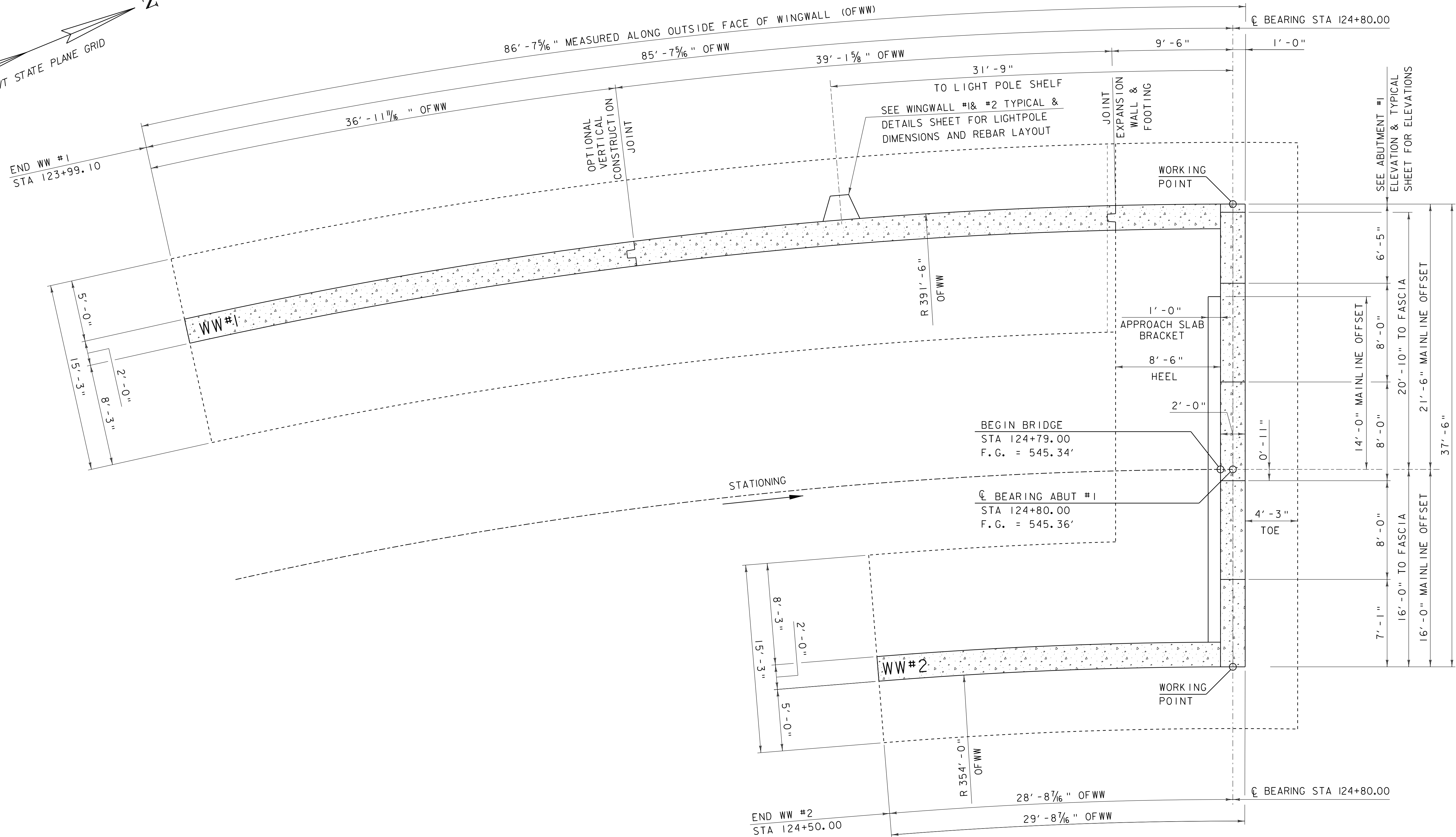
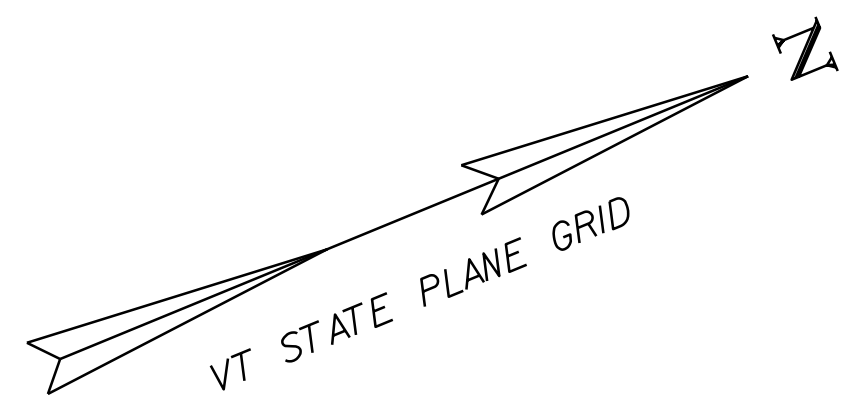


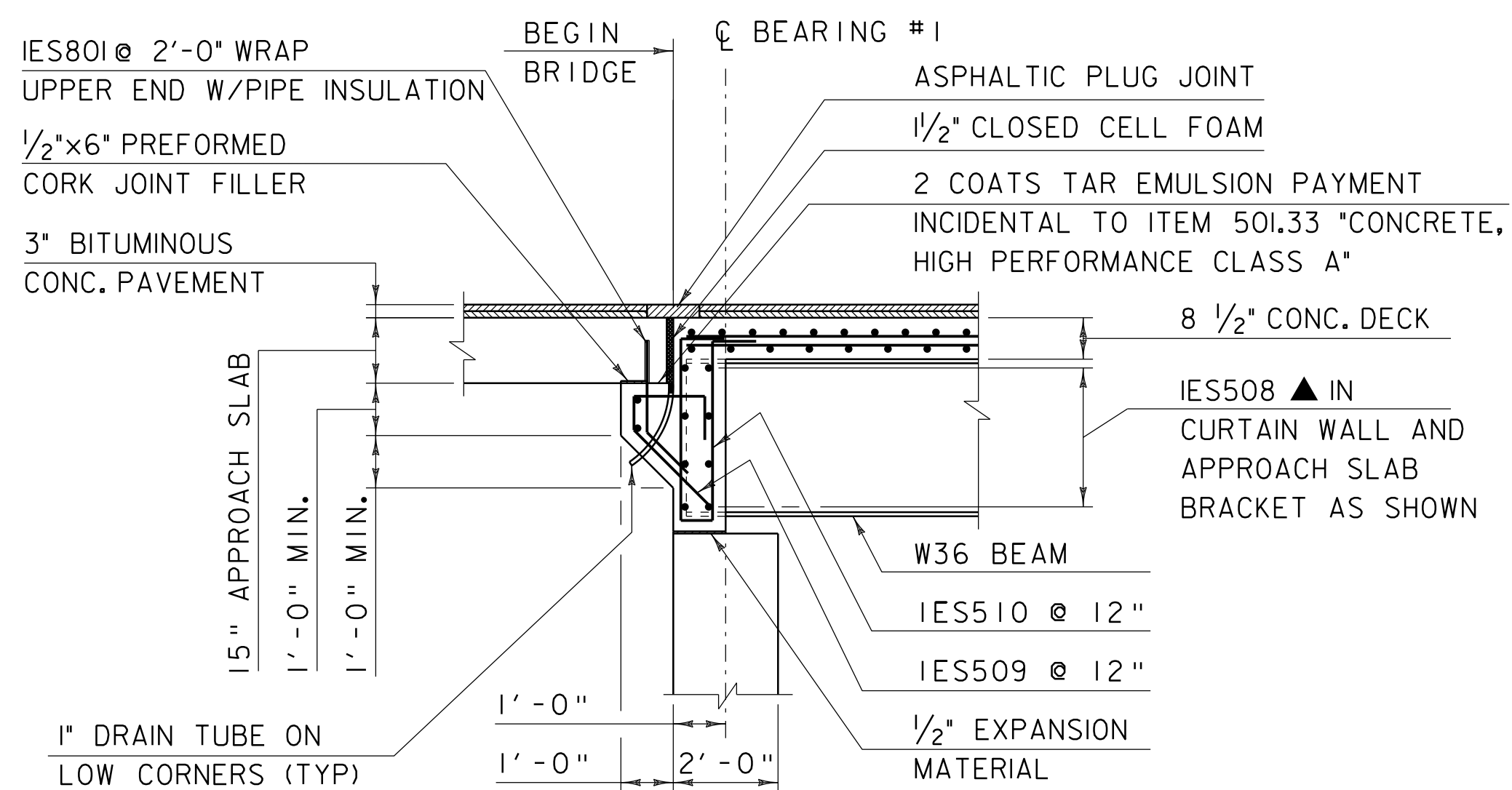
PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(14)	DRAWN BY:	G. ROKES
FILE NAME:	sfi6lpe.dgn	CHECKED BY:	S. SCRIBNER
PROJECT LEADER:	M. EVANS-MONGEON	SHEET	58 OF 148
DESIGNED BY:	S. SCRIBNER		
PLAN AND ELEVATION			



ABUTMENT #1 PLAN VIEW

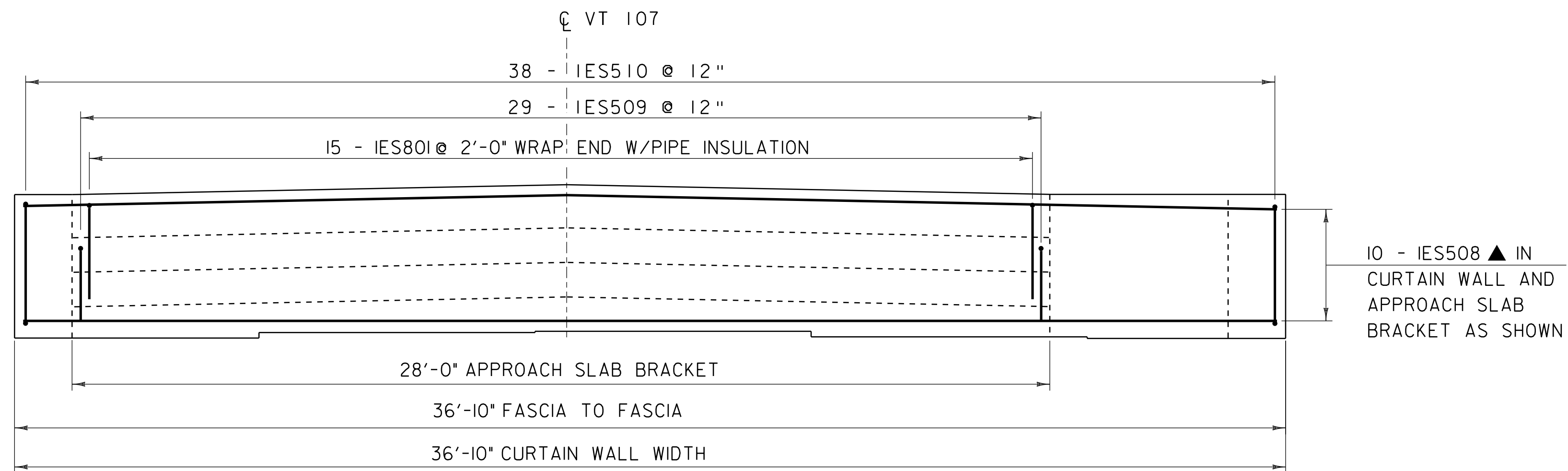
SCALE 1/4" = 1'-0"

PROJECT NAME:	BETHEL	FILE NAME:	s78f16isub1.dgn	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(14)	PROJECT LEADER:	M. EVANS-MONGEON	DRAWN BY:	M. LONGSTREET
		DESIGNED BY:	N. VANDENBERG	CHECKED BY:	S. SCRIBNER
		ABUTMENT #1 PLAN		SHEET	59 OF 148



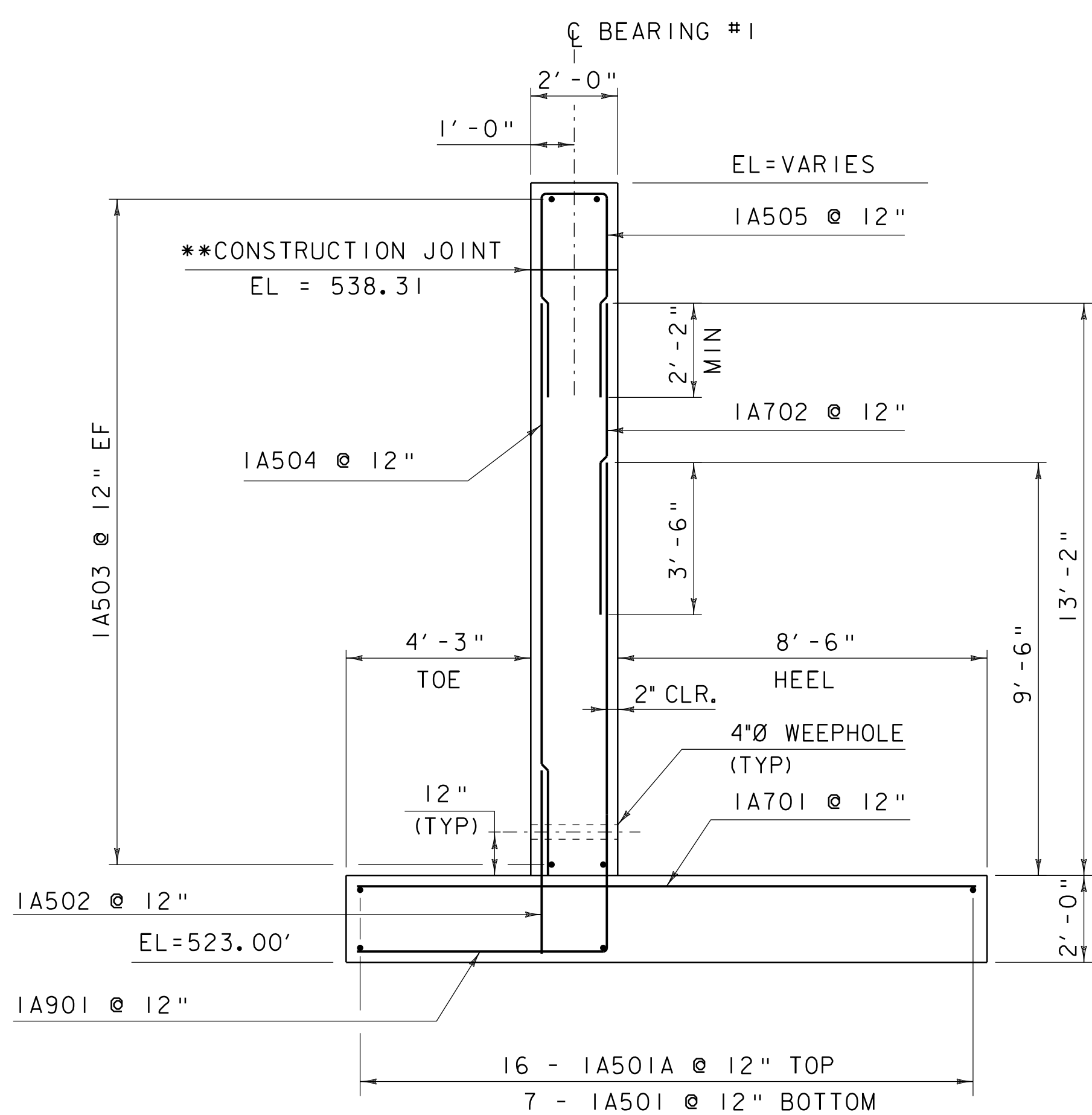
ABUTMENT #1 END DETAIL

SCALE 3/8" = 1'-0"



ABUTMENT #1 CURTAIN WALL

SCALE 3/8" = 1'-0"

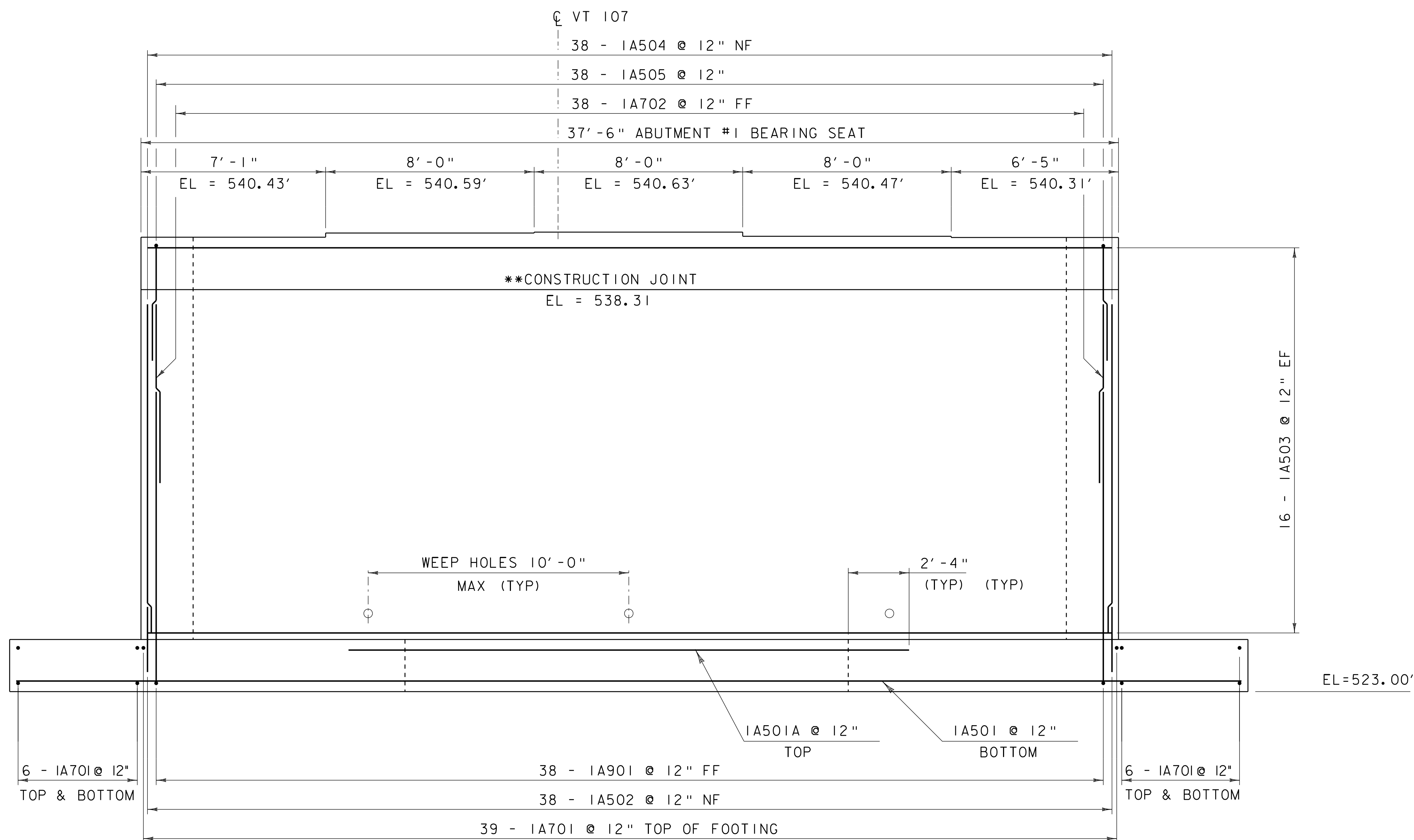


ABUTMENT #1 TYPICAL

SCALE 3/8" = 1'-0"

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE
SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE
SPECIFIED ON THE PLANS.



ABUTMENT #1 ELEVATION

SCALE 3/8" = 1'-0"

**REFER TO CONCRETE SECTION OF GENERAL NOTES REGARDING
CONSTRUCTION JOINT LOCATED AT ELEVATION 538.31 FOR ABUTMENT#1

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f16isub1.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: N. VANDENBERG
ABUTMENT #1 ELEVATION & TYPICAL

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 60 OF 148

WW #2 TOP OF WALL ELEVATIONS

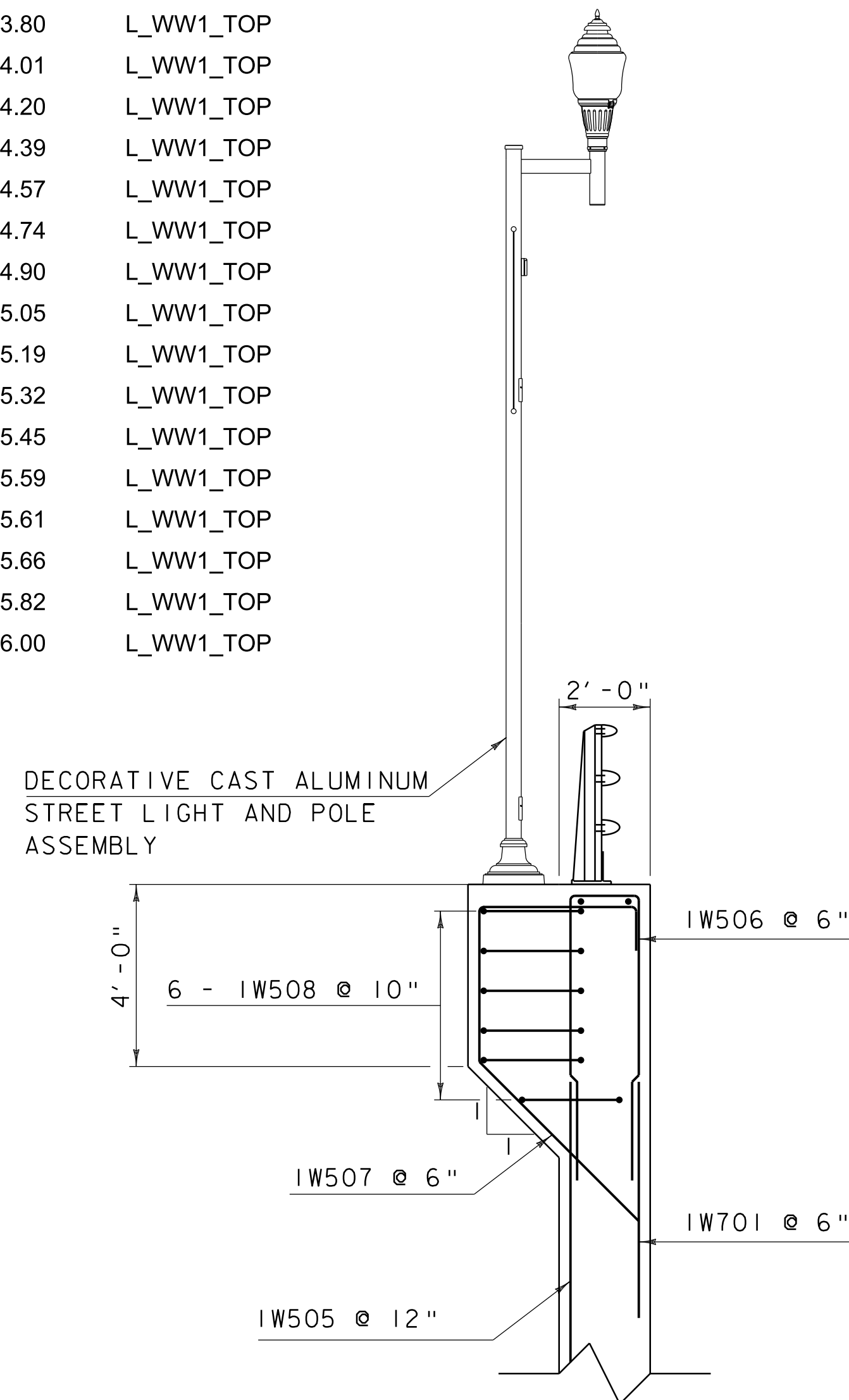
Station Based Offset Elevation Report: WW2

STA	OFFSET	ELEVATION	FEATURE
124+50.00	16.00	544.94	R_WW2_TOP
124+55.00	16.00	545.08	R_WW2_TOP
124+60.00	16.00	545.21	R_WW2_TOP
124+65.00	16.00	545.34	R_WW2_TOP
124+70.00	16.00	545.48	R_WW2_TOP
124+70.55	16.00	545.50	R_WW2_TOP
124+71.55	16.00	545.55	R_WW2_TOP
124+75.00	16.00	545.71	R_WW2_TOP
124+79.00	16.00	545.89	R_WW2_TOP

WW #1 TOP OF WALL ELEVATIONS

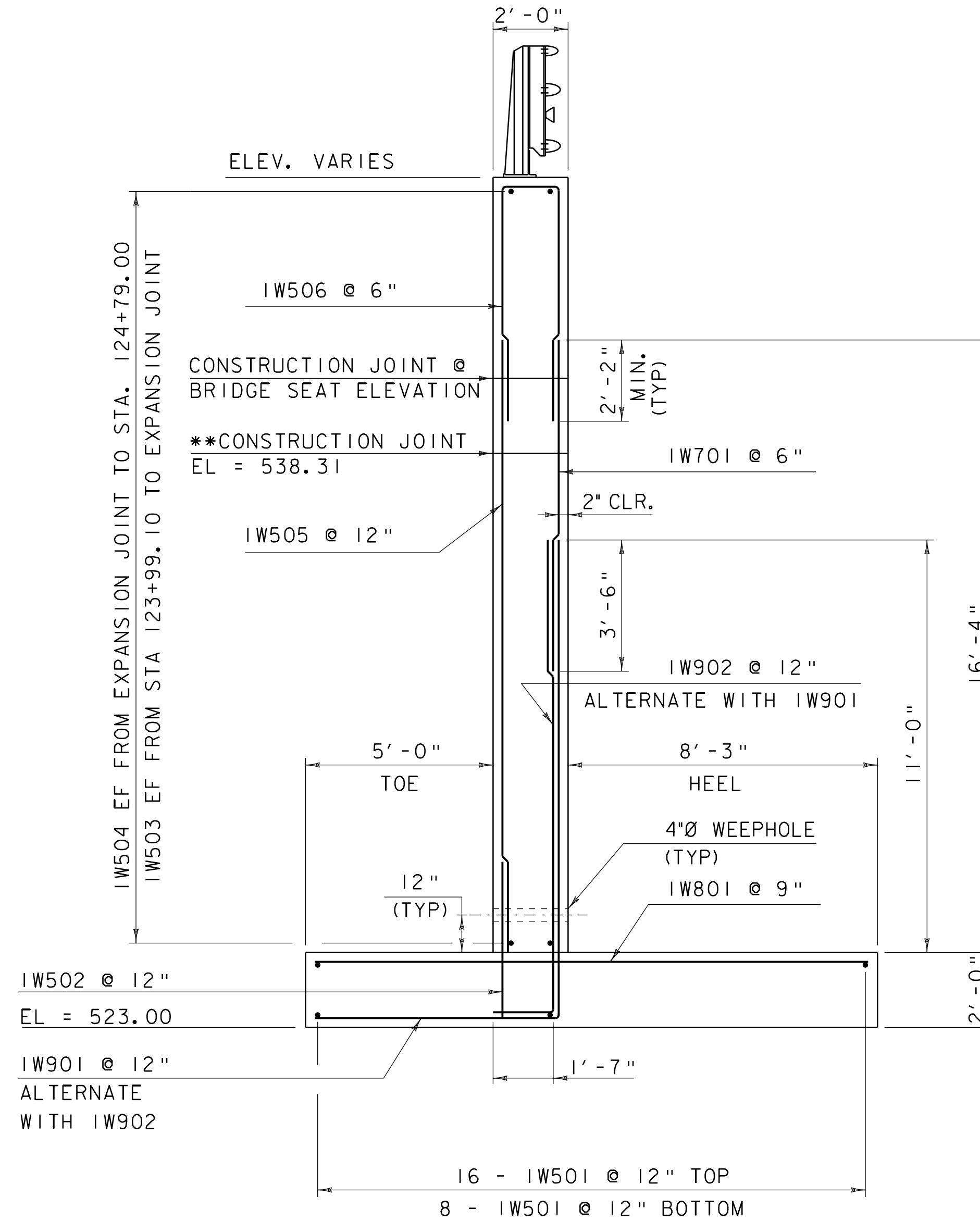
Station Based Offset Elevation Report: WW1

STA	OFFSET	ELEVATION	FEATURE
123+99.10	-21.50	543.10	L_WW1_TOP
124+00.00	-21.50	543.14	L_WW1_TOP
124+05.00	-21.50	543.37	L_WW1_TOP
124+10.00	-21.50	543.59	L_WW1_TOP
124+15.00	-21.50	543.80	L_WW1_TOP
124+20.00	-21.50	544.01	L_WW1_TOP
124+25.00	-21.50	544.20	L_WW1_TOP
124+30.00	-21.50	544.39	L_WW1_TOP
124+35.00	-21.50	544.57	L_WW1_TOP
124+40.00	-21.50	544.74	L_WW1_TOP
124+45.00	-21.50	544.90	L_WW1_TOP
124+50.00	-21.50	545.05	L_WW1_TOP
124+55.00	-21.50	545.19	L_WW1_TOP
124+60.00	-21.50	545.32	L_WW1_TOP
124+65.00	-21.50	545.45	L_WW1_TOP
124+70.00	-21.50	545.59	L_WW1_TOP
124+70.55	-21.50	545.61	L_WW1_TOP
124+71.55	-21.50	545.66	L_WW1_TOP
124+75.00	-21.50	545.82	L_WW1_TOP
124+79.00	-21.50	546.00	L_WW1_TOP



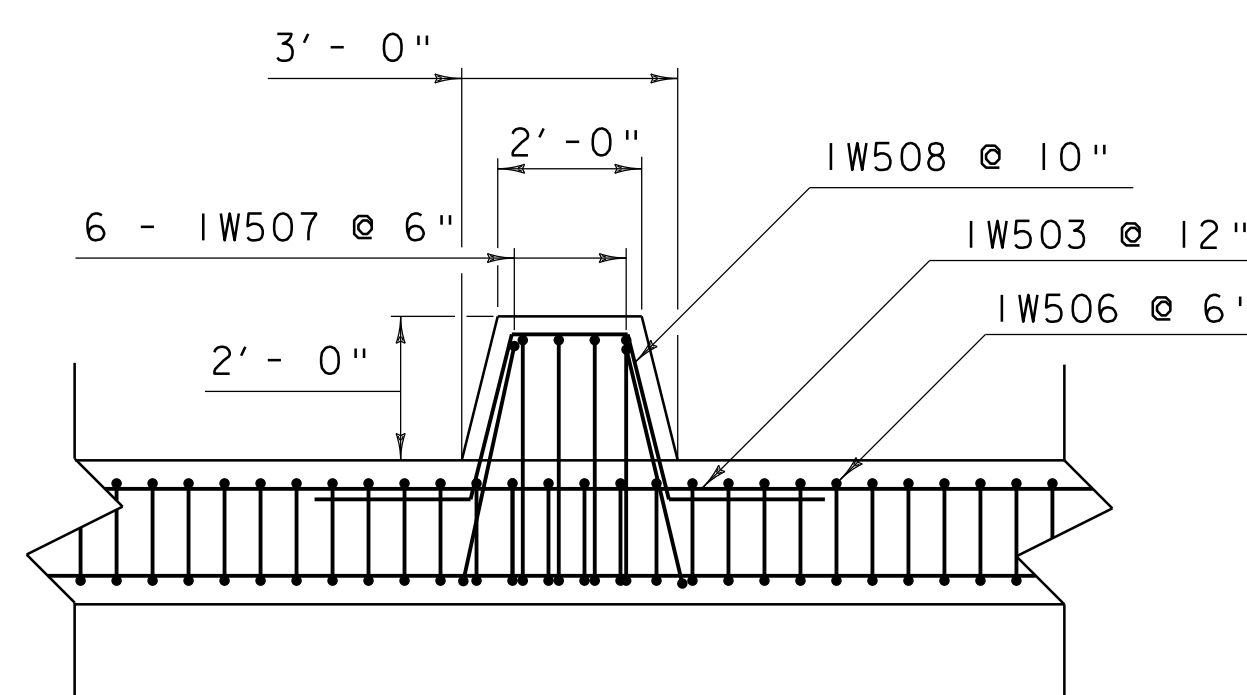
WINGWALL I LIGHTPOLE TYPICAL

SCALE 3/8" = 1'-0"



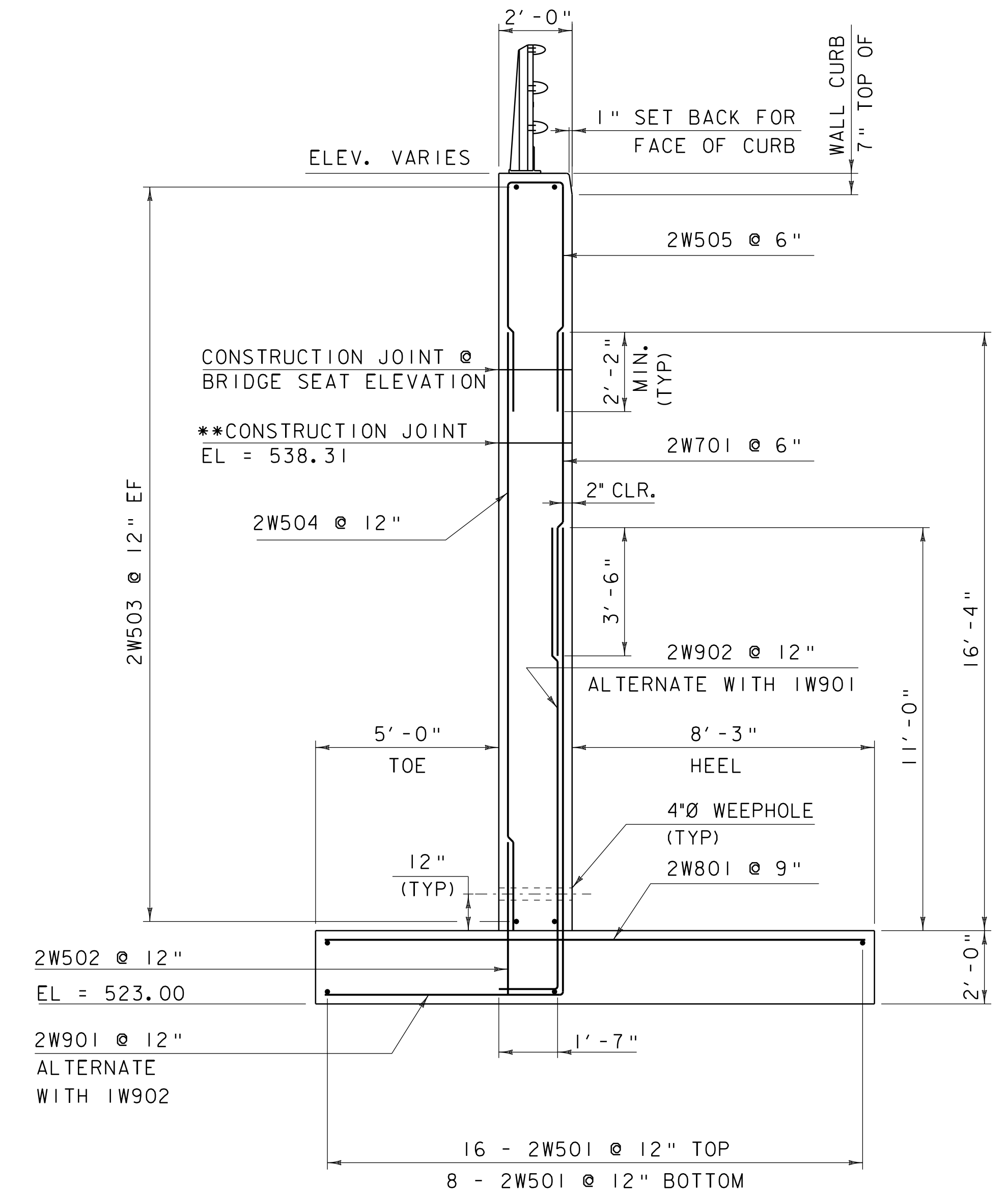
WINGWALL I TYPICAL

SCALE 3/8" = 1'-0"



WINGWALL I LIGHTPOLE PLAN

SCALE 3/8" = 1'-0"



WINGWALL 2 TYPICAL

SCALE 3/8" = 1'-0"

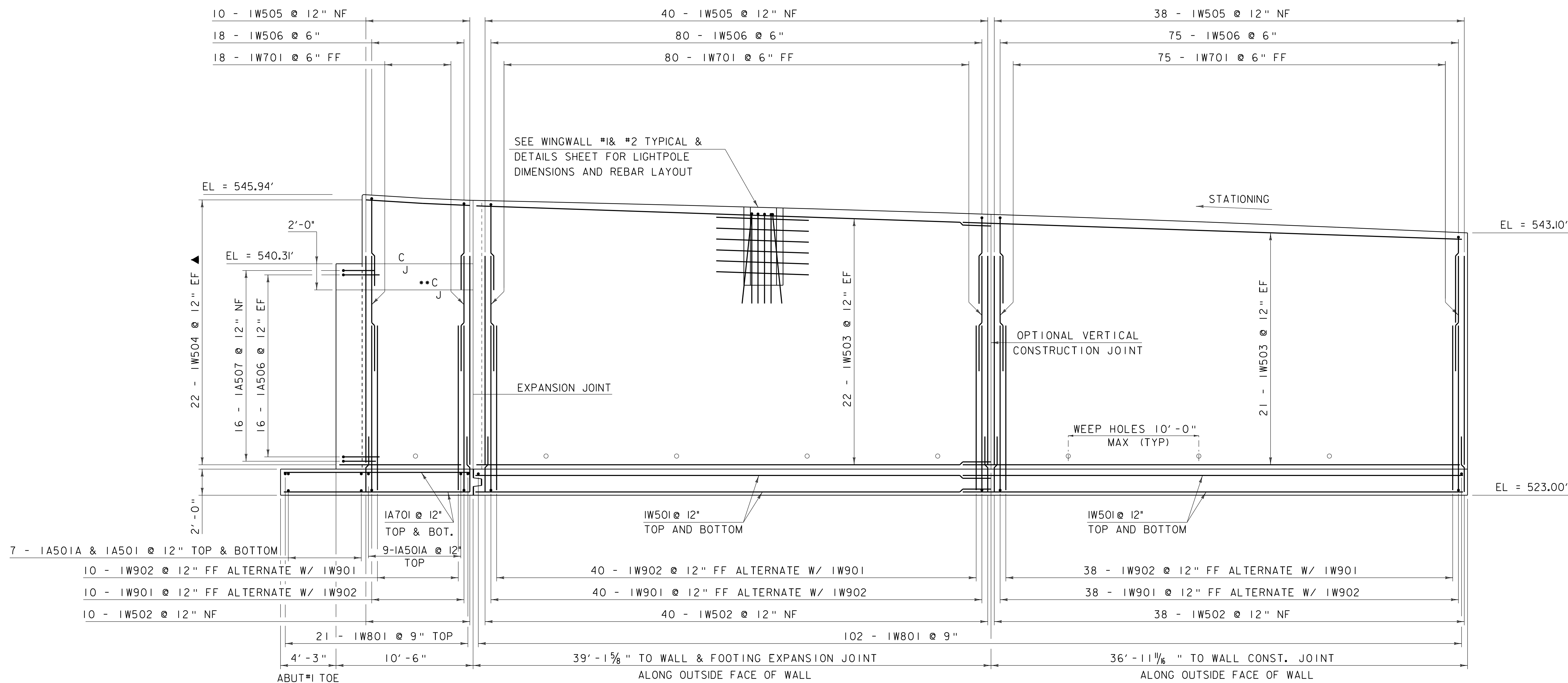
NOTE:

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 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

**REFER TO CONCRETE SECTION OF GENERAL NOTES REGARDING CONSTRUCTION JOINT LOCATED AT ELEVATION 538.31 FOR ABUTMENT#1

PROJECT NAME: BETHEL
 PROJECT NUMBER: BRF 022-1(I14)

FILE NAME: s78f161sub1.dgn PLOT DATE: 20-MAY-2011
 PROJECT LEADER: M. EVANS-MONGEON DRAWN BY: M. LONGSTREET
 DESIGNED BY: S. SCRIBNER CHECKED BY: S. SCRIBNER
 WINGWALL #1 & #2 TYPICALS & DETAILS SHEET 61 OF 148



**REFER TO CONCRETE SECTION OF GENERAL NOTES REGARDING CONSTRUCTION JOINT LOCATED AT ELEVATION 538.31 FOR ABUTMENT #1

WINGWALL # 1 ELEVATION (CURVED)

SCALE 1/4" = 1'-0"

- TOP OF WW#1 ELEVATION FOLLOWS THE FINISH GRADE ELEVATION OF THE SIDEWALK OUTSIDE EDGE. THE WALL ELEVATION IS 5" ABOVE ROAD CENTER LINE ELEVATION, EXCEPT FOR THE 10'-0" TRANSITION FROM 10" CURB ON THE BRIDGE TO 7" CURB IN THE TYPICAL SECTION. SEE STATION OFFSET ELEVATION REPORT ON THE WINGWALL TYPICALS SHEET.

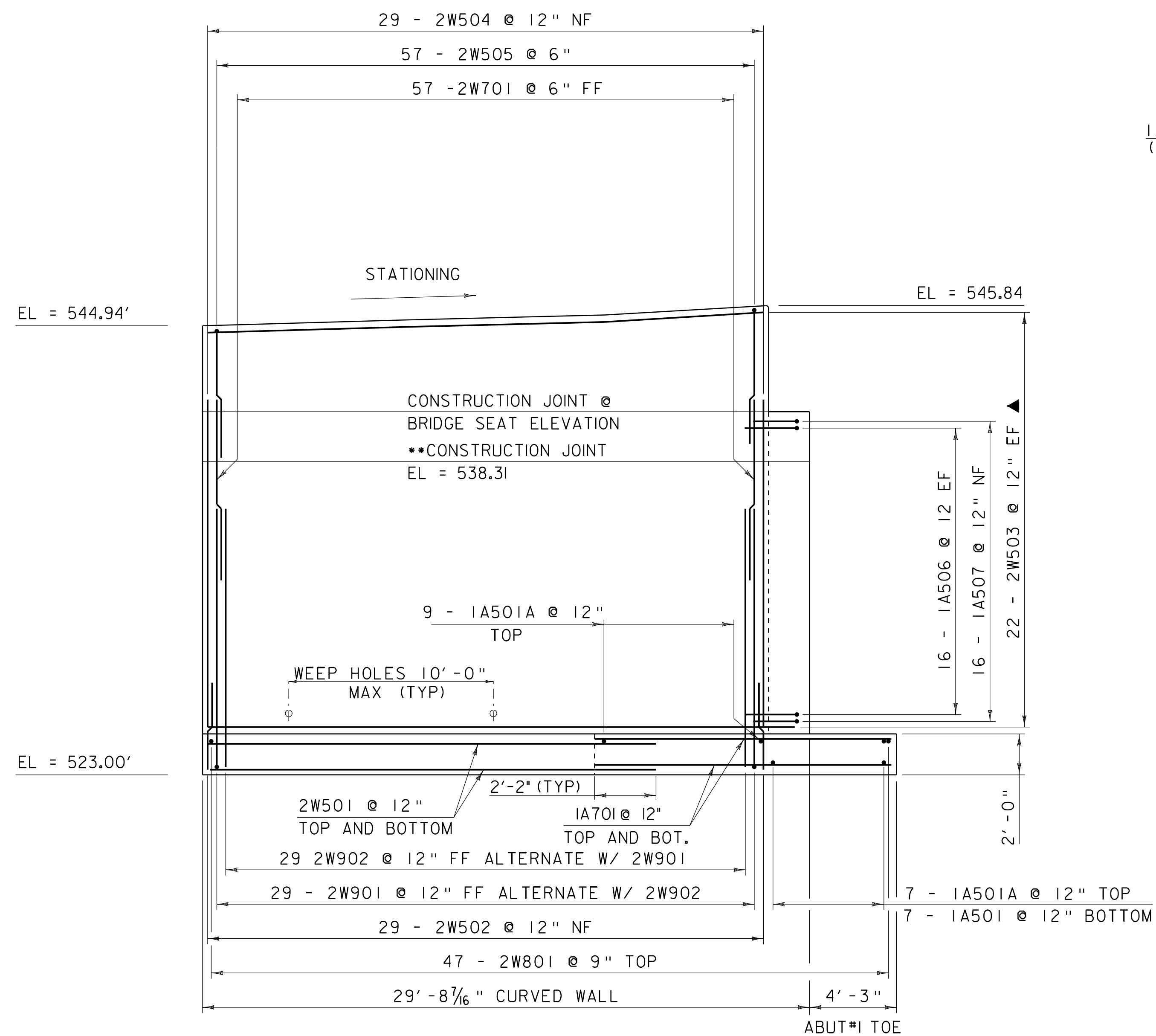
NOTE:

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 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: BETHEL
 PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f161sub1.dgn
 PROJECT LEADER: M. EVANS-MONGEON
 DESIGNED BY: N. VANDENBERG
 WINGWALL #1 ELEVATION

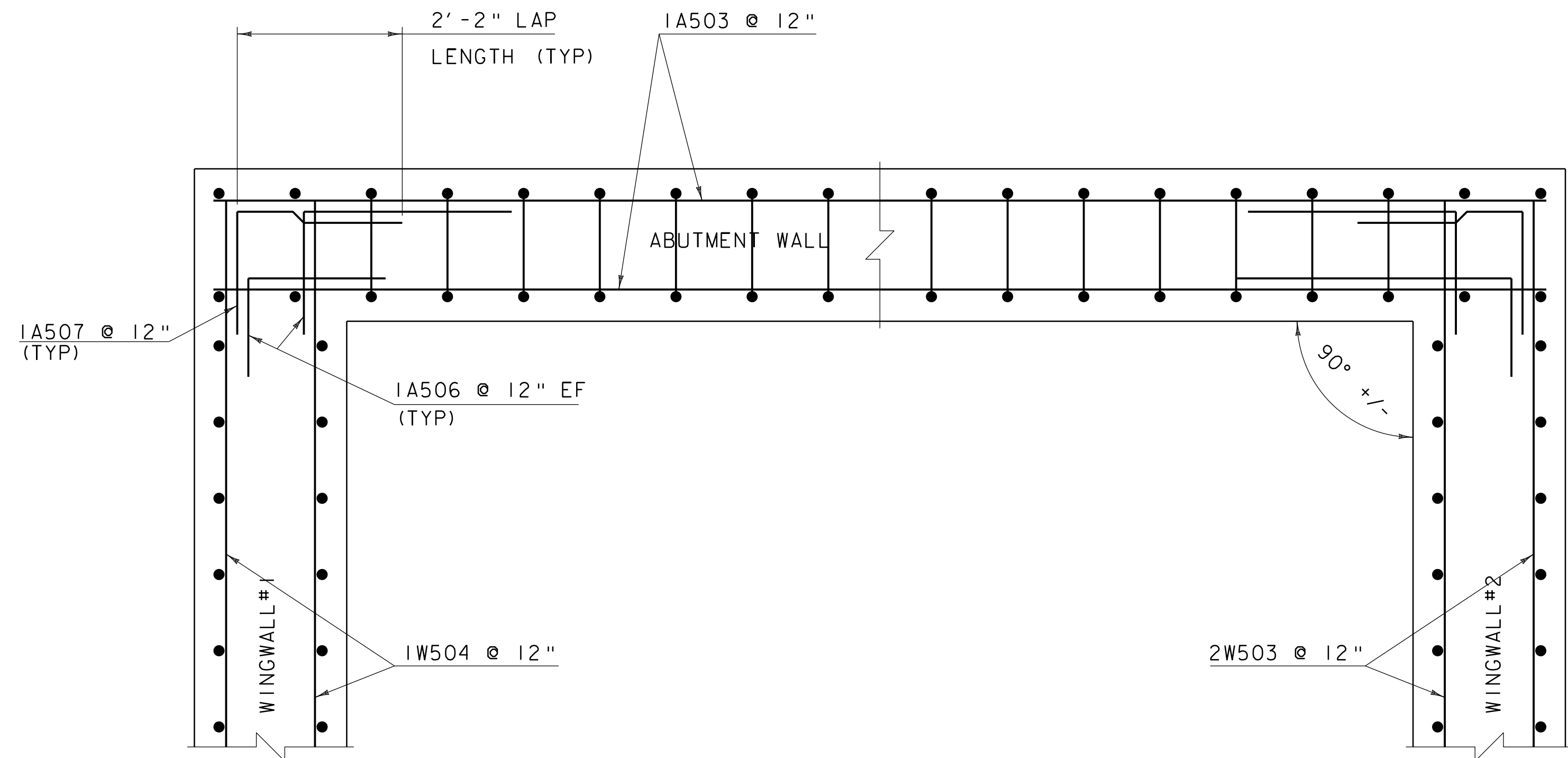
PLOT DATE: 20-MAY-2011
 DRAWN BY: M. LONGSTREET
 CHECKED BY: S. SCRIBNER
 SHEET 62 OF 148



WINGWALL # 2 ELEVATION (CURVED)

SCALE 1/4" = 1'-0"

- I. TOP OF WW#2 ELEVATION FOLLOWS THE RIGHT SHOULDER OUT SIDE EDGE FINISH GRADE ELEVATION +7". THE WALL ELEVATION IS 3⁵/₈" ABOVE ROAD CENTER LINE ELEVATION, EXCEPT FOR THE 10'-0" TRANSITION FROM 10" CURB ON THE BRIDGE TO 7" CURB IN THE TYPICAL SECTION. SEE STATION OFFSET REPORT ON THE WINGWALL TYPICALS SHEET.



TYPICAL WINGWALL 1&2 CORNER DETAIL BELOW BRIDGE SEAT

SCALE 3/4" = 1'-0"

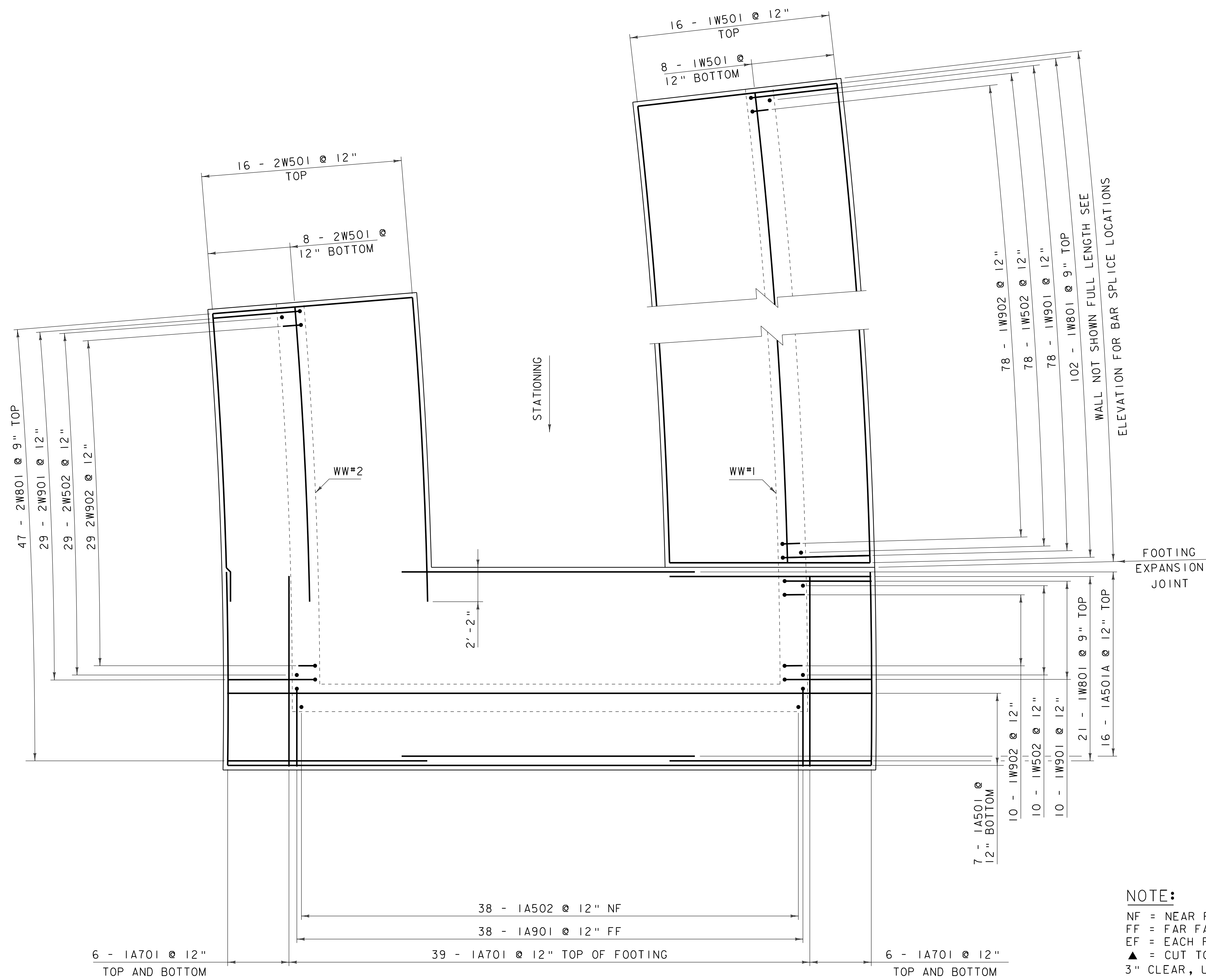
**REFER TO CONCRETE SECTION OF GENERAL NOTES REGARDING CONSTRUCTION JOINT LOCATED AT ELEVATION 538.31 FOR ABUTMENT#1

NOTE:

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 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: BETHEL
 PROJECT NUMBER: BRF 022-1(I14)

FILE NAME: s78f161sub1.dgn
 PROJECT LEADER: M. EVANS-MONGEON
 DESIGNED BY: N. VANDENBERG
 WINGWALL #2 ELEVATION & DETAILS
 PLOT DATE: 20-MAY-2011
 DRAWN BY: M. LONGSTREET
 CHECKED BY: S. SCRIBNER
 SHEET 63 OF 148

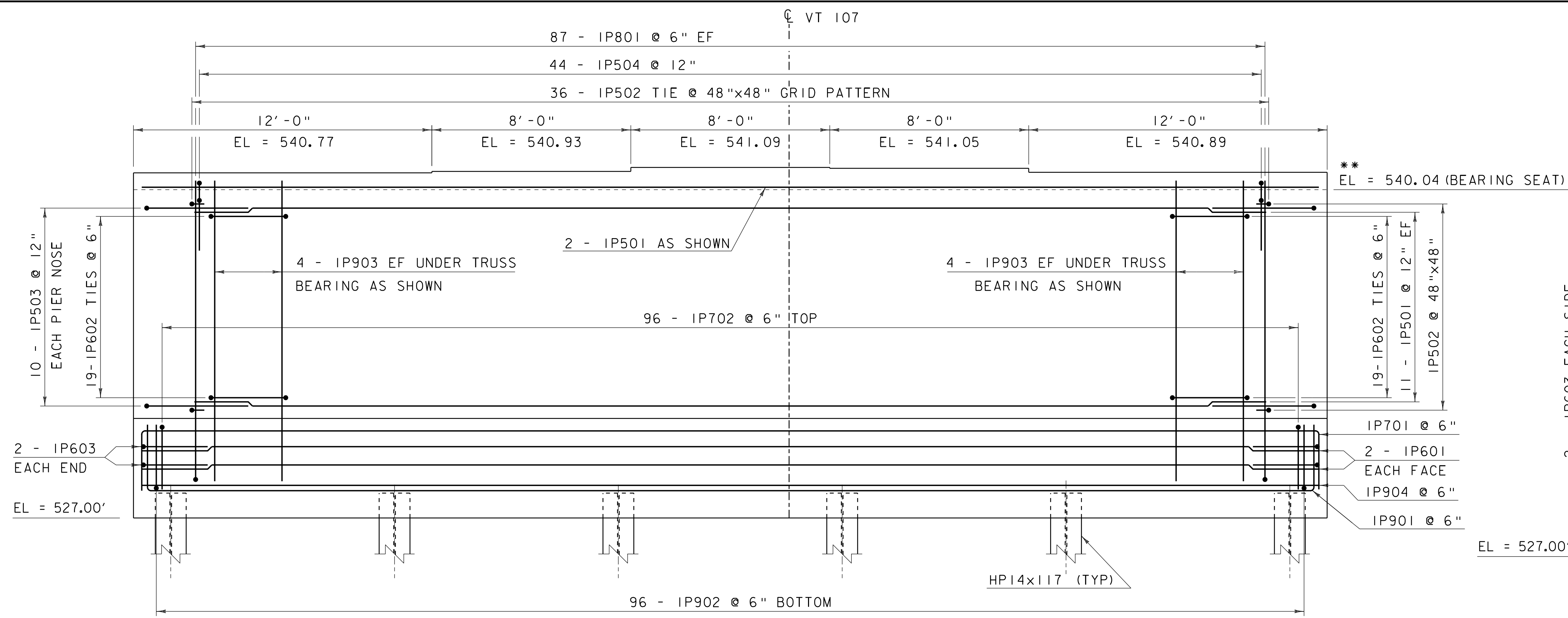


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 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

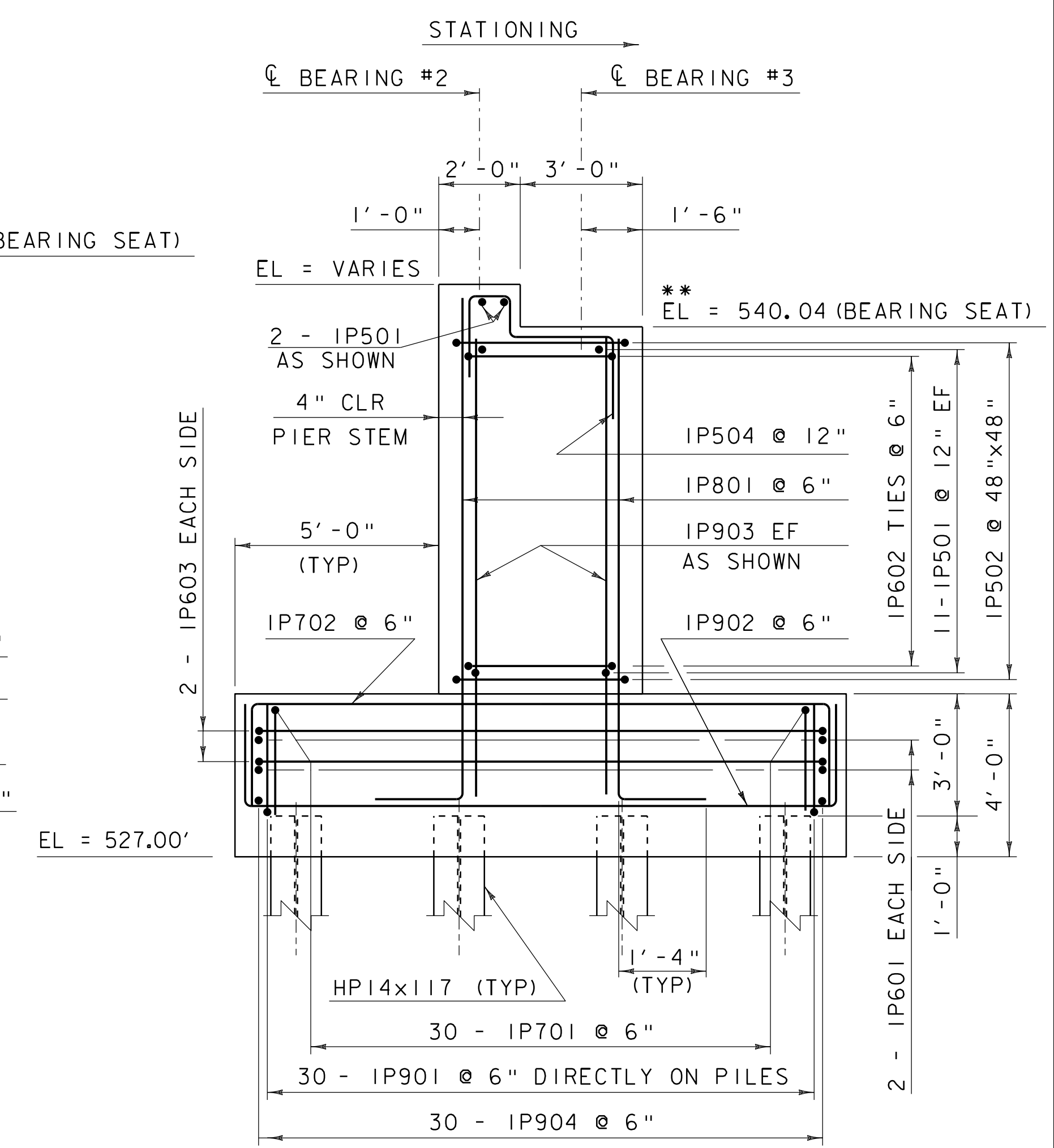
ABUTMENT #1 FOOTING REINFORCING PLAN

SCALE 1/4" = 1'-0"

PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(14)	DRAWN BY:	M. LONGSTREET
FILE NAME:	s78f16isub1.dgn	CHECKED BY:	S. SCRIBNER
PROJECT LEADER:	M. EVANS-MONGEON	SHEET	64 OF 148
DESIGNED BY:	N. VANDENBERG		
ABUTMENT #1 FOOTING REINFORCING PLAN			

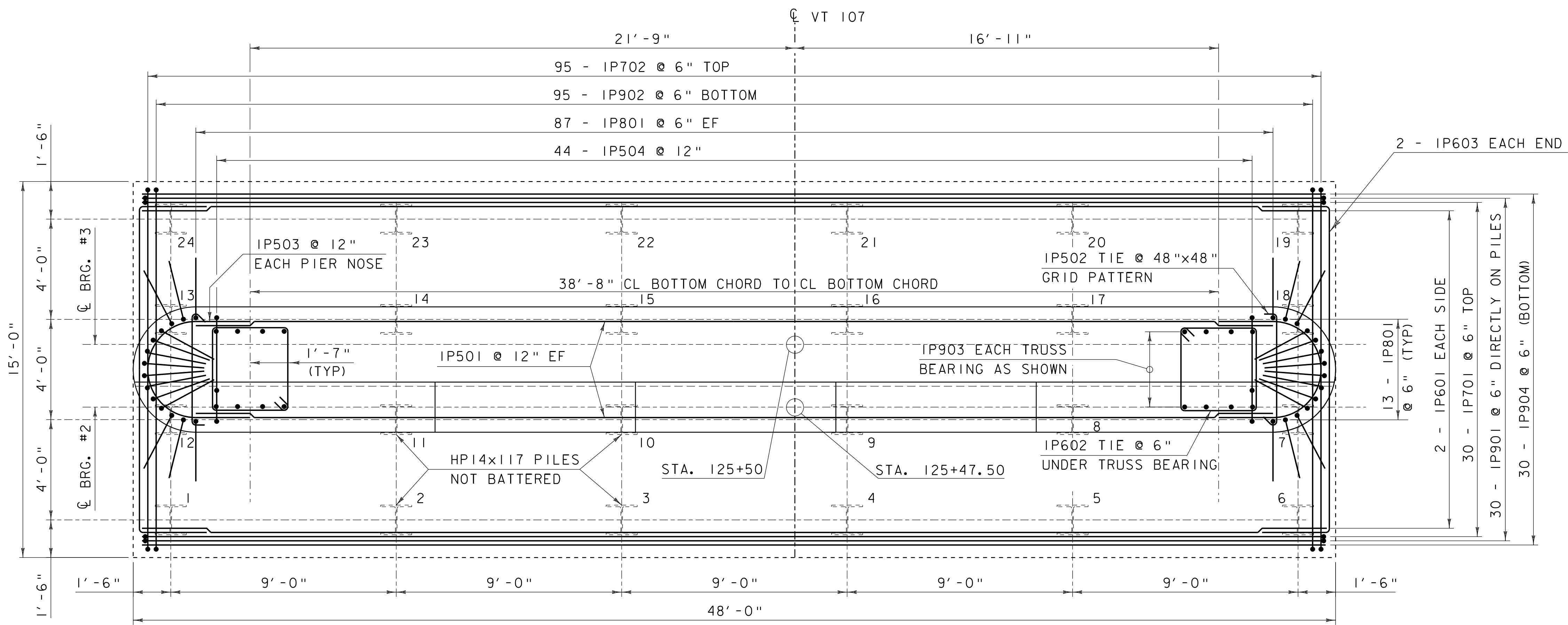


PIER #1 ELEVATION
 SCALE 3/8" = 1'-0"



PIER #1 TYPICAL
 SCALE 3/8" = 1'-0"

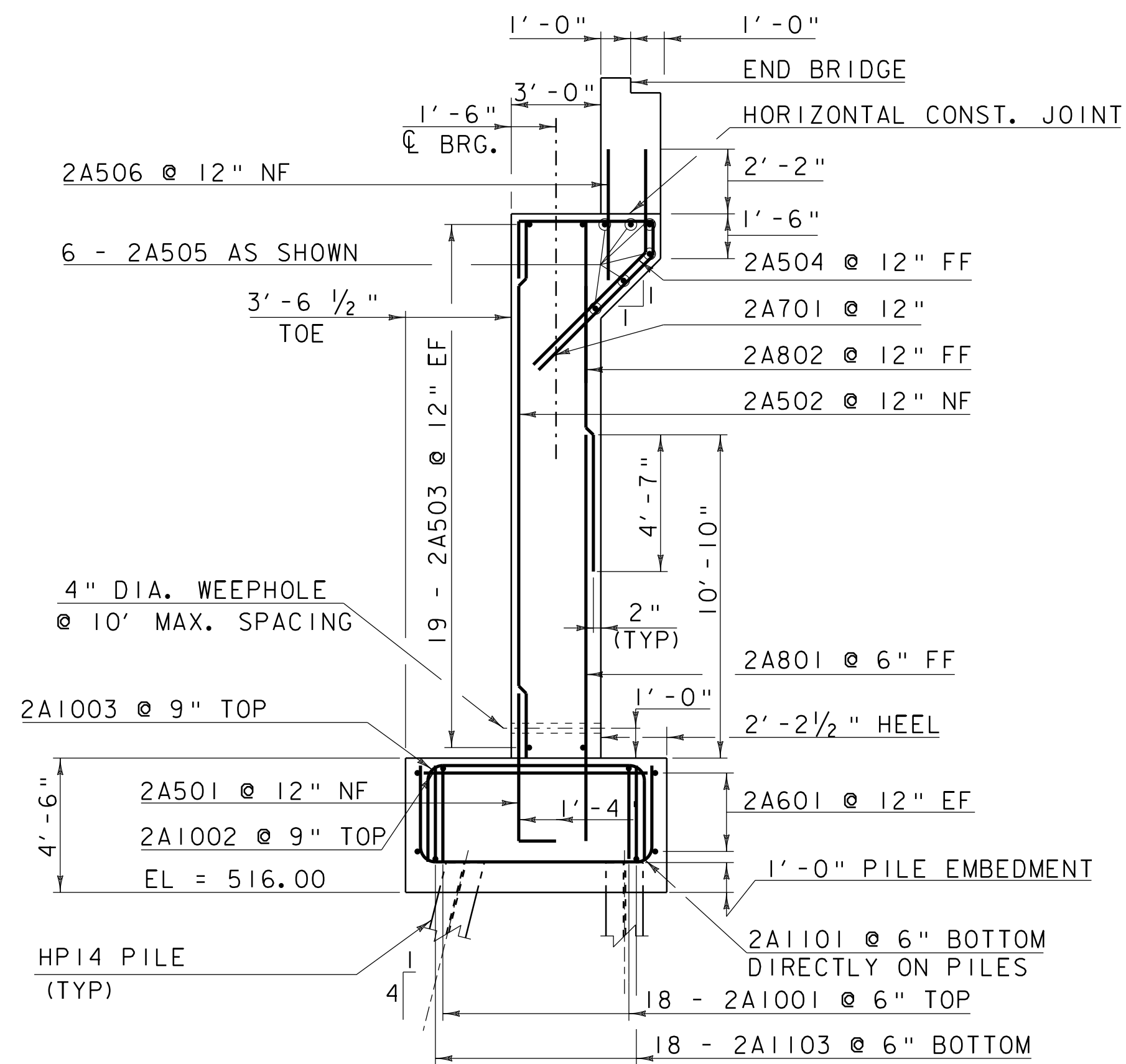
**THESE ELEVATIONS MAY HAVE TO BE ADJUSTED TO ACCOMMODATE THE ACTUAL BEARINGS FURNISHED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ANY CHANGES IN THE BEARINGS WHICH MAY AFFECT THE BEARING SEAT ELEVATIONS.



PIER #1 PLAN
 SCALE 3/8" = 1'-0"

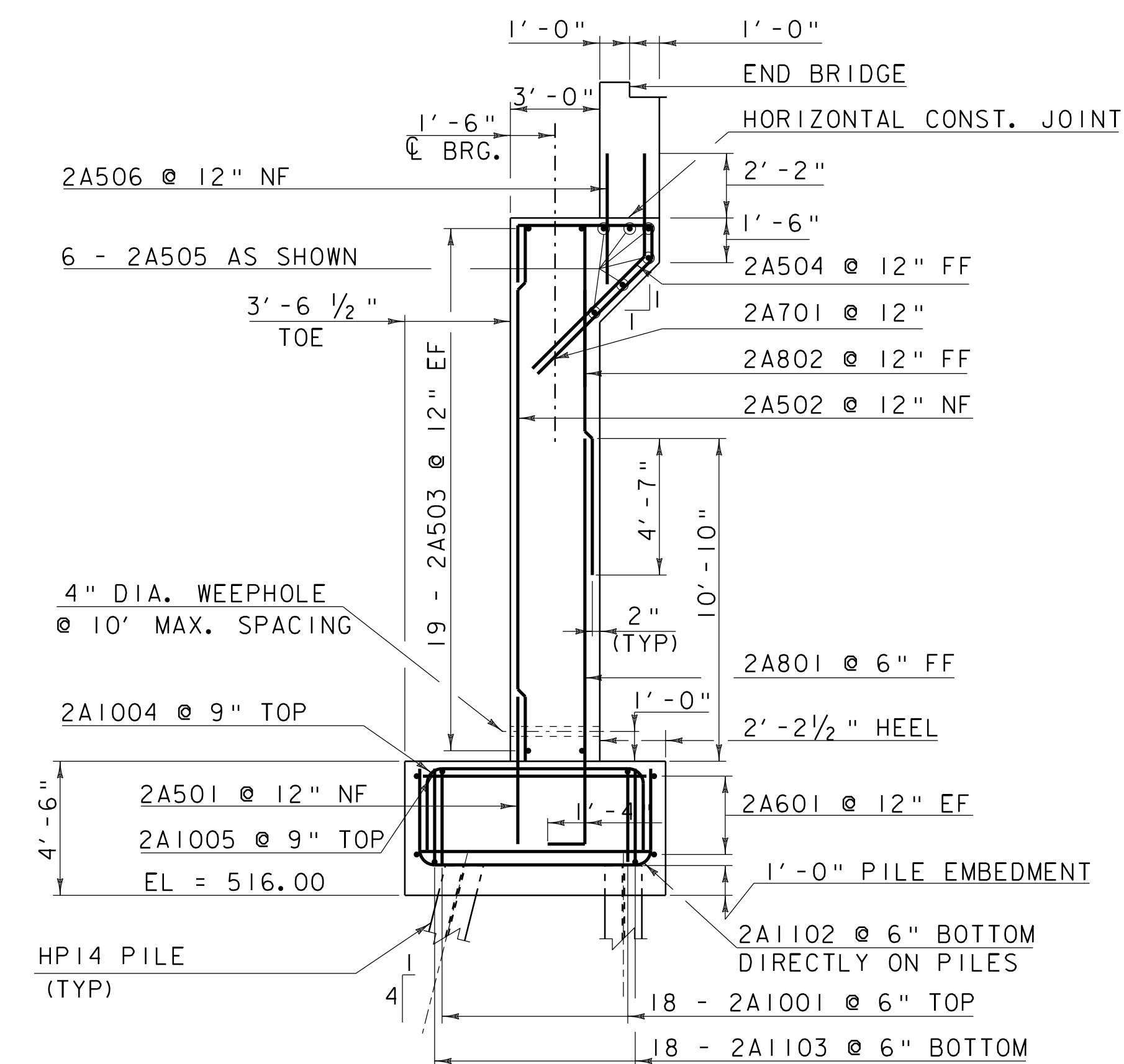
NOTE:
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 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-I(14)	DRAWN BY:	M. LONGSTREET
FILE NAME:	s78f161sub2.dgn	CHECKED BY:	S. SCRIBNER
PROJECT LEADER:	M. EVANS-MONGEON	PEIR DETAIL SHEET	SHEET 65 OF 148
DESIGNED BY:	N. VANDENBERG		



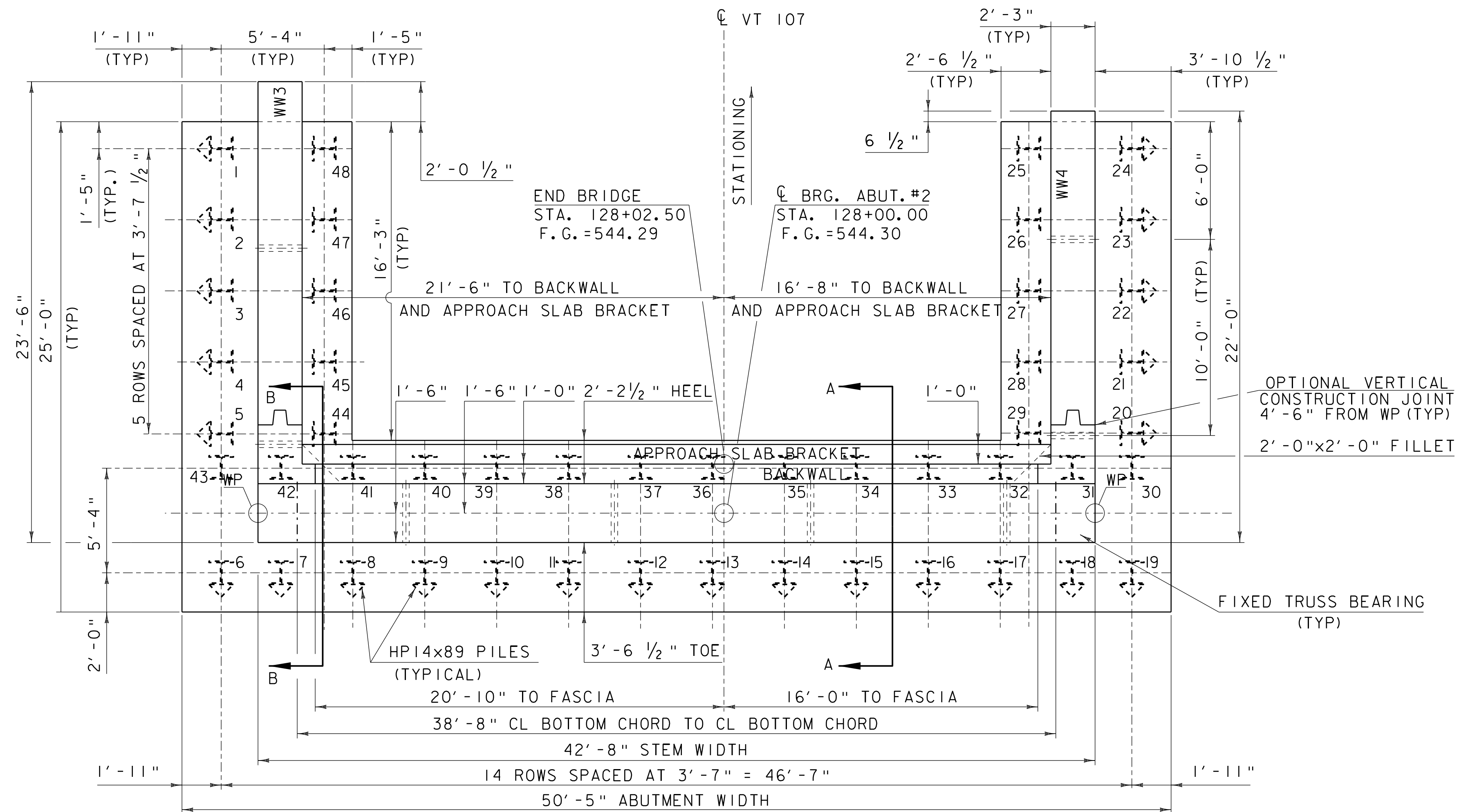
ABUTMENT #2 TYPICAL SECTION A-A

SCALE 1/4" = 1'-0"



ABUTMENT #2 TYPICAL SECTION B-B

SCALE 1/4" = 1'-0"



ABUTMENT #2 PLAN VIEW

SCALE 1/4" = 1'-0"



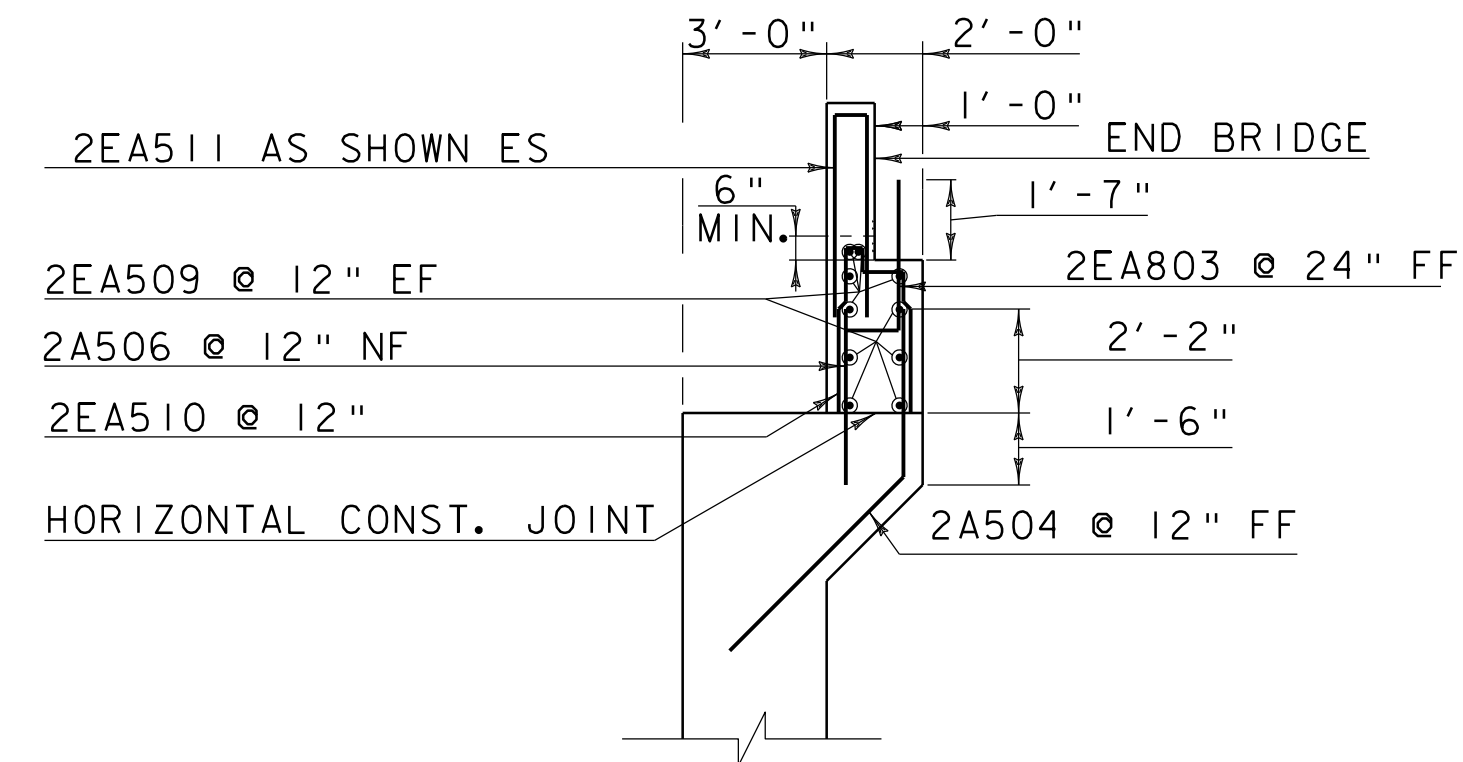
NOTE:

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- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE
SPECIFIED ON THE PLANS.
- 2'-2" BAR LAP UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

PROJECT NAME: BETHEL
PROJECT NUMBER: BRP 022-1(14)

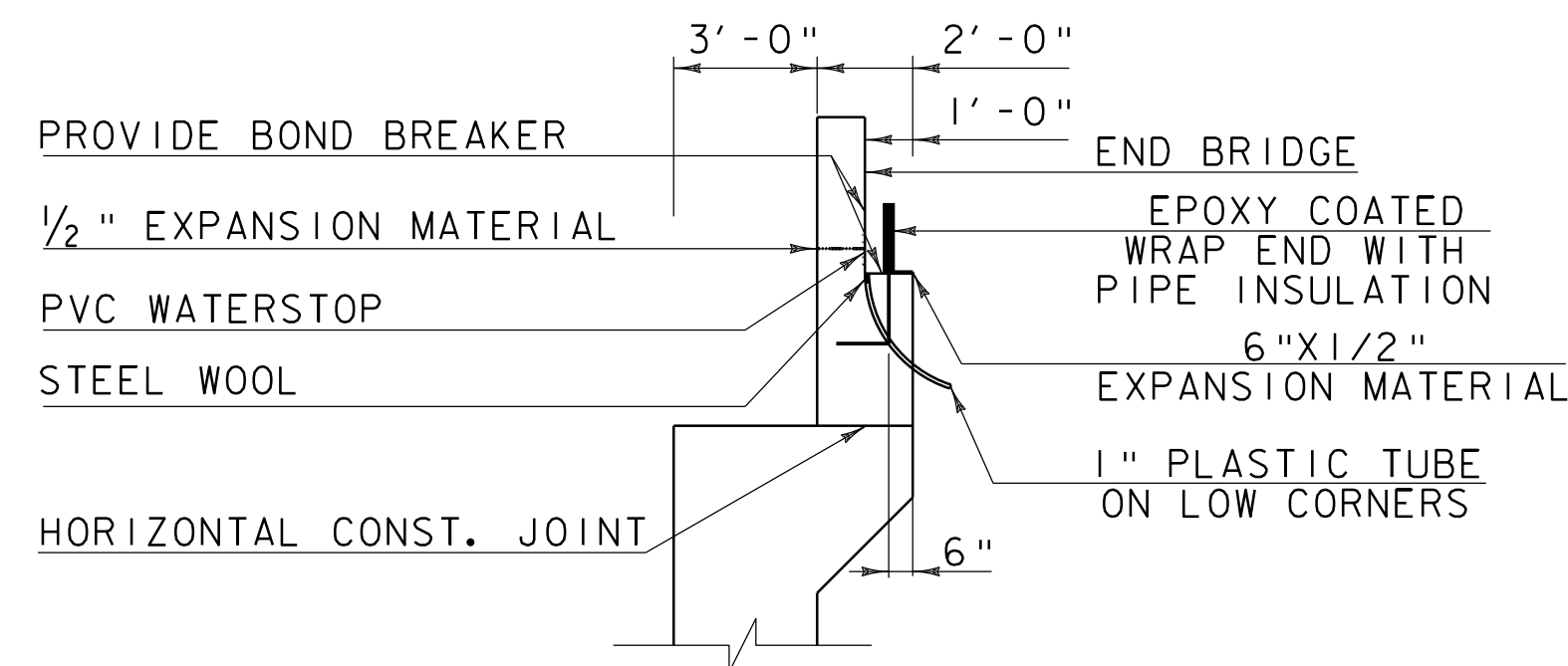
FILE NAME: s78f161sub2.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
ABUTMENT # 2 PLAN & TYPICALS

PLOT DATE: 20-MAY-2011
DRAWN BY: S. SCRIBNER
CHECKED BY: S. SCRIBNER
SHEET 66 OF 148



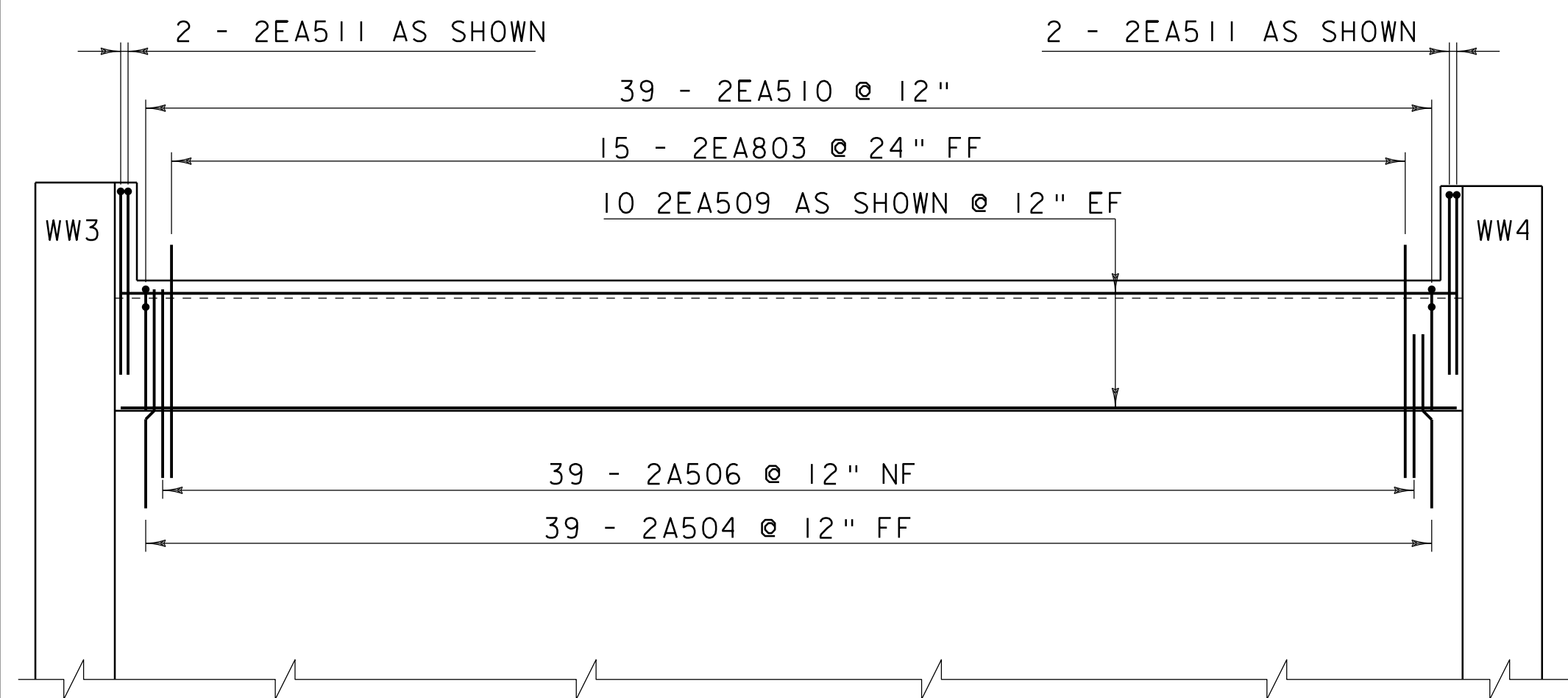
ABUTMENT #2 BACKWALL TYPICAL REINFORCING LAYOUT

SCALE 1/4" = 1'-0"



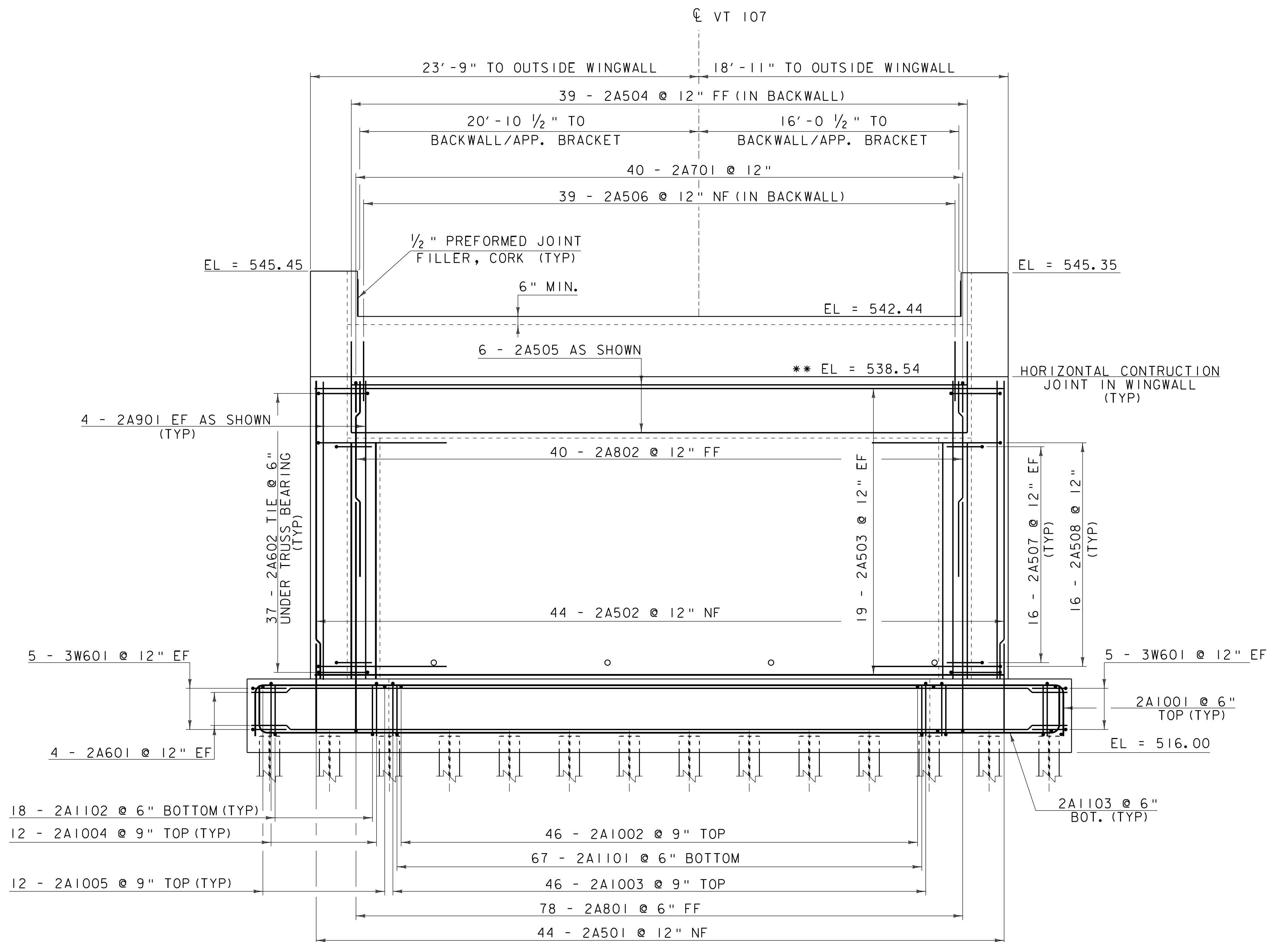
ABUTMENT #2 BACKWALL TYPICAL

SCALE 1/4" = 1'-0"



ABUTMENT #2 BACKWALL ELEVATION

SCALE 1/4" = 1'-0"



ABUTMENT #2 ELEVATION VIEW

SCALE 1/4" = 1'-0"

** THESE ELEVATIONS MAY HAVE TO BE ADJUSTED TO ACCOMMODATE THE ACTUAL BEARINGS FURNISHED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ANY CHANGES IN THE BEARINGS WHICH MAY AFFECT THE BEARING SEAT ELEVATIONS.

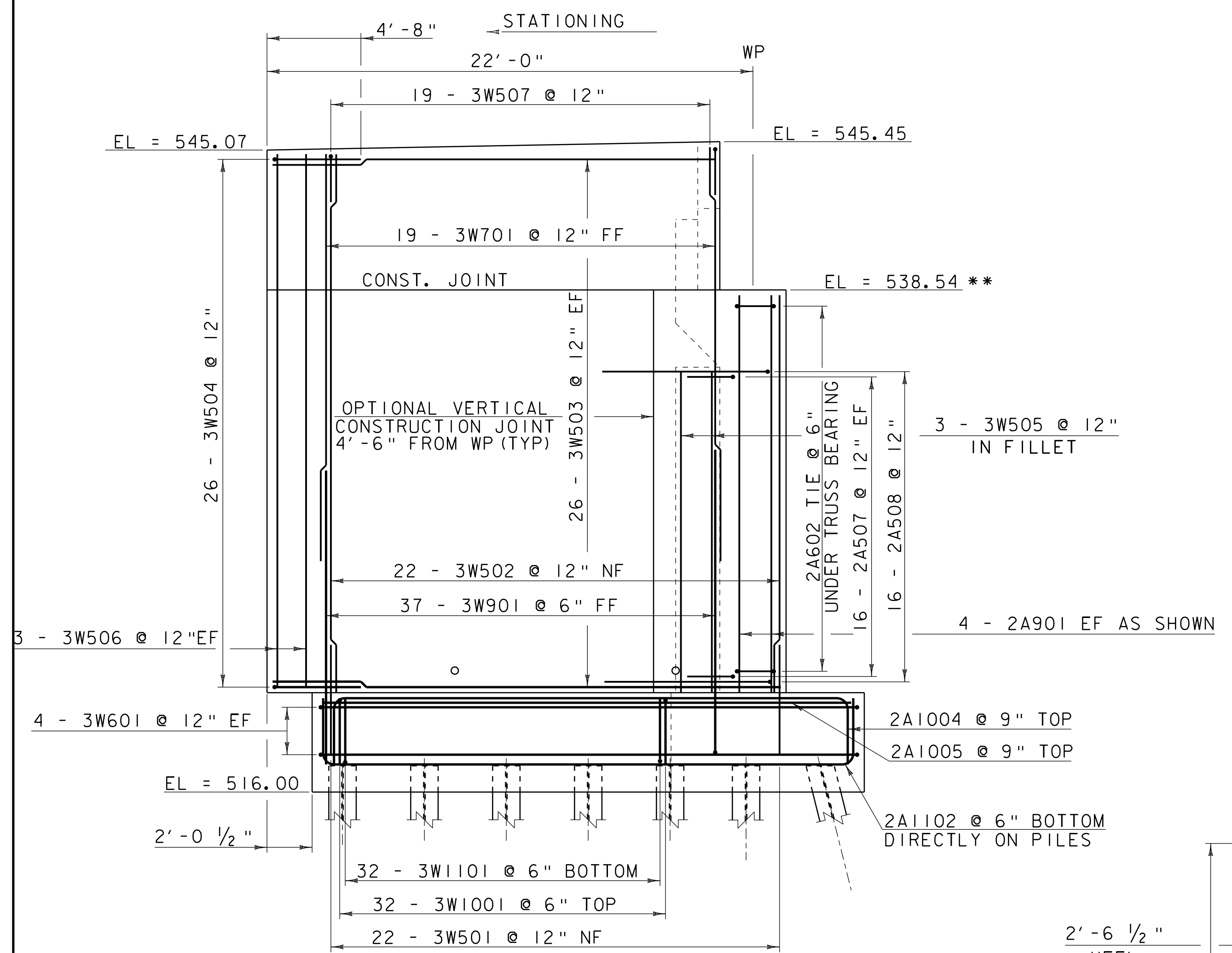
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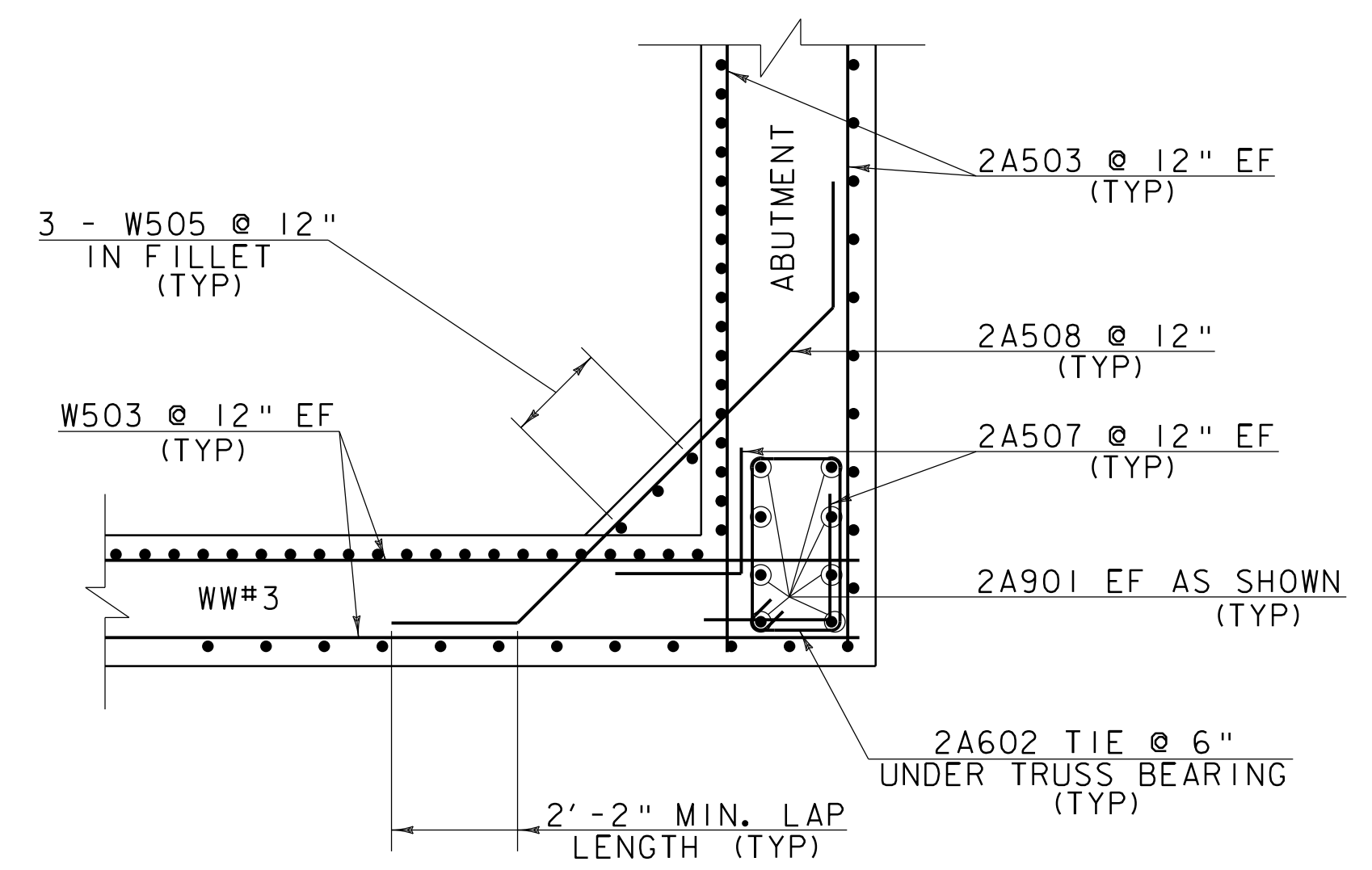
PROJECT NAME: BETHEL
 PROJECT NUMBER: BRF 022-1(I14)

FILE NAME: s78f161sub2.dgn
 PROJECT LEADER: M. EVANS-MONGEON
 DESIGNED BY: S. SCRIBNER
 ABUTMENT #2 ELEVATION & DETAILS

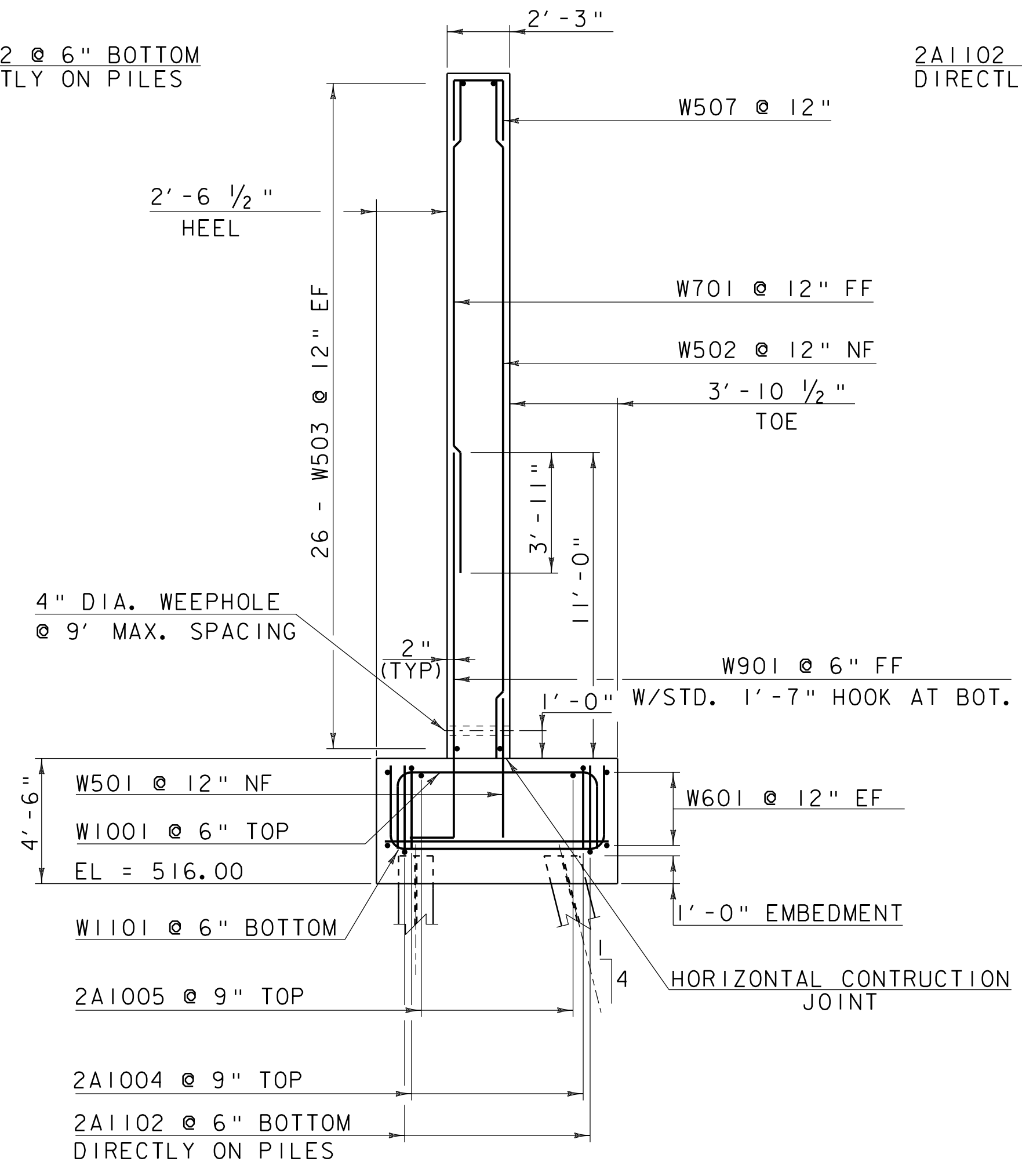
PLOT DATE: 20-MAY-2011
 DRAWN BY: S. SCRIBNER
 CHECKED BY: S. SCRIBNER
 SHEET 67 OF 148



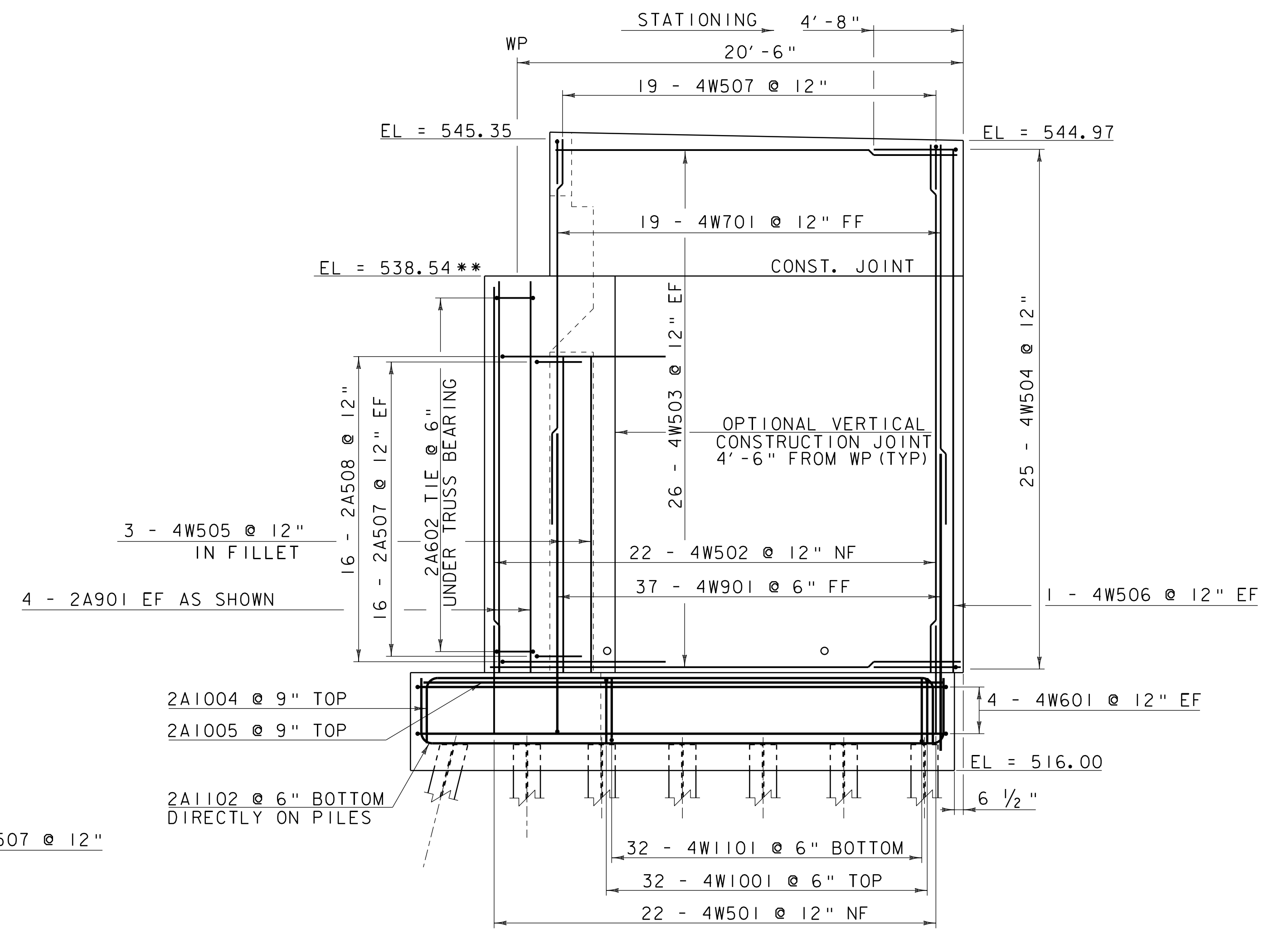
WINGWALL #3 ELEVATION VIEW
SCALE 1/4" = 1'-0"



**WINGWALL #3 & #4 CORNER DETAIL
BELOW BRIDGE SEAT**
NTS



WINGWALL #3 TYPICAL
SCALE 1/4" = 1'-0"

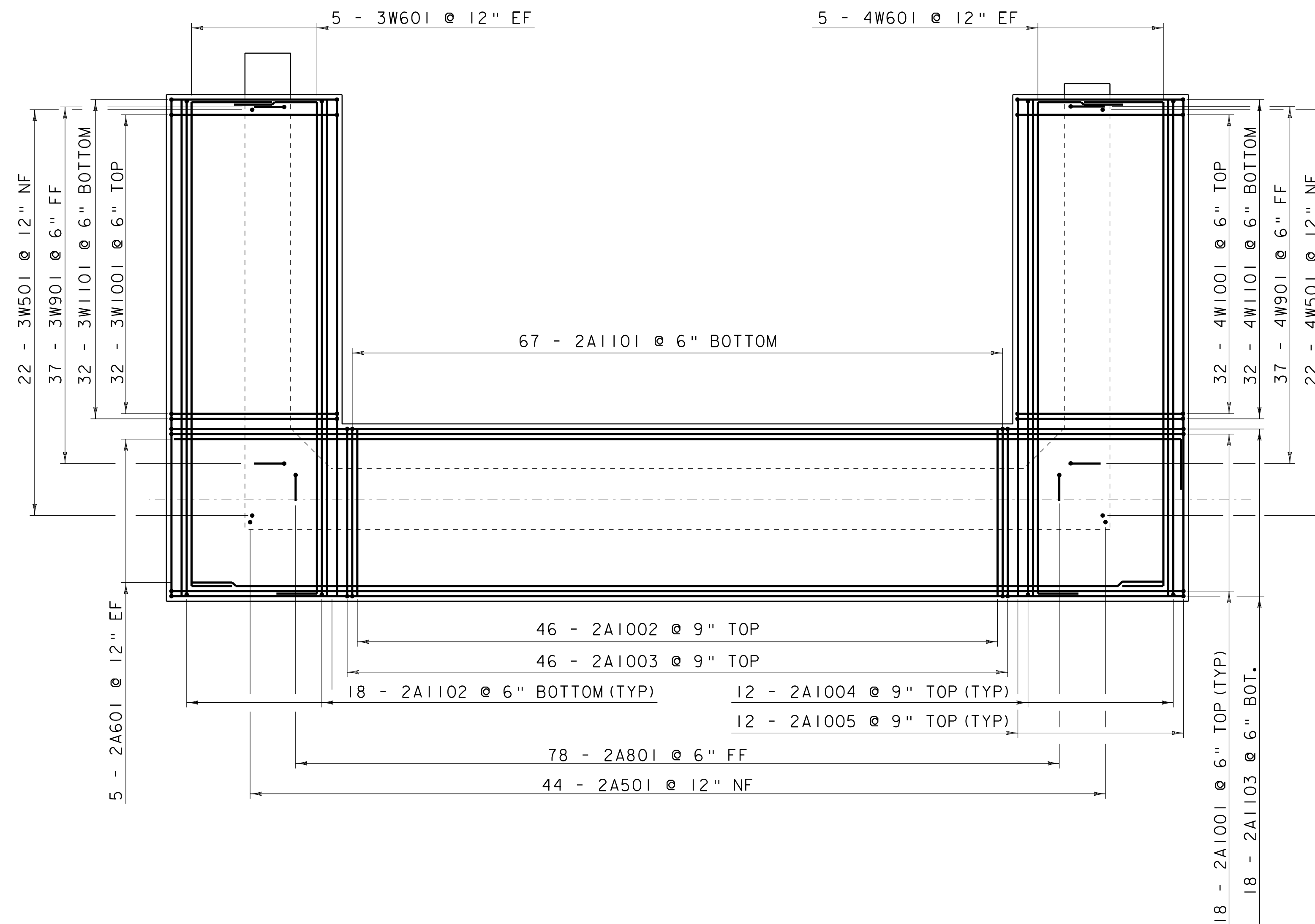


WINGWALL #4 ELEVATION VIEW
SCALE 1/4" = 1'-0"

** THESE ELEVATIONS MAY HAVE TO BE ADJUSTED TO ACCOMMODATE THE ACTUAL BEARINGS FURNISHED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ANY CHANGES IN THE BEARINGS WHICH MAY AFFECT THE BEARING SEAT ELEVATIONS.

NOTE:
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2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(I14)	DRAWN BY:	S. SCRIBNER
FILE NAME:	s78f16isub2.dgn	CHECKED BY:	S. SCRIBNER
PROJECT LEADER:	M. EVANS-MONGEON	SHEET	68 OF 148
DESIGNED BY:	S. SCRIBNER	WINGWALL 3 & 4 DETAILS	



ABUTMENT #2 FOOTING REINFORCING

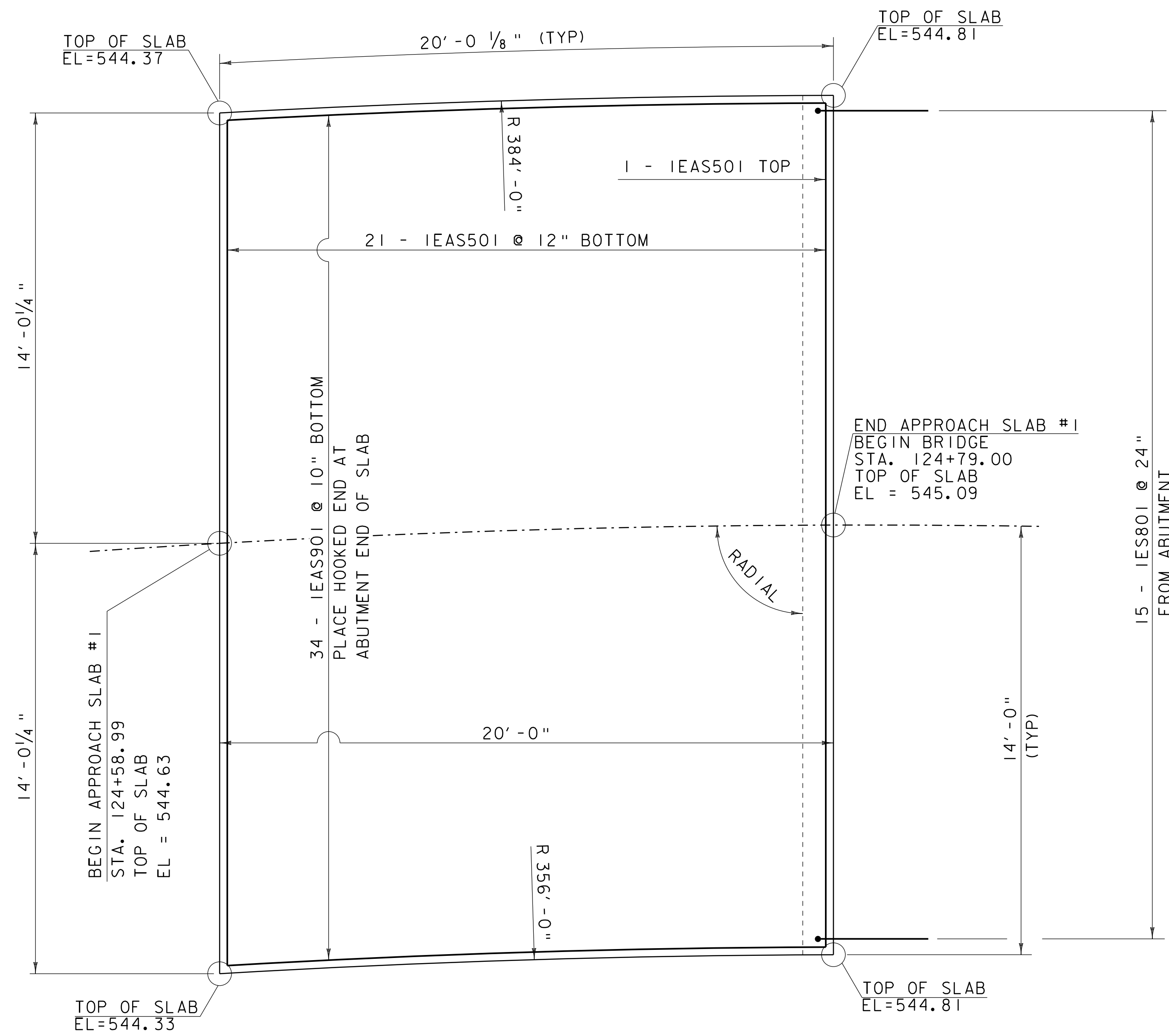
SCALE 1/4" = 1'-0"

NOTE:

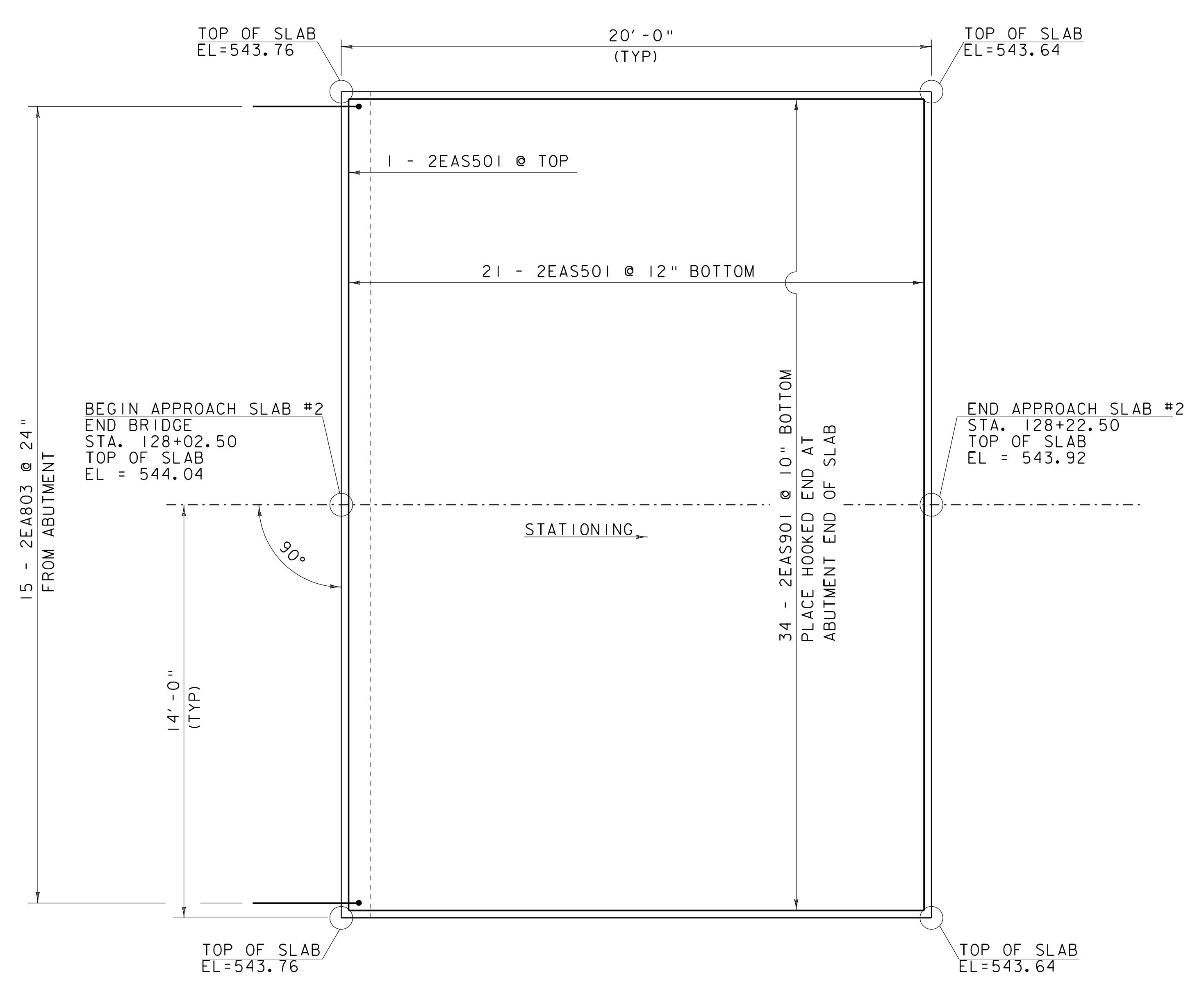
NF = NEAR FACE
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 SPECIFIED ON THE PLANS.
 2'-2" BAR LAP UNLESS OTHERWISE
 SPECIFIED ON THE PLANS.

PROJECT NAME: BETHEL
 PROJECT NUMBER: BRF 022-1(14)

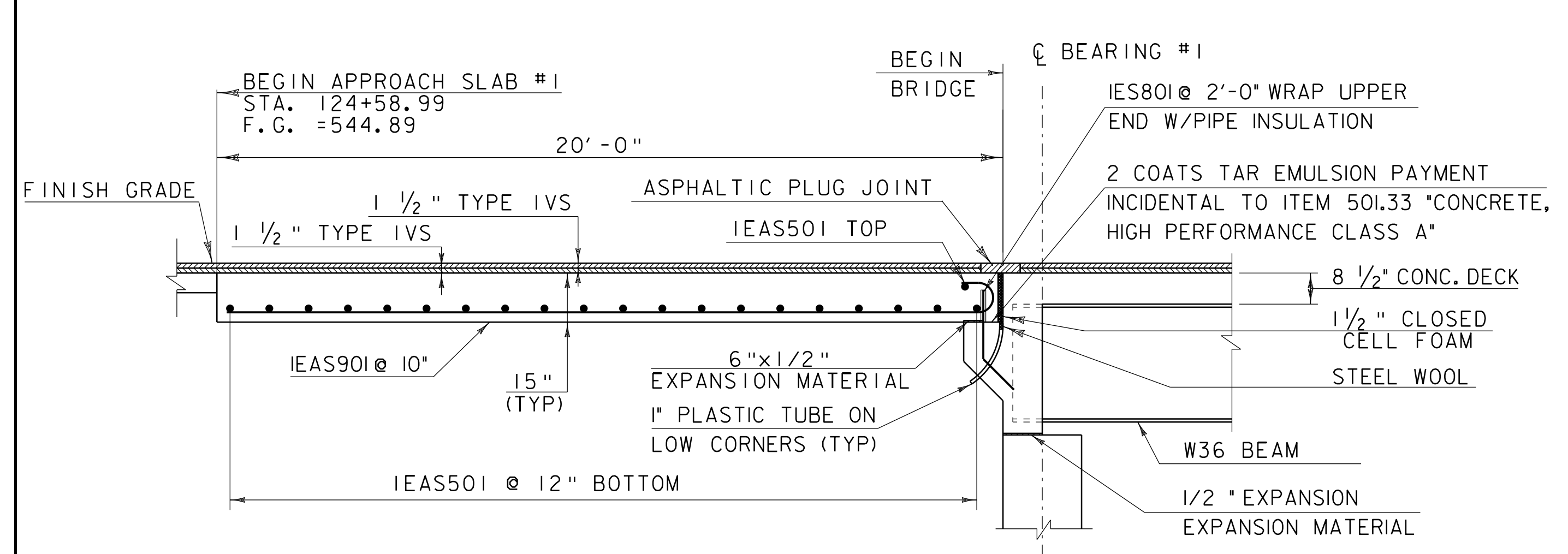
FILE NAME: s78f161sub2.dgn PLOT DATE: 20-MAY-2011
 PROJECT LEADER: M. EVANS-MONGEON DRAWN BY: M. LONGSTREET
 DESIGNED BY: S. SCRIBNER CHECKED BY: S. SCRIBNER
 ABUTMENT # 2 FOOTING REINFORCING PLAN SHEET 69 OF 148



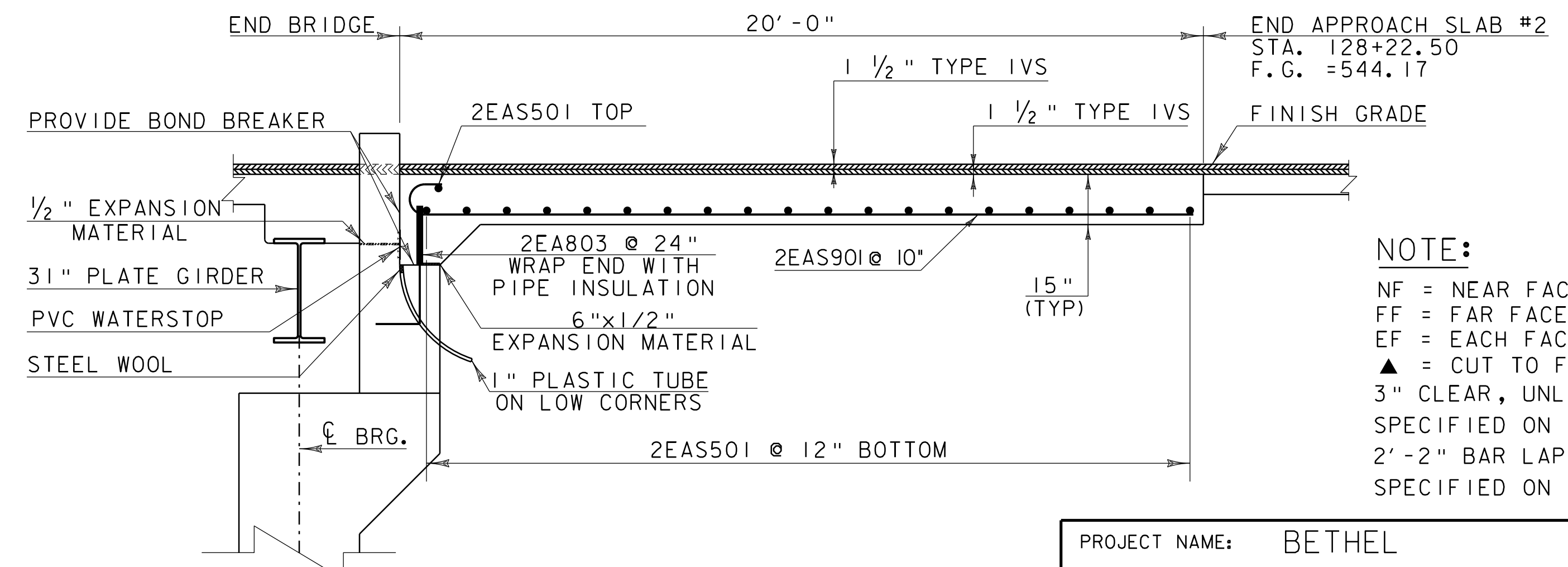
APPROACH SLAB NO. 1 PLAN
SCALE 3/8" = 1'-0"



APPROACH SLAB NO. 2 PLAN
SCALE 3/8" = 1'-0"



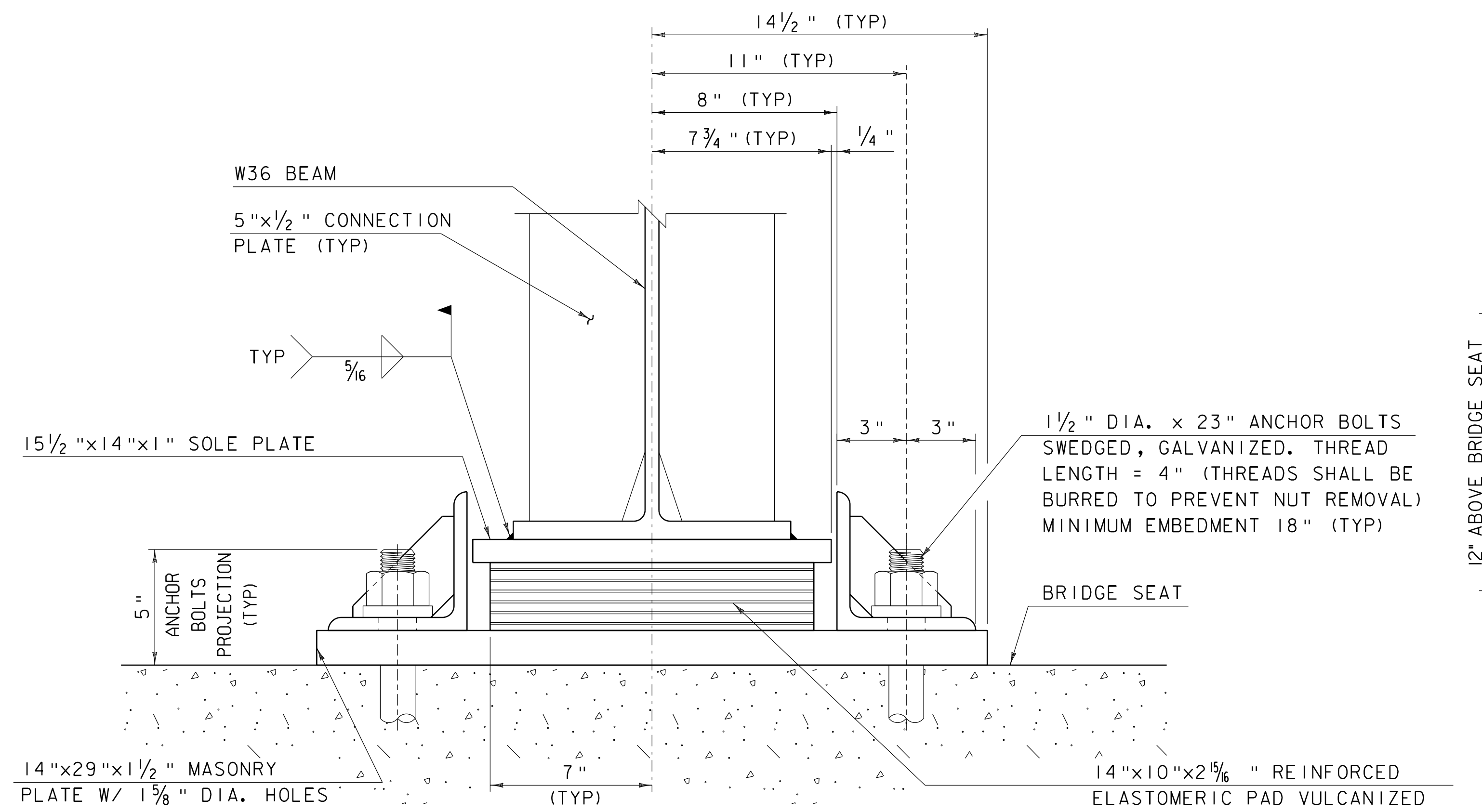
APPROACH SLAB NO. 1 DETAIL
SCALE 3/8" = 1'-0"



APPROACH SLAB NO. 2 DETAIL
SCALE 3/8" = 1'-0"

NOTE:
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 2'-2" BAR LAP UNLESS OTHERWISE
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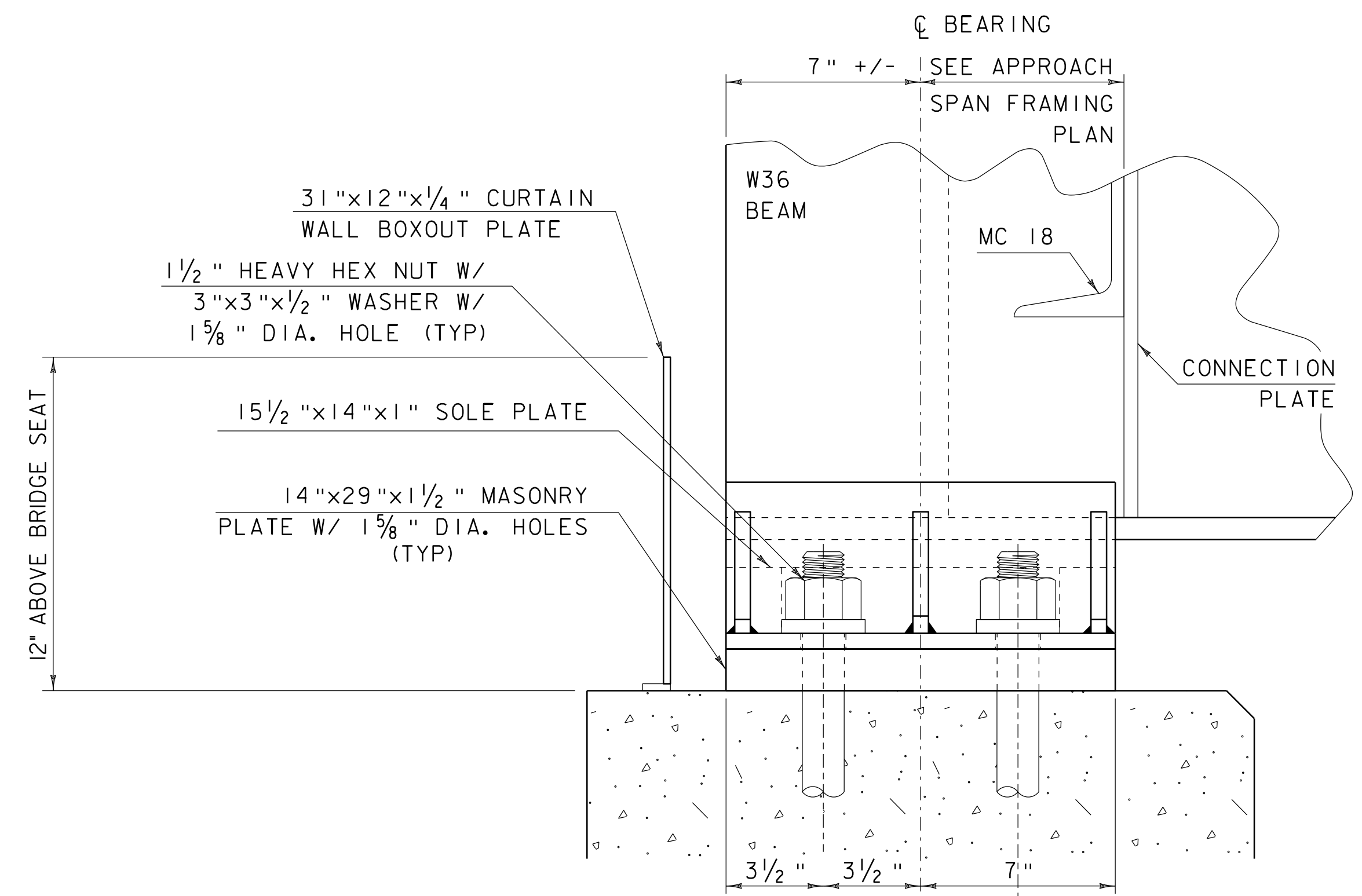
PROJECT NAME:	BETHEL	FILE NAME:	s78f16isub2.dgn	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(14)	PROJECT LEADER:	M. EVANS-MONGEON	DRAWN BY:	S.SCRIBNER
		DESIGNED BY:	N. VANDENBERG	CHECKED BY:	M. LONGSTREET
		APPROACH SLAB 1 & 2 DETAILS			SHEET 70 OF 148



ABUTMENT #1 EXPANSION BEARING END ELEVATION

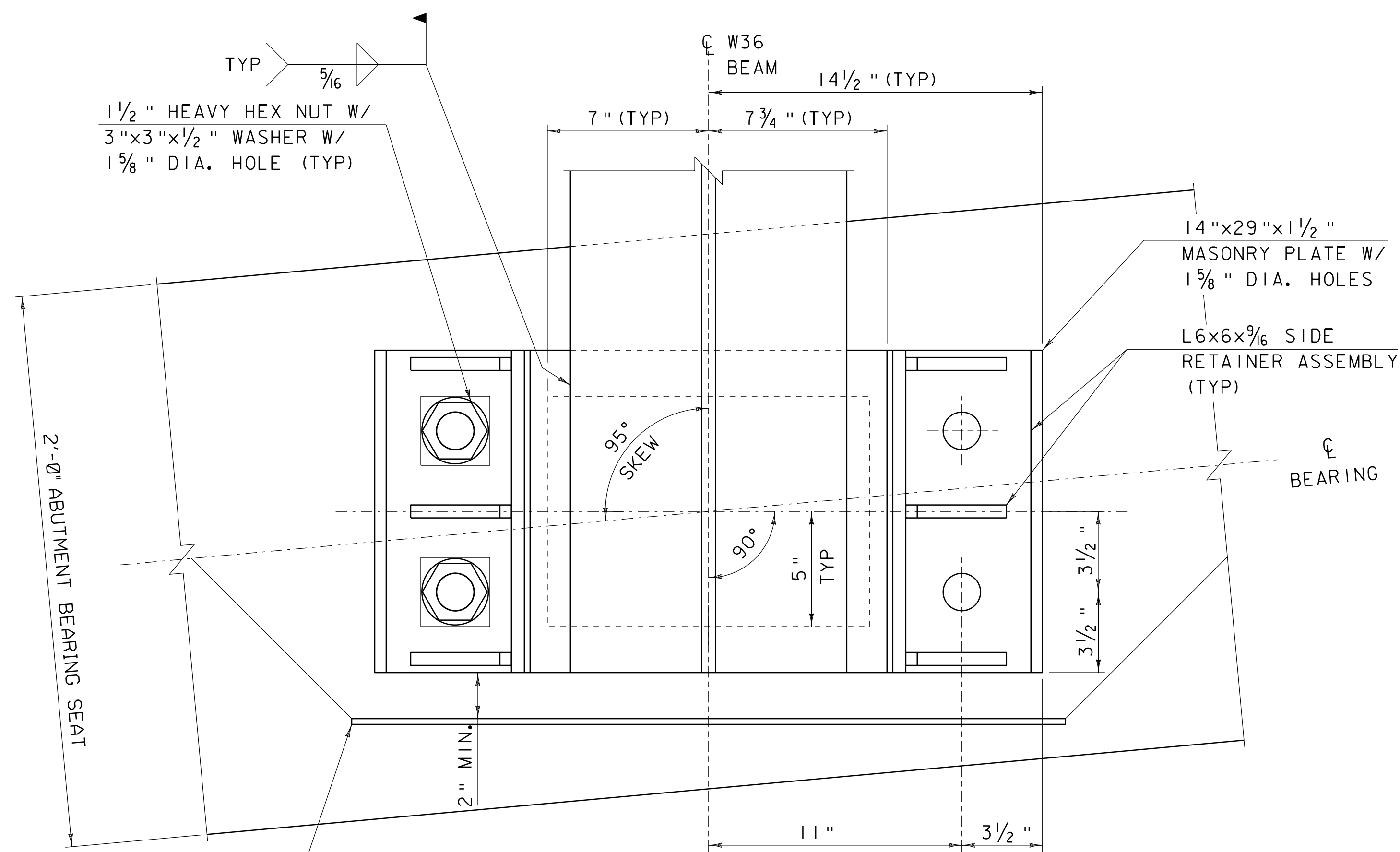
SCALE 3" = 1'-0"

14"x10"x2 1/8" REINFORCED ELASTOMERIC PAD VULCANIZED TO SOLE PLATE (SEE ELASTOMERIC BEARING MAKEUP DETAIL ON APPROACH SPAN PIER FIXED BEARING DETAILS, FOR DETAILS)



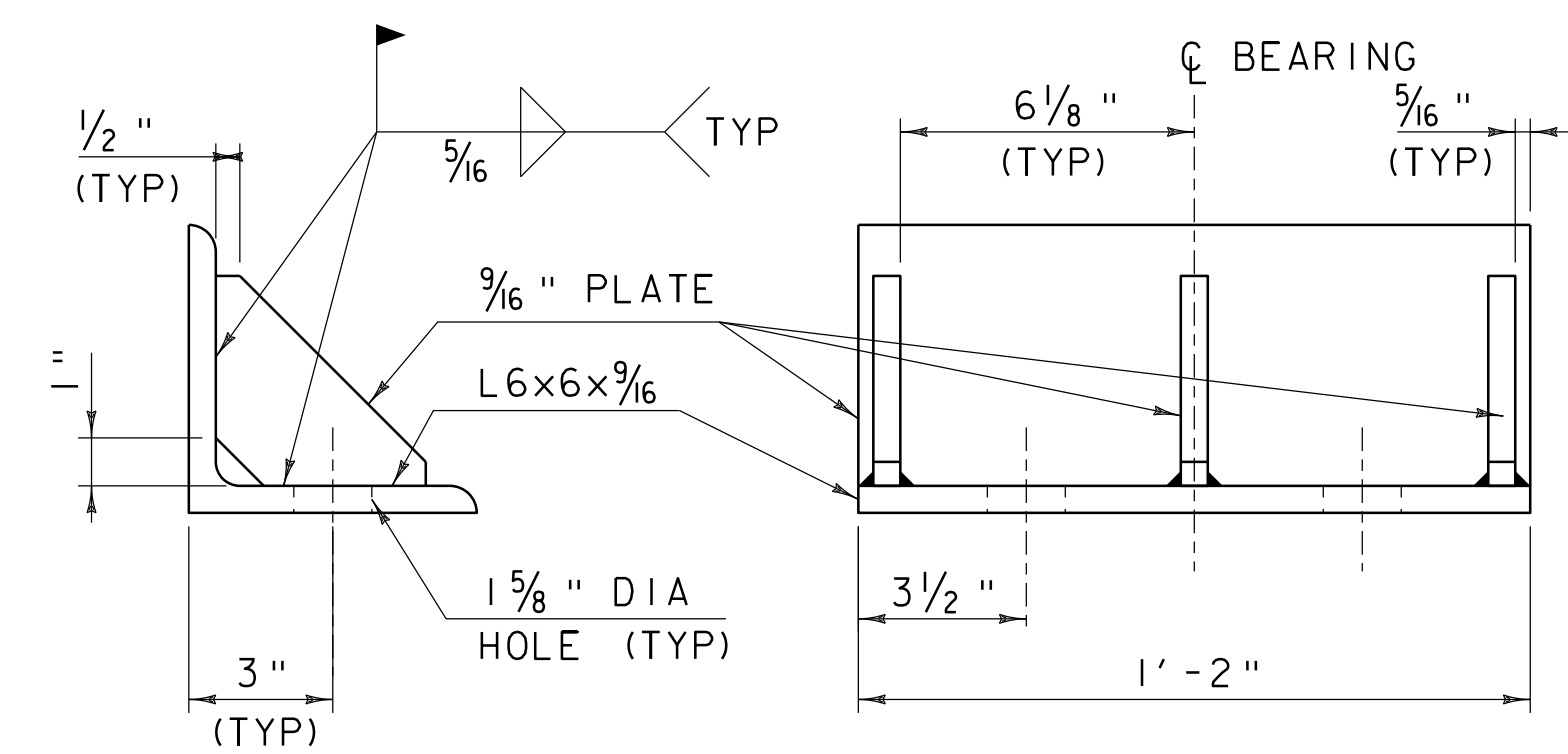
ABUTMENT #1 EXPANSION BEARING SIDE ELEVATION

SCALE 3" = 1'-0"



ABUTMENT #1 EXPANSION BEARING PLAN VIEW

SCALE 3" = 1'-0"



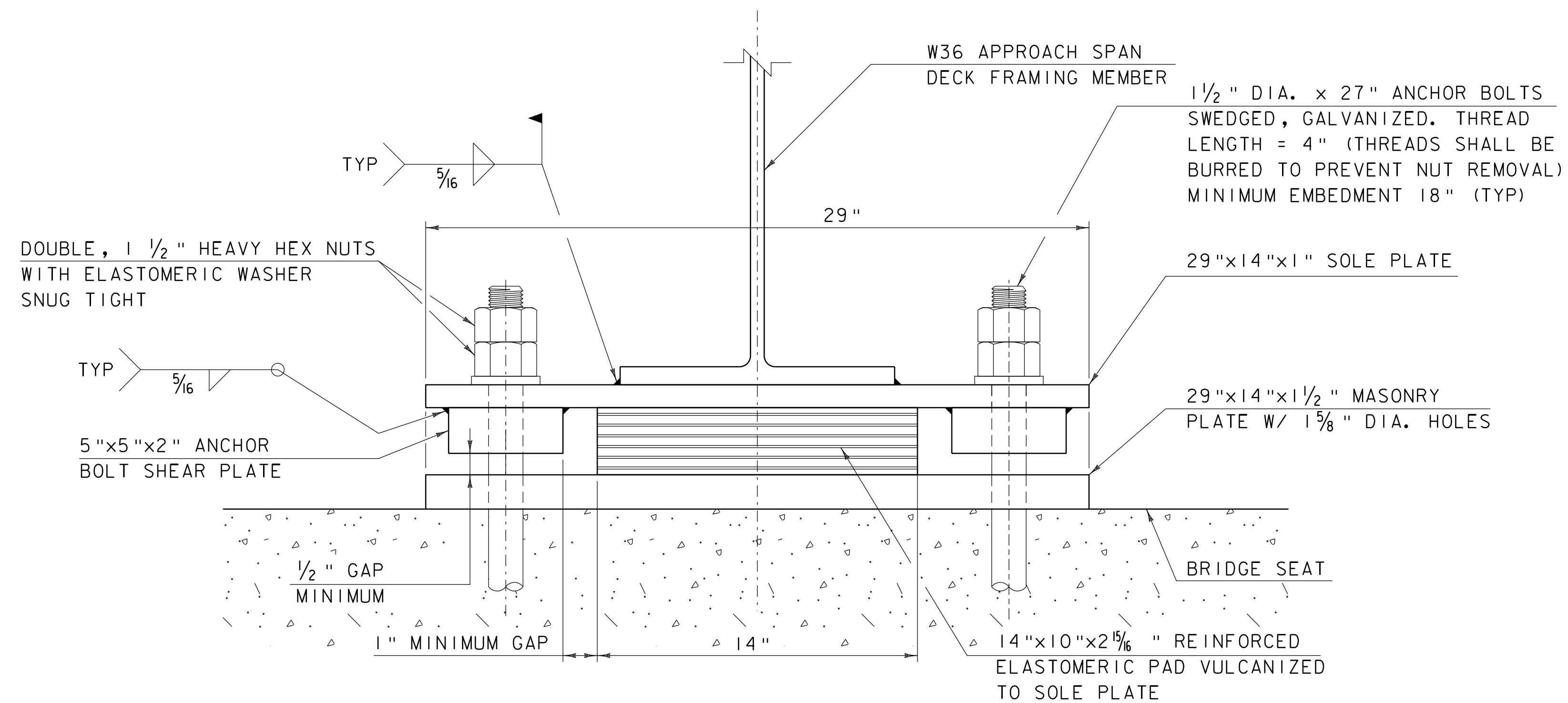
SIDE RETAINER DETAIL

SCALE 3" = 1'-0"

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

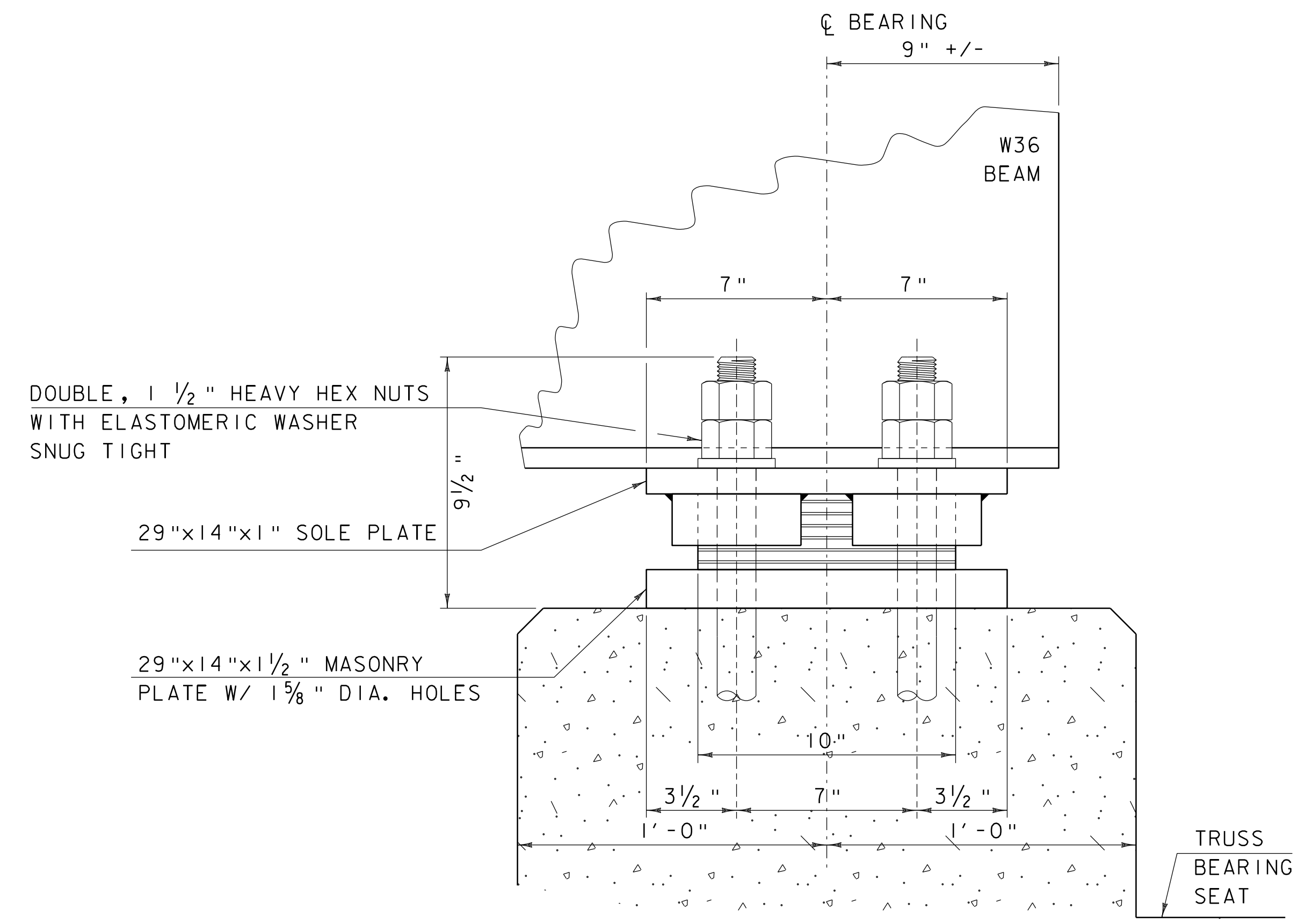
FILE NAME: s78f16lbrg.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
ABUTMENT 1 EXPANSION BEARING DETAILS

PLOT DATE: 20-MAY-2011
DRAWN BY: M.LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 71 OF 148



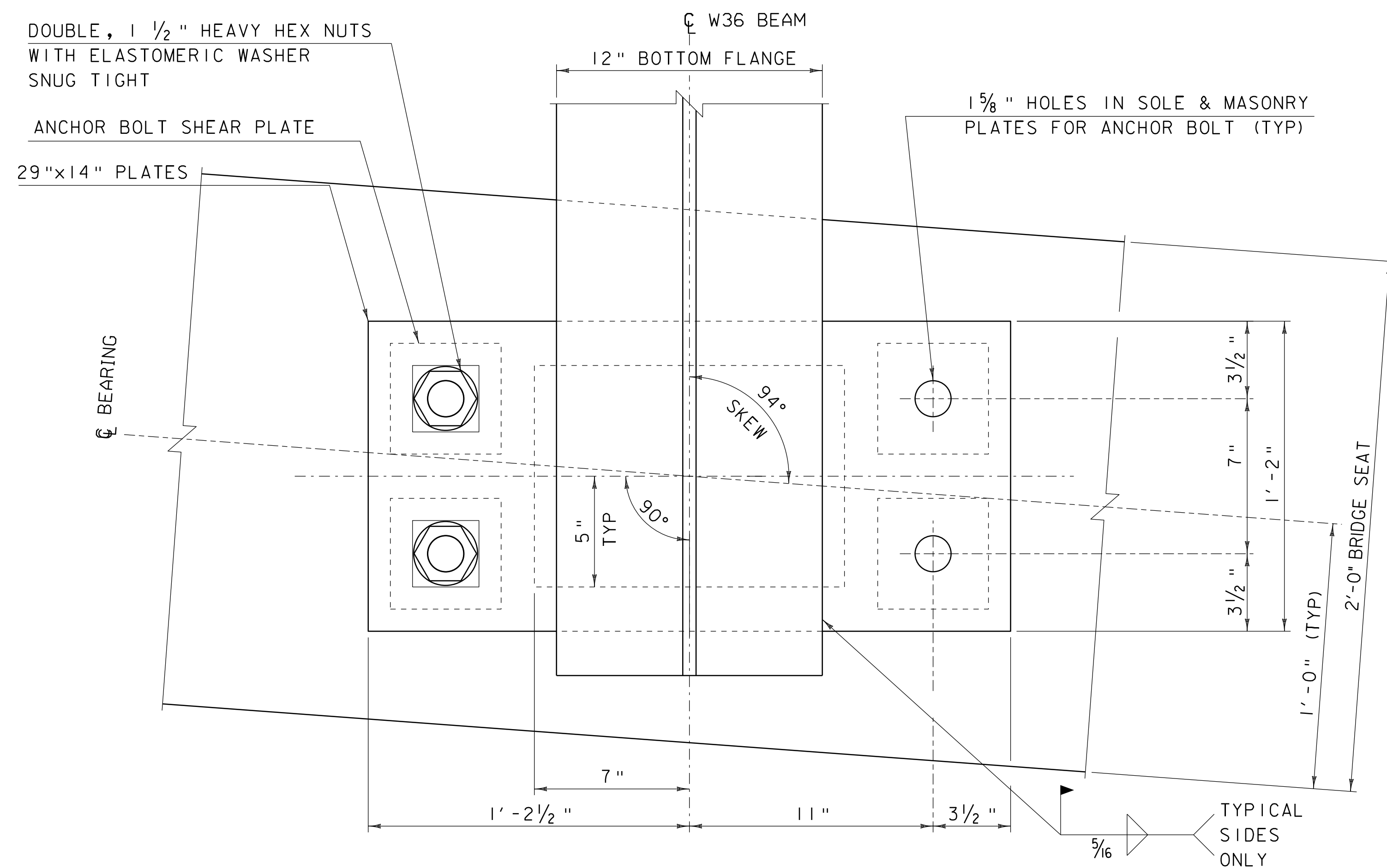
APPROACH SPAN PIER FIXED BEARING END ELEVATION

SCALE 3" = 1'-0"



APPROACH SPAN PIER FIXED BEARING SIDE ELEVATION

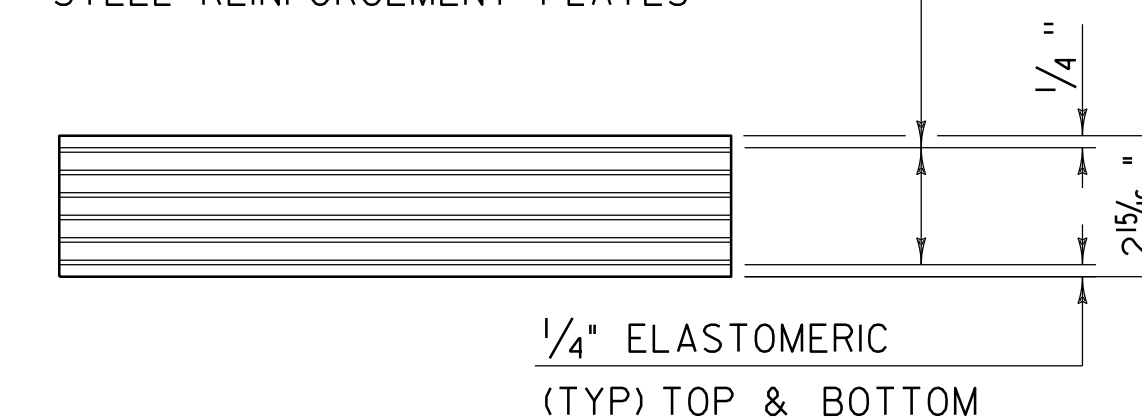
SCALE 3" = 1'-0"



APPROACH SPAN PIER FIXED BEARING PLAN VIEW

SCALE 3" = 1'-0"

- (5) LAYERS OF 3/8" ELASTOMERIC, ALTERNATE W/
- (6) LAYERS OF 3/32" THICK STEEL REINFORCEMENT PLATES



ELASTOMERIC BEARING MAKEUP

SCALE 3" = 1'-0"

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-I(14)

FILE NAME: s78f16brg.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
APPROACH SPAN PIER FIXED BEARING DETAILS

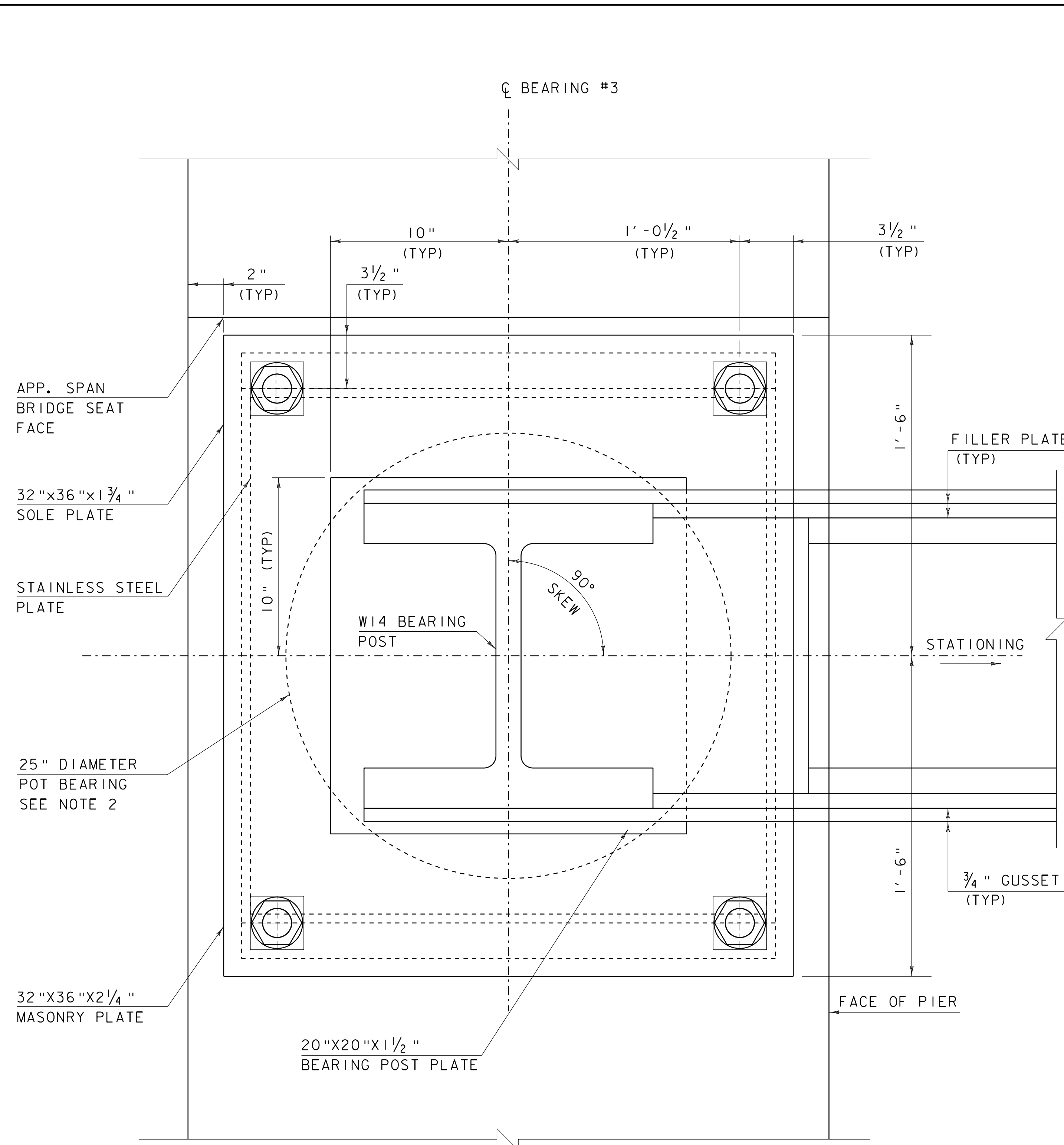
PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 72 OF 148

APPROACH SPAN BEARING NOTES

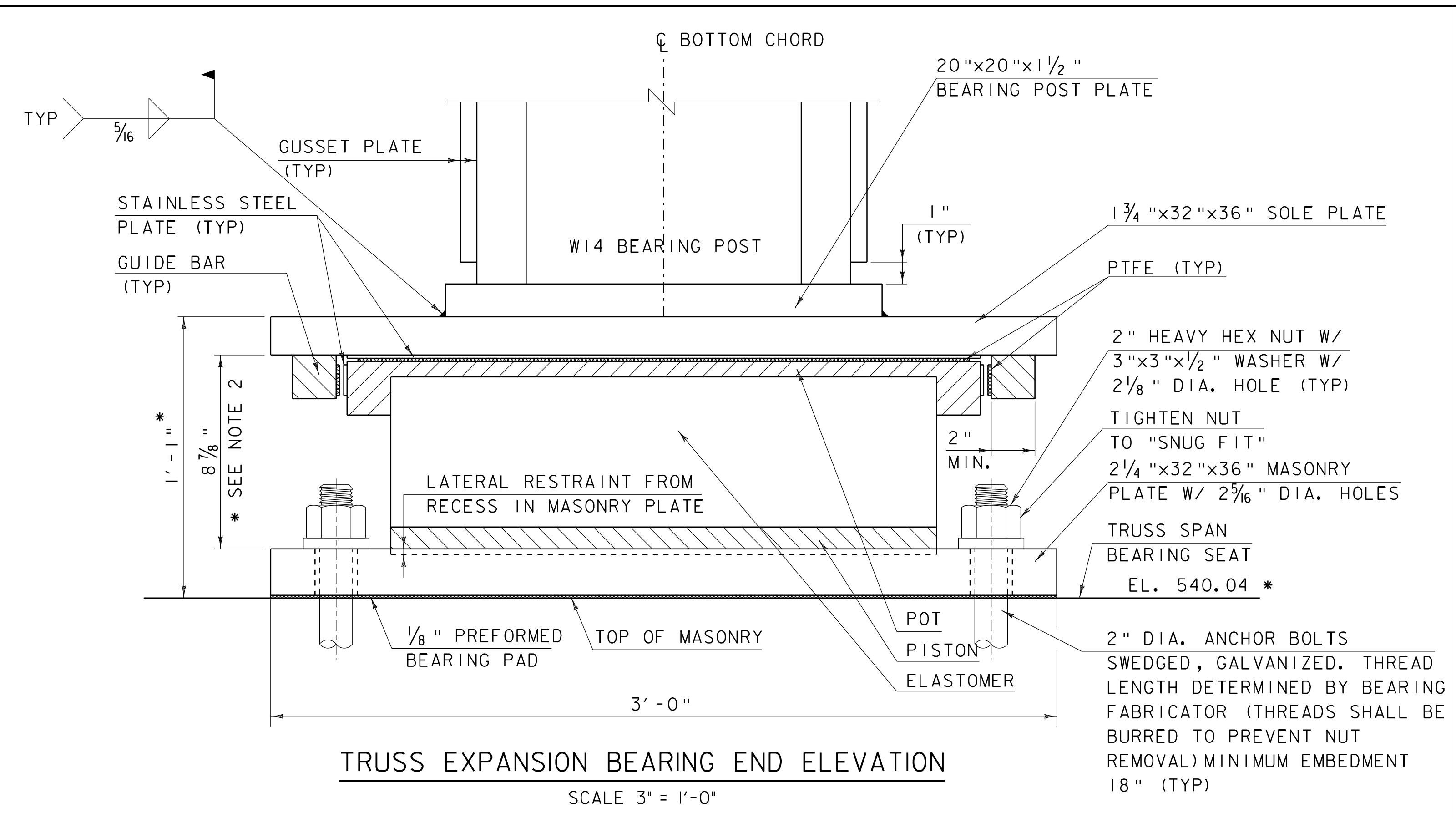
- | | |
|--|--|
| <p>1) APPROACH SPAN FIXED AND EXPANSION BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.11 "BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD" AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731.</p> | <p>17) BOLTS INSTALLED IN PAINTED STRUCTURAL COMPONENTS SHALL BE TYPE 1, SHALL BE PROVIDED WITH APPROPRIATE NUTS AND WASHERS, AS REQUIRED, AND THE COMBINATION OF BOLT, NUT, AND WASHER SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH AASHTO M 298, CLASS 50, TYPE 1.</p> |
| <p>2) ALL MATERIALS SHALL CONFORM TO SECTION 14 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS AND ALL AASHTO OR ASTM SPECIFICATIONS SPECIFIED IN THIS SECTION.</p> | <p>18) BOLTS FURNISHED FOR BEARINGS SHALL CONFORM TO SUBSECTION 714.08. THE BOLTS, NUTS, AND WASHERS FURNISHED SHALL BE TESTED AND CERTIFIED AS MEETING THE REQUIREMENTS OF THE ZINC THICKNESS TEST AS SPECIFIED IN SUBSECTION 714.05, IN ADDITION TO ANY OTHER TEST AND CERTIFICATION REQUIREMENTS.</p> |
| <p>3) THE ELASTOMERIC COMPOUND SHALL BE VIRGIN CRYSTALLIZATION RESISTANT POLYCHLOROPRENE (NEOPRENE) OR VIRGIN NATURAL POLYISOPRENE (NATURAL RUBBER) AS THE RAW POLYMER, EXCEPT WHEN USING A DISC THE COMPOUND SHALL BE BASED ON POLYETHER URETHANE, USING ONLY VIRGIN MATERIALS. THE RESULTING PRODUCT SHALL BE FREE OF POROUS AREAS, WEAK SECTIONS, BUBBLES, FOREIGN MATTER, OR OTHER DEFECTS AFFECTING SERVICEABILITY. IT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 251.</p> | <p>19) THE WELDS FOR THE SOLE PLATE CONNECTION SHOULD ONLY BE ALONG THE LONGITUDINAL GIRDER AXIS. TRANSVERSE JOINTS SHOULD BE SEALED WITH AN ACCEPTABLE CAULKING MATERIAL.</p> |
| <p>4) ELASTOMER WAS DESIGNED USING METHOD A, WITH A NOMINAL HARDNESS OF 50 +/- 5 ON THE SHORE A SCALE, EXCEPT FOR DISCS WHICH SHALL HAVE A HARDNESS OF 50 +/- 5 ON THE SHORE D SCALE. IT IS ACCEPTABLE TO TEST PER AASHTO M 251 APPENDIX X1. ELASTOMER SHALL MEET THE REQUIREMENTS FOR LOW-TEMPERATURE ZONE D, GRADE 4.</p> | <p>20) PRIOR TO WELDING BEAMS TO SOLE PLATES, THE CONCRETE DECK SHALL BE PLACED AND CURED, AND THE BEAMS SHALL BE RAISED TO ALLOW RELEASE OF INITIAL BEARING DEFORMATION DUE TO BEAM CAMBER RELAXATION.</p> |
| <p>5) ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET. THE ALTERNATE SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN AND SHALL BE DESIGNED PER THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATIVE CONFIGURATION.</p> | <p>21) GALVANIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780, STANDARD PRACTICE FOR REPAIR OF DAMAGED HOT DIPPED GALVANIZED COATINGS, ANNEX A2. THE PAINT USED IN THE REPAIR SHALL BE ORGANIC-RICH, CONTAINING 92 PERCENT (MIN.) ZINC BY WEIGHT IN THE DRY FILM. THE PAINT SHALL BE APPLIED PER MANUFACTURE'S RECOMMENDATIONS TO A THICKNESS EQUIVALENT TO THE SURROUNDING GALVANIZING.</p> |
| <p>6) STEEL REINFORCED ELASTOMERIC PADS SHALL BE WITHIN THE TOLERANCES LISTED IN TABLE 2 IN AASHTO M251. EXTERNAL LOAD PLATES SHALL BE WITHIN THE TOLERANCES GIVEN IN SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATION.</p> | <p>22) METALIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED USING THE METHODS DESCRIBED IN NOTE 21.</p> |
| <p>7) THE PREFORMED BEARING PAD BENEATH THE MASONRY PLATE SHALL HAVE THE SAME SIZE AND ANCHOR BOLT HOLE LAYOUT AS THE CORRESPONDING MASONRY PLATE.</p> | <p>23) STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM 1/8 INCH EDGE SEAL OF ELASTOMER INTEGRAL WITH BEARING OVER ALL INTERNAL PLATES.</p> |
| <p>8) BEARING SHALL BE SET LEVEL AND PARALLEL WITHIN 0.03125 IN./FT. WITH FULL AND UNIFORM BEARING. THE CONCRETE UNDER THE BEARING DEVICE SHALL BE LEVEL.</p> | <p>24) DESIGN CRITERIA:</p> |
| <p>9) DURING ANY WELDING, SURFACES IN CONTACT WITH THE ELASTOMER SHALL BE RESTRICTED TO 200 DEGREES FAHRENHEIT, AND SUFACES IN CONTACT WITH PTFE SHALL BE RESTRICTED TO 300 DEGREES FAHRENHEIT. TEMPERATURE SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS.</p> | <p>A) MASONRY PLATE TO CONCRETE DESIGN PRESSURE = 800 PSI</p> |
| <p>10) PRIOR TO ORDERING MATERIALS AND STARTING THE WORK, THE CONTRACTOR SHALL SUBMIT A DRILLING AND MORTARING PROPOSAL TO THE ENGINEER FOR APPROVAL, INCLUDING A PREMIXED MORTAR MATERIAL BRAND NAME.</p> | <p>B) DESIGN ROTATION = 0.011 RAD</p> |
| <p>11) THE DRILLED HOLES TO BE MORTARED SHALL BE THOROUGHLY CLEANED, WETTED, AND FREE OF STANDING WATER.</p> | <p>C) HORIZONTAL CAPACITY SHALL BE MINIMUM OF 20% VERTICAL LOAD IN ANY UNRESTRAINED DIRECTION.</p> |
| <p>12) THE MORTAR SHALL BE MIXED IN A MECHANICAL MIXER ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE READILY POURABLE SO THAT WHEN POURED IT COMPLETELY FILLS THE REMAINING HOLE CAVITIES. THE PLACEMENT OF MORTAR FOR EACH BEARING SHALL BE CONTINUOUS AND COMPLETE AT ALL HOLE LOCATIONS.</p> | <p>D) DESIGN LOAD PER BEARING
RDL = 43.8 KIPS
RLL = 58.2 KIPS</p> |
| <p>13) ALL EXPOSED MORTAR SHALL BE CURED FOR A PERIOD OF NOT LESS THAN THREE (3) DAYS BY THE WETTED BURLAP METHOD IN ACCORDANCE WITH SECTION 501. CURING SHALL COMMENCE AS SOON AS PRACTICAL AFTER MORTAR PLACEMENT. THE CONTRACTOR SHALL NOT APPLY ANY FORCES TO THE ANCHOR BOLTS DURING THE CURING PERIOD.</p> | <p>E) NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS</p> |
| <p>14) ANCHOR BOLTS TO BE DOUBLE NUTTED SHALL USE THE FOLLOWING PROCEDURE: INSTALL THE LOWER NUT IN CONTACT WITH TOP OF SOLE PLATE, AND THEN BACK OFF ½ TURN. INSTALL UPPER NUT SNUG TIGHT TO PREVENT LOWER NUTS FROM LOOSENING.</p> | |
| <p>15) THE BEARING MANUFACTURER SHALL INCLUDE A TEMPERATURE SETTING TABLE ON THE FABRICATION DRAWINGS.</p> | |
| <p>16) APPROACH SPAN SEAT ELEVATIONS ARE BASED ON THE BEARING HEIGHTS SHOWN. PRIOR TO CASTING ABUTMENT 1 AND THE PIER, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE PROPOSED BEARING HEIGHT AS PROVIDED BY THE MANUFACTURER AND ANY ELEVATION MODIFICATIONS REQUIRED BEFORE CONSTRUCTING ABUTMENT 1 OR THE PIER.</p> | |

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

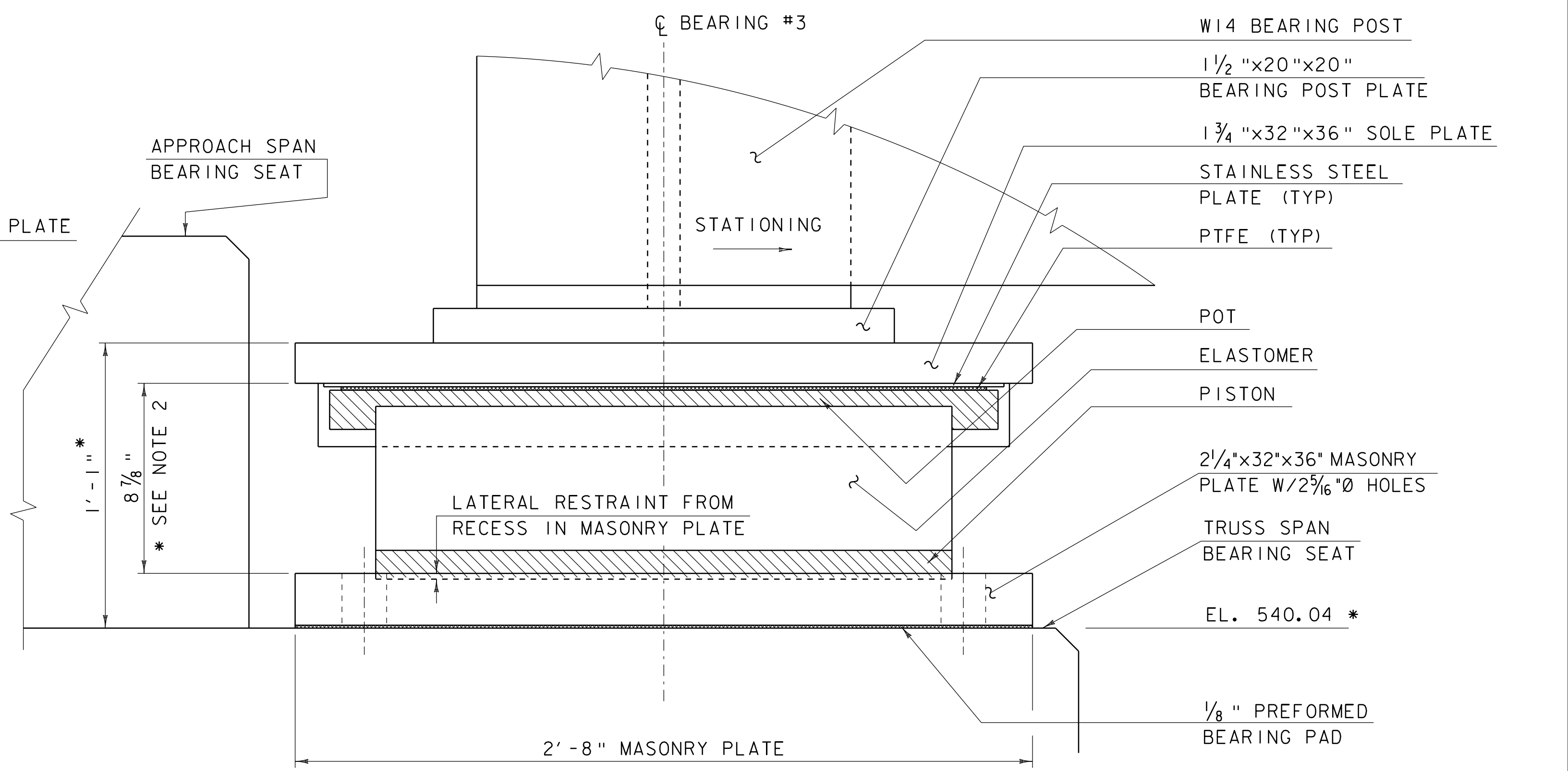
FILE NAME: s78f16lbrg.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M.LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
APPROACH SPAN BEARING NOTES	SHEET 73 OF 148



TRUSS EXPANSION BEARING PLAN VIEW
SCALE 3" = 1'-0"



TRUSS EXPANSION BEARING END ELEVATION
SCALE 3" = 1'-0"

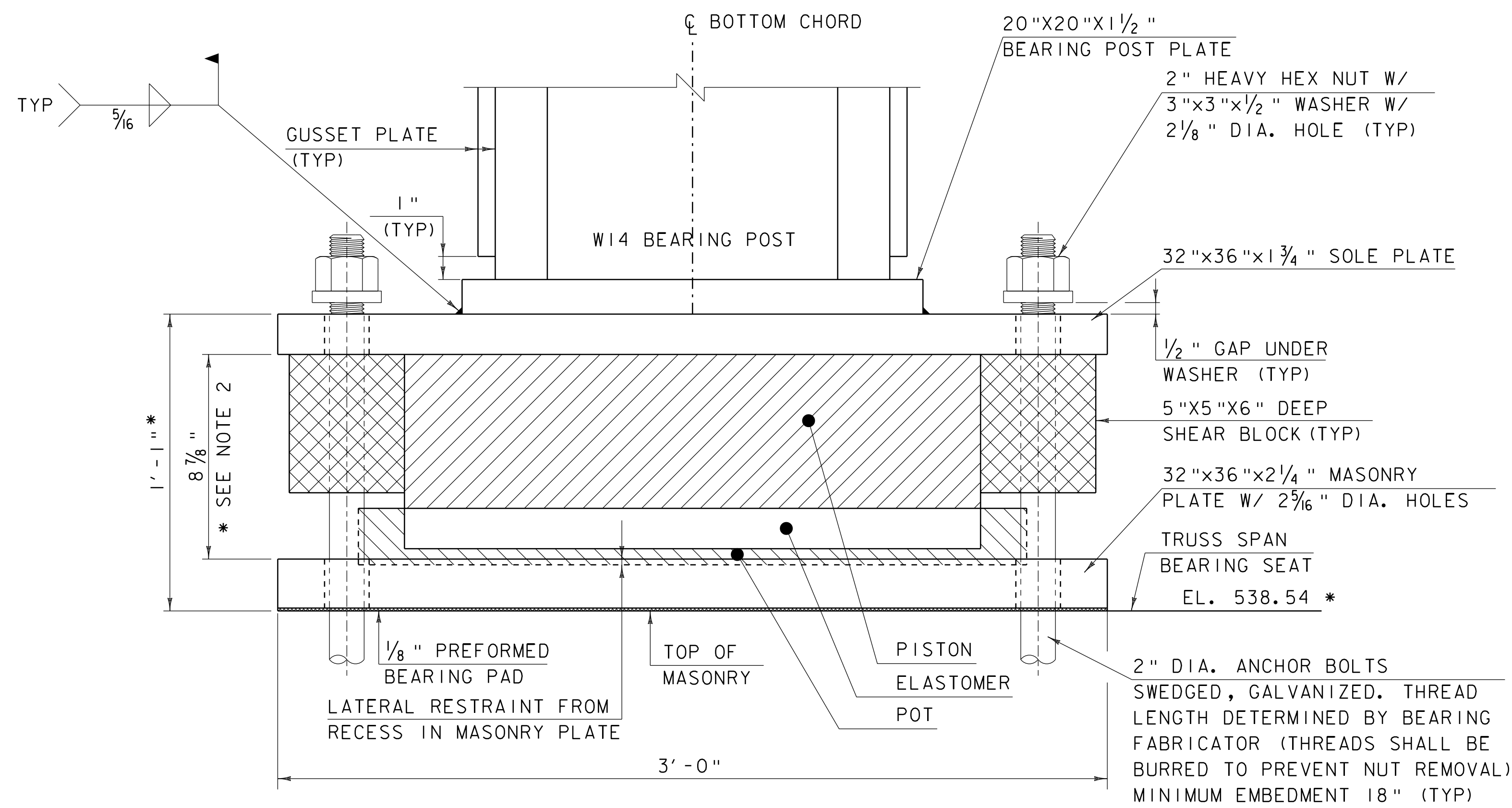


TRUSS EXPANSION BEARING SIDE ELEVATION
SCALE 3" = 1'-0"

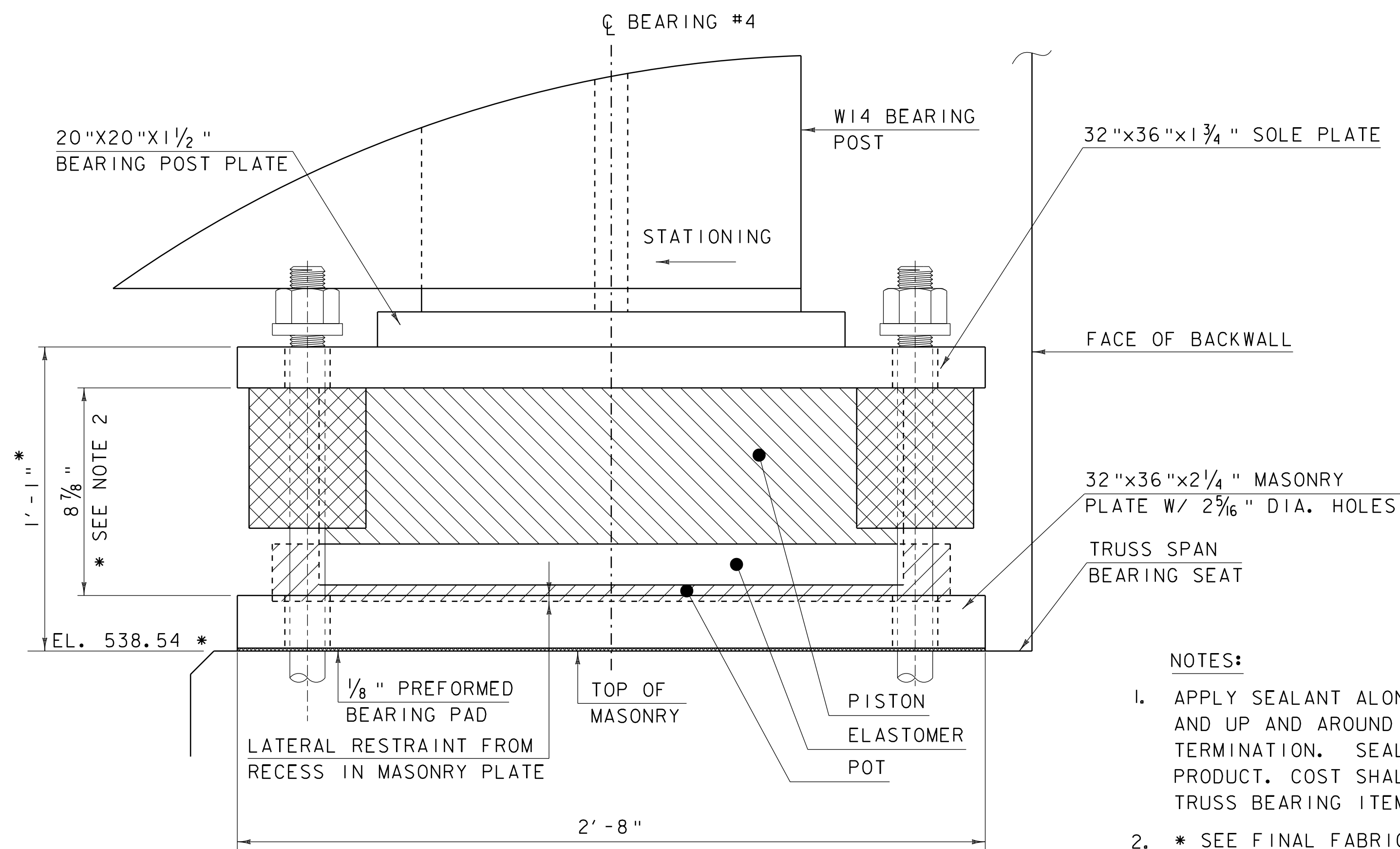
NOTES:

1. APPLY SEALANT ALONG TRANSVERSE EDGE AND UP AND AROUND TO THE FILLET WELD TERMINATION. SEALANT SHALL BE AN APPROVED PRODUCT. COST SHALL BE INCIDENTAL TO TRUSS BEARING ITEM IN CONTRACT.
2. * SEE FINAL FABRICATION DRAWINGS FOR EXACT DIMENSIONS. BRIDGE SEATS MAY NEED ADJUSTMENT. THE CROSS HATCHED COMPONENTS OF THE BEARING ARE SHOWN FOR REPRESENTATIVE PURPOSES ONLY. THE ACTUAL CONFIGURATION OF THE COMPONENTS WILL BE DEPENDENT UPON THE BEARING FABRICATOR.
3. GUIDE BAR IS SHOWN IN THE LONGITUDINAL DIRECTION FOR N2 BEARING. FOR N3 BEARING GUIDE BAR SHALL BE IN THE TRANSVERSE DIRECTION. AND FOR N4 BEARING GUIDE BAR SHALL BE OMITTED.

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME:	s78f16brg.dgn
PLOT DATE:	20-MAY-2011
PROJECT LEADER:	M. EVANS-MONGEON
DRAWN BY:	S. SCRIBNER
DESIGNED BY:	S. SCRIBNER
CHECKED BY:	S. SCRIBNER
TRUSS SPAN PIER EXPANSION BEARING DETAILSHEET	74 OF 148



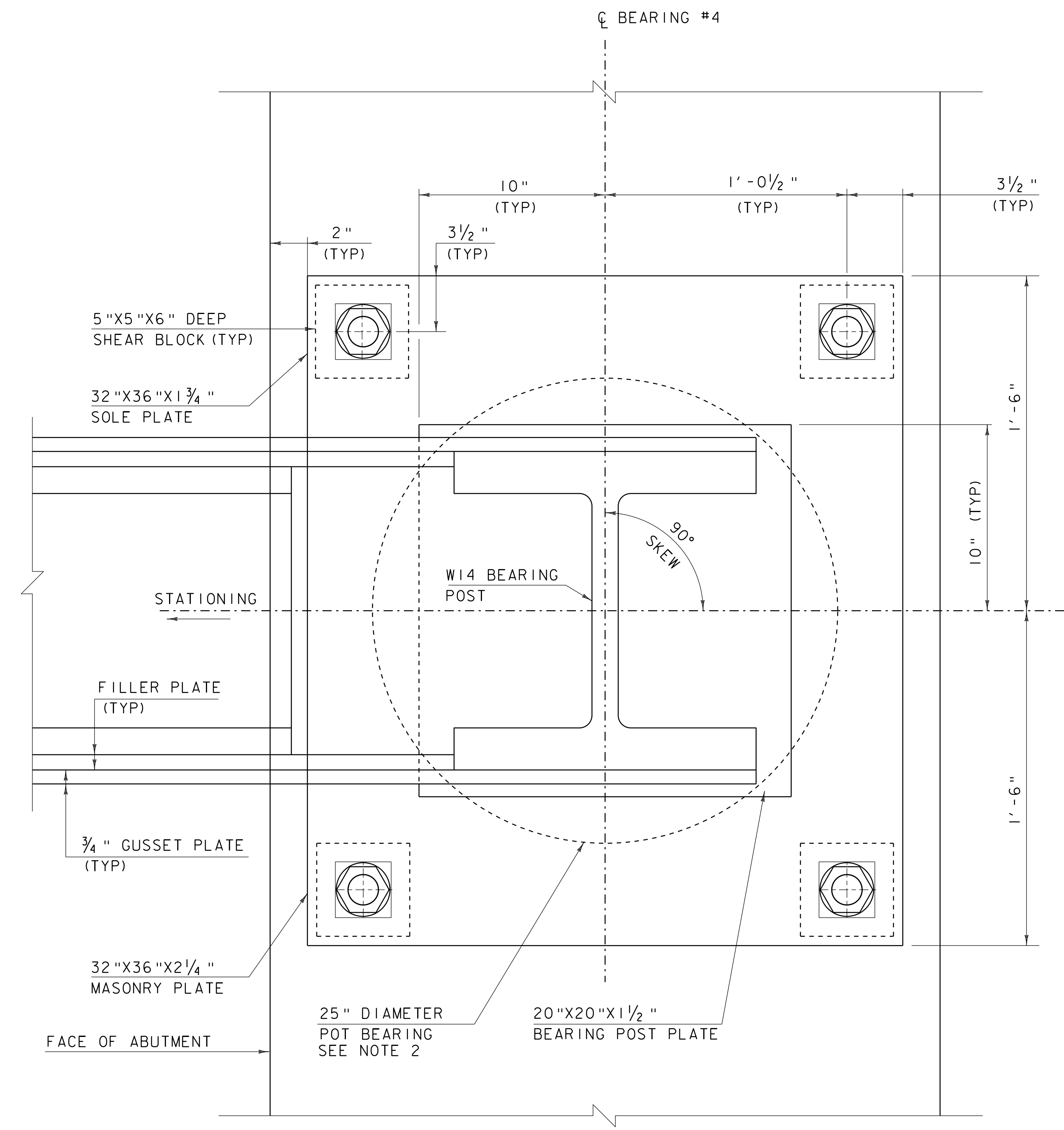
TRUSS FIXED BEARING END ELEVATION
SCALE 3" = 1'-0"



TRUSS FIXED BEARING SIDE ELEVATION
SCALE 3" = 1'-0"

NOTES:

1. APPLY SEALANT ALONG TRANSVERSE EDGE AND UP AND AROUND TO THE FILLET WELD TERMINATION. SEALANT SHALL BE AN APPROVED PRODUCT. COST SHALL BE INCIDENTAL TO TRUSS BEARING ITEM IN CONTRACT.
2. * SEE FINAL FABRICATION DRAWINGS FOR EXACT DIMENSIONS. BRIDGE SEATS MAY NEED ADJUSTMENT. THE CROSS HATCHED COMPONENTS OF THE BEARING ARE SHOWN FOR REPRESENTATIVE PURPOSES ONLY. THE ACTUAL CONFIGURATION OF THE COMPONENTS WILL BE DEPENDENT UPON THE BEARING FABRICATOR.



TRUSS FIXED BEARING PLAN VIEW
SCALE 3" = 1'-0"

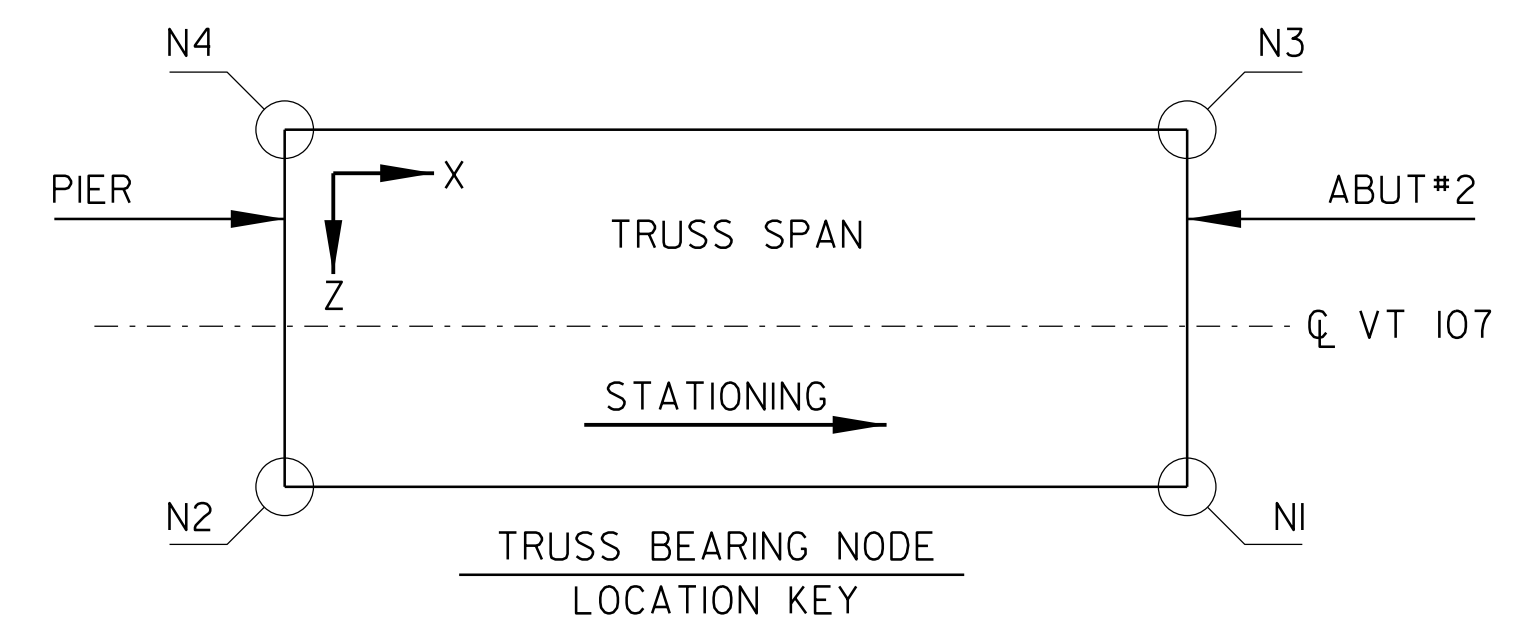
PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(14)	DRAWN BY:	S. SCRIBNER
FILE NAME:	s78f16lbrg.dgn	CHECKED BY:	S. SCRIBNER
PROJECT LEADER:	M. EVANS-MONGEON	SHEET	75 OF 148
DESIGNED BY:	S. SCRIBNER	ABUTMENT 2 FIXED BEARING DETAILS	

TRUSS BEARING NOTES

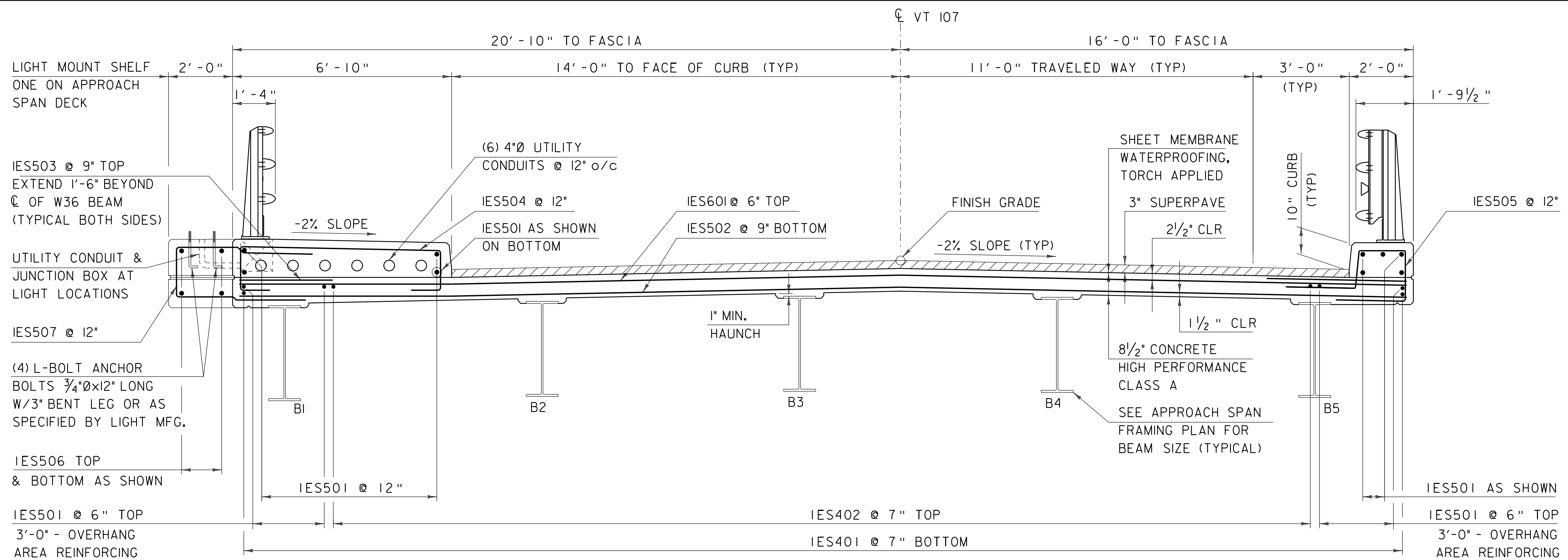
- 1) TRUSS FIXED AND EXPANSION BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.12 "BEARING DEVICE ASSEMBLY, POT" AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731.
- 2) ALL MATERIALS SHALL CONFORM TO SECTION 14 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS AND ALL AASHTO OR ASTM SPECIFICATIONS SPECIFIED IN THIS SECTION.
- 3) THE ELASTOMERIC COMPOUND SHALL BE VIRGIN CRYSTALLIZATION RESISTANT POLYCHLOROPRENE (NEOPRENE) OR VIRGIN NATURAL POLYISOPRENE (NATURAL RUBBER) AS THE RAW POLYMER, EXCEPT WHEN USING A DISC THE COMPOUND SHALL BE BASED ON POLYETHER URETHANE, USING ONLY VIRGIN MATERIALS. THE RESULTING PRODUCT SHALL BE FREE OF POROUS AREAS, WEAK SECTIONS, BUBBLES, FOREIGN MATTER, OR OTHER DEFECTS AFFECTING SERVICEABILITY. IT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 251.
- 4) ELASTOMER WAS DESIGNED USING METHOD A, WITH A NOMINAL HARDNESS OF 50 +/- 5 ON THE SHORE A SCALE, EXCEPT FOR DISCS WHICH SHALL HAVE A HARDNESS OF 50 +/- 5 ON THE SHORE D SCALE. IT IS ACCEPTABLE TO TEST PER AASHTO M 251 APPENDIX X1. ELASTOMER SHALL MEET THE REQUIREMENTS FOR LOW-TEMPERATURE ZONE D, GRADE 4.
- 5) STAINLESS STEEL SHALL CONFORM TO THE SPECIFICATIONS CONTAINED IN THE LATEST EDITION OF THE SECTION 14 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS. STAINLESS STEEL USED AS A MATING SURFACE WITH PTFE AND INCORPORATED IN BEARING DEVICES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A167 TYPE 304 OR A 240/A 240M, TYPE 304.
- 6) BRASS SEALING RINGS SATISFYING SUBSECTION 14.7.4.5.2 AND 14.7.4.5.3 OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SHALL CONFORM TO ASTM B36 (HALF HARD) FOR RINGS OF RECTANGULAR CROSS-SECTION, AND ASTM B121, FOR RINGS OF CIRCULAR CROSS-SECTION. THEY SHALL BE IN ACCORDANCE WITH SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.
- 7) PTFE (POLYTETRAFLUOROETHYLENE) MATERIAL INCORPORATED IN BEARING DEVICES SHALL BE ALL NEW MATERIAL CONSISTING OF (1/8 INCH) MINIMUM THICKNESS CONFORMING TO THE REQUIREMENTS OF SUBSECTION 14.7.2 OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.
- 8) ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET. THE ALTERNATE SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN AND SHALL BE DESIGNED PER THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATION. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATIVE CONFIGURATION.
- 9) HIGH LOAD MULTI-ROTATIONAL BEARINGS, EXTERNAL LOAD PLATES, AND GUIDES SHALL BE WITHIN THE TOLERANCES GIVEN IN SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATION.
- 10) THE THICKNESS OF THE STAINLESS STEEL SHEET SHALL BE AT LEAST 1.9 MM (14 GAUGE) WHEN THE MAXIMUM DIMENSION OF THE SURFACE IS LESS THAN OR EQUAL TO 305 MM (12 INCHES), AND AT LEAST 3.0 MM (11 GAUGE) WHEN THE MAXIMUM DIMENSION IS LARGER THAN 305 MM (12 INCHES).
- 11) EITHER PTFE SHEETS OR OTHER APPROVED MATERIAL SHALL BE PROVIDED TO LUBRICATE COMPRESSIVE SURFACES OF THE ELASTOMER.
- 12) THE STEEL HOUSING SHALL BE MANUFACTURED BY WELDING OR MACHING FROM A SINGLE PIECE OF PLATE. THE SHEAR RESTRICTION MECHANISM SHALL BE CONNECTED TO THE BEARING PLATE BY MECHANICALLY FASTENING, WELDING, OR OTHER MEANS APPROVED BY THE ENGINEER.
- 13) HIGH LOAD MULTI-ROTATIONAL BEARINGS SHALL BE TESTED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF THE BRIDGE CONSTRUCTION SPECIFICATIONS.
- 14) EXPOSED PTFE MATERIAL ON A GUIDE BAR OR OTHER COMPONENT SHALL BE PIGMENTED TO PREVENT PENETRATION OF ULTRAVIOLET LIGHT.
- 15) THE SOLE PLATE DIMENSIONS SHOWN ARE BASED ON POT DIMENSIONS OBTAINED FROM MANUFACTURER CATALOGS. THE MANUFACTURER SHALL VERIFY THE SOLE PLATE LENGTH AND WIDTH IS SUFFICIENT TO ACCOMMODATE THE ACTUAL BEARING DEVICE AND REQUIRED MOVEMENTS AND INDICATE ANY ADJUSTMENTS REQUIRED ON THE FABRICATION DRAWINGS.
- 16) THE MANUFACTURER SHALL DESIGN THE POT BEARING ASSEMBLY AND GUIDE BARS. FABRICATION DRAWINGS SHALL INCLUDE THE TOTAL ASSEMBLED BEARING HEIGHT AT THE CENTER OF THE BEARING SO THAT ANY ADJUSTMENTS TO MASONRY ELEVATIONS CAN BE DETERMINED. THE SHOP DRAWINGS SHALL ALSO INCLUDE A PROCEDURE FOR FUTURE BEARING REPLACEMENT WITH A MAXIMUM BEARING POST LIFT OF 1/4".
- 17) THE PREFORMED BEARING PAD BENEATH THE MASONRY PLATE SHALL HAVE THE SAME SIZE AND ANCHOR BOLT HOLE LAYOUT AS THE CORRESPONDING MASONRY PLATE.

- 18) BEARING SHALL BE SET LEVEL AND PARALLEL WITHIN 0.03125 IN./FT. WITH FULL AND UNIFORM BEARING. PEDESTALS DETAILED TO BE ON A SLOPE SHALL BE SET AT THE ELEVATION AND POSITION SPECIFIED. THE CONCRETE UNDER THE BEARING DEVICE SHALL BE LEVEL.
- 19) DURING ANY WELDING, SURFACES IN CONTACT WITH THE ELASTOMER SHALL BE RESTRICTED TO 200 DEGREES FAHRENHEIT, AND SURFACES IN CONTACT WITH PTFE SHALL BE RESTRICTED TO 300 DEGREES FAHRENHEIT. TEMPERATURE SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS. NO WELDING CURRENT SHALL BE PERMITTED TO PASS BETWEEN THE POT AND PISTON COMPONENTS.
- 20) THE WELDS FOR THE SOLE PLATE CONNECTION SHOULD ONLY BE ALONG THE LONGITUDINAL BOTTOM CHORD AXIS. TRANSVERSE JOINTS SHOULD BE SEALED WITH AN ACCEPTABLE CAULKING MATERIAL.
- 21) PRIOR TO ORDERING MATERIALS AND STARTING THE WORK, THE CONTRACTOR SHALL SUBMIT A DRILLING AND MORTARING PROPOSAL TO THE ENGINEER FOR APPROVAL, INCLUDING A PREMIXED MORTAR MATERIAL BRAND NAME.
- 22) THE DRILLED HOLES TO BE MORTARED SHALL BE THOROUGHLY CLEANED, WETTED, AND FREE OF STANDING WATER.
- 23) THE MORTAR SHALL BE MIXED IN A MECHANICAL MIXER ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE READILY POURABLE SO THAT WHEN POURED IT COMPLETELY FILLS THE REMAINING HOLE CAVITIES. THE PLACEMENT OF MORTAR FOR EACH BEARING SHALL BE CONTINUOUS AND COMPLETE AT ALL HOLE LOCATIONS.
- 24) ALL EXPOSED MORTAR SHALL BE CURED FOR A PERIOD OF NOT LESS THAN THREE (3) DAYS BY THE WETTED BURLAP METHOD IN ACCORDANCE WITH SECTION 501. CURING SHALL COMMENCE AS SOON AS PRACTICAL AFTER MORTAR PLACEMENT. THE CONTRACTOR SHALL NOT APPLY ANY FORCES TO THE ANCHOR BOLTS DURING THE CURING PERIOD.
- 25) ANCHOR BOLTS TO BE DOUBLE NUTTED SHALL USE THE FOLLOWING PROCEDURE: INSTALL THE LOWER NUT IN CONTACT WITH TOP OF SOLE PLATE, AND THEN BACK OFF 1/2 TURN. INSTALL UPPER NUT SNUG TIGHT TO PREVENT LOWER NUTS FROM LOOSENING.
- 26) PTFE AND STAINLESS STEEL SLIDING SURFACES SHALL BE PROTECTED FROM SPLATTER DURING THE WELDING, GROUTING, OR PAINTING OPERATIONS IF APPLICABLE.
- 27) THE BEARING MANUFACTURER SHALL INCLUDE A TEMPERATURE SETTING TABLE ON THE FABRICATION DRAWINGS.
- 28) TRUSS SEAT ELEVATIONS ARE BASED ON THE BEARING HEIGHT SHOWN. PRIOR TO CASTING THE PIER OR ABUTMENT 2, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE PROPOSED BEARING HEIGHT AS PROVIDED BY THE MANUFACTURER AND ANY ELEVATION MODIFICATIONS REQUIRED BEFORE CONSTRUCTING THE PIER AND ABUTMENT 2.
- 29) BOLTS INSTALLED IN GALVANIZED STRUCTURAL COMPONENTS SHALL BE TYPE 1, THEY SHALL BE PROVIDED WITH APPROPRIATE NUTS AND WASHERS, AS REQUIRED, AND THE COMBINATION OF BOLT, NUT, AND WASHER SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH AASHTO M 298, CLASS 50, TYPE 1.
- 30) BOLTS FURNISHED FOR BEARINGS SHALL CONFORM TO SUBSECTION 714.08. THE BOLTS, NUTS, AND WASHERS FURNISHED SHALL BE TESTED AND CERTIFIED AS MEETING THE REQUIREMENTS OF THE ZINC THICKNESS TEST AS SPECIFIED IN SUBSECTION 714.05, IN ADDITION TO ANY OTHER TEST AND CERTIFICATION REQUIREMENTS.
- 31) GALVANIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780, STANDARD PRACTICE FOR REPAIR OF DAMAGED HOT DIPPED GALVANIZED COATINGS, ANNEX A2. THE PAINT USED IN THE REPAIR SHALL BE ORGANIC-RICH, CONTAINING 92 PERCENT(MIN.) ZINC BY WEIGHT IN THE DRY FILM. THE PAINT SHALL BE APPLIED PER MANUFACTURER'S RECOMMENDATIONS TO A THICKNESS EQUIVALENT TO THE SURROUNDING GALVANIZING.
- 32) METALIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED USING THE METHODS DESCRIBED IN NOTE 31.
- 33) DESIGN CRITERIA:
 - A) MASONRY PLATE TO CONCRETE DESIGN PRESSURE = 1000 PSI
 - B) HORIZONTAL CAPACITY SHALL BE MINIMUM OF 20% VERTICAL LOAD IN ANY RESTRAINED DIRECTION.
 - C) SHALL BE DESIGNED FOR FORCES, TRANSLATIONS, AND ROTATIONS SHOWN IN PLANS

DESIGN LOAD (KIPS)	SERVICE LIMIT STATE	VERTICAL	MAX.	924		
			MIN.	681		
		PERMANENT		663		
		TRANSVERSE		18		
		LONGITUDINAL		114		
STRENGTH LIMIT STATE		VERTICAL	STRENGTH I	1195		
		TRANSVERSE	STRENGTH III	477		
		LONGITUDINAL	STRENGTH V	635		
TRANSLATION (INCHES)	SERVICE LIMIT STATE	N1	TRANSVERSE	0.0"		
			LONGITUDINAL	0.0"		
		N2	TRANSVERSE	0.0"		
			LONGITUDINAL	3.65"		
		N3	TRANSVERSE	0.384"		
			LONGITUDINAL	0.0"		
		N4	TRANSVERSE	0.384"		
			LONGITUDINAL	3.65"		
		ROTATION (RADIAN)	SERVICE LIMIT STATE	N1	X	0.0049
					Y	0.0038
					Z	0.0055
				N2	X	0.0070
Y	0.0004					
Z	0.0055					
N3	X			0.0056		
	Y			0.0058		
	Z			0.0050		
N4	X			0.0037		
	Y			0.0029		
	Z			0.0049		

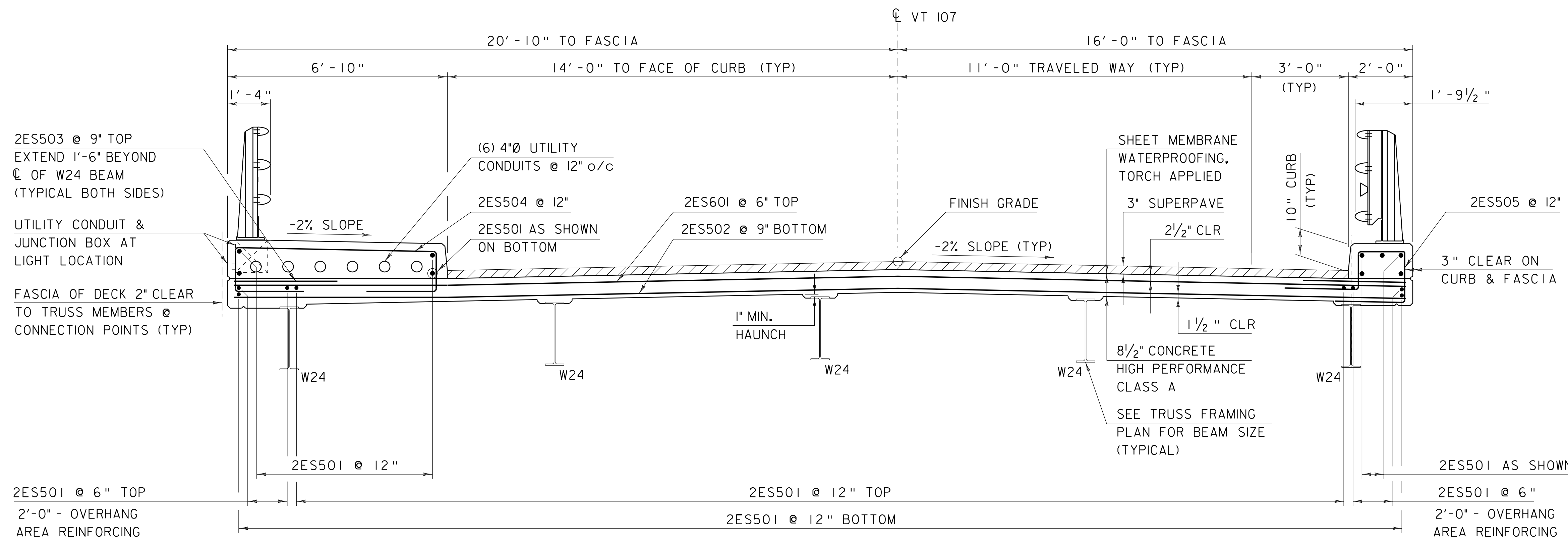


PROJECT NAME: BETHEL	
PROJECT NUMBER: BRF 022-1(14)	
FILE NAME: s78f16brg.dgn	PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M.LONGSTREET
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
TRUSS BEARING NOTES	SHEET 76 OF 148



APPROACH SPAN DECK TYPICAL

SCALE 1/2" = 1'-0"

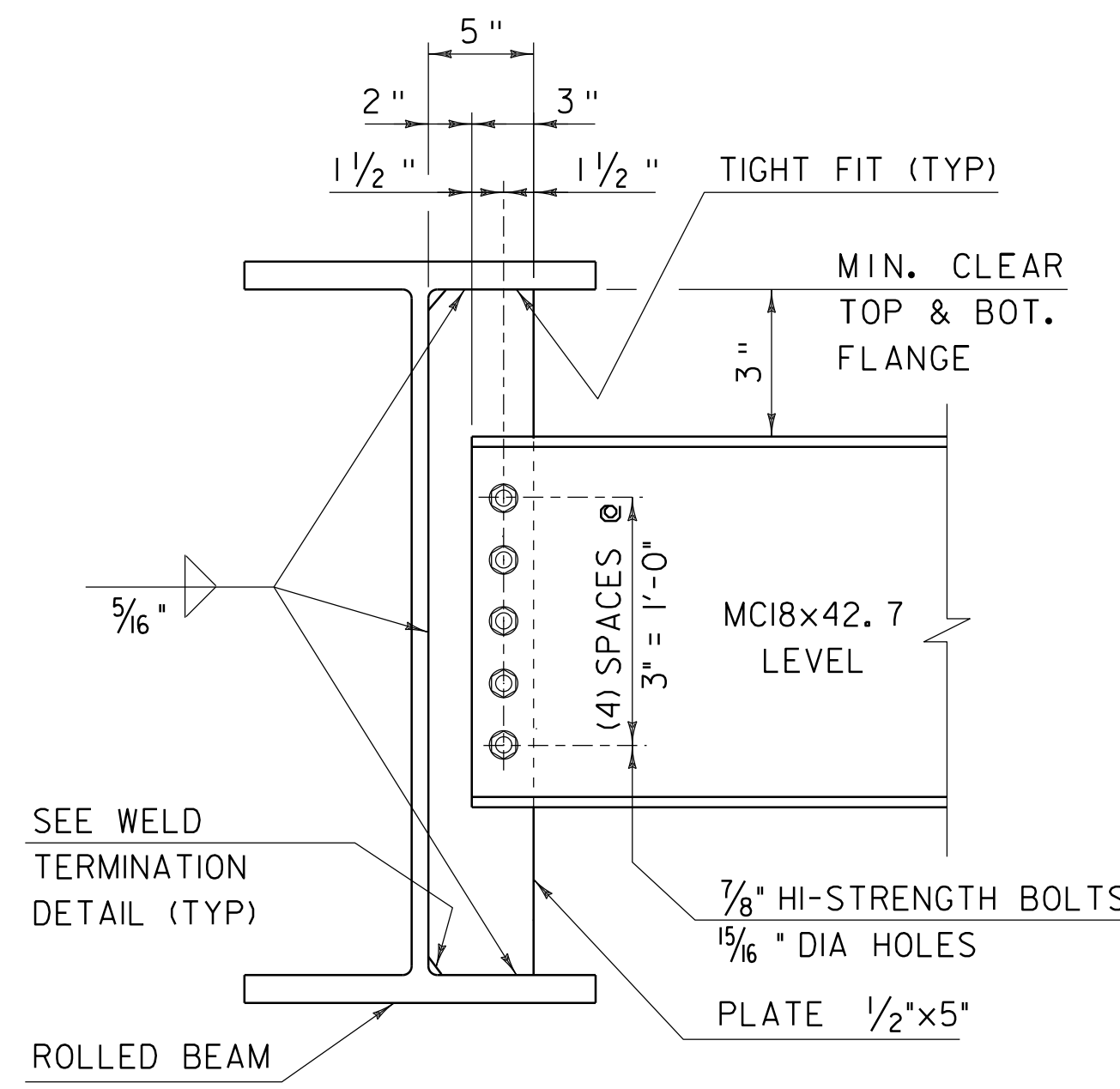


TRUSS DECK TYPICAL

SCALE 1/2" = 1'-0"

NOTE:
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 3" CLEAR, UNLESS OTHERWISE
 SPECIFIED ON THE PLANS.
 2'-2" BAR LAP UNLESS OTHERWISE
 SPECIFIED ON THE PLANS.

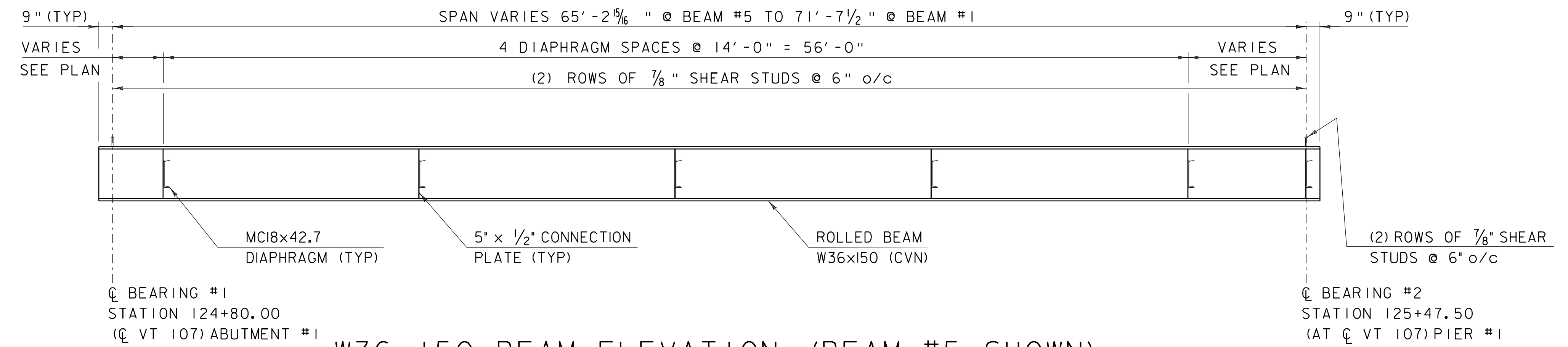
PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(I14)	DRAWN BY:	M. LONGSTREET
FILE NAME:	s78f16isup.dgn	DESIGNED BY:	N. VANDENBERG
PROJECT LEADER:	M. EVANS-MONGEON	CHECKED BY:	S. SCRIBNER
DECK TYPICALS			SHEET 77 OF 148



NOTE:
HI-STRENGTH BOLTS, NUTS AND WASHERS SHALL CONFORM TO AASHTO DESIGNATION M164.

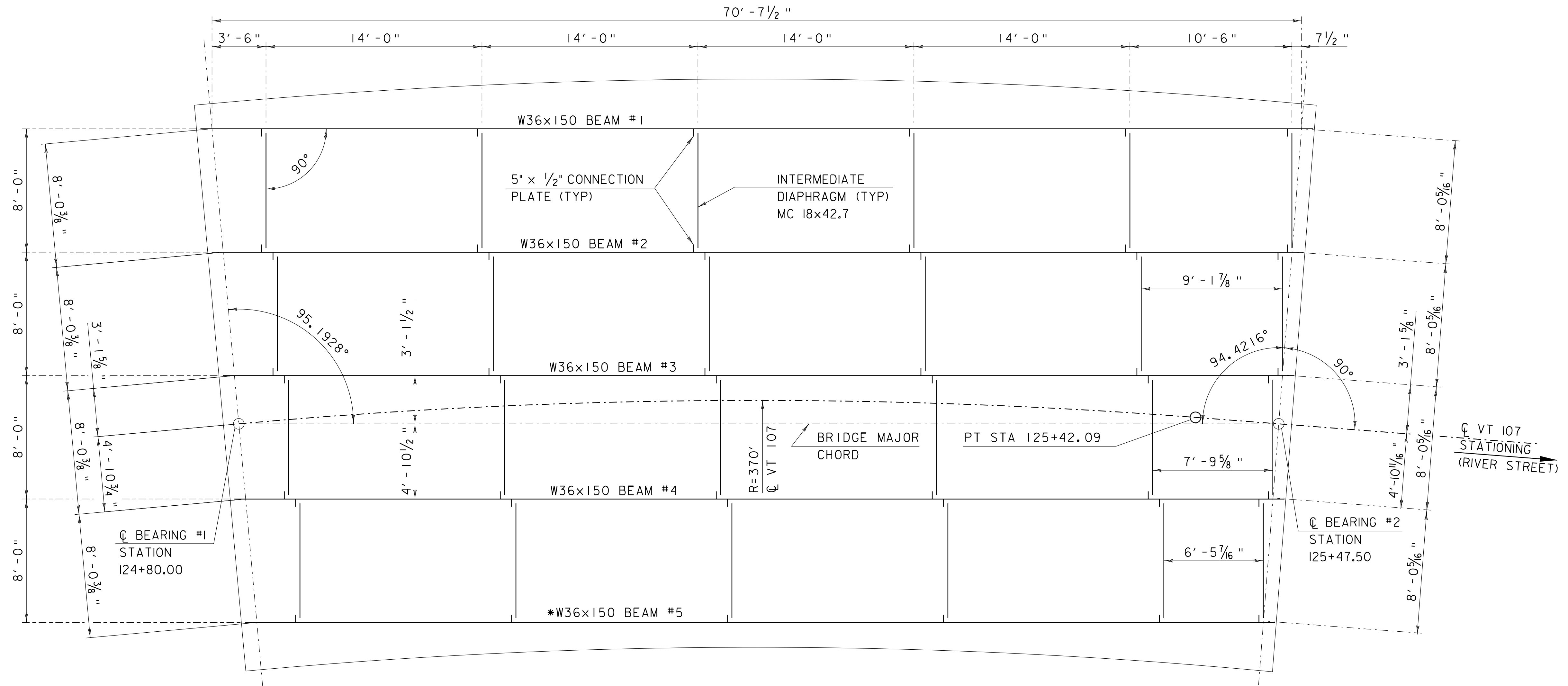
INTERMEDIATE DIAPHRAGMS FOR W36 BEAMS

NOT TO SCALE



W36x150 BEAM ELEVATION (BEAM #5 SHOWN)

SCALE 1/4" = 1'-0" (HORIZONTAL & VERTICAL)

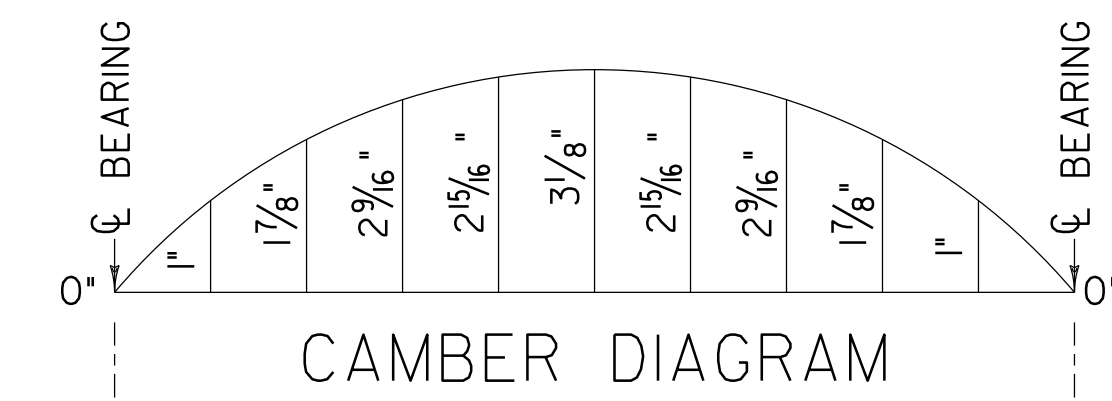


APPROACH SPAN FRAMING PLAN

SCALE 1/4" = 1'-0"

*CVN - SHALL MEET CHARPY V-NOTCH REQUIREMENTS FOR MAIN MEMBERS AS INDICATED IN SECTION 714 OF THE STANDARD SPECIFICATIONS

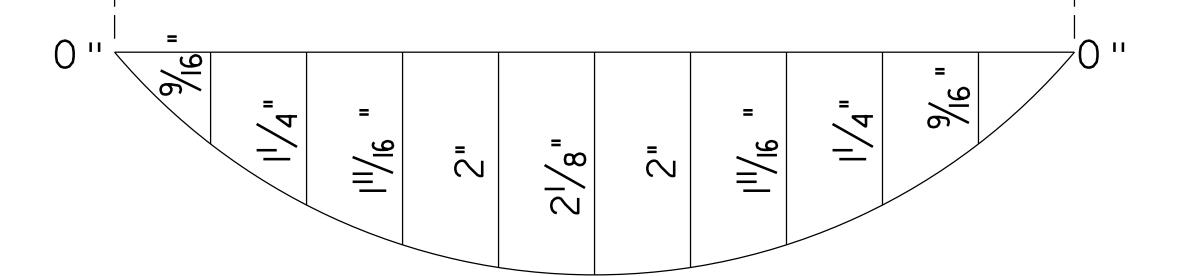
** HOLES FOR TRANSVERSE ABUTMENT REINFORCING STEEL NOT SHOWN. SEE "ABUTMENT #1 ELEVATION & TYPICAL"



CAMBER DIAGRAM

NOT TO SCALE

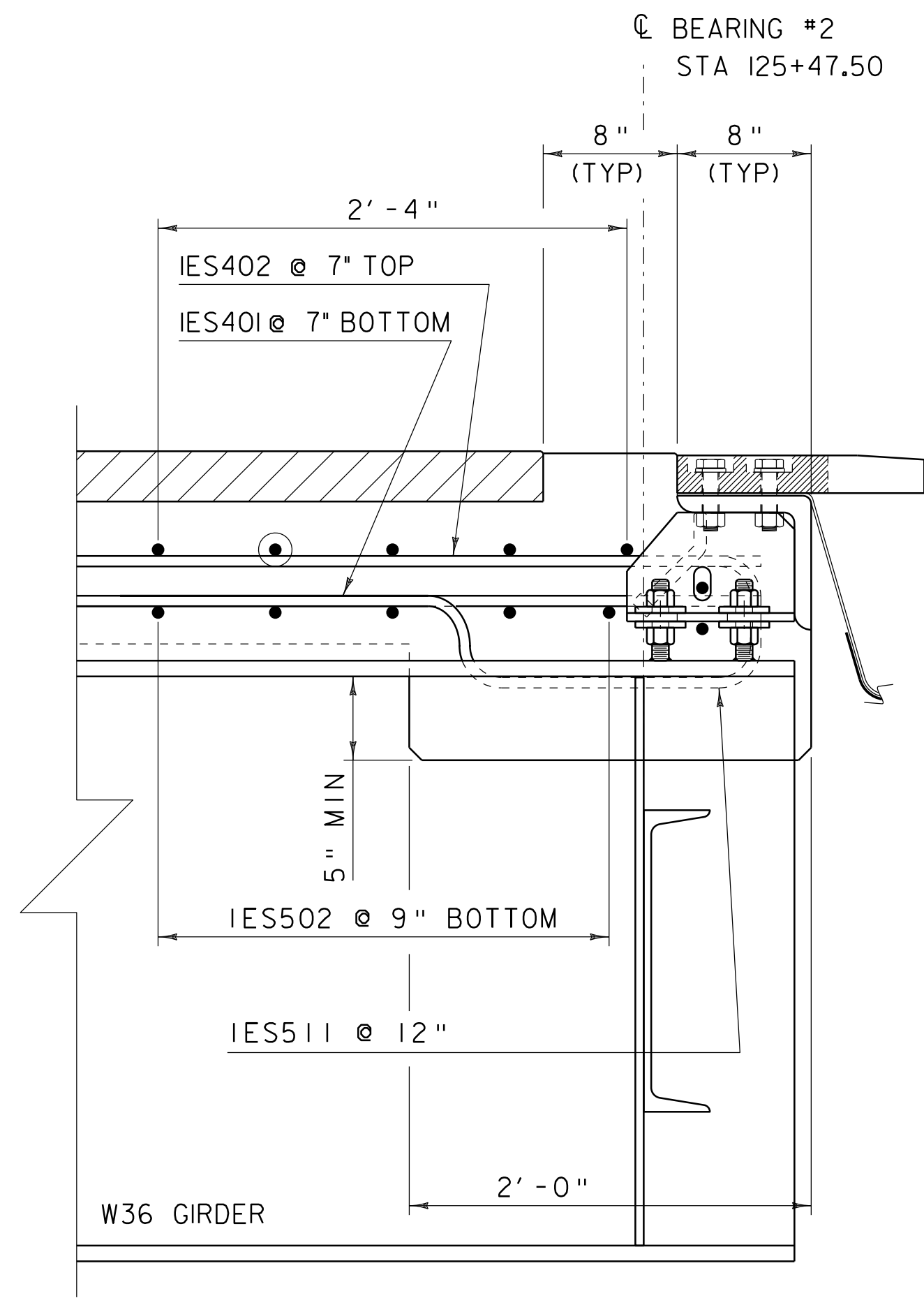
MEASUREMENTS INCLUDE BEAM SELF-WEIGHT
BEAM SPANS VARY - CAMBER SHOWN FOR
1/10TH POINTS ALONG EACH BEAM



DEAD LOAD DEFLECTION DIAGRAM

NOT TO SCALE

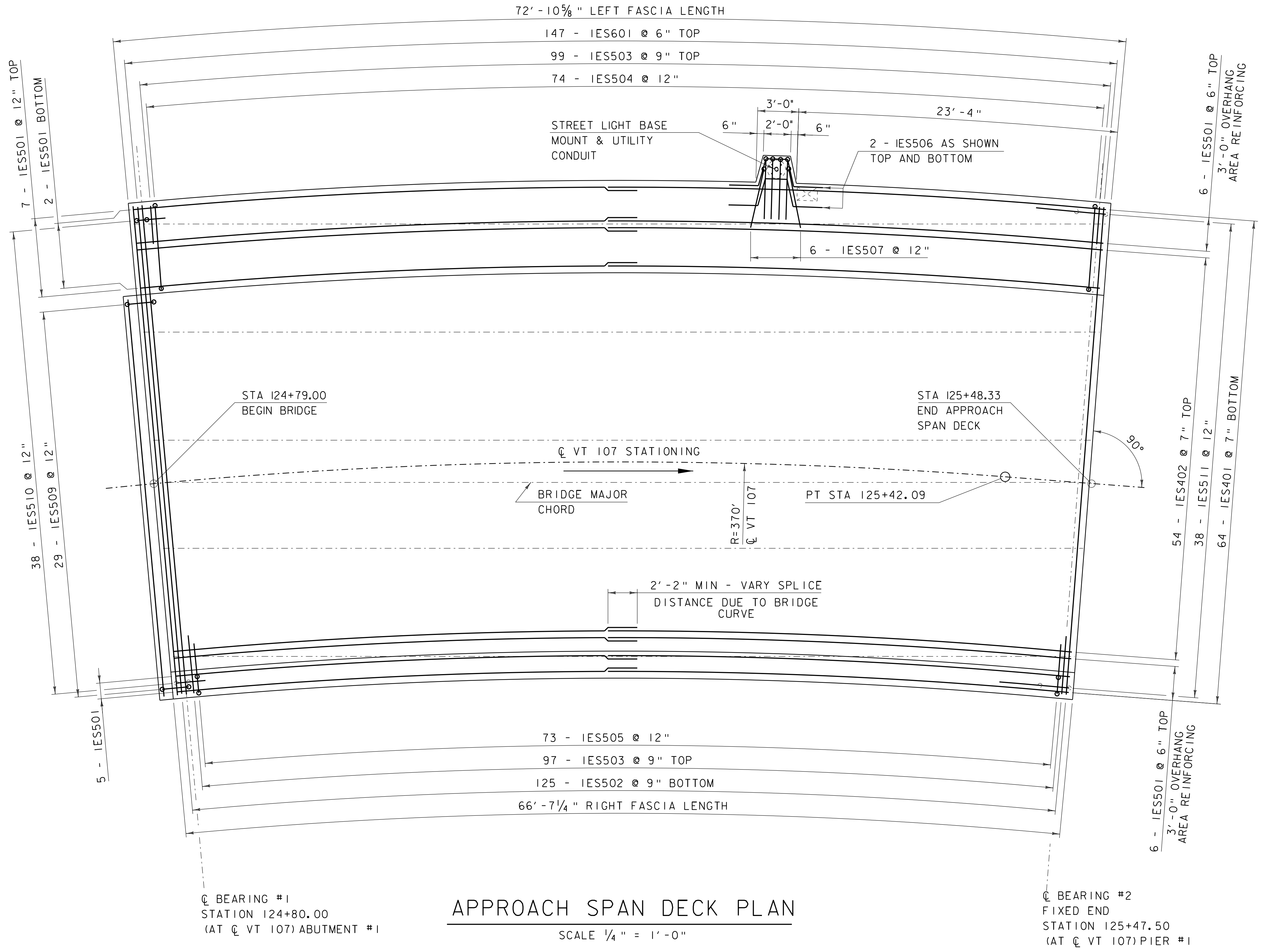
PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(14)	DRAWN BY:	M. LONGSTREET
FILE NAME:	s78f161sup.dgn	CHECKED BY:	S. SCRIBNER
PROJECT LEADER:	M. EVANS-MONGEON	APPROACH SPAN FRAMING PLAN	SHEET 78 OF 148



END APPROACH SPAN DECK SECTION

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

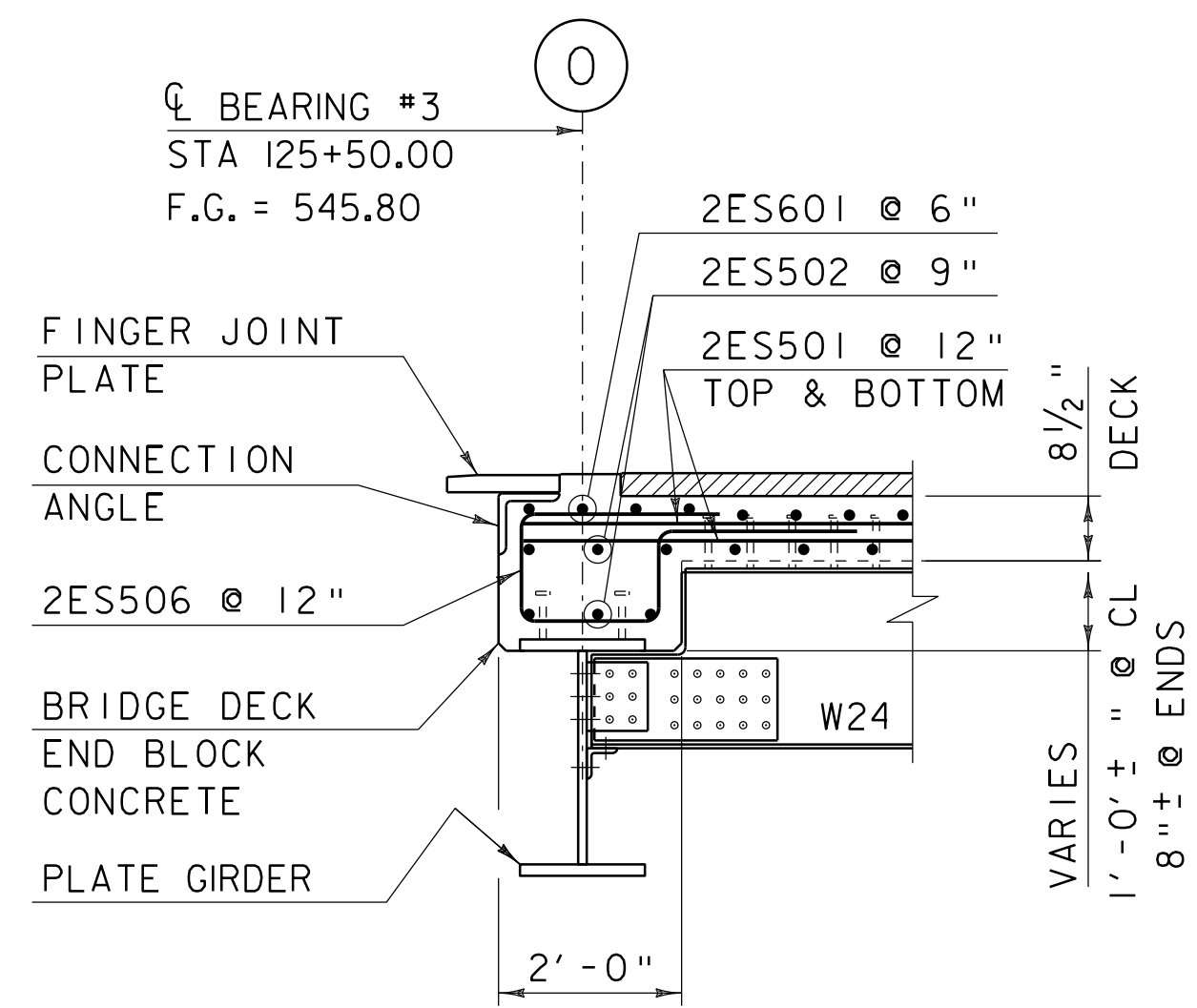
NOTE:
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 Δ = CUT TO FIT IN FIELD
 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.



APPROACH SPAN DECK PLAN

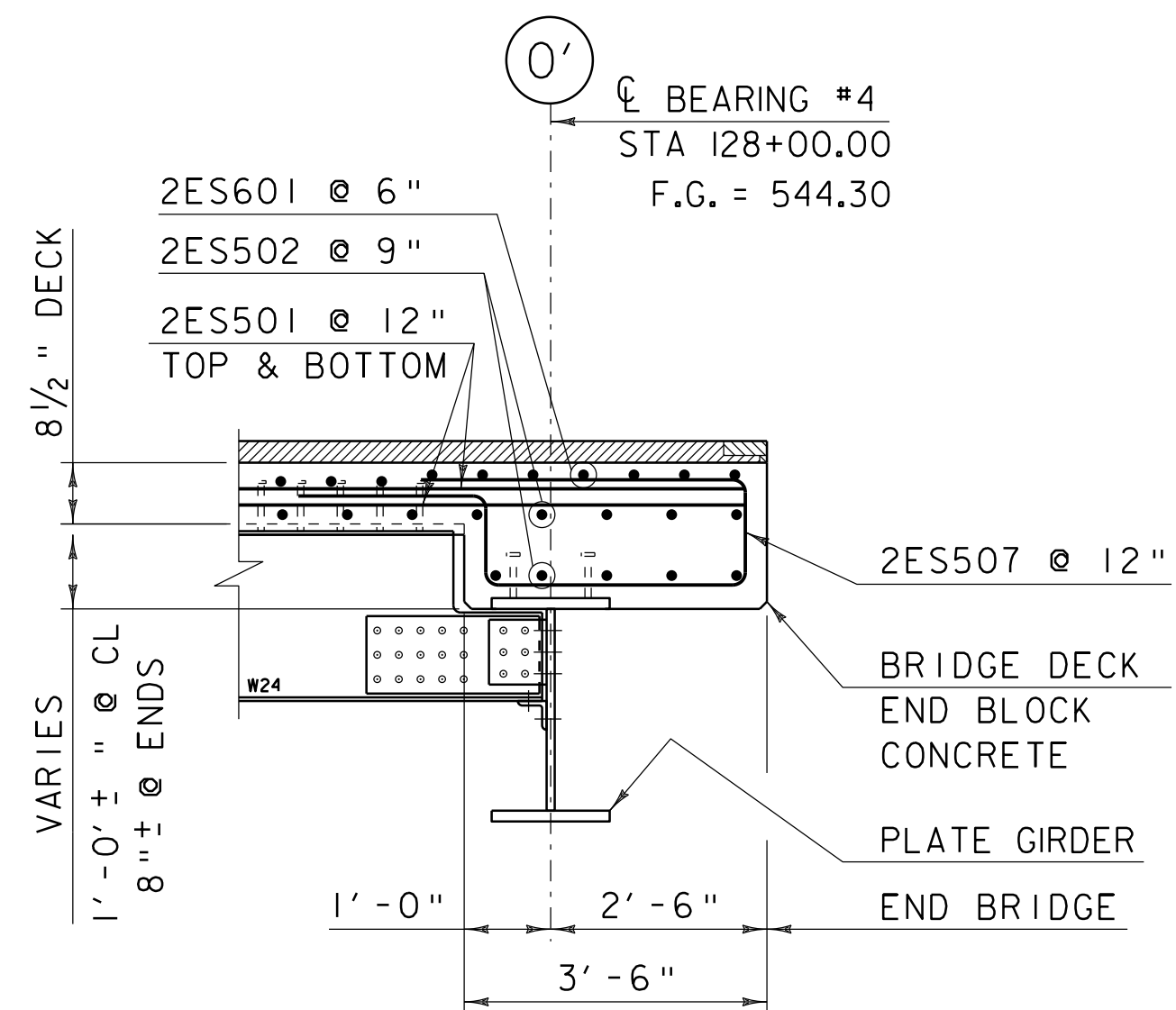
SCALE 1/4" = 1'-0"

PROJECT NAME: BETHEL	PLOT DATE: 20-MAY-2011
PROJECT NUMBER: BRF 022-1(14)	DRAWN BY: M. LONGSTREET
FILE NAME: s78f161sup.dgn	CHECKED BY: S.SCRIBNER
PROJECT LEADER: M. EVANS-MONGEON	SHEET 79 OF 148
DESIGNED BY: N. VANDENBERG	
APPROACH SPAN DECK PLAN	



BEGIN TRUSS SPAN DECK SECTION

SCALE 1/2" = 1'-0"

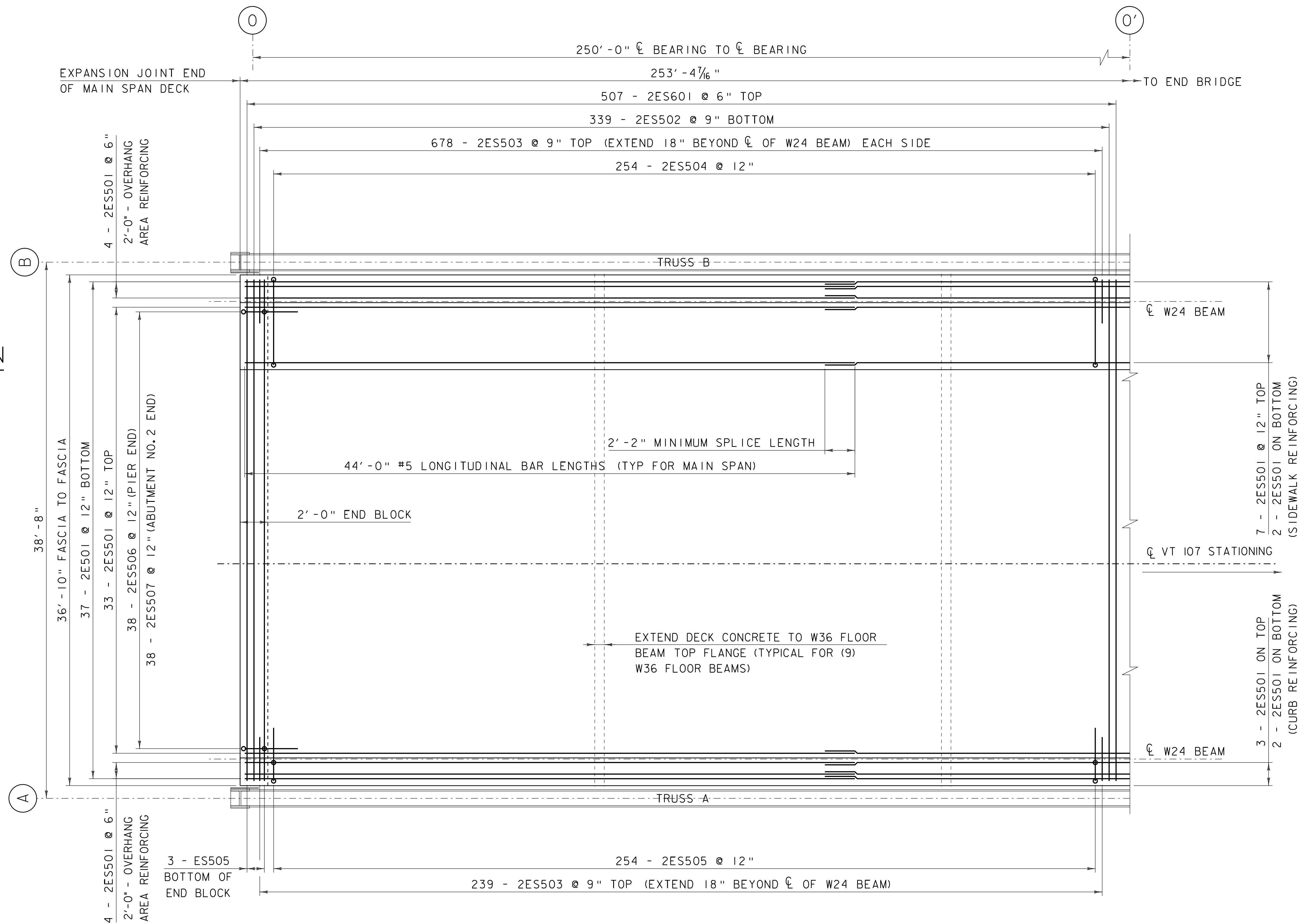


END TRUSS SPAN DECK SECTION

SCALE 1/2" = 1'-0"

NOTE:

- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- △ = CUT TO FIT IN FIELD
- 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

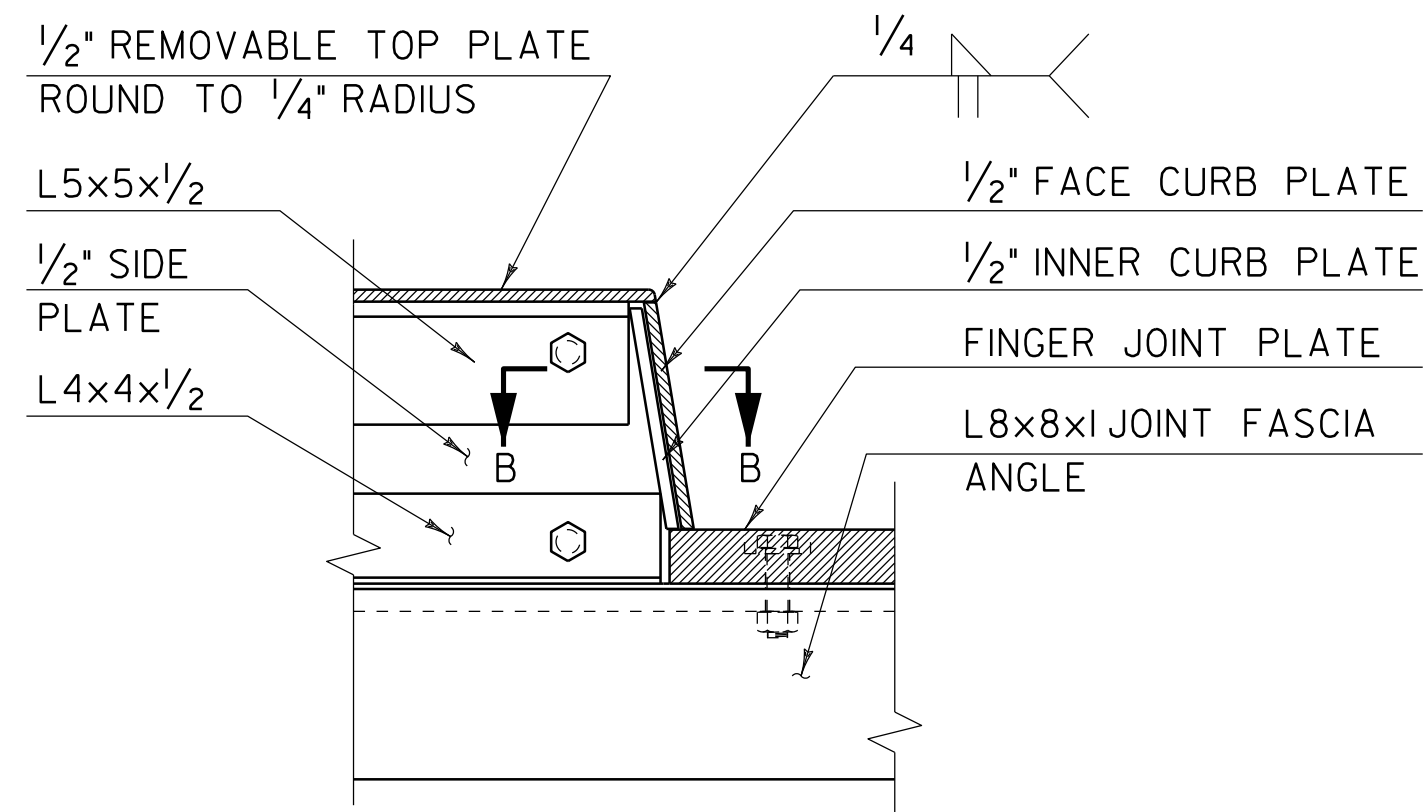


TRUSS SPAN DECK PLAN

SCALE 1/4" = 1'-0"

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(I14)

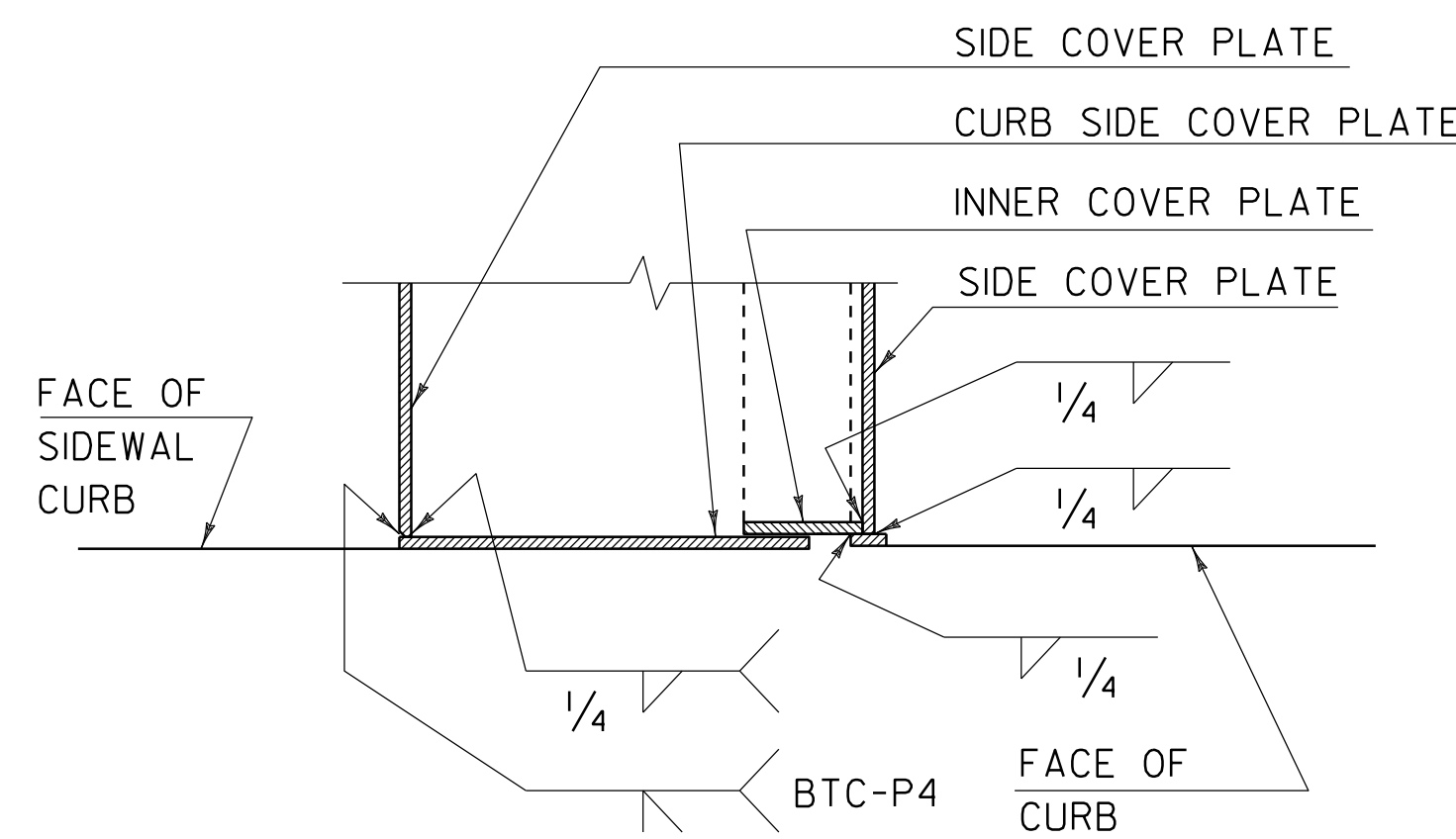
FILE NAME: s78f161sup.dgn PLOT DATE: 20-MAY-2011
PROJECT LEADER: M. EVANS-MONGEON DRAWN BY: M. LONGSTREET
DESIGNED BY: S. SCRIBNER CHECKED BY: S. SCRIBNER
MAIN SPAN DECK PLAN SHEET 80 OF 148



SECTION A-A

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

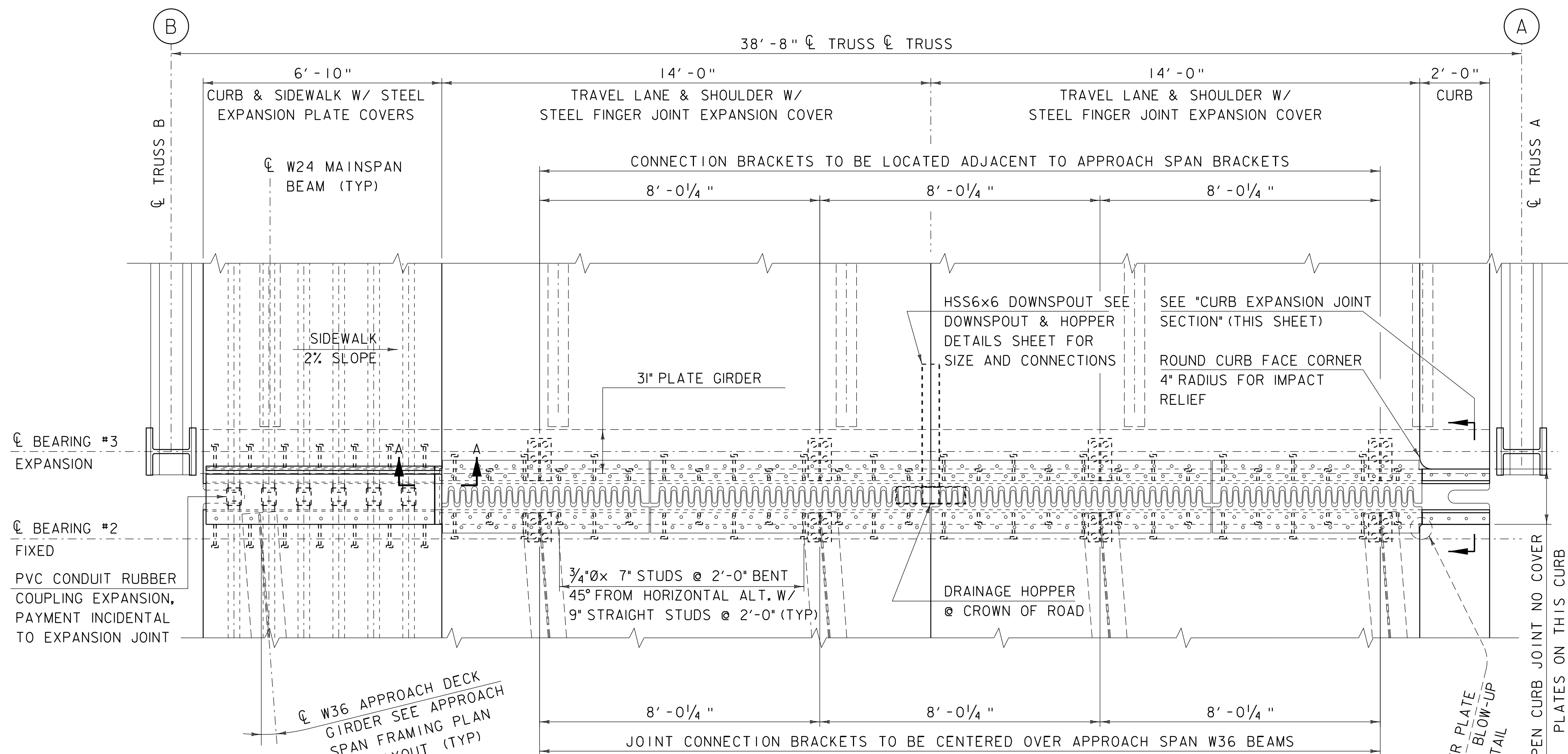
NOTE: SEAL WELD & GRIND SMOOTH ALL PLATE JOINTS PRIOR TO GALVANIZING.



SECTION B-B

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

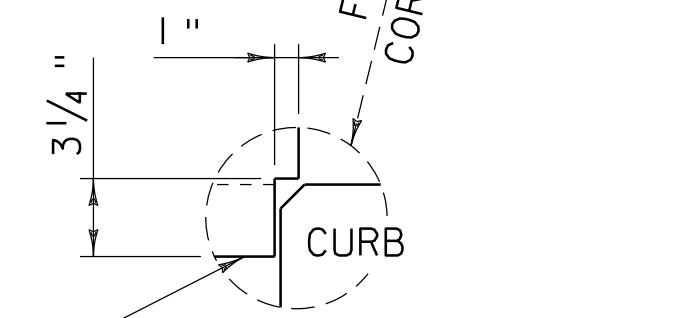
NOTE: SEAL WELD & GRIND SMOOTH ALL PLATE JOINTS PRIOR TO GALVANIZING.



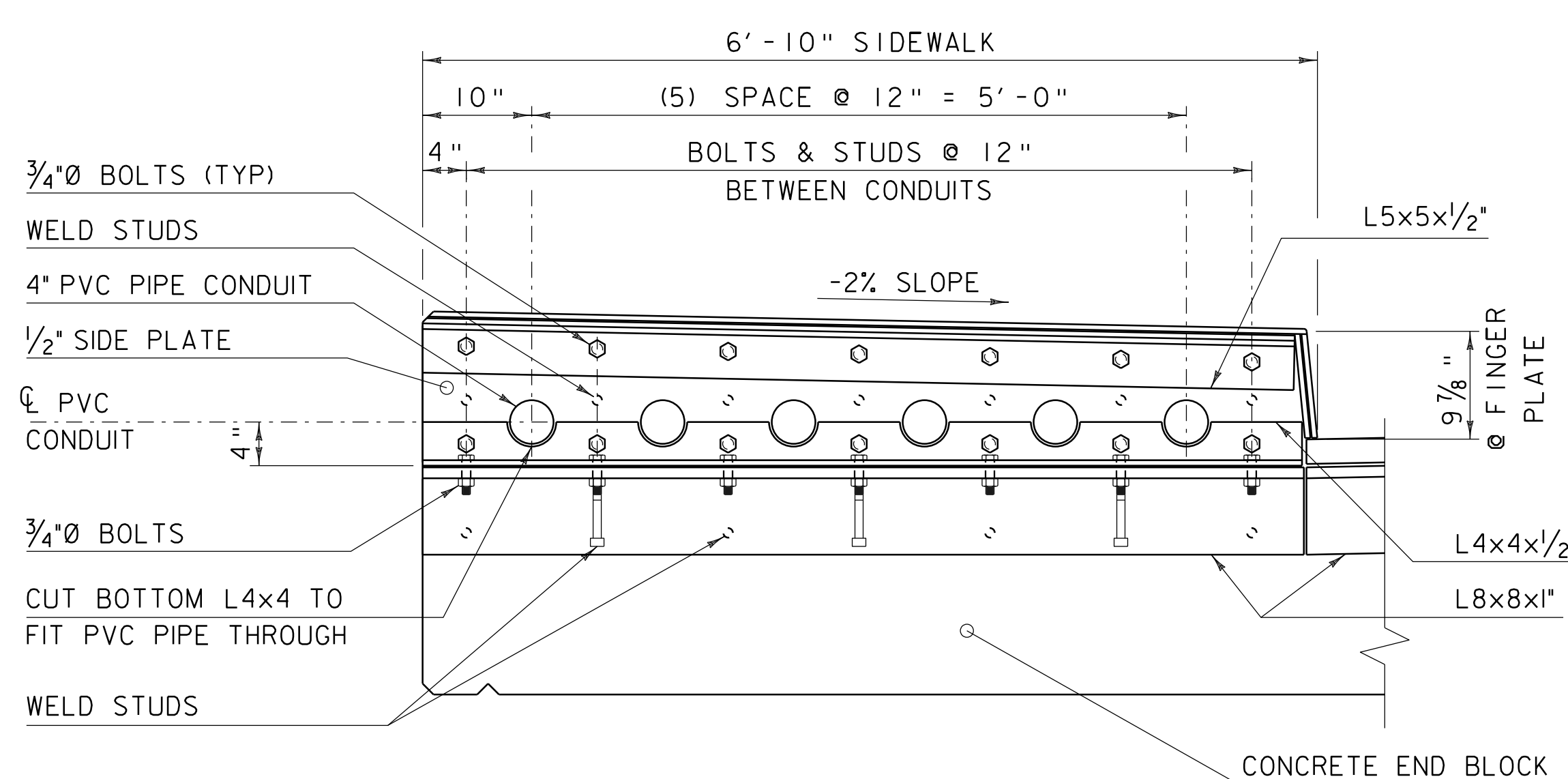
EXPANSION JOINT PLAN DETAIL

SCALE 1/2" = 1'-0"

SEE "EXPANSION JOINT DETAIL SHEET 1" FOR EXPANSION JOINT NOTES.

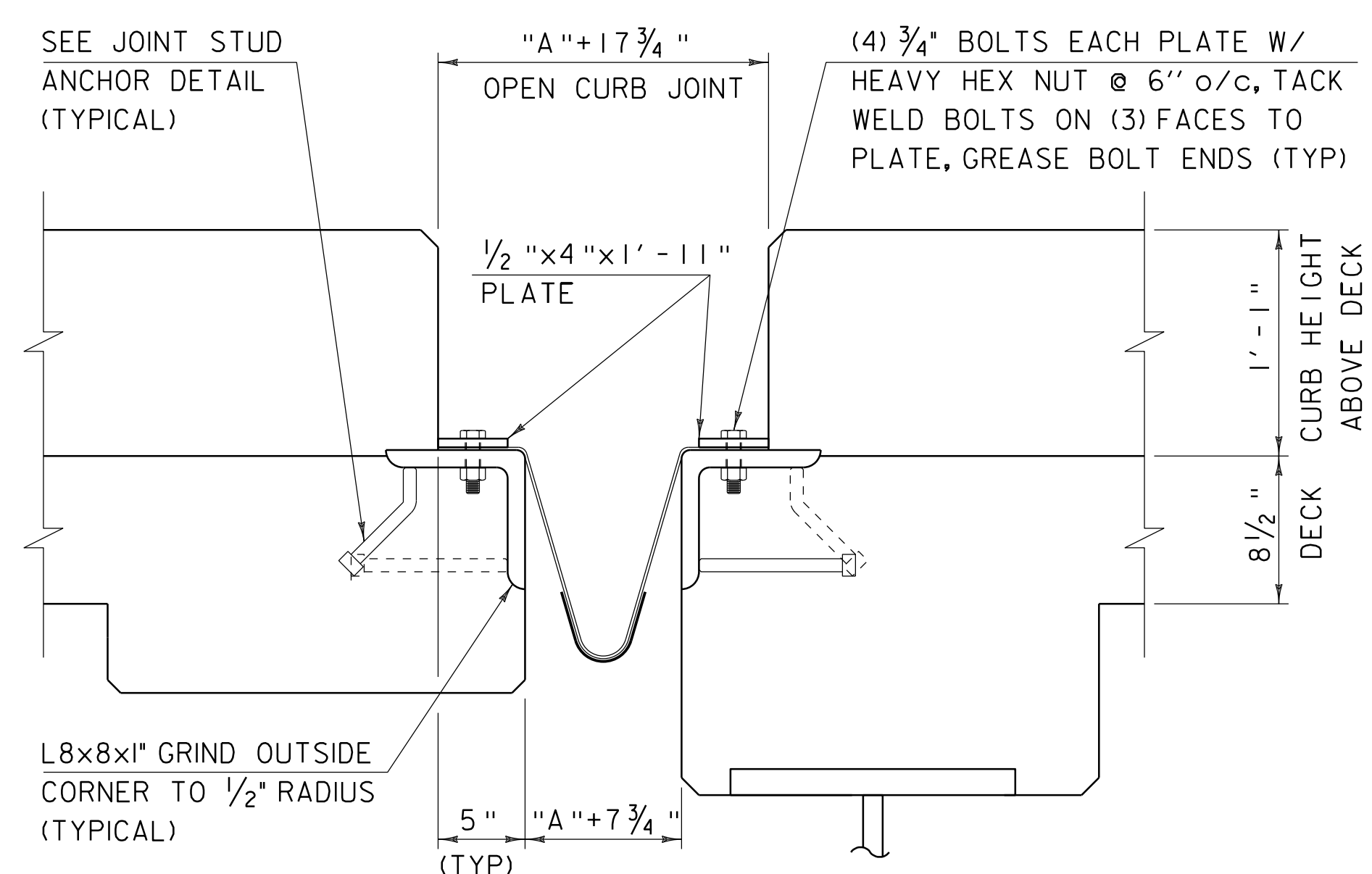


STEEL FINGER PLATE CORNER CLIPPED/CUT AS SHOWN TO CLEAR CURB (TYP) (4) CORNER LOCATION



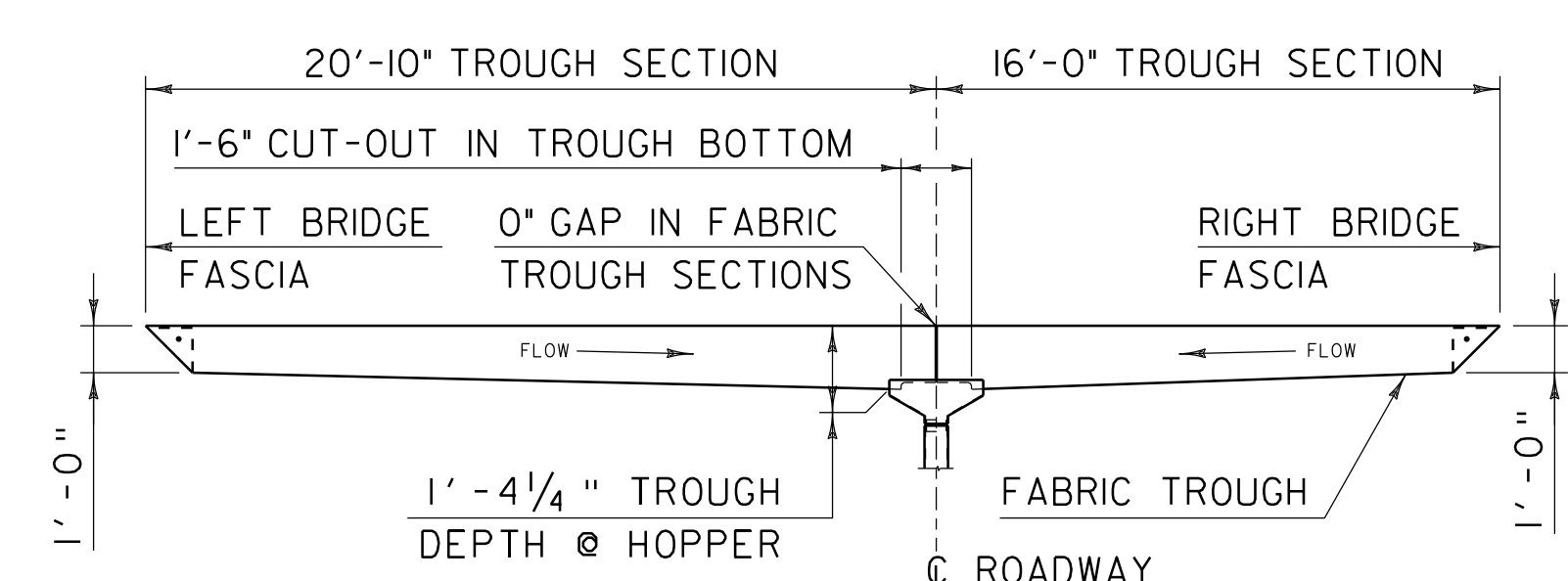
SIDEWALK JOINT ELEVATION

SCALE 1" = 1'-0"



CURB EXPANSION JOINT SECTION

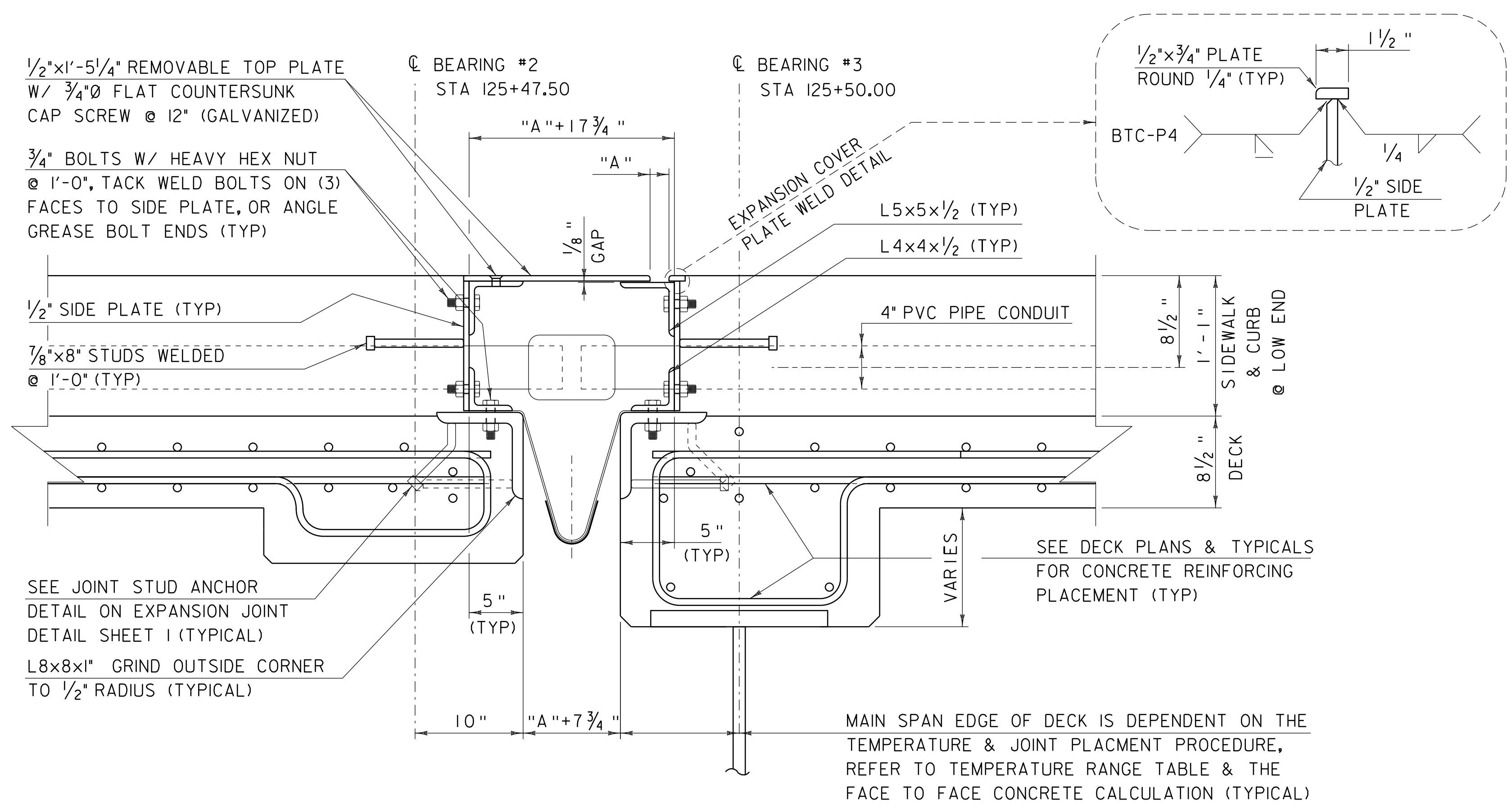
SCALE 1 1/2" = 1'-0"



FABRIC TROUGH ELEVATION

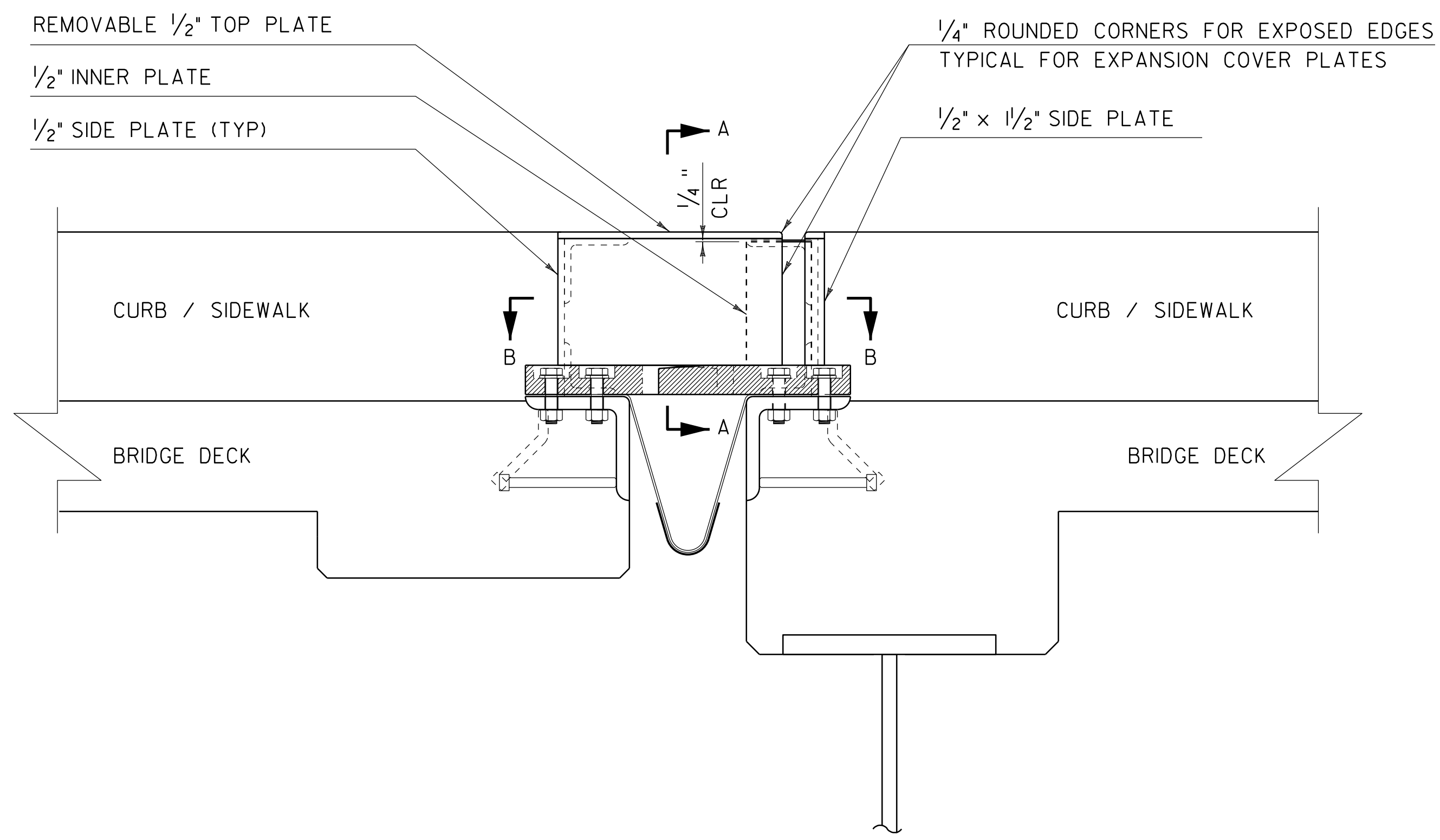
NOT TO SCALE

PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011	
PROJECT NUMBER:	BRF 022-1(14)	DRAWN BY:	M. LONGSTREET	
FILE NAME:	s78f161sup.dgn	DESIGNED BY:	S. SCRIBNER	
PROJECT LEADER:	M. EVANS-MONGEON	EXPANSION JOINT PLAN & DETAILS	CHECKED BY:	S. SCRIBNER
			SHEET	81 OF 148



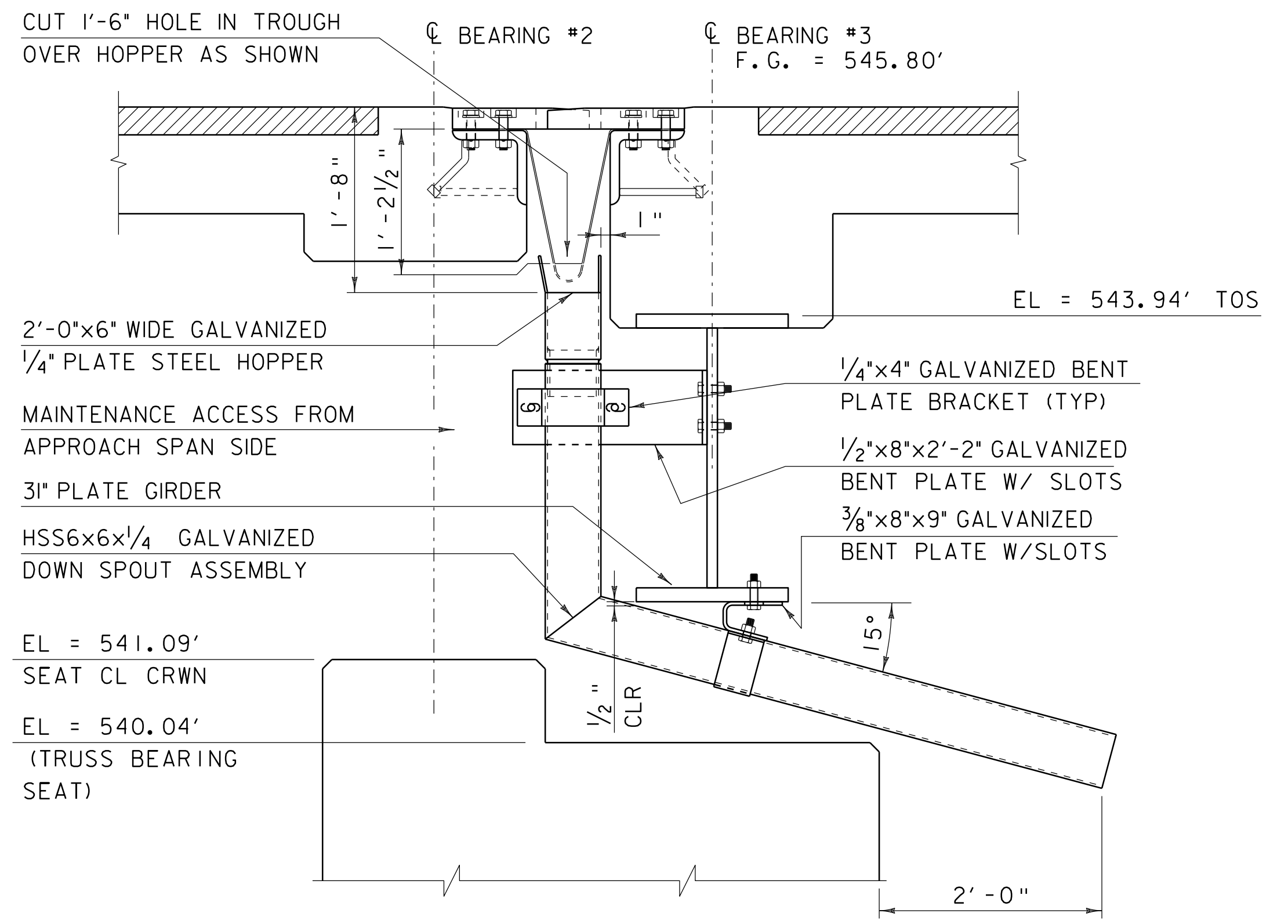
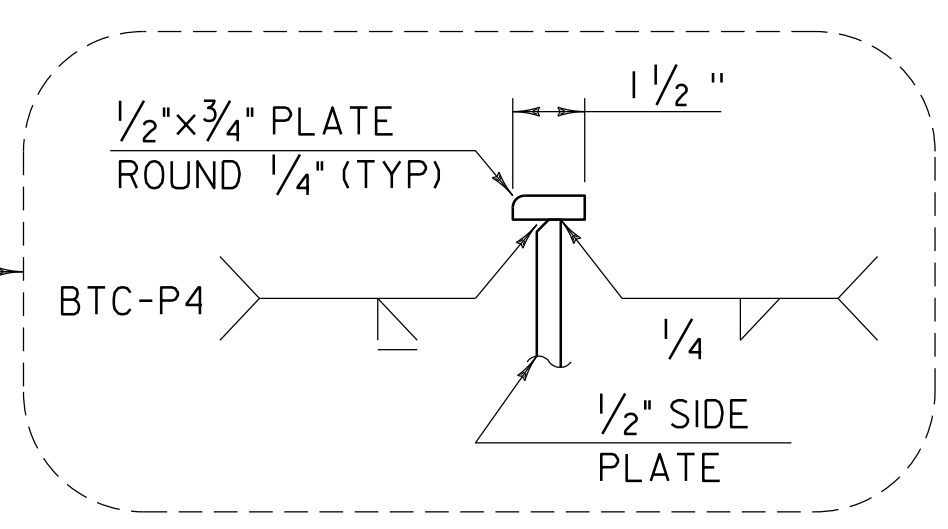
SIDEWALK EXPANSION JOINT (TYP)

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



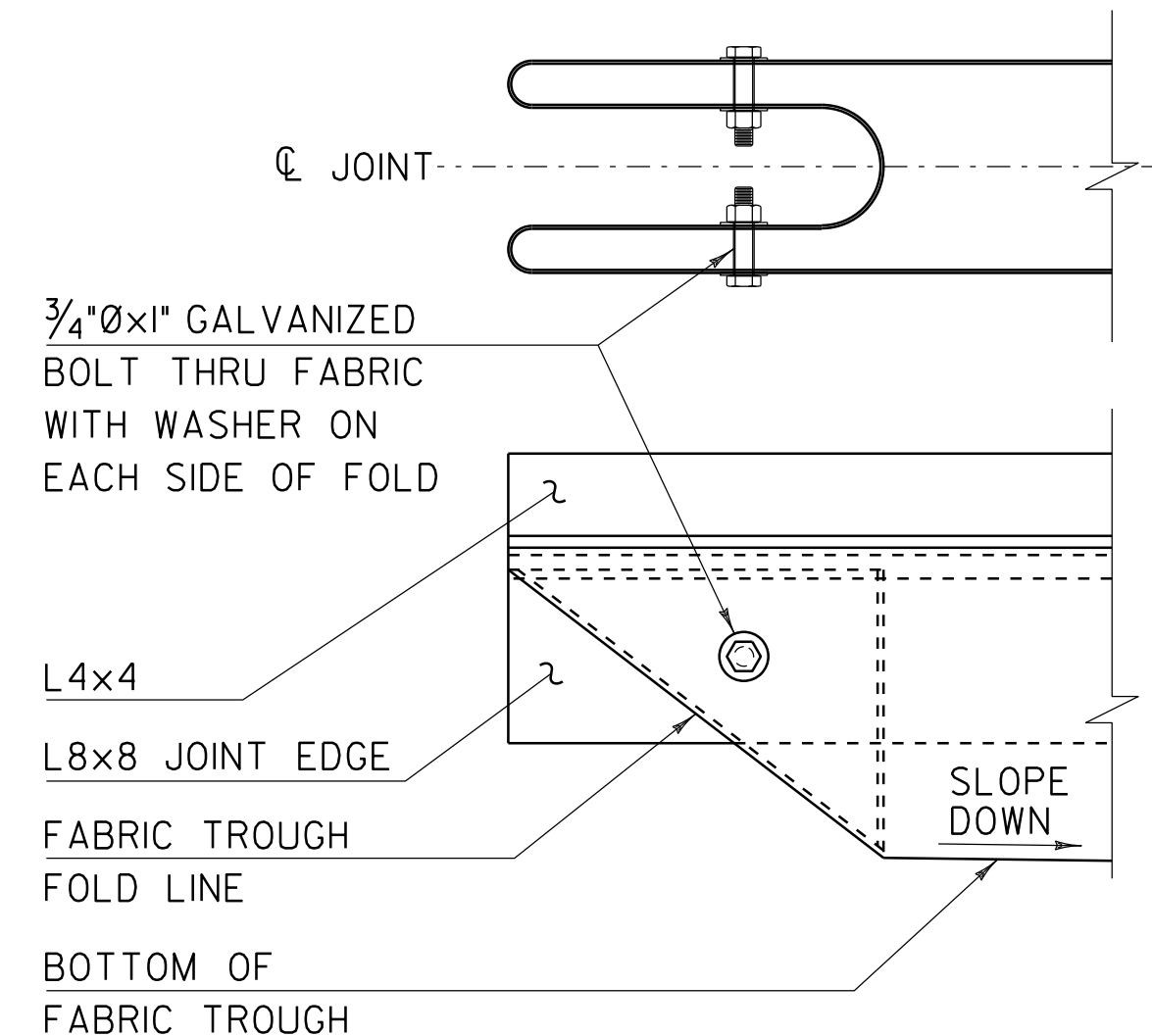
SIDEWALK EXPANSION JOINT (TYP)

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



HOPPER TYPICAL SECTION

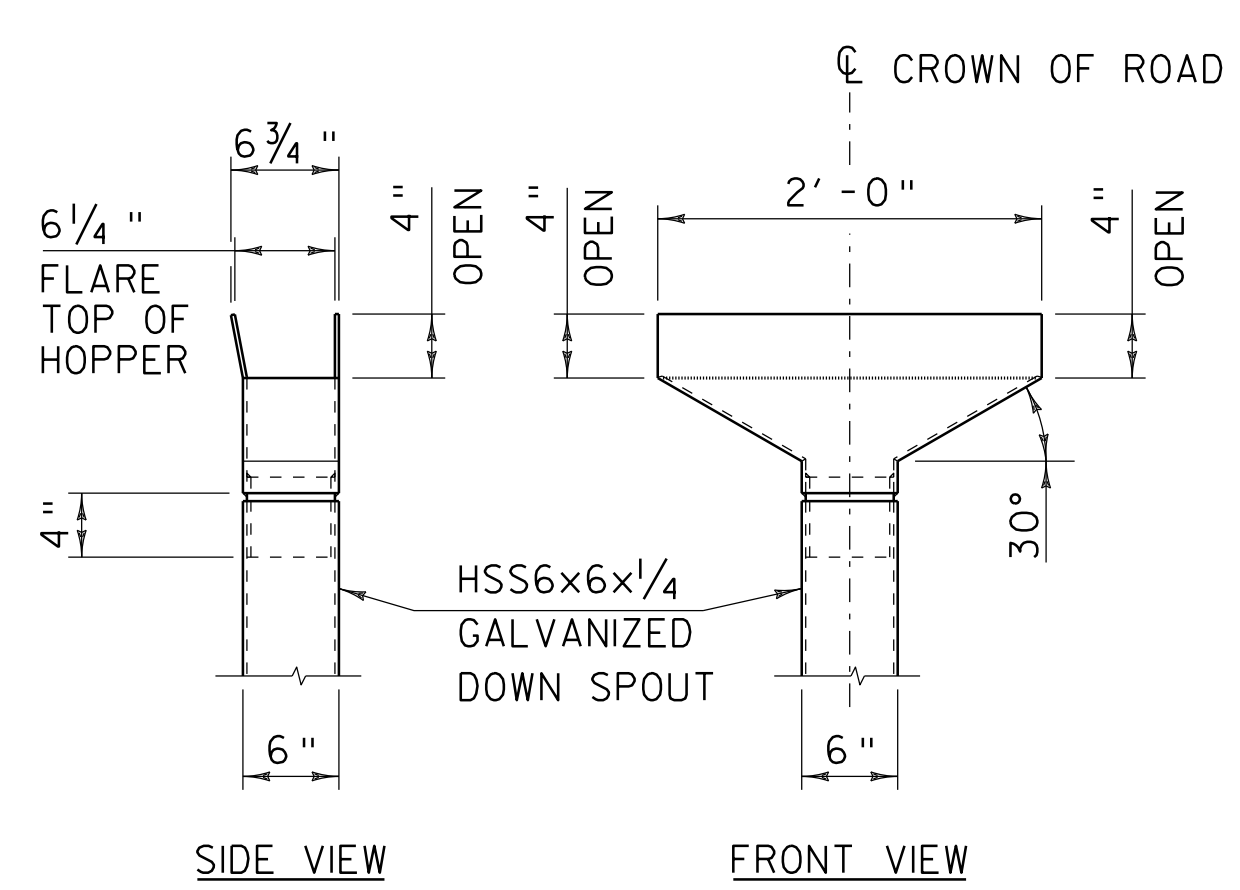
SCALE 1" = 1'-0"



FOLDED TROUGH END DETAIL

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

1. TROUGH SHALL BE FOLDED AT BOTH LEFT AND RIGHT BRIDGE FASCIA ENDS. TROUGH SHALL SLOPE TOWARD BRIDGE CENTER DOWN SPOUT HOPPER LOCATION.
2. BOLTS, NUTS AND WASHERS FOR FOLD SHALL MEET REQUIREMENTS OF SUBSECTION 714.04 AND SHALL BE GALVANIZED.



HOPPER DETAILS

SCALE 1" = 1'-0"

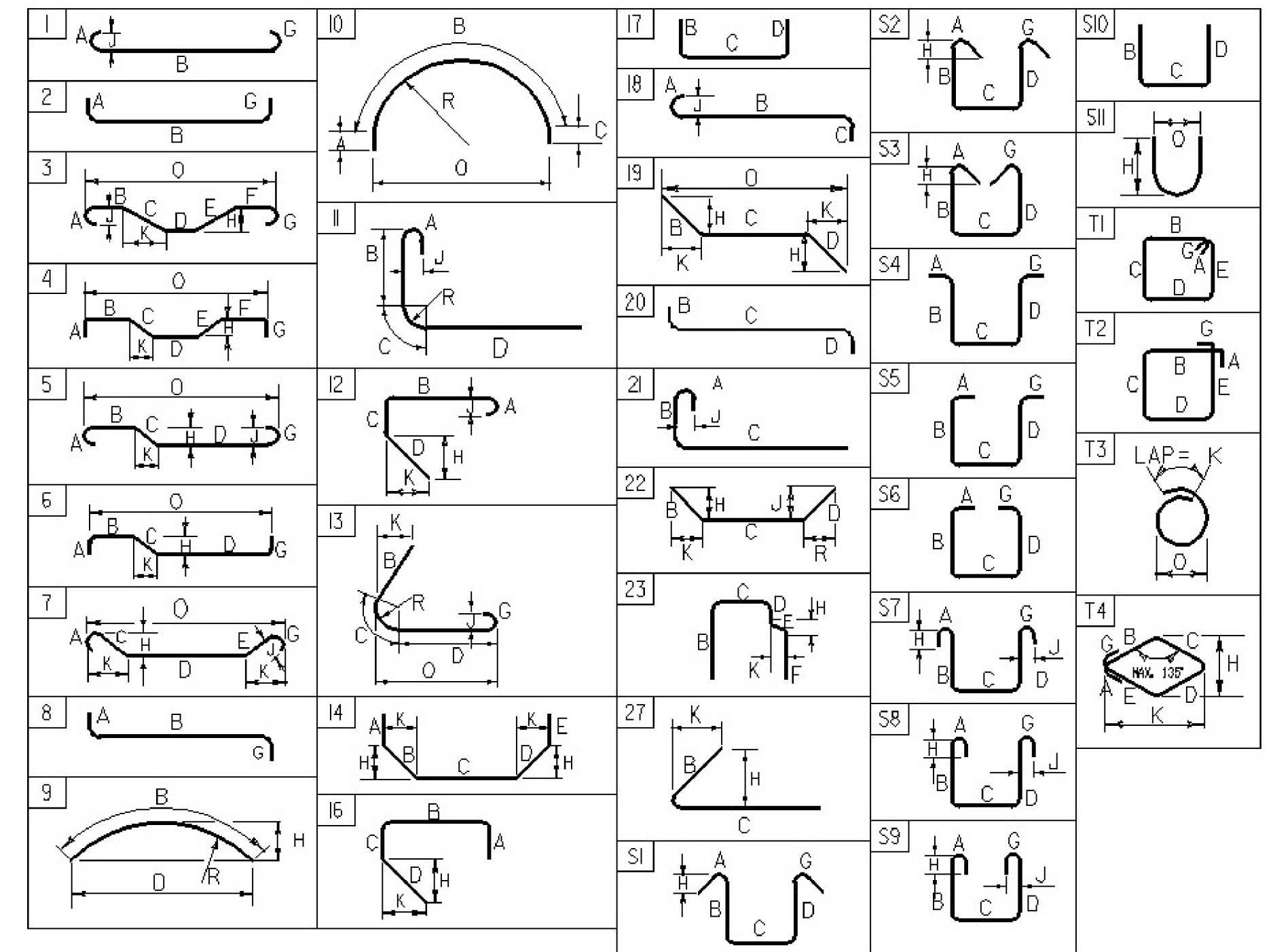
PROJECT NAME: BETHEL	PLOT DATE: 20-MAY-2011
PROJECT NUMBER: BRF 022-1(I14)	DRAWN BY: M. LONGSTREET
FILE NAME: s78f161sup.dgn	CHECKED BY: S. SCRIBNER
PROJECT LEADER: M. EVANS-MONGEON	SHEET 83 OF 148
DESIGNED BY: S. SCRIBNER	
EXPANSION JOINT DETAIL SHEET 2	

REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O	ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O					
PIER																																								
*	25	5	43'- 0"	1P501	STR	43'- 0"																																		
	36	5	6'- 2"	1P502	S3	0'- 10"	0'- 0"	4'- 6"	0'- 10"			---	0'- 6"																											
	20	5		1P503	S11								4'- 2"				4'- 2"																							
	44	5	9'- 8"	1P504	23		2'- 2"	1'- 4"	1'- 0"	3'- 0"	2'- 2"		0'- 0"			3'- 0"																								
	4	6	47'- 4"	1P601	STR	47'- 4"																																		
	36	6	16'- 0"	1P602	T1	0'- 10"	3'- 0"	4'- 2"	3'- 0"	4'- 2"		0'- 10"																												
*	5	6	18'- 8"	1P603	17		2'- 2"	14'- 4"	2'- 2"																															
	30	7	52'- 10"	1P701	17		2'- 8"	47'- 6"	2'- 8"																															
*	97	7	19'- 8"	1P702	17		2'- 8"	14'- 4"	2'- 8"																															
	200	8	14'- 8"	1P801	17		2'- 0"	12'- 8"	---																															
	30	9	52'- 10"	1P901	17		2'- 8"	47'- 6"	2'- 8"																															
	96	9	19'- 4"	1P902	17		2'- 6"	14'- 4"	2'- 6"																															
*	17	9	11'- 9"	1P903	STR	11'- 9"																																		
	30	9	47'- 4"	1P904	STR	47'- 4"																																		
LIGHTPOLE PEDESTAL																																								
	18	4	9'- 2"	4CP01	S6	1'- 4"	2'- 6"	1'- 6"	2'- 6"				1'- 4"																											
	30	6	4'- 4"	6CP01	STR	4'- 4"																																		

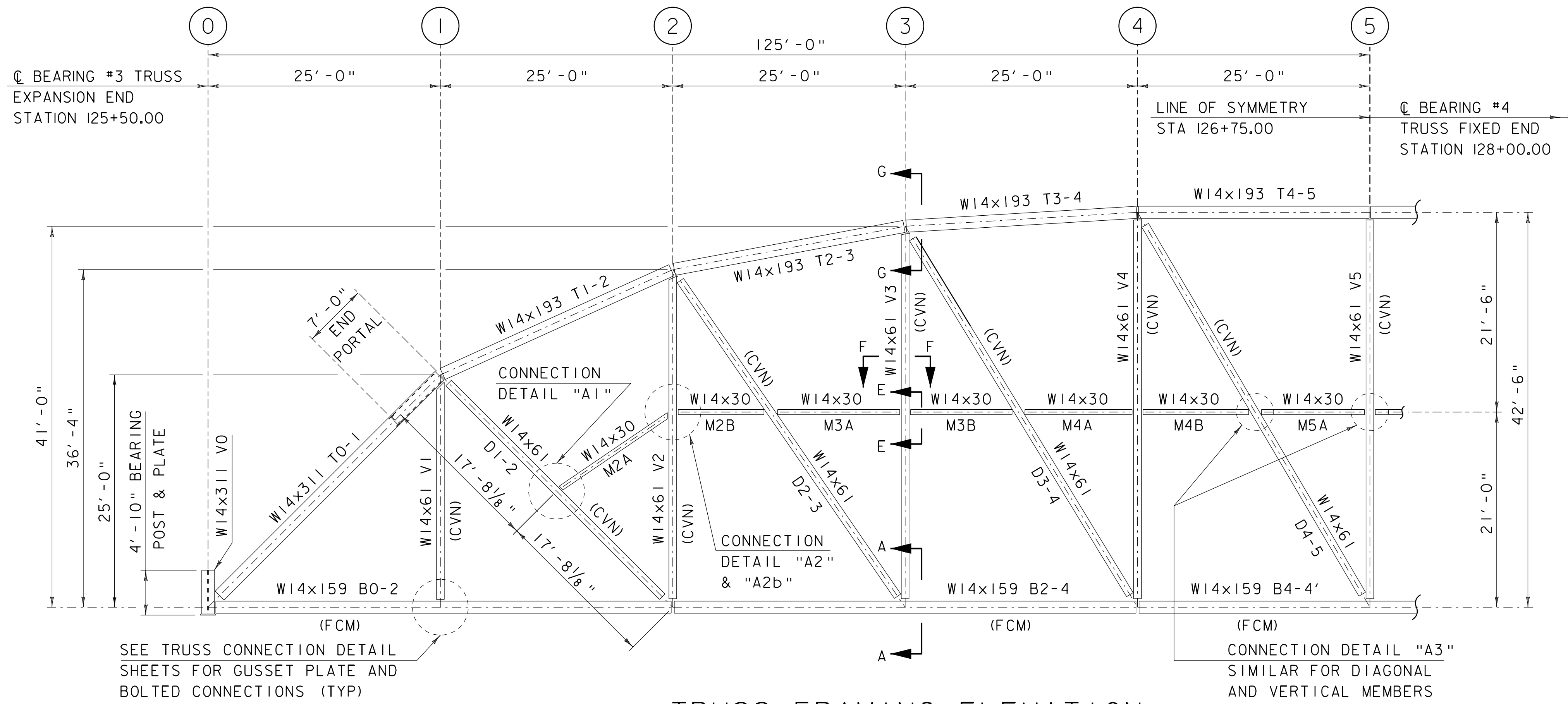
~ NOTES ~

- UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
- FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
- BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
- "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
- "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
- WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
- ▲ DENOTES BARS TO BE CUT IN FIELD.
- * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
- △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
- E DENOTES EPOXY COATED REINFORCING STEEL.



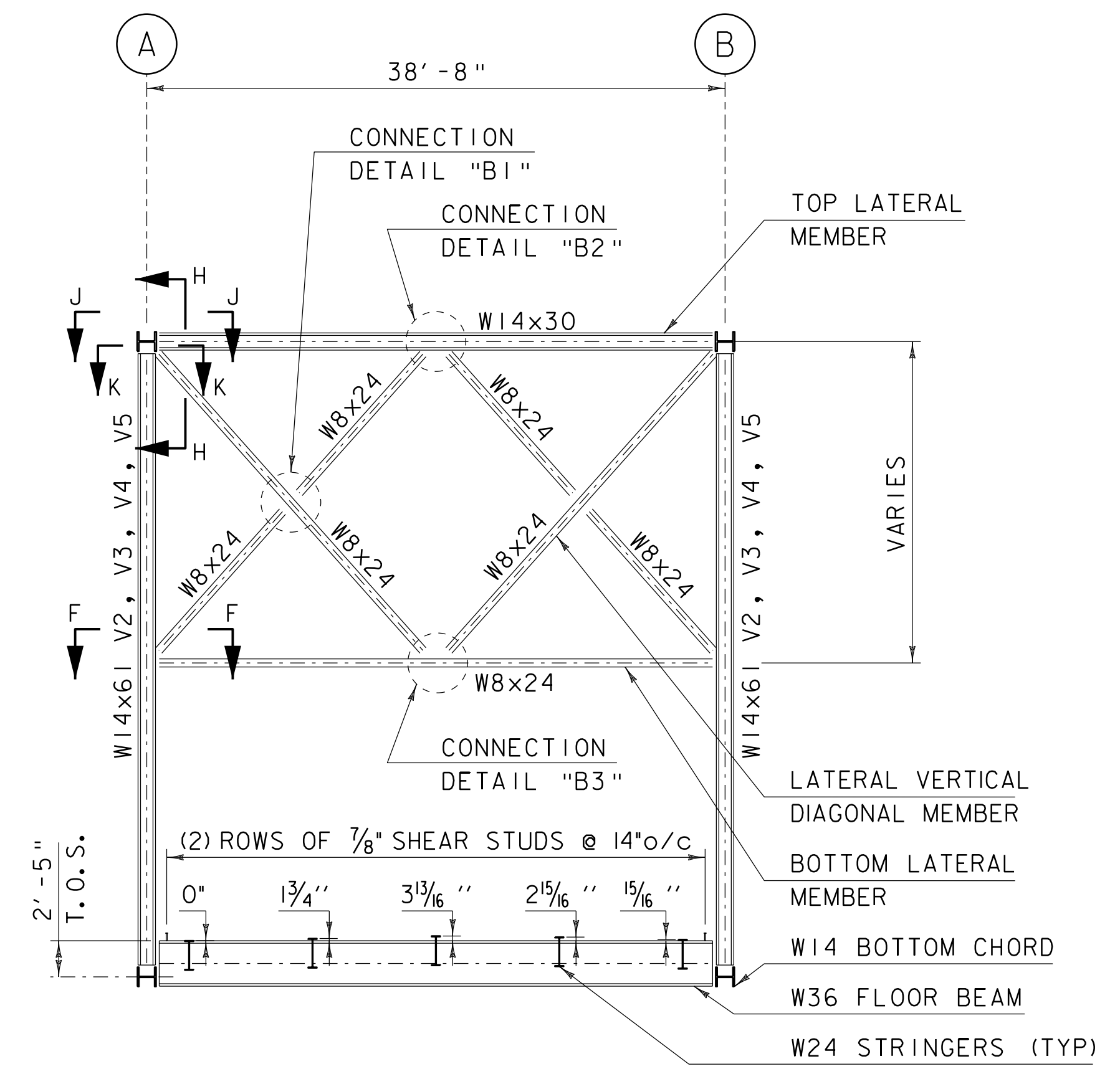
ASTM STANDARD REINFORCING BARS				
BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	AREA INCHES ²	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

PROJECT NAME: **BETHEL**
PROJECT NUMBER: **BRF 022-1(14)**
FILE NAME: **78f161** PLOT DATE: **1/11/2011**
PROJECT MANAGER: **M.EVANS-MONGEON** DRAWN BY: **G. ROKES**
DESIGNED BY: **S.SCRIBNER** CHECKED BY: **N. VAN DEN BER**
REINFORCING STEEL SCHEDULE SHEET #2 SHEET **85** OF **148**



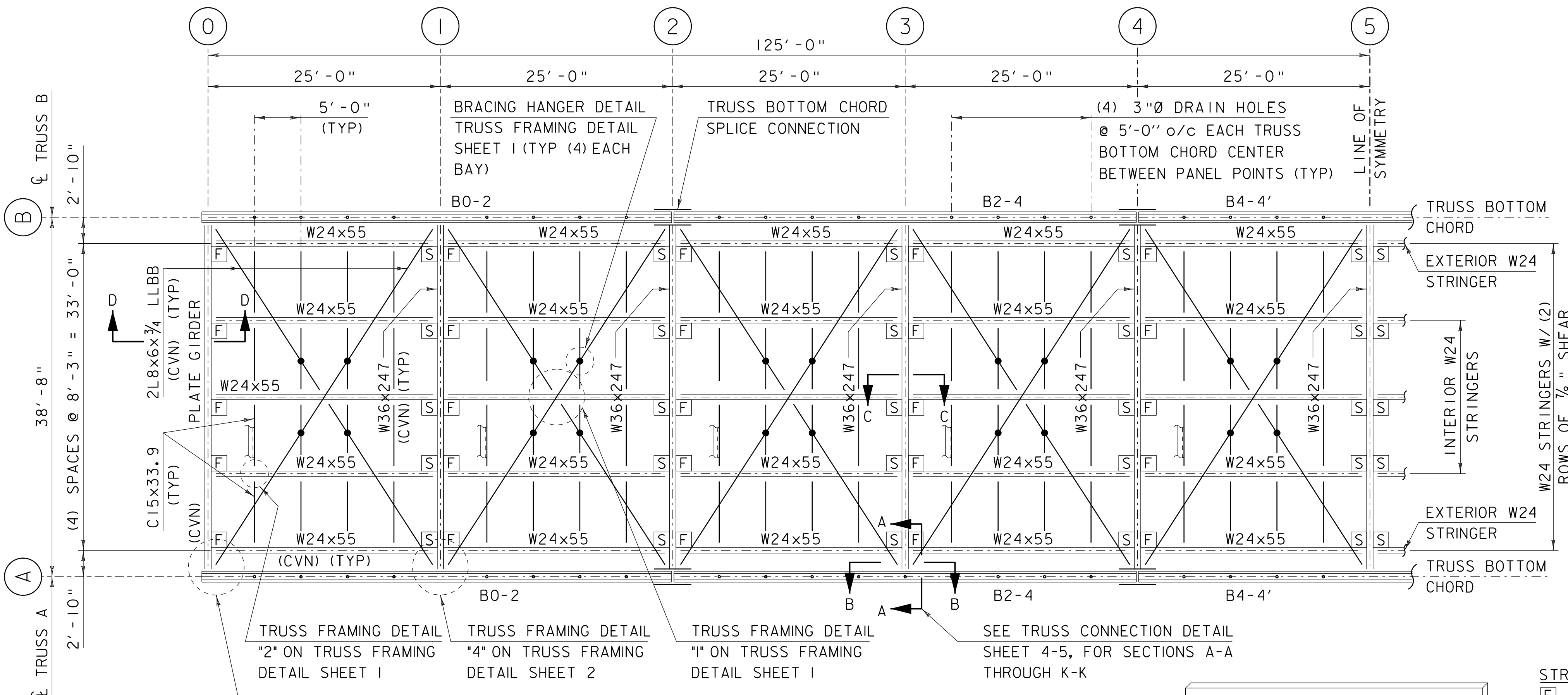
TRUSS FRAMING ELEVATION

SCALE 1/8" = 1'-0"



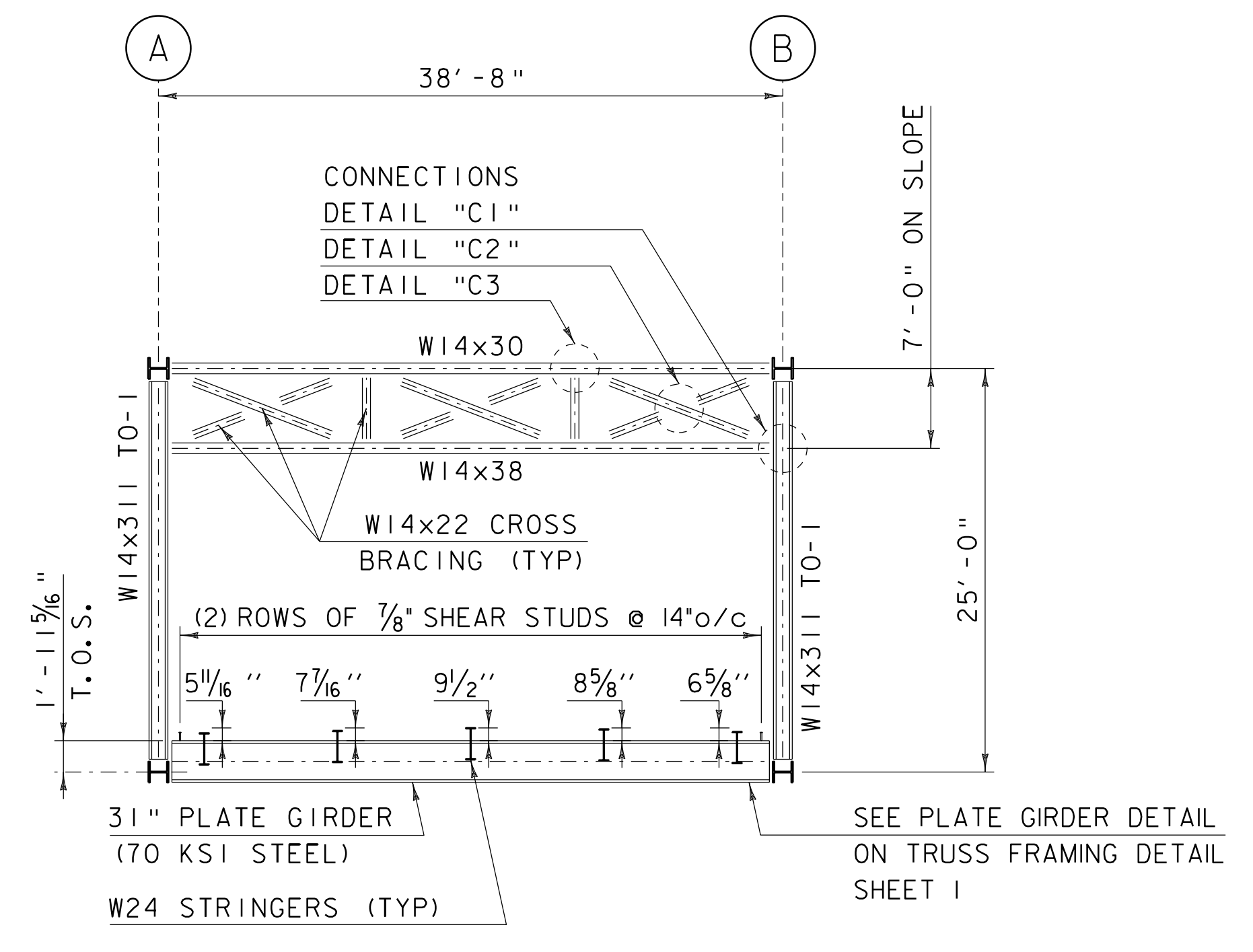
INTERNAL PORTAL ELEVATION

SCALE 1/8" = 1'-0"



TRUSS FRAMING PLAN

SCALE 1/8" = 1'-0"



END PORTAL ELEVATION

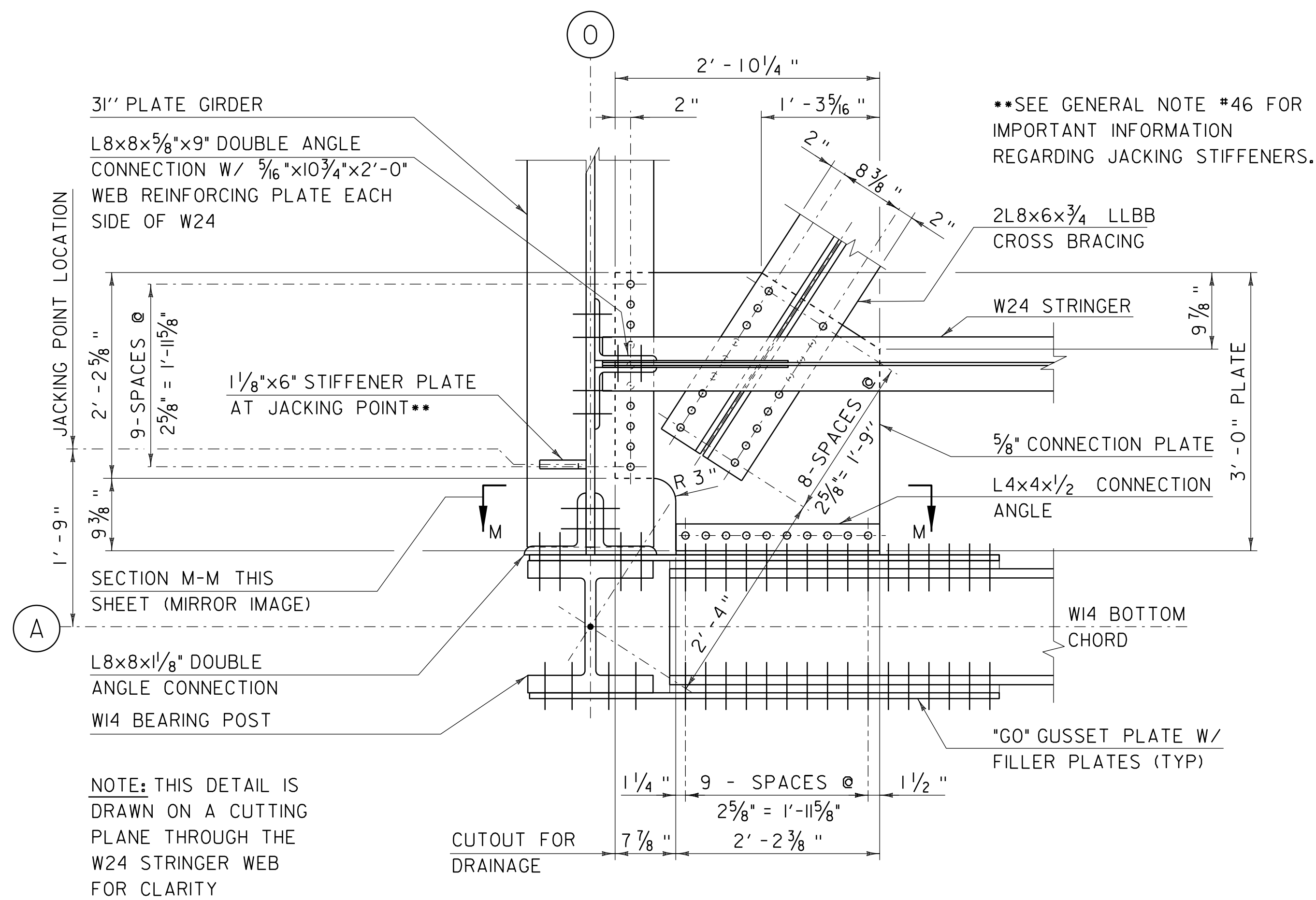
SCALE 1/8" = 1'-0"

STRINGER CONNECTION NOTES

- [F] = FIXED CONNECTION
 - [S] = SLOTTED CONNECTION
- SEE "TRUSS FRAMING DETAIL SHEET 2" FOR CONSTRUCTION SEQUENCE NOTES.

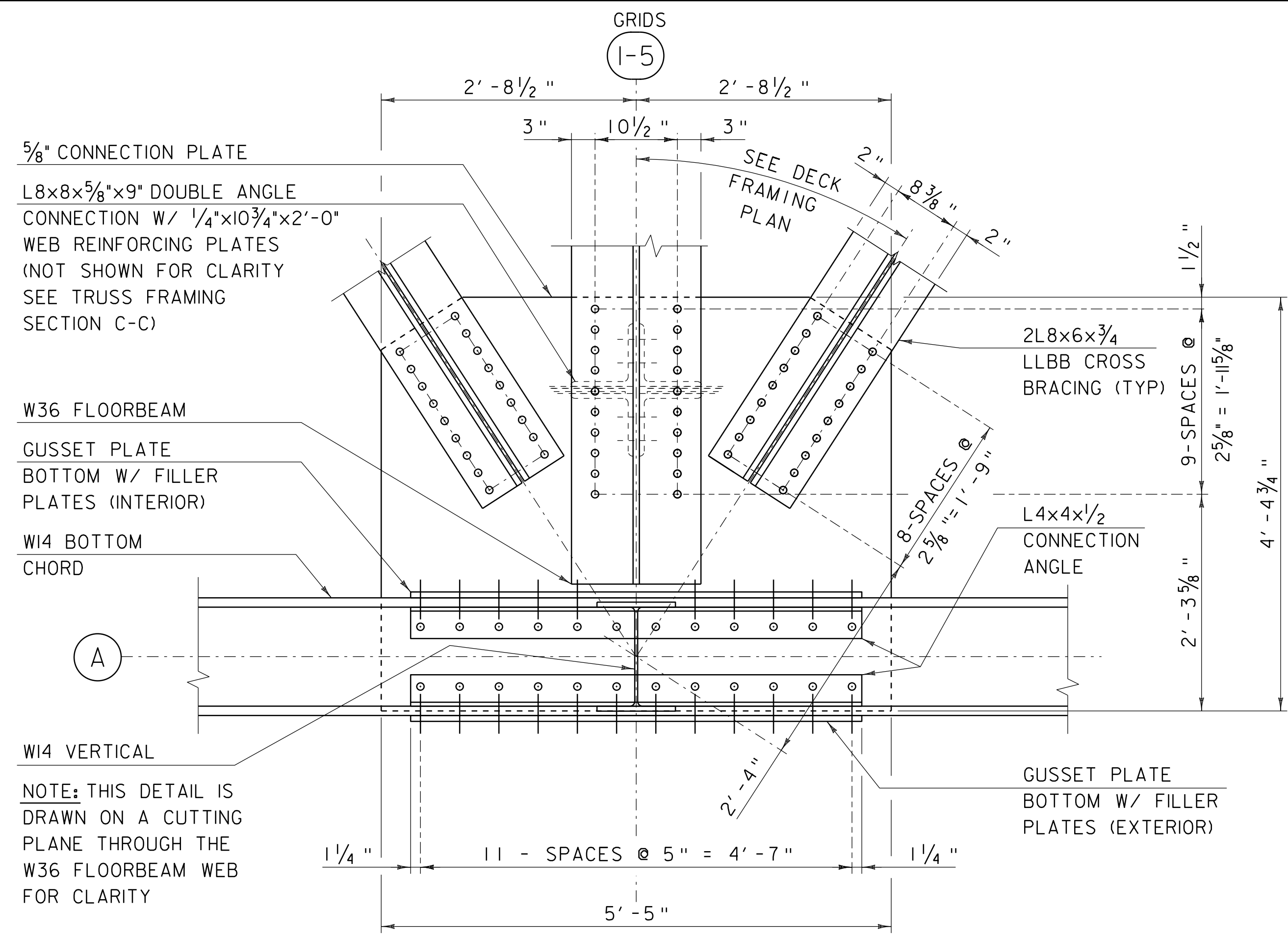
TRUSS CONNECTION SECTIONS & DETAILS SHOWN ON "TRUSS CONNECTION DETAIL SHEETS 1-7"

PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(14)	DRAWN BY:	M. LONGSTREET
FILE NAME:	s78f161truss.dgn	DESIGNED BY:	S. SCRIBNER
PROJECT LEADER:	M. EVANS-MONGEON	CHECKED BY:	T. FILLBACH
TRUSS FRAMING PLAN & ELEVATIONS			SHEET 86 OF 148



TRUSS FRAMING DETAIL "3"

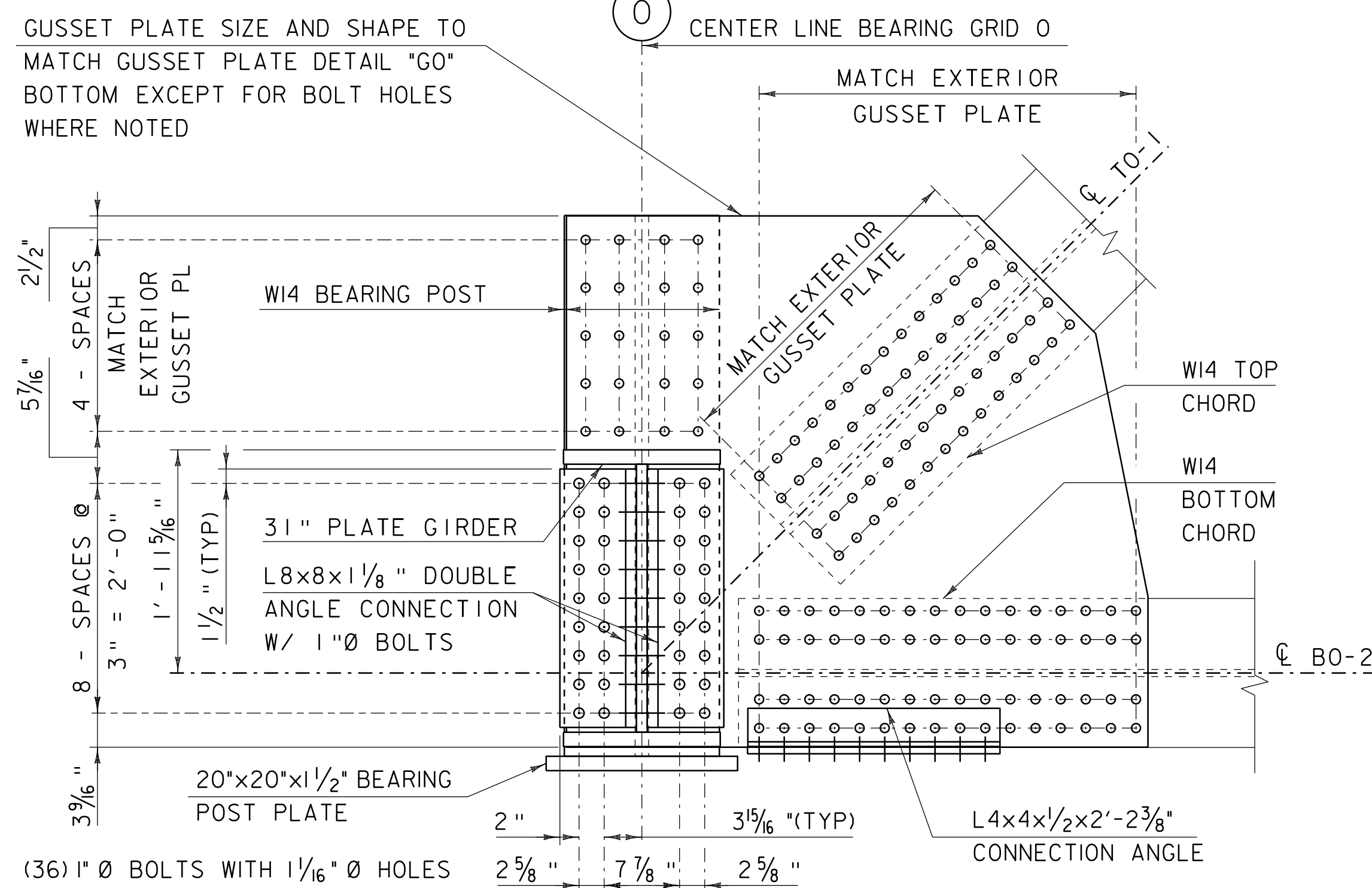
SCALE 1" = 1'-0"



TRUSS FRAMING DETAIL "4"

SCALE 1" = 1'-0"

THIS DETAIL SIMILAR FOR CONNECTIONS AT GRID 1 THRU GRID 5.



SECTION M-M
PLATE GIRDER CONNECTION

SCALE 1" = 1'-0"

Member Type	Member Designation	Tension / Compression	Unfactored Dead Loads	Controlling SERVICE Limit State Loads		Controlling STRENGTH Limit State Loads		FATIGUE Limit State Loads	
				Live Load Impact Factor	Factored Load	Live Load Impact Factor	Factored Load	Live Load Impact Factor	Factored Load
Bottom Chord	B0-2, B2-4, B4-4', B2'-4', B0'-2'	T	517 K	1.33	733 K	1.33	949 K	1.15	76 K
		C	-	-	-	-	-	-	-
Top Chord	T0-1, T0'-1'	T	-	-	-	-	-	-	-
		C	850 K	1.33	1183 K	1.33	1530 K	1.15	120 K
Top Chord	T1-2, T2-3, T3-4, T4-5, T4'-5', T3'-4', T2'-3', T1'-2'	T	-	-	-	-	-	-	-
		C	941 K	1.33	1308 K	1.33	1692 K	1.15	128 K
Vertical	V1, V2, V3, V4, V5, V4', V3', V2', V1'	T	117 K	1.33	249	1.33	326 K	1.15	66 K
		C	58 K	1.33	123	1.33	161 K	1.15	36 K
Diagonal	D1-2, D2-3, D3-4, D4-5, D4'-5', D3'-4', D2'-3', D1'-2'	T	212 K	1.33	330 K	1.33	428 K	1.15	53 K
		C	-	-	-	-	-	1.15	39 K
Mid-Brace	M2A, M2B, M3A, etc.	T	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		C	N/A	N/A	N/A	N/A	N/A	N/A	N/A

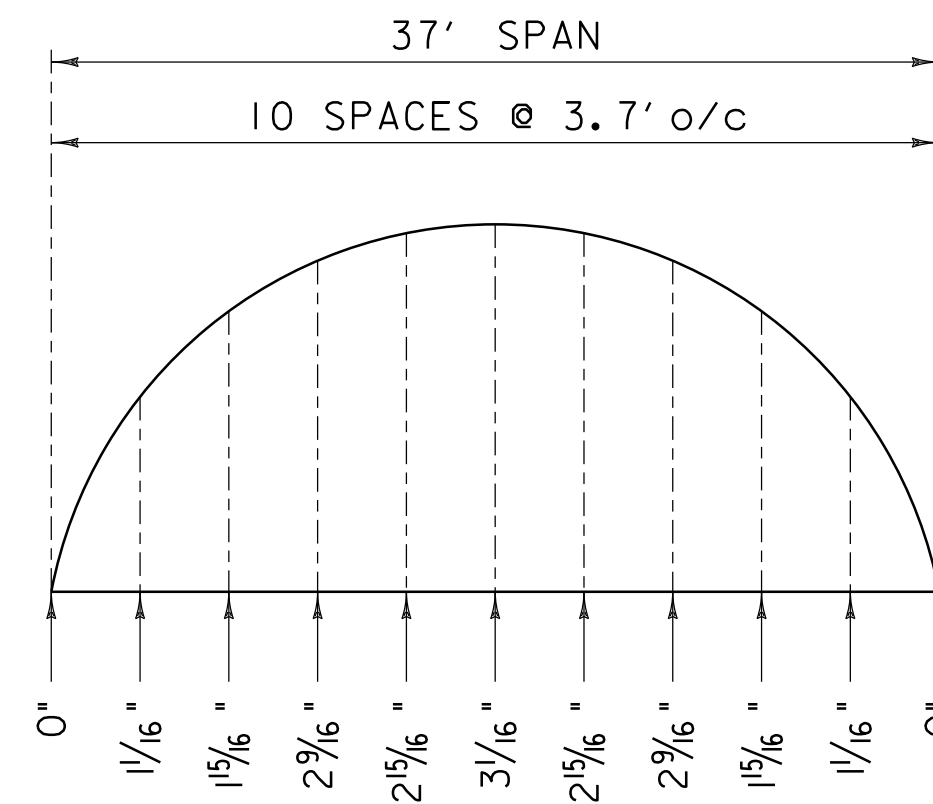
CONSTRUCTION SEQUENCE NOTES

1. THE STRINGER TO FLOORBEAM CONNECTION SHALL BE DETAILED, FABRICATED, AND ASSEMBLED IN THE FIELD IN SUCH A MANNER AS TO PERMIT ISOLATED MOVEMENT BETWEEN THE STRINGER AND FLOOR BEAM SEPARATE FROM THE BOTTOM CHORD MOVEMENT. SLOTTED CONNECTION AT THE END OF THE STRINGERS WILL ALLOW FOR FLEXIBILITY IN PLACEMENT DURING CONSTRUCTION.
2. THE END OF THE STRINGER DESIGNATED ON THE "TRUSS FRAMING PLAN" AS "F" SHALL HAVE ALL THE HIGH STRENGTH BOLTS TENSIONED IN ACCORDANCE WITH CONTRACT DOCUMENT SPECIFICATIONS.
3. THE END OF THE STRINGERS DESIGNATED ON THE "TRUSS FRAMING PLAN" AS "S" SHALL HAVE HIGH STRENGTH FINGER TIGHT BOLTS THAT ALLOW FOR SLIP DURING THE CONCRETE DECK POUR. WITHIN 24 HOURS OF THE DECK POUR, THE FINGER TIGHT BOLTS SHALL BE FULLY TENSIONED IN ACCORDANCE WITH CONTRACT DOCUMENT SPECIFICATIONS.

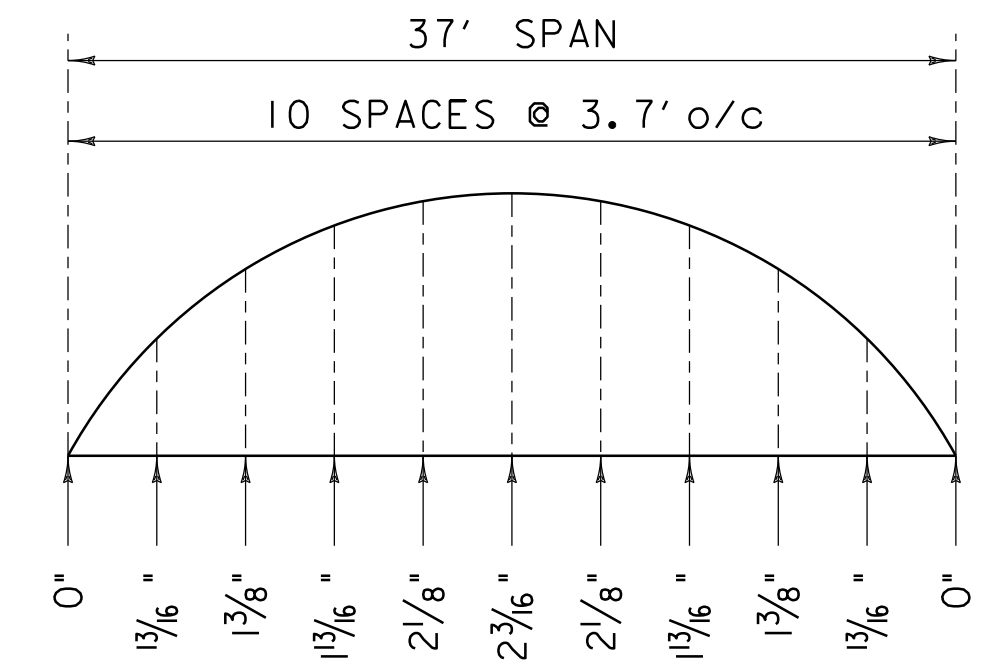
PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(I14)

FILE NAME: s78f161truss.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
TRUSS FRAMING DETAIL SHEET 2

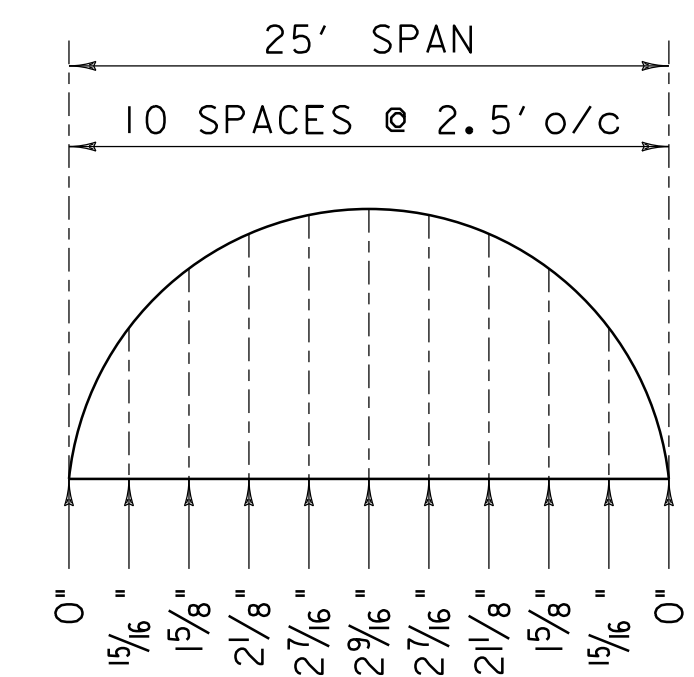
PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: T. FILLBACH
SHEET 88 OF 148



W36x247 FLOOR BEAM
CAMBER DIAGRAM
NTS



31" PLATE GIRDER
CAMBER DIAGRAM
NTS



W24x55 STRINGER
CAMBER DIAGRAM
NTS

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f161truss.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
TRUSS FRAMING DETAIL SHEET 3

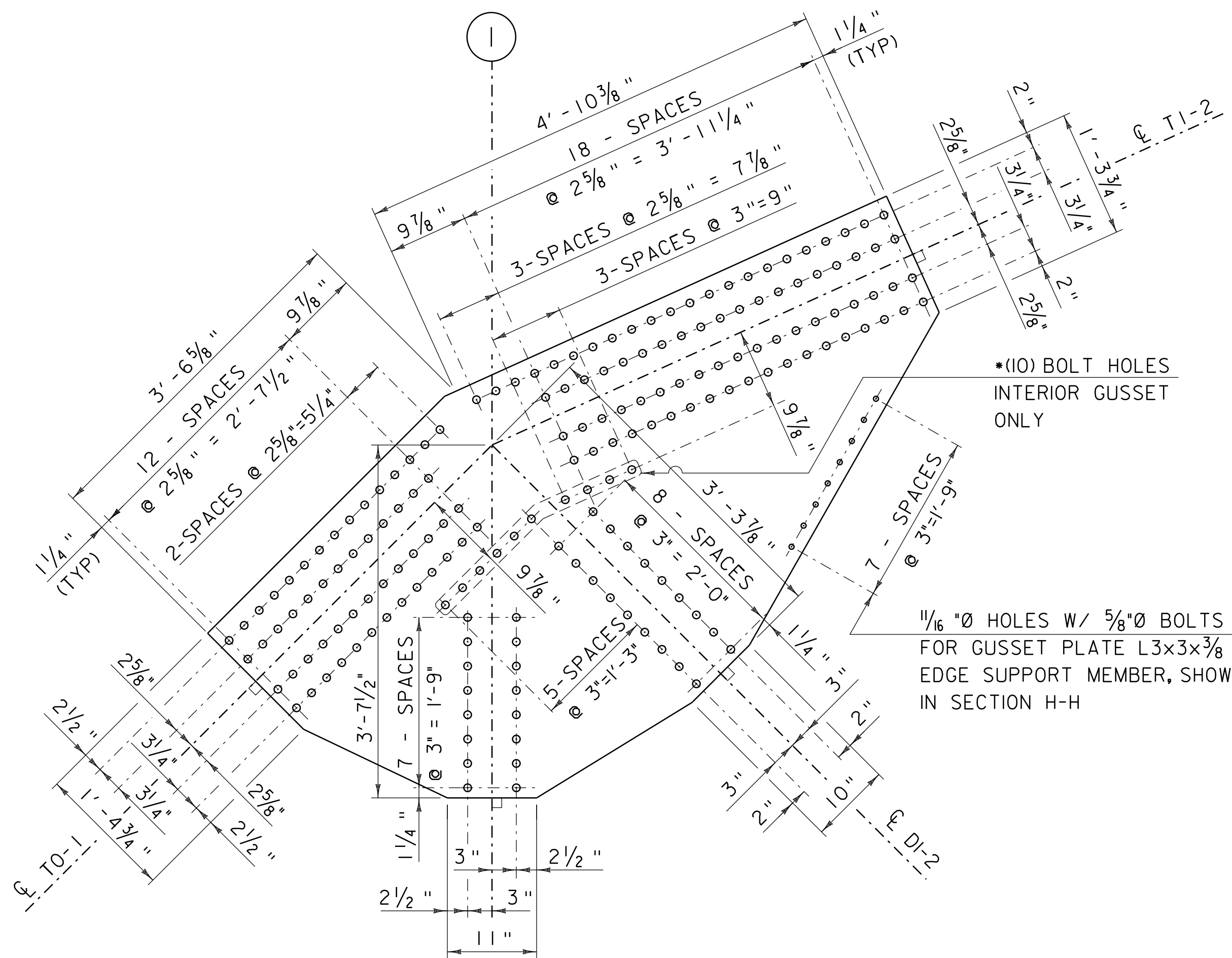
PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S.SCRIBNER
SHEET 89 OF 148

TRUSS CONNECTION & GUSSET PLATE NOTES:

1. ALL BOLTS SHALL BE 7/8" DIA. W/ HEAVY HEX NUT AND WASHER, UNLESS NOTED OTHERWISE. BEVELED WASHER ON TRUSS TOP CHORD CONNECTIONS SHALL BE SQUARE. BOLT HOLES SHALL BE 1/16" DIA. UNLESS NOTED OTHERWISE. PUNCHING OF HOLES SHALL NOT BE PERMITTED. ALL BOLT THREADS SHALL BE EXCLUDED FROM THE SHEAR PLANE.
2. BOTTOM CHORD GUSSET PLATES ARE 3/4" GALVANIZED STEEL PLATE, CONFORMING TO SECTION 714 GRADE 50, UNLESS NOTED OTHERWISE.
3. TOP CHORD GUSSET PLATES ARE 3/4" GALVANIZED STEEL PLATE, AASHTO M270 HIGH PERFORMANCE STEEL, GRADE HPS 70W, UNLESS NOTED OTHERWISE.
4. MINIMUM EDGE DISTANCE FROM ANY BOLT HOLE CENTER POINT IS 1.25" UNLESS NOTED OTHERWISE ON GUSSET PLATE OR CONNECTION DETAILS. STANDARD BOLT SPACING IS 3" UNLESS NOTED OTHERWISE.
5. THERE ARE A TOTAL OF (8) GUSSET PLATES FOR EACH DETAIL SHOWN, ONE INTERIOR AND ONE EXTERIOR FOR EACH END OF EACH TRUSS. BOLT PATTERN FOR INTERIOR AND EXTERIOR GUSSET PLATES VARY, SEE GUSSET PLATE DETAILS FOR VARIATIONS (*).
6. GUSSET PLATE CONNECTION BOLTS SHALL HAVE THEIR WASHER AND NUT INSTALLED ON THE INTERNAL SIDE OF EACH TRUSS CONNECTION. BOLT HEADS ARE TO BE PLACED ON THE VISIBLE, EXTERNAL FASCIA OF THE TRUSS GUSSET PLATE CONNECTIONS.
7. ALL PRIMARY TRUSS MEMBER GUSSET PLATES WILL BE (CVN) EXCEPT FOR BOTTOM CHORD GUSSET PLATES, WHICH SHALL BE DESIGNATED (FCM).
8. NO FIELD DRILLING, REAMING, OR CUTTING OF TRUSS OR CONNECTION MEMBERS. TRUSS AND CONNECTION MEMBERS MUST BE SHOP GALVANIZED, NO FIELD GALVANIZING PERMITTED.
9. SEE STRUCTURAL STEEL SECTION OF GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.

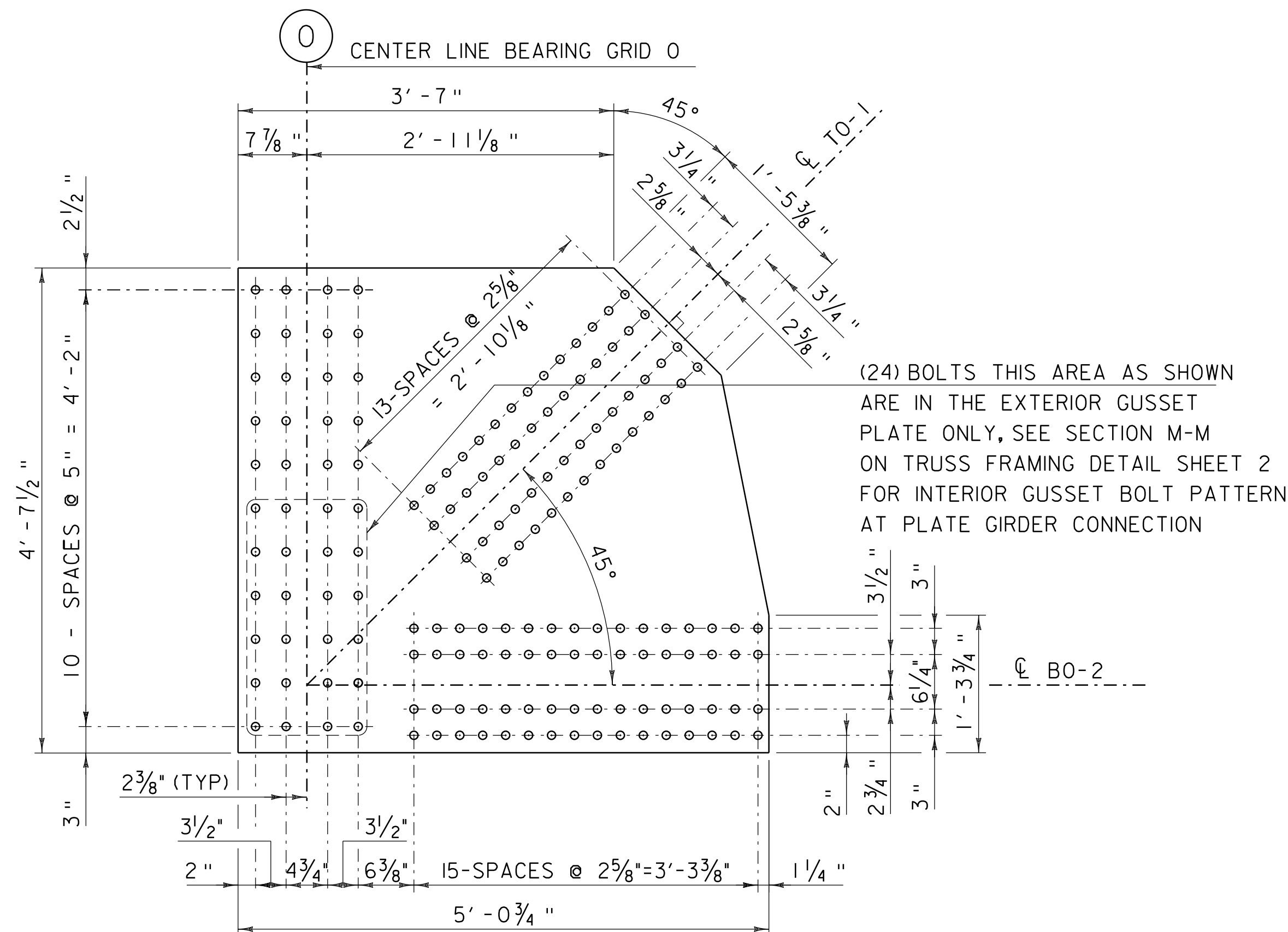
TRUSS STEEL MATERIAL SPECIFICATION NOTES:

1. ALL STANDARD W-SHAPE ROLLED STEEL PRODUCTS SHALL CONFORM TO SECTION 714 GRADE 50, WITH NO EXCEPTIONS.
2. ALL PLATE PRODUCTS USED IN THE TRUSS SHALL CONFORM TO SECTION 714 GRADE 50, WITH THE FOLLOWING EXCEPTIONS:
 - a. TOP CHORD GUSSET PLATES SHALL BE AASHTO M270 HIGH PERFORMANCE STEEL, GRADE HPS 70W.
 - b. END FLOORBEAM PLATE GIRDER SHALL BE AASHTO M270 HIGH PERFORMANCE STEEL, GRADE HPS 70W.
3. ALL SINGLE AND DOUBLE LEG ANGLE STANDARD ROLLED SHAPES SHALL CONFORM TO SECTION 714 GRADE 36, WITH THE FOLLOWING EXCEPTION:
 - a. END FLOORBEAM CONNECTION ANGLES SHALL CONFORM TO SECTION 714 GRADE 50.
4. SHOP DRAWINGS SHALL INDICATE DIRECTION OF ROLL ON ALL PRIMARY STRESS CARRYING MATERIAL.



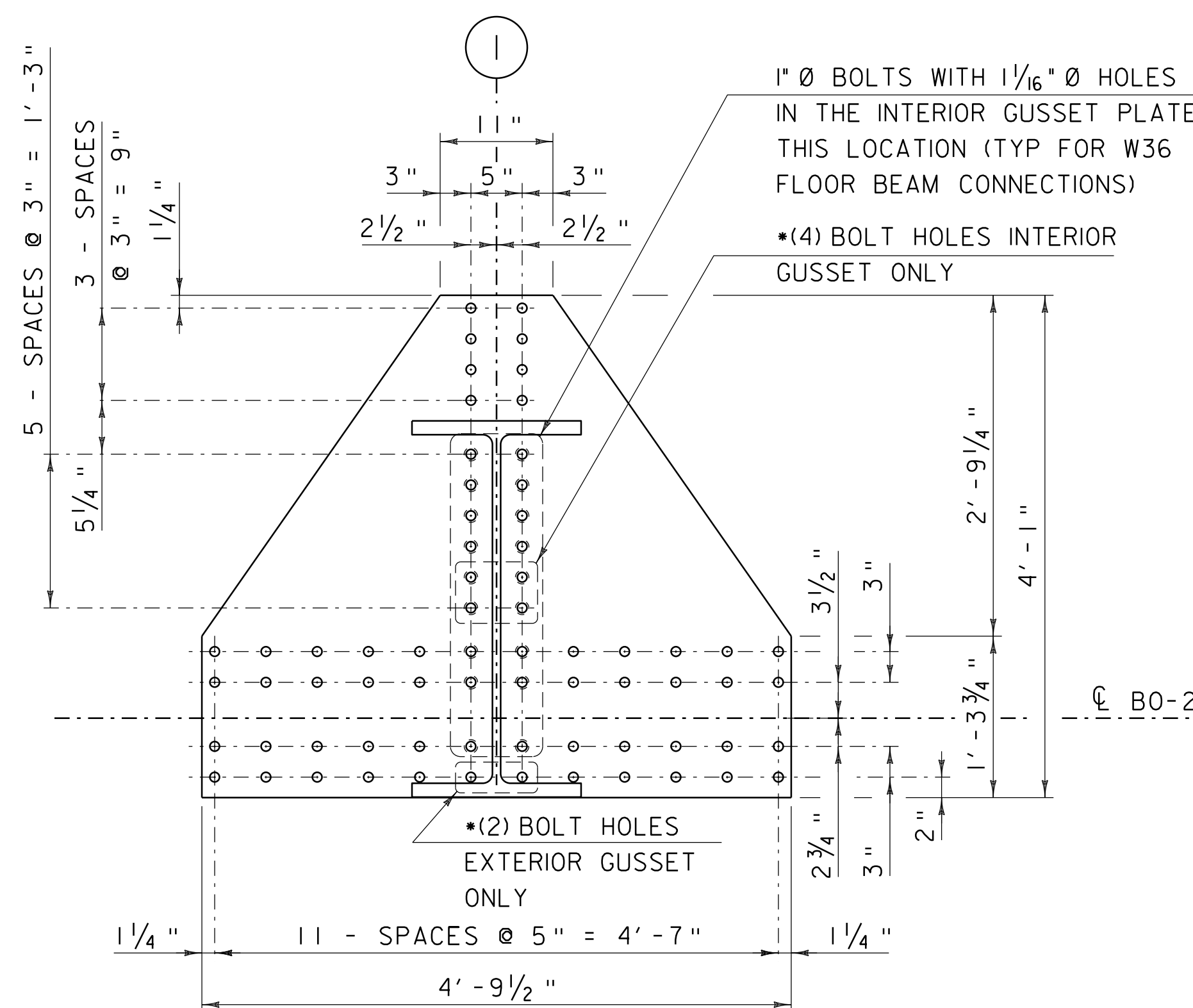
GUSSET PLATE DETAIL G1 TOP

SCALE 1" = 1'-0"



GUSSET PLATE DETAIL G0 BOTTOM

SCALE 1" = 1'-0"



GUSSET PLATE DETAIL G1 BOTTOM

SCALE 1" = 1'-0"

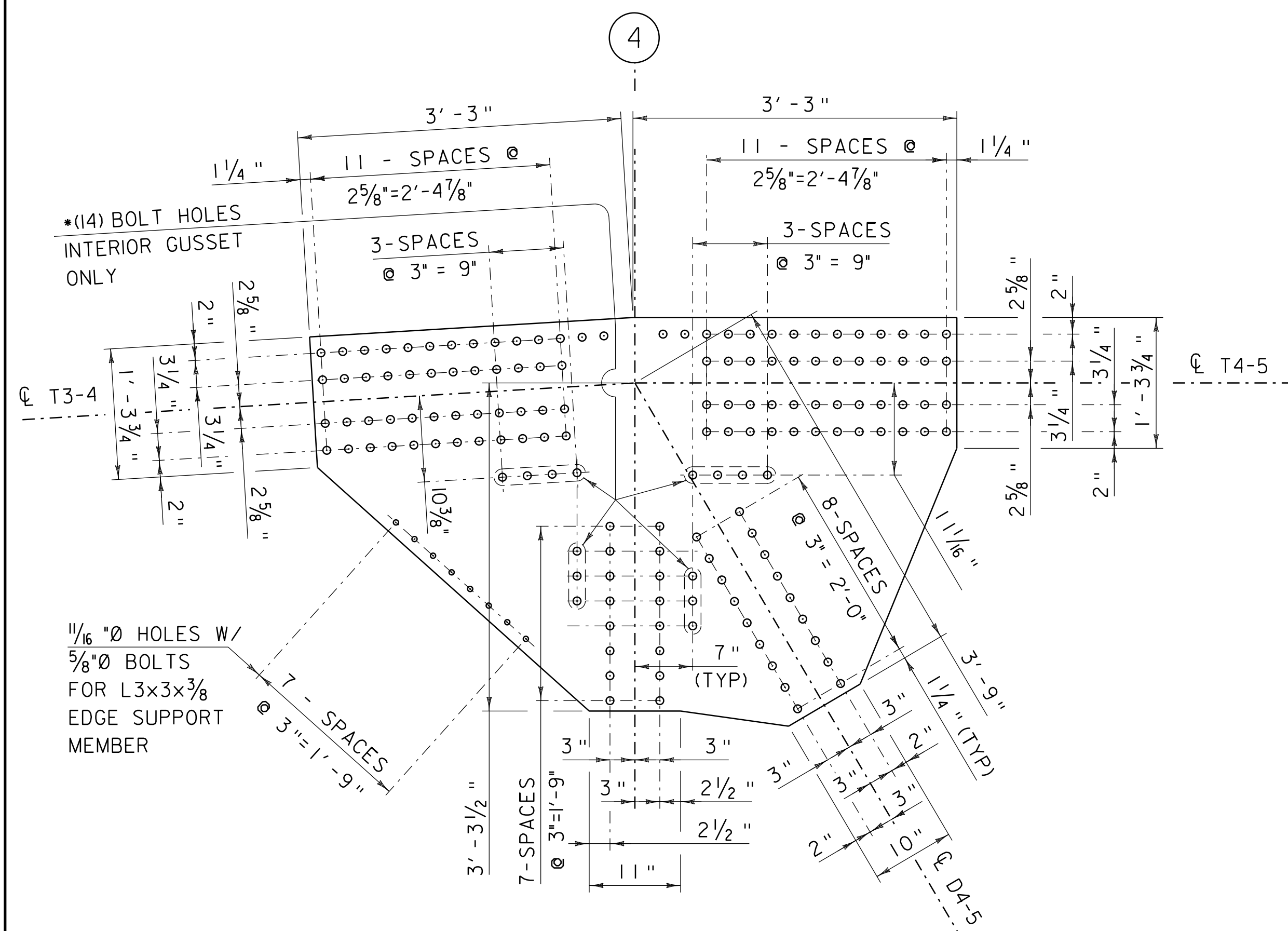
FILLER PLATE NOTES:

1. FILLER PLATES WILL BE SIZED SUCH THAT THEY ENGAGE ALL BOLTS THAT ARE USED IN THE CONNECTION BEING MADE. FILLER PLATES WILL HAVE BOLT EDGE AND END DISTANCES CONSISTENT WITH THOSE DISTANCES SPECIFIED FOR THE GUSSET PLATES.
2. FINAL FILLER PLATE THICKNESSES WILL BE SUCH AS ARE DETERMINED NECESSARY BY THE FABRICATOR FOR THE PURPOSE OF MAKING CONNECTIONS FIT PROPERLY. WHERE FILLER PLATES ARE REQUIRED THEY SHALL BE A SINGLE THICKNESS PLATE.
3. FABRICATION TOLERANCES WILL BE AS SPECIFIED IN THE CURRENT FABRICATION/WELDING CODES FOR STEEL PLATE PRODUCTS.
4. FILLER PLATES SHALL CONFORM TO SECTION 714 GRADE 50 AND WILL BE GALVANIZED. THEY WILL USE THE SAME MATERIAL AND GALVANIZING SPECIFICATION USED FOR THE PRIMARY TRUSS MEMBERS.

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-I(14)

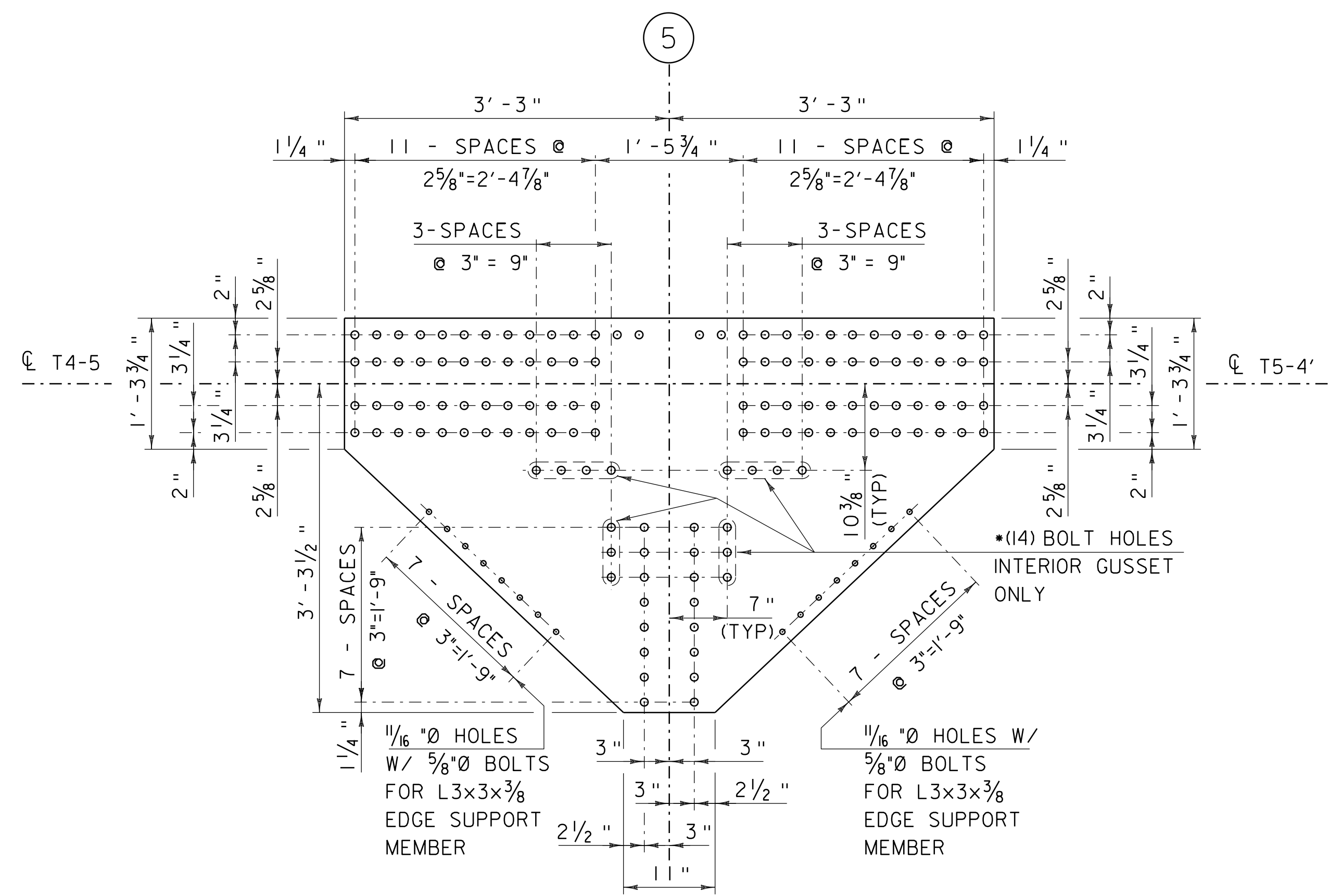
FILE NAME: s78f161truss.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: N. VANDENBERG
TRUSS CONNECTION DETAIL SHEET I

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 90 OF 148



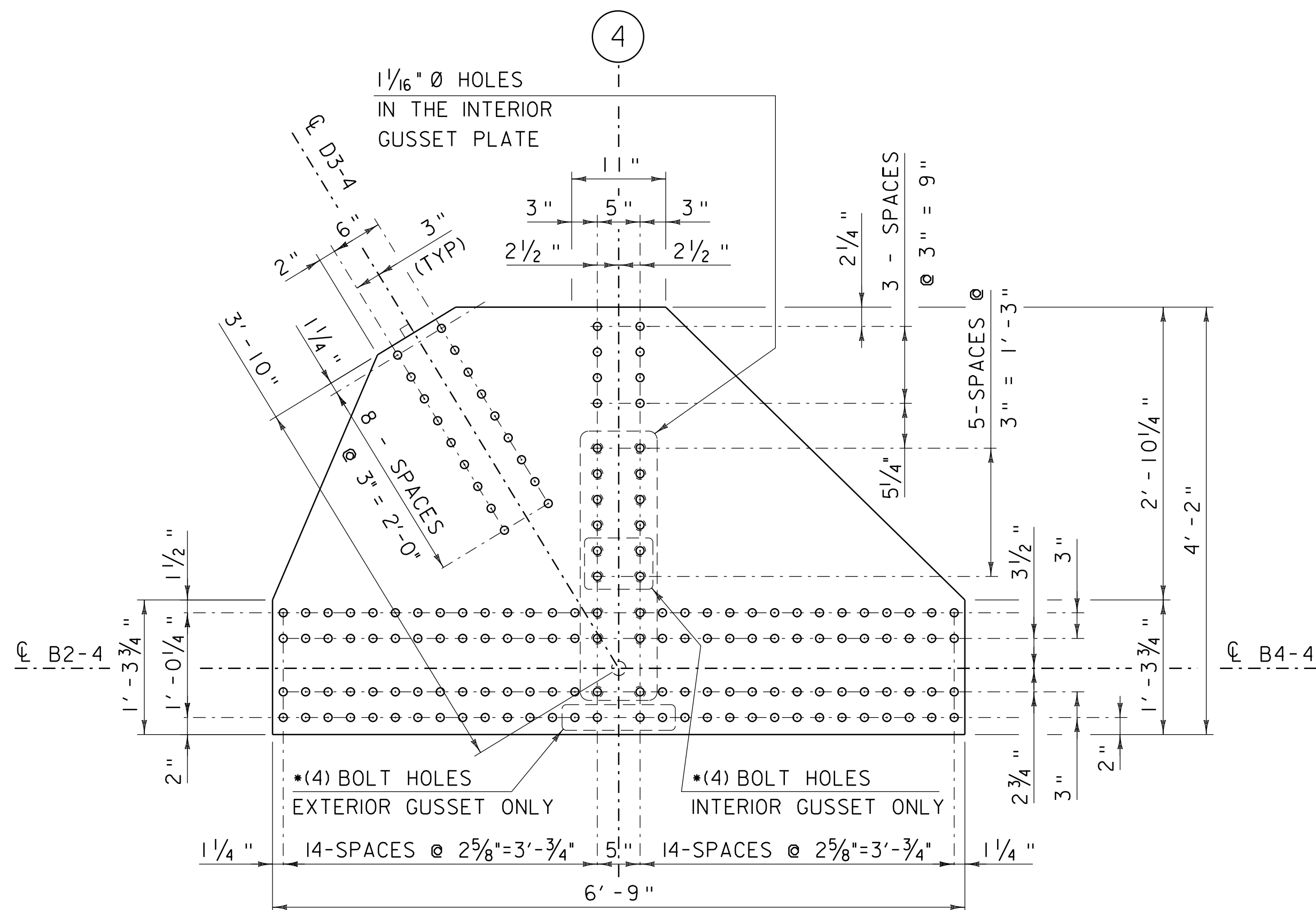
GUSSET PLATE DETAIL G4 TOP

SCALE 1" = 1'-0"



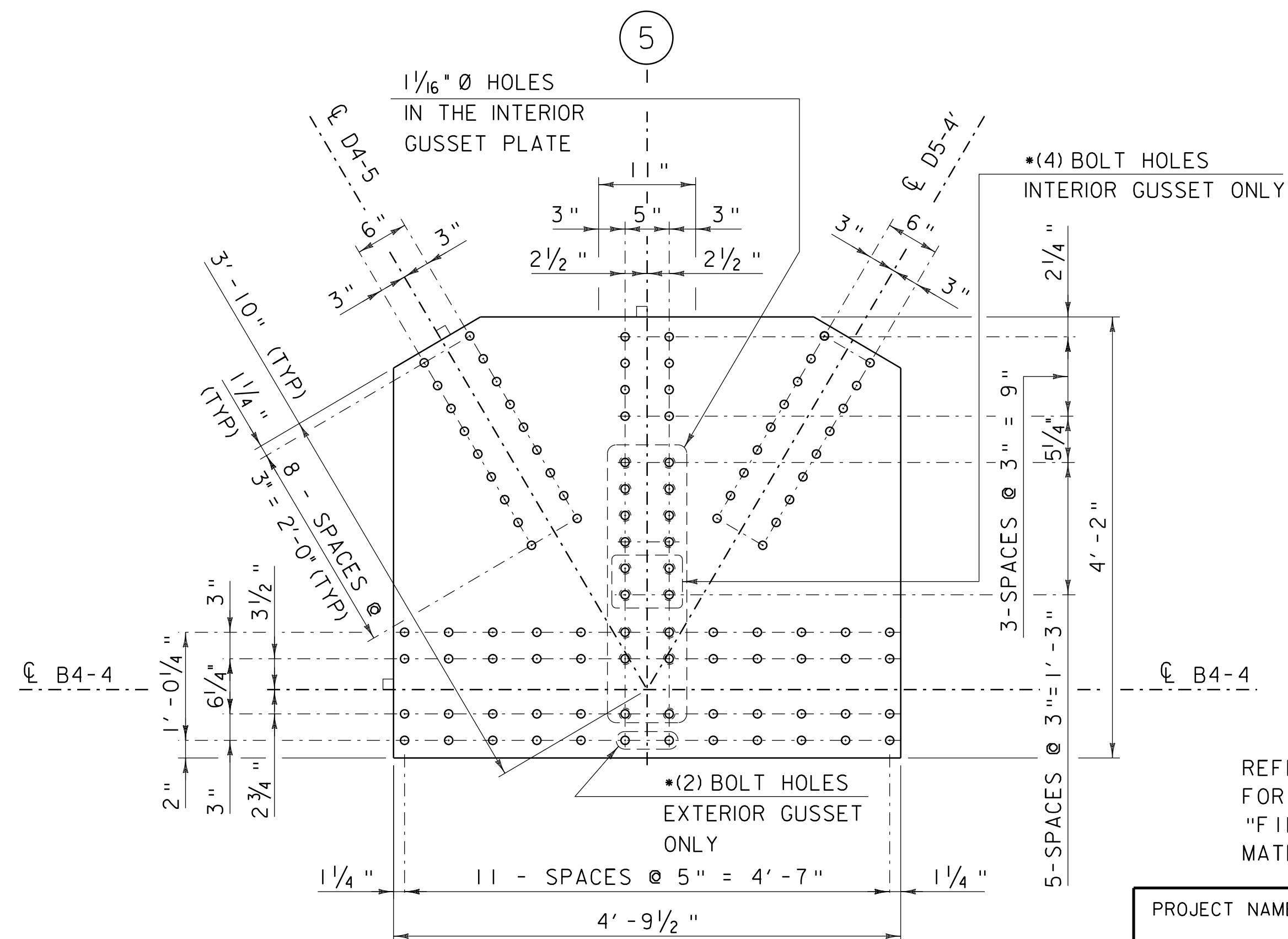
GUSSET PLATE DETAIL G5 TOP

SCALE 1" = 1'-0"



GUSSET PLATE DETAIL G4 BOTTOM

SCALE 1" = 1'-0"



GUSSET PLATE DETAIL G5 BOTTOM

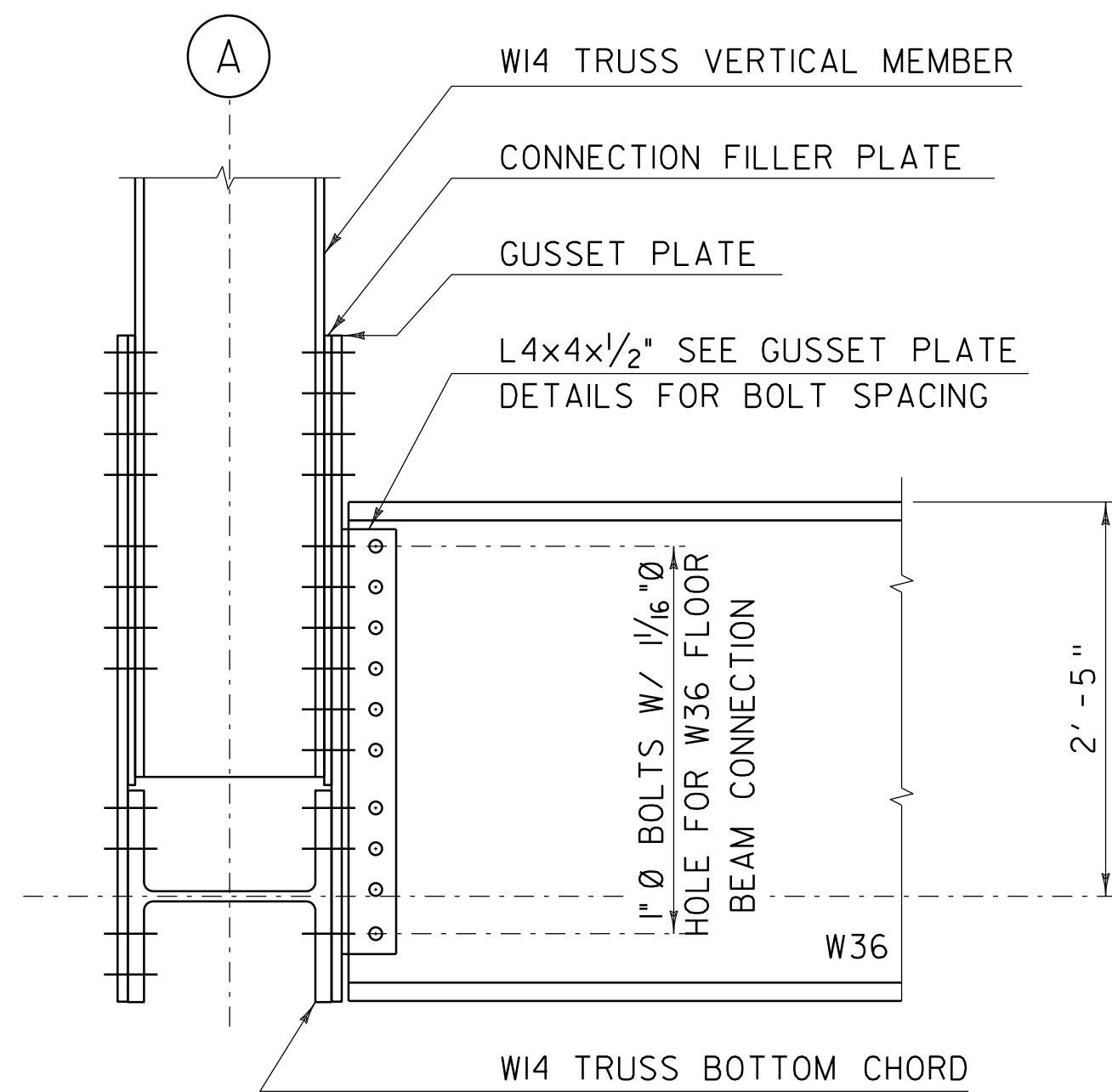
SCALE 1" = 1'-0"

REFER TO TRUSS CONNECTION DETAIL SHEET 1 FOR "TRUSS CONNECTION & GUSSET PLATE NOTES", "FILLER PLATE NOTES", AND "TRUSS STEEL MATERIAL SPECIFICATION NOTES".

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-I(14)

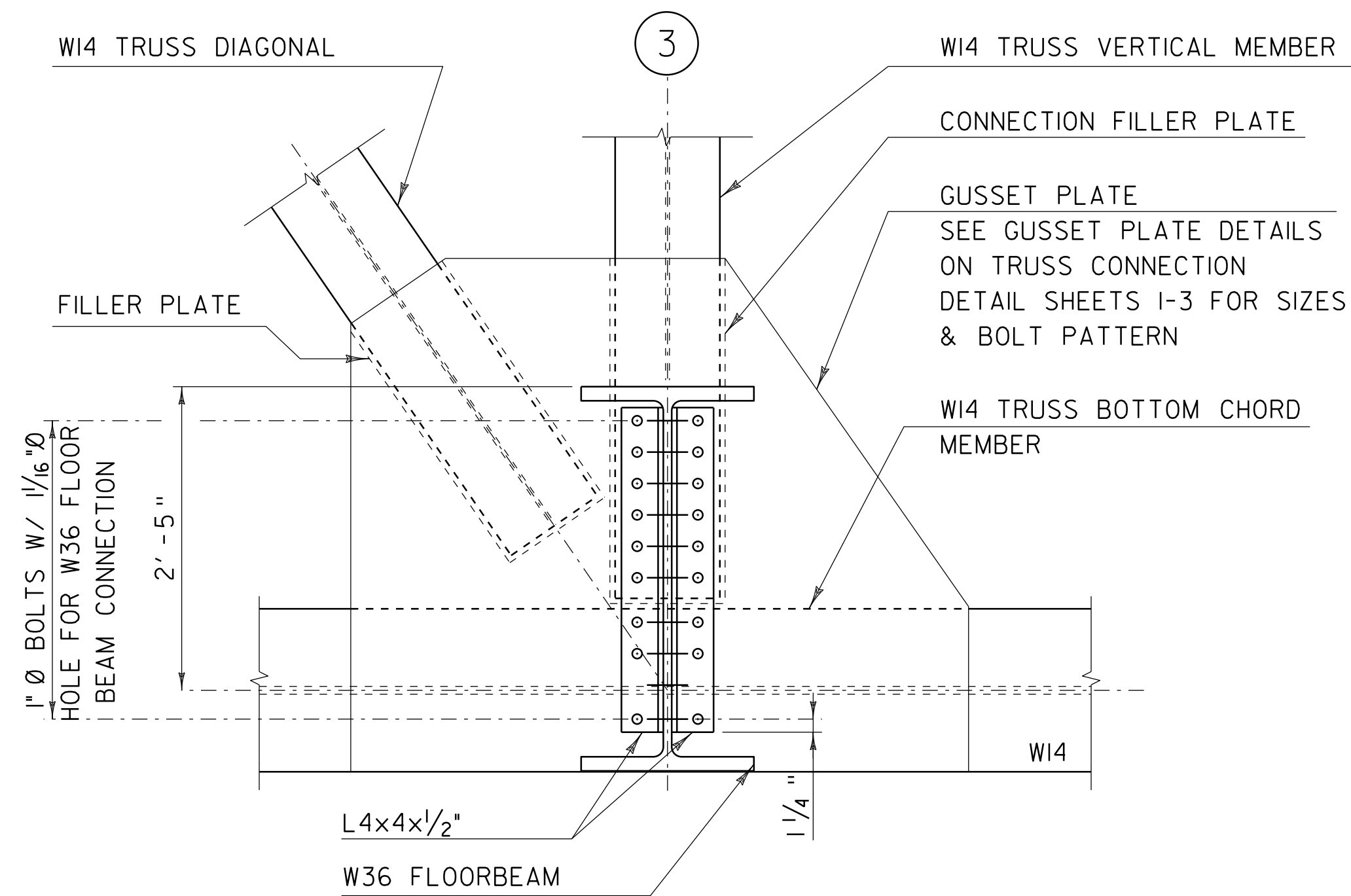
FILE NAME: s78f161truss.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: N. VANDENBERG
TRUSS CONNECTION DETAIL SHEET 3

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 92 OF 148



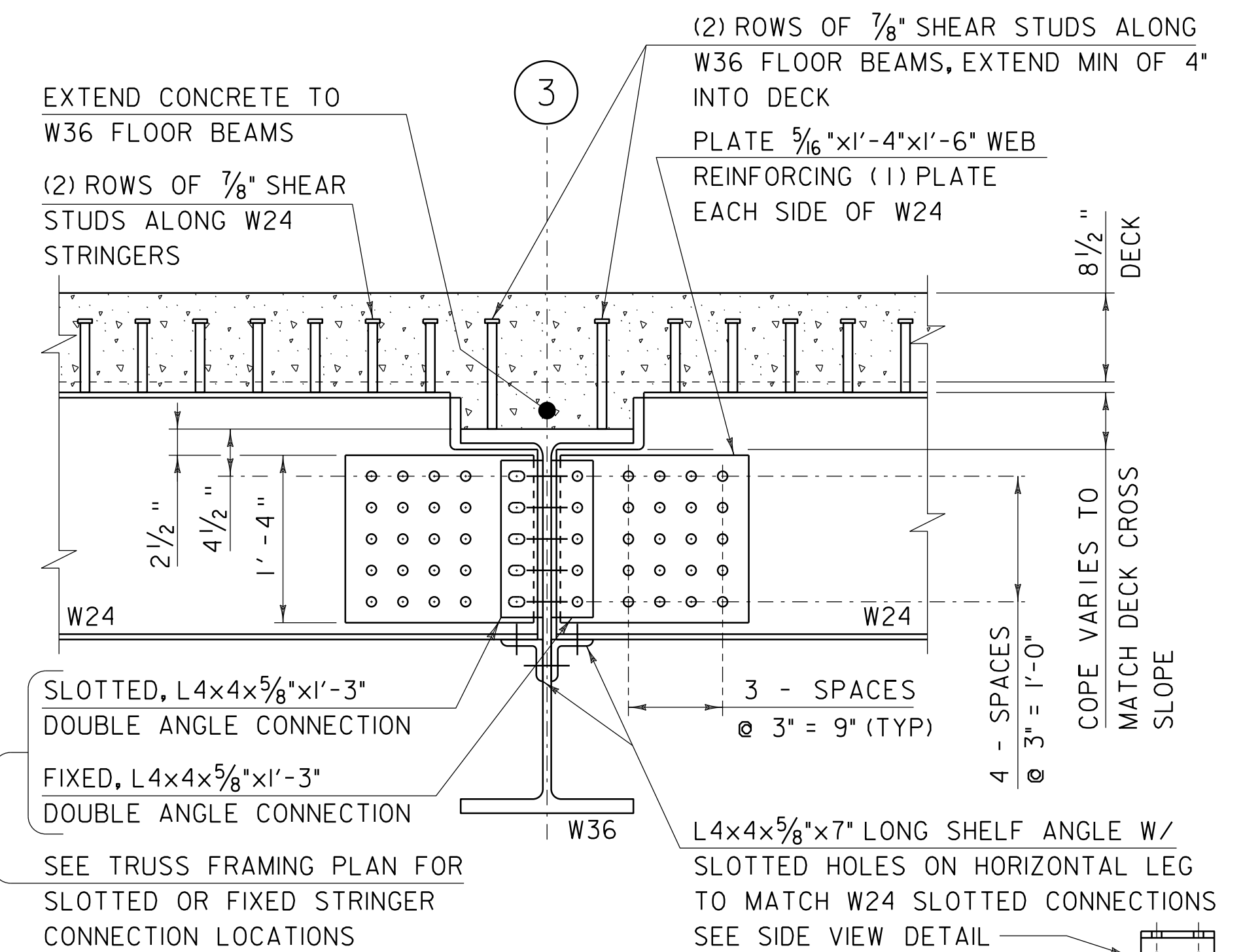
SECTION A-A TYPICAL W36 FLOORBEAM CONNECTION

SCALE 1" = 1'-0"



SECTION B-B TYPICAL W36 FLOORBEAM CONNECTION

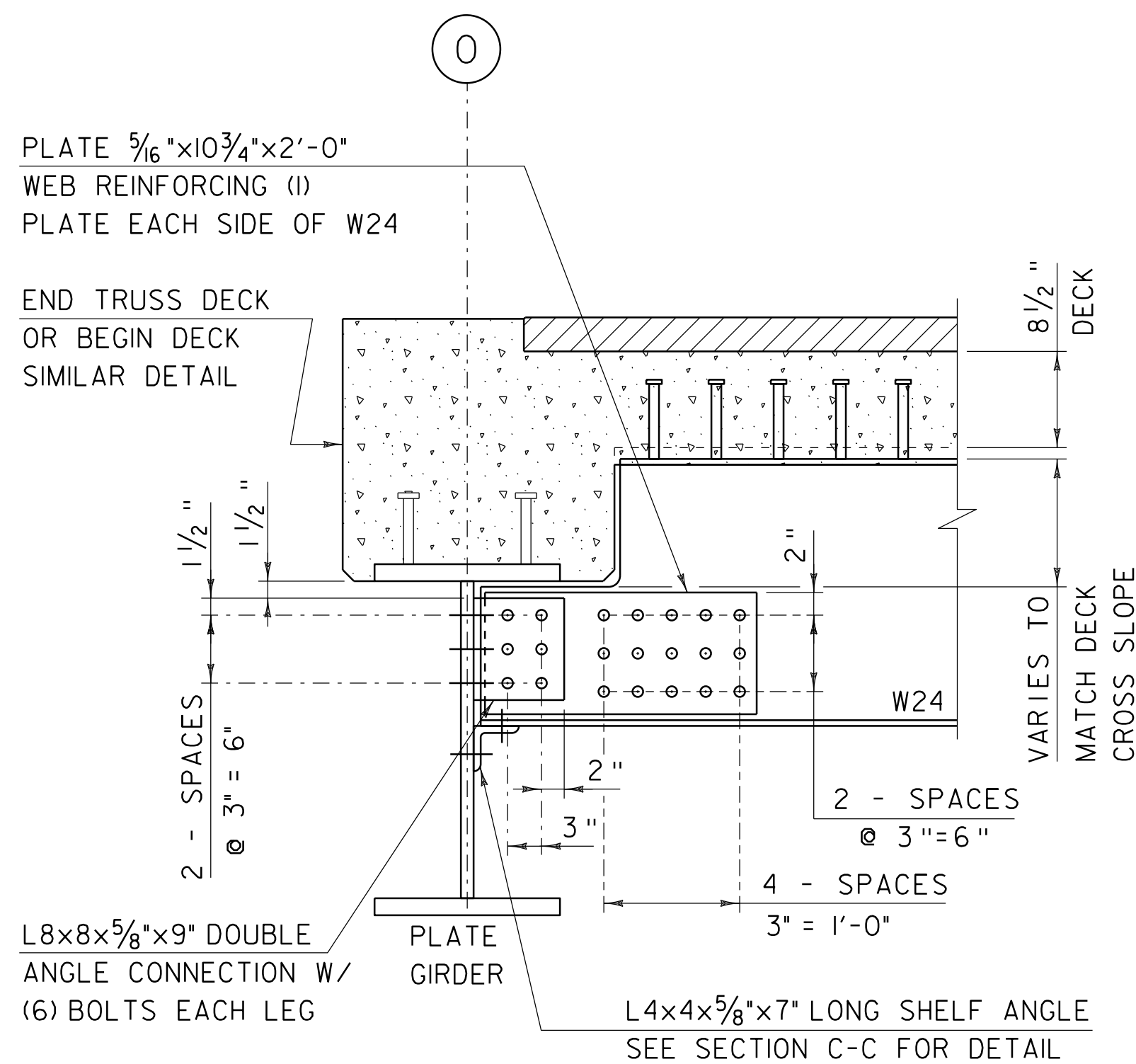
SCALE 1" = 1'-0"



SECTION C-C TYPICAL W24 STRINGER CONNECTION

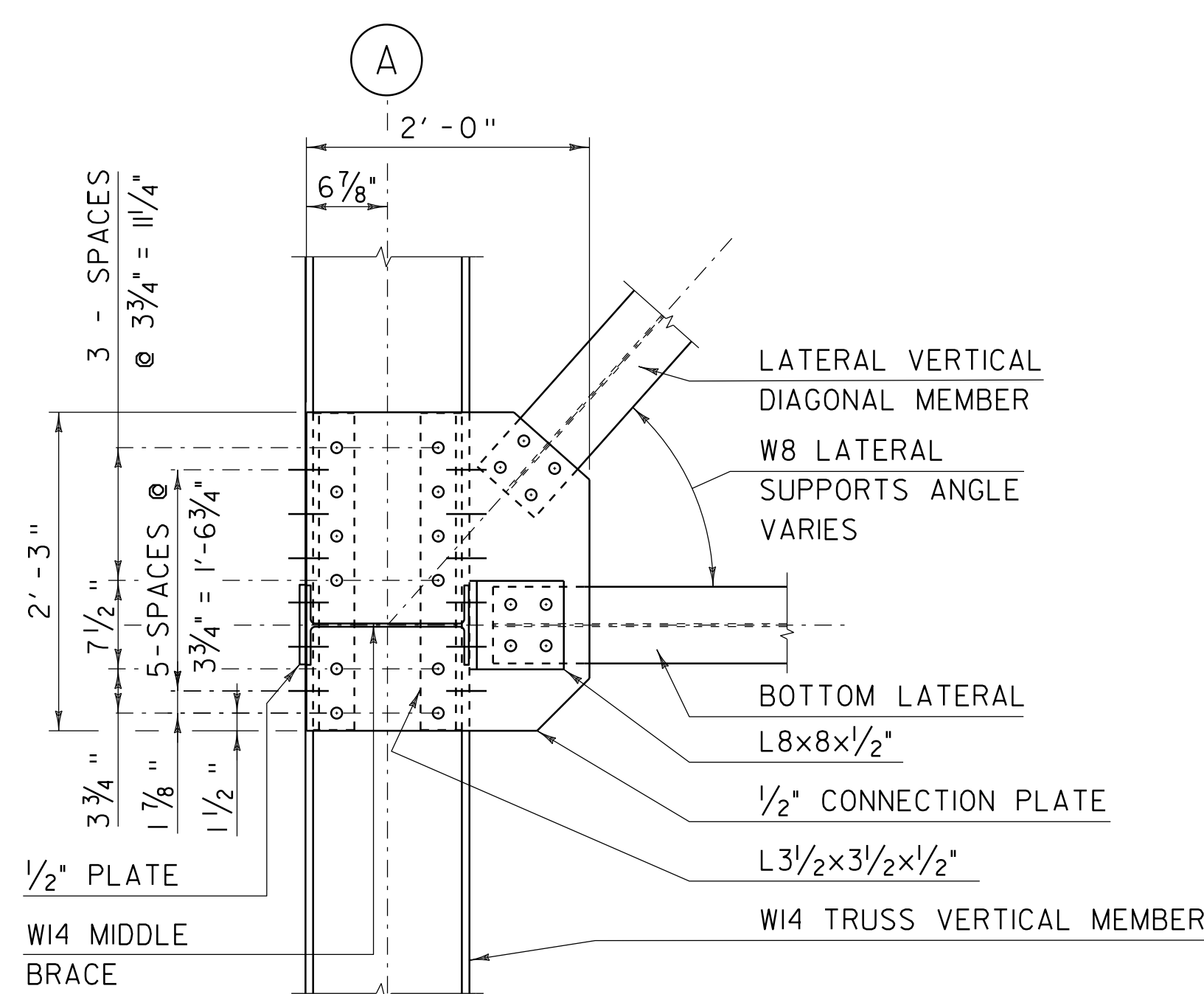
SCALE 1" = 1'-0"

THIS CONNECTION DETAIL IS TYPICAL AT ALL INTERIOR STRINGER TO W36 FLOORBEAM CONNECTIONS. EXTERIOR STRINGERS CONNECTING TO W36 FLOORBEAM WILL NOT REQUIRE WEB REINFORCING PLATES. SEE TRUSS FRAMING PLAN FOR INTERIOR STRINGER LOCATIONS.



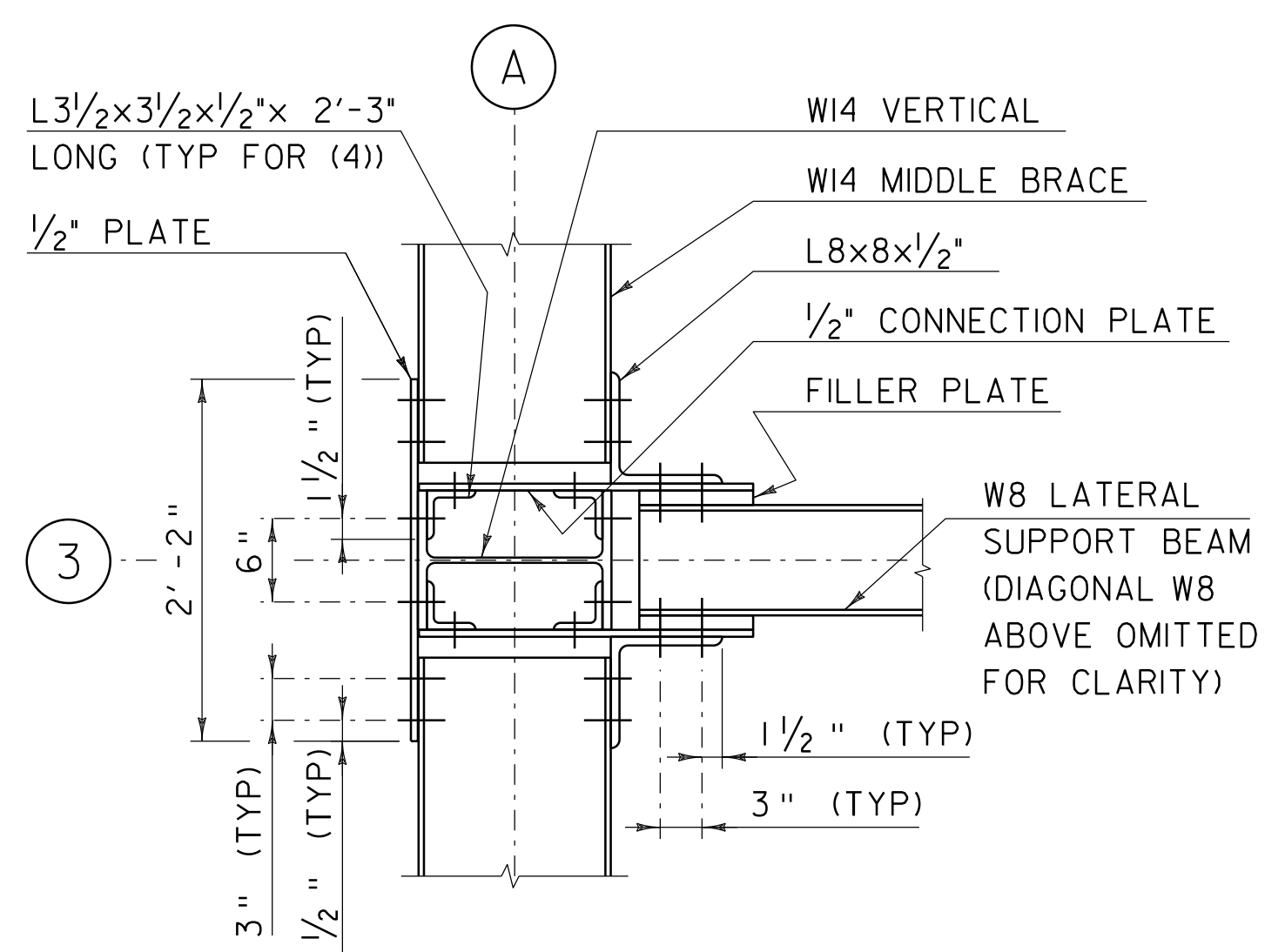
SECTION D-D PLATE GIRDER TO W24 STRINGER CONNECTION

SCALE 1" = 1'-0"



SECTION E-E TYPICAL INTERMEDIATE SUPPORT

SCALE 1" = 1'-0"



SECTION F-F TYPICAL INTERMEDIATE SUPPORT

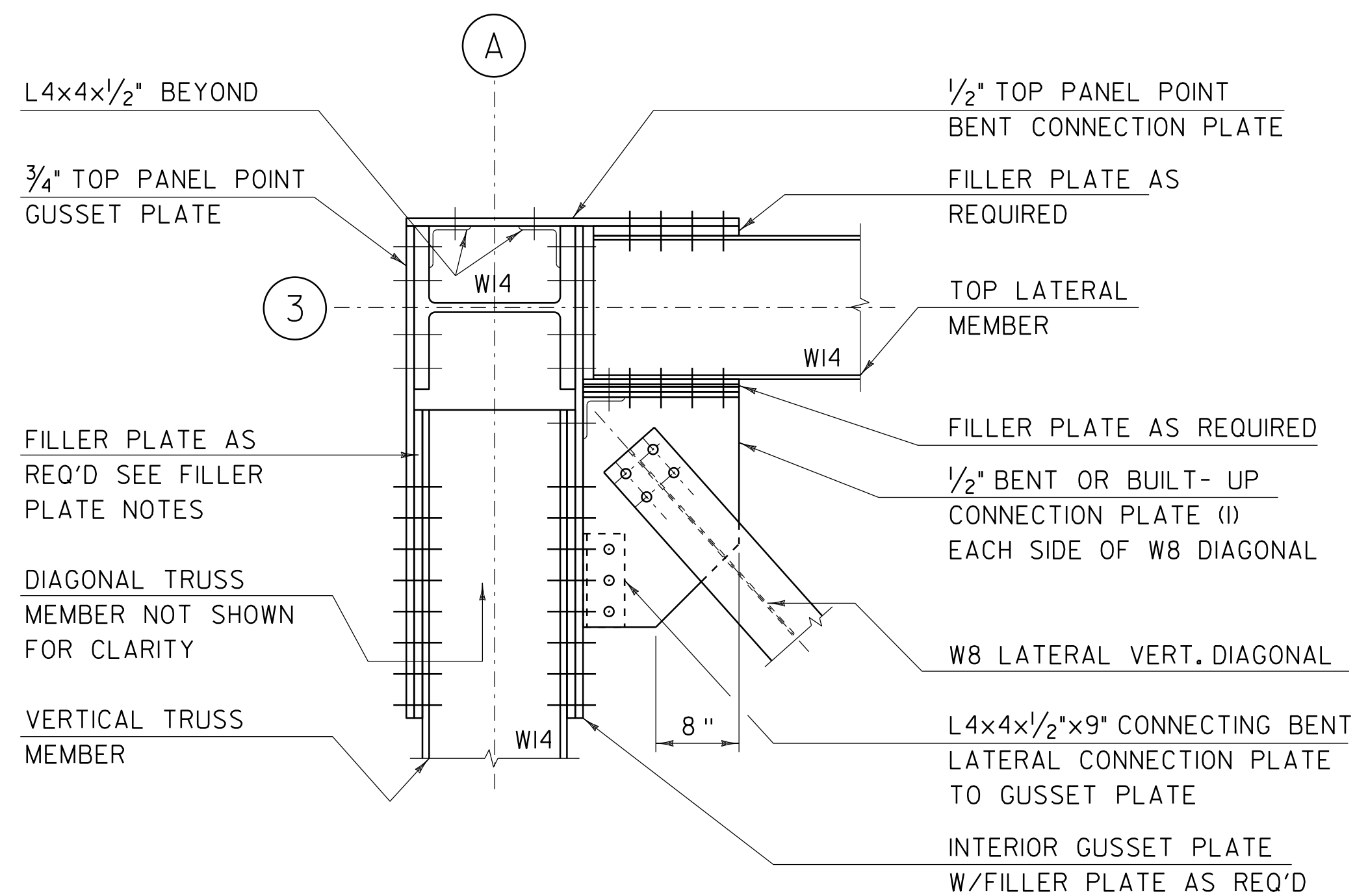
SCALE 1" = 1'-0"

REFER TO TRUSS CONNECTION DETAIL SHEET 1 FOR "TRUSS CONNECTION & GUSSET PLATE NOTES", "FILLER PLATE NOTES", AND "TRUSS STEEL MATERIAL SPECIFICATION NOTES".

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-I(14)

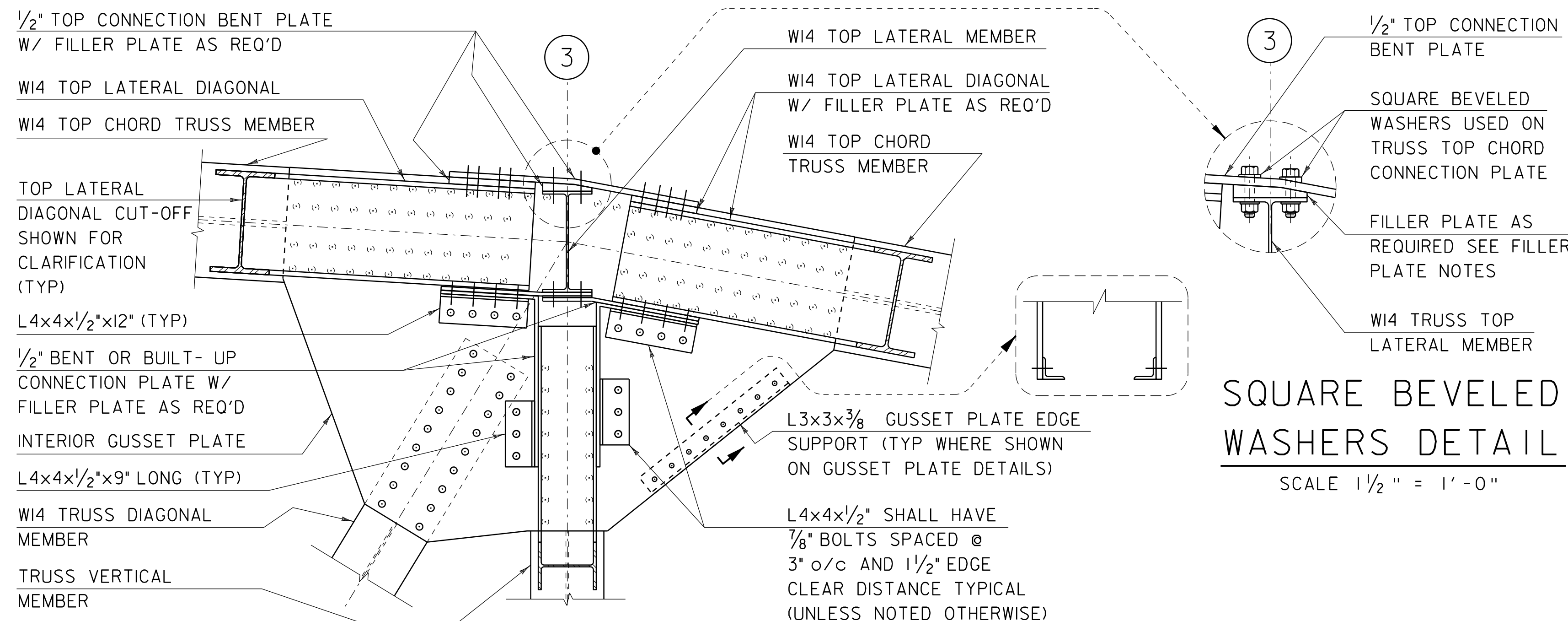
FILE NAME: s78f161truss.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: N. VANDENBERG
TRUSS CONNECTION DETAIL SHEET 4

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 93 OF 148



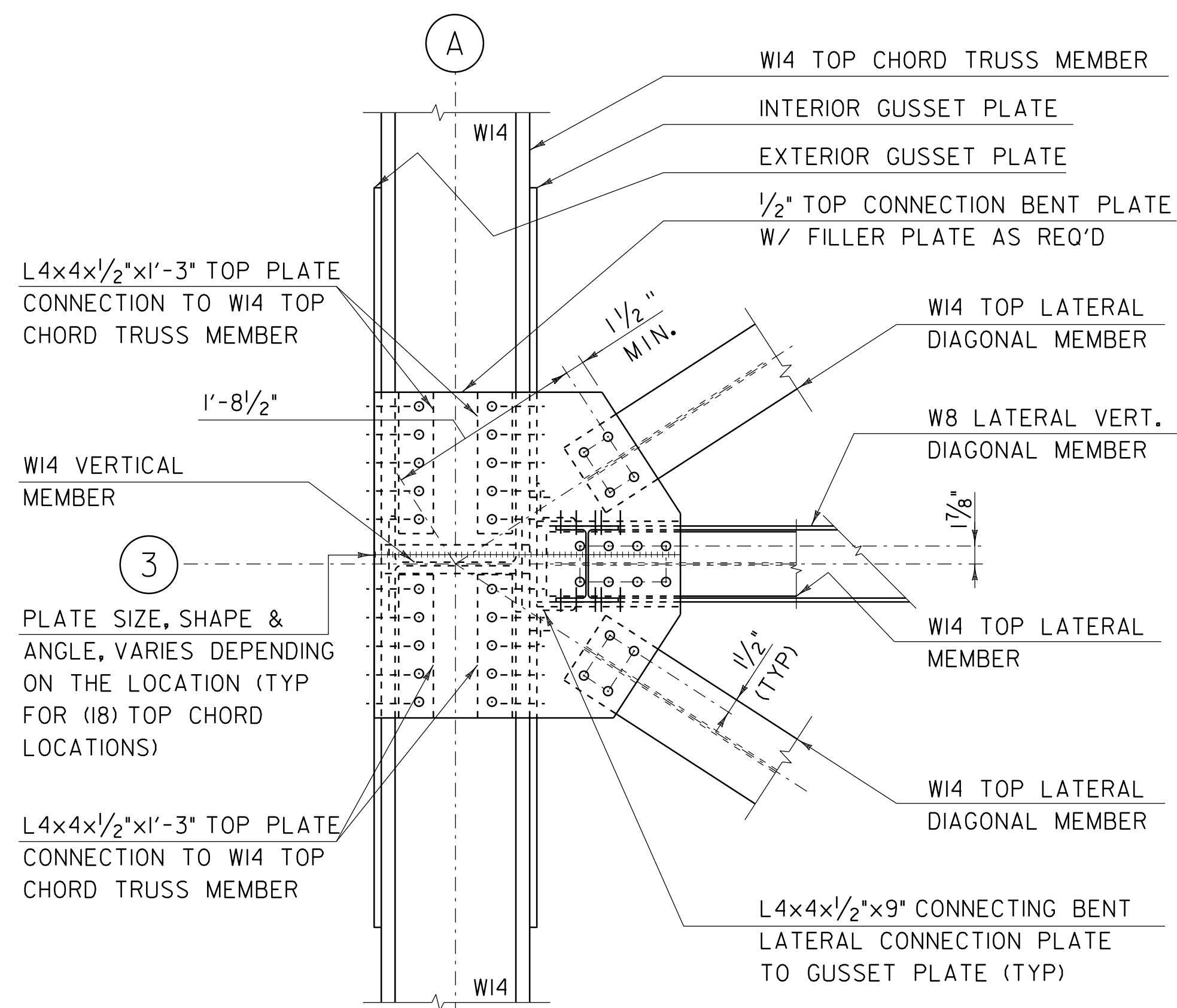
SECTION G-G TYPICAL TOP
PANEL POINT CONNECTION

SCALE 1" = 1'-0"



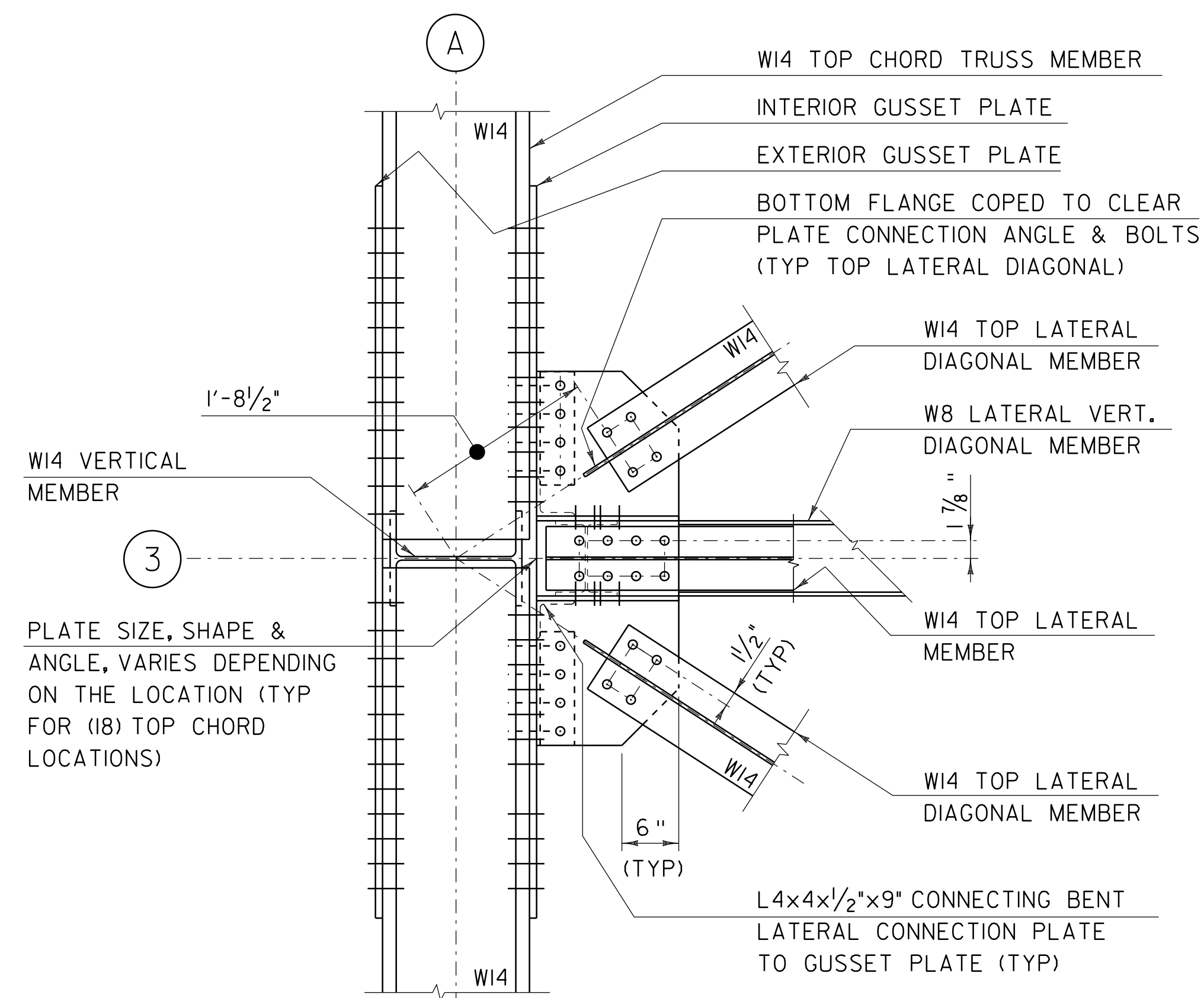
SECTION H-H TYPICAL TOP
PANEL POINT CONNECTION

SCALE 1" = 1'-0"



SECTION J-J TYPICAL TOP
PANEL POINT CONNECTION

SCALE 1" = 1'-0"



SECTION K-K TYPICAL TOP
PANEL POINT CONNECTION

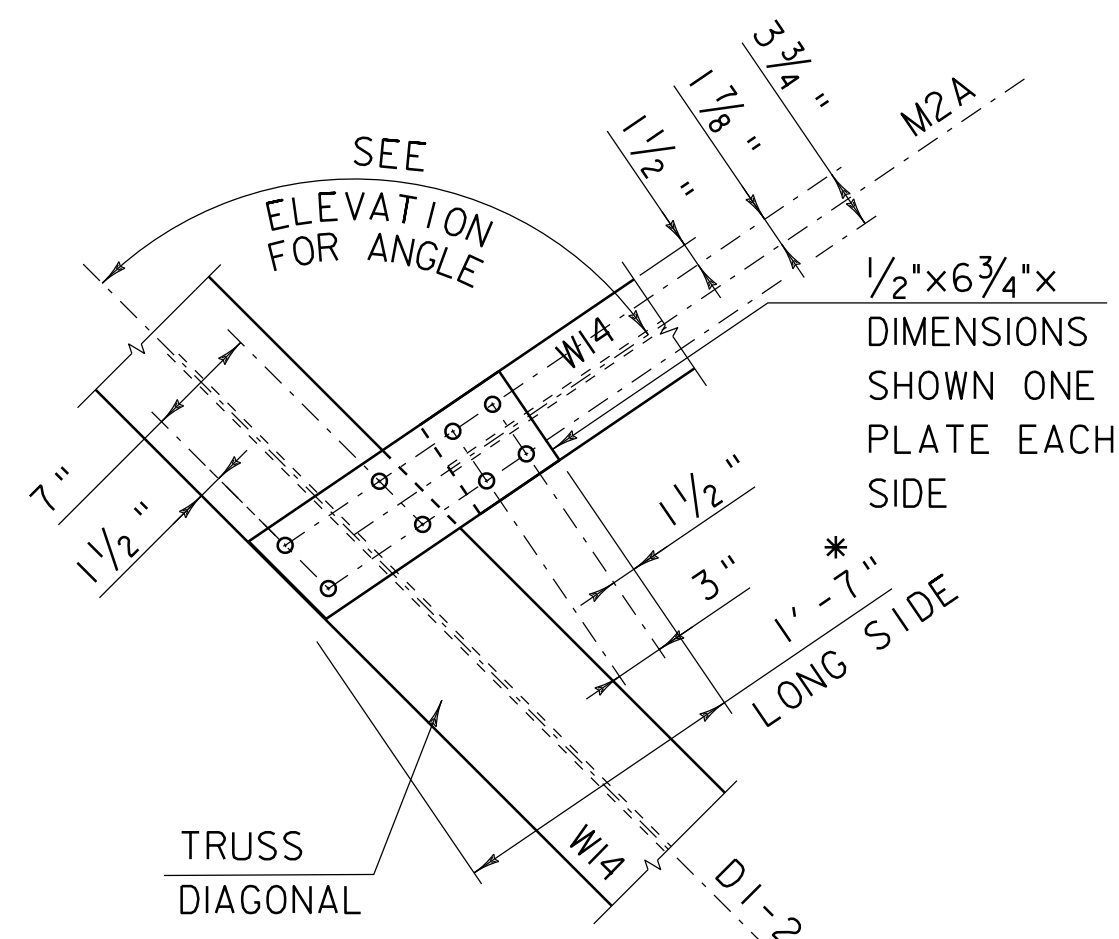
SCALE 1" = 1'-0"

REFER TO TRUSS CONNECTION DETAIL SHEET 1 FOR "TRUSS CONNECTION & GUSSET PLATE NOTES", "FILLER PLATE NOTES", AND "TRUSS STEEL MATERIAL SPECIFICATION NOTES".

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-I(14)

FILE NAME: s78f161truss.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: N. VANDENBERG
TRUSS CONNECTION DETAIL SHEET 5

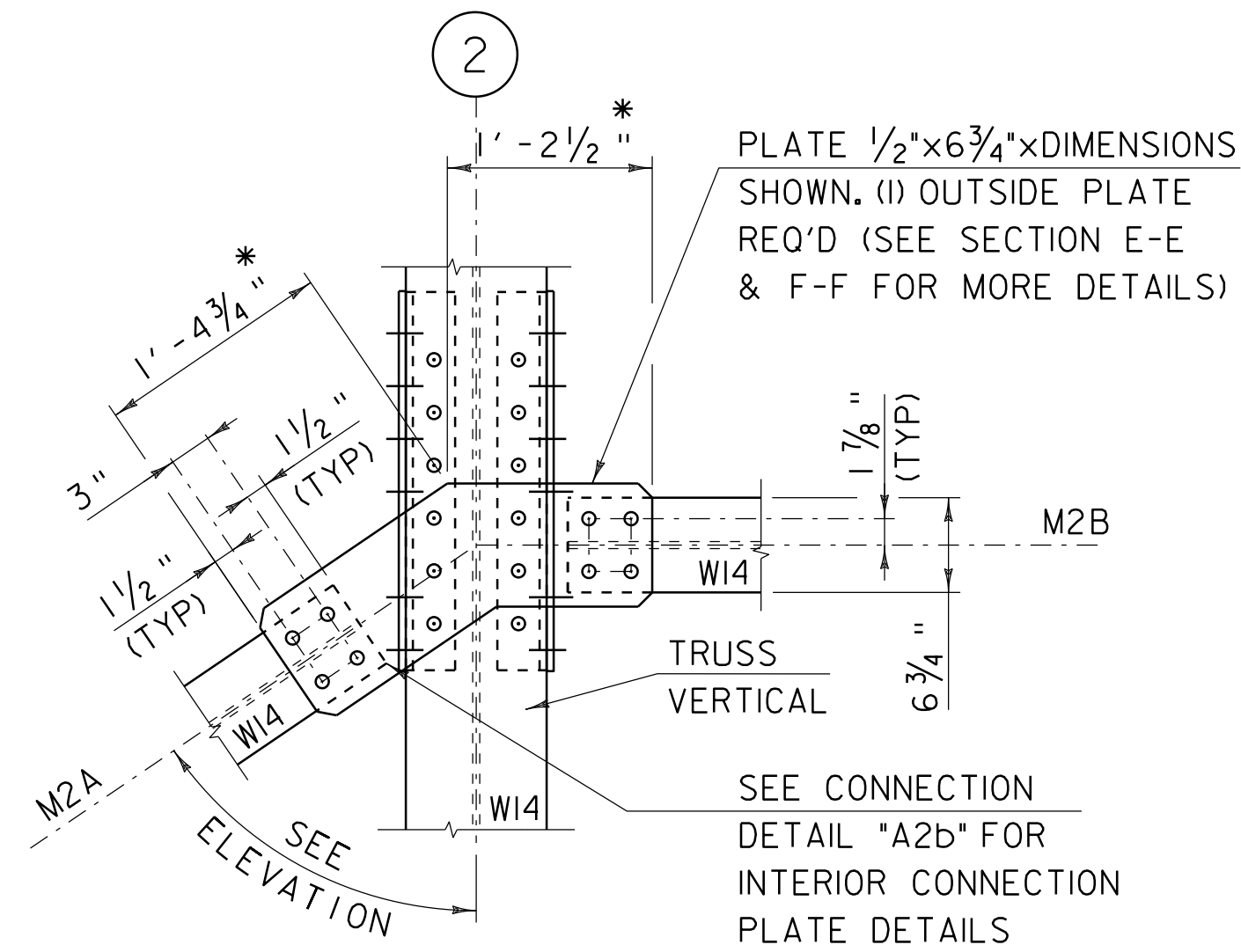
PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 94 OF 148



CONNECTION DETAIL "A1"

SCALE 1" = 1'-0"

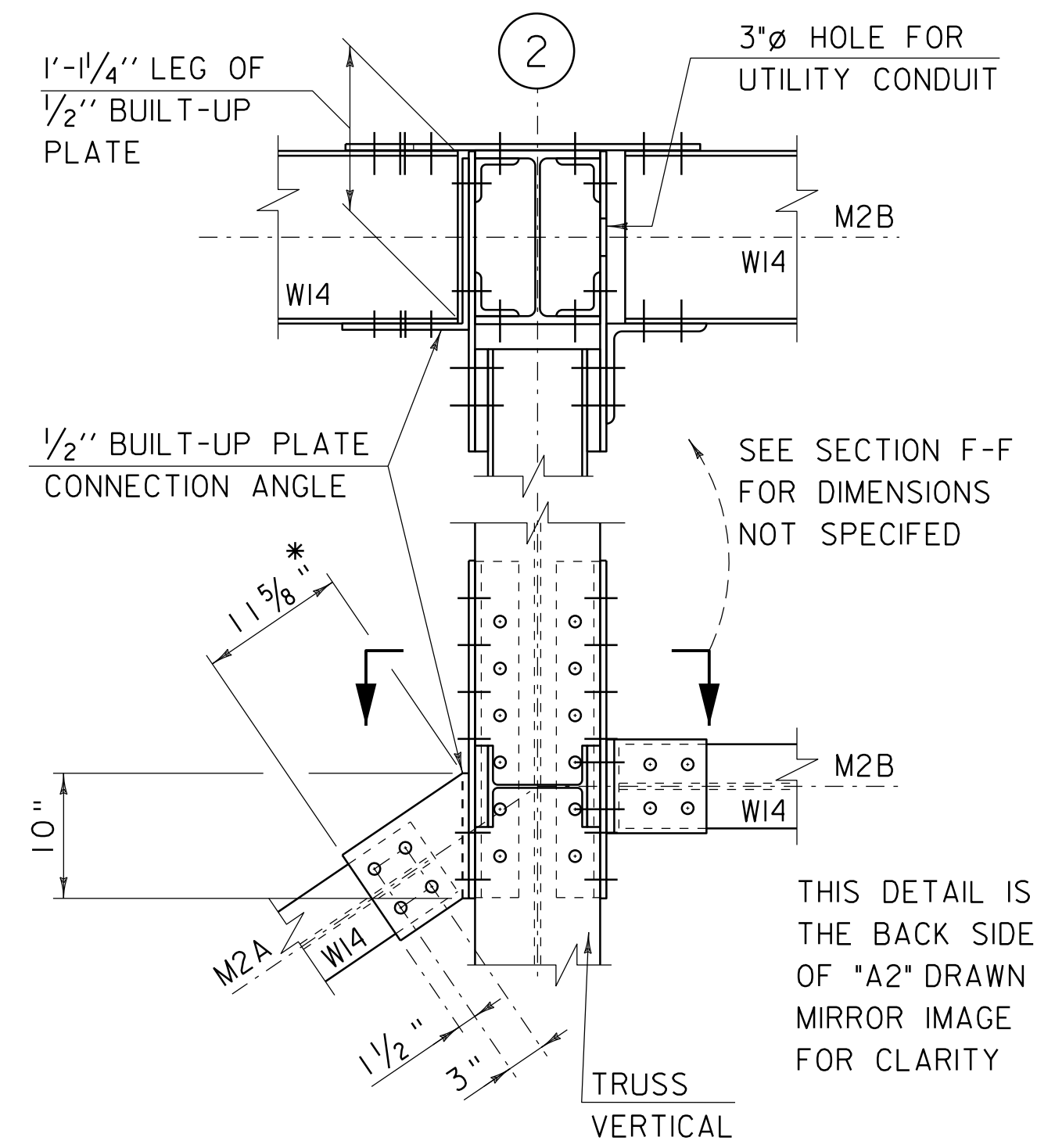
* PLATE DIMENSIONS SHOWN MAY BE ADJUSTED BY FABRICATOR TO ACHIEVE PROPER FIT AND CLEARANCE AS REQUIRED.



CONNECTION DETAIL "A2"

SCALE 1" = 1'-0"

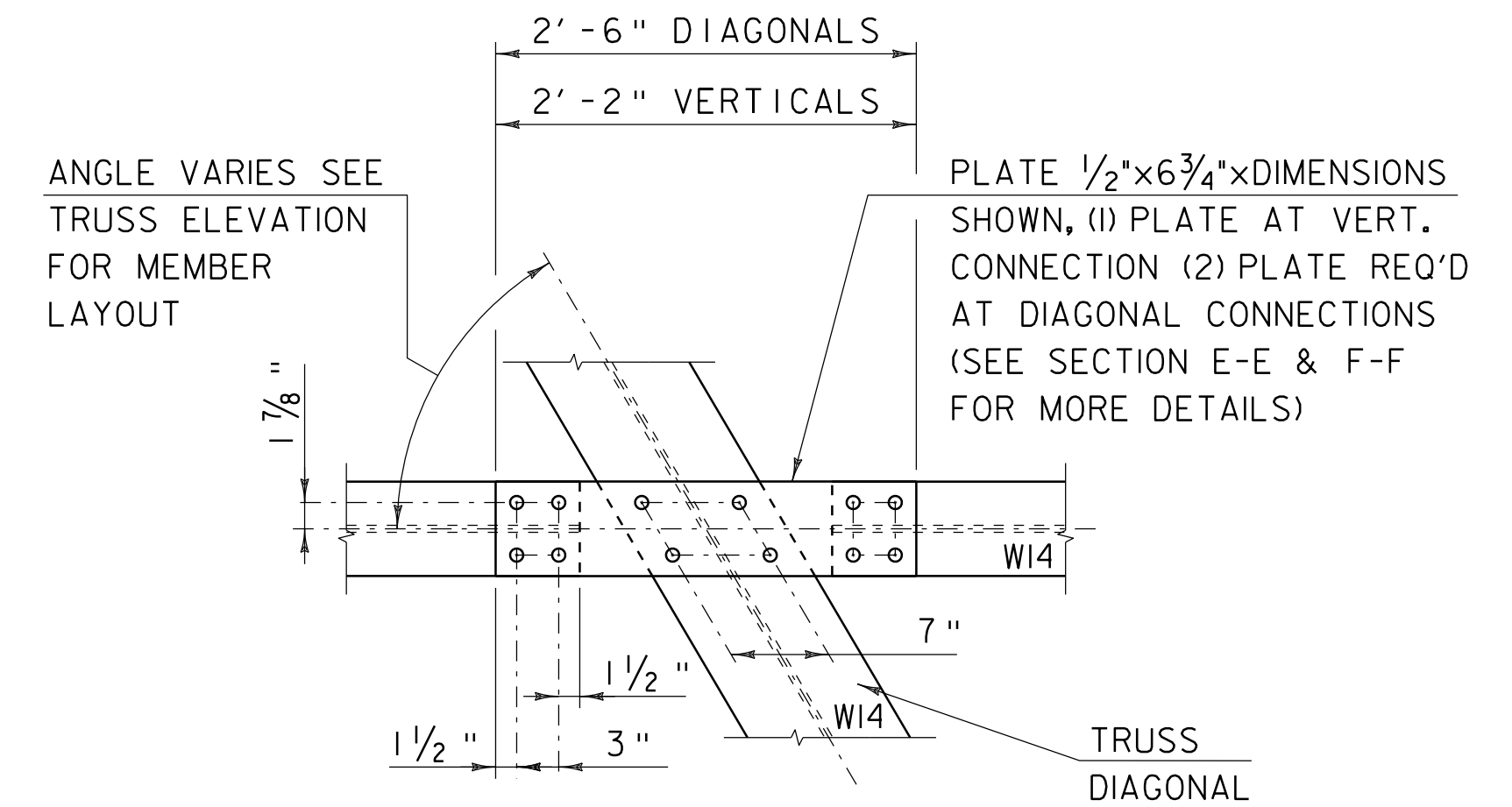
* PLATE DIMENSIONS SHOWN MAY BE ADJUSTED BY FABRICATOR TO ACHIEVE PROPER FIT AND CLEARANCE AS REQUIRED.



CONNECTION DETAIL "A2b"

SCALE 1" = 1'-0"

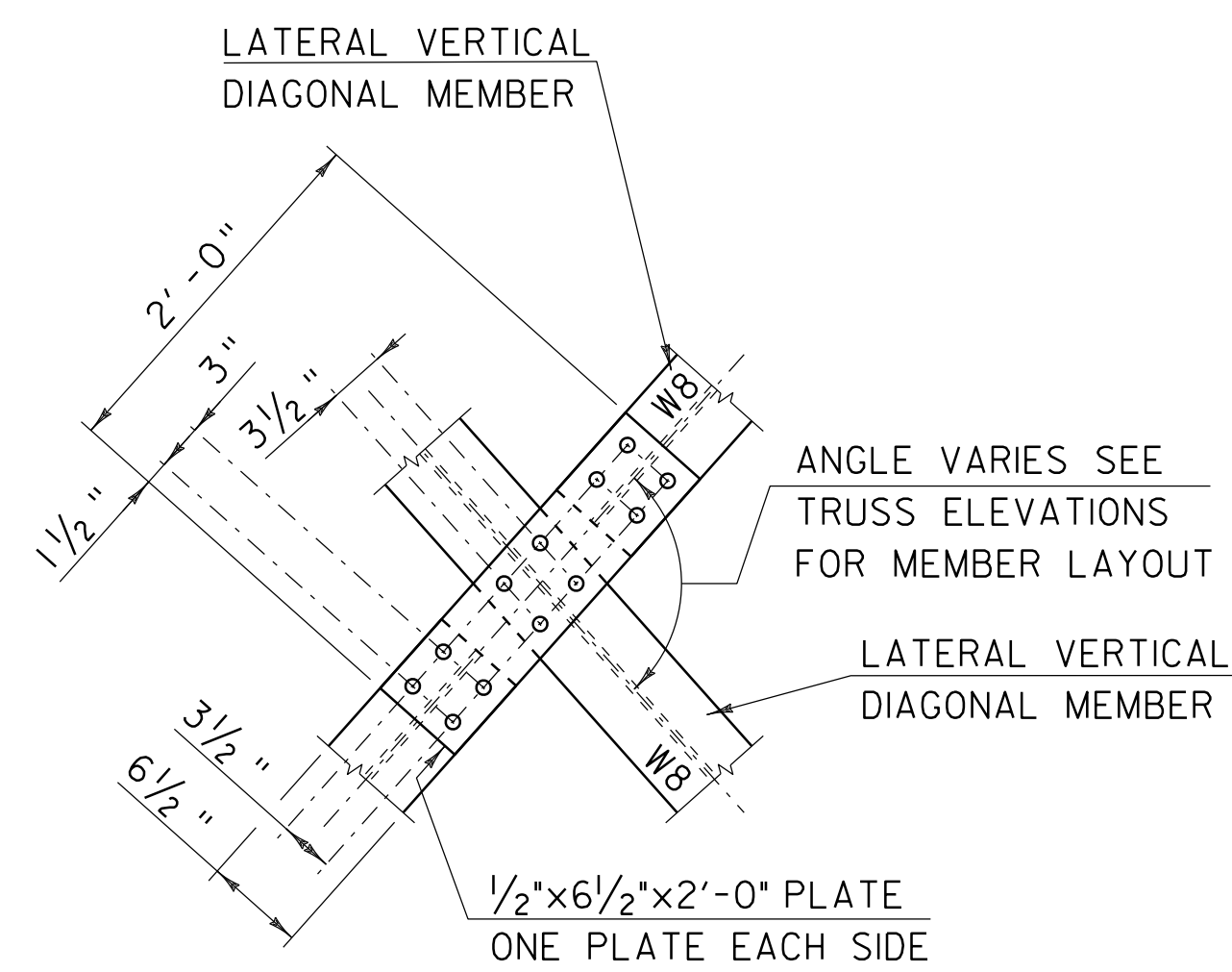
* PLATE DIMENSIONS SHOWN MAY BE ADJUSTED BY FABRICATOR TO ACHIEVE PROPER FIT AND CLEARANCE AS REQUIRED.



CONNECTION DETAIL "A3"

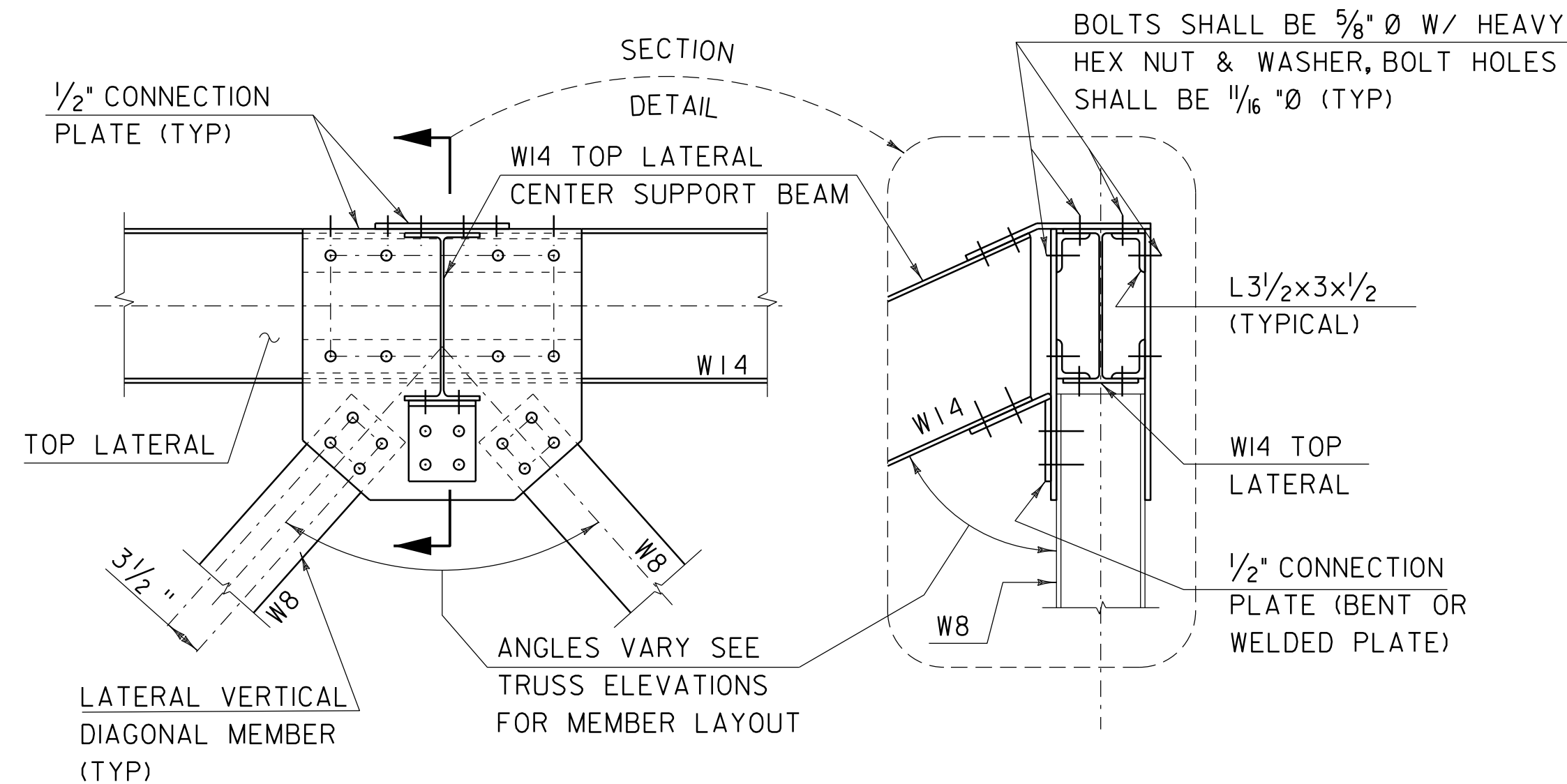
SCALE 1" = 1'-0"

THIS CONNECTION DETAIL IS SIMILAR FOR THE MIDDLE MEMBERS CONNECTION TO THE TRUSS VERTICAL AND THE TRUSS DIAGONAL MEMBERS. (DIAGONAL MEMBER CONNECTION SHOWN IN THE DETAIL)



CONNECTION DETAIL "B1"

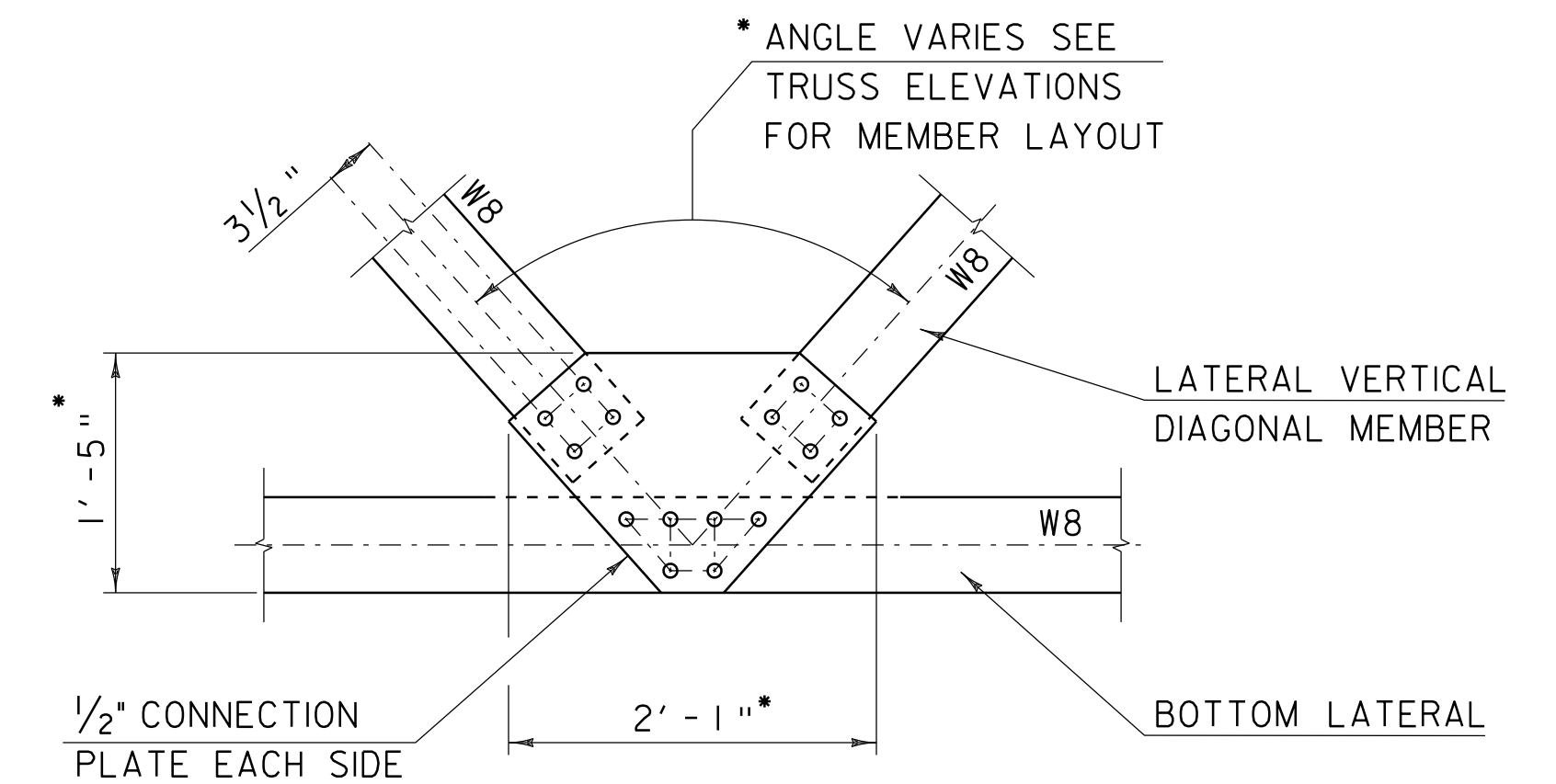
SCALE 1" = 1'-0"



CONNECTION DETAIL "B2"

SCALE 1" = 1'-0"

THIS CONNECTION DETAIL IS TYPICAL AT GRID 2,3, AND 4. THE CONNECTION PLATE IS BENT TO MATCH THE ANGLE BETWEEN THE TOP CHORD AND THE TOP FLANGE OF THE TOP LATERAL. THE W14 TOP LATERAL CENTER SUPPORT BEAM MAY BE MITERED FOR CLEARANCE AT THE BOTTOM FLANGE AS SHOWN IN THE SECTION DETAIL.



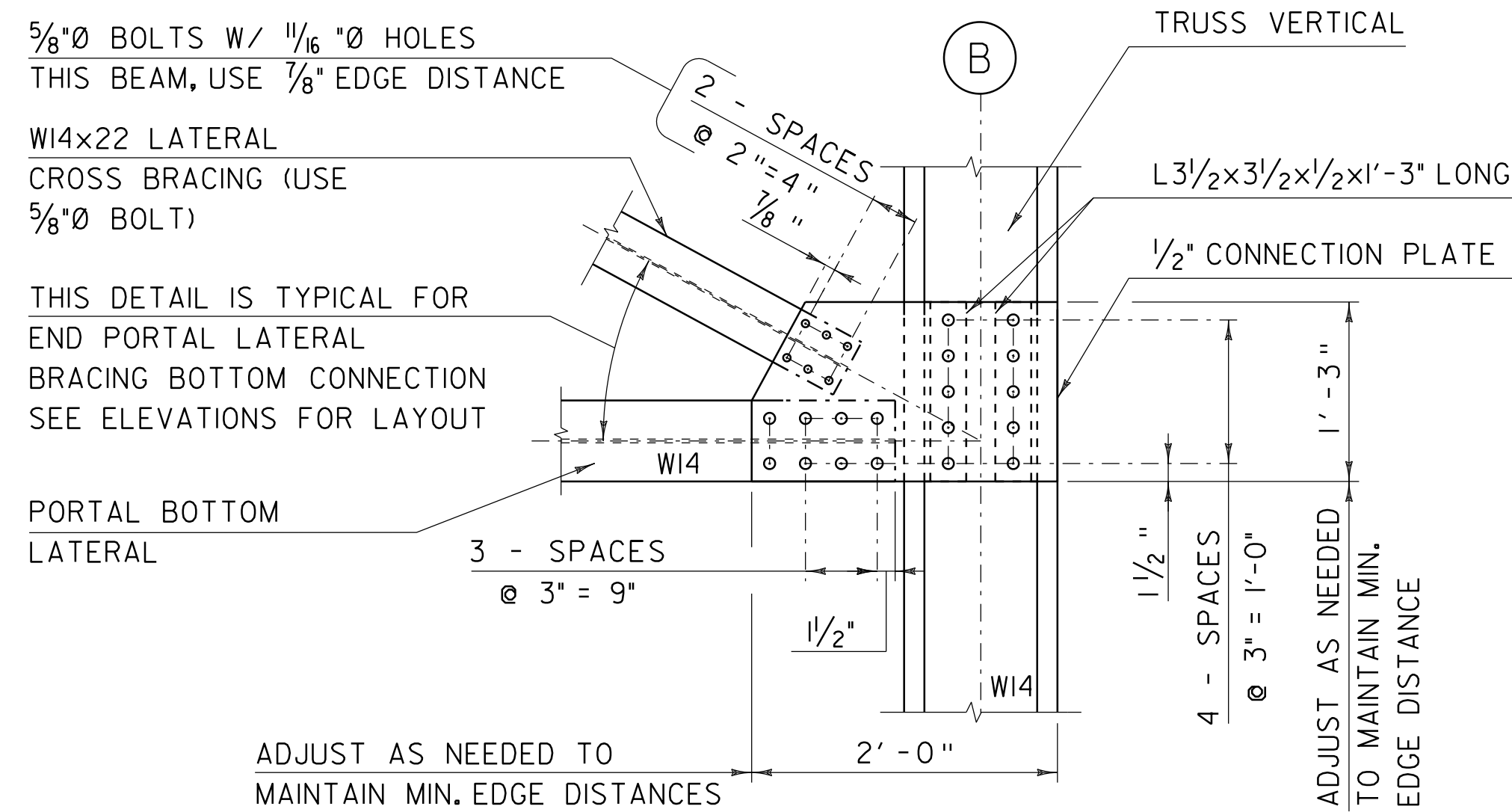
CONNECTION DETAIL "B3"

SCALE 1" = 1'-0"

* PLATE DIMENSIONS SHOWN MAY BE ADJUSTED BY FABRICATOR TO ACHIEVE PROPER FIT AND CLEARANCE AS REQUIRED.

REFER TO TRUSS CONNECTION DETAIL SHEET 1 FOR "TRUSS CONNECTION & GUSSET PLATE NOTES", "FILLER PLATE NOTES", AND "TRUSS STEEL MATERIAL SPECIFICATION NOTES".

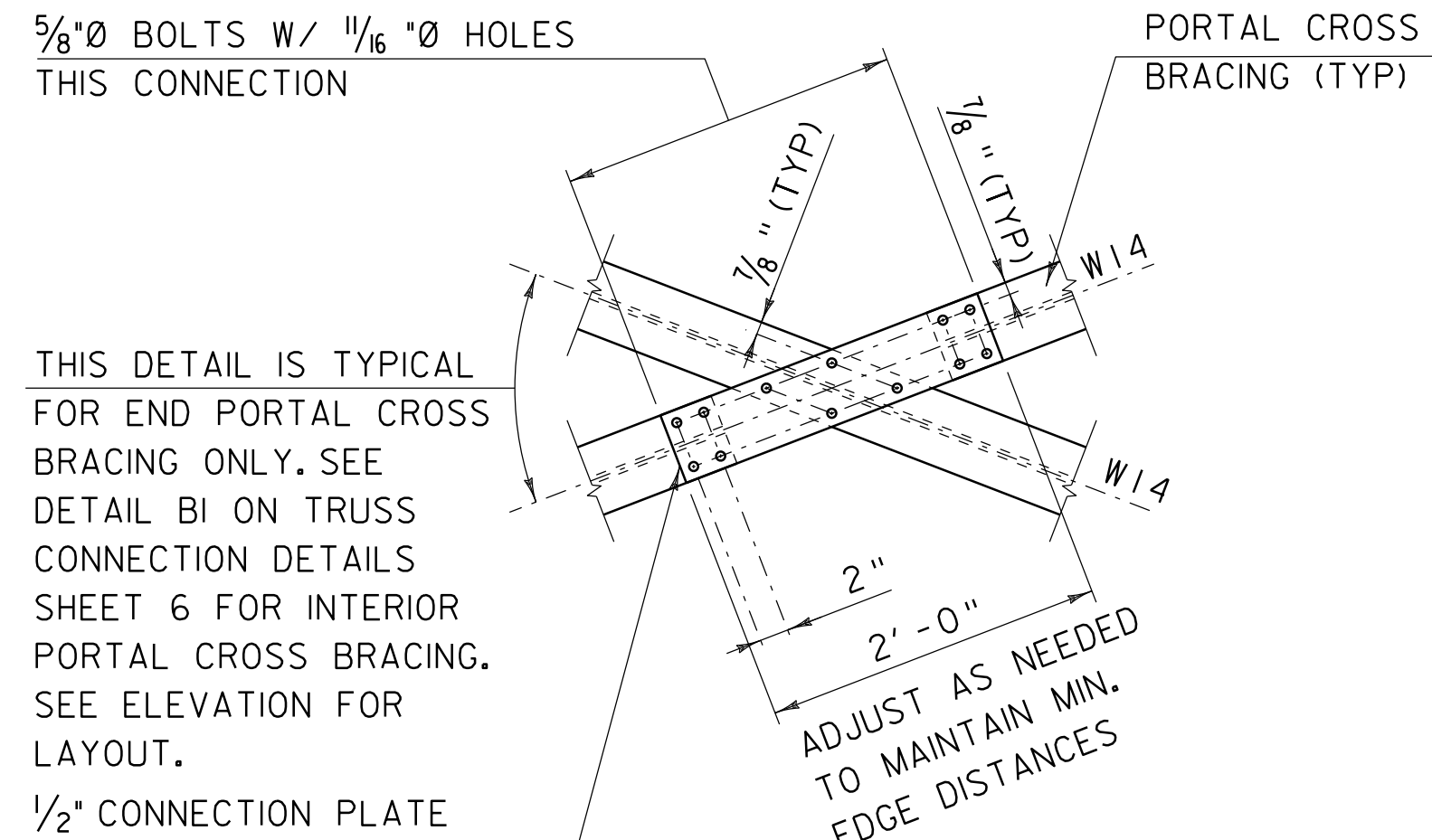
PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(14)	DRAWN BY:	M. LONGSTREET
FILE NAME:	s78f161truss.dgn	DESIGNED BY:	N. VANDENBERG
PROJECT LEADER:	M. EVANS-MONGEON	CHECKED BY:	S. SCRIBNER
TRUSS CONNECTION DETAIL SHEET 6		SHEET	95 OF 148



CONNECTION DETAIL "C1"

SCALE 1" = 1'-0"

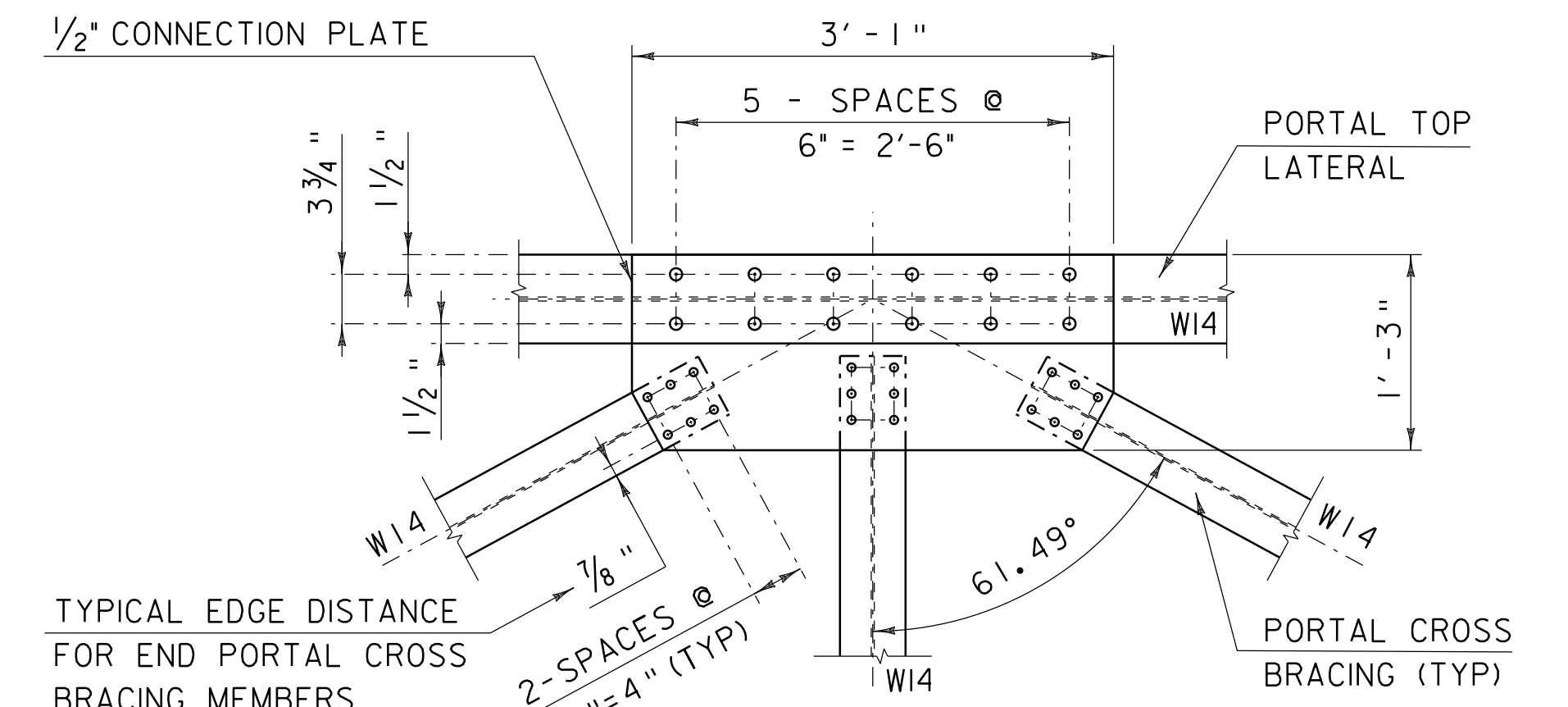
W14x22 CONNECTIONS REQUIRE 5/8" BOLTS W/ HEAVY HEX NUT AND WASHER, BOLT HOLES SHALL BE 1/16" Ø.



CONNECTION DETAIL "C2"

SCALE 1" = 1'-0"

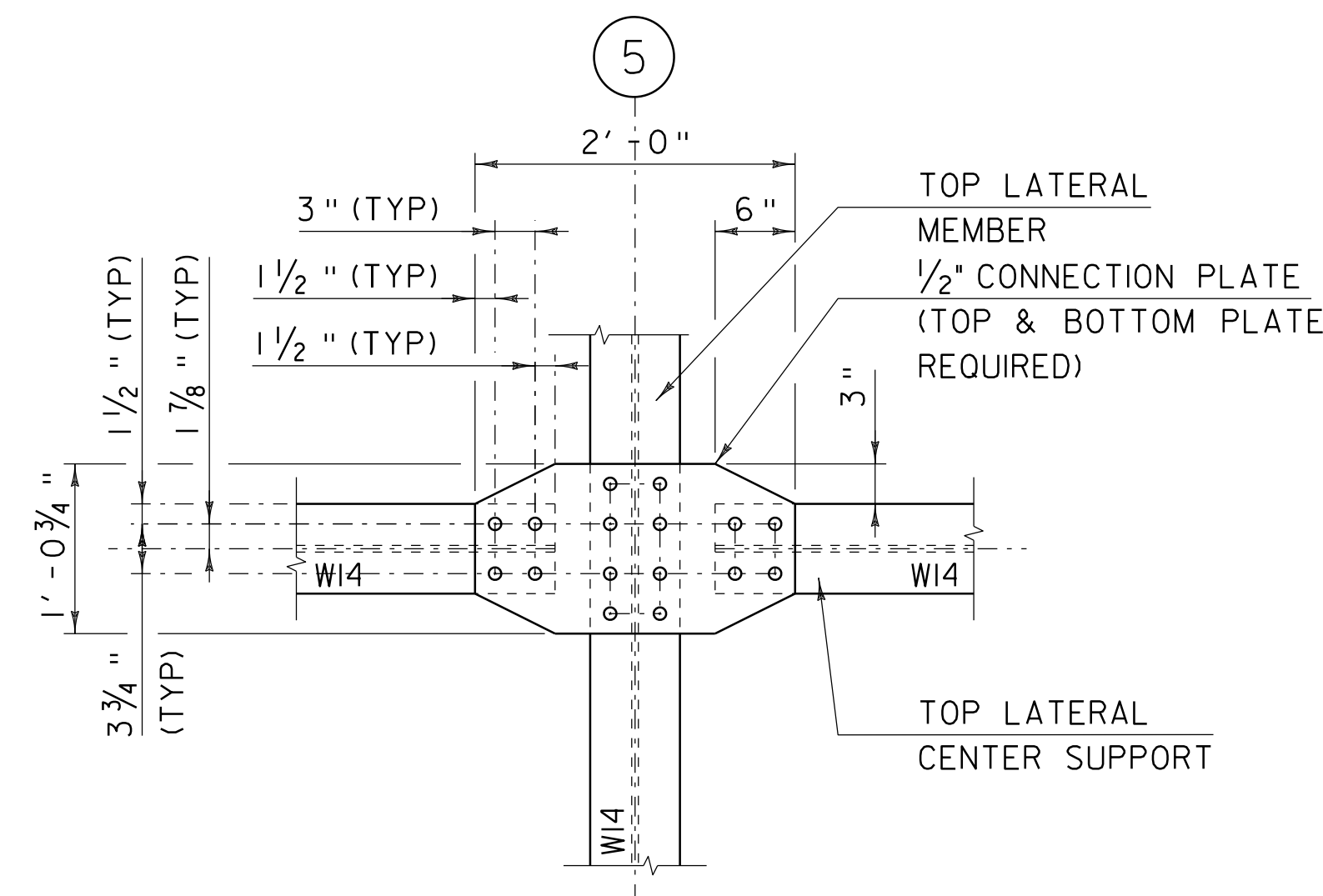
W14x22 CONNECTIONS REQUIRE 5/8" BOLTS W/ HEAVY HEX NUT AND WASHER, BOLT HOLES SHALL BE 1/16" Ø.



CONNECTION DETAIL "C3"

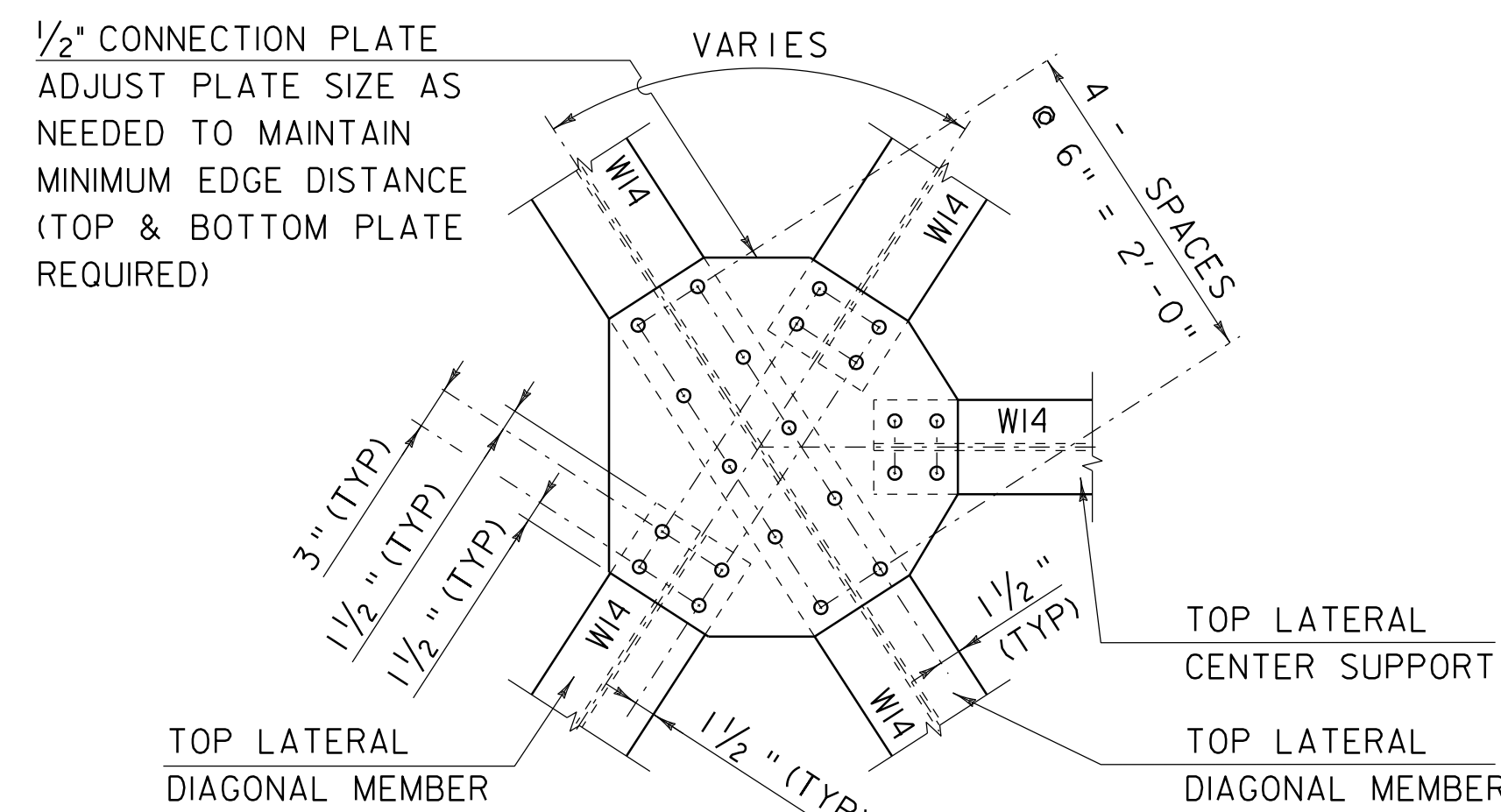
SCALE 1" = 1'-0"

W14x22 CONNECTIONS REQUIRE 5/8" BOLTS W/ HEAVY HEX NUT AND WASHER, BOLT HOLES SHALL BE 1/16" Ø.



CONNECTION DETAIL "D1"

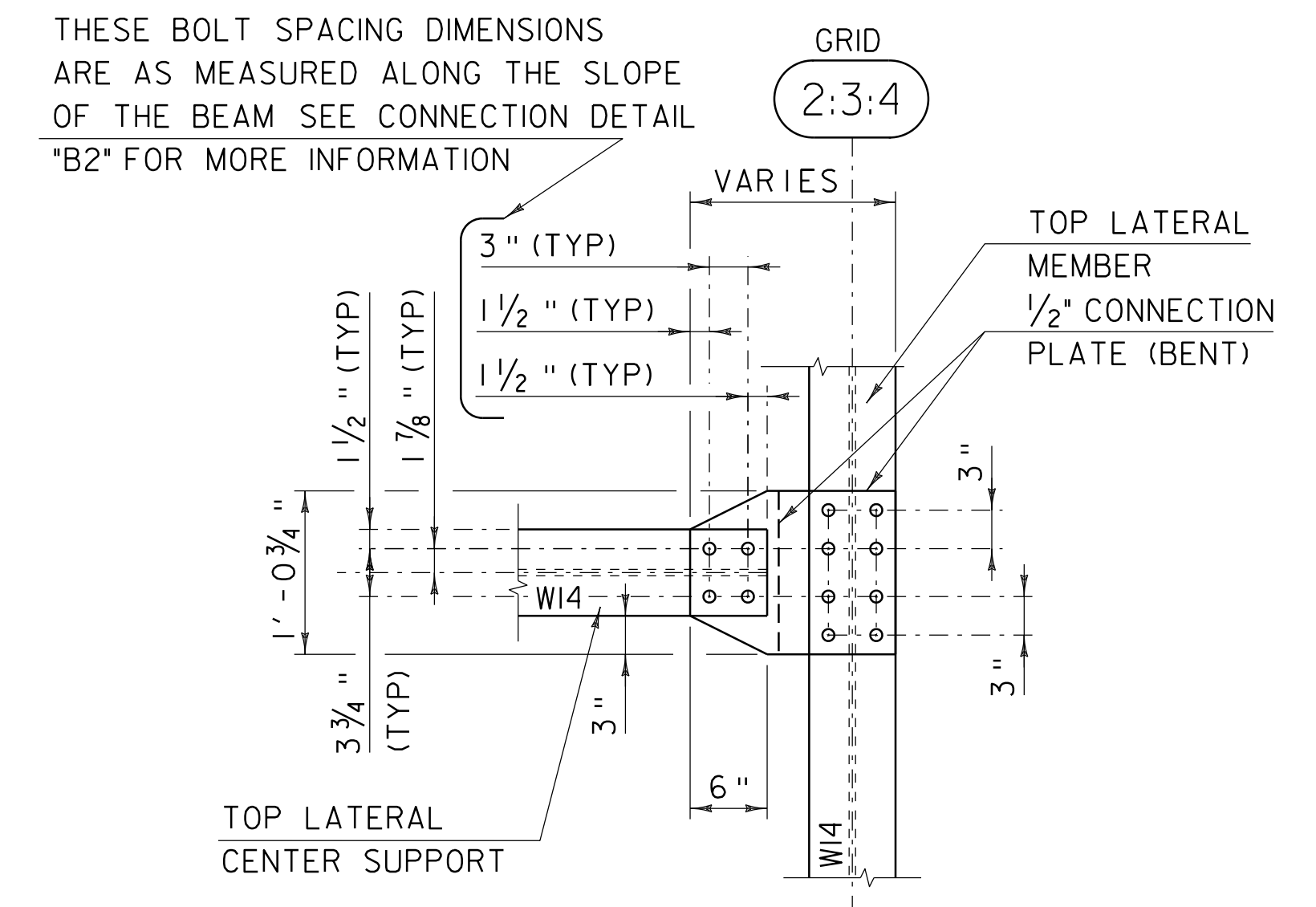
SCALE 1" = 1'-0"



CONNECTION DETAIL "D2"

SCALE 1" = 1'-0"

THIS CONNECTION DETAIL IS TYPICAL AT THE INTERSECTION OF TOP LATERAL DIAGONALS AND THE TOP LATERAL CENTER SUPPORT BEAM. MEMBER ANGLES VARY AS TRUSS TOP CHORD ORIENTATION CHANGES. SEE PLAN AND ELEVATION FOR LAYOUT.



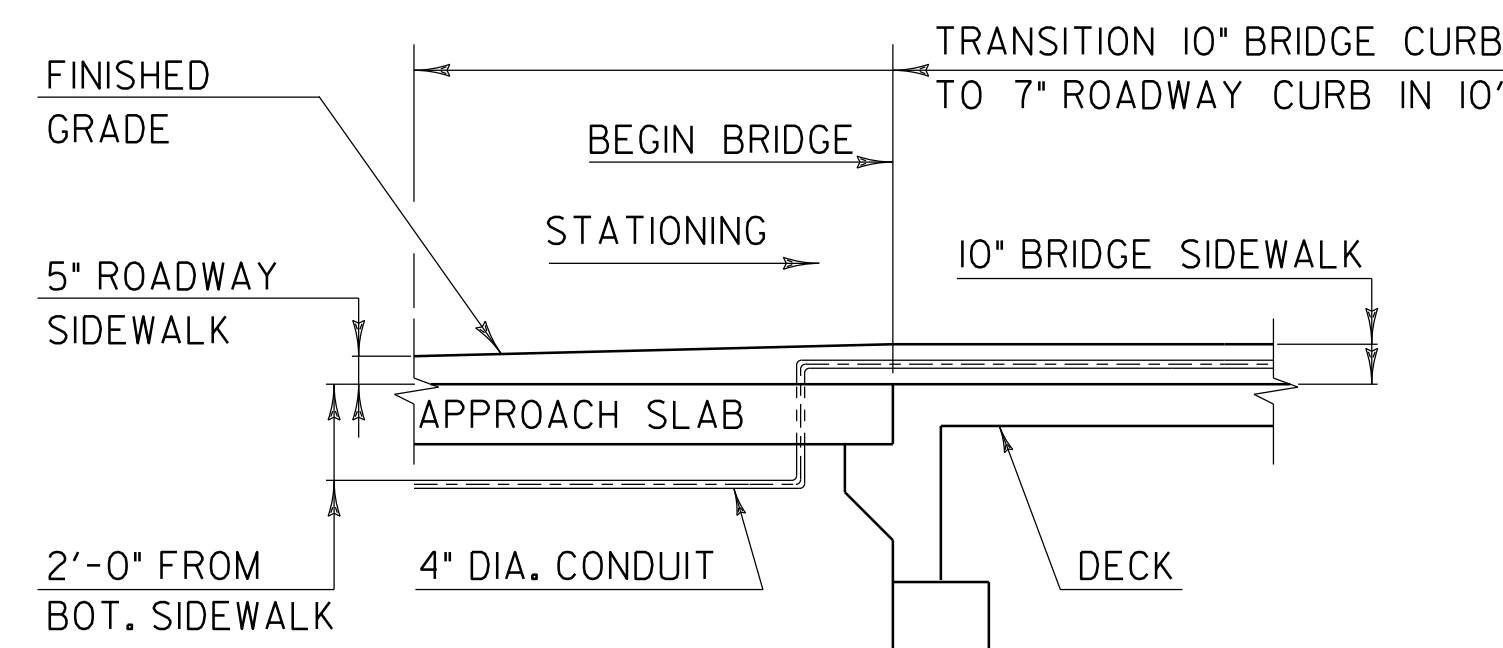
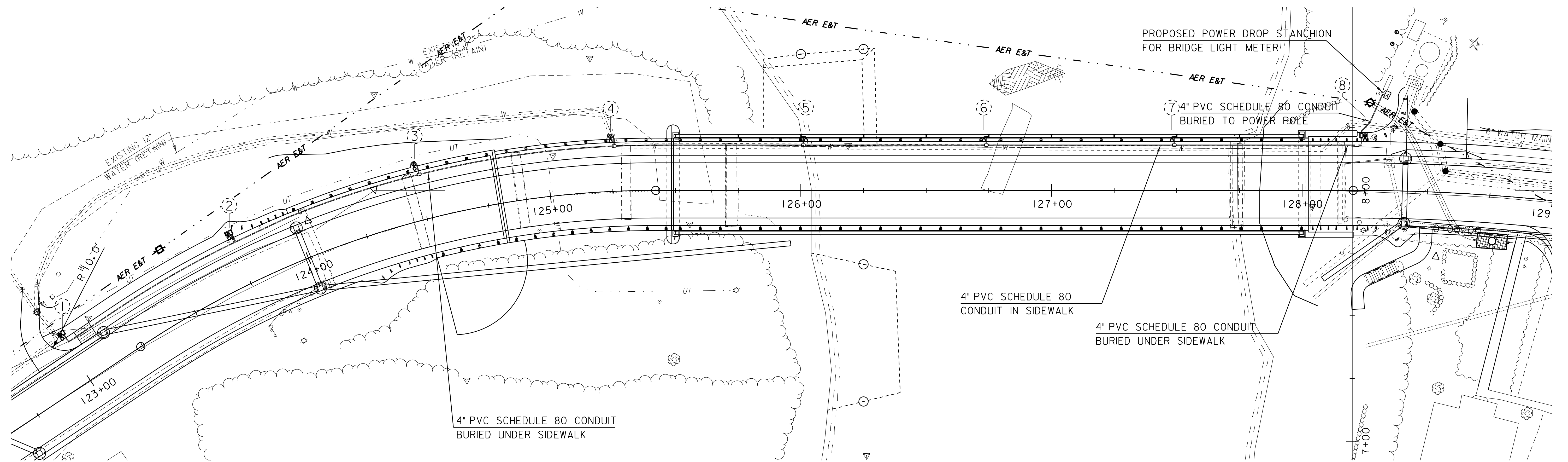
CONNECTION DETAIL "D3"

SCALE 1" = 1'-0"

THIS CONNECTION DETAIL IS TYPICAL AT GRID 2, 3, AND 4. THE CONNECTION PLATE IS BENT TO MATCH THE ANGLE BETWEEN THE TOP CHORD AND THE TOP FLANGE OF THE TOP LATERAL. THE W14 TOP LATERAL CENTER SUPPORT BEAM MAY BE MITERED FOR CLEARANCE AT THE BOTTOM FLANGE.

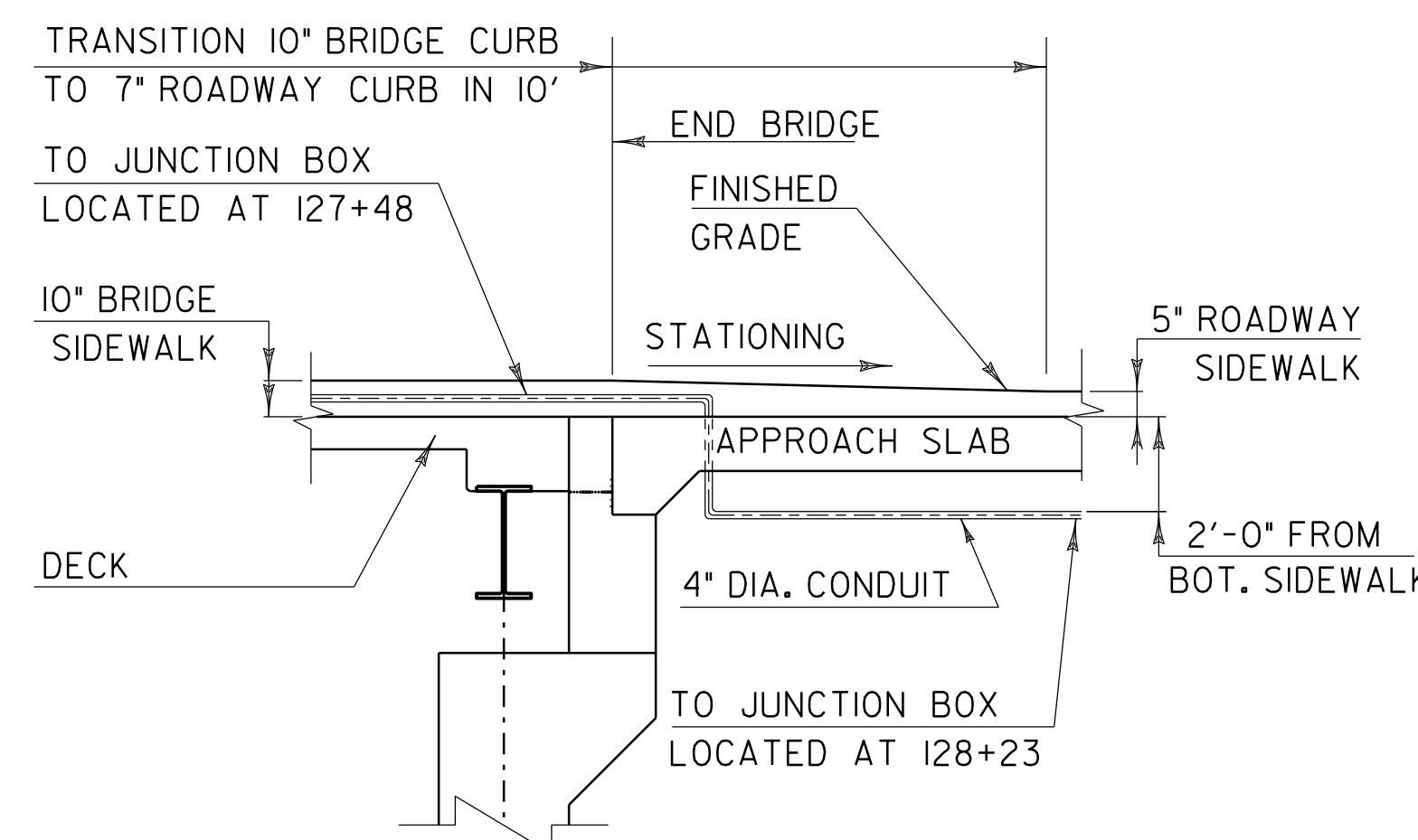
REFER TO TRUSS CONNECTION DETAIL SHEET 1 FOR "TRUSS CONNECTION & GUSSET PLATE NOTES", "FILLER PLATE NOTES", AND "TRUSS STEEL MATERIAL SPECIFICATION NOTES".

PROJECT NAME:	BETHEL	FILE NAME:	s78f16ltruss.dgn	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(14)	PROJECT LEADER:	M. EVANS-MONGEON	DRAWN BY:	M. LONGSTREET
		DESIGNED BY:	N. VANDENBERG	CHECKED BY:	S. SCRIBNER
		TRUSS CONNECTION DETAIL SHEET 7		SHEET	96 OF 148



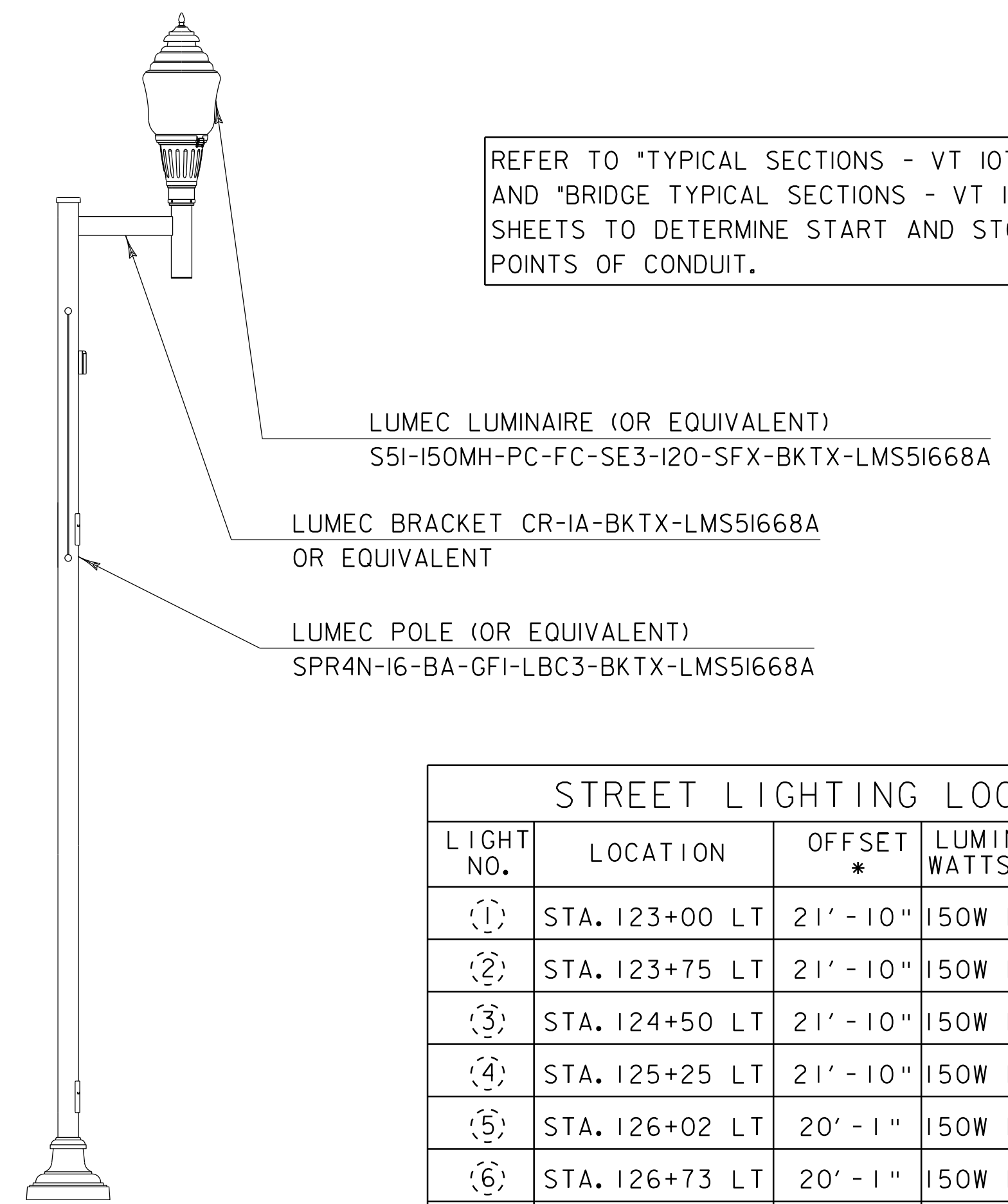
ABUTMENT#1 CONDUIT DETAIL

NTS



ABUTMENT#2 CONDUIT DETAIL

NTS



LIGHTPOLE TYPICAL

NTS

REFER TO "TYPICAL SECTIONS - VT 107" AND "BRIDGE TYPICAL SECTIONS - VT 107" SHEETS TO DETERMINE START AND STOP POINTS OF CONDUIT.

NOTES:

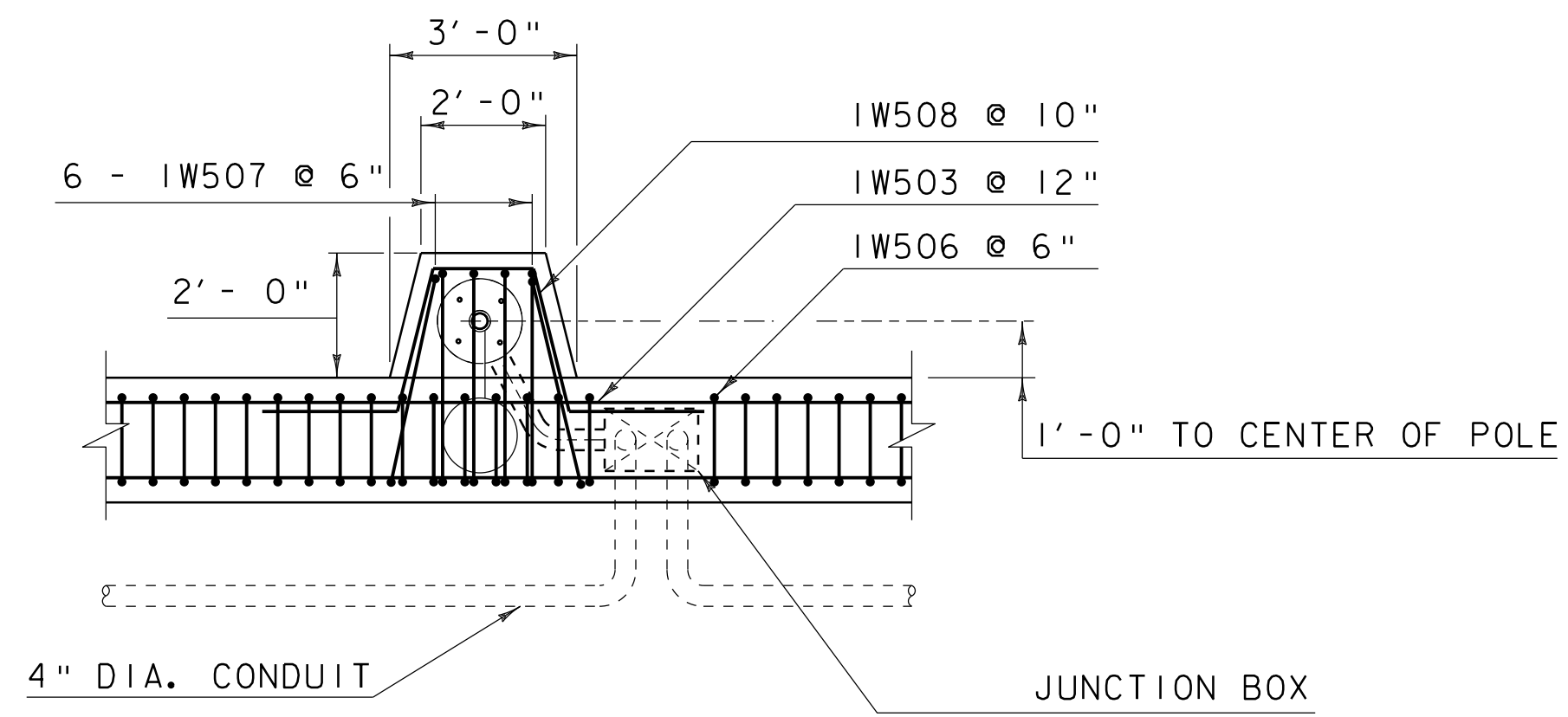
1. ALL WIRING BETWEEN THE METER AND/OR POWER SOURCE AND THE FIRST POLE AND/OR JUNCTION BOX AND BETWEEN POLES AND/OR JUNCTION BOXES SHALL BE COPPER AND SIZE AS SPECIFIED BY THE MANUFACTURER. ALL WIRE SHALL HAVE TYPE XHHW INSULATION OR EQUIVALENT.
2. HARDWARE: ALL EXPOSED SCREWS SHALL BE STAINLESS STEEL WITH CERAMIC PRIMER-SEAL BASECOAT AND COLOR STABLE TOPCOAT. ALL SEALS AND SEALING DEVICES ARE MADE AND/OR LINED WITH EPDM AND/OR SILICONE.
3. FINISH: COLOR TO BE BLACK TEXTURED (BKTX). APPLICATION OF A POLYESTER POWDER COAT PAINT, (4 MILS/100 MICRONS), THE CHEMICAL COMPOSITION PROVIDES A HIGHLY DURABLE UV AND SALT SPRAY RESISTANT FINISH IN ACCORDANCE TO THE ASTM-B117-73 STANDARD AND HUMIDITY PROOF IN ACCORDANCE TO THE ASTM-D2247-68 STANDARD.
4. ALL JUNCTION BOXES UNDER SIDEWALK SHALL HAVE THEIR COVERS MOUNTED FLUSH WITH THE TOP OF THE SIDEWALK. ALL JUNCTION BOXES SHALL BE POLYMER CONCRETE OR REINFORCED FIBERGLASS U.L. LISTED JUNCTION BOXES SHALL BE INSTALLED WITH HEAVY DUTY COVERS.
5. CONDUIT LOCATIONS SHOWN ON THE DRAWING ARE APPROXIMATE. ACTUAL LOCATIONS SHALL BE DETERMINED IN THE FIELD GIVING CONSIDERATION TO DRAINAGE, UNDERGROUND UTILITIES, AND PROPOSED HOLES IN THE EXPANSION JOINT.
6. PAYMENT FOR CONNECTION STEEL AND HARDWARE FOR MOUNTING THE LIGHT TO THE TRUSS WILL BE INCLUDED IN ITEM 506.57, "STRUCTURAL STEEL, TRUSS".

STREET LIGHTING LOCATIONS TABLE						
LIGHT NO.	LOCATION	OFFSET *	LUMINAIRE WATTS TYPE	LUMINAIRE HEIGHT	REMARKS	JUNCTION BOX
(1)	STA. 123+00 LT	21' - 10"	150W Me Ha	17' - 6"	EMBANKMENT	YES
(2)	STA. 123+75 LT	21' - 10"	150W Me Ha	17' - 6"	EMBANKMENT	YES
(3)	STA. 124+50 LT	21' - 10"	150W Me Ha	17' - 6"	WINGWALL	YES
(4)	STA. 125+25 LT	21' - 10"	150W Me Ha	17' - 6"	DECK	YES
(5)	STA. 126+02 LT	20' - 1"	150W Me Ha	18' - 6 1/2"	TRUSS	YES
(6)	STA. 126+73 LT	20' - 1"	150W Me Ha	18' - 6 1/2"	TRUSS	YES
(7)	STA. 127+48 LT	20' - 1"	150W Me Ha	18' - 6 1/2"	TRUSS	YES
(8)	STA. 128+25 LT	21' - 10"	150W Me Ha	17' - 6"	EMBANKMENT	YES

NOTE: Me Ha = METAL HALIDE
* = OFFSET TO CENTERLINE POLE AND FOUNDATION

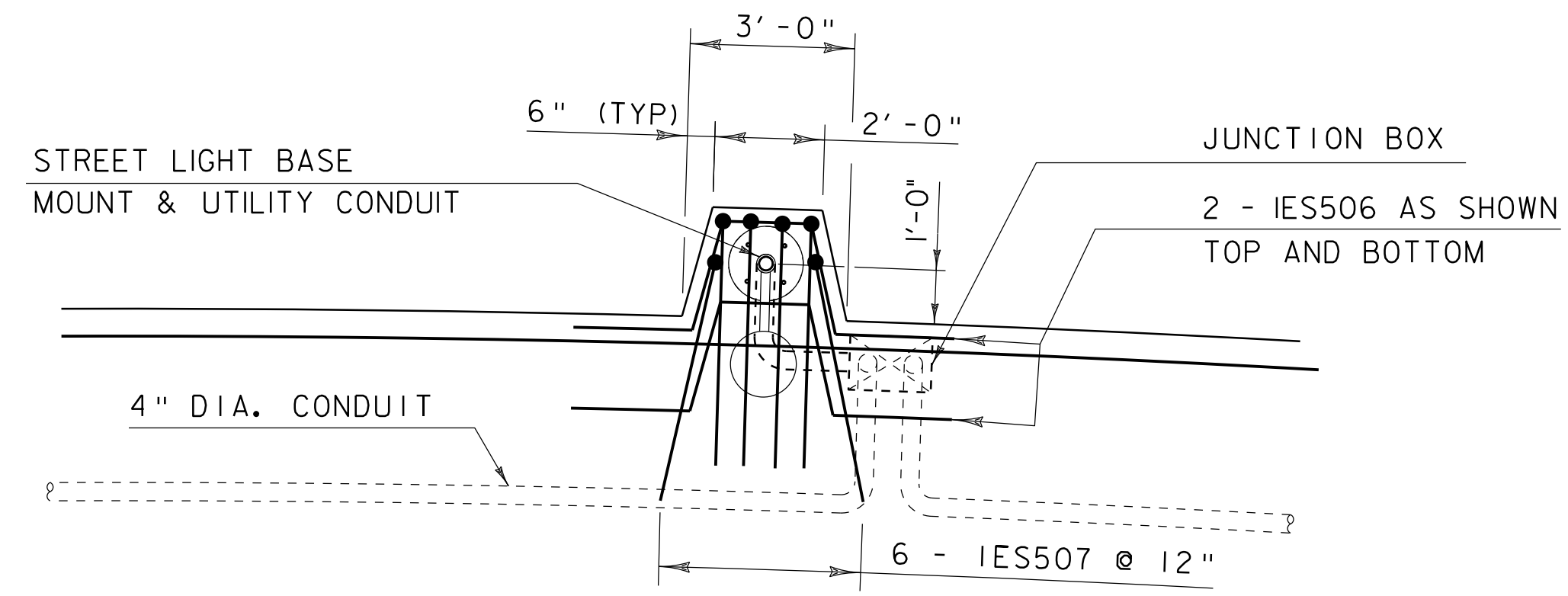
LEGEND	
⊙	= PROPOSED LIGHT & BRACKET
⊗	= PROPOSED LIGHT & POLE
①	= LIGHT LOCATION NUMBER
⊕	= EXISTING UTILITY POLE
□	= JUNCTION BOX
—	= PROPOSED LIGHTING CONDUIT
⊞	= PROPOSED METER BOX

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)
FILE NAME: sf78f611te.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
LIGHTING LAYOUT
PLOT DATE: 20-MAY-2011
DRAWN BY: S. SCRIBNER
CHECKED BY: S. SCRIBNER
SHEET 97 OF 148



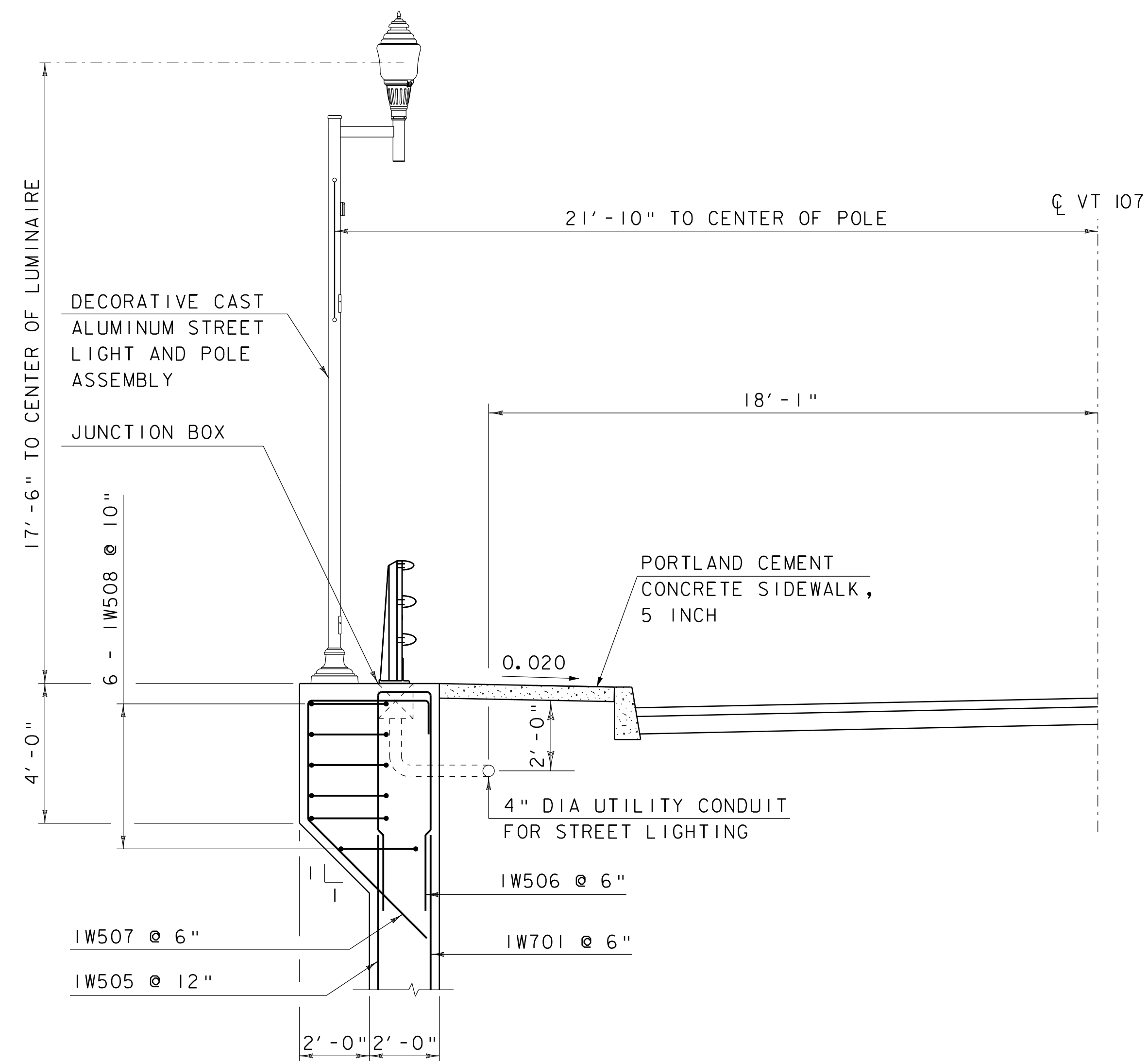
WINGWALL I LIGHTPOLE PLAN

SCALE 3/8" = 1'-0"



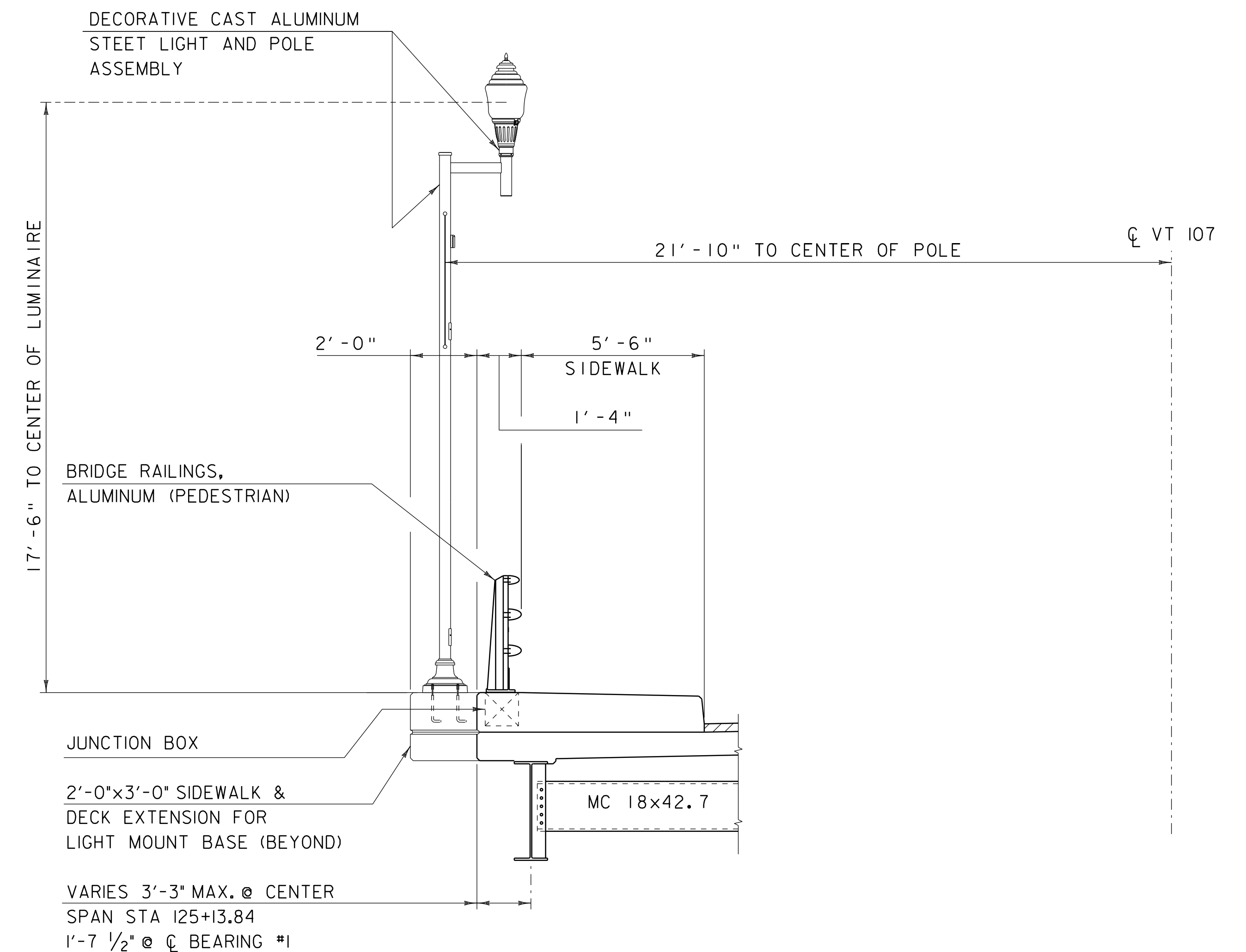
DECK LIGHTPOLE PLAN

SCALE 3/8" = 1'-0"



WINGWALL I LIGHTPOLE

SCALE 3/8" = 1'-0"



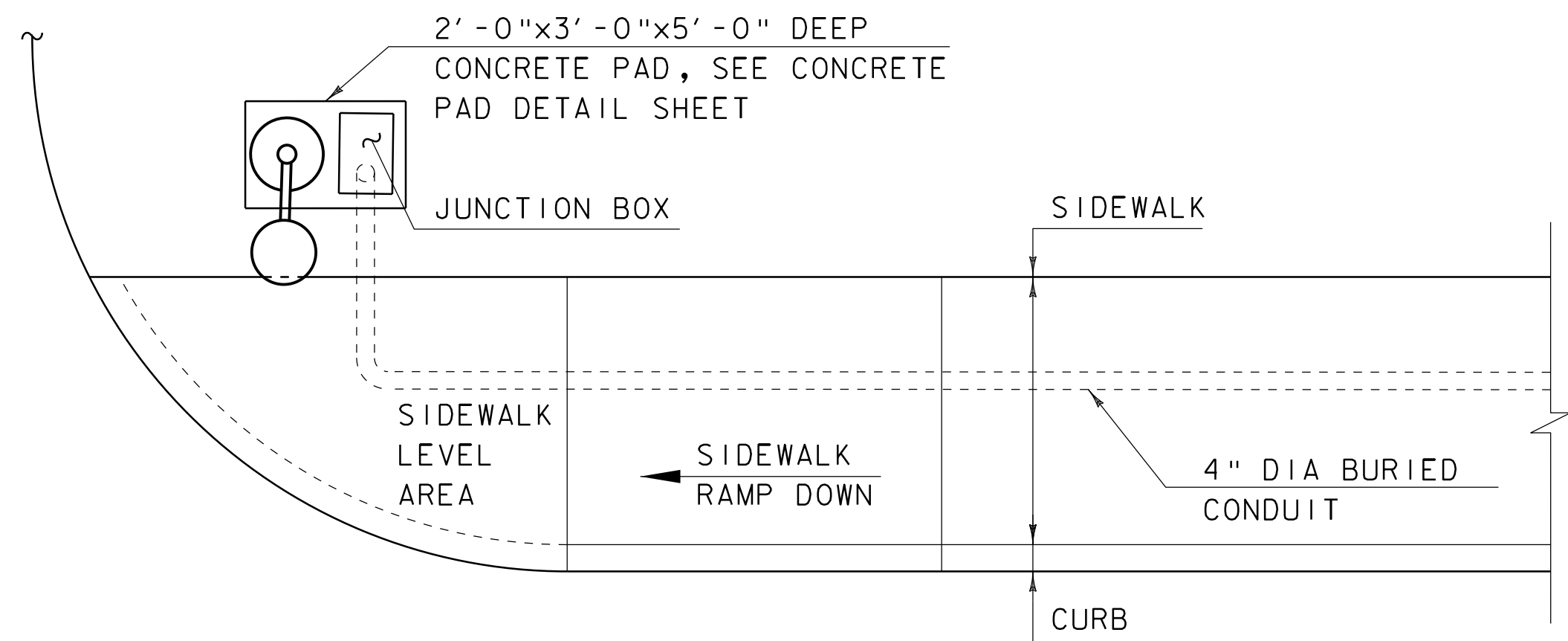
DECK LIGHTPOLE

SCALE 3/8" = 1'-0"

PROJECT NAME: BETHEL
PROJECT NUMBER: BRP 022-1(14)

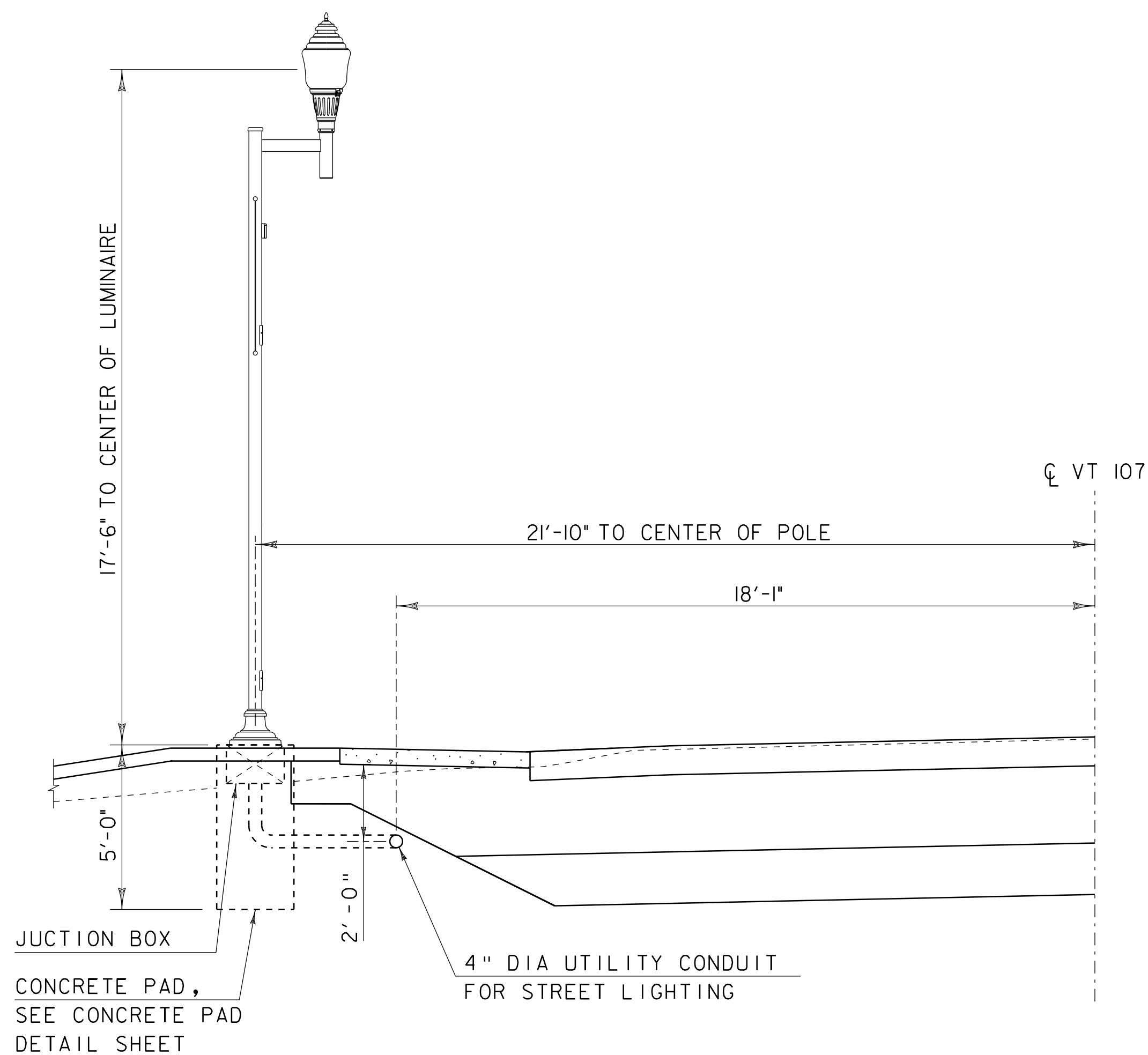
FILE NAME: s78f1611t.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
LIGHTPOLE DETAILS 1

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 98 OF 148



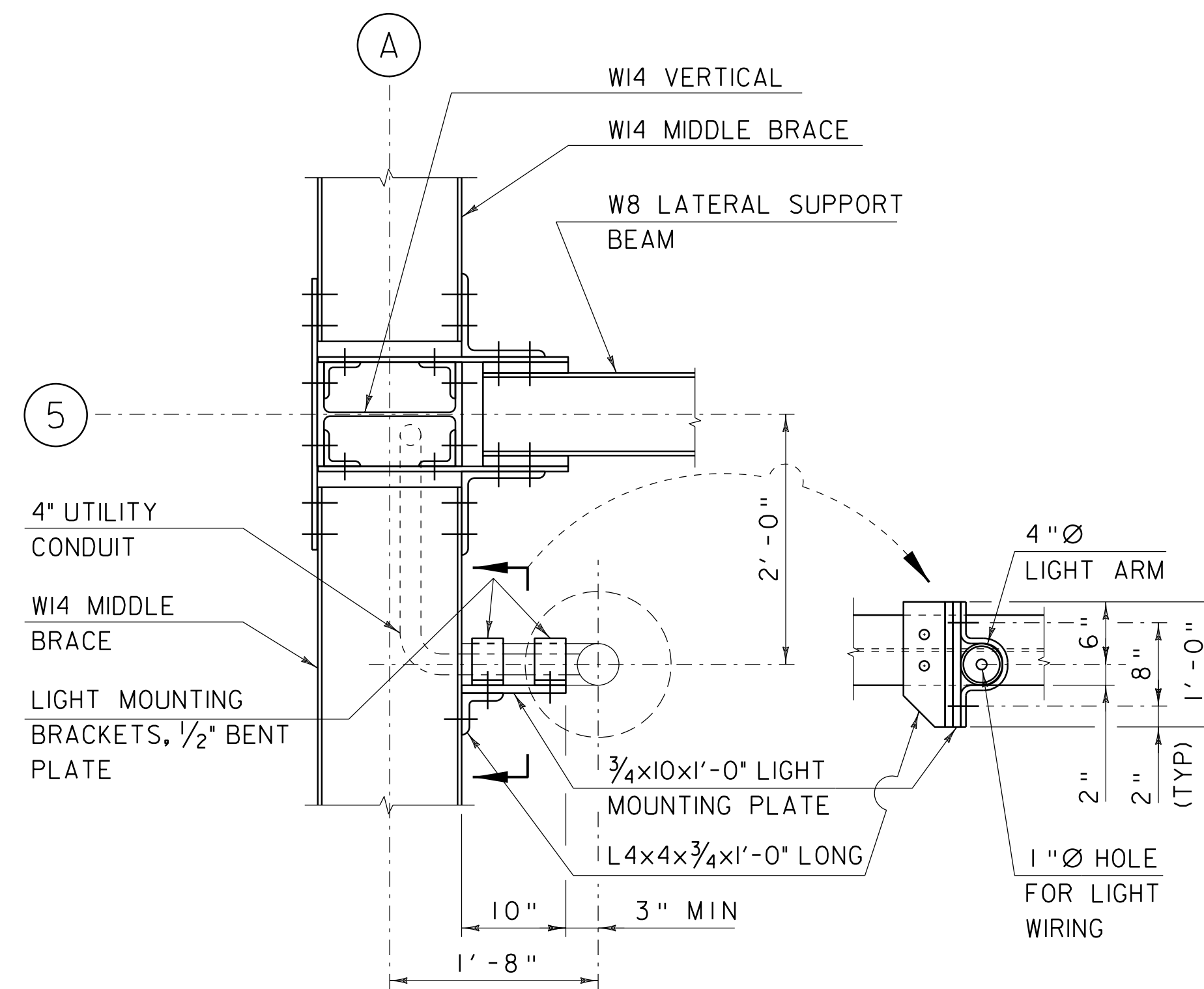
EMBANKMENT LIGHTPOLE PLAN

SCALE $\frac{3}{8}$ " = 1'-0"



EMBANKMENT LIGHTPOLE TYPICAL

SCALE $\frac{3}{8}$ " = 1'-0"

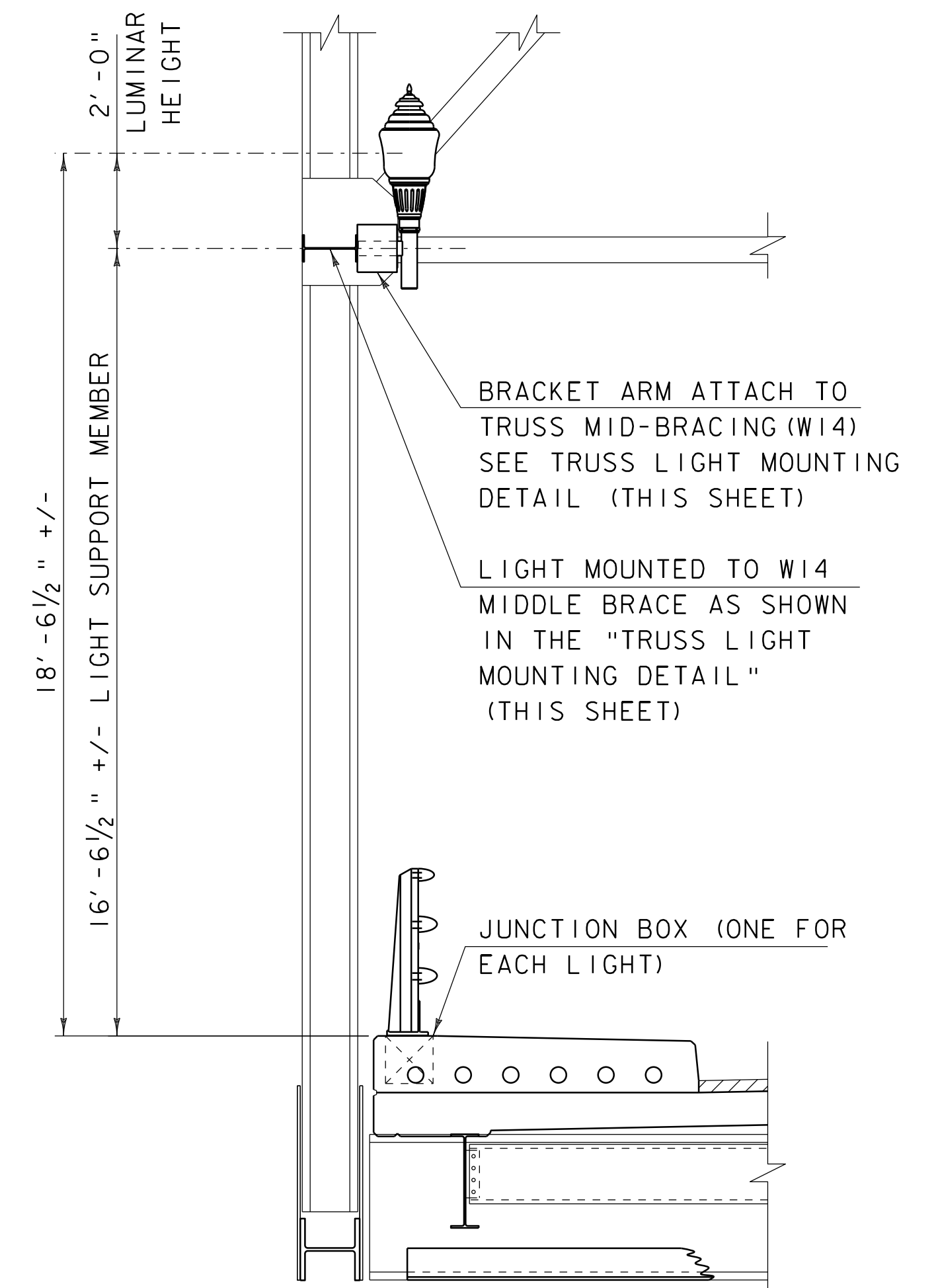


TRUSS LIGHT MOUNTING DETAIL (PLAN VIEW)

SCALE 1" = 1'-0"

1.) CONDUIT SHALL BE ATTACHED TO TRUSS MEMBERS BY MEANS OF EPOXY WELDING OR OTHER METHODS THAT DO NOT REQUIRE FIELD DRILLING OF TRUSS MEMBERS. NO FIELD DRILLING, REAMING, OR CUTTING OF TRUSS OR TRUSS CONNECTION MEMBERS.

2.) PAYMENT FOR CONNECTION STEEL AND HARDWARE FOR MOUNTING LIGHT WILL BE INCLUDED IN ITEM 506.57 "STRUCTURAL STEEL, TRUSS".



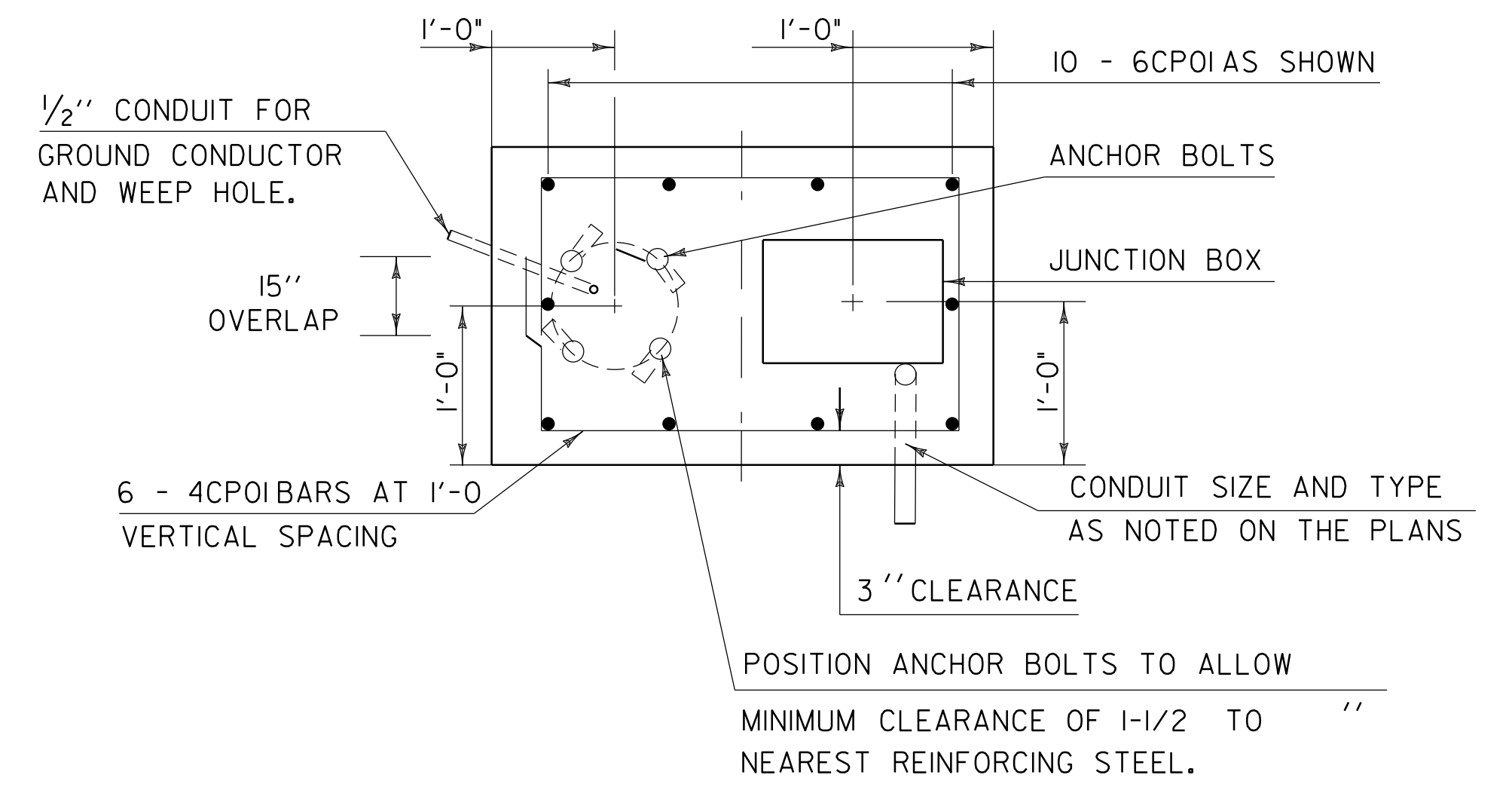
TRUSS LIGHTPOLE TYPICAL

SCALE $\frac{3}{8}$ " = 1'-0"

PROJECT NAME: BETHEL
PROJECT NUMBER: BRP 022-1(14)

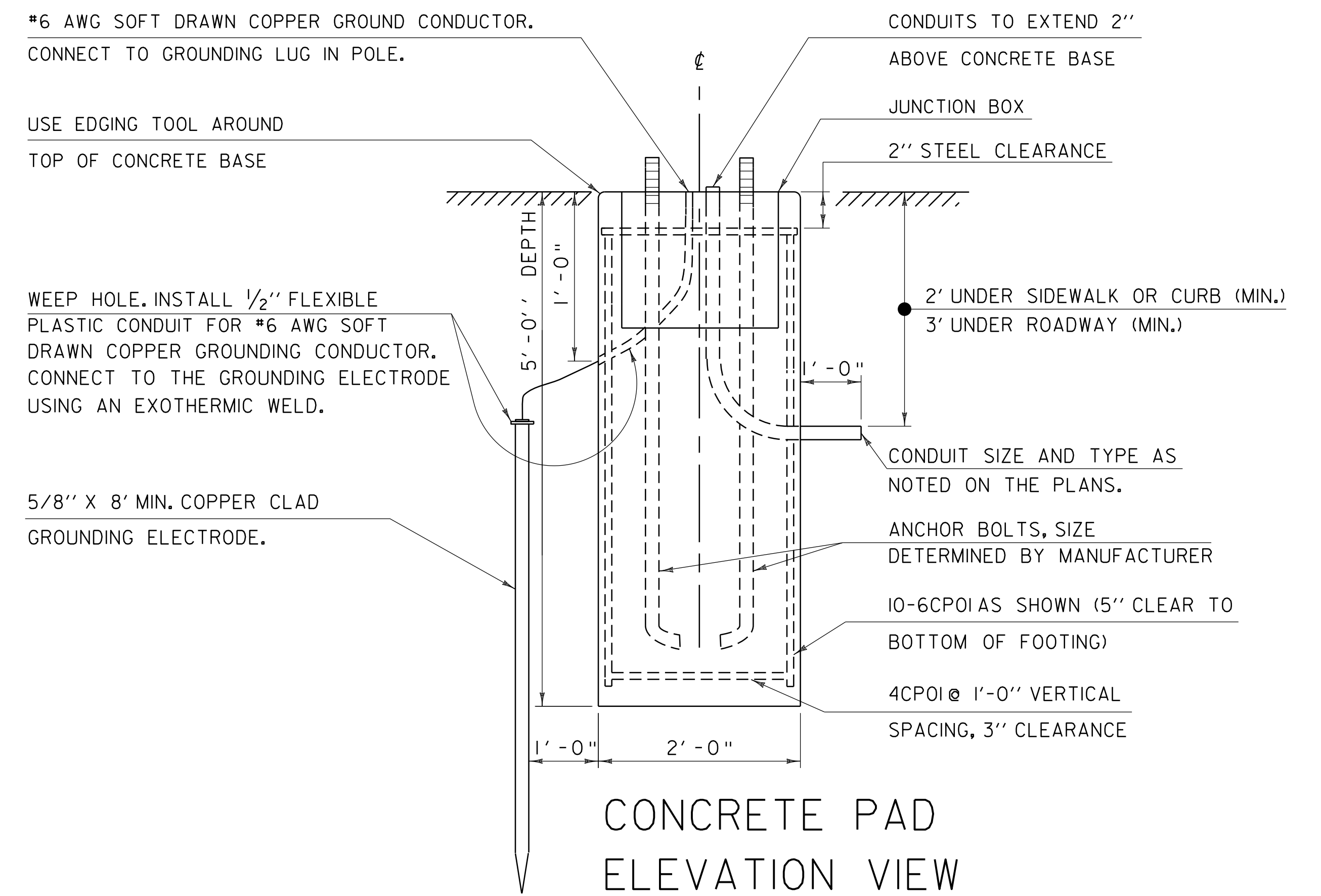
FILE NAME: s78f1611te.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
LIGHTPOLE DETAILS 2

PLOT DATE: 20-MAY-2011
DRAWN BY: S. SCRIBNER
CHECKED BY: S. SCRIBNER
SHEET 99 OF 148



CONCRETE PAD PLAN VIEW

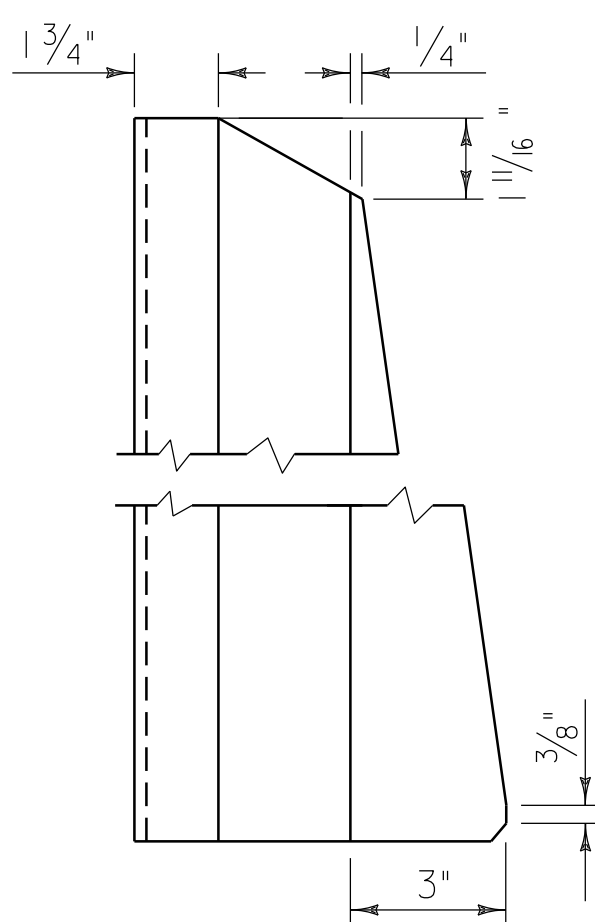
NTS



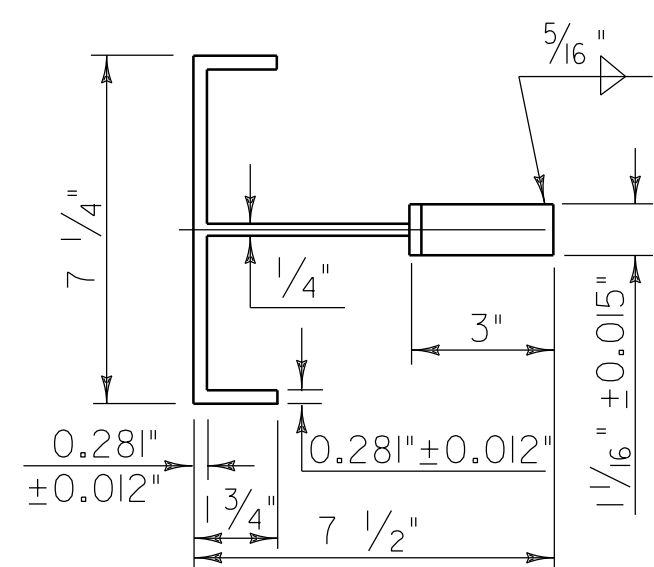
CONCRETE PAD ELEVATION VIEW

NTS

PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(14)	DRAWN BY:	S. SCRIBNER
FILE NAME:	s78f16111e.dgn	CHECKED BY:	S. SCRIBNER
PROJECT LEADER:	M. EVANS-MONGEON	CONCRETE PAD DETAILS	SHEET 100 OF 148

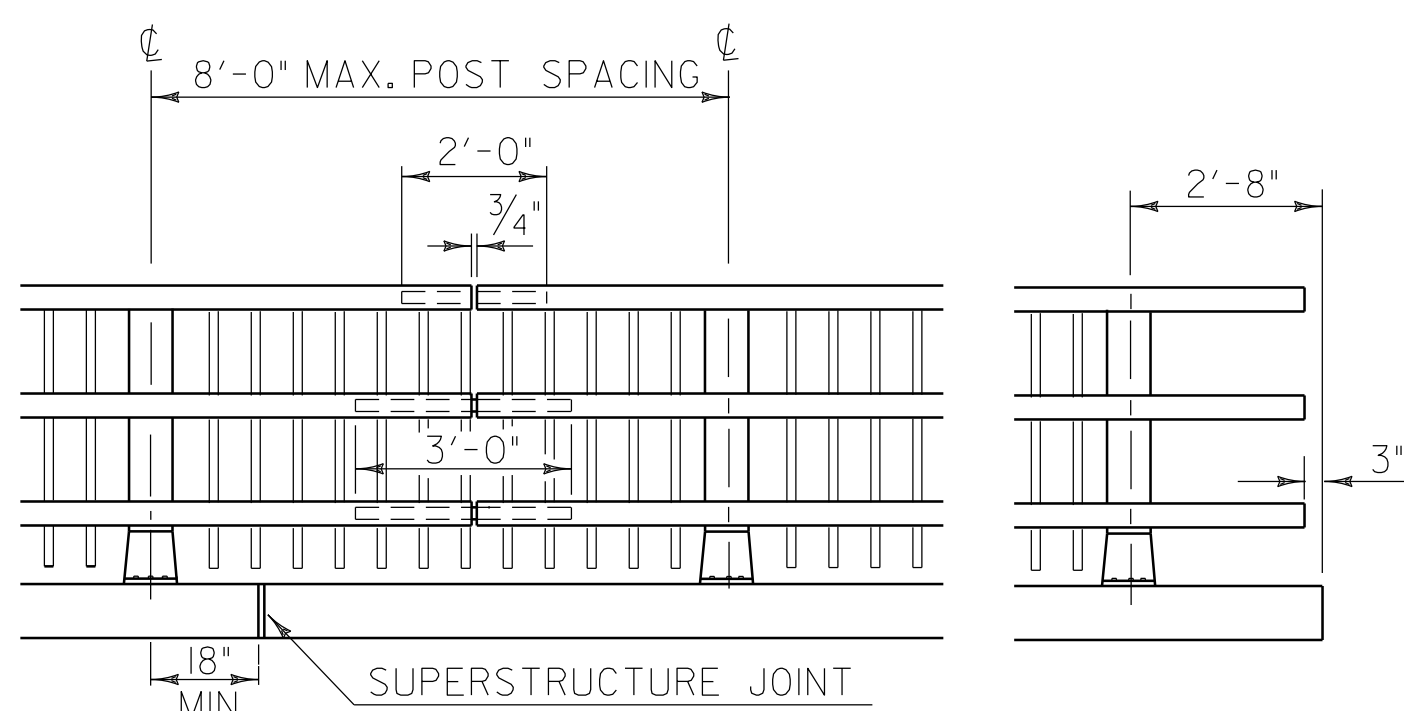


POST SIDE VIEW



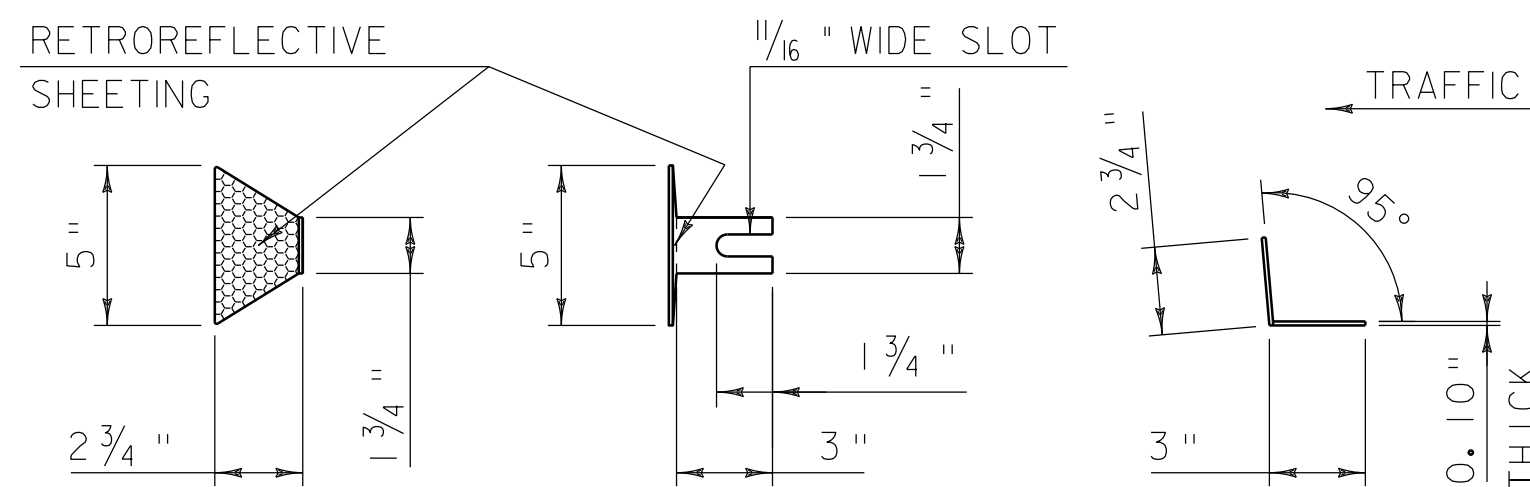
POST PLAN VIEW

- 1.) RETROREFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE A 0.063" ALUMINUM BACKING WHITE OR YELLOW REFLECTOR. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT.
- 2.) INSTALL REFLECTOR DEVICE EVERY 30 FT (OR CLOSEST POST)
- 3.) PAYMENT SHALL BE INCIDENTAL TO CONTRACT ITEM 525.22

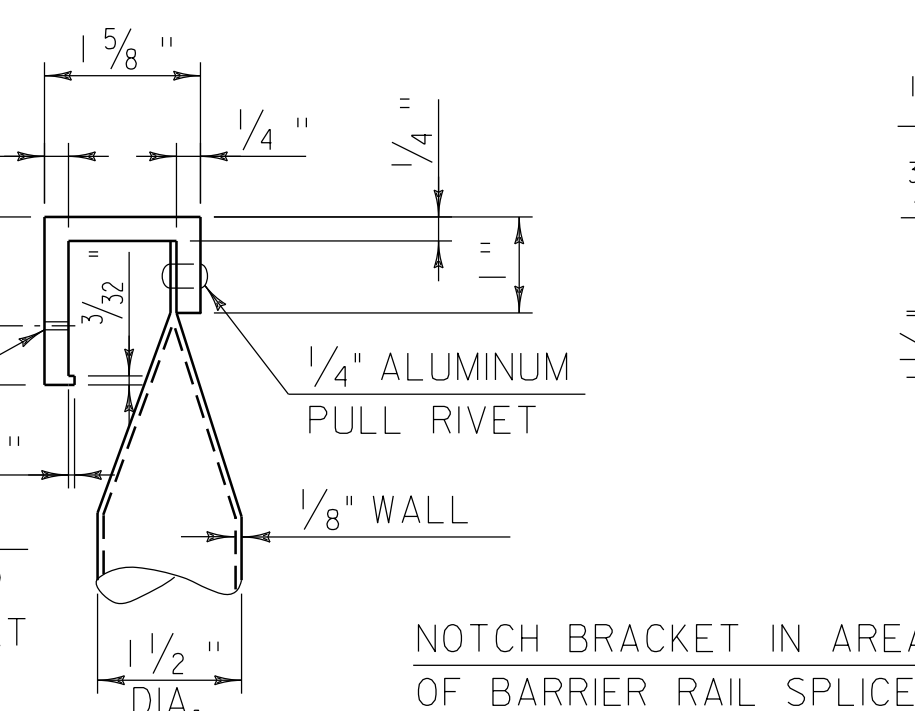


FRONT ELEVATION OF THREE RAIL WITH SPINDLES

NOTE: RAIL POSTS ARE TO BE SET NORMAL TO GRADE UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS.

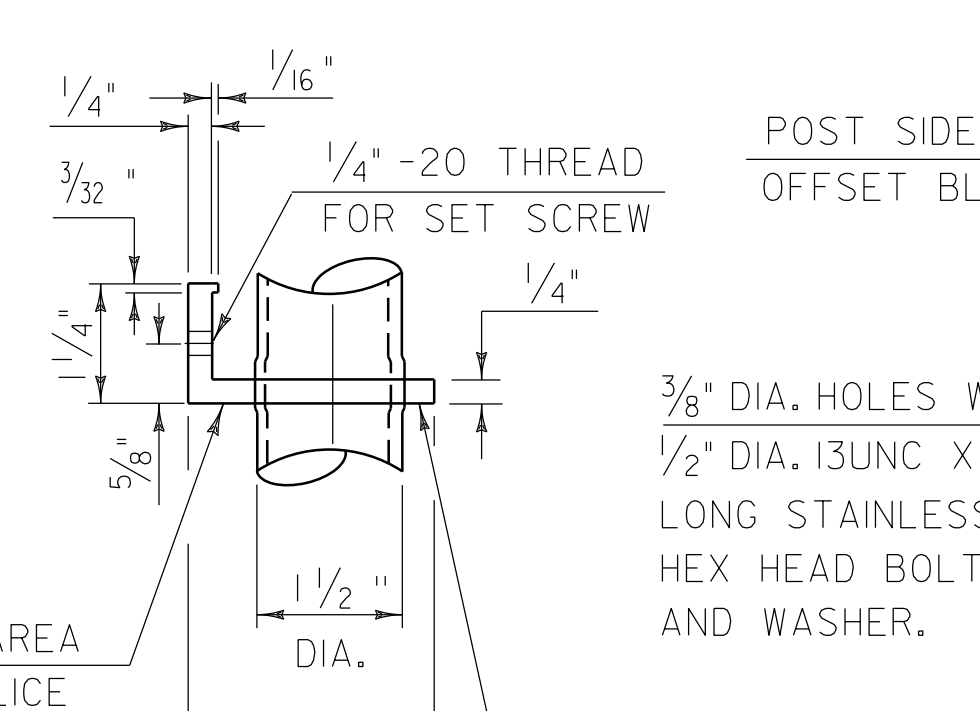


DELINEATION DEVICE DETAILS



DETAIL A

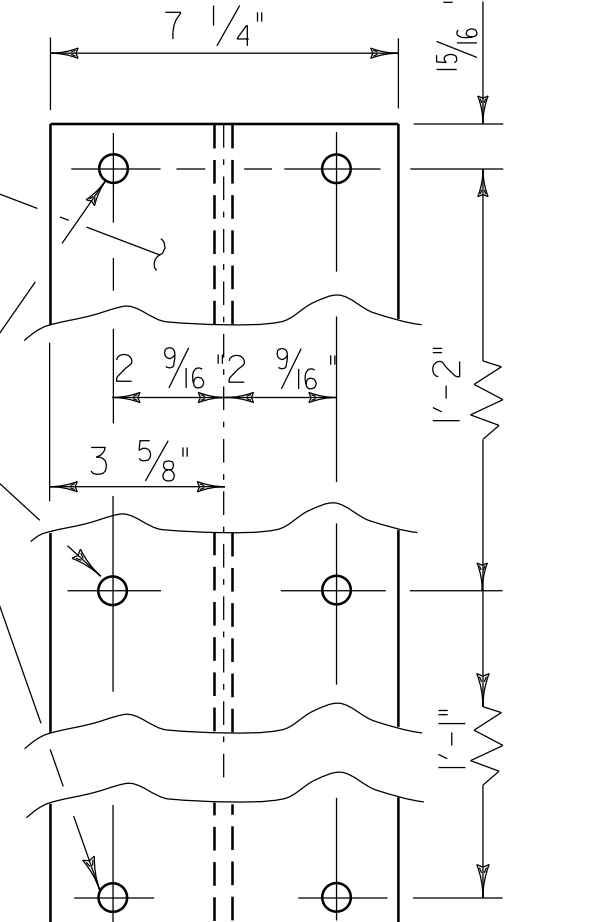
NOTCH BRACKET IN AREA OF BARRIER RAIL SPLICE TO PROVIDE CLEARANCE FOR BOLT HEADS USED IN SPLICE (BRACKET TO BE NOTCHED IN FIELD)



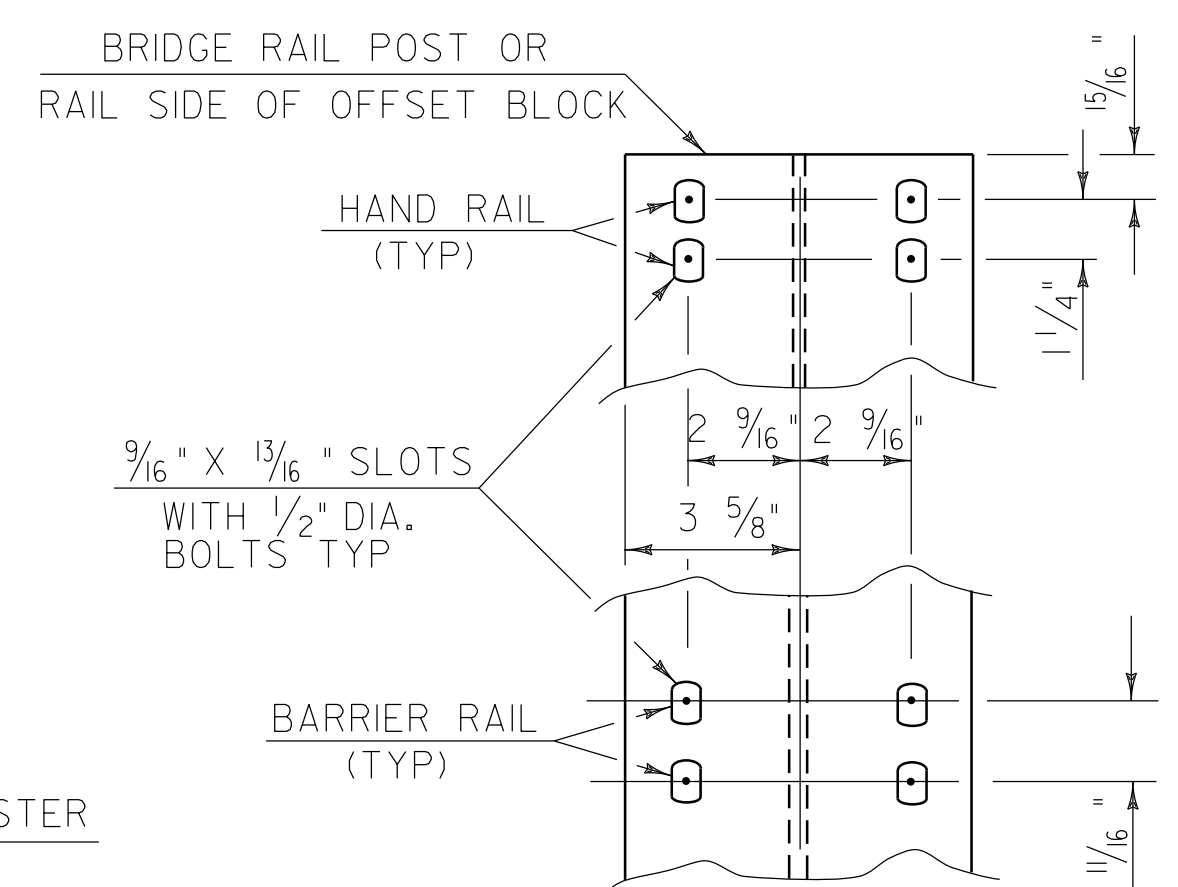
DETAIL B

ALLOWABLE STRESSES:

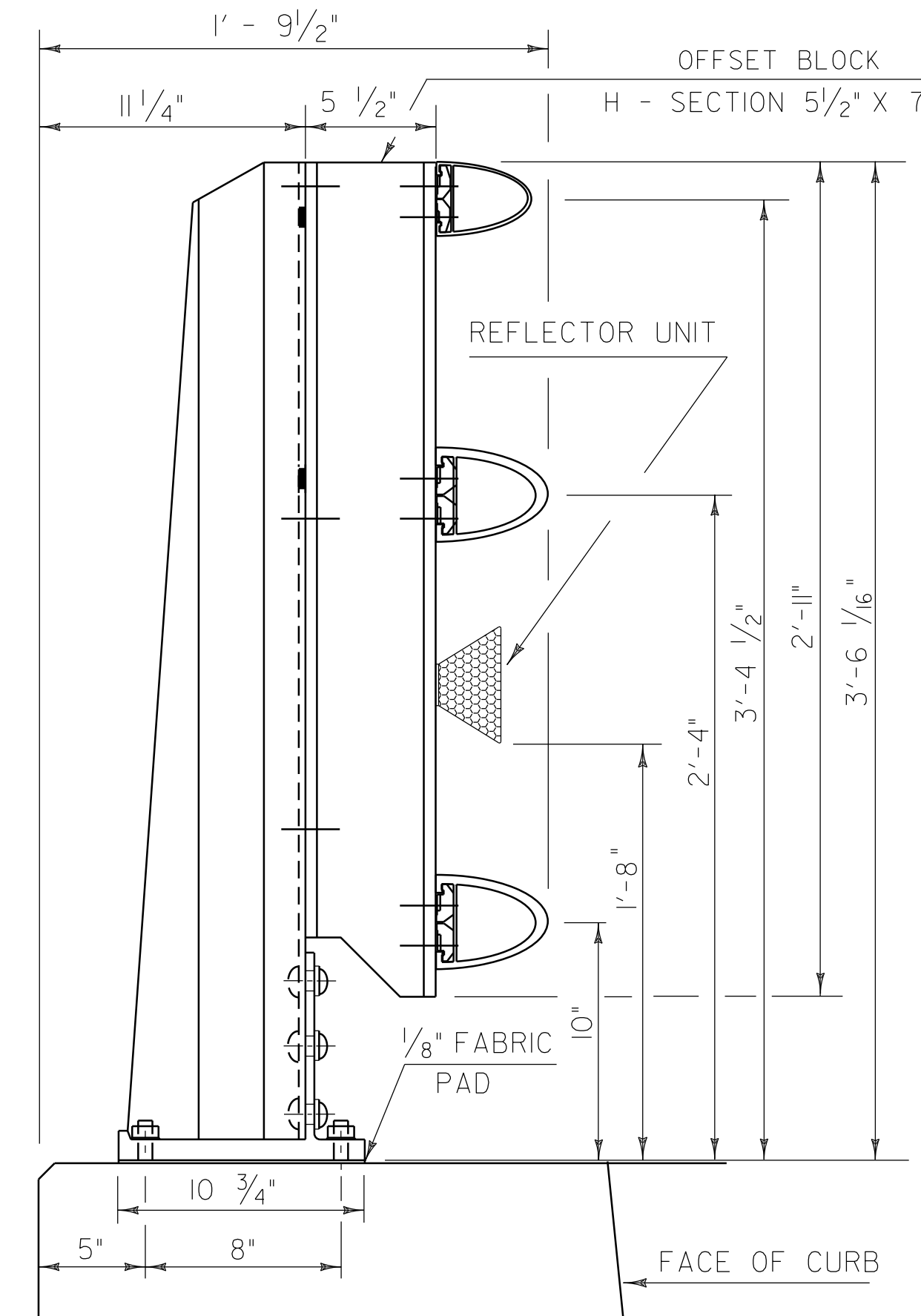
RAILING:	21,000 PSI	TENSION
	22,000 PSI	COMPRESSION
POSTS:	17,000 PSI	TENSION
	19,000 PSI	COMPRESSION



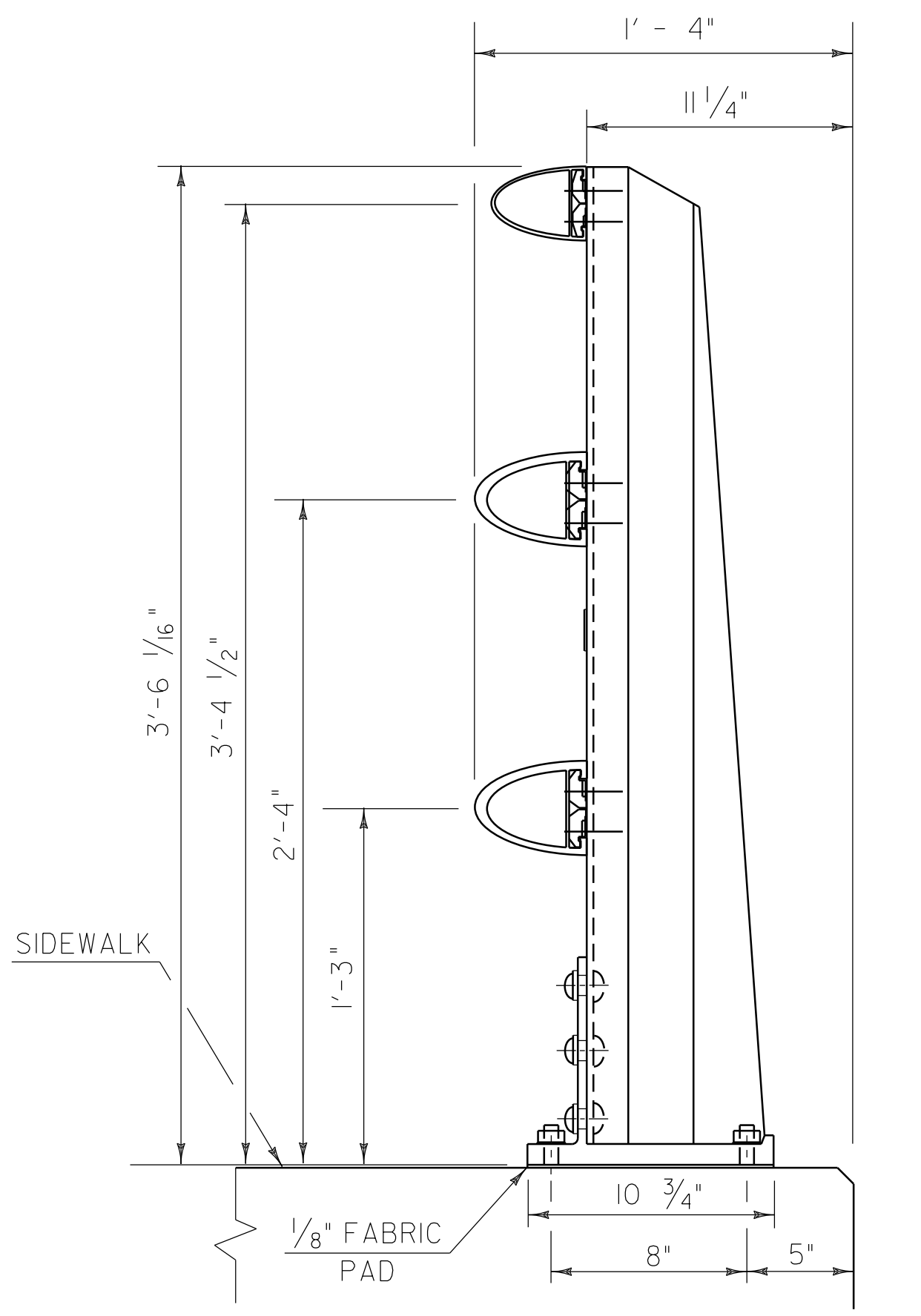
OFFSET BLOCK CONNECTION



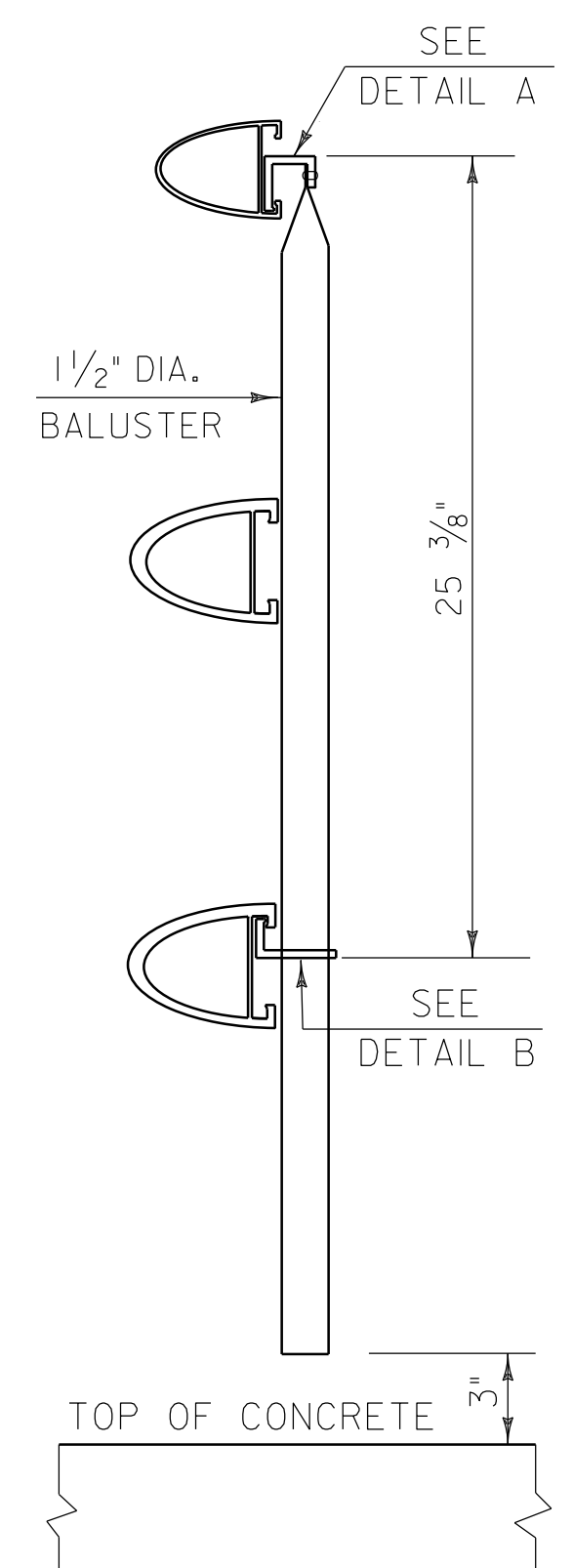
RAIL CONNECTION



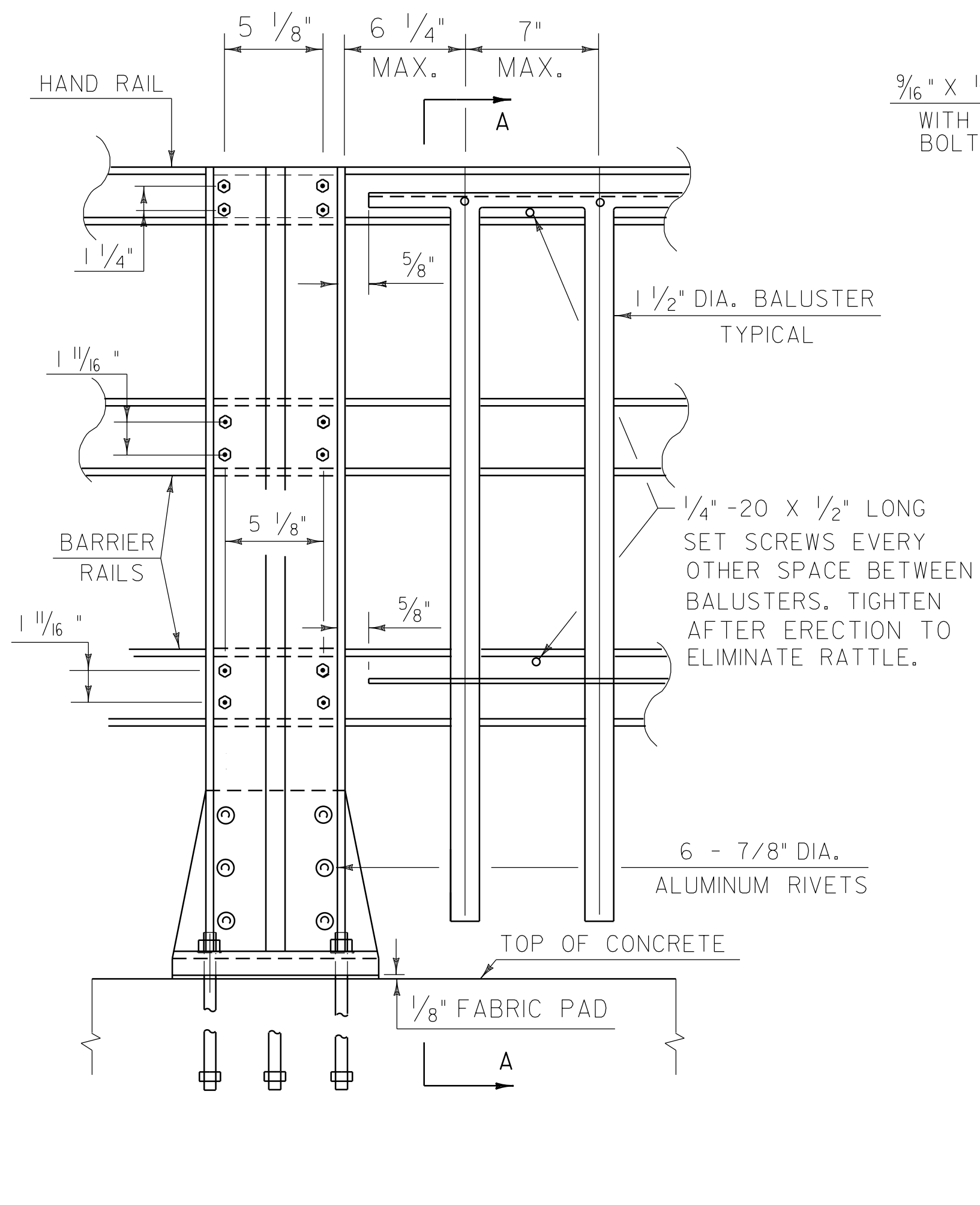
SIDE ELEVATION OF THREE RAIL TO BE USED ON CURB SIDE



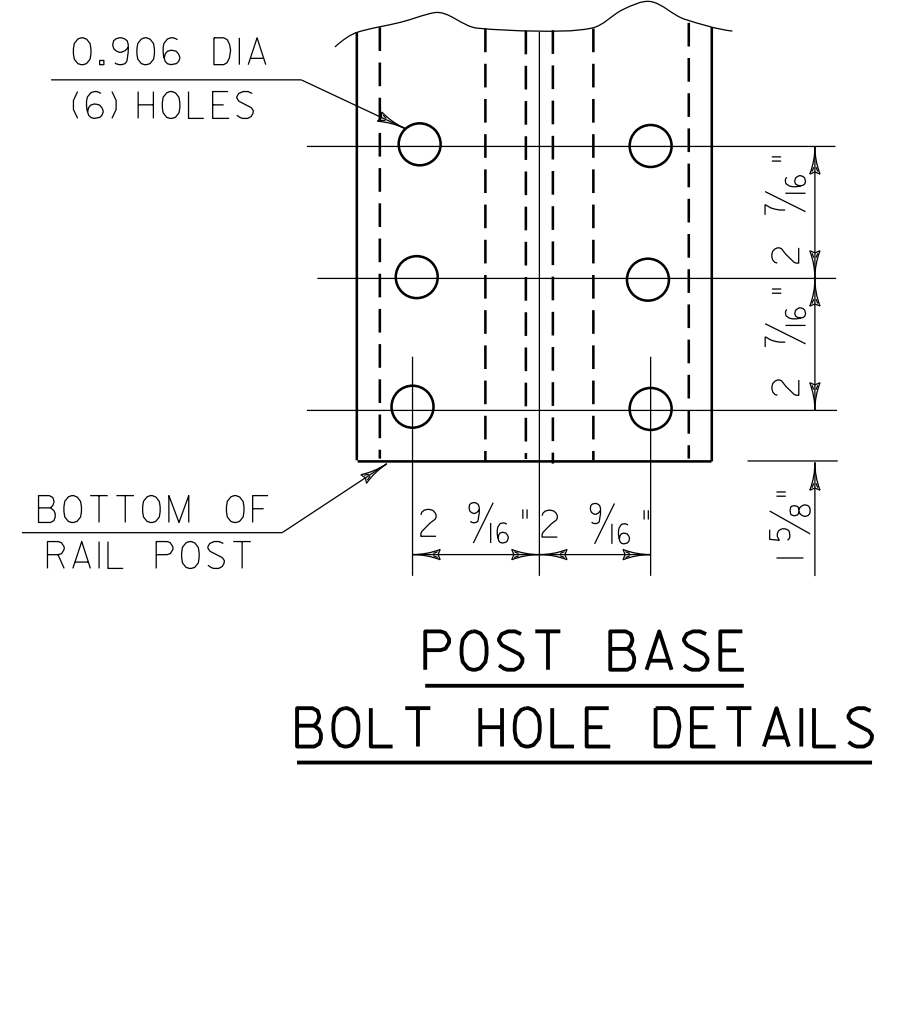
SIDE ELEVATION OF THREE RAIL TO BE USED ON SIDEWALK SIDE



SECTION AA



OUTSIDE ELEVATION OF THREE RAIL POST & SPINDLES



POST BASE BOLT HOLE DETAILS

RAIL POST DETAILS ON SUPERSTRUCTURE

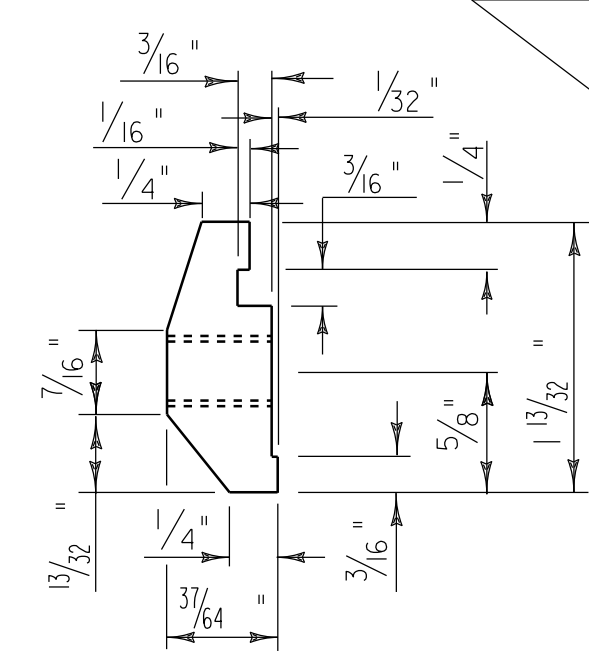
DETAILS OF SPINDLES FOR ALUMINUM RAILING

PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(14)	DRAWN BY:	M. LONGSTREET
FILE NAME:	s78f161rail.dgn	CHECKED BY:	S. SCRIBNER
PROJECT LEADER:	M. EVANS-MONGEON	SHEET	101 OF 148
DESIGNED BY:	S. SCRIBNER	BRIDGE RAILING DETAIL SHEET 1	

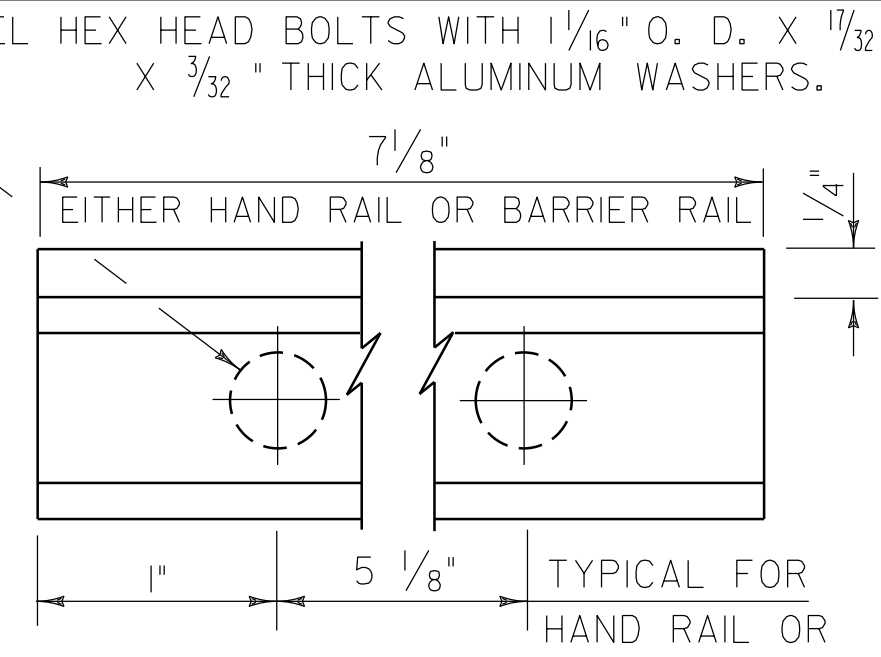
NOTES

- ANCHOR BOLTS, WASHERS AND HEAVY HEX NUTS SHALL CONFORM TO SUBSECTION 714.07
- ALUMINUM POSTS, POST BASES, SPLICE BARS, CONNECTION BARS, RAILS AND BALUSTER FRAMES SHALL CONFORM TO ASTM B221 ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM ALLOWABLE STRESS F, = 35, 000 PSI.
- ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B210 ALLOY 6061-T5 OR 6063-T5.
- ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B26 ALLOY 356-T6.
- THE POST, RAIL, AND OFFSET BLOCK CONNECTION BOLTS SHALL BE EITHER ASTM A193 OR ASTM A320. EITHER ONE SHALL BE CLASS 1, B8 GRADE AISI 304 WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI. NUTS FOR EITHER OF THE ABOVE BOLTS SHALL BE ASTM A194, GRADE 8, STAINLESS STEEL WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI.
- SET SCREWS FOR ATTACHING BALUSTERS TO RAILING SHALL BE ASTM F880, TYPE 303 MATERIAL.
- RIVETS SHALL BE COLD DRIVEN HIGH BUTTON HEAD "CONE POINT", CONFORMING TO ASTM B316 ALLOY 6061-T6.
- THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE ASTM A36 STRUCTURAL STEEL.
- WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10 USING THE GMAW-INERT GAS PROCESS AND AWS ER 5356 ELECTRODE WIRE.
- UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS (RODS) SHALL BE CAST INTO THE CONCRETE AS DETAILED. FULLY THREADED ROD SHALL NOT BE SUBSTITUTED IN PLACE OF ANCHOR BOLT (RODS).
- WHENEVER FEASIBLE BARRIER RAIL AND HAND RAIL SECTIONS, SHALL BE FULL LENGTH SECTIONS (40'+) AND WHEN POSSIBLE SHALL BE ATTACHED TO THREE POSTS. RAILS SHALL BE SPLICED AT EACH DECK JOINT AND INTERMITTENTLY AS REQUIRED. SPLICES SHALL OCCUR WITHIN THE SAME PANEL.
- ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
- THE CONCRETE CONTACT SURFACE AT THE POST BASE SHALL BE BUSH HAMMERED AND/OR SHIMMED AS REQUIRED FOR PROPER POST ALIGNMENT. POST HEIGHT ADJUSTMENTS LESS THAN 1/4" SHALL BE WITH 1/16" AND 1/8" SHIMS. CORRECTIONS EXCEEDING 1/4" SHALL BE WITH EPOXY MORTAR CONFORMING WITH SUBSECTION 719.02. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR EPOXY MORTAR ARE INCIDENTAL TO THE UNIT PRICE BID FOR THE RAILING.
- SHIMS AND 1/8" FABRIC BEARING PADS SHALL BE 10 3/4" SQUARE WITH SLOTTED HOLES SIZED AND LOCATED THE SAME AS THE POST BASE DETAIL. FABRIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.01 OR 731.02, SHIM MATERIAL SHALL BE ASTM B 209 ALLOY 1100-0.
- EXTRUDED SECTIONS ARE DETAILED TO COMPLY WITH CURRENT AASHTO-AGC-ARTBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
- ALUMINUM WASHERS SHALL BE ASTM B209 ALLOY ACLAD 2024-T4.

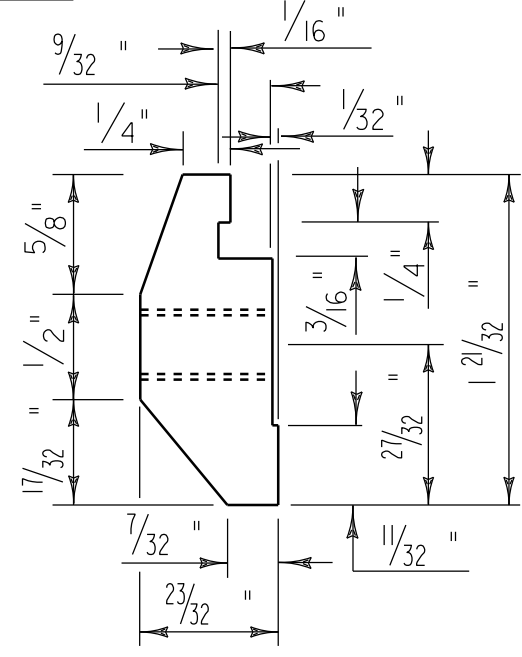
(2) 1/2" - 13 UNC THREADED HOLES FOR (2) 1/2" - 13 UNC X 1" STAINLESS STEEL HEX HEAD BOLTS WITH 1 1/16" O. D. X 1 1/32" L. D. X 3/32" THICK ALUMINUM WASHERS.



**POST CONNECTION
HAND RAIL SECTION**

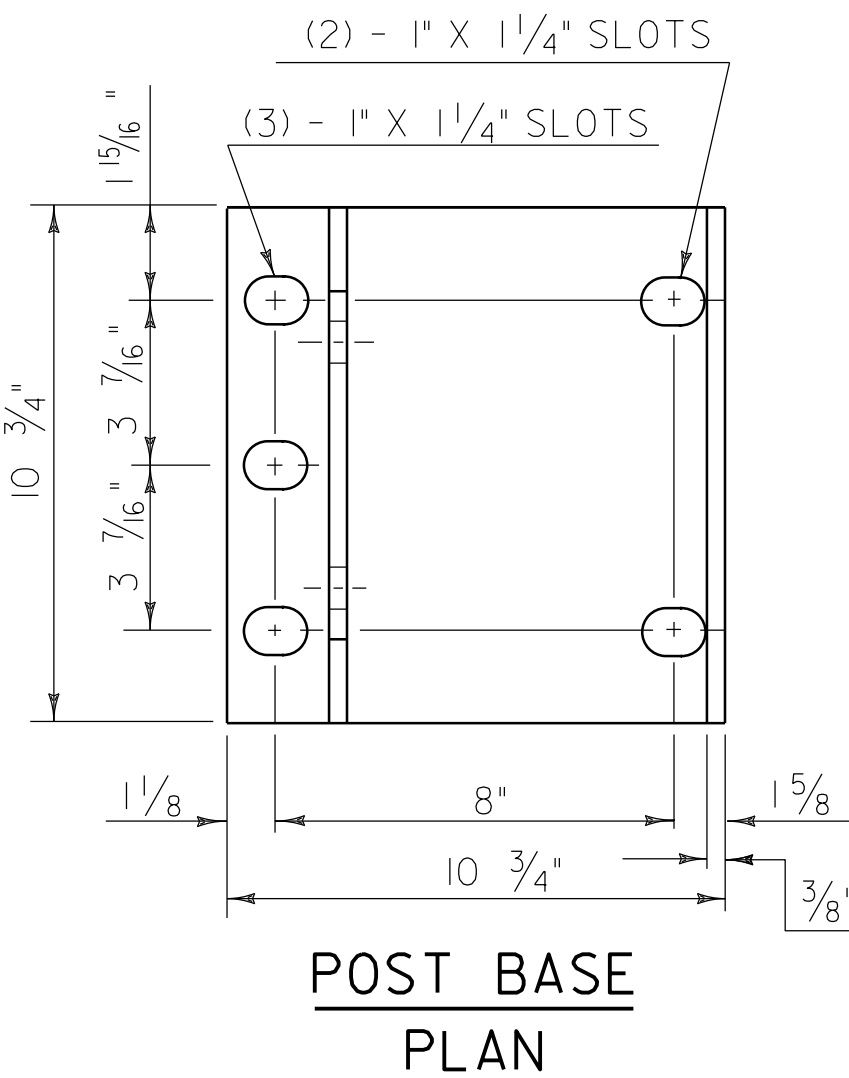
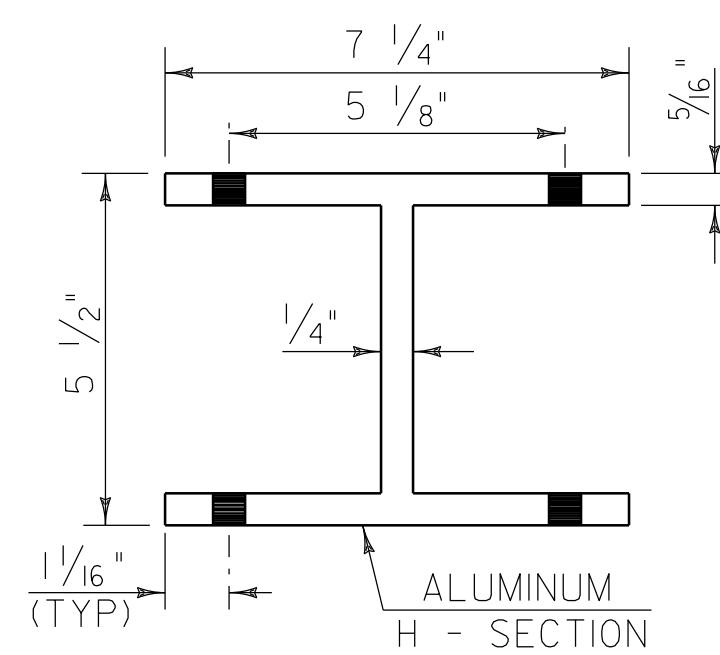


**POST CONNECTION
ELEVATION**

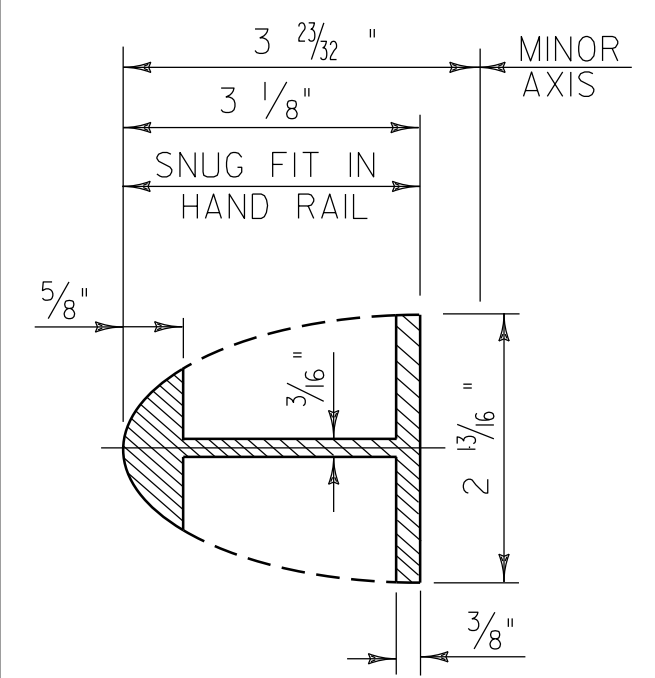


**POST CONNECTION
BARRIER RAIL SECTION**

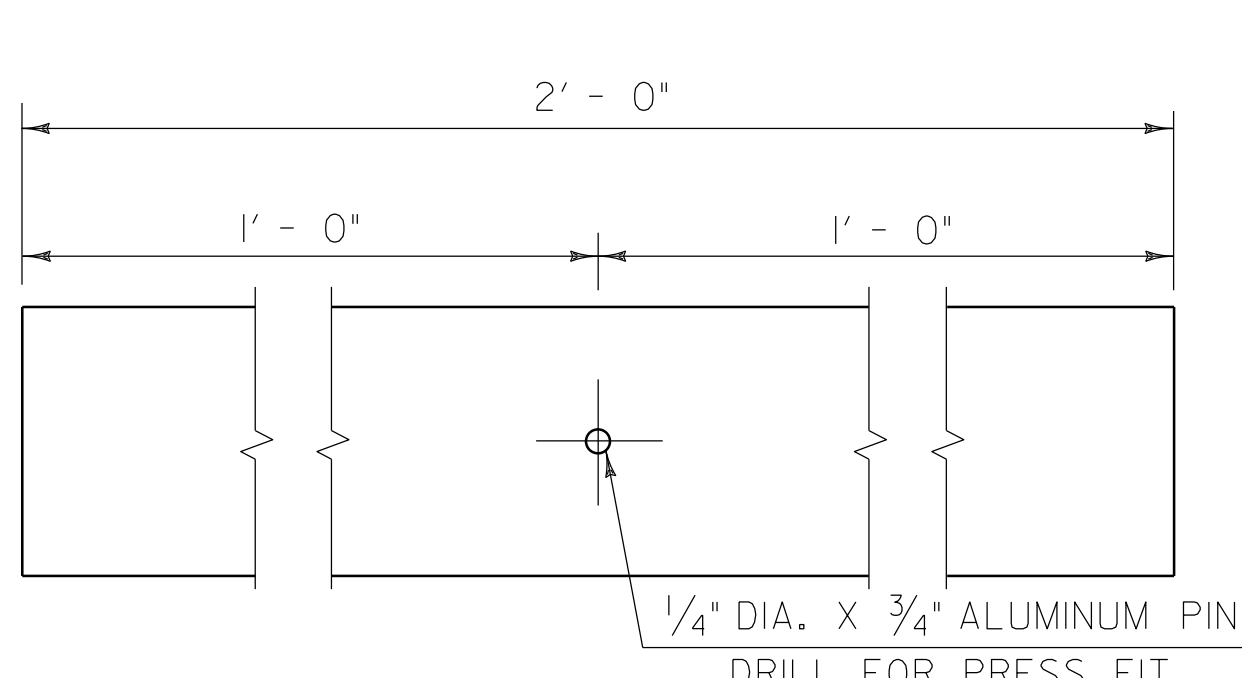
**PLAN VIEW OF OFFSET
BLOCK (TO BE USED ON
SUPERSTRUCTURE
ON CURB SIDE)**



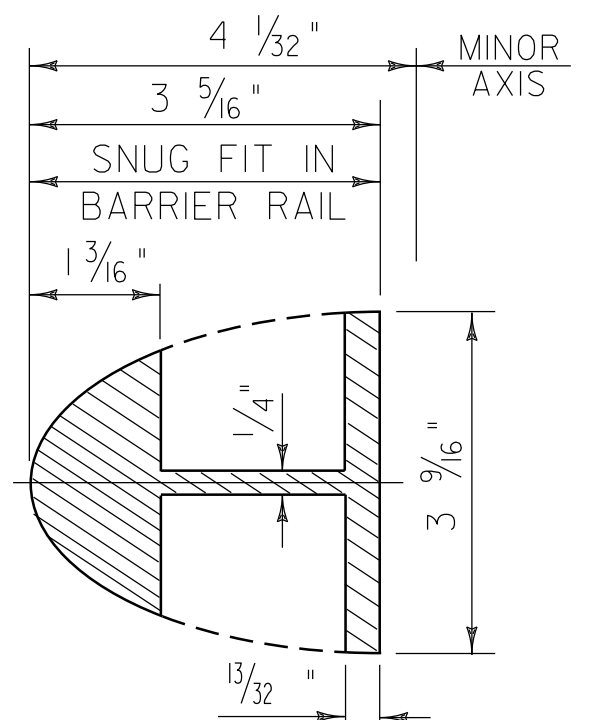
**POST BASE
PLAN**



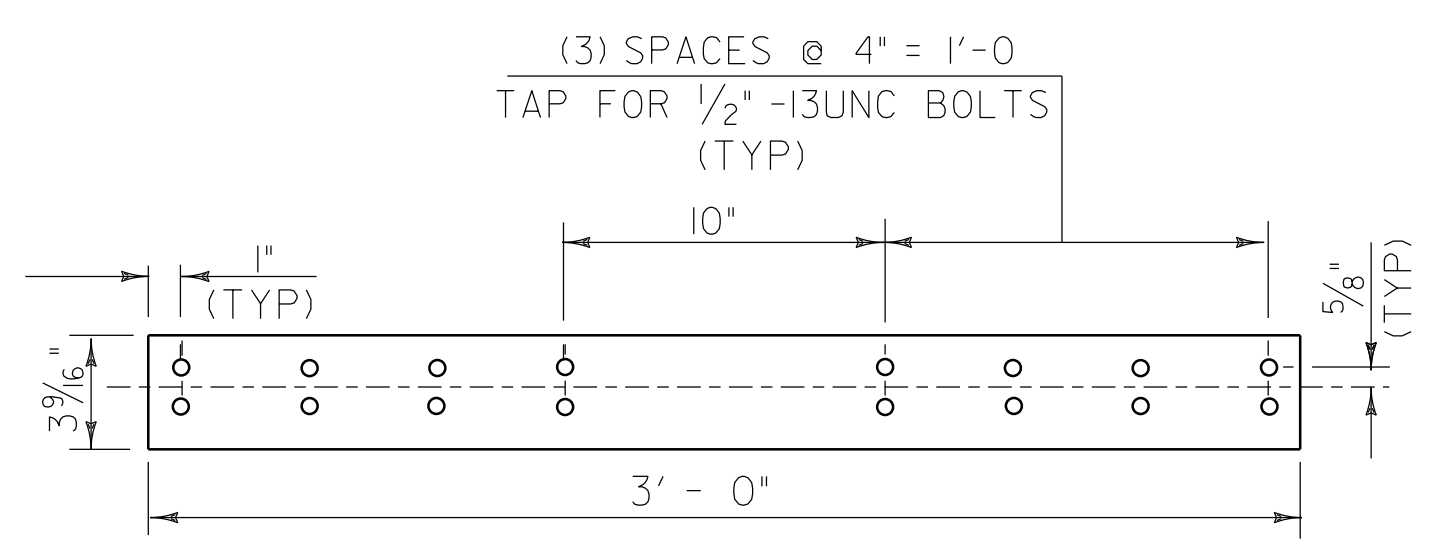
**HAND RAIL
SPLICE SECTION**



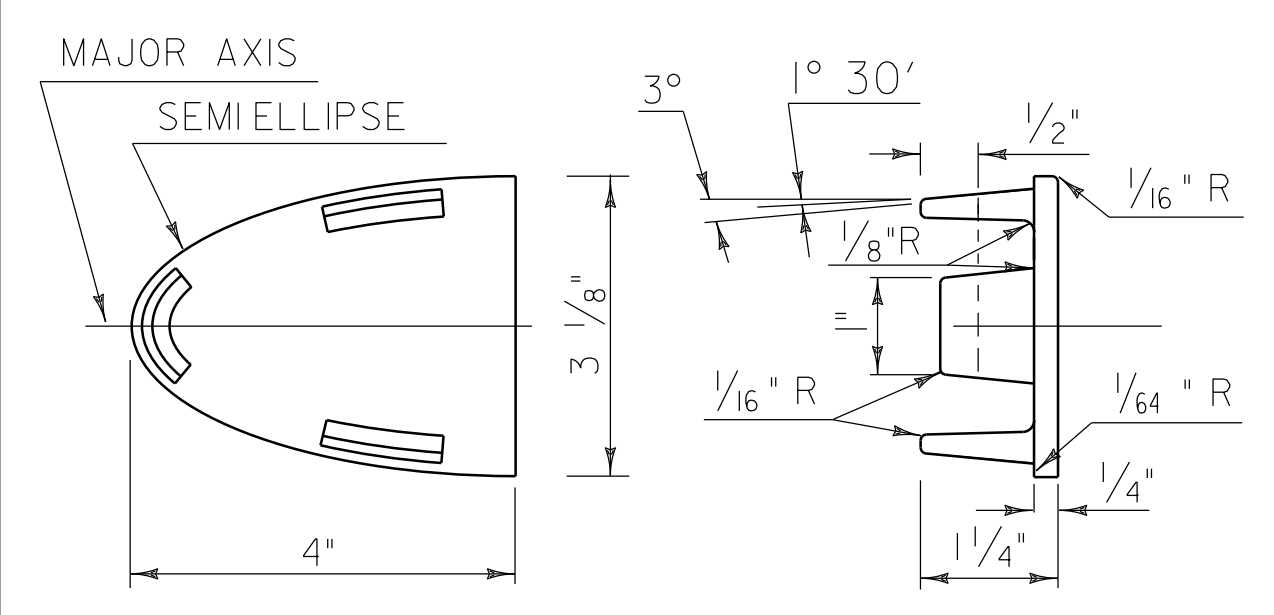
**ELEVATION OF
HAND RAIL SPLICE BAR**



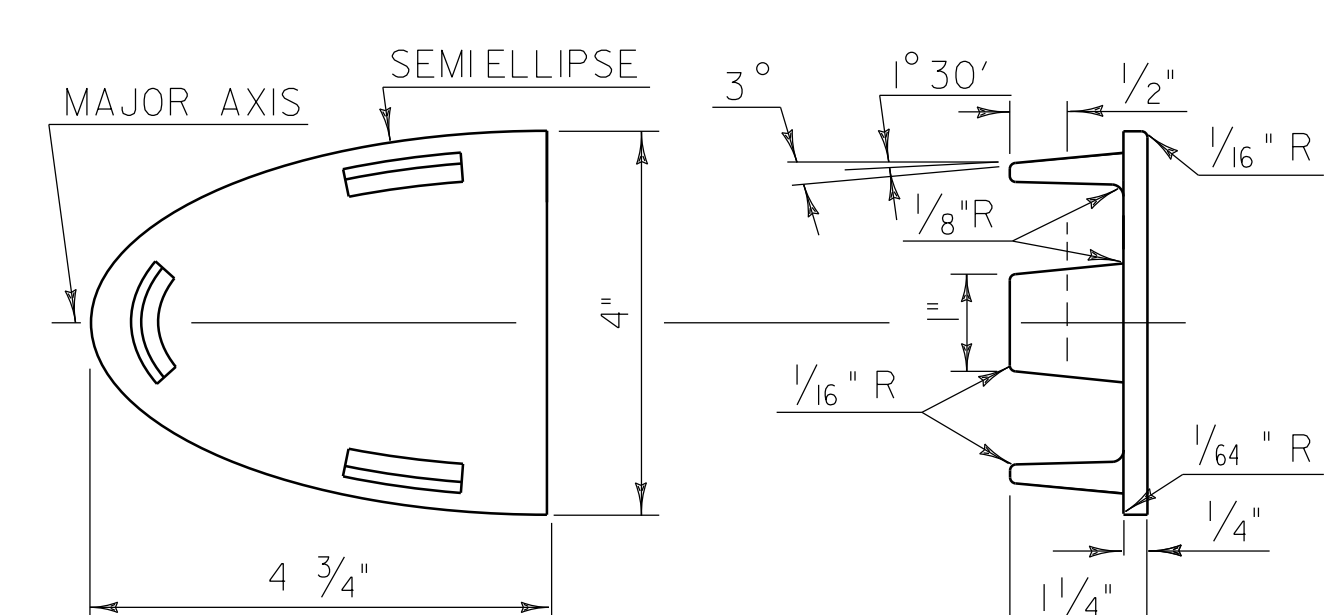
**BARRIER RAIL
SPLICE SECTION**



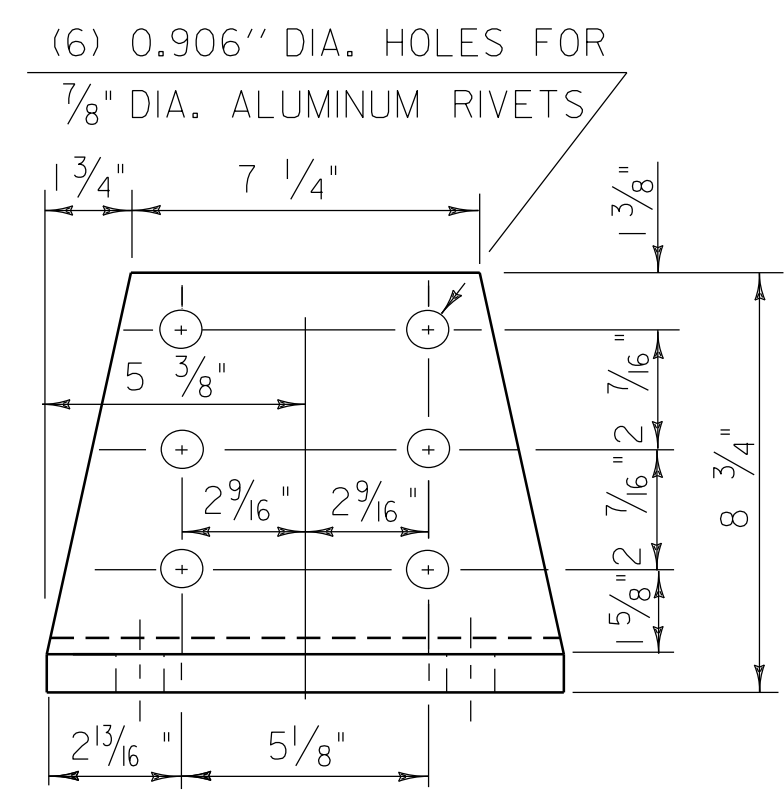
**ELEVATION OF STD. BARRIER RAIL
SPLICE BAR (FROM BACK)**



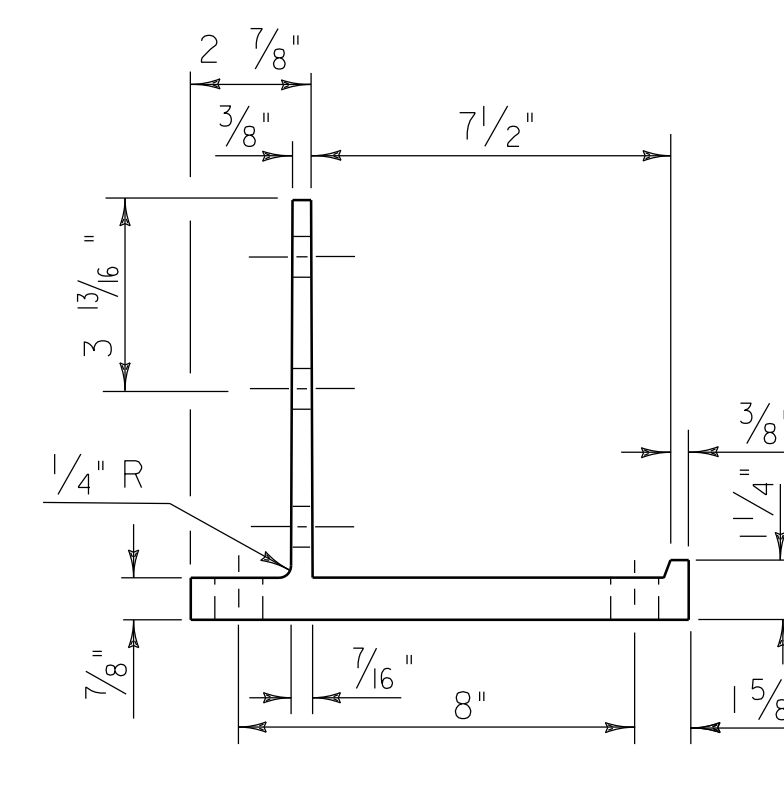
HAND RAIL END CAP



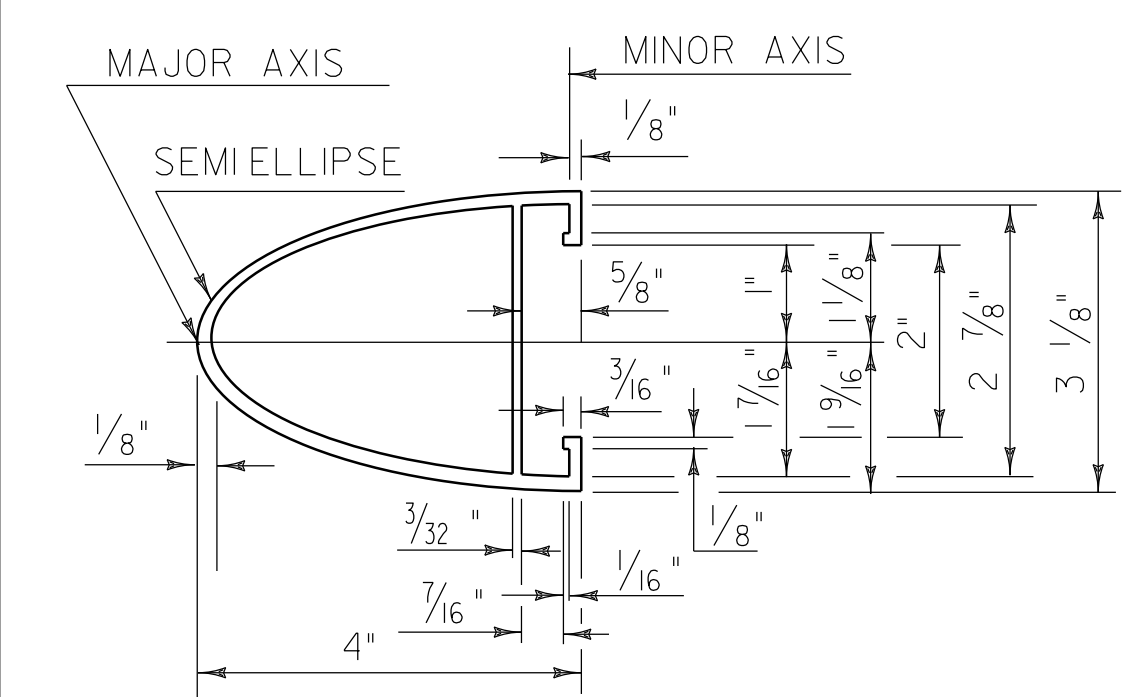
BARRIER RAIL END CAP



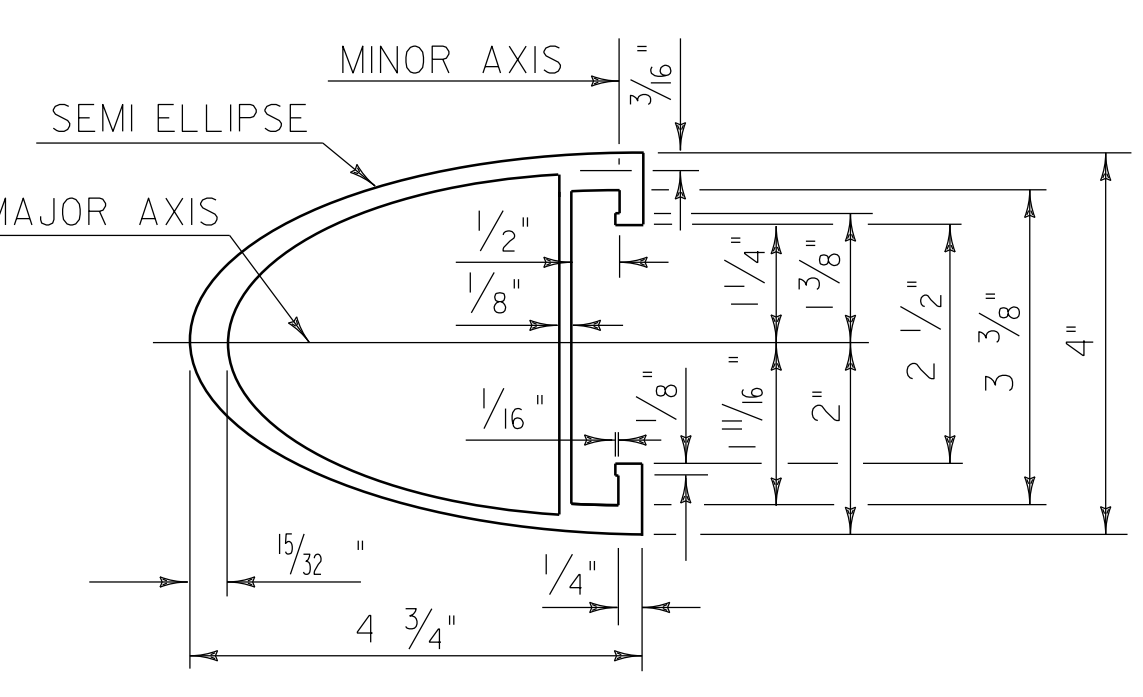
**POST BASE
FRONT ELEVATION**



**POST BASE
SECTION**

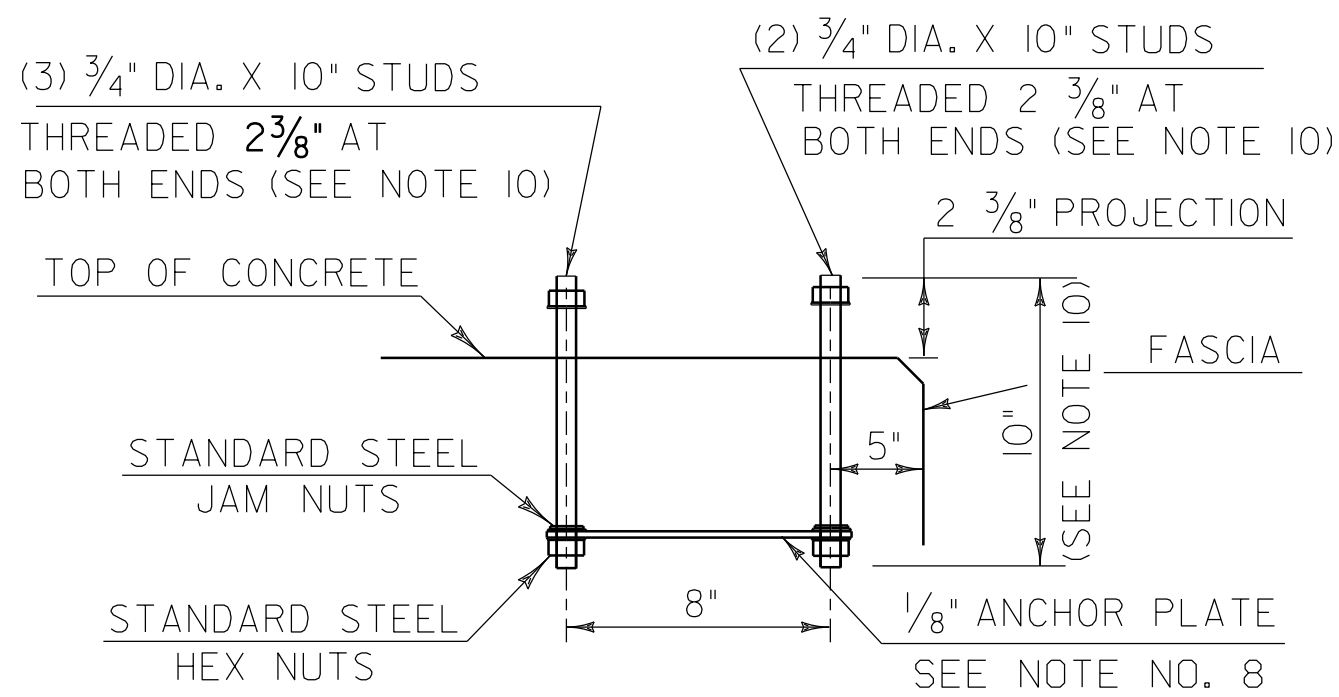


HAND RAIL SECTION

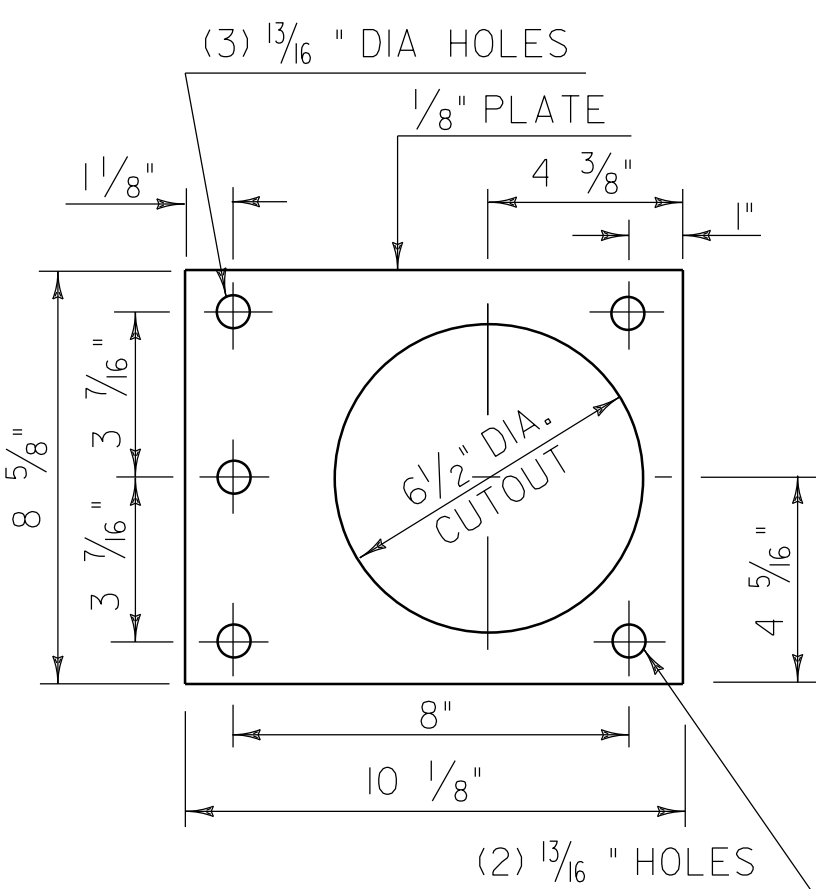


BARRIER RAIL SECTION

SEE BRIDGE RAILING DETAIL SHEET 3 & 4 FOR ELEVATION OF BARRIER RAIL SPLICE BAR

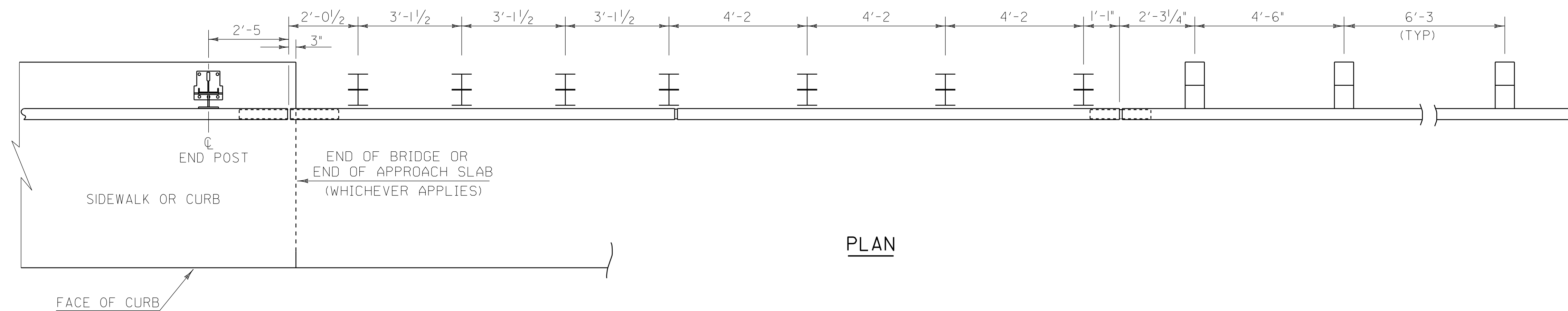


POST ANCHOR ASSEMBLY

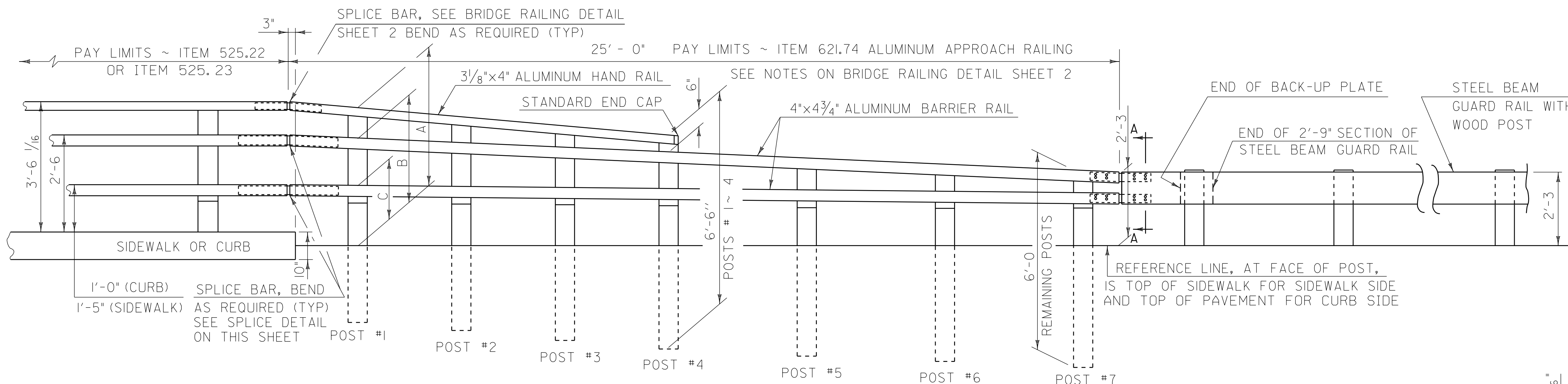


ANCHOR PLATE

PROJECT NAME:	BETHEL	PLOT DATE:	20-MAY-2011
PROJECT NUMBER:	BRF 022-1(I14)	DRAWN BY:	M. LONGSTREET
FILE NAME:	s78f16brail.dgn	DESIGNED BY:	S. SCRIBNER
PROJECT LEADER:	M. EVANS-MONGEON	CHECKED BY:	S. SCRIBNER
BRIDGE RAILING DETAIL SHEET 2		SHEET	102 OF 148

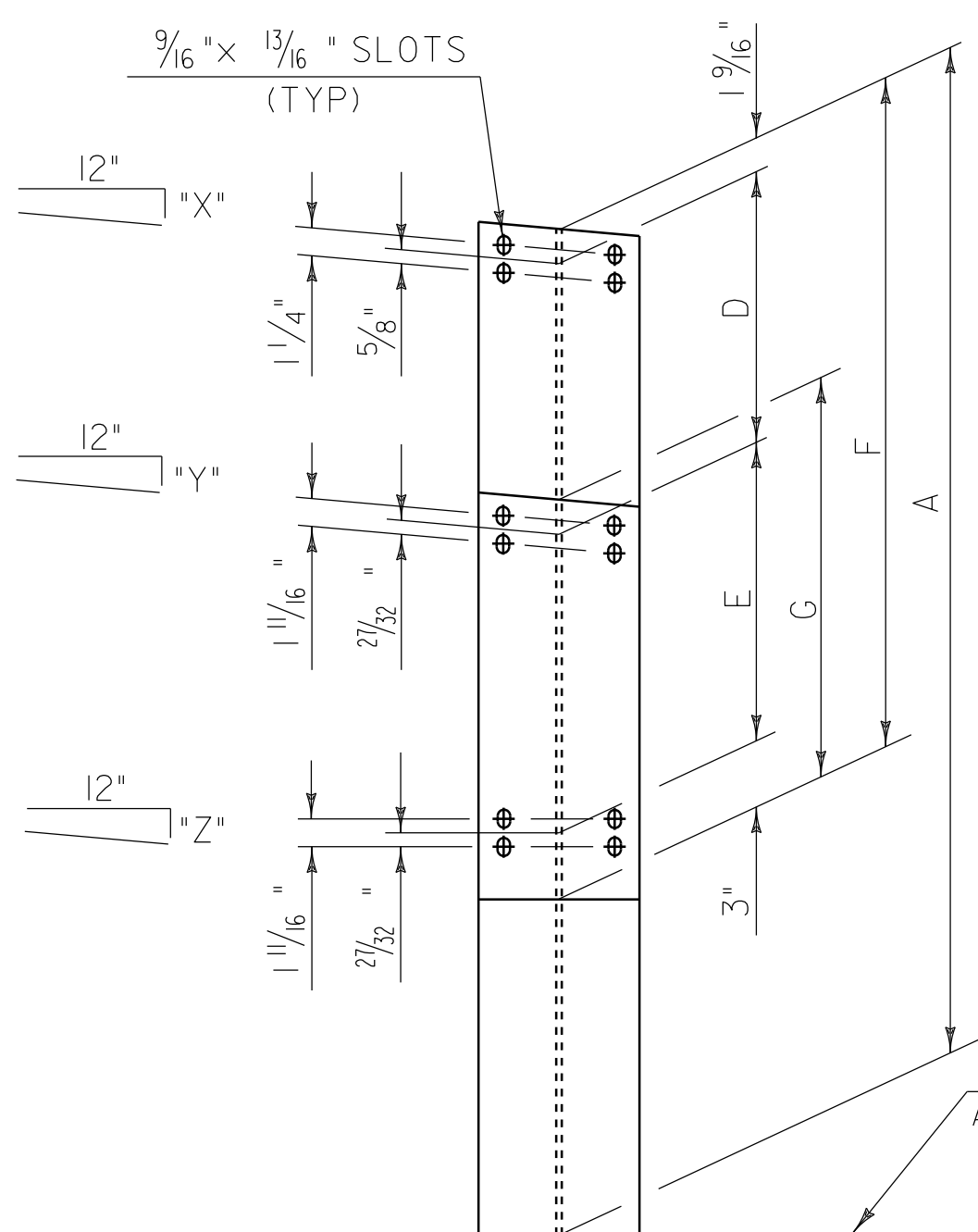


PLAN



ELEVATION

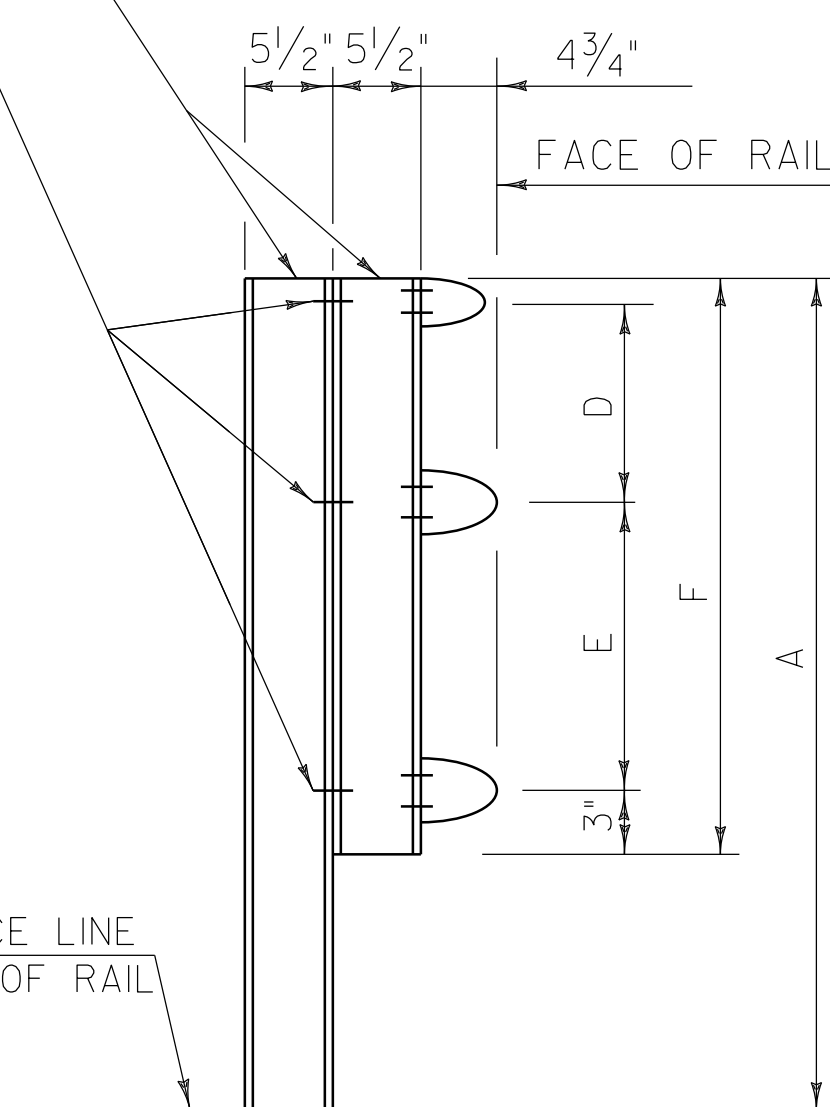
	SIDEWALK SIDE	CURB SIDE
"X"	5/8"	1/16"
"Y"	1/8"	1/2"
"Z"	1/16"	1/8"



FRONT ELEVATION

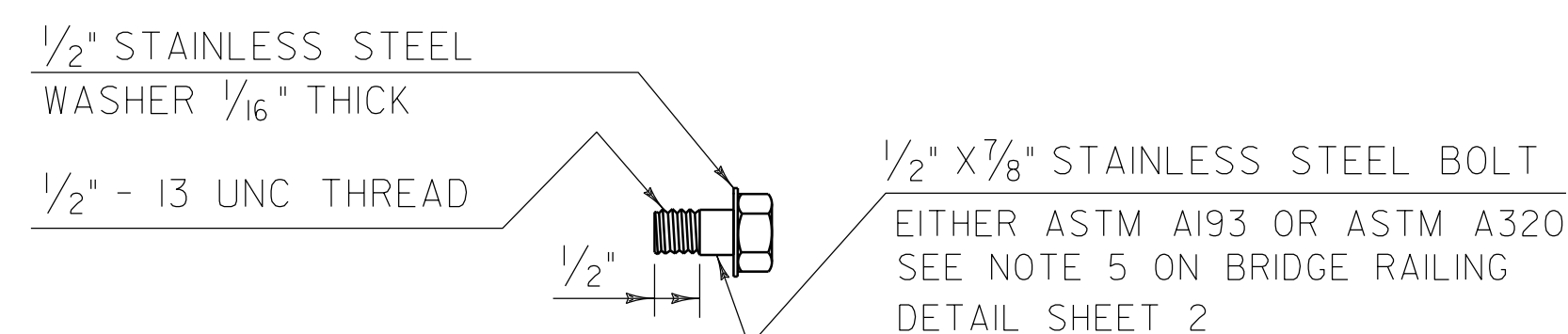
ATTACH OFFSET BLOCK TO POST WITH 1/2"-13 UNC X 1 1/2" LONG STAINLESS STEEL HEX HEAD BOLTS, NUTS AND WASHERS. 6 BOLTS PER POST, POST 1 THRU 4; 4 BOLTS PER POST, POST 5 THRU 7.

ALUMINUM APPROACH RAIL POST AND OFFSET BLOCK H - SECTION 5 1/2" X 7 1/4"

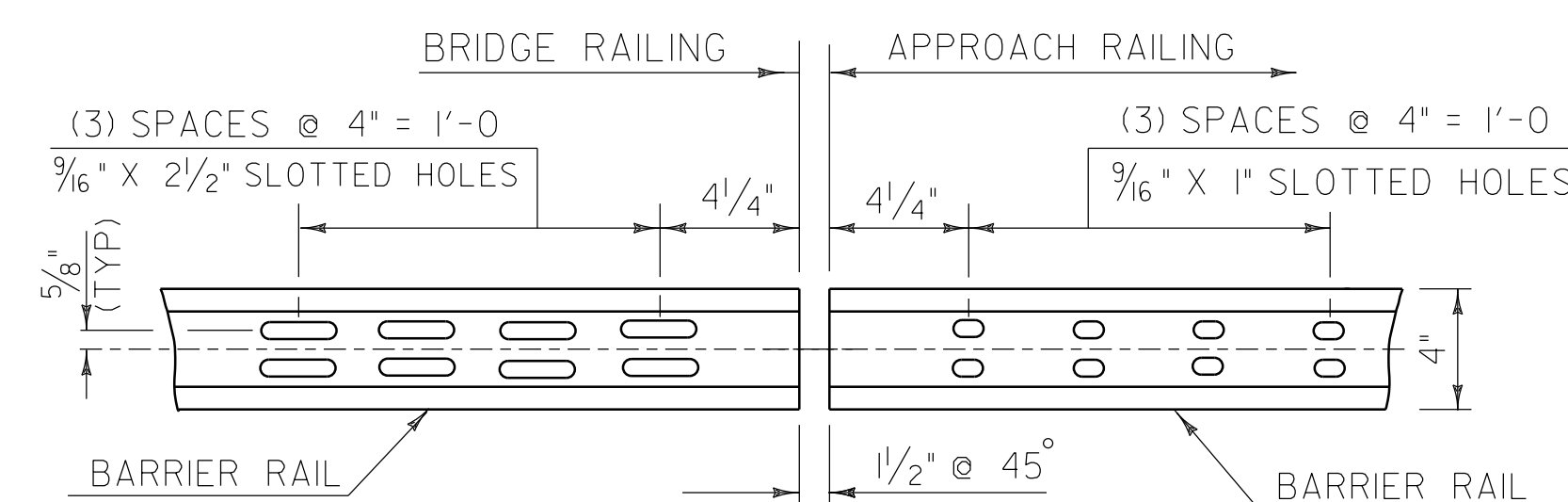


SIDE ELEVATION

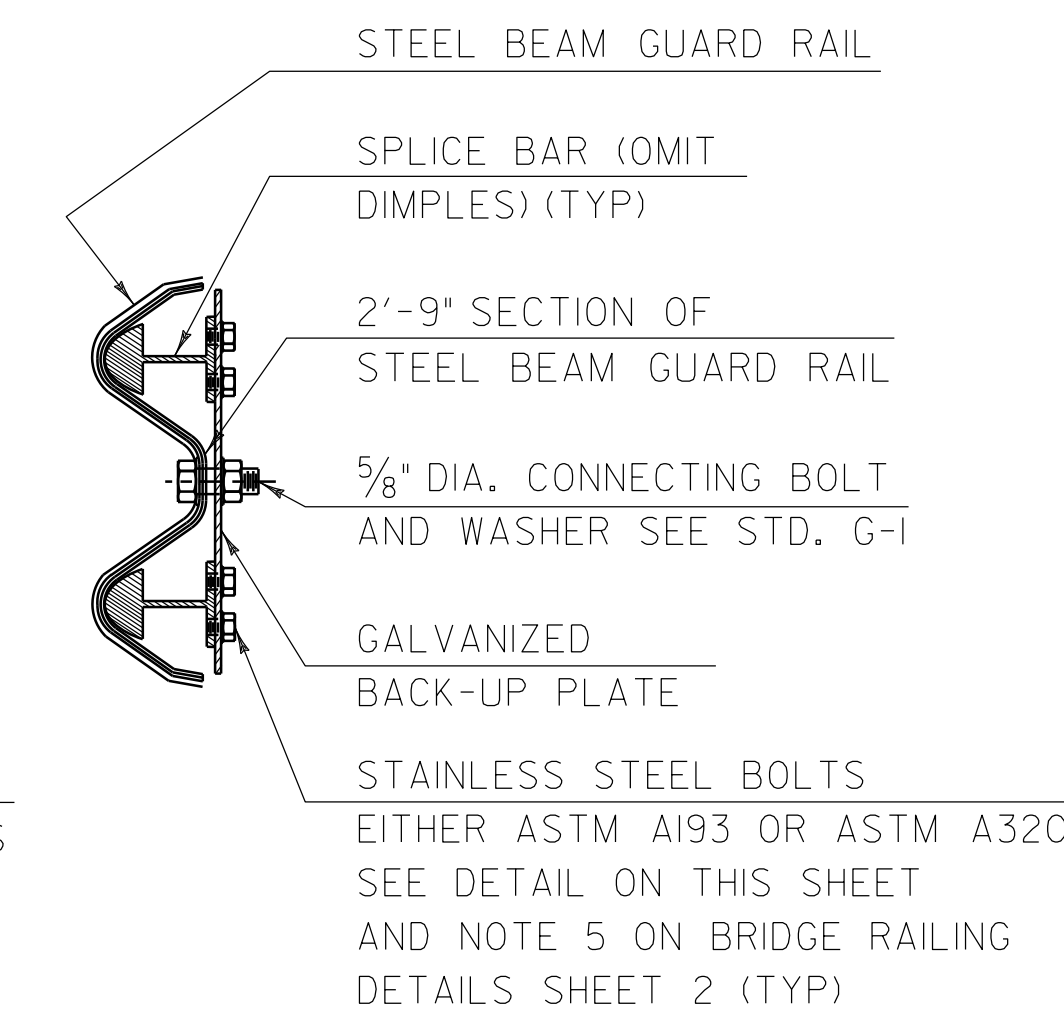
APPROACH RAIL DETAILS



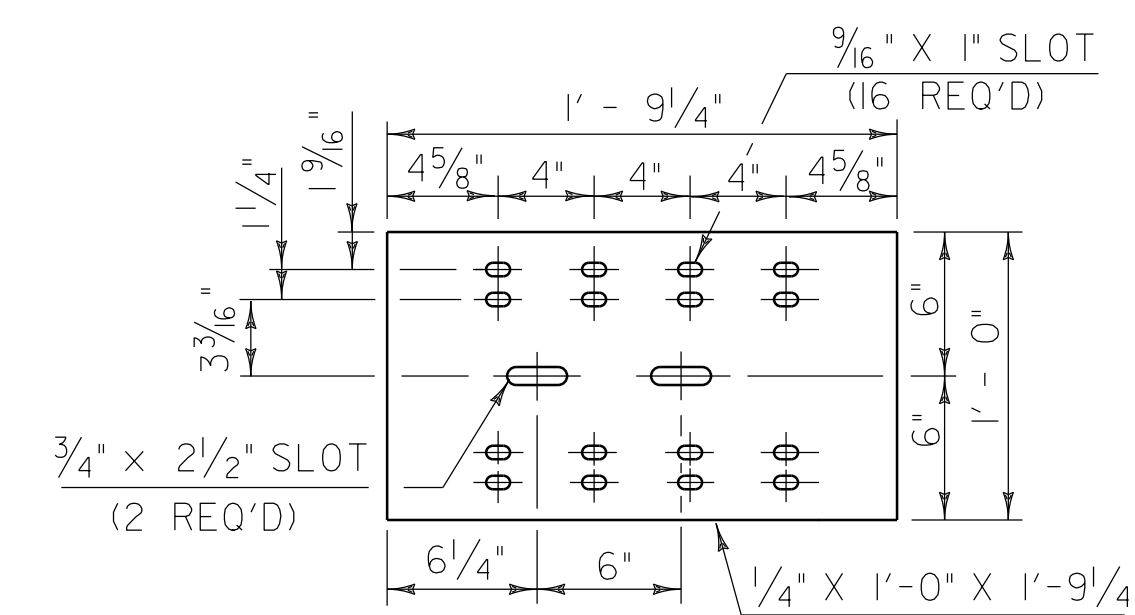
STAINLESS STEEL BOLT DETAILS



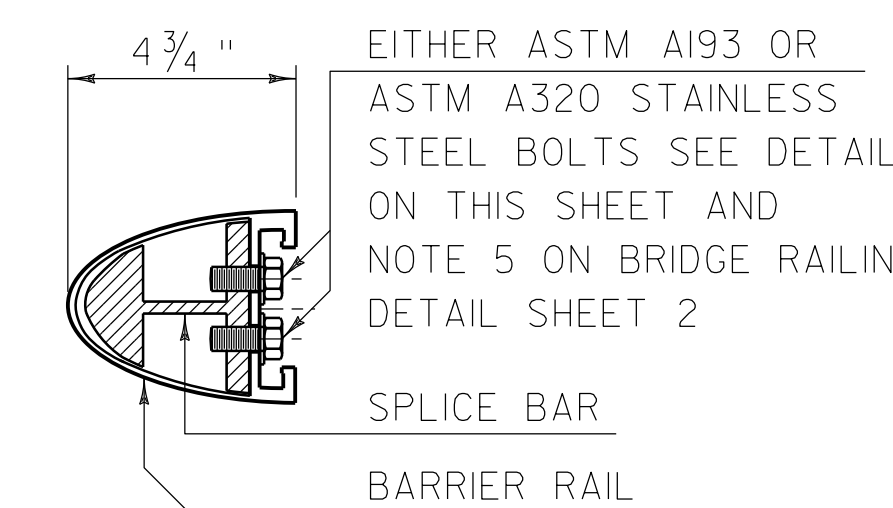
ELEVATION OF BARRIER RAIL (FROM BACK)



SECTION A-A



BACK-UP PLATE DETAILS



TYPICAL SECTION THROUGH BARRIER RAIL SPLICE

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f16lbrail.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
BRIDGE RAILING DETAIL SHEET 3

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 103 OF 148

**ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A CURB CONDITION**

POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	4'-1 ⁵ / ₁₆ "	3'-2 ⁵ / ₁₆ "	1'-9 ¹¹ / ₁₆ "	1 ⁷ / ₁₆ "	1'-5 ¹ / ₄ "	2'-9 ³ / ₁₆ "	1'-5 ¹ / ₁₆ "
2	3'-10 ⁵ / ₈ "	3'-1 ³ / ₁₆ "	1'-9 ¹ / ₄ "	9 ³ / ₄ "	1'-4 ¹ / ₁₆ "	2'-6 ³ / ₈ "	1'-3 ¹ / ₂ "
3	3'-7 ³ / ₈ "	2'-11 ¹¹ / ₁₆ "	1'-8 ¹³ / ₁₆ "	8 ¹ / ₈ "	1'-2 ⁷ / ₈ "	2'-3 ¹ / ₂ "	1'-1 ⁵ / ₁₆ "
4	3'-4 ¹ / ₁₆ "	2'-10 ¹ / ₁₆ "	1'-8 ³ / ₈ "	6 ⁷ / ₁₆ "	1'-0 ¹¹ / ₁₆ "	2'-0 ¹¹ / ₁₆ "	-
5	-	2'-7 ⁷ / ₈ "	1'-7 ¹³ / ₁₆ "	-	1'-0 ¹ / ₁₆ "	-	-
6	-	2'-5 ³ / ₄ "	1'-7 ¹ / ₄ "	-	10 ¹ / ₂ "	-	-
7	-	2'-3 ³ / ₁₆ "	1'-6 ⁵ / ₈ "	-	8 ⁵ / ₁₆ "	-	-

ALL REMAINING POSTS ARE TO HAVE THE SAME DIMENSIONS AS POST NO. 7

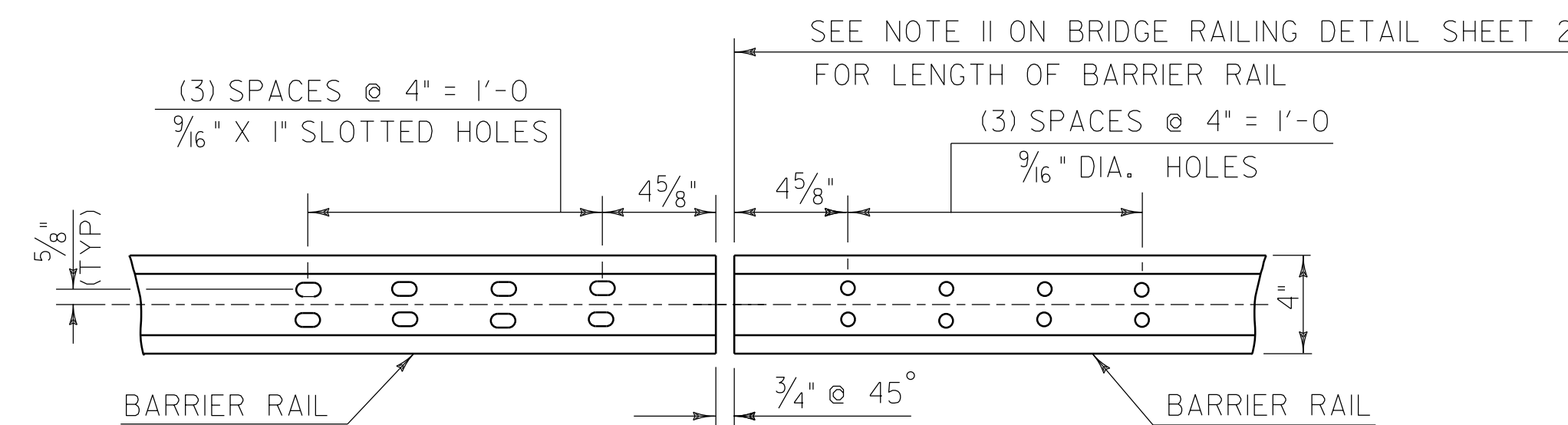
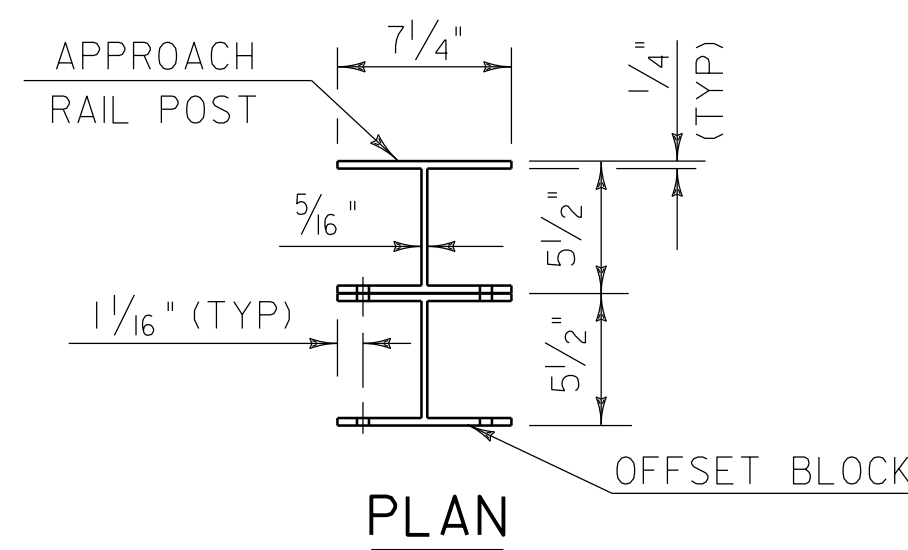
**ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A SIDEWALK CONDITION**

POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	3'-4 ³ / ₄ "	2'-5 ³ / ₄ "	1'-5 ¹ / ₈ "	1 ⁷ / ₁₆ "	1'-0 ⁵ / ₈ "	2'-4 ⁵ / ₈ "	-
2	3'-2 ¹¹ / ₁₆ "	2'-5 ³ / ₈ "	1'-5 ⁵ / ₁₆ "	9 ³ / ₄ "	1'-0 ¹ / ₁₆ "	2'-2 ³ / ₈ "	-
3	3'-0 ¹¹ / ₁₆ "	2'-5"	1'-5 ¹ / ₂ "	8 ¹ / ₈ "	1 ¹ / ₂ "	2'-0 ³ / ₁₆ "	-
4	2'-10 ⁵ / ₈ "	2'-4 ⁵ / ₈ "	1'-5 ¹¹ / ₁₆ "	6 ⁷ / ₁₆ "	10 ⁵ / ₁₆ "	1'-9 ⁵ / ₁₆ "	-
5	-	2'-4 ¹ / ₈ "	1'-5 ⁵ / ₁₆ "	-	10 ³ / ₁₆ "	-	1'-3 ³ / ₁₆ "
6	-	2'-3 ⁵ / ₈ "	1'-6 ³ / ₁₆ "	-	9 ¹ / ₁₆ "	-	1'-2 ⁷ / ₁₆ "
7	-	2'-3 ³ / ₈ "	1'-6 ⁷ / ₈ "	-	8 ¹¹ / ₁₆ "	-	1'-1 ¹ / ₁₆ "

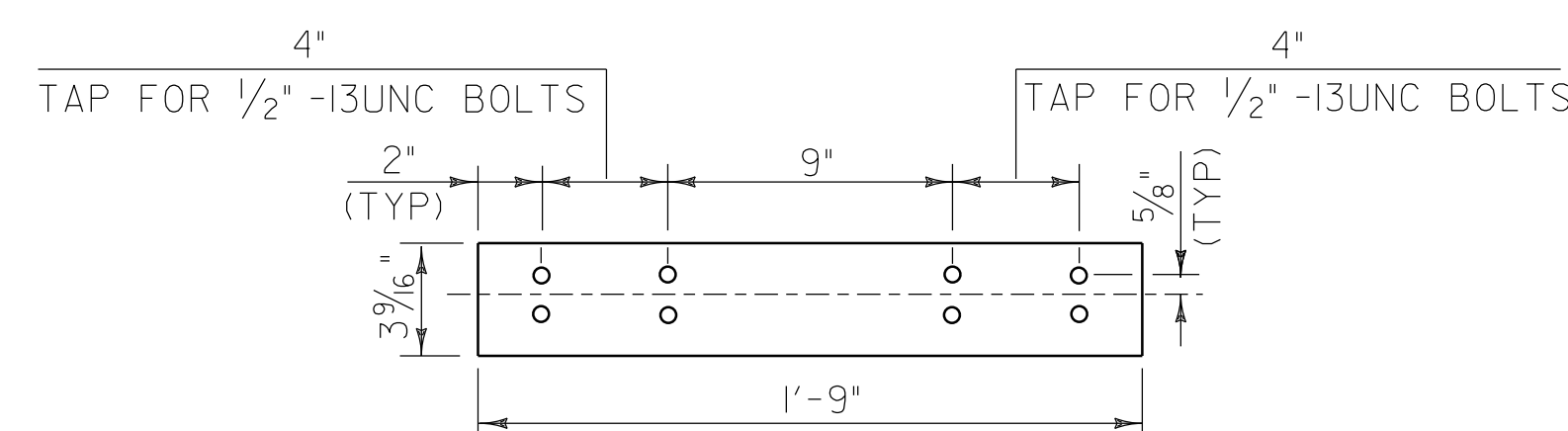
ALL REMAINING POSTS TO HAVE THE SAME DIMENSIONS AS POST NO. 7

NOTES

- POST 1 THROUGH 7 SHALL BE EXTRUDED ALUMINUM.
- ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 36 GALVANIZED AFTER FABRICATION.
- ALL ITEMS NOT OTHERWISE INDICATED SHALL MEET THE SPECIFICATION REQUIREMENTS OF THE STANDARD SHEETS ON WHICH THEY ARE DETAILED.
- SEE STANDARD G-1 FOR STEEL BEAM GUARD RAIL DETAILS. SEE BRIDGE RAILING DETAILS SHEET 1-2 FOR ALUMINUM BRIDGE RAILING DETAILS.
- THE COST OF ALL MATERIALS AND LABOR FOR THE SPLICE BETWEEN THE ALUMINUM APPROACH RAILING AND THE STEEL BEAM GUARD RAIL SHALL BE INCIDENTAL TO ITEM 621.74, ALUMINUM APPROACH RAILING.
- DETAILS ARE SHOWN FOR TRANSITION TO A 3 RAIL ALUMINUM BRIDGE RAILING.
- DIMENSIONS SHOWN ARE FROM A REFERENCE LINE AT THE FACE OF POST FOR A NORMAL CROWNED SECTION. APPROPRIATE CORRECTIONS SHALL BE MADE FOR CROSS SLOPES OTHER THAN A NORMAL SECTION.



**ELEVATION OF BARRIER RAIL (FROM BACK)
AT ALL INTERMEDIATE RAIL SPLICES**



**ELEVATION OF BARRIER RAIL SPLICE BAR
TO BE USED AT TRANSITION BETWEEN
APPROACH RAIL & GUARD RAIL (FROM BACK)**

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 022-1(14)

FILE NAME: s78f16lbrail.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
BRIDGE RAILING DETAIL SHEET 4

PLOT DATE: 20-MAY-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: S. SCRIBNER
SHEET 104 OF 148