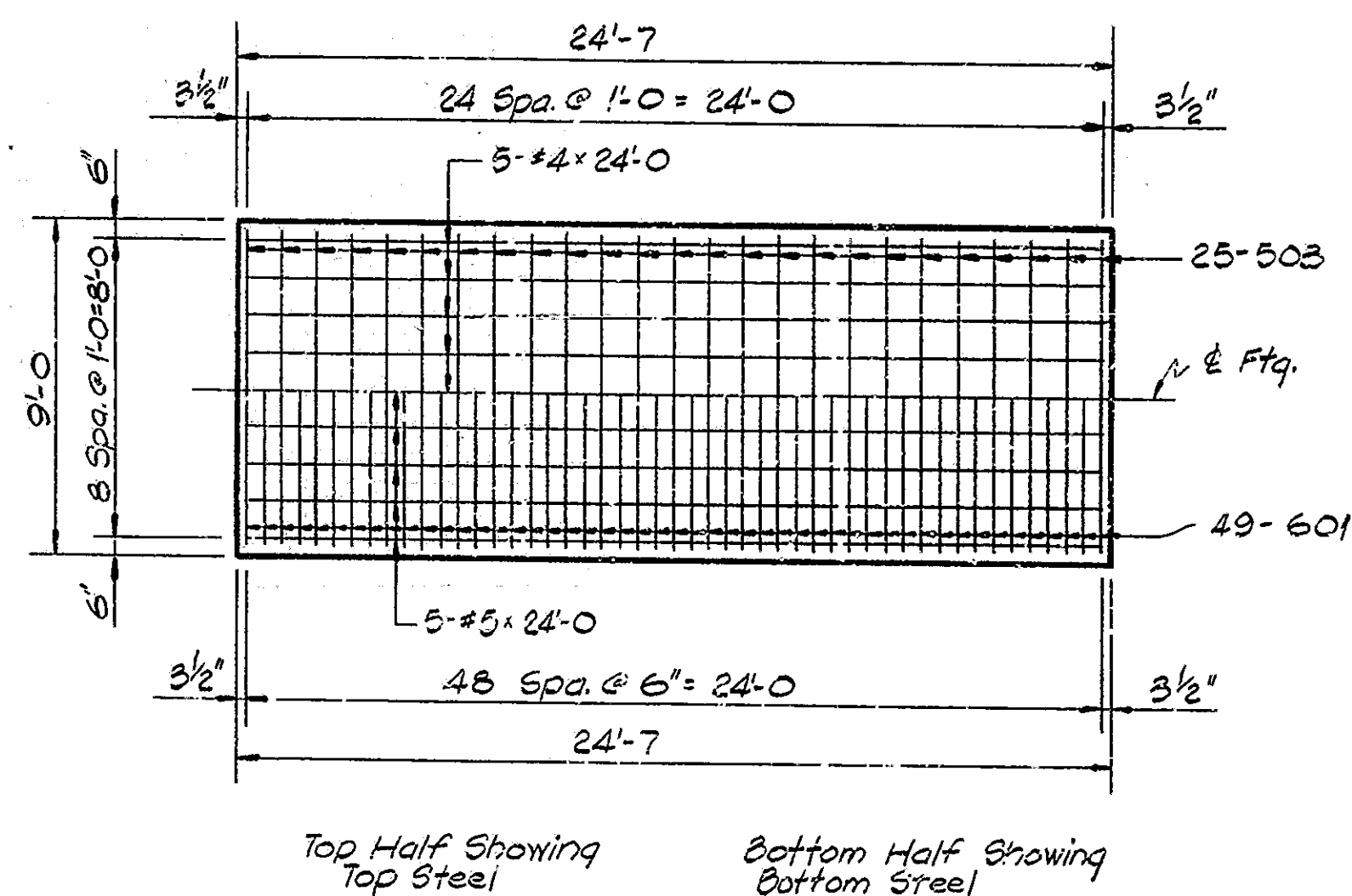
DESIGNED: E.A.E. 9-72 CK'D: J.H.A. 3-75
DRAWN: W.B. 5-73 CK'D: F.A.R. 9-75
TRACED: CK'D

Note: See Br. Std. C1 for Reinf. Bar notes.

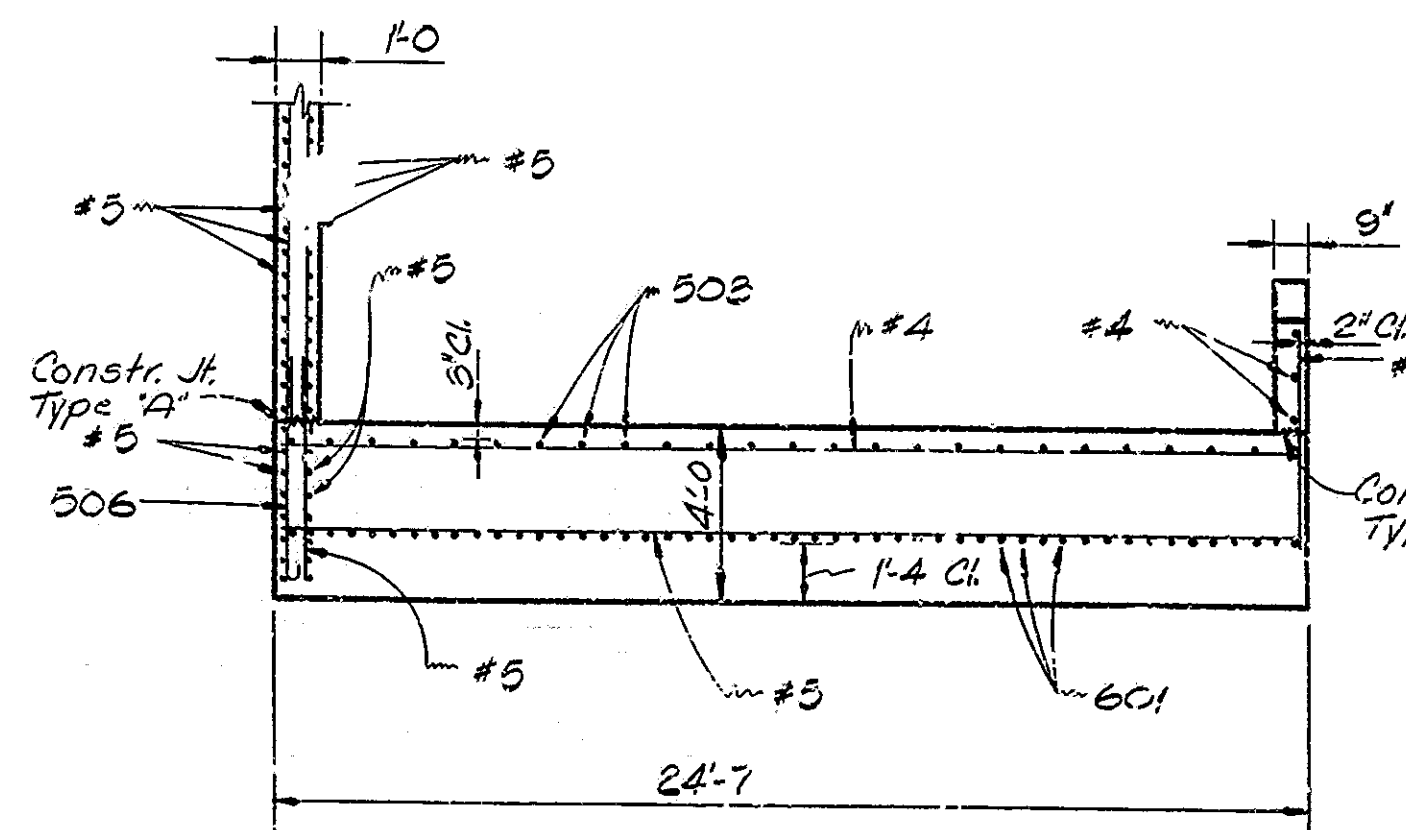
Note: See Drwg. C₂ for Expansion Joint Details.



SECTION THROUGH MUROWALL (Showing Notch for Type "H" Exp. Jt.) Scale: 2" = 1'-0"



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



SECTION G-G (Mudwall, Wingwall, Piles and Beam Seats not shown.) Scale: 1/4" = 1'-0"

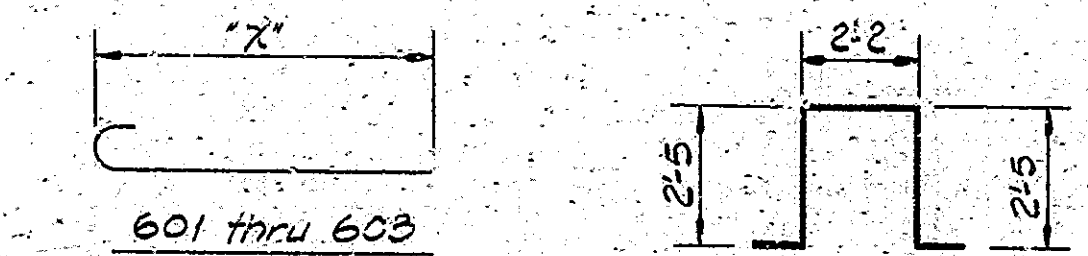


Table with 4 columns: MARK, NO. BARS, 'X', LENGTH

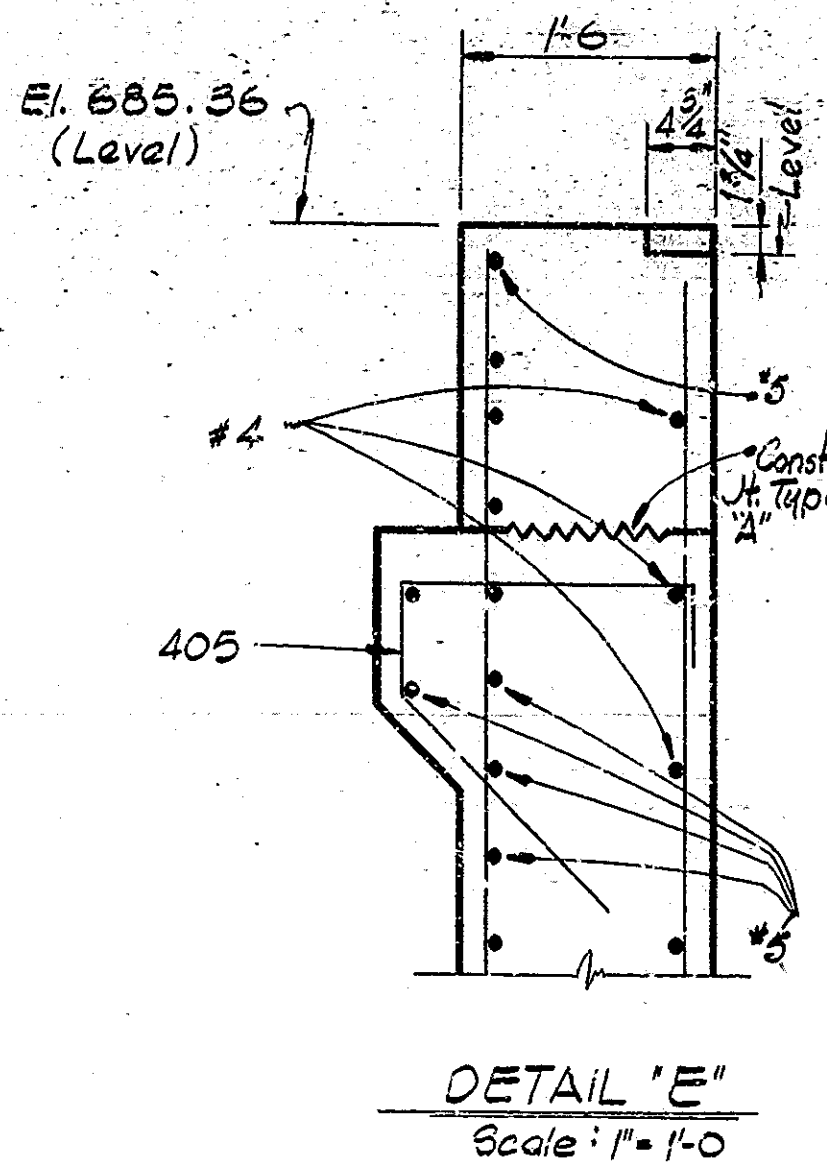
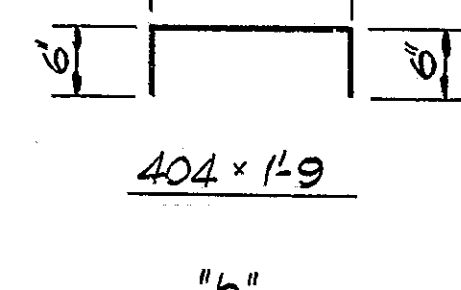
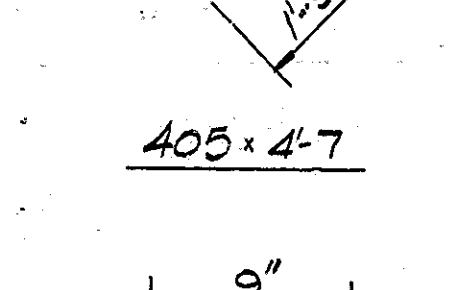
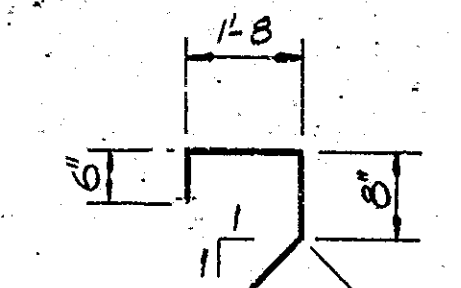
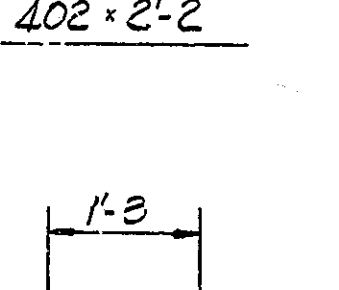
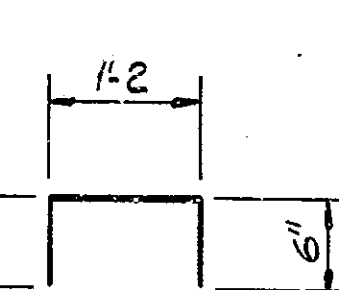
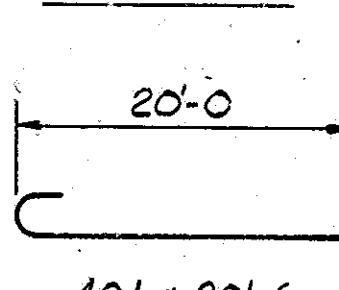
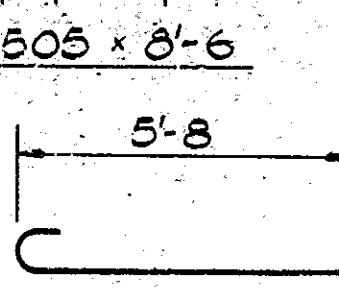
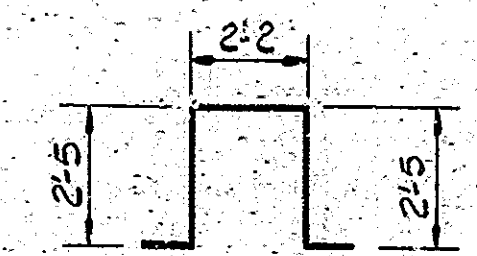
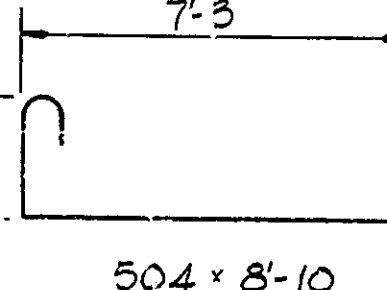
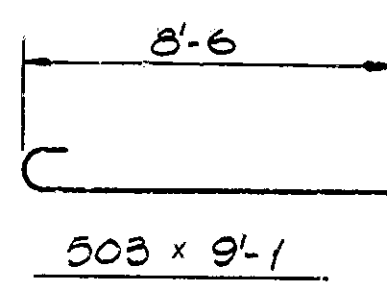
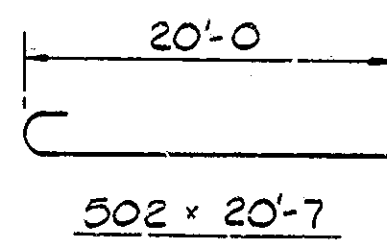
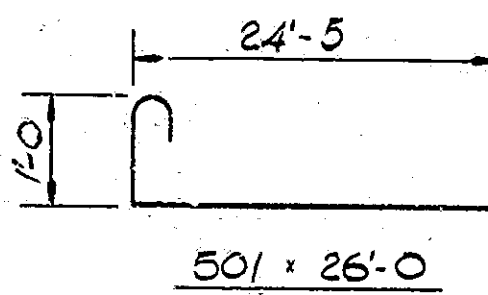
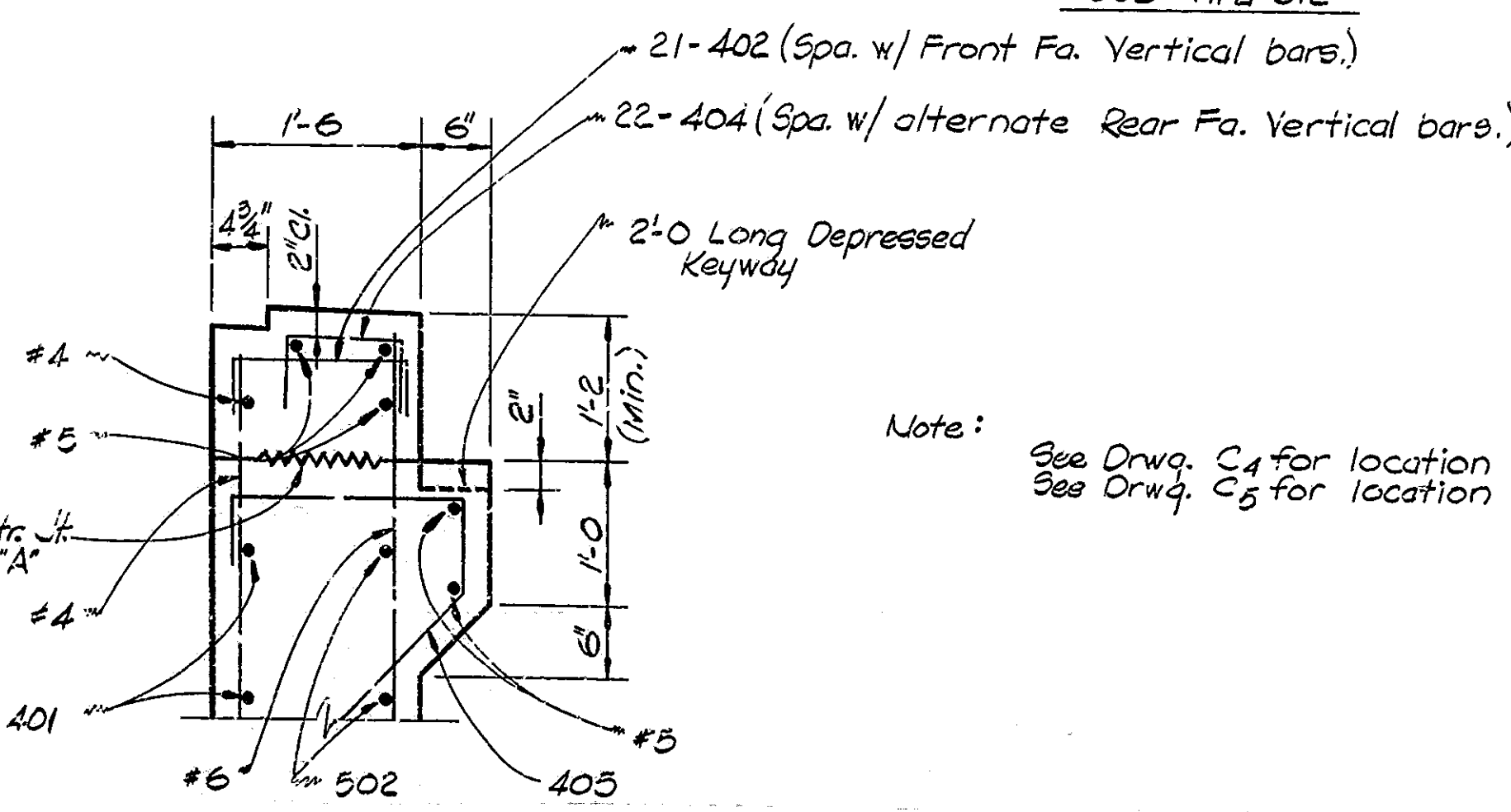


Table with 4 columns: Mark, No. Bars, 'b', Length



Note: See Drwg. C₄ for location of Section G-G. See Drwg. C₅ for location of Details E & F.

BILL OF MATERIALS

Table with 4 columns: REINFORCING STEEL, SIZE, NO. OF BARS, LGTH., WT. (lbs.)

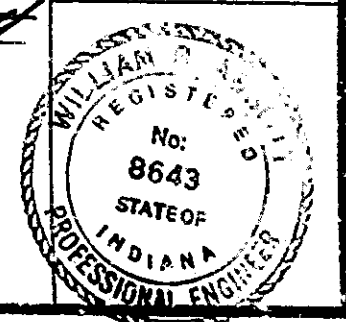
Table with 4 columns: REINFORCING STEEL, SIZE, NO. OF BARS, LGTH., WT. (lbs.)

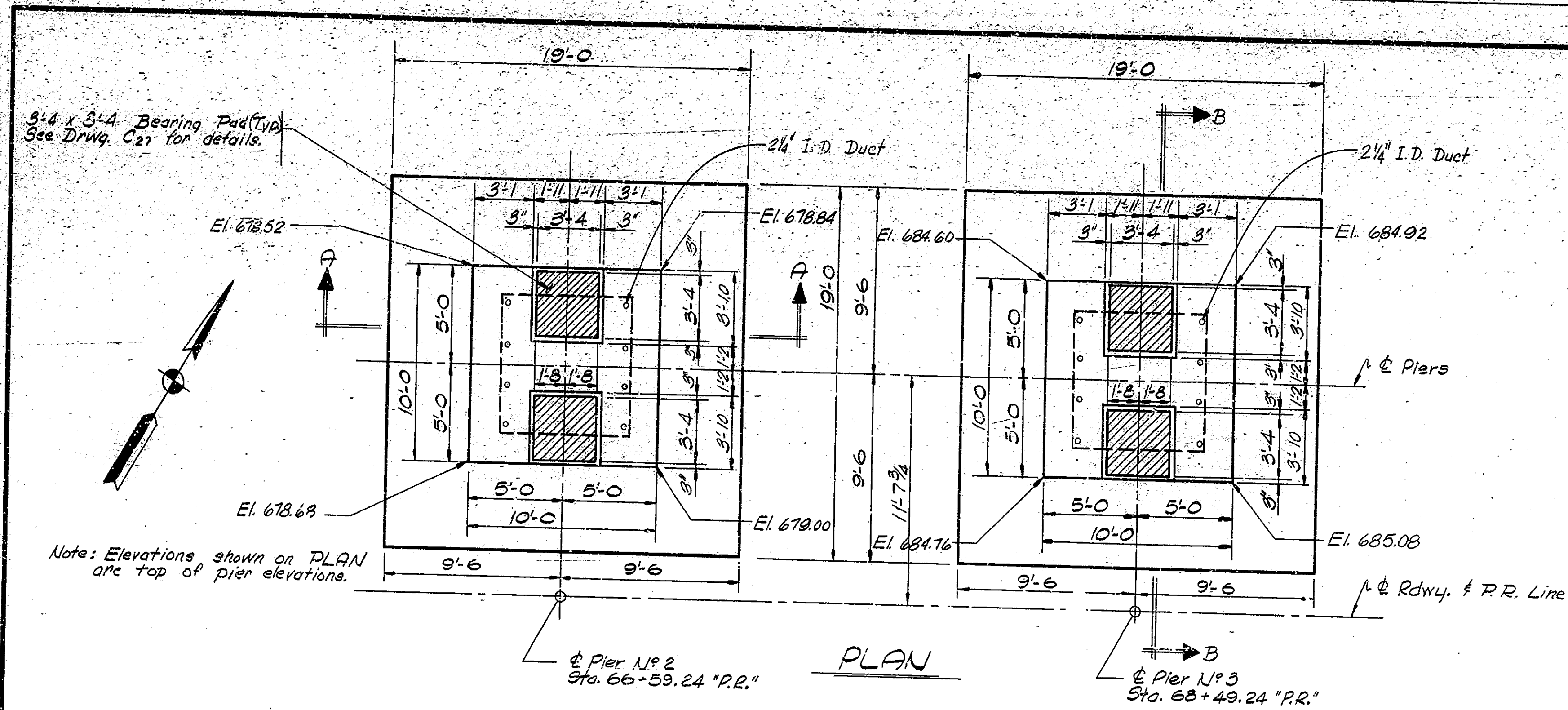
ABUTMENT NO. 1 & RETAINING WALL DETAILS WESTBOND STRUCTURE INDIANA STATE HIGHWAY COMMISSION

SCALE: - As Noted DATE: - DECEMBER 26, 1973

DESIGNED: F.A.E. - B.C.K.D. - H.A. 5-75 DRAWN: W.B. - B.L.S. C.K.D. - F.A.E. 9-75 TRACED: C.K.D.

Note: See Cr. Std. C₁ for Reinf. Bar notes.

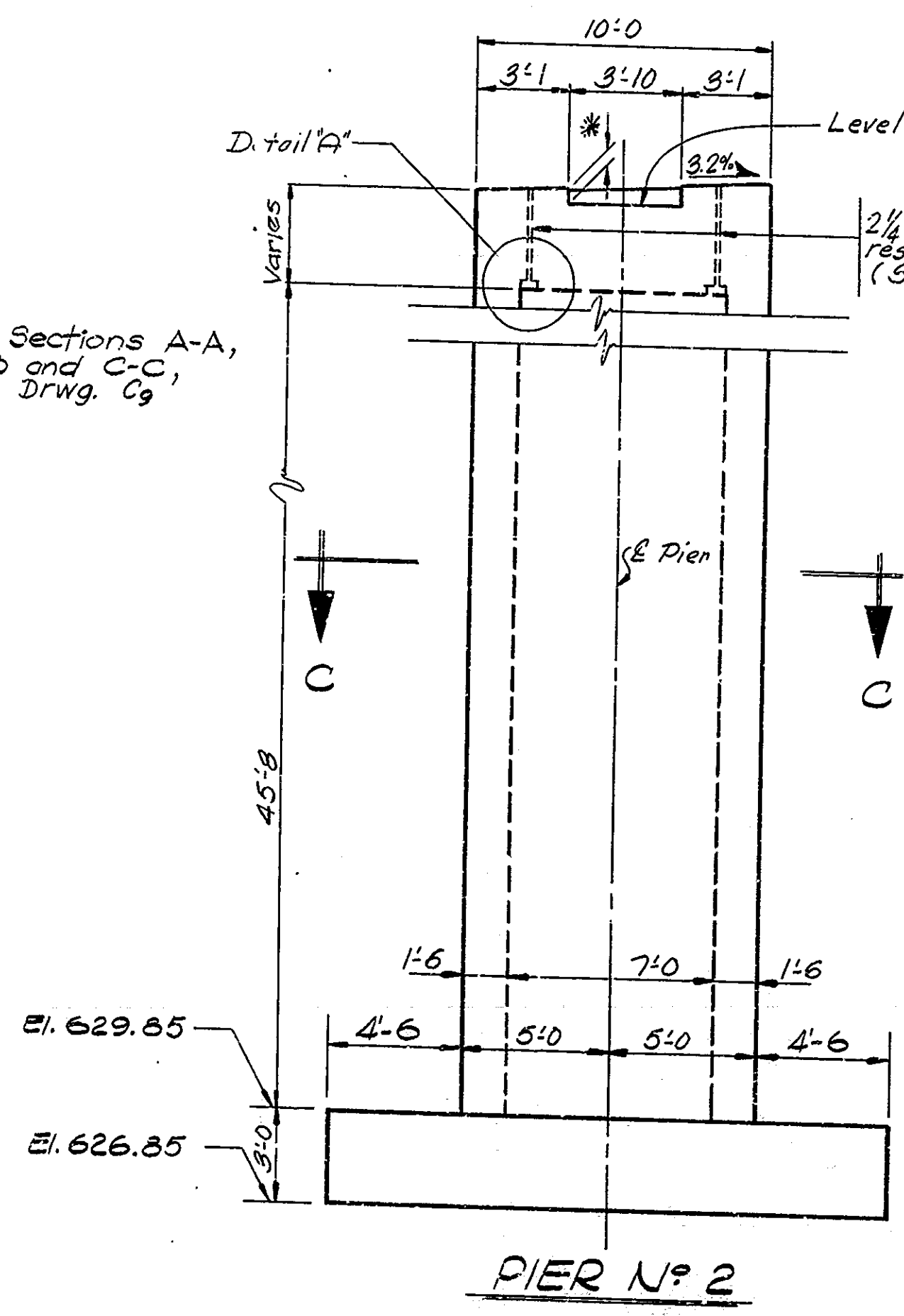




Note: Elevations shown on PLAN are top of pier elevations.

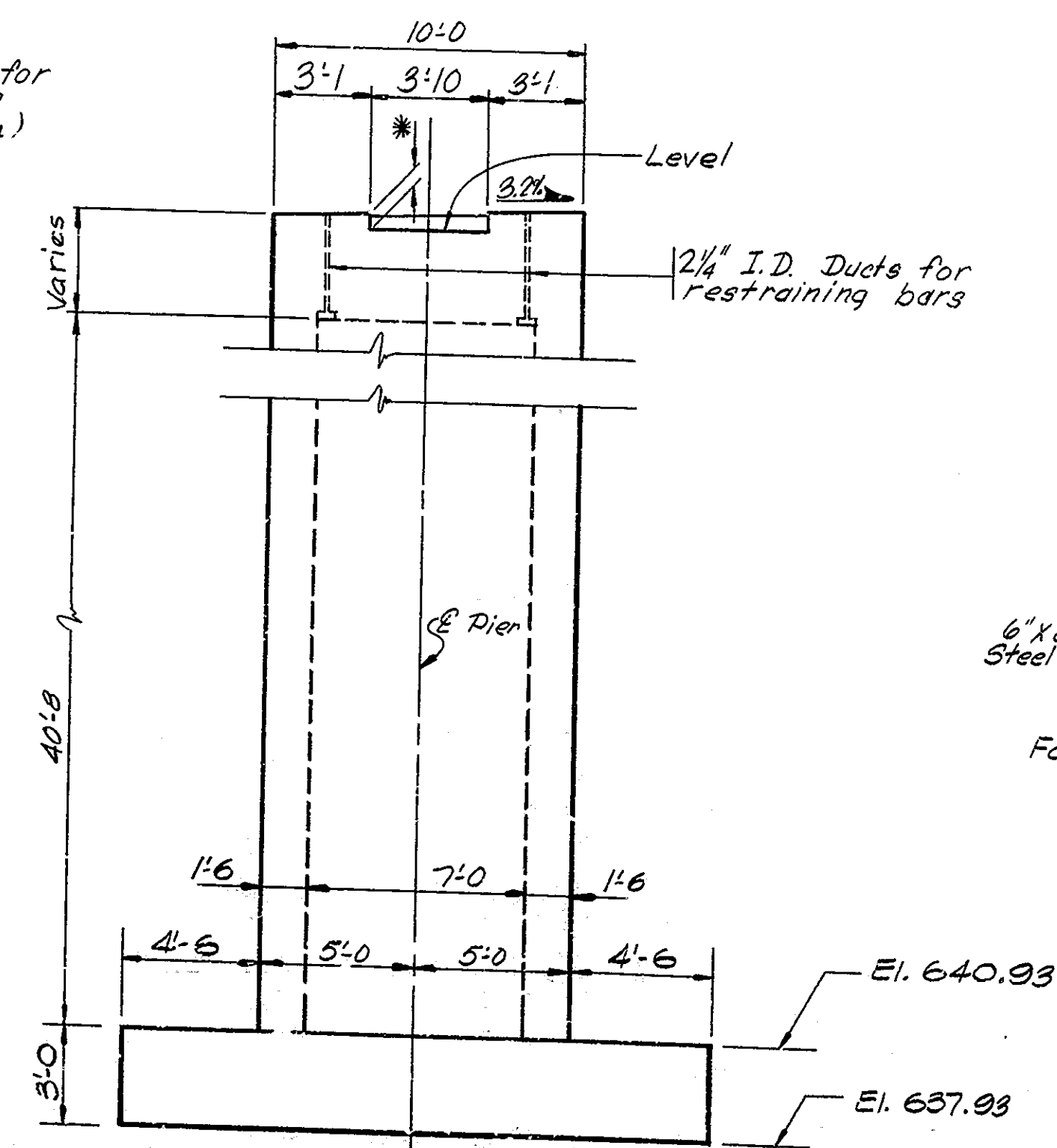
Note: For Sections A-A, B-B and C-C, See Drwg. C₉

Note: Top of ducts to be covered during casting of pier caps to prevent any material from entering the ducts.

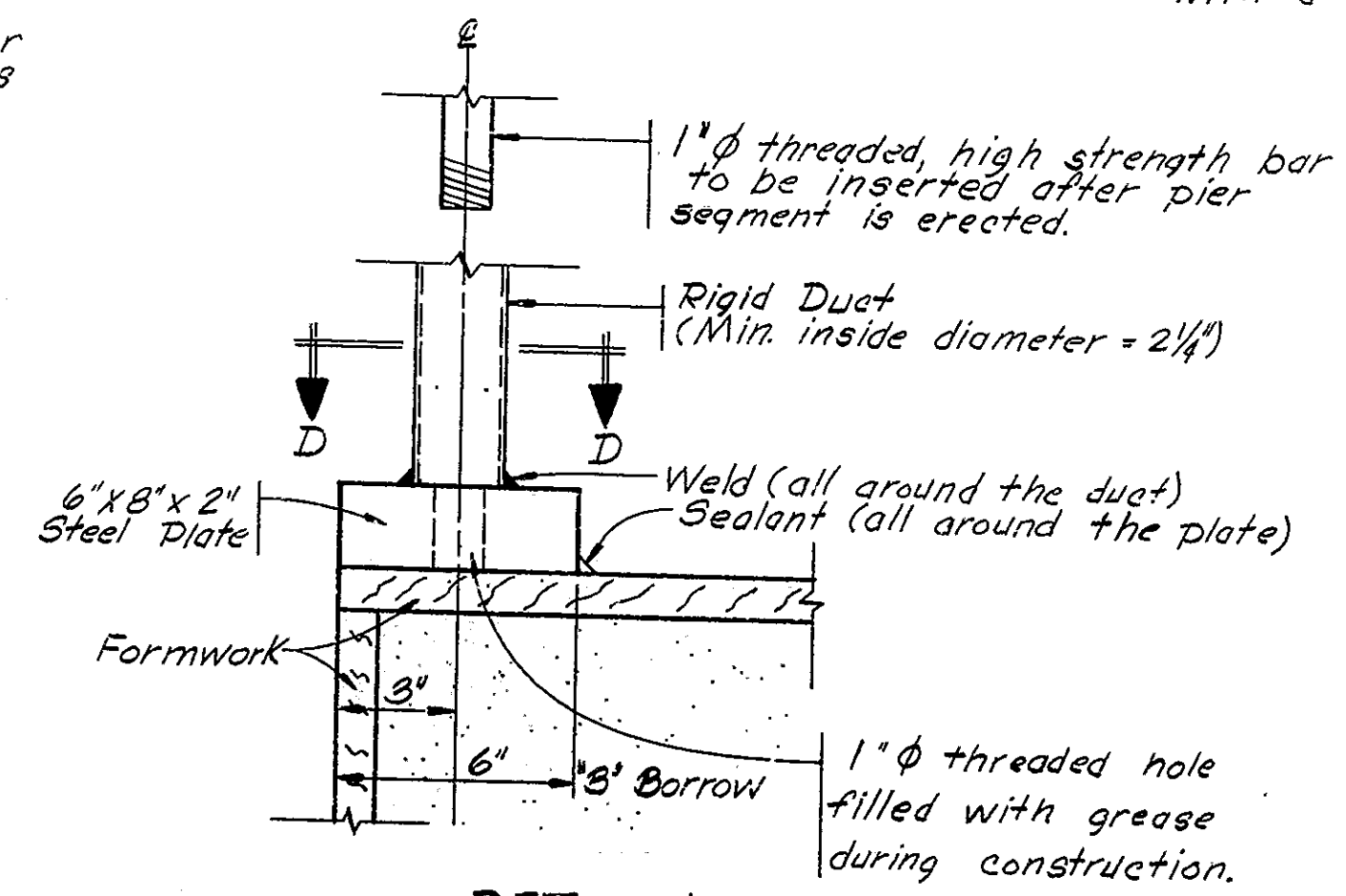


PIER No. 2

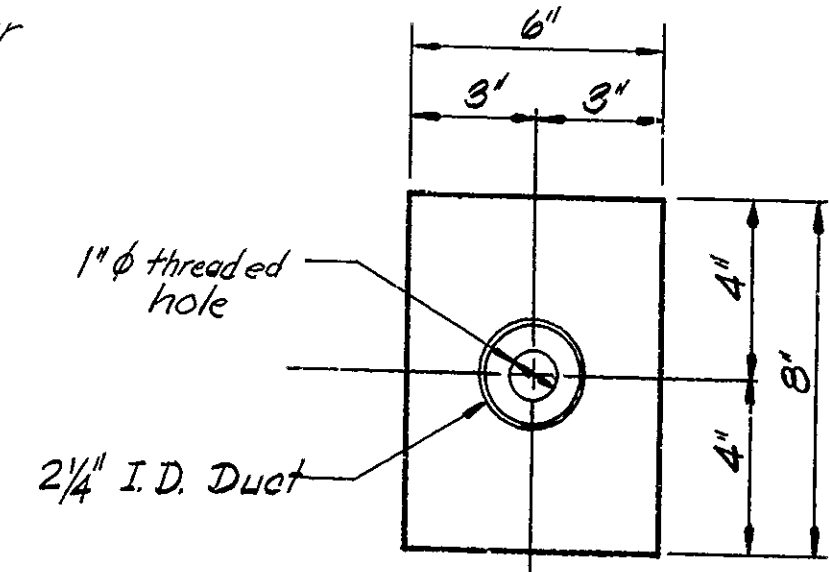
ELEVATION



PIER No. 3



DETAIL "A"
Scale: 3/4" = 1'-0"



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

BILL OF MATERIALS

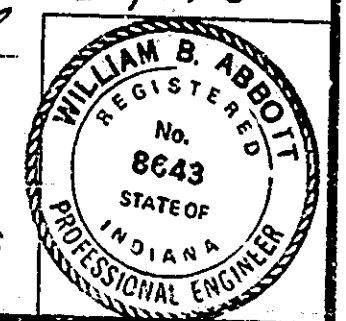
PIER # 2			
REINFORCING STEEL	SIZE & MARK	No. of Bars	LENGTH WEIGHT (lbs)
	1001	90	21'-4 8262
	802	38	20'-8 2097
	701	76	6'-0
	#7	132	25'-6
	#7	132	25'-3
	#7	56	5'-2
		TOTAL #7	15216
	#6	40	9'-6 571
	407	192	11'-0
	408	195	11'-2
	409	16	4'-3
		TOTAL #4	2911
		TOTAL STEEL	29057
CONCRETE			
	Class "A" in Substructure Cap 11.5 Cys.		
	Class "B" above Footing Stem (top) 43.3 Cys.		
	Stem (bottom) 43.0 Cys.		
	Total Class "B" above Footing 86.3 Cys.		
	Class "B" in Footing 40.1 Cys.		
MISCELLANEOUS			
	"B" Borrow 82.9 Cys.		

PIER # 3			
REINFORCING STEEL	SIZE & MARK	No. of Bars	LENGTH WEIGHT (lbs)
	1001	90	21'-4 8262
	802	38	20'-8 2097
	701	76	6'-0
	#7	132	25'-3
	#7	132	20'-6
	#7	56	5'-2
		TOTAL #7	13867
	#6	40	9'-6 571
	407	172	11'-0
	408	175	11'-2
	409	16	4'-3
		TOTAL #4	2615
		TOTAL STEEL	27412
CONCRETE			
	Class "A" in Substructure Cap 11.5 Cys.		
	Class "B" above Footing Stem (top) 33.8 Cys.		
	Stem (bottom) 43.0 Cys.		
	Total Class "B" above Footing 76.8 Cys.		
	Class "B" in Footing 40.1 Cys.		
MISCELLANEOUS			
	"B" Borrow 73.8 Cys.		

PIER No. 2 & PIER No. 3
DETAILS
WESTBOLIND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

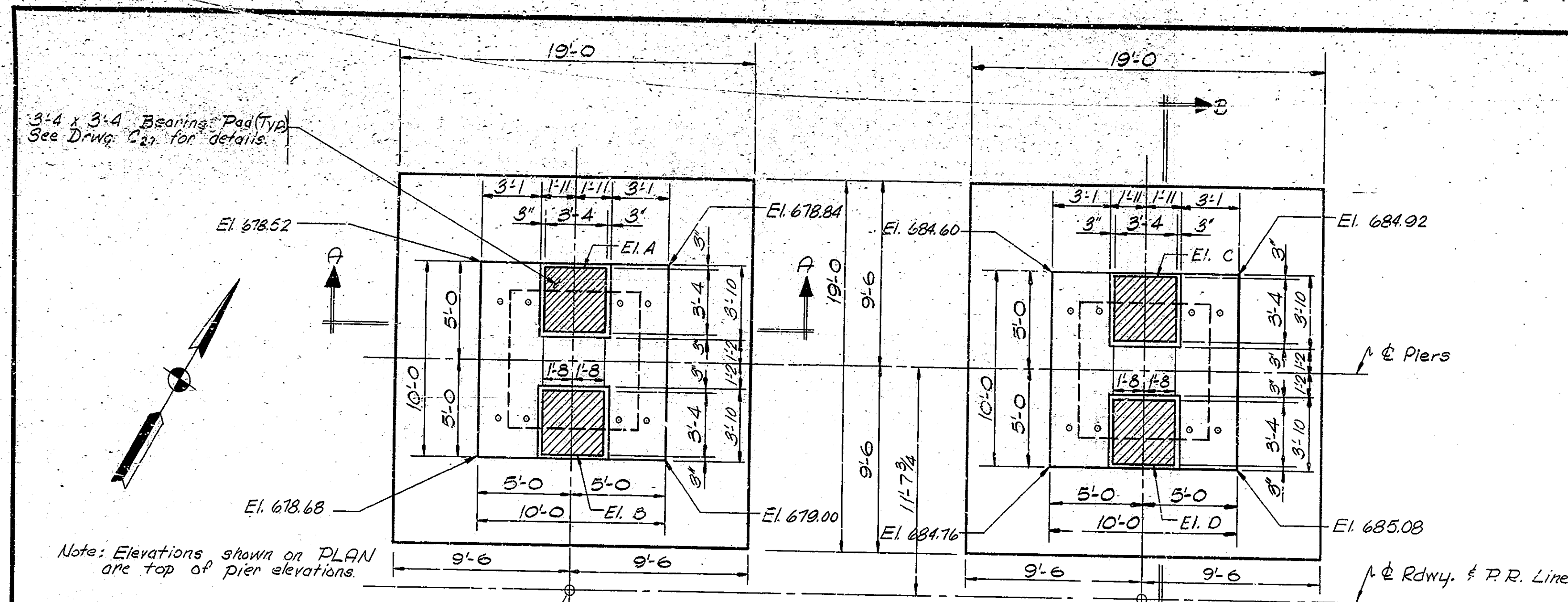
SCALE: 1/4" = 1'-0" (Unless Noted) DATE: DECEMBER 26, 1973

DRAWING: C₆ OF 49 SHEET: 16 OF 99
PROJECT: ST-151E, Prefab. RF-151(12) Constr.
CONTRACT NO. B-9658 Prefab. B-9818 Constr.
BRIDGE FILE: 50-40-917A



This sheet used in Project ST-151E, Contract B-9658 only

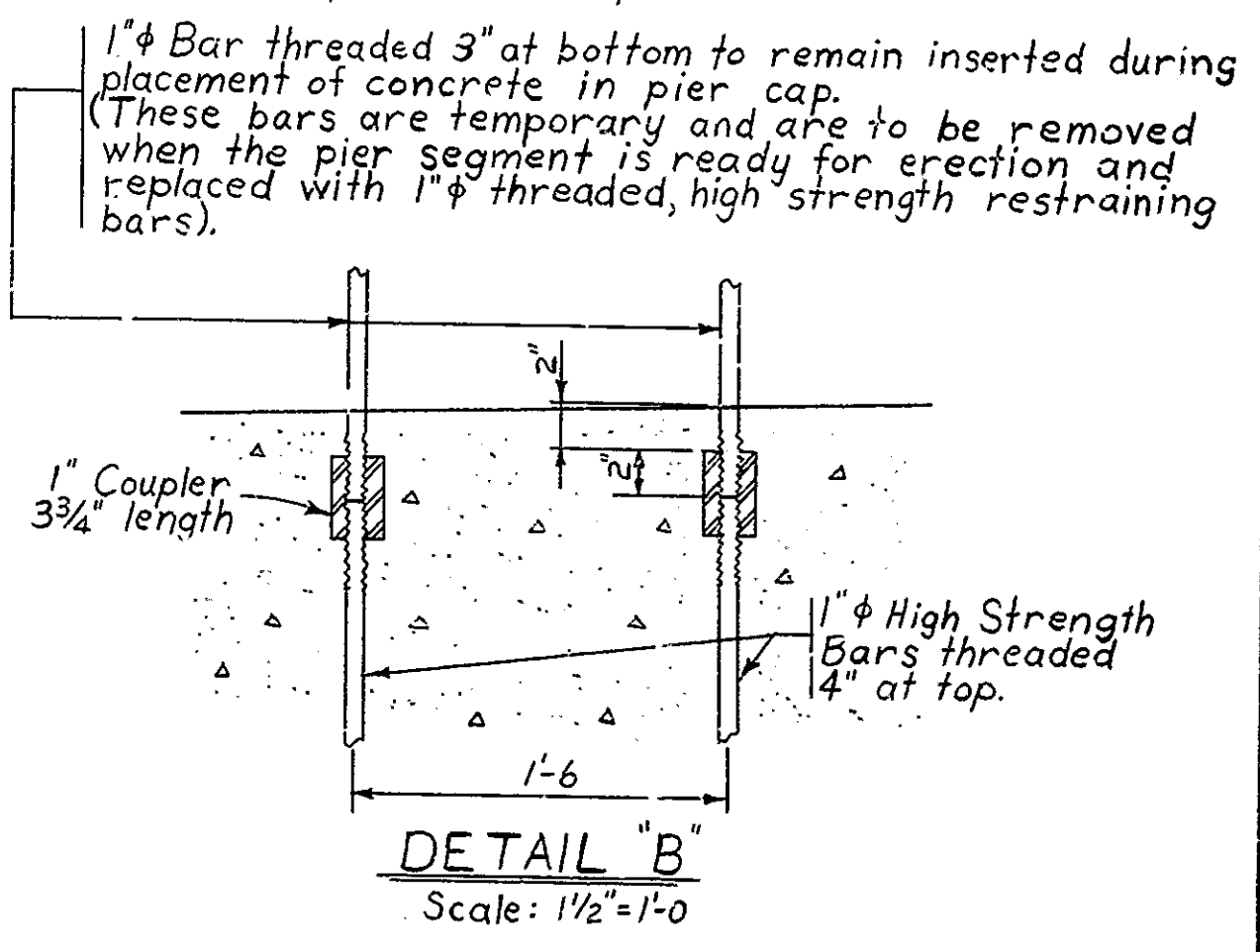
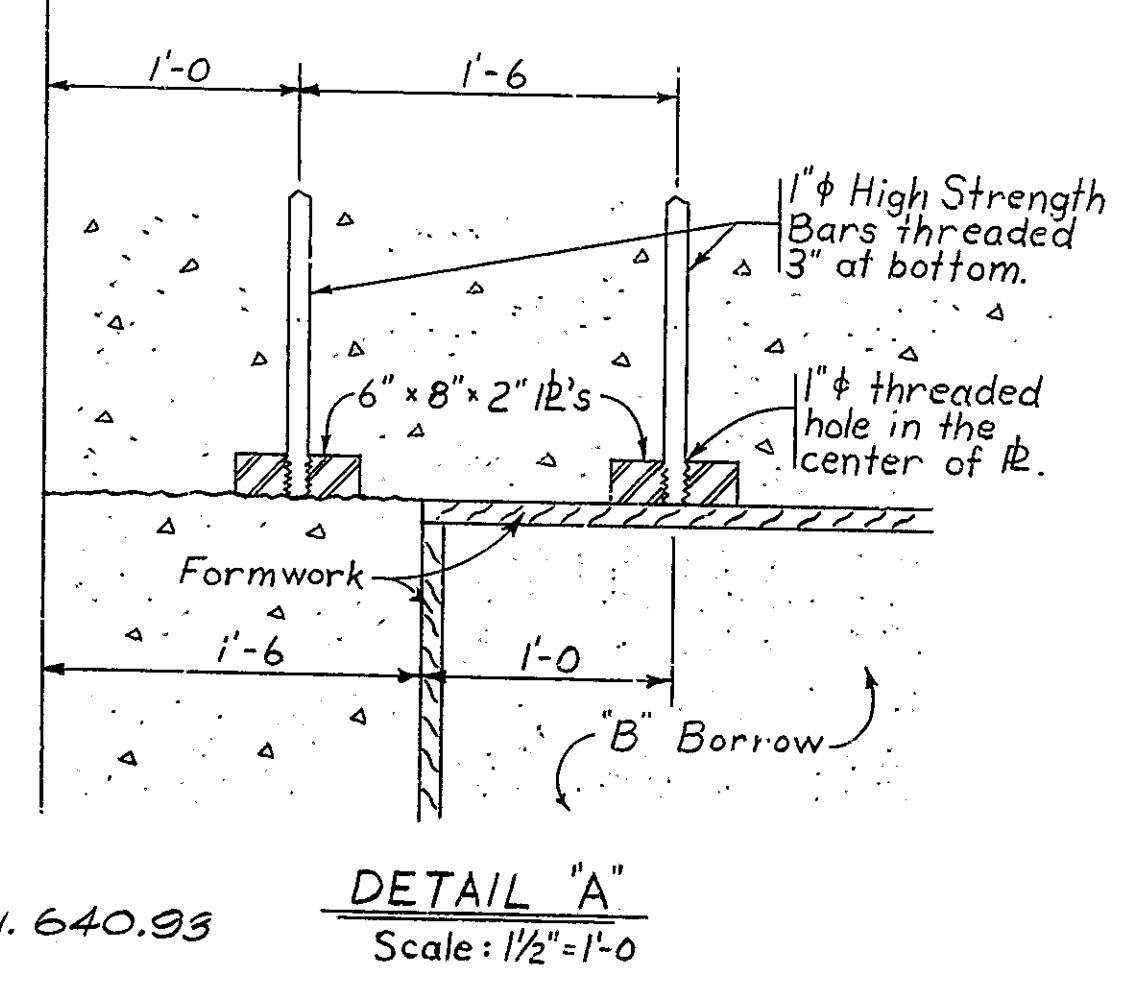
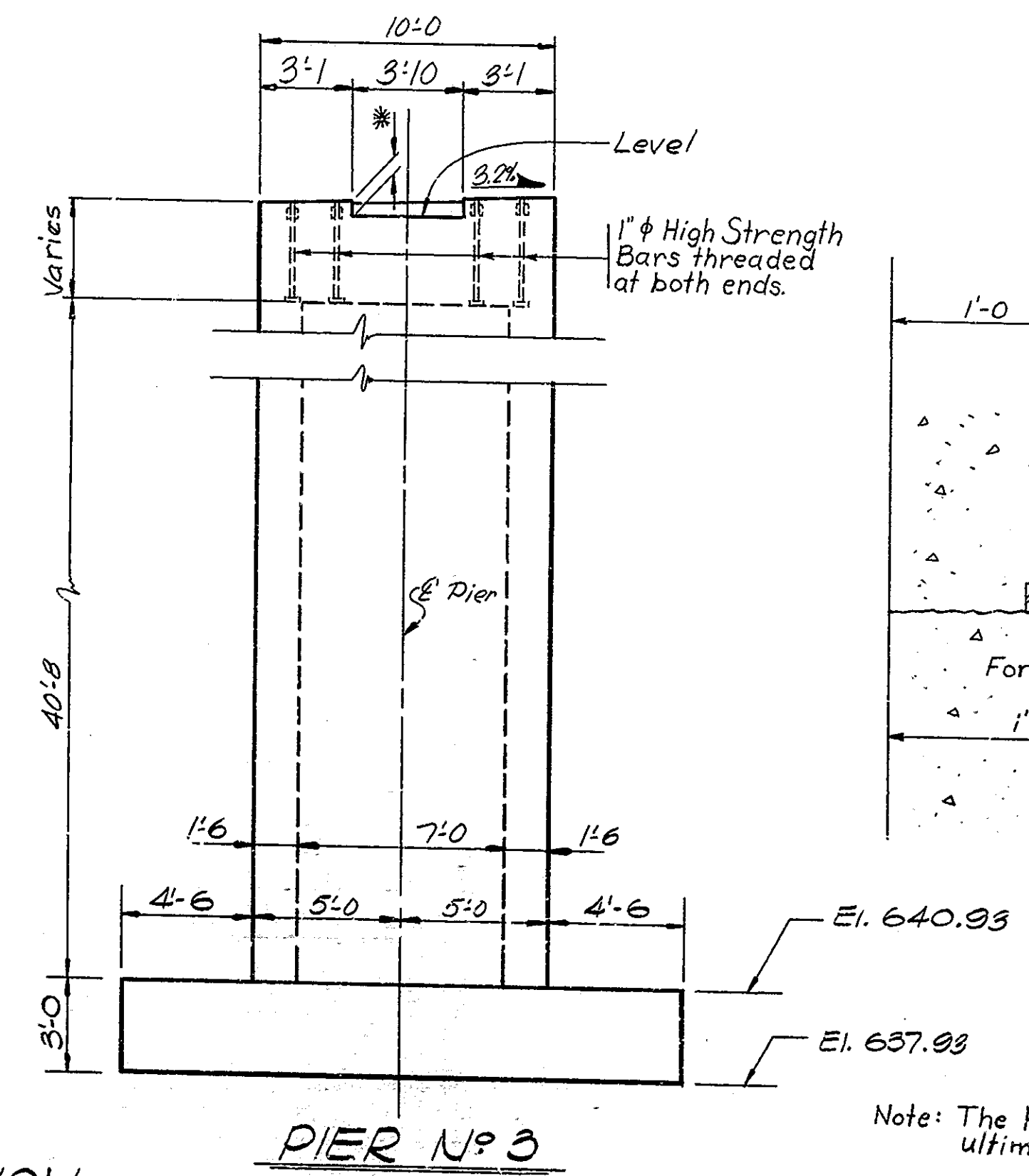
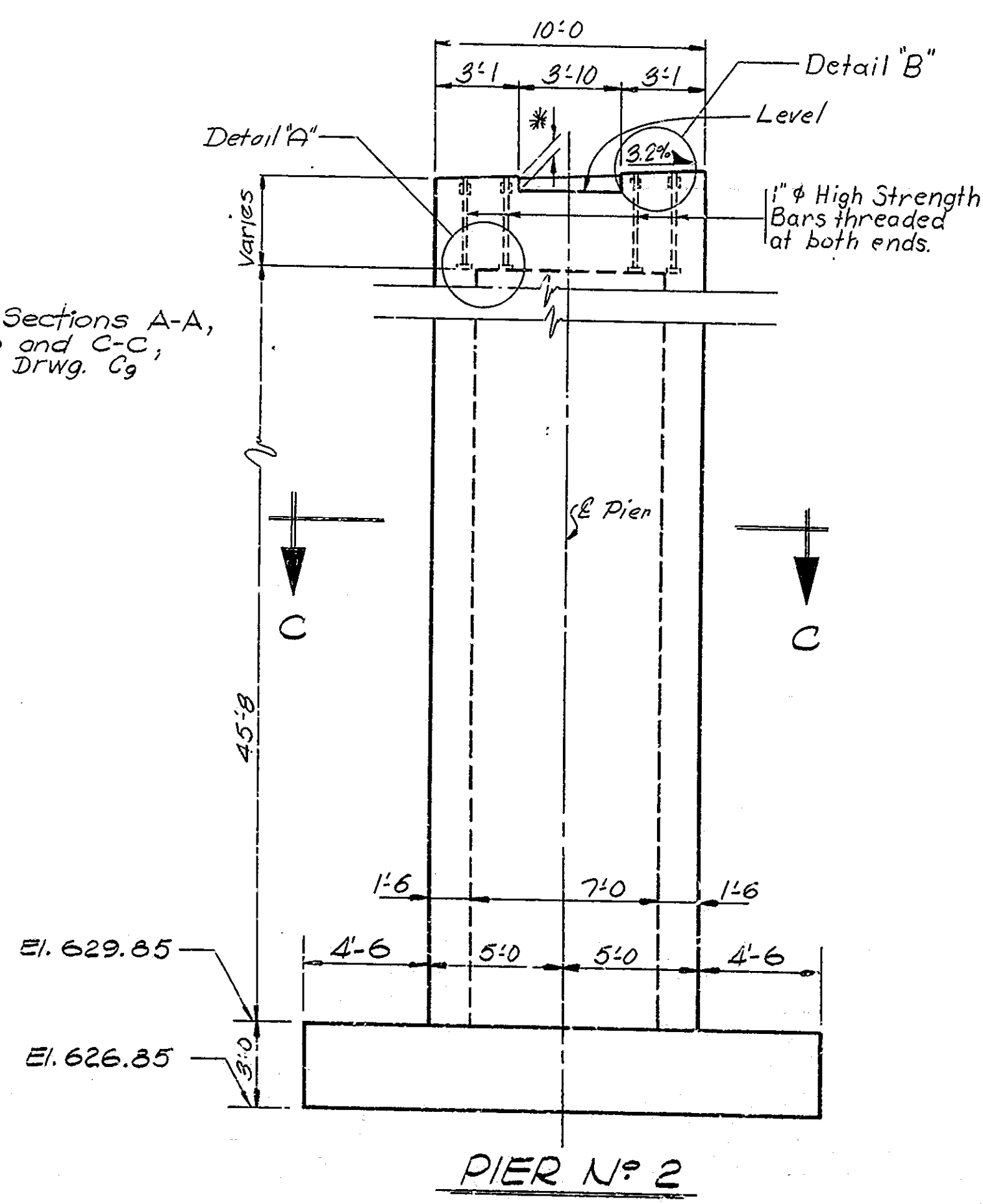
DESIGNED: FAB CWD JHA B-78
DRAWN: CWO A-13 CWD FAB B-78
TRACED: CWD



Elevation of Bottom of Recesses

El. A	El. B	El. C	El. D
678.28	678.38	684.36	684.46

Note: For Sections A-A, B-B and C-C, See Drwg. C₉



BILL OF MATERIALS

PIER # 2

REINFORCING STEEL	SIZE & MARK	No. of Bars	LENGTH	WEIGHT (lbs)
	1001	90	21'-4"	8262
	802	38	20'-8"	2097
	701	76	6'-0"	
	#7	132	25'-6"	
	#7	132	25'-3"	
	#7	56	5'-2"	
	TOTAL #7			15216
	#6	40	9'-6"	571
	407	192	11'-0"	
	408	195	11'-2"	
	409	16	4'-3"	
	TOTAL #4			2911
	TOTAL STEEL			29057
	CONCRETE			
	Class 'A' in Substructure			
	Cap		11.5 Cys.	
	Class 'B' above Footing			
	Stem (top)		43.3 Cys.	
	Stem (bott)		43.0 Cys.	
	Total Class 'B' above Footing		86.3 Cys.	
	Class 'B' in Footing		401 Cys.	
	MISCELLANEOUS			
	* 'B' Borrow		82.9 Cys.	

PIER # 3

REINFORCING STEEL	SIZE & MARK	No. of Bars	LENGTH	WEIGHT (lbs)
	1001	90	21'-4"	8262
	802	38	20'-8"	2097
	701	76	6'-0"	
	#7	132	25'-3"	
	#7	132	20'-6"	
	#7	56	5'-2"	
	TOTAL #7			13867
	#6	40	9'-6"	571
	407	172	11'-0"	
	408	175	11'-2"	
	409	16	4'-3"	
	TOTAL #4			2615
	TOTAL STEEL			27412
	CONCRETE			
	Class 'A' in Substructure			
	Cap		11.5 Cys.	
	Class 'B' above Footing			
	Stem (top)		39.8 Cys.	
	Stem (bott)		43.0 Cys.	
	Total Class 'B' above Footing		76.8 Cys.	
	Class 'B' in Footing		401 Cys.	
	MISCELLANEOUS			
	* 'B' Borrow		73.8 Cys.	

* 'B' Borrow to be dry sand. Compaction not required.

PIER #2 & PIER #3
DETAILS
WESTBOND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/2" = 1'-0" (Unless Noted) DATE: DECEMBER 26, 1973

DESIGNED: FAB CKD JHA 3-73
DRAWN: A-18 CKD EDB R-13
TRACED: CKD

Rev. 10-21-74 Elevations of Bott of recesses added.
Rev. 6-28-74 Location of restraining bars; restraint bar anchorage; 'B' Borrow note; Detail 'B' added.

William B. Abbott
REGISTERED PROFESSIONAL ENGINEER
No. 8643
STATE OF INDIANA

DRAWING: C₈ OF 49 SHEET: 16A OF 99
PROJECT: ST-151E Prefab. RF-151(12) Const.
CONTRACT NO. B-9658 Prefab. B-9818 Const.
BRIDGE FILE: 50-40-917A

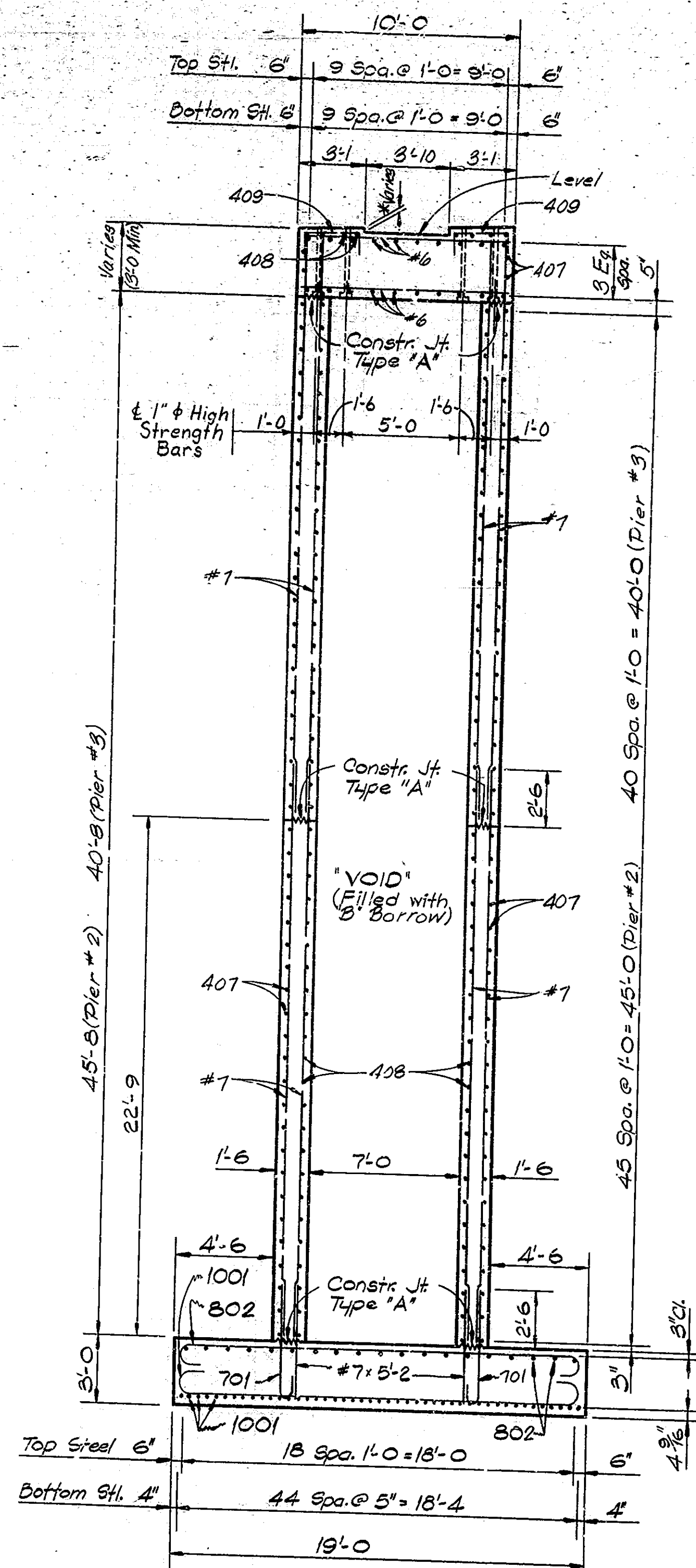
DESIGNED: FAB CKD JHA 3-73
DRAWN: A-18 CKD EDB R-13
TRACED: CKD

* Depth of recess should be provided according to the details of the flat jack assembly (See Drwg. C₁₄).

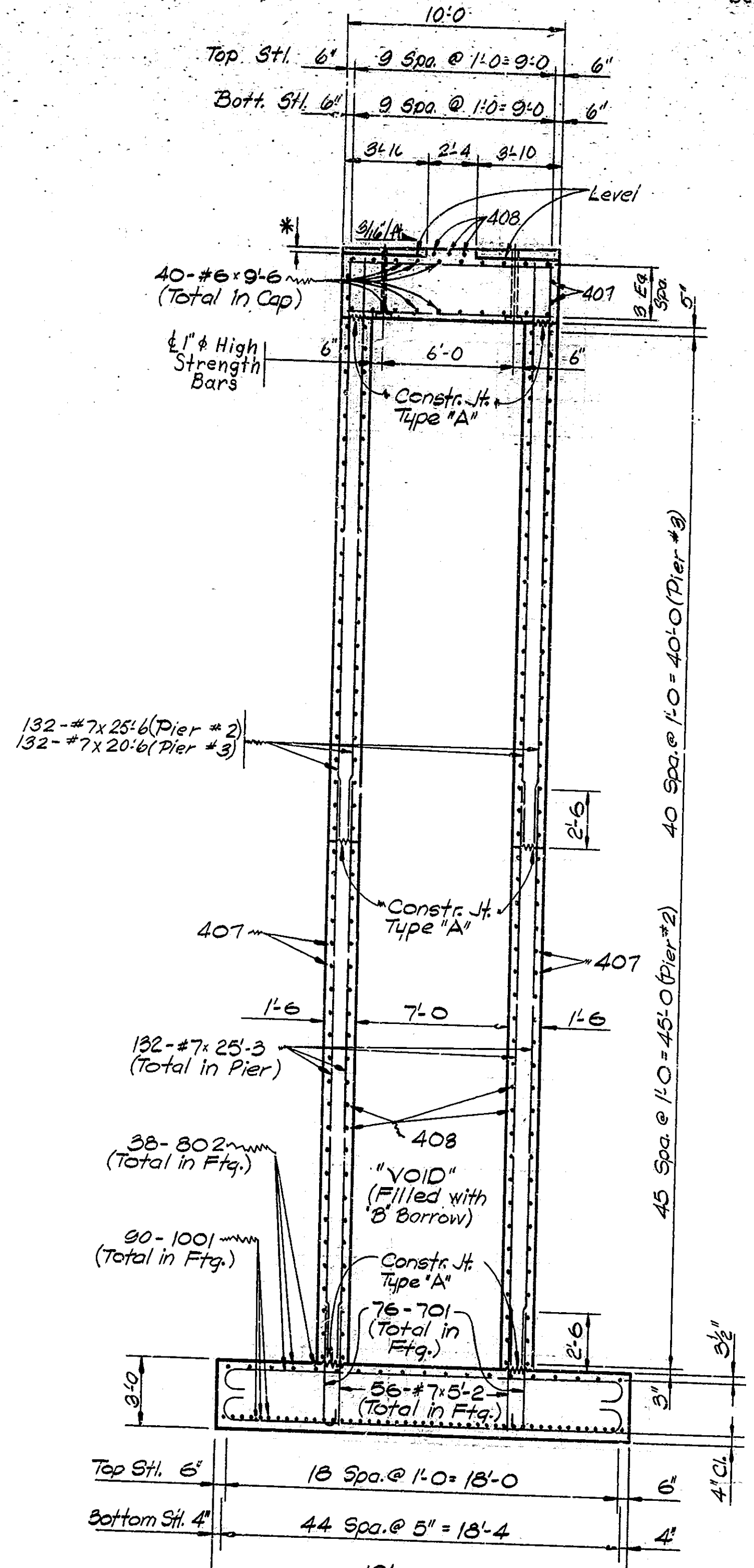
Note: The high strength bars to have a minimum ultimate strength of 150 KSI or greater.

* Depth of recess should be provided according to details of the flat jack assembly (See DWG. C-10).

Note: See DWG. C-9 for location of Sections A-A, B-B and C-C.

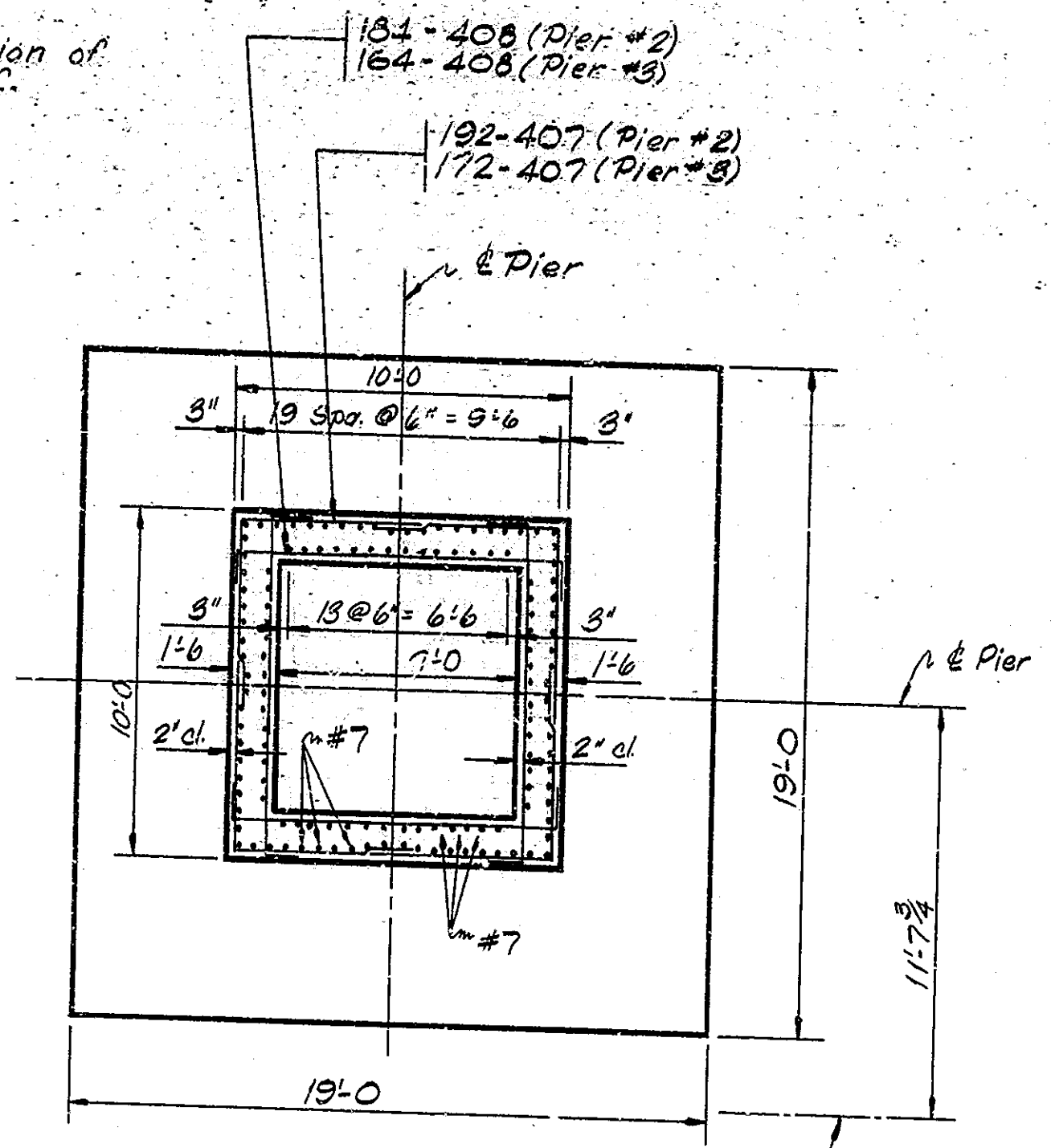


SECTION A-A
(Parallel to & Rdwy)

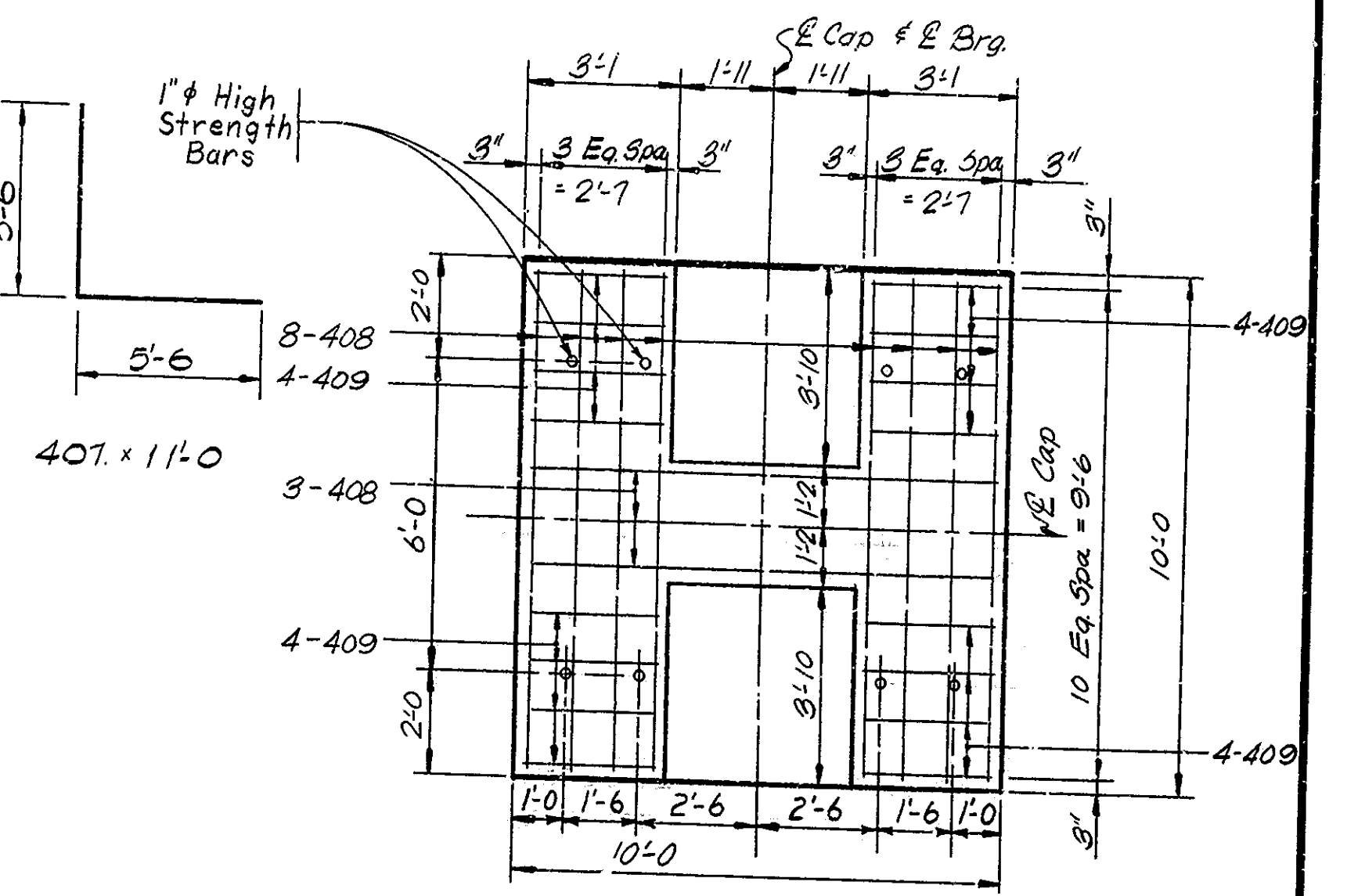


SECTION B-B
(Perpendicular to & Rdwy)

Max. Soil Pressure = 8.15 tons/Sq. Ft.



SECTION C-C

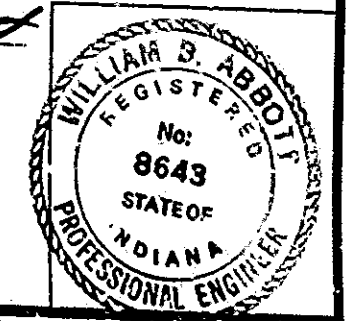


CAP PLAN
Showing location of #4 bars in top. Scale: 3/8" = 1'-0"

PIER N^o 2 & PIER N^o 3
DETAILS
WESTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/4" = 1'-0" (Unless Noted) DATE: DECEMBER 26, 1973

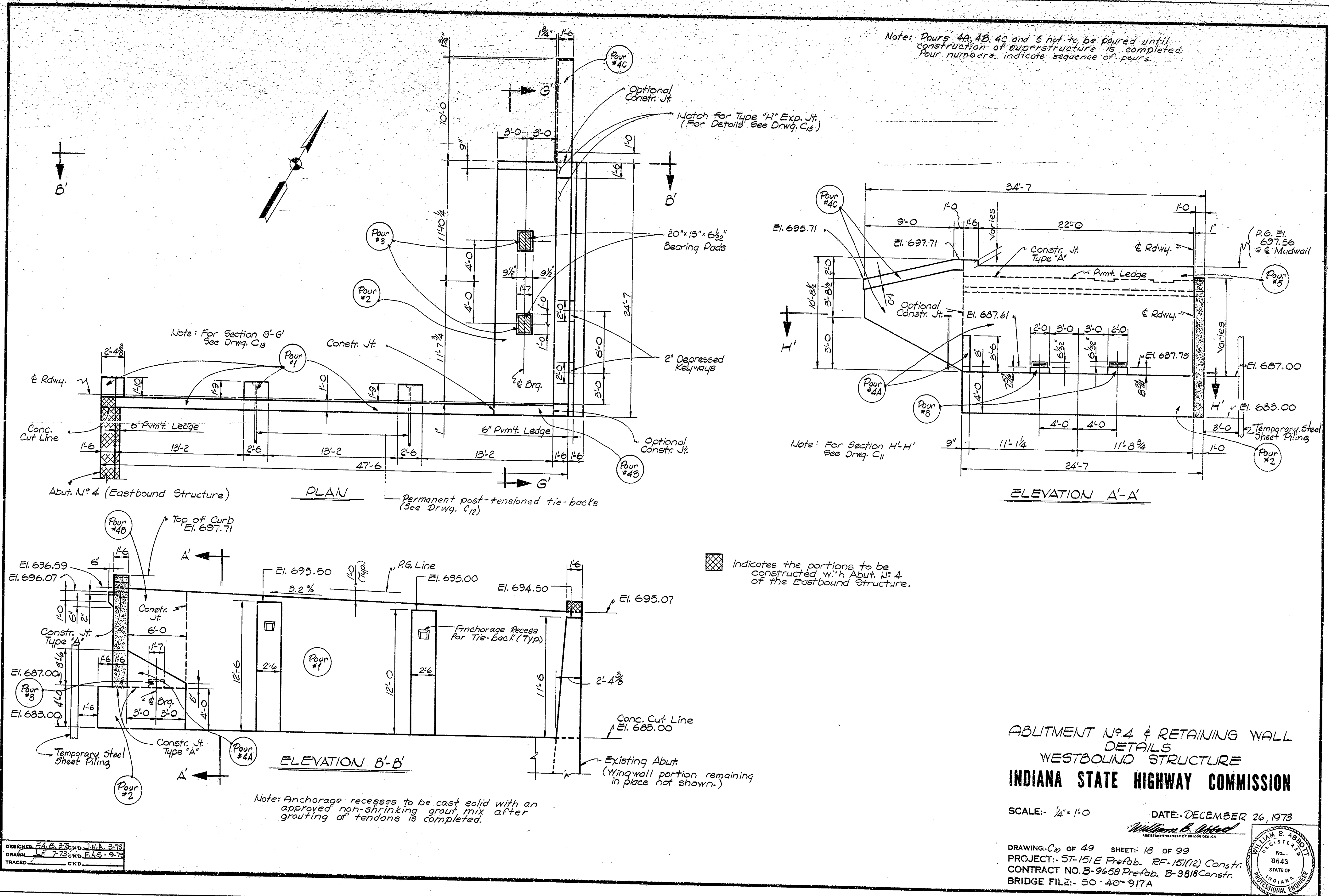
DRAWING: C-9 OF 49 SHEET: 17 OF 99
PROJECT: RF-151 (12)
CONTRACT NO. B-9318
BRIDGE FILE: 50-40-97A

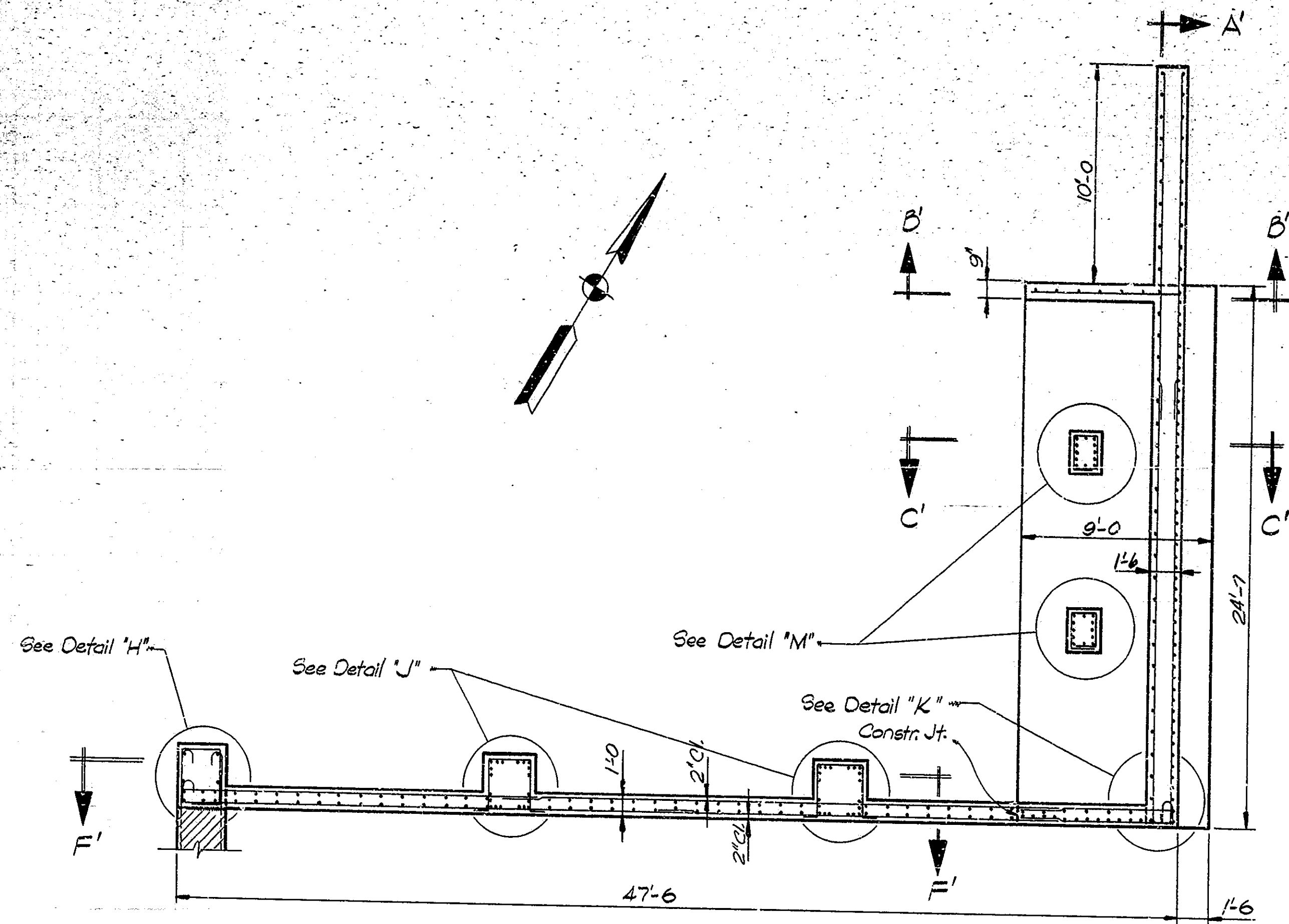


DESIGNED: F.A.B. C.K.D. J.H.S. 3/73
DRAWN: M.A.D. C.K.D. F.A.B. 8/73
TRACED: C.K.D.

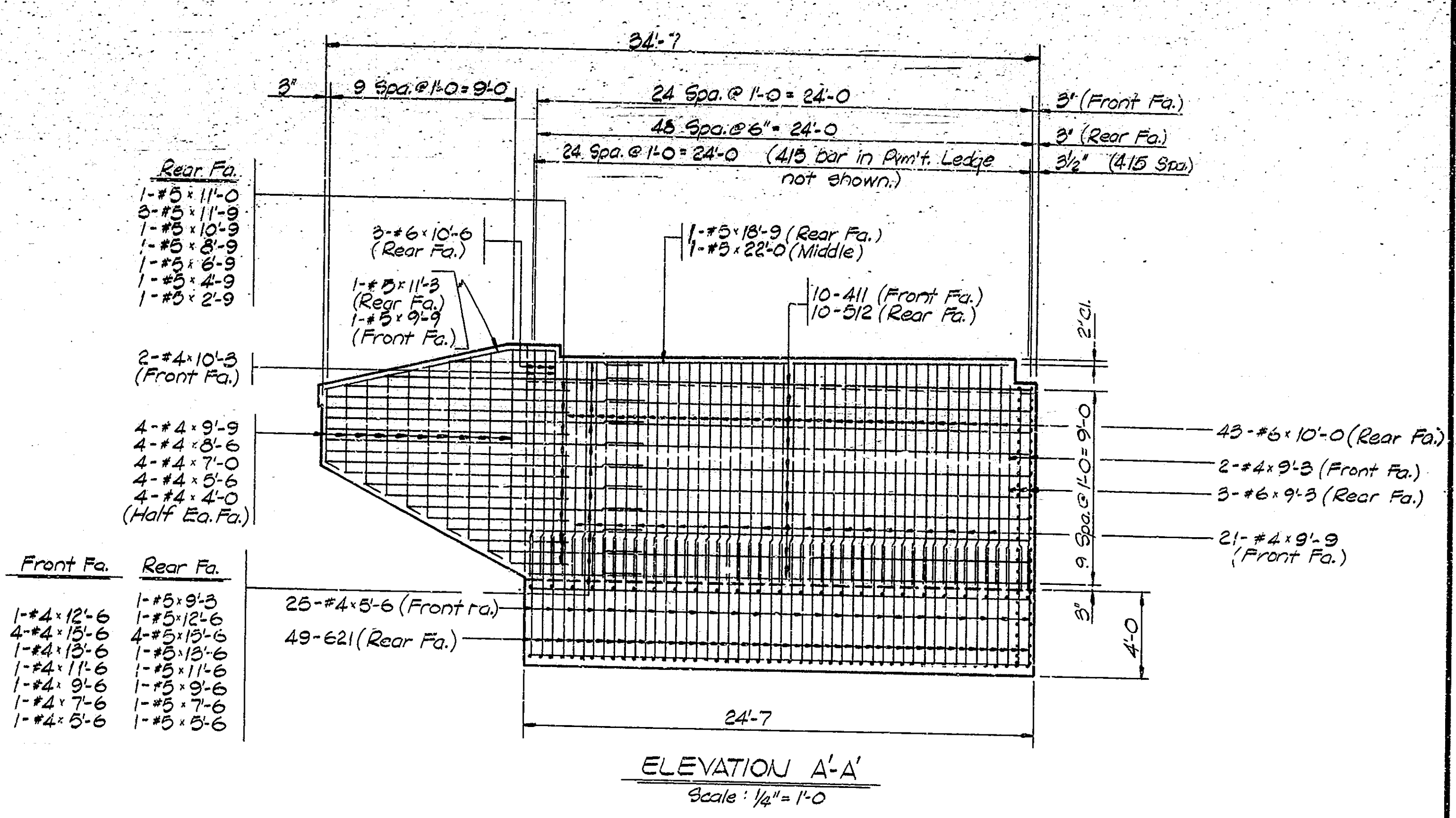
Note: See Br. Std. C1 for Reinf. Bar notes.

Rev. 6-28-74 Location of restraining bars; 2 1/4" I.D. ducts removed.

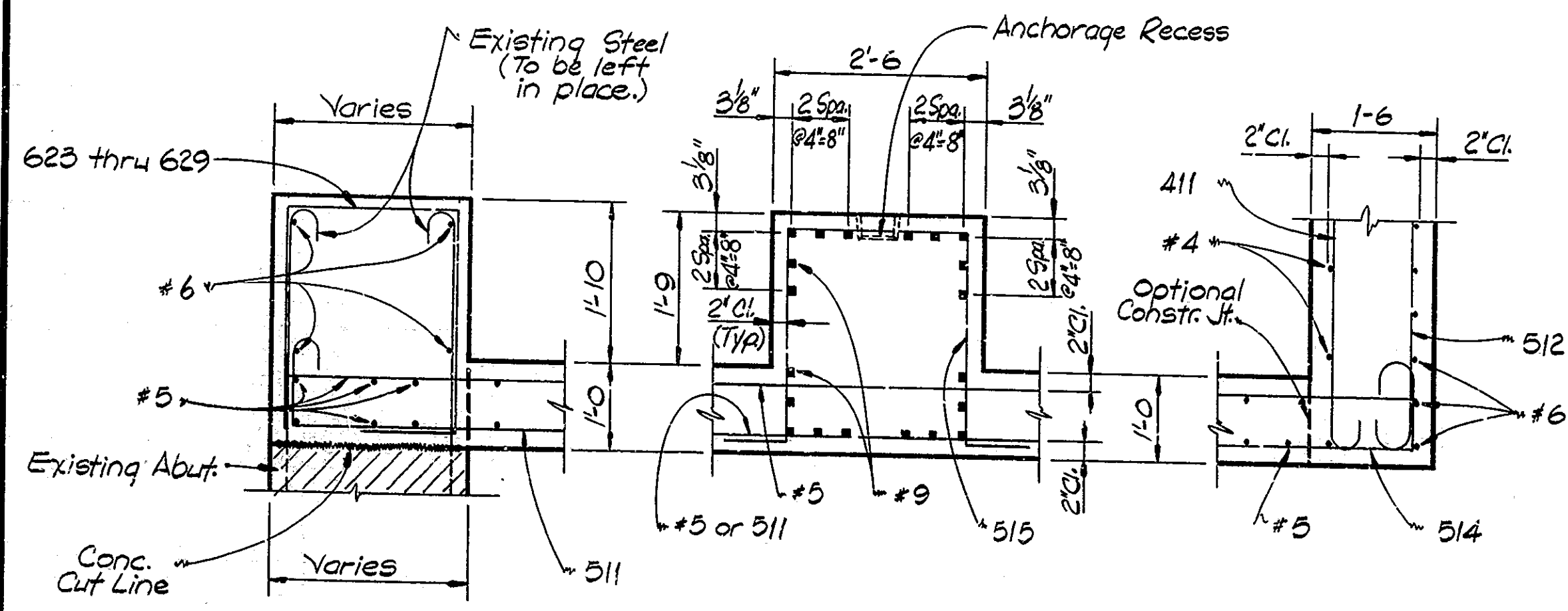




Note: For Section F-F', See Drwg. C12
SECTION H-H'
 (See Drwg. C10 for Location)
 Scale: 1/4" = 1'-0"



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

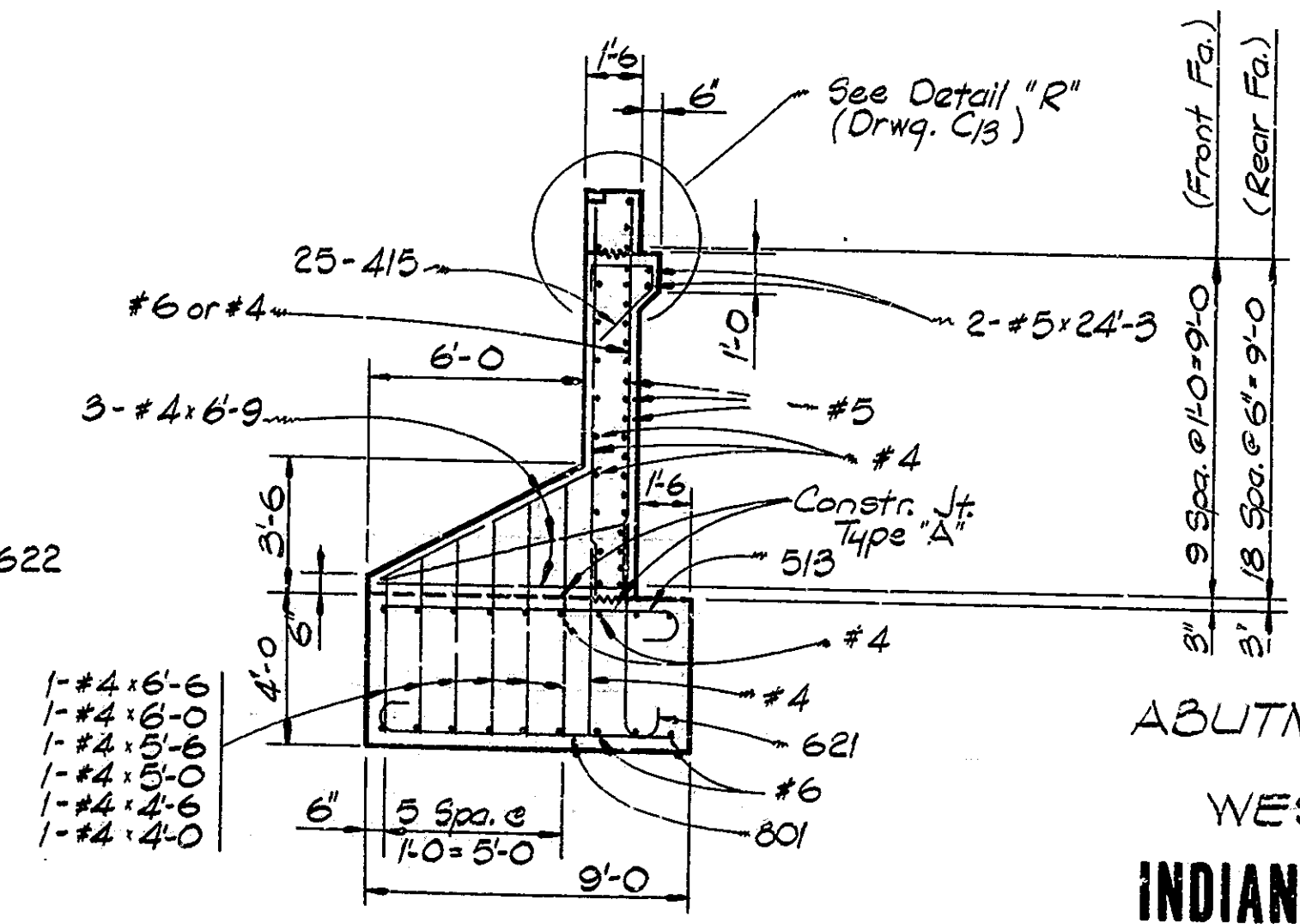


DETAIL "H"
 Scale: 3/4" = 1'-0"

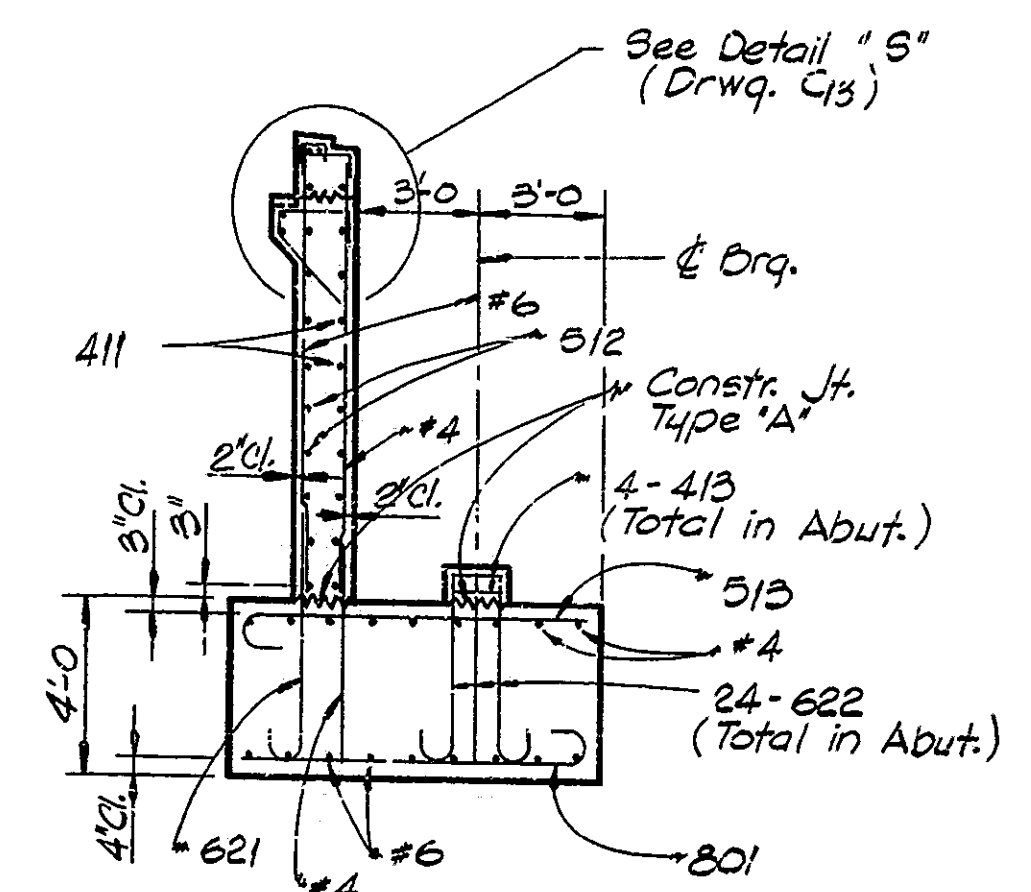
DETAIL "J"
 Scale: 3/4" = 1'-0"

DETAIL "K"
 Scale: 3/4" = 1'-0"

DETAIL "M"
 Scale: 3/4" = 1'-0"



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



SECTION C-C'
 Scale: 1/4" = 1'-0"
 (Max. Soil Pressure = 6.0 Tons/sq ft.)

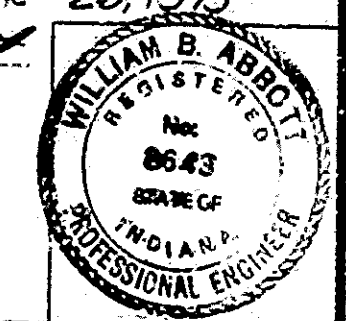
**ABUTMENT NO. 4 & RETAINING WALL
 DETAILS
 WESTBOUND STRUCTURE
 INDIANA STATE HIGHWAY COMMISSION**

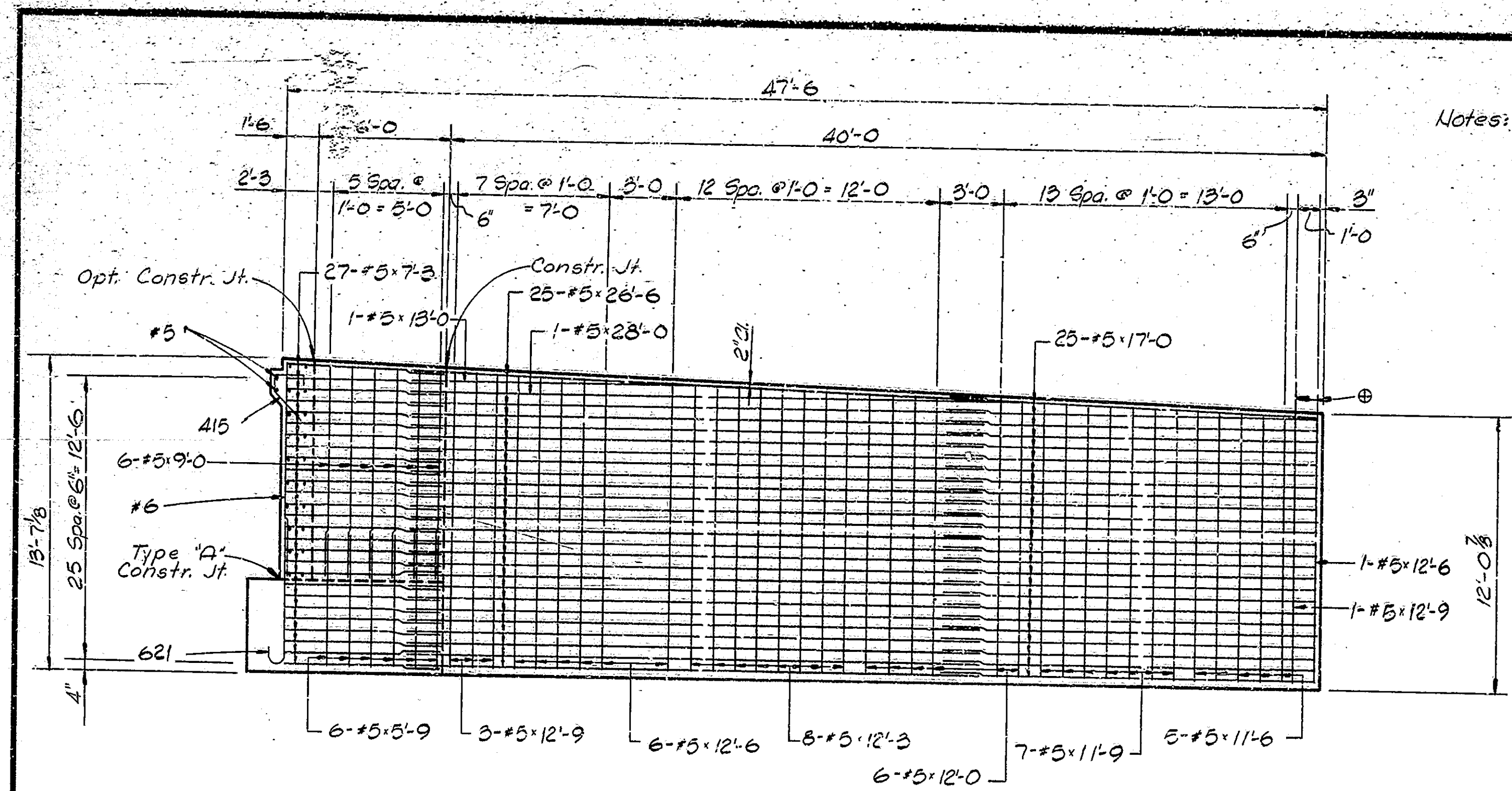
SCALE: As Noted DATE: DECEMBER 26, 1923

DESIGNED: F.A.B. 9-72 C.W.D. J.H.A. 9-72
 DRAWN: J.H.A. 9-72 C.W.D. F.A.B. 9-72
 TRACED: C.W.D.

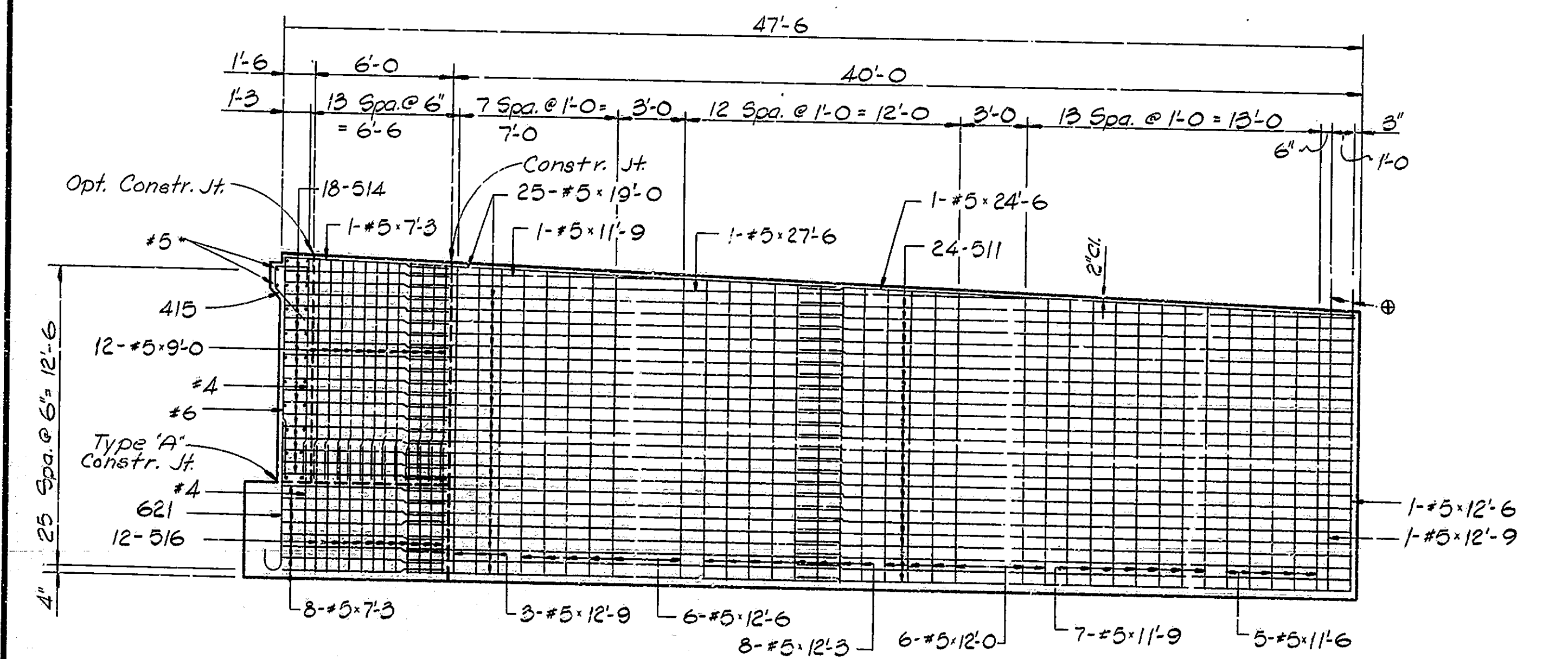
Note: See Br. Std. C1 for Reinf. Bar notes.

DRAWING: C11 OF 49 SHEET: 10 OF 99
 PROJECT: 27-151 (12)
 CONTRACT NO. B-9818
 BRIDGE FILE: 50-40-917 A





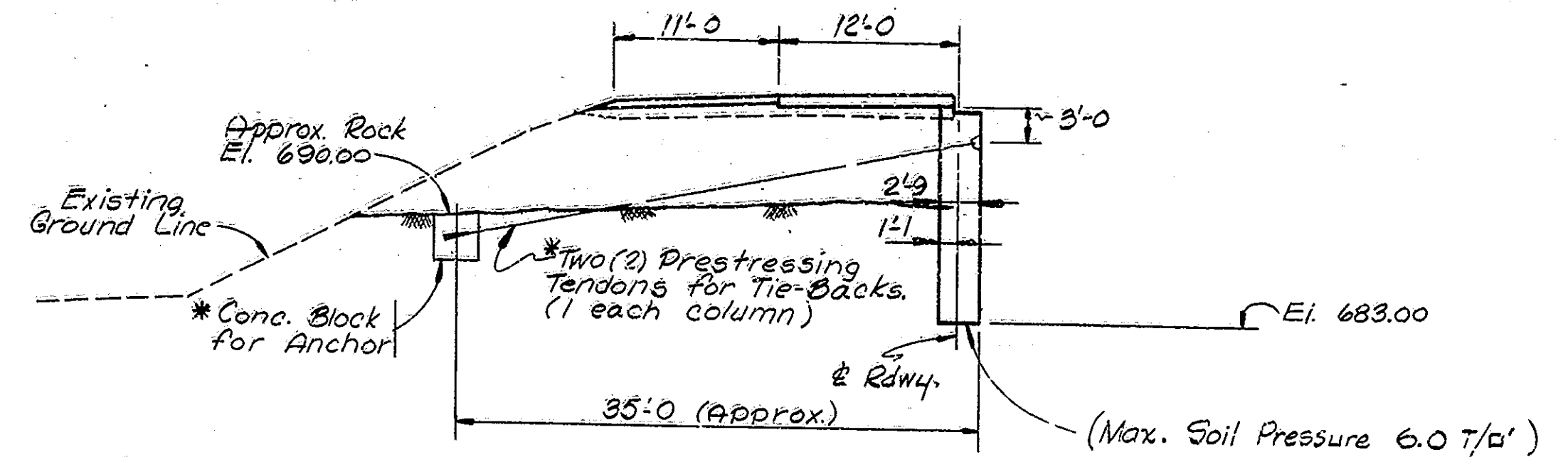
RETAINING WALL SHOWING FRONT FACE STEEL
(Column Steel Not Shown)
Scale: 1/4" = 1'-0"



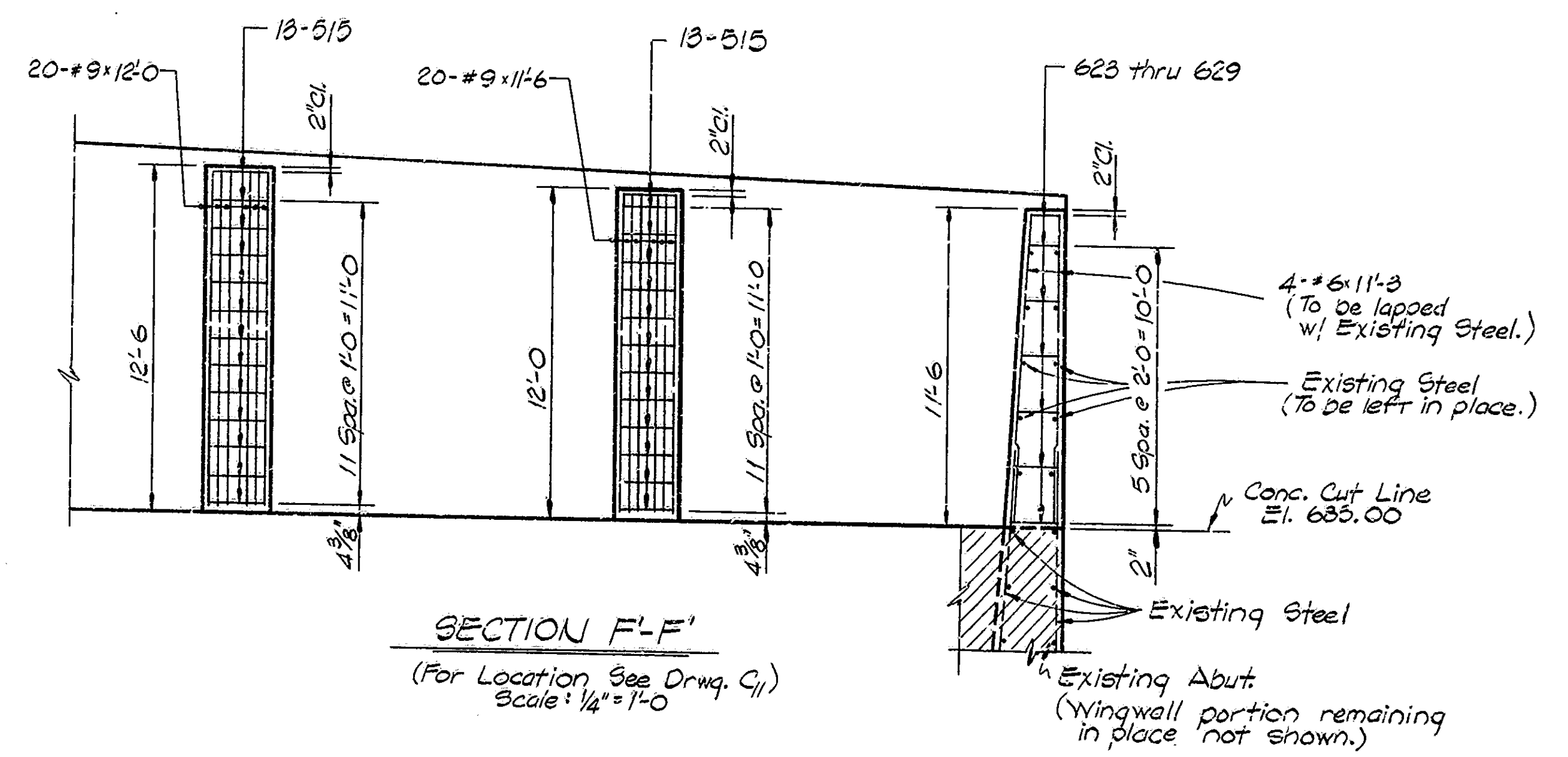
RETAINING WALL SHOWING REAR FACE STEEL
(Column Steel Not Shown)
Scale: 1/4" = 1'-0"

Notes: The Contractor shall determine and submit to the Engineer details of a proposed plan for backfilling and post-tensioning tie-back tendons in stages.
Concrete compressive strength to be 3000 psi at time of post-tensioning.
Concrete stresses under anchorage bearing plates shall not exceed 1800 psi.

* Required effective force in each tendon after all losses = 41k.
The Contractor will provide the design of post-tensioning tendons and their anchorages. Cost of anchorage hardware including additional reinforcing steel required for anchorage zones, steel and concrete for anchorage in rock, ducts, boring through soil and rock, tendons, post-tensioning and grouting shall be included in the cost of each of the six (6) tie-backs in the structure. The General Notes on Drwg. C2 shall also be followed where applicable.



SECTION THROUGH SUPPORT COLUMN
(Perpendicular to Rdw. & C of Column ~ Typ. Ea. Column)
Scale: 1/8" = 1'-0"



SECTION F-F'
(For Location See Drwg. C1)
Scale: 1/4" = 1'-0"

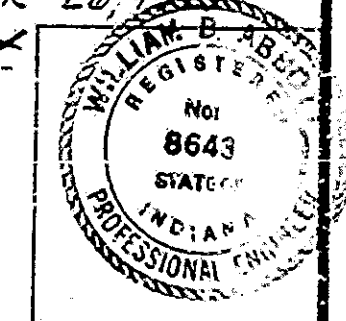
⊕ Indicates reinforcement to be extended above top of retaining wall into new mudwall of Abutment No. 4 Eastbound Structure (See Drwg. C34)

ABUTMENT NO. 4 & RETAINING WALL
DETAILS
WESTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: As Noted DATE: DECEMBER 26, 1933

DESIGNED: F.A.B. 3-78 CK'D: J.H.A. 3-78
DRAWN: M.B. 8-72 CK'D: F.A.B. 9-18
TRACED: CK'D

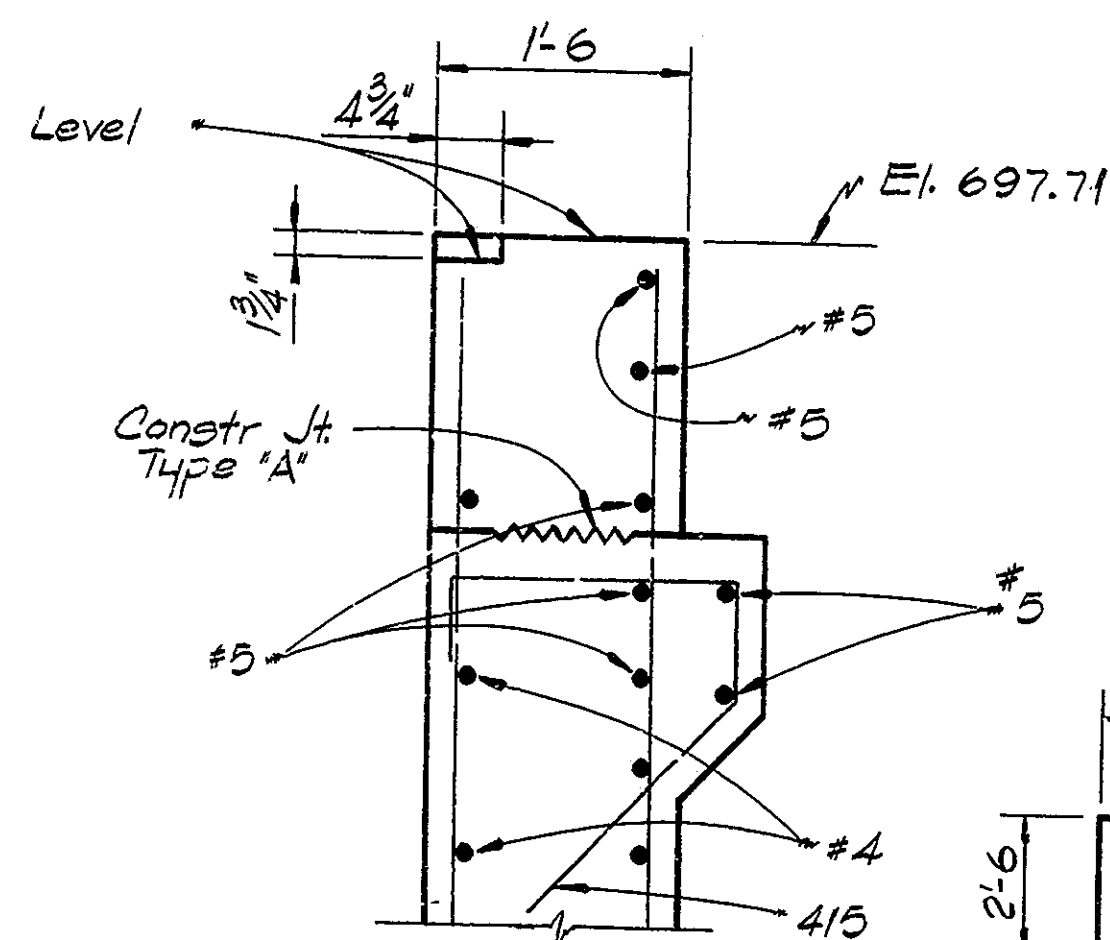
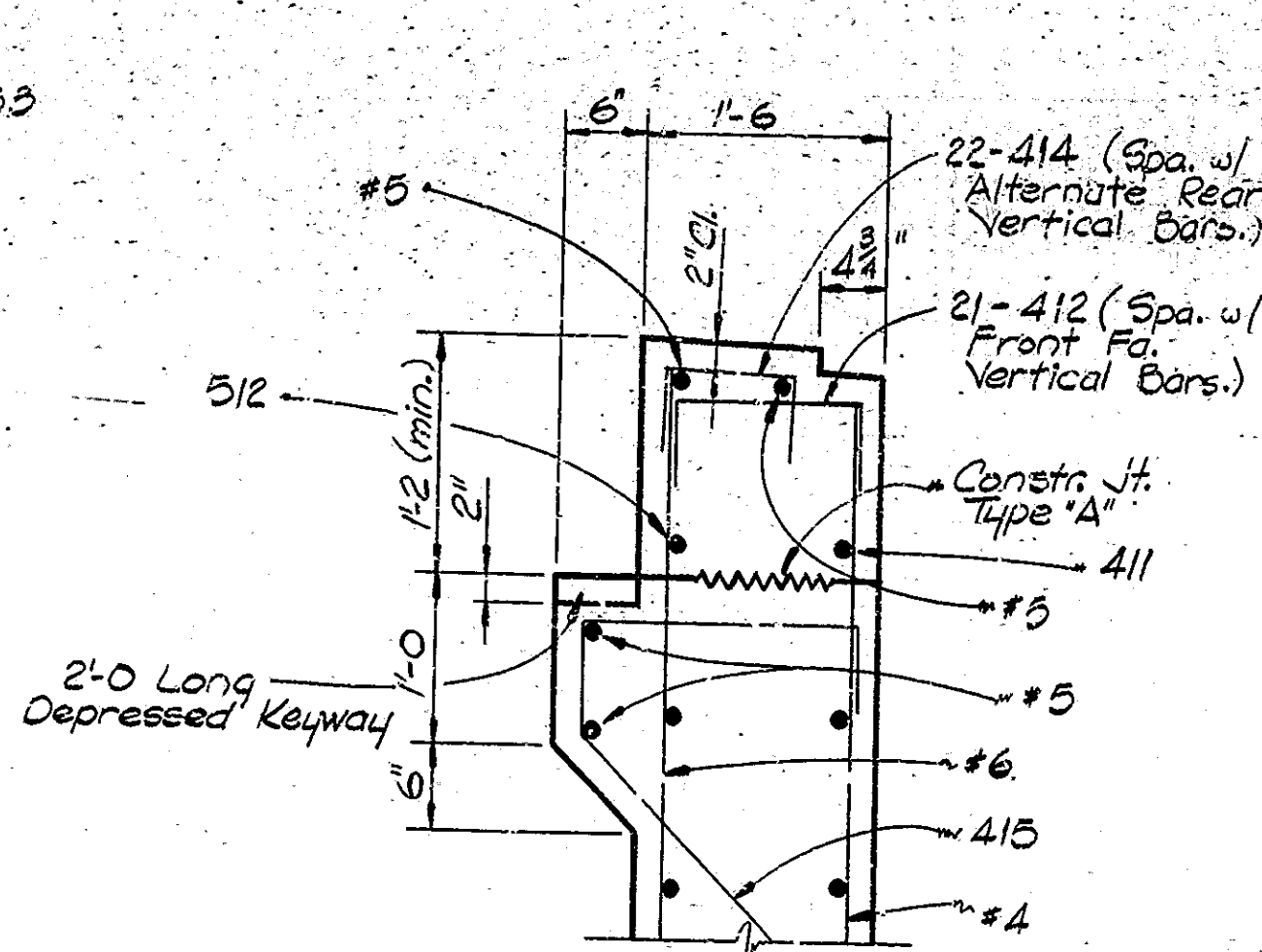
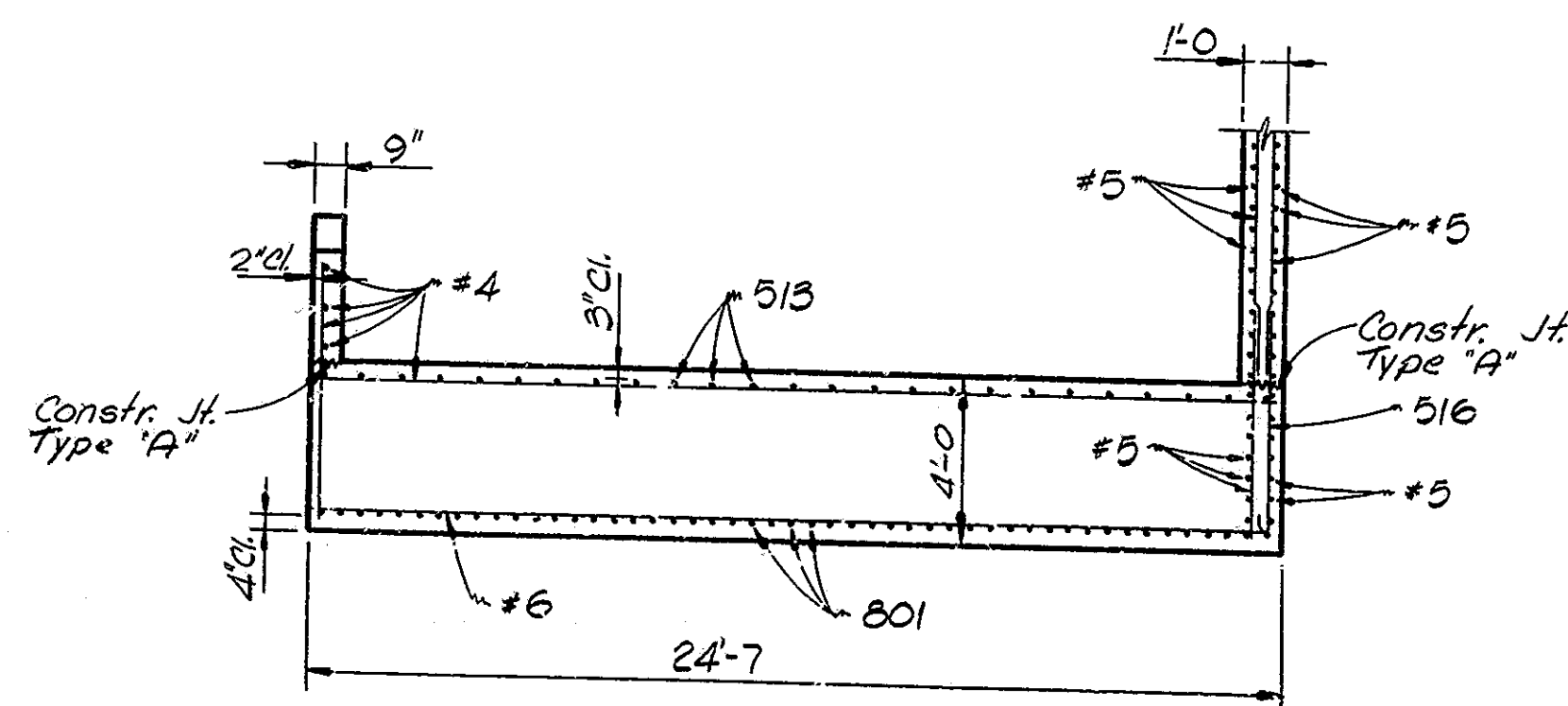
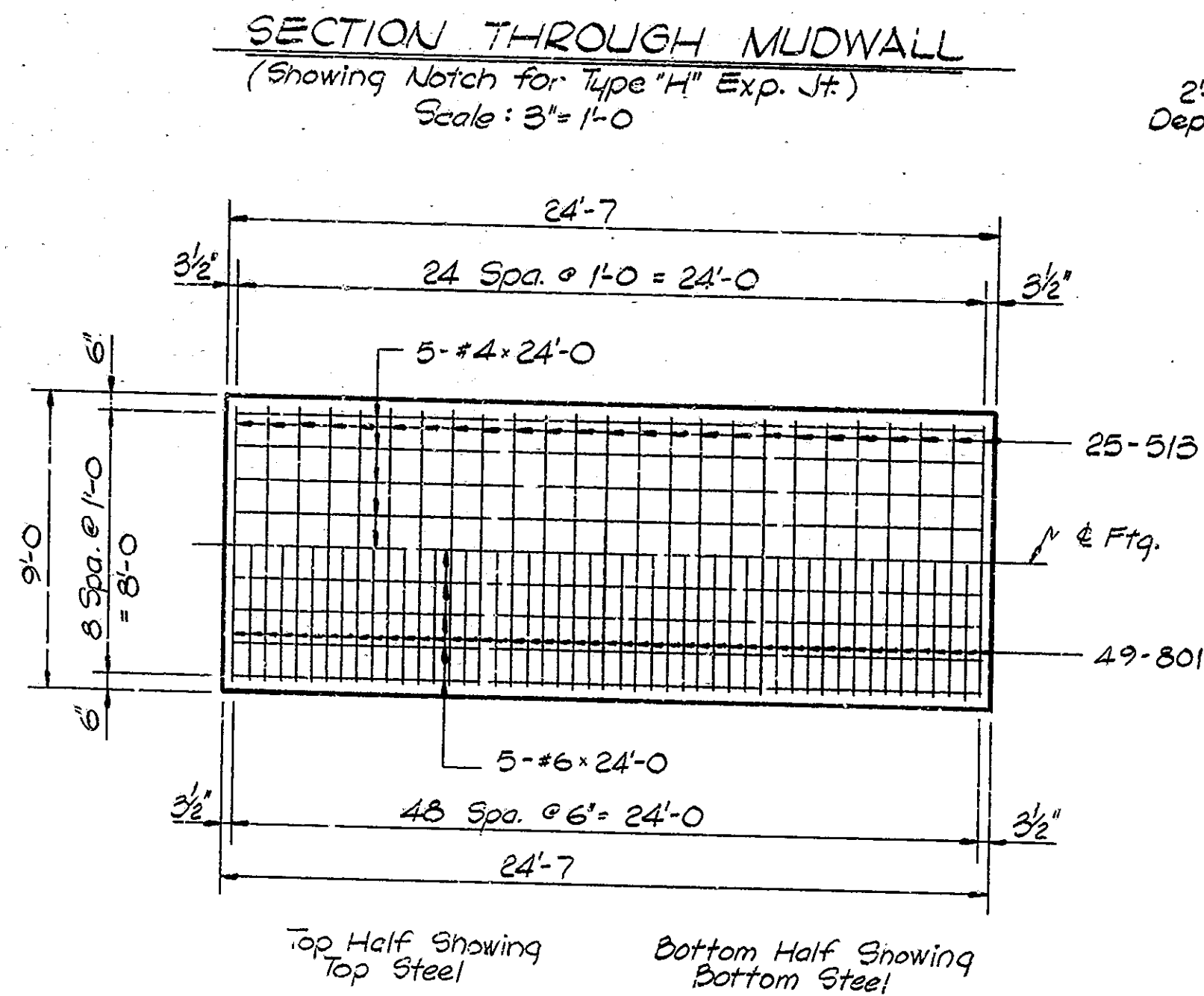
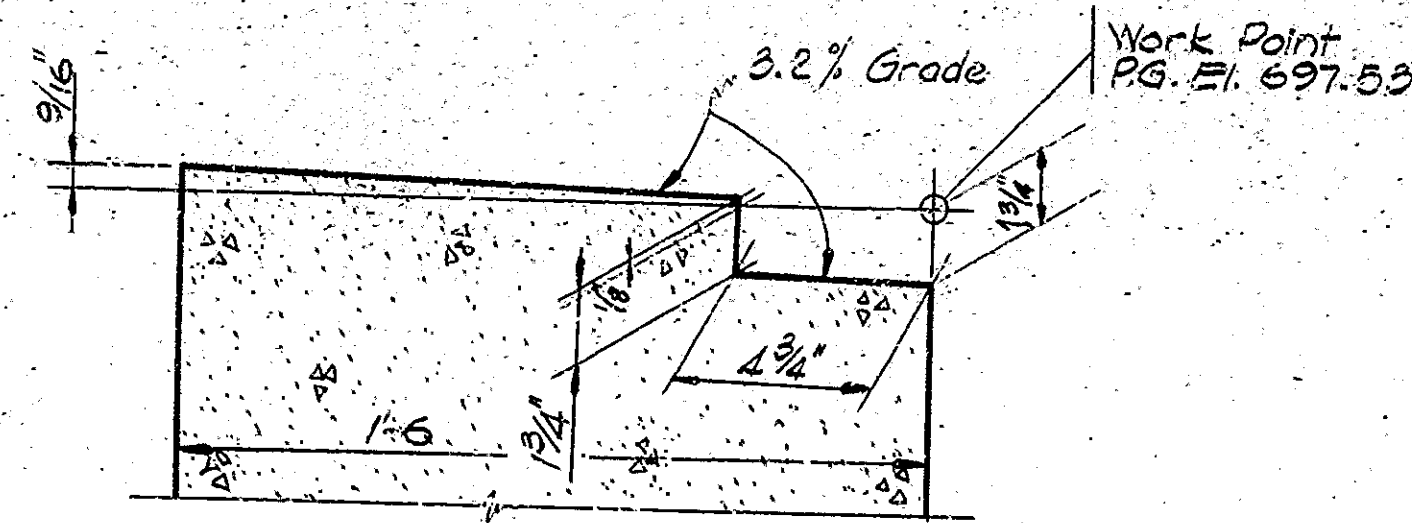
PROJECT: RF-131 (12)
CONTRACT NO. B-9818
BRIDGE FILE: 50-40-917A



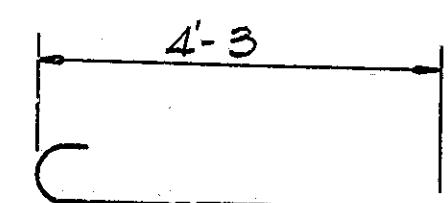
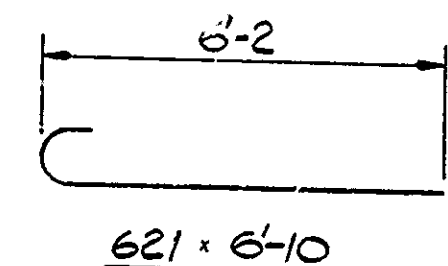
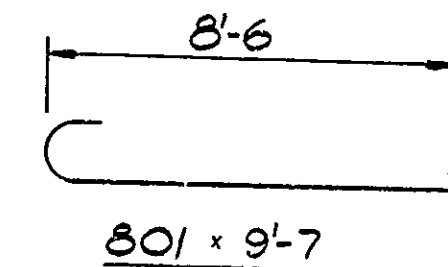
DESIGNED: F.A.B. 3-78 CK'D: J.H.A. 3-78
DRAWN: M.B. 8-72 CK'D: F.A.B. 9-18
TRACED: CK'D

Note: See Dr. Sfd. C1 for Reinf. Bar notes.

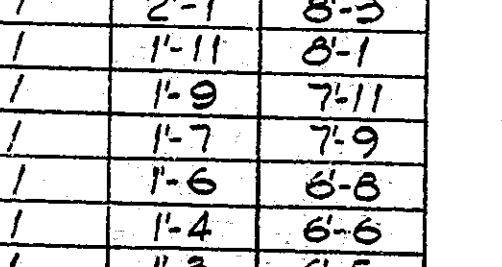
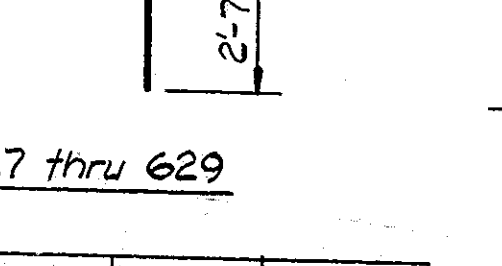
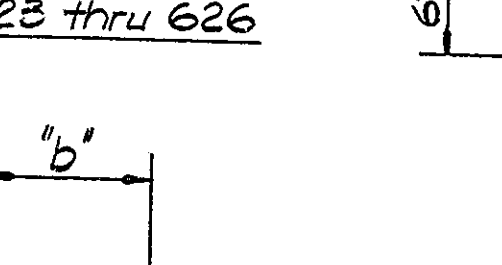
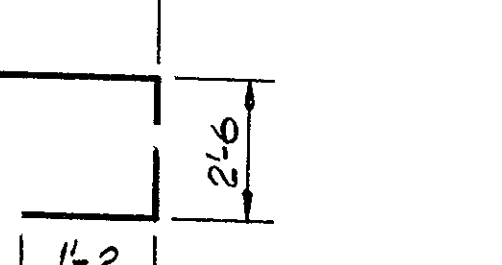
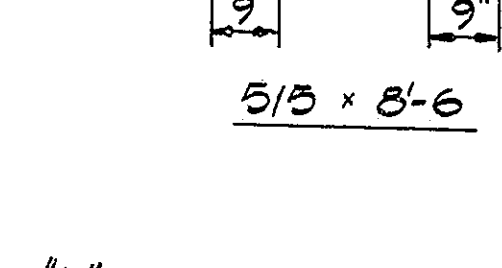
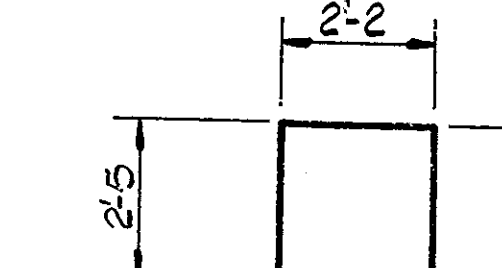
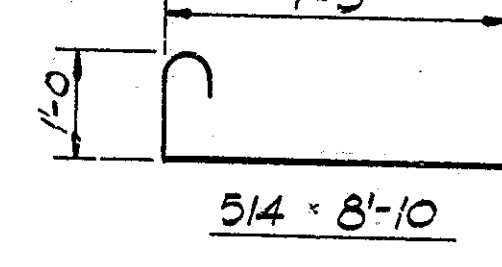
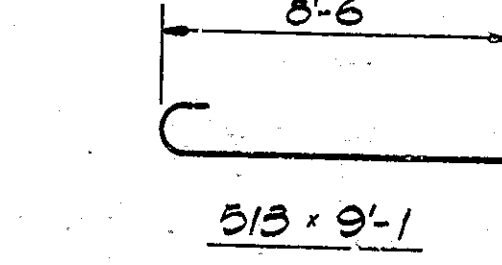
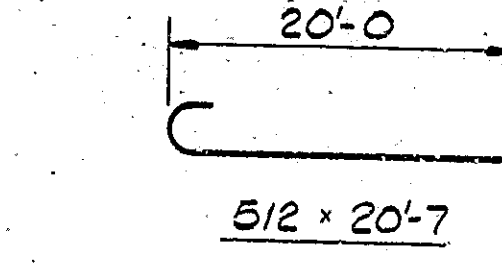
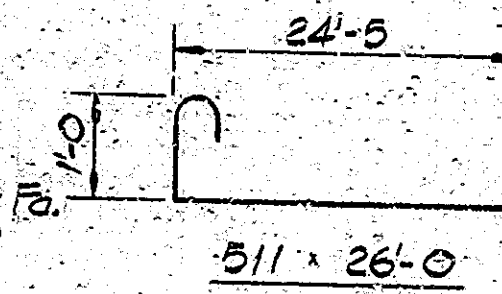
Note: See Drwg. C₉₉ for Expansion Joint Details.



DETAIL 'R' Scale: 1" = 1'-0"



622 x 4'-11



Mark	No. Bars	"b"	Length
623	1	2'-1	8'-3
624	1	1'-11	8'-1
625	1	1'-9	7'-11
626	1	1'-7	7'-9
627	1	1'-6	6'-8
628	1	1'-4	6'-6
629	1	1'-3	6'-5

BILL OF MATERIALS (CONT.)

REINFORCING STEEL			
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT (lbs.)
#5	18	11-9	
	11	11-6	
	7	11-3	
	1	11-0	
	1	10-9	
	1	9-9	
	1	9-6	
	1	9-3	
	18	9-0	
	1	8-9	
	1	7-6	
	36	7-3	
	1	6-9	
	6	5-9	
	1	5-6	
	1	4-9	
#5	1	2-9	
		TOTAL #5	5063
411	10	20-6	
412	21	21-2	
413	4	21-10	
414	22	11-9	
415	25	4-7	
#4	9	24-0	
	4	15-6	
	1	15-6	
	1	12-6	
	2	11-6	
	29	9-9	
	2	9-6	
	4	8-6	
	4	7-6	
	3	7-0	
	1	6-9	
	1	6-6	
	31	5-6	
	1	5-0	
#4	5	4-6	
		TOTAL #4	896
TOTAL STEEL 10696			
CONCRETE			
Class 'A' in Substructure			
Four #1	24.3 Cys.		
Four #3	0.2 Cys.		
Four #4A	13.3 Cys.		
Four #4B	2.1 Cys.		
Four #4C	4.1 Cys.		
Four #5	1.8 Cys.		
Total Class 'A'	45.8 Cys.		
Class 'B' in Footing			
Four #2	32.8 Cys.		
MISCELLANEOUS			
Tie-Backs	2 each		

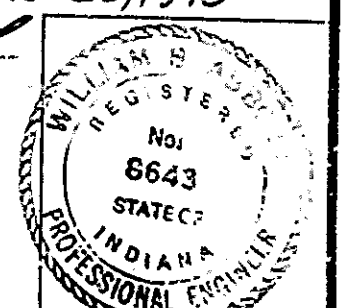
BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT (lbs.)
#9	20	12-0	
#9	20	11-6	
TOTAL #9 1598			
801	49	9-7	1254
621	49	6-10	
622	24	4-11	
623	1	8-3	
624	1	8-1	
625	1	7-11	
626	1	7-9	
627	1	6-8	
628	1	6-6	
629	1	6-5	
#6	9	24-0	
	4	11-3	
	3	10-6	
#6	43	10-0	
	3	9-3	
TOTAL #6 1885			
511	24	26-0	
512	10	20-7	
513	25	9-1	
514	16	8-10	
515	26	8-6	
516	12	6-3	
#5	1	28-0	
	1	27-6	
	25	26-6	
	7	24-6	
	2	24-3	
	7	22-0	
	25	19-0	
	1	18-9	
	25	17-0	
	4	15-6	
	7	13-6	
	1	13-0	
	8	12-9	
	15	12-6	
#5	16	12-3	
	12	12-0	

ABUTMENT NO. 4 & RETAINING WALL
DETAILS
WESTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: As Noted DATE: DECEMBER 26, 1978

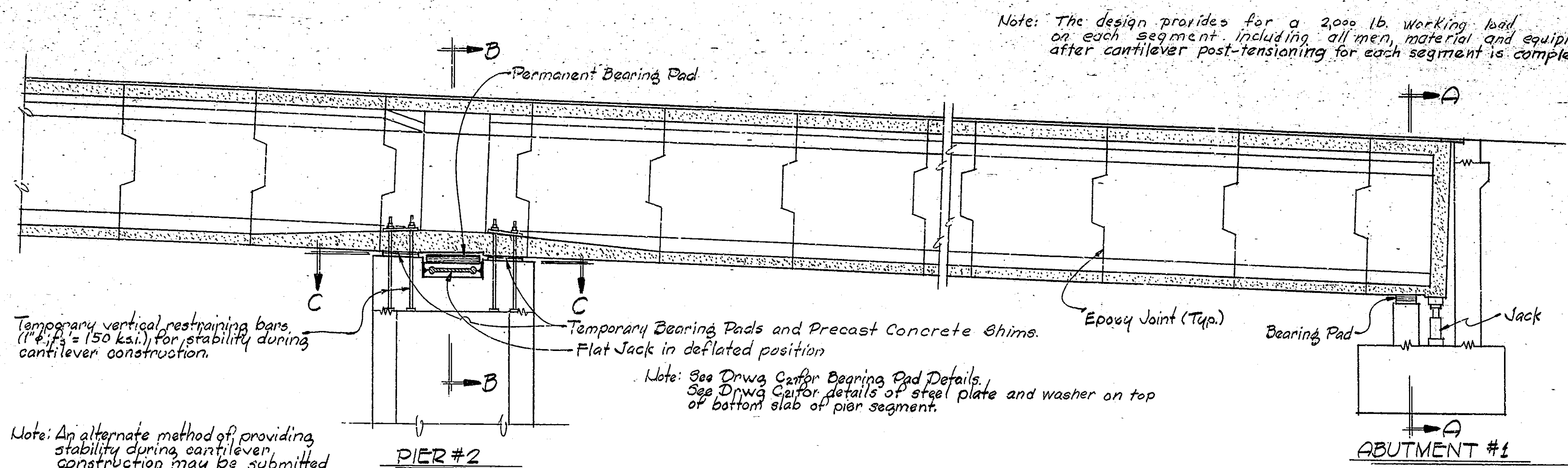
DRAWING: C₁₈ OF 49 SHEET: 21 OF 99
PROJECT: 2F-151 (12)
CONTRACT NO. 8-9818
BRIDGE FILE: 50-40-917A



DESIGNED F.A.B. 3-73 C.K.W. L.H.A. 3-73
DRAWN W.B. 3-73 C.K.W. F.A.B. 3-73
TRACED C.K.W.

Note: See Dr. Std. C₁ for Reinf. Bar notes.

Note: See Drwg. C₉₉ for Location of Section G-G'.
See Drwg. C₁₀₀ for Location of Details 'R' & 'S'.



Note: The design provides for a 2,000 lb. working load on each segment. Including all men, material and equipment after cantilever post-tensioning for each segment is completed.

Temporary vertical restraining bars (1" dia. x 150 ksi.) for stability during cantilever construction.

Note: An alternate method of providing stability during cantilever construction may be submitted for approval.

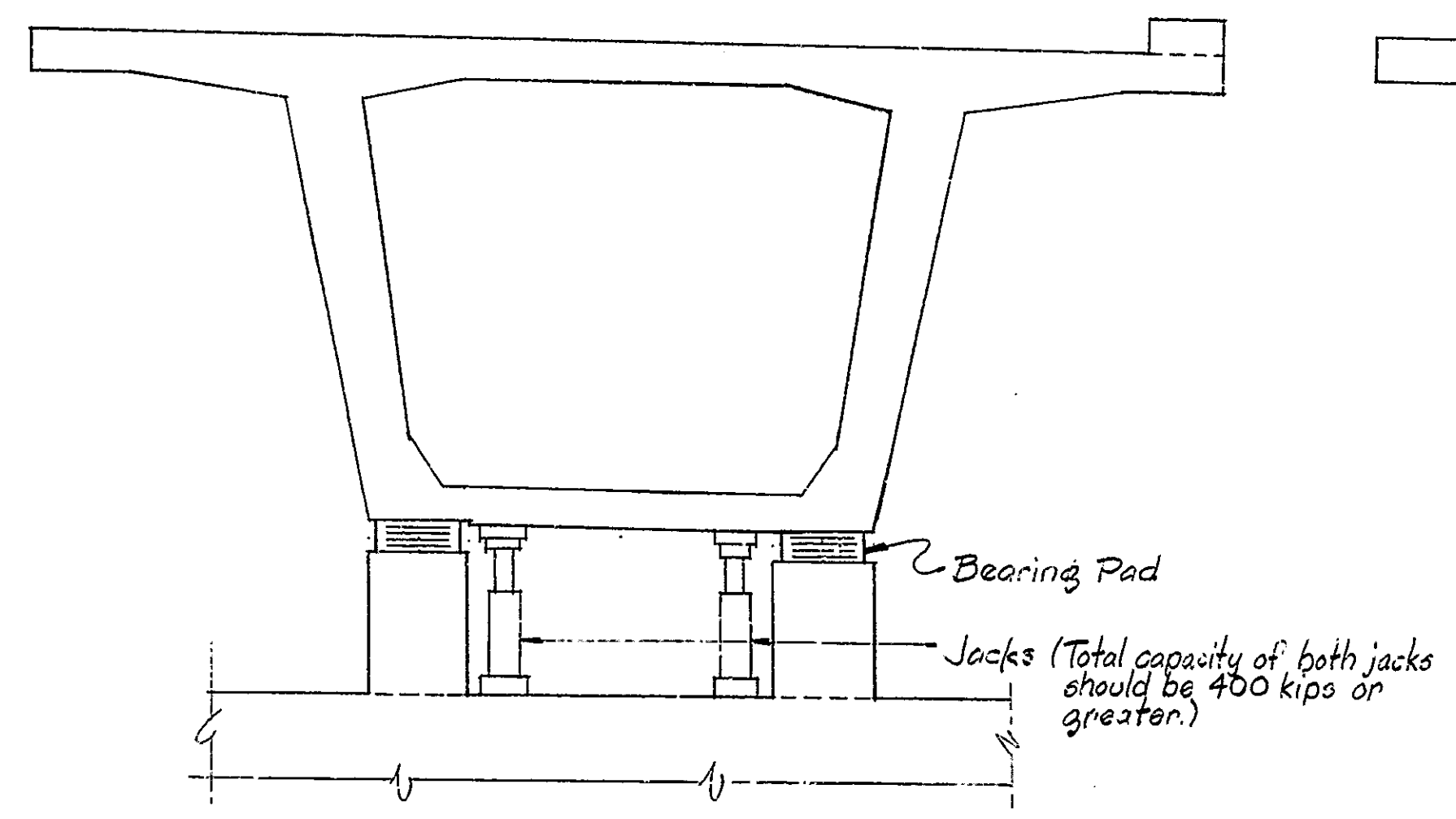
Note: See Drawg. C-10 for Bearing Pad Details. See Drawg. C-11 for details of steel plate and washer on top of bottom slab of pier segment.

PART LONGITUDINAL SECTION
Scale: 1/4" = 1'-0"

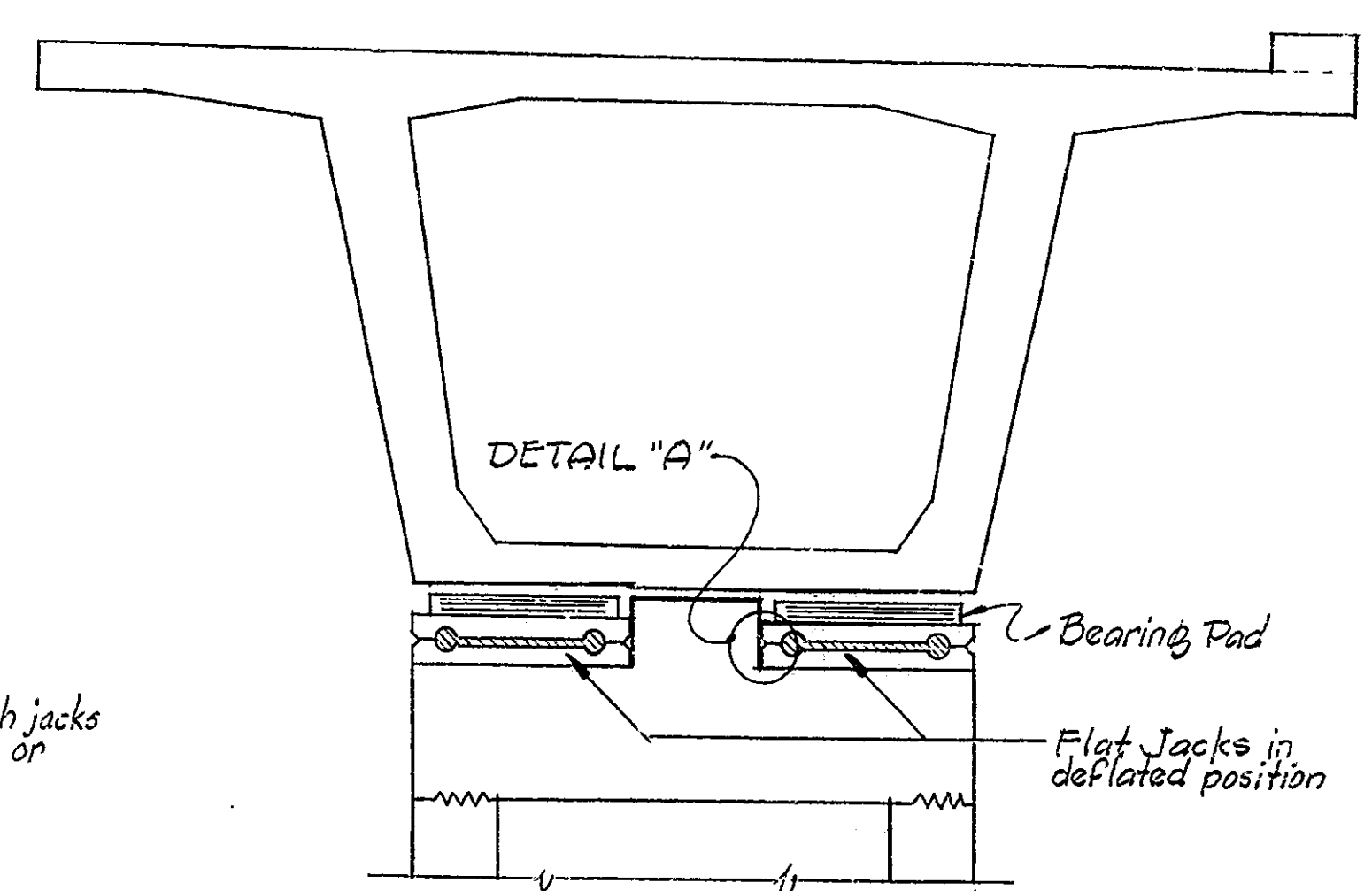
ERECTION PROCEDURE

1. Place temporary bearing pads on the pier.
2. Place Pier Segment (No. 1) on temporary bearing pads.
3. Insert vertical restraining bars into couplers provided in the pier and tighten the Pier Segment to the bars.
4. Place Segment (No. 2) and hold it to Pier Segment by means of temporary prestress.
5. Place Segment (No. 3) and hold it to Pier Segment by means of temporary prestress.
6. Insert cantilever tendons and post-tension.
7. Remove all temporary prestress.
8. Check horizontal and vertical adjustment and take corrective steps, if required, when the next segments are placed.
9. Place remaining segments, in their numerical order, except the Abutment Segments, by repeating step 4 thru 8.
10. Place Abutment Segment (No. 24) and hold it to the already erected cantilever structure by means of temporary prestressing.
11. Place hydraulic jacks under Abutment Segment and adjust them to provide a firm support to that end of the cantilever structure.
12. Insert continuity tendons 101 and post-tension and remove temporary prestress.
13. Release the hold of vertical restraining bars at the pier but do not remove the nuts and bars.
14. Cast gravity fill concrete at abutment ends.
15. Erect second half of the bridge in the same manner.
16. Adjust the abutment ends of the superstructure to correct any horizontal or vertical misalignment.
17. Place the superstructure on permanent bearings at the piers and remove temporary bearing pads and vertical restraining bars.
18. Cast midspan splice and insert interior span continuity tendons and post-tension.
19. Place the superstructure on permanent bearings at the abutments and remove hydraulic jacks and other temporary measures.

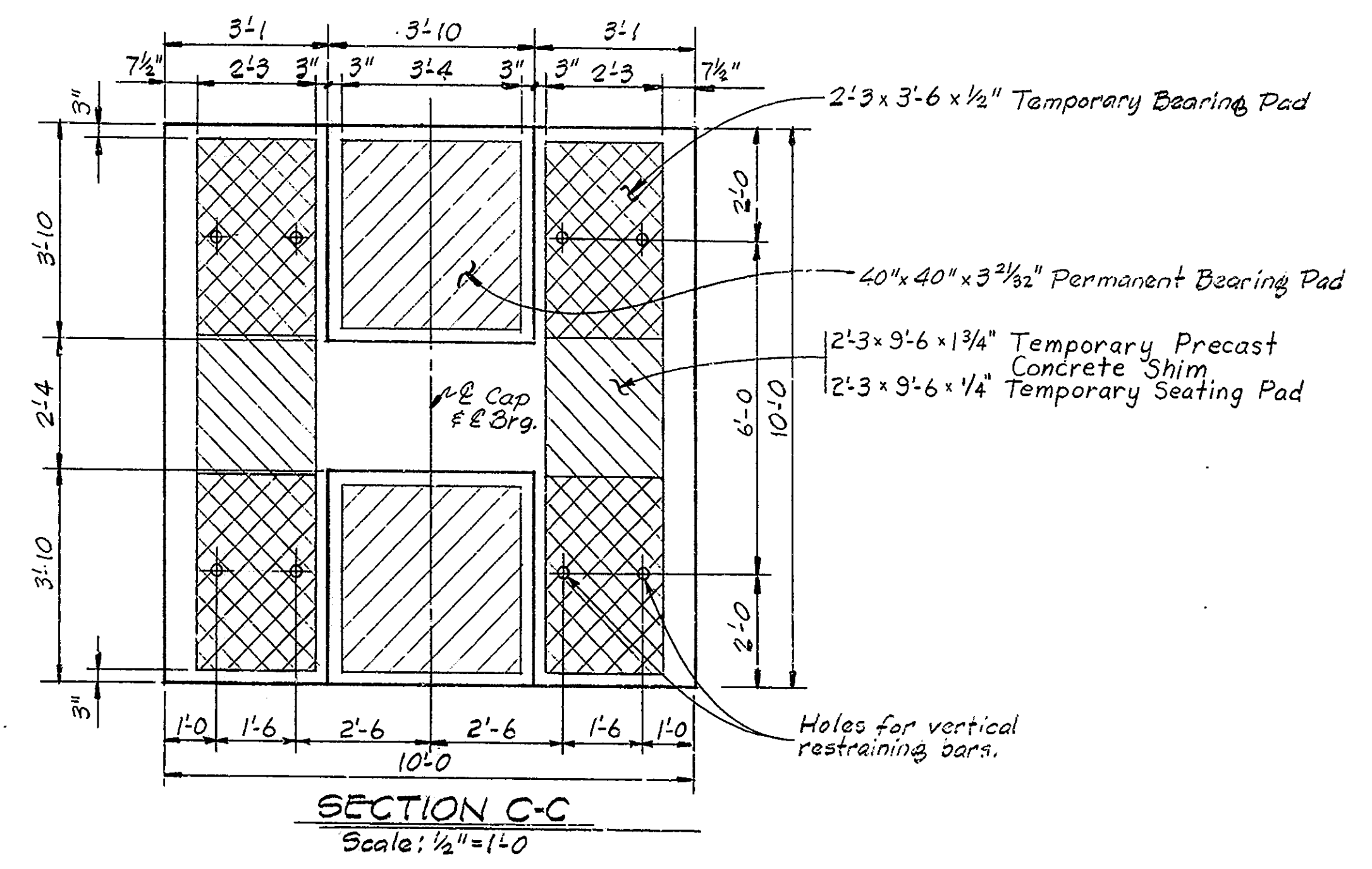
Note: See Special Provisions for additional information concerning erection procedure.



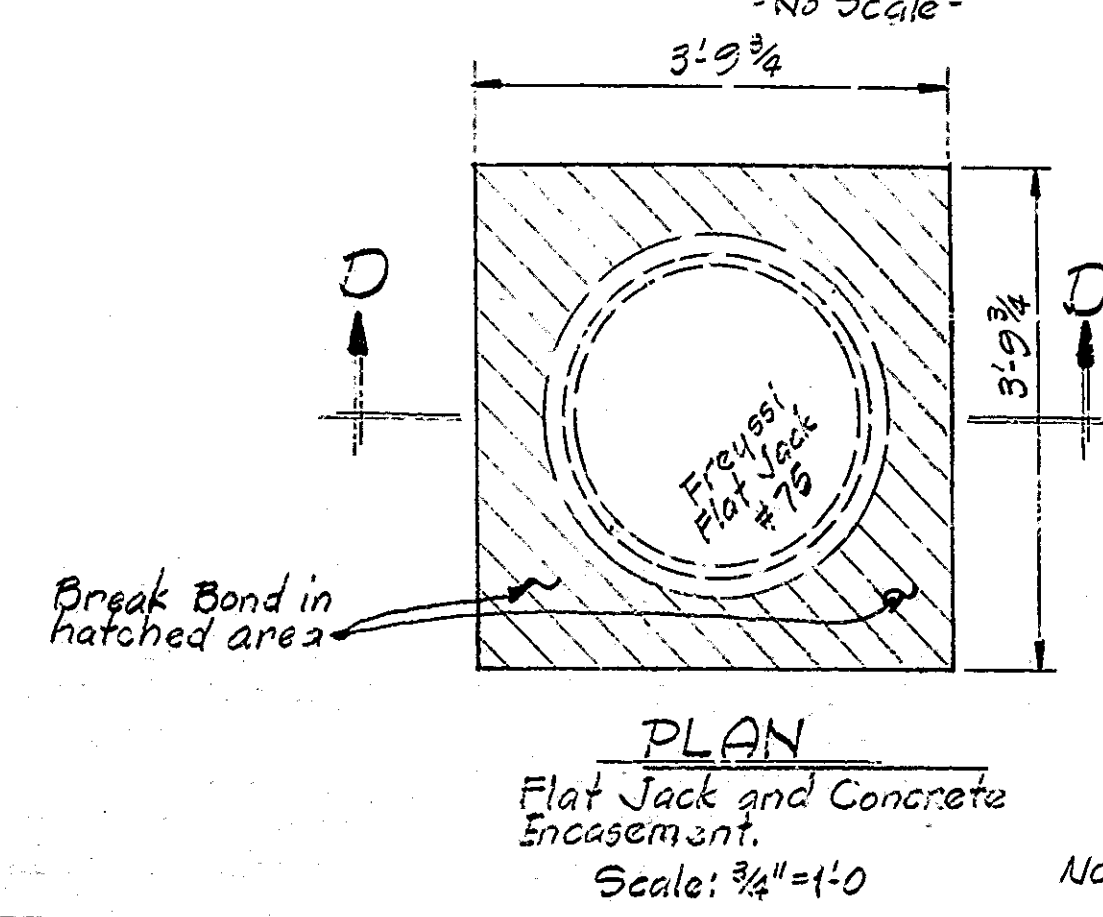
SECTION A-A
-No Scale-



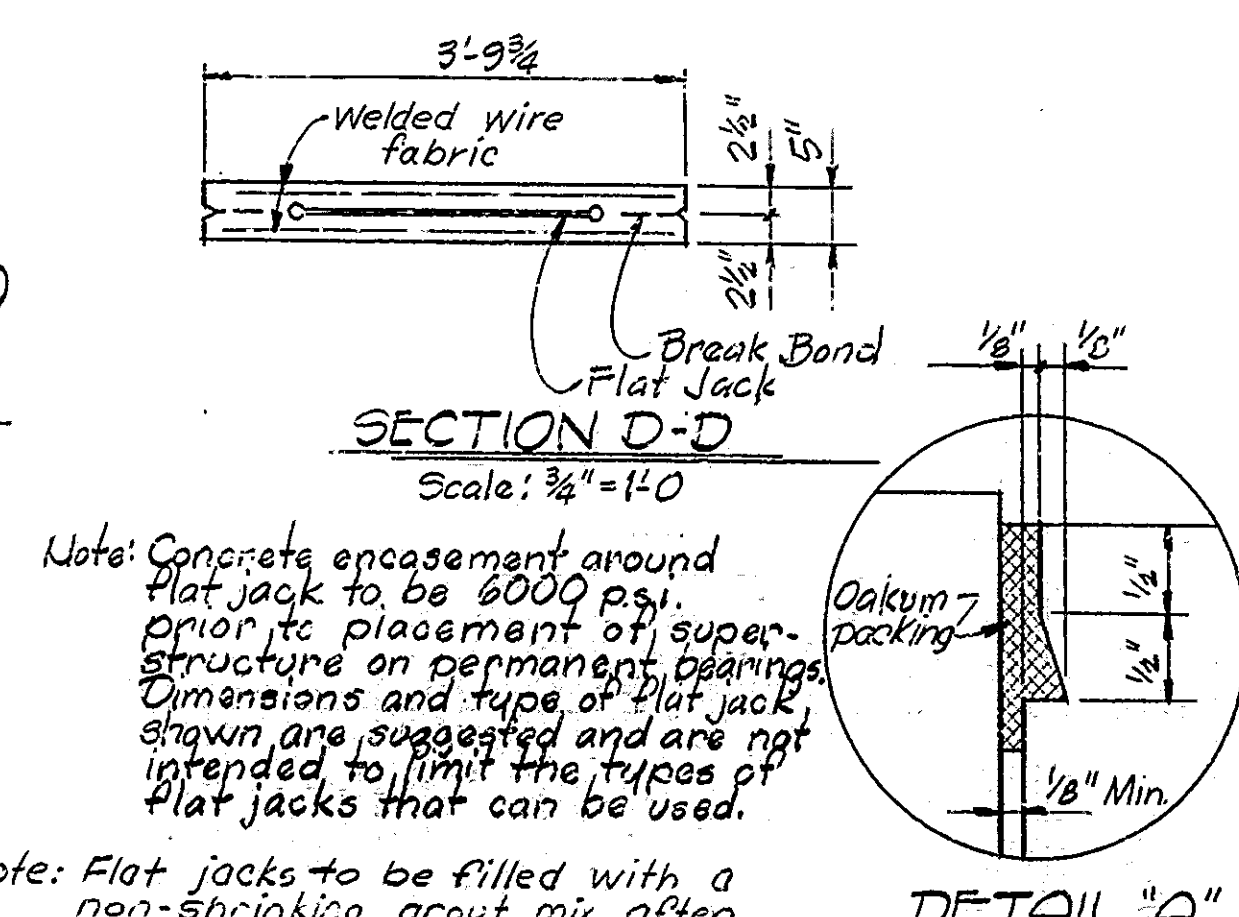
SECTION B-B
-No Scale-



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



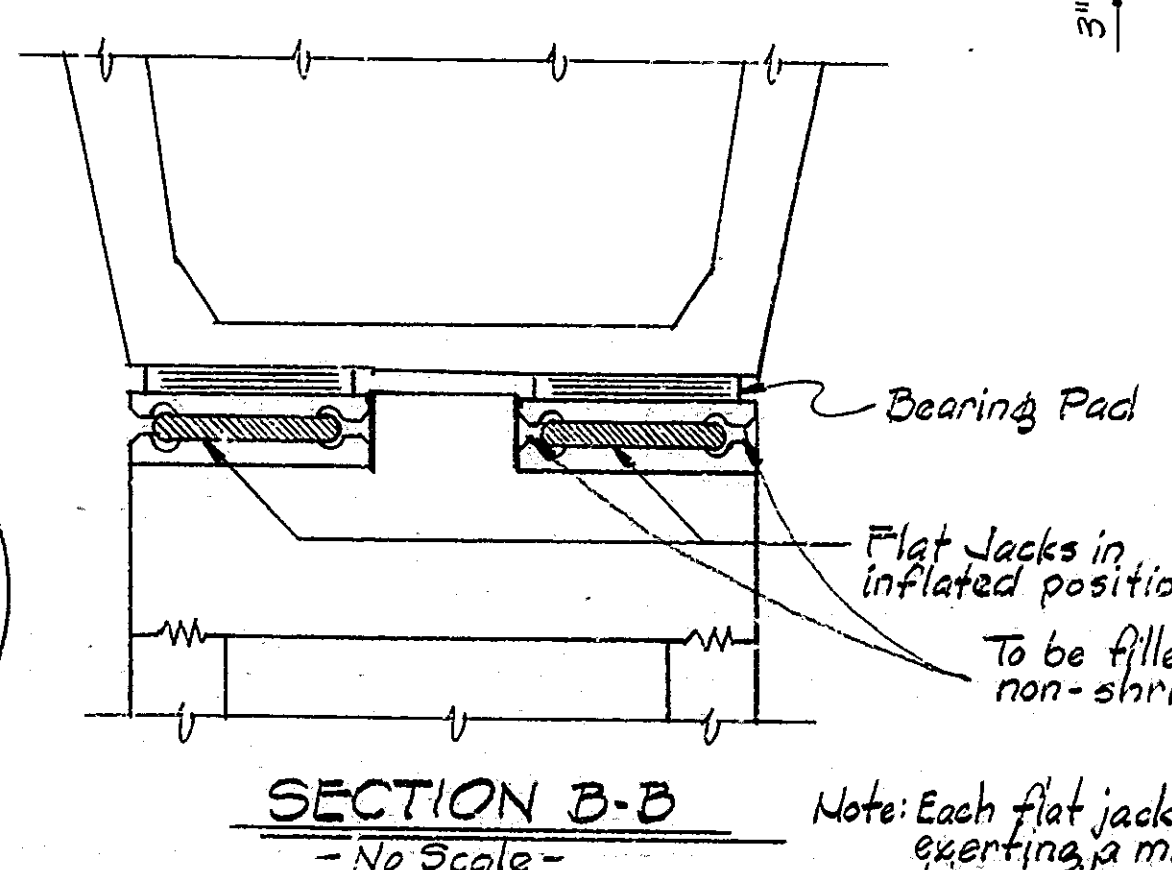
PLAN
Flat Jack and Concrete Encasement.
Scale: 3/4" = 1'-0"



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

Note: Concrete encasement around flat jack to be 6000 psi. prior to placement of superstructure on permanent bearings. Dimensions and type of flat jack shown are suggested and are not intended to limit the types of flat jacks that can be used.

Note: Flat jacks to be filled with a non-shrinking grout mix after inflation.



SECTION B-B
-No Scale-

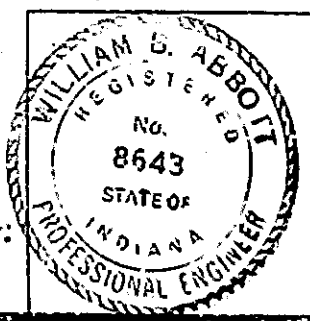
Note: Each flat jack should be capable of exerting a minimum force of 1000 kips in its permanently inflated position.

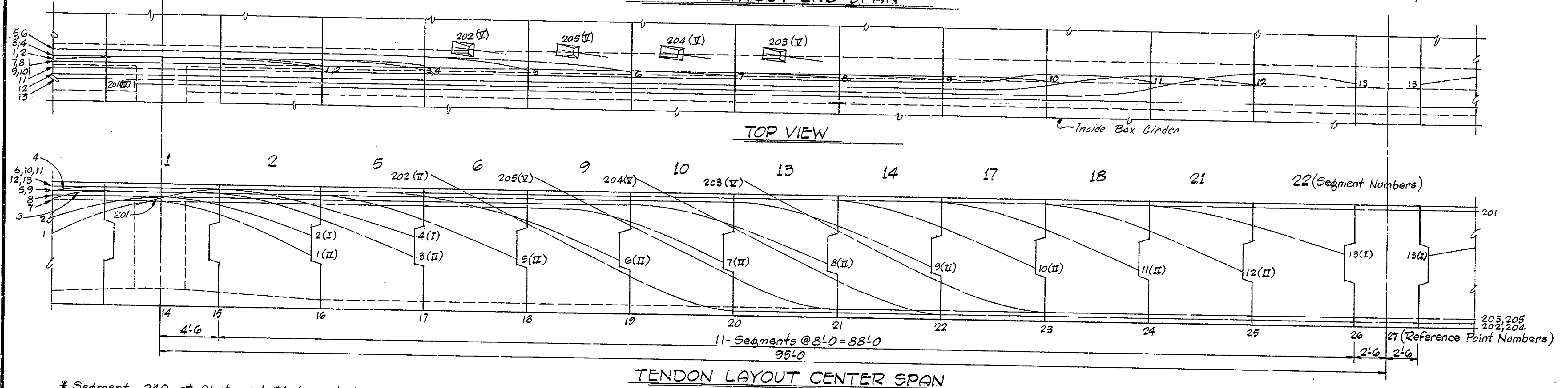
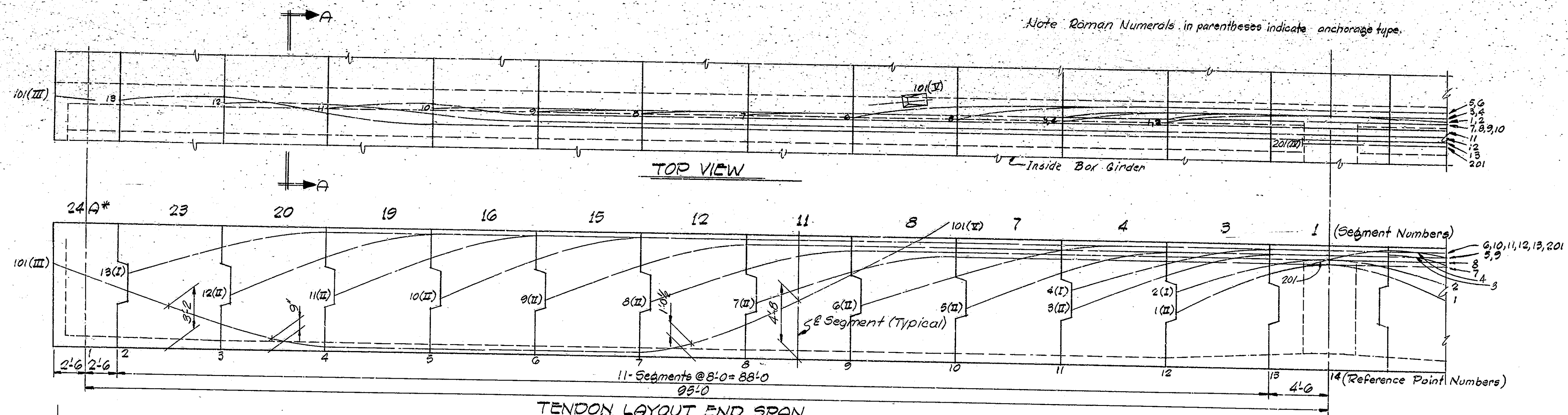
ERECTION DETAILS
WESTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: As Noted DATE: DECEMBER 26, 1973

DESIGNED: FAB CKD
DRAWN: DSS/1/16/73 CKD D.S. H/1/73
TRACED: CKD

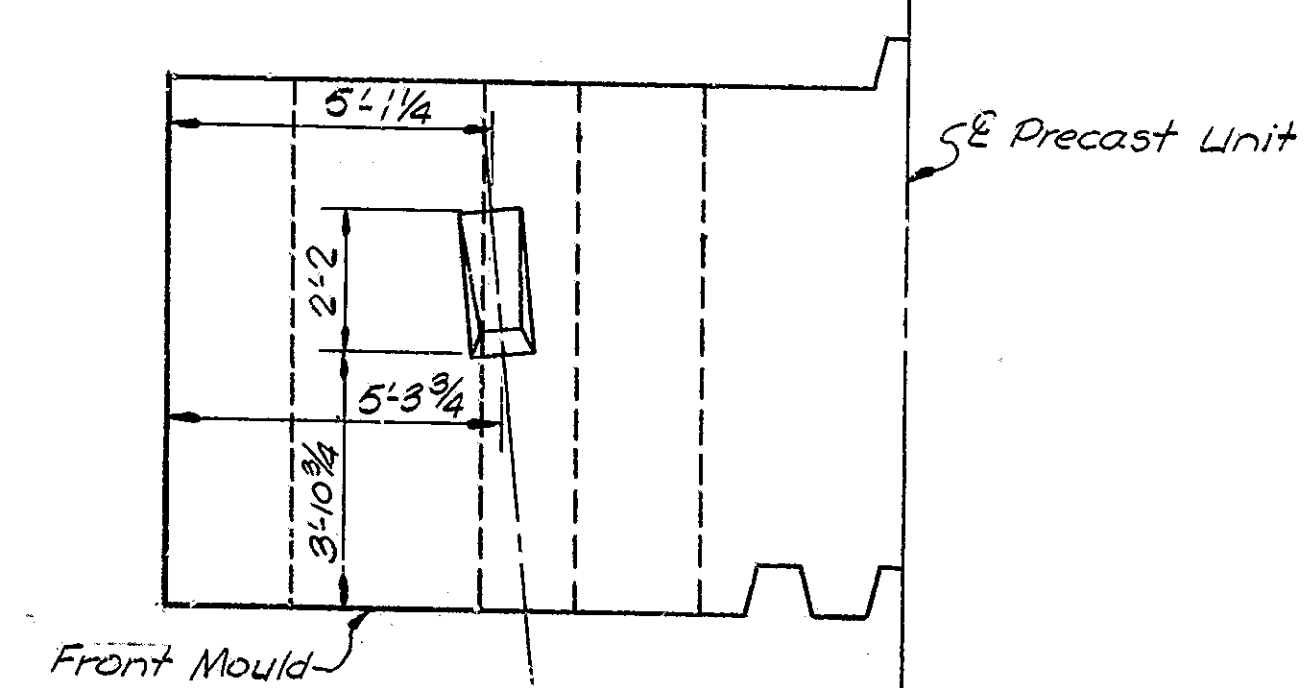
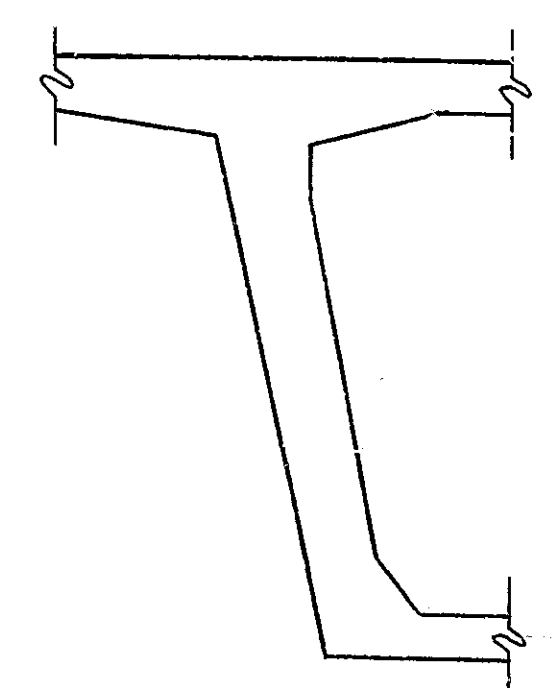
PROJECT: ST-15/E Prefab. RF-151(12) Constr.
CONTRACT NO. B-9658 Prefab. B-9818 Constr.
BRIDGE FILE: 50-40-917A





* Segment 24A at Abutment #1 is not the same as Segment 24B of Abutment #4. See Draw. C23 for Abutment segment details. All other segments are symmetrical for both halves of the bridge.

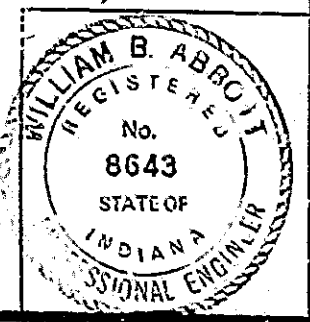
Note: Segment numbers indicated is the sequence in which segments are to be erected.



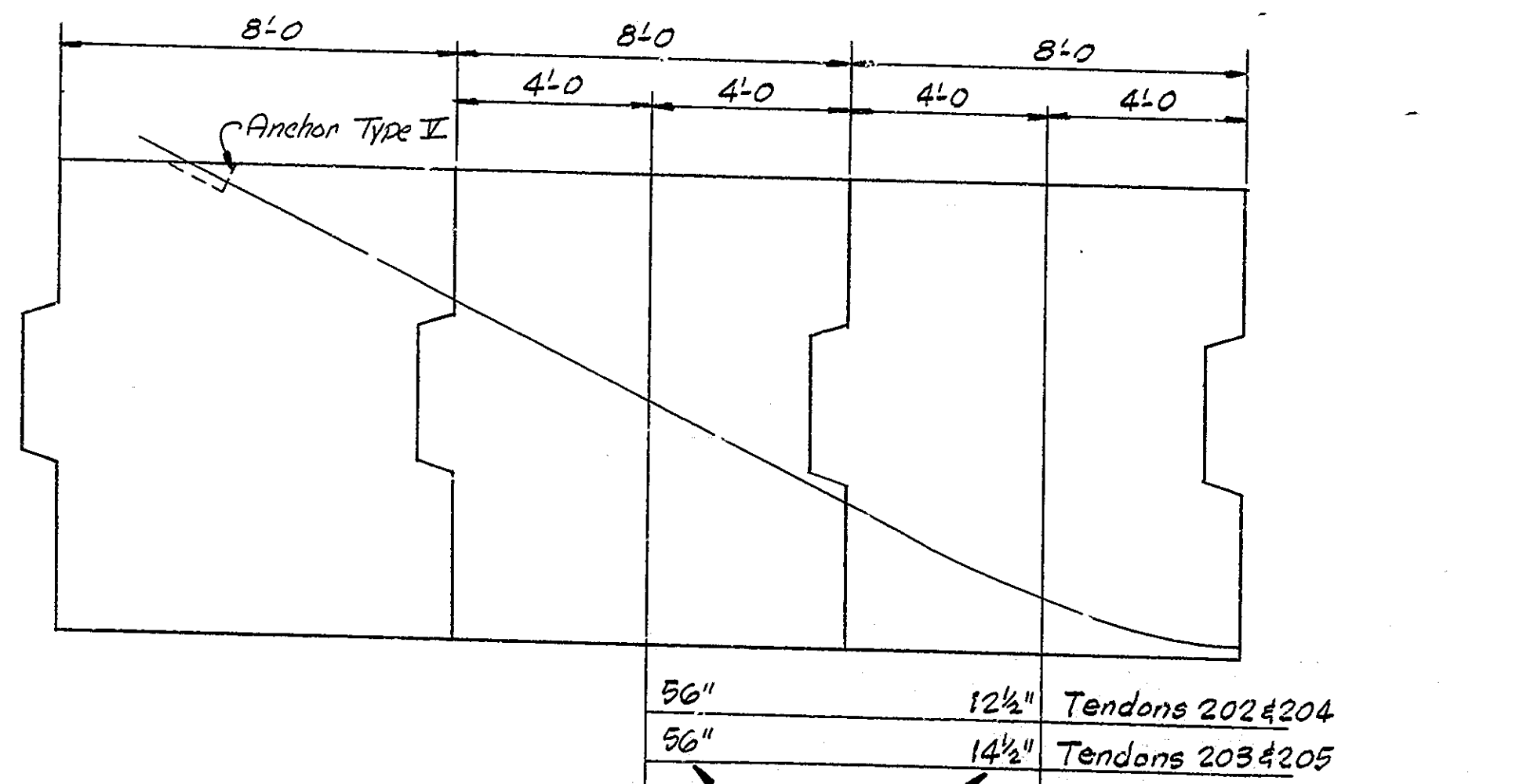
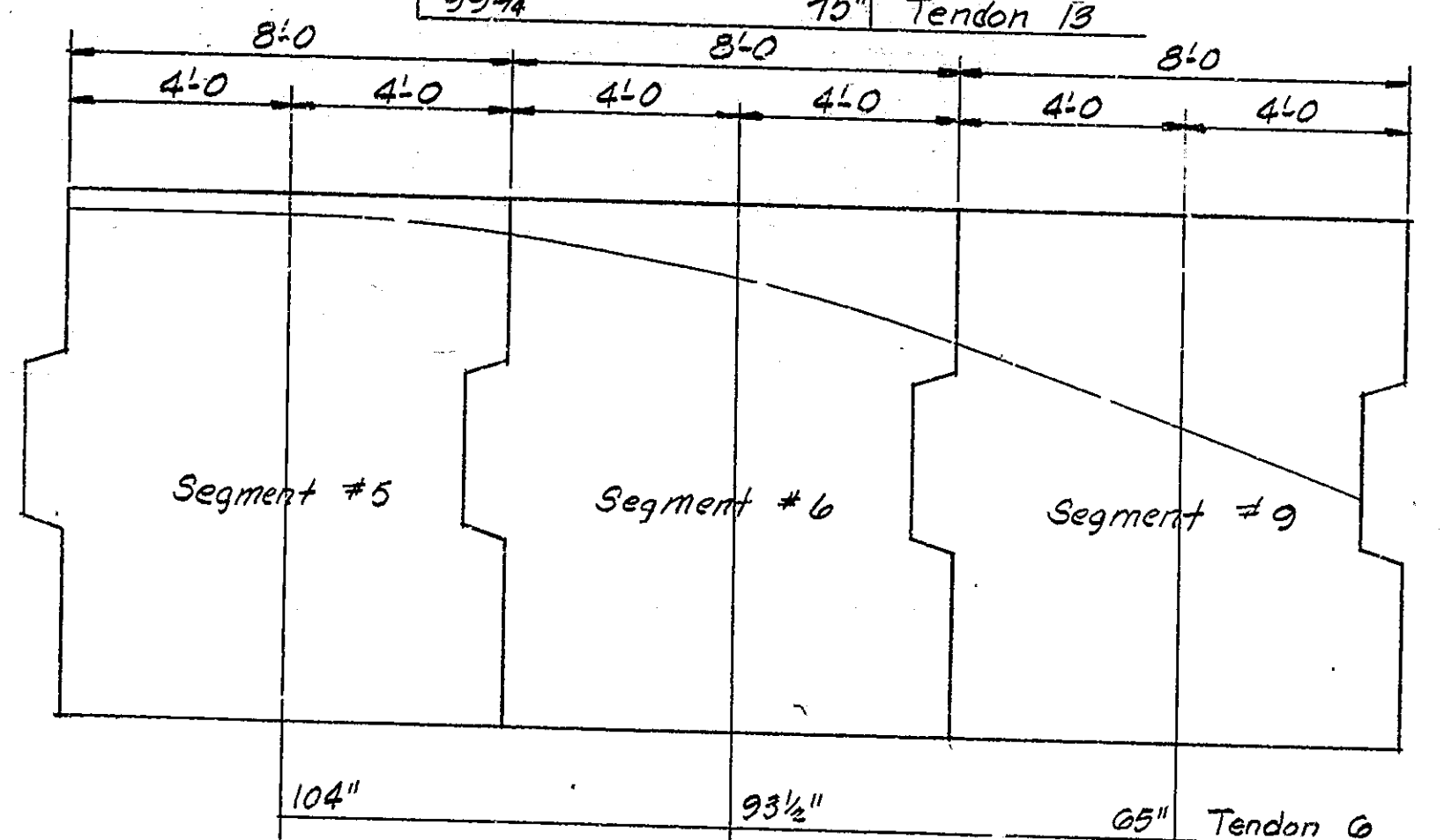
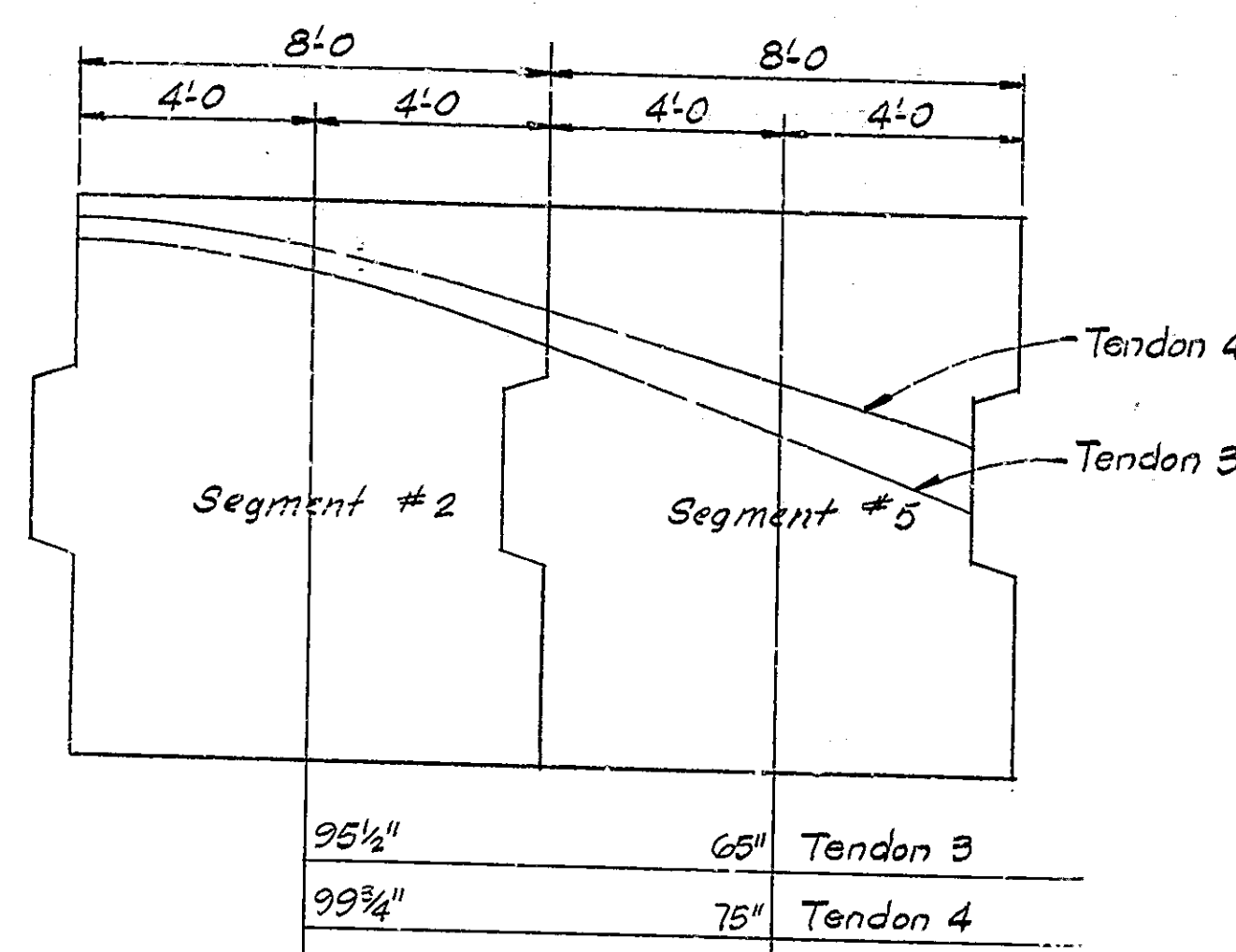
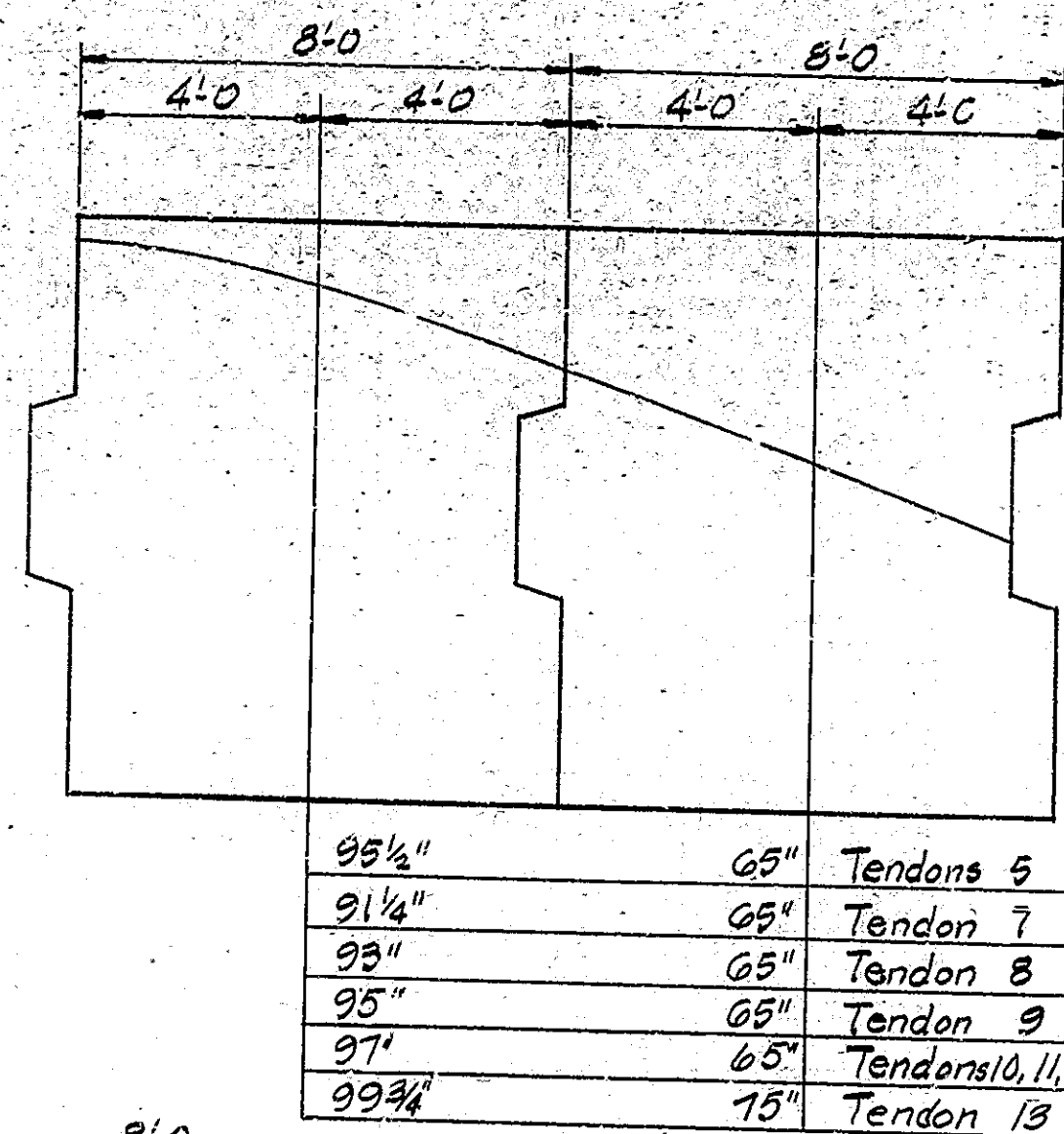
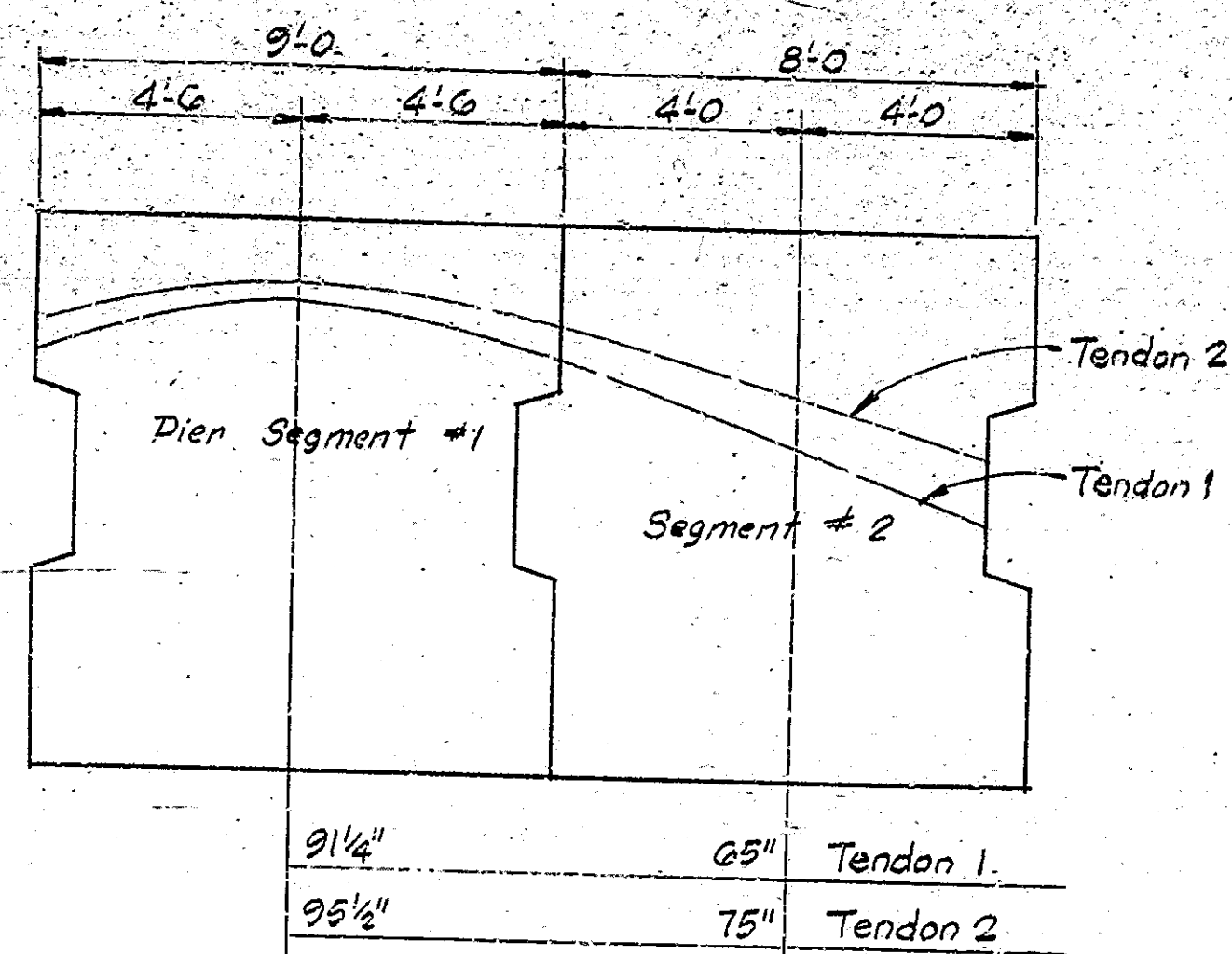
POST-TENSIONING DETAILS
WESTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/4" = 1'-0" Unless Noted DATE: DECEMBER 26, 1973

William B. Abbott
REGISTERED PROFESSIONAL ENGINEER
No. 8643
STATE OF INDIANA
DRAWING: C15 OF 49 SHEET: 28 OF 39
PROJECT: 5T-151E Prefab. RF-151(12) Constr.
CONTRACT NO. B-9658 Prefab. B-9818 Constr.
BRIDGE FILE: 50-40-917A



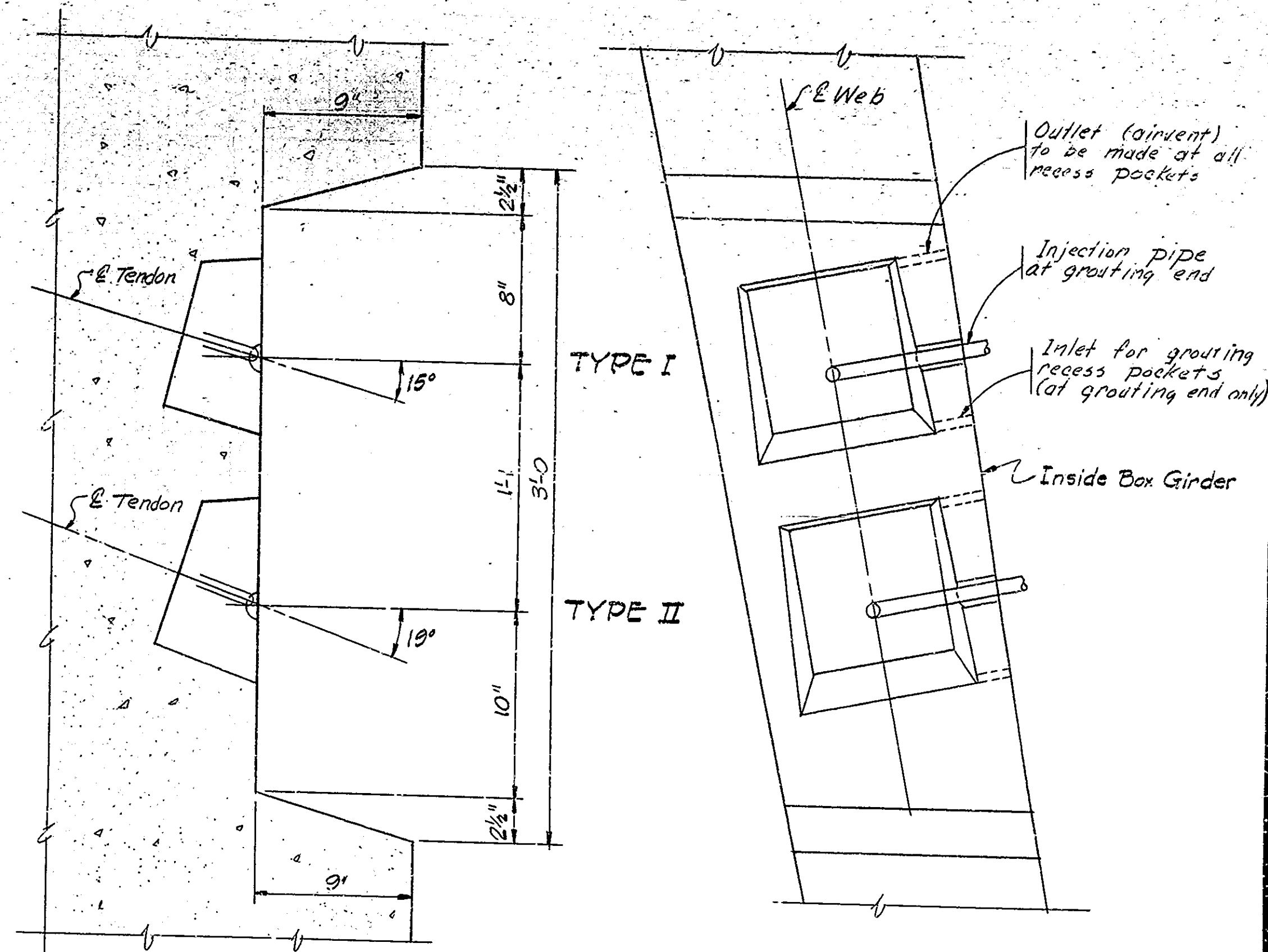
DESIGNED: Camp Beck KD FAB
DRAWN: D288/3012 CKO LAR 9-73
TRACED: CKO



TENDON PROFILES

Note: See Drwg. C15 for tendon profile of tendon 101 and for locations of Anchorage Recess Type II.

Note: See Drwg. C15 for tendon layouts, for segment numbers and for locations of Type I and Type II Anchorages.



TYPE I AND TYPE II ANCHORAGE DETAILS

Note: Concrete stresses in the anchorage zone shall be computed, and special mild steel reinforcement required for the performance of the anchorage, along with the anchorage details, shall be detailed, in the shop drawings by the post-tensioning supplier.
Concrete stresses under bearing plates shall not exceed 3,500 p.s.i. at transfer of prestressing force OR 3,000 p.s.i. at service loads.
Centerline of tendons are to be normal to the anchorage bearing plates.
After grouting of tendon ducts is completed, fill all anchorage recesses and match surfaces of precast units with an approved non-shrinking grout mix.

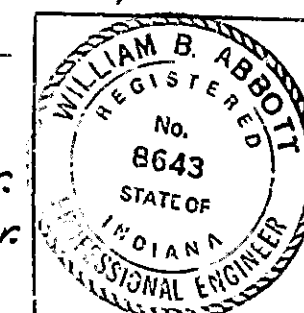
DESIGNED BY: PASCAL FAB
DRAWN BY: PASCAL FAB
TRACED BY: CKD

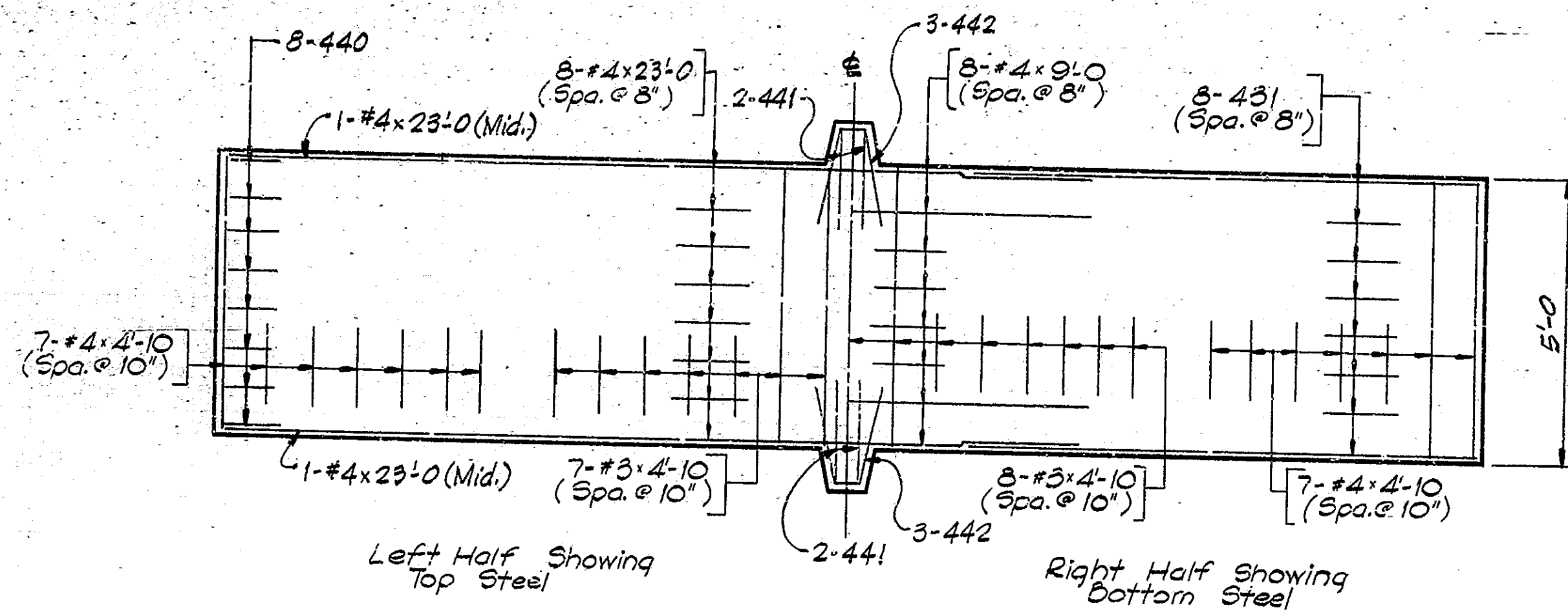
POST-TENSIONING DETAILS
WESTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: NONE

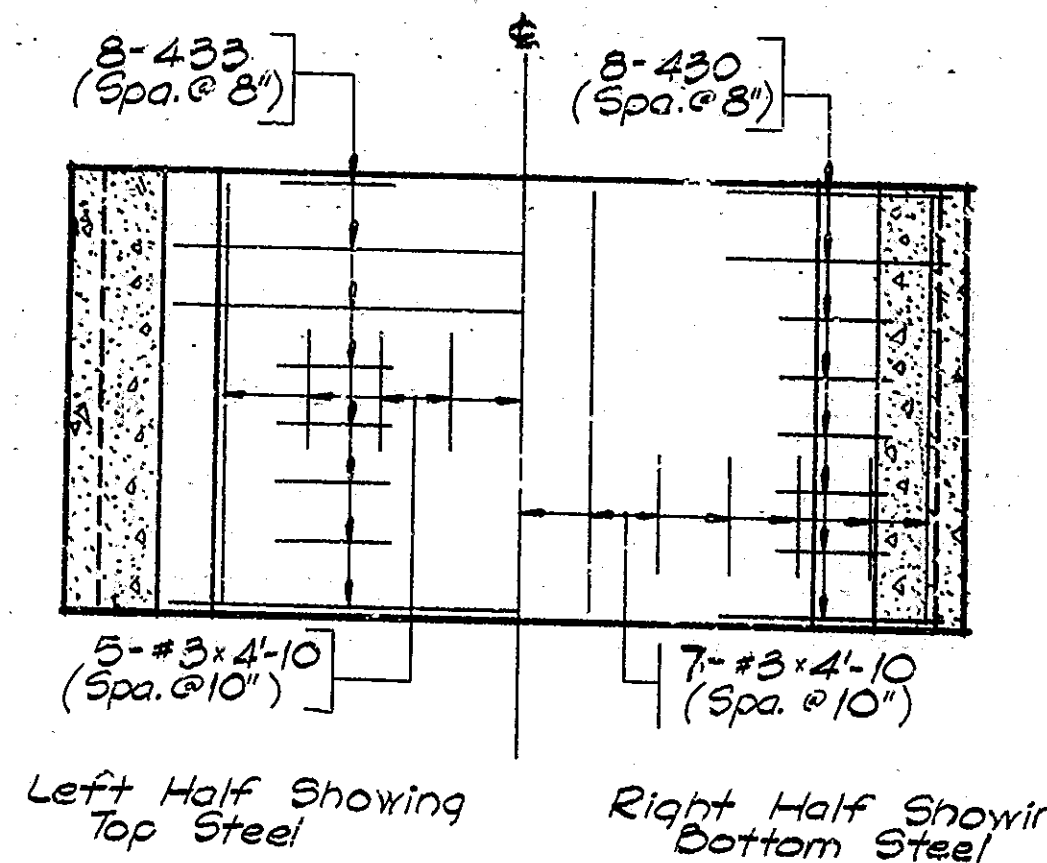
DATE: DECEMBER 26, 1973

DRAWING: C16 OF 49 SHEET: 24 OF 99
PROJECT: ST-151E Prefab. RF-151(12) Contr.
CONTRACT NO. B-9658 Prefab. B-9818 Constr.
BRIDGE FILE: 50-40-917A





TOP VIEW OF DECK

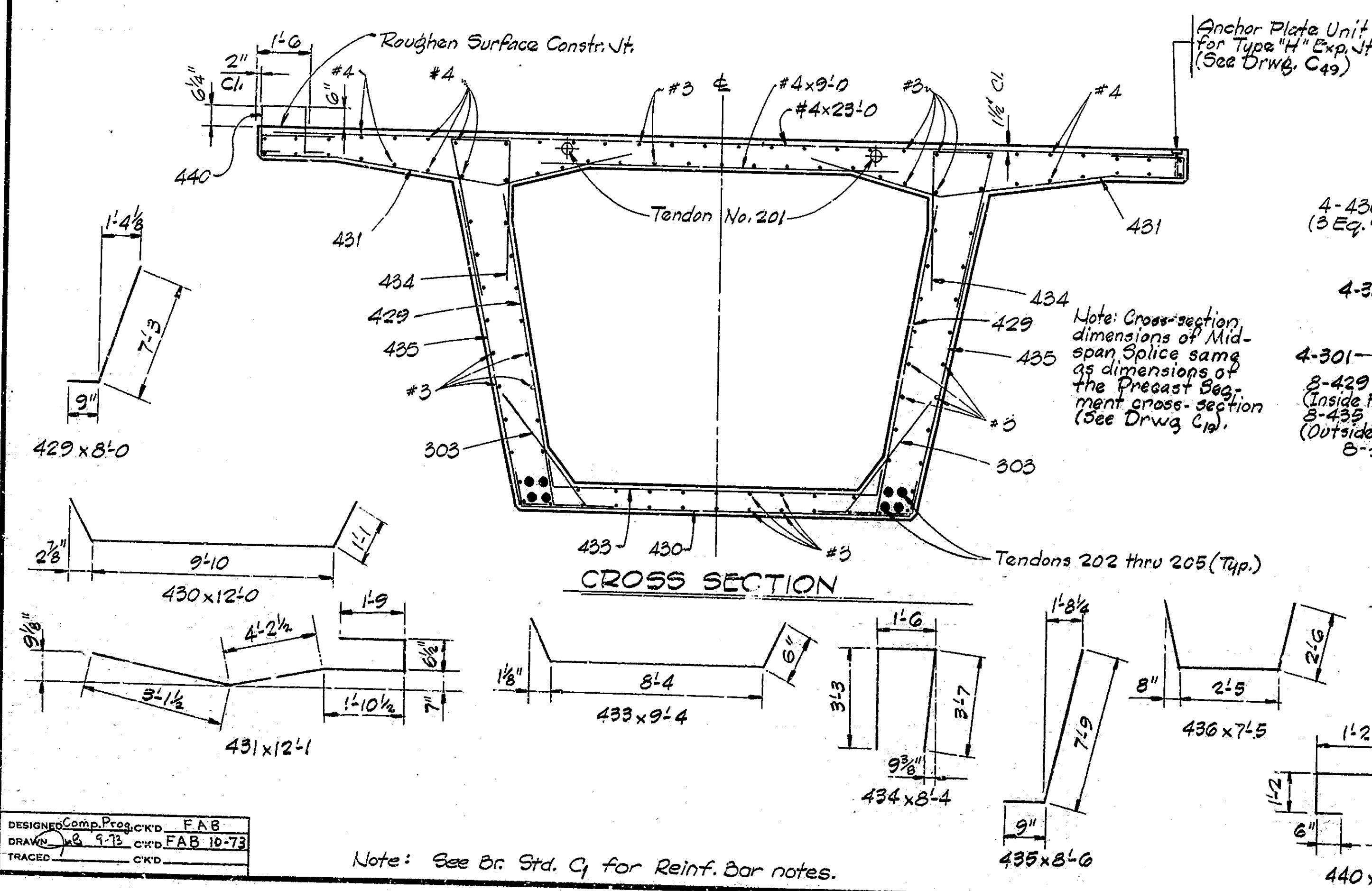


TOP VIEW OF BOTTOM SLAB

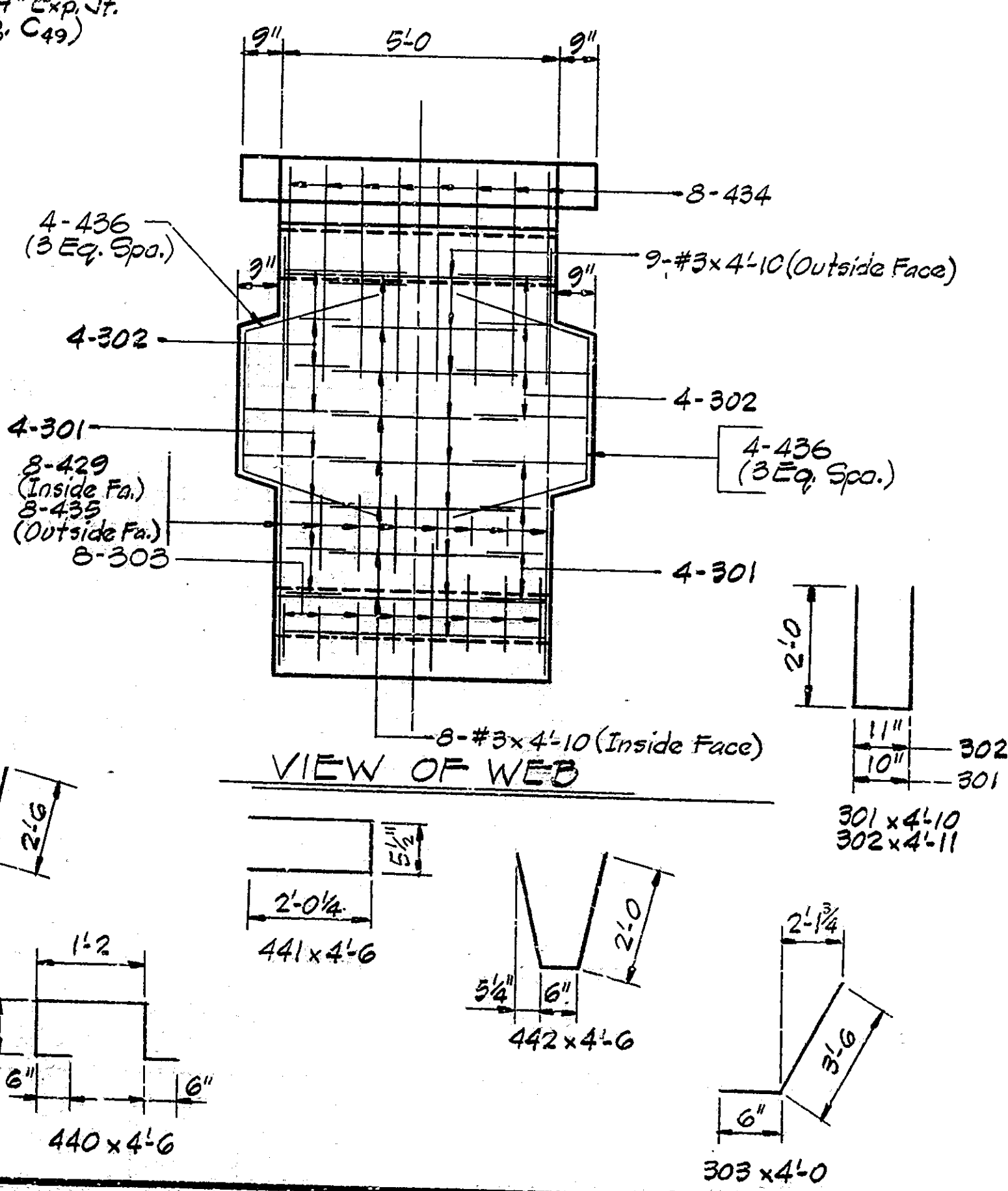
NOTES:

Concrete in mid-span splice to be Special Class "C" Concrete compressive strength to be 5500 p.s.i. at 28 days.
 Concrete compressive strength to be 3000 p.s.i. or more before prestressing force is applied.
 Mild steel reinforcing to be grade 60. (See Special Provisions for use of other than Grade 60 Steel).
 Mild steel reinforcing in mid-span splice is subject to adjustments to provide clearances for the post-tensioning ducts.

Mid-span falsework shall not be removed until all continuity tendons in center span have been tensioned.
 Exposed edges shall be chamfered 3/4" or rounded to 3/4" radius.
 Post-tensioning ducts to be tied to the reinforcing steel to insure that proper alignment is maintained during placement of concrete.
 Reinforcing steel covering shall be 1 1/2 inches in top of deck and 1 inch in all other faces.



CROSS SECTION



VIEW OF WEB

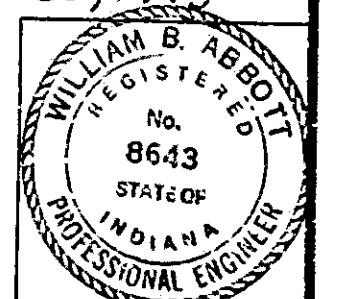
MIDSPAN SPLICE DETAILS
 WESTBOUND STRUCTURE

INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/2" = 1'-0" DATE: DECEMBER 26, 1973

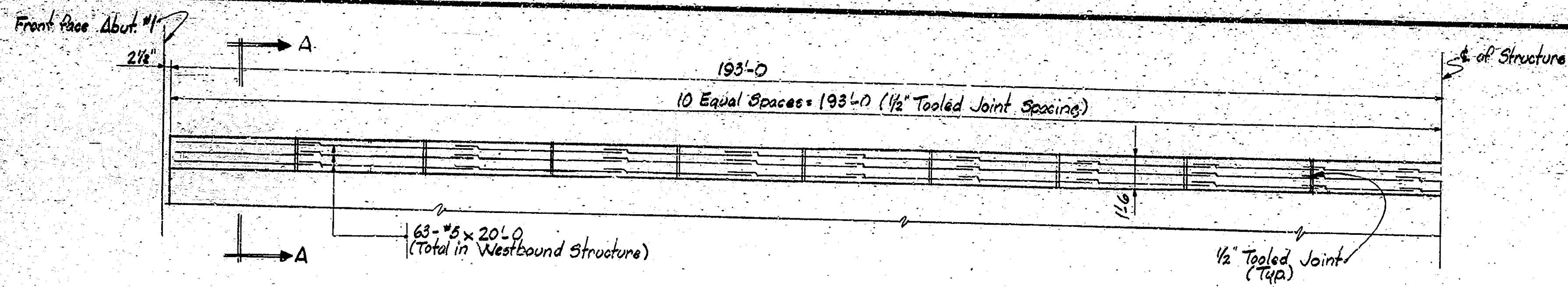
William B. Abbott
 REGISTERED PROFESSIONAL ENGINEER

DESIGNED: Comp. Prog. CKD F.A.B.
 DRAWN: W.B. 9-73 CKD F.A.B. 10-73
 TRACED: CKD
 PROJECT: 37-151E Prefab. RF-151(12) Constn
 CONTRACT NO. B-9658 Prefab. B-9818 Constn.
 BRIDGE FILE: 30-40-917A



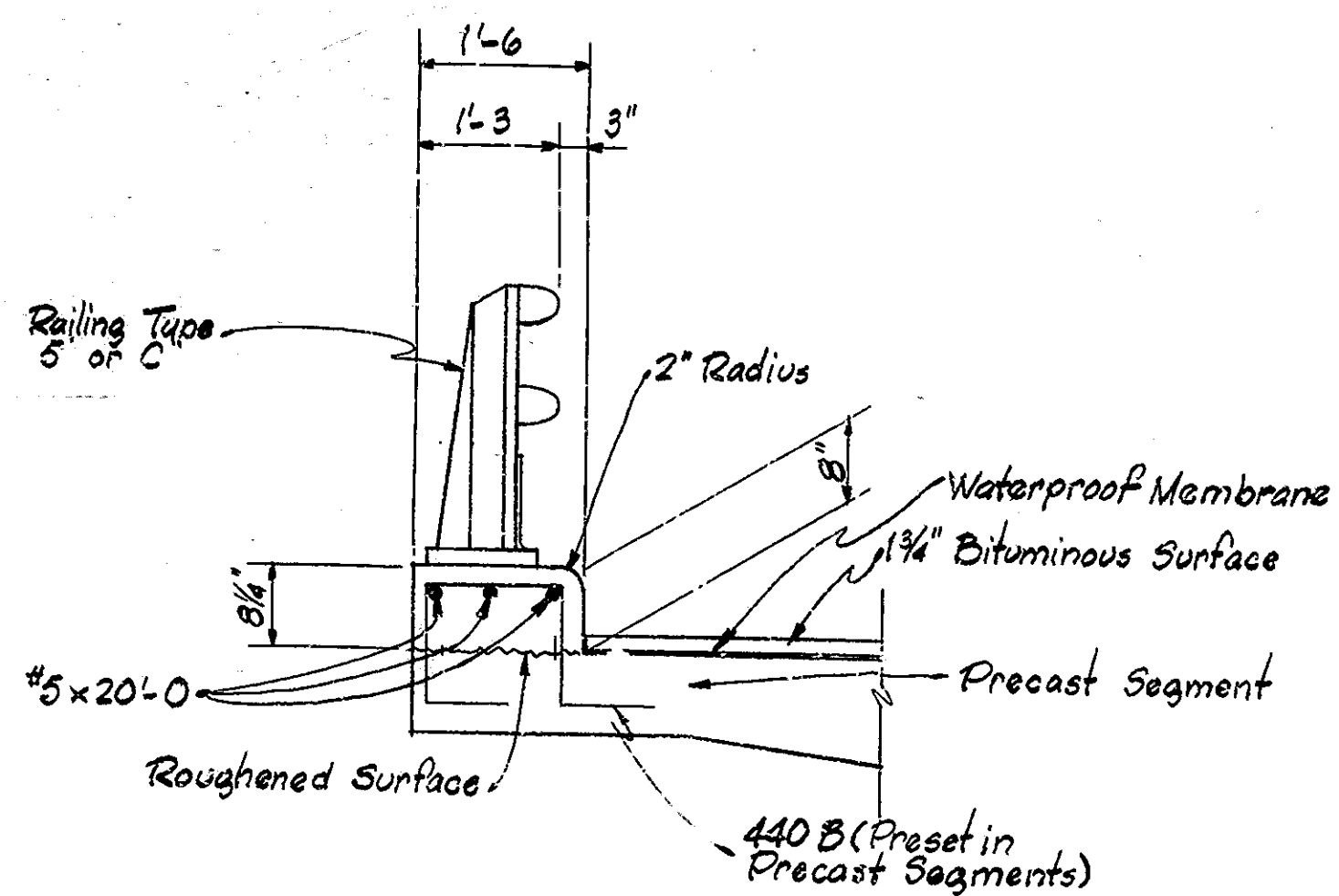
DESIGNED: Comp. Prog. CKD F.A.B.
 DRAWN: W.B. 9-73 CKD F.A.B. 10-73
 TRACED: CKD

Note: See Dr. Std. Cj for Reinf. Bar notes.

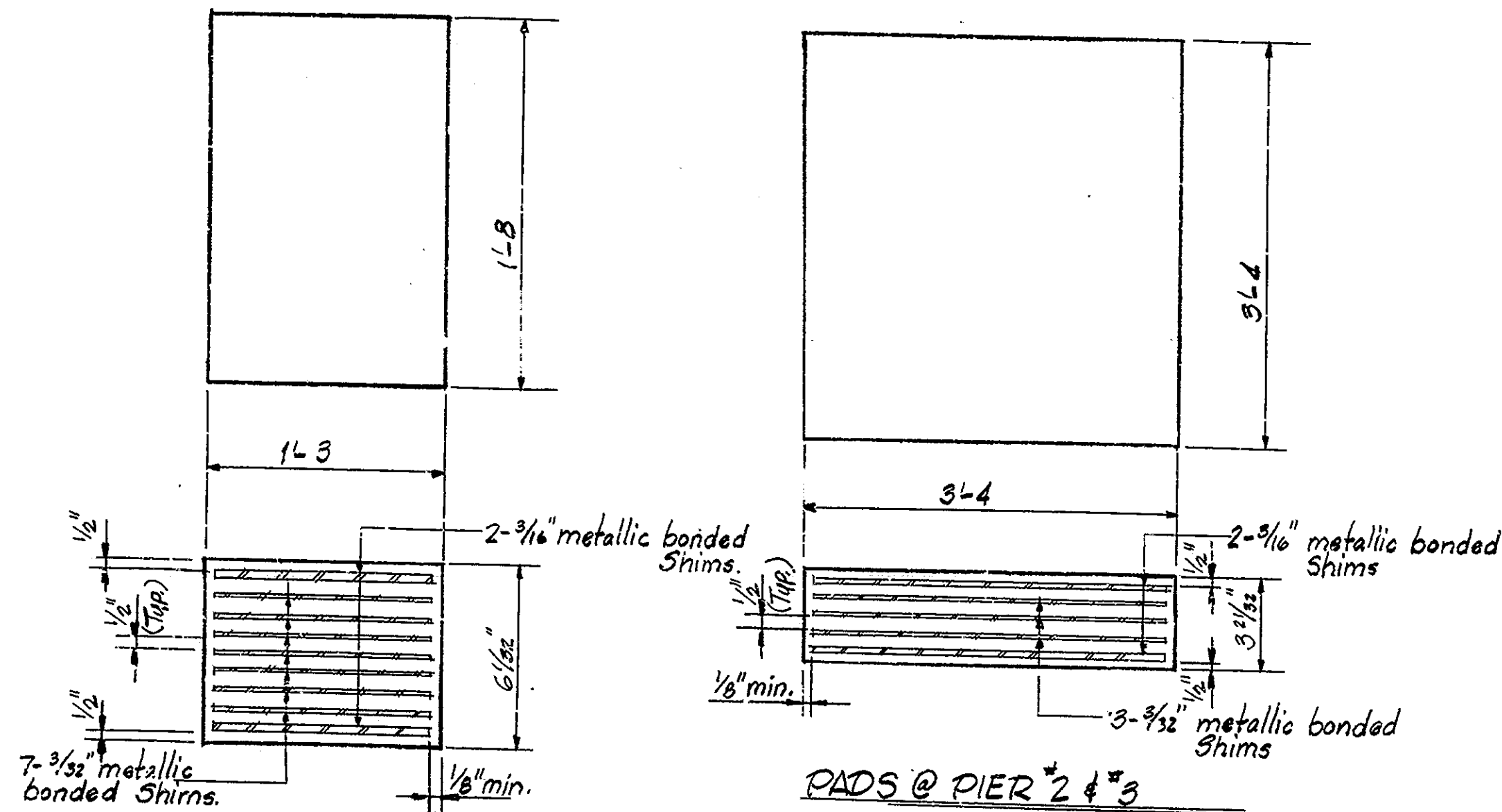


Notes: Concrete curb not to be poured until post-tensioning is completed. See Drwg. C2 for railing post spacing.

CURB PLAN
Scale: None



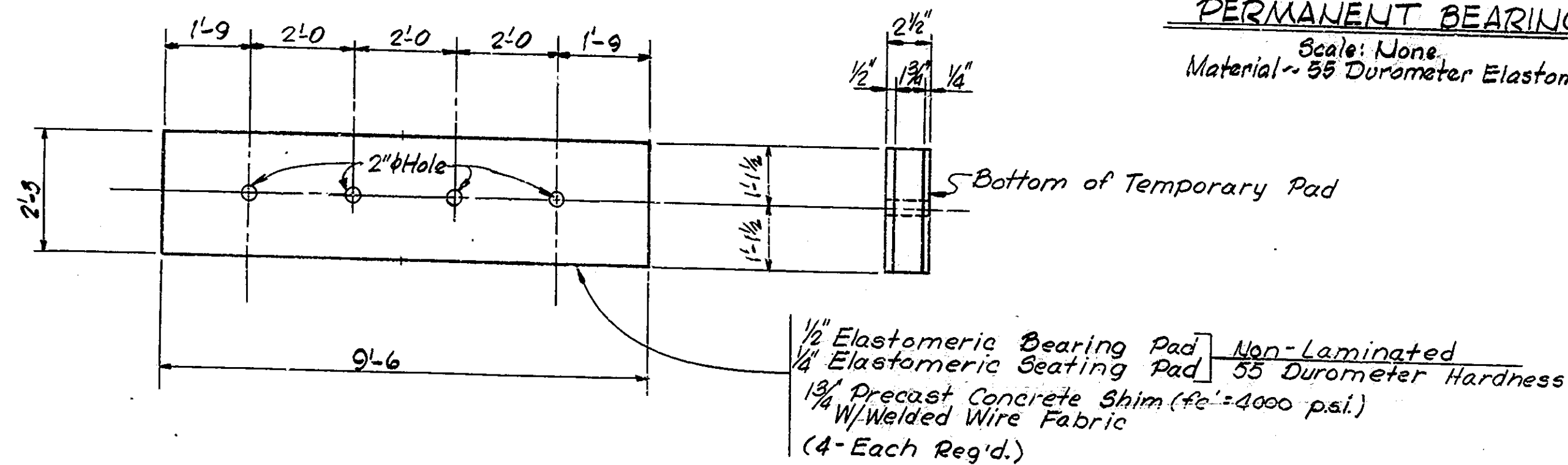
SECTION A-A
Scale: 3/4" = 1'-0"



PADS @ ABUTMENTS
#1 & #2

PADS @ PIER 2 & 3

PERMANENT BEARING PADS
Scale: None
Material - 55 Durometer Elastomer



TEMPORARY BEARING PADS & SHIM
Scale: None

BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT (lbs.)
#5	63	20'-0"	1314
CONCRETE			
Special Class "C" Concrete (Mid-Span Splice)			8.7 Cys.
Class "C" in Superstructure (Curb)			14.7 Cys.
MISCELLANEOUS			
Railings, Type 5 or C			385.8 L.Ft.
* Type "H" Expansion Joint			437.1 L.Ft.
Sheet Applied Membrane			8298 S.Ft.
Bit. Mixture for Approaches			87.6 T.
Deck Drains			24 Ea.
* Conc. Structural Members (Westbound Structure)			1 L.Sum.

* Includes 92.0 L.Ft. of Modified Type "H" Expansion Joint.
* This item to be included in Project ST-151 E

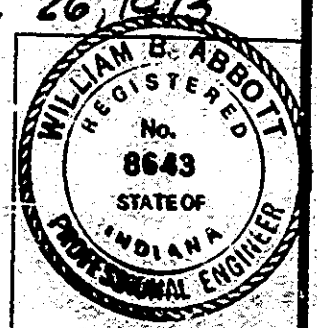
MISCELLANEOUS SUPERSTRUCTURE DETAILS WESTBOUND STRUCTURE INDIANA STATE HIGHWAY COMMISSION

SCALE: As Noted

DATE: DECEMBER 26, 1973

William J. Wood
REGISTERED PROFESSIONAL ENGINEER

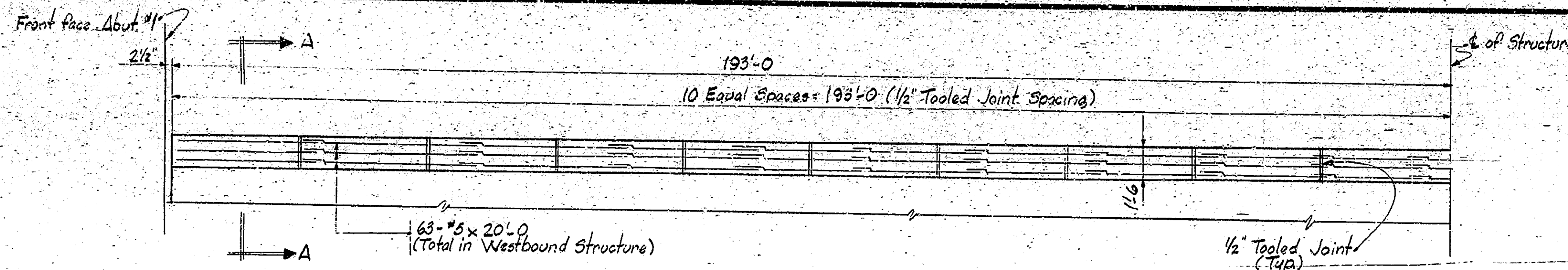
DRAWING: C27 OF 49 SHEET: 35 OF 99
PROJECT: ST-151E Prefab. RF-151 (12) Constr.
CONTRACT NO. B-9658 Prefab. B-9818 Constr.
BRIDGE FILE: 50-40-917A



DESIGNED: FQB CKD: JHB
DRAWN: D.H. 12/73 CKD: DSH
TRACED: CKD

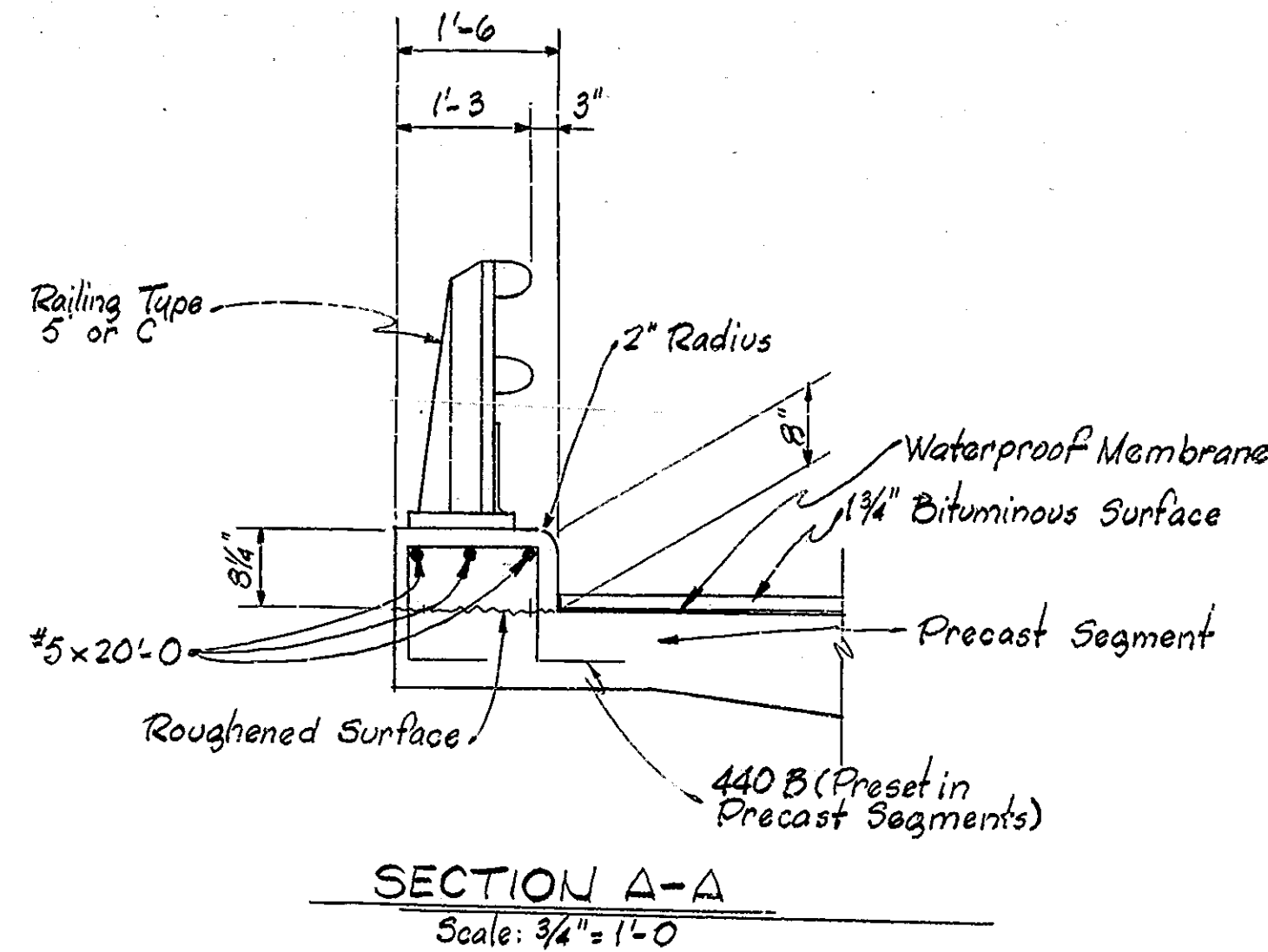
Rev. 5-15-74 Class "A" in Superstr. changed to Class "C" in Superstr.

This sheet used in Project ST-151E, Contract B-9658 only

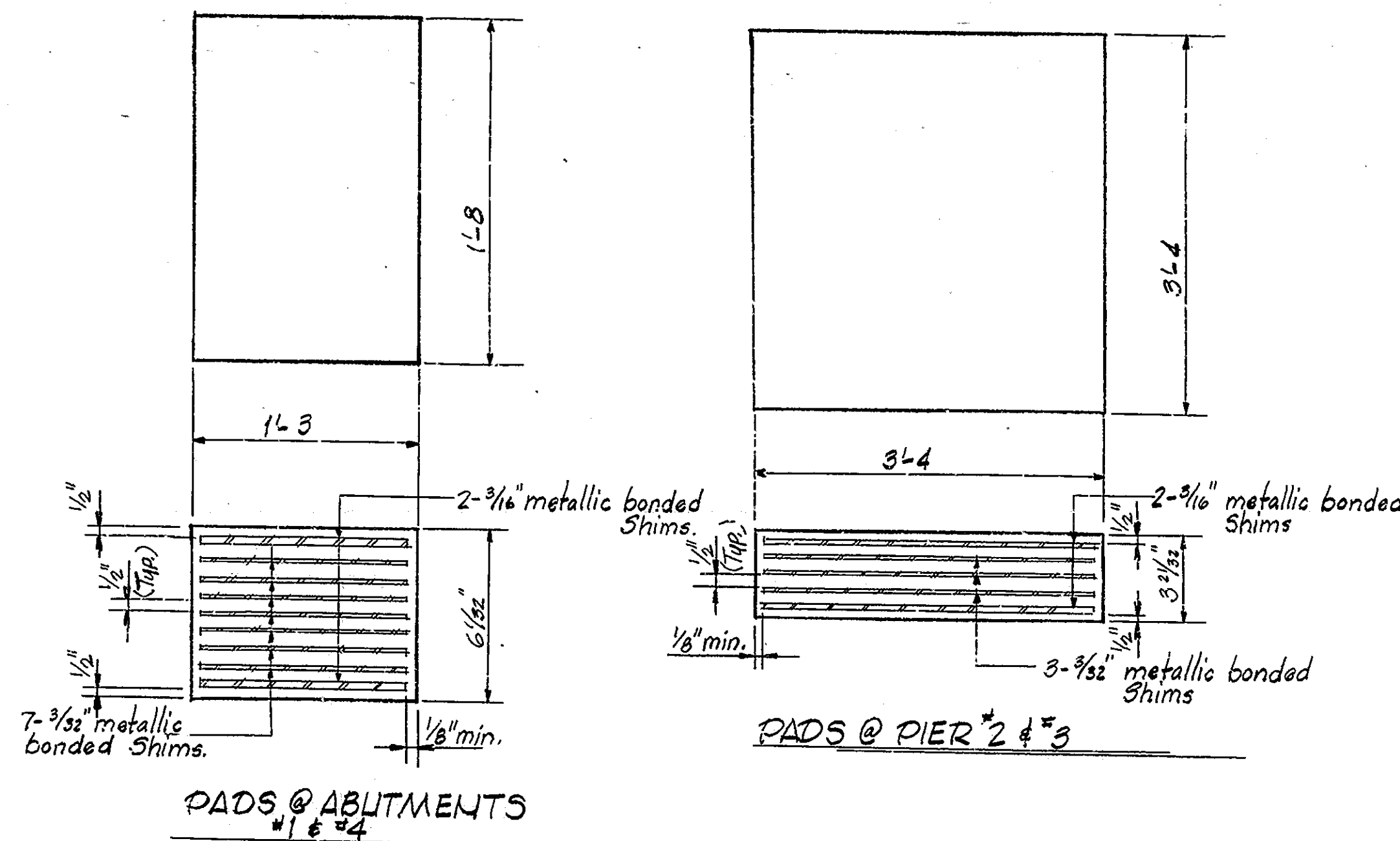


Notes: Concrete curb not to be poured until post-tensioning is completed. See Drwg. C-2 for railing post spacing.

CLIRB PLAN
Scale: None



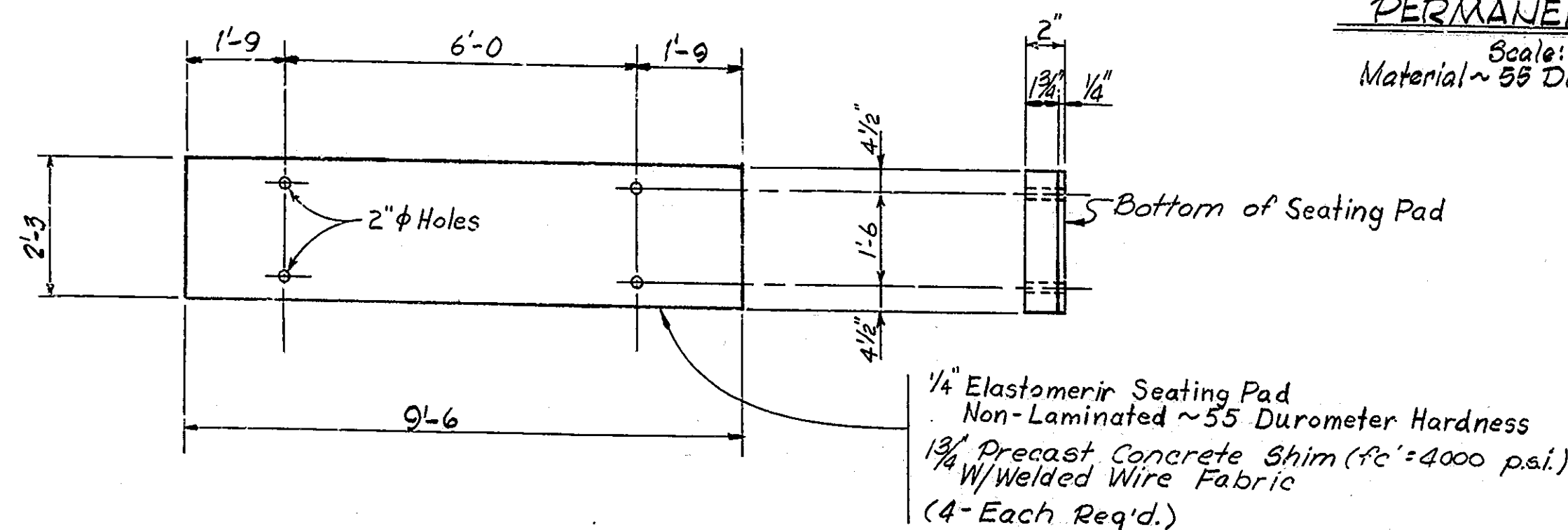
SECTION A-A
Scale: 3/4" = 1'-0"



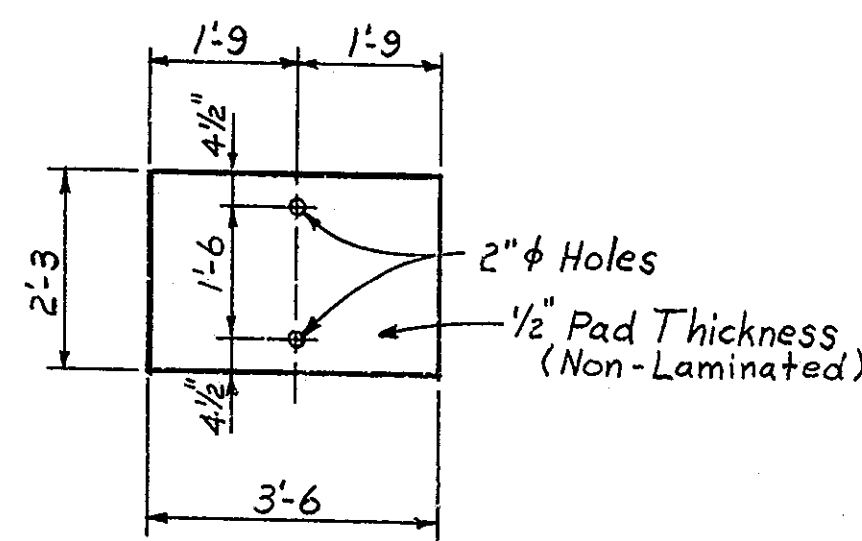
PADS @ ABUTMENTS
#1 & #4

PADS @ PIER #2 & #3

PERMANENT BEARING PADS
Scale: None
Material ~ 55 Durometer Elastomer



TEMPORARY SEATING PAD & CONCRETE SHIM
Scale: None



TEMPORARY BEARING PAD (8 Req'd)
Scale: None
Material ~ 55 Durometer Elastomer

BILL OF MATERIALS

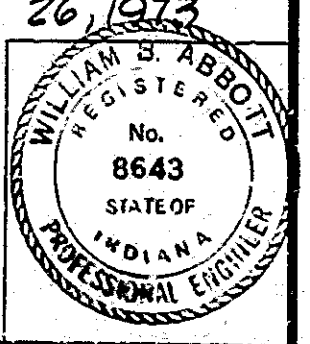
REINFORCING STEEL			
SIZE & MARK	N ^o OF BARS	LENGTH	WEIGHT (lbs.)
#5	68	20'-0"	13.14
CONCRETE			
Special Class "C" Concrete (Mid-Span Splice)			
			8.7 Cys.
Class "C" in Superstructure (Curb)			
			14.7 Cys.
MISCELLANEOUS			
Railing, Type S or C			385.8 L.Ft.
* Type "H" Expansion Joint			437.1 L.Ft.
Sheet Applied Membrane			8298 S.Ft.
Bit. Mixture for Approaches			87.6 T.
Deck Drains			24 Ea.
* Conc. Structural Members (Westbound Structure)			1 L. Sum.

* Includes 92.0 L.Ft. of Modified Type "H" Expansion Joint
* This item to be included in Project ST-151E

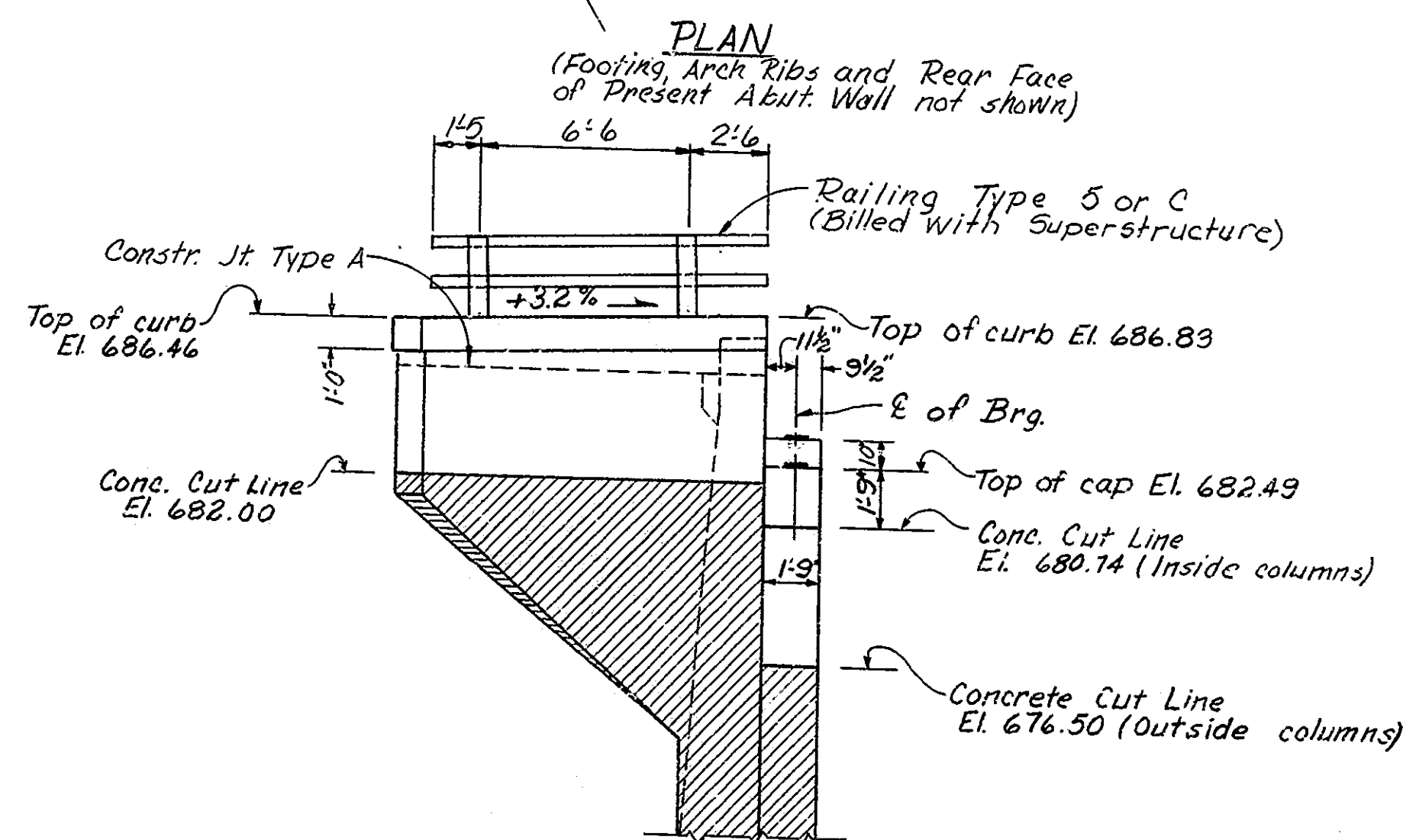
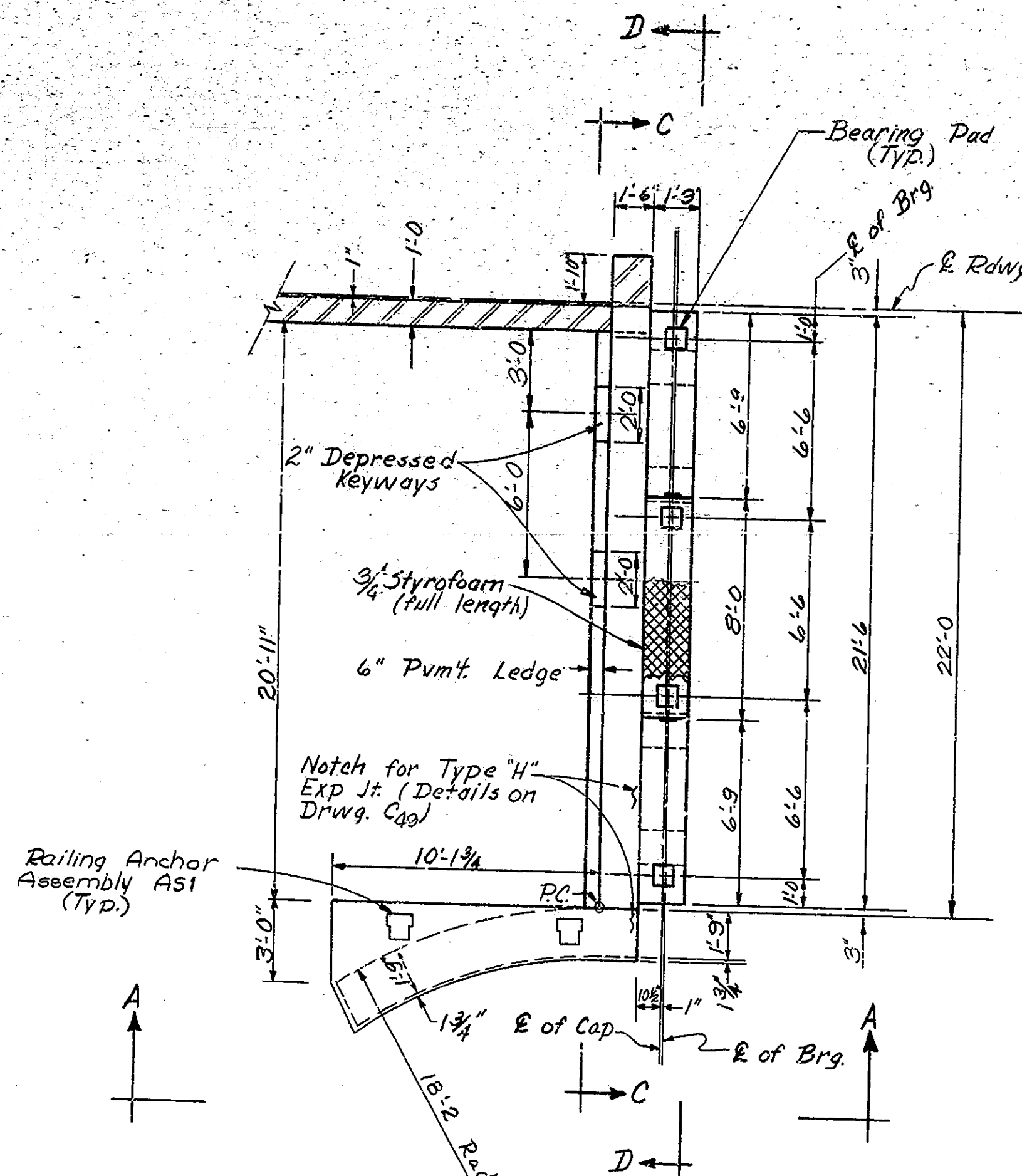
MISCELLANEOUS
SUPERSTRUCTURE DETAILS
WESTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: As Noted
DATE: DECEMBER 26, 1973

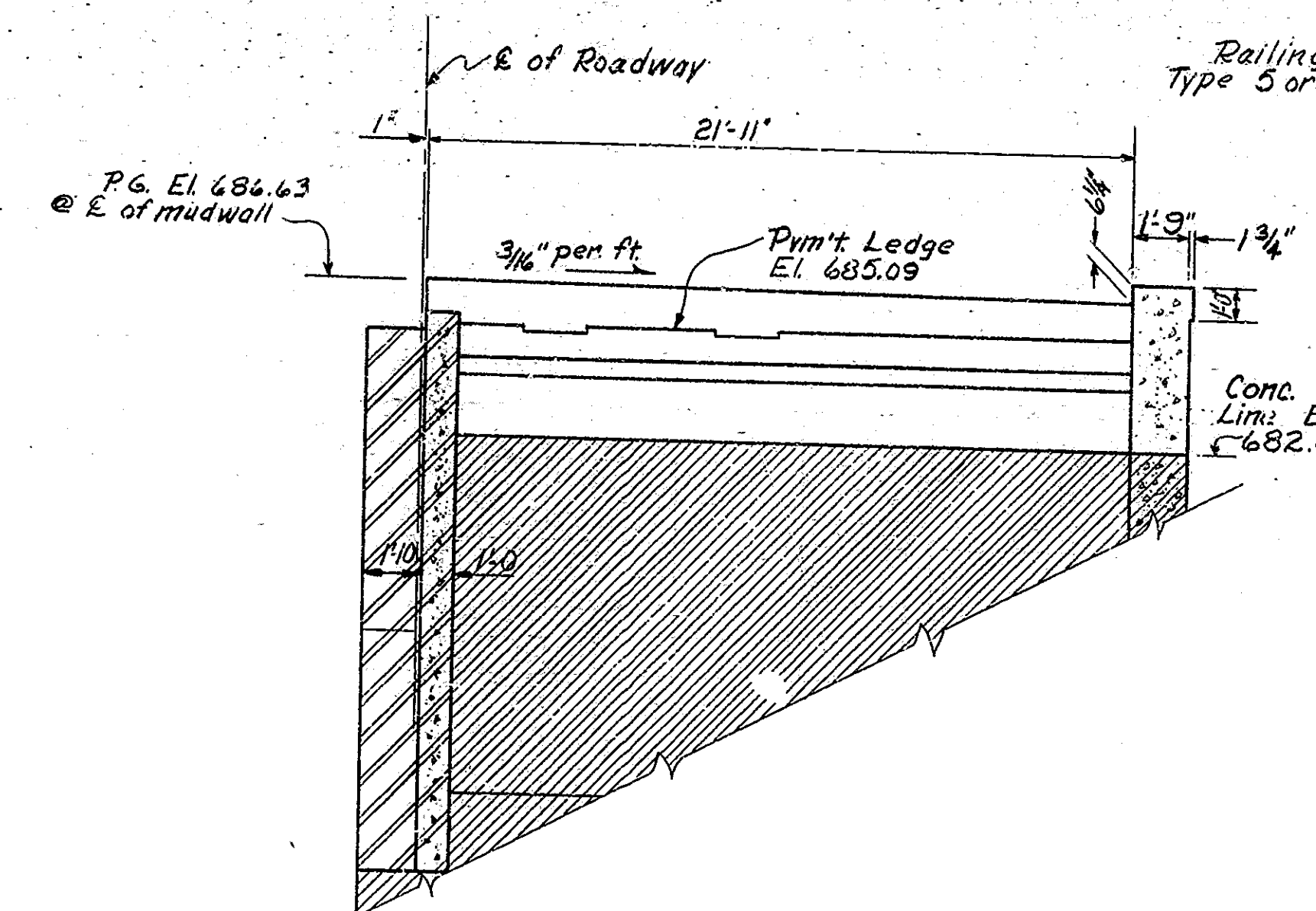
DESIGNED: FCB CKD: VHQ
DRAWN: D.A.S. 12/71 CKD: DSH
TRACED: CKD:
DRAWING: C27 OF 49 SHEET: 35A OF 99
PROJECT: ST-151E Prefab. RF-151(12) Constr.
CONTRACT NO. B-9658 Prefab. B-9818 Constr.
BRIDGE FILE: 60-40-917A



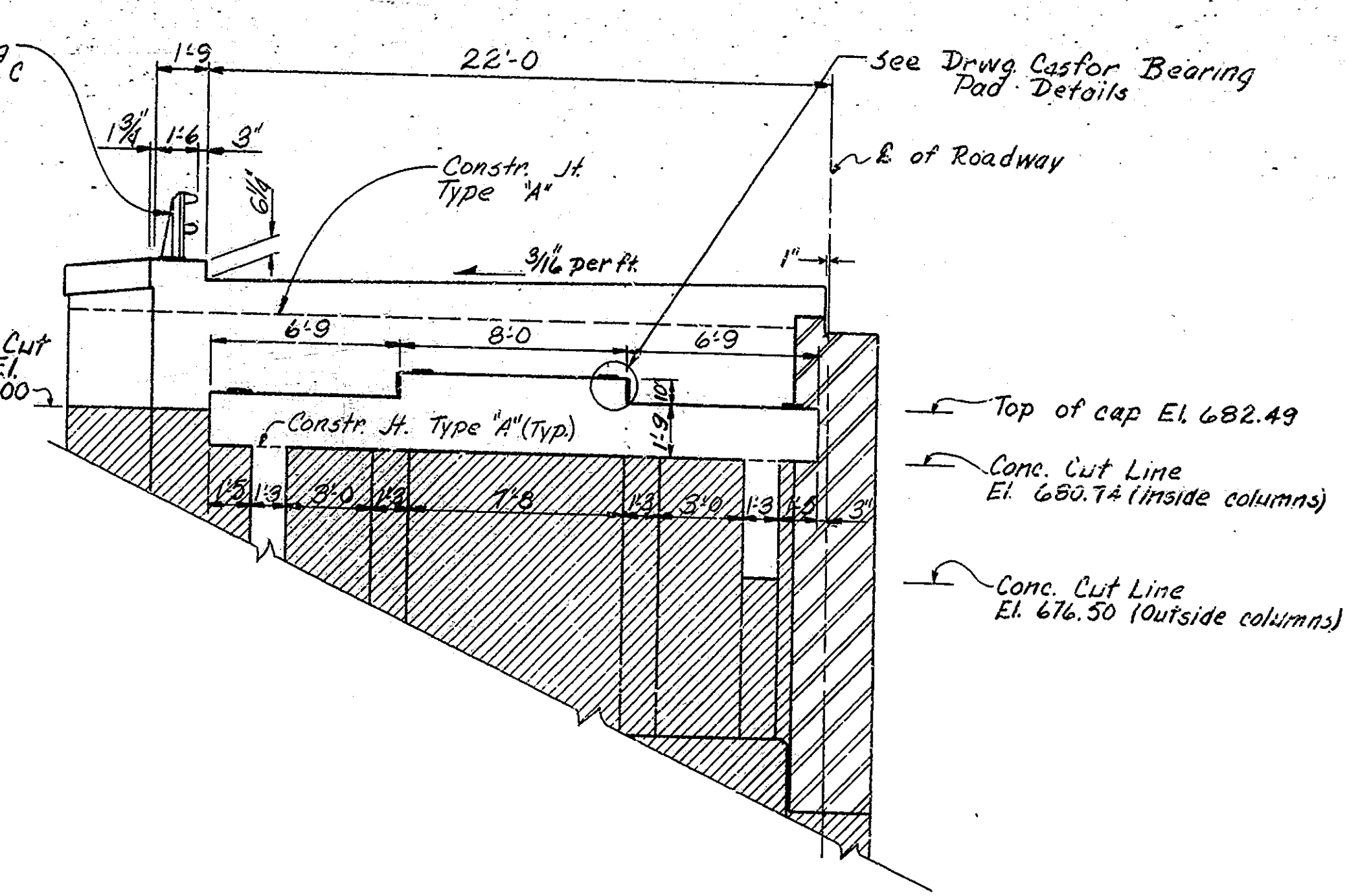
Rev. 6-28-74 Holes in temporary bearing assembly; size of temporary bearing pad.
Rev. 5-18-74 Class "A" in Superstr. changed to Class "C" in Superstr.



ELEVATION A-A



ELEVATION C-C



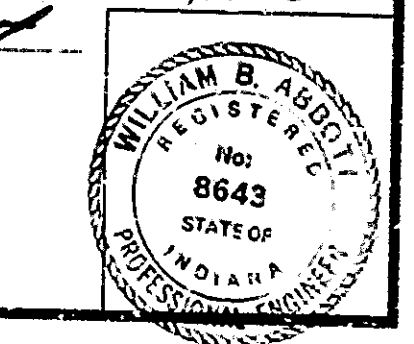
ELEVATION D-D

- Indicates portions of Existing structure to remain in place.
- Indicates portions to be constructed with Abutment No. 1 of Westbound structure.

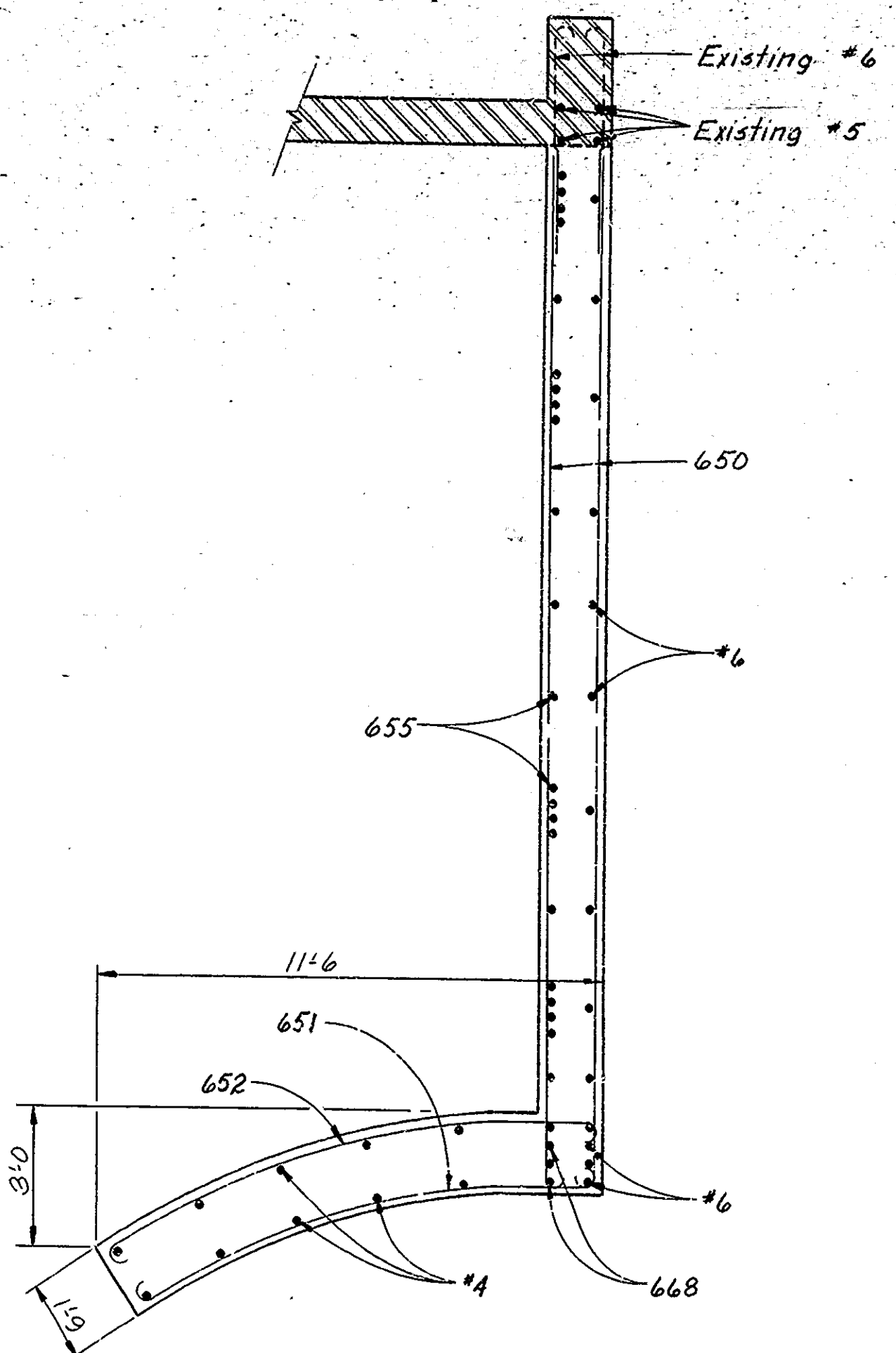
ABUTMENT NO. 1 DETAILS
EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/4" = 1'-0" DATE: DECEMBER 26, 1973

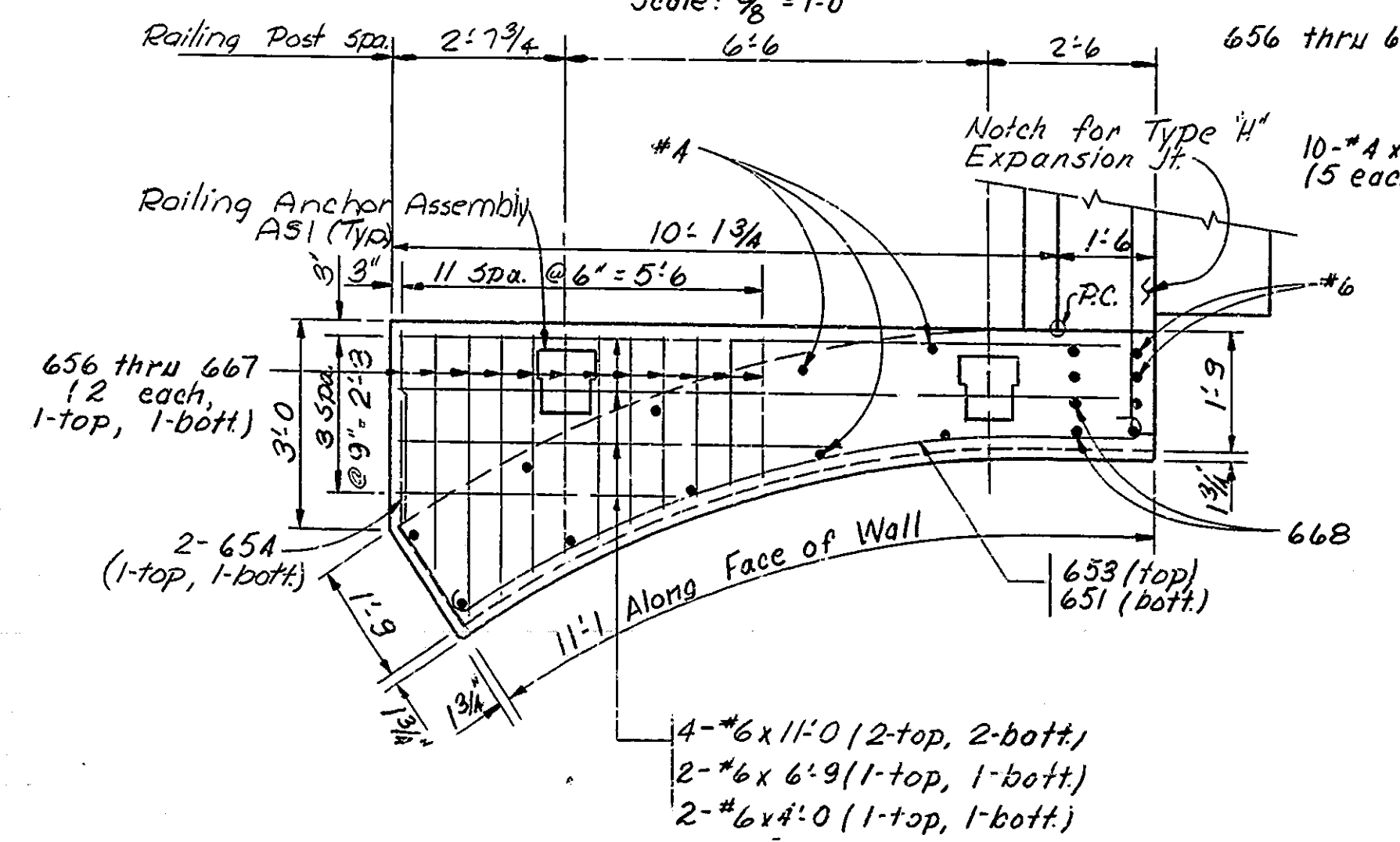
DRAWING: C-28 OF 49 SHEET: 36 OF 99
PROJECT: DF-151 (12)
CONTRACT NO. 9818
BRIDGE FILE: 50-40-917A



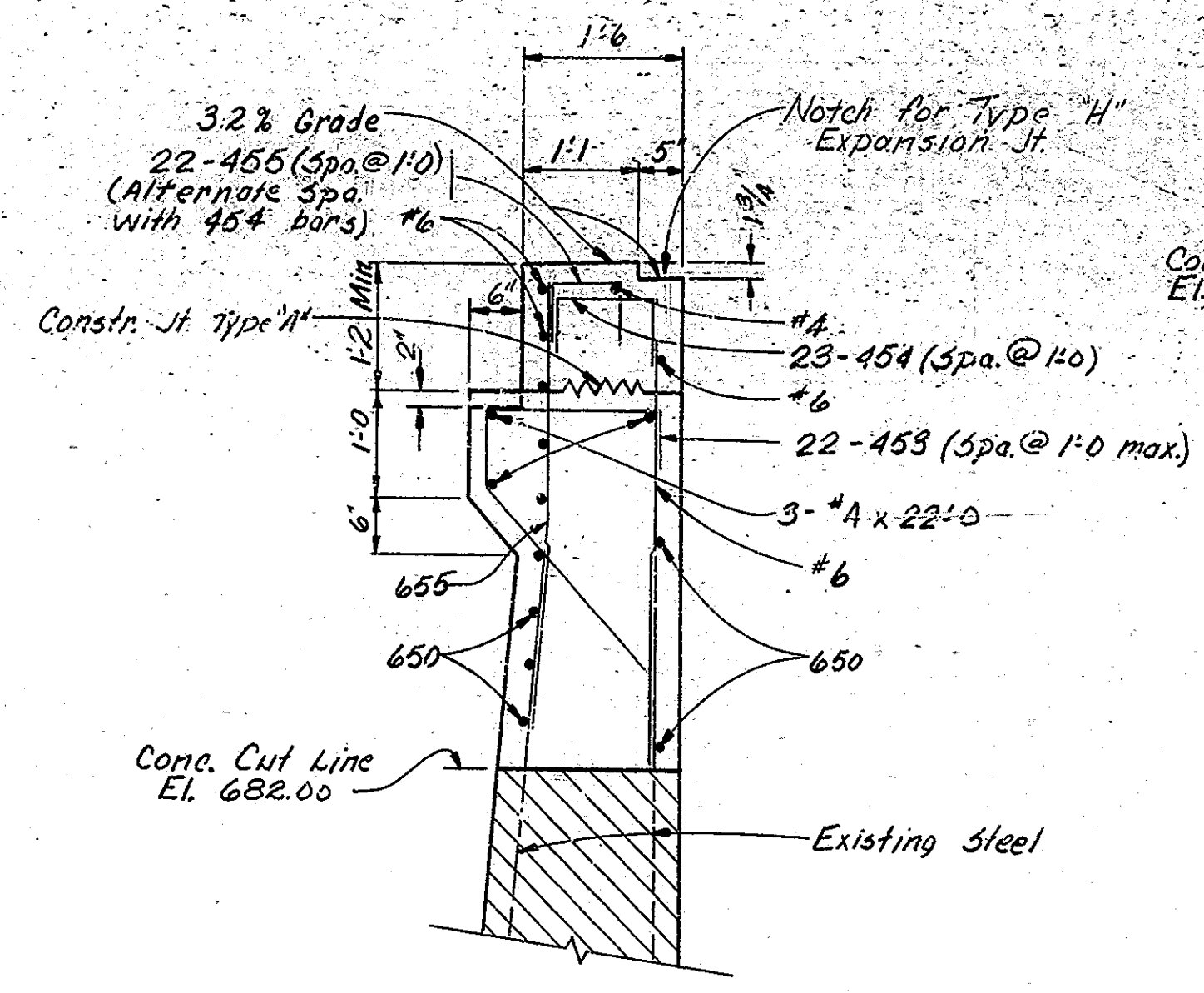
DESIGNED: E.A.B. C.K.O. M.C.H.
DRAWN: G.M.H. 7-13 C.K.O. D.S.H.
TRACED: C.K.O.



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

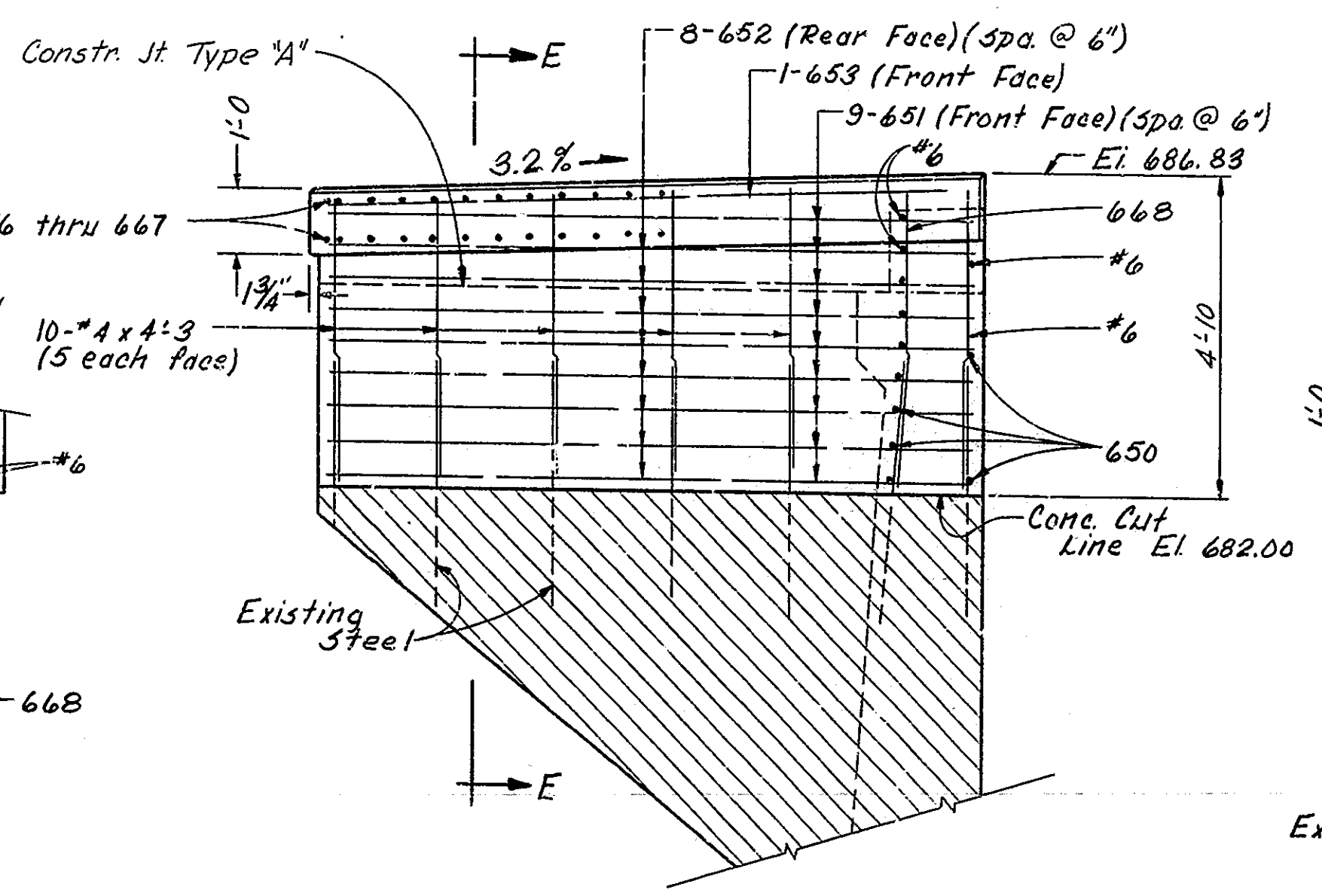


PLAN
Scale: 1/2" = 1'-0"

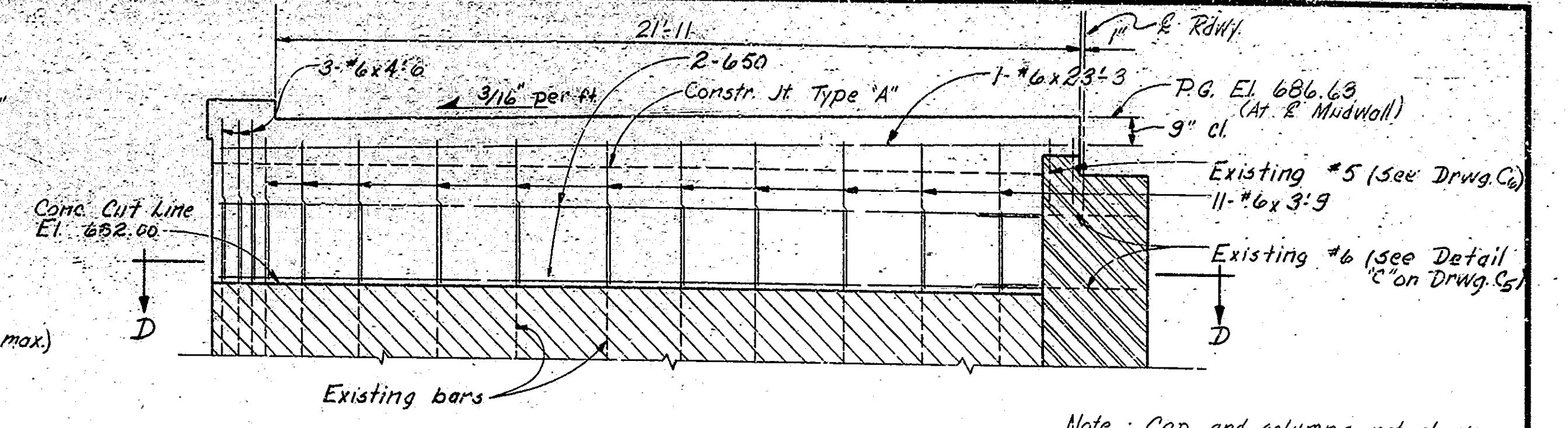


SECTION THRU MUDWALL
Scale: 3/4" = 1'-0"

Note: Mudwall and Wingwall to be poured after superstructure has been post-tensioned.

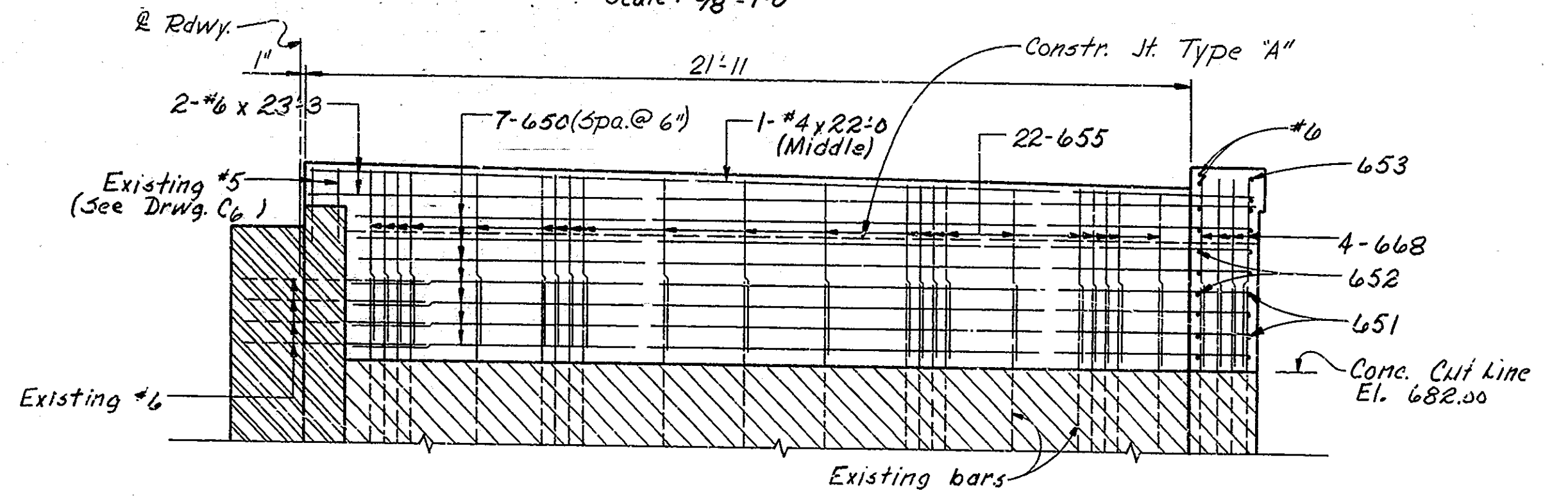


ELEVATION
Scale: 1/2" = 1'-0"



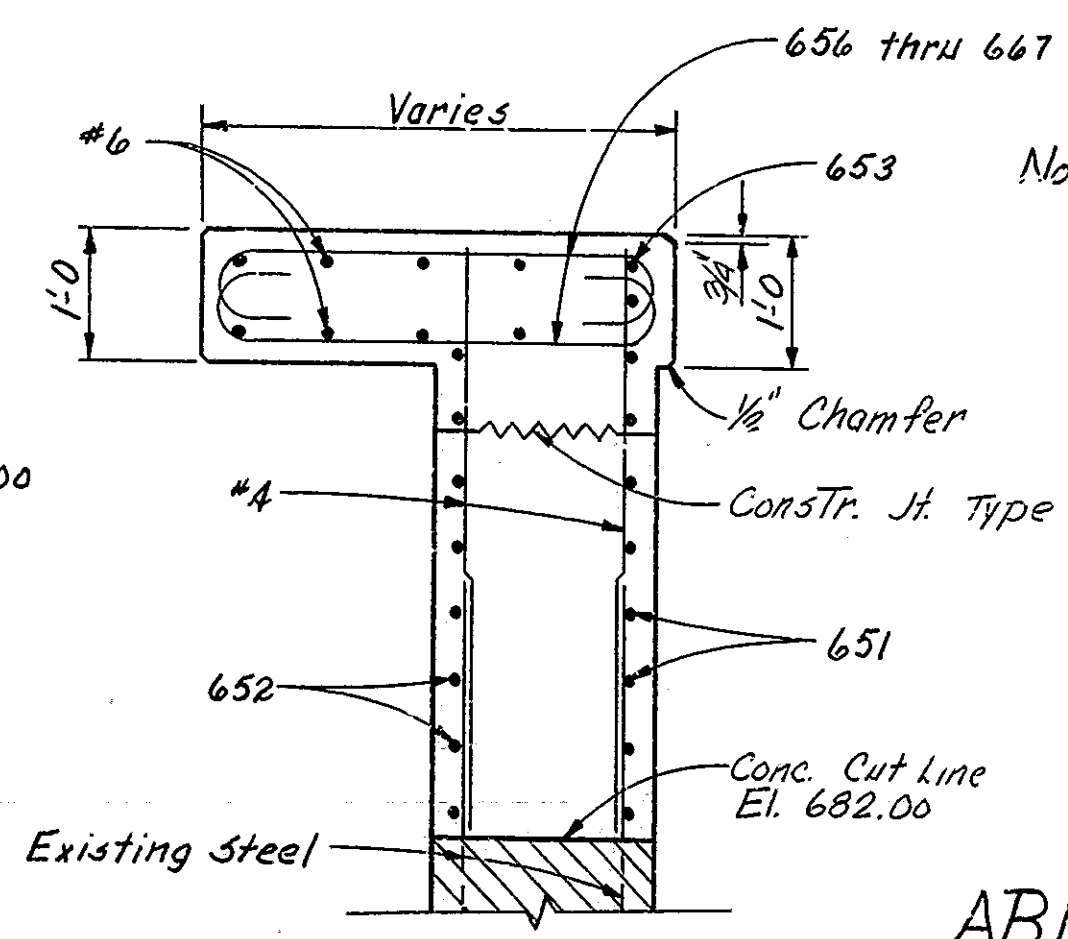
MUDWALL SHOWING FRONT FACE STEEL
Scale: 3/8" = 1'-0"

Note: Cap and columns not shown.



MUDWALL SHOWING REAR FACE STEEL
Scale: 3/8" = 1'-0"

Note: Pavement Ledge not shown.



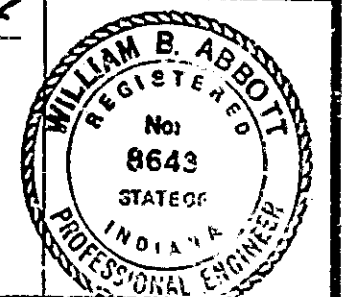
SECTION E-E
Scale: 3/4" = 1'-0"

Notes: Reinforcing steel covering shall be 2" unless noted or to match the existing conditions.
 [Hatched Box] Indicates portions of Existing Structure to remain in place.
 [Diagonal Hatched Box] Indicates portions to be constructed with Abut. No. 1 of Westbound Structure.
 All existing steel to be cleaned and extended to provide min. 2'-0" lap with new steel.

ABUTMENT No 1 DETAILS
EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: AS NOTED DATE: DECEMBER 26, 1973

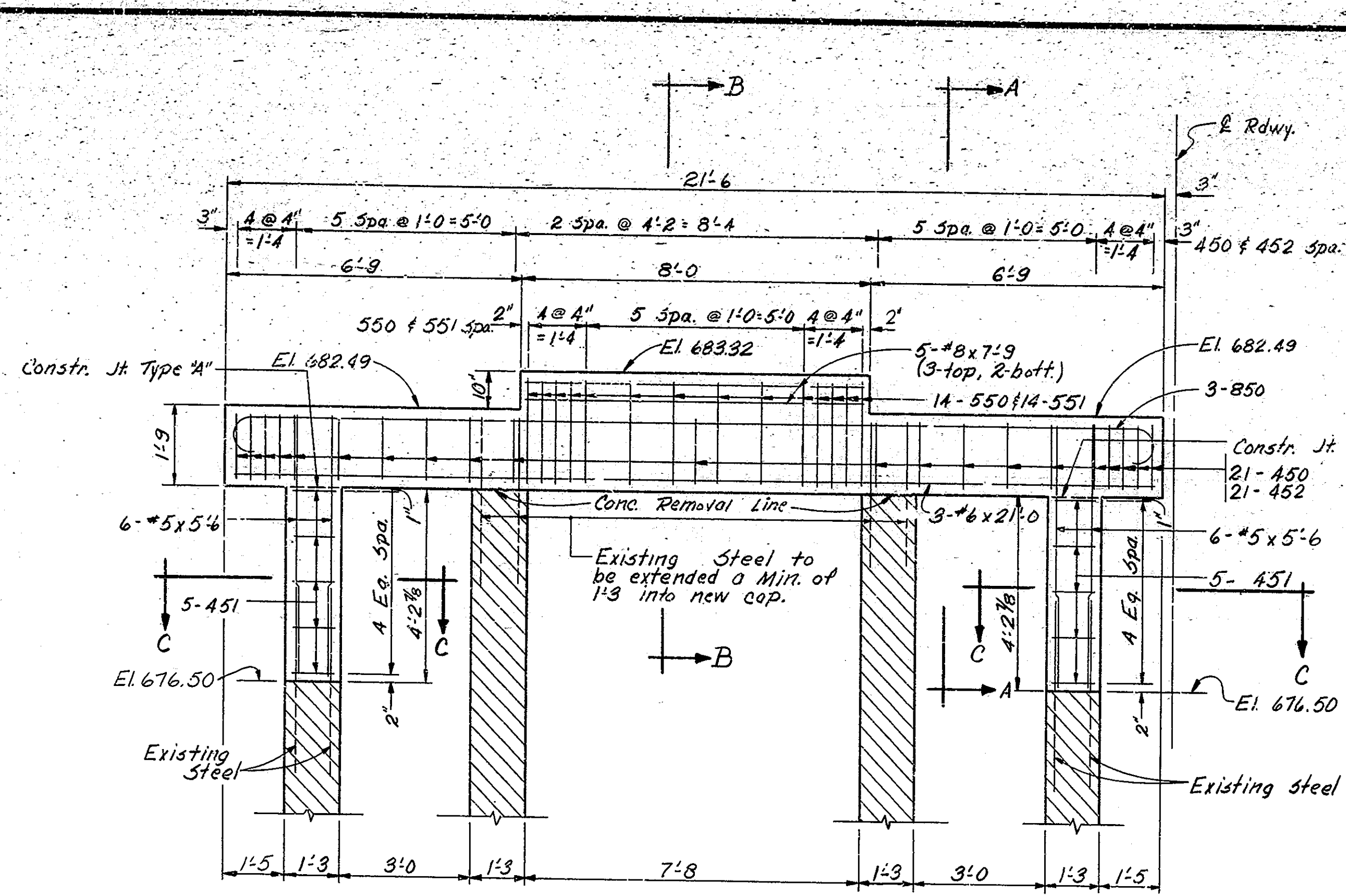
DRAWING: C-29 OF 49 SHEET: 37 OF 99
PROJECT: RF-151 (12)
CONTRACT NO. 9818
BRIDGE FILE: 50-40-917A



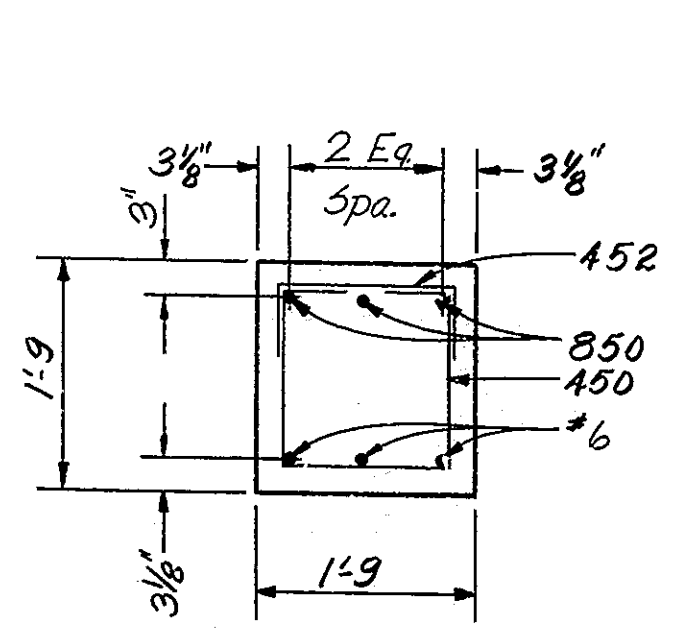
DESIGNED	EAB	CWD	MCN
DRAWN	G.M.H.	CWD	D.H.
TRACED		CWD	

Note: See Br. Std. C, for Reinf. Bar Notes.

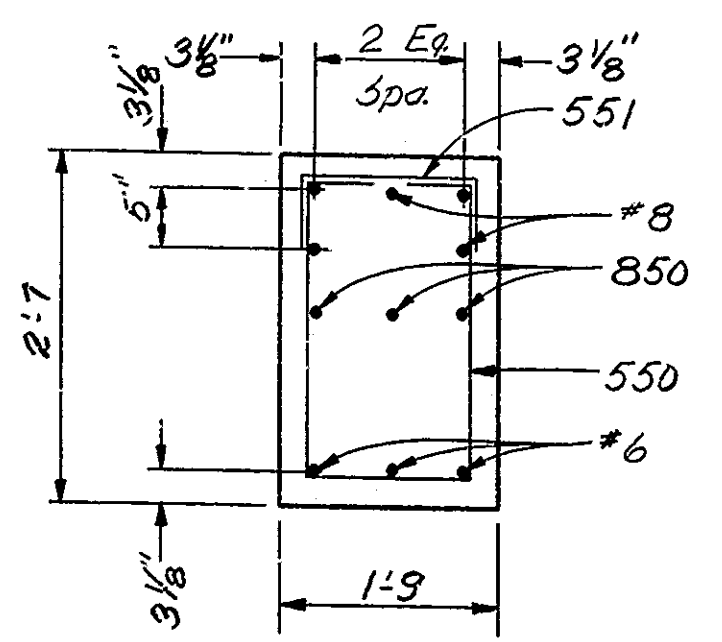
WING WALL DETAILS



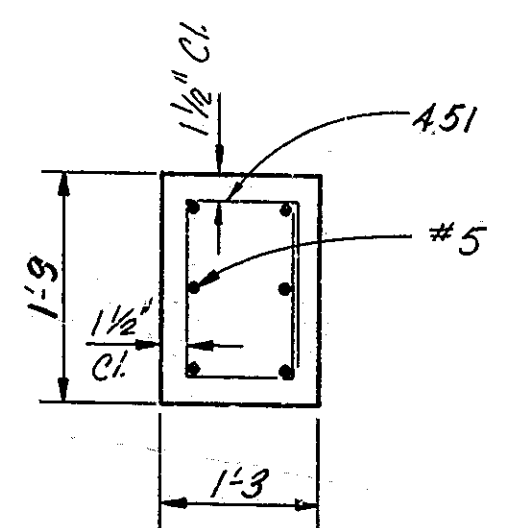
CAP AND COLUMN DETAILS
Scale: 1/4" = 1'-0"



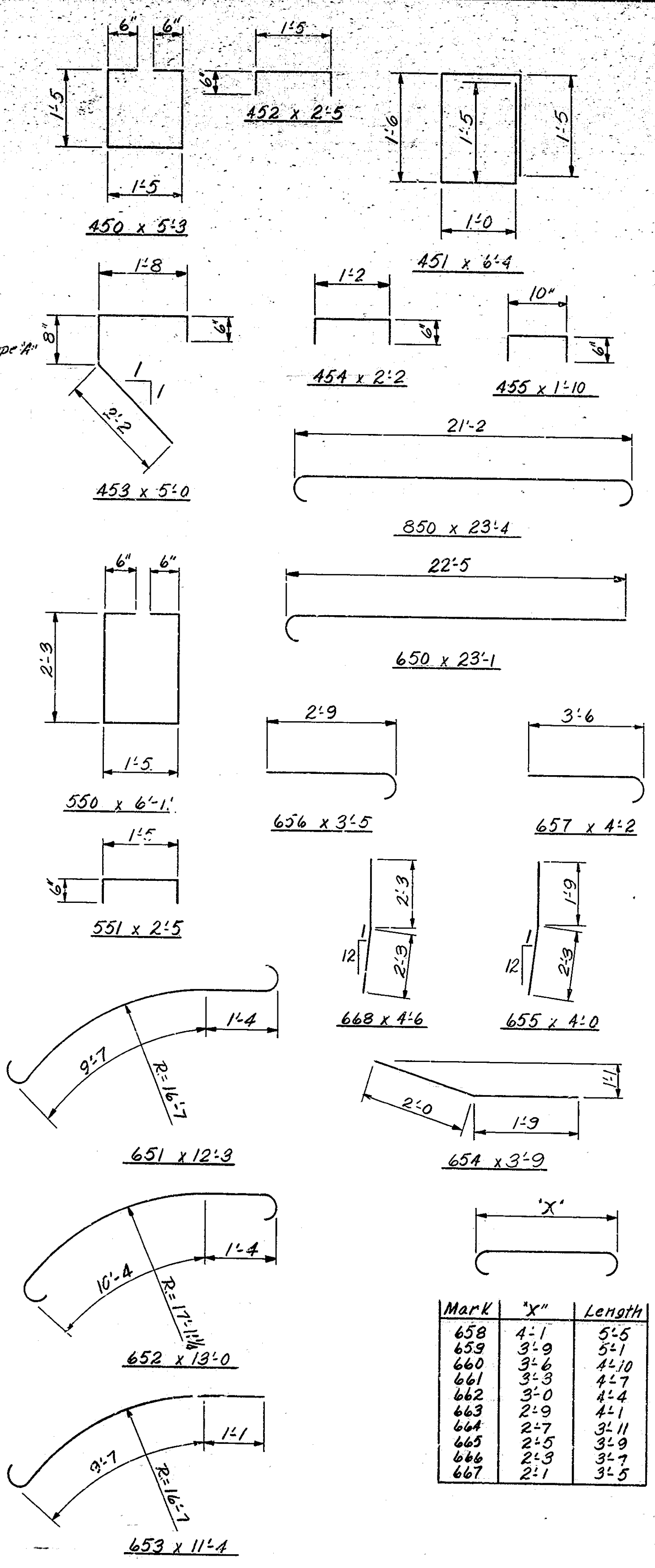
SECTION A-A
Scale: 3/4" = 1'-0"



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



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



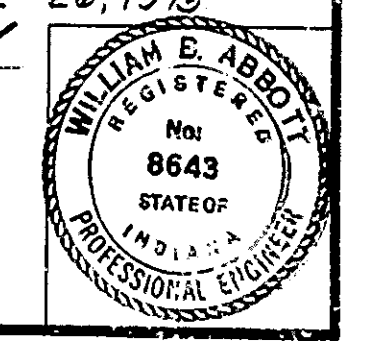
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (lbs.)
#8	3	23'-4	
#8	5	7'-9	
Total #8			290
650	9	23'-1	
651	9	12'-3	
652	8	18'-0	
653	1	11'-4	
654	2	3'-9	
655	22	4'-0	
656	2	3'-5	
657	2	4'-2	
658	2	5'-5	
659	2	5'-1	
660	2	4'-10	
661	2	4'-7	
662	2	4'-4	
663	2	4'-1	
664	2	3'-11	
665	2	3'-9	
666	2	3'-7	
667	2	3'-5	
668	4	4'-6	
#6	3	23'-3	
#6	3	21'-0	
#6	4	11'-0	
#6	2	6'-9	
#6	3	4'-6	
#6	2	4'-0	
#6	11	3'-9	
Total #6			1353
550	14	6'-11	
551	14	2'-5	
#5	12	5'-6	
Total #5			205
450	21	5'-9	
451	10	6'-4	
452	21	2'-5	
453	22	5'-0	
454	23	2'-2	
455	22	1'-10	
#4	4	22'-0	
#4	10	4'-3	
Total #4			371
Total Steel			2219
CONCRETE			
CLASS 'A' IN SUBSTRUCTURE			
Above Dvm't Ledge			3.3 cfs.
Below Dvm't Ledge			6.7 cfs.
Cap			2.9 cfs.
Columns			0.7 cfs.
TOTAL CLASS 'A'			13.6 cfs.

Mark	"x"	Length
658	4'-1	5'-5
659	3'-9	5'-1
660	3'-6	4'-10
661	3'-3	4'-7
662	3'-0	4'-4
663	2'-9	4'-1
664	2'-7	3'-11
665	2'-5	3'-9
666	2'-3	3'-7
667	2'-1	3'-5

ABUTMENT NO. 1 DETAILS
EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

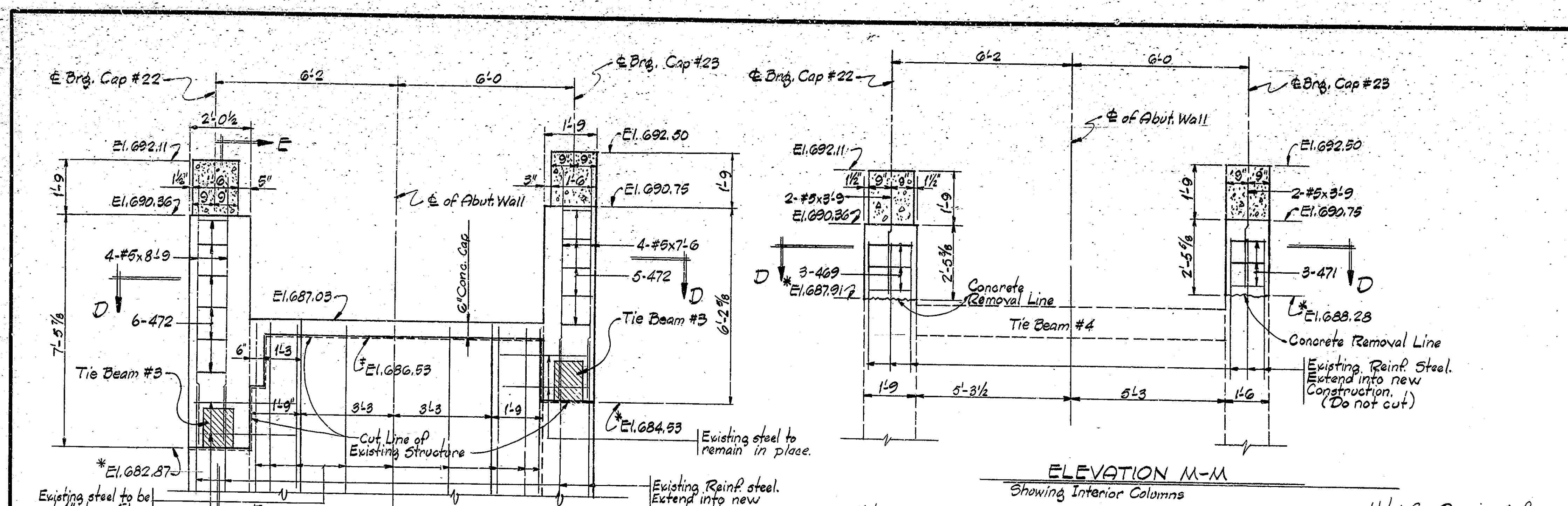
SCALE: AS NOTED DATE: DECEMBER 26, 1973

DESIGNED: E.A.B. CK'D: M.H.
DRAWN: G.M.H. CK'D: D.S.H.
TRACED: CK'D:
PROJECT: RF-151 (12)
CONTRACT NO. B-9818
BRIDGE FILE: 50-40-917A



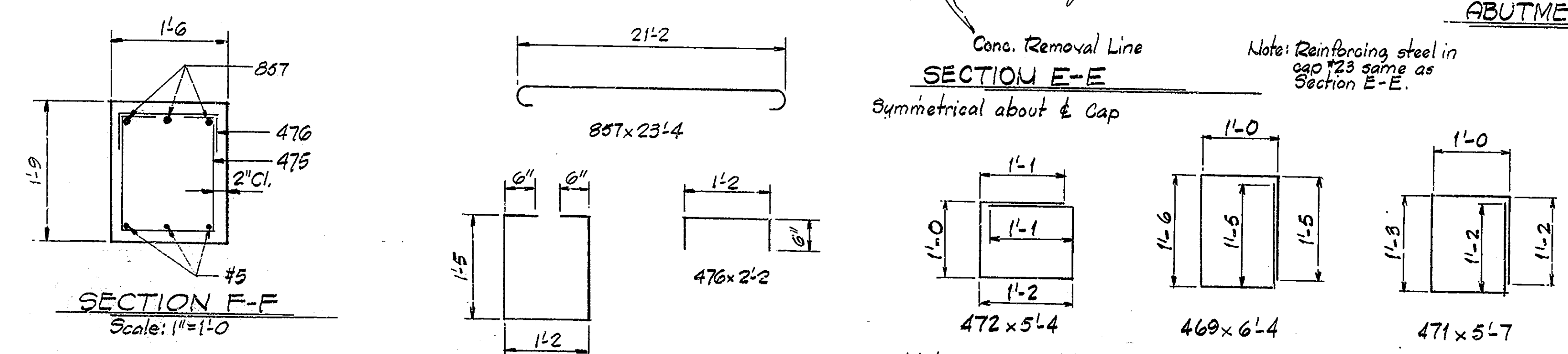
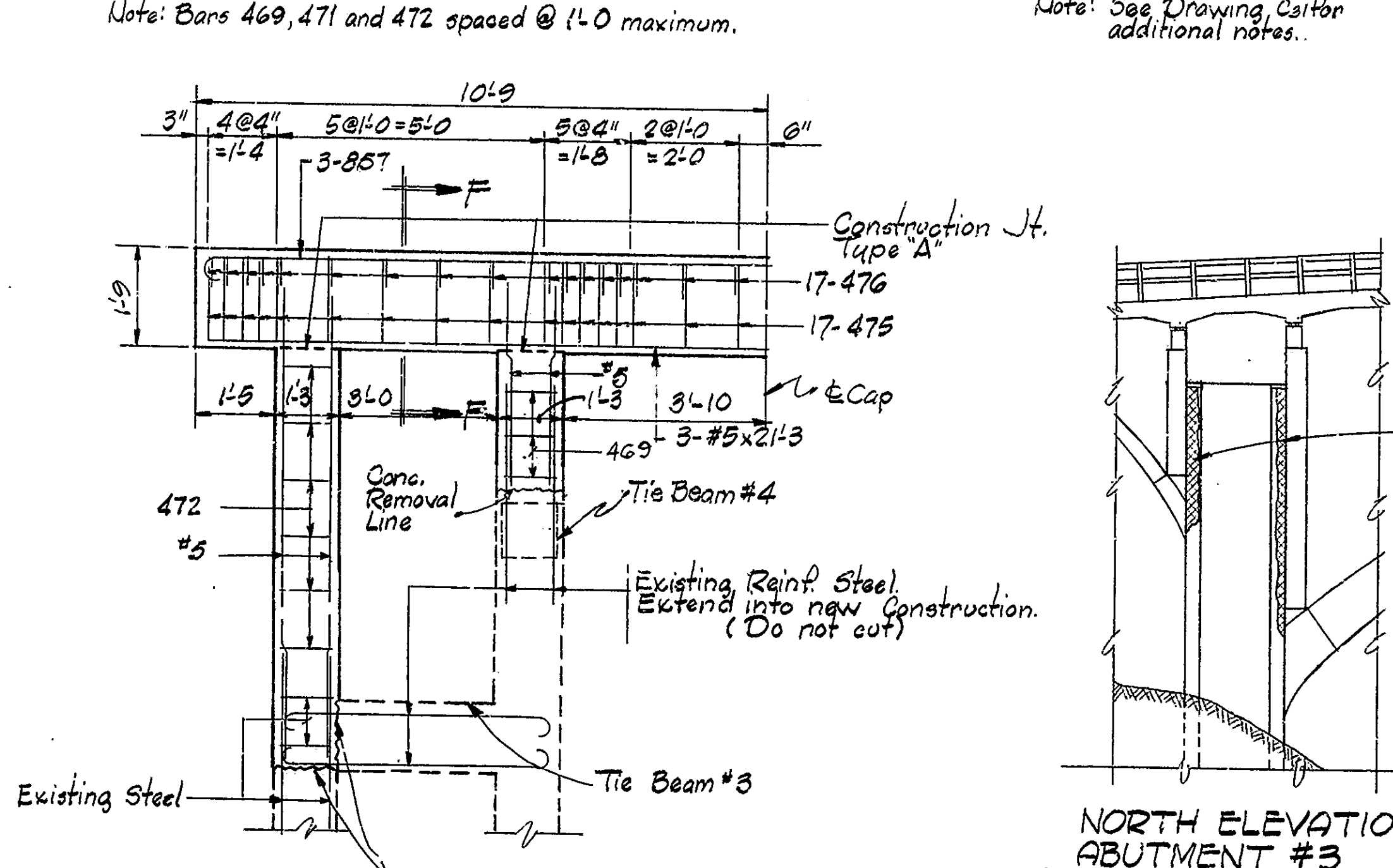
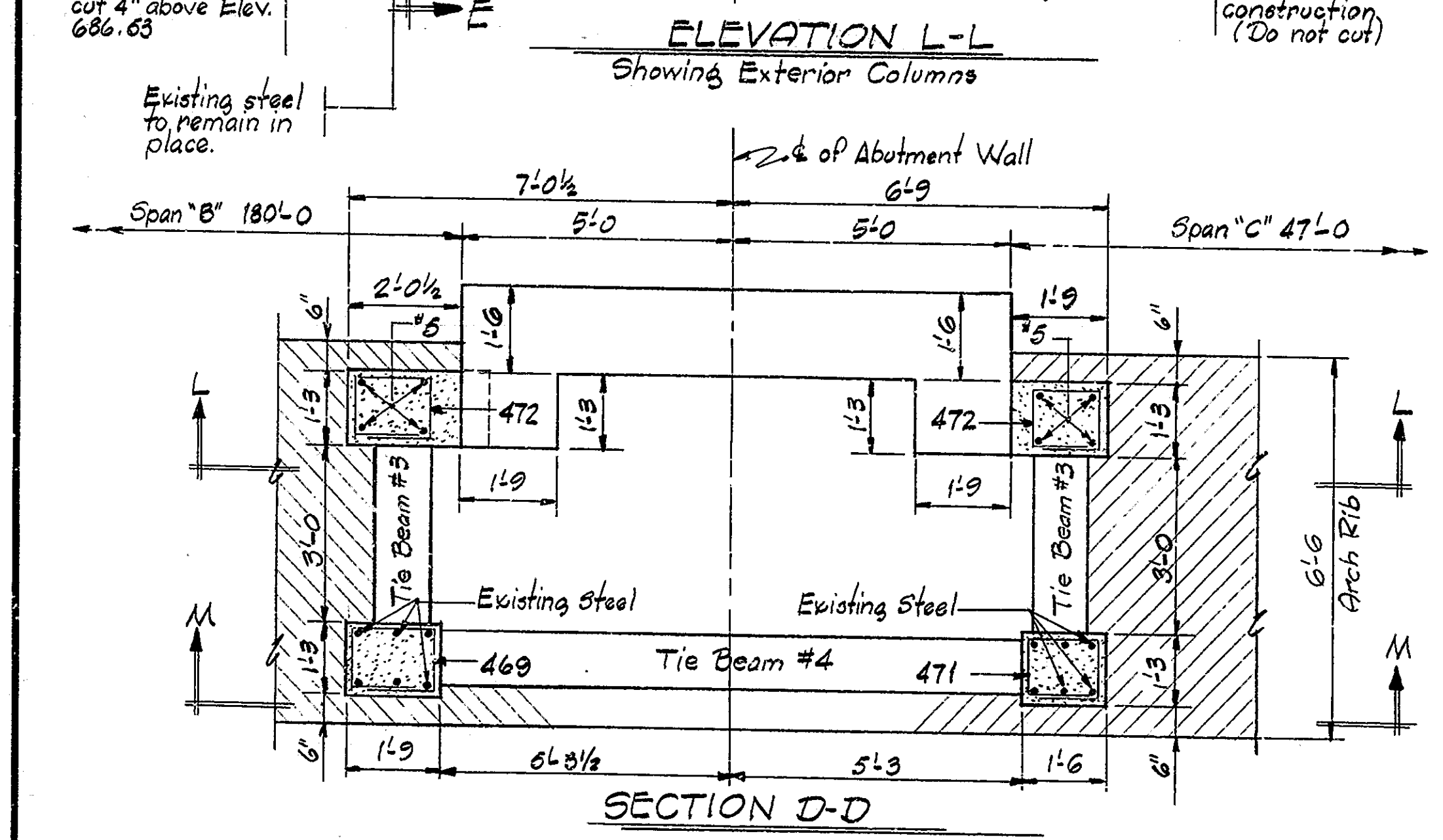
DESIGNED: E.A.B. CK'D: M.H.
DRAWN: G.M.H. CK'D: D.S.H.
TRACED: CK'D:

Note: See Br. Std. C1 for Reinf. Bar Notes.



BILL OF MATERIALS

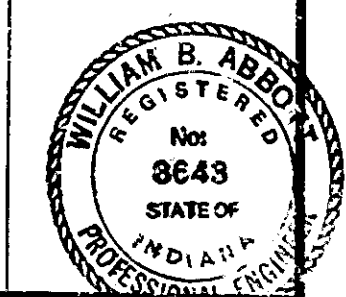
REINFORCING STEEL			
SIZE & MARK	NO OF BARS	LENGTH	WEIGHT (LBS)
#5	6	23'-4"	374
#5	6	21'-3"	
#5	8	8'-9"	
#5	8	7'-6"	
#5	8	3'-9"	
Total #5			300
#469	6	6'-4"	
#471	6	5'-7"	
#472	22	5'-4"	
#475	68	5'-0"	
#476	68	2'-2"	
Total #4			452
Total Steel			1126
CONCRETE			
Class A in Substructure			
Cap	2 @ 2'-1"		4.2 cys.
6" Conc. Cap	2 @ 0'-4"		0.8 cys.
Columns @ Cap #22			1.8 cys.
Columns @ Cap #23			1.4 cys.
Total Class A			8.2 cys.
MISCELLANEOUS			
Repainting/Masonry in Structures			
			55 sq. ft.



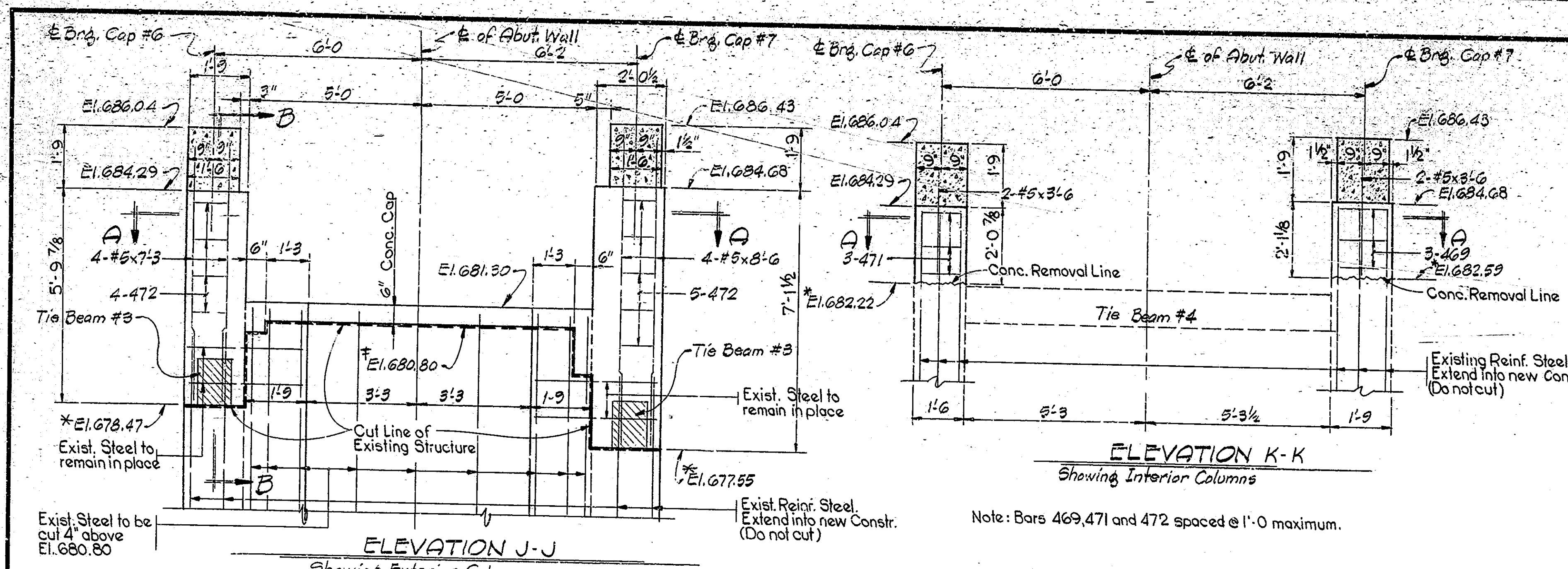
**ABUTMENT #3 DETAILS
EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION**

SCALE: 1/2"=1'-0" unless noted DATE: DECEMBER 26, 1973

DRAWING: C32 OF 49 SHEET: 40 OF 99
PROJECT: RF-151 (12)
CONTRACT NO. B-9818
BRIDGE FILE: 50-40-917A

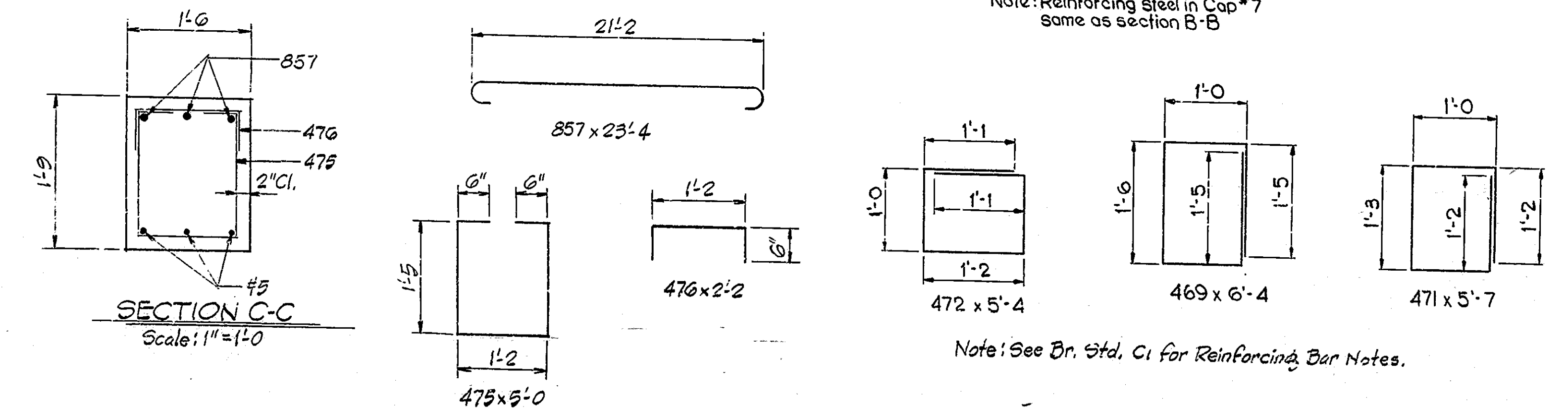
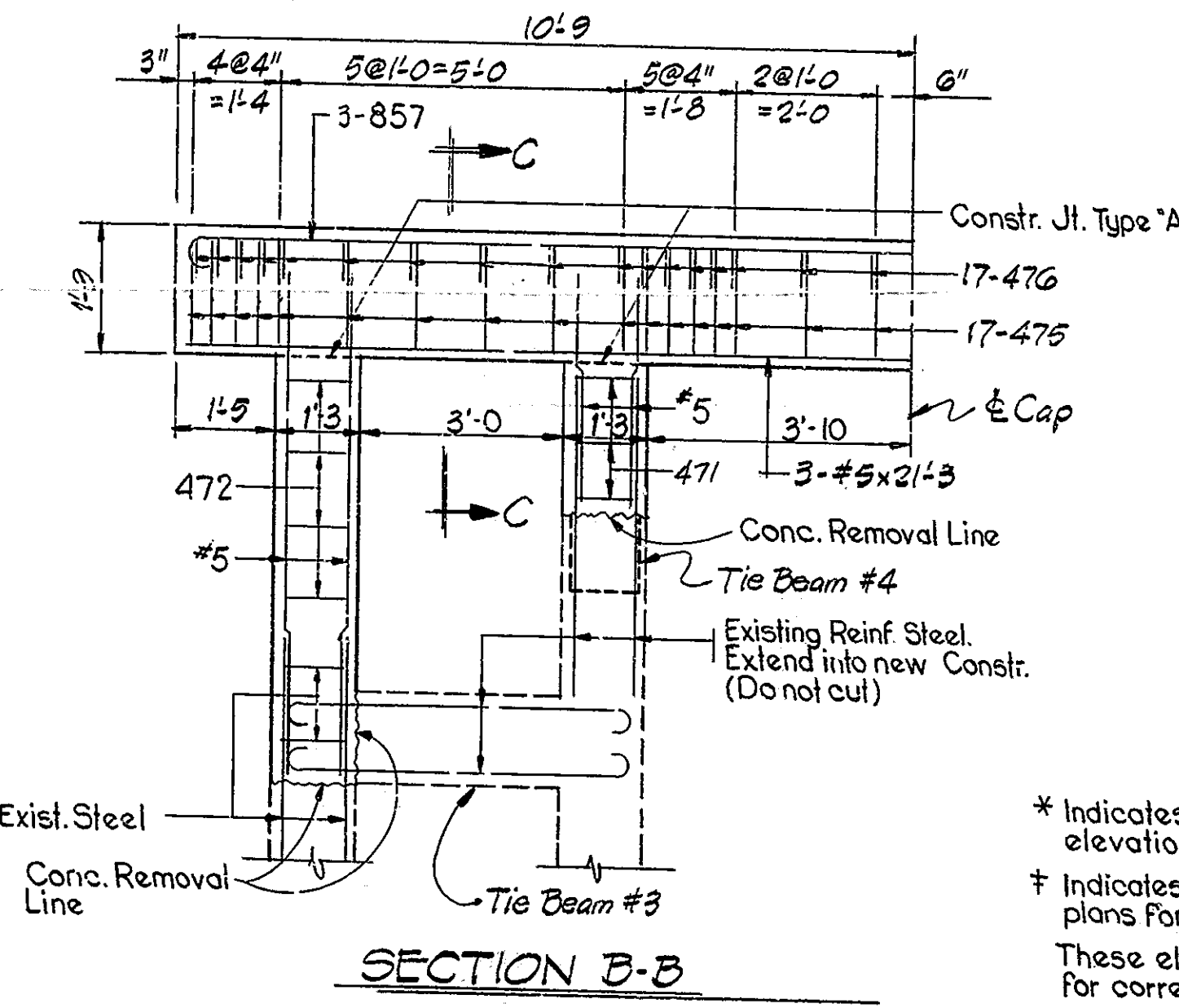
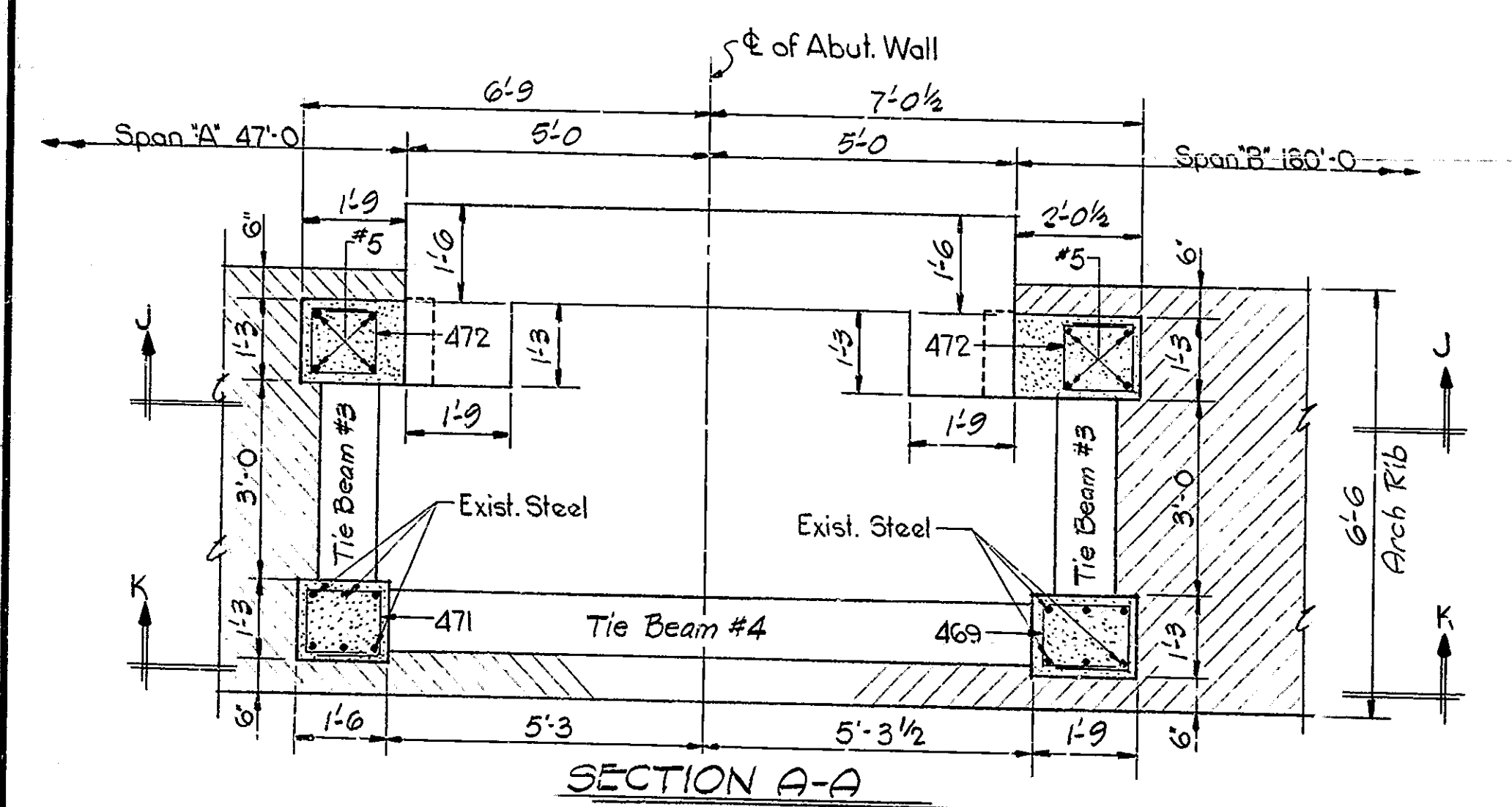


DESIGNED: FCB, C.K.D. MGN
DRAWN: J.S. 2/28/73, C.K.D. MGN 10/73
TRACED: C.K.D.



BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	Nº OF BARS	LENGTH	WEIGHT (LBS.)
857	6	23'-4"	374
#5	6	21'-3"	
#5	8	8'-6"	
#5	8	7'-3"	
#5	8	3'-6"	
Total #5			294
469	6	6'-4"	
471	6	5'-7"	
472	18	5'-4"	
475	68	5'-0"	
476	68	2'-2"	
Total #4			487
Total Steel			1105
CONCRETE			
Class A in Substructure			
Cap	2@2.1		4.2 cu yd.
6" Conc. Cap	2@0.4		0.8 cu yd.
Columns			1.2 cu yd.
Columns			1.7 cu yd.
Total Class A			7.9 cu yd.

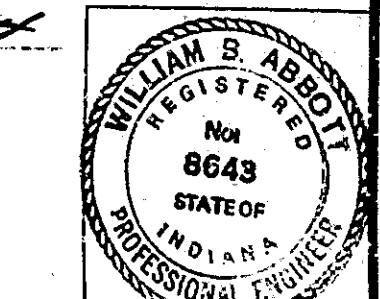


**ABUTMENT #2 DETAILS
EASTBOUND STRUCTURE**

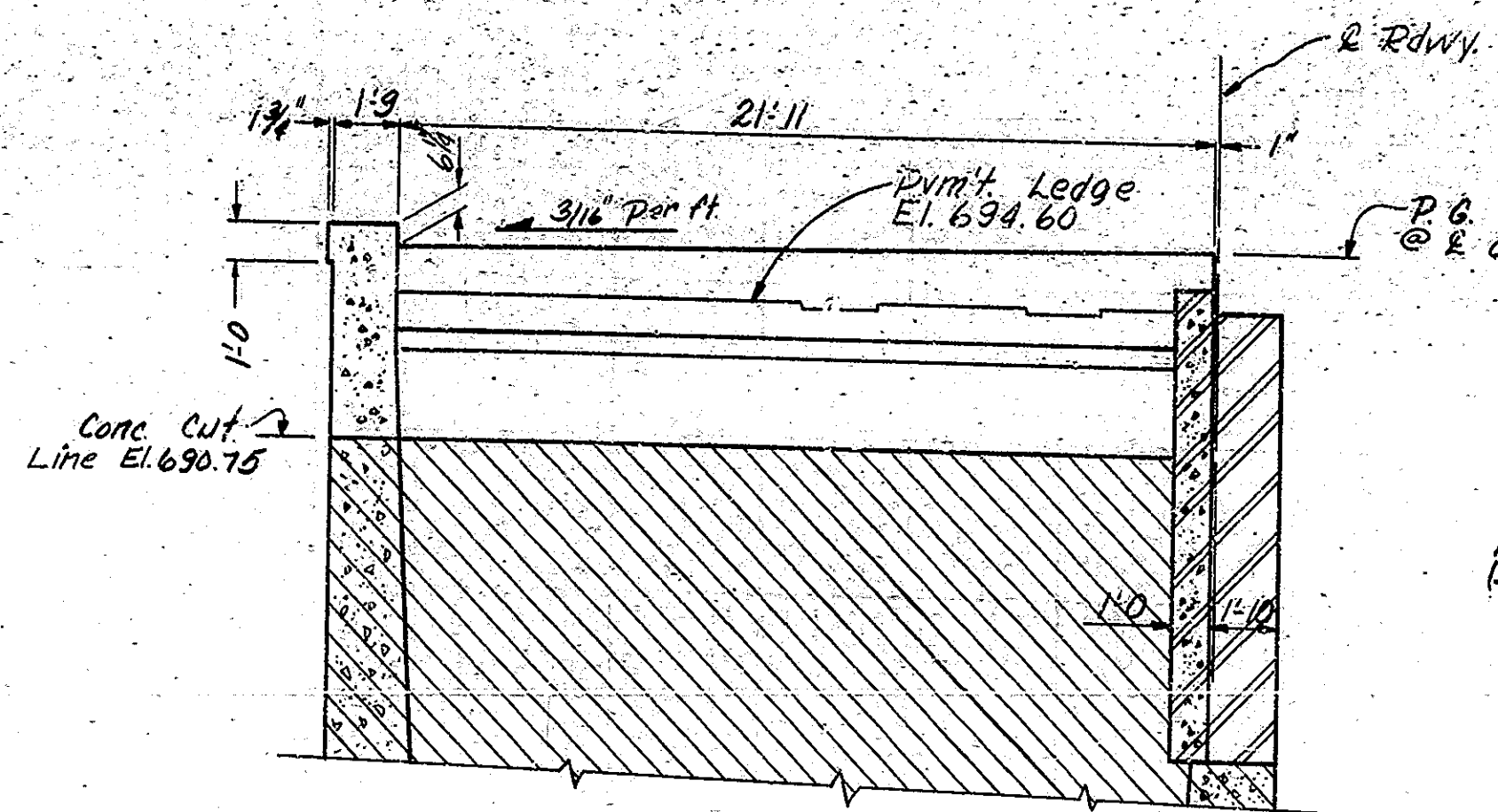
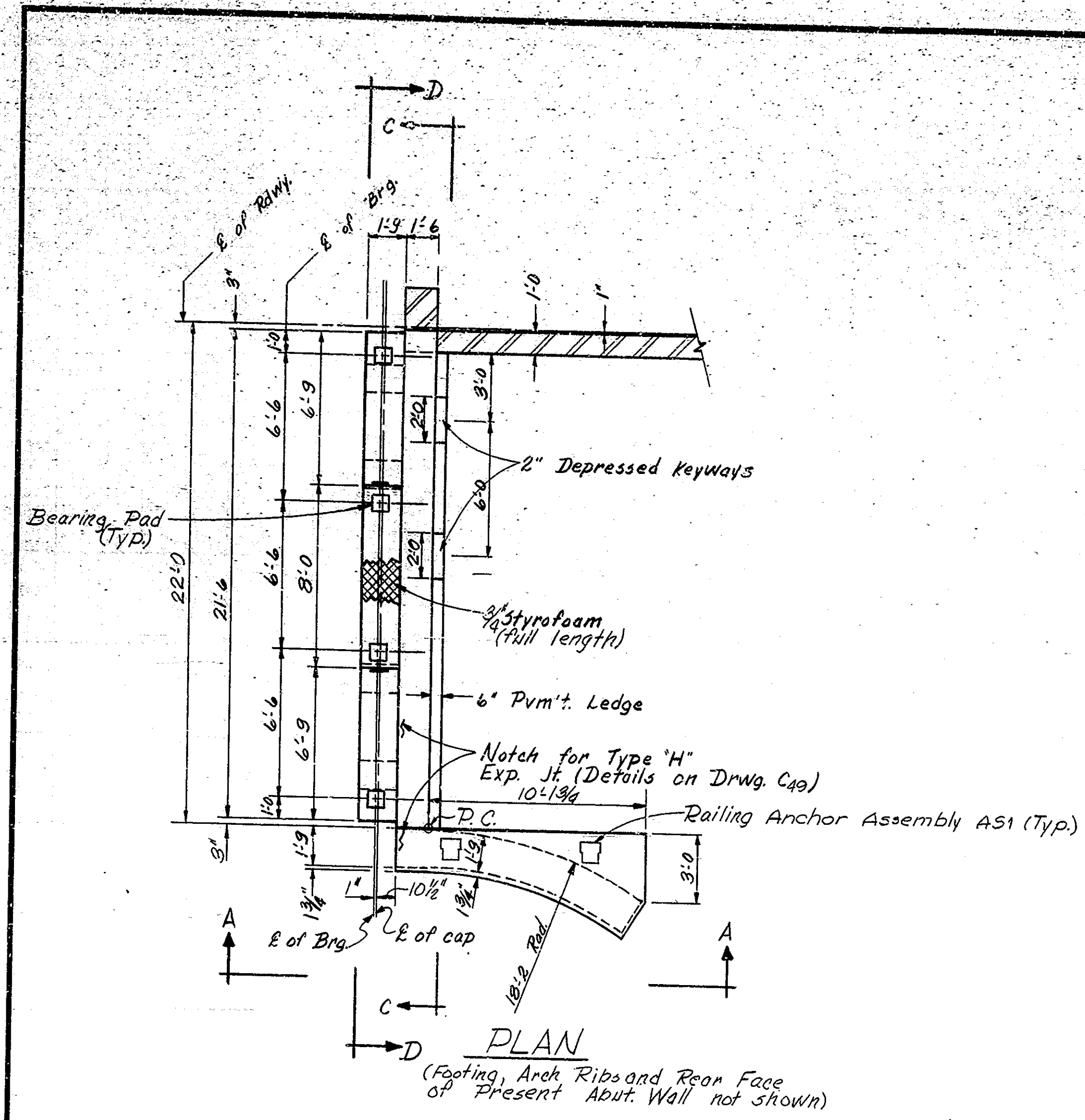
INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/2" = 1'-0" Unless Noted DATE: DECEMBER 26, 1973

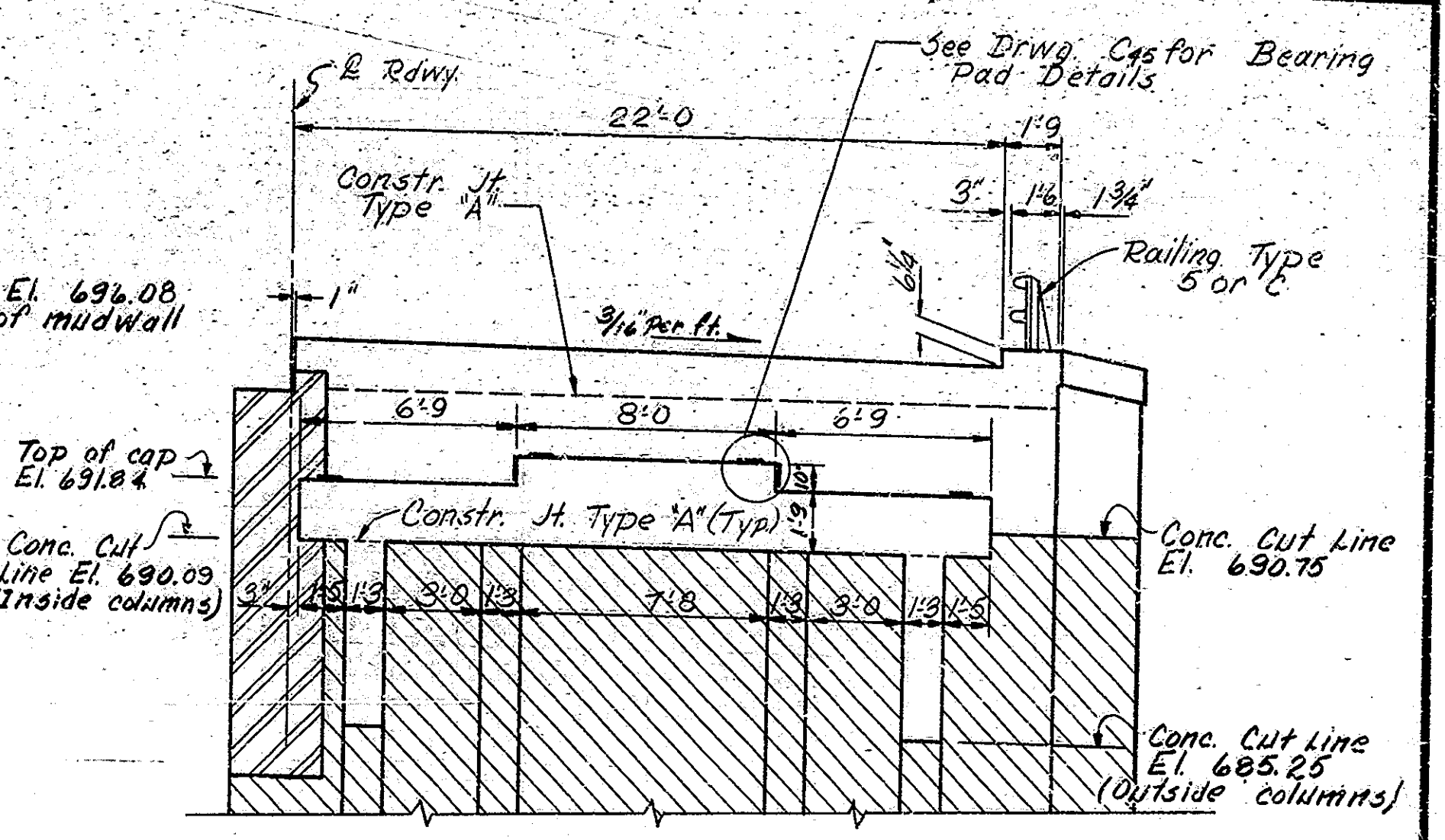
DRAWING: C₃ OF 49 SHEET: 39 OF 99
 PROJECT: RF-151 (12)
 CONTRACT NO. B-9818
 BRIDGE FILE: 50-40-917A



DESIGNED: FAB CK'D: MCN
 DRAWN: D25/25/28 CK'D: MCN 10/75
 TRACED: CK'D

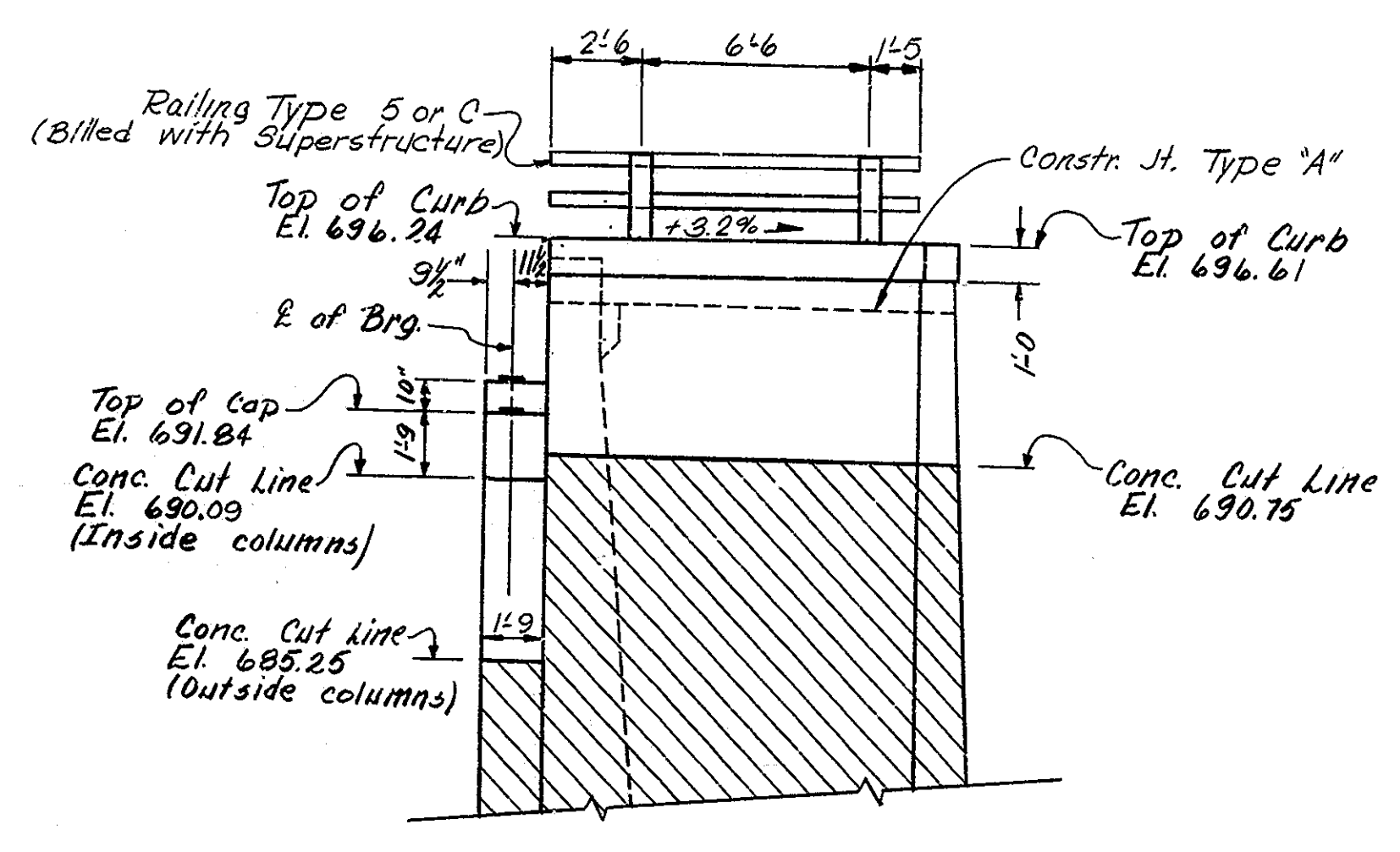


ELEVATION C-C



ELEVATION D-D

Indicates portions of Existing Structure to remain in place.
 Indicates portions to be constructed with Abutment No. 4 of Westbound Structure.



ELEVATION A-A

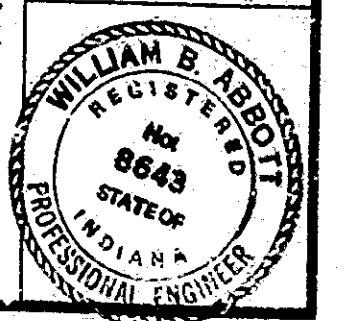
ABUTMENT No 4 DETAILS
EASTBOUND STRUCTURE

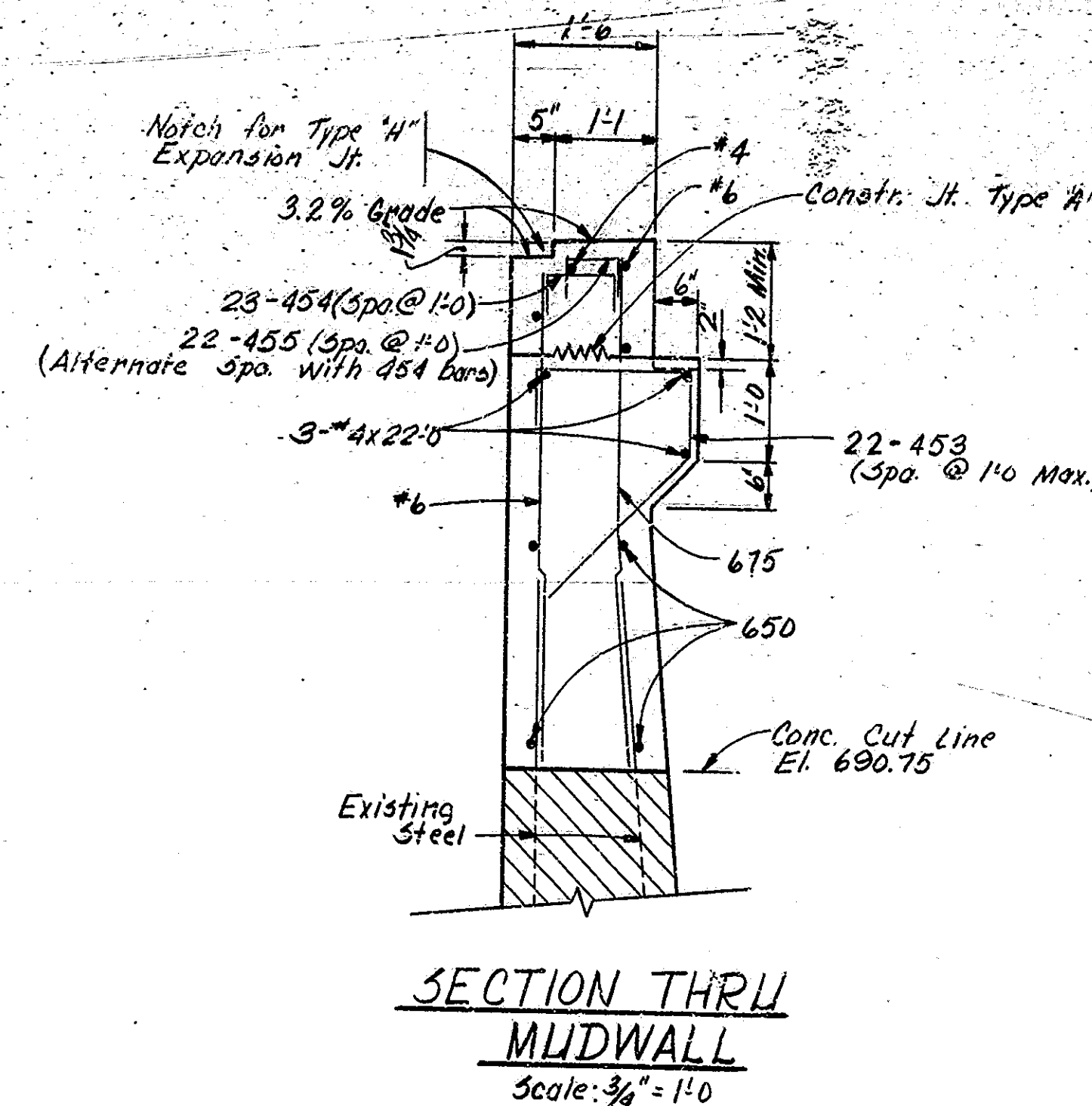
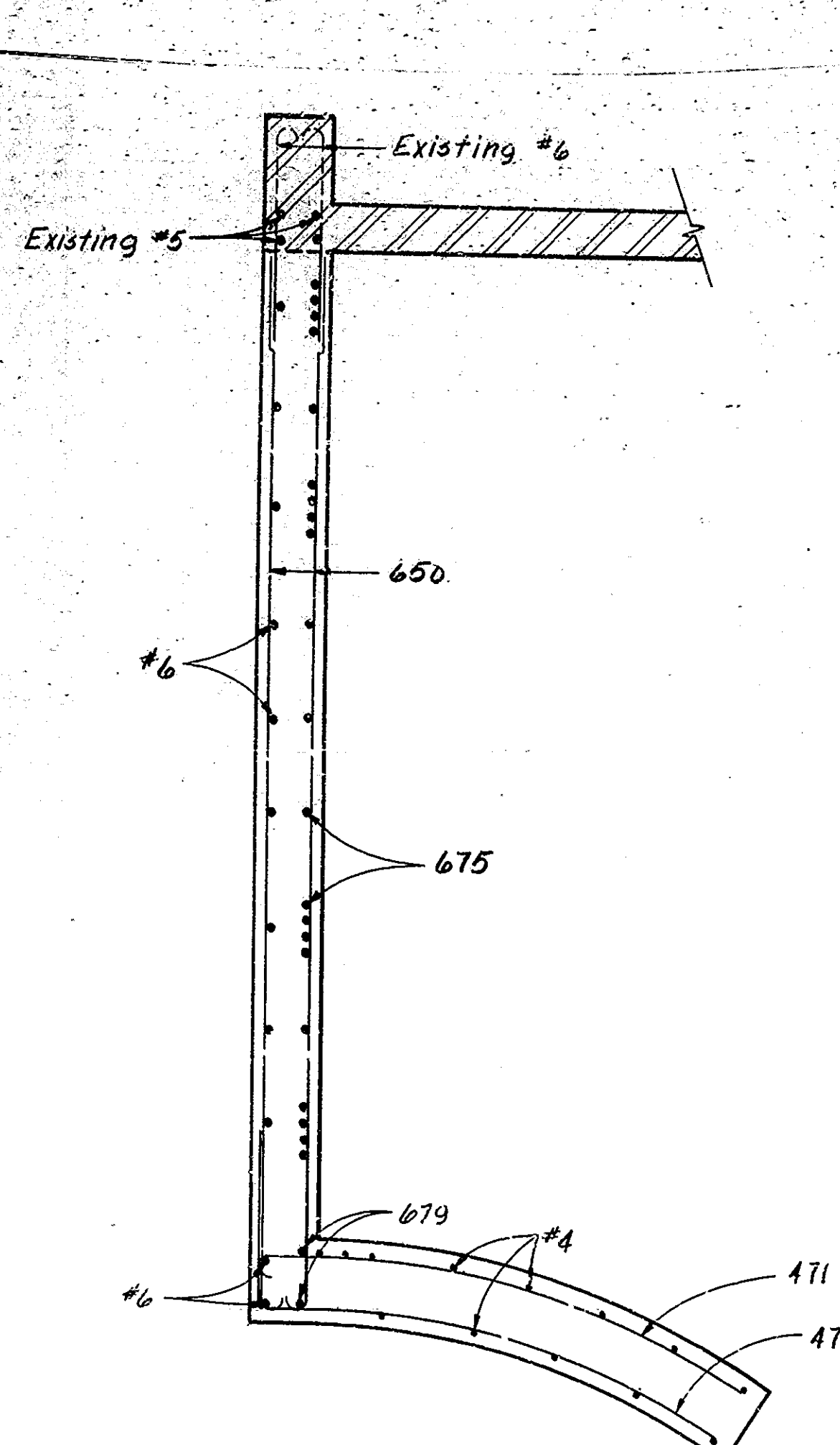
INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/4" = 1'-0" DATE: DECEMBER 26, 1973

DRAWING: C₃₃ OF 49 SHEET: 41 OF 99
 PROJECT: RF-151 (12)
 CONTRACT NO. B-3818
 BRIDGE FILE: 50-40-917A

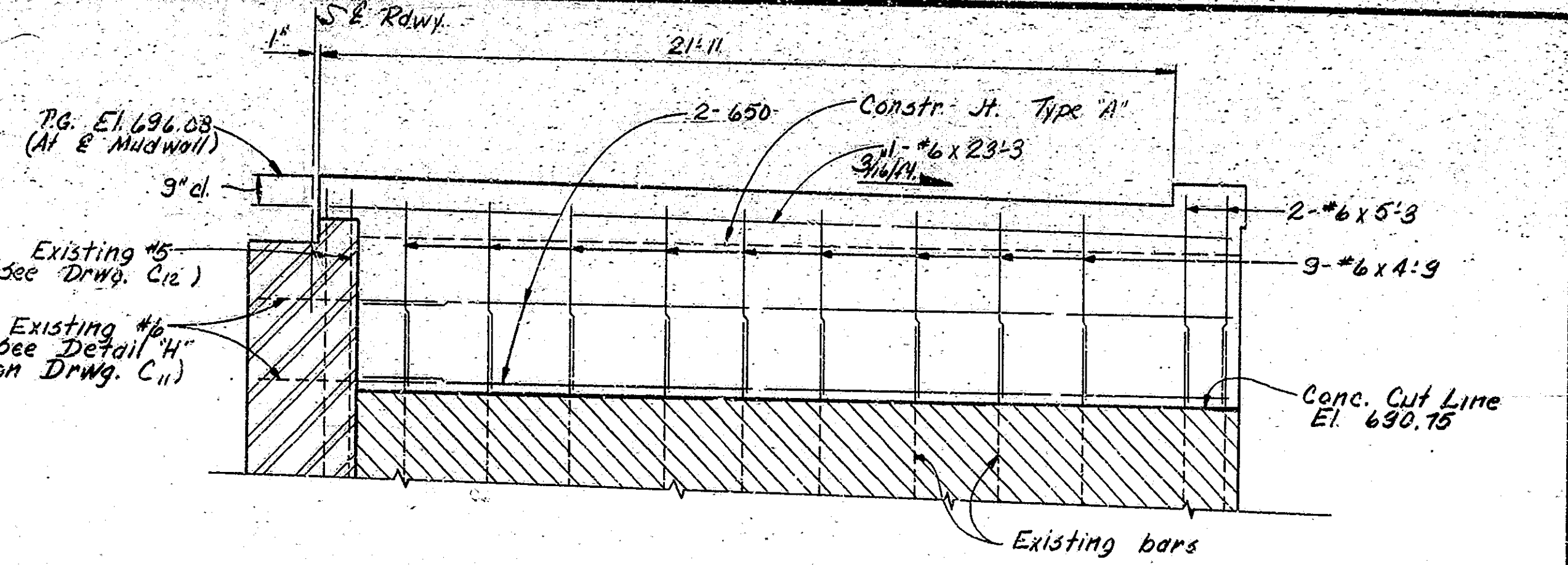
DESIGNED: <u>LAB</u>	CWD: <u>MED</u>
DRAWN: <u>A.M.H.</u>	CWD: <u>P.S.H.</u>
TRACED:	CWD:



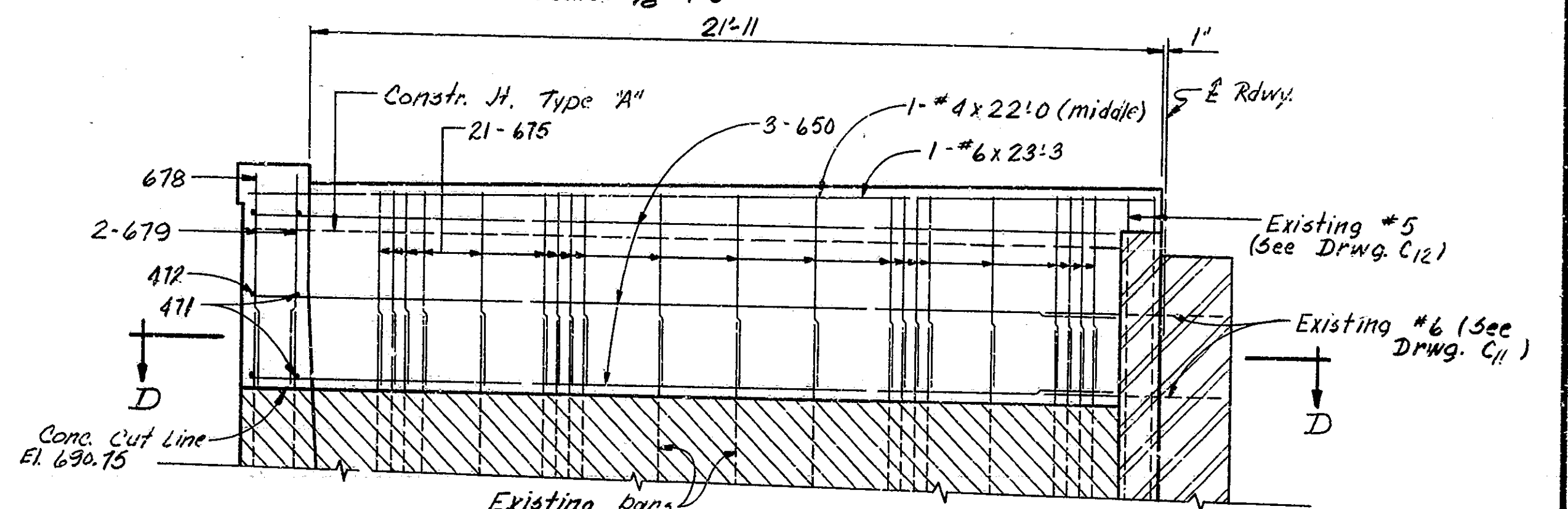


SECTION THRU MUDWALL
Scale: 3/4" = 1'-0"

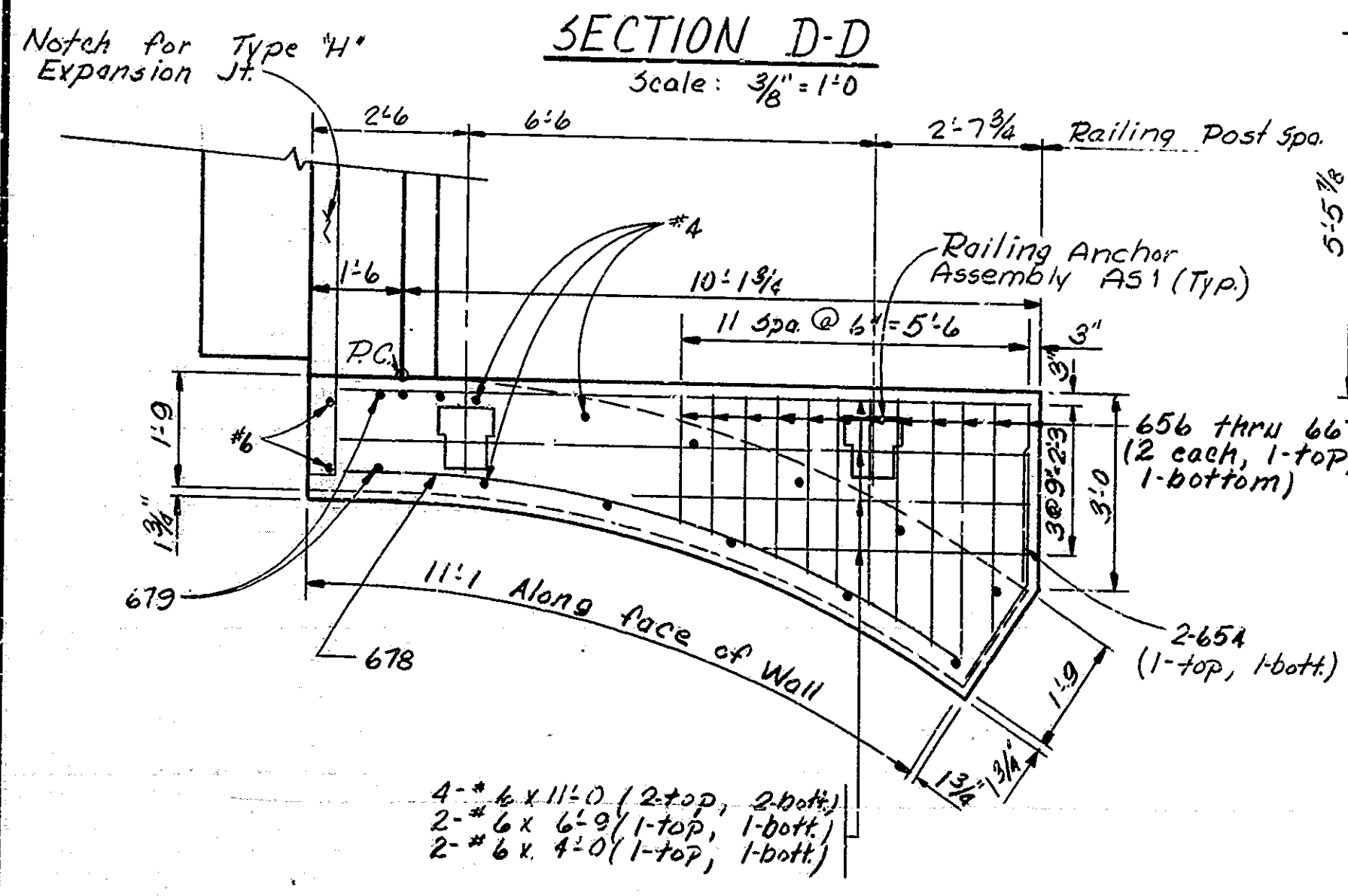
Note: Mudwall and Wingwall to be poured after superstructure has been post-tensioned.



MUDWALL SHOWING FRONT FACE STEEL
Scale: 3/8" = 1'-0"

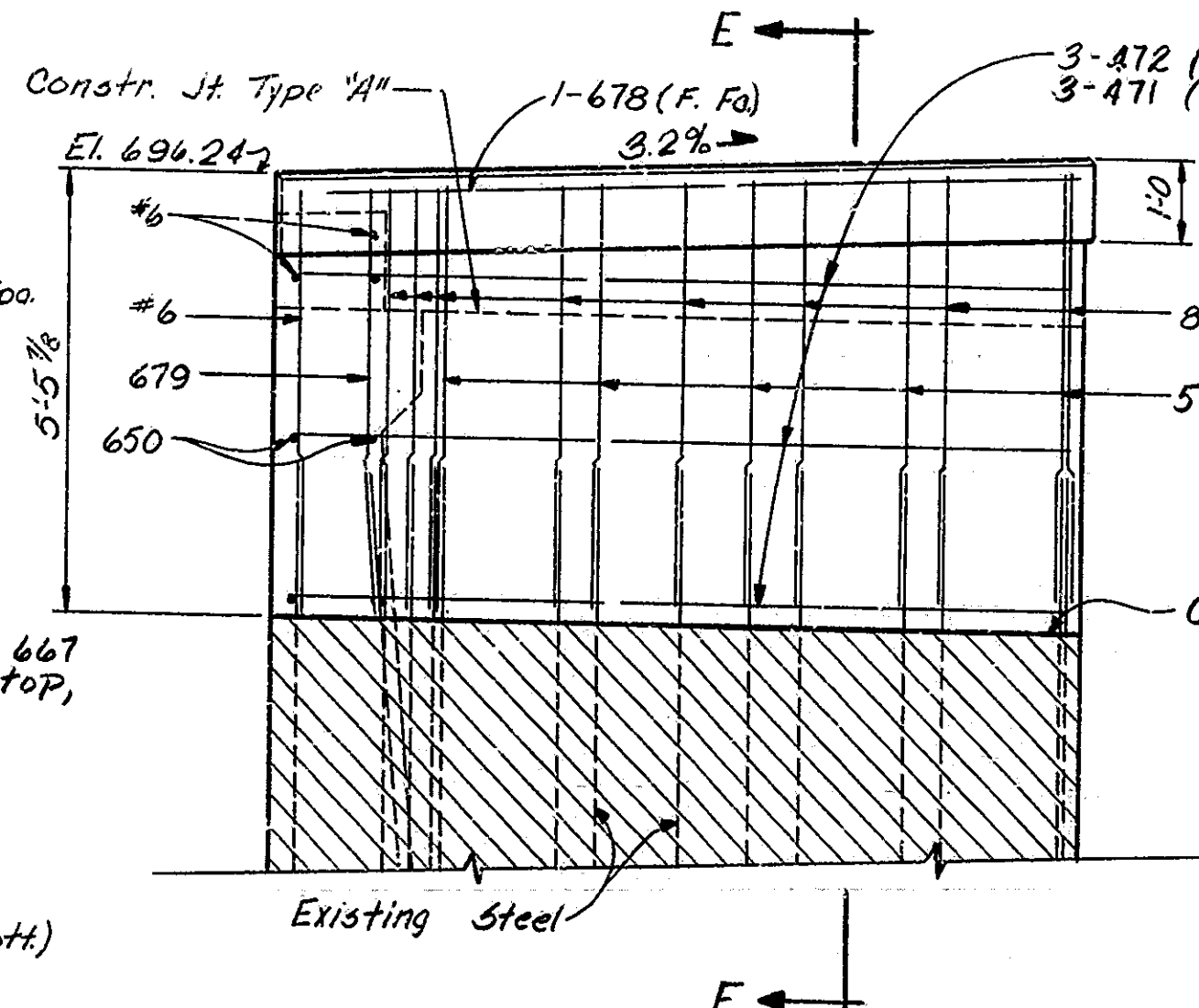


MUDWALL SHOWING REAR FACE STEEL
Scale: 3/8" = 1'-0"

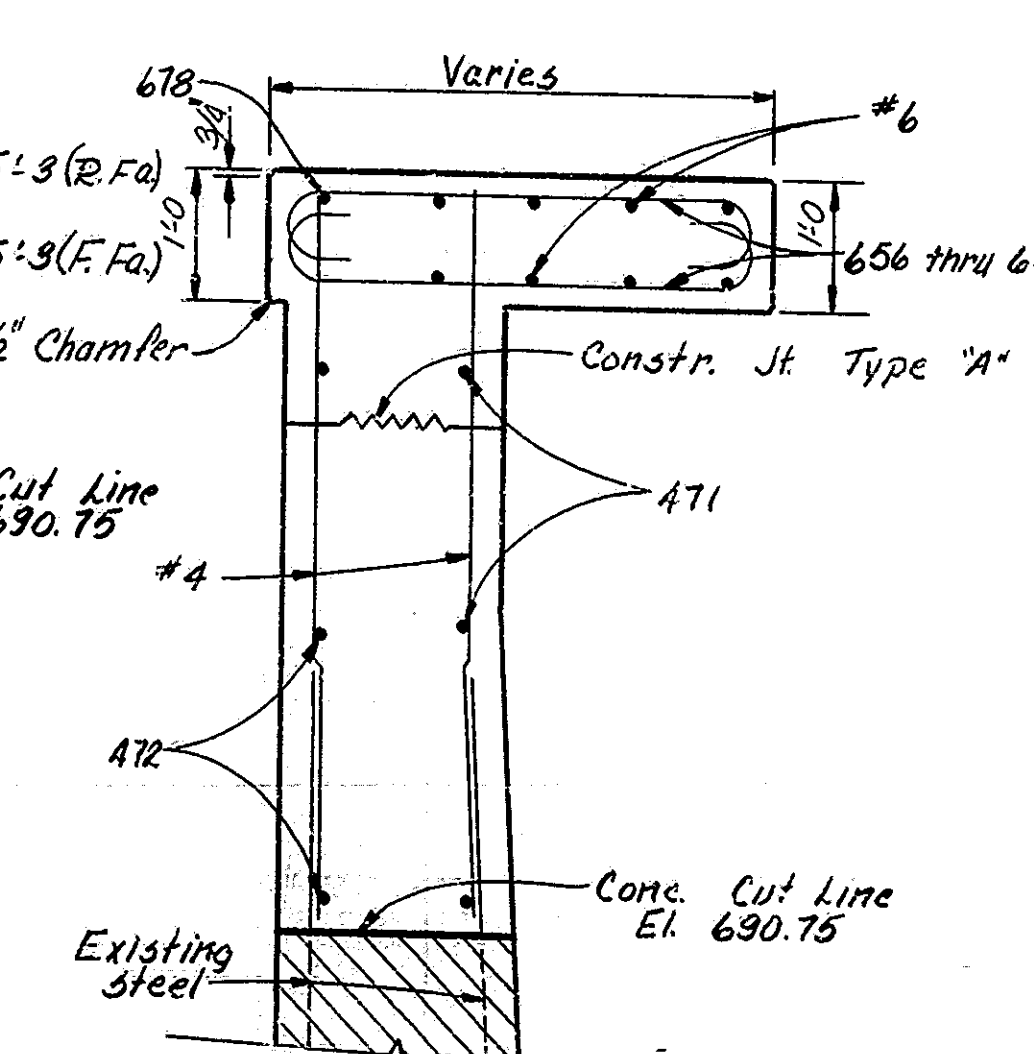


SECTION D-D
Scale: 3/8" = 1'-0"

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



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



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

Notes: Reinforcing steel covering shall be 2" unless noted or to match the existing conditions.
 [Hatched pattern] Indicates portions of Existing Structure to remain in place.
 [Diagonal lines pattern] Indicates portions to be constructed with Abut. No. 4 of Westbound Structure.
 All existing steel to be cleaned and extended to provide min. 2'0" lap with new steel.

WINGWALL DETAILS

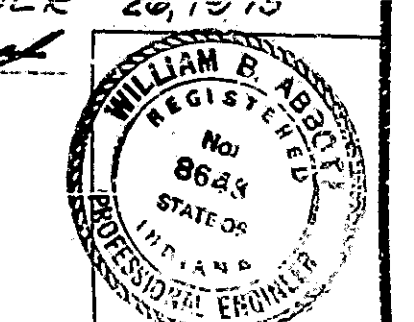
Note: See Br. Std. C, for Reinf. Bar Notes.

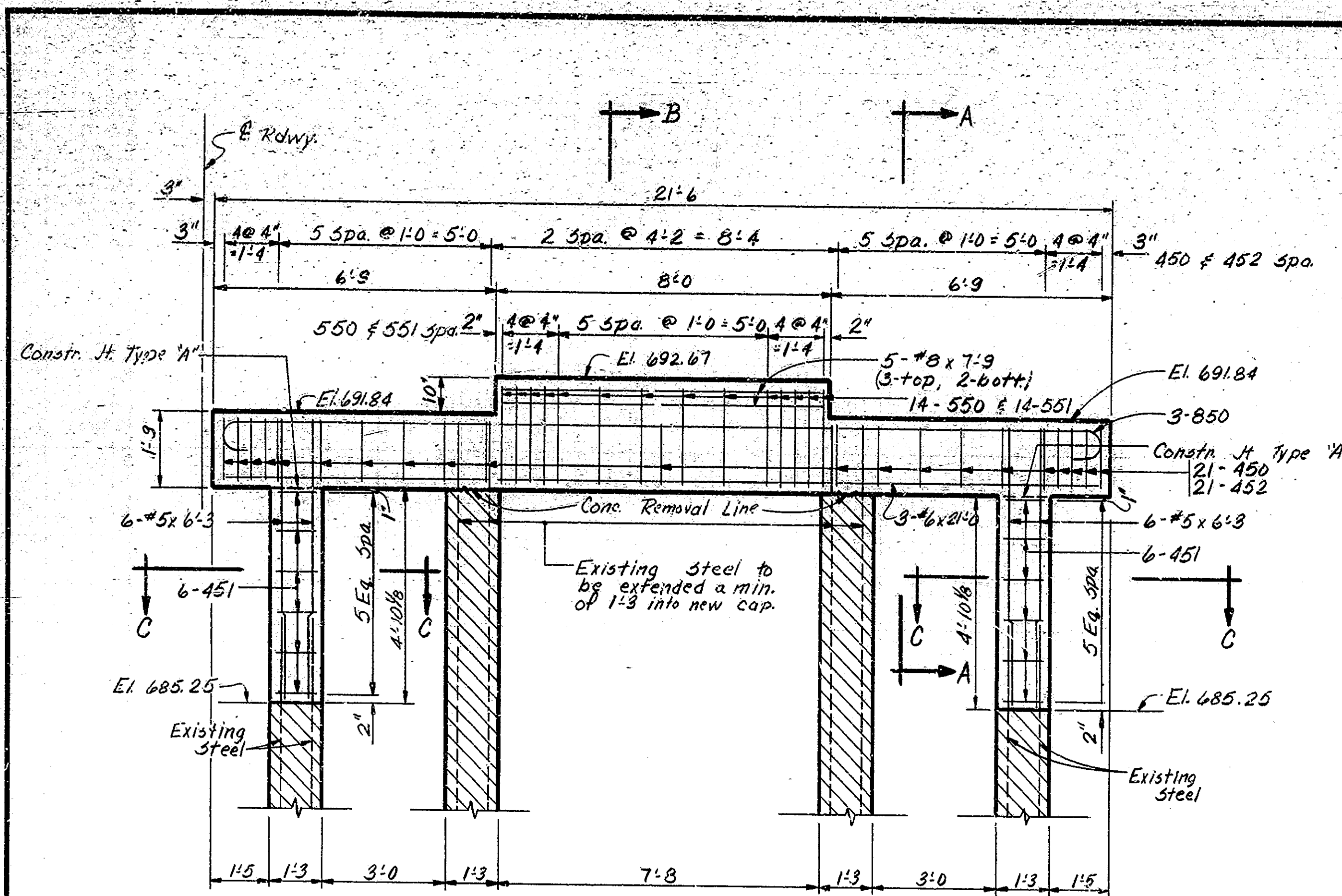
DESIGNED	E.A.B.	CHK'D	M.C.A.
DRAWN	G.M.H.	CHK'D	D.S.H.
TRACED		CHK'D	

ABUTMENT No 4 DETAILS EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

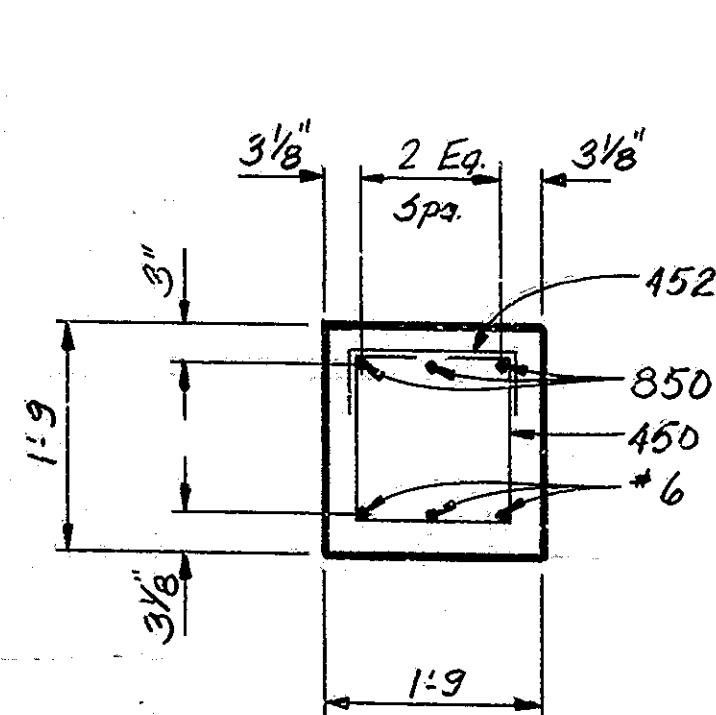
SCALE: AS NOTED DATE: DECEMBER 26, 1973

DRAWING: C34 OF 49 SHEET: 42 OF 99
 PROJECT: RF-151 (12)
 CONTRACT NO. B-9818
 BRIDGE FILE: 50-A0-917A

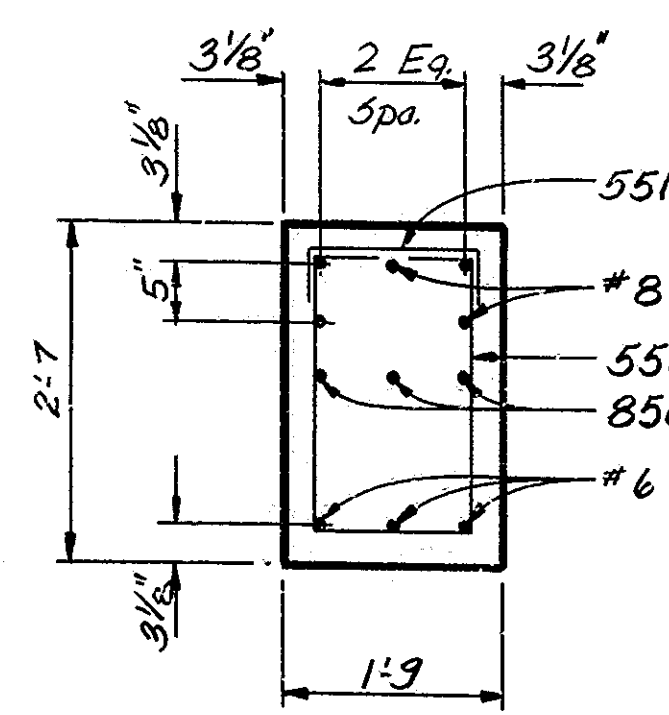




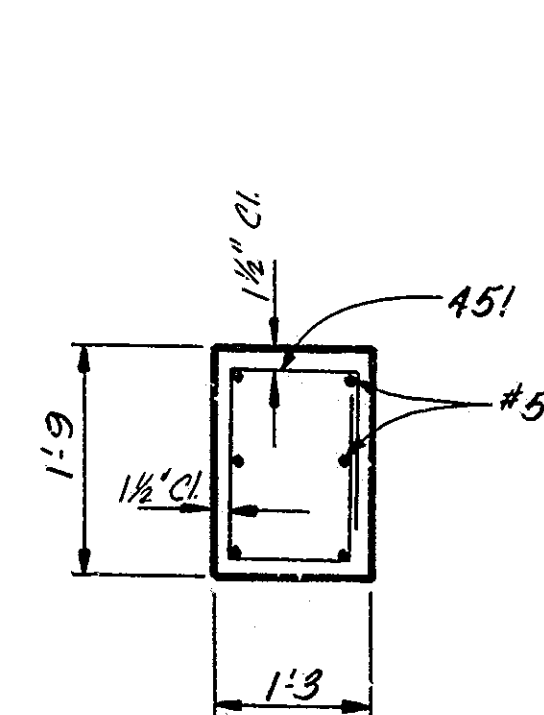
CAP AND COLUMN DETAILS
Scale: 1/2" = 1'-0"



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

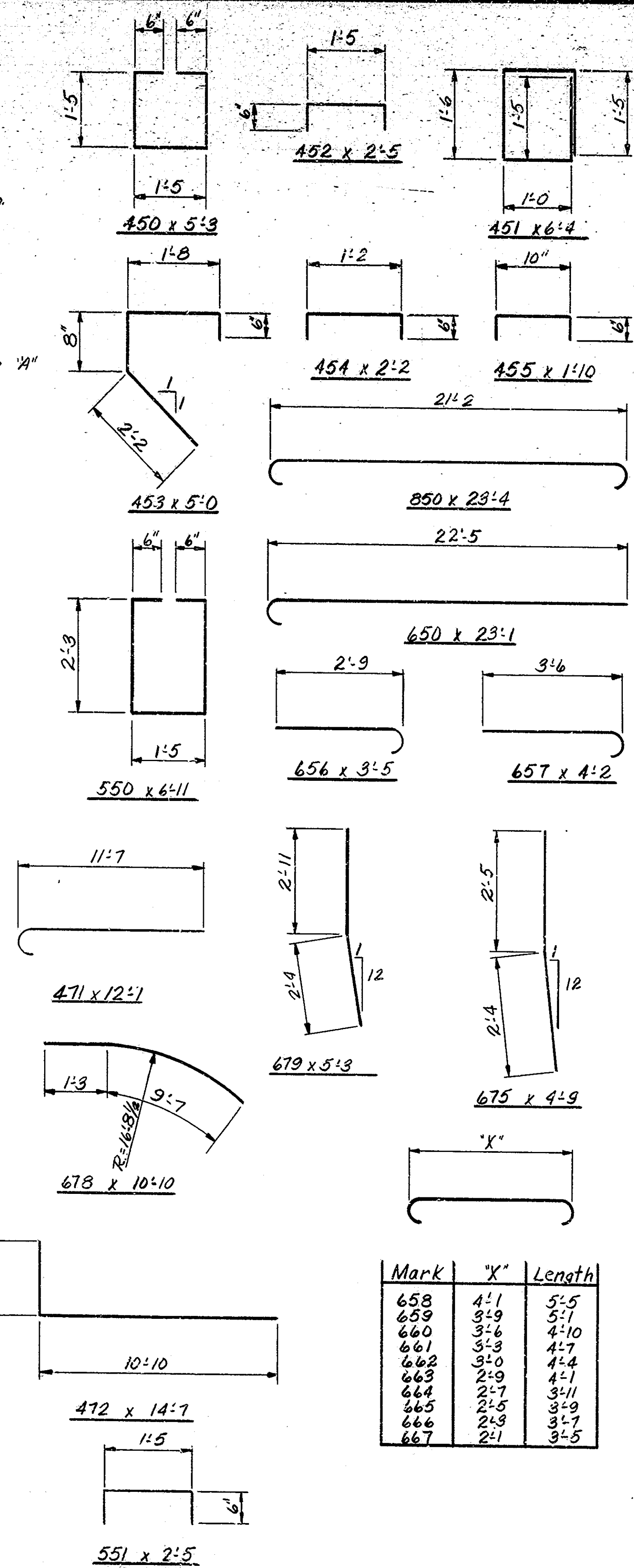


SECTION B-B
Scale: 3/4" = 1'-0"



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

Note: Existing Column steel shall be cleaned and extended into new construction a minimum of 2'-0" unless otherwise detailed.



Mark	"X"	Length
658	4'-1	5'-5
659	3'-9	5'-1
660	3'-6	4'-10
661	3'-3	4'-7
662	3'-0	4'-4
663	2'-9	4'-1
664	2'-7	3'-11
665	2'-5	3'-9
666	2'-3	3'-7
667	2'-1	3'-5

BILL OF MATERIALS
REINFORCING STEEL

SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (lbs)
850	3	23'-4	
#8	5	7'-9	
Total #8			290
650	5	23'-1	
654	2	3'-9	
656	2	3'-5	
657	2	4'-2	
658	2	5'-5	
659	2	5'-1	
660	2	4'-10	
661	2	4'-7	
662	2	4'-4	
663	2	4'-1	
664	2	3'-11	
665	2	3'-9	
666	2	3'-7	
667	2	3'-5	
675	21	4'-9	
678	1	10'-10	
679	2	5'-3	
#6	2	23'-3	
#6	3	21'-0	
#6	4	11'-0	
#6	2	6'-9	
#6	2	5'-3	
#6	9	4'-9	
#6	2	4'-0	
Total #6			861
550	14	6'-11	
551	14	2'-5	
#5	12	6'-3	
Total #5			215
450	21	5'-3	
451	12	6'-4	
452	21	2'-5	
453	22	5'-0	
454	23	2'-2	
455	22	11'-0	
471	5	12'-1	
472	3	14'-7	
#4	4	22'-0	
#4	13	5'-3	
Total #4			450
Total Steel			1816
CONCRETE			
CLASS 'A' IN SLABSTRUCTURE			
Above Pvm't.			
Ledge			3.4 cfs
Below Pvm't.			
Ledge			8.1 cfs
Cap			2.9 cfs
Columns			0.8 cfs
TOTAL			15.2 cfs

ABUTMENT No 4 DETAILS
EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

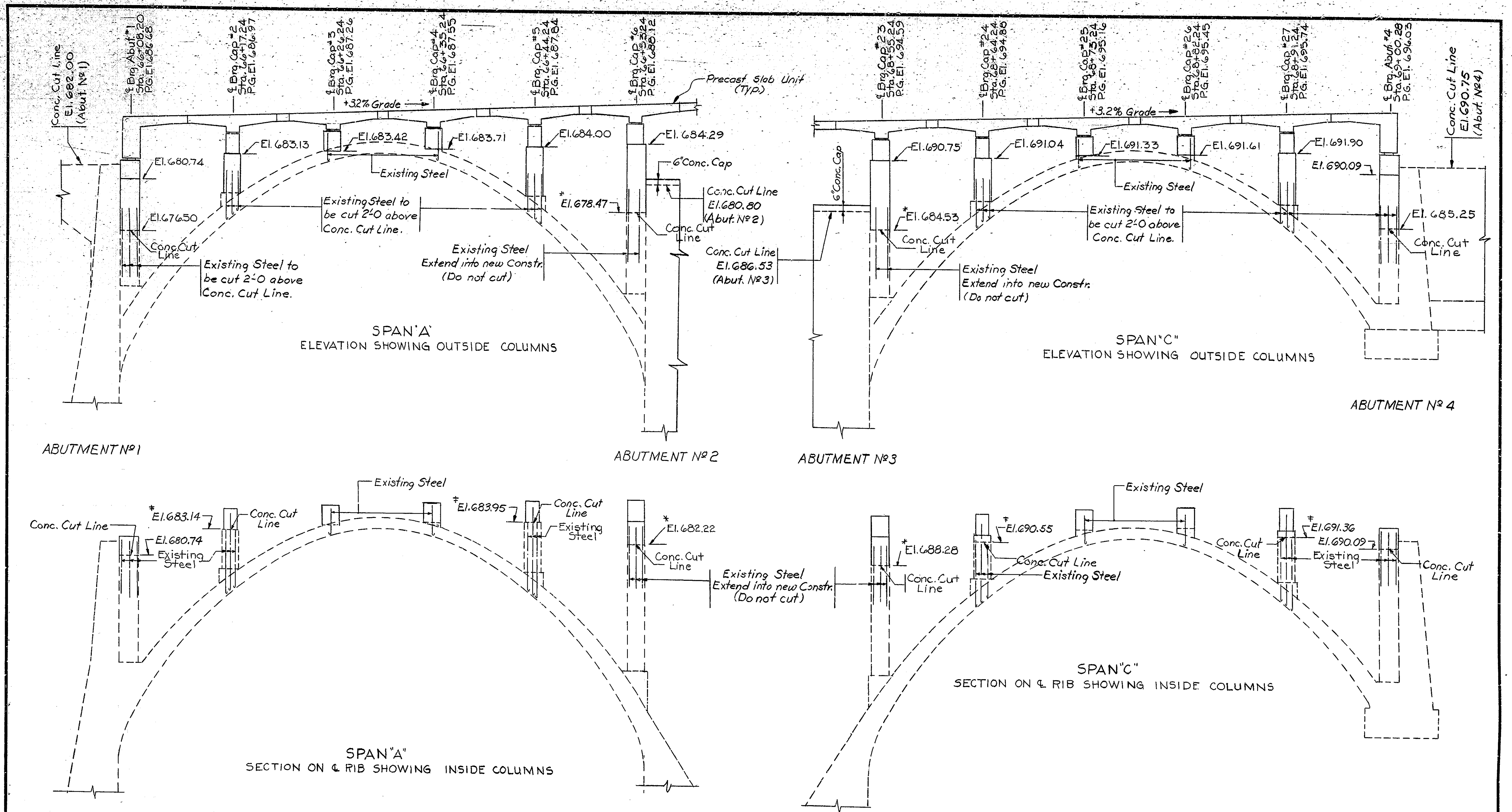
SCALE: AS NOTED DATE: DECEMBER 26, 1973

DESIGNED: CAR CRD MAN
DRAWN: B.W.H. CRD D.M.H.
TRACED: CRD
PROJECT: RF-151(12)
CONTRACT NO. B-9818
BRIDGE FILE: 50-40-917A



DESIGNED: CAR CRD MAN
DRAWN: B.W.H. CRD D.M.H.
TRACED: CRD

Note: See Br. Sta. C for Reinf. Bar Notes.



NOTE:- Dashed lines indicate portions of present structure to remain in place. Portions of present structure to be repointed as directed by the Engineer.

NOTE:- See Drwg. C₉₉ for Concrete Removal Notes and additional notes. (*, †)

NOTE:- Existing steel, left in place to extend into the new caps, shall be cleaned and extend a minimum of 1'-3" above bottom of cap.

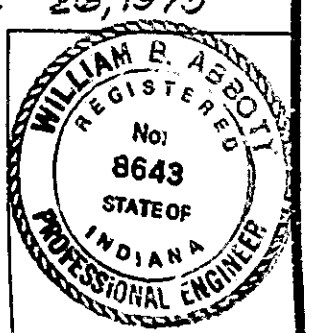
SUPERSTRUCTURE DETAILS
 SPAN 'A' AND SPAN 'C'
 EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

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

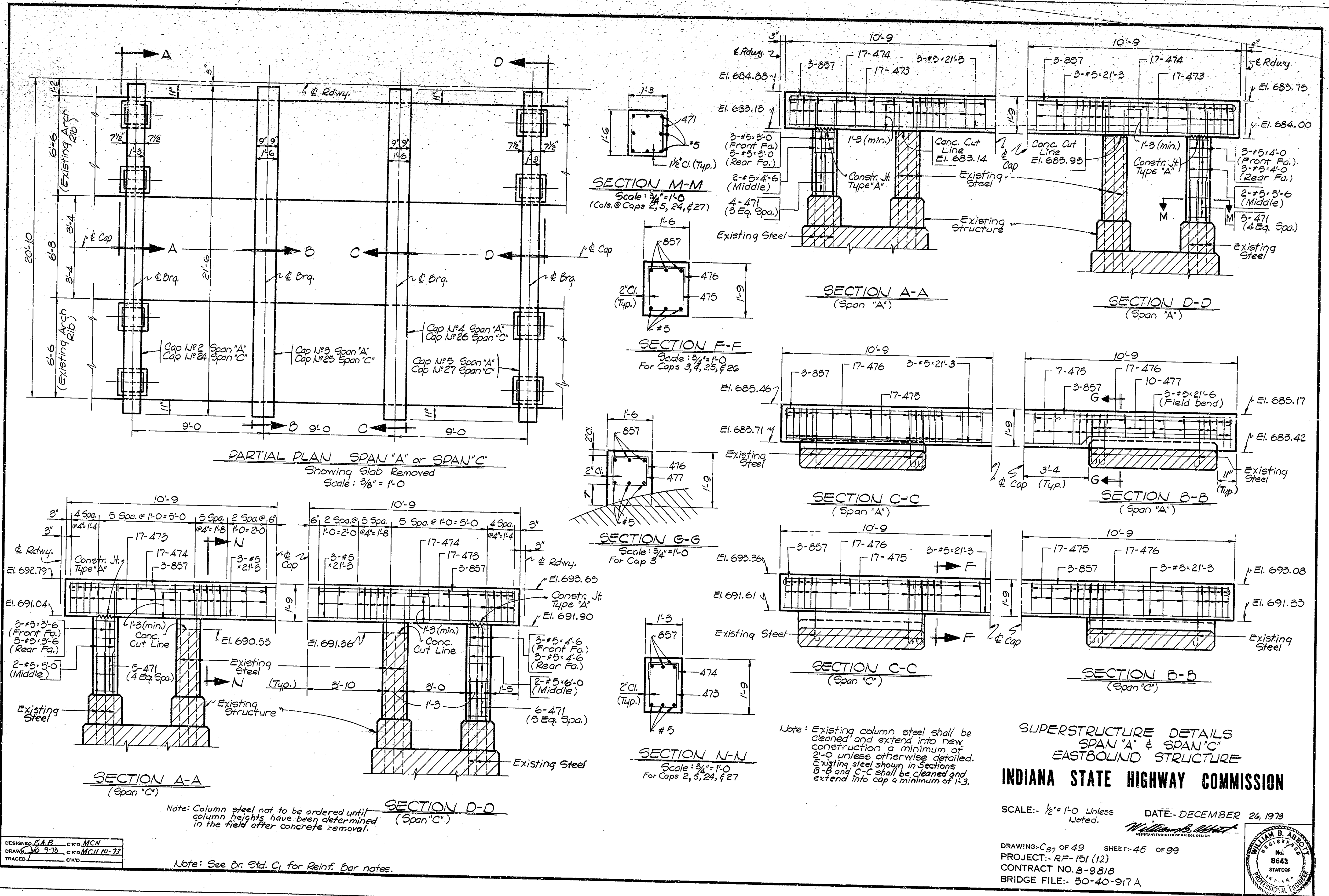
DATE: DECEMBER 26, 1973

William B. Abbott
 REGISTERED PROFESSIONAL ENGINEER OF BRIDGE DESIGN

DRAWING: C₉₆ OF 49 SHEET: 44 OF 99
 PROJECT: RF-151(12)
 CONTRACT NO. B-98/8
 BRIDGE FILE: 50-40-917A



DESIGNED: F.A.B. CKD: M.C.N.
 DRAWN: D.A.G. CKD: M.C.N.
 TRACED: CKD:



PARTIAL PLAN SPAN "A" or SPAN "C"
 Showing Slab Removed
 Scale: 3/8" = 1'-0"

SECTION A-A
 (Span "C")

SECTION D-D
 (Span "C")

SECTION M-M
 Scale: 3/4" = 1'-0"
 (Cols. @ Caps 2, 5, 24, & 27)

SECTION F-F
 Scale: 3/4" = 1'-0"
 For Caps 3, 4, 25, & 26

SECTION G-G
 Scale: 3/4" = 1'-0"
 For Cap 3

SECTION N-N
 Scale: 3/4" = 1'-0"
 For Caps 2, 5, 24, & 27

SECTION A-A
 (Span "A")

SECTION D-D
 (Span "A")

SECTION C-C
 (Span "A")

SECTION B-B
 (Span "A")

SECTION C-C
 (Span "C")

SECTION B-B
 (Span "C")

Note: Existing column steel shall be cleaned and extend into new construction a minimum of 2'-0" unless otherwise detailed. Existing steel shown in Sections B-B and C-C shall be cleaned and extend into cap a minimum of 1'-3".

Note: Column steel not to be ordered until column heights have been determined in the field after concrete removal.

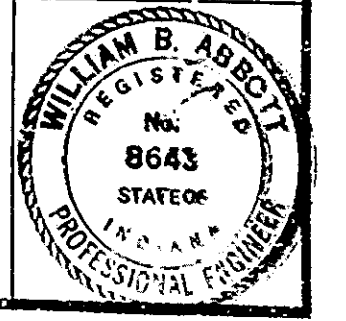
Note: See Br. Std. C₁ for Reinf. Bar notes.

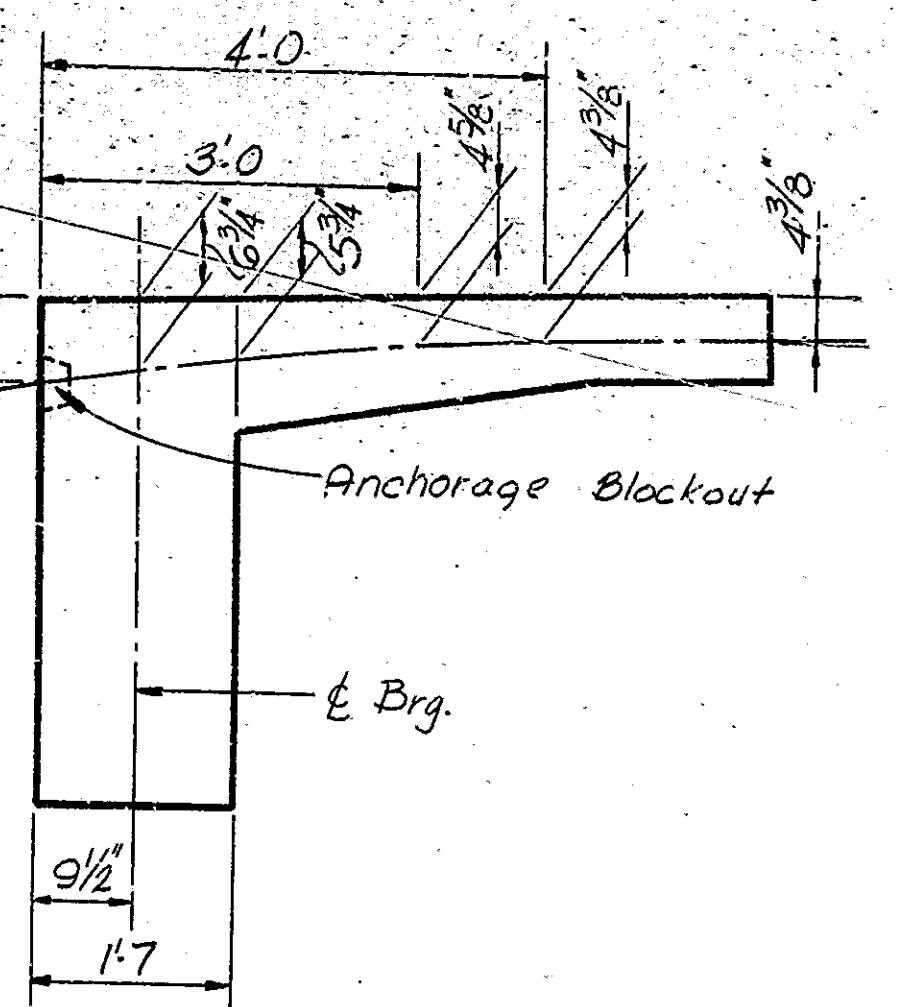
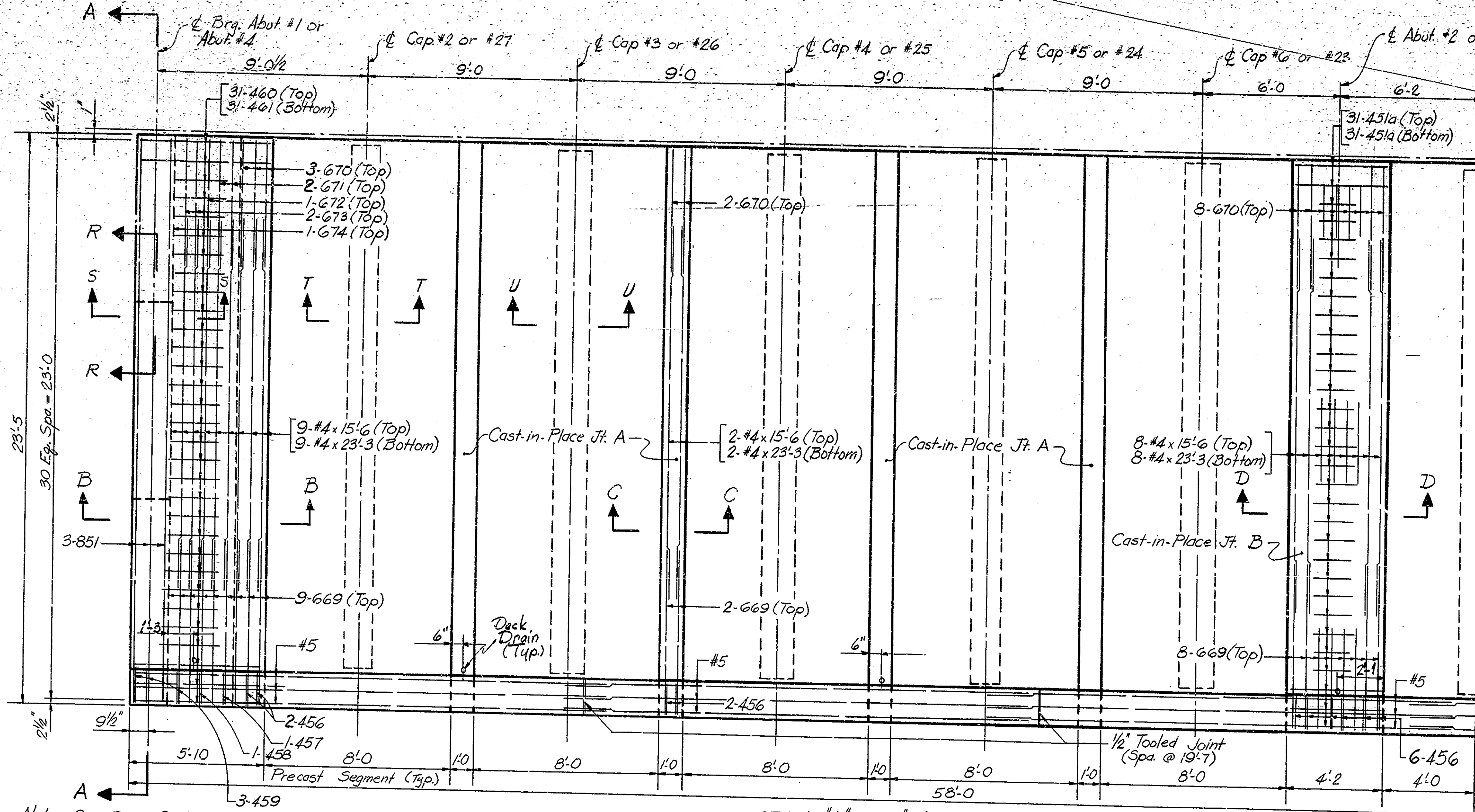
SUPERSTRUCTURE DETAILS
SPAN "A" & SPAN "C"
EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/2" = 1'-0" Unless Noted. DATE: DECEMBER 24, 1973

DRAWING: C₃₇ OF 49 SHEET: 45 OF 99
 PROJECT: RF-151 (12)
 CONTRACT NO. 8-9818
 BRIDGE FILE: 50-40-917 A

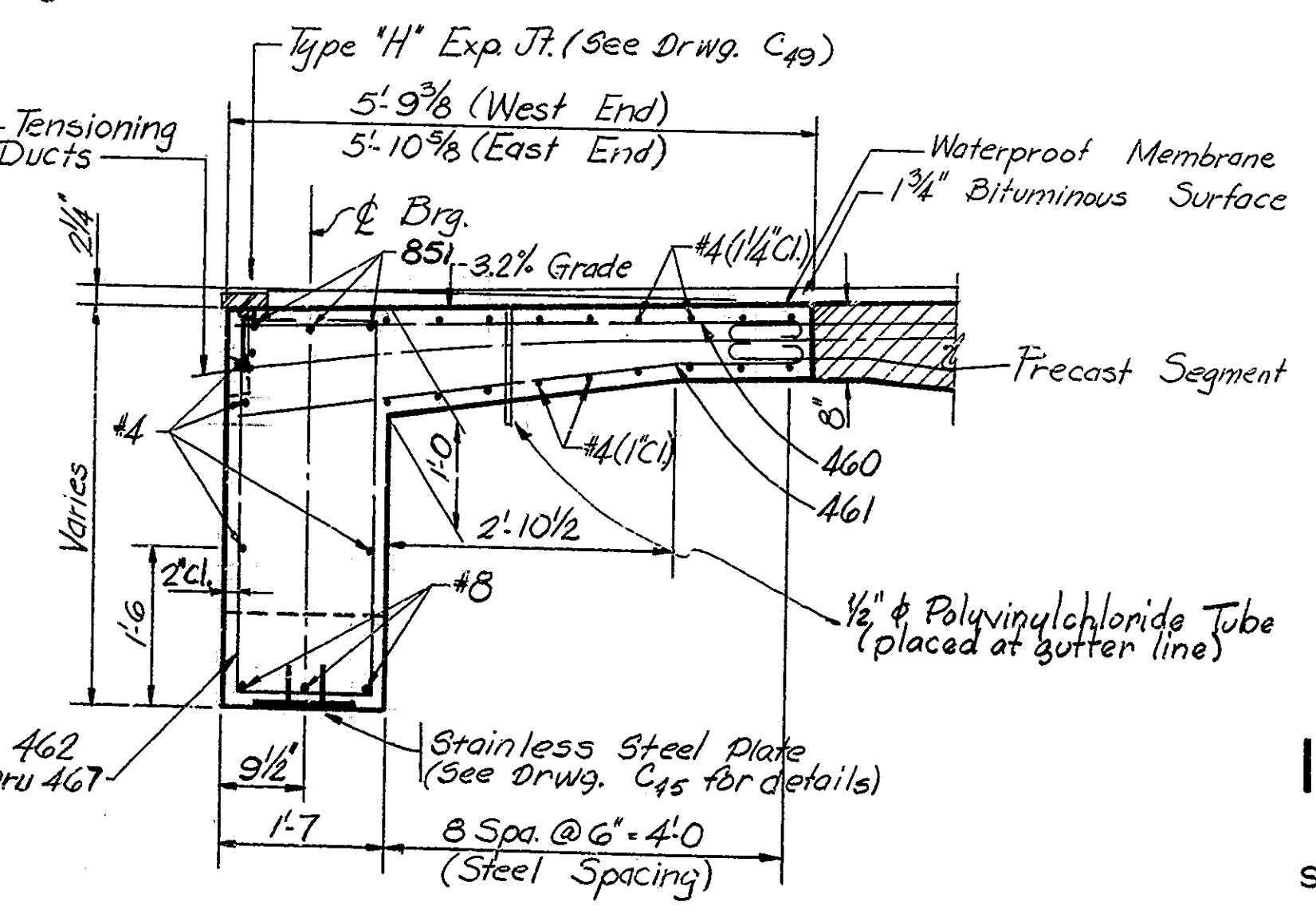
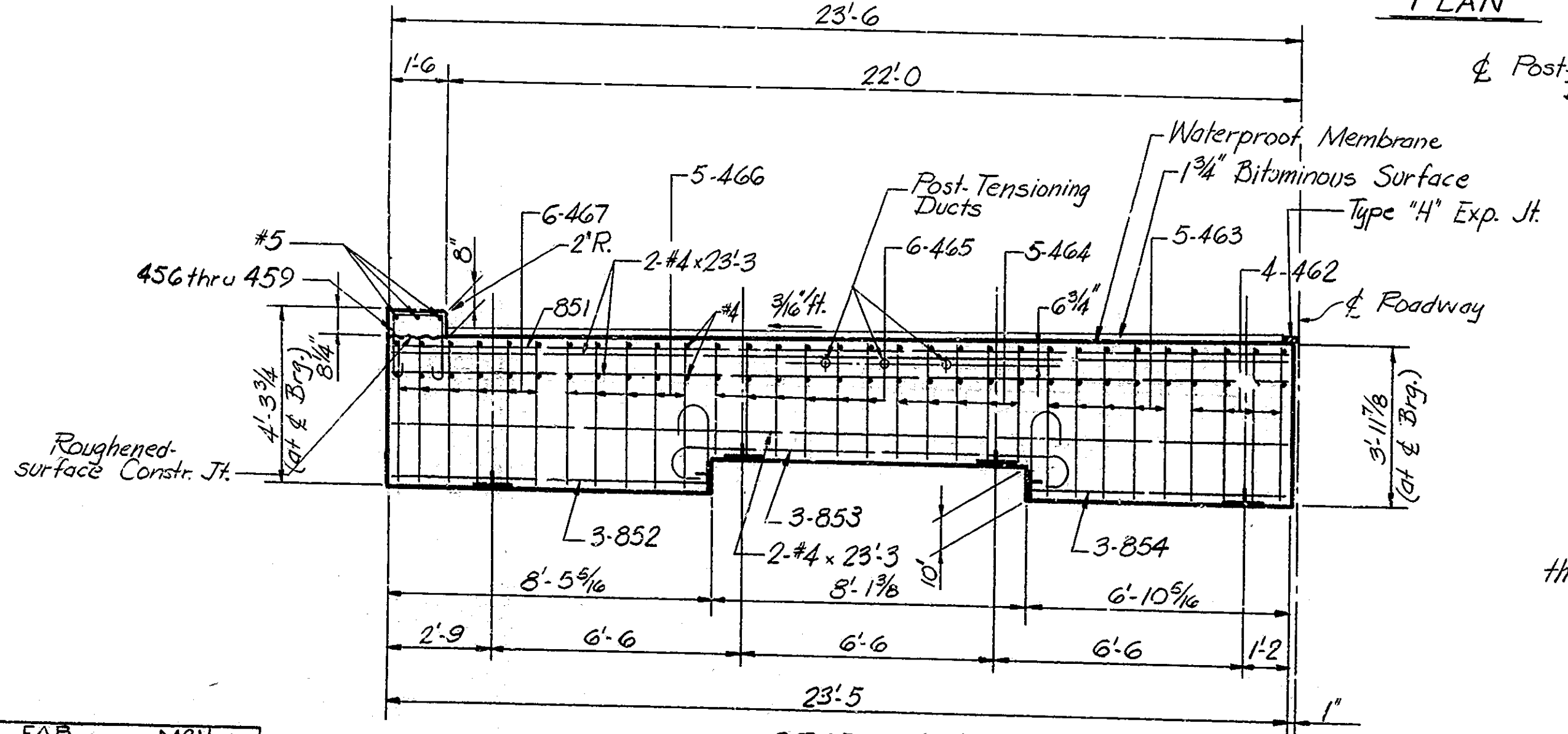
DESIGNED: E.A.B. CK'D: MCN
 DRAWN: J.P.9-73 CK'D: MCN 10-73
 TRACED: CK'D





Notes:
 Concrete stresses in the anchorage zone to be computed and special mild steel reinforcement required for the performance of the anchorage, along with the anchorage details, shall be detailed in the shop drawings by the post-tensioning supplier.
 See Special Provisions for allowable compressive concrete stresses created by the anchorage.
 Centerline of tendons are to be normal to the anchorage bearing plates.
 Anchorage breakout to be cast solid with an approved non-shrinking grout mix after grouting of tendon ducts is completed.
 Anchorage bearing plates must be placed tight against forms. Forms shall be braced and anchored to support the weight of the bearing plates.

Note: See Drwg. C45 for Sections R-R, S-S, T-T and U-U.
 See Drwg. C43 for Sections C-C and D-D.



NOTE: The top reinforcing in the deck shall be securely tied down to the deck forms to prevent lifting during concrete placement.

Note: See Drwg. C44 for additional notes.

SUPERSTRUCTURE DETAILS
 SPAN "A" or SPAN "C"
 EAST-BOUND STRUCTURE

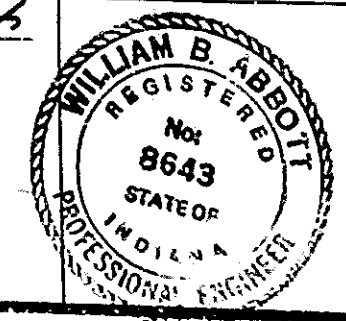
INDIANA STATE HIGHWAY COMMISSION

SCALE: 3/8" = 1'-0"
 (Unless Noted)

DATE: DECEMBER 26, 1973

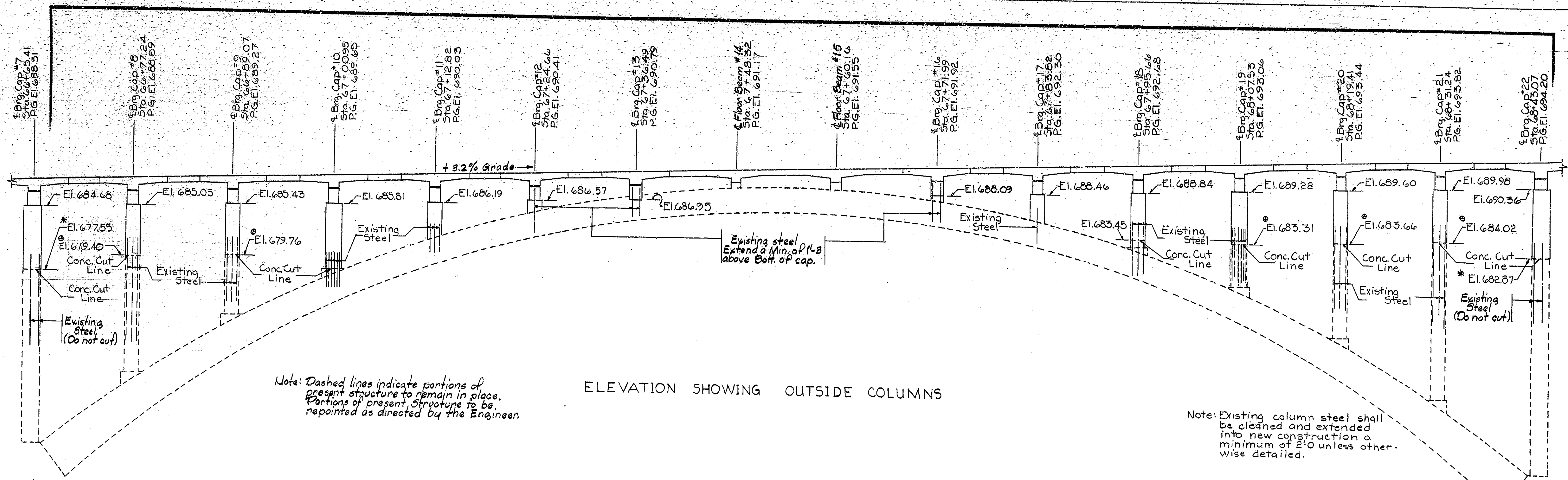
William B. Abbott
 REGISTERED PROFESSIONAL ENGINEER OF BRIDGE DESIGN

DRAWING: C32 OF 49 SHEET: 46 OF 99
 PROJECT: RF-151(12)
 CONTRACT NO. B-9818
 BRIDGE FILE: 50-40-917A



DESIGNED: FAB C.K.D. MCN
 DRAWN: MCN 9-73 C.K.D. FAB 10-73
 TRACED: C.K.D.

Note: See Br. Std. C1 for Reinf. Bar Notes.



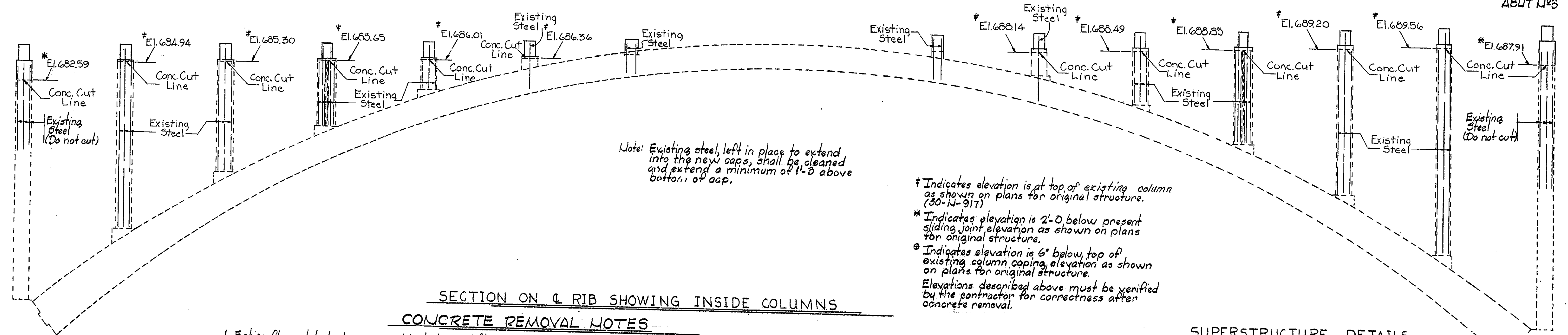
Note: Dashed lines indicate portions of present structure to remain in place. Portions of present structure to be repointed as directed by the Engineer.

ELEVATION SHOWING OUTSIDE COLUMNS

Note: Existing column steel shall be cleaned and extended into new construction a minimum of 2'-0" unless otherwise detailed.

ABUT N#2

ABUT N#3



SECTION ON C RIB SHOWING INSIDE COLUMNS

CONCRETE REMOVAL NOTES

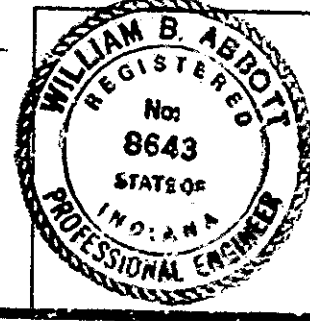
1. Entire floor slab to be removed including all floor beams and brackets.
2. Spandrel walls to be removed entirely, and outside columns to be removed down to elevations shown or down to column pedestals or the extrados of arch ribs as shown on plans.
3. Inside columns adjacent to abutment faces to be removed down to elevations shown. All other inside columns to remain in place undamaged.
4. Concrete on top of arch ribs between Caps 13 and 16 to be removed down to extrados of arch ribs.

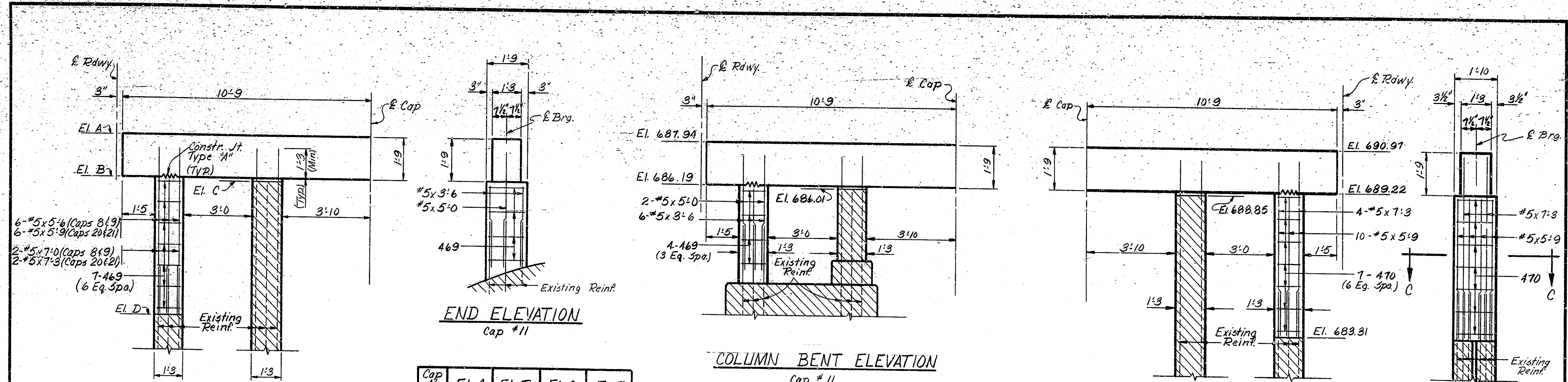
SUPERSTRUCTURE DETAILS
SPAN "B"
EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

SCALE: 3/16" = 1'-0" DATE: DECEMBER 26, 1973

DESIGNED: F.A.B. CKD: M.C.N.
DRAWN: D.A.G. CKD: M.C.N.
TRACED: CKD

DRAWING: C39 OF 49 SHEET: 47 OF 99
PROJECT: R-151(12)
CONTRACT NO. 8-9818
BRIDGE FILE: 50-40-917A





COLUMN BENT ELEVATION
Caps #8, 9, 20 & 21

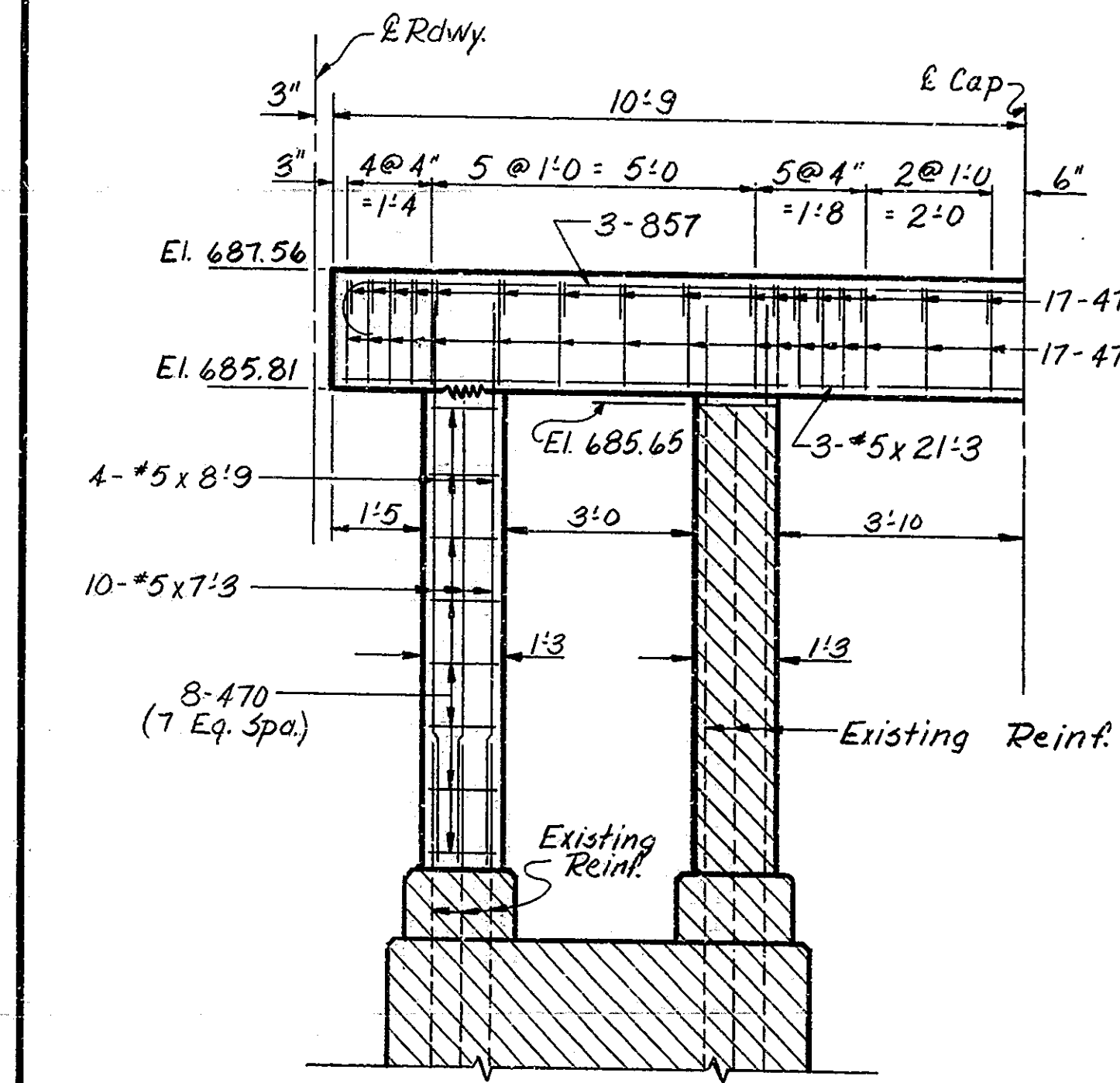
Cap No.	EI. A	EI. B	EI. C	EI. D
8	686.80	685.05	684.94	679.40
9	687.18	685.43	685.30	679.76
20	691.35	689.60	689.20	683.66
21	691.73	689.98	689.56	684.02

COLUMN BENT ELEVATION
Cap #11

Note: Column Bent Elevations symmetrical about & Cap.

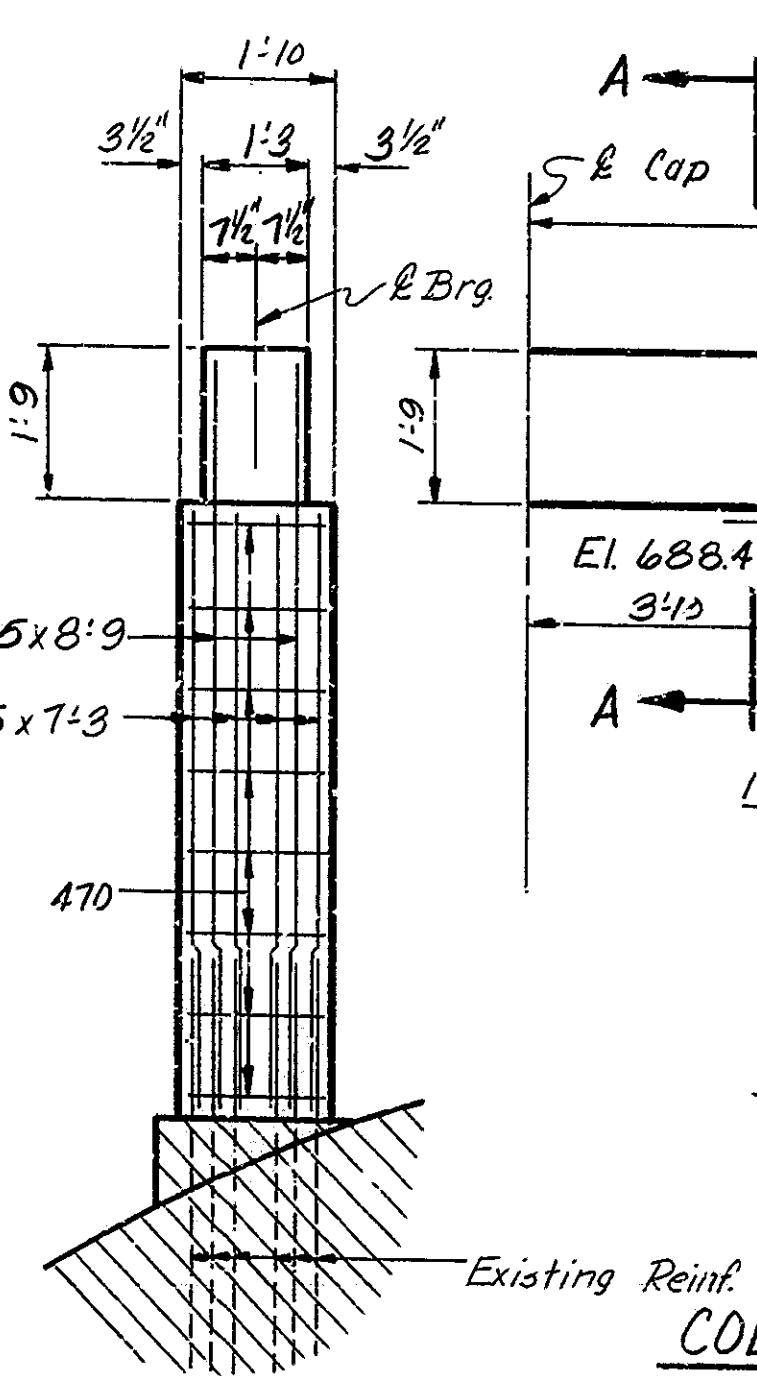
COLUMN BENT ELEVATION
Cap #19

END ELEVATION
Cap #19



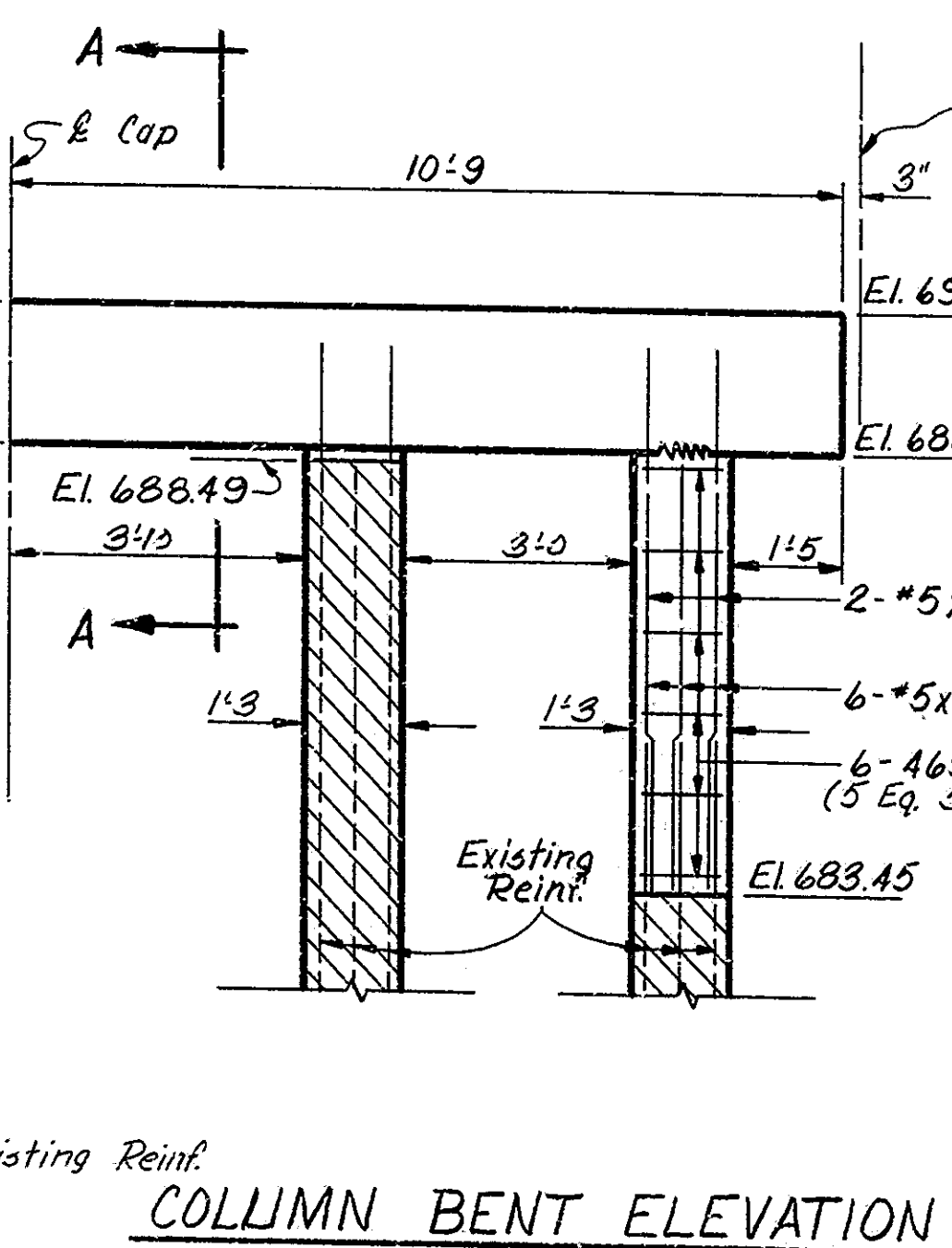
COLUMN BENT ELEVATION
Cap #10

Note: Reinf. steel shown in Cap #10 typical for all caps on this drawing.



END ELEVATION
Cap #10

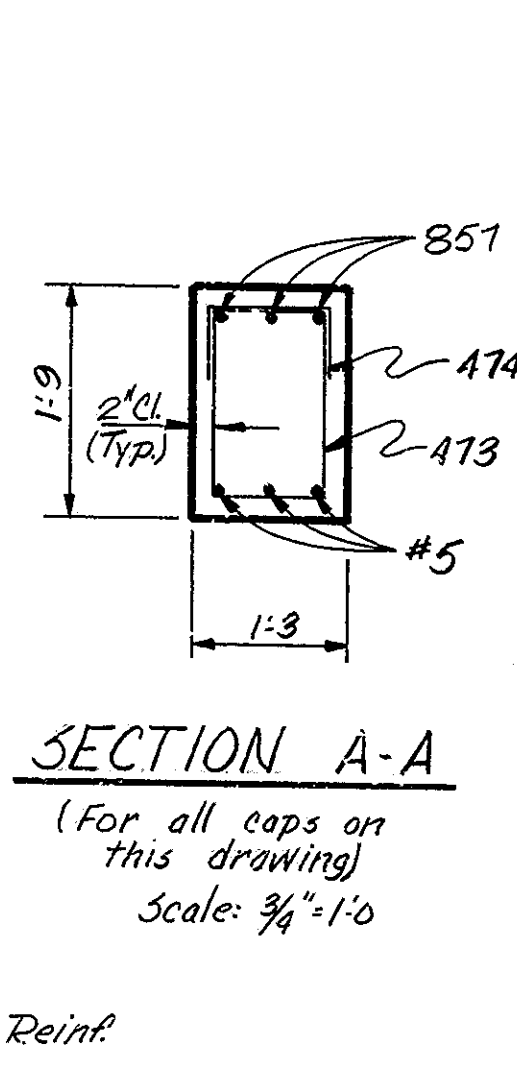
Note: Column steel not to be ordered until column heights have been determined in the field after concrete removal.



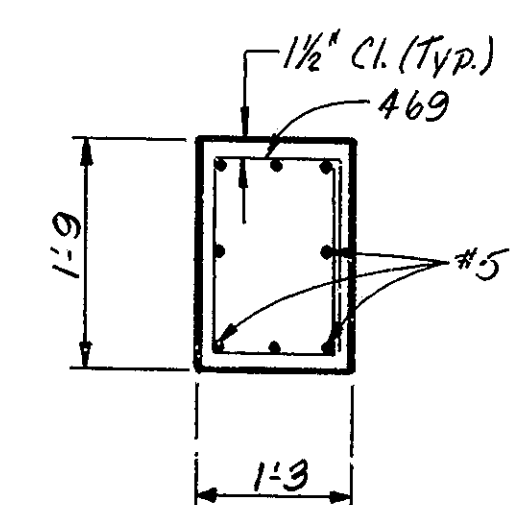
COLUMN BENT ELEVATION
Cap #18

END ELEVATION
Cap #18

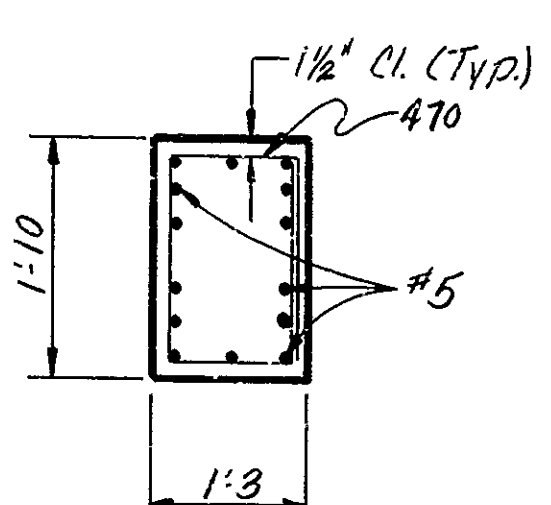
Note: Existing column steel shall be cleaned and extend into new Constr. a Min. of 2'-0" unless otherwise detailed.



SECTION A-A
(For all caps on this drawing)
Scale: 3/4"=1'-0"



SECTION B-B
(Cols. @ Caps 8, 9, 11, 19, 20 & 21)
Scale: 3/4"=1'-0"

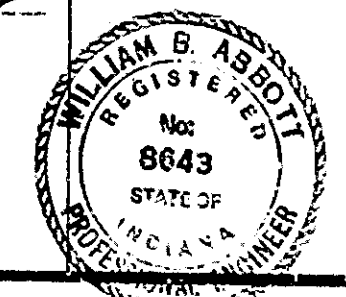


SECTION C-C
(Cols. @ Caps 10 & 19)
Scale: 3/4"=1'-0"

SUPERSTRUCTURE DETAILS
SPAN "B"
EASTBOLIND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

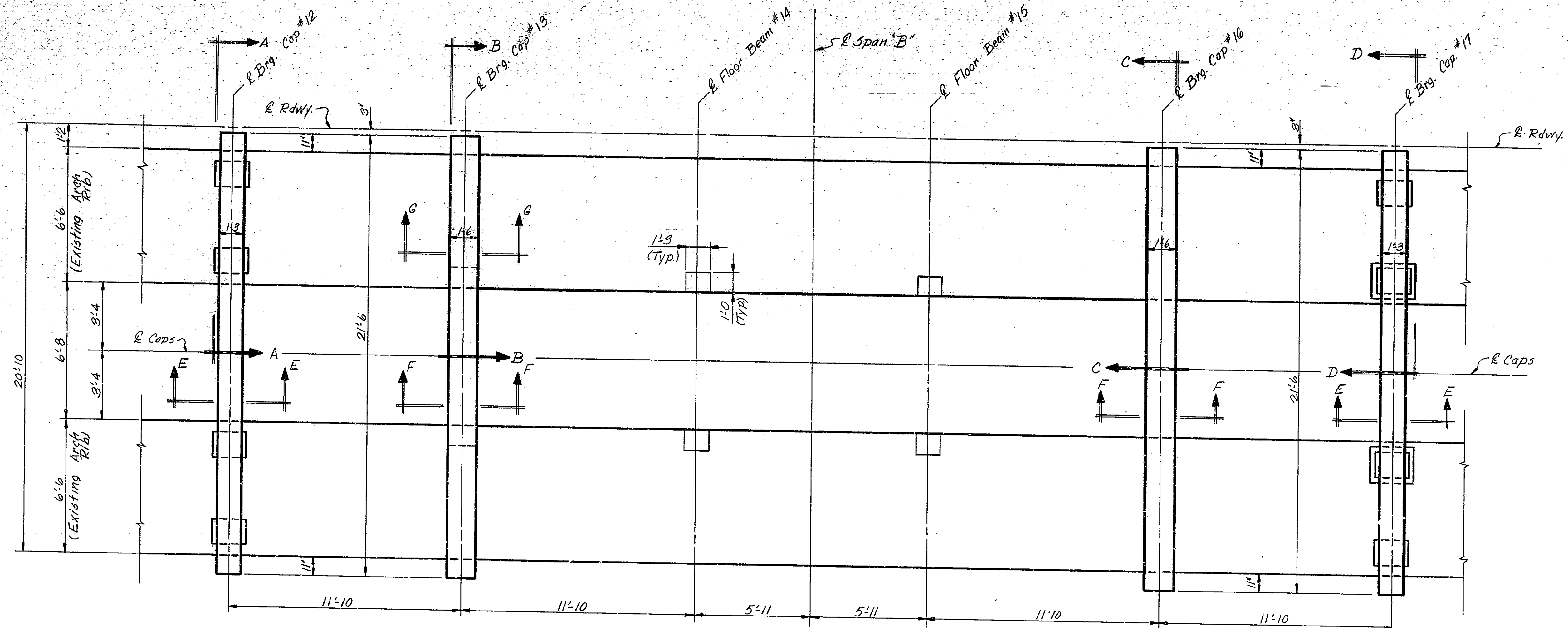
SCALE: 1/2" = 1'-0" Unless DATE: DECEMBER 26, 1973

DRAWING: C40 OF 49 SHEET: 48 OF 99
PROJECT: RF-151 (12)
CONTRACT NO. B-9818
BRIDGE FILE: 50-40-917A



DESIGNED: E.G.P.	CWD: M.C.H.
DRAWN: G.M.H.	CWD: M.C.H.
TRACED: _____	CWD: _____

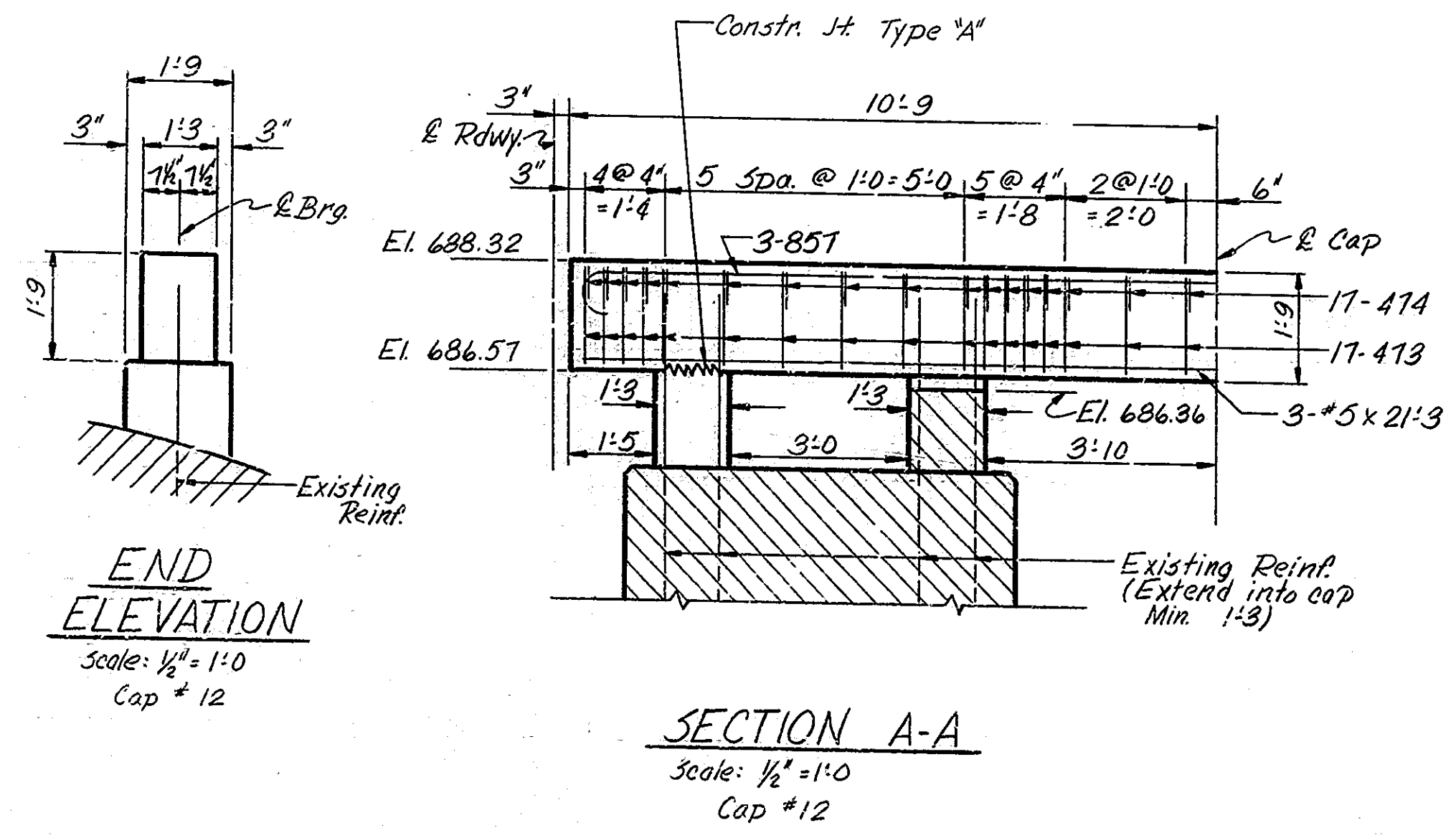
Note: See Br. Std. 2, for Reinf. Bar Notes.



Note: See Drwg. C42 for Sections C-C, D-D, E-E, F-F and G-G.

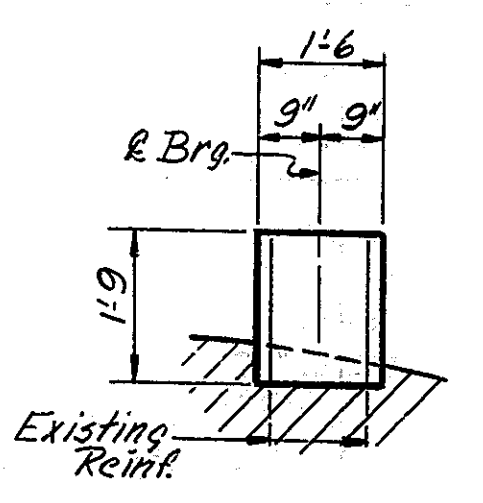
PARTIAL PLAN SPAN "B"

Showing Slab Removed
Scale: $\frac{3}{8}'' = 1'-0''$



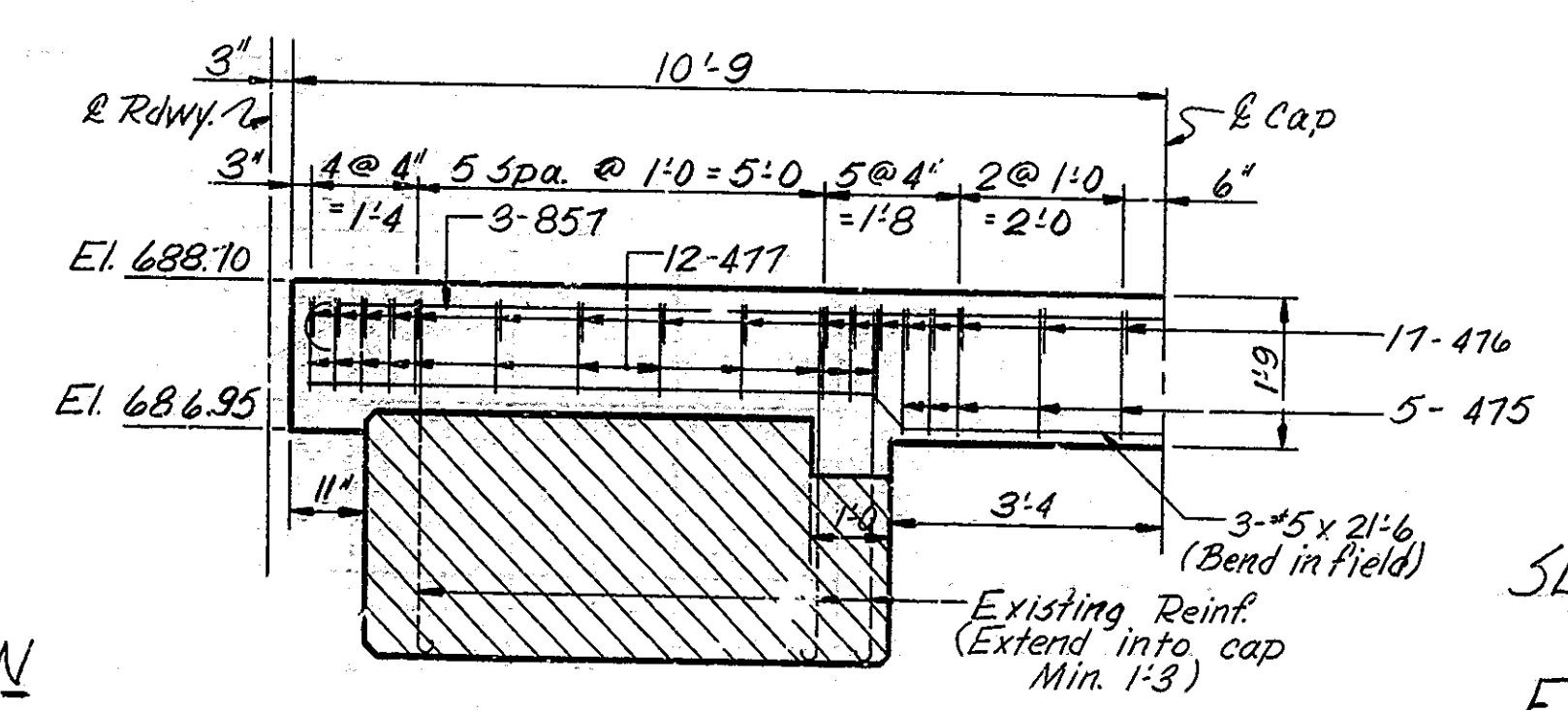
SECTION A-A

Scale: $\frac{1}{2}'' = 1'-0''$
Cap #12



END ELEVATION

Scale: $\frac{1}{2}'' = 1'-0''$
Cap #13



SECTION B-B

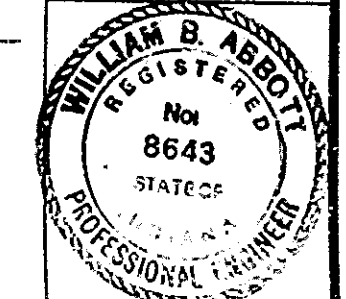
Scale: $\frac{1}{2}'' = 1'-0''$
Cap #13

Note: Sections A-A and B-B symmetrical about & Cap.

**SUPERSTRUCTURE DETAILS
SPAN "B"
EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION**

SCALE: AS NOTED DATE: DECEMBER 26, 1973

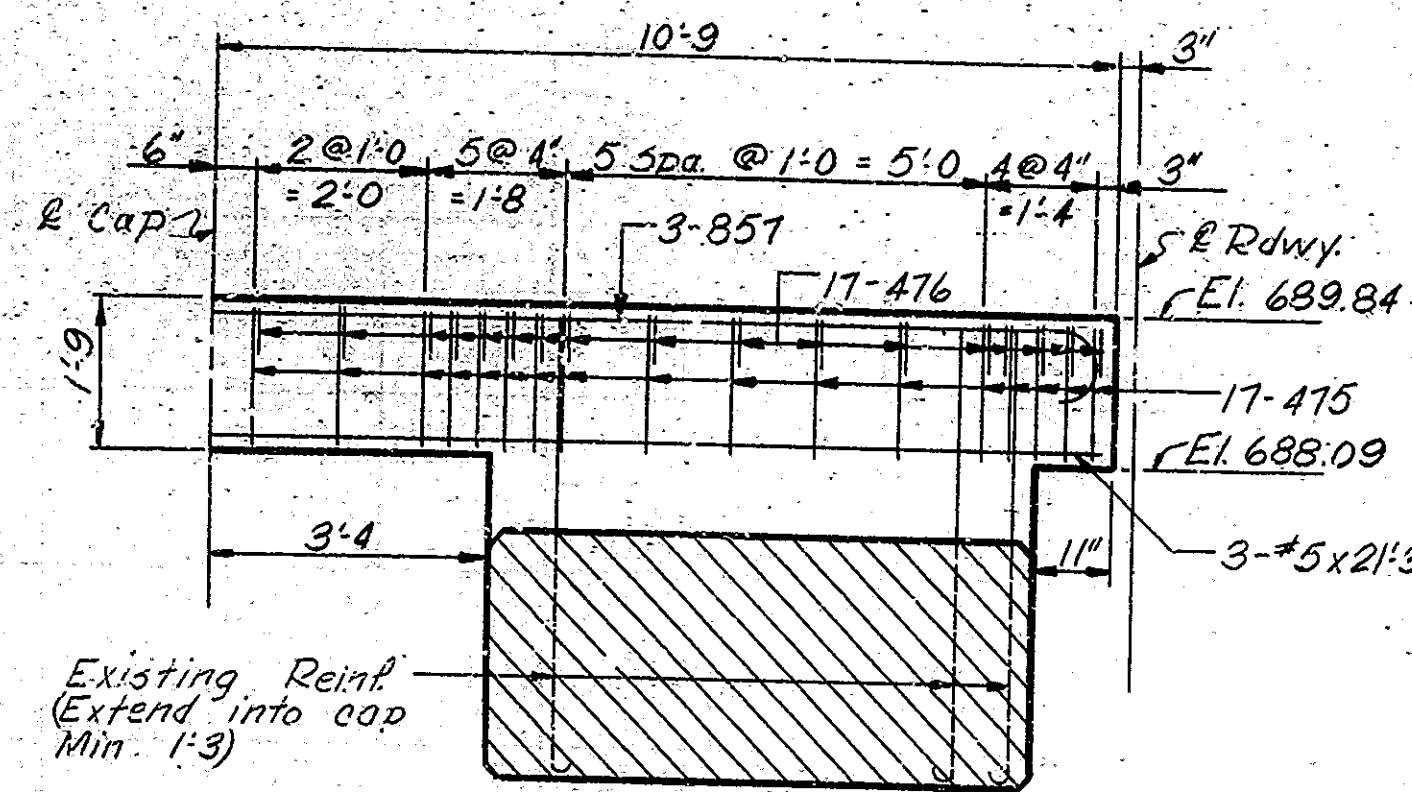
William B. Abbott
REGISTERED PROFESSIONAL ENGINEER



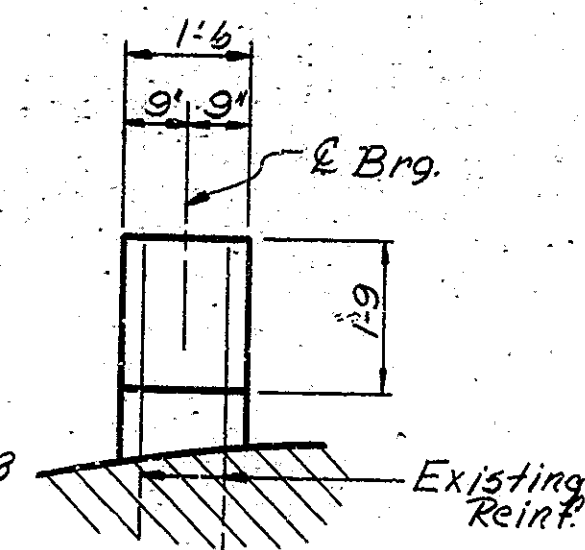
DESIGNED	FAB	C'KD	MAN
DRAWN	GMH	C'KD	MAN
TRACED		C'KD	

Note: See Br. Std. C, for Reinf. Bar Notes.

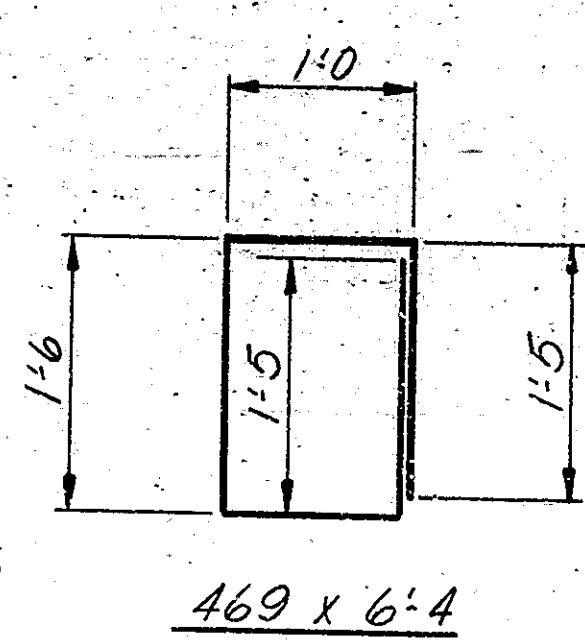
DRAWING: C41 OF 49 SHEET: 49 OF 99
PROJECT: RF-151 (12)
CONTRACT NO. B-9818
BRIDGE FILE: 50-40-917A



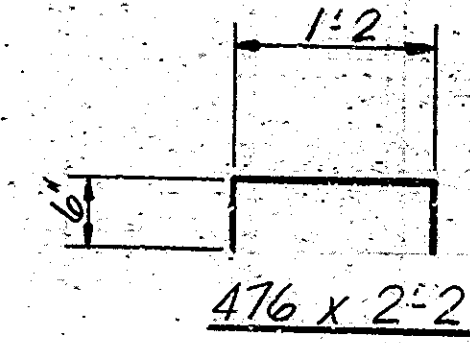
SECTION C-C
Scale: 1/2" = 1'-0"
Cap # 16



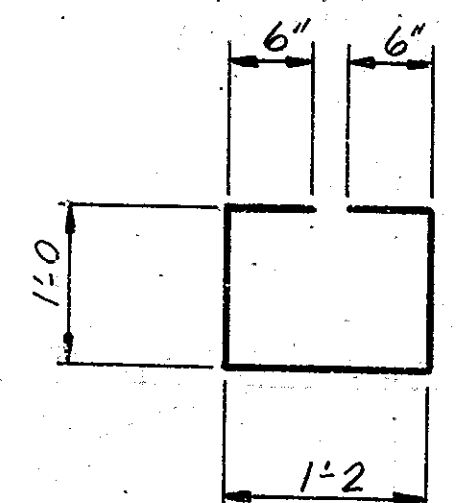
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Scale: 1/2" = 1'-0"
Cap # 16



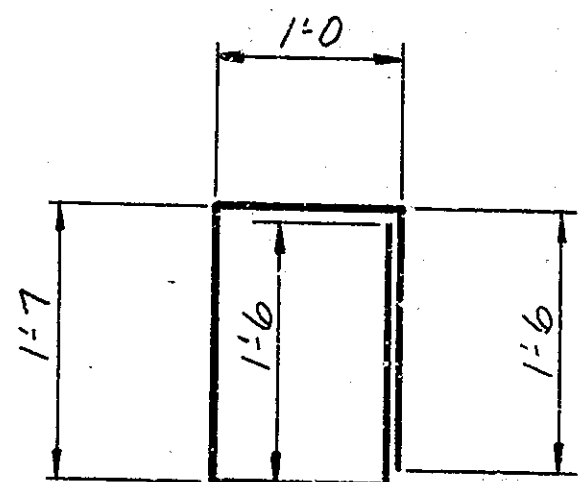
469 x 6'-4



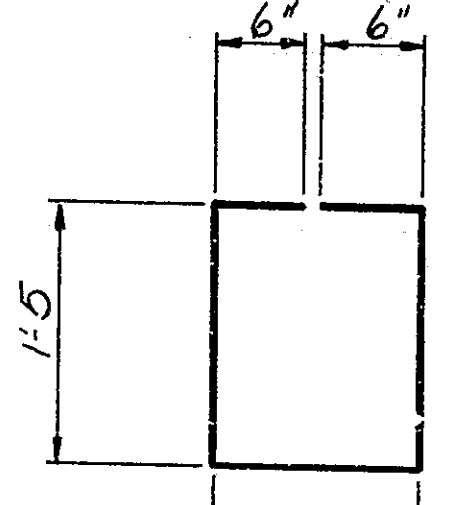
476 x 2'-2



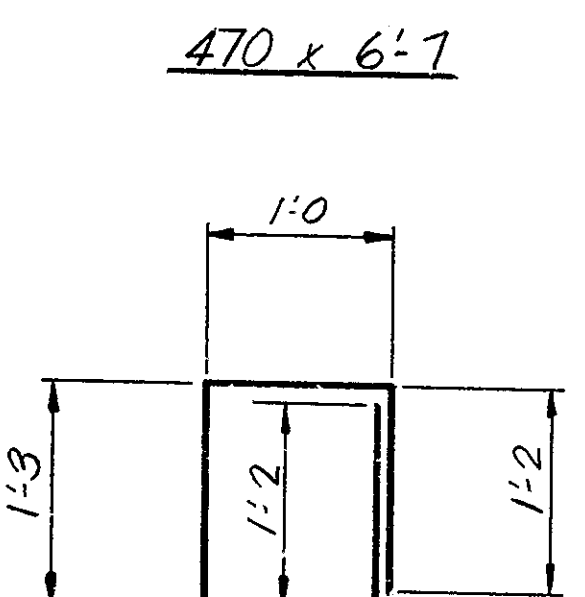
477 x 4'-2



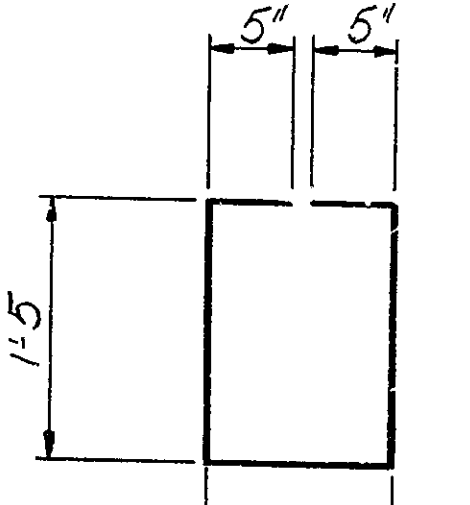
470 x 6'-1



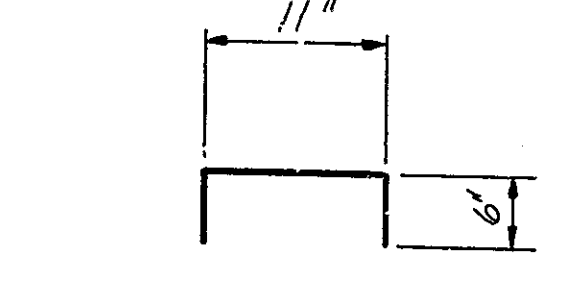
475 x 5'-0



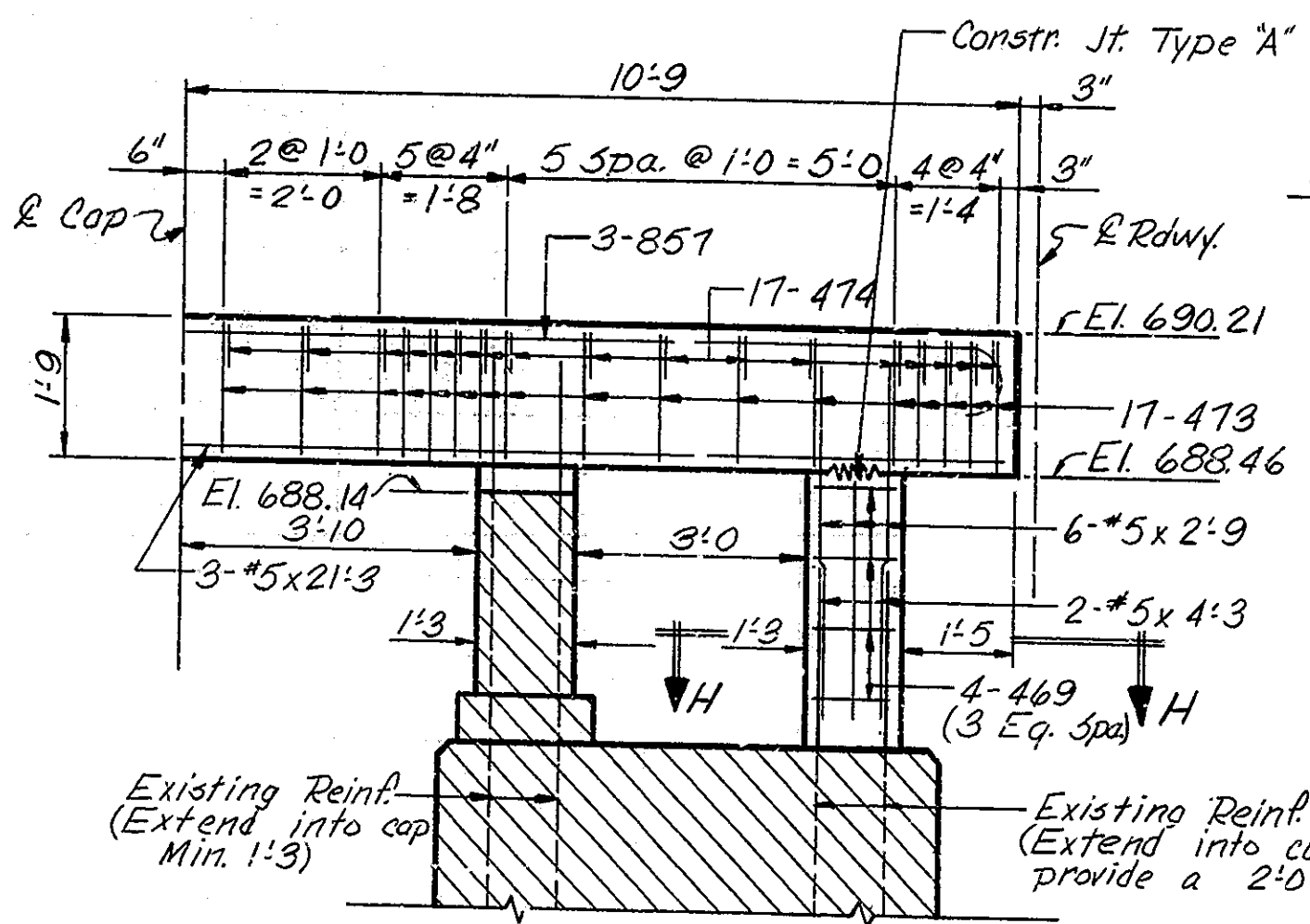
471 x 5'-7



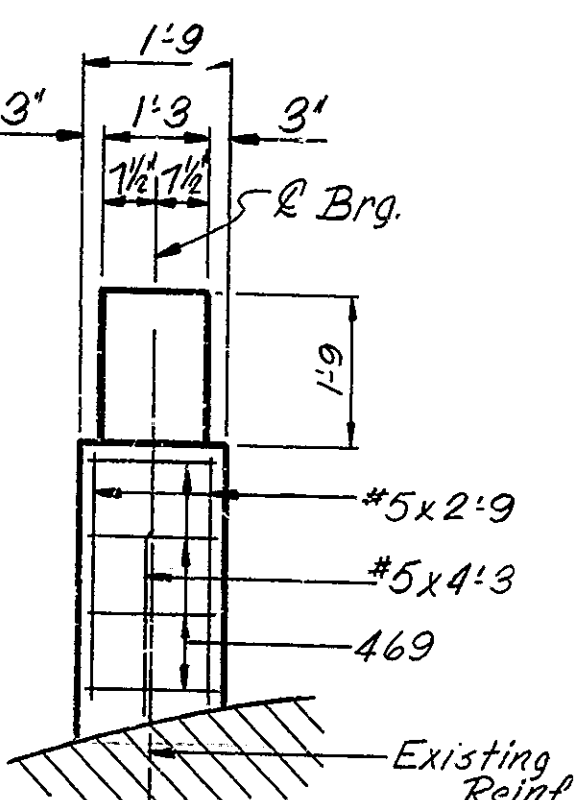
473 x 4'-7



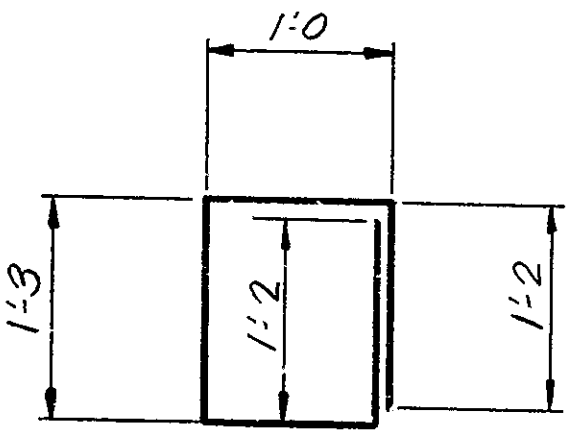
474 x 1'-11



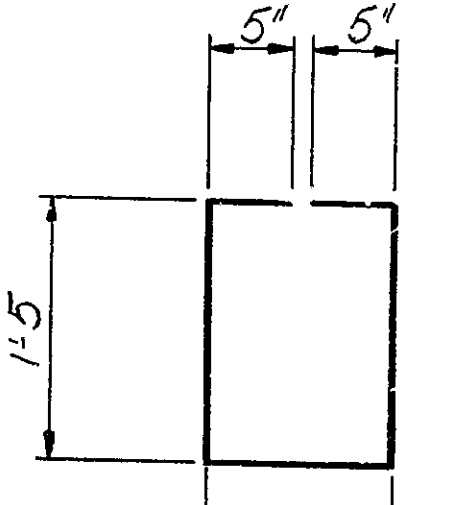
SECTION D-D
Scale: 1/2" = 1'-0"
Cap # 17



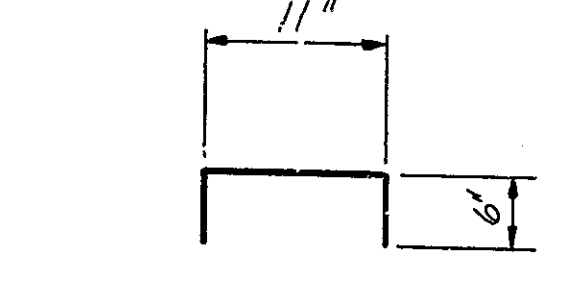
END ELEVATION
Scale: 1/2" = 1'-0"
Cap # 17



471 x 5'-7

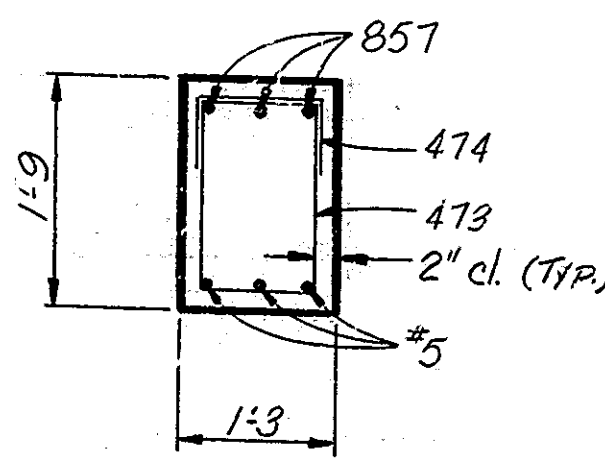


473 x 4'-7

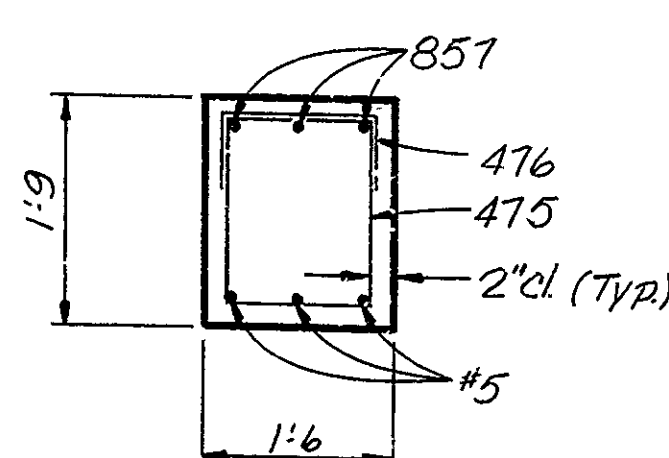


474 x 1'-11

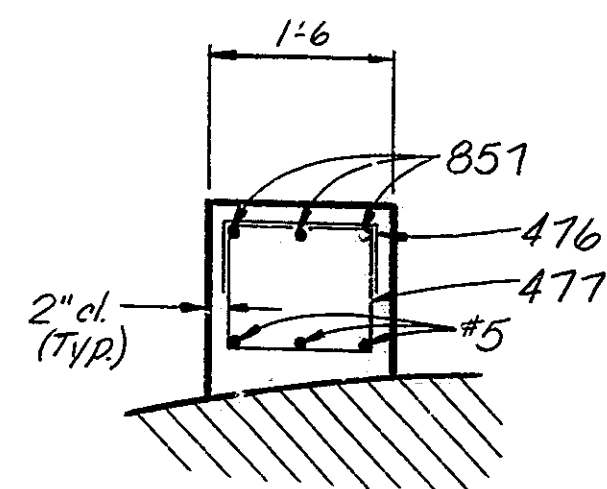
Note: Sections C-C and D-D symmetrical about & Cap.



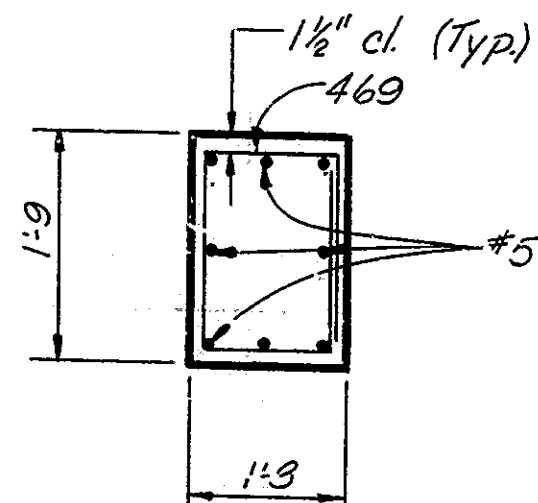
SECTION E-E
Scale: 3/4" = 1'-0"



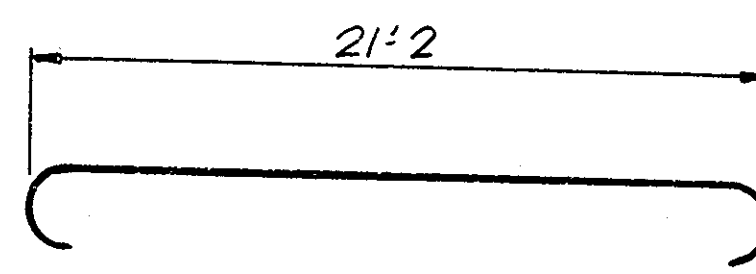
SECTION F-F
Scale: 3/4" = 1'-0"



SECTION G-G
Scale: 3/4" = 1'-0"



SECTION H-H
Scale: 3/4" = 1'-0"



857 x 23'-4

Note: See Drwg. C41 for location of sections C-C, D-D, E-E, F-F and G-G.

Note: See Br. Std. C for Reinf. Bar Notes.

DESIGNED	FAB	CK'D	MCA
DRAWN	B.M.H.	CK'D	D.S.H.
TRACED		CK'D	

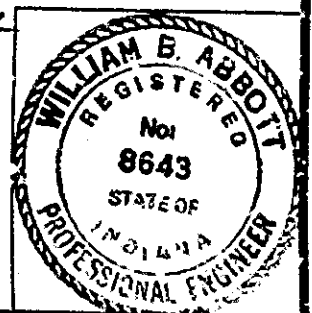
SUPERSTRUCTURE DETAILS
SPAN 'B'
EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

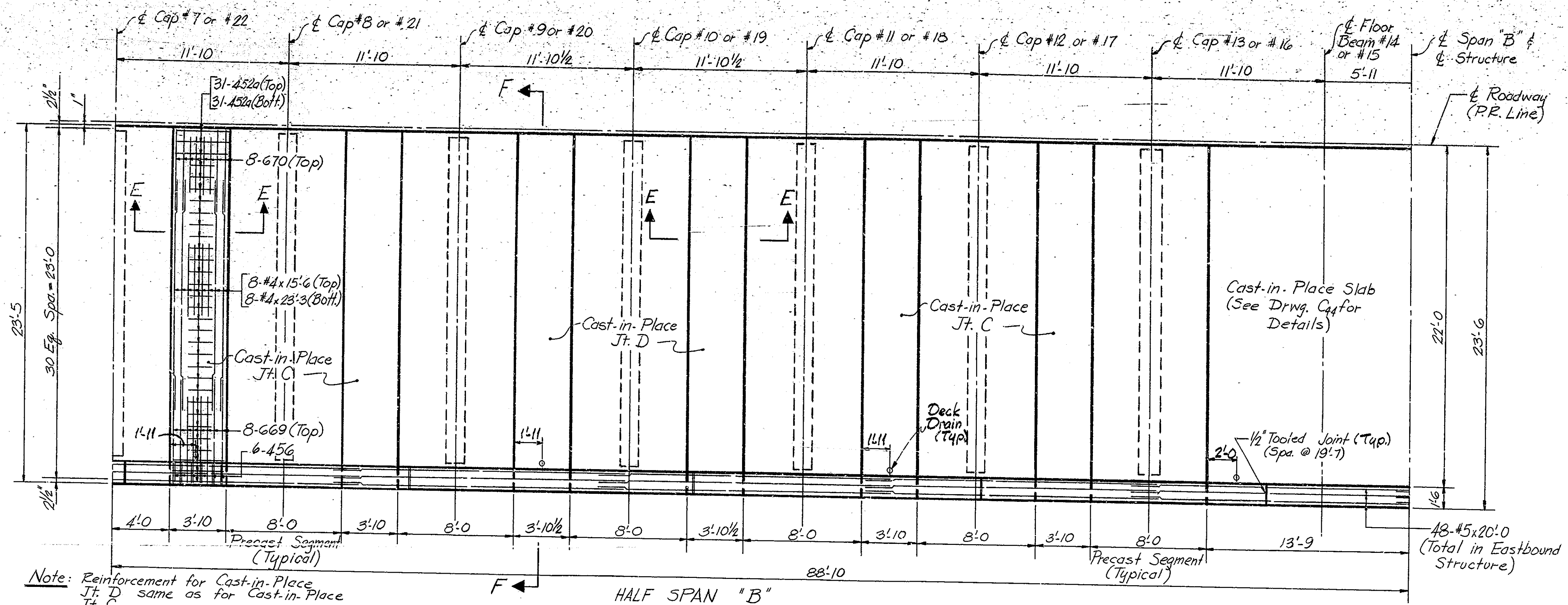
SCALE: AS NOTED

DATE: DECEMBER 26, 1973

William B. Abbott
REGISTERED PROFESSIONAL ENGINEER

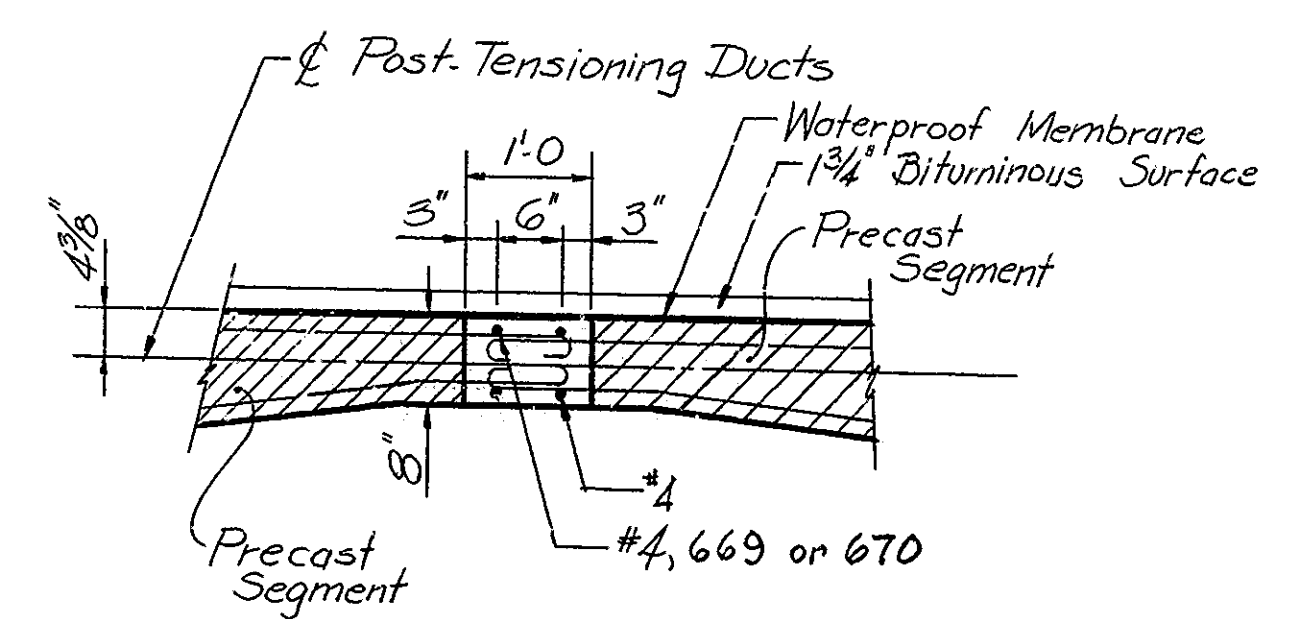
DRAWING: C42 OF 49 SHEET: 50 OF 99
PROJECT: RF-151(12)
CONTRACT NO. B-9315
BRIDGE FILE: 50-40-917A



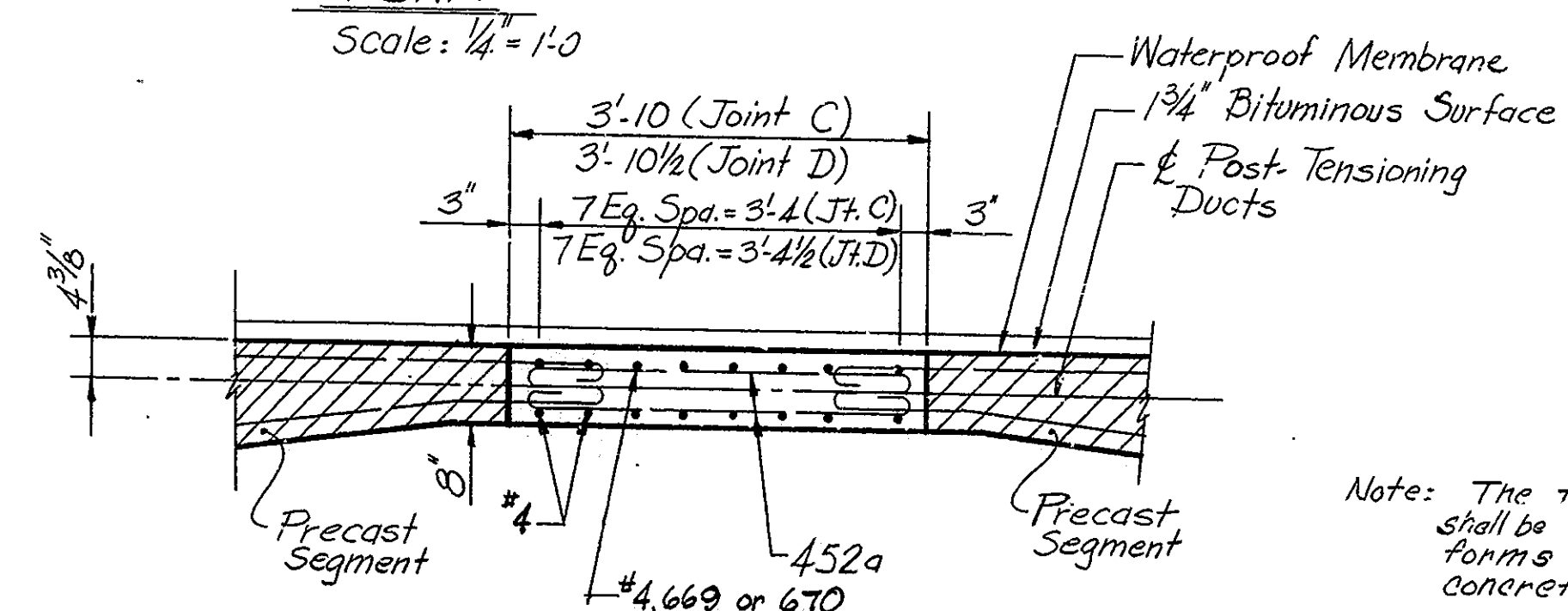


Note: Reinforcement for Cast-in-Place Jt. D same as for Cast-in-Place Jt. C.

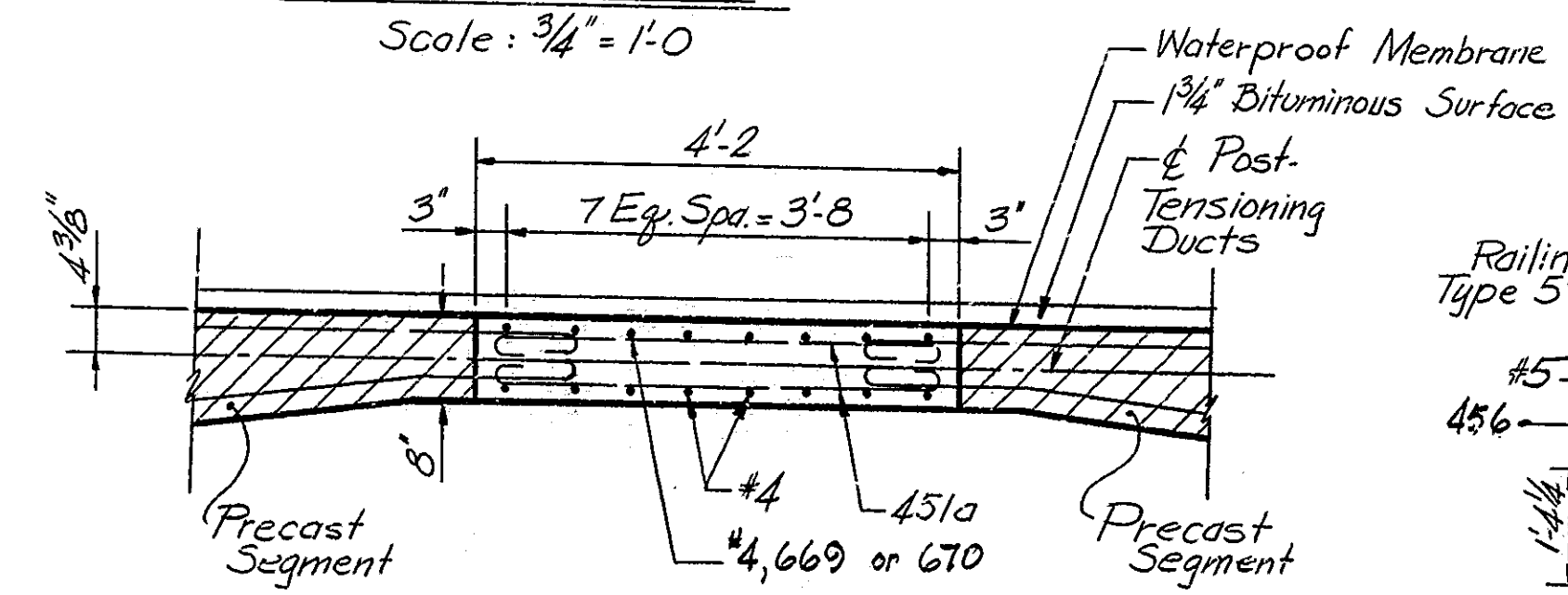
HALF SPAN "B"
PLAN
Scale: 1/4" = 1'-0"



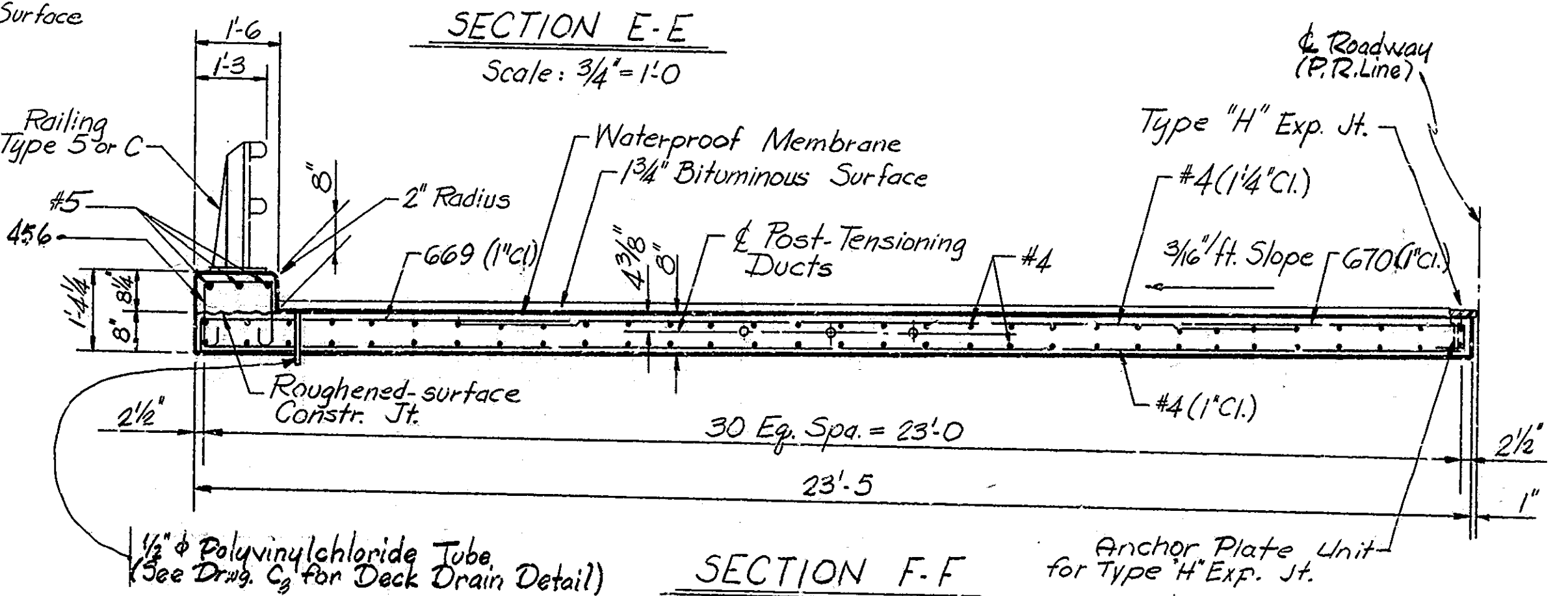
SECTION C-C
Scale: 3/4" = 1'-0"



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



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



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

DESIGN DATA
 Live Load: Designed for HS 20-44 loading with impact and distribution of loads in accordance with 1973 A.A.S.H.O. Specifications.
 Dead Load: Increased 35#/sq. Ft. of roadway for future wearing surface.
 Unit Stresses: (Substructure and Caps)
 $f'_c = 20,000$ psi.
 $f_c = 1200$ psi.
 Unit Stresses: (Superstructure slab)
 $f'_c = 4000$ psi. (28 day concrete strength)
 $f_{ci} = 3000$ psi. (concrete strength at time of post-tensioning)
 Mild steel reinforcement: $f_y = 40,000$ psi.

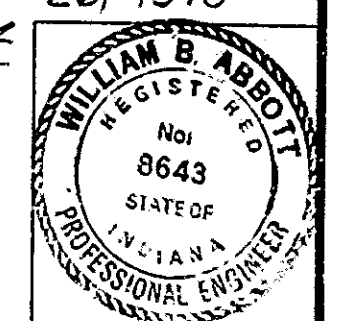
Note: The top reinforcing in the deck shall be securely tied down to the deck forms to prevent lifting during concrete placement.

Note: See Drwg. C44 for additional notes.

SUPERSTRUCTURE DETAILS
SPAN "B"
EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION

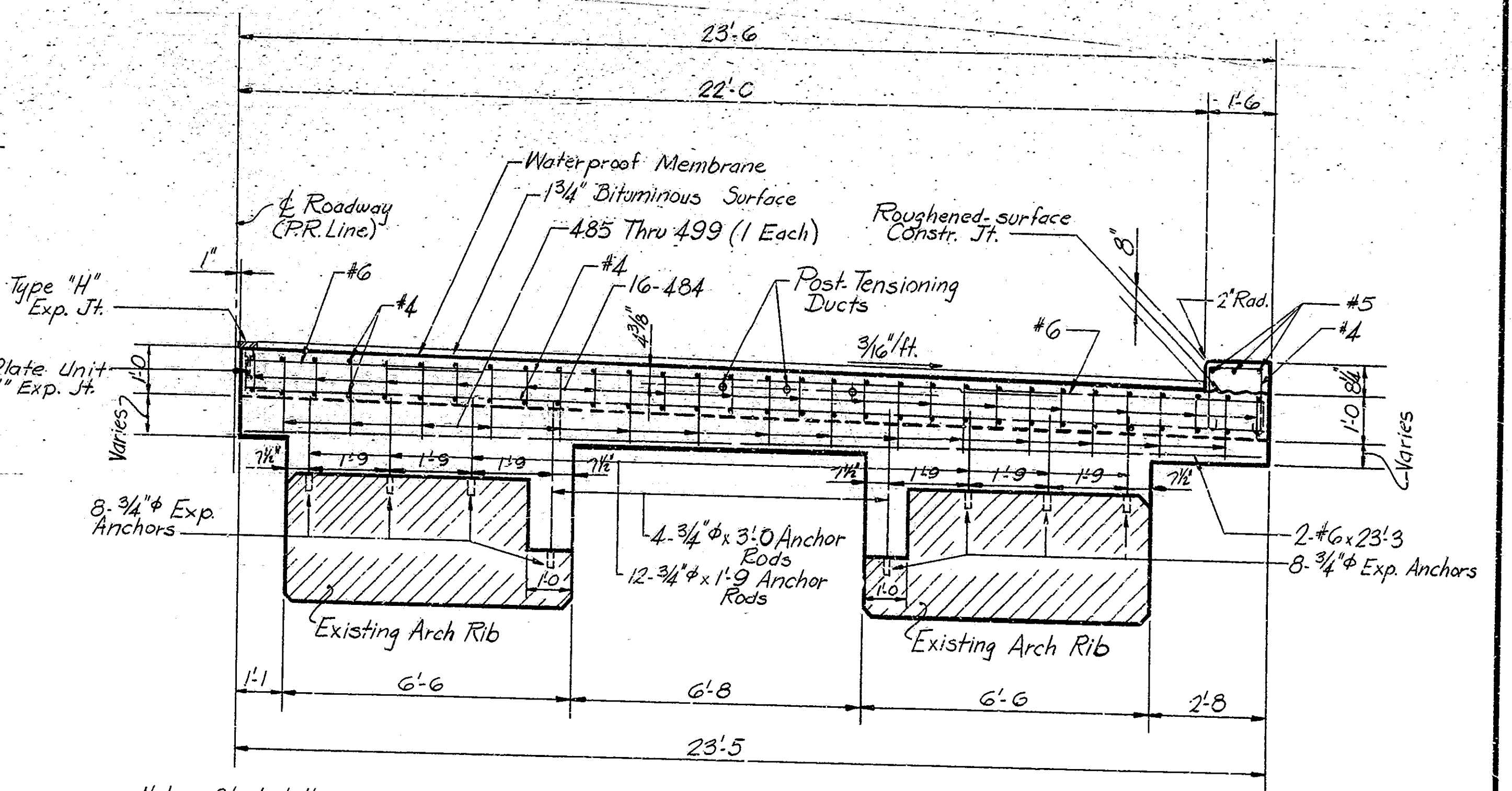
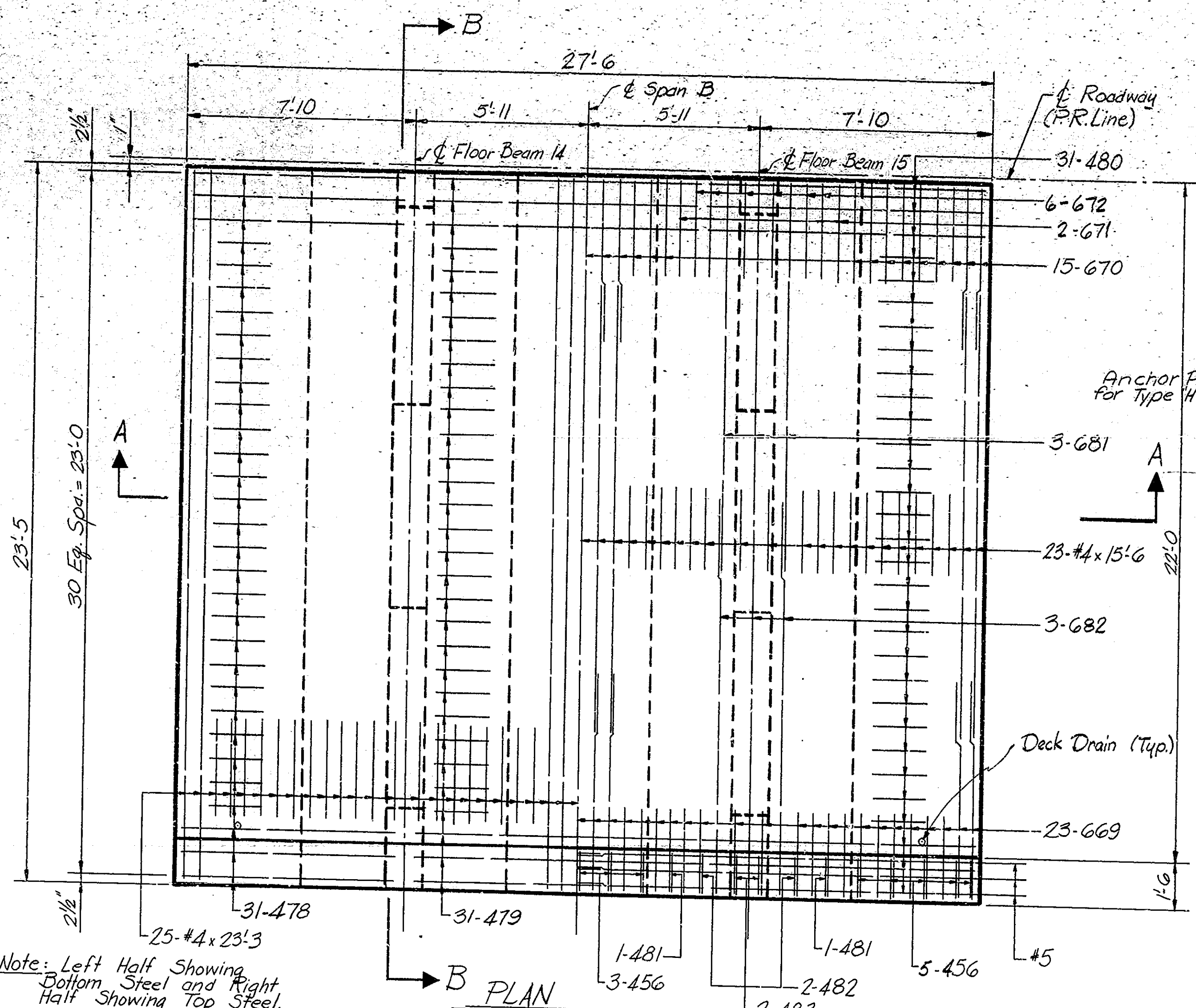
SCALE: As Noted DATE: DECEMBER 26, 1973

DESIGNED: FAB C.K.D. MCN
 DRAWN: MCN S.B. C.K.D. FAB D.F.B.
 TRACED: C.K.D.
 PROJECT: RF-151(12)
 CONTRACT NO. 3-9818
 BRIDGE FILE: 50-40-917A



DESIGNED: FAB C.K.D. MCN
 DRAWN: MCN S.B. C.K.D. FAB D.F.B.
 TRACED: C.K.D.

Note: For Location of Section C-C & Section D-D, See Drwg. C38.
 Note: See Br. Std. C, for Reinf. Bar Notes.

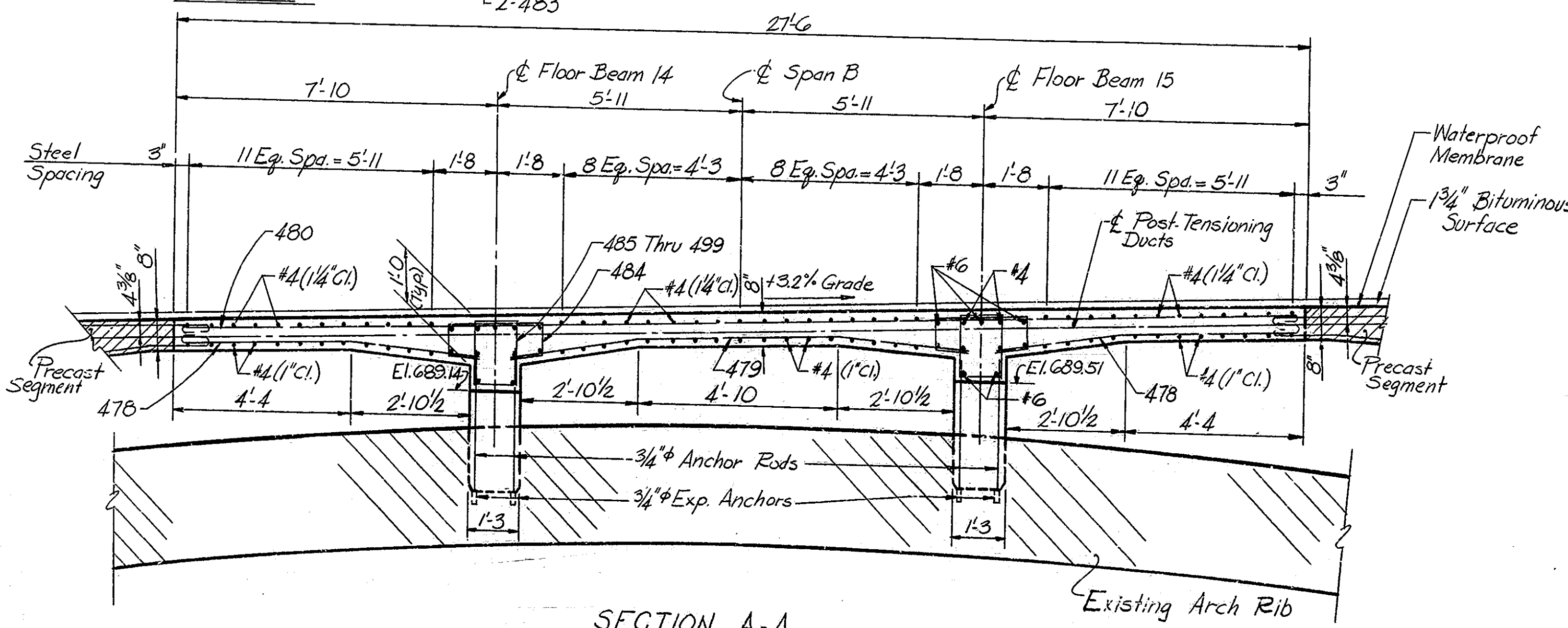


Note: Steel billed on this section is same for Floor Beam 15.

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

Note: The top reinforcing in the deck shall be securely tied down to the deck forms to prevent lifting during concrete placement.

Notes: (Typical for Drwg's. C38, C43 and C44)
 Cast-in-place portions of the slab to be Special Class "C" Concrete; compressive strength to be 4000 p.s.i. at 28 days.
 Concrete compressive strength to be 3000 p.s.i. or more at time of post-tensioning.
 Concrete curb to be Class "C" Concrete.
 Concrete curb not to be poured until post-tensioning is completed.
 Floor forms for cast-in-place portions of the slab shall not be blocked against the adjacent westbound superstructure.
 See Drwg's. C46 and C47 for details of precast segment.
 See Drwg. C43 - details of Type "H" Exp. Jt.
 See Drwg. C45 for Prestressing Notes and General Notes in connection with the post-tensioned slab.
 3/4" Expansion Anchors shall have a minimum pullout strength of 10,000 lbs.



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

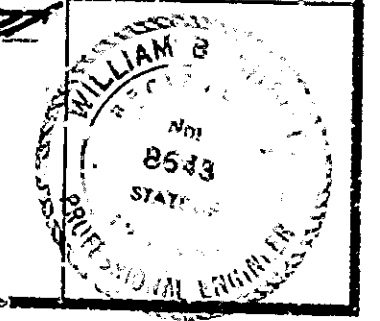
Note: See Br. Std. C, for Reinf. Bar Notes

SUPERSTRUCTURE DETAILS
SPAN "B"
EASTBOUND STRUCTURE

INDIANA STATE HIGHWAY COMMISSION

SCALE: 3/8" = 1'-0" (Unless Noted) DATE: DECEMBER 26, 1973

DRAWING: C14 OF 49 SHEET: 52 OF 99
 PROJECT: I-151 (12)
 CONTRACT NO. B-9618
 BRIDGE FILE: 50-40-917A

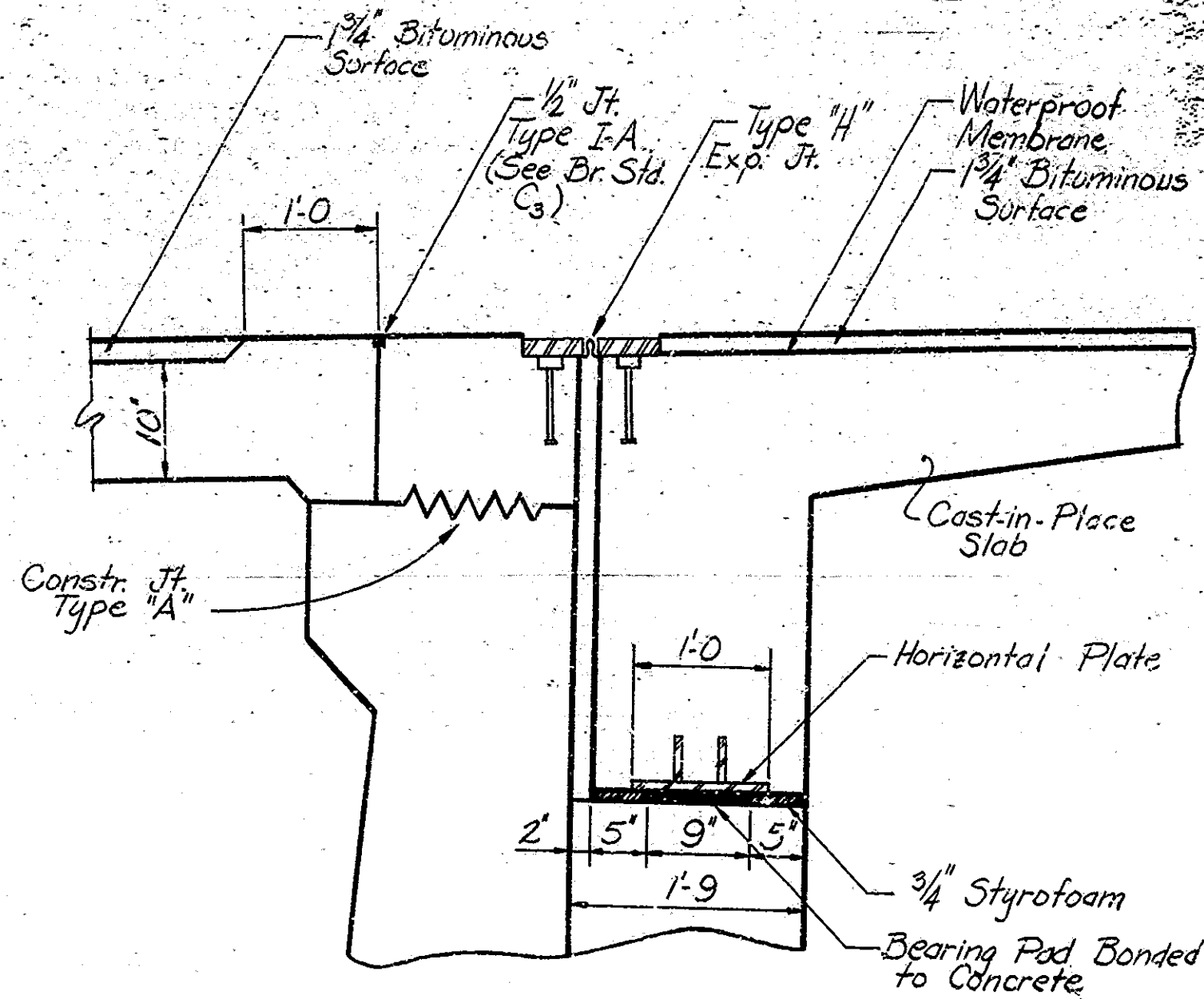


DESIGNED: FAB CKD MCN
 DRAWN: MCN 7-73 CKD FAB 10-73
 TRACED: CKD

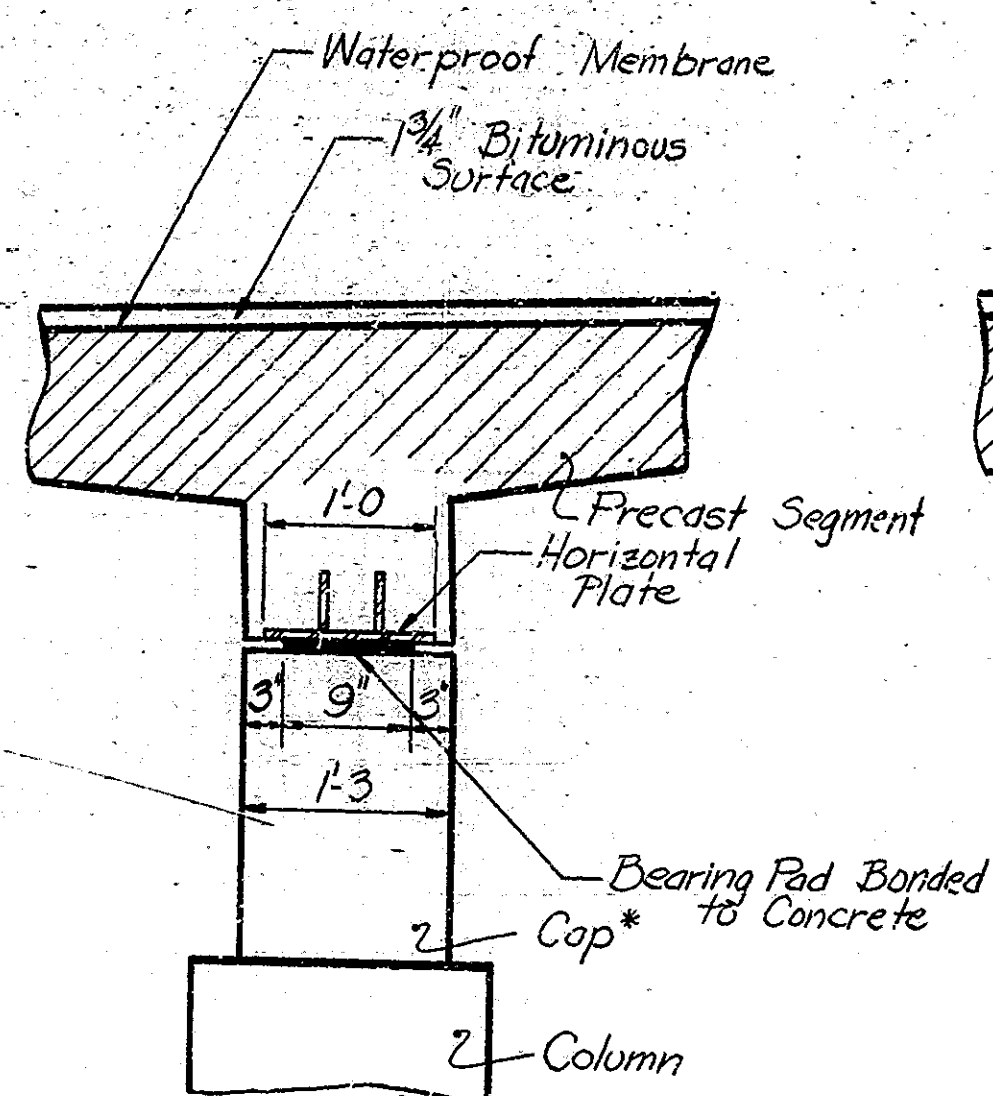
Rev 5-15-74 Conc curb changed to class "C" Conc.

Note: After superstructure has been completed concrete forms shall not be blocked against the expansion ends of the superstructure in making any pours adjacent to the ends of the superstructure.

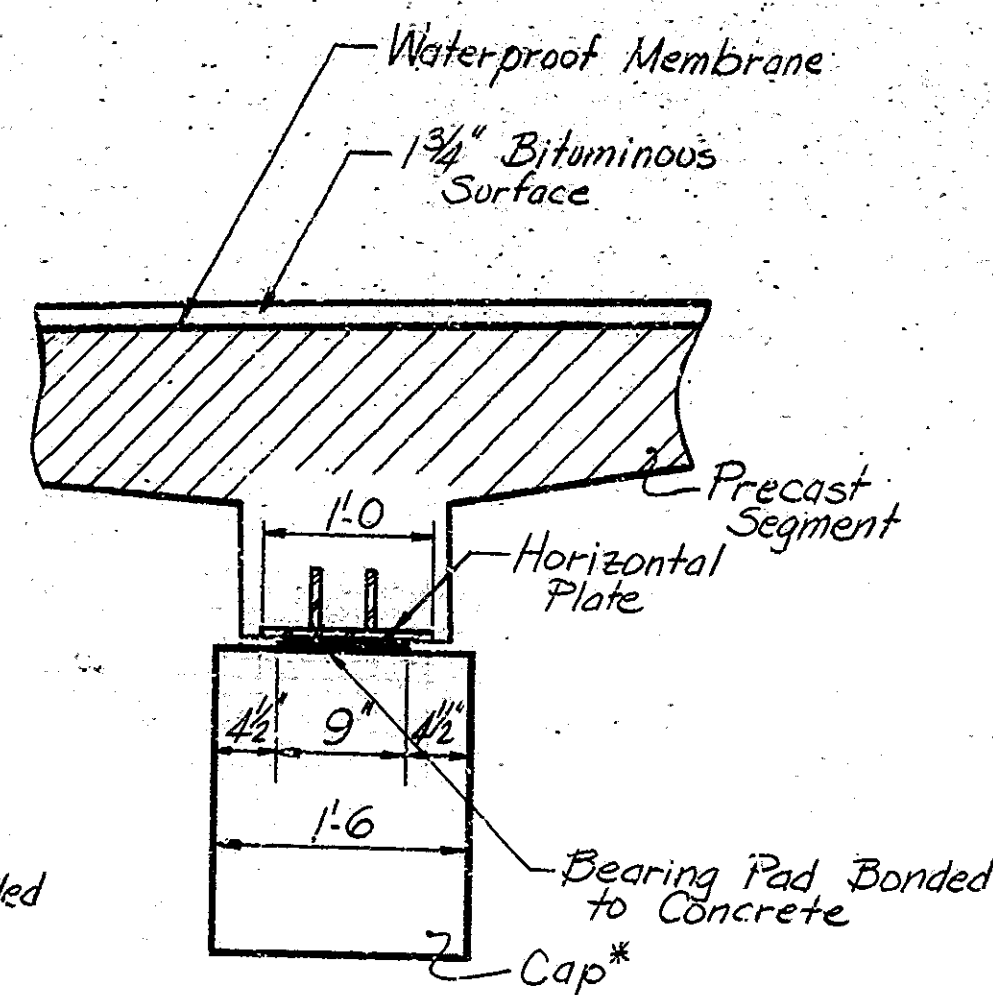
Note: See Drwg. C88 for location of Sections R-R, S-S, T-T, and U-U.



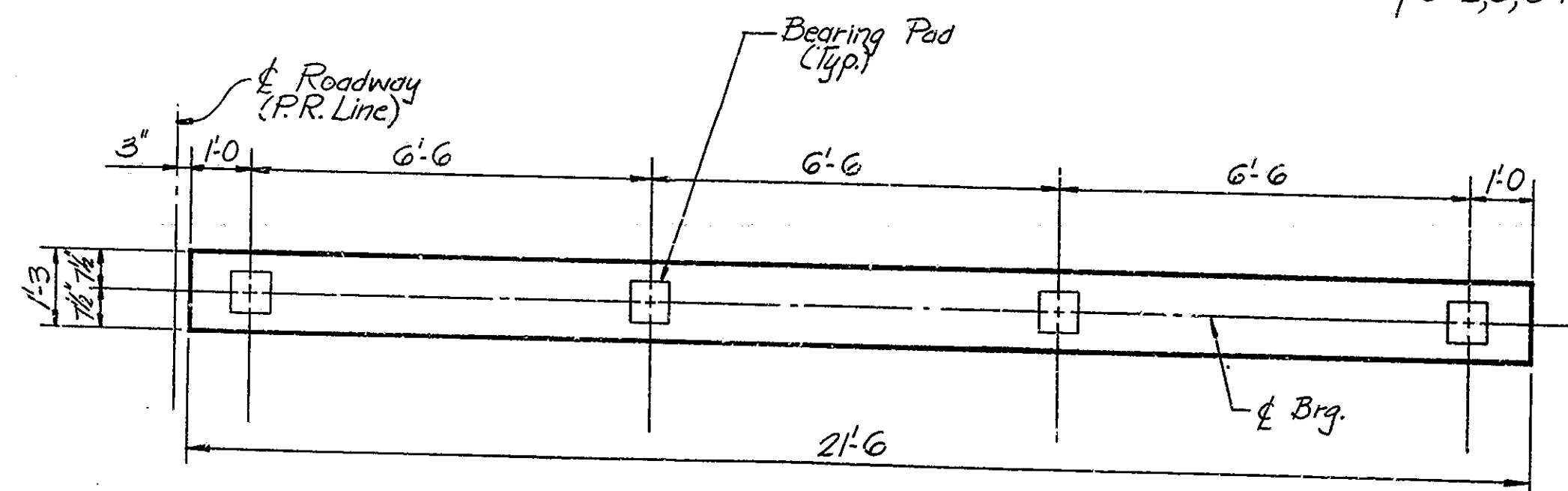
SECTION S-S
Scale: 1" = 1'-0"



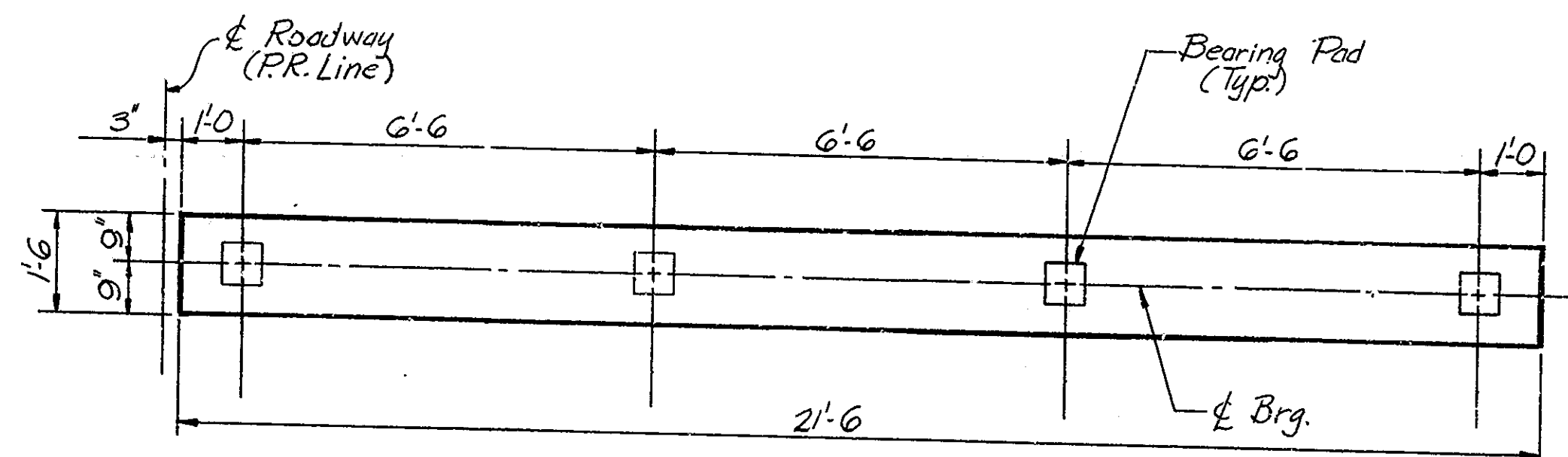
SECTION T-T
Scale: 1" = 1'-0"



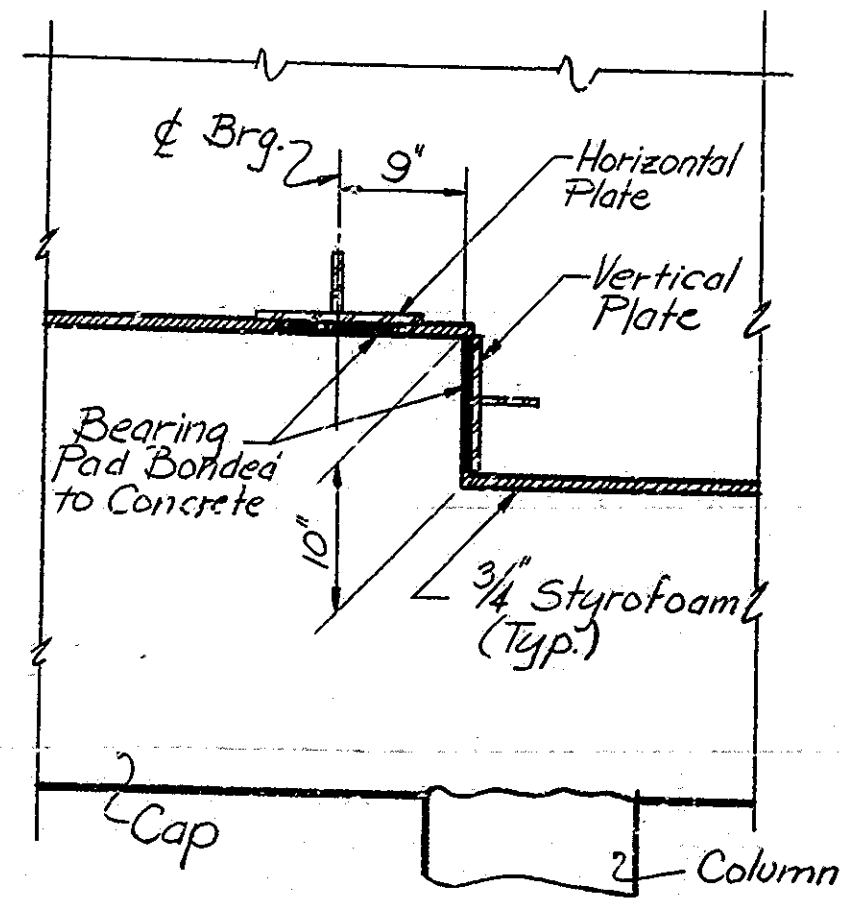
SECTION U-U
Scale: 1" = 1'-0"
* Caps 3, 4, 6, 7, 13, 16, 22, 23, 25 & 26



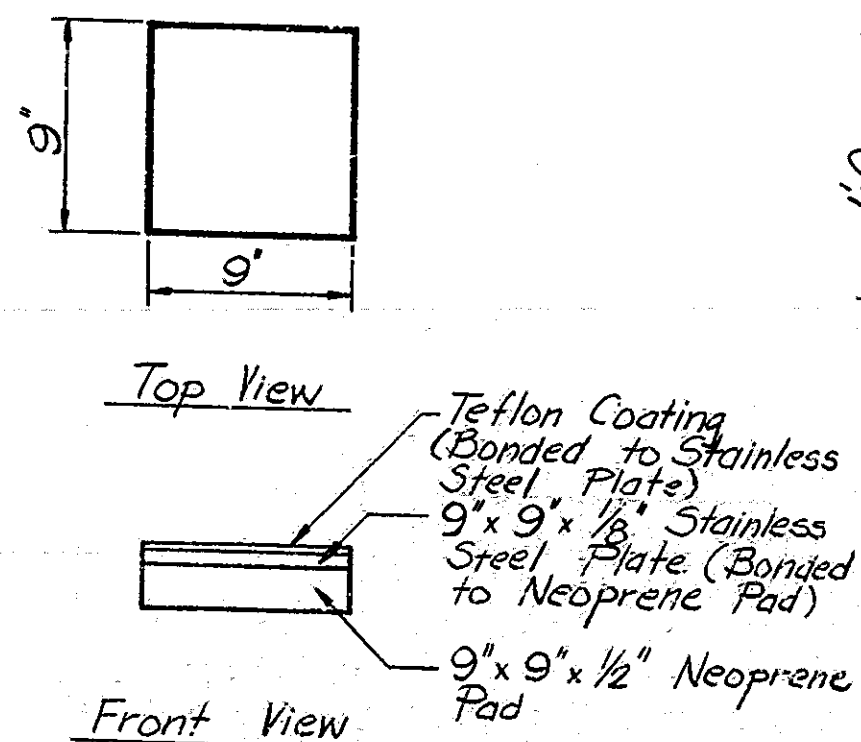
CAP PLAN
Scale: 1/2" = 1'-0"
Caps 2, 5, 8 thru 12, 17 thru 21, 24, & 27



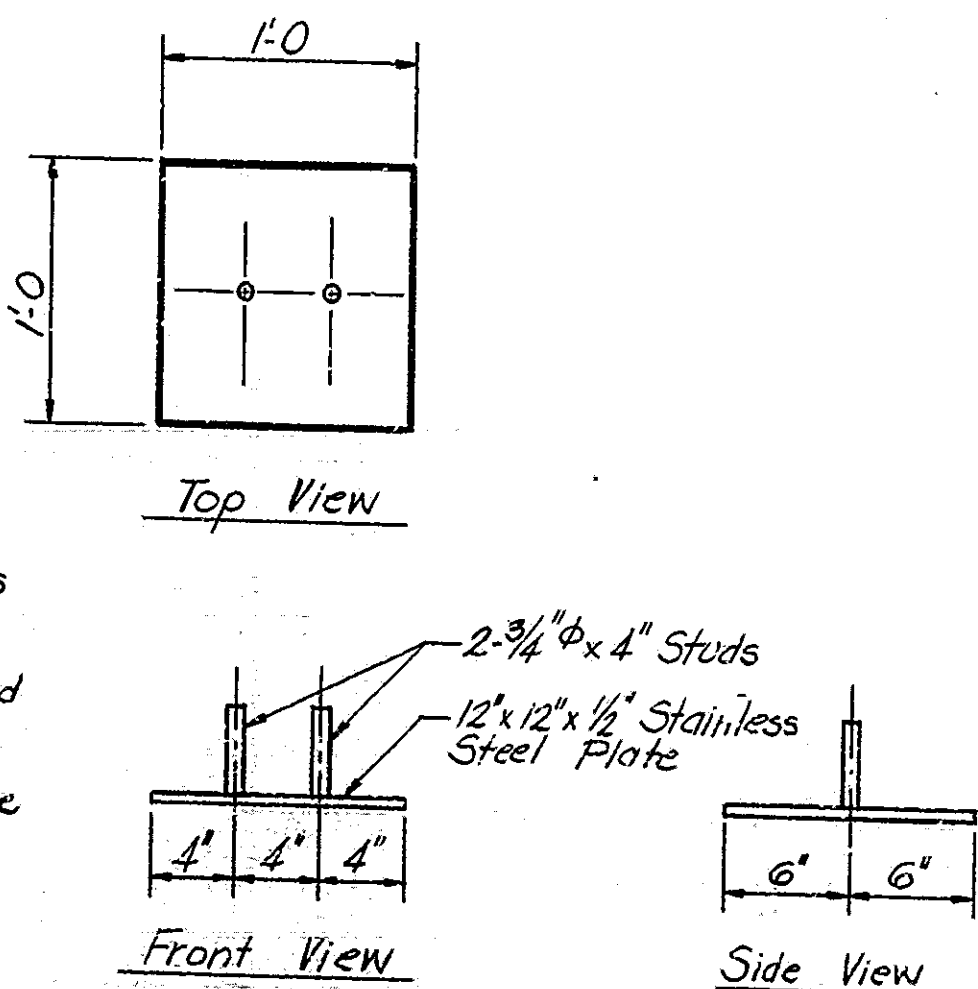
CAP PLAN
Scale: 1/2" = 1'-0"
Caps 3, 4, 6, 7, 13, 16, 22, 23, 25 & 26



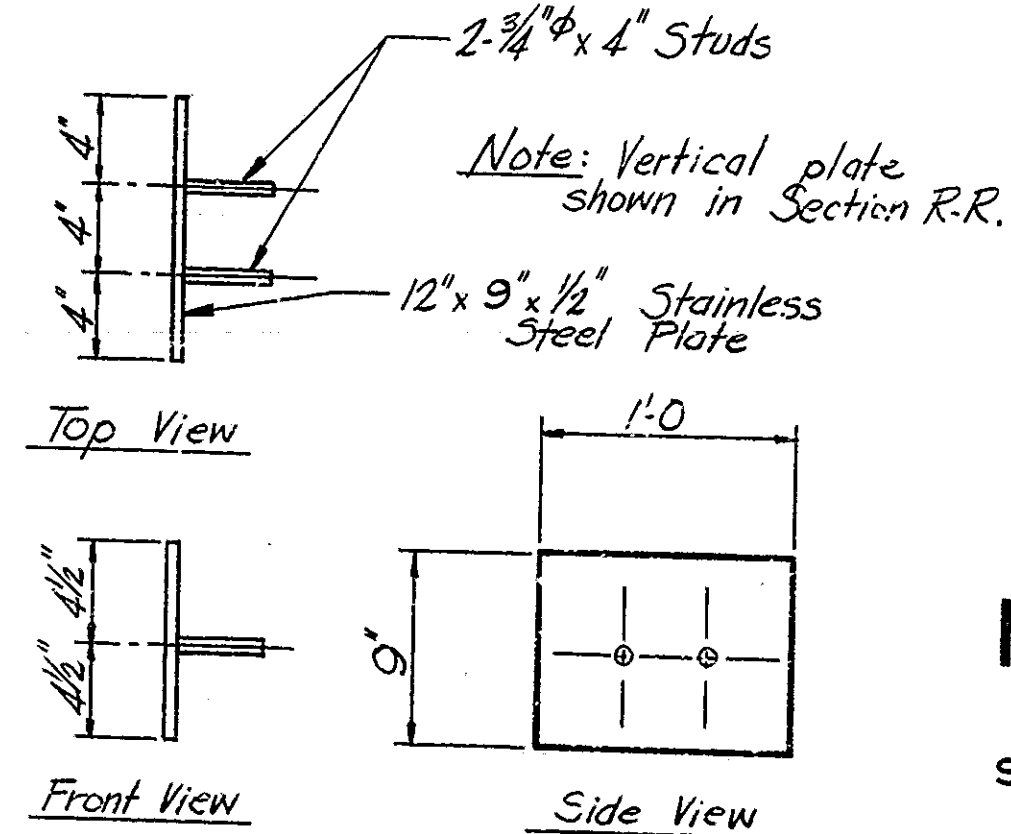
SECTION R-R
Scale: 1" = 1'-0"



BEARING PAD DETAIL
(No Scale)



HORIZONTAL PLATE DETAIL
Scale: 1/2" = 1'-0"



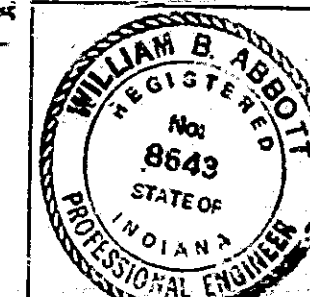
VERTICAL PLATE DETAIL
Scale: 1/2" = 1'-0"

PRESTRESSING NOTES
 Longitudinal post-tensioning shall be accomplished by jacking from both ends of the structure with hydraulic jacks. Final effective force, after all losses, required at $\frac{e}{l}$ of structure equals 82 kips per foot width of slab.
 Center of gravity of tendons shall be exactly as shown on the plans.
 Size, number and spacing of post-tensioning tendons shall be selected by the Contractor and submitted to the Engineer for approval. Maximum spacing of tendons shall be 2'-0". Distance from edge of slab to first tendon shall be 9" or one half the tendon spacing whichever is greater.
 Stressing sequence to be determined by the Contractor and submitted to the Engineer for approval.
 Tendons are composed of uncoated, seven-wire, stress relieved strands conforming to ASTM A 416.
 See Special Provisions for sheathing (ducts), grouting, jacking equipment, anchorages, allowable stresses in prestressing steel, stress losses in prestressing steel and other items in connection with the post-tensioned segmented slab.

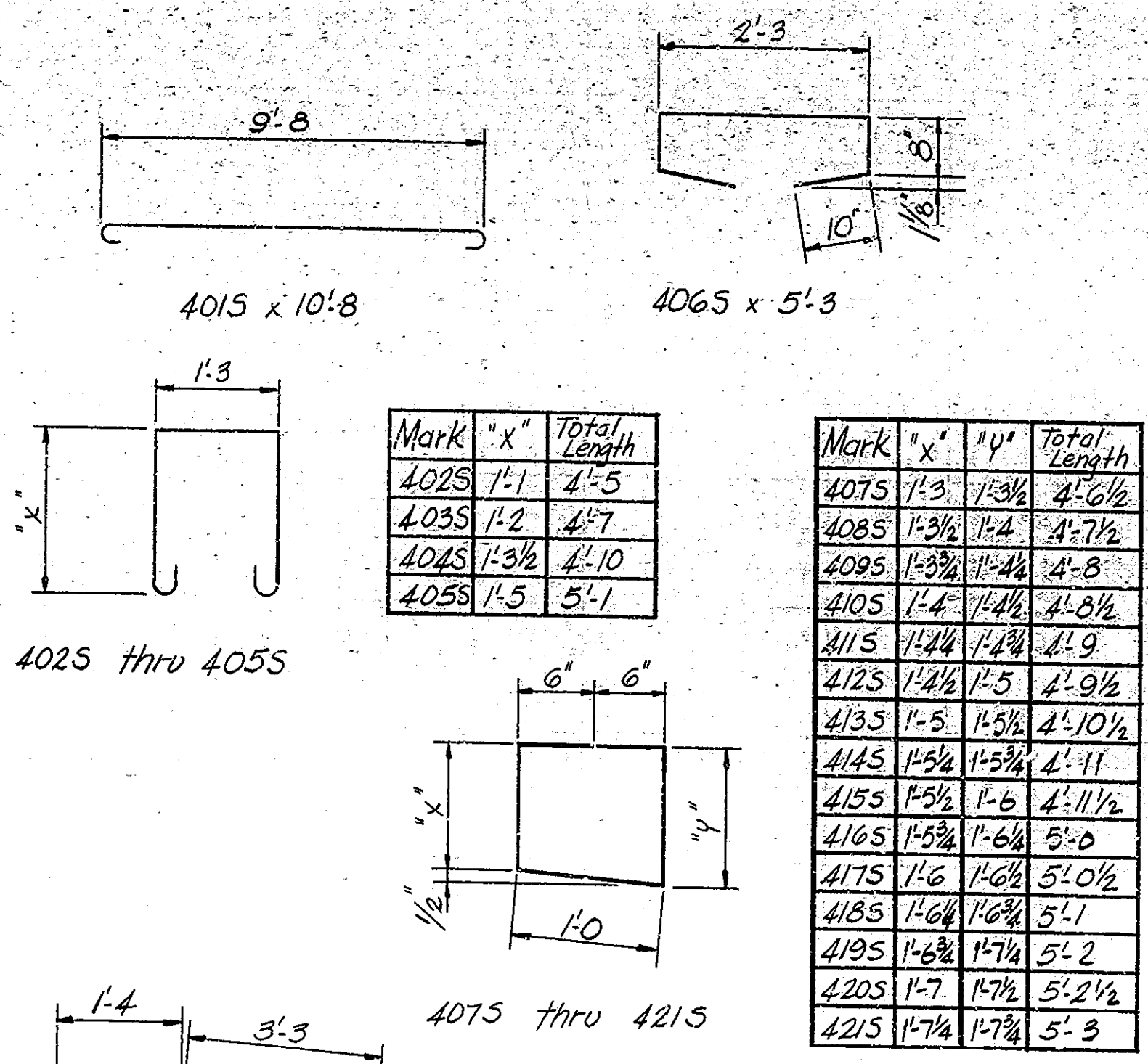
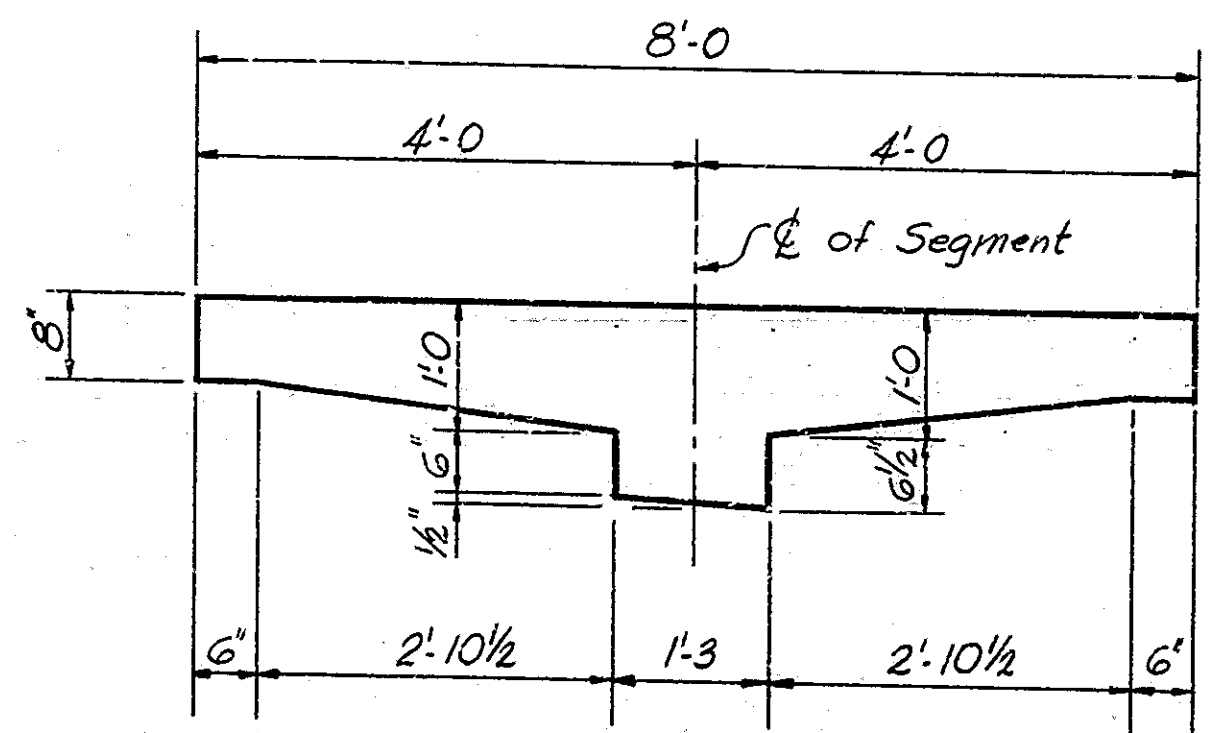
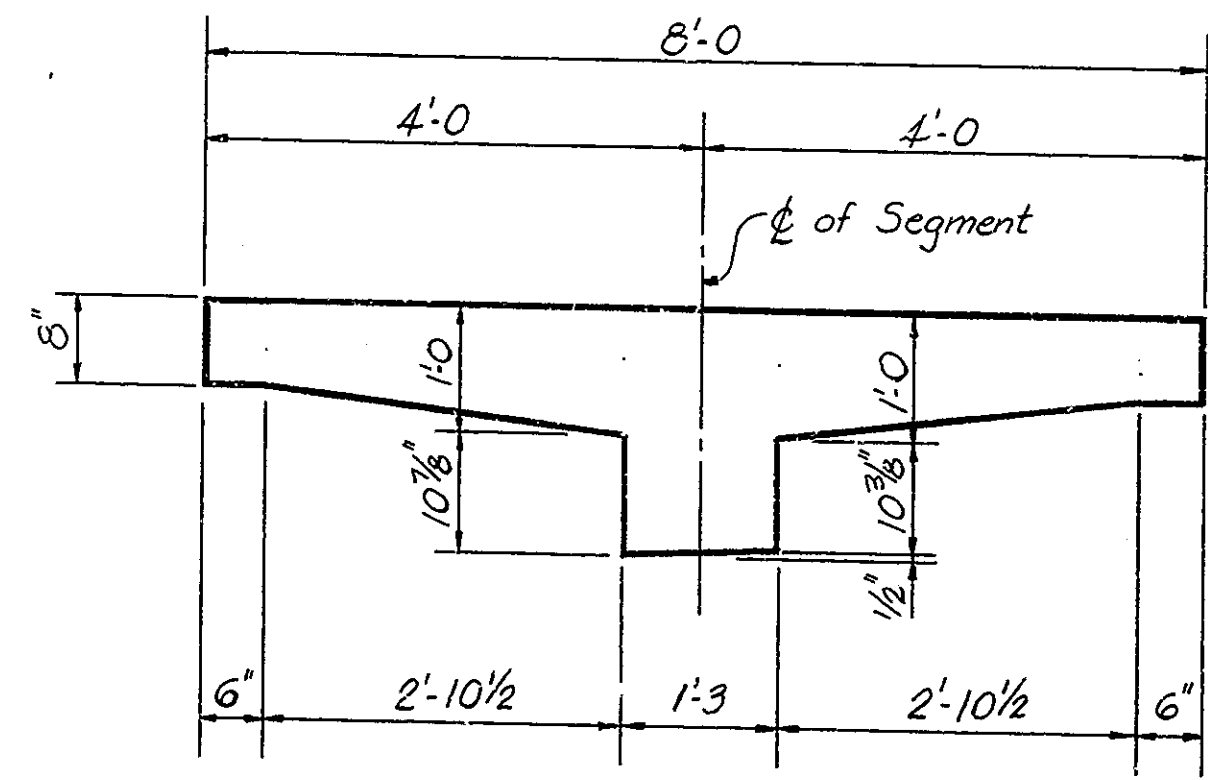
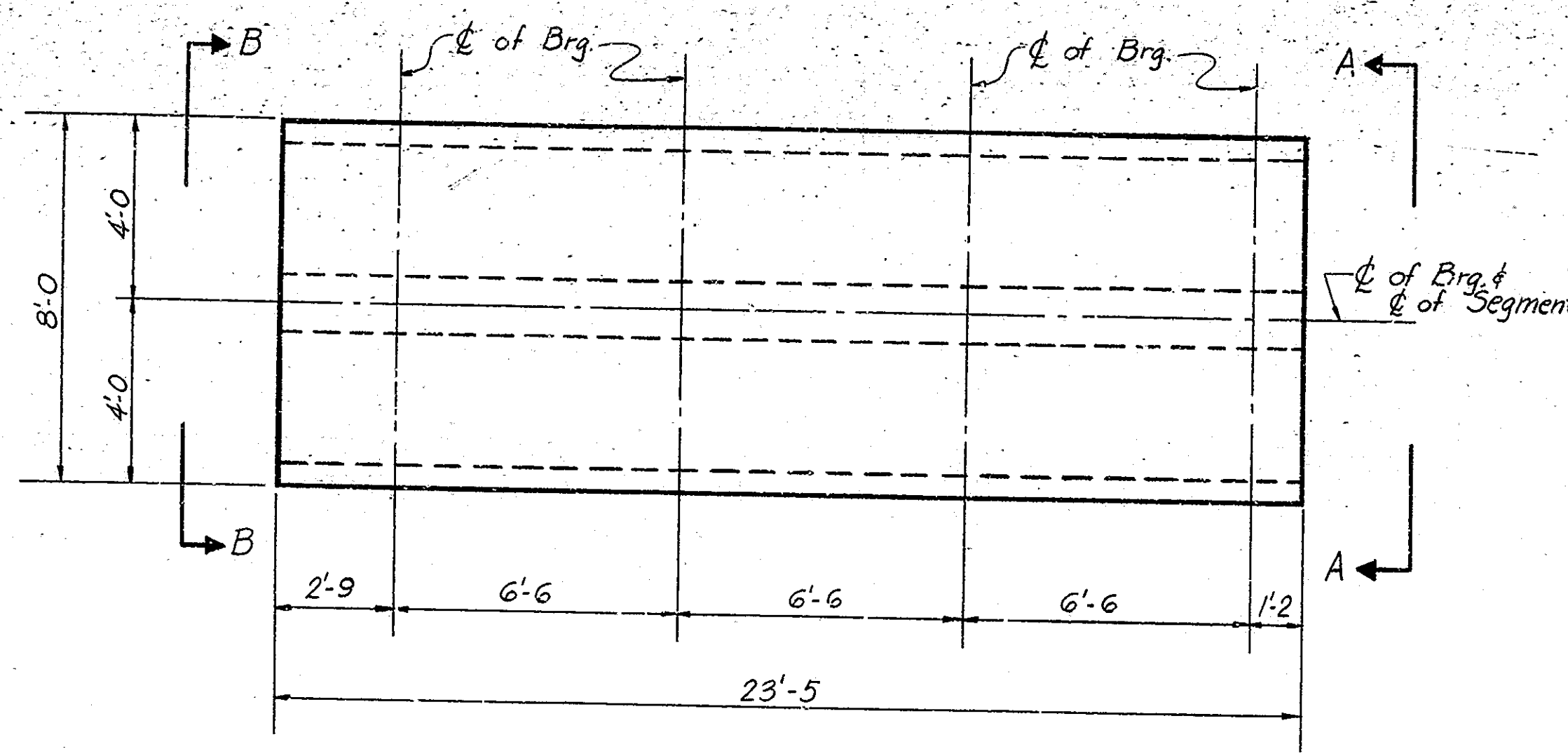
GENERAL NOTES
 Post-tensioning supplier shall submit 5 copies of shop drawings and calculations to the Engineer for approval. (See Special Provisions)
 Ducts shall be firmly supported to prevent displacement during concrete placement.
 Mild steel reinforcing in cast-in-place portions of the slab is subject to adjustment to provide clearances to the post-tensioning ducts, anchorages and other items cast in the slab.
 End Abutments shall not be used as supports for post-tensioning operations.
 No welding shall be performed in the vicinity of high tensile steel and sheathing (ducts).
 During stressing no persons shall be directly behind either end of tendons.
 No falsework shall be removed until all tensioning operations are complete.

**SUPERSTRUCTURE DETAILS
 EASTBOUND STRUCTURE
 INDIANA STATE HIGHWAY COMMISSION**

SCALE: As Noted
 DATE: DECEMBER 26, 1973
 DRAWING: C49 OF 49 SHEET: 53 OF 99
 PROJECT: RF-151(12)
 CONTRACT NO. B-9818
 BRIDGE FILE: 50-40-917A



DESIGNED: FAB CKD MCN
 DRAWN: MCN CKD DSH
 TRACED: CKD



Notes:

- Minimum concrete compressive strength to be 4000 psi @ 28 days.
- Concrete compressive strength to be 3000 psi at time of post-tensioning.
- Mild steel reinforcing to be Grade 40.
- Prior to casting the precast slab units, the Contractor shall submit for approval details of the proposed prestressing method including the amount and arrangement of post-tensioning tendons. (See Prestressing Notes on Drwg. C45)
- Five copies of shop drawings showing complete details of precast slab unit shall be submitted to the Engineer for approval.
- Lifting devices must be guaranteed by the precast slab unit manufacturer and approved by the Engineer on the shop Drwg's.
- Mild steel reinforcing in precast units is subject to adjustments to provide clearances to the post-tensioning ducts and other items cast in the units.
- All exposed edges, except joint faces to be chamfered 3/4".
- See Special Provisions for surface condition requirements of exposed surface of stainless steel plate.
- Outside face of precast slab unit to be given initial rub in plant by the manufacturer and final rub in field by the contractor.

DESIGNED: FAB C'KD: MCN
 DRAWN: MCN C'KD: FAB
 TRACED: C'KD:

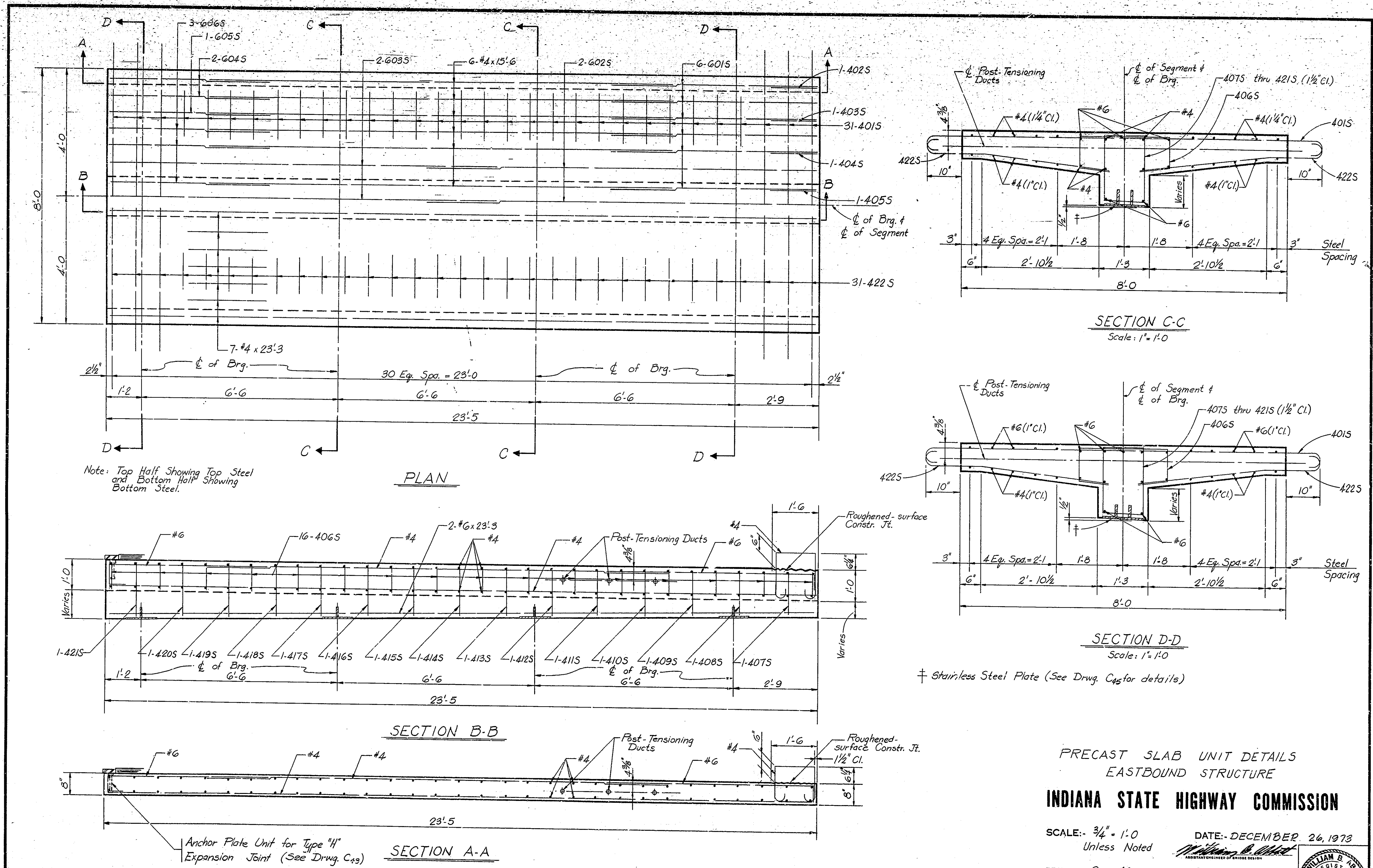
PRECAST SLAB UNIT DETAILS
 EASTBOUND STRUCTURE

INDIANA STATE HIGHWAY COMMISSION

SCALE: 3/4" = 1'-0" DATE: DECEMBER 26, 1973

DRAWING: C46 OF 49 SHEET: 54 OF 89
 PROJECT: RF-151(12)
 CONTRACT NO. B-9818
 BRIDGE FILE: 50-40.917A

WILLIAM B. ARBETT
 REGISTERED PROFESSIONAL ENGINEER
 No. 8643
 STATE OF INDIANA



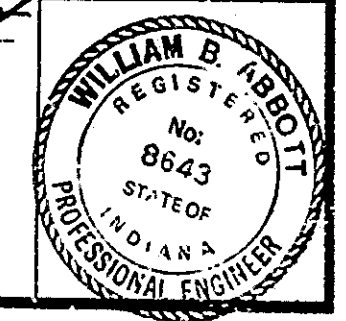
DESIGNED FAB C.W.D. MCN
 DRAWN MCN 8-73 C.W.D. FAB 10-73
 TRACED C.W.D.

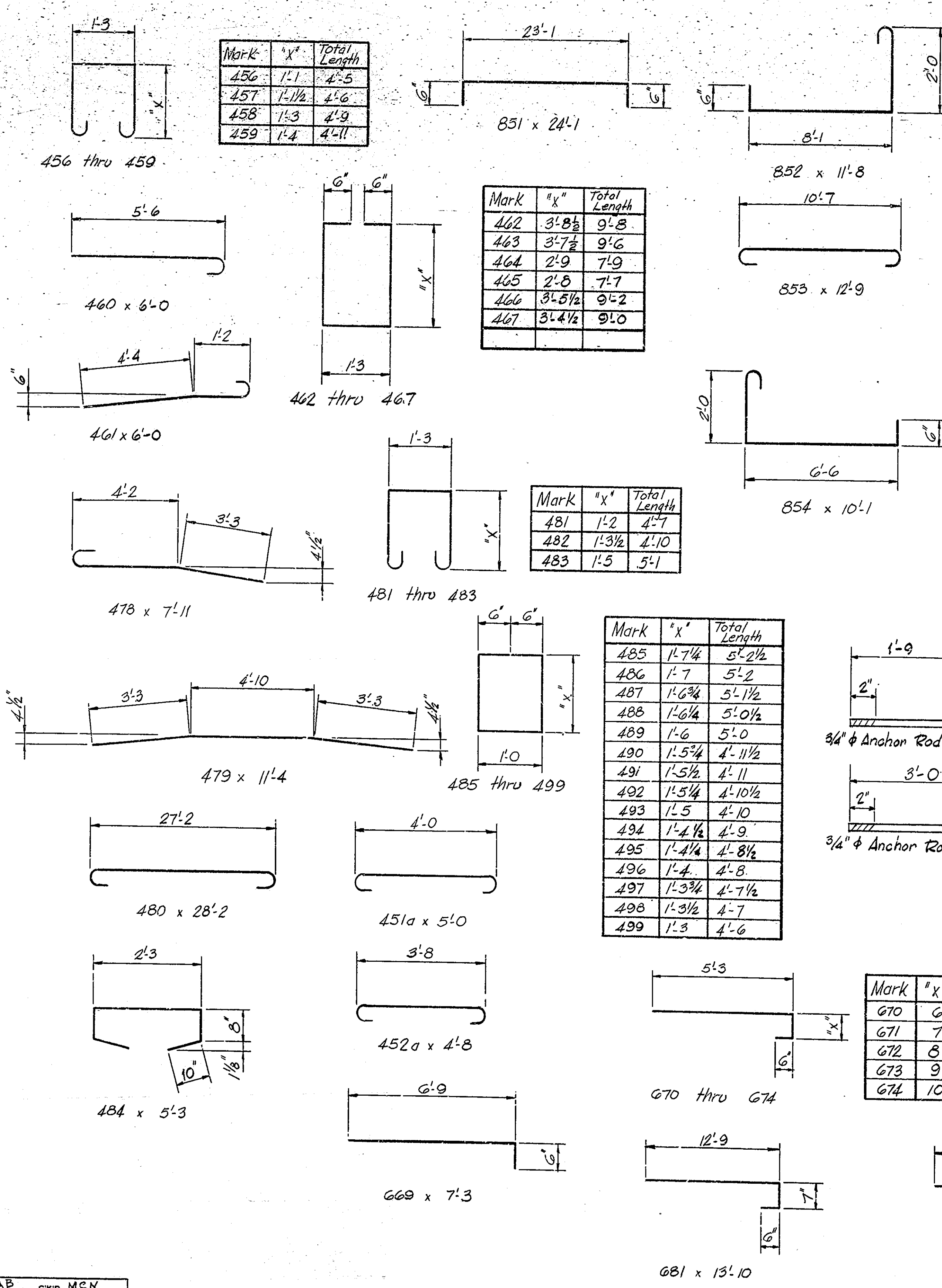
Note: See Br. Std. C1 for Reinf. Bar Notes.

PRECAST SLAB UNIT DETAILS
 EASTBOUND STRUCTURE
 INDIANA STATE HIGHWAY COMMISSION

SCALE: 3/4" = 1'-0" Unless Noted
 DATE: DECEMBER 26, 1973

DRAWING: C45 OF 49 SHEET: 55 OF 99
 PROJECT: RF-151 (12)
 CONTRACT NO. 8-9818
 BRIDGE FILE: 50-40-917A





BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT (lbs.)
851	6	24'-1	
852	6	11'-8	
853	6	12'-9	
854	6	10'-1	
857	60	23'-4	
TOTAL #6 4676			
669	191	7'-3	
670	163	6'-3	
671	8	6'-4	
672	14	6'-5	
673	4	6'-6	
674	2	6'-7	
681	6	13'-10	
682	6	13'-3	
#6	4	23'-3	
TOTAL #6 4264			
#5	6	21'-6	
54	2	21'-3	
48	20	2'-0	
8	8	8'-9	
36	2	7'-3	
8	8	7'-0	
4	4	6'-9	
4	4	6'-0	
28	2	5'-9	
12	2	5'-3	
8	2	5'-0	
16	2	4'-6	
4	4	4'-3	
12	2	4'-0	
24	2	3'-6	
12	2	3'-0	
#5	12	2'-9	
TOTAL #5 3624			
456	110	4'-5	
457	2	4'-6	
458	2	4'-9	
459	6	4'-11	
460	62	6'-0	
461	62	6'-0	
462	8	9'-8	
463	10	9'-6	
464	10	7'-9	
465	12	7'-7	

REINFORCING STEEL			
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT (lbs.)
466	10	9'-2	
467	12	9'-0	
468	84	6'-4	
470	30	6'-7	
471	40	5'-7	
473	476	4'-7	
474	476	4'-7	
475	160	5'-0	
476	204	2'-2	
477	44	4'-2	
478	62	7'-11	
479	31	11'-4	
480	31	28'-2	
481	4	4'-7	
482	4	4'-10	
483	4	5'-1	
484	32	5'-5	
485	2	5'-2 1/2	
486	2	5'-2	
487	2	5'-1 1/4	
488	2	5'-0 1/4	
489	2	5'-0	
490	2	4'-11 1/4	
491	2	4'-11	
492	2	4'-10 1/4	
493	2	4'-10	
494	2	4'-9	
495	2	4'-8 1/4	
496	2	4'-8	
497	2	4'-7 1/4	
498	2	4'-7	
499	2	4'-6	
451a	124	5'-0	
452a	144	4'-8	
#4	203	23'-3	
#4	191	15'-6	
TOTAL #4 14,155			
TOTAL STEEL 26,719			

CONCRETE	
Class C in Superstructure (Curb) 11.1 cys	
Special Class C Concrete	
Slab Unit @ Abut #1 7.7 Cys	
Slab Unit @ Abut #2 7.1 Cys	
Slab Unit @ Span #1 21.6 Cys	
Joint A - 2 @ 2.2 Cys 4.4 Cys	
Joint B - 2 @ 2.2 Cys 4.4 Cys	
Joint C - 2 @ 2.2 Cys 4.4 Cys	
Joint D - 2 @ 2.2 Cys 4.4 Cys	
Total Special Class C Concrete 73.0 Cys	
Class A in Superstructure	
Caps 11.8 Cys	
Columns 11.1 Cys	
Total Class A in Superstructure 48.9 Cys	
MISCELLANEOUS	
Railings Type 3 or C 814.31 Lf	
Type A Expansion Jt 48.11 Lf	
Sheet Applied Membr. 63055 sq	
Bit Mxt for Approaches 66.6 T	
3/4" Expansion Anchors 132 ea	
Conc. Struct. Members	
Eastbound Structure 4496 sq	
Deck Drains 16 ea	
* Includes 3/4" & Anchor Rods	

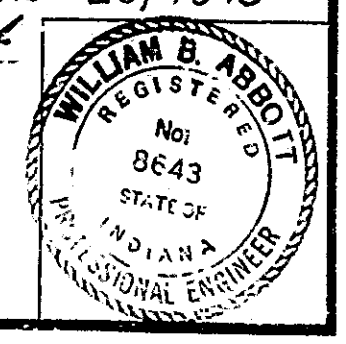
SUMMARY OF CONCRETE CLASS "A" IN SUPERSTRUCTURE

Location Cap No	Quantity in Cap (Cys.)	Quantity in Columns (Cys.)
2	1.74	0.46
3	1.95	-
4	2.15	-
5	1.74	0.59
8	1.74	-
9	1.74	0.93
10	1.74	0.94
11	1.74	1.30
12	1.74	0.69
13	1.88	0.24
-	-	-
16	2.63	-
17	1.74	0.57
18	1.74	0.93
19	1.74	1.07
20	1.74	1.03
21	1.74	1.03
-	-	-
24	1.74	0.60
25	2.29	-
26	2.50	-
27	1.74	0.73
Totals	37.76 cys.	11.11 Cys.

**SUPERSTRUCTURE
BILL OF MATERIALS
EASTBOUND STRUCTURE
INDIANA STATE HIGHWAY COMMISSION**

SCALE: NONE DATE: DECEMBER 26, 1973

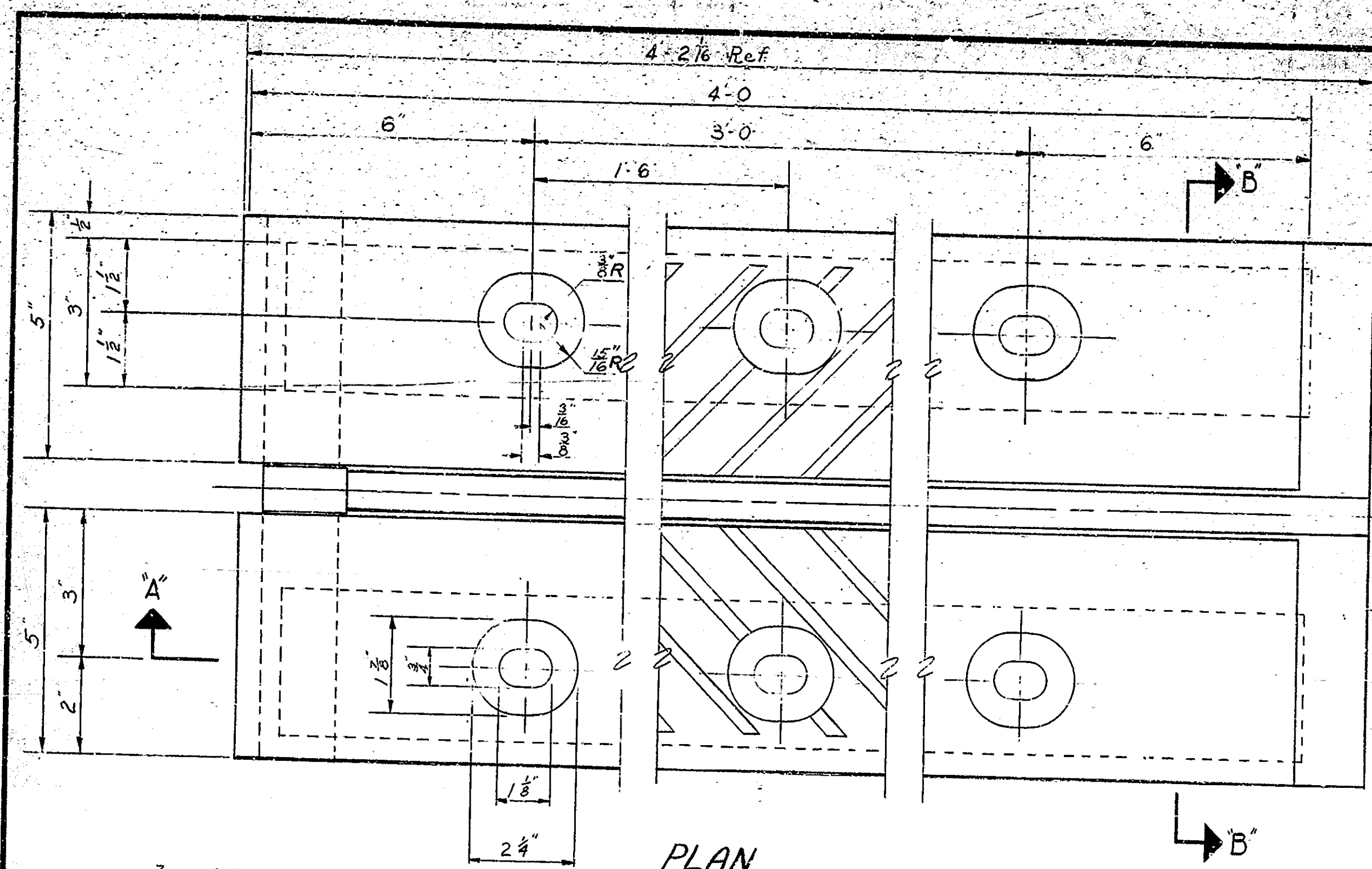
DRAWING: C-45 OF 49 SHEET: 56 OF 99
PROJECT: RF-151(12)
CONTRACT NO. 8-9818
BRIDGE FILE: 50-40-917A



DESIGNED: EAB CKD: MCM
DRAWN: MCM CKD: MCM
TRACED: CKD

Note: See Br. Std. C1 for Reinforcing Bar Notes

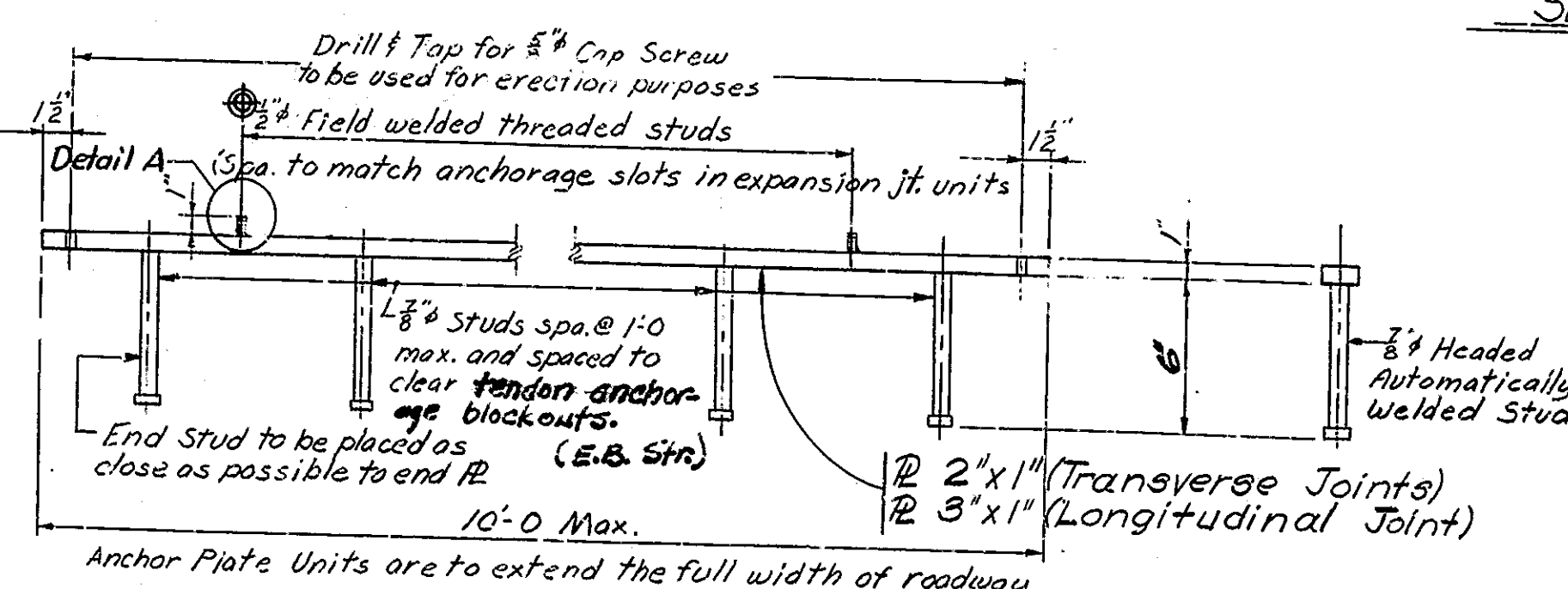
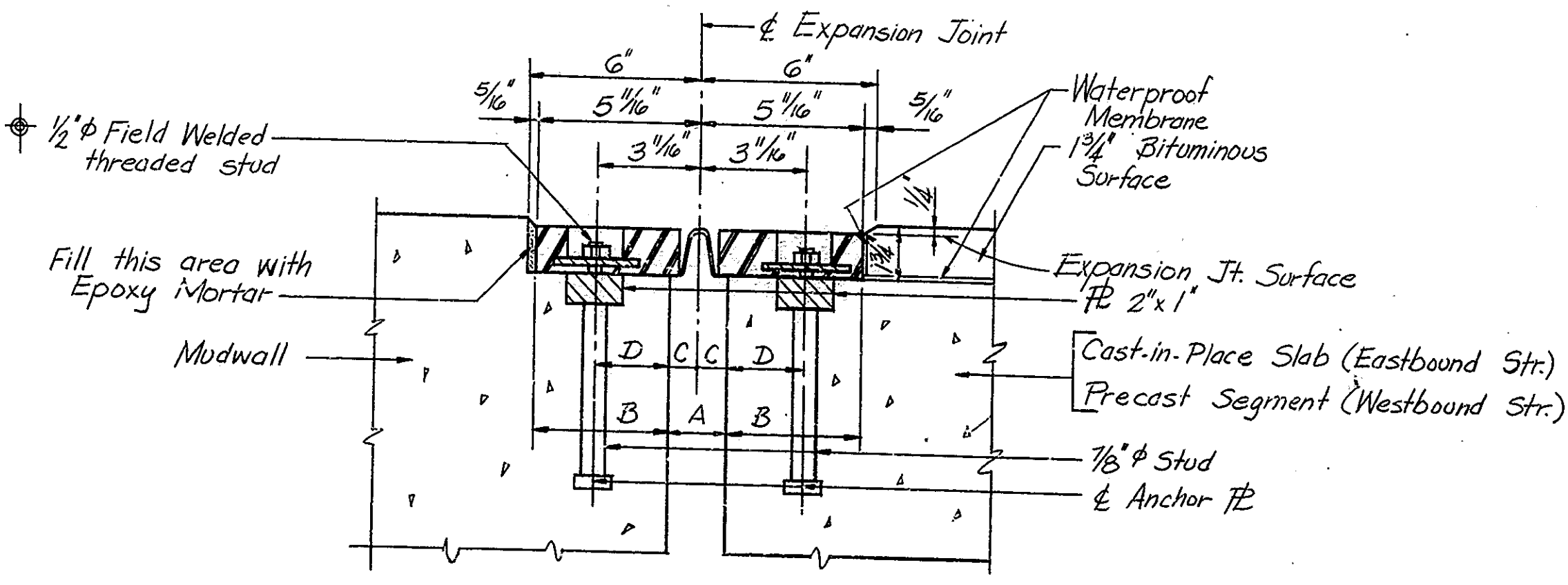
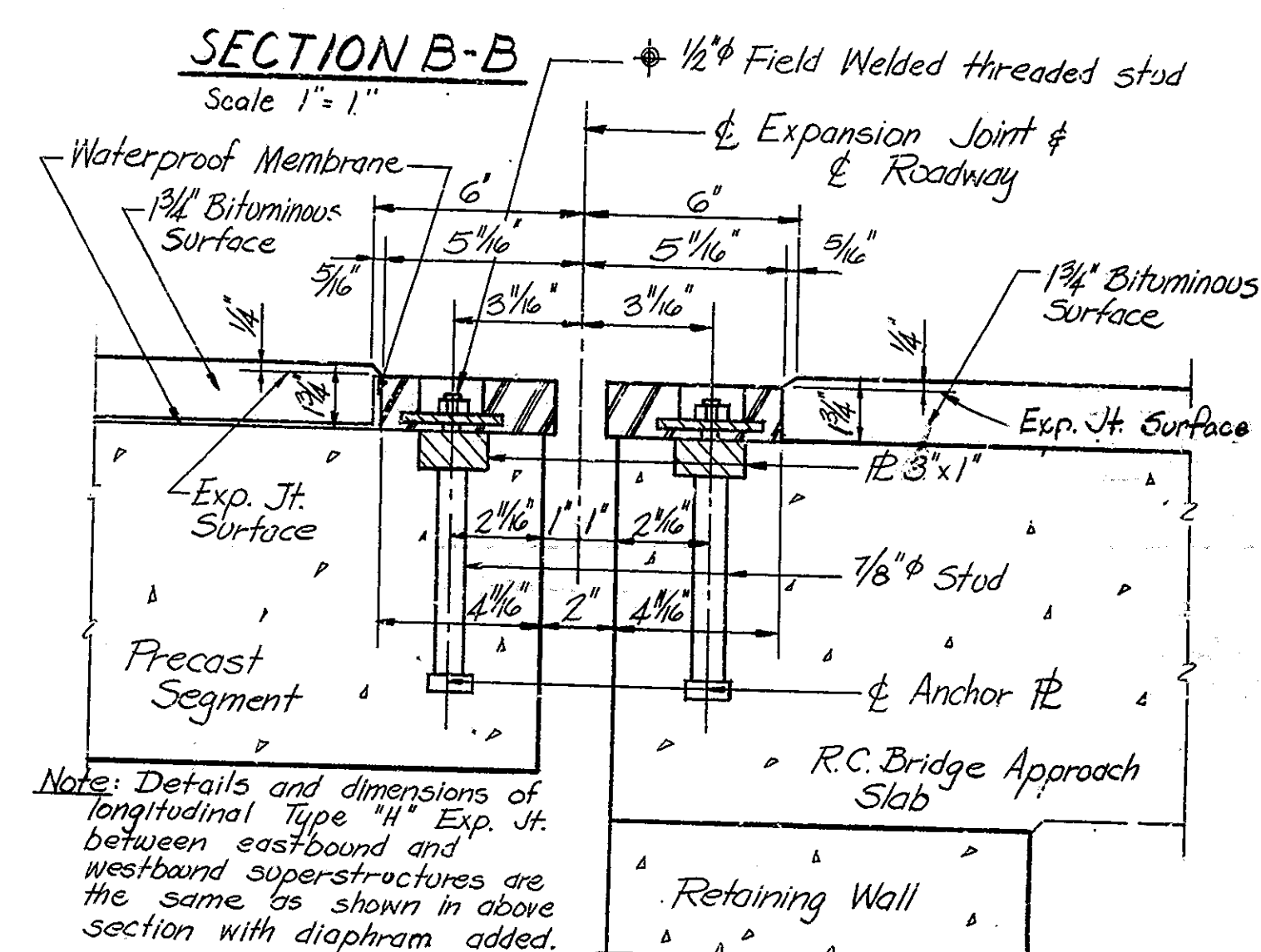
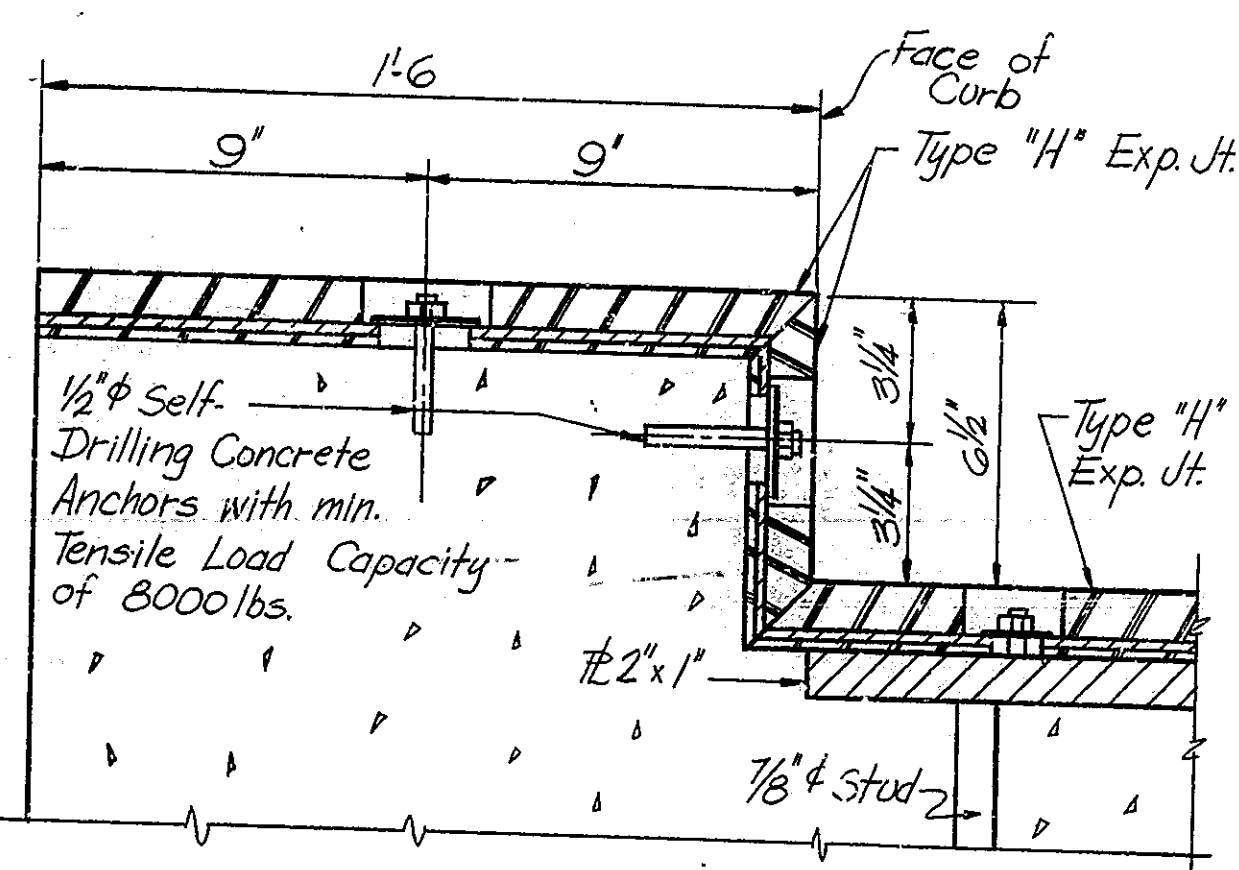
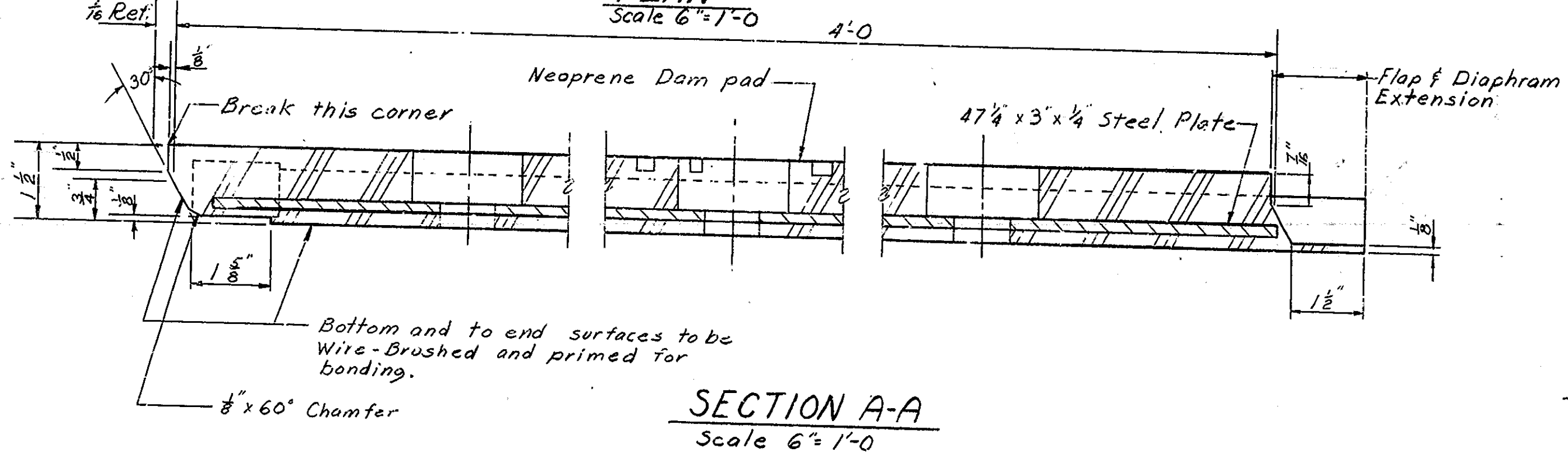
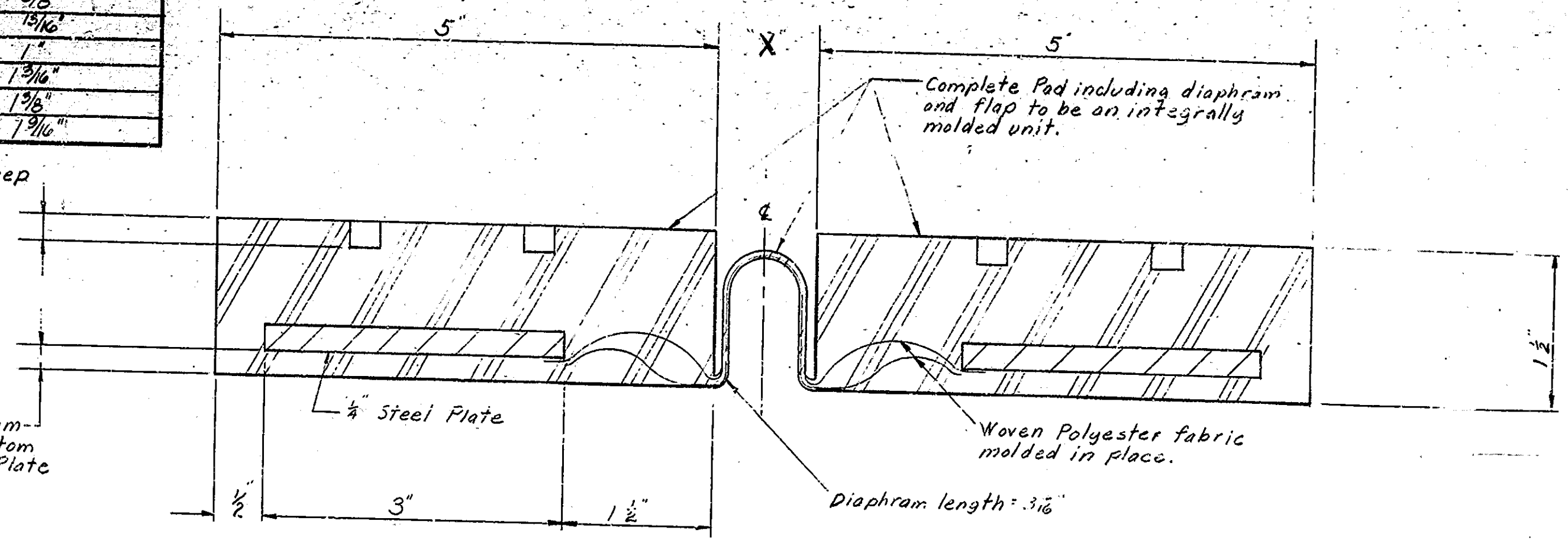
Rev. 5-15-74 Class "A" in Superstr.; Class "C" in Superstr. added.



TRANSVERSE JOINTS

Air Temperature At Time of Installation - °F	Dimension "x"
100	5/8"
90	13/16"
80	1"
70	1 1/16"
60	1 1/8"
50	1 1/4"

Note: Dimension "x" to be 1 3/8" for longitudinal joint.



Refer to Special Provisions for physical properties of materials and construction methods.

The cost of the Anchor Plates, Threaded Studs, Concrete Anchors and all materials needed to erect the expansion joint shall be included in the cost of the job item.

Tighten nuts on 1/2" threaded studs to 45 ft.-lbs. torque.

Welded threaded studs and nuts or bolts extending into trapped holes in anchor plate shall be stainless steel conforming to ASTM A-276 (Type 304).

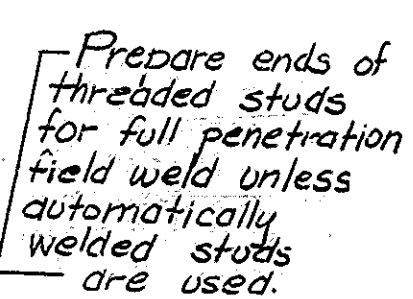
TYPE H EXPANSION JOINT DETAIL
INDIANA STATE HIGHWAY COMMISSION

	A*	B	C	D
Eastbound Str.	2"	4 1/2"	1"	2 1/4"
Westbound Str.	2 1/2"	4 1/2"	1 1/4"	2 1/4"

*Opening at 60°

Note: The bed for the joint shall be formed as near to a true plane as possible. The bed shall then be smoothed to a true plane with a neat portland cement grout which shall be cured before the joint is set. The manufacturer's recommendations for joint installation, proper bolt torque, sealant application, bolt protection etc. shall be followed.

Flush with top of anchor plate when used.

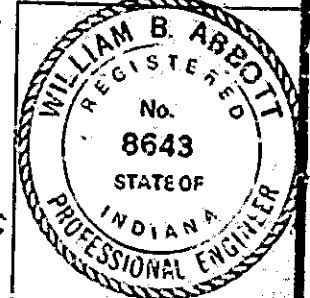


DESIGNED: CKD
 DRAWN: 26-72AVM/CKD MCN 10-73
 TRACED: CKD

SCALE: AS NOTED DATE: DECEMBER 26, 1973

RECOMMENDED FOR APPROVAL: *William B. Abbott*

DRAWING: C-90 of 49 SHEET 57 of 99
 PROJECT: ST-151E Prefab. RF-15(12) Const.
 CONTRACT NO. B-9658 Prefab. B-9818 Const.
 BRIDGE FILE: 50-40-917A



ESTIMATE OF QUANTITIES

STRUCTURE PAY ITEMS			
CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
51002	CONCRETE CLASS C IN SUPERSTRUCTURE	CYS.	25.8
51001	CONCRETE CLASS A IN SUPERSTRUCTURE	CYS.	48.9
51005	CONCRETE CLASS A IN SUBSTRUCTURE	CYS.	163.9
51010	CONCRETE CLASS B ABOVE FOOTINGS	CYS.	103.7
51011	CONCRETE CLASS B IN FOOTINGS	CYS.	145.8
51875	SPECIAL CLASS A CONCRETE	SFT	
	SPECIAL CLASS C CONCRETE	CYS.	81.7
51045	CONCRETE STRUCTURAL MEMBERS (Eastbound Structure)	L.S.M.	1
51030	REINFORCING STEEL	LBS.	123,497
51025	STRUCTURAL STEEL	LBS.	
51028	STRUCTURAL STEEL	L.S.M.	
51090	ANCHOR PLATES	LBS.	
51050	ANCHOR RODS (NR-AR 1)	EACH	
51055	ANCHOR RODS (NR-AR 2)	EACH	
51060	ANCHOR RODS (NR-AR 3)	EACH	
51065	ANCHOR RODS (NR-AR 4)	EACH	
51070	ANCHOR PLATES (NR-AP 1)	EACH	
51075	ANCHOR PLATES (NR-AP 2)	EACH	
51080	ANCHOR PLATES (NR-AP 3)	EACH	
51085	ANCHOR PLATES (NR-AP 4)	EACH	
51117	TIE ROD ASSEMBLY W/ NUTS	EACH	
51068	Welded Steel HIRE Anchors	EACH	32
51095	CAST IRON DRAIN PIPE 4 INCH	L.S.	
51100	CAST IRON DRAIN PIPE 6 INCH	L.S.	
51105	CAST IRON DRAIN PIPE 8 INCH	L.S.	
51110	CAST IRON GRATES, BASINS AND FITTINGS	L.S.	
51132	RAILING RESET	LFT.	
51115	RAILING (TYPE S OR C)	LFT.	700
51120	RAILING (TYPE SA OR CI)	LFT.	
51125	RAILING (TYPE G OR D)	LFT.	
51130	RAILING (TYPE 7 OR 8)	LFT.	
51020	CLASS C, CONCRETE RAILING	CYS.	
51025	CLASS C, CONCRETE RAILING	LFT.	
51131	BARRIER RAILING TYPE X	LFT.	
51215	CLASS X EXCAVATION	CYS.	
51220	WET EXCAVATION	CYS.	82
51223	WATERWAY EXCAVATION	CYS.	
51226	WATERWAY EXCAVATION	LSM	
51225	DRY EXCAVATION	CYS.	
51230	FOUNDATION EXCAVATION (UNCLASSIFIED)	CYS.	467
51231	FOUNDATION EXCAVATION (UNCLASSIFIED)	LSM	
51813	PNEUMATICALLY PLACED MORTAR	SFT.	
51806	REPOINTING MASONRY IN STR'S	SFT.	55
51814	WELDED STEEL WIRE FABRIC	SFT.	
51859	PAINTING OLD STEEL BRIDGE	LSM	
51861	EXPANSION JOINT, TYPE BS2	LFT.	
51882	EXPANSION JOINT, TYPE BS3	LFT.	
51885	EXPANSION JOINT, TYPE BS6	LFT.	
51887	EXPANSION JOINT, TYPE BS5	LFT.	
51888	EXPANSION JOINT, TYPE BS7	LFT.	
51900	EXPANSION JOINT, TYPE A	LFT.	
51901	EXPANSION JOINT, TYPE B	LFT.	
51902	EXPANSION JOINT, TYPE C	LFT.	
51903	EXPANSION JOINT, TYPE D	LFT.	
51904	EXPANSION JOINT, TYPE E	LFT.	
51905	EXPANSION JOINT, TYPE H	LFT.	486
51910	EXPANSION JOINT, TYPE SR2	LFT.	
51911	EXPANSION JOINT, TYPE SR2.5	LFT.	
51912	EXPANSION JOINT, TYPE SR4	LFT.	
51915	EXPANSION JOINT, TYPE SB200	LFT.	
51916	EXPANSION JOINT, TYPE SB300	LFT.	
51917	EXPANSION JOINT, TYPE SB400	LFT.	

SUMMARIZED D.A.C. c'k'd. D.A.S.
 TRACED G.M.H. c'k'd. D.A.S.

STRUCTURE PAY ITEMS			
CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
51145	TIMBER PILES FURNISHED, UNTREATED	LFT.	
51140	TIMBER PILES DRIVEN, UNTREATED	LFT.	
51145	TIMBER PILES FURNISHED, TREATED	LFT.	
51150	TIMBER PILES DRIVEN, TREATED	LFT.	
51155	PILE SHELLS FURNISHED AND DRIVEN (12 INCH)	LFT.	
51160	PILE SHELLS FURNISHED AND DRIVEN (16 INCH)	LFT.	
51185	STEEL H PILES FURNISHED AND DRIVEN (8 BP 36)	LFT.	
51190	STEEL H PILES FURNISHED AND DRIVEN (10 BP 42)	LFT.	180
51195	STEEL H PILES FURNISHED AND DRIVEN (12 BP 53)	LFT.	30
51210	PILE ENCASEMENT (CONCRETE)	LFT.	
51328	REMOVAL OF PRESENT STRUCTURE (PORTIONS)	LSM	1
51330	REMOVAL OF PRESENT STRUCTURE	LSM	
51335	TEMPORARY BRIDGE AND APPROACHES	LSM	
51366	CONCRETE SLOPEWALL 5 INCH	SYS.	6
51365	SLOPEWALL	SYS.	
51370	RIPRAP	SYS.	
51375	REVENOMENT RIPRAP	TON	
51371	HANDLAD RIPRAP 12 INCH	SYS.	
51372	DUMPED RIPRAP	TON	
51106	DECK DRAINS	EACH	10
51395	STEEL DRAIN PIPE (6 INCH)	LSM	
51400	STEEL DRAIN PIPE (8 INCH)	LSM	
51082	STEEL PIPE CONDUIT (2 INCH)	LFT.	
51866	RIVETS REMOVED	EACH	
51868	FIELD DRILLED HOLES	EACH	
51867	STRUCTURAL STEEL CUTTING	SIN	
51826	SURFACE SEAL	SFT.	
51827	COAL TAR INTERLAYER PROTECTIVE COAT	LSM	
51830	SHEET APPLIED MEMBRANE	LSM	1
51828	LIQUID APPLIED MEMBRANE	LSM	
51831	MODIFIED PORTLAND CEMENT CONCRETE OVERLAY	CYS.	
51832	MODIFIED PORTLAND CEMENT CONCRETE (PATCHING)	CYS.	
51833	CONCRETE SCARIFYING	SYS.	
51834	REMOVAL OF SCARIFYING DUST	LSM	
51835	HANDCHIPPING AND CLEANING	SYS.	
51836	CONCRETE SAWING	LFT.	
51837	SANDBLASTING AND CLEANING	SYS.	
51838	FINISHING AND CURING	SYS.	
	TIE-BACKS	EACH	6
	ERECTION & POST-TENSIONING WESTBOUND STRUCTURAL RM		1

APPROACH PAY ITEMS			
CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
02020	UNCLASSIFIED EXCAVATION	CYS.	
52240	COMMON EXCAVATION	CYS.	7245
52245	BORROW	CYS.	
52250	B BORROW	CYS.	432
52303	REMOVAL OF PAVEMENT	SYS.	3289
02235	BREAKING PAVEMENT	SYS.	
52490	TERMINAL JOINT	LFT.	
52495	CONTRACTION JOINT, TYPE D-1	LFT.	18
52280	CONCRETE PAVEMENT REINFORCED (7 INCH)	SYS.	
52285	CONCRETE PAVEMENT REINFORCED (8 INCH)	SYS.	
52290	CONCRETE PAVEMENT REINFORCED (9 INCH)	SYS.	
52300	CONCRETE PAVEMENT REINFORCED (10 INCH)	SYS.	259
06070	CONCRETE SIDEWALK	SYS.	
52305	TYPE F COMPACTED AGGREGATE FOR BASE (SIZE NO. 53)	TON	79
52600	COVER AGGREGATE	TON	
52806	COVER AGGREGATE (SIZE NO. 12)	TON	
52605	AGGREGATE FOR SHOULDER DRAINS	TON	
52610	AGGREGATE FOR UNDER DRAINS	CYS.	208
52308	TYPE O COMPACTED AGGREGATE FOR BASE (SIZE NO. 53)	TON	
52310	SUBBASE	CYS.	
52315	BITUMINOUS STABILIZED SUBBASE TYPE I, II, OR III	TON	
52320	BITUMINOUS STABILIZED SUBBASE	TON	1638
52445	BITUMINOUS BASE	TON	
52446	BITUMINOUS BASE (SIZE NO. 5)	TON	358
52445	BITUMINOUS BINDER	TON	174
52450	BITUMINOUS SURFACE	TON	
52455	BITUMINOUS MATERIAL FOR TACK COAT	TON	13
52460	BITUMINOUS MATERIAL FOR PRIME COAT	TON	92
52465	BITUMINOUS MATERIAL FOR SEAL COAT	TON	
52470	BITUMINOUS MIXTURE FOR APPROACHES	TON	178
52475	BITUMINOUS MIXTURE FOR SHOULDER	TON	
52480	BITUMINOUS MATERIAL, APPLIED	TON	
52500	GUARD RAIL, TYPE A	LFT.	
52505	GUARD RAIL, TYPE B	LFT.	260
52510	GUARD RAIL, TYPE C	LFT.	
52515	GUARD RAIL, TYPE D	LFT.	
52520	GUARD RAIL, TYPE E	LFT.	
52525	GUARD RAIL, TYPE F	LFT.	354
52530	GUARD RAIL, TYPE G	LFT.	
52531	GUARD RAIL, TYPE H	LFT.	
06035	RESET GUARD RAIL	LFT.	
52535	REMOVAL OF GUARD RAIL	LFT.	
52380	SODDING	SYS.	3909
52385	MULCHED SEEDING	SYS.	
52390	SEED MIXTURES	LBS.	
52395	TEMPORARY SEED MIXTURES	LBS.	
52400	MULCHING MATERIAL	TON	11.8
52405	FERTILIZER	TON	2.4
52410	WATER	M.G.	40
52415	AGRICULTURAL LIMESTONE	TON	2.9
06560	CROWN VETCH SEEDING	LBS.	
52401	MULCHING MATERIAL (WOOD CELULULOSE FIBER)	TON	
52640	MAINTAINING TRAFFIC	LSM	1
52370	CLEARING RIGHT-OF-WAY	LSM	
	Bituminous Base (Size #53)	TON	923
	BITUMINOUS CL123	LFT.	60

1. INCLUDES 4.3 TONS FOR TEMPORARY SEEDING
 2. INCLUDES 1.1 TONS FOR TEMPORARY SEEDING
 3. INCLUDES 1.3 TONS FOR TEMPORARY SEEDING

APPROACH PAY ITEMS			
CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
07025	PIPE: GR. A (16 GA. FBCCS) 12"	LFT.	
07075	PIPE: GR. A (16 GA. FBCCS) 14"	LFT.	
07125	PIPE: GR. A (16 GA. FBCCS) 18"	LFT.	
07175	PIPE: GR. A (16 GA. FBCCS) 24"	LFT.	
07225	PIPE: GR. A (16 GA. FBCCS) 30"	LFT.	
07275	PIPE: GR. A (16 GA. FBCCS) 36"	LFT.	
07325	PIPE: GR. A (16 GA. FBCCS) 42"	LFT.	
10000	PIPE: GR. D (16 GA. CS) 12"	LFT.	
10025	PIPE: GR. D (16 GA. CS) 15"	LFT.	86
10050	PIPE: GR. D (16 GA. CS) 18"	LFT.	92
10075	PIPE: GR. D (16 GA. CS) 24"	LFT.	425
10100	PIPE: GR. D (16 GA. CS) 30"	LFT.	
10125	PIPE: GR. D (16 GA. CS) 36"	LFT.	
10150	PIPE: GR. D (16 GA. CS) 42"	LFT.	
34000	PIPE: 0.052" FBC PER. CS 6"	LFT.	252
29000	PIPE: 0.064" FBCCS 12"	LFT.	165
52375	CONCRETE CLASS A IN STRUCTURE	CYS.	
52376	CONCRETE CLASS C IN STRUCTURE	CYS.	
46000	PIPE END SECTION 12"	EACH	
46005	PIPE END SECTION 15"	EACH	6
46010	PIPE END SECTION 18"	EACH	1
46015	PIPE END SECTION 21"	EACH	1
46020	PIPE END SECTION 24"	EACH	2
46025	PIPE END SECTION 27"	EACH	
46030	PIPE END SECTION 30"	EACH	
46035	PIPE END SECTION 33"	EACH	
46040	PIPE END SECTION 36"	EACH	
	INLET TYPE S-14	EACH	2
45000	INLET, TYPE A-1	EACH	
45025	INLET, TYPE D-6	EACH	
45030	INLET, TYPE E-7	EACH	
45070	INLET, TYPE F-12A	EACH	
	INLET TYPE F-7	EACH	2
06335	PAVED SIDE DITCH TYPE A	LFT.	
06340	PAVED SIDE DITCH TYPE B	LFT.	1201
06345	PAVED SIDE DITCH TYPE C	LFT.	929
06350	PAVED SIDE DITCH TYPE D	LFT.	
06355	PAVED SIDE DITCH TYPE E	LFT.	
06360	PAVED SIDE DITCH TYPE F	LFT.	
06365	PAVED SIDE DITCH TYPE G	LFT.	
	PIPE: GRK 6"	LFT.	2370
	INLET, SPECIAL TYPE FT	EACH	1
	SEED MIXTURE "R"	LBS.	355
	SEED MIXTURE "TR"	LBS.	294
	SEED MIXTURE "CV"	LBS.	11
	Class A Concrete For Guard Rail	CYS.	1.3

**INCLUDES LFT. FOR YELLOW BARRIER LINE

REVISIONS	
DATE	ITEM
2-28-74	52445 and 52450
5-2-74	52806, 52446, 52465, 52390, 52395, and 06060 deleted. Bitum. Base (Size #53), Seed Mixt. "R", Seed Mixt. "TR", Seed Mixt. "CV" and Class A Conc. for Gd. Rl. added. 10025, 10050, 10075, 84000, and 29000 converted from gage to inches.
5-15-74	51002 added. 51001 revised

APPROACH PAY ITEMS			
CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
06040	47" FENCE, F. FIELD	LFT.	
06045	48" FENCE, CHAIN LINK	LFT.	
52340	CONSTRUCTION SIGNS (TYPE A)	EACH	18
52345	CONSTRUCTION SIGNS (TYPE B)	EACH	2
52350	STANDARD BARRICADES (TYPE III)	EACH	
06650	STOP SIGN, TYPE R-1A	EACH	
06652	DO NOT PASS SIGN, TYPE R-11-A	EACH	
06655	YIELD SIGN, TYPE R-10A	EACH	
06657	PASS WITH CARE SIGN, TYPE R-12A	EACH	
06660	CURVE SIGN, TYPE M-2AR	EACH	
06665	CURVE SIGN, TYPE M-2AL	EACH	
06670	REVERSE CURVE SIGN, TYPE M-4AR	EACH	
06675	REVERSE CURVE SIGN, TYPE M-4AL	EACH	
06680	LARGE ARROW SIGN, TYPE M-11A	EACH	
06685	STOP AHEAD SIGN, TYPE M-13A	EACH	
06725	DELINEATOR WITH POST, TYPE D-1	EACH	
	3 INCH	EACH	
06750	DELINEATOR WITH POST, TYPE D-2	EACH	
	3 INCH	EACH	
06755	DELINEATOR WITH POST, TYPE D-3	EACH	
	3 INCH	EACH	
06770	DELINEATOR POST	EACH	
06720	TEMPORARY PAVEMENT MARKING TAPE	LFT.	
06715	TEMPORARY PAVEMENT MARKING PAINT	LFT.	
52360	RIGHT-OF-WAY MARKERS	EACH	11
52365	PAINTED LINE **	LFT.	
06500	MONUMENT, TYPE A	EACH	
06505	MONUMENT, TYPE B	EACH	
06510	MONUMENT, TYPE C	EACH	
06515	MONUMENT, TYPE D	EACH	

BRIDGE ESTIMATE OF QUANTITIES INDIANA STATE HIGHWAY COMMISSION

DATE DECEMBER 26, 1973

William H. Miller
ASSISTANT CHIEF OF BRIDGE DESIGN

SHEET 59 OF 99

PROJECT: RF-151(12)
 CONTRACT NO: B-9318
 BRIDGE FILE: 50-40-917A

END STR

OCTOBER, 1973