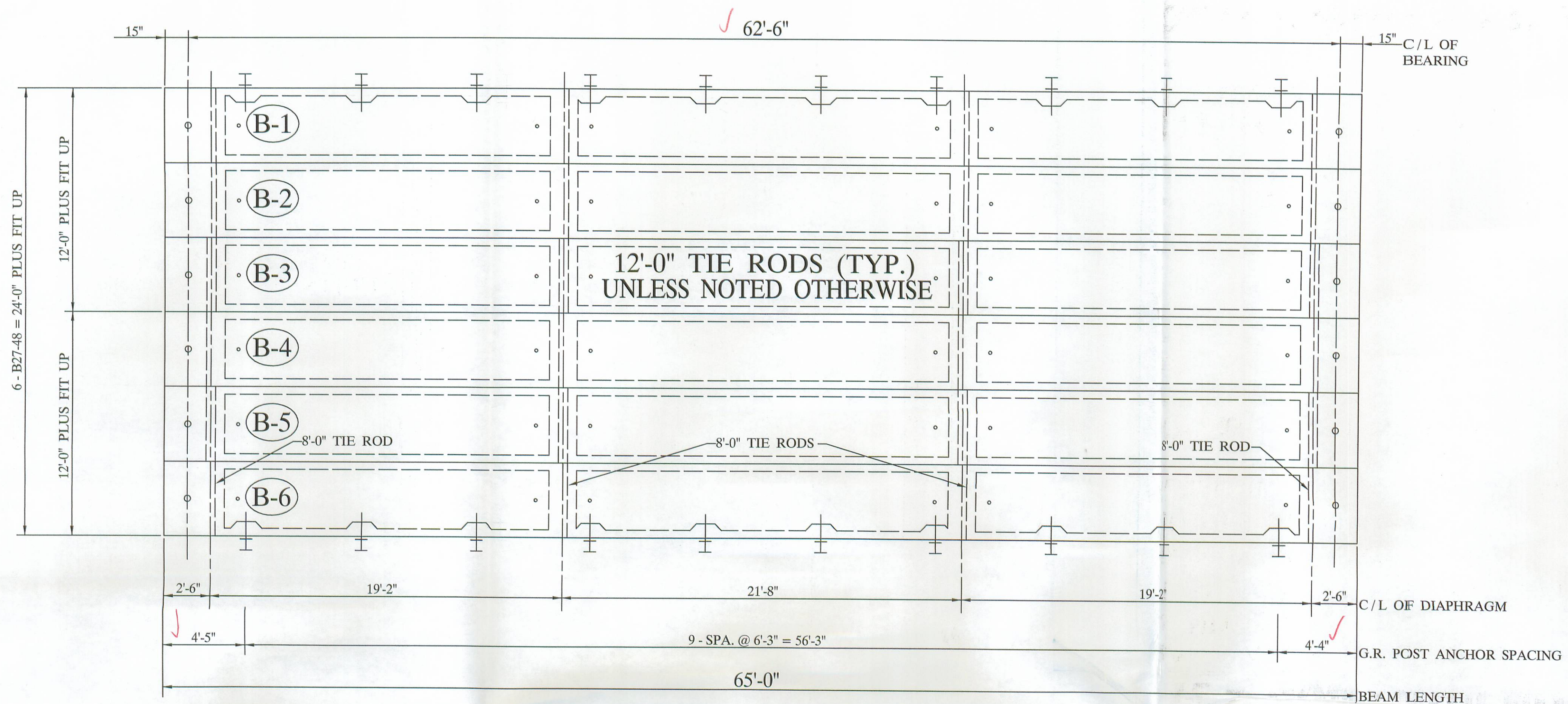


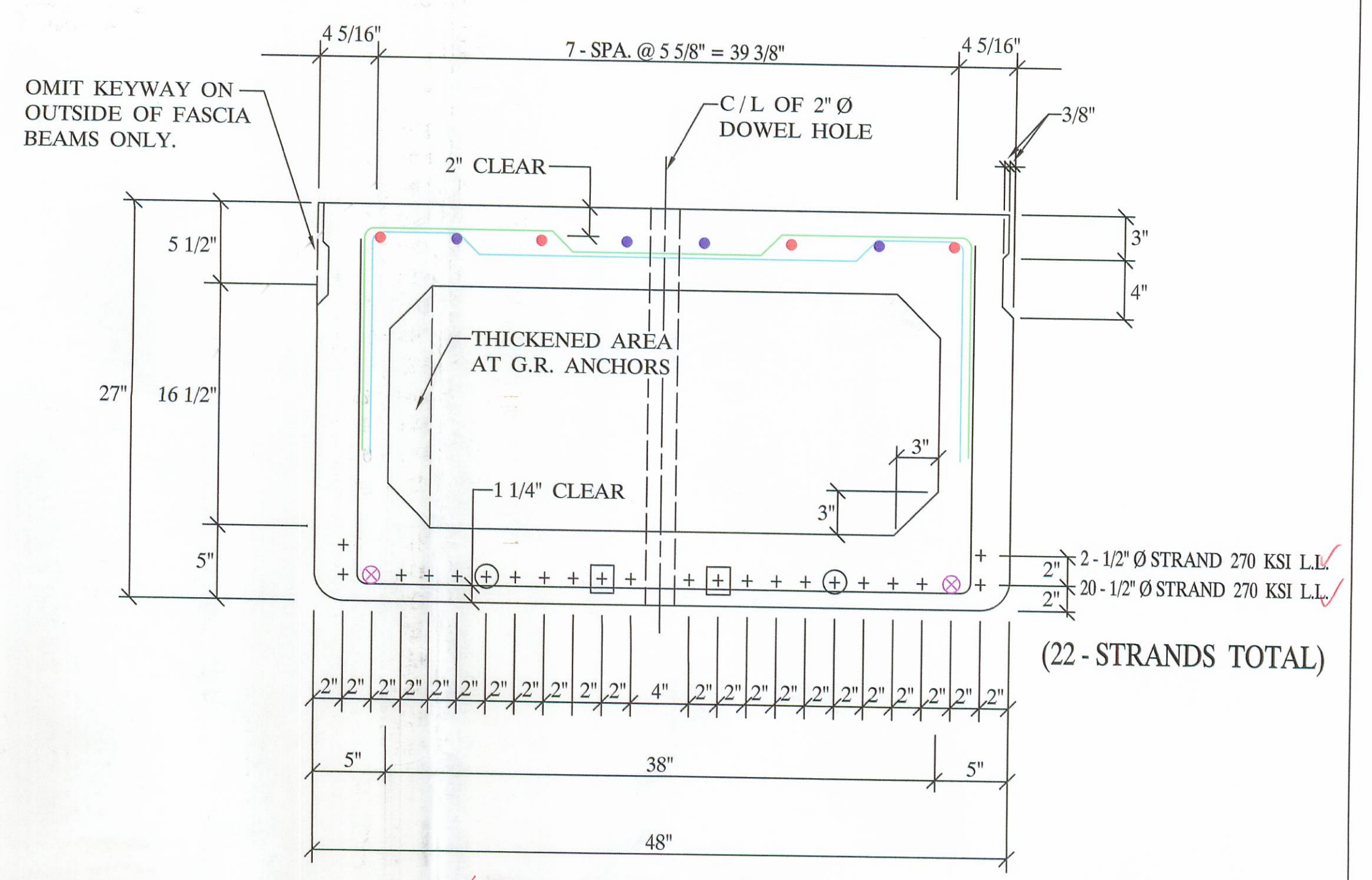
APPROVED  
BY LOGAN CO. ENGINEER  
B. J. ... PE 5/19/2005



**DECK PLAN**

**QUALITY CONTROL NOTE :**

- ✓ --- STRAND AREA IS .153 SQ. IN.
- ✓ --- STRAND IS LOW LAX.
- ✓ --- INITIAL LOAD IS 30,982 # / STRAND.
- ✓ --- REBAR IS ALL GRADE - 60.
- STIRRUPS UNDER STRAND.
- ✓ --- CONCRETE STRENGTHS: 5500 PSI AT 28 DAYS  
4000 PSI AT RELEASE
- ✓ --- ODOT 2002 SPECIFICATIONS.

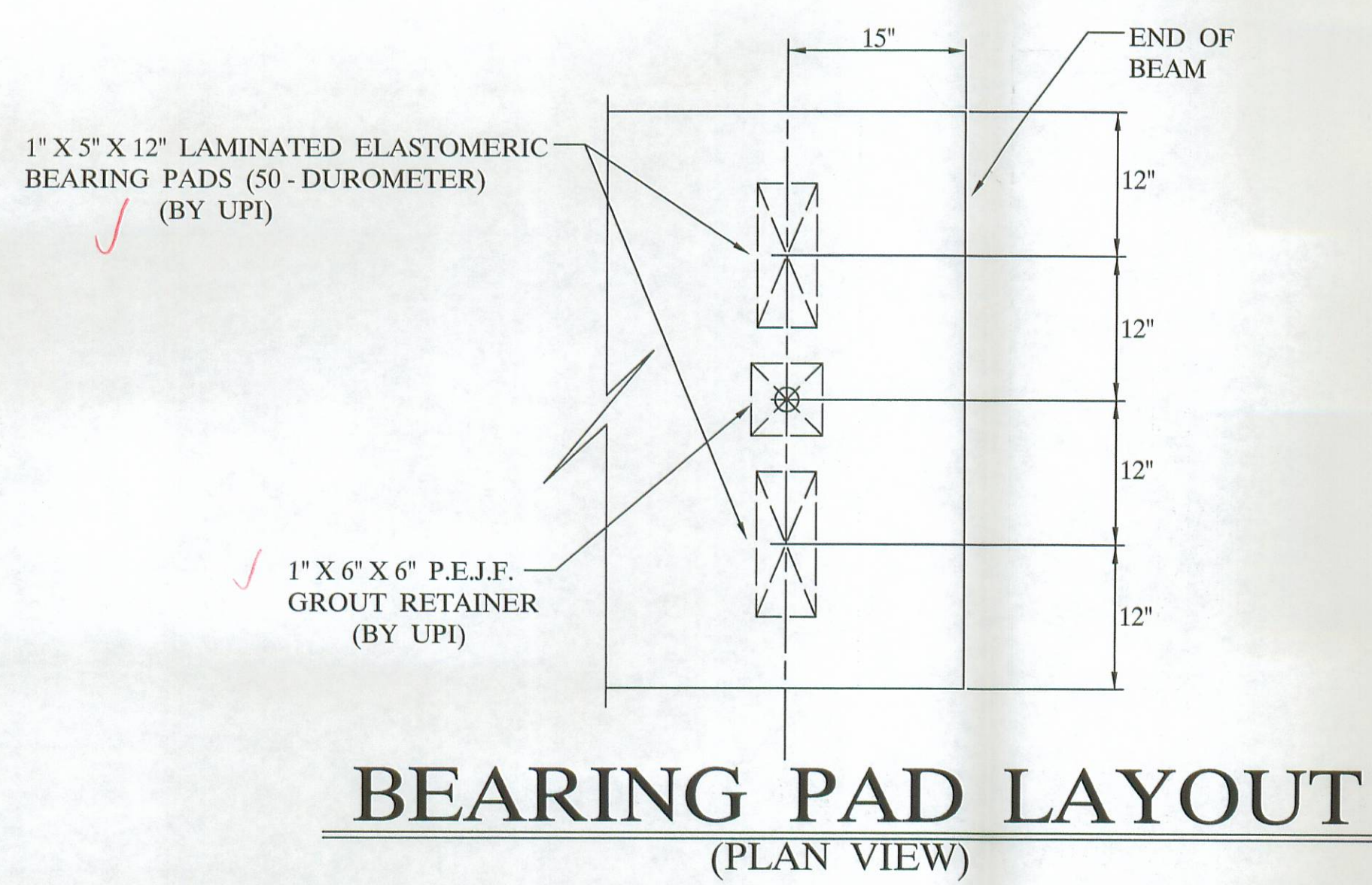


- ✓ ● 4 - #5 BARS FULL LENGTH RUN (TOP)
- ✓ ● 4 - #5 ADDITIONAL BARS 10'-3" LONG AT EACH END OF BEAM (TOP)
- ✓ ⊗ 2 - #6 BARS FULL LENGTH RUN (BOTTOM)
- ✓ ⊕ DEBOND STRAND 1'-6" LONG AT EACH END OF BEAM
- ✓ ⊕ DEBOND STRAND 2'-6" LONG AT EACH END OF BEAM

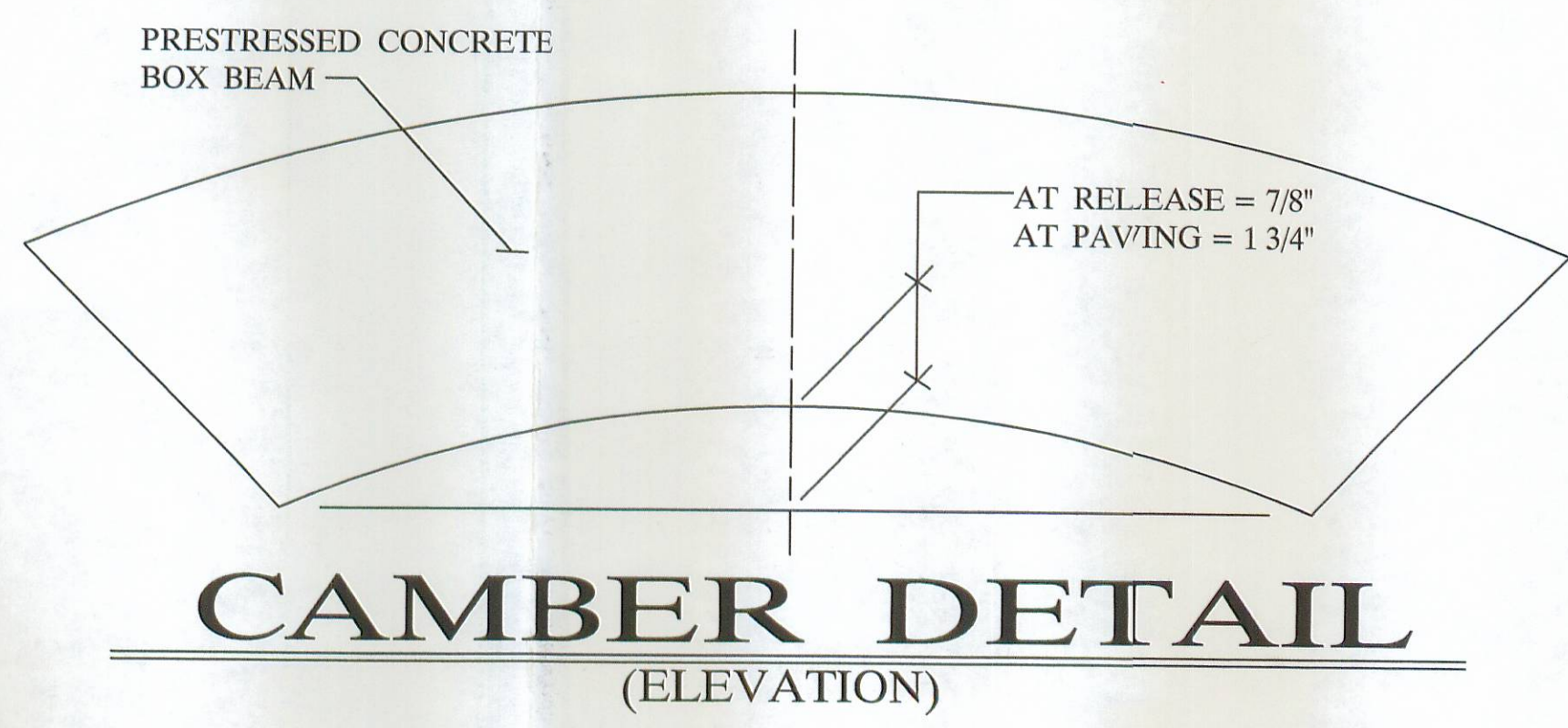
LOGAN CO. ENGINEER  
APR 27 2005

**BILL OF MATERIALS**

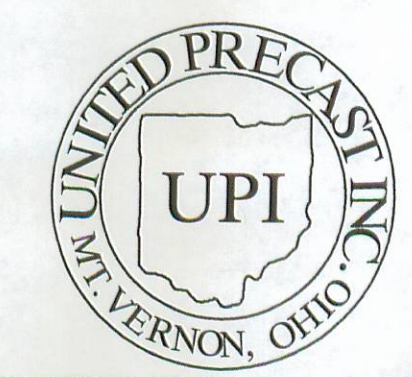
NO	ITEM	QTY / BEAM	NOTES	TOTAL
1	BEAM WEIGHT		54,286 #	
2	CONCRETE	13 CY.		78 CY.
3	CALCIUM NITRITE	52 GAL.	(D.C.I.) 4 - GAL. / CY.	312 GAL.
4	STRAND		1/2" Ø STRAND 270 KSI L.L.	11,440 L.F.
5	RE-STEEL		GRADE - 60	9,214 #
6	VOID		16 1/2" X 38"	333 L.F.
7	VOID DRAINS		3/4" Ø NON FERROUS	36 EA.
8	TIE RODS		1" Ø STEEL ROD	8 EA.
			1" Ø STEEL ROD	4 EA.
9	TIE ROD SLEEVES			128 L.F.
10	TYPE - B - ANCHORS			40 EA.
11	TYPE - C - ANCHORS			20 EA.
12	DOWELS & SLEEVES			12 EA.
13	WASSER		MC - TAR	0.7 GAL.
14	SILANE			3.5 GAL.
15	JUTE			325 L.F.
16	BEARING PADS		1" X 5" X 12" , 2 - LAM.	24 EA.
17	GUARDRAIL POST		TYPE - 2	20 EA.
18	OFF DECK POST		(SHIPPED LOOSE)	8 EA.
19	GUARDRAIL ELEMENT			137.5 L.F.
20	TUBULAR BACK - UP			137.5 L.F.
21	NON SHRINK GROUT ADDITIVE		1 1/2 CY. / BY OTHERS	13 LBS.



**BEARING PAD LAYOUT**  
(PLAN VIEW)

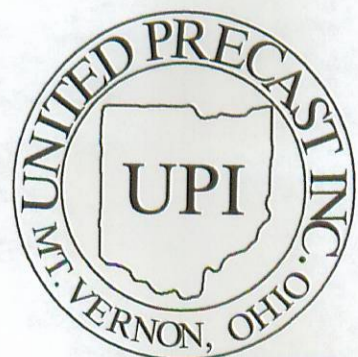
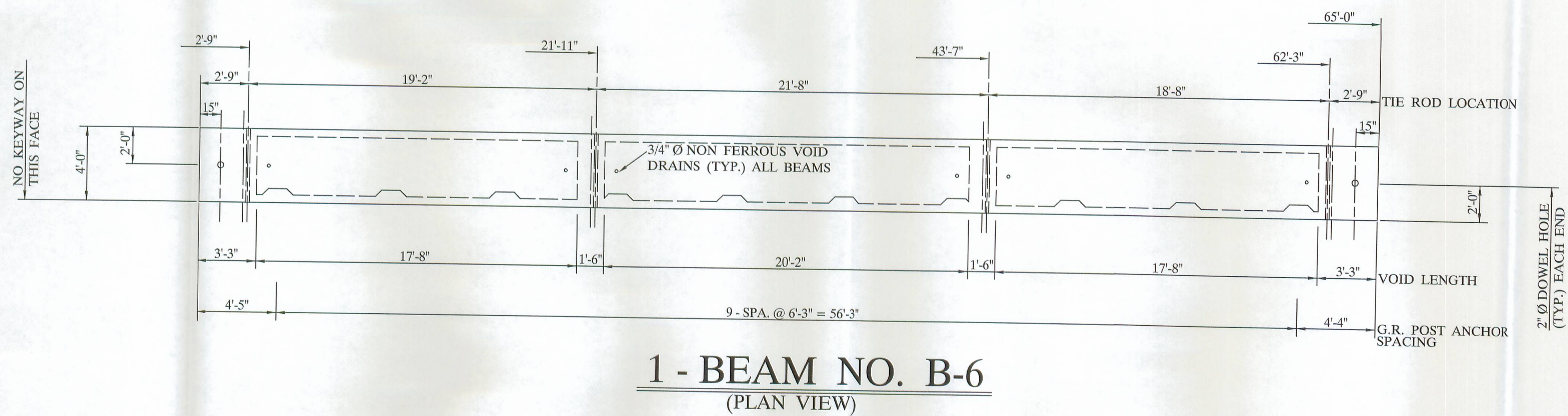
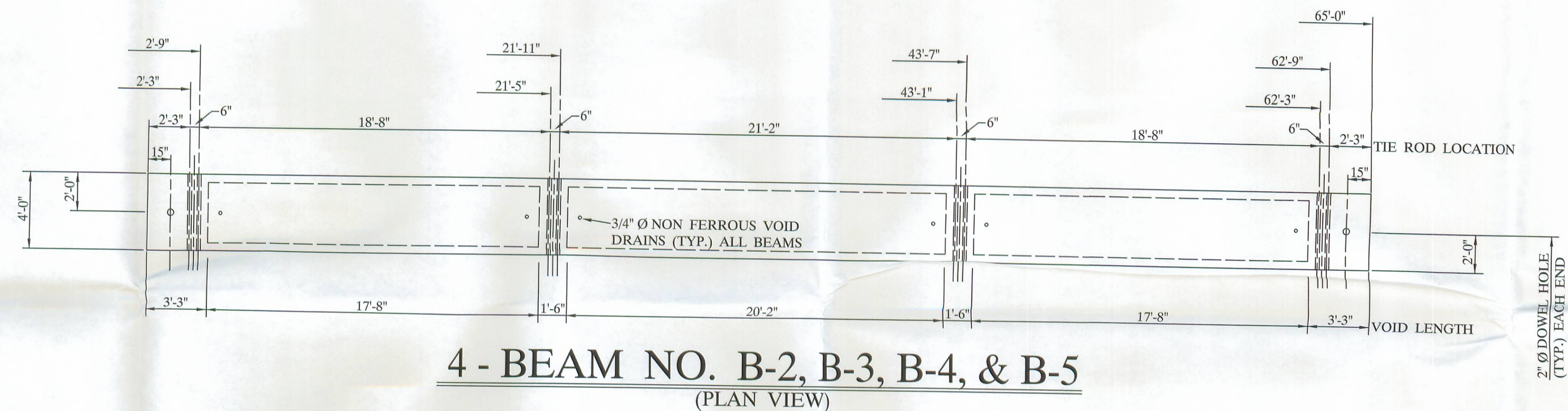
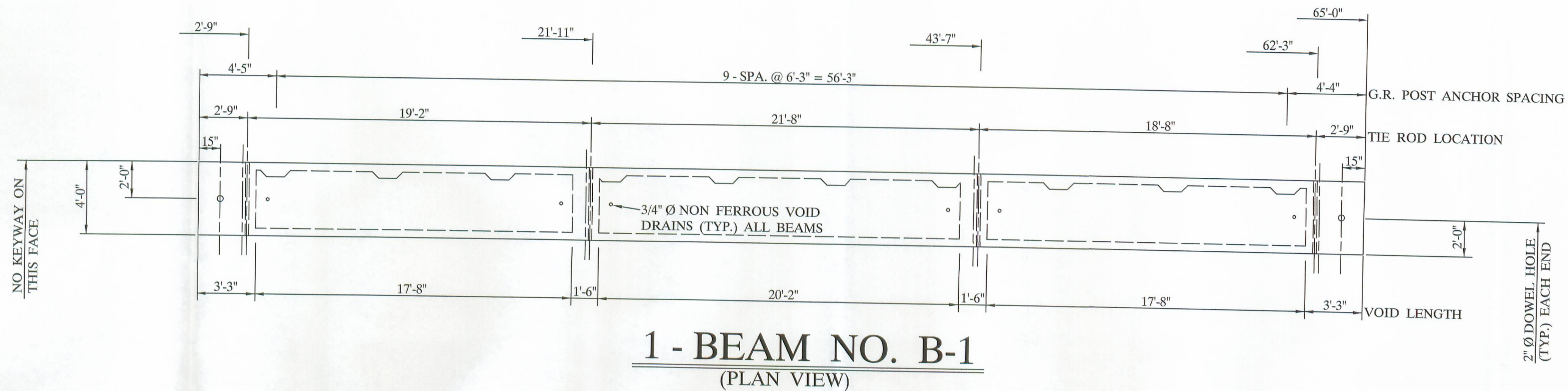


**CAMBER DETAIL**  
(ELEVATION)



**UNITED PRECAST INC.**  
ROUNDHOUSE LANE  
MOUNT VERNON, OHIO 43050  
PHONE : (740) 393-1121  
FAX : (740) 392-9708

DESCRIPTION:	BOX BEAM DETAILS		SCALE:	DRAWN BY:
JOB NAME:	BRIDGE NO. 46 - 4.31 LOGAN COUNTY	PROJECT NO. T.R. 46		PHIL
DATE:	APRIL '05	APPROVED BY:	E.O.C. 4/26/05	REVISED:
				DRAWING NO. 1 OF 4

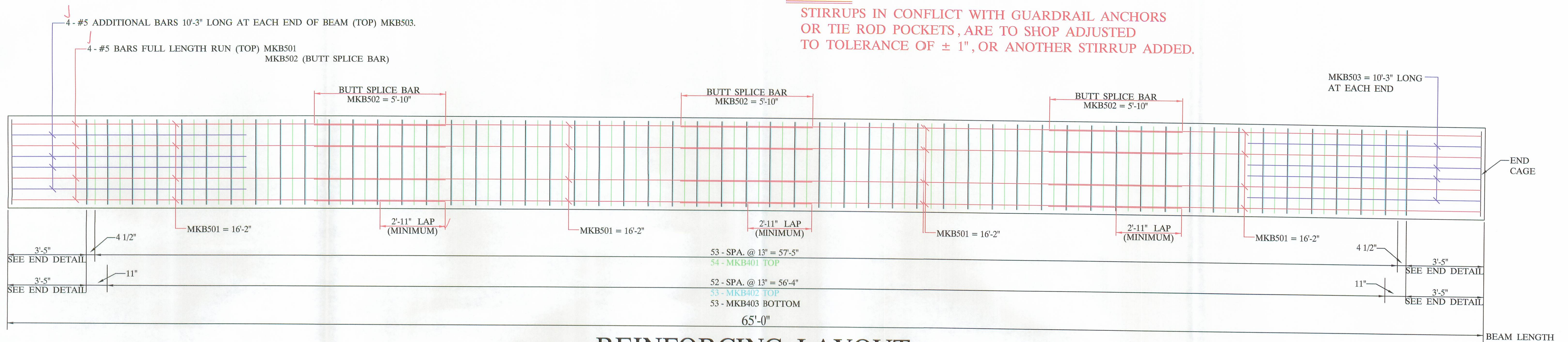


**UNITED PRECAST INC.**  
 ROUNDHOUSE LANE  
 MOUNT VERNON, OHIO 43050  
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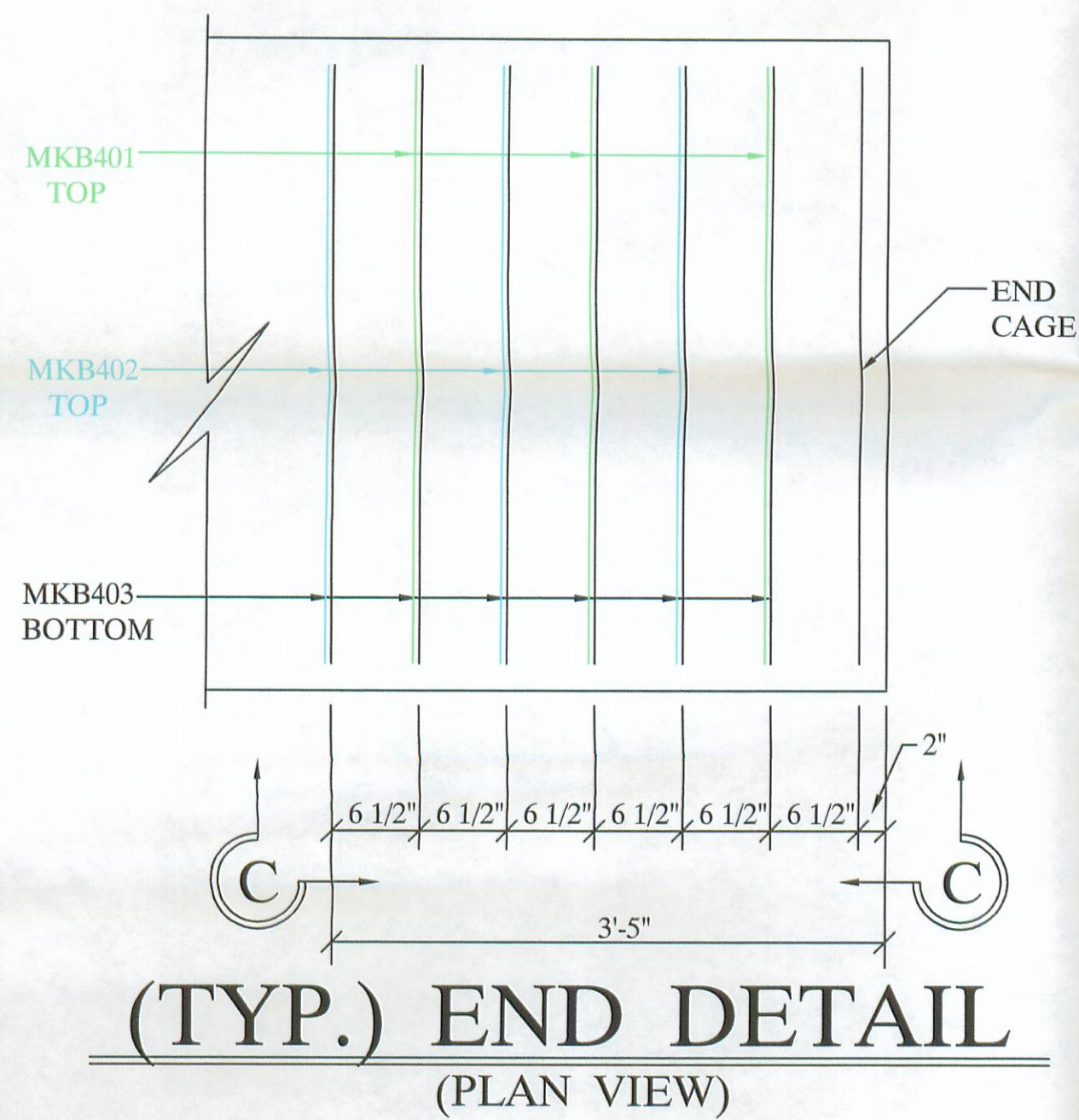
DESCRIPTION:	BOX BEAM DETAILS		SCALE:	DRAWN BY:
JOB NAME:	BRIDGE NO. 46 - 4.31 LOGAN COUNTY	PROJECT NO. T.R. 46		PHIL
DATE:	APRIL '05	APPROVED BY:	E.O.C. 4/26/05	REVISED:
				DRAWING NO. 2 OF 4

**NOTE :**

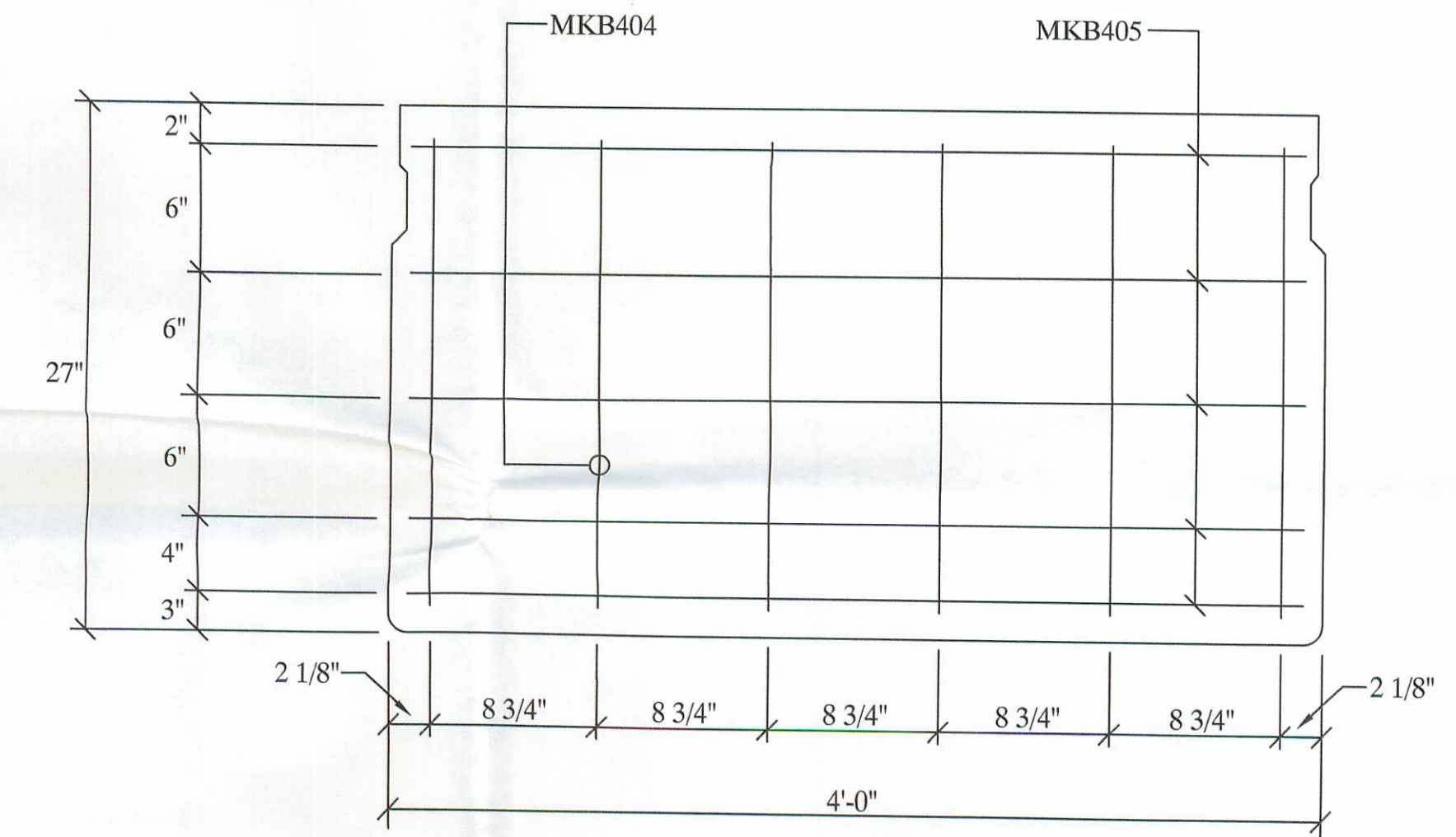
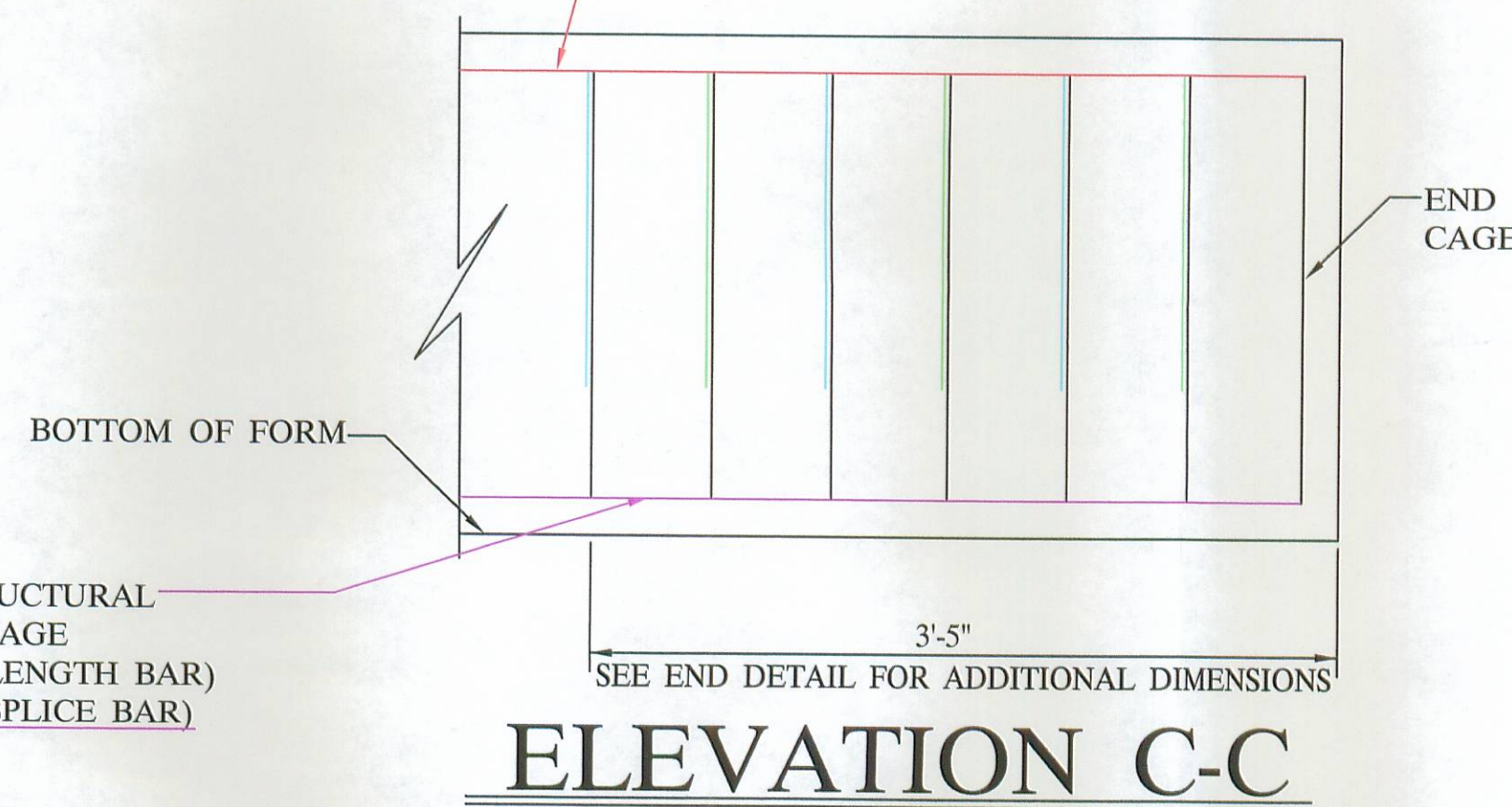
STIRRUPS IN CONFLICT WITH GUARDRAIL ANCHORS OR TIE ROD POCKETS, ARE TO SHOP ADJUSTED TO TOLERANCE OF ± 1", OR ANOTHER STIRRUP ADDED.



**REINFORCING LAYOUT**  
(ELEVATION)



TOP LONGITUDINAL BARS & TOP STIRRUPS ASSEMBLED IN TOP CAGE & PLACED IN BED IN UNITS OF VARIOUS LENGTH WITH TOP BARS BUTT SPLICED AT INTERSECTIONS

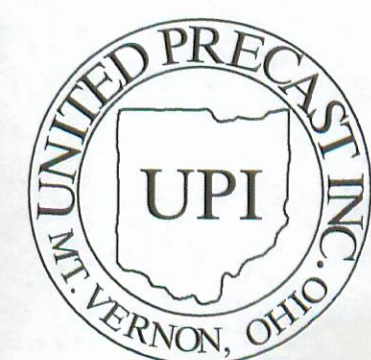


**BEAM END CAGE**  
(ELEVATION)

6 - B27-48 X 65'-0" WITH NO SKEW

**BAR LIST**

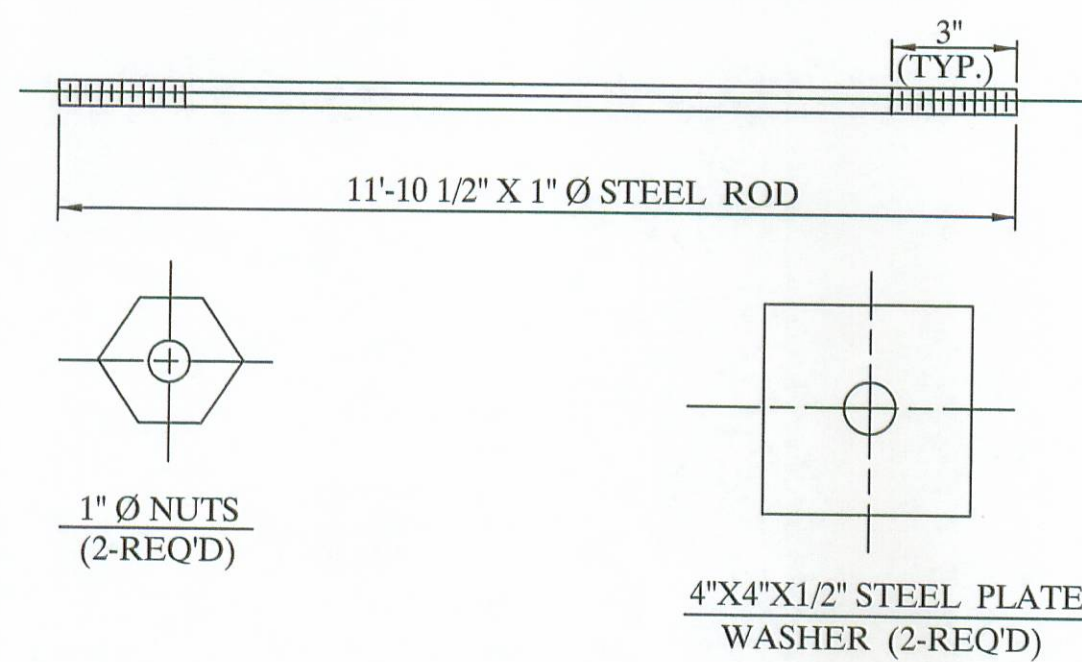
MARK	SIZE	LENGTH	QUANTITY	SHAPE	A	B	C	D	E
B401	4	6'-2 1/2"	360	TYPE - 1	43"	17"	13"	2"	13"
B402	4	6'-2 1/2"	354	TYPE - 1	43"	17"	7"	2"	25"
B403	4	7'-2 1/2"	390	TYPE - 2	43"	23"			
B404	4	1'-11"	72	TYPE - 3	23"				
B405	4	3'-8 3/4"	60	TYPE - 3	44 3/4"				
B501	5	16'-2"	96	TYPE - 3	16'-2"				
B502	5	5'-10"	72	TYPE - 3	5'-10"				
B503	5	10'-3"	48	TYPE - 3	10'-3"				
B601	6	16'-2"	48	TYPE - 3	16'-2"				
B602	6	6'-8"	36	TYPE - 3	6'-8"				



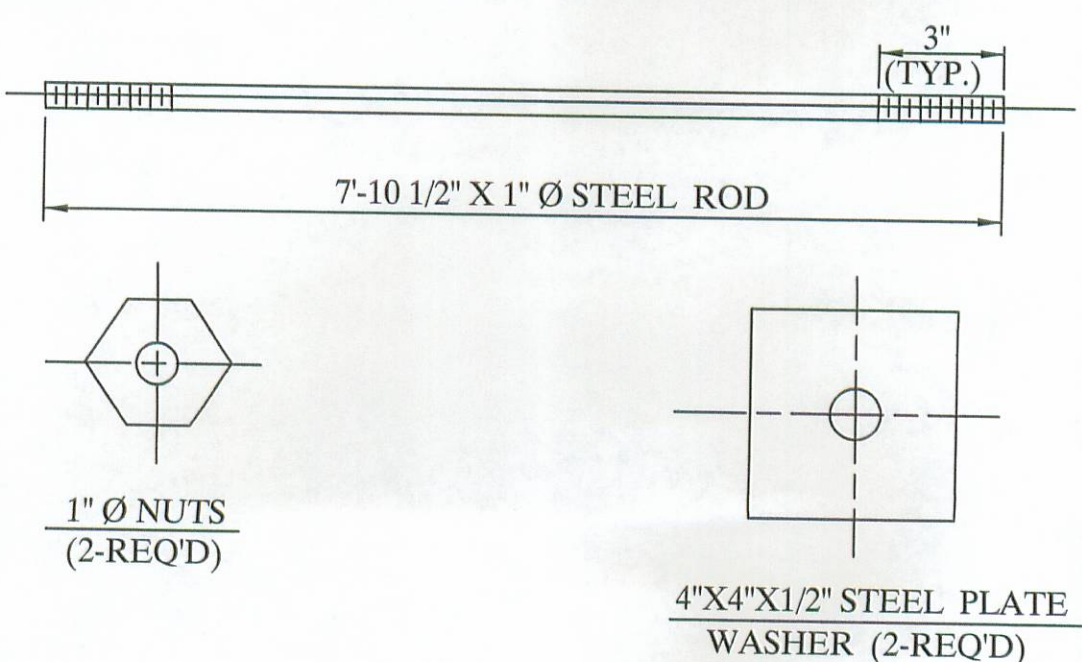
**UNITED PRECAST INC.**  
 ROUNDHOUSE LANE  
 MOUNT VERNON, OHIO 43050  
 PHONE : (740) 393-1121  
 FAX : (740) 392-9708

DESCRIPTION:	REINFORCING DETAILS		SCALE:	DRAWN BY:
JOB NAME:	BRIDGE NO. 46 - 4.31 LOGAN COUNTY	PROJECT NO. T.R. 46	-----	PHIL
DATE:	APRIL '05	APPROVED BY:	E.O.C.	4/26/05
				DRAWING NO. 3 OF 4

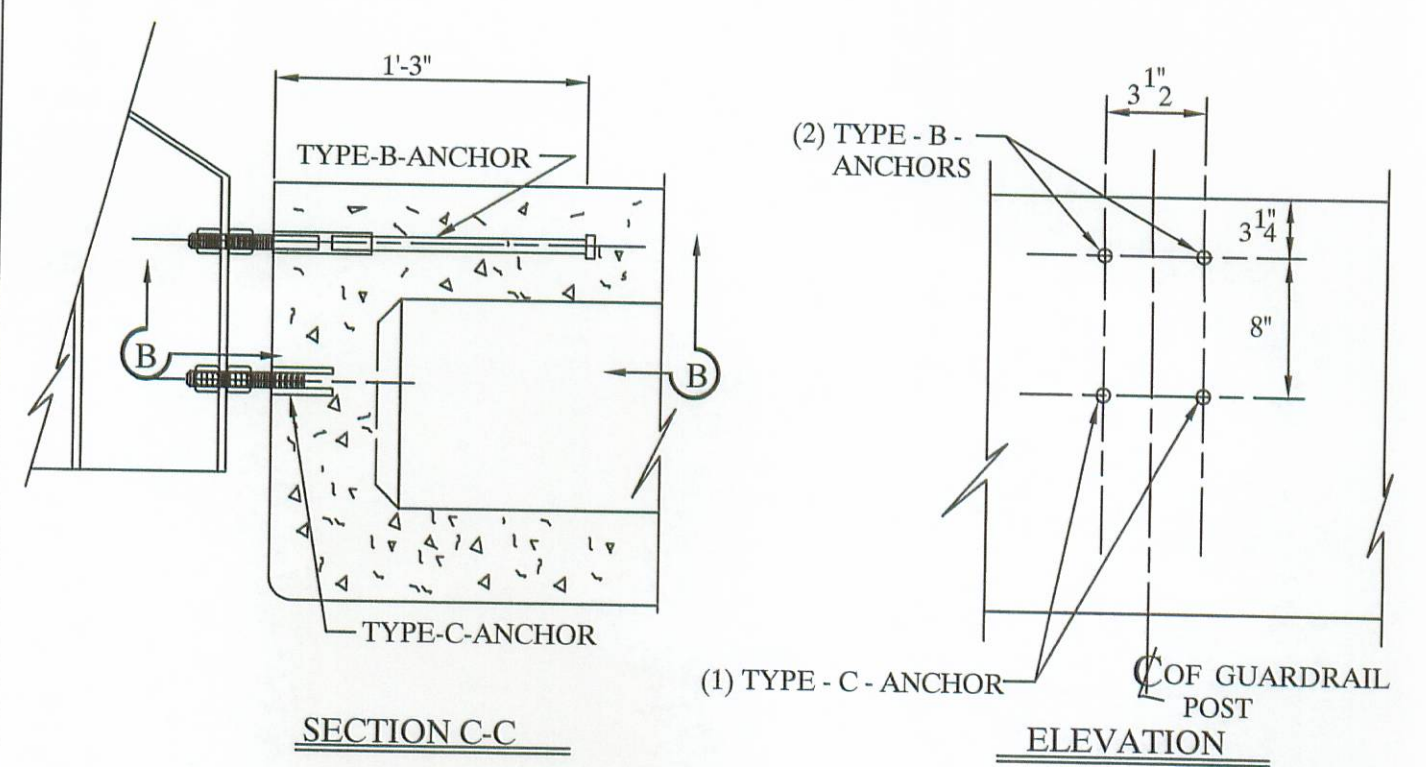
**12'-0" TIE ROD ASS'Y**



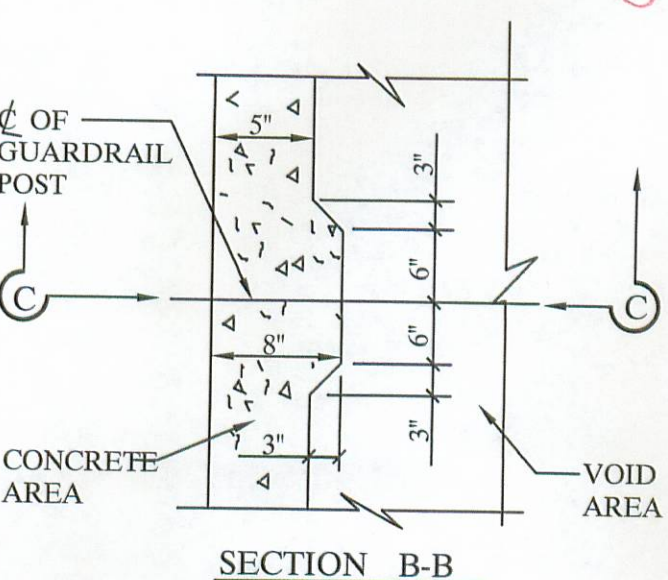
**8'-0" TIE ROD ASS'Y**



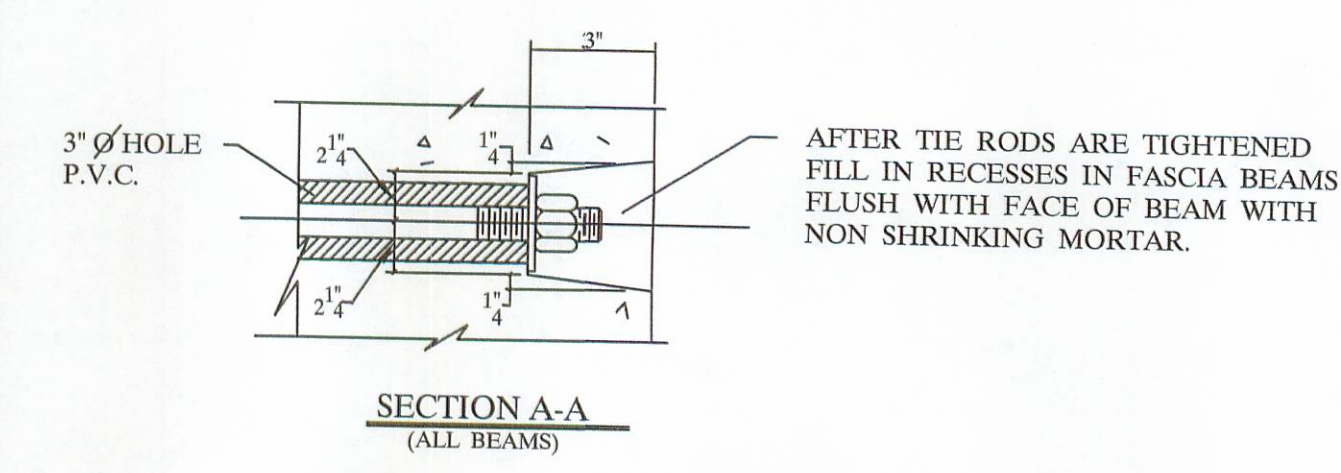
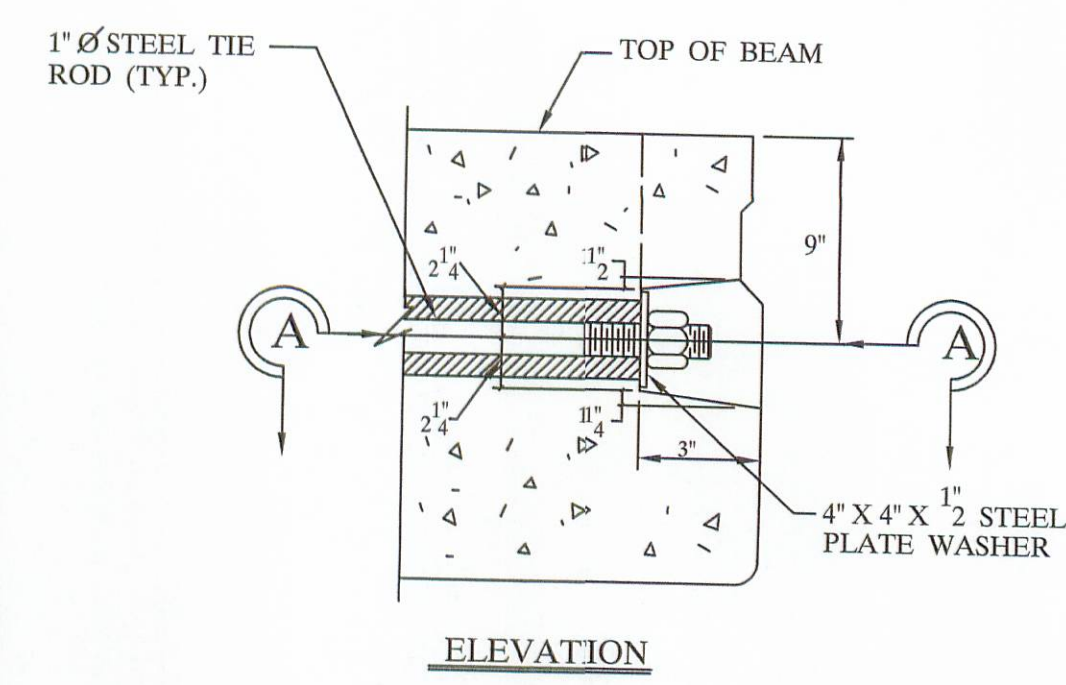
NOTE:  
ALL ITEMS INCLUDING TIE RODS ACCESSORIES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM-123 OR 153. PER CMS 711.02, UNLESS OTHERWISE NOTED.



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



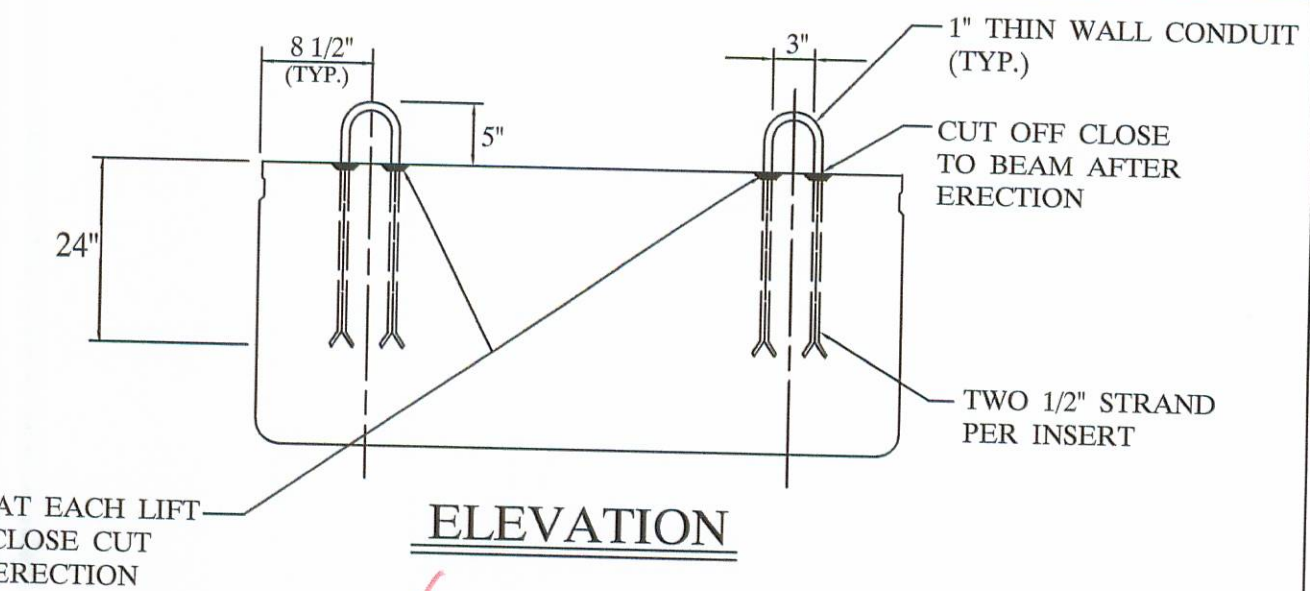
NOTE:  
TYPE B & C ANCHOR ASSEMBLIES SHALL CONFORM TO PHYSICAL PROPERTIES OF ASTM-A-325. EXCEPT MIN. ELONGATION SHALL BE 10%. THE CHEMICAL PROPERTIES ARE WAIVED.



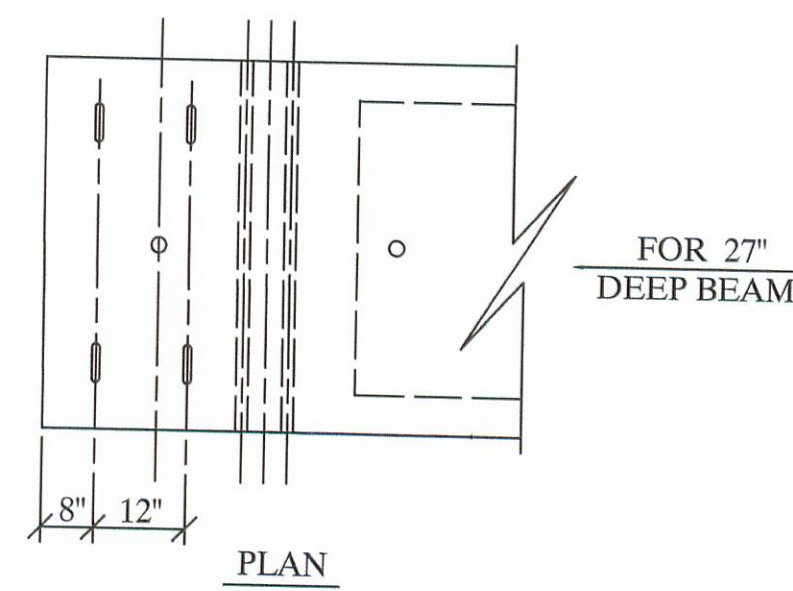
NOTE:  
TIE RODS SHALL BE A311 - G1018 STEEL, OR A-36 MODIFIED.

**END DETAIL OF TRANSVERSE TIE ROD ANCHORAGE**

- NOTE:**
- 1) GALVANIZE ALL HARDWARE PER CMS. 711.02.
  - 2) PROVIDE A BROOM FINISH ON TOP SURFACE OF BEAM SUITABLE FOR WATERPROOFING.
  - 3) ADD D.C.I. TO CONCRETE (4 - GAL. / CUBIC YARD).
  - 4) WATERPROOF BEAM ENDS.
  - 5) DETENSION STRAND SYMMETRICALLY ABOUT CENTERLINE.



**ELEVATION**



**PLAN**

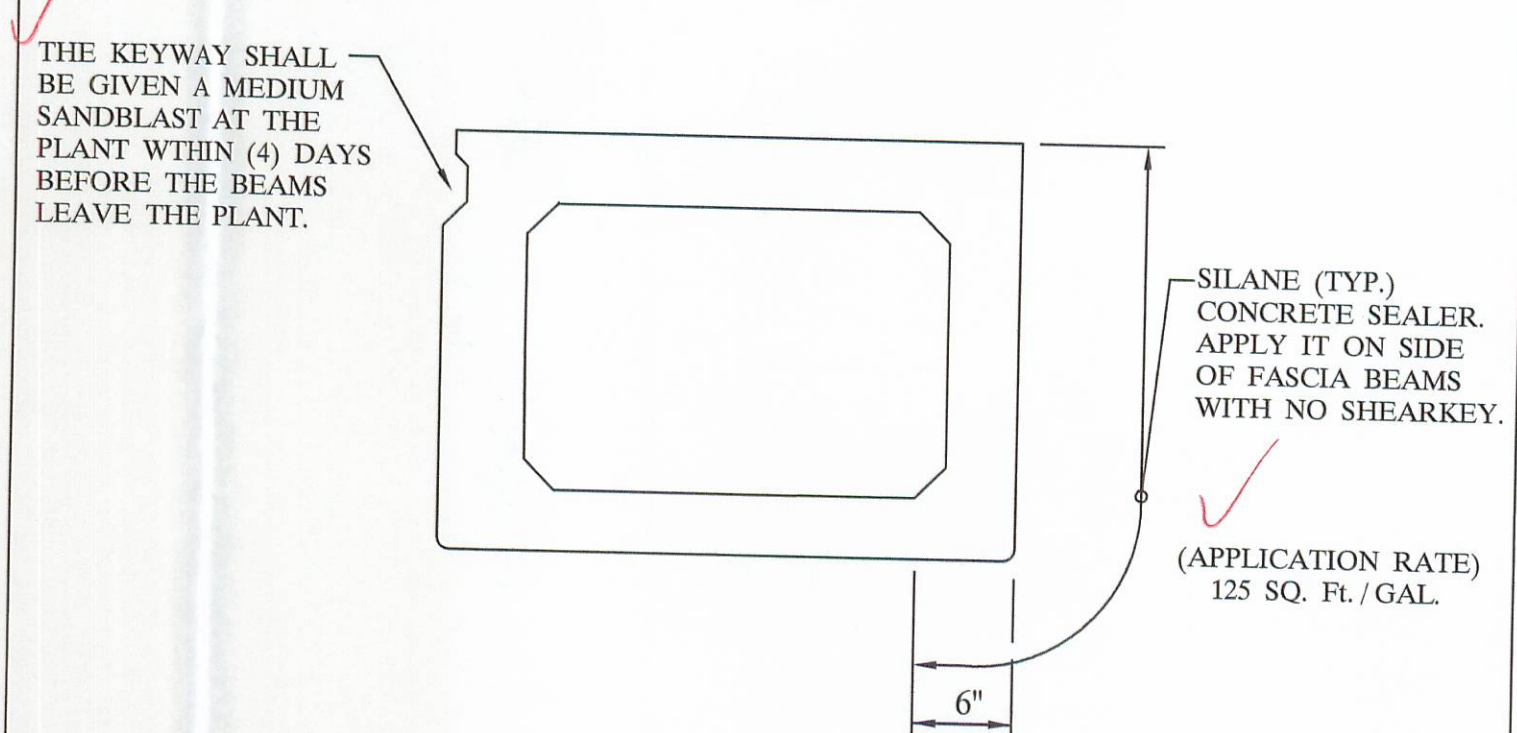
NOTE:  
LIFTING INSERTS ARE HAND PLACED IN THE SHOP AND ARE TO BE ADJUSTED TO CLEAR REINFORCEMENT, ANCHOR DOWEL SLEEVES, TIE ROD SLEEVES, OR ANY ADDITIONAL EMBEDDED ITEMS IN THIS REGION.

**LIFTING INSERT DETAIL**

**SPECIFICATIONS**

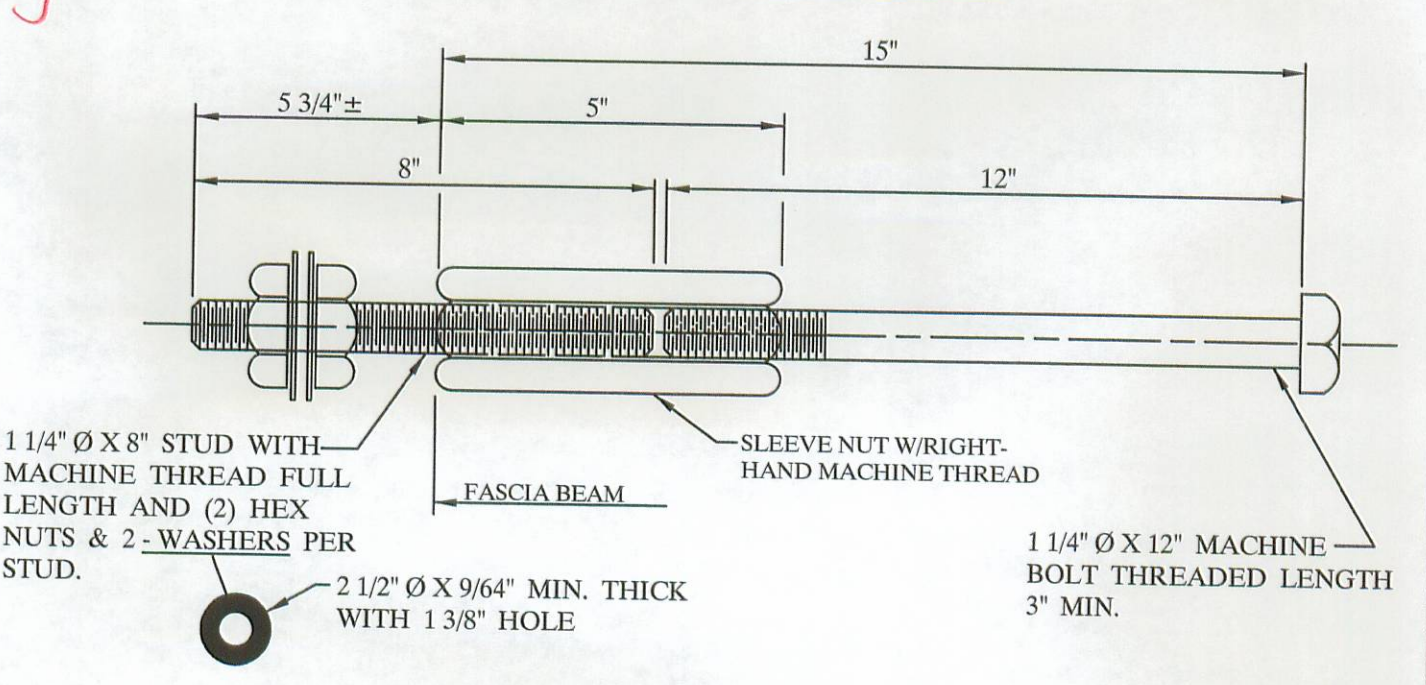
- DESIGN LOADING: HS20-44 AND ALTERNATE MILITARY LOADING
- CONCRETE: COMPRESSIVE STRENGTH,  $f_c = 5500$  PSI @ 28 DAYS (SHIPPING).  $f_c = 4000$  PSI @ RELEASE.
- PRESTRESSING STRAND: ASTM A-416 GRADE 270,  $1\frac{1}{2}$  DIAMETER, SEVEN WIRE, UNCOATED LOW RELAXATION STRAND,  $A_s = .153$  in<sup>2</sup>;  $f_s = 270$  KSI. INITIAL STRESS:  $0.75 f_s = 202.5$  KSI.
- REINFORCING STEEL: GRADE - 60: ASTM A - 615, ASTM A - 616, ASTM A - 617. UNIT STRESS 24,000 PSI.

**NOTE:**  
PRESTRESSED CONCRETE BEAMS AND APPURTENANCES CONFORM TO O.D.O.T. STANDARD BRIDGE DRAWINGS PSBD - 1 - 93 SHEETS ONE, TWO, THREE, & FOUR.

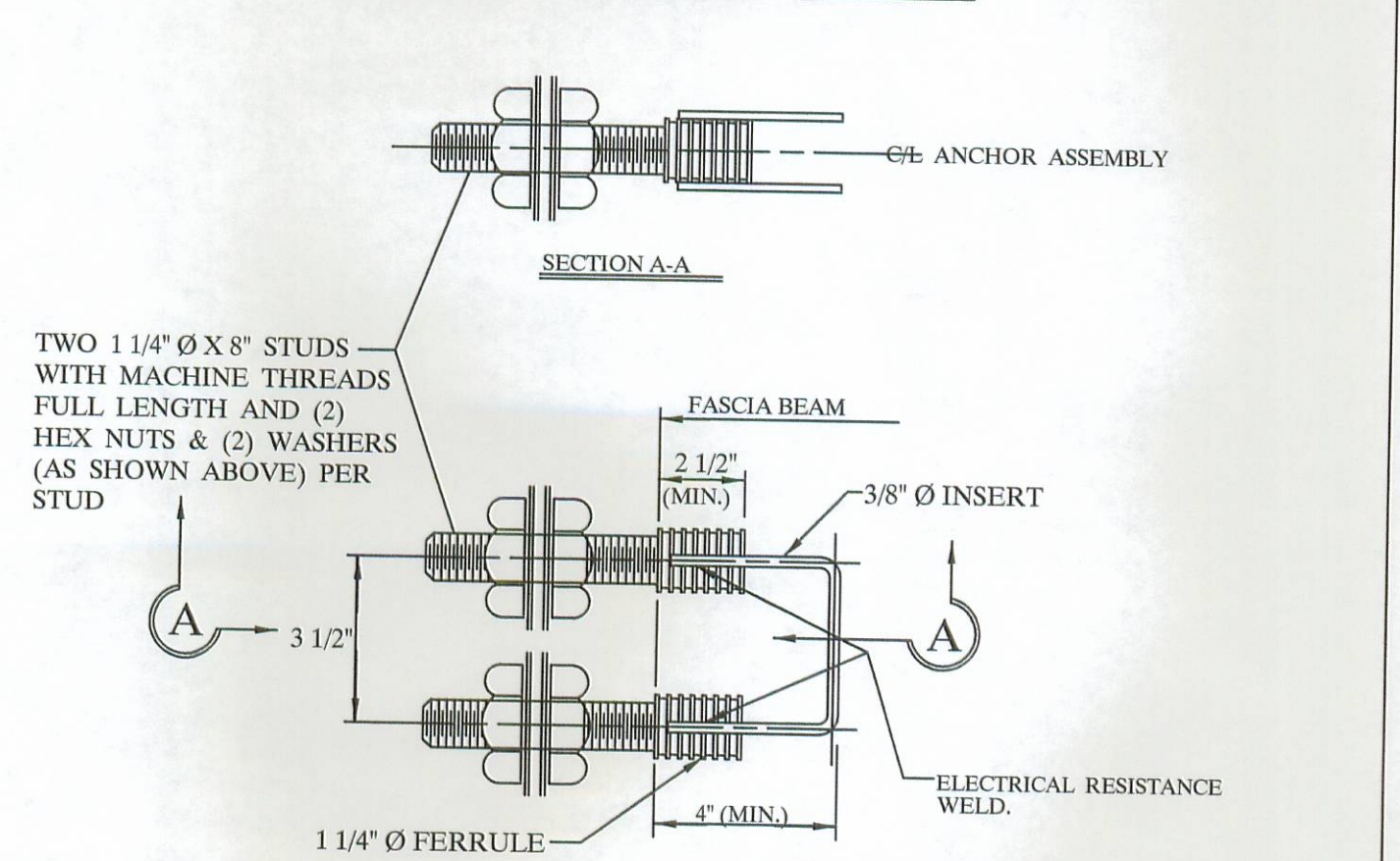


**TYPICAL FASCIA BEAM**

**TYPE "B" ANCHOR**



**TYPE "C" ANCHOR**



**"B" & "C" ANCHOR DETAILS**

BRIDGE NO. 46 - 4.31		LOGAN COUNTY PROJECT NO. T.R. 46	
<b>UNITED PRECAST INC.</b>			
ROUNDHOUSE LANE MT. VERNON, OHIO 43050 PHONE: (740) 393-1121, FAX: (740) 392-9708		SCALE -----	DRAWN BY: PHIL REVISED
DATE APRIL '05	APPROVED BY: E.O.C.	4 / 26 / 05	DRAWING NO. 4 OF 4