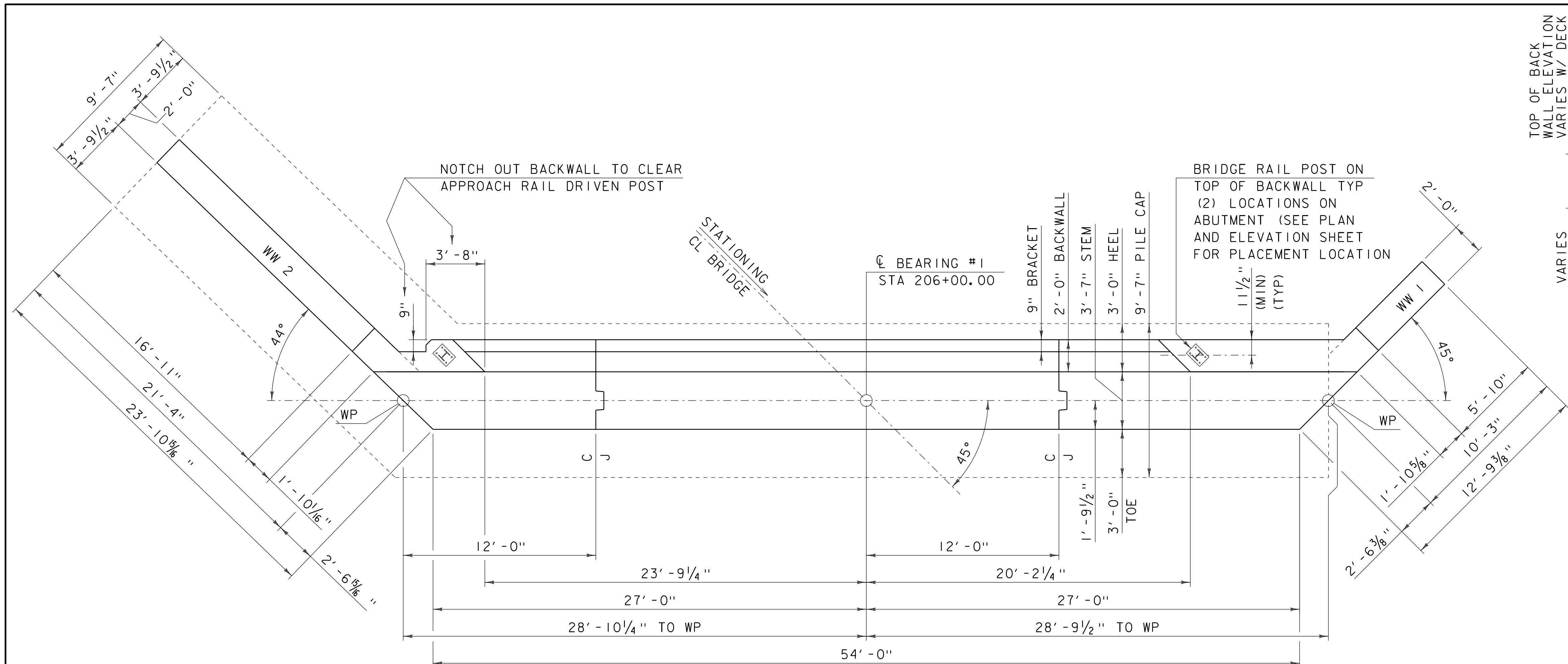
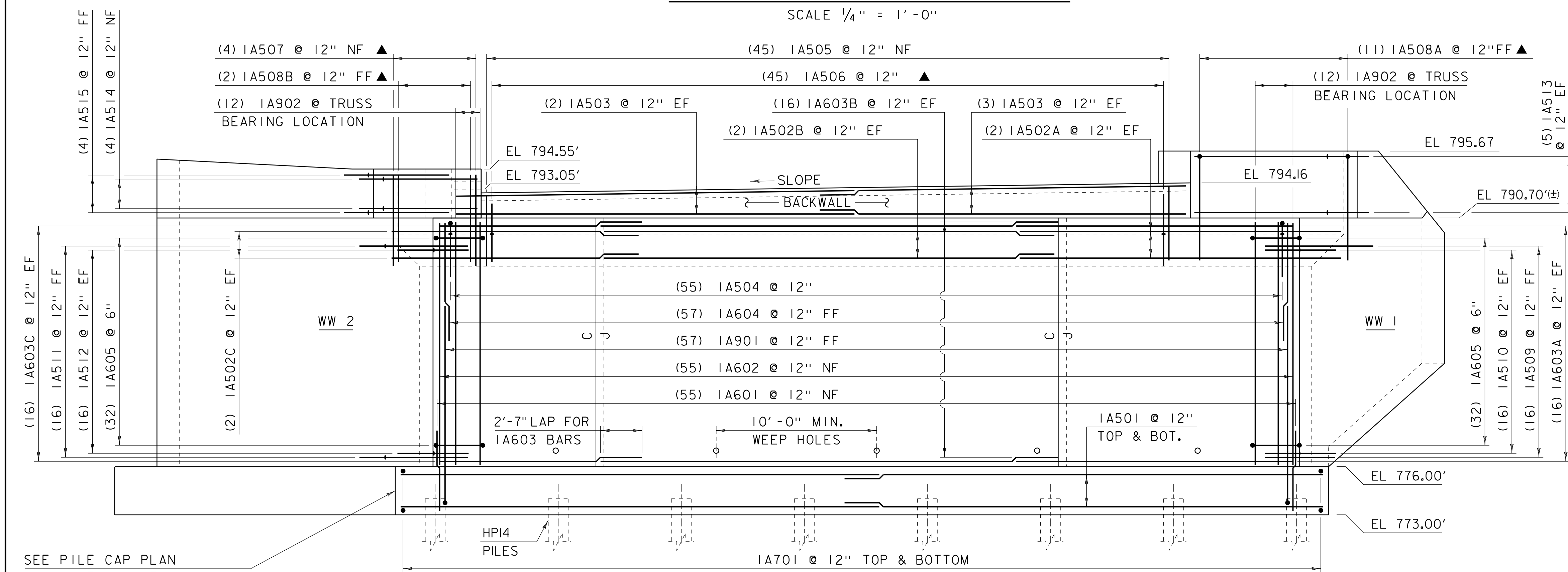


PROJECT NAME:	WARREN	PLOT DATE:	27-JUL-2012
PROJECT NUMBER:	BRF 013-4 (14)	DRAWN BY:	M. LONGSTREET
FILE NAME:	s78f242pe.dgn	CHECKED BY:	U. STANLEY
PROJECT LEADER:	J. LACROIX	SHEET	49 OF 83
DESIGNED BY:	U. STANLEY		
PLAN AND ELEVATION SHEET			



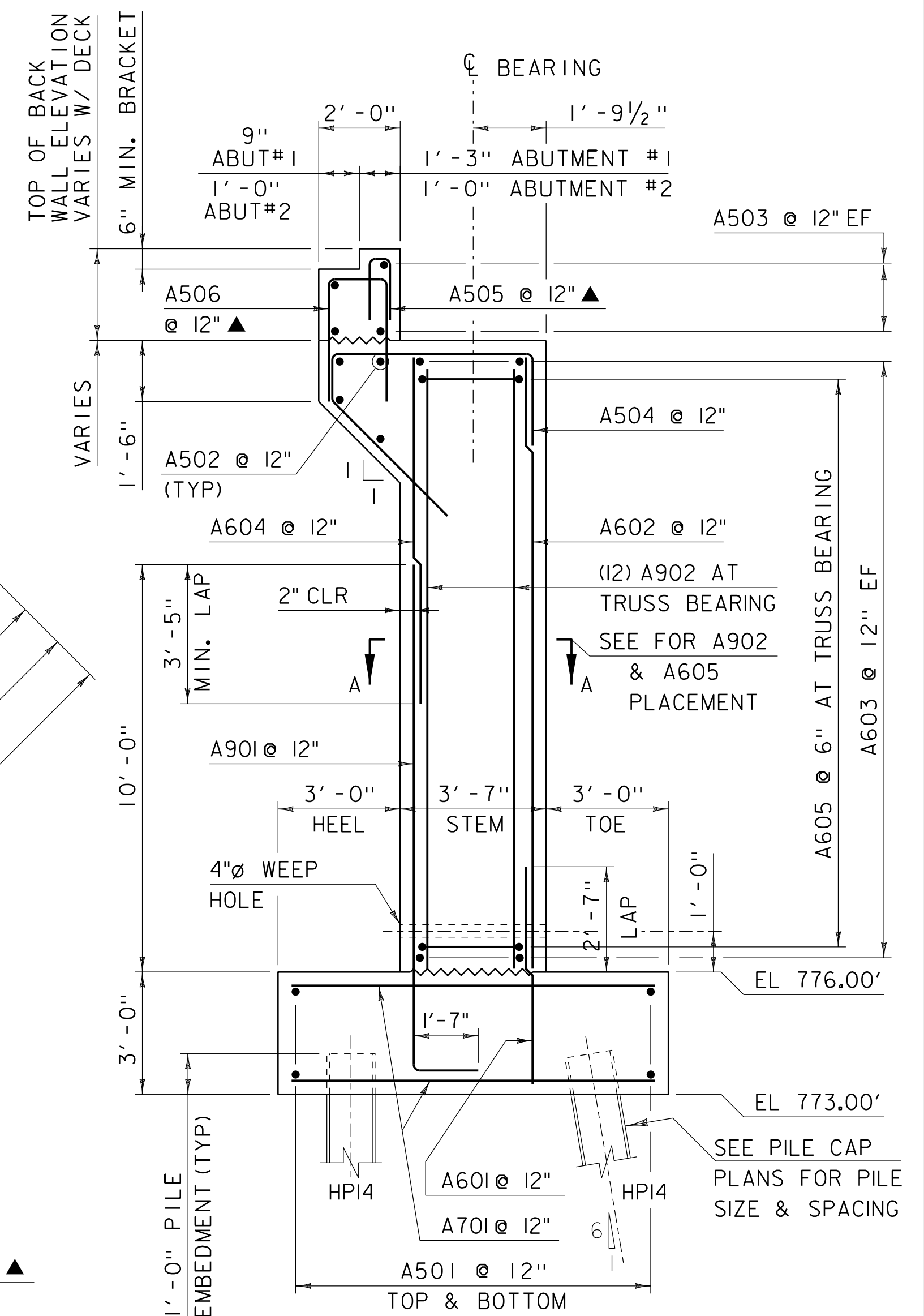
**ABUTMENT #1 PLAN VIEW**

SCALE 1/4" = 1'-0"



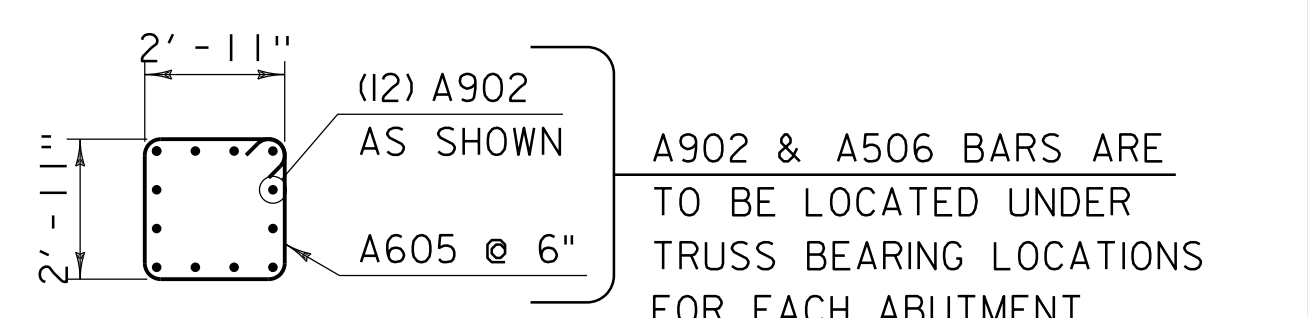
**ABUTMENT #1 ELEVATION**

SCALE 1/4" = 1'-0"



**ABUTMENT #1&2 TYPICAL**

SCALE 3/8" = 1'-0"



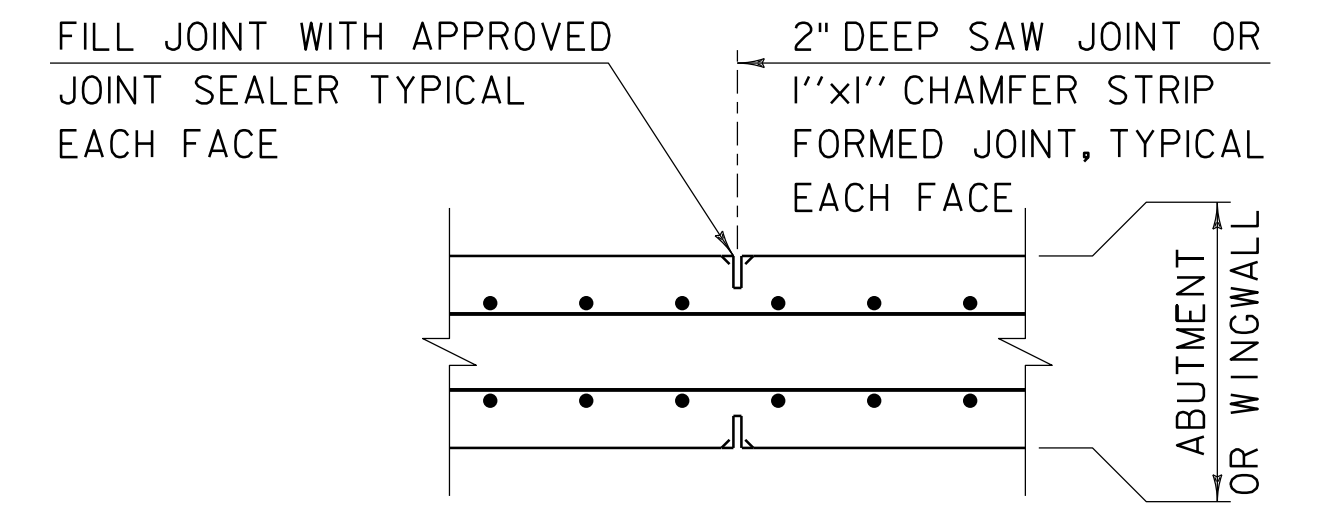
**A-A DETAIL**

**NOTE:**

NF = NEAR FACE  
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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.

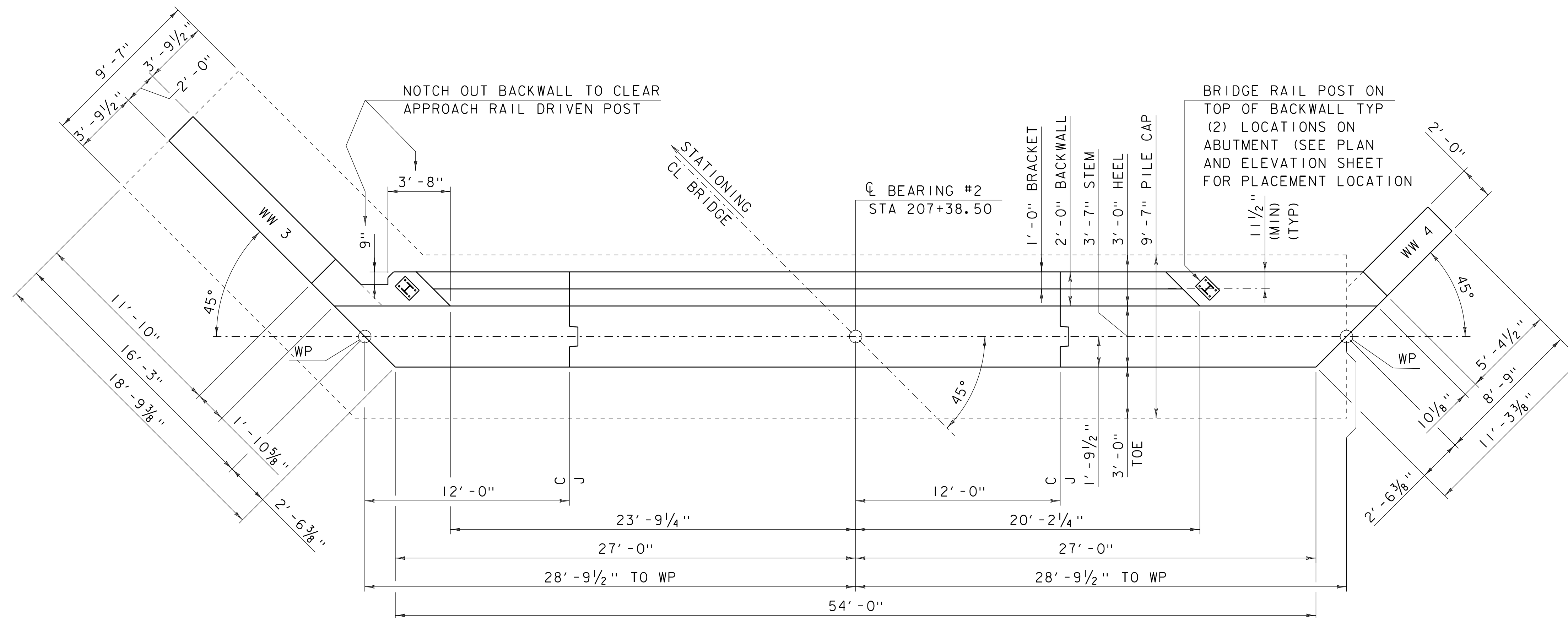
SEE PILE CAP PLAN FOR PILE CAP REINFORCING AND HP14 PILE LOCATIONS

PROJECT NAME: WARREN	PLOT DATE: 27-JUL-2012
PROJECT NUMBER: BRF 013-4 (14)	DRAWN BY: M.LONGSTREET
FILE NAME: s78f242sub.dgn	DESIGNED BY: U.STANLEY
PROJECT LEADER: J.LACROIX	CHECKED BY: U. STANLEY
ABUTMENT #1 PLAN & ELEVATION	SHEET 50 OF 83



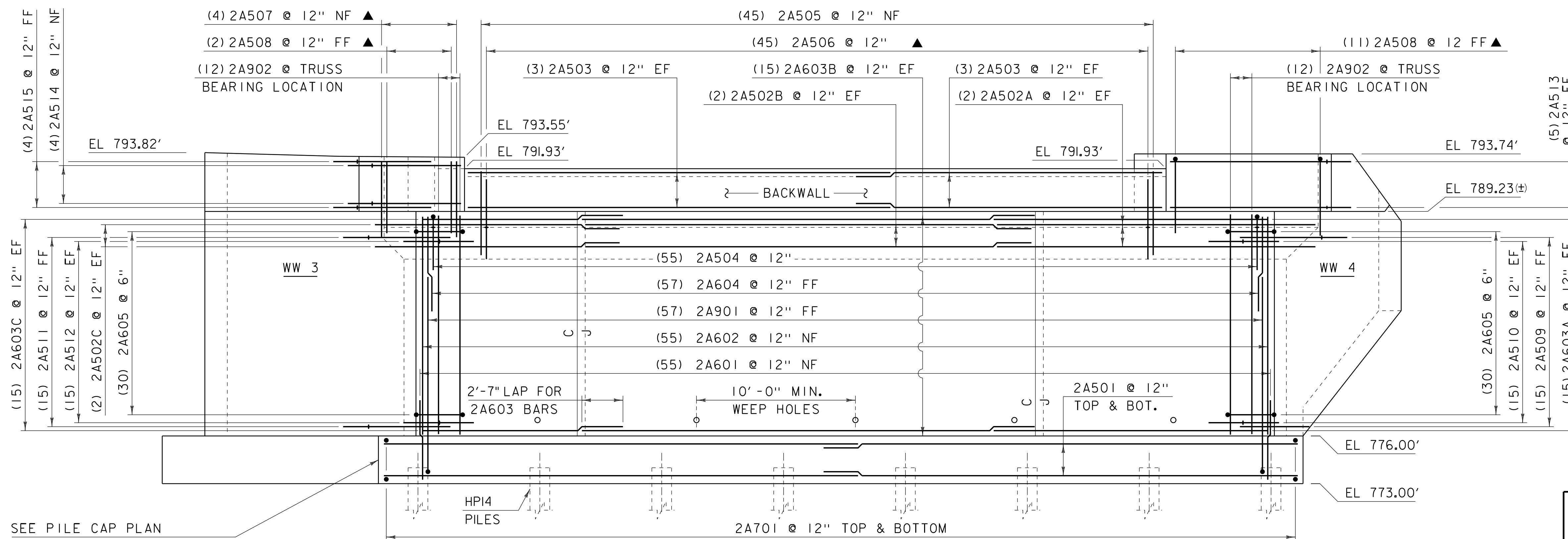
### CONTRACTION JOINT

- CONTRACTION JOINTS SHALL BE PLACED AT NOT MORE THAN 30 FEET APART, MEASURED ALONG THE FACE OF THE ABUTMENT. CONTRACTION JOINTS TO BE USED ON CONTINUOUS POURS OVER 40 FEET IN LENGTH AS MEASURED ALONG THE ABUTMENT FACE.



### ABUTMENT #2 PLAN VIEW

SCALE 1/4" = 1'-0"



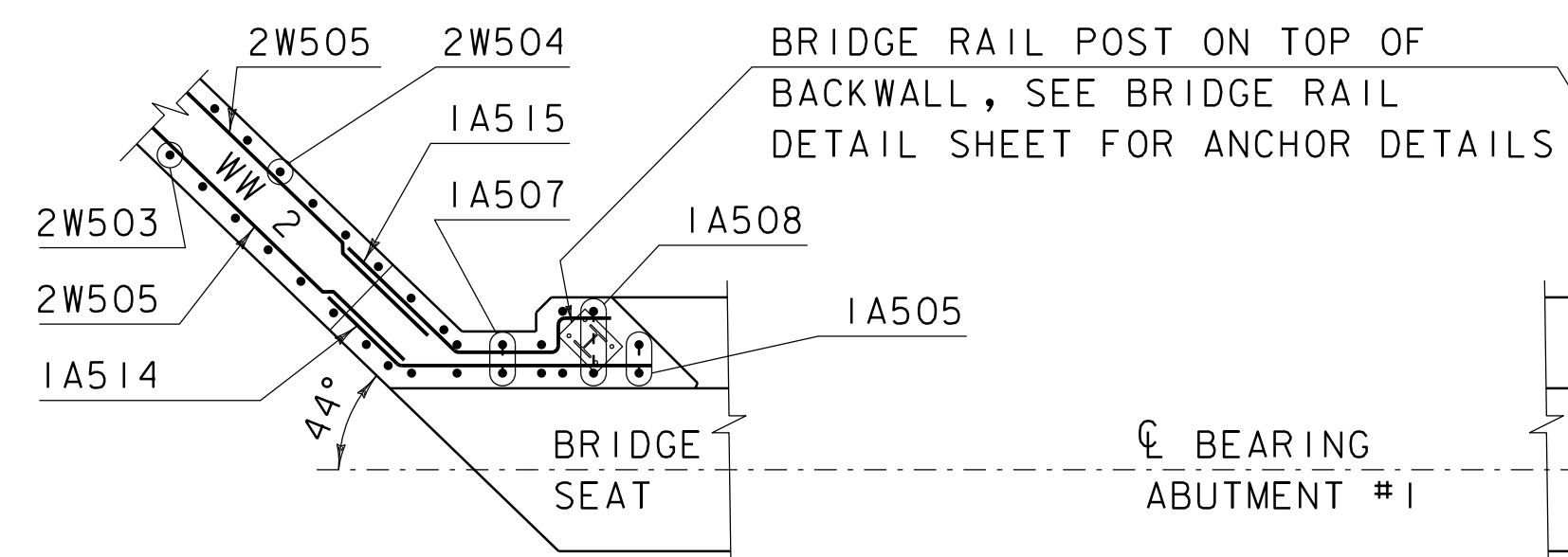
### ABUTMENT #2 ELEVATION

SCALE 1/4" = 1'-0"

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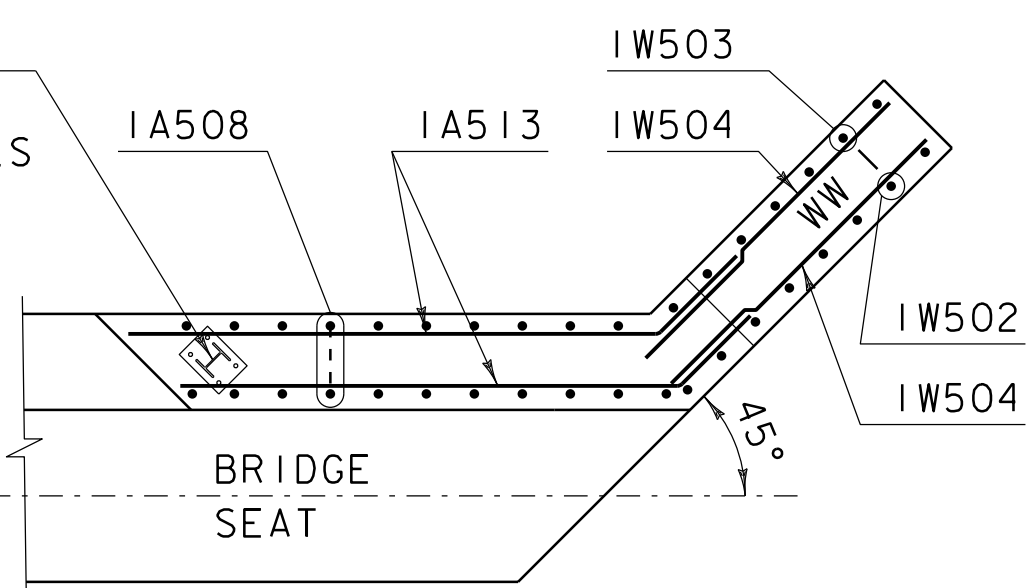
SEE PILE CAP PLAN FOR PILE CAP REINFORCING AND HPI4 PILE LOCATIONS

PROJECT NAME:	WARREN	PLOT DATE:	27-JUL-2012
PROJECT NUMBER:	BRF 013-4 (14)	DRAWN BY:	M.LONGSTREET
FILE NAME:	s78f242sub.dgn	CHECKED BY:	U. STANLEY
PROJECT LEADER:	J.LACROIX	SHEET	51 OF 83
DESIGNED BY:	U.STANLEY	ABUTMENT #2 PLAN & ELEVATION	



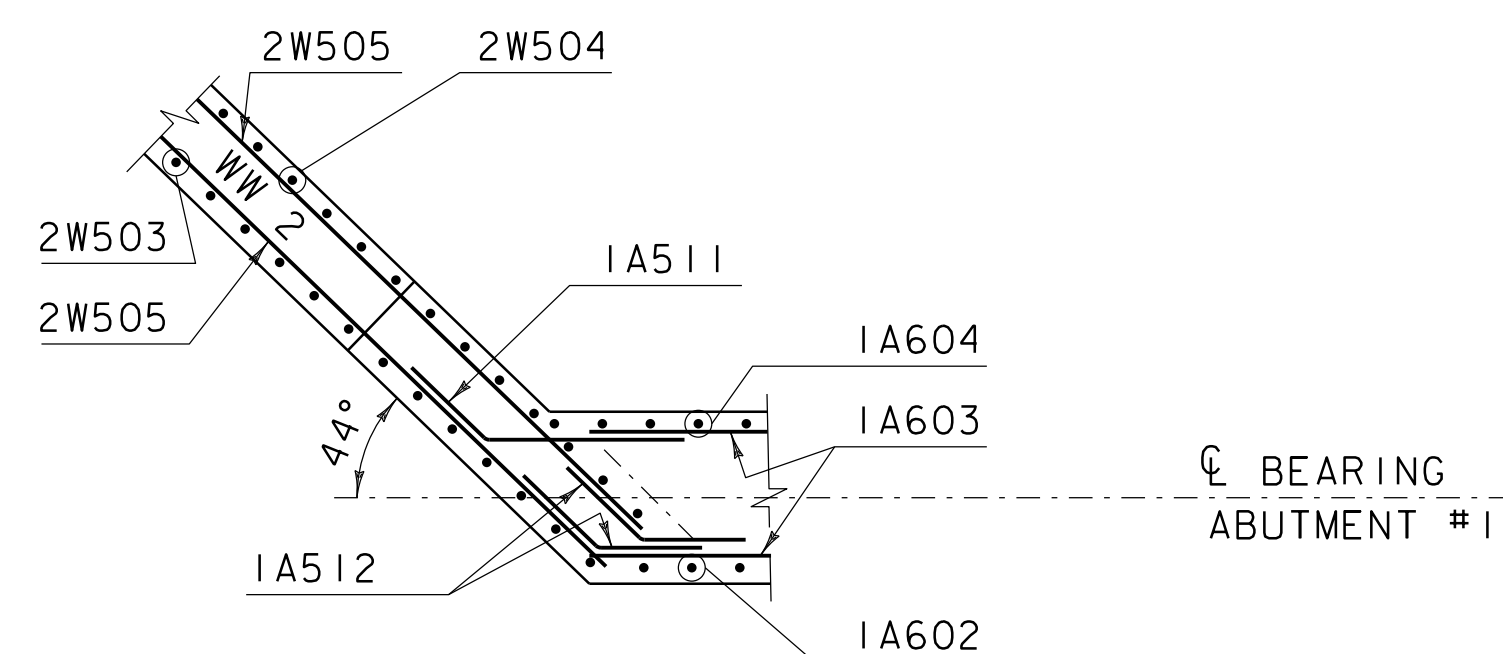
WINGWALL #2 CORNER  
DETAIL ABOVE SEAT

SCALE 1/4" = 1'-0"



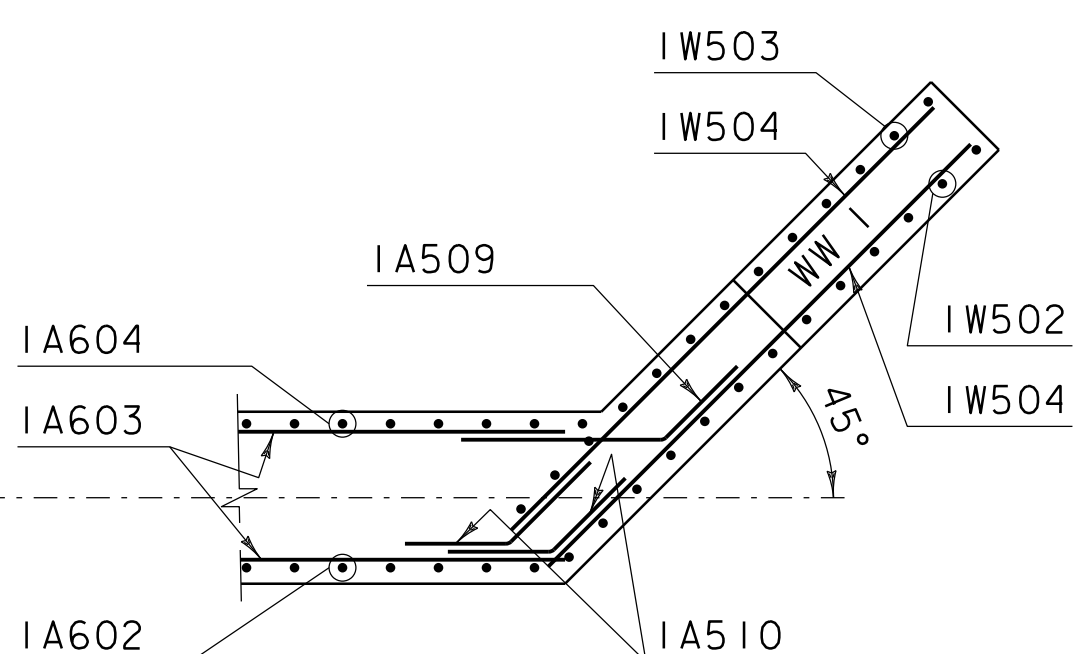
WINGWALL #1 CORNER  
DETAIL ABOVE SEAT

SCALE 1/4" = 1'-0"



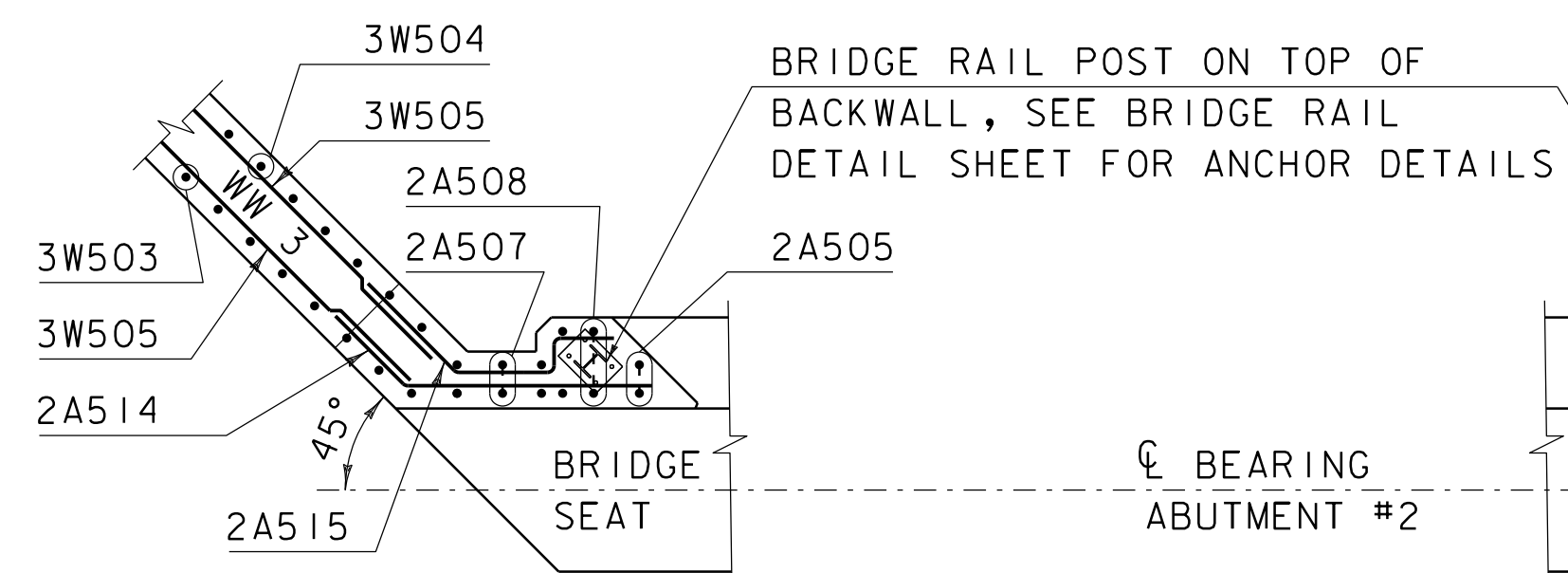
WINGWALL #2 CORNER  
DETAIL BELOW SEAT

SCALE 1/4" = 1'-0"



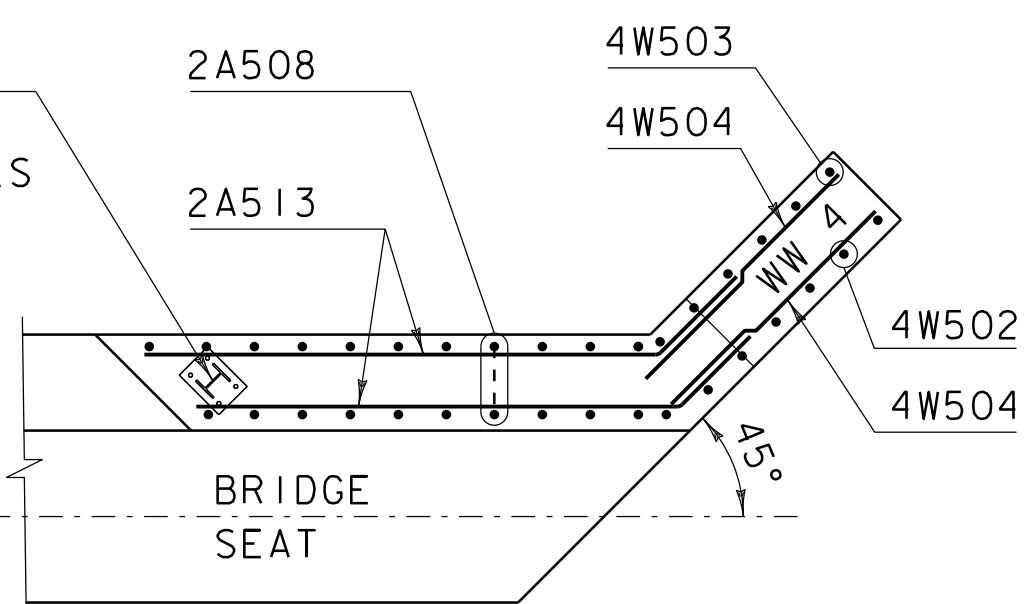
WINGWALL #1 CORNER  
DETAIL BELOW SEAT

SCALE 1/4" = 1'-0"



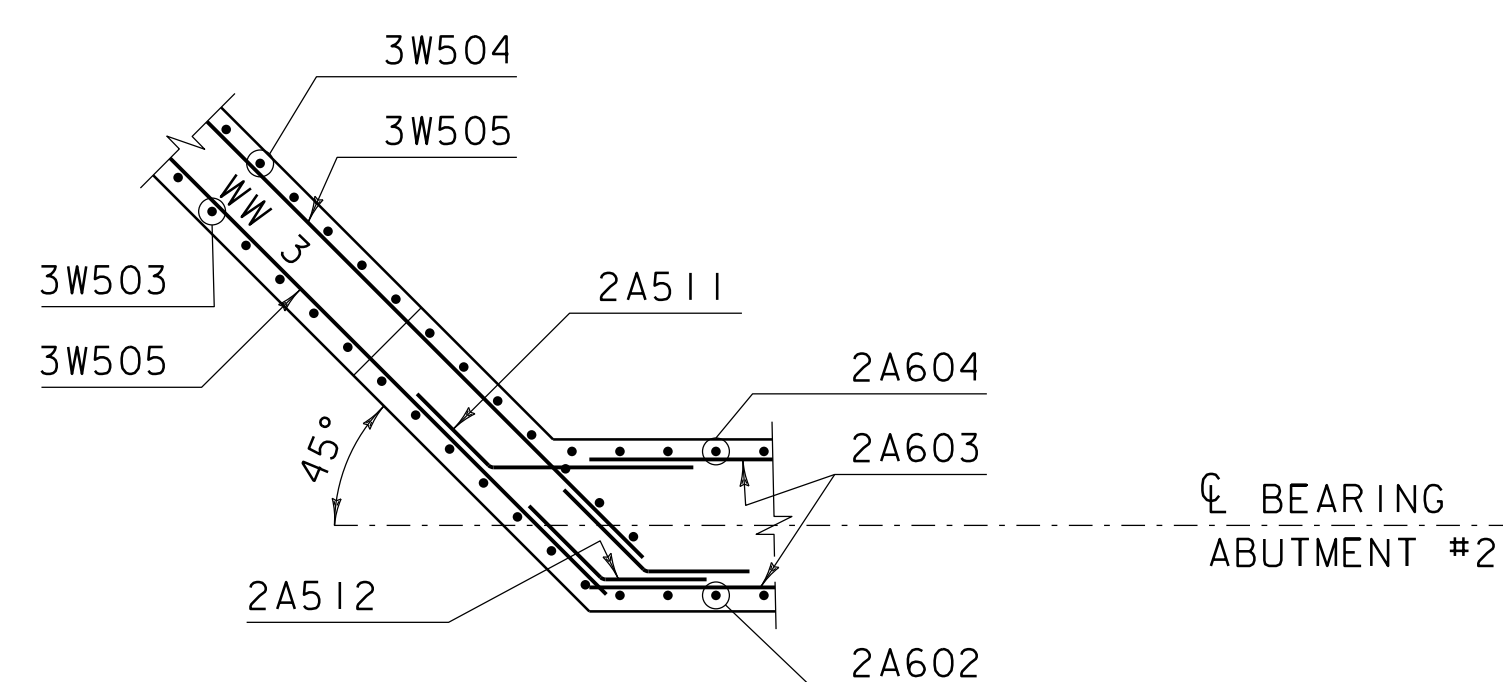
WINGWALL #3 CORNER  
DETAIL ABOVE SEAT

SCALE 1/4" = 1'-0"



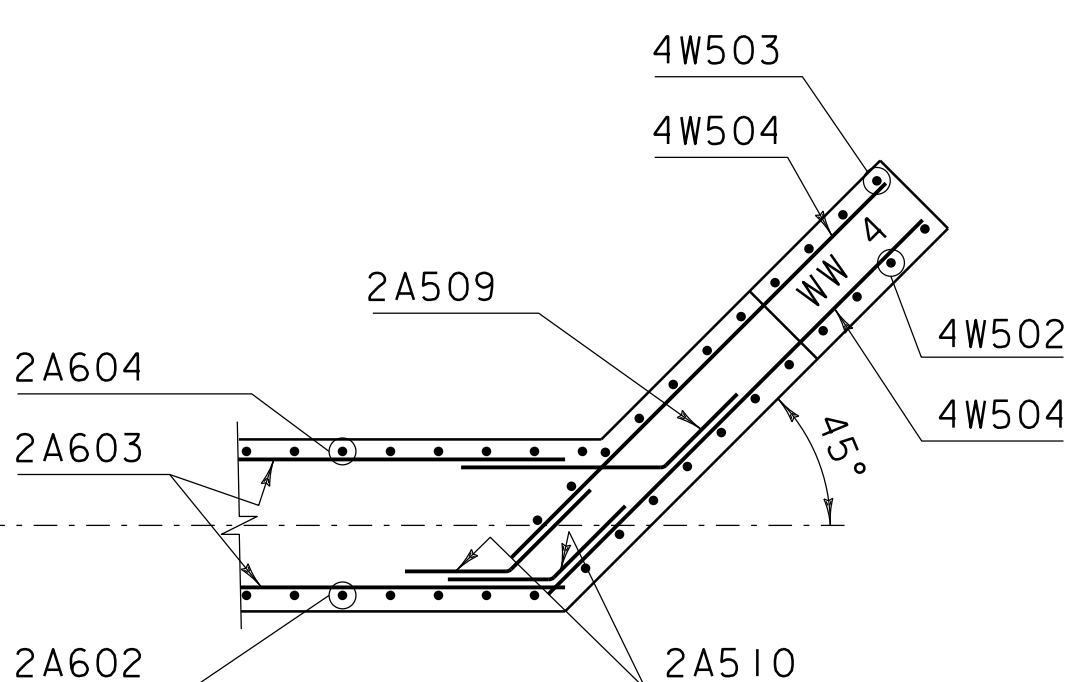
WINGWALL #4 CORNER  
DETAIL ABOVE SEAT

SCALE 1/4" = 1'-0"



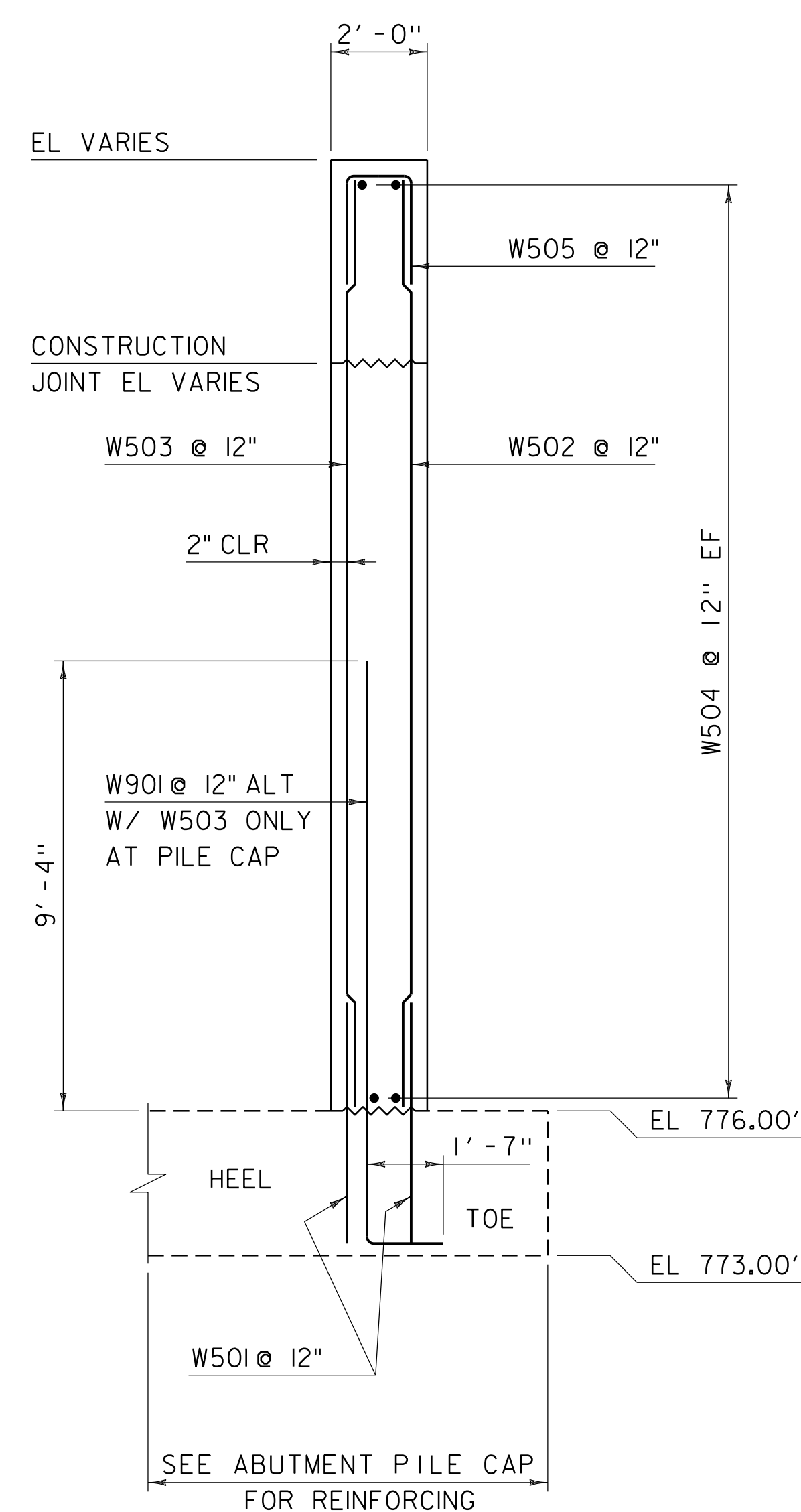
WINGWALL #3 CORNER  
DETAIL BELOW SEAT

SCALE 1/4" = 1'-0"



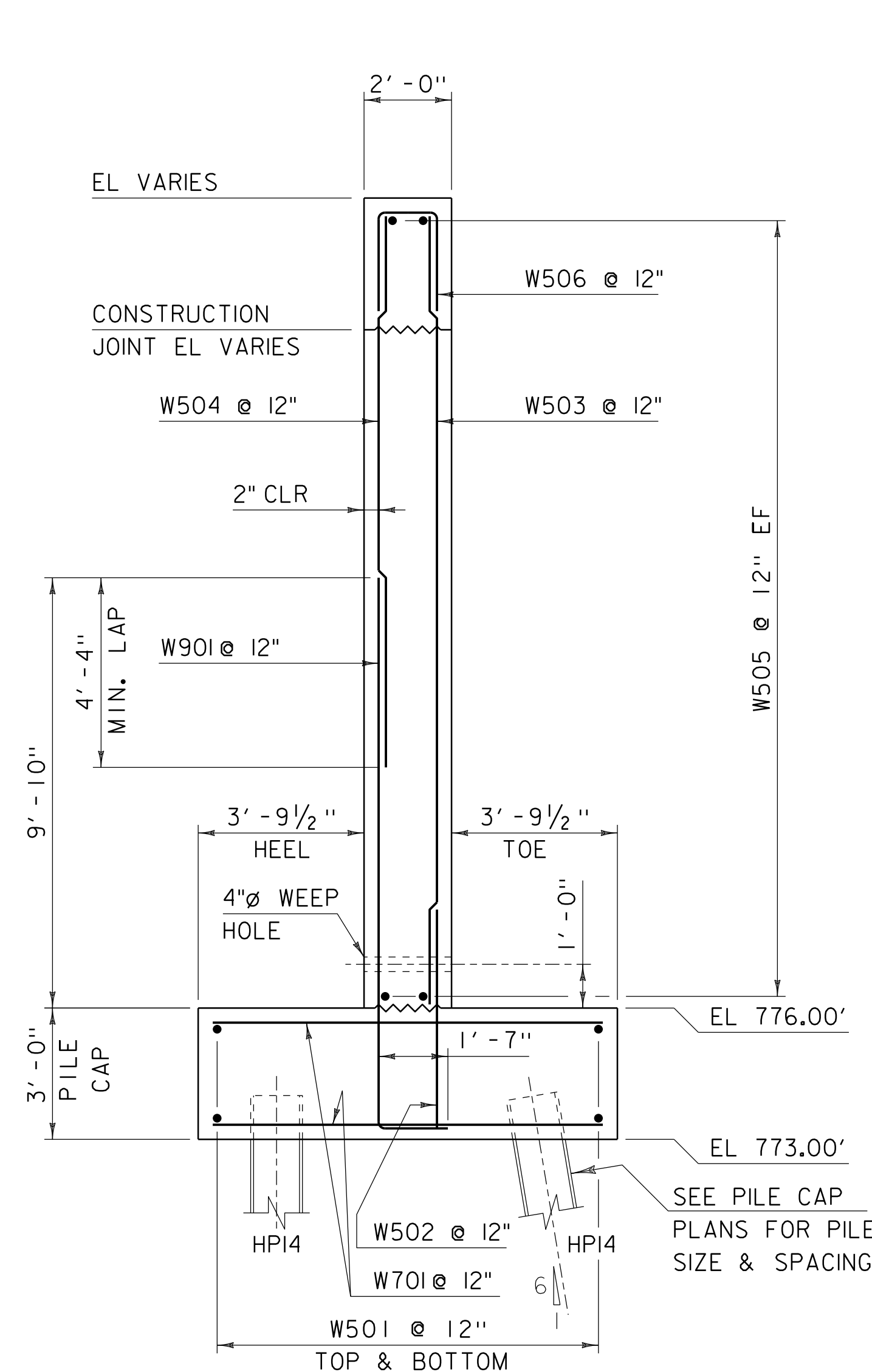
WINGWALL #4 CORNER  
DETAIL BELOW SEAT

SCALE 1/4" = 1'-0"



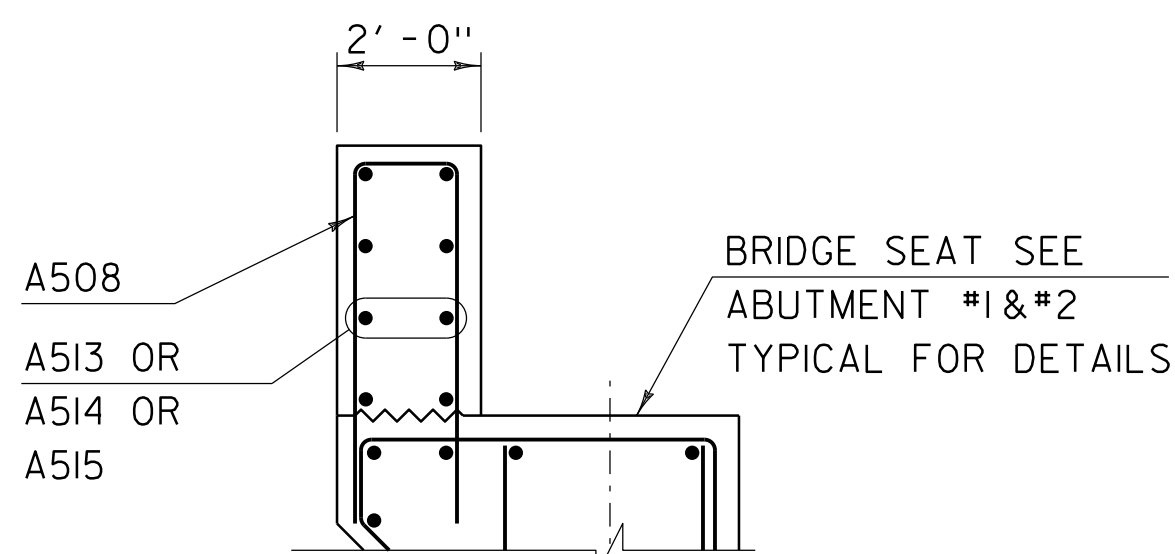
WINGWALL #1 & #4 TYPICAL

SCALE 3/8" = 1'-0"



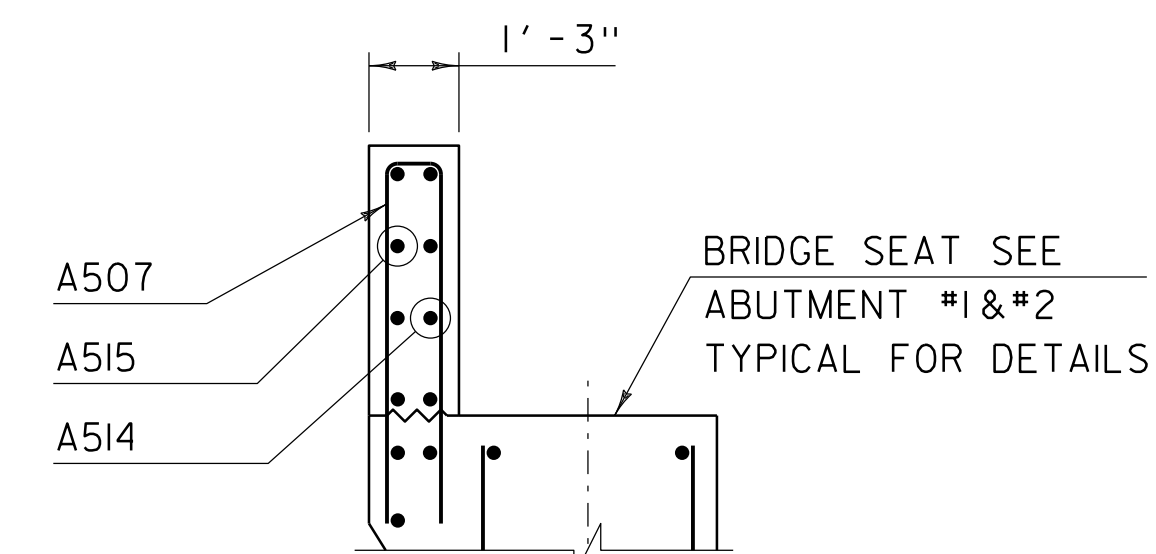
WINGWALL #2 & #3 TYPICAL

SCALE 3/8" = 1'-0"



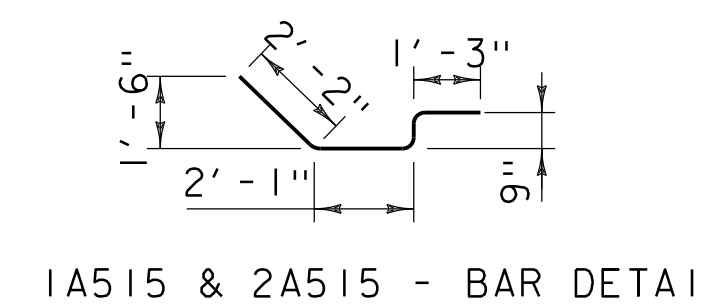
TYPICAL AT FULL WIDTH  
BACKWALL OUTSIDE FASCIA

SCALE 3/8" = 1'-0"



TYPICAL AT NOTCHED  
BACKWALL OUTSIDE FASCIA

SCALE 3/8" = 1'-0"



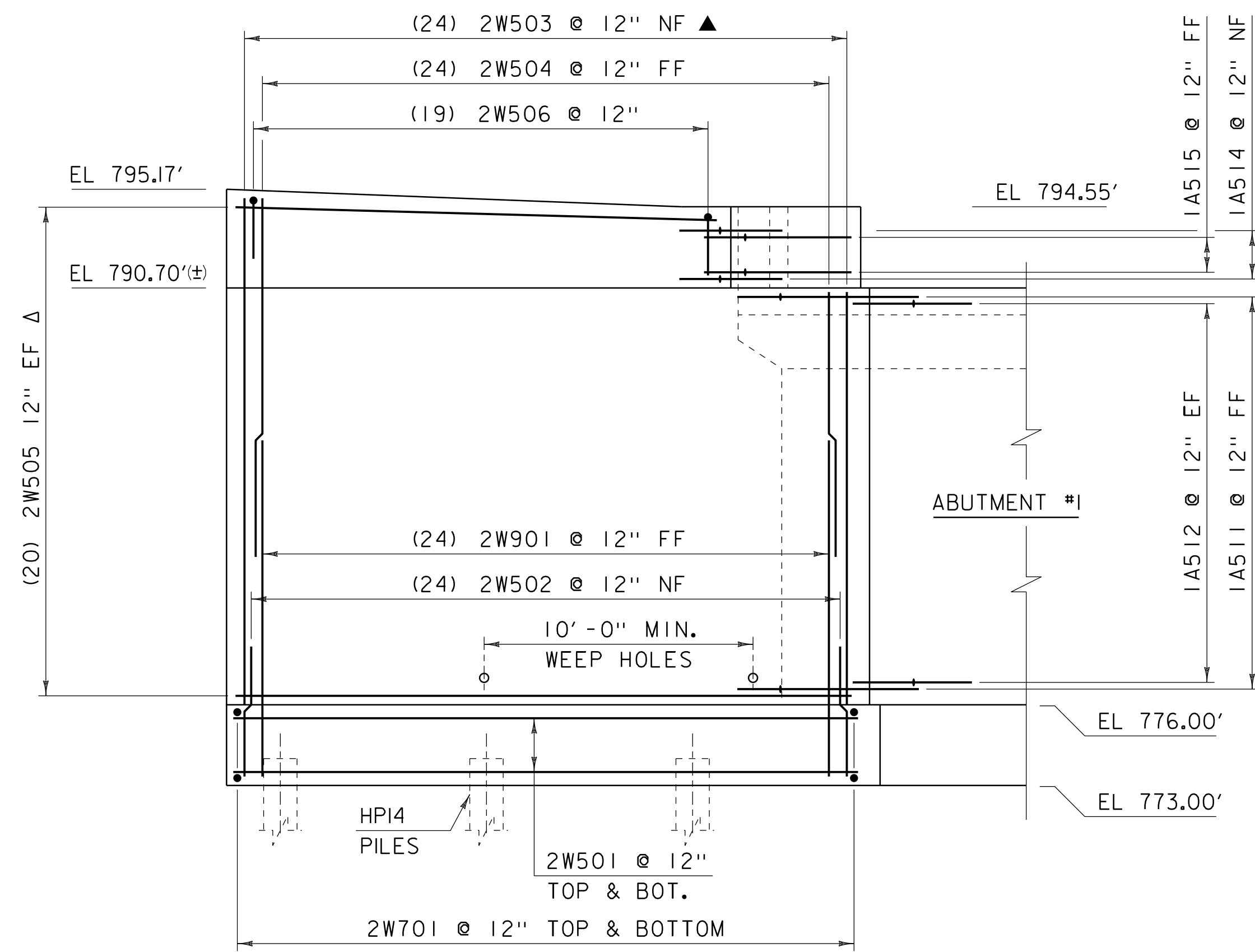
IA515 & 2A515 - BAR DETAIL

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

PROJECT NAME: WARREN  
PROJECT NUMBER: BR 013-4 (14)

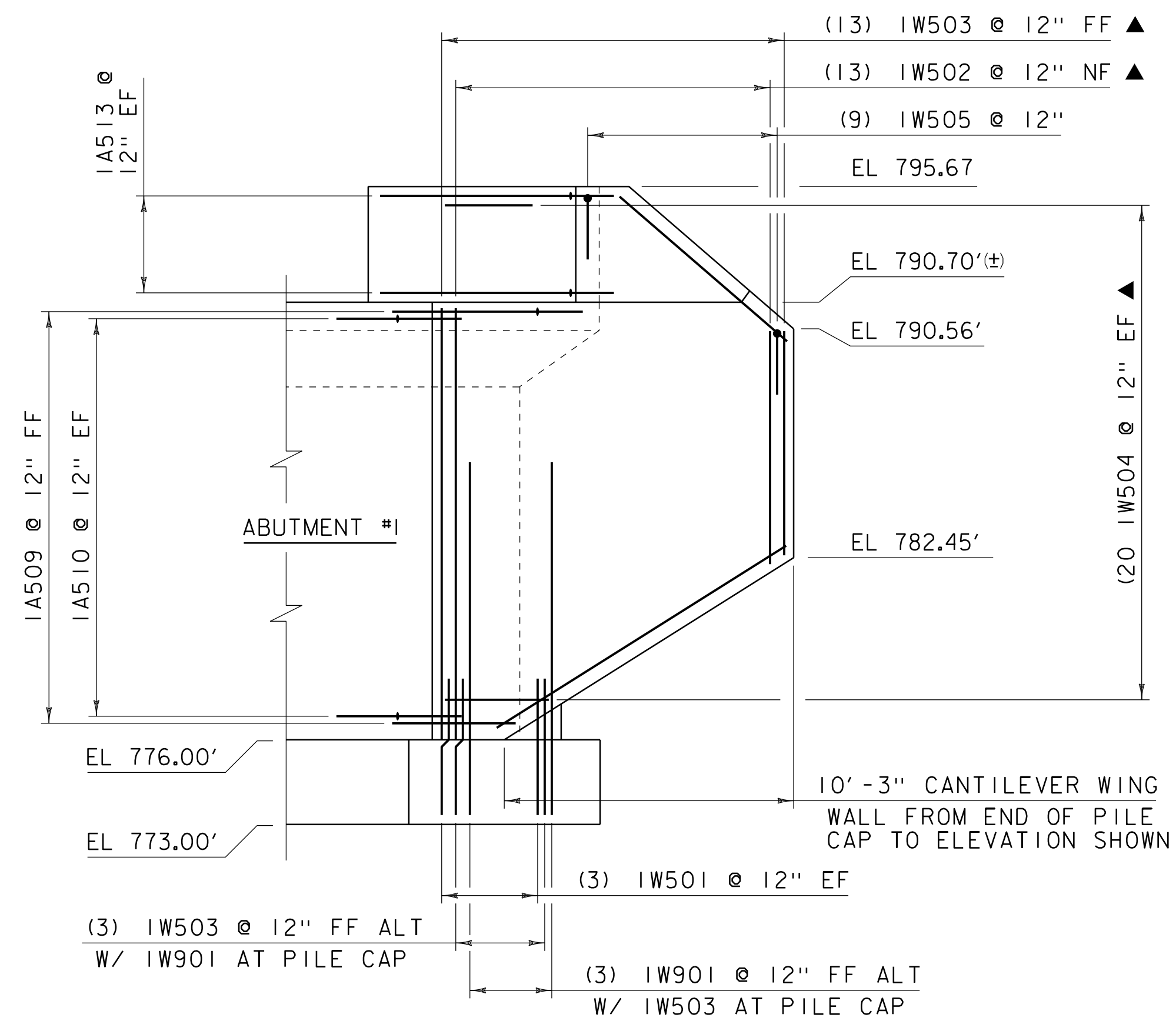
FILE NAME: s78f242sub.dgn  
PROJECT LEADER: J.LACROIX  
DESIGNED BY: U.STANLEY  
WINGWALL TYPICALS & DETAILS

PLOT DATE: 27-JUL-2012  
DRAWN BY: M.LONGSTREET  
CHECKED BY: U. STANLEY  
SHEET 52 OF 83



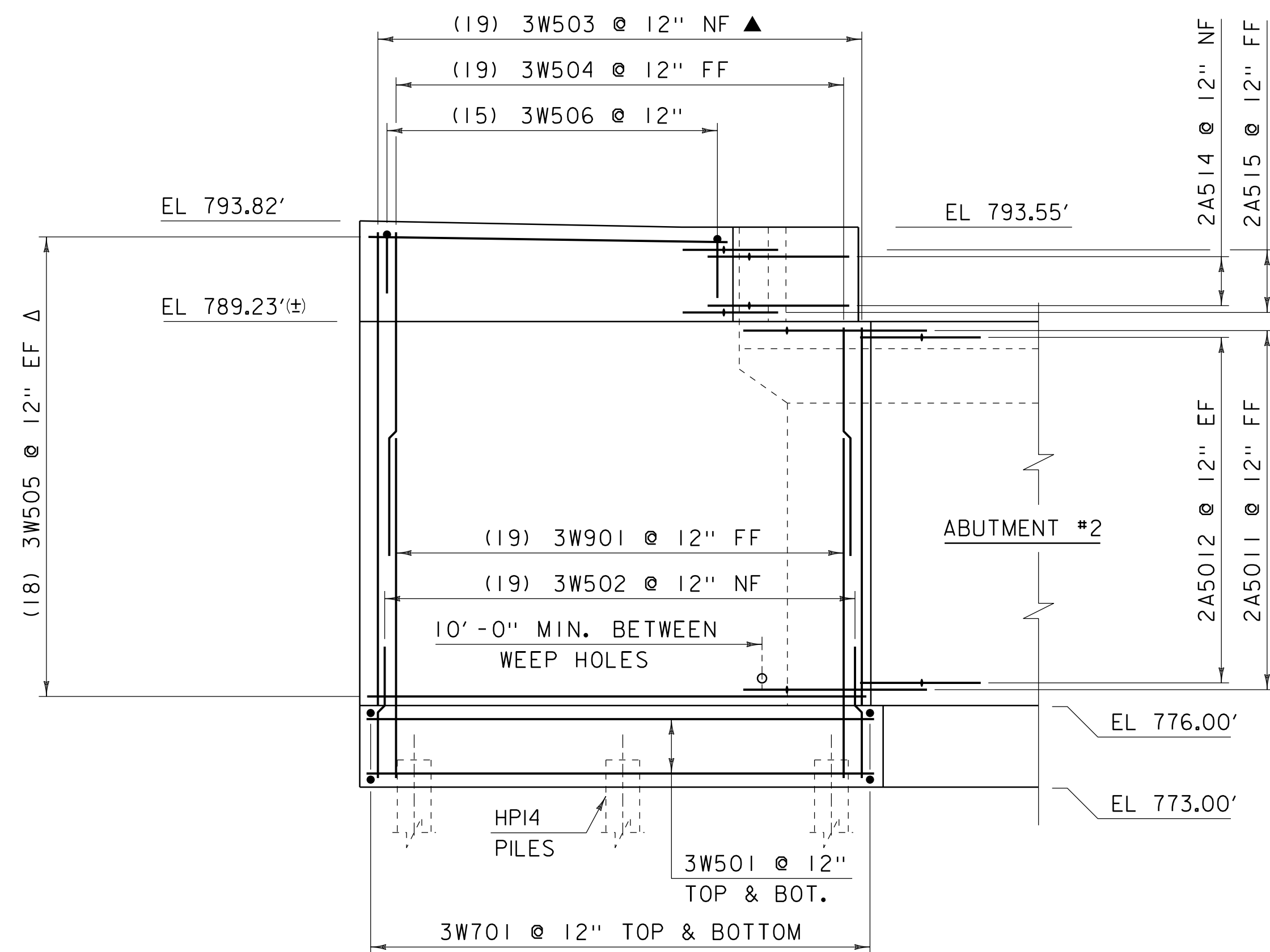
WINGWALL #2 ELEVATION

SCALE 1/4" = 1'-0"



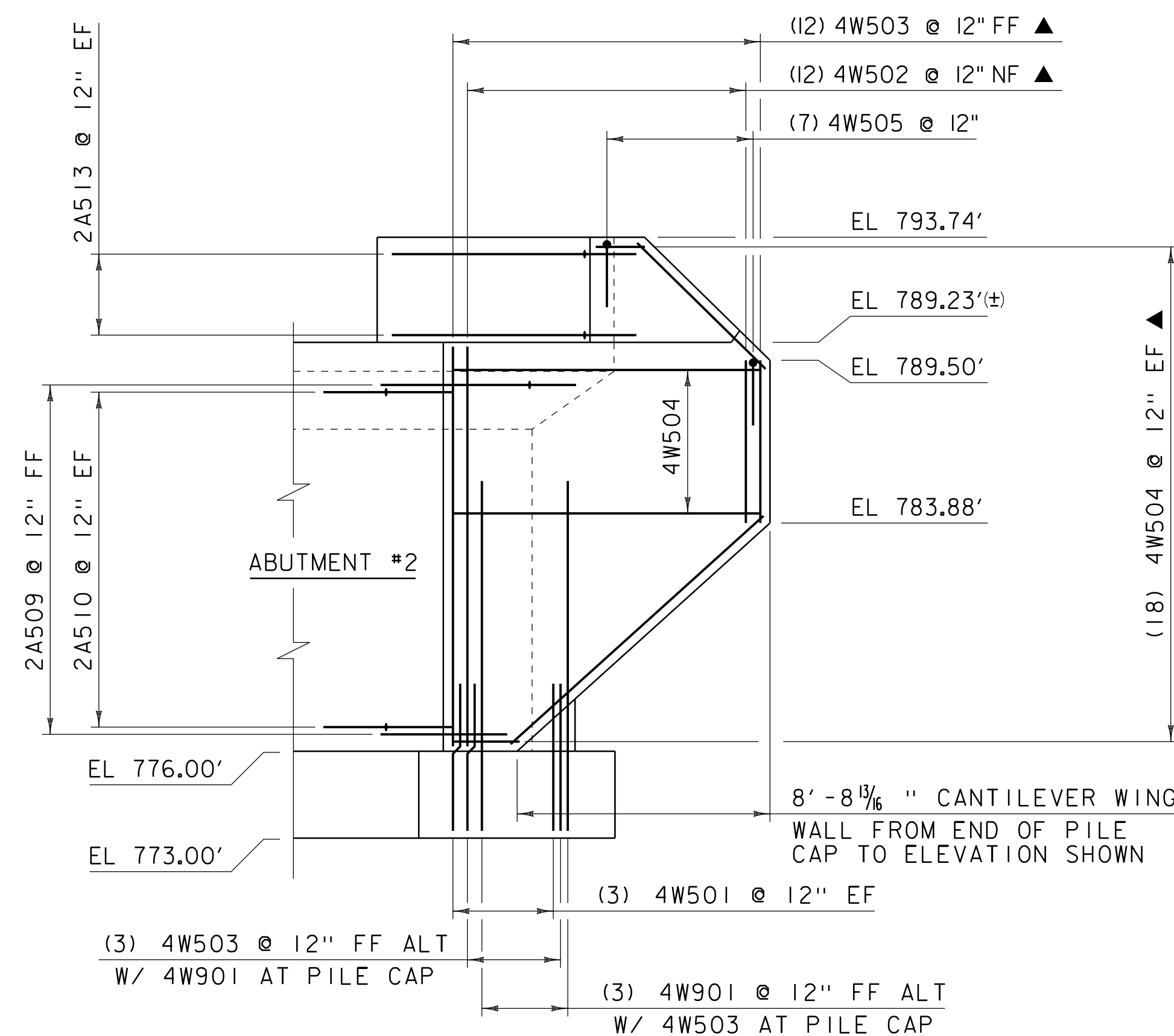
WINGWALL #1 ELEVATION

SCALE 1/4" = 1'-0"



WINGWALL #3 ELEVATION

SCALE 1/4" = 1'-0"



WINGWALL #4 ELEVATION

SCALE 1/4" = 1'-0"

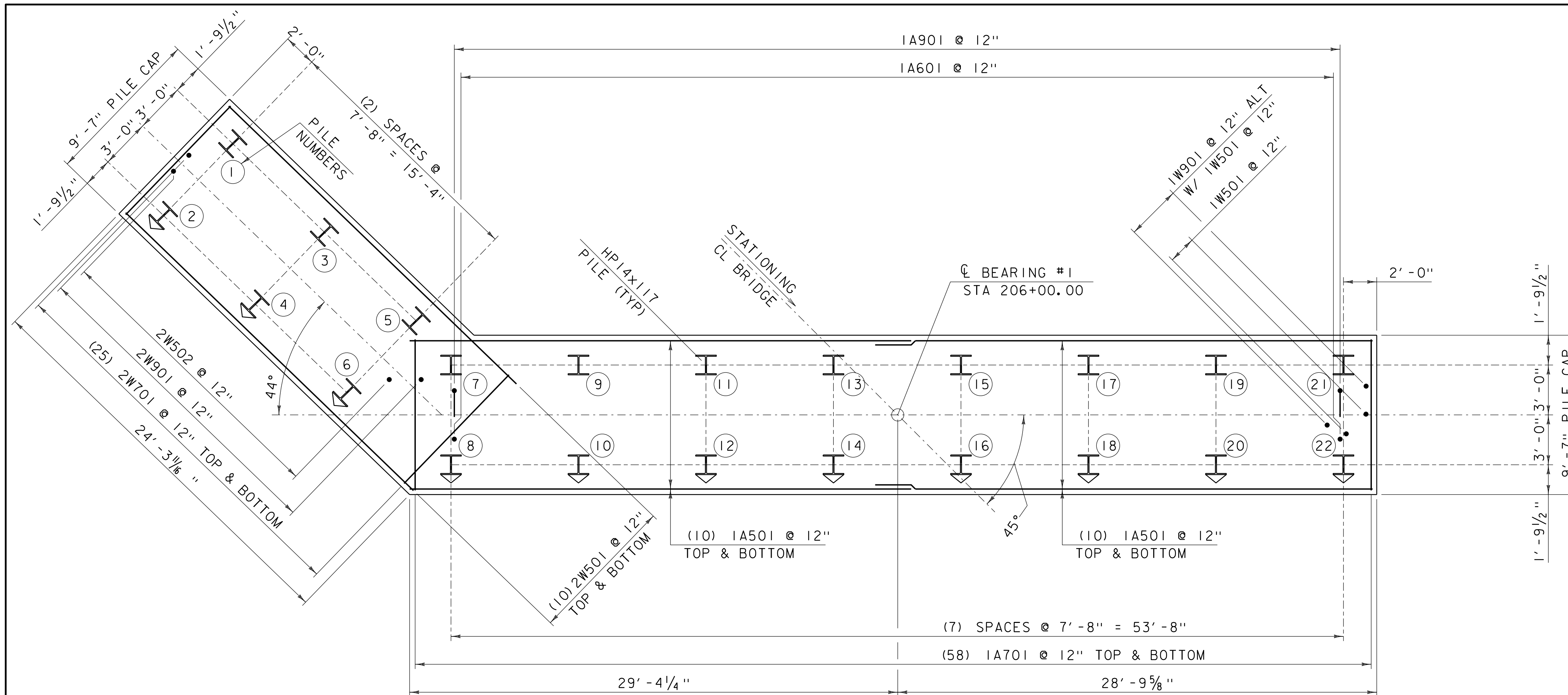
NOTE:

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

PROJECT NAME: WARREN  
 PROJECT NUMBER: BRP 013-4 (14)

FILE NAME: s78f242sub.dgn  
 PROJECT LEADER: J.LACROIX  
 DESIGNED BY: U.STANLEY  
 WINGWALL ELEVATIONS

PLOT DATE: 27-JUL-2012  
 DRAWN BY: M.LONGSTREET  
 CHECKED BY: U. STANLEY  
 SHEET 53 OF 83



### ABUTMENT #1 PILE CAP PLAN

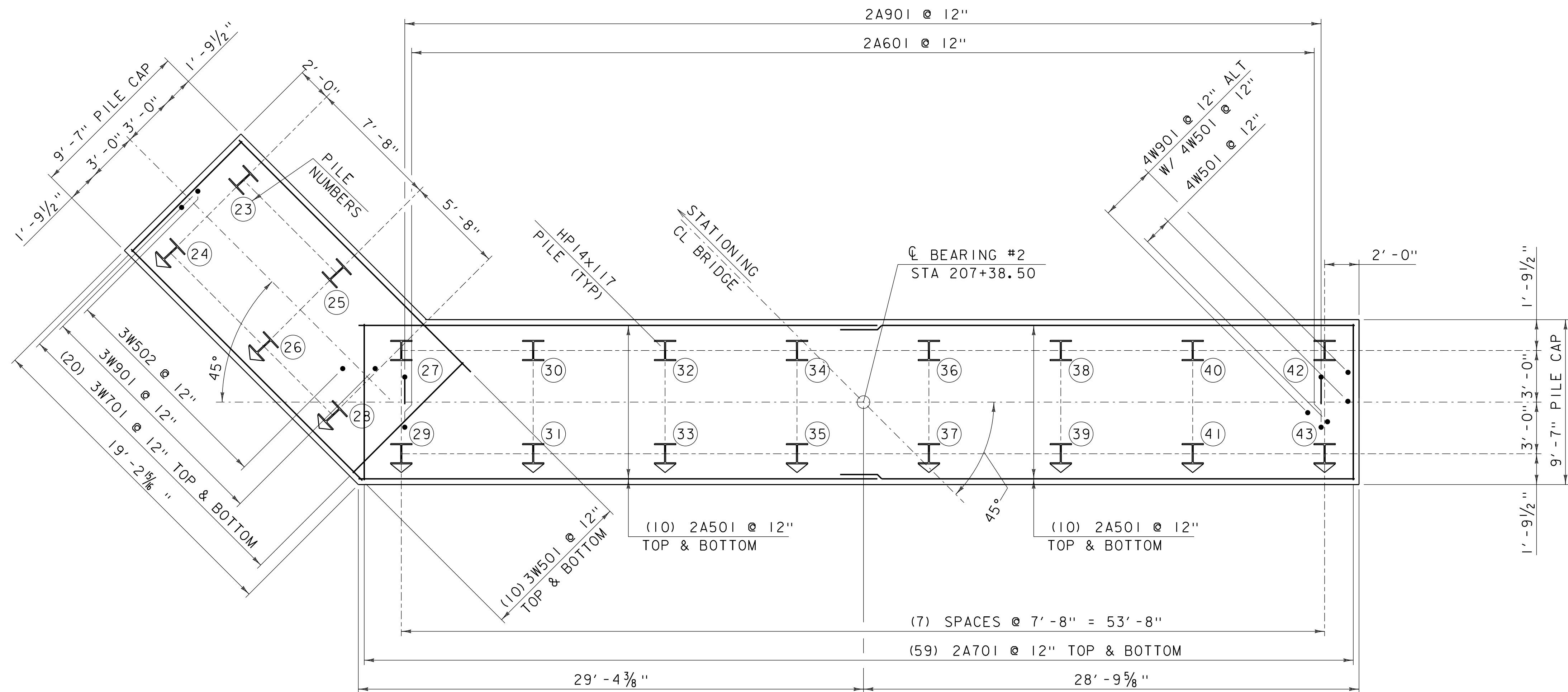
SCALE 1/4" = 1'-0"



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

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME:	s78f242sub.dgn
PROJECT LEADER:	J.LACROIX
DESIGNED BY:	U.STANLEY
ABUTMENT #1 PILE CAP PLAN	
PLOT DATE:	27-JUL-2012
DRAWN BY:	M.LONGSTREET
CHECKED BY:	U. STANLEY
SHEET	54 OF 83





### ABUTMENT #2 PILE CAP PLAN

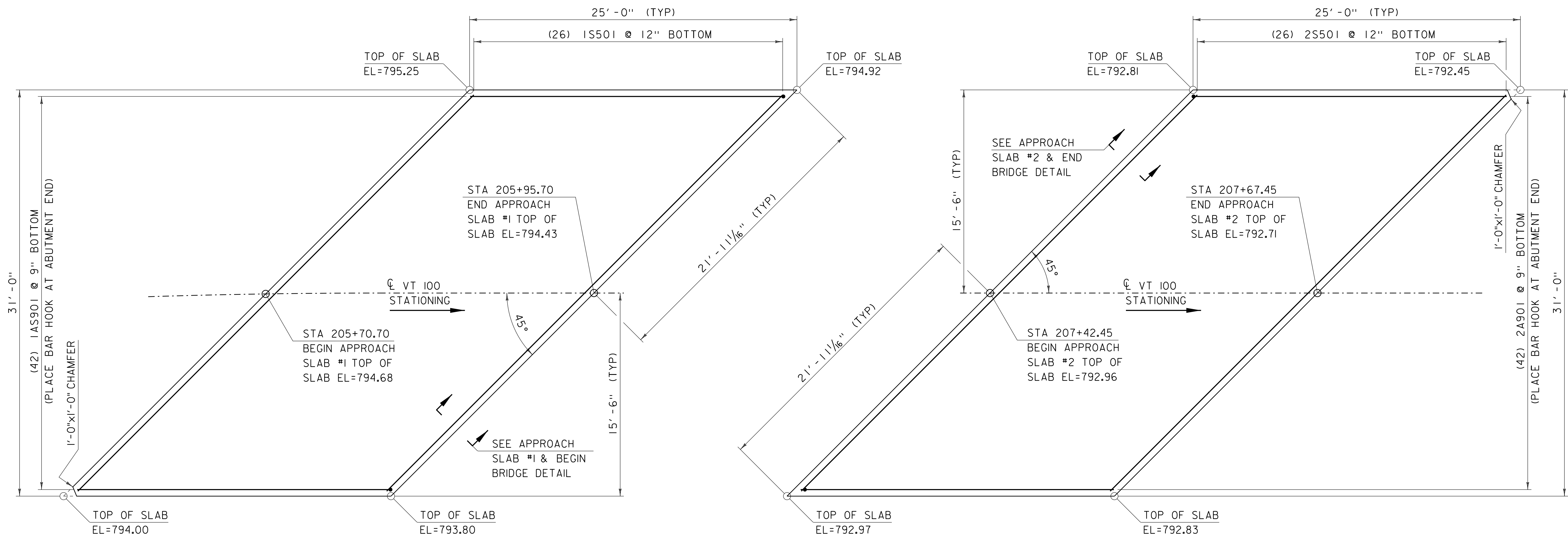
SCALE 1/4" = 1'-0"



**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: WARREN	PLOT DATE: 27-JUL-2012
PROJECT NUMBER: BRF 013-4 (14)	DRAWN BY: M.LONGSTREET
FILE NAME: s78f242sub.dgn	CHECKED BY: U. STANLEY
PROJECT LEADER: J.LACROIX	SHEET 55 OF 83
DESIGNED BY: U.STANLEY	
ABUTMENT #2 PILE CAP PLAN	

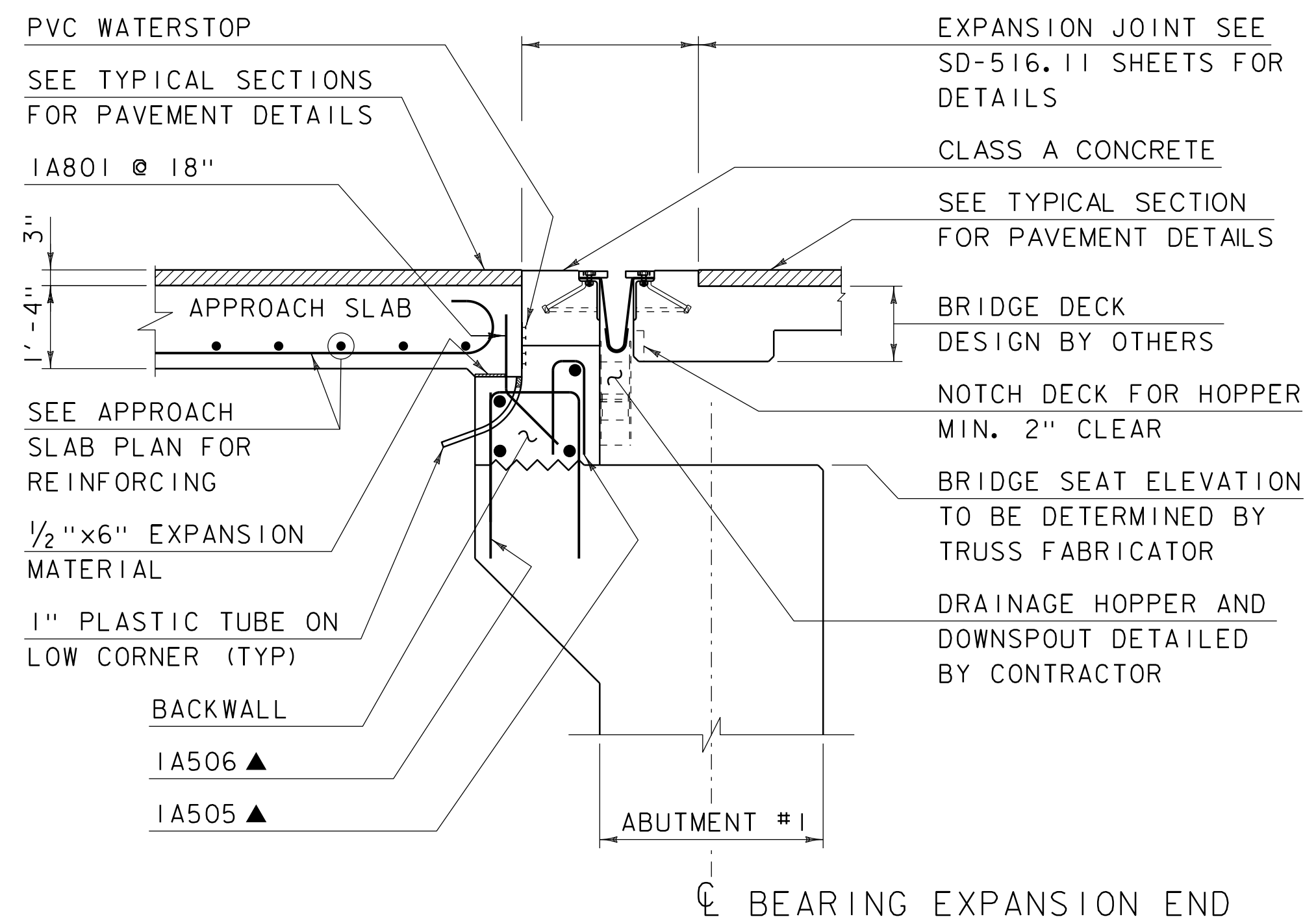


APPROACH SLAB #1 PLAN

SCALE 1/4" = 1'-0"

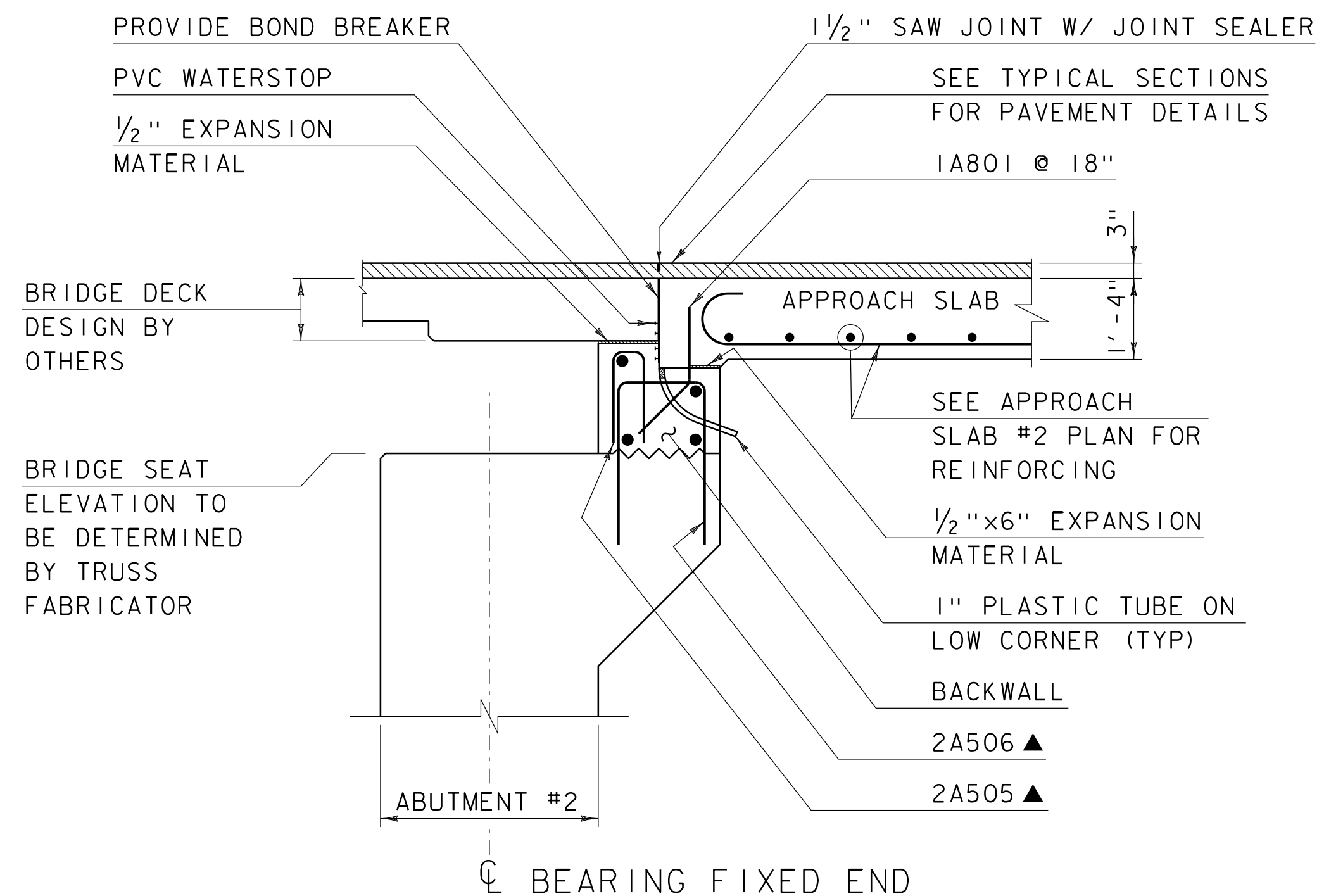
APPROACH SLAB #2 PLAN

SCALE 1/4" = 1'-0"



APPROACH SLAB #1 & BEGIN BRIDGE DETAIL

SCALE 1/2" = 1'-0"



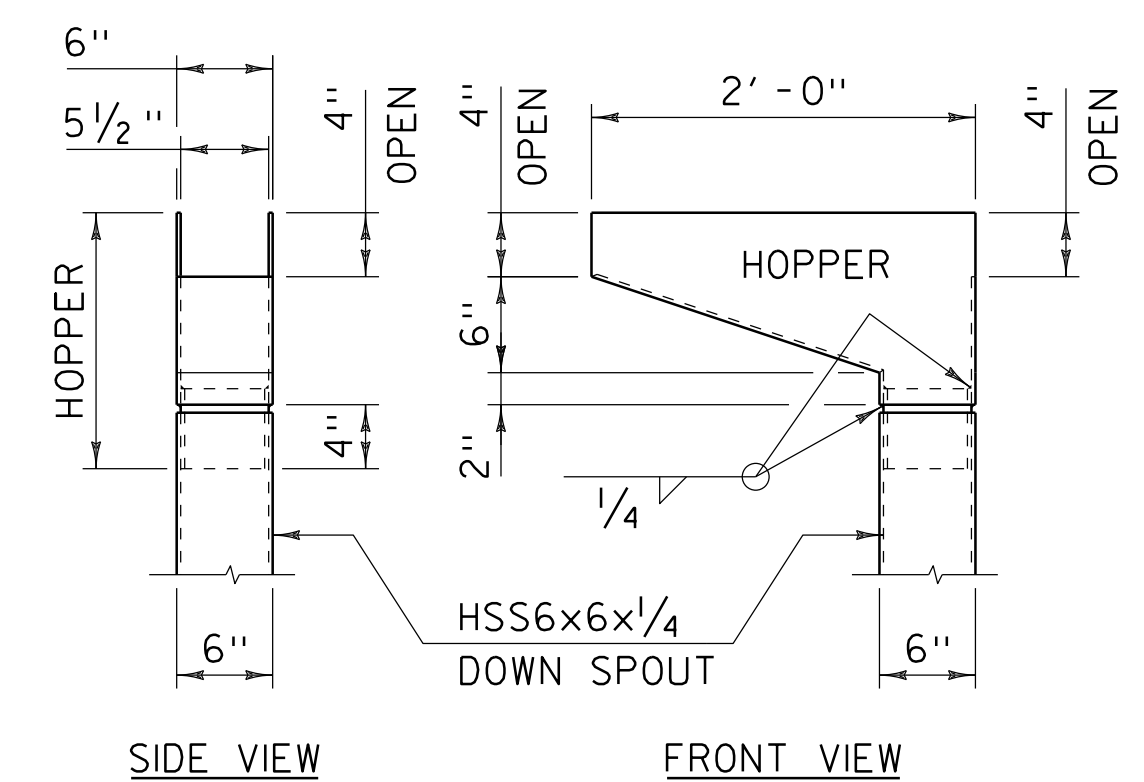
APPROACH SLAB #2 & END BRIDGE DETAIL

SCALE 1/2" = 1'-0"

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PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME:	s78f242sup.dgn
PROJECT LEADER:	J.LACROIX
DESIGNED BY:	U.STANLEY
APPROACH SLAB PLANS AND DETAILS	
PLOT DATE:	27-JUL-2012
DRAWN BY:	M.LONGSTREET
CHECKED BY:	U. STANLEY
SHEET	56 OF 83



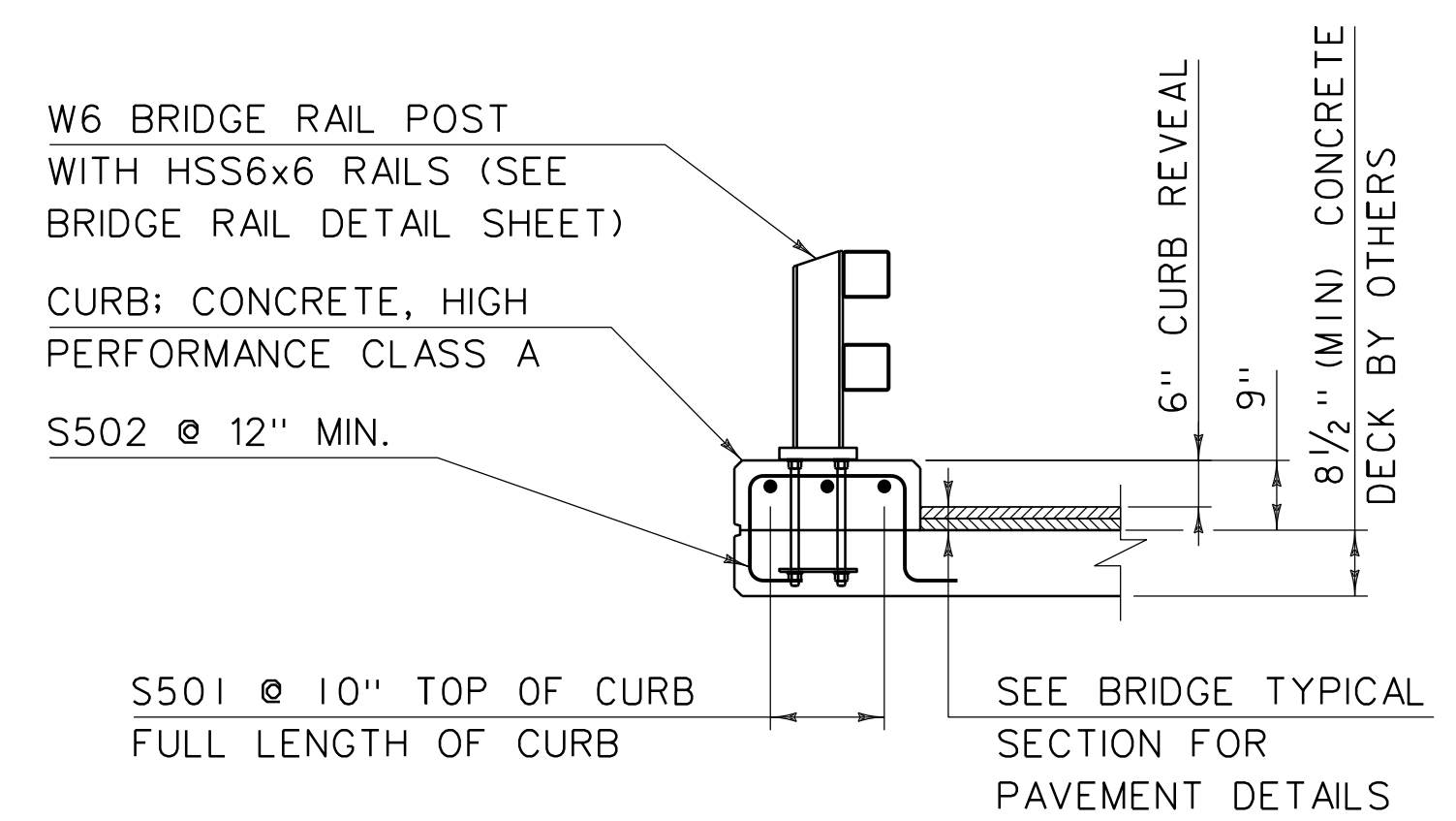


SIDE VIEW FRONT VIEW

### MINIMUM TYPICAL HOPPER DETAILS

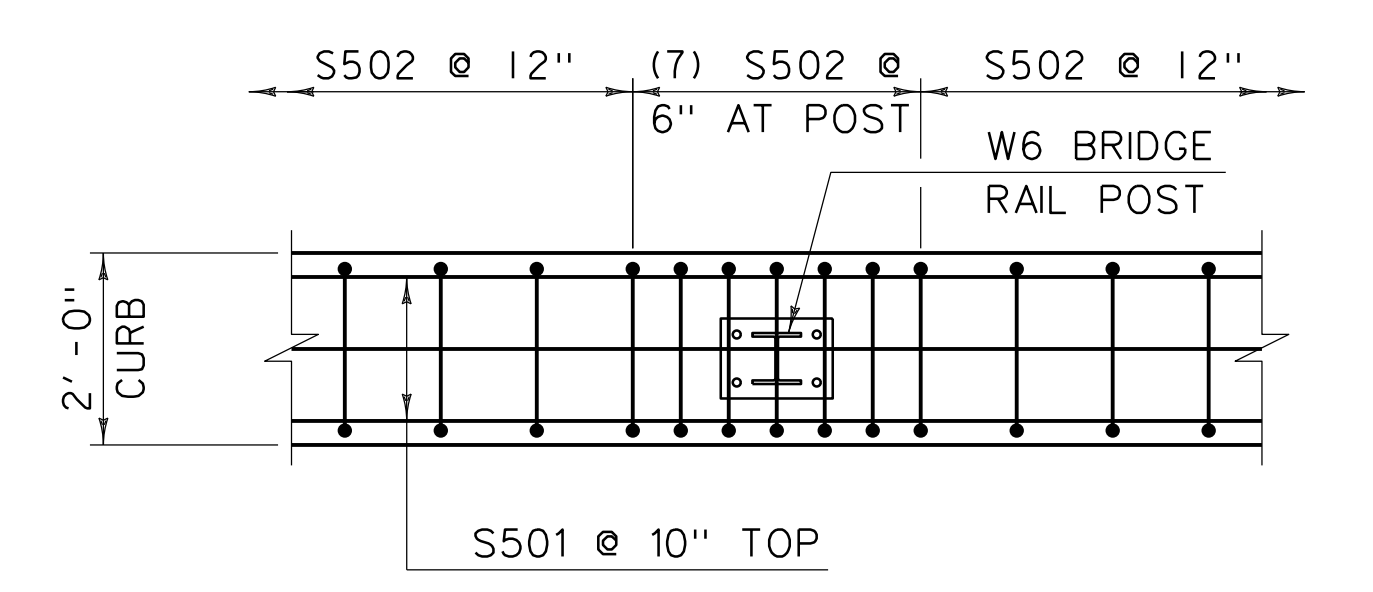
SCALE 1" = 1'-0"

1. DRAINAGE HOPPER AND DOWNSPOUT TO BE DETAILED BY CONTRACTOR.
2. DETAILING, FABRICATION, TRANSPORTATION TO THE SITE AND INSTALLATION OF THE HOPPER AND DOWNSPOUT SHALL BE INCIDENTAL TO ITEM 516.11 BRIDGE EXPANSION JOINT, VERMONT.



### DECK CURB REINFORCING TYPICAL SECTION

SCALE 1/2" = 1'-0"



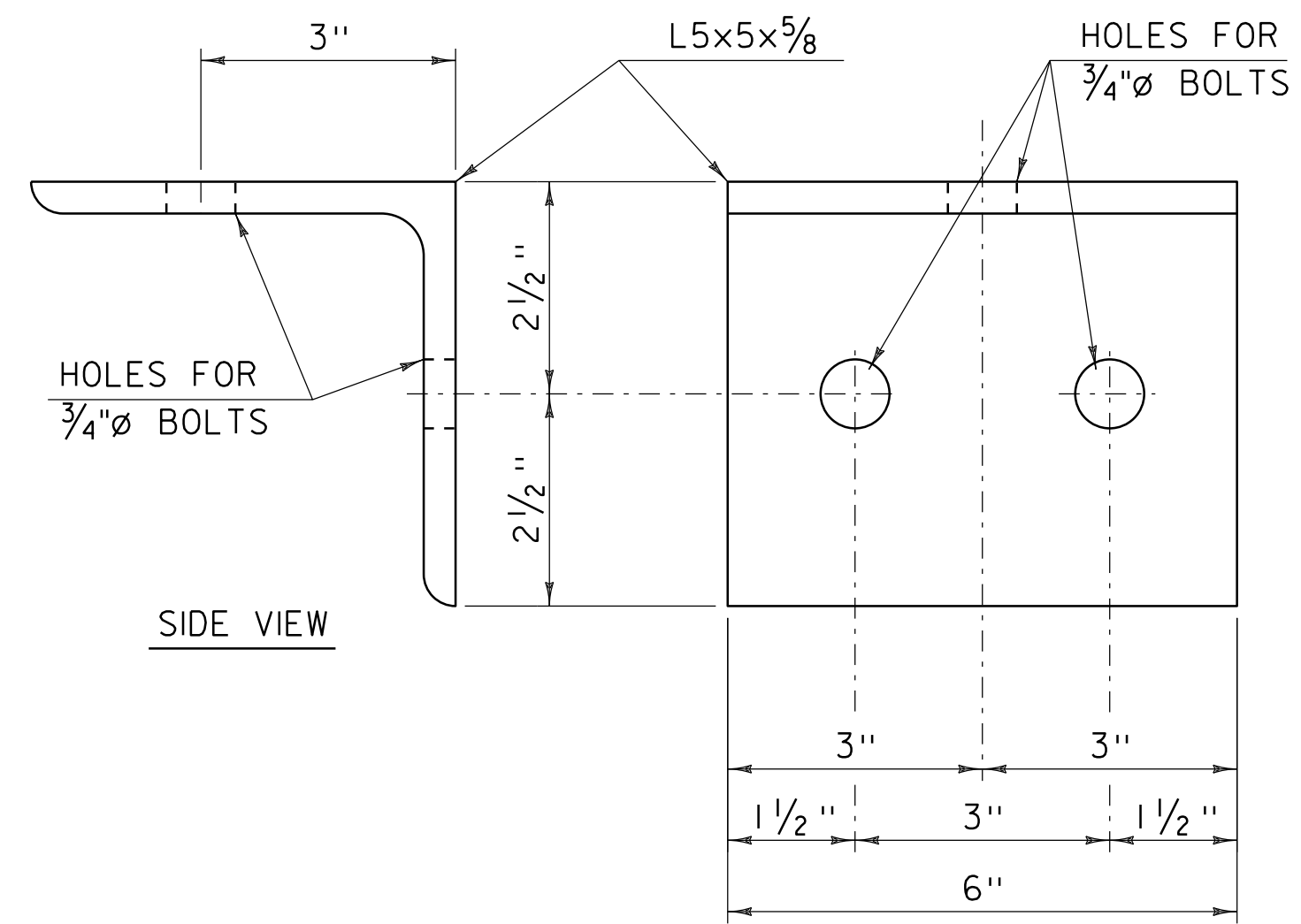
### DECK CURB REINFORCING LAYOUT PLAN DETAIL

SCALE 1/2" = 1'-0"

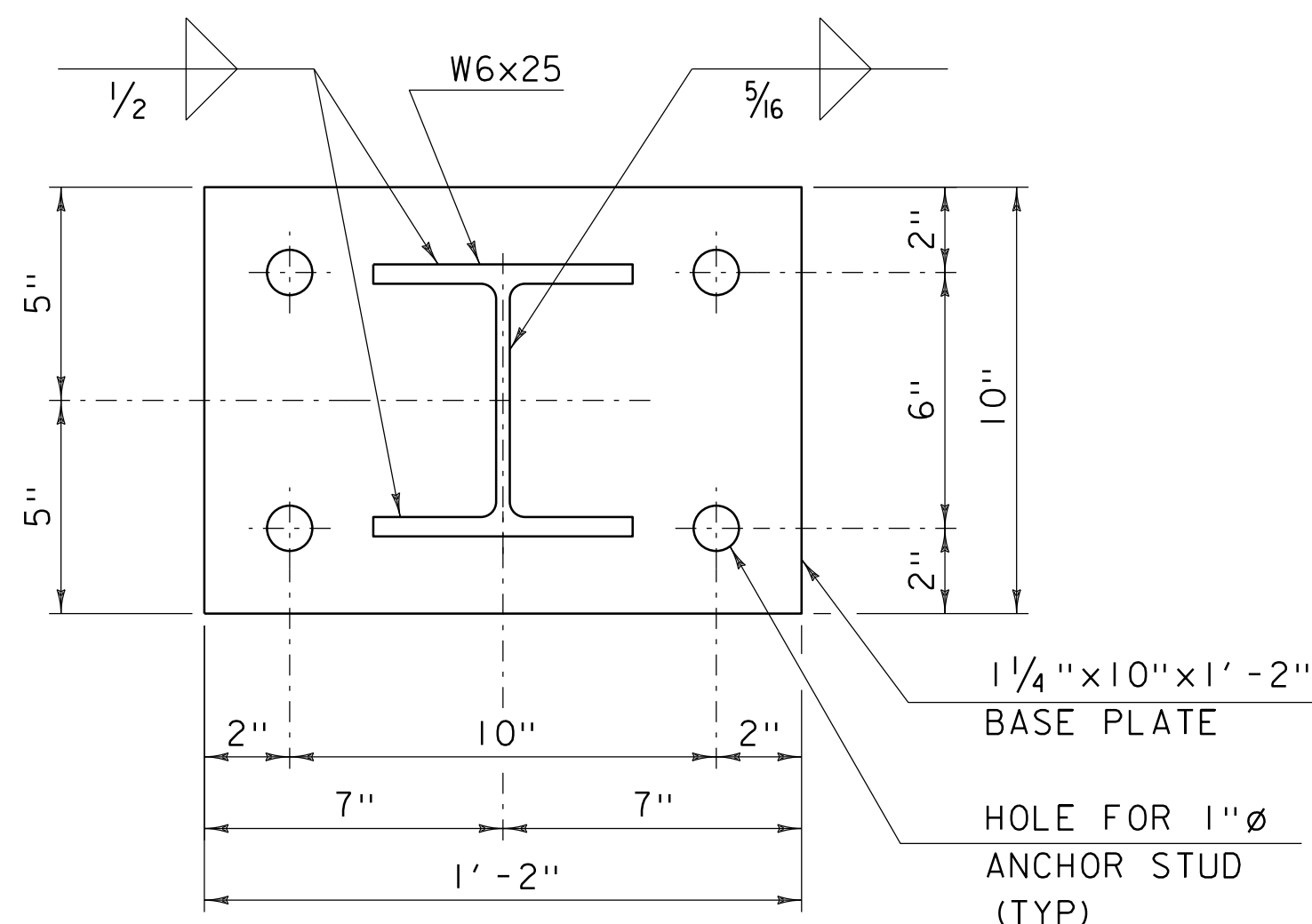
**NOTE:**

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

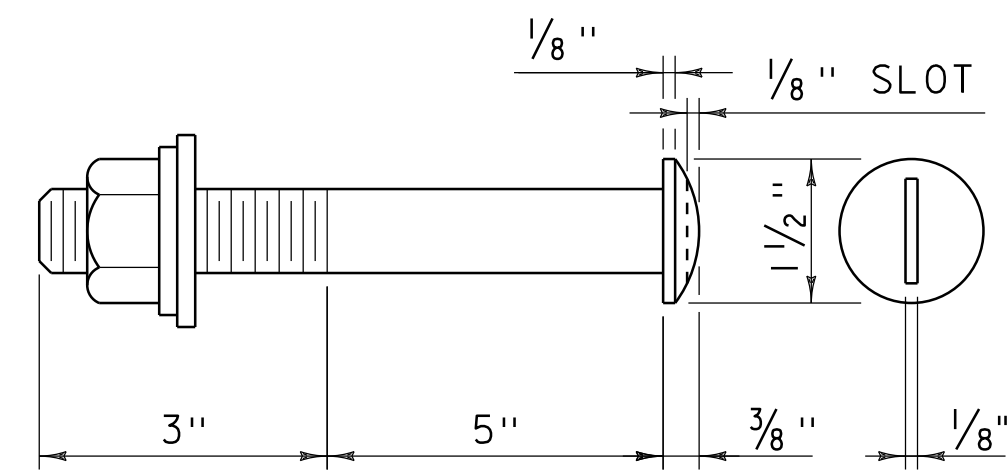
PROJECT NAME: WARREN	
PROJECT NUMBER: BRF 013-4 (14)	
FILE NAME: s78f242sup.dgn	PLOT DATE: 27-JUL-2012
PROJECT LEADER: J.LACROIX	DRAWN BY: M.LONGSTREET
DESIGNED BY: U.STANLEY	CHECKED BY: U. STANLEY
BRIDGE DETAIL SHEET	SHEET 57 OF 83



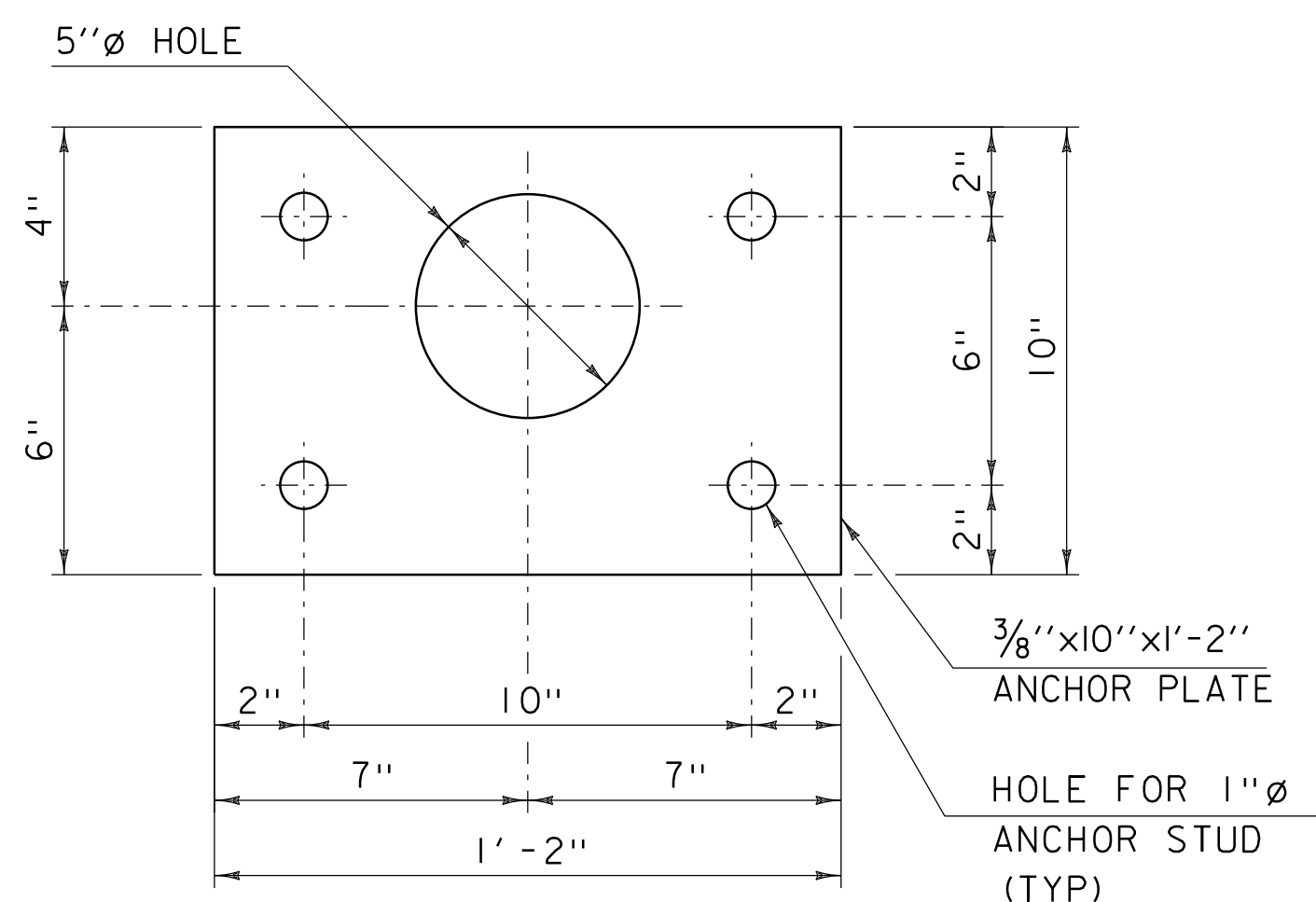
ELEVATION VIEW  
RAILING ANGLE DETAILS



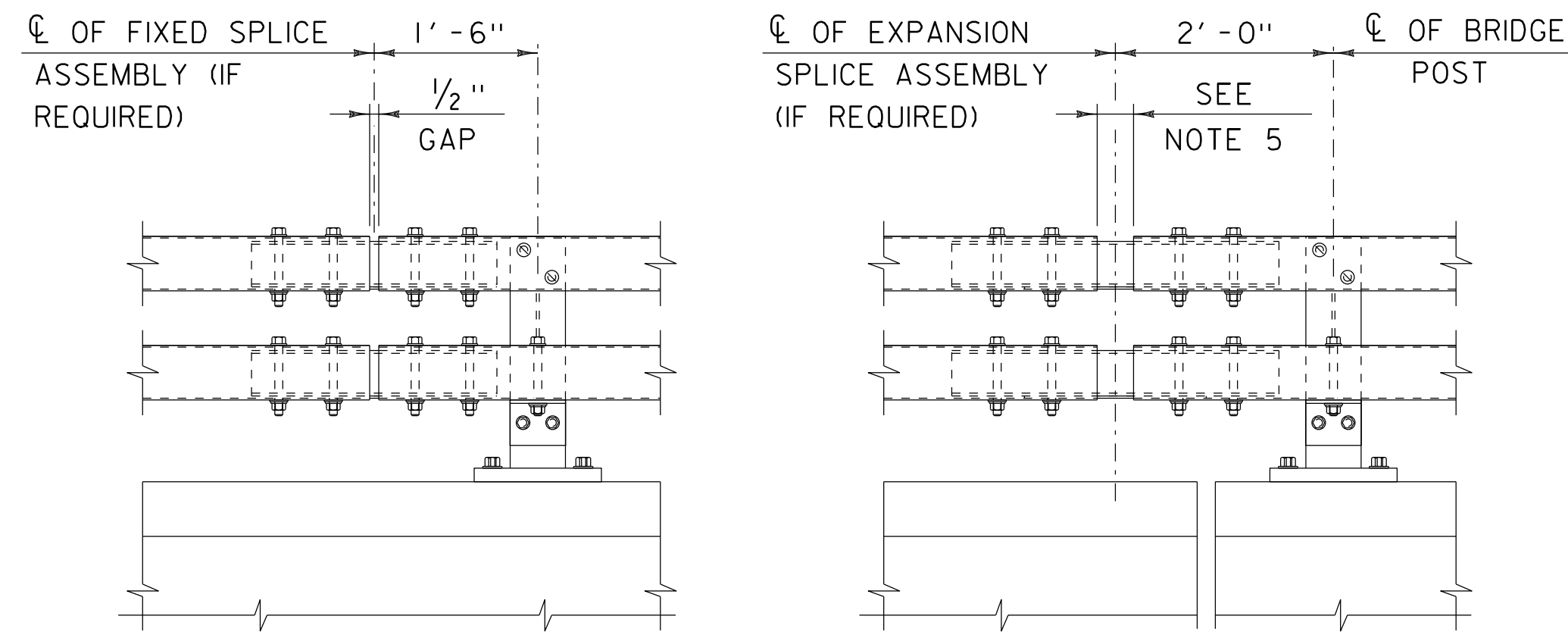
BASE PLATE DETAIL



7/8" Ø ROUND HEAD BOLT DETAIL  
A449 (TYPE 1)

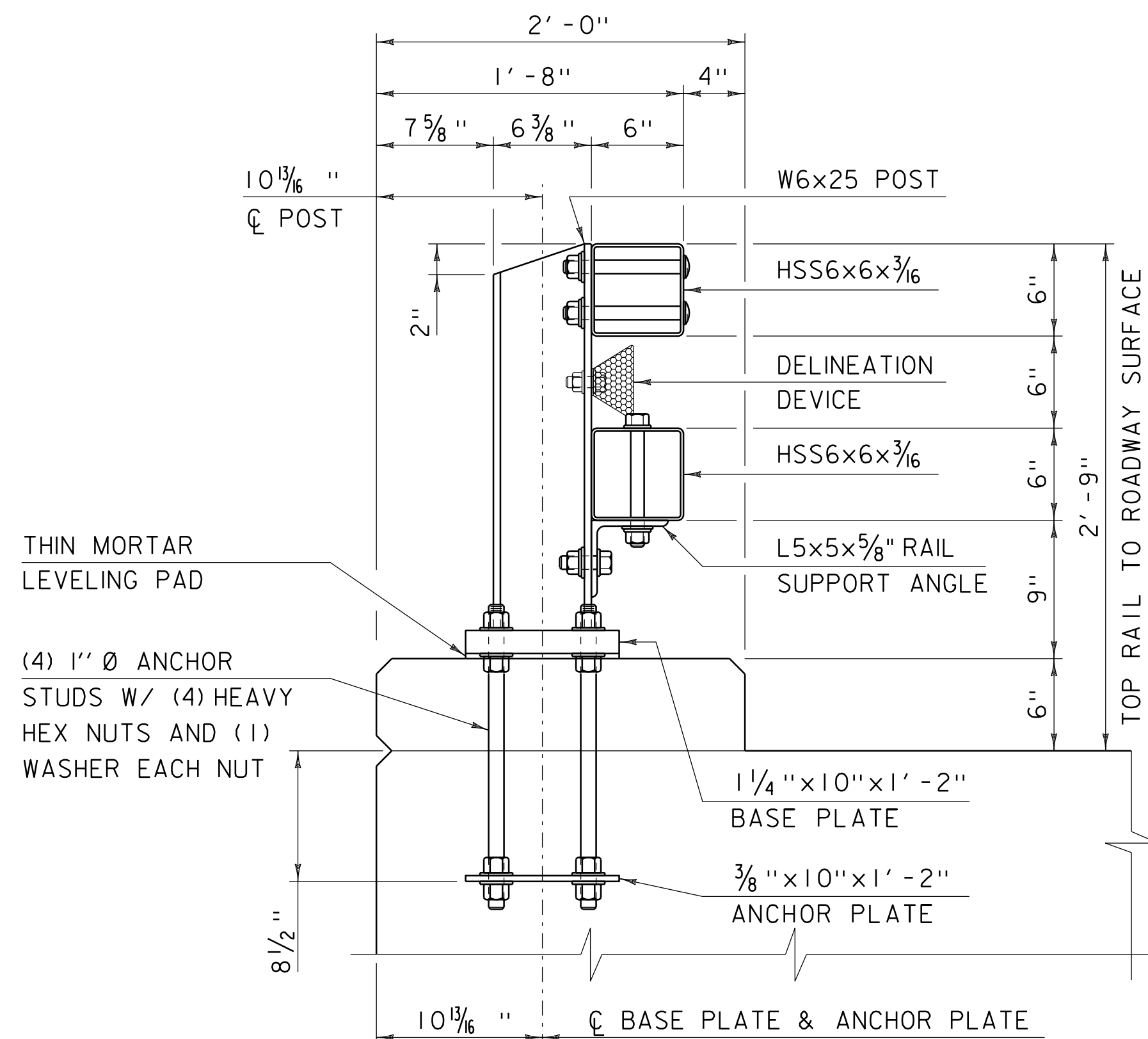


ANCHOR PLATE DETAIL

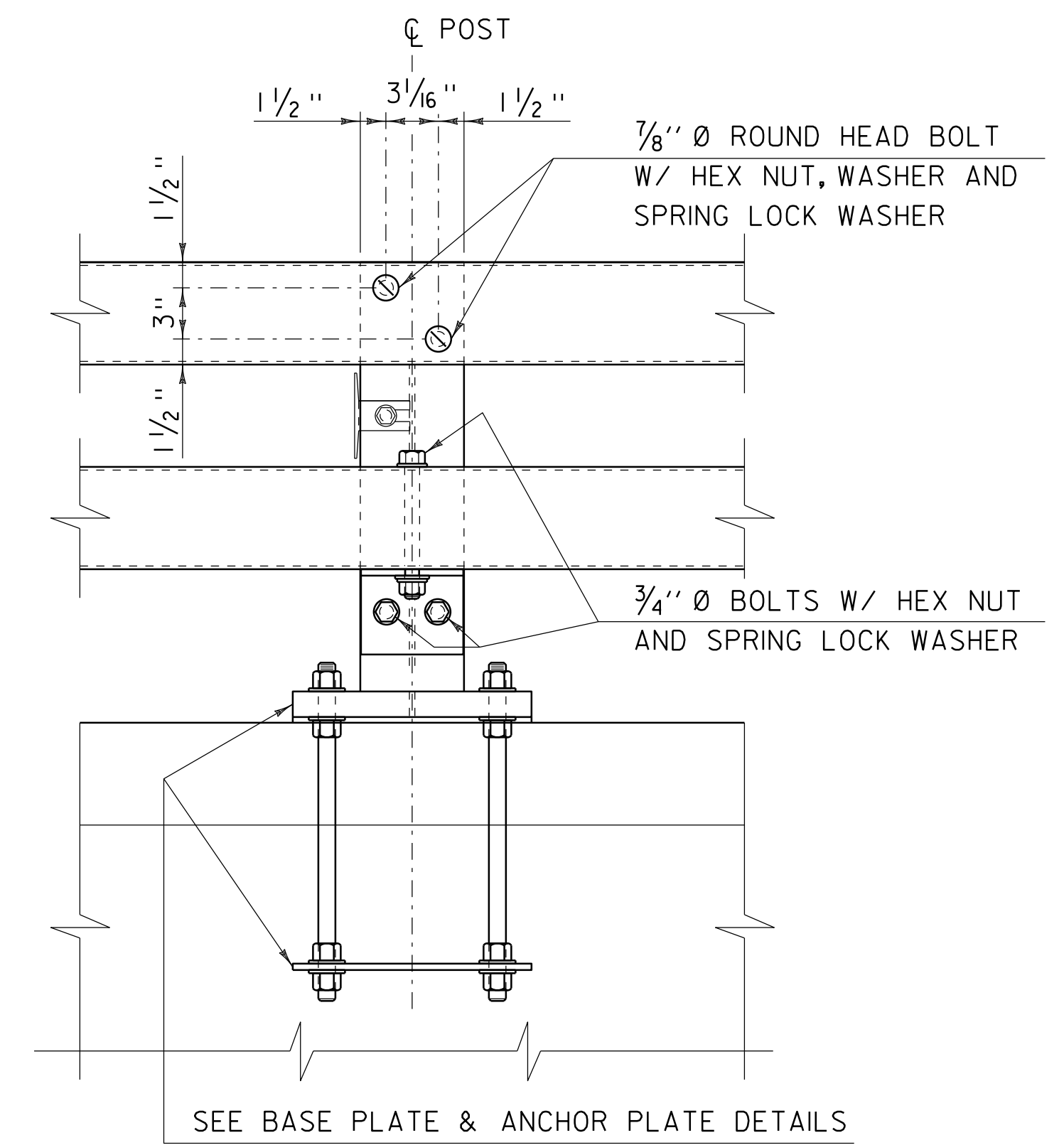


RAILING SPLICE DETAIL ELEVATION

A RAILING EXPANSION SPLICE IS REQUIRED IN ANY POST SPACING THAT CONTAINS A SUPERSTRUCTURE EXPANSION JOINT



RAILING SECTION



RAILING ELEVATION

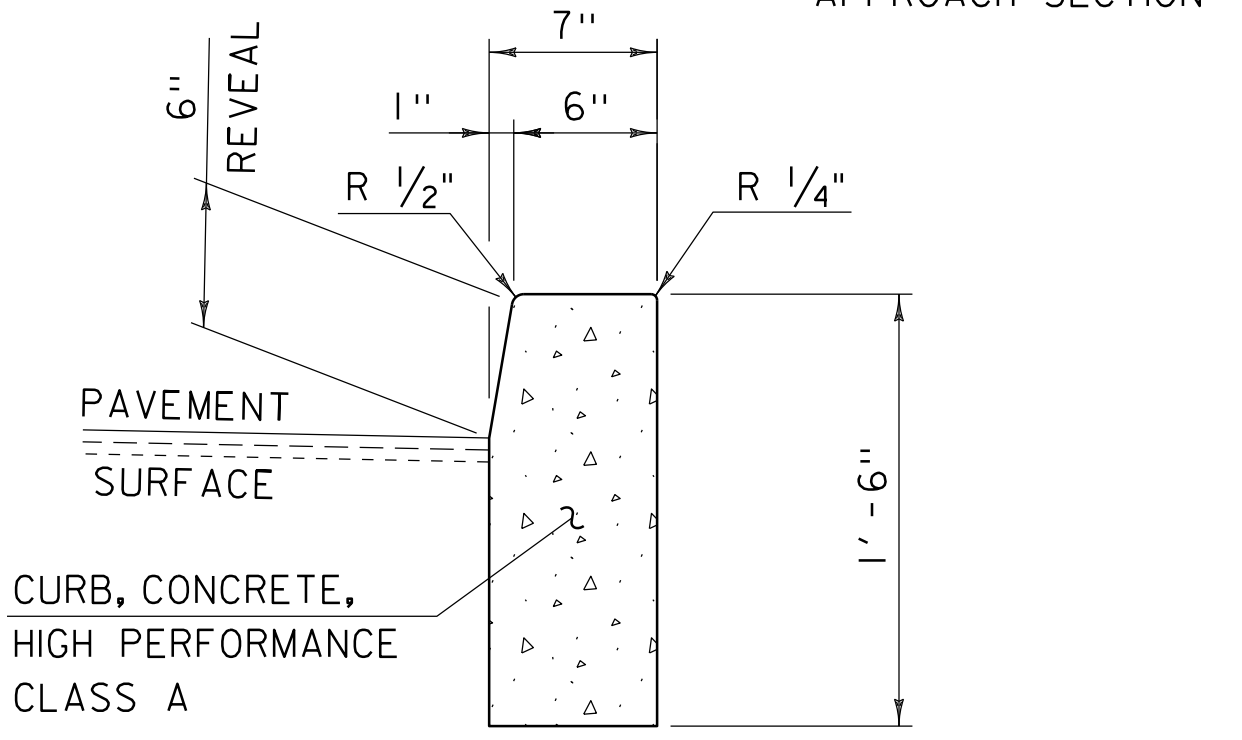
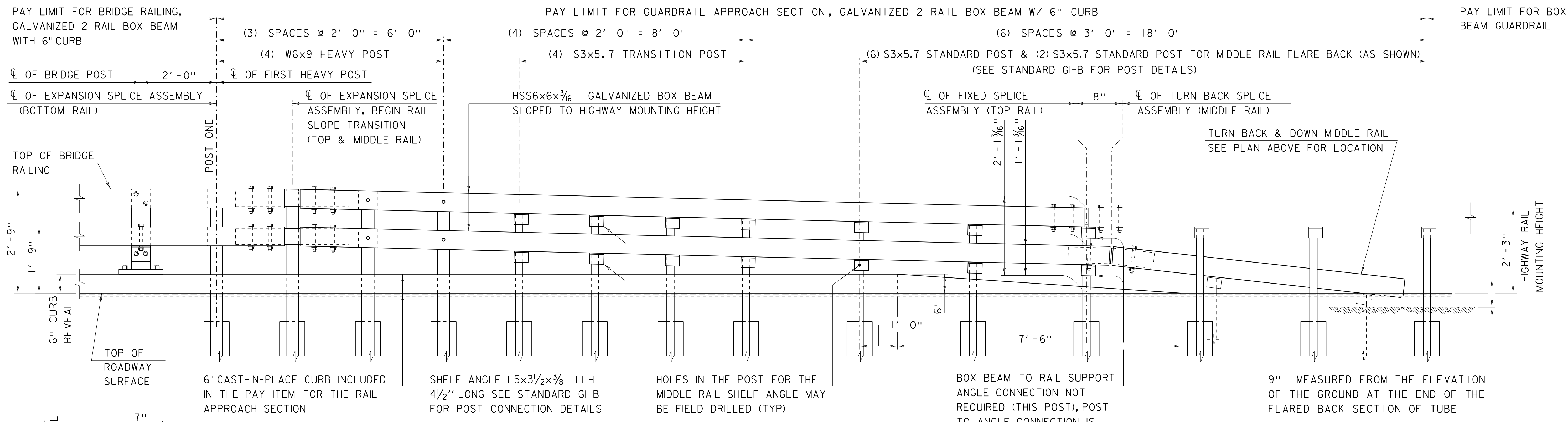
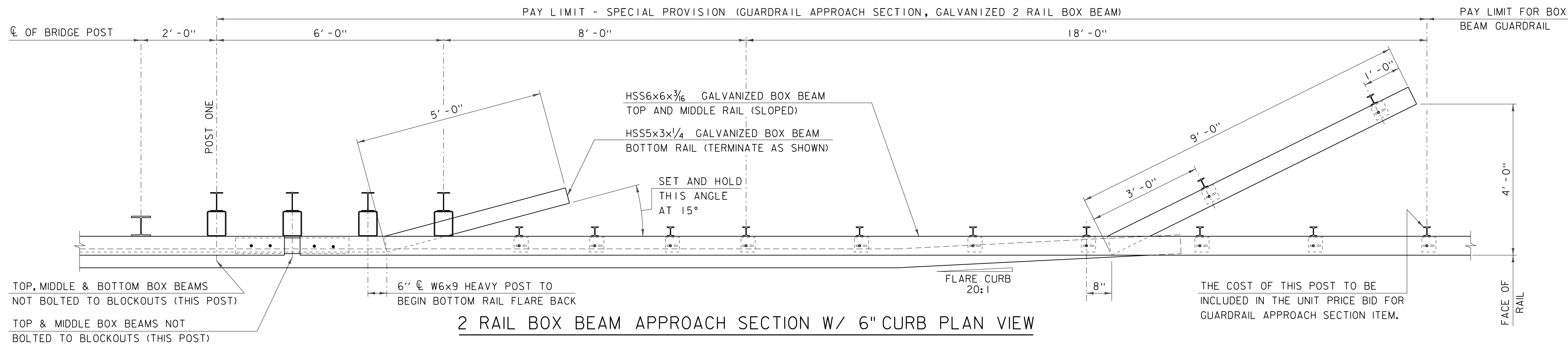
- NOTES:
1. ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
  2. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
  3. ALL POSTS SHALL BE SET NORMAL TO GRADE. THE MAXIMUM CENTER TO CENTER SPACING OF BRIDGE RAIL POSTS IS 8'-3".
  4. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE POSTS AND PREFERABLY TO AT LEAST 4 POSTS.
  5. RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" @ 68°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
  6. HOLES IN RAILS FOR TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
  7. BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
  8. SEE STANDARD DRAWING G-1B FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR THE NEAREST POST. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
  9. ANY BENDING OF RAIL SHALL BE DONE AT THE FABRICATION PLANT ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
  10. THE MINIMUM DISTANCE FROM THE POST TO AN EXPANSION JOINT SHALL BE DETERMINED BY THE MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR TO THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
  11. THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.

SEE STD S-364C FOR SPLICE DETAILS  
SEE STD G-1B FOR DELINEATORS

PROJECT NAME: WARREN  
PROJECT NUMBER: BRF 013-4 (14)

FILE NAME: s78f242rail.dgn  
PROJECT LEADER: J.LACROIX  
DESIGNED BY: U. STANLEY  
BRIDGE RAIL DETAIL SHEET

PLOT DATE: 27-JUL-2012  
DRAWN BY: M.LONGSTREET  
CHECKED BY: U.STANLEY  
SHEET 58 OF 83



NOTES:

- BOX BEAM TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.

SEE STD S-364C FOR SPLICE DETAILS  
SEE STD S-364D FOR TRANSITION POST  
SEE STD G-1B FOR POST DETAILS

PROJECT NAME: WARREN	PLOT DATE: 27-JUL-2012
PROJECT NUMBER: BRF 013-4 (14)	DRAWN BY: M.LONGSTREET
FILE NAME: s78f242rail.dgn	CHECKED BY: U.STANLEY
PROJECT LEADER: J.LACROIX	SHEET 59 OF 83
DESIGNED BY: U.STANLEY	
BRIDGE APPROACH RAIL DETAIL SHEET	