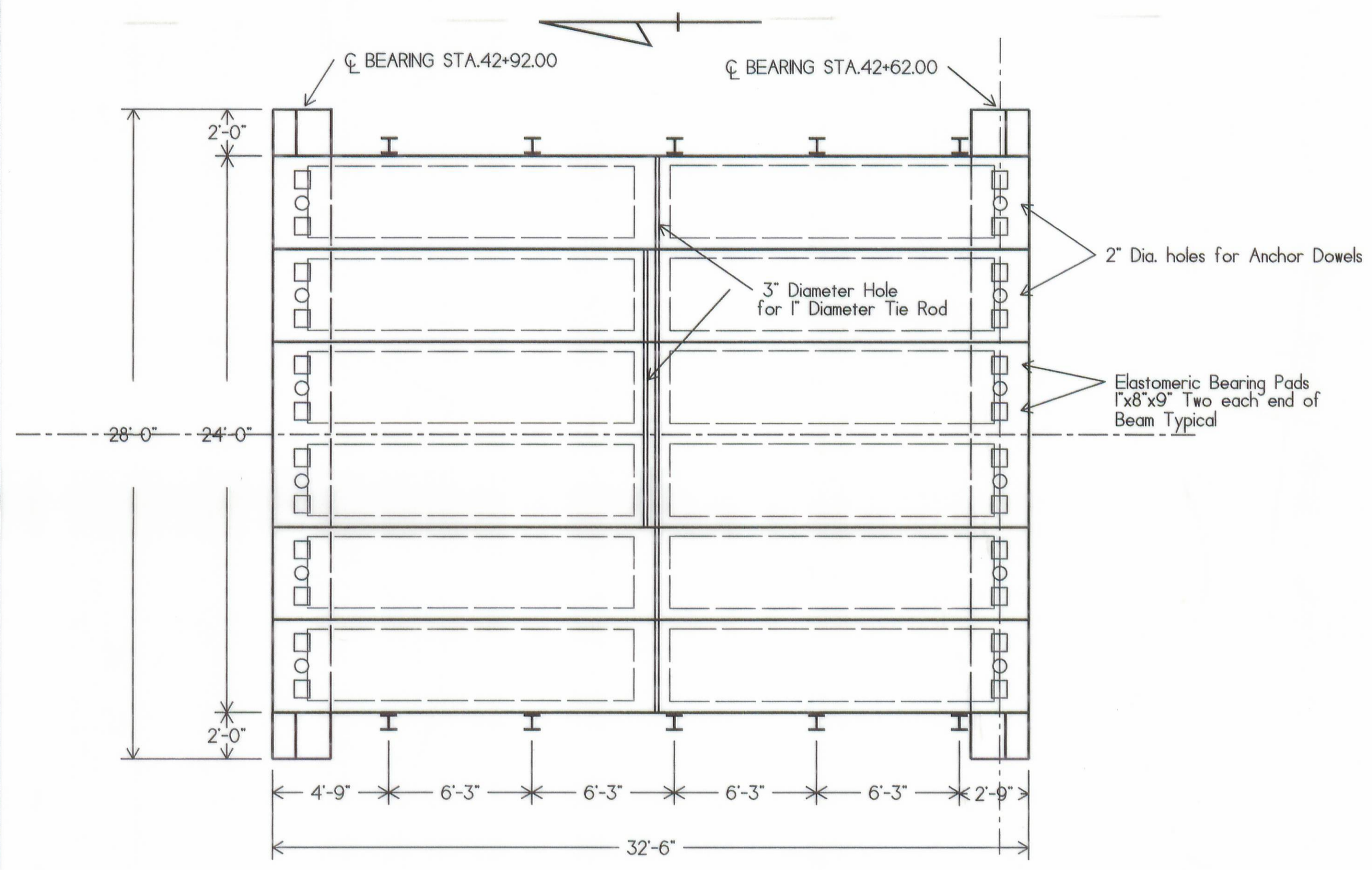
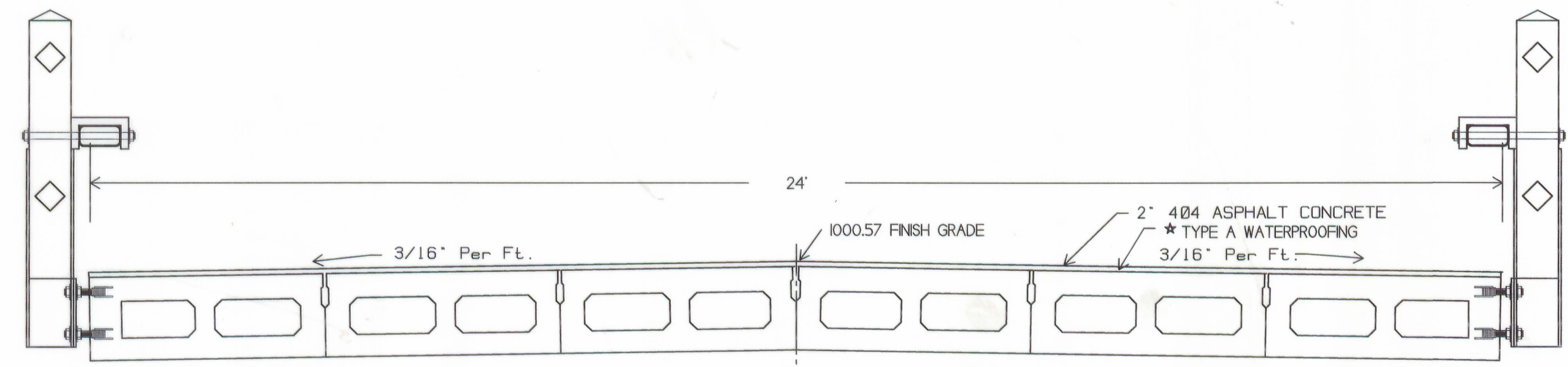
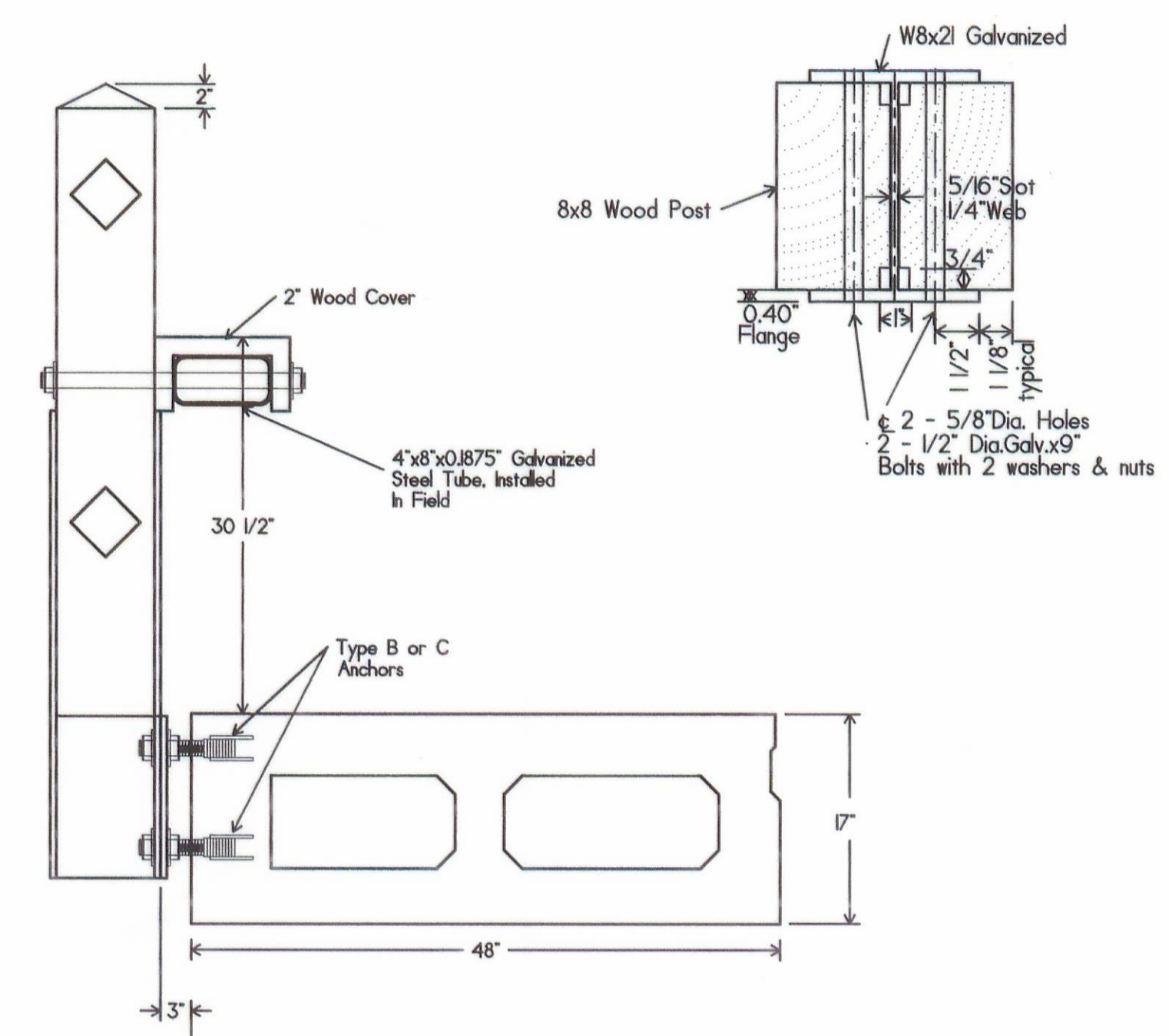
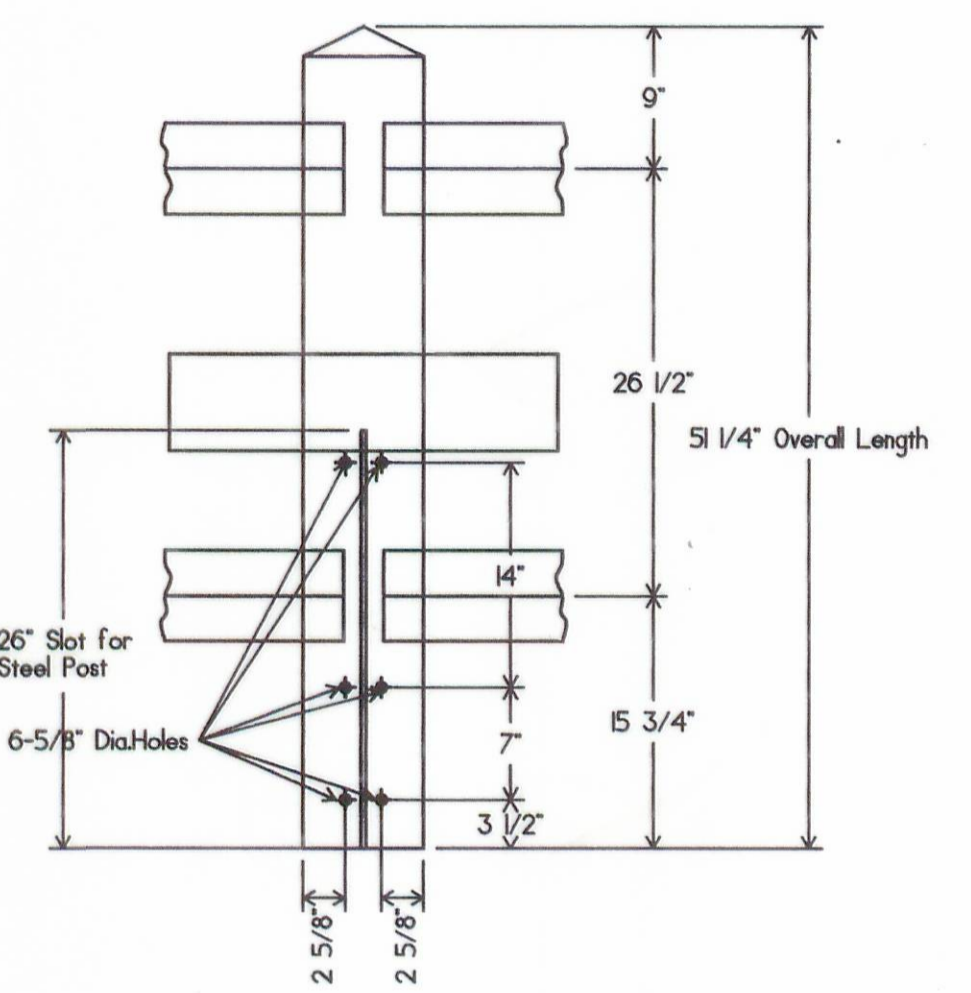
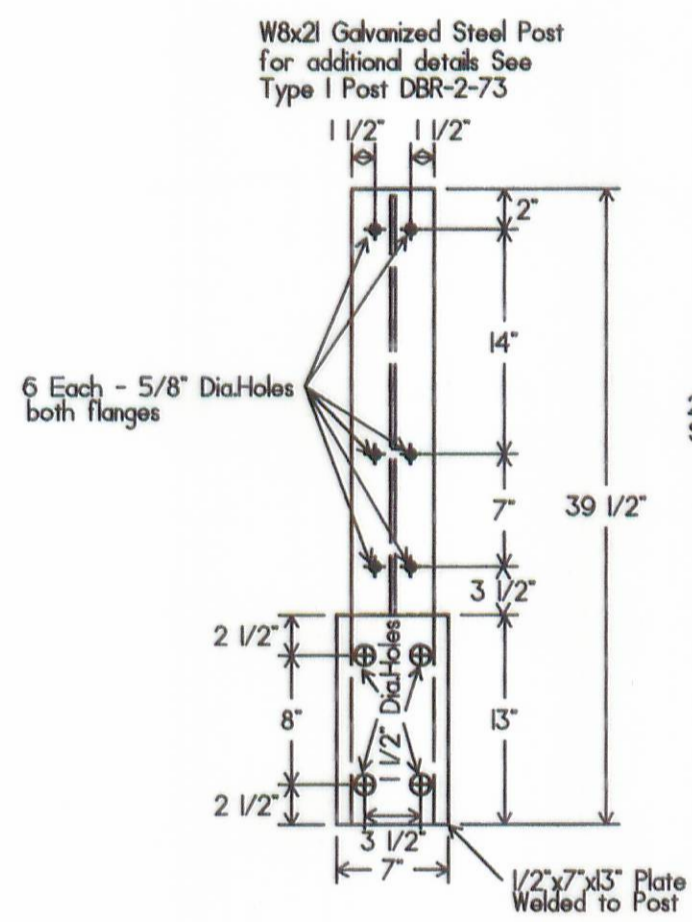


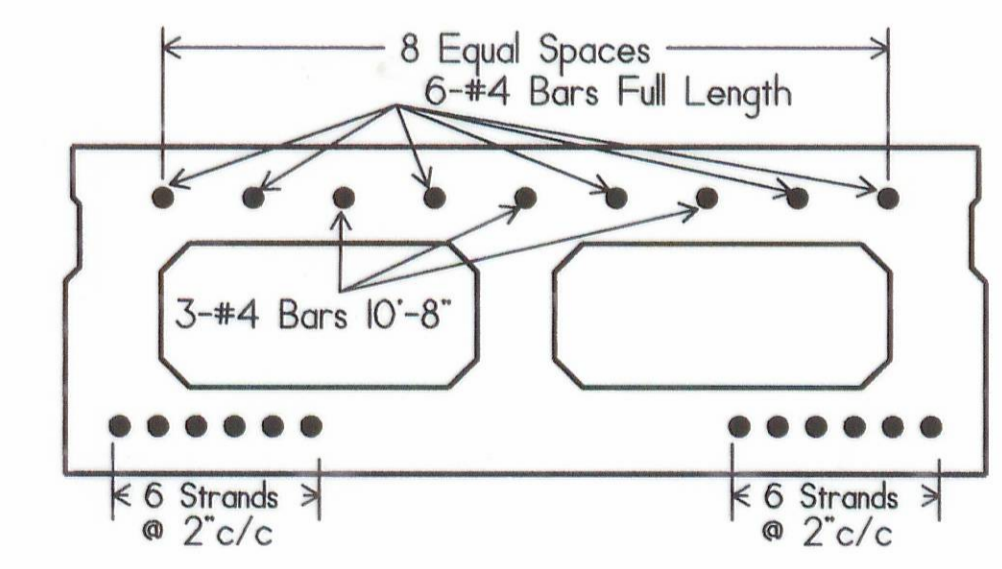
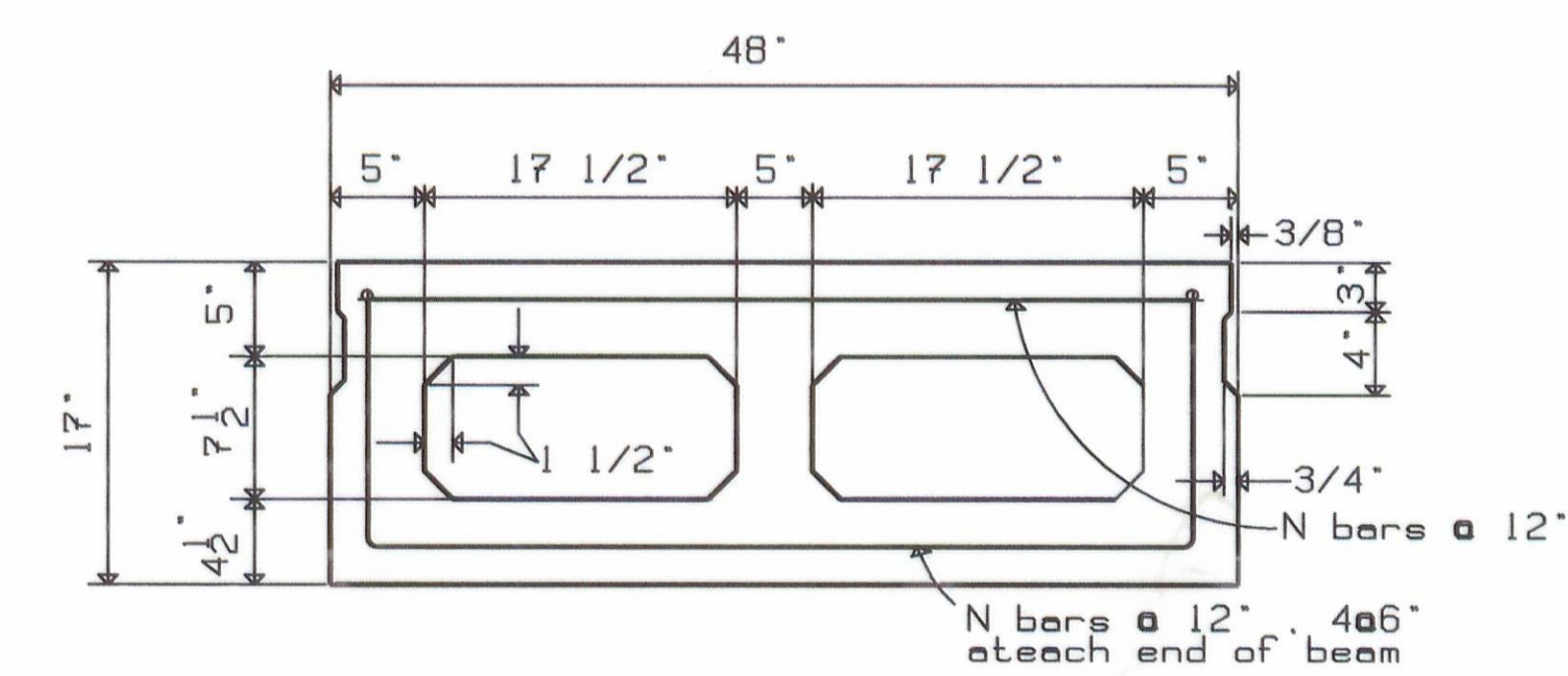
WOOD RAILING



PLAN VIEW
SCALE 1/4" = 1'



TRANSVERSE SECTION
SCALE 1/2" = 1'



BEAM DESIGN NOTES :
 PRESTRESSING STEEL : 12 Strands ASTM A416
 Grade 270 1/2" Diameter Seven Wire, Uncoated
 Stress Relieved Strand
 As = 0.153 Sq. Inch F's = 270,000 p.s.i.
 Initial Stress 0.7 F's = 189,000 p.s.i.
 Stress @ Release 0.63 F's = 170,100 p.s.i.
 (assumed at section of maximum moment)
 Number and length of strands debonded:
 2 Strands @ 16" (measured from beam end)

CONCRETE STRESSES : Minimum concrete strength
 @ 28 days F'c = 5,500 p.s.i.
 Minimum concrete strength @ time of initial
 prestress F'cd = 4,000 p.s.i.

INITIAL CAMBER : 0.75 Inch which is at the
 time of transfer of stress and includes deflection
 due to weight of beam, but does not include an
 allowance for creep.

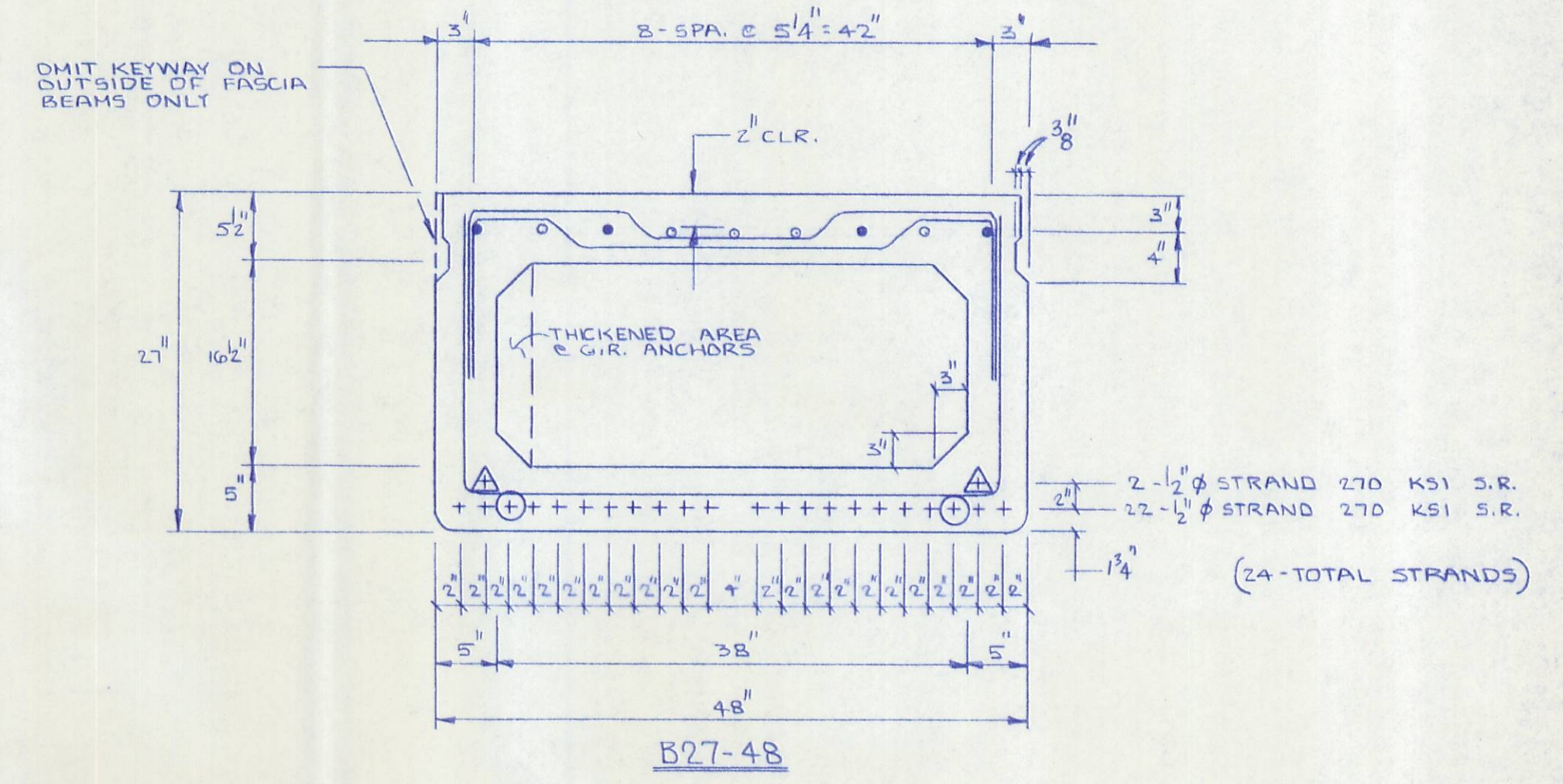
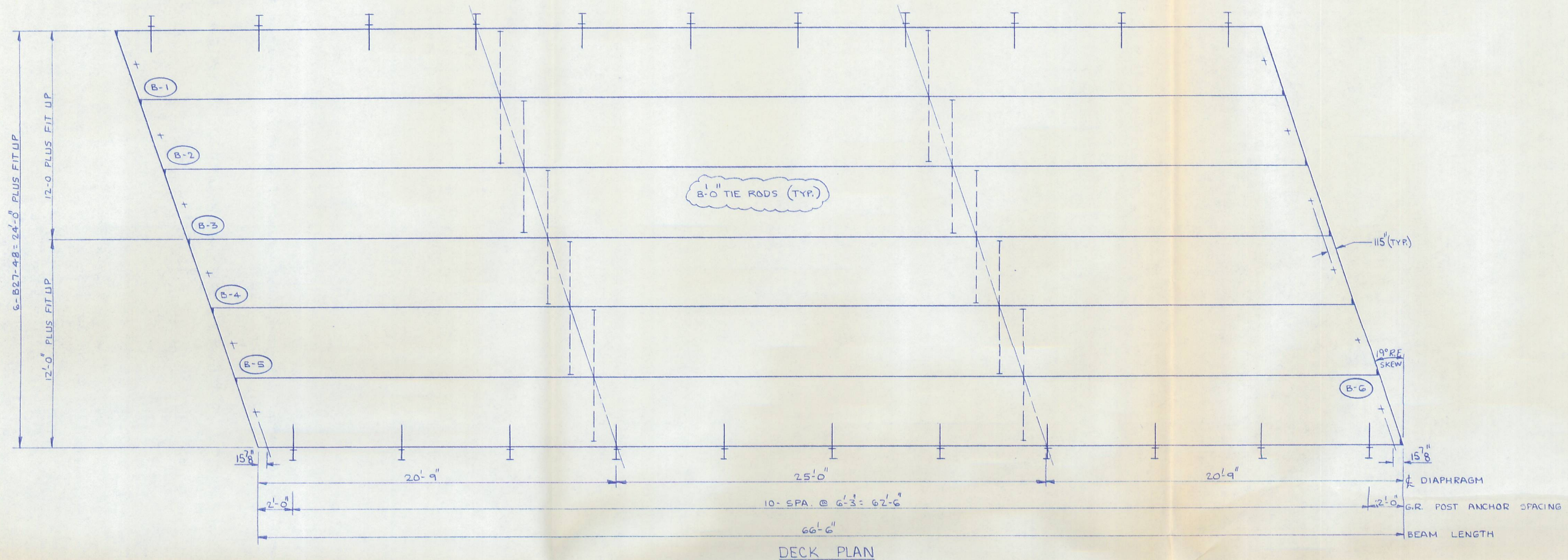
TOTAL CAMBER : 2 1/4 Inch, which includes an
 allowance for camber growth due to creep.



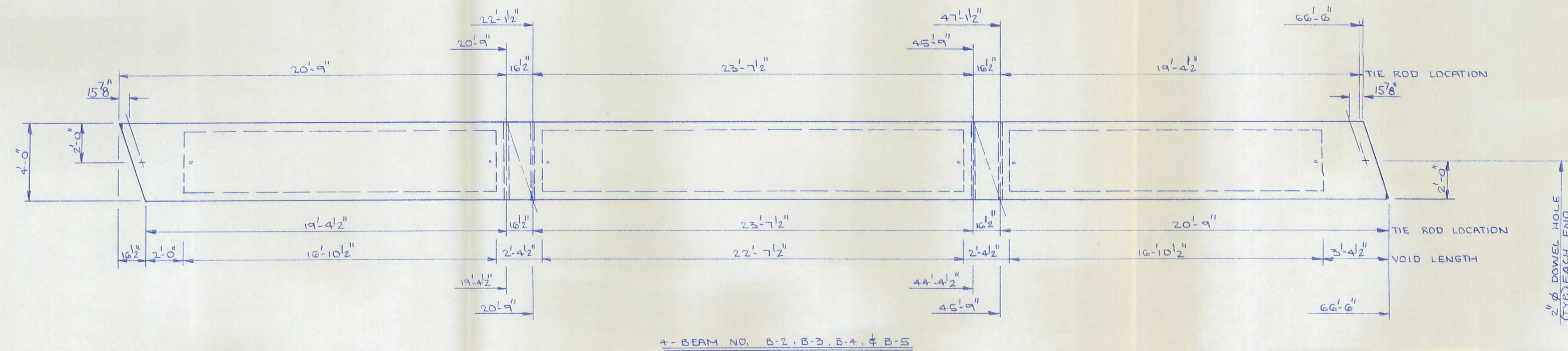
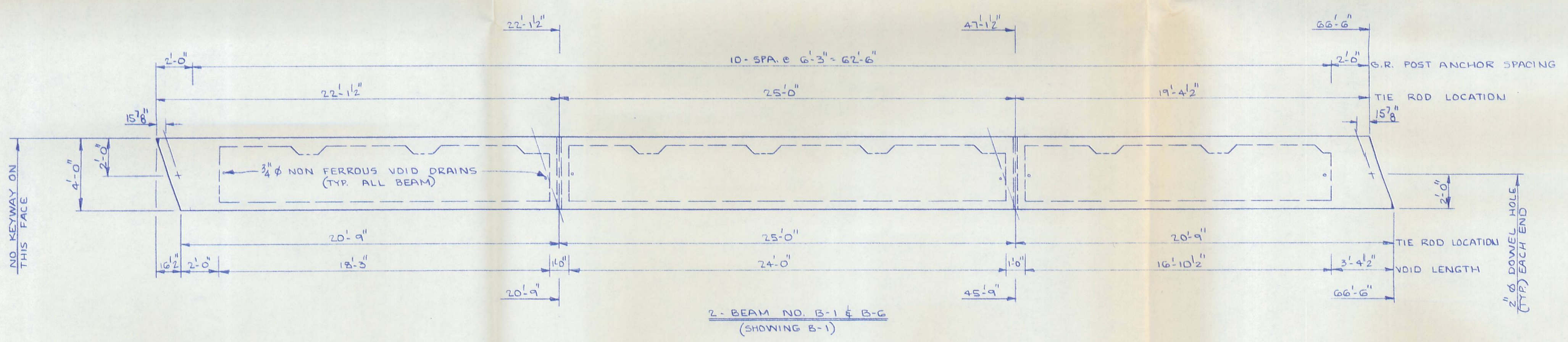
LOGAN COUNTY ENGINEER
 JAMES K. COX P.E., P.S.

SUPER STRUCTURE DETAILS
 BRIDGE 286-0.73
 STOKES TOWNSHIP
 LOGAN COUNTY, OHIO
 1994

DESIGN	DRAWN	CHECKED	REVIEWED	REVISED
MWB	JLB			



- 4-#5 BARS FULL LENGTH RUN MKB501 LAP MKB502 (STAGGER A & B)
- 5-#5 ADDITIONAL BARS 10'-8" LONG @ EACH END MKB503.
- ⊕ DEBOND STRAND 1'-6" @ EACH END.
- △ DEBOND STRAND 2'-6" @ EACH END.



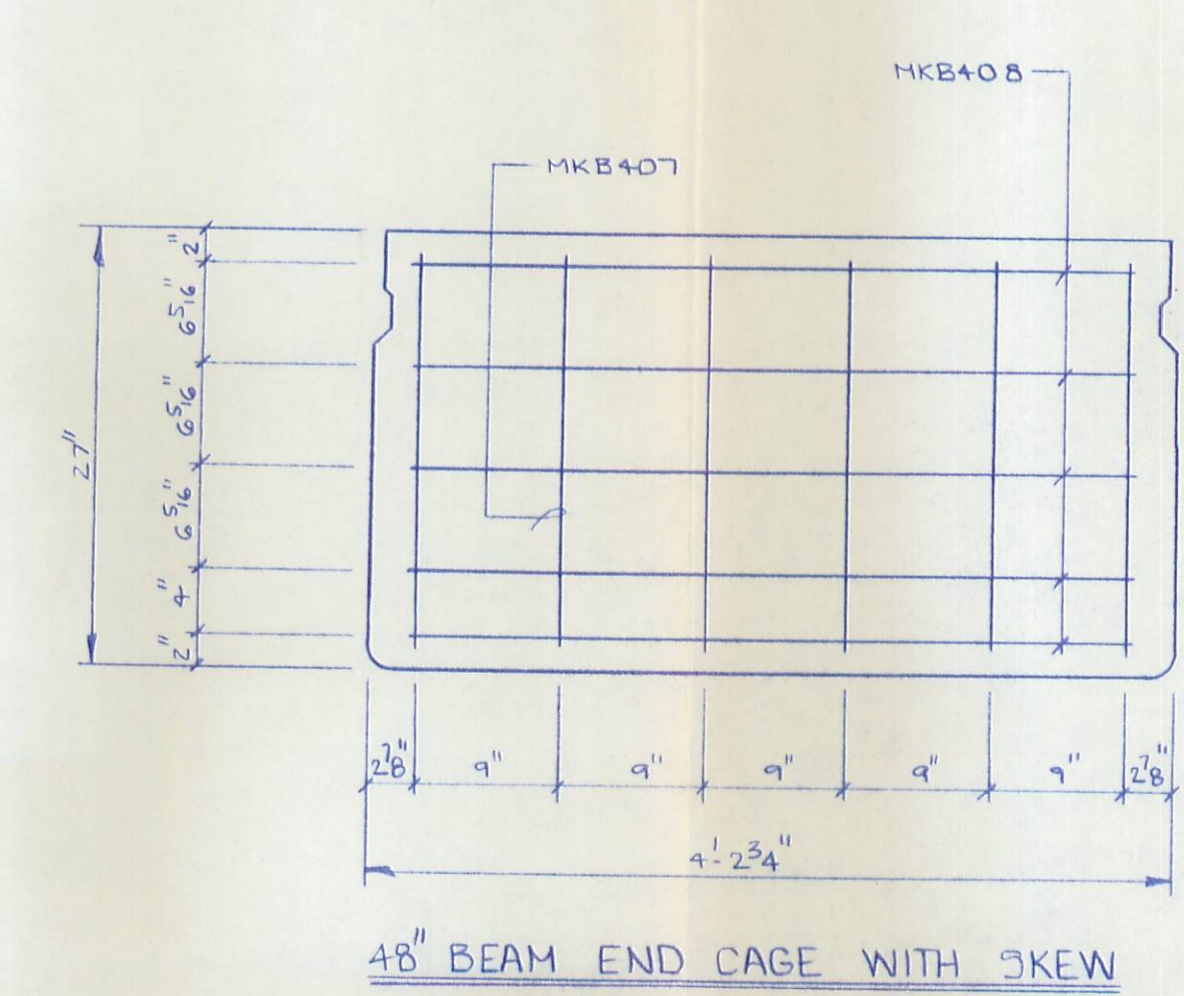
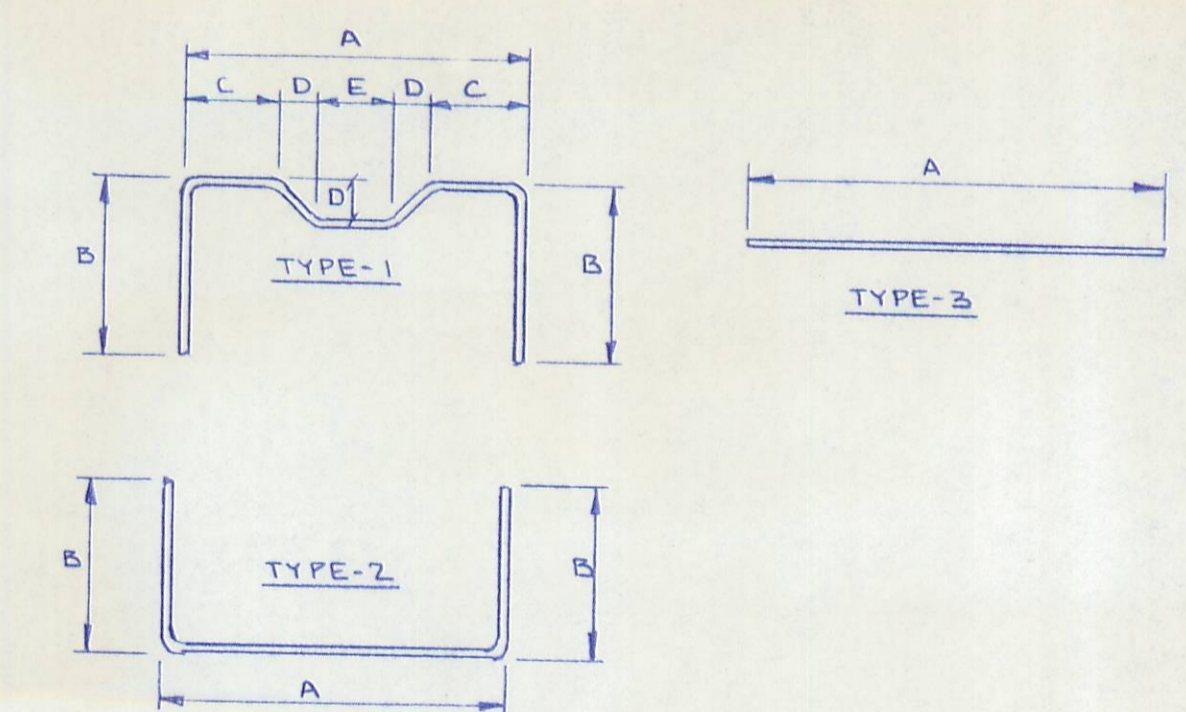
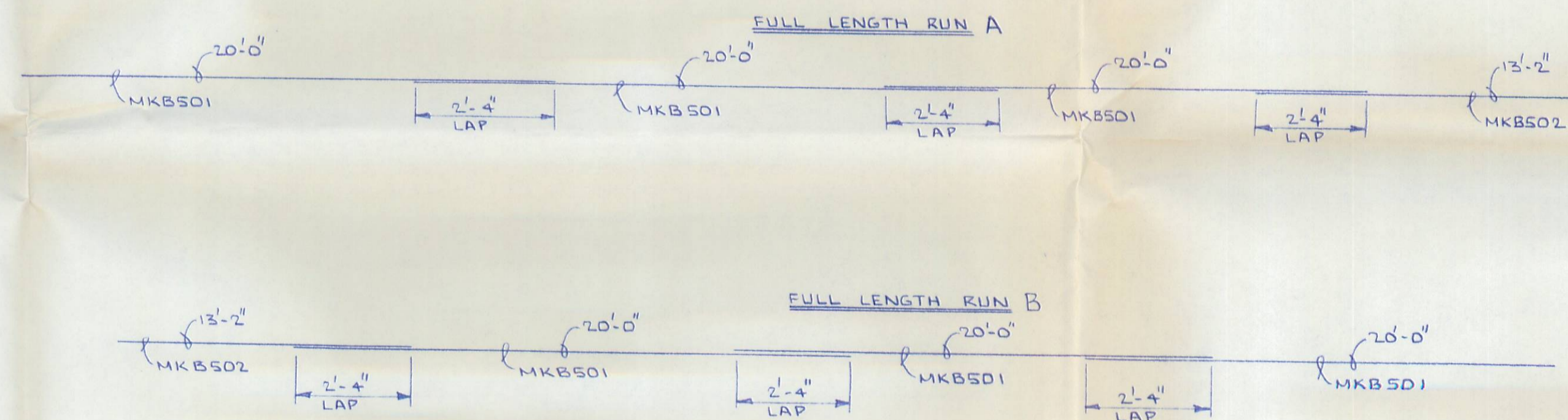
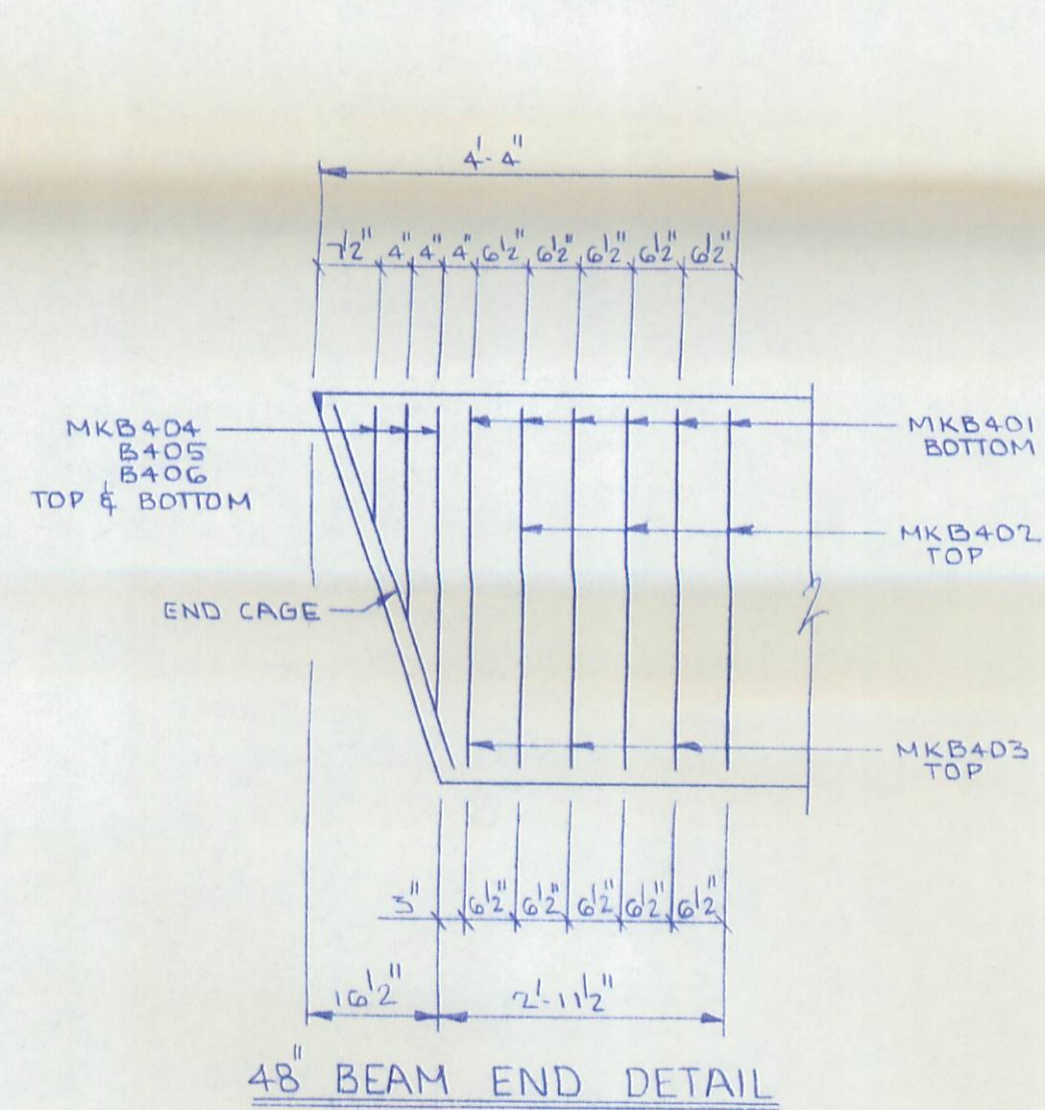
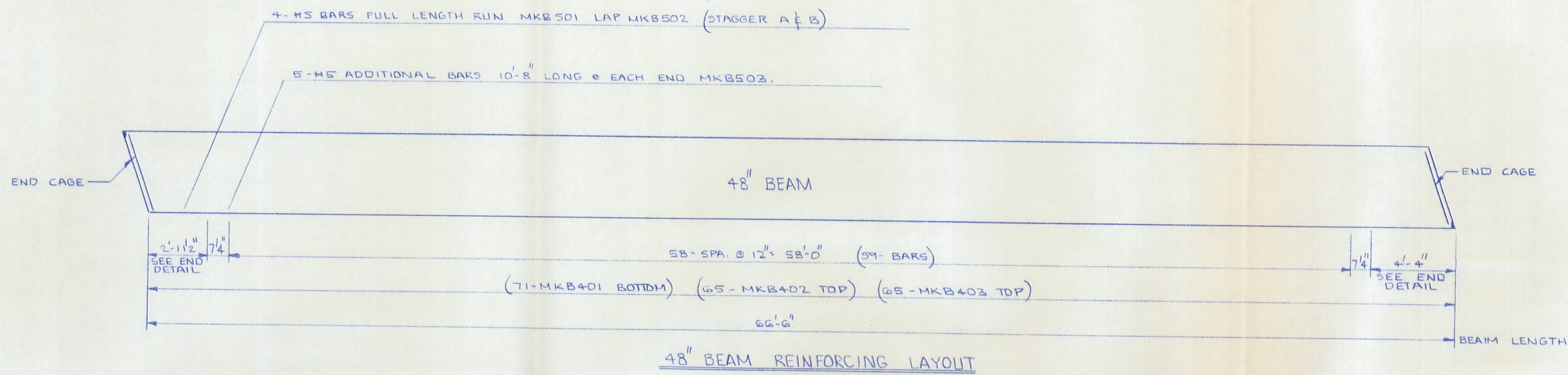
BILL OF MATERIALS				
NO	ITEM	QTY / BEAM	NOTES	TOTAL
1	BEAM WEIGHT		57,000#	
2	CONCRETE	13.3 CY.		80 CY.
3	CALCIUM NITRATE	53 GAL.	4 GAL / CY.	320 GAL.
4	STRAND	2253 LF.	1/2" STRAND 270 KSI S.R.	13520 LF.
5	RE-STEEL		GRADE 40	8778 #
6	VOID		16 1/2" x 28"	336 LF.
7	VOID DRAINS		3/4" NON FERROUS	26 EA.
8	TIE ROD		1" STEEL ROD	10 EA.
9	TYPE B ANCHORS		UPI STD DETAILS	44 EA.
10	TYPE C ANCHORS		UPI STD DETAILS	22 EA.
11	TIE ROD SLEEVES			80 LF.
12	NON-SHRINK ADDITIVE			
13	DOWELS & SLEEVES			12 EA.
14	SILANE			3/2 GAL.
15	JUTE			333 LF.
16	BEARING PADS		1" x 8" x 9"	24 EA.
17	PAD SHIMS			10 SF.

UNITED PRECAST INC.

PRESTRESSED BEAM DETAILS SCALE: _____ DRAWN BY: PHIL

BRIDGE NO. 286-015 LOGAN COUNTY

DATE: MAY 94 APPROVED BY: [Signature] DRAWING NUMBER: 2 OF 4



6-B27-48 x 66'-6" WITH 19° R.F. SKEW

BAR LIST

MARK	SIZE	LENGTH	QUANTITY	SHAPE	A	B	C	D	E
B401	4	7'-7 1/2"	426	TYPE-2	4 3/4"	2 3/8"			
B402	4	5'-8 1/2"	390	TYPE-1	4 3/4"	1 3/4"	1 3/4"	2"	1 3/4"
B403	4	5'-8 1/2"	390	TYPE-1	4 3/4"	1 3/4"	7"	2"	2 5/8"
B404	4	4'-8 1/2"	24	TYPE-2	1 5/8"	2 3/8"			
B405	4	5'-8 1/2"	24	TYPE-2	2 5/8"	2 3/8"			
B406	4	6'-8 1/2"	24	TYPE-2	5 7/8"	2 3/8"			
B407	4	1'-11"	72	TYPE-3	2 3/8"				
B408	4	3'-9"	60	TYPE-3	4 5/8"				
B501	5	20'-0"	72	TYPE-3	20'-0"				
B502	5	13'-2"	24	TYPE-3	13'-2"				
B503	5	10'-8"	60	TYPE-3	10'-8"				

UNITED PRECAST INC.

PRESTRESSED BEAM DETAILS

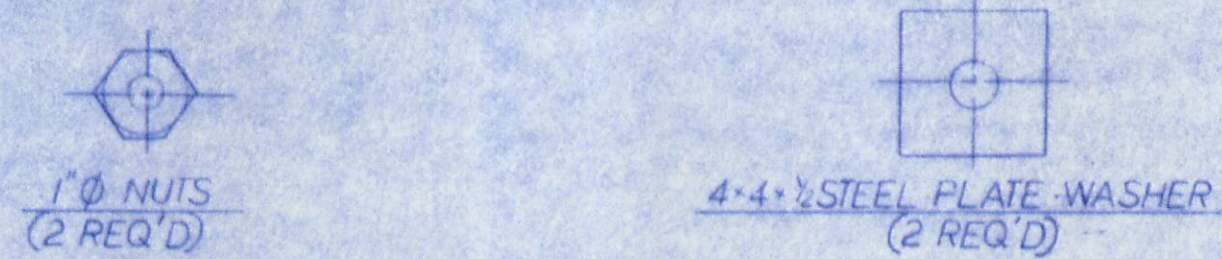
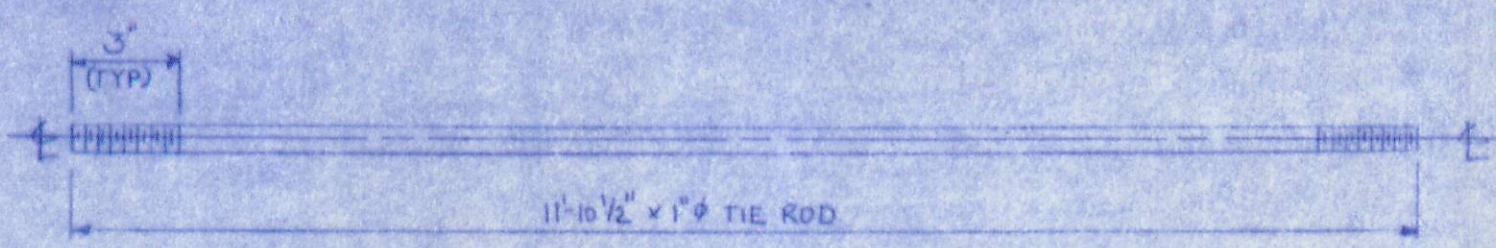
BRIDGE NO. 286-0.15
LOGAN COUNTY

DATE: MAY 1994

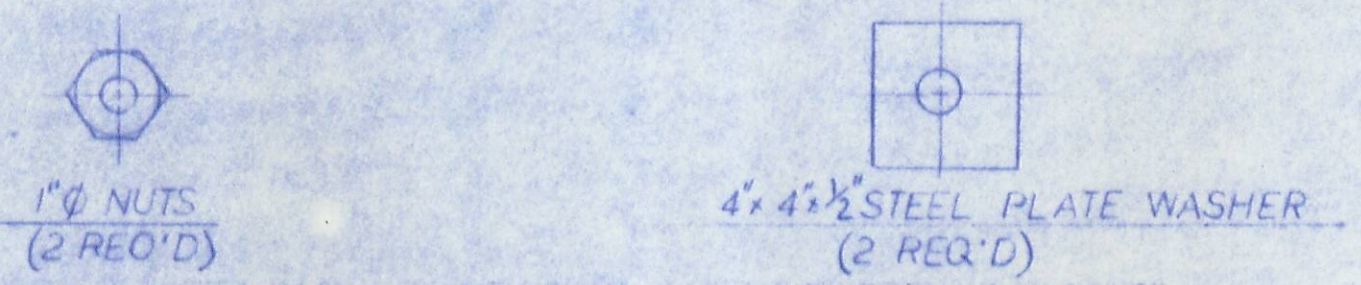
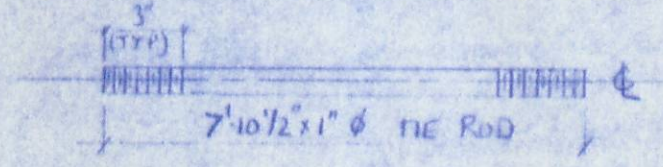
APPROVED BY: EOC

DRAWING NUMBER: 3 OF 4

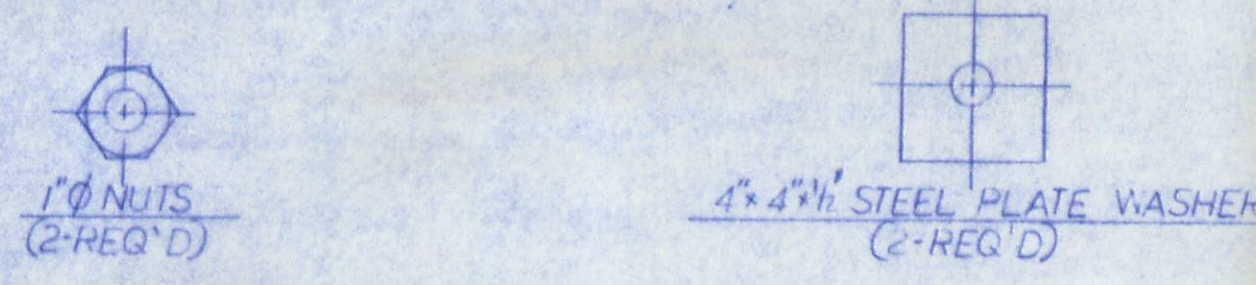
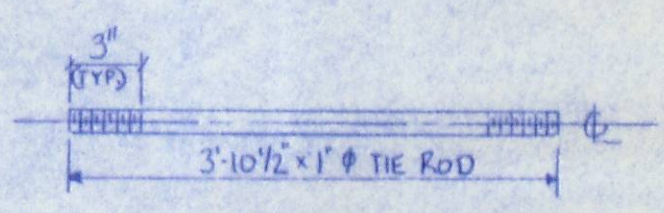
12'-0" TIE ROD ASS'Y



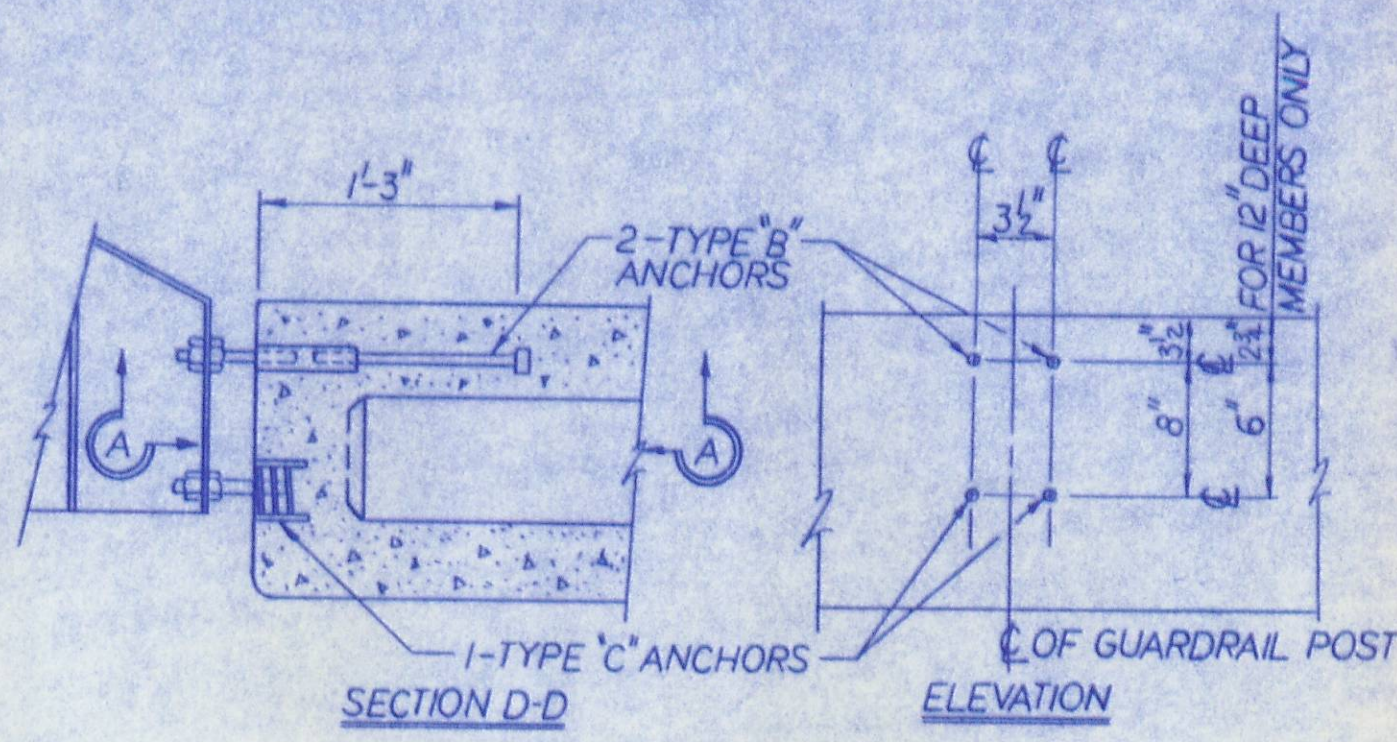
8'-0" TIE ROD ASS'Y



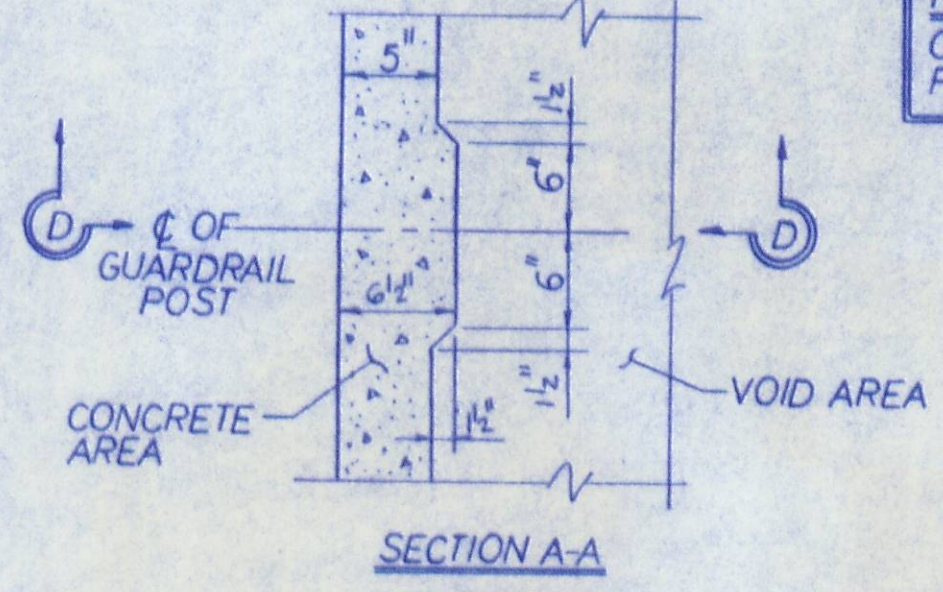
4'-0" TIE ROD ASS'Y



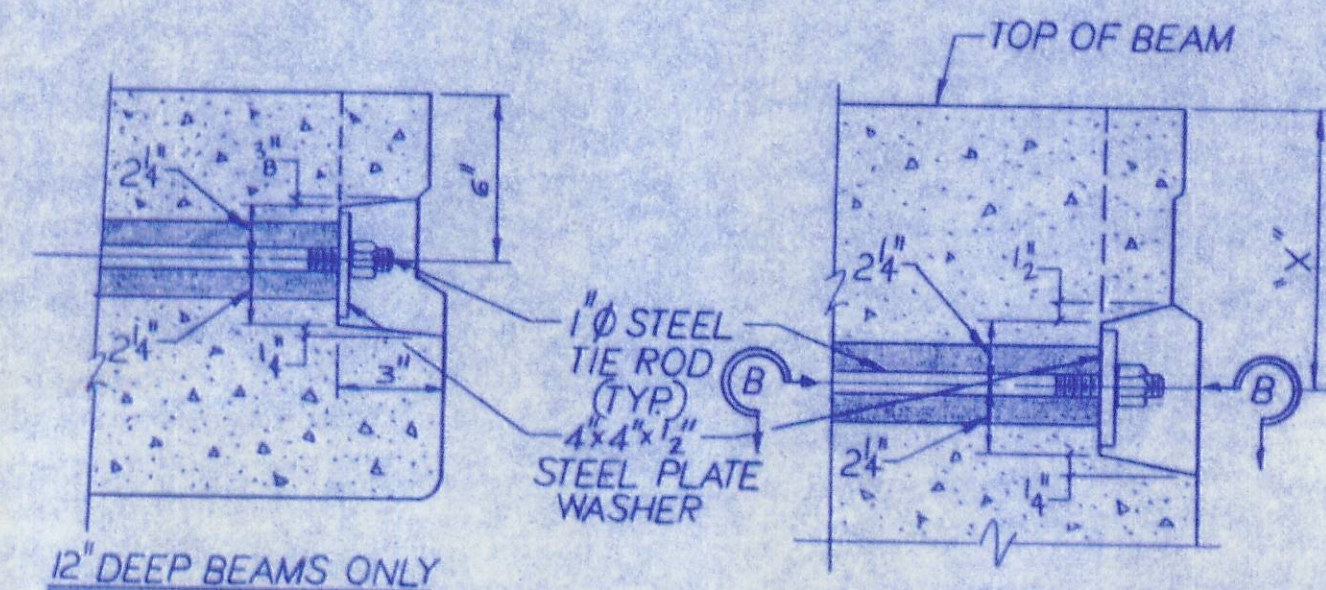
NOTE: ALL ITEMS INCLUDING TIE RODS & ACCESSORIES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM 123 OR 153, EXCEPT AS OTHERWISE NOTED



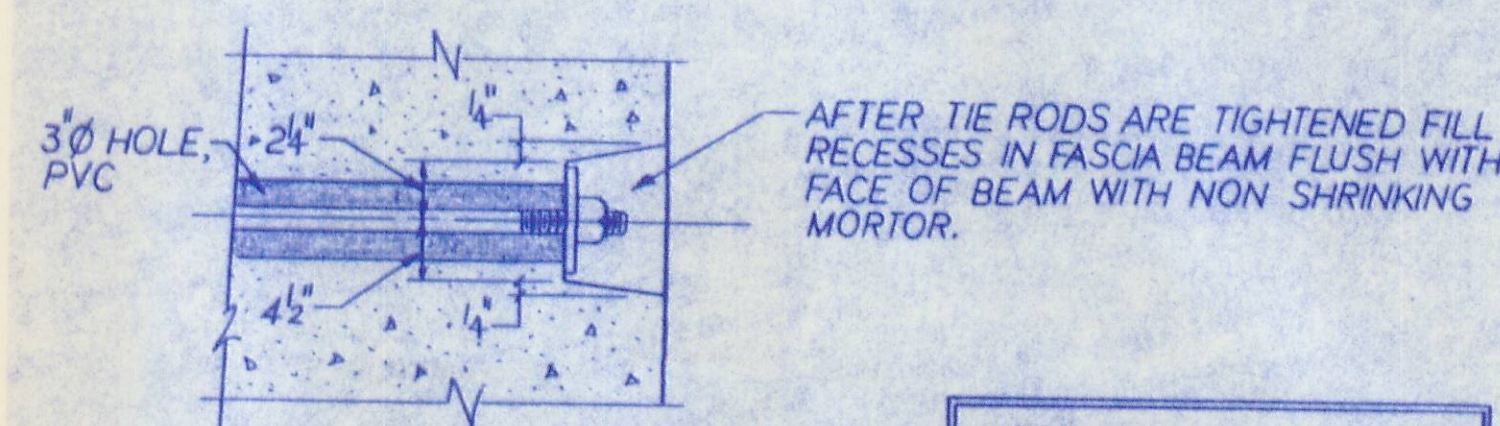
NOTE: ONE TYPE C ANCHOR PROVIDE FOR (2) STUDS (SEE BELOW).



NOTE: TYPE B & C ANCHOR ASSEMBLIES SHALL CONFORM TO PHYSICAL PROPERTIES OF ASTM-A-325, EXCEPT MIN. ELONGATION SHALL BE 10%. THE CHEMICAL PROPERTIES ARE WAIVED.

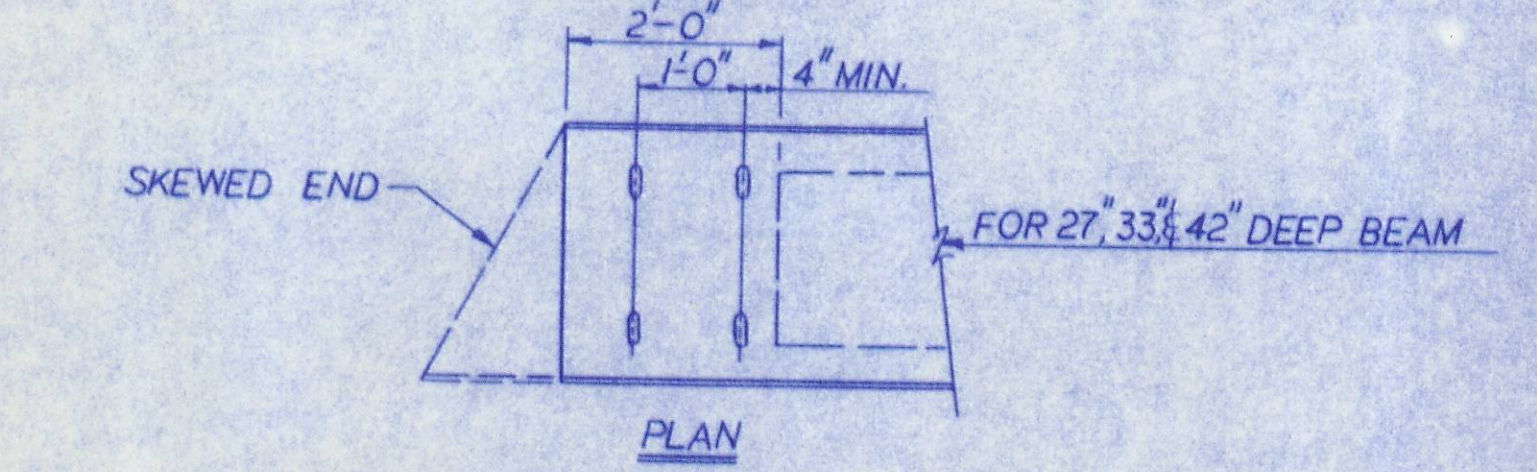
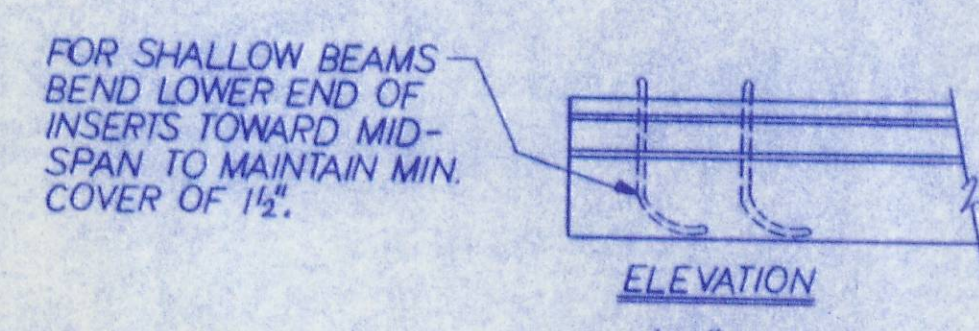
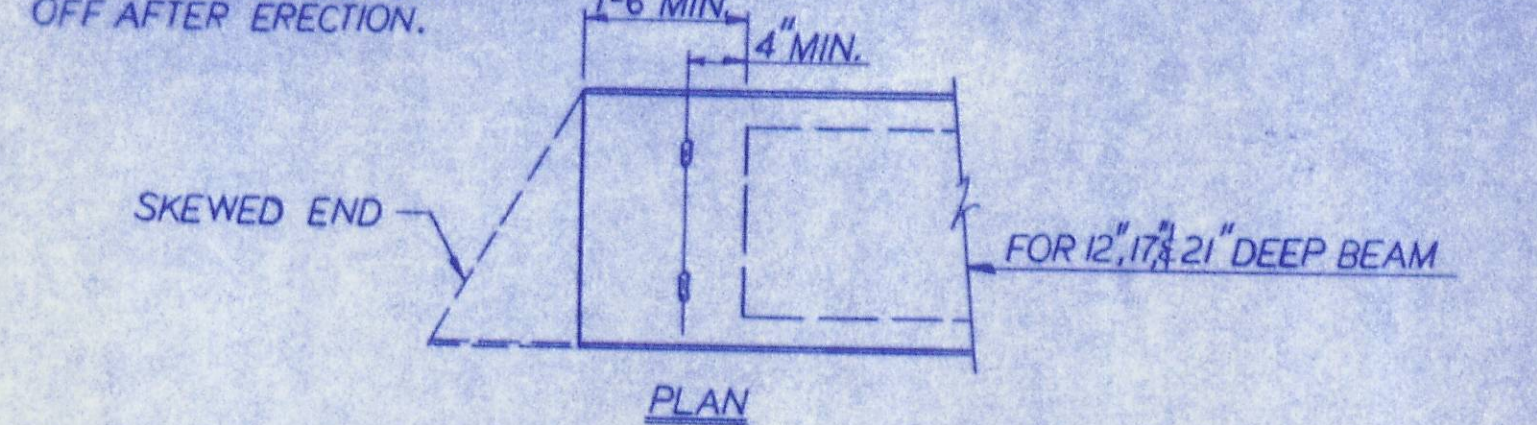
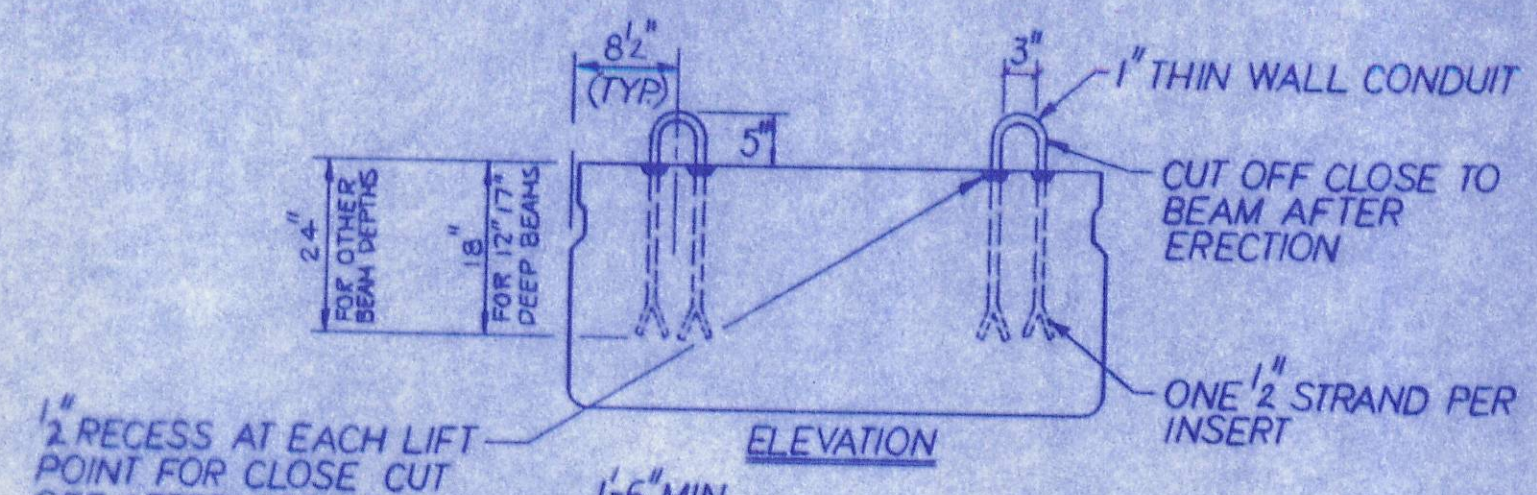


ALL BEAMS EXCEPT 12' DEEP
X=9" FOR 17" THRU 27" DEEP BEAM
OR X=1'-2" FOR 33" AND 42" DEEP BEAM



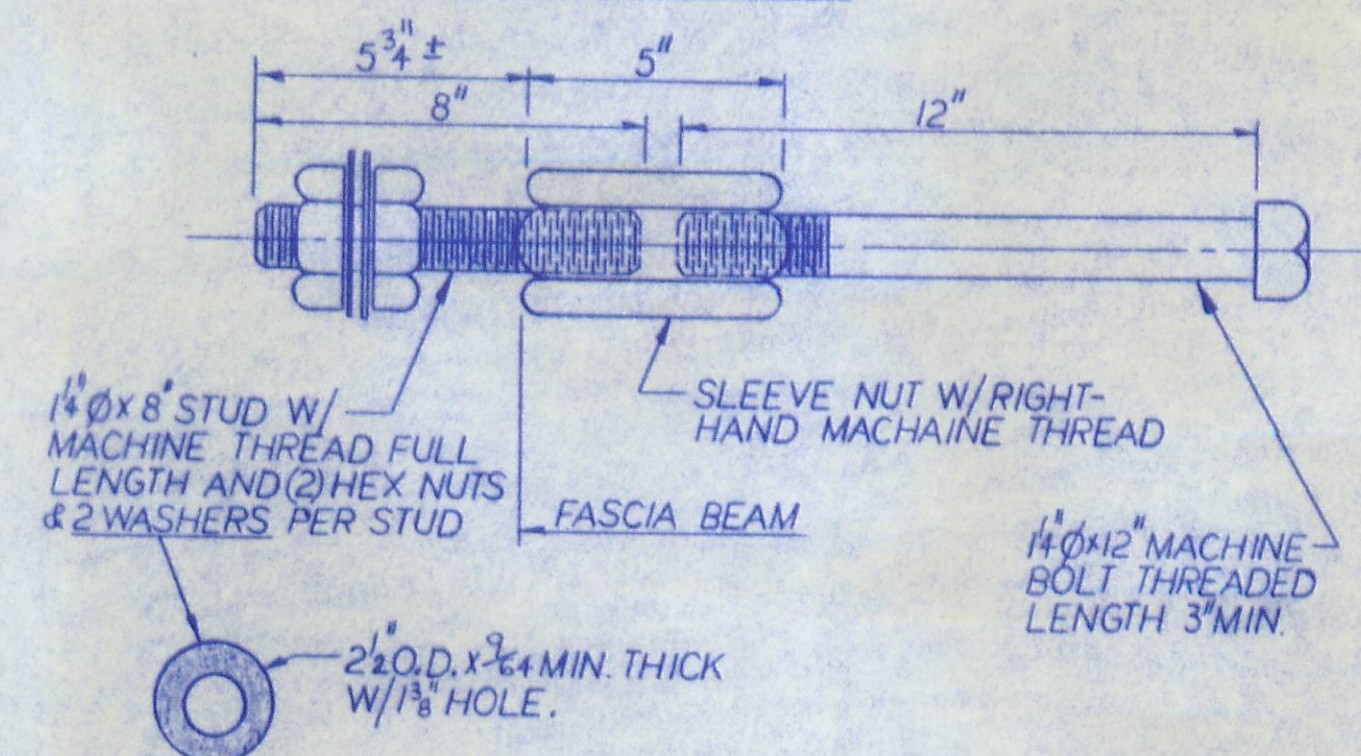
NOTE: TIE RODS SHALL BE A-36 STEEL

END DETAIL OF TRANSVERSE TIE ROD ANCHORAGE

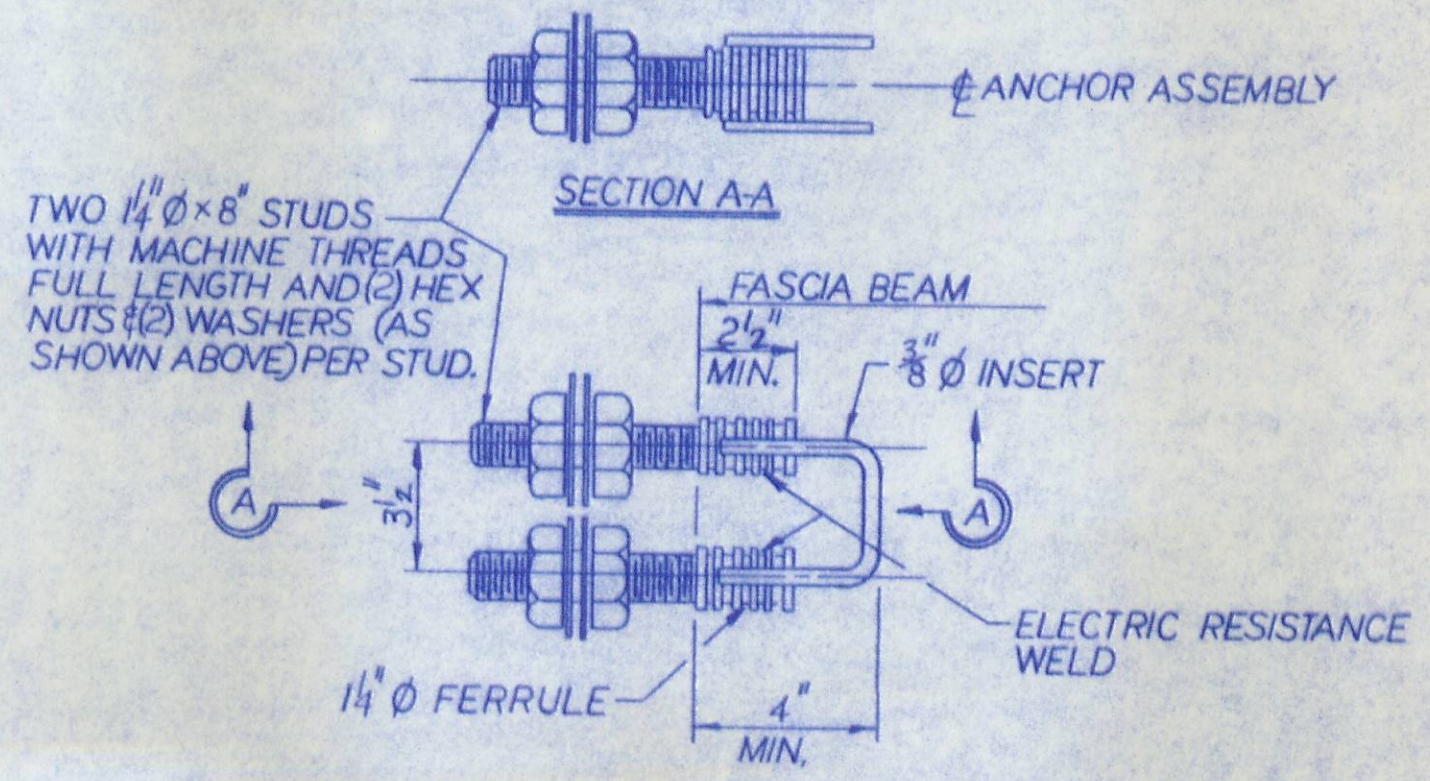


LIFTING INSERT DETAIL

TYPE B ANCHOR



TYPE C ANCHOR

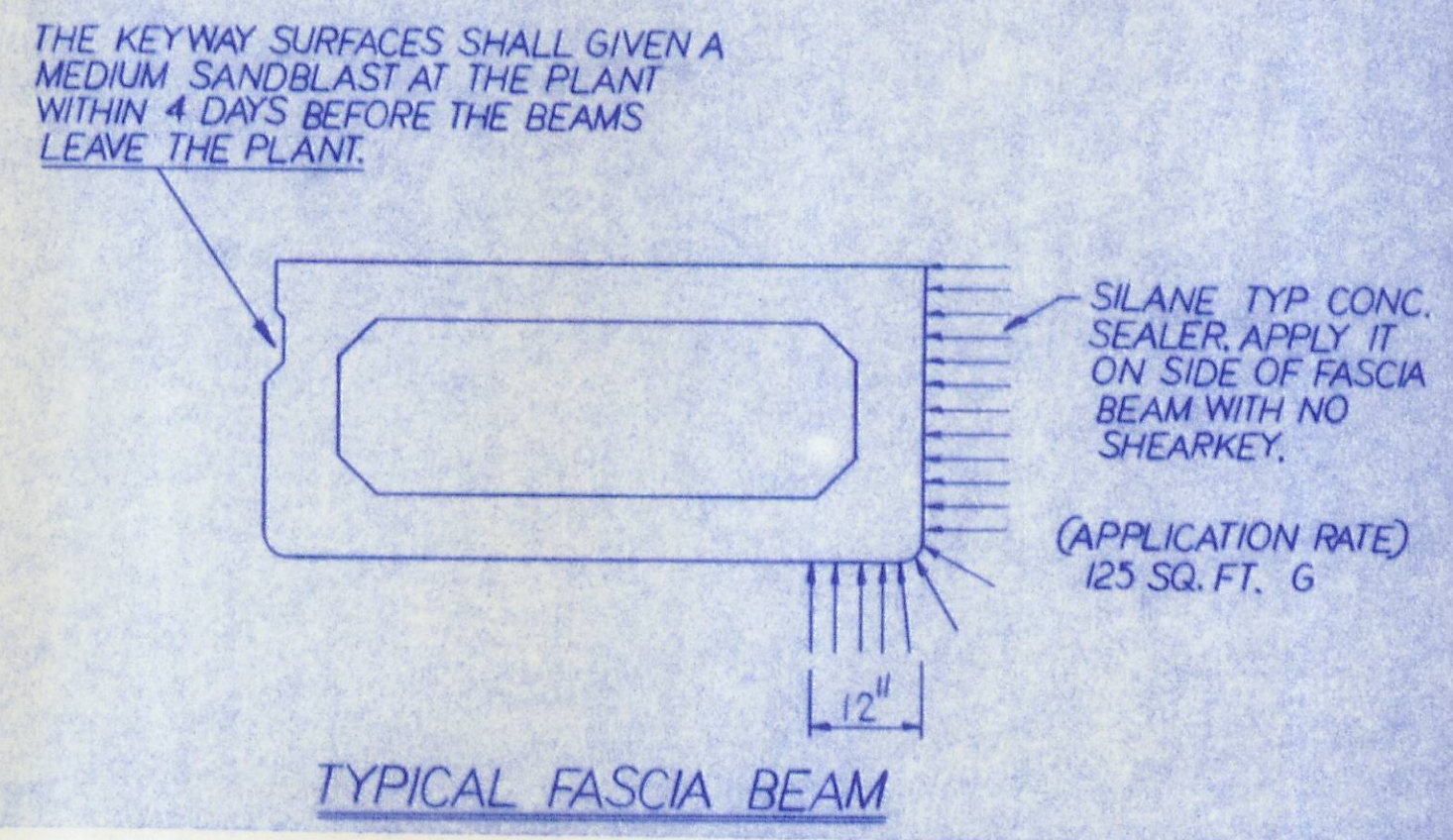


B&C ANCHOR DETAILS

- NOTES:
- 1) PROVIDE A BURLAP DRAG FINISH ON TOP SURFACE OF BEAM SUITABLE FOR WATERPROOFING.
 - 2) ADD DCI TO CONCRETE (4-GAL/CUBIC YARD).
 - 3) WATERPROOFING BEAM ENDS.
 - 4) DETENSION STRAND SYMMETRICALLY ABOUT CENTERLINE.

- SPECIFICATIONS
- DESIGN LOADING: HS20-44 AND ALTERNATE MILITARY LOADING. SUPERIMPOSED DEAD LOAD 210 POUNDS PER LINEAL FT.
- CONCRETE: COMPRESSIVE STRENGTH, $f_c = 5000$ PSI @ 28 DAYS (SHIPPING). $f_c = 4000$ PSI @ RELEASE.
- PRESTRESSING STEEL: ASTM A-421 GRADE 250, 1/2" DIAMETER, SEVEN WIRE, UNCOATED STRESS RELIEVED STRAND. $A_s = 153$ IN.² $f_y = 270$ KSI. INITIAL STRESS 0.7 $f_y = 189$ KSI.
- REINFORCING STEEL: ASTM A-615, A-616, A-617. GRADE 40: UNIT STRESS 20,000 PSI. ASTM A-615, A-616, A-617. GRADE 60: UNIT STRESS 24,000 PSI.

NOTE: 1) PRESTRESSED CONCRETE BEAMS AND APPURTENANCES CONFORM TO DOT STANDARD BRIDGE DRAWINGS (SBD-1-51) SHEETS ONE, TWO, THREE, FOUR.



BRIDGE NO. 286-0.73 & 286-015		LOGAN COUNTY	
UNITED PRECAST INC.			
ROUNDHOUSE LANE	SCALE	DRAWN BY PHIL	
MT. VERNON, OHIO 43050		REVISED	
STANDARD BRIDGE DETAILS			
DATE	APPROVED BY	DRAWING NUMBER	
MAY '94	506	4 OF 4	