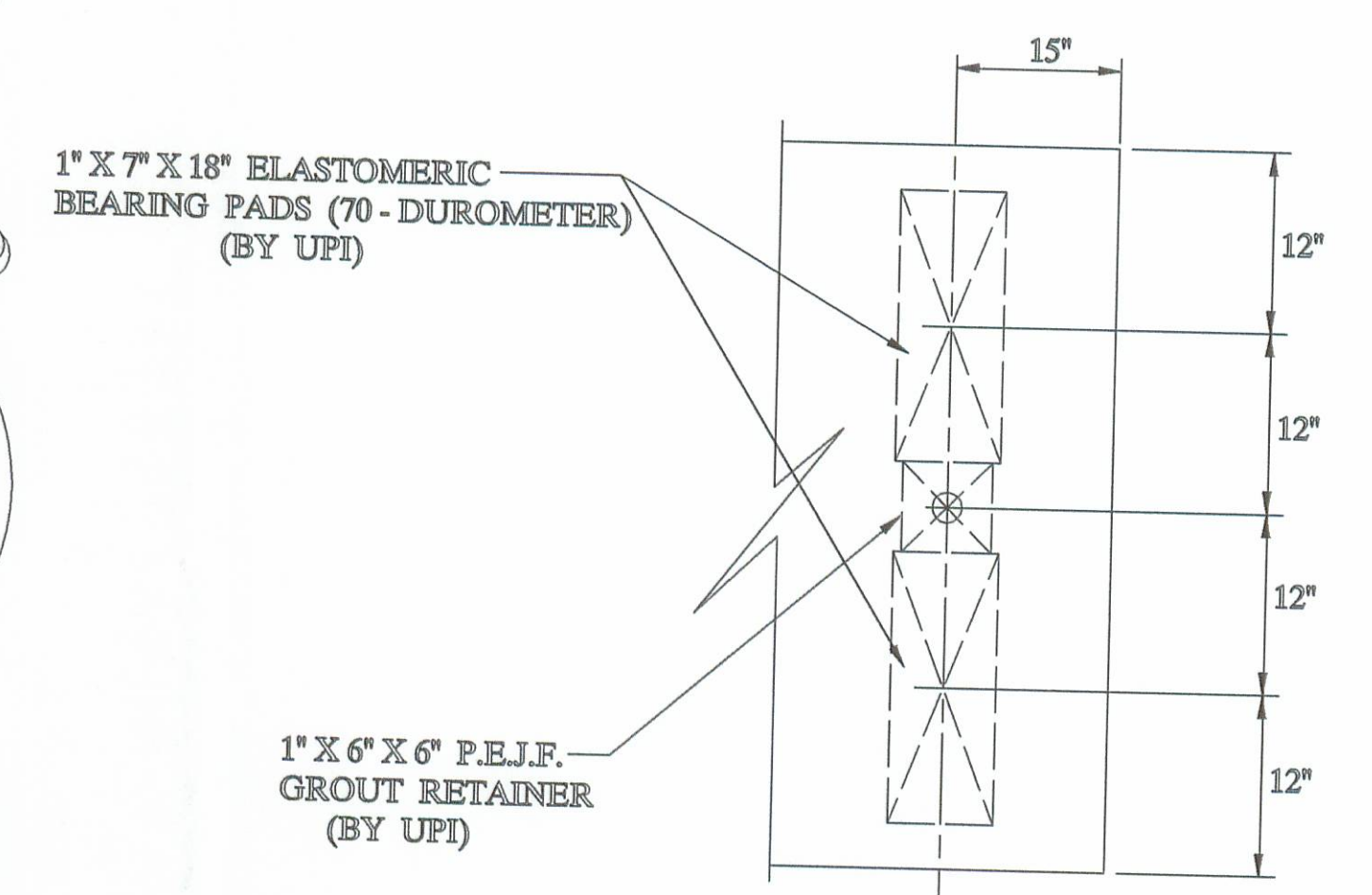
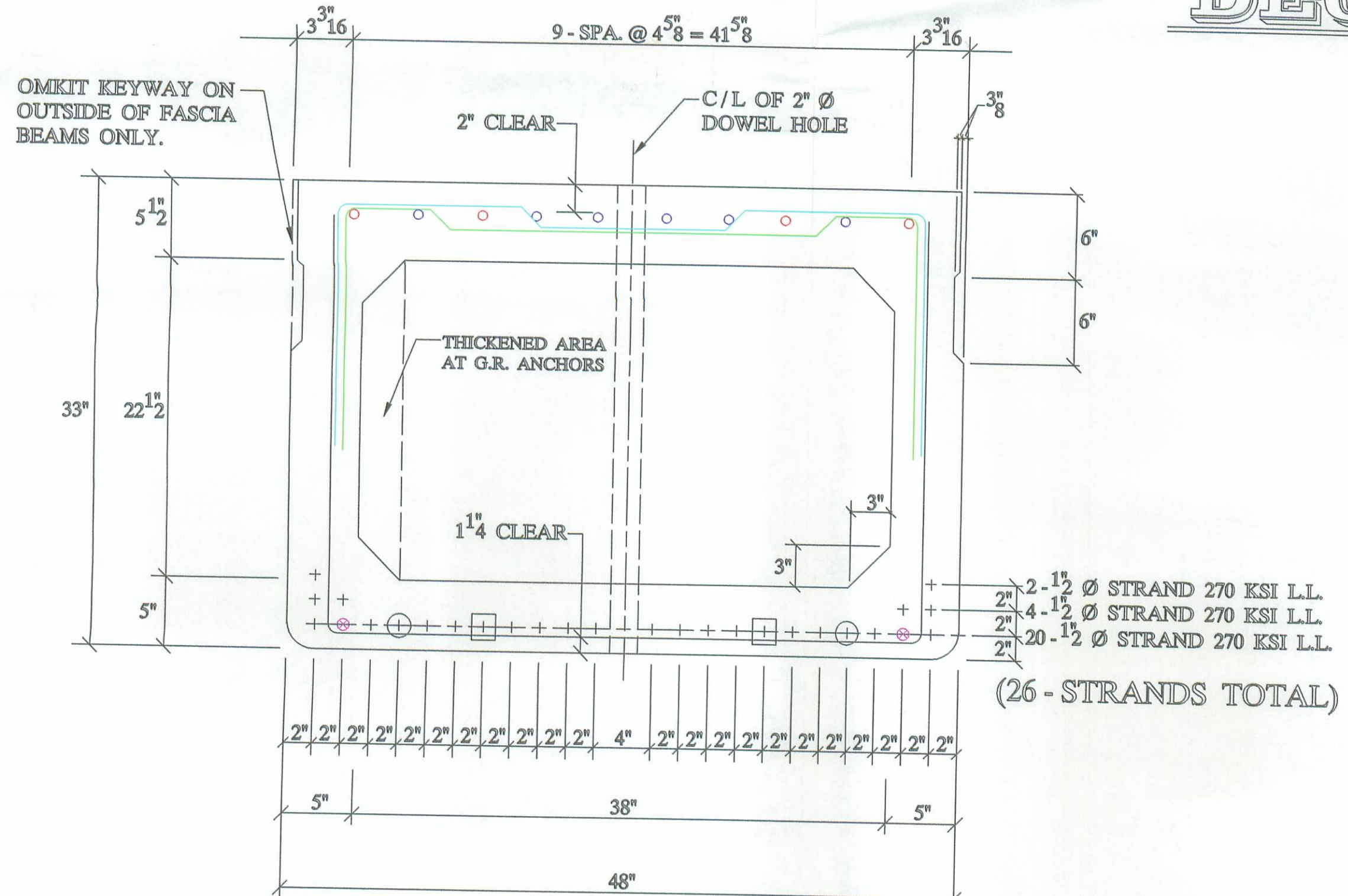


DECK PLAN



BEARING PAD LAYOUT

APPROVED
BY LOGAN CO. ENGINEER
9-17-01

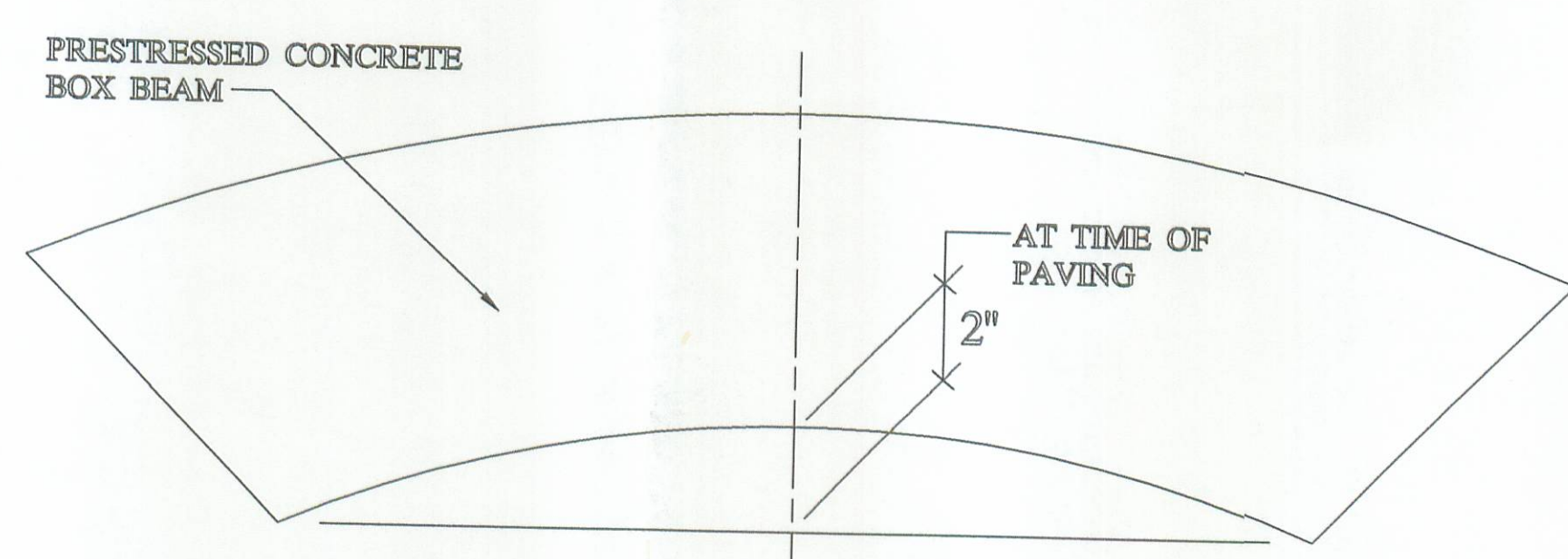


B33-48

- 4 - #5 BARS FULL LENGTH RUN (TOP) MKB501 MKB502 (BUTT SPLICE BAR)
- 6 - #5 ADDITIONAL BARS 10'-6" LONG AT EACH END OF BEAM (TOP) MKB503.
- ⊗ 2 - #6 BARS FULL LENGTH RUN (BOTTOM) MKB601 MKB602 (BUTT SPLICE BAR)
- ⊕ DEBOND STRAND 1'-6" AT EACH END OF BEAM
- ⊕ DEBOND STRAND 2'-6" AT EACH END OF BEAM

QUALITY CONTROL NOTE :

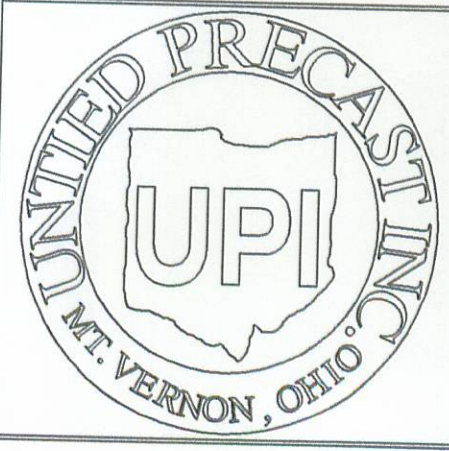
- STRAND AREA IS .153 SQ. IN.
- STRAND IS LOW LAX.
- INITIAL LOAD IS 30,982 # / STRAND.
- REBAR IS ALL GRADE - 60.
- STIRRUPS UNDER STRAND.



CAMBER DETAIL

BILL OF MATERIALS

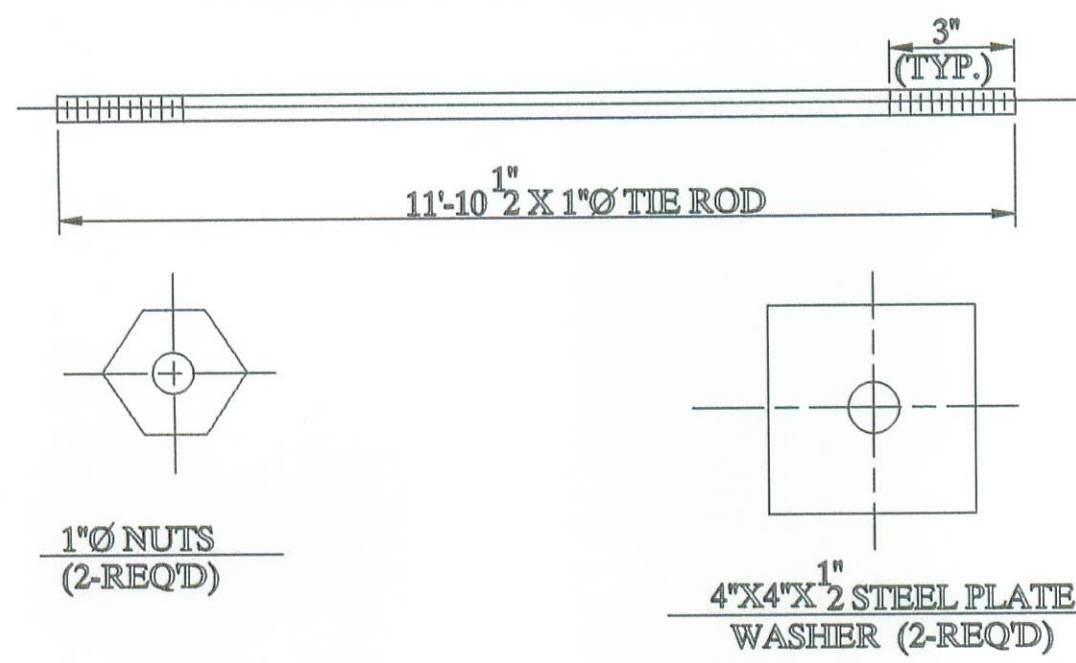
NO	ITEM	QTY / BEAM	NOTES	TOTAL
1	BEAM WEIGHT			
2	CONCRETE	18 CY.		108 CY.
3	CALCIUM NITRITE	72 GAL.		432 GAL.
4	STRAND		(D.C.I) 4 - GAL / CY.	15,600 L.F.
5	RE - STEEL		1 1/2 Ø STRAND 270 KSI L.L.	13,623 #
6	VOID		GRADE - 60	
7	VOID DRAINS		22 1/2 X 38	420 L.F.
8	TIE RODS	12'-0"	3 3/4 Ø NON FERROUS	48 EA.
		8'-0"	1" Ø STEEL ROD	10 EA.
			1" Ø STEEL ROD	5 EA.
9	TIE ROD SLEEVES			200 L.F.
10	TYPE - B - ANCHORS			48 EA.
11	TYPE - C - ANCHORS			24 EA.
12	DOWELS & SLEEVES			12 EA.
13	INTERTUF - 132			0.8 GAL.
14	SILANE			4.7 GAL.
15	JUTE			405 L.F.
16	BEARING PADS		1" X 7" X 18", 70 - DURO	24 EA.
17	GUARDRAIL POSTS		TYPE - 2	24 EA.
18	POSTS (OFF DECK)		(SHIP LOOSE)	8 EA.
19	GUARDRAIL ELEMENT			200 L.F.
20	TUBULAR BACK - UP			200 L.F.
21	P.E.J.F.			12 S.F.
22	NON - SHRINK GROUT ADDITIVE			18 LBS.



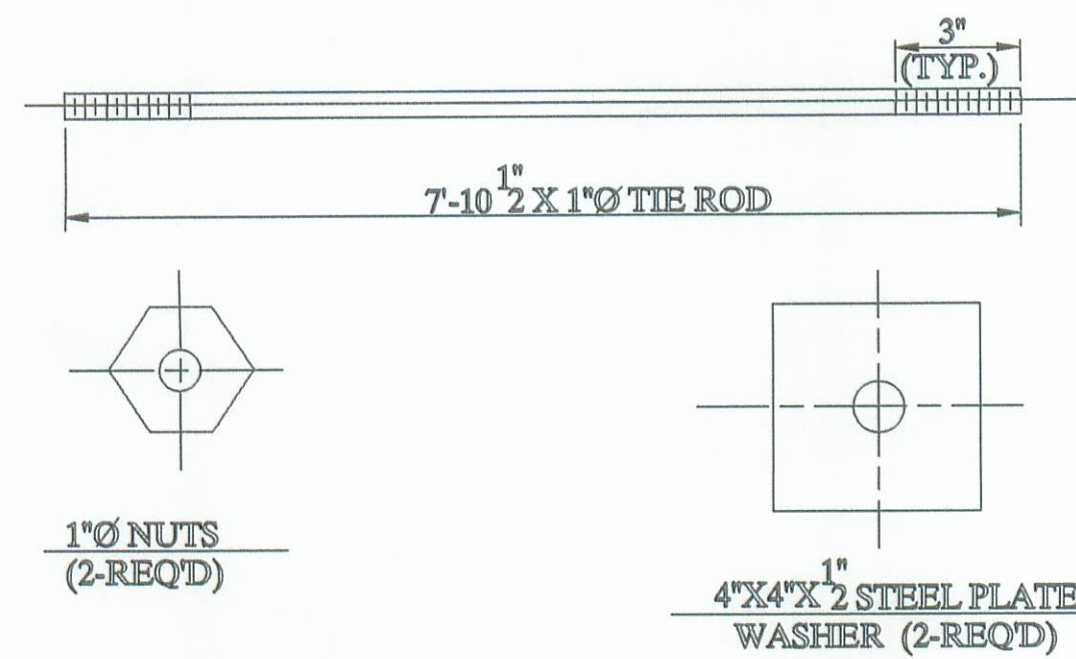
UNITED PRECAST INC.
 ADDRESS : ROUNDHOUSE LANE
 MOUNT VERNON , OHIO 43050
 PHONE : (740) 393-1121
 FAX : (740) 393-0044

DESCRIPTION :	BOX BEAM DETAILS		SCALE :	DRAWN BY :
JOB NAME :	ITEM 865			PHIL
	BRIDGE NO. LOG - C.R. 88 - 0.46	PROJECT NO. C.R. 88		REVISED :
LOGAN COUNTY				
DATE :	AUGUST 2001	APPROVED BY :	E.O.C. 9/11/01	DRAWING NO.
				1 OF 4

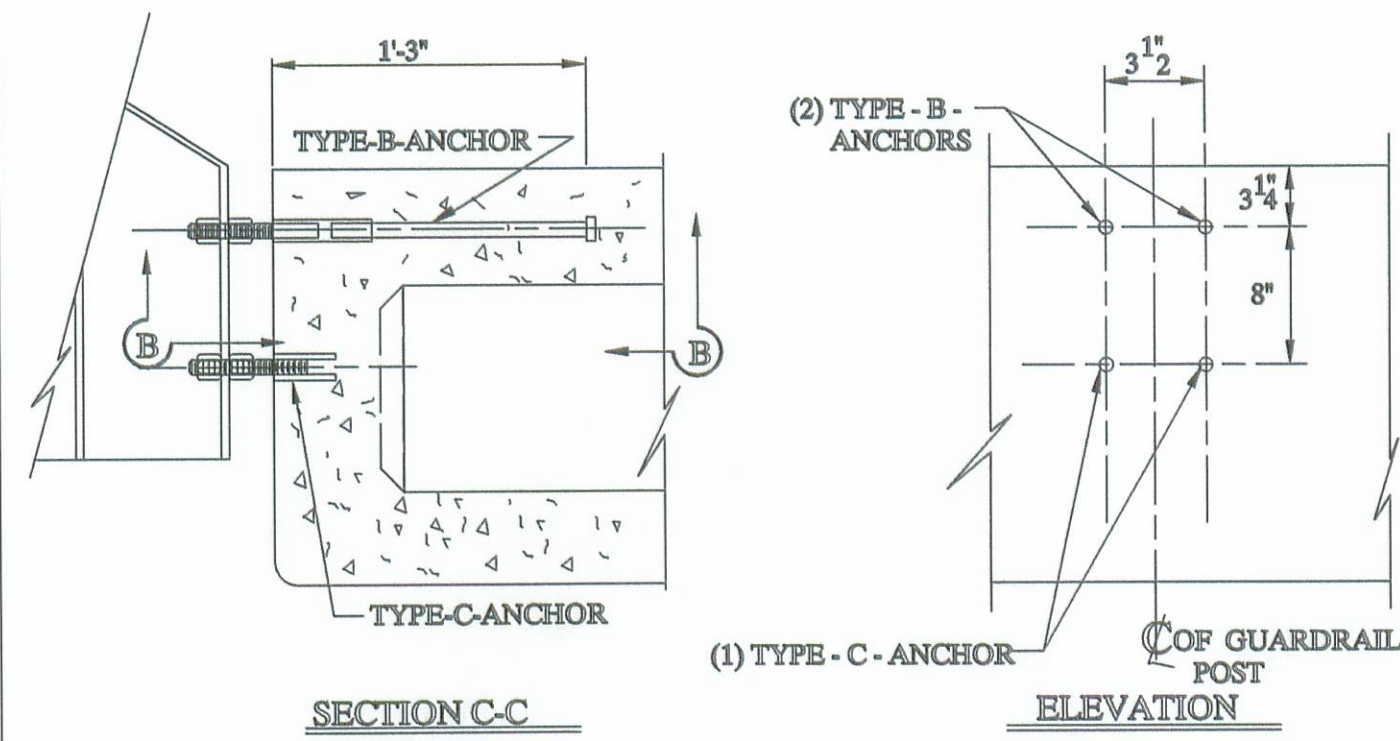
12'-0" TIE ROD ASS'Y



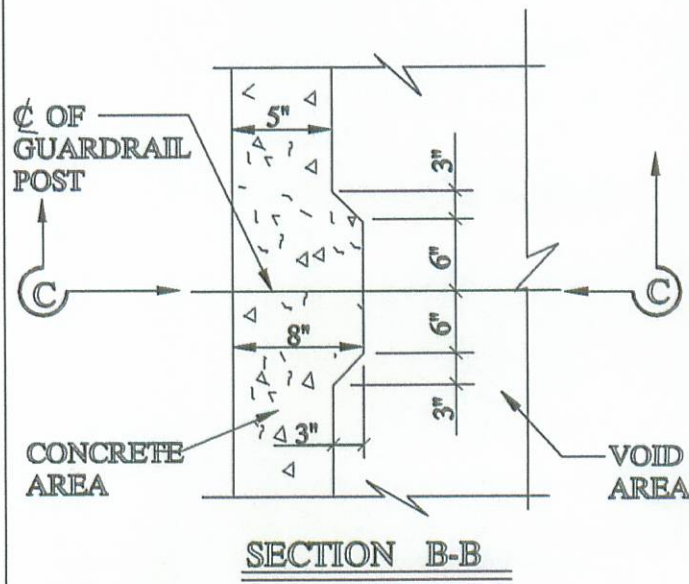
8'-0" TIE ROD ASS'Y



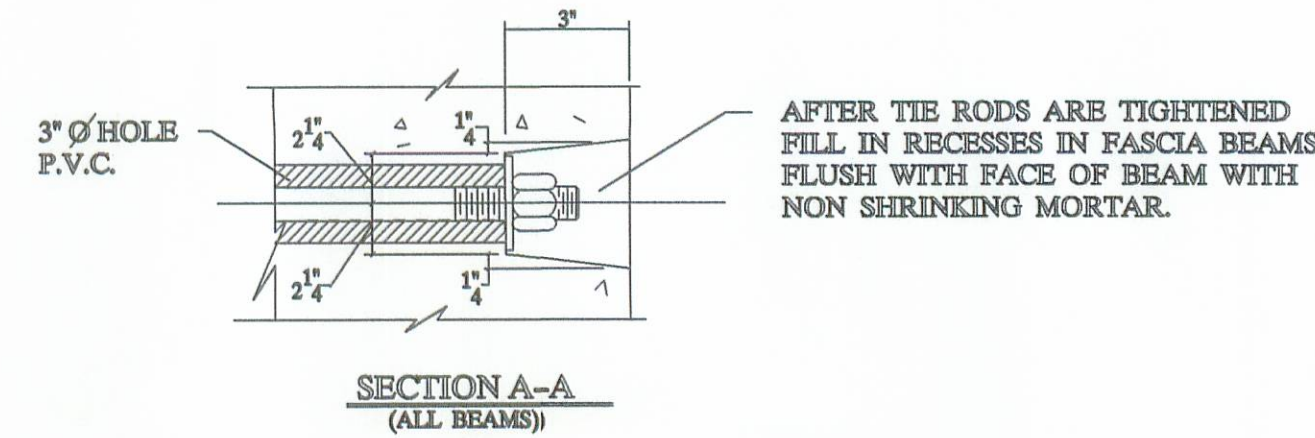
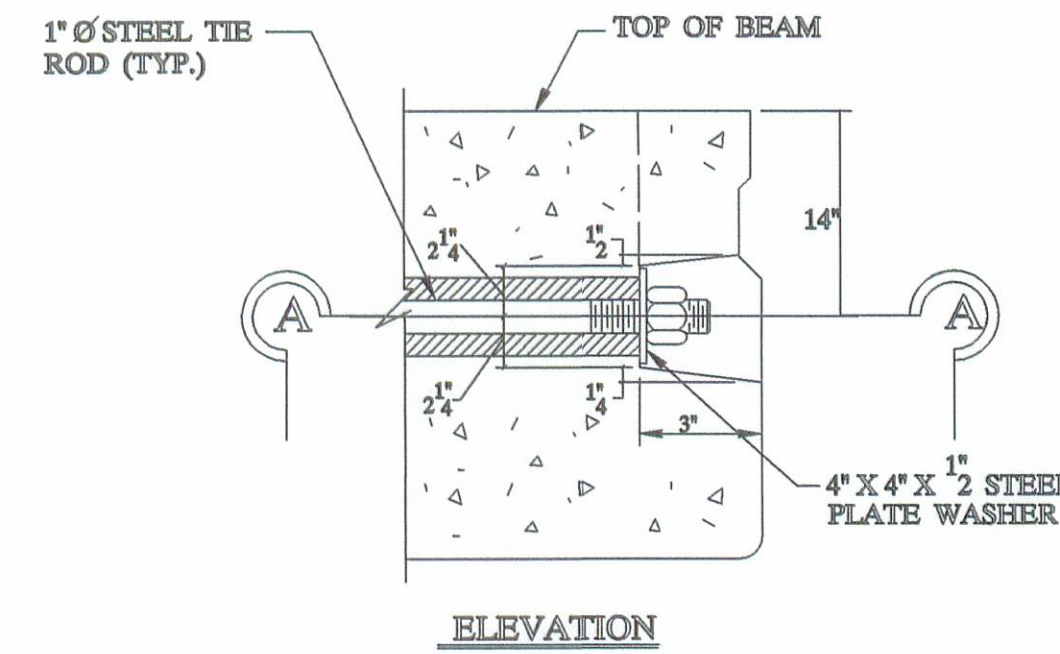
NOTE:
ALL ITEMS INCLUDING TIE RODS ACCESSORIES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM-123 OR 153. PER CMS 711.02, UNLESS OTHERWISE NOTED.



NOTE:
ONE TYPE 'C' ANCHOR PROVIDES 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.

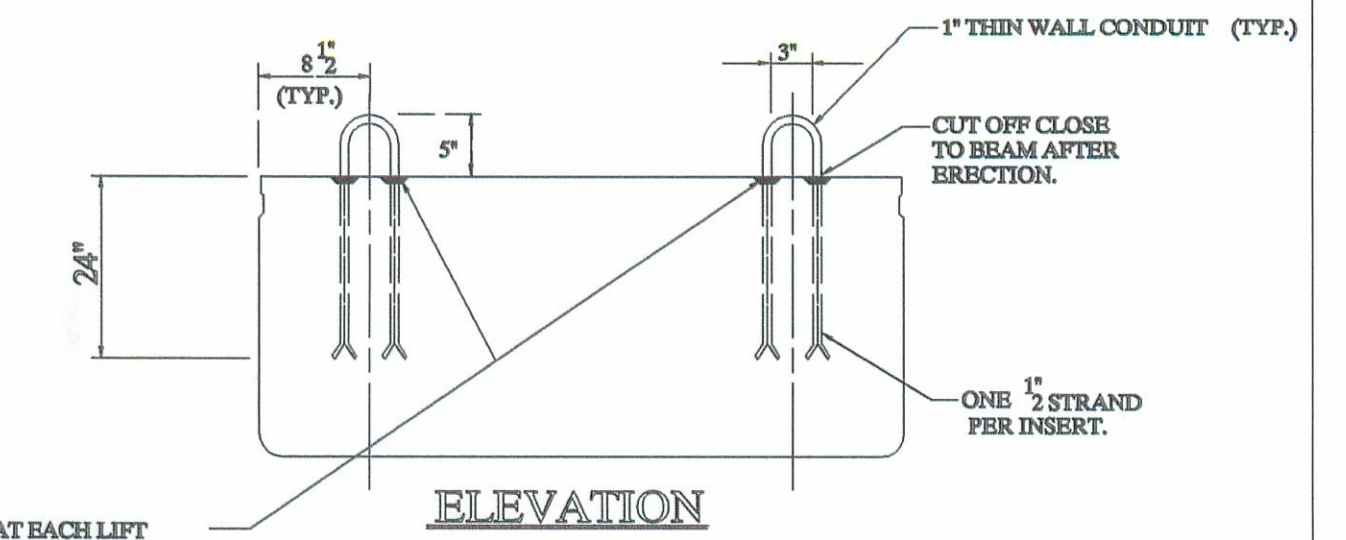


NOTE:
TIE RODS SHALL BE A311 - G1018 STEEL, OR A-36 MODIFIED.

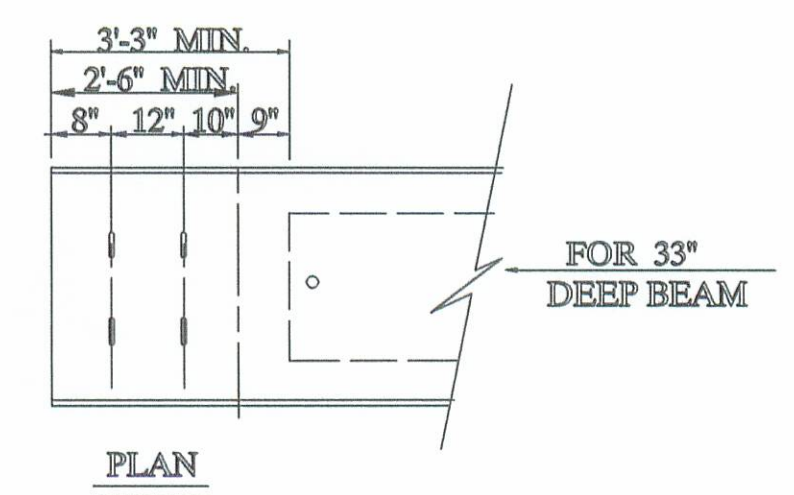
END DETAIL OF TRANSVERSE TIE ROD ANCHORAGE

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 SYMETRICALLY ABOUT CENTERLINE.

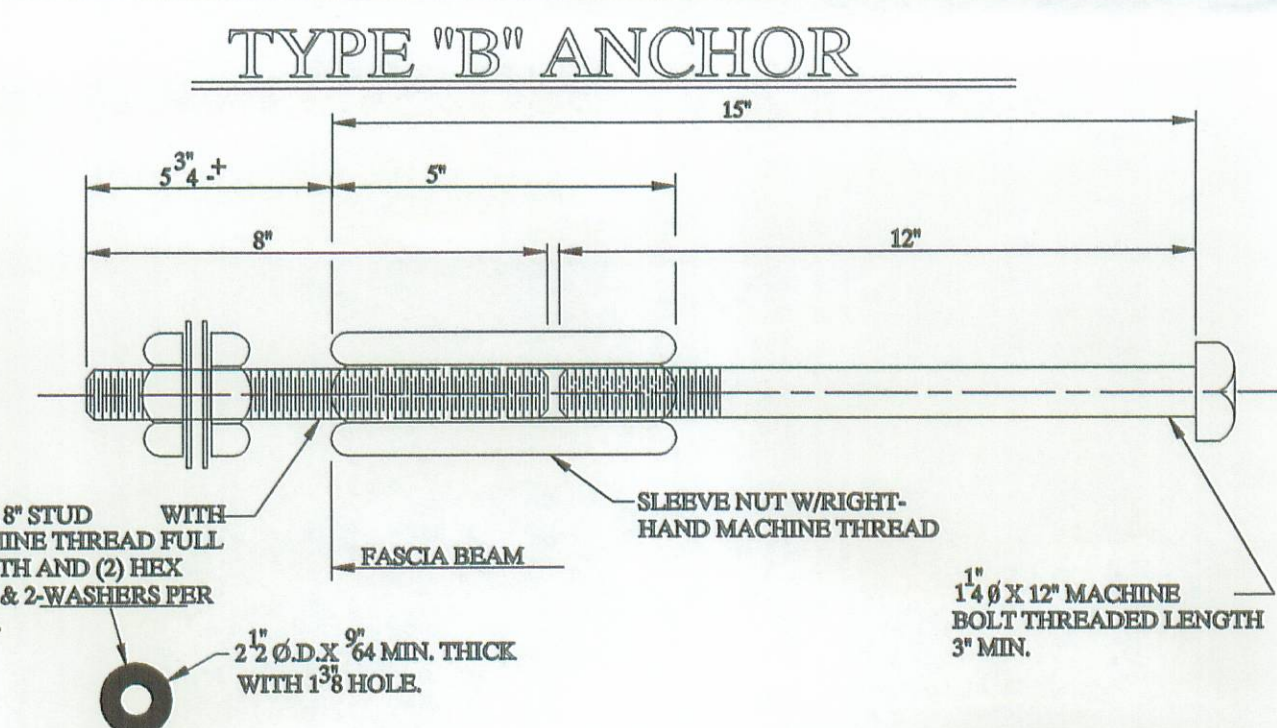


1/2 RECESS AT EACH LIFT POINT FOR CLOSE CUT OFF AFTER ERECTION.



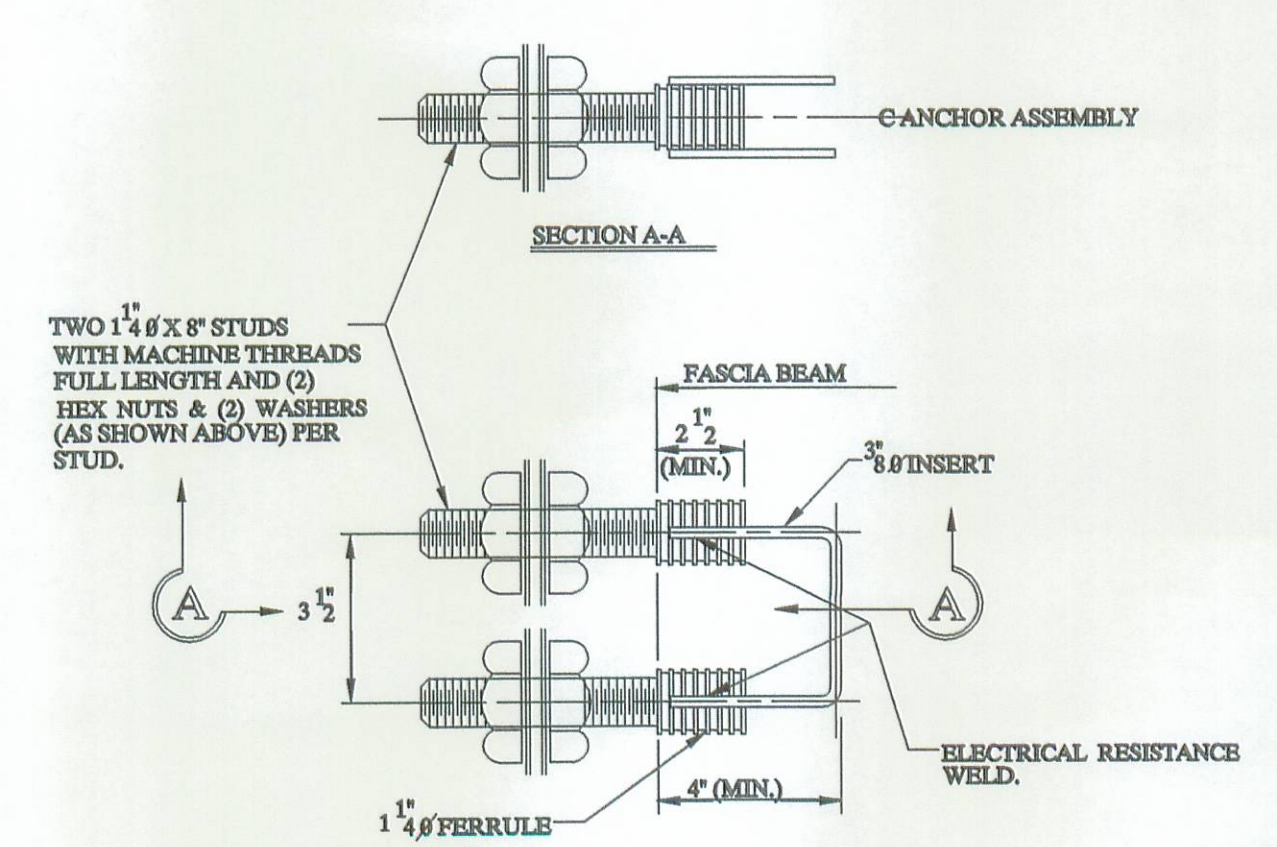
NOTE:
LIFTING INSERTS ARE HAND PLACED IN THE FIELD AND ARE TO BE ADJUSTED TO CLEAR REINFORCEMENT, ANCHOR DOWEL SLEEVES, TIE ROD SLEEVES, OR ANY ADDITIONAL EMBEDDED ITEMS IN THIS REGION.

LIFTING INSERT DETAIL



1 1/4" x 8" STUD WITH MACHINE THREAD FULL LENGTH AND (2) HEX NUTS & 2 WASHERS PER STUD.
2 1/2" O.D. x 1/4" MIN. THICK WITH 1 1/8" HOLE.
1 1/4" x 12" MACHINE BOLT THREADED LENGTH 3" MIN.

TYPE 'C' ANCHOR

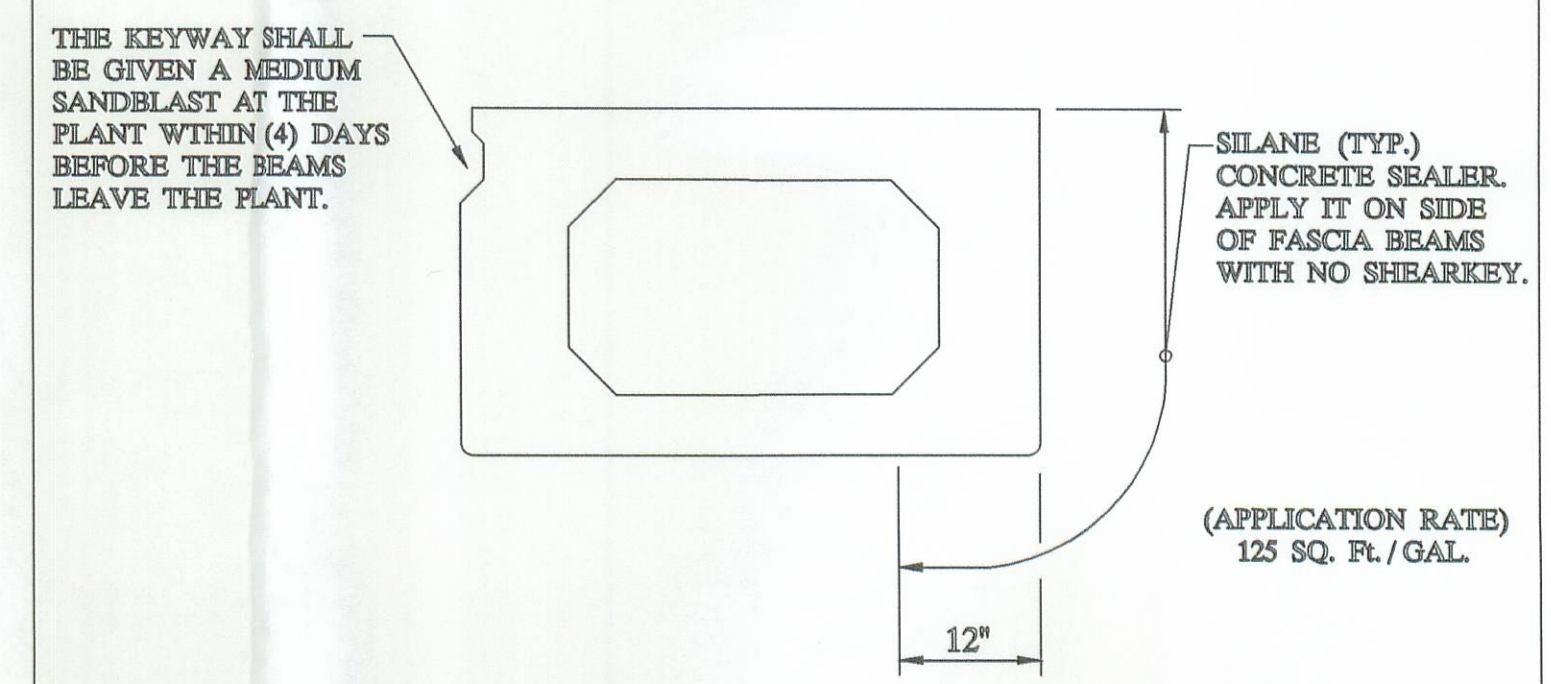


'B' & 'C' ANCHOR DETAILS

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, 1/2 DIAMETER, SEVEN WIRE, UNCOATED STRAND. LOW RELAXATION STRAND, $A_s = .153$ in. $f_b = 270$ KSI. INITIAL STRESS: $0.75 f_b = 202.5$ 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.

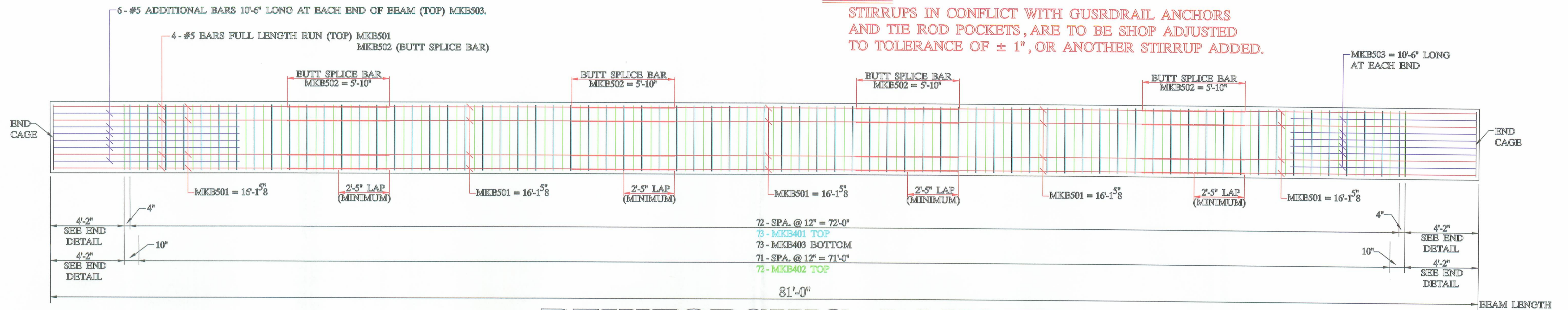


TYPICAL FASCIA BEAM

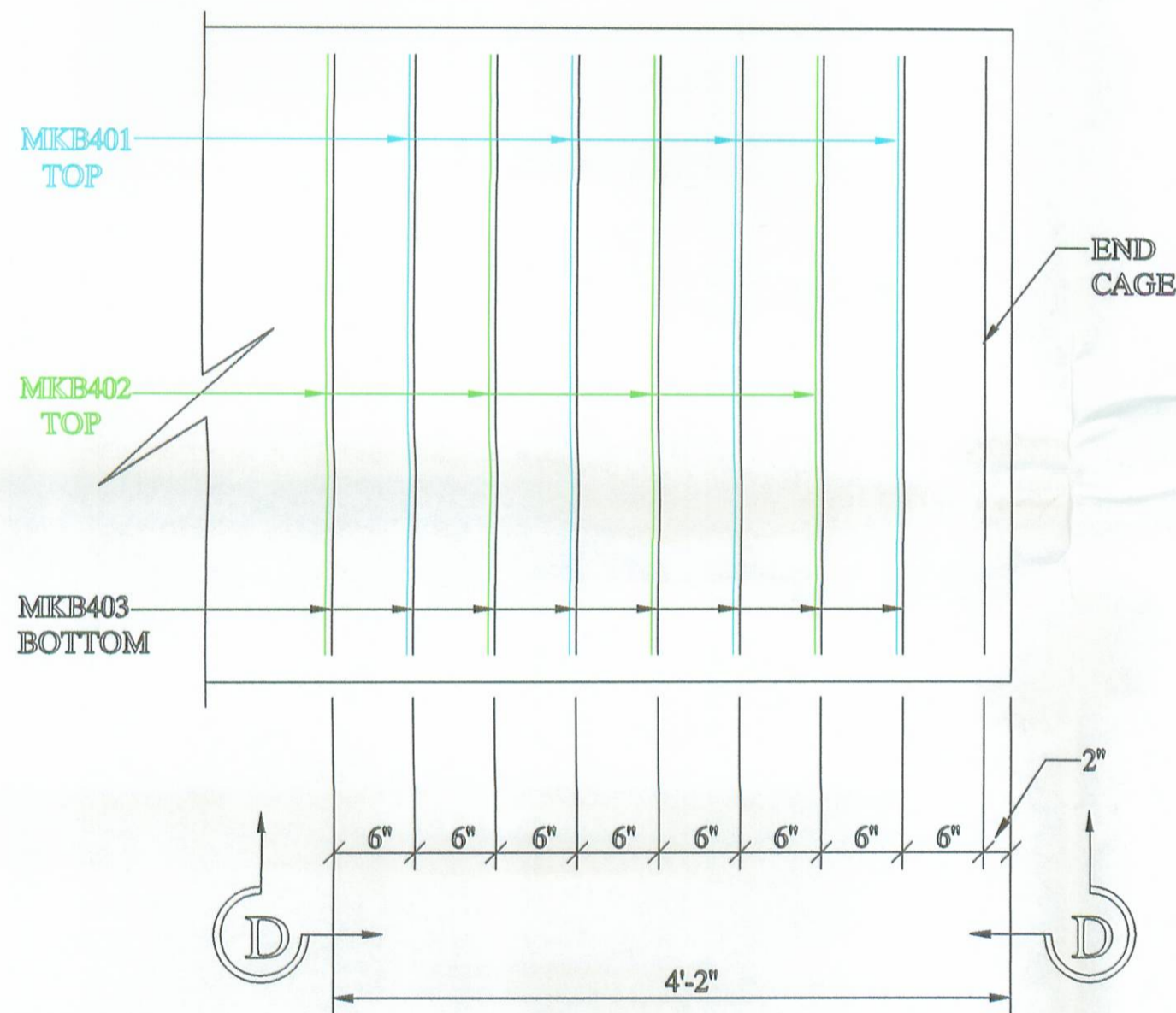
BRIDGE NO.	LOG - C.R. 88 - 046	LOGAN COUNTY	ITEM 865
PROJECT NO. C.R. 88			
UNITED PRECAST INC.			
ROUNDHOUSE LANE MT. VERNON, OHIO 43050 PHONE: (740)393-1121, FAX: (740)392-9708		SCALE ----	DRAWN BY: PHIL REVISED
DATE AUGUST '01	APPROVED BY: E.O.C.	9/11/01	DRAWING NO. 4 OF 4

NOTE :

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



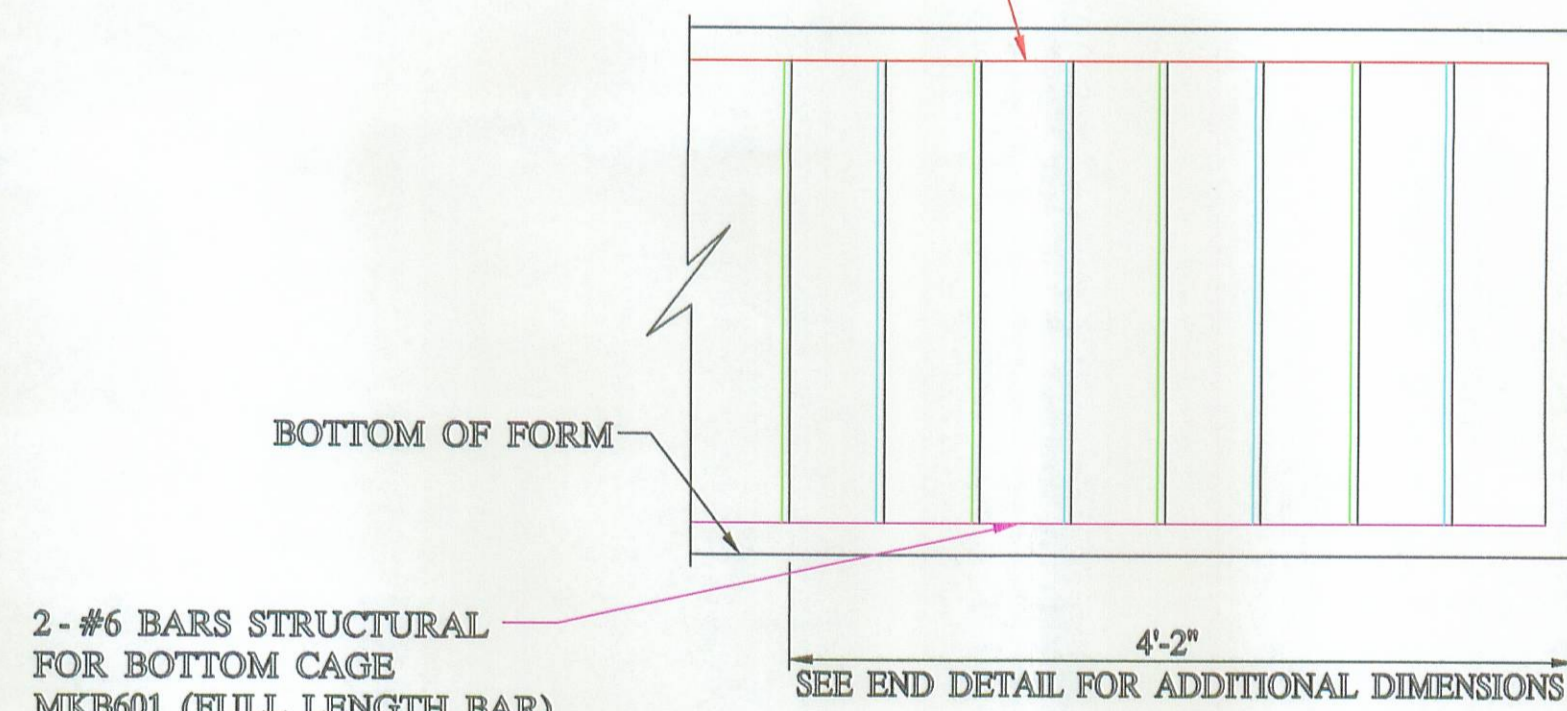
REINFORCING LAYOUT



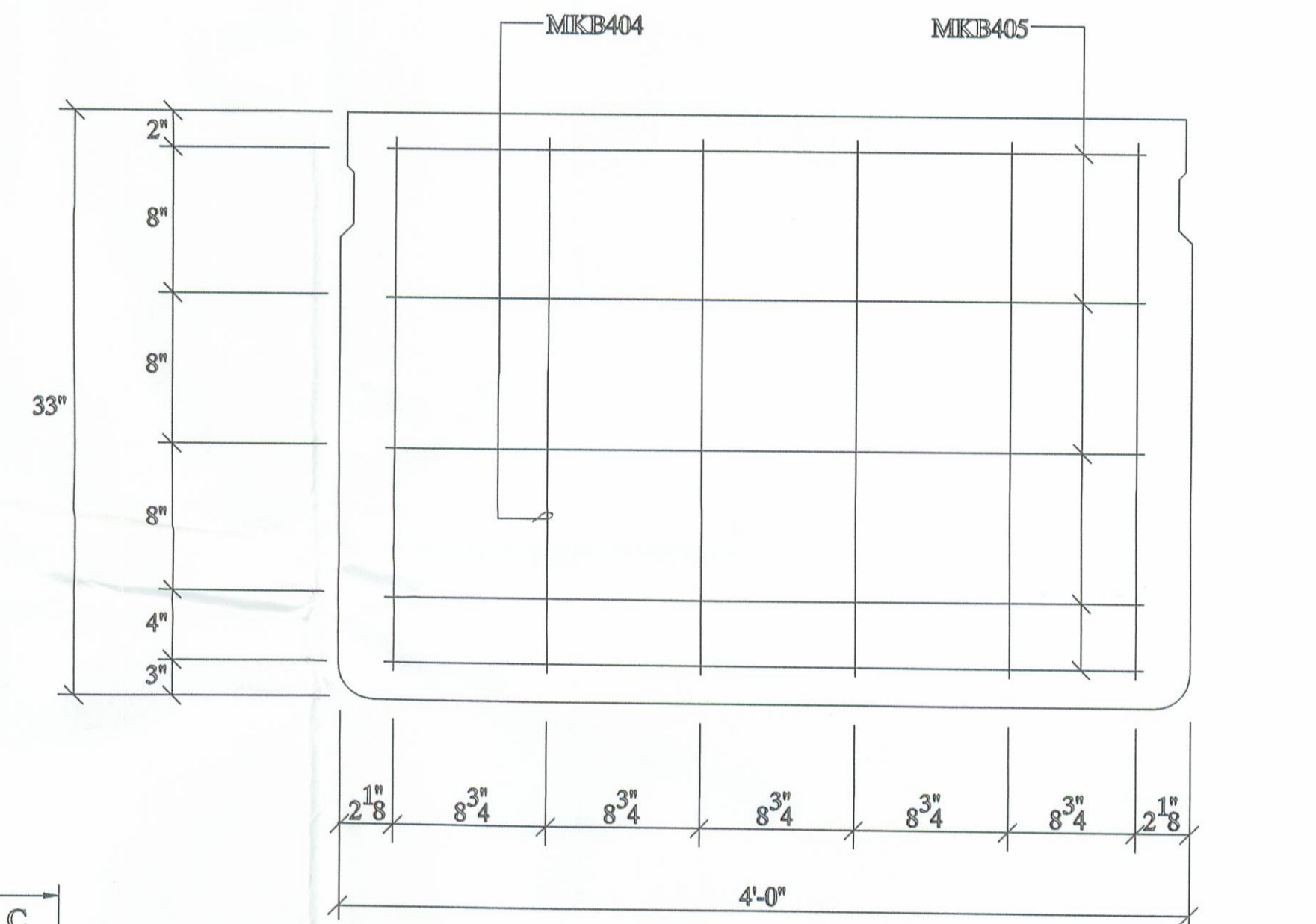
(TYP.) END DETAIL

NOTE :
 MINIMUM BUTT SPLICE LENGTH REQUIRED IF CAGE FIT UP IS PERFECT IS AS FOLLOWS:
 #5, UNCOATED 58" (29" EACH SIDE)
 #6, UNCOATED 68" (34" EACH SIDE)

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



SECTION D-D

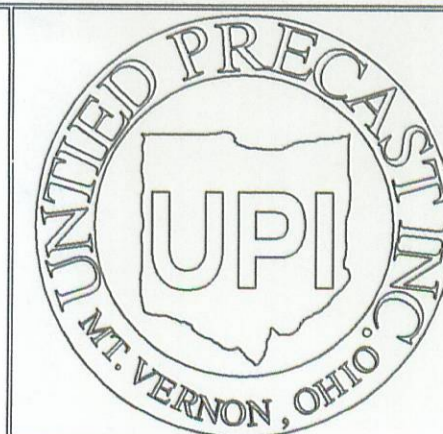


BEAM END CAGE

6 - B33-48 X 81'-0" WITH NO SKEW

BAR LIST

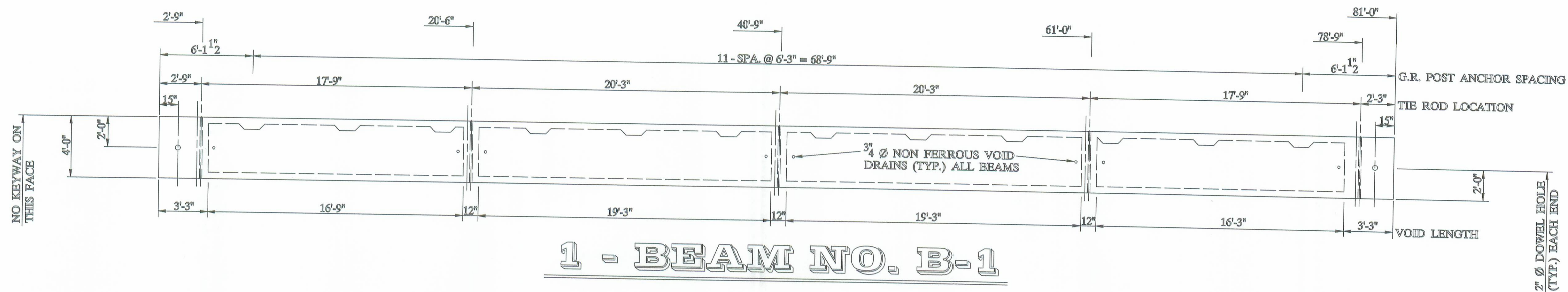
MARK	SIZE	LENGTH	QUANTITY	SHAPE	A	B	C	D	E
B401	4	6'-2 1/2"	486	TYPE - 1	43"	17"	13"	2"	13"
B402	4	6'-2 1/2"	480	TYPE - 1	43"	17"	7"	2"	25"
B403	4	8'-2 1/2"	534	TYPE - 2	43"	29"			
B404	4	2'-5"	72	TYPE - 3	29"				
B405	4	3'-8 3/4"	60	TYPE - 3	44 3/4"				
B501	5	16'-1 5/8"	120	TYPE - 3	16'-1 5/8"				
B502	5	5'-10"	96	TYPE - 3	5'-10"				
B503	5	10'-6"	72	TYPE - 3	10'-6"				
B601	6	16'-1 5/8"	60	TYPE - 3	16'-1 5/8"				
B602	6	6'-8"	48	TYPE - 3	6'-8"				



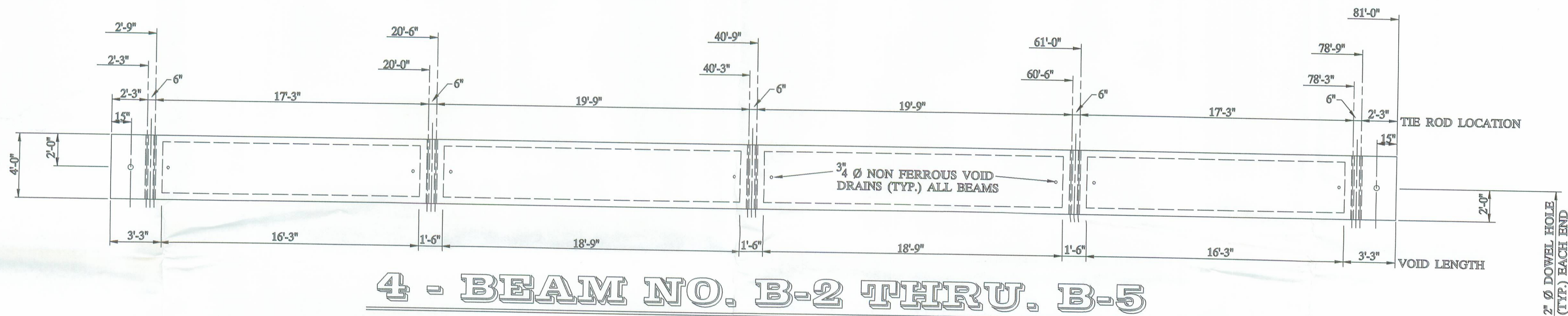
UNITED PRECAST INC.

ADDRESS : ROUNDHOUSE LANE
 MOUNT VERNON, OHIO 43050
 PHONE : (740) 393-1121
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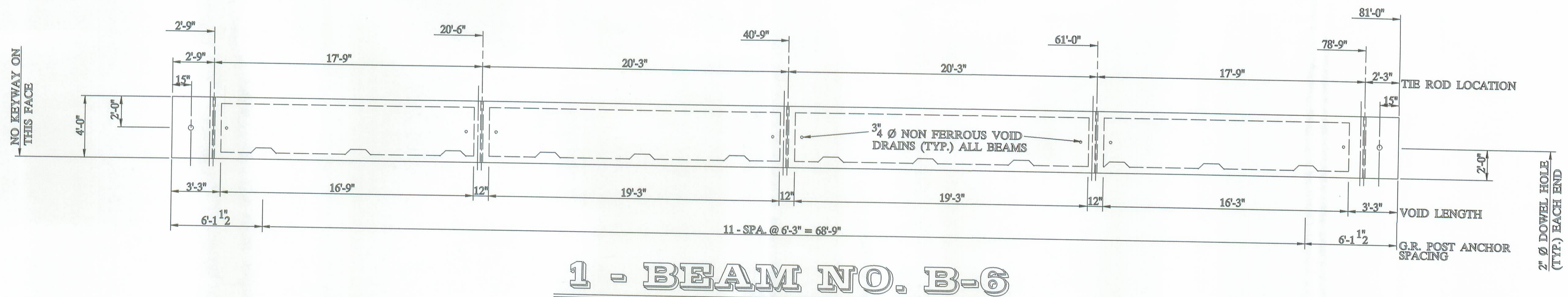
DESCRIPTION :	REINFORCING DETAILS		SCALE :	DRAWN BY :
JOB NAME :	ITEM 865	BRIDGE NO. LOG - C.R. 88 - 0.46	PROJECT NO. C.R. 88	PHIL
DATE :	AUGUST 2001	APPROVED BY :	E.O.C. 9/11/01	DRAWING NO. 3 OF 4



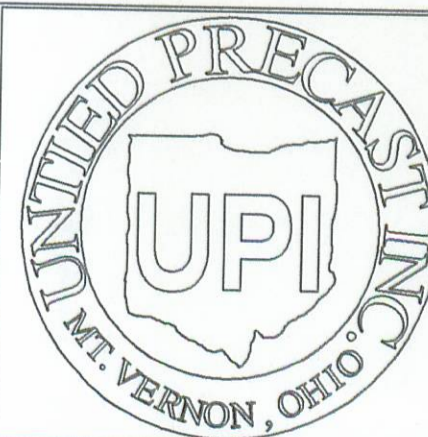
1 - BEAM NO. B-1



4 - BEAM NO. B-2 THRU. B-5



1 - BEAM NO. B-6



UNITED PRECAST INC.

ADDRESS : ROUNDHOUSE LANE
MOUNT VERNON, OHIO 43050
PHONE : (740) 393-1121
FAX : (740) 393-0044

DESCRIPTION : BOX BEAM DETAILS

JOB NAME : ITEM 865
BRIDGE NO. LOG - C.R. 88 - 046
LOGAN COUNTY PROJECT NO. C.R. 88

DATE : AUGUST 2001 APPROVED BY : E.O.C. 9/11/01

SCALE : DRAWN BY : PHIL

REVISIED :

DRAWING NO. 2 OF 4