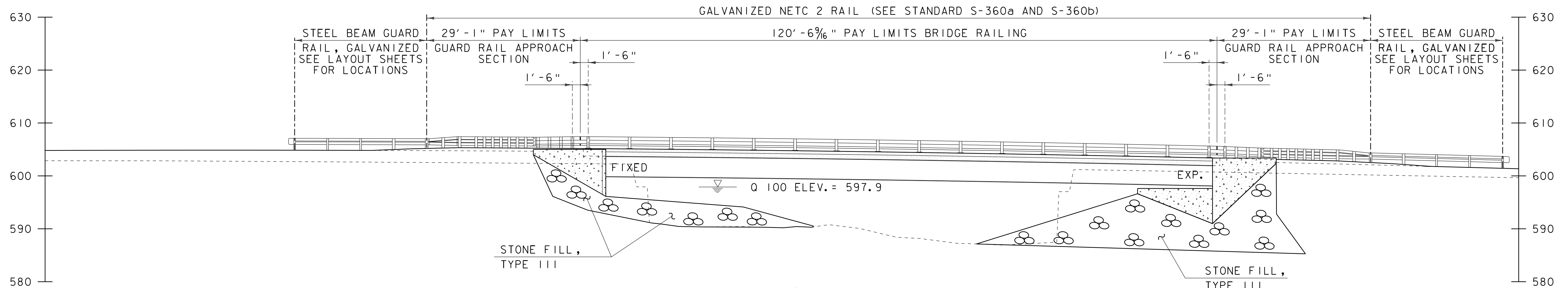


PLAN

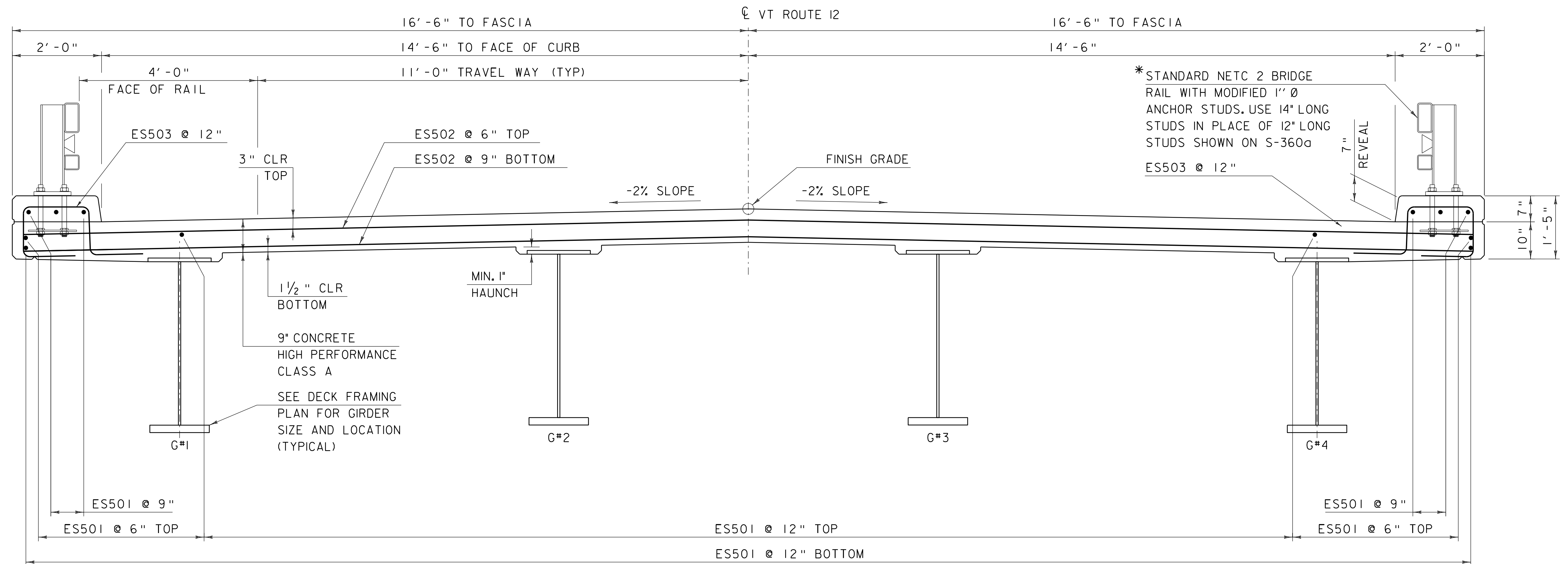
SCALE 1" = 10'-0"
 10 0 10



ELEVATION

SCALE 1" = 10'-0"
 10 0 10

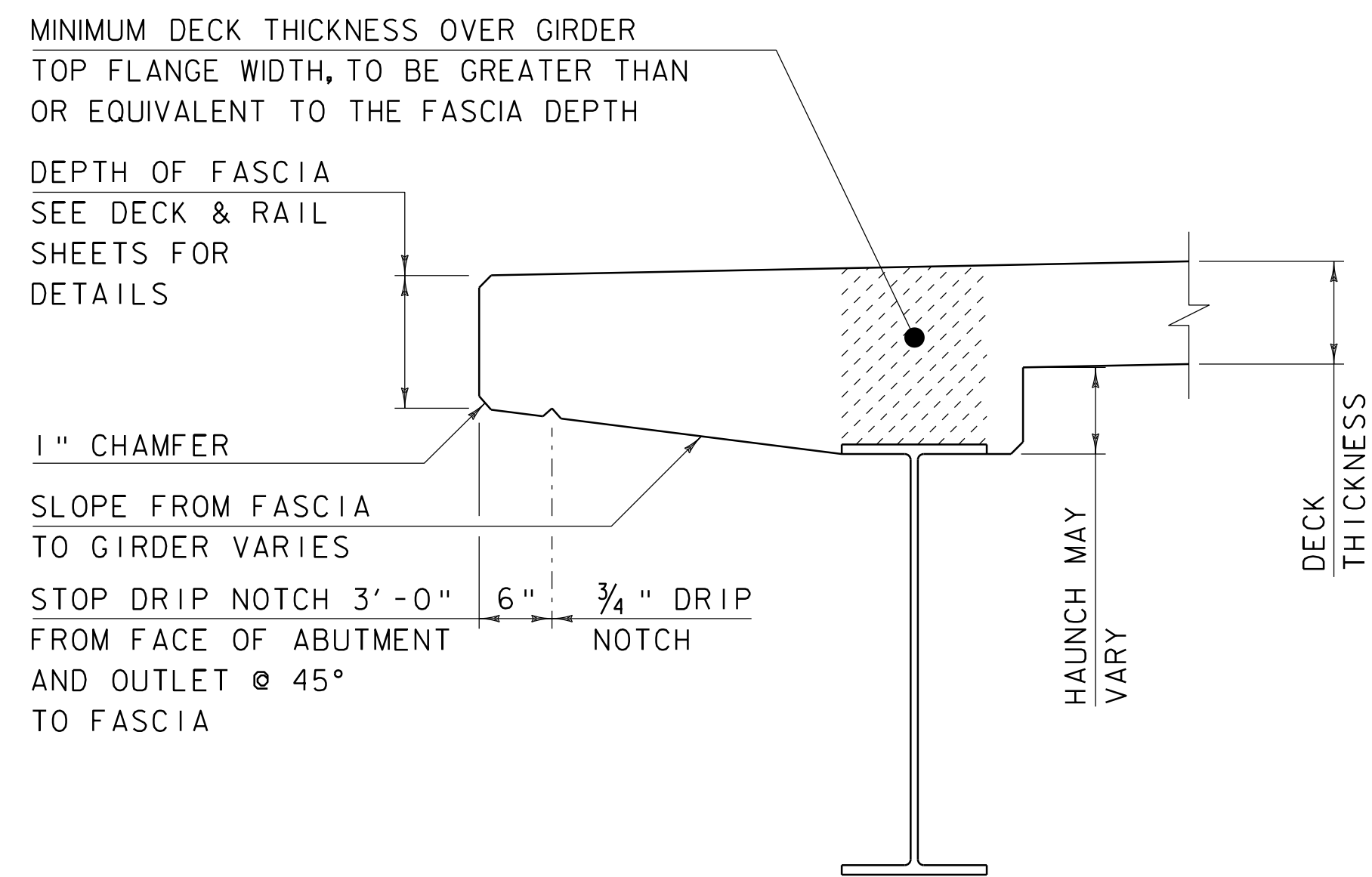
PROJECT NAME: BETHEL	
PROJECT NUMBER: BHF 0241(30)	
FILE NAME: sc002pe.dgn	PLOT DATE: 30-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
PLAN AND ELEVATION SHEET	SHEET 39 OF 62



DECK TYPICAL

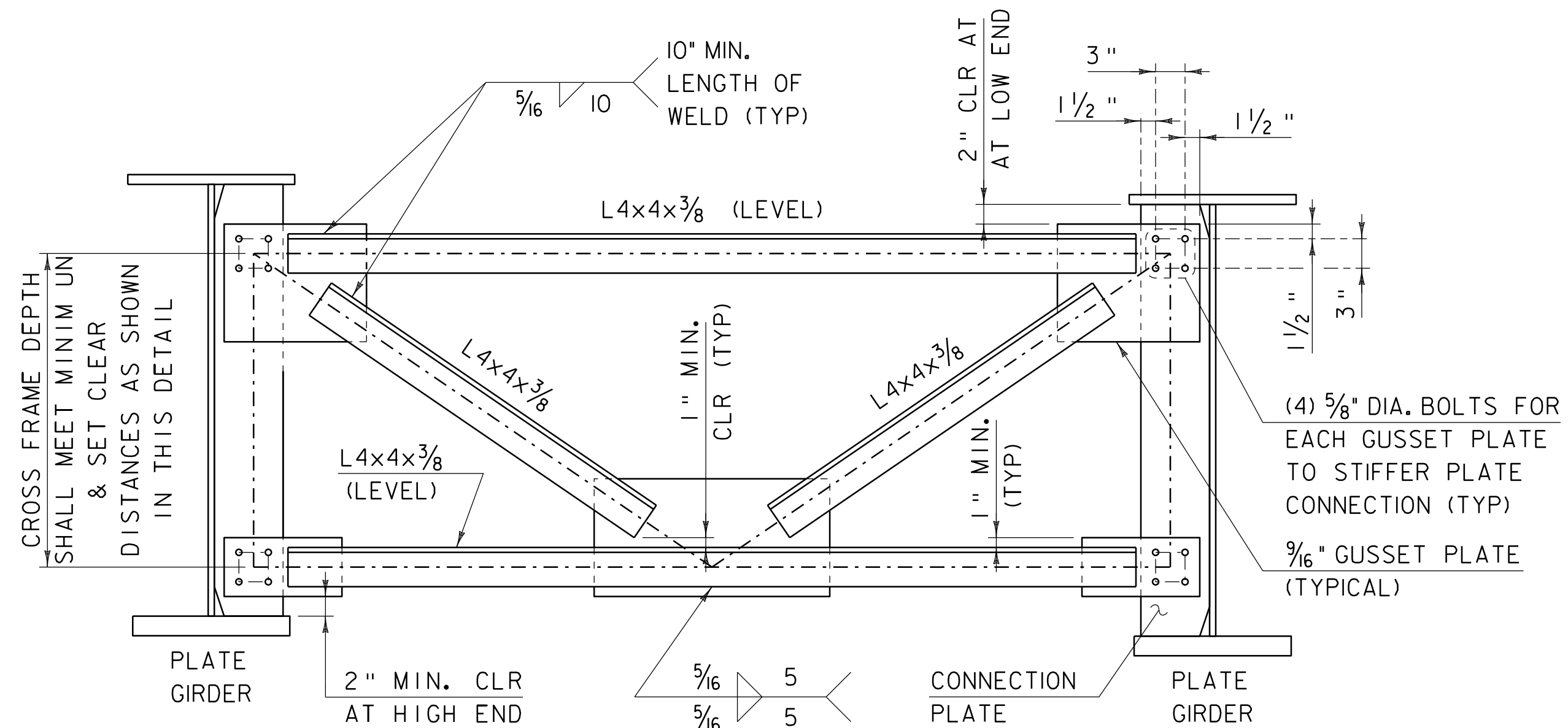
SCALE $\frac{3}{4}$ " = 1'-0"

*I.) MODIFIED S-360a "BRIDGE RAILING, GALVANIZED NETC 2 RAIL" AS NOTED.



FASCIA & DRIP NOTCH DETAIL

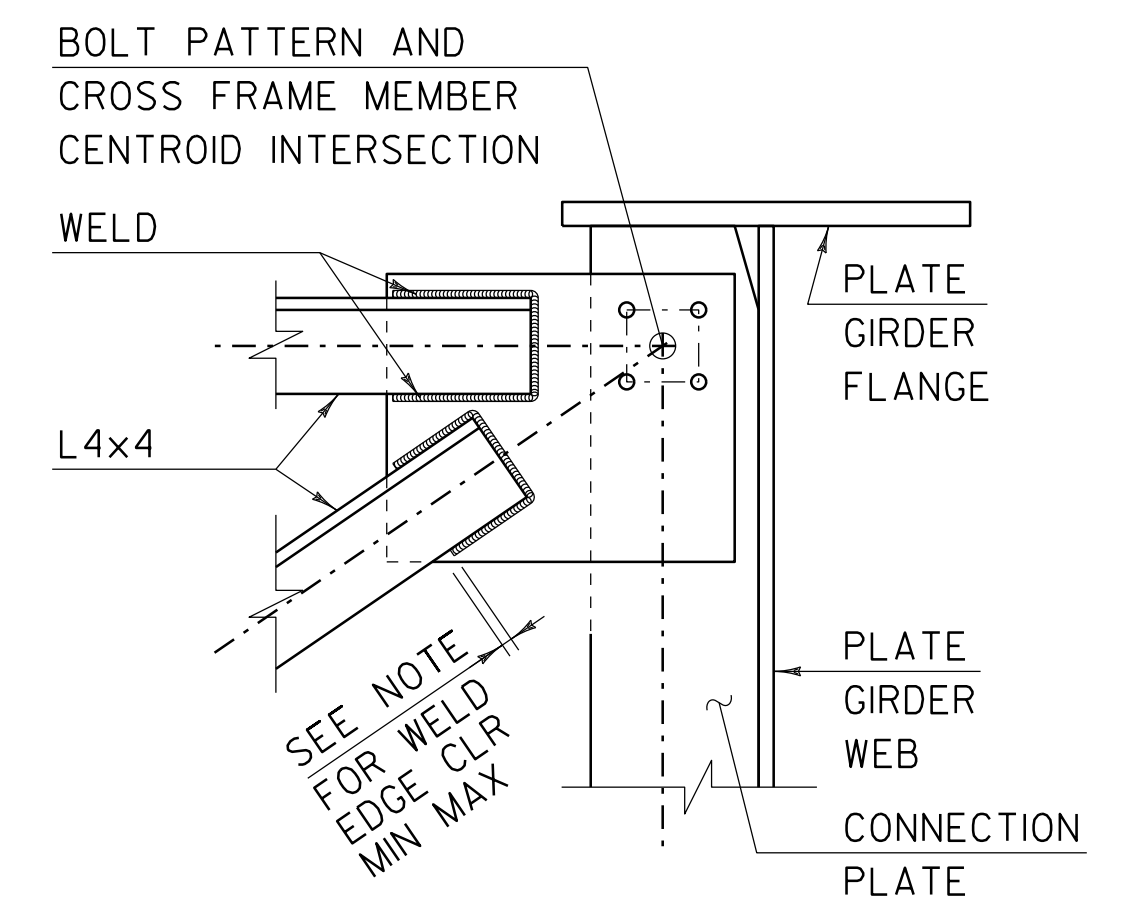
NOT TO SCALE



INTERMEDIATE CROSSFRAME DETAILS

SCALE 1" = 1'-0"

I) THE FABRICATOR MAY ALTER THE SHAPE OF THE GUSSET PLATES AS REQUIRED TO MEET MINIMUM WELDING LENGTH AND MAINTAINING THE BOLT HOLE LOCATIONS.



CROSSFRAME GUSSET PLATE & WELD DETAIL

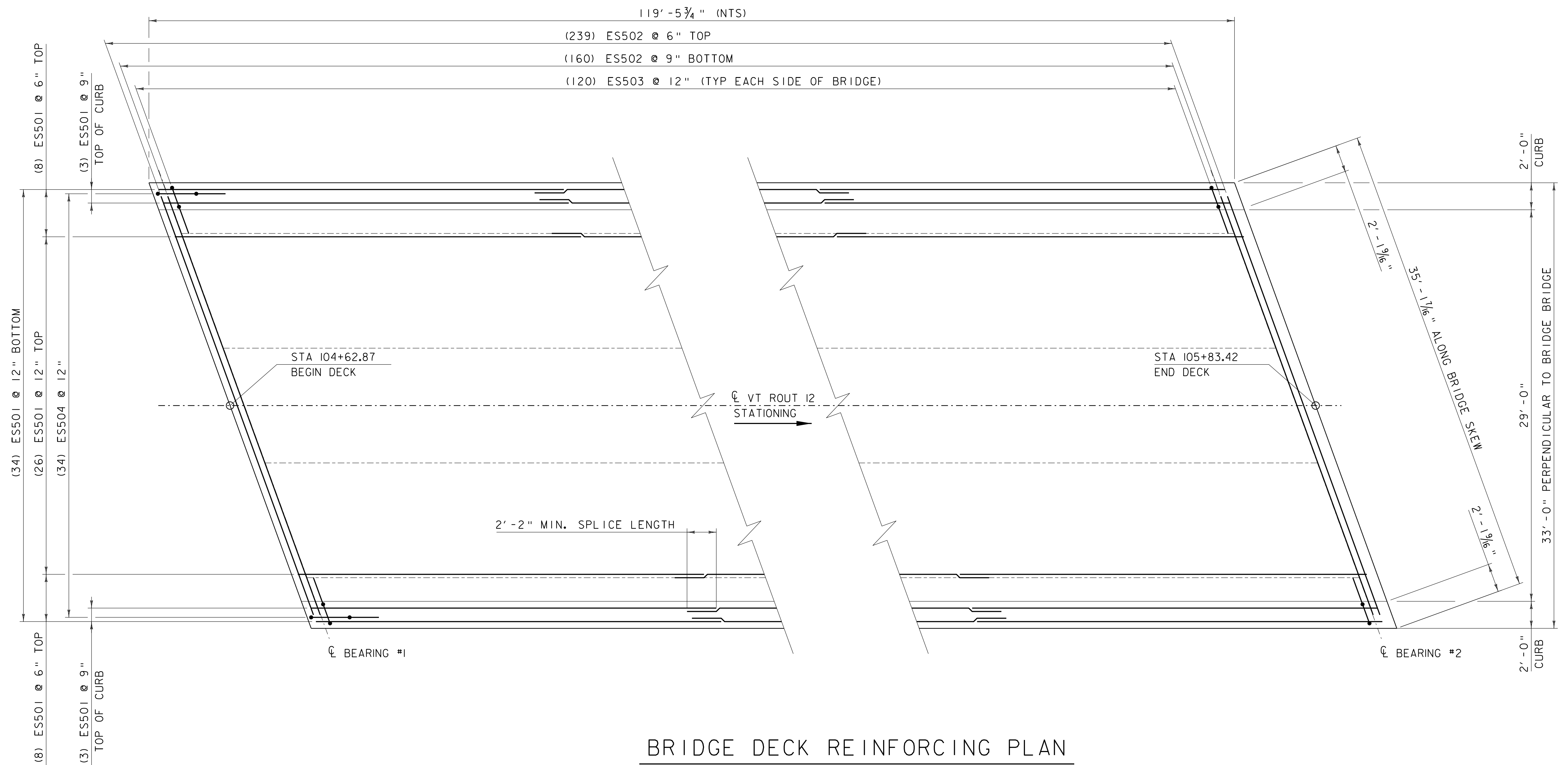
SCALE $\frac{1}{2}$ " = 1'-0"

NOTE: NO WELD FOR $\frac{1}{4}$ " MIN. - $\frac{1}{2}$ " MAX. DISTANCE FROM GUSSET PLATE EDGES

PROJECT NAME: BETHEL
PROJECT NUMBER: BRF 0241(30)

FILE NAME: s95c002sup.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
DECK TYPICAL & DETAILS

PLOT DATE: 30-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 40 OF 62



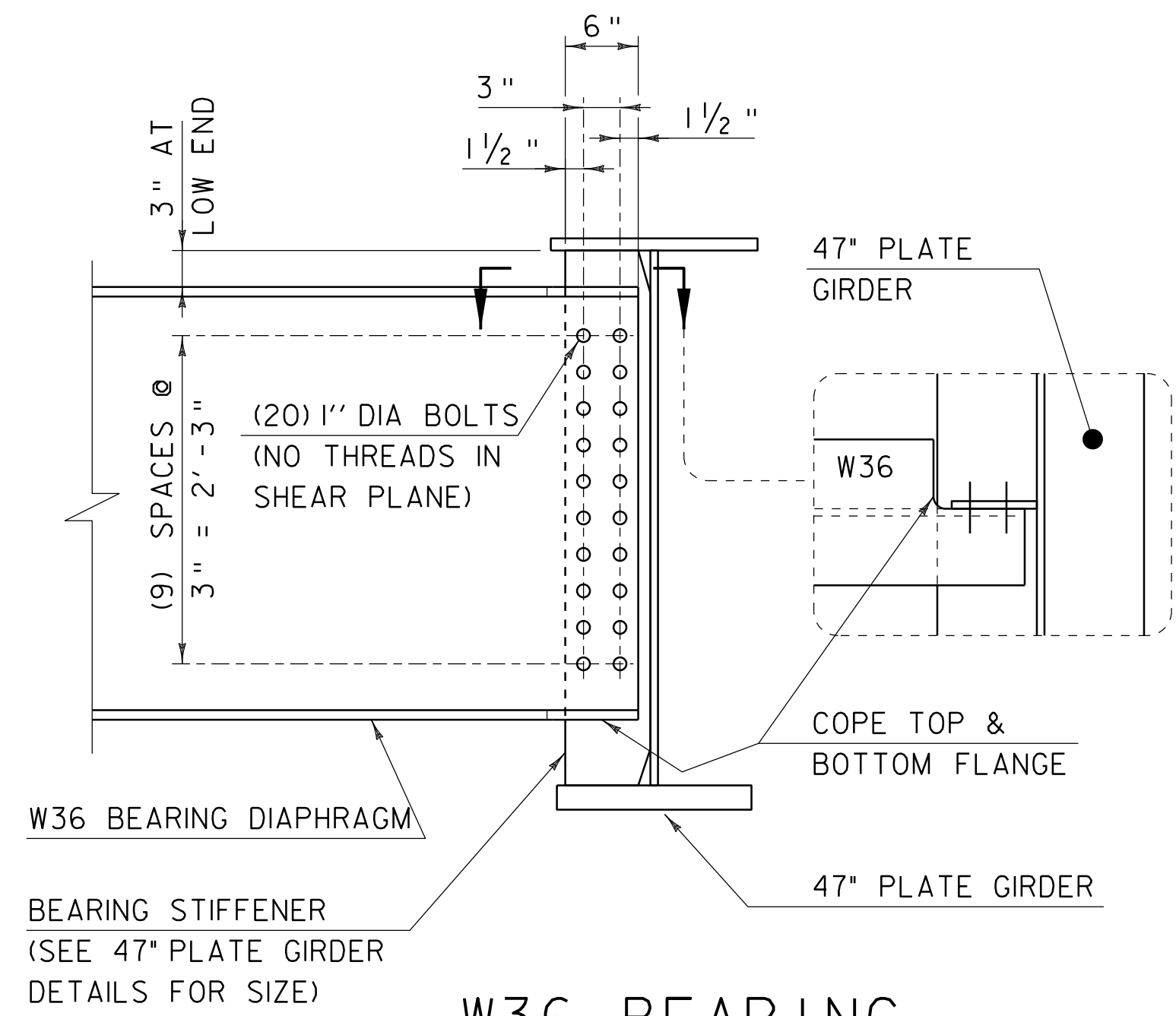
BRIDGE DECK REINFORCING PLAN

SCALE 1/4" = 1'-0"

NOTE:

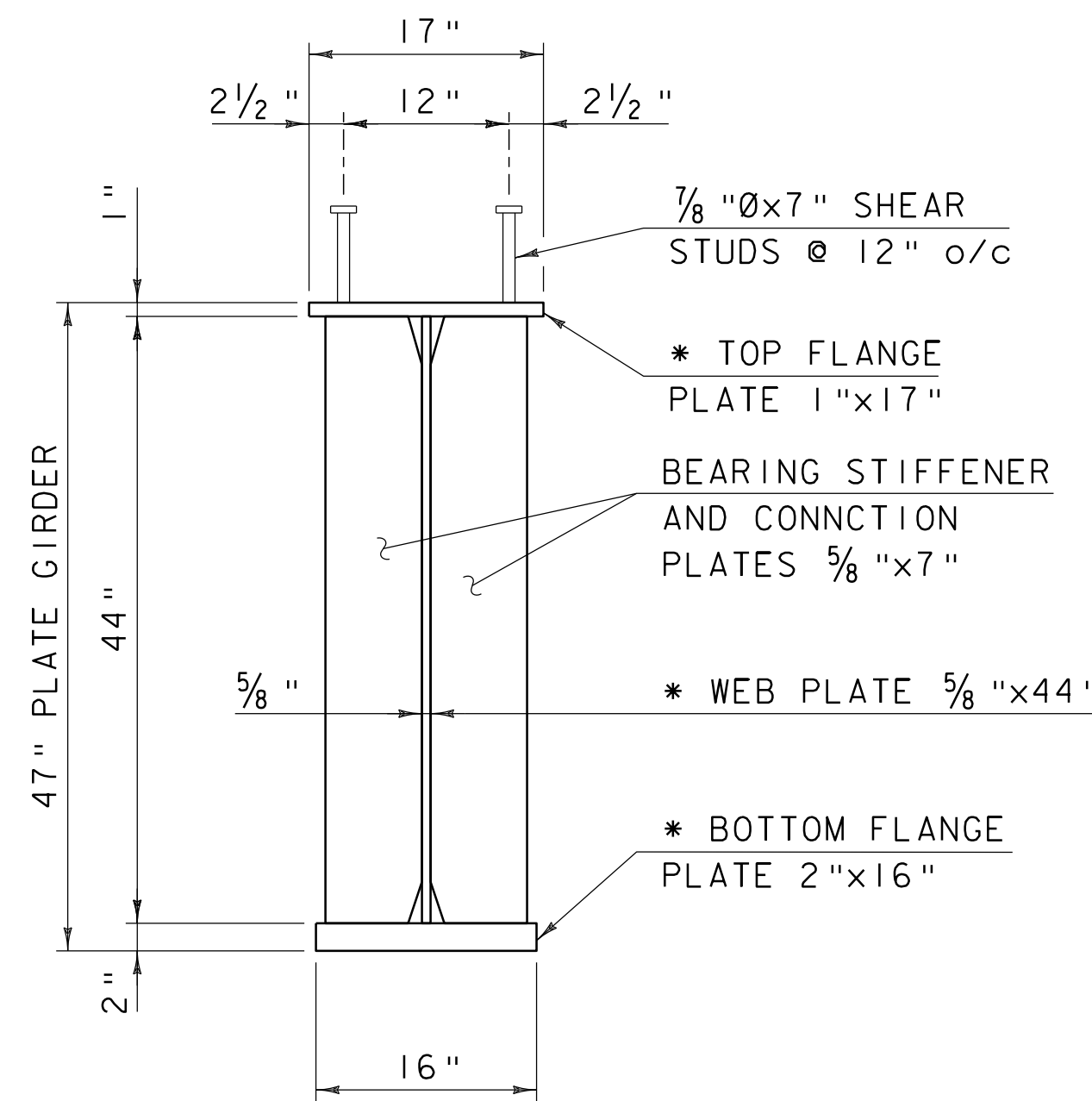
NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: BETHEL	
PROJECT NUMBER: BHF 0241(30)	
FILE NAME: s95c002sup.dgn	PLOT DATE: 30-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
DECK REINFORCING PLAN & DETAILS	SHEET 41 OF 62



W36 BEARING DIAPHRAGMS CONNECTION DETAIL

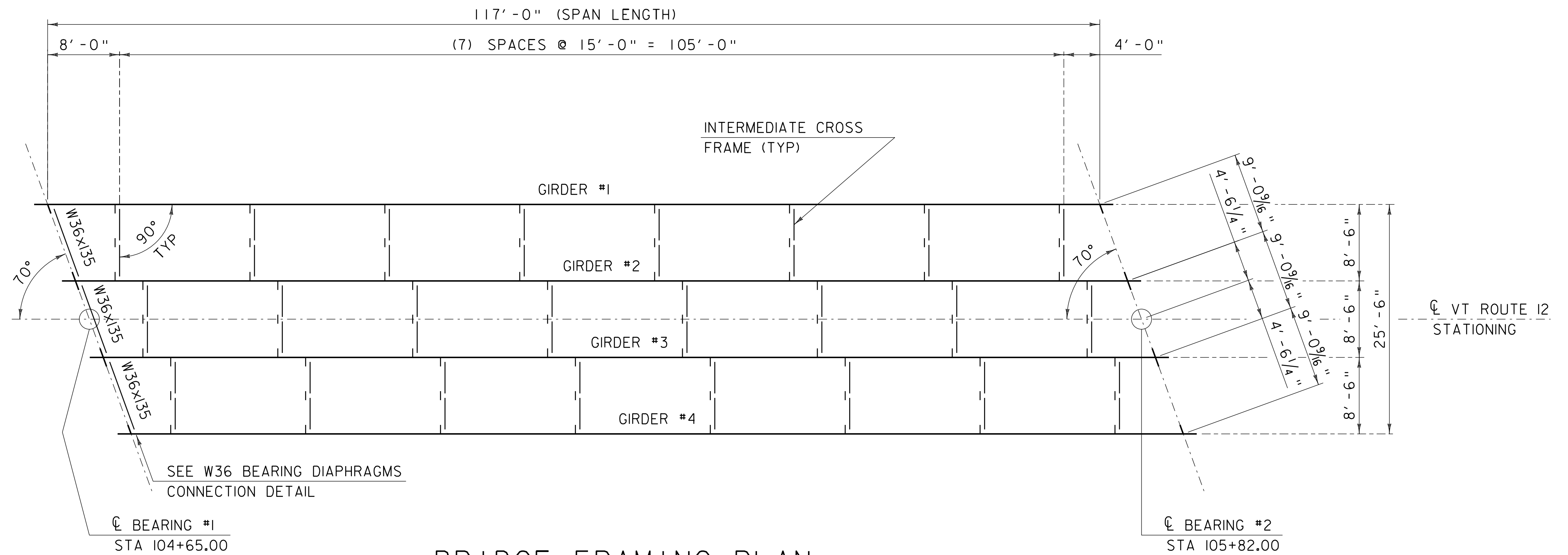
SCALE 1" = 1'-0"



47" PLATE GIRDER DETAIL

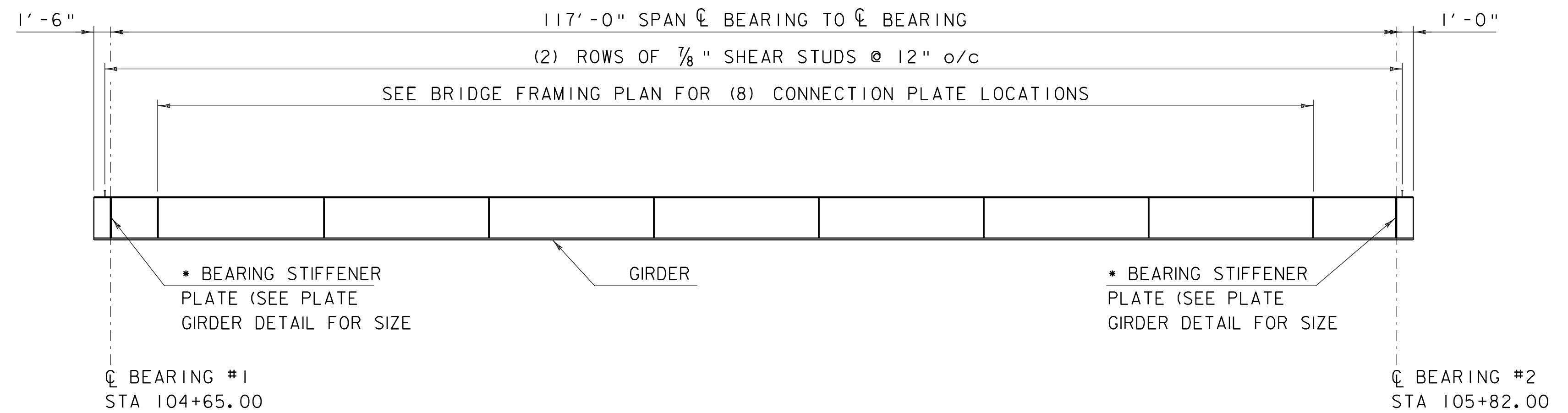
SCALE 1" = 1'-0"

* DENOTES CHARPY V-NOTCH TEST REQUIRED



BRIDGE FRAMING PLAN

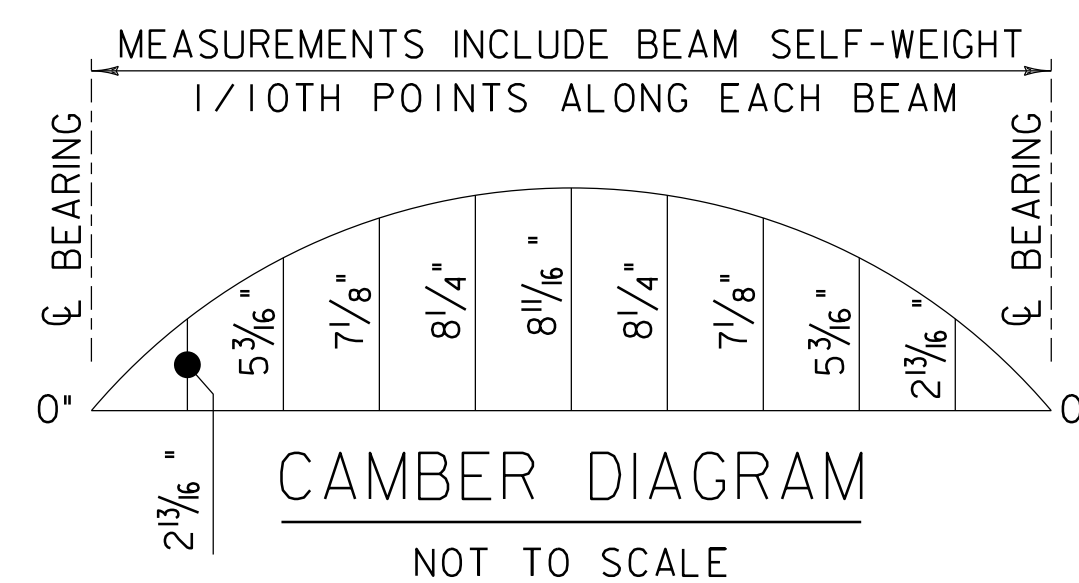
SCALE 1/8" = 1'-0"



47" PLATE GIRDER ELEVATION

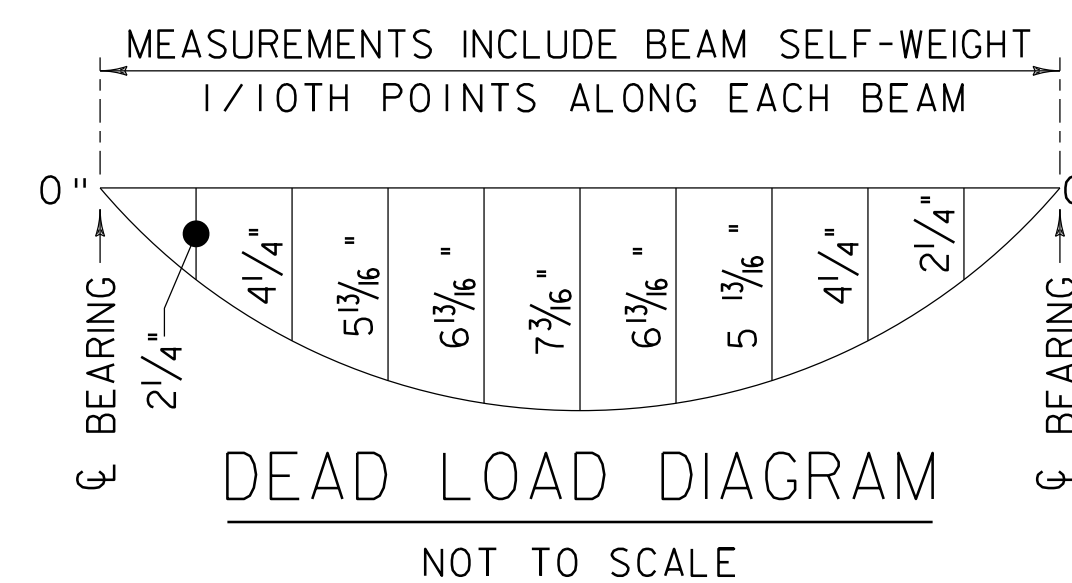
SCALE 1/8" = 1'-0"

* DENOTES CHARPY V-NOTCH TEST REQUIRED



CAMBER DIAGRAM

NOT TO SCALE



DEAD LOAD DIAGRAM

NOT TO SCALE

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: s95c002sup.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
DECK FRAMING PLAN & DETAILS

PLOT DATE: 30-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 42 OF 62

GENERAL

- 1) ABUTMENT 1 FIXED BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.11 "BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD" AND ABUTMENT 2 INTEGRAL BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.14 "BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT" BOTH 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) 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.
- 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.
- 7) STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM 1/8 INCH EDGE SEAL OF ELASTOMER INTEGRAL WITH BEARING OVER ALL INTERNAL PLATES.
- 8) THE BEARING MANUFACTURER SHALL INCLUDE A TEMPERATURE SETTING TABLE ON THE FABRICATION DRAWINGS.
- 9) BRIDGE SEAT ELEVATIONS ARE BASED ON THE BEARING HEIGHTS SHOWN. PRIOR TO CASTING THE ABUTMENTS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE PROPOSED BEARING HEIGHT AS PROVIDED BY THE MANUFACTURER AND ANY ELEVATION MODIFICATIONS REQUIRED BEFORE CONSTRUCTING THE ABUTMENTS.

ABUTMENT 1 FIXED BEARINGS

- 10) THE PREFORMED BEARING PAD BENEATH THE MASONRY PLATE SHALL HAVE THE SAME SIZE AND ANCHOR BOLT HOLE LAYOUT AS THE CORRESPONDING MASONRY PLATE.
- 11) BEARING SHALL BE SET LEVEL AND AS SHOWN ON THE PLANS WITHIN 0.03125 IN./FT. FOR PARALLEL ELEMENTS, WITH FULL AND UNIFORM BEARING. THE CONCRETE UNDER THE BEARING DEVICE SHALL BE LEVEL.
- 12) 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.
- 13) 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.
- 14) THE DRILLED HOLES TO BE MORTARED SHALL BE THOROUGHLY CLEANED, WETTED, AND FREE OF STANDING WATER.
- 15) 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.

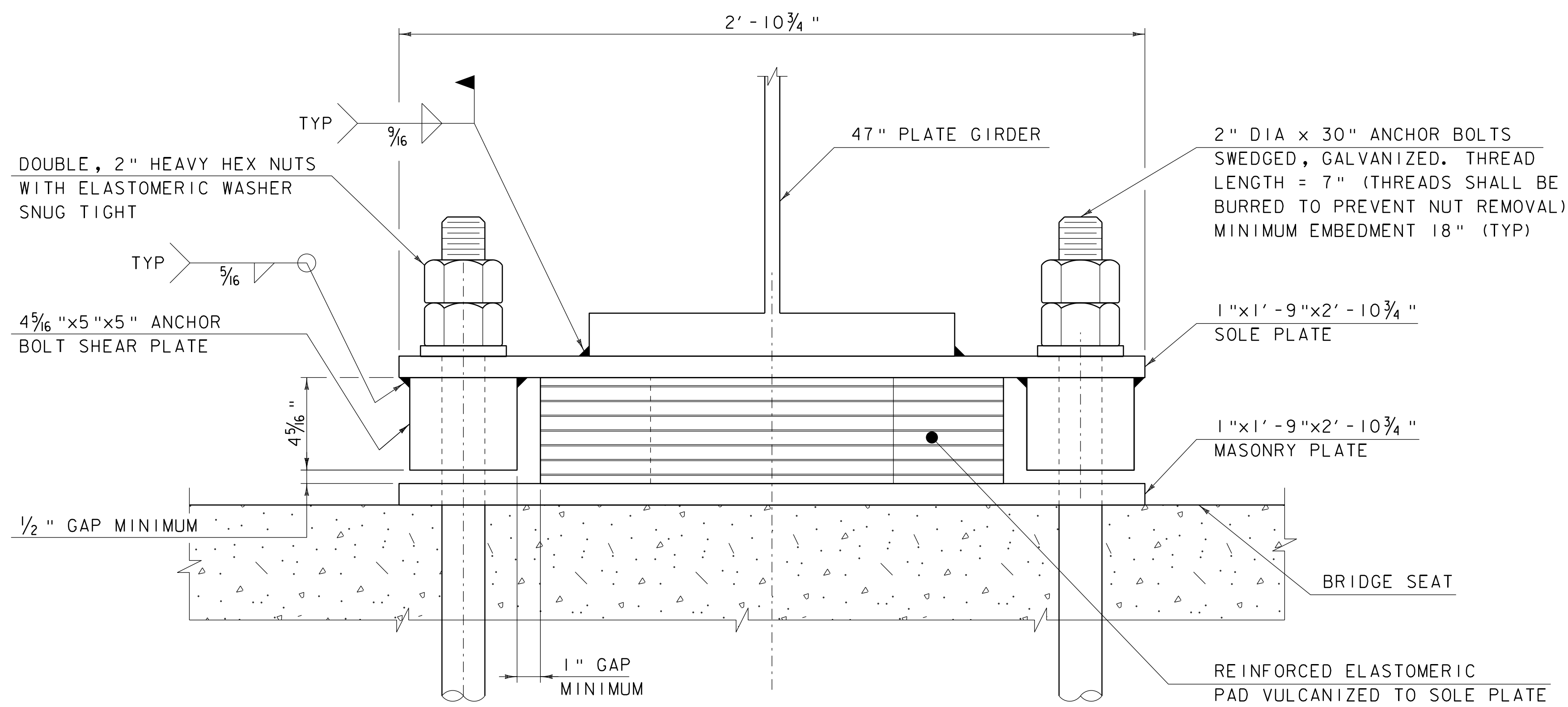
- 16) ALL EXPOSED MORTAR SHALL BE CURED FOR A PERIOD OF NOT LESS THAN THREE (3) DAYS BY THE WETTED BURLAP METHOD IN ACCORDANCE WITH SECTION 501. CURING SHALL COMMENCE AS SOON AS PRACTICAL AFTER MORTAR PLACEMENT. THE CONTRACTOR SHALL NOT APPLY ANY FORCES TO THE ANCHOR BOLTS DURING THE CURING PERIOD.
- 17) 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.
- 18) BOLTS FURNISHED FOR BEARINGS SHALL CONFORM TO SUBSECTION 7.14.08. THE BOLTS, NUTS, AND WASHERS FURNISHED SHALL BE TESTED AND CERTIFIED AS MEETING THE REQUIREMENTS OF THE ZINC THICKNESS TEST AS SPECIFIED IN SUBSECTION 7.14.05, IN ADDITION TO ANY OTHER TEST AND CERTIFICATION REQUIREMENTS.
- 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.
- 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.
- 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 MANUFACTURER'S RECOMMENDATIONS TO A THICKNESS EQUIVALENT TO THE SURROUNDING GALVANIZING.
- 22) METALIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED USING THE METHODS DESCRIBED IN NOTE 21.
- 23) DESIGN CRITERIA:
 - A) DESIGN ROTATION = 0.017 RAD
 - B) HORIZONTAL CAPACITY SHALL BE MINIMUM OF 15% VERTICAL LOAD IN ANY UNRESTRAINED DIRECTION
 - C) DESIGN LOAD PER BEARING
DC1 = 77.1 KIPS
DC2 = 8.1 KIPS
DW = 15.9 KIPS
LL = 103.7 KIPS
HORIZONTAL LOAD = 436 KIPS
 - D) NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS

ABUTMENT 2 INTEGRAL BEARINGS

- 24) DESIGN CRITERIA:
 - A) DESIGN ROTATION = 0.035 RAD
 - B) HORIZONTAL CAPACITY SHALL BE MINIMUM OF 15% VERTICAL LOAD IN ANY UNRESTRAINED DIRECTION
 - C) DESIGN LOAD PER BEARING
DC1 = 77.1 KIPS
DC2 = 0.0 KIPS
DW = 0.0 KIPS
LL = 0.0 KIPS
HORIZONTAL LOAD = 0.0 KIPS
 - D) NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS

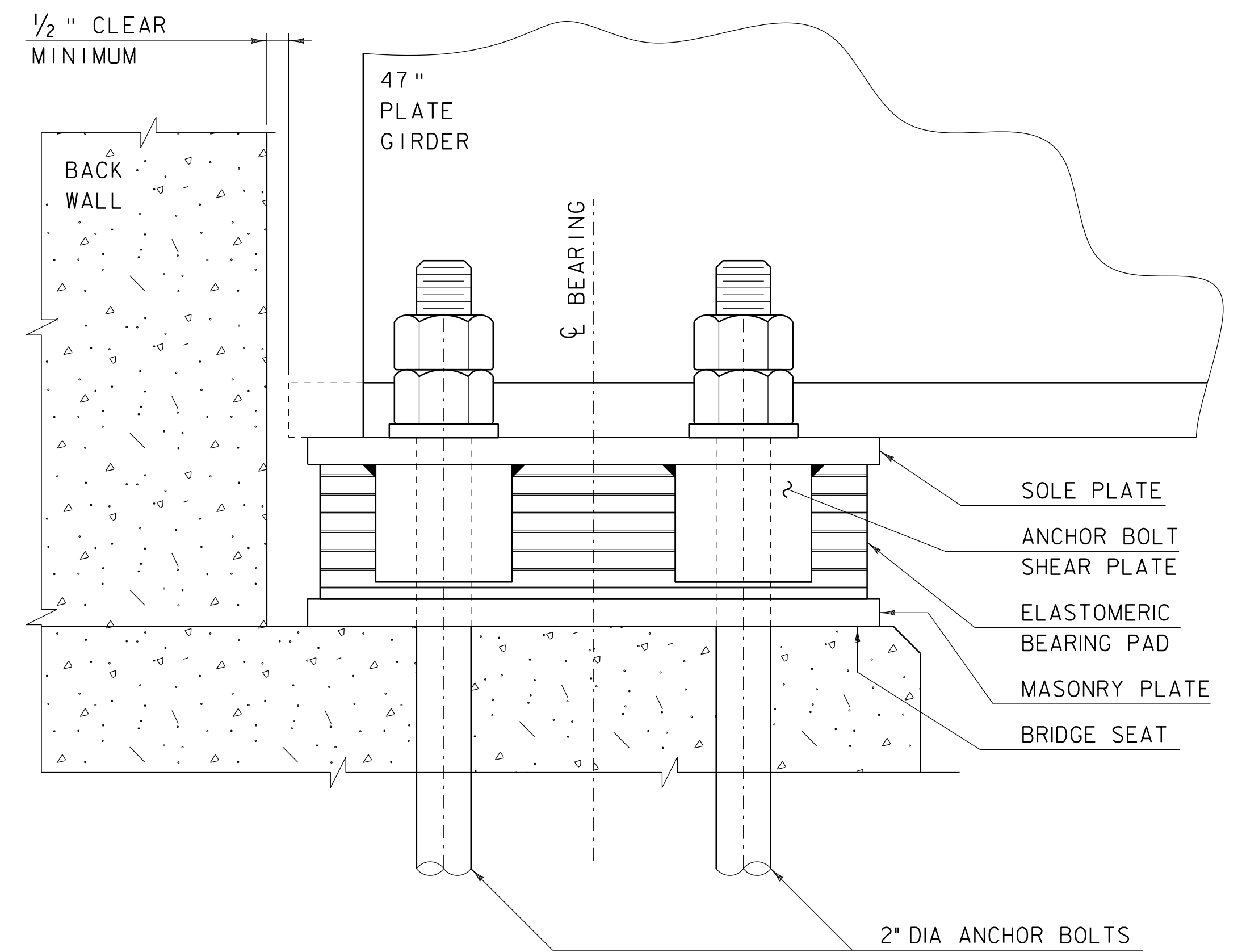
PROJECT NAME: BETHEL
PROJECT NUMBER: PROJECT NUMBER

FILE NAME: s95c002brg.dgn PLOT DATE: 30-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY CHECKED BY: U. STANLEY
BEARING NOTES SHEET 43 OF 62



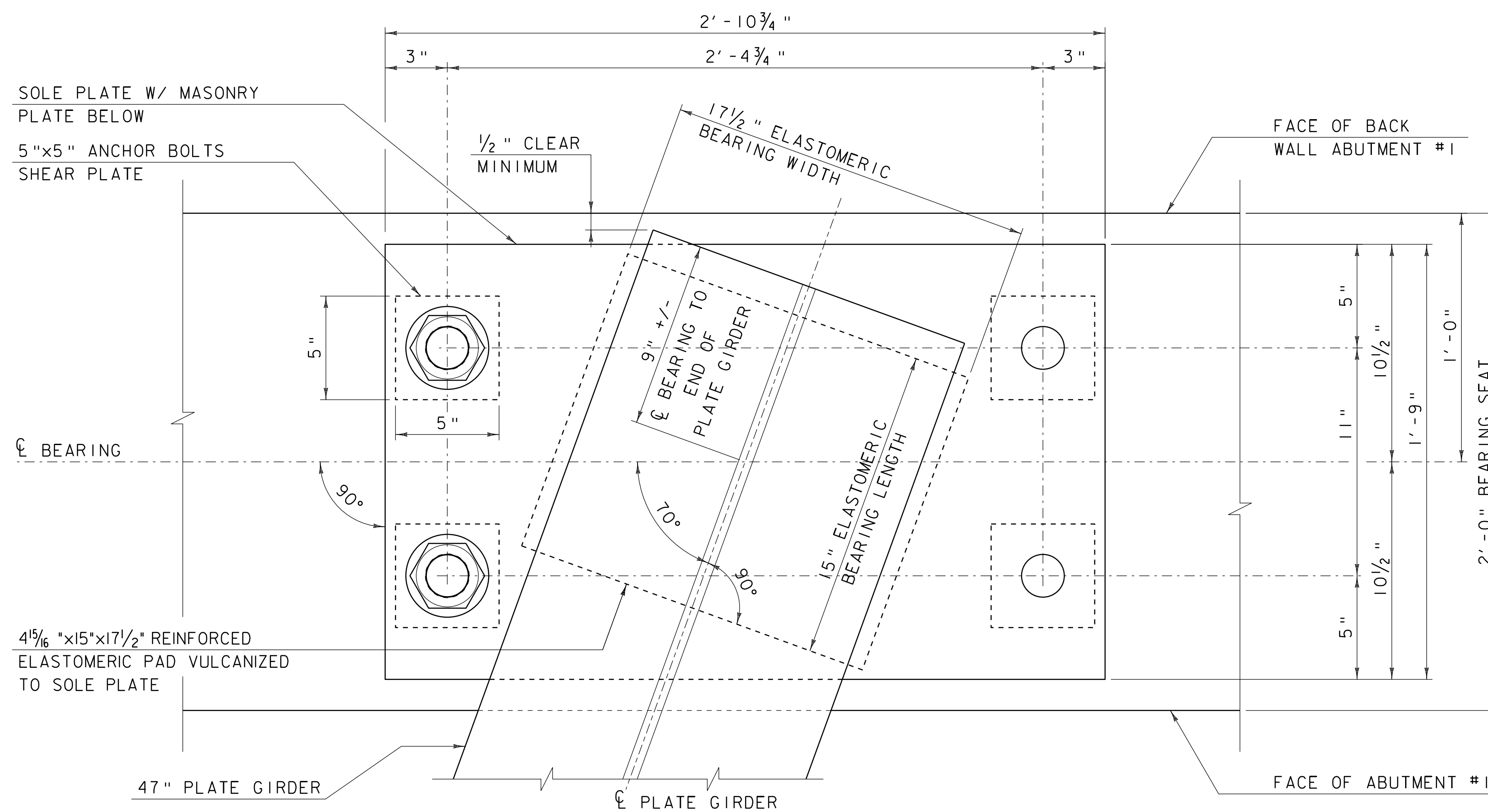
ABUTMENT I FIXED BEARING END ELEVATION

SCALE 3" = 1'-0"



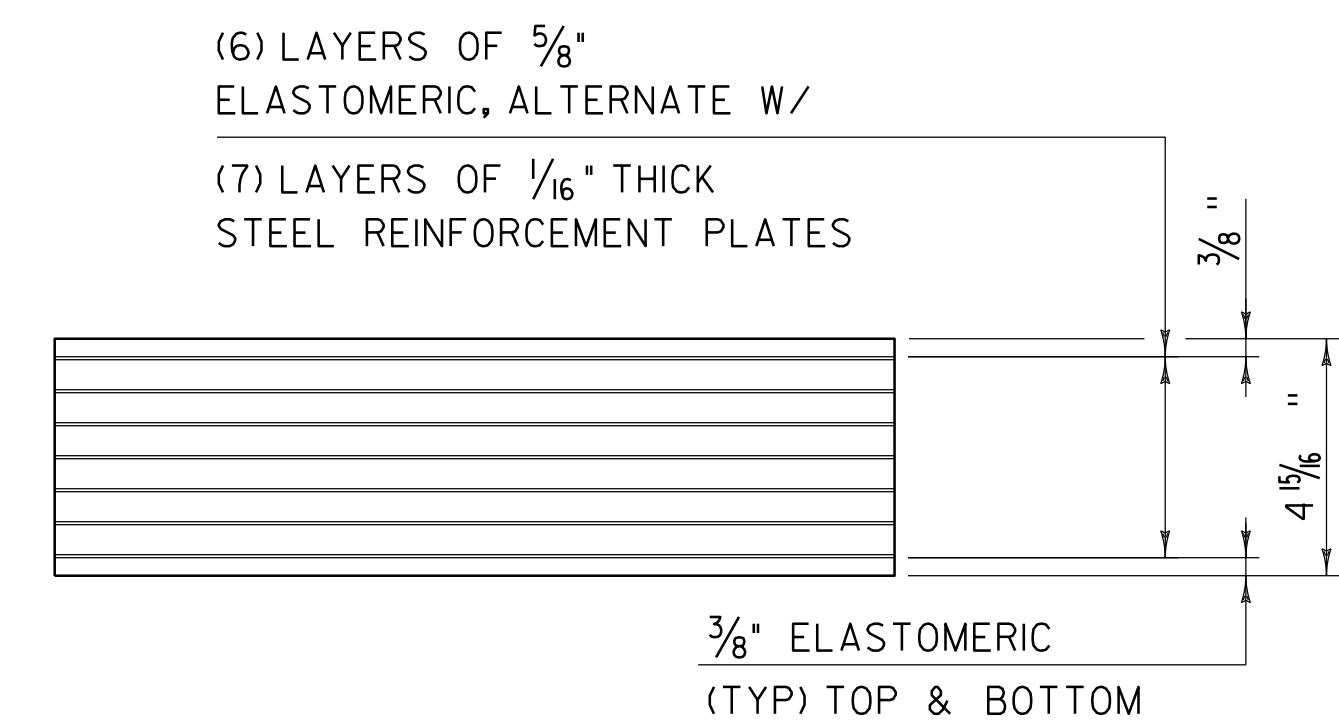
ABUTMENT I FIXED BEARING SIDE ELEVATION

SCALE 3" = 1'-0"



ABUTMENT I FIXED BEARING PLAN

SCALE 3" = 1'-0"



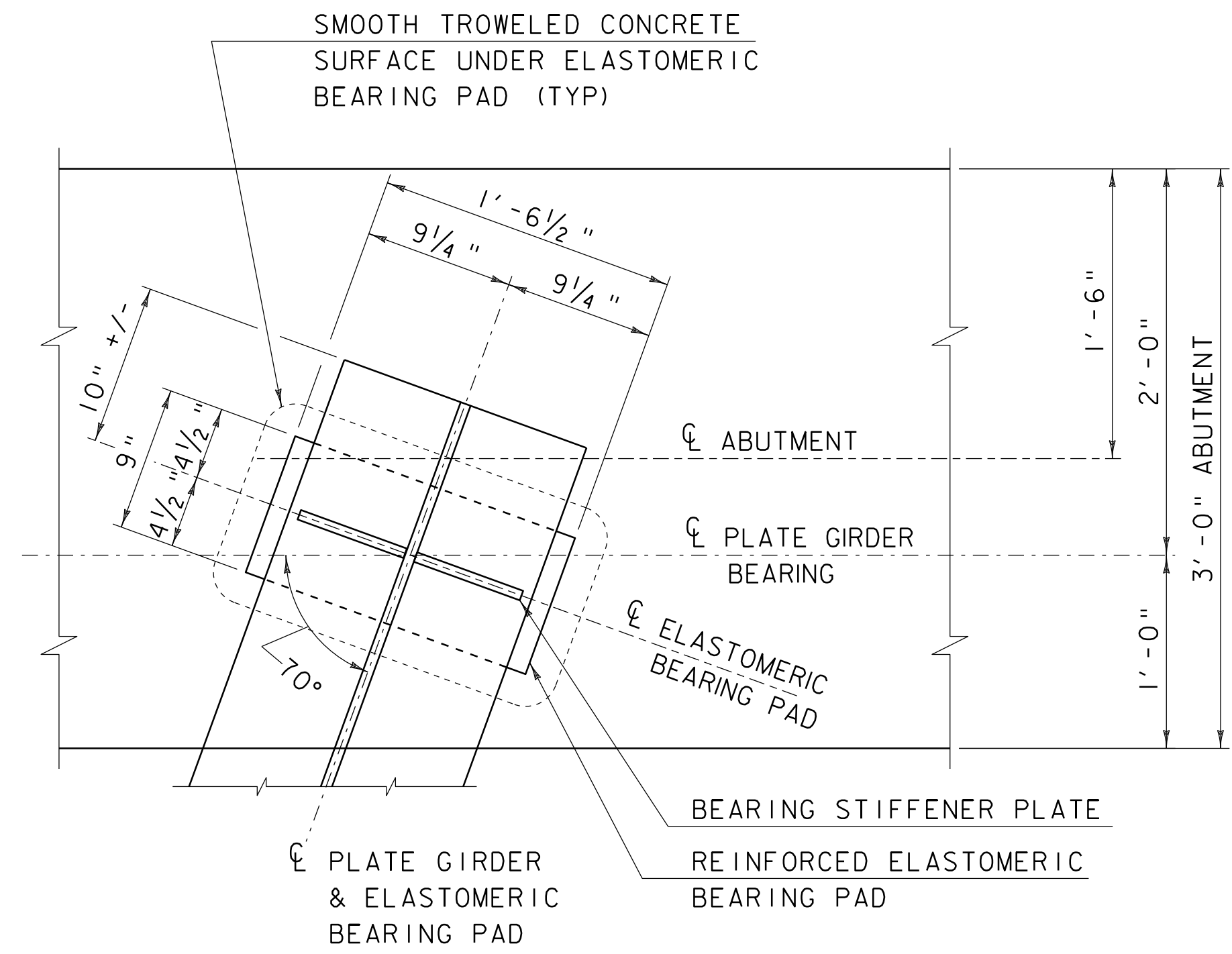
ABUTMENT I
ELASTOMERIC BEARING MAKEUP

SCALE 3" = 1'-0"

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

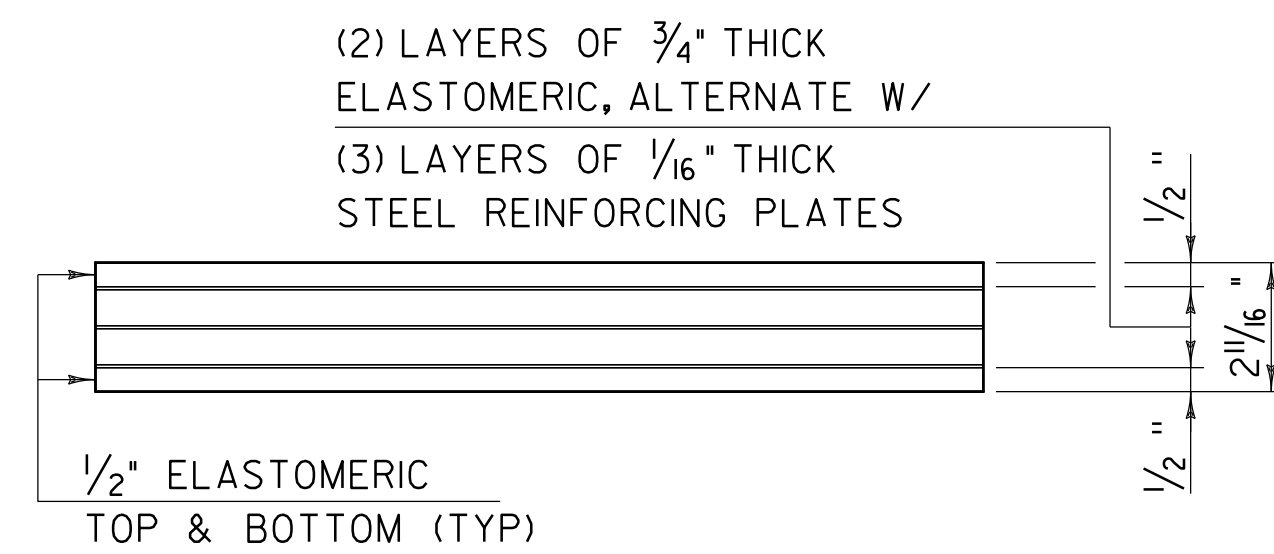
FILE NAME: s95c002brg.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
ABUTMENT I FIXED BEARING DETAILS

PLOT DATE: 30-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 44 OF 62



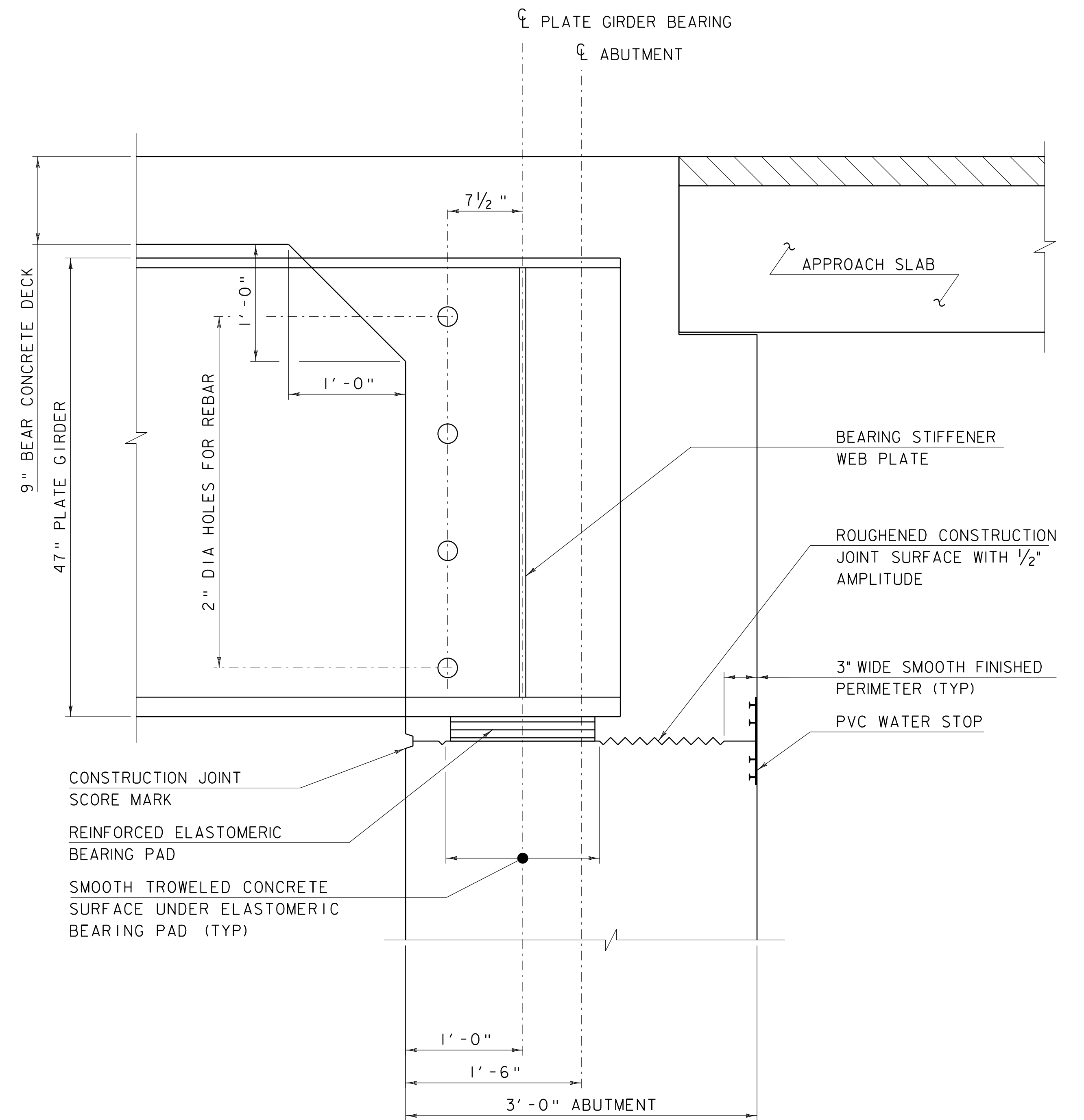
ABUTMENT 2 BEARING PLAN VIEW

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



ABUTMENT 2
ELASTOMERIC BEARING MAKEUP

SCALE 3" = 1'-0"



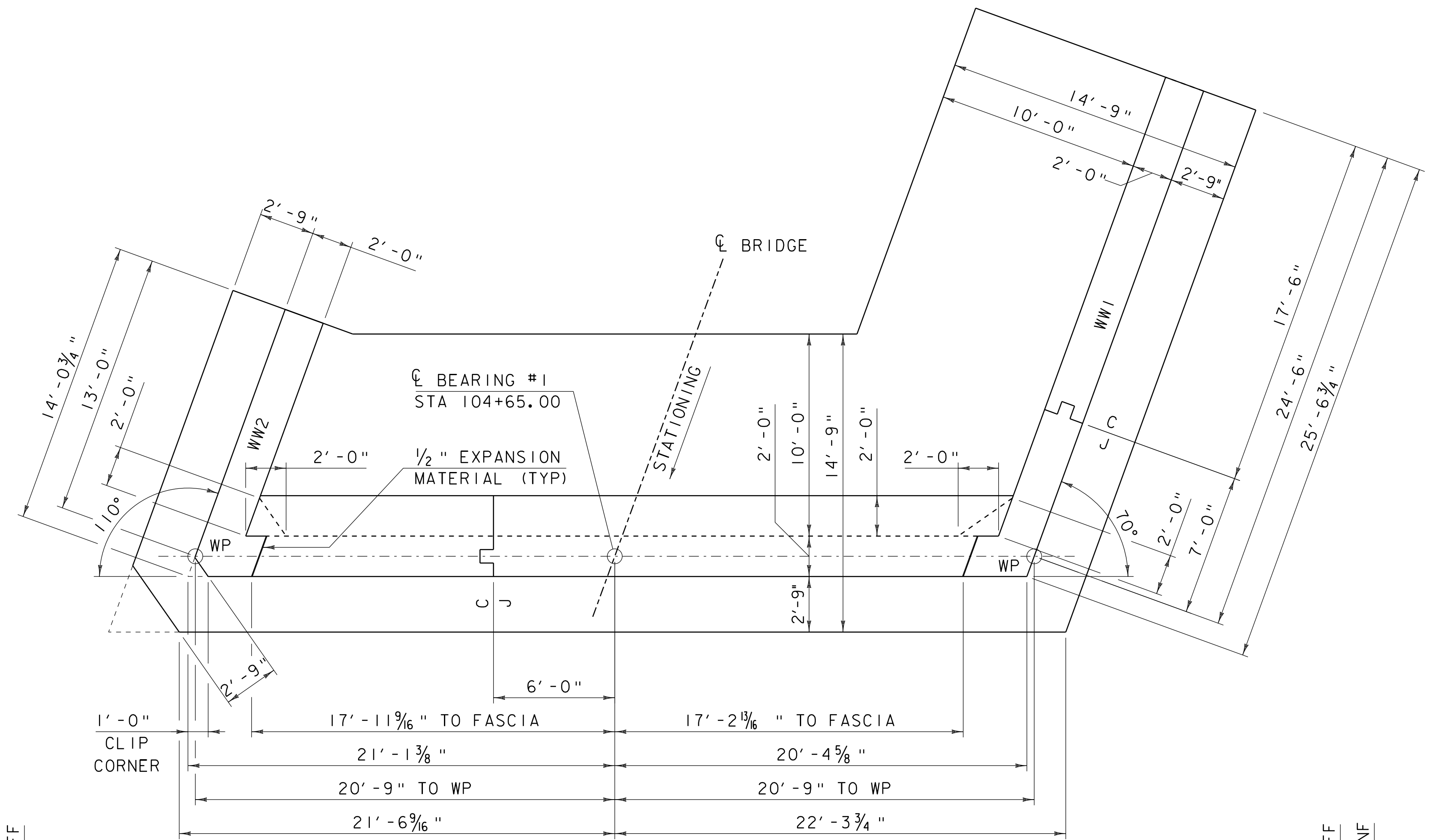
ABUTMENT 2 BEARING ELEVATION VIEW

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

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

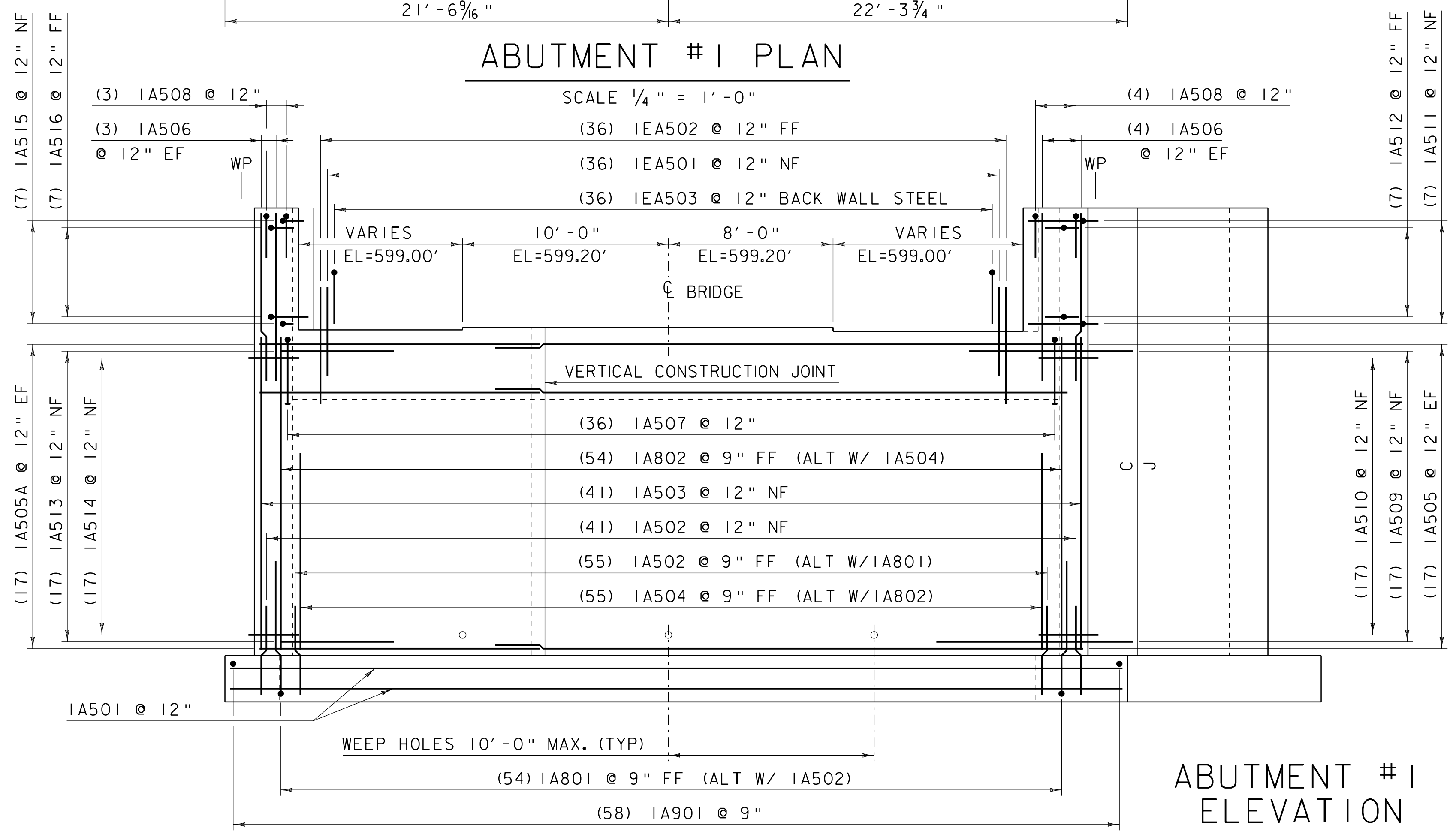
FILE NAME: s95c002brg.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
ABUTMENT 2 BEARING DETAILS

PLOT DATE: 30-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 45 OF 62



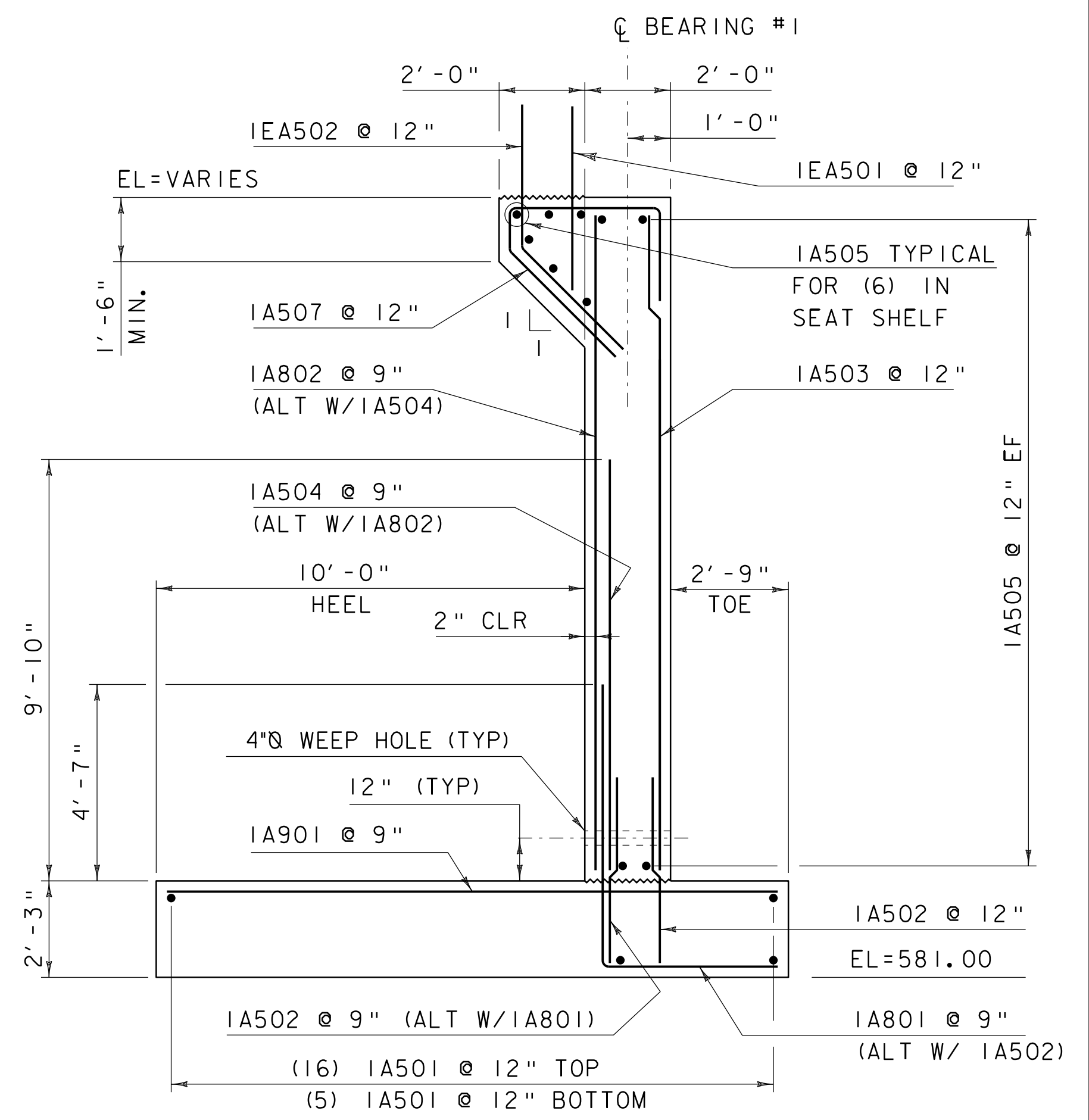
ABUTMENT #1 PLAN

SCALE 1/4" = 1'-0"



ABUTMENT #1 ELEVATION

SCALE 1/4" = 1'-0"



ABUTMENT #1 TYPICAL

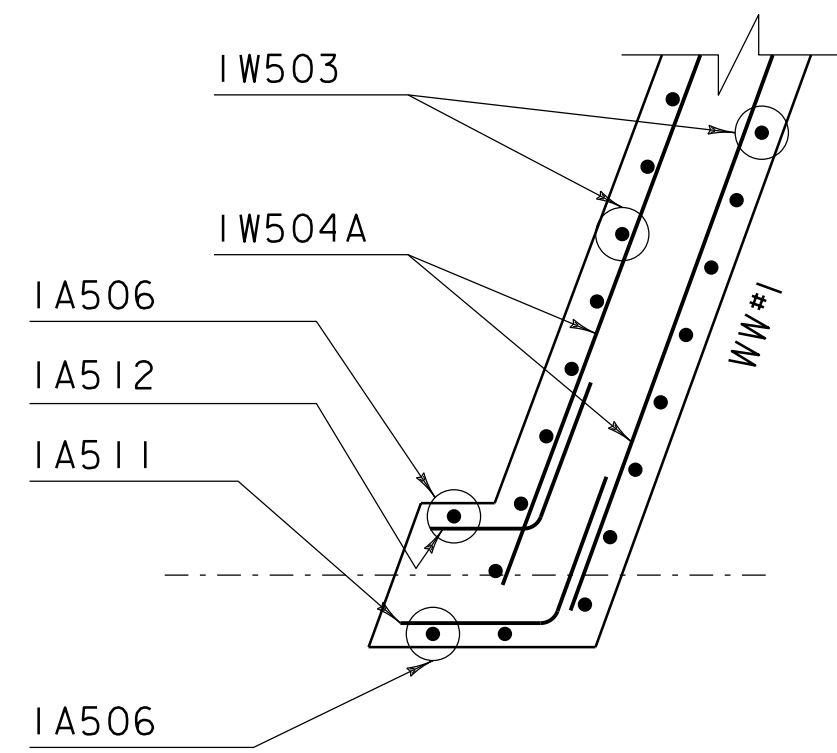
SCALE 3/8" = 1'-0"

- NOTES:
- NF = NEAR FACE
 - FF = FAR FACE
 - EF = EACH FACE
 - ▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

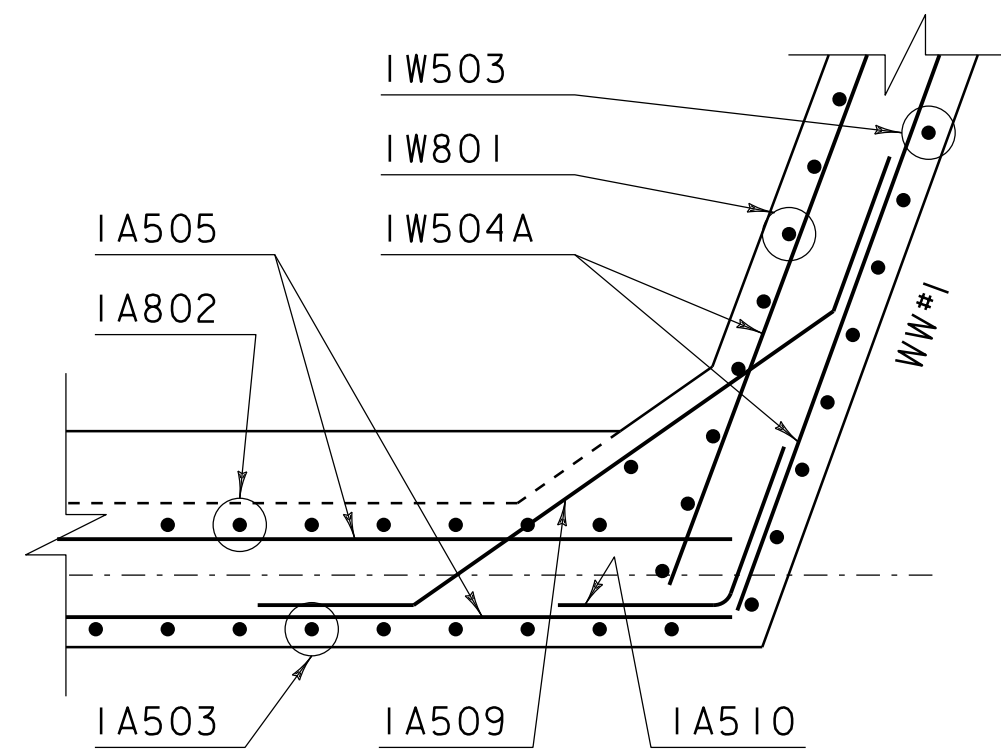
ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT NAME: BETHEL	PLOT DATE: 30-AUG-2011
PROJECT NUMBER: BHF 0241(30)	DRAWN BY: M. LONGSTREET
FILE NAME: s95c002sub.dgn	CHECKED BY: U. STANLEY
PROJECT LEADER: M. EVANS-MONGEON	SHEET 46 OF 62
DESIGNED BY: U. STANLEY	
ABUTMENT #1 PLAN & ELEVATION	



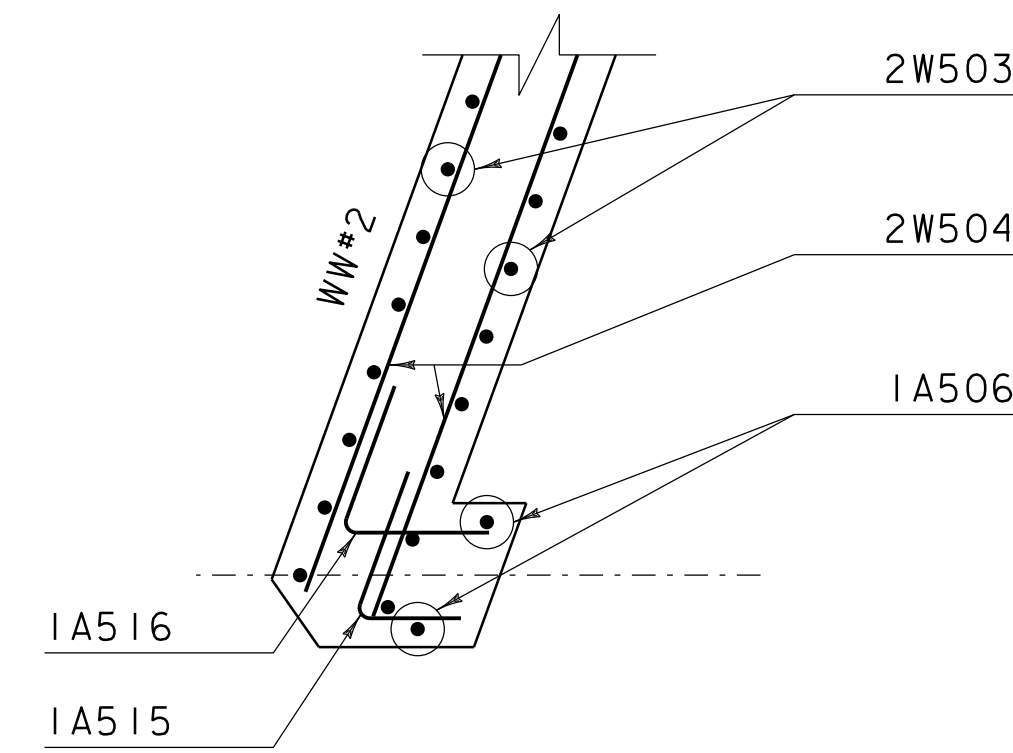
WINGWALL #1 CORNER
DETAIL ABOVE SEAT

SCALE 3/8" = 1'-0"



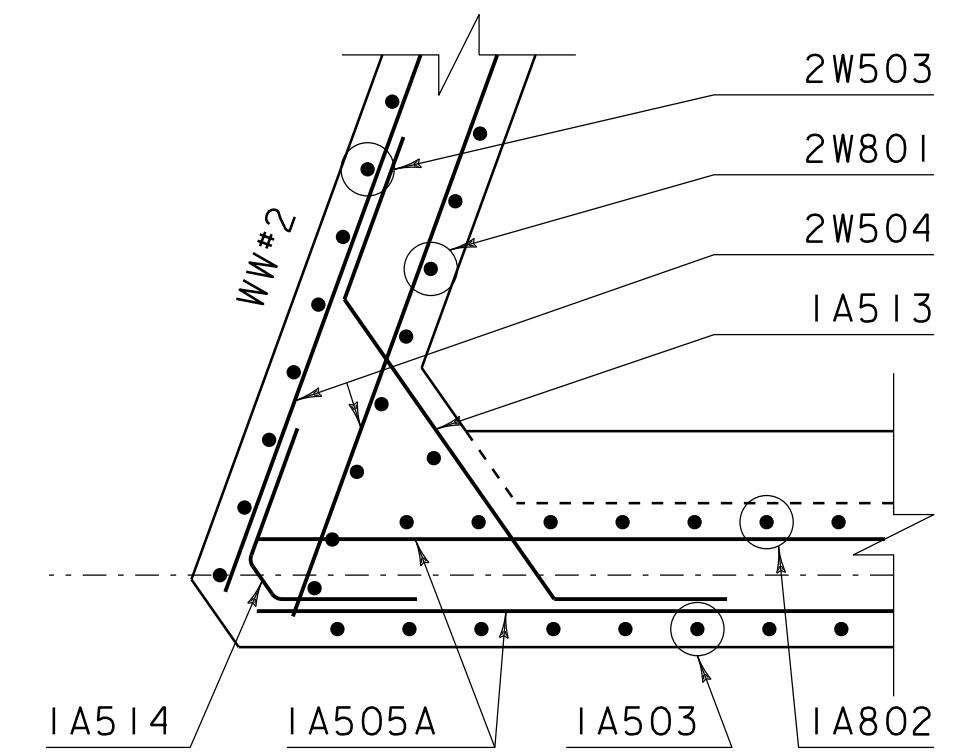
WINGWALL #1 CORNER
DETAIL BELOW SEAT

SCALE 3/8" = 1'-0"



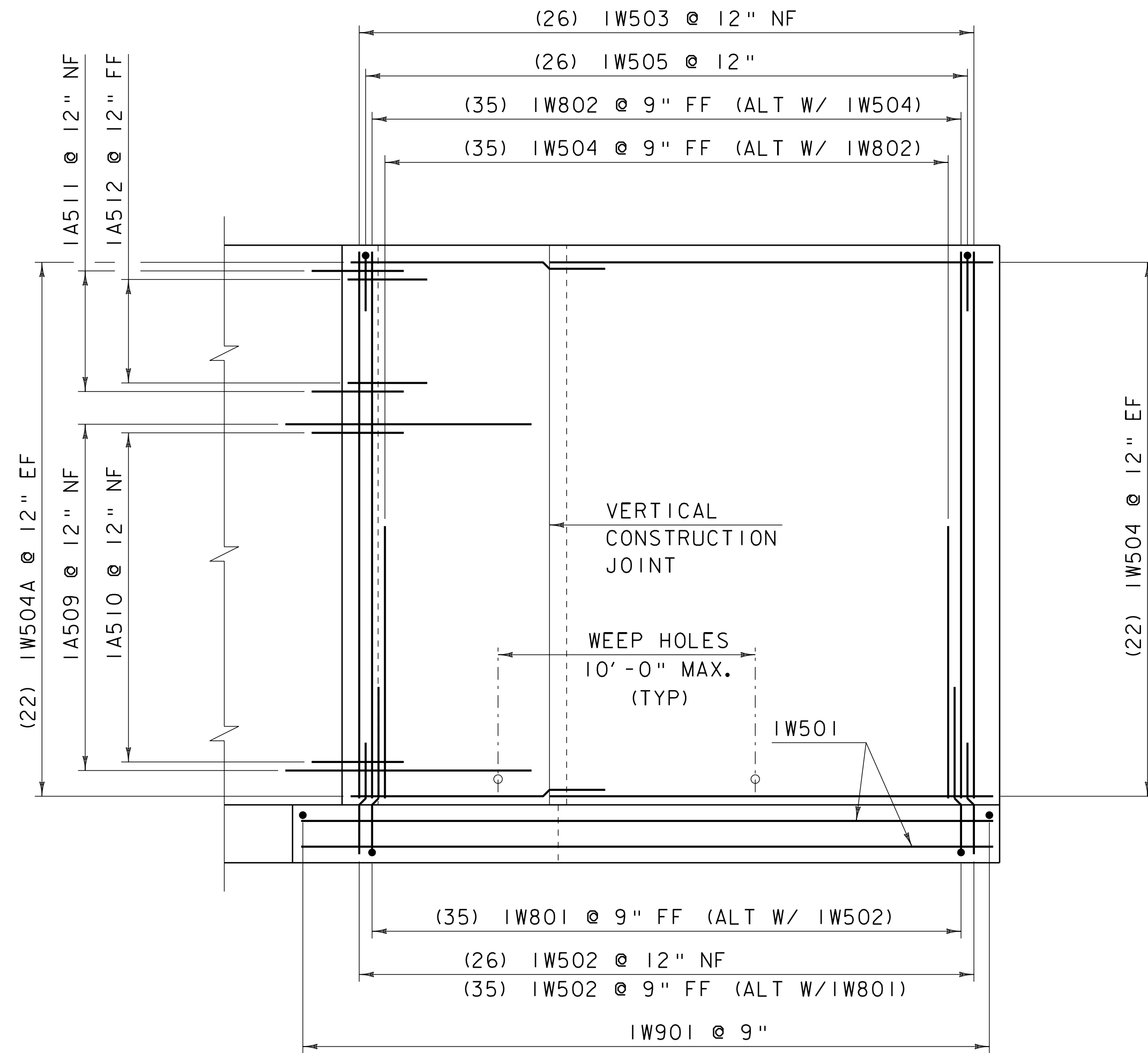
WINGWALL #2 CORNER
DETAIL ABOVE SEAT

SCALE 3/8" = 1'-0"



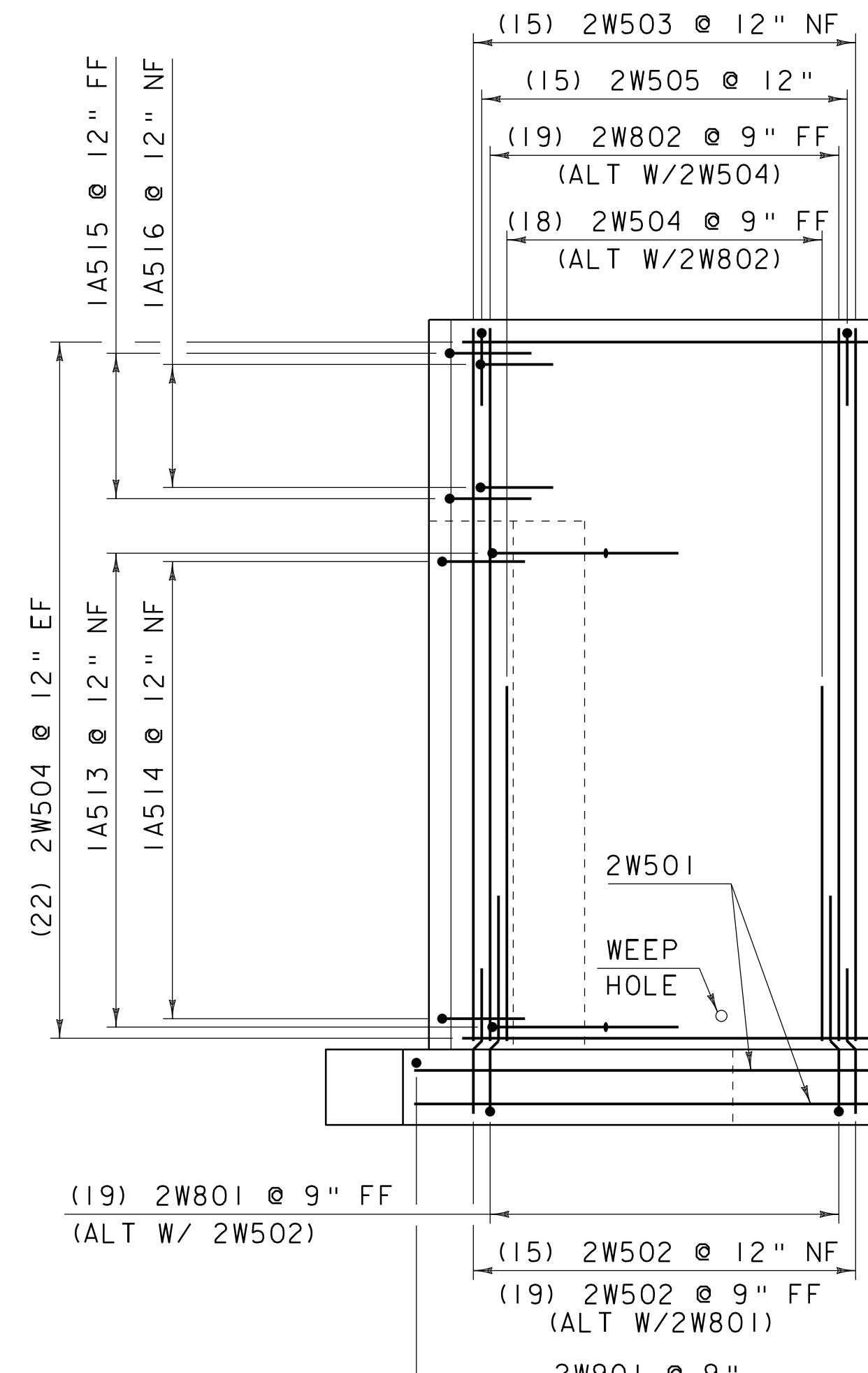
WINGWALL #2 CORNER
DETAIL BELOW SEAT

SCALE 3/8" = 1'-0"



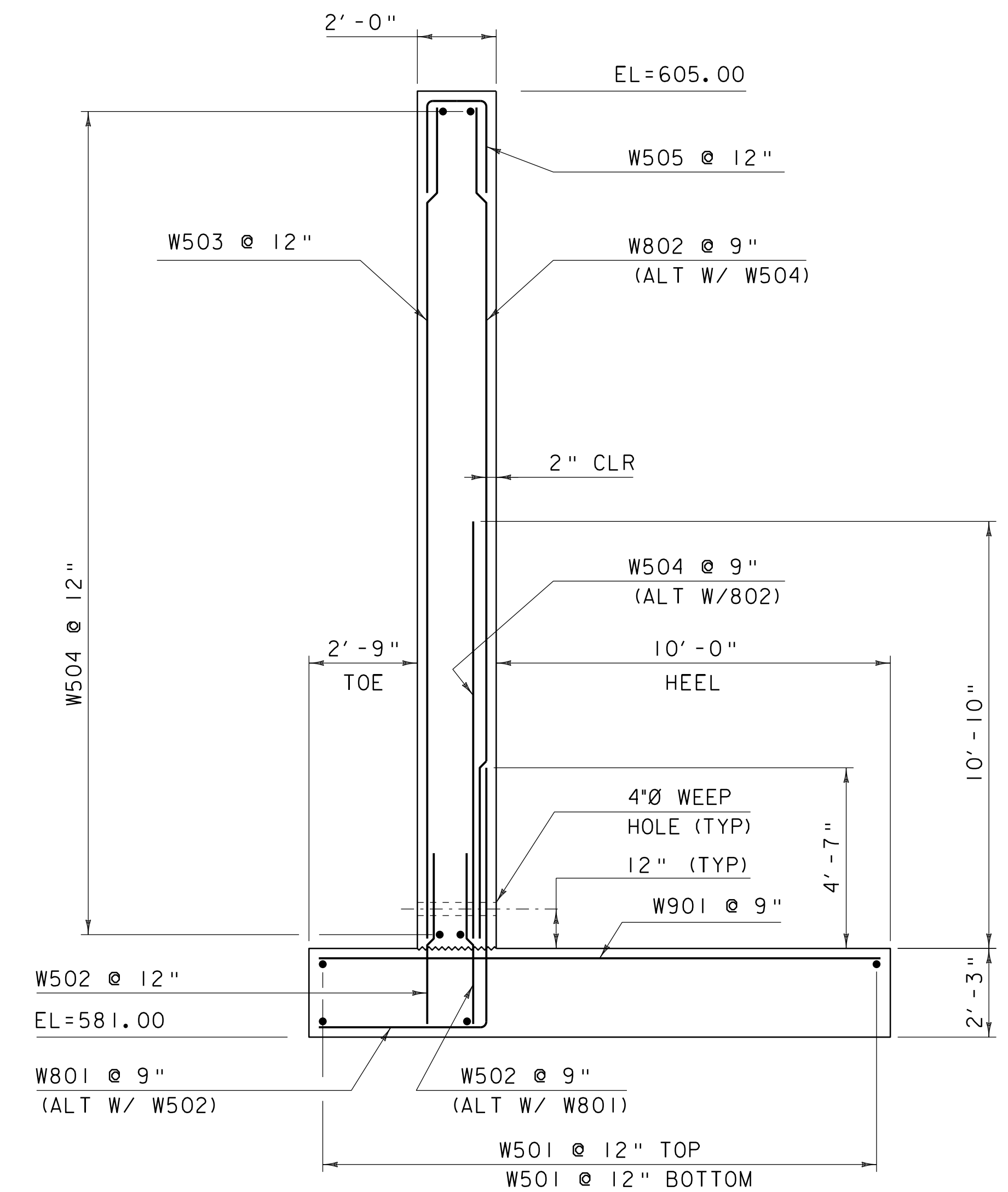
WINGWALL #1 ELEVATION

SCALE 1/4" = 1'-0"



WINGWALL #2 ELEVATION

SCALE 1/4" = 1'-0"



WINGWALL #1 & 2 TYPICAL

SCALE 3/8" = 1'-0"

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

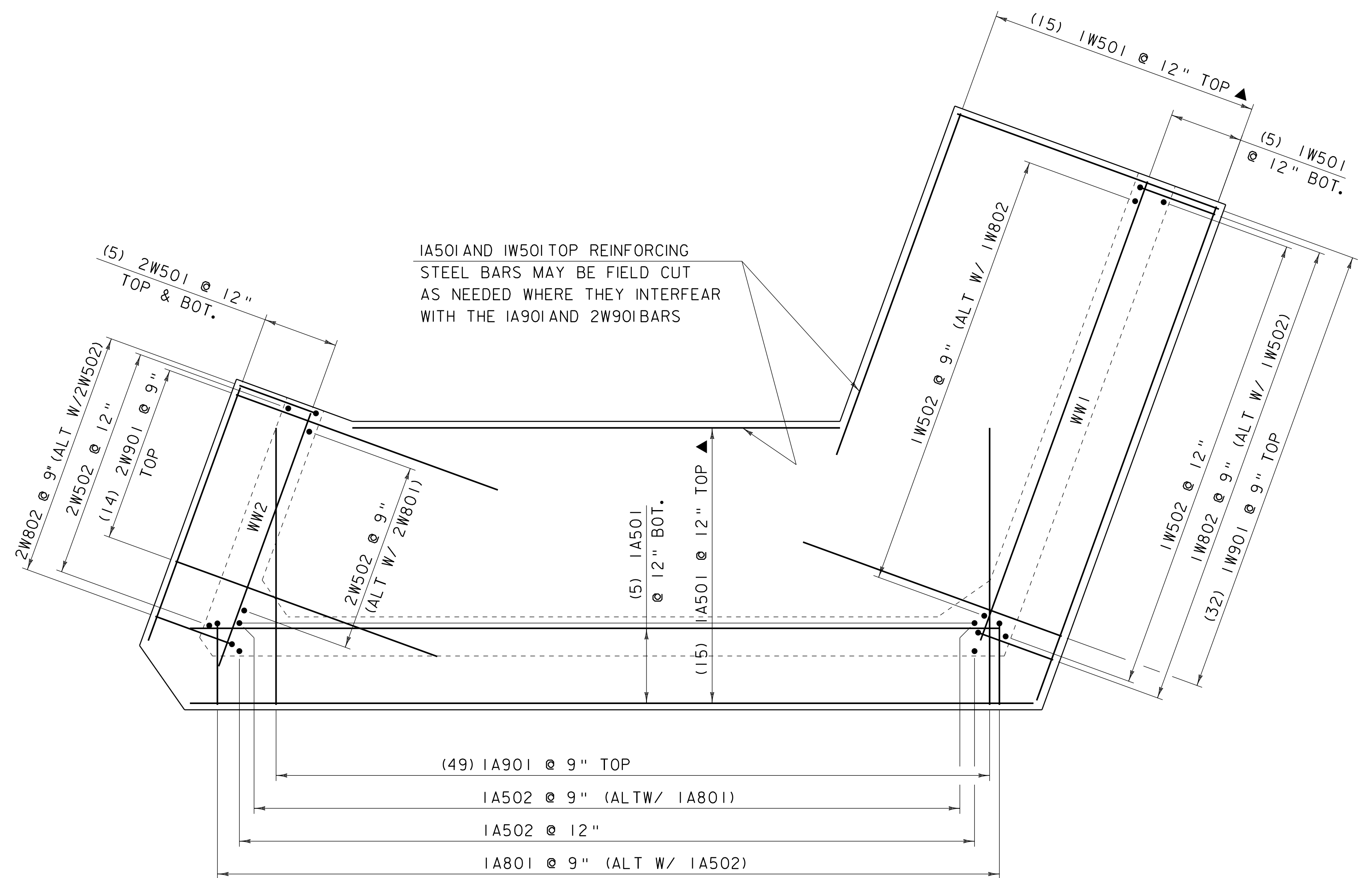
3" CLEAR UNLESS OTHERWISE
SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS
OTHERWISE SPECIFIED ON PLANS

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: s95c002sub.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
WINGWALL #1 & #2 ELEVATION & DETAILS

PLOT DATE: 30-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 47 OF 62

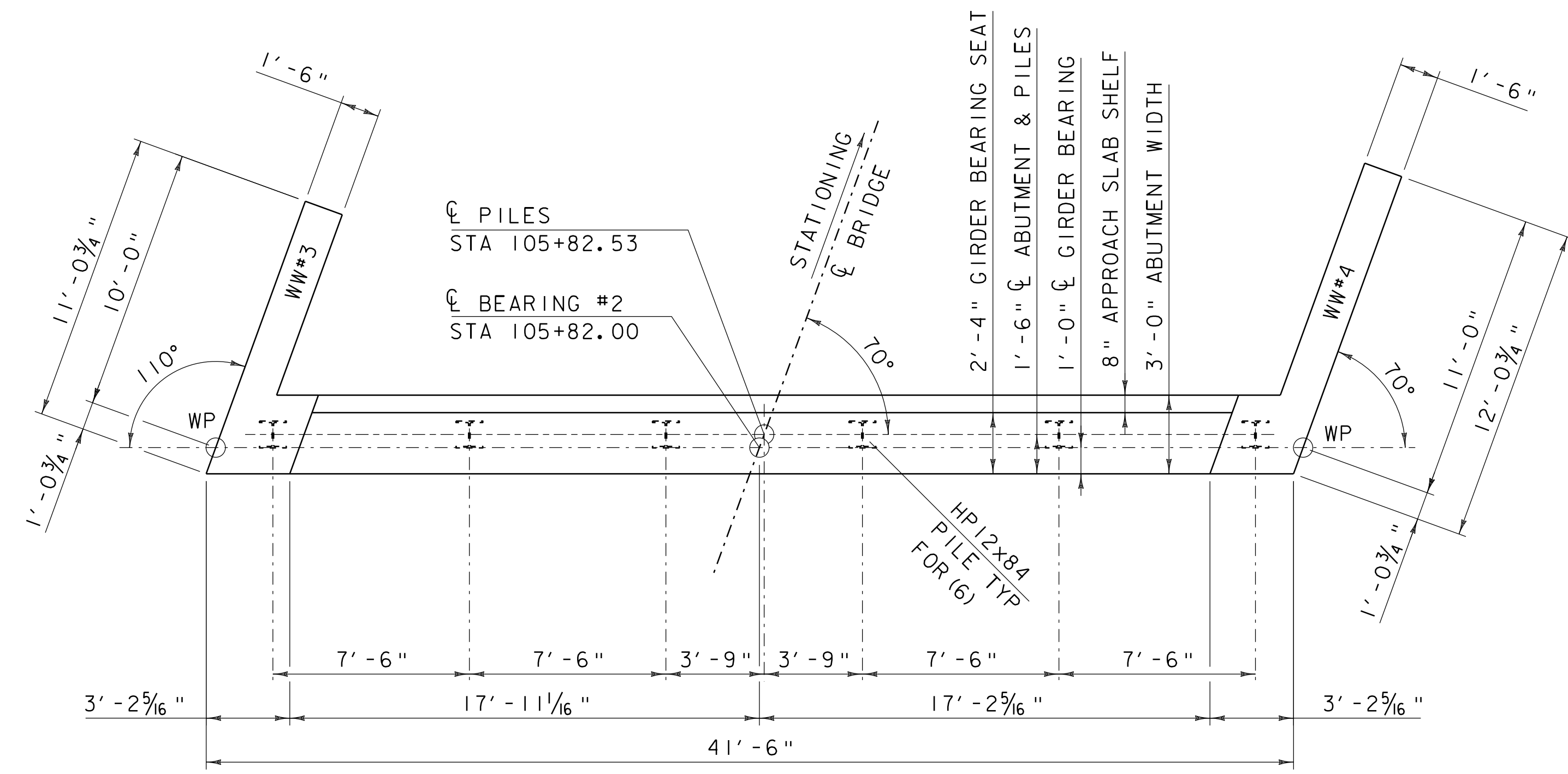


ABUTMENT #1 FOOTING REINFORCING PLAN

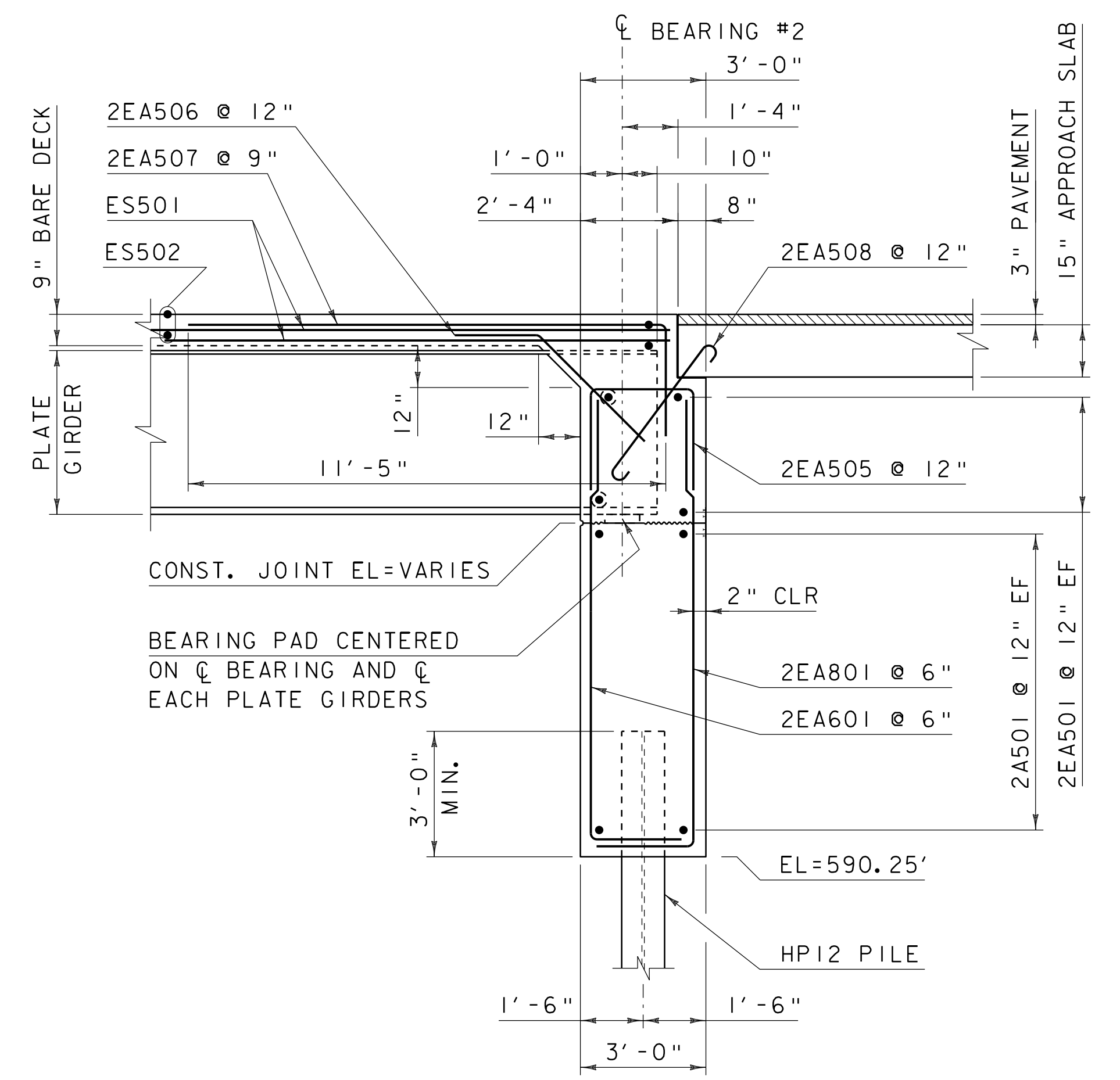
SCALE 1/4" = 1'-0"

NOTES:
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS
 ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

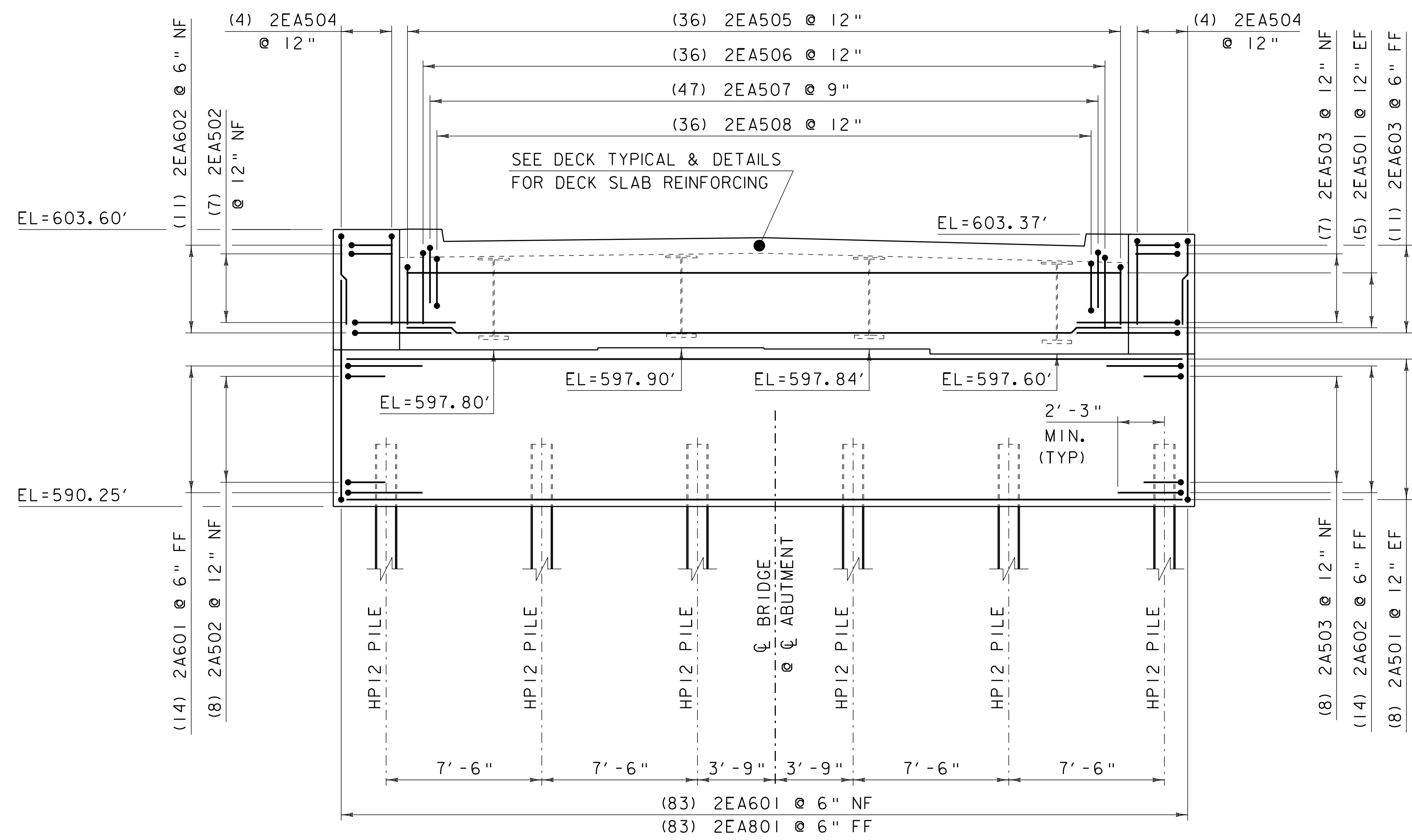
PROJECT NAME:	BETHEL	PLOT DATE:	30-AUG-2011
PROJECT NUMBER:	BHF 0241(30)	DRAWN BY:	M. LONGSTREET
FILE NAME:	s95c002sub.dgn	CHECKED BY:	U. STANLEY
PROJECT LEADER:	M. EVANS-MONGEON	SHEET	48 OF 62
DESIGNED BY:	U. STANLEY	ABUTMENT #1 FOOTING PLAN	



ABUTMENT #2 PLAN
SCALE 1/4" = 1'-0"



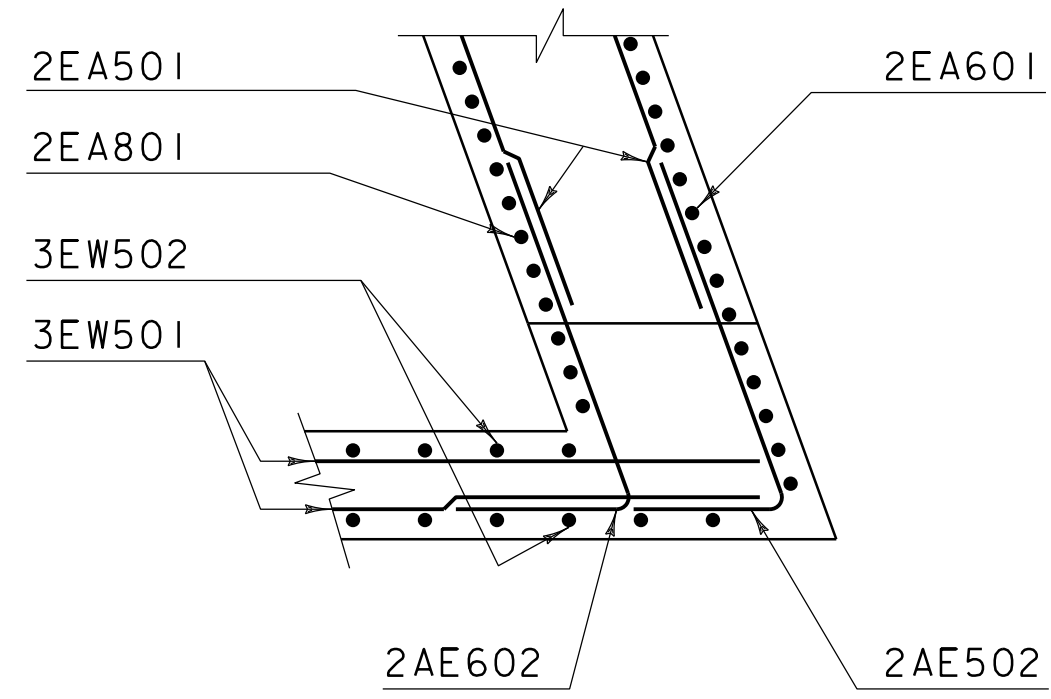
ABUTMENT #2 TYPICAL
SCALE 3/8" = 1'-0"



ABUTMENT #2 ELEVATION
SCALE 1/4" = 1'-0"

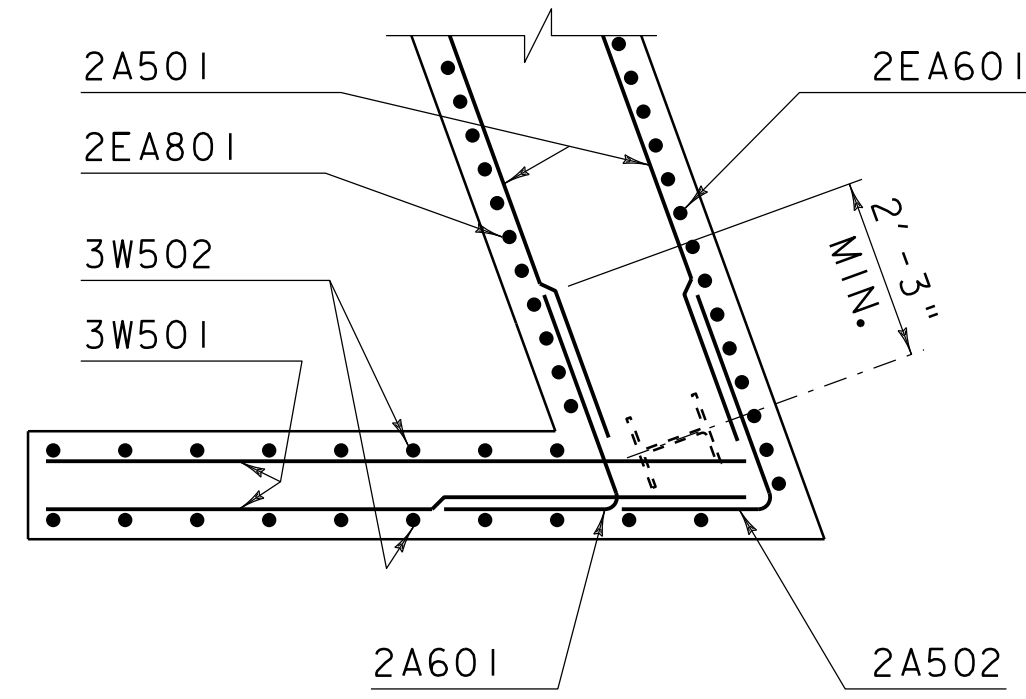
NOTES:
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS
 ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT NAME: BETHEL	PLOT DATE: 30-AUG-2011
PROJECT NUMBER: BHF 0241(30)	DRAWN BY: M. LONGSTREET
FILE NAME: s95c002sub.dgn	CHECKED BY: U. STANLEY
PROJECT LEADER: M. EVANS-MONGEON	SHEET 49 OF 62
DESIGNED BY: U. STANLEY	
ABUTMENT #2 PLAN & ELEVATION	



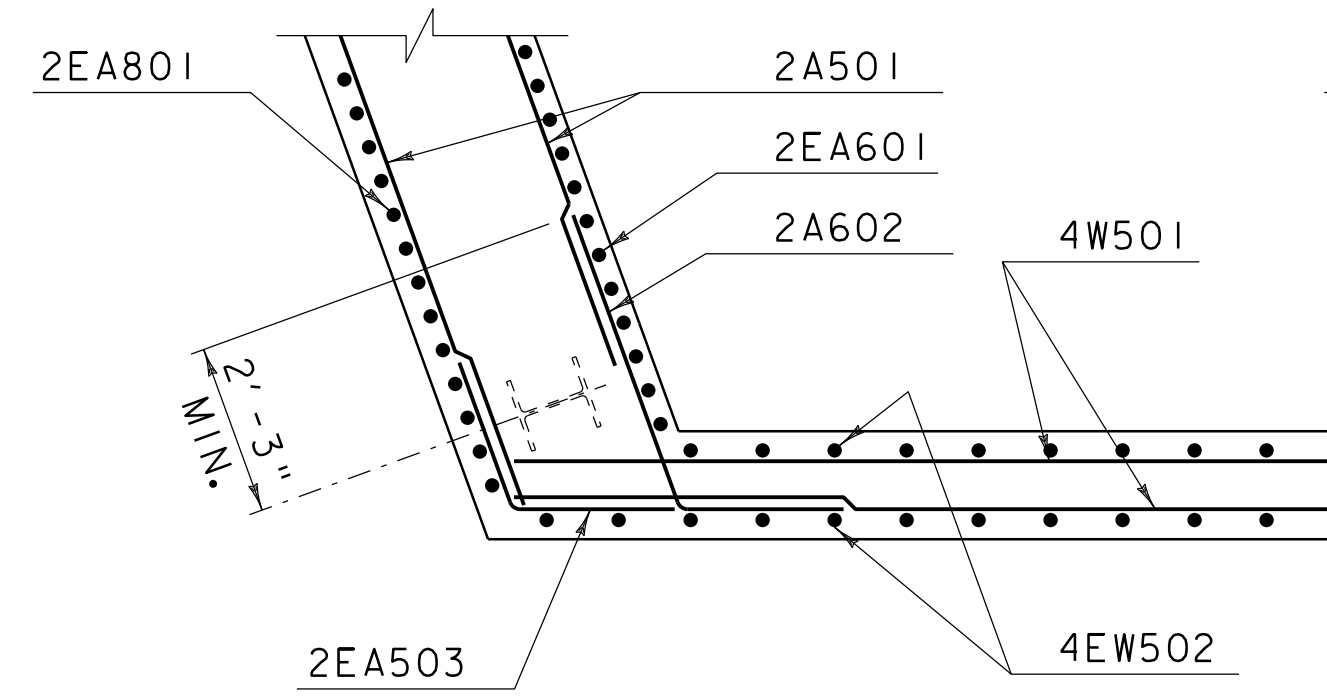
WINGWALL #3 CORNER
DETAIL ABOVE SEAT

SCALE 3/8" = 1'-0"



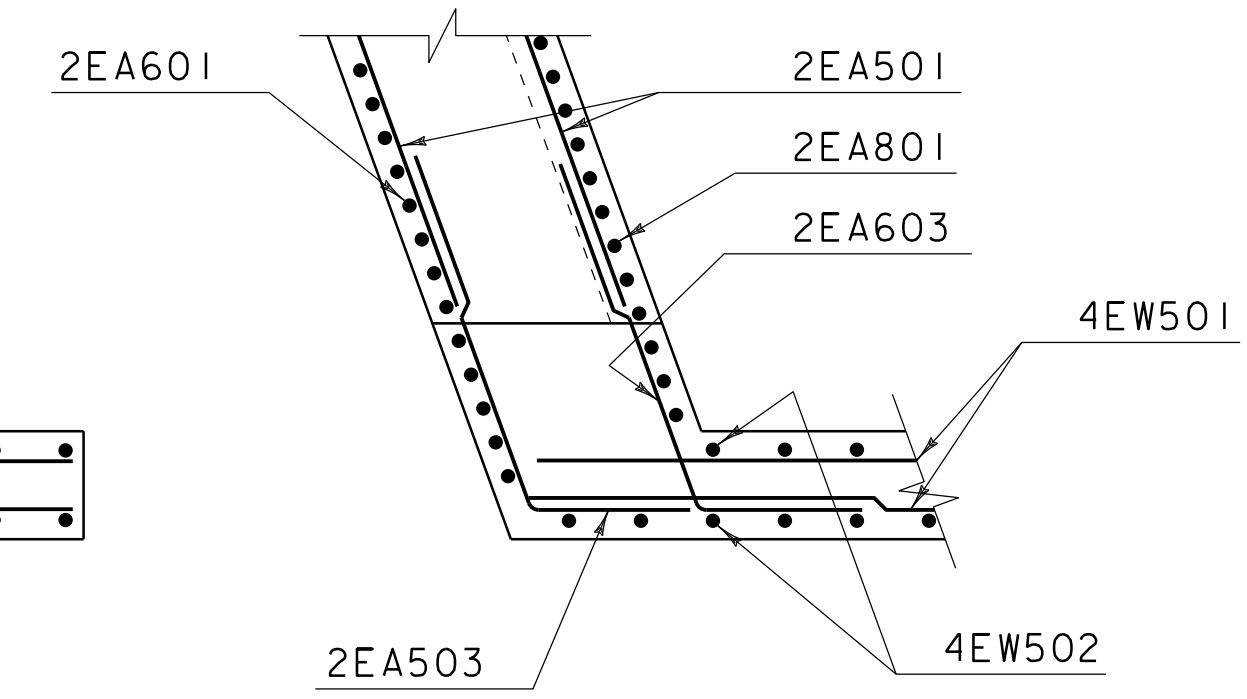
WINGWALL #3 CORNER
DETAIL BELOW SEAT

SCALE 3/8" = 1'-0"



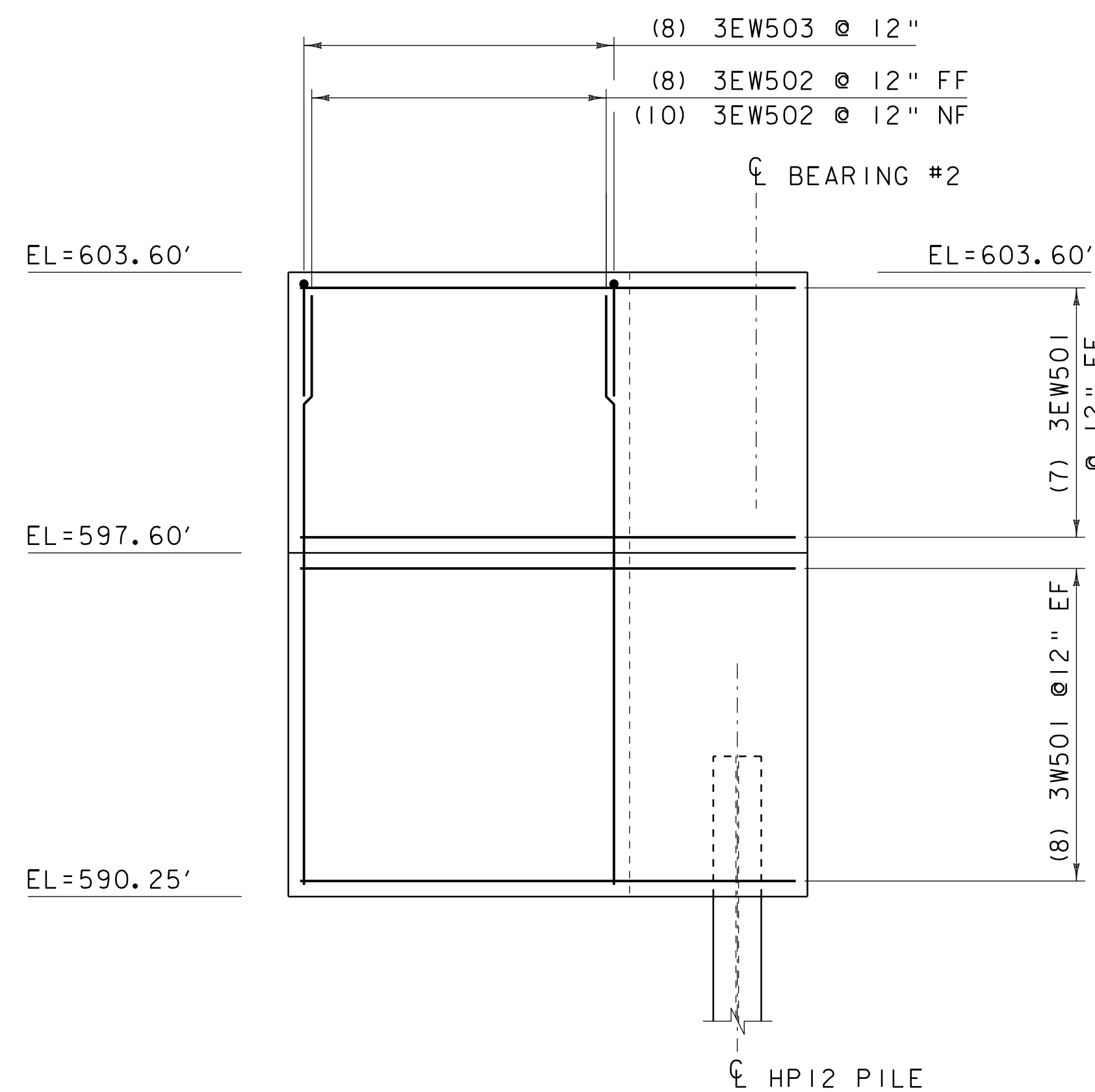
WINGWALL #4 CORNER
DETAIL BELOW SEAT

SCALE 3/8" = 1'-0"



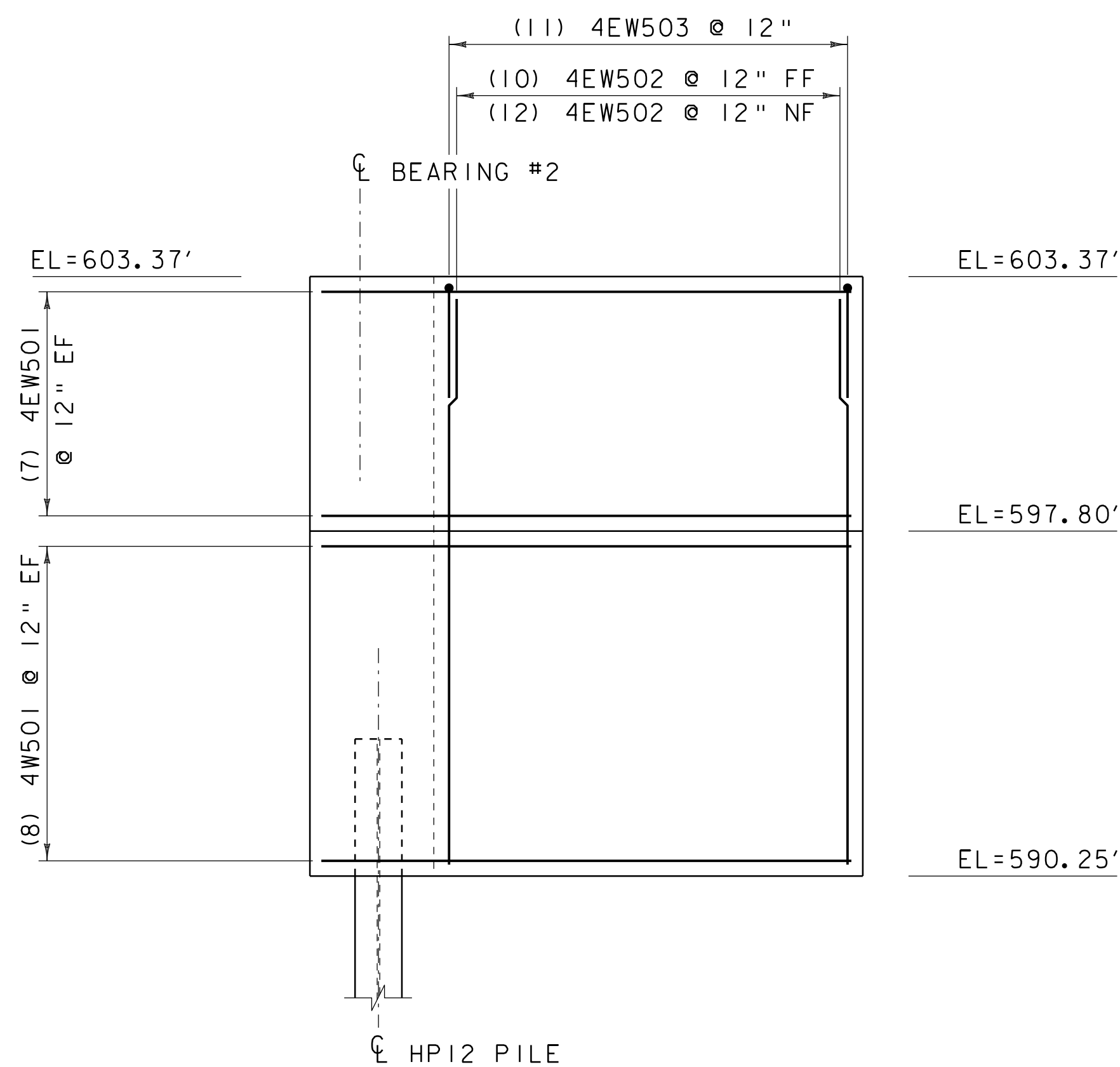
WINGWALL #4 CORNER
DETAIL ABOVE SEAT

SCALE 3/8" = 1'-0"



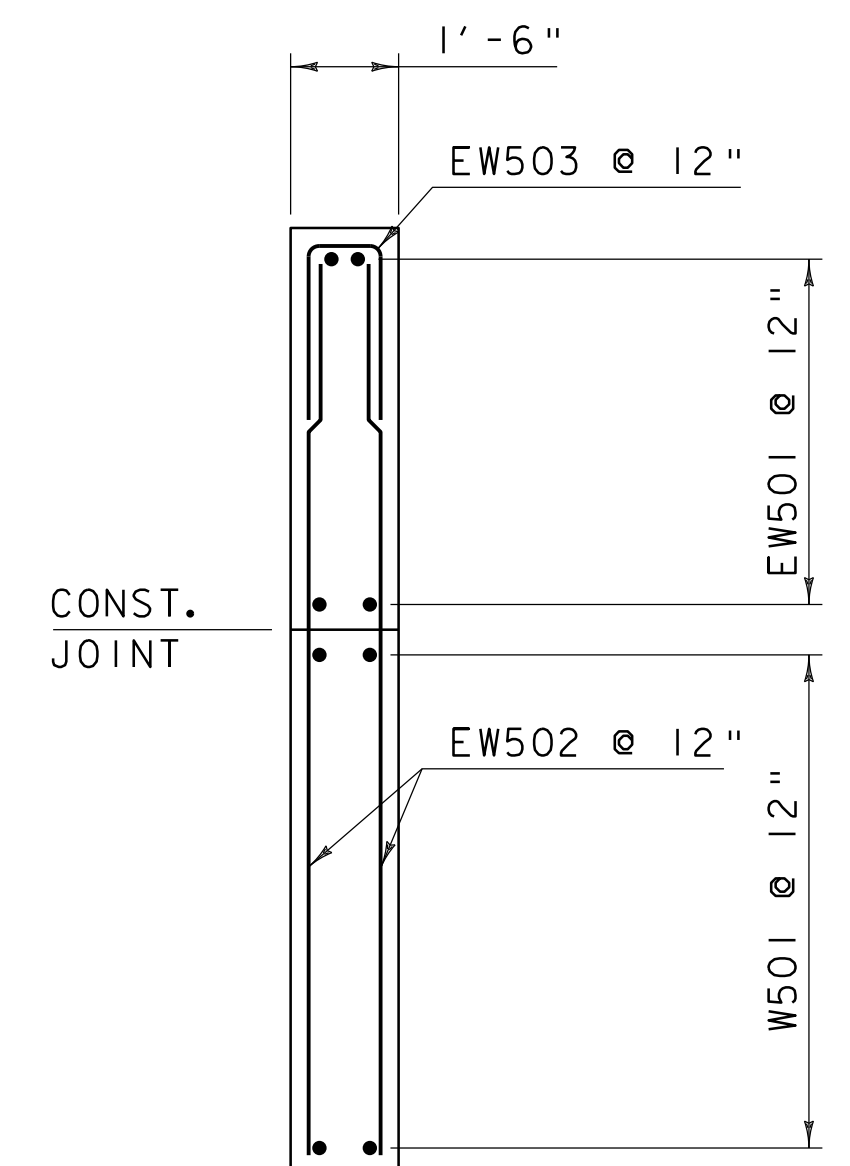
WINGWALL #3 ELEVATION

SCALE 3/8" = 1'-0"



WINGWALL #4 ELEVATION

SCALE 3/8" = 1'-0"



WINGWALL TYPICAL

SCALE 3/8" = 1'-0"

NOTES:

- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

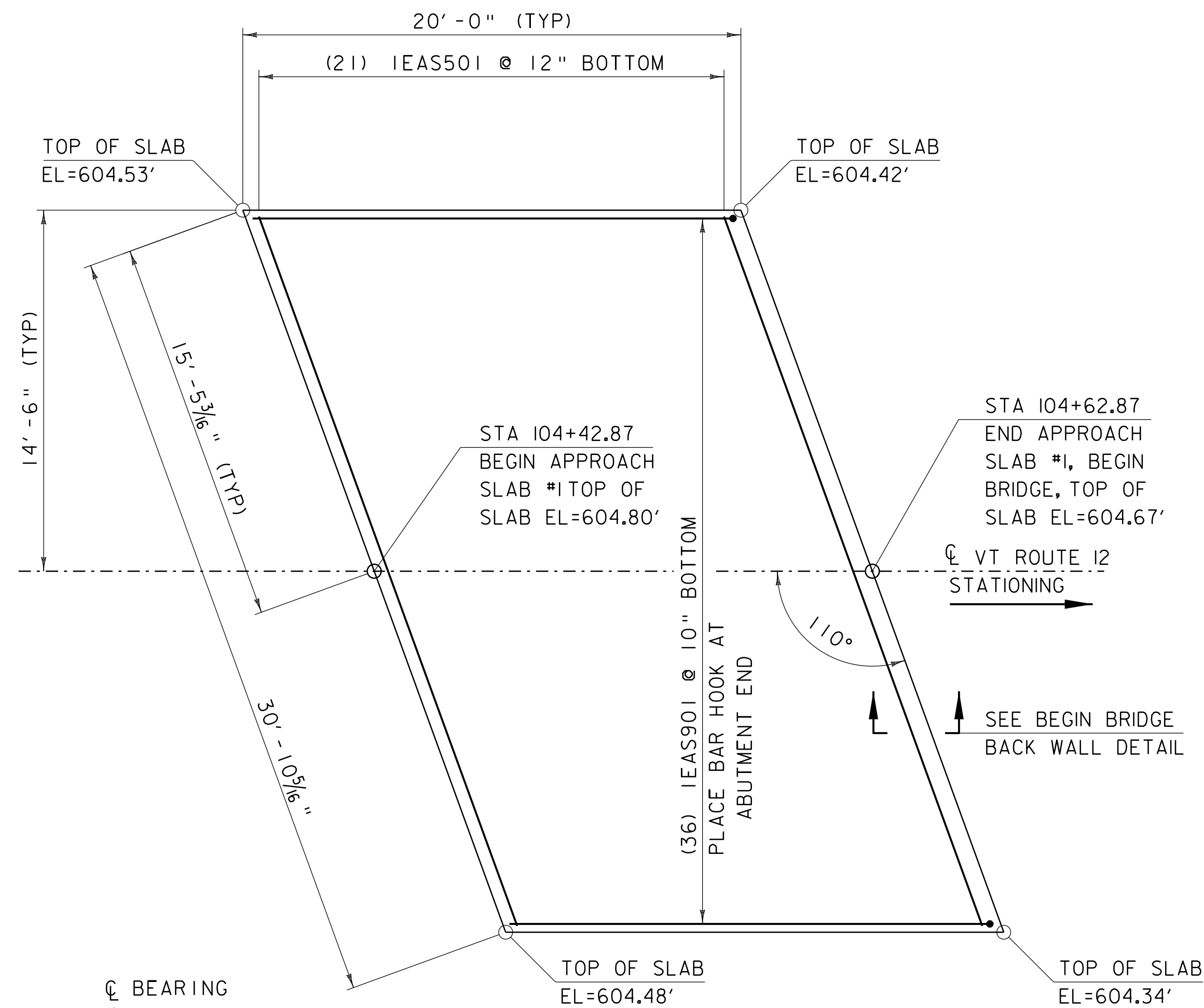
PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: s95c002sub.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
WINGWALL #3 & #4 ELEVATION & DETAILS

PLOT DATE: 30-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 50 OF 62

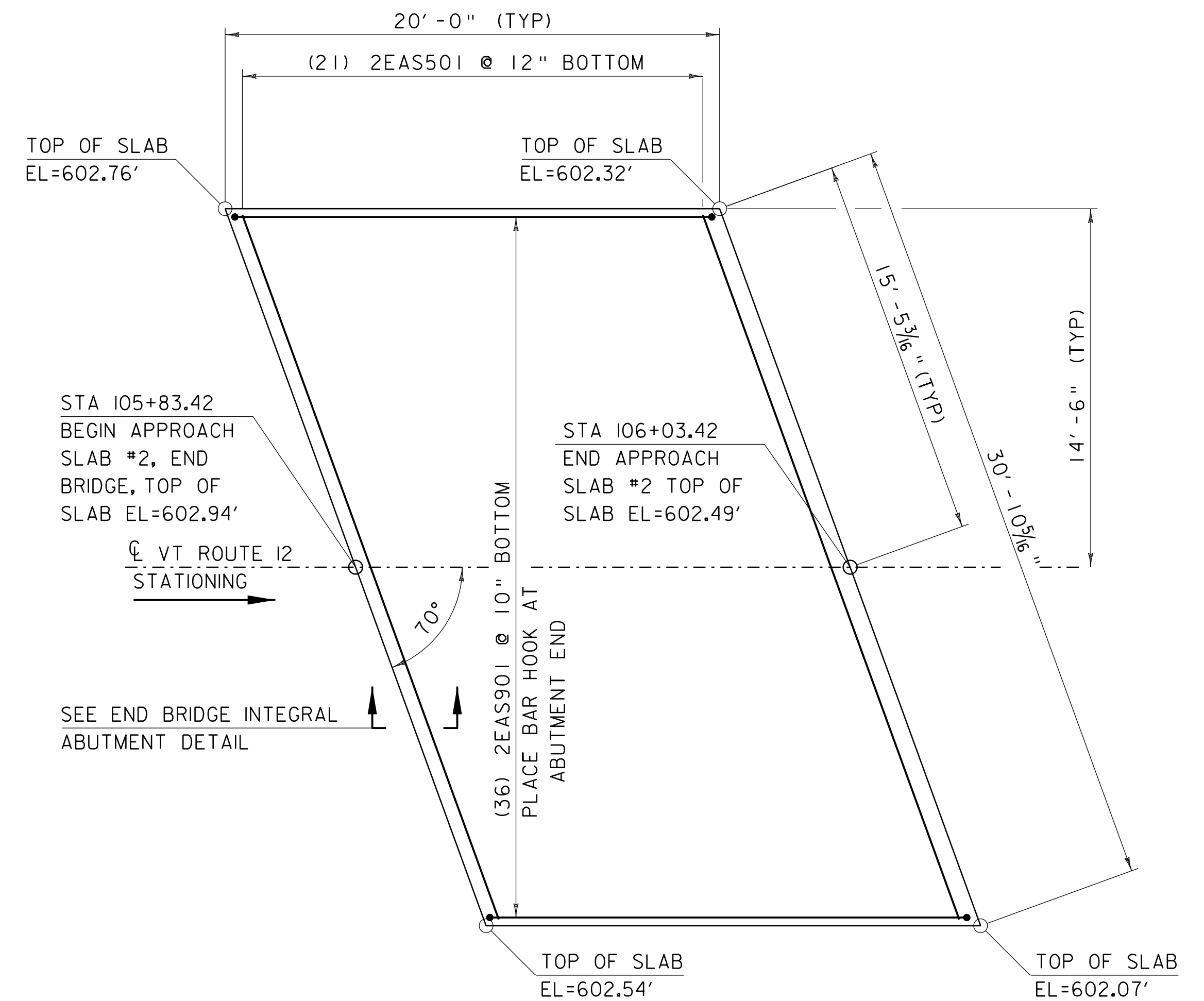
NOTE:

- 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.



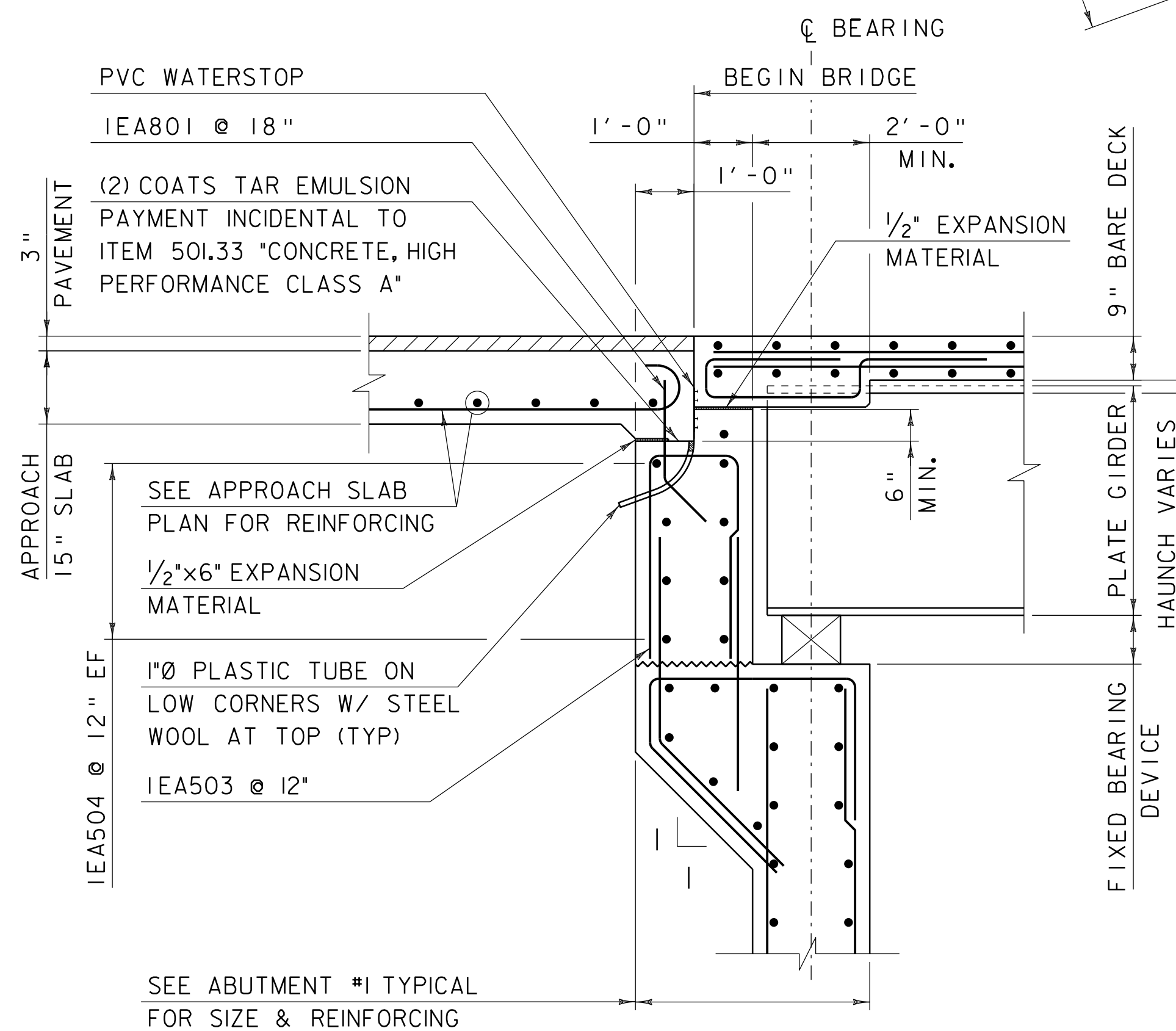
APPROACH SLAB #1 PLAN

SCALE 1/4" = 1'-0"



APPROACH SLAB #2 PLAN

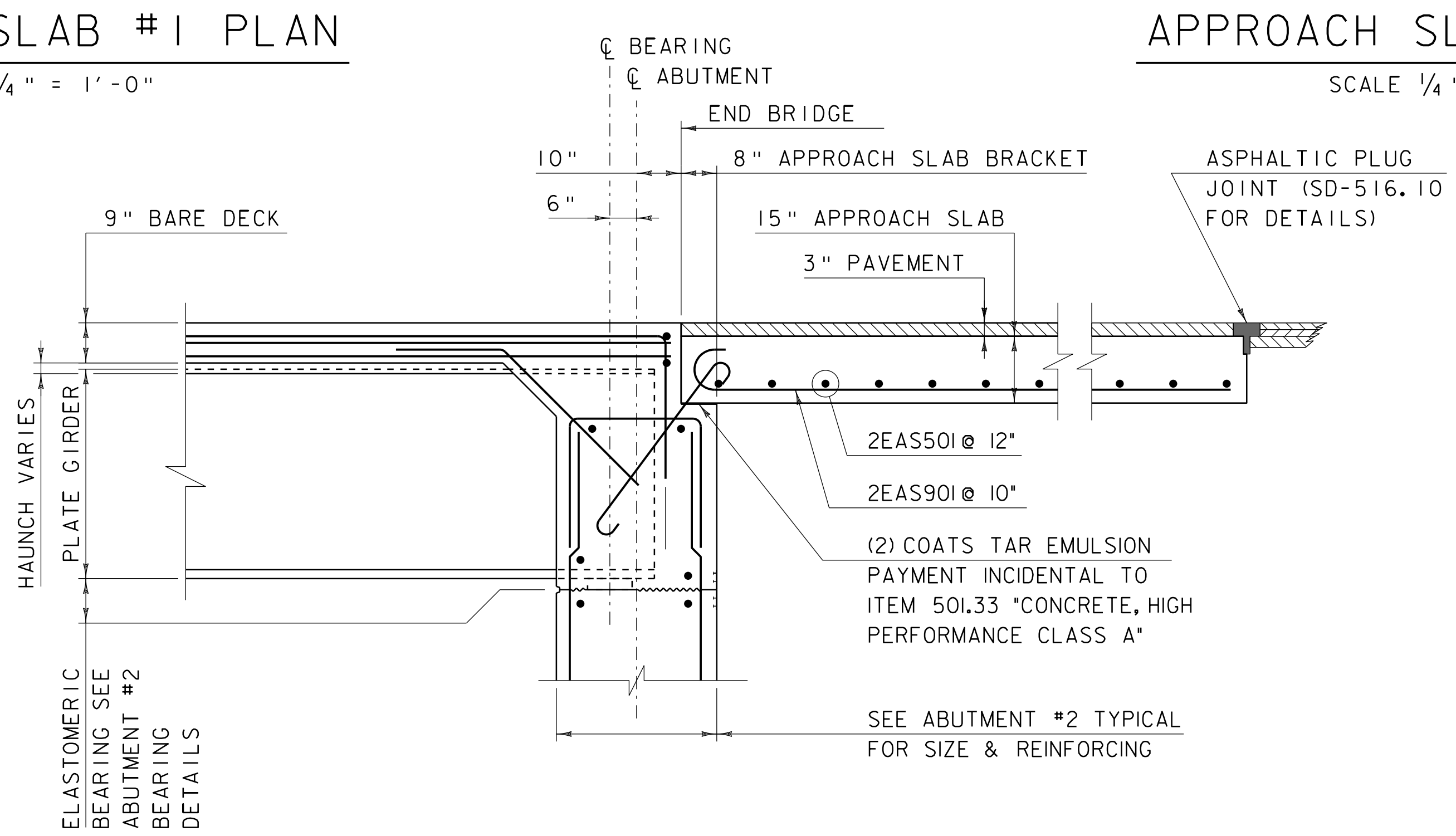
SCALE 1/4" = 1'-0"



BEGIN BRIDGE BACK WALL DETAIL

SCALE 1/2" = 1'-0"

- 1) SEE BRIDGE FRAMING PLAN FOR PLATE GIRDER DETAILS.
- 2) SEE BEARING DETAILS FOR BEARING DEVICE DETAILS.



END BRIDGE INTEGRAL ABUTMENT DETAIL

SCALE 1/2" = 1'-0"

- 1) SEE BRIDGE FRAMING PLAN FOR PLATE GIRDER DETAILS.

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: s95c002sup.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
APPROACH SLAB 1&2 PLANS & DETAILS

PLOT DATE: 30-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 51 OF 62

