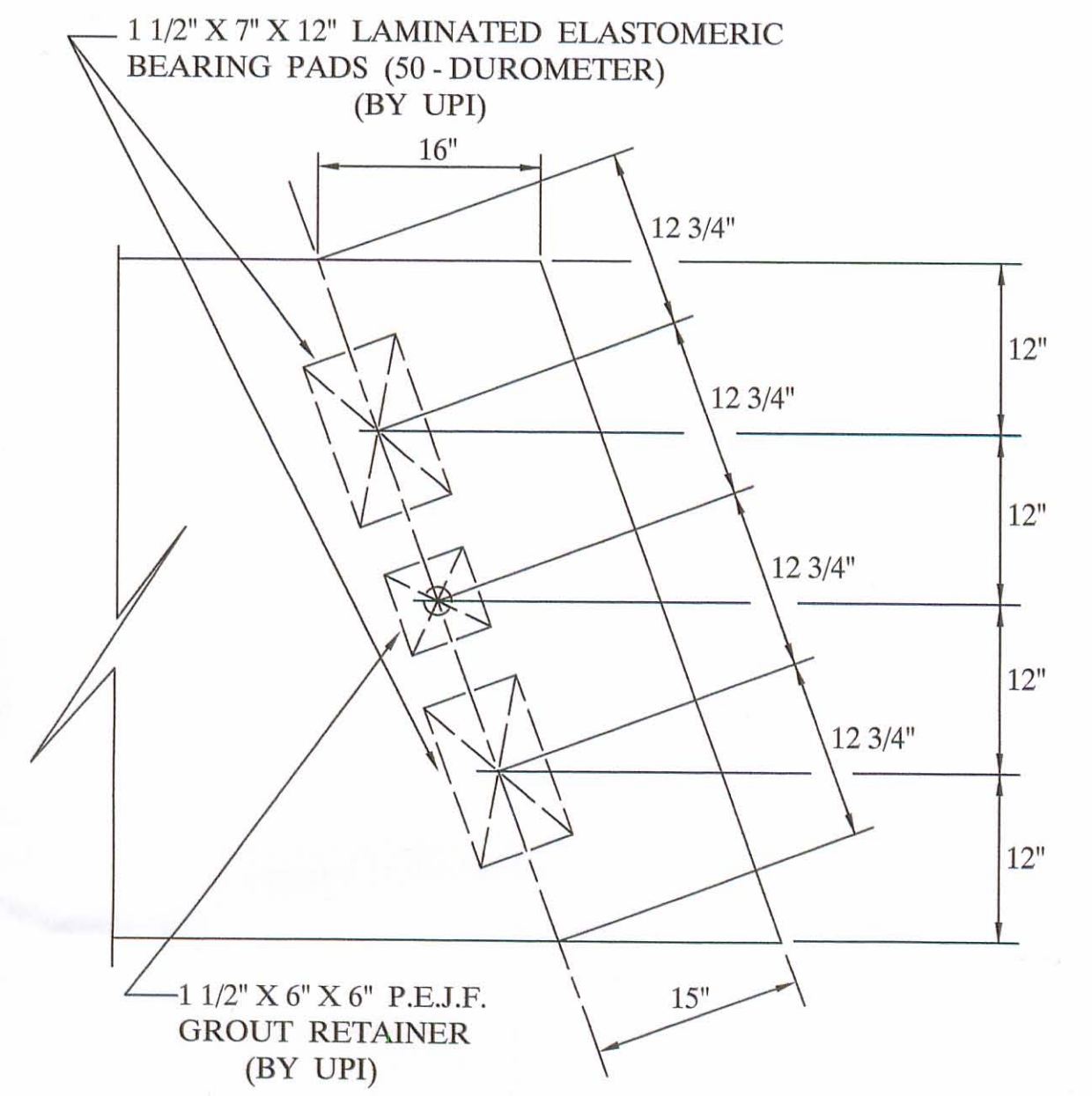


APPROVED
BY LOGAN CO. ENGINEER
2/24/2005

(TYP.) ACUTE CORNER
(PLAN VIEW)

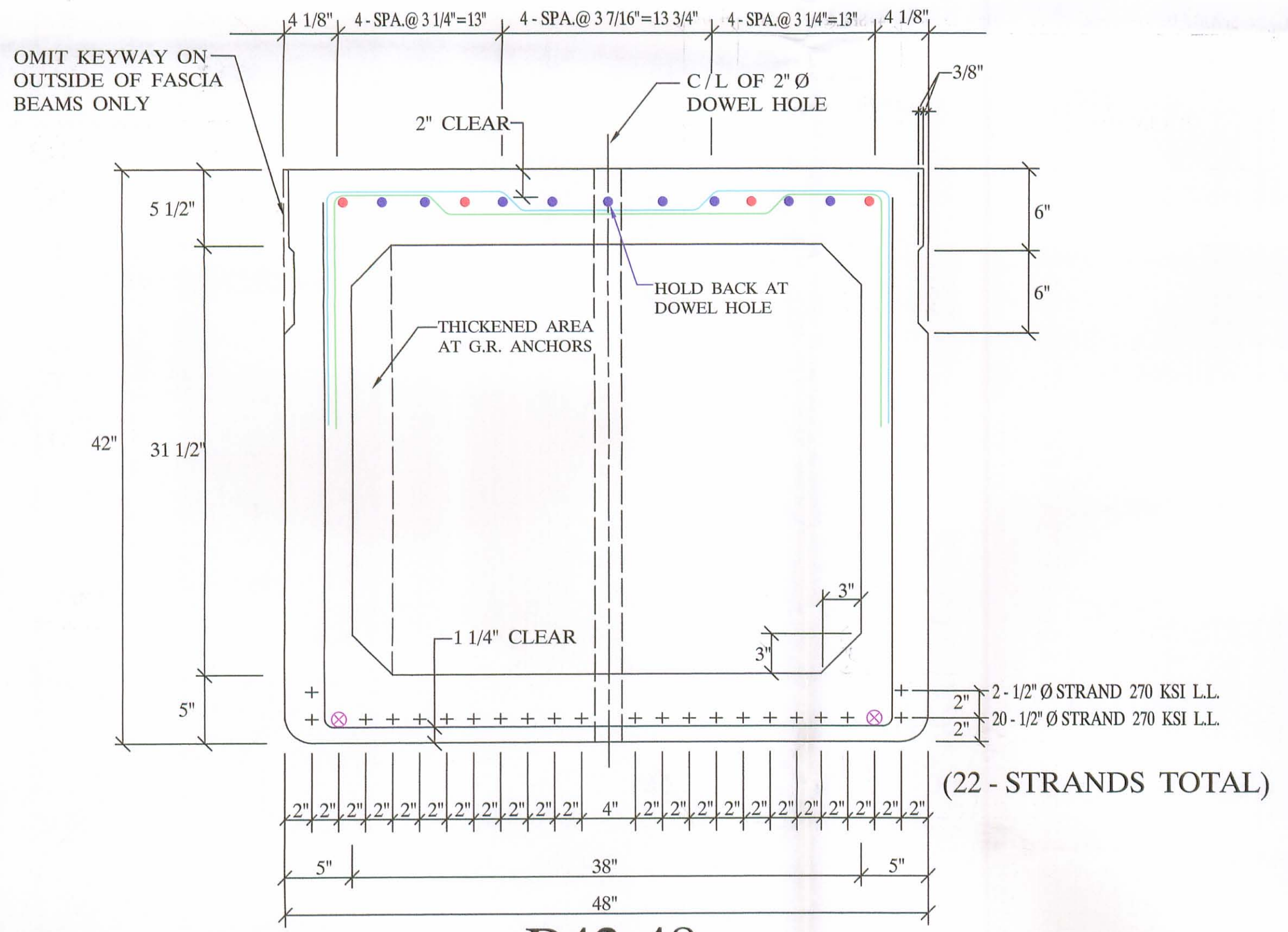


BEARING PAD LAYOUT
(PLAN VIEW)

DECK PLAN

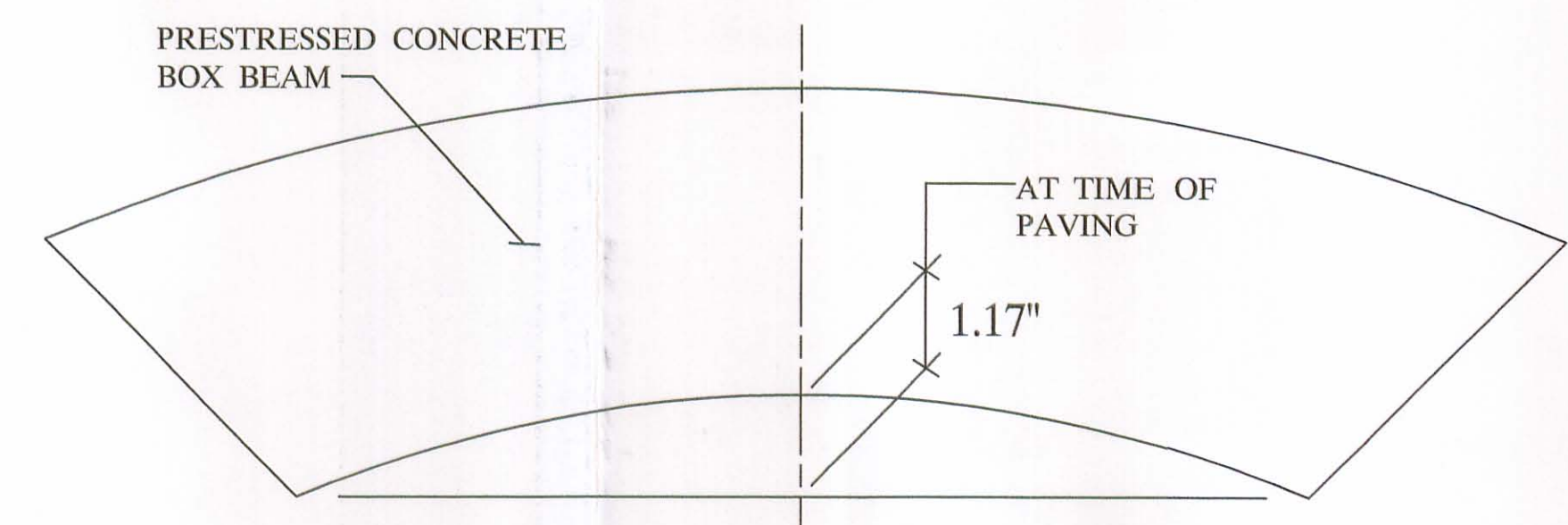
QUALITY CONTROL NOTE :

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



B42-48
(6 - REQUIRED)

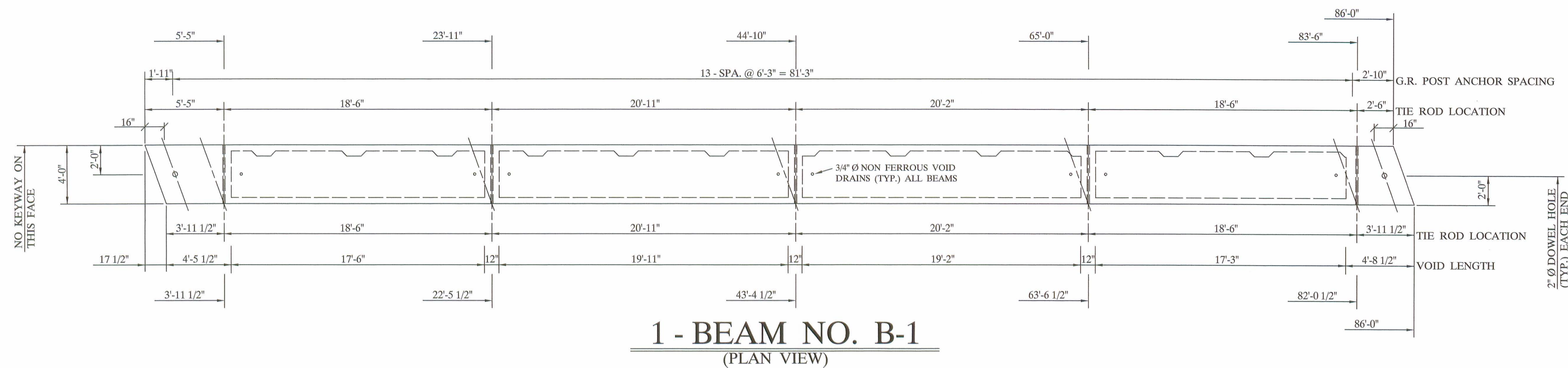
- 4 - #5 BARS FULL LENGTH RUN (TOP)
- 9 - #5 ADDITIONAL BARS 10'-6" LONG AT EACH END OF BEAM (TOP)
- ⊗ 2 - #6 BARS FULL LENGTH RUN (BOTTOM)



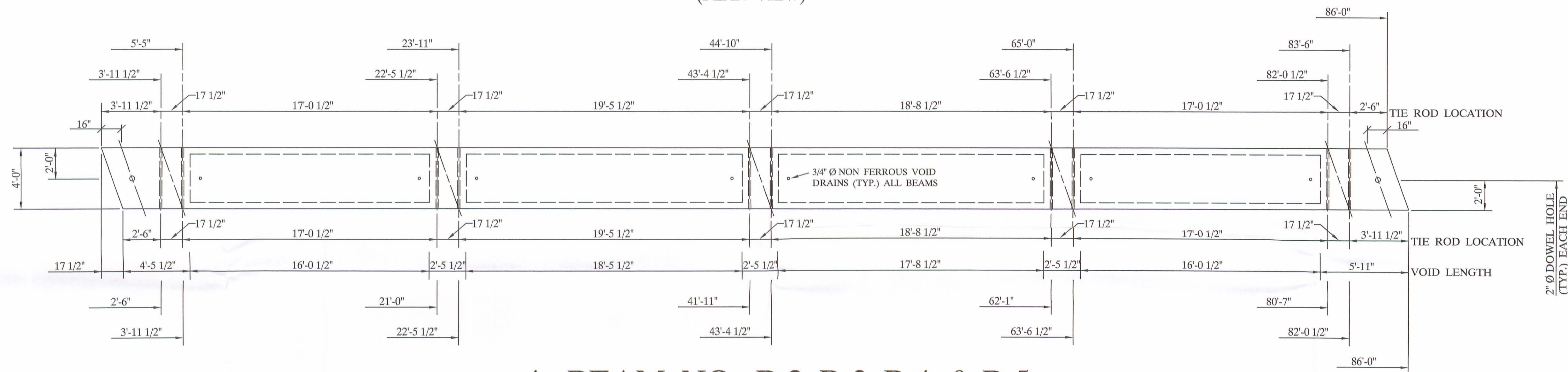
CAMBER DETAIL
(ELEVATION)

| BILL OF MATERIALS | | | | |
|-------------------|---------------------------|------------|------------------------------|-------------|
| NO | ITEM | QTY / BEAM | NOTES | TOTAL |
| 1 | BEAM WEIGHT | | 91,742 # | |
| 2 | CONCRETE | 22 CY. | | 132 CY. |
| 3 | CALCIUM NITRITE (D.C.I.) | 94.8 GAL. | 4 - GAL. / CY. | 663.6 GAL. |
| 4 | MICROSILICA | | 5% BY WEIGHT OF CEMENT | 4,636 # |
| 5 | STRAND | | 1/2" Ø STRAND 270 KSI L.L. | 13,200 L.F. |
| 6 | RE - STEEL | | GRADE - 60 | 14,531 # |
| 7 | VOID | | 31 1/2" X 38" | 442 L.F. |
| 8 | VOID DRAINS | | 3/4" Ø NON FERROUS | 48 EA. |
| 9 | TIE ROD | 8'-0" | 1" Ø STEEL ROD | 25 EA. |
| 10 | TIE ROD SLEEVES | | | 200 L.F. |
| 11 | TYPE - B - ANCHORS | | | 56 EA. |
| 12 | TYPE - C - ANCHORS | | | 28 EA. |
| 13 | DOWELS & SLEEVES | | | 12 EA. |
| 14 | WASSER | | MC - TAR | 1.1 GAL. |
| 15 | SILANE | | | 6.5 GAL. |
| 16 | JUTE | | | 430 L.F. |
| 17 | BEARING PADS | | 1 1/2" X 7" X 12" , 3 - LAM. | 24 EA. |
| 18 | GUARDRAIL POSTS | | TYPE - 2 | 28 EA. |
| 19 | OFF DECK POSTS | | | 8 EA. |
| 20 | GUARDRAIL ELEMENT | | | 175 L.F. |
| 21 | TUBULAR BACK - UP | | | 175 L.F. |
| 22 | P.E.J.F. | | 1 1/2" X 3" X 52' | 12.75 S.F. |
| 23 | NON SHRINK GROUT ADDITIVE | | 2 1/2 CY. GROUT BY OTHERS | 430 L.F. |

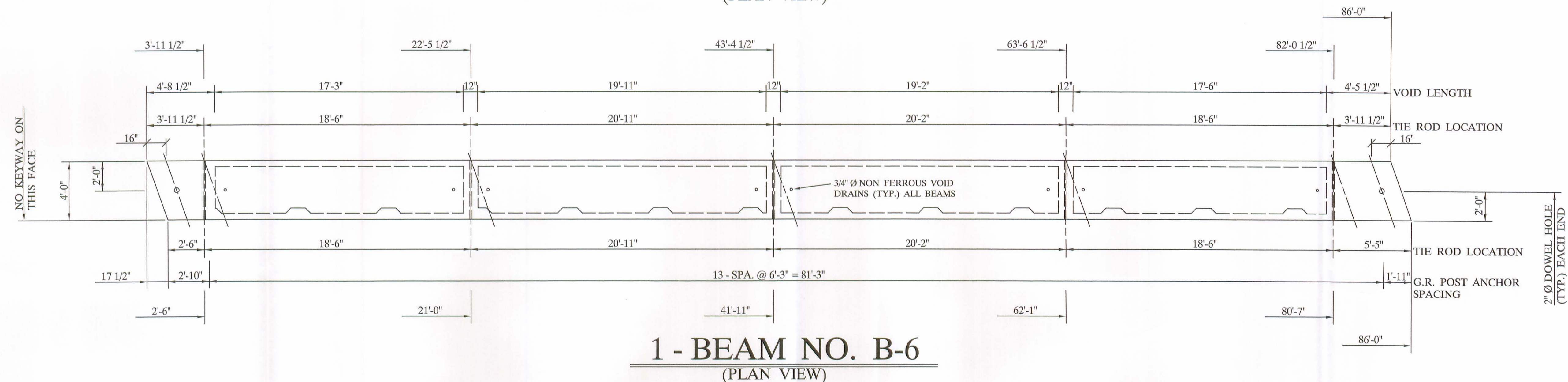
| | | | | | |
|--|---|--|--------------------------------------|-----------------------------|--------------------|
| | UNITED PRECAST INC. ROUNDHOUSE LANE MOUNT VERNON, OHIO 43050 PHONE : (740) 393-1121 FAX : (740) 392-9708 | | DESCRIPTION: BOX BEAM DETAILS | SCALE: ----- | DRAWN BY: PHIL |
| | JOB NAME: BRIDGE NO. LOG - BR. 49 - 5.64 LOGAN COUNTY PROJECT NO. C.R. 49 | | APPROVED BY: E.O.C. 1/26/05 | | REVISED: |
| | DATE: DECEMBER 2004 | | | APPROVED BY: E.O.C. 1/26/05 | DRAWING NO. 1 OF 4 |



1 - BEAM NO. B-1
(PLAN VIEW)



4 - BEAM NO. B-2, B-3, B-4, & B-5
(PLAN VIEW)



1 - BEAM NO. B-6
(PLAN VIEW)

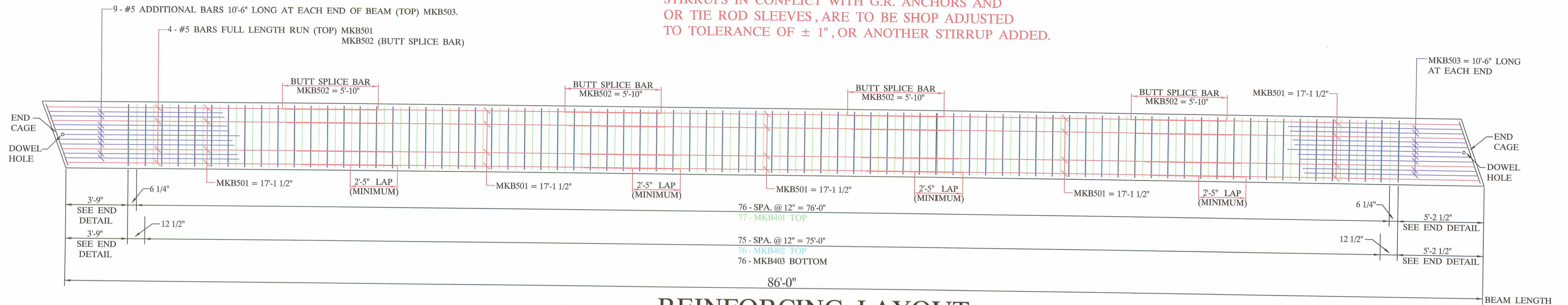


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 ROUNDHOUSE LANE
 MOUNT VERNON, OHIO 43050
 PHONE : (740) 393-1121
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| | | | |
|--------------|--|--------------|-----------------------|
| DESCRIPTION: | BOX BEAM DETAILS | SCALE: | DRAWN BY: |
| JOB NAME: | BRIDGE NO. LOG - BR. 49 - 5.64 LOGAN COUNTY PROJECT NO. C.R. 49 | ----- | PHIL |
| DATE: | DECEMBER 2004 | APPROVED BY: | REVISED: |
| | | E.O.C. | 1/26/05 |
| | | | DRAWING NO. 2 OF 4 |

NOTE :

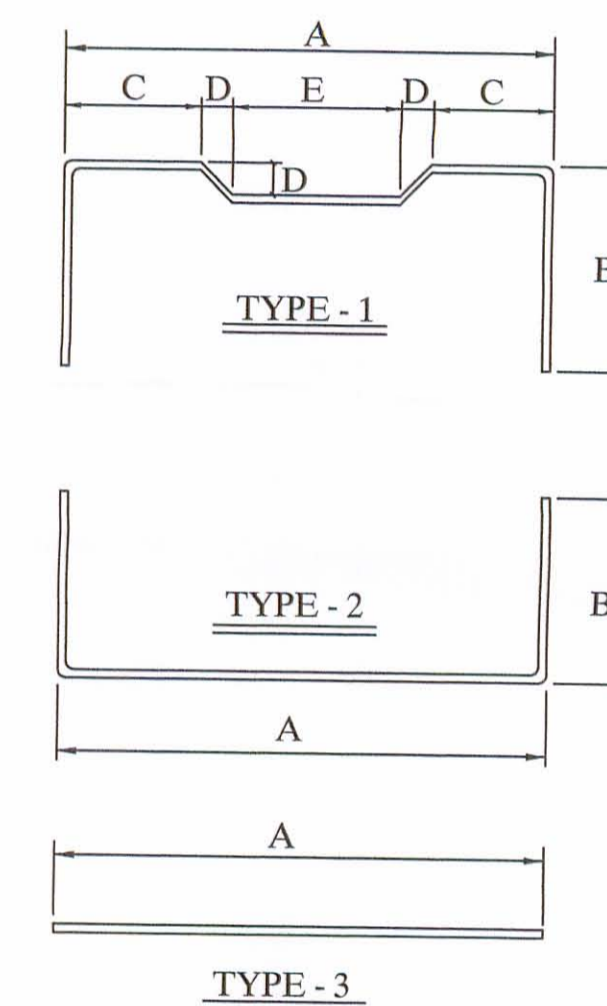
STIRRUPS IN CONFLICT WITH G.R. ANCHORS AND OR TIE ROD SLEEVES, ARE TO BE SHOP ADJUSTED TO TOLERANCE OF ± 1", OR ANOTHER STIRRUP ADDED.



REINFORCING LAYOUT
(PLAN VIEW)

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)



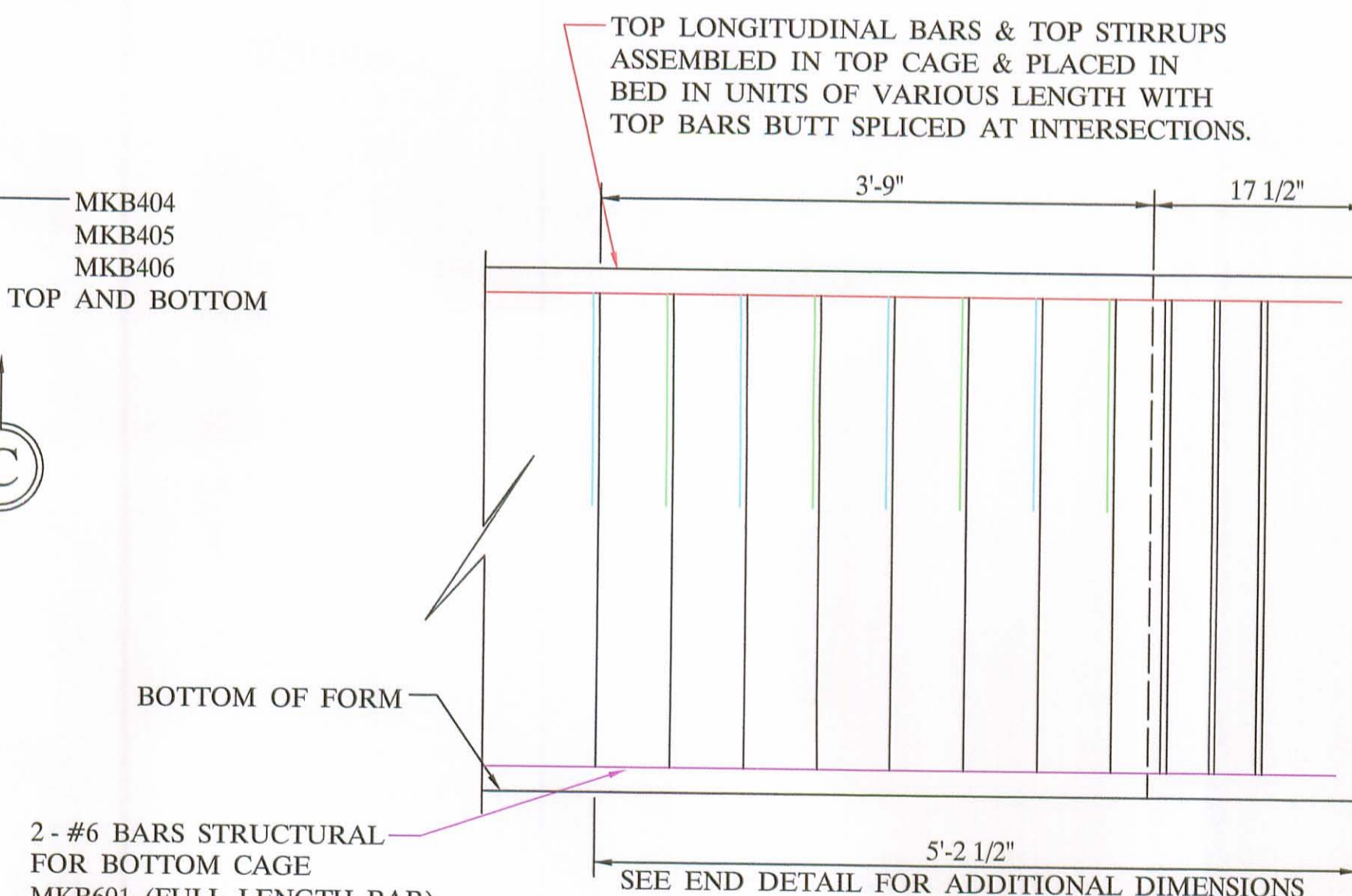
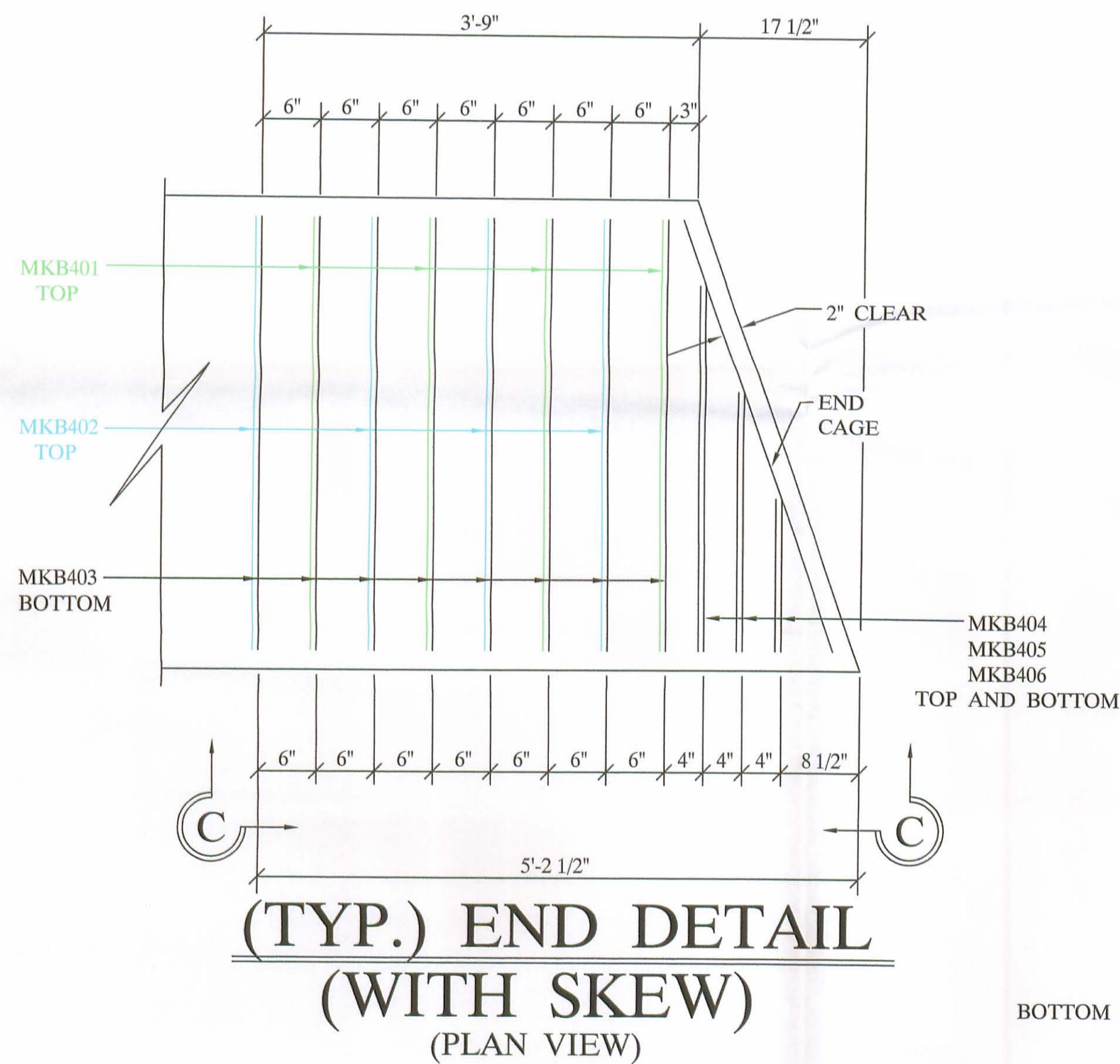
6 - B42-48 X 86'-0" WITH 20° R.F. SKEW

BAR LIST

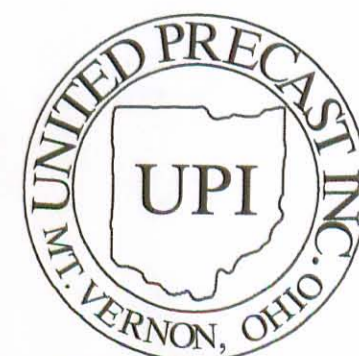
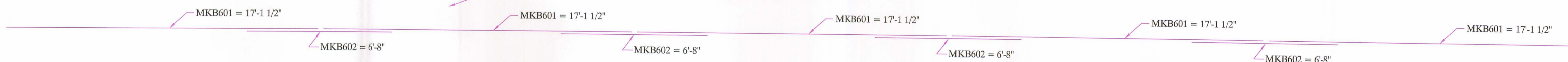
| MARK | SIZE | LENGTH | QUANTITY | SHAPE | A | B | C | D | E |
|------|------|------------|----------|----------|------------|-----|-----|----|-----|
| B401 | 4 | 6'-2 1/2" | 510 | TYPE - 1 | 43" | 17" | 13" | 2" | 13" |
| B402 | 4 | 6'-2 1/2" | 504 | TYPE - 1 | 43" | 17" | 7" | 2" | 25" |
| B403 | 4 | 9'-8 1/2" | 552 | TYPE - 2 | 43" | 38" | | | |
| B404 | 4 | 7'-5 1/2" | 24 | TYPE - 2 | 16" | 38" | | | |
| B405 | 4 | 8'-4 1/2" | 24 | TYPE - 2 | 27" | 38" | | | |
| B406 | 4 | 9'-2 1/2" | 24 | TYPE - 2 | 37" | 38" | | | |
| B407 | 4 | 3'-2" | 72 | TYPE - 3 | 38" | | | | |
| B408 | 4 | 4'-1" | 72 | TYPE - 3 | 49" | | | | |
| B501 | 5 | 17'-1 1/2" | 120 | TYPE - 3 | 17'-1 1/2" | | | | |
| B502 | 5 | 5'-10" | 96 | TYPE - 3 | 5'-10" | | | | |
| B503 | 5 | 10'-6" | 108 | TYPE - 3 | 10'-6" | | | | |
| B601 | 6 | 17'-1 1/2" | 60 | TYPE - 3 | 17'-1 1/2" | | | | |
| B602 | 6 | 6'-8" | 48 | TYPE - 3 | 6'-8" | | | | |

NOTE :

--- SEE SHEET 4 OF 4 FOR BEAM END CAGE.



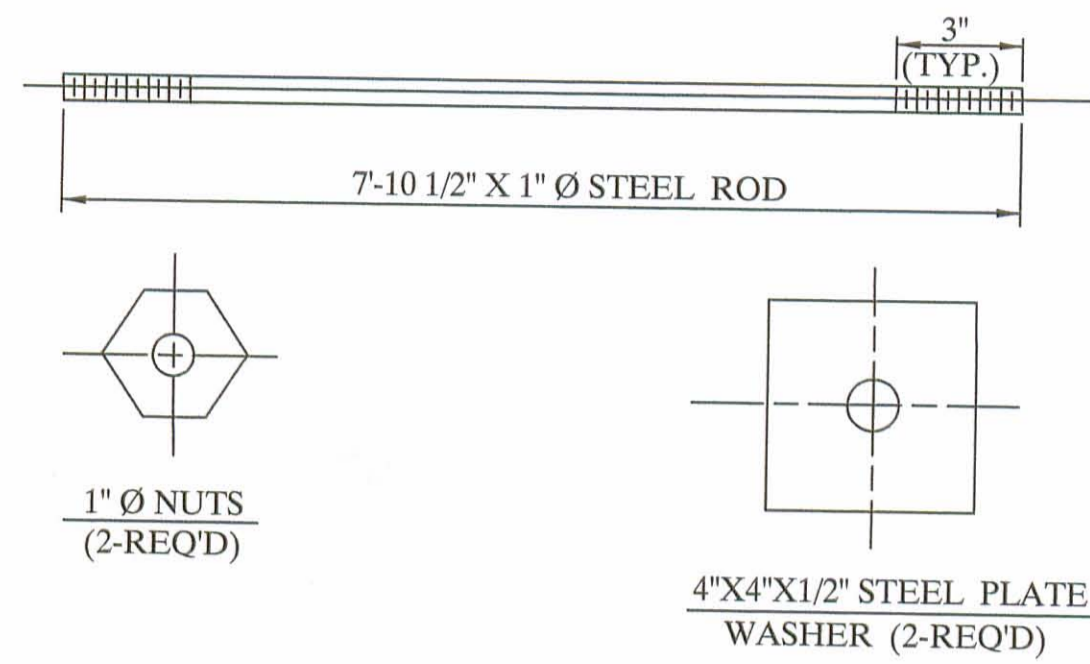
ELEVATION C-C



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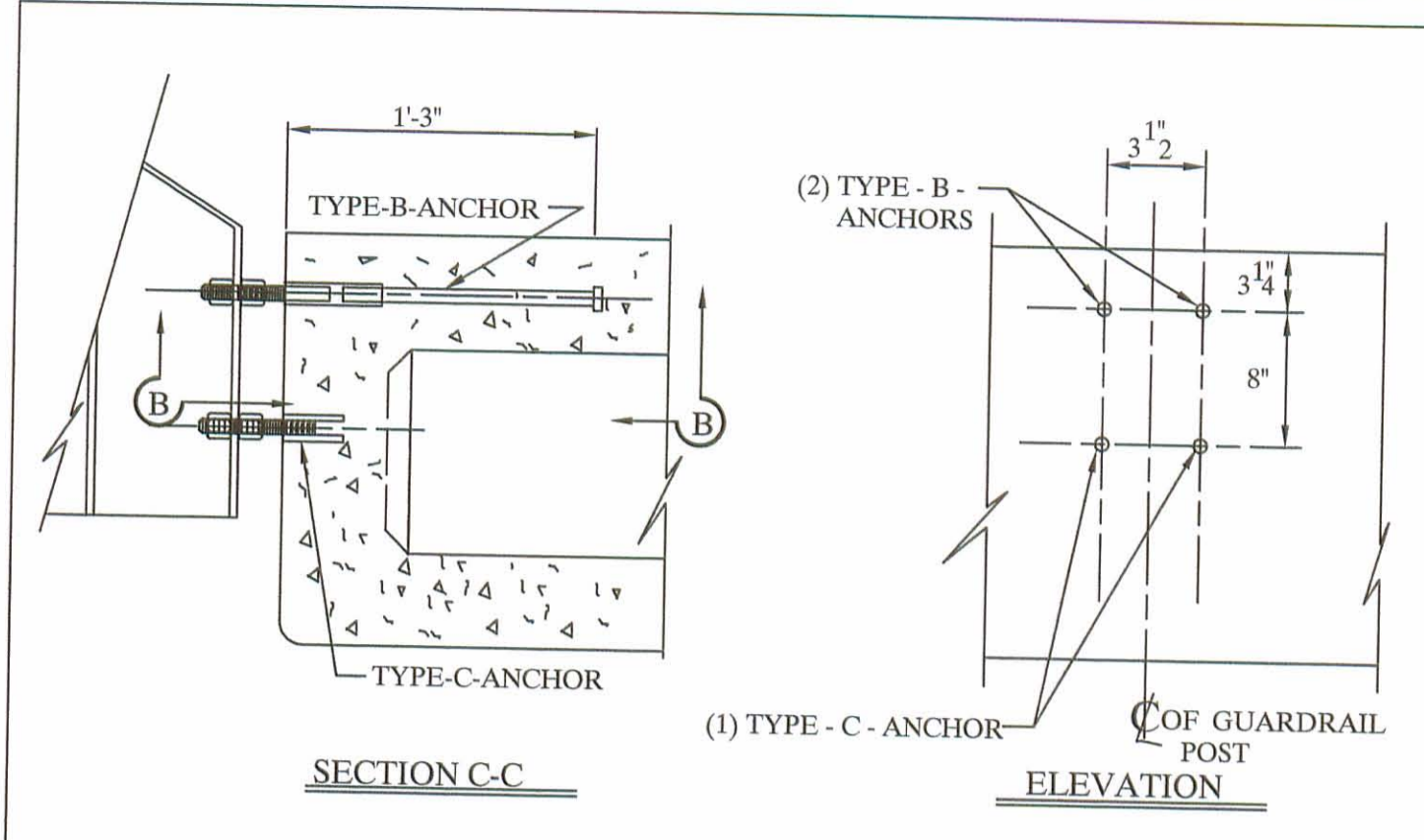
| | | | | |
|--------------|--|--------------|--------|-------------|
| DESCRIPTION: | REINFORCING DETAILS | | SCALE: | DRAWN BY: |
| JOB NAME: | BRIDGE NO. LOG - BR. 49 - 5.64 LOGAN COUNTY PROJECT NO. C.R. 49 | | ----- | PHIL |
| DATE: | DECEMBER 2004 | APPROVED BY: | E.O.C. | 1 / 26 / 05 |
| | | | | REVISIED: |
| | | | | DRAWING NO. |
| | | | | 3 OF 4 |

8'-0" TIE ROD ASS'Y

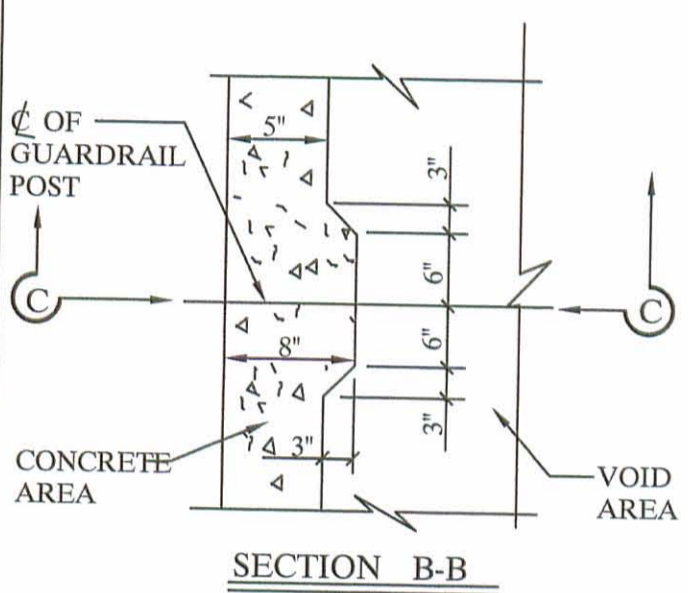


NOTE:
ALL ITEMS INCLUDING TIE RODS ACCESSORIES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM-123 OR 153. PER CMS 711.02, UNLESS OTHERWISE NOTED.

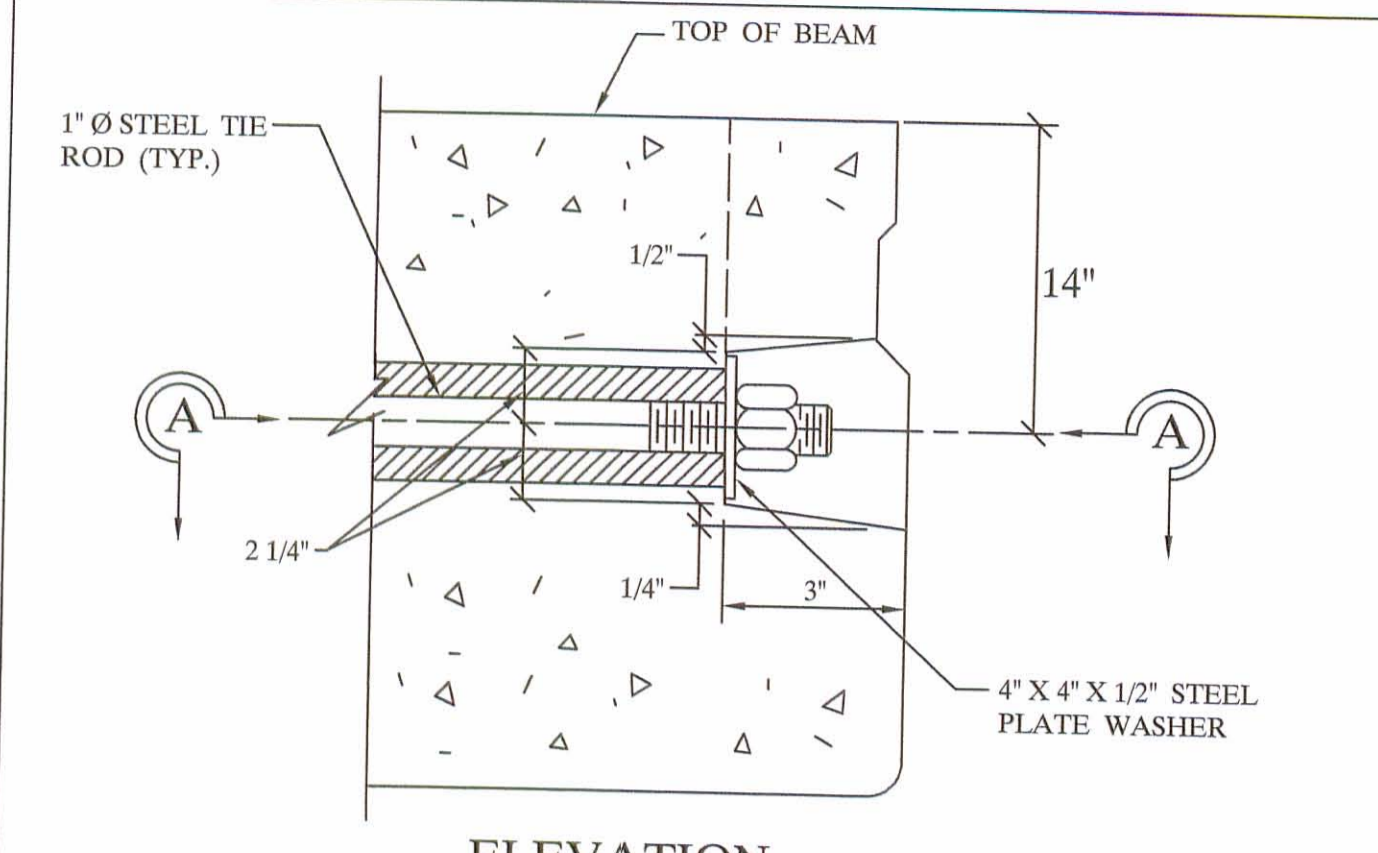
- NOTE:**
- 1) GALVANIZE ALL HARDWARE PER CMS. 711.02.
 - 2) PROVIDE A BROOM FINISH ON TOP SURFACE OF BEAM SUITABLE FOR WATERPROOFING.
 - 3) ADD CALCIUM NITRITE TO CONCRETE (4 - GAL./CUBIC YARD), (D.C.I.)
 - 4) WATERPROOF BEAM ENDS.
 - 5) DETENSION STRAND SYMETRICALLY ABOUT CENTERLINE.



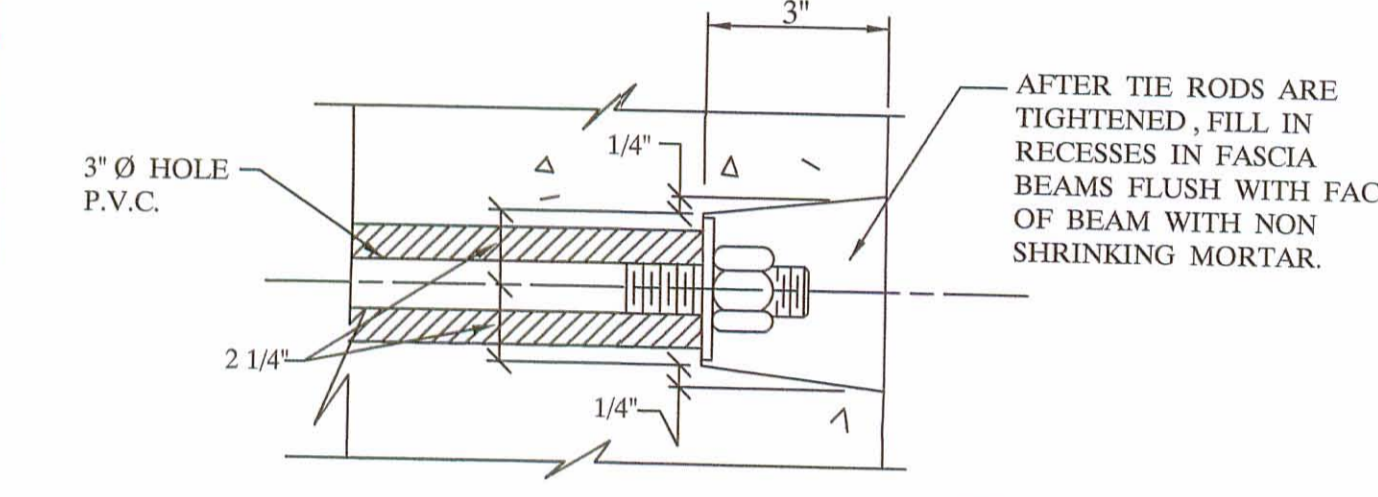
NOTE:
ONE TYPE 'C' ANCHOR PROVIDE S FOR (2) STUDS (SEE BELOW).



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.



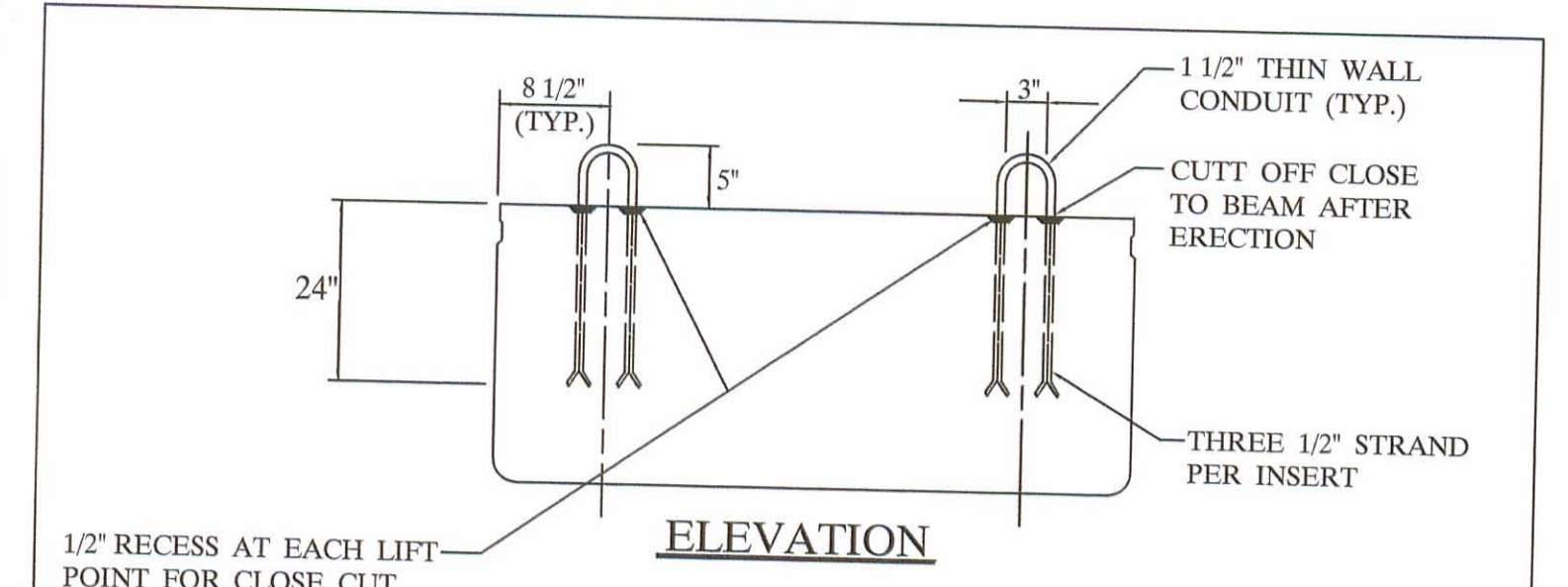
ELEVATION



SECTION A-A (ALL BEAMS)

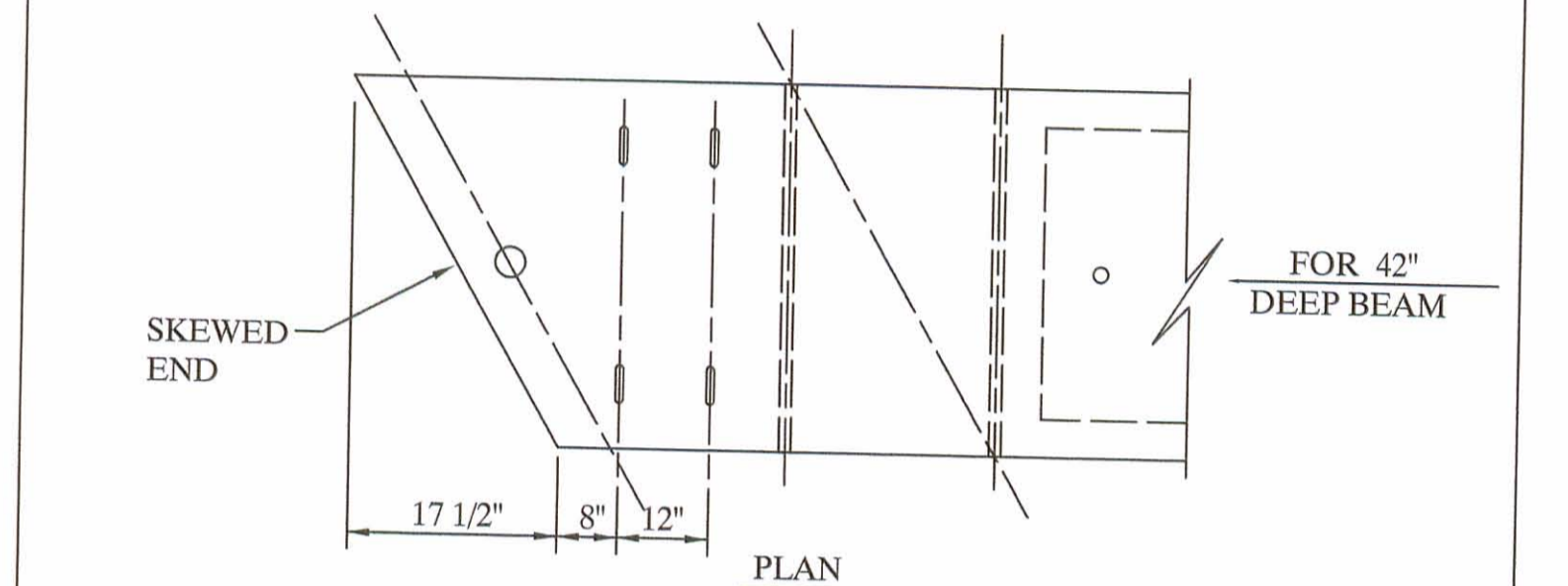
NOTE:
TIE RODS SHALL BE A311 - G1018 STEEL, OR A-36 MODIFIED.

END DETAIL OF TRANSVERSE TIE ROD ANCHORAGE



ELEVATION

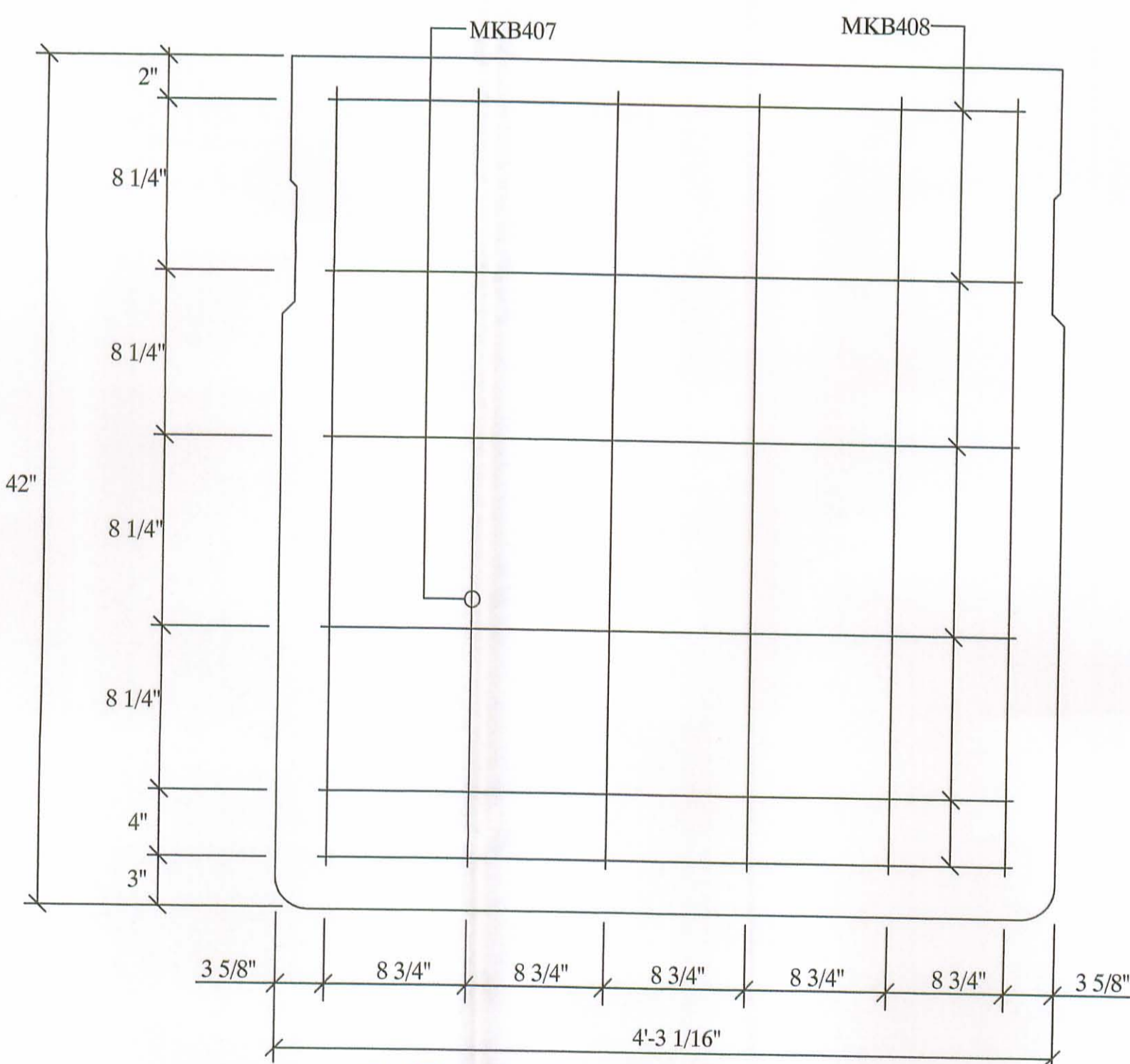
1/2" RECESS AT EACH LIFT POINT FOR CLOSE CUT OFF AFTER ERECTION



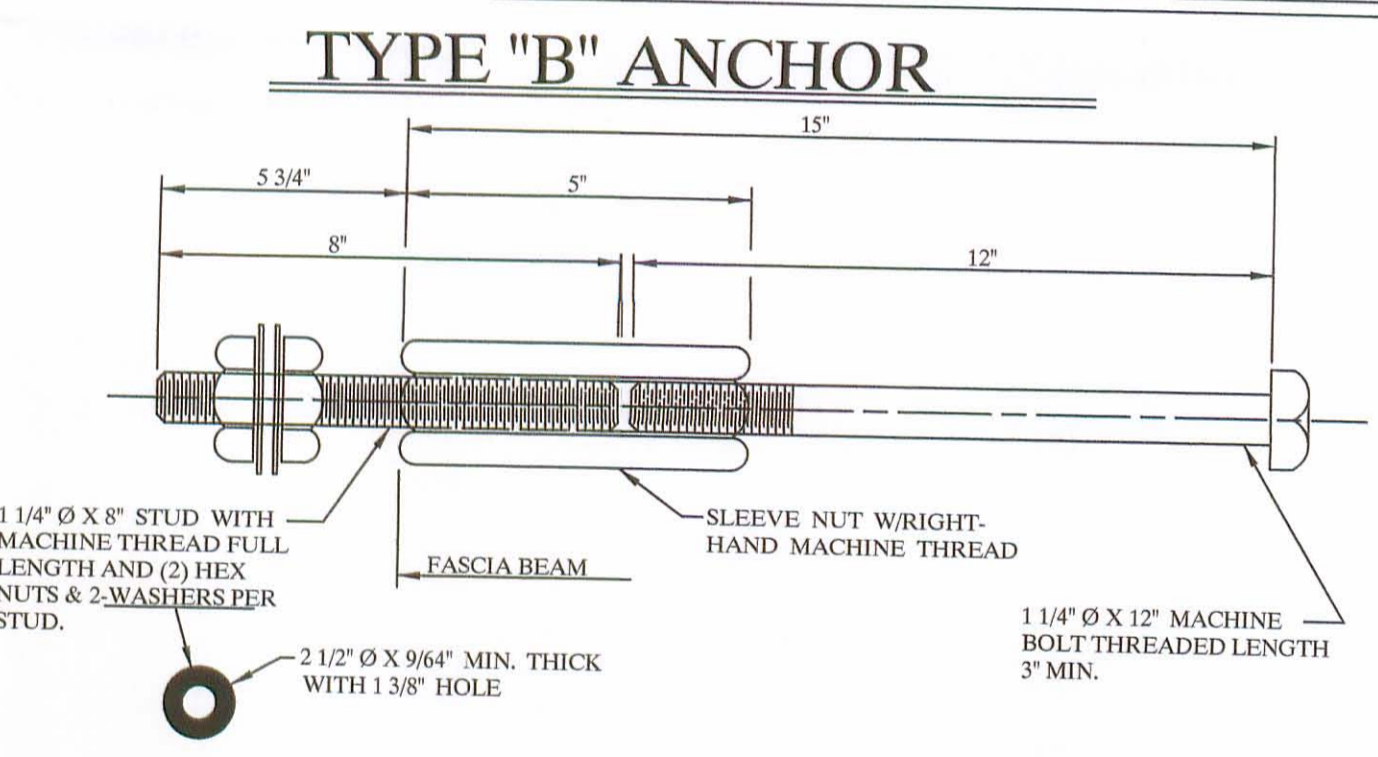
PLAN

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.

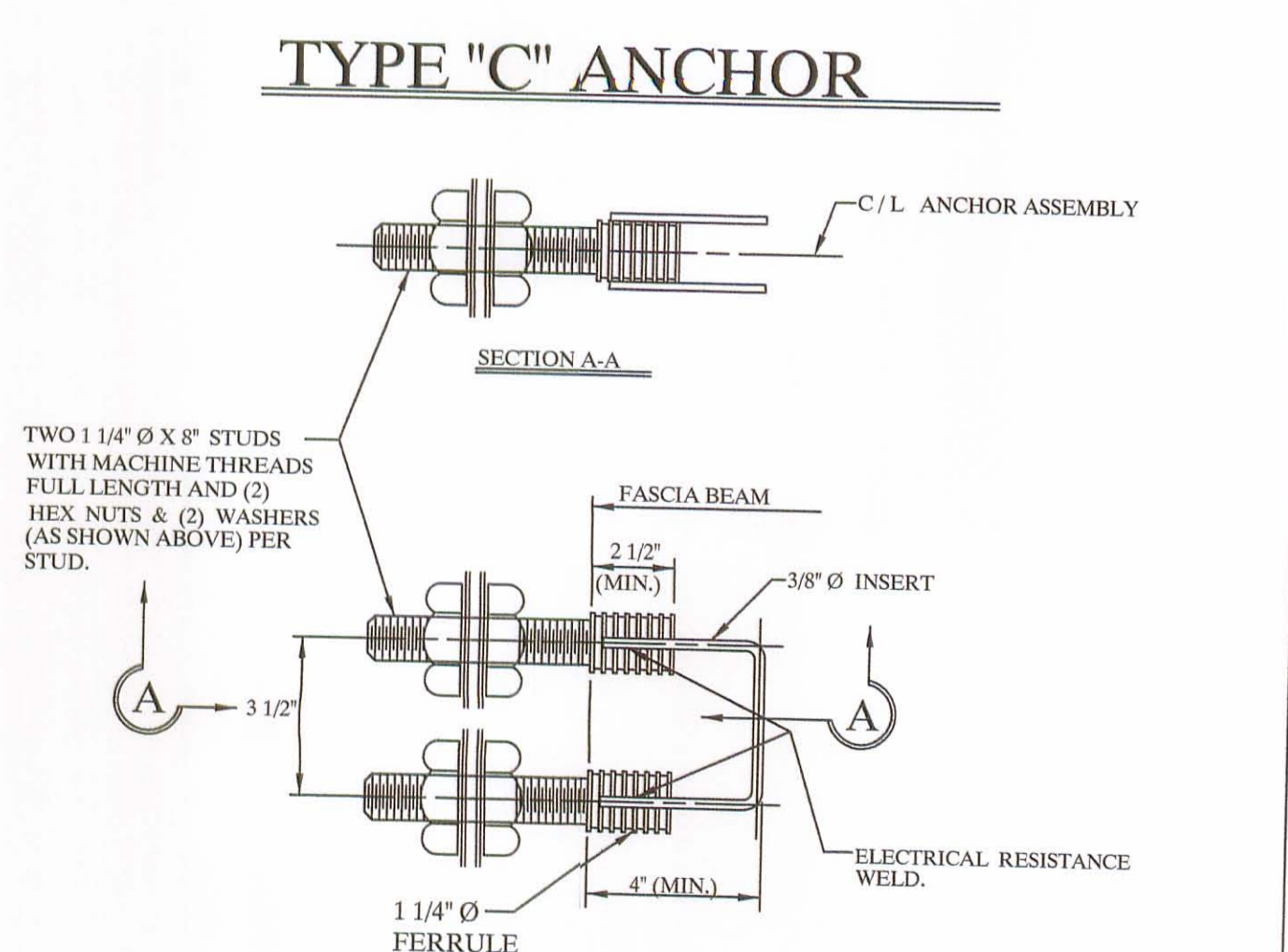
LIFTING INSERT DETAIL



BEAM END CAGE (WITH SKEW) (ELEVATION)



TYPE "B" ANCHOR



TYPE "C" ANCHOR

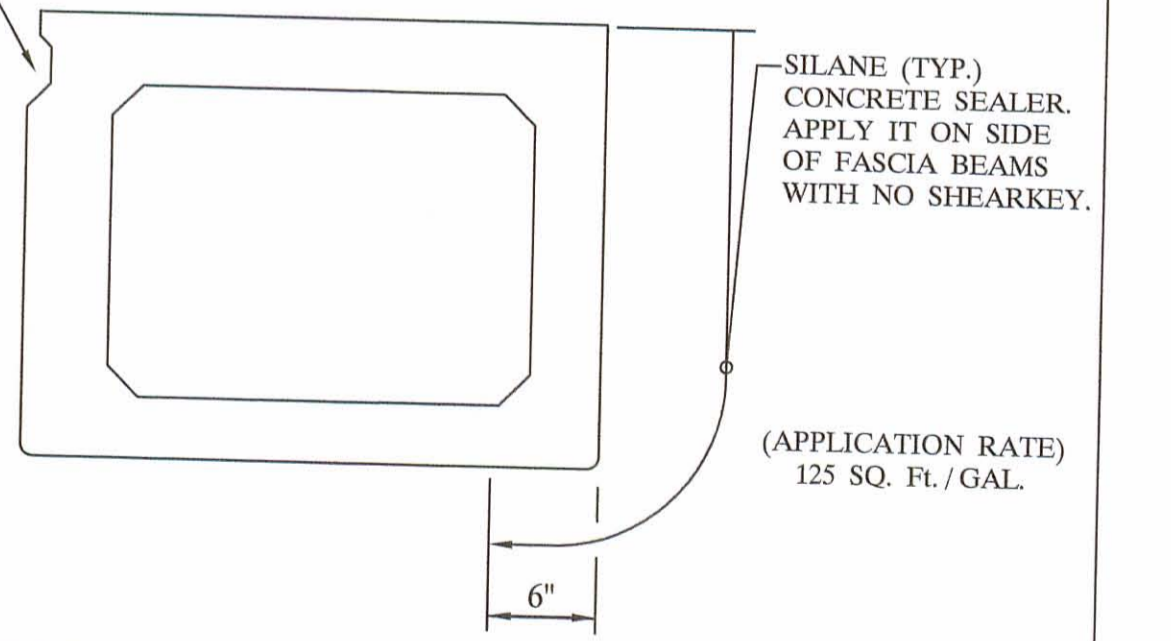
"B" & "C" ANCHOR DETAILS

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 LOW RELAXATION STRAND, $A_s = 1.53$ in. $f_s = 270$ 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.

THE KEYWAY SHALL BE GIVEN A MEDIUM SANDBLAST AT THE PLANT WITHIN (4) DAYS BEFORE THE BEAMS LEAVE THE PLANT.



TYPICAL FASCIA BEAM

| | | | |
|---|------------------------|---------------------|------------------------------|
| BRIDGE NO. LOG - BR. 49 - 5.64 | | PROJECT NO. C.R. 49 | |
| LOGAN COUNTY | | | |
| UNITED PRECAST INC. | | | |
| ROUNDHOUSE LANE MT. VERNON, OHIO 43050 PHONE: (740)393-1121, FAX: (740)392-9708 | | SCALE ----- | DRAWN BY: PHIL REVISED |
| DATE DEC. '04 | APPROVED BY: E.O.C. | 1/26/05 | DRAWING NO. 4 OF 4 |