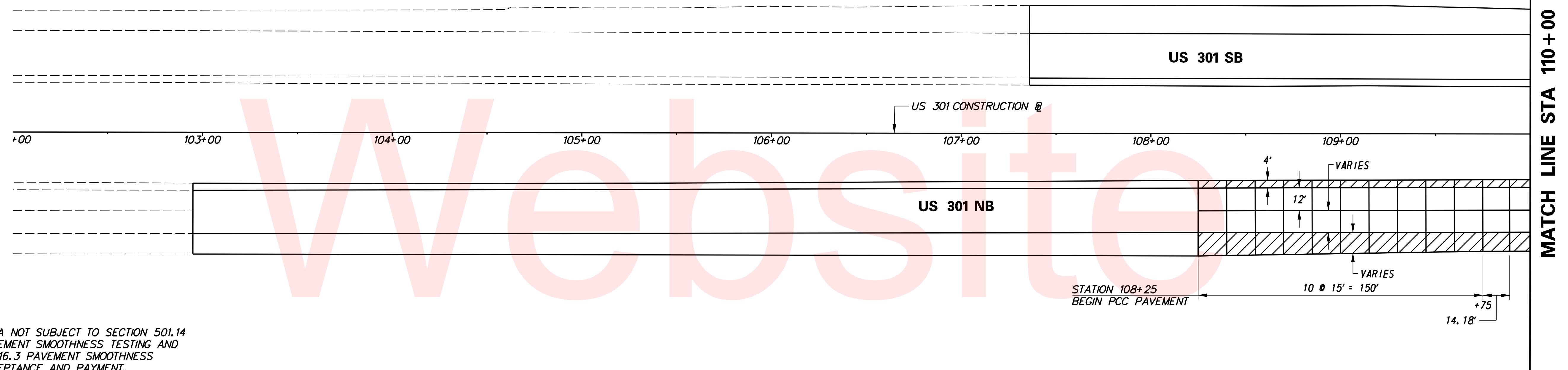
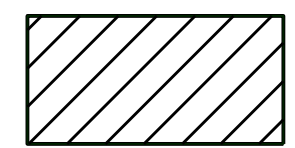


**LIMIT OF CONSTRUCTION
CONTRACT T200811301
STATION 62+75**



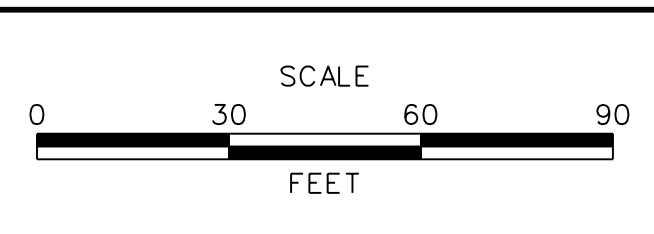
 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

- GENERAL NOTES:**
1. JOINT LAYOUT AS SHOWN ON THE PLANS IS GRAPHICAL AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSTRUCT THE JOINTS ACCORDING TO THE STANDARD DETAILS AND THESE GENERAL NOTES.
 2. TYPICAL TRANSVERSE JOINT SPACING IS 15'.
 3. THE MAXIMUM SLAB WIDTH IS 14' UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER.
 4. THE MINIMUM SLAB WIDTH IS 4'.
 5. THE MINIMUM TRANSVERSE JOINT SPACING IS 12'. THE MAXIMUM TRANSVERSE SPACING IS 17'. SPACING ON CURVES SHALL BE MEASURED ALONG THE LONGEST CHORD. THE MAXIMUM AND MINIMUM SPACING FOR CURVES ON THE US 301 MAINLINE SHOULD BE CALCULATED FOR FUTURE LANE EXPANSION INTO THE MEDIAN WHERE APPLICABLE.
 6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

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ADDENDUMS / REVISIONS	

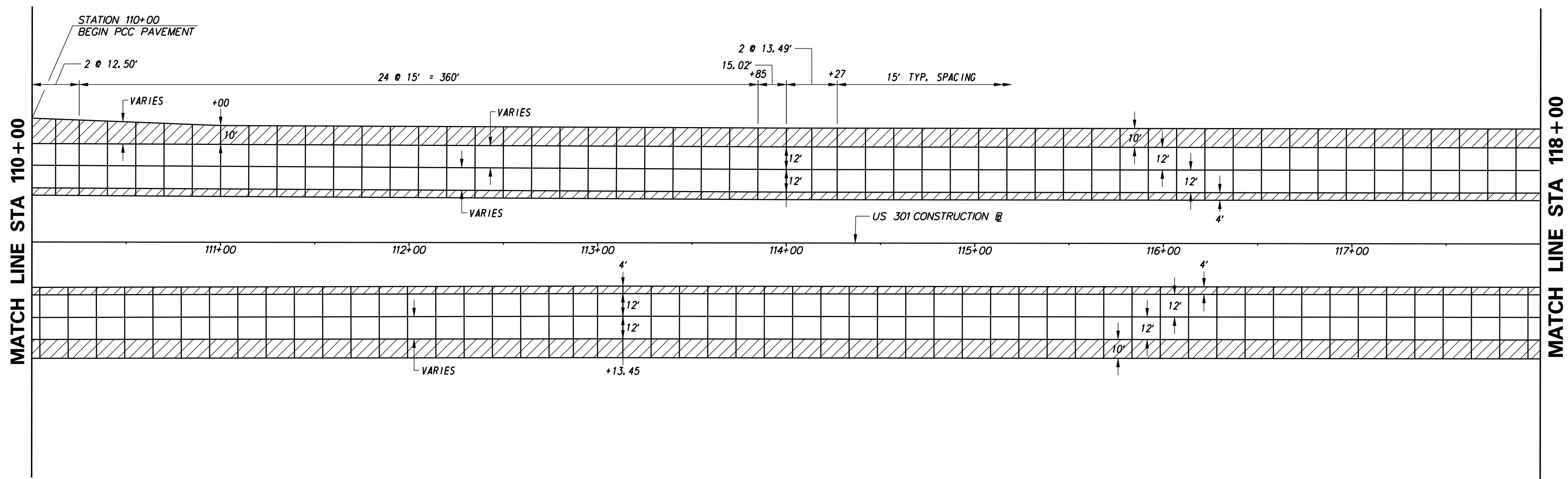
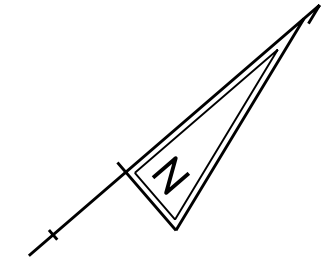


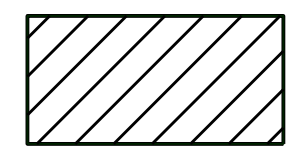
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: MFM
	CHECKED BY: SKH

PAVEMENT JOINT LAYOUT DETAILS	SHEET NO. 240
	TOTAL SHTS. 850

PJ-01



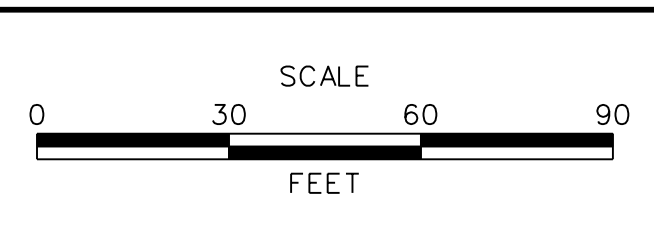
 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

- GENERAL NOTES:**
1. JOINT LAYOUT AS SHOWN ON THE PLANS IS GRAPHICAL AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSTRUCT THE JOINTS ACCORDING TO THE STANDARD DETAILS AND THESE GENERAL NOTES.
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 6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

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ADDENDUMS / REVISIONS	

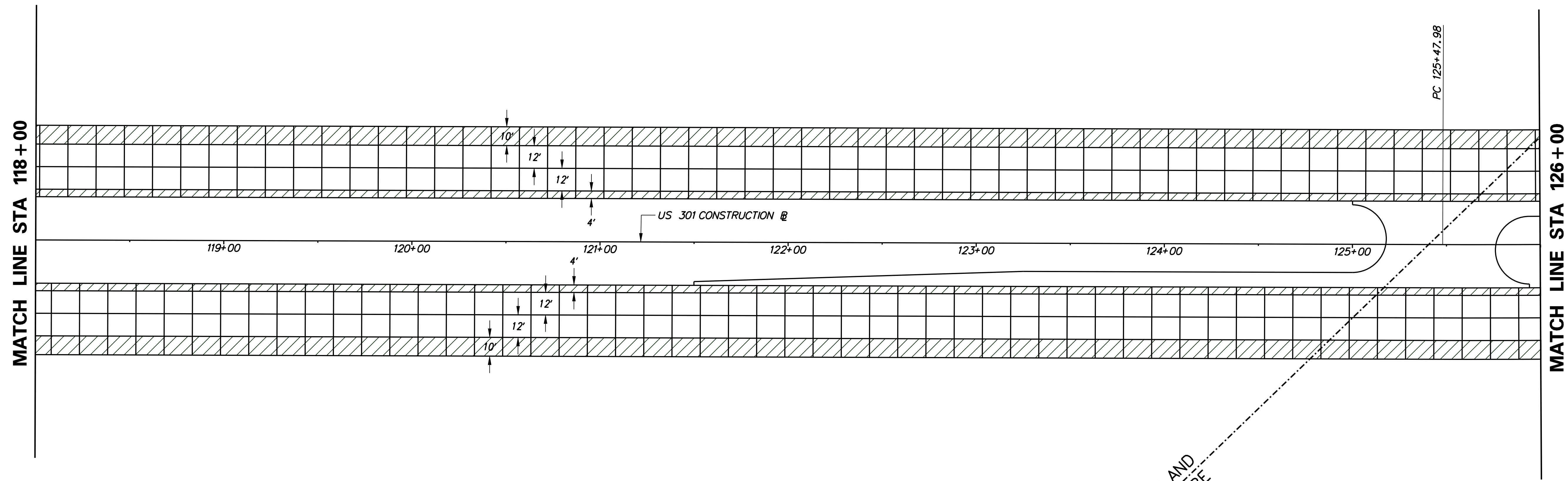
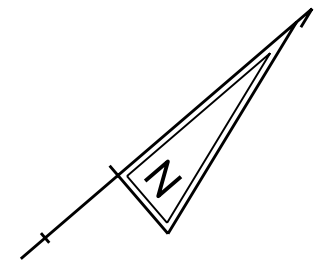


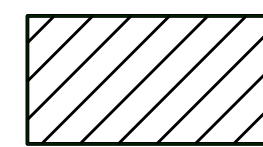
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

PAVEMENT JOINT LAYOUT DETAILS	SHEET NO.
	241
	TOTAL SHTS.
	850

PJ-02



 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

- GENERAL NOTES:**
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 3. THE MAXIMUM SLAB WIDTH IS 14' UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER.
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 6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

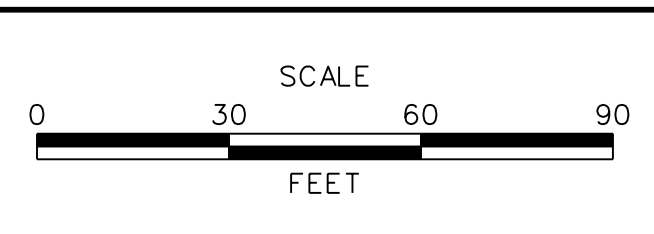
MARYLAND
DELAWARE

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PJ-03



ADDENDUMS / REVISIONS	

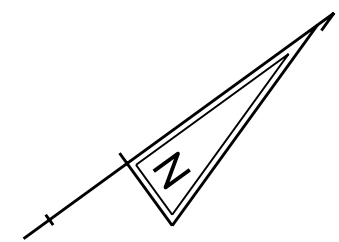


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

**PAVEMENT JOINT
LAYOUT DETAILS**

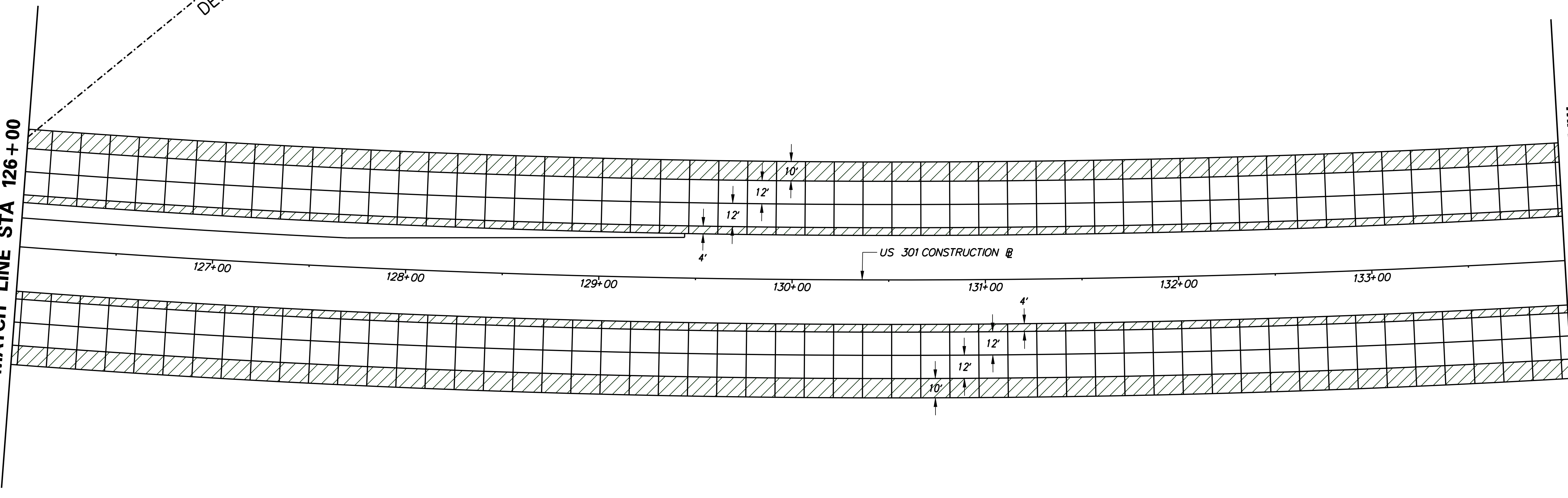
SHEET NO.
242
TOTAL SHTS.
850

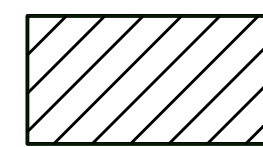


MARYLAND
DELAWARE

MATCH LINE STA 126+00

MATCH LINE STA 134+00



 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

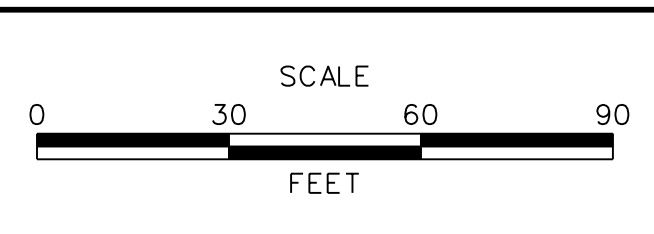
- GENERAL NOTES:**
1. JOINT LAYOUT AS SHOWN ON THE PLANS IS GRAPHICAL AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSTRUCT THE JOINTS ACCORDING TO THE STANDARD DETAILS AND THESE GENERAL NOTES.
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 6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

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PJ-04



ADDENDUMS / REVISIONS	

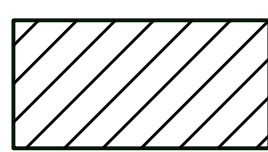


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: MFM
	CHECKED BY: SKH

**PAVEMENT JOINT
LAYOUT DETAILS**

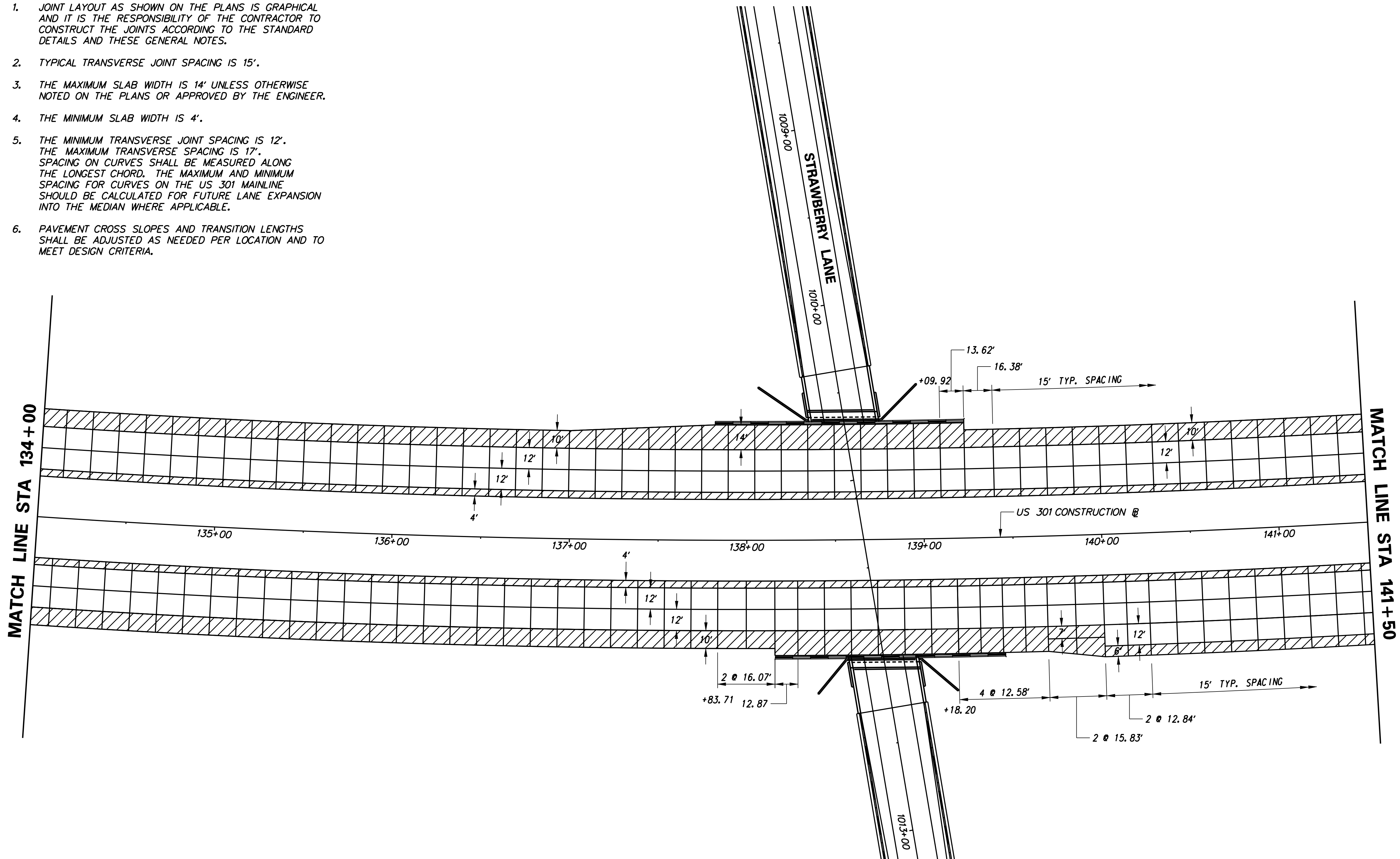
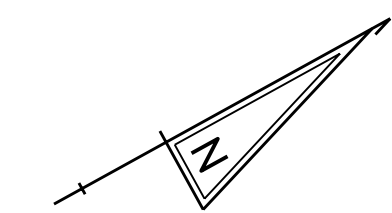
SHEET NO. 243
TOTAL SHTS. 850



AREA NOT SUBJECT TO SECTION 501.14
PAVEMENT SMOOTHNESS TESTING AND
501.16.3 PAVEMENT SMOOTHNESS
ACCEPTANCE AND PAYMENT.

GENERAL NOTES:

1. JOINT LAYOUT AS SHOWN ON THE PLANS IS GRAPHICAL AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSTRUCT THE JOINTS ACCORDING TO THE STANDARD DETAILS AND THESE GENERAL NOTES.
2. TYPICAL TRANSVERSE JOINT SPACING IS 15'.
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6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

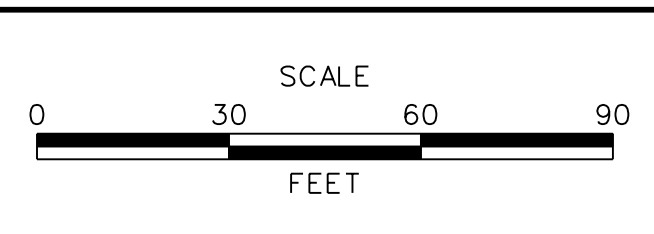


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PJ-05



ADDENDUMS / REVISIONS	

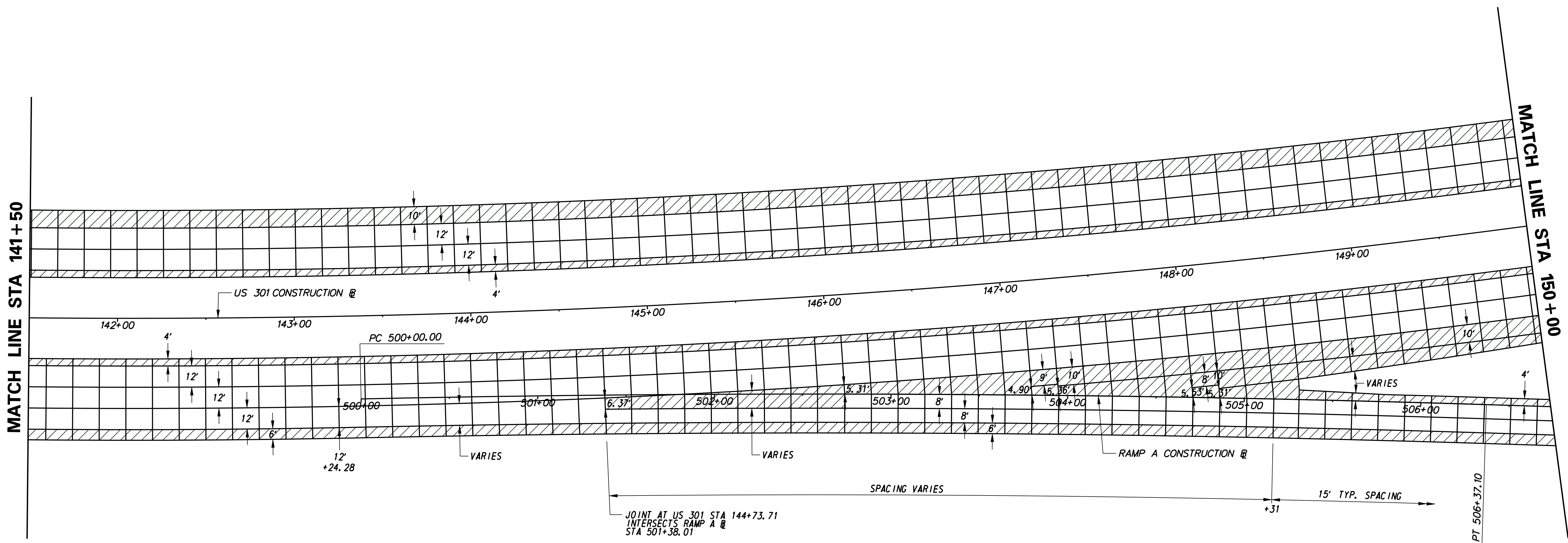
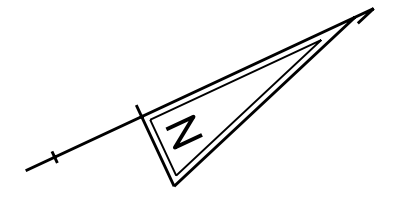


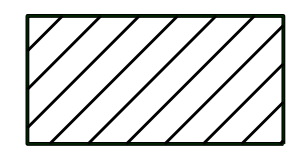
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: MFM
	CHECKED BY: SKH

PAVEMENT JOINT
LAYOUT DETAILS

SHEET NO. 244
TOTAL SHTS. 850



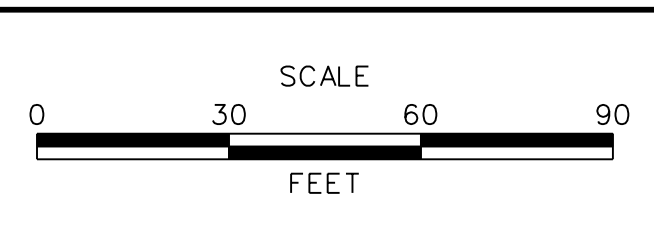
 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

- GENERAL NOTES:**
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 6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

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ADDENDUMS / REVISIONS	

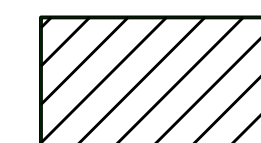


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

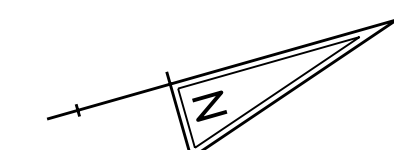
CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: MFM
	CHECKED BY: SKH

PAVEMENT JOINT LAYOUT DETAILS	SHEET NO. 245
	TOTAL SHTS. 850

PJ-06

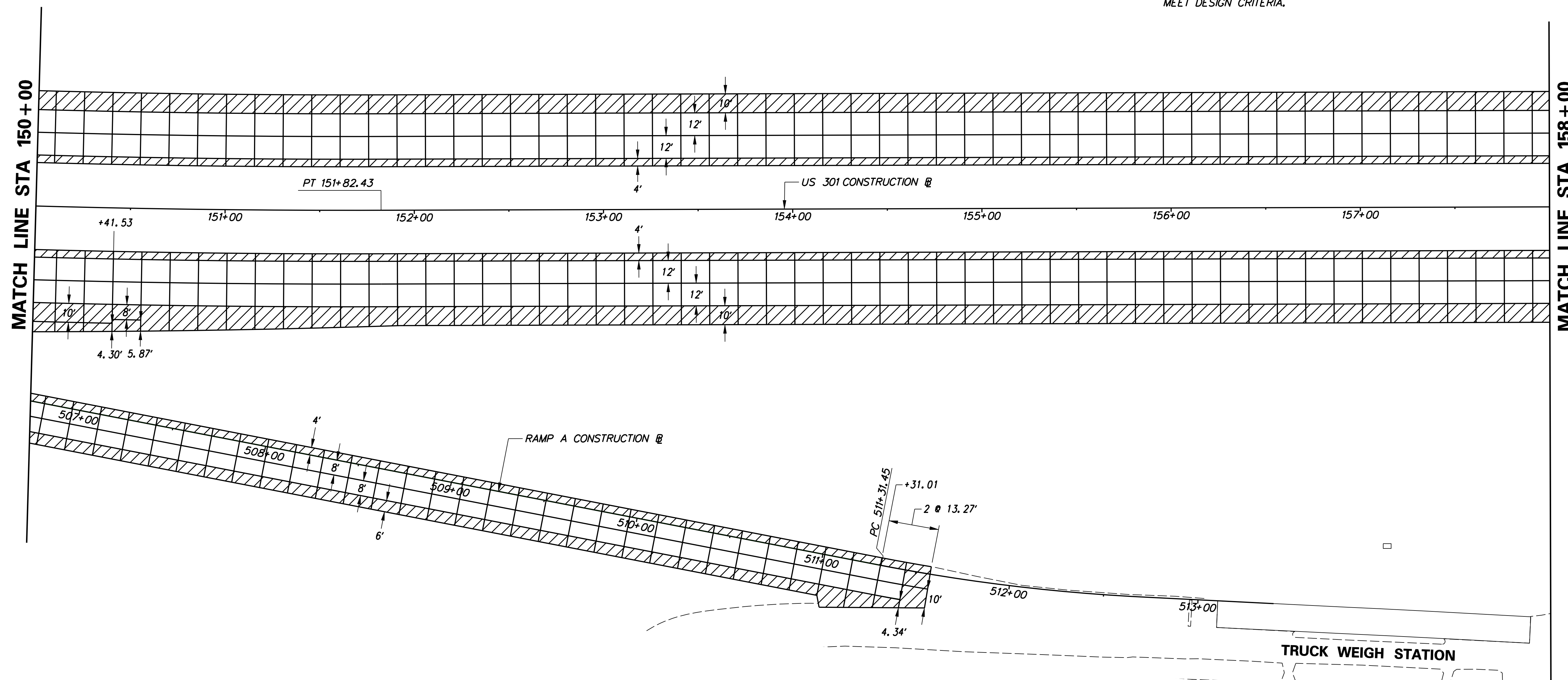


AREA NOT SUBJECT TO SECTION 501.14
PAVEMENT SMOOTHNESS TESTING AND
501.16.3 PAVEMENT SMOOTHNESS
ACCEPTANCE AND PAYMENT.



GENERAL NOTES:

1. JOINT LAYOUT AS SHOWN ON THE PLANS IS GRAPHICAL AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSTRUCT THE JOINTS ACCORDING TO THE STANDARD DETAILS AND THESE GENERAL NOTES.
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6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

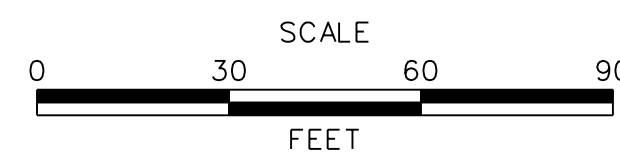


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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS



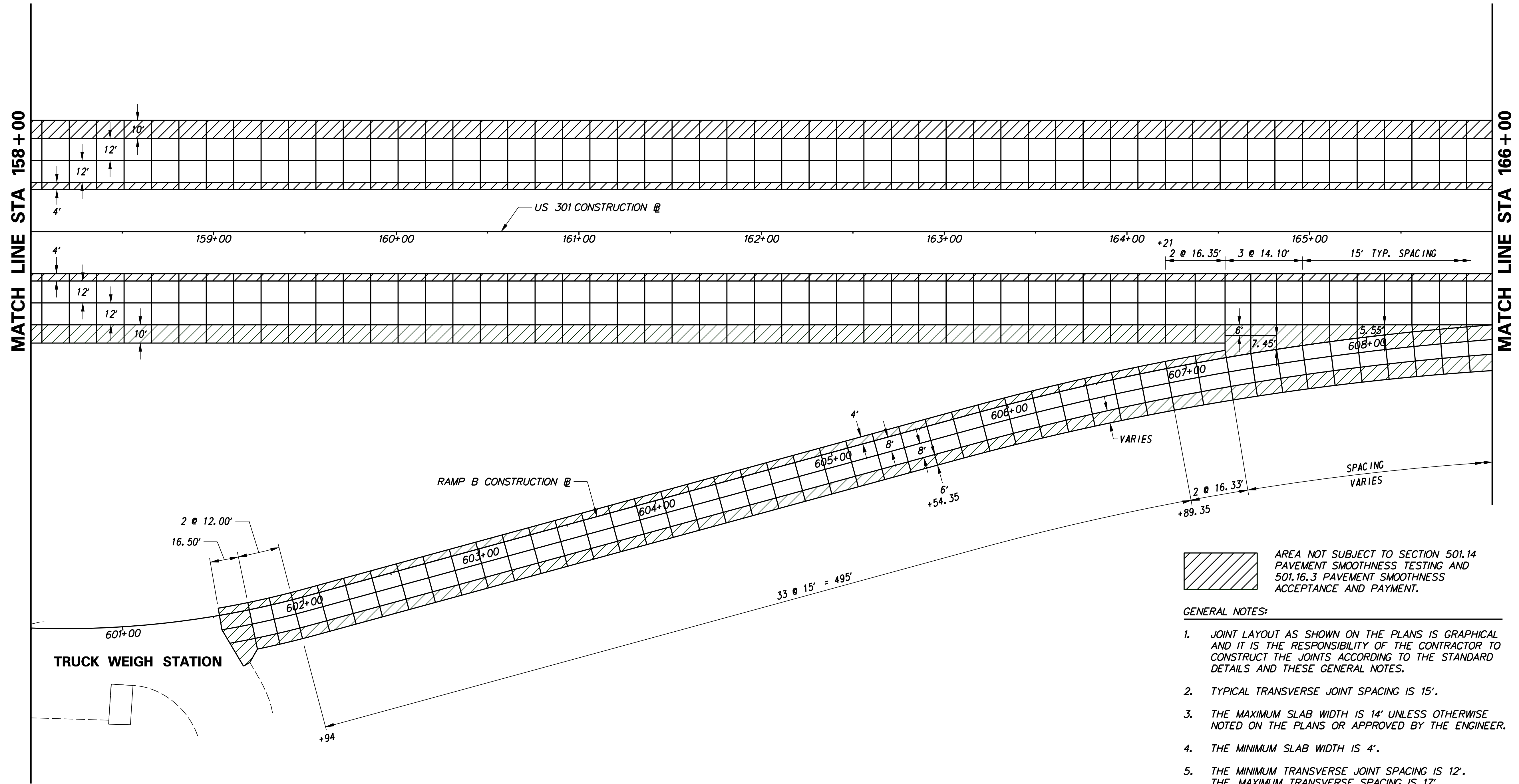
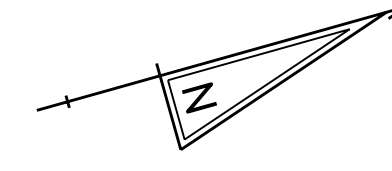
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

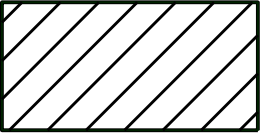
CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

PAVEMENT JOINT
LAYOUT DETAILS

PJ-07

SHEET NO.
246
TOTAL SHTS.
850

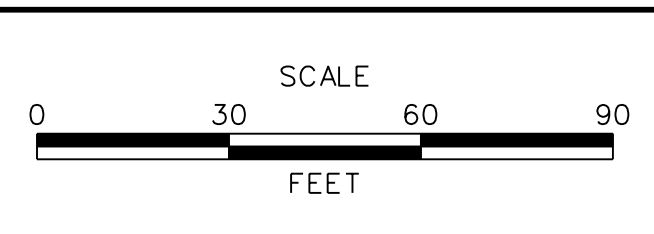


 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

- GENERAL NOTES:**
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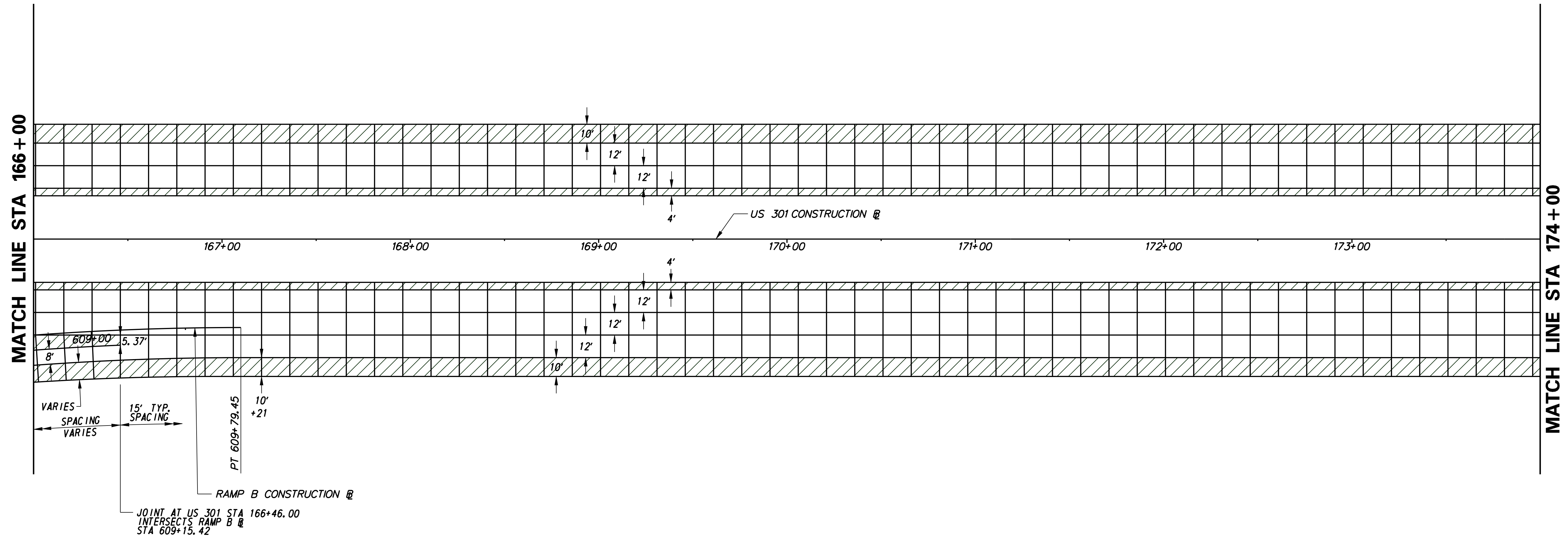
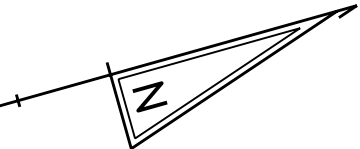
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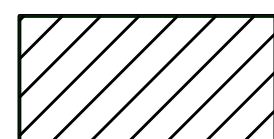
ADDENDUMS / REVISIONS	



CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: MFM
	CHECKED BY: SKH

PAVEMENT JOINT LAYOUT DETAILS	SHEET NO. 247
	TOTAL SHTS. 850



 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

GENERAL NOTES:

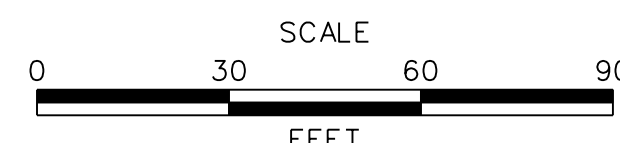
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6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

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PJ-09



ADDENDUMS / REVISIONS	

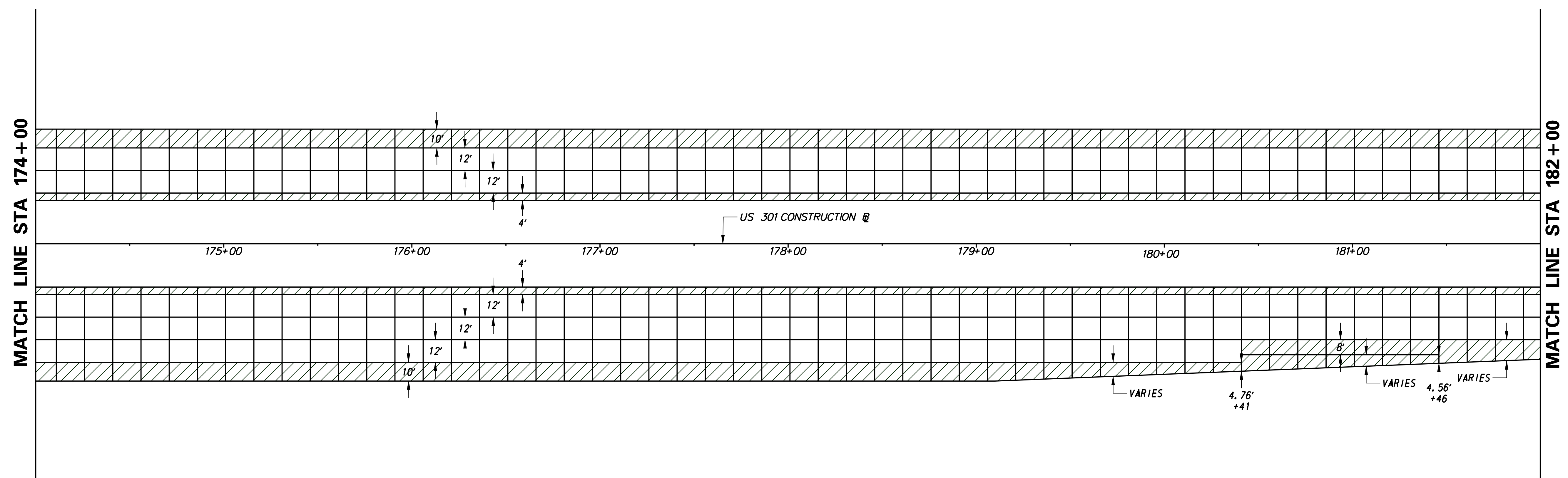
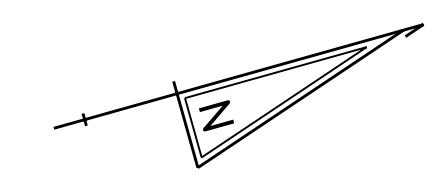


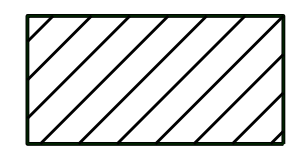
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

**PAVEMENT JOINT
LAYOUT DETAILS**

SHEET NO.
248
TOTAL SHTS.
850



 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

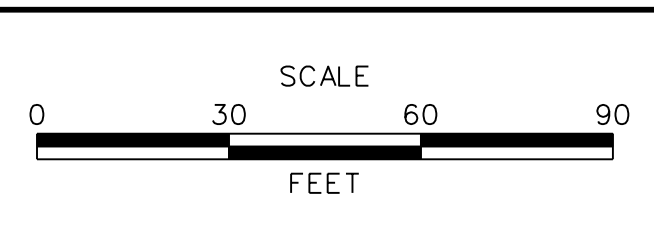
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 6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

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PJ-10



ADDENDUMS / REVISIONS	

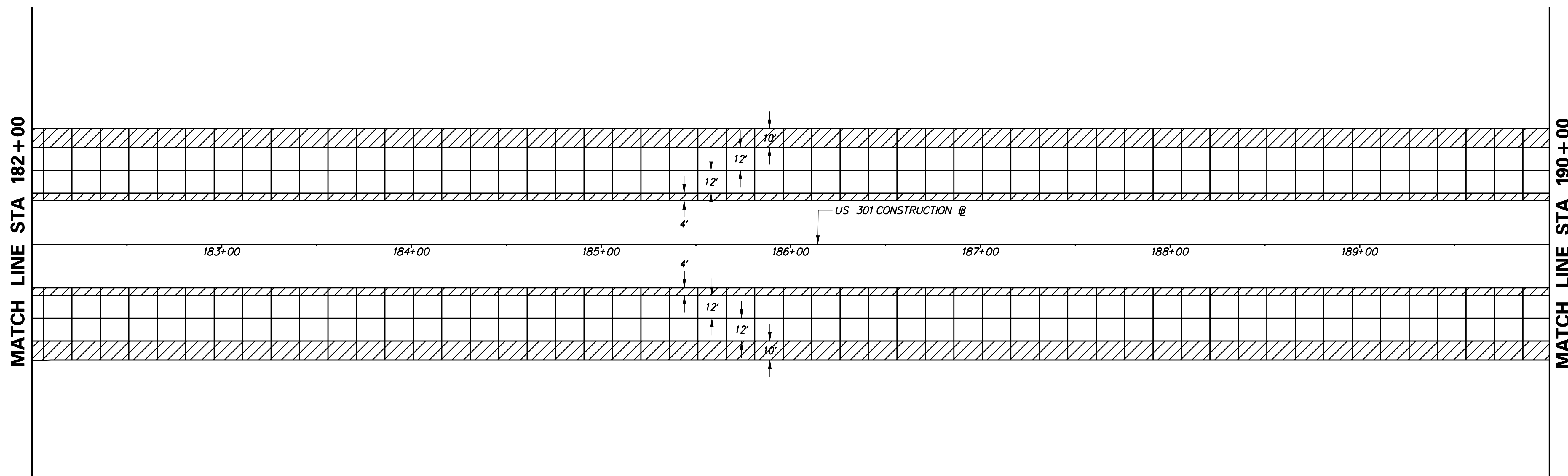
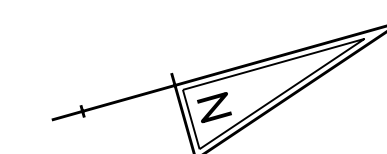


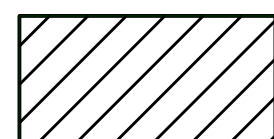
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: MFM
	CHECKED BY: SKH

**PAVEMENT JOINT
LAYOUT DETAILS**

SHEET NO. 249
TOTAL SHTS. 850



 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

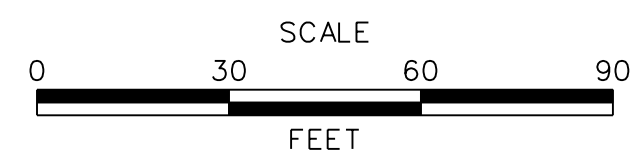
GENERAL NOTES:

1. JOINT LAYOUT AS SHOWN ON THE PLANS IS GRAPHICAL AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSTRUCT THE JOINTS ACCORDING TO THE STANDARD DETAILS AND THESE GENERAL NOTES.
2. TYPICAL TRANSVERSE JOINT SPACING IS 15'.
3. THE MAXIMUM SLAB WIDTH IS 14' UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER.
4. THE MINIMUM SLAB WIDTH IS 4'.
5. THE MINIMUM TRANSVERSE JOINT SPACING IS 12'. THE MAXIMUM TRANSVERSE SPACING IS 17'. SPACING ON CURVES SHALL BE MEASURED ALONG THE LONGEST CHORD. THE MAXIMUM AND MINIMUM SPACING FOR CURVES ON THE US 301 MAINLINE SHOULD BE CALCULATED FOR FUTURE LANE EXPANSION INTO THE MEDIAN WHERE APPLICABLE.
6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

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ADDENDUMS / REVISIONS	

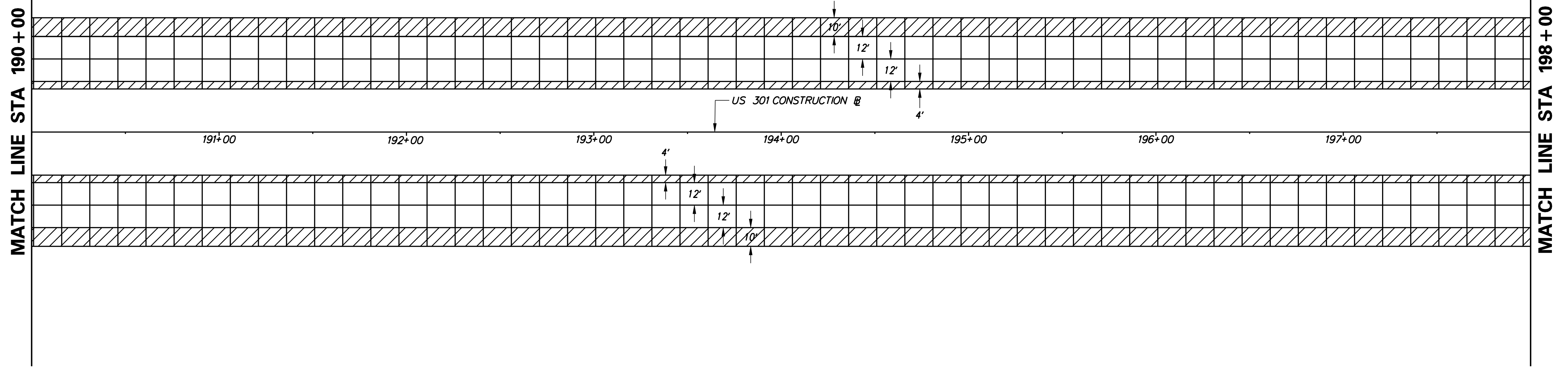
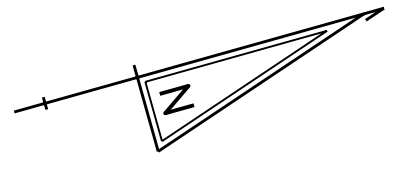


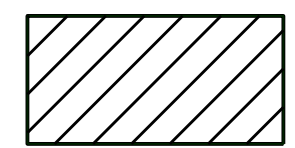
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

**PAVEMENT JOINT
LAYOUT DETAILS**

PJ-11	
SHEET NO.	250
TOTAL SHTS.	850



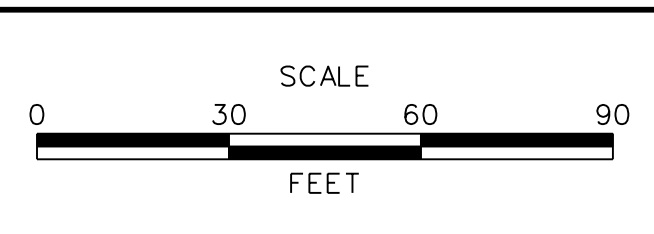
 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

- GENERAL NOTES:**
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 6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

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ADDENDUMS / REVISIONS	

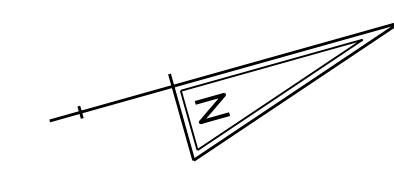


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

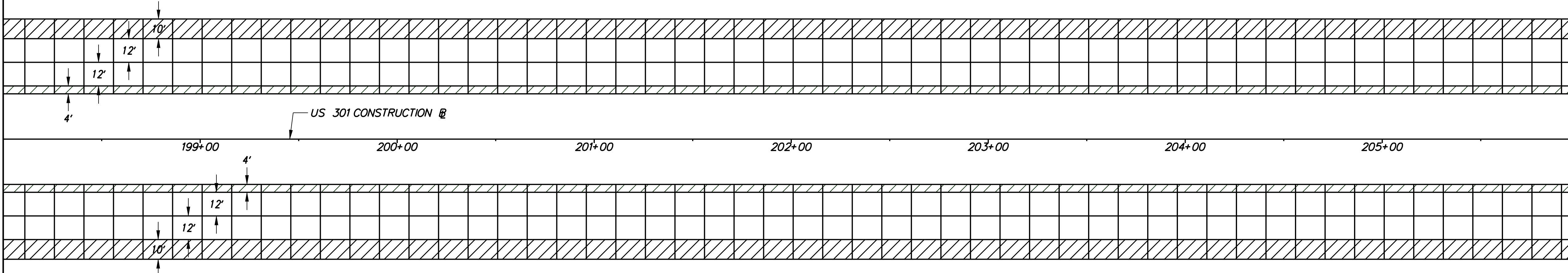
PAVEMENT JOINT LAYOUT DETAILS	SHEET NO.
	251
	TOTAL SHTS. 850

PJ-12



MATCH LINE STA 198+00

MATCH LINE STA 206+00



AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

GENERAL NOTES:

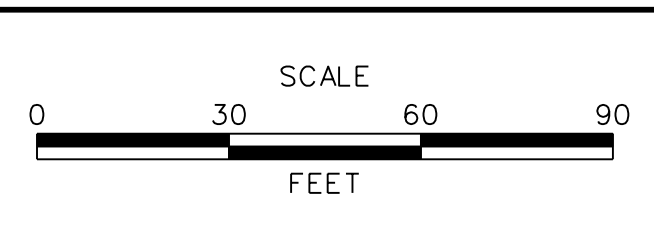
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6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

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PJ-13



ADDENDUMS / REVISIONS	

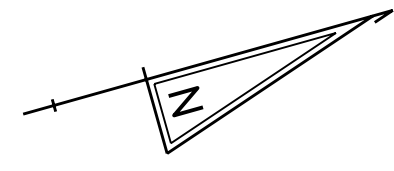


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

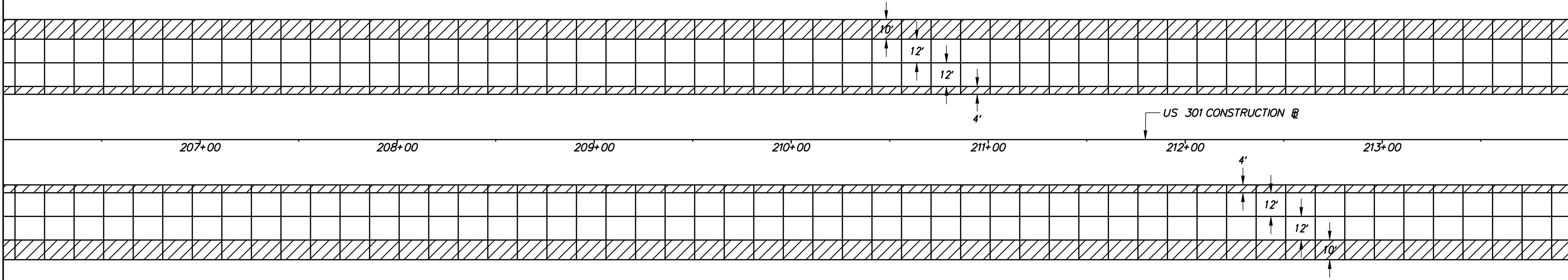
**PAVEMENT JOINT
LAYOUT DETAILS**

SHEET NO.
252
TOTAL SHTS.
850



MATCH LINE STA 206+00

MATCH LINE STA 214+00



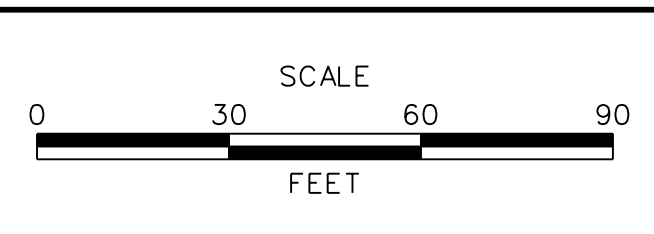
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ADDENDUMS / REVISIONS	

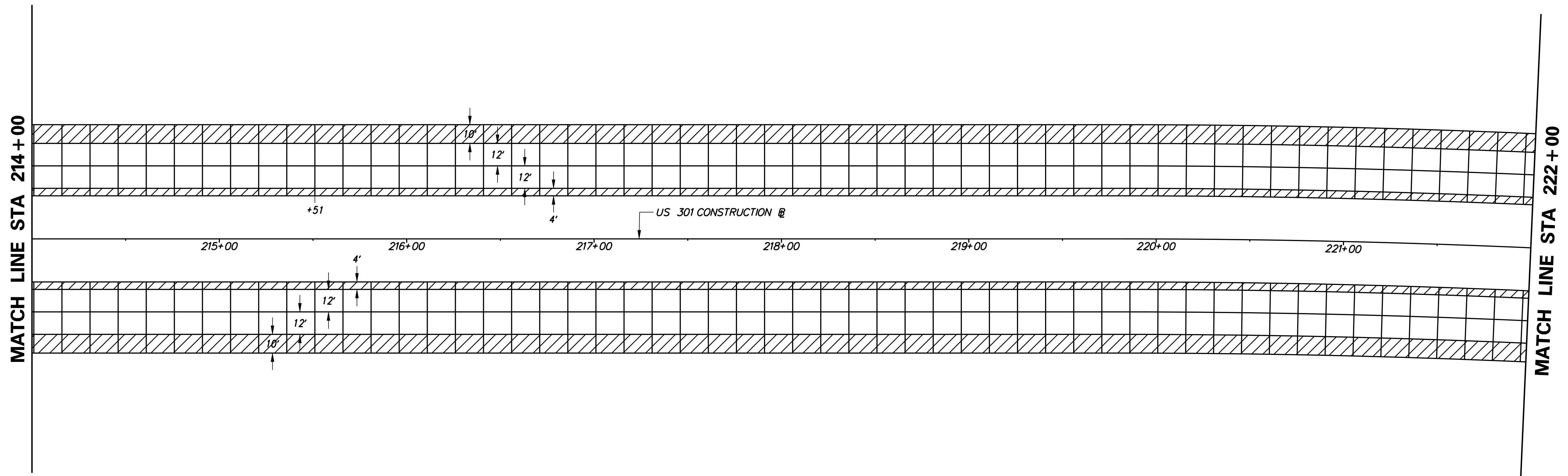
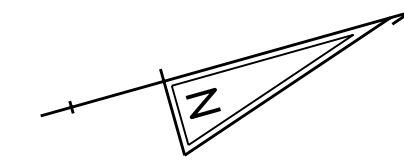


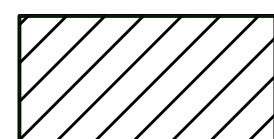
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

PAVEMENT JOINT LAYOUT DETAILS	SHEET NO.
	253
	TOTAL SHTS.
	850

PJ-14



 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

GENERAL NOTES:

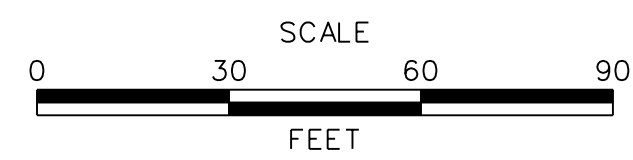
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6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

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PJ-15



ADDENDUMS / REVISIONS	

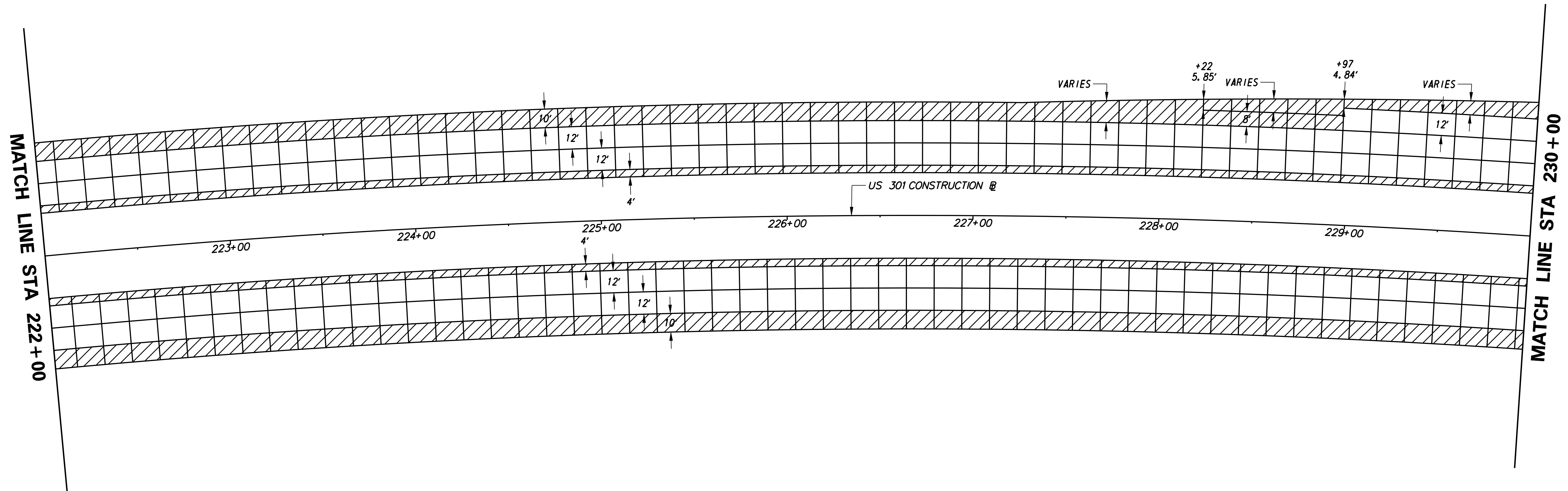
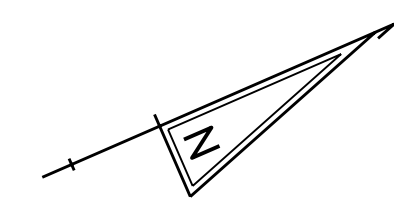


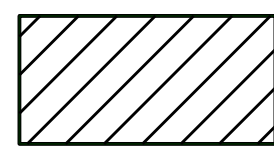
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

**PAVEMENT JOINT
LAYOUT DETAILS**

SHEET NO.
254
TOTAL SHTS.
850




 AREA NOT SUBJECT TO SECTION 501.14
 PAVEMENT SMOOTHNESS TESTING AND
 501.16.3 PAVEMENT SMOOTHNESS
 ACCEPTANCE AND PAYMENT.

GENERAL NOTES:

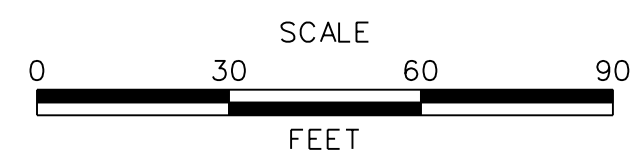
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PJ-16



ADDENDUMS / REVISIONS	

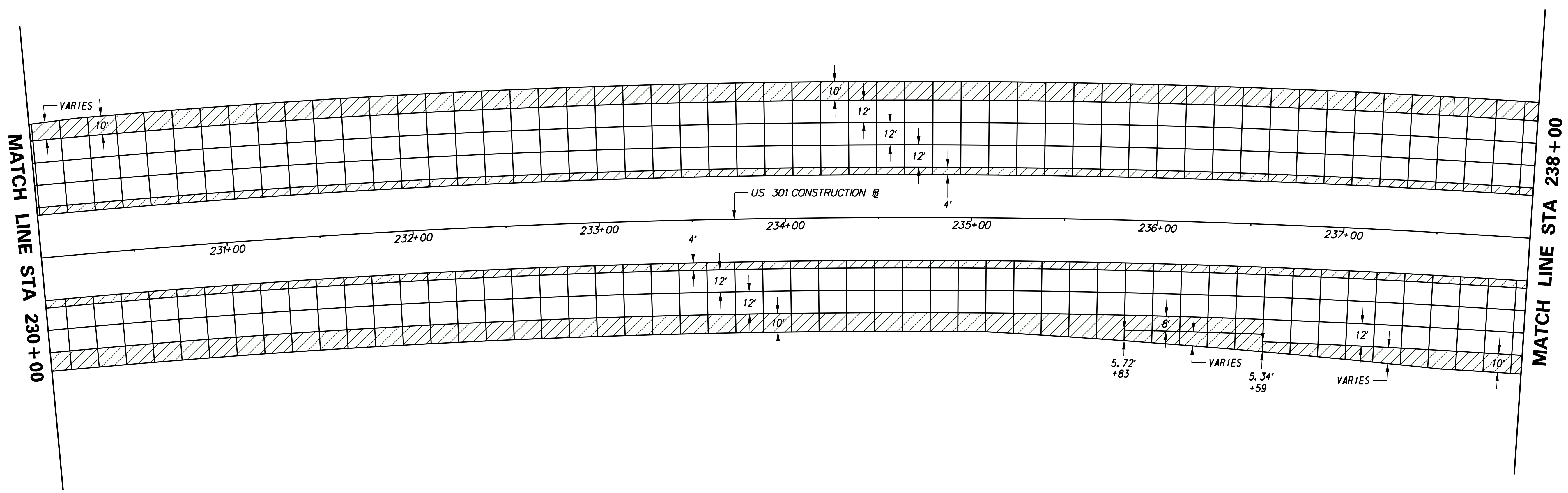
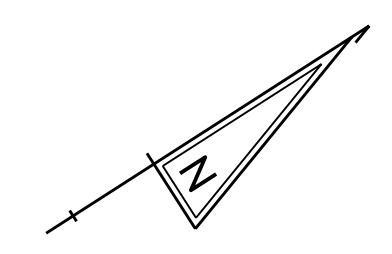


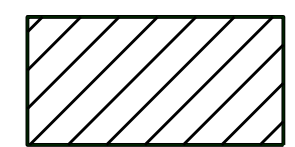
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

**PAVEMENT JOINT
LAYOUT DETAILS**

SHEET NO.
255
TOTAL SHTS.
850



 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

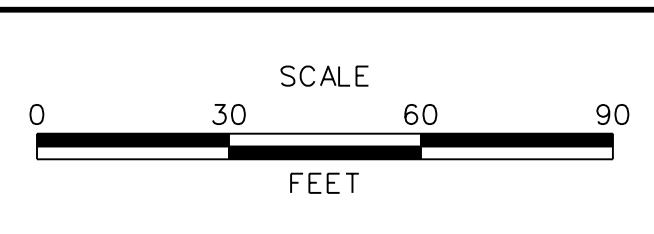
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6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

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ADDENDUMS / REVISIONS	

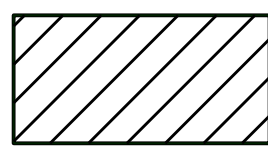


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: MFM
	CHECKED BY: SKH

PAVEMENT JOINT LAYOUT DETAILS	
SHEET NO.	256
TOTAL SHTS.	850

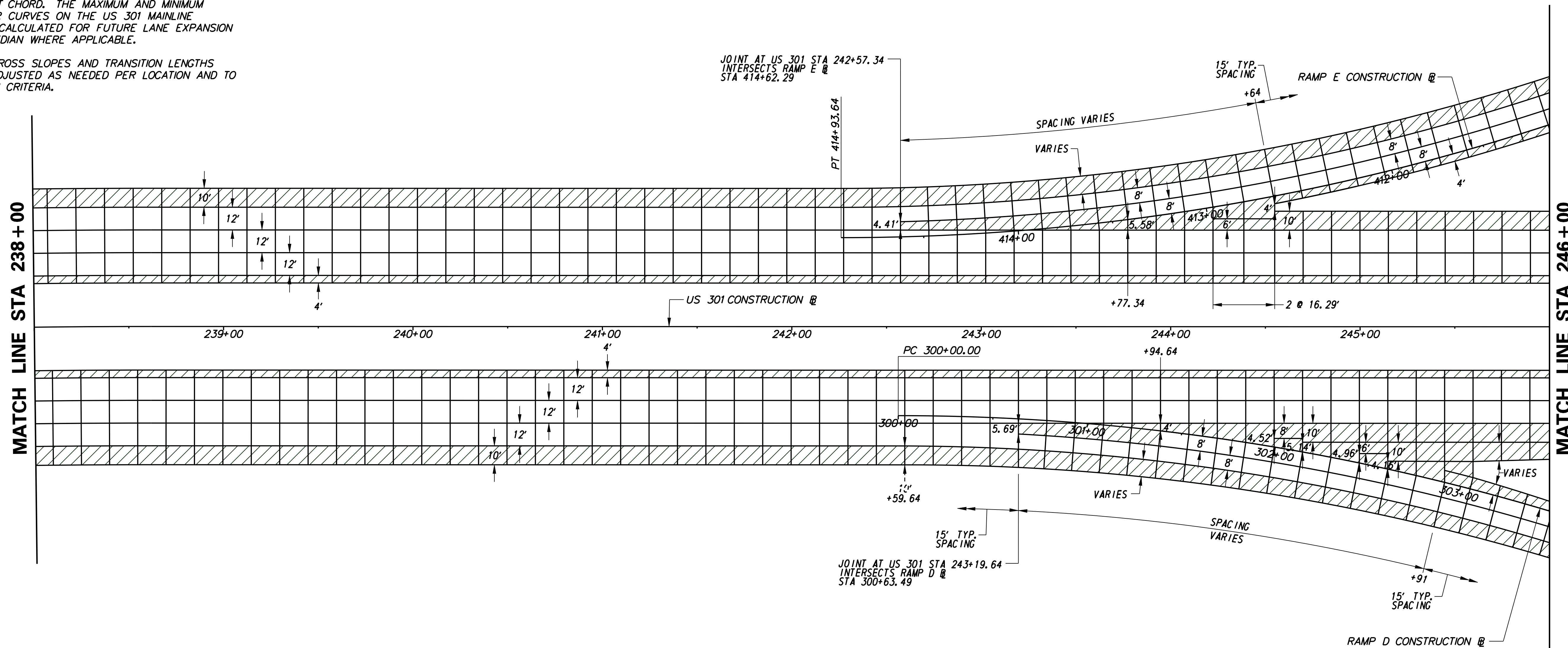
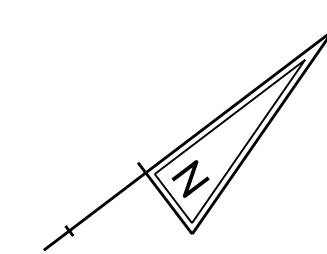
PJ-17



AREA NOT SUBJECT TO SECTION 501.14
PAVEMENT SMOOTHNESS TESTING AND
501.16.3 PAVEMENT SMOOTHNESS
ACCEPTANCE AND PAYMENT.

GENERAL NOTES:

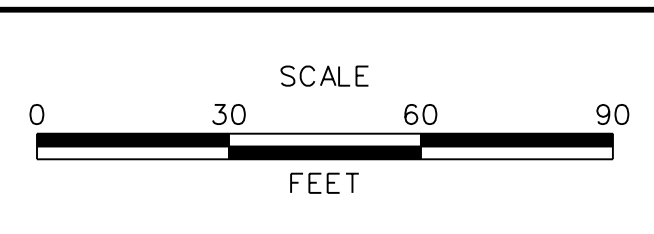
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ADDENDUMS / REVISIONS	

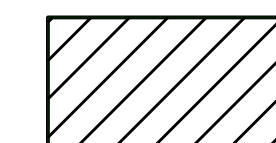


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

PAVEMENT JOINT LAYOUT DETAILS	SHEET NO.
	257
	TOTAL SHTS.
	850

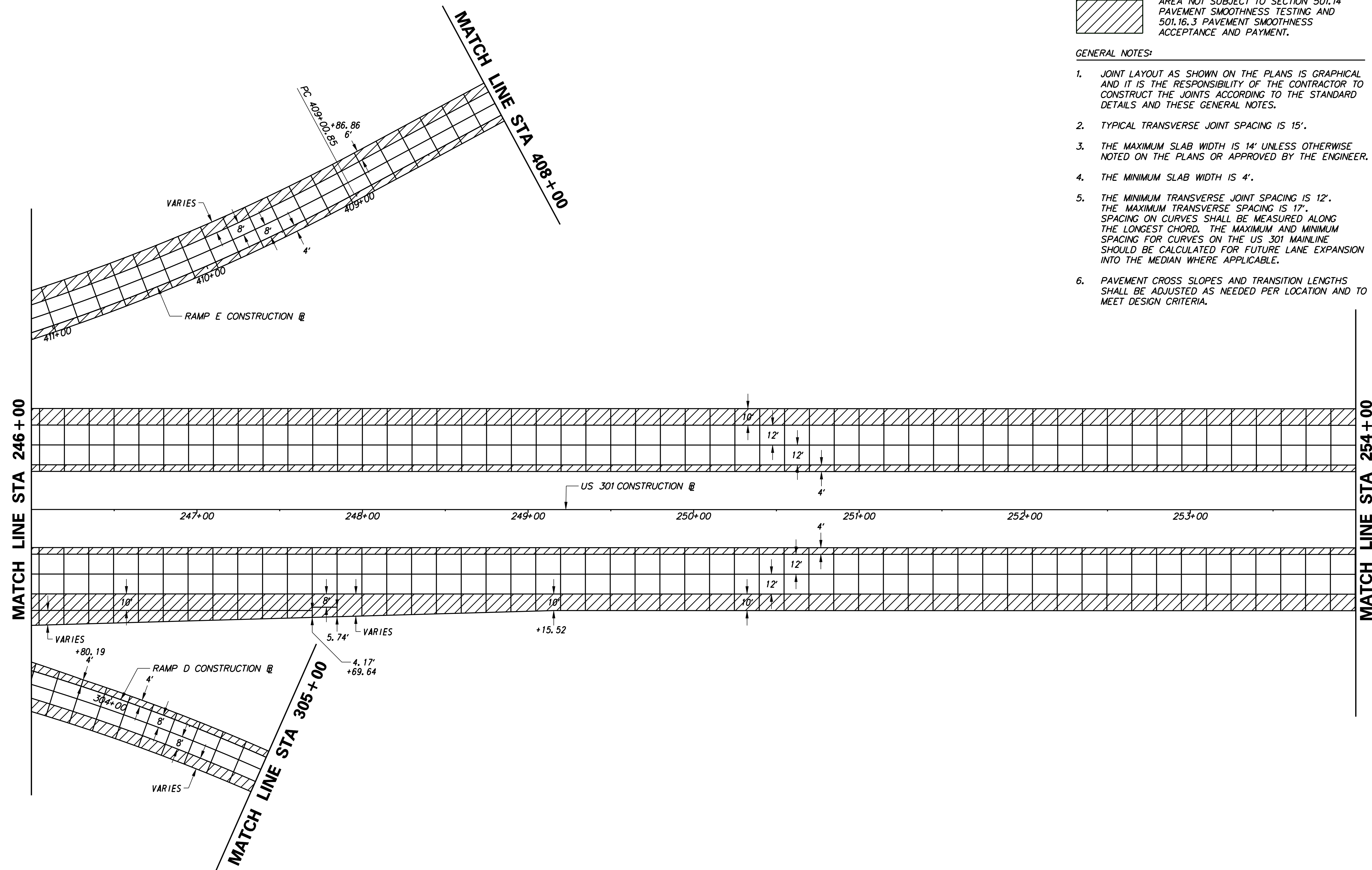
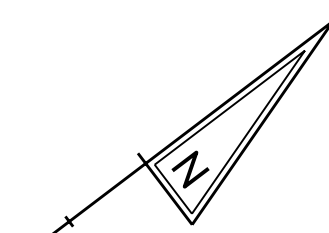
PJ-18



AREA NOT SUBJECT TO SECTION 501.14
PAVEMENT SMOOTHNESS TESTING AND
501.16.3 PAVEMENT SMOOTHNESS
ACCEPTANCE AND PAYMENT.

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NO.	DATE	DESCRIPTION

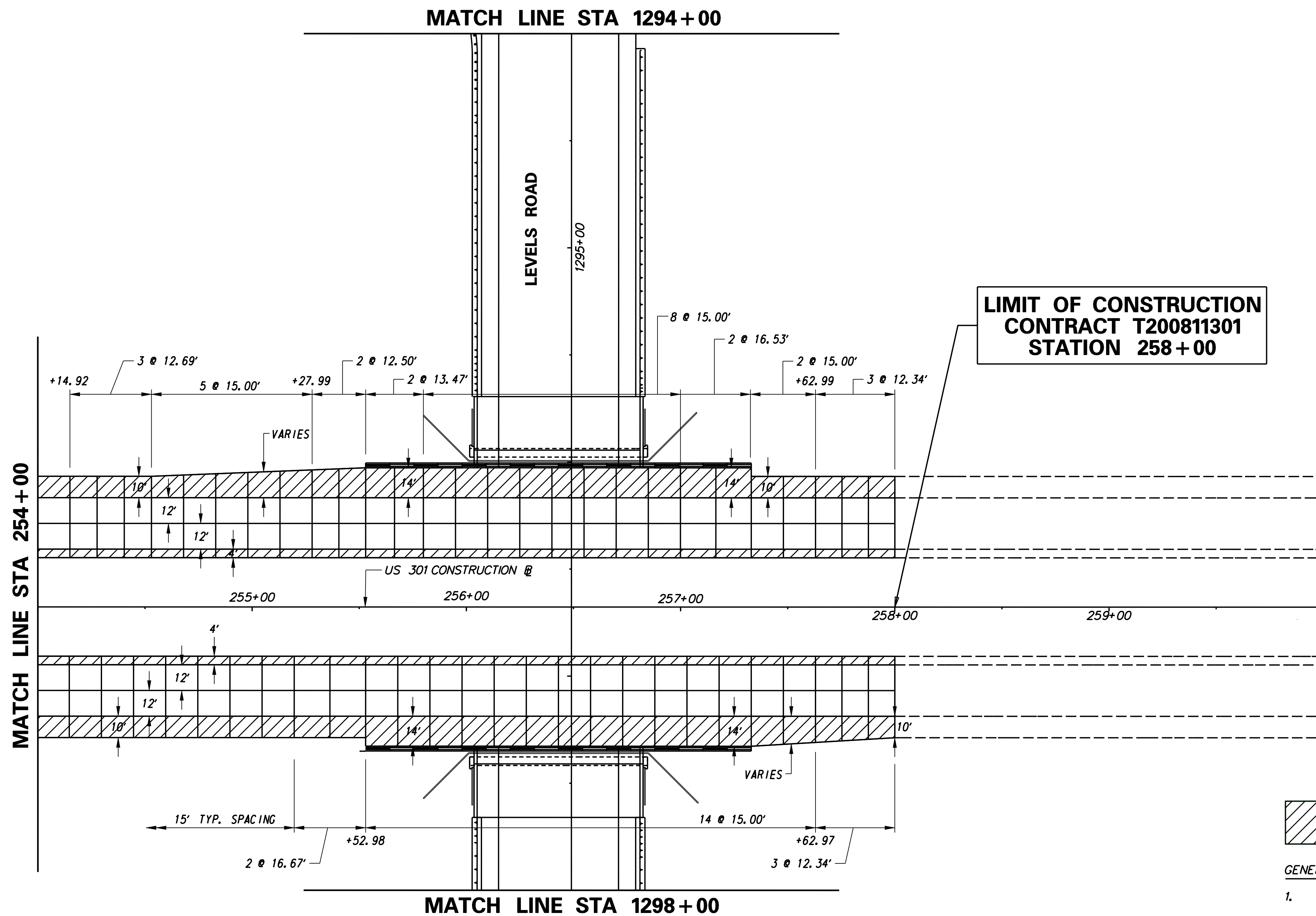
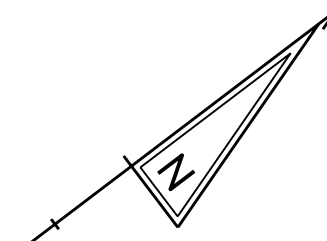


US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

PAVEMENT JOINT
LAYOUT DETAILS

PJ-19	
SHEET NO.	258
TOTAL SHTS.	850



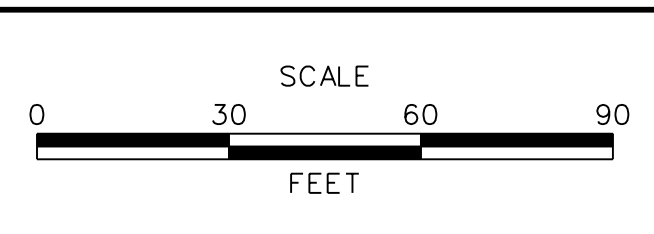
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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

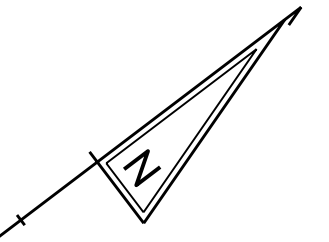


US 301
MARYLAND STATE LINE
TO LEVELS ROAD

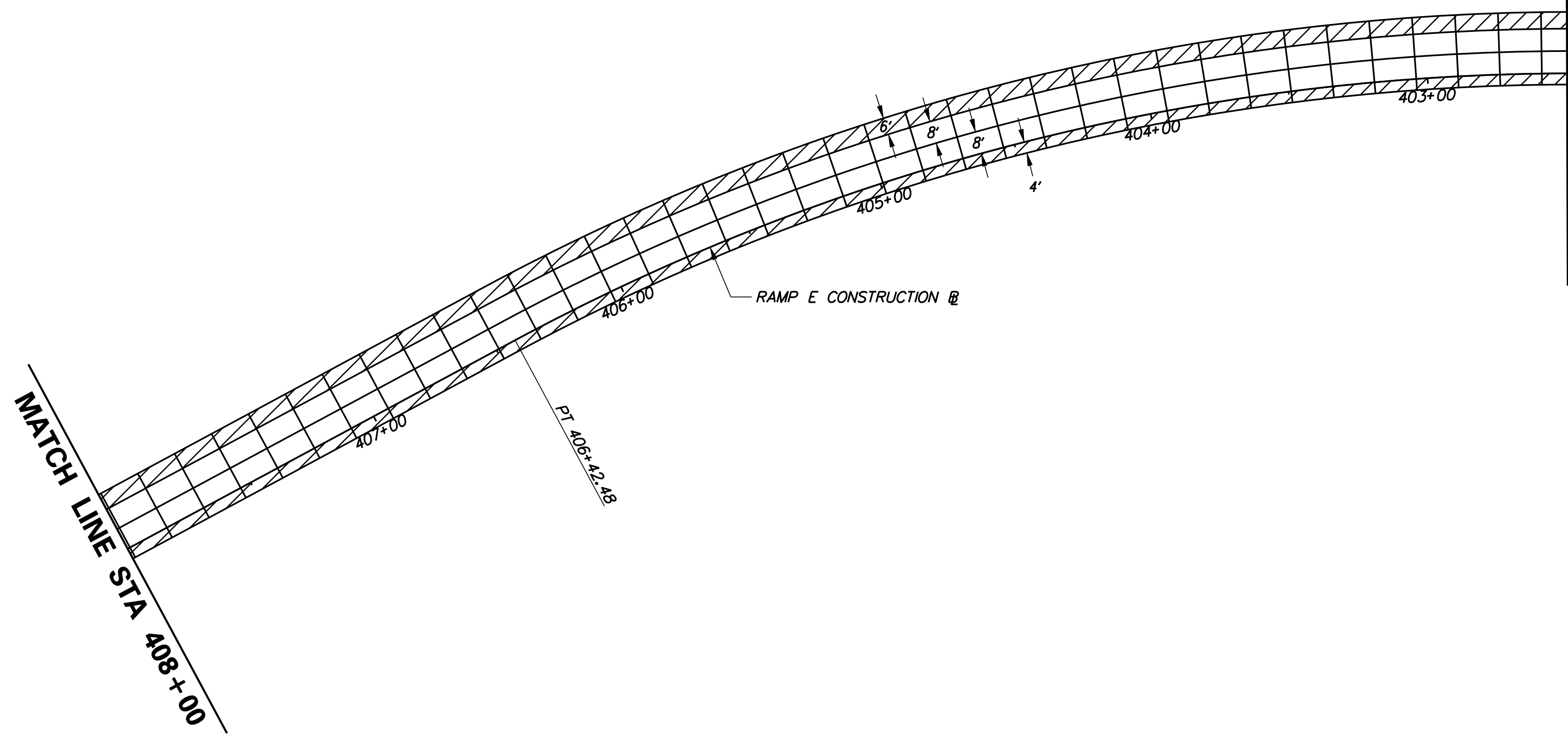
CONTRACT T200811301	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY BWMF
	CHECKED BY BYSKH

PAVEMENT JOINT LAYOUT DETAILS	SHEET NO. 259
	TOTAL SHTS 850

PJ-20



MATCH LINE STA 402+50



AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

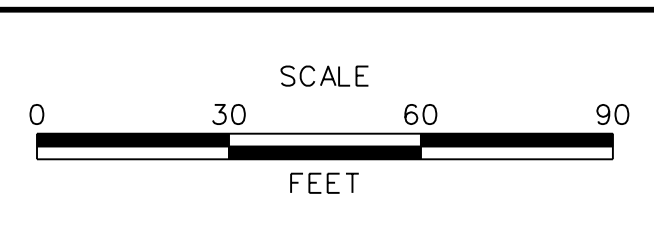
- GENERAL NOTES:**
1. JOINT LAYOUT AS SHOWN ON THE PLANS IS GRAPHICAL AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSTRUCT THE JOINTS ACCORDING TO THE STANDARD DETAILS AND THESE GENERAL NOTES.
 2. TYPICAL TRANSVERSE JOINT SPACING IS 15'.
 3. THE MAXIMUM SLAB WIDTH IS 14' UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER.
 4. THE MINIMUM SLAB WIDTH IS 4'.
 5. THE MINIMUM TRANSVERSE JOINT SPACING IS 12'. THE MAXIMUM TRANSVERSE SPACING IS 17'. SPACING ON CURVES SHALL BE MEASURED ALONG THE LONGEST CHORD. THE MAXIMUM AND MINIMUM SPACING FOR CURVES ON THE US 301 MAINLINE SHOULD BE CALCULATED FOR FUTURE LANE EXPANSION INTO THE MEDIAN WHERE APPLICABLE.
 6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.

J:\2008 PROJECTS\34801\700CADD\750AET\ROADWAY\PJ_301AET_021.DGN

PJ-21



ADDENDUMS / REVISIONS	

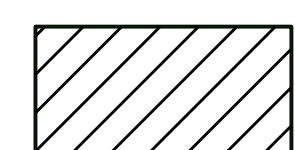
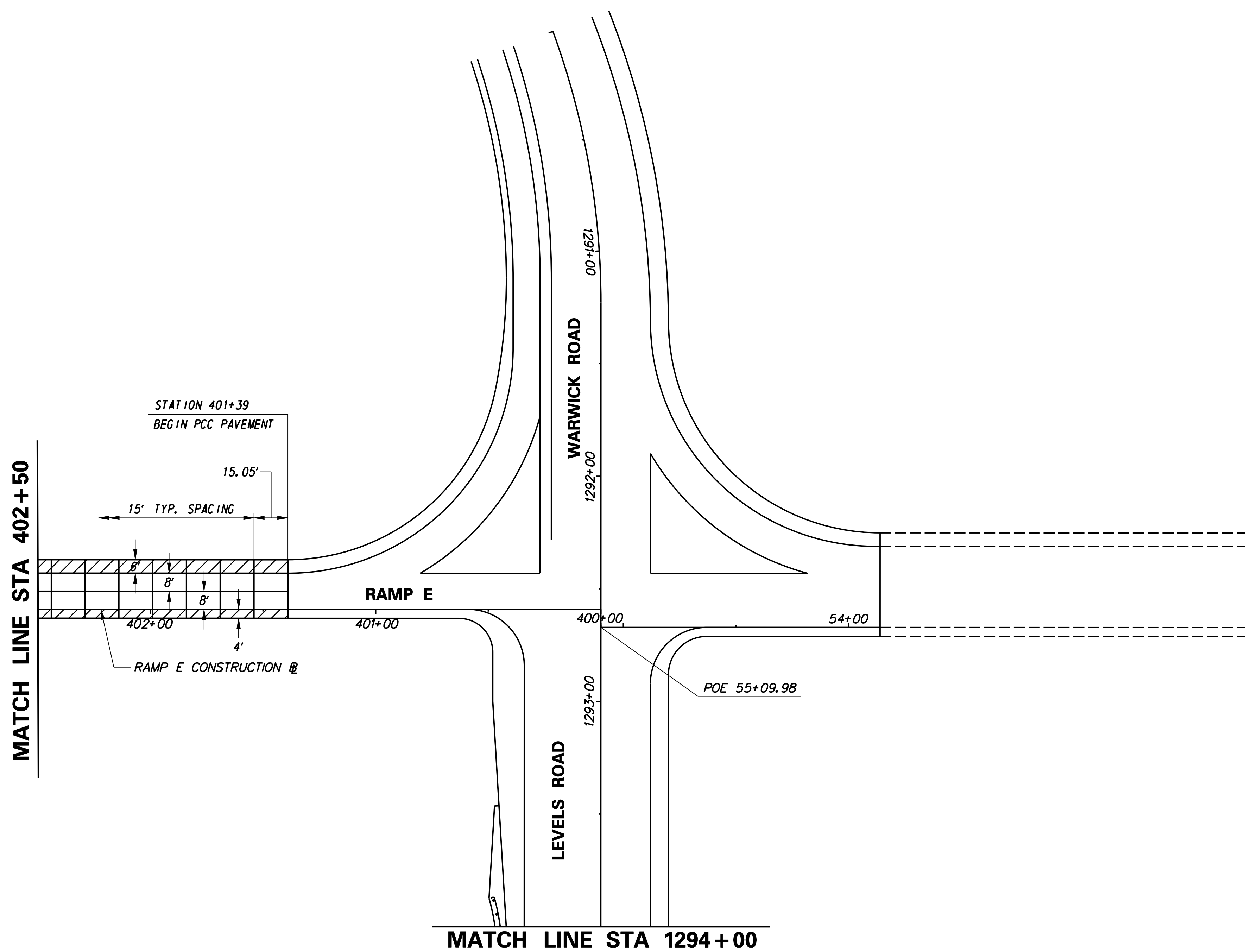
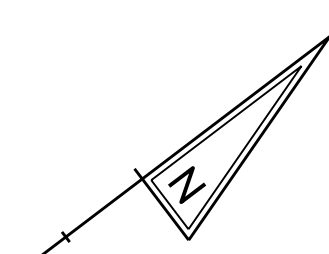


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

**PAVEMENT JOINT
LAYOUT DETAILS**

SHEET NO.
260
TOTAL SHTS.
850



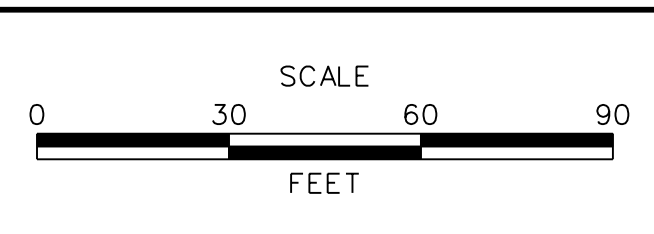
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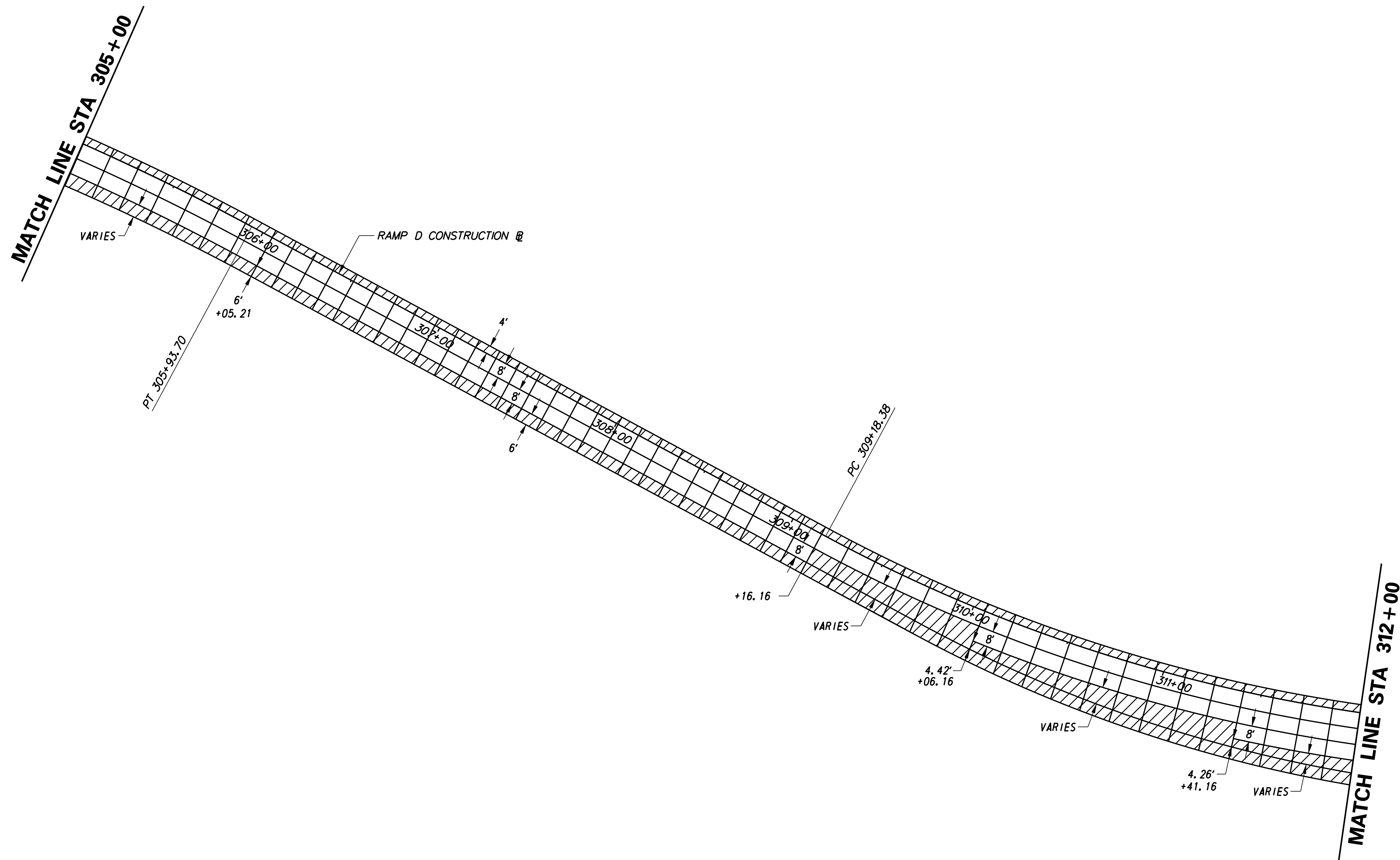
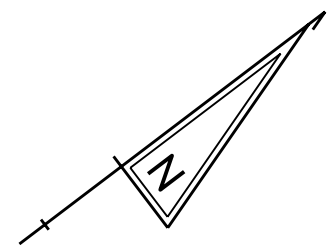
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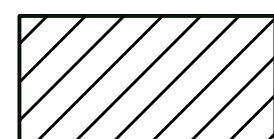
ADDENDUMS / REVISIONS	



CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

PAVEMENT JOINT LAYOUT DETAILS	SHEET NO.
	261
	TOTAL SHTS. 850



 AREA NOT SUBJECT TO SECTION 501.14 PAVEMENT SMOOTHNESS TESTING AND 501.16.3 PAVEMENT SMOOTHNESS ACCEPTANCE AND PAYMENT.

GENERAL NOTES:

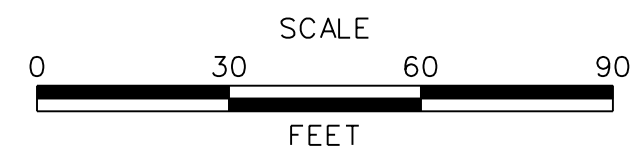
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PJ-23



ADDENDUMS / REVISIONS	

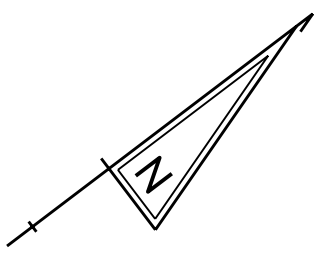


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

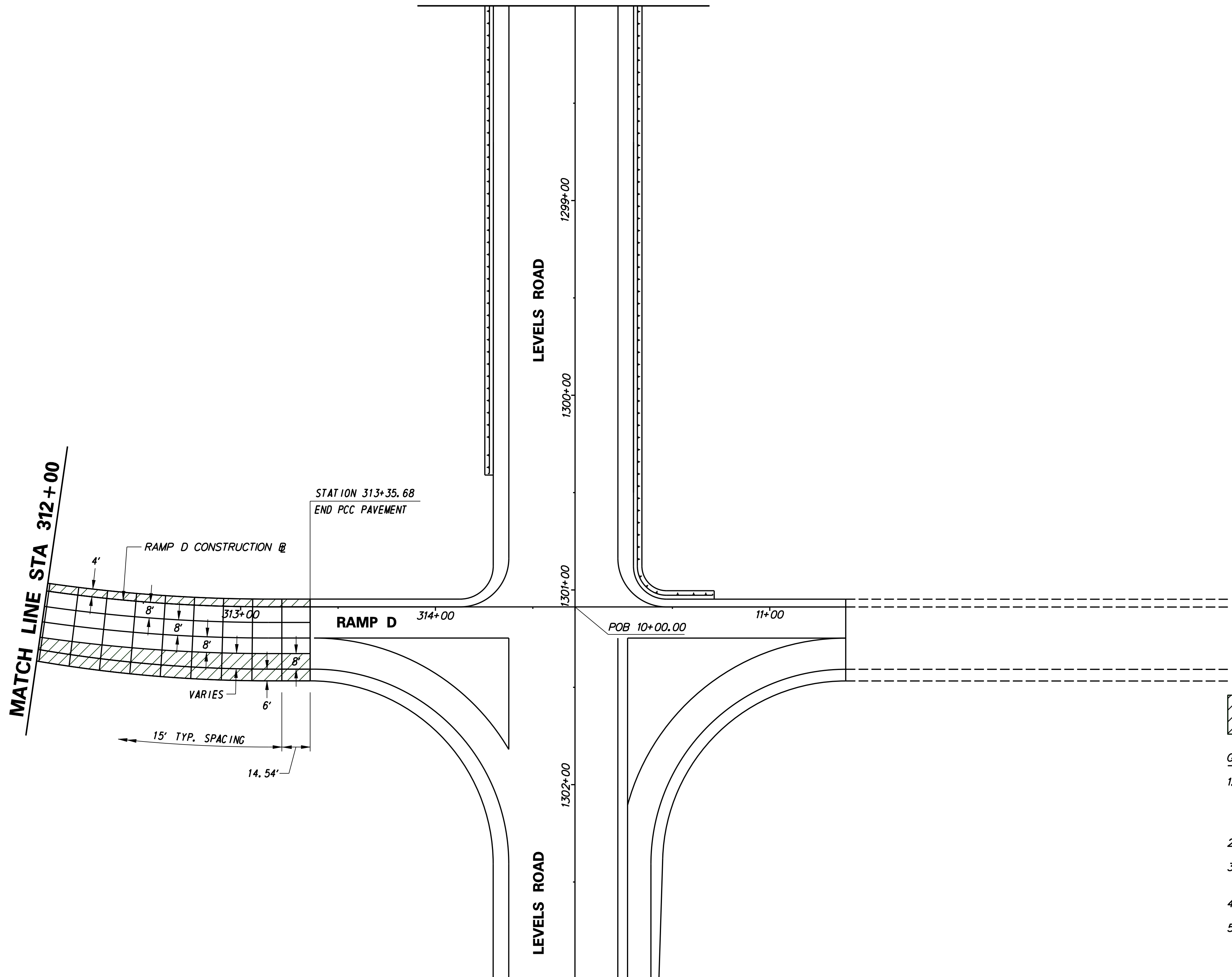
CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

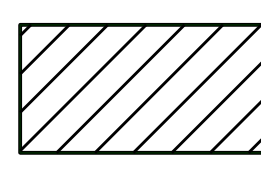
**PAVEMENT JOINT
LAYOUT DETAILS**

SHEET NO.
262
TOTAL SHTS.
850



MATCH LINE STA 1298+00



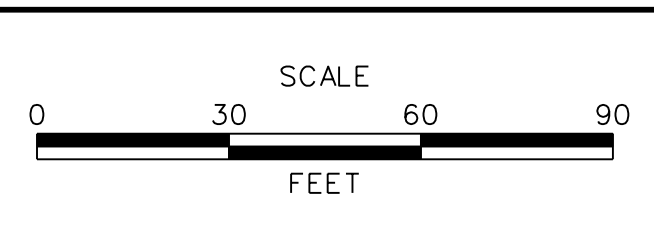
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ADDENDUMS / REVISIONS	

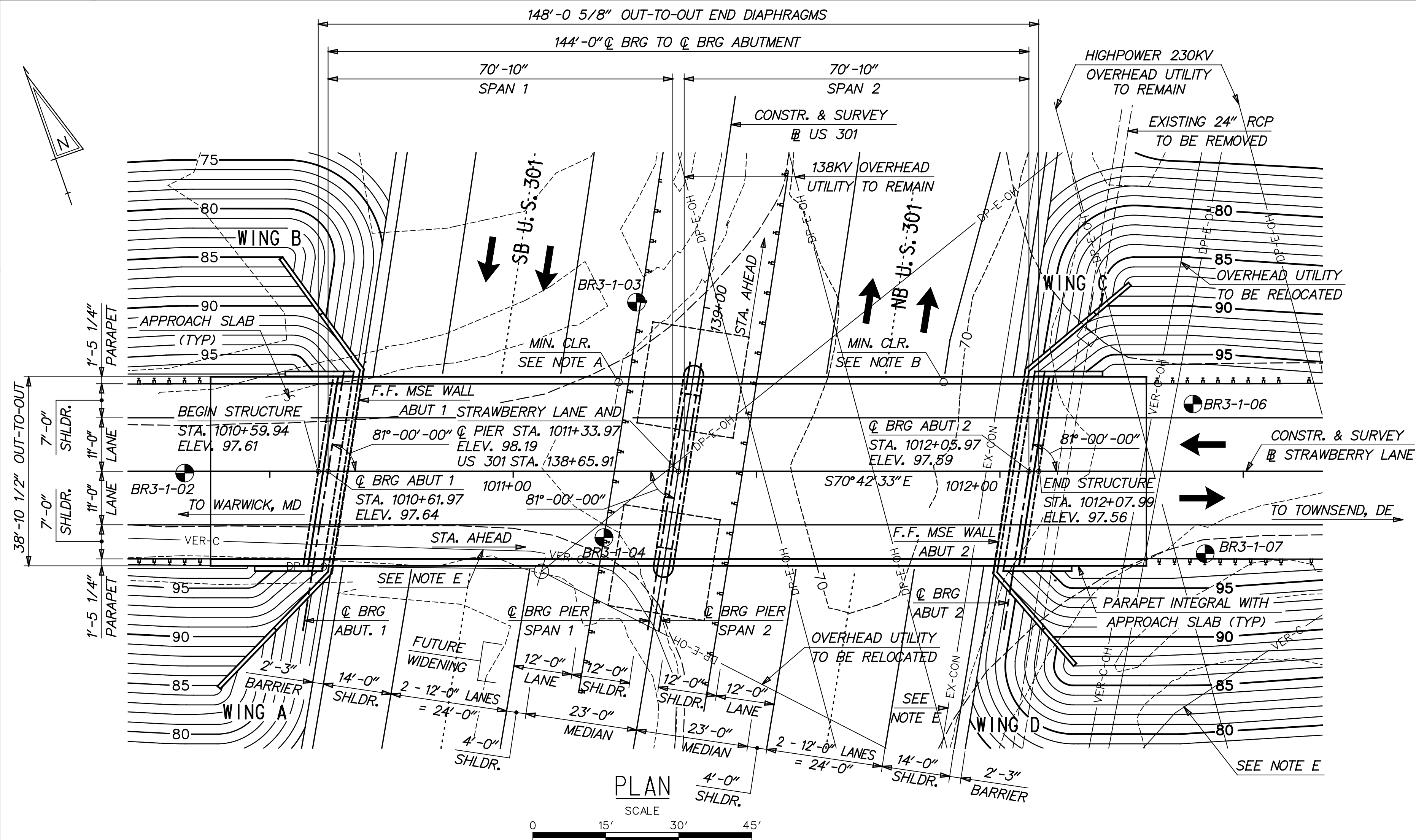


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

PAVEMENT JOINT LAYOUT DETAILS	SHEET NO.
	263
	TOTAL SHTS. 850

PJ-24



LEGEND:

- 70-- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- 90- PROPOSED CONTOUR MAJOR
- - - - PROPOSED CONTOUR MINOR
- CL - CENTERLINE
- BL - BASELINE
- T.F.E. - TOP OF FOOTING ELEVATION
- B.F.E. - BOTTOM OF FOOTING ELEVATION
- BRG - BEARING
- E - EXPANSION BEARING
- F - FIXED BEARING
- ⊙ - BORING LOCATION

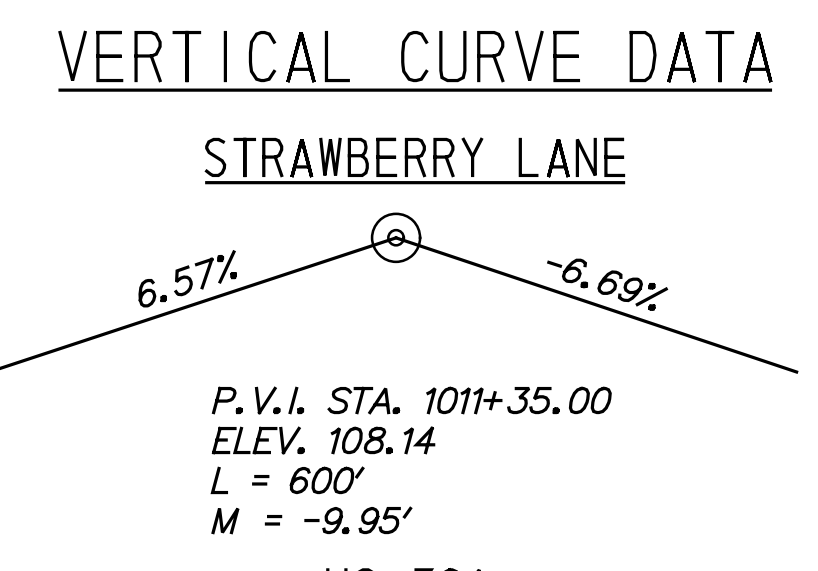
BORING LOCATIONS

BORING NO.	STATION *	OFFSET *
BR3-1-01	1009+43.32	31.67 RT.
BR3-1-02	1010+32.53	0.36 RT.
BR3-1-03	1011+25.36	34.76 LT.
BR3-1-04	1011+18.66	13.62 RT.
BR3-1-05	1009+48.00	15.17 LT.
BR3-1-06	1012+39.69	13.83 LT.
BR3-1-07	1012+42.19	16.92 RT.

* TAKEN FROM STRAWBERRY LANE @

INDEX OF DRAWINGS

SHEET	TITLE
BR1-486-01	GENERAL PLAN AND ELEVATION
BR1-486-02	TYPICAL SECTIONS
BR1-486-03	PROJECT NOTES
BR1-486-04	GEOMETRIC LAYOUT
BR1-486-05	ABUTMENT PILE LAYOUT
BR1-486-06	PILE SPLICE AND EMBEDMENT DETAILS
BR1-486-07	ABUTMENT 1 PLAN AND ELEVATION
BR1-486-08	ABUTMENT 1 WING WALLS
BR1-486-09	ABUTMENT 2 PLAN AND ELEVATION
BR1-486-10	ABUTMENT 2 WING WALLS
BR1-486-11	ABUTMENT 1 MSE WALL PLAN AND ELEVATION
BR1-486-12	ABUTMENT 2 MSE WALL PLAN AND ELEVATION
BR1-486-13	MSE WALL DETAILS
BR1-486-14	PIER PLAN AND ELEVATION
BR1-486-15	PIER FOOTING PLAN AND DETAILS
BR1-486-16	BEARING DETAILS
BR1-486-17	FRAMING PLAN
BR1-486-18	ABUTMENT DIAPHRAGM DETAILS
BR1-486-19	PIER DIAPHRAGM DETAILS
BR1-486-20	BEAM DETAILS
BR1-486-21	DECK PLAN AND DETAILS
BR1-486-22	TYPICAL DECK SECTIONS AND CONDUIT DETAILS
BR1-486-23	PARAPET CHAIN LINK FENCE DETAILS
BR1-486-24	APPROACH SLAB PLAN
BR1-486-25	APPROACH SLAB DETAILS
BR1-486-26	REINFORCEMENT BAR SCHEDULE (SHEET 1 OF 2)
BR1-486-27	REINFORCEMENT BAR SCHEDULE (SHEET 2 OF 2)
BR1-486-28	BRIDGE 1-486 GEOTECHNICAL DATA

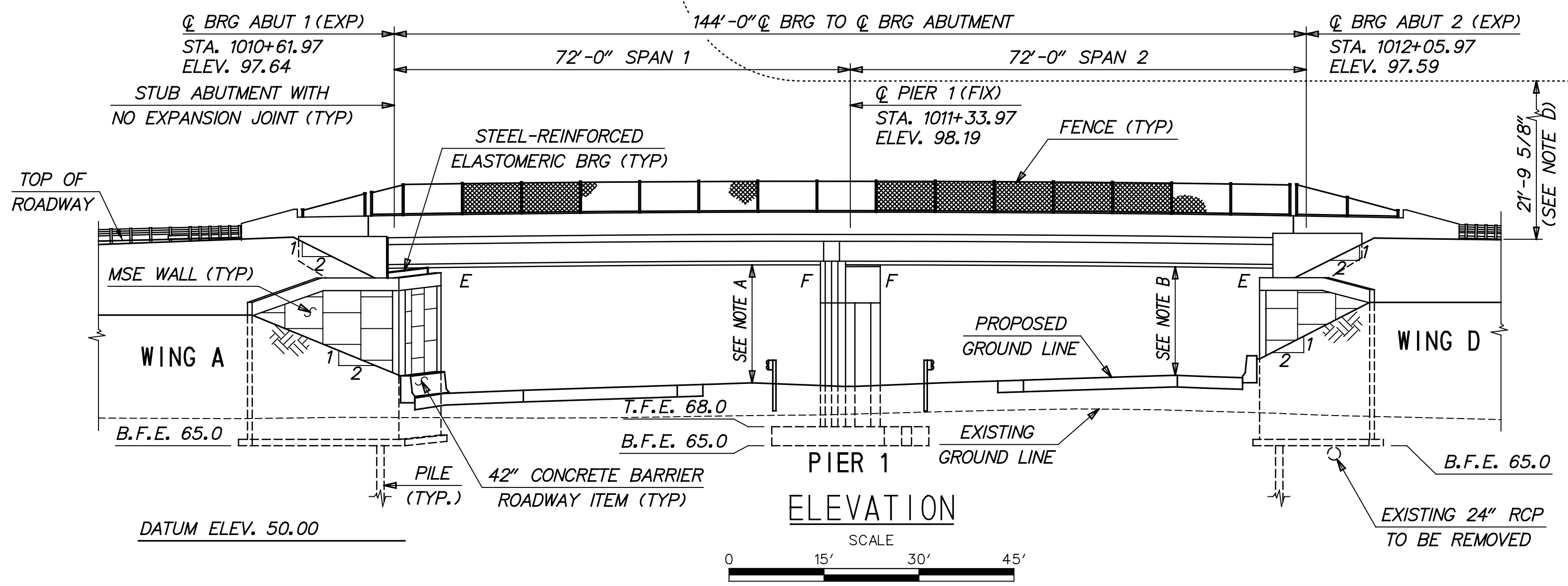
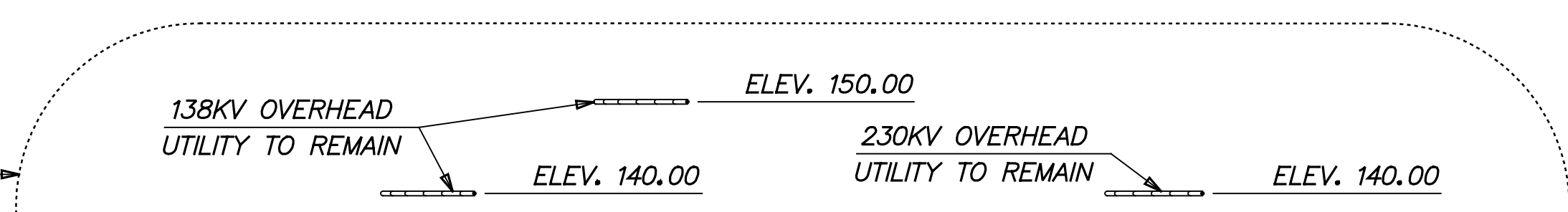


TRAFFIC DATA

STRAWBERRY LANE	US 301
2009 A.A.D.T. = 617	2009 A.A.D.T. = 13347
2009 A.A.D.T.T. = 33	2009 A.A.D.T.T. = 2670
DESIGN YEAR = 2030	DESIGN YEAR = 2030
DESIGN YEAR A.A.D.T. = 4500	DESIGN YEAR A.A.D.T. = 57000

HORIZONTAL CURVE DATA

STRAWBERRY LANE	US 301
BRIDGE IS ON A TANGENT	BRIDGE IS ON A TANGENT
BEARING S 70°42'33" E	BEARING S 70°42'33" E
DELTA = 25°09'25.62" LT	E = 147.55
D = 0°57'17.75"	P.C. STA. 125+47.98
T = 1338.80	P.I. STA. 138+86.78
L = 2634.45	P.T. STA. 151+82.43
R = 6000.00'	



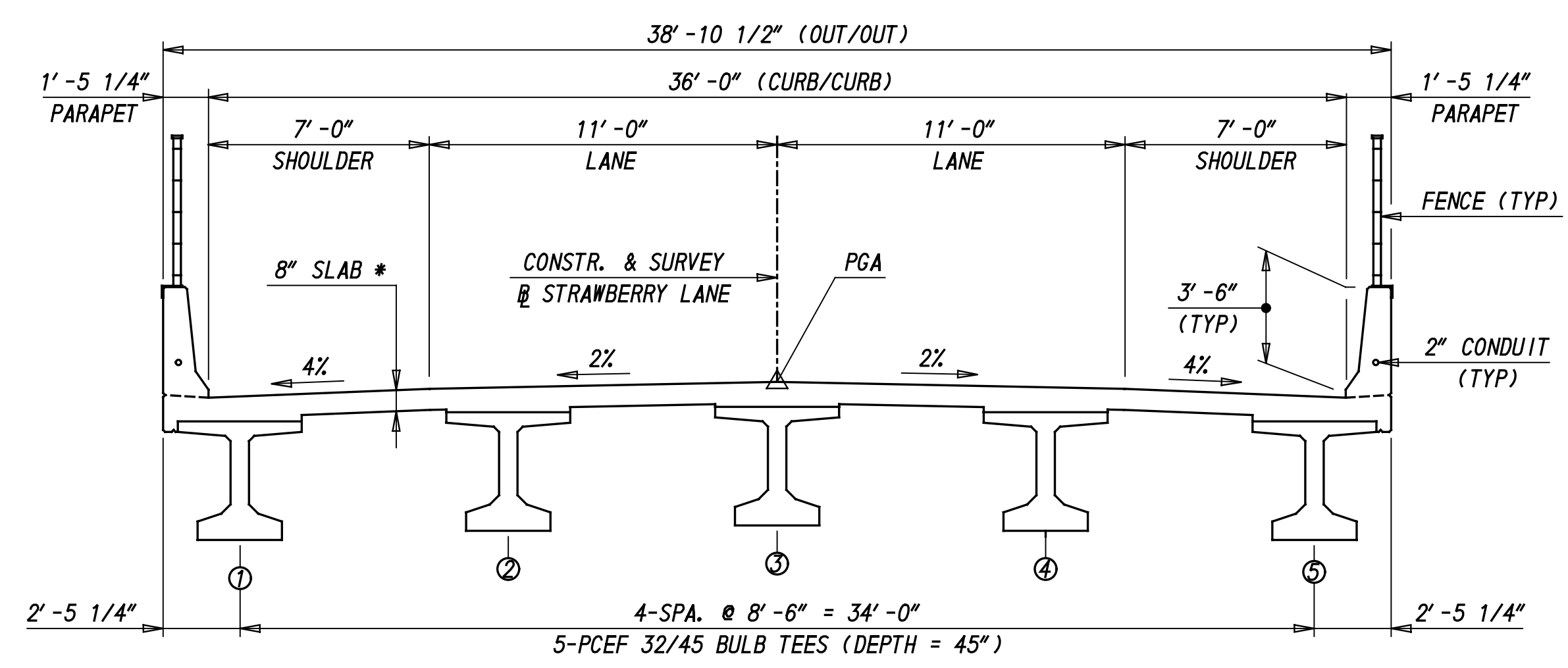
- NOTES:**
- A. U.S. 301 SB LANES - MINIMUM REQUIRED CLEAR = 16.50'
MINIMUM PROVIDED CLEAR = 18.71'
 - B. U.S. 301 NB LANES - MINIMUM REQUIRED CLEAR = 16.50'
MINIMUM PROVIDED CLEAR = 17.18'
 - C. PROPOSED CONSTRUCTION CLEAR ZONE FOR HIGH POWER OVERHEAD UTILITY, 20 FOOT MINIMUM CLEAR REQUIRED WITH AN ADDITIONAL 20 FOOT HORIZONTAL CLEAR FOR BLOWOUT.
 - D. MINIMUM DISTANCE FROM CLEAR ZONE TO TOP OF ROADWAY AT @ STRAWBERRY LANE (CLEARANCE INDICATORS TO BE INSTALLED BY OTHERS).
 - E. UNDERGROUND UTILITY TO BE RELOCATED UNDER THIS CONTRACT.

REFERENCE:

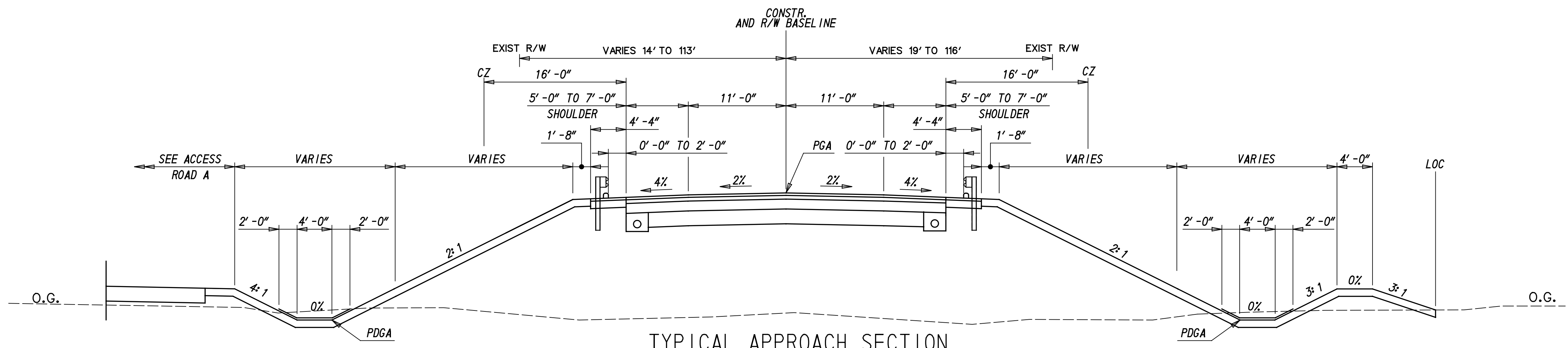
- FOR PROJECT NOTES, SEE SHEET BR1-486-03

WARNING:

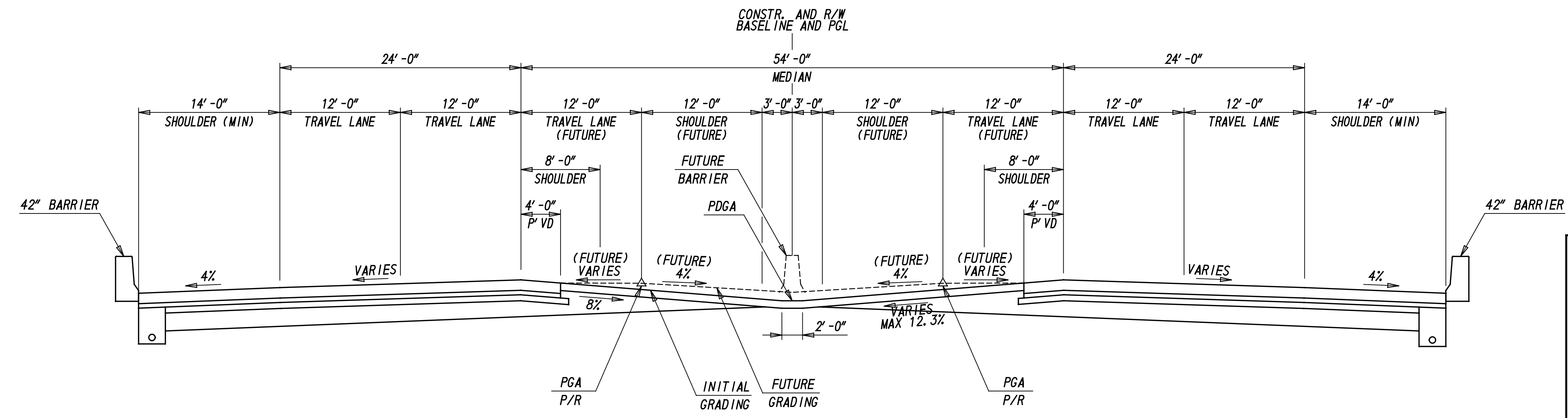
EXISTING OVERHEAD HIGH VOLTAGE POWER LINES ARE IN THE VICINITY OF THE BRIDGE CONSTRUCTION. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTORS CRANES AND OTHER HEAVY EQUIPMENT SHALL MAINTAIN A CLEAR RADIUS OF TWENTY (20) FEET PLUS AN ADDITIONAL TWENTY (20) FEET HORIZONTALLY FOR BLOWOUT FROM THE OVERHEAD HIGH VOLTAGE POWER LINES. DURING CONSTRUCTION OPERATIONS, IT IS THE CONTRACTORS OBLIGATION TO VERIFY THE EXACT LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS.



TYPICAL SECTION
 LOOKING STATION AHEAD
 SCALE: 0 2' 4' 8'



TYPICAL APPROACH SECTION
 LOOKING STATION AHEAD
 (NOT TO SCALE)



TYPICAL NORMAL SECTION - US 301
 LOOKING STATION AHEAD
 (NOT TO SCALE)

REFERENCE:
 • FOR GENERAL PLAN, SEE SHEET BR1-486-01

WARNING:
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ADDENDUMS / REVISIONS	

CONTRACT	BRIDGE NO.	1-486
T20081301	DESIGNED BY:	JLW
COUNTY	CHECKED BY:	JPF
NEW CASTLE		

TYPICAL SECTIONS	SHEET NO.	265
	TOTAL SHTS.	850

PROJECT NOTES:

1. DESIGN SPECIFICATIONS

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2007 4TH EDITION WITH 2008 AND 2009 INTERIMS.
 DELAWARE DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL, MAY 2005, LATEST REVISIONS JANUARY 2008.
 ANS/AASHTO/AWS BRIDGE WELDING CODE D1.5-2008.
 DELDOT STANDARD SPECIFICATION 619.11(a)(6) SHALL BE MODIFIED BY REFERENCE TO SPECIAL PROVISIONS 619519 & 619539.

2. LOADING

HL-93 AND RATINGS PROVIDED FOR HS20 44 AND DELAWARE LEGAL LOADS S220, S327, S335, S437, T330, T435, AND T540.
 25 LBS/SQ FT HAS BEEN INCLUDED FOR FUTURE OVERLAY.
 15 LBS/SQ FT HAS BEEN INCLUDED FOR USE OF STEEL BRIDGE DECK FORMS WHICH STAY IN PLACE.
 UNIT WEIGHTS OF MATERIALS ARE IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL. FOR THERMAL LOADS, CONSIDER THE MODERATE CLIMATE AS STIPULATED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE NORMAL TEMPERATURE IS TAKEN TO BE 68°F.
 FOR SEISMIC DESIGN, THE PROJECT SITE IS LOCATED WITHIN SEISMIC ZONE 1 WITH SITE CLASS D.

3. PRESTRESSED CONCRETE

THE MINIMUM COMPRESSIVE STRENGTH FOR PRESTRESSED CONCRETE AT THE AGE OF 28 DAYS SHALL BE $f'c = 7,000$ PSI. THE MINIMUM COMPRESSIVE STRENGTH AT THE TRANSFER OF PRESTRESS SHALL BE $f'ci = 5,800$ PSI. THE PRECAST CONCRETE BEAMS ARE DESIGNED AS NONCOMPOSITE SIMPLE SPANS FOR ALL DEAD LOADS EXCEPT THE PARAPET AND FUTURE WEARING SURFACE. THE PRECAST BEAMS ARE DESIGNED AS CONTINUOUS FOR LIVE LOADS AS WELL AS THE PARAPET AND FUTURE WEARING SURFACE DEAD LOADS.

4. PRETENSIONING STEEL

PRETENSIONING STEEL SHALL CONSIST OF 1/2" DIAMETER 7-WIRE LOW RELAXATION STRANDS CONFORMING TO THE REQUIREMENTS OF ASTM A416 GRADE 1860 (270 KSI). EACH 1/2" STRAND SHALL BE PRETENSIONED TO 30,980 LBS (0.75 $f's$), AFTER ESTIMATED LOSSES OF 26,480 PSI. THE FINAL EFFECTIVE PRESTRESS FORCE PER STRAND IS 26,930 LBS. CAMBER GROWTH IN PRETENSIONED BEAMS BETWEEN THE TIME OF STRESSING AND THE TIME OF SLAB PLACEMENT IS ASSUMED TO BE 80% FOR CAMBER CALCULATIONS.

5. SERVICEABILITY

LIVE LOAD DEFLECTION SHALL BE LIMITED TO L/800.

6. PORTLAND CEMENT CONCRETE

PORTLAND CEMENT CONCRETE FOR CAST-IN-PLACE ELEMENTS SHALL BE AS FOLLOWS:
 ($f'c=28$ DAY COMPRESSIVE STRENGTH)
 CLASS A (ITEM NO. 602007) - PIER ABOVE FOOTING ($f'c= 4500$ PSI)
 CLASS A (ITEM NO. 602015) - ABUTMENT ($f'c= 4500$ PSI)
 CLASS A (ITEM NO. 602017) - PARAPET ($f'c= 4500$ PSI)
 CLASS B (ITEM NO. 602006) - PIER FOOTING ($f'c= 3000$ PSI)
 CLASS D (ITEM NO. 602013) - DECK ($f'c= 4500$ PSI)
 CLASS D (ITEM NO. 602014) - APPROACH SLAB ($f'c= 4500$ PSI)
 MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS UNLESS OTHERWISE NOTED.

7. BAR REINFORCEMENT

REINFORCEMENT STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60. ALL REINFORCEMENT STEEL SHALL HAVE A CLEAR COVER OF 2" UNLESS OTHERWISE NOTED ON THE PLANS. EPOXY COATED REINFORCEMENT STEEL SHALL CONFORM TO AASHTO M284 (ASTM D3963), AND IS DENOTED WITH A SUFFIX "E" IN THE BAR MARKS.
 USE EPOXY COATED REINFORCEMENT STEEL IN THE FOLLOWING LOCATIONS: APPROACH SLABS, DECK SLAB, PARAPET, PARAPET PORTION OF APPROACH SLAB, ABUTMENT AND PIER.
 DO NOT WELD GRADE 60 REINFORCING STEEL.
 PROVIDE MINIMUM LAP LENGTH OF 30 BAR DIAMETERS OR IN ACCORDANCE WITH AASHTO, WHICHEVER IS GREATER, UNLESS OTHERWISE NOTED.

8. CONSTRUCTION JOINTS

KEYED CONSTRUCTION JOINTS SHALL BE 2"X4" OR AS NOTED. ALL EXPOSED JOINT EDGES SHALL HAVE A 3/4" V NOTCH.

9. EXCAVATION REQUIRED TO ATTAIN THE GRADE FOR INSTALLATION OF MSE WALLS SHALL BE INCIDENTAL TO ITEM "602772 - MECHANICALLY STABILIZED EARTH WALLS", AND SHALL NOT BE INCLUDED IN ITEM "207000 - EXCAVATION AND BACKFILL FOR STRUCTURES".

10. PILES

(RECOMMENDED)
 PILES SHALL BE HP14X73 PILES CONFORMING TO ASTM A 709, GRADE 50.

(ALTERNATE)

PILES SHALL BE 14" OUTSIDE DIAMETER OPEN END PIPE PILES WITH 1/2" WALL THICKNESS CONFORMING TO ASTM A252, GRADE 2 (ULTIMATE TENSILE STRENGTH OF 60 KSI).
 THE VOID REMAINING IN THE PILE FOLLOWING DRIVING SHALL BE REINFORCED AND FILLED WITH CLASS A CONCRETE, AS SPECIFIED.

ONLY ONE PILE TYPE SHALL BE USED FOR THIS STRUCTURE. PILES SHALL BE SPLICED AS NECESSARY TO MAINTAIN THE REQUIRED CLEARANCES FROM THE HIGH POWER OVERHEAD UTILITIES THAT WILL REMAIN IN OPERATION THROUGHOUT CONSTRUCTION. FOR MORE INFORMATION REGARDING PILE MATERIALS AND FABRICATION, REFER TO SECTION 618 (PILE MATERIALS) OF THE STANDARD SPECIFICATIONS. FOR MORE INFORMATION REGARDING PILE DRIVING AND INSTALLATION, REFER TO SECTION 619 (INSTALLATION OF PILES) OF THE STANDARD SPECIFICATIONS.

11. HIGH POWER OVERHEAD UTILITIES

AT ALL TIMES THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING REQUIRED CLEAR DISTANCES OF EQUIPMENT AND MATERIAL FROM THE 138KV AND 230KV OVERHEAD UTILITIES. THIS INCLUDES PILE DRIVING AND BEAM ERECTION OPERATIONS.

12. STYROFOAM MUST MEET ASTM C-578, TYPE 1, MATERIAL REQUIREMENTS EXCEPT THE MAXIMUM WATER ABSORPTION TO BE 2%.

13. SEE ROADWAY CONSTRUCTION DETAILS PLAN (DRAWING DT-24) FOR ROADWAY APPROACH EMBANKMENT SETTLEMENT MONITORING AND QUARANTINE PERIOD REQUIREMENTS.

14. PROVIDE MINIMUM TEMPORARY VERTICAL CLEARANCE OF 16'-6" AT ALL TIMES DURING CONSTRUCTION.

15. DO NOT PICK OR LIFT OVER LANES AND/OR SHOULDERS OPEN TO TRAFFIC.

16. DO NOT PERFORM ANY WORK DIRECTLY OVER OPEN LANES OF TRAFFIC WITHOUT ADEQUATE SHIELDING OR WORK PLATFORMS, LANE CLOSURES OR DETOURS IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS.

17. INSTALL SIP FORMS, ADDITIONAL PROTECTIVE SHIELD SYSTEM, WORK PLATFORMS AND/OR OVERHANG FALSEWORK BEFORE BEGINNING ANY CONSTRUCTION OPERATIONS OVER TRAFFIC.

18. IF THE CONTRACTOR DETERMINES THAT ADDITIONAL PROTECTIVE SHIELDING OR WORK PLATFORMS ARE NEEDED TO PROTECT TRAFFIC, SUBMIT PLANS AND CALCULATIONS FOR REVIEW AND APPROVAL FOR PROTECTING TRAFFIC WHILE WORKING OVER TRAVELWAYS. HAVE THE DRAWINGS AND DESIGN CALCULATIONS PREPARED, SIGNED, AND SEALED BY A DELAWARE REGISTERED PROFESSIONAL ENGINEER. THE APPROVAL OF THE ENGINEER WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR THE SAFETY OF THE METHOD OR EQUIPMENT. BASED ON CONTRACTOR MEANS AND METHODS DETERMINE AND CLEARLY DEFINE ALL DEAD AND LIVE LOADS FOR THIS SYSTEM, WHICH, AT A MINIMUM, SHALL BE INSTALLED BETWEEN BEAMS OR GIRDERS OVER ANY TRAVEL WAY OR SHOULDER AREA WHERE TRAFFIC IS MAINTAINED. NO SEPARATE PAYMENT WILL BE MADE FOR ADDITIONAL PROTECTIVE SHIELDING OR WORK PLATFORMS.

19. ALL FORMWORK INCLUDING STAY-IN-PLACE FORMS SHALL BE MORTAR TIGHT.

20. WHILE PLACING DECK, DECK OVERHANG AND PARAPET CONCRETE OVER LANES OPEN TO TRAFFIC, NO CLOSURE OR DETOURS WILL BE ALLOWED DURING THESE OPERATIONS.

21. THE MAINTENANCE OF TRAFFIC REQUIRED FOR THE INSTALLATION OF THESE ITEMS WILL BE PAID UNDER THE MAINTENANCE OF TRAFFIC UNIT BID ITEMS. CONTRACTOR SHALL ADHERE TO THE TRAFFIC CONTROL PLAN, DELAWARE MUTCD, AND TRAFFIC LANE CLOSURE AND WORK RESTRICTIONS PROVIDED IN THE CONTRACT DOCUMENTS.

22. CLOSED CELL NEOPRENE SPONGE PADS MAY BE MANUFACTURED AS SPONGE NEOPRENE OR EXPANDED NEOPRENE AND MAY BE COMPOSED OF LAMINATIONS. USE MATERIAL CONFORMING TO
 * ASTM D 1056, TYPE 2, CLASS C, GRADE 2, INCLUDING THE REQUIREMENTS OF SUFFIXES B3 AND F1
 * ASTM D 1171, QUALITY RETENTION RATING OF 100% AFTER 6 WEEKS EXPOSURE.

23. ALL EXPANSION MATERIAL MUST MEET AASHTO M153 REQUIREMENTS.

BR1-486 ESTIMATED QUANTITIES

ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY
207000**	EXCAVATION AND BACKFILL FOR STRUCTURES	CY	216
209002*	BORROW, TYPE B	CY	27
602006	PORTLAND CEMENT CONCRETE MASONRY, PIER FOOTING, CLASS B	CY	94
602007	PORTLAND CEMENT CONCRETE MASONRY, PIER ABOVE FOOTING, CLASS A	CY	70
602013	PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D	CY	195
602014	PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D	CY	110
602015	PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT ABOVE FOOTING, CLASS A	CY	70
602017	PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A	CY	50
602772	MECHANICALLY STABILIZED EARTH WALLS	LS	1
604000	BAR REINFORCEMENT, EPOXY COATED	LB	135000
608000*	COURSE AGGREGATE FOR FOUNDATION STABILIZATION AND SUBFOUNDATION BACKFILL	TON	20
618062	FURNISH STEEL H PILES, HP 14X73	LF	854
618065	FURNISH STEEL TEST H PILES, HP 14X73	LF	142
618552	FURNISH PIPE PILE, SCHEDULE 40, OPEN END, 14" (ALTERNATE)	LF	924
618557	FURNISH TEST PIPE PILE, SCHEDULE 40, OPEN END, 14" (ALTERNATE)	LF	152
619042	INSTALL STEEL H PILES, HP 14X73	LF	854
619045	INSTALL STEEL TEST H PILES, HP 14X73	LF	142
619501*	PRODUCTION PILE RESTRIKE	EA	1
619502*	TEST PILE RESTRIKE	EA DAY	1
619519	DYNAMIC PILE TESTING BY CONTRACTOR	EA	4
619539	SIGNAL MATCHING ANALYSIS BY CONTRACTOR	EA	4
619540	INSTALL PIPE PILE, SCHEDULE 40, OPEN END, 14" (ALTERNATE)	LF	924
619558	INSTALL TEST PIPE PILE, SCHEDULE 40, OPEN END, 14" (ALTERNATE)	LF	152
623003	PRESTRESSED REINFORCED CONCRETE MEMBERS, BULB T-BEAM, PCEF 32/45	LS	1
727507	BRIDGE SAFETY FENCE	LF	290

THE QUANTITIES PROVIDED INCLUDE ONLY THOSE ASSOCIATED WITH BRIDGE BR1-486 (STRAWBERRY LANE BRIDGE). ROADWAY QUANTITIES FOR US 301 AND STRAWBERRY LANE ARE NOT INCLUDED IN THE TABULATION.

* CONTINGENCY ITEM
 ** INCLUDES 36 CY CONTINGENCY IF UNSUITABLE MATERIAL IS ENCOUNTERED.

LOAD RATING SUMMARY

DESIGN VEHICLE	RATING FACTOR	RATING WEIGHT (TON)	CONTROLLING MEMBER	CONTROLLING POINT	LOAD EFFECT
HL-93 TRUCK (INVENTORY)	1.40	N/A	SPAN 2: INTERIOR BEAM	200.55	SHEAR
HL-93 TANDEM (INVENTORY)	1.77	N/A	SPAN 1: INTERIOR BEAM	109.45	SHEAR
HL-93 TRUCK TRAIN (INVENTORY)	1.47	N/A	SPAN 1: EXTERIOR BEAM	110.00	FLEXURE
HS-20 (INVENTORY)	1.91	68.93	SPAN 1: INTERIOR BEAM	109.45	SHEAR
HL-93 TRUCK (OPERATING)	1.89	N/A	SPAN 1: INTERIOR BEAM	109.45	SHEAR
HL-93 TANDEM (OPERATING)	2.38	N/A	SPAN 1: INTERIOR BEAM	109.45	SHEAR
HL-93 TRUCK TRAIN (OPERATING)	1.91	N/A	SPAN 1: EXTERIOR BEAM	110.00	FLEXURE
HS-20 (OPERATING)	2.57	92.44	SPAN 1: INTERIOR BEAM	109.45	SHEAR
DE S220 & LEGAL LANE (LEGAL)	4.03	80.63	SPAN 1: EXTERIOR BEAM	109.45	LONG IT. REINF.
DE S335 & LEGAL LANE (LEGAL)	2.62	91.55	SPAN 1: EXTERIOR BEAM	109.45	LONG IT. REINF.
DE S437 & LEGAL LANE (LEGAL)	2.50	91.56	SPAN 2: EXTERIOR BEAM	200.55	FLANGE STRESS
DE T330 & LEGAL LANE (LEGAL)	3.25	97.48	SPAN 1: EXTERIOR BEAM	109.45	LONG IT. REINF.
DE T435 & LEGAL LANE (LEGAL)	2.90	101.50	SPAN 1: EXTERIOR BEAM	109.45	LONG IT. REINF.
DE T540 & LEGAL LANE (LEGAL)	2.65	105.85	SPAN 1: EXTERIOR BEAM	109.45	LONG IT. REINF.

NOTE: LOAD RATING INCLUDES FUTURE WEARING SURFACE AS NOTED IN THE PLANS.

RATING NOTES:

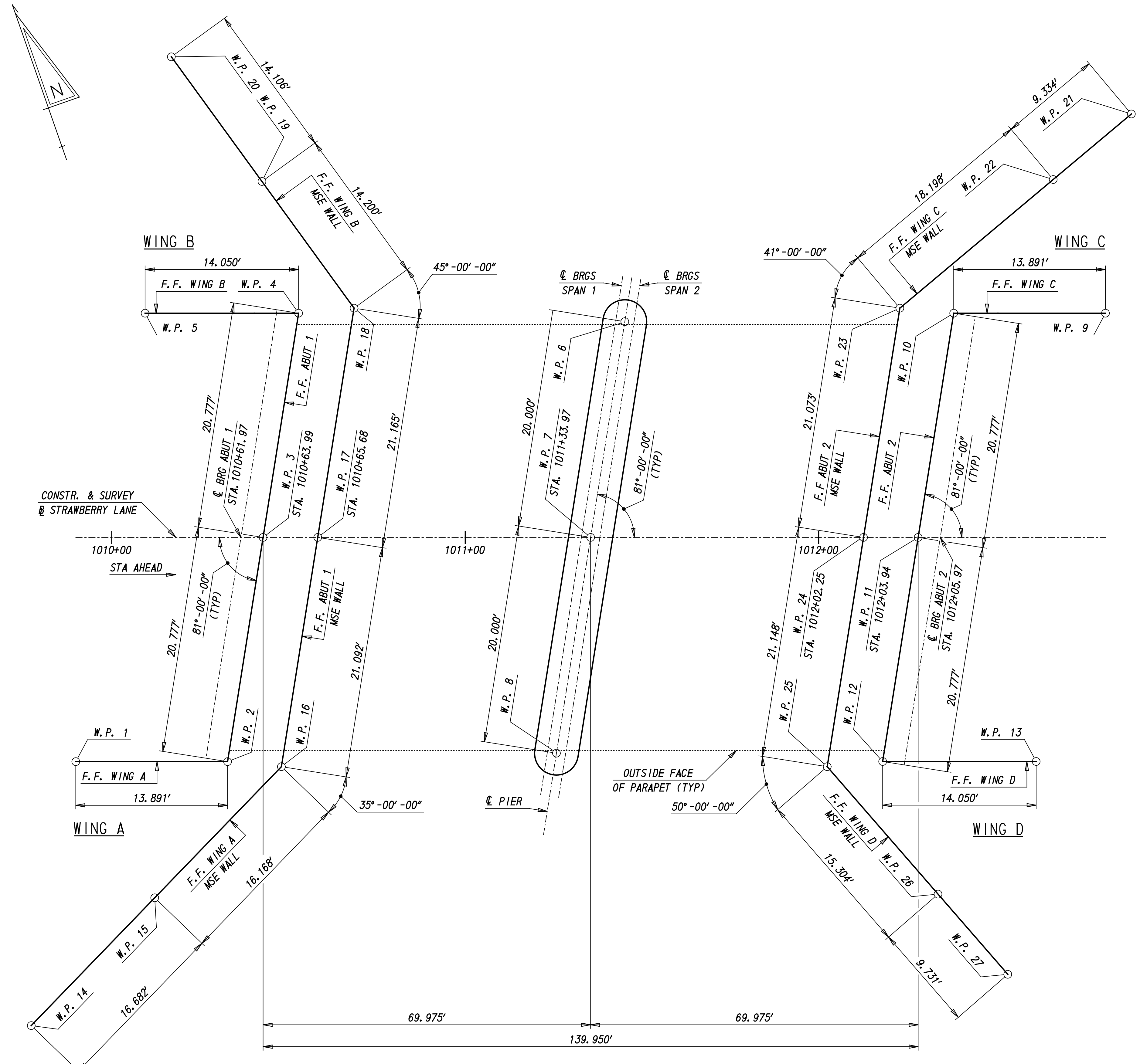
- LOAD RATINGS DETERMINED USING THE LOAD RESISTANCE FACTOR RATING (LRF) METHOD.
- RATING BASED ON COMPUTATIONS FROM WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE RATING AND ANALYSIS OF STRUCTURAL SYSTEMS (BRASS GIRDER), VERSION 7.3.

REFERENCE:

FOR GENERAL PLAN, SEE SHEET BR1-486-01

BR1-486-03

 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT	BRIDGE NO.	1-486	PROJECT NOTES	SHEET NO.
				T200811301	DESIGNED BY: JLW			266
				COUNTY	CHECKED BY: JPF			TOTAL SHTS.
				NEW CASTLE				850



GEOMETRIC LAYOUT
(NOT TO SCALE)

WORK POINT COORDINATES				
WORKING POINT	STATION	OFFSET	NORTHING	EASTING
W.P. 1	1010+46.85	20.52 R	515579.93	557171.20
W.P. 2	1010+60.74	20.52 R	515575.34	557184.31
W.P. 3	1010+63.99	0.00	515593.63	557194.16
W.P. 4	1010+67.24	20.52 L	515611.93	557204.00
W.P. 5	1010+53.19	20.52 L	515616.57	557190.74
W.P. 6	1011+37.10	19.75 L	515588.13	557269.68
W.P. 7	1011+33.97	0.00	515570.52	557260.20
W.P. 8	1011+30.84	19.75 R	515552.90	557250.72
W.P. 9	1012+21.08	20.52 L	515561.10	557349.21
W.P. 10	1012+07.19	20.52 L	515565.69	557336.09
W.P. 11	1012+03.94	0.00	515547.40	557326.25
W.P. 12	1012+00.69	20.52 R	515529.10	557316.40
W.P. 13	1012+14.74	20.52 R	515524.46	557329.66
W.P. 14	1010+39.56	44.46 R	515559.74	557156.41
W.P. 15	1010+51.15	32.46 R	515567.24	557171.31
W.P. 16	1010+62.38	20.83 R	515574.50	557185.75
W.P. 17	1010+65.68	0.00	515593.08	557195.75
W.P. 18	1010+68.99	20.90 L	515611.71	557205.78
W.P. 19	1010+60.64	32.39 L	515625.31	557201.70
W.P. 20	1010+52.35	43.80 L	515638.82	557197.64
W.P. 21	1012+26.64	38.51 L	515576.25	557360.40
W.P. 22	1012+19.49	32.51 L	515572.95	557351.66
W.P. 23	1012+05.55	20.81 L	515566.51	557334.64
W.P. 24	1012+02.25	0.00	515547.96	557324.65
W.P. 25	1011+98.95	20.89 R	515529.33	557314.63
W.P. 26	1012+08.99	32.44 R	515515.12	557320.29
W.P. 27	1012+15.37	39.78 R	515506.08	557323.89

WARNING:
EXISTING OVERHEAD HIGH VOLTAGE POWER LINES ARE IN THE VICINITY OF THE BRIDGE CONSTRUCTION. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTORS CRANES AND OTHER HEAVY EQUIPMENT SHALL MAINTAIN A CLEAR RADIUS OF TWENTY (20) FEET PLUS AN ADDITIONAL TWENTY (20) FEET HORIZONTALLY FOR BLOWOUT FROM THE OVERHEAD HIGH VOLTAGE POWER LINES. DURING CONSTRUCTION OPERATIONS, IT IS THE CONTRACTORS OBLIGATION TO VERIFY THE EXACT LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS.

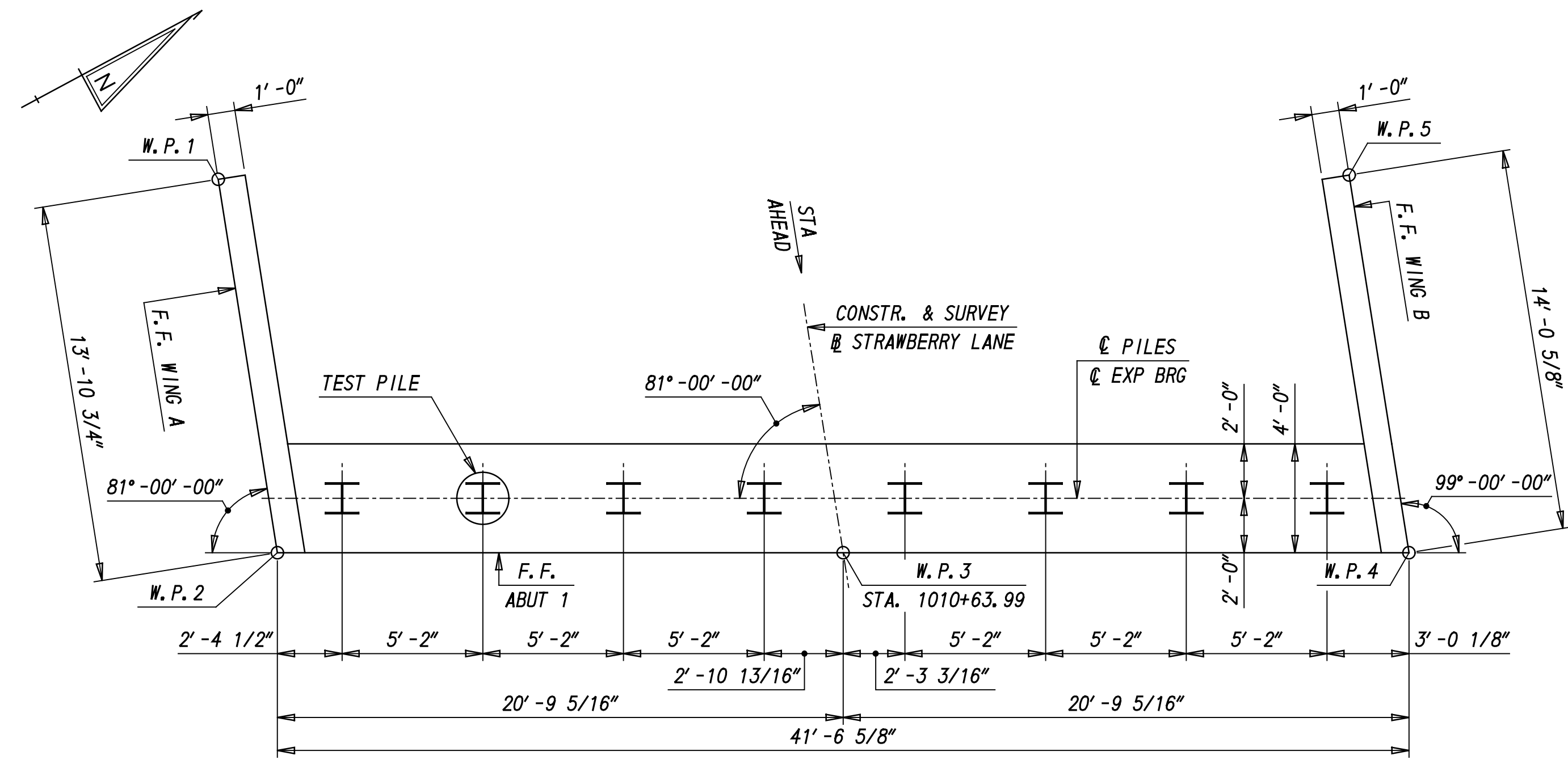
REFERENCE:

• FOR PROJECT NOTES, SEE SHEET BR1-486-03

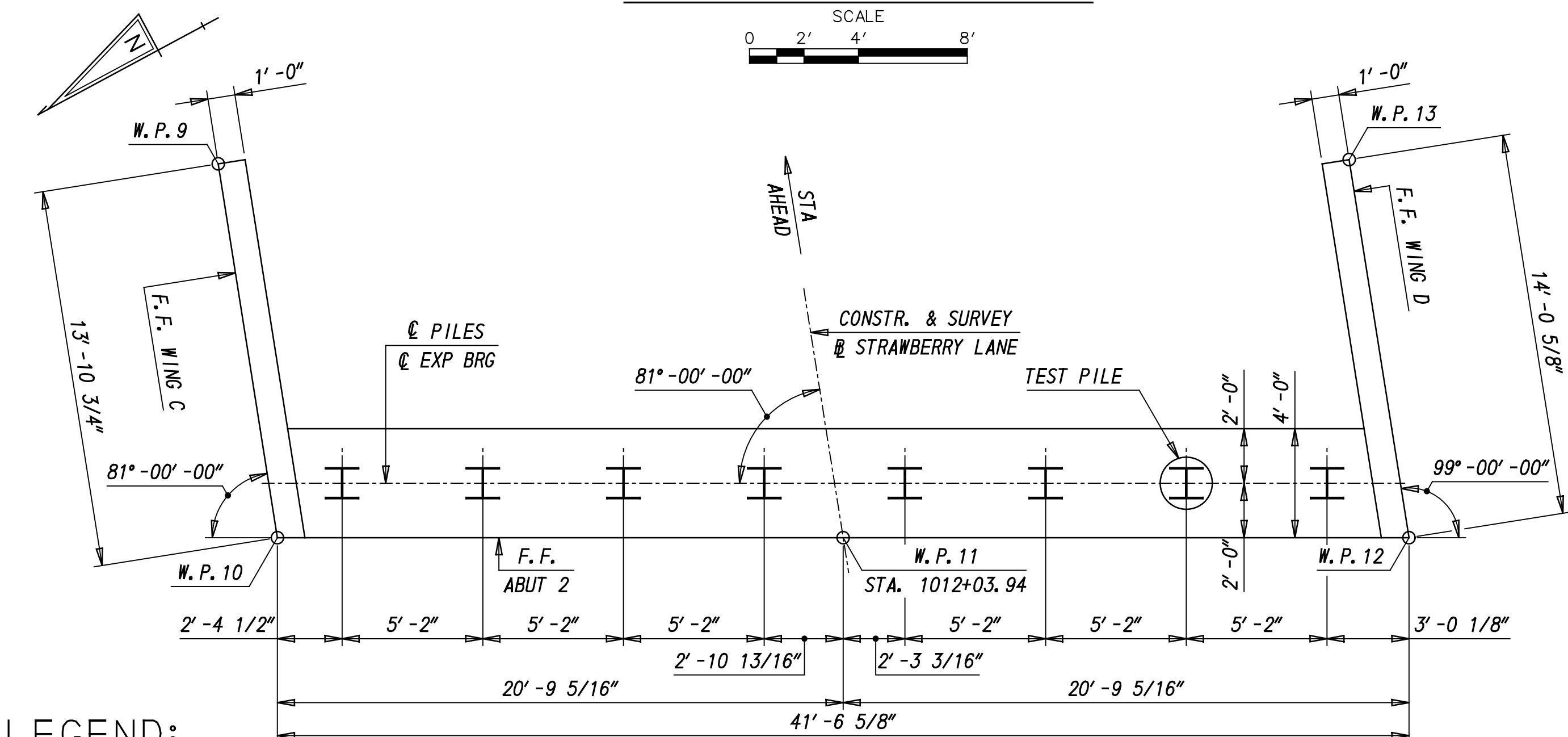
BR1-486-04

ADDENDUMS / REVISIONS

CONTRACT T200811301	BRIDGE NO. 1-486
COUNTY NEW CASTLE	DESIGNED BY: J.L.W. CHECKED BY: J.P.F.



ABUTMENT 1 PILE LAYOUT



ABUTMENT 2 PILE LAYOUT

LEGEND:

- HP14X73 PILE (RECOMMENDED) OR 14" DIA. OPEN END PIPE PILE (ALTERNATE)
- TEST PILE

HP14X73 PILE INSTALLATION DATA (RECOMMENDED)					
SUBSTRUCTURE UNIT	DESIGN DATA			ACTUAL FIELD DATA	
	NOMINAL PILE DRIVING RESISTANCE (R _{ndr}) (KIPS)	ESTIMATED PILE TIP ELEVATION	MINIMUM PILE TIP ELEVATION	AVERAGE MINIMUM TIP ELEVATION	AVERAGE MAXIMUM TIP ELEVATION
ABUTMENT 1	442	29.00	29.00		
ABUTMENT 2	442	29.00	29.00		

14" DIAMETER PIPE PILE INSTALLATION DATA (ALTERNATE)					
SUBSTRUCTURE UNIT	DESIGN DATA			ACTUAL FIELD DATA	
	NOMINAL PILE DRIVING RESISTANCE (R _{ndr}) (KIPS)	ESTIMATED PILE TIP ELEVATION	MINIMUM PILE TIP ELEVATION	AVERAGE MINIMUM TIP ELEVATION	AVERAGE MAXIMUM TIP ELEVATION
ABUTMENT 1	402	24.00	24.00		
ABUTMENT 2	402	24.00	24.00		

PILE DRIVING INFORMATION (RECOMMENDED)	
PILE SIZE AND TYPE:	HP14X73 AASHTO M270 (ASTM A709),
ACTUAL BEARING RETAINED:	
HAMMER TYPE:	
PILE HAMMER ENERGY:	
SPECIAL DRIVING CONDITIONS AND COMMENTS:	

PILE DRIVING INFORMATION (ALTERNATE)	
PILE SIZE AND TYPE:	14" DIAMETER SCHEDULE 40 OPEN END STEEL PIPE PILE
ACTUAL BEARING RETAINED:	
HAMMER TYPE:	
PILE HAMMER ENERGY:	
SPECIAL DRIVING CONDITIONS AND COMMENTS:	

REFERENCE:

- FOR GENERAL PLAN, SEE SHEET BR1-486-01
- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR GEOMETRIC LAYOUT, SEE SHEET BR1-486-04
- FOR ABUTMENT 1 PLAN, SEE SHEET BR1-486-07
- FOR WINGWALLS A AND B, SEE SHEET BR1-486-08
- FOR ABUTMENT 2 PLAN, SEE SHEET BR1-486-09
- FOR WINGWALLS C AND D, SEE SHEET BR1-486-10
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS BR1-486-26, 27

WARNING:

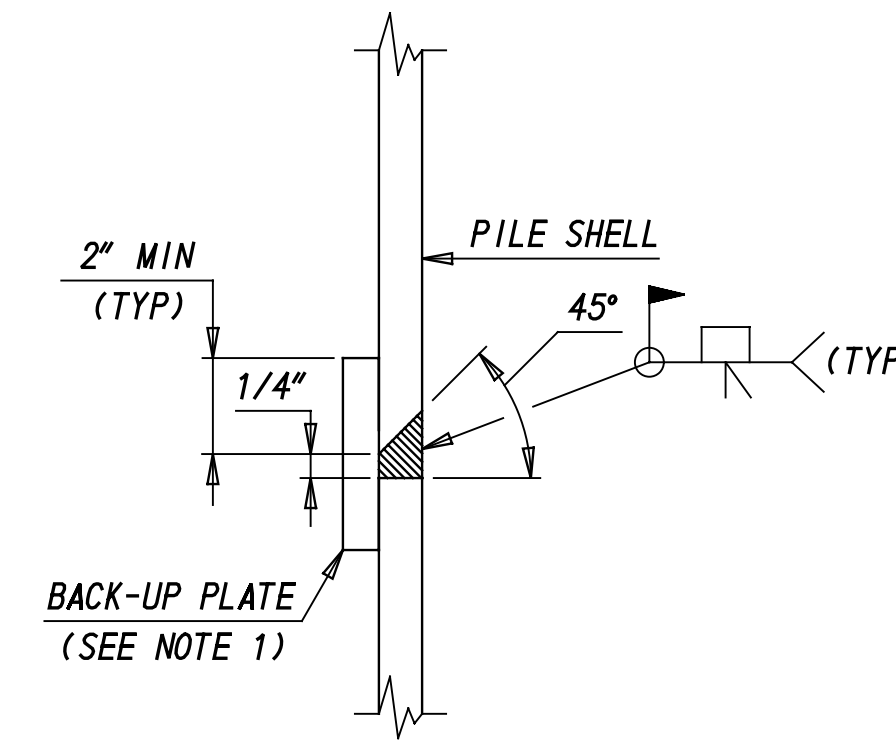
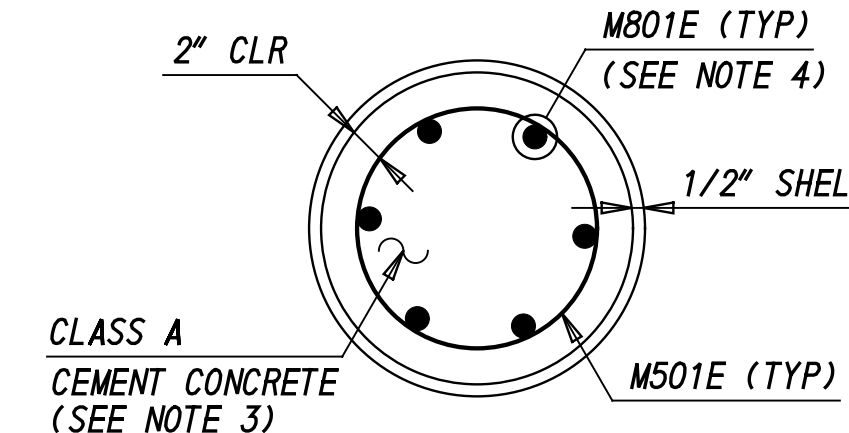
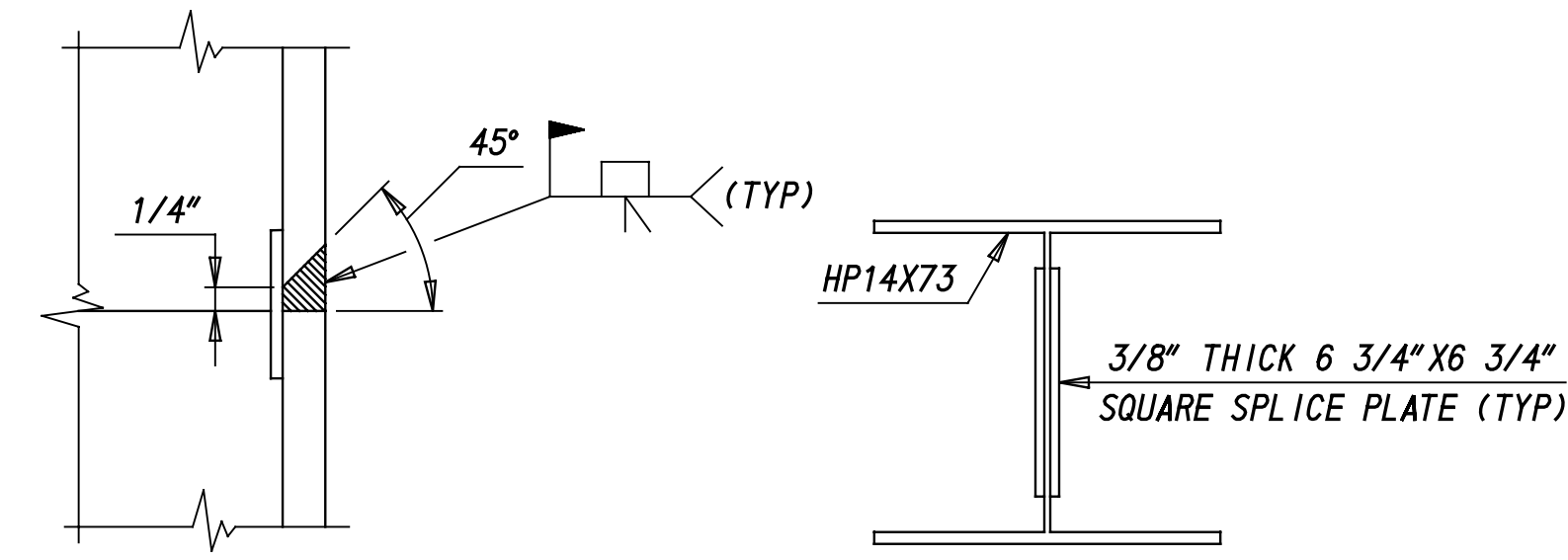
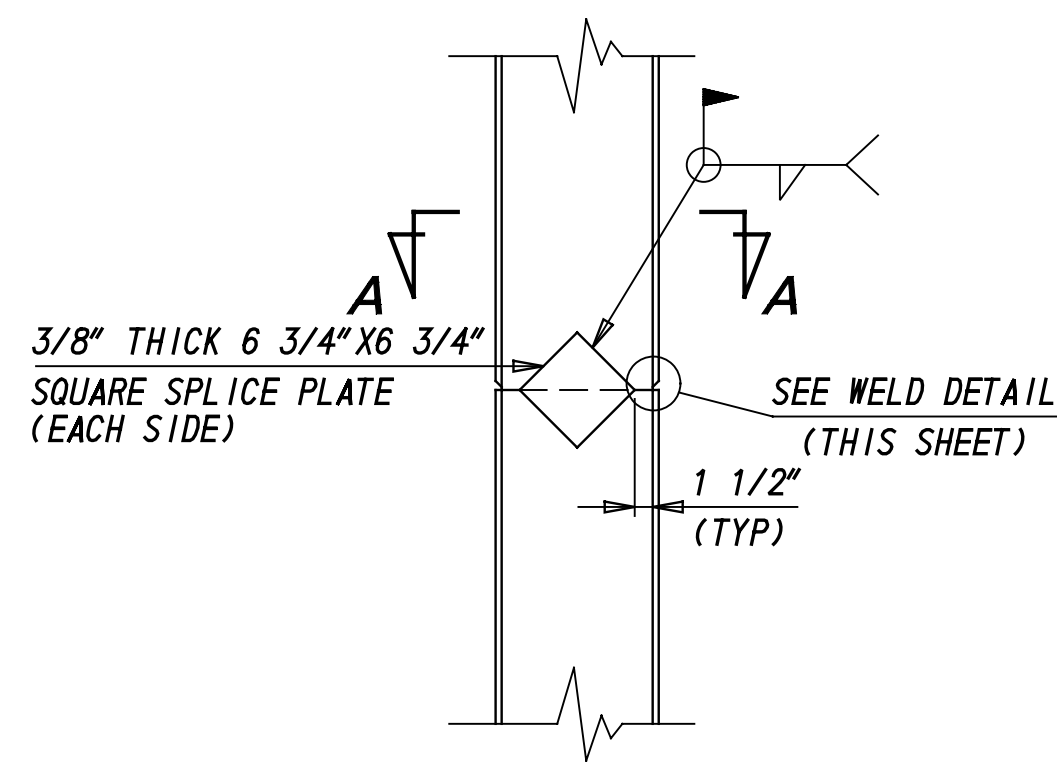
EXISTING OVERHEAD HIGH VOLTAGE POWER LINES ARE IN THE VICINITY OF THE BRIDGE CONSTRUCTION. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTORS' CRANES AND OTHER HEAVY EQUIPMENT SHALL MAINTAIN A CLEAR RADIUS OF TWENTY (20) FEET PLUS AN ADDITIONAL TWENTY (20) FEET HORIZONTALLY FOR BLOWOUT FROM THE OVERHEAD HIGH VOLTAGE POWER LINES. DURING CONSTRUCTION OPERATIONS, IT IS THE CONTRACTORS OBLIGATION TO VERIFY THE EXACT LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS.

PILE INSTALLATION NOTES:

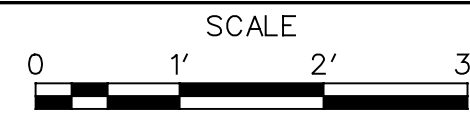
1. ALL PILES SHALL BE EITHER STEEL H PILES HP14X73 AASHTO M270 (ASTM A709), GRADE 50 (RECOMMENDED) OR 14" DIAMETER OPEN END STEEL PIPE PILES, 1/2" WALL THICKNESS, (ASTM A252) GRADE 2 (ALTERNATE).
2. PILES SHALL BE CASED WITH A CORRUGATED GALVANIZED STEEL PIPE FROM THE BOTTOM OF MSE WALL LEVELING PAD ELEVATION AND FILLED WITH FINE AGGREGATE (SEE DELDOT STANDARD SPECIFICATIONS, SECTION 804). FOR THE RECOMMENDED H PILE THE CORRUGATED GALVANIZED STEEL PIPE SHALL BE 24", 16 GAGE 2 2/3" X 1/2" CORRUGATION AND FOR THE ALTERNATE PIPE PILE THE CORRUGATED GALVANIZED STEEL PIPE SHALL BE 18", 16 GAGE 2 2/3" X 1/2" CORRUGATION. REFER TO PILE INSTALLATION SEQUENCE FOR ADDITIONAL INFORMATION. PAYMENT FOR CORRUGATED GALVANIZED STEEL PIPE & FINE AGGREGATE INSIDE PIPE SHALL BE INCIDENTAL TO ITEM "602722 - MECHANICALLY STABILIZED EARTH WALLS."
3. ALL TEST PILES SHALL BE 10 FEET LONGER THAN INDICATED ON THE PILE INSTALLATION TABLE.
4. ALL PILES SHALL BE DRIVEN TO THE NOMINAL PILE DRIVING RESISTANCE (R_{ndr}) LISTED IN THE PILE INSTALLATION DATA TABLE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A WAVE EQUATION ANALYSIS AND ALL OTHER INCIDENTALS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. THE WAVE EQUATION AND HIGH-STRAIN DYNAMIC PILE TESTING MUST BE SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF DELAWARE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
6. PILE LENGTHS FOR ORDERING PURPOSES SHALL BE DETERMINED BY TEST PILES. A MINIMUM OF ONE PILE PER SUBSTRUCTURE, AS SHOWN ON THE PLANS, SHALL BE DYNAMICALLY TESTED WITH SIGNAL MATCHING ANALYSIS BY THE CONTRACTOR IN ACCORDANCE WITH SPECIAL PROVISION 619519 AND 619539. TEST AND PRODUCTION PILE RESTRIKES WILL BE PAID AS FOLLOWS:
 - A). ALL TEST PILE(S) WILL BE RESTRUCK AFTER A WAITING PERIOD OF AT LEAST 48 HOURS. RESTRIKES OF THESE TEST PILES SHALL BE PERFORMED PRIOR TO PLACING ANY EMBANKMENT IN ACCORDANCE WITH ITEM NO. 619502 TEST PILE RESTRIKE. TEST PILE RESTRIKES SHALL BE INCIDENTAL TO THE INITIAL INSTALLATION OF THE PILE PROVIDED THEY ARE REQUESTED WITHIN FIVE WORKING DAYS FROM COMPLETION OF THE INITIAL DRIVE. IF THE TEST PILE RESTRIKES ARE REQUESTED AFTER THE FIVE WORKING DAYS FROM THE COMPLETION OF THE INITIAL DRIVE THEN THE TEST PILE RESTRIKES SHALL BE PAID AS NOTED IN SPECIAL PROVISION 619502.
 - B). IF DIRECTED BY THE ENGINEER TO RESTRIKE A PRODUCTION PILE, THE RESTRIKE OF THE PRODUCTION PILE SHALL BE PAID SEPARATELY UNDER ITEM NO. 619501.
7. THE DEPARTMENT RESERVES THE RIGHT TO PERFORM DYNAMIC TESTING OF RESTRIKES.

PILE INSTALLATION SEQUENCE:

1. DRIVE PILES PRIOR TO MSE WALL INSTALLATION.
2. PLACE OVER EACH PILE, THE CORRUGATED GALVANIZED STEEL PIPE OF SIZE BASED ON THE PILE TYPE DRIVEN. ENSURE THE CORRUGATED GALVANIZED PIPE DOES NOT EXPERIENCE BUCKLING OR DISTORTION DURING THE PLACEMENT AND COMPACTION OF THE BACKFILL.
3. PLACE SPACERS BETWEEN THE PILE AND THE CORRUGATED GALVANIZED STEEL PIPE TO PREVENT THE CORRUGATED GALVANIZED STEEL PIPE FROM COMING INTO CONTACT WITH THE PILE DURING BACKFILLING OF THE WALL.
4. EXTEND CORRUGATED GALVANIZED STEEL PIPE FROM THE BOTTOM OF THE MSE WALL LEVELING PAD ELEVATION TO THE BOTTOM OF THE BRIDGE STUB ABUTMENT PILECAP.
5. ENSURE NO CONSTRUCTION OR OTHER DEBRIS FALLS INTO THE VOID BETWEEN THE CORRUGATED GALVANIZED STEEL PIPE AND THE PILE.
6. FILL THE CORRUGATED GALVANIZED STEEL PIPE LOOSELY WITH FINE AGGREGATE (SEE DELDOT STANDARD SPECIFICATIONS, SECTION 804). AT THE CONTRACTOR'S OPTION, PLACE FINE AGGREGATE BEFORE OR AFTER THE MSE WALL CONSTRUCTION IS COMPLETED.
7. ALTERNATE PILE ONLY - PLACE REINFORCEMENT CAGE IN 14" DIAMETER STEEL PIPE PILE AND FILL VOID REMAINING IN PILE WITH CLASS A CONCRETE TO THE PLUG FORMED AT THE DRIVEN END.



STEEL H-PILE SPLICE



WELD DETAIL
(NOT TO SCALE)

SECTION A-A



SECTION C-C

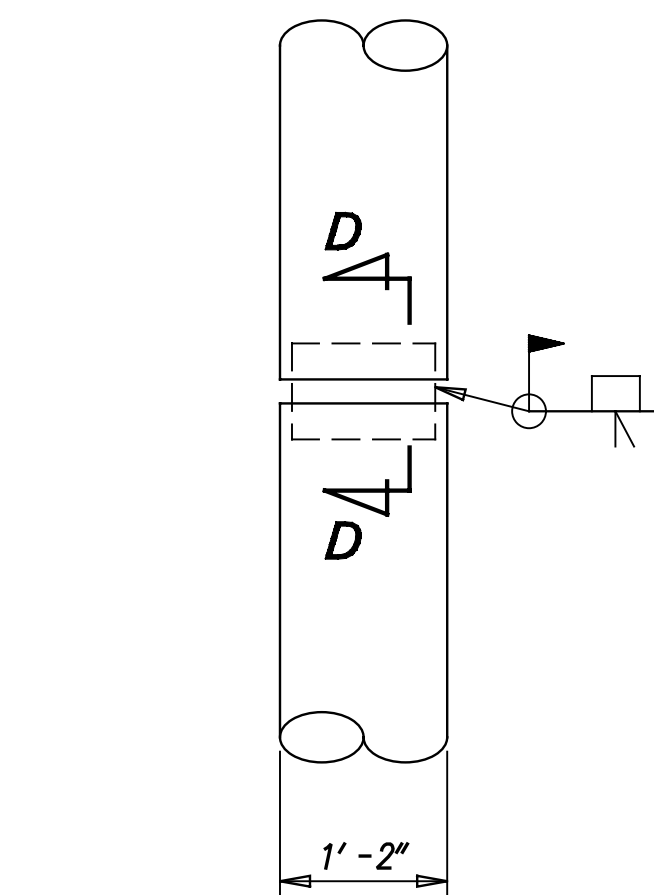
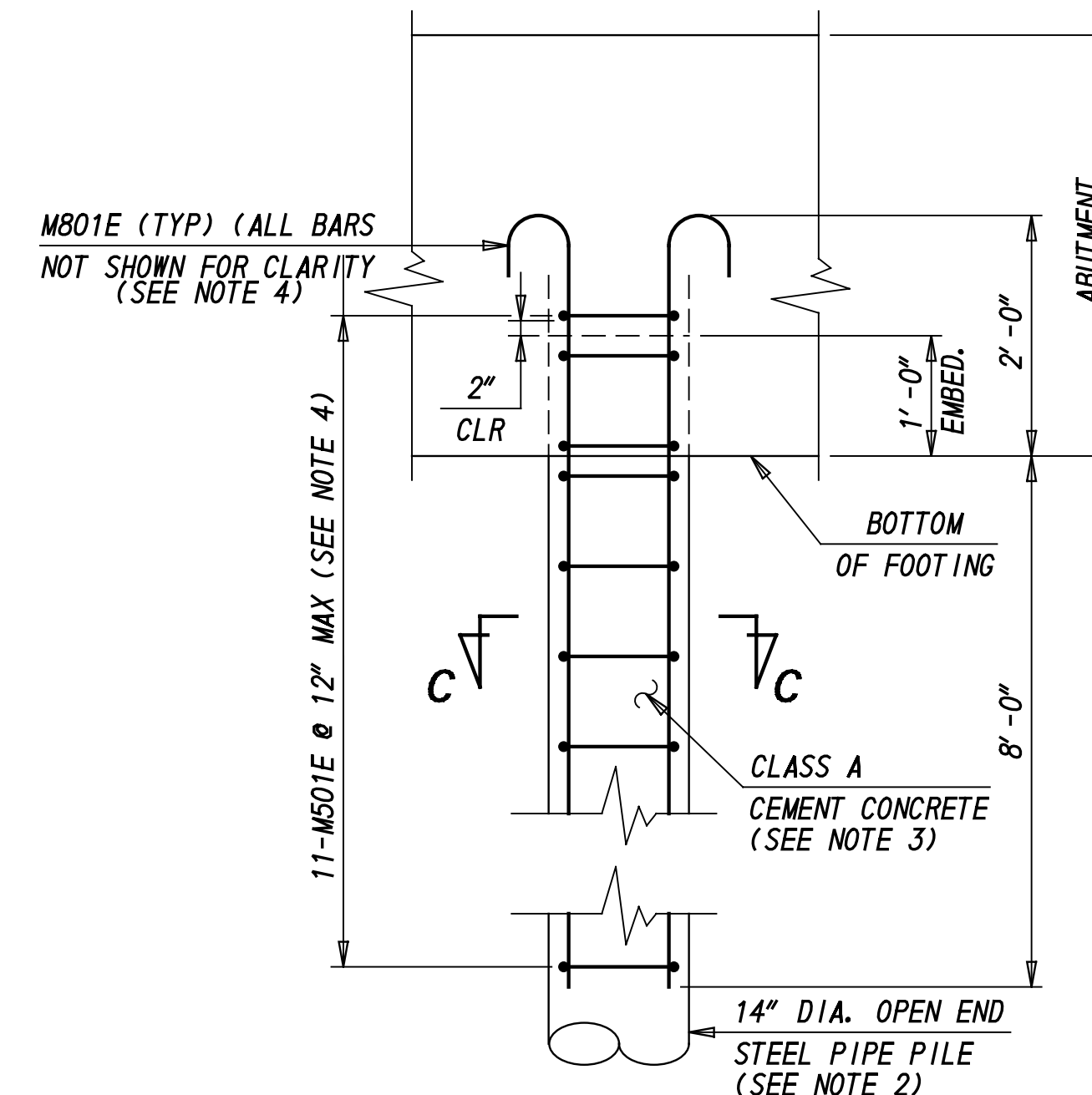
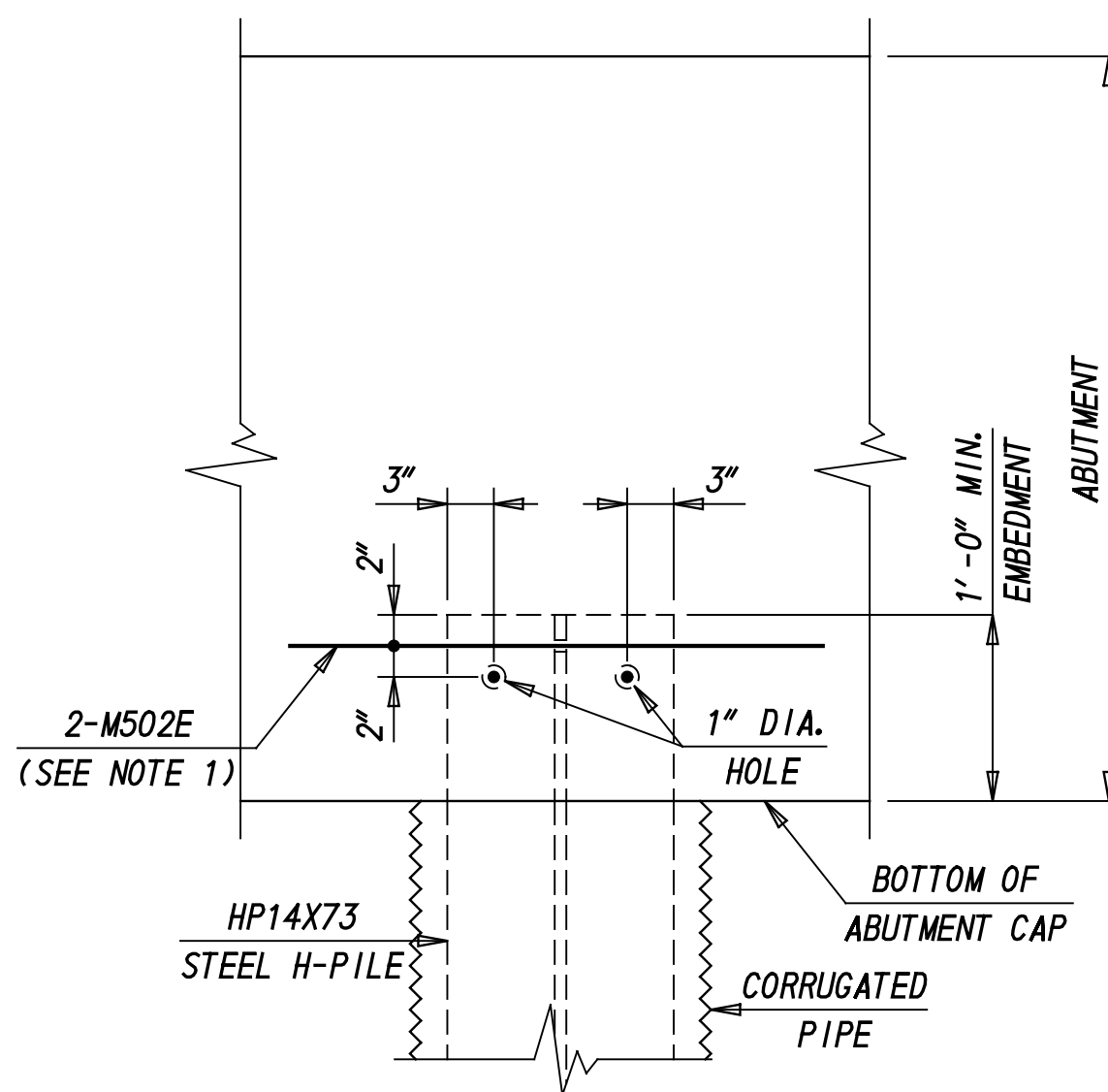
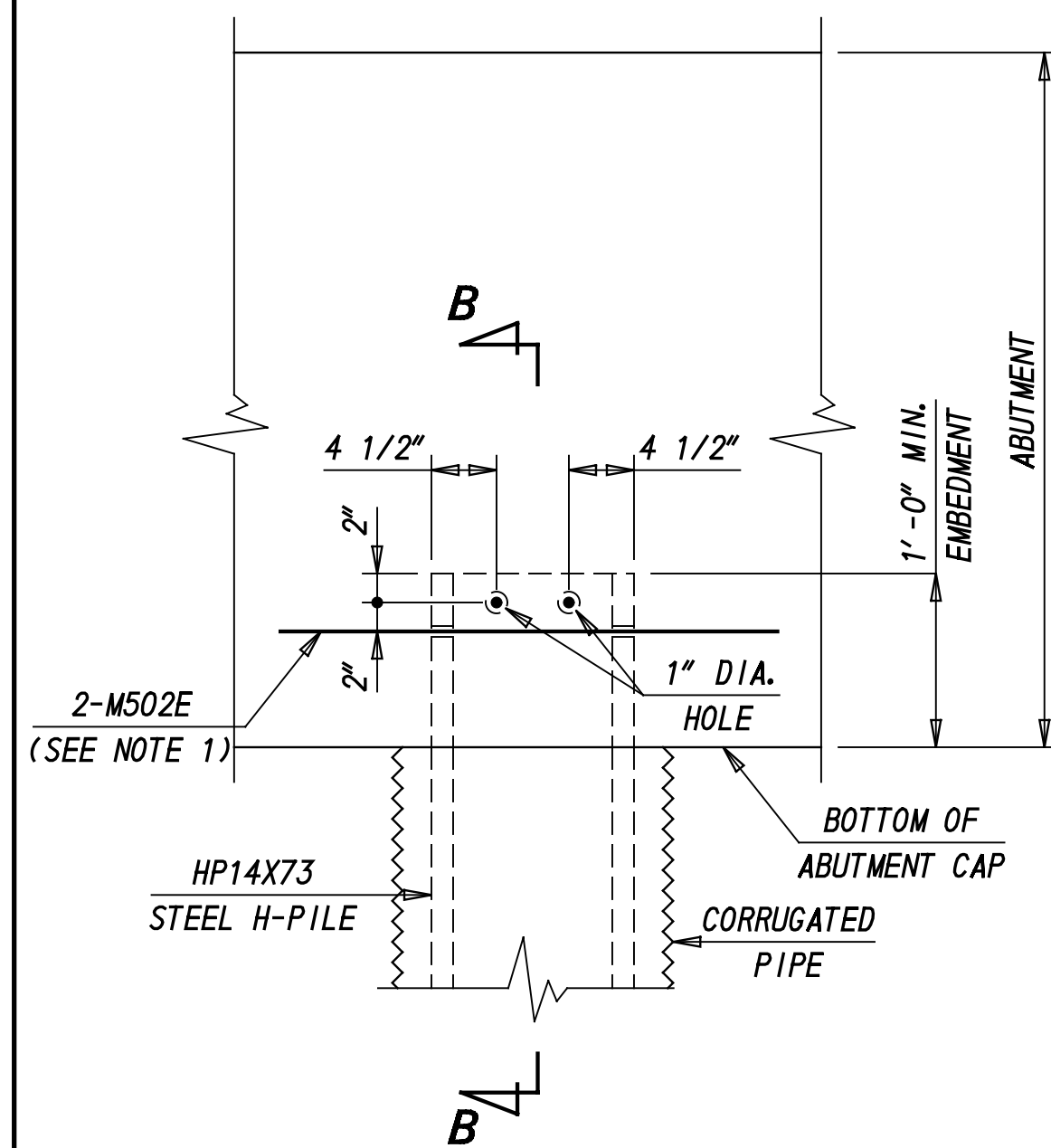


SECTION D-D



PIPE PILE (ALTERNATE) NOTES:

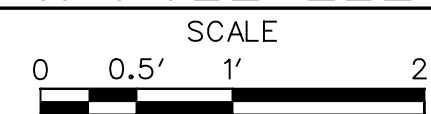
- BACK-UP PLATE TO BE CUT FROM SAME PILE SIZE AS BEING SPLICED. CUT AND BEND TO FIT INSIDE DIAMETER OF PILE.
- CORRUGATED PIPE NOT SHOWN IN PIPE PILE REINFORCEMENT AND SPLICE DETAILS FOR CLARITY.
- CLASS A CEMENT CONCRETE (MATERIAL) FOR FILLING VOID IN ALTERNATE PILES IS INCIDENTAL TO ITEMS "618552 - FURNISH PIPE PILE, SCHEDULE 40, OPEN END, 14" OR "618557 - FURNISH TEST PIPE PILE, SCHEDULE 40, OPEN END, 14". INSTALLATION OF CLASS A CEMENT CONCRETE FOR FILLING VOID IN ALTERNATE PILES IS INCIDENTAL TO ITEMS "619540 - INSTALL PIPE PILE SCHEDULE 40, OPEN END, 14" OR "619558 - INSTALL TEST PIPE PILE, SCHEDULE 40, OPEN END, 14".
- REINFORCEMENT STEEL FOR ALTERNATE PILES (MATERIAL) IS INCIDENTAL TO ITEMS "618552 - FURNISH PIPE PILE, SCHEDULE 40, OPEN END, 14" OR "618557 - FURNISH TEST PIPE PILE, SCHEDULE 40, OPEN END, 14". INSTALLATION OF REINFORCEMENT STEEL OR ALTERNATE PILES IS INCIDENTAL TO ITEMS "619540 - INSTALL PIPE PILE SCHEDULE 40, OPEN END, 14" OR "619558 - INSTALL TEST PIPE PILE, SCHEDULE 40, OPEN END, 14".



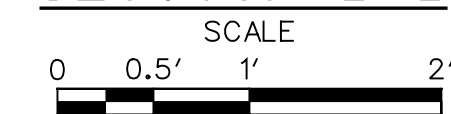
STEEL H-PILE (RECOMMENDED) NOTES:

- REINFORCEMENT STEEL (MATERIAL) FOR H-PILES IS INCIDENTAL TO ITEMS "618062 - FURNISH STEEL H PILE, HP14X73" OR "618065 - FURNISH STEEL TEST H PILES, HP14X73". INSTALLATION OF REINFORCEMENT STEEL FOR H PILES IS INCIDENTAL TO ITEMS "618042 - INSTALL STEEL H PILE, HP14X73" OR "619045 - INSTALL STEEL TEST H PILES, HP14X73".

STEEL H-PILE ELEVATION



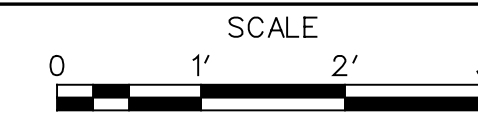
SECTION B-B



PIPE PILE REINFORCEMENT



PIPE PILE SPLICE



STEEL H-PILE (RECOMMENDED)

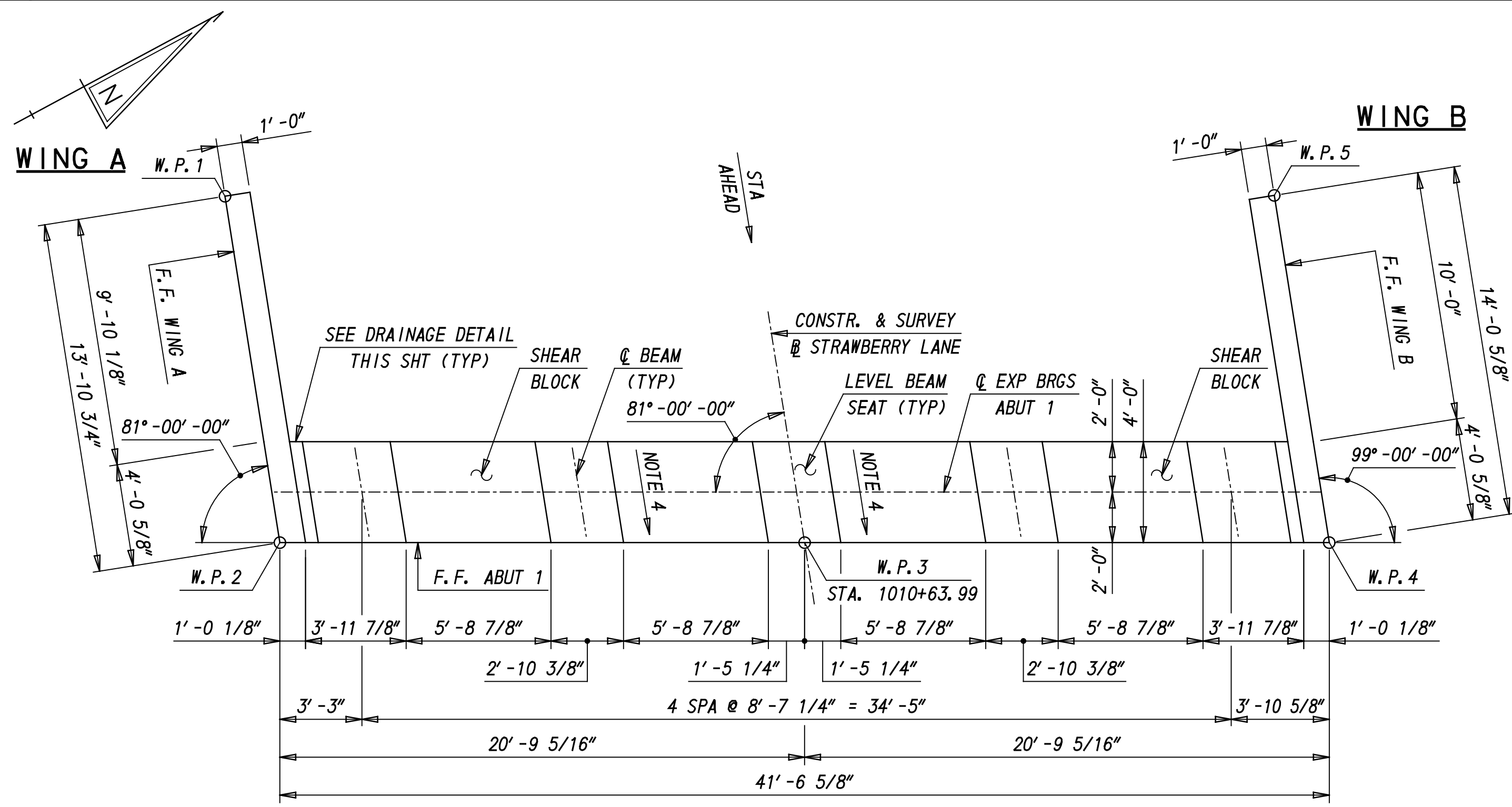
PIPE PILE (ALTERNATE)

WARNING:

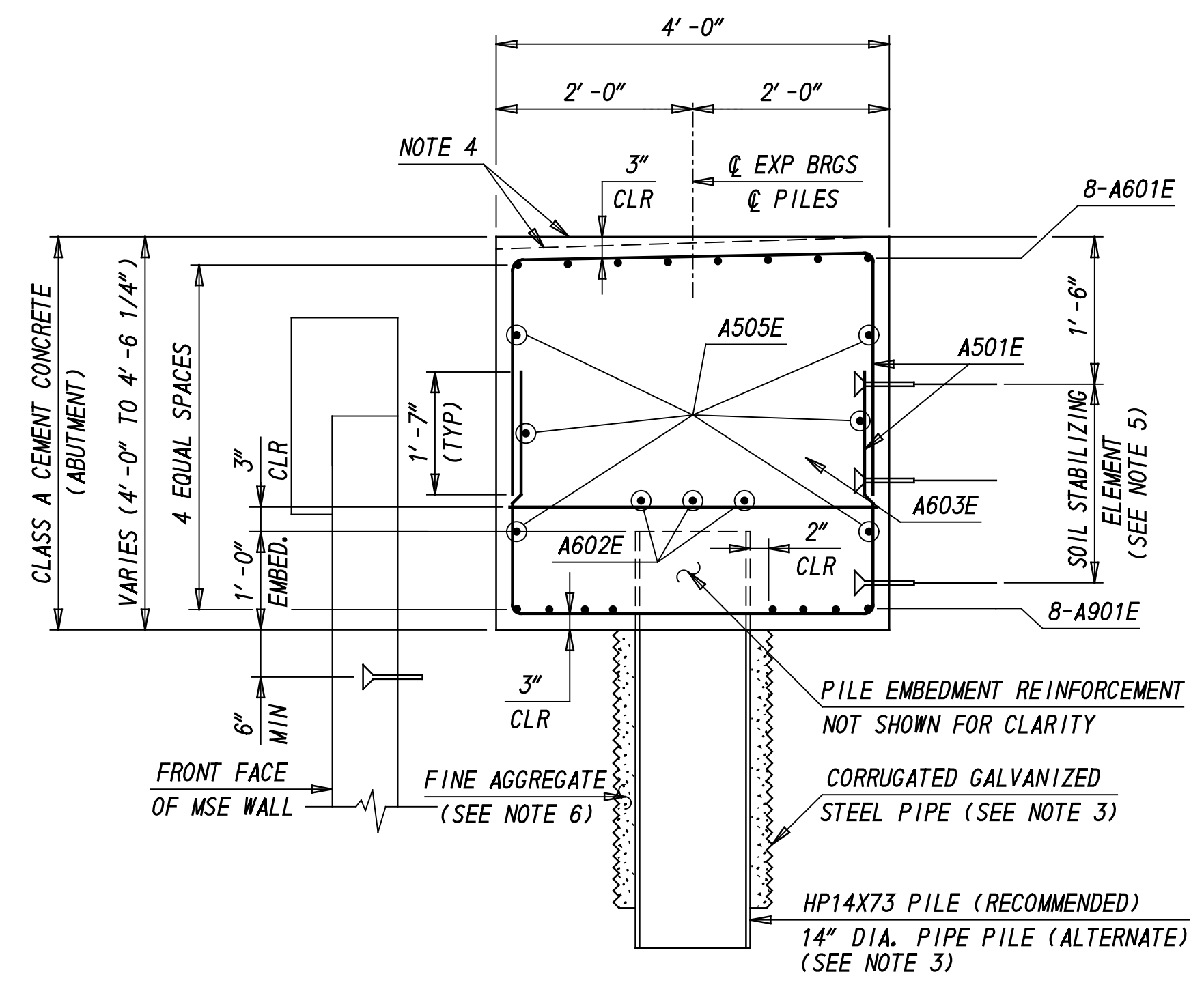
EXISTING OVERHEAD HIGH VOLTAGE POWER LINES ARE IN THE VICINITY OF THE BRIDGE CONSTRUCTION. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTORS CRANES AND OTHER HEAVY EQUIPMENT SHALL MAINTAIN A CLEAR RADIUS OF TWENTY (20) FEET PLUS AN ADDITIONAL TWENTY (20) FEET HORIZONTALLY FOR BLOWOUT FROM THE OVERHEAD HIGH VOLTAGE POWER LINES. DURING CONSTRUCTION OPERATIONS, IT IS THE CONTRACTORS OBLIGATION TO VERIFY THE EXACT LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS.

REFERENCE:

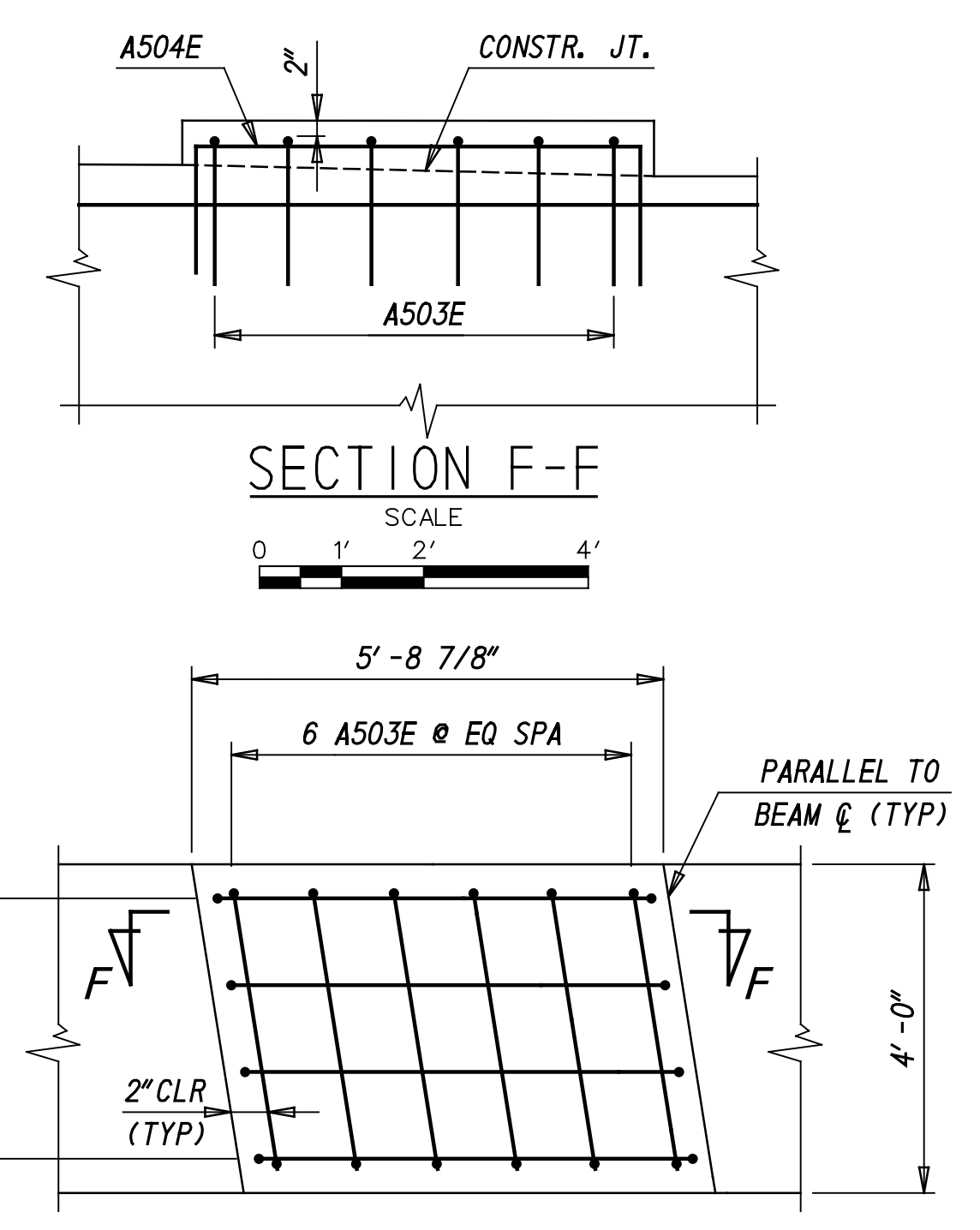
- FOR GENERAL PLAN, SEE SHEET BR1-486-01
- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR GEOMETRIC LAYOUT, SEE SHEET BR1-486-04
- FOR ABUTMENT 1 PLAN, SEE SHEET BR1-486-07
- FOR WINGWALLS A AND B, SEE SHEET BR1-486-08
- FOR ABUTMENT 2 PLAN, SEE SHEET BR1-486-09
- FOR WINGWALLS C AND D, SEE SHEET BR1-486-10
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS BR1-486-26, 27



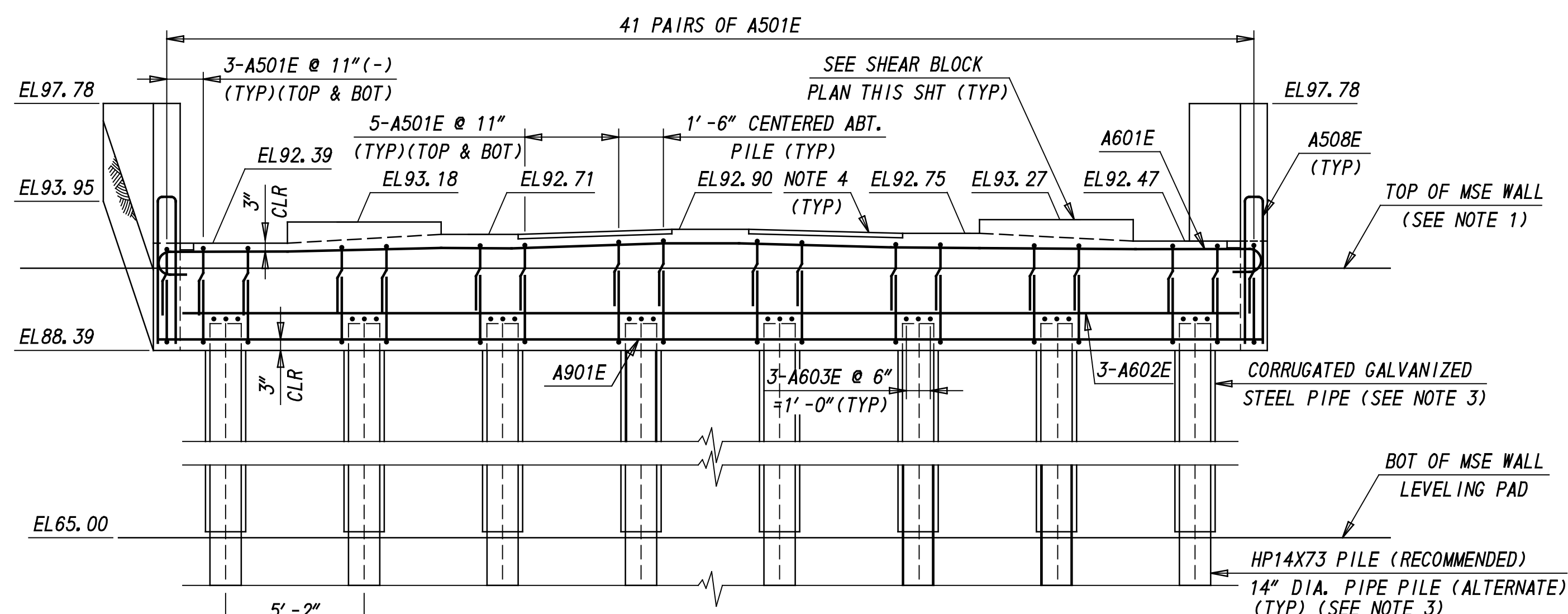
ABUTMENT 1 PLAN
SCALE 0 2' 4' 8'



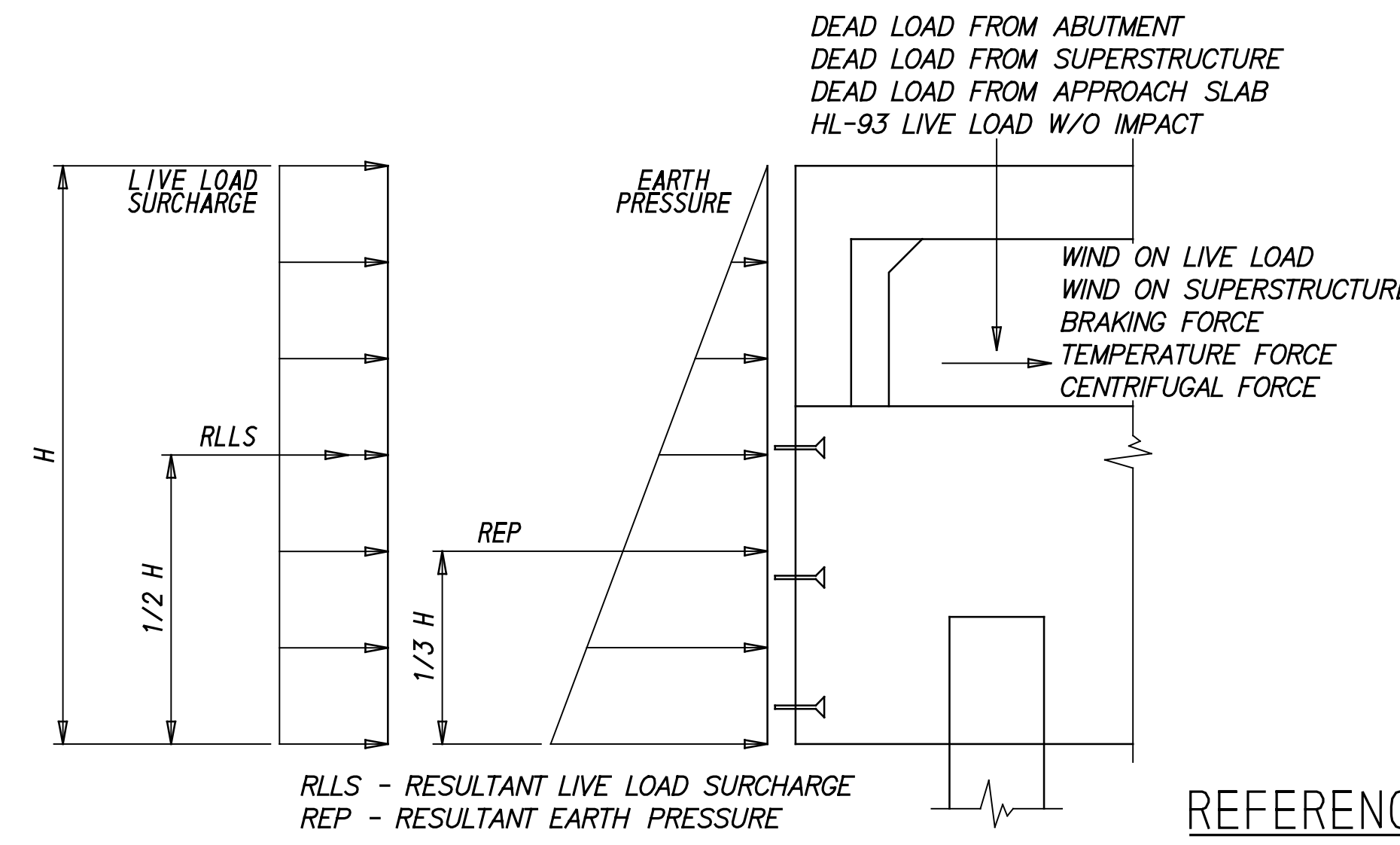
TYPICAL SECTION
SCALE 0 1' 2' 3'



SHEAR BLOCK PLAN
SCALE 0 1' 2' 4'



ABUTMENT 1 ELEVATION
SCALE 0 2' 4' 8'



LOADING DIAGRAM
(NOT TO SCALE)

ABUTMENT 1:

VERTICAL LOADS:	
DEAD LOAD FROM ABUTMENT	3.30 K/FT
DEAD LOAD FROM SUPERSTRUCTURE	10.43 K/FT
DEAD LOAD FROM APPROACH SLAB	2.44 K/FT
HL-93 LIVE LOAD W/O IMPACT (1)	5.26 K/FT

HORIZONTAL LOADS IN THE OVERTURNING DIRECTION: (2)	
WIND ON LIVE LOAD (3)	0.00 K/FT
WIND ON SUPERSTRUCTURE (3)	0.00 K/FT
BRAKING FORCE (3)	0.00 K/FT
TEMPERATURE FORCE	0.72 K/FT
EARTH PRESSURE	1.45 K/FT
CENTRIFUGAL FORCE	0.00 K/FT
LIVE LOAD SURCHARGE	0.11 K/FT

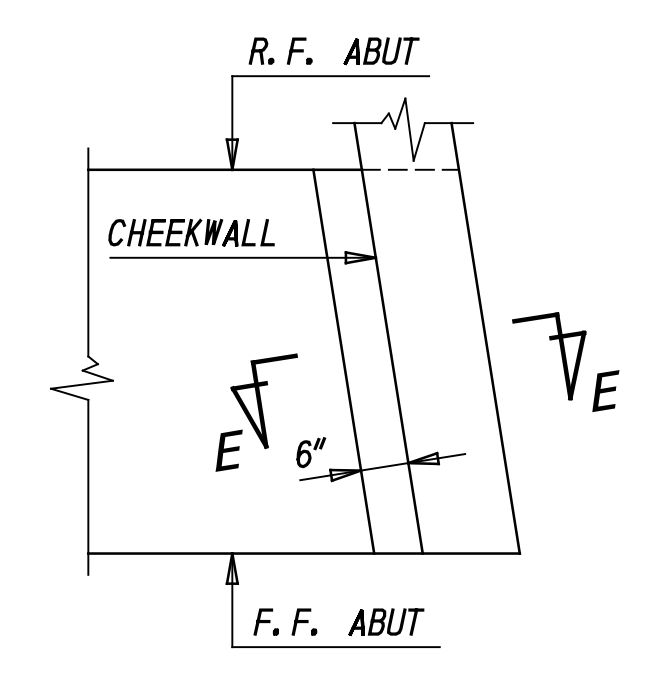
(1) LIVE LOAD IS PROVIDED FOR MAXIMUM DESIGN LANE CONFIGURATION INCLUDING MULTIPLE PRESENCE FACTOR
 (2) THE OVERTURNING DIRECTION IS PERPENDICULAR TO & BEARINGS, ALL LOADS UNFACTORED AND CONSIDERED TO BE TAKEN AT THE BEAM SEAT ELEVATION.
 (3) WIND LOADS AND BRAKING FORCE ARE CARRIED BY THE FIXED BEARINGS AT THE PIER.

REFERENCE:

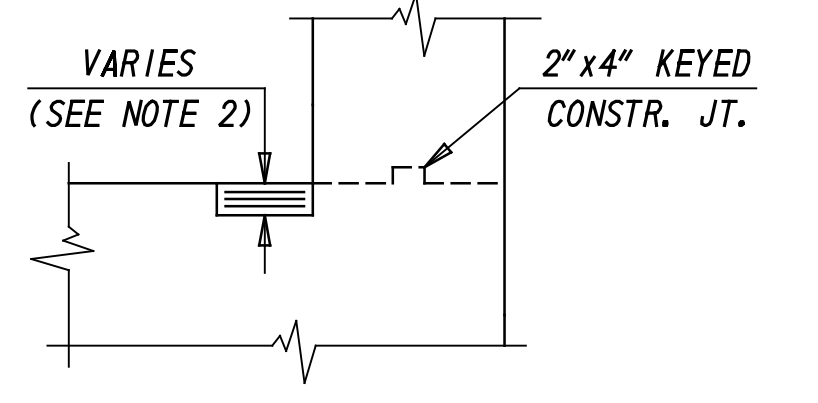
- FOR GENERAL PLAN, SEE SHEET BR1-486-01
- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR GEOMETRIC LAYOUT, SEE SHEET BR1-486-04
- FOR ABUTMENT PILE LAYOUT, SEE SHEET BR1-486-05
- FOR WINGWALLS A AND B, SEE SHEET BR1-486-08
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET BR1-486-26,27

WARNING:

EXISTING OVERHEAD HIGH VOLTAGE POWER LINES ARE IN THE VICINITY OF THE BRIDGE CONSTRUCTION. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTORS CRANES AND OTHER HEAVY EQUIPMENT SHALL MAINTAIN A CLEAR RADIUS OF TWENTY (20) FEET PLUS AN ADDITIONAL TWENTY (20) FEET HORIZONTALLY FOR BLOWOUT FROM THE OVERHEAD HIGH VOLTAGE POWER LINES. DURING CONSTRUCTION OPERATIONS, IT IS THE CONTRACTORS OBLIGATION TO VERIFY THE EXACT LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS.



DRAINAGE DETAIL
SCALE 0 1' 2' 4'



SECTION E-E
(NOT TO SCALE)

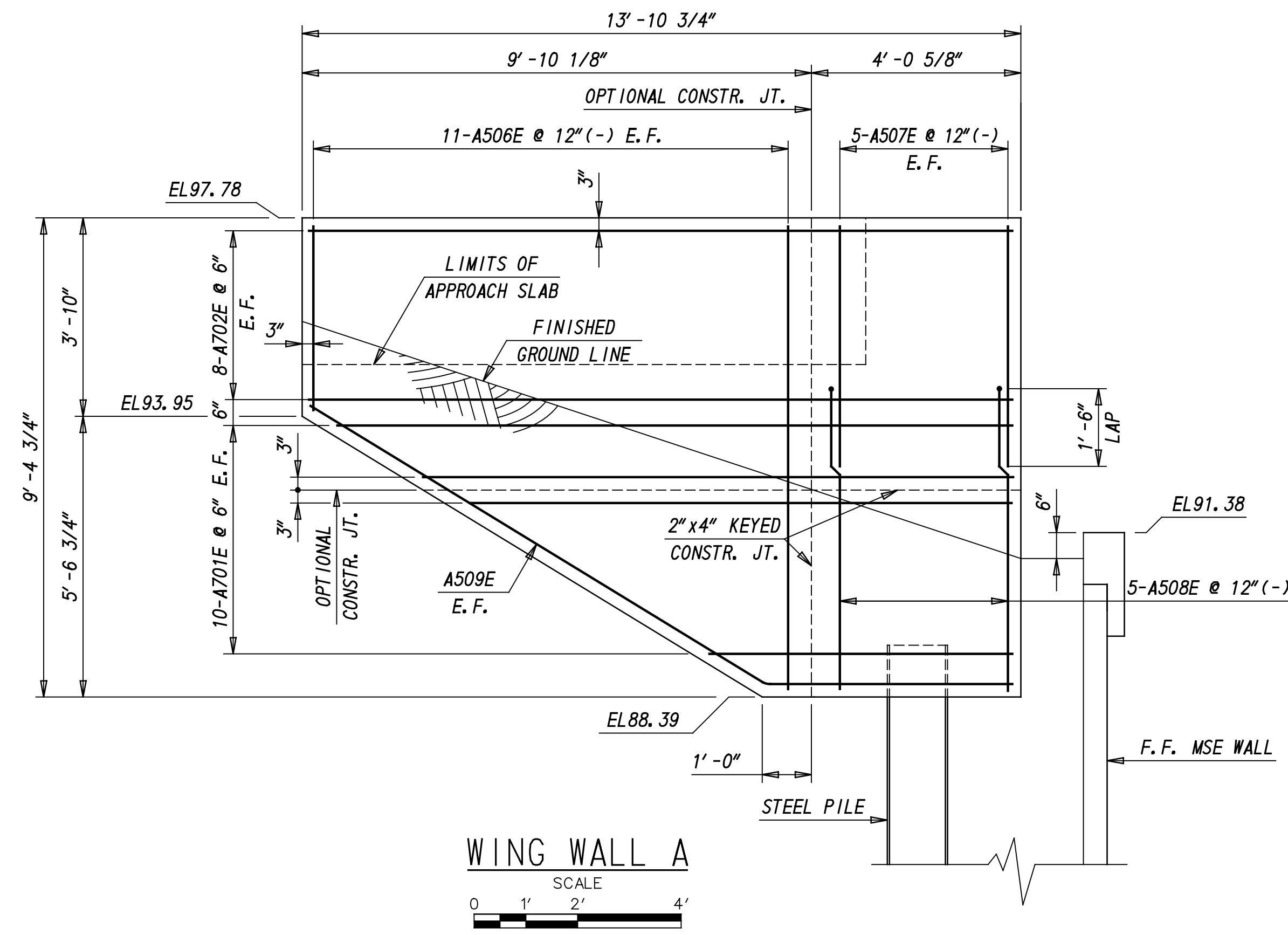
ABUTMENT NOTES:

1. MSE WALL NOT SHOWN FOR CLARITY. REFER TO MSE WALL PLAN AND ELEVATION FOR PROPOSED AND EXISTING GROUND LINES.
2. DRAIN NOTCH VARIES FROM 0" @ ABUTMENT R.F. TO 2" @ ABUTMENT F.F.
3. STEEL PILE ENCASED WITH CORRUGATED GALVANIZED STEEL PIPE INSTALLED FROM BOTTOM OF THE MSE WALL LEVELING PAD ELEVATION TO THE BOTTOM OF THE BRIDGE BRIDGE STUB ABUTMENT PILECAP. REFER TO ABUTMENT PILE LAYOUT FOR PILE INSTALLATION SEQUENCE. PAYMENT FOR THE CORRUGATED GALVANIZED STEEL PIPE SHALL BE INCIDENTAL TO ITEM "602772 - MECHANICALLY STABILIZED EARTH WALLS."
4. ELEVATIONS ARE PROVIDED ALONG THE TOP OF THE ABUTMENT SHEAR BLOCK AND BEAM SEAT LOCATIONS. THESE AREAS ARE SET LEVEL IN THE AREAS DEFINED AS BEAM SEATS ON THE PLAN VIEW. SLOPE TOP OF ABUTMENT 1/4" PER FOOT FROM REAR FACE TO FRONT FACE BETWEEN BEARING BEARING AREAS (TYP).
5. SOIL STABILIZING ELEMENTS TO BE DESIGNED AND DETAILED (NUMBER, SIZE, AND SPACING) BY THE MSE WALL COMPANY FOR FORCES INDICATED ON THE LOADING DIAGRAM. SOIL STABILIZING ELEMENTS SHALL BE INCIDENTAL TO ITEM "602015 - PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT ABOVE FOOTING."
6. FINE AGGREGATE TO MEET THE REQUIREMENTS OF DELDOT STANDARD SPECIFICATIONS, SECTION 804. QUANTITY TO FILL VOID BETWEEN PILE AND CORRUGATED GALVANIZED STEEL PILE SHALL BE INCIDENTAL TO ITEM "602772 - MECHANICALLY STABILIZED EARTH WALLS."
7. WINGWALLS ARE INCIDENTAL TO ITEM "602015-PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT ABOVE FOOTING."

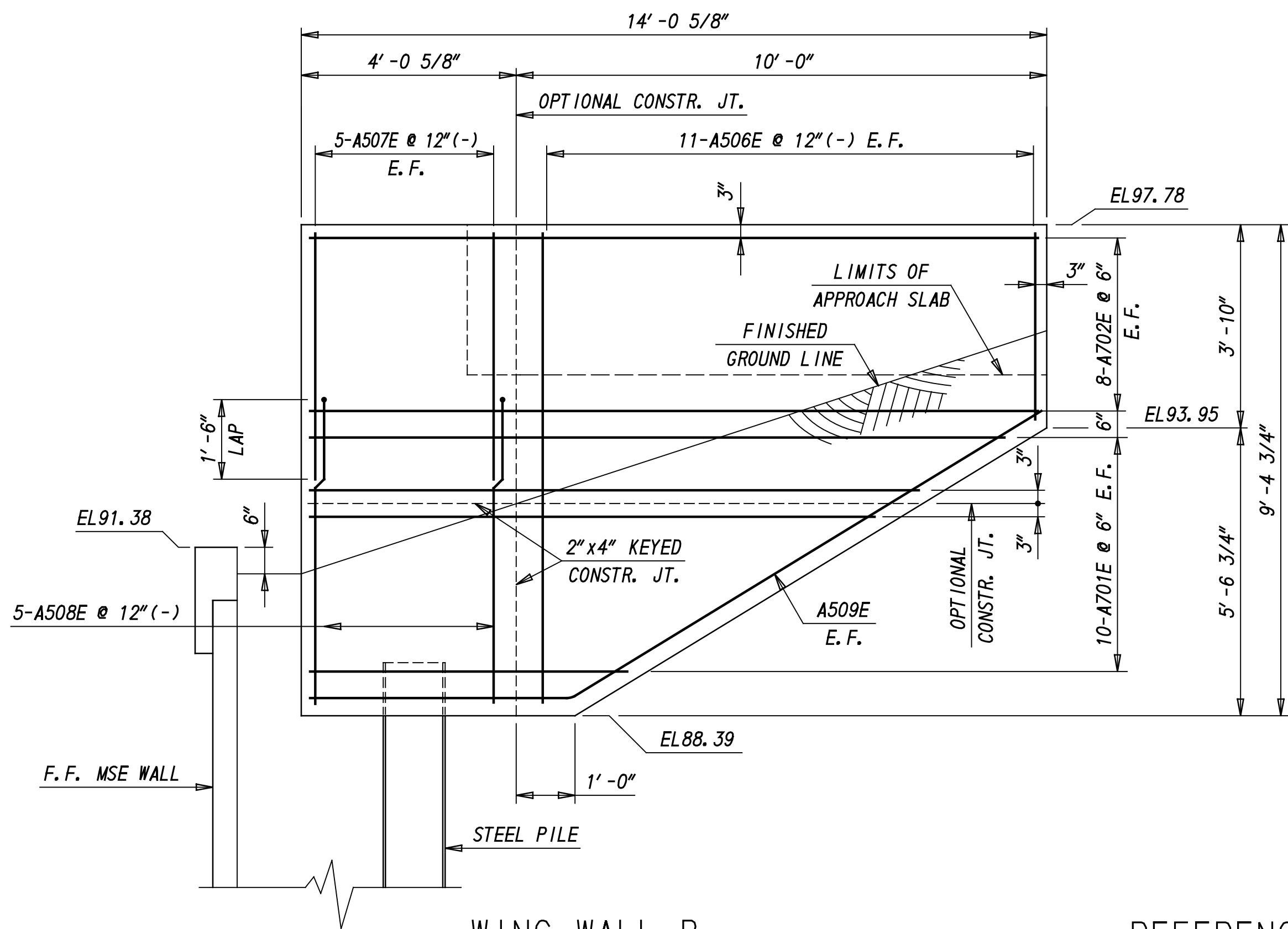
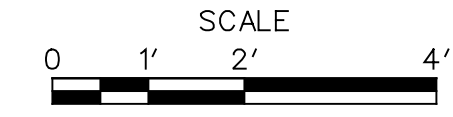
ADDENDUMS / REVISIONS

CONTRACT	BRIDGE NO.	1-486
T200811301	DESIGNED BY:	JLW
COUNTY	CHECKED BY:	JPF
NEW CASTLE		

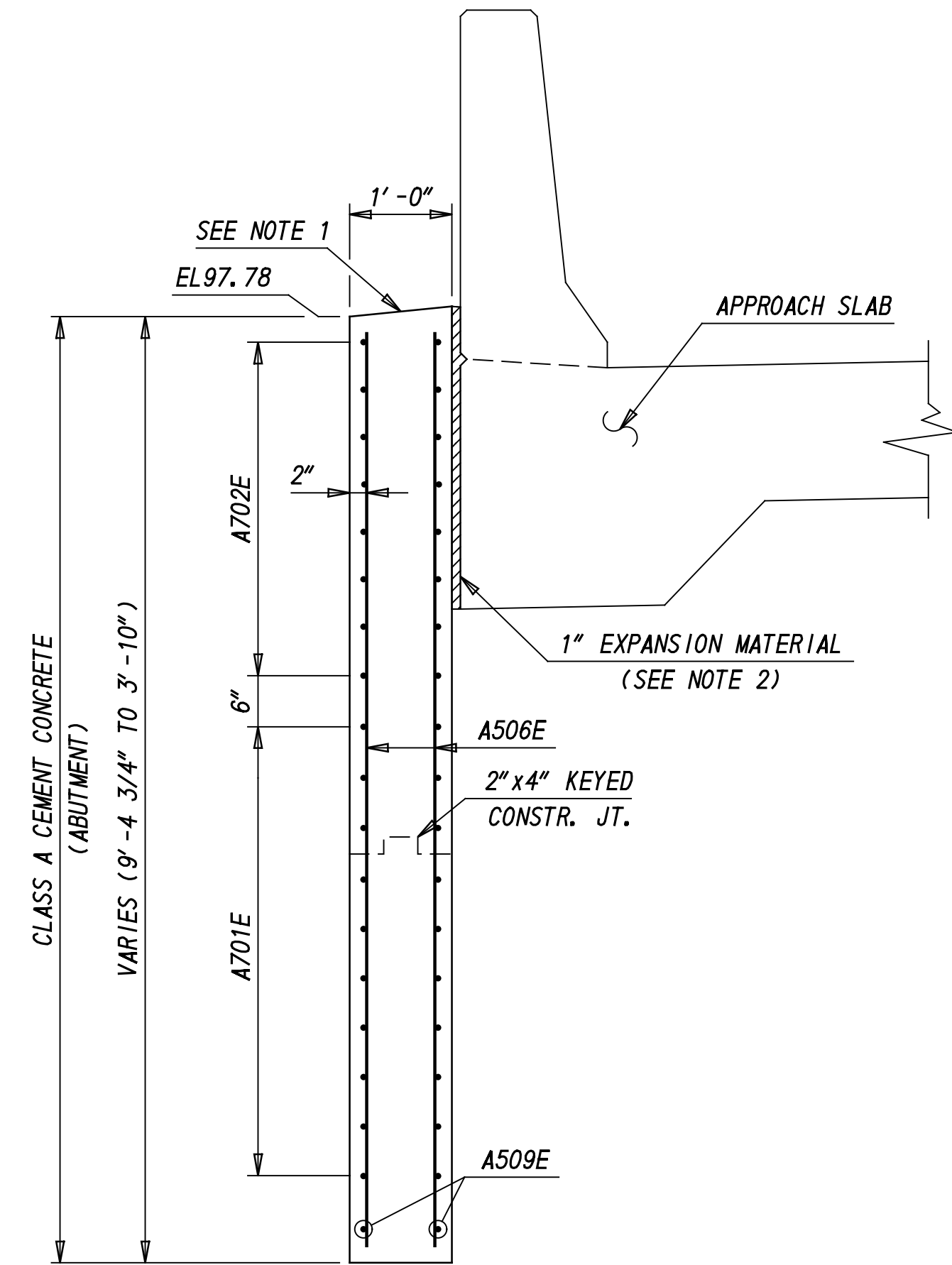
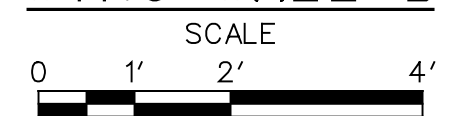
SHEET NO.	270
TOTAL SHTS.	850



WING WALL A



WING WALL B



WING WALL TYPICAL SECTION



WING WALL NOTES:

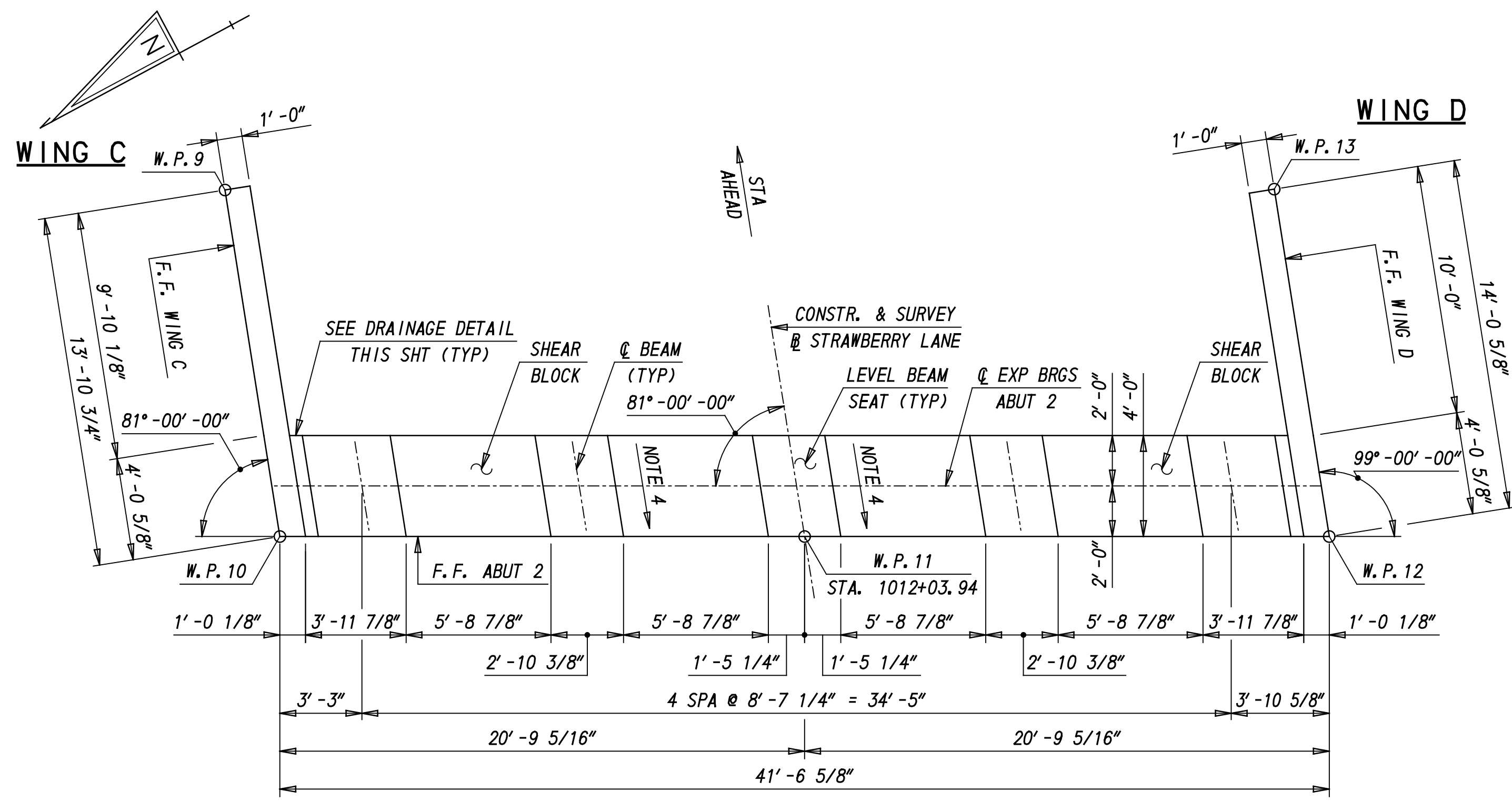
1. SLOPE 1/2" PER FOOT TO PROVIDE POSITIVE DRAINAGE. ELEVATIONS ARE PROVIDED AT THE FRONT EDGE OF THE WING.
2. 1" EXPANSION MATERIAL SHALL BE INCIDENTAL TO ITEM "602014 - PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D."

WARNING:

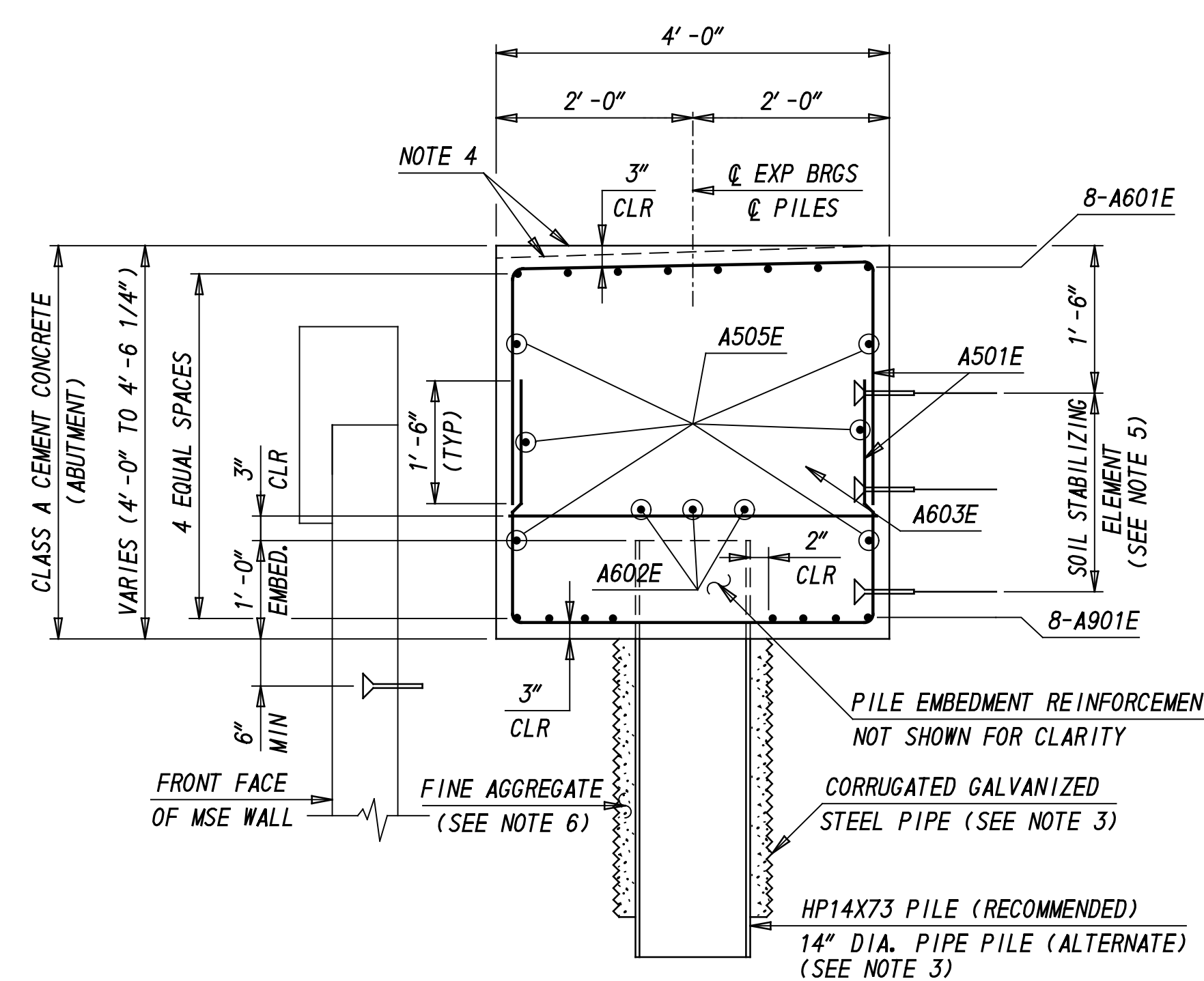
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REFERENCE:

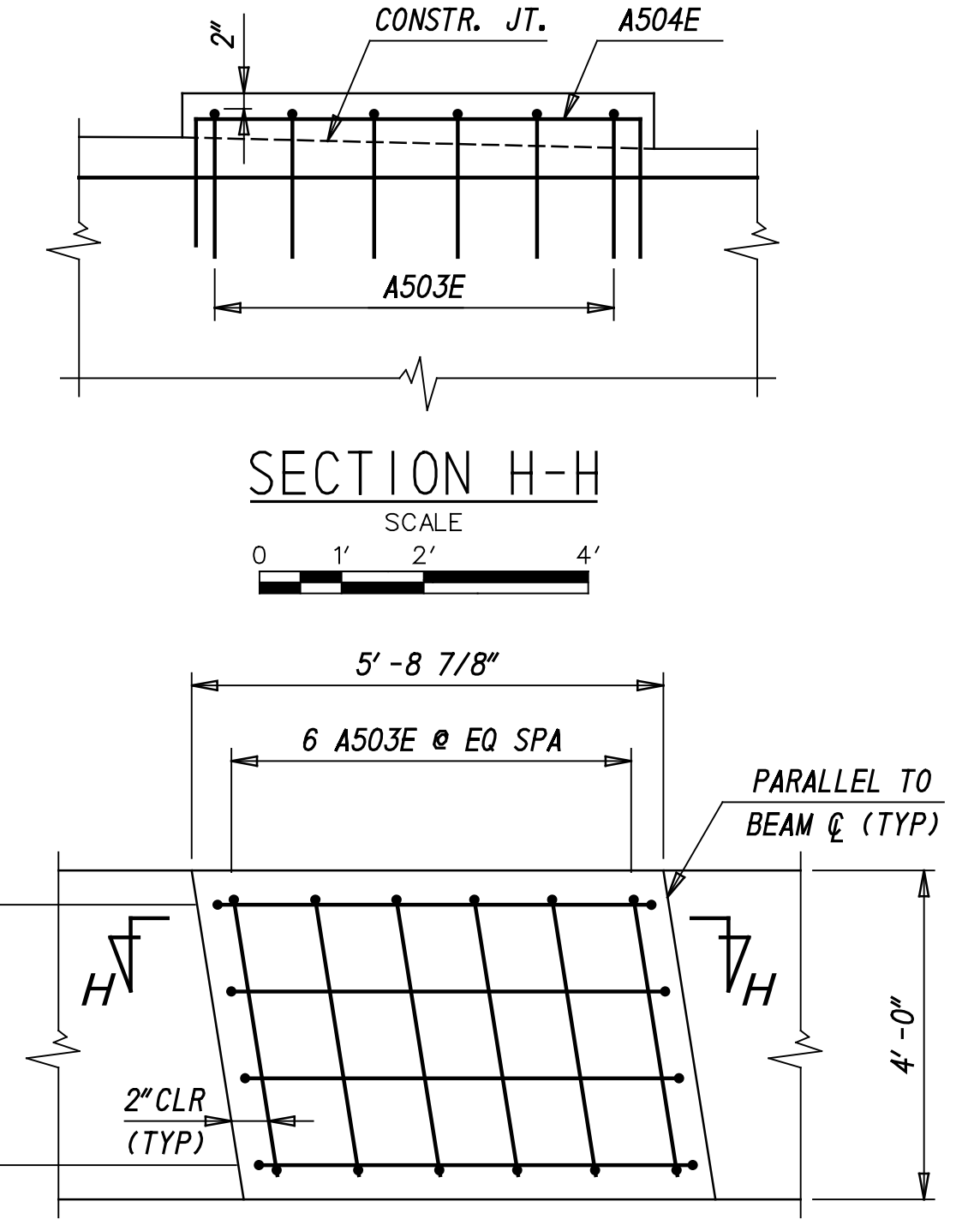
- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR GEOMETRIC LAYOUT, SEE SHEET BR1-486-04
- FOR ABUTMENT 1 PLAN, SEE SHEET BR1-486-07
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET BR1-486-26, 27



ABUTMENT 2 PLAN
SCALE
0 2' 4' 8'

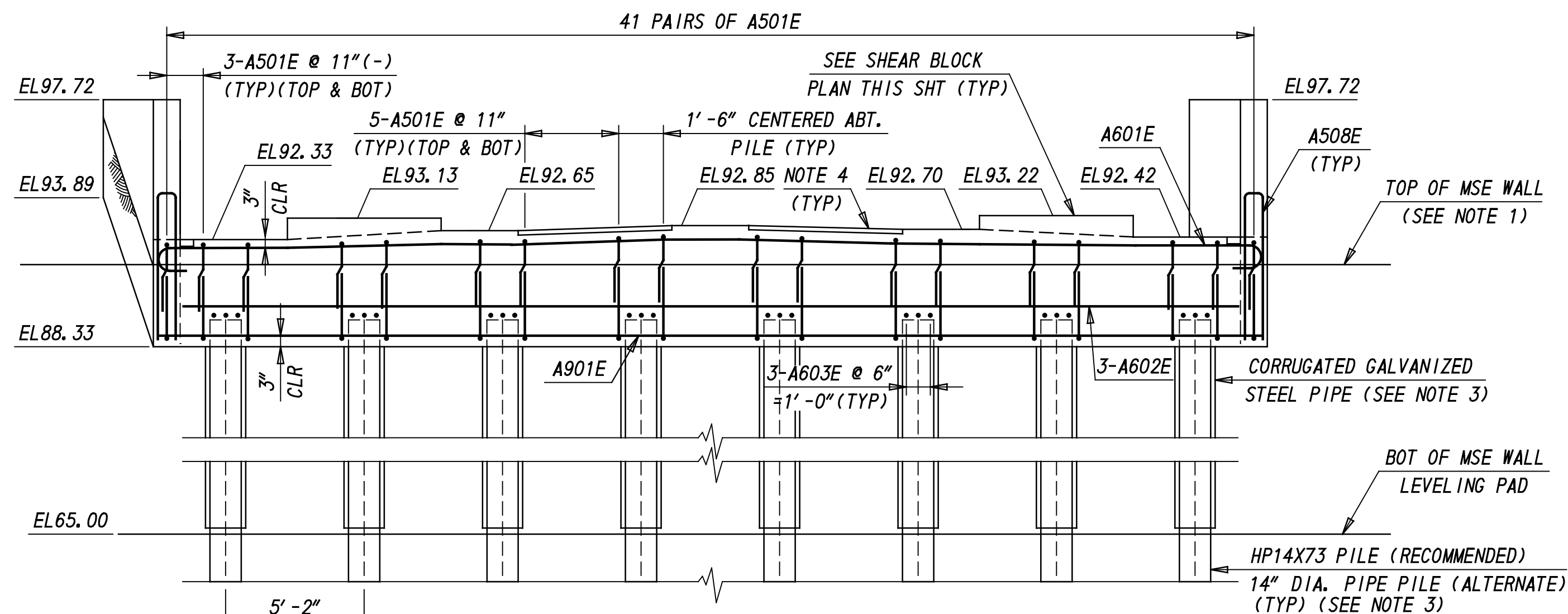


TYPICAL SECTION
SCALE
0 1' 2' 3'

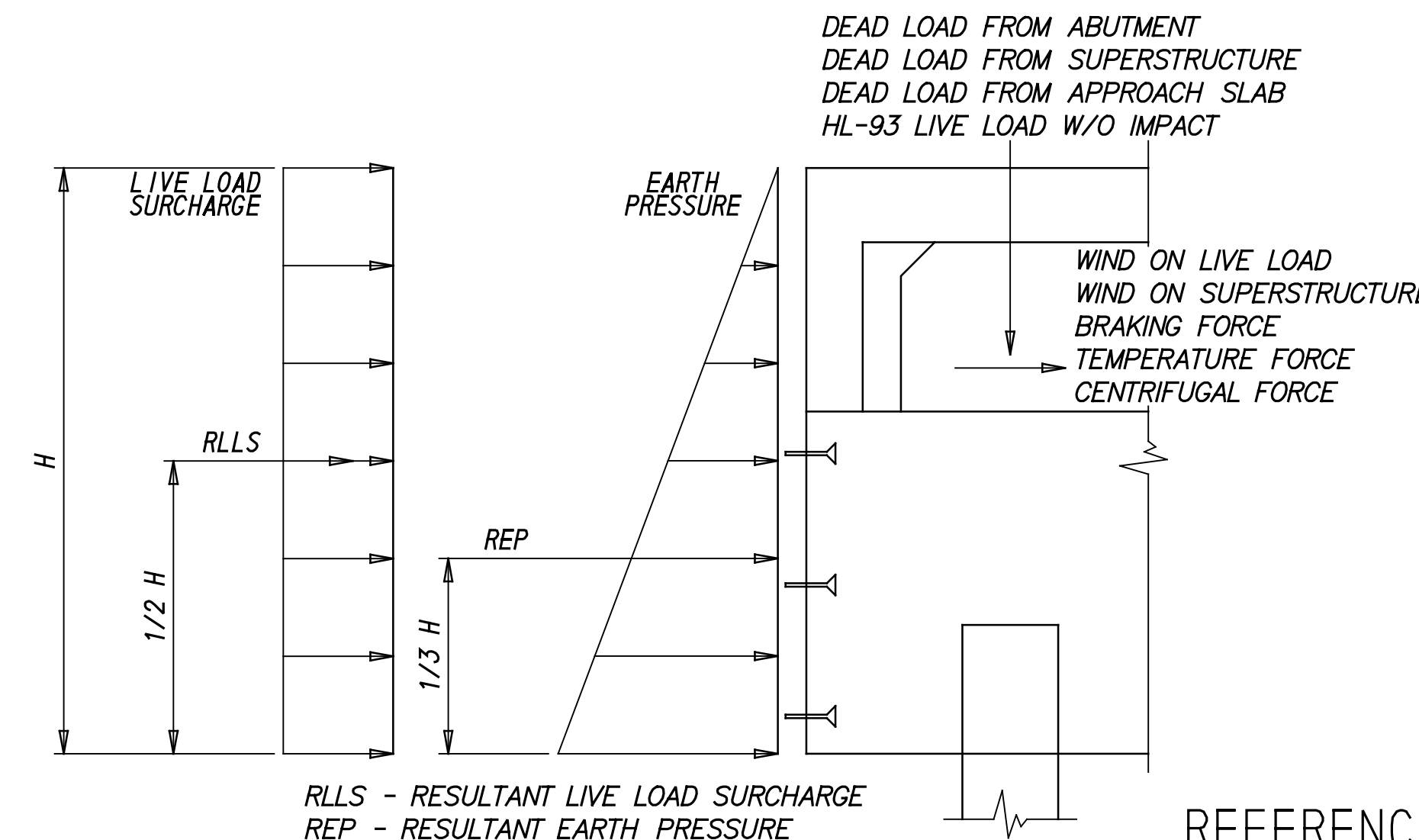


SECTION H-H
SCALE
0 1' 2' 4'

SHEAR BLOCK PLAN
SCALE
0 1' 2' 4'



ABUTMENT 2 ELEVATION
SCALE
0 2' 4' 8'



LOADING DIAGRAM
(NOT TO SCALE)

ABUTMENT 2:

VERTICAL LOADS:

DEAD LOAD FROM ABUTMENT	3.30 K/FT
DEAD LOAD FROM SUPERSTRUCTURE	10.43 K/FT
DEAD LOAD FROM APPROACH SLAB	2.44 K/FT
HL-93 LIVE LOAD W/O IMPACT	5.26 K/FT

HORIZONTAL LOADS IN THE OVERTURNING DIRECTION: (2)

WIND ON LIVE LOAD (3)	0.00 K/FT
WIND ON SUPERSTRUCTURE (3)	0.00 K/FT
BRAKING FORCE (3)	0.00 K/FT
TEMPERATURE FORCE	0.72 K/FT
EARTH PRESSURE	1.45 K/FT
CENTRIFUGAL FORCE	0.00 K/FT
LIVE LOAD SURCHARGE	0.11 K/FT

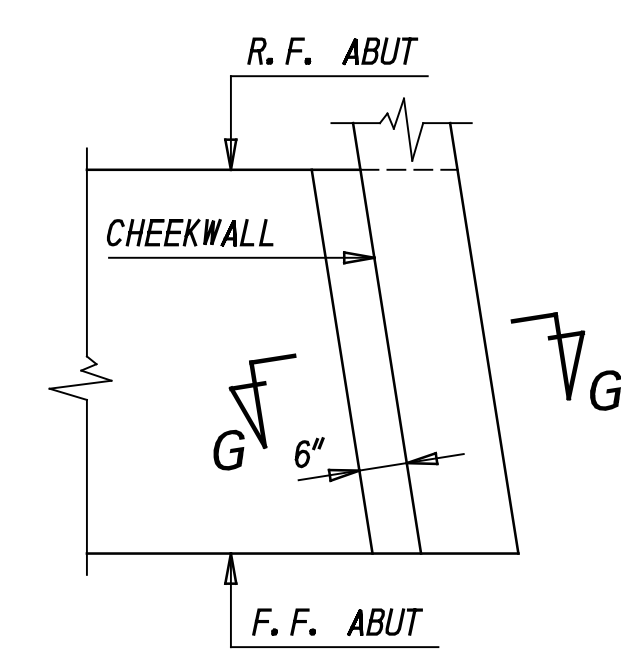
- (1) LIVE LOAD IS PROVIDED FOR MAXIMUM DESIGN LANE CONFIGURATION INCLUDING MULTIPLE PRESENCE FACTOR
 (2) THE OVERTURNING DIRECTION IS PERPENDICULAR TO \bar{C} BEARINGS, ALL LOADS UNFACTORED AND CONSIDERED TO BE TAKEN AT THE BEAM SEAT ELEVATION.
 (3) WIND LOADS AND BRAKING FORCE ARE CARRIED BY THE FIXED BEARINGS AT THE PIER.

REFERENCE:

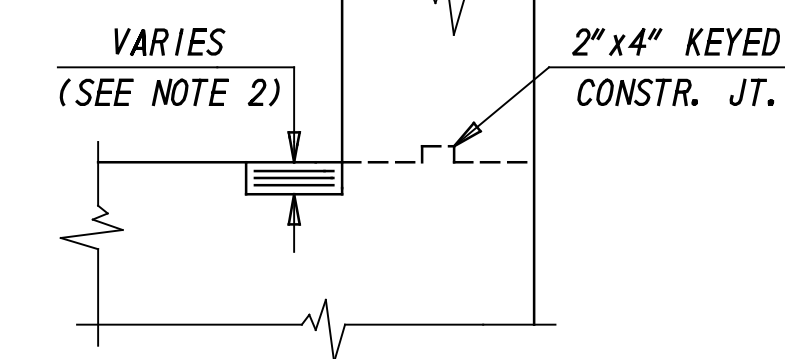
- FOR GENERAL PLAN, SEE SHEET BR1-486-01
- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR GEOMETRIC LAYOUT, SEE SHEET BR1-486-04
- FOR ABUTMENT PILE LAYOUT, SEE SHEET BR1-486-05
- FOR WINGWALLS C AND D, SEE SHEET BR1-486-10
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS BR1-486-26, 27

WARNING:

EXISTING OVERHEAD HIGH VOLTAGE POWER LINES ARE IN THE VICINITY OF THE BRIDGE CONSTRUCTION. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTORS CRANES AND OTHER HEAVY EQUIPMENT SHALL MAINTAIN A CLEAR RADIUS OF TWENTY (20) FEET PLUS AN ADDITIONAL TWENTY (20) FEET HORIZONTALLY FOR BLOWOUT FROM THE OVERHEAD HIGH VOLTAGE POWER LINES. DURING CONSTRUCTION OPERATIONS, IT IS THE CONTRACTORS OBLIGATION TO VERIFY THE EXACT LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS.



DRAINAGE DETAIL
SCALE
0 1' 2' 4'



SECTION G-G
(NOT TO SCALE)

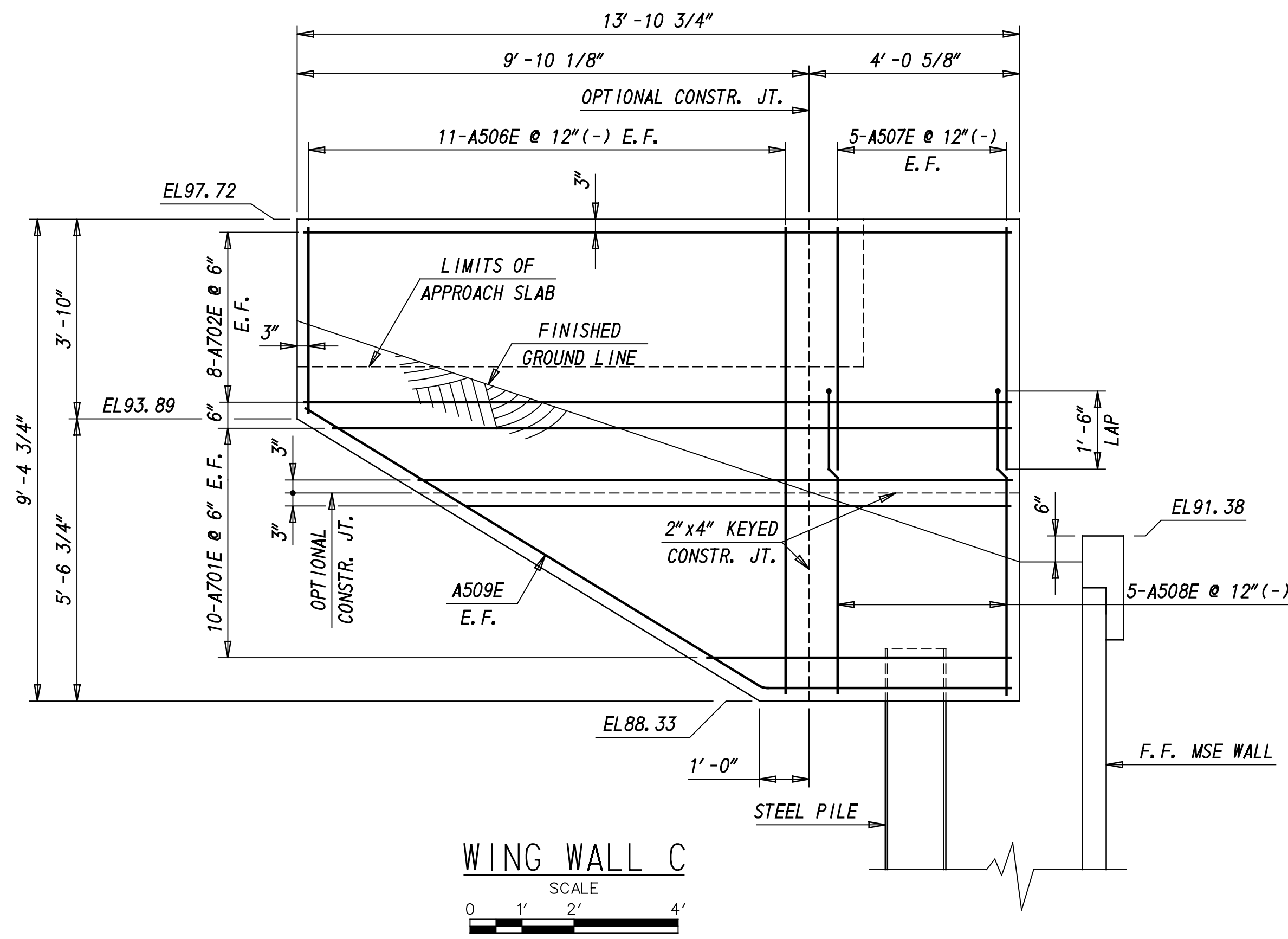
ABUTMENT NOTES:

- MSE WALL NOT SHOWN FOR CLARITY. REFER TO MSE WALL PLAN AND ELEVATION FOR PROPOSED AND EXISTING GROUND LINES.
- DRAIN NOTCH VARIES FROM 0" @ ABUTMENT R.F. TO 2" @ ABUTMENT F.F.
- STEEL PILE ENCASED WITH CORRUGATED GALVANIZED STEEL PIPE INSTALLED FROM BOTTOM OF THE MSE WALL LEVELING PAD ELEVATION TO THE BOTTOM OF THE BRIDGE BRIDGE STUB ABUTMENT PILECAP. REFER TO ABUTMENT PILE LAYOUT FOR PILE INSTALLATION SEQUENCE. PAYMENT FOR THE CORRUGATED GALVANIZED STEEL PIPE SHALL BE INCIDENTAL TO ITEM "602772 - MECHANICALLY STABILIZED EARTH WALLS."
- ELEVATIONS ARE PROVIDED ALONG THE TOP OF THE ABUTMENT SHEAR BLOCK AND BEAM SEAT LOCATIONS. THESE AREAS ARE SET LEVEL IN THE AREAS DEFINED AS BEAM SEATS ON THE PLAN VIEW. SLOPE TOP OF ABUTMENT 1/4" PER FOOT FROM REAR FACE TO FRONT FACE BETWEEN BEARING BEARING AREAS (TYP).
- SOIL STABILIZING ELEMENTS TO BE DESIGNED AND DETAILED (NUMBER, SIZE, AND SPACING) BY THE MSE WALL COMPANY FOR FORCES INDICATED ON THE LOADING DIAGRAM. SOIL STABILIZING ELEMENTS SHALL BE INCIDENTAL TO ITEM "602015 - PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT ABOVE FOOTING."
- FINE AGGREGATE TO MEET THE REQUIREMENTS OF DELDOT STANDARD SPECIFICATIONS, SECTION 804. QUANTITY TO FILL VOID BETWEEN PILE AND CORRUGATED GALVANIZED STEEL PILE SHALL BE INCIDENTAL TO ITEM "602772 - MECHANICALLY STABILIZED EARTH WALLS."
- WINGWALLS ARE INCIDENTAL TO ITEM "602015-PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT ABOVE FOOTING."

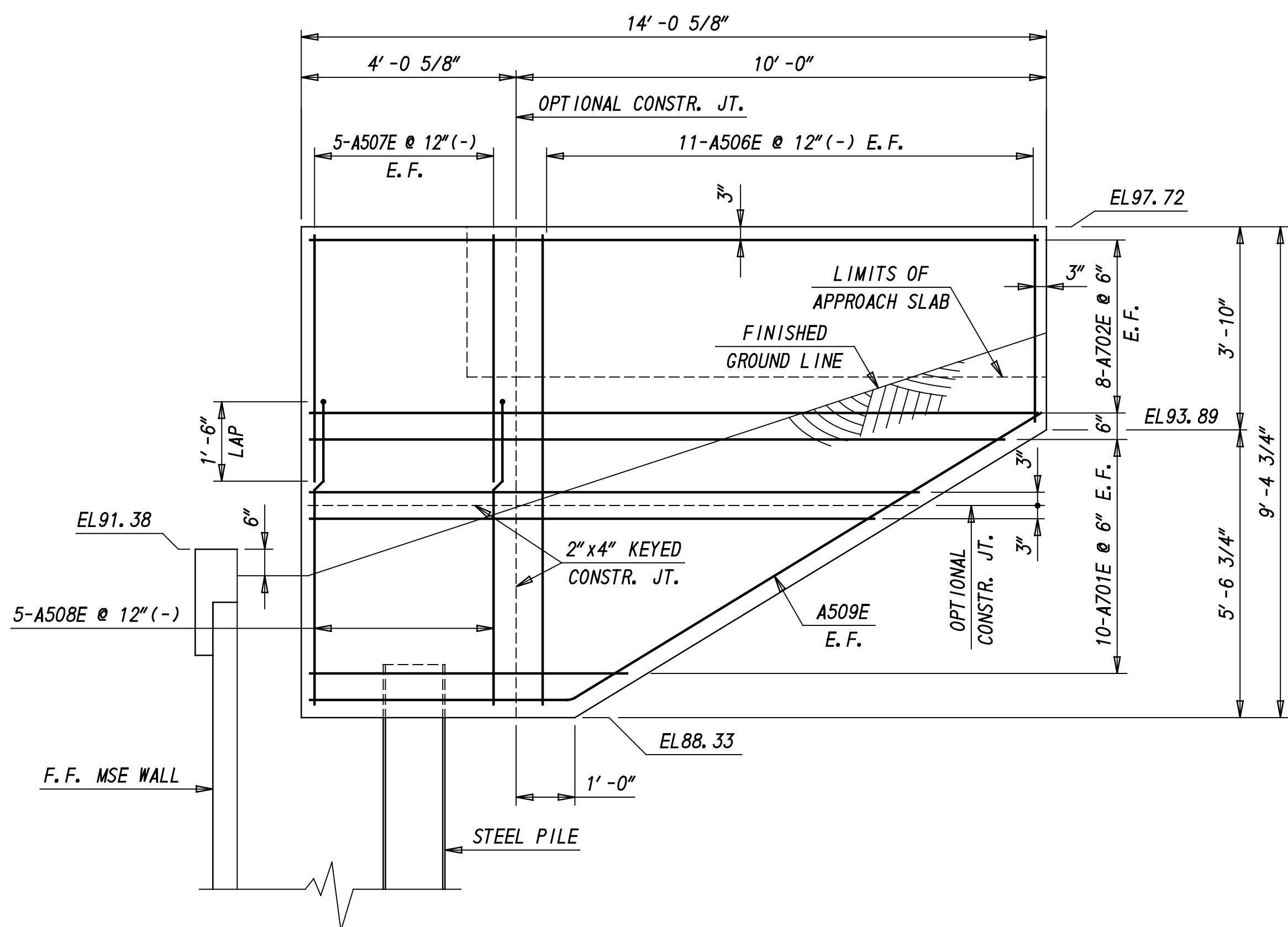
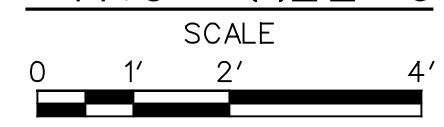
ADDENDUMS / REVISIONS	

CONTRACT T200811301	BRIDGE NO. 1-486
COUNTY NEW CASTLE	DESIGNED BY: J.L.W. CHECKED BY: J.P.F.

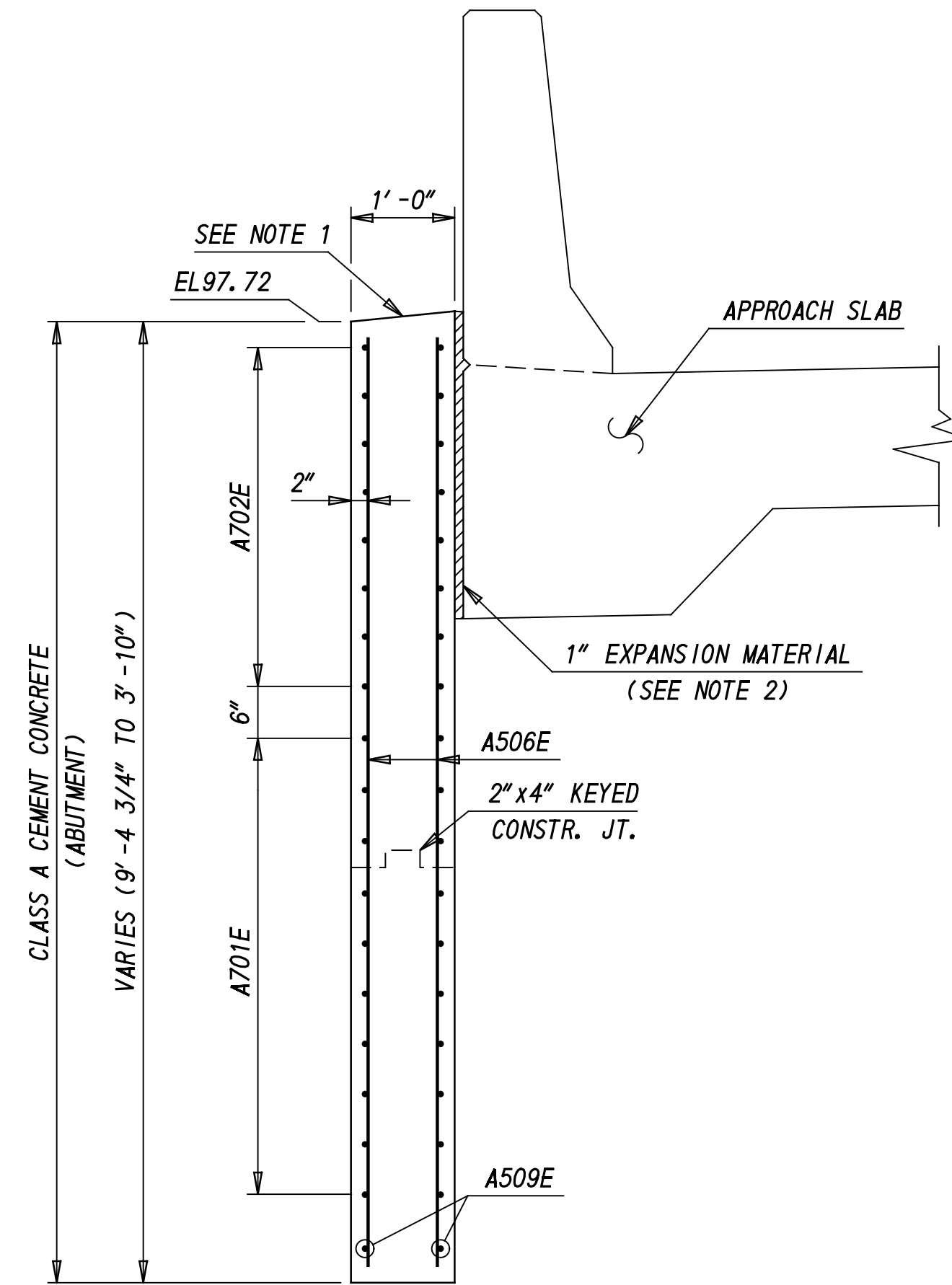
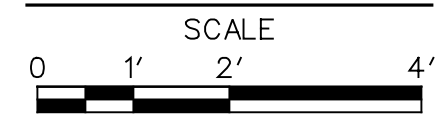
SHEET NO. 272
TOTAL SHTS. 850



WING WALL C



WING WALL D



WING WALL TYPICAL SECTION



- WING WALL NOTES:**
1. SLOPE 1/2" PER FOOT TO PROVIDE POSITIVE DRAINAGE. ELEVATIONS ARE PROVIDED AT THE FRONT EDGE OF THE WING.
 2. 1" EXPANSION MATERIAL SHALL BE INCIDENTAL TO ITEM "602014 - PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D."

REFERENCE:

- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR GEOMETRIC LAYOUT, SEE SHEET BR1-486-04
- FOR ABUTMENT 2 PLAN, SEE SHEET BR1-486-09
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS BR1-486-26, 27

WARNING:

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ADDENDUMS / REVISIONS

CONTRACT T200811301	BRIDGE NO. 1-486
COUNTY NEW CASTLE	DESIGNED BY: J.L.W. CHECKED BY: J.P.F.

ABUTMENT 2 WING WALLS	SHEET NO. 273
	TOTAL SHTS. 850

MSE WALL NOTES:

1. **CONCRETE:**
CONCRETE DESIGN SHALL BE PERFORMED USING LOAD AND RESISTANCE FACTOR DESIGN METHOD.

LEVELING PAD CONCRETE SHALL BE 3000 PSI AND MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
2. **CHAMFERS:**
ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" x 3/4" MILLED CHAMFER STRIPS, UNLESS OTHERWISE NOTED.
3. **REINFORCEMENT STEEL:**
REINFORCEMENT STEEL SHALL CONFORM TO AASHTO M31 (ASTM A 615), GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER THE LRFD BRIDGE DESIGN SPECIFICATIONS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED.

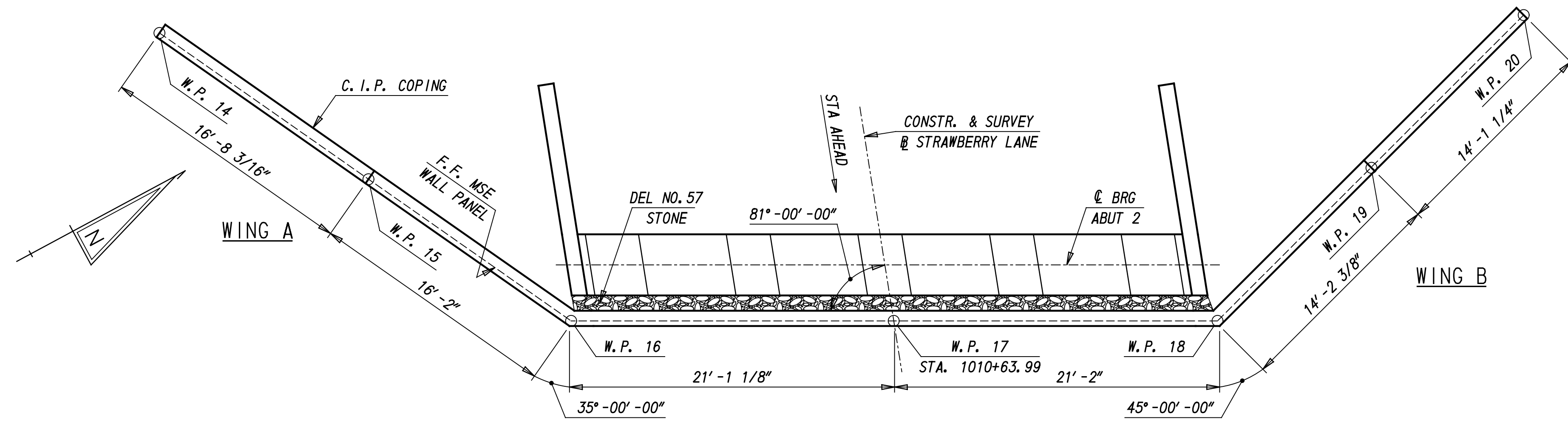
FOR TIES AND STIRRUPS, STANDARD AC BENDING TOLERANCES ARE MODIFIED TO PLUS(+) ZERO INCHES, MINUS(-) NORMAL AC BENDING TOLERANCE.

ONLY GRADE 60 CAN BE USED ON THIS PROJECT.

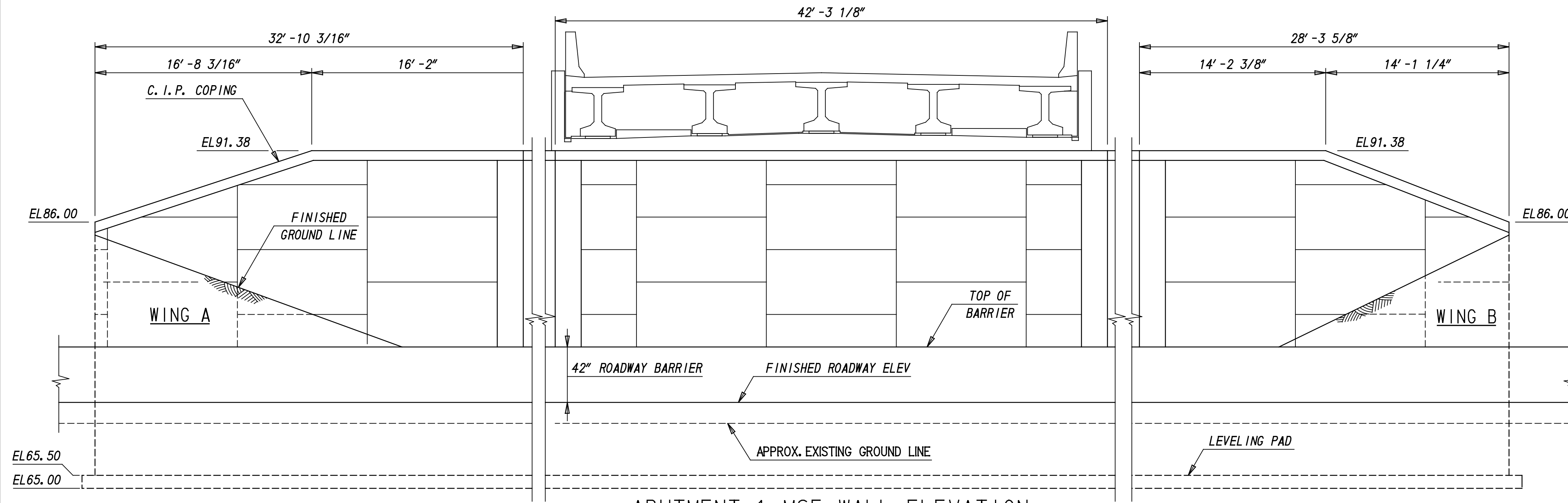
ALL KEYS ARE NORMAL SIZE.

THE MSE WALL MANUFACTURER MAY SUBSTITUTE ALTERNATE REINFORCING CONFIGURATIONS AND SUBMIT FOR APPROVAL.
4. **ROADWAY LIMITS:**
THE PROPRIETARY WALL MANUFACTURER SHALL ASSURE THAT PROPOSED PROPRIETARY WALL COMPONENTS ARE POSITIONED SUCH THAT THE DESIGNATED ROADWAY LIMITS ARE NOT ENCRONCHED UPON.
5. **COORDINATION:**
CONTRACTOR AND PROPRIETARY WALL MANUFACTURER SHALL COORDINATE LOCATION OF MSE STRUCTURE UNDERDRAINS WITH LOCATIONS OF PROPRIETARY WALL TIE BACK SYSTEM.

ALL MSE WALL PLANS AND SHOP DRAWINGS MUST SHOW PILE LOCATION AND ARRANGEMENT OF MSE WALL SOIL REINFORCEMENT ELEMENTS TO AVOID INTERFERENCE WITH PILES. CUTTING SOIL REINFORCING ELEMENTS TO AVOID INTERFERENCE WITH PILES IS NOT PERMITTED.
6. **SERVICE LIFE:**
ALL RETAINING WALL COMPONENTS SHALL BE DESIGNED FOR A MINIMUM SERVICE LIFE OF 100 YEARS.
7. **WALL SYSTEM:**
ONLY ONE MSE WALL SYSTEM MAY BE USED FOR THIS CONTRACT.
8. **EXCAVATION AND BACKFILL:**
EXCAVATION REQUIRED FOR INSTALLATION OF MSE WALL SYSTEMS SHALL BE INCIDENTAL TO ITEM "602772 MECHANICALLY STABILIZED EARTH WALLS". BACKFILL SPACES EXCAVATED FOR MSE WALL AND NOT OCCUPIED BY MSE WALL COMPONENTS OR SPECIFIED BACKFILL, WITH TYPE F MATERIAL.
9. **MSE WALL BACKFILL:**
MSE WALL BACKFILL SHALL CONSIST OF SELECT BACKFILL, IN ACCORDANCE WITH SPECIAL PROVISION "602772 MECHANICALLY STABILIZED EARTH WALLS".
10. **FOUNDATION:**
IF DIRECTED BY THE ENGINEER, REMOVE UNSUITABLE MATERIAL BELOW BOTTOM OF MSE WALL FILL, PLACE GEOTEXTILE AT THE BOTTOM OF THE EXCAVATION AND FILL WITH PROPERLY COMPACTED TYPE B BORROW. EXCAVATION FOR THIS ITEM TO BE PAID FOR UNDER ITEM "207000 - EXCAVATION AND BACKFILLING FOR STRUCTURES" AND FILL TO BE PAID FOR UNDER ITEM "209002 - BORROW, TYPE B". GEOTEXTILE IS TO BE IN ACCORDANCE WITH SECTION 827.06 OF THE DELDOT SPECIFICATIONS AND IS INCIDENTAL TO ITEM "209002 - BORROW, TYPE B".
11. **MSE WALL AESTHETIC TREATMENT:**
THE COMPONENTS OF THE MSE WALLS SHALL HAVE THE AESTHETIC TREATMENT AS IDENTIFIED IN THE SPECIAL PROVISION FOR ITEM 602772.



ABUTMENT 1 MSE WALL PLAN
(NOT TO SCALE)



ABUTMENT 1 MSE WALL ELEVATION
(NOT TO SCALE)

WARNING:

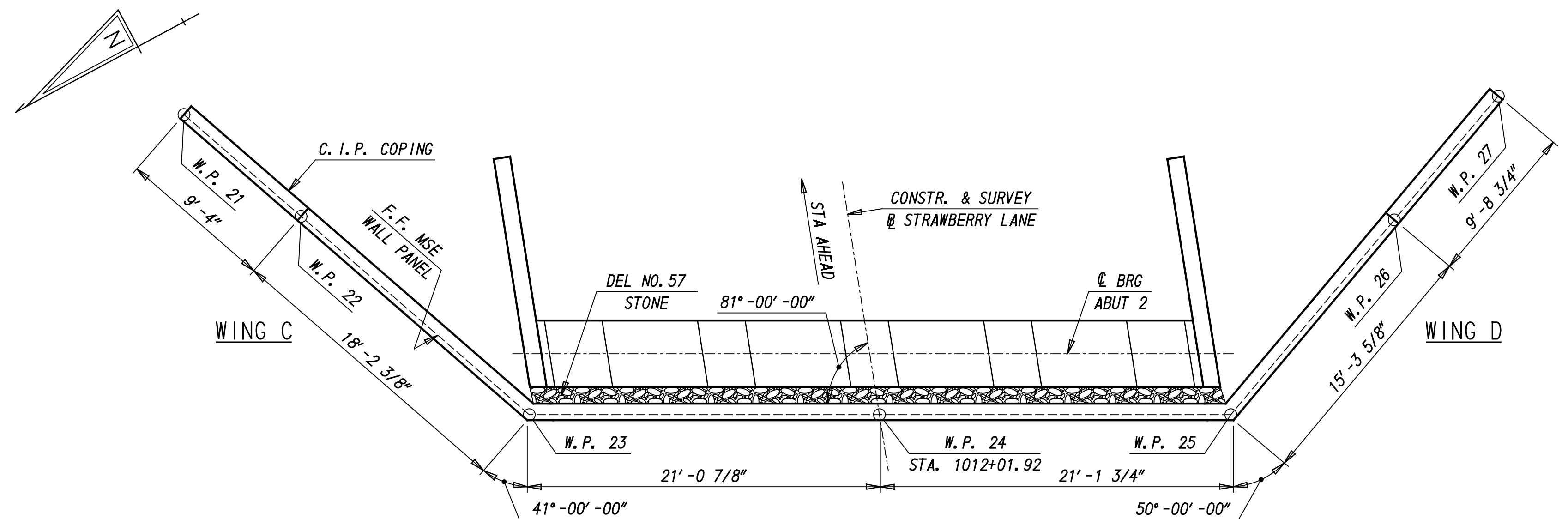
EXISTING OVERHEAD HIGH VOLTAGE POWER LINES ARE IN THE VICINITY OF THE BRIDGE CONSTRUCTION. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTORS CRANES AND OTHER HEAVY EQUIPMENT SHALL MAINTAIN A CLEAR RADIUS OF TWENTY (20) FEET PLUS AN ADDITIONAL TWENTY (20) FEET HORIZONTALLY FOR BLOWOUT FROM THE OVERHEAD HIGH VOLTAGE POWER LINES. DURING CONSTRUCTION OPERATIONS, IT IS THE CONTRACTORS OBLIGATION TO VERIFY THE EXACT LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS.

REFERENCE:

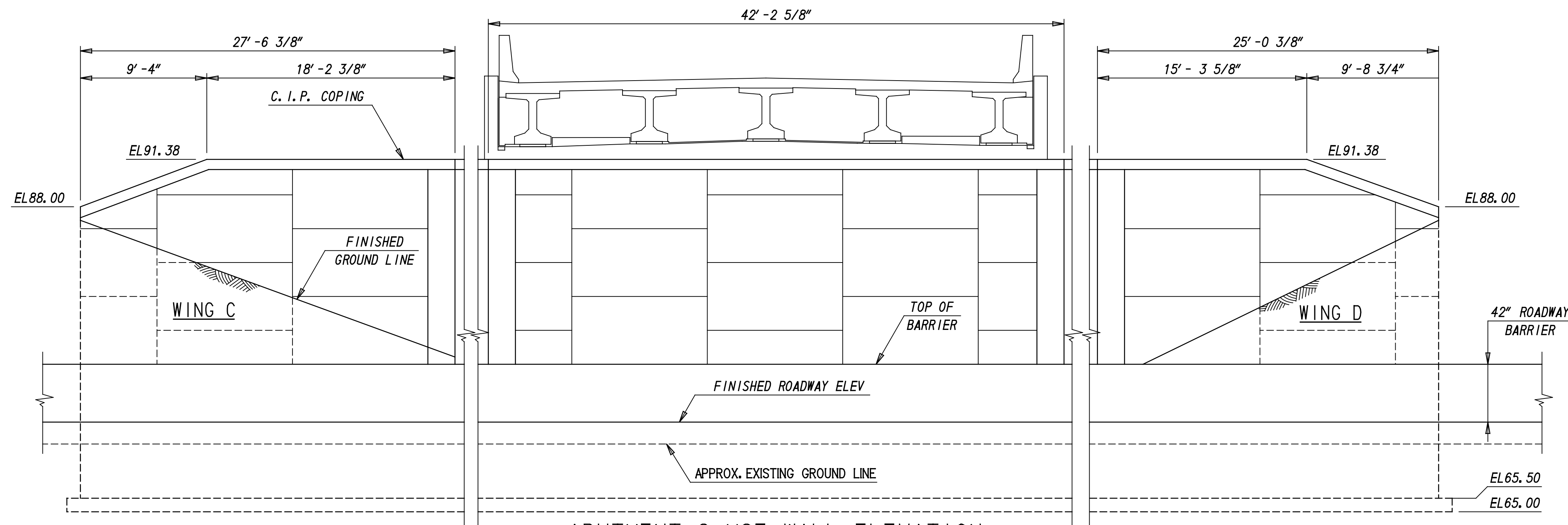
- FOR GENERAL PLAN, SEE SHEET BR1-486-01
- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR GEOMETRIC LAYOUT, SEE SHEET BR1-486-04
- FOR ABUTMENT 1 DETAILS, SEE SHEET BR1-486-07
- FOR MSE WALL SECTION, SEE SHEET BR1-486-13

ADDENDUMS / REVISIONS	

CONTRACT	BRIDGE NO.	1-486
T200811301	DESIGNED BY:	JLW
COUNTY	CHECKED BY:	JPF
NEW CASTLE		



ABUTMENT 2 MSE WALL PLAN
(NOT TO SCALE)



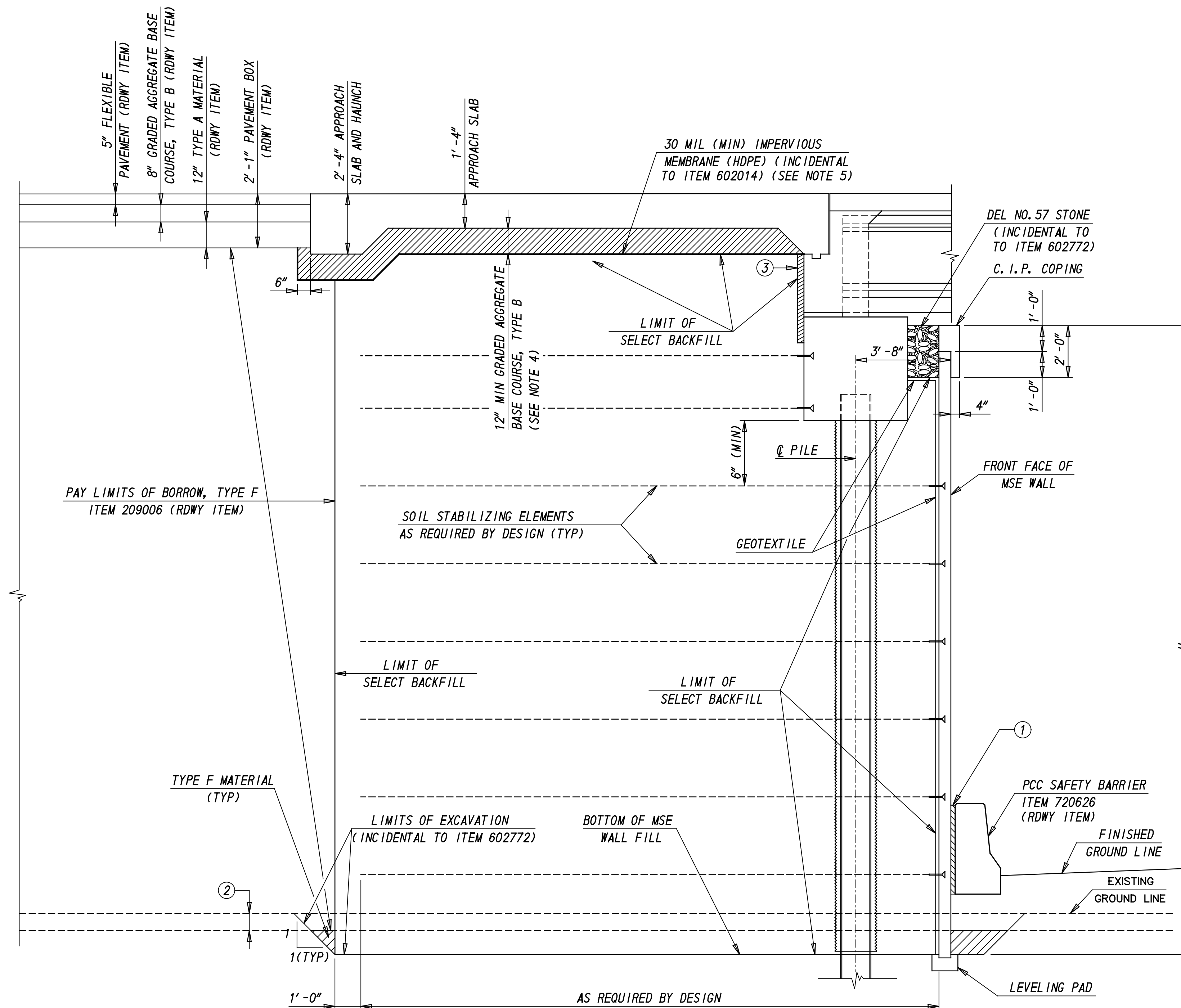
ABUTMENT 2 MSE WALL ELEVATION
(NOT TO SCALE)

REFERENCE:

- FOR GENERAL PLAN, SEE SHEET BR1-486-01
- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR GEOMETRIC LAYOUT, SEE SHEET BR1-486-04
- FOR ABUTMENT 2 DETAILS, SEE SHEET BR1-486-09
- FOR MSE WALL NOTES, SEE SHEET BR1-486-11
- FOR MSE WALL SECTION, SEE SHEET BR1-486-13
- FOR ADDITIONAL WATERPROOFING AND SYROFOAM DETAILS BETWEEN THE ABUTMENT AND END DIAPHRAGMS, SEE SHEET BR1-486-18.

WARNING:

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TYPICAL SECTION AT ABUTMENT
(NOT TO SCALE)

NOTES:

1. PLACE 1" THICK STYROFOAM BOARD AT THE FRONT FACE OF THE MSE WALL ADJACENT TO THE 42 INCH ROADWAY BARRIER, ITEM 720626 (ROADWAY ITEM). STYROFOAM BOARD SHALL BE INCIDENTAL TO ITEM 720626 (ROADWAY ITEM). POSITION FRONT EDGE OF ROADWAY BARRIER TO MAINTAIN A 14 FOOT SHOULDER. CAST THE ROADWAY BARRIER AGAINST THE STYROFOAM BOARD WITH THE WIDTH OF THE BARRIER VARYING OVER THE LENGTH OF THE MSE WALL.
2. LIMITS OF TOPSOIL TO BE REMOVED UNDER ITEM 202000 (ROADWAY ITEM) (APPROXIMATE DEPTH=8").
3. 1" THICK STYROFOAM. SEE SHEET BR1-486-18 FOR FURTHER DETAILS.
4. PAYMENT FOR 12" MIN GRADED AGGREGATE BASE COURSE, TYPE B BENEATH THE APPROACH SLAB SHALL BE INCIDENTAL TO ITEM "602014 - PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D".
5. HIGH DENSITY POLYETHYLENE (HDPE):
PHYSICAL REQUIREMENTS:
*DENSITY: 59 POUNDS PER CUBIC FOOT (MINIMUM), ASTM D 1505
*UV STABILIZATION: 2% CARBON BLACK, ASTM D1603
*SHEET THICKNESS: 30 MILS (MINIMUM), ASTM D1599
*TEAR RESISTANCE: 22 POUNDS, ASTM D1004
*RESISTANCE SOIL BURIAL: 90% RETAINED STRENGTH, ASTM D3083
*MINIMUM ROLL WIDTH: 20 FEET (MINIMUM)

REFERENCE:

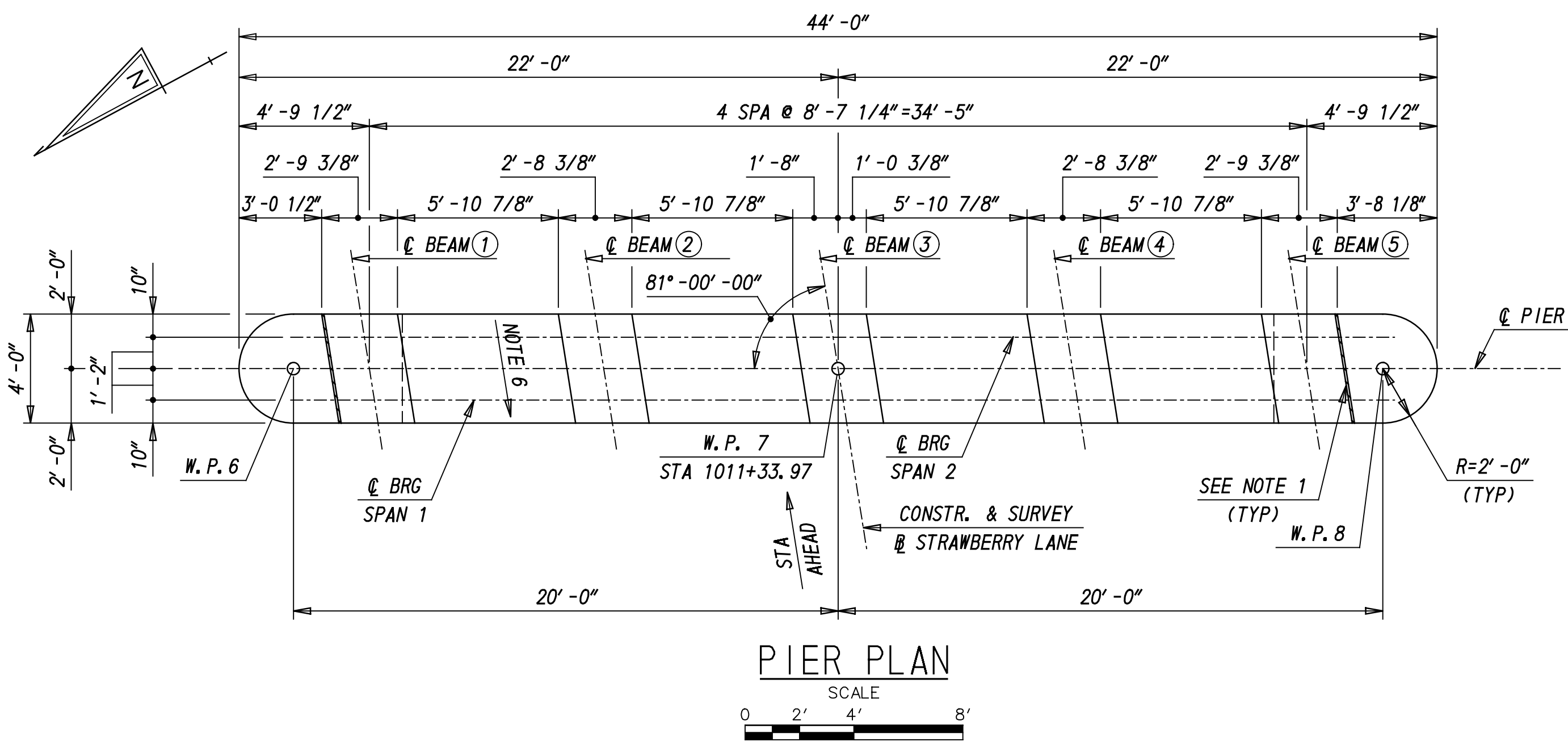
- FOR GENERAL PLAN, SEE SHEET BR1-486-01
- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR GEOMETRIC LAYOUT, SEE SHEET BR1-486-04
- FOR ABUTMENT 1 MSE WALL PLAN, SEE SHEET BR1-486-11
- FOR MSE WALL NOTES, SEE SHEET BR1-486-11
- FOR ABUTMENT 2 MSE WALL PLAN, SEE SHEET BR1-486-12
- FOR ADDITIONAL WATERPROOFING AND SYROFOAM DETAILS BETWEEN THE ABUTMENT AND END DIAPHRAGMS, SEE SHEET BR1-486-18

WARNING:

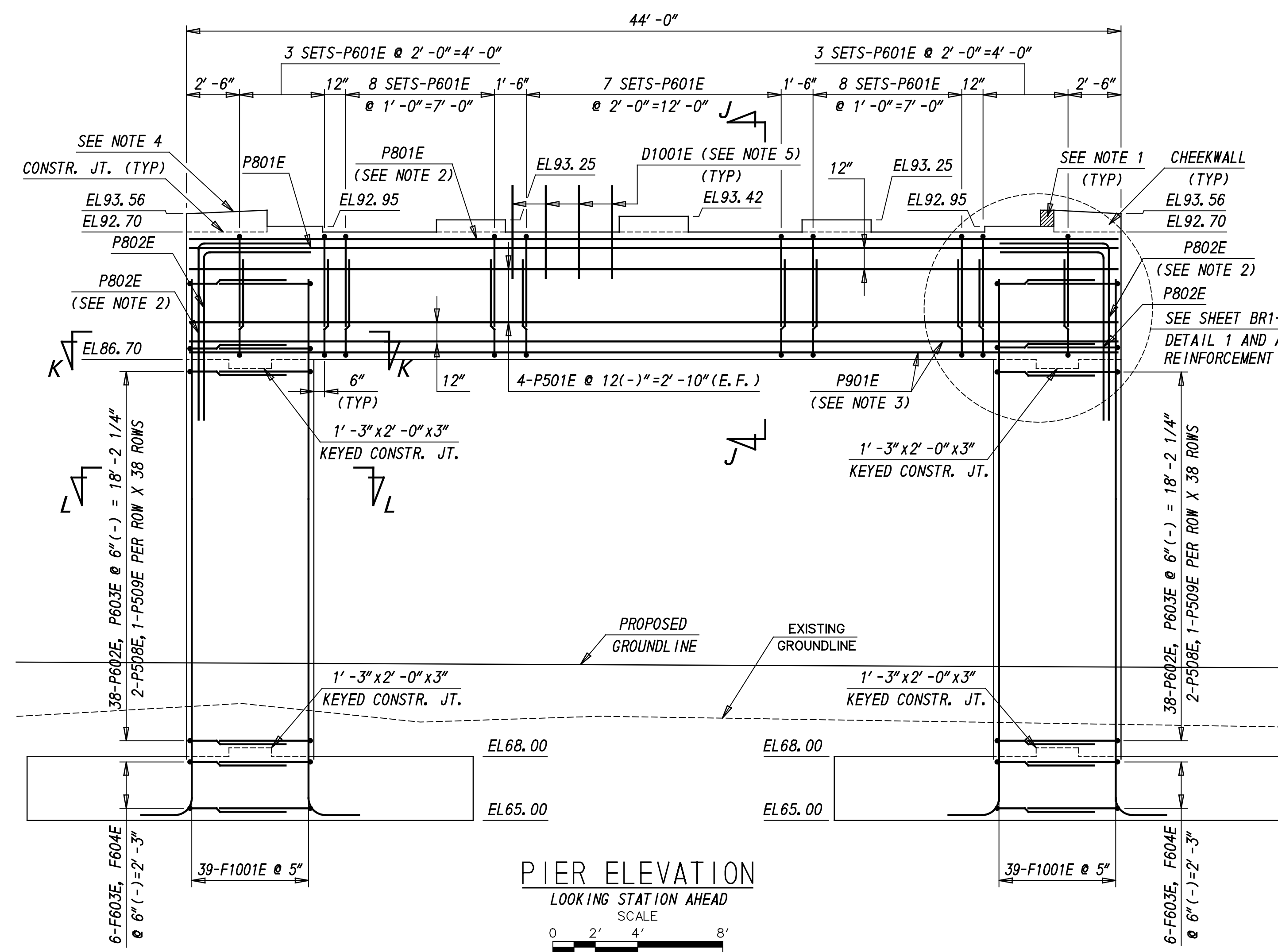
EXISTING OVERHEAD HIGH VOLTAGE POWER LINES ARE IN THE VICINITY OF THE BRIDGE CONSTRUCTION. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTORS CRANES AND OTHER HEAVY EQUIPMENT SHALL MAINTAIN A CLEAR RADIUS OF TWENTY (20) FEET PLUS AN ADDITIONAL TWENTY (20) FEET HORIZONTALLY FOR BLOWOUT FROM THE OVERHEAD HIGH VOLTAGE POWER LINES. DURING CONSTRUCTION OPERATIONS, IT IS THE CONTRACTORS OBLIGATION TO VERIFY THE EXACT LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS.

PIER NOTES:

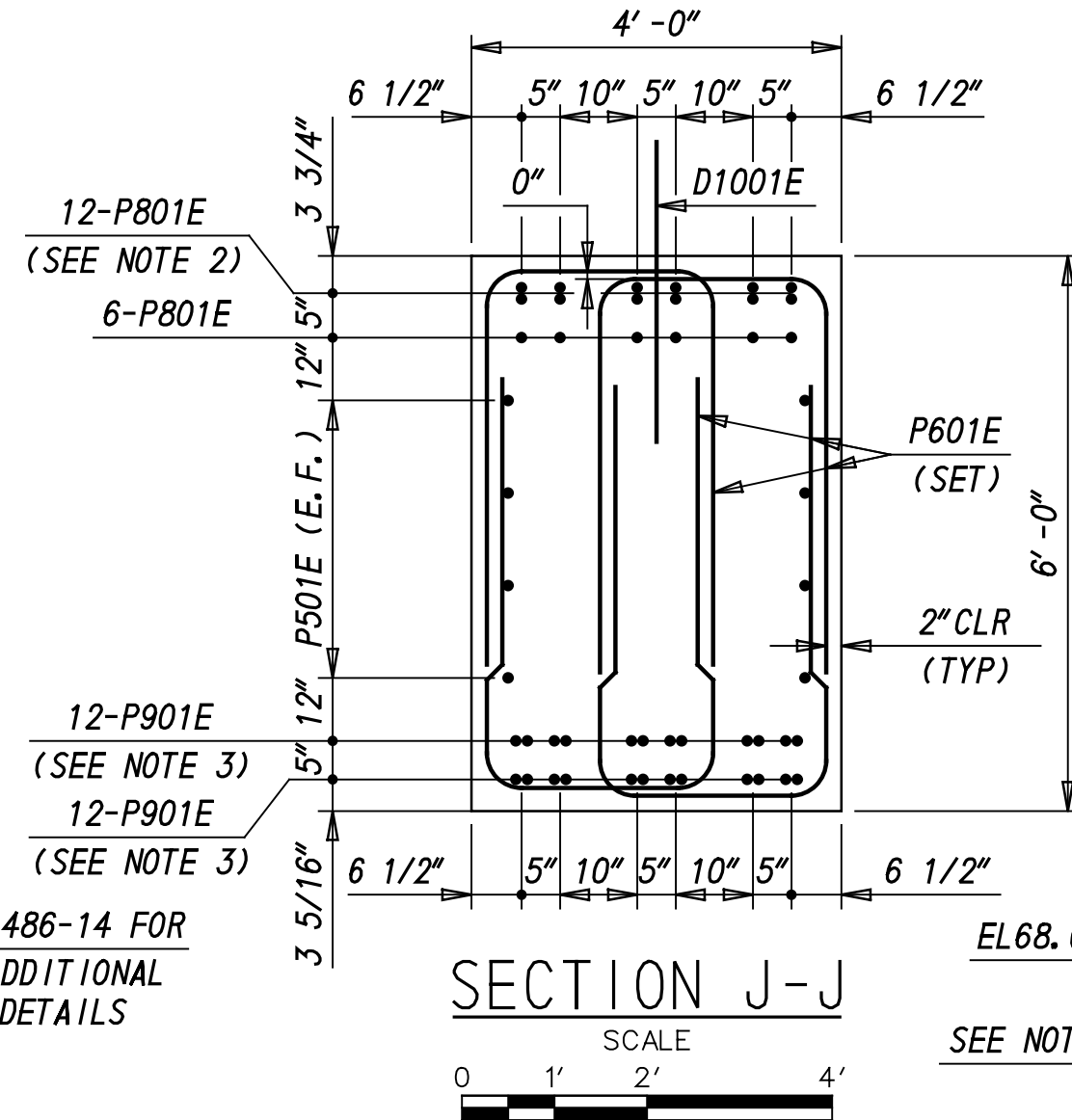
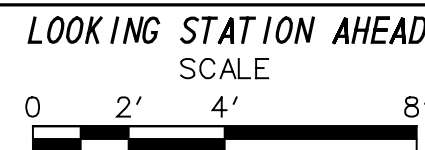
- 1" EXPANSION MATERIAL POSITIONED FLUSH AGAINST THE BOTTOM FLANGE OF THE FASCIA BEAMS PRIOR TO CASTING CHEEKWALL. EXPANSION MATERIAL SHALL BE INCIDENTAL TO ITEM "602007 - PORTLAND CEMENT CONCRETE MASONRY, PIER ABOVE FOOTING, CLASS A."
- 6 BUNDLES OF 2 BARS POSITIONED IN LINE VERTICALLY.
- 6 BUNDLES OF 2 BARS POSITIONED IN LINE HORIZONTALLY.
- FINISH CHEEKWALL SLOPED 1" PER 1'-0" FROM TOP OF THE FASCIA BEAM BOTTOM FLANGE.
- FOUR DOWEL BARS TYPICAL BETWEEN BEARING PEDESTALS AND CAST WITH PIER CAP. REMAINDER OF DOWEL BARS NOT SHOWN FOR CLARITY, SEE DIAPHRAGM DETAILS ON SHEET 19 FOR SPACING. SEE SHEET 15 FOR DOWEL DETAIL.
- SLOPE BEAM SEAT 1/4" PER FOOT FROM CENTERLINE PIER TO FACE OF PIER BETWEEN BEARING AREAS.
- TIE TOP AND BOTTOM MATS OF REINFORCEMENT STEEL WITH F501E TIE BARS. ALTERNATE 90° AND 135° HOOKS AT TOP IN ALTERNATE TIES.
- IF DIRECTED BY THE ENGINEER, REMOVE UNSUITABLE MATERIAL BELOW BOTTOM OF FOOTING ELEVATION, PLACE GEOTEXTILE AT THE BOTTOM OF THE EXCAVATION AND FILL WITH DELDOT NO. 57 STONE. EXCAVATION FOR THIS ITEM TO BE FOR UNDER ITEM "207000 - EXCAVATION AND BACKFILLING FOR STRUCTURES". DELDOT NO. 57 STONE TO BE IN ACCORDANCE WITH SECTION 608 OF THE DELDOT SPECIFICATIONS AND PAID UNDER ITEM "608000 - COARSE AGGREGATE FOR FOUNDATION STABILIZATION AND SUBFOUNDATION BACKFILL". GEOTEXTILE IS TO BE IN ACCORDANCE WITH SECTION 827.06 OF THE DELDOT SPECIFICATIONS AND IS INCIDENTAL TO ITEM "608000 - COARSE AGGREGATE FOR FOUNDATION STABILIZATION AND SUBFOUNDATION BACKFILL".



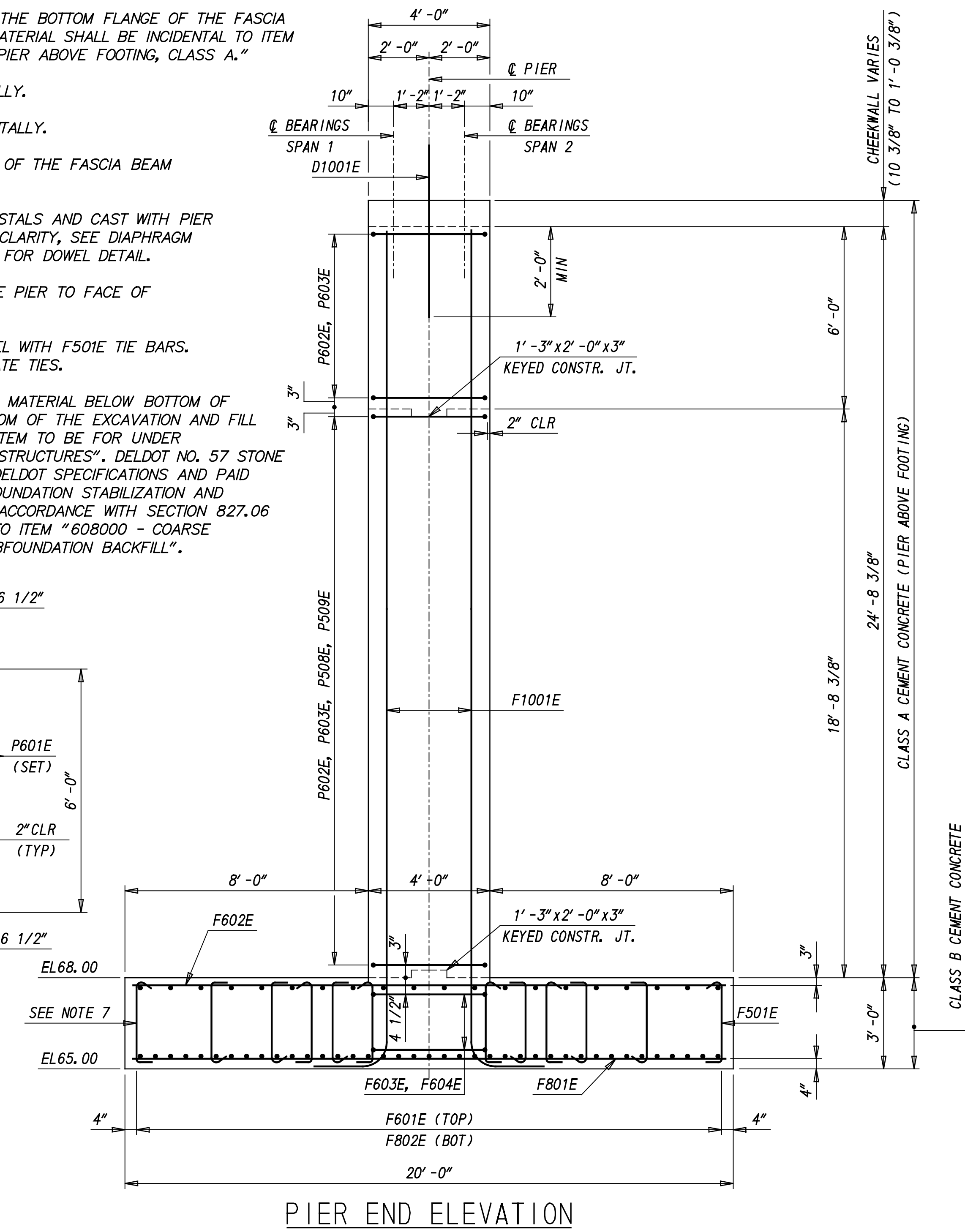
PIER PLAN



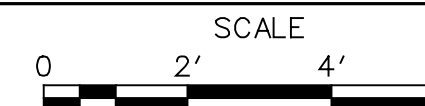
PIER ELEVATION



SECTION J-J



PIER END ELEVATION



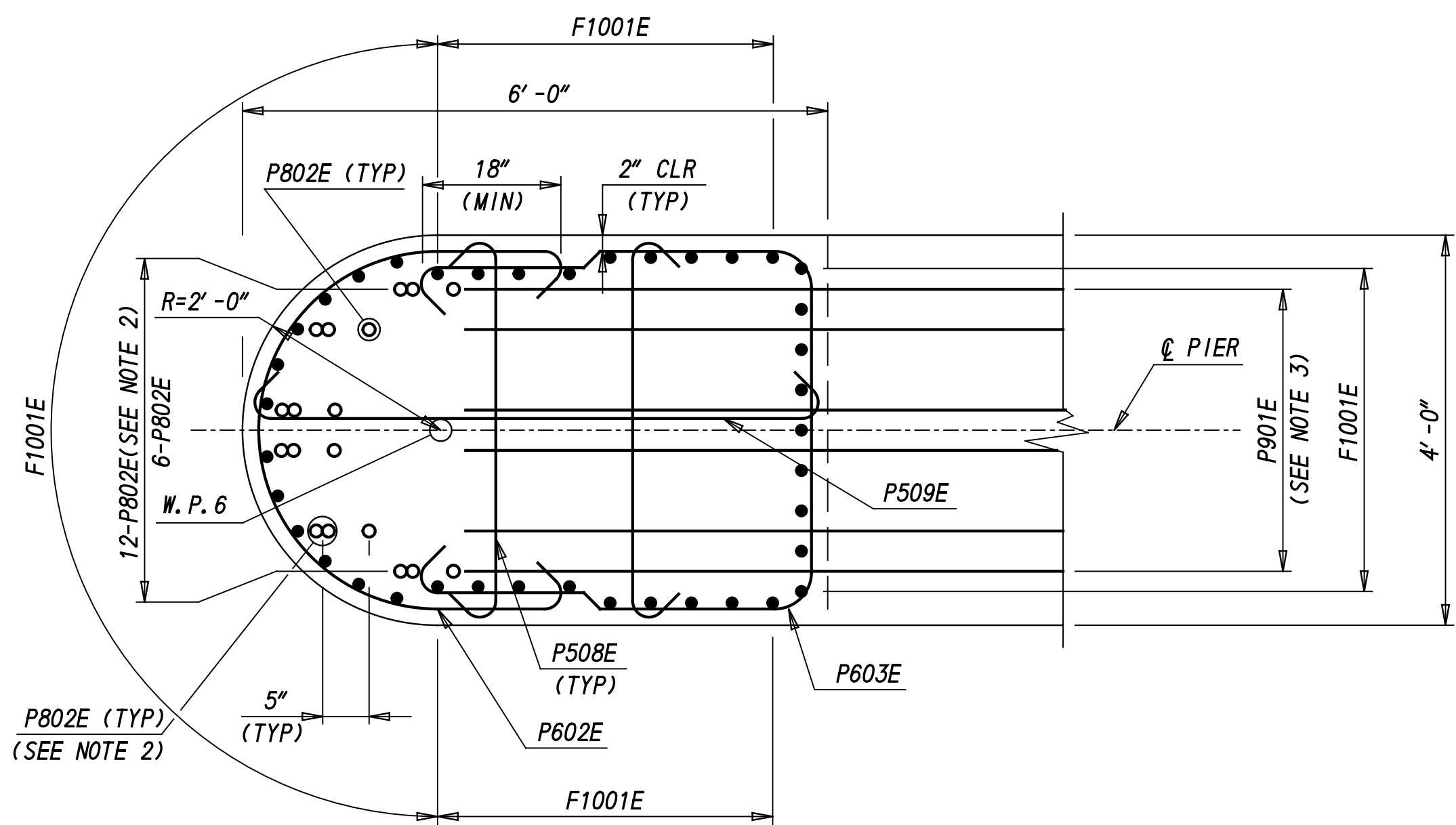
FOUNDATION DESIGN SUMMARY		
BEARING	CONTROLLING LIMIT STATE	EXTREME II
	UNIFORM PRESSURE (KSF)	4.81
	BEARING RESISTANCE (KSF)	10.37
SLIDING	CONTROLLING LIMIT STATE	EXTREME II
	LATERAL FORCE (KIP)	472.82
	LATERAL RESISTANCE (KIP)	544.31

REFERENCE:

- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR GEOMETRIC LAYOUT, SEE SHEET BR1-486-04
- FOR SECTIONS K-K AND L-L, SEE SHEET BR1-486-15
- FOR PIER FOOTING PLAN AND DETAILS, SEE SHEET BR1-486-15
- FOR PEDESTAL DETAILS, SEE SHEET BR1-486-15
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS BR1-486-26, 27

WARNING:

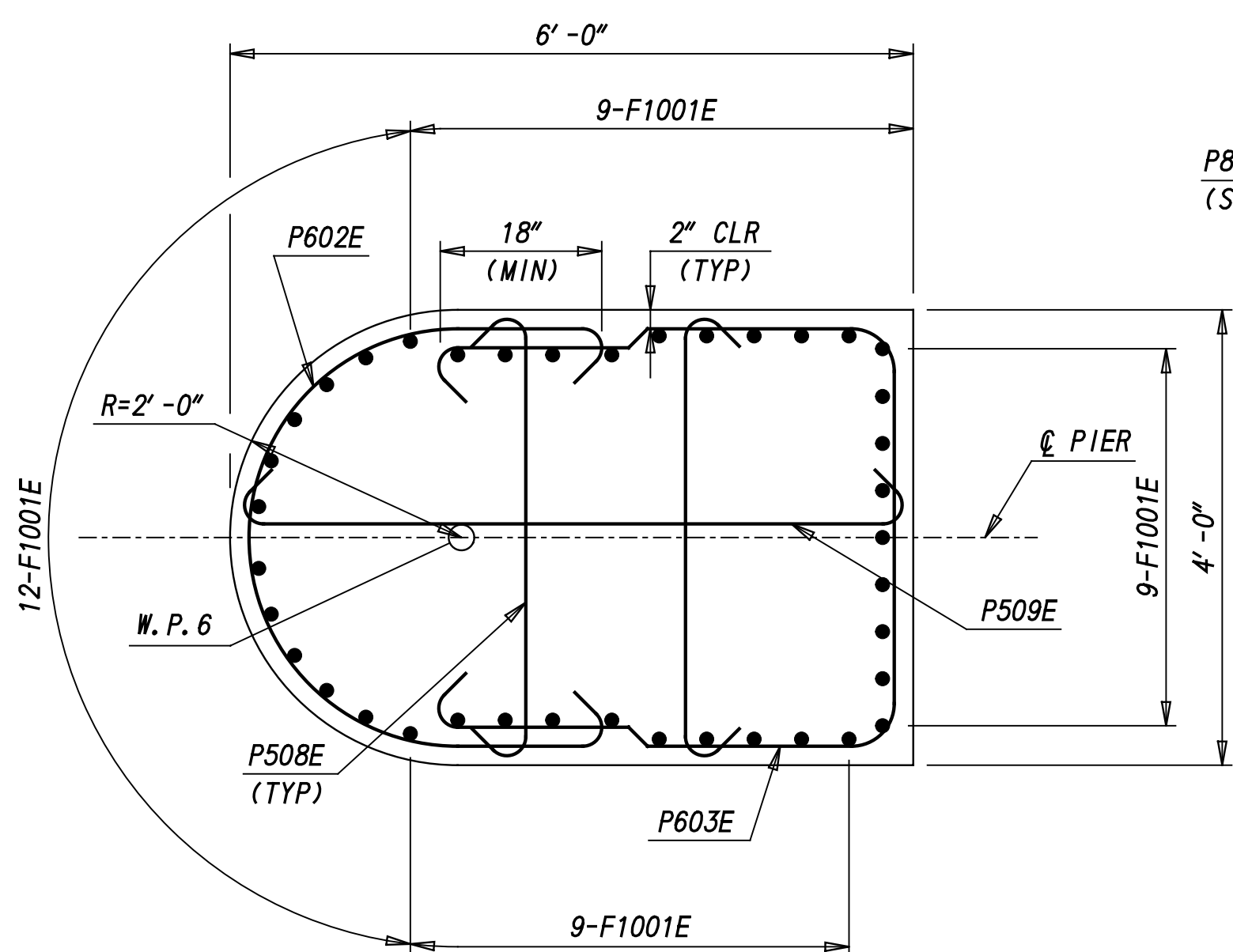
EXISTING OVERHEAD HIGH VOLTAGE POWER LINES ARE IN THE VICINITY OF THE BRIDGE CONSTRUCTION. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTORS CRANES AND OTHER HEAVY EQUIPMENT SHALL MAINTAIN A CLEAR RADIUS OF TWENTY (20) FEET PLUS AN ADDITIONAL TWENTY (20) FEET HORIZONTALLY FOR BLOWOUT FROM THE OVERHEAD HIGH VOLTAGE POWER LINES. DURING CONSTRUCTION OPERATIONS, IT IS THE CONTRACTORS OBLIGATION TO VERIFY THE EXACT LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS.



SECTION K-K

SCALE
0 1' 2' 3'

- DENOTES COLUMN REINFORCEMENT
- DENOTES CORNER SPLICE REINFORCEMENT

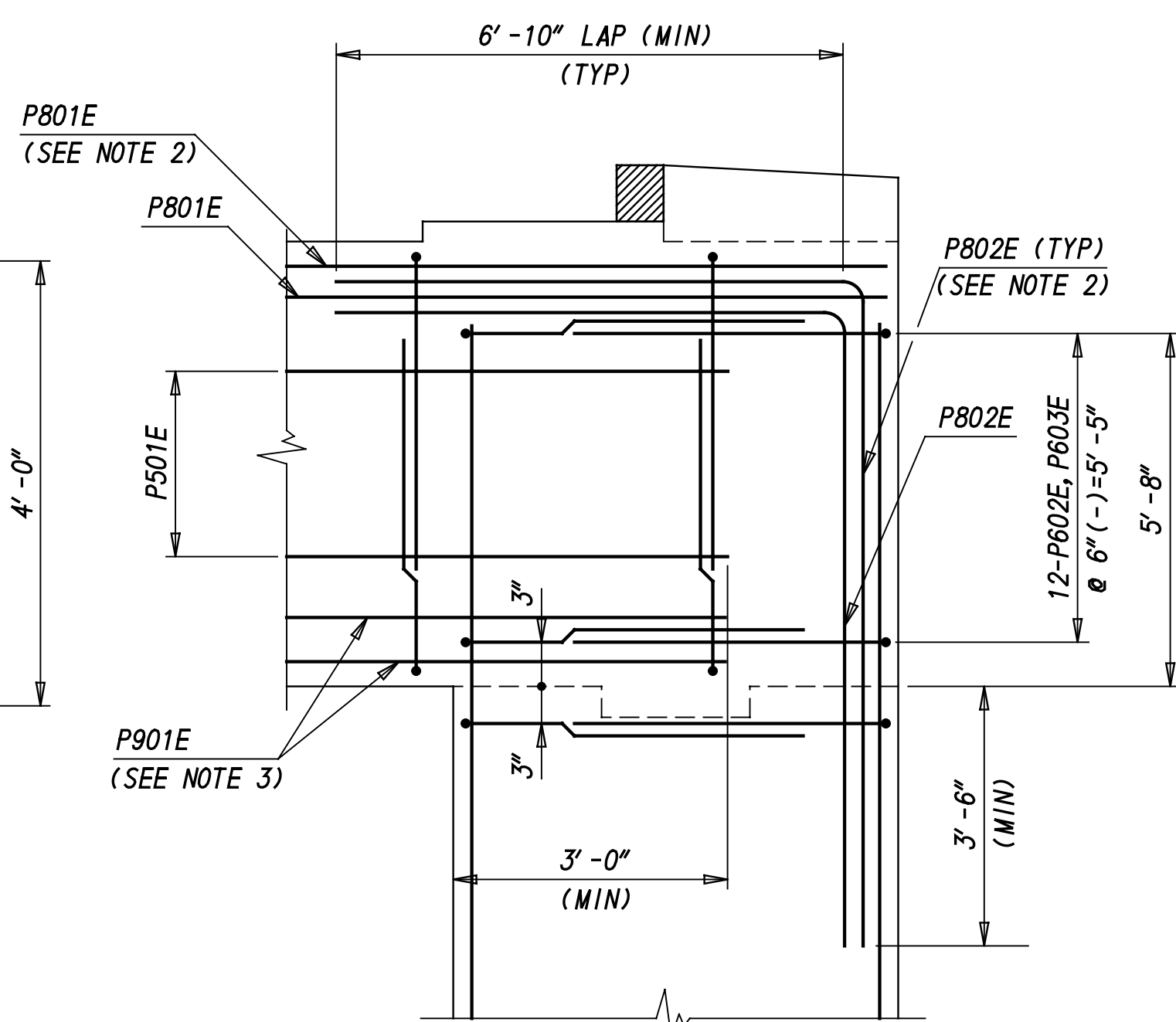


SECTION L-L

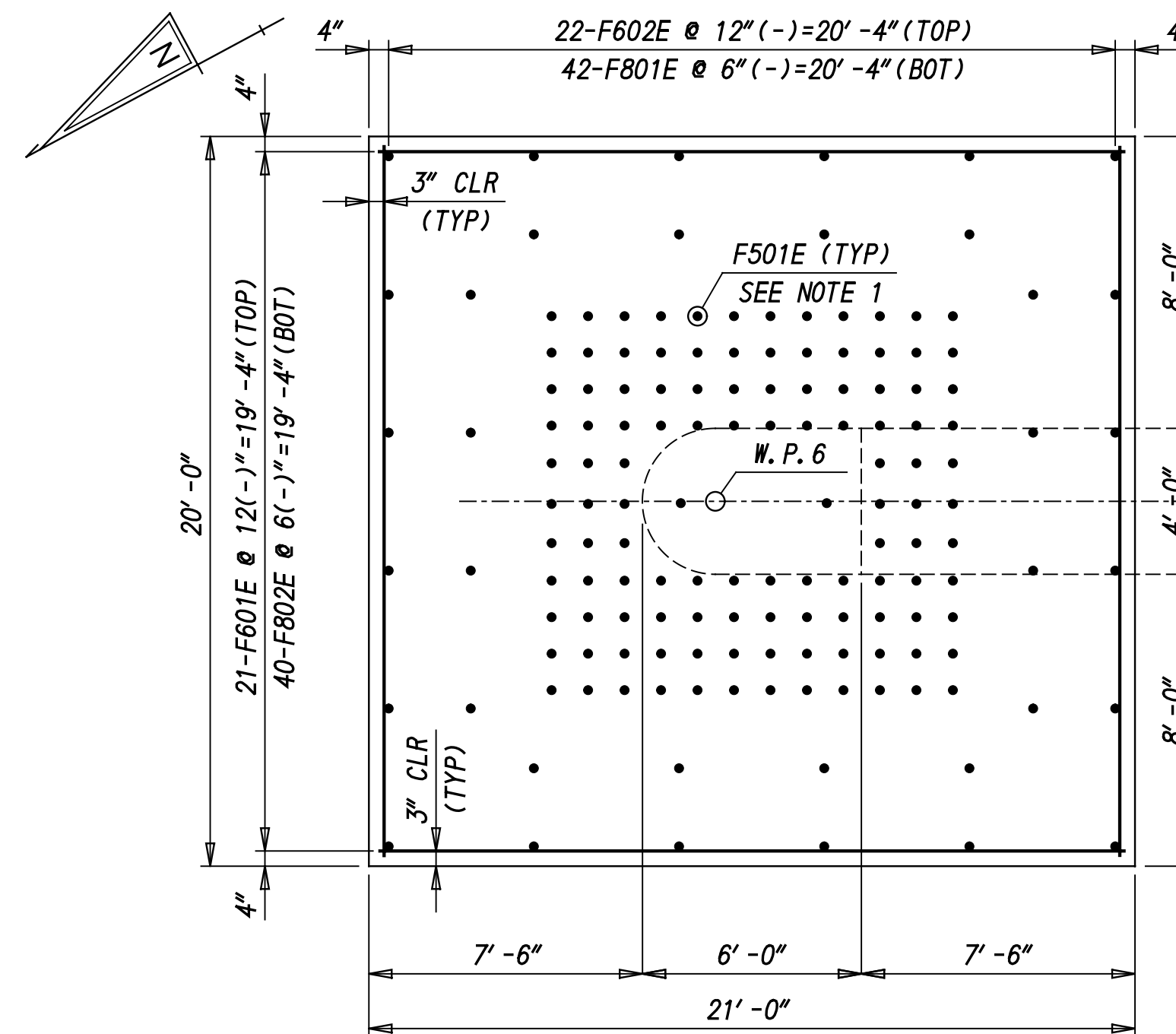
SCALE
0 1' 2' 3'

NOTES:

1. PROVIDE F501E TIE BARS HOOKED AT THE TOP AND BOTTOM MAT AT 12" MAXIMUM SPACING IN EACH DIRECTION WITHIN 3'-0" OF COLUMN FACE. PROVIDE TIES IN ALL OTHER LOCATIONS IN THE FOOTING AT A 4'-0" MAXIMUM SPACING IN EACH DIRECTION.
2. 6 BUNDLES OF 2 BARS POSITIONED IN LINE VERTICALLY.
3. 6 BUNDLES OF 2 BARS POSITIONED IN LINE HORIZONTALLY.

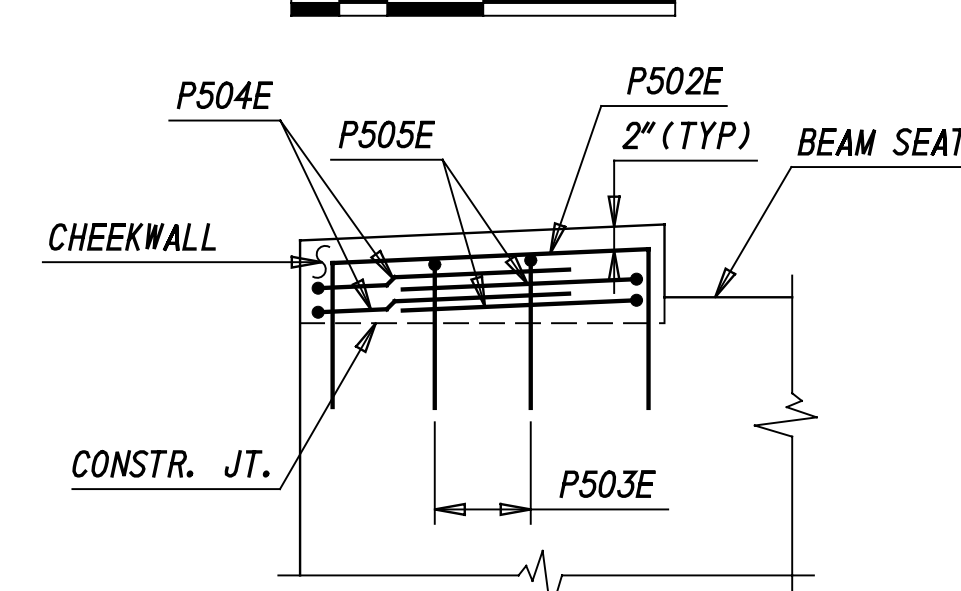


DETAIL 1
(NOT TO SCALE)



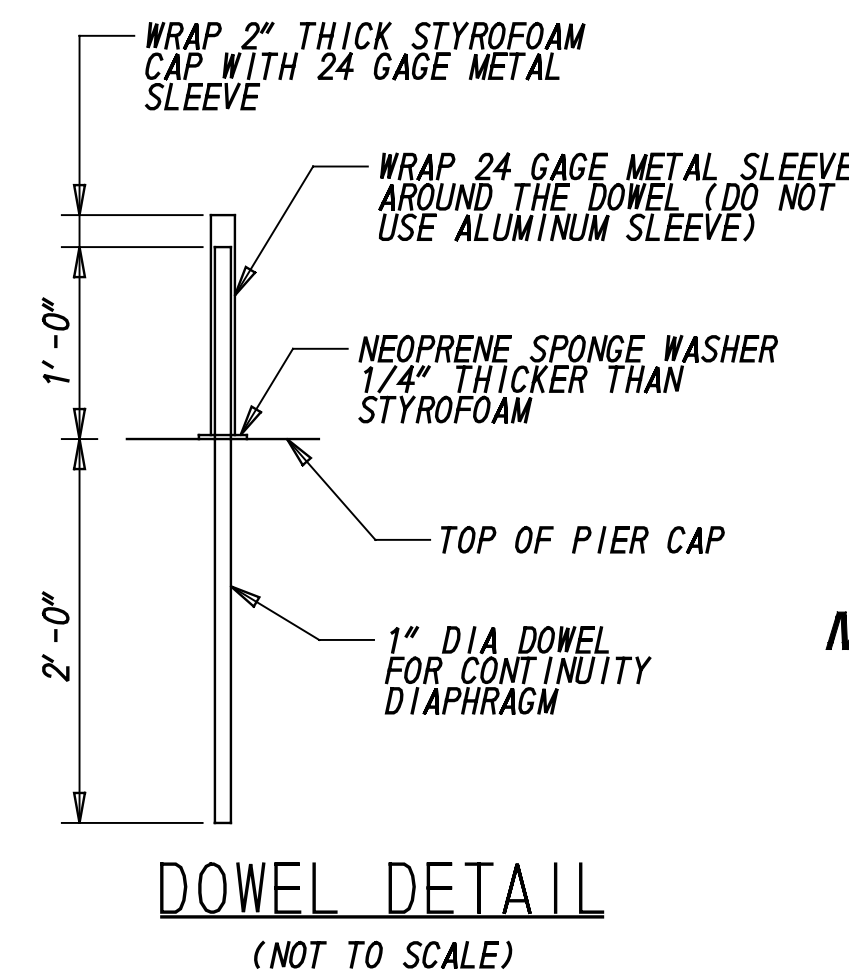
PIER FOOTING PLAN

SCALE
0 2' 4' 8'

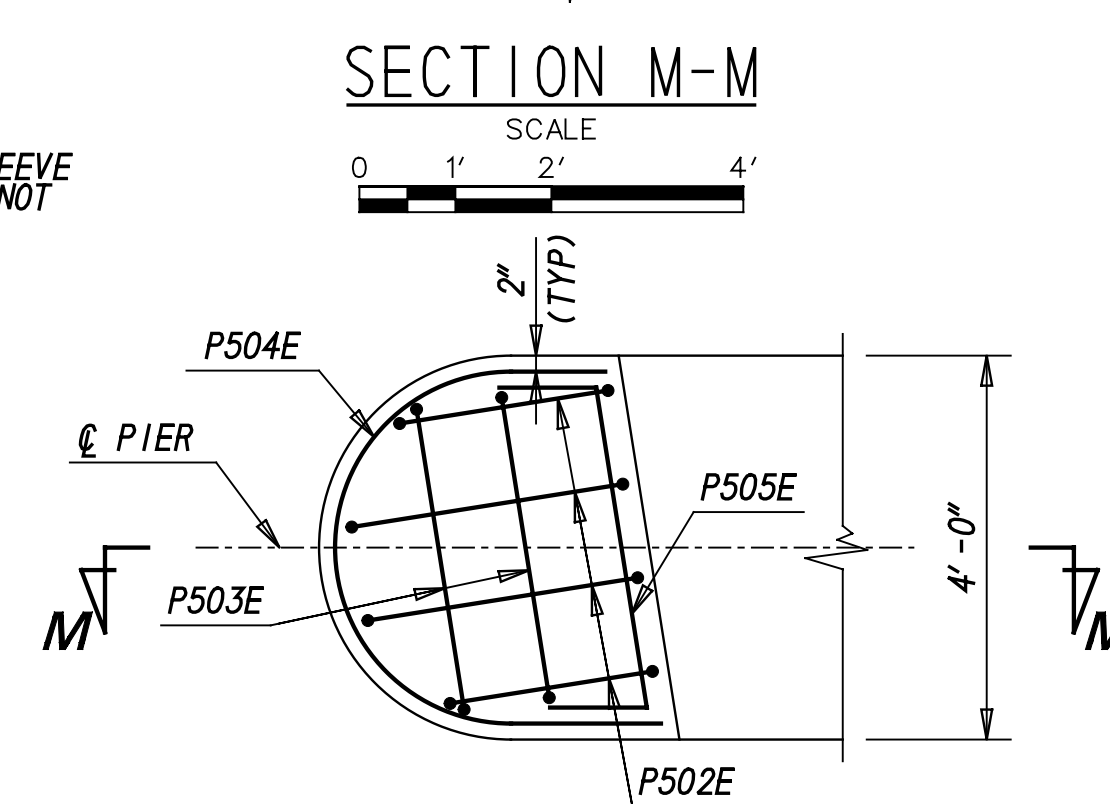


SECTION M-M

SCALE
0 1' 2' 4'

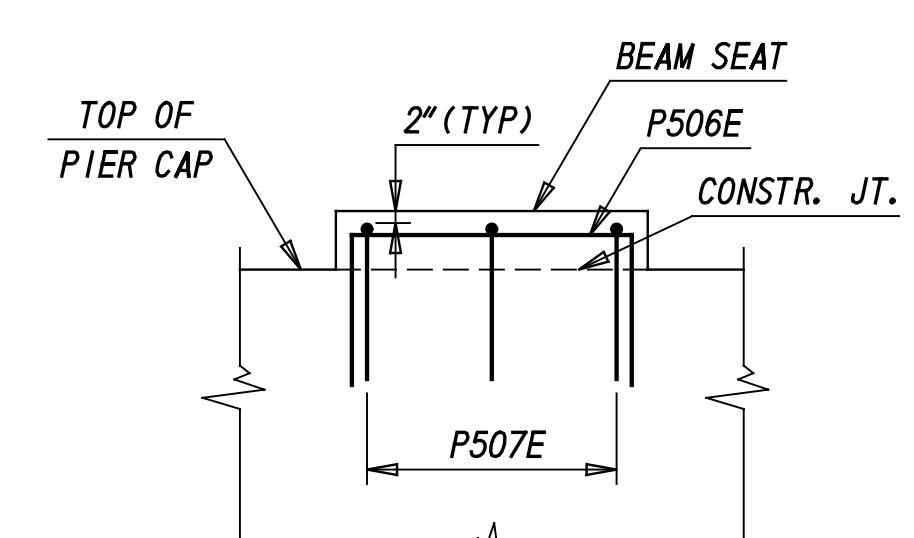
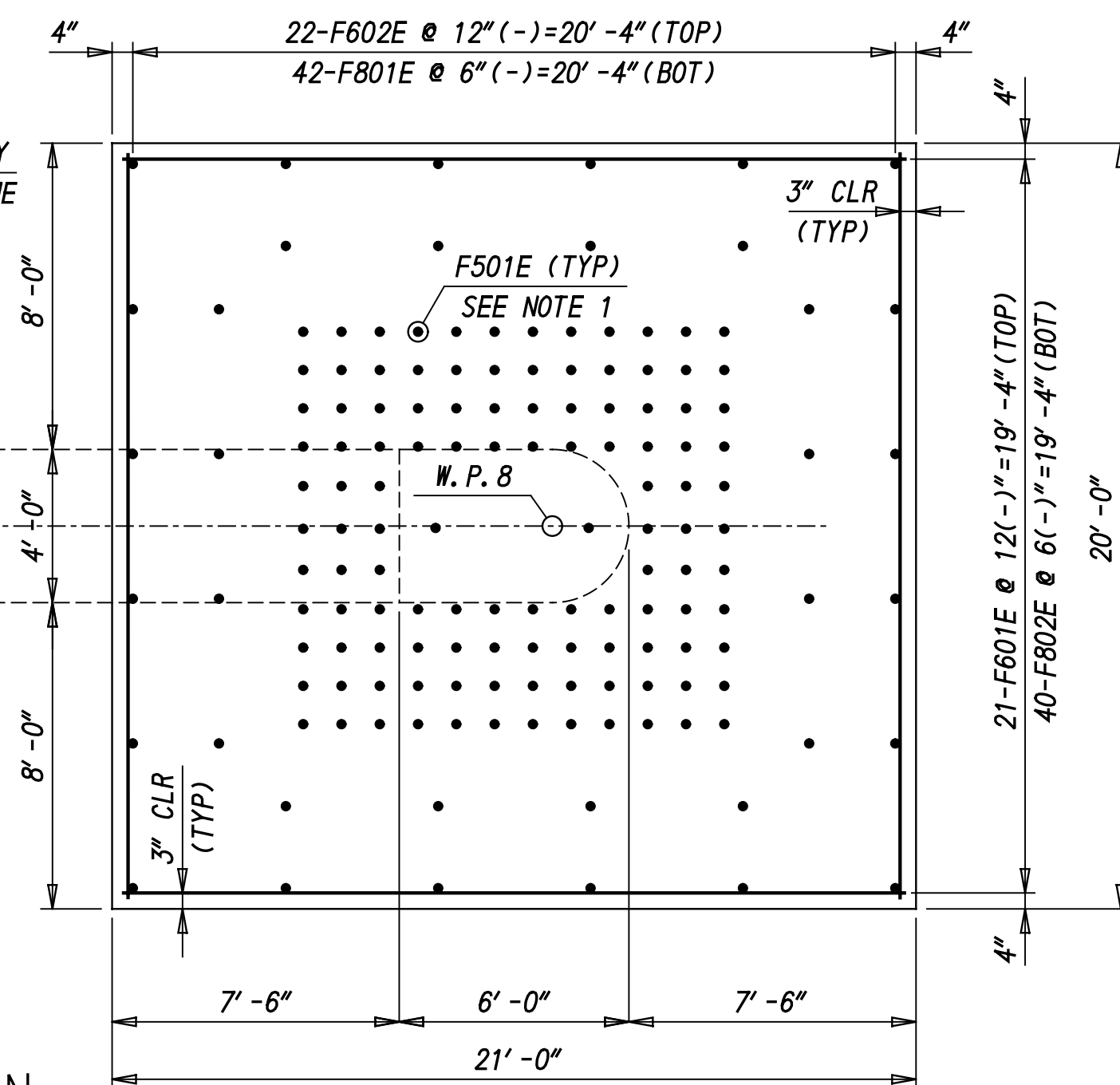


DOWEL DETAIL
(NOT TO SCALE)



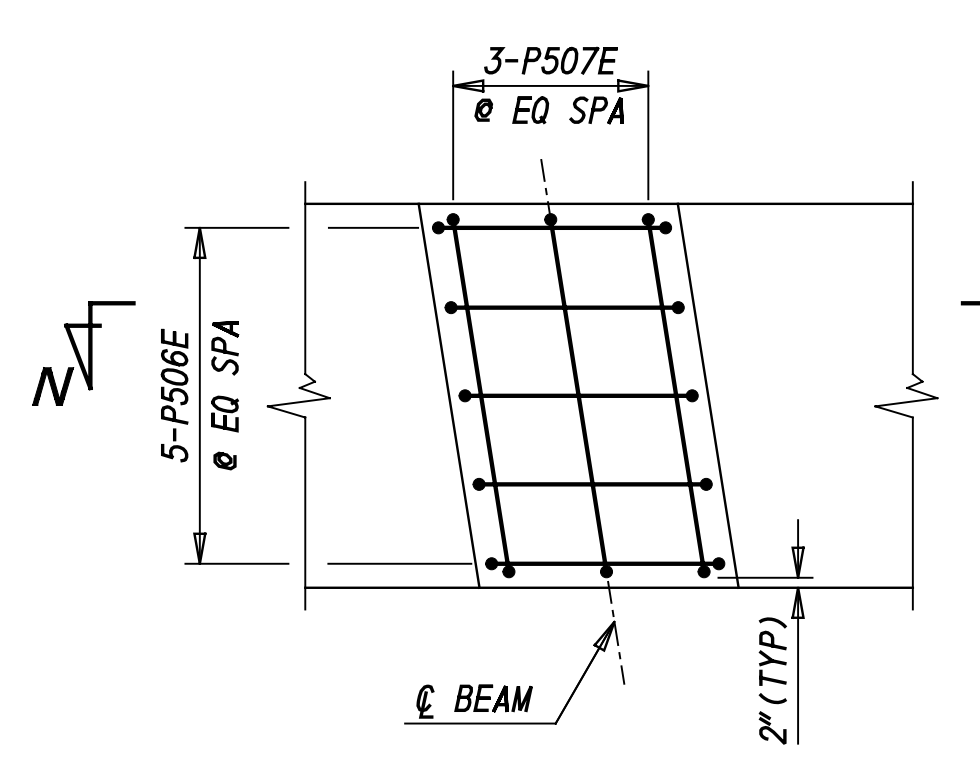
CHEEKWALL PLAN

SCALE
0 1' 2' 4'



SECTION N-N

SCALE
0 1' 2' 4'



PEDESTAL PLAN

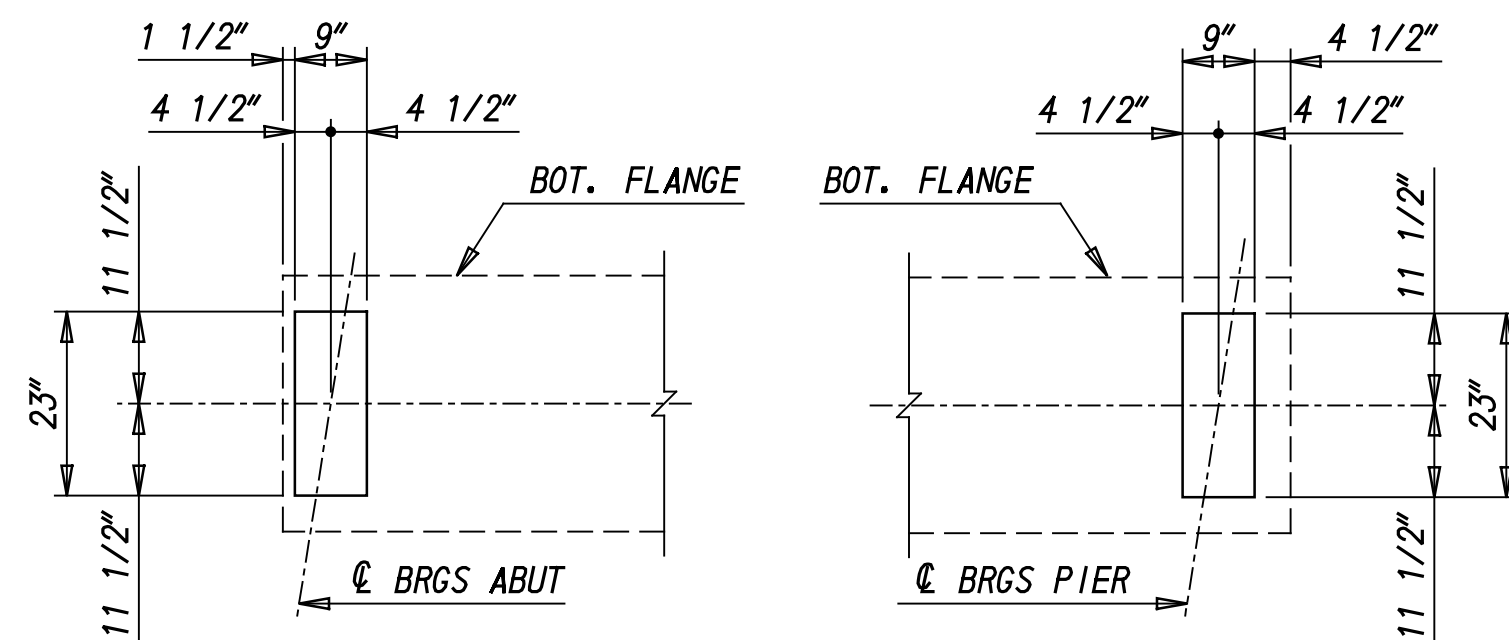
SCALE
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WARNING:

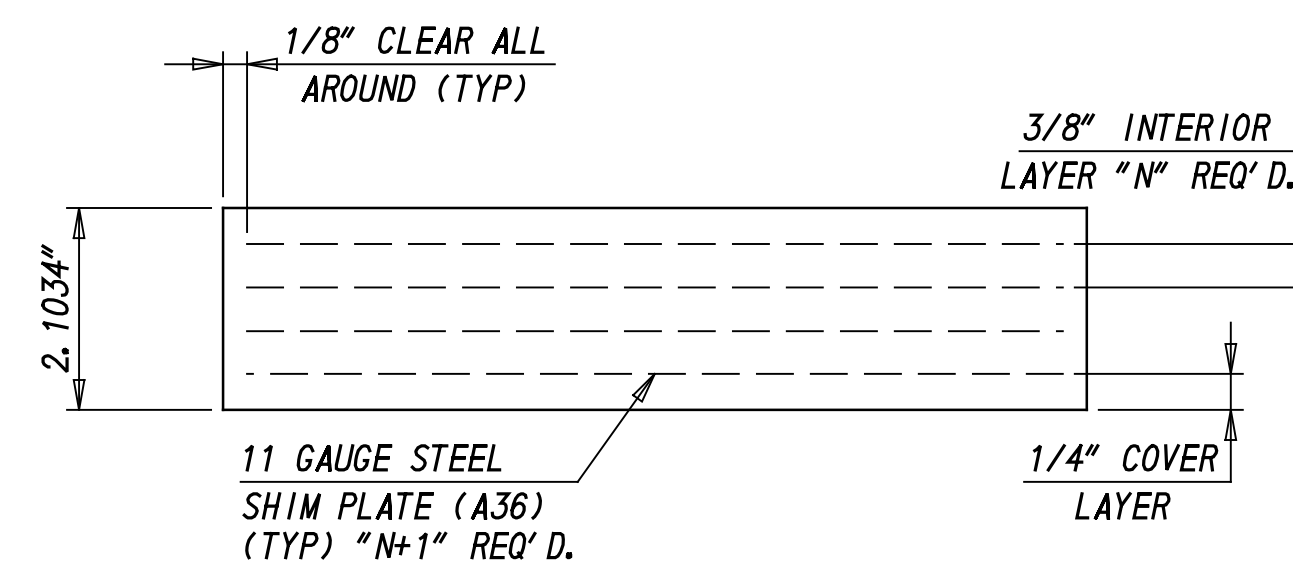
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REFERENCE:

- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR GEOMETRIC LAYOUT, SEE SHEET BR1-486-04
- FOR PIER PLAN AND ELEVATION, SEE SHEET BR1-486-14
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS BR1-486-26, 27



BEARING PAD LAYOUT



BEARING PAD DETAIL

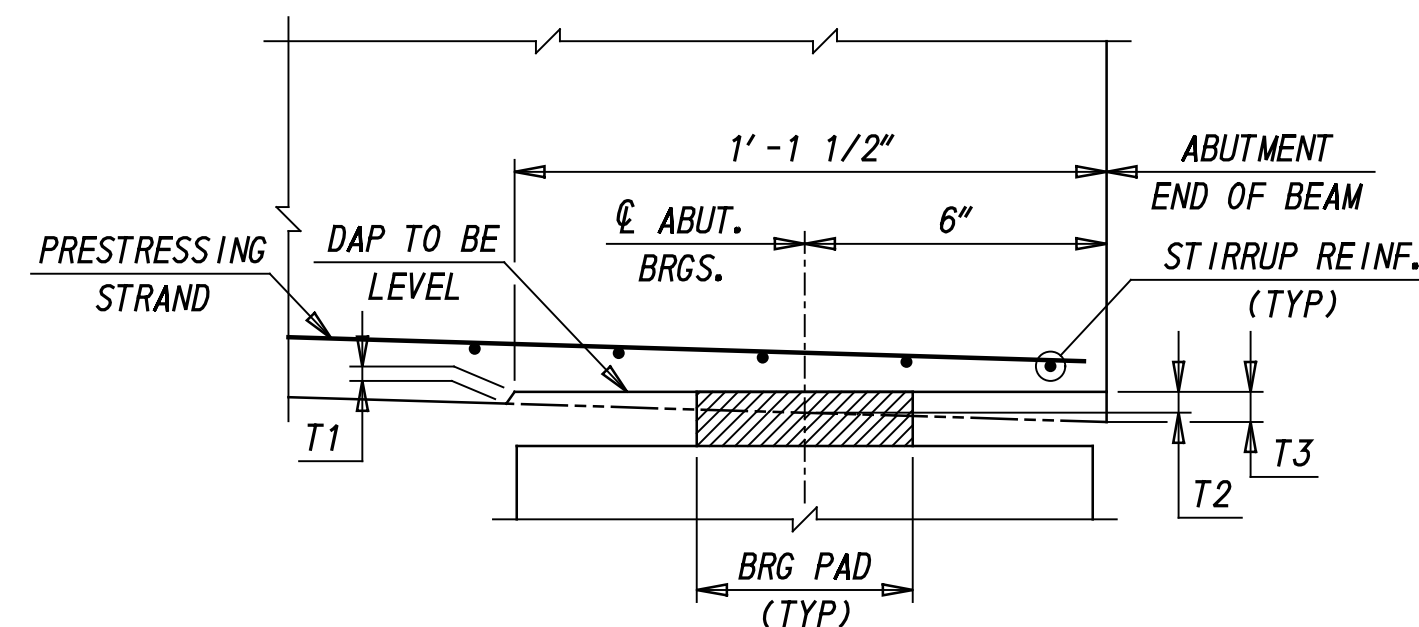
(NOT TO SCALE)

BEARING PAD DATA (50 DUROMETER)

LOCATION	TYPE	LENGTH	WIDTH	THICKNESS	N	N+1	SHAPE FACTOR		PAD AREA (SQ. INCHES)	NO. OF BRGS REQUIRED	NO. OF TEST BRGS REQUIRED
							INTERIOR	EXTERIOR			
ABUTMENT 1	EXP	9"	23"	2.1034"	3	4	8.625	12.938	207	5	1
PIER	FIX	9"	23"	2.1034"	3	4	8.625	12.938	207	10	
ABUTMENT 2	EXP	9"	23"	2.1034"	3	4	8.625	12.938	207	5	

ELASTOMERIC BEARING PAD NOTES:

1. MANUFACTURE ALL BEARINGS IN ACCORDANCE WITH THESE PLANS AND DELDOT SPECIFICATIONS.
2. MEET THE MATERIAL SPECIFICATION FOR ELASTOMERIC BEARINGS REQUIREMENTS OF CURRENT AASHTO (M-251-92 STANDARD SPECIFICATIONS BEARINGS) AS LISTED UNDER SUBSECTION "MATERIALS AND TESTING"
3. ALL BEARING PADS ARE TO BE MOLDED TO DESIGN DIMENSIONS. CUTTING TO SIZE AFTER FABRICATION IS PROHIBITED.
4. HOLES ARE NOT PERMITTED IN ELASTOMERIC BEARINGS.
5. PROVIDE NEOPRENE HARDNESS OF 50 DUROMETER (5 +/-)
6. PROVIDE INTERNAL LAMINATES CONFORMING TO AASHTO M183.
7. SMOOTH CUT AND DEBURR METAL SHIMS.
8. GRIT BLAST AND DECREASE METAL SHIMS.
9. VULCANIZE PATCH PIN GROOVES.
10. PROVIDE A ROUGH TEXTURE TO CONCRETE BEARING SURFACES. DO NOT APPLY EPOXY COATING TO THE BEARING SURFACES WITHIN 2" OF THE BEARING PAD.
11. BEARINGS SHALL BE PLACED NORMAL TO THE CENTERLINE OF GIRDER.
12. THE MAXIMUM DESIGN LOAD FOR THE BEARINGS IS AS FOLLOWS:
EXPANSION BEARINGS = 176.29 KIPS
FIXED BEARINGS = 172.32 KIPS



TYPICAL BEAM DAP DETAIL OF BEAM AT ABUTMENTS

(NOT TO SCALE)

BEAM DAP TABLE

BEAM	DAP THICKNESS					
	ABUTMENT 1			ABUTMENT 2		
	T1	T2	T3	T1	T2	T3
1	1/4"	3/8"	7/16"	1/4"	3/8"	7/16"
2	1/4"	3/8"	7/16"	1/4"	3/8"	7/16"
3	1/4"	3/8"	7/16"	1/4"	3/8"	7/16"
4	1/4"	3/8"	7/16"	1/4"	3/8"	7/16"
5	1/4"	3/8"	7/16"	1/4"	3/8"	7/16"

BEAM DAP NOTES:

1. PROVIDE BEAM DAPPING AT END OF BEAM AT ABUTMENT 1 AND ABUTMENT 2, DAPPING NOT REQUIRED FOR BEAM ENDS AT THE PIER.
2. MAINTAIN MINIMUM COVER OF 1 1/2" ON PRESTRESSING STRANDS IN DAP AREA.
3. MAINTAIN MINIMUM COVER OF 1" ON STIRRUPS IN DAP AREA.
4. CHAMFER DAP AT 45°
5. MINIMUM DAP DEPTH 1/4".
6. IF COVER CAN NOT BE MAINTAINED, RAISE STRAND PATTERN IN INCREMENTS OF 1/2".

REFERENCE:

- FOR PROJECT NOTES, SEE SHEET BR1-486-02
- FOR FRAMING PLAN, SEE SHEET BR1-486-17
- FOR BEAM DETAILS, SEE SHEET BR1-486-20

WARNING:

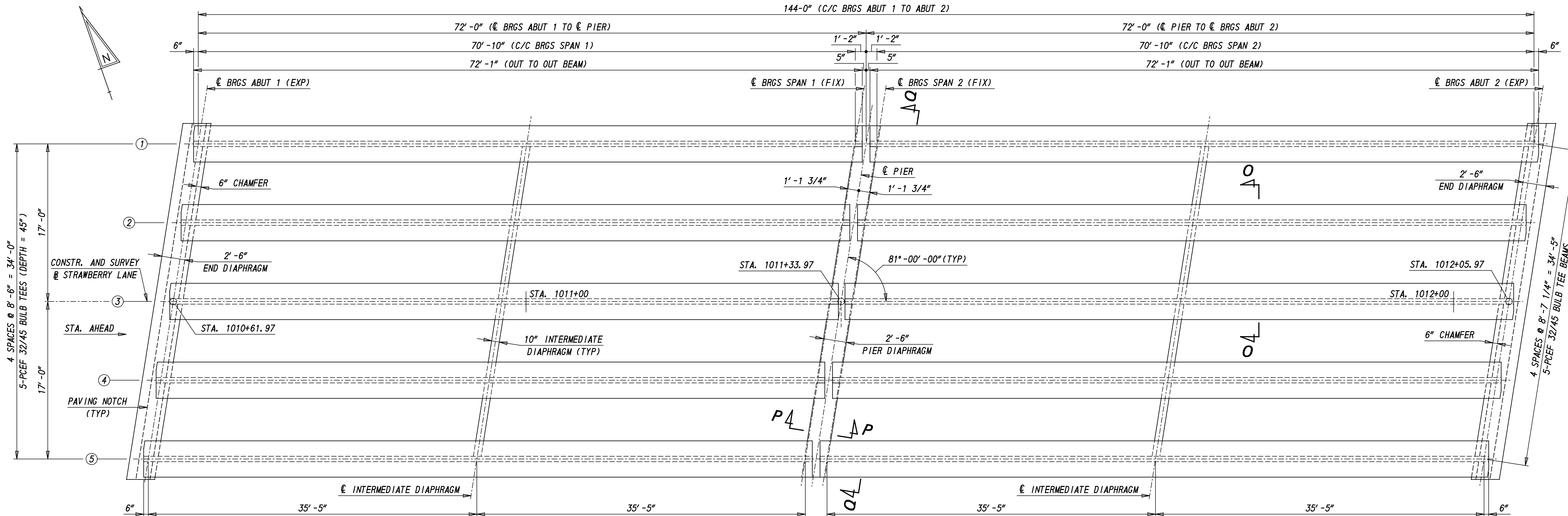
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UNFACTORED REACTIONS (KIPS)

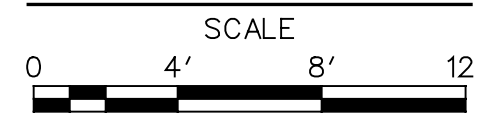
BEAMS	LOCATION	TOTAL DC		HL-93	
		DC1	DC2	MAX	MIN
G1, G5	ABUTMENT 1	64.52	16.20	66.08	-7.14
	PIER (BACK)	64.12	20.24	56.98	0.00
	PIER (AHEAD)	64.12	20.24	56.98	0.00
G2, G3, G4	ABUTMENT 2	64.52	16.20	66.08	-7.14
	ABUTMENT 1	74.38	16.20	72.80	-7.87
	PIER (BACK)	76.40	20.24	64.28	0.00
	PIER (AHEAD)	76.40	20.24	64.28	0.00
	ABUTMENT 2	74.38	16.20	72.80	-7.87

- NOTES:
1. DC2 INCLUDES FUTURE WEARING SURFACE.
 2. LL DOES NOT INCLUDE IMPACT.
 3. LL INCLUDES REACTION DISTRIBUTION FACTORS.

BR1-486-16

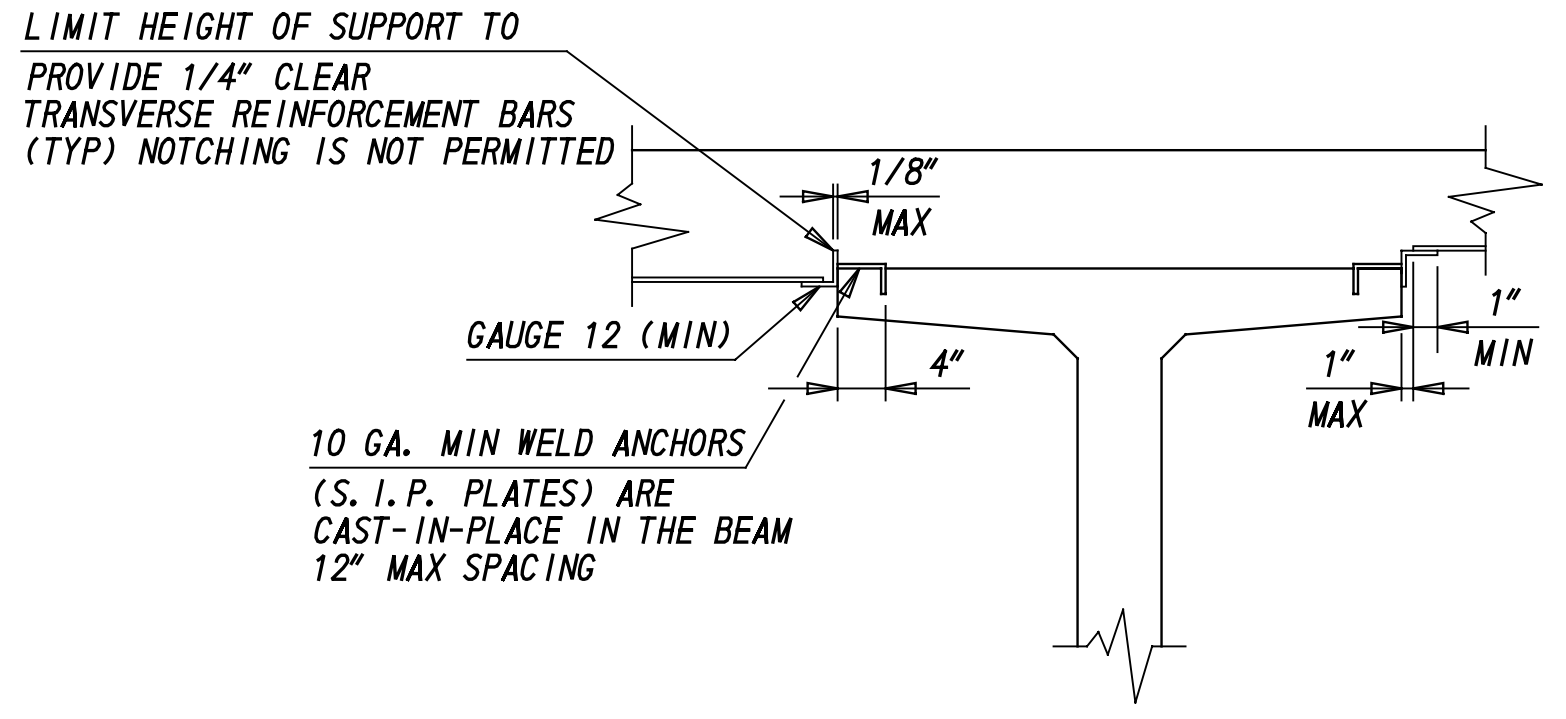


FRAMING PLAN



SUPPORT NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF FORM SUPPORTS AND THEIR ATTACHMENTS UNDER ALL ANTICIPATED LOADING CONDITIONS, INCLUDING CONSTRUCTION LOADS.
2. SECURELY FASTEN ALL FORMS TO FORM SUPPORTS AND PROVIDE A MINIMUM BEARING LENGTH OF 1" AT EACH END.
3. ATTACH FORM SHEETS PROPERLY TO AVOID HAZARDS THAT CAN RESULT FROM LATERAL MOVEMENT OR SUDDEN UPLIFT. PROVIDE SAFETY STOPS WHERE NECESSARY.
4. CONNECT ADJOINING HAUNCH ANGLE OR CHANNEL BY WELDING.
5. ALL SHEETS MUST HAVE FACTORY CLOSED ENDS.
6. USE 3/8" HWH x 1/4" - 14 THREADS/INCH SCREW FASTENER TO CONNECT DECK FORMS.
7. PROVIDE GRADE 50 PERMANENT METAL DECK FORMS WITH MINIMUM $I = 0.1185 \text{ IN}^4$ PER FOOT, AND MINIMUM $S = 0.1346 \text{ IN}^3$ PER FOOT.
8. PERMANENT METAL DECK FORMS AND SUPPORTS SHALL BE FABRICATED FROM STEEL CONFORMING TO A446 AND SHALL BE ZINC COATED (GALVANIZED) IN CONFORMANCE WITH A653, COATING DESIGNATION 690. THESE FORMS SHALL BE THE PROPER GAUGE TO SUPPORT, WITHIN SPECIFIED DEFLECTIONS, THE SPECIFIED WEIGHTS FOR THE PARTICULAR SPAN INVOLVED. NOTE ALSO, THAT NO FORM LESS THAN 0.0359 INCH THICKNESS WILL BE ACCEPTED. THE DESIGN SPAN SHALL BE THE CLEAR DISTANCE BETWEEN GIRDER FLANGES LESS 2 INCHES.
9. ANY PERMANENTLY EXPOSED FORM METAL WHERE THE GALVANIZED COATING HAS BEEN DAMAGED SHALL BE THOROUGHLY CLEANED, WIRE BRUSHED AND PAINTED WITH TWO COATS OF ZINC DUST - ZINC OXIDE PAINT, NO COLOR ADDED, TO THE SATISFACTION OF THE ENGINEER. MINOR HEAT DISCOLORATION IN AREAS OF WELDS NEED NOT BE TOUCHED UP.



SIP FORM DETAIL



REFERENCE:

- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR GEOMETRIC LAYOUT, SEE SHEET BR1-486-04
- FOR SECTIONS O-O, P-P, AND Q-Q, SEE SHEET BR1-486-19

WARNING:
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BR1-486-17



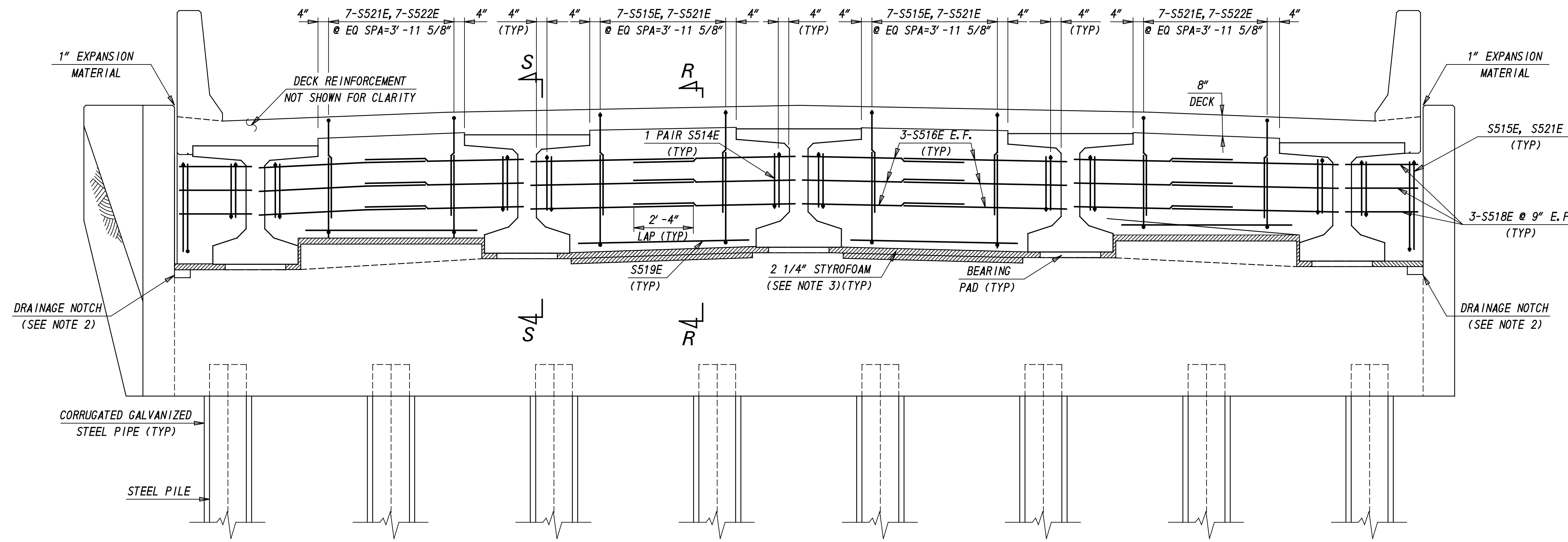
ADDENDUMS / REVISIONS	

US 301
 MARYLAND STATE LINE
 TO LEVELS ROAD

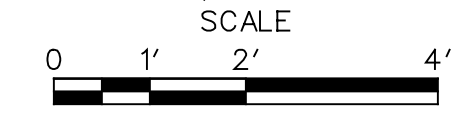
CONTRACT	BRIDGE NO.	1-486
T200811301	DESIGNED BY:	JLW
COUNTY	CHECKED BY:	JPF
NEW CASTLE		

FRAMING PLAN

SHEET NO.	280
TOTAL SHTS.	850

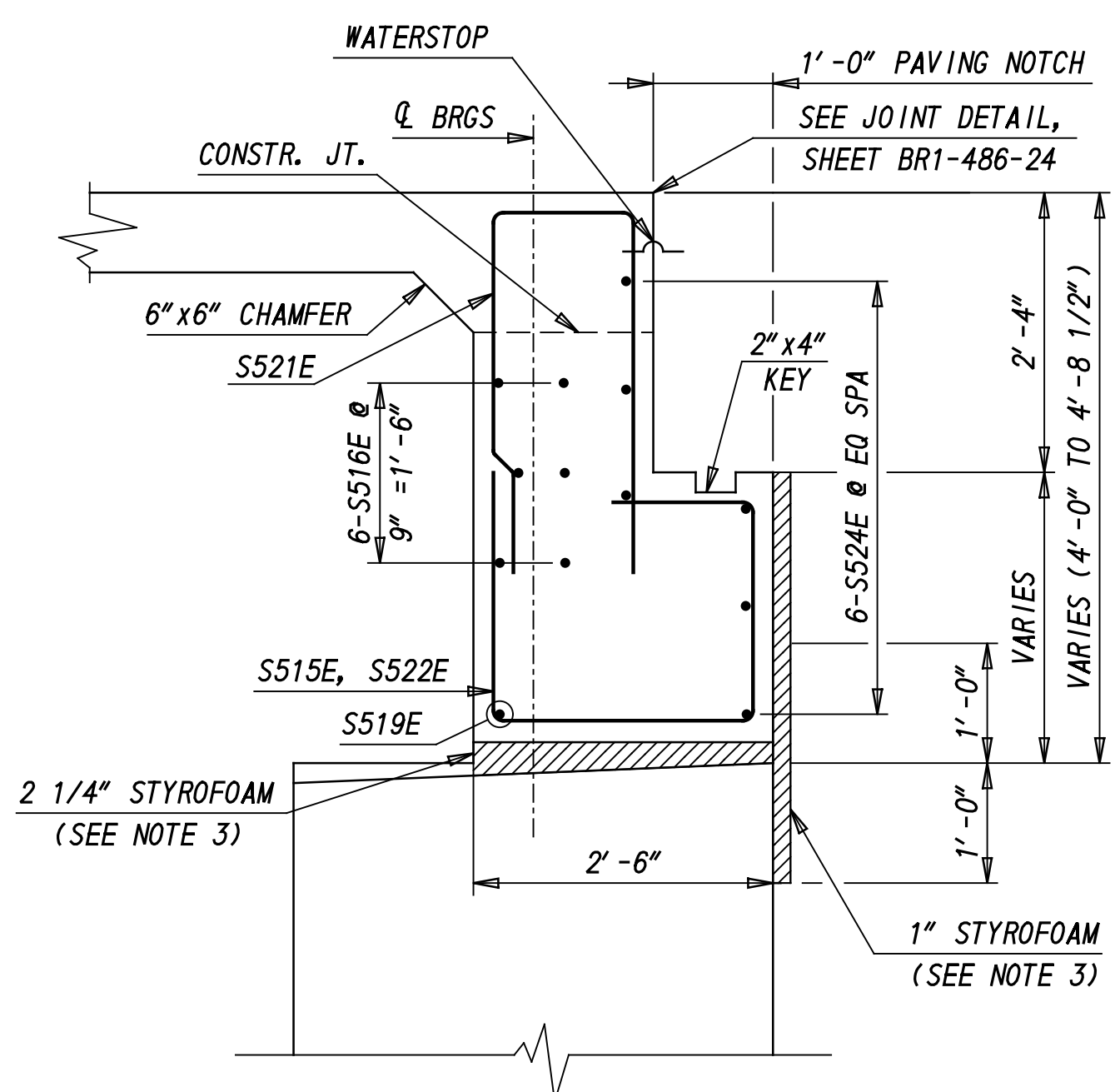


ABUTMENT DIAPHRAGM
(ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR)

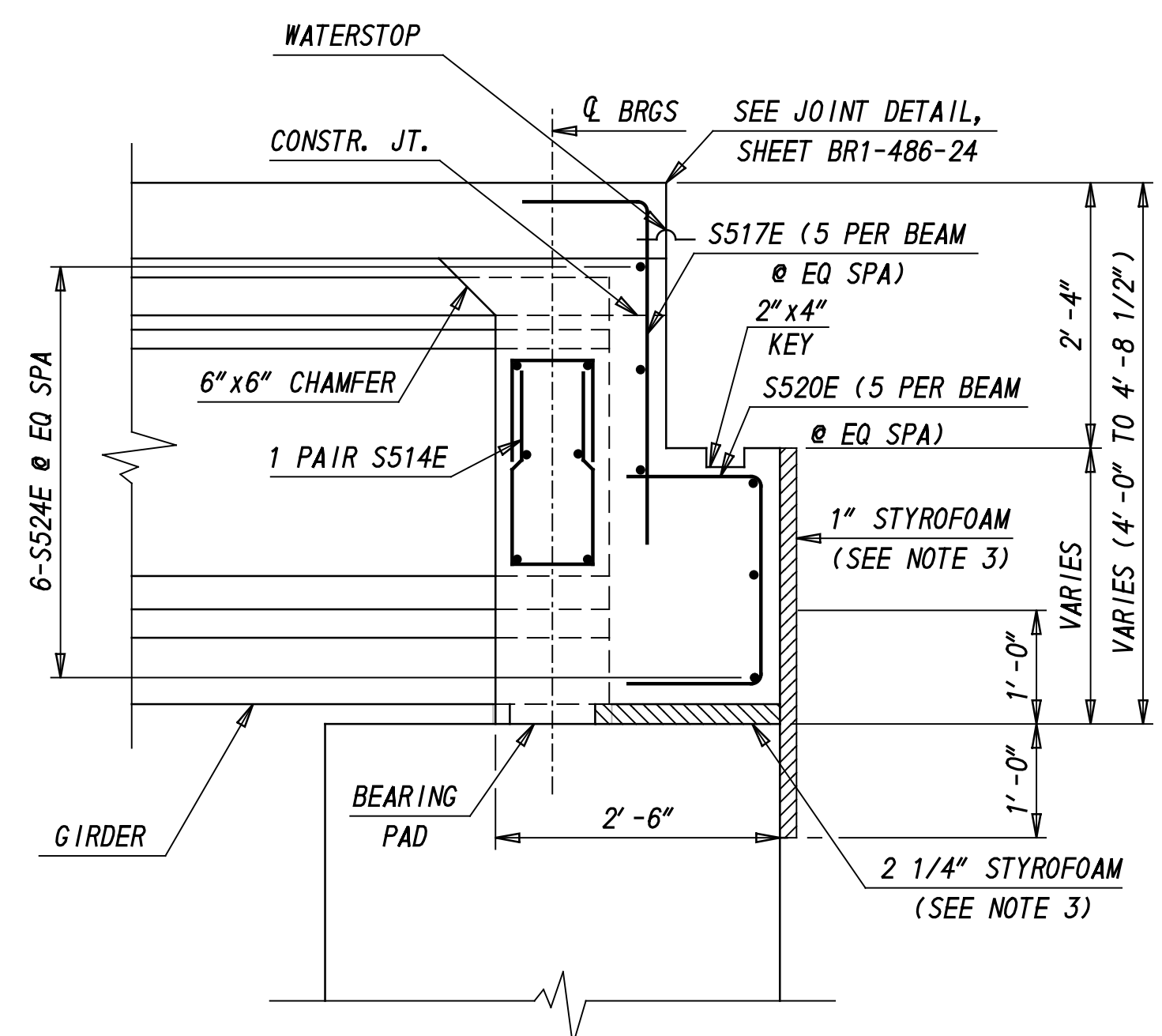


ABUTMENT DIAPHRAGM NOTES:

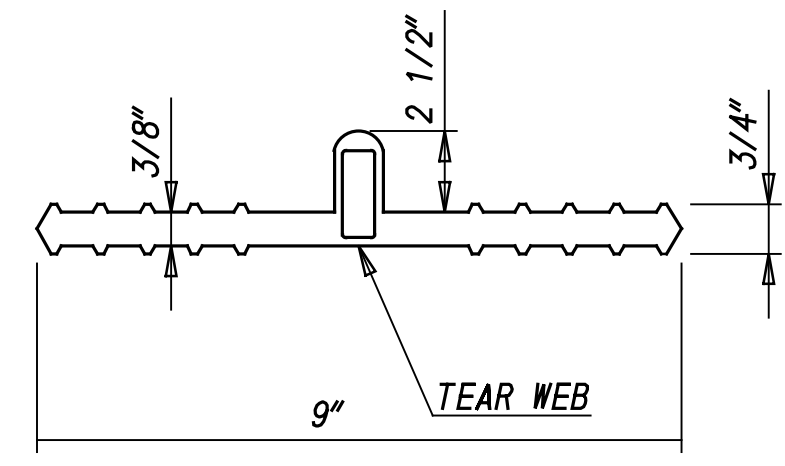
1. ABUTMENT REINFORCEMENT NOT SHOWN FOR CLARITY.
2. ADD REMOVABLE PLUG FOR POUR OF END DIAPHRAGM.
3. STYROFOAM SHALL BE INCIDENTAL TO ITEM "602013 - PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D". SEE NOTE 12 OF PROJECT NOTE SHEET BR1-486-03.
4. MSE WALL NOT SHOWN FOR CLARITY



SECTION R-R



SECTION S-S



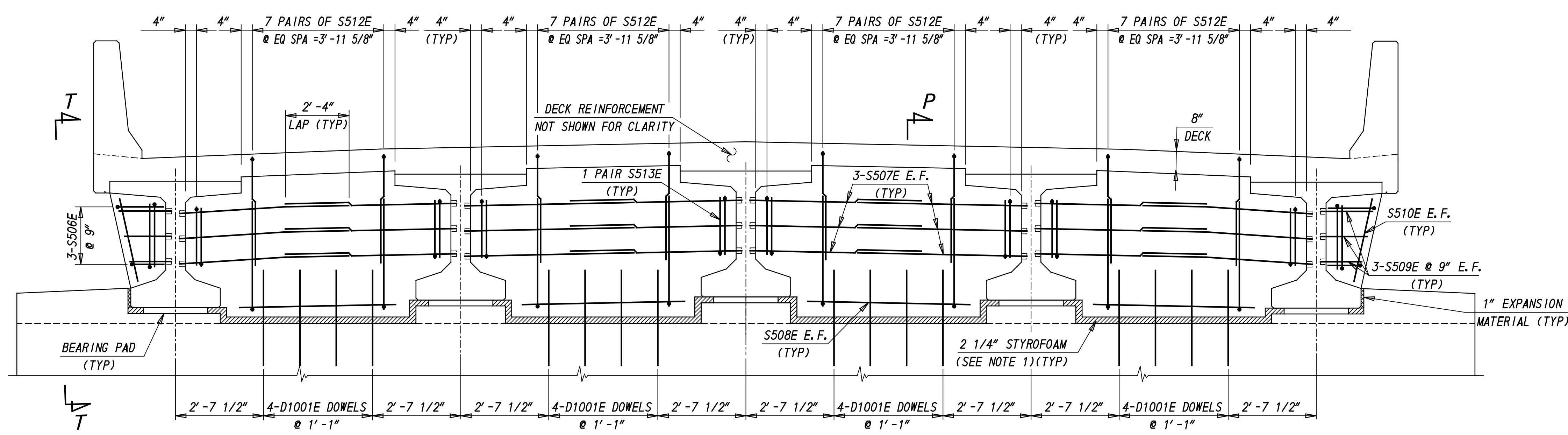
WATERSTOP DETAIL:
(NOT TO SCALE)

REFERENCE:

- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR ABUTMENT 1 AND 2 DETAILS, SEE SHEETS BR1-486-07,09
- FOR FRAMING PLAN, SEE SHEET BR1-486-17
- FOR BEAM DETAILS, SEE SHEET BR1-486-20
- FOR JOINT DETAIL, SEE SHEET BR1-486-24
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET BR1-486-26,27

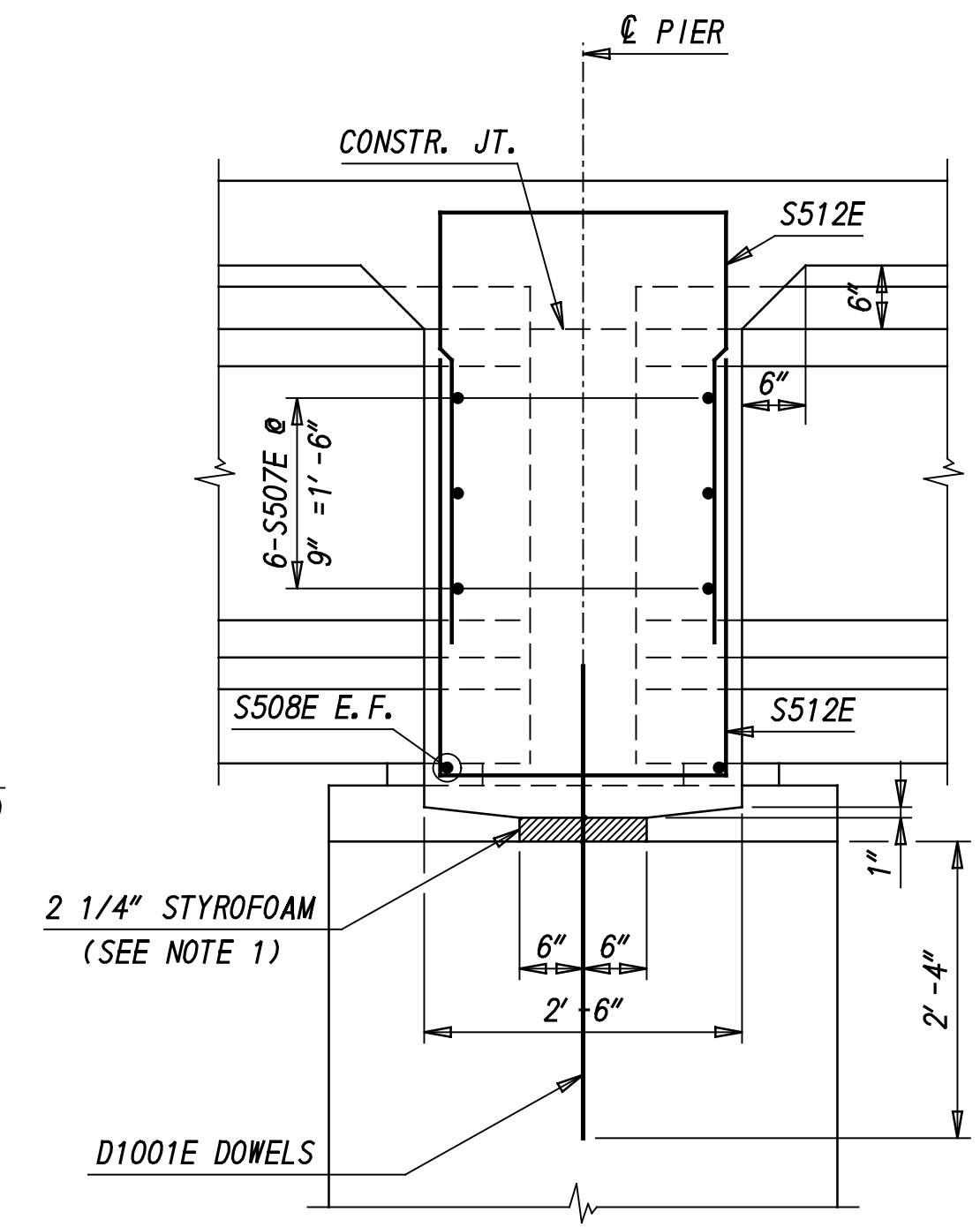
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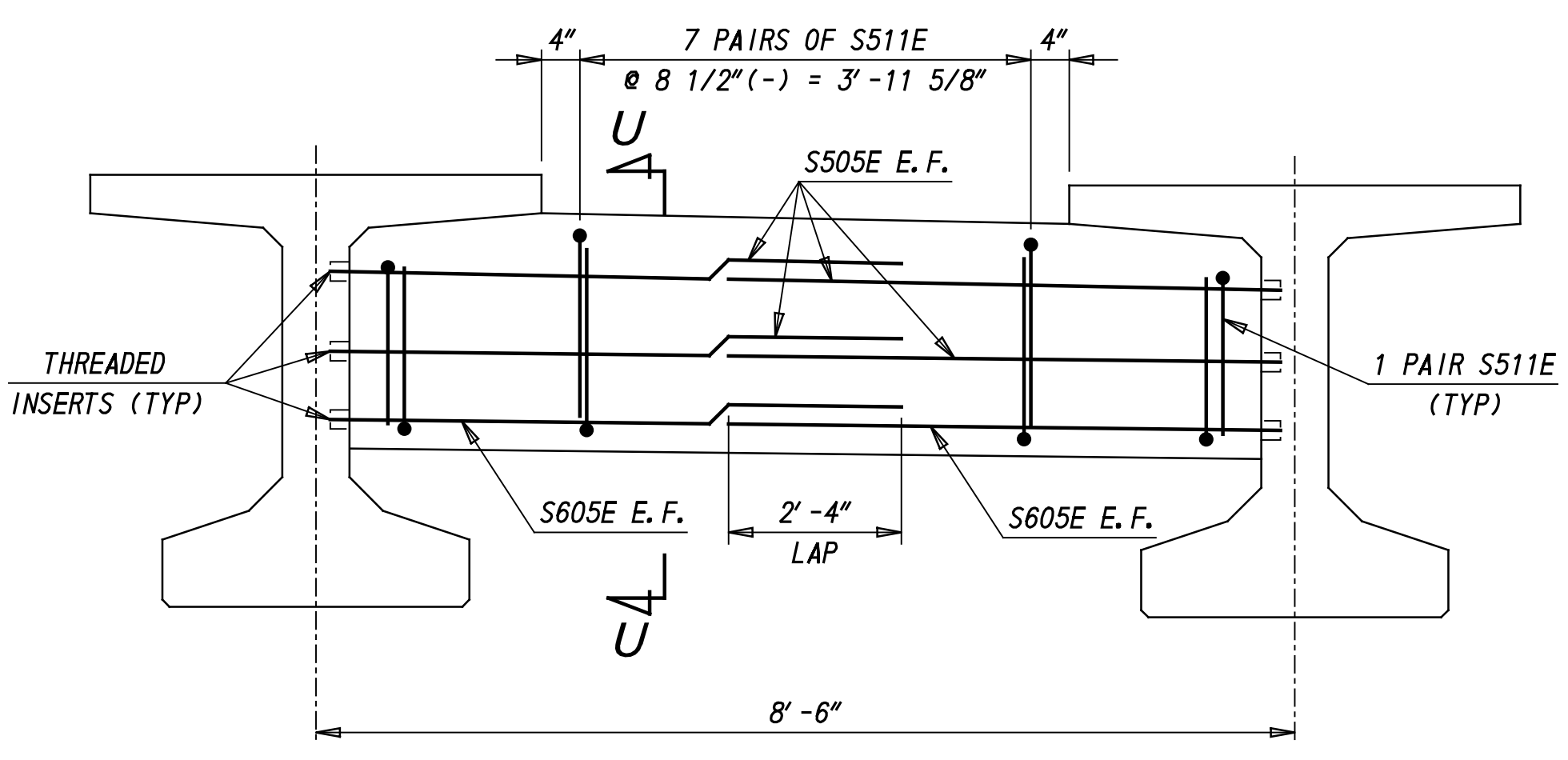
SECTION Q-Q
PIER DIAPHRAGM

SCALE
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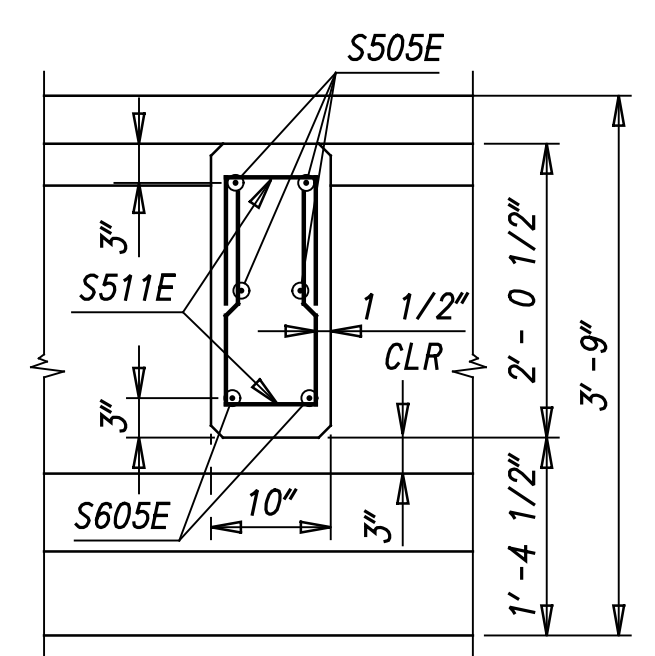
SECTION P-P

SCALE
0 1' 2' 3'



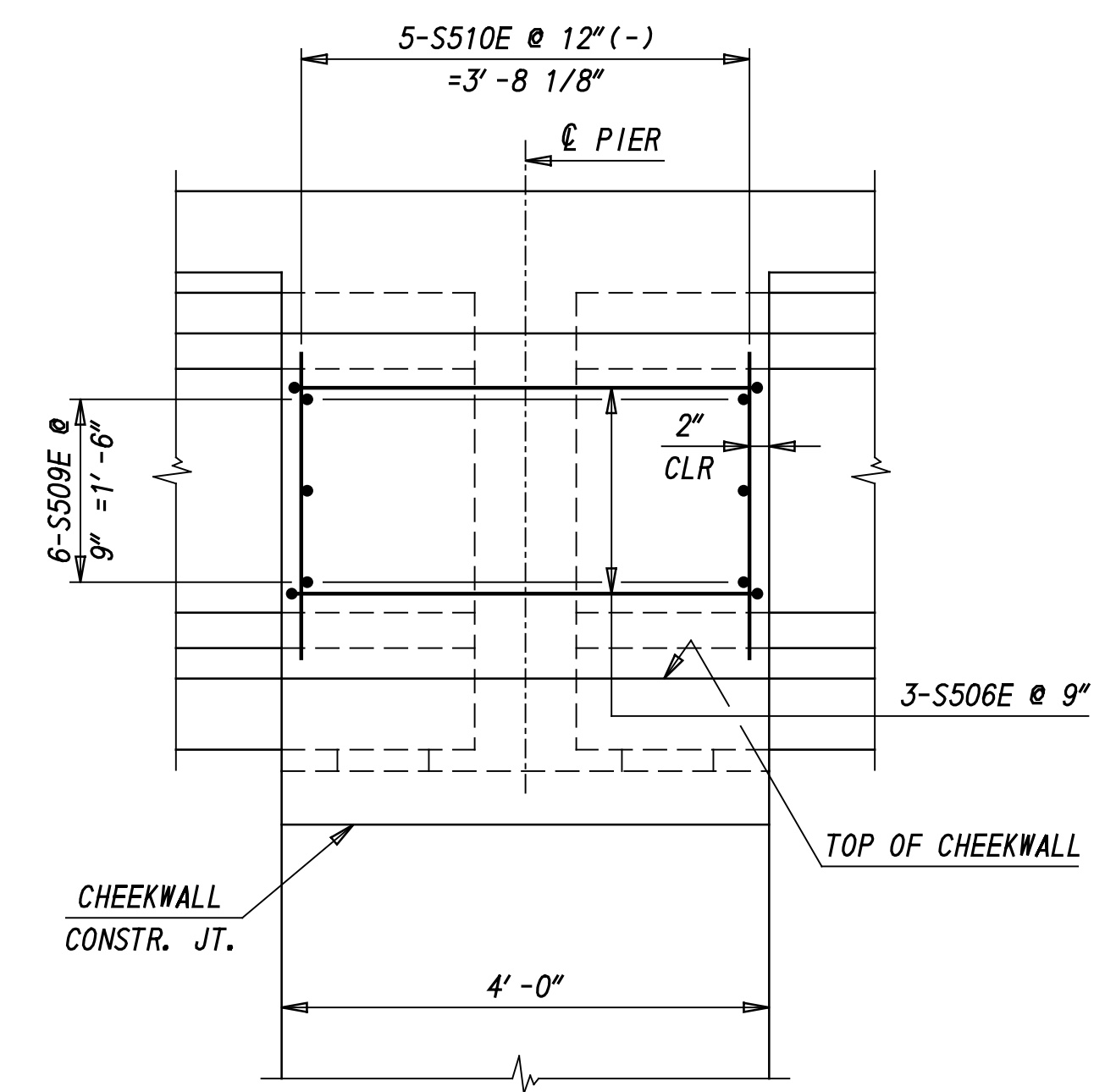
SECTION O-O

SCALE
0 1' 2' 3'



SECTION U-U

SCALE
0 1' 2' 3'



VIEW T-T

SCALE
0 1' 2' 3'

DIAPHRAGM NOTES:

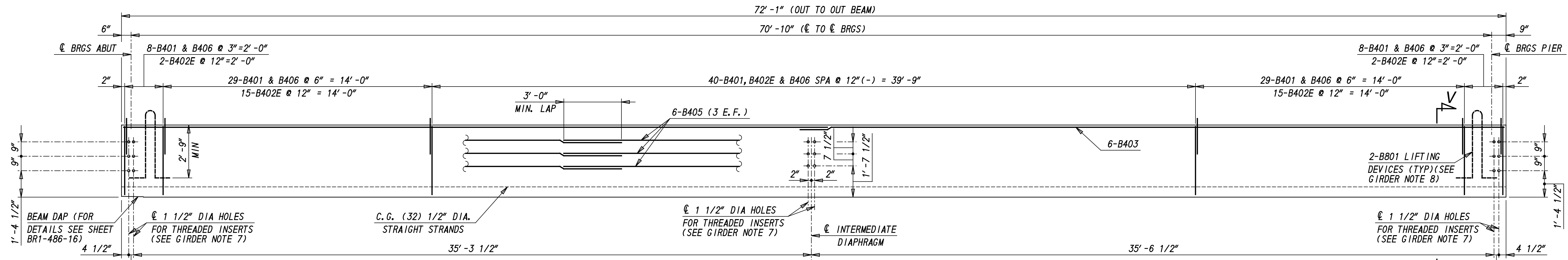
1. STYROFOAM TO MEET THE MATERIAL REQUIREMENTS OF ASTM C-578, TYPE 1. STYROFOAM SHALL BE INCIDENTAL TO ITEM "602013 - PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D." SEE NOTE 12 OF PROJECT NOTE SHEET BR1-486-03.

REFERENCE:

- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR PIER DETAILS, SEE SHEETS BR1-486-14,15
- FOR FRAMING PLAN, SEE SHEET BR1-486-17
- FOR BEAM DETAILS, SEE SHEET BR1-486-20
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS BR1-486-26,27

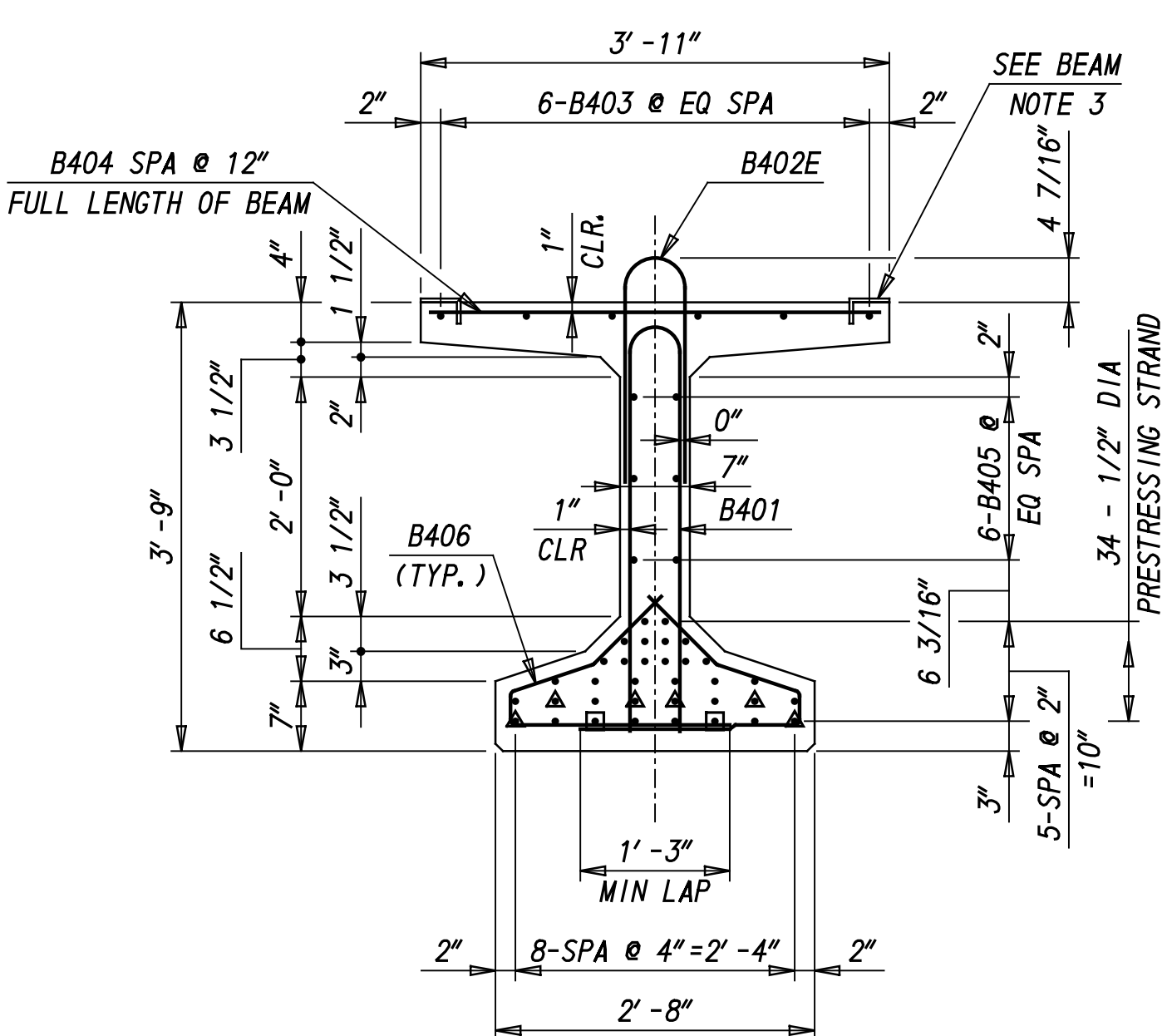
WARNING:

EXISTING OVERHEAD HIGH VOLTAGE POWER LINES ARE IN THE VICINITY OF THE BRIDGE CONSTRUCTION. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTORS CRANES AND OTHER HEAVY EQUIPMENT SHALL MAINTAIN A CLEAR RADIUS OF TWENTY (20) FEET PLUS AN ADDITIONAL TWENTY (20) FEET HORIZONTALLY FOR BLOWOUT FROM THE OVERHEAD HIGH VOLTAGE POWER LINES. DURING CONSTRUCTION OPERATIONS, IT IS THE CONTRACTORS OBLIGATION TO VERIFY THE EXACT LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS.



BEAM ELEVATION
(SPAN 1 SHOWN, SPAN 2 SIMILAR)

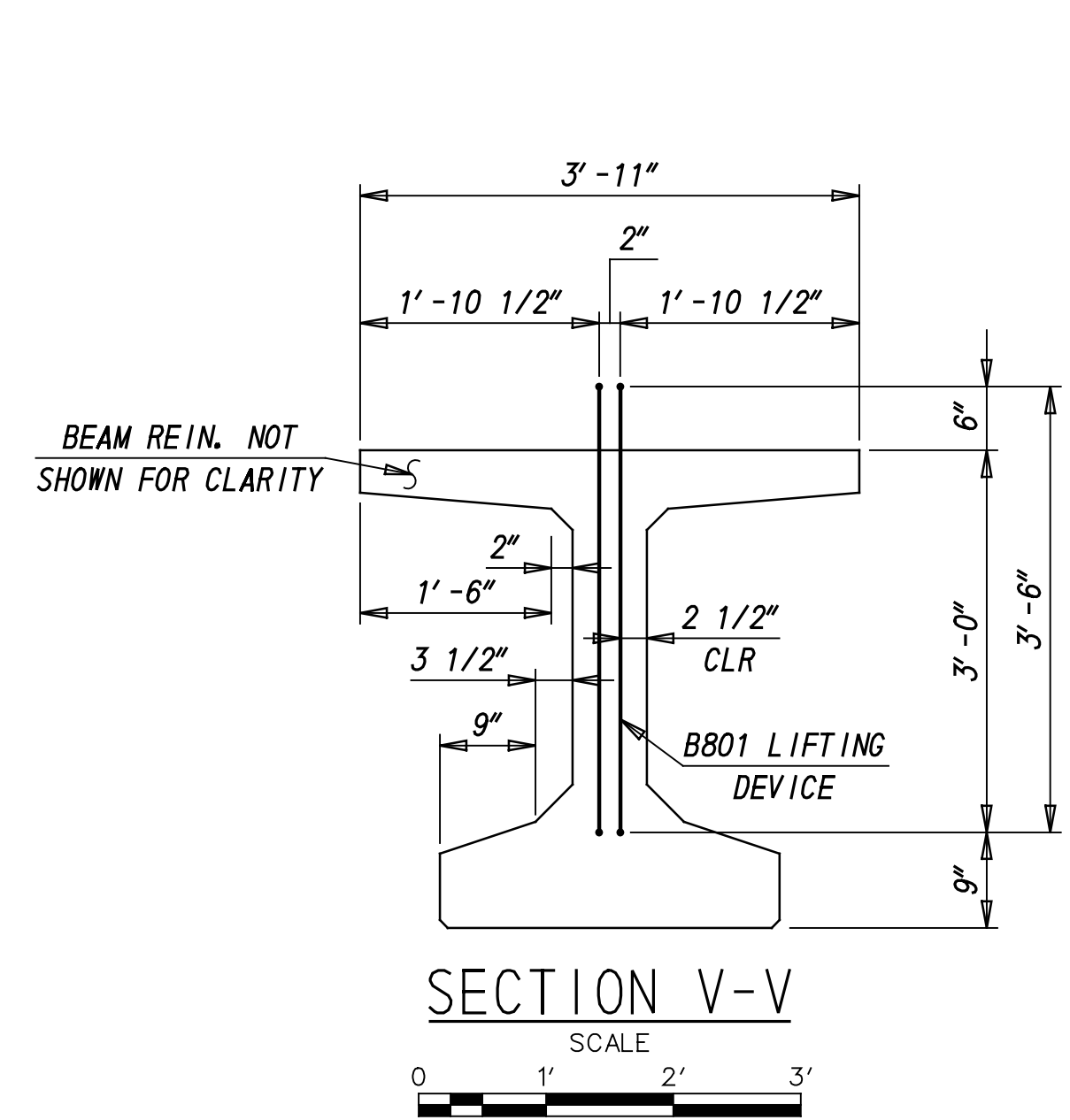
SCALE
0 2' 4' 6'



△ DENOTES DEBOND STRAND 3'-6" FROM END OF BEAM.
□ DENOTES DEBOND STRAND 7'-0" FROM END OF BEAM.

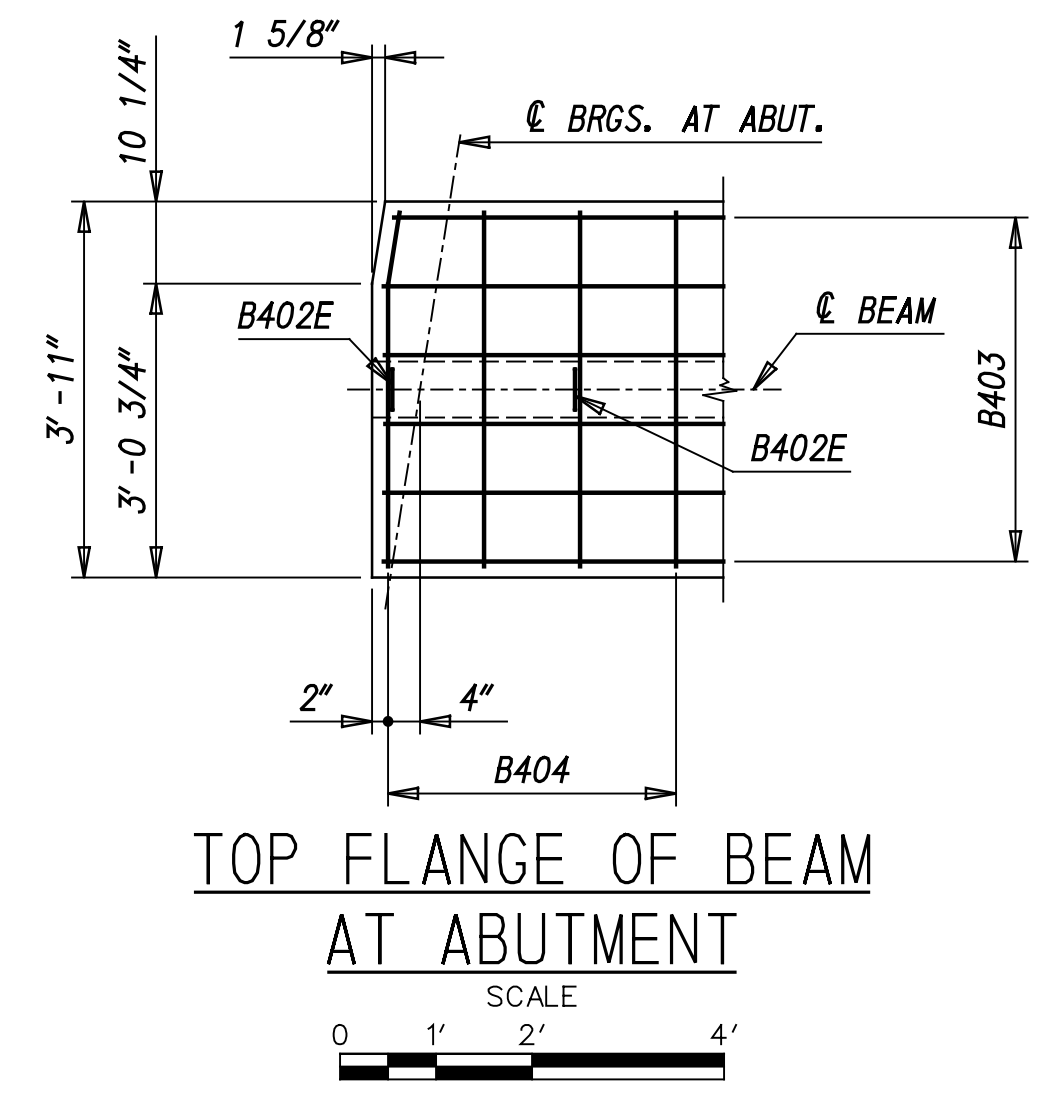
TYPICAL SECTION

SCALE
0 1' 2' 3'



SECTION V-V

SCALE
0 1' 2' 3'

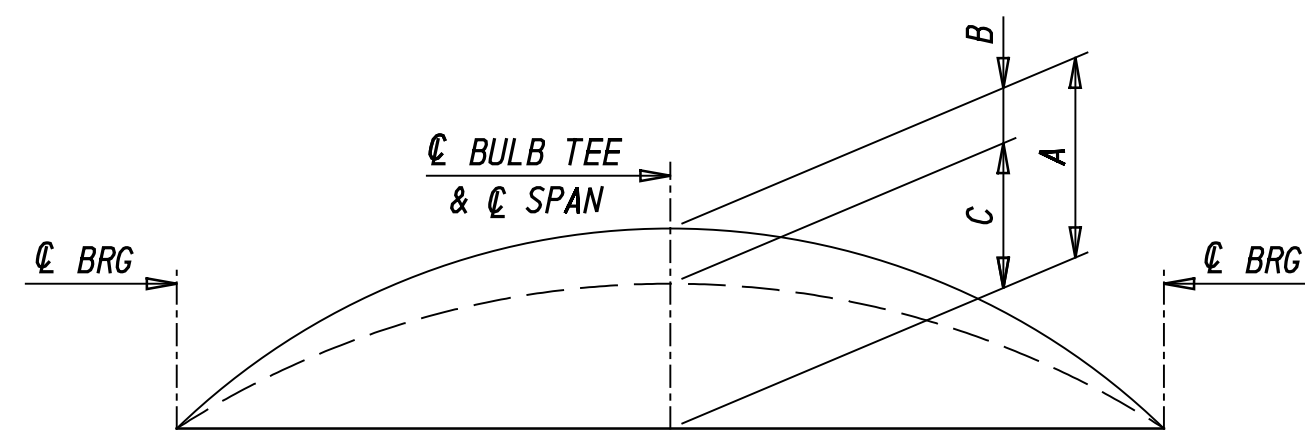


TOP FLANGE OF BEAM AT ABUTMENT

SCALE
0 1' 2' 4'

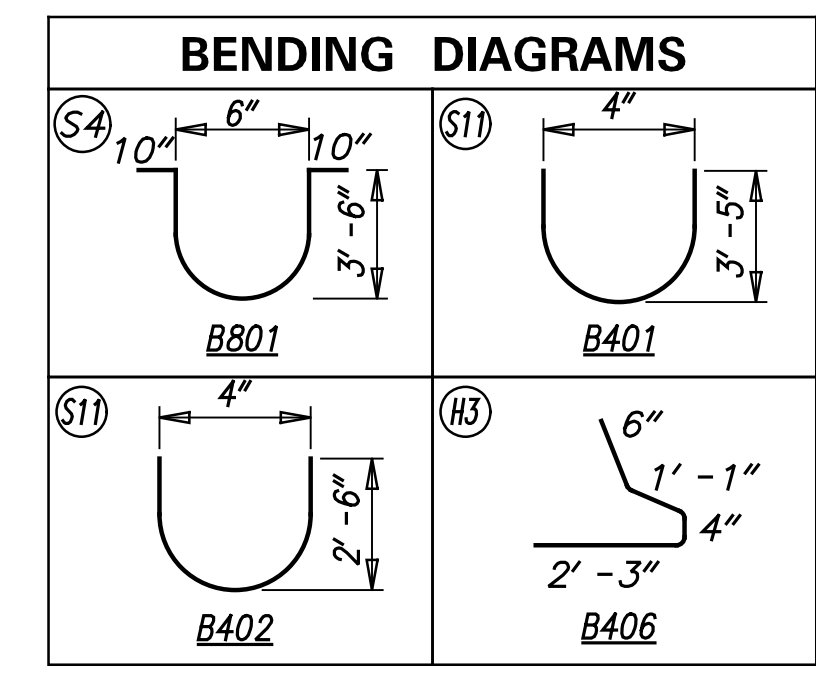
REINFORCING BAR LIST (EACH BEAM)				
MARK	SIZE	QUANTITY	TYPE	LENGTH
B401E	4	114	S11	7'-0 1/4"
B402E	4	74	S11	5'-2 1/4"
B403E	4	12	STR	38'-0"
B404E	4	73	STR	3'-8"
B405E	4	12	STR	38'-0"
B406E	4	114	H3	4'-5"
B801E	8	4	S4	9'-2"

CAMBER VALUES			
BEAM	A	B	C
INTERIOR	1.85"	0.66"	1.19"
EXTERIOR	1.85"	0.55"	1.30"



CAMBER DIAGRAM

A = ESTIMATED PRESTRESS CAMBER, LESS DEFLECTION DUE TO DEAD LOAD OF BEAM TIMES CREEP FACTOR (FIELD VERIFY).
B = DEFLECTION DUE TO DEAD LOAD OF SLAB, BARRIERS, AND SUPERIMPOSED DEAD LOADS.
C = NET FINAL CAMBER (A-B).



BEAM NOTES:

- GIRDERS ARE PCEF 32/45 (DEPTH 45")/BULB TEE.
- ALL MILD STEEL REINFORCEMENT IN GIRDERS SHALL BE EPOXY COATED.
- FOR SIP FORM DETAIL, SEE SHEET BR1-486-17.
- GIRDER LENGTHS IN CASTING BED SHALL BE DETERMINED AND DEPICTED IN SHOP DRAWINGS TO COMPENSATE FOR GRADE SHORTENING DUE TO PRESTRESS EFFECT.
- TOP SURFACE OF ALL GIRDERS SHALL BE ROUGH FINISHED TO A FULL AMPLITUDE OF 1/4" AND SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND TO PRODUCE A ROUGHENED SURFACE FOR BONDING.
- NO CLEAR COVER LESS THAN AS SHOWN ON THESE PLANS WILL BE ACCEPTED.
- PROVIDE THREADED INSERTS ON INSIDE AND OUTSIDE FACE OF BEAMS.
- PROVIDE 2-B801 LIFTING DEVICES AT EACH END OF BEAM. IF THEY CONFLICT WITH PLACEMENT OF DECK REINFORCEMENT, REMOVE WITHOUT DAMAGING TOP FACE OF BEAM. AT THE CONTRACTOR'S OPTION, ALTERNATE LIFTING DETAILS WILL BE CONSIDERED SUBJECT TO THE APPROVAL OF THE ENGINEER.
- TIME FROM CASTING OF BEAMS TO POURING OF DIAPHRAGMS MUST BE NO LESS THAN 90 DAYS. IF TIME IS NOT SUFFICIENT, CONTRACTOR MUST SUBMIT DESIGN FOR APPROVAL SHOWING STRUCTURAL DESIGN CALCULATIONS TO ACCOUNT FOR RESTRAINT MOMENTS. PIER DIAPHRAGM CAN NOT BE POURED UNTIL DECK POURS 1 AND 2 ARE COMPLETED.

PRESTRESS NOTES:

- A NET FINAL CAMBER VALUE HAS BEEN INCLUDED IN THE CALCULATION OF BEARING ELEVATIONS AND HAUNCH THICKNESS AT CENTERLINE OF BEARINGS (SEE CAMBER DIAGRAM).
- THE CONTRACTOR SHALL SURVEY THE TOPS OF THE BEAMS AT THE 10TH POINTS AND VARY HAUNCH THICKNESS TO COMPENSATE FOR ANY INACCURACIES IN THE ACTUAL BEAM CAMBER TO ACHIEVE FINAL FINISHED DECK ELEVATIONS AS SHOWN IN ELEVATION TABLES ON BR1-486-21.
- A CREEP FACTOR, $C_r=1.6$, AND AN INITIAL PRESTRESS LOSS, $f_s=10\%$, WERE ASSUMED FOR COMPUTING CAMBERS.
- PRESTRESS CAMBER AND DEAD LOAD DEFLECTION DATA SHOWN ARE THEORETICAL AND MAY VARY WITH ACTUAL CONCRETE STRENGTH (AGE), VARIABLE PRESTRESSING CONDITIONS, CREEP FACTOR AND PRESTRESS LOSSES.
- CAST BEAMS SO THAT THE END FACES WILL BE TRULY VERTICAL WHEN PLACED IN THEIR FINAL POSITION.
- END ZONE REINFORCEMENT MAY BE INCREASED BY FABRICATOR TO REFLECT FABRICATOR'S EXPERIENCE AND/OR TO CONTROL CRACKING.

BEAM PRESTRESS VALUES:

- PJ - JACKING PRESTRESSING FORCE = 1149.8 KIPS.
- PRESTRESS FORCE AT TRANSFER = 1047.1 KIPS.
- gm - DISTANCE FROM BOTTOM OF BEAM TO CENTER OF GRAVITY OF STRANDS AT MID SPAN = 6.76".
- g_c - DISTANCE FROM BOTTOM OF BEAM TO CENTER OF GRAVITY OF STRANDS AT CENTERLINE OF BEARING = 7.62"
- f'_{ci} - COMPRESSIVE STRENGTH OF CONCRETE AT INITIAL RELEASE = 5.8 KSI.
- f'_c - COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS = 7.0 KSI.
- USE ONLY 1/2" DIA. OVERSIZE, 270 KSI, LOW-RELAXATION PRESTRESSING STRANDS. STRAND DIAMETER = 0.52 INCH, STRAND AREA = 0.167 SQUARE INCHES.

REFERENCE:

- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR BEARING AND BEAM DAP DETAILS, SEE SHEET BR1-486-16
- FOR FRAMING PLAN, SEE SHEET BR1-486-17
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS BR1-486-26, 27

WARNING:

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ADDENDUMS / REVISIONS

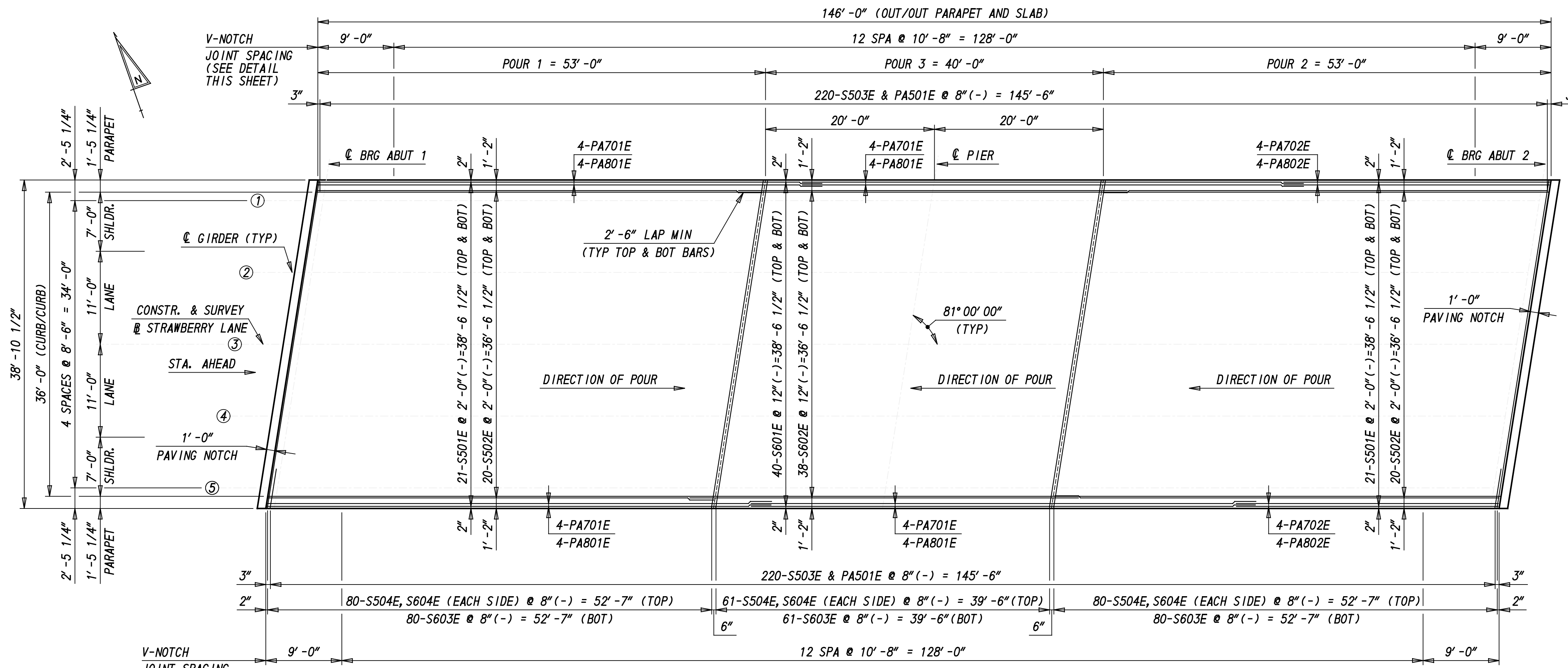
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO. DESIGNED BY: J.L.W.	1-486
COUNTY NEW CASTLE	CHECKED BY: J.P.F.	

BEAM DETAILS

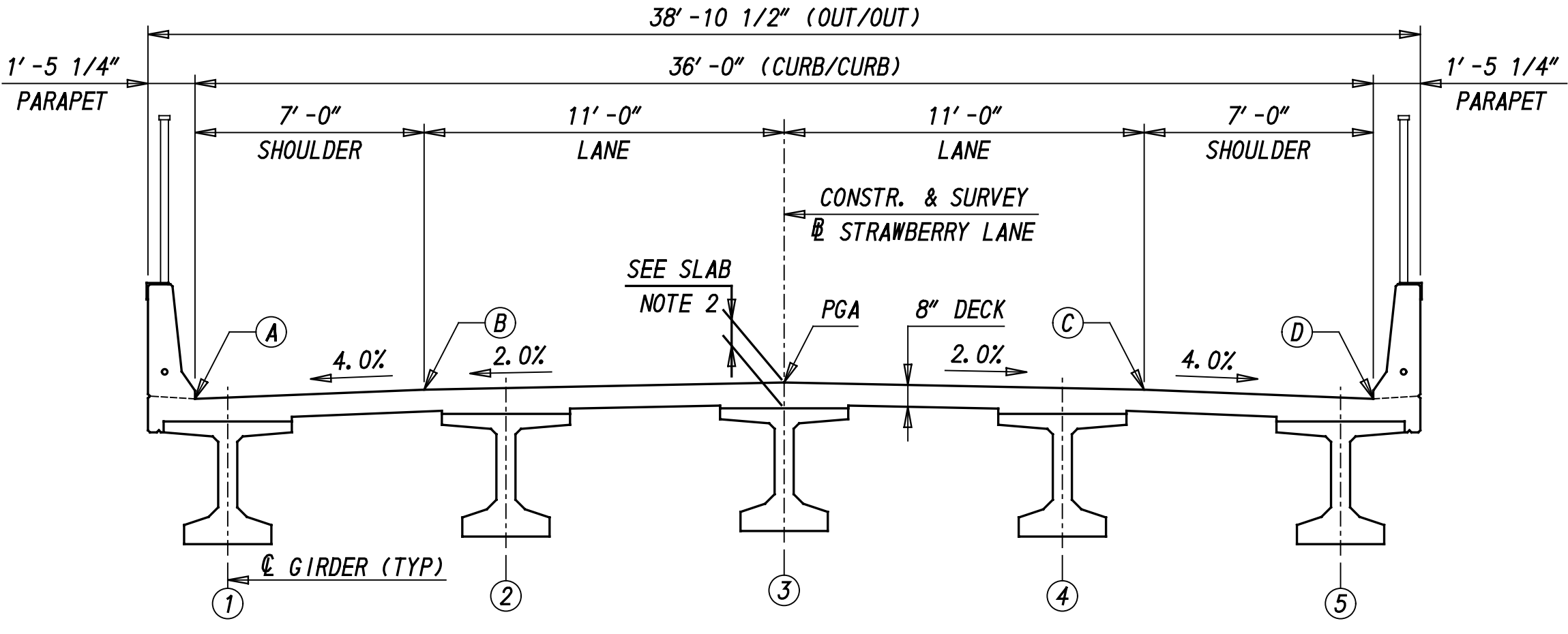
BR1-486-20

SHEET NO. 283
TOTAL SHTS. 850



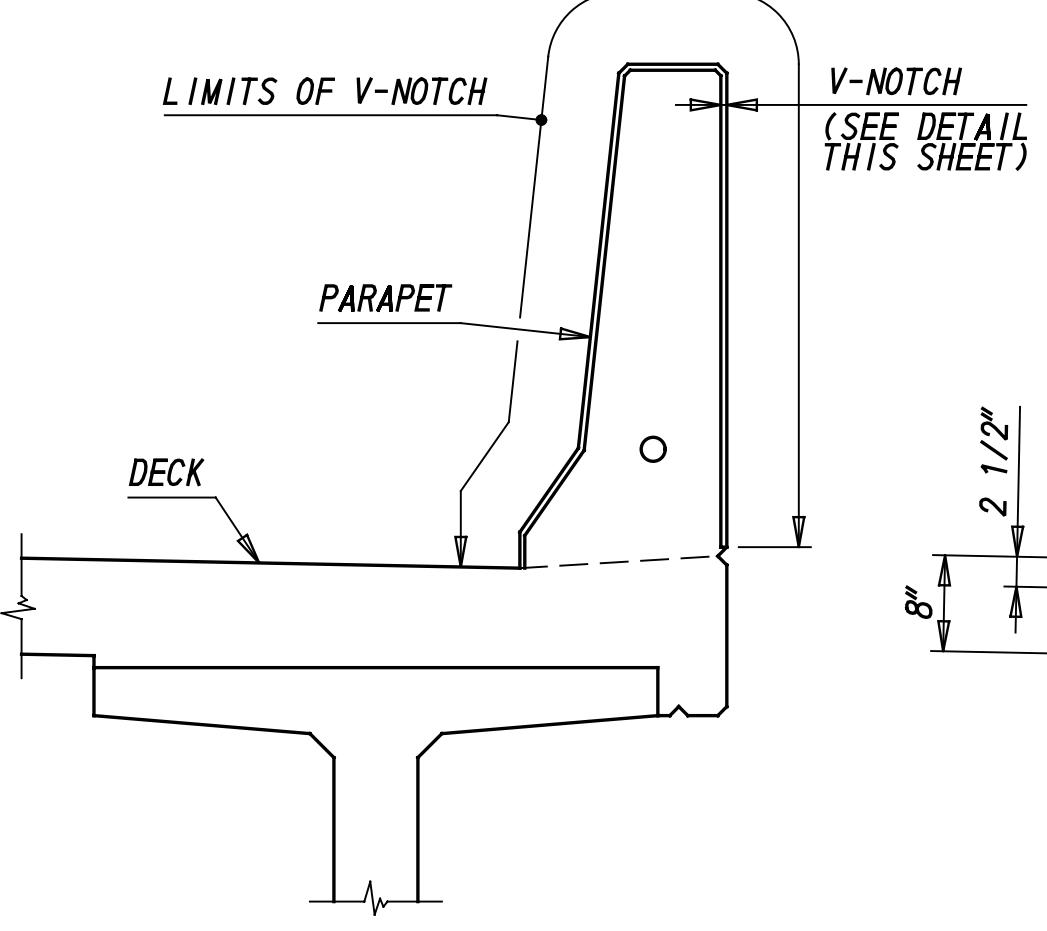
DECK PLAN

SCALE
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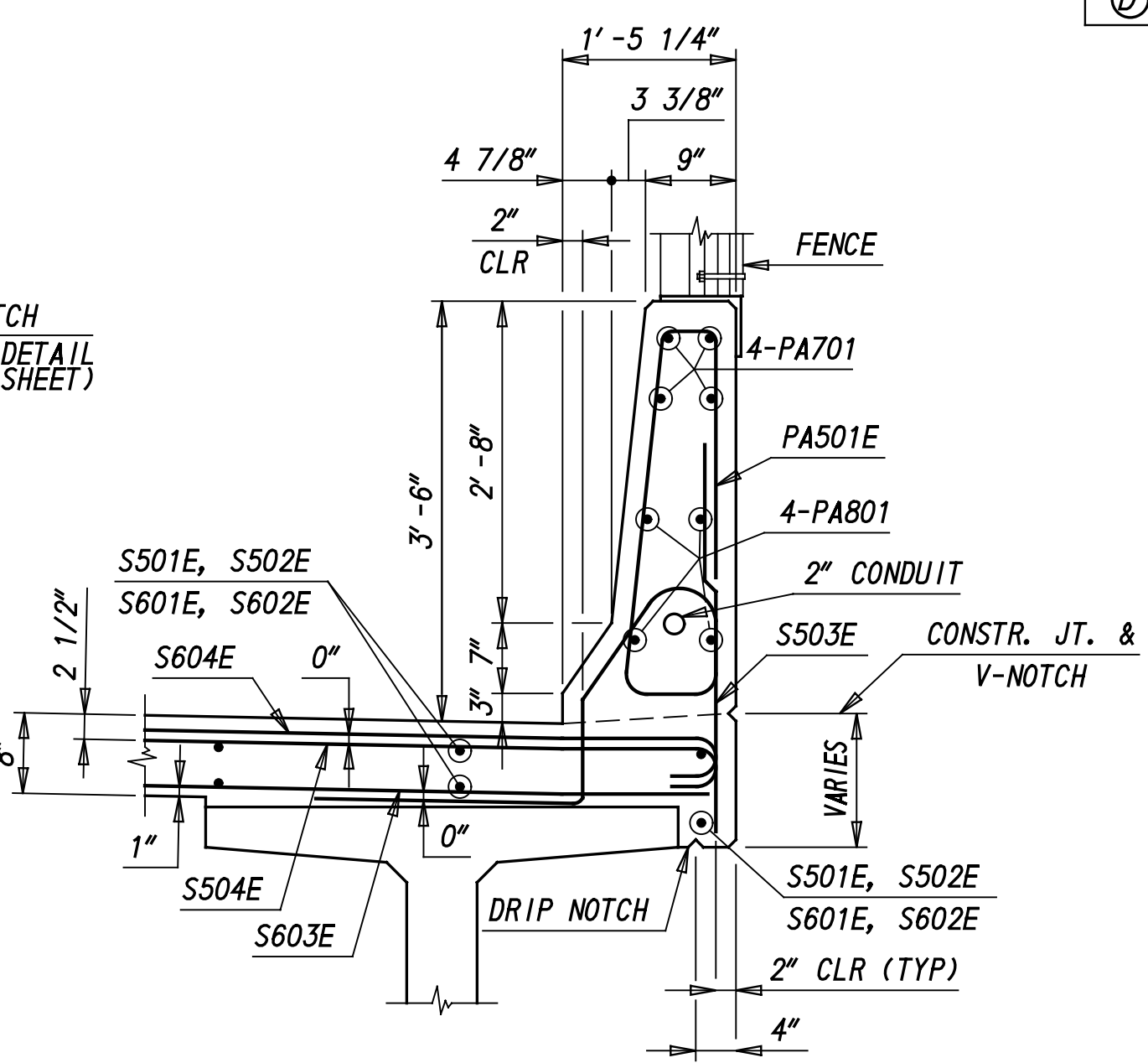
TYPICAL SECTION

LOOKING STATION AHEAD
SCALE
0 2' 4' 8'



PARAPET CONTROL JOINT DETAIL

SCALE
0 1' 2' 3'



PARAPET DETAIL

SCALE
0 1' 2' 3'

FINISHED GRADE ELEVATIONS					
STATION	(A)	(B)	PGA	(C)	(D)
*1010+58.11	---	---	---	---	97.08
*1010+59.22	---	---	---	97.38	---
*1010+60.96	---	---	97.63	---	---
*1010+62.70	---	97.43	---	---	---
*1010+63.81	97.17	---	---	---	---
1010+61.97	---	---	97.64	97.42	97.14
1010+69.17	97.25	97.53	97.75	97.53	97.25
1010+76.37	97.34	97.62	97.84	97.62	97.34
1010+83.57	97.43	97.71	97.93	97.71	97.43
1010+90.77	97.50	97.78	98.00	97.78	97.50
1010+97.97	97.56	97.84	98.06	97.84	97.56
1011+05.17	97.61	97.89	98.11	97.89	97.61
1011+12.37	97.65	97.93	98.15	97.93	97.65
1011+19.57	97.67	97.95	98.17	97.95	97.67
1011+26.77	97.69	97.97	98.19	97.97	97.69
1011+33.97	97.69	97.97	98.19	97.97	97.69
1011+41.17	97.68	97.96	98.18	97.96	97.68
1011+48.37	97.66	97.94	98.16	97.94	97.66
1011+55.57	97.63	97.91	98.13	97.91	97.63
1011+62.77	97.59	97.87	98.09	97.87	97.59
1011+69.97	97.53	97.81	98.03	97.81	97.53
1011+77.17	97.47	97.75	97.97	97.75	97.47
1011+84.37	97.39	97.67	97.89	97.67	97.39
1011+91.57	97.30	97.58	97.80	97.58	97.30
1011+98.77	97.20	97.48	97.70	97.48	97.20
1012+05.97	97.09	97.37	97.59	---	---
*1012+04.13	---	---	---	---	97.12
*1012+05.24	---	---	---	97.38	---
*1012+06.98	---	---	97.57	---	---
*1012+08.72	---	97.33	---	---	---
*1012+09.83	97.03	---	---	---	---

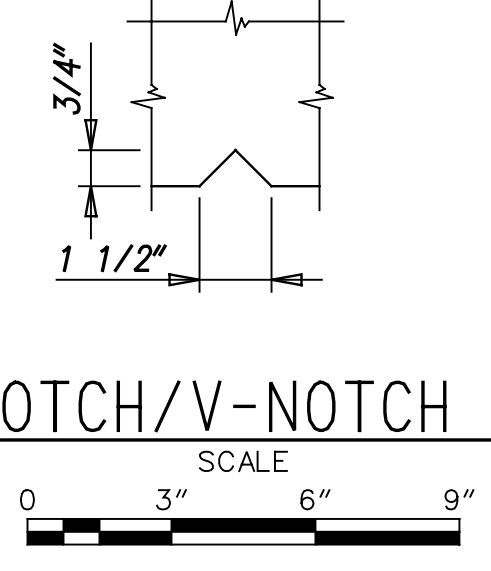
* DESIGNATES END OF SLAB
 (A) DESIGNATES NORTH GUTTERLINE
 (B) DESIGNATES EDGE OF NORTH LANE
 PGA DESIGNATES PROFILE GRADE ALIGNMENT
 (C) DESIGNATES EDGE OF SOUTH LANE
 (D) DESIGNATES SOUTH GUTTERLINE

FINISHED DECK ELEVATIONS OVER CENTERLINE OF BEAM

TENTH POINT	BEAM NUMBER				
	1	2	3	4	5
BRG ABUT 1	97.22	97.49	97.64	97.45	97.14
0.1	97.32	97.60	97.75	97.56	97.25
0.2	97.41	97.69	97.84	97.65	97.35
0.3	97.49	97.77	97.92	97.74	97.43
0.4	97.56	97.84	97.99	97.81	97.51
0.5	97.62	97.90	98.06	97.87	97.57
0.6	97.66	97.94	98.10	97.93	97.63
0.7	97.69	97.98	98.14	97.97	97.67
0.8	97.72	98.00	98.17	98.00	97.70
0.9	97.73	98.02	98.19	98.01	97.72
BRG PIER	97.73	98.02	98.19	98.02	97.73
0.1	97.71	98.01	98.18	98.01	97.72
0.2	97.69	97.98	98.16	97.99	97.71
0.3	97.65	97.95	98.13	97.96	97.68
0.4	97.60	97.90	98.08	97.92	97.64
0.5	97.55	97.85	98.03	97.87	97.59
0.6	97.48	97.78	97.96	97.81	97.53
0.7	97.39	97.70	97.89	97.73	97.46
0.8	97.30	97.61	97.80	97.65	97.37
0.9	97.20	97.51	97.70	97.55	97.28
BRG ABUT 2	97.09	97.40	97.59	97.44	97.17

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DRIP NOTCH/V-NOTCH DETAIL



SLAB NOTES:

- SLIP FORMING OF THE CAST IN PLACE CONCRETE PARAPET WILL NOT BE ALLOWED ON THIS PROJECT.
- 10 1/8" AT THE ABUTMENT @ BEAMS AND @ BEARINGS, TYPICAL FOR ALL BEAMS AT BOTH ABUTMENTS.
 9 7/8" AT THE PIER @ BEAMS AND @ BEARINGS, TYPICAL FOR ALL BEAMS AT BOTH BEARING LOCATIONS.

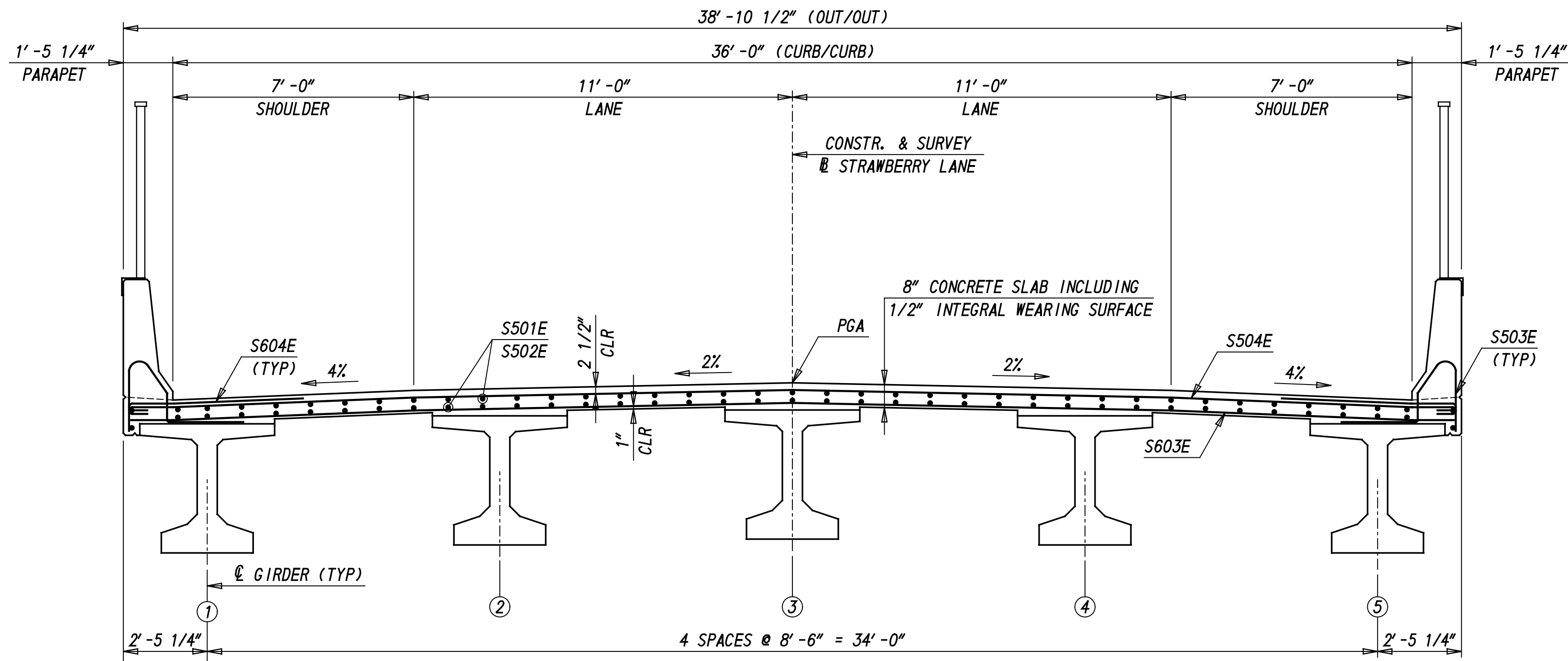
REFERENCE:

- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR FRAMING PLAN, SEE SHEET BR1-486-17
- FOR BEAM DETAILS, SEE SHEET BR1-486-20
- FOR CONDUIT DETAILS, SEE SHEET BR1-486-22
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET BR1-486-26, 27

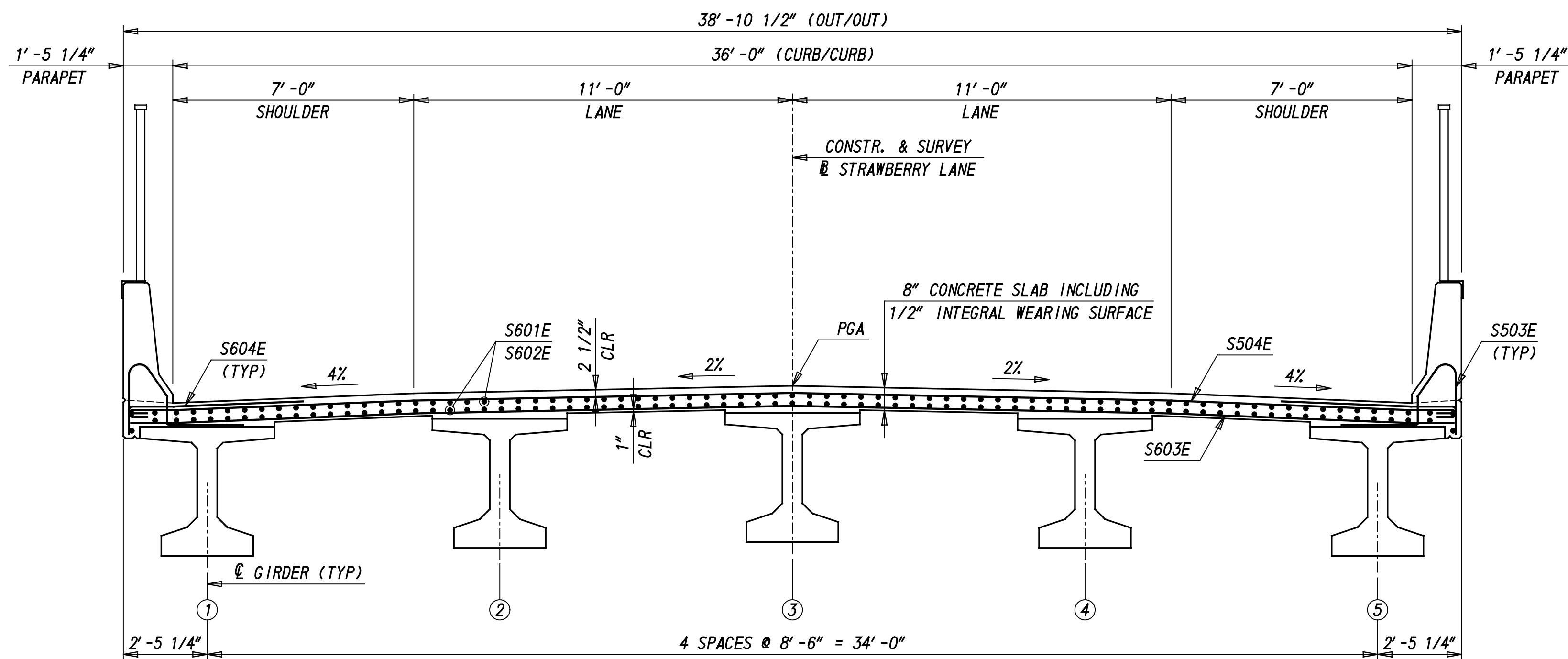
ADDENDUMS / REVISIONS

CONTRACT T200811301	BRIDGE NO. 1-486
COUNTY NEW CASTLE	DESIGNED BY: J.L.W.
	CHECKED BY: J.P.F.

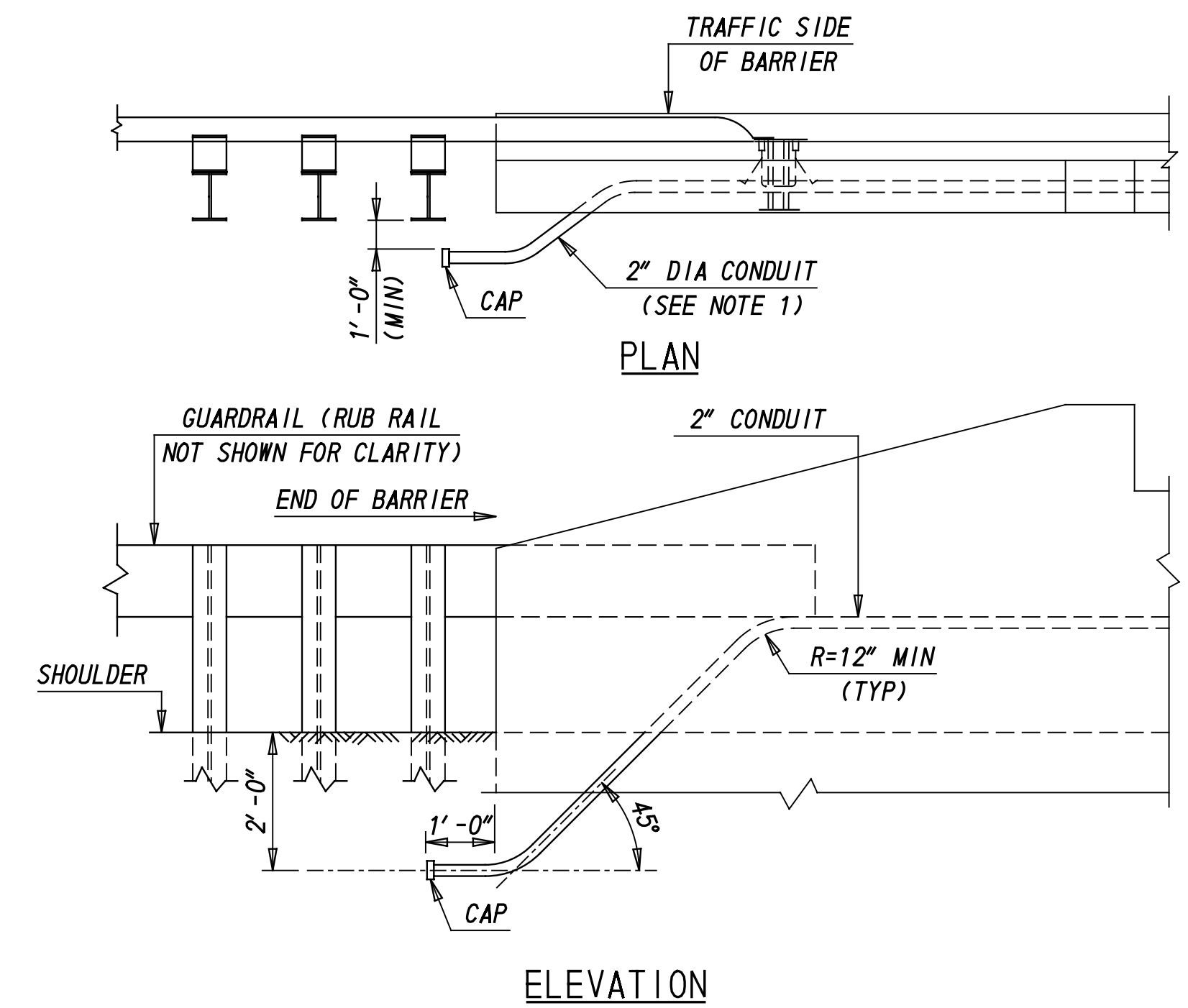
DECK PLAN AND DETAILS	SHEET NO. 284
	TOTAL SHTS. 850



TYPICAL SECTION
POSITIVE MOMENT REGIONS (MIDSPAN/POUR 1)
LOOKING STATION AHEAD



TYPICAL SECTION
NEGATIVE MOMENT REGION (OVER PIER/POUR 2)
LOOKING STATION AHEAD



CONDUIT DETAILS AT ENDS OF BRIDGE
(NOT TO SCALE)

CONDUIT NOTES:

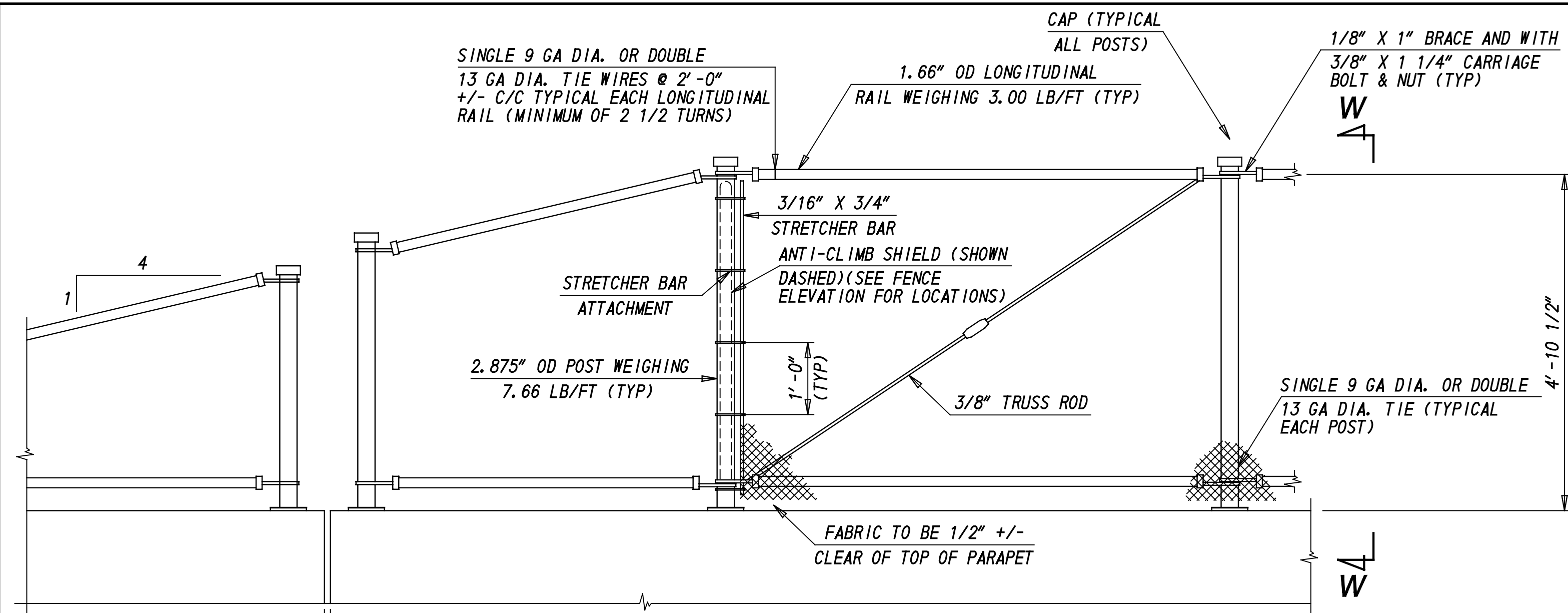
1. CONDUIT TO EXIT BARRIER ON OUTSIDE OF GUARDRAIL POST LINE TO AVOID DAMAGE TO CONDUIT.
2. PROVIDE GALVANIZED STEEL OR NON-METALLIC EXPANSION AND DEFLECTION JOINT FITTINGS THROUGH JOINTS AT THE END OF BRIDGE PARAPET. CONDUIT, FITTINGS, EXPANSION AND DEFLECTION JOINT FITTINGS, SHALL BE INCIDENTAL TO ITEM 602017. MATERIAL AND CONSTRUCTION METHODS SHALL MEET THE REQUIREMENTS, AS APPLICABLE OF SECTION 745, AND BE APPROVED BY THE ENGINEER. PROVIDE SLEEVE OF SUFFICIENT LENGTH TO ACCOMMODATE MAXIMUM EXPANSION AND CONTRACTION OF EXPANSION JOINTS.
3. SLIP FORMING OF CAST IN PLACE CONCRETE PARAPET WILL NOT BE ALLOWED ON THIS PROJECT.
4. REFER TO DECK PLAN AND POURING SEQUENCE FOR SECTION AND VIEW MARKER LOCATIONS.

WARNING:

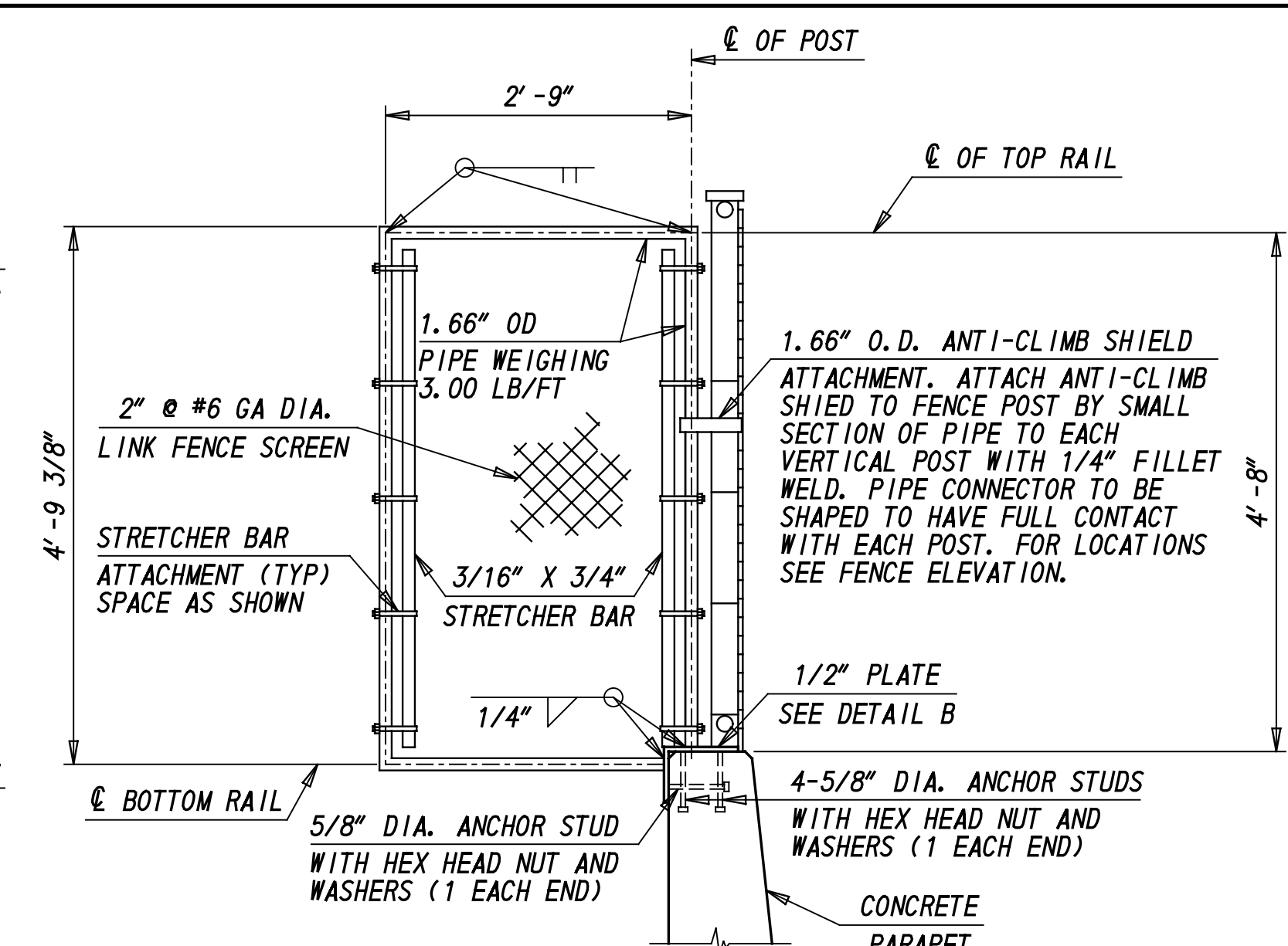
EXISTING OVERHEAD HIGH VOLTAGE POWER LINES ARE IN THE VICINITY OF THE BRIDGE CONSTRUCTION. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTORS CRANES AND OTHER HEAVY EQUIPMENT SHALL MAINTAIN A CLEAR RADIUS OF TWENTY (20) FEET PLUS AN ADDITIONAL TWENTY (20) FEET HORIZONTALLY FOR BLOWOUT FROM THE OVERHEAD HIGH VOLTAGE POWER LINES. DURING CONSTRUCTION OPERATIONS, IT IS THE CONTRACTORS OBLIGATION TO VERIFY THE EXACT LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS.

REFERENCE:

- FOR GENERAL PLAN, SEE SHEET BR1-486-01
- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR DECK PLAN AND POURING SEQUENCE, SEE SHEET BR1-486-21
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS BR1-486-26, 27



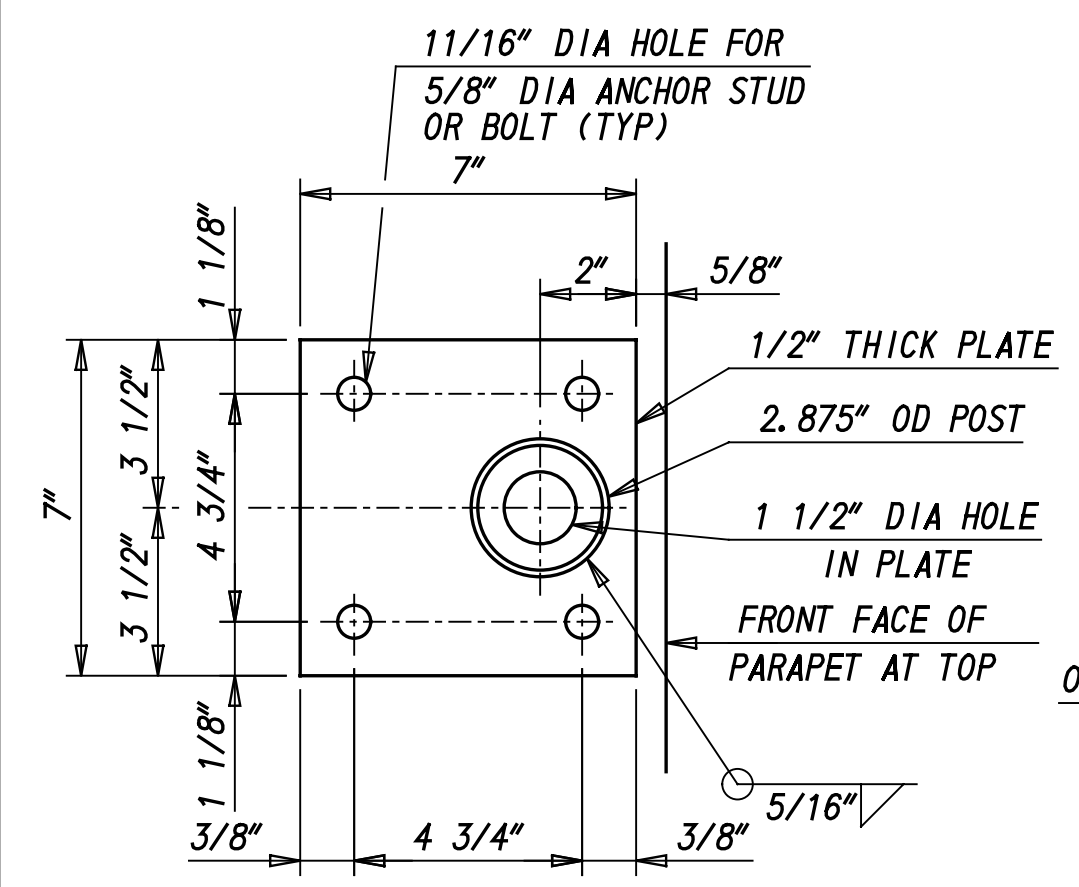
FENCE DETAIL
(NOT TO SCALE)



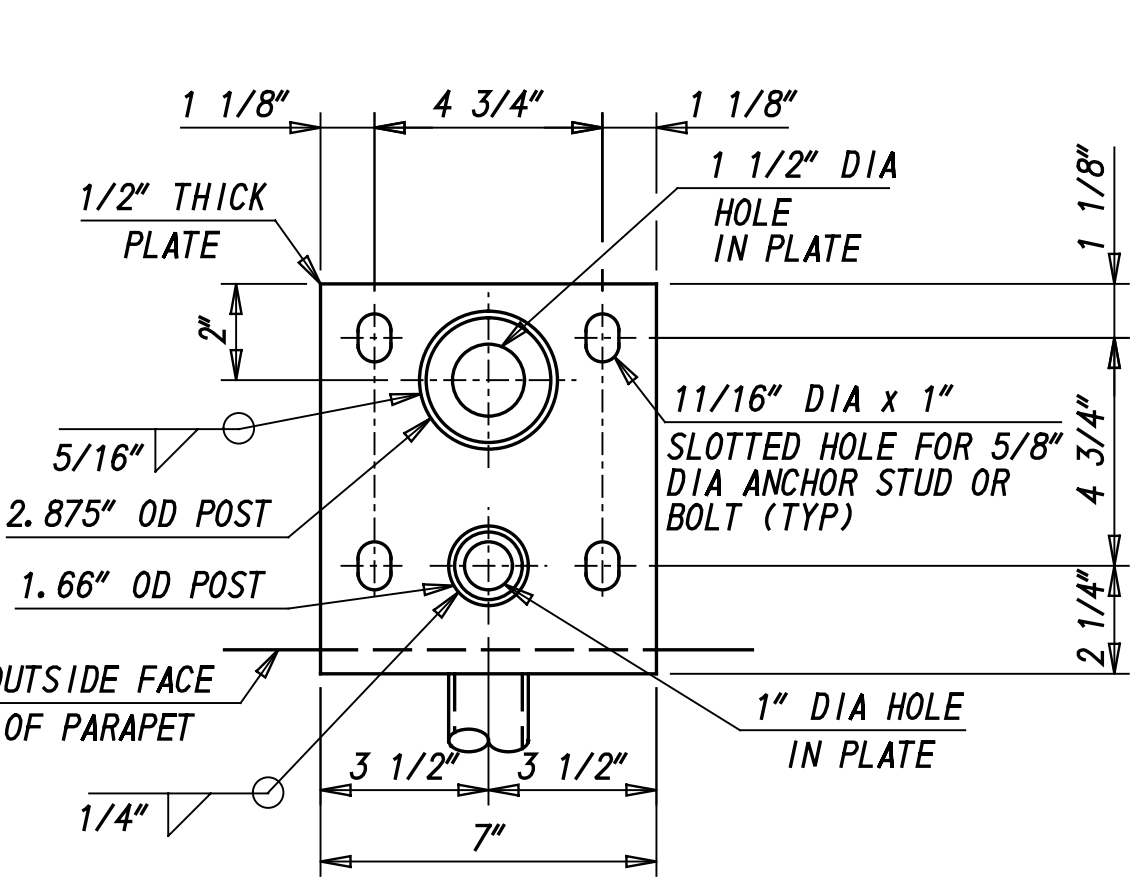
SECTION W-W
(NOT TO SCALE)

FENCE NOTES:

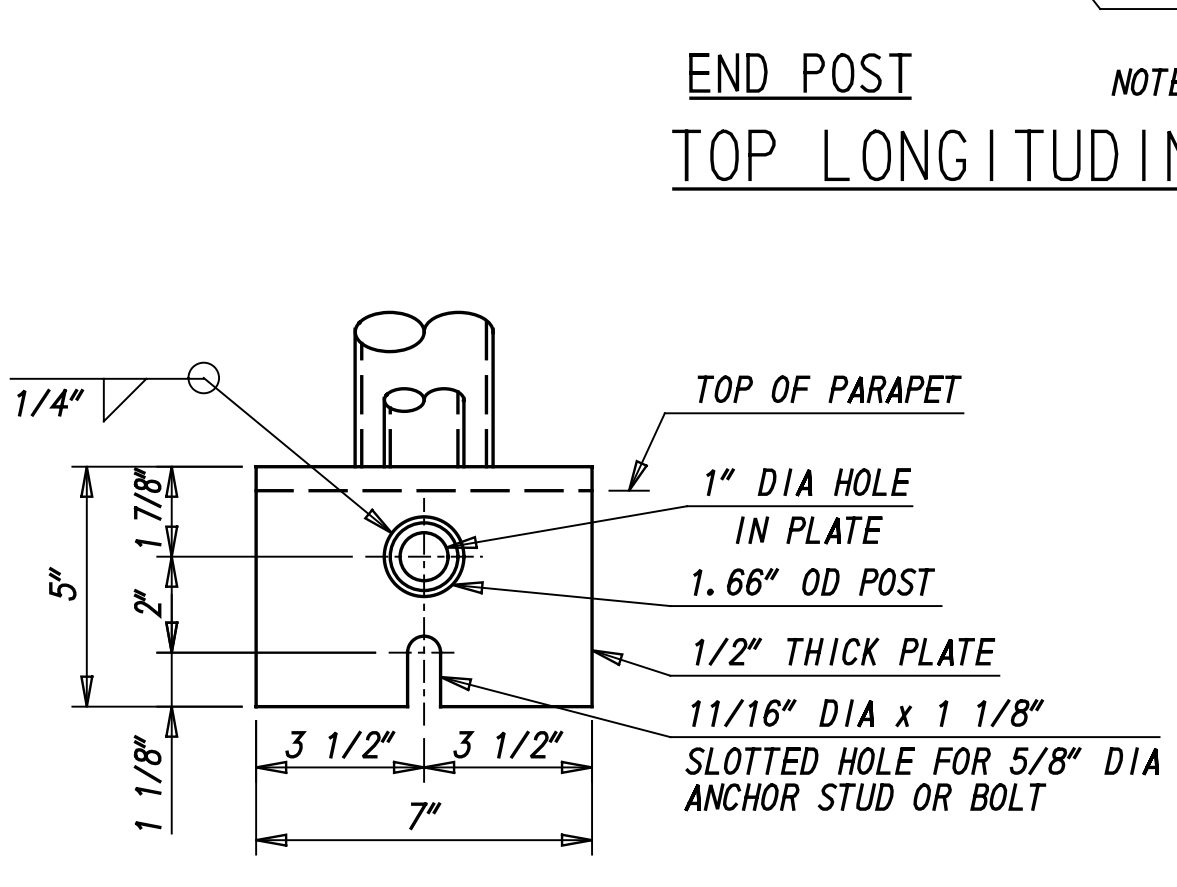
- MATERIALS:**
THE ENDS OF THE FABRIC SHALL BE KNUCKLED SELVAGE AT THE BOTTOM AND TWISTED AND BARBED SELVAGE AT THE TOP. FABRIC SHALL BE 6 GAUGE, ZINC-COATED AND MEET THE REQUIREMENTS OF SECTION 727 OF THE STANDARD SPECIFICATION. ALL POSTS, BRACES, FITTINGS AND HARDWARE SHALL BE ZINC-COATED AND MEET THE REQUIREMENTS OF SECTION 728 OF THE STANDARD SPECIFICATION. ALL PLATES SHALL BE CONFORMING TO ASTM A709 GR 36.
- ANCHOR STUDS OR BOLTS:**
MATERIAL FOR ANCHOR STUDS OR BOLTS SHALL MEET ASTM A276, TYPE 430 OR TYPE 304 STAINLESS STEEL ANNEALED, HOT-FINISHED, ULTIMATE STRENGTH 70,000 PSI MINIMUM, 20% MINIMUM ELONGATION. THREADS MAY BE ROLLED OR CUT.
- WORKING DRAWINGS:**
CONTRACTOR SHALL SUBMIT WORKING DRAWINGS FOR THE FENCE IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS.
- CONSTRUCTION REQUIREMENTS:**
ALL LONGITUDINAL RAILS SHALL BE PARALLEL TO TOP OF PARAPET. ALL POSTS SHALL BE NORMAL TO TOP OF PARAPET. THE CHAIN LINK FENCE SHALL BE TRUE TO LINE, TAUT, TIGHT FIT TO TOP OF PARAPET (1/2" MAXIMUM GAP) AND SHALL COMPLY WITH THE BEST PRACTICES FOR FENCE CONSTRUCTION OF THIS TYPE. POSTS AND RAILS SHALL BE PERMANENTLY POSITIONED BEFORE FABRIC IS PLACED.
- PAYMENT:**
ANY DEFECTS UNCOVERED BY THE INSPECTION OF WELDS ON BASE PLATES AND POLES SHALL BE REPAIRED OR REPLACED BY NEW MEMBERS AT THE SOLE EXPENSE OF THE CONTRACTOR. THIS CHAIN LINK FENCE INCLUDING ANTI-CLIMB SHIELD ITEMS WILL BE PAID UNDER ITEM "727507 - BRIDGE SAFETY FENCE."



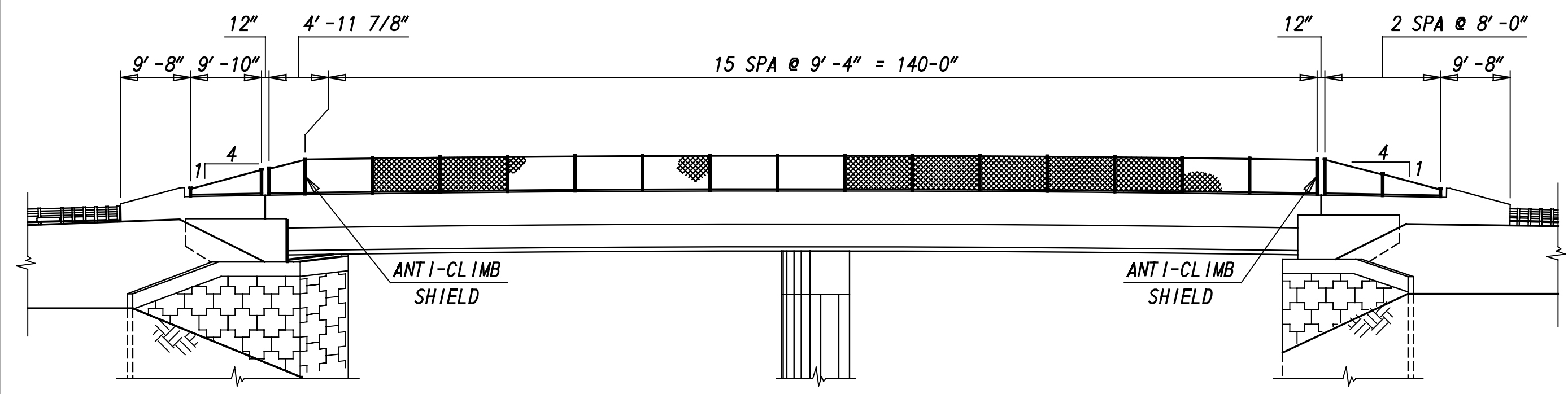
DETAIL A
(NOT TO SCALE)



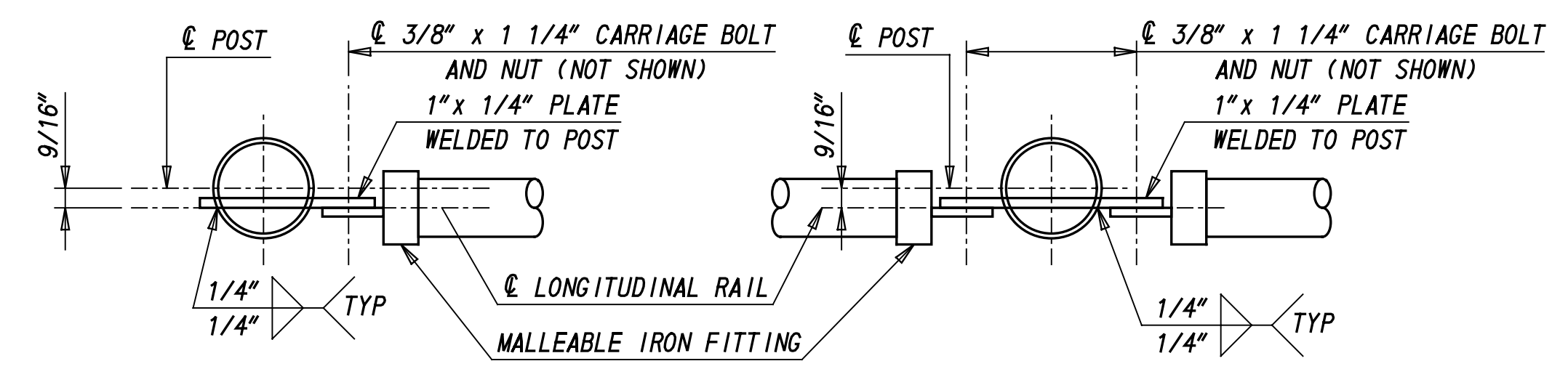
DETAIL B PLAN
(NOT TO SCALE)



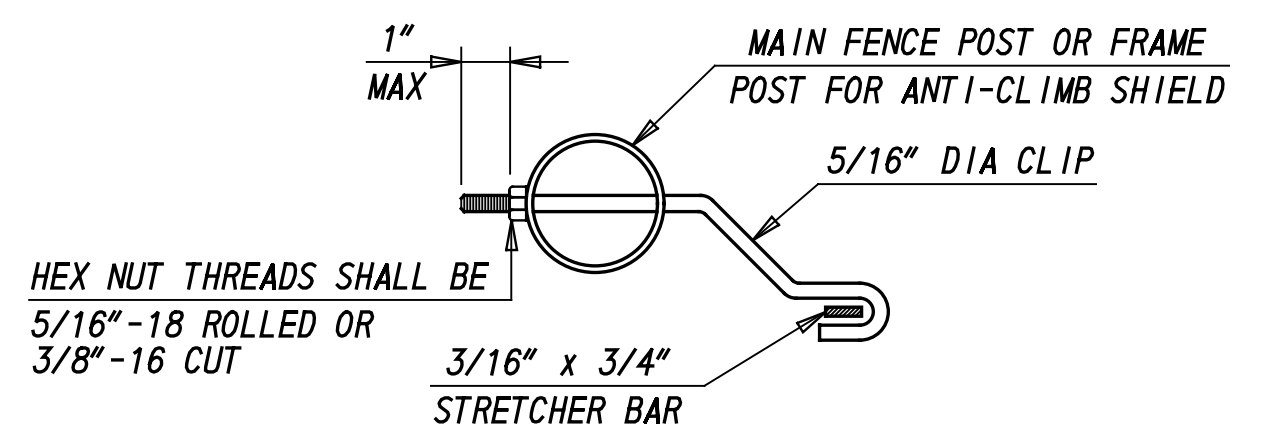
DETAIL B ELEVATION
(NOT TO SCALE)



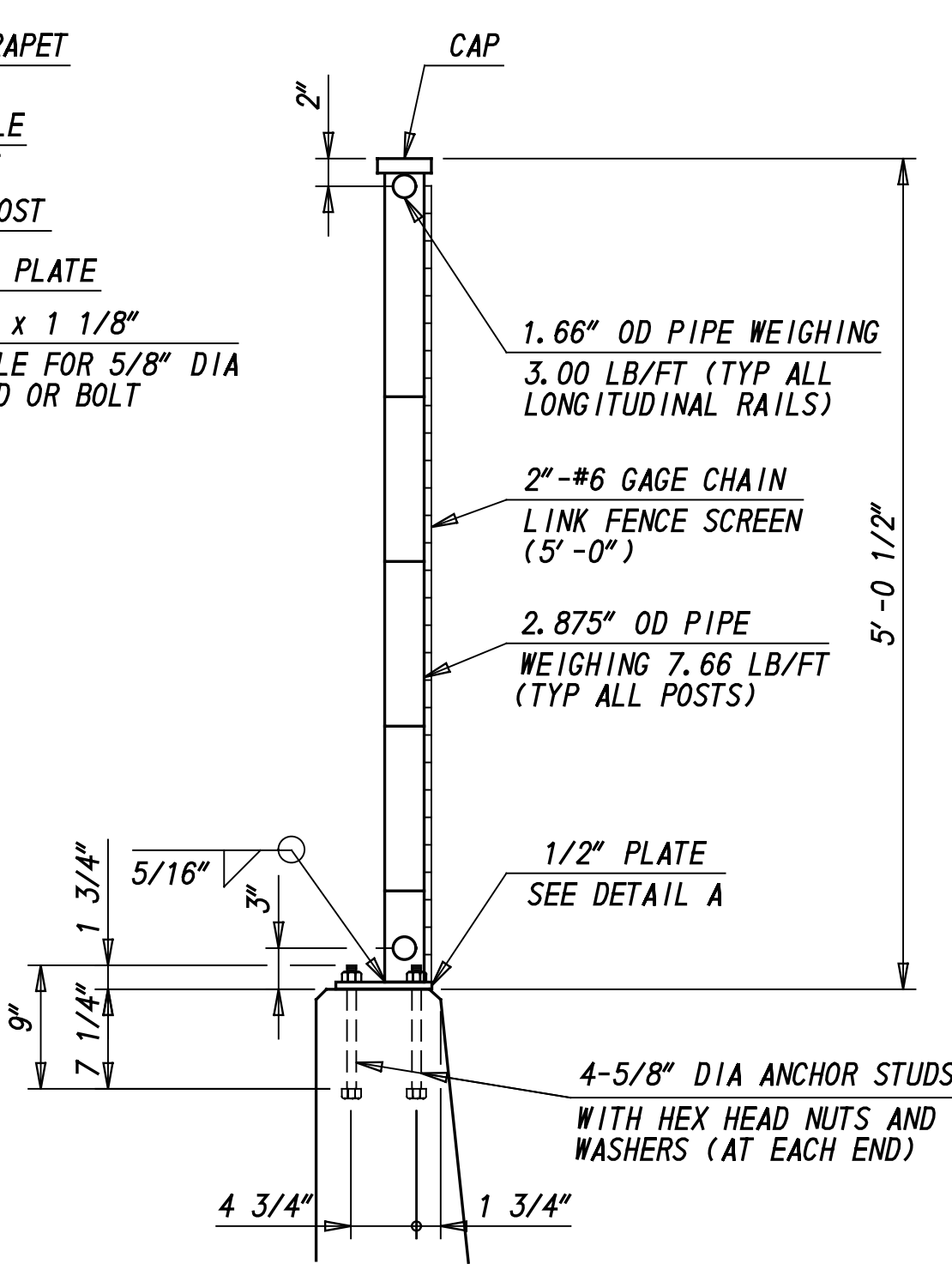
FENCE ELEVATION
SCALE 0 15' 30' 45'



END POST TOP LONGITUDINAL RAIL-POST ATTACHMENT
(NOT TO SCALE)



STRETCHER BAR ATTACHMENT
(NOT TO SCALE)



FENCE TYPICAL SECTION
(NOT TO SCALE)

REFERENCE:

- FOR GENERAL PLAN, SEE SHEET BR1-486-01
- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR PARAPET DETAILS, SEE SHEET BR1-486-21

WARNING:

EXISTING OVERHEAD HIGH VOLTAGE POWER LINES ARE IN THE VICINITY OF THE BRIDGE CONSTRUCTION. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTORS CRANES AND OTHER HEAVY EQUIPMENT SHALL MAINTAIN A CLEAR RADIUS OF TWENTY (20) FEET PLUS AN ADDITIONAL TWENTY (20) FEET HORIZONTALLY FOR BLOWOUT FROM THE OVERHEAD HIGH VOLTAGE POWER LINES. DURING CONSTRUCTION OPERATIONS, IT IS THE CONTRACTORS OBLIGATION TO VERIFY THE EXACT LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS.

ADDENDUMS / REVISIONS	

CONTRACT T200811301	BRIDGE NO. 1-486
COUNTY NEW CASTLE	DESIGNED BY: J.L.W. CHECKED BY: J.P.F.

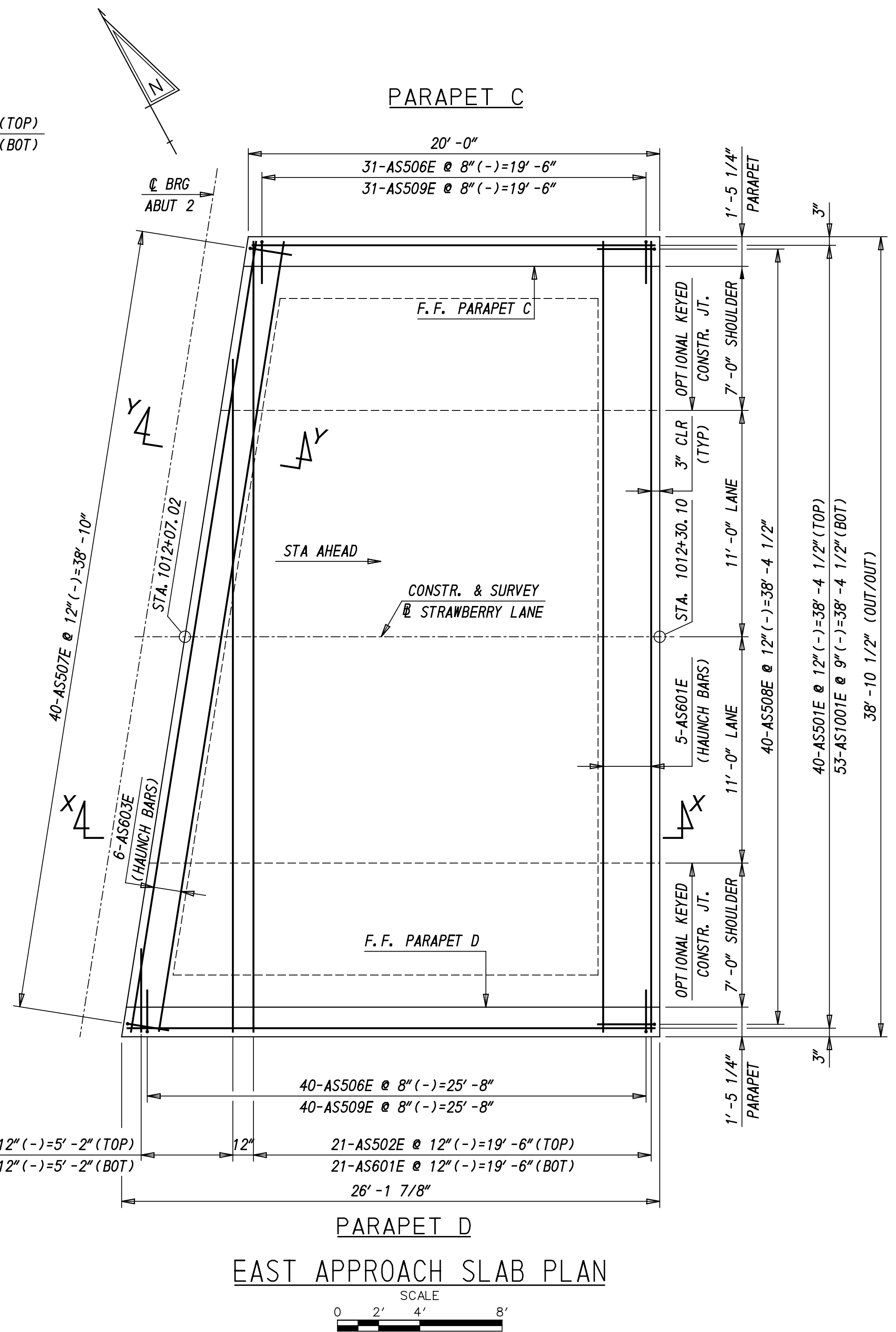
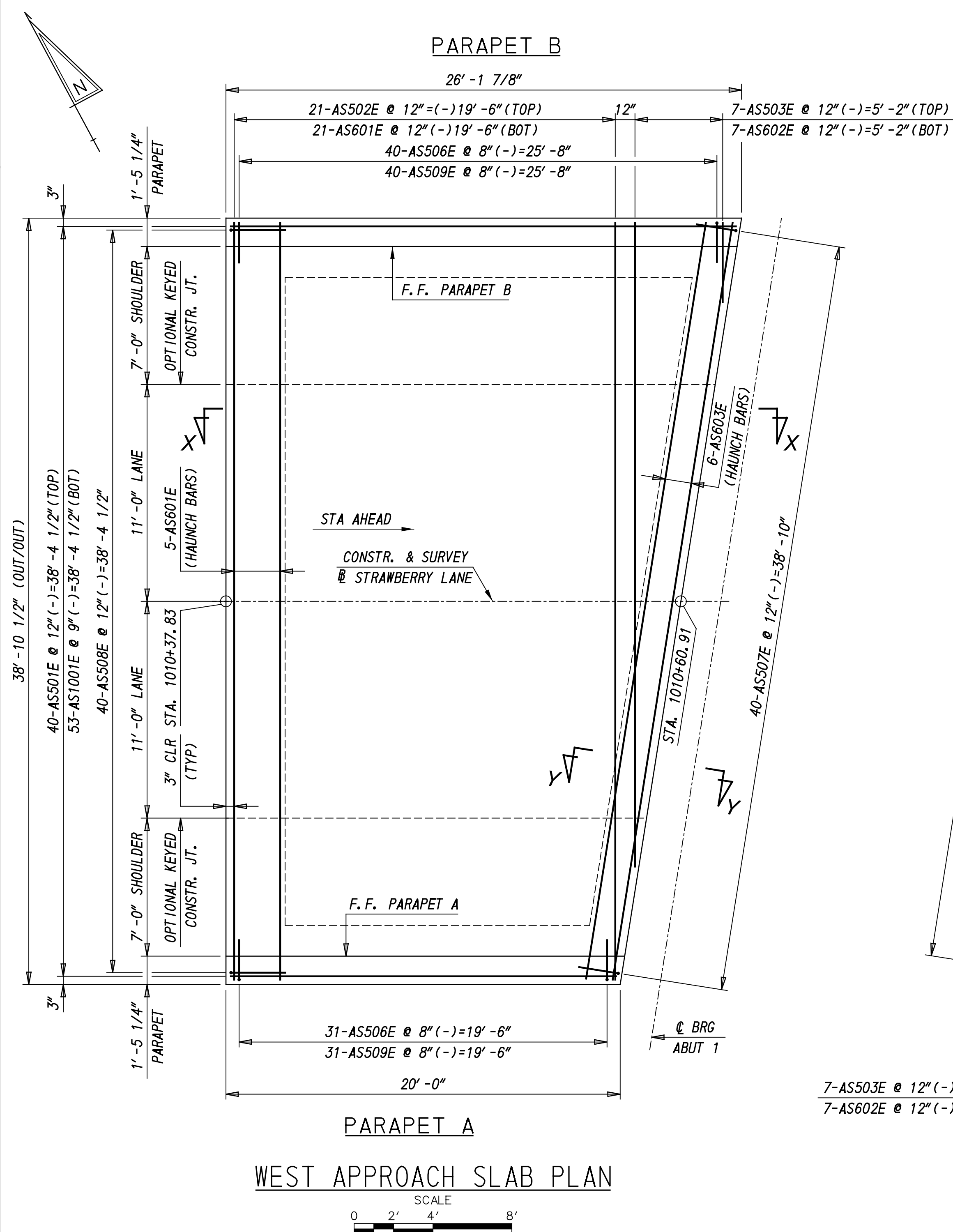
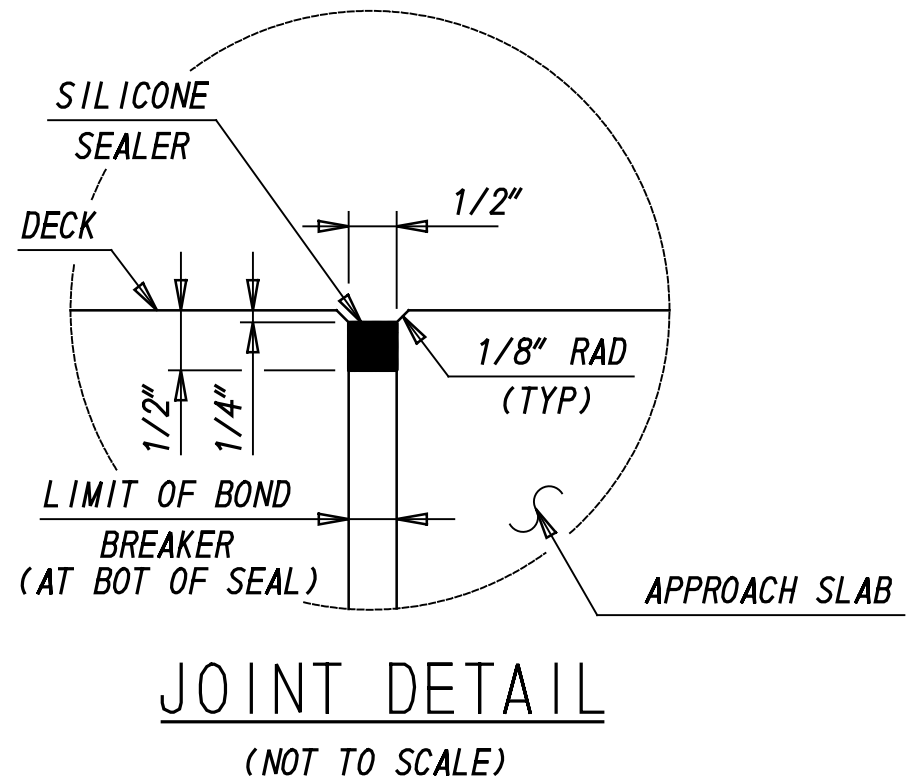
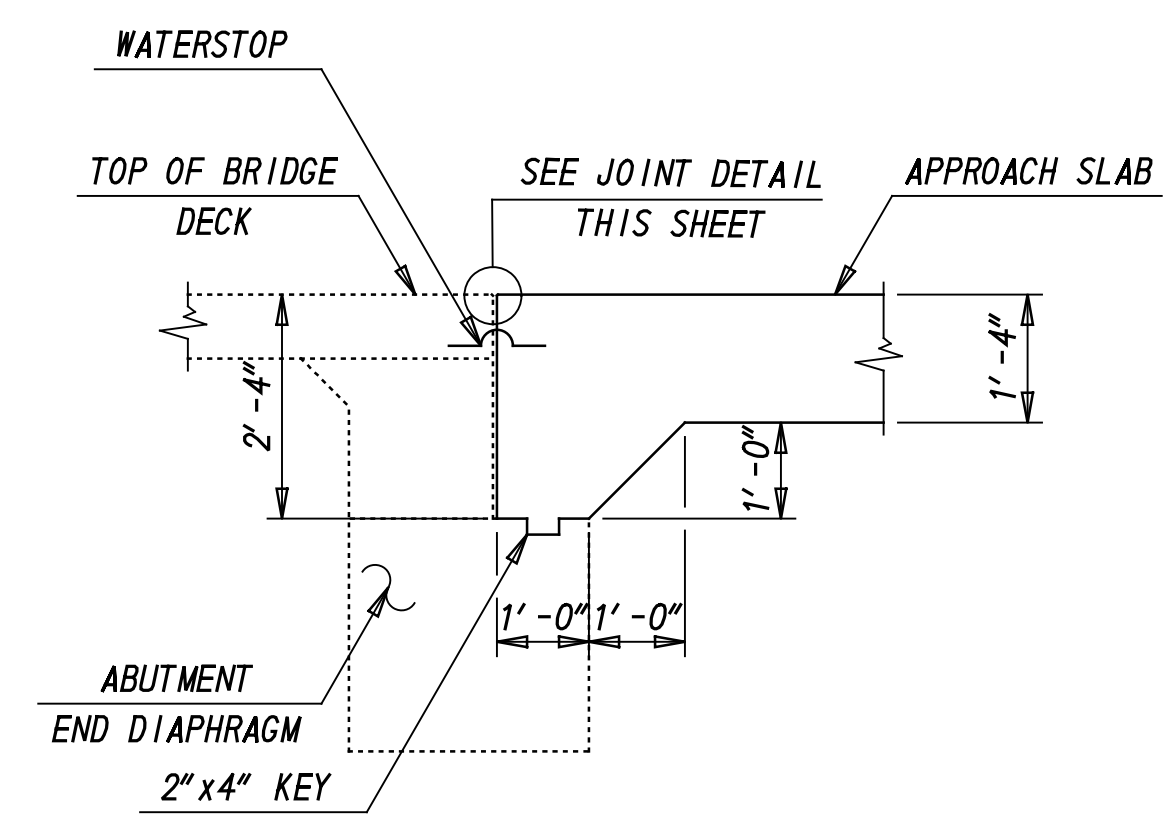


TABLE OF APPROACH SLAB ELEVATIONS						
	STATION	LEFT GUTTER	OUTSIDE EDGE LEFT LANE & OPTIONAL CONSTR. JOINT	PG	OUTSIDE EDGE RIGHT LANE & OPTIONAL CONSTR. JOINT	RIGHT GUTTER
WEST	*1010+37.83	96.70	96.98	97.20	96.98	96.70
	1010+42.83	96.80	97.08	97.30	97.08	96.80
	1010+47.83	96.90	97.18	97.40	97.18	96.90
	1010+52.83	96.99	97.27	97.49	97.27	96.99
	*1010+58.06	---	---	97.58	---	97.08
	*1010+59.17	---	---	97.60	97.38	---
	*1010+60.91	---	---	97.63	---	---
	*1010+62.65	---	97.43	97.65	---	---
	*1010+63.76	97.17	---	97.67	---	---
	*1012+04.17	---	---	97.62	---	97.12
EAST	*1012+05.28	---	---	97.60	97.38	---
	*1012+07.02	---	---	97.57	---	---
	*1012+08.76	---	97.32	97.54	---	---
	*1012+09.87	97.03	---	97.53	---	---
	1012+15.10	96.93	97.21	97.43	97.21	96.93
	1012+20.10	96.84	97.12	97.34	97.12	96.84
	1012+25.10	96.74	97.02	97.24	97.02	96.74
	*1012+30.10	96.63	96.91	97.13	96.91	96.63

* DESIGNATES BEGIN/END OF APPROACH SLAB



APPROACH SLAB NOTES:

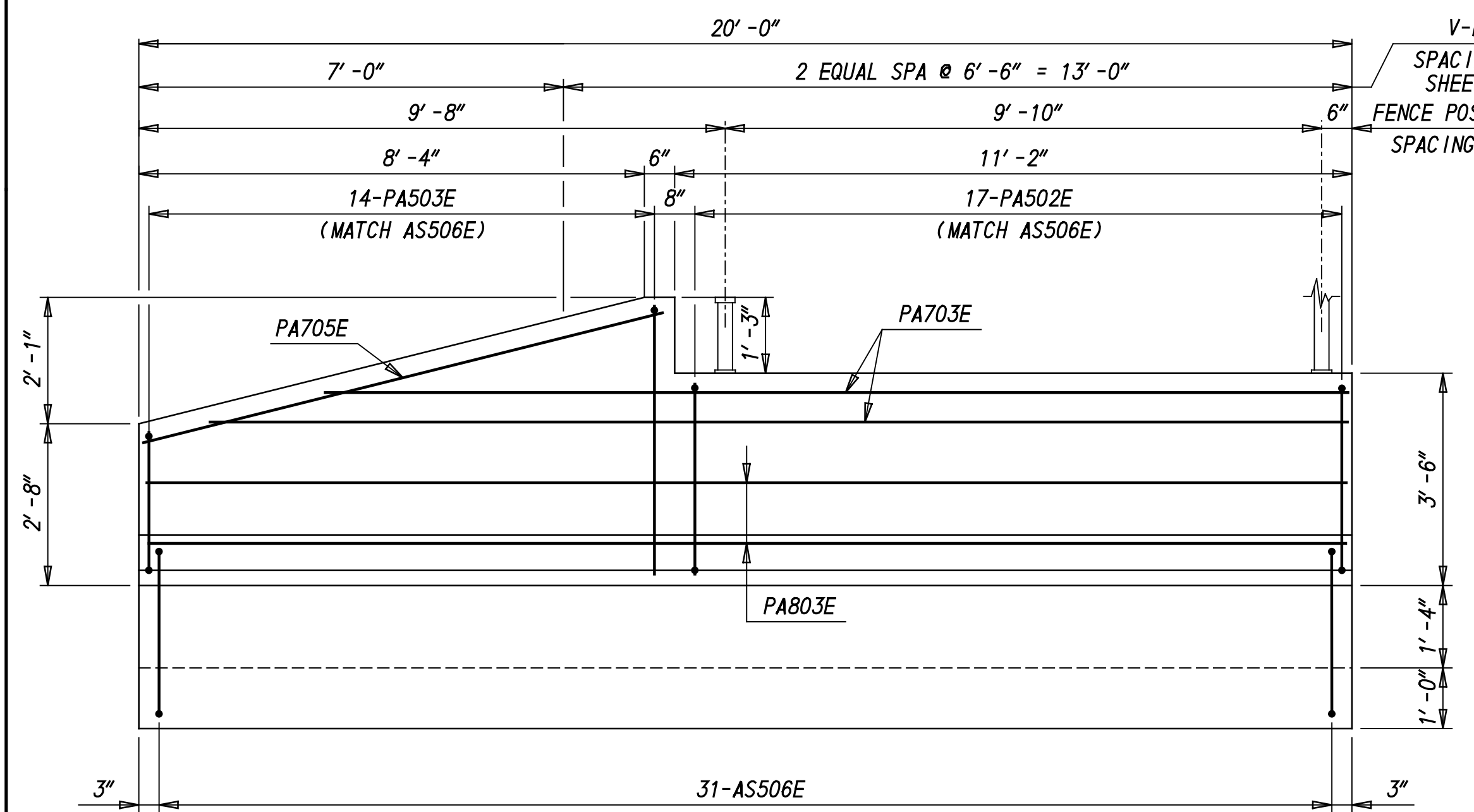
- PAYMENT FOR JOINT DETAIL BETWEEN BRIDGE DECK AND APPROACH SLAB SHALL BE INCIDENTAL TO ITEM "602014 - PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D".

REFERENCE:

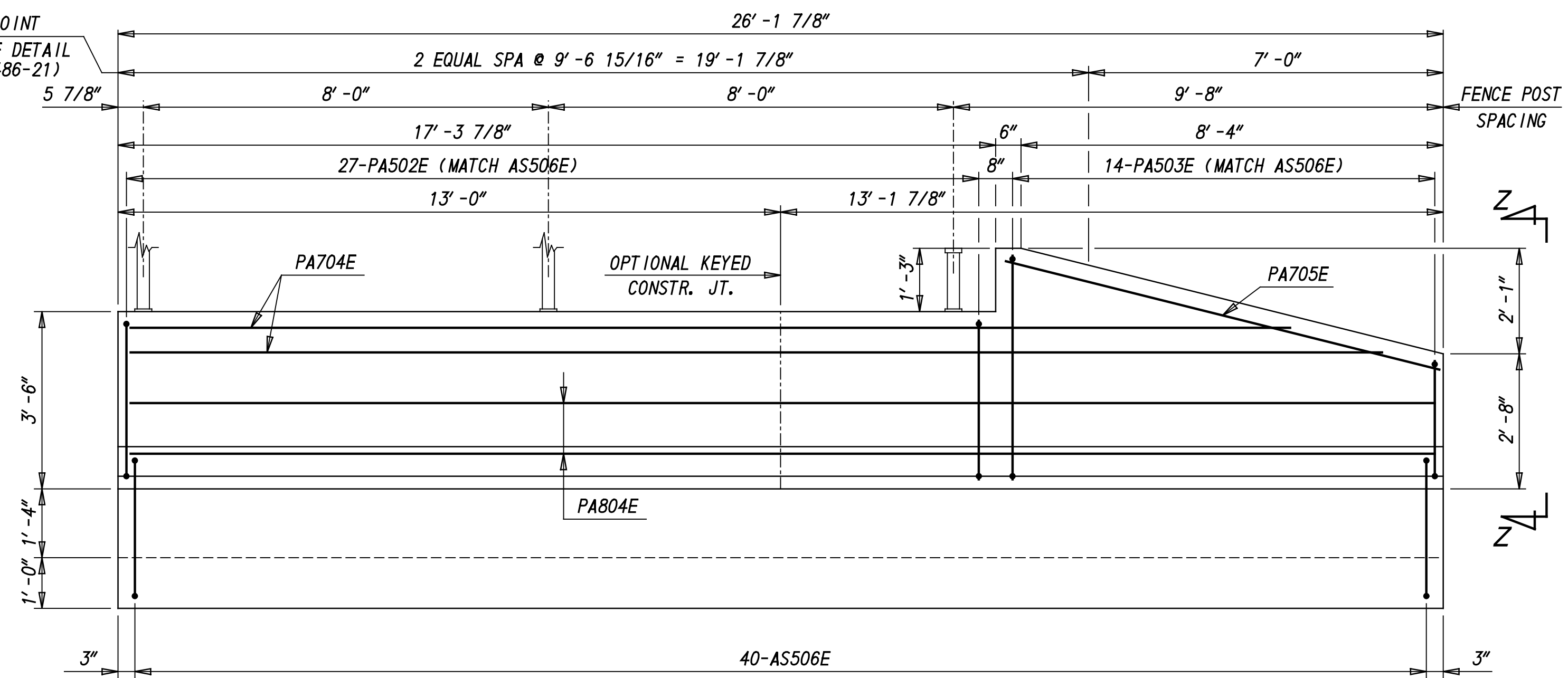
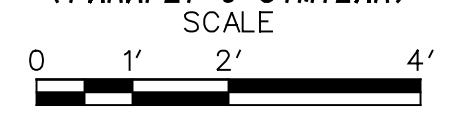
- FOR GENERAL PLAN, SEE SHEET BR1-486-01
- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR SECTION X-X, SEE SHEET BR1-486-25
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS BR1-486-26, 27
- FOR WATERSTOP DETAIL, SEE SHEET BR1-486-18

WARNING:

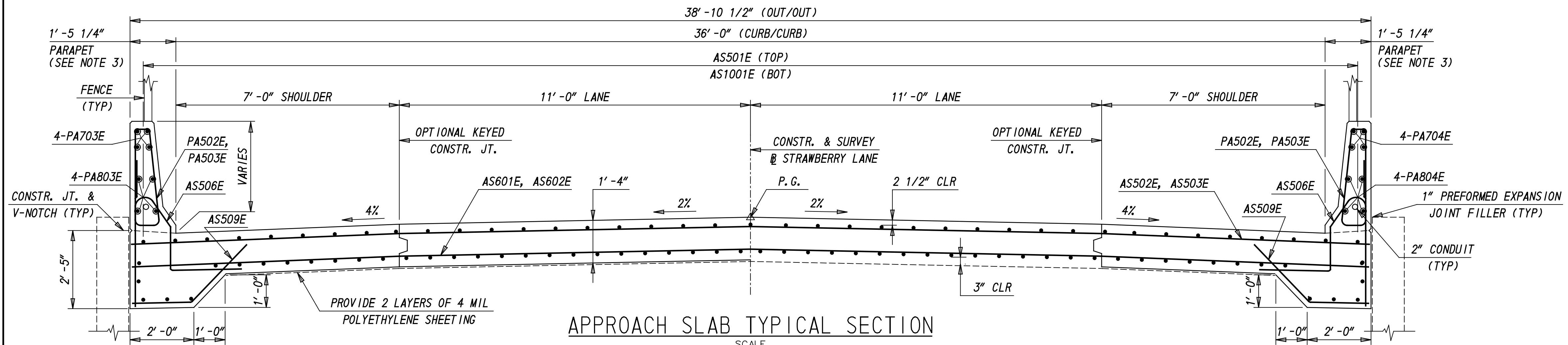
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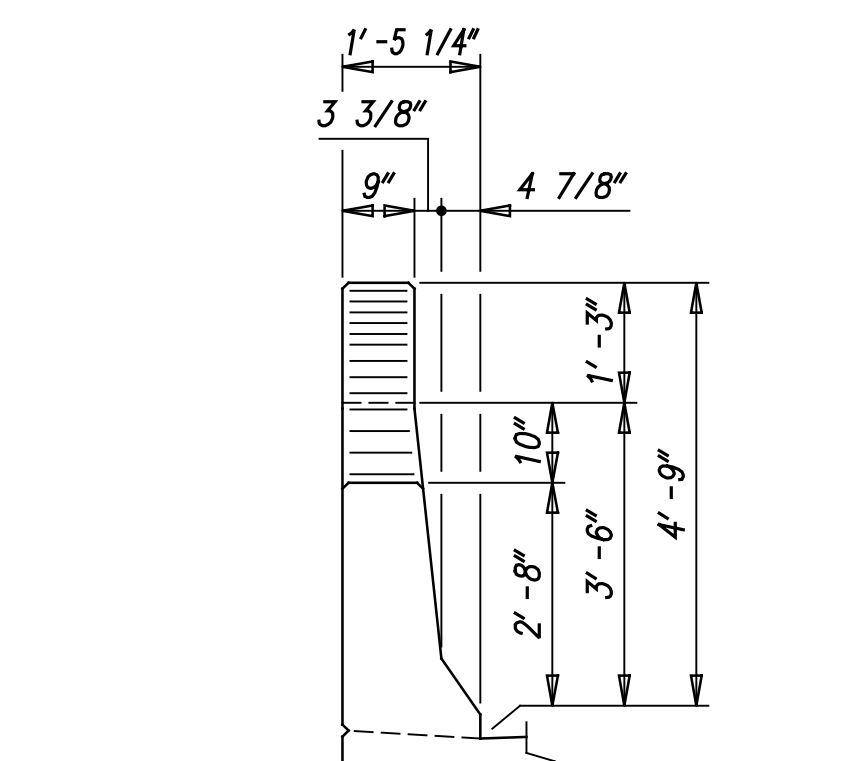
PARAPET A ELEVATION
(PARAPET C SIMILAR)
SCALE



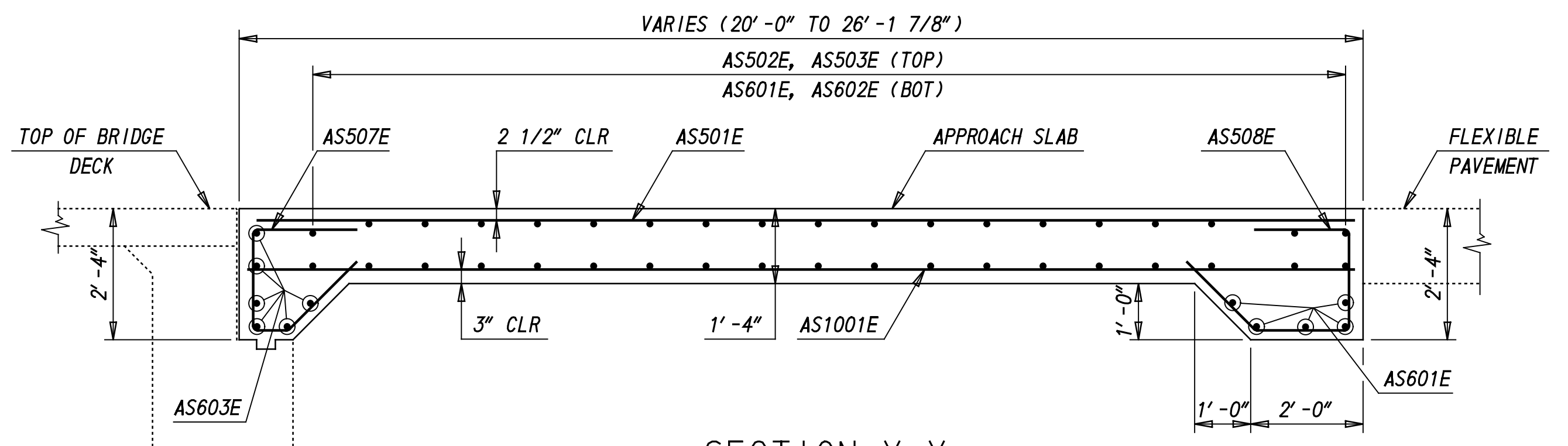
PARAPET B ELEVATION
(PARAPET D SIMILAR)
SCALE



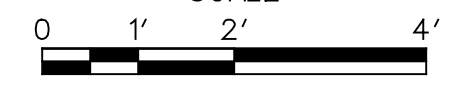
APPROACH SLAB TYPICAL SECTION
SCALE



NOTE: REINFORCEMENT NOT SHOWN FOR CLARITY
SECTION Z-Z
SCALE



SECTION X-X
SCALE

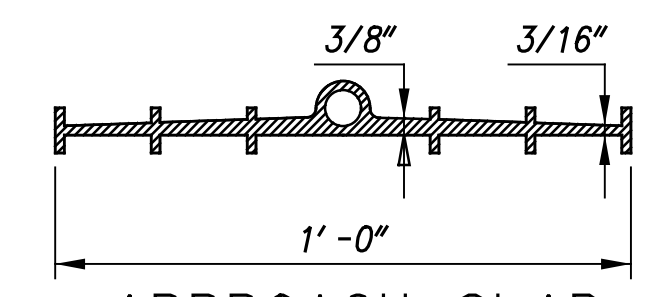


APPROACH SLAB NOTES:

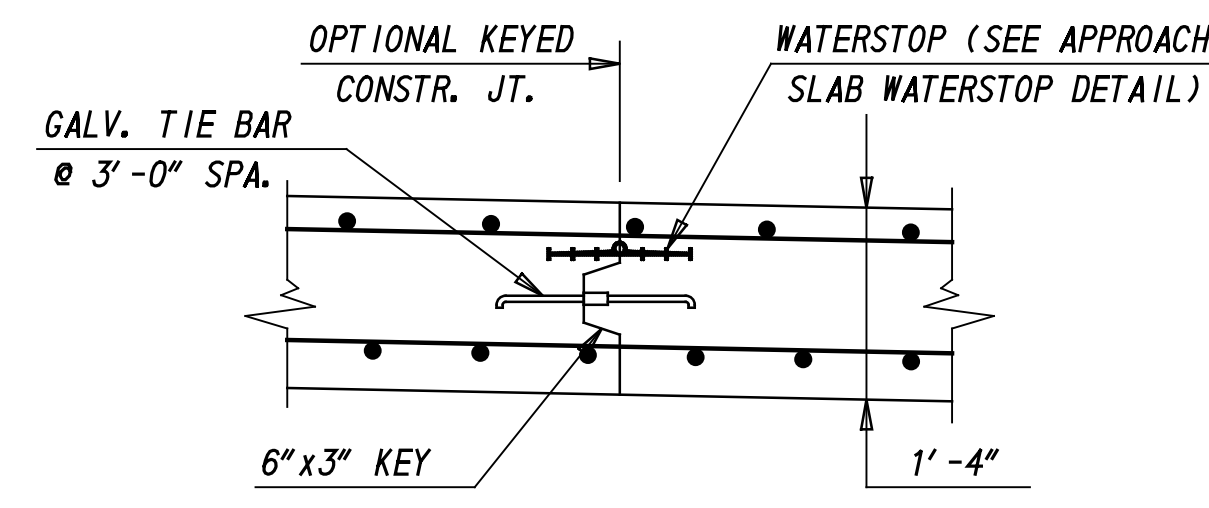
1. SLIP FORMING OF THE CAST IN PLACE CONCRETE PARAPET WILL NOT BE ALLOWED ON THIS PROJECT
2. ALL JOINTS THAT ARE TO BE SEALED SHALL BE FREE OF CRACKED AND SPALLED AREAS AND THEIR FACES SHALL BE FREE OF ALL FOREIGN MATTER, CURING COMPOUNDS, OILS, GREASE, AND DIRT. ALL FACES MUST BE SANDBLASTED OR BRUSHED WITH A MECHANICAL ROTARY WIRE BRUSH. JUST PRIOR TO SEALING, THE JOINT SHALL BE BLOWN OUT WITH OIL-FREE COMPRESSED AIR.
3. APPROACH SLAB PARAPET DIMENSIONS SIMILAR TO SUPERSTRUCTURE PARAPET DIMENSIONS. NO REDUCTION IN WIDTH OCCURS AT THE PARAPET TO GUARDRAIL TRANSITION.

REFERENCE:

- FOR PROJECT NOTES, SEE SHEET BR1-486-03
- FOR PARAPET DETAIL, SEE SHEET BR1-486-21
- FOR CONDUIT DETAILS, SEE SHEET BR1-486-22
- FOR APPROACH SLAB PLAN, SEE SHEET BR1-486-24
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS BR1-486-26, 27



APPROACH SLAB WATERSTOP DETAIL
(NOT TO SCALE)



APPROACH SLAB CONSTRUCTION JOINT DETAIL
(NOT TO SCALE)

WARNING:

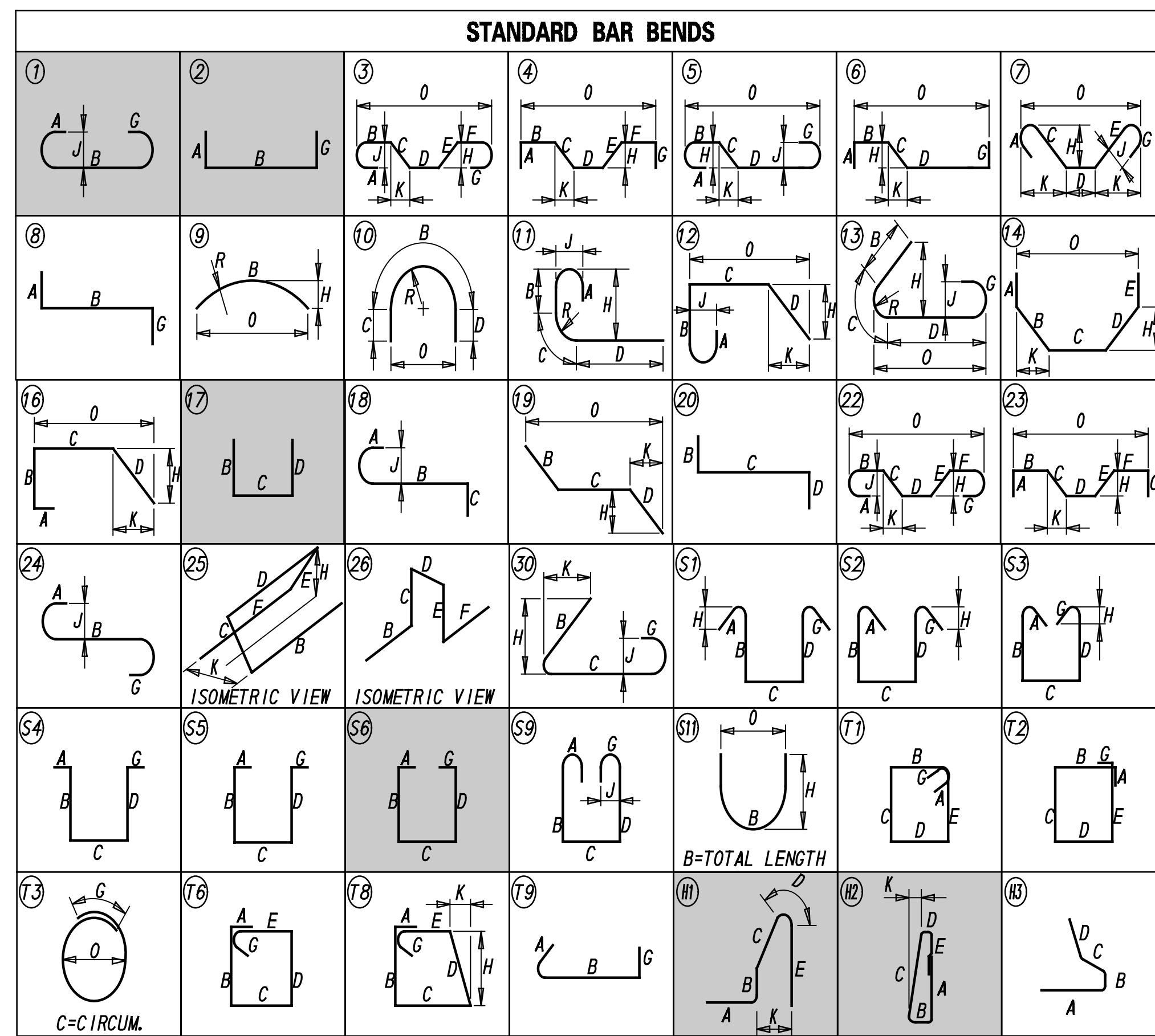
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ADDENDUMS / REVISIONS

CONTRACT	BRIDGE NO.	1-486
T200811301	DESIGNED BY:	JLW
COUNTY	CHECKED BY:	JPF
NEW CASTLE		

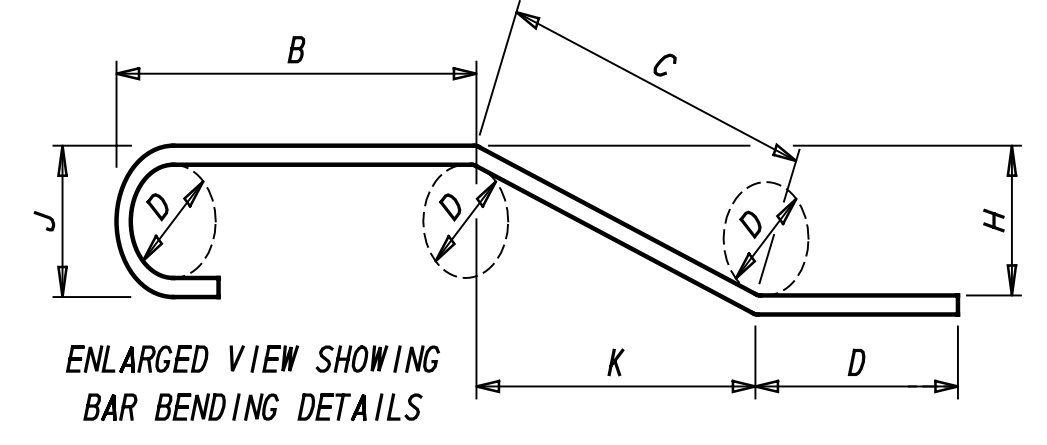
APPROACH SLAB DETAILS	
SHEET NO.	288
TOTAL SHTS.	850

SPECIFICATIONS					BENDING DIMENSIONS										REMARKS
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	
PARAPET															
440	5	7'-11"	PA501E	H2	2'-0"	8 3/4"	2'-9"	5 1/4"	1'-7"	2"				4"	
88	5	7'-11"	PA502E	H2	2'-0"	8 3/4"	2'-9"	5 1/4"	1'-7"	2"				4"	
56	5	7'-7" TO 10'-6"	PA503E	H2	1'-5" TO 3'-3"	8 3/4"	3'-0" TO 4'-5"	5 1/4" TO 6 1/4"	1'-7"	2"				3" TO 4"	VARY 4 EA BY 2 1/2"
16	7	60'-0"	PA701E	STR											
8	7	3'-6"	PA702E	STR											
8	7	18'-8" TO 16'-8"	PA703E	STR											VARY 4 EA BY 24"
8	7	24'-10" TO 22'-10"	PA704E	STR											VARY 4 EA BY 24"
8	7	8'-7"	PA705E	STR											
16	8	60'-0"	PA801E	STR											
8	8	3'-6"	PA802E	STR											
8	8	19'-8"	PA803E	STR											
8	8	25'-10"	PA804E	STR											
DECK															
84	5	52'-7"	S501E	STR											
80	5	50'-7"	S502E	STR											
440	5	6'-6"	S503E	H1	2'-0"	7 1/2"	1'-2"	7 1/2"	1'-10"					1'-11/4"	R1=2", R2=3"
221	5	40'-2"	S504E	1	7"	39'-0"					7"		5"		
80	6	46'-6"	S601E	STR											
76	6	48'-6"	S602E	STR											
221	6	39'-0"	S603E	STR											
442	6	8'-6"	S604E	1	8"	7'-10"					0"		6"		
DIAPHRAGMS															
64	5	5'-3"	S505E	STR											
6	5	5'-8"	S506E	17		1'-0"	3'-8"	1'-0"							
48	5	5'-3"	S507E	STR											
8	5	5'-0"	S508E	STR											
12	5	1'-0" TO 1'-6"	S509E	STR											VARY 4 EA BY 6"
10	5	2'-6"	S510E	STR											
144	5	3'-7"	S511E	17		1'-6"	7"	1'-6"							
56	5	8'-9"	S512E	17		3'-3"	2'-3"	3'-3"							
20	5	5'-3"	S513E	17		1'-6"	2'-3"	1'-6"							
40	5	4'-0"	S514E	17		1'-8"	8"	1'-8"							
32	5	7'-6"	S515E	S6	1'-11"	2'-2"	1'-11"	1'-6"			0"				
96	5	5'-3"	S516E	STR											THREADED ENDS
50	5	4'-2"	S517E	2	3'-0"	1'-2"					0"				
24	5	2'-3"	S518E	STR											
8	5	5'-0"	S519E	STR											
50	5	4'-3"	S520E	17		1'-2"	1'-11"	1'-2"							
60	5	7'-2"	S521E	17		3'-0"	1'-2"	3'-0"							
28	5	7'-2"	S522E	S6	1'-11"	2'-2"	1'-6"	1'-6"			0"				
12	5	39'-0"	S524E	STR											
32	6	5'-3"	S605E	STR											
16	10	3'-8"	D1001E	STR											

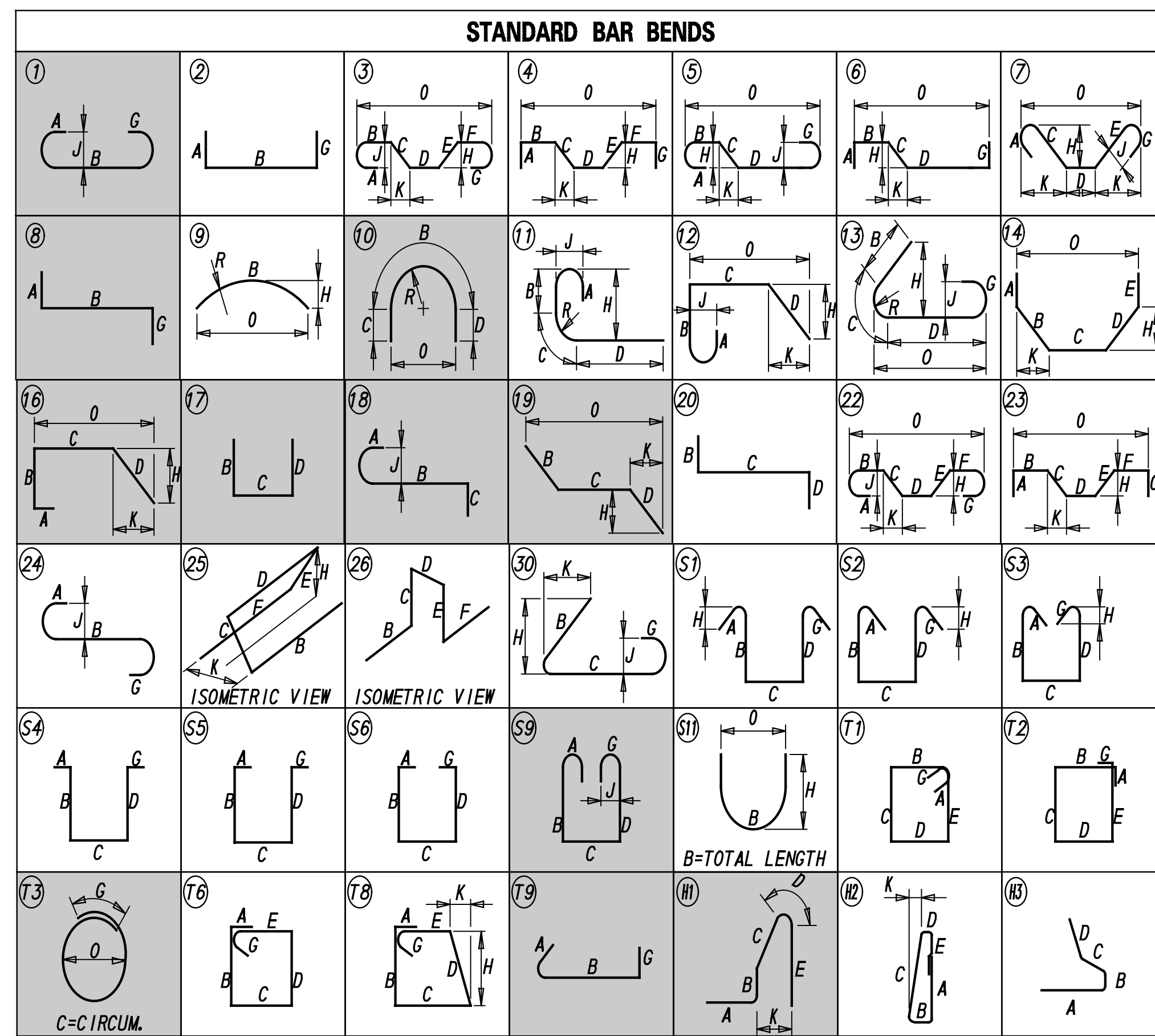


ASTM STANDARD ENGLISH REINFORCING BARS				RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES				STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES			
NOMINAL DIMENSIONS				180° HOOKS				90° HOOKS			
BAR SIZE	DIAMETER (INCHES)	AREA (INCHES ²)	WEIGHT (LBS./FT.)	D		A OR G		D		A OR G	
				A OR G	J	A OR G	J	A OR G	A OR G		
3	0.375	0.110	0.376	2 1/4"	5"	3"	6"	1 1/2"	4"	4"	2 1/2"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4 1/2"	4 1/2"	3"
5	0.625	0.310	1.043	3 3/4"	7"	5"	10"	2 1/2"	6"	5 1/2"	3 3/4"
6	0.750	0.440	1.502	4 1/2"	8"	6"	11"	3"	7"	6"	4 1/2"
7	0.875	0.600	2.044	5 1/4"	10"	7"	12"	3 1/2"	8"	7"	5 1/4"
8	1.000	0.790	2.670	6"	11"	8"	13"	4"	9"	8"	6"
9	1.128	1.000	3.400	6 3/4"	12"	9"	14"	4 1/2"	10"	9"	6 3/4"
10	1.270	1.270	4.303	7 1/2"	13"	10"	15"	5"	11"	10"	7 1/2"
11	1.410	1.560	5.313	8 1/2"	14"	11"	16"	5 1/2"	12"	11"	8 1/2"
14	1.693	2.250	7.650	10 1/4"	17"	14"	19"	6 1/2"	15"	14"	10 1/4"
18	2.257	4.000	13.600	14"	21"	18"	24"	8 1/2"	20"	18"	14"

- NOTES:**
- FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
 - STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
 - ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "G" STD. 180° AND 135° HOOKS.
 - "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACY' HOOKS ARE TO BE USED.
 - WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5, AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
 - "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
 - UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
 - WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
 - WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
 - FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRS' OR 'ACY' TABLES WHERE APPLICABLE AND REQUIRED.
 - TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.



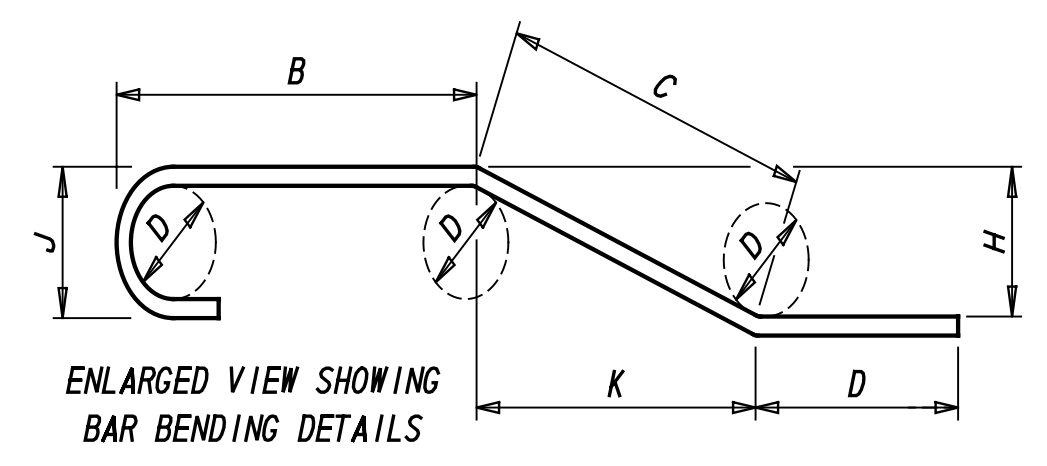
SPECIFICATIONS					BENDING DIMENSIONS											REMARKS
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O	
PIER																
8	5	38'-0"	P501E	STR												
8	5	6'-6" TO 7'-2"	P502E	17		2'-1"	2'-4" TO 3'-0"	2'-1"								VARY C 4 EA BY 8"
4	5	7'-4"	P503E	17		2'-1"	3'-2"	2'-1"								
4	5	8'-3"	P504E	10		5'-9"	1'-0"	1'-6"							3'-8"	
4	5	5'-8"	P505E	17		1'-0"	3'-8"	1'-0"								
25	5	5'-8"	P506E	17		1'-8"	2'-4"	1'-8"								
15	5	7'-0"	P507E	17		1'-8"	3'-8"	1'-8"								
152	5	4'-10"	P508E	1	7"	3'-8"					7"		5"			
76	5	6'-10"	P509E	1	7"	5'-8"					7"		5"			
116	6	11'-8"	P601E	17		4'-6"	2'-8"	4'-6"								
100	6	10'-11"	P602E	H4	8"	5'-8"	1'-6"				8"		6"		3'-8"	
100	6	12'-8"	P603E	S9	8"	3'-10"	3'-8"	3'-10"			8"		6"			
18	8	41'-6" TO 43'-6"	P801E	STR												VARY 6 EA BY 1'-0"
36	8	16'-0"	P802E	8	6'-10"	9'-2"					0"					
24	9	38'-0"	P901E	STR												
296	5	3'-4 1/2"	F501E	T9	5 1/2"	2'-5"					6"					
42	6	19'-6"	F601E	STR												
44	6	17'-6"	F602E	STR												
12	6	10'-0"	F603E	H4	8"	5'-8"	1'-6"				8"		6"			
12	6	12'-8"	F604E	S9	8"	3'-10"	3'-8"	3'-10"			8"		6"			
84	8	17'-6"	F801E	STR												
80	8	19'-6"	F802E	STR												
78	10	28'-0"	F1001E	8	1'-10"	27'-2"					0"					
ABUTMENTS																
164	5	8'-11"	A501E	17		2'-8"	3'-8"	2'-8"								
24	5	7'-2"	A503E	17		1'-9"	3'-8"	1'-9"								
16	5	8'-10"	A504E	17		1'-9"	5'-4"	1'-9"								
12	5	4'-2"	A505E	STR												
88	5	3'-6" TO 9'-0"	A506E	STR												VARY 8 EA BY 6 1/2"
40	5	4'-10"	A507E	STR												
20	5	12'-8"	A508E	17		6'-0"	8"	6'-0"								
8	5	14'-11"	A509E	19	4'-8"	0"	4'-8"	10'-3"				5'-4"	8'-9"			
16	6	43'-2"	A601E	1	1'-0"	41'-2"					1'-0"		6"			
6	6	4'-2"	A602E	STR												
48	6	3'-8"	A603E	STR												
80	7	5'-11" TO 13'-3"	A701E	STR												VARY 8 EA BY 9 3/4"
64	7	13'-7"	A702E	STR												
16	9	4'-2"	A901E	STR												
PILES																
176	5	3'-10"	M501E	T3							1'-3"				10"	PIPE PILE ONLY
64	5	3'-0"	M502E	STR												H-PILE ONLY
96	8	10'-11"	M801E	18	11"	10'-0"	0"						8"			PIPE PILE ONLY
APPROACH SLABS																
80	5	19'-8" TO 25'-10"	AS501E	STR												VARY 2 EA BY 2"
42	5	38'-6"	AS502E	STR												
14	5	4'-0" TO 32'-6"	AS503E	STR												VARY 2 EA BY 4'-9"
142	5	6'-6"	AS506E	H1	2'-0"	7 1/2"	1'-2"	7 1/2"	1'-10"				1'-11/4"			R1=2", R2=3"
80	5	5'-11"	AS507E	16	1'-10"	1'-9"	7"	1'-9"							2'-10"	
80	5	6'-10"	AS508E	16	1'-10"	1'-9"	1'-8"	1'-9"							1'-10"	
142	5	4'-3"	AS509E	16	0"	0"	1'-8"	2'-7"							2'-7"	
52	6	38'-6"	AS601E	STR												
14	6	4'-0" TO 32'-6"	AS602E	STR												VARY 2 EA BY 4'-9"
12	6	39'-0"	AS603	STR												
106	10	19'-8" TO 25'-10"	AS1001E	STR												VARY 2 EA BY 11/2"

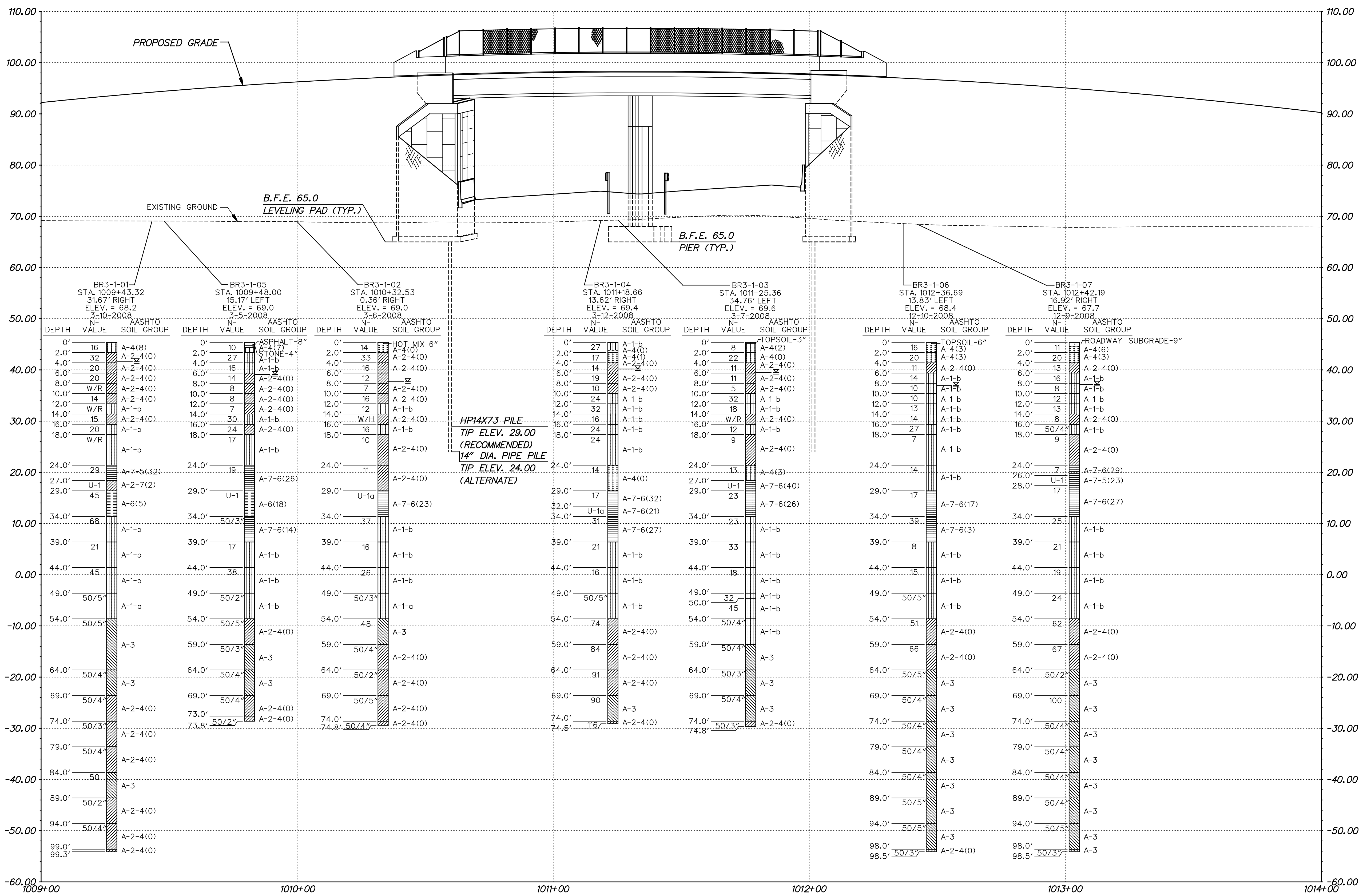


ASTM STANDARD ENGLISH REINFORCING BARS			RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES				STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES				
NOMINAL DIMENSIONS			180° HOOKS		90° HOOKS		90° HOOK		135° HOOKS		
BAR SIZE	D (DIAMETER IN INCHES)	AREA (INCHES ²)	D	A OR G	J	A OR G	D	A OR G	A OR G	A OR G	
3	0.375	0.110	0.376	2 1/4"	5"	3"	6"	1 1/2"	4"	4"	2 1/2"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4 1/2"	4 1/2"	3"
5	0.625	0.310	1.043	3 3/4"	7"	5"	10"	2 1/2"	6"	5 1/2"	3 3/4"
6	0.750	0.440	1.502	4 1/2"	8"	6"	1'-0"	4 1/2"	1'-0"	8"	4 1/2"
7	0.875	0.600	2.044	5 1/4"	10"	7"	1'-2"	5 1/4"	1'-2"	9"	5 1/4"
8	1.000	0.790	2.670	6"	11"	8"	1'-4"	6"	1'-4"	10 1/2"	6"
9	1.128	1.000	3.400	9 1/2"	1'-3"	11 3/4"	1'-7"				
10	1.270	1.270	4.303	10 3/4"	1'-5"	1'-1 1/4"	1'-10"				
11	1.410	1.560	5.313	1'-0"	1'-7"	1'-2 3/4"	2'-0"				
14	1.693	2.250	7.650	1'-6 1/4"	2'-3"	1'-9 3/4"	2'-7"				
18	2.257	4.000	13.600	2'-0"	3'-0"	2'-4 1/2"	3'-5"				

NOTES:

- FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
- STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
- ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "G" STD. 180° AND 135° HOOKS.
- "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACY' HOOKS ARE TO BE USED.
- WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5, AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
- "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
- UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
- WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
- WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
- FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRS' OR 'ACY' TABLES WHERE APPLICABLE AND REQUIRED.
- TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.

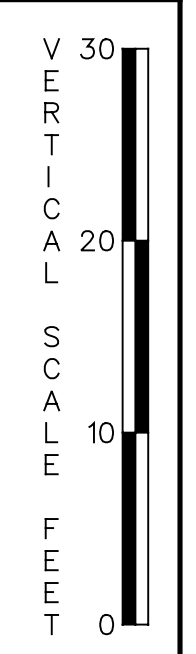




LEGEND

- A-1 (WELL GRADED SAND)
- A-2 (POORLY GRADED SILTY/CLAYEY SAND)
- A-3 (CLEAN SAND)
- A-4 (SILT)
- A-5 (ELASTIC SILT)
- A-6 (PLASTIC CLAY)
- A-7 (EXPANSIVE PLASTIC CLAY)
- A-8 (MUCK/PEAT)
- WATER ENCOUNTERED DURING DRILLING

N- = UNCORRECTED SPT BLOW VALUE COUNT (BLOWS/FT)
 U-1 = UNDISTURBED SAMPLE
 W/R = WEIGHT OF RODS
 W/H = WEIGHT OF HAMMER

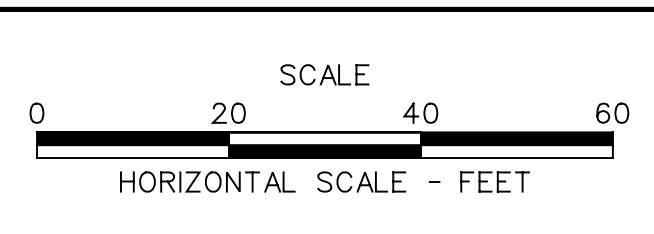


STRAWBERRY LANE

BR1-486-28



ADDENDUMS / REVISIONS	

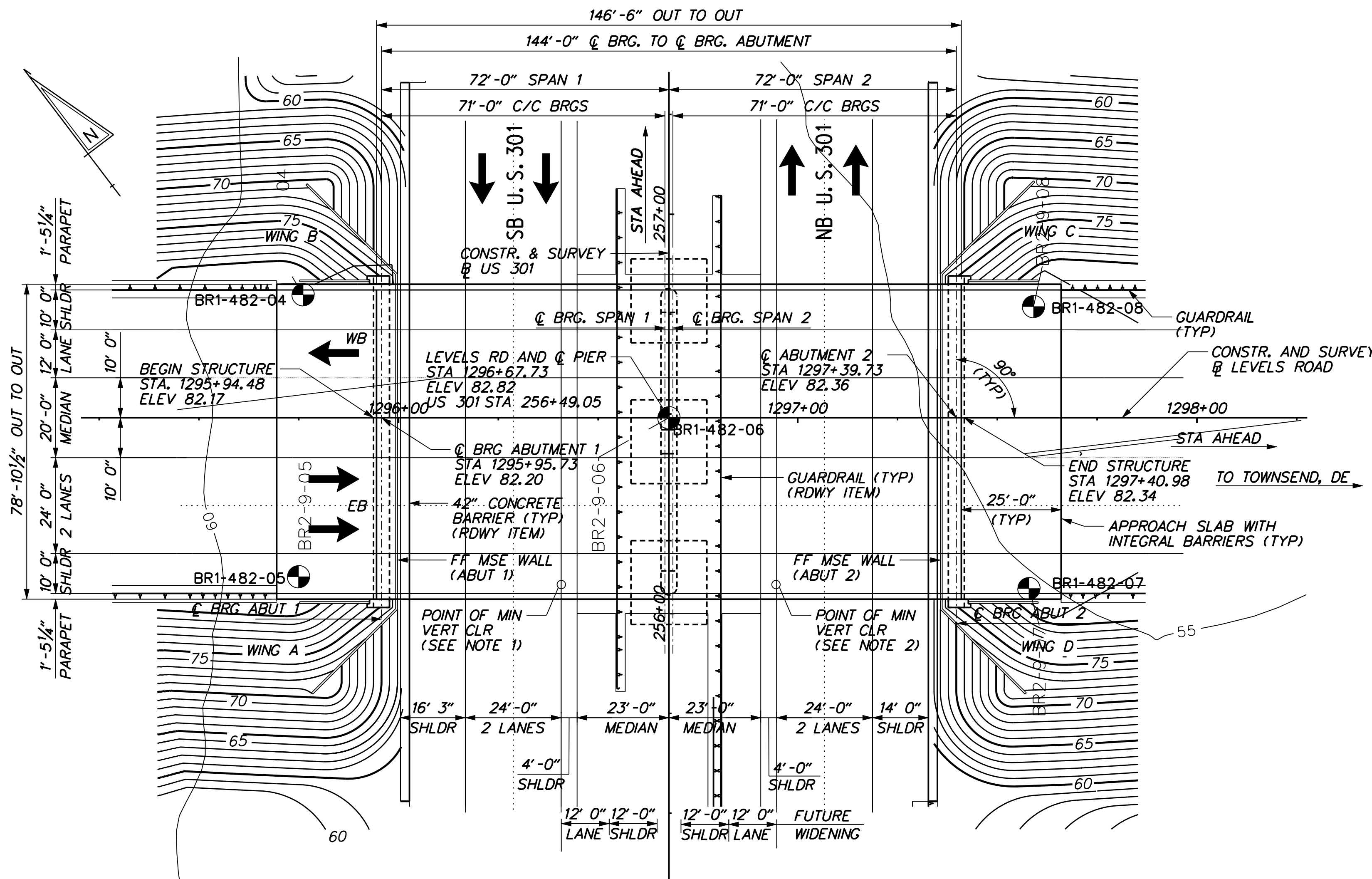


**US 301
 MARYLAND STATE LINE
 TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO. 1-486
COUNTY NEW CASTLE	DESIGNED BY: J.L.W. CHECKED BY: J.P.F.

**BRIDGE 1-486
 GEOTECHNICAL DATA**

SHEET NO. 291
TOTAL SHTS. 850



GENERAL PLAN

NOTE: SOUTHBOUND GUARDRAIL TO BE CONSTRUCTED UNDER THE SECTION 2 CONTRACT.

BRIDGE SHEET INDEX	
SHEET	DESCRIPTION
BR1-482-01	GENERAL PLAN AND ELEVATION
BR1-482-02	TYPICAL SECTIONS
BR1-482-03	PROJECT NOTES AND QUANTITIES
BR1-482-04	GEOMETRIC LAYOUT
BR1-482-05	ABUTMENT 1 PILE LAYOUT AND DETAILS
BR1-482-06	ABUTMENT 2 PILE LAYOUT
BR1-482-07	PILE DETAILS AND NOTES
BR1-482-08	PILE TABLES
BR1-482-09	ABUTMENT 1 PLAN AND ELEVATION
BR1-482-10	ABUTMENT 2 PLAN AND ELEVATION
BR1-482-11	ABUTMENT SECTION AND DETAILS - 1
BR1-482-12	ABUTMENT SECTION AND DETAILS - 2
BR1-482-13	ABUTMENT 1 MSE WALL PLAN AND ELEVATION
BR1-482-14	ABUTMENT 2 MSE WALL PLAN AND ELEVATION
BR1-482-15	MSE WALL DETAILS
BR1-482-16	PIER PLAN AND ELEVATION
BR1-482-17	PIER SECTION AND DETAILS
BR1-482-18	BEARING PAD DETAILS
BR1-482-19	FRAMING PLAN
BR1-482-20	BEAM DETAILS
BR1-482-21	DIAPHRAGM DETAILS - 1
BR1-482-22	DIAPHRAGM DETAILS - 2
BR1-482-23	DECK PLAN AND POURING SEQUENCE
BR1-482-24	DECK SECTION - 1
BR1-482-25	DECK SECTION - 2
BR1-482-26	DECK AND PARAPET DETAILS
BR1-482-27	DECK ELEVATIONS
BR1-482-28	PARAPET SAFETY FENCE ELEVATION AND DETAILS
BR1-482-29	APPROACH SLAB PLAN AND SECTIONS
BR1-482-30	APPROACH SLAB DETAILS
BR1-482-31	REINFORCEMENT BAR SCHEDULE - SUBSTRUCTURE 1
BR1-482-32	REINFORCEMENT BAR SCHEDULE - SUBSTRUCTURE 2
BR1-482-33	REINFORCEMENT BAR SCHEDULE - SUPERSTRUCTURE
BR1-482-34	REINFORCEMENT BAR SCHEDULE - APPROACH SLABS
BR1-482-35	STANDARD BAR BENDS
BR1-482-36	BRIDGE 1-482 GEOTECHNICAL DATA

BORING LOCATIONS		
BORING NO.	STATION *	OFFSET *
BR1-482-04	1295+76.09	30.80' LT.
BR1-482-05	1295+74.94	39.81' RT.
BR1-482-06	1296+67.73	0.00' RT.
BR1-482-07	1297+57.92	42.78' RT.
BR1-482-08	1297+59.07	27.84' LT.

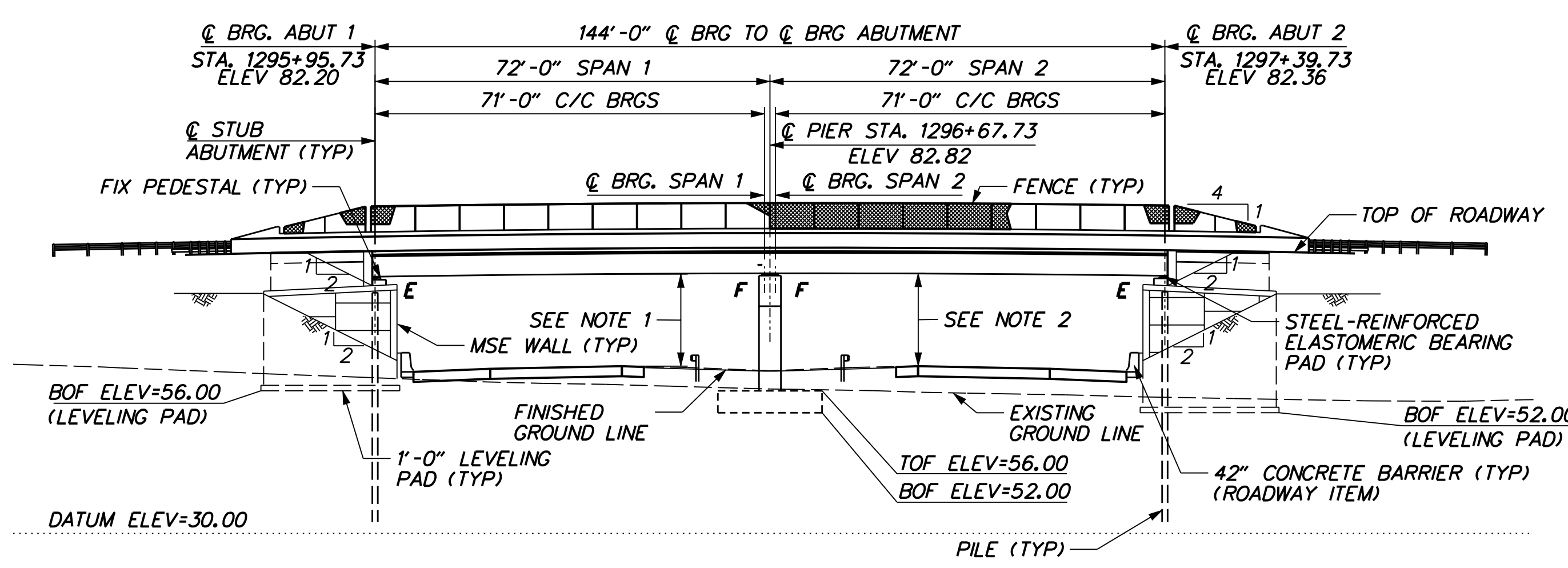
* TAKEN FROM @ LEVELS ROAD

LEGEND

- 70 - - EXISTING CONTOUR MAJOR
- - - EXISTING CONTOUR MINOR
- 90 - - PROPOSED CONTOUR MAJOR
- - - PROPOSED CONTOUR MINOR
- CL - CENTERLINE
- BL - BASELINE
- BL - BORING LOCATION
- FF - FRONT FACE
- BRG - BEARING
- E - EXPANSION BEARING
- F - FIXED BEARING
- BOF - BOTTOM OF FOOTING
- TOF - TOP OF FOOTING

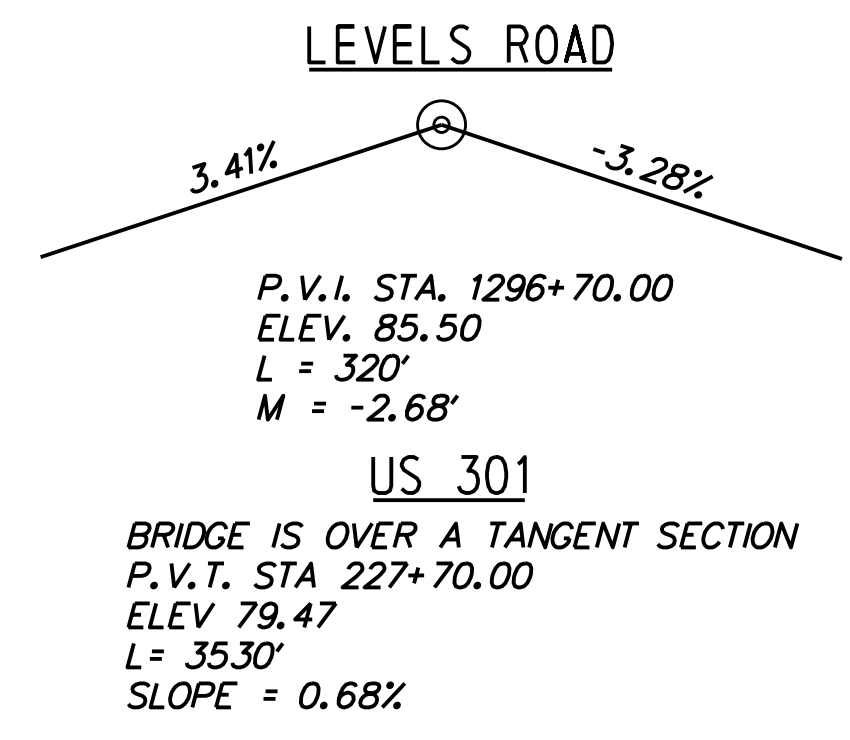
NOTES:

1. US 301 SB LANES - MIN REQUIRED CLEAR = 16'-6"
MIN PROVIDED CLEAR = 16'-11 1/2"
2. US 301 NB LANES - MIN REQUIRED CLEAR = 16'-6"
MIN PROVIDED CLEAR = 17'-0 1/4"



ELEVATION
(LOOKING STATION AHEAD)

VERTICAL CURVE DATA



HORIZONTAL CURVE DATA

LEVELS ROAD
BRIDGE IS ON A TANGENT BEARING S 52°46'25" E
US 301
P.T. STA. 238+61.77
P.O.E. STA. 263+00.00
L = 2438.23'

TRAFFIC DATA

LEVELS ROAD
2009 A.A.D.T = 1879
2009 A.A.D.T.T. = 244
DESIGN YEAR = 2030
DESIGN YEAR A.D.T. = 18500
DESIGN YEAR A.D.T.T. = 2405

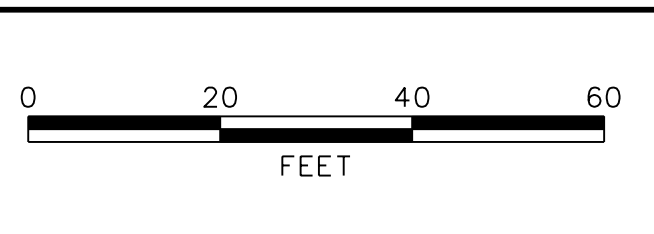
REFERENCES:

- TYPICAL SECTIONS BR1-482-02
- PROJECT NOTES BR1-482-03
- GEOTECHNICAL DATA BR1-482-36

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ADDENDUMS / REVISIONS	



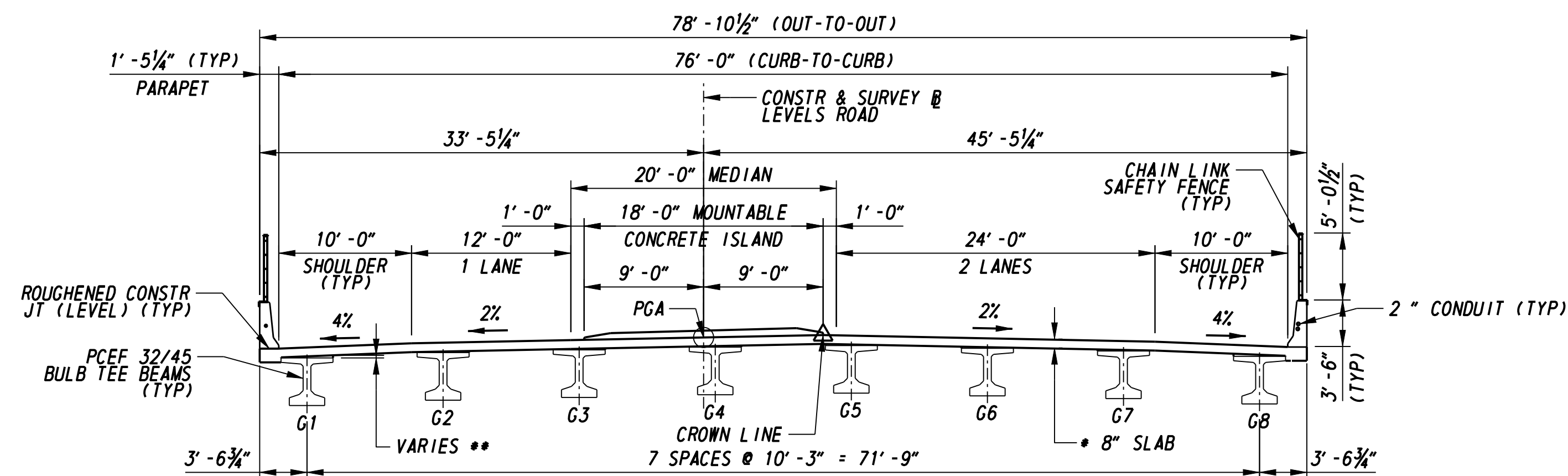
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO. BR1-482
COUNTY NEW CASTLE	DESIGNED BY: SPM CHECKED BY: KOC

GENERAL PLAN AND ELEVATION

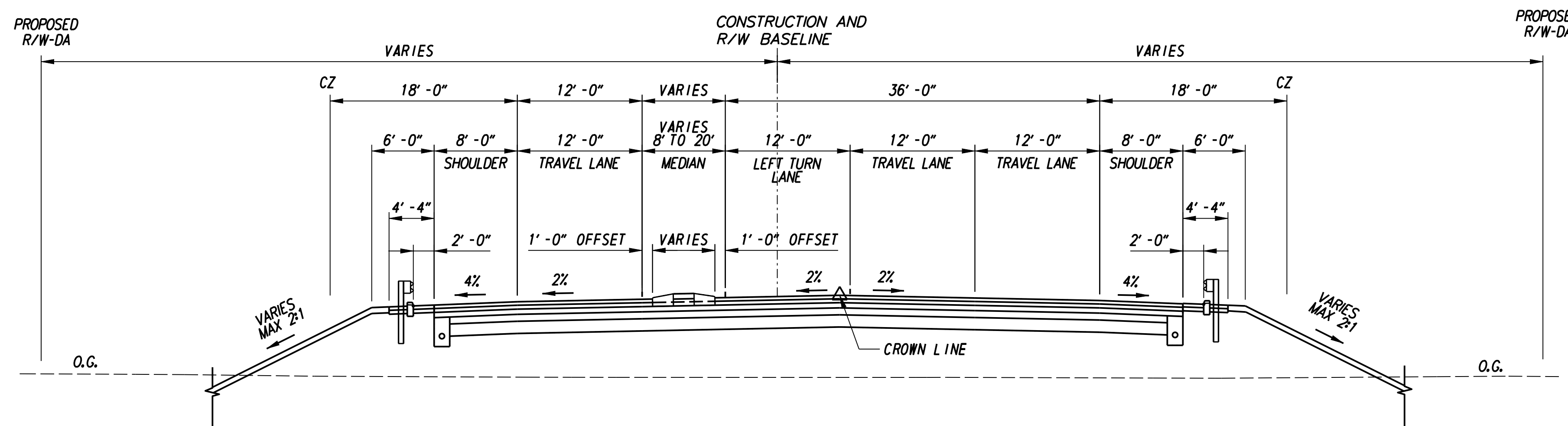
BR1-482-01

SHEET NO. 292
TOTAL SHTS. 850



TYPICAL BRIDGE SECTION

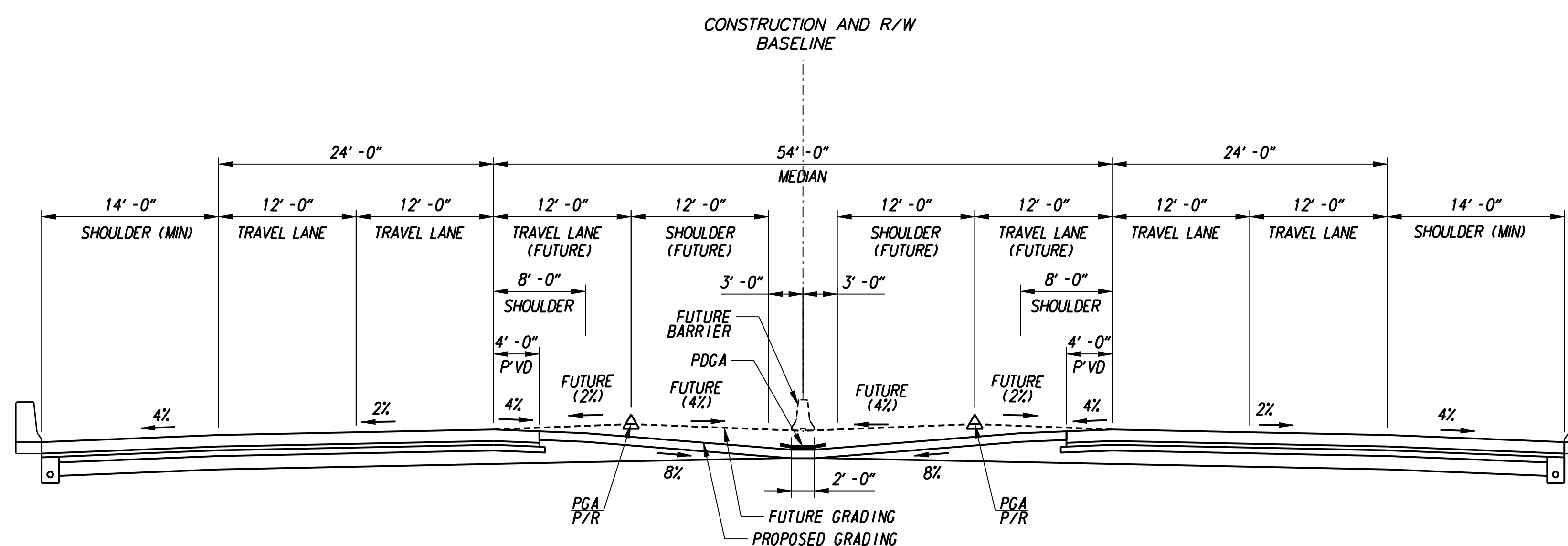
- * INCLUDES 1/2" INTEGRAL WEARING SURFACE (LOOKING STATION AHEAD)
- ** FOR HAUNCH DIMENSIONS, SEE DECK SECTION - 1.



TYPICAL APPROACH SECTION - LEVELS ROAD

REFERENCES:

- GENERAL PLAN BR1-482-01
- PROJECT NOTES BR1-482-03
- DECK SECTION - 1 BR1-482-24

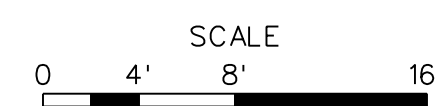


TYPICAL NORMAL SECTION - US 301 FOUR LANES

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ADDENDUMS / REVISIONS



**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	CNN
COUNTY	CHECKED BY:	KO'C
NEW CASTLE		

TYPICAL SECTIONS

BR1-482-02

SHEET NO.	293
TOTAL SHTS.	850

PROJECT NOTES:

- DESIGN SPECIFICATIONS**
AASHTO LRFD BRIDGE DESIGN SPECIFICATION, 2007, 4TH EDITION WITH 2008 AND 2009 INTERIMS.
DELAWARE DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL, MAY 2005, LATEST REVISIONS JANUARY 2008. ANSI/AASHTO/AWS BRIDGE WELDING CODE D1.5-2008.
- LOADING**
HL-93 AND RAITINGS PROVIDED FOR HS20 44 AND DELAWARE LEGAL LOADS S220, S335, S437, T330, T435, AND T540.
25 LBS/SQ FT HAS BEEN INCLUDED FOR FUTURE OVERLAY.
15 LBS/SQ FT HAS BEEN INCLUDED FOR USE OF STEEL BRIDGE DECK FORMS WHICH STAY IN PLACE.
UNIT WEIGHTS OF MATERIALS ARE IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL. FOR THERMAL LOADS, CONSIDER THE MODERATE CLIMATE AS STIPULATED IN AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE NORMAL TEMPERATURE IS TAKEN TO BE 68°F.
FOR SEISMIC DESIGN THE PROJECT SITE IS LOCATED WITHIN SEISMIC ZONE 1 WITH SITE CLASS D.
- PRESTRESSED CONCRETE**
THE MINIMUM COMPRESSIVE STRENGTH FOR PRESTRESSED CONCRETE AT THE AGE OF 28 DAYS SHALL BE $f'c = 8,000$ PSI. THE MINIMUM COMPRESSIVE STRENGTH AT THE TRANSFER OF PRESTRESS SHALL BE $f'c = 6,800$ PSI. THE PRECAST CONCRETE BEAMS ARE DESIGNED AS NONCOMPOSITE SIMPLE SPANS FOR ALL DEAD LOADS EXCEPT THE PARAPET AND FUTURE WEARING SURFACE DEAD LOADS.
- PRETENSIONING STEEL**
PRETENSIONING STEEL SHALL CONSIST OF 1/2" DIAMETER 7-WIRE LOW RELAXATION STRANDS CONFORMING TO THE REQUIREMENTS OF ASTM A416 GRADE 1860 (270 KSI). EACH 1/2" STRAND SHALL BE PRETENSIONED TO 33,810 LBS (0.75fpu), AFTER ESTIMATED LOSSES OF 52,730 PSI. THE FINAL EFFECTIVE PRESTRESS FORCE PER STRAND IS 25,000 LBS. CAMBER GROWTH IN PRETENSIONED BEAMS BETWEEN THE TIME OF STRESSING AND THE TIME OF SLAB PLACEMENT IS ASSUMED TO BE 80% FOR CAMBER CALCULATIONS.
- SERVICEABILITY**
LIVE LOAD DEFLECTION SHALL BE LIMITED TO L/800.
- PORTLAND CEMENT CONCRETE**
PORTLAND CEMENT CONCRETE FOR CAST-IN-PLACE ELEMENTS SHALL BE AS FOLLOWS:
($f'c=28$ DAY COMPRESSIVE STRENGTH)
CLASS A (ITEM NO. 602007) - PIER ABOVE FOOTING ($f'c= 4500$ PSI)
CLASS A (ITEM NO. 602015) - ABUTMENT ($f'c= 4500$ PSI)
CLASS A (ITEM NO. 602017) - PARAPET ($f'c= 4500$ PSI)
CLASS B (ITEM NO. 602006) - PIER FOOTING ($f'c= 3000$ PSI)
CLASS D (ITEM NO. 602013) - DECK ($f'c= 4500$ PSI)
CLASS D (ITEM NO. 602014) - APPROACH SLAB ($f'c= 4500$ PSI)
MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS UNLESS OTHERWISE NOTED.
- BAR REINFORCEMENT**
REINFORCEMENT STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60. ALL REINFORCEMENT STEEL SHALL HAVE A CLEAR COVER OF 2" UNLESS OTHERWISE NOTED ON THE PLANS.
EPOXY COATED REINFORCEMENT STEEL SHALL CONFORM TO AASHTO M284 (ASTM D3963), AND IS DENOTED WITH A SUFFIX "E" IN THE BAR MARKS.
USE EPOXY COATED REINFORCEMENT STEEL IN THE FOLLOWING LOCATIONS: APPROACH SLABS, DECK SLAB, PARAPET, PARAPET PORTION OF APPROACH SLAB, ABUTMENT, AND PIER.
DO NOT WELD GRADE 60 REINFORCING STEEL
PROVIDE MINIMUM LAP LENGTH OF 30 BAR DIAMETERS OR IN ACCORDANCE WITH AASHTO, WHICHEVER IS GREATER, UNLESS OTHERWISE NOTED.
- CONSTRUCTION JOINTS**
KEYED CONSTRUCTION JOINTS SHALL BE 2"x4" OR AS NOTED.
ALL EXPOSED JOINT EDGES SHALL HAVE A 3/4" V NOTCH.
- EXCAVATION REQUIRED TO ATTAIN THE GRADE FOR INSTALLATION OF MSE WALLS SHALL BE INCIDENTAL TO ITEM "602772 - MECHANICALLY STABILIZED EARTH WALLS", AND SHALL NOT BE INCLUDED IN ITEM "207000 - EXCAVATION AND BACKFILL FOR STRUCTURES".**

- PILES (RECOMMENDED)**
PILES SHALL BE HP14X73 PILES CONFORMING TO ASTM A709 GRADE 50.

(ALTERNATE)
PILES SHALL BE 14" OUTSIDE DIAMETER OPEN END (CONCRETE FILLED) PIPE PILES WITH 1/2" WALL THICKNESS CONFORMING TO ASTM A252, GRADE 2 (ULTIMATE TENSILE STRENGTH OF 60 KSI). THE VOID REMAINING IN THE PILE FOLLOWING DRIVING SHALL BE REINFORCED AND FILLED WITH CLASS A CONCRETE, AS SPECIFIED.

(ALTERNATE)
PILES SHALL BE 14" OUTSIDE DIAMETER 3 GAGE Y-TAPER MONOTUBE PILES MADE OF 50 KSI STEEL. THE VOID REMAINING IN THE PILE FOLLOWING DRIVING SHALL BE REINFORCED AND FILLED WITH CLASS A CONCRETE, AS SPECIFIED.

ONLY ONE PILE TYPE SHALL BE USED FOR THIS STRUCTURE. FOR MORE INFORMATION REGARDING PILE MATERIALS AND FABRICATION, REFER TO SECTION 618 (PILE MATERIALS) OF THE STANDARD SPECIFICATION, FOR MORE INFORMATION REGARDING PILE DRIVING AND INSTALLATION, REFER TO SECTION 619 (INSTALLATION OF PILES) OF THE STANDARD SPECIFICATIONS.
- STYROFOAM MUST MEET ASTM C-578, TYPE 1, MATERIAL REQUIREMENTS EXCEPT THE MAXIMUM ALLOWABLE WATER ABSORPTION TO BE 2%.
- CLOSED CELL NEOPRENE SPONGE PADS MAY BE MANUFACTURED AS SPONGE NEOPRENE OR EXPANDED NEOPRENE AND MAY BE COMPOSED OF LAMINATIONS. USE MATERIAL CONFORMING TO
 - ASTM D 1056, TYPE 2, CLASS C, GRADE 2, INCLUDING THE REQUIREMENTS OF SUFFIXES B3 AND F1
 - ASTM D 1171, QUALITY RETENTION RATING OF 100% AFTER 6 WEEKS EXPOSURE.
- SEE ROADWAY CONSTRUCTION DETAILS PLAN (DRAWING DT-24) FOR ROADWAY APPROACH EMBANKMENT SETTLEMENT MONITORING AND QUARANTINE PERIOD REQUIREMENTS.
- ALL EXPANSION MATERIAL MUST MEET AASHTO M 153 REQUIREMENTS.

LOAD RATING SUMMARY					
DESIGN VEHICLE	RATING FACTOR	RATING WEIGHT (TONS)	CONTROLLING MEMBER	CONTROLLING POINT	LOAD EFFECT
HL-93 TRUCK (INVENTORY)	1.51	N/A	SPAN 2, INTERIOR BEAM	200.55	SHEAR
HL-93 TANDEM (INVENTORY)	1.92	N/A	SPAN 2, INTERIOR BEAM	200.55	SHEAR
HL-93 TRUCK TRAIN (INVENTORY)	1.61	N/A	SPAN 1, EXTERIOR BEAM	110	FLEXURE
HS-20 (INVENTORY)	2.08	74.77	SPAN 2, INTERIOR BEAM	200.55	SHEAR
HL-93 TRUCK (OPERATING)	2.05	N/A	SPAN 2, INTERIOR BEAM	200.55	SHEAR
HL-93 TANDEM (OPERATING)	2.58	N/A	SPAN 2, INTERIOR BEAM	200.55	SHEAR
HL-93 TRUCK TRAIN (OPERATING)	2.08	N/A	SPAN 1, EXTERIOR BEAM	110	FLEXURE
HS-20 (OPERATING)	2.78	99.91	SPAN 2, INTERIOR BEAM	200.55	SHEAR
DE S220 & LEGAL-LANE	3.30	66.09	SPAN 1, EXTERIOR BEAM	109.45	FLANGE STRESS
DE S335 & LEGAL-LANE	2.07	72.45	SPAN 1, EXTERIOR BEAM	109.45	FLANGE STRESS
DE S437 & LEGAL-LANE	1.97	72.04	SPAN 1, EXTERIOR BEAM	109.45	FLANGE STRESS
DE T330 & LEGAL-LANE	2.67	80.08	SPAN 1, EXTERIOR BEAM	109.45	FLANGE STRESS
DE T435 & LEGAL-LANE	2.35	82.32	SPAN 1, EXTERIOR BEAM	109.45	FLANGE STRESS
DE T540 & LEGAL-LANE	2.14	85.47	SPAN 1, EXTERIOR BEAM	109.45	FLANGE STRESS

NOTE: LOAD RATING INCLUDES FUTURE WEARING SURFACE AS NOTED IN THE PLANS.

BR1-482 ESTIMATED QUANTITIES			
ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY
207000**	EXCAVATION AND BACKFILL FOR STRUCTURES	CY	313
209002*	BORROW, TYPE B	CY	37
602006	PORTLAND CEMENT CONCRETE MASONRY, PIER FOOTING, CLASS B	CY	178
602007	PORTLAND CEMENT CONCRETE MASONRY, PIER ABOVE FOOTING, CLASS A	CY	111
602013	PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D	CY	443
602014	PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D	CY	237
602015	PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT ABOVE FOOTING, CLASS A	CY	120
602017	PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A	CY	51
602772	MECHANICALLY STABILIZED EARTH WALLS	LS	1
604000	BAR REINFORCEMENT, EPOXY COATED	LB	258,953
608000*	COARSE AGGREGATE FOR FOUNDATION STABILIZATION AND SUBFOUNDATION BACKFILL	TON	18
618050	FURNISH STEEL SHELL PILES, 14" (ALTERNATE)	LF	1,612
618051	FURNISH TEST STEEL SHELL PILES, 14" (ALTERNATE)	LF	121
618062	FURNISH STEEL H PILES, HP 14 X 73	LF	1,836
618065	FURNISH STEEL TEST H PILES, HP 14 X 73	LF	135
618552	FURNISH PIPE PILE, SCHEDULE 40, OPEN END, 14" (ALTERNATE)	LF	2,156
618557	FURNISH TEST PIPE PILE, SCHEDULE 40, OPEN END, 14" (ALTERNATE)	LF	155
619042	INSTALL STEEL H PILES, HP 14 X 73	LF	1,836
619045	INSTALL STEEL TEST H PILES, HP 14 X 73	LF	135
619055	INSTALL STEEL SHELL PILES, 14" (ALTERNATE)	LF	1,612
619056	INSTALL TEST STEEL SHELL PILES, 14" (ALTERNATE)	LF	121
619501*	PRODUCTION PILE RESTRIKE	EA	1
619502*	TEST PILE RESTRIKE	EA DAY	1
619519	DYNAMIC PILE TESTING BY CONTRACTOR	EA	4
619539	SIGNAL MATCHING ANALYSIS BY CONTRACTOR	EA	4
619540	INSTALL PIPE PILE, SCHEDULE 40, OPEN END, 14" (ALTERNATE)	LF	2,156
619558	INSTALL TEST PIPE PILE, SCHEDULE 40, OPEN END, 14" (ALTERNATE)	LF	155
623003	PRESTRESSED REINFORCED CONCRETE MEMBERS, BULB T-BEAM, PCEF 32/45	LS	1
727507	BRIDGE SAFETY FENCE	LF	354

THE QUANTITIES PROVIDED INCLUDE ONLY THOSE ASSOCIATED WITH BRIDGE BR1-482 (LEVELS ROAD BRIDGE). ROADWAY QUANTITIES FOR US 301 AND LEVELS ROAD ARE NOT INCLUDED IN THE TABULATION

* CONTINGENCY ITEM
** INCLUDES 49 CY CONTINGENCY IF UNSUITABLE MATERIAL ENCOUNTERED

COMPOSITE BEAM GROSS SECTION PROPERTIES		
BEAM	EXTERIOR	INTERIOR
1 in*	441613	534232
Y _o (In)	33.88	37.11
Y _t (In)	11.12	7.89
Y _s (In)	18.62	18.39

COMPOSITE BEAM TRANSFORMED SECTION PROPERTIES		
BEAM	EXTERIOR	INTERIOR
1 in*	459675	557060
Y _o (In)	33.37	36.60
Y _t (In)	11.63	8.40
Y _s (In)	19.13	18.90

Y_o = NEUTRAL AXIS TO BOTTOM OF BEAM
Y_t = NEUTRAL AXIS TO TOP OF BEAM
Y_s = NEUTRAL AXIS TO TOP OF SLAB

RATING NOTES

- LOAD RATINGS DETERMINED USING THE LOAD RESISTANCE FACTOR RATING (LRF) METHOD.
- LOAD DUE TO FUTURE WEARING SURFACE (25 PSF) IS INCLUDED IN THE RATINGS.
- MAXIMUM FACTORED NEGATIVE FLEXURAL RESISTANCE (OVER PIER)
INTERIOR BEAM: 4278.0 KIP-FT
EXTERIOR BEAM: 3429.5 KIP-FT
- MAXIMUM FACTORED POSITIVE FLEXURAL RESISTANCE
INTERIOR BEAM: 7158.9 KIP-FT AT 36 FT, SPAN 1
EXTERIOR BEAM: 6600.3 KIP-FT AT 36 FT, SPAN 1
- MAXIMUM FACTORED SHEAR RESISTANCE
INTERIOR BEAM: 586.08 KIP AT 64.8 FT, SPAN 2
EXTERIOR BEAM: 544.42 KIP AT 64.8 FT, SPAN 2

REFERENCES:

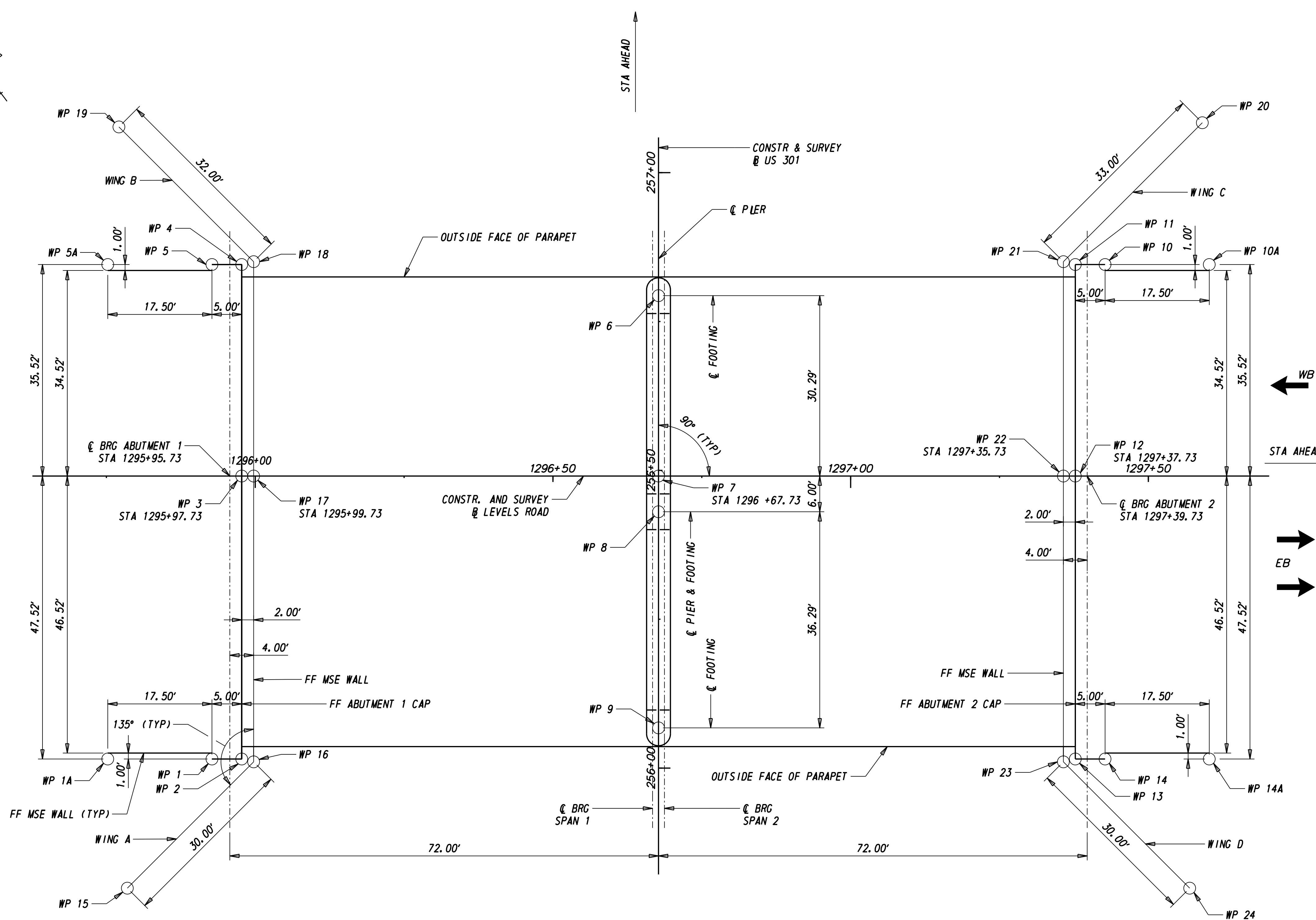
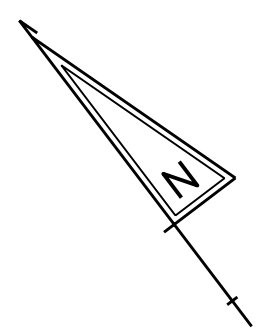
GENERAL PLAN BR1-482-01

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	ADDENDUMS / REVISIONS		<p align="center">US 301 MARYLAND STATE LINE TO LEVELS ROAD</p>	CONTRACT	BRIDGE NO.	1-482	<p align="center">PROJECT NOTES AND QUANTITIES</p>	SHEET NO.
	T200811301	DESIGNED BY: SPM		294				
	COUNTY	CHECKED BY: KO'C		TOTAL SHTS.				
	NEW CASTLE			850				

BR1-482-03

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GEOMETRIC LAYOUT

WORK POINT COORDINATES

WORK POINT	STATION	OFFSET	NORTHING	EASTING
1	1295+92.73	47.52RT	526,439.1998	561,414.7312
1A	1295+75.23	47.52RT	526,449.7867	561,400.7968
2	1295+97.73	47.52RT	526,436.1750	561,418.7125
3	1295+97.73	0.00	526,474.0135	561,447.4610
4	1295+97.73	35.52LT	526,502.2970	561,468.9498
5	1295+92.73	35.52LT	526,505.3218	561,464.9686
5A	1295+75.23	35.52LT	526,515.9087	561,451.0342
6	1296+67.73	30.29LT	526,455.7857	561,521.5240
7	1296+67.73	0.00	526,431.6659	561,503.1986
8	1296+67.73	6.00RT	526,426.8884	561,499.5688
9	1296+67.73	42.29RT	526,397.9910	561,477.6135
10	1297+42.73	35.52LT	526,414.5769	561,584.4063
10A	1297+60.23	35.52LT	526,403.9900	561,598.3407
11	1297+37.73	35.52LT	526,417.6017	561,580.4250
12	1297+37.73	0.00	526,389.3183	561,558.9362
13	1297+37.73	47.52RT	526,351.4797	561,530.1877
14	1297+42.73	47.52RT	526,348.4549	561,534.1690
14A	1297+60.23	47.52RT	526,337.8680	561,548.1033
15	1295+78.52	69.21RT	526,430.5257	561,390.2908
16	1295+99.73	48.00RT	526,434.5835	561,420.0151
17	1295+99.73	0.00	526,472.8035	561,449.0535
18	1295+99.73	36.00LT	526,501.4686	561,470.8322
19	1295+77.10	58.63LT	526,533.1745	561,466.5039
20	1297+59.06	59.33LT	526,423.6568	561,611.8192
21	1297+35.73	36.00LT	526,419.1932	561,579.1224
22	1297+35.73	0.00	526,390.5282	561,557.3437
23	1297+35.73	48.00RT	526,352.3081	561,528.3053
24	1297+56.94	69.21RT	526,322.5838	561,532.3631

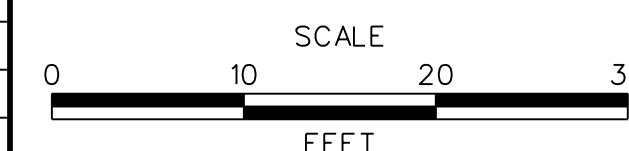
REFERENCES:

- PROJECT NOTES
 ABUTMENT DETAILS
 MSE WALL DETAILS
 PIER DETAILS
 FRAMING PLAN
 BEAM DETAILS
 DECK PLAN
- BRI-482-03
 BRI-482-05 THRU BRI-482-12
 BRI-482-13 THRU BRI-482-15
 BRI-482-16 AND BRI-482-17
 BRI-482-19
 BRI-482-20
 BRI-482-23



DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS



US 301
MARYLAND STATE LINE
TO LEVELS ROAD

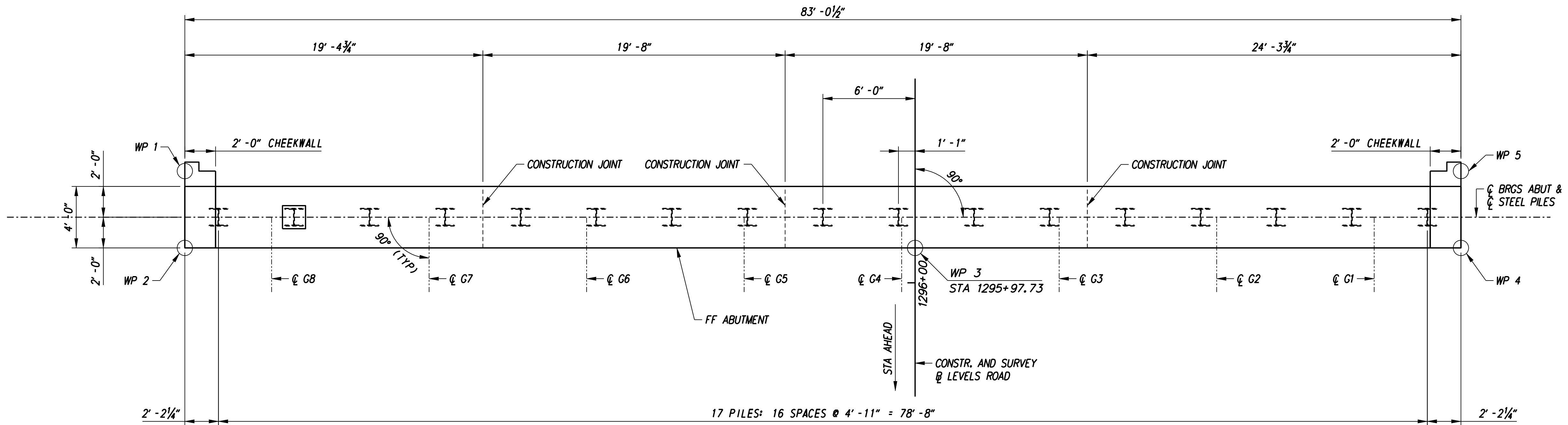
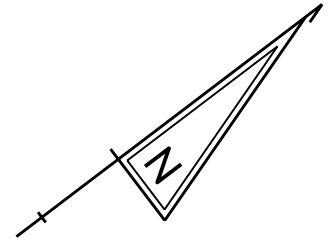
CONTRACT
T200811301
COUNTY
NEW CASTLE

BRIDGE NO. **1-482**
DESIGNED BY: WMM
CHECKED BY: KO'C

GEOMETRIC LAYOUT

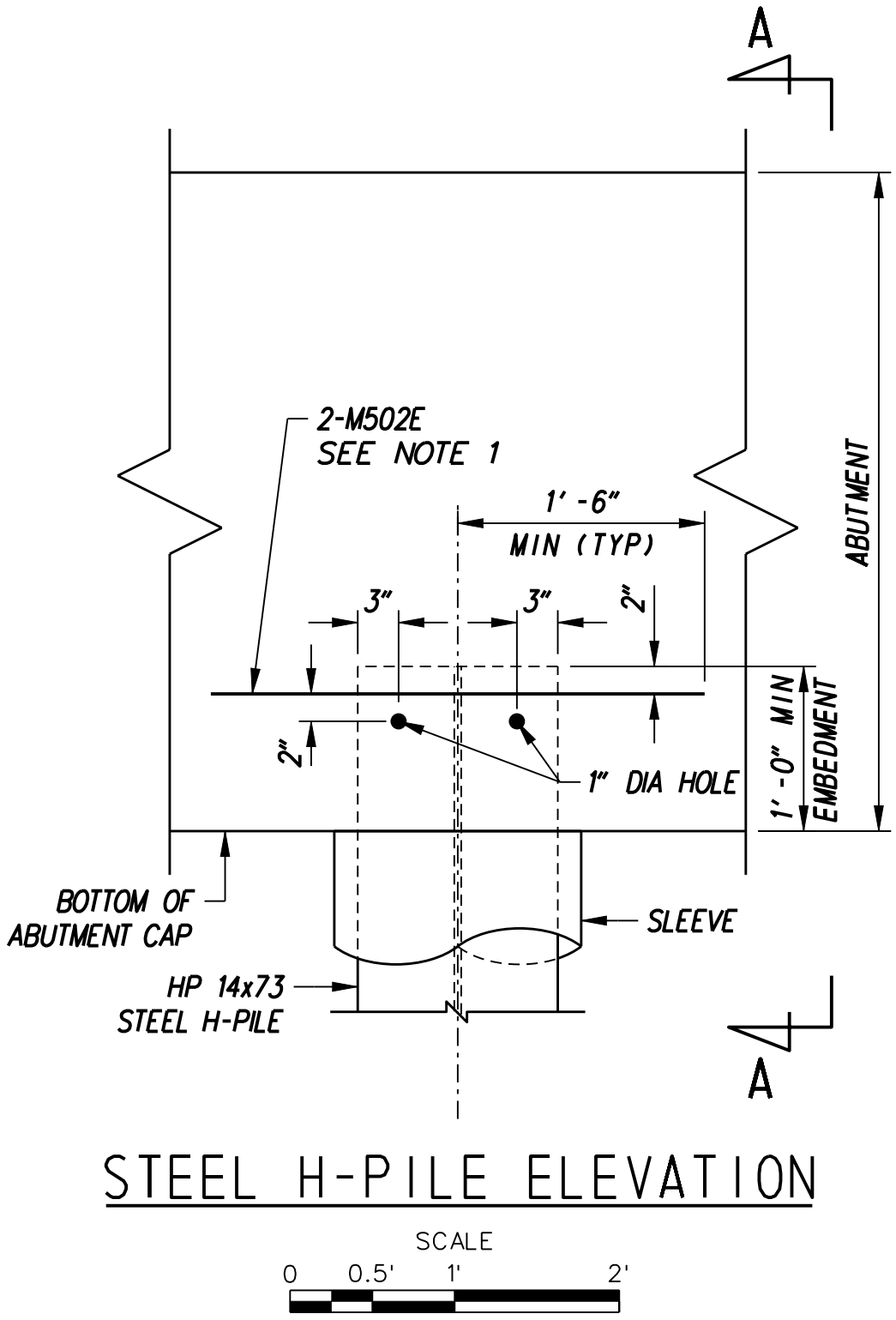
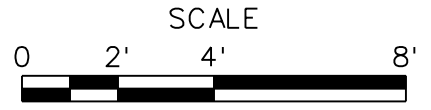
BRI-482-04

SHEET NO.
295
TOTAL SHTS.
850

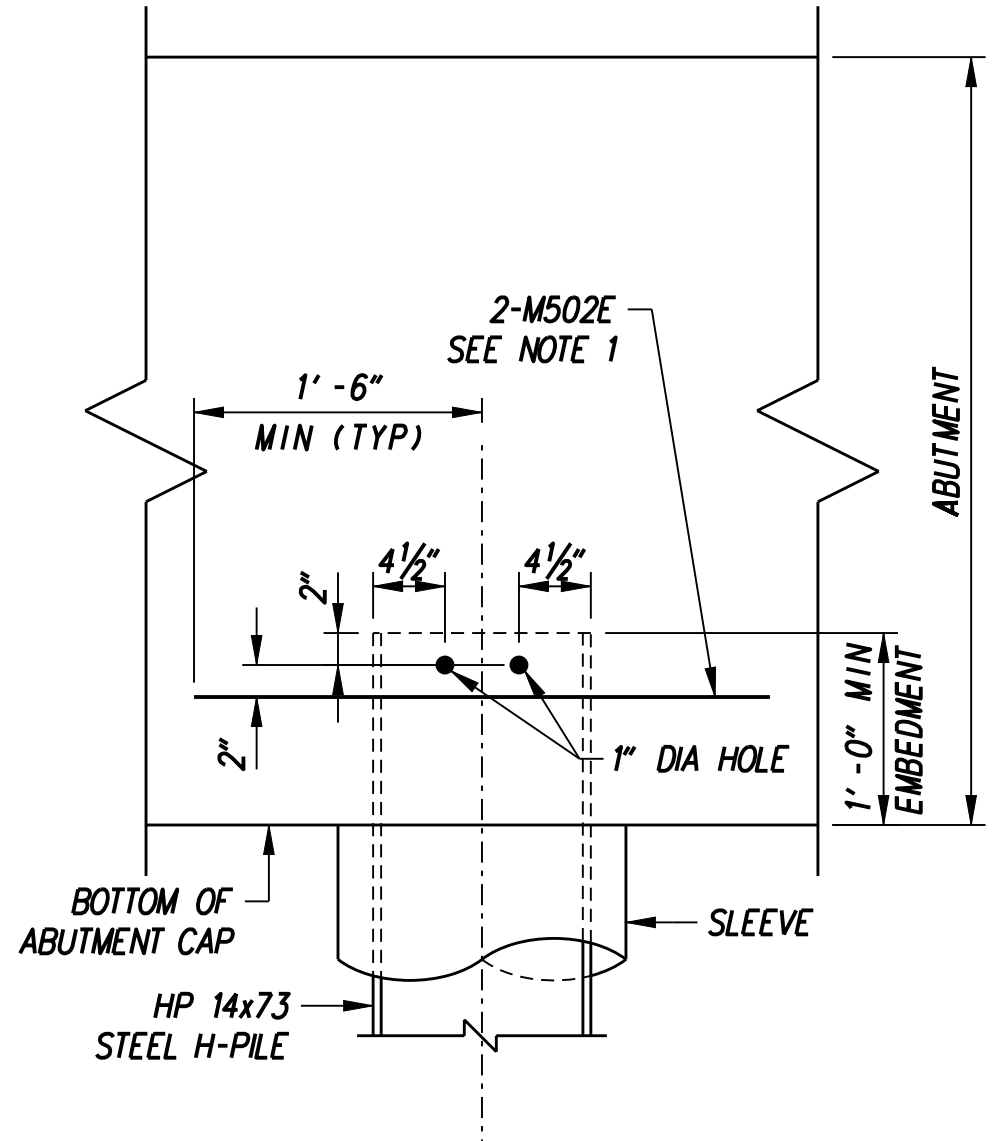


- TEST PILE
- HP14x73 PILE (RECOMMENDED)
- 14" DIA OPEN END PIPE PILE (ALTERNATE)
- 14" DIA STEEL SHELL PILE (ALTERNATE)

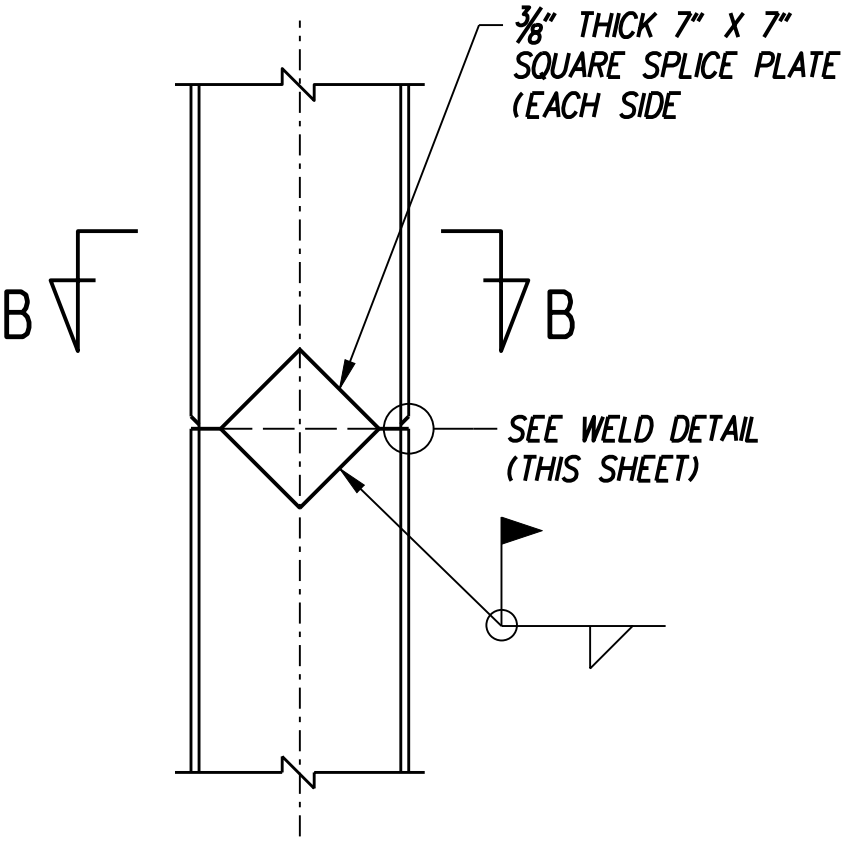
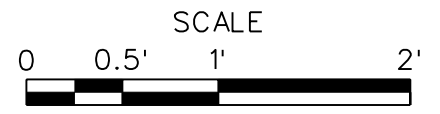
ABUTMENT 1 PLAN AND PILE LAYOUT



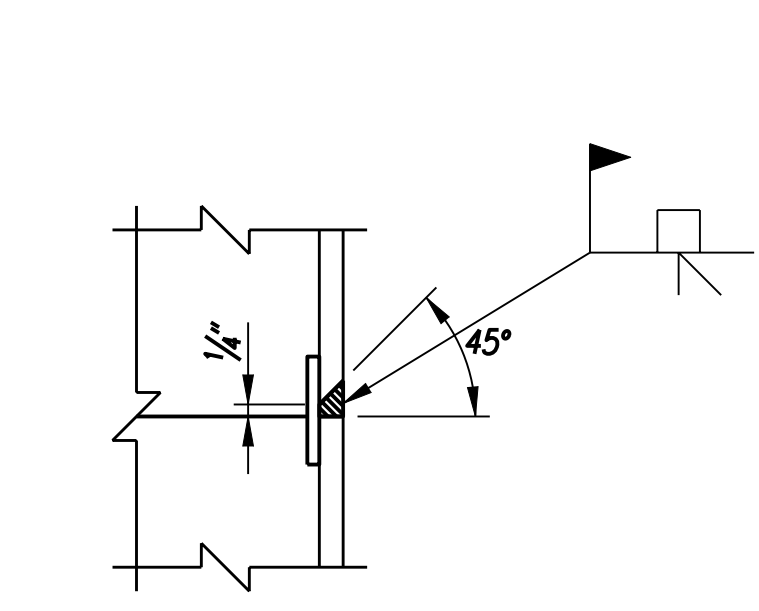
STEEL H-PILE ELEVATION



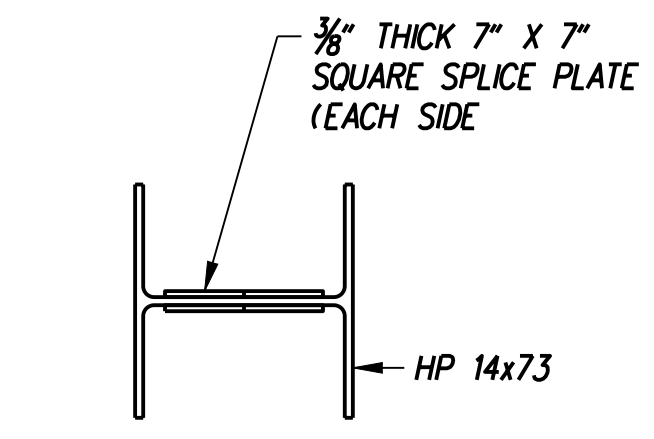
SECTION A-A



STEEL H-PILE SPLICE



WELD DETAIL



SECTION B-B



H-PILE NOTES:

1. REINFORCEMENT STEEL (MATERIAL) FOR H-PILES IS INCIDENTAL TO ITEMS "618062 - FURNISH STEEL H PILE, HP14x73" AND "618065 - FURNISH STEEL H TEST PILES, HP14x73". INSTALLATION OF REINFORCEMENT STEEL FOR H-PILES IS INCIDENTAL TO ITEMS "619042-INSTALL STEEL H PILES, HP14x73" AND "619045 - INSTALL STEEL H TEST PILES, HP14x73".

REFERENCES:

- | | |
|--------------------------------|---------------------------|
| GENERAL PLAN | BRI-482-01 |
| PROJECT NOTES | BRI-482-03 |
| GEOMETRIC LAYOUT | BRI-482-04 |
| PILE DETAILS, NOTES AND TABLES | BRI-482-07 AND BRI-482-08 |
| ABUTMENT 1 PLAN | BRI-482-09 |
| ABUTMENT AND CHEEKWALL DETAILS | BRI-482-11 AND BRI-482-12 |
| REINFORCEMENT BAR SCHEDULE | BRI-482-31 |

BRI-482-05



ADDENDUMS / REVISIONS	

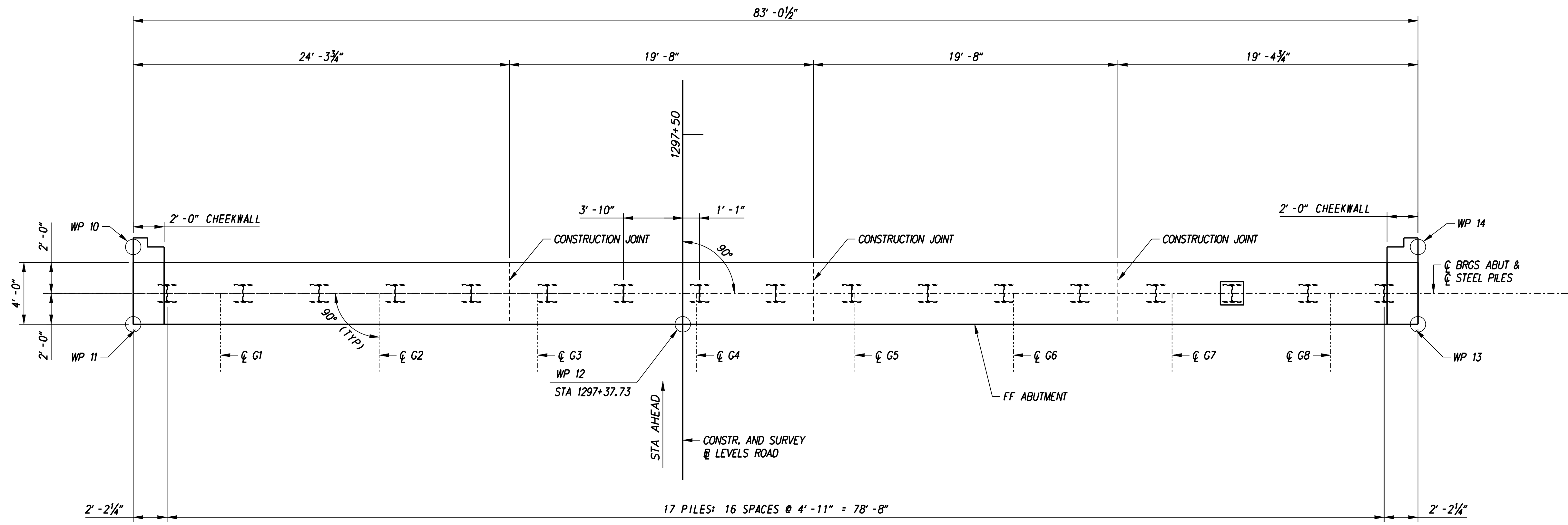
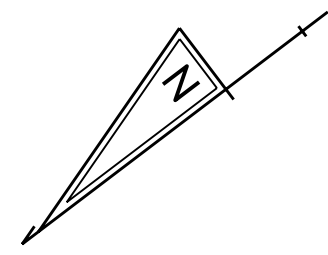
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	JS/WMM
COUNTY	CHECKED BY:	DJP
NEW CASTLE		

**ABUTMENT 1
PILE LAYOUT AND DETAILS**

SHEET NO.	296
TOTAL SHTS.	850

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ABUTMENT 2 PLAN AND PILE LAYOUT

- TEST PILE
- HPI4X73 PILE (RECOMMENDED)
- 14" DIA OPEN END PIPE PILE (ALTERNATE)
- 14" DIA STEEL SHELL PILE (ALTERNATE)

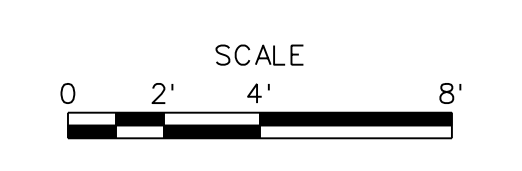
REFERENCES:

- | | |
|--------------------------------|---------------------------|
| GENERAL PLAN | BRI-482-01 |
| PROJECT NOTES | BRI-482-03 |
| GEOMETRIC LAYOUT | BRI-482-04 |
| PILE DETAILS, NOTES AND TABLES | BRI-482-07 AND BRI-482-08 |
| ABUTMENT 2 PLAN | BRI-482-10 |
| ABUTMENT AND CHEEKWALL DETAILS | BRI-482-11 AND BRI-482-12 |
| REINFORCEMENT BAR SCHEDULE | BRI-482-31 |

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ADDENDUMS / REVISIONS	



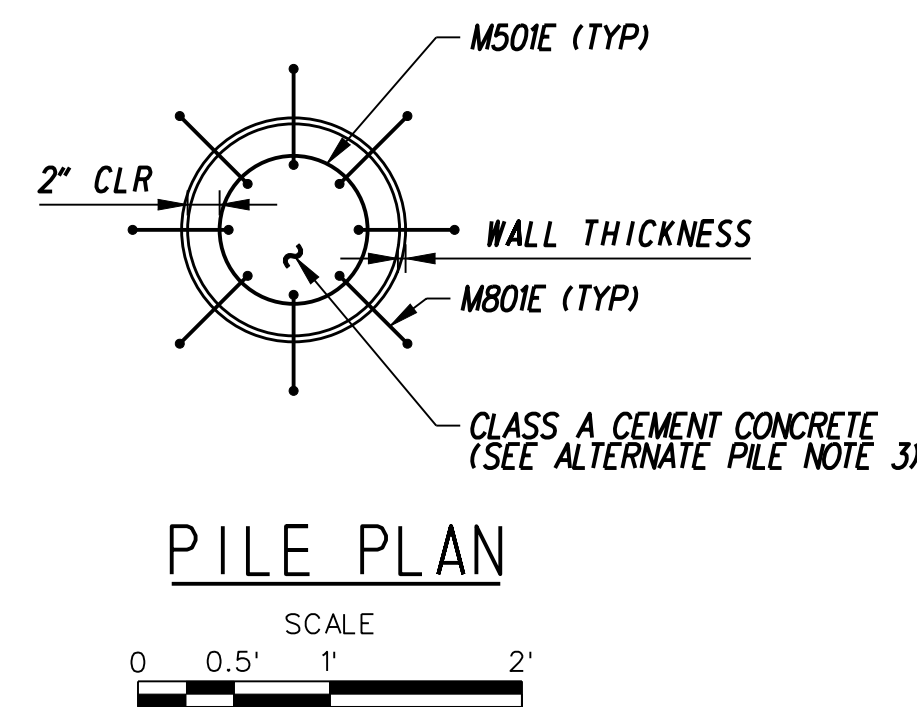
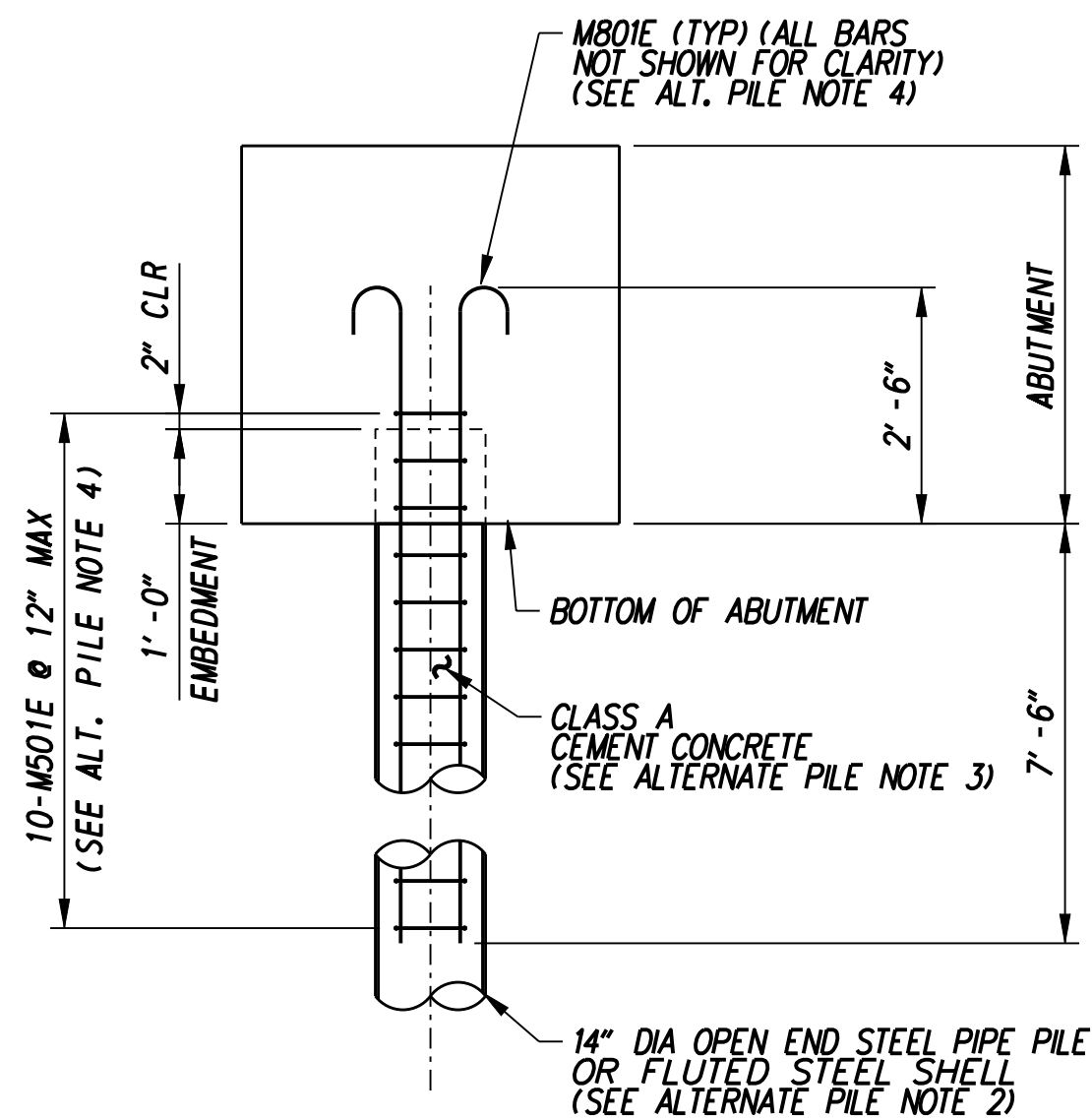
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	JS/WMM
COUNTY	CHECKED BY:	DJP
NEW CASTLE		

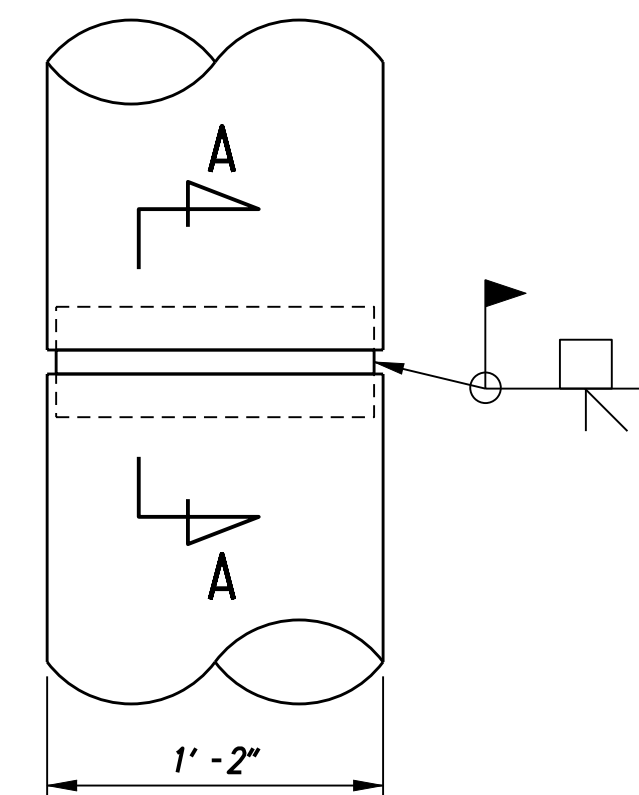
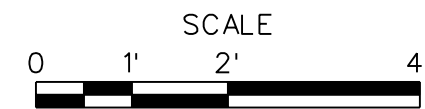
**ABUTMENT 2
PILE LAYOUT**

BR1-482-06

SHEET NO.	297
TOTAL SHTS.	850

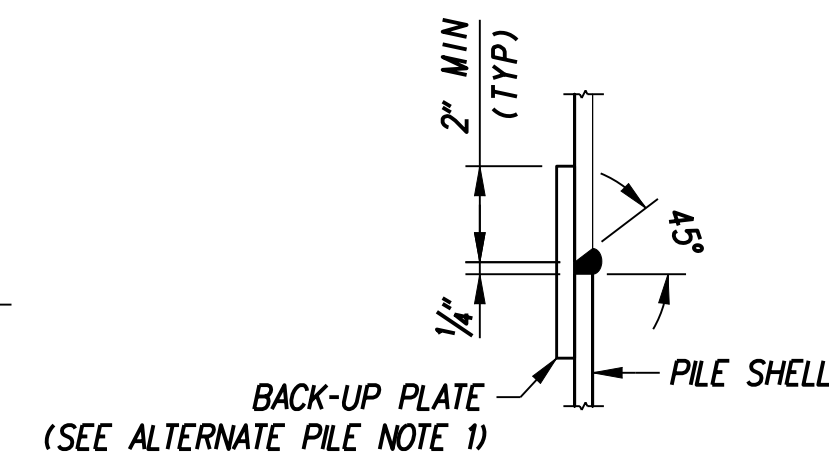


STEEL PIPE PILE OR FLUTED STEEL SHELL PILE REINFORCEMENT



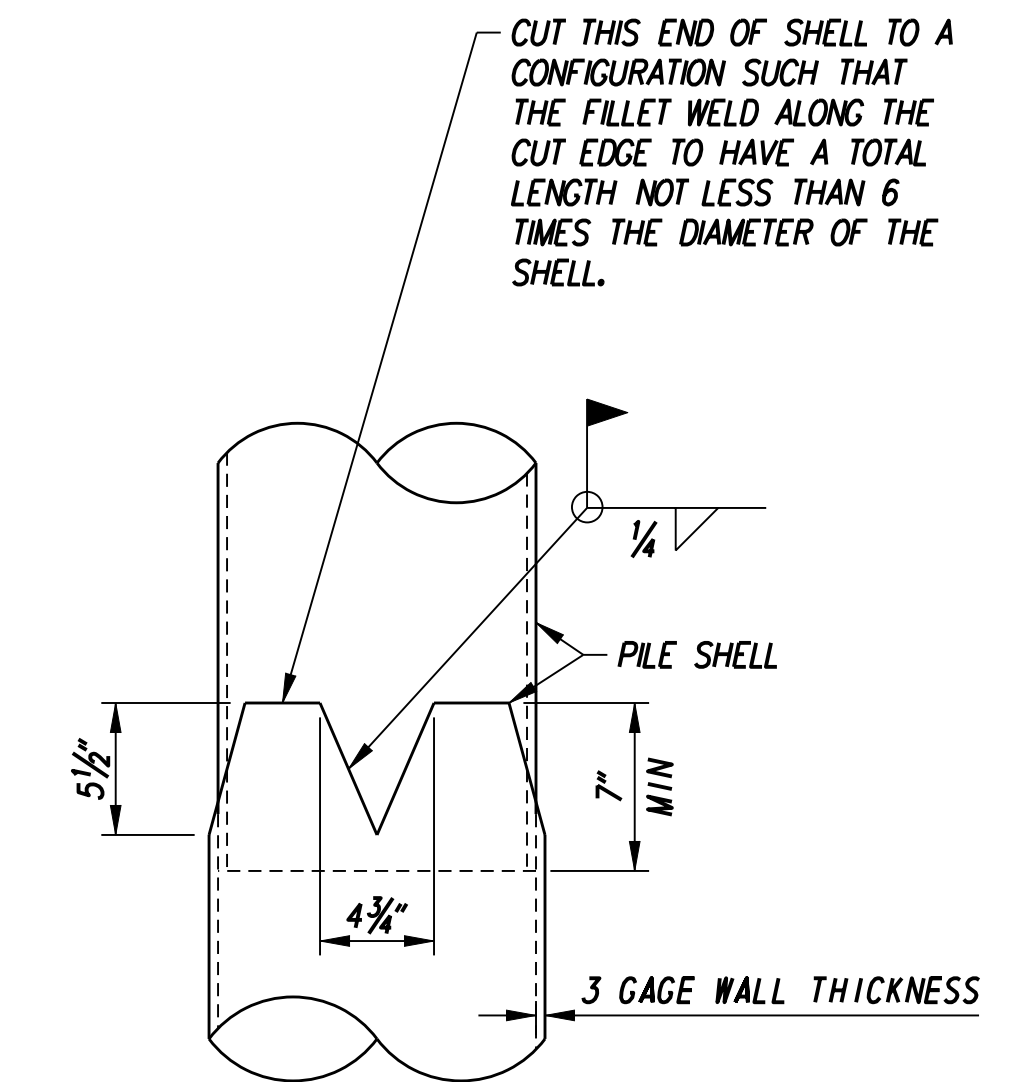
PIPE PILE SPLICE DETAIL

NTS



SECTION A-A

NTS



FLUTED STEEL SHELL PILE SPLICE DETAIL

NTS

ALTERNATE PIPE PILE DETAILS

PILE INSTALLATION NOTES:

- ALL PILES SHALL BE ONE OF THE FOLLOWING:
 - HP 14X73 AASHTO M270 (ASTM A 709), GRADE 50 (RECOMMENDED)
 - 14" DIAMETER OPEN END STEEL PIPE PILE, 1/2" WALL THICKNESS, ASTM A 252, GRADE 2 (ALTERNATE)
 - 14" DIAMETER 3 GAGE FLUTED STEEL SHELL PILE (Y-TAPER) (ALTERNATE)
- PILES SHALL BE CASED WITH A CORRUGATED PIPE FROM THE BOTTOM OF THE MSE WALL LEVELING PAD ELEVATION TO THE BOTTOM OF THE BRIDGE STUB PILE CAP AND FILLED WITH FINE AGGREGATE (SEE DELDOT STANDARD SPECIFICATIONS, SECTION 804). REFER TO THE PILE INSTALLATION SEQUENCE. FOR THE RECOMMENDED H-PILE THE CORRUGATED PIPE SHALL BE 24", 16 GAGE 2 3/4" X 1/2" CORRUGATION AND FOR THE ALTERNATE STEEL PIPE PILES OR FLUTED STEEL SHELL PILES, THE CORRUGATED PIPE SHALL BE 18", 16 GAGE, 2 3/4" X 1/2" CORRUGATION. REFER TO PILE INSTALLATION SEQUENCE FOR ADDITIONAL INFORMATION. PAYMENT FOR CORRUGATED GALVANIZED STEEL PIPE AND FINE AGGREGATE INSIDE PIPE SHALL BE INCIDENTAL TO ITEM "602772 - MECHANICALLY STABILIZED EARTH WALLS."
- ALL TEST PILES SHALL BE 10 FEET LONGER THAN INDICATED ON THE PILE INSTALLATION TABLE.
- ALL PILES SHALL BE DRIVEN TO THE NOMINAL PILE DRIVING RESISTANCE (R_{ndr}) LISTED IN THE PILE INSTALLATION DATA TABLE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A WAVE EQUATION ANALYSIS AND ALL OTHER INCIDENTALS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. THE WAVE EQUATION AND HIGH-STRAIN DYNAMIC PILE TESTING MUST BE SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF DELAWARE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- A QUARANTINE PERIOD OF 30 DAYS IS REQUIRED AFTER THE CONSTRUCTION OF THE FULL HEIGHT OF THE FILL AT THE ABUTMENTS IS ACHIEVED.
- THE ENGINEER SHALL APPROVE THE COMPLETION OF THE WAITING PERIOD, BASED ON THE RESULTS OF INSTRUMENTATION.
- SEE THE SPECIAL PROVISIONS FOR SETTLEMENT MONITORING REQUIREMENTS AND CONSTRUCTION DETAILS SHEET DT-24 FOR INSTALLATION LOCATIONS.
- PILE LENGTHS FOR ORDERING PURPOSES SHALL BE DETERMINED BY TEST PILES. A MINIMUM OF ONE PILE PER SUBSTRUCTURE, AS SHOWN ON THE PLANS, SHALL BE DYNAMICALLY TESTED WITH SIGNAL MATCHING ANALYSIS BY THE CONTRACTOR IN ACCORDANCE WITH SPECIAL PROVISIONS 619519 AND 619539. TEST AND PRODUCTION PILE RESTRIKES WILL BE PAID AS FOLLOWS:
 - ALL TEST PILE(S) WILL BE RESTRUCK AFTER A WAITING PERIOD OF AT LEAST 48 HOURS. RESTRIKES OF THESE TEST PILES SHALL BE PERFORMED PRIOR TO PLACING ANY EMBANKMENT IN ACCORDANCE WITH ITEM NO. 619502 TEST PILE RESTRIKE. TEST PILE RESTRIKES SHALL BE INCIDENTAL.
 - IF DIRECTED BY THE ENGINEER TO RESTRIKE A PRODUCTION PILE, THE RESTRIKE OF THE PRODUCTION PILE SHALL BE PAID SEPARATELY UNDER ITEM NO. 619501.
- THE DEPARTMENT RESERVES THE RIGHT TO PERFORM DYNAMIC TESTING OF RESTRIKES.

ALTERNATE PILE NOTES:

- BACK-UP PLATE TO BE CUT FROM THE SAME PILE SIZE AS BEING SPLICED. CUT AND BEND TO FIT INSIDE DIAMETER OF PILE.
- CORRUGATED PIPE NOT SHOWN FOR CLARITY.
- CLASS A CEMENT CONCRETE (MATERIAL) FOR FILLING VOID IN ALT. PILES IS INCIDENTAL TO ITEMS "618552 - FURNISH PIPE PILE, SCHEDULE 40, OPEN END, 14", "618557 - FURNISH TEST PIPE PILE, SCHEDULE 40, OPEN END, 14", "618050 - FURNISH STEEL SHELL PILES, 14", OR "618051 - FURNISH TEST STEEL SHELL PILES, 14". INSTALLATION OF CLASS A CEMENT CONCRETE FOR FILLING VOID IN ALTERNATE PILES IS INCIDENTAL TO ITEMS "619540 - INSTALL PIPE PILE SCHEDULE 40, OPEN END, 14" "619558 - INSTALL TEST PIPE PILE, SCHEDULE 40, OPEN END, 14", "619055 - INSTALL STEEL SHELL PILES, 14", OR "619056 - INSTALL TEST STEEL SHELL PILES, 14".
- REINFORCEMENT STEEL FOR ALTERNATE PILES (MATERIAL) IS INCIDENTAL TO ITEMS "618552 - FURNISH PIPE PILE, SCHEDULE 40, OPEN END, 14", "618557 - FURNISH TEST PIPE PILE, SCHEDULE 40, OPEN END, 14", "618050 - FURNISH STEEL SHELL PILES, 14", OR "618051 - FURNISH TEST STEEL SHELL PILES, 14". INSTALLATION OF REINFORCEMENT STEEL FOR ALTERNATE PILES IS INCIDENTAL TO ITEMS "619540 - INSTALL PIPE PILE, SCHEDULE 40, OPEN END, 14" "619558 - INSTALL TEST PIPE PILE, SCHEDULE 40, OPEN END, 14", "619055 - INSTALL STEEL SHELL PILES, 14", OR "619056 - INSTALL TEST STEEL SHELL PILES, 14".

REFERENCES:

- | | |
|------------------------------------|---------------------------|
| GENERAL PLAN | BRI-482-01 |
| PROJECT NOTES | BRI-482-03 |
| GEOMETRIC LAYOUT | BRI-482-04 |
| ABUTMENT 1 PILE LAYOUT AND DETAILS | BRI-482-05 |
| ABUTMENT 2 PILE LAYOUT | BRI-482-06 |
| PILE TABLES | BRI-482-08 |
| ABUTMENT 1 PLAN | BRI-482-09 |
| ABUTMENT 2 PLAN | BRI-482-10 |
| ABUTMENT AND CHEEKWALL DETAILS | BRI-482-11 AND BRI-482-12 |
| REINFORCEMENT BAR SCHEDULE | BRI-482-31 |

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ADDENDUMS / REVISIONS

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	JS/WMM
COUNTY	CHECKED BY:	DJP
NEW CASTLE		

PILE DETAILS
AND NOTES

BRI-482-07	
SHEET NO.	298
TOTAL SHTS.	850

HP14X73 PILE INSTALLATION DATA (RECOMMENDED)					
SUBSTRUCTURE UNIT	DESIGN DATA			ACTUAL FIELD DATA	
	NOMINAL PILE DRIVING RESISTANCE (R _{ndr}) (KIPS)	ESTIMATED TIP ELEVATION	MINIMAL TIP ELEVATION	AVERAGE ACTUAL MINIMUM TIP ELEVATION	AVERAGE ACTUAL MAXIMUM TIP ELEVATION
ABUTMENT 1	327	18	18		
ABUTMENT 2	327	14	14		

ABUTMENT 1 PILE DRIVING INFORMATION (RECOMMENDED)
PILE SIZE AND TYPE: HP 14 x 73
ACTUAL BEARING OBTAINED:
HAMMER TYPE:
PILE HAMMER ENERGY:
SPECIAL DRIVING CONDITIONS AND COMMENTS:

ABUTMENT 2 PILE DRIVING INFORMATION (RECOMMENDED)
PILE SIZE AND TYPE: HP 14 x 73
ACTUAL BEARING OBTAINED:
HAMMER TYPE:
PILE HAMMER ENERGY:
SPECIAL DRIVING CONDITIONS AND COMMENTS:

14" DIAMETER OPEN END STEEL PIPE PILE INSTALLATION DATA (ALTERNATE)					
SUBSTRUCTURE UNIT	DESIGN DATA			ACTUAL FIELD DATA	
	NOMINAL PILE DRIVING RESISTANCE (R _{ndr}) (KIPS)	ESTIMATED TIP ELEVATION	MINIMAL TIP ELEVATION	AVERAGE ACTUAL MINIMUM TIP ELEVATION	AVERAGE ACTUAL MAXIMUM TIP ELEVATION
ABUTMENT 1	329	8	8		
ABUTMENT 2	329	4	4		

ABUTMENT 1 PILE DRIVING INFORMATION (ALTERNATE)
PILE SIZE AND TYPE: 14" DIAMETER SCHEDULE 40 OPEN END STEEL PIPE PILE
ACTUAL BEARING OBTAINED:
HAMMER TYPE:
PILE HAMMER ENERGY:
SPECIAL DRIVING CONDITIONS AND COMMENTS:

ABUTMENT 2 PILE DRIVING INFORMATION (ALTERNATE)
PILE SIZE AND TYPE: 14" DIAMETER SCHEDULE 40 OPEN END STEEL PIPE PILE
ACTUAL BEARING OBTAINED:
HAMMER TYPE:
PILE HAMMER ENERGY:
SPECIAL DRIVING CONDITIONS AND COMMENTS:

14" DIAMETER STEEL SHELL PILE (FLUTED, Y-TAPER) INSTALLATION DATA (ALTERNATE)					
SUBSTRUCTURE UNIT	DESIGN DATA			ACTUAL FIELD DATA	
	NOMINAL PILE DRIVING RESISTANCE (R _{ndr}) (KIPS)	ESTIMATED TIP ELEVATION	MINIMAL TIP ELEVATION	AVERAGE ACTUAL MINIMUM TIP ELEVATION	AVERAGE ACTUAL MAXIMUM TIP ELEVATION
ABUTMENT 1	338	25	25		
ABUTMENT 2	338	21	21		

ABUTMENT 1 PILE DRIVING INFORMATION (ALTERNATE)
PILE SIZE AND TYPE: 14" DIAMETER 3 GAGE FLUTED STEEL SHELL PILE (Y-TAPER)
ACTUAL BEARING OBTAINED:
HAMMER TYPE:
PILE HAMMER ENERGY:
SPECIAL DRIVING CONDITIONS AND COMMENTS:

ABUTMENT 2 PILE DRIVING INFORMATION (ALTERNATE)
PILE SIZE AND TYPE: 14" DIAMETER 3 GAGE FLUTED STEEL SHELL PILE (Y-TAPER)
ACTUAL BEARING OBTAINED:
HAMMER TYPE:
PILE HAMMER ENERGY:
SPECIAL DRIVING CONDITIONS AND COMMENTS:

REFERENCES:

- | | |
|------------------------------------|---------------------------|
| GENERAL PLAN | BRI-482-01 |
| PROJECT NOTES | BRI-482-03 |
| GEOMETRIC LAYOUT | BRI-482-04 |
| ABUTMENT 1 PILE LAYOUT AND DETAILS | BRI-482-05 |
| ABUTMENT 2 PILE LAYOUT | BRI-482-06 |
| PILE DETAILS AND NOTES | BRI-482-07 |
| ABUTMENT 1 PLAN | BRI-482-09 |
| ABUTMENT 2 PLAN | BRI-482-10 |
| ABUTMENT AND CHEEKWALL DETAILS | BRI-482-11 AND BRI-482-12 |
| REINFORCEMENT BAR SCHEDULE | BRI-482-31 |

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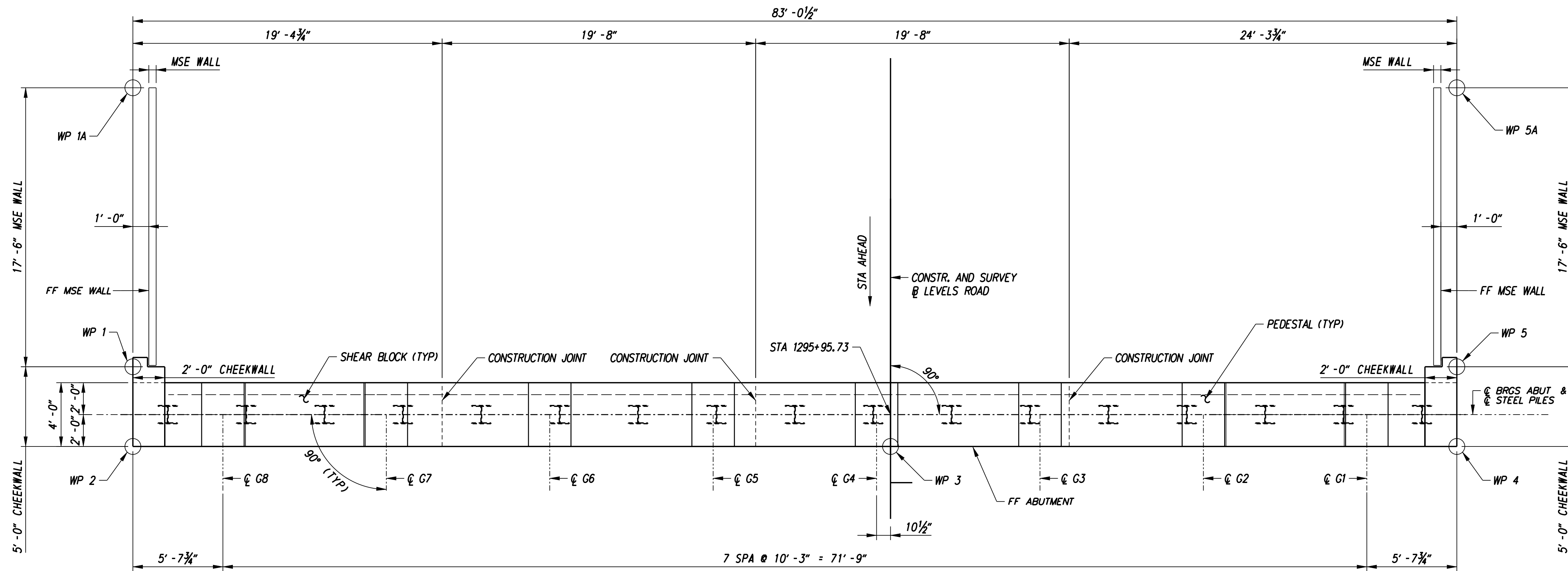
ADDENDUMS / REVISIONS	

**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

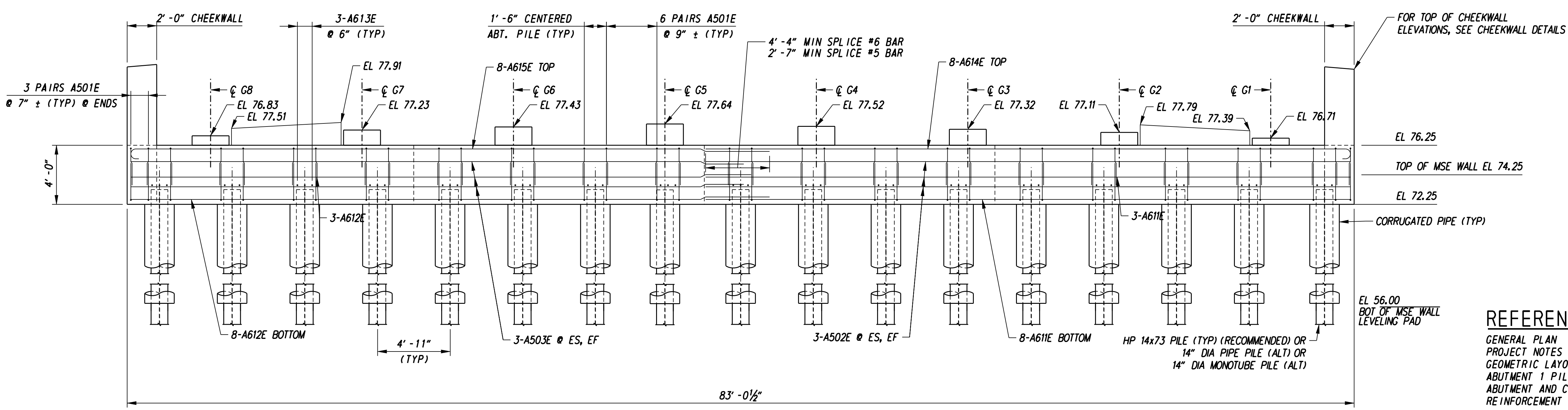
CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	JS/WMM
COUNTY	CHECKED BY:	DJP
NEW CASTLE		

PILE TABLES	SHEET NO.	299
	TOTAL SHTS.	850

BR1-482-08



ABUTMENT 1 PLAN



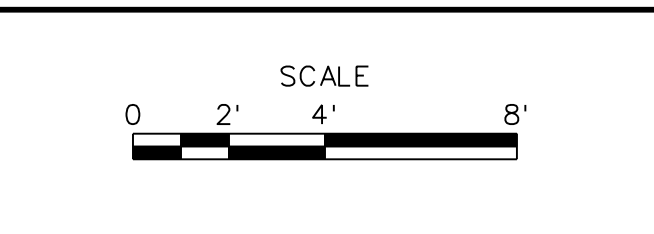
ABUTMENT 1 ELEVATION
(LOOKING STATION BACK)

- REFERENCES:**
- GENERAL PLAN
 - PROJECT NOTES
 - GEOMETRIC LAYOUT
 - ABUTMENT 1 PILE LAYOUT AND DETAILS
 - ABUTMENT AND CHEEKWALL DETAILS
 - REINFORCEMENT BAR SCHEDULE
- BR1-482-01
 - BR1-482-03
 - BR1-482-04
 - BR1-482-05
 - BR1-482-11 AND BR1-482-12
 - BR1-482-31

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ADDENDUMS / REVISIONS	

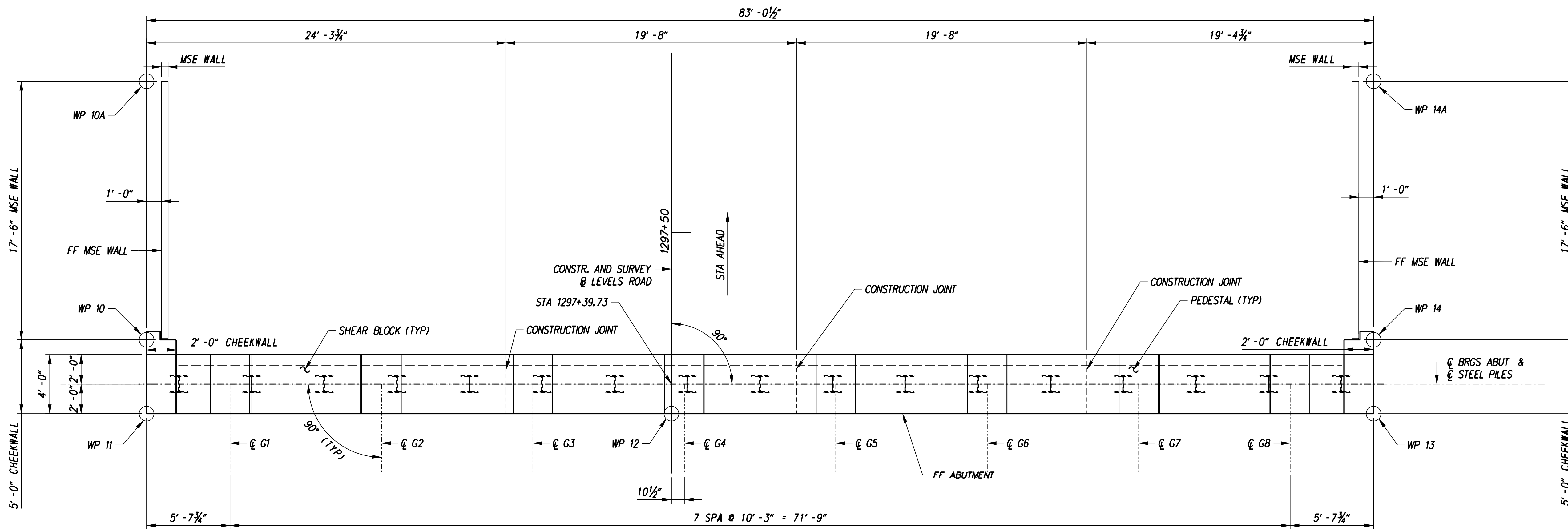


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

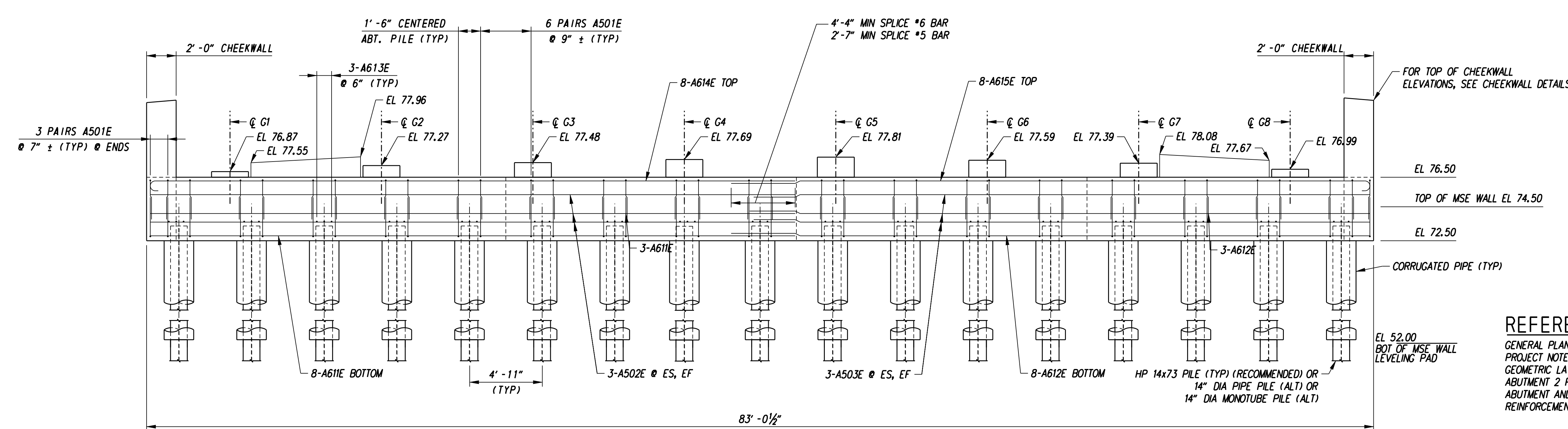
CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	JS/WMM
COUNTY	CHECKED BY:	DJP
NEW CASTLE		

**ABUTMENT 1
PLAN AND ELEVATION**

BR1-482-09	SHEET NO.	300
	TOTAL SHTS.	850



ABUTMENT 2 PLAN



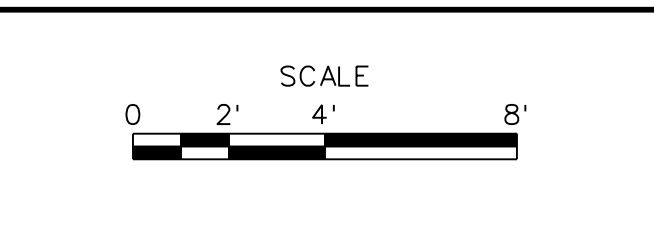
ABUTMENT 2 ELEVATION
(LOOKING STATION AHEAD)

- REFERENCES:**
- GENERAL PLAN
 - PROJECT NOTES
 - GEOMETRIC LAYOUT
 - ABUTMENT 2 PILE LAYOUT
 - ABUTMENT AND CHEEKWALL DETAILS
 - REINFORCEMENT BAR SCHEDULE
- BRI-482-01
 - BRI-482-03
 - BRI-482-04
 - BRI-482-06
 - BRI-482-11 AND BRI-482-12
 - BRI-482-31

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ADDENDUMS / REVISIONS	



**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	JS/WMM
COUNTY	CHECKED BY:	DJP
NEW CASTLE		

**ABUTMENT 2
PLAN AND ELEVATION**

BRI-482-10
SHEET NO.
301
TOTAL SHTS.
850

NOTES

- SOIL STABILIZING ELEMENTS TO BE DESIGNED AND DETAILED (NUMBER, SIZE, AND SPACING) BY THE MSE WALL COMPANY FOR FORCES INDICATED ON THE LOADING DIAGRAM. SOIL STABILIZING ELEMENTS SHALL BE INCIDENTAL TO ITEM "602015 - PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT ABOVE FOOTING".
- FINE AGGREGATE TO MEET THE REQUIREMENTS OF DELDOT STANDARD SPECIFICATIONS, SECTION 804. QUANTITY TO FILL VOID BETWEEN PILE AND CORRUGATED GALVANIZED STEEL PIPE SHALL BE INCIDENTAL TO ITEM "602772 - MECHANICALLY STABILIZED EARTH WALLS."
- HP, PIPE PILE OR STEEL SHELL PILE ENCASED WITH CORRUGATED GALVANIZED STEEL PIPE, INSTALLED FROM BOTTOM OF MSE WALL LEVELING PAD ELEVATION TO THE BOTTOM OF THE BRIDGE STUB ABUTMENT. REFER TO PILE INSTALLATION SEQUENCE ON PILE DETAILS AND NOTES SHEET. CORRUGATED PIPE SHALL BE INCIDENTAL TO ITEM 602772.
- SLOPE ABUTMENT 1/4" PER FOOT FROM REAR FACE TO FRONT FACE BETWEEN BEAM SEATS.

NOTE:
A401E BARS REQUIRED FOR G2 THROUGH G7 PEDESTALS AT BOTH ABUTMENTS

EACH ABUTMENT

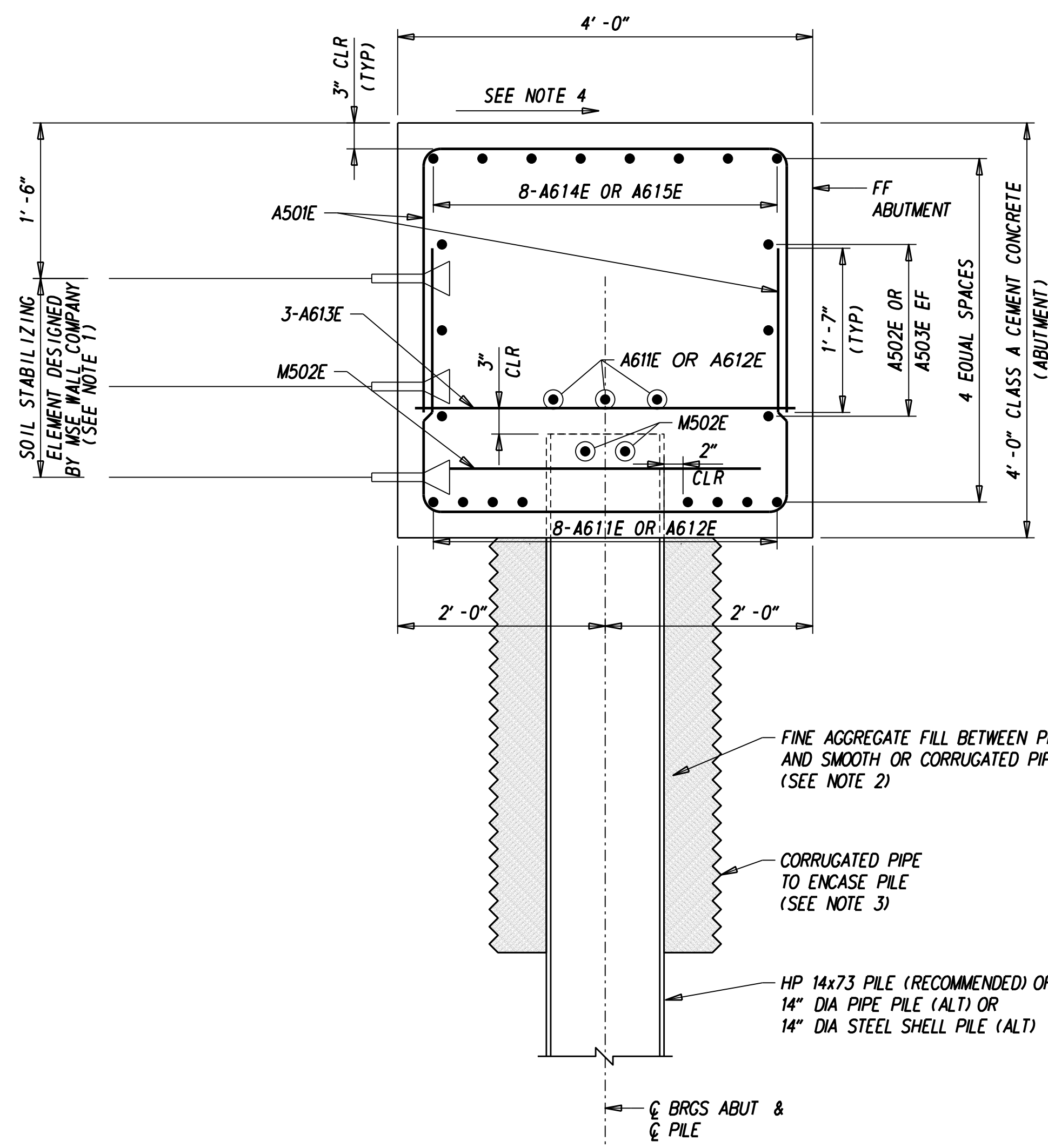
VERTICAL LOADS:

DEAD LOAD FROM ABUTMENT	2.40 k/lf
DEAD LOAD FROM SUPERSTRUCTURE	11.32 k/lf
DEAD LOAD FROM APPROACH SLAB	3.26 k/lf
HL-93 LOAD W/O IMPACT (1)	6.19 k/lf

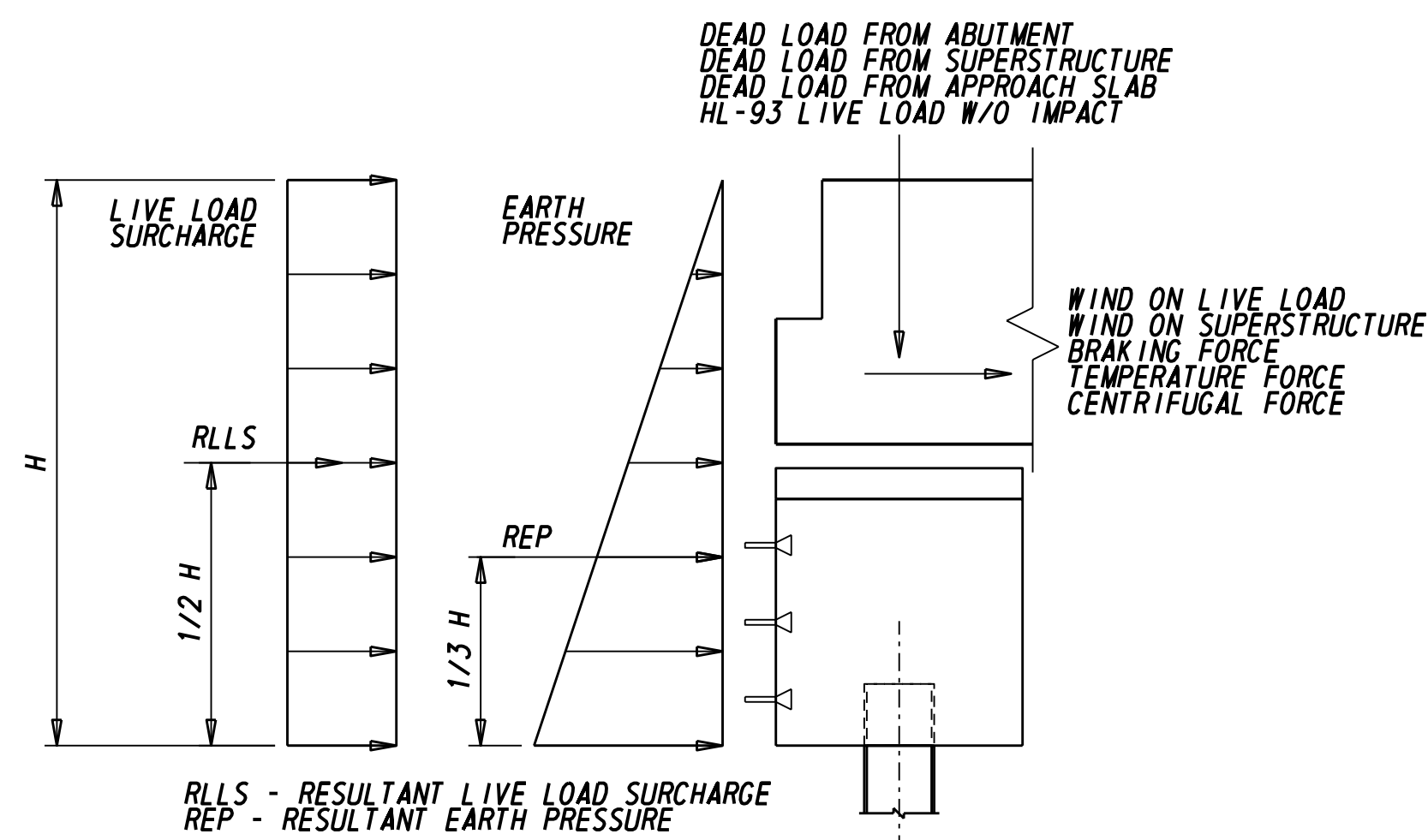
HORIZONTAL LOADS IN THE OVERTURNING DIRECTION# (2)

WIND ON LIVE LOAD (3)	0.00 k/lf
WIND ON SUPERSTRUCTURE (3)	0.00 k/lf
BRAKING FORCE (3)	0.00 k/lf
TEMPERATURE FORCE	0.61 k/lf
EARTH PRESSURE	1.80 k/lf
CENTRIFUGAL FORCE	0.00 k/lf
LIVE LOAD SURCHARGE	0.11 k/lf

- LIVE LOAD IS PROVIDED FOR MAXIMUM DESIGN LANE CONFIGURATION.
- THE OVERTURNING DIRECTION IS PERPENDICULAR TO C BEARINGS, ALL LOADS ARE UNFACTORED AND CONSIDERED TO ACT AT THE BEAM SEAT ELEVATION
- WIND LOADS AND BRAKING FORCE ARE CARRIED BY THE FIXED BEARINGS AT THE PIER.

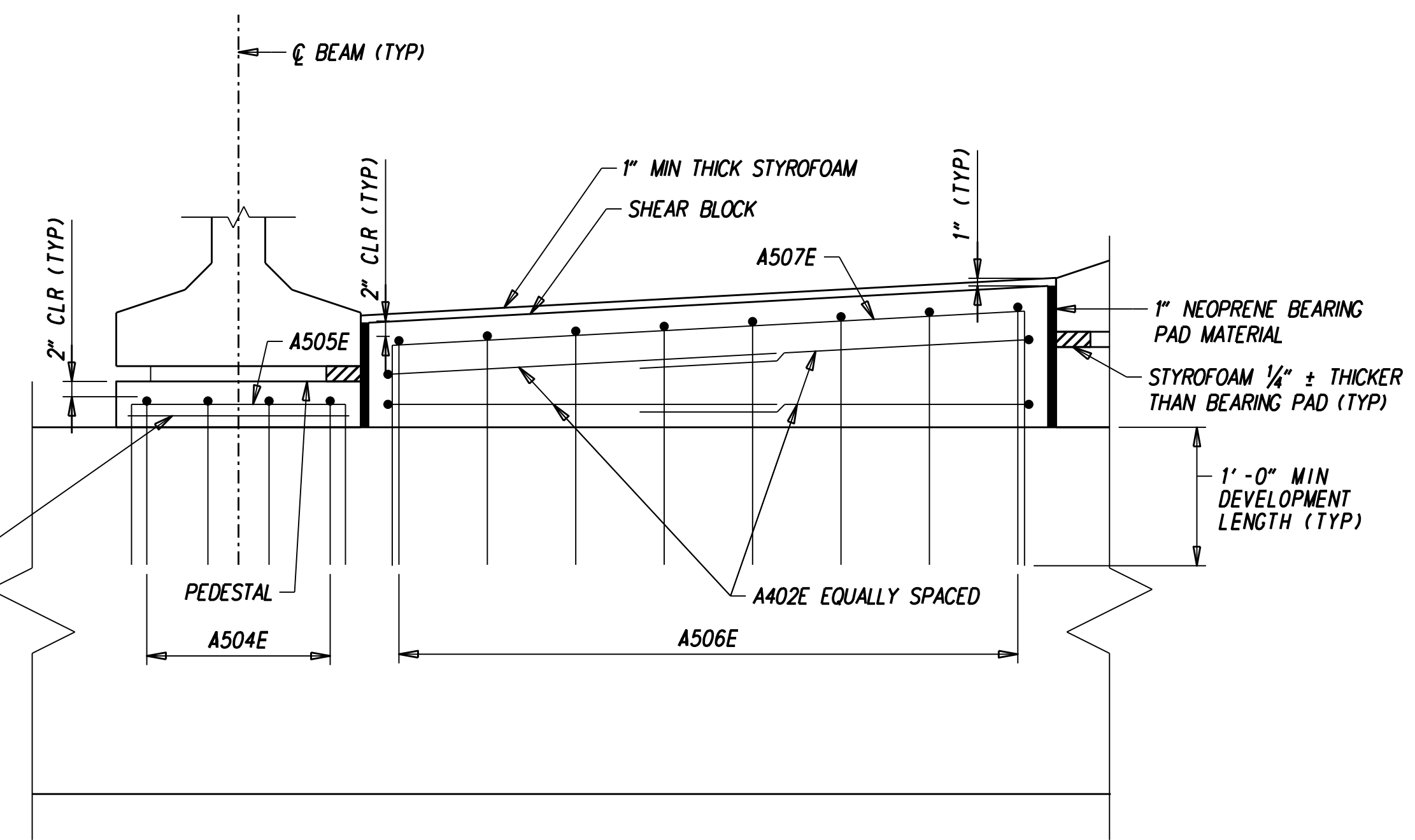


TYPICAL ABUTMENT SECTION

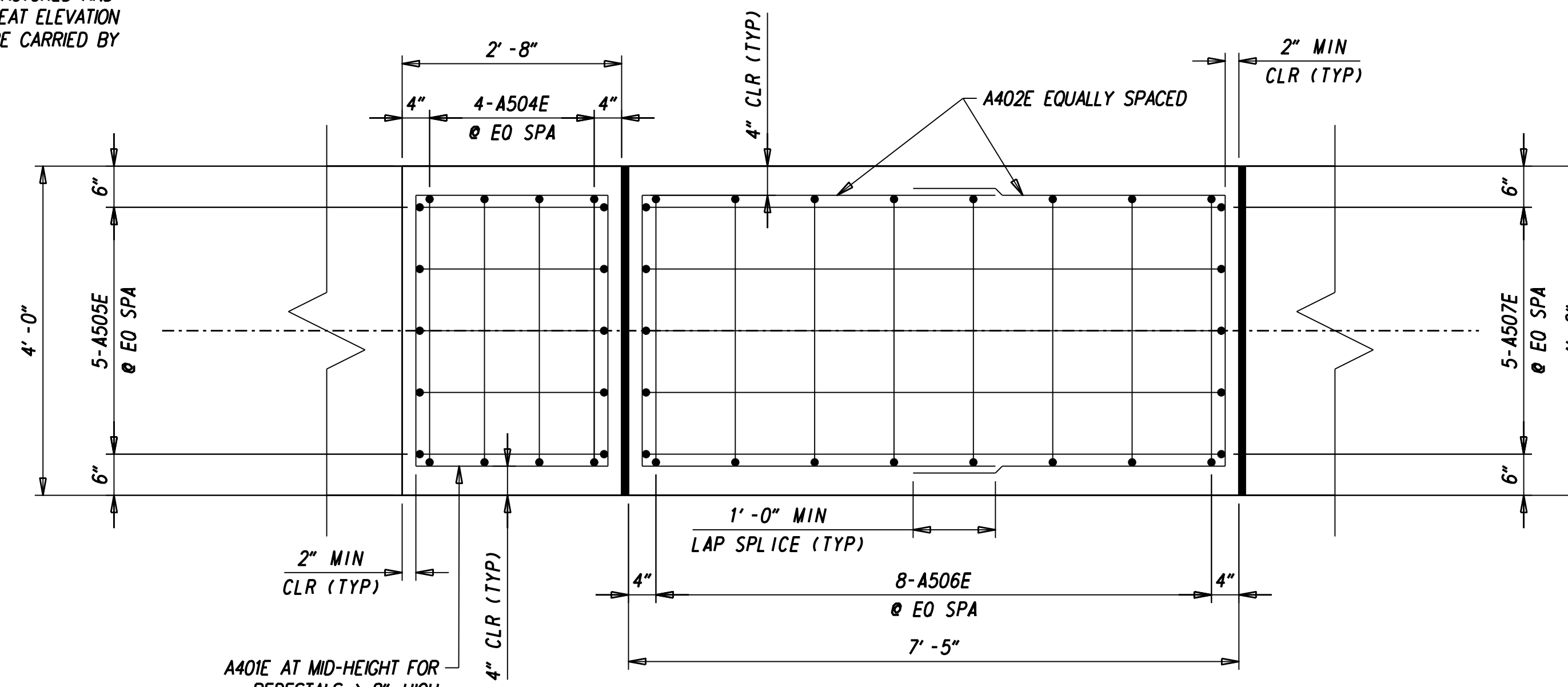
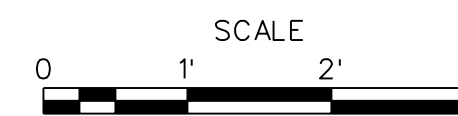


LOADING DIAGRAM

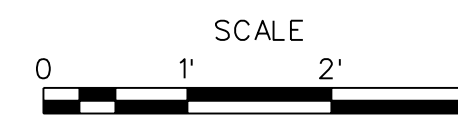
NTS



TYPICAL ELEVATION PEDESTAL AND SHEAR BLOCK



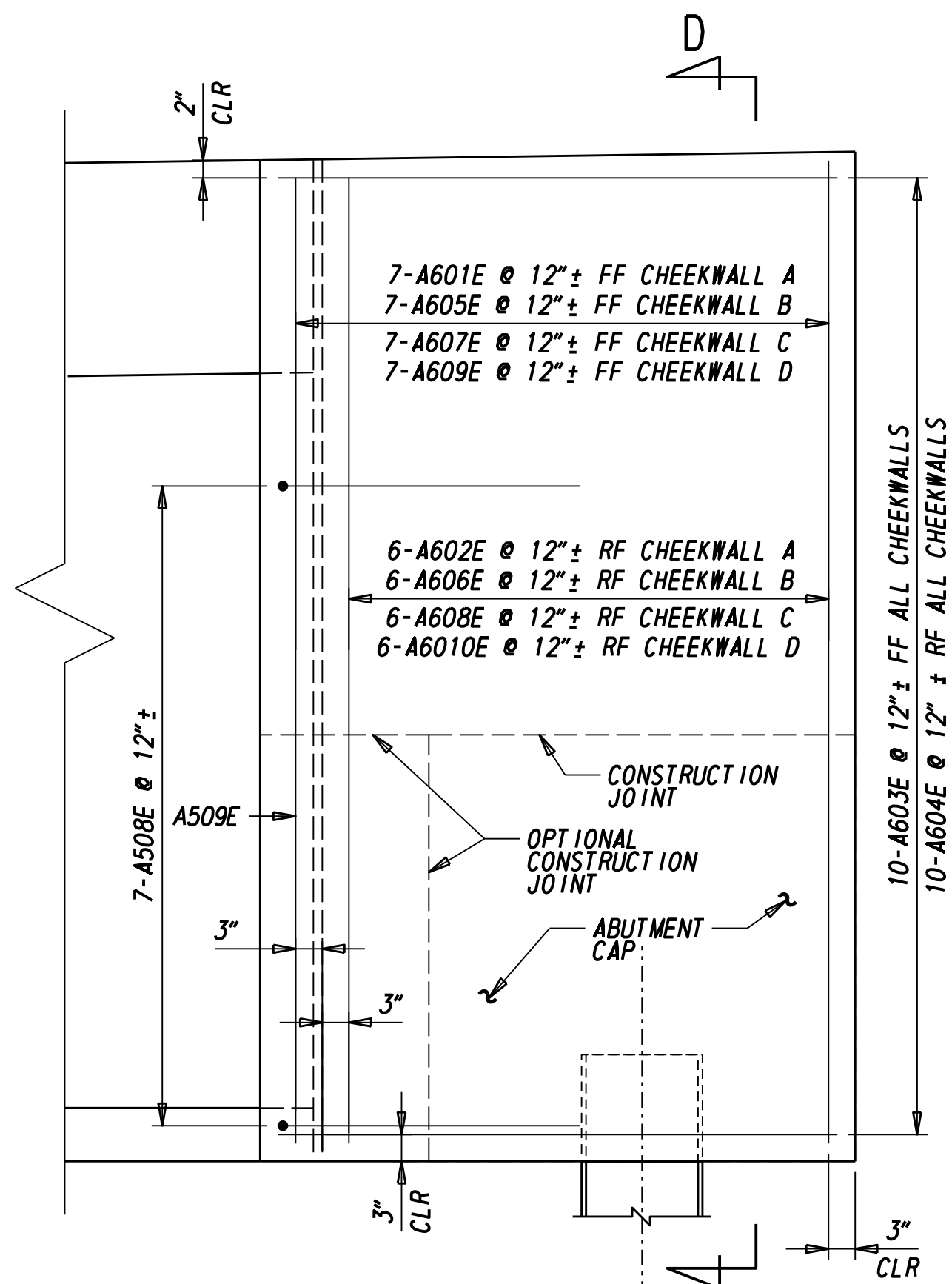
TYPICAL PLAN PEDESTAL AND SHEAR BLOCK



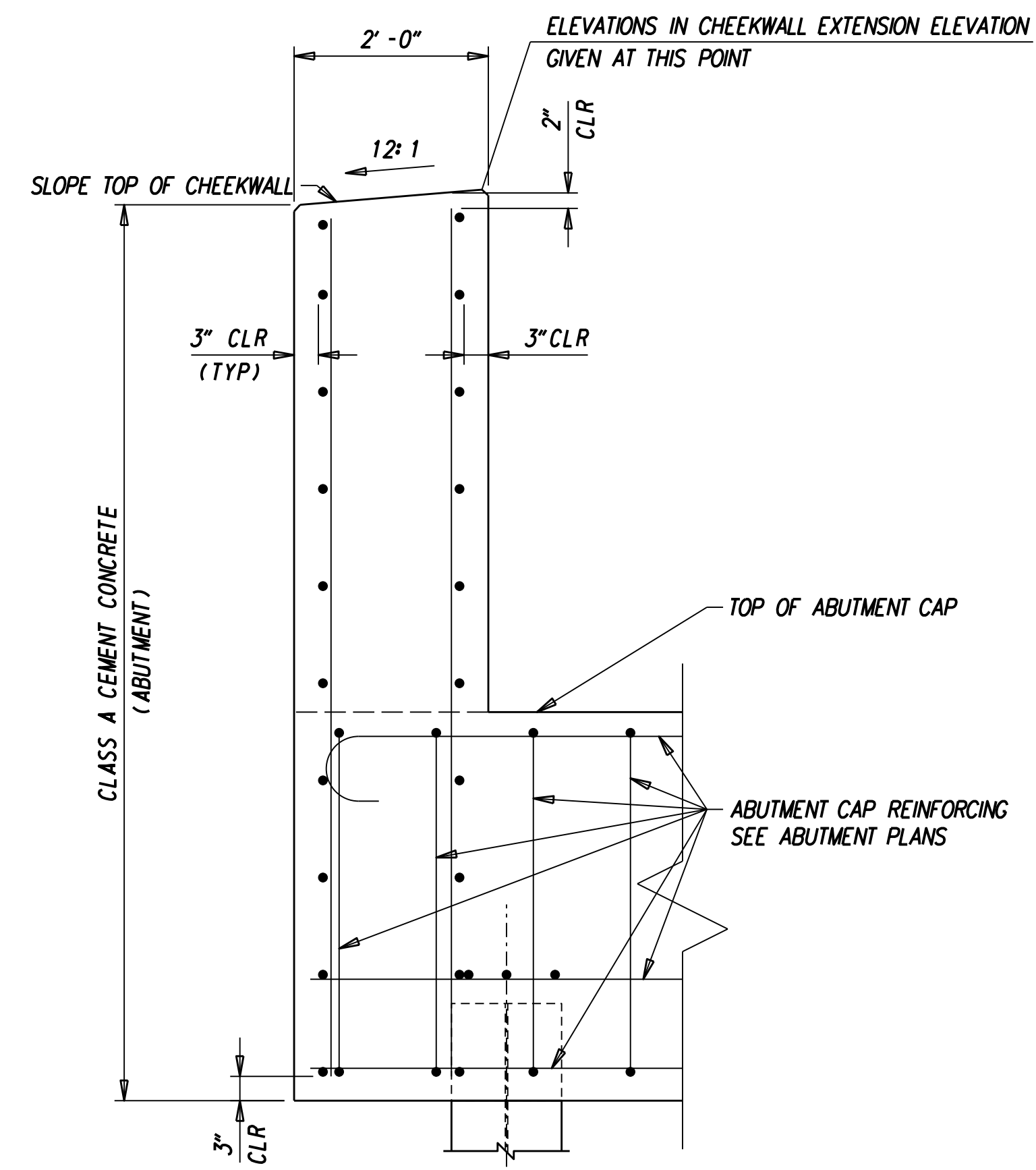
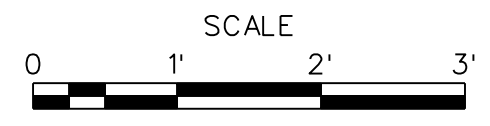
REFERENCES:

- PROJECT NOTES
PILE DETAILS AND NOTES
ABUTMENT PLANS
REINFORCEMENT BAR SCHEDULE
- BRI-482-03
BRI-482-07
BRI-482-09 AND BRI-482-10
BRI-482-31

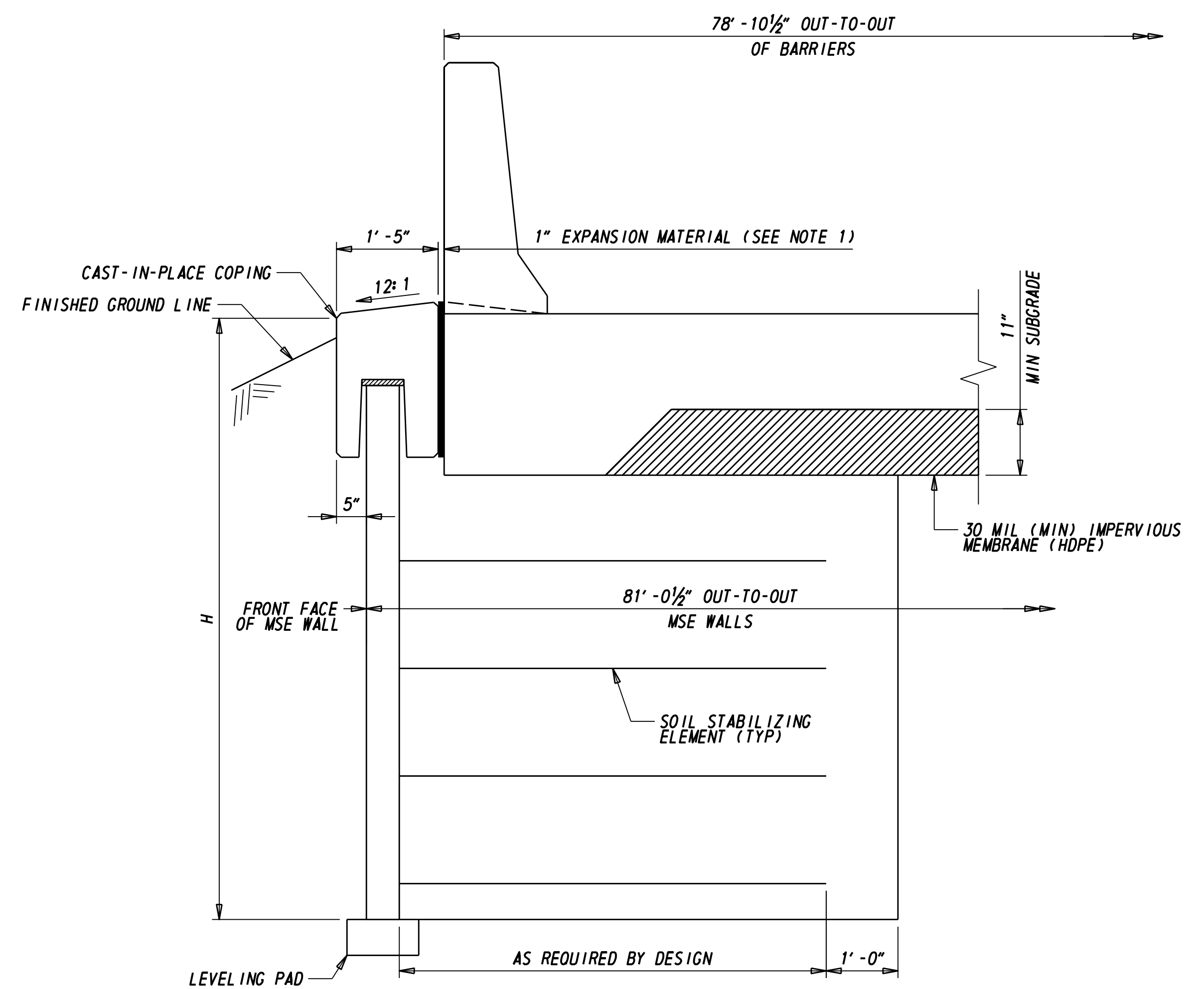
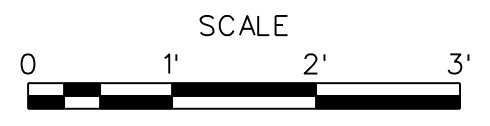
BRI-482-11



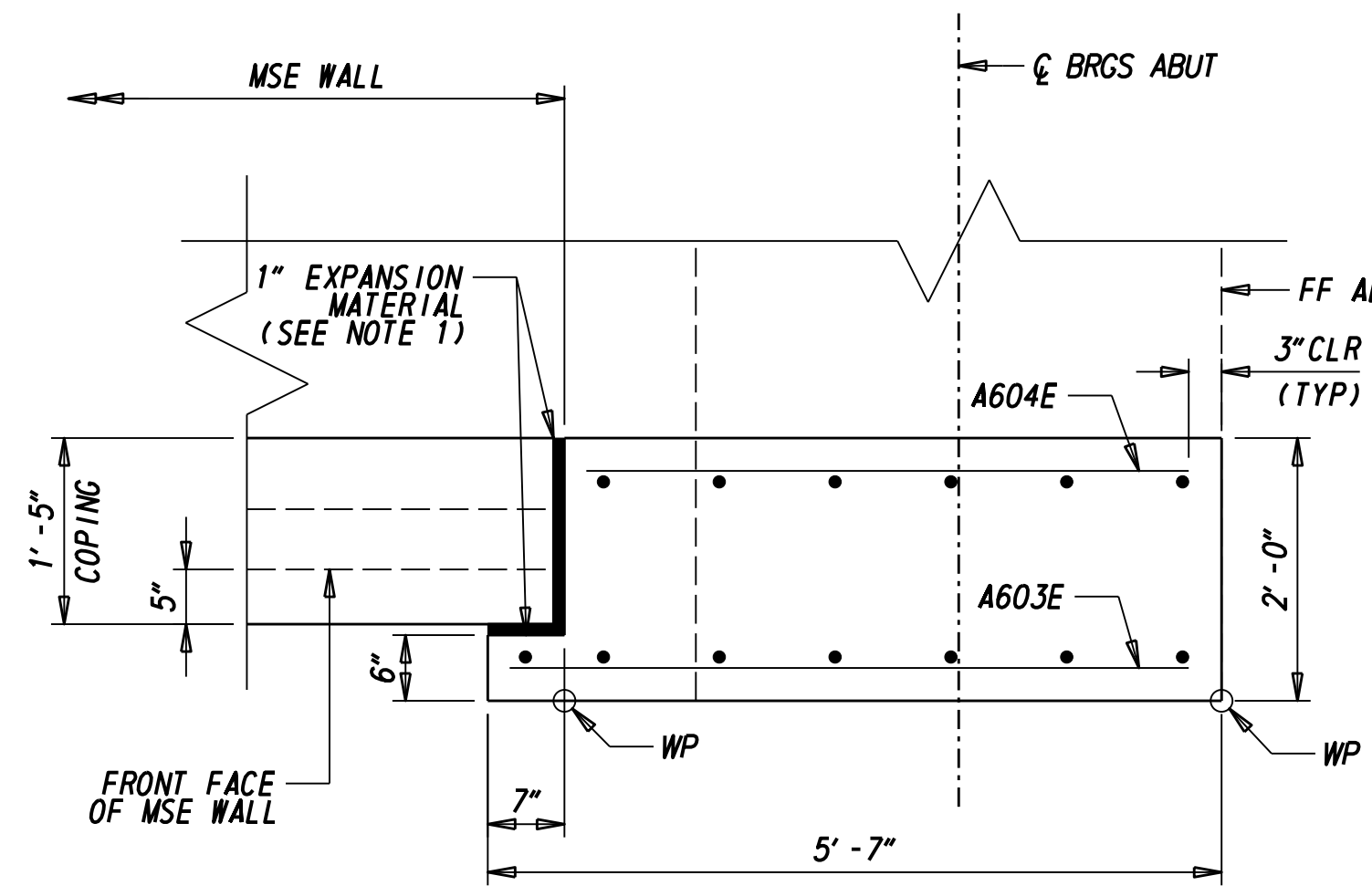
CHEEKWALL ELEVATION



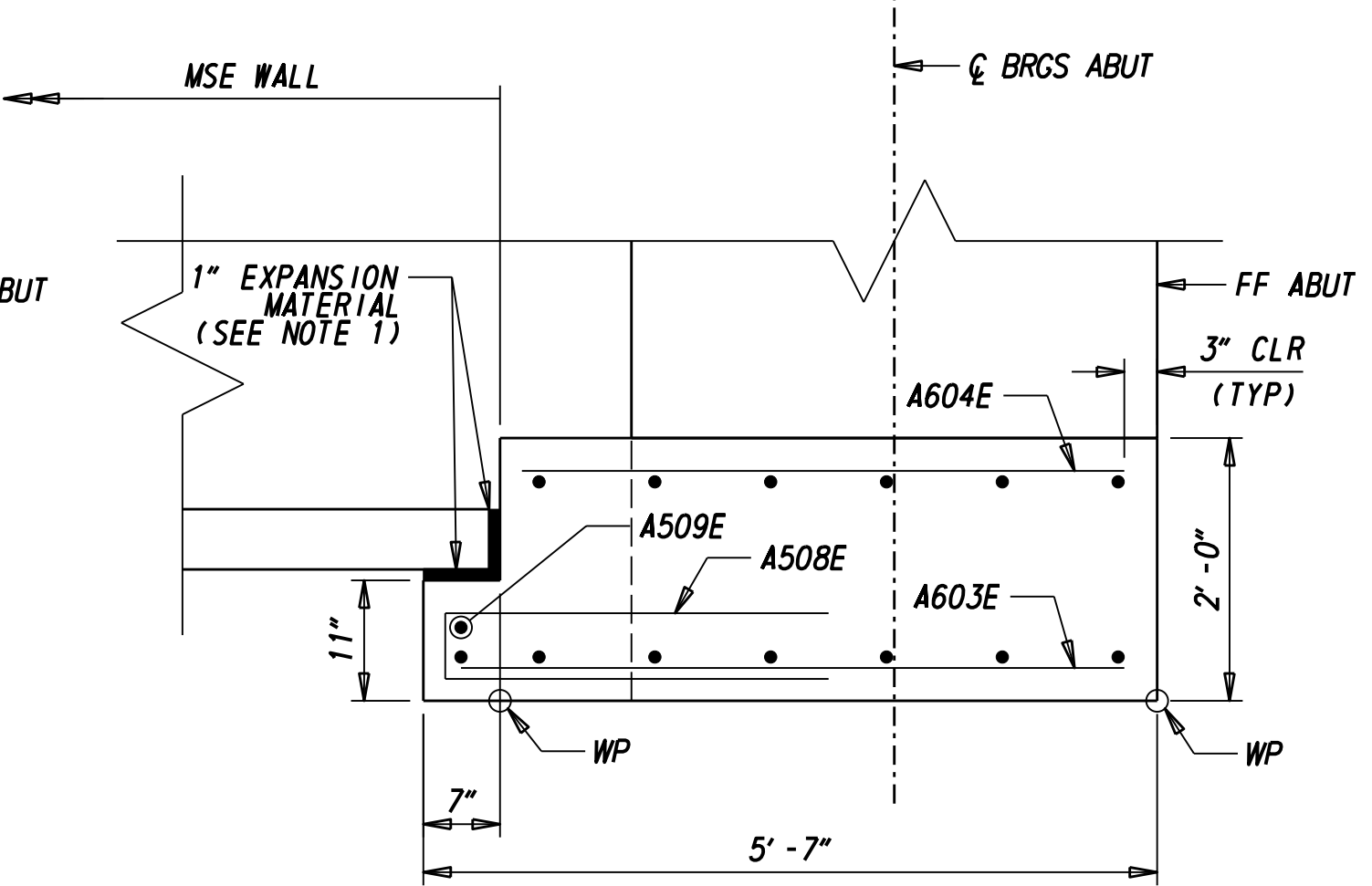
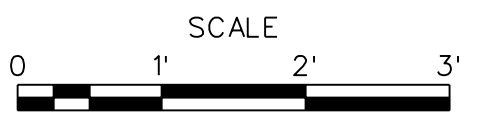
SECTION D-D



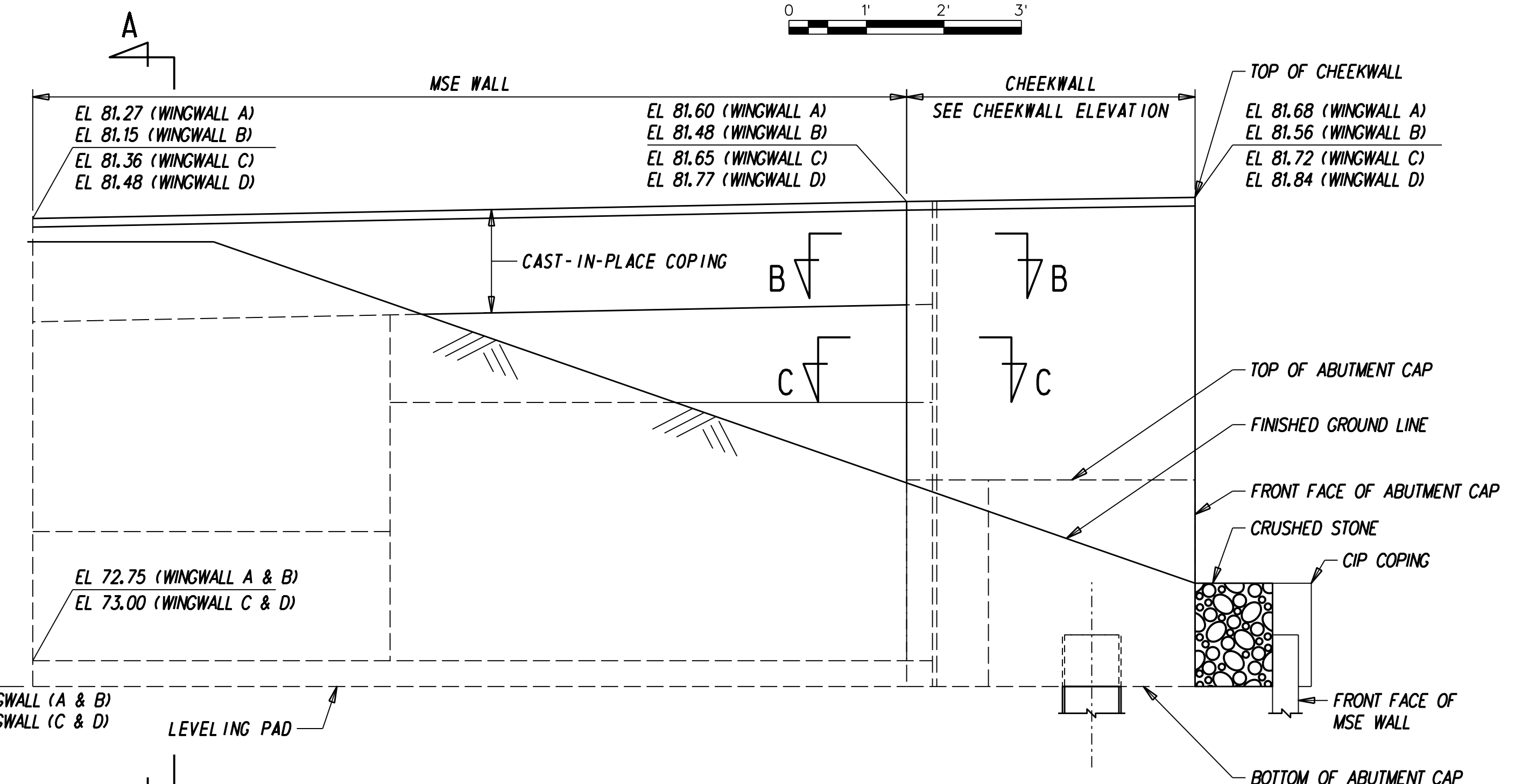
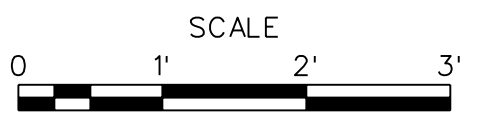
SECTION A-A



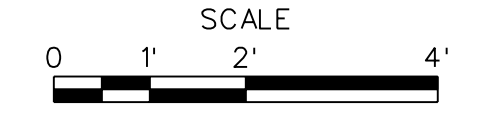
SECTION B-B



SECTION C-C



CHEEKWALL EXTENSION ELEVATION



NOTES

1. 1" EXPANSION MATERIAL SHALL BE INCIDENTAL TO ITEM "602772 - MECHANICALLY STABILIZED EARTH WALLS."

REFERENCES:

- PROJECT NOTES
- ABUTMENT PLANS
- MSE WALL NOTES
- REINFORCEMENT BAR SCHEDULE
- BRI-482-03
- BRI-482-09 AND BRI-482-10
- BRI-482-15
- BRI-482-31

J:\2008 PROJECTS\E3\34801\700CADD\750AET\BRIDGE BR2-9\AB_301AET_BR2-9_006.DGN



ADDENDUMS / REVISIONS	

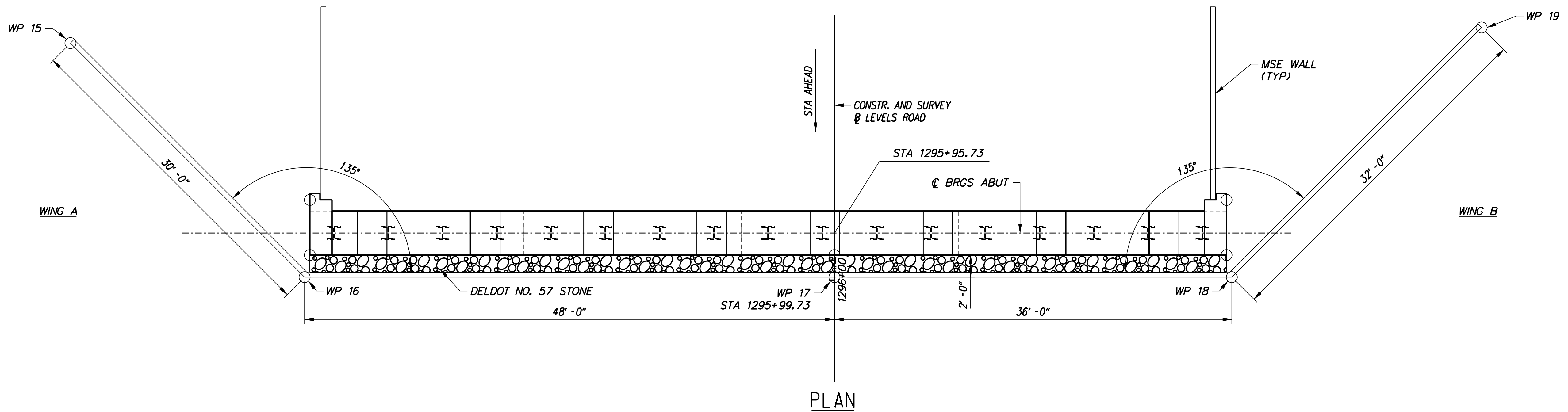
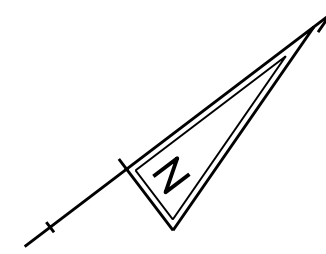
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	WMM
COUNTY	CHECKED BY:	JS
NEW CASTLE		

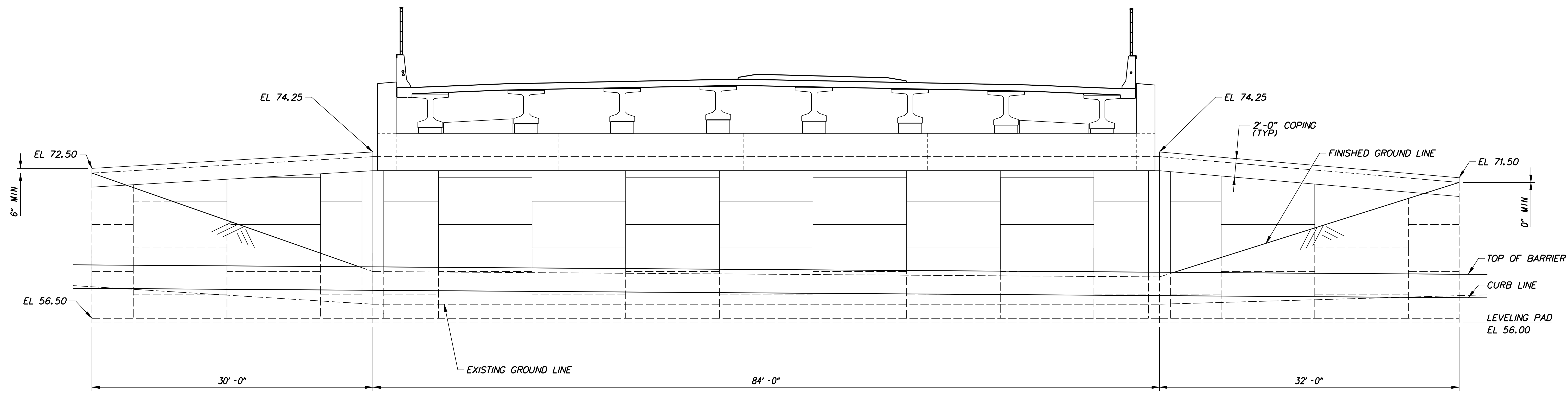
ABUTMENT SECTION
AND DETAILS - 2

BRI-482-12

SHEET NO.	303
TOTAL SHTS.	850



PLAN



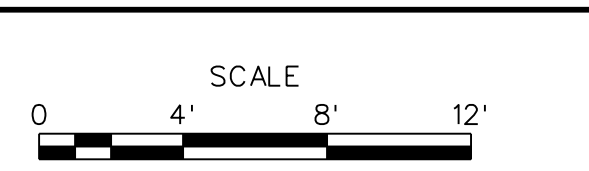
DEVELOPED ELEVATION
(LOOKING STATION BACK)

- REFERENCES:**
- GENERAL PLAN BR1-482-01
 - PROJECT NOTES BR1-482-03
 - GEOMETRIC LAYOUT BR1-482-04
 - ABUTMENT 1 PLAN BR1-482-09
 - MSE WALL DETAILS BR1-482-15

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ADDENDUMS / REVISIONS	

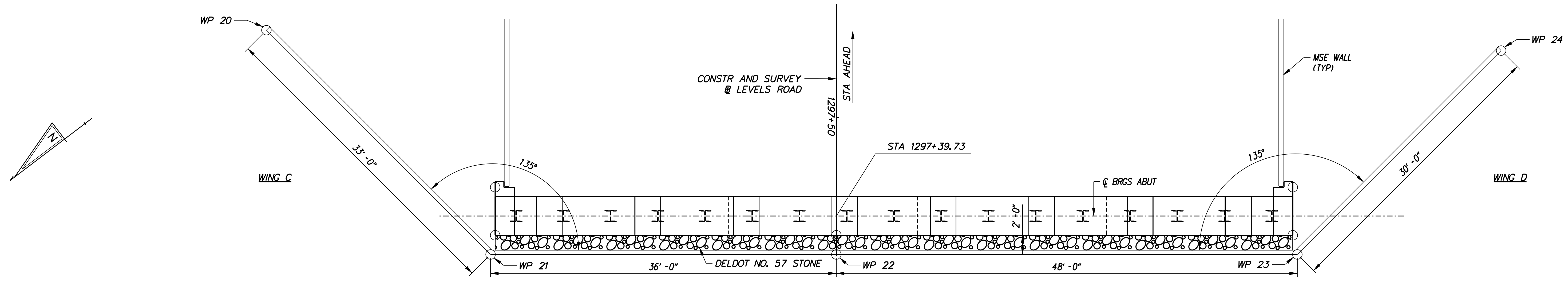


**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

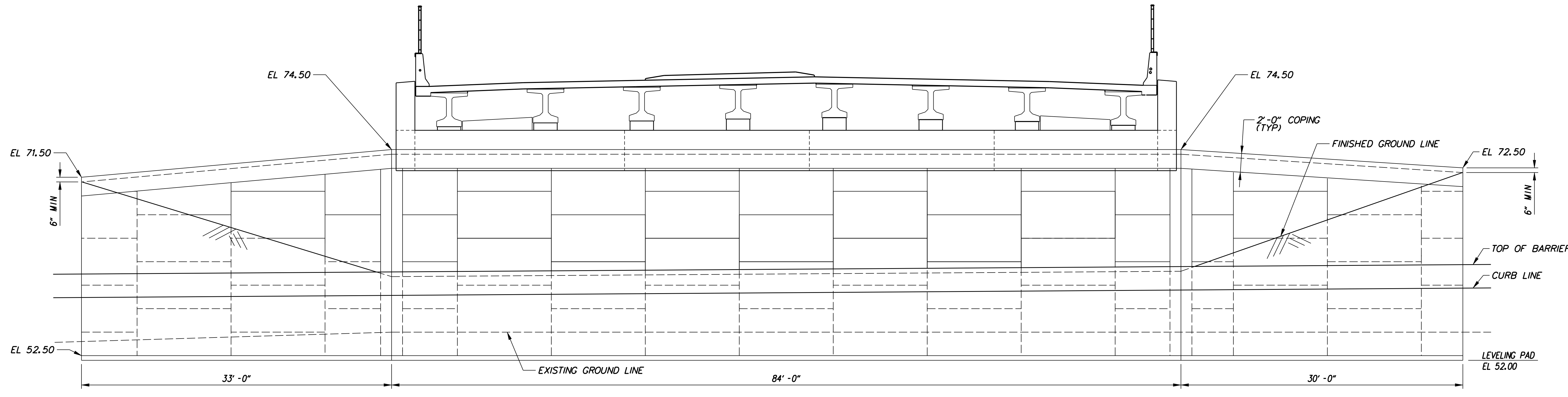
CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	WMM
COUNTY	CHECKED BY:	DJP
NEW CASTLE		

**ABUTMENT 1 MSE WALL
PLAN AND ELEVATION**

BR1-482-13
SHEET NO.
304
TOTAL SHTS.
850



PLAN



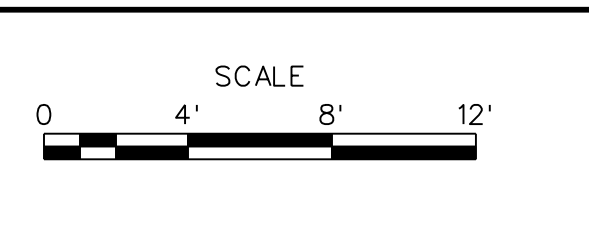
DEVELOPED ELEVATION
(LOOKING STATION AHEAD)

- REFERENCES:
- GENERAL PLAN
 - PROJECT NOTES
 - GEOMETRIC LAYOUT
 - ABUTMENT 2 PLAN
 - MSE WALL DETAILS
 - BRI-482-01
 - BRI-482-03
 - BRI-482-04
 - BRI-482-10
 - BRI-482-15

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ADDENDUMS / REVISIONS	

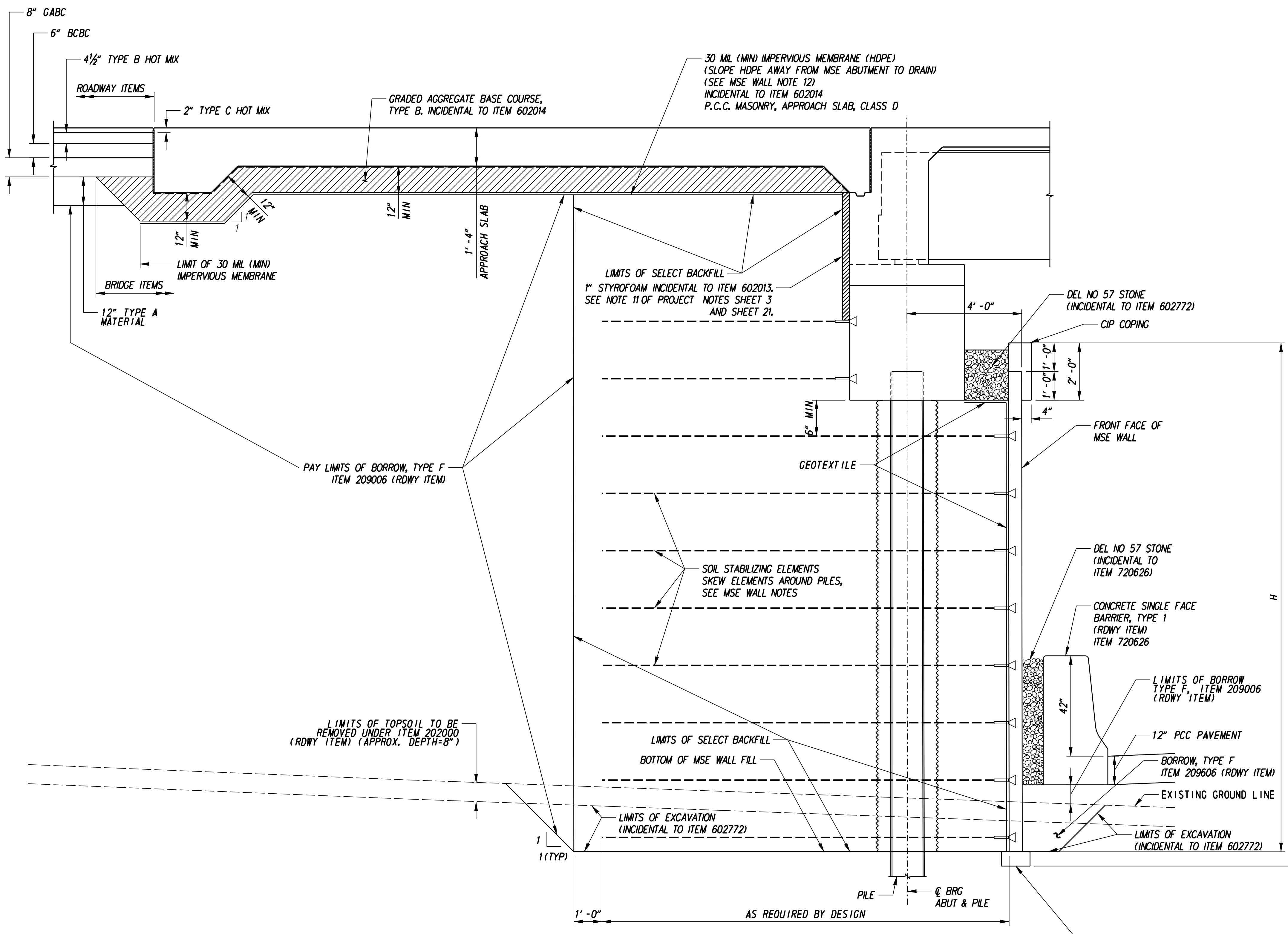


US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	WMM
COUNTY	CHECKED BY:	DJP
NEW CASTLE		

ABUTMENT 2 MSE WALL
PLAN AND ELEVATION

BR1-482-14	SHEET NO.	305
	TOTAL SHTS.	850



MSE WALL NOTES:

1. CONCRETE:
CONCRETE DESIGN SHALL BE PERFORMED USING LOAD AND RESISTANCE FACTOR DESIGN METHOD.
LEVELING PAD CONCRETE SHALL BE 3,000 PSI. MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
2. CHAMFERS:
ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" x 3/4" MILLED CHAMFER STRIPS, UNLESS OTHERWISE NOTED.
3. REINFORCING STEEL:
REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A 615), GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER THE LRFD BRIDGE DESIGN SPECIFICATIONS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED.
FOR TIES AND STIRRUPS, STANDARD ACI BENDING TOLERANCES ARE MODIFIED TO PLUS (+) ZERO INCHES, MINUS (-) NORMAL ACI BENDING TOLERANCE.
ONLY GRADE 60 CAN BE USED ON THIS PROJECT.
ALL KEYS ARE TO BE NORMAL SIZE.
THE MSE WALL MANUFACTURER MAY SUBSTITUTE ALTERNATE REINFORCING CONFIGURATIONS AND SUBMIT FOR APPROVAL.
4. ROADWAY LIMITS:
THE PROPRIETARY WALL MANUFACTURER SHALL VERIFY THAT PROPOSED PROPRIETARY WALL COMPONENTS ARE POSITIONED SUCH THAT DESIGNATED ROADWAY LIMITS ARE NOT ENCRoACHED UPON.
5. COORDINATION:
ALL MSE WALL SHOP DRAWINGS MUST SHOW PILE LOCATIONS AND ARRANGEMENT OF MSE WALL SOIL REINFORCEMENT ELEMENTS TO AVOID INTERFERENCE WITH PILES. CUTTING SOIL REINFORCING ELEMENTS TO AVOID INTERFERENCE WITH PILES IS NOT PERMITTED.
6. SERVICE LIFE:
ALL RETAINING WALL COMPONENTS SHALL BE DESIGNED FOR A MINIMUM SERVICE LIFE OF 100 YEARS.
7. WALL SYSTEM:
ONLY ONE MSE WALL SYSTEM MAY BE USED ON THIS CONTRACT.
8. EXCAVATION & BACKFILL:
EXCAVATION REQUIRED FOR INSTALLATION OF MSE WALL SYSTEMS SHALL BE INCIDENTAL TO ITEM 602772. MECHANICALLY STABILIZED EARTH WALLS. BACKFILL SPACES EXCAVATED FOR MSE WALL AND NOT OCCUPIED BY MSE WALL COMPONENTS OR SELECT BACKFILL, WITH TYPE F MATERIAL.
9. MSE WALL BACKFILL:
SHALL CONSIST OF SELECT BACKFILL, IN ACCORDANCE WITH SPECIAL PROVISION 602772, MECHANICALLY STABILIZED EARTH WALLS.
10. FOUNDATION:
IF DIRECTED BY THE ENGINEER, REMOVE UNSUITABLE MATERIAL BELOW BOTTOM OF MSE WALL FILL. PLACE GEOTEXTILE AT THE BOTTOM OF THE EXCAVATION AND FILL WITH PROPERLY COMPACTED TYPE B BORROW. EXCAVATION FOR THIS ITEM TO BE PAID FOR UNDER ITEM "207000 - EXCAVATION AND BACKFILLING FOR STRUCTURES" AND FILL TO BE PAID UNDER ITEM "209002 - BORROW, TYPE B". GEOTEXTILE IS TO BE IN ACCORDANCE WITH SECTION 827.06 OF THE DELDOT SPECIFICATIONS AND IS INCIDENTAL TO ITEM "209002 - BORROW, TYPE B".
11. MSE WALL AESTHETIC TREATMENT:
THE COMPONENTS OF THE MSE WALLS SHALL HAVE THE AESTHETIC TREATMENT AS IDENTIFIED IN THE SPECIAL PROVISION FOR ITEM 602772.
12. HIGH DENSITY POLYETHYLENE (HDPE):
PHYSICAL REQUIREMENTS:
 - * DENSITY: 59 POUNDS PER CUBIC FOOT (MINIMUM), ASTM D 1505
 - * UV STABILIZATION: 2% CARBON BLACK, ASTM D1603
 - * SHEET THICKNESS: 30 MILS (MINIMUM), ASTM D5199
 - * TEAR RESISTANCE: 22 POUNDS, ASTM D1004
 - * RESISTANCE SOIL BURIAL: 90% RETAINED STRENGTH, ASTM D3083
 - * MINIMUM ROLL WIDTH: 20 FEET

SECTION AT ABUTMENT
(ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR)

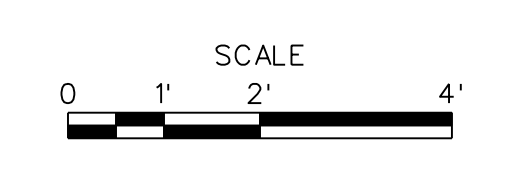
REFERENCES:

PROJECT NOTES BR1-482-03
MSE WALL PLANS BR1-482-13 AND BR1-482-14

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ADDENDUMS / REVISIONS	

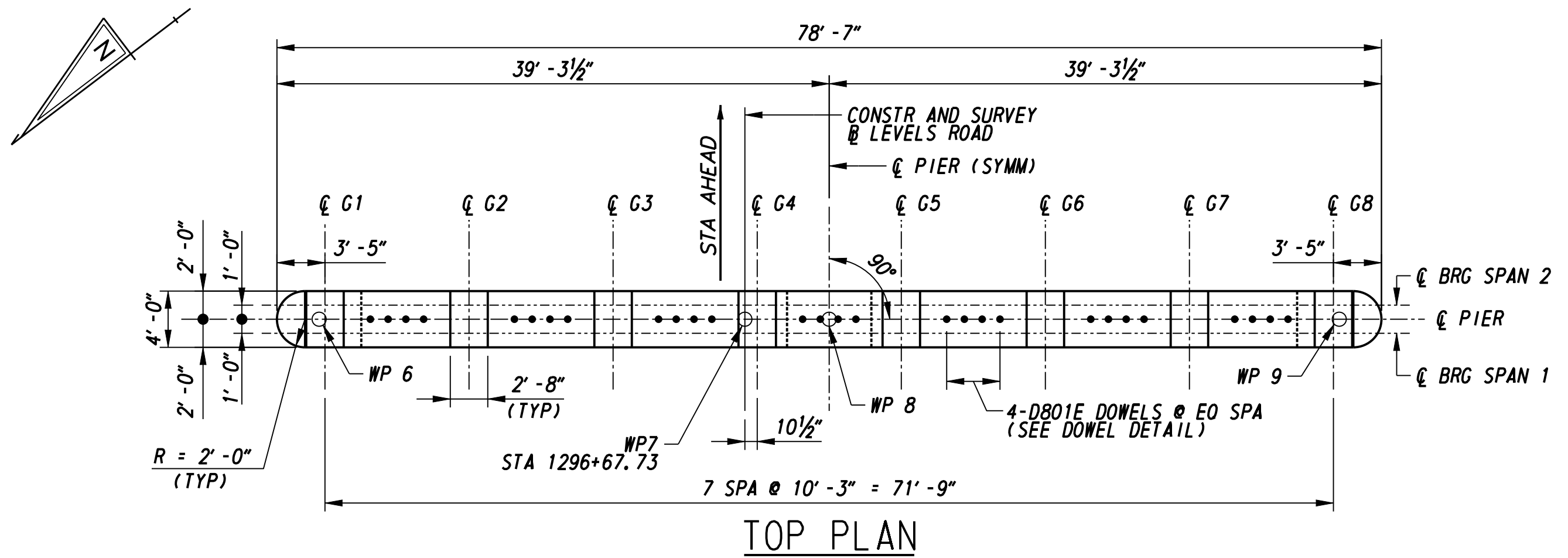


US 301
MARYLAND STATE LINE
TO LEVELS ROAD

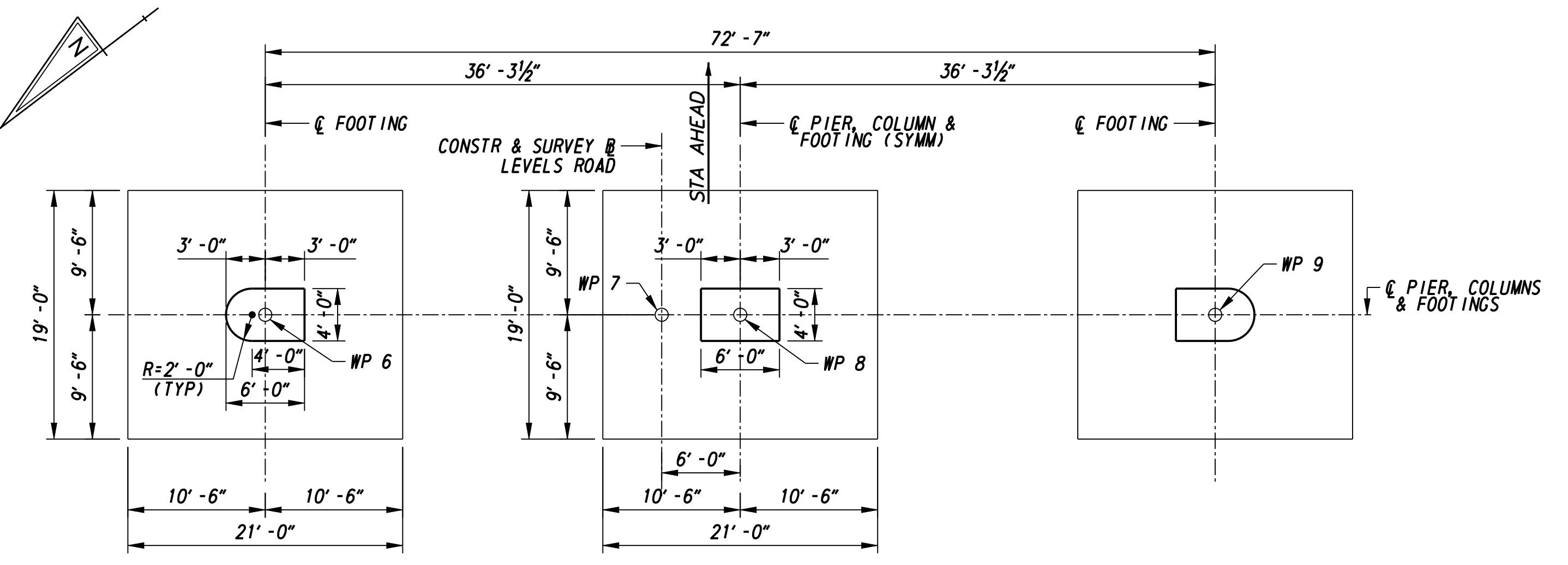
CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	WMM
COUNTY	CHECKED BY:	JS/DJP
NEW CASTLE		

MSE WALL DETAILS

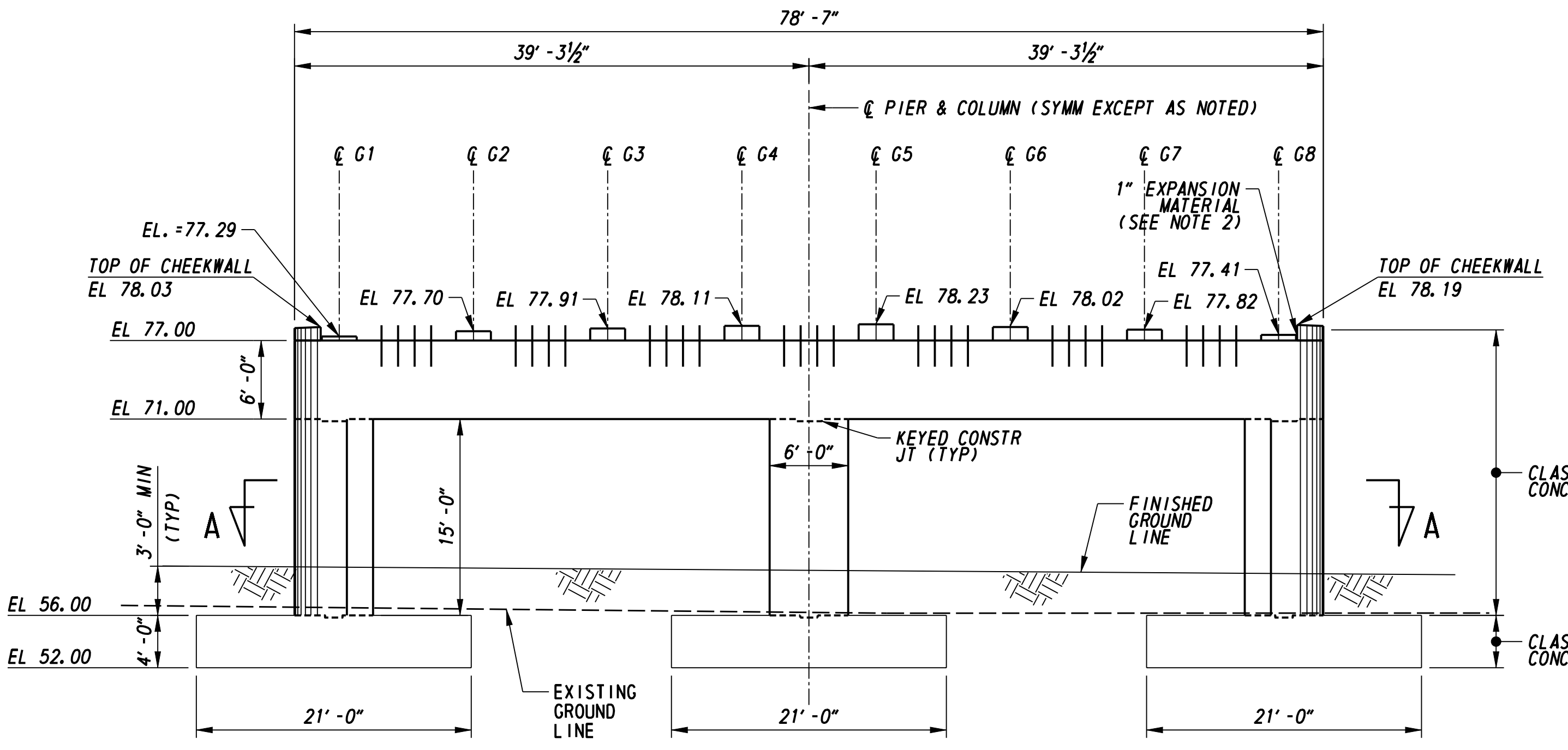
BR1-482-15
SHEET NO.
306
TOTAL SHTS.
850



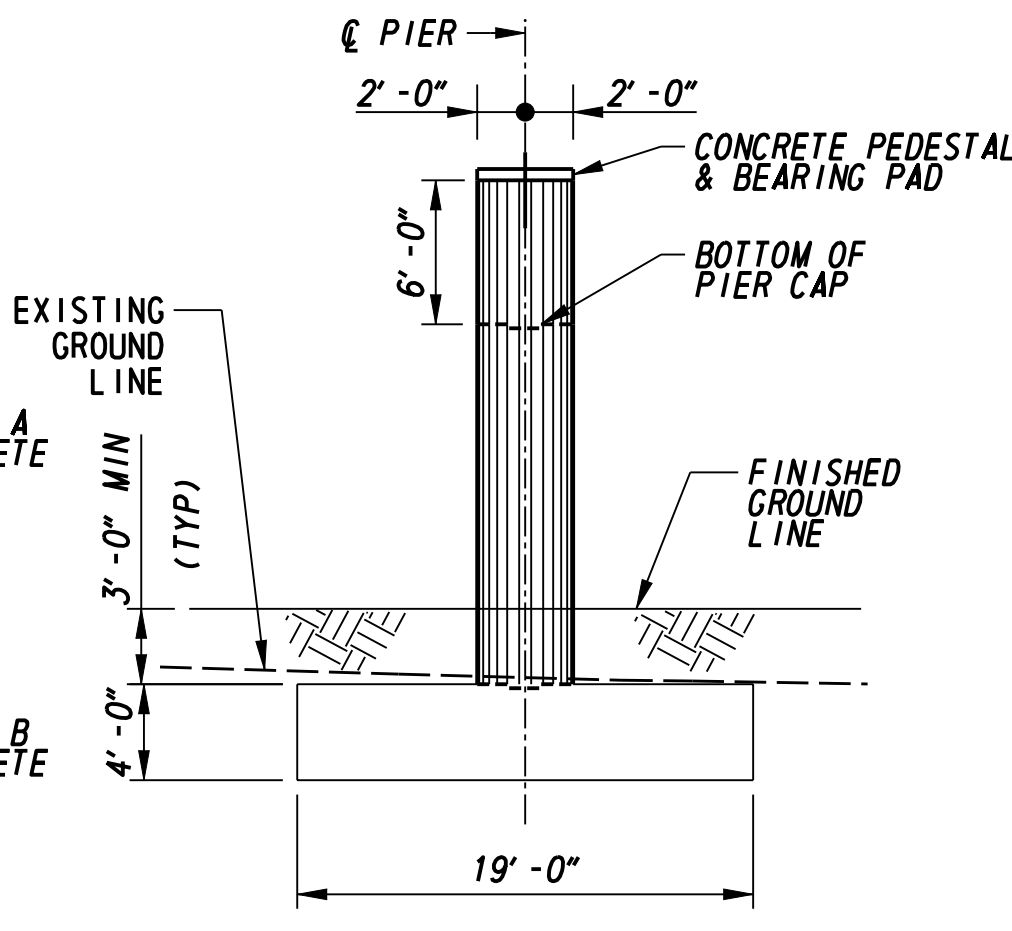
TOP PLAN



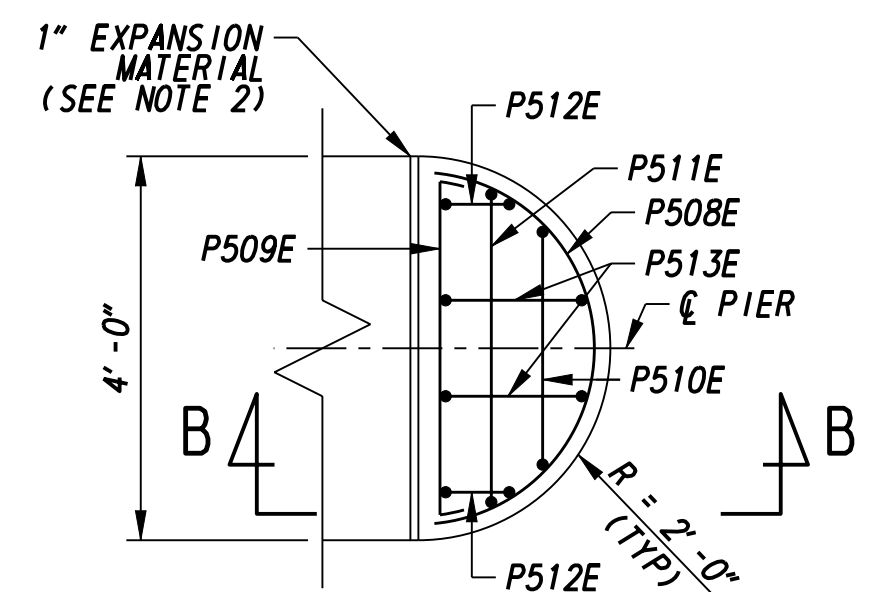
SECTION A-A



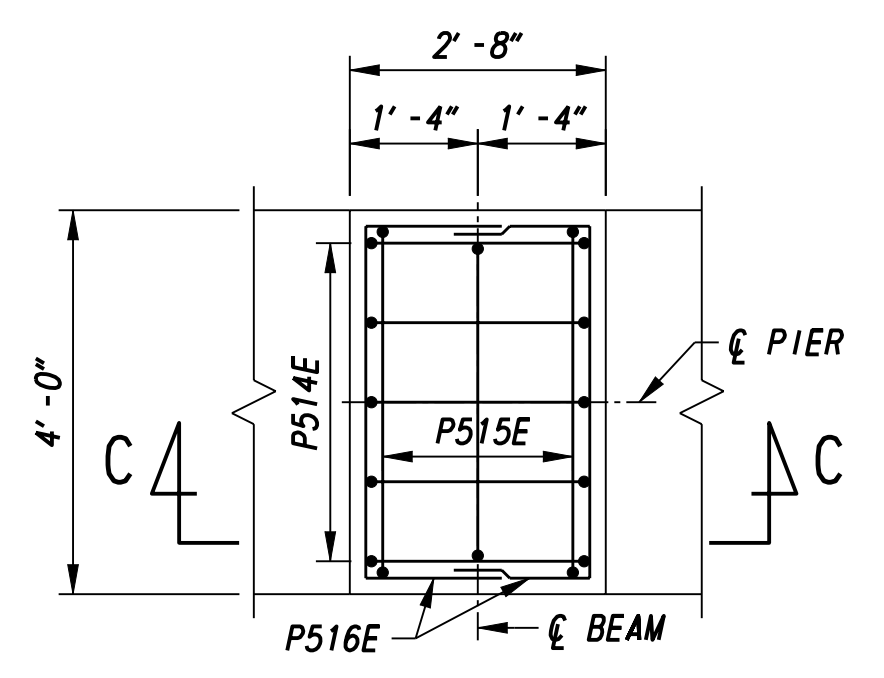
ELEVATION



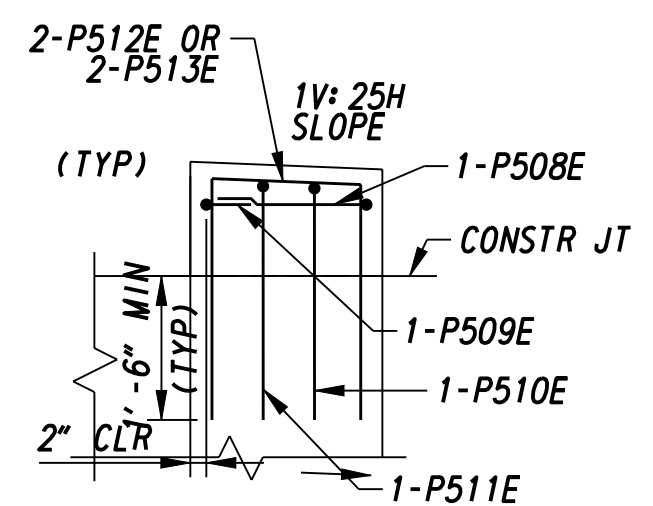
END ELEVATION



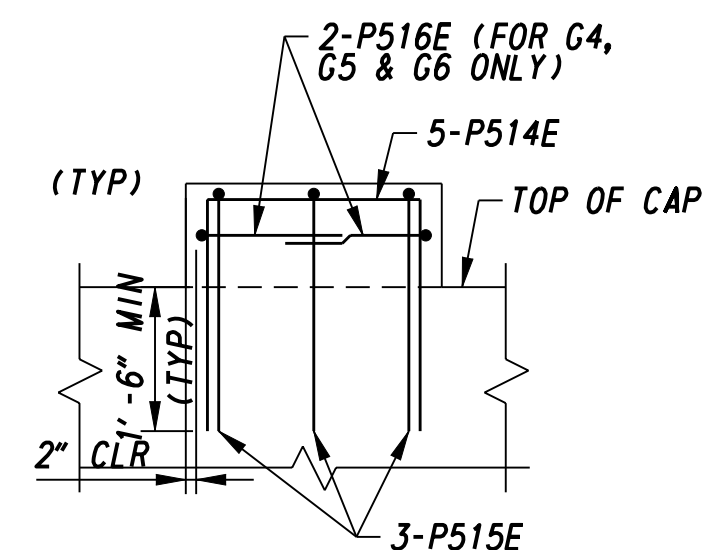
CHEEKWALL DETAIL



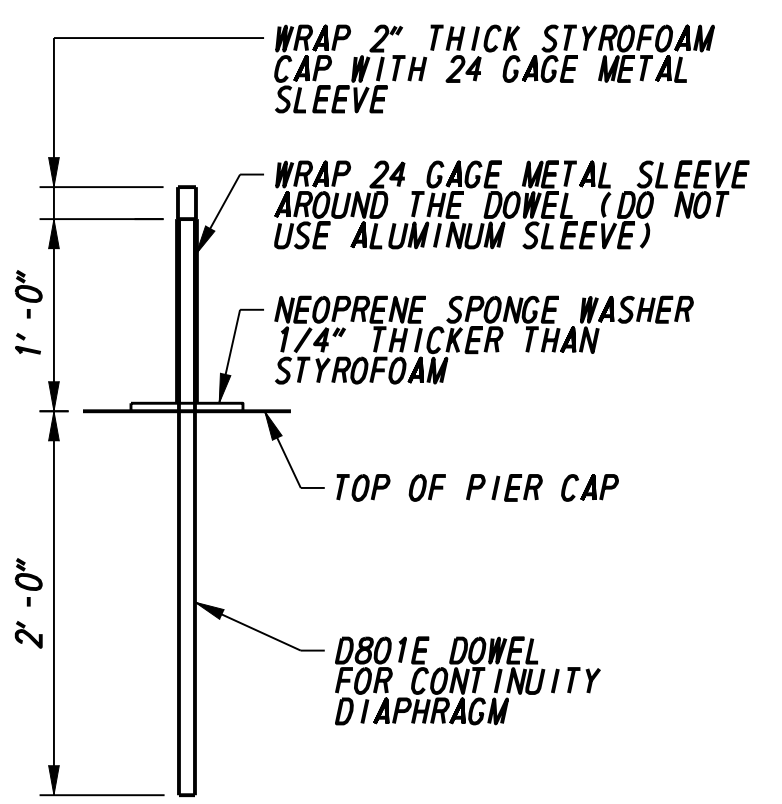
PEDESTAL DETAIL



SECTION B-B



SECTION C-C



DOWEL DETAIL

NOTE: CONCRETE PEDESTALS SHALL BE CAST MONOLITHICALLY WITH CAP

NOTE: EXTERIOR COLUMN SHOWN, INTERIOR COLUMN SIMILAR

NOTES:

- IF DIRECTED BY THE ENGINEER, REMOVE UNSUITABLE MATERIAL BELOW BOTTOM OF FOOTING ELEVATION, PLACE GEOTEXTILE AT THE BOTTOM OF THE EXCAVATION AND FILL WITH COARSE AGGREGATE. EXCAVATION FOR THIS ITEM TO BE PAID FOR UNDER ITEM "207000 - EXCAVATION AND BACKFILLING FOR STRUCTURES". COARSE AGGREGATE ONE TO BE IN ACCORDANCE WITH SECTION 608 OF DELDOT SPECIFICATIONS AND PAID UNDER ITEM "608000 - COARSE AGGREGATE FOR FOUNDATION STABILIZATION AND SUBFOUNDATION BACKFILL". GEOTEXTILE IS TO BE IN ACCORDANCE WITH SECTION 827.06 OF THE DELDOT SPECIFICATIONS AND IS INCIDENTAL TO ITEM "608000 - COARSE AGGREGATE FOR FOUNDATION STABILIZATION AND SUBFOUNDATION BACKFILL".
- EXPANSION MATERIAL SHALL BE INCIDENTAL TO ITEM 602007.

FOUNDATION DESIGN SUMMARY		
BEARING	CONTROLLING LIMIT STATE	STRENGTH I
	UNIFORM PRESSURE (KSF)	7.18
SLIDING	BEARING RESISTANCE (KSF)	24.71
	LATERAL FORCE (KIP)	407.57
SLIDING	CONTROLLING LIMIT STATE	EXTREME II
	LATERAL RESISTANCE (KIP)	515.09

REFERENCES:

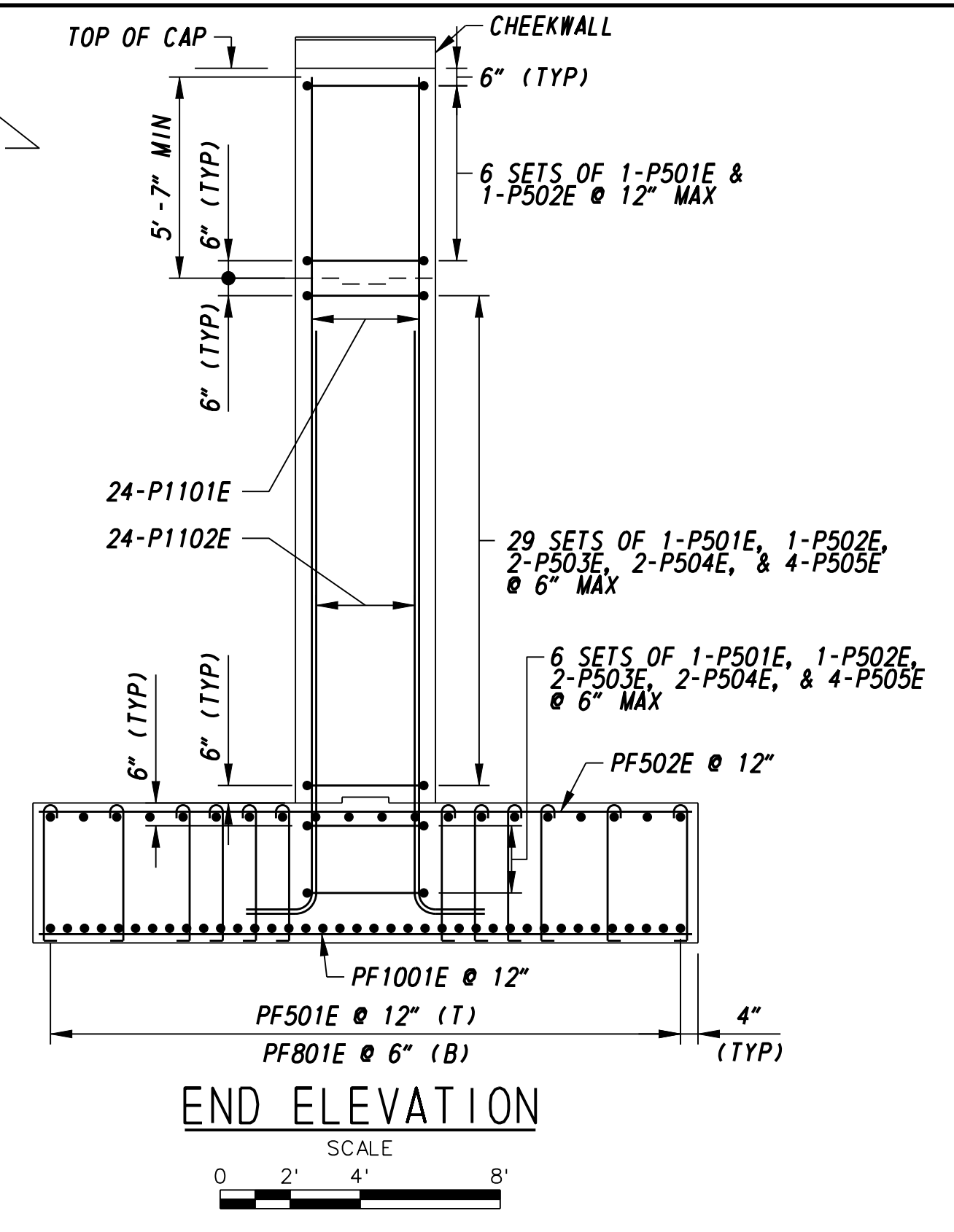
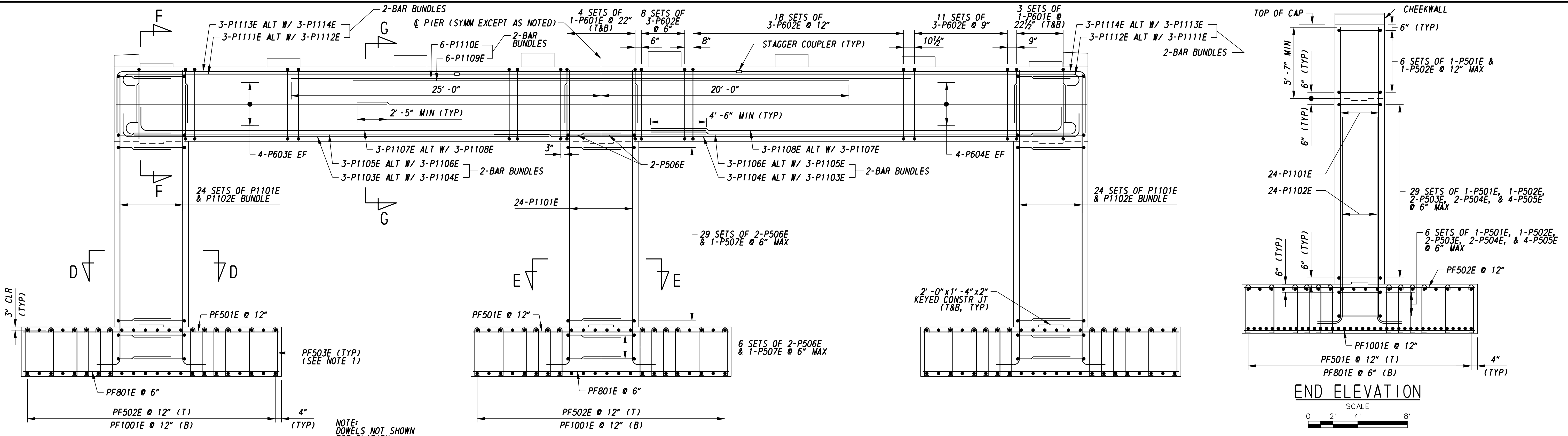
- GENERAL PLAN AND ELEVATION
PROJECT NOTES
GEOMETRIC LAYOUT
PIER SECTION AND DETAILS
BEARING PAD DETAILS
FRAMING PLAN
DIAPHRAGM DETAILS
REINFORCEMENT BAR SCHEDULE
- BR1-482-01
BR1-482-03
BR1-482-04
BR1-482-17
BR1-482-18
BR1-482-19
BR1-482-21 AND BR1-482-22
BR1-482-32 AND BR1-482-33

BR1-482-16

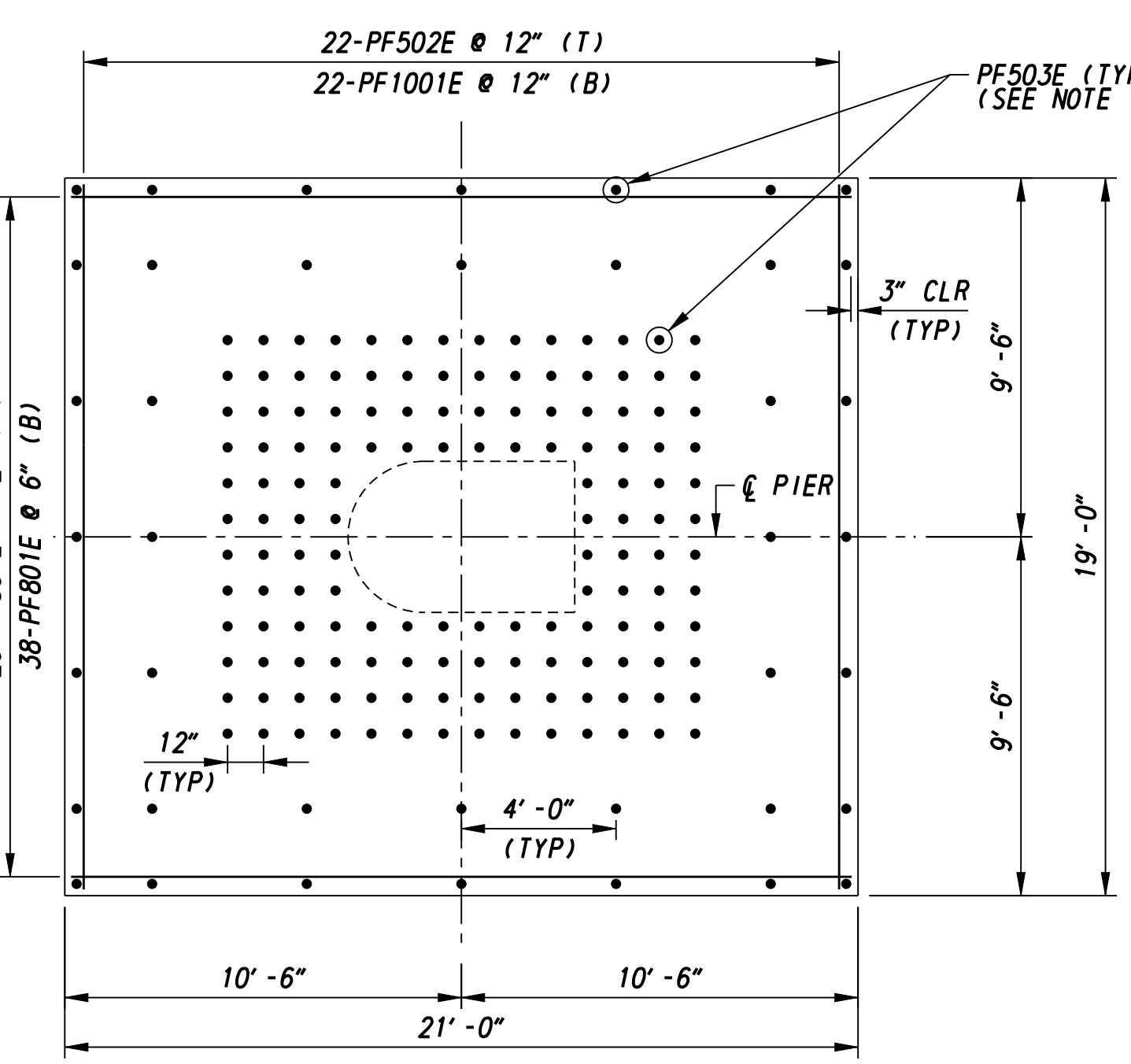
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<p>DELAWARE DEPARTMENT OF TRANSPORTATION</p>	ADDENDUMS / REVISIONS	<p>US 301 MARYLAND STATE LINE TO LEVELS ROAD</p>	CONTRACT	BRIDGE NO.	1-482	<p>PIER PLAN AND ELEVATION</p>	SHEET NO.
	T200811301		DESIGNED BY: CNN	307			
	NEW CASTLE		CHECKED BY: YY	TOTAL SHTS.			
							850

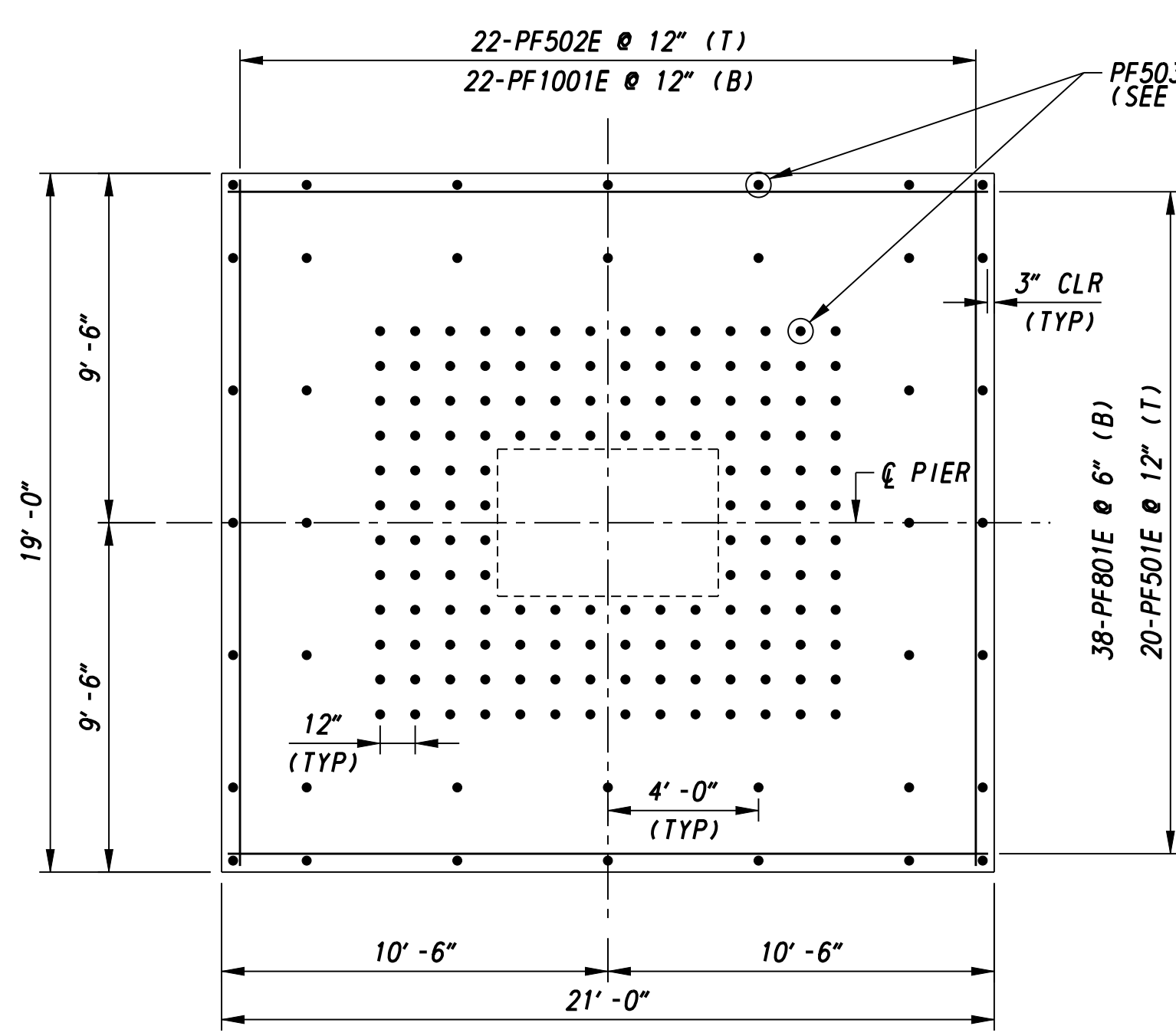
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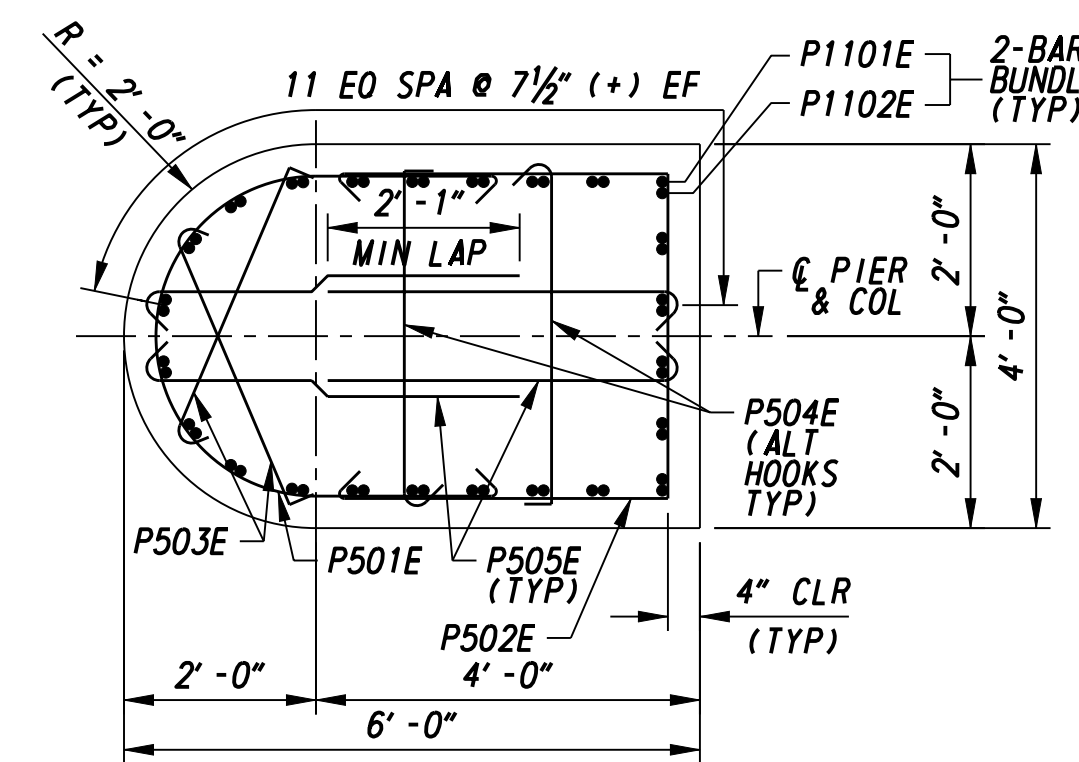
PIER ELEVATION
(LOOKING STATION AHEAD)



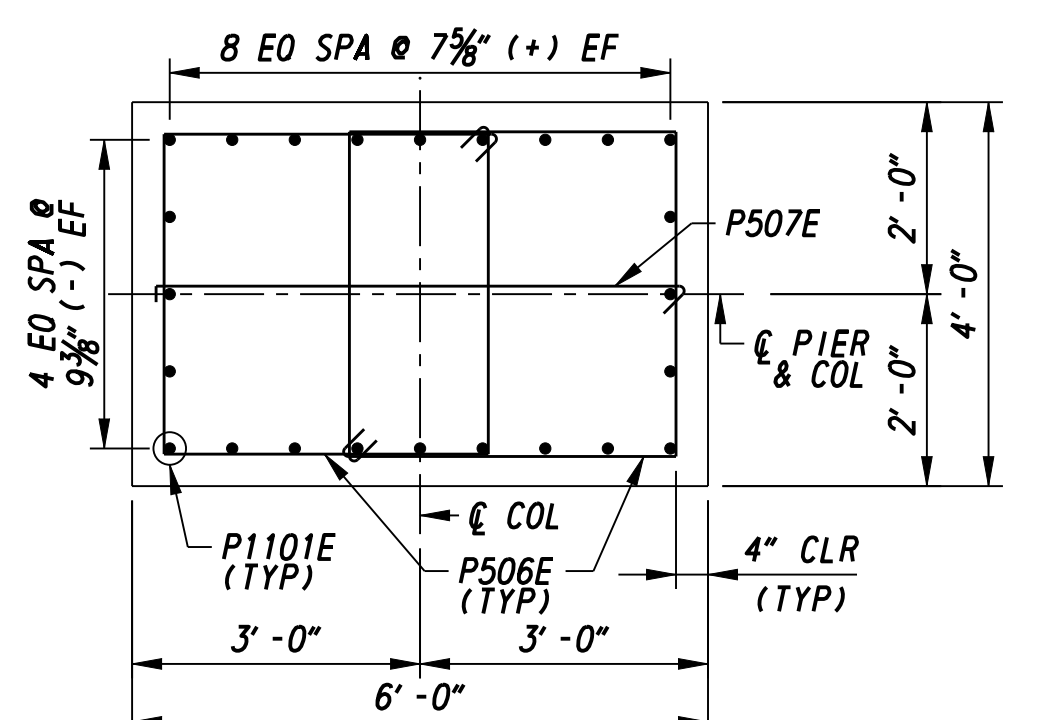
EXTERIOR COLUMN FOOTING REINFORCEMENT



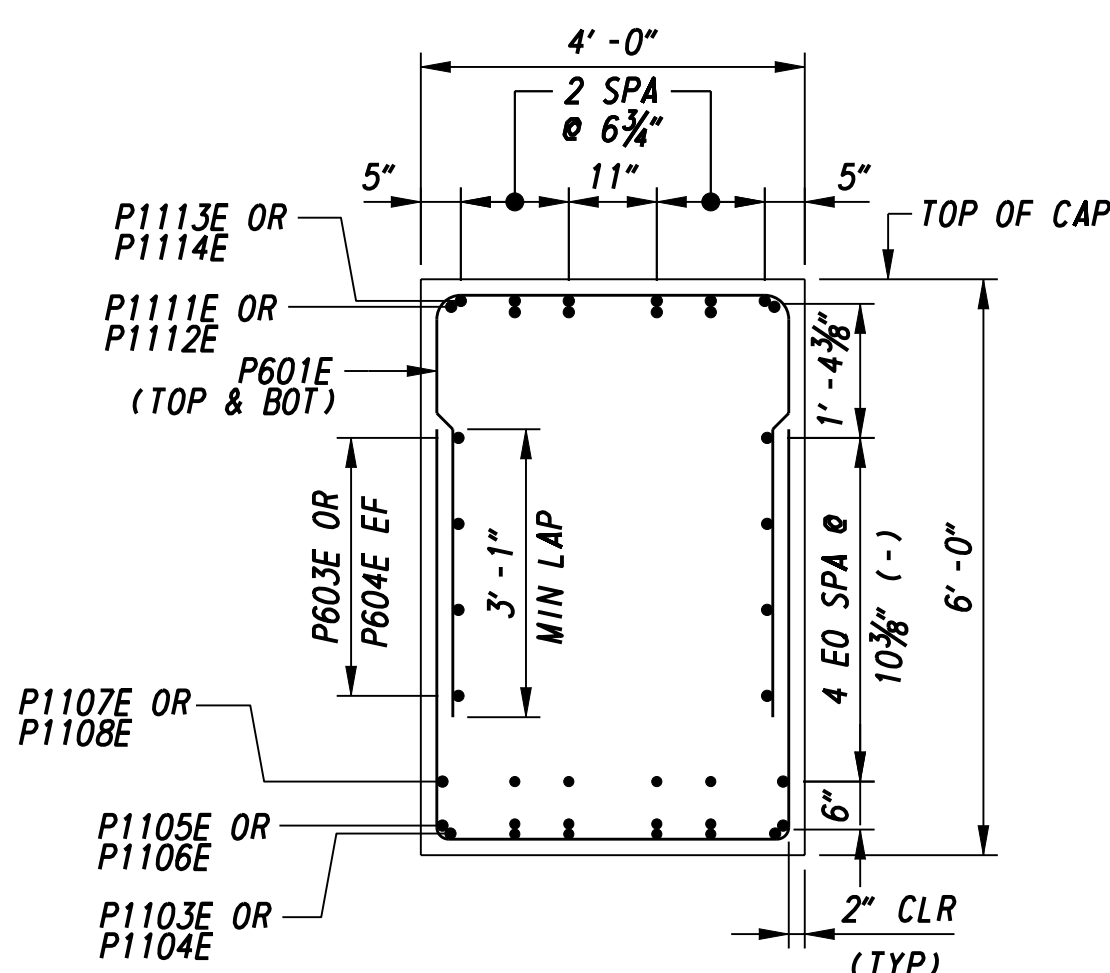
CENTER COLUMN FOOTING REINFORCEMENT



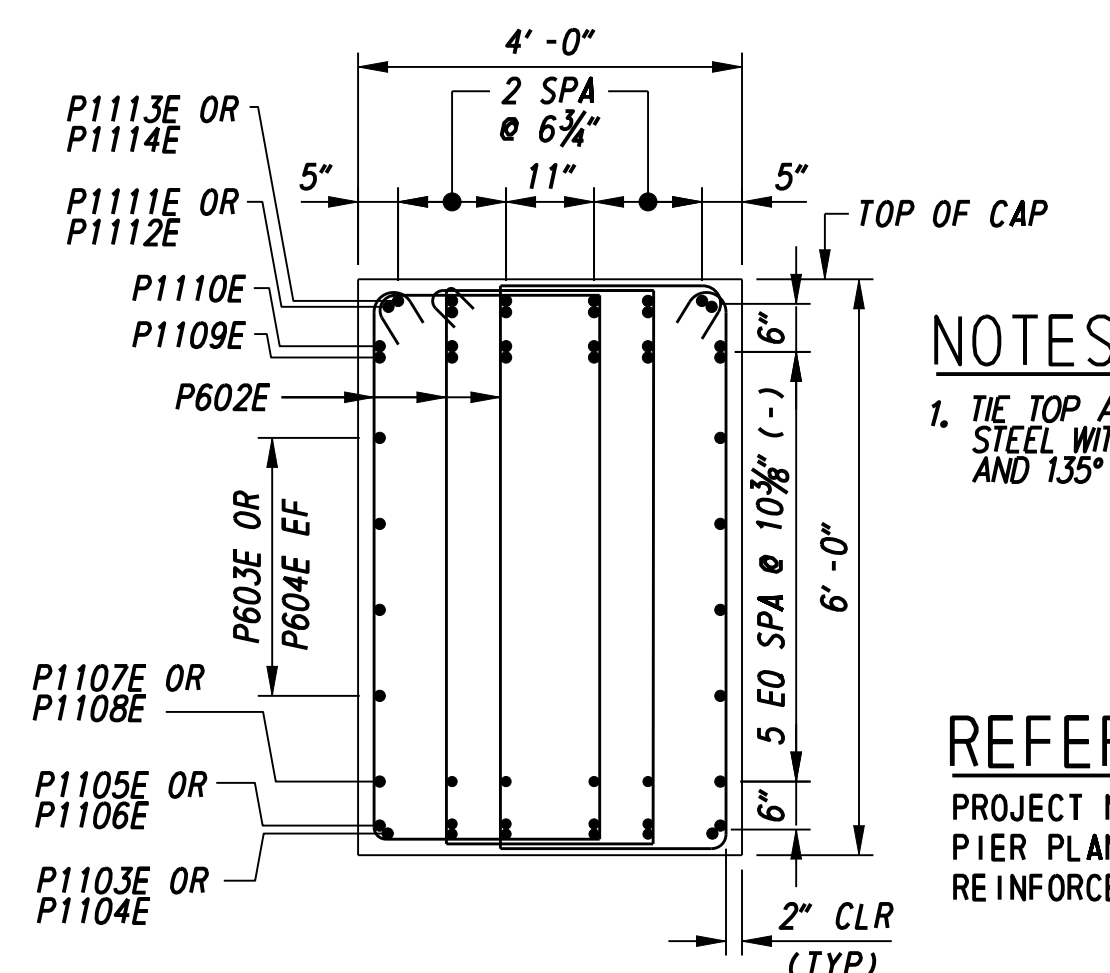
SECTION D-D



SECTION E-E



SECTION F-F
PEDESTAL NOT SHOWN FOR CLARITY



SECTION G-G

NOTES:
1. TIE TOP AND BOTTOM MATS OF REINFORCEMENT STEEL WITH PF503E TIE BARS. ALTERNATE 90° AND 135° HOOKS AT TOP IN ALTERNATE TIES.

REFERENCES:
PROJECT NOTES
PIER PLAN AND ELEVATION
REINFORCEMENT BAR SCHEDULE
BR1-482-03
BR1-482-16
BR1-482-32

ADDENDUMS / REVISIONS

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	CNN
NEW CASTLE	CHECKED BY:	YY

PIER SECTION AND DETAILS	SHEET NO.	308
	TOTAL SHTS.	850

ELASTOMERIC BEARING PAD NOTES:

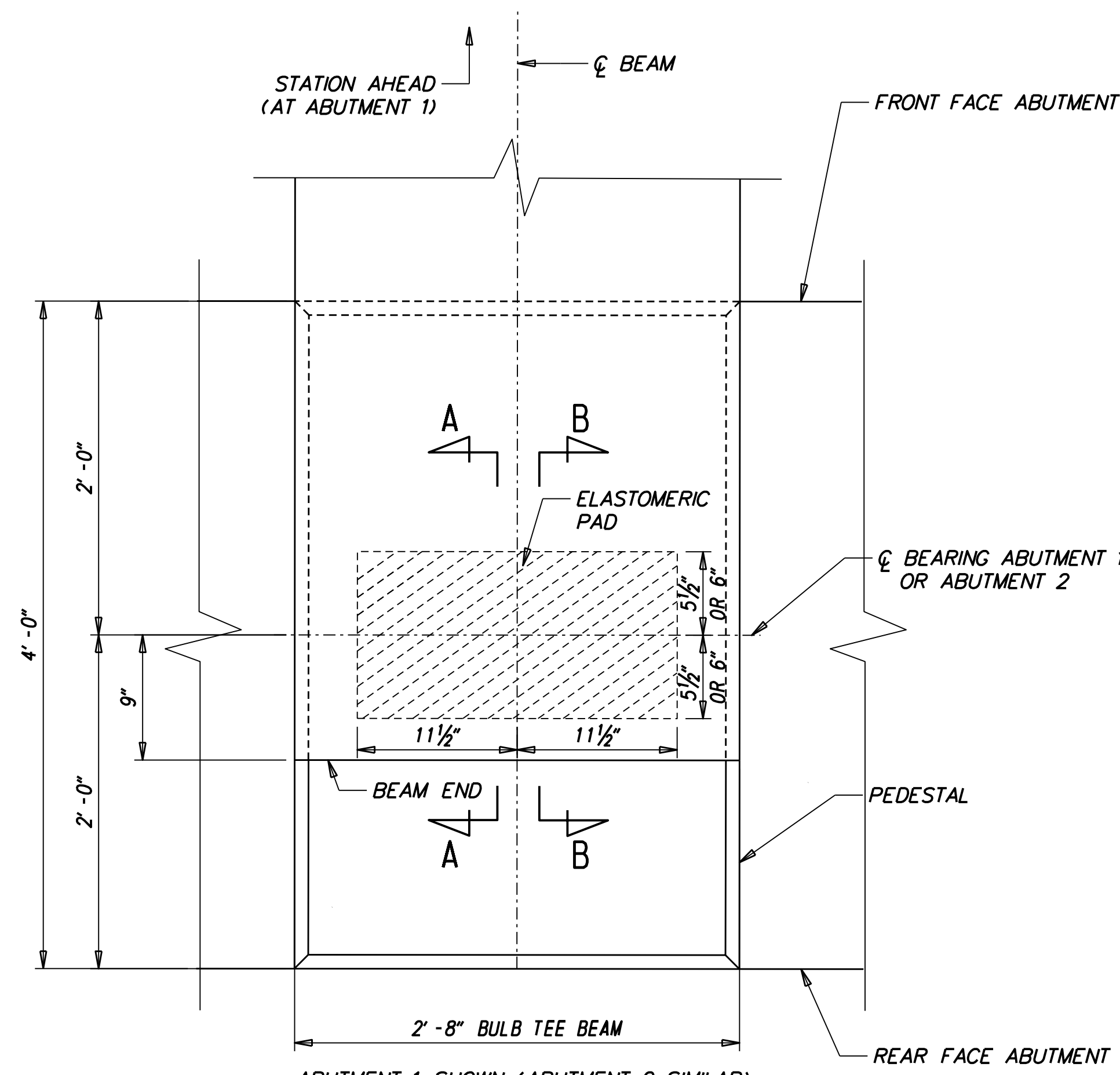
1. MANUFACTURE ALL BEARINGS IN ACCORDANCE WITH THESE PLANS AND DELDOT SPECIFICATIONS.
2. MEET THE MATERIAL SPECIFICATION FOR ELASTOMERIC BEARINGS REQUIREMENTS OF CURRENT AASHTO (M-251-92 STANDARD SPECIFICATIONS BEARINGS) AS LISTED UNDER SUBSECTION "MATERIALS AND TESTING".
3. ALL BEARING PADS ARE TO BE MOLDED TO DESIGN DIMENSIONS. CUTTING TO SIZE AFTER FABRICATION IS PROHIBITED.
4. HOLES ARE NOT PERMITTED IN ELASTOMERIC BEARINGS.
5. PROVIDE NEOPRENE WITH A HARDNESS OF 50 +5 DUROMETER.
6. PROVIDE INTERNAL LAMINATES CONFORMING TO AASHTO M183.
7. SMOOTH CUT AND DEBURR METAL SHIMS.
8. GRIT BLAST AND DEGREASE METAL SHIMS.
9. VULCANIZE PATCH PIN GROOVES.
10. PROVIDE A ROUGH TEXTURE TO CONCRETE BEARING SURFACES. DO NOT APPLY EPOXY COATING TO THE BEARING SURFACES WITHIN 2" OF THE BEARING PAD.
11. NUMBER OF BEARINGS REQUIRED:
 ABUTMENT 1 (EXP): 8
 PIER (FIX): 16
 ABUTMENT 2 (EXP): 8
 EXTRA BEARING FOR TESTING PURPOSE: 1
 TOTAL NUMBER OF BEARINGS REQUIRED: 33
12. BEARING SHALL BE PLACED NORMAL TO THE CENTERLINE OF GIRDER.
13. THE MAXIMUM DESIGN LOAD FOR THE FIXED BEARING IS 201.58 KIPS. THE MAXIMUM DESIGN LOAD FOR THE EXP. BEARINGS IS 213.22 KIPS.

BEAM DAP DIMENSIONS										
BEAM	T3	T1	T2	W	A	T3	T1	T2	W	A
					SPAN 1 - NEAR END					
1	0.563	0.250	0.438	18.50	9.000	0.250	0.500	0.438	18.50	9.000
2	0.563	0.250	0.438	18.50	9.000	0.250	0.500	0.438	18.50	9.000
3	0.563	0.250	0.438	18.50	9.000	0.250	0.500	0.438	18.50	9.000
4	0.563	0.250	0.438	18.50	9.000	0.250	0.500	0.438	18.50	9.000
5	0.563	0.250	0.438	18.50	9.000	0.250	0.500	0.438	18.50	9.000
6	0.563	0.250	0.438	18.50	9.000	0.250	0.500	0.438	18.50	9.000
7	0.563	0.250	0.438	18.50	9.000	0.250	0.500	0.438	18.50	9.000
8	0.563	0.250	0.438	18.50	9.000	0.250	0.500	0.438	18.50	9.000

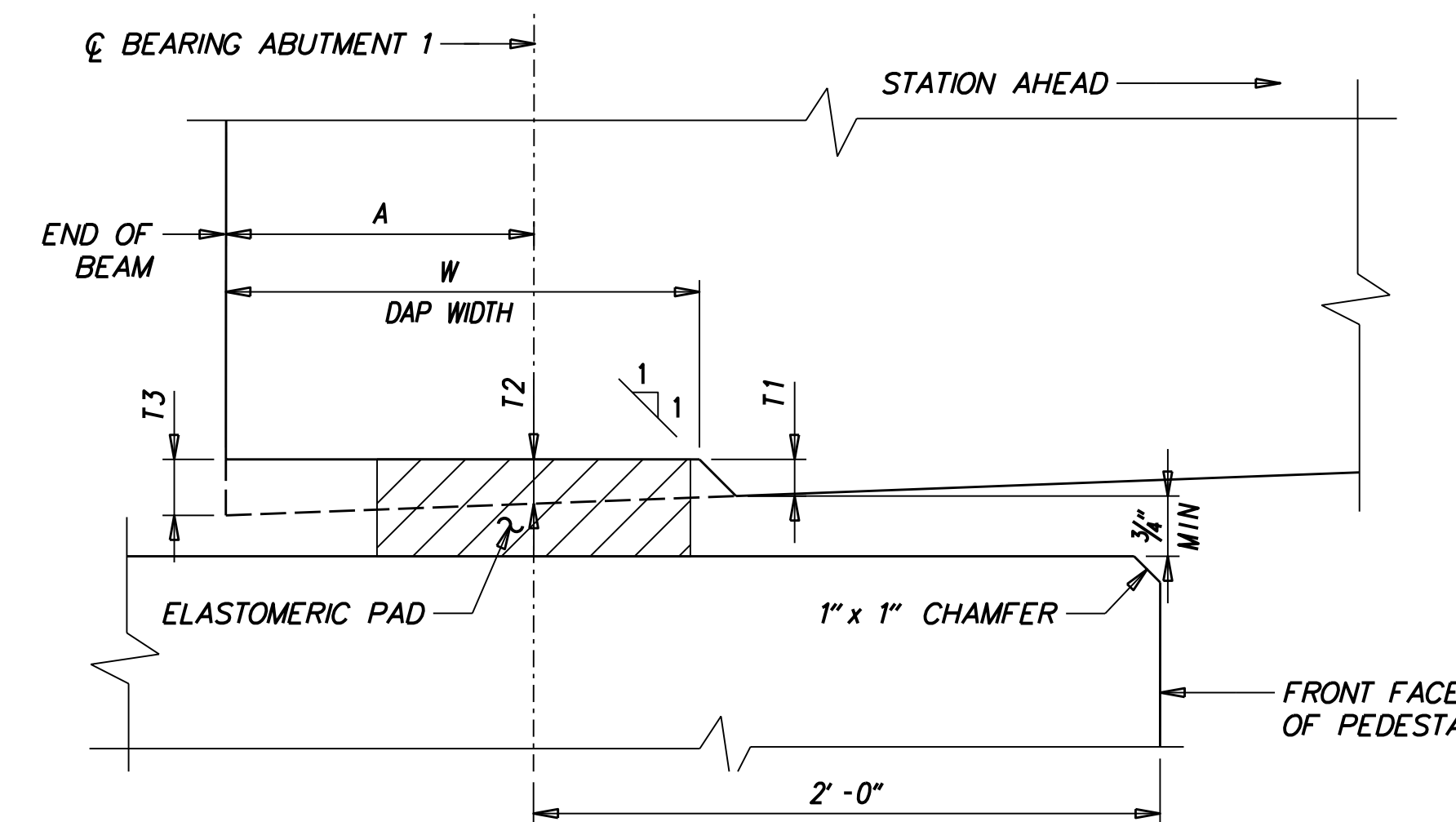
NOTE: BEAM DAP NOT REQUIRED AT SPAN 1-FAR END OR SPAN 2-NEAR END.

UNFACTORED REACTIONS (KIPS)					
CONTROLLING BEAMS	LOCATION	TOTAL DL		HL-93 (LL)	
		DC1	DC2	MAX	MIN
G3-G5	ABUTMENT 1	99.23	31.03	82.96	-8.97
	PIER (BACK)	89.55	38.77	73.26	0.00
	PIER (AHEAD)	89.55	38.77	73.26	0.00
	ABUTMENT 2	99.23	31.03	82.96	-8.97

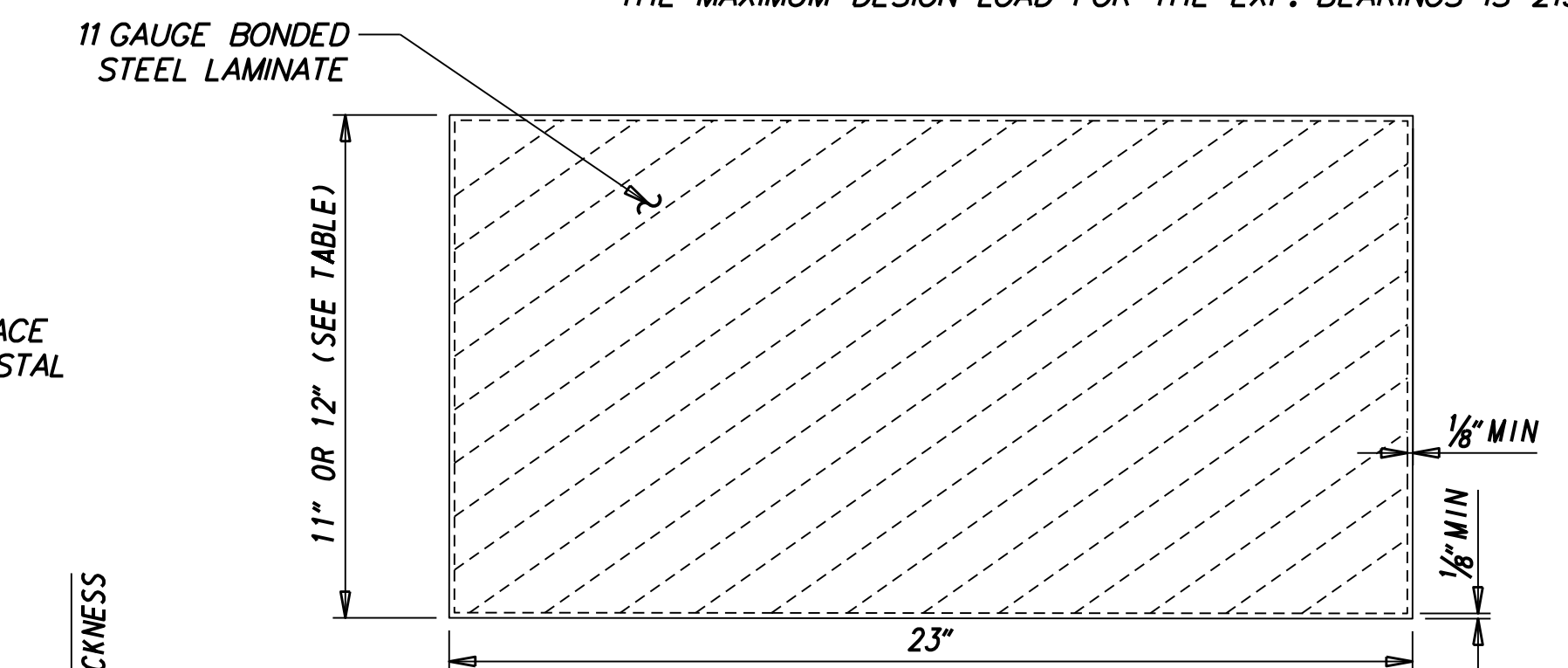
NOTES: DC2 INCLUDES FUTURE WEARING SURFACE. LL DOES NOT INCLUDE IMPACT.



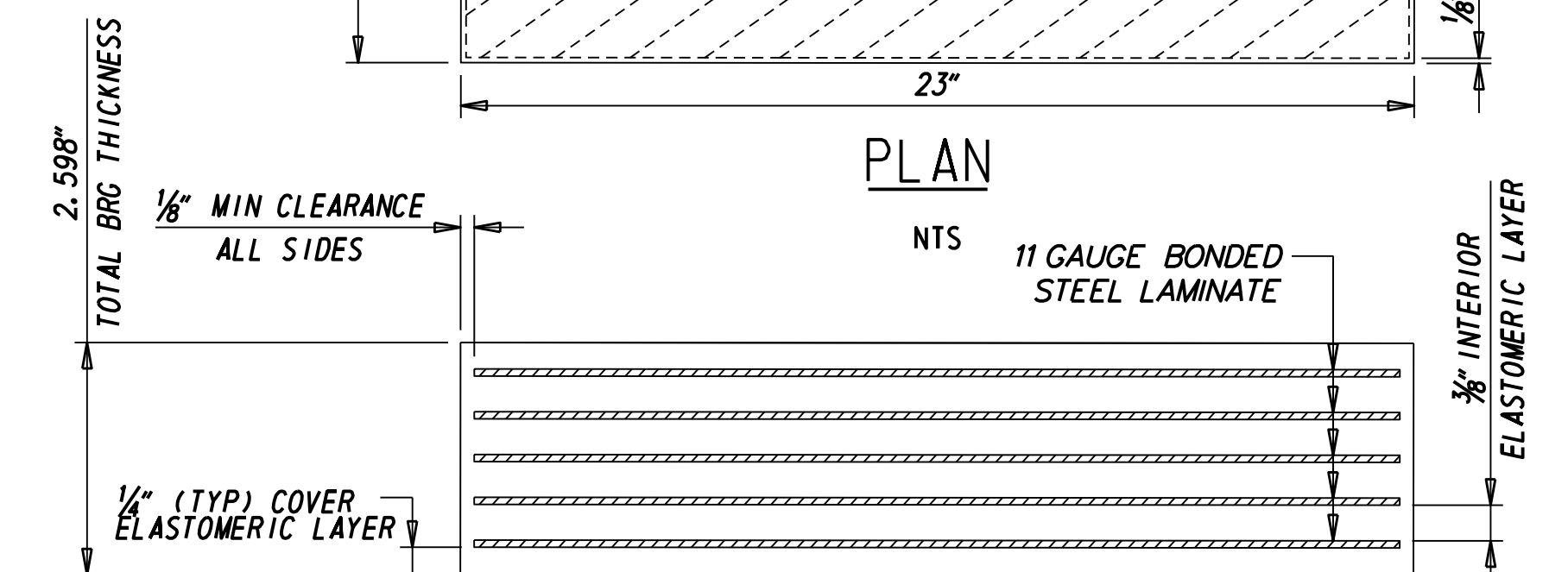
PLAN VIEW AT ABUTMENTS



SECTION A-A AT ABUTMENT 1 NEAR END



PLAN



ELEVATION

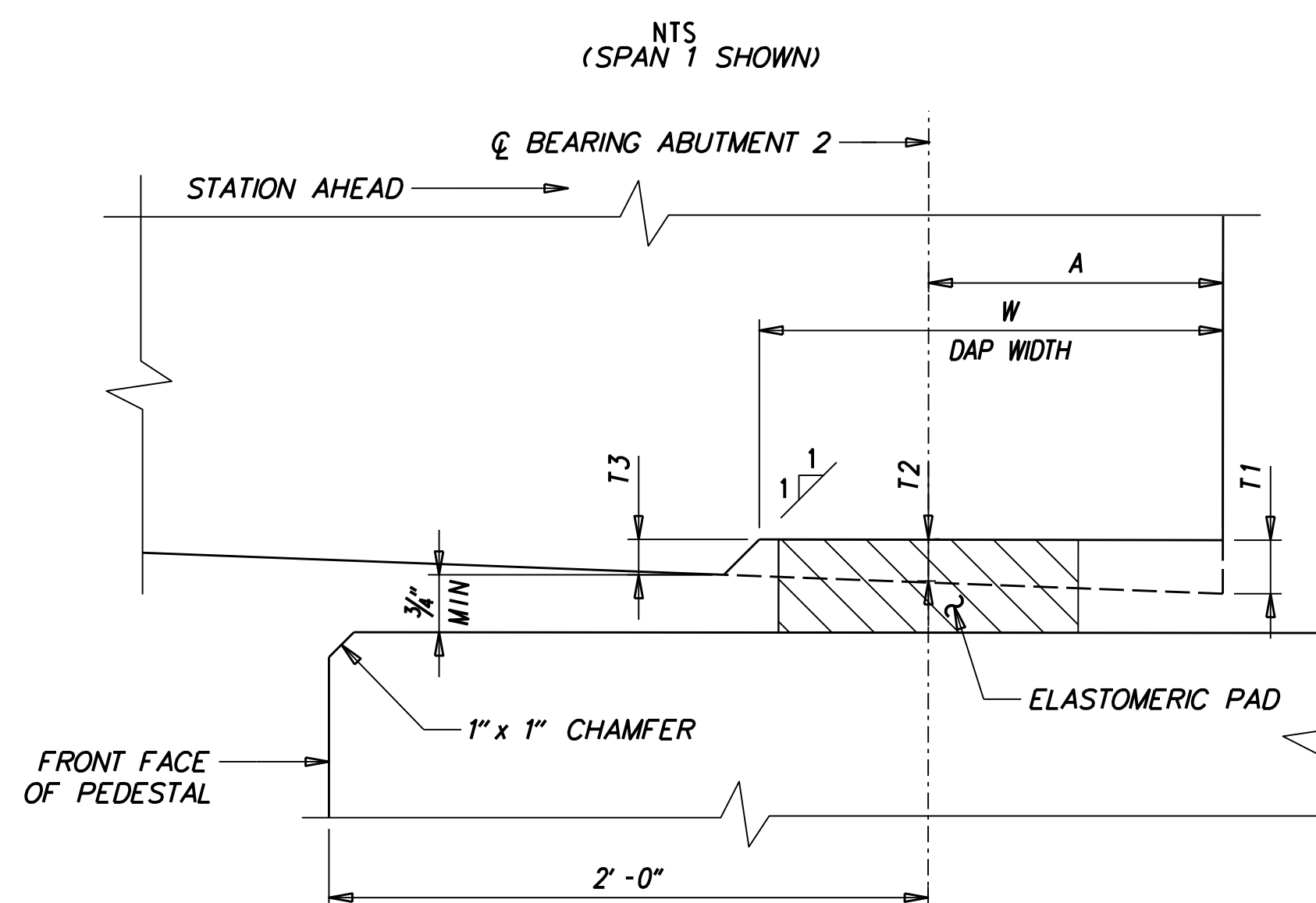
NTS

BEARING PAD DIMENSIONS		
GIRDERS	ABUTMENTS	PIER
G1 & G8	23 x 11 x 2.598	23 x 11 x 2.598
G2 & G7	23 x 12 x 2.598	23 x 11 x 2.598
G3, G4 & G5	23 x 12 x 2.598	23 x 12 x 2.598
G6	23 x 11 x 2.598	23 x 11 x 2.598

REFERENCES:

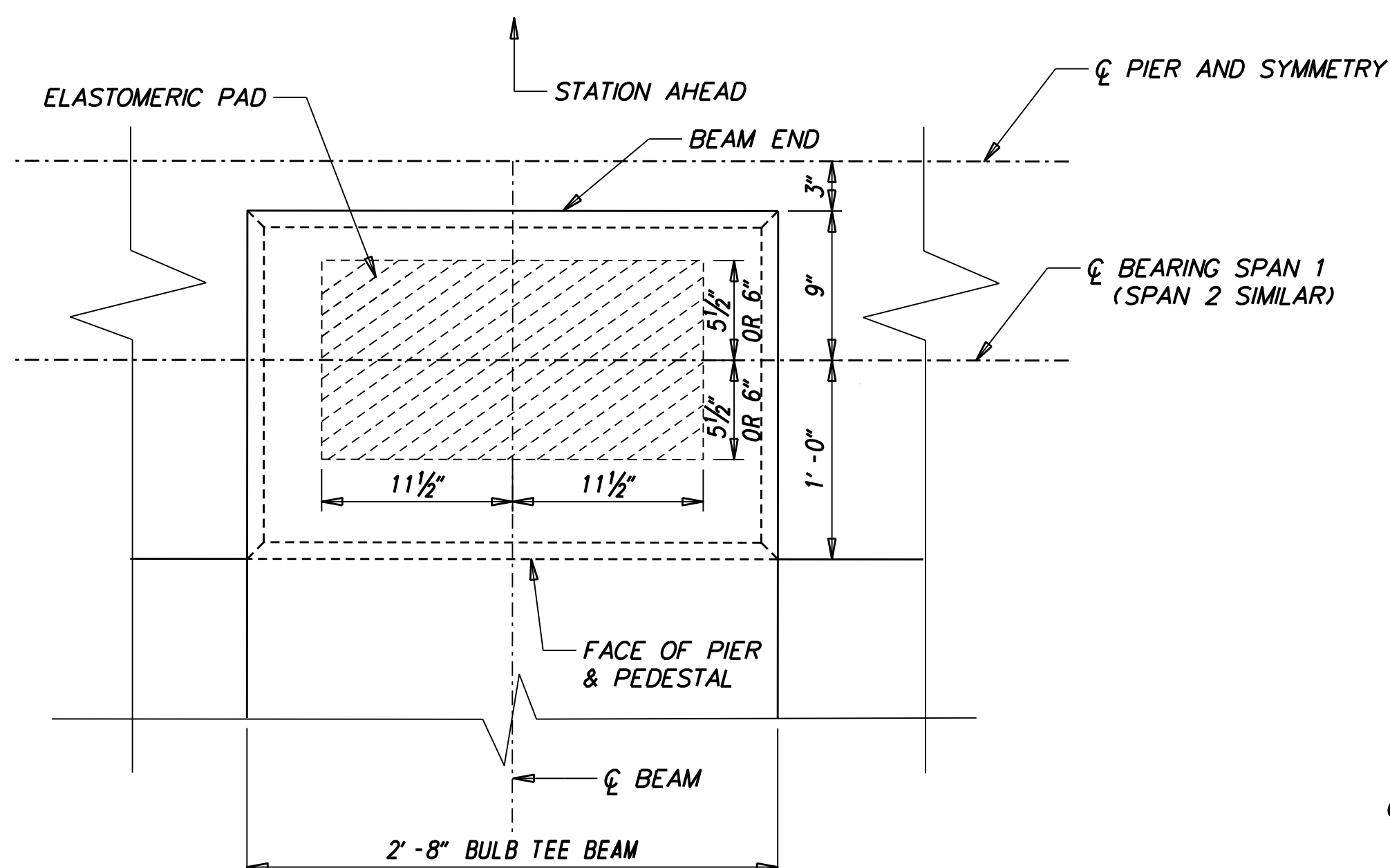
PROJECT NOTES	BR1-482-03
FRAMING PLAN	BR1-482-19
BEAM DETAILS	BR1-482-20

BR1-482-18



SECTION B-B AT ABUTMENT 2 FAR END

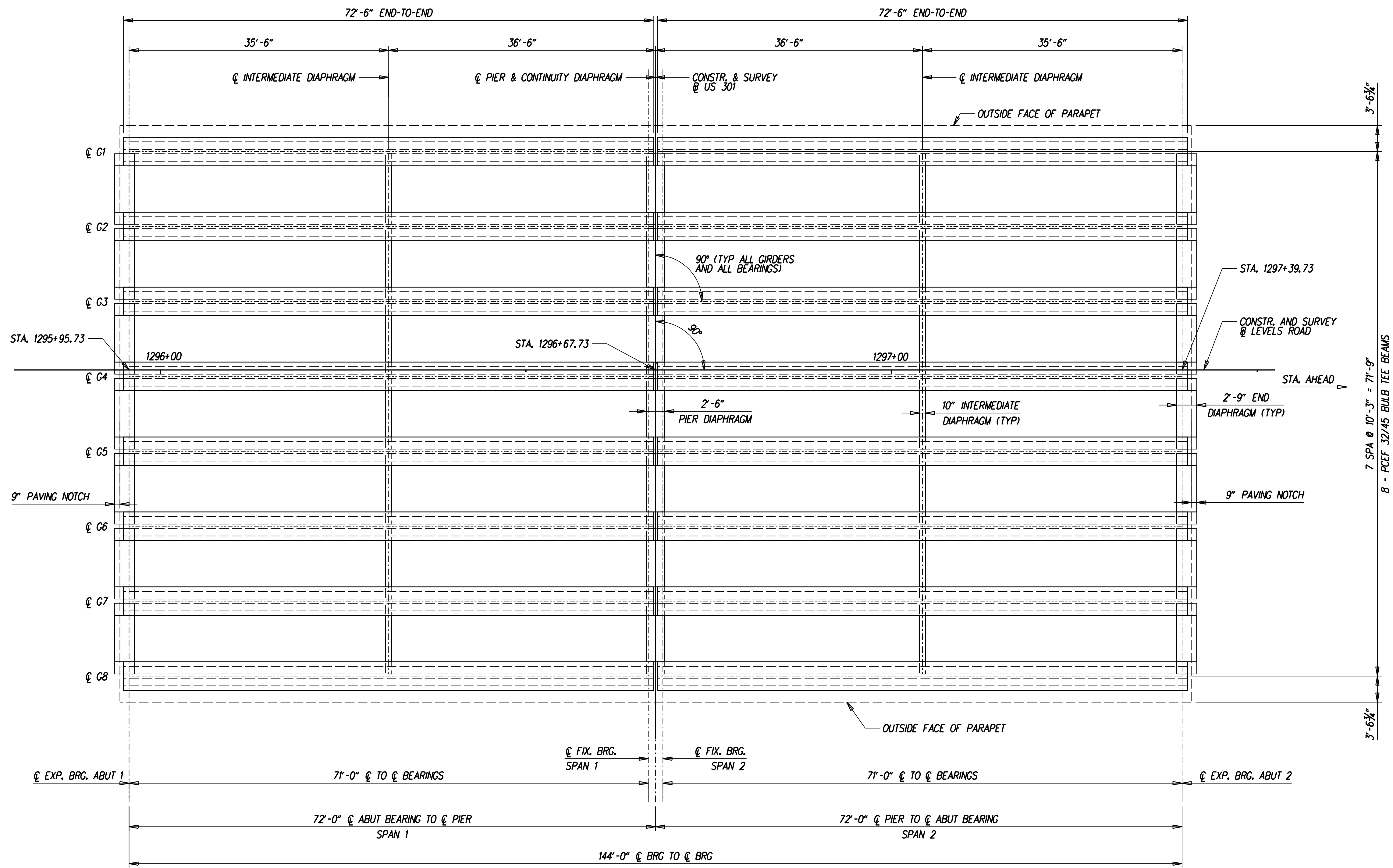
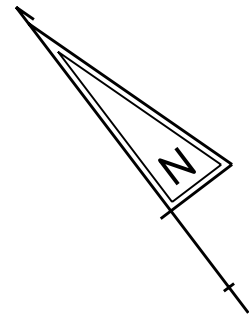
NTS (SPAN 2 SHOWN)



PLAN VIEW AT PIER



ADDENDUMS / REVISIONS



FRAMING PLAN

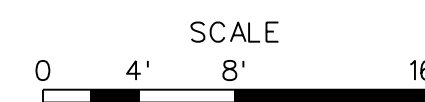
REFERENCES:

- PROJECT NOTES BR1-482-03
- BEAM DETAILS BR1-482-20
- DIAPHRAGM DETAILS BR1-482-21 AND BR1-482-22
- DECK PLAN BR1-482-23

J:\2008 PROJECTS\34801\700CADD\750AET\BRIDGE BR2-9\FR_301AET_BR2-9_001.DGN



ADDENDUMS / REVISIONS



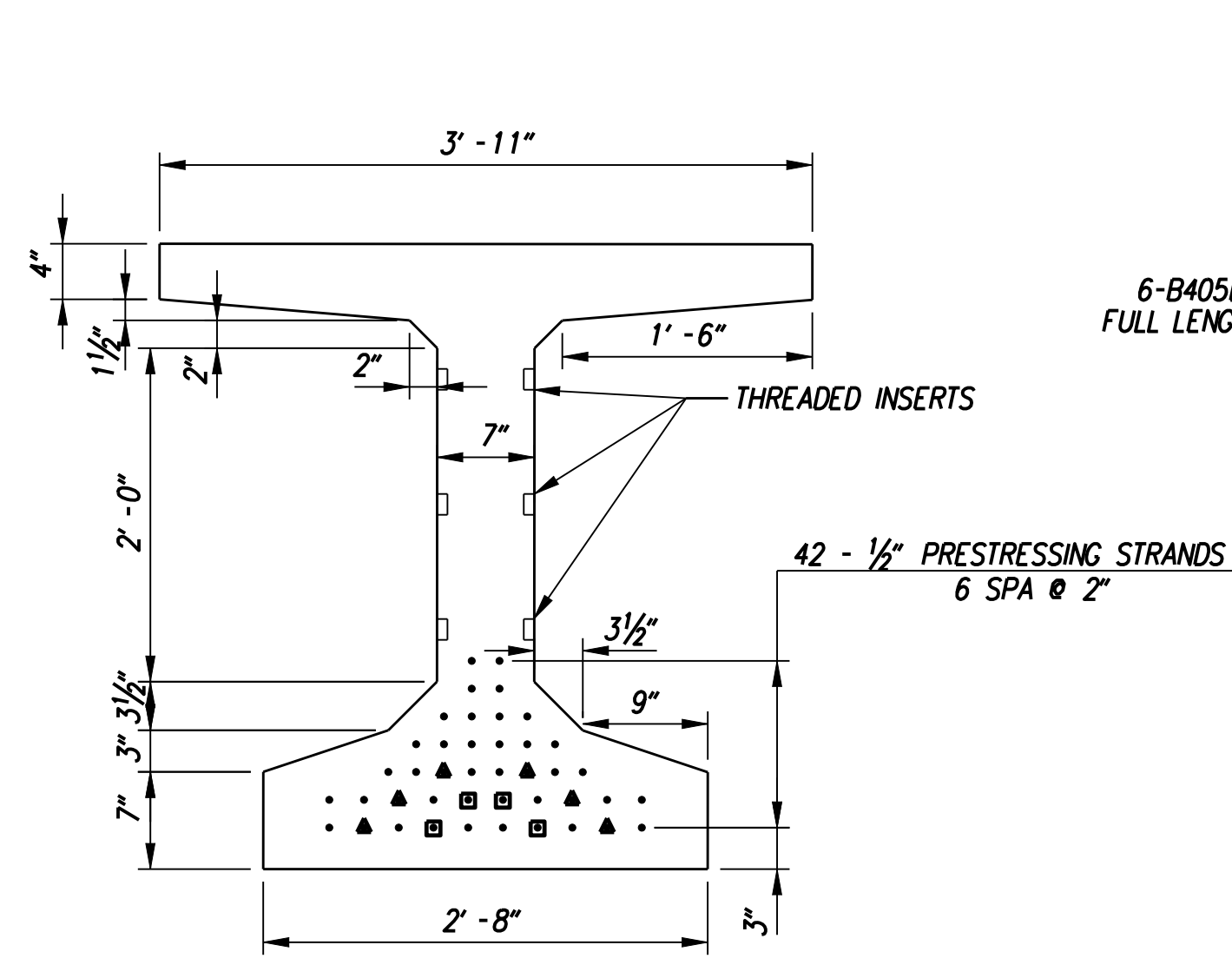
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	SPM
COUNTY	CHECKED BY:	JS
NEW CASTLE		

FRAMING PLAN

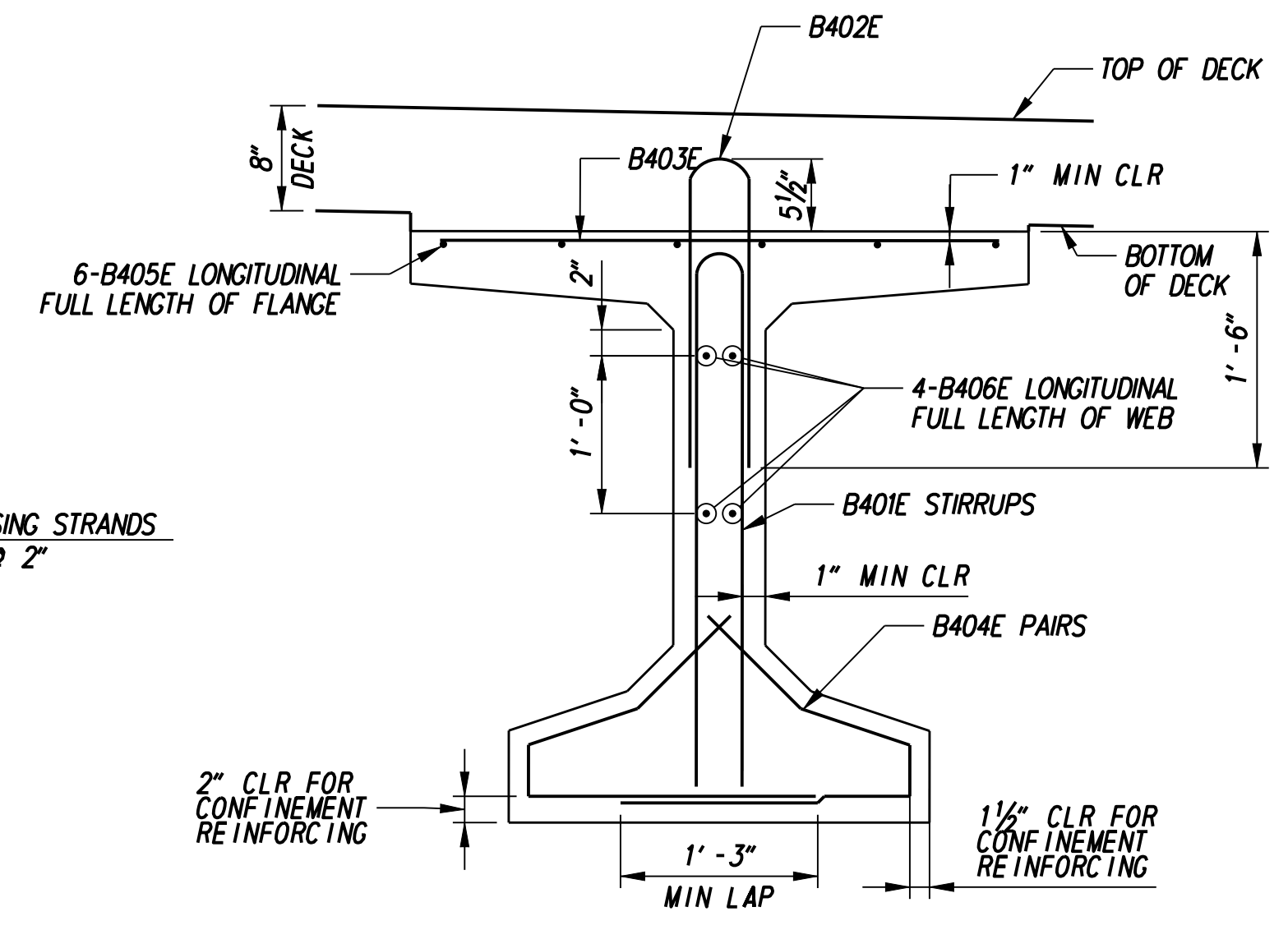
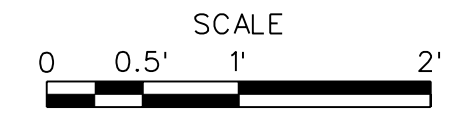
BR1-482-19

SHEET NO.	310
TOTAL SHTS.	850

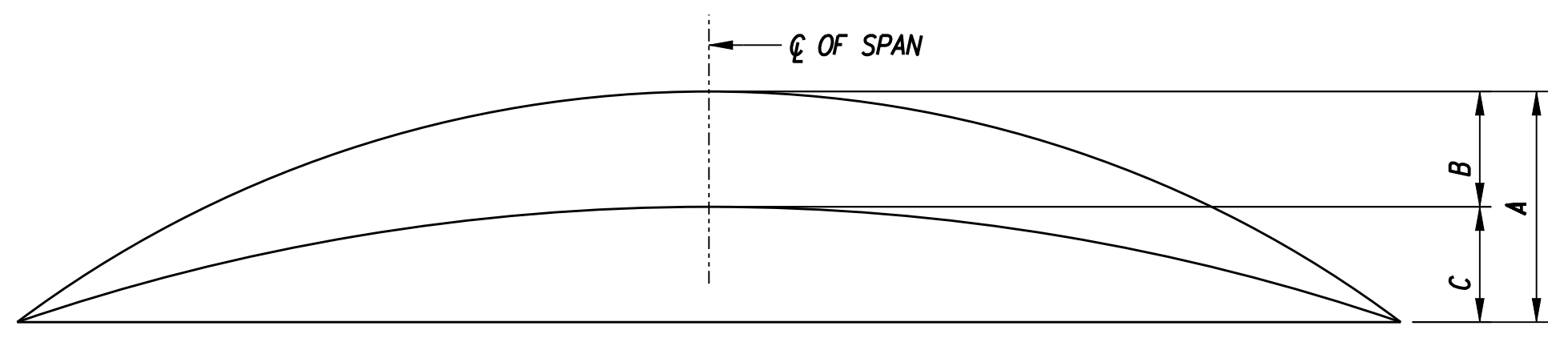


DEBONDING : ▲ DENOTES STRAND AT 4'-0" LONG AT EACH END
 ■ DENOTES STRAND AT 7'-6" LONG AT EACH END
 ROW 1 & 2: 9 SPACES AT 2 1/2"
 ROW 3: 7 SPACES AT 2"
 ROW 4: 5 SPACES AT 2"
 ROW 5: 3 SPACES AT 2"
 ROW 6 & 7: 1 SPACE AT 2"

TYPICAL STRAND PATTERN



TYPICAL REINFORCEMENT DETAIL



A = ESTIMATED PRESTRESS CAMBER LESS DEFLECTION DUE TO DEAD LOAD OF BEAM TIMES CREEP FACTOR.
 B = DEFLECTION DUE TO DEAD LOAD OF SLAB, PARAPET, SIP FORMS AND FUTURE PAVING ALLOWANCES.
 C = A - B = NET CAMBER

BEAM CAMBER DIAGRAM

DIM	G1&G8	G2&G7	G3, G4&G5	G6
A	2.25"	2.25"	2.25"	2.25"
B	0.73"	0.88"	0.95"	0.82"
C	1.52"	1.37"	1.30"	1.43"

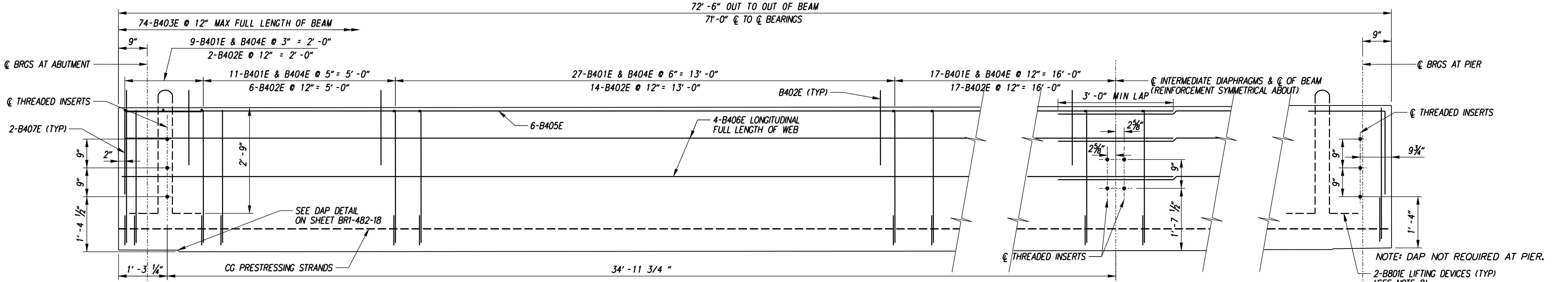
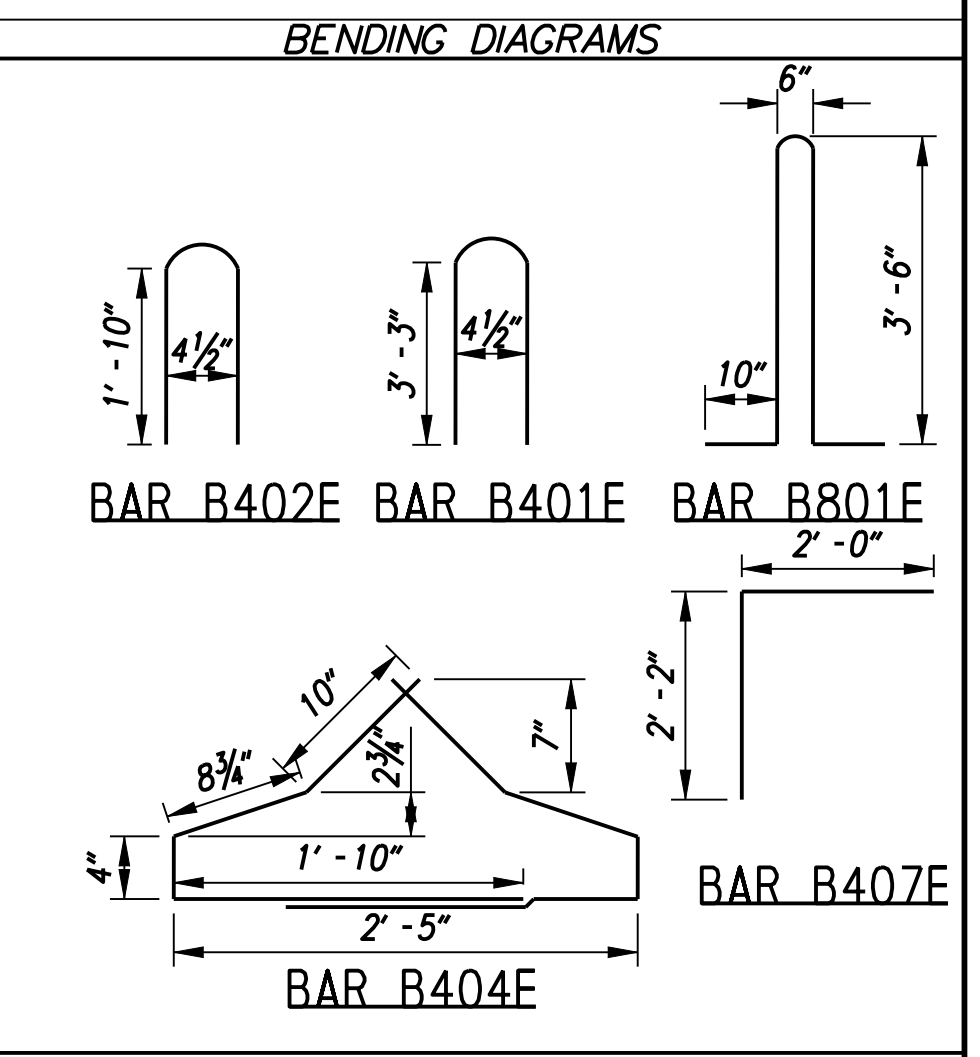
REINFORCING BAR LIST (EACH BEAM)				
MARK	SIZE	NUMBER	TYPE	LENGTH
B401E	4	125	BENT	7'-0 1/4"
B402E	4	74	BENT	4'-2 1/4"
B403E	4	74	STR	3'-6"
B404E	4	250	BENT	3'-8 3/4"
B405E	4	12	STR	37'-7"
B406E	4	8	STR	37'-7"
B407E	4	4	BENT	4'-2"
B801E	8	4	BENT	9'-3 7/8"

BEAM NOTES

- BEAMS ARE PCEF 32/45 BULB TEE. CONCRETE STRENGTH: f'c = 8000 PSI @ 28 DAYS; f'd = 6800 PSI @ STRAND RELEASE. g_s = DISTANCE FROM BOTTOM OF BEAM TO CENTER OF GRAVITY OF STRANDS AT MID SPAN = 6.90"; g_c = DISTANCE FROM BOTTOM OF BEAM TO CENTER OF GRAVITY OF STRANDS AT CENTERLINE OF BEARING = 7.62"
- PRESTRESSING STEEL: ALL STRANDS 1/2" DIAMETER SEVEN WIRE STRAND, 0.167 in² NOMINAL AREA, GRADE 270, LOW RELAXATION STRANDS IN ACCORDANCE WITH ASTM A416 WITH INITIAL PULL PER STRAND OF 33.82 KIPS.
- ALL MILD REINFORCEMENT IN GIRDER SHALL BE EPOXY COATED.
- GIRDER LENGTHS IN CASTING BED SHALL BE DETERMINED AND DEPICTED IN SHOP DRAWINGS TO COMPENSATE FOR GRADE SHORTENING DUE TO PRESTRESS EFFECT.
- TOP SURFACE OF ALL GIRDERS SHALL BE ROUGH FINISHED TO A FULL AMPLITUDE OF 1/4" AND SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND PROVIDE A ROUGHENED SURFACE FOR BONDING.
- NO CLEAR COVER LESS THAN AS SHOWN ON THESE PLANS WILL BE ACCEPTED.
- METAL INSERTS SHALL BE PROVIDED ALONG THE TOP FLANGE OF THE PRESTRESSED CONCRETE BEAMS TO SUPPORT SIP FORMS. SIZE, SPACING, AND LOCATION OF INSERTS AS REQUIRED BY SIP FORM MANUFACTURER. SEE SUPPORT DETAIL ON "DECK PLAN AND POURING SEQUENCE SHEET."
- PROVIDE 2-B801 LIFTING DEVICES AT EACH END OF BEAM. IF THEY CONFLICT WITH PLACEMENT OF DECK REINFORCEMENT, REMOVE WITHOUT DAMAGING TOP FACE OF BEAM. AT THE CONTRACTOR'S OPTION, ALTERNATE LIFTING DETAILS WILL BE CONSIDERED, SUBJECT TO THE APPROVAL OF THE ENGINEER.
- TIME FROM CASTING OF BEAMS TO POURING OF DIAPHRAGMS MUST BE NO LESS THAN 90 DAYS. IF TIME IS NOT SUFFICIENT, CONTRACTOR MUST SUBMIT DESIGN FOR APPROVAL SHOWING STRUCTURAL DESIGN CALCULATIONS TO ACCOUNT FOR RESTRAINT MOMENTS. PIER DIAPHRAGM CAN NOT BE POURED UNTIL DECK POURS 1 AND 2 ARE COMPLETED.

PRESTRESS NOTES

- A NET FINAL CAMBER VALUE HAS BEEN INCLUDED IN THE CALCULATION OF BEARING ELEVATIONS AND HAUNCH THICKNESS AT CENTERLINE OF BEARINGS (SEE CAMBER DIAGRAM).
- THE CONTRACTOR SHALL SURVEY THE TOPS OF THE BEAMS AT THE 10TH POINTS AND VARY HAUNCH THICKNESS TO COMPENSATE FOR ANY INACCURACIES IN THE ACTUAL BEAM CAMBER TO ACHIEVE FINAL FINISHED DECK ELEVATIONS AS SHOWN IN ELEVATION TABLES ON BR1-482-27.
- A CREEP FACTOR, Cr=1.6, AND AN INITIAL PRESTRESS LOSS, Δfs=10%, WHERE ASSUMED FOR COMPUTING CAMBERS.
- PRESTRESS CAMBER AND DEAD LOAD DEFLECTION DATA SHOWN ARE THEORETICAL AND MAY VARY WITH ACTUAL CONCRETE STRENGTH (AGE), VARIABLE PRESTRESSING CONDITIONS, CREEP FACTOR AND PRESTRESS LOSSES.
- CAST BEAMS SO THAT THE END FACES WILL BE TRULY VERTICAL WHEN PLACED IN THEIR FINAL POSITION.
- END ZONE REINFORCEMENT MAY BE INCREASED BY FABRICATOR TO REFLECT FABRICATOR'S EXPERIENCE AND/OR TO CONTROL CRACKING.



BULB TEE ELEVATION

(SPAN 1 SHOWN, SPAN 2 SIMILAR)



REFERENCES:

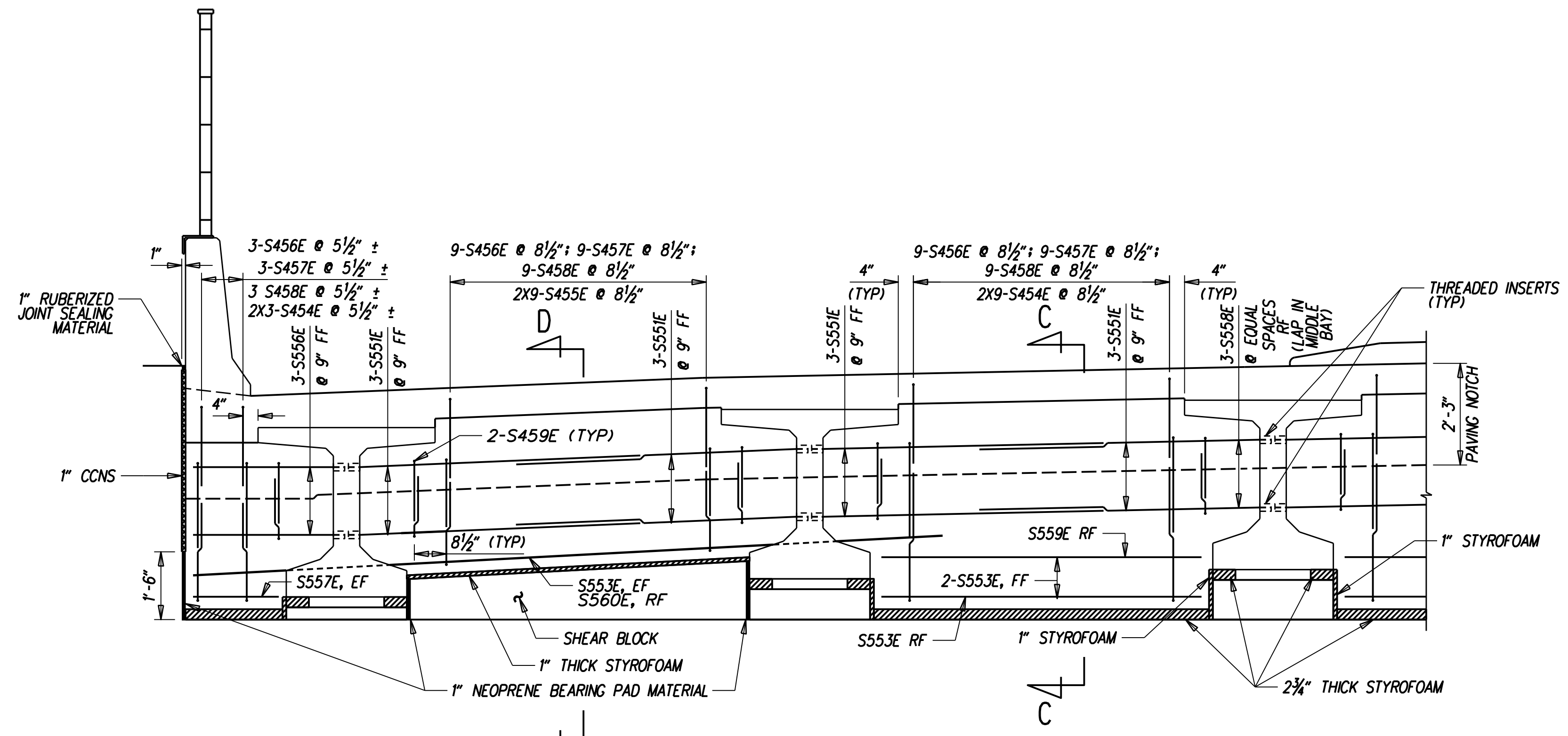
PROJECT NOTES AND BEAM SECTION PROPERTIES
 BR1-482-18 BEARING AND BEAM DAP DETAILS
 FRAMING PLAN

BR1-482-03
 BR1-482-18
 BR1-482-19

BR1-482-20

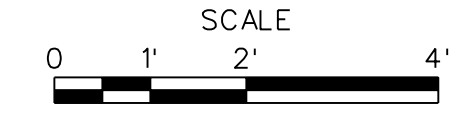
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	ADDENDUMS / REVISIONS		US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT	BRIDGE NO.	1-482	BEAM DETAILS	SHEET NO.
				T200811301	DESIGNED BY:	SPM		311
				COUNTY	CHECKED BY:	WMM		TOTAL SHTS.
				NEW CASTLE				850



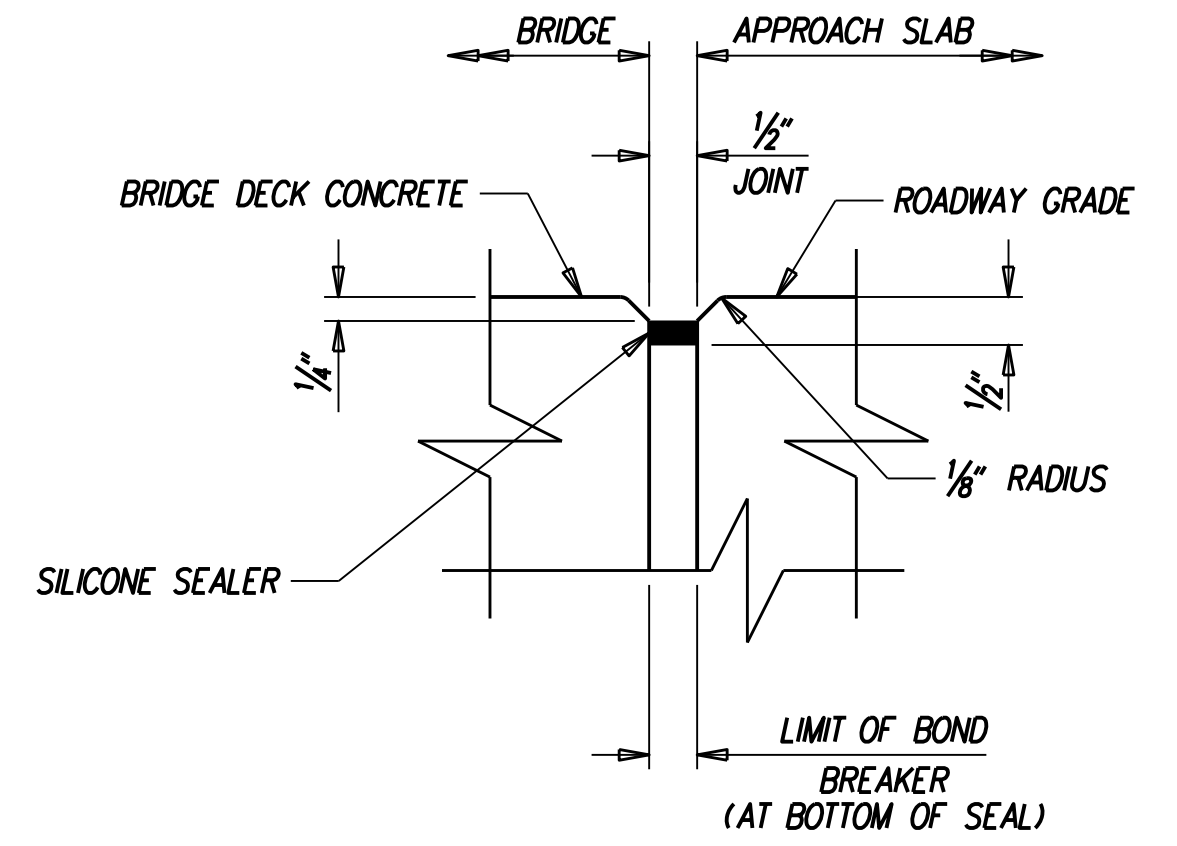
CCNS: CLOSED CELL NEOPRENE SPONGE

END DIAPHRAGM AT ABUTMENTS



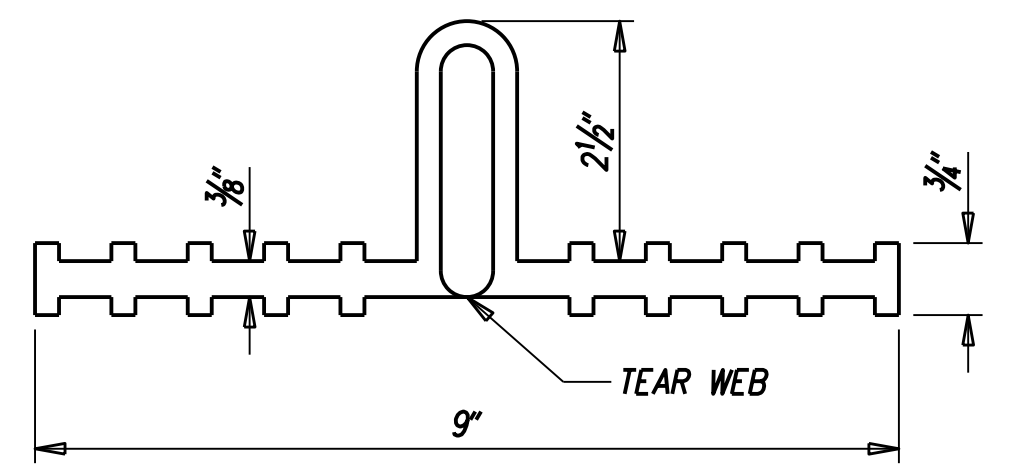
NOTES

1. STYROFOAM, NEOPRENE BEARING PAD MATERIAL, CLOSED CELL NEOPRENE SPONGE AND JOINT MATERIAL SHALL BE INCIDENTAL TO ITEM 602013, PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D. SEE NOTES 11 AND 12 OF PROJECT NOTES, SHEET BR1-482-03, FOR DETAILS.



DETAIL H

NTS

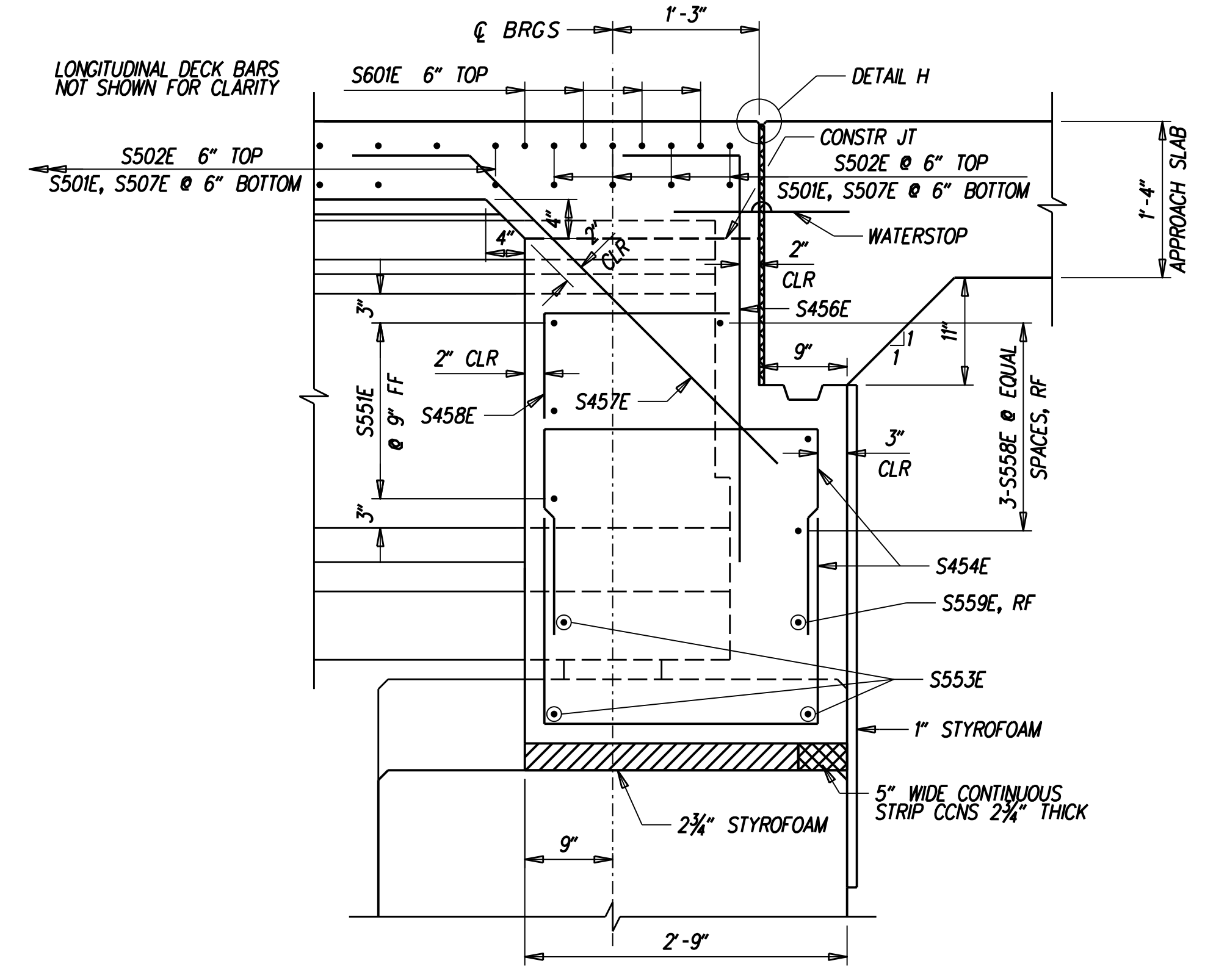


WATERSTOP DETAIL

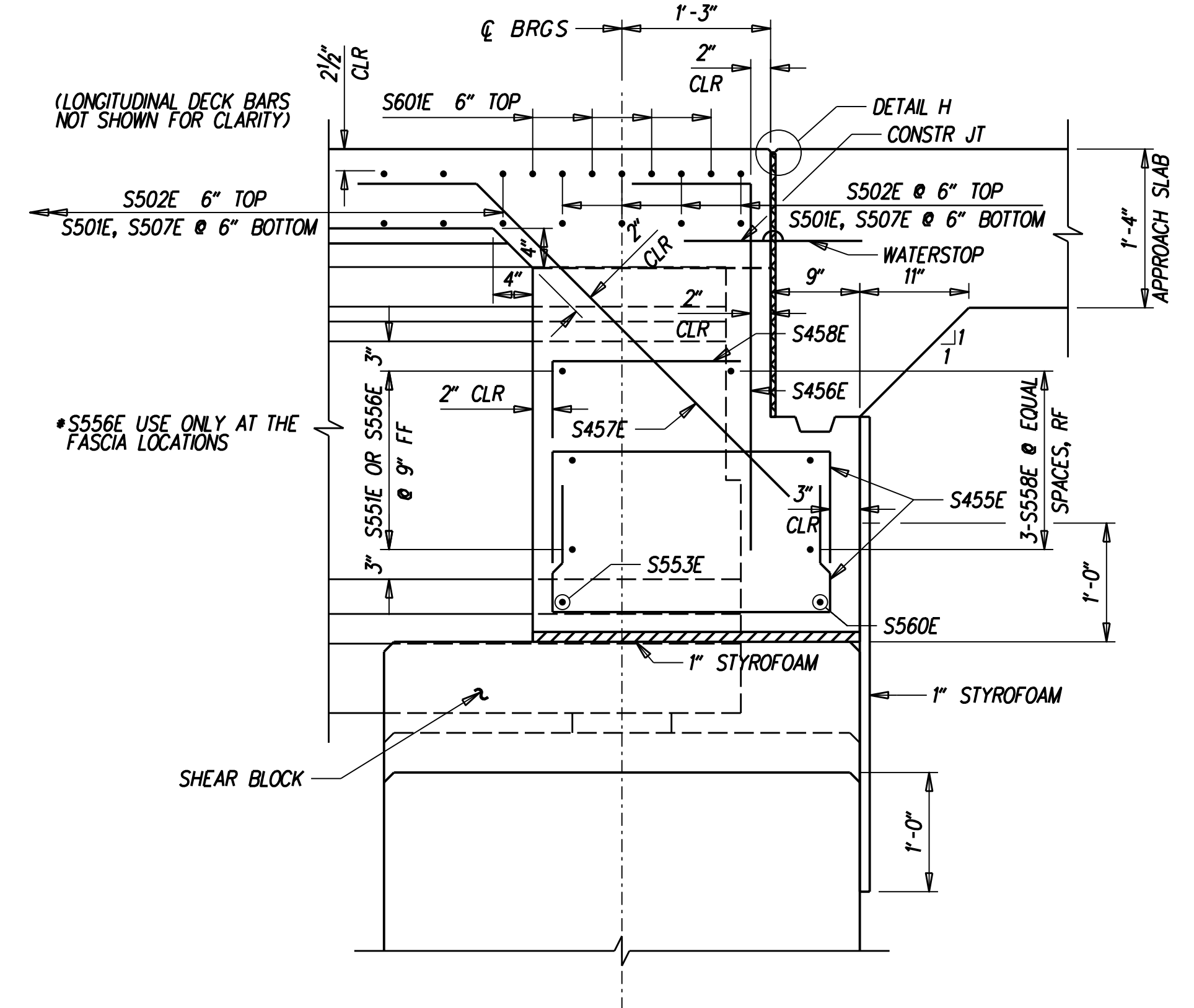
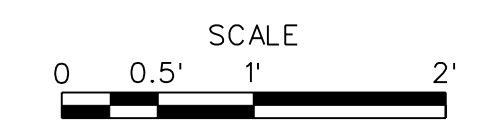
NTS

REFERENCES:

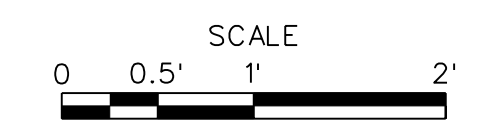
- PROJECT NOTES
 ABUTMENT 1 PLAN AND ELEVATION
 ABUTMENT 2 PLAN AND ELEVATION
 ABUTMENT SECTION AND DETAILS
 MSE WALL DETAILS
 FRAMING PLAN
 BEAM DETAILS
 REINFORCEMENT BAR SCHEDULE
- BR1-482-03
 BR1-482-09
 BR1-482-10
 BR1-482-11
 BR1-482-15
 BR1-482-19
 BR1-482-20
 BR1-482-33



SECTION C-C



SECTION D-D



BR1-482-21

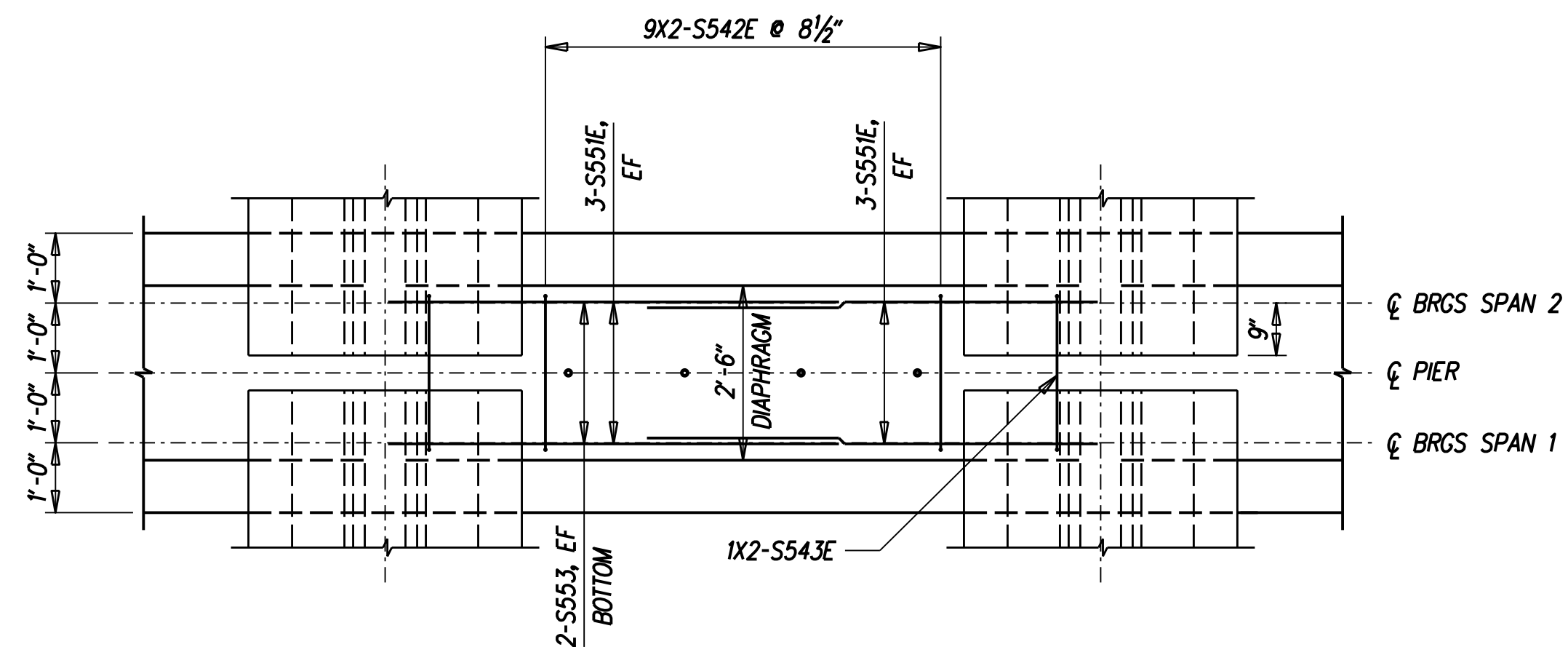
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ADDENDUMS / REVISIONS	

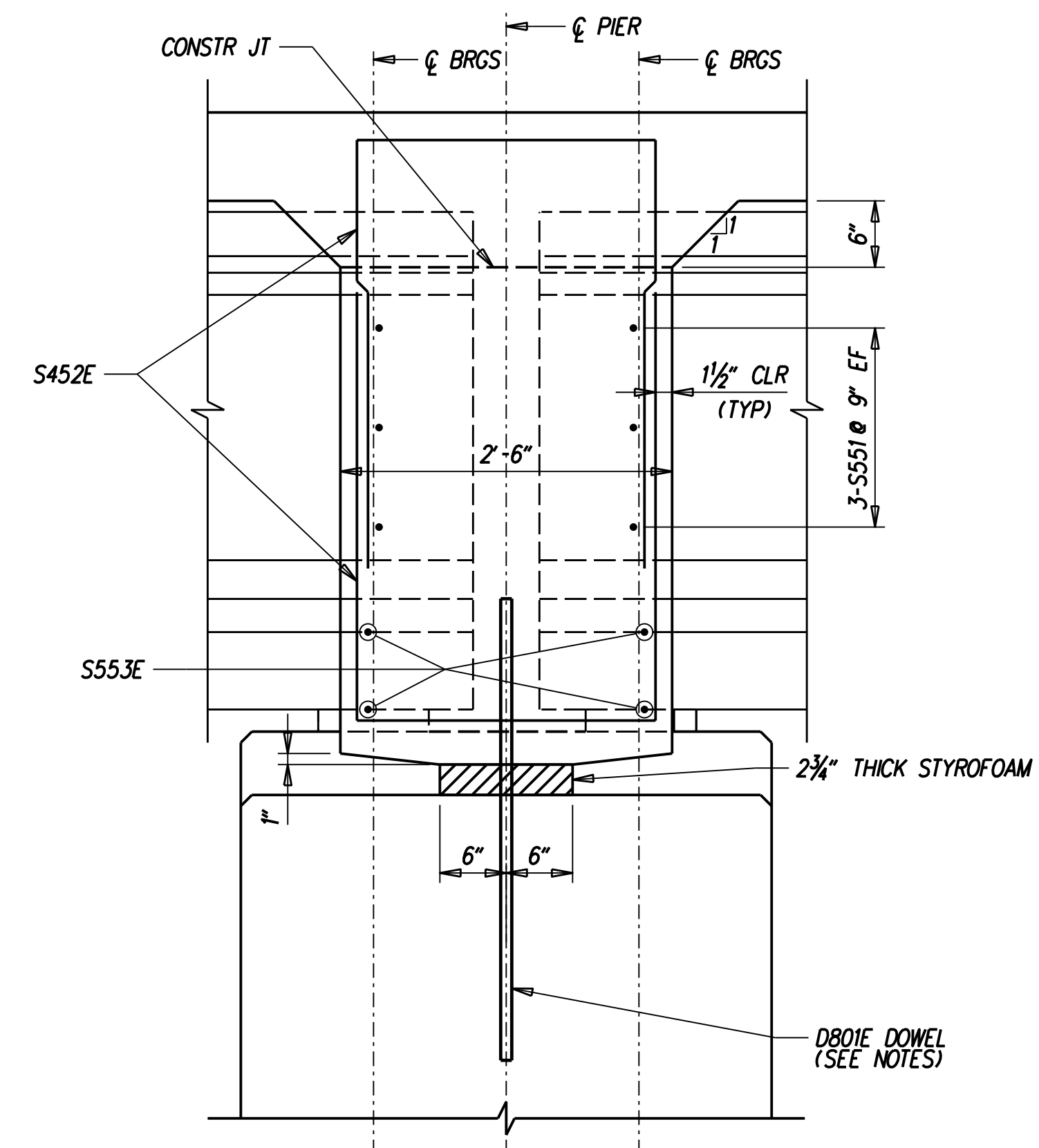
CONTRACT T200811301	BRIDGE NO. 1-482
COUNTY NEW CASTLE	DESIGNED BY: WMM CHECKED BY: GCI

DIAPHRAGM DETAILS - 1	
SHEET NO. 312	TOTAL SHTS. 850

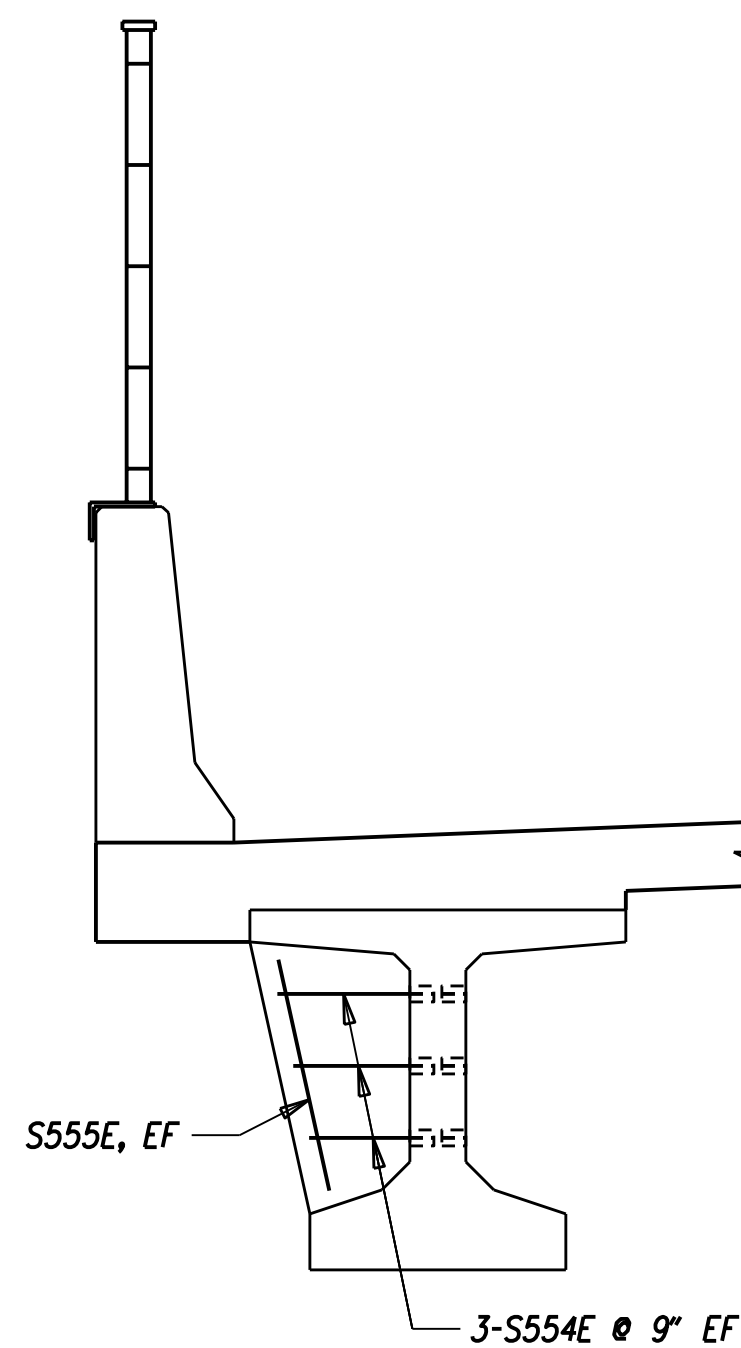
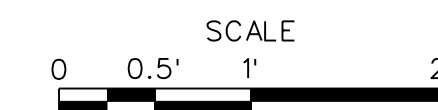
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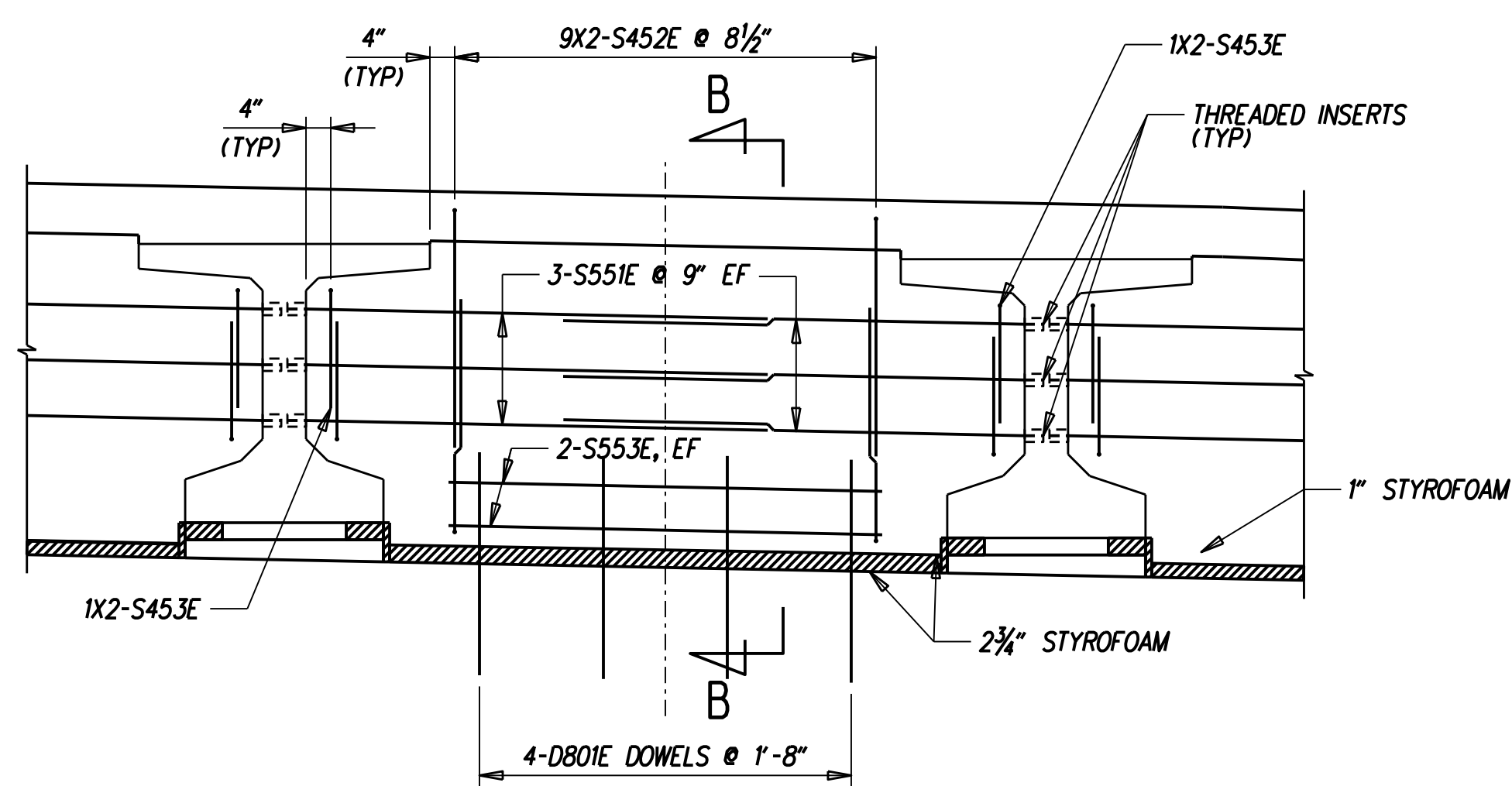
TYPICAL CONTINUITY DIAPHRAGM PLAN AT PIER



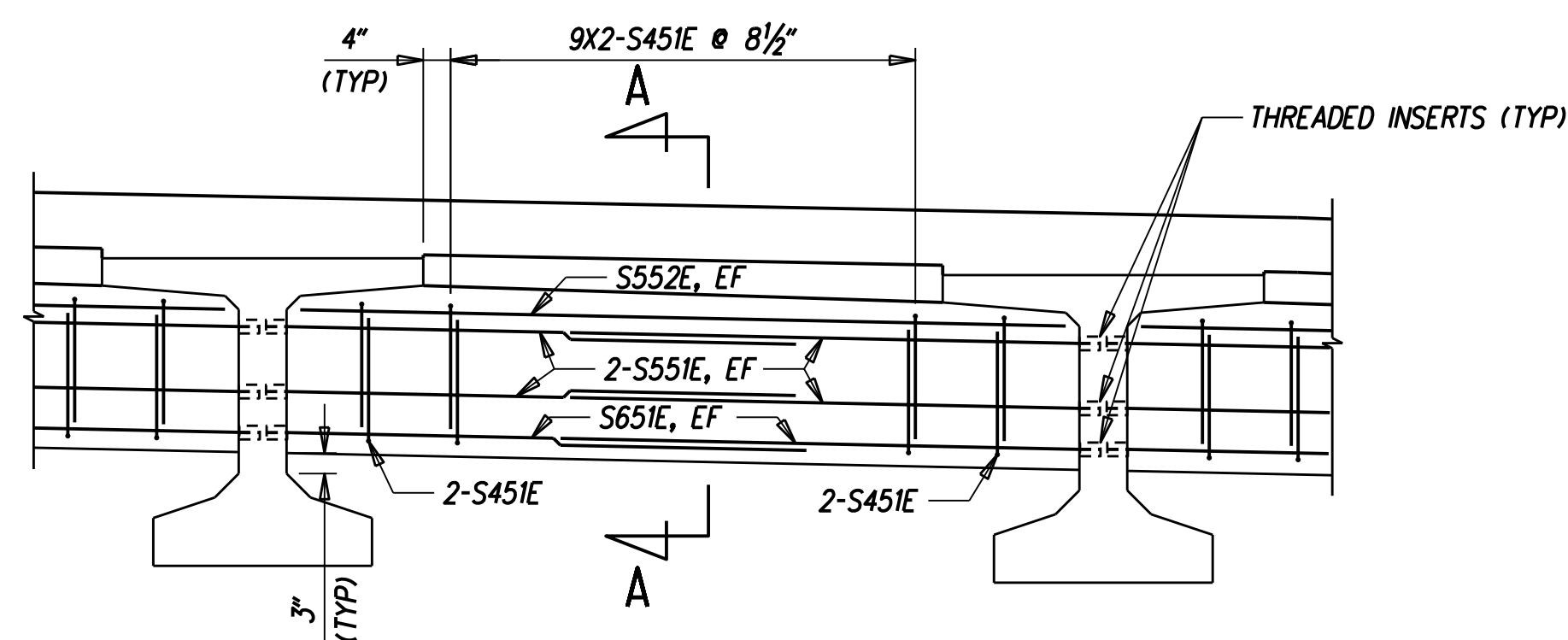
SECTION B-B



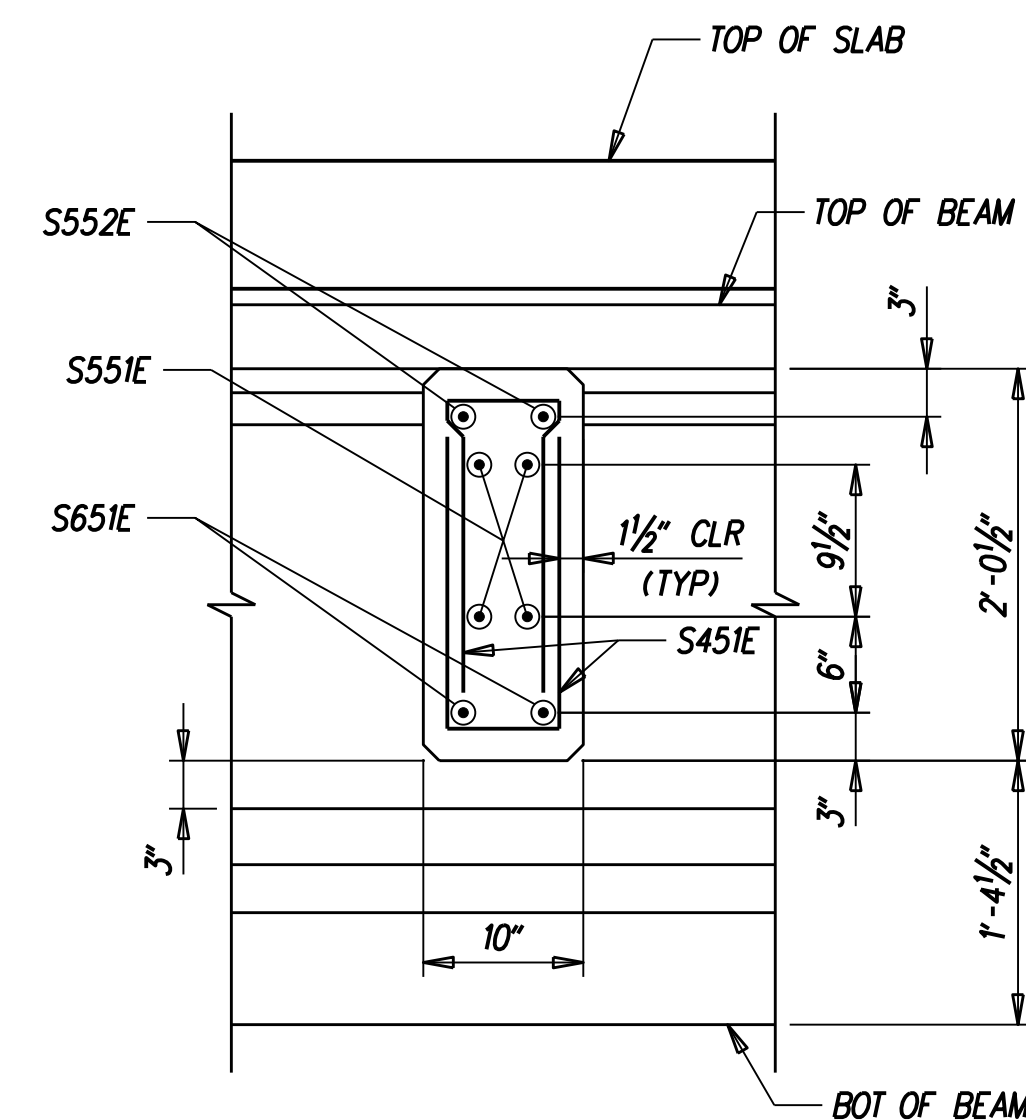
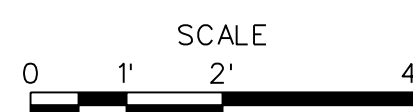
TYPICAL CONTINUITY FASCIA DIAPHRAGM ELEVATION AT PIER



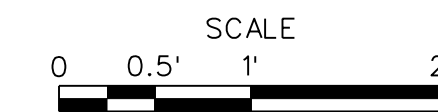
TYPICAL CONTINUITY DIAPHRAGM ELEVATION AT PIER



TYPICAL INTERMEDIATE DIAPHRAGM ELEVATION



SECTION A-A



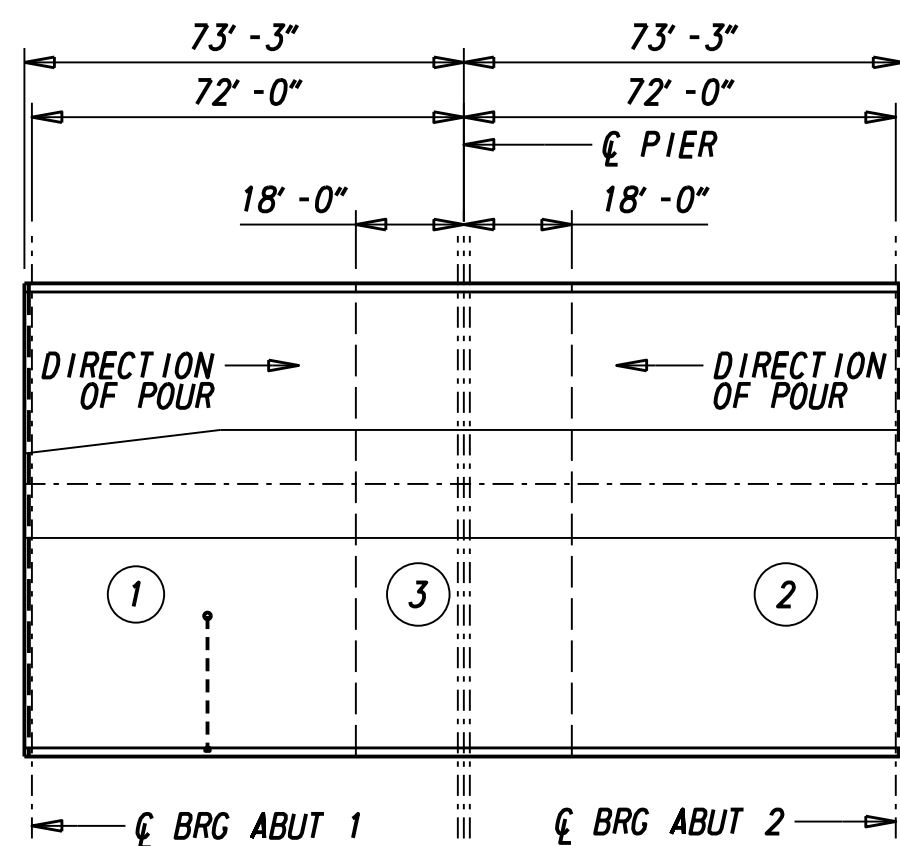
NOTES:

FOR DOWEL DETAIL SEE PIER PLAN AND ELEVATION DRAWING

REFERENCES:

PROJECT NOTES
 PIER PLAN AND ELEVATION
 FRAMING PLAN
 BEAM DETAILS
 REINFORCEMENT BAR SCHEDULE

BR1-482-03
 BR1-482-16
 BR1-482-19
 BR1-482-20
 BR1-482-33



DECK SLAB POUR SEQUENCE

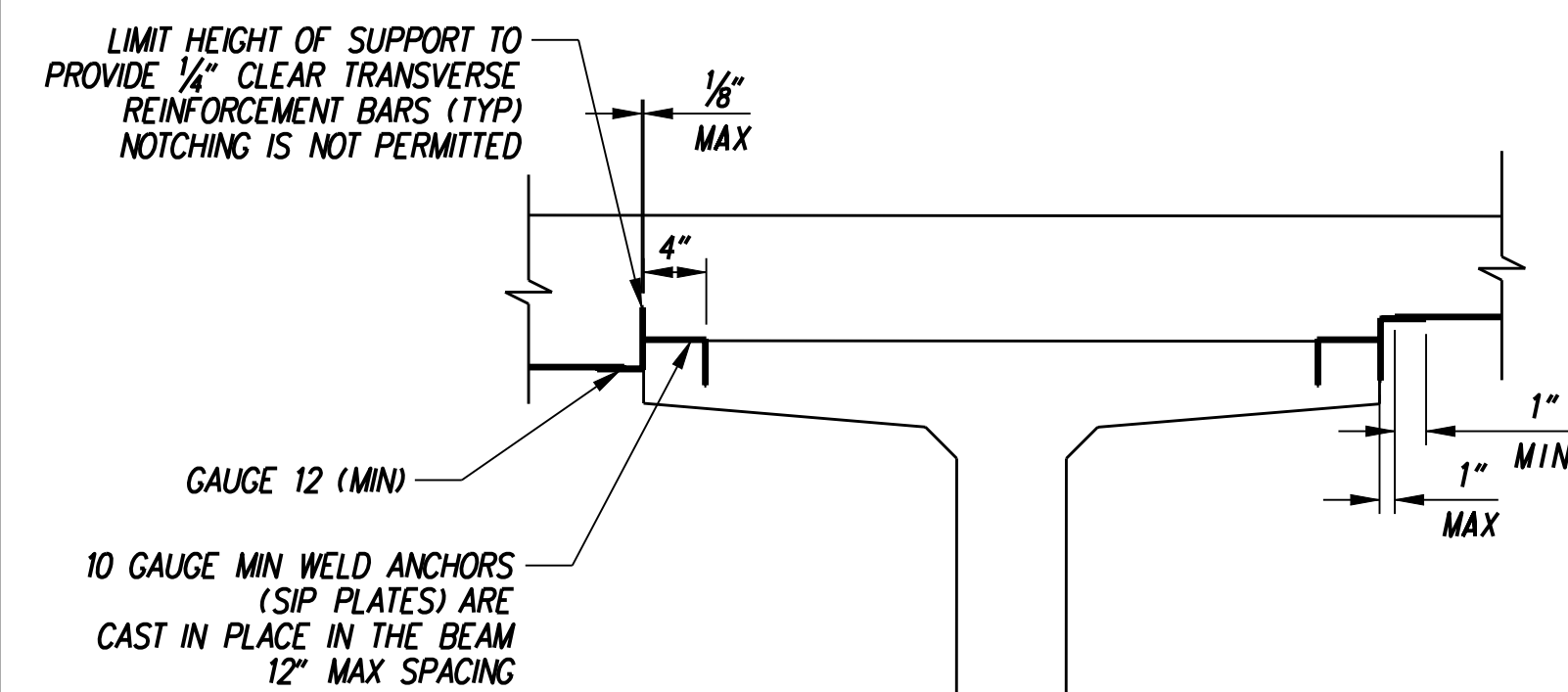
NTS

NOTES

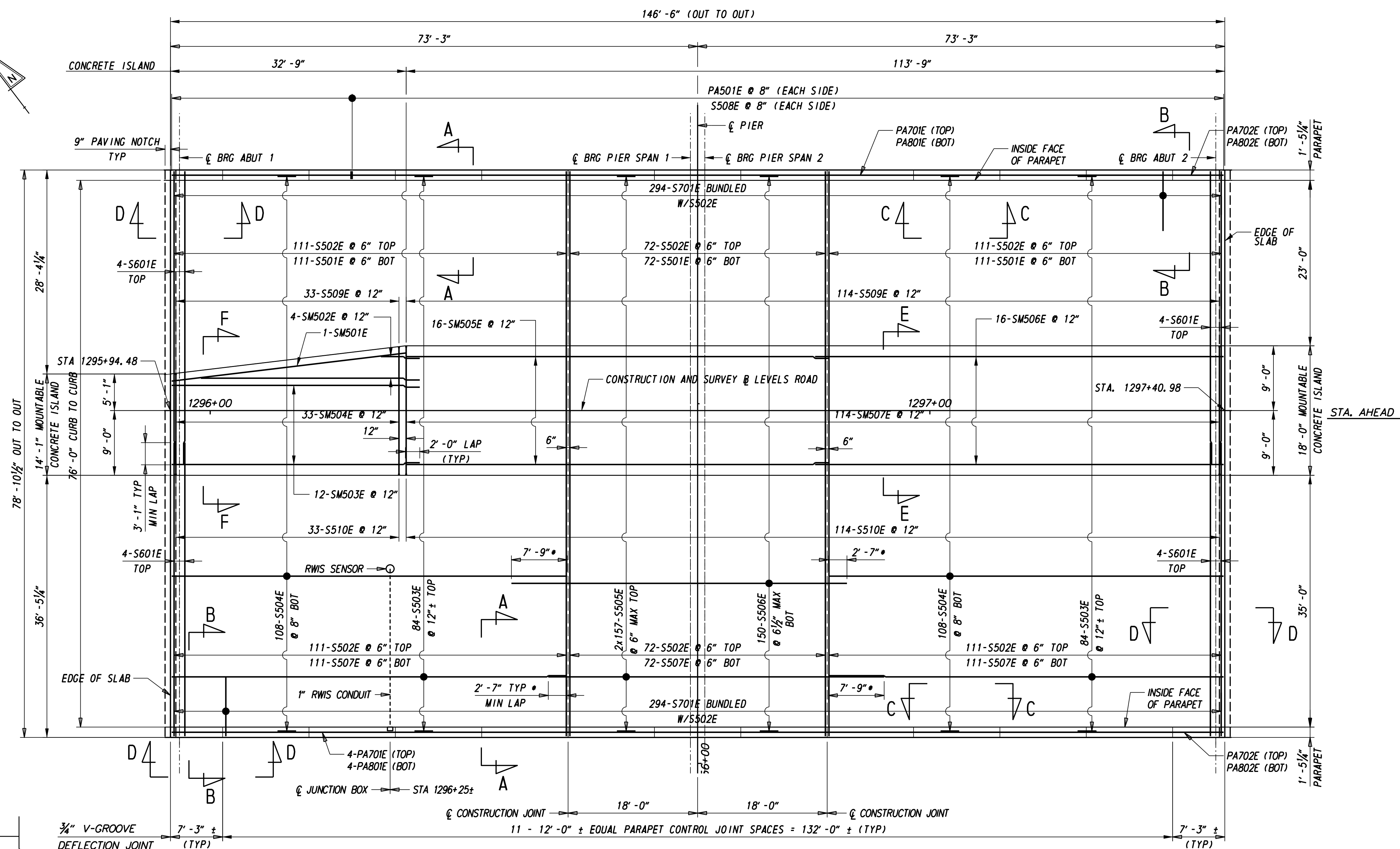
1. REFER TO DECK AND PARAPET DETAILS SHEET FOR SECTION DETAILS.

SUPPORT NOTES

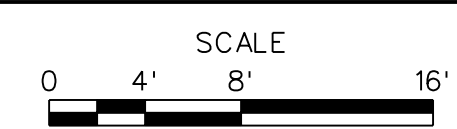
1. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF FORM SUPPORTS AND THEIR ATTACHMENTS UNDER ALL ANTICIPATED LOADING CONDITIONS, INCLUDING CONSTRUCTION LOADS.
2. SECURELY FASTEN ALL FORMS TO FORM SUPPORTS AND PROVIDE A MINIMUM BEARING LENGTH OF 1" AT EACH END.
3. ATTACH FORM SHEETS PROPERLY TO AVOID HAZARDS THAT CAN RESULT FROM LATERAL MOVEMENT OR SUDDEN UPLIFT. PROVIDE SAFETY STOPS WHERE NECESSARY.
4. CONNECT ADJOINING HAUNCH ANGLE OR CHANNEL BY WELDING.
5. ALL SHEETS MUST HAVE FACTORY CLOSED ENDS.
6. USE 3/8" HWH X 1/4" - 14 THREADS/INCH SCREW FASTENER TO CONNECT DECK FORMS.
7. PROVIDE GRADE 50 PERMANENT METAL DECK FORMS WITH MINIMUM I= 0.3223 IN⁴ PER FOOT, AND MINIMUM S= 0.2623 IN³ PER FOOT.
8. PERMANENT METAL DECK FORMS AND SUPPORTS SHALL BE FABRICATED FROM STEEL CONFORMING TO A446 AND SHALL BE ZINC COATED (GALVANIZED) IN CONFORMANCE WITH A653, COATING DESIGNATION 690. THESE FORMS SHALL BE THE PROPER GAUGE TO SUPPORT, WITHIN SPECIFIED DEFLECTIONS, THE SPECIFIED WEIGHTS FOR THE PARTICULAR SPAN INVOLVED. NOTE ALSO, THAT NO FORM LESS THAN 0.0359 INCH THICKNESS WILL BE ACCEPTED. THE DESIGN SPAN SHALL BE THE CLEAR DISTANCE BETWEEN GIRDER FLANGES LESS 2 INCHES.
9. ANY PERMANENTLY EXPOSED FORM METAL WHERE THE GALVANIZED COATING HAS BEEN DAMAGED SHALL BE THOROUGHLY CLEANED, WIRE BRUSHED AND PAINTED WITH TWO COATS OF ZINC DUST- ZINC OXIDE PAINT, NO COLOR ADDED, TO THE SATISFACTION OF THE ENGINEER. MINOR HEAT DISCOLORATION IN AREAS OF WELDS NEED NOT BE TOUCHED UP.



SIP FORM DETAIL



DECK SLAB PLAN



* STAGGER BUNDLED S505E BARS AND S506E BARS TOWARDS CONSTRUCTION JOINT IN INCREMENTS OF 2'-7", 5'-2", 7'-9" FOR EVERY THREE BARS. TYPICAL FOR ADDITIONAL NEGATIVE MOMENT STEEL REINFORCEMENT.

REFERENCES:

- | | |
|----------------------------|---------------------------|
| PROJECT NOTES | BR1-482-03 |
| FRAMING PLAN | BR1-482-19 |
| BEAM DETAILS | BR1-482-20 |
| DIAPHRAGM DETAILS 1 | BR1-482-21 |
| DIAPHRAGM DETAILS 2 | BR1-482-22 |
| RWIS DETAILS | BR1-482-24 |
| DECK SECTIONS | BR1-482-24 AND BR1-482-25 |
| DECK AND PARAPET DETAILS | BR1-482-26 |
| DECK ELEVATIONS | BR1-482-27 |
| REINFORCEMENT BAR SCHEDULE | BR1-482-33 |

BR1-482-23

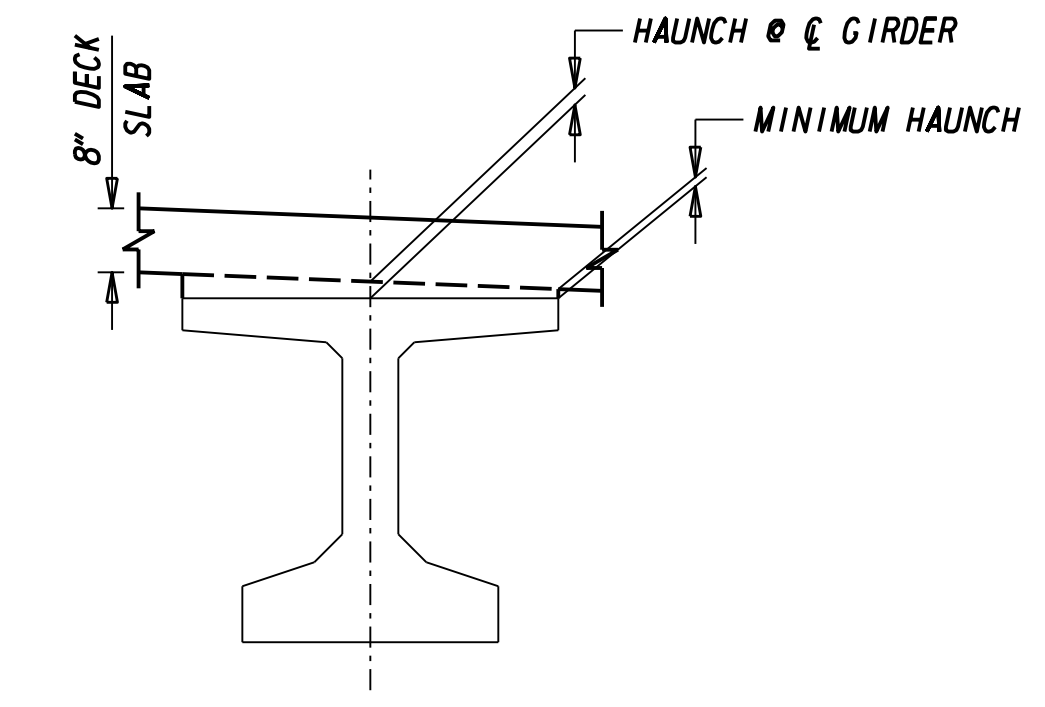
ADDENDUMS / REVISIONS

CONTRACT	T200811301	BRIDGE NO.	1-482
COUNTY	NEW CASTLE	DESIGNED BY:	SPM
		CHECKED BY:	WMM/GCI

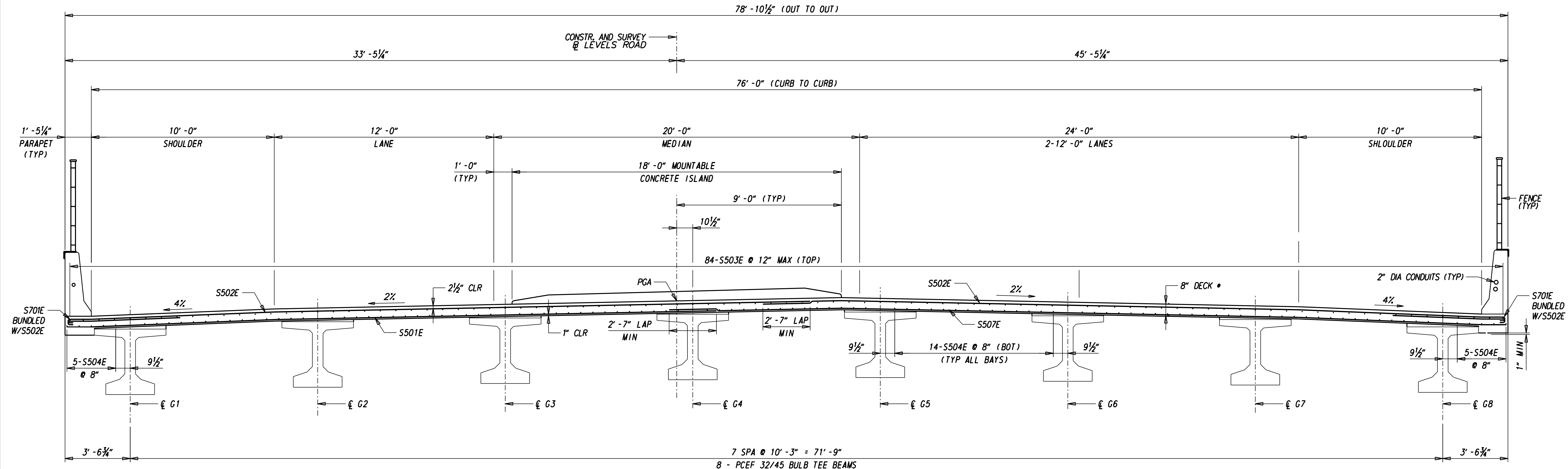
DECK PLAN AND POURING SEQUENCE	SHEET NO.	314
	TOTAL SHTS.	850

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TABLE 1																
HAUNCH DIMENSIONS (INCHES)																
GIRDER LINE	G1		G2		G3		G4		G5		G6		G7		G8	
	MINIMUM	AT C GIRDER	MINIMUM	AT C GIRDER	MINIMUM	AT C GIRDER	MINIMUM	AT C GIRDER	MINIMUM	AT C GIRDER	MINIMUM	AT C GIRDER	MINIMUM	AT C GIRDER	MINIMUM	AT C GIRDER
C BRGS ABUT 1	0.67	1.61	0.60	1.07	0.53	1.00	0.53	1.00	0.53	1.00	0.66	1.13	0.60	1.07	0.67	1.61
C PIER	0.67	1.61	0.60	1.07	0.53	1.00	0.53	1.00	0.53	1.00	0.66	1.13	0.60	1.07	0.67	1.61
C BRGS ABUT 2	0.67	1.61	0.60	1.07	0.53	1.00	0.53	1.00	0.53	1.00	0.66	1.13	0.60	1.07	0.67	1.61



TYPICAL HAUNCH DETAIL
NTS

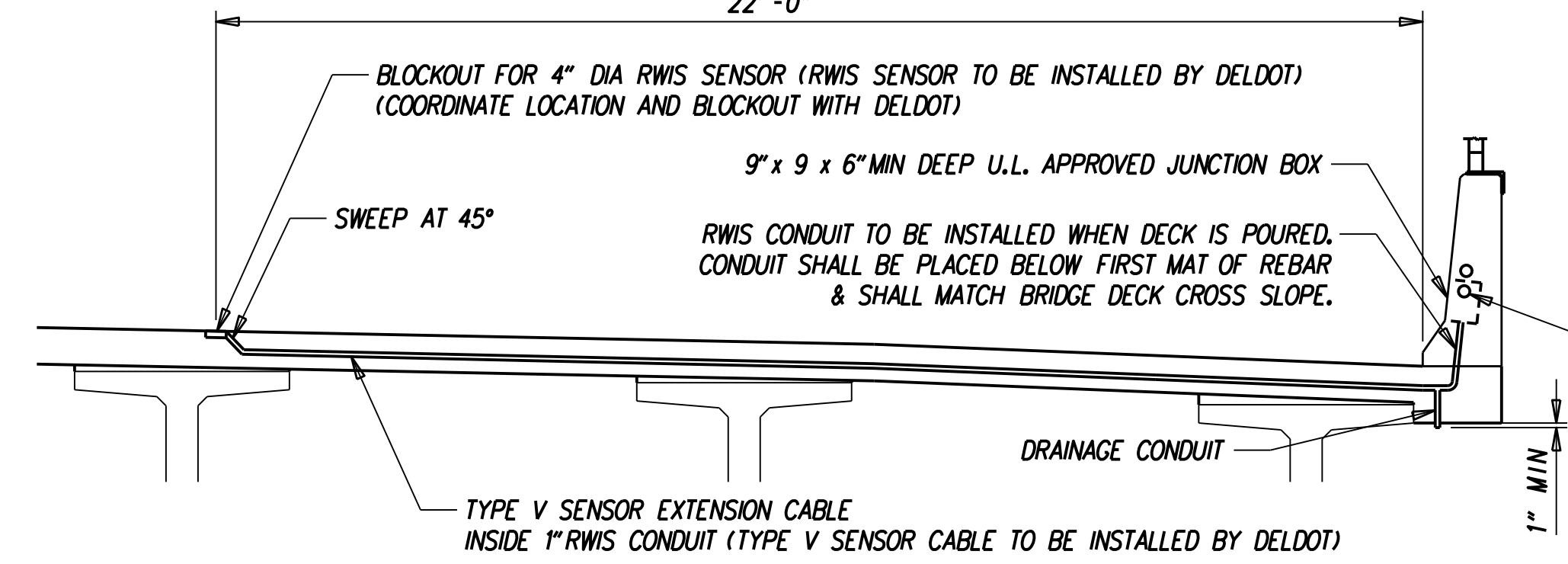


TYPICAL DECK SECTION (POSITIVE MOMENT REGION)
LOOKING STATION AHEAD

* INCLUDES 1/2" WEARING SURFACE

REFERENCES:

- PROJECT NOTES BR1-482-03
- FRAMING PLAN BR1-482-19
- BEAM DETAILS BR1-482-20
- DECK PLAN BR1-482-23
- CONDUIT DETAILS AND NOTES BR1-482-26
- REINFORCEMENT BAR SCHEDULE BR1-482-33

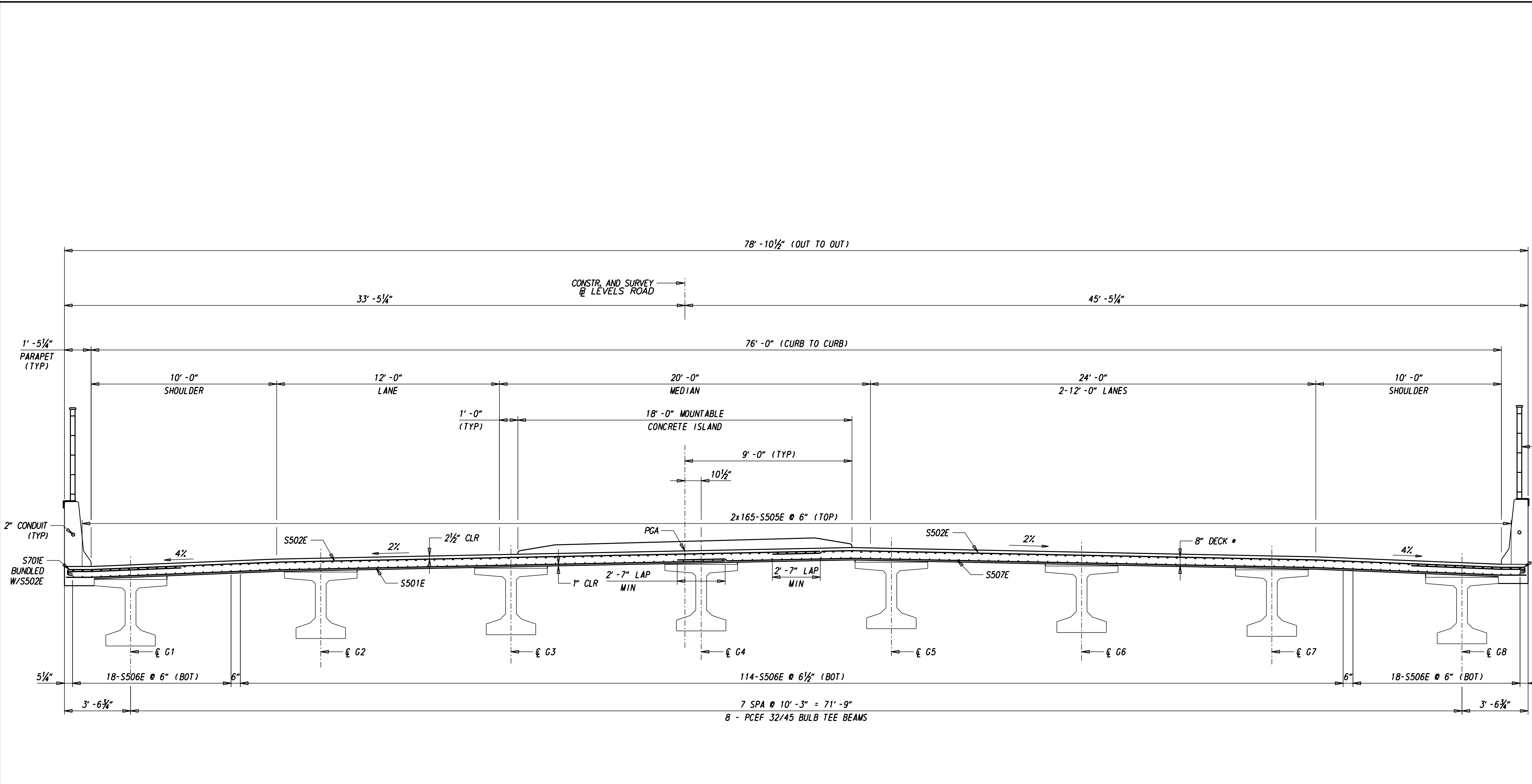


RWIS SENSOR DETAIL
LOOKING STATION AHEAD
(REINFORCING STEEL NOT SHOWN FOR CLARITY)

NOTE: ALL RWIS CONDUIT AND BLOCKOUT SHALL BE INCIDENTAL TO ITEM 602013

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TYPICAL DECK SECTION (NEGATIVE MOMENT REGION)
LOOKING STATION AHEAD

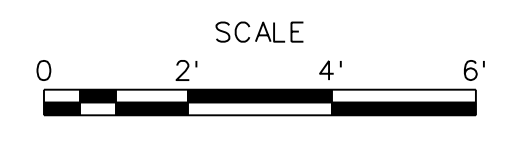
• INCLUDES 1/2\" WEARING SURFACE

REFERENCES:

PROJECT NOTES	BR1-482-03
FRAMING PLAN	BR1-482-19
BEAM DETAILS	BR1-482-20
DECK PLAN	BR1-482-23
CONDUIT DETAILS AND NOTES	BR1-482-26
REINFORCEMENT BAR SCHEDULE	BR1-482-33



ADDENDUMS / REVISIONS	

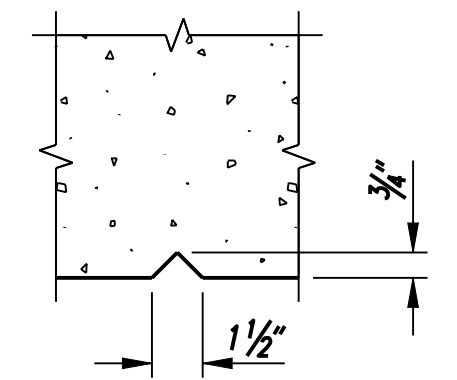
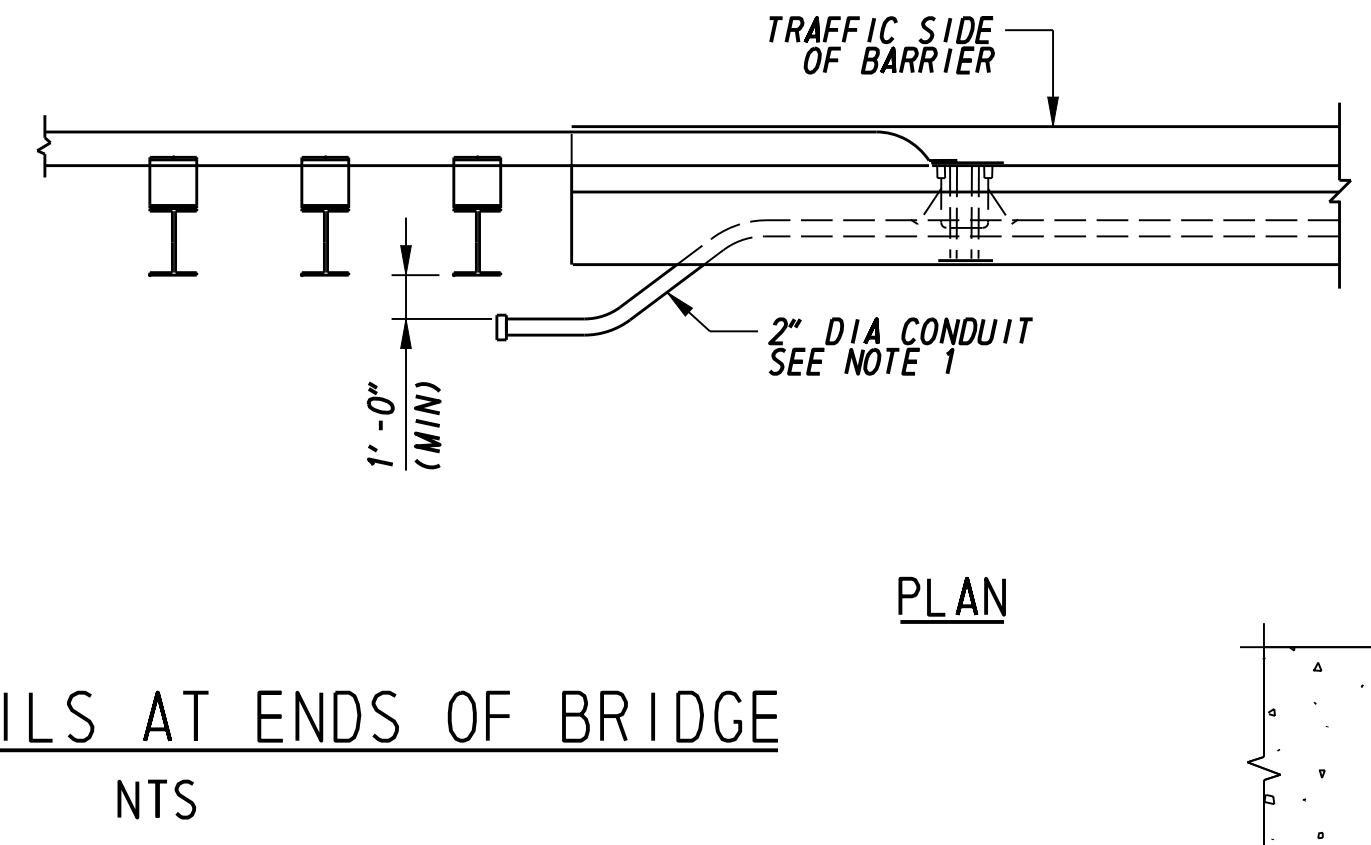
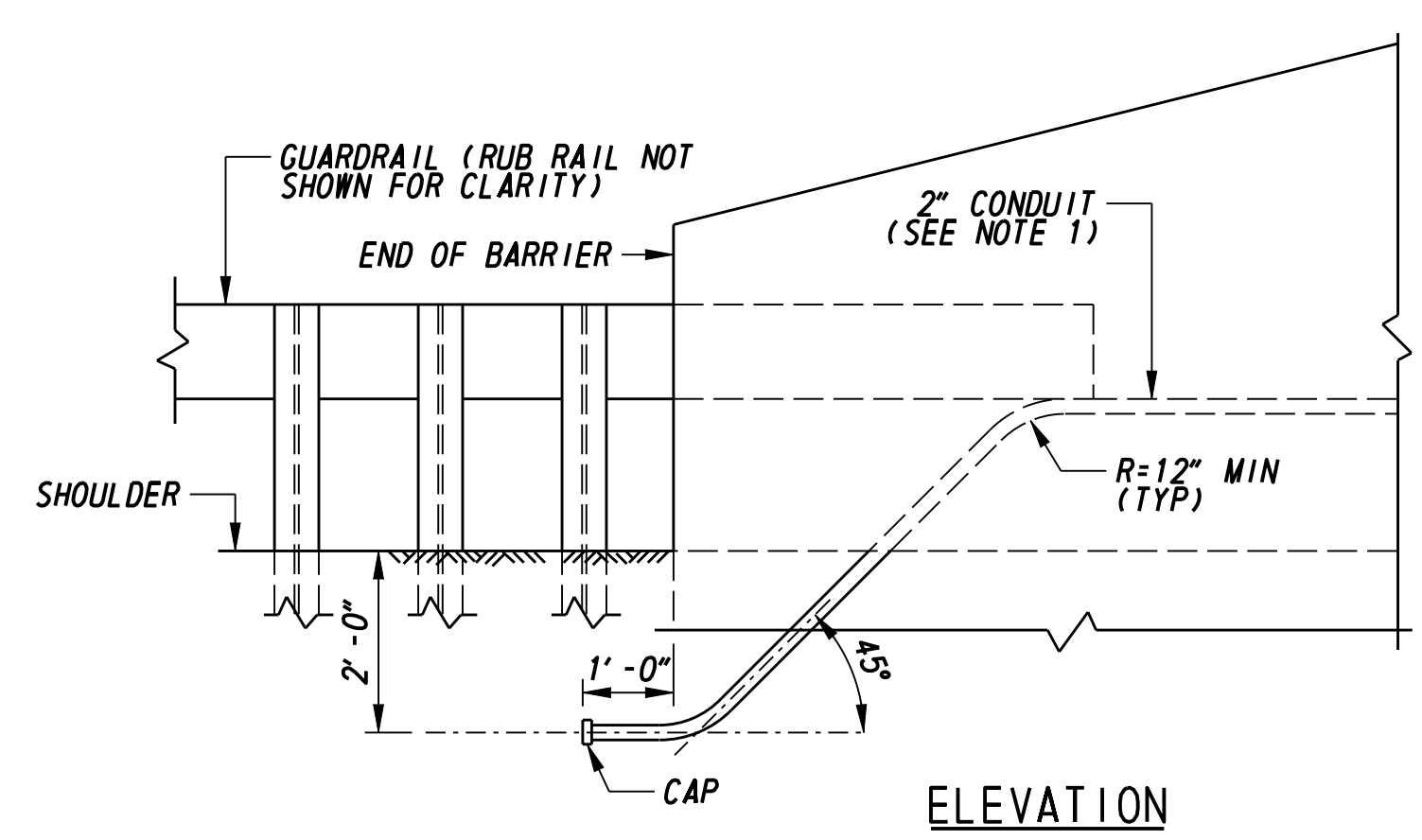
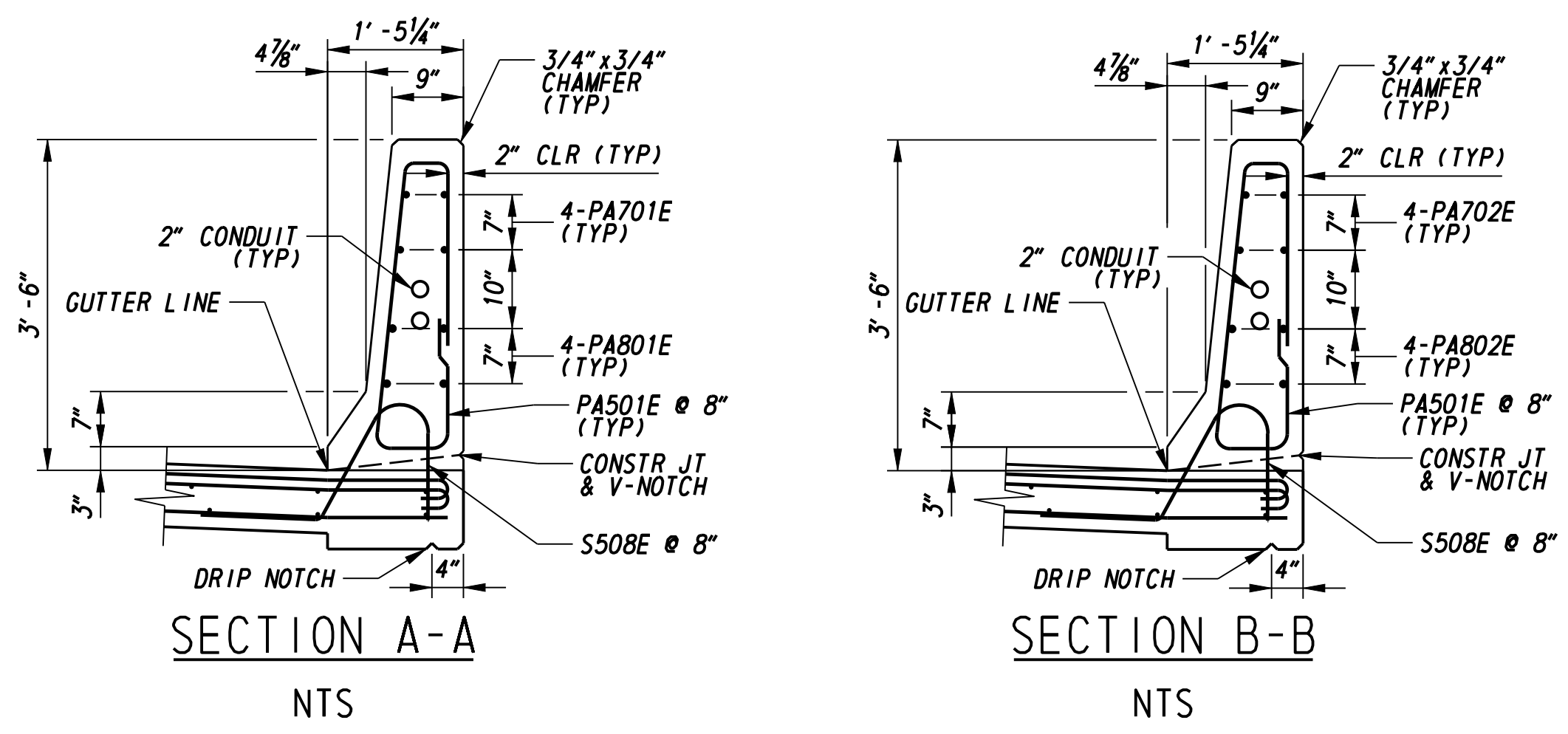


US 301
MARYLAND STATE LINE
TO LEVELS ROAD

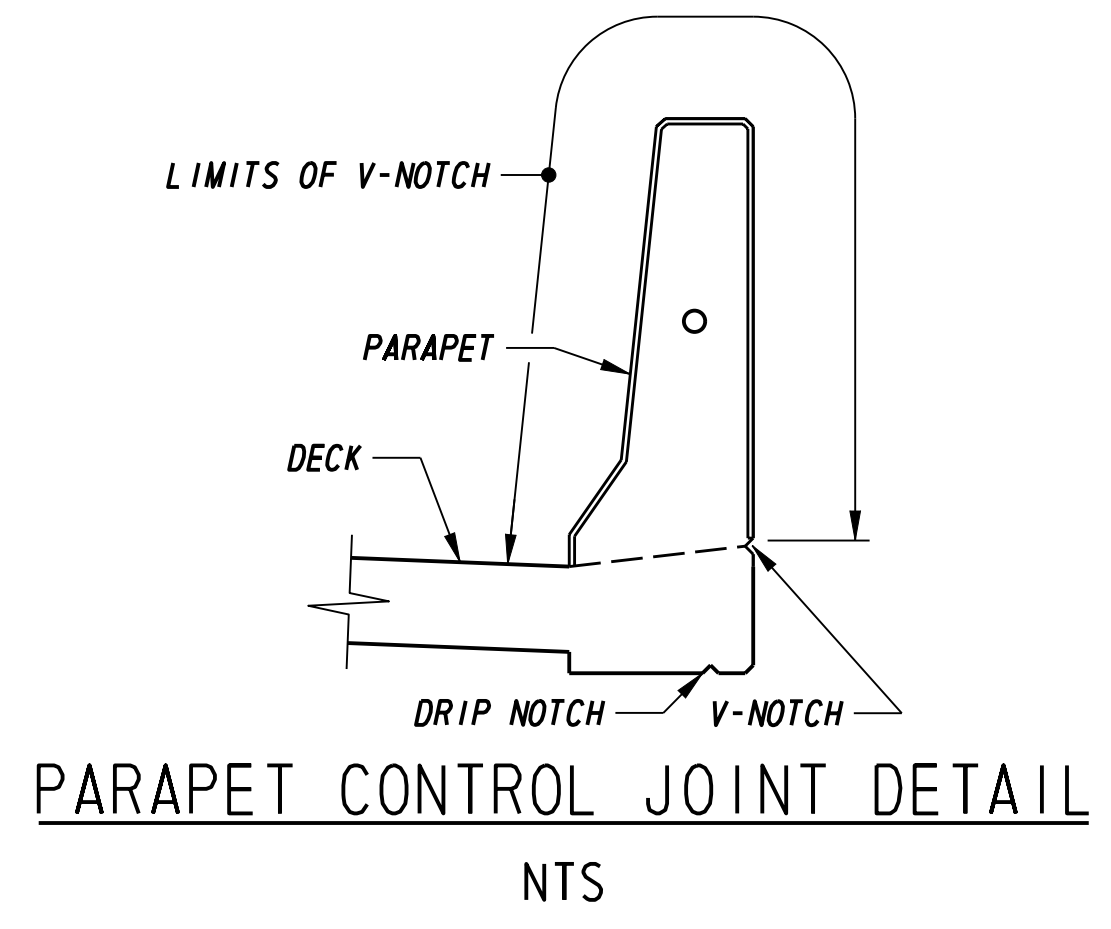
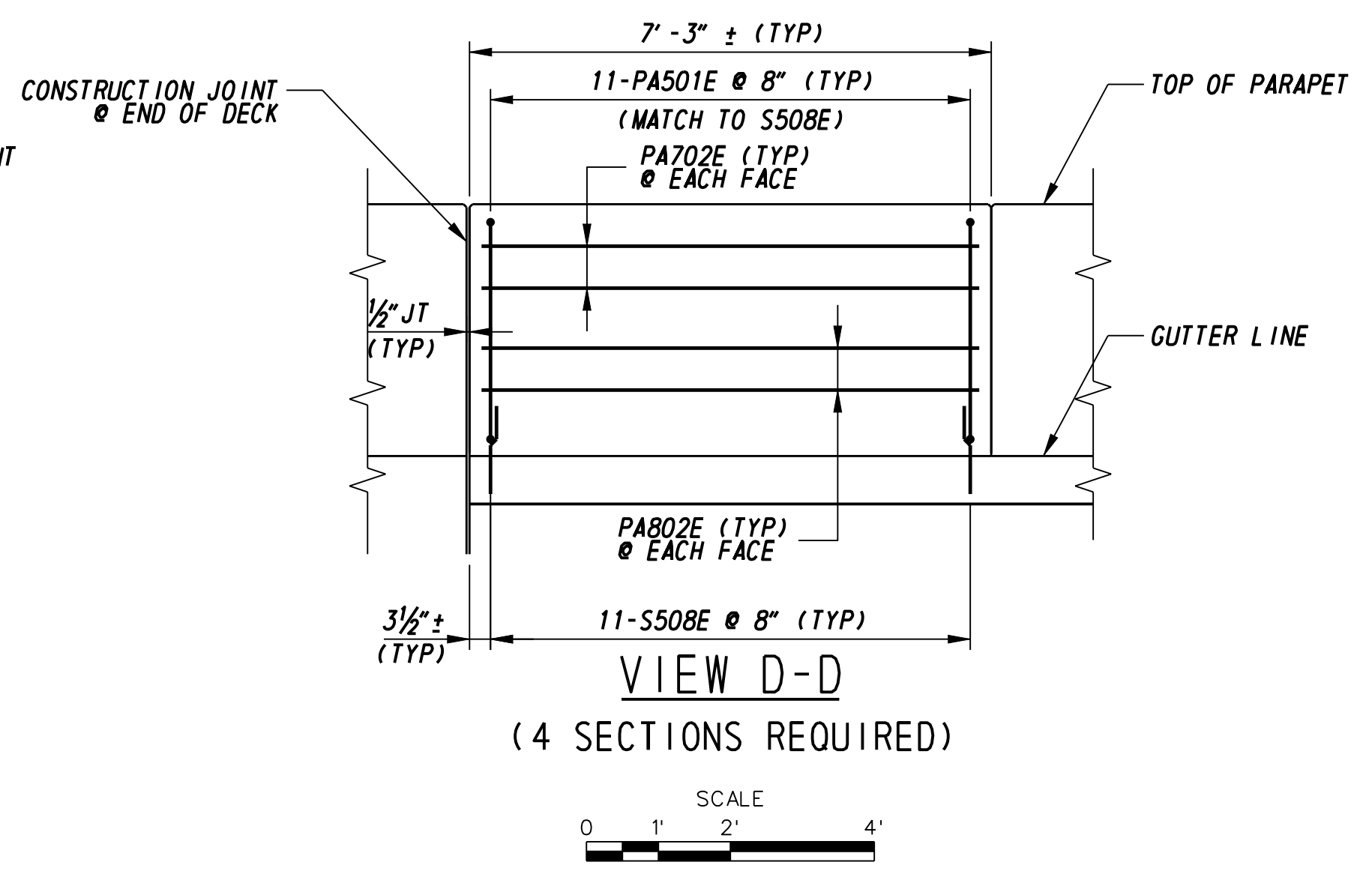
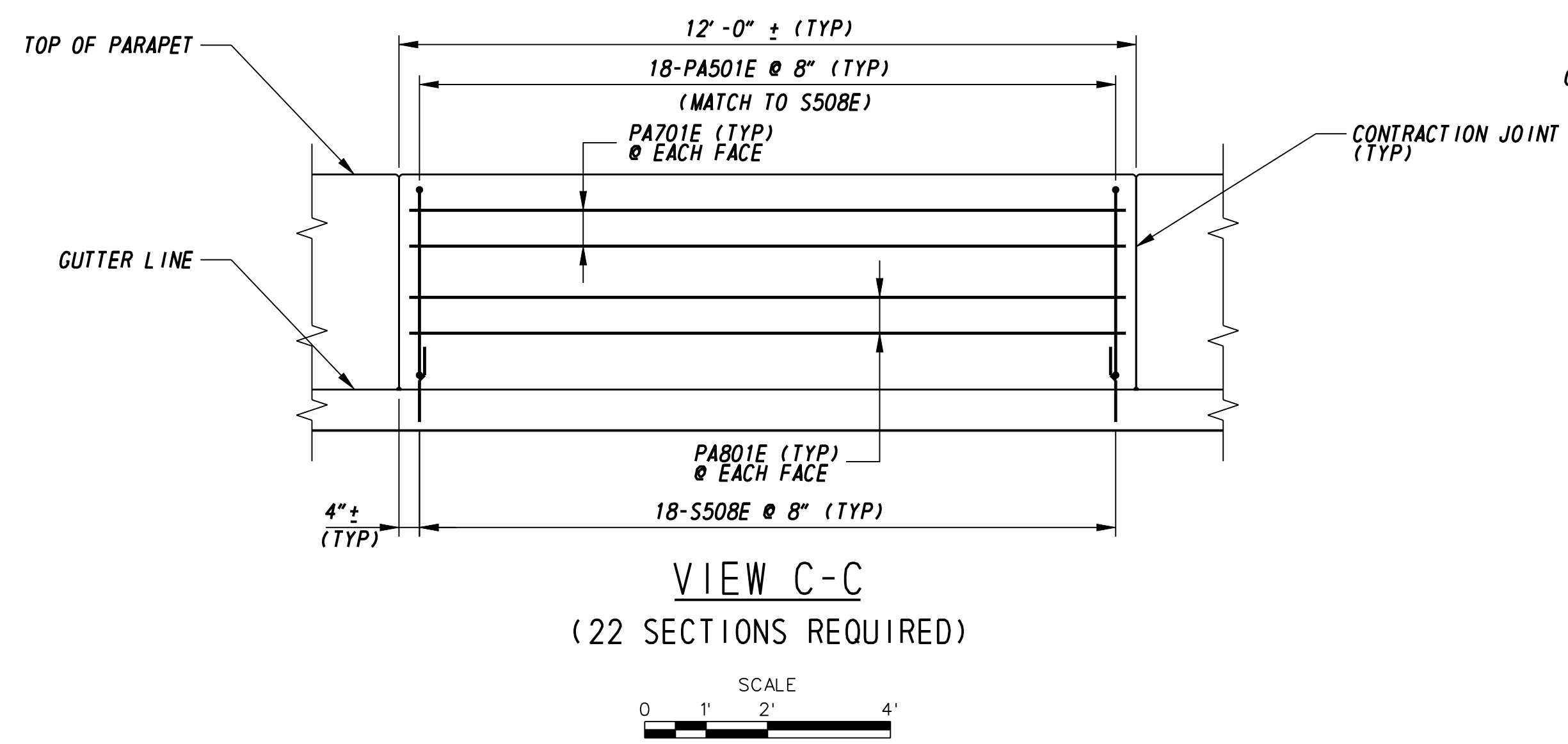
CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	SPM
COUNTY	CHECKED BY:	WMM/GCI
NEW CASTLE		

DECK SECTION - 2	SHEET NO.	316
	TOTAL SHTS.	840

BR1-482-25

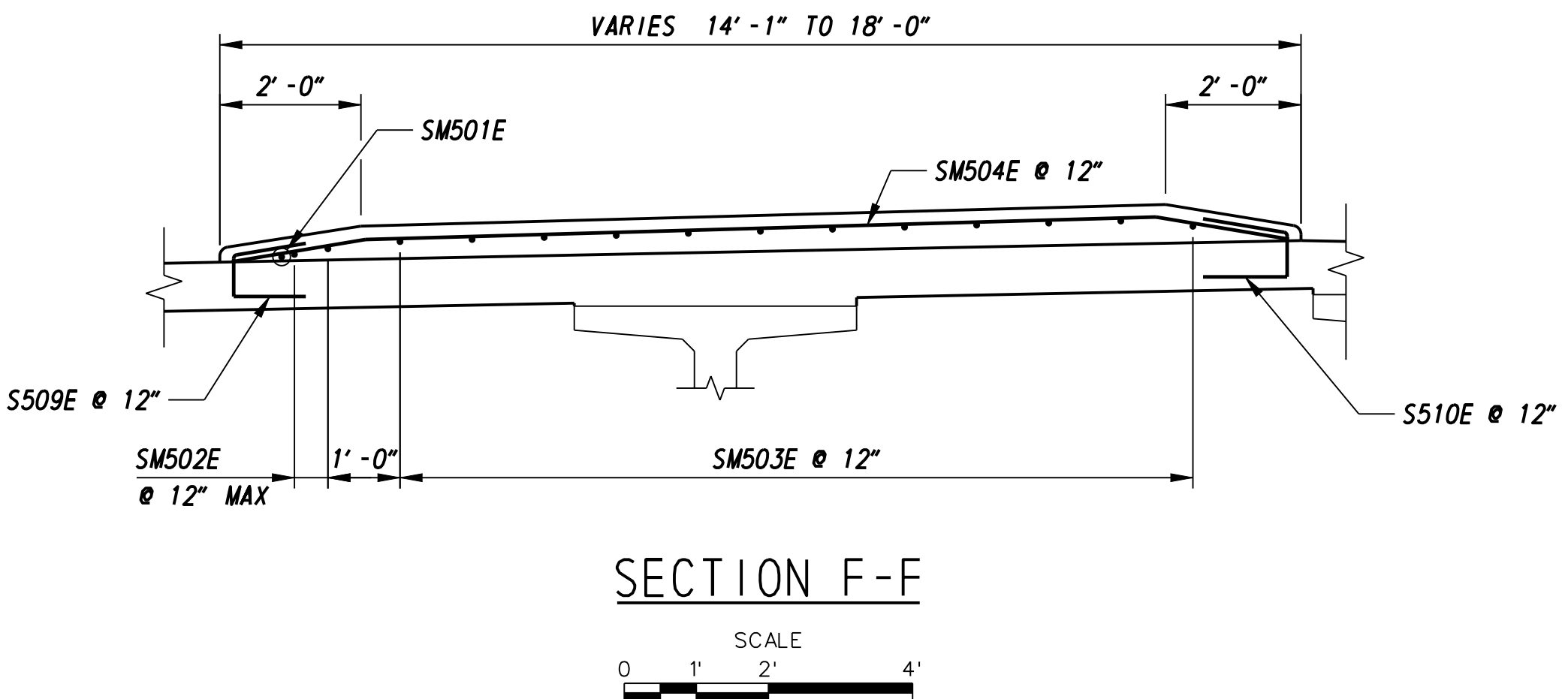
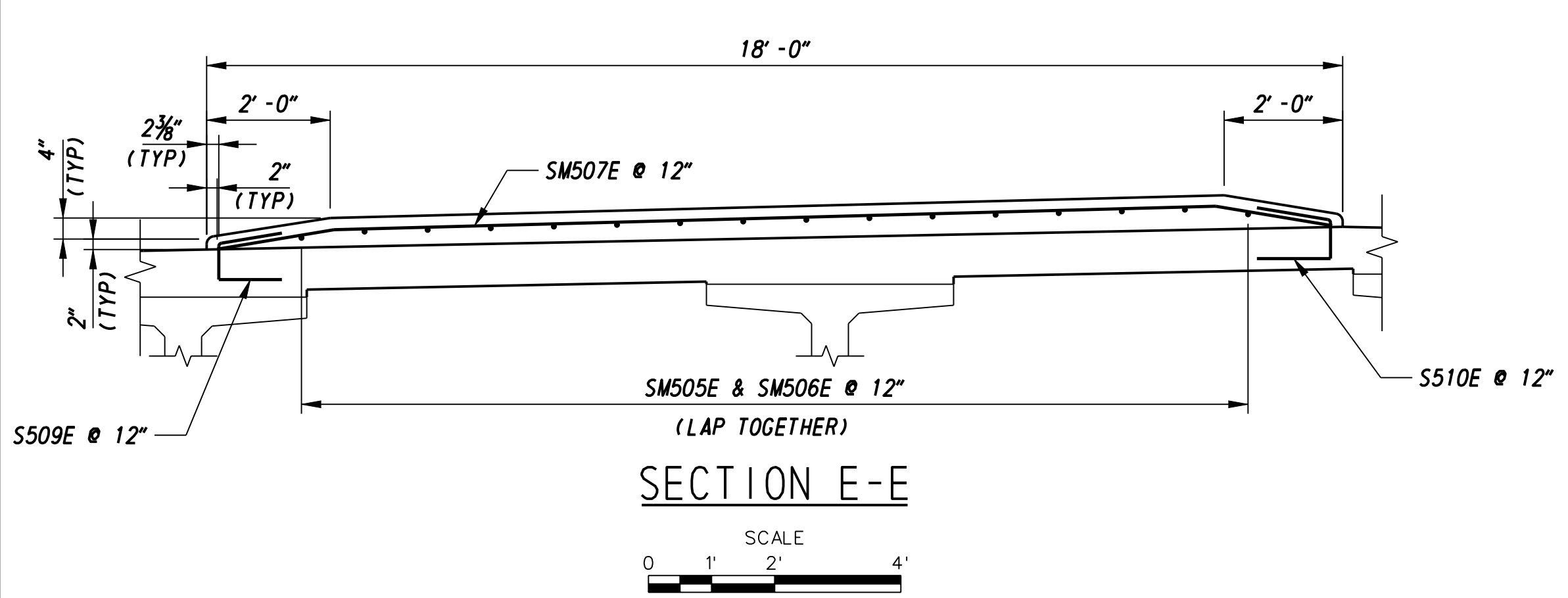


CONDUIT DETAILS AT ENDS OF BRIDGE



- NOTES:**
1. CONDUIT TO EXIT BARRIER ON OUTSIDE OF GUARDRAIL POST LINE TO AVOID DAMAGE TO CONDUIT.
 2. PROVIDE GALVANIZED STEEL OR NON-METALLIC EXPANSION AND DEFLECTION JOINT FITTINGS THROUGH JOINTS AT ENDS OF BRIDGE PARAPET. 2" CONDUITS, FITTINGS, JUNCTION BOX, EXPANSION AND DEFLECTION JOINT FITTINGS, SHALL BE INCIDENTAL TO ITEM 602017. MATERIAL AND CONSTRUCTION METHODS SHALL MEET THE REQUIREMENTS AS APPLICABLE OF SECTION 745, AND BE APPROVED BY THE ENGINEER. PROVIDE SLEEVE OF SUFFICIENT LENGTH TO ACCOMMODATE MAXIMUM EXPANSION AND CONTRACTION OF EXPANSION JOINTS.
 3. 1" CONDUIT, DRAINAGE CONDUIT AND FITTINGS SHALL BE INCIDENTAL TO ITEM 602013.
 4. SLIP FORMING OF CAST IN PLACE CONCRETE PARAPET WILL NOT BE ALLOWED ON THIS PROJECT.
 5. REFER TO DECK PLAN AND POURING SEQUENCE FOR SECTION AND VIEW MARKER LOCATIONS.

- REFERENCES:**
- | | |
|--------------------------------|------------|
| PROJECT NOTES | BR1-482-03 |
| DECK PLAN AND POURING SEQUENCE | BR1-482-23 |
| RE INFORCEMENT BAR SCHEDULE | BR1-482-33 |



ADDENDUMS / REVISIONS

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	CNN
COUNTY	CHECKED BY:	WMM/GCI
NEW CASTLE		

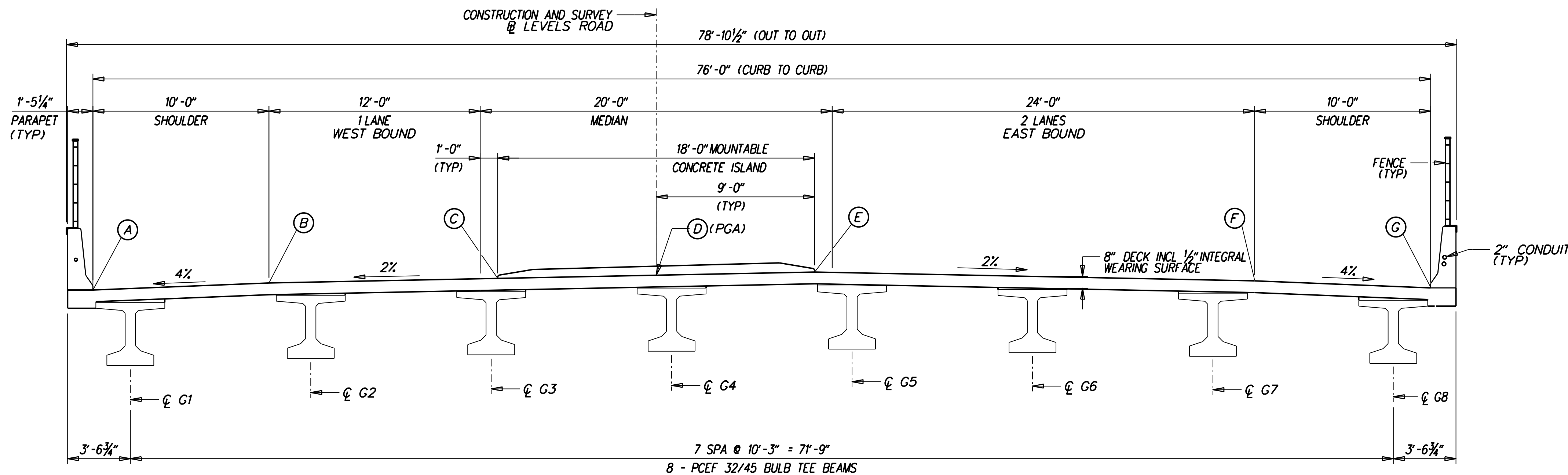
DECK AND PARAPET DETAILS	SHEET NO.	317
	TOTAL SHTS.	850

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FINISHED GRADE ELEVATIONS							
STATION	(A) (GUTTER)	(B) (LANE)	(C) (ISLAND)	(D) (PGA)	(E) (ISLAND)	(F) (LANE)	(G) (GUTTER)
1296+00.00	81.42	81.82	82.08	82.26	82.44	81.94	81.54
1296+10.00	81.57	81.97	82.23	82.41	82.59	82.09	81.69
1296+20.00	81.69	82.09	82.35	82.53	82.71	82.21	81.81
1296+30.00	81.79	82.19	82.45	82.63	82.81	82.31	81.91
1296+40.00	81.87	82.27	82.53	82.71	82.89	82.39	81.99
1296+50.00	81.93	82.33	82.59	82.77	82.95	82.45	82.05
1296+60.00	81.97	82.37	82.63	82.81	82.99	82.49	82.09
1296+70.00	81.98	82.38	82.64	82.82	83.00	82.50	82.10
1296+80.00	81.98	82.38	82.64	82.82	83.00	82.50	82.10
1296+90.00	81.95	82.35	82.61	82.79	82.97	82.47	82.07
1297+00.00	81.91	82.31	82.57	82.75	82.93	82.43	82.03
1297+10.00	81.84	82.24	82.50	82.68	82.86	82.36	81.96
1297+20.00	81.75	82.15	82.41	82.59	82.77	82.27	81.87
1297+30.00	81.65	82.05	82.31	82.49	82.67	82.17	81.77
1297+40.00	81.52	81.92	82.18	82.36	82.54	82.04	81.64

FINISHED DECK ELEVATIONS OVER C BEAM									
LOCATION	STATION	G1	G2	G3	G4	G5	G6	G7	G8
CL BRG ABUT 1	1295+95.73	81.44	81.81	82.01	82.22	82.34	82.13	81.93	81.56
0.1 L	1296+02.83	81.55	81.92	82.12	82.33	82.45	82.24	82.04	81.67
0.2 L	1296+09.93	81.65	82.02	82.22	82.43	82.55	82.34	82.14	81.77
0.3 L	1296+17.03	81.74	82.10	82.31	82.51	82.63	82.43	82.22	81.86
0.4 L	1296+24.13	81.82	82.18	82.39	82.59	82.71	82.51	82.30	81.94
0.5 L	1296+31.23	81.89	82.25	82.45	82.66	82.78	82.57	82.37	82.01
0.6 L	1296+38.33	81.94	82.31	82.51	82.72	82.84	82.63	82.43	82.06
0.7 L	1296+45.43	81.99	82.35	82.56	82.76	82.88	82.68	82.47	82.11
0.8 L	1296+52.53	82.03	82.39	82.59	82.80	82.92	82.71	82.51	82.15
0.9 L	1296+59.63	82.05	82.41	82.62	82.82	82.94	82.74	82.53	82.17
CL BRG PIER (BACK)	1296+66.73	82.07	82.43	82.63	82.84	82.96	82.75	82.55	82.19
CL BRG PIER (AHD)	1296+68.73	82.07	82.43	82.64	82.84	82.96	82.76	82.55	82.19
0.1 L	1296+75.83	82.07	82.43	82.64	82.84	82.96	82.76	82.55	82.19
0.2 L	1296+82.93	82.06	82.42	82.63	82.83	82.95	82.75	82.54	82.18
0.3 L	1296+90.03	82.04	82.40	82.61	82.81	82.93	82.73	82.52	82.16
0.4 L	1296+97.13	82.01	82.37	82.58	82.78	82.90	82.70	82.49	82.13
0.5 L	1297+04.23	81.97	82.33	82.54	82.74	82.86	82.66	82.45	82.09
0.6 L	1297+11.33	81.92	82.28	82.48	82.69	82.81	82.60	82.40	82.04
0.7 L	1297+18.43	81.86	82.22	82.42	82.63	82.75	82.54	82.34	81.98
0.8 L	1297+25.53	81.78	82.15	82.35	82.56	82.68	82.47	82.27	81.90
0.9 L	1297+32.63	81.70	82.06	82.27	82.47	82.59	82.39	82.18	81.82
CL BRG ABUT 2	1297+39.73	81.61	81.97	82.17	82.38	82.50	82.29	82.09	81.73

FINISHED DECK ELEVATIONS OVER C BRG			
LOCATION	STATION	OFFSET	ELEV
CL BRG ABUT 1			
(A) (GUTTER)	1295+95.73	-32.00	81.36
(B) (LANE)	1295+95.73	-22.00	81.76
(C) (ISLAND)	1295+95.73	-9.00	82.02
(D) (PGL)	1295+95.73	0.00	82.20
(E) (ISLAND)	1295+95.73	9.00	82.38
(F) (LANE)	1295+95.73	34.00	81.88
(G) (GUTTER)	1295+95.73	44.00	81.48
CL BRG PIER (BACK)			
(A) (GUTTER)	1296+66.73	-32.00	81.98
(B) (LANE)	1296+66.73	-22.00	82.38
(C) (ISLAND)	1296+66.73	-9.00	82.64
(D) (PGL)	1296+66.73	0.00	82.82
(E) (ISLAND)	1296+66.73	9.00	83.00
(F) (LANE)	1296+66.73	34.00	82.50
(G) (GUTTER)	1296+66.73	44.00	82.10
CL BRG PIER (AHD)			
(A) (GUTTER)	1296+68.73	-32.00	81.98
(B) (LANE)	1296+68.73	-22.00	82.38
(C) (ISLAND)	1296+68.73	-9.00	82.64
(D) (PGL)	1296+68.73	0.00	82.82
(E) (ISLAND)	1296+68.73	9.00	83.00
(F) (LANE)	1296+68.73	34.00	82.50
(G) (GUTTER)	1296+68.73	44.00	82.10
CL BRG ABUT 2			
(A) (GUTTER)	1297+39.73	-32.00	81.52
(B) (LANE)	1297+39.73	-22.00	81.92
(C) (ISLAND)	1297+39.73	-9.00	82.18
(D) (PGL)	1297+39.73	0.00	82.36
(E) (ISLAND)	1297+39.73	9.00	82.54
(F) (LANE)	1297+39.73	34.00	82.04
(G) (GUTTER)	1297+39.73	44.00	81.64



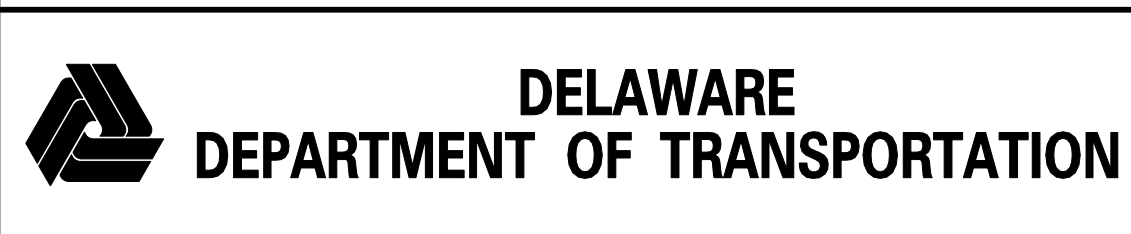
TYPICAL DECK SECTION
LOOKING STATION AHEAD

REFERENCES:

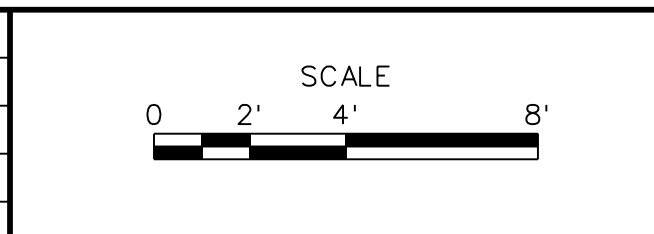
- PROJECT NOTES BR1-482-03
- FRAMING PLAN BR1-482-19
- DECK PLAN & POURING SEQUENCE BR1-482-23

BR1-482-27

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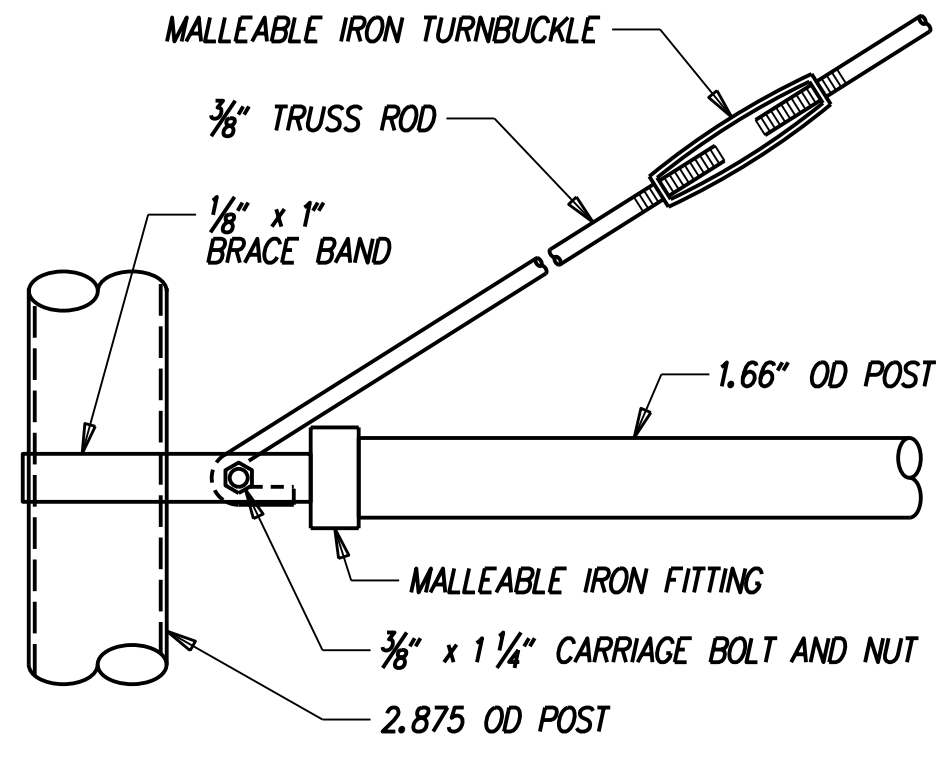
ADDENDUMS / REVISIONS



US 301
MARYLAND STATE LINE
TO LEVELS ROAD

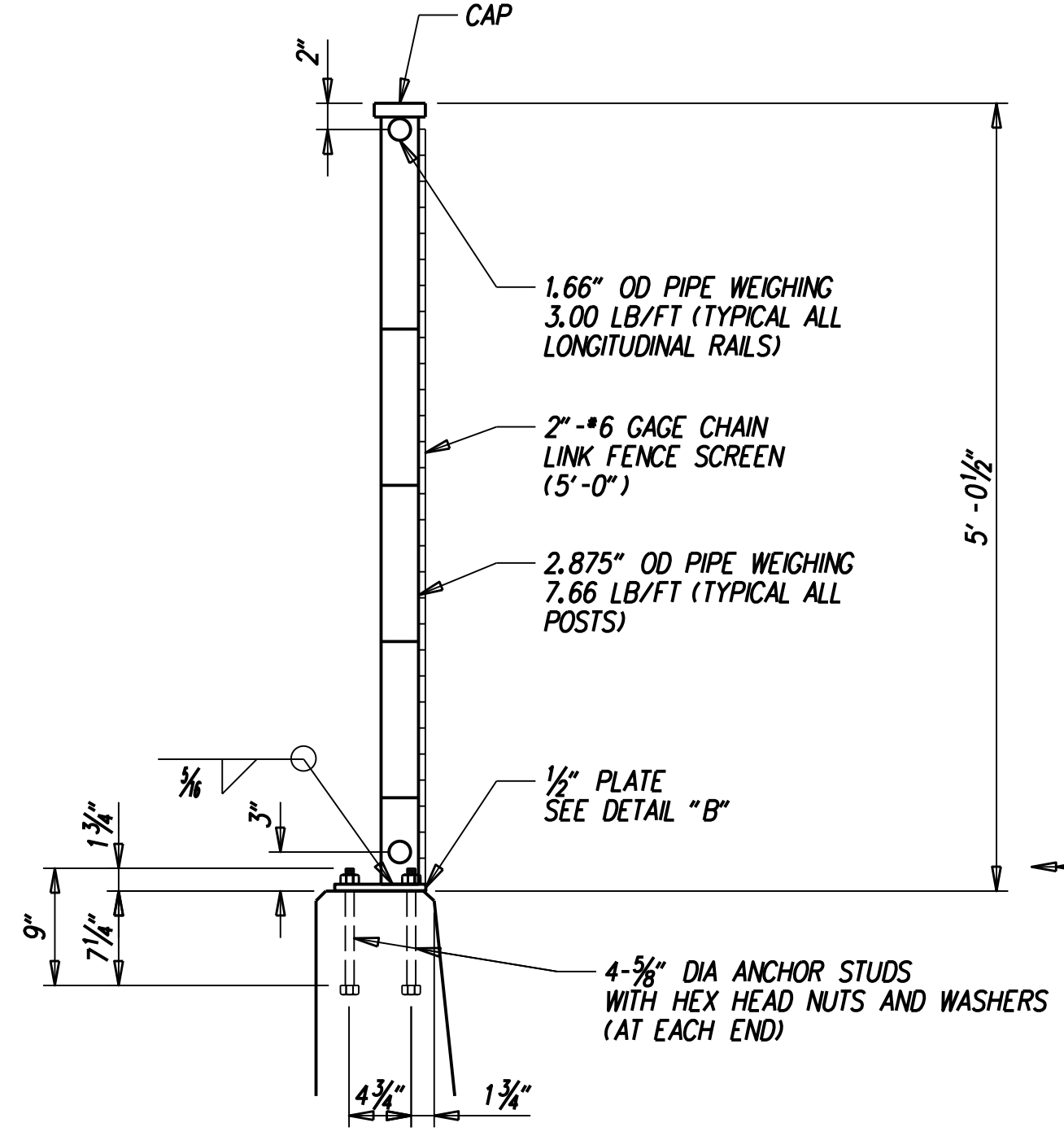
CONTRACT T200811301	BRIDGE NO. 1-482
COUNTY NEW CASTLE	DESIGNED BY: ADL CHECKED BY: GCI

DECK ELEVATIONS	SHEET NO. 318
	TOTAL SHTS. 850



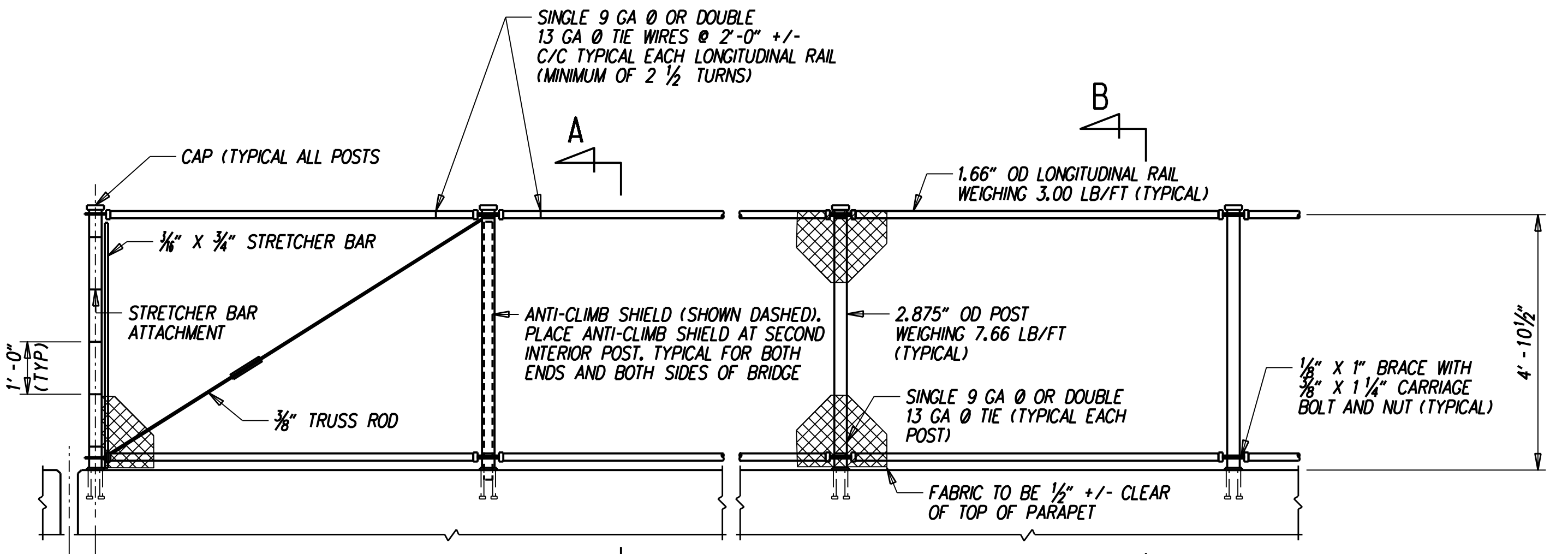
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NTS



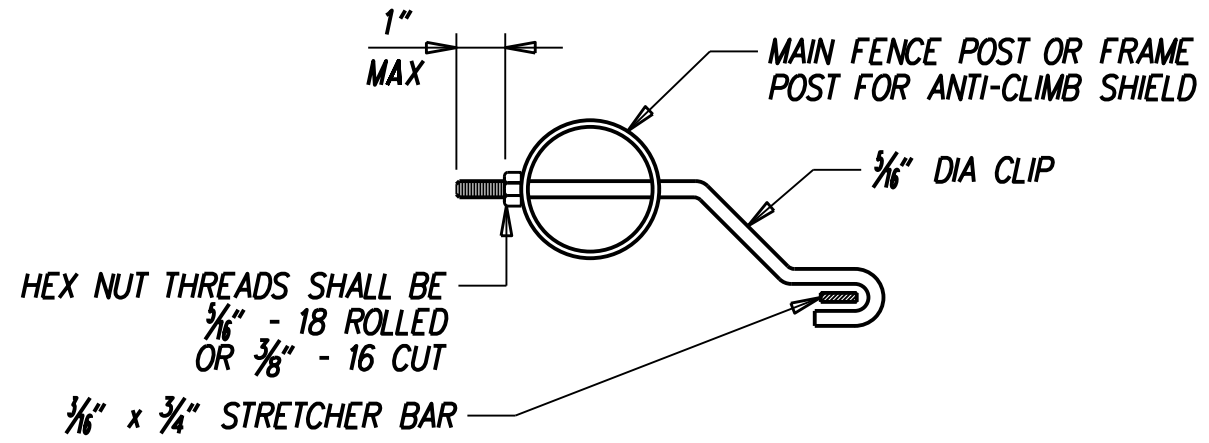
SECTION B-B

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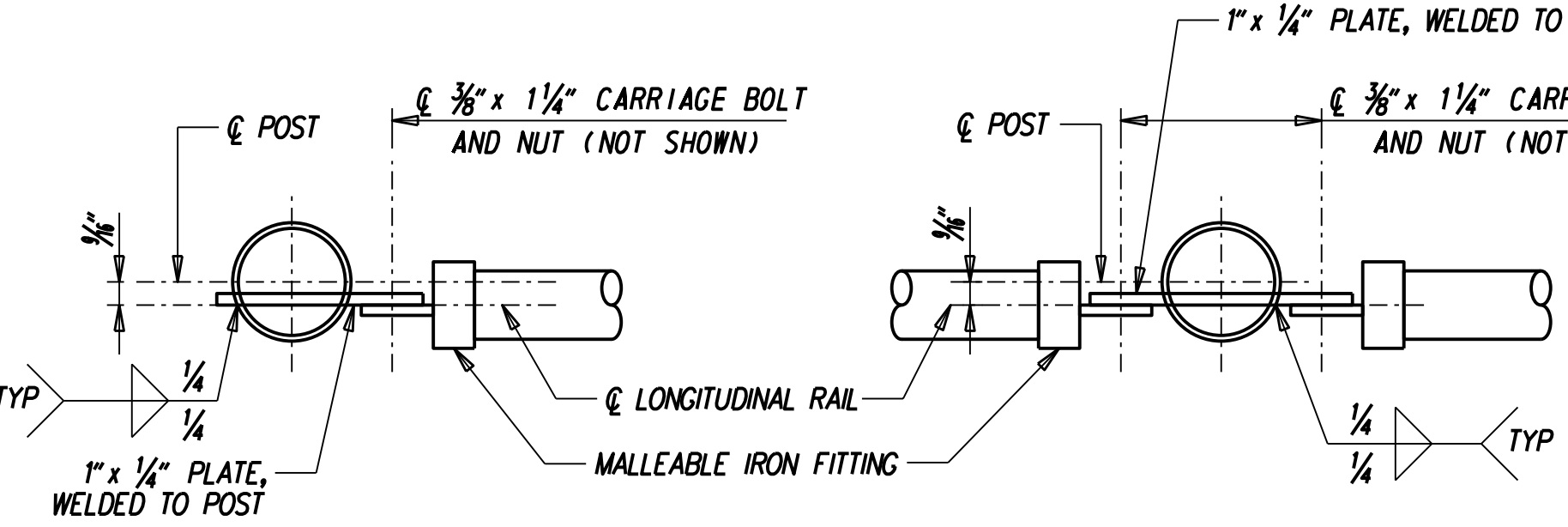
FENCE ELEVATION

NTS



STRETCHER BAR ATTACHMENT

NTS



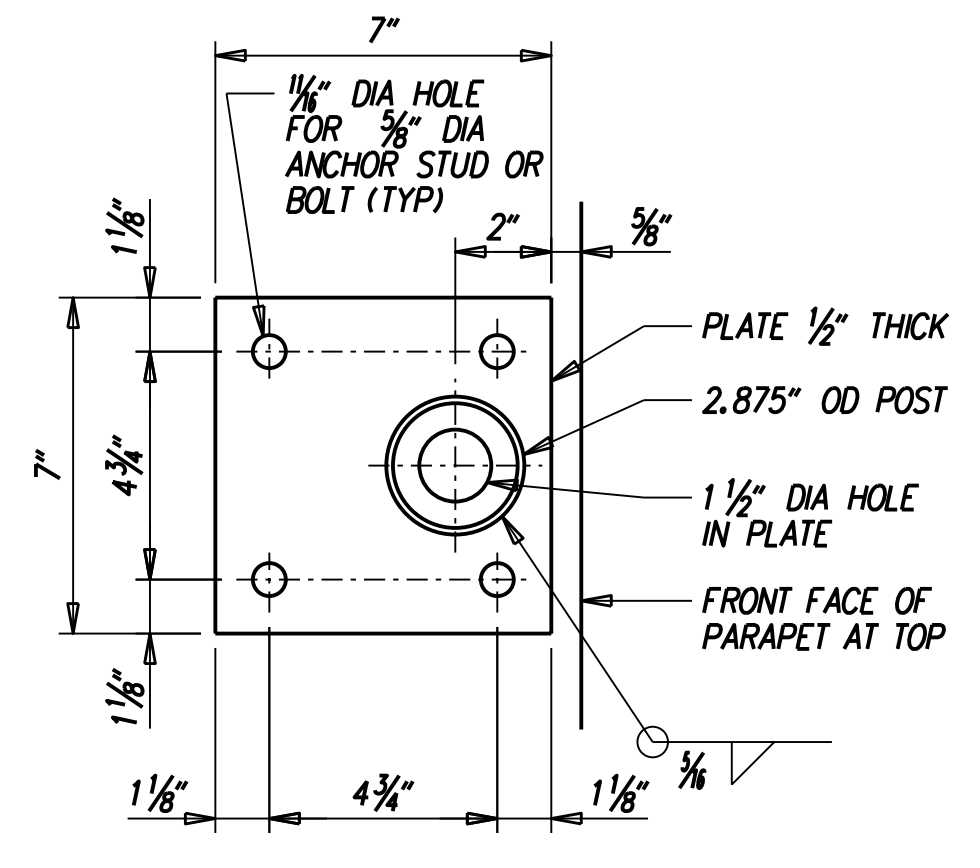
END POST

NOTE: SCREEN NOT SHOWN

INTERMEDIATE POST

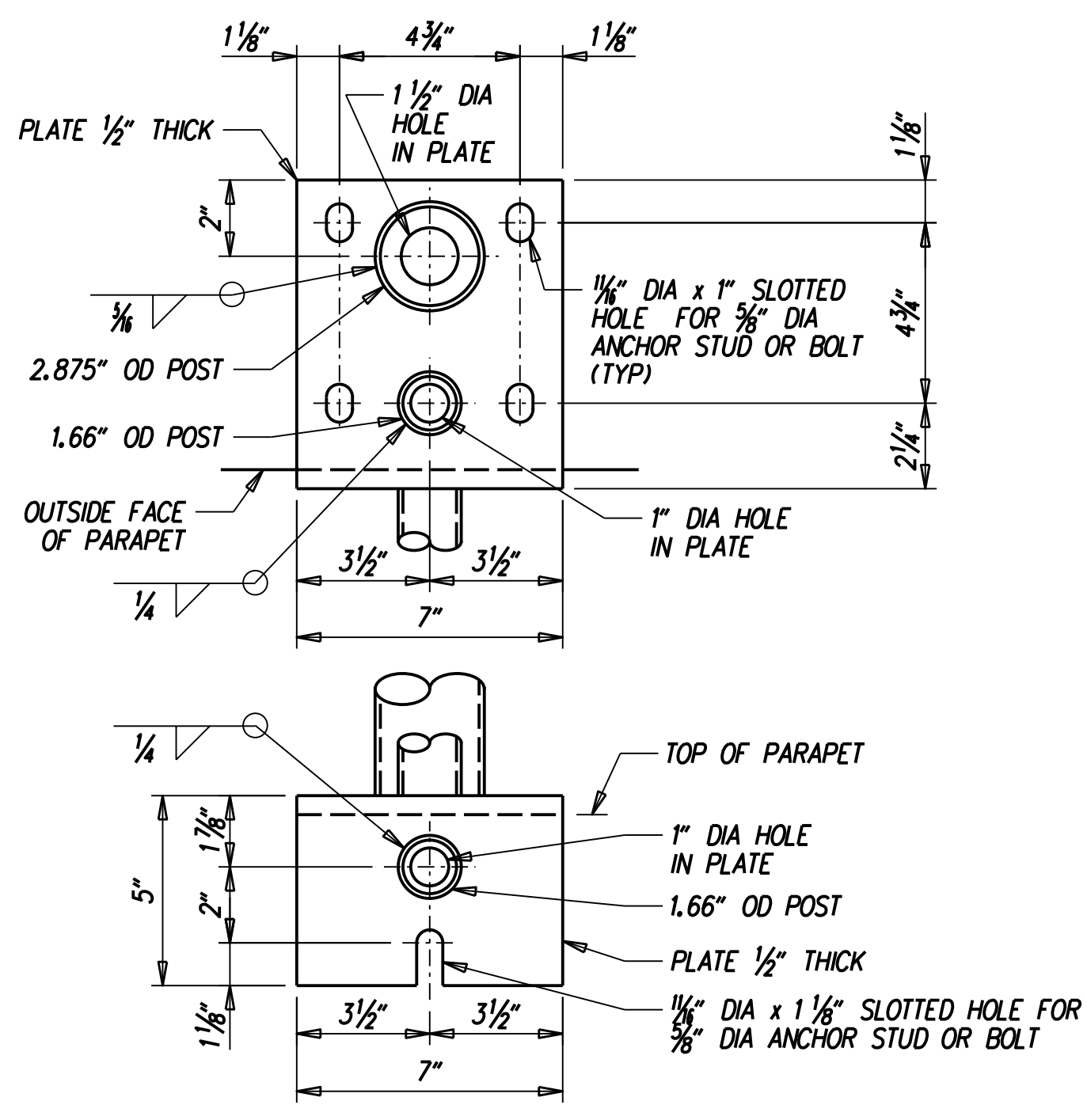
TOP LONGITUDINAL RAIL-POST ATTACHMENT

NTS



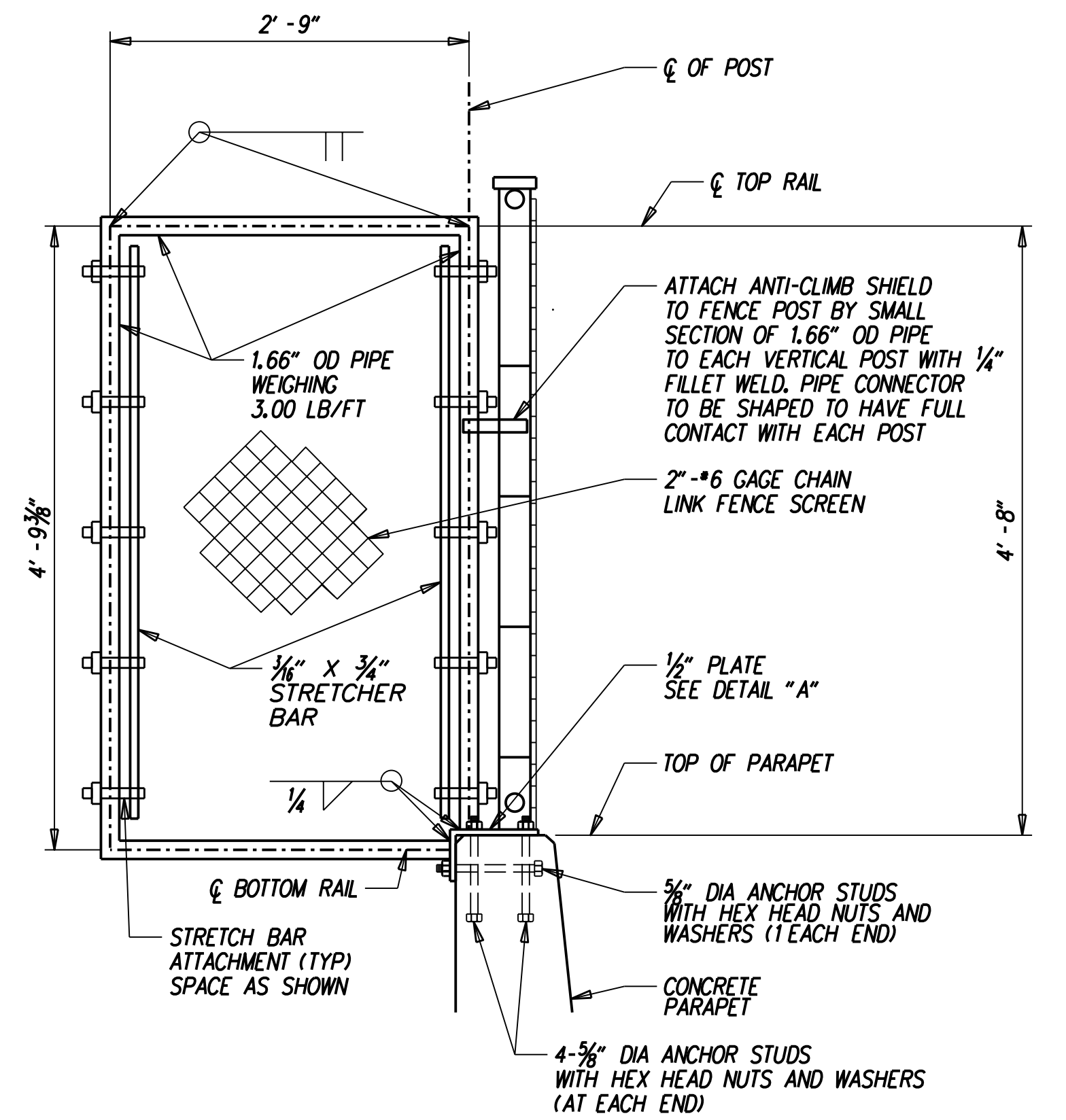
DETAIL "B"

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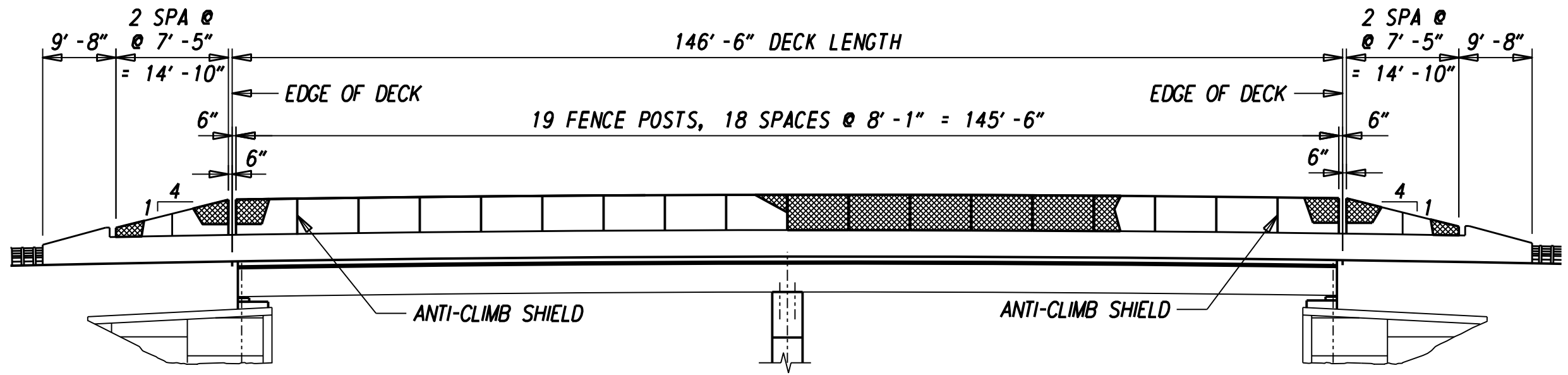
DETAIL "A"

NTS



SECTION A-A

NTS



FENCE LOCATION ELEVATION

NTS

NOTES:

- MATERIALS:**
CHAIN-LINK FENCE SHALL BE EITHER GALVANIZED STEEL FABRIC FENCE OR ALUMINUM-COATED STEEL FABRIC FENCE, CONFORMING TO THE APPROPRIATE REQUIREMENTS OF AASHTO M 181, SECTION 727.11B OF THE STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS.
- TUBULAR STEEL POSTS, BRACES, FITTINGS AND HARDWARE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 281 AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111, SECTION 727 OF THE STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS.
- ALL BASE PLATES SHALL BE STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M 270, GRADE 36.
- ANCHOR STUDS OR ANCHOR BOLTS:**
MATERIAL FOR ANCHOR STUDS OR ANCHOR BOLTS SHALL MEET ASTM A276, TYPE 430 OR TYPE 304 STAINLESS STEEL ANNEALED, HOT-FINISHED, ULTIMATE STRENGTH 70,000 PSI MIN., 20% MIN. ELONGATION. THREADS MAY BE ROLLED OR CUT.
- WORKING DRAWINGS:**
CONTRACTOR SHALL SUBMIT WORKING DRAWINGS FOR THE FENCE IN ACCORDANCE WITH PROJECT SPECIAL PROVISIONS.
- CONSTRUCTION REQUIREMENTS:**
ALL LONGITUDINAL RAILS SHALL BE PARALLEL TO TOP OF PARAPET.
ALL POSTS SHALL BE SET NORMAL TO TOP OF PARAPET.
THE CHAIN LINK FENCE SHALL BE TRUE TO LINE, TAUT, TIGHT FIT TO TOP OF PARAPET (1/2" MAXIMUM GAP) AND SHALL COMPLY WITH THE BEST PRACTICE FOR FENCE CONSTRUCTION OF THIS TYPE.
POST AND RAILS SHALL BE PERMANENTLY POSITIONED BEFORE FABRIC IS PLACED.
- PAYMENT:**
ANY DEFECTS UNCOVERED BY THE INSPECTION OF WELDS ON BASE PLATES AND POLES SHALL BE REPAIRED OR REPLACED BY NEW MEMBERS AT THE SOLE EXPENSE OF THE CONTRACTOR.
- THIS CHAIN LINK FENCE INCLUDING ANTI-CLIMB SHIELD ITEMS WILL BE PAID UNDER ITEM 727507-BRIDGE SAFETY FENCE.

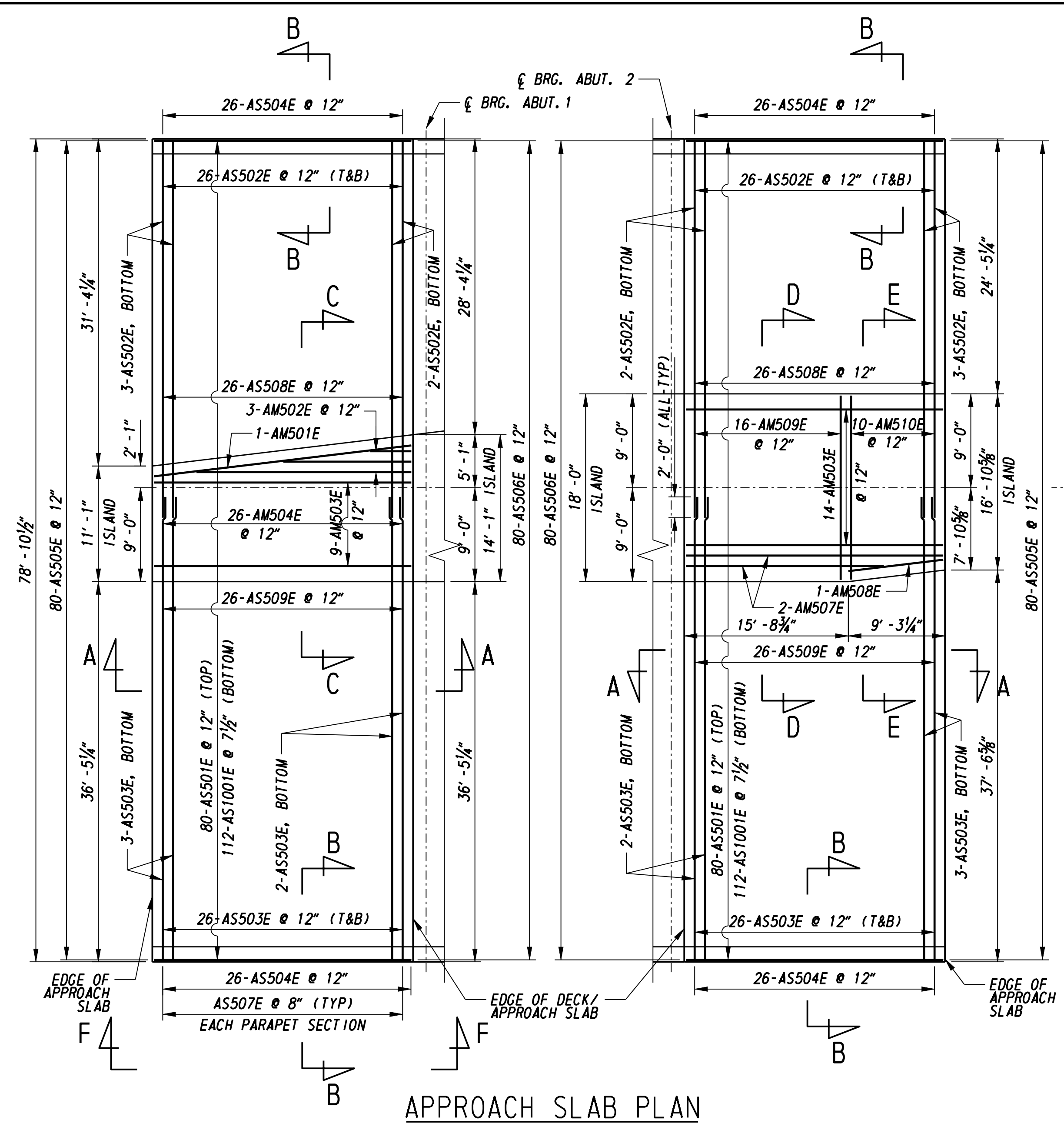
REFERENCES:

- PROJECT NOTES BR1-482-03
 GEOMETRIC LAYOUT BR1-482-04
 DECK PLAN BR1-482-23
 DECK SECTIONS BR1-482-24 AND BR1-482-25
 PARAPET DETAILS BR1-482-26

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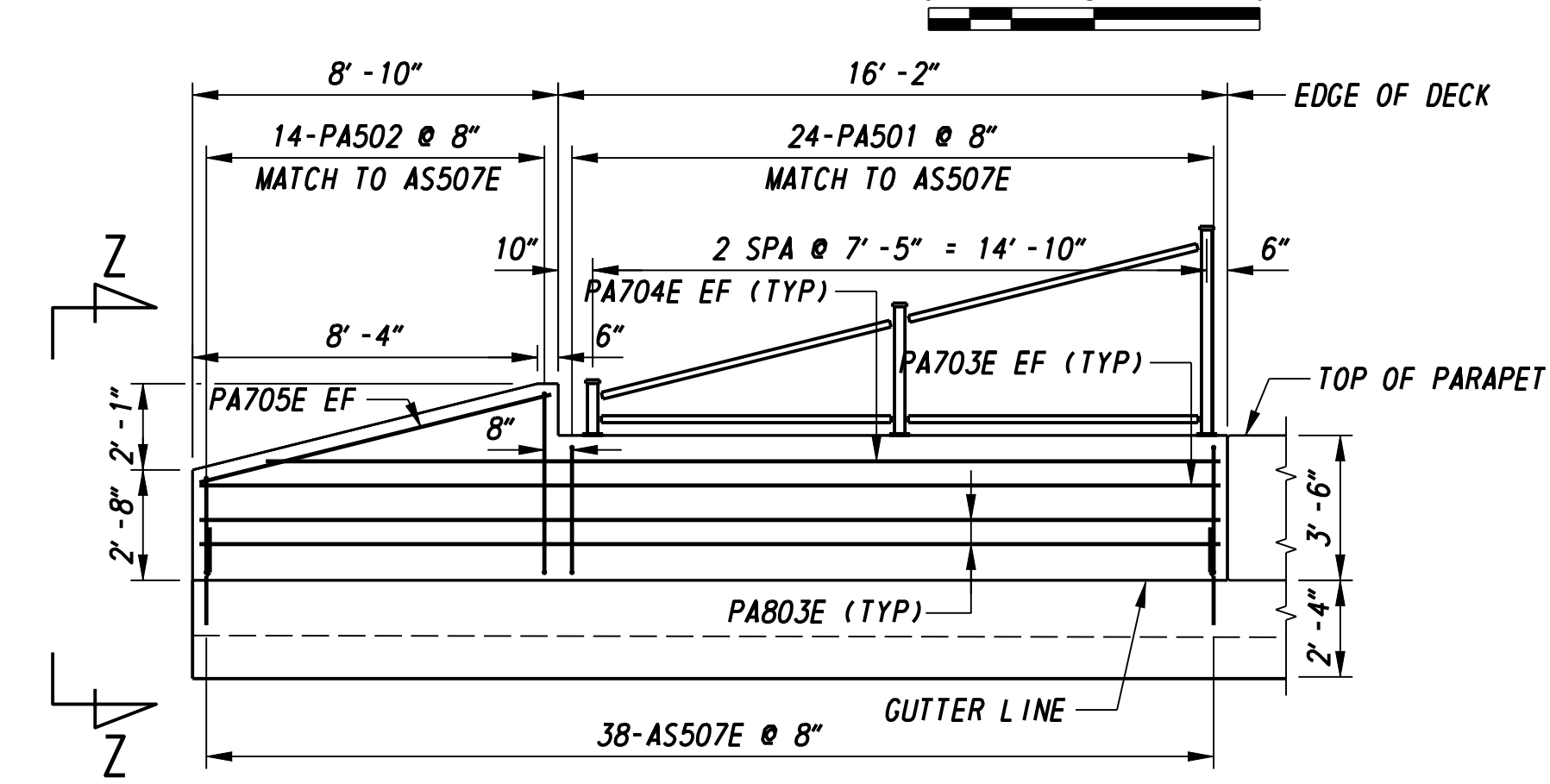
<p>DELAWARE DEPARTMENT OF TRANSPORTATION</p>	ADDENDUMS / REVISIONS		<p>US 301 MARYLAND STATE LINE TO LEVELS ROAD</p>	CONTRACT	BRIDGE NO.	<p>1-482</p>	<p>PARAPET SAFETY FENCE ELEVATION & DETAILS</p>	SHEET NO.
	T200811301	DESIGNED BY: ADL		SHEET NO.				
	COUNTY	CHECKED BY: GCI		TOTAL SHTS.				
	NEW CASTLE			850				

BR1-482-28



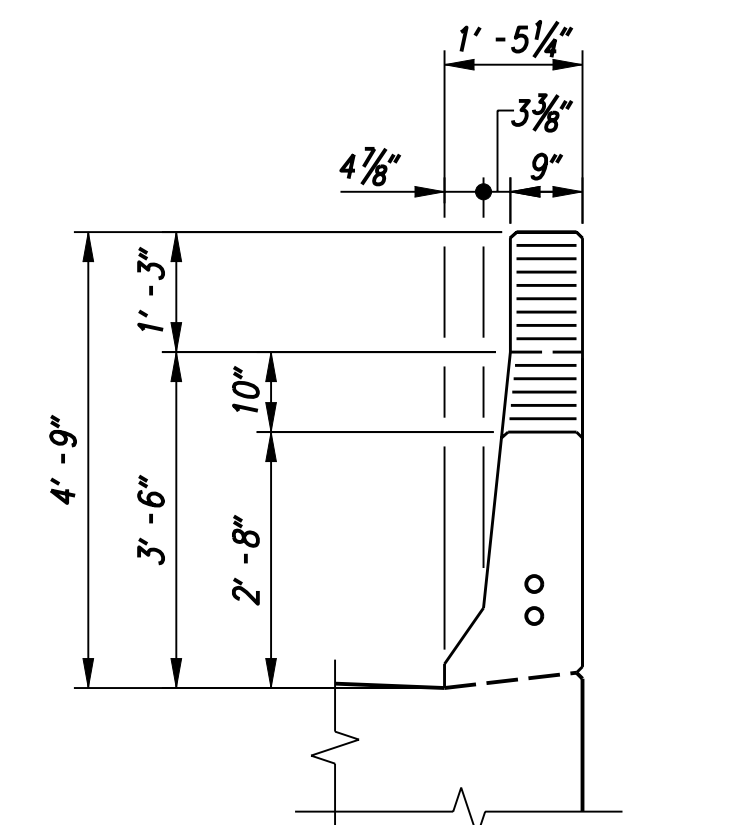
APPROACH SLAB PLAN

SCALE
0 4' 8' 16'



VIEW F-F
(TYP @ ALL APPROACH SLAB BARRIERS)

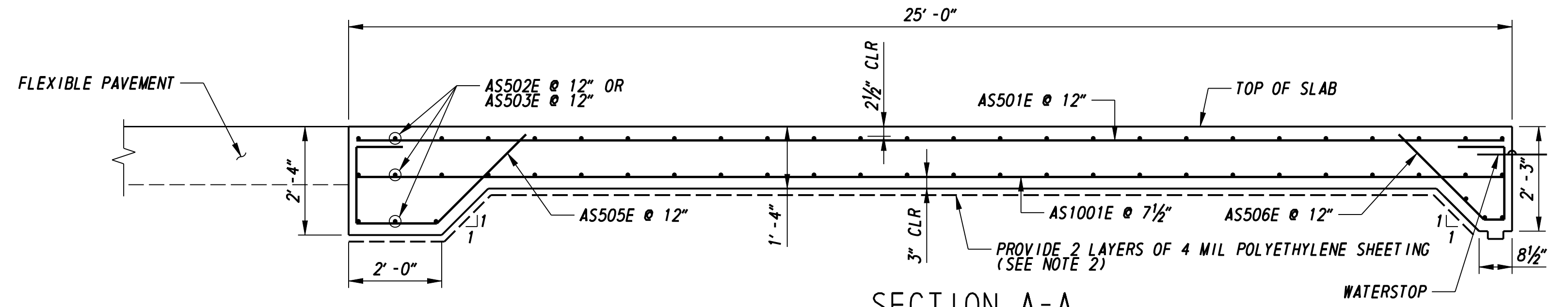
SCALE
0 2' 4' 8'



NOTE: REINFORCEMENT NOT SHOWN FOR CLARITY

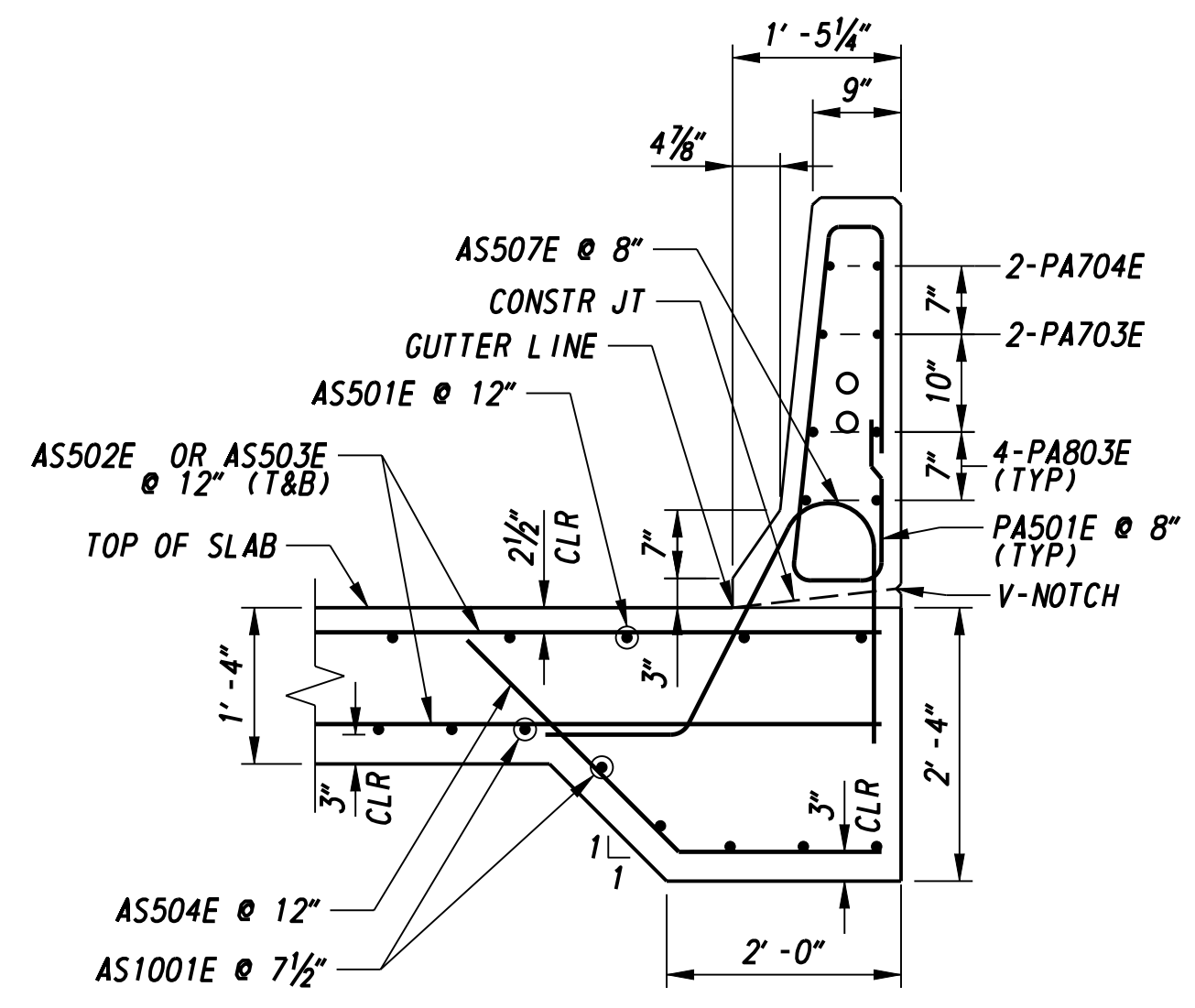
SECTION Z-Z

SCALE
0 1' 2' 3'



SECTION A-A

SCALE
0 1' 2' 4'



SECTION B-B

SCALE
0 1' 2' 3'

NOTES:

1. SEE APPROACH SLAB DETAILS FOR SECTIONS NOT SHOWN.
2. POLYETHYLENE SHEETING SHALL BE INCIDENTAL TO ITEM 602014.

REFERENCES:

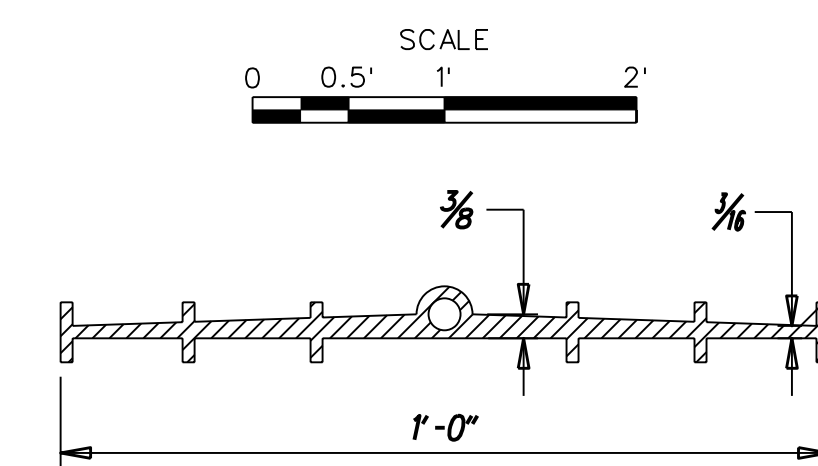
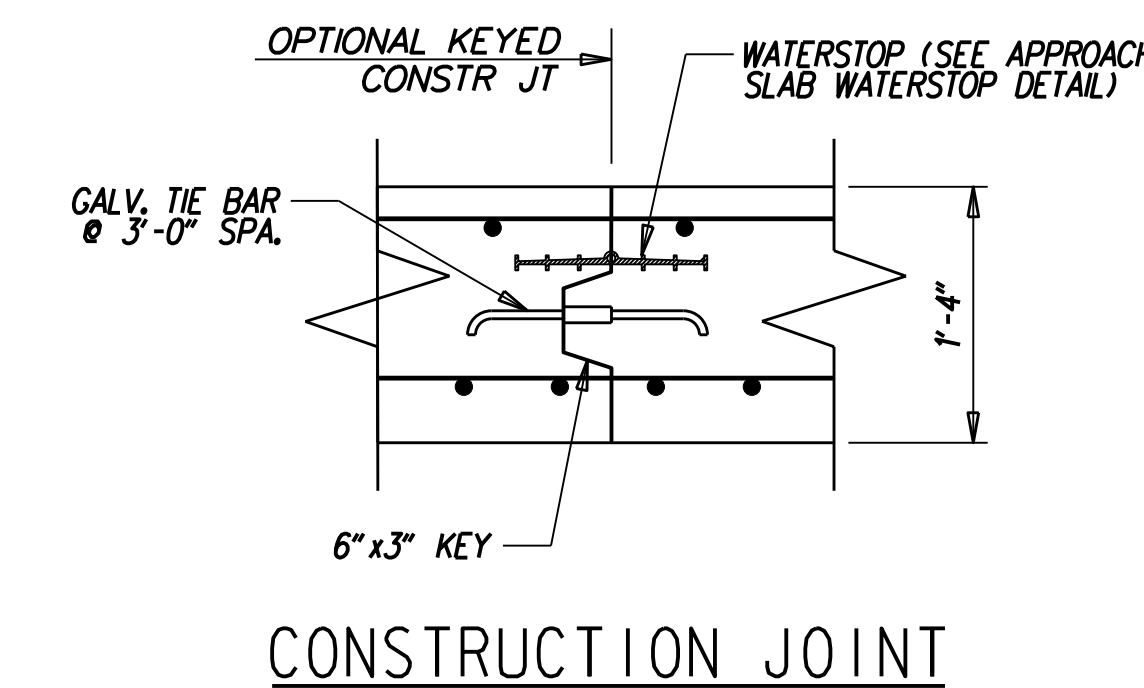
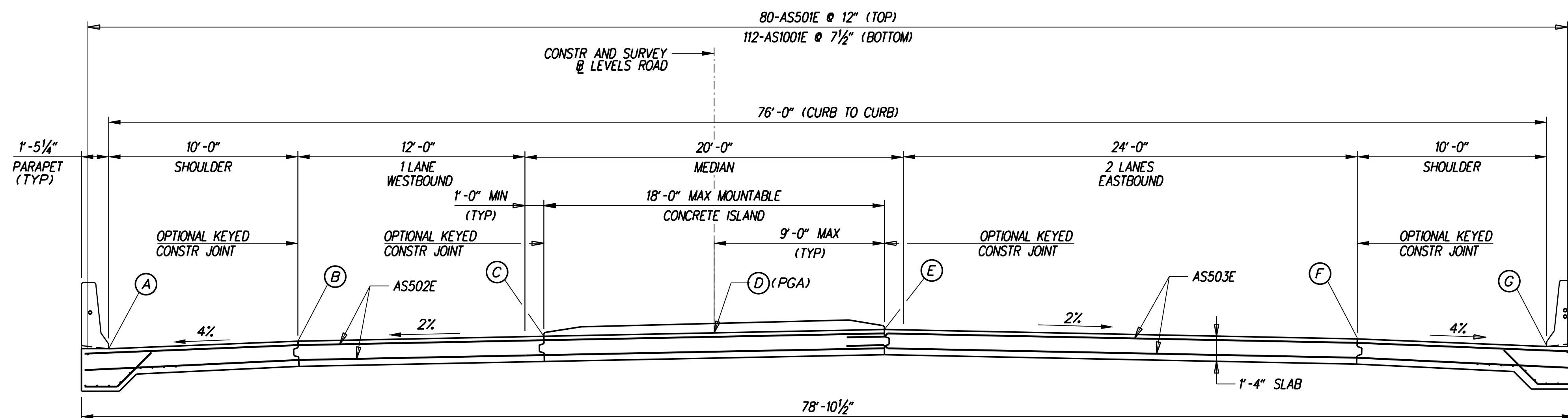
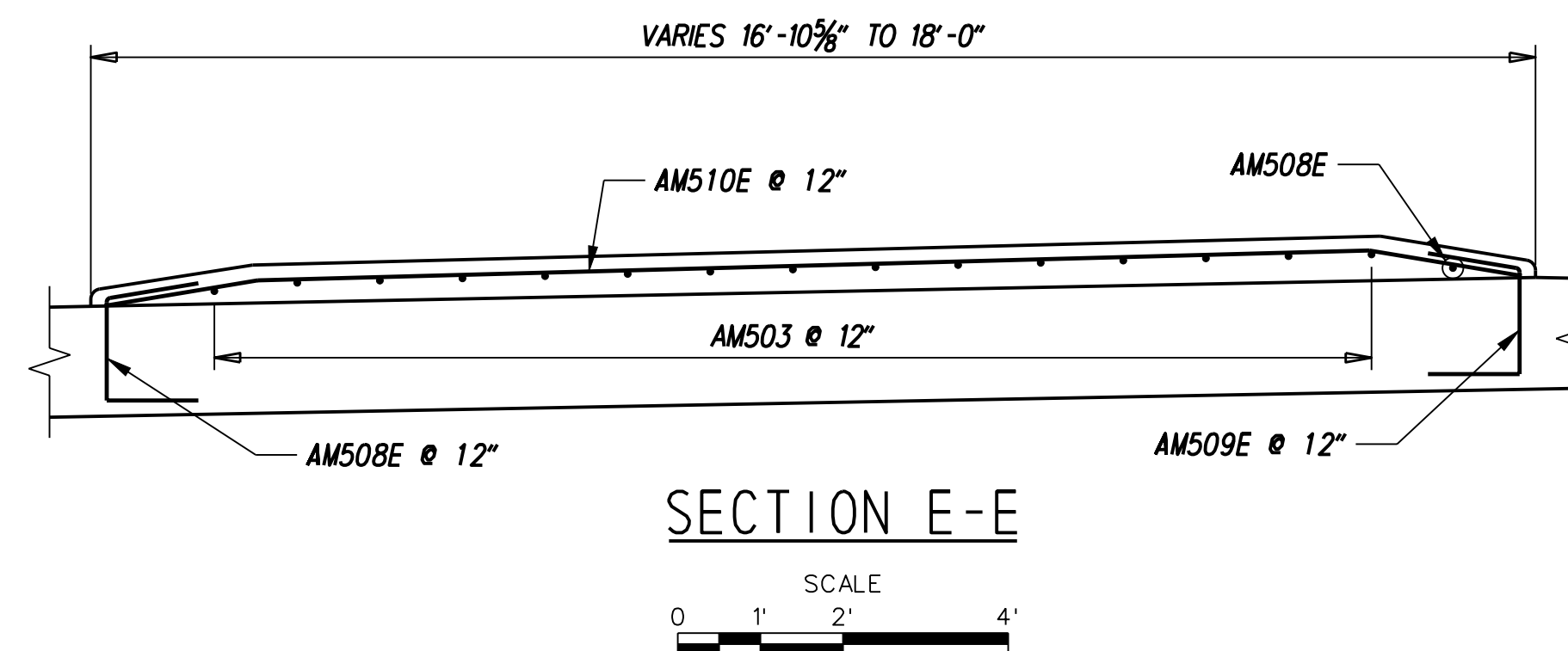
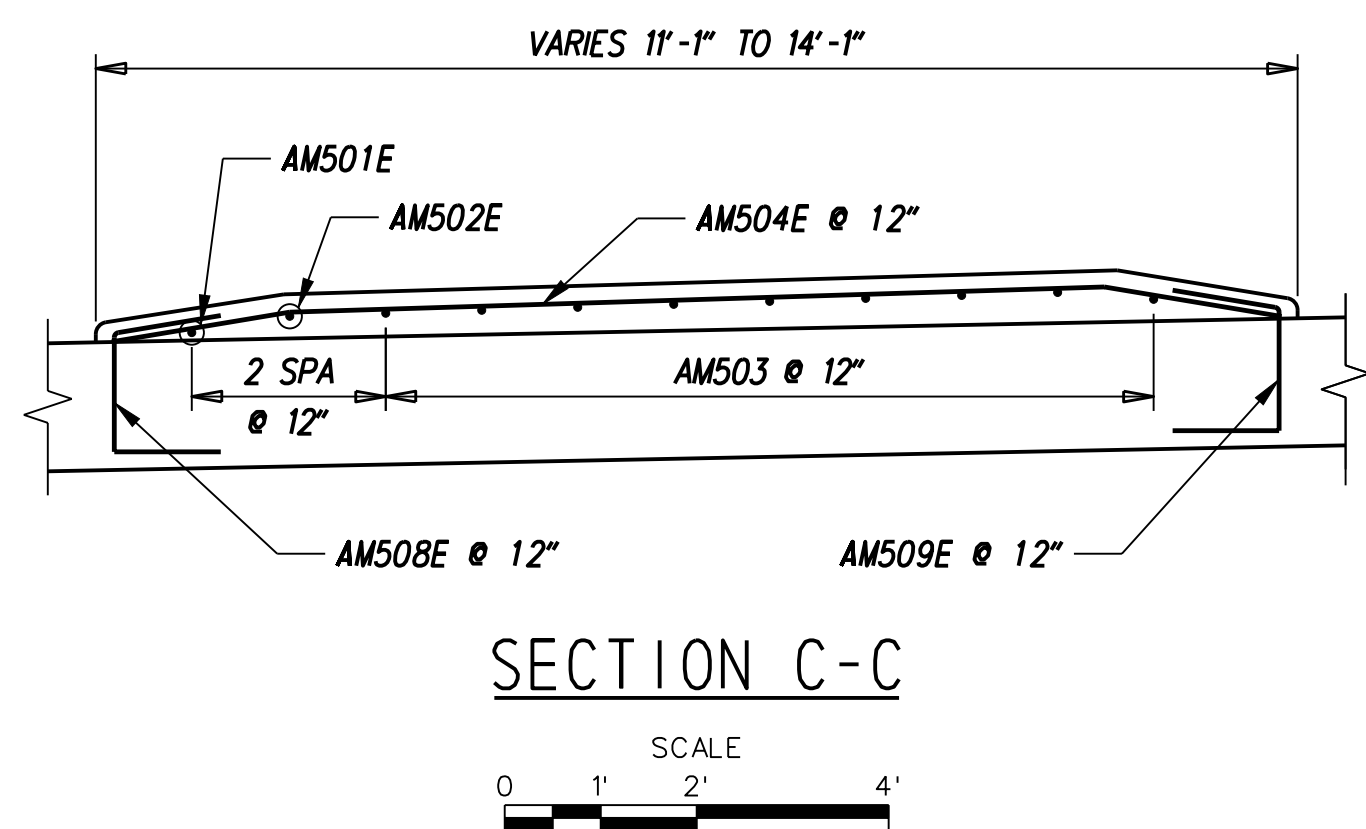
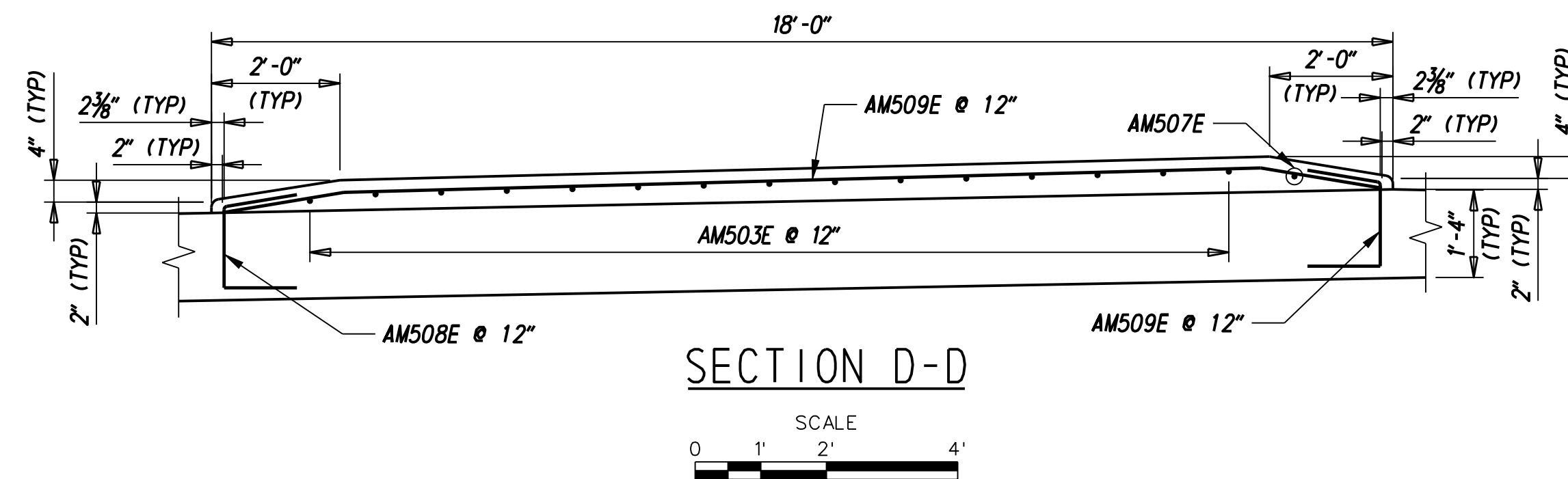
- PROJECT NOTES
WATERSTOP AND JOINT DETAILS
DECK PLAN
APPROACH SLAB DETAILS
REINFORCEMENT BAR SCHEDULE
- BR1-482-03
BR1-482-21
BR1-482-23
BR1-482-30
BR1-482-34

J:\2008 PROJECTS\E3X34801\700CADD\750AET\BRIDGE BR2-9\AS_301AET_BR2-9_001.DGN

ADDENDUMS / REVISIONS

CONTRACT T200811301	BRIDGE NO. 1-482
COUNTY NEW CASTLE	DESIGNED BY: WMM CHECKED BY: ADL

FINISHED APPROACH SLAB & ROADWAY ELEVATIONS							
STATION	(A)	(B)	(C)	(D) (PGA)	(E)	(F)	(G)
AT ABUTMENT 1							
1295+50.00	80.40	80.80	81.06	81.24	81.42	80.92	80.52
1295+60.00	80.64	81.04	81.30	81.48	81.66	81.16	80.76
1295+69.48	80.86	81.26	81.52	81.70	81.88	81.38	80.98
1295+70.00	80.87	81.27	81.53	81.71	81.89	81.39	80.99
1295+80.00	81.08	81.48	81.74	81.92	82.10	81.60	81.20
1295+90.00	81.26	81.66	81.92	82.10	82.28	81.78	81.38
AT ABUTMENT 2							
1297+50.00	81.37	81.77	82.03	82.21	82.39	81.89	81.49
1297+60.00	81.20	81.60	81.86	82.04	82.22	81.72	81.32
1297+65.98	81.08	81.48	81.74	81.92	82.10	81.60	81.20
1297+70.00	81.00	81.40	81.66	81.84	82.02	81.52	81.12
1297+80.00	80.79	81.19	81.45	81.63	81.81	81.31	80.91



NOTES:
SEE APPROACH SLAB PLAN AND SECTIONS FOR LOCATION OF SECTION MARKERS.

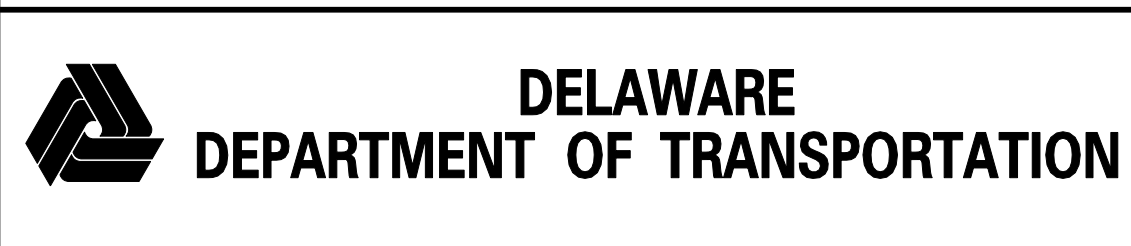
TYPICAL APPROACH SLAB SECTION
LOOKING STATION AHEAD

REFERENCES:

- PROJECT NOTES BR1-482-03
- APPROACH SLAB PLAN AND SECTIONS BR1-482-29
- REINFORCEMENT BAR SCHEDULE BR1-482-34

APPROACH SLAB WATERSTOP DETAIL
(NOT TO SCALE)

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ADDENDUMS / REVISIONS

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	WMM
COUNTY	CHECKED BY:	ADL
NEW CASTLE		

APPROACH SLAB DETAILS

BR1-482-30	
SHEET NO.	321
TOTAL SHTS.	850

SUBSTRUCTURE BAR SCHEDULE

SPECIFICATIONS					BENDING DIMENSIONS										REMARKS	
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K		O
ABUTMENTS																
12	4	12'-4"	A401E	T1	6"	2'-4"	3'-4"	2'-4"	3'-4"		6"					
16	4	11'-10"	A402E	17		4'-3"	3'-4"	4'-3"								
408	5	8'-8"	A501E	17		2'-7"	3'-6"	2'-7"								
12	5	43'-9"	A502E	STR												
12	5	41'-5"	A503E	STR												
64	5	8'-11"	A504E	17		2'-10"	3'-3"	2'-10"								
80	5	7'-11"	A505E	17		2'-10"	2'-3"	2'-10"								
32	5	8'-3"	A506E	17		2'-6"	3'-3"	2'-6"								
20	5	12'-9 1/2"	A507E	H4	2'-8 1/2"	7'-0"	3'-1"	4 1/2"							6'-11 7/8"	
28	5	6'-4"	A508E	17		2'-11"	6"	2'-11"								
4	5	5'-8"	A509E	STR												
7	6	8'-10 1/2"	A601E	STR												
6	6	8'-11"	A602E	STR												
40	6	5'-3"	A603E	STR												
40	6	4'-8"	A604E	STR												
7	6	8'-8 1/2"	A605E	STR												
6	6	8'-9 1/2"	A606E	STR												
7	6	8'-7"	A607E	STR												
6	6	8'-9"	A608E	STR												
7	6	8'-8"	A609E	STR												
6	6	8'-10"	A610E	STR												
22	6	43'-9"	A611E	STR												
22	6	43'-2"	A612E	STR												
102	6	3'-6"	A613E	STR							0"		6"			
16	6	44'-5"	A614E	1	8"	43'-9"					0"		6"			
16	6	43'-10"	A615E	1	8"	43'-2"										
PILES																
374	5	4'-3"	M501E	T3		1'-7"									10"	PIPE PILE OR FLUTED STEEL SHELL PILE ONLY
136	5	3'-0"	M502E	STR												H-PILE ONLY
272	8	10'-11"	M801E	18	11"	10'-0"	0"						8"			PIPE PILE OR FLUTED STEEL SHELL PILE ONLY

REFERENCES:

STANDARD BAR BENDS BR1-482-35

BR1-482-31



ADDENDUMS / REVISIONS

**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	JS/WMM
COUNTY	CHECKED BY:	DJP
NEW CASTLE		

**REINFORCEMENT
BAR SCHEDULE -
SUBSTRUCTURE 1**

SHEET NO.	322
TOTAL SHTS.	850

SUBSTRUCTURE BAR SCHEDULE

QTY.	SIZE	SPECIFICATIONS			BENDING DIMENSIONS											REMARKS
		LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O	
PIER																
60	5	20'-6"	PF501E	STR												
66	5	18'-6"	PF502E	STR												
552	5	4'-5"	PF503E	T9	5 $\frac{5}{8}$ "	3'-6"						6"				
114	8	20'-6"	PF801E	STR												
66	10	18'-6"	PF1001E	STR												
82	5	10'-5 $\frac{1}{2}$ "	P501E	H10	5 $\frac{5}{8}$ "	2'-2"	5'-2 $\frac{7}{8}$ "	2'-2"	5 $\frac{5}{8}$ "	1'-8"				3'-4"		
82	5	11'-1 $\frac{1}{4}$ "	P502E	S3	5 $\frac{5}{8}$ "	3'-5 $\frac{1}{8}$ "	3'-4"	3'-5 $\frac{1}{8}$ "			5 $\frac{5}{8}$ "	3 $\frac{3}{4}$ "				
140	5	4'-0 $\frac{1}{8}$ "	P503E	T9	5 $\frac{5}{8}$ "	3'-0 $\frac{5}{8}$ "					6"					
140	5	4'-3 $\frac{1}{2}$ "	P504E	T9	5 $\frac{5}{8}$ "	3'-4"					6"					
280	5	4'-2 $\frac{1}{2}$ "	P505E	T9	5 $\frac{5}{8}$ "	3'-9"					0					
72	5	14'-5"	P506E	T1	5 $\frac{5}{8}$ "	3'-5"	3'-4"	3'-5"	3'-4"		5 $\frac{5}{8}$ "					
35	5	6'-3 $\frac{1}{2}$ "	P507E	T9	5 $\frac{5}{8}$ "	5'-4"					6"					
2	5	5'-5 $\frac{1}{8}$ "	P508E	10		5'-5 $\frac{1}{8}$ "	0	0		1'-10"				3'-8"		
2	5	4'-6 $\frac{3}{4}$ "	P509E	2	6"	3'-6 $\frac{3}{4}$ "					6"					
2	5	7'-8 $\frac{3}{8}$ "	P510E	S10		2'-7 $\frac{1}{4}$ "	2'-5 $\frac{1}{8}$ "	2'-7 $\frac{1}{4}$ "								
2	5	8'-4 $\frac{1}{2}$ "	P511E	S10		2'-7 $\frac{1}{4}$ "	3'-2"	2'-7 $\frac{1}{4}$ "								
4	5	5'-11 $\frac{3}{4}$ "	P512E	H4	2'-6 $\frac{1}{2}$ "	10"	2'-7 $\frac{1}{4}$ "	3/4"						10"		
4	5	6'-8 $\frac{3}{8}$ "	P513E	H4	2'-6 $\frac{1}{2}$ "	1'-6 $\frac{5}{8}$ "	2'-7 $\frac{1}{4}$ "	3/4"						1'-6 $\frac{5}{8}$ "		
40	5	7'-4 $\frac{1}{4}$ "	P514E	S10		2'-6 $\frac{3}{4}$ "	2'-2 $\frac{3}{4}$ "	2'-6 $\frac{3}{4}$ "								
24	5	8'-9 $\frac{1}{2}$ "	P515E	S10		2'-7 $\frac{3}{8}$ "	3'-6 $\frac{3}{4}$ "	2'-7 $\frac{3}{8}$ "								
6	5	7'-0"	P516E	S10		1'-8"	3'-8"	1'-8"								
20	6	12'-5"	P601E	17		4'-4 $\frac{1}{2}$ "	3'-8"	4'-4 $\frac{1}{2}$ "								
222	6	17'-6"	P602E	T1	7 $\frac{1}{2}$ "	5'-8"	2'-5"	5'-8"	2'-5"		7 $\frac{1}{2}$ "					
8	6	21'-10 $\frac{1}{4}$ "	P603E	STR												
8	6	58'-10 $\frac{3}{4}$ "	P604E	STR												
72	11	26'-1 $\frac{3}{4}$ "	P1101E	H5	2'-0"	24'-1 $\frac{3}{4}$ "										
48	11	20'-0 $\frac{3}{4}$ "	P1102E	H5	2'-0"	18'-0 $\frac{3}{4}$ "										
6	11	36'-4 $\frac{1}{2}$ "	P1103E	H5	2'-0"	34'-4 $\frac{1}{2}$ "										
6	11	49'-2 $\frac{7}{8}$ "	P1104E	H5	2'-0"	47'-2 $\frac{7}{8}$ "										
6	11	48'-4 $\frac{1}{8}$ "	P1105E	18	1'-0 $\frac{3}{4}$ "	46'-9 $\frac{1}{8}$ "	0				1'-2 $\frac{3}{4}$ "					
6	11	35'-10 $\frac{1}{8}$ "	P1106E	18	1'-0 $\frac{3}{4}$ "	34'-3 $\frac{1}{8}$ "	0				1'-2 $\frac{3}{4}$ "					
6	11	47'-7 $\frac{5}{8}$ "	P1107E	H5	2'-0"	45'-7 $\frac{5}{8}$ "										
6	11	35'-1 $\frac{5}{8}$ "	P1108E	H5	2'-0"	33'-1 $\frac{5}{8}$ "										
6	11	40'-0"	P1109E	STR												
6	11	50'-0"	P1110E	STR												
6	11	28'-3 $\frac{3}{8}$ "	P1111E	18	1'-0 $\frac{3}{4}$ "	26'-8 $\frac{1}{8}$ "	0				1'-2 $\frac{3}{4}$ "					
6	11	51'-7"	P1112E	18	1'-0 $\frac{3}{4}$ "	50'-0"	0				1'-2 $\frac{3}{4}$ "					
6	11	54'-11 $\frac{3}{8}$ "	P1113E	H5	4'-11 $\frac{3}{8}$ "	50'-0"										
6	11	32'-8 $\frac{1}{8}$ "	P1114E	H5	4'-11 $\frac{3}{8}$ "	27'-8 $\frac{1}{8}$ "										

REFERENCES:
STANDARD BAR BENDS BR1-482-35

BR1-482-32

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT	BRIDGE NO.	1-482	REINFORCEMENT BAR SCHEDULE - SUBSTRUCTURE 2	SHEET NO.
				T200811301	DESIGNED BY: CNN			323
				NEW CASTLE	CHECKED BY: YY			TOTAL SHTS.
								850

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SUPERSTRUCTURE BAR SCHEDULE

QTY.	SIZE	SPECIFICATIONS			BENDING DIMENSIONS											REMARKS
		LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O	
DECK																
294	5	35'-6 1/2"	S501E	STR												
588	5	41'-3"	S502E	1	7"	40'-8"							5"			
168	5	54'-11"	S503E	STR												
216	5	54'-11"	S504E	STR												
330	5	46'-8"	S505E	STR												
150	5	46'-8"	S506E	STR												
294	5	45'-9"	S507E	STR												
440	5	4'-7 3/4"	S508E	H8	1'-0"	2 7/8"	1'-3 1/2"	1'-0 3/8"	1'-1"	F = 7"						
147	5	2'-10 1/8"	S509E	16		1'-2"	6"	1'-2 1/8"				1'-1 1/8"	2 1/2"	8 1/2"		
147	5	2'-10 5/8"	S510E	16		1'-2"	6 1/2"	1'-2 1/8"				1'-1 1/8"	2 1/2"	9"		
16	6	41'-6"	S601E	1	8"	40'-10"							6"			
588	7	9'-1"	S701E	1	10"	8'-3"							7"			
PARAPET																
440	5	9'-2 1/2"	PA501E	H7	2'-6"	8 3/4"	3'-0 1/2"	5 1/4"	2'-6"	3 1/2"						
88	7	11'-8"	PA701E	STR												
16	7	6'-11"	PA702E	STR												
88	8	11'-8"	PA801E	STR												
16	8	6'-11"	PA802E	STR												
MOUNTABLE CONCRETE ISLAND																
1	5	33'-9"	SM501E	STR												
4	5	VARIES 3'-9" TO 28'-0"	SM502E	STR											VARY BY 8'-1"	
12	5	34'-7"	SM503E	STR												
33	5	VARIES 13'-0" TO 17'-0"	SM504E	14		1'-6"	10'-0" TO 14'-0"	1'-6"				3 1/8"	12'-11 1/2" TO 16'-11 1/2"		VARY C BY 1 1/2"	
16	5	59'-0"	SM505E	STR												
16	5	57'-10"	SM506E	STR												
114	5	17'-0"	SM507E	14		1'-6"	14'-0"	1'-6"				3 1/8"	16'-11 1/2"			
DIAPHRAGMS																
308	4	3'-3"	S451E	17		1'-4"	7"	1'-4"								
126	4	8'-9"	S452E	17		3'-3"	2'-3"	3'-3"								
28	4	4'-11"	S453E	17		1'-4"	2'-3"	1'-4"								
204	4	6'-8"	S454E	17		2'-2"	2'-4"	2'-2"								
72	4	5'-2"	S455E	17		1'-5"	2'-4"	1'-5"								
138	4	4'-4"	S456E	H5	1'-0"	3'-4"									CUT B & D IN FIELD AS REQUIRED	
138	4	4'-6"	S457E	H6	3'-6"	1'-0"	8 1/2"									
138	4	5'-8"	S458E	17		2'-0"	1'-8"	2'-0"								
64	4	4'-4"	S459E	17		1'-4"	1'-8"	1'-4"								
280	5	6'-4"	S551E	STR											THREAD ONE END 2" OR AS REQUIRED	
28	5	9'-2"	S552E	STR												
66	5	7'-1"	S553E	STR												
12	5	1'-3" TO 1'-7"	S554E	STR											4 SETS OF 3 EACH; VARY EACH SET BY 2"; THREAD ONE END 2" OR AS REQUIRED	
4	5	2'-6"	S555E	STR												
12	5	3'-3"	S556E	STR											THREAD ONE END 2" OR AS REQUIRED	
8	5	1'-10"	S557E	STR												
12	5	40'-8"	S558E	STR												
4	5	25'-5"	S559E	STR												
4	5	16'-0"	S560E	STR												
56	6	6'-7"	S651E	STR											THREAD ONE END 2" OR AS REQUIRED	
28	1"	3'-0"	D801E	STR												

REFERENCES:

STANDARD BAR BENDS BR1-482-35

BR1-482-33



ADDENDUMS / REVISIONS

**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	WMM
COUNTY	CHECKED BY:	CGI
NEW CASTLE		

**REINFORCEMENT
BAR SCHEDULE -
SUPERSTRUCTURE**

SHEET NO.	324
TOTAL SHTS.	850

APPROACH SLAB BAR SCHEDULE

QTY.	SIZE	SPECIFICATIONS			BENDING DIMENSIONS										REMARKS
		LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	
MOUNTABLE CONCRETE ISLAND															
1	5	24'-8"	AM501E	STR											
3	5	8'-4" to 24'-6"	AM502E	STR										VARY BY 8'-1"	
23	5	24'-7"	AM503E	STR											
26	5	10'-1" TO 13'-0"	AM504E	14	0"	1'-6"	7'-1" TO 10'-0"	1'-6"	0"			3/8"	1'-5 3/4"	10'-0 1/2" TO 12'-11"	VARY C BY 1 1/2" ±
2	5	20'-6" TO 24'-6"	AM507E	STR										VARY BY 4'-0"	
1	5	8'-6"	AM508E	STR											
16	5	17'-0"	AM509E	14	0"	1'-6"	14'-0"	1'-6"	0"			3/8"	1'-5 3/4"	16'-11 1/2"	
10	5	16'-0" TO 17'-0"	AM510E	14	0"	1'-6"	13'-0" TO 14'-0"	1'-6"	0"			3/8"	1'-5 3/4"	15'-11 1/2" TO 16'-11 1/2"	VARY C BY 1 3/8" ±
PARAPET															
96	5	9'-2 1/2"	PA501E	H7	2'-6"	8 3/4"	3'-0 3/8"	5 1/4"	2'-6"	F = 3 1/2"					
56	5	7'-7 5/8" TO 11'-8 1/4"	PA502E	H7	2'-1" TO 3'-2"	8 3/4"	2'-2 1/2" TO 4'-3 1/2"	6 1/4" TO 3 3/4"	2'-1" TO 3'-2"	F = 2 1/2" TO 5"				4 SETS OF 14: VARY A & E BY 1"; C BY 1'-11"; D BY - 3/16" ± ; F BY 3/16" ±	
8	7	24'-8"	PA703E	STR											
8	7	23'-0"	PA704E	STR											
8	7	8'-9"	PA705E	STR											
16	8	24'-8"	PA803E	STR											
APPROACH SLAB															
160	5	24'-8"	AS501E	STR											
114	5	42'-1"	AS502E	STR											
114	5	38'-6"	AS503E	STR											
104	5	4'-7 1/2"	AS504E	16	0"	0"	1'-8 1/2"	2'-11"				2'-0 3/4"	2'-0 3/4"	3'-9 1/4"	
160	5	8'-2 1/2"	AS505E	16	1'-10"	1'-11"	1'-9"	2'-8 1/2"				1'-11"	1'-11"	3'-8"	
160	5	6'-9"	AS506E	16	1'-10"	1'-10"	5 1/4"	2'-7 3/4"				1'-10 1/2"	1'-10 1/2"	2'-3 3/4"	
152	5	5'-6 1/4"	AS507E	H8	1'-0"	2 7/8"	1'-9"	1'-0 3/8"	1'-6"	F = 9 1/2"		1'-17/8"	2 1/2"	1'-3"	
52	5	3'-4 5/8"	AS508E	16	0"	1'-2"	1'-0 1/2"	1'-2 1/8"				1'-17/8"	2 1/2"	1'-3"	
52	5	3'-5 1/8"	AS509E	16	0"	1'-2"	1'-1"	1'-2 1/8"				1'-17/8"	2 1/2"	1'-3 1/2"	
254	10	24'-8"	AS1001E	STR											

REFERENCES:

STANDARD BAR BENDS BR1-482-35

BR1-482-34



ADDENDUMS / REVISIONS

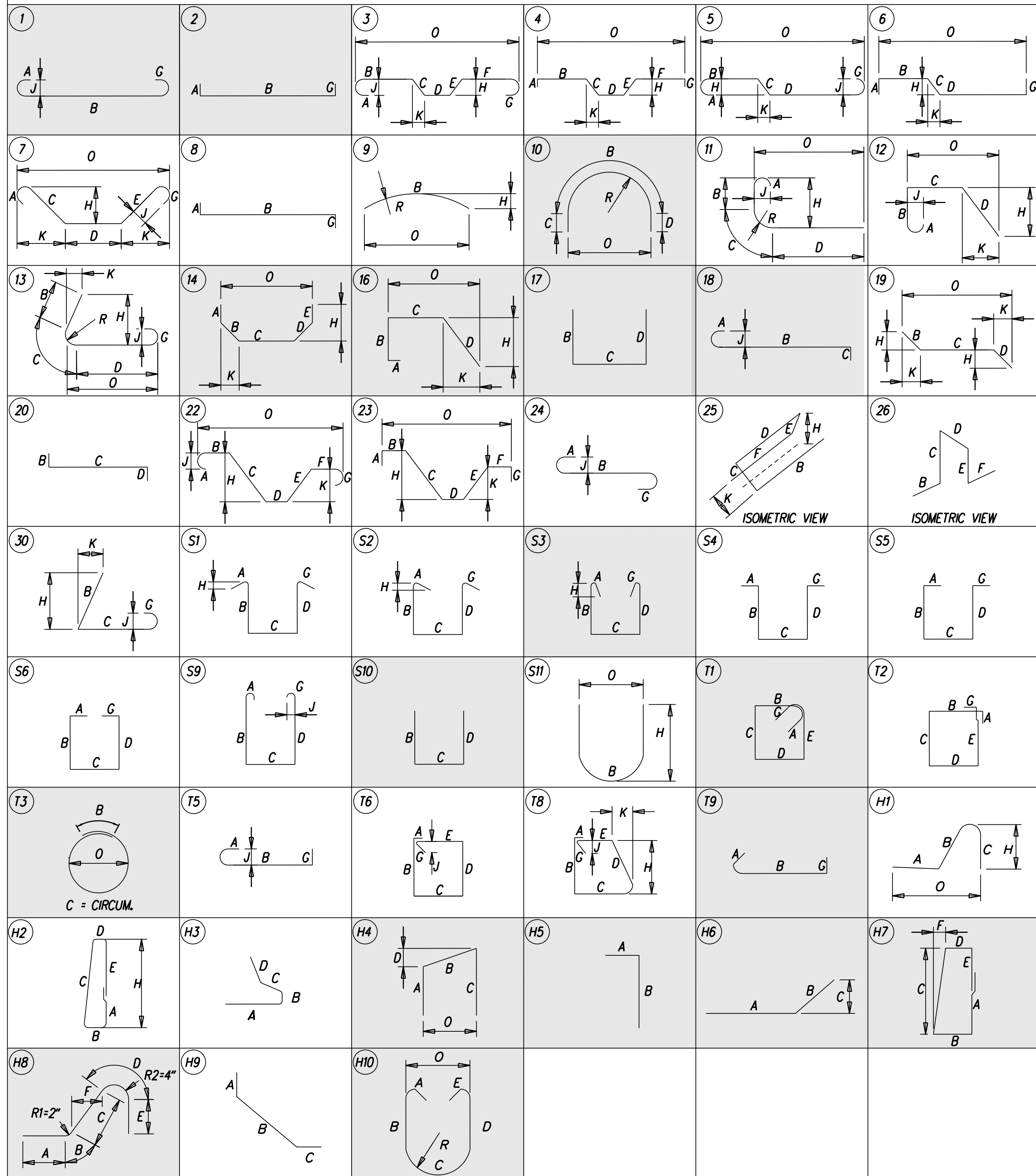
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.	1-482
T200811301	DESIGNED BY:	ADL
COUNTY	CHECKED BY:	WMM
NEW CASTLE		

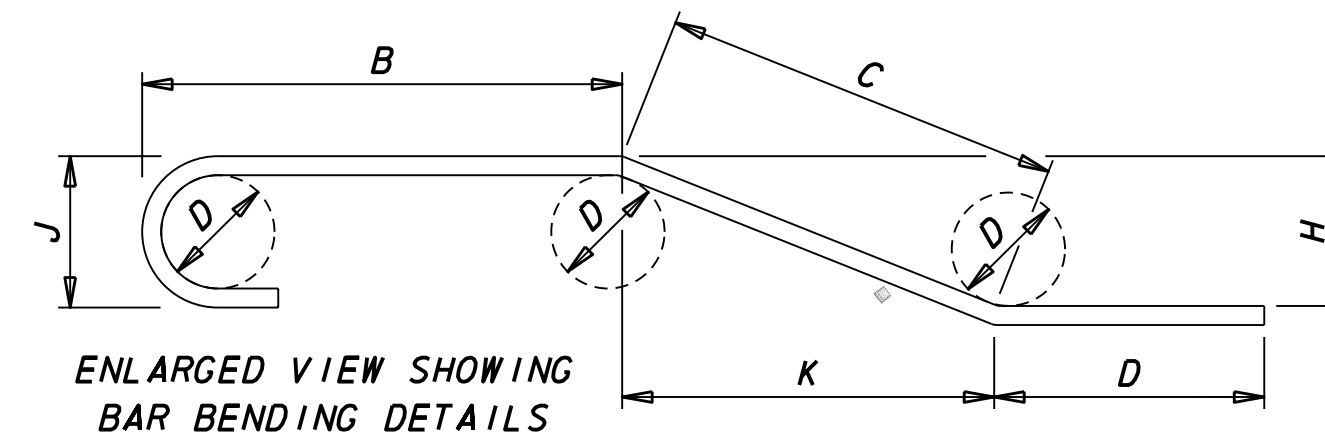
**REINFORCEMENT
BAR SCHEDULE -
APPROACH SLABS**

SHEET NO.	325
TOTAL SHTS.	850

STANDARD BAR BENDS



ASTM STANDARD ENGLISH REINFORCING BARS				RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES			STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES				
BAR SIZE	NOMINAL DIMENSIONS			180° HOOKS		90° HOOKS	90° HOOK		135° HOOKS		
	DIAMETER (INCHES)	AREA (INCHES ²)	WEIGHT (LBS/FT)	D	A OR G	J	A OR G	D	A OR G	A OR G	H
3	0.375	0.110	0.376	2 1/4"	5"	3"	6"	1 1/2"	4"	4"	2 1/2"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4 1/2"	4 1/2"	3"
5	0.625	0.310	1.043	3 3/4"	7"	5"	10"	2 1/2"	6"	5 1/2"	3 3/4"
6	0.750	0.440	1.502	4 1/2"	8"	6"	1'-0"	4 1/2"	1'-0"	8"	4 1/2"
7	0.875	0.600	2.044	5 1/4"	10"	7"	1'-2"	5 1/4"	1'-2"	9"	5 1/4"
8	1.000	0.790	2.670	6"	11"	8"	1'-4"	6"	1'-4"	10 1/2"	6"
9	1.128	1.000	3.400	9 1/2"	1'-3"	11 3/4"	1'-7"				
10	1.270	1.270	4.303	10 3/4"	1'-5"	1'-1 1/4"	1'-10"				
11	1.410	1.560	5.313	1'-0"	1'-7"	1'-2 3/4"	2'-0"				
14	1.693	2.250	7.650	1'-6 1/4"	2'-3"	1'-9 3/4"	2'-7"				
18	2.257	4.000	13.600	2'-0"	3'-0"	2'-4 1/2"	3'-5"				



NOTES:

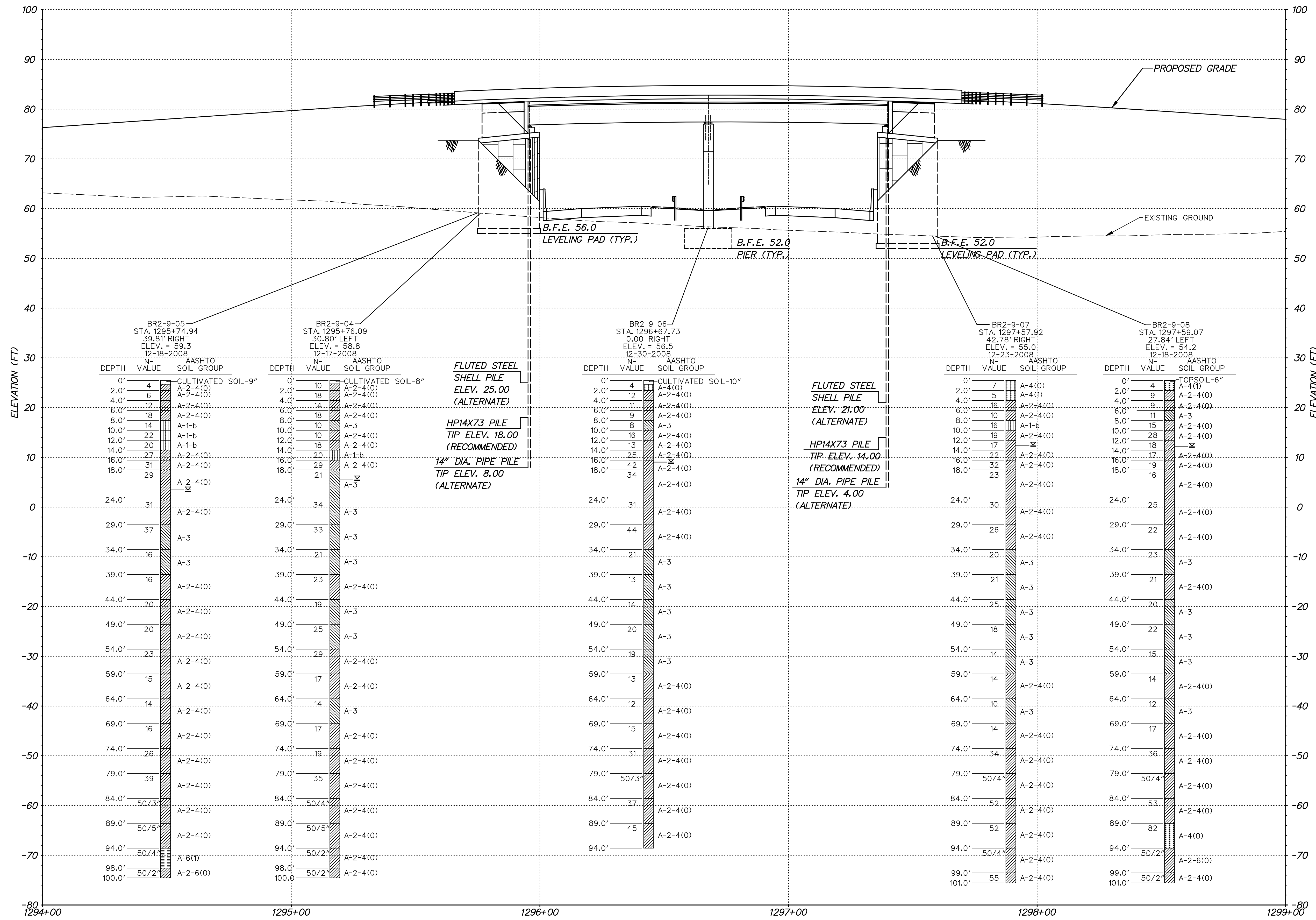
- FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
- STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES SHOWN, WITH THE EXCEPTION OF TYPE "H" BARS.
- ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "G" STD. 180° AND 135° HOOKS.
- "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACI' HOOKS ARE TO BE USED.
- WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5, AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
- "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
- UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
- WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
- WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
- FOR RECOMMENDED DIAMETER "D" OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRSI' OR 'ACI' TABLES WHERE APPLICABLE AND REQUIRED.
- TYPE S1-S11, T1-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.

REFERENCES:

REINFORCEMENT BAR SCHEDULES

BR1-482-31 THRU BR1-482-34

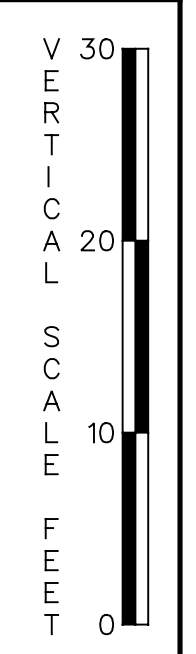
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LEGEND

- A-1 (WELL GRADED SAND)
- A-2 (POORLY GRADED SILTY/CLAYEY SAND)
- A-3 (CLEAN SAND)
- A-4 (SILT)
- A-5 (ELASTIC SILT)
- A-6 (PLASTIC CLAY)
- A-7 (EXPANSIVE PLASTIC CLAY)
- A-8 (MUCK/PEAT)
- WATER ENCOUNTERED DURING DRILLING

N- = UNCORRECTED SPT BLOW VALUE COUNT (BLOWS/FT)
 U-1 = UNDISTURBED SAMPLE
 W/R = WEIGHT OF RODS
 W/H = WEIGHT OF HAMMER

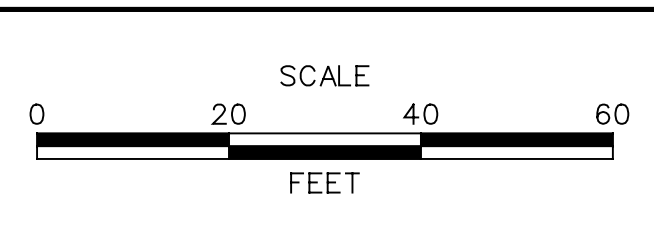


LEVELS ROAD

BR1-482-36



ADDENDUMS / REVISIONS	



**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO. 1-482
COUNTY NEW CASTLE	DESIGNED BY: J.L.W. CHECKED BY: J.P.F.

BRIDGE 1-482 GEOTECHNICAL DATA	SHEET NO. 327 TOTAL SHTS. 850
---	--

GENERAL NOTES:

DESIGN SPECIFICATIONS:

1. AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", 2009, AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES", 2002. DELAWARE DEPARTMENT OF TRANSPORTATION DESIGN MANUAL, MAY 2005, INCLUDING LATEST REVISIONS JANUARY 2008.

DESIGN LOADS:

1. THE DESIGN WIND SPEED IS 100 MPH (3-SECOND GUST WIND SPEED) BASED ON A 50-YEAR RECURRENCE INTERVAL.
2. THE DESIGN WEIGHT FOR THE DMS (DYNAMIC MESSAGE SIGN) IS 3500 POUNDS. DESIGN OF THE STRUCTURAL SUPPORTS AND FOUNDATIONS CONSIDERS A 4'-0" ECCENTRICITY FOR THE DMS. DESIGN FOR STATIC SIGNS IS FOR STANDARD ALUMINUM EXTRUDED SIGN PANELS.
3. THE DESIGN ICE LOAD IS 3 PSF.
4. FATIGUE DESIGN IS BASED ON AN IMPORTANCE FACTOR OF CATEGORY I FOR NATURAL WIND GUSTS AND TRUCK INDUCED GUSTS FOR ALL STATIC SIGN SUPPORT STRUCTURES AND DMS SUPPORT STRUCTURES.
5. ALL OVERHEAD SIGN STRUCTURE FOUNDATIONS ARE DESIGNED FOR 75% MINIMUM FOOTING COMPRESSION AREA AND 11KSF MAXIMUM BEARING CAPACITY.

GENERAL:

1. PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND CONTRACT SPECIAL PROVISIONS. WELDING SHALL CONFORM TO AWS D1.1 AND ANSI/AASHTO/AWS D1.5.
2. ALL STRUCTURAL MAIN TUBES SHALL CONFORM TO ASTM A53, GRADE B, TYPE E OR S, Fy=35 KSI OR API 5L, PSL2, GRADE B.
3. ALL OTHER TUBES SHALL HAVE MIN. 36 KSI YIELD STRENGTH AND CONFORM TO ASTM A501.
4. ALL STEEL PLATE, W BEAMS AND MISCELLANEOUS SHAPES SHALL CONFORM TO AASHTO M270 (ASTM A709), GRADE 36.
5. ALL ANCHOR BOLTS SHALL CONFORM TO AASHTO M314 (ASTM F1554), GRADE 55. ALL ANCHOR NUTS SHALL CONFORM TO AASHTO M291 (ASTM A563), GRADE DH OR AASHTO M292 (ASTM A194), GRADE 2H.
6. ALL CONNECTION BOLTS SHALL CONFORM TO AASHTO M164 (ASTM A325), WASHERS AASHTO M293 (ASTM F436) & NUTS AASHTO M291 (ASTM A563), GRADE DH OR AASHTO M292 (ASTM A194), GRADE 2H.
7. STRUCTURE SHALL BE GALVANIZED TO CONFORM TO AASHTO M111 (ASTM A123).
8. ALL HARDWARE SHALL BE GALVANIZED TO CONFORM TO AASHTO M232 (ASTM A153), EXCEPT ONLY TOP 1'-10" IS GALVANIZED FOR ANCHOR BOLTS.
9. PORTLAND CEMENT CONCRETE FOR CAST-IN-PLACE ELEMENTS SHALL BE AS FOLLOWS (f'c=28-DAY COMPRESSIVE STRENGTH):
CLASS B - PEDESTAL AND FOOTING (f'c=3000 PSI)
10. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS UNLESS OTHERWISE NOTED.
11. REINFORCEMENT STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60. ALL REINFORCEMENT STEEL SHALL HAVE A CLEAR COVER OF 2" UNLESS OTHERWISE NOTED ON THE PLANS.
12. KEYED CONSTRUCTION JOINTS SHALL BE 2" X 4" OR AS NOTED. ALL EXPOSED JOINT EDGES SHALL HAVE A 3/4" V NOTCH.
13. FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS BEFORE ORDERING ANY MATERIALS.
14. STEEL TEMPLATES SHALL BE USED TO SET ANCHOR BOLTS PLUMB WHEN POURING THE FOUNDATION. ANCHOR BOLT HOLES IN STEEL TEMPLATE SHALL BE 1/8" LARGER THAN ANCHOR BOLT DIAMETER.
15. ALL PLATES GREATER THAN 1/2" THICKNESS SHALL BE CVN TESTED PER SECTION 826 OF THE STANDARD SPECIFICATIONS.
16. FABRICATE ALL SIGN STRUCTURES INTO THE LARGEST PRACTICAL SECTIONS PRIOR TO GALVANIZING. SUBMIT SPLICE LOCATIONS TO THE ENGINEER FOR APPROVAL. DO NOT COMMENCE FABRICATION UNTIL SUCH SPLICE LOCATIONS ARE APPROVED.
17. SIGN STRUCTURES ARE GROUPED INTO TWO TYPES AS PRESENTED IN THE TABLE ON THIS SHEET.
18. THE SUM OF THE SIGN PANEL AREA PLUS EXIT PANEL AREA SHALL NOT EXCEED THE DESIGN SIGN AREA IN THE TABLE.
19. MINIMUM VERTICAL CLEARANCE FOR ALL SIGN STRUCTURES IS 17'-6", BASED ON MAXIMUM SIGN HEIGHT OF 18'-0".
20. PERMANENT CAMBER EQUAL TO L/1000 HAS BEEN PROVIDED IN ADDITION TO THE DEAD LOAD CAMBER.
21. OVERHEAD SIGN SUPPORTS AND FOUNDATIONS SHALL BE PAID IN ACCORDANCE WITH ITEM 605755.
22. THE EXCAVATION SHALL BE INSPECTED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE.
23. IF DIRECTED BY THE ENGINEER, REMOVE UNSUITABLE MATERIAL BELOW BOTTOM OF FOOTING ELEVATION, PLACE GEOTEXTILE AT THE BOTTOM OF THE EXCAVATION AND FILL WITH DELDOT NO. 57 STONE. EXCAVATION FOR THIS ITEM TO BE PAID FOR UNDER "207000 - EXCAVATION AND BACKFILLING FOR STRUCTURES". DELDOT NO. 57 STONE TO BE IN ACCORDANCE WITH SECTION 608 OF THE DELDOT SPECIFICATIONS AND PAID UNDER ITEM "608000 - COARSE AGGREGATE FOR FOUNDATION STABILIZATION AND SUBFOUNDATION BACKFILL". GEOTEXTILE IS TO BE IN ACCORDANCE WITH SECTION 827.06 OF THE DELDOT SPECIFICATIONS AND IS INCIDENTAL TO ITEM "608000 - COARSE AGGREGATE FOR FOUNDATION STABILIZATION AND SUBFOUNDATION BACKFILL".
24. ROUND POSTS ARE PREFERRED. MULTI-SIDED POSTS SHALL HAVE A MINIMUM BEND RADIUS OF 3" IF CHOSEN BY THE CONTRACTOR.

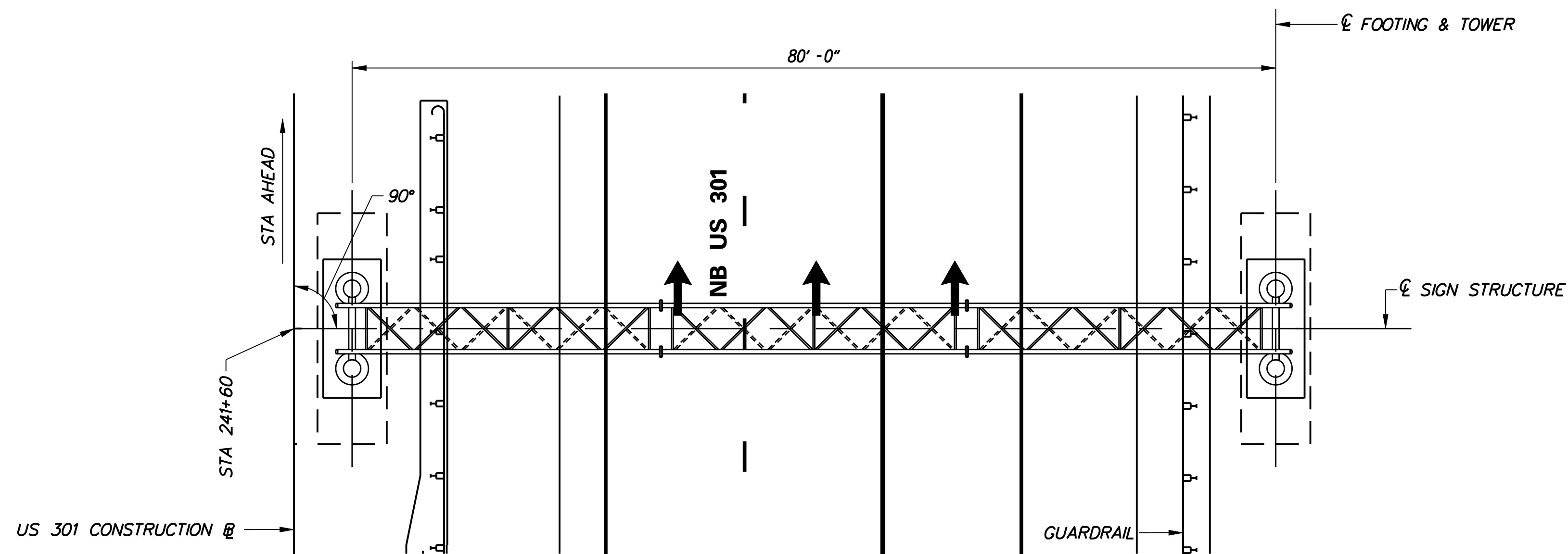
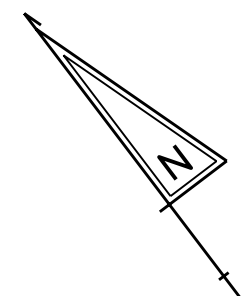
INDEX OF SIGN STRUCTURE DRAWINGS	
SHT #	DRAWING TITLE
OSS-01	PROJECT NOTES AND INDEX OF DRAWINGS
OSS-02	GENERAL PLAN AND ELEVATION - SIGN STRUCTURE - SO1405
OSS-03	GENERAL PLAN AND ELEVATION - SIGN STRUCTURE - SO1410
OSS-04	TRUSS DETAILS
OSS-05	TOWER ELEVATION DETAILS
OSS-06	CONNECTION DETAILS - 1
OSS-07	CONNECTION DETAILS - 2
OSS-08	SIGN/DMS HANGER DETAILS
OSS-09	FOUNDATION DETAILS - TYPES 2 & 4
OSS-10	BAR SCHEDULE

SUMMARY OF OVERHEAD SIGN STRUCTURES						
SIGN STRUCTURE	OVERHEAD	DIRECTION	TYPE	SPAN	HEIGHT	DESIGN SIGN AREA
SO1405	241+60.00	NB	2	80'	25'	576 SF
SO1410	220+00	NB	4	68'	25'	322 SF

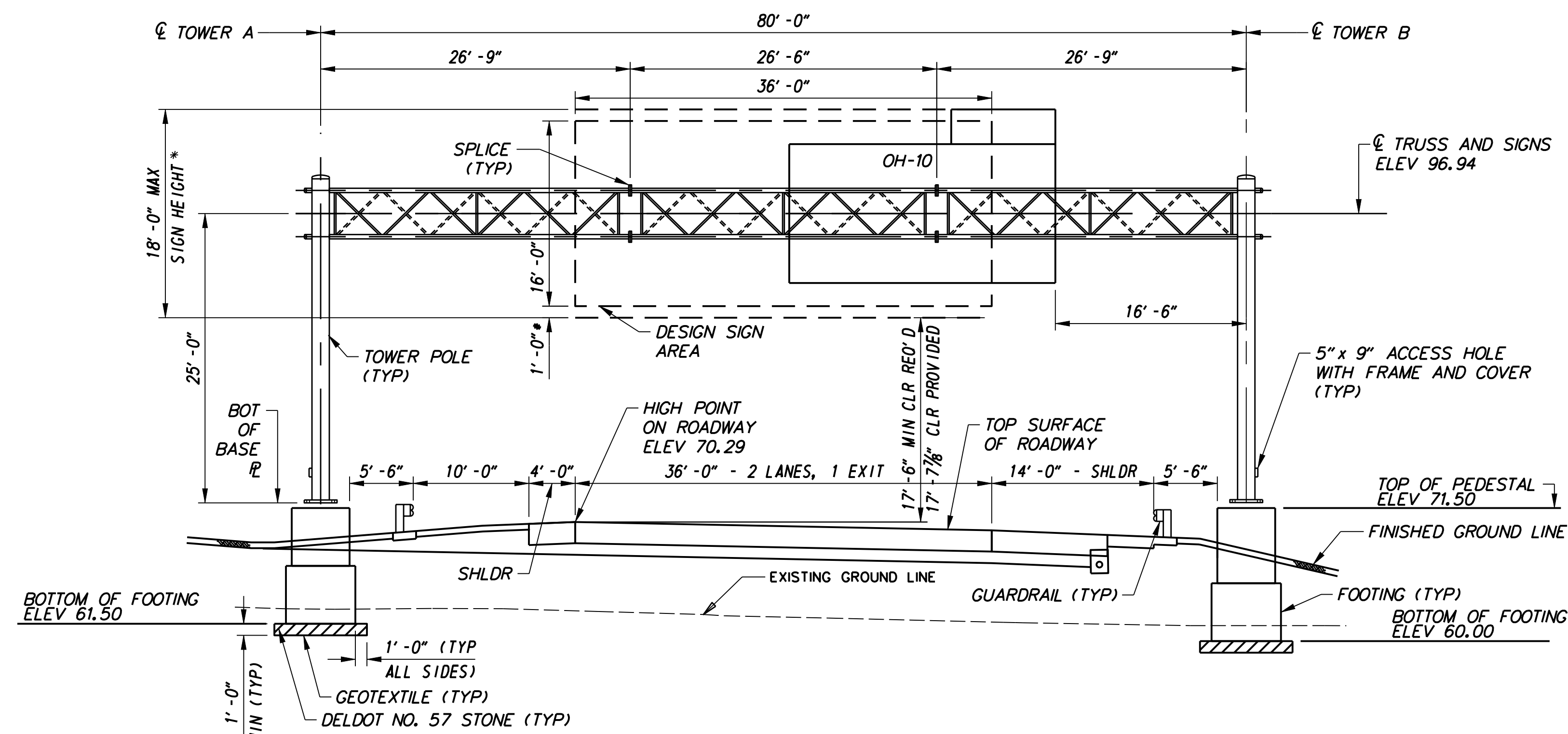
LAST REVISED: 3/12/2008 J:\2008 PROJECTS\E3\34801\700CADD\750AET\SIGN STRUCTURES\PNL_301AET_SS_001.DGN

 <p>DELAWARE DEPARTMENT OF TRANSPORTATION</p>	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT	BRIDGE NO.	-	PROJECT NOTES AND INDEX OF DRAWINGS	SHEET NO.	
					T200811301	DESIGNED BY: ADL/SPM		328	
					COUNTY	CHECKED BY: YY/DJP		TOTAL SHTS.	
				NEW CASTLE				850	

OSS-01



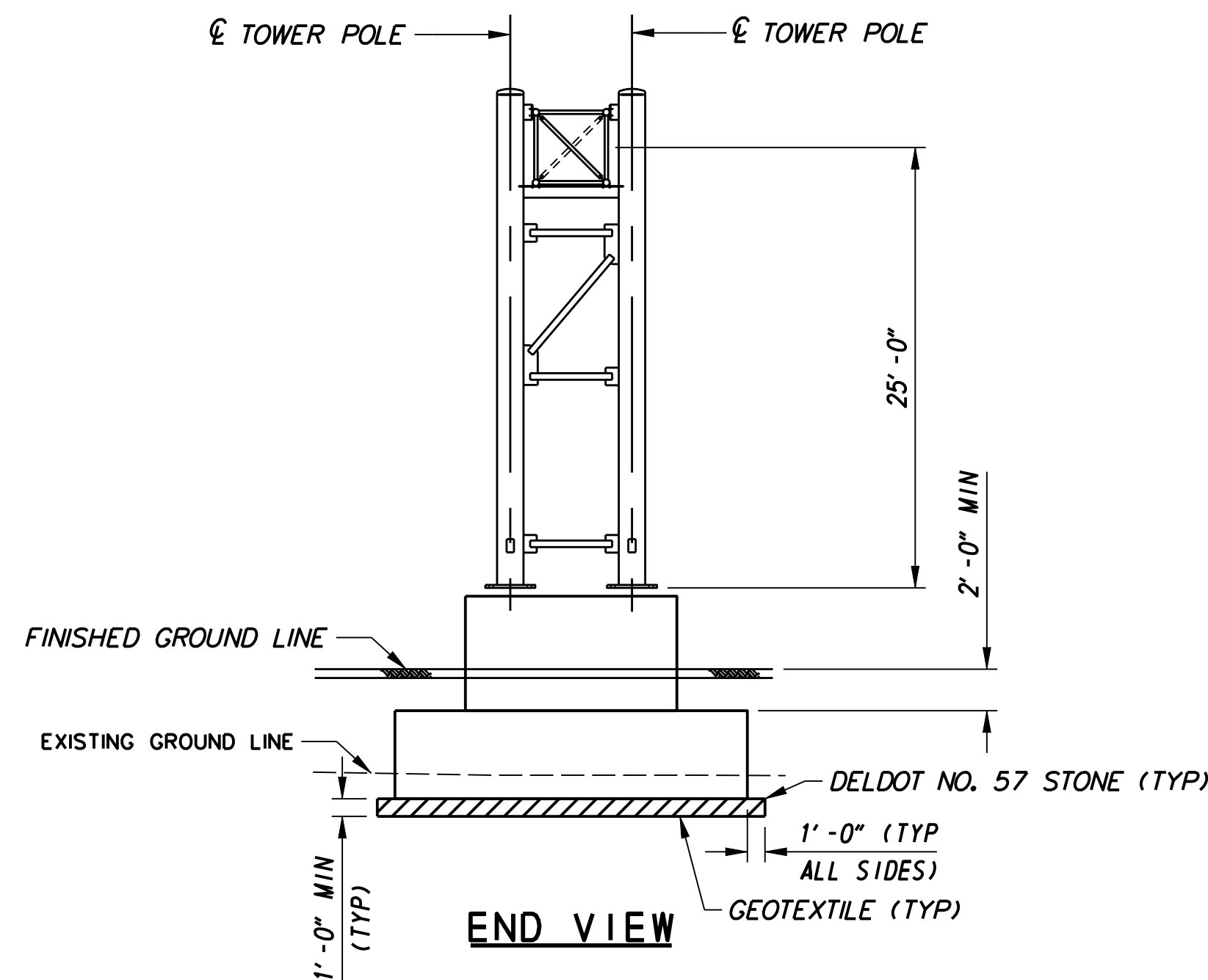
PLAN



ELEVATION

STA 241+60
(LOOKING STATION AHEAD)

* ADDITIONAL SIGN HEIGHT ALLOWANCE FOR LARGE SIGNS. TOTAL DESIGN AREA MUST NOT BE EXCEEDED.



END VIEW

DESIGN CRITERIA
TYPE 2
DESIGN SIGN AREA = 576 SF
STRUCTURE HEIGHT (H) = 25'-0"
SPAN LENGTH = 80'-0"

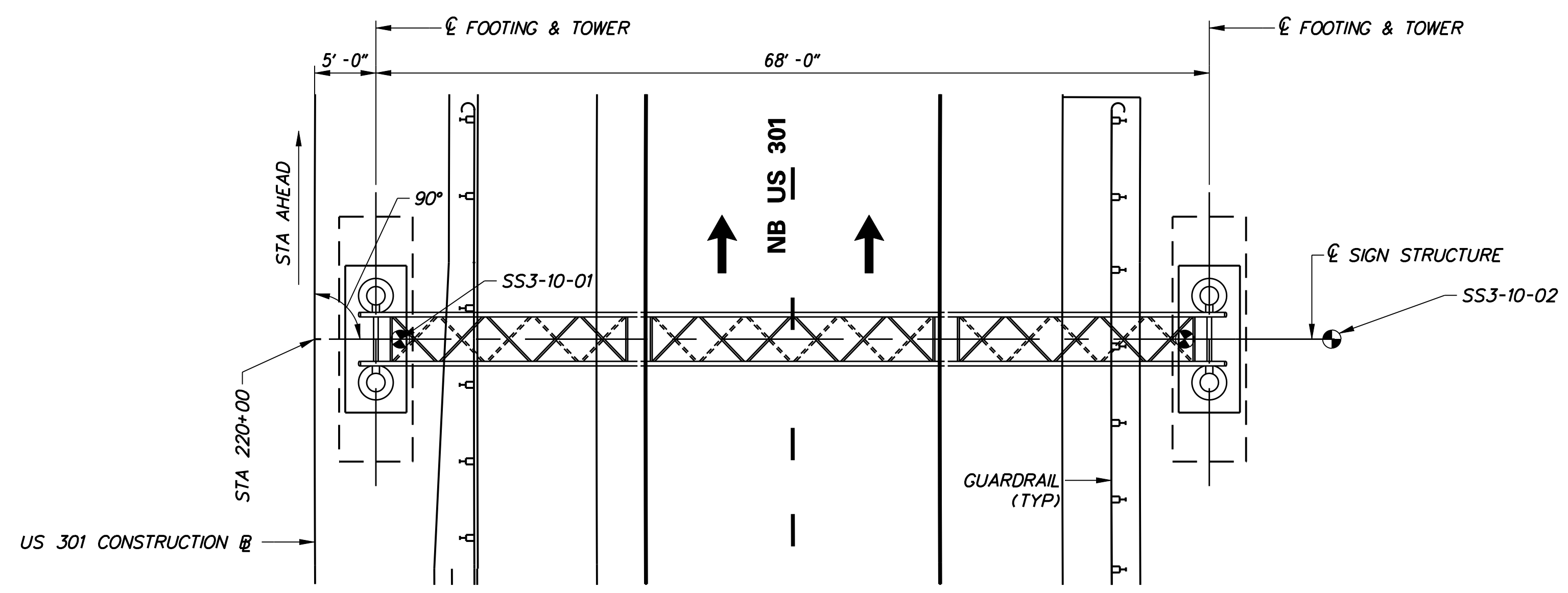
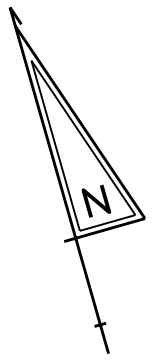
NOTES:

1. ALL SIGN PANELS SHALL BE INSTALLED SO THAT THE PANEL IS CENTERED VERTICALLY ALONG THE CHORD TRUSS.
2. DELDOT NO. 57 STONE TO BE IN ACCORDANCE WITH SECTION 608 OF THE DELDOT SPECIFICATIONS. GEOTEXTILE IS TO BE IN ACCORDANCE WITH SECTION 827.06 OF THE DELDOT SPECIFICATIONS. DELDOT NO. 57 STONE AND GEOTEXTILE ARE INCIDENTAL TO ITEM 605755.

REFERENCES:

- | | |
|-------------------------|-------------------|
| GENERAL NOTES | OSS-01 |
| TRUSS AND TOWER DETAILS | OSS-04 AND OSS-05 |
| SIGN/DMS HANGER DETAILS | OSS-08 |
| FOUNDATION DETAILS | OSS-09 |

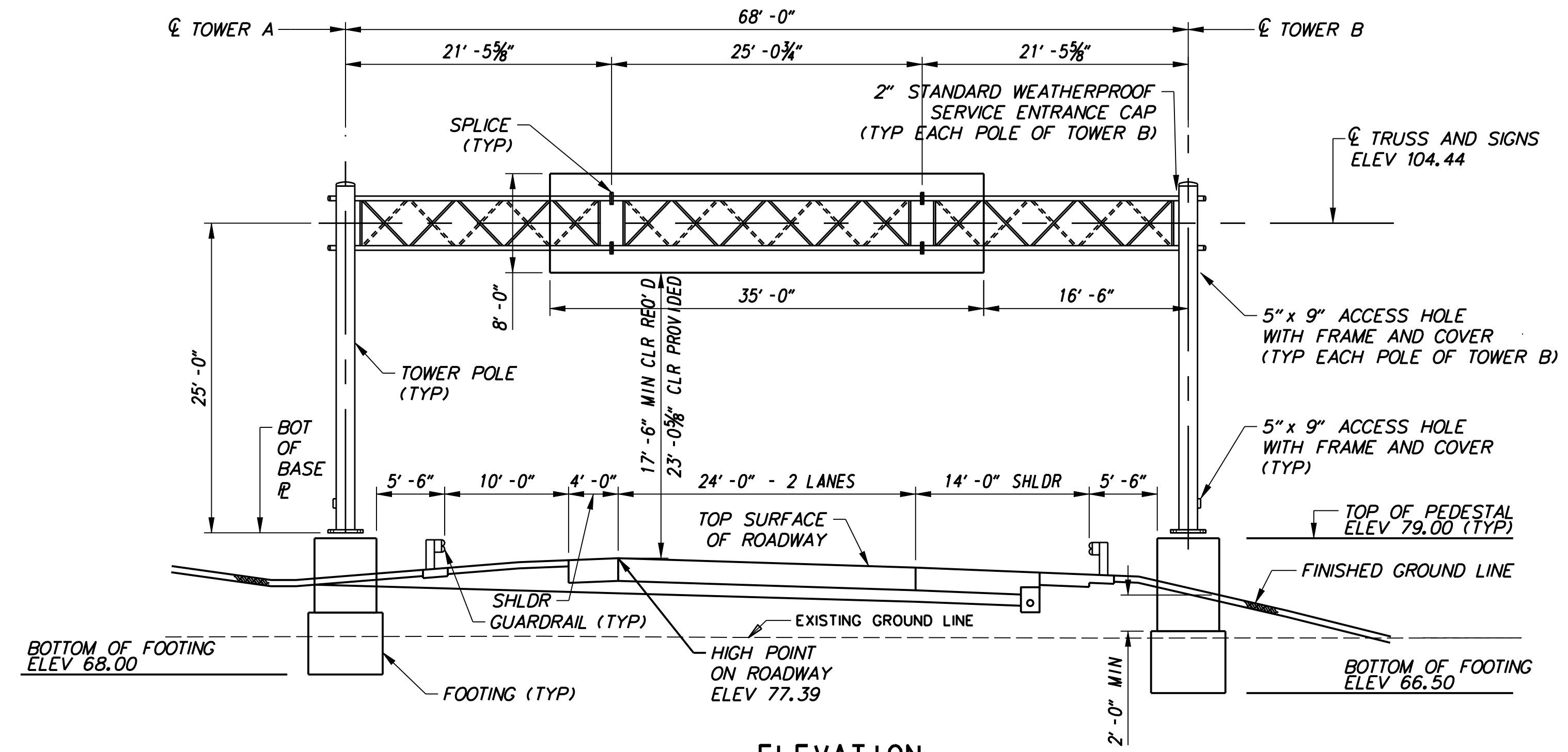
OSS-02



PLAN

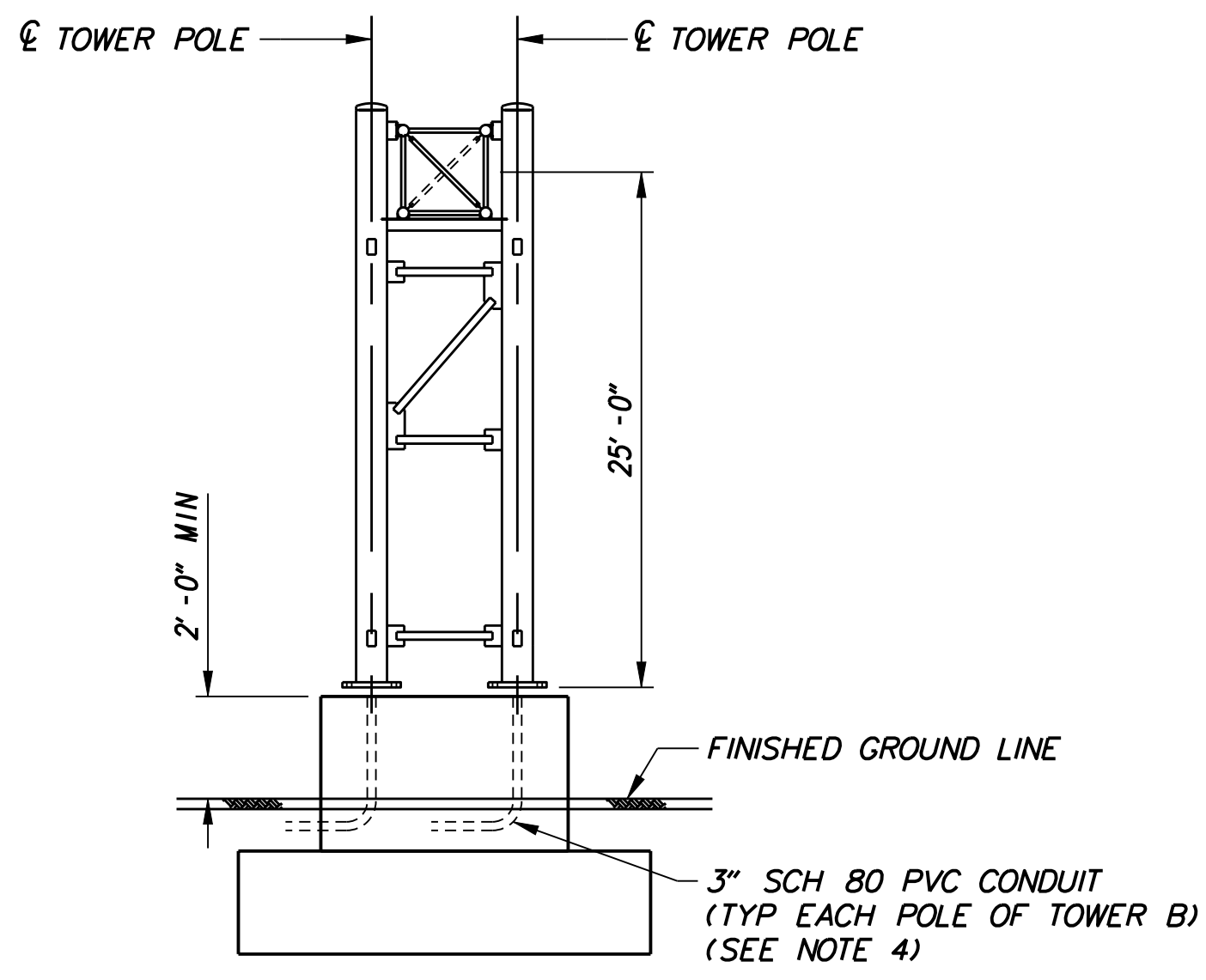
DESIGN CRITERIA
TYPE 4
DESIGN SIGN AREA = 322 SF
STRUCTURE HEIGHT (H) = 25'-0"
SPAN LENGTH = 68'-0"

- NOTES:**
- DMS SHALL BE INSTALLED SO THAT IT IS CENTERED VERTICALLY ALONG THE CHORD TRUSS.
 - DESIGN SIGN AREA INCLUDES ADDITIONAL 15% SIGN AREA FOR FUTURE SIGN REPLACEMENT.
 - SEE SIGNING, STRIPING & CONDUIT PLANS FOR CABINET BASE AND ITMS CONDUIT SIZE AND ROUTING.
 - CONDUITS AND FITTINGS FROM ITMS CABINET TO STRUCTURE ARE INCIDENTAL TO ITEM NO. 605755.



ELEVATION

STA 220+00.00
(LOOKING STATION AHEAD)



END VIEW

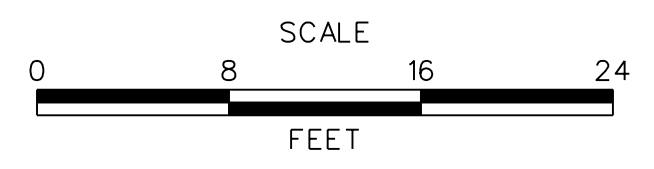
REFERENCES:

GENERAL NOTES	OSS-01
TRUSS AND TOWER DETAILS	OSS-04 AND OSS-05
SIGN/DMS HANGER DETAILS	OSS-08
FOUNDATION DETAILS	OSS-09

OSS-03



ADDENDUMS / REVISIONS



**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

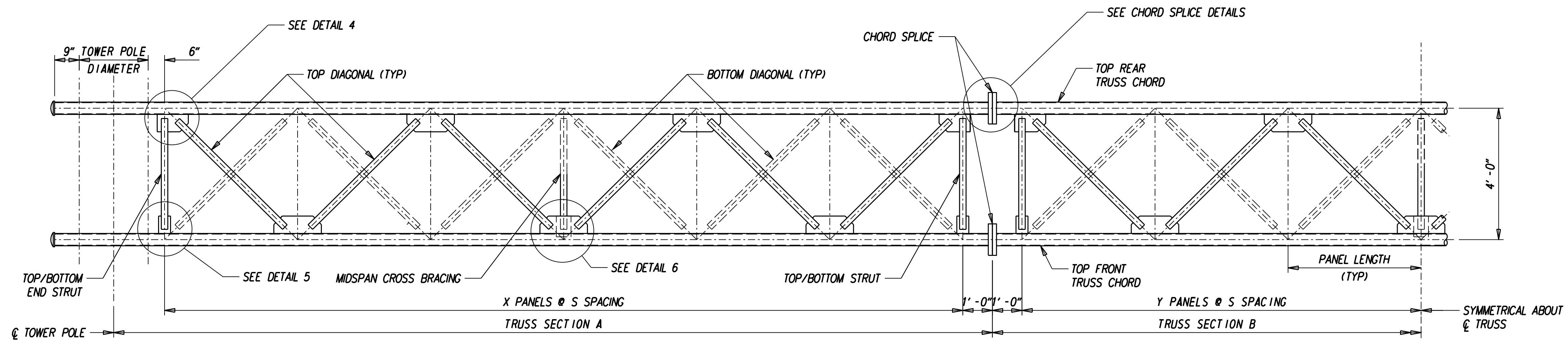
CONTRACT	BRIDGE NO.	-
T200811301	DESIGNED BY:	ADL/SPM
COUNTY	CHECKED BY:	YY/DJP
NEW CASTLE		

**GENERAL PLAN
AND ELEVATION
SIGN STRUCTURE
SO1410**

SHEET NO.	330
TOTAL SHTS.	850

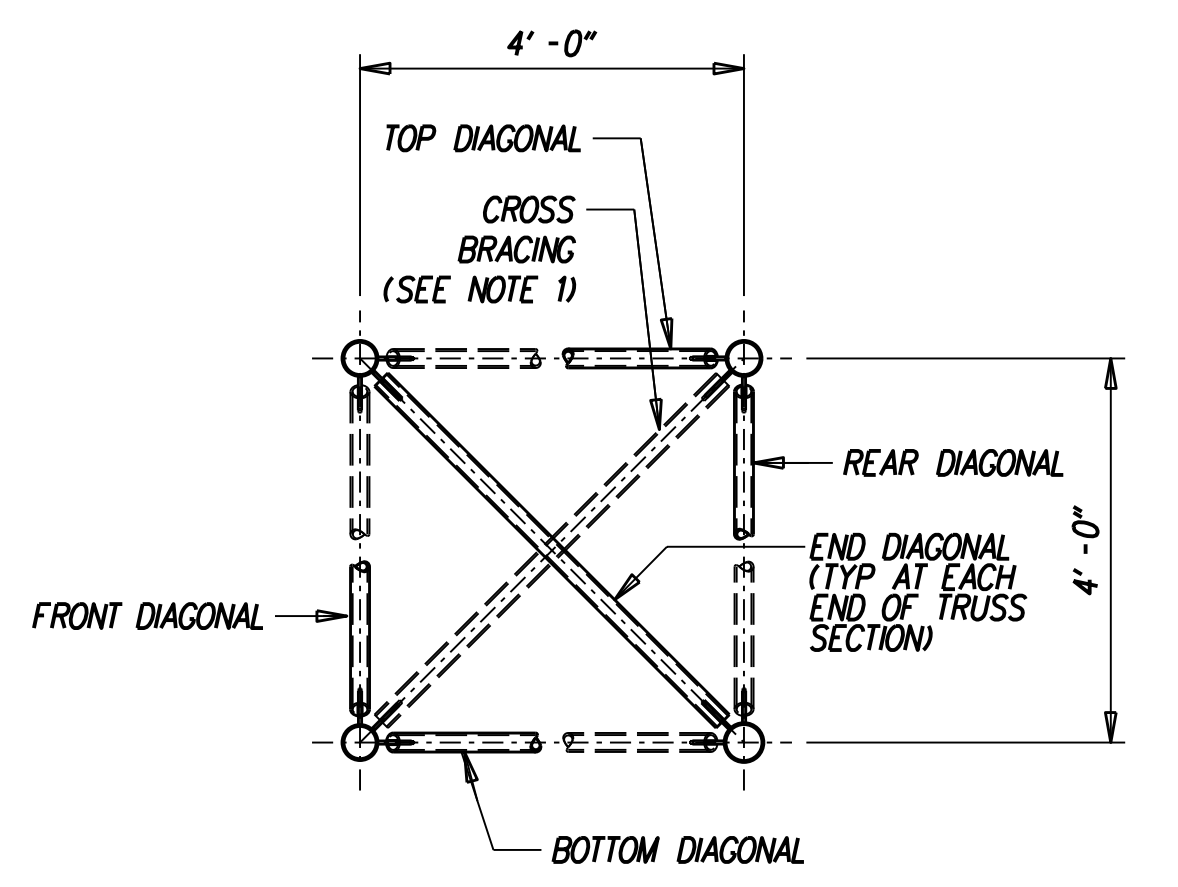
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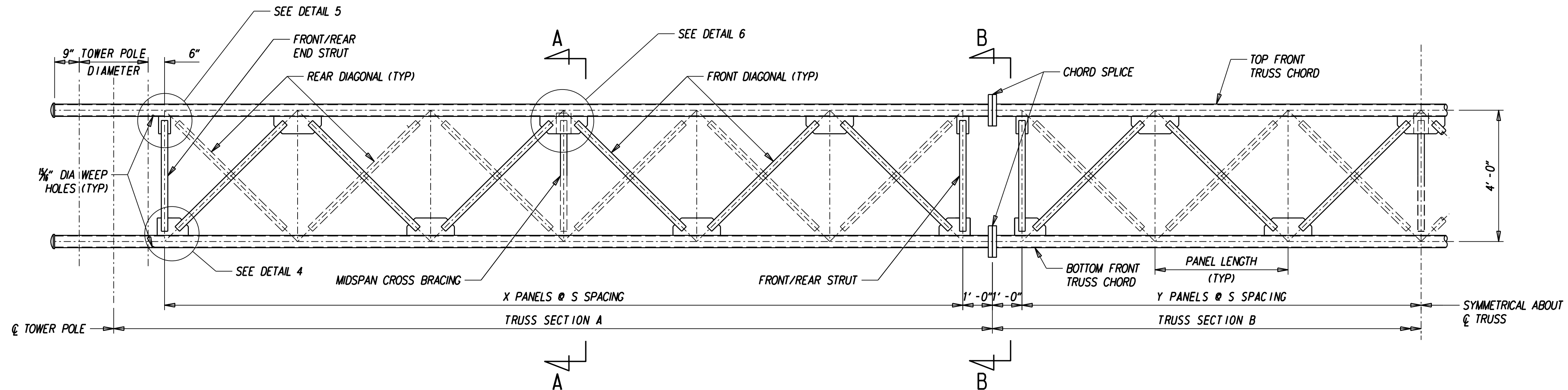


TOP VIEW OF TRUSS

(TYPE 2 TRUSS SHOWN. SEE TRUSS DIMENSIONS TABLE BELOW FOR TYPE 4)

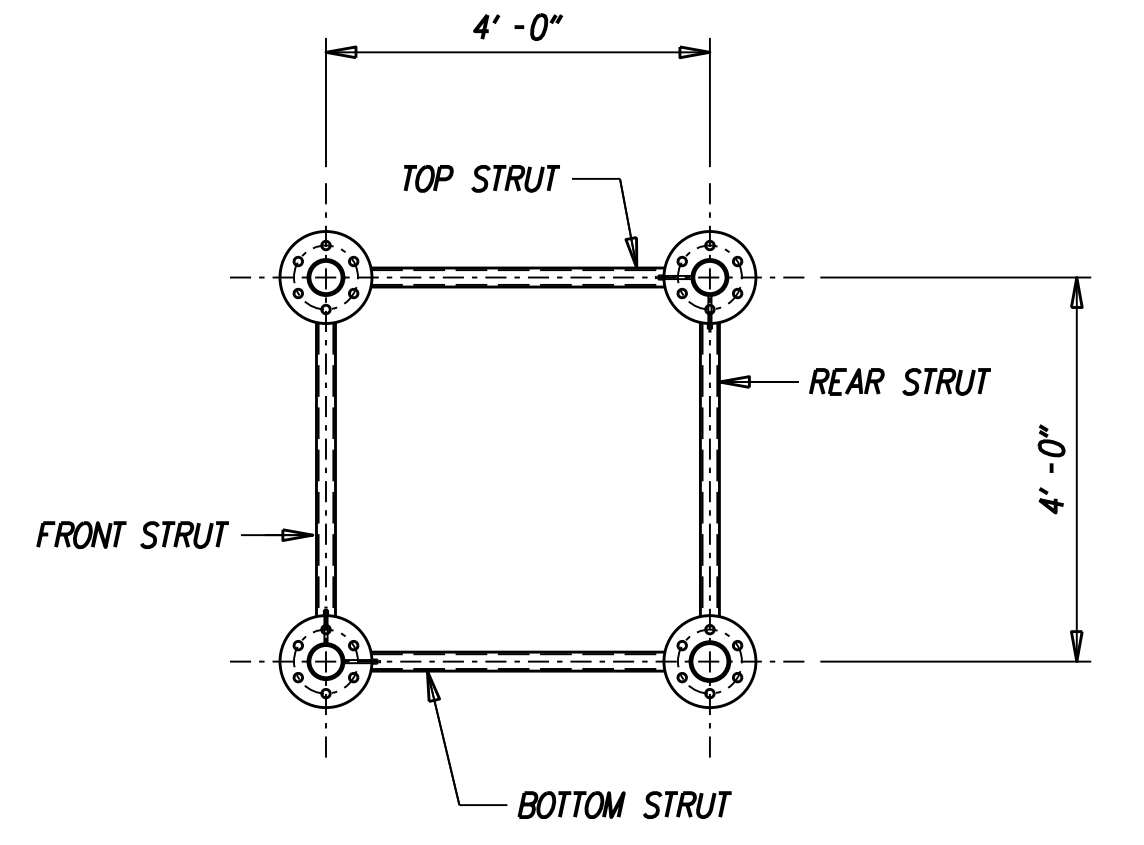


SECTION A-A



FRONT VIEW OF TRUSS

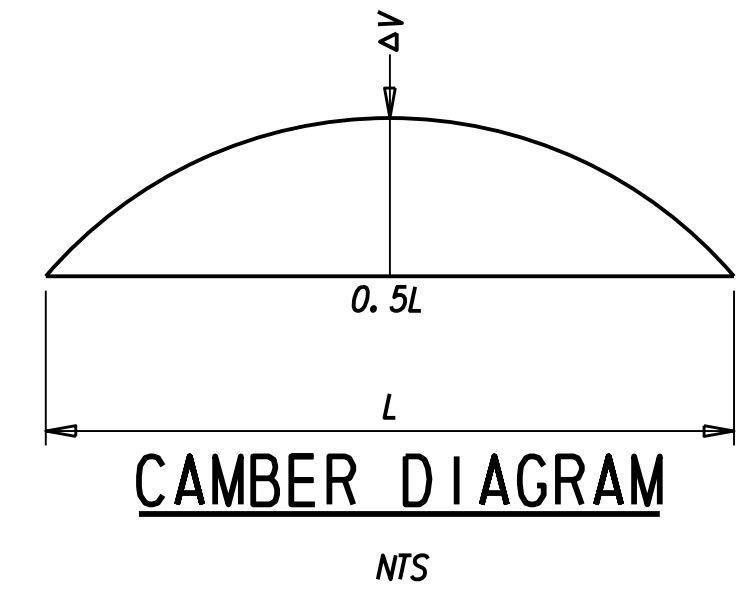
(TYPE 2 TRUSS SHOWN. SEE TRUSS DIMENSIONS TABLE BELOW FOR TYPE 4)



SECTION B-B

TRUSS DIMENSIONS						
TYPE	S: SPACING	X: # OF PANELS	Y: # OF PANELS	TOWER POLE DIAMETER	TRUSS SECTION A	TRUSS SECTION B
2	4' - 1"	6	3	1' - 6"	26' - 9"	26' - 6"
4	3' - 10 1/8"	5	3	1' - 6"	21' - 5 5/8"	25' - 0 3/4"

MEMBER SIZES		
TYPE	TRUSS CHORD	TRUSS CHORD BRACING
2	4.5" OD x .237" THICK	2.375" OD x .154" THICK
4	6.63" OD x .280" THICK	4.000" OD x .226" THICK



TYPE	ΔV
2	1.78"
4	1.17"

NOTES:

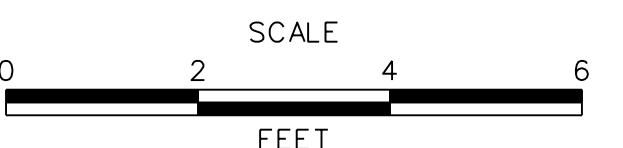
- CROSS BRACING MEMBERS ALTERNATE IN DIRECTION AT PANEL POINT NEAREST CENTER LINE OF TRUSS SECTION. FOR TYPE 4 IN TRUSS SECTION WITH 5 PANELS, PROVIDE CROSS BRACING TWO PANELS FROM THE SPLICE.
- TRUSSES SHALL BE FABRICATED WITH CAMBER AT THE CENTER OF THE SPAN EQUAL TO THE VALUE GIVEN BY THE CAMBER DIAGRAM. ALL TRUSSES SHALL BE ASSEMBLED IN THE SHOP IN A NO LOAD CONDITION TO ENSURE FIT AT SPLICES AND TO CHECK CAMBER.

REFERENCES:

- GENERAL NOTES - OSS-01
 CONNECTION DETAILS - 1 OSS-06
 CONNECTION DETAILS - 2 OSS-07



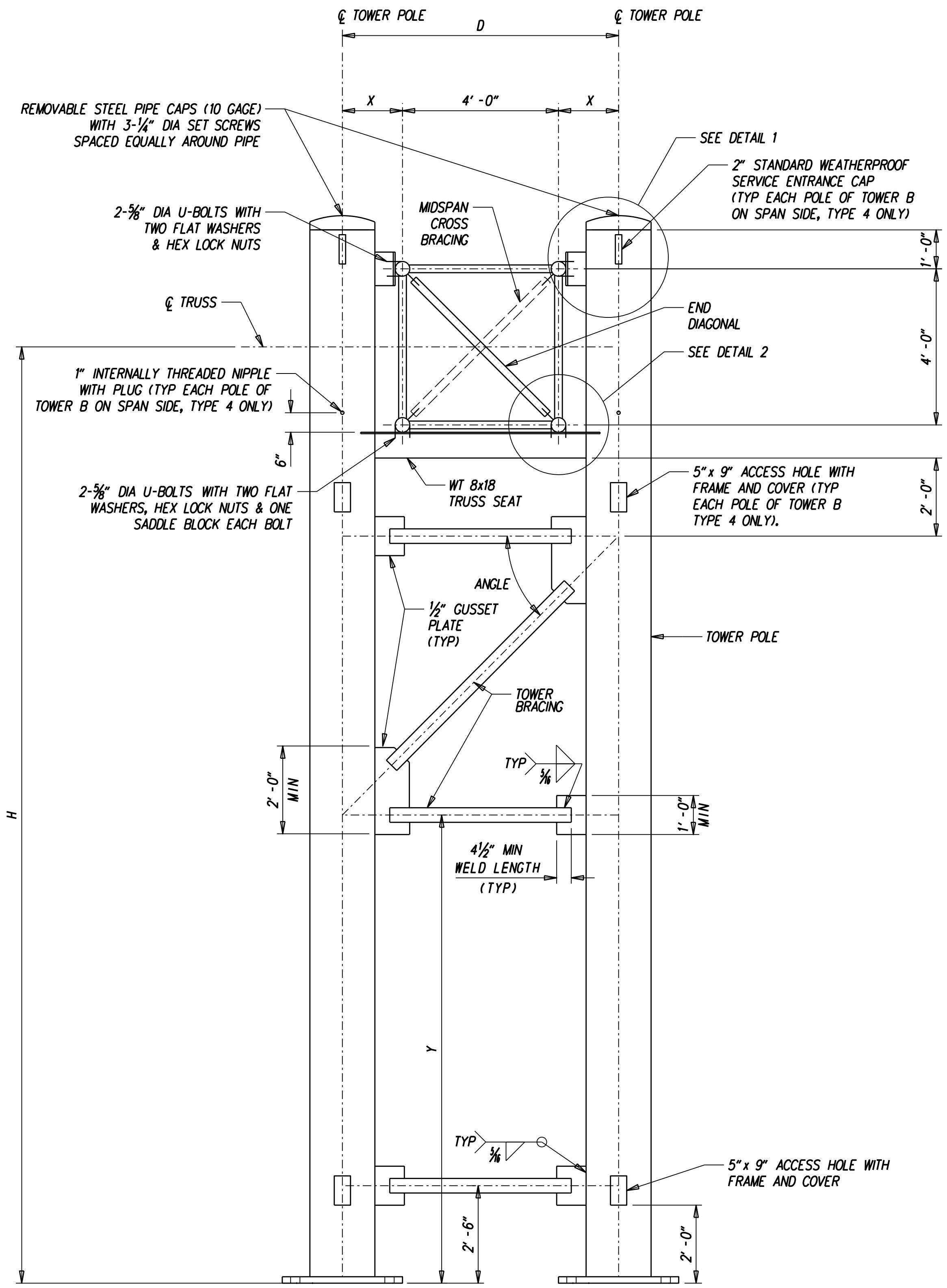
ADDENDUMS / REVISIONS



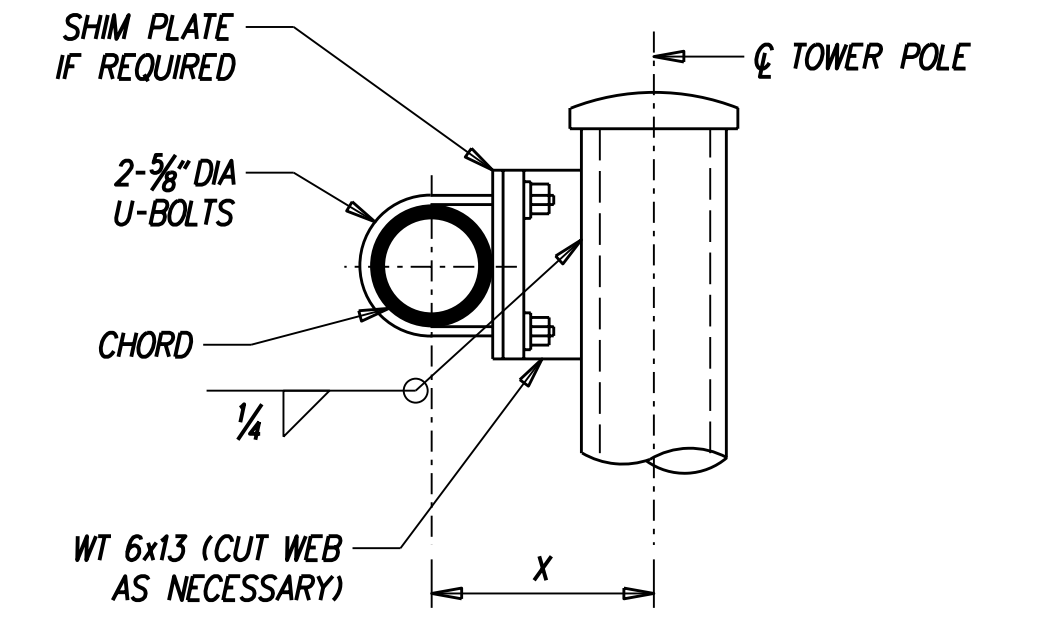
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT T200811301	BRIDGE NO. -
COUNTY NEW CASTLE	DESIGNED BY: ADL/SPM CHECKED BY: YY/DJP

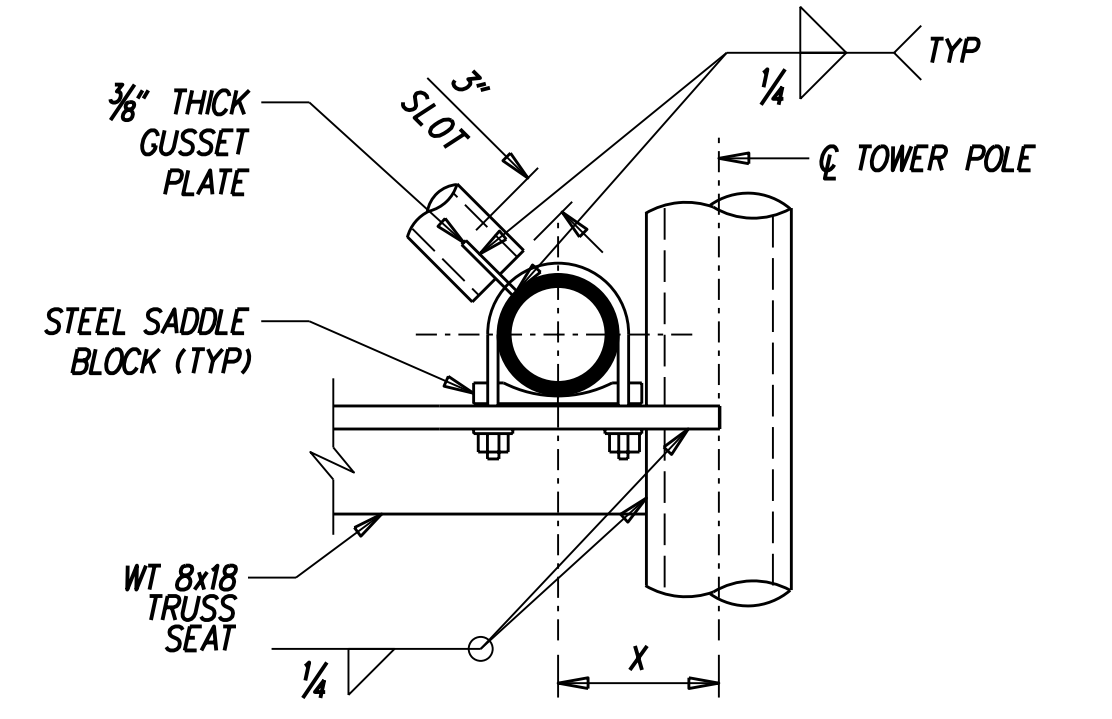
TRUSS DETAILS	SHEET NO. 331
	TOTAL SHTS. 850
	OSS-04



END VIEW OF TOWER



DETAIL 1



DETAIL 2

(VERTICAL AND HORIZONTAL TRUSS MEMBERS NOT SHOWN FOR CLARITY)

TOWER DIMENSIONS					
TYPE	H	D	ANGLE	X	Y
2	25' - 0"	6' - 11"	49.4°	1' - 5 1/2"	12' - 0"
4	25' - 0"	7' - 11"	48.4°	1' - 6 1/2"	12' - 0"

MEMBER SIZES		
TYPE	TOWER POLE	TOWER BRACING
2	18" OD x .25" THICK	4.5" OD x .237" THICK
4	18" OD x .25" THICK	4.5" OD x .237" THICK

NOTES:

1. PROVIDE SLOT IN TOWER BRACING MEMBERS FOR CONNECTION TO GUSSET PLATES.

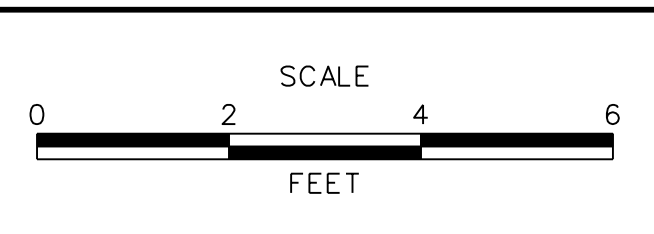
REFERENCES:

GENERAL NOTES OSS-01

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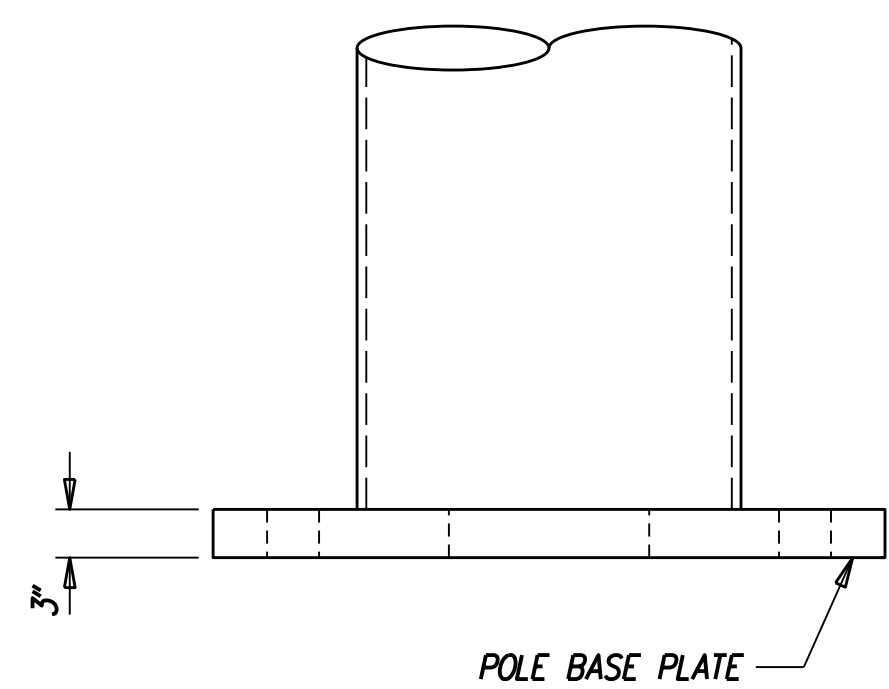
ADDENDUMS / REVISIONS



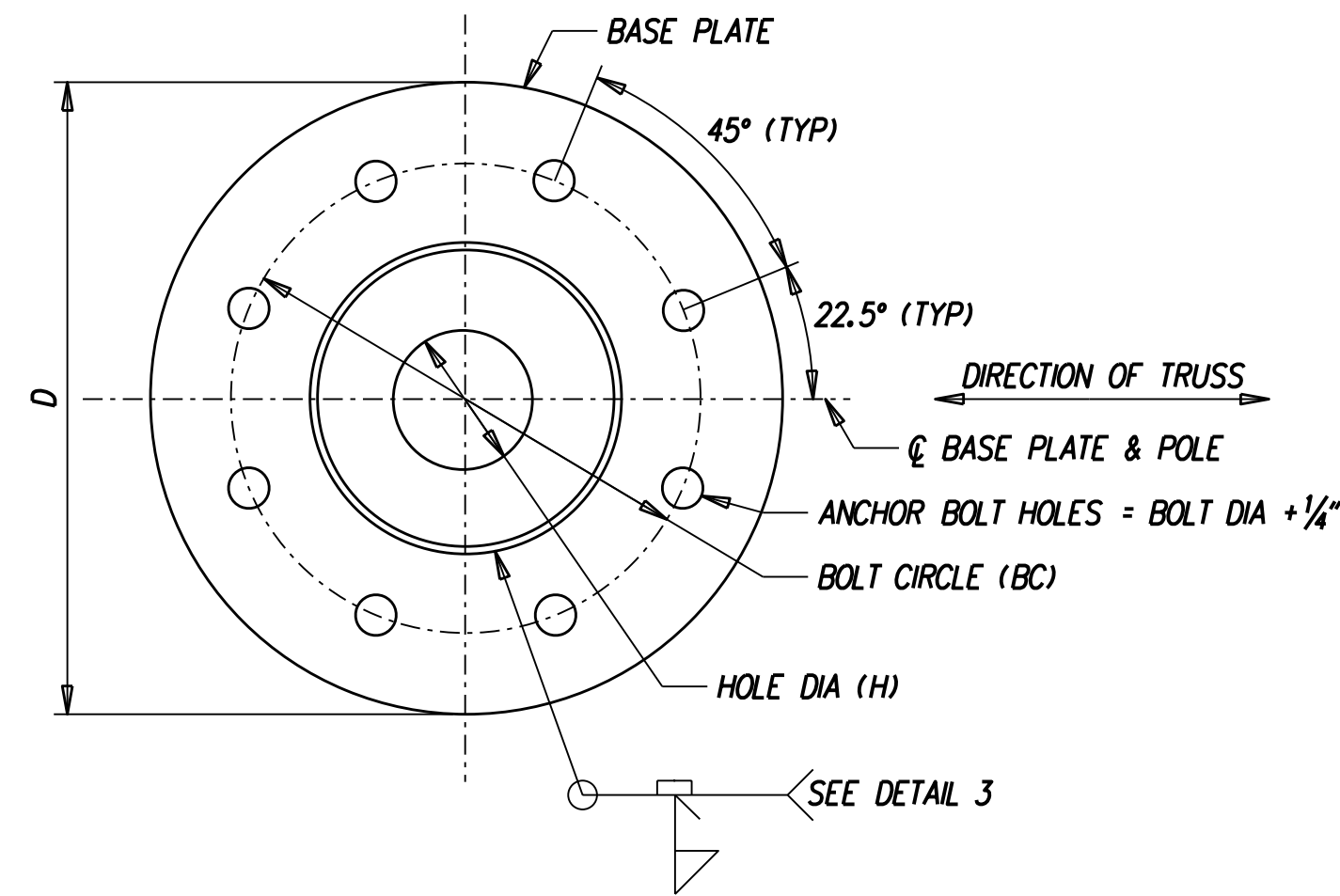
**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.	-
T200811301	DESIGNED BY:	ADL/SPM
COUNTY	CHECKED BY:	YY/DJP
NEW CASTLE		

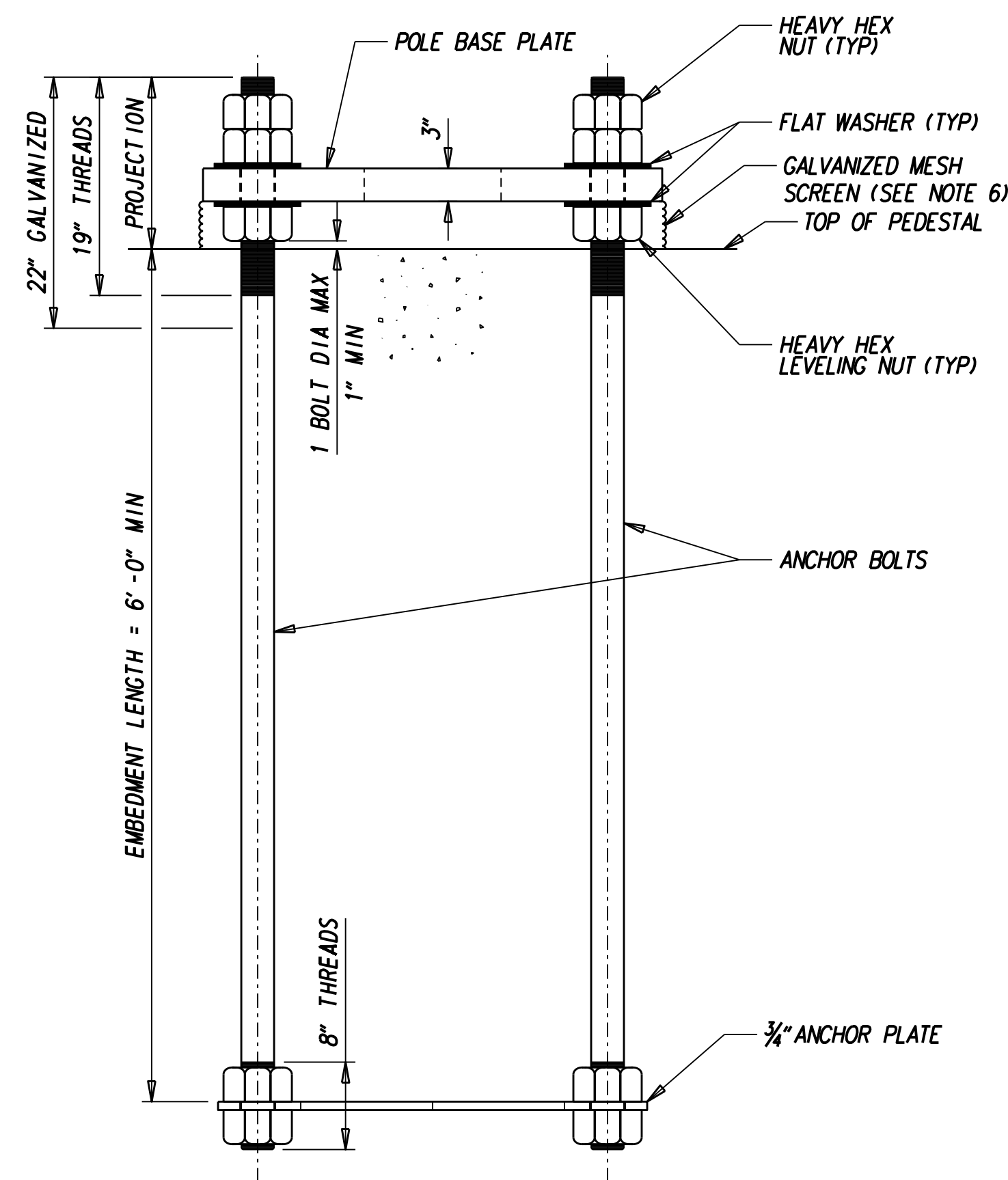
TOWER ELEVATION DETAILS	SHEET NO.	332
	TOTAL SHTS.	850
	OSS-05	



ELEVATION - POLE BASE PLATE

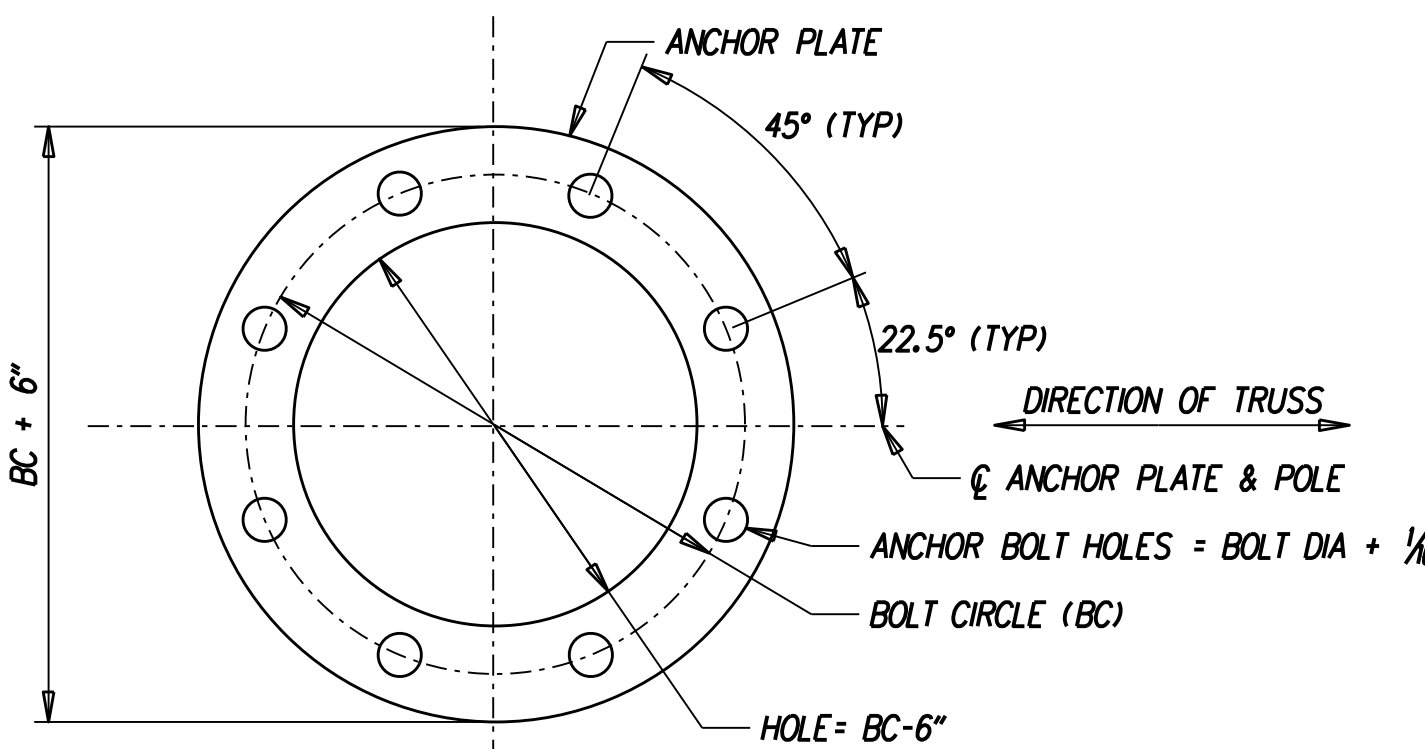


PLAN - POLE BASE PLATE

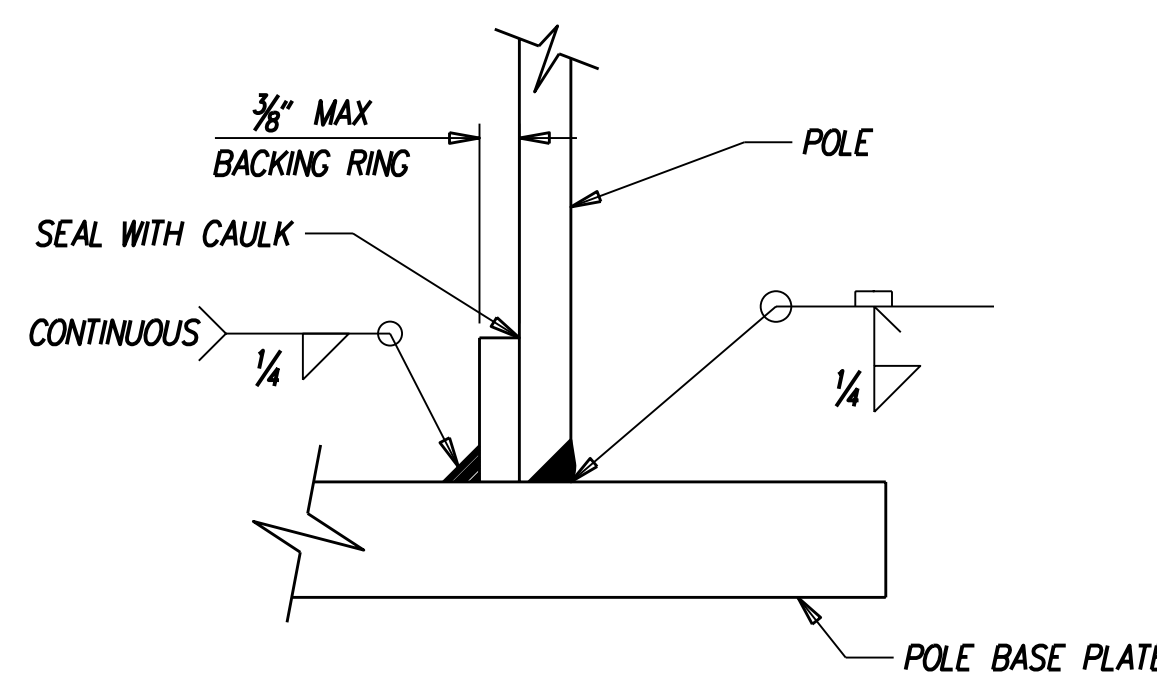


ANCHOR BOLT DETAIL

BASE PLATE AND ANCHOR PLATE DATA						
TYPE	POLE DIA	D	BC	H	ANCHOR BOLT DIA	PROJECTION
2	18"	34"	26"	9 1/4"	2 1/2"	14 1/2"
4	18"	34"	26"	9 1/4"	2 1/2"	14 1/2"

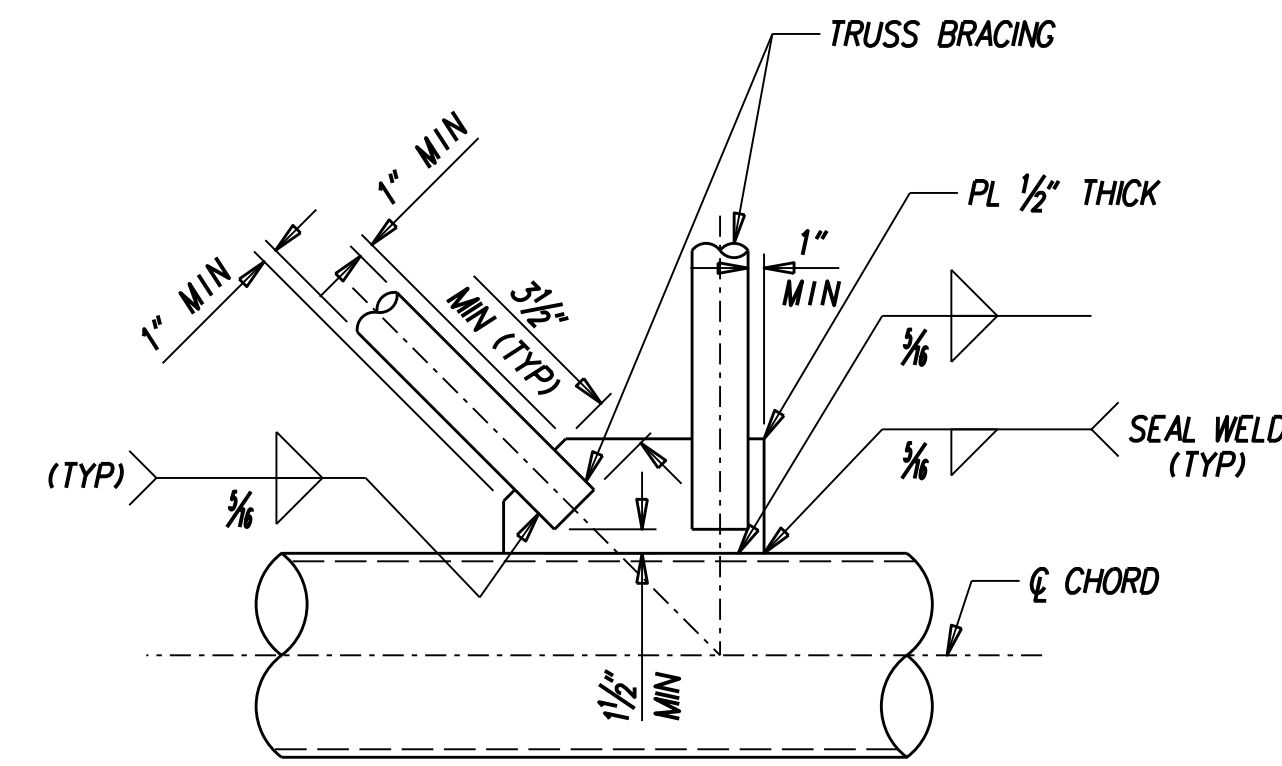


PLAN - ANCHOR PLATE

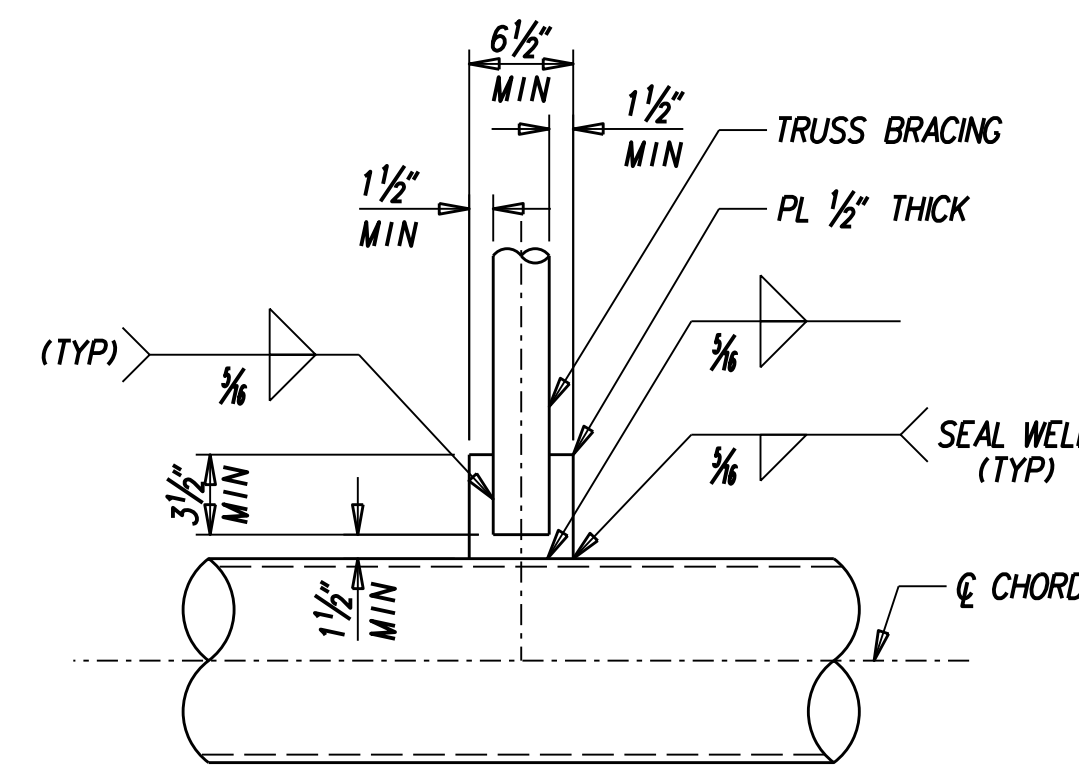


NOTE = BACKING RING MUST BE FITTED/SIZED TO THE POLE AND CONTINUOUSLY FILLET WELDED TO THE BASE PLATE BEFORE THE FULL PENETRATION GROOVE WELD IS MADE.

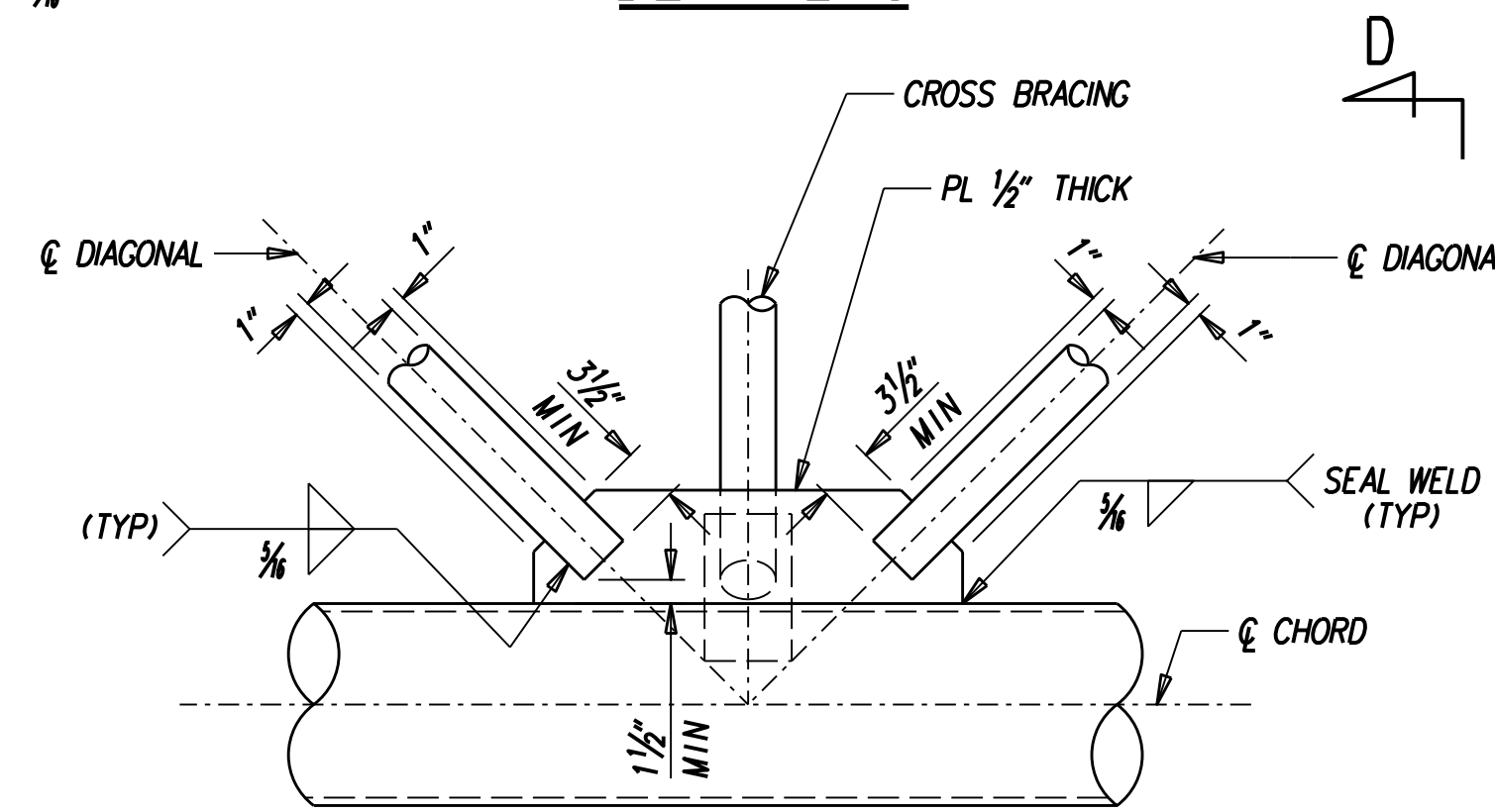
DETAIL 3



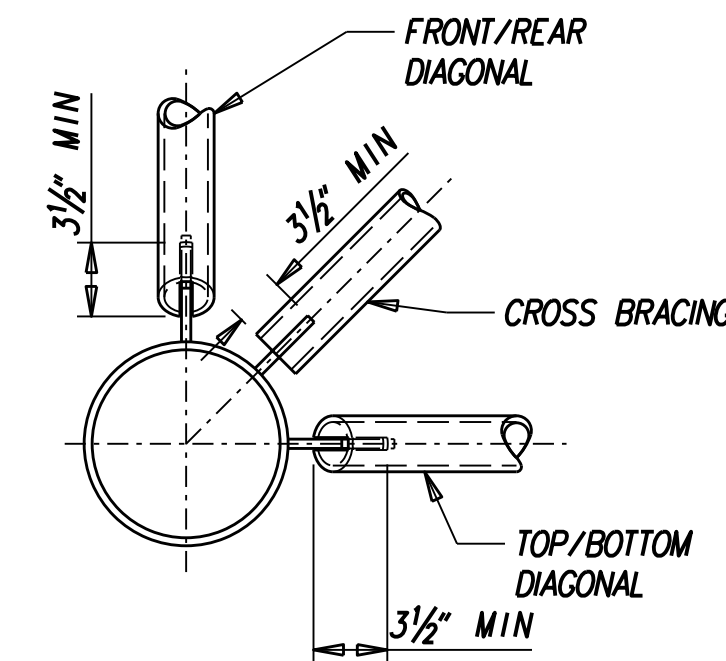
DETAIL 4



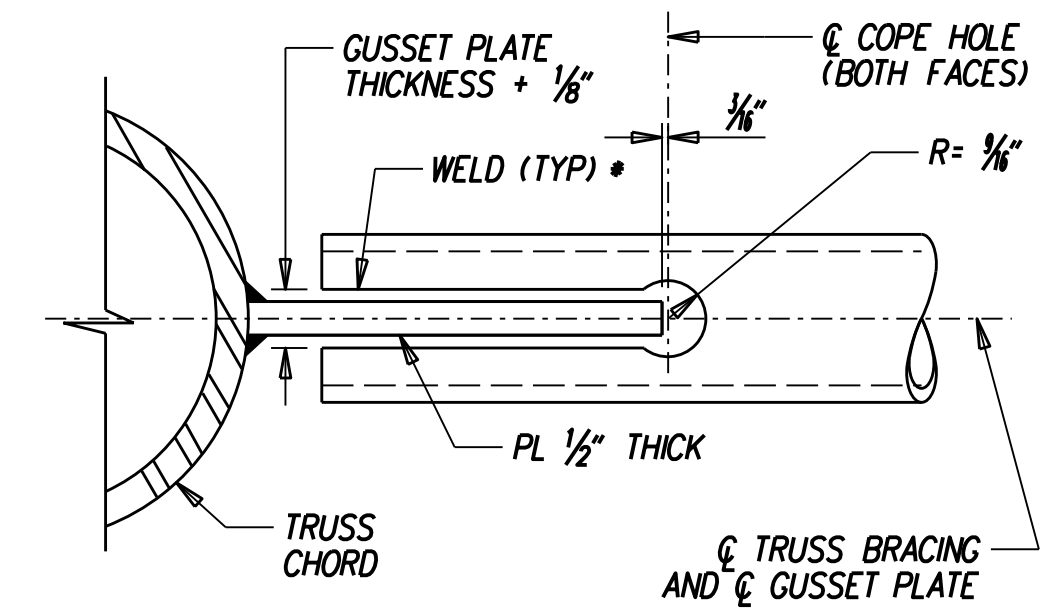
DETAIL 5



DETAIL 6



SECTION D-D



COPE HOLE DETAIL

* TO PREVENT INTERSECTING FILLET WELDS ON OPPOSITE SIDES OF A COMMON PLANE, PROVIDE A WELD 'HOLDBACK' AT THE EDGE OF THE GUSSET PLATE IN THE BRACING MEMBERS EQUAL TO THE MINIMUM TOTAL WELD SIZE REQUIRED. ENSURE MINIMUM TOTAL WELD LENGTHS ARE ACHIEVED.

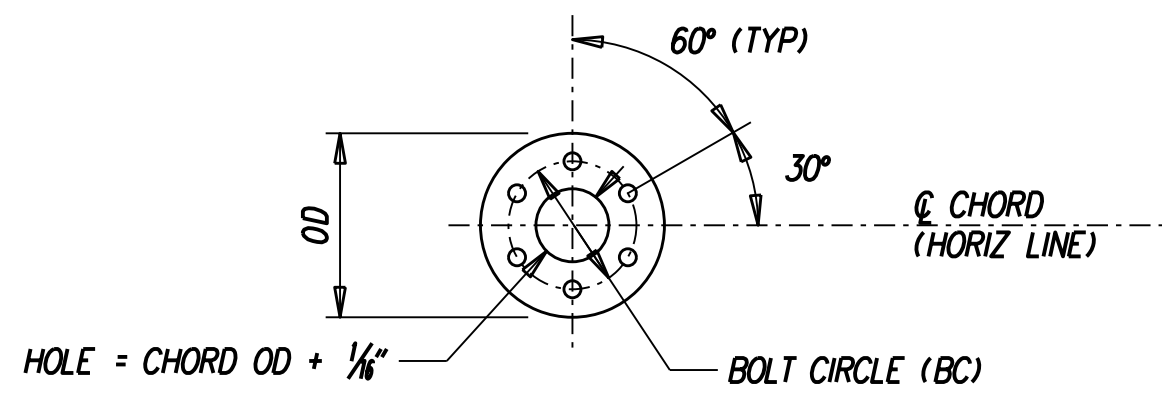
NOTES:

1. PROVIDE SLOT IN TRUSS CHORD BRACING MEMBERS FOR CONNECTION TO GUSSET PLATES.
2. ALL ANCHOR BOLTS SHALL BE PLUMB AFTER FOUNDATION INSTALLATION. STEEL TEMPLATE PLATE SHALL BE USED TO SET ANCHOR BOLTS.
3. POLE BASE PLATE SHALL BE IN FULL CONTACT WITH ALL FLAT WASHERS.
4. ALL ANCHOR BOLTS SHALL BE TIGHTENED USING TURN OF NUT METHOD (30° MIN TO 45° MAX TURN AFTER SNUG TIGHT).
5. THREADS OF BOLTS TO BE BURRED OFF AT FACE OF NUT AFTER COLUMN IS INSTALLED.
6. DO NOT USE GROUT BETWEEN BASE PLATE AND CONCRETE PEDESTAL. SEAL WITH GALVANIZED MESH SCREEN, 1/4" TO 3/8" OPENING, TO PREVENT ENTRY OF RODENTS. SCREEN IS TO BE REMOVABLE AND ATTACHED TO BASE PLATE WITH STAINLESS STEEL HARDWARE. SCREEN IS TO BE OF SUFFICIENT STIFFNESS TO PREVENT ENTRY BETWEEN SCREEN AND FOUNDATION WHILE PERMITTING DRAINAGE.
7. SLOPE TOP OF CONCRETE PEDESTAL 0.50% FROM CENTER TO NEAR EDGES FOR DRAINAGE.

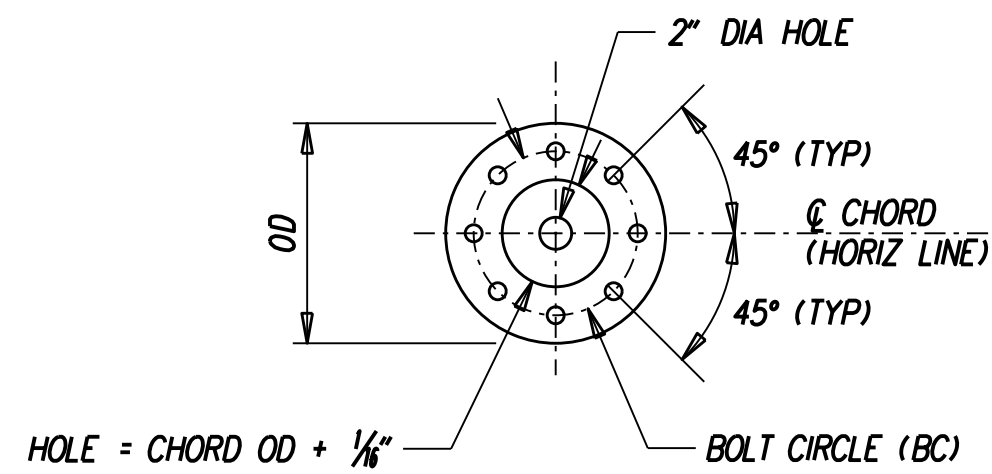
REFERENCES:

GENERAL NOTES OSS-01
TRUSS AND TOWER DETAILS OSS-04 AND OSS-05

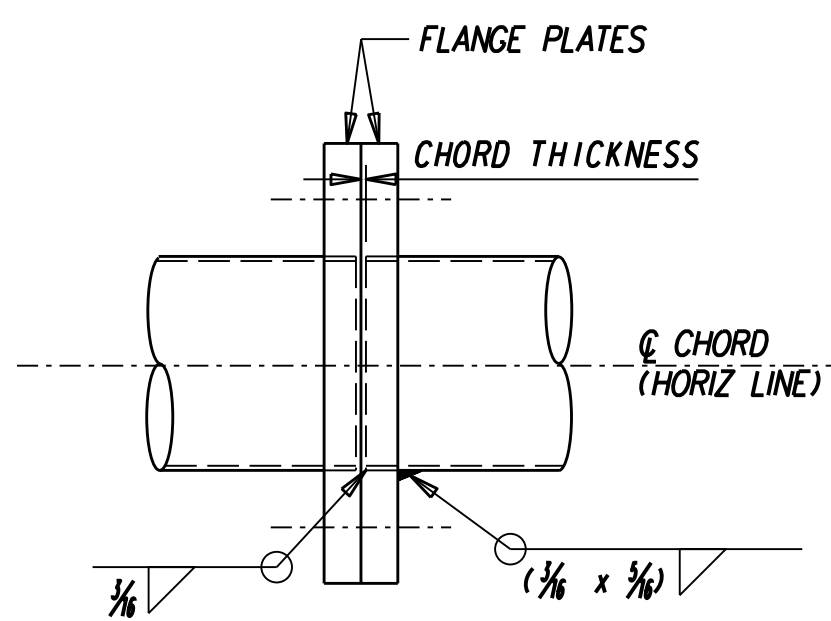
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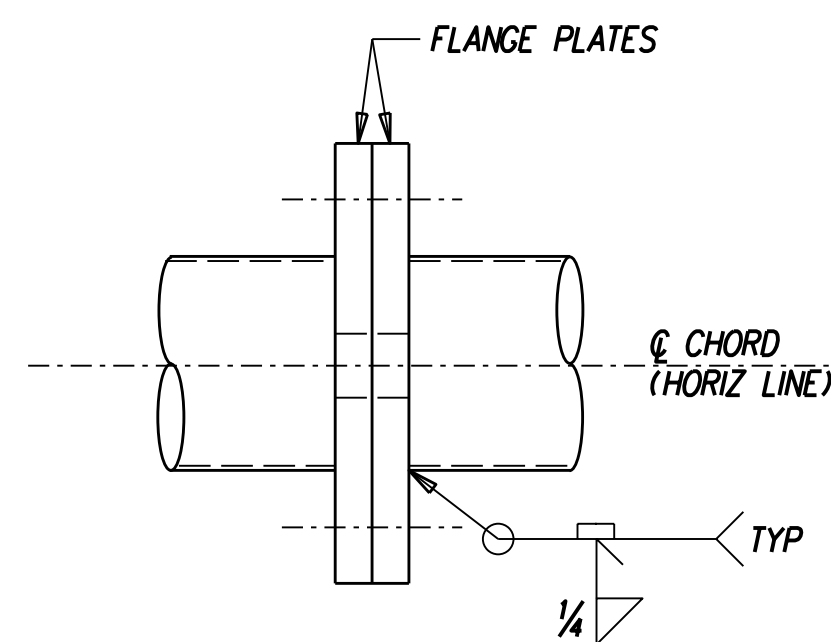
**CHORD SPLICE:
FLANGE PLATE TYPE 2**



**CHORD SPLICE:
FLANGE PLATE TYPE 4**



**FLANGE SPLICE DETAIL:
TYPE 2**



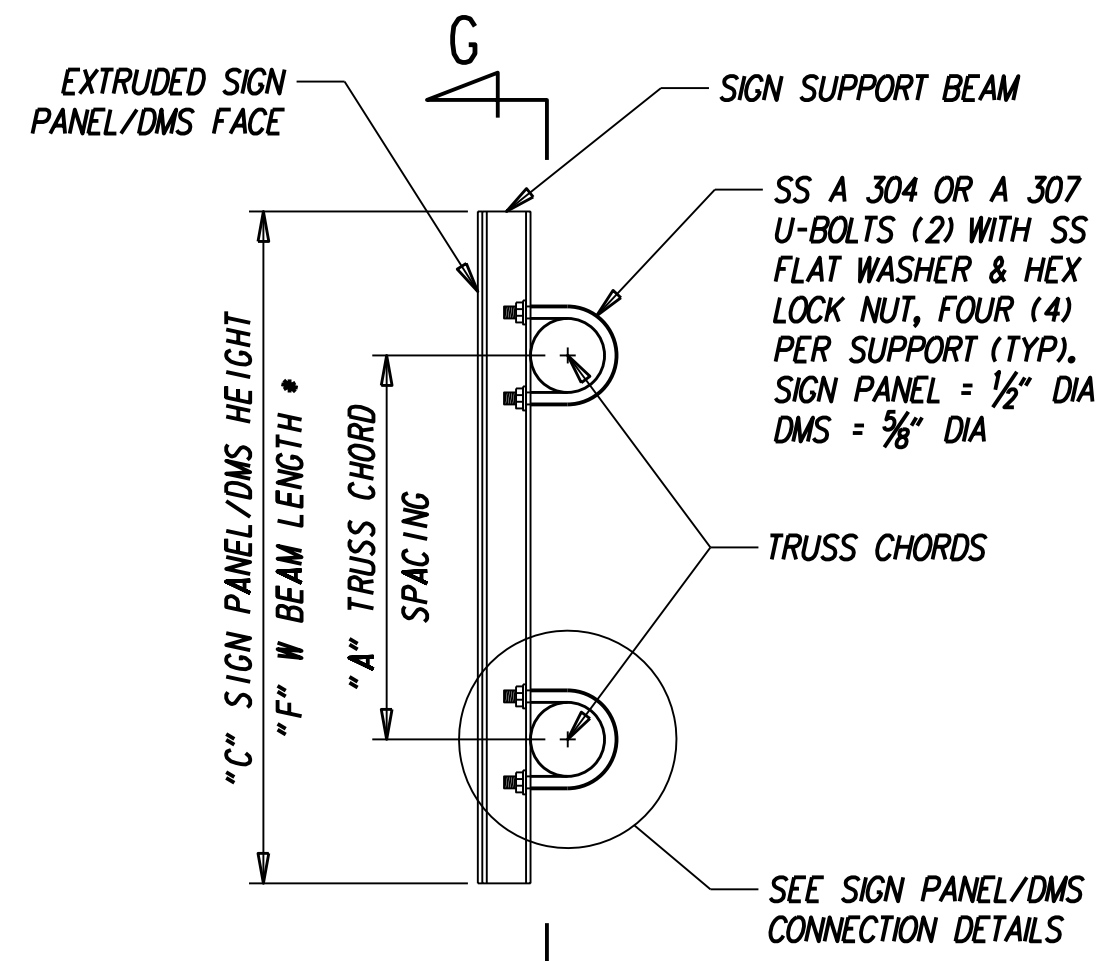
**FLANGE SPLICE DETAIL:
TYPE 4**

OVERHEAD SIGN CHORD SPLICE SCHEDULE					
TYPE	CHORD SIZE	OD	BC	NO & SIZE OF BOLTS	FLANGE PLATE THICKNESS
2	4.50" OD x .237" THK	11 1/2"	8"	6-1" DIA	2"
4	6.625" OD x .237" THK	13 3/4"	10 1/4"	8'-1" DIA	2"

REFERENCES:

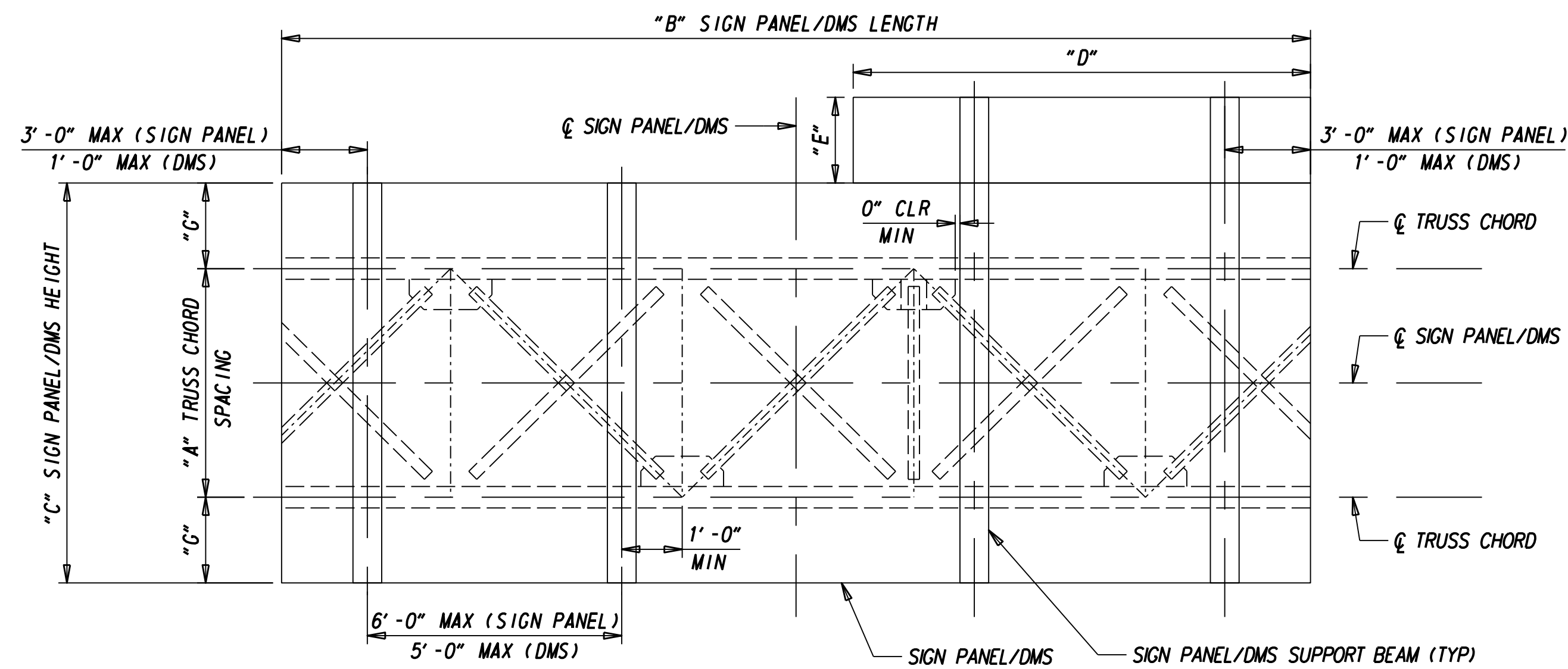
GENERAL NOTES OSS-01
CONNECTION DETAILS OSS-06

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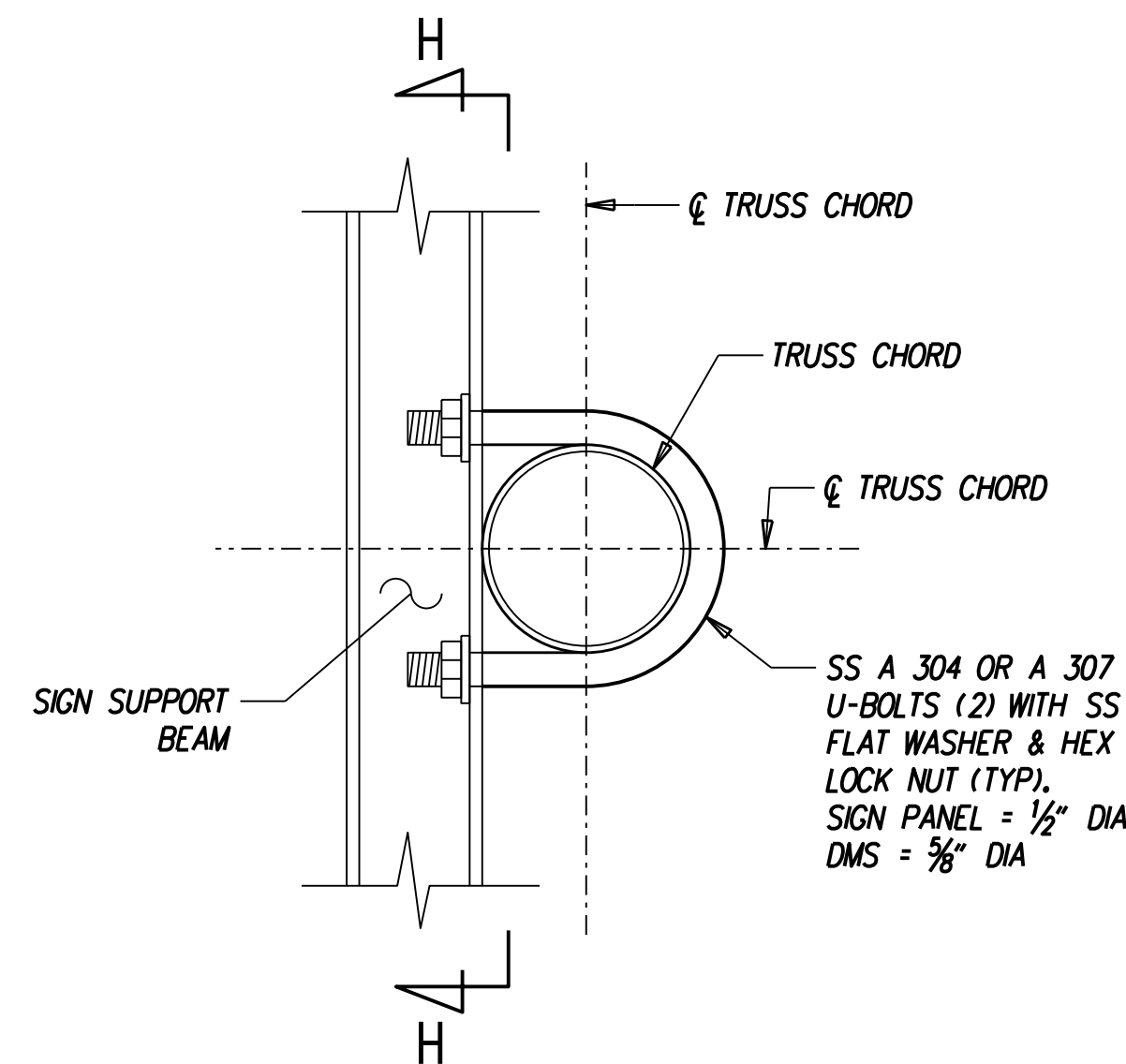


* BEAM LENGTH EQUALS SIGN PANEL/DMS HEIGHT

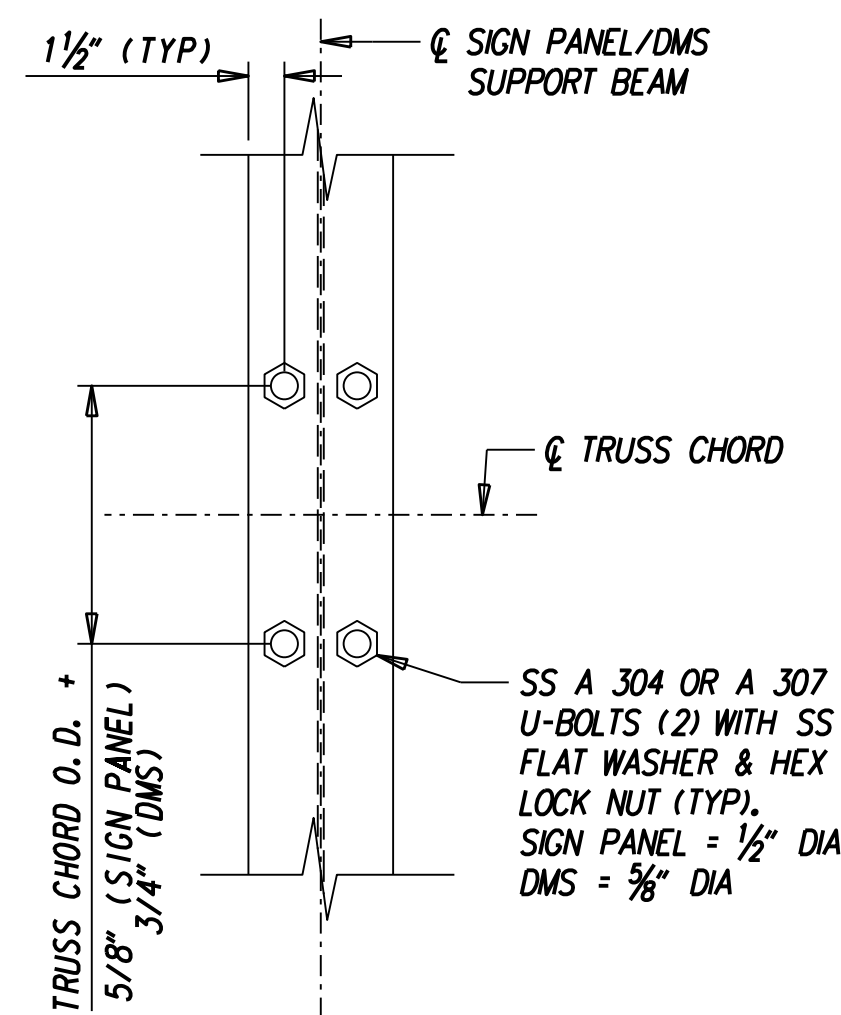
SIGN SUPPORT FOR OVERHEAD SIGN STRUCTURES



SECTION G-G



SIGN PANEL/DMS CONNECTION DETAIL



SECTION H-H

SIGN SUPPORTS TABLE										
SIGN STRUCTURE	PANEL DESIGNATION	NUMBER OF SUPPORTS (MIN)	SUPPORT SIZE	A	B	C	D	E	F	G
SO1405	10	4	W6x25	4'-0"	23'-0"	13'-6"	9'-0"	2'-6"	13'-6" / 16'-0"	4'-9"
SO1410	DMS	8	W6x15	4'-0"	35'-0"	8'-0"			8'-0"	2'-0"

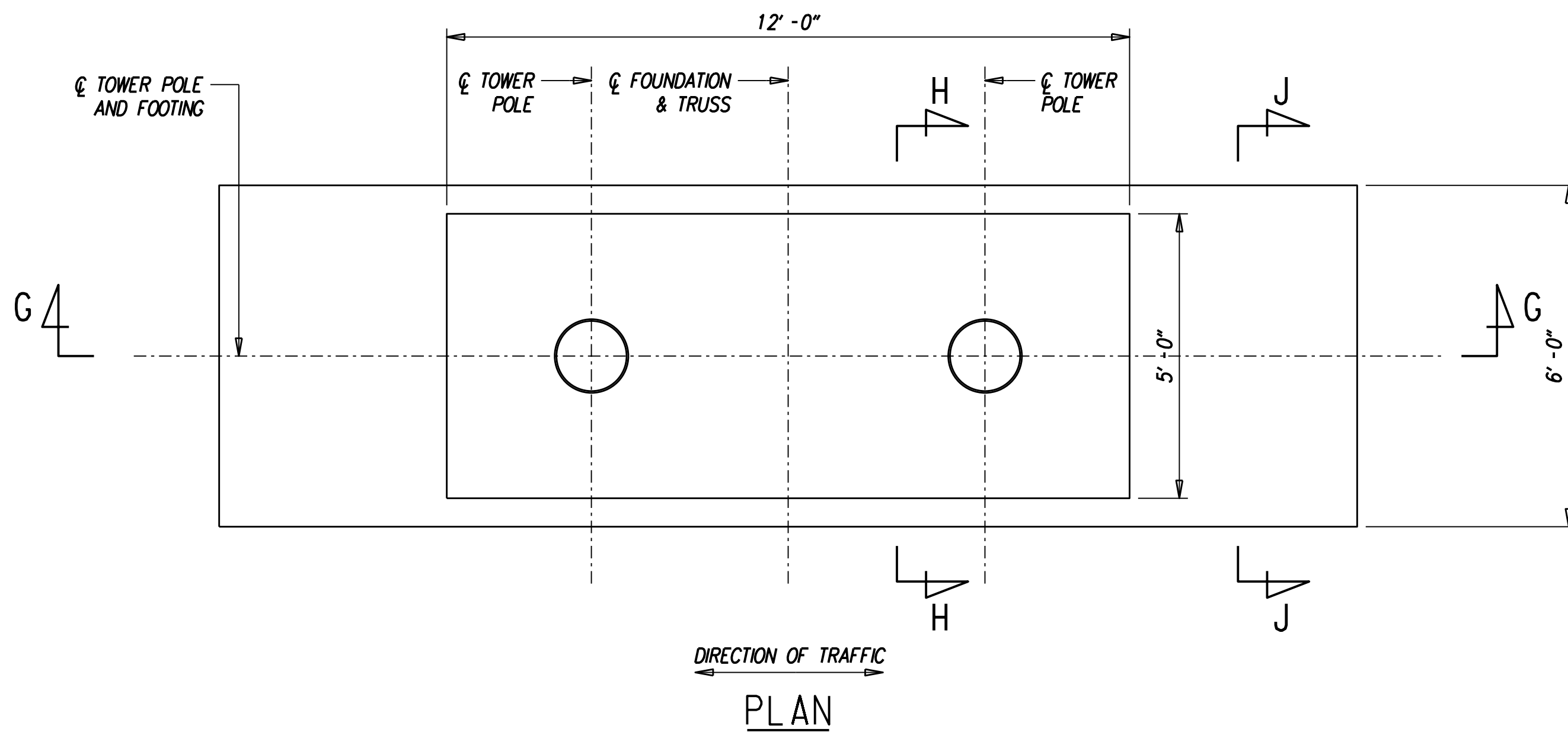
NOTES:

- ALL SIGN PANELS SHALL BE INSTALLED SO THAT THE PANEL IS CENTERED VERTICALLY ALONG THE CHORD TRUSS.

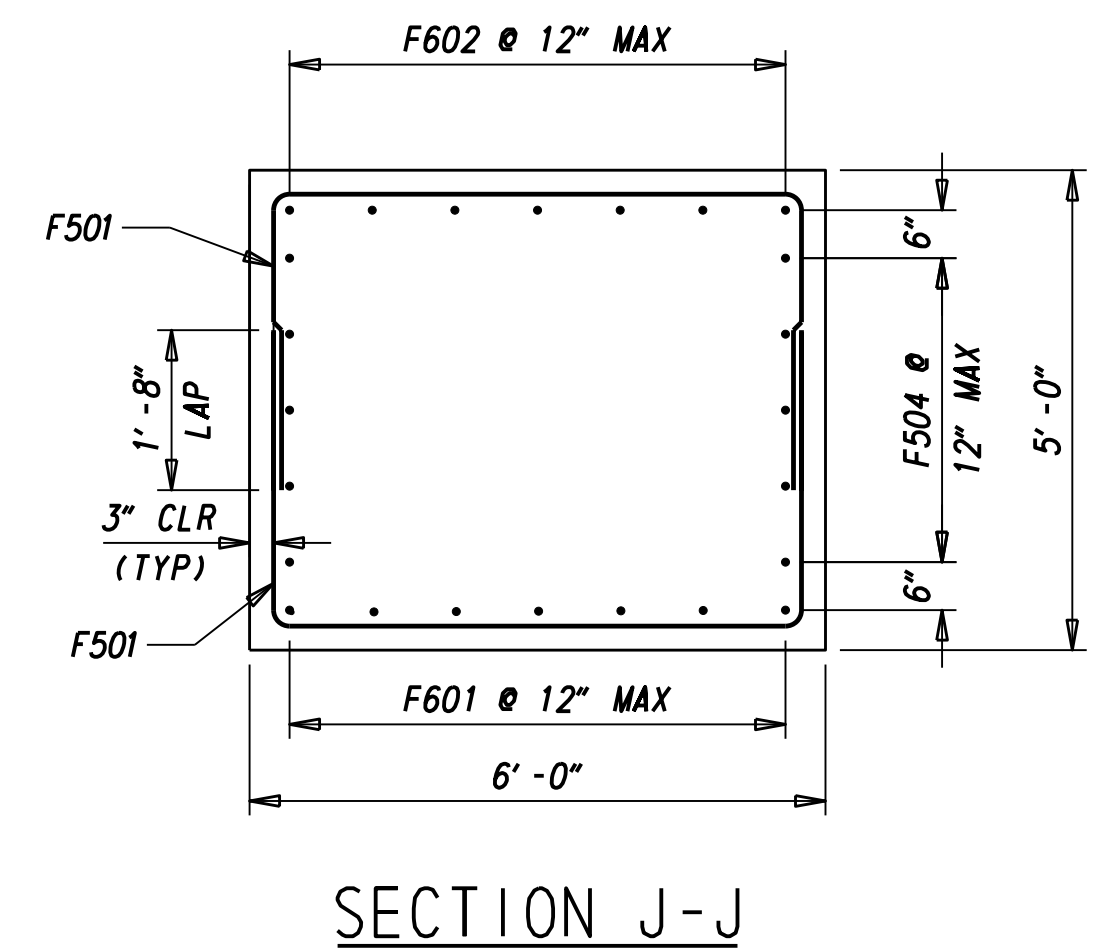
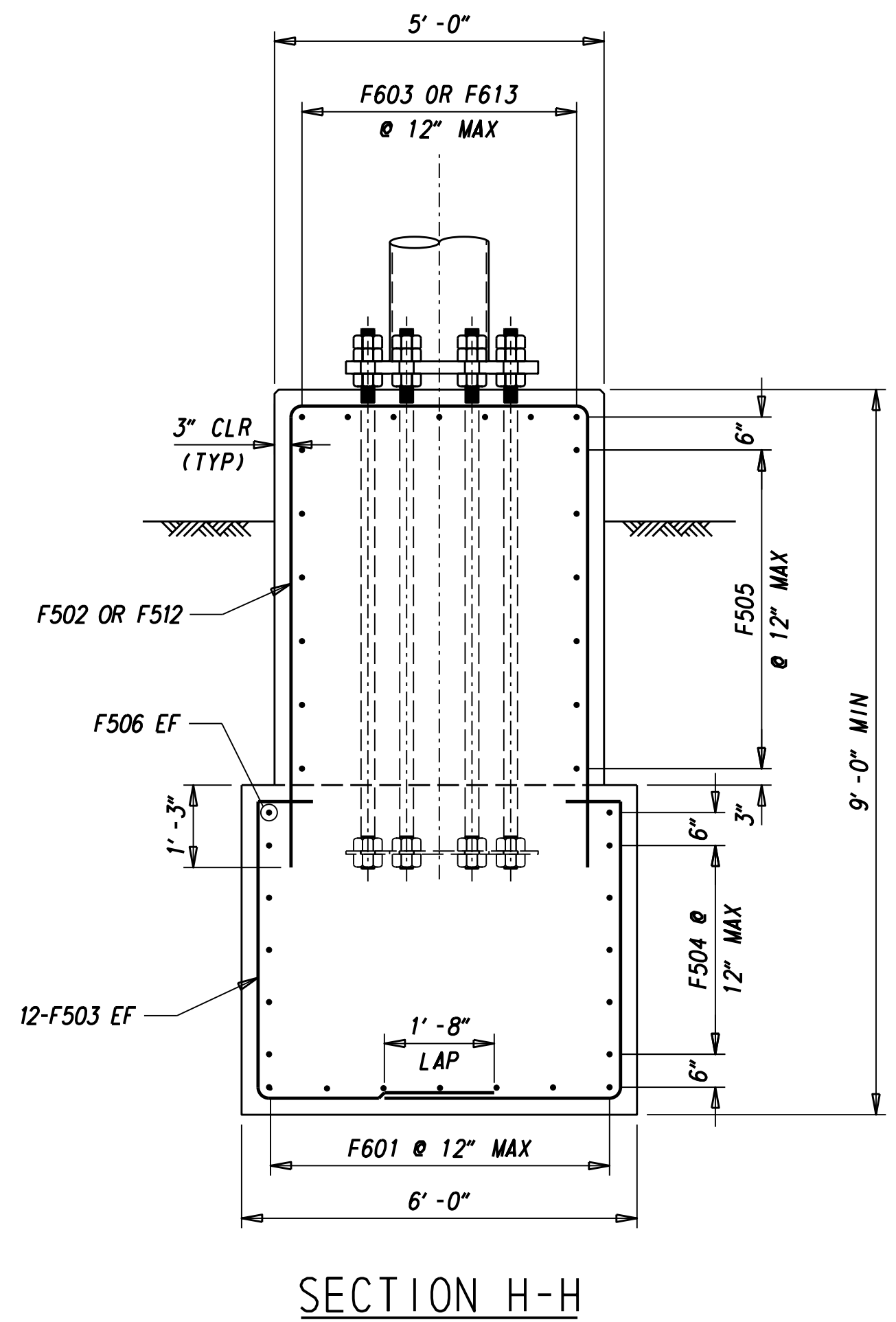
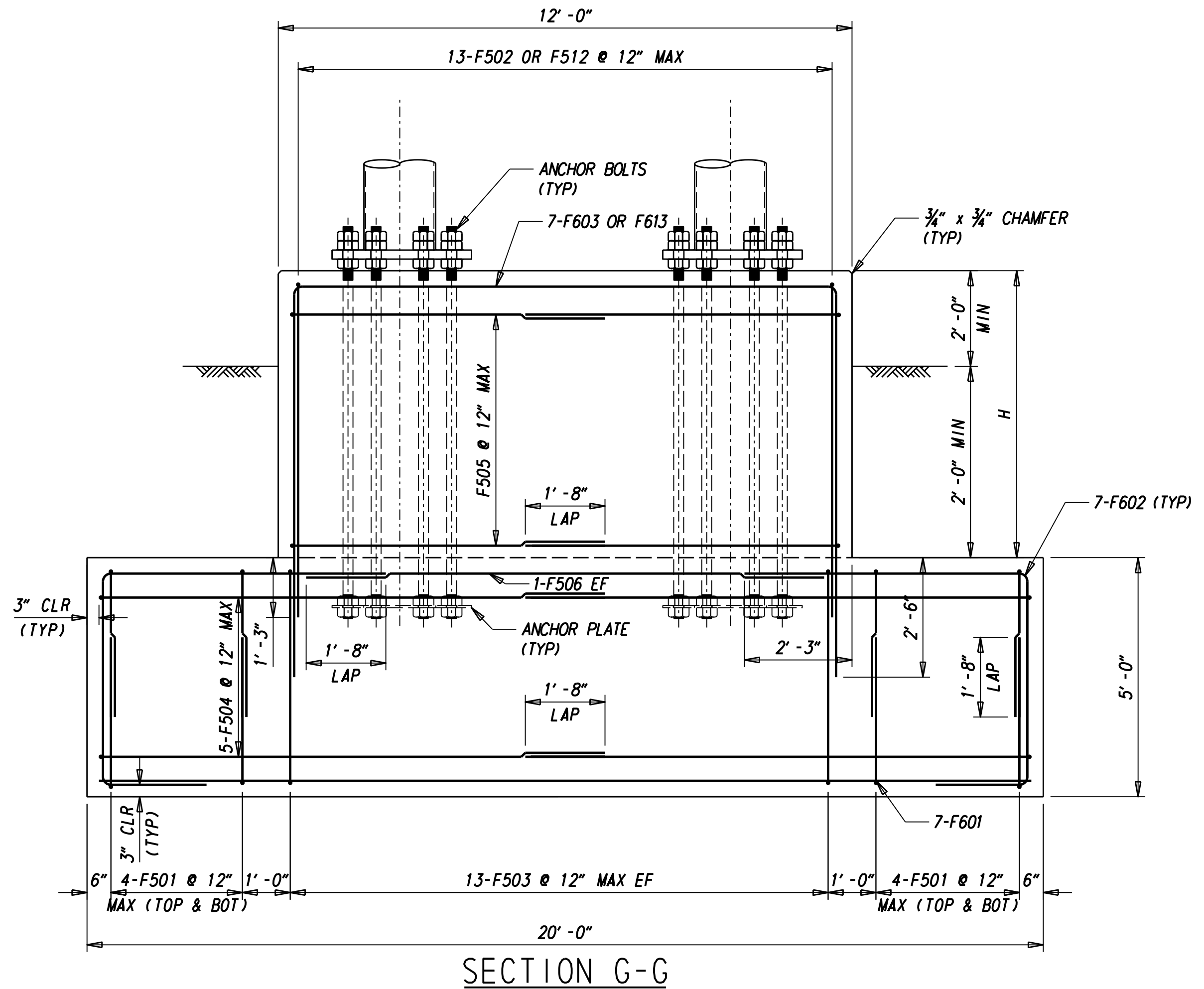
REFERENCES:

GENERAL NOTES 055-01

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PEDESTAL HEIGHT - H			
SS#	TYPE	TOWER A	TOWER B
		S01405	2
S01410	4	6' - 0"	7' - 6"

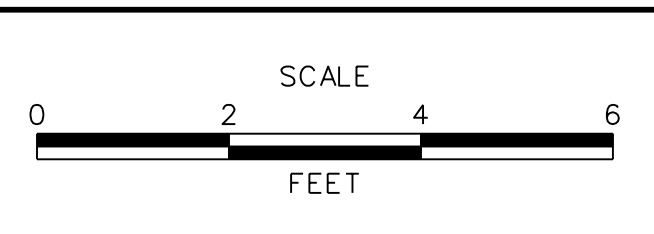


REFERENCES:

- GENERAL NOTES OSS-01
- REINFORCEMENT BAR SCHEDULE OSS-10

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ADDENDUMS / REVISIONS

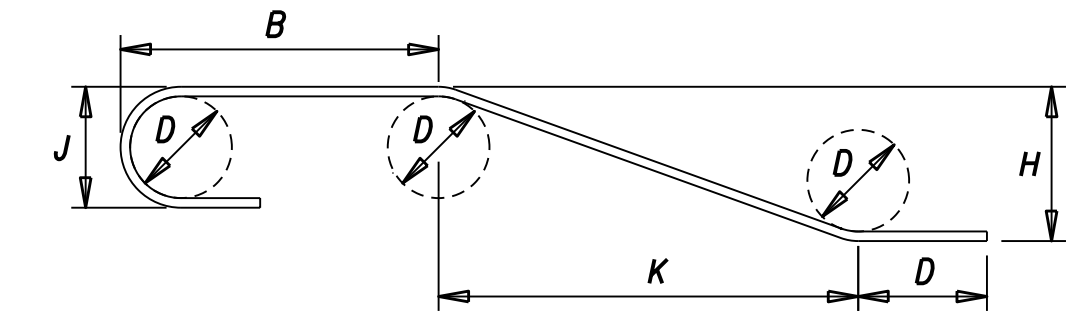


CONTRACT	BRIDGE NO.	-
T200811301	DESIGNED BY:	ADL/SPM
COUNTY	CHECKED BY:	YY/DJP
NEW CASTLE		

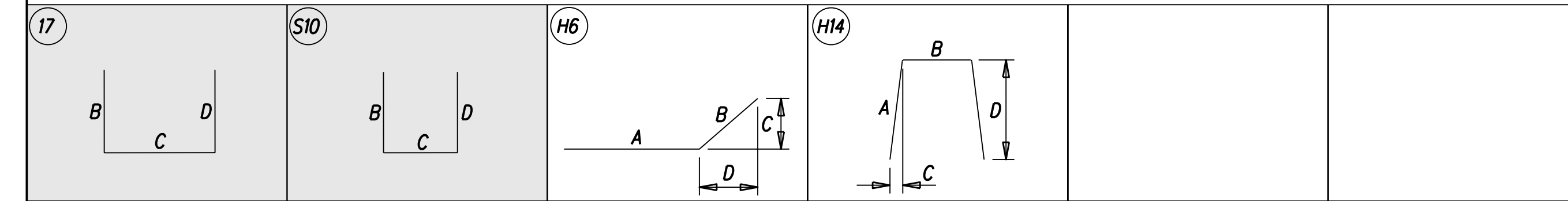
SPECIFICATIONS						BENDING DIMENSIONS			
QTY.		SIZE	LENGTH	MARK	TYPE	A	B	C	D
A	B								
SO1405									
16	16	5	11'-8"	F501	S10	3'-1"	5'-6"	3'-1"	
13	-	5	16'-6"	F502	S10	6'-0"	4'-6"	6'-0"	
26	26	5	8'-11"	F503	S10	10"	4'-6"	3'-7"	
10	10	5	26'-6 3/4"	F504	17	10'-7"	5'-4 3/4"	10'-7"	
10	14	5	17'-6 3/4"	F505	17	6'-7"	4'-4 3/4"	6'-7"	
2	2	5	10'-11"	F506	STR				
-	13	5	19'-6"	F512	S10	7'-6"	4'-6"	7'-6"	
7	7	6	19'-6"	F601	STR				
14	14	6	12'-7 3/4"	F602	17	6'-0"	4'-4 3/4"	2'-3"	
7	-	6	25'-9 1/2"	F603	17	7'-2 3/8"	11'-4 3/4"	7'-2 3/8"	
-	7	6	28'-9 1/2"	F613	17	8'-8 3/8"	1'-4 3/4"	8'-8 3/8"	
SO1410									
16	16	5	11'-8"	F501	S10	3'-1"	5'-6"	3'-1"	
13	-	5	18'-6"	F502	S10	7'-0"	4'-6"	7'-0"	
26	26	5	8'-11"	F503	S10	10"	4'-6"	3'-7"	
10	10	5	26'-6 3/4"	F504	17	10'-7"	5'-4 3/4"	10'-7"	
12	16	5	17'-6 3/4"	F505	17	6'-7"	4'-4 3/4"	6'-7"	
2	2	5	10'-11"	F506	STR				
-	13	5	21'-6"	F512	S10	8'-6"	4'-6"	8'-6"	
7	7	6	19'-6"	F601	STR				
14	14	6	12'-7 3/4"	F602	17	6'-0"	4'-4 3/4"	2'-3"	
7	-	6	27'-9 1/2"	F603	17	8'-2 3/8"	11'-4 3/4"	8'-2 3/8"	
-	7	6	30'-9 1/2"	F613	17	9'-8 3/8"	11'-4 3/4"	9'-8 3/8"	

NOTES:

- STANDARD BAR BENDS INCLUDE ONLY TYPES 1-32, S1-S12, AND T1-T16.
- ALL DIMENSIONS ARE OUT-TO-OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
- "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TRUSS BARS. WHERE "J" CAN EXCEED "H", IT SHOULD BE SHOWN.
- "H" DIMENSIONS STIRRUPS TO BE SHOWN WHERE NECESSARY TO FIT WITHIN CONCRETE.
- UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.
- WHERE SLOPE DIFFERS FROM 45°, DIMENSIONS "H" AND "K" MUST BE SHOWN.
- WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS WHICH REQUIRE CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
- FIGURES IN CIRCLES SHOW TYPES.
- FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., SEE 'CRSF' OR 'ACY' TABLES.
- TYPE S1-S12, T1-T16 APPLY TO BAR SIZES #3 THROUGH #6.



STANDARD BAR BENDS



NOTES:

- QUANTITIES A AND B REFER TO TOWER SIDES A AND B FOUNDATIONS.

OSS-10



ADDENDUMS / REVISIONS

**US 301
MARYLAND STATE LINE
TO LEVELS ROAD**

CONTRACT	BRIDGE NO.	-
T200811301	DESIGNED BY:	ADL/SPM
COUNTY	CHECKED BY:	YY/DJP
NEW CASTLE		

BAR SCHEDULE

SHEET NO.	337
TOTAL SHTS.	850