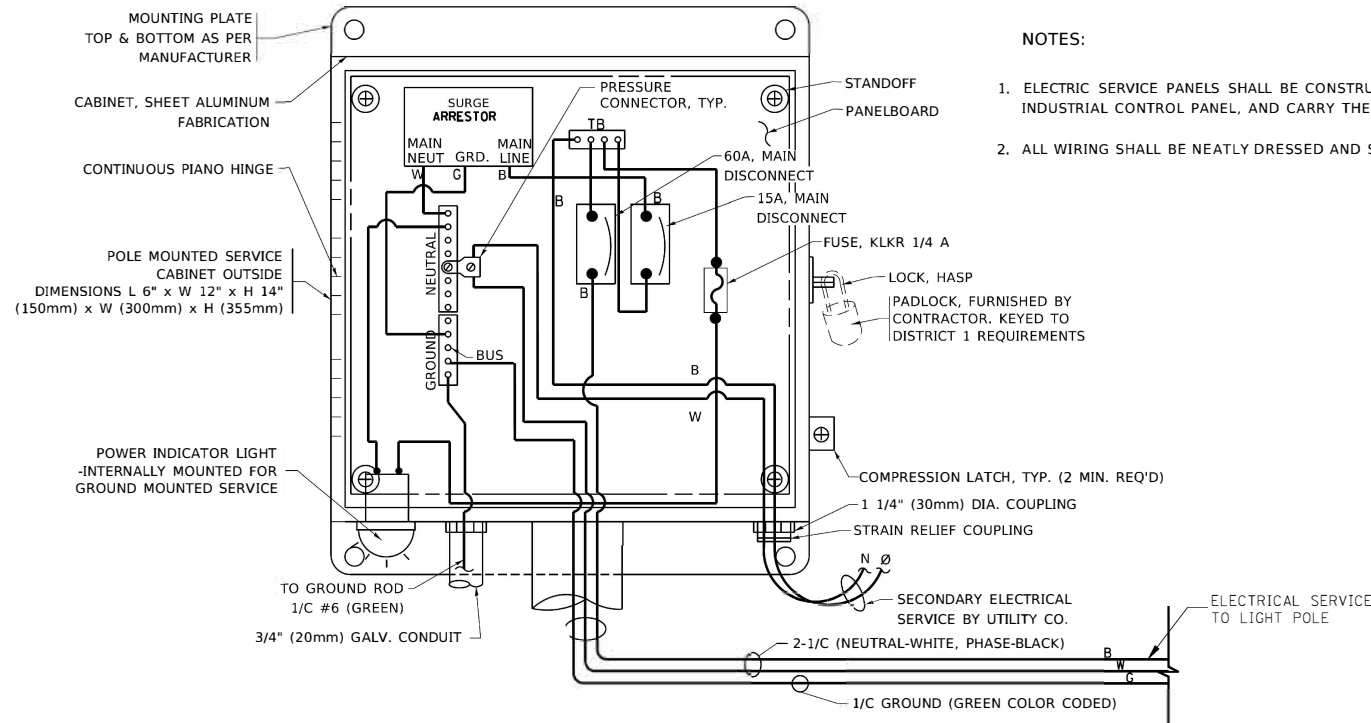


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	PLOTTED	
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	NOTE BOOK	
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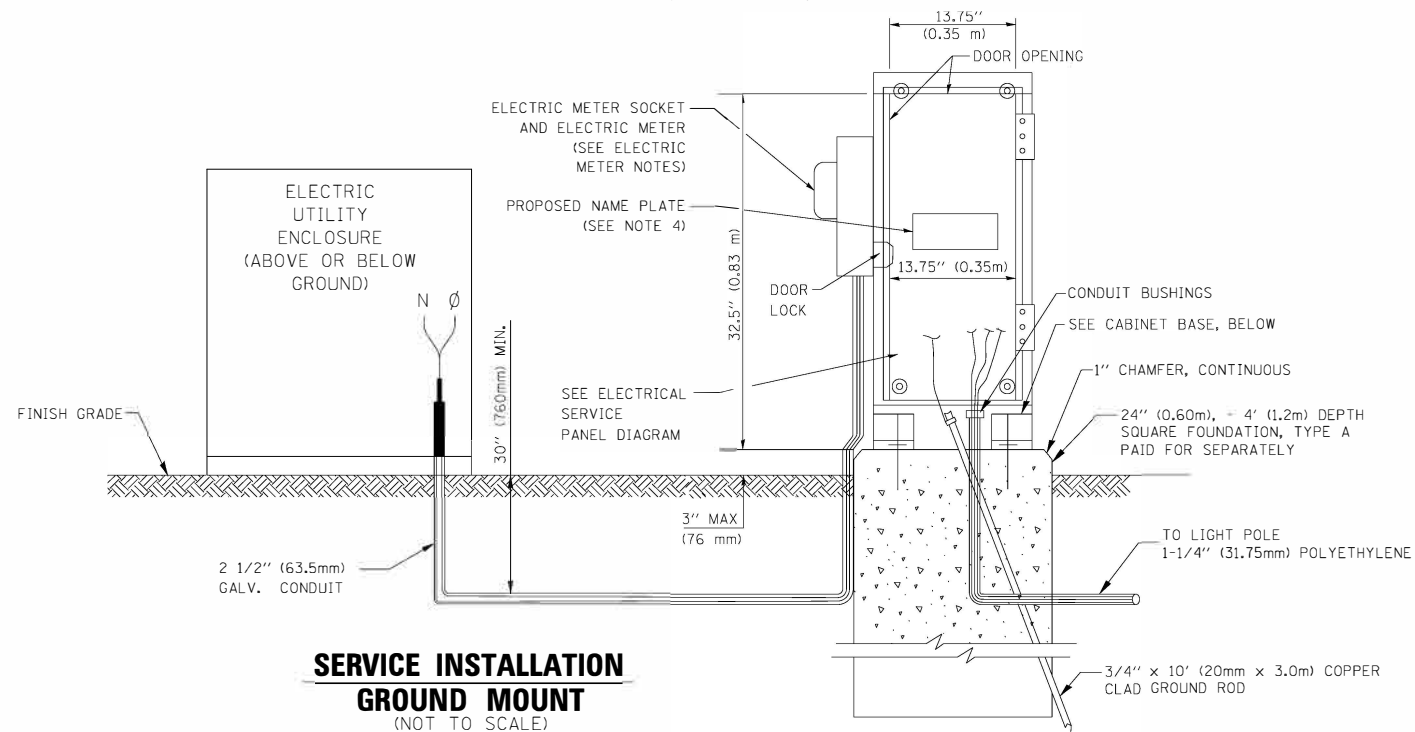
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	PLOTTED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NOTE BOOK	
	NO.	

1475 East Woodfield Road  
 Suite 600  
 Schaumburg, IL 60173  
 Phone: (647) 805-9600  
 Fax: (647) 805-9610

FILE NAME = 2025-01-DET-BE-GRN-METER.dgn

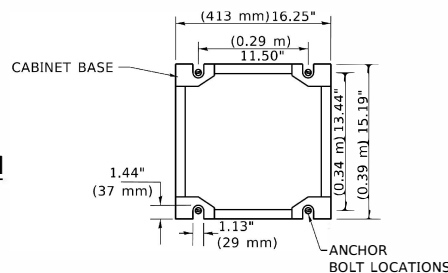


**ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)



**SERVICE INSTALLATION GROUND MOUNT**  
 (NOT TO SCALE)

**CABINET – BASE BOLT PATTERN**  
 (NOT TO SCALE)



**ELECTRIC METER NOTES:**

- ELECTRIC METER SOCKET SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. THE ELECTRIC UTILITY WILL SUPPLY THE ELECTRIC METER AND THE CONTRACTOR SHALL INSTALL THE METER. THE ELECTRIC METER SOCKET SIZE AND TYPE SHALL BE COORDINATED WITH THE ELECTRIC UTILITY COMPANY.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE SUPPORTS AND ATTACHMENT PLANS FOR APPROVAL BY THE ENGINEER.
- ALL WORK ASSOCIATED WITH THE ELECTRIC SERVICE METER SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR ELECTRIC SERVICE INSTALLATION.
- THE PROPOSED GROUND MOUNTED METERED SERVICE SHALL HAVE A NAME PLATE PRINTED WITH "KANE COUNTY, DAUBERMAN STREET LIGHT". THE NAME PLATE SHALL HAVE STEEL PLATE LETTERING MINIMUM 1 INCH SIZE WITH LABEL ENGRAVED ON CORROSIVE RESISTANT PLATE SIZE 5 INCH BY 8 INCH OR LARGER AS REQUIRED FOR LABEL INDICATED ON THE PLANS.

USER NAME = bmsatzke	DESIGNED - VLJ	REVISED -
	DRAWN - BMS	REVISED -
PLOT SCALE = 50 SCALE	CHECKED - DWB	REVISED -
PLOT DATE = 7/7/2022	DATE - 07-08-22	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

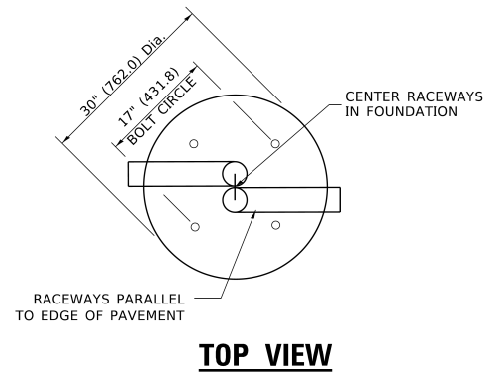
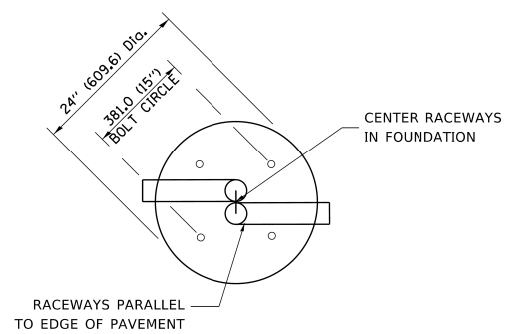
**DAUBERMAN ROAD – US ROUTE 30 & CONNECTOR ROAD  
 LIGHTING DETAIL  
 METERED ELECTRIC SERVICE**

SCALE: NONE SHEET 3 OF 7 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	201
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

LIGHT POLE FOUNDATION DEPTH TABLE  
40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY Qu = 0.375 TON/SQ. FT.	13'-0" (3.96 m)	15'-0" (4.57 m)
MEDIUM CLAY Qu = 0.75 TON/SQ. FT.	9'-6" (2.99 m)	10'-9" (3.23 m)
STIFF CLAY Qu = 1.50 TON/SQ. FT.	7'-0" (2.13 m)	8'-0" (2.44 m)
LOOSE SAND φ = 34°	9'-0" (2.74 m)	10'-0" (3.05 m)
MEDIUM SAND φ = 37.5°	8'-3" (2.52 m)	9'-0" (2.74 m)
DENSE SAND φ = 40°	7'-9" (2.36 m)	9'-0" (2.74 m)

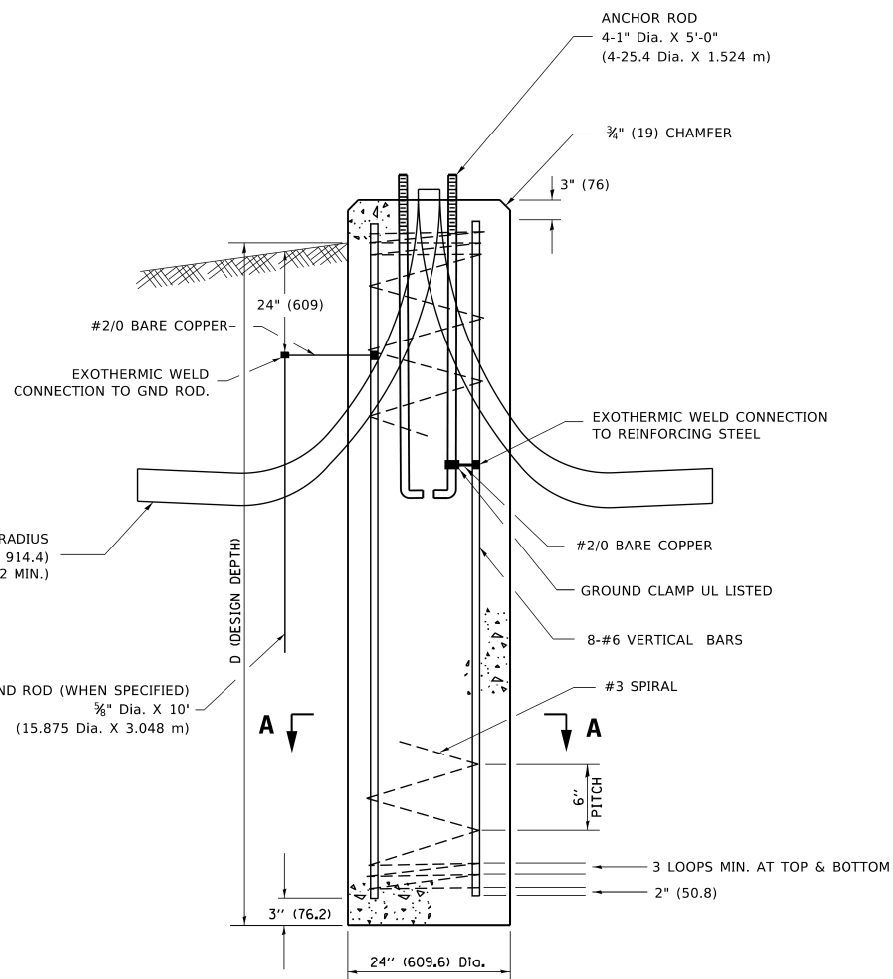


TOP VIEW

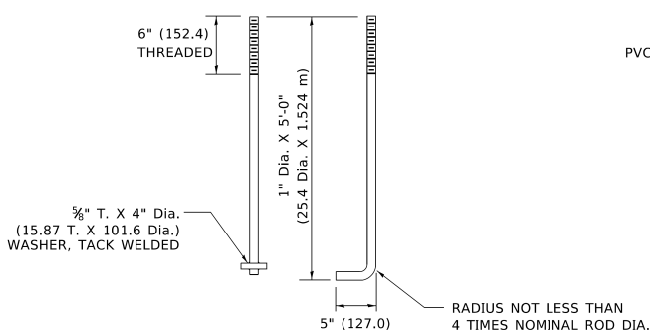
TOP VIEW

**NOTES**

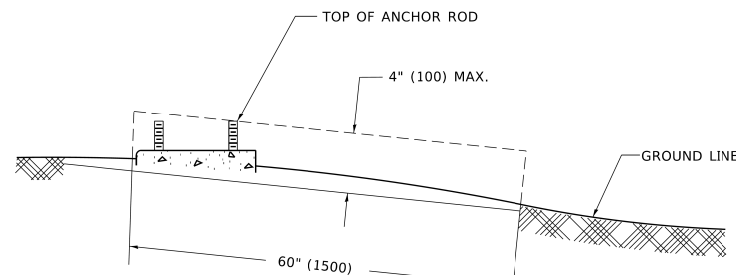
- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED.
- THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
- THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 3#4-IN. (20 mm).
- THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM(6 MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- ANCHOR RODS SHALL PROJECT 23#4" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
- THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.



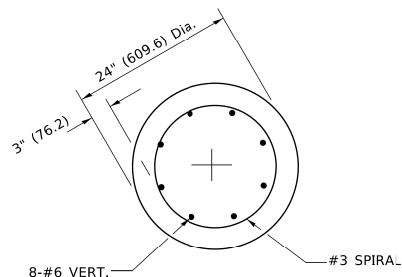
FOUNDATION DETAIL



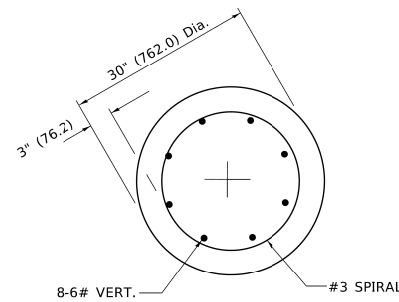
ANCHOR ROD DETAIL



FOUNDATION EXTENSION DETAIL



SECTION A-A



SECTION A-A

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	DRAWN -	REVISED -
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PLOT DATE = 4/19/2019	DATE -	REVISED -

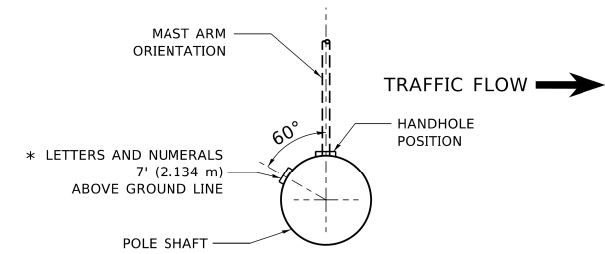
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

LIGHT POLE FOUNDATION  
40' (12.192 m) TO 47' 1/2" (14.478 m) M.H. 15" (381 mm) BOLT CIRCLE  
SCALE: NONE SHEET 4 OF 7 SHEETS STA. TO STA.

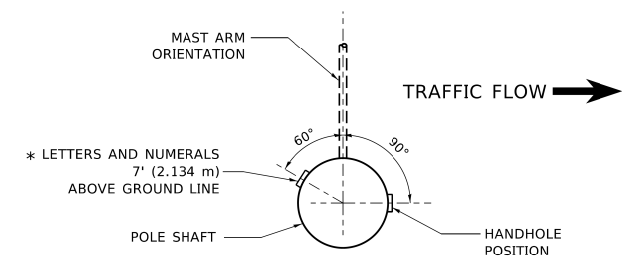
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BE-301		CONTRACT NO. 61H95		
ILLINOIS FED. AID PROJECT				



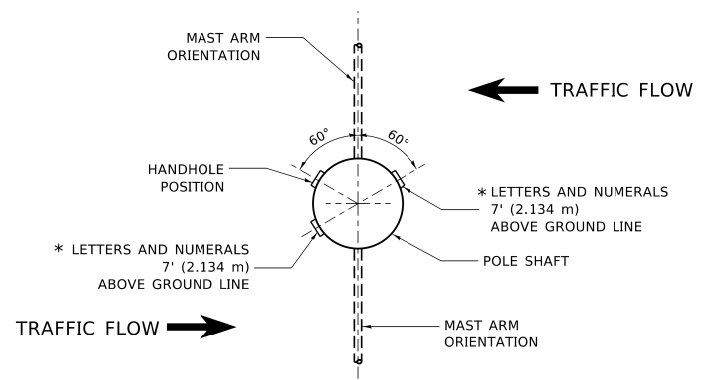
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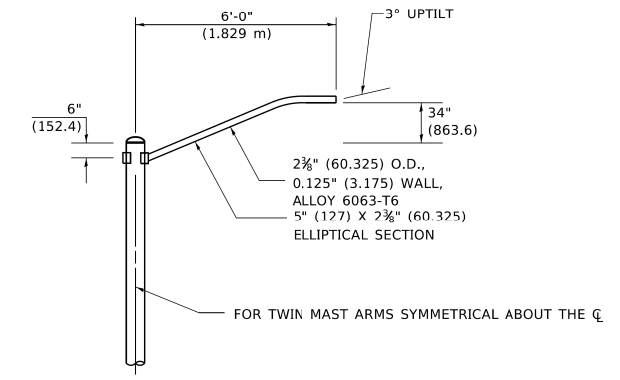
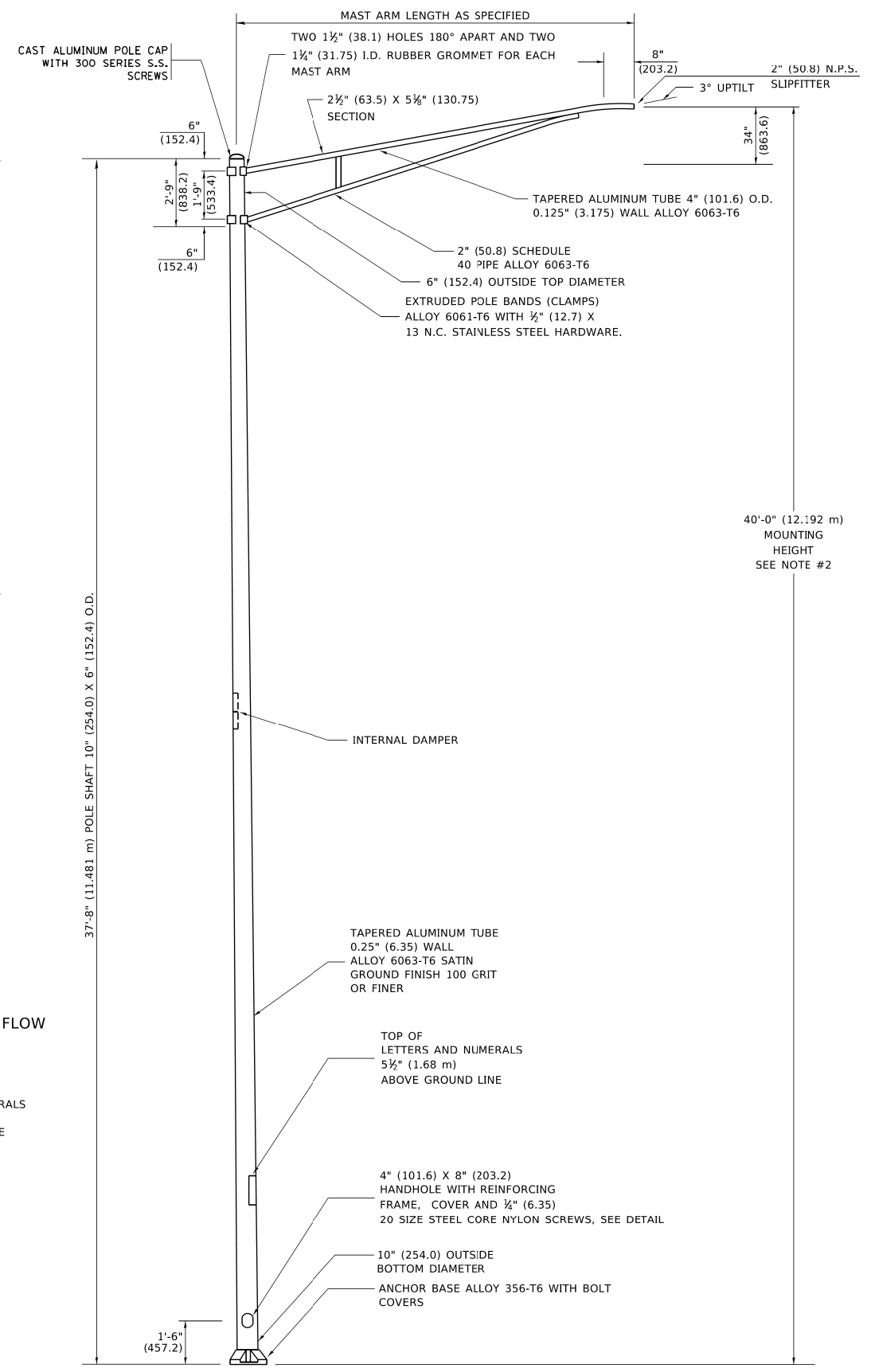
**POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL**



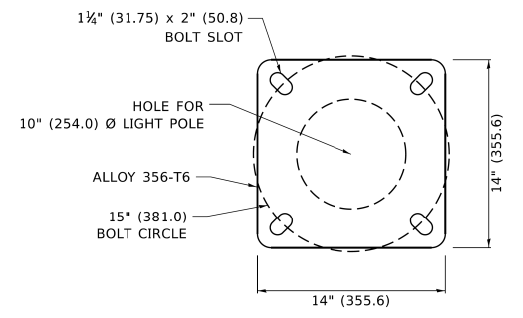
**POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES**



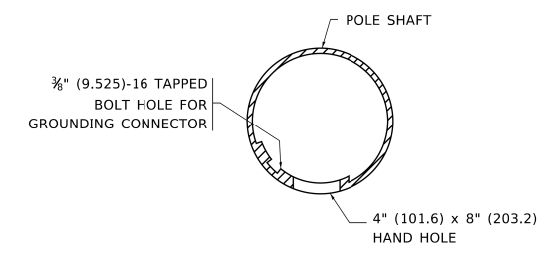
**POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES**



**6' (1.8 m) SINGLE MEMBER MAST ARM (N.T.S.)**



**LIGHT POLE BASE PLATE DETAIL  
15 INCH (381.0) BOLT CIRCLE**



**HANDHOLE DETAIL (N.T.S.)**

**NOTES**

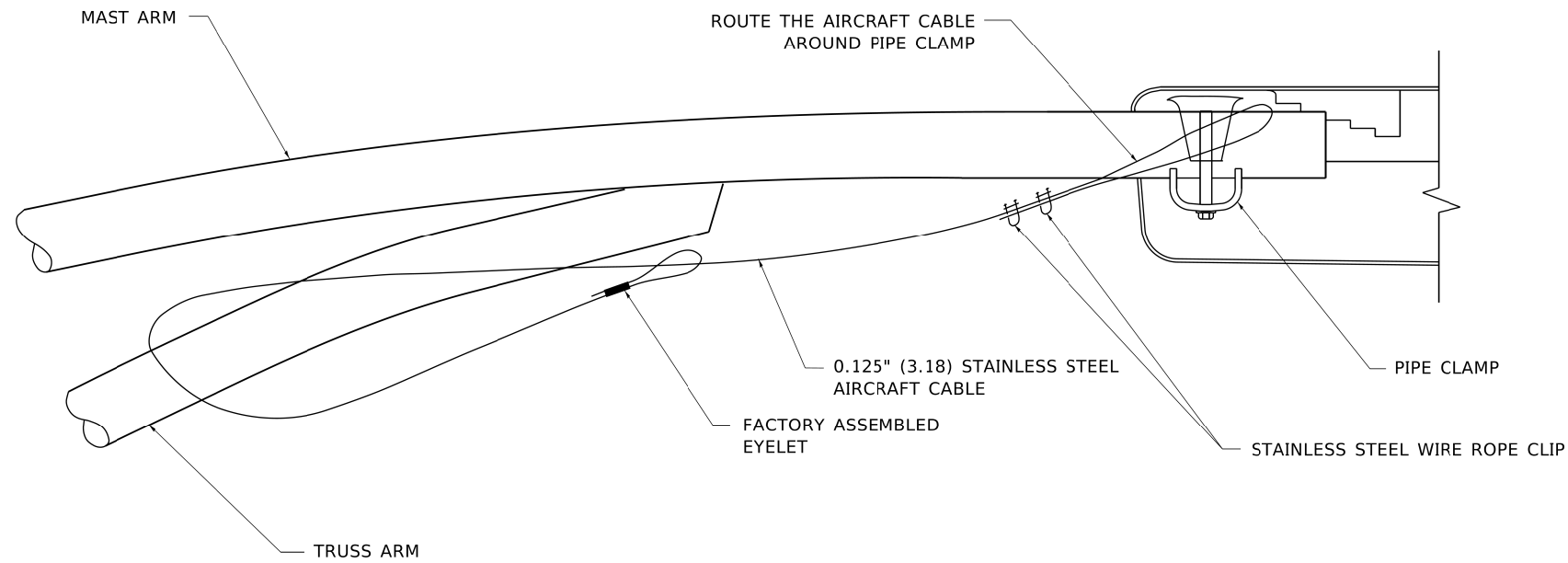
1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
3. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
4. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR. BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
5. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
6. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.
7. LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.

USER NAME = footerrj	DESIGNED -	REVISED - R. TOMSONS 09-06-00
	DRAWN -	REVISED - R. TOMSONS 09-02-03
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PLOT DATE = 4/19/2019	DATE -	REVISED -

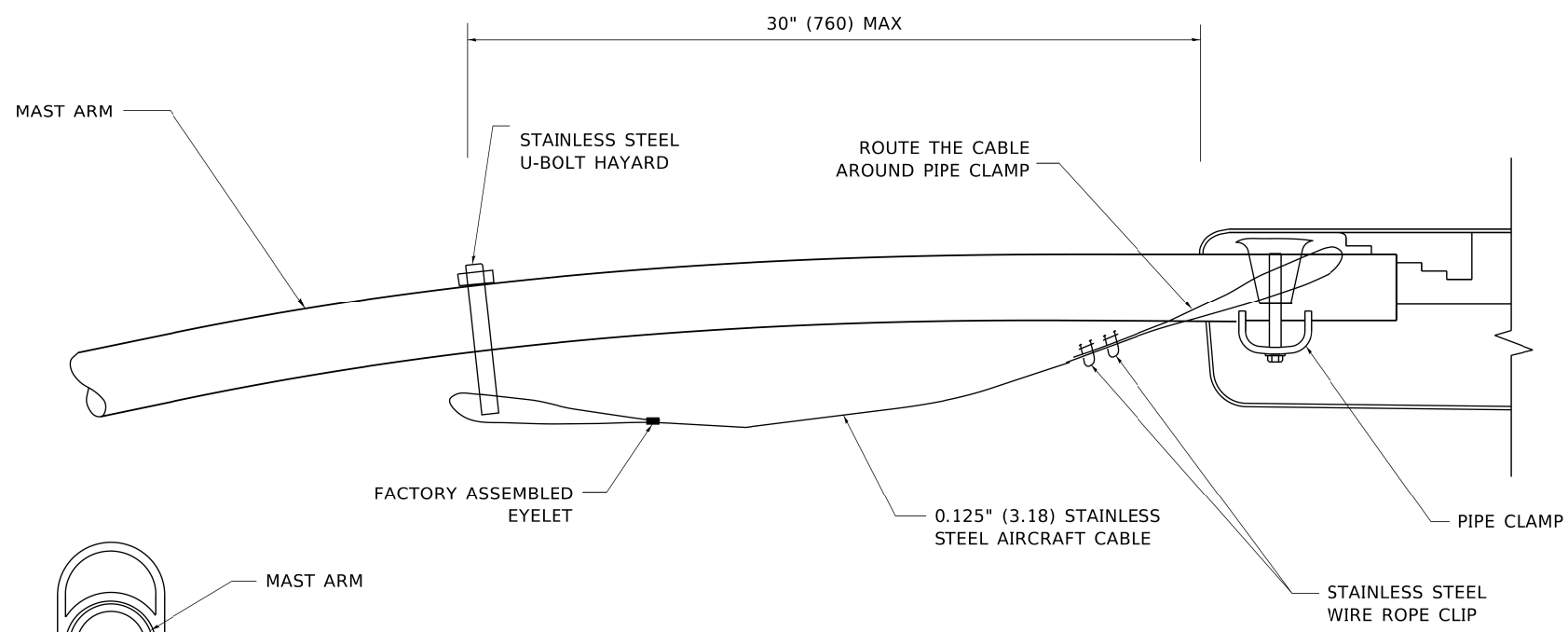
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>ALUMINUM LIGHT POLE</b>			
<b>40'-0" (12.192 m) MOUNTING HEIGHT</b>			
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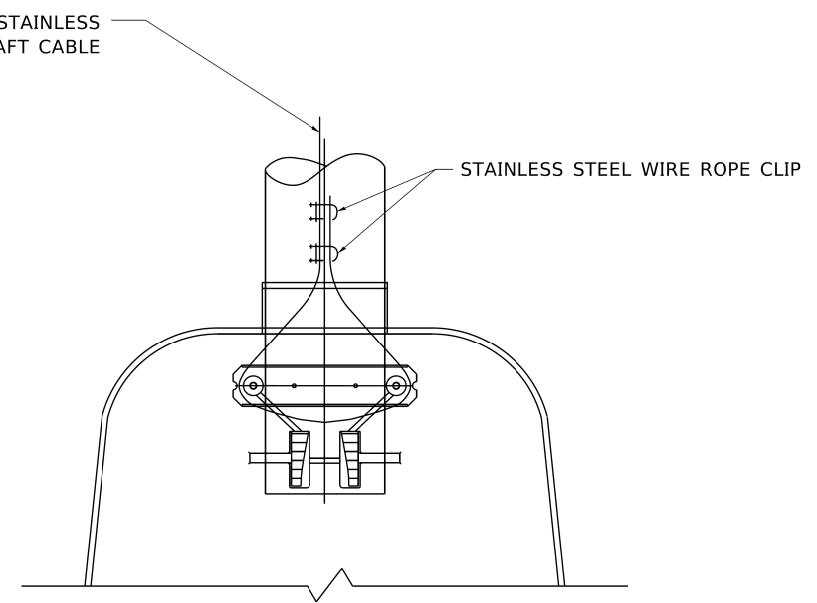
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<b>BE-401</b>		CONTRACT NO. 61H95		
ILLINOIS FED. AID PROJECT				



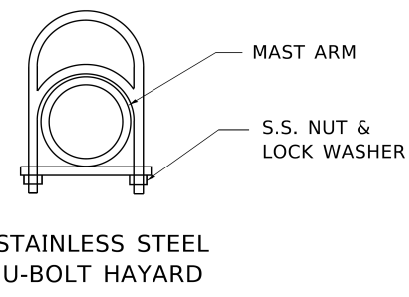
**SIDE VIEW (TRUSS ARM)**  
**N.T.S.**



**SIDE VIEW (SINGLE MEMBER OR DAVIT ARM)**  
**N.T.S.**



**BOTTOM VIEW**  
**N.T.S.**



**STAINLESS STEEL U-BOLT HAYARD**

**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
2. CONTRACTOR SHALL ADJUST THE WIRE CLIP TO ELIMINATE ANY SLACK FROM THE WIRE ROPE.
3. THE 0.125" (3.18) STAINLESS STEEL AIRCRAFT CABLE SHALL REMAIN VISIBLE FROM THE GROUND LEVEL.
4. THE BREAKING STRENGTH OF THE CABLE SHALL BE 1700 LBS. MIN.

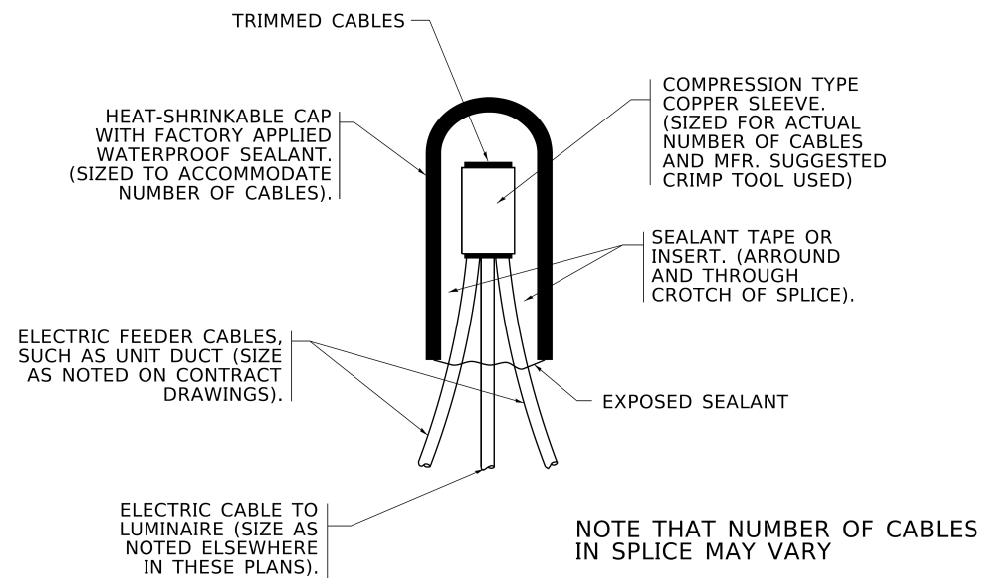
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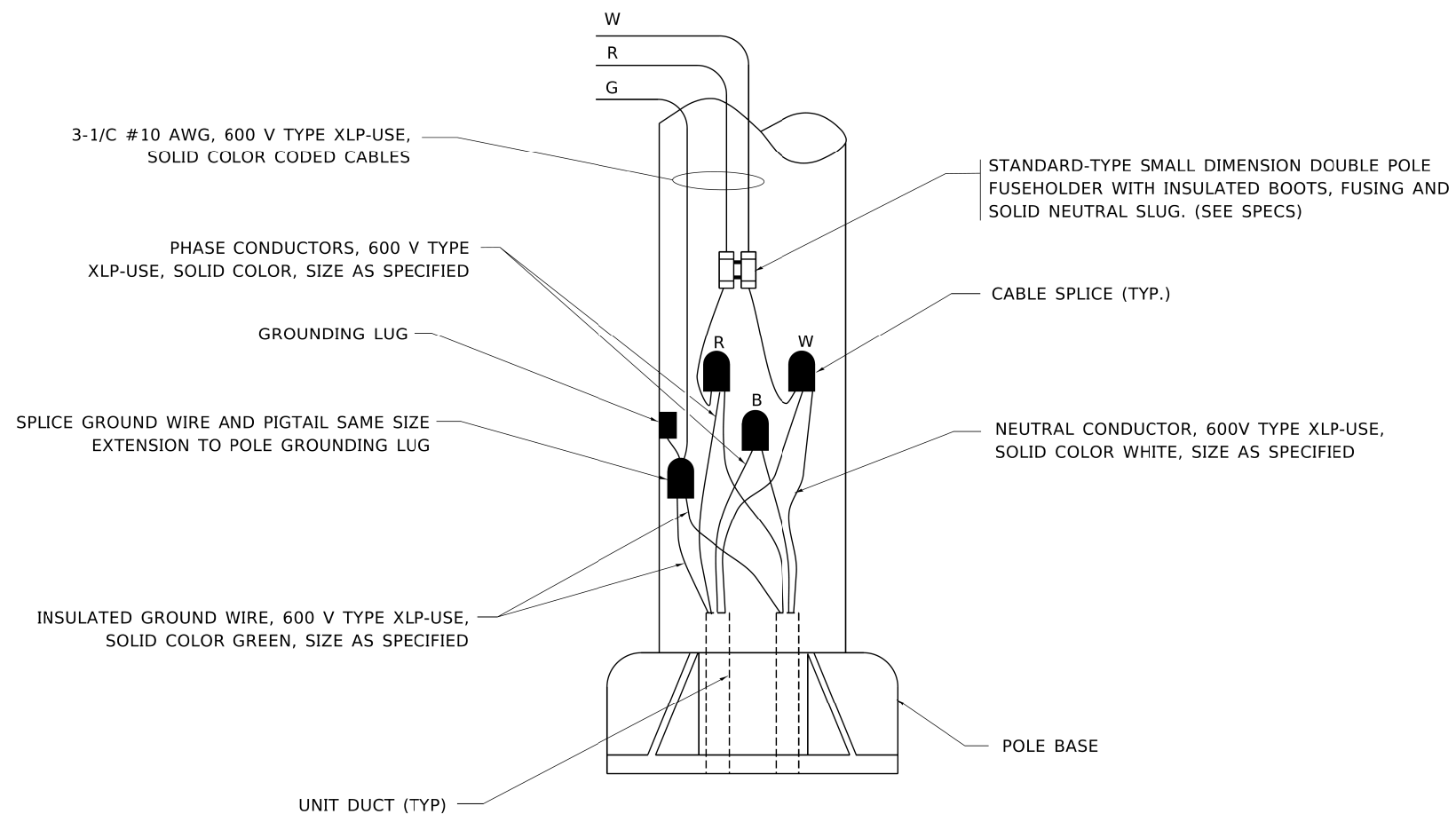
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

<b>LUMINAIRE SAFETY CABLE ASSEMBLY</b>	
SCALE: NONE	SHEET 6 OF 7 SHEETS STA. TO STA.

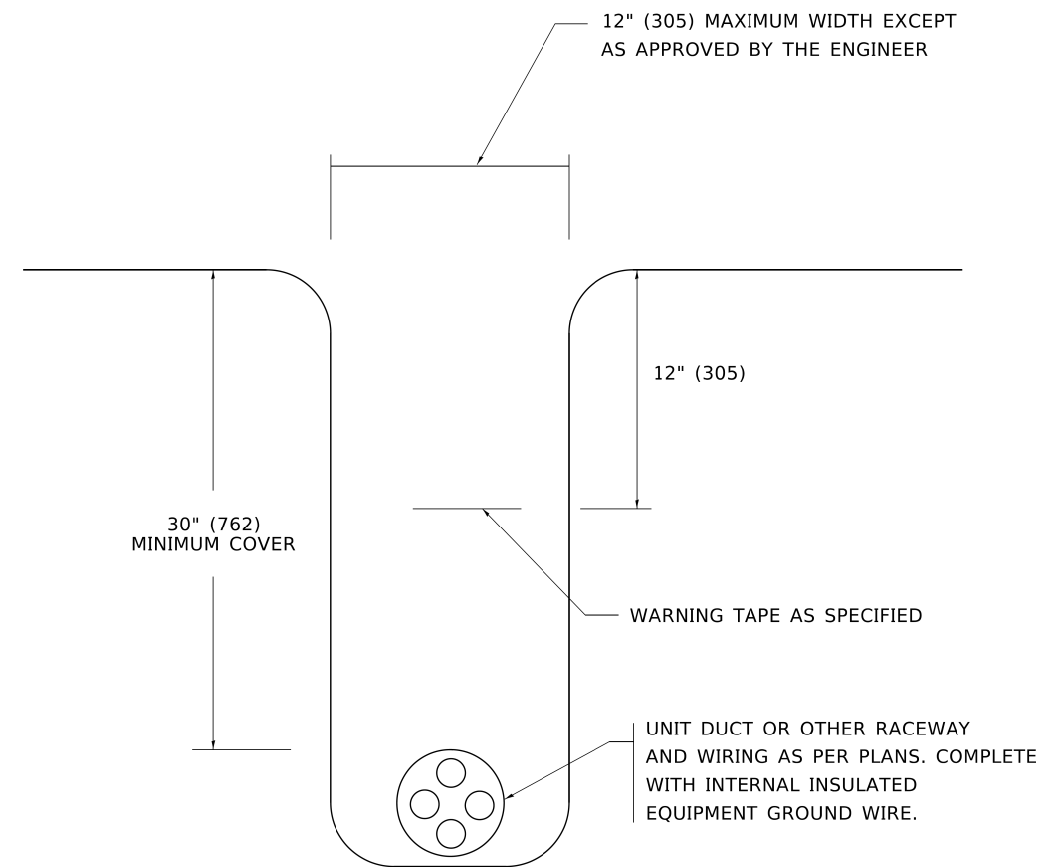
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1107	15-00277-01-BR	KANE	542	204
<b>BE-701</b>			CONTRACT NO. 61H95	
ILLINOIS FED. AID PROJECT				



**TYPICAL SPLICE DETAIL**  
**N.T.S.**



**POLE WIRING DETAIL**  
**N.T.S.**



**TYPICAL WIRING IN TRENCH DETAIL**  
**N.T.S.**

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PLOT SCALE = 50.0000 ' / in.	DRAWN -	REVISED -
PLOT DATE = 3/2/2020	CHECKED -	REVISED -
	DATE - 08/08/2003	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

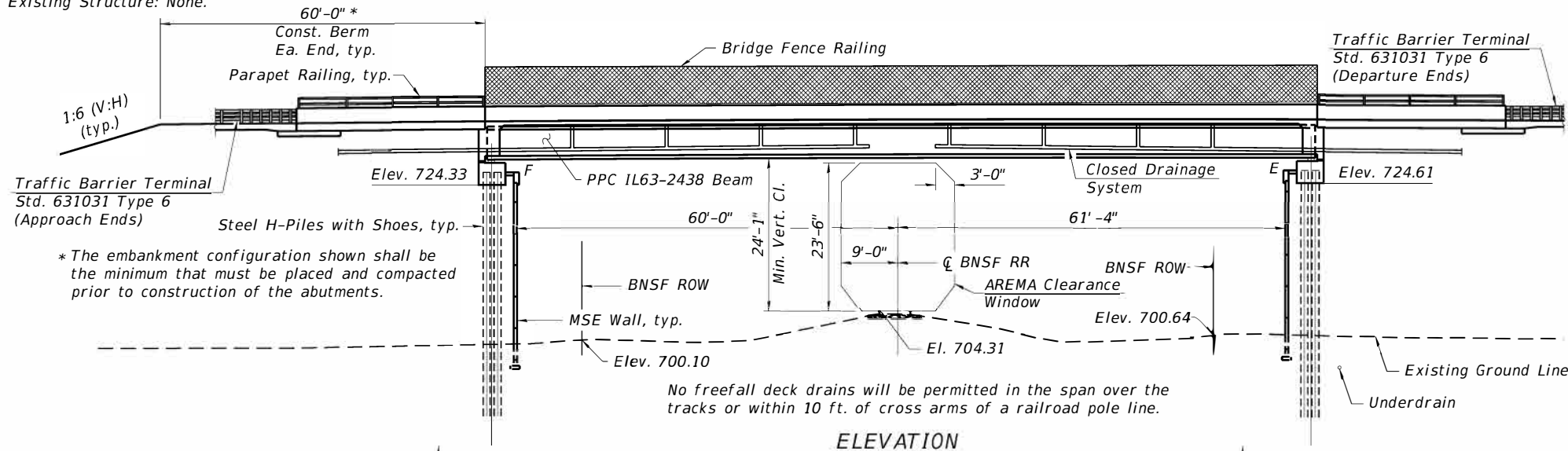
MISC. ELECTRICAL DETAILS  
SHEET A

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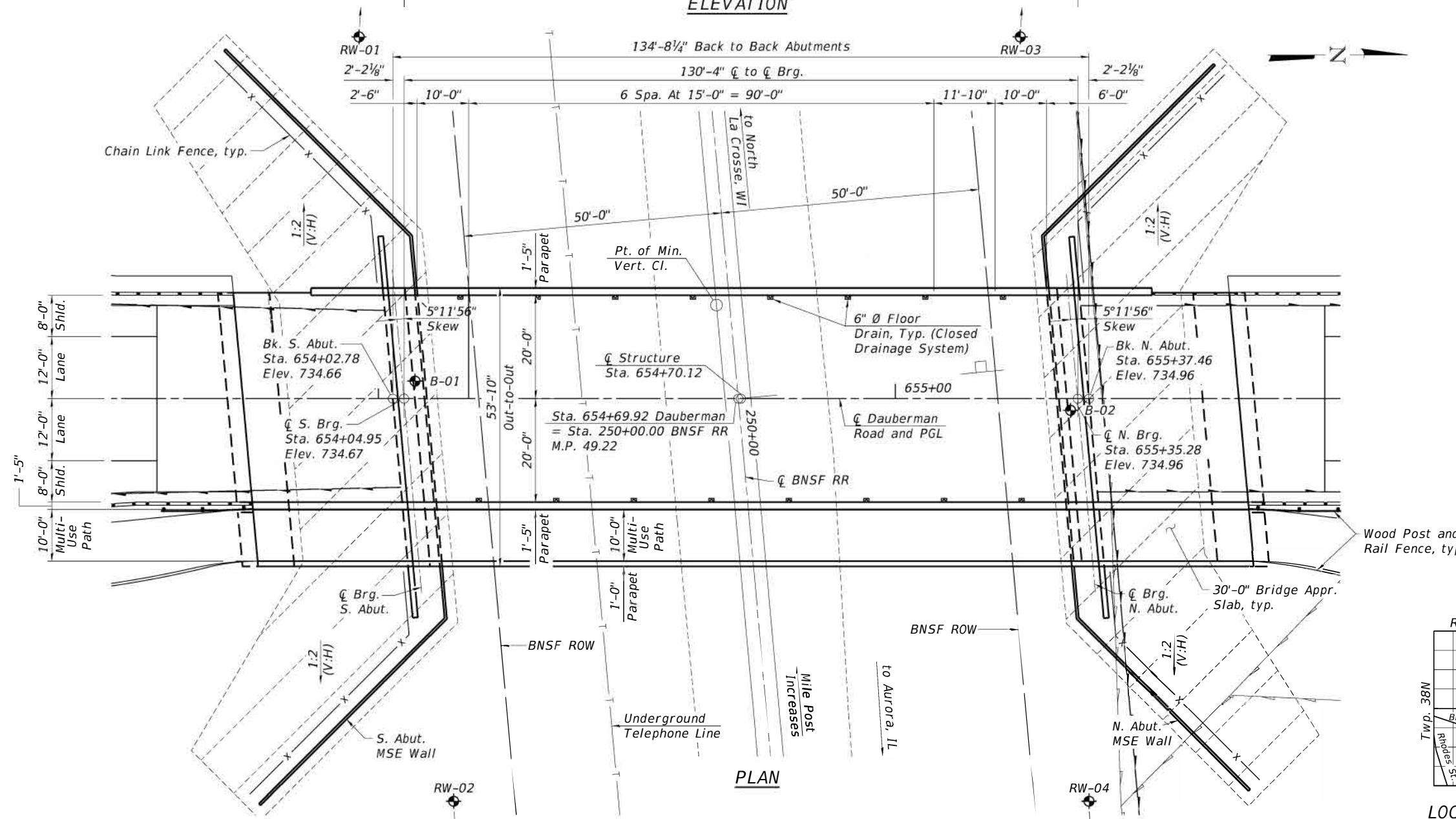
F.A. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 205
BE-702			CONTRACT NO. 61H95	
ILLINOIS FED. AID PROJECT				

Benchmark: TMB #6 Railroad spike set in power pole with light on south side of U.S. 30. Elev. 702.56, Sta. 659+60.51, Offset 1.07' Rt. from C Dauberman Road.

Existing Structure: None.



**ELEVATION**



**PLAN**

**DESIGN SPECIFICATIONS**

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

**DESIGN STRESSES**

**FIELD UNITS**  
 $f'_c$  = 4,000 psi (Bridge Deck)  
 $f'_c$  = 3,500 psi (typ.)  
 $f_y$  = 60,000 psi (Reinforcement)

**PRECAST UNITS**  
 $f'_c$  = 4,500 psi (Precast Panels)  
 $f'_c$  = 6,000 psi (Precast Approach Slab)  
 $f'_{ci}$  = 5,000 psi (Precast Approach Slab)

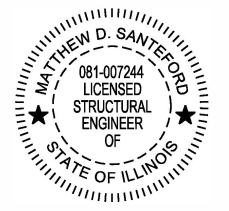
**PRECAST PRESTRESSED UNITS**  
 $f'_c$  = 8,500 psi  
 $f'_{ci}$  = 6,500 psi  
 $f_{pu}$  = 270,000 psi (0.6" Ø low lax strands)  
 $f_{pbt}$  = 202,300 psi (0.6" Ø low lax strands)

**LOADING HL-93**

Allow 50#/sq. ft. for future wearing surface.

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.091  
 Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.164  
 Soil Site Class = D

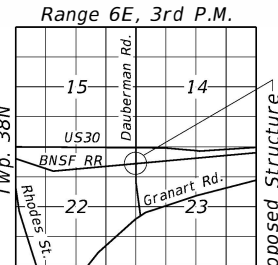


Matthew D. Santeford, P.E., S.E.  
 No. 081-007244  
 Exp. Date 11/30/2022

I certify that to the best of my knowledge, information, and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one of the style of structure and complies with the requirements of the current AASHTO LRFD Bridge Design Specifications.

**LEGEND**

- Proposed Pipe Underdrain
- Existing Pipe Underdrain
- R.O.W.
- Telephone
- Soil Boring
- Approximate Limits of Removal of Unsuitable Material for Structures



LOCATION SKETCH

**GENERAL PLAN AND ELEVATION  
 DAUBERMAN ROAD (F.A.S. 1107)  
 OVER BNSF RAILROAD  
 SECTION 15-00277-01-BR  
 KANE COUNTY  
 STATION 654+70.12  
 STRUCTURE NO. 045-3401**

FILE NAME = 0453401-XXXX-001-GPE1.dgn

USER NAME = CEComin

DESIGNED -	TJA	REVISED -	
CHECKED -	MDS	REVISED -	
PLOT SCALE =	NTS	REVISED -	
PLOT DATE =	11/18/2022	REVISED -	
DRAWN -	TJA	REVISED -	
CHECKED -	MDS	REVISED -	

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

**GENERAL PLAN AND ELEVATION  
 SN 045-3401**

SHEET NO. 1 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	206
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES:**

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Protective coat shall be applied to the top of multi-use path, top of parapets, inside faces of exterior parapets, and both faces of interior parapet.
3. Slipforming of the parapets is not allowed.

**SUGGESTED SEQUENCE OF CONSTRUCTION**

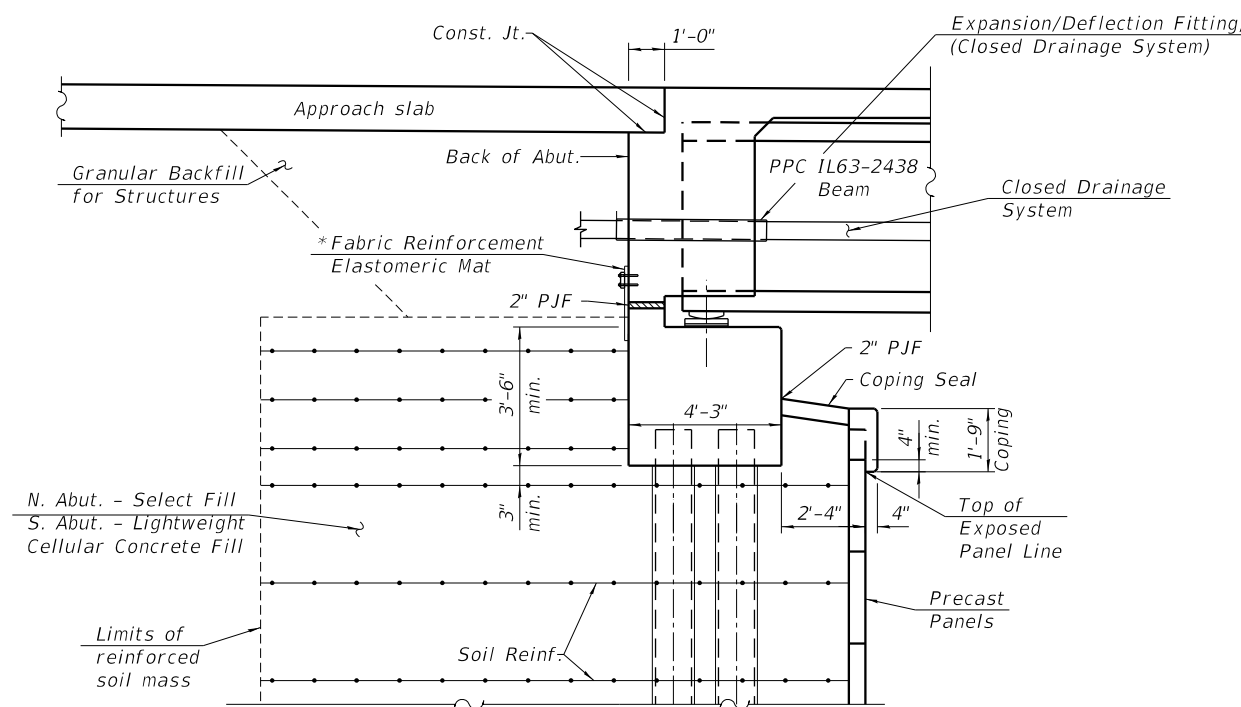
1. Locate existing utilities that are to remain. Contractor to coordinate any required improvements to or removals of existing utilities with utility owner(s). See Utility Location Plans.
2. Complete the Removal and Disposal of Unsuitable Materials and replace with Aggregate Subgrade Improvement.
3. Install Piles
4. Construct the abutments and MSE walls.
5. Place the Precast Prestressed Concrete Beams on the abutments.
6. Construct the bridge deck, parapets, and railings.
7. All Lightweight Cellular Concrete Fill shall be Class IV. See Special Provisions.

**TOTAL BILL OF MATERIAL**

Item	Unit	Super	Sub	Total
Porous Granular Embankment	Cu. Yd.		703	703
Structure Excavation	Cu. Yd.		990	990
Removal And Disposal Of Unsuitable Material For Structures	Cu. Yd.		703	703
Floor Drains	Each	16		16
Concrete Structures	Cu. Yd.		107.2	107.2
Concrete Superstructure	Cu. Yd.	321.9		321.9
Protective Coat	Sq. Yd.	545		545
Furnishing And Erecting Precast Prestressed Concrete Beams, IL63N	Foot	1,054		1,054
Reinforcement Bars, Epoxy Coated	Pound	71,740	9,280	81,020
Bridge Fence Railing	Foot	266		266
Parapet Railing	Foot	253		253
Furnishing Steel Piles HP12X53	Foot		3,216	3,216
Driving Piles	Foot		3,216	3,216
Test Pile Steel HP12X53	Each		2	2
Pile Shoes	Each		26	26
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	107		107
Elastomeric Bearing Assembly, Type I	Each	8		8
Anchor Bolts, 1 1/4"	Each	32		32
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.		4,297	4,297
Drainage System For Structures	L. Sum	1.0		1.0
Granular Backfill For Structures	Cu. Yd.		184	184
Chain Link Fence, 4'	Foot	219		219
Lightweight Cellular Concrete Fill	Cu. Yd.		7,450	7,450
Anti-Graffiti Coating	Sq. Ft.		8,308	8,308
Concrete Wearing Surface, 5"	Sq. Yd.	356		356
Precast Bridge Approach Slab	Sq. Ft.	3,065		3,065
Bridge Deck Thin Polymer Overlay 3/8"	Sq. Yd.	857		857
Mechanically Stabilized Earth Retaining Wall, Special	Sq. Ft.		4,613	4,613

**INDEX OF SHEETS**

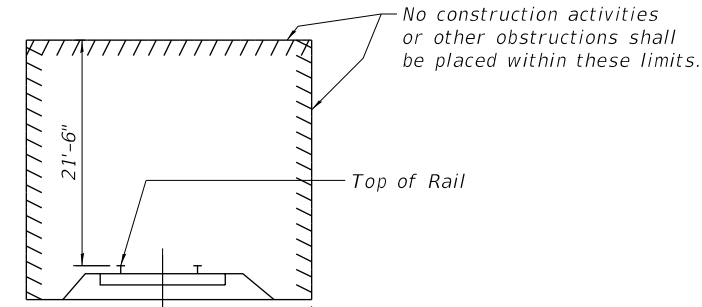
- 1 General Plan and Elevation
- 2 General Data
- 3 Top of Deck Elevations 1
- 4 Top of Deck Elevations 2
- 5 Top of South Approach Slab Elevations
- 6 Top of North Approach Slab Elevations
- 7 Superstructure Plan
- 8 Superstructure Cross Section
- 9 Parapet Railing Details
- 10 Superstructure Details 1
- 11 Superstructure Details 2
- 12 Superstructure Details 3
- 13 Precast Approach Slab 1
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- 17 Preformed Joint Strip Seal
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- 31 South MSE Wall Plan and Elevation
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- 33 MSE Wall Sections and Details
- 34 Boring Logs 1
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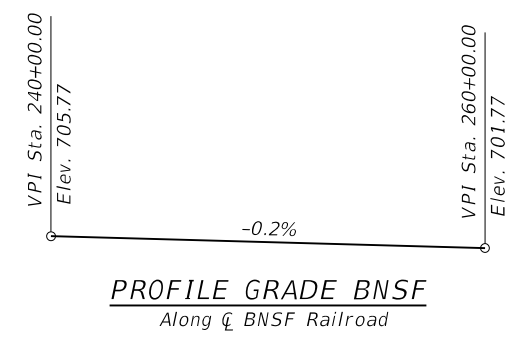
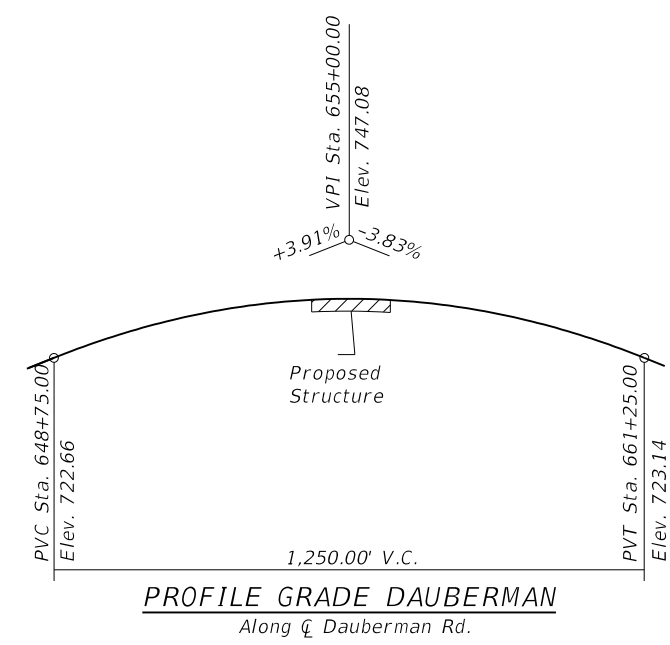
**SECTION THRU ABUTMENT**  
 (South Abutment shown, North Abutment similar)  
 (See sheets 31 thru 33 of 40 for MSE Wall details)  
 \* Cost included with Concrete Superstructure

BNSF CROSSING NUMBER 977805V  
 BUILT 20-- BY  
 KANE COUNTY  
 SEC. 15-00277-01-BR  
 F.A.S. RT. 1107 STA. 654+70.12  
 STR. NO. 045-3401 LOADING HL-93

**NAME PLATE**  
 See Std. 515001



**MINIMUM CONSTRUCTION CLEARANCES**  
 (Normal to railroad)  
 Not to scale



FILE NAME = 0453401-XXXX-002-GenData1.dgn



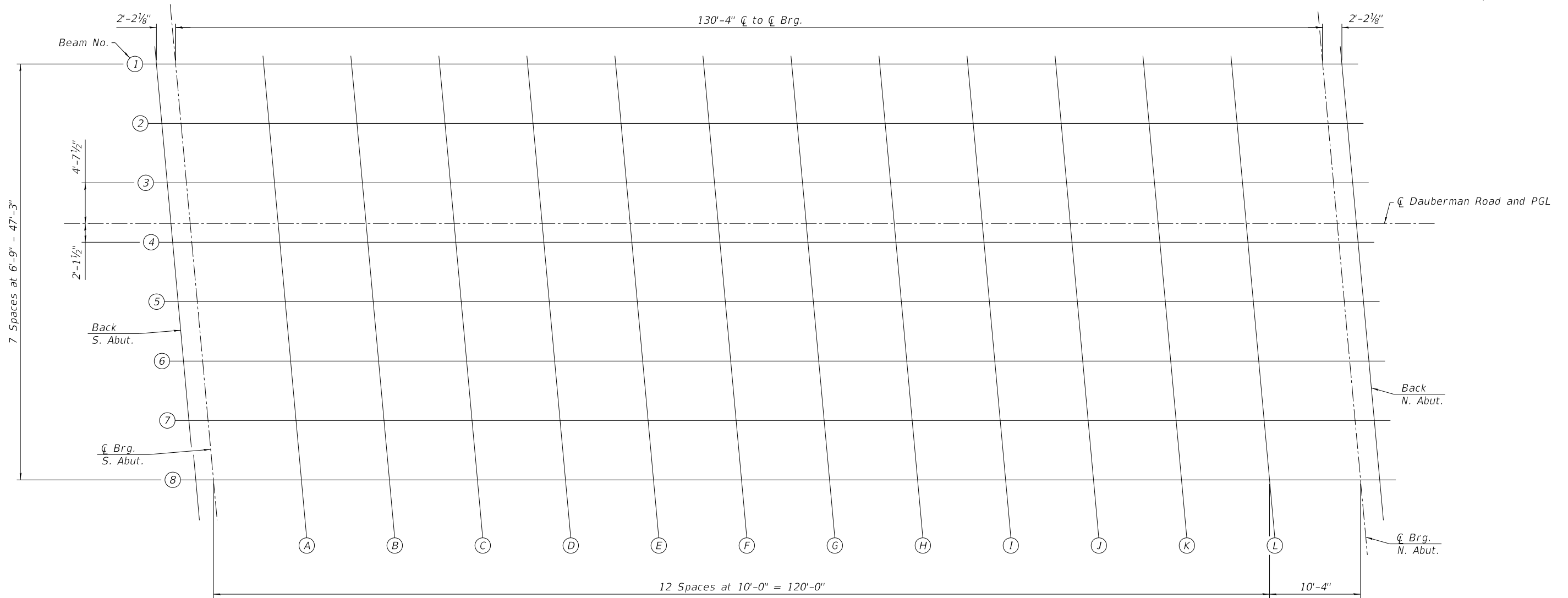
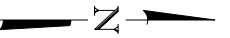
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	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

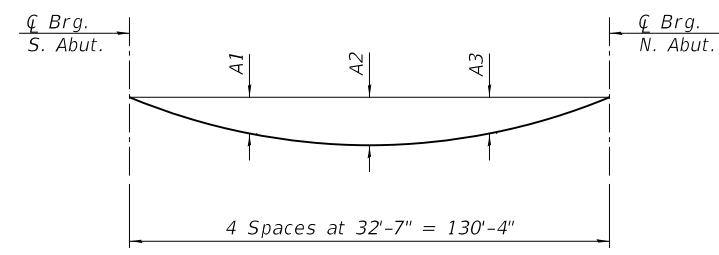
**GENERAL DATA**  
**SN 045-3401**

SHEET NO. 2 OF 40 SHEETS

F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 207
CONTRACT NO. 61H95				
ILLINOIS		FED. AID PROJECT		



PLAN

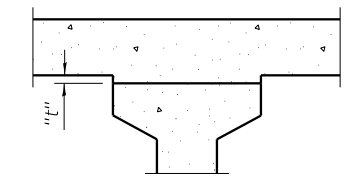


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete deck, fillets, and parapets only.)

Note:  
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheet 4.

Beam No.	A1	A2	A3
1	1 1/4"	1 7/8"	1 1/4"
2 thru 7	1 1/4"	1 7/8"	1 1/4"
8	1 1/4"	1 7/8"	1 1/4"



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on Sheet 4, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS

FILE NAME = 0453401-XXXX-003-TopSlab\_Deck1.dgn



USER NAME = bmsetzke	DESIGNED - TJA	REVISED -
	CHECKED - MDS	REVISED -
PLOT SCALE = NTS	DRAWN - TJA	REVISED -
PLOT DATE = 7/7/2022	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF DECK ELEVATIONS 1  
SN 045-3401**

SHEET NO. 3 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	208
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

BEAM 1

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflections. Rows include Bk. S. Abut., CL Brg. S. Abut., and Bk. N. Abut.

BEAM 2

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflections. Rows include Bk. S. Abut., CL Brg. S. Abut., and Bk. N. Abut.

BEAM 3

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflections. Rows include Bk. S. Abut., CL Brg. S. Abut., and Bk. N. Abut.

PGL

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflections. Rows include Bk. S. Abut., CL Brg. S. Abut., and Bk. N. Abut.

BEAM 4

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflections. Rows include Bk. S. Abut., CL Brg. S. Abut., and Bk. N. Abut.

BEAM 5

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflections. Rows include Bk. S. Abut., CL Brg. S. Abut., and Bk. N. Abut.

BEAM 6

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflections. Rows include Bk. S. Abut., CL Brg. S. Abut., and Bk. N. Abut.

BEAM 7

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflections. Rows include Bk. S. Abut., CL Brg. S. Abut., and Bk. N. Abut.

BEAM 8

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflections. Rows include Bk. S. Abut., CL Brg. S. Abut., and Bk. N. Abut.

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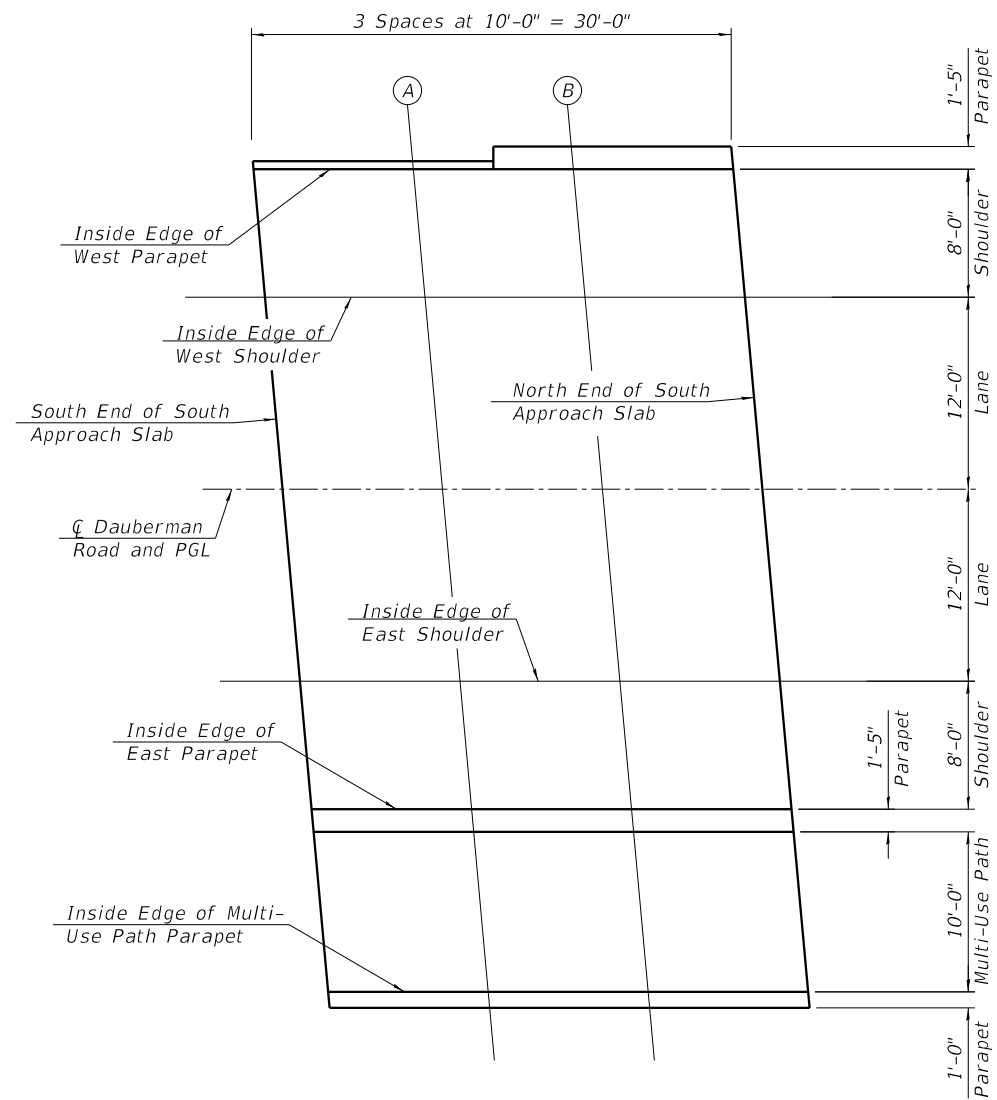
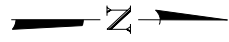
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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS 2 SN 045-3401 SHEET NO. 4 OF 40 SHEETS

Table with 5 columns: F.A.S. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO. Values include 1107, 15-00277-01-BR, KANE, 542, 209.

CONTRACT NO. 61H95 ILLINOIS FED. AID PROJECT



PLAN

INSIDE EDGE OF WEST PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Approach	653+71.96	-20.00	734.03
A	653+81.96	-20.00	734.11
B	653+91.96	-20.00	734.19
N. End S. Approach	654+01.96	-20.00	734.25

INSIDE EDGE OF WEST SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Approach	653+72.69	-12.00	734.20
A	653+82.69	-12.00	734.28
B	653+92.69	-12.00	734.35
N. End S. Approach	654+02.69	-12.00	734.42

CL DAUBERMAN ROAD AND PGL

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Approach	653+73.78	0.00	734.45
A	653+83.78	0.00	734.53
B	653+93.78	0.00	734.60
N. End S. Approach	654+03.78	0.00	734.66

INSIDE EDGE OF EAST SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Approach	653+74.87	12.00	734.22
A	653+84.87	12.00	734.29
B	653+94.87	12.00	734.37
N. End S. Approach	654+04.87	12.00	734.43

INSIDE EDGE OF EAST PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Approach	653+75.60	20.00	734.06
A	653+85.60	20.00	734.14
B	653+95.60	20.00	734.21
N. End S. Approach	654+05.60	20.00	734.28

INSIDE EDGE OF MULTI-USE PATH PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Approach	653+76.64	31.42	734.24
A	653+86.64	31.42	734.32
B	653+96.64	31.42	734.39
N. End S. Approach	654+06.64	31.42	734.45

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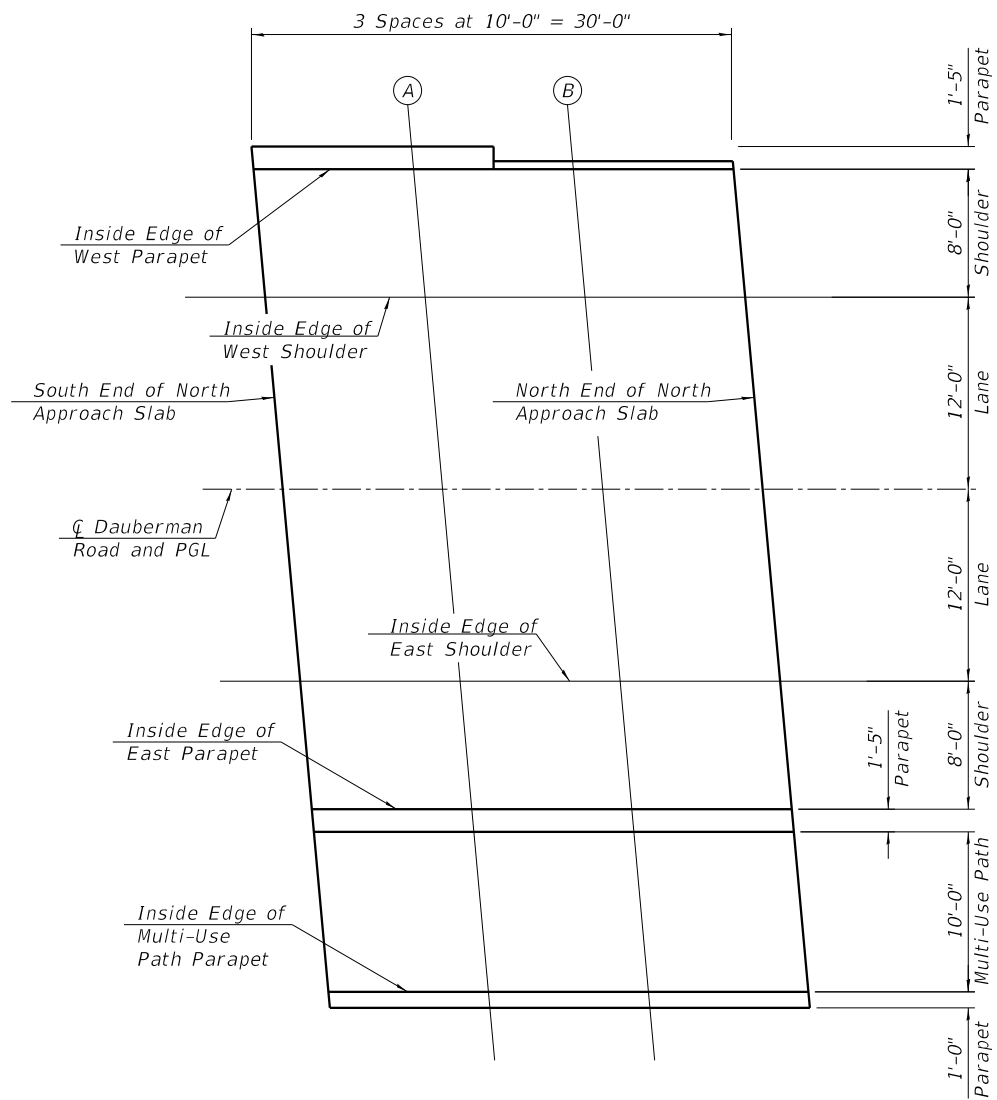
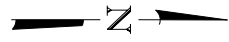
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SOUTH APPROACH SLAB ELEVATIONS  
SN 045-3401**

SHEET NO. 5 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	210
				CONTRACT NO. 61H95
		ILLINOIS	FED. AID PROJECT	





PLAN

INSIDE EDGE OF WEST PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End N. Approach	655+34.64	-20.00	734.56
A	655+44.64	-20.00	734.54
B	655+54.64	-20.00	734.52
N. End N. Approach	655+64.64	-20.00	734.48

INSIDE EDGE OF WEST SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End N. Approach	655+35.37	-12.00	734.72
A	655+45.37	-12.00	734.70
B	655+55.37	-12.00	734.67
N. End N. Approach	655+65.37	-12.00	734.64

CL DAUBERMAN ROAD AND PGL

Location	Station	Offset	Theoretical Grade Elevations
S. End N. Approach	655+36.46	0.00	734.96
A	655+46.46	0.00	734.94
B	655+56.46	0.00	734.91
N. End N. Approach	655+66.46	0.00	734.88

INSIDE EDGE OF EAST SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End N. Approach	656+68.32	12.00	733.94
A	656+78.32	12.00	733.83
B	656+88.32	12.00	733.72
N. End N. Approach	656+98.32	12.00	733.61

INSIDE EDGE OF EAST PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End N. Approach	655+38.28	20.00	734.56
A	655+48.28	20.00	734.53
B	655+58.28	20.00	734.51
N. End N. Approach	655+68.28	20.00	734.47

INSIDE EDGE OF MULTI-USE PATH PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End N. Approach	655+39.32	31.42	734.73
A	655+49.32	31.42	734.70
B	655+59.32	31.42	734.67
N. End N. Approach	655+69.32	31.42	734.64

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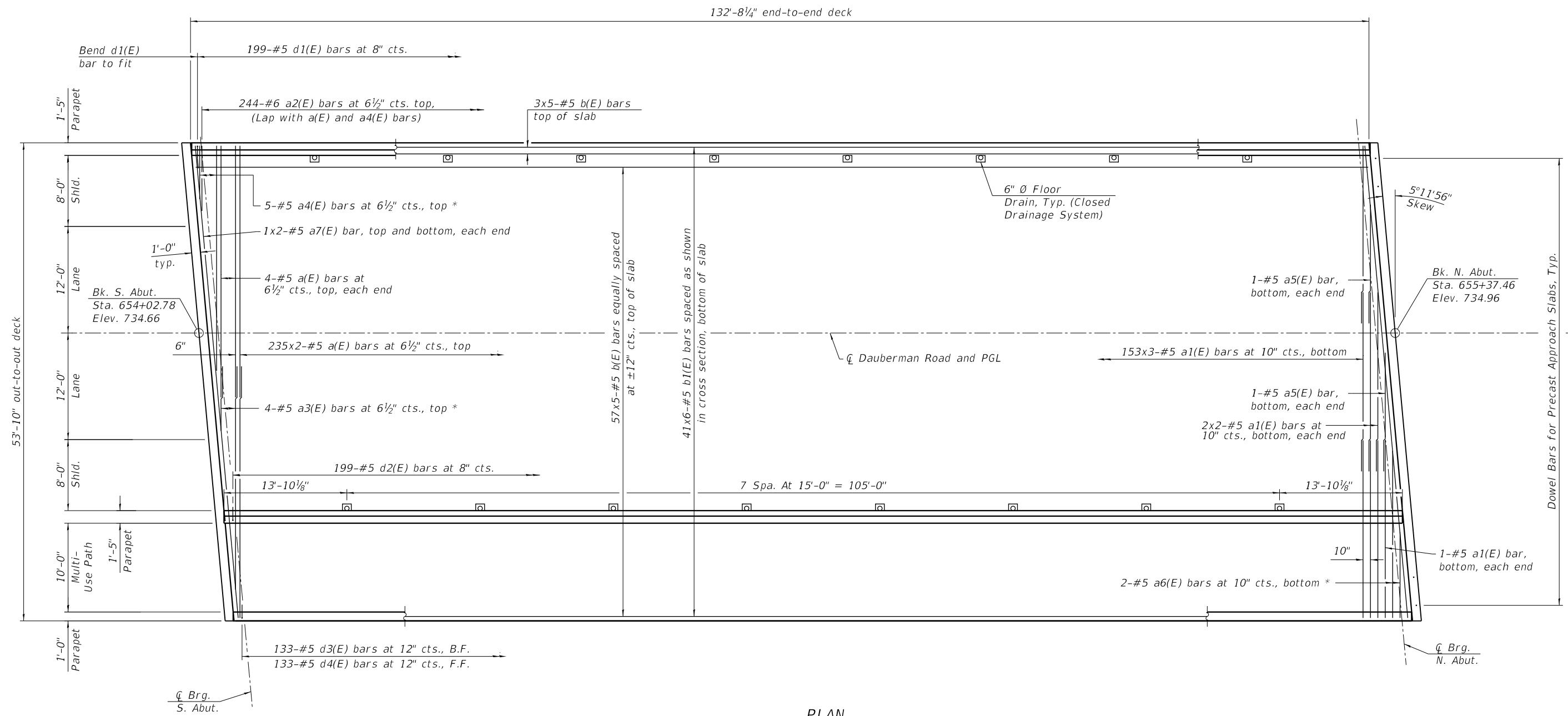
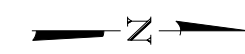
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF NORTH APPROACH SLAB ELEVATIONS  
SN 045-3401

SHEET NO. 6 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	211
CONTRACT NO. 61H95				
ILLINOIS		FED. AID PROJECT		



PLAN

**MINIMUM BAR LAP**  
#5 BAR = 3'-6"

\* See Field Cutting Diagram on sheet 12 of 40 .

Notes:  
See sheet 13 of 40 for dowel bar details.

FILE NAME = 0453401-XXXXX-007-Superstructure\_Plan.dgn



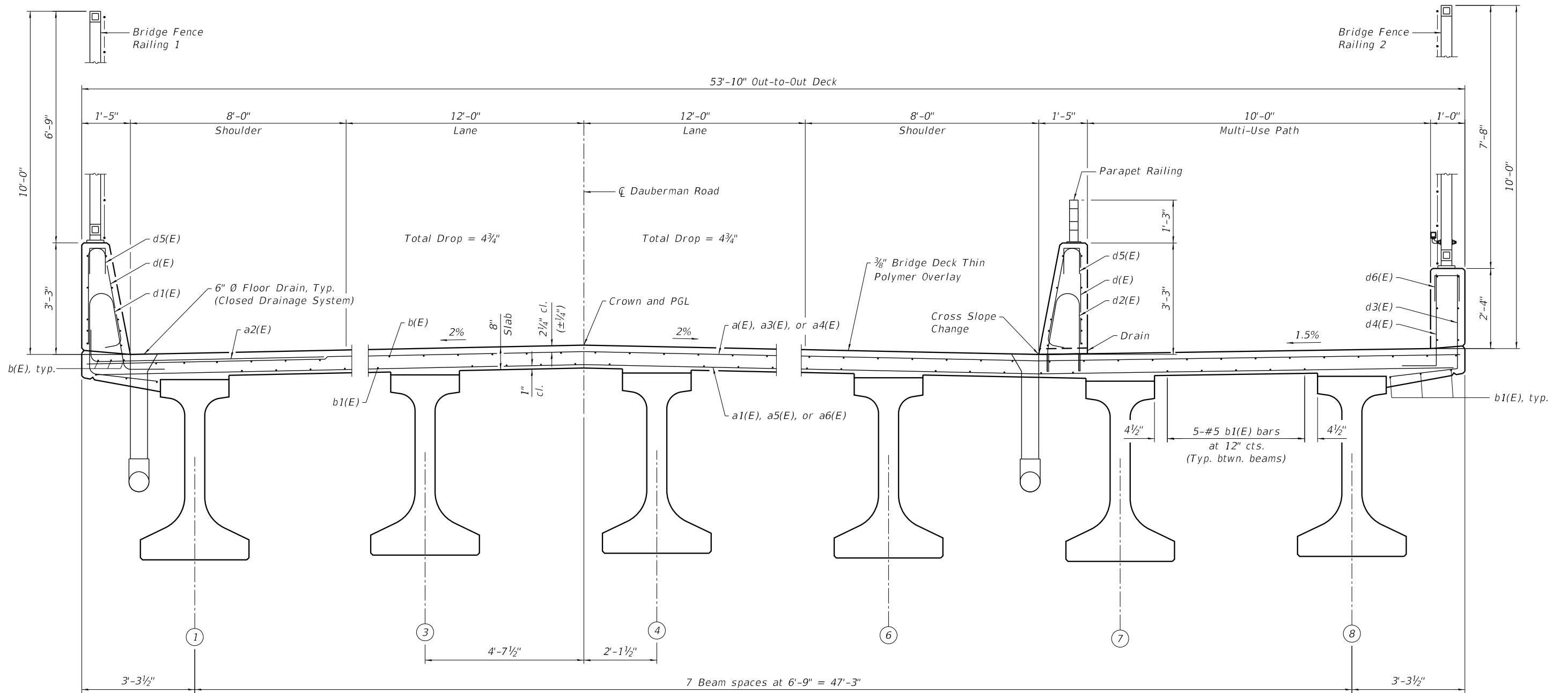
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	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE PLAN**  
**SN 045-3401**

SHEET NO. 7 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	212
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



**CROSS SECTION**  
(Looking North)

Notes:  
See sheet 18 of 40 for drainage details.  
See sheet 10 of 40 for additional parapet details.  
See sheet 9 of 40 for formed drain details.

FILE NAME = 0453401-XXXXX-008-Superstructure\_XS.dgn



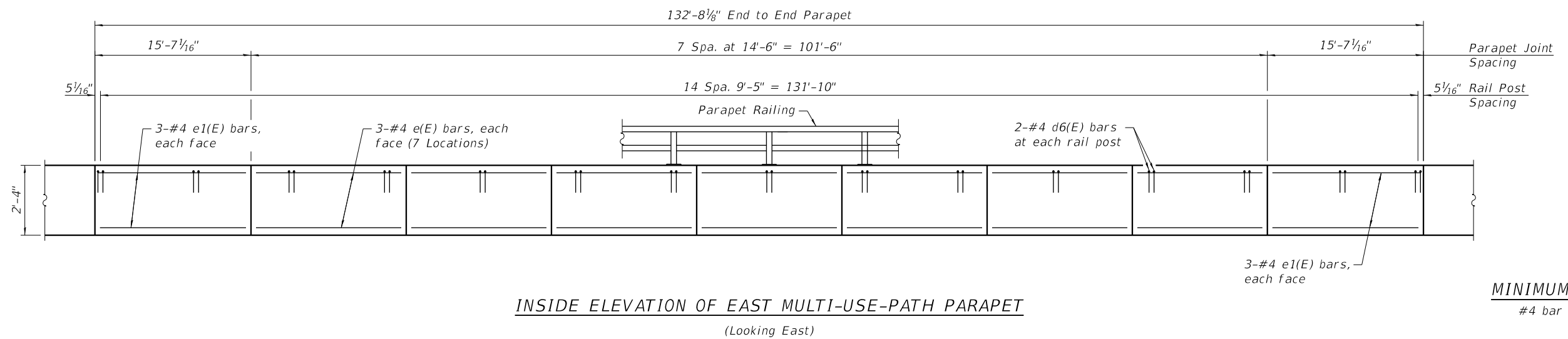
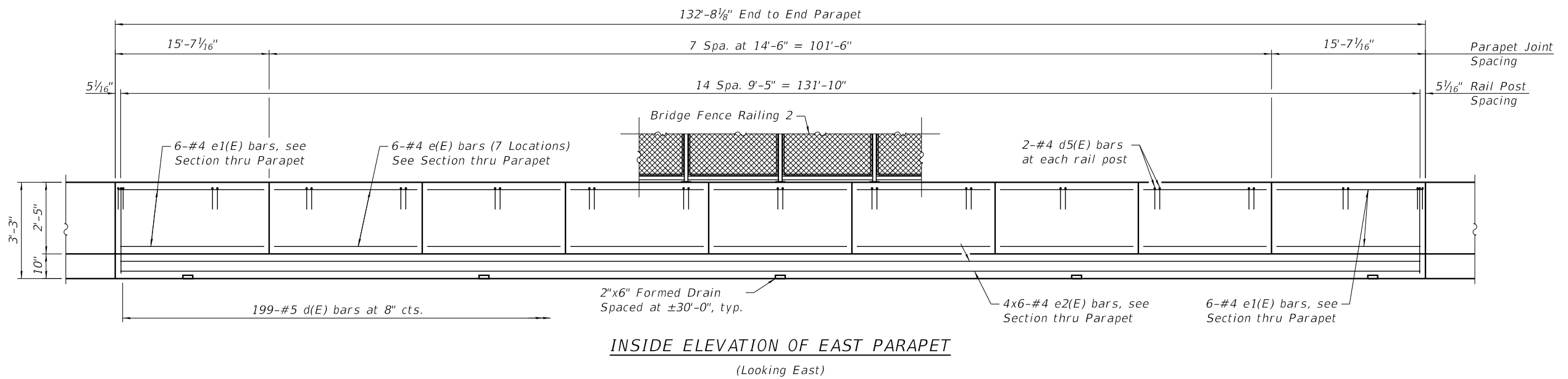
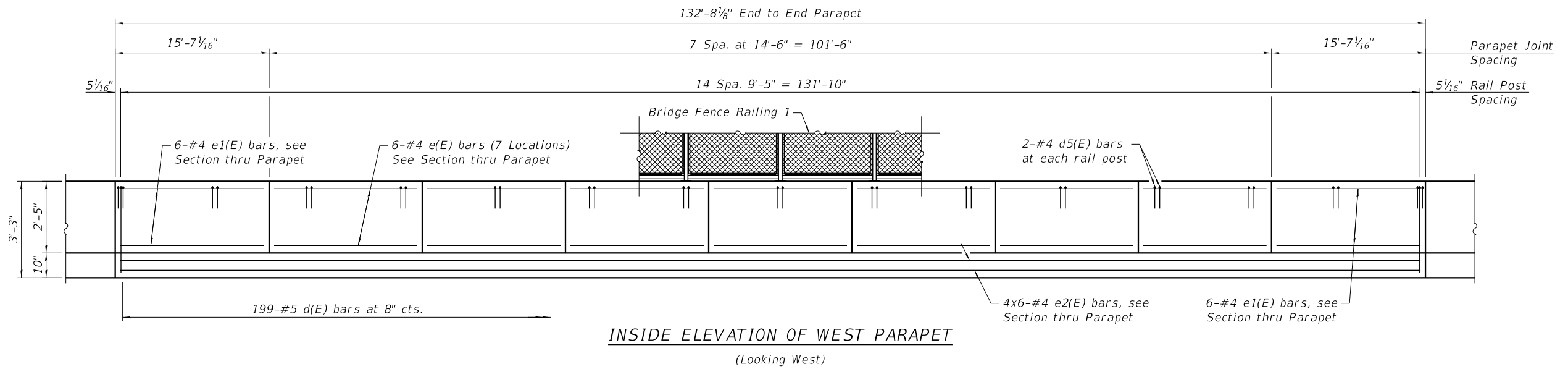
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PLOT DATE = 7/7/2022	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE CROSS SECTION**  
**SN 045-3401**

SHEET NO. 8 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	213
ILLINOIS FED. AID PROJECT			CONTRACT NO. 61H95	



**MINIMUM BAR LAP**  
#4 bar = 2'-7"

FILE NAME = 0453401-XXXXX-009-Parapet\_Railing.dgn



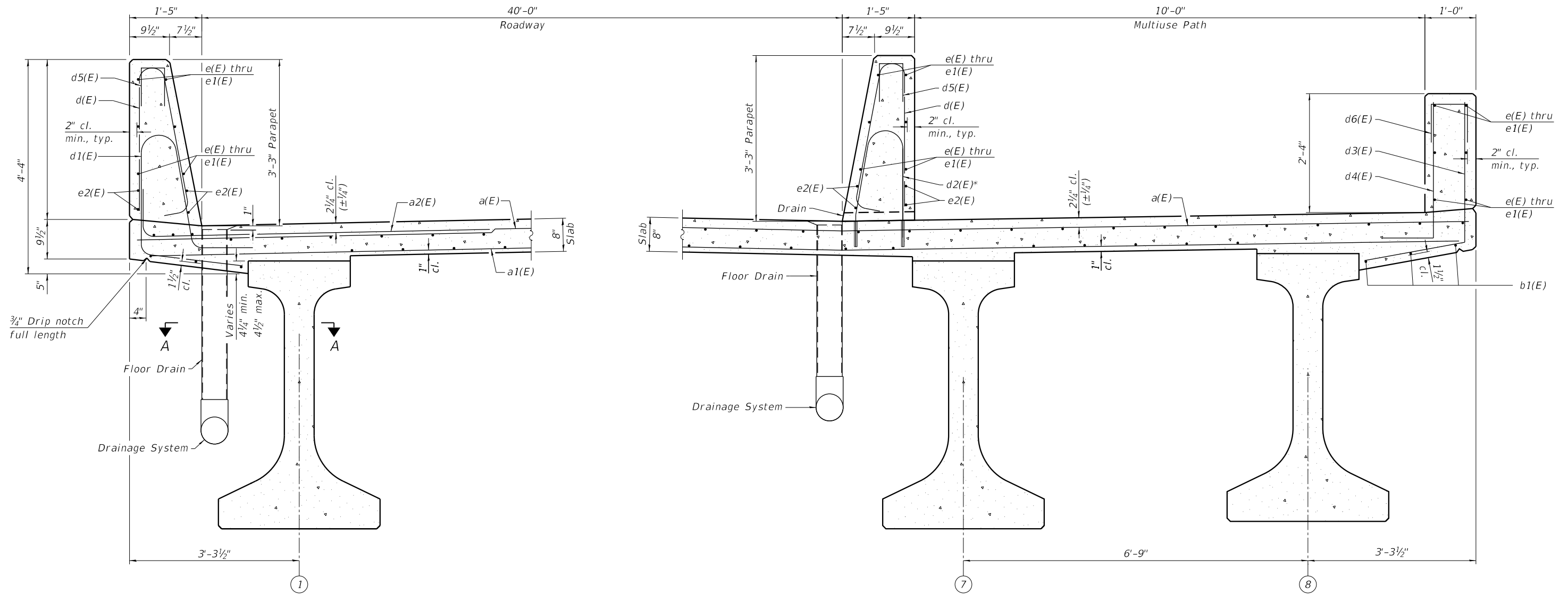
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PLOT DATE = 7/7/2022	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PARAPET RAILING DETAILS  
SN 045-3401**

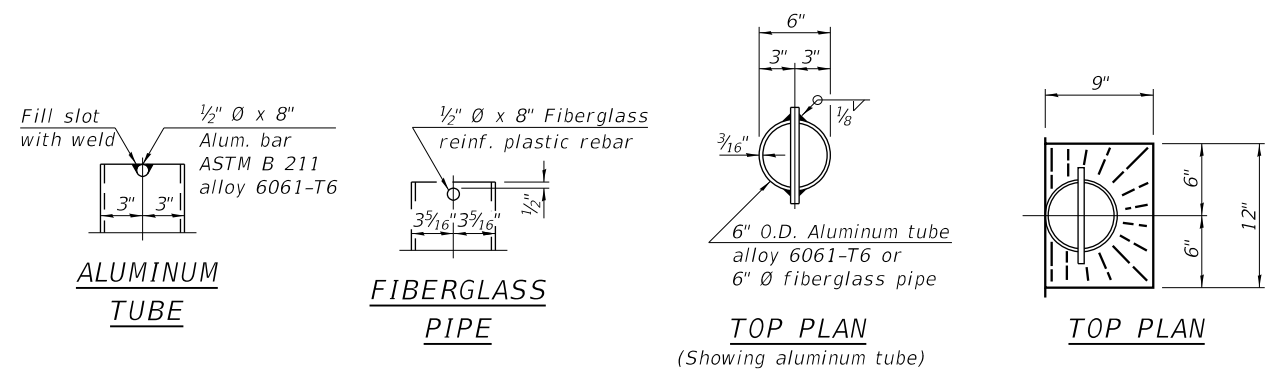
SHEET NO. 9 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	214
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



SECTION THRU PARAPET

\* Core and set #5 d2(E) bar according to Article 509.06 of the Standard Specifications. Cored holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of hole shall not exceed 6".



FLOOR DRAIN DETAILS

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

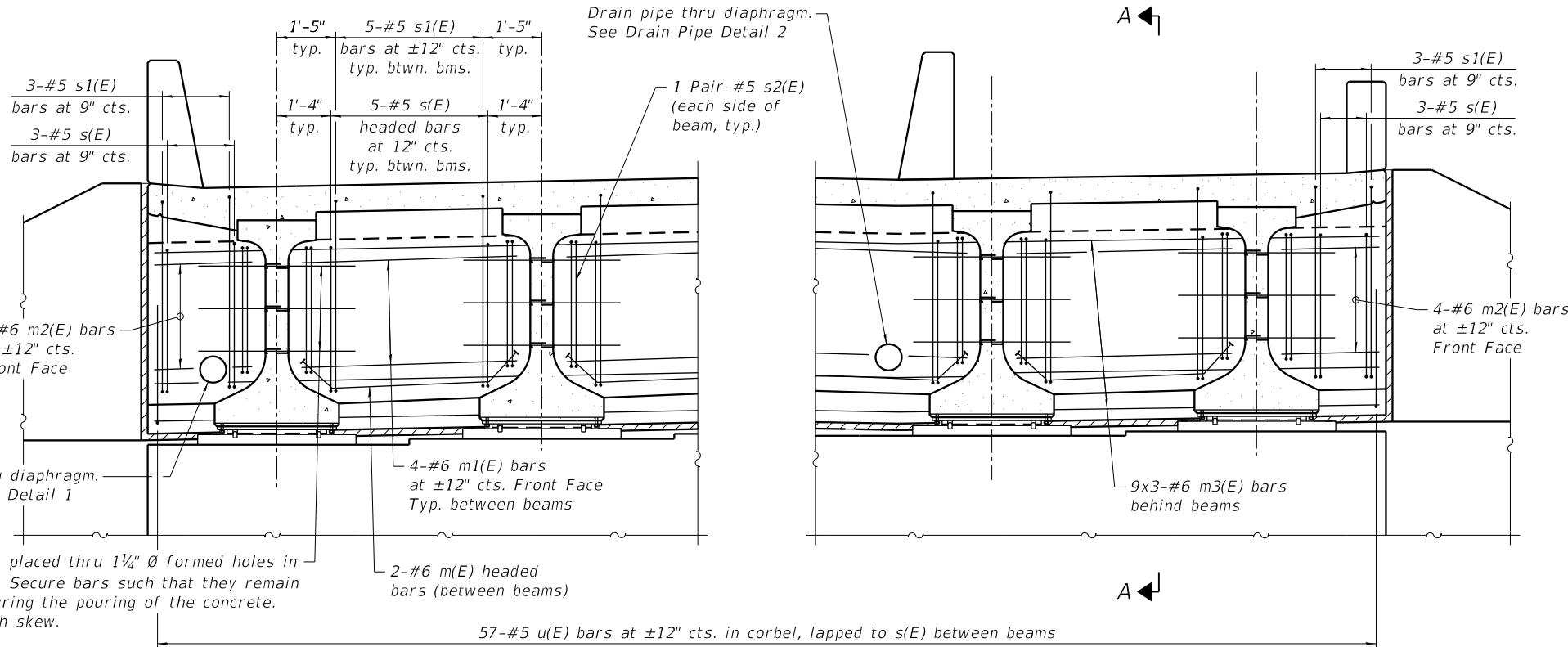
SUPERSTRUCTURE DETAILS 1  
SN 045-3401

SHEET NO. 10 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	215
CONTRACT NO. 61H95				

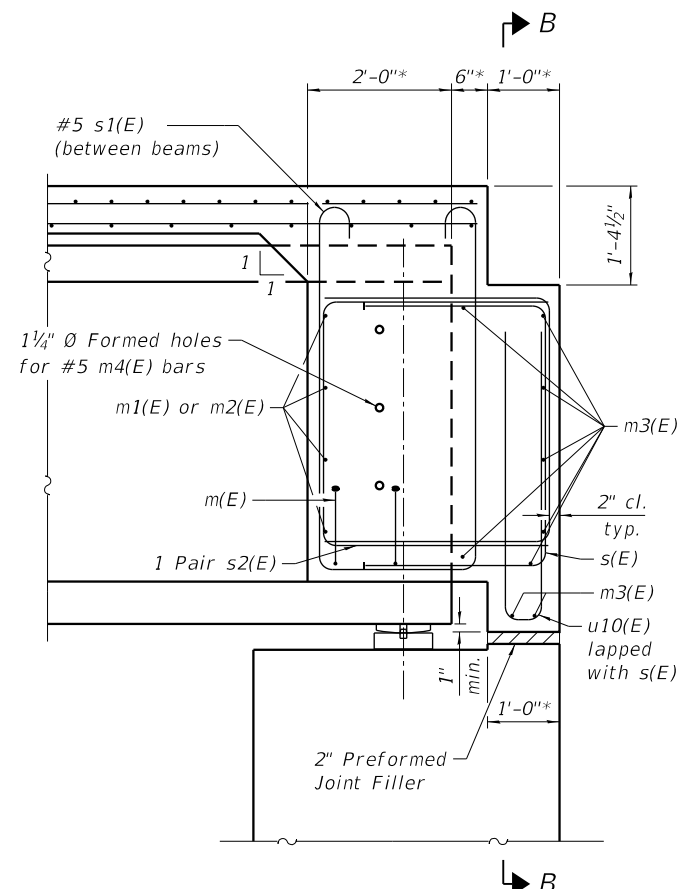
ILLINOIS FED. AID PROJECT

FILE NAME = 0453401-XXXXX-011-Superstructure\_Detail2.dgn



**DIAPHRAGM ELEVATION AT ABUTMENT**

(Looking North at North Abutment)  
(South Abutment similar)

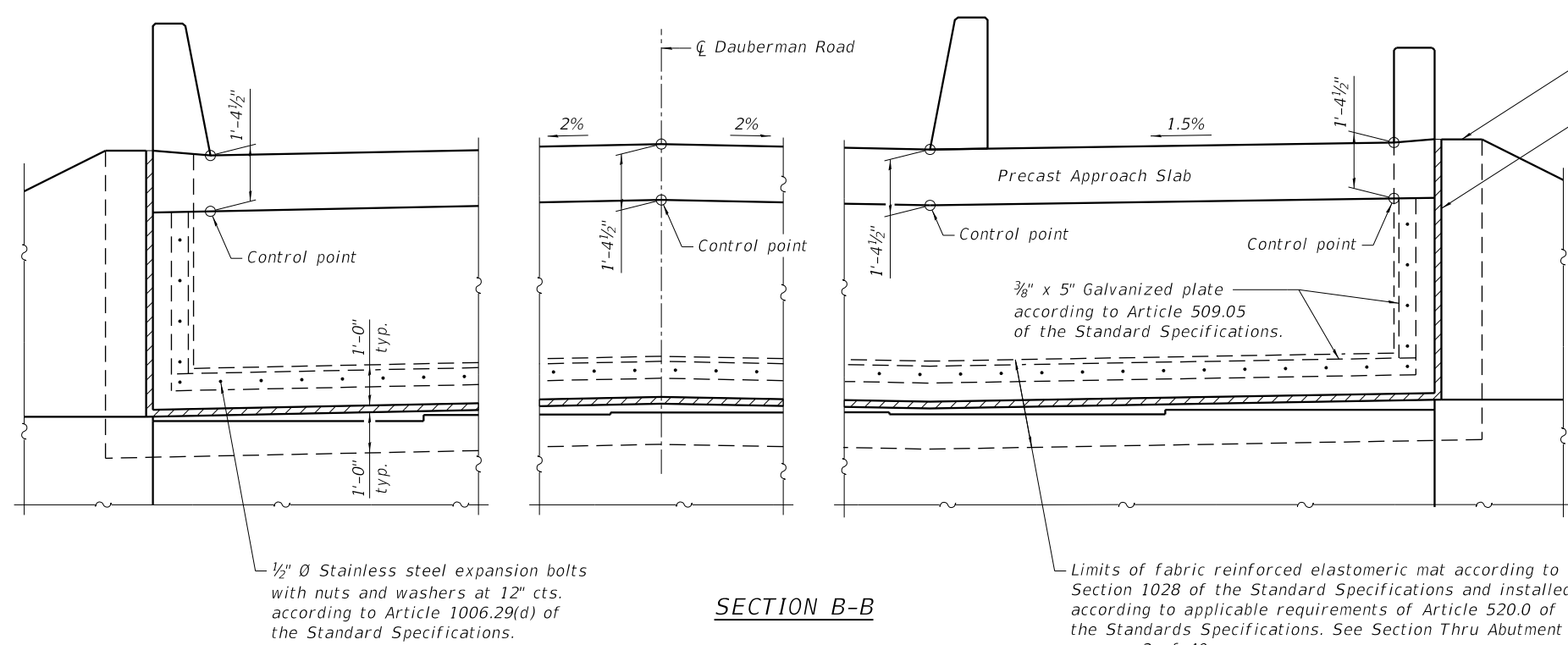


**SECTION A-A**

\* Measured along skew

3-#5 m4(E) bars, typ. placed thru 1 1/4" Ø formed holes in each beam, 4'-0" long. Secure bars such that they remain centered and level during the pouring of the concrete. Bend in field to match skew.

Wingwall  
2" PJF (per Article 1051.09 of the Standard Specifications) bonded to abutment cap and wingwall with suitable adhesive as recommended by supplier. Cost included with Concrete Superstructure.



**SECTION B-B**

Notes:  
See sheet 12 of 40 for drain pipe details.  
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
The s(E), s1(E), s2(E), and u(E) bars are placed parallel to beams and spaced at right angles to beams.  
Cost of fabric reinforced elastomeric mat, galvanized plate, stainless steel expansion bolts with nuts and washers and installation are included in the cost of Concrete Superstructure.

**MINIMUM BAR LAP**

#6 bar = 4'-5"



USER NAME = bmsetzke	DESIGNED - TJA	REVISED -
CHECKED - MDS	REVISED -	
PLOT SCALE = NTS	DRAWN - TJA	REVISED -
PLOT DATE = 7/7/2022	CHECKED - MDS	REVISED -

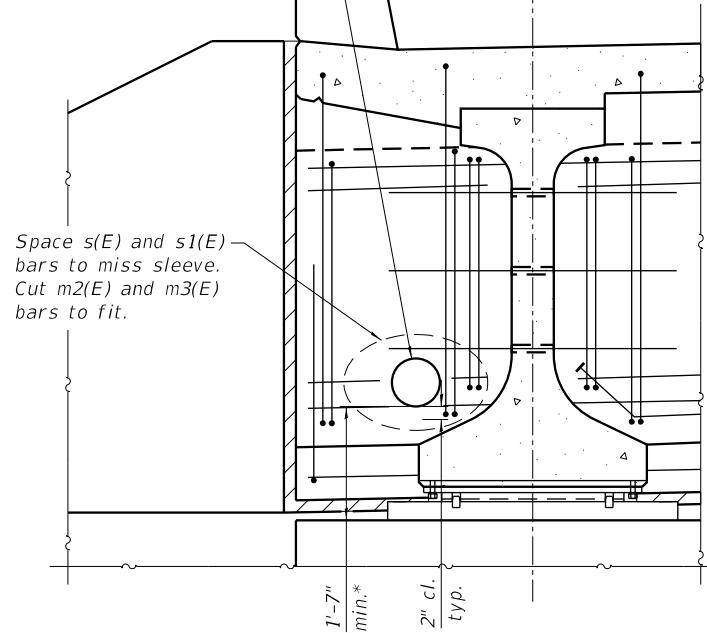
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS 2  
SN 045-3401**

SHEET NO. 11 OF 40 SHEETS

F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 216
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

Sleeve for 6" Ø Drain Pipe. Cost included with Drainage Systems.

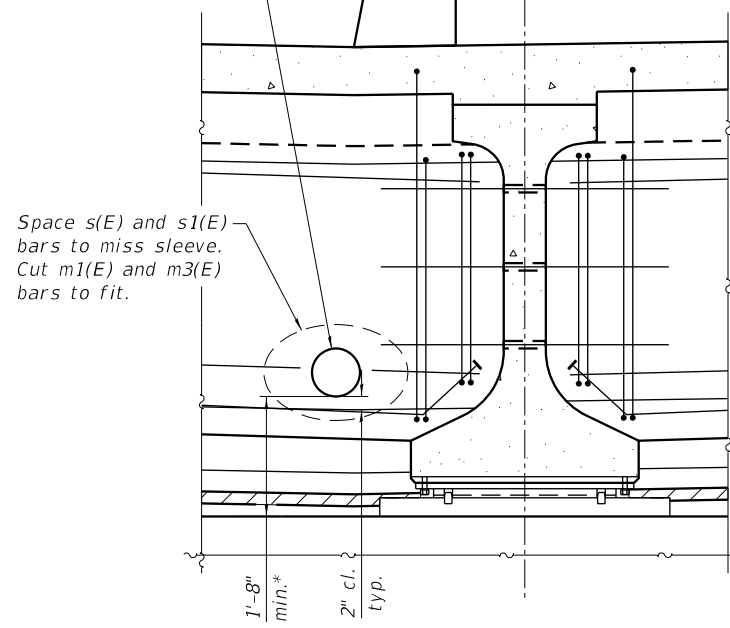


**DRAIN PIPE DETAIL 1**

(Looking North at North Abutment)  
(South Abutment similar)

\* Locate to miss elastomeric mat

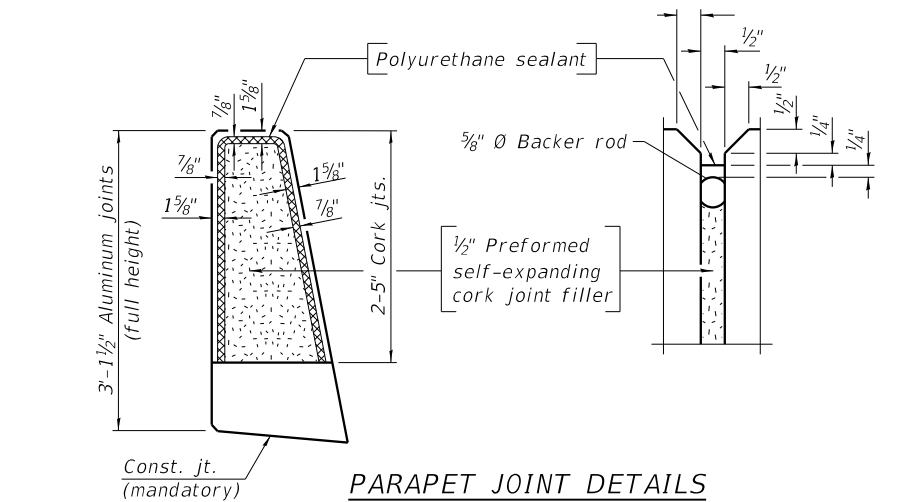
Sleeve for 6" Ø Drain Pipe. Cost included with Drainage Systems.



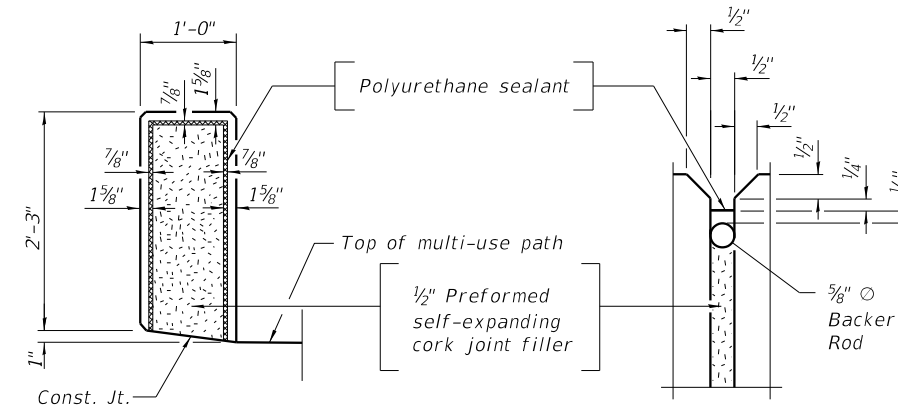
**DRAIN PIPE DETAIL 2**

(Looking North at North Abutment)  
(South Abutment similar)

\* Locate to miss elastomeric mat



**PARAPET JOINT DETAILS**



**MULTI-USE PATH PARAPET JOINT DETAILS**

**Notes:**

Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

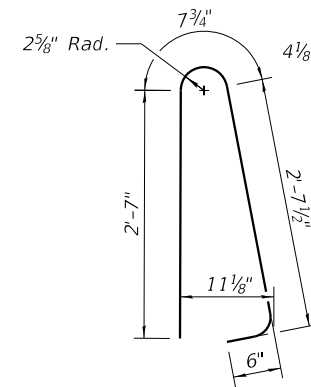
The exterior surfaces of the fiberglass floor drains shall be pigmented by the manufacturer with a color that matches the concrete.

The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.

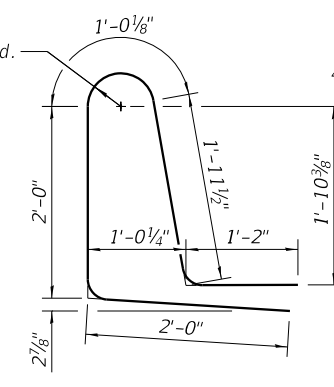
The 1/8" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.

The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

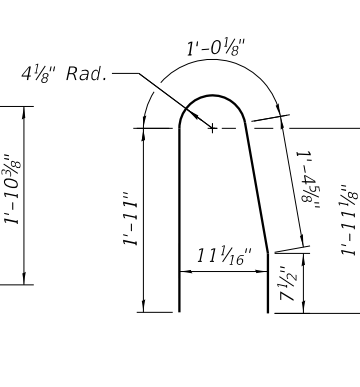
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.



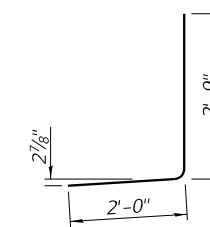
**BAR d(E)**



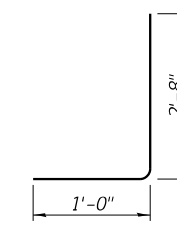
**BAR d1(E)**



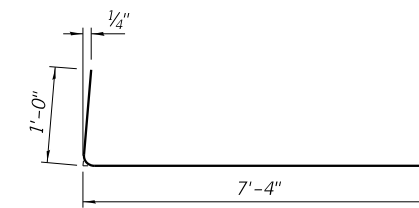
**BAR d2(E)**



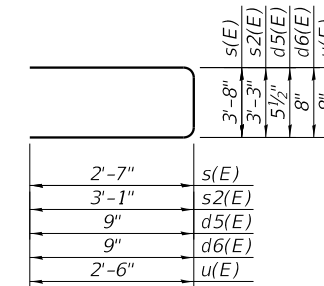
**BAR d3(E)**



**BAR d4(E)**

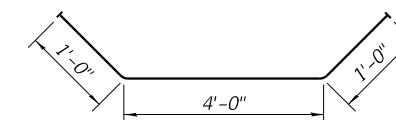


**BAR a2(E)**

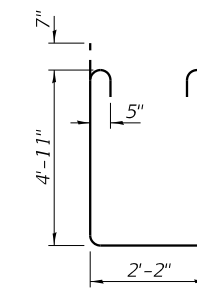


**BARS s(E), s2(E), d5(E), d6(E) & u(E)**

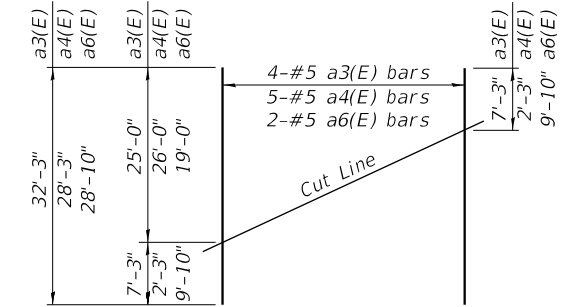
(s(E) bars are headed)



**BAR m(E)**



**BAR s1(E)**



**FIELD CUTTING DIAGRAM**

Order a3(E) and a4(E) bars full length. Cut as shown and use remainder of bars in opposite end of deck.

**SUPERSTRUCTURE BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	478	#5	28'-6"	—
a1(E)	469	#5	20'-2"	—
a2(E)	244	#6	8'-4"	└
a3(E)	4	#5	32'-3"	—
a4(E)	5	#5	28'-3"	—
a5(E)	4	#5	13'-4"	—
a6(E)	2	#5	28'-10"	—
a7(E)	8	#5	28'-10"	—
b(E)	300	#5	29'-3"	—
b1(E)	246	#5	25'-0"	—
d(E)	398	#5	6'-5"	└
d1(E)	199	#5	8'-2"	└
d2(E)	199	#5	5'-1"	└
d3(E)	133	#5	4'-9"	└
d4(E)	133	#5	3'-8"	└
d5(E)	60	#4	2'-0"	└
d6(E)	30	#4	2'-2"	└
e(E)	126	#4	14'-2"	—
e1(E)	36	#4	15'-3"	—
e2(E)	48	#4	24'-3"	—
m(E)	14	#6	6'-0"	└
m1(E)	28	#6	5'-6"	—
m2(E)	8	#6	2'-6"	—
m3(E)	27	#6	20'-10"	—
m4(E)	24	#5	4'-0"	—
s(E)	82	#5	8'-10"	└
s1(E)	82	#5	13'-2"	└
s2(E)	64	#5	9'-5"	└
u(E)	114	#5	5'-8"	└

Reinforcement Bars, Epoxy Coated	Lbs.	56,900
Concrete Superstructure	Cu. Yd.	305.0
Bridge Deck Thin Polymer Overlay 3/8"	Sq. Yd.	590
Protective Coat	Sq. Yd.	383

Bars indicated thus 1 x 2-#4 etc. indicates 1 line of bars with 2 lengths per line.

FILE NAME = 0453401-XXXXX-012-Superstructure\_Details3.dgn



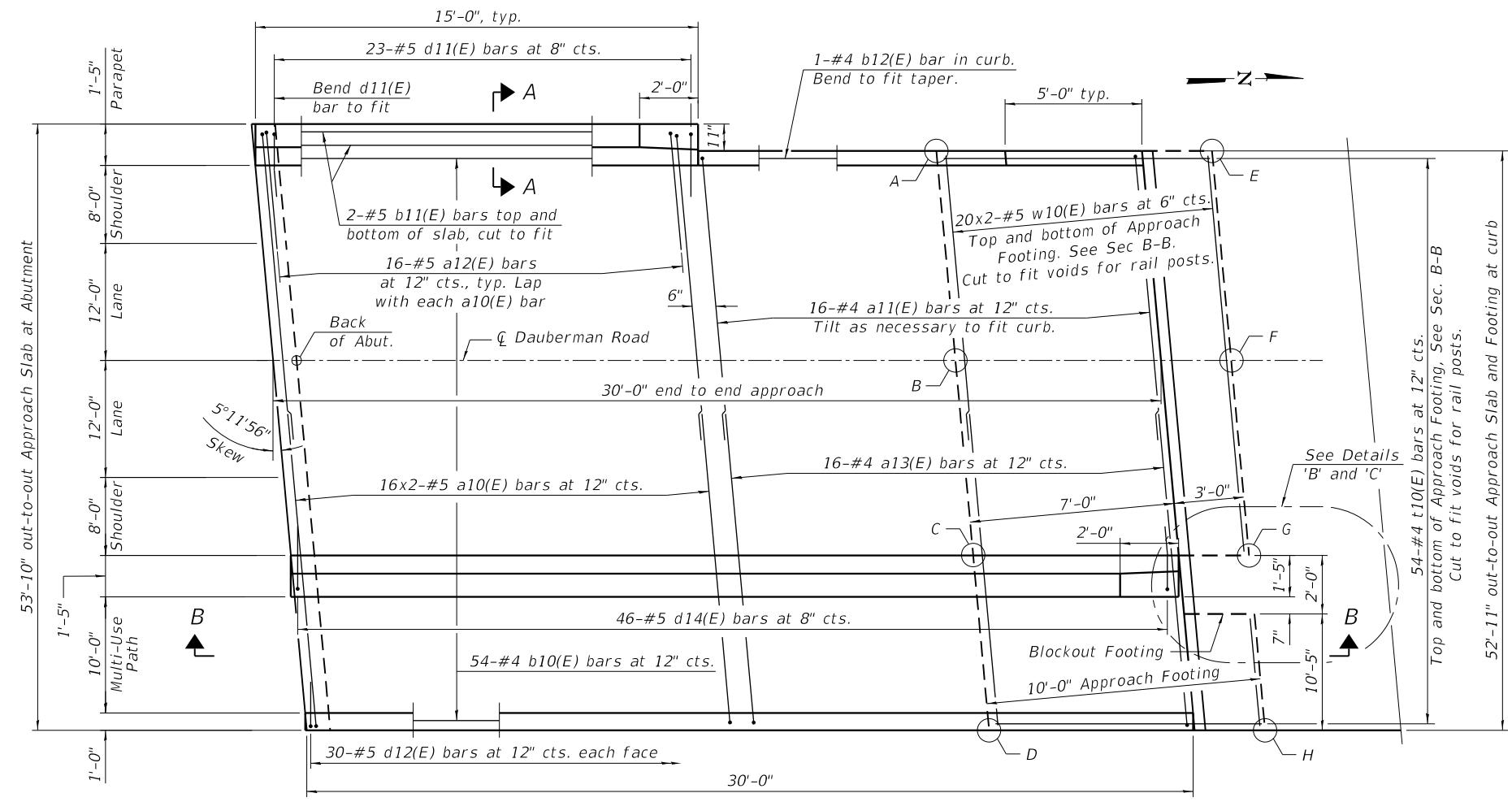
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	CHECKED - MDS	REVISED -

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DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS 3  
SN 045-3401**

SHEET NO. 12 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	217
CONTRACT NO. 61H95				
ILLINOIS		FED. AID PROJECT		

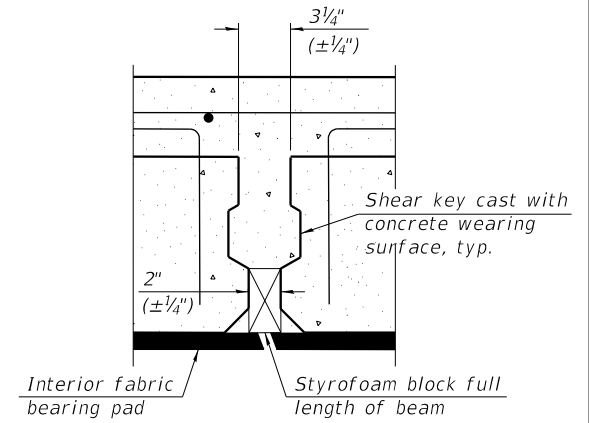


**PLAN**  
(North Approach Slab shown,  
South Approach similar by reflection)

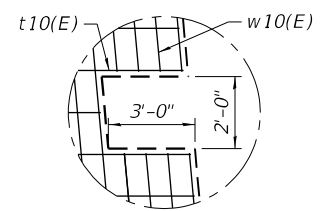
**TOP AND BOTTOM ELEVATIONS  
FOR APPROACH FOOTING**

Point	South Approach		North Approach	
	Top	Bottom	Top	Bottom
A	732.70	731.87	733.12	732.29
B	733.13	732.29	733.53	732.69
C	732.74	731.91	733.12	732.29
D	732.94	732.10	733.30	732.47
E	732.62	731.79	733.09	732.25
F	733.05	732.21	733.49	732.66
G	732.66	731.83	733.08	732.25
H	732.86	732.02	733.27	732.43

\*Fabric bearing pads at the expansion end shall be recessed 1/4" into the approach footing and bonded. Adjusting shims, when required, shall be bonded to the top of the fabric bearing pads.

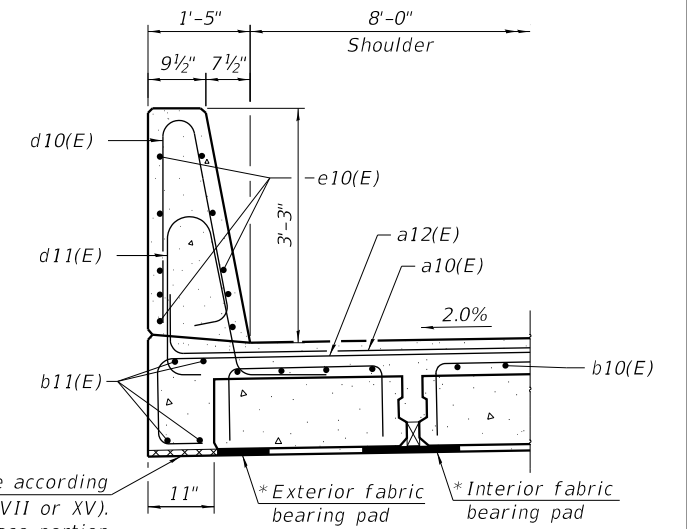


**DETAIL 'A'**



**DETAIL 'B'**

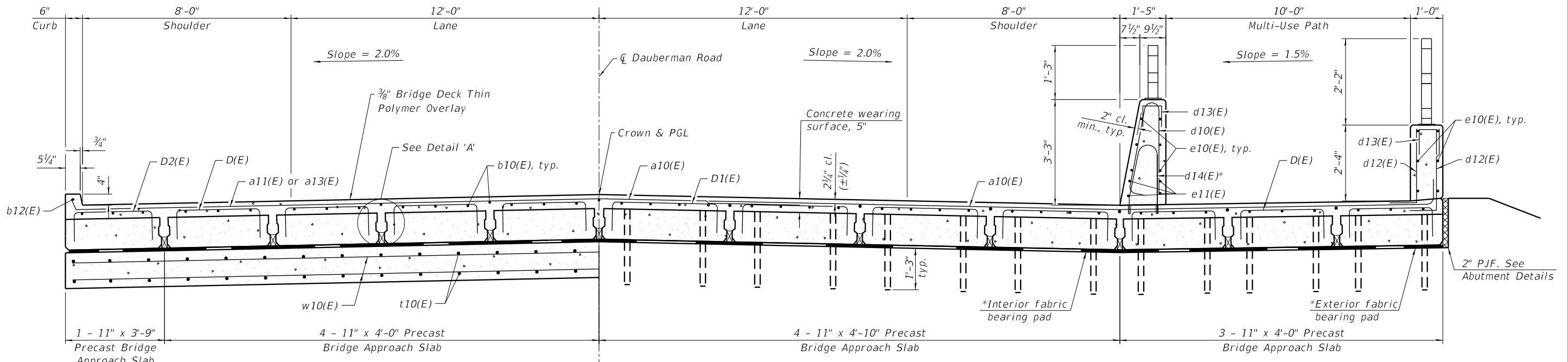
Showing blockout dimensions  
See sheet 16 of 40 for Detail 'C'



**SECTION A-A**

**MIN. LAP**  
#4 = 2'-7"  
#5 = 3'-2"

1/2" Cellular polystyrene according to ASTM C 578 (Types V, VII or XV). Placed under cast in place portion of approach slab full length.



**CROSS SECTION**  
(Looking North)

**NEAR ABUTMENT**

\*Core and set #5 d14(E) bar according to Article 509.06 of the Standard Specifications. Cored holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of hole shall not exceed 4 1/2".

FILE NAME = 0453401-XXXXX-013-ApprSlab\_Details.rvt



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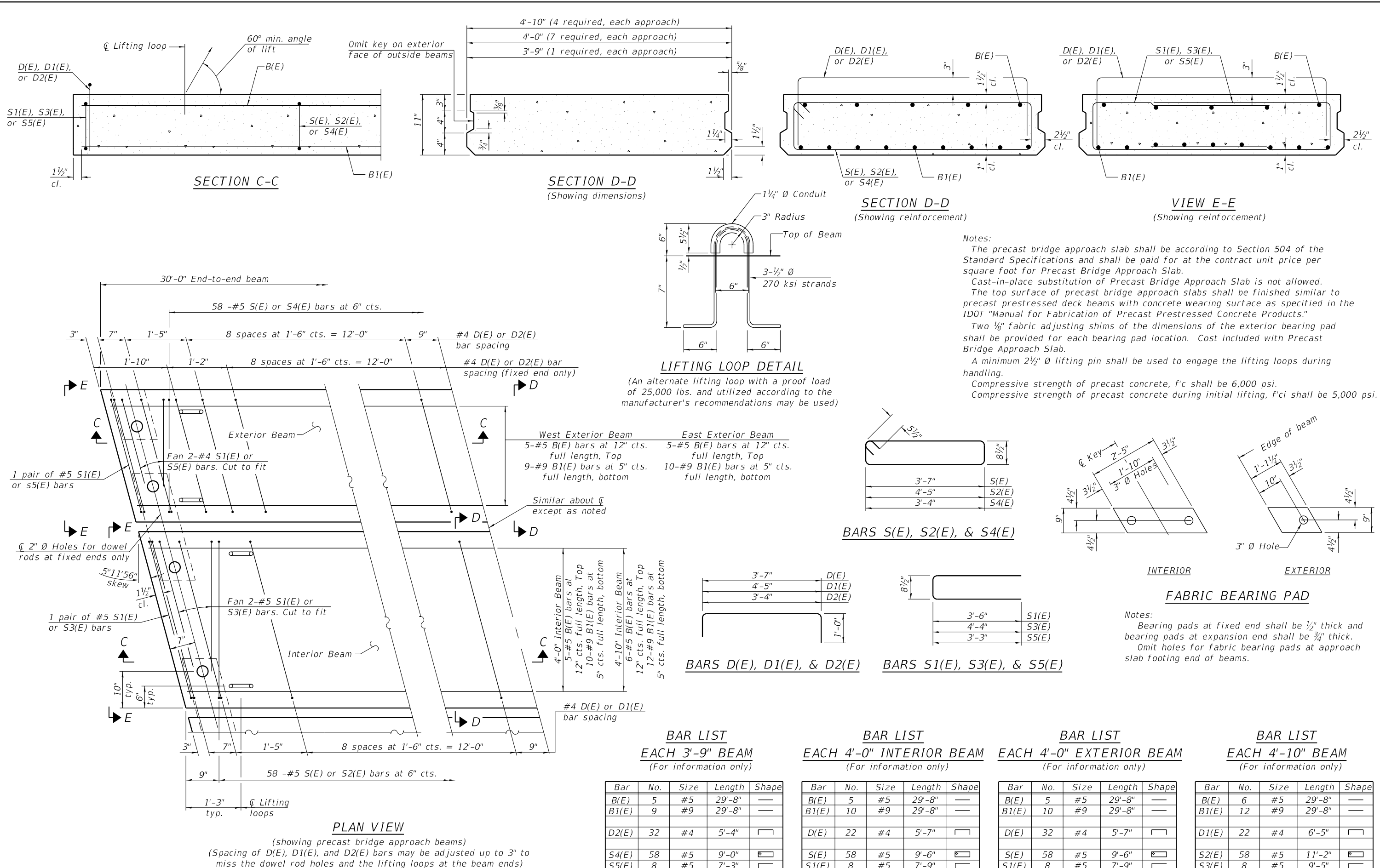
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PRECAST APPROACH SLAB 1  
SN 045-3401**

SHEET NO. 13 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	218
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				





**Notes:**  
 The precast bridge approach slab shall be according to Section 504 of the Standard Specifications and shall be paid for at the contract unit price per square foot for Precast Bridge Approach Slab.  
 Cast-in-place substitution of Precast Bridge Approach Slab is not allowed.  
 The top surface of precast bridge approach slabs shall be finished similar to precast prestressed deck beams with concrete wearing surface as specified in the IDOT "Manual for Fabrication of Precast Prestressed Concrete Products."  
 Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. Cost included with Precast Bridge Approach Slab.  
 A minimum 2 1/2" Ø lifting pin shall be used to engage the lifting loops during handling.  
 Compressive strength of precast concrete, f'c shall be 6,000 psi.  
 Compressive strength of precast concrete during initial lifting, f'ci shall be 5,000 psi.

**LIFTING LOOP DETAIL**  
 (An alternate lifting loop with a proof load of 25,000 lbs. and utilized according to the manufacturer's recommendations may be used)

**Notes:**  
 Bearing pads at fixed end shall be 1/2" thick and bearing pads at expansion end shall be 3/4" thick.  
 Omit holes for fabric bearing pads at approach slab footing end of beams.

BAR LIST EACH 3'-9" BEAM (For information only)					BAR LIST EACH 4'-0" INTERIOR BEAM (For information only)					BAR LIST EACH 4'-0" EXTERIOR BEAM (For information only)					BAR LIST EACH 4'-10" BEAM (For information only)				
Bar	No.	Size	Length	Shape	Bar	No.	Size	Length	Shape	Bar	No.	Size	Length	Shape	Bar	No.	Size	Length	Shape
B(E)	5	#5	29'-8"	—	B(E)	5	#5	29'-8"	—	B(E)	5	#5	29'-8"	—	B(E)	6	#5	29'-8"	—
B1(E)	9	#9	29'-8"	—	B1(E)	10	#9	29'-8"	—	B1(E)	10	#9	29'-8"	—	B1(E)	12	#9	29'-8"	—
D2(E)	32	#4	5'-4"	┌	D(E)	22	#4	5'-7"	┌	D(E)	32	#4	5'-7"	┌	D1(E)	22	#4	6'-5"	┌
S4(E)	58	#5	9'-0"	▭	S(E)	58	#5	9'-6"	▭	S(E)	58	#5	9'-6"	▭	S2(E)	58	#5	11'-2"	▭
S5(E)	8	#5	7'-3"	▭	S1(E)	8	#5	7'-9"	▭	S1(E)	8	#5	7'-9"	▭	S3(E)	8	#5	9'-5"	▭



USER NAME = bmsetzke	DESIGNED - TJA	REVISED -
CHECKED - MDS	CHECKED - MDS	REVISED -
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PLOT DATE = 7/7/2022	CHECKED - MDS	REVISED -

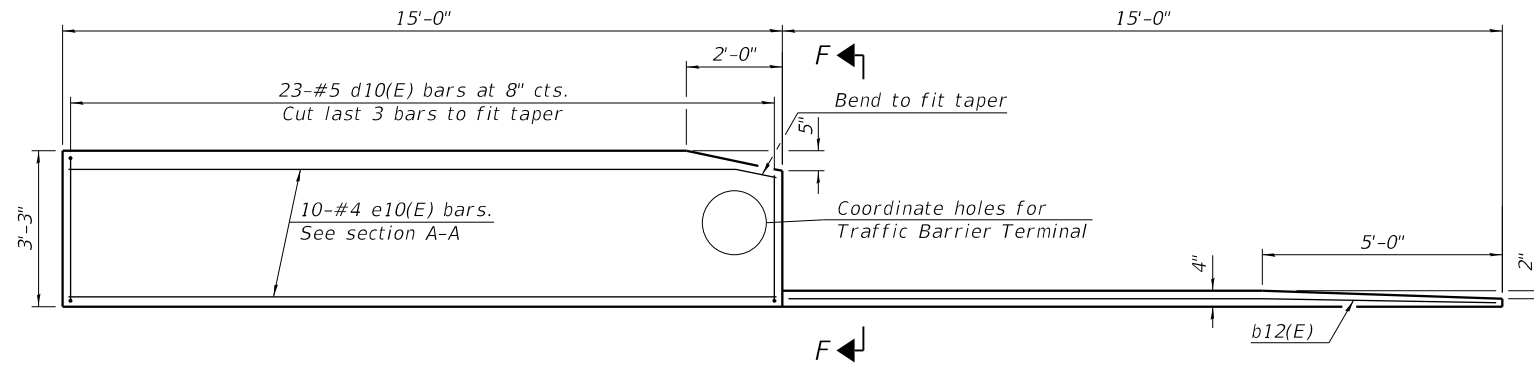
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PRECAST APPROACH SLAB 2  
 SN 045-3401**

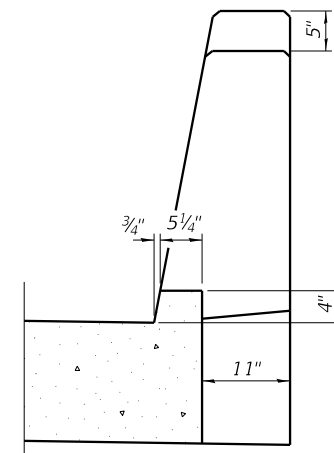
SHEET NO. 14 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			61H95	
ILLINOIS		FED. AID PROJECT		

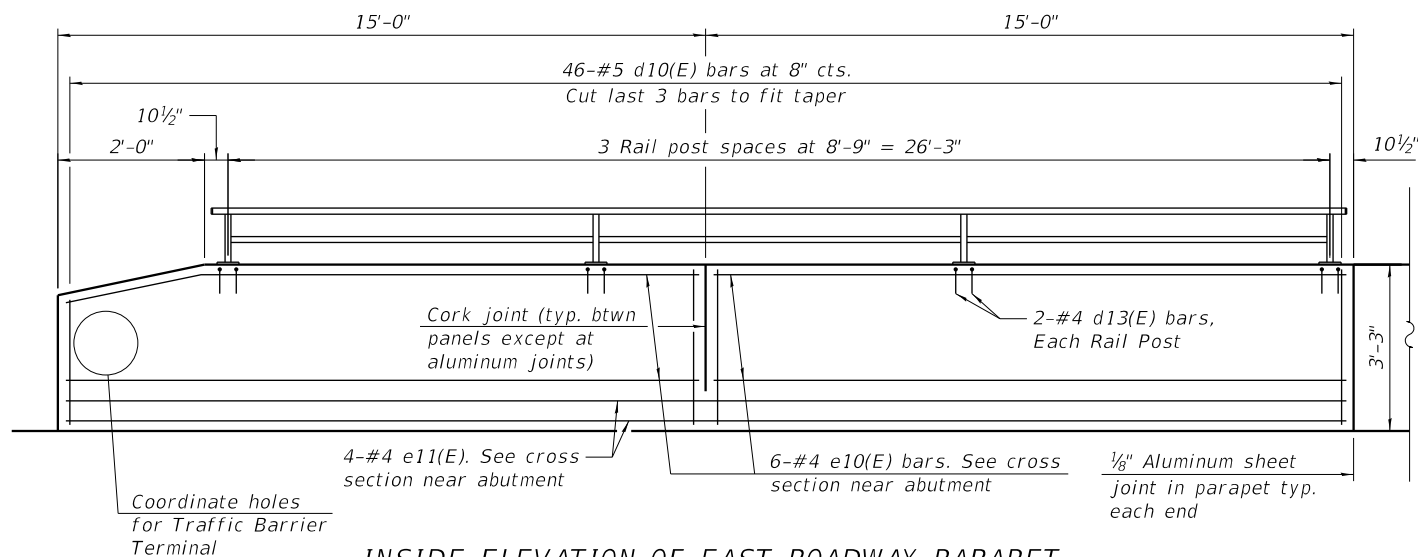
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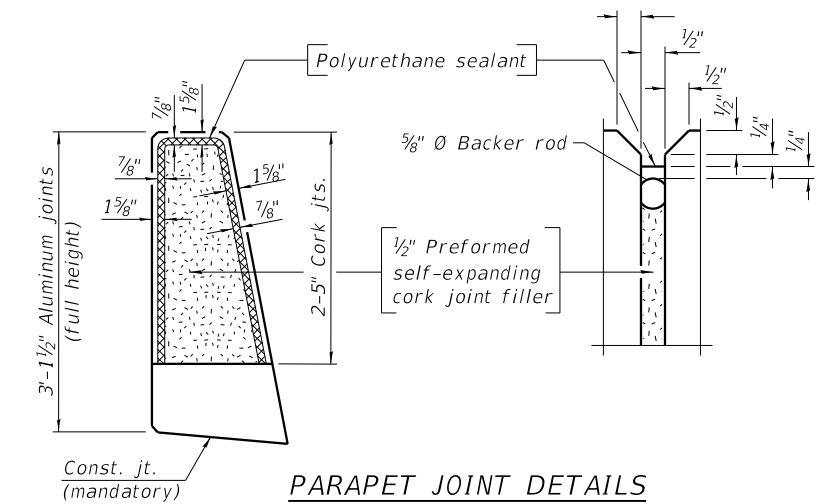
**INSIDE ELEVATION OF WEST ROADWAY PARAPET**  
(North approach shown, South approach similar)



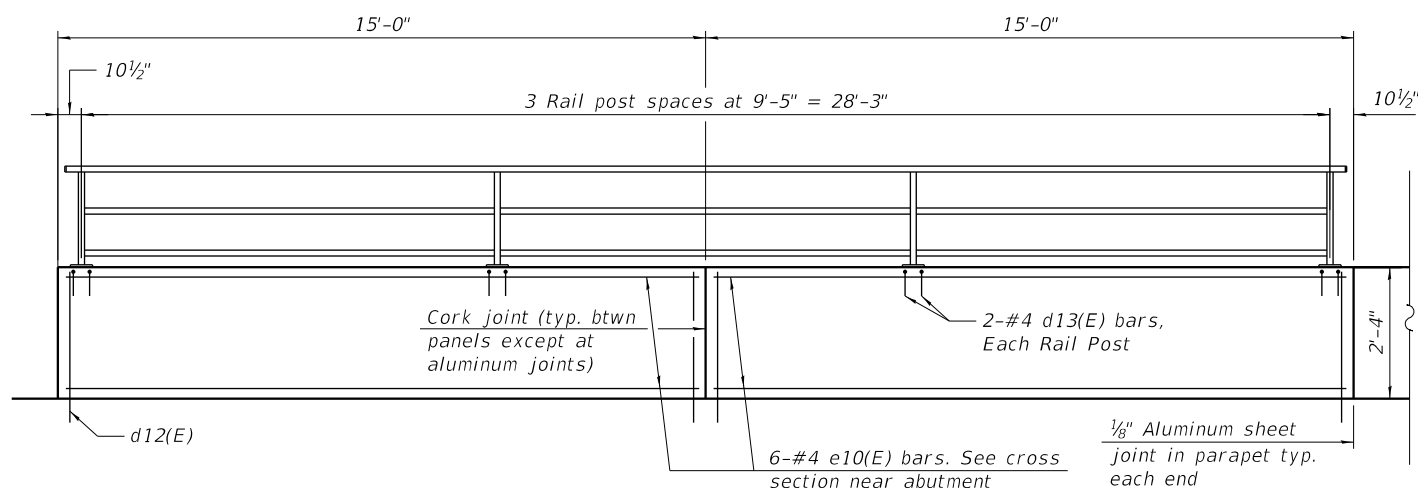
**VIEW F-F**



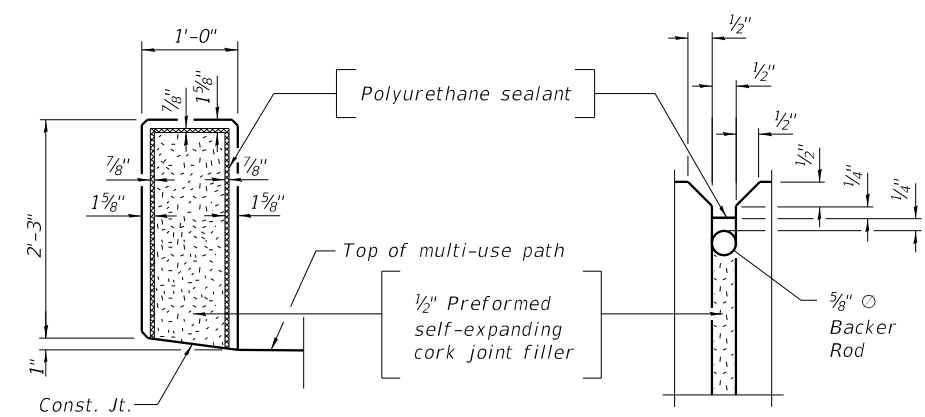
**INSIDE ELEVATION OF EAST ROADWAY PARAPET**  
(North approach shown, South approach similar)



**PARAPET JOINT DETAILS**



**INSIDE ELEVATION OF EAST MULTI-USE PATH PARAPET**  
(North approach shown, South approach similar)



**MULTI-USE PATH PARAPET JOINT DETAILS**

**Notes:**

The 1/8" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.  
The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

FILE NAME = 0453401-XXXXX-015-Appr5Lab\_Details3.dgn



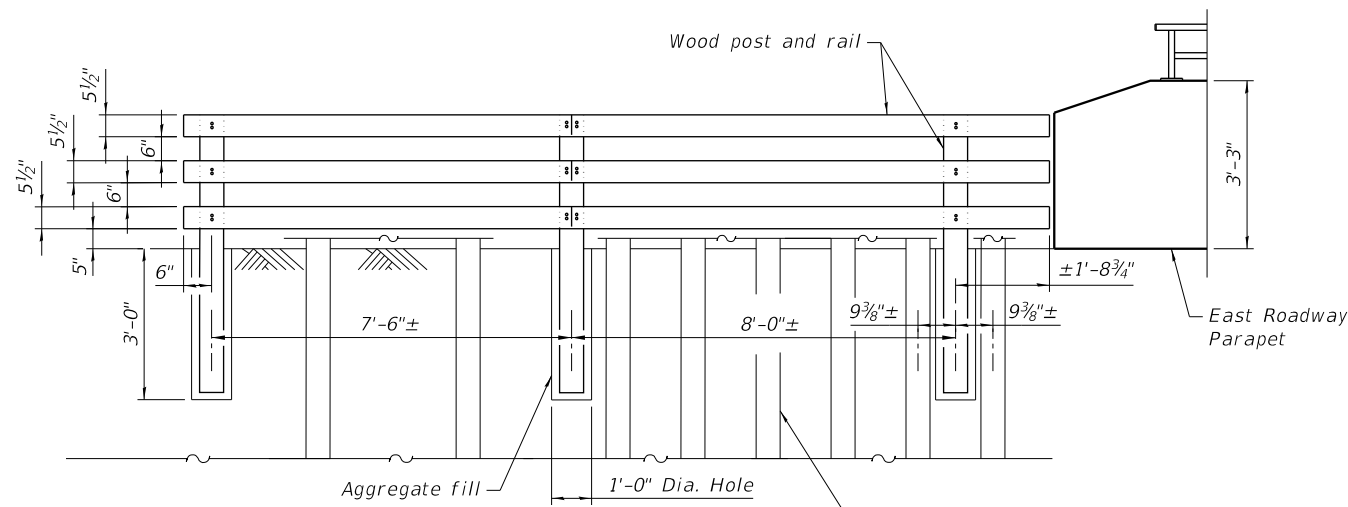
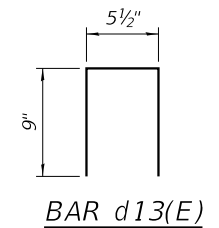
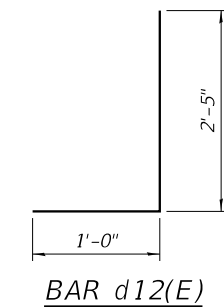
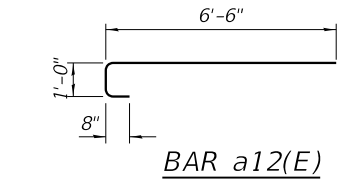
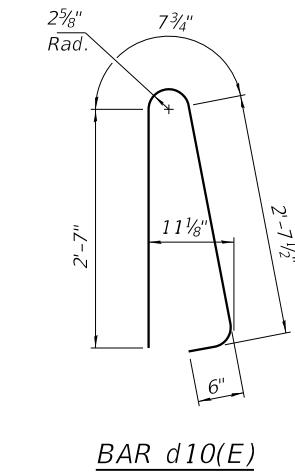
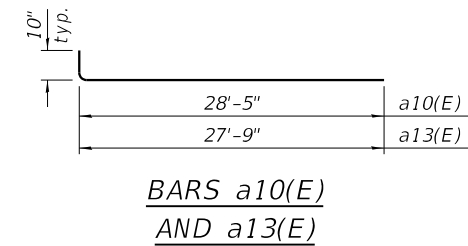
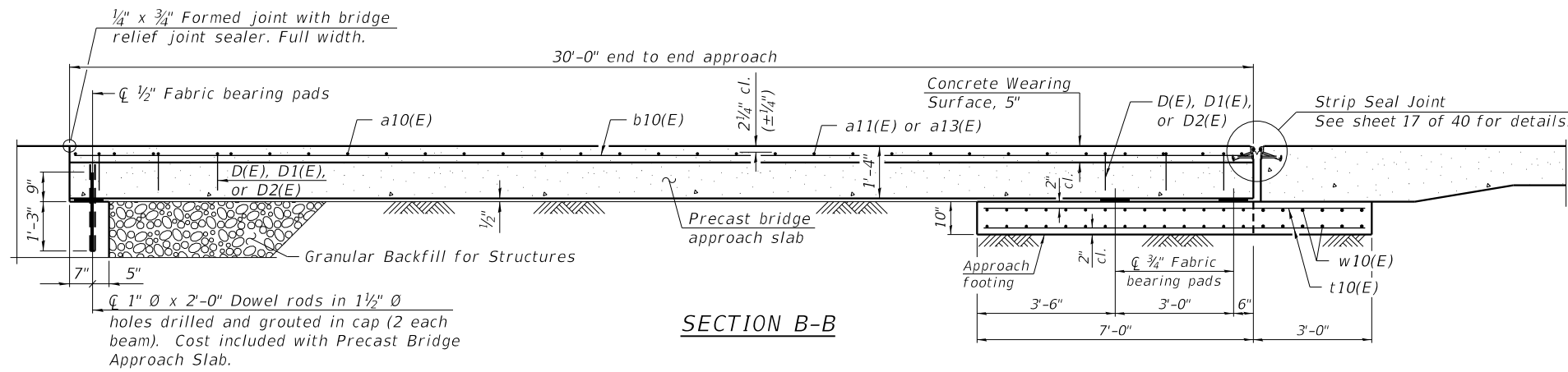
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DEPARTMENT OF TRANSPORTATION**

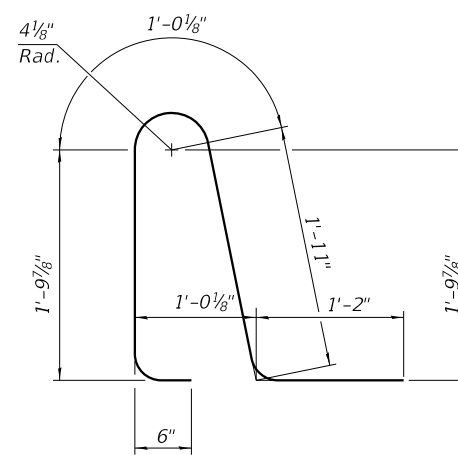
**PRECAST APPROACH SLAB 3  
SN 045-3401**

SHEET NO. 15 OF 40 SHEETS

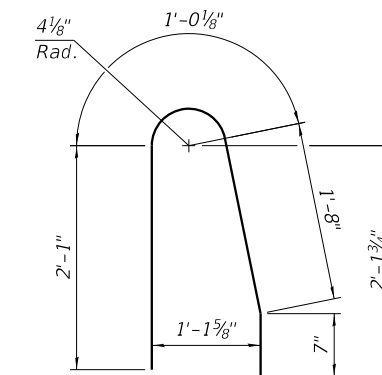
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	220
				CONTRACT NO. 61H95
ILLINOIS FED. AID PROJECT				



VIEW G-G  
WOOD POST AND RAIL FENCE



BAR d11(E)



BAR d14(E)

TWO APPROACHES  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	64	#5	29'-3"	┌───┐
a11(E)	32	#4	28'-3"	┌───┐
a12(E)	32	#5	8'-2"	┌───┐
a13(E)	32	#4	28'-7"	┌───┐
b10(E)	108	#4	29'-8"	───
b11(E)	8	#5	14'-8"	───
b12(E)	2	#4	14'-8"	───
d10(E)	138	#5	6'-5"	┌───┐
d11(E)	46	#5	6'-5"	┌───┐
d12(E)	120	#5	3'-5"	┌───┐
d13(E)	32	#4	2'-0"	┌───┐
d14(E)	92	#5	5'-5"	┌───┐
e10(E)	68	#4	14'-8"	───
e11(E)	8	#4	29'-8"	───
t10(E)	216	#4	9'-8"	───
w10(E)	160	#5	28'-0"	───
Concrete Structures			Cu. Yd.	32.8
Concrete Superstructure			Cu. Yd.	16.9
Protective Coat			Sq. Yd.	162
Reinforcement Bars, Epoxy Coated			Pound	14,840
Concrete Wearing Surface, 5"			Sq. Yd.	356
Precast Bridge Approach Slab			Sq. Ft.	3,065
Bridge Deck Thin Polymer Overlay 3/8"			Sq. Yd.	267

Notes:

The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.

After precast bridge approach slabs have been erected, holes shall be drilled into abutment and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of precast slab and cured according to Article 1020.13(a)(3) or 1020.13(a)(5) of the Standard Specifications for a minimum of 24 hours before casting the shear keys and wearing surface.

Any concrete poured monolithically with the wearing surface, such as curbs, shall not be paid for separately, but will be included in the cost of Concrete Wearing Surface, 5". The strip seal shall extend 6" beyond the edge of the approach slab on each end. Parapet concrete shall be paid for as Concrete Superstructure.

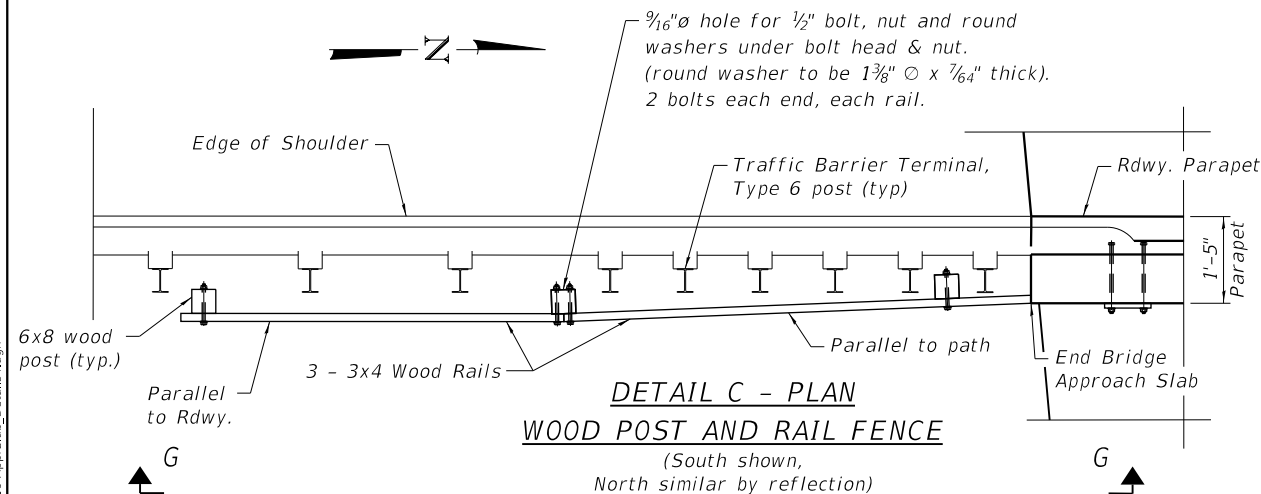
Approach footing concrete shall be paid for as Concrete Structures.

The approach footing maximum applied service bearing pressure (Q<sub>max</sub>) = 2.0 ksf.

Cost of excavation for approach footing included with Concrete Structures.

For Select Fill and drainage treatment details, see sheet 2 of 40.

Cost of cellular polystyrene is included with Concrete Superstructure.



DETAIL C - PLAN  
WOOD POST AND RAIL FENCE

Notes:  
See Wood Post and Rail Special Provision for details.

FILE NAME = 0453401-XXXXX-016-ApprSlab\_Details4.dgn



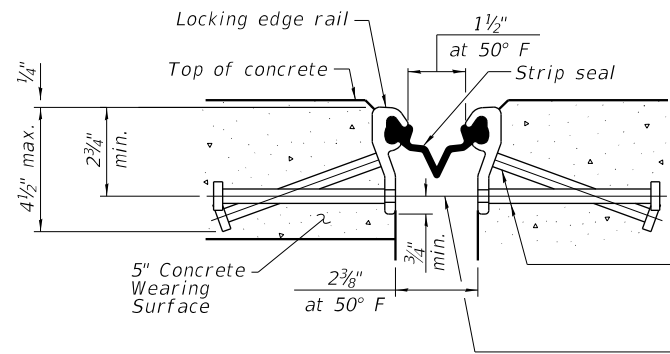
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STATE OF ILLINOIS  
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PRECAST APPROACH SLAB 4  
SN 045-3401

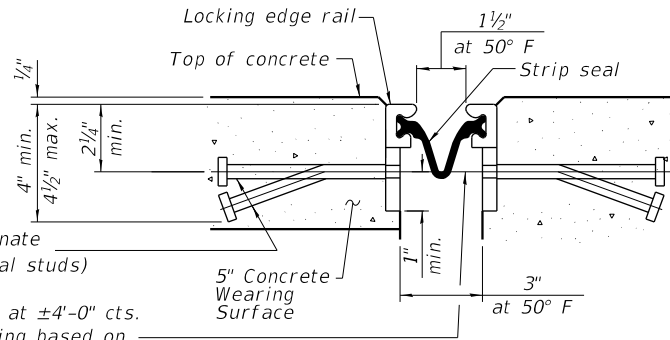
SHEET NO. 16 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	221
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



SHOWING ROLLED RAIL JOINT

\* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)  
 3/8" φ threaded rods in 7/16" φ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

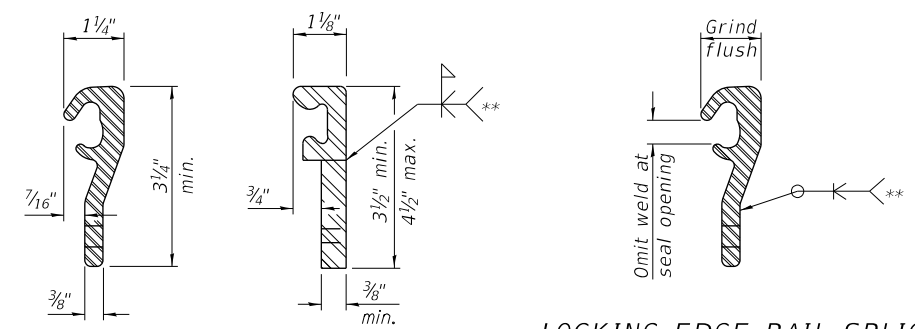


SHOWING WELDED RAIL JOINT

SECTION A-A

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

Notes:  
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
 The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.  
 The manufacturer's recommended installation methods shall be followed.  
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.  
 The maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.  
 Cost of anchorage studs included with Preformed Joint Strip Seal.  
 The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

\*\* Back gouge not required if complete joint penetration is verified by mock-up.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	107

FILE NAME = 0453401-XXXXX-017-Preformed\_Joint\_Strip\_Seal.dgn



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STATE OF ILLINOIS  
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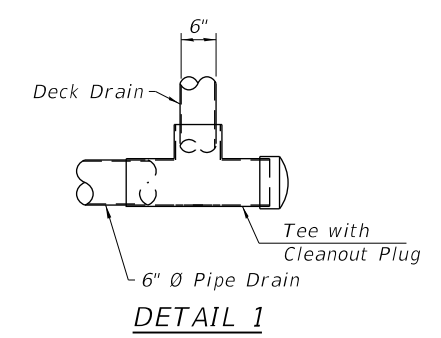
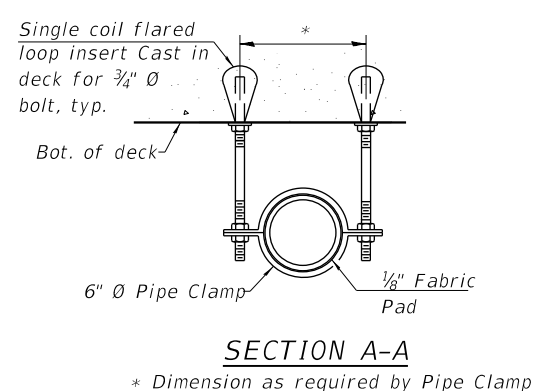
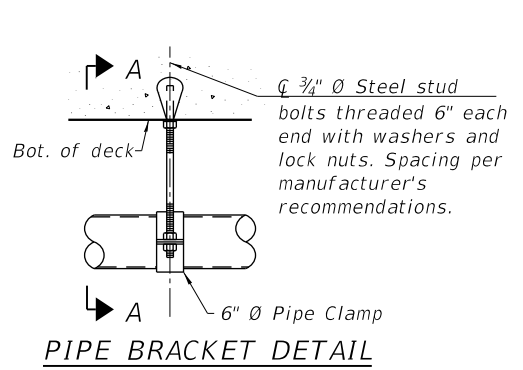
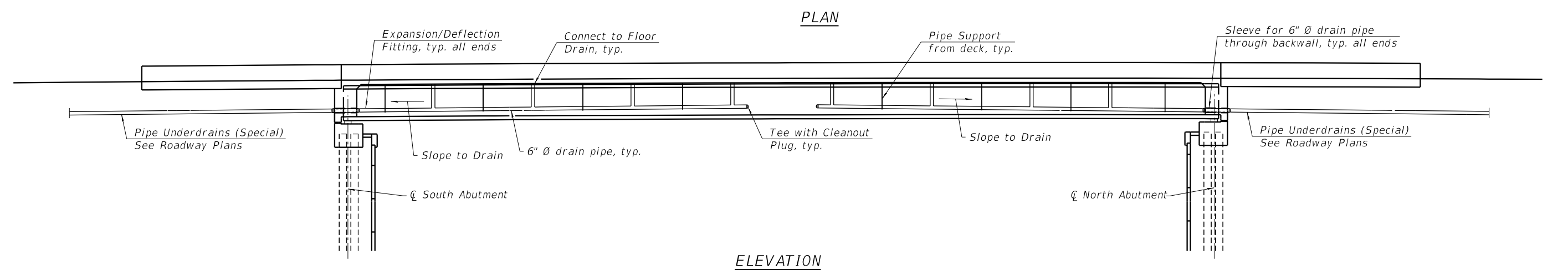
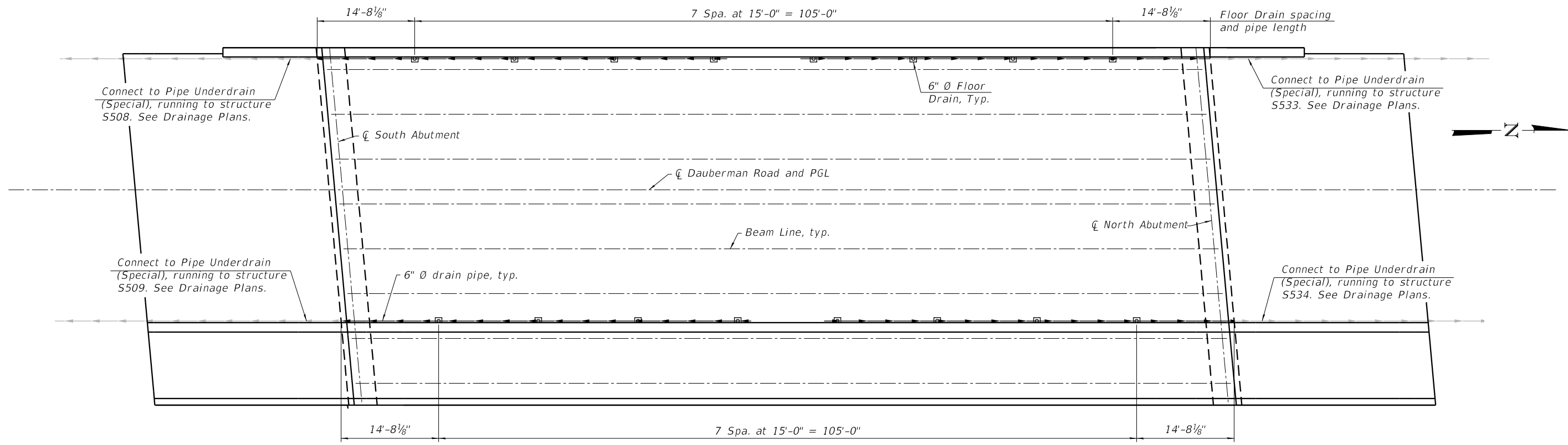
PREFORMED JOINT STRIP SEAL  
 SN 045-3401

SHEET NO. 17 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	222
				CONTRACT NO. 61H95
		ILLINOIS	FED. AID PROJECT	

**LEGEND**

→ Direction of Flow



**BILL OF MATERIAL**

Item	Unit	Total
Floor Drains	Each	16
Drainage System for Structures	L. Sum	1.0

**Notes:**

Provide structural support from proposed deck slab for drain pipe per manufacturer's recommendation, not to exceed 6' cts. Cost included with Drainage System for Structures.

All pipes, pipe fittings, brackets, inserts, and bolts shall be included with cost of Drainage System for Structures.

The drainage system shall be painted with a finish coat of gray, Munsell No. 5B 7/1. Cost included with Drainage System for Structures.

FILE NAME = 0453401-XXXXX-018-Drainage\_System.dgn



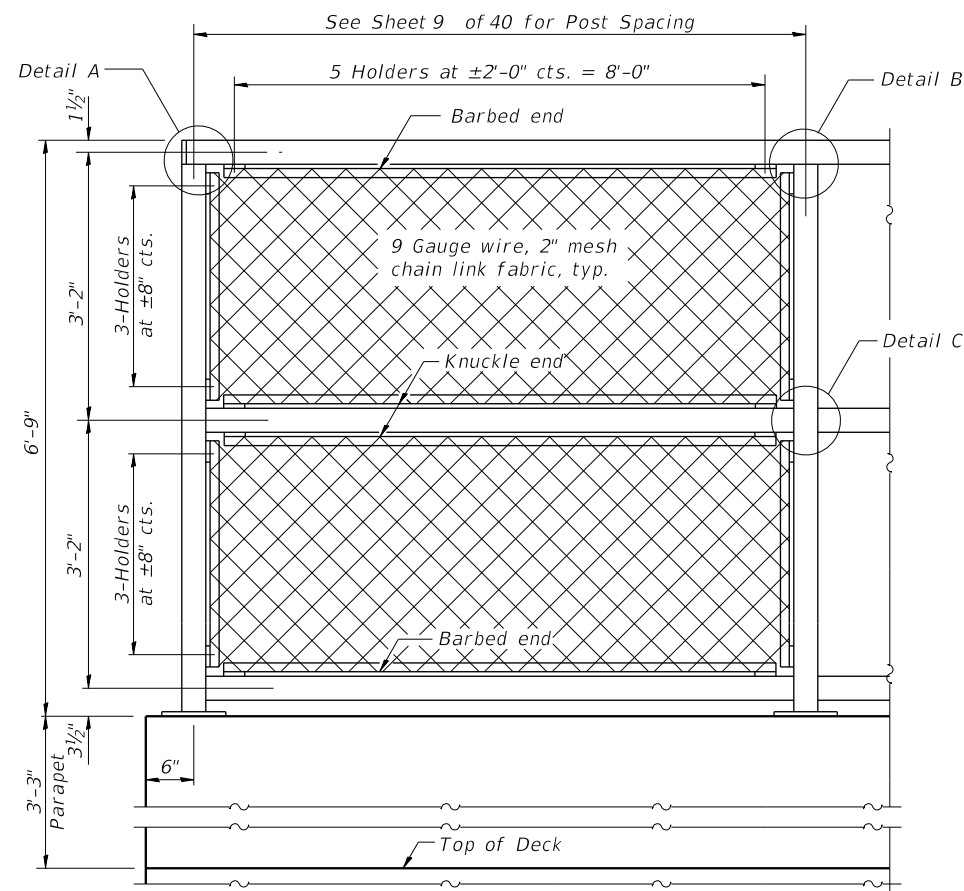
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PLOT SCALE = NTS	CHECKED - MDS	REVISED -
PLOT DATE = 7/7/2022	DRAWN - TJA	REVISED -
	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

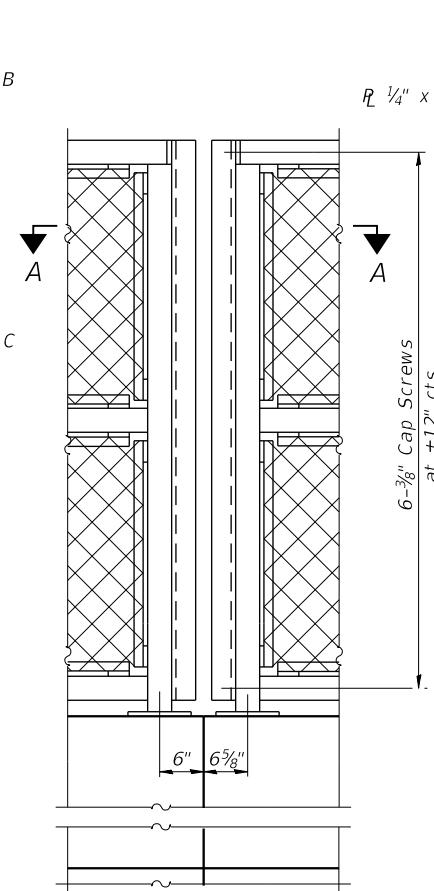
**BRIDGE DRAINAGE SYSTEM  
SN 045-3401**

SHEET NO. 18 OF 40 SHEETS

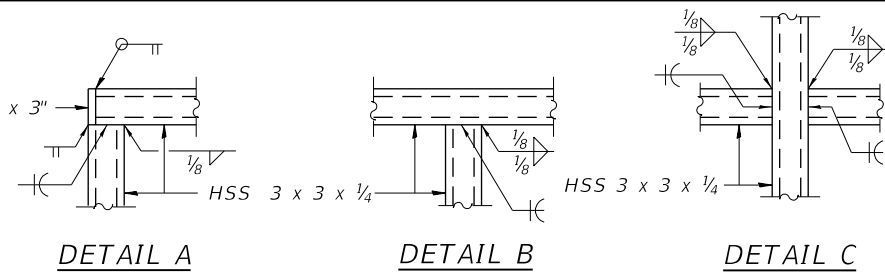
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	223
ILLINOIS FED. AID PROJECT			CONTRACT NO. 61H95	



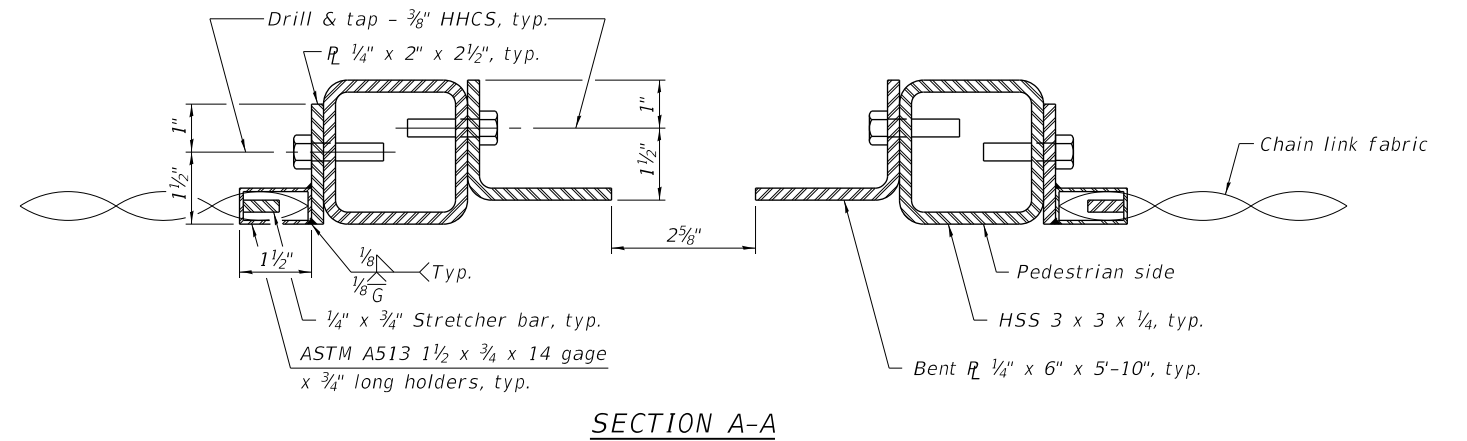
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(Inside Face)



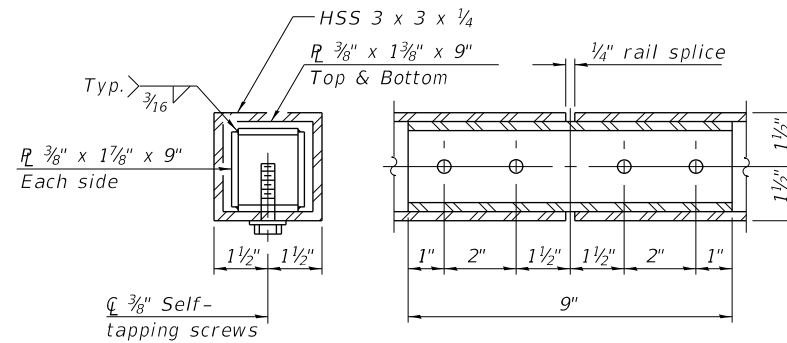
**ELEVATION**  
(At Back of Abutment)



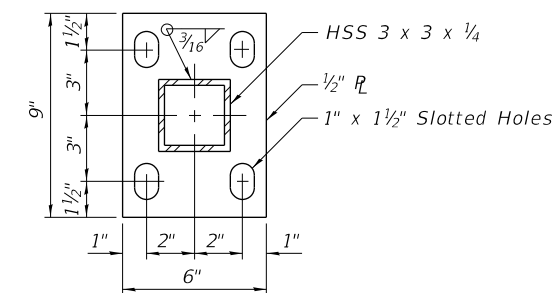
**DETAIL A**      **DETAIL B**      **DETAIL C**



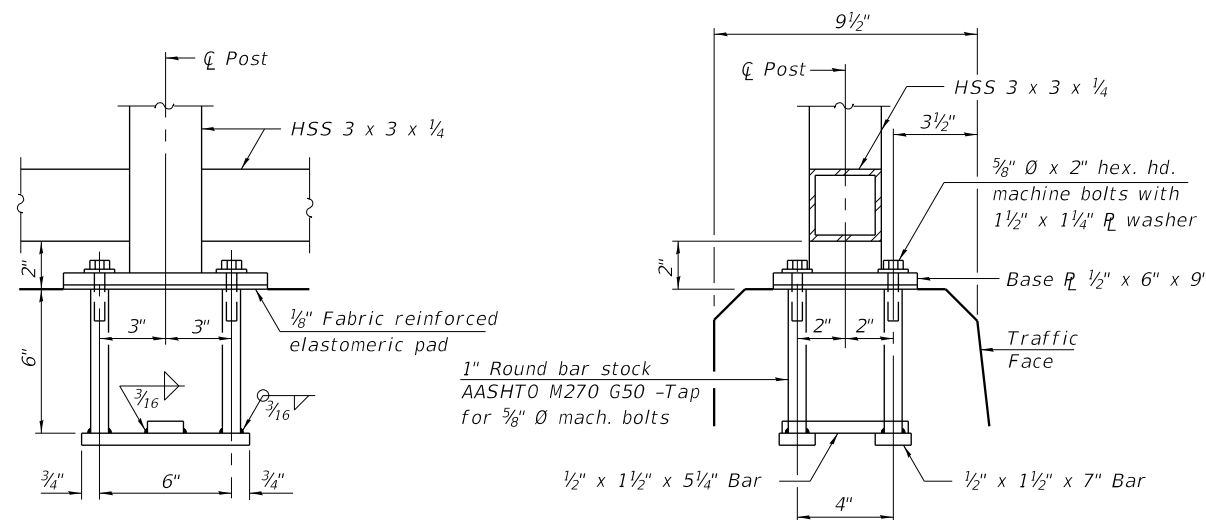
**SECTION A-A**



**RAIL SPLICE**



**BASE PL**



**ANCHOR BOLT DETAILS**

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" Ø anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

Note:  
CVN testing may be omitted for the railing.  
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

**BILL OF MATERIAL**

Item	Unit	Quantity
Bridge Fence Railing	Foot	133



USER NAME = bmsetzke	DESIGNED - TJA	REVISED -
PLOT SCALE = NTS	CHECKED - MDS	REVISED -
PLOT DATE = 7/7/2022	DRAWN - TJA	REVISED -
	CHECKED - MDS	REVISED -

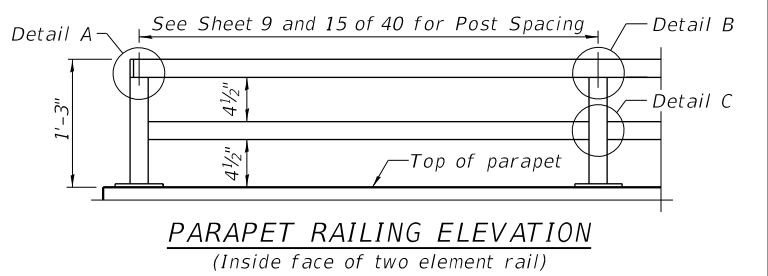
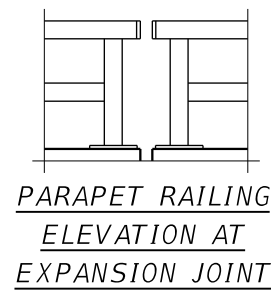
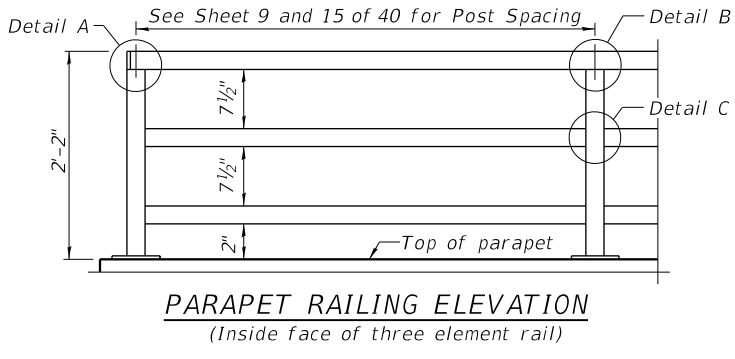
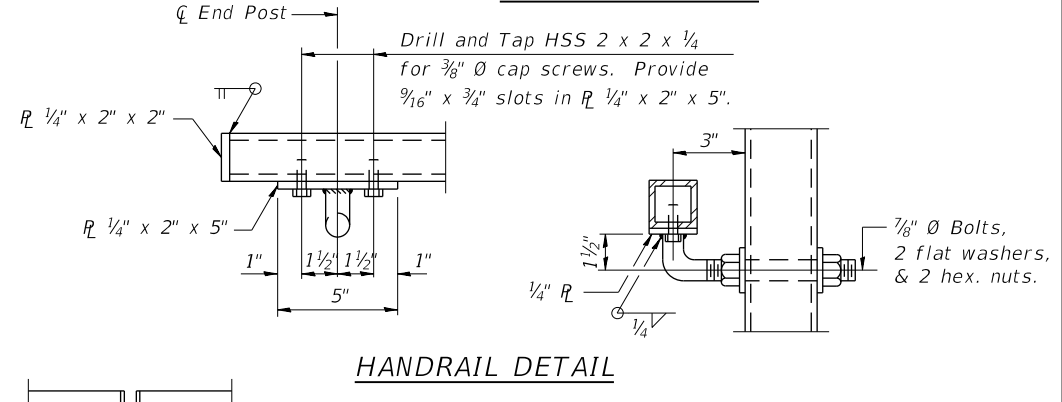
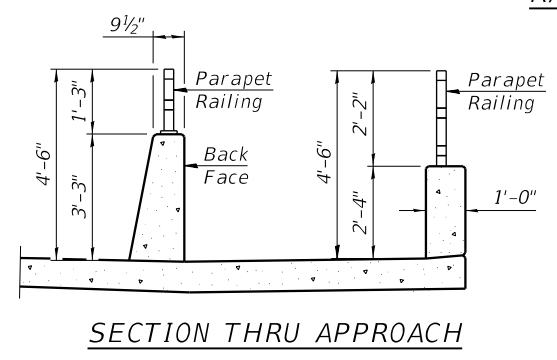
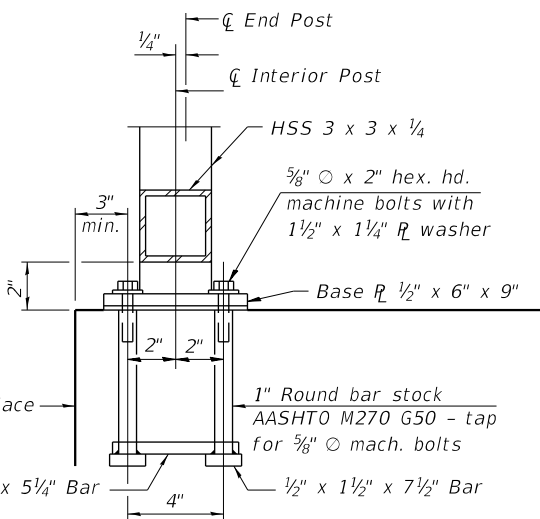
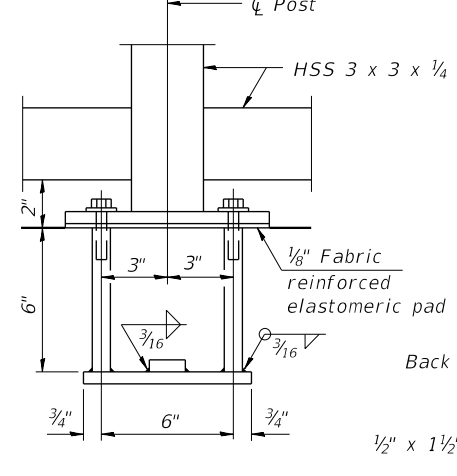
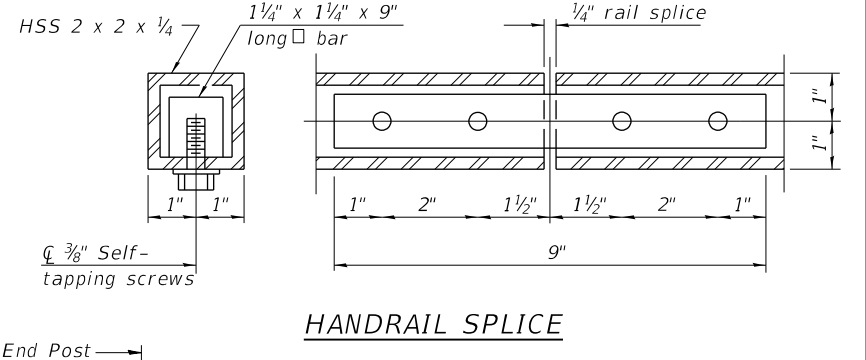
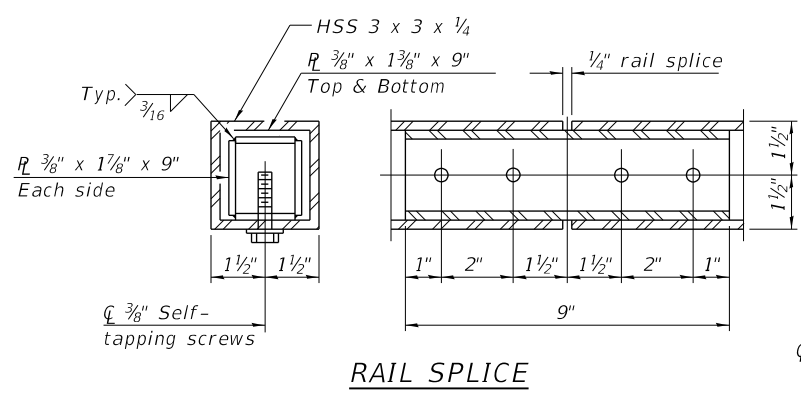
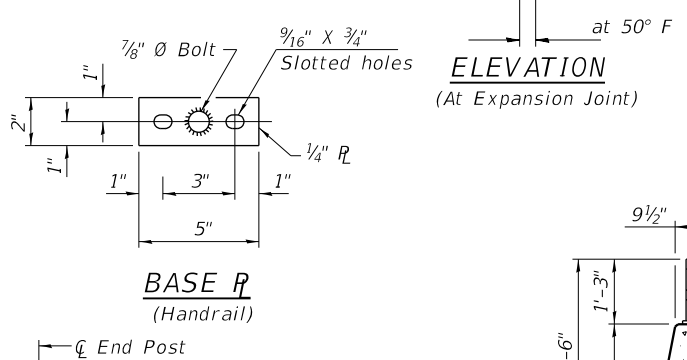
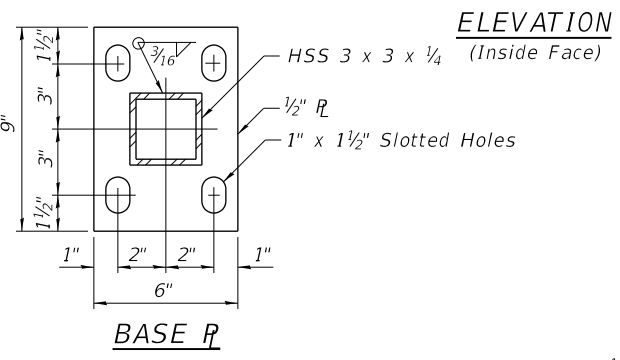
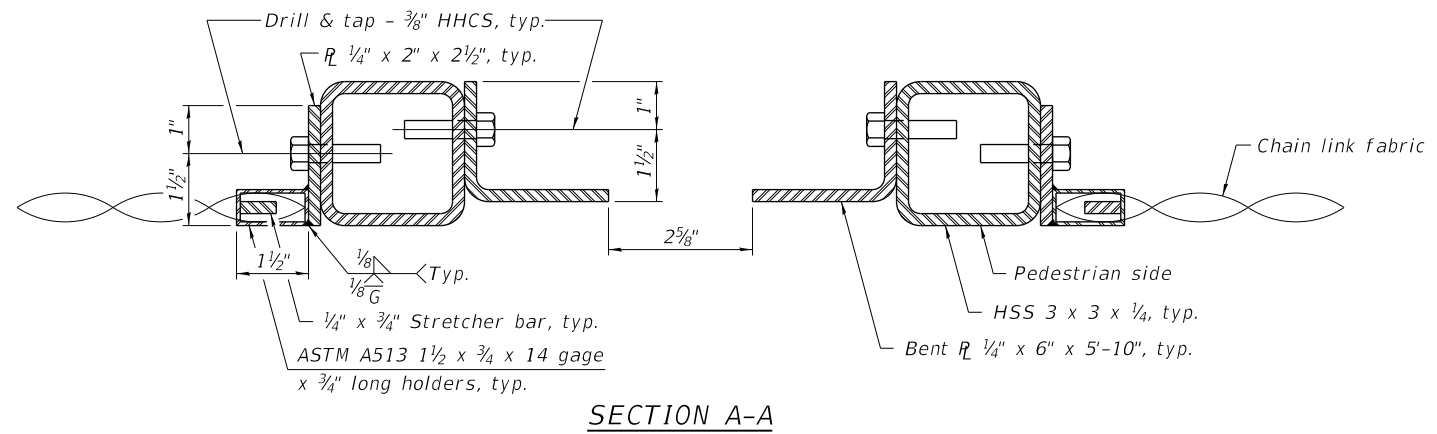
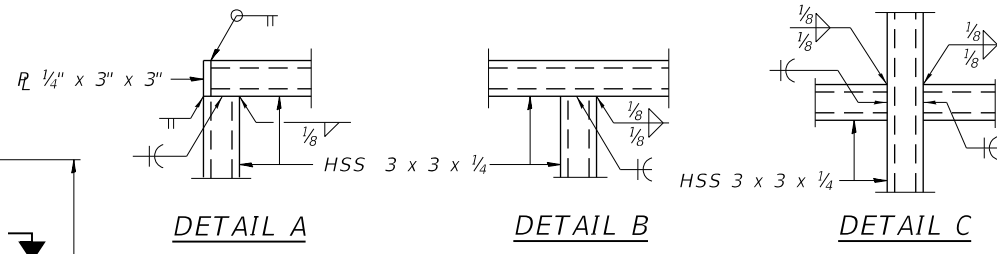
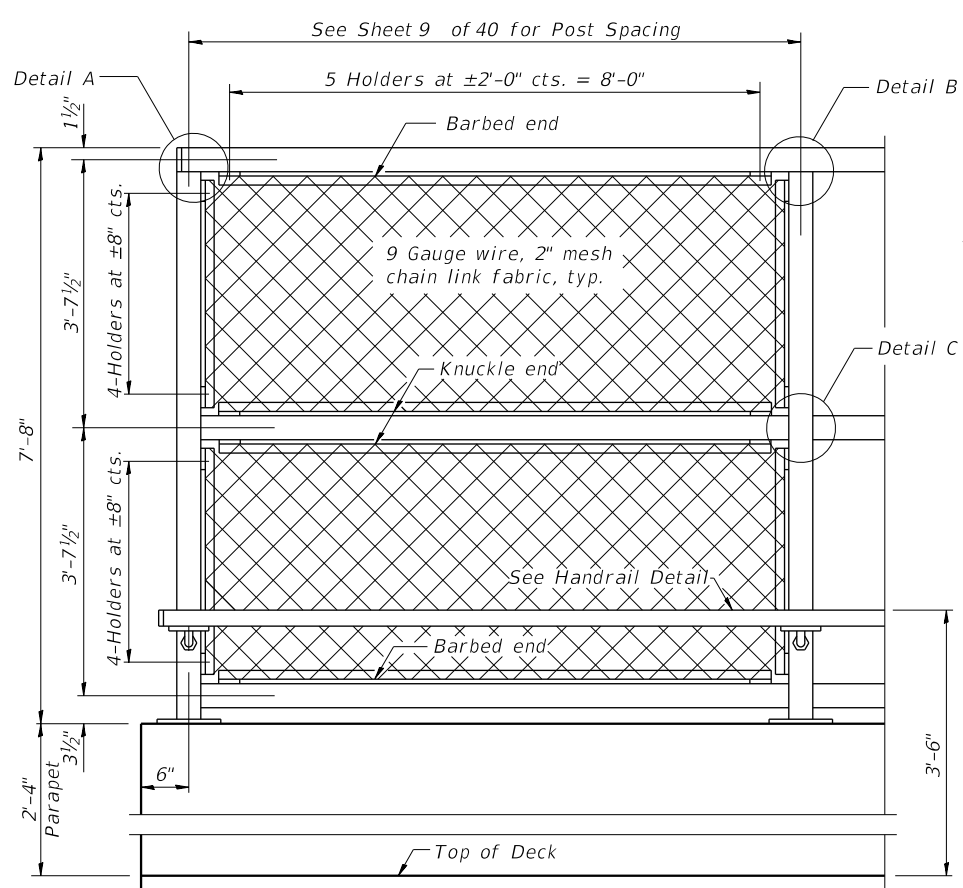
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BRIDGE FENCE RAILING DETAILS 1**  
**SN 045-3401**

SHEET NO. 19 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	224
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

FILE NAME = 0453401-XXXXX-019-Bridge\_Fence\_Railing\_1.dgn



Notes:  
 All structural steel tubing, post and railing, for parapet railing shall be CVN tested according to 1006.34(b) of the Standard Specifications.  
 CVN testing may be omitted for the Bridge Fence Railing.  
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Fence Railing	Foot	133
Parapet Railing	Foot	253

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" Ø anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

FILE NAME = 0453401-XXXXX-02-Bridge\_Fence\_Railing2.dgn



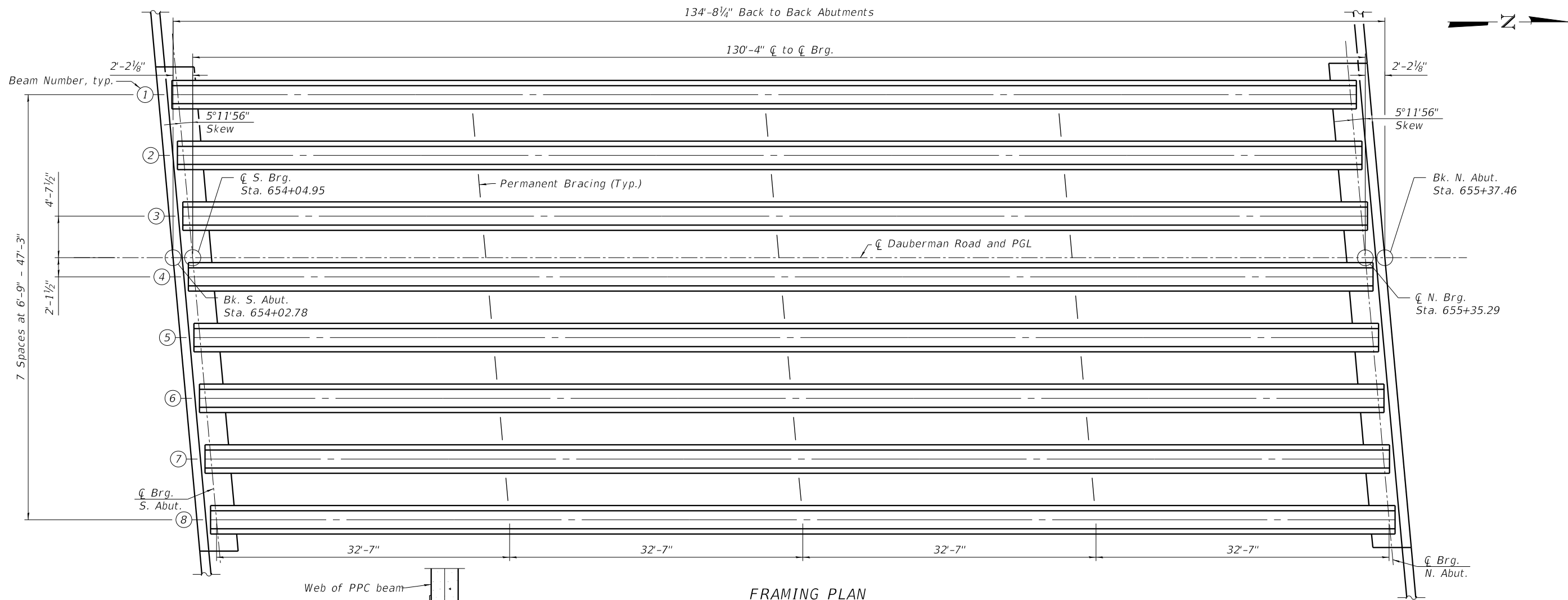
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PLOT DATE = 7/7/2022	CHECKED - MDS	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

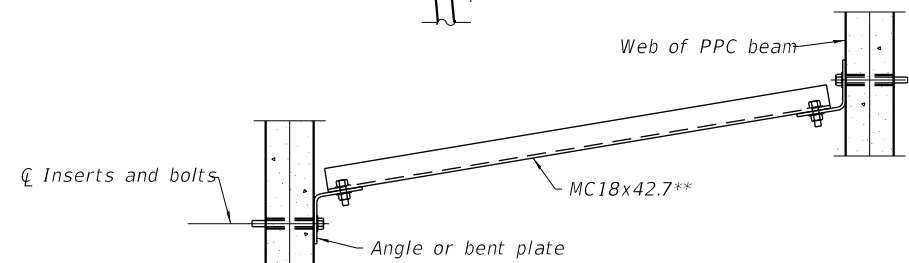
BRIDGE FENCE RAILING DETAILS 2  
 SN 045-3401

SHEET NO. 20 OF 40 SHEETS

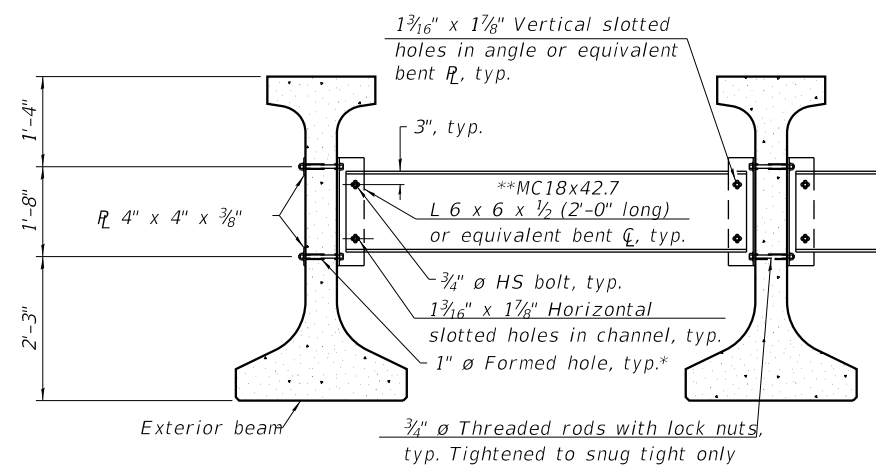
F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 225
				CONTRACT NO. 61H95
ILLINOIS FED. AID PROJECT				



FRAMING PLAN



PLAN



PERMANENT BRACING DETAILS FOR IL63 BEAMS

Notes:  
 All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.  
 Two hardened washers are required for each set of oversized holes.  
 All holes shall be  $1\frac{5}{16}$ "  $\phi$  unless otherwise noted.  
 $\frac{5}{16}$ " x 3" x 3" plate washers are required over all slotted holes.  
 All bolts, threaded rods, and hardware shall be galvanized according to AASHTO M232.  
 Threaded rods shall be ASTM F 1554 Grade 55.  
 Bracing shall be installed as beams are erected and tightened as soon as possible during erection.  
 Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Beams, IL63N.

\* Fabricator shall locate to miss strands within permissible tolerances.

\*\* Alternate MC18x45.8 channels are permitted to facilitate material acquisition.

INTERIOR BEAM REACTION TABLE	
	Abutment
LLDF	0.744
$R_{DC1}$ (k)	125.4
$R_{DC2}$ (k)	15.6
$R_{DW}$ (k)	17.8
$R_t$ (k)	80.8
$R_{IM}$ (k)	16.4
$R_{Total}$ (k)	256.0

INTERIOR BEAM MOMENT TABLE	
	0.5 Sp. 1
$I$ ( $in^4$ )	441,689
$I'$ ( $in^4$ )	1,004,379
$S_b$ ( $in^3$ )	17,294
$S_b'$ ( $in^3$ )	24,941
$S_t$ ( $in^3$ )	11,791
$S_t'$ ( $in^3$ )	44,187
DC1 (k/')	1.67
$M_{DC1}$ (k)	3,551
DC2 (k/')	0.24
$M_{DC2}$ (k)	507
DW (k/')	0.27
$M_{DW}$ (k)	581
LLDF	0.581
$M_t + IM$ (k)	2,387

$I$ : Non-composite moment of inertia of beam section ( $in^4$ ).  
 $I'$ : Composite moment of inertia of beam section ( $in^4$ ).  
 $S_b$ : Non-composite section modulus for the bottom fiber of the prestressed beam ( $in^3$ ).  
 $S_b'$ : Composite section modulus for the bottom fiber of the prestressed beam ( $in^3$ ).  
 $S_t$ : Non-composite section modulus for the top fiber of the prestressed beam ( $in^3$ ).  
 $S_t'$ : Composite section modulus for the top fiber of the prestressed beam ( $in^3$ ).  
 DC1: Un-factored non-composite dead load (kips/ft.).  
 $M_{DC1}$ : Un-factored moment due to non-composite dead load (kip-ft.).  
 DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).  
 $M_{DC2}$ : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).  
 DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).  
 $M_{DW}$ : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).  
 $M_t + IM$ : Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

FILE NAME = 0453401-XXXXX-021-FramePlan.dgn



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PLOT DATE = 7/7/2022	DRAWN - TJA	REVISED -
	CHECKED - MDS	REVISED -

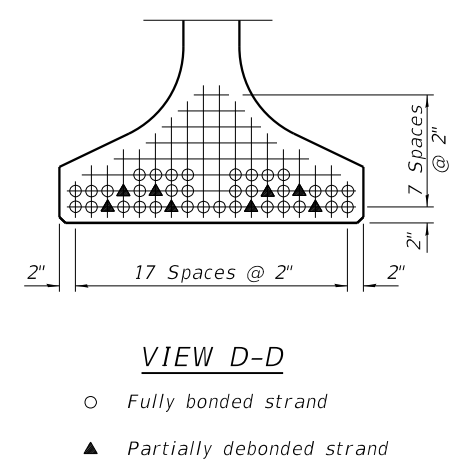
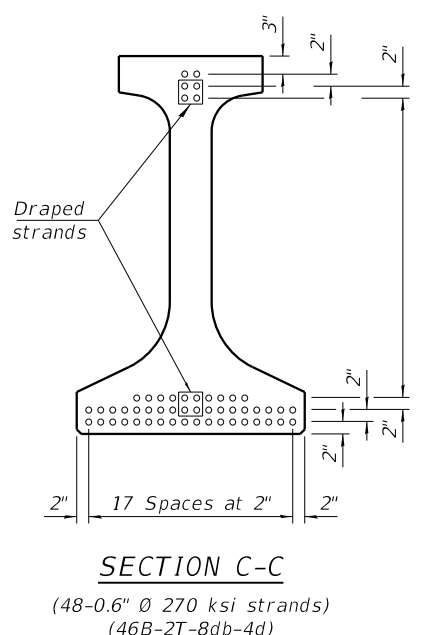
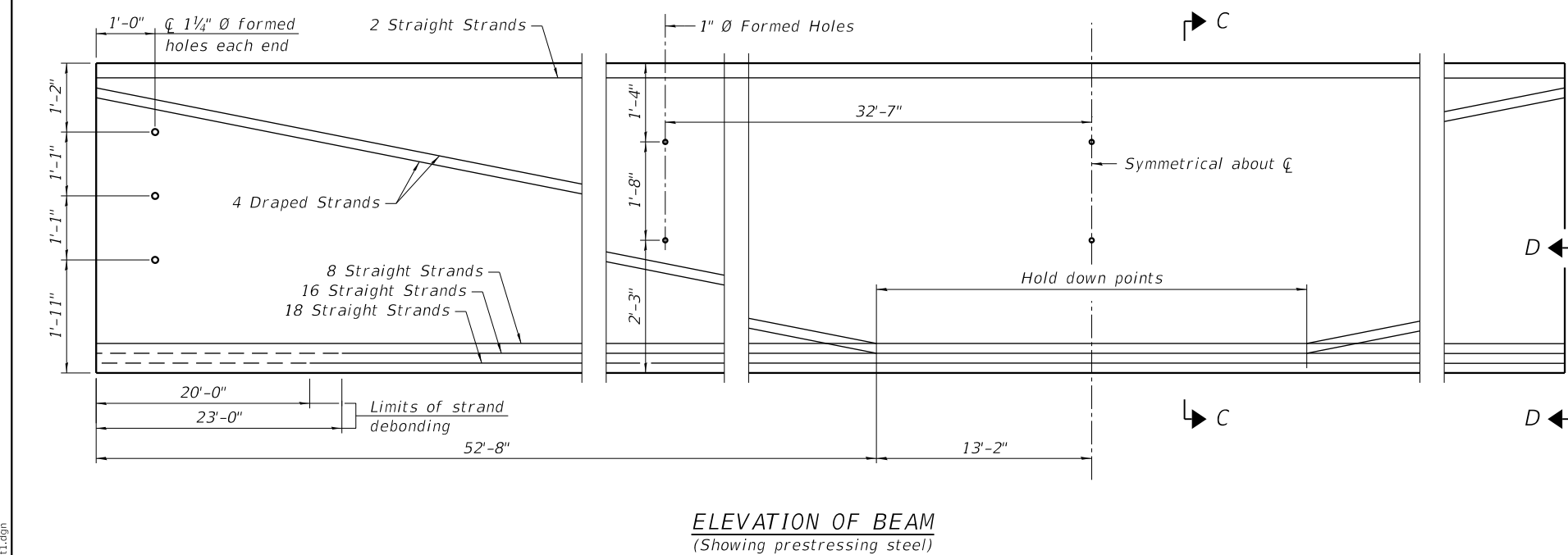
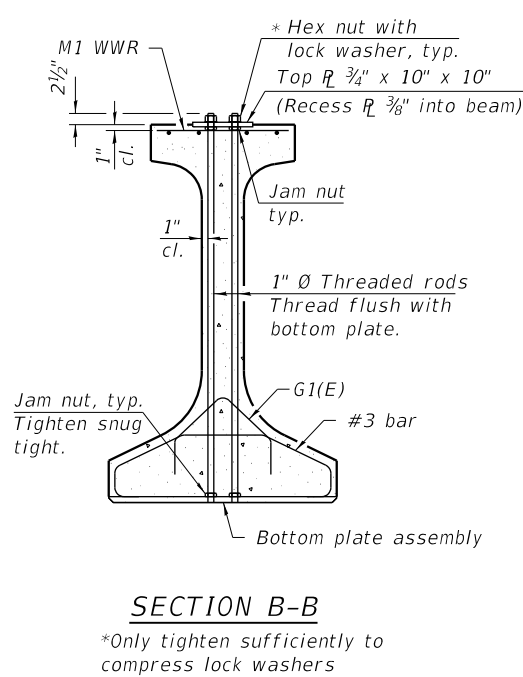
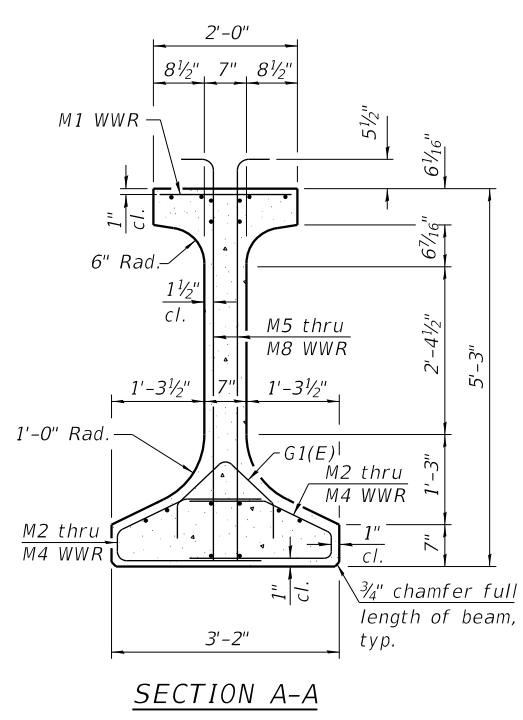
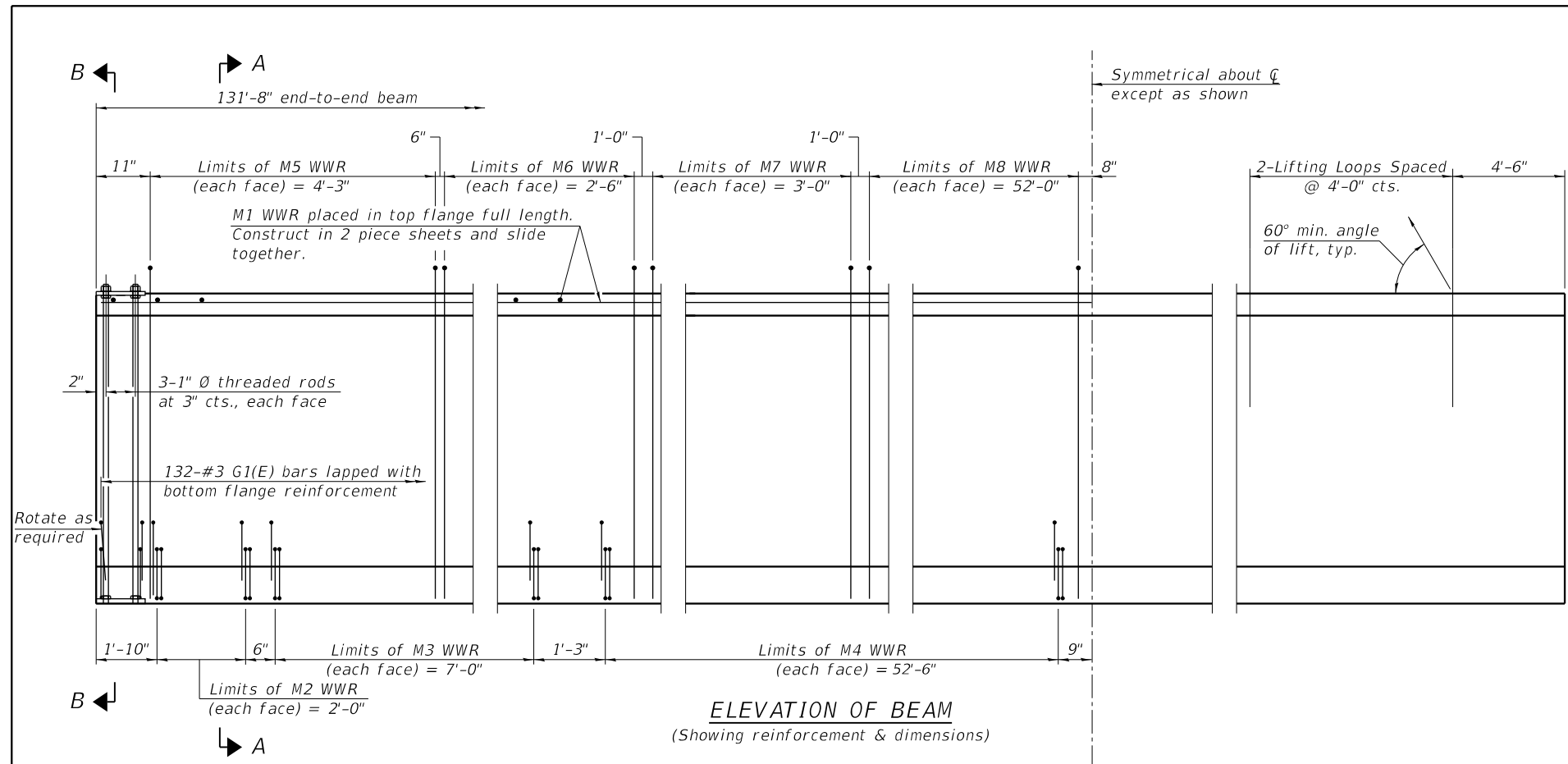
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

FRAMING PLAN  
 SN 045-3401

SHEET NO. 21 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	226
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				





FILE NAME = 0453401-XXXXX-02-PPC\_Beam\_Detail.dgn

Note:  
See sheet 23 of 40 for additional details and Bill of Material.



USER NAME = bmsetzke	DESIGNED - TJA	REVISED -
PLOT SCALE = NTS	CHECKED - MDS	REVISED -
PLOT DATE = 7/7/2022	DRAWN - GDF	REVISED -
	CHECKED - MDS	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

IL63N PPC BEAM  
SN 045-3401

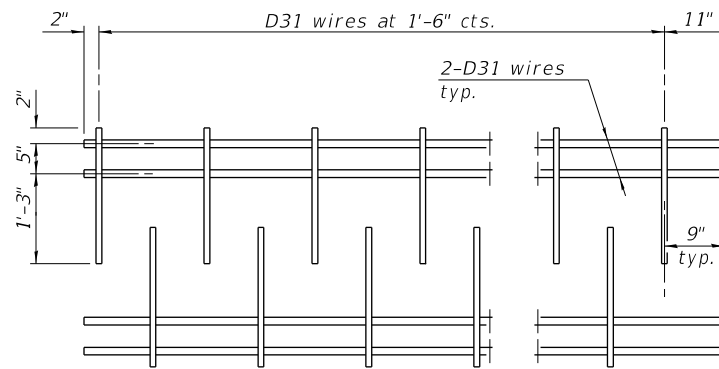
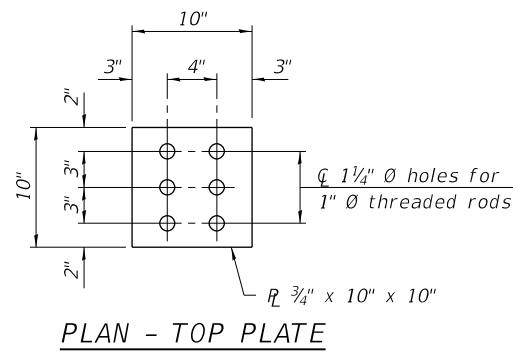
SHEET NO. 22 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	227
				CONTRACT NO. 61H95

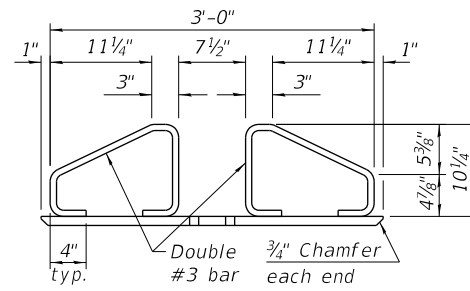
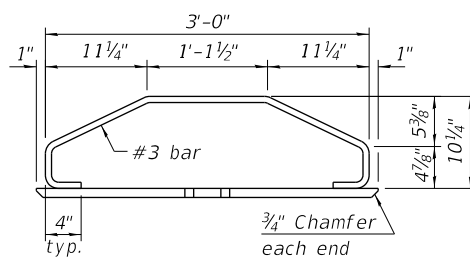
ILLINOIS FED. AID PROJECT

**NOTES**

Inserts for 3/4" Ø threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.  
 Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter for beam strands shall be 0.6" and the nominal cross-sectional area shall be 0.217 sq. in. The nominal diameter for lifting loops shall be 1/2" and the nominal cross sectional area shall be 0.153 sq. in.  
 The beams shall have a final concrete compressive strength, f'c, of 8500 psi and a release concrete compressive strength, f'ci, of 6500 psi.  
 A minimum 2 1/2" Ø lifting pin shall be used to engage the lifting loops during handling.  
 The top and bottom plates shall be AASHTO M270 Grade 50.  
 The top plates and bottom plate assemblies shall be galvanized according to AASHTO M111.  
 The threaded rods, nuts and washers shall be galvanized according to AASHTO M232.  
 Threaded rods shall be ASTM F 1554 Grade 55.  
 Welded Wire Reinforcement (WWR) shall conform to ASTM A884 with a Class A, Type 1 epoxy coating or ASTM A1060, Table 3 galvanized coating.

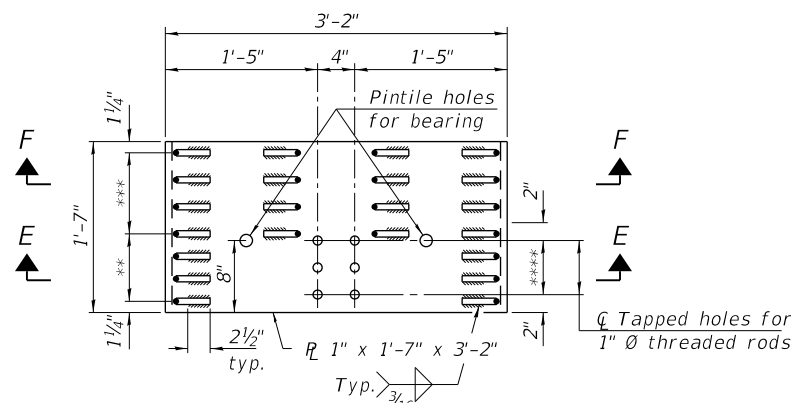


When multiple sheets of M1 WWR are required along the beam length, #5(E) bars (5'-0" long) shall be used to splice the longitudinal D31 wires together (Min. Lap 2'-2").



**TABLE OF DIMENSIONS**  
(WWR tables are based on Grade 70)

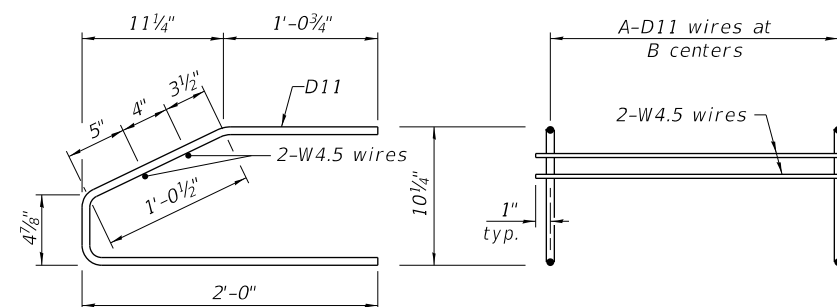
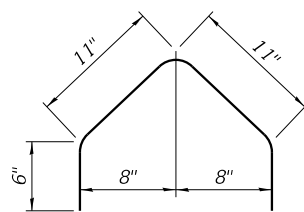
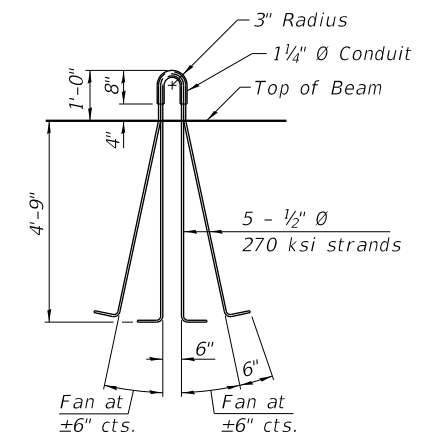
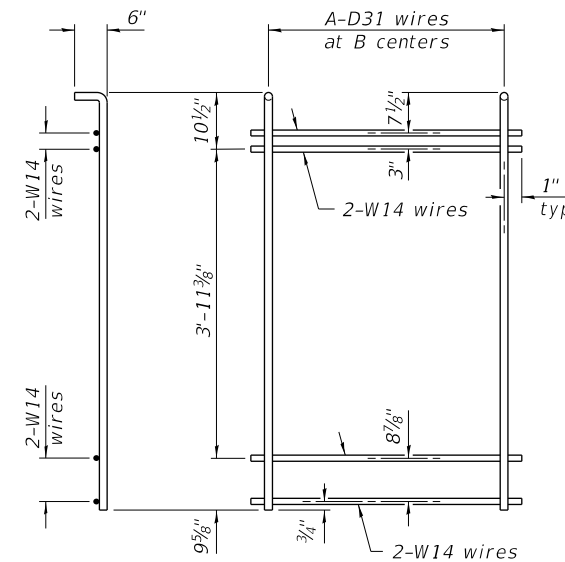
WWR	A	B
M2	9	3"
M3	15	6"
M4	37	1'-6"
M5	18	3"
M6	6	6"
M7	4	1'-0"
M8	27	2'-0"



**PLAN - BOTTOM PLATE**

- \*\* 3 Spaces at 2 1/2" = 7 1/2"
- \*\*\* 3 Spaces at 3" = 9"
- \*\*\*\* 2 Spaces at 3" = 6"

Note:  
See bearing details for pintile hole locations



**LIFTING LOOP DETAIL**

**BILL OF MATERIAL**

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Beams, IL63N	Ft.	1,054

FILE NAME = 0453401-XXXXX-03-PPC\_Beam\_Detail.dgn



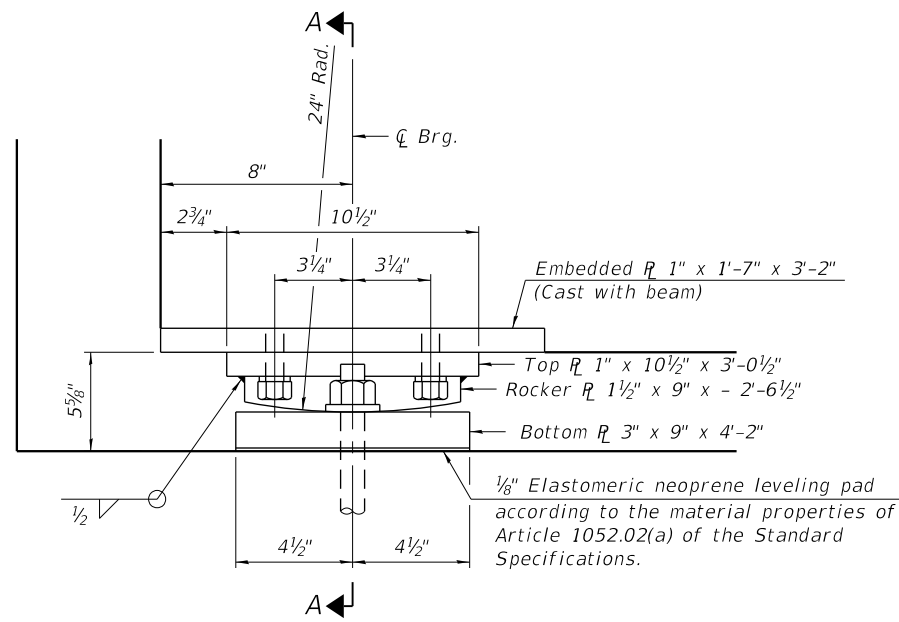
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	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

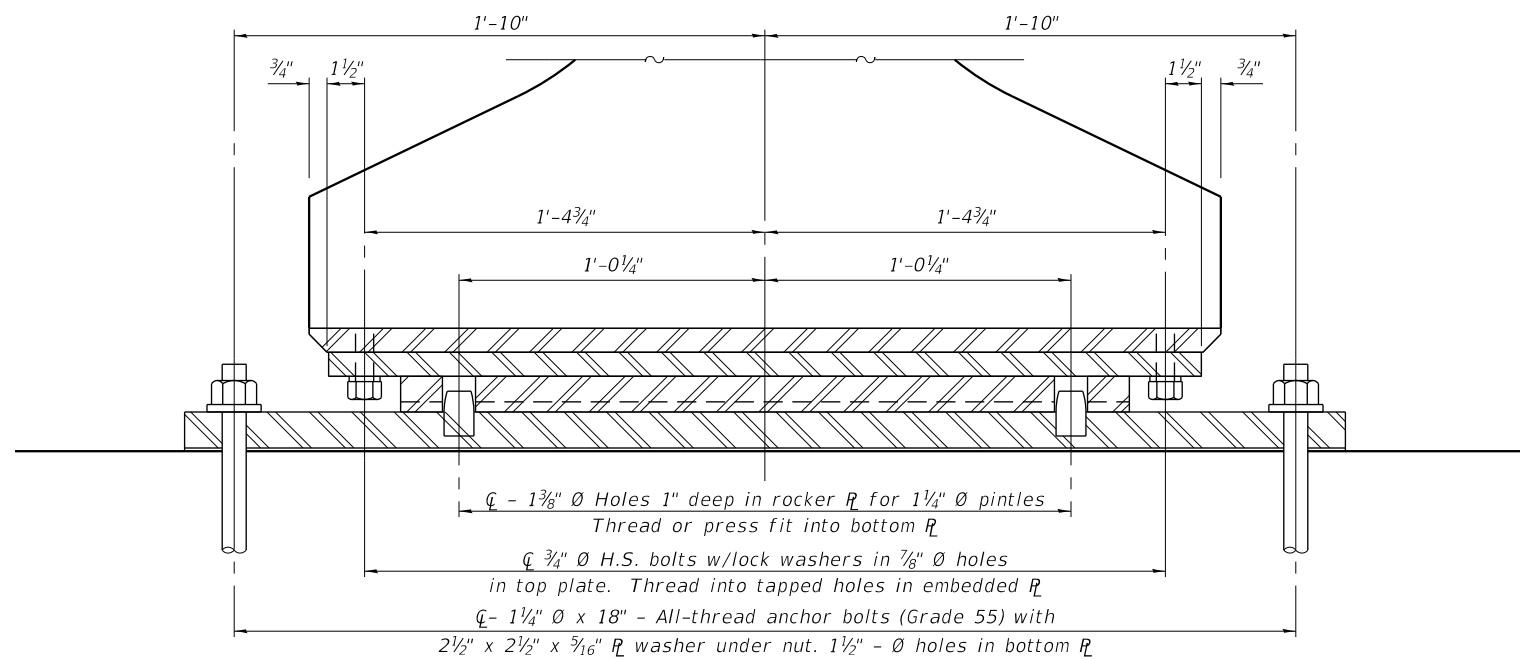
**IL63N PPC BEAM DETAILS  
SN 045-3401**

SHEET NO. 23 OF 40 SHEETS

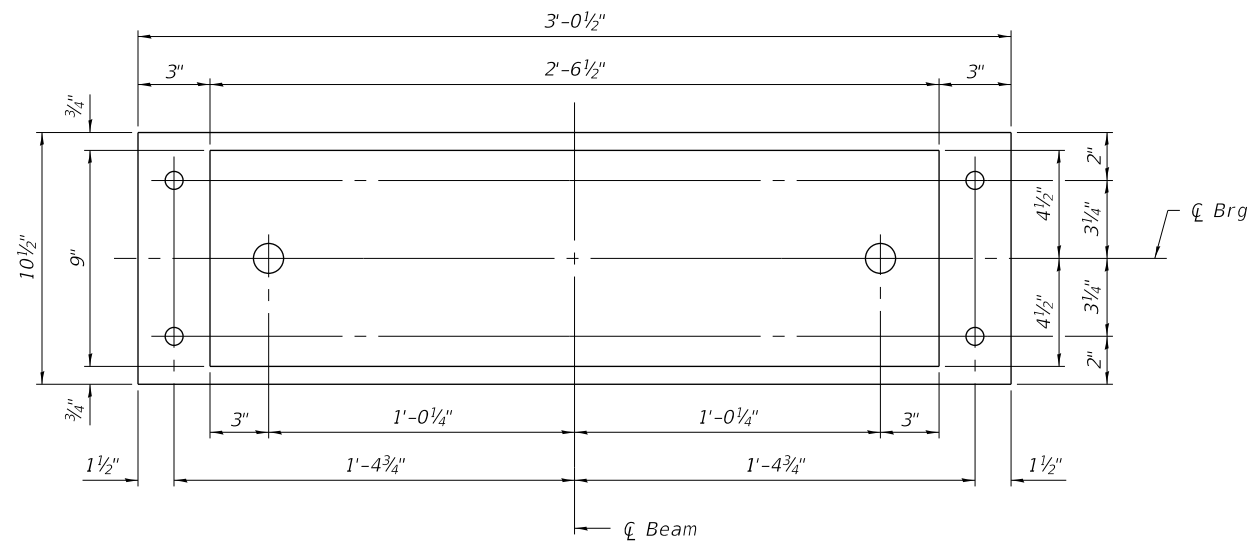
F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 228
			CONTRACT NO. 61H95	
ILLINOIS FED. AID PROJECT				



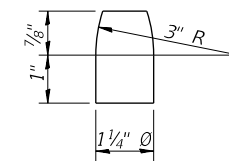
ELEVATION AT ABUTMENT



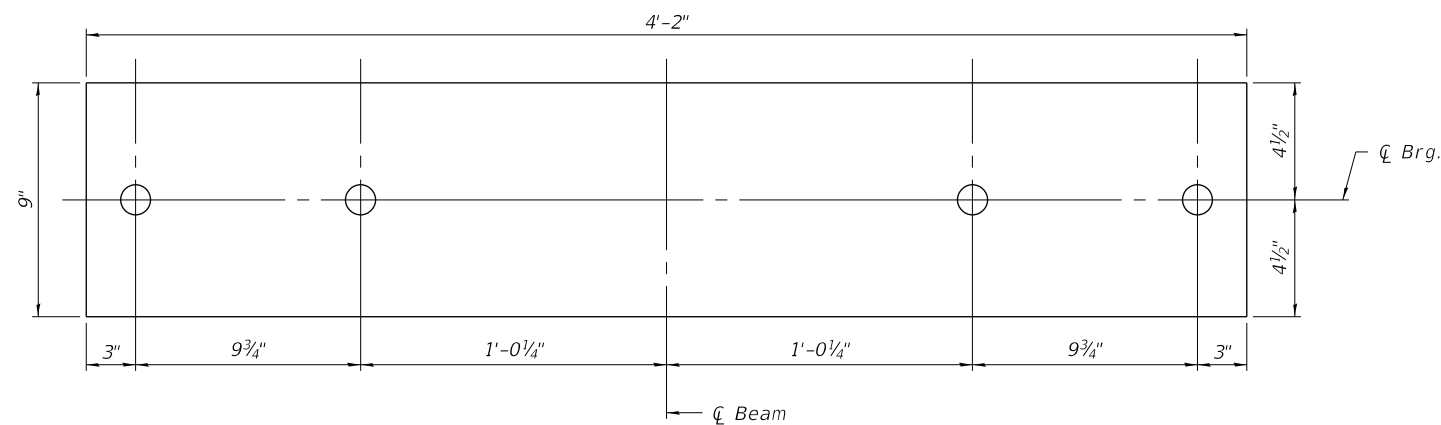
SECTION A-A



PLAN OF TOP PLATE & ROCKER PLATE  
(Looking from below at top plate and rocker plate only)



PINTLE



PLAN OF BOTTOM PLATE

Notes:  
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.  
 Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place and prior to pouring the deck.  
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.  
 Anchor bolts shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.  
 See sheet 22 of 40 for additional details of embedded plate.  
 All plates, hardware, and leveling pads required for the bearing, except anchor bolts, shall be included in the cost of Furnishing and Erecting Precast Concrete Beams, IL63N.  
 All plate material for bearings shall be hot dip galvanized according to AASHTO M111.  
 All bolts and washers shall be galvanized according to AASHTO M232.  
 The structural steel plates and pintles of the bearing shall conform to the requirements of AASHTO M 270 Grade 50.

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1 1/4"	Each	16

FILE NAME = 0453401-XXXXX-024-Bearing\_Details1.dgn



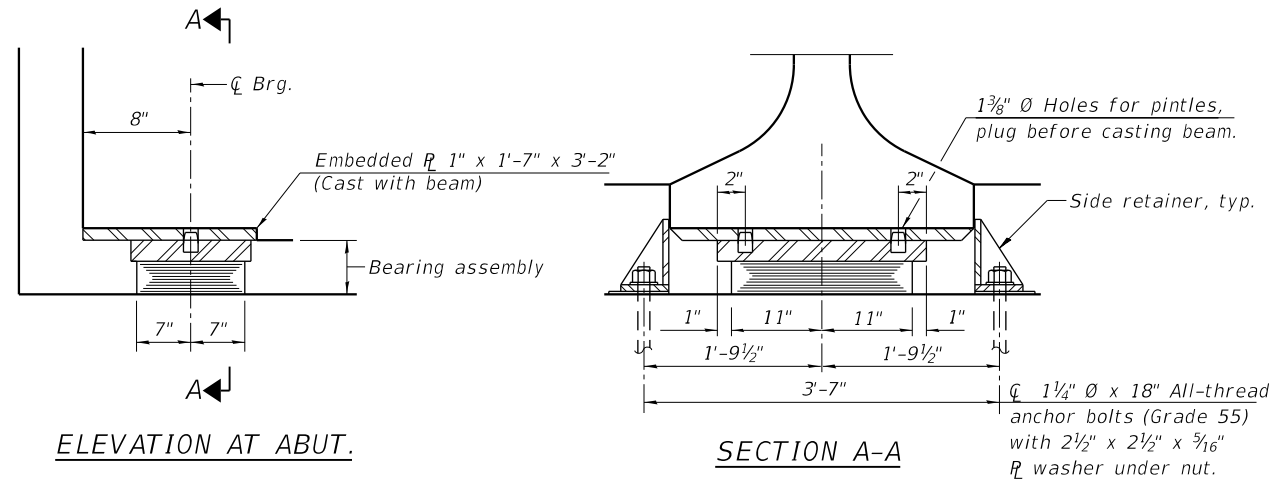
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PLOT DATE = 7/7/2022	DRAWN - GDF	REVISED -
	CHECKED - MDS	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

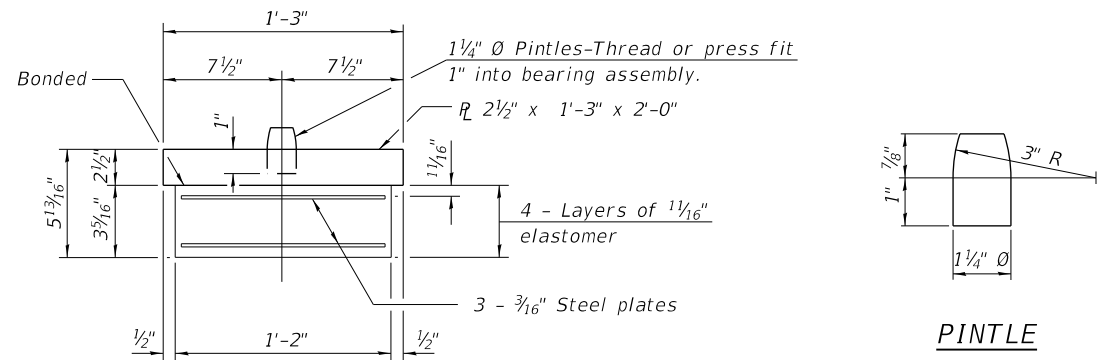
BEARING DETAILS 1  
SN 045-3401

SHEET NO. 24 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	229
				CONTRACT NO. 61H95
ILLINOIS FED. AID PROJECT				

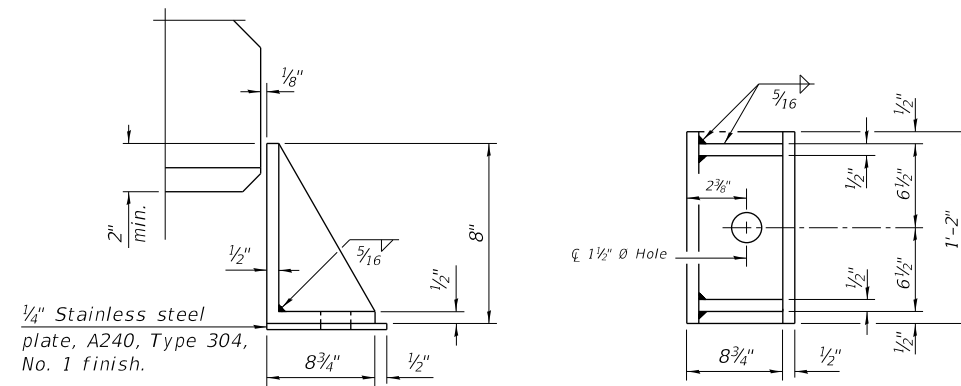


**TYPE I ELASTOMERIC EXP. BRG.**



**BEARING ASSEMBLY**

**PINTLE**



Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

Notes:  
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.  
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.  
 Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.  
 See sheet 22 of 40 for additional details of embedded plate.  
 Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.  
 All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintiles shall be galvanized according to AASHTO M111 or M232 as applicable.  
 The structural steel plates and pintiles of the Bearing Assembly and Fixed Bearing shall conform to the requirements of AASHTO M270 Grade 50.

**BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	8
Anchor Bolts, 1 1/4"	Each	16

FILE NAME = 0453401-XXXXX-025-Bearing\_Details2.dgn



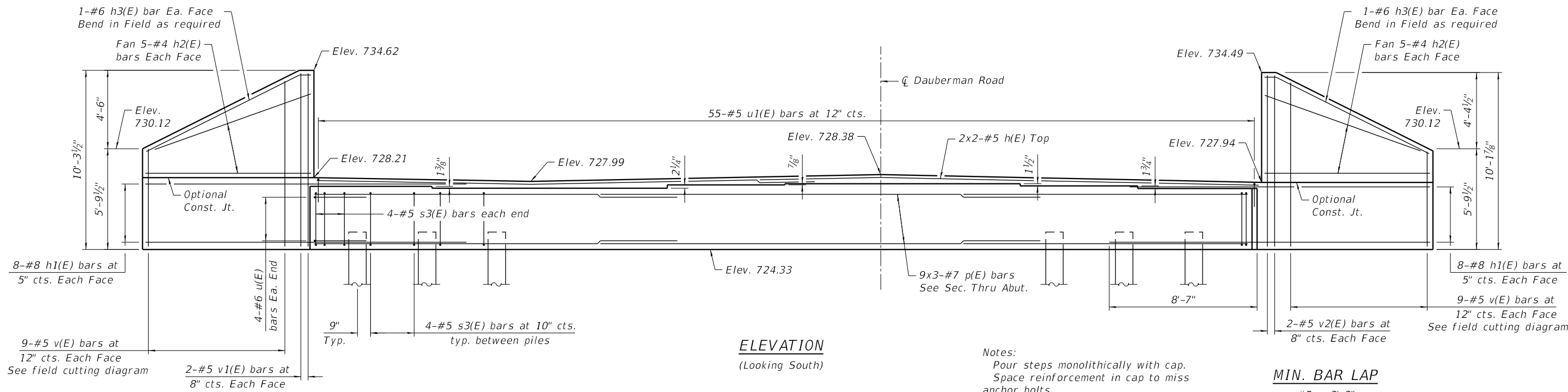
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PLOT SCALE = NTS	CHECKED - MDS	REVISED -
PLOT DATE = 7/7/2022	DRAWN - GDF	REVISED -
	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BEARING DETAILS 2  
SN 045-3401**

SHEET NO. 25 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 61H95	
		ILLINOIS	FED. AID PROJECT	



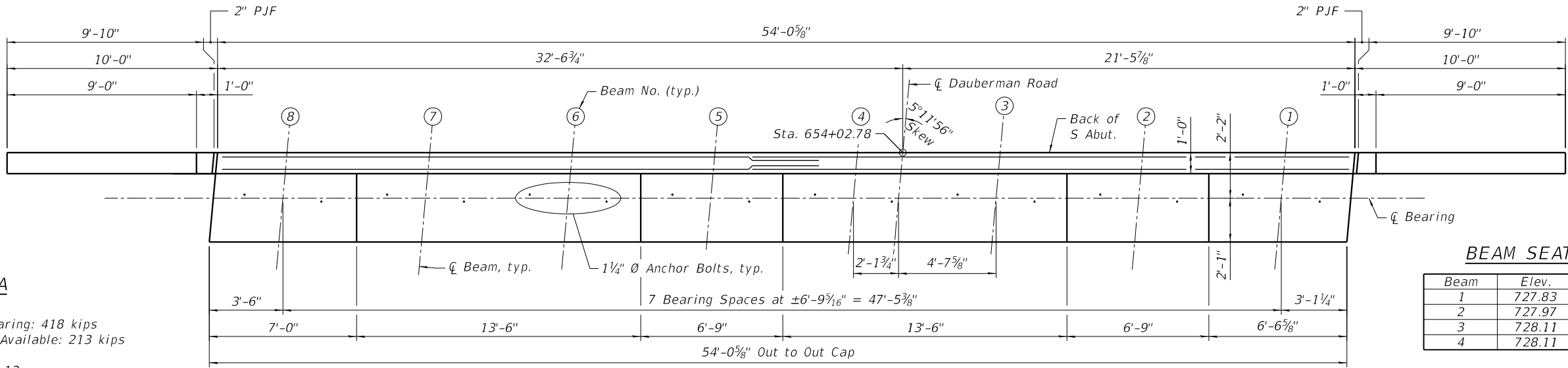
**ELEVATION**  
(Looking South)

Notes:  
Pour steps monolithically with cap.  
Space reinforcement in cap to miss anchor bolts.

**MIN. BAR LAP**  
#5 = 3'-2"  
#7 = 4'-5"

**PILE DATA**

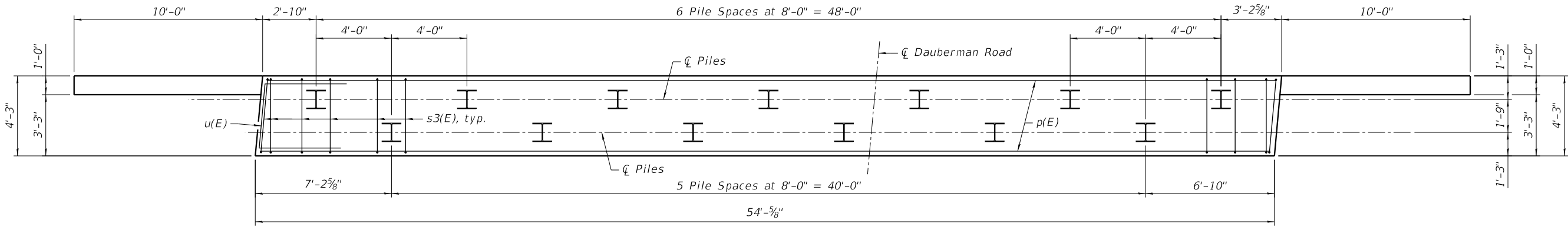
Type: HP12x53  
Nominal Required Bearing: 418 kips  
Factored Resistance Available: 213 kips  
Est. Length: 142 ft  
No. Production Piles: 12  
No. Test Piles: 1



**TOP VIEW**

**BEAM SEAT ELEVATIONS**

Beam	Elev.	Beam	Elev.
1	727.83	5	728.03
2	727.97	6	727.85
3	728.11	7	727.85
4	728.11	8	727.96



**PLAN - PILE CAP**

FILE NAME = 0453401-XXXXX-026-Abutment\_SouthP6E.dgn



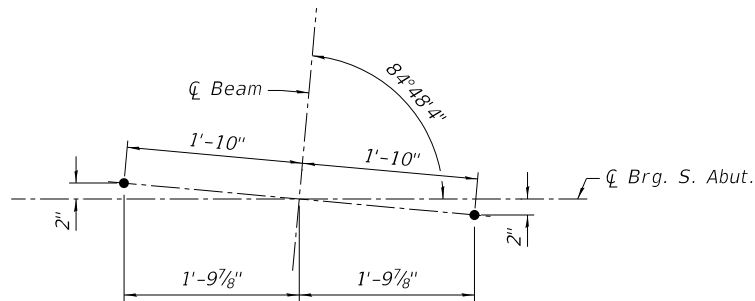
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

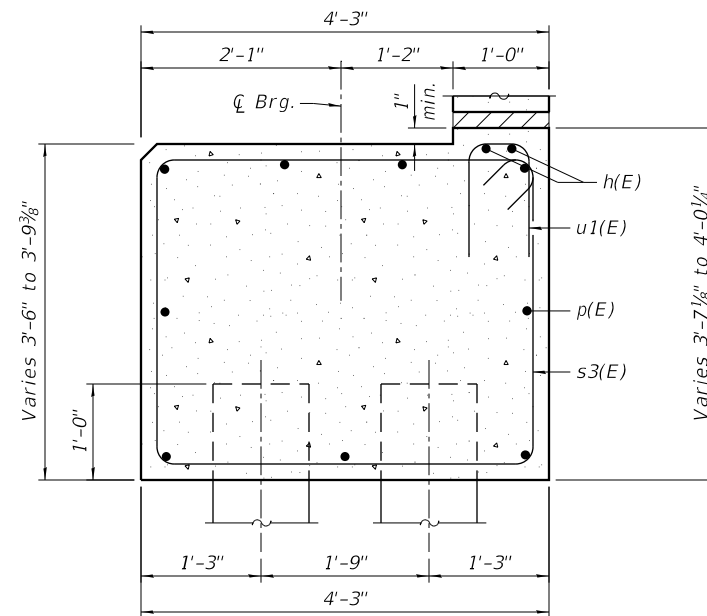
**SOUTH ABUTMENT PLAN AND ELEVATION**  
**SN 045-3401**

SHEET NO. 26 OF 40 SHEETS

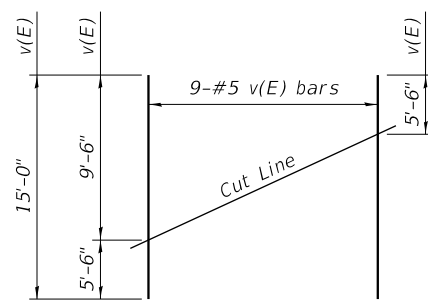
F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 231
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



**ANCHOR BOLT DETAILS**

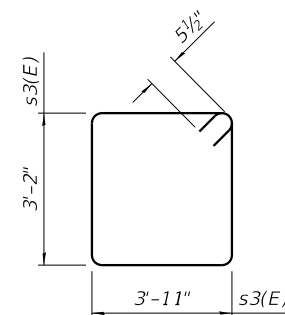


**SECTION THRU ABUT.**

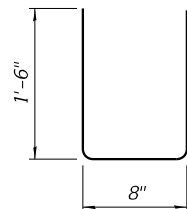


**FIELD CUTTING DIAGRAM**

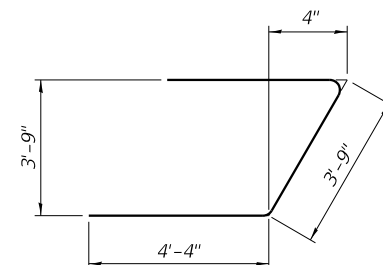
Order v(E) full length. Cut as shown and use remainder of bars in opposite face.



**BAR s3(E)**



**BAR u1(E)**



**BAR u(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	4	#5	28'-5"	—
h1(E)	32	#8	18'-5"	—
h2(E)	20	#4	9'-6"	—
h3(E)	4	#6	10'-6"	—
p(E)	27	#7	20'-10"	—
s3(E)	56	#5	14'-11"	□
u(E)	8	#6	13'-0"	U
u1(E)	55	#5	3'-8"	U
v(E)	18	#5	15'-0"	—
v1(E)	4	#5	9'-11"	—
v2(E)	4	#5	9'-9"	—
Concrete Structures			Cu. Yd.	37.2
Reinforcement Bars, Epoxy Coated			Pound	4,640
Furnishing Steel Piles HP12x53			Foot	1,704
Driving Piles			Foot	1,704
Test Pile Steel HP12x53			Each	1
Pile Shoes			Each	13

Notes:  
 Pour steps monolithically with cap.  
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
 For details of piles see Sheet 30 of 40.

FILE NAME = 0453401-XXXXX-027-Abutment\_SouthDetails.dgn



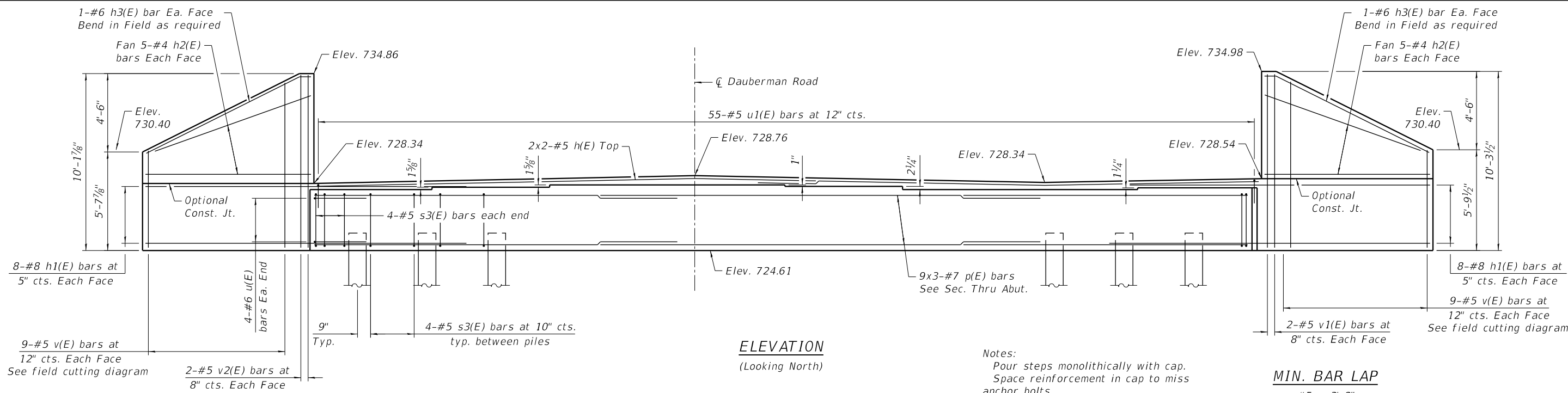
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PLOT DATE = 7/7/2022	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT DETAILS  
 SN 045-3401**

SHEET NO. 27 OF 40 SHEETS

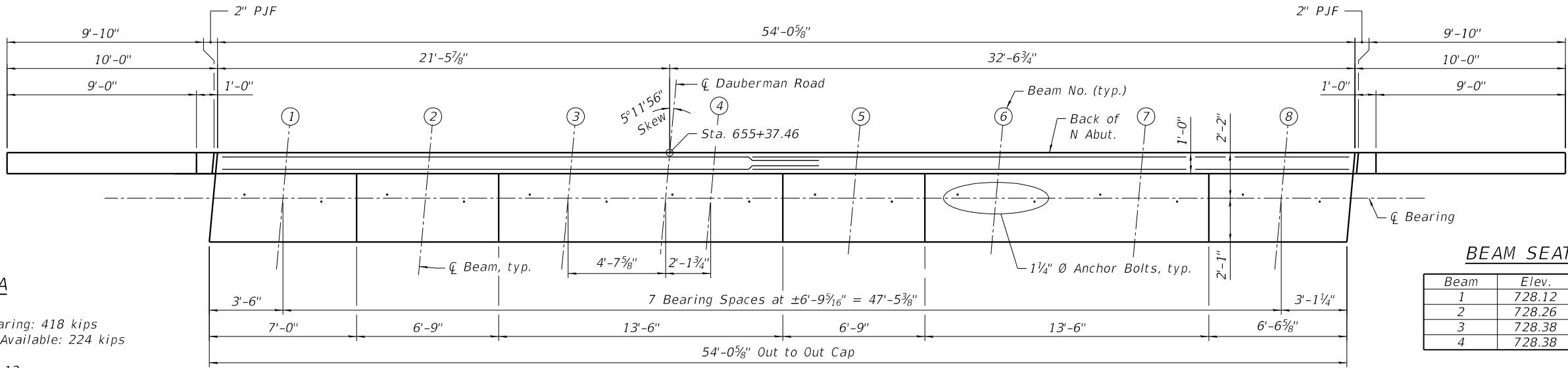
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	232
				CONTRACT NO. 61H95
		ILLINOIS	FED. AID PROJECT	



**ELEVATION**  
(Looking North)

Notes:  
Pour steps monolithically with cap.  
Space reinforcement in cap to miss anchor bolts.

**MIN. BAR LAP**  
#5 = 3'-2"  
#7 = 4'-5"



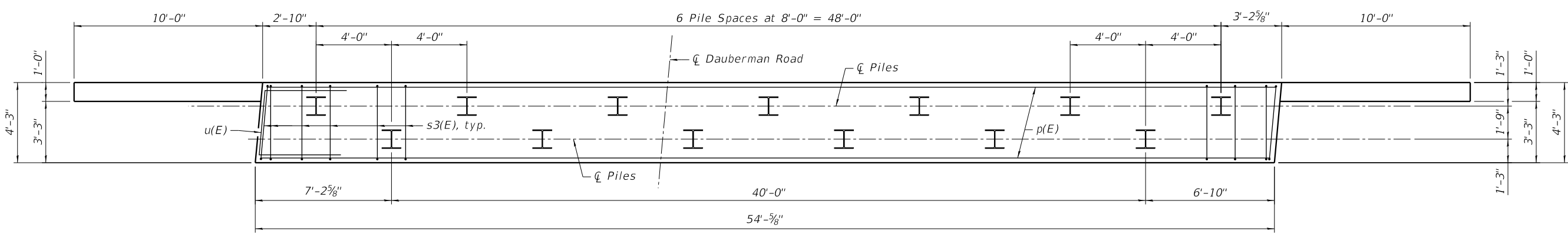
**TOP VIEW**

**BEAM SEAT ELEVATIONS**

Beam	Elev.	Beam	Elev.
1	728.12	5	728.30
2	728.26	6	728.11
3	728.38	7	728.11
4	728.38	8	728.21

**PILE DATA**

Type: HP12x53  
Nominal Required Bearing: 418 kips  
Factored Resistance Available: 224 kips  
Est. Length: 126 ft  
No. Production Piles: 12  
No. Test Piles: 1



**PLAN - PILE CAP**

FILE NAME = 0453401-XXXXX-028-Abutment\_NorthPCE.dgn



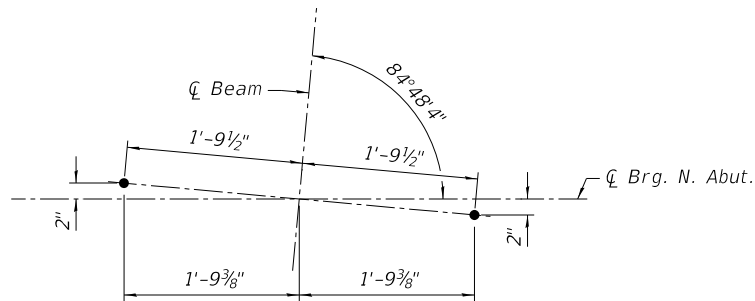
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

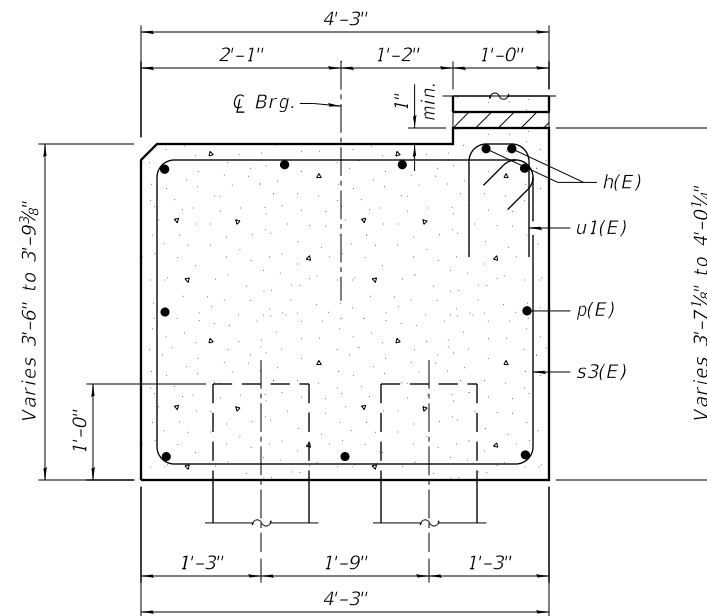
**NORTH ABUTMENT PLAN AND ELEVATION**  
**SN 045-3401**

SHEET NO. 28 OF 40 SHEETS

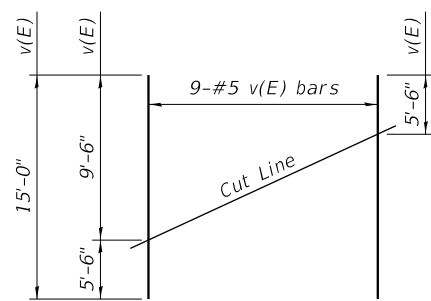
F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 233
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



**ANCHOR BOLT DETAILS**

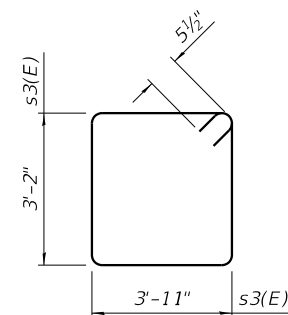


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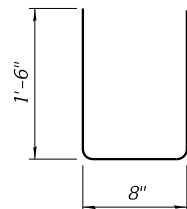


**FIELD CUTTING DIAGRAM**

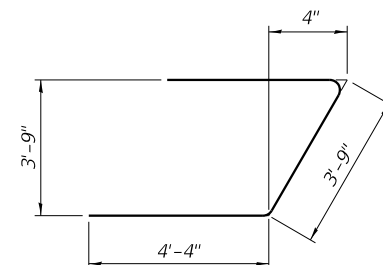
Order v(E) full length. Cut as shown and use remainder of bars in opposite face.



**BAR s3(E)**



**BAR u1(E)**



**BAR u(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	4	#5	28'-5"	—
h1(E)	32	#8	18'-5"	—
h2(E)	20	#4	9'-6"	—
h3(E)	4	#6	10'-6"	—
p(E)	27	#7	20'-10"	—
s3(E)	56	#5	14'-11"	□
u(E)	8	#6	13'-0"	U
u1(E)	55	#5	3'-8"	U
v(E)	18	#5	15'-0"	—
v1(E)	4	#5	9'-11"	—
v2(E)	4	#5	9'-9"	—
Concrete Structures			Cu. Yd.	37.2
Reinforcement Bars, Epoxy Coated			Pound	4,640
Furnishing Steel Piles HP12x53			Foot	1,512
Driving Piles			Foot	1,512
Test Pile Steel HP12x53			Each	1
Pile Shoes			Each	13

Notes:  
 Pour steps monolithically with cap.  
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
 For details of piles see Sheet 30 of 40.

FILE NAME = 0453401-XXXXX-029-Abutment\_NorthDetails.dgn



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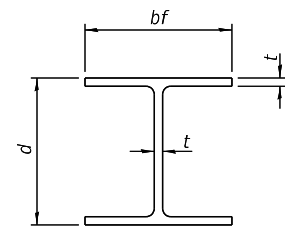
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT DETAILS  
 SN 045-3401**

SHEET NO. 29 OF 40 SHEETS

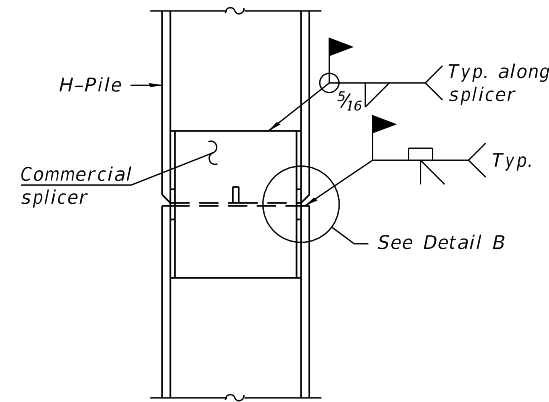
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	234
CONTRACT NO. 61H95				
ILLINOIS		FED. AID PROJECT		



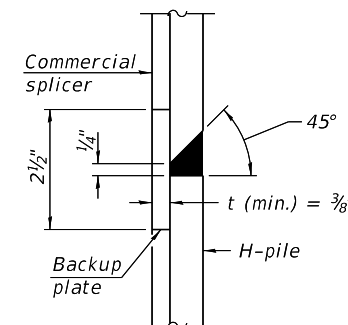


**STEEL PILE TABLE**

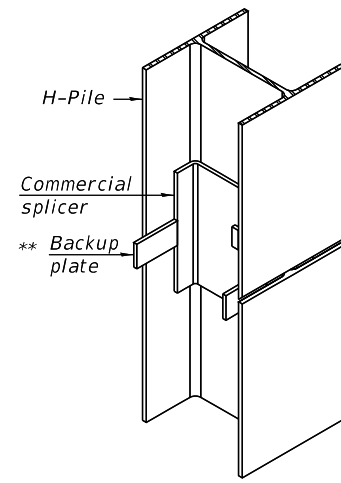
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



**ELEVATION**

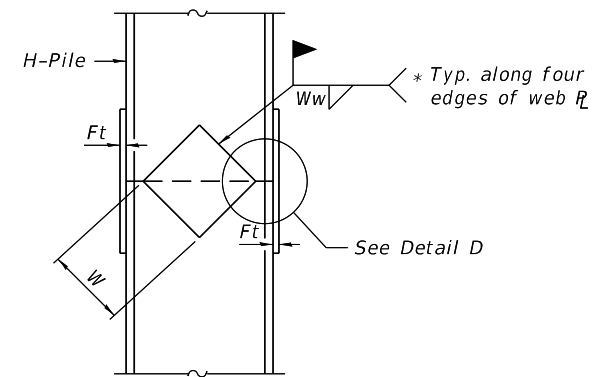


**DETAIL "B"**

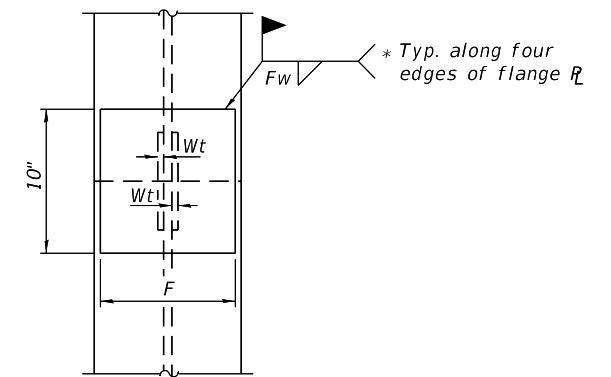


**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE**



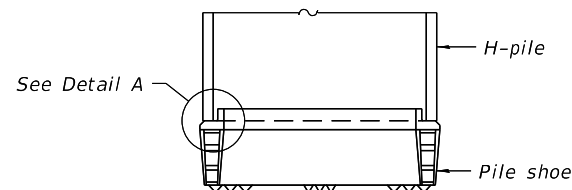
**ELEVATION**



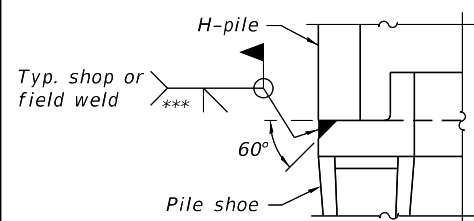
**END VIEW**

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

**WELDED PLATE FIELD SPLICE**

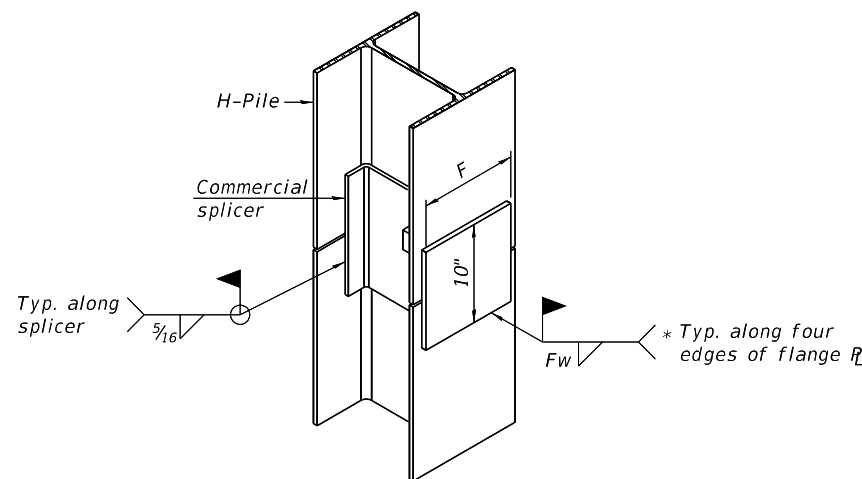


**ELEVATION**



**DETAIL A**

**SHOE ATTACHMENT**



**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE ALTERNATE**

- \* Interrupt welds 1/4" from end of web and/or each flange.
- \*\* Remove portions of backup plates that extend outside the flanges.
- \*\*\* Weld size per pile shoe manufacturer (5/16" min.).

Note:  
The steel H-piles shall be according to AASHTO M270 Grade 50.

FILE NAME = 0453401-XXXXX-030-HP\_Pile.dgn



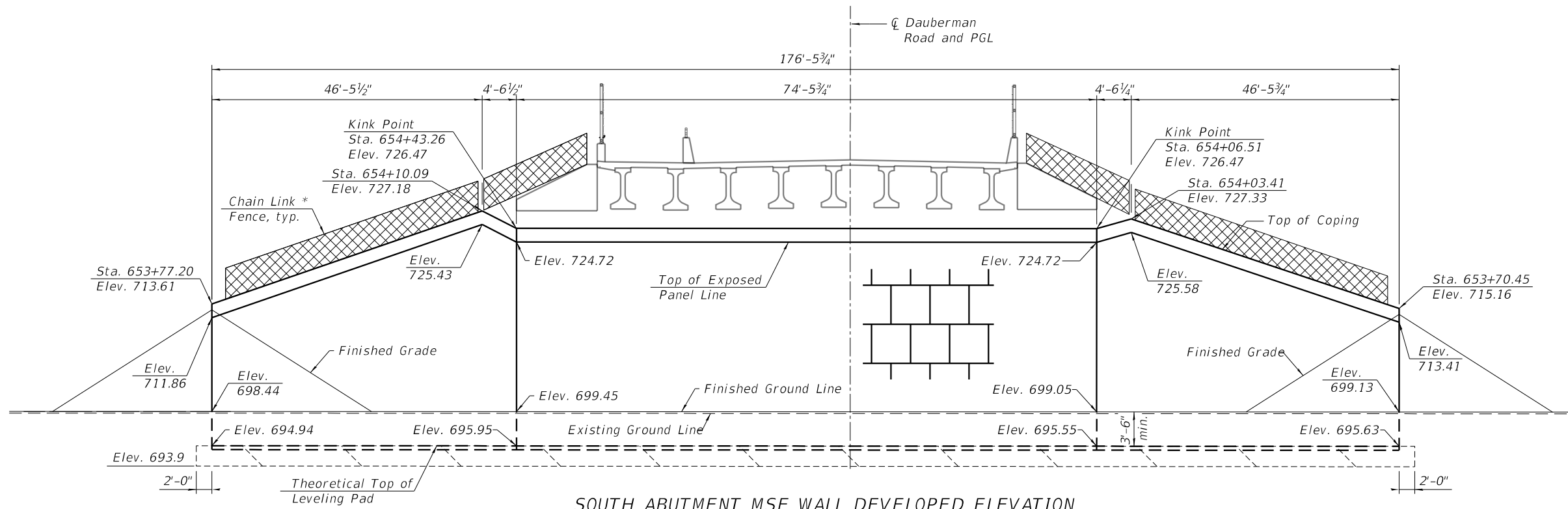
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PLOT DATE = 7/7/2022	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS  
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**HP PILE DETAILS  
SN 045-3401**

SHEET NO. 30 OF 40 SHEETS

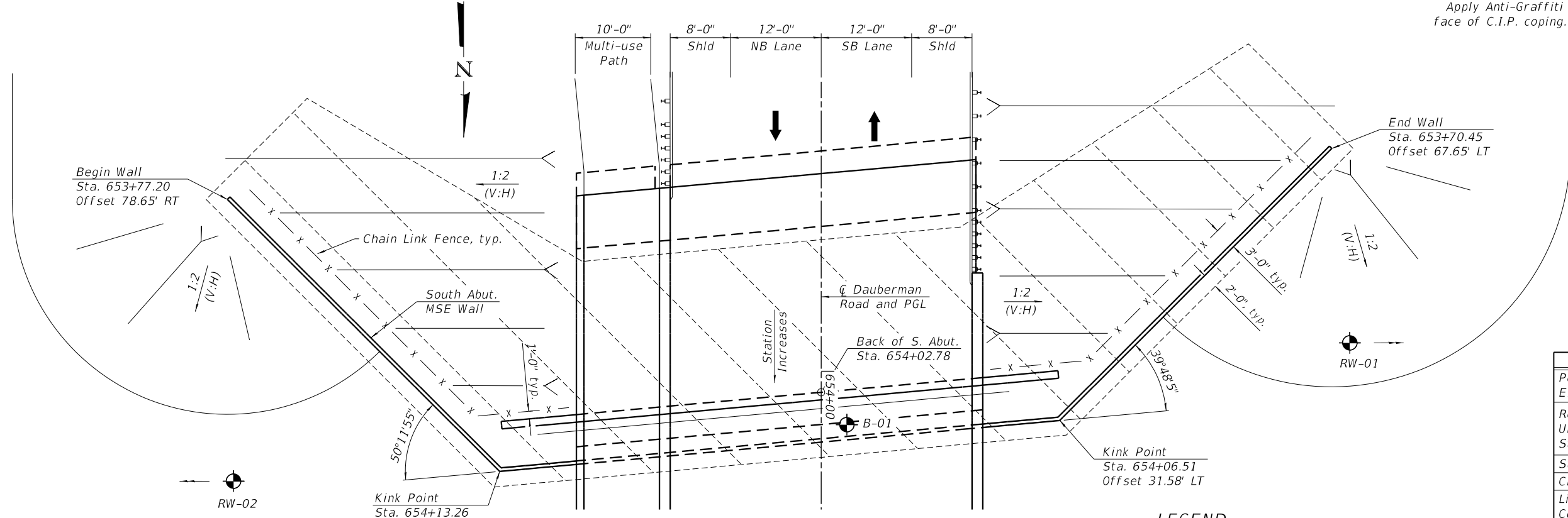
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	235
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



**SOUTH ABUTMENT MSE WALL DEVELOPED ELEVATION**  
(Looking South)

\* Set 2' diameter sonit tubes in select fill for fence posts, typ. Cost included with Chain Link Fence, 4'.

Notes:  
Wall stations offsets are given to the front face of wall and are measured from the  $\text{C}$  of Dauberman Road.  
Wall to be built in conjunction with new bridge.  
Horizontal dimensions measured along front face of precast panels.  
Apply Anti-Graffiti Coating to exposed face of MSE wall and front face of C.I.P. coping.



**SOUTH ABUTMENT MSE WALL PLAN**

**LEGEND**  
Approximate Limits of Removal of Unsuitable Material for Structures

**BILL OF MATERIAL**

Item	Unit	Total
Porous Granular Embankment	Cu. Yd.	236
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	236
Structure Excavation	Cu. Yd.	511
Chain Link Fence, 4'	Foot	113
Lightweight Cellular Concrete Fill	Cu. Yd.	7,450
Anti-Graffiti Coating	Sq. Ft.	4,305
Mechanically Stabilized Earth Retaining Wall, Special	Sq. Ft.	4,613

FILE NAME = 0453401-XXXXX-031-South MSE\_Plan.dgn

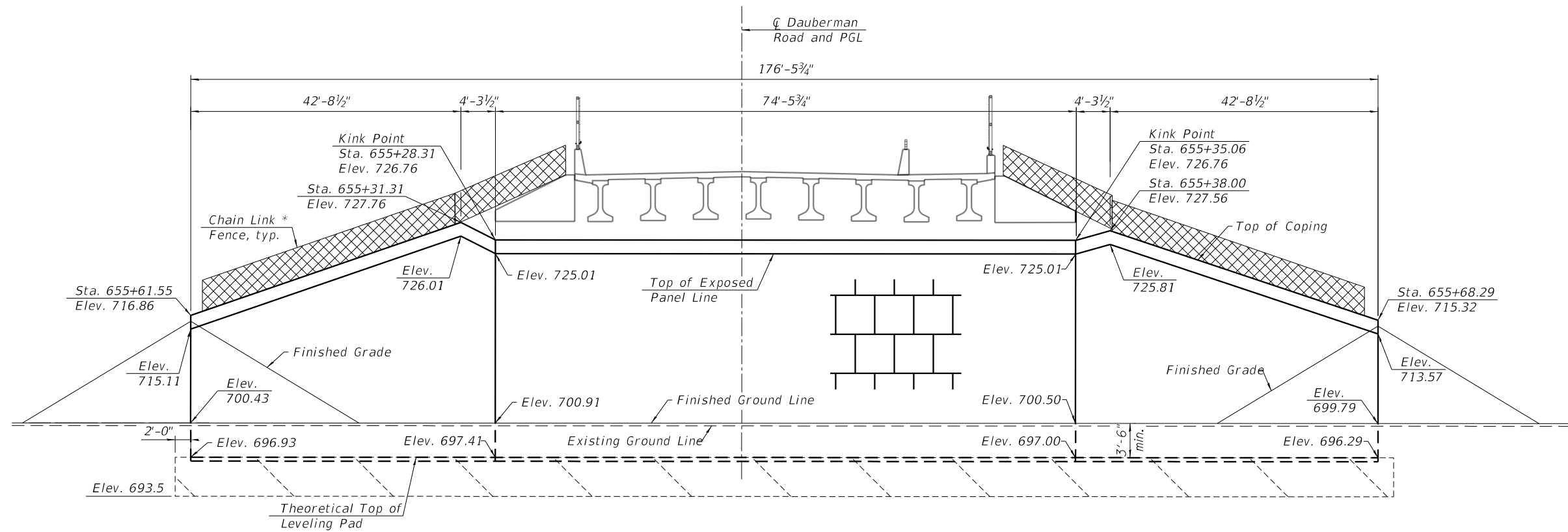


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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SOUTH MSE WALL PLAN AND ELEVATION**  
**SN 045-3401**  
SHEET NO. 31 OF 40 SHEETS

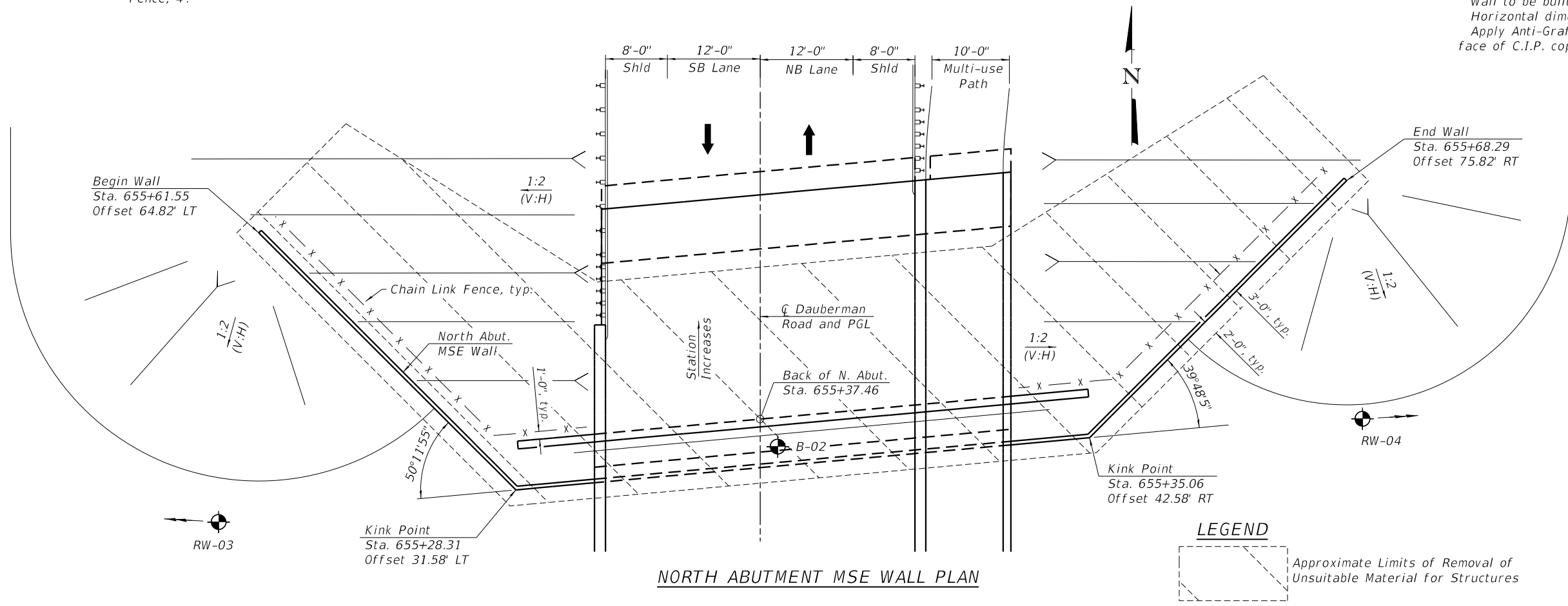
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	236
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



**NORTH ABUTMENT MSE WALL DEVELOPED ELEVATION**  
(Looking North)

\* Set 2' diameter sonit tubes in select fill for fence posts, typ. Cost included with Chain Link Fence, 4'.

Notes:  
 Wall stations offsets are given to the front face of wall and are measured from the  $\text{C}$  of Dauberman Road.  
 Wall to be built in conjunction with new bridge.  
 Horizontal dimensions measured along front face of precast panels.  
 Apply Anti-Graffiti Coating to exposed face of MSE wall and front face of C.I.P. coping.



**NORTH ABUTMENT MSE WALL PLAN**

**BILL OF MATERIAL**

Item	Unit	Total
Porous Granular Embankment	Cu. Yd.	467
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	467
Structure Excavation	Cu. Yd.	479
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	4,297
Chain Link Fence, 4'	Foot	106
Anti-Graffiti Coating	Sq. Ft.	4,003

FILE NAME = 0453401-XXXXX-032-North\_MSE\_PIE.dgn



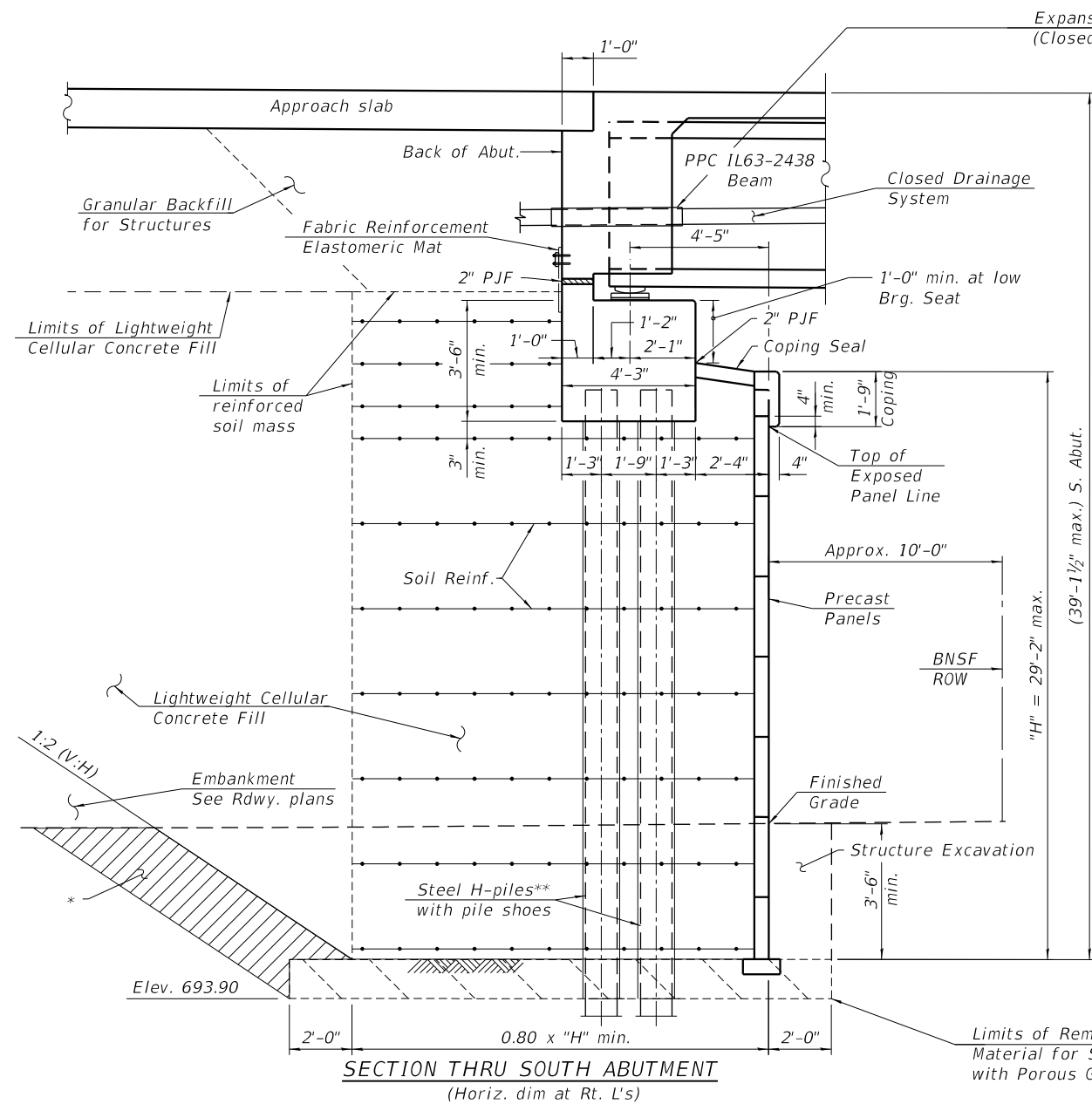
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

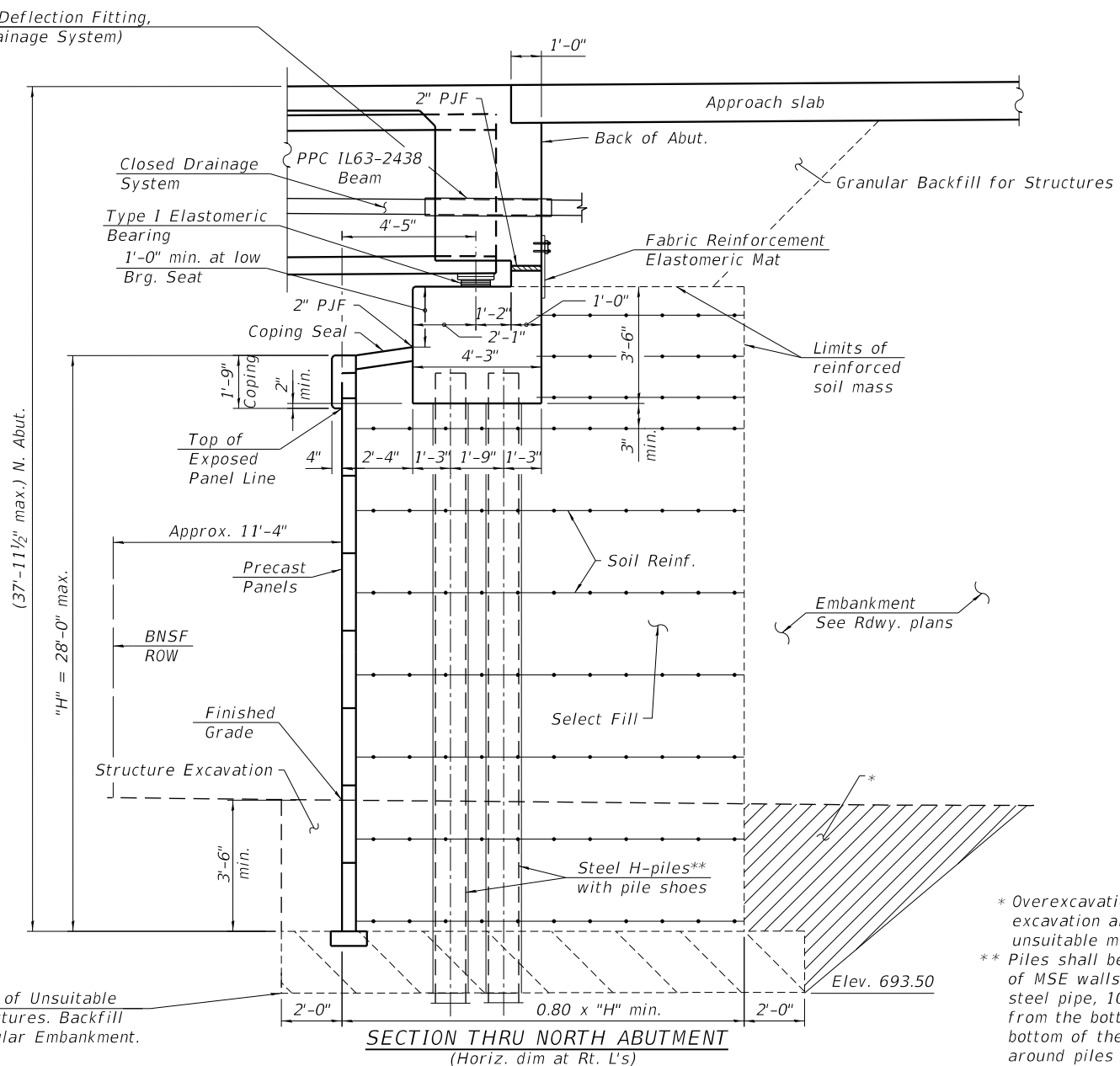
**NORTH MSE WALL PLAN AND ELEVATION  
SN 045-3401**

SHEET NO. 32 OF 40 SHEETS

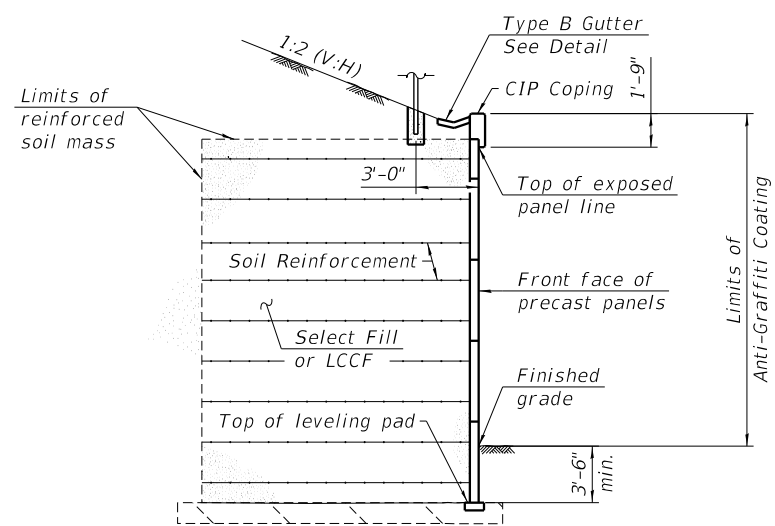
F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 237
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



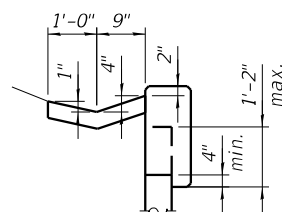
**SECTION THRU SOUTH ABUTMENT**  
(Horiz. dim at Rt. L's)



**SECTION THRU NORTH ABUTMENT**  
(Horiz. dim at Rt. L's)

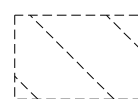


**SECTION THRU MSE WALL**



**COPING DETAIL**

**LEGEND**



Approximate Limits of Removal of Unsuitable Material for Structures

- \* Overexcavation beyond structure excavation and removal of unsuitable material.
- \*\* Piles shall be driven before the construction of MSE walls. 21" Ø corrugated galvanized steel pipe, 10 gage min. shall be provided from the bottom of the abutment cap to the bottom of the excavation level. Install sleeves around piles and backfill sleeves with dry, loose sand.

FILE NAME = 0453401-XXXXX-033-MSE\_Det\_Xsections1.dgn



USER NAME = bmsetzke	DESIGNED - TJA	REVISED -
PLOT SCALE = NTS	CHECKED - MDS	REVISED -
PLOT DATE = 7/7/2022	DRAWN - TJA	REVISED -
	CHECKED - MDS	REVISED -

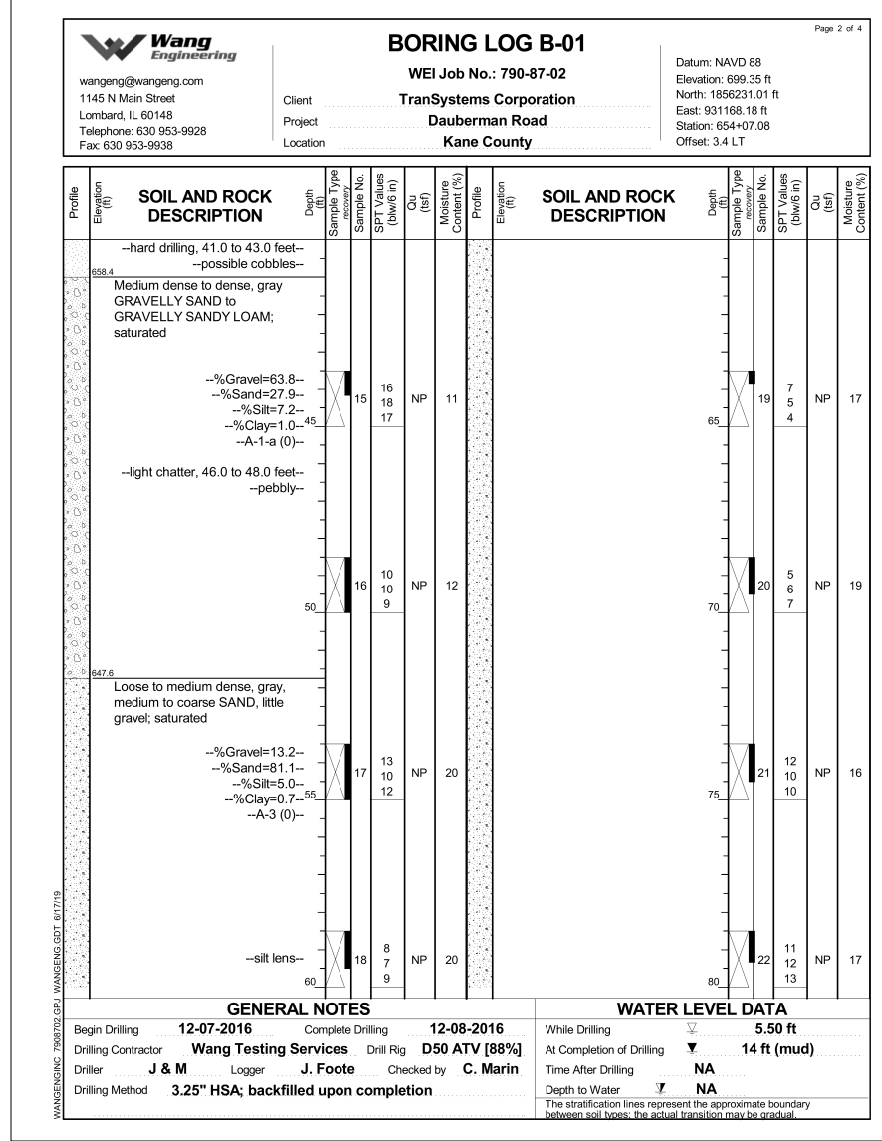
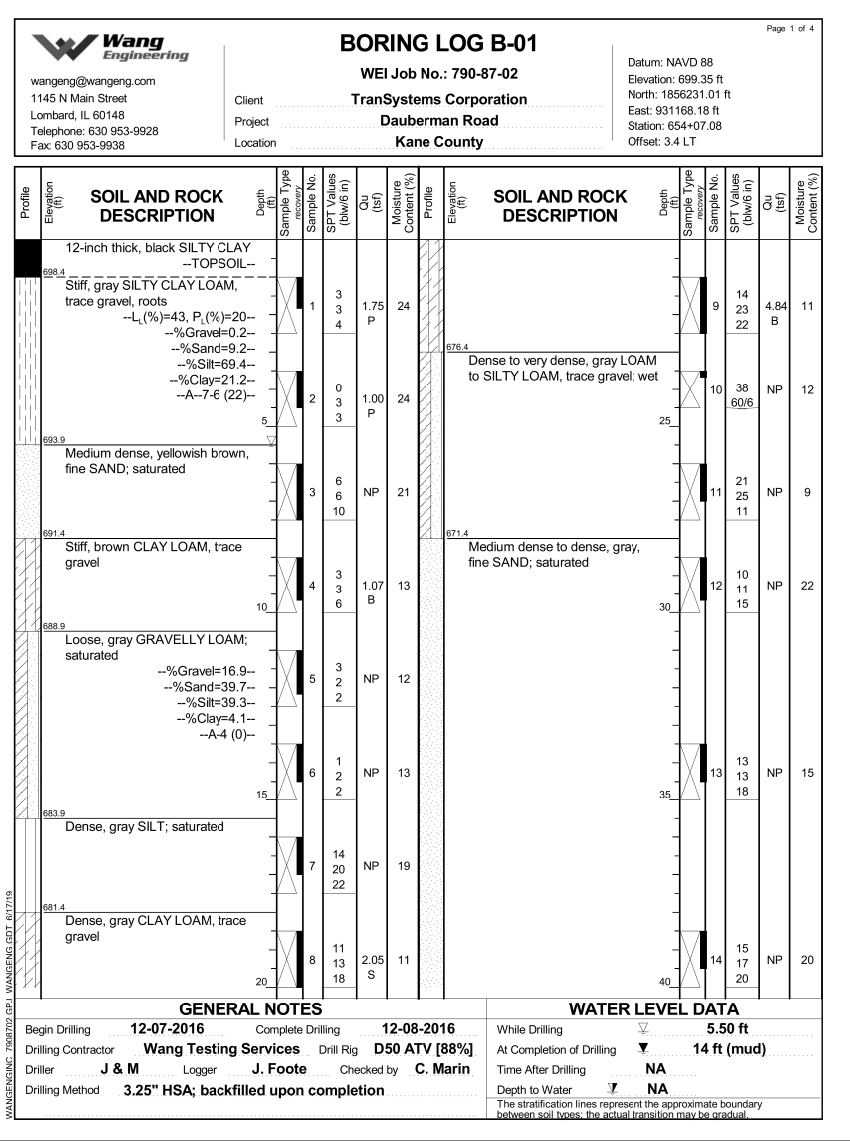
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MSE WALL SECTIONS AND DETAILS  
SN 045-3401**

SHEET NO. 33 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	238
				CONTRACT NO. 61H95

ILLINOIS FED. AID PROJECT

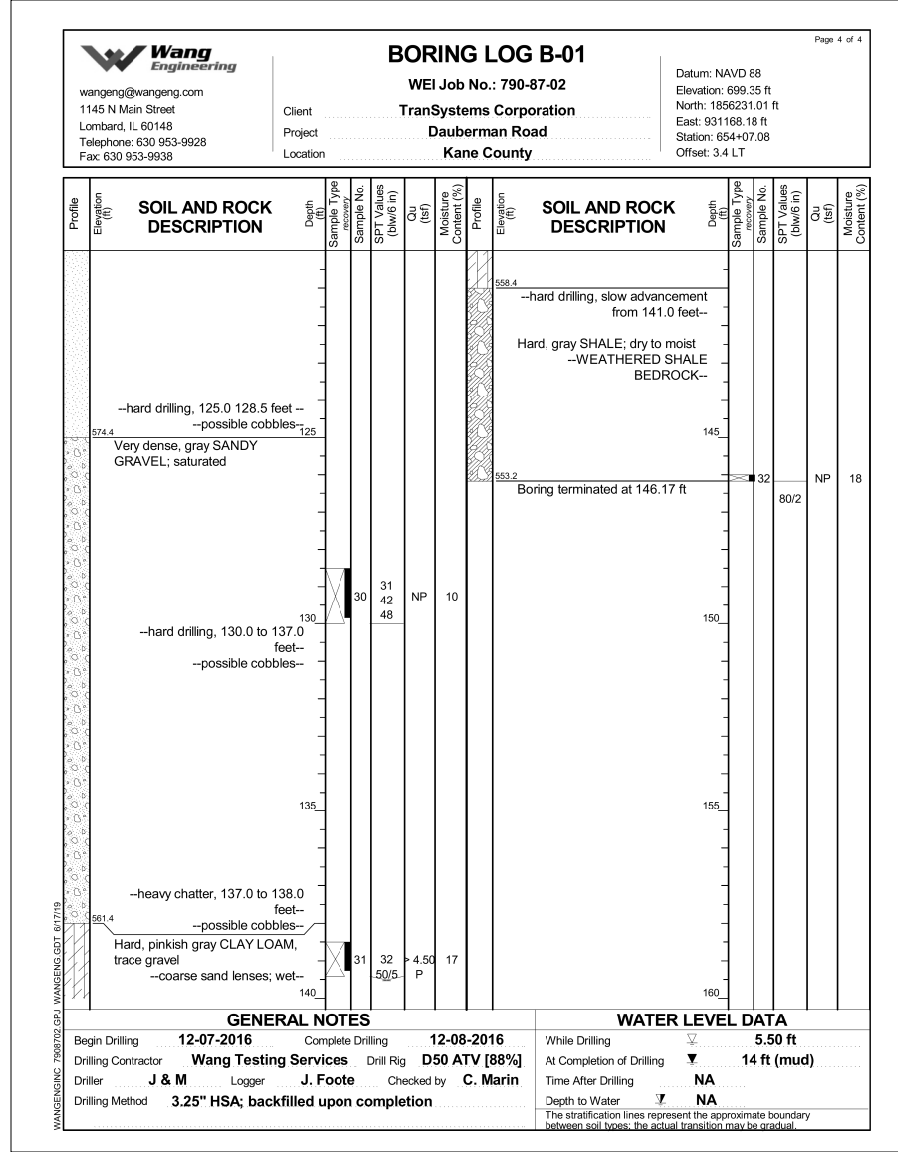
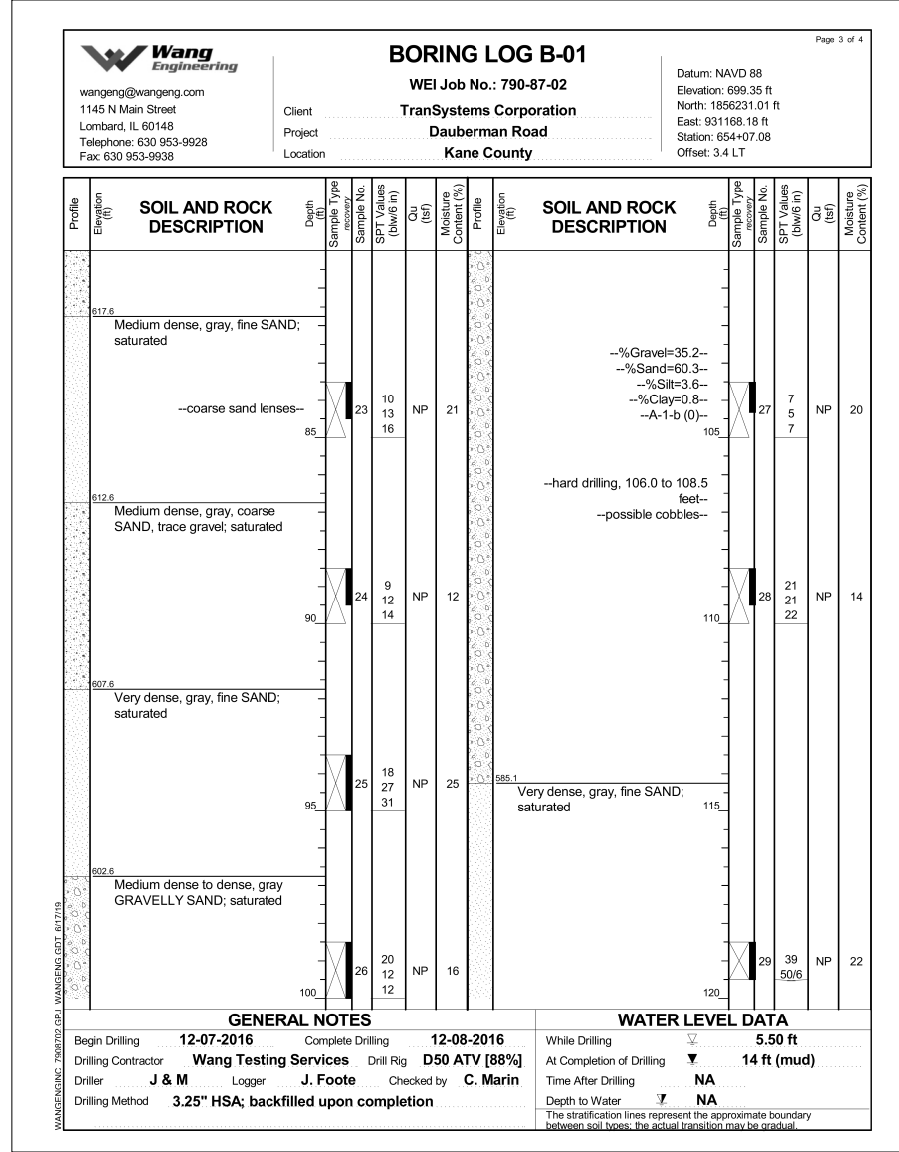


Note:  
Station and Offset are given along  $\zeta$  Dauberman Road.

FILE NAME = 0453401-XXXXX-034-Boring\_1.dgn

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	PLOT SCALE = NTS	DRAWN - TJA	REVISED -			1107	15-00277-01-BR	KANE	542	239
PLOT DATE = 7/7/2022	CHECKED - MDS	REVISED -		SHEET NO. 34 OF 40 SHEETS			CONTRACT NO. 61H95			
						ILLINOIS FED. AID PROJECT				

FILE NAME = 0453401-XXXXX-035-Boring\_2.dgn



Note:  
Station and Offset are given along  $\zeta$  Dauberman Road.



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PLOT DATE = 7/7/2022	DRAWN - TJA	REVISED -
	CHECKED - MDS	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS 2  
SN 045-3401

SHEET NO. 35 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	240
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

**BORING LOG B-02**

WEI Job No.: 790-87-02

Client: **TranSystems Corporation**  
 Project: **Dauberman Road**  
 Location: **Kane County**

Datum: NAVD 88  
 Elevation: 700.32 ft  
 North: 1856357.83 ft  
 East: 931173.80 ft  
 Station: 655+33.90  
 Offset: 2.26 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)
899.0	16-inch thick, black SILTY CLAY LOAM --TOPSOIL--												
897.3	Stiff, gray SILTY CLAY to SILTY CLAY LOAM	1	2 3 4		1.15 B	24		--possible cobbles, 21 feet--	9	16 10 5	NP	11	
892.3	Loose, brown LOAM to CLAY LOAM, trace gravel --sand lenses; wet-- -L <sub>v</sub> (%)=18, P <sub>v</sub> (%)=14-- --%Gravel=2.9-- --%Sand=43.0-- --%Silt=43.6-- --%Clay=10.5-- --A-4 (0)--	2	3 2 3		0.57 B	18	877.3	Very stiff, gray CLAY LOAM, trace gravel	10	5 8 8	2.05 P	15	
892.3	Medium dense, brown SILTY LOAM, little gravel, moist to wet	3	2 2 4		1.15 B	17	874.1	Medium dense to very dense, gray SANDY LOAM, saturated	11	5 10 16	NP	23	
889.8	Loose, gray LOAM; moist --%Gravel=13.6-- --%Sand=41.0-- --%Silt=37.9-- --%Clay=7.6-- --A-4 (0)--	4	3 11 7		NP	12			12	16 26 37	NP	17	
887.3	Medium dense to very dense, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel --light chatter, 15.0 to 16.0 feet-- --pebbly--	5	2 2 4		NP	11			13	21 32 26	NP	20	
		6	9 18 31		NP	16		--%Gravel=0.1-- --%Sand=57.3-- --%Silt=39.9-- --%Clay=2.7-- --A-4 (0)--	17	15 15 16	NP	14	
		7	35 57/6		NP	12	863.6	Medium dense to dense, gray, coarse SAND; saturated	18	16 18 24	NP	24	
		8	16 18 31		NP	11		--hard drilling, 40.0 to 41.0 feet-- --possible cobbles--	14	19 18 17	NP	12	

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-05-2016	Complete Drilling	12-05-2016	While Drilling	4.00 ft		
Drilling Contractor	Wang Testing Services	Drill Rig	D50 ATV [88%]	At Completion of Drilling	14 ft (mud)		
Driller	J & M	Logger	J. Foote	Time After Drilling	NA		
Checked by	C. Marin	Depth to Water	NA				
Drilling Method	3.25" HSA; backfilled upon completion						

**BORING LOG B-02**

WEI Job No.: 790-87-02

Client: **TranSystems Corporation**  
 Project: **Dauberman Road**  
 Location: **Kane County**

Datum: NAVD 88  
 Elevation: 700.32 ft  
 North: 1856357.83 ft  
 East: 931173.80 ft  
 Station: 655+33.90  
 Offset: 2.26 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)
		15	12 10 11		NP	12		--%Gravel=5.6-- --%Sand=86.0-- --%Silt=7.7-- --%Clay=0.7-- --A-3 (0)--	19	26 22 29	NP	22	
653.6	Dense, gray, fine to medium SAND; saturated	16	14 16 16		NP	22			20	20 25 31	NP	20	
648.6	Dense, gray, coarse SAND; saturated	17	16 15 16		NP	14	628.6	Medium dense to very dense, gray, coarse SAND, trace gravel; saturated	21	13 11 9	NP	14	
643.6	Dense to very dense, gray, fine SAND, trace gravel; saturated	18	16 18 24		NP	24			22	15 11 11	NP	17	

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-05-2016	Complete Drilling	12-05-2016	While Drilling	4.00 ft		
Drilling Contractor	Wang Testing Services	Drill Rig	D50 ATV [88%]	At Completion of Drilling	14 ft (mud)		
Driller	J & M	Logger	J. Foote	Time After Drilling	NA		
Checked by	C. Marin	Depth to Water	NA				
Drilling Method	3.25" HSA; backfilled upon completion						

**BORING LOG B-02**

WEI Job No.: 790-87-02

Client: **TranSystems Corporation**  
 Project: **Dauberman Road**  
 Location: **Kane County**

Datum: NAVD 88  
 Elevation: 700.32 ft  
 North: 1856357.83 ft  
 East: 931173.80 ft  
 Station: 655+33.90  
 Offset: 2.26 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)
618.6	Medium dense, gray, fine to medium SAND, trace gravel, saturated	23	10 12 13		NP	19		--hard drilling, 102.0 to 103.0 feet-- --possible cobbles--	27	18 21 25	NP	16	
		24	9 12 13		NP	23			28	15 21 29	NP	15	
608.6	Dense, gray GRAVELLY SAND; saturated	25	15 17 21		NP	19							
		26	12 13 16		NP	22							
602.3	Medium dense, gray SAND; saturated	27	12 13 16		NP	22							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-05-2016	Complete Drilling	12-05-2016	While Drilling	4.00 ft		
Drilling Contractor	Wang Testing Services	Drill Rig	D50 ATV [88%]	At Completion of Drilling	14 ft (mud)		
Driller	J & M	Logger	J. Foote	Time After Drilling	NA		
Checked by	C. Marin	Depth to Water	NA				
Drilling Method	3.25" HSA; backfilled upon completion						

Note:  
 Station and Offset are given along  $\zeta$  Dauberman Road.



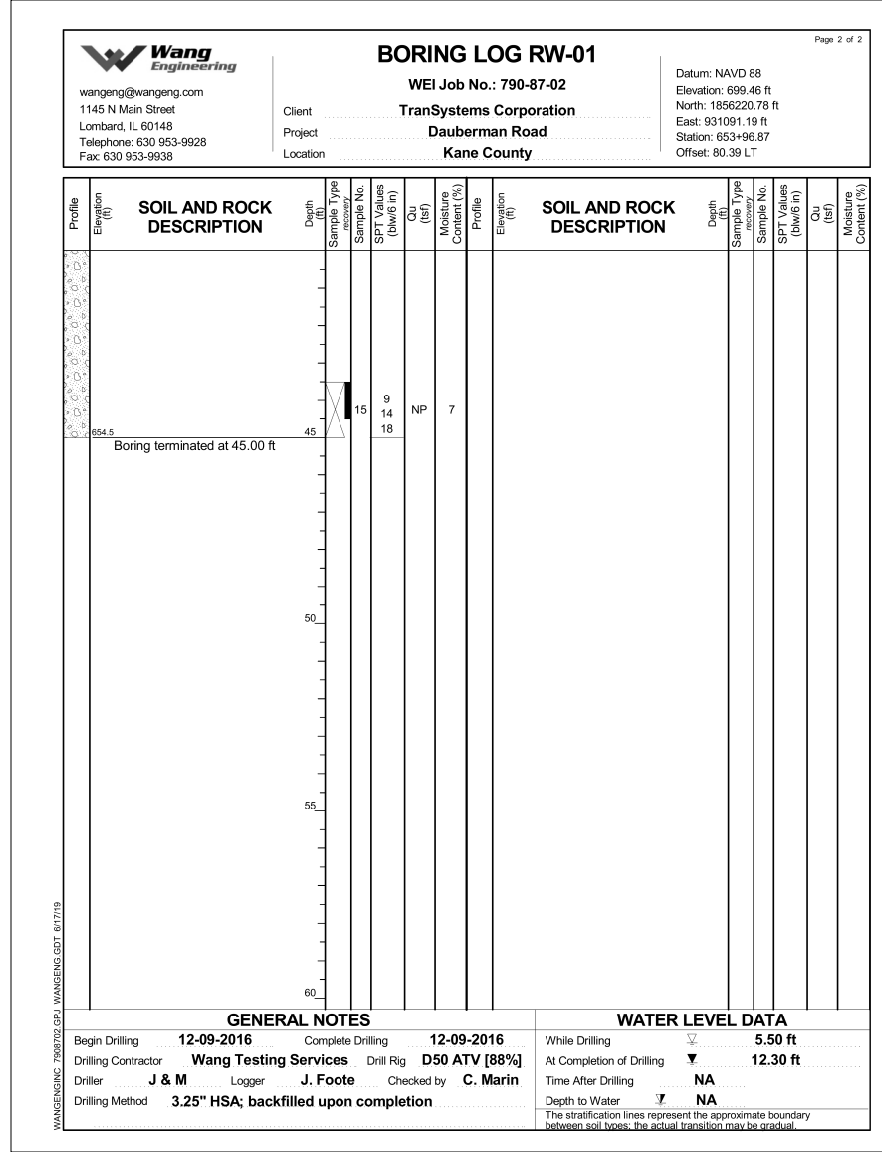
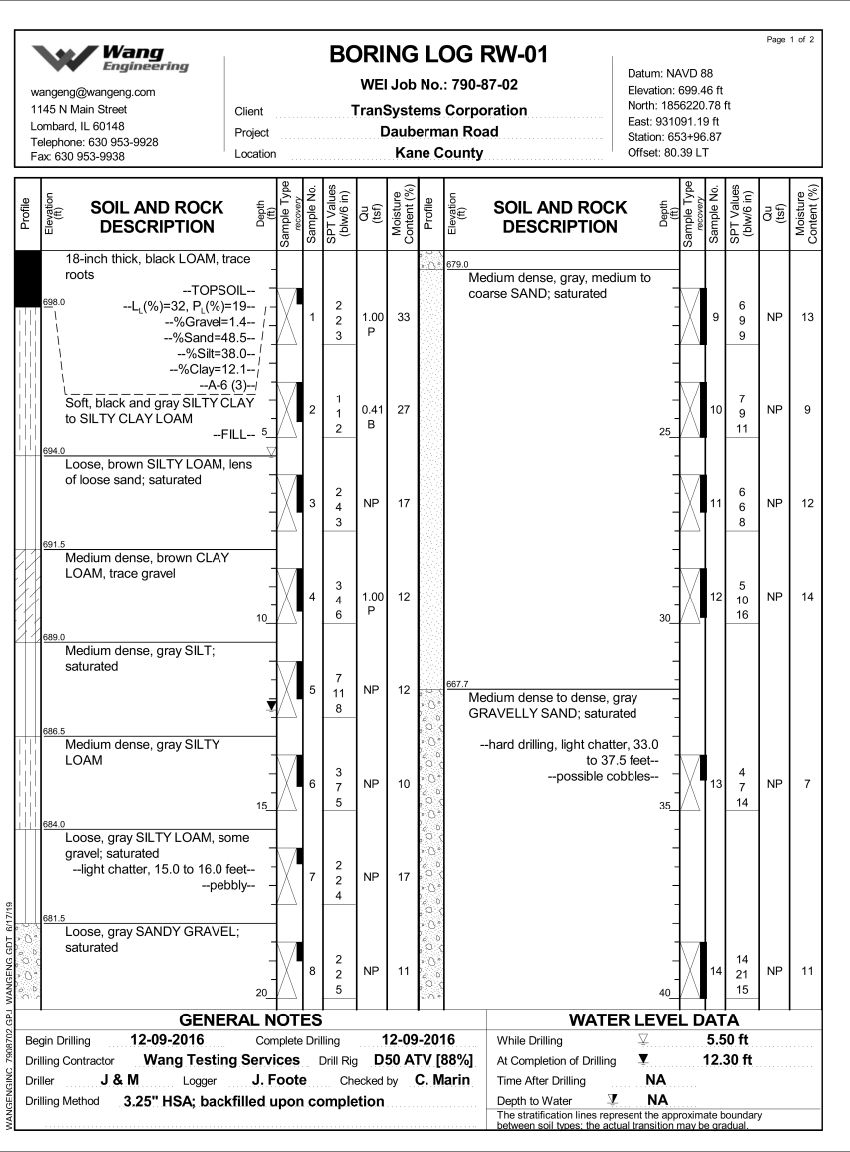
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PLOT DATE = 7/7/2022	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 3  
 SN 045-3401**

SHEET NO. 36 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	241
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



Note:  
Station and Offset are given along  $\zeta$  Dauberman Road.

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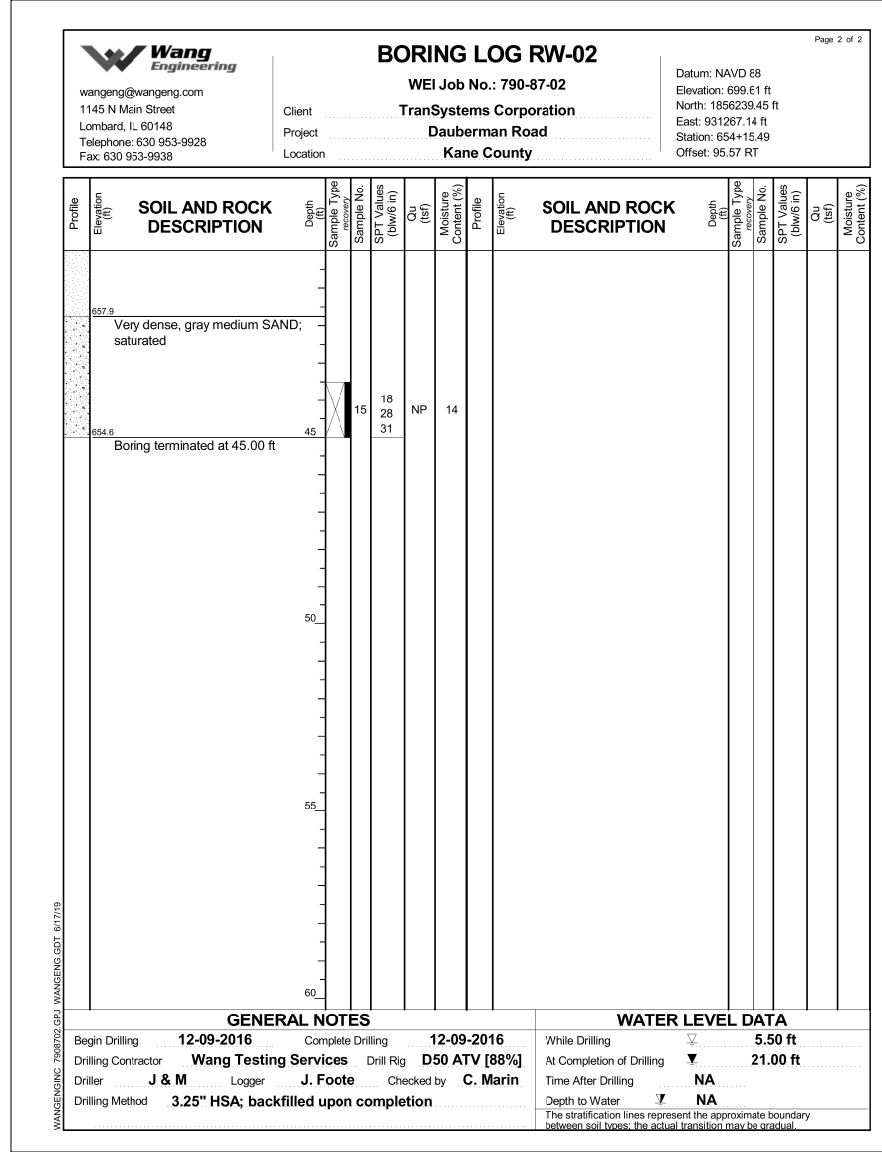
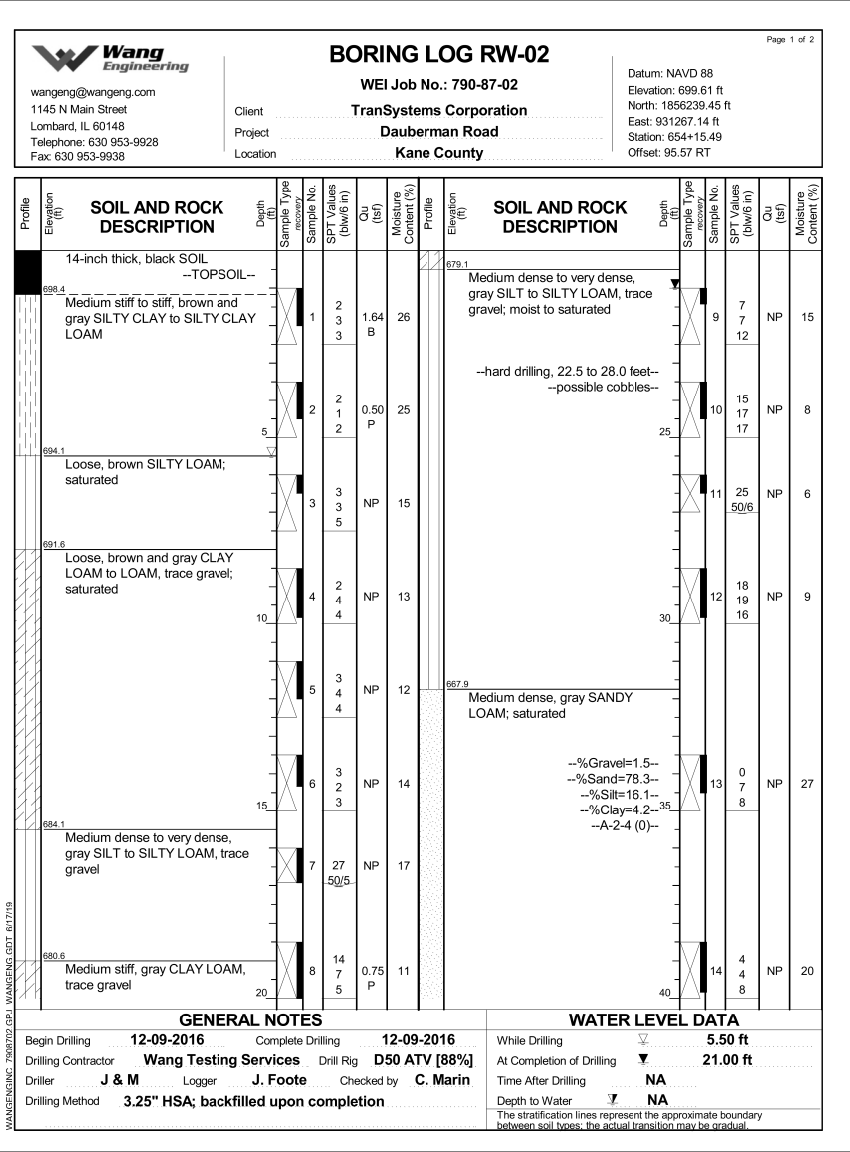
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 4  
SN 045-3401**

SHEET NO. 37 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	242
CONTRACT NO.			61H95	
ILLINOIS		FED. AID PROJECT		





Note:  
Station and Offset are given along  $\zeta$  Dauberman Road.

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CHECKED -	MDS	REVISED -			
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PLOT DATE =	7/7/2022	CHECKED -	MDS	REVISED -	

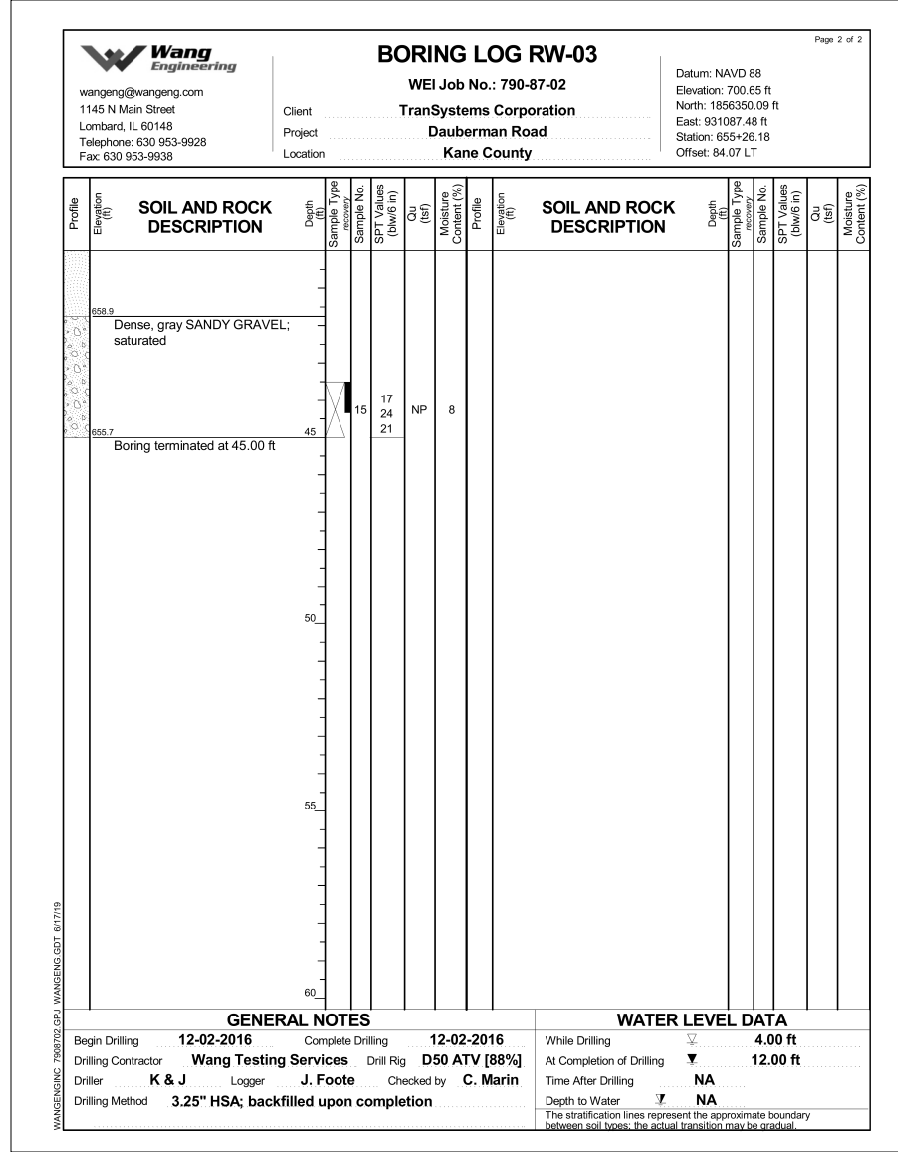
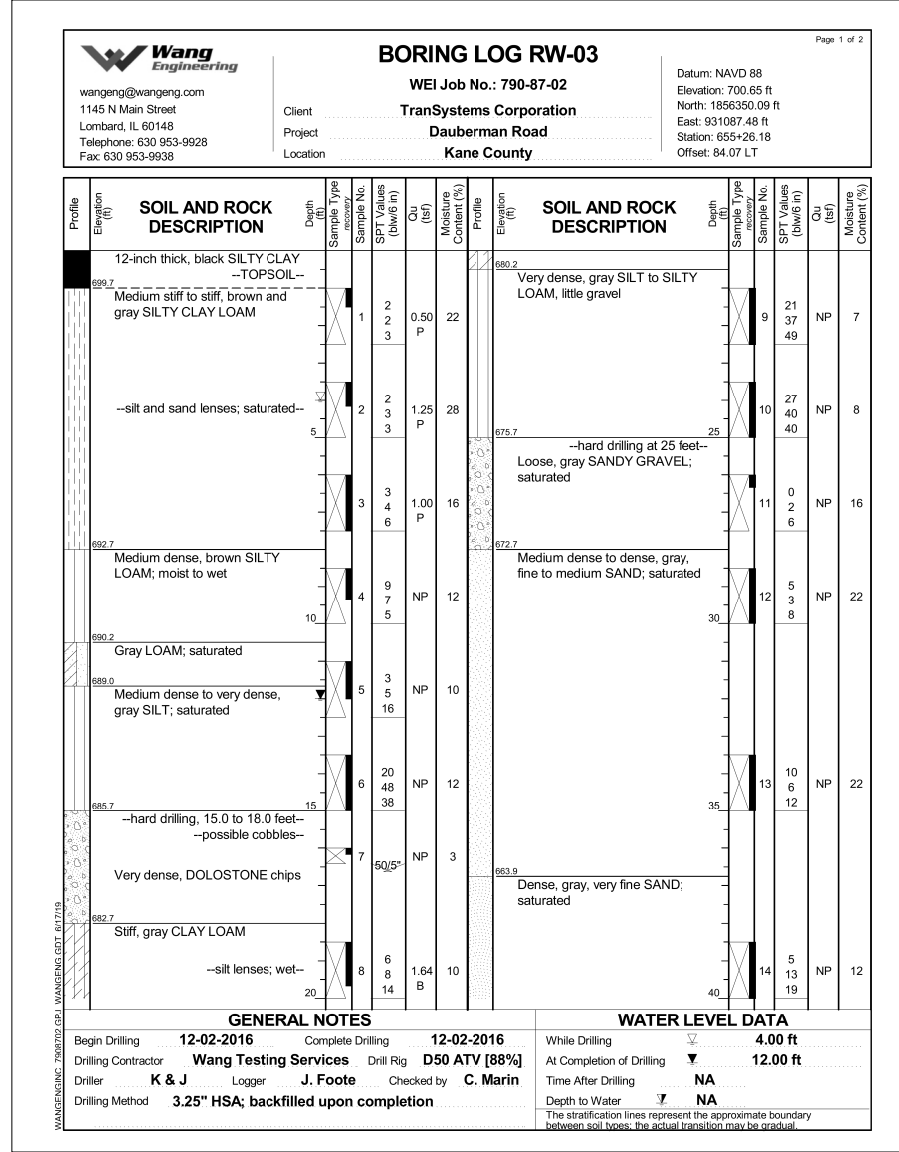
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 5  
SN 045-3401**

SHEET NO. 38 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	243
CONTRACT NO. 61H95				
ILLINOIS		FED. AID PROJECT		

FILE NAME = 0453401-XXXXX-039-Boring\_6.dgn



Note:  
Station and Offset are given along  $\zeta$  Dauberman Road.



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CHECKED -	MDS	REVISED -			
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PLOT DATE =	7/7/2022	CHECKED -	MDS	REVISED -	

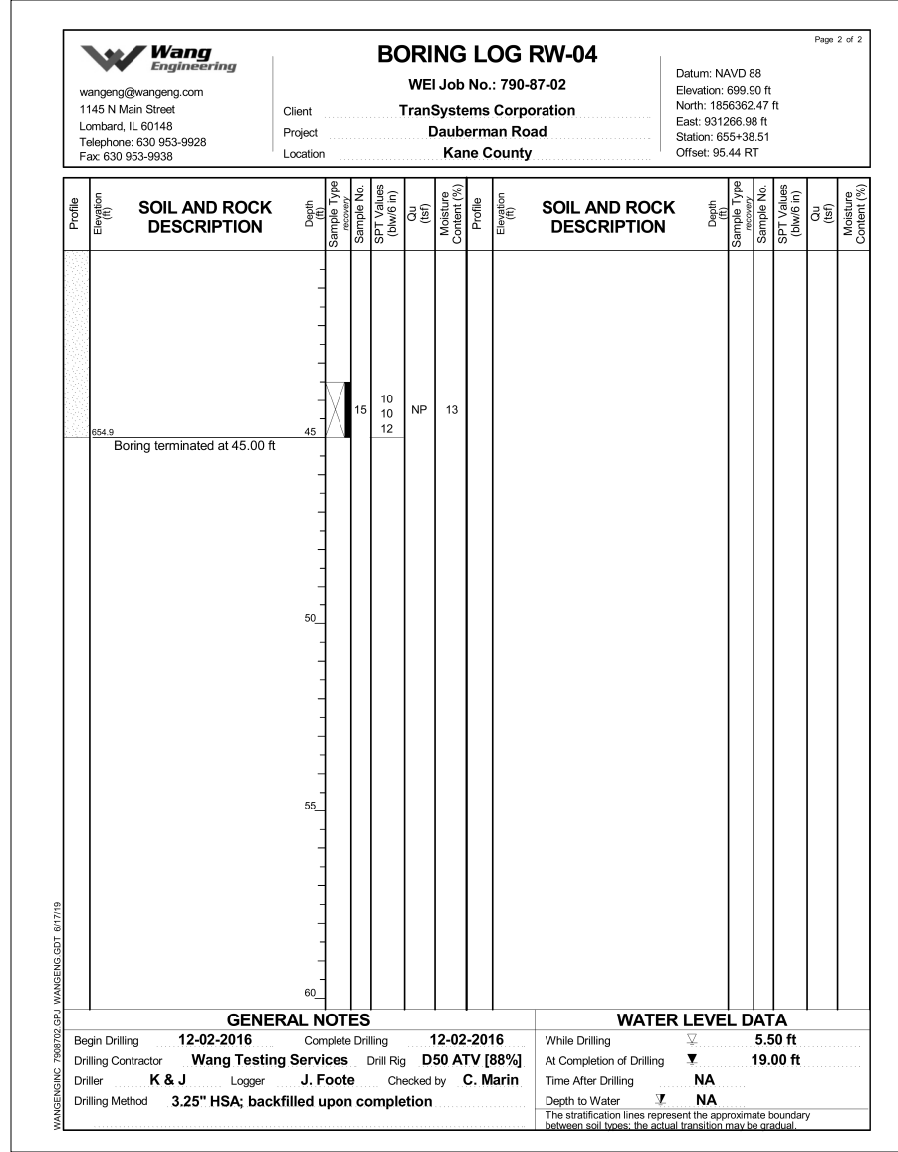
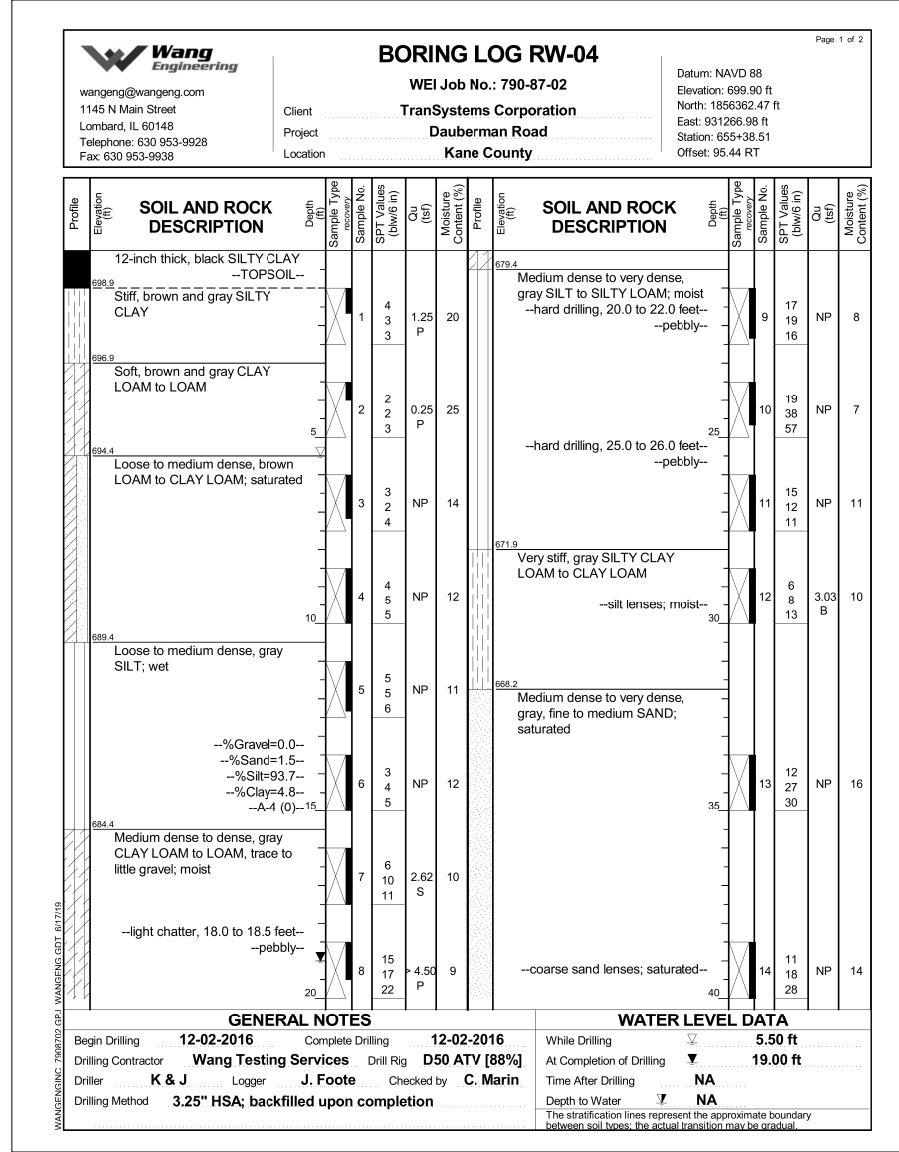
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 6  
SN 045-3401**

SHEET NO. 39 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	244
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

FILE NAME = 0453401-XXXXX-040-Boring\_7.dgn



Note:  
Station and Offset are given along  $\zeta$  Dauberman Road.



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PLOT DATE = 7/7/2022	DRAWN - TJA	REVISED -
	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 7  
SN 045-3401**

SHEET NO. 40 OF 40 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	245
CONTRACT NO. 61H95				
		ILLINOIS	FED. AID PROJECT	

Benchmark: Railroad spike set in power pole with light at U.S. 30  
Sta. 350+00.49 Offset 39.50' (RT) South of U.S. 30 Elev. 702.56

Existing Structure: None

**LOADING HL-93**  
Allow 50#/sq. ft. for future wearing surface.

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.091  
Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.164  
Soil Site Class = D



*Joel Thode*  
DATE SIGNED: 11-17-2022  
EXP. DATE: 11-30-2022

I certify that to the best of my knowledge, information, and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one of the style of structure and complies with the requirements of the current AASHTO LRFD Bridge Design Specifications.

**DESIGN SPECIFICATIONS**

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

**DESIGN STRESSES**

**FIELD UNITS**

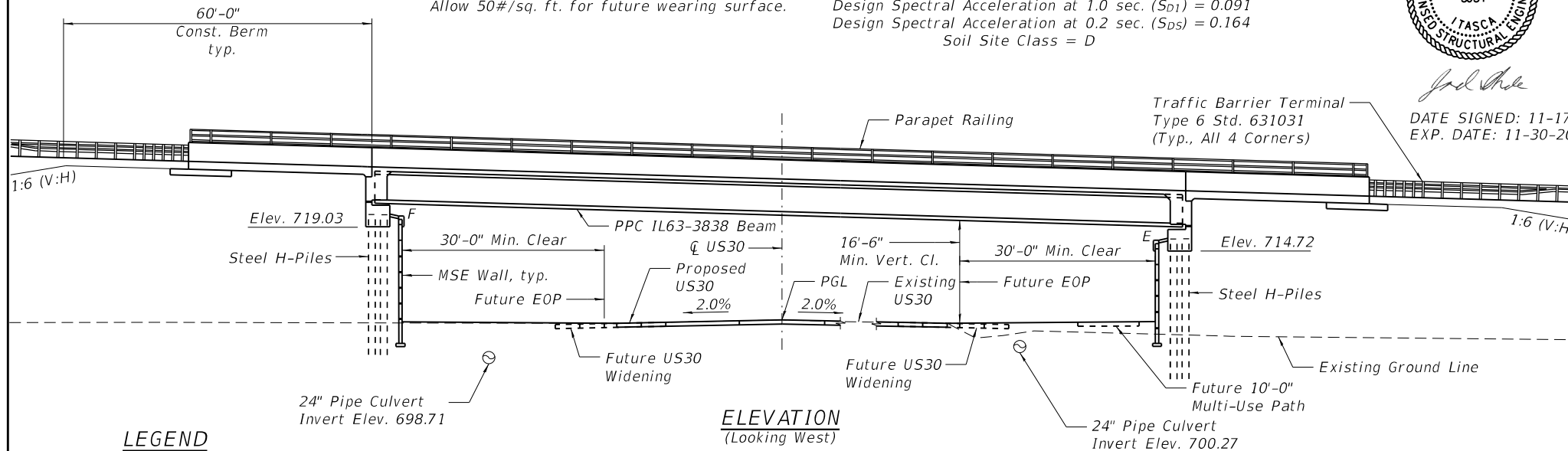
$f'_c$  = 4,000 psi (Bridge Deck)  
 $f'_c$  = 3,500 psi (typ.)  
 $f_y$  = 60,000 psi (Reinforcement)

**PRECAST UNITS**

$f'_c$  = 4,500 psi (Precast Panels)  
 $f'_c$  = 6,000 psi (Precast Approach Slab)  
 $f'_c$  = 5,000 psi (Precast Approach Slab)

**PRECAST PRESTRESSED UNITS**

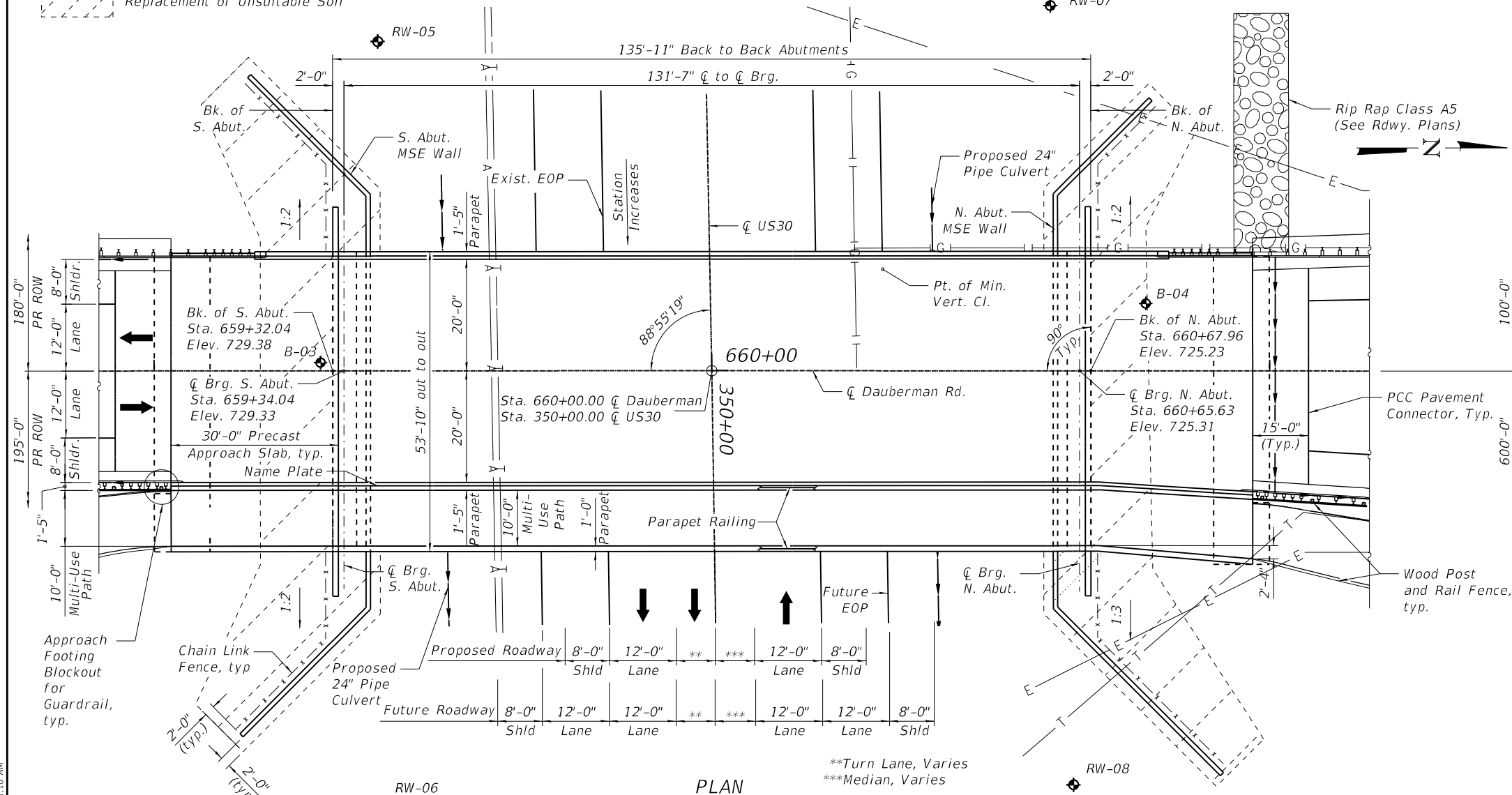
$f'_c$  = 8,500 psi  
 $f'_ci$  = 6,500 psi  
 $f_{pu}$  = 270,000 psi (0.6"  $\emptyset$  low lax strands)  
 $f_{pbt}$  = 202,300 psi (0.6"  $\emptyset$  low lax strands)



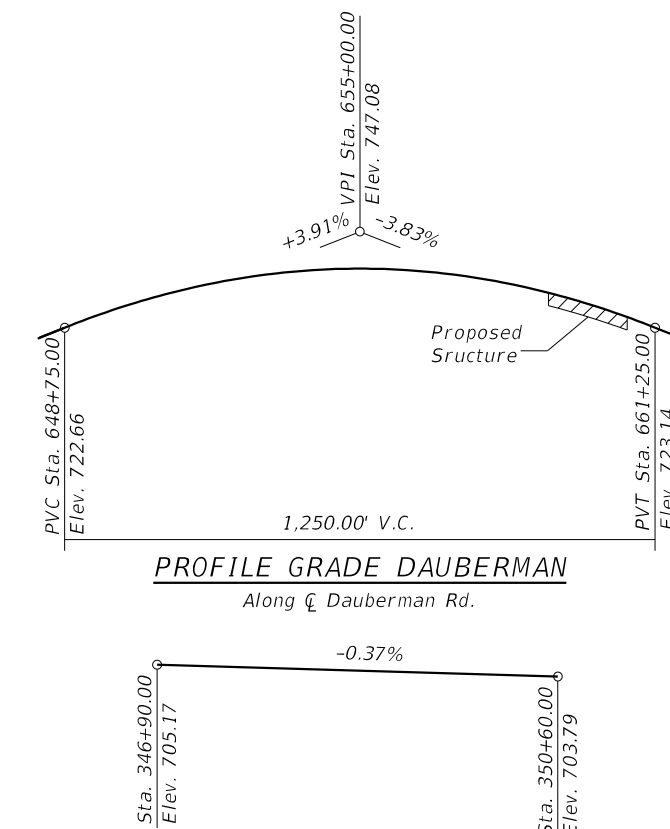
**ELEVATION**  
(Looking West)

**LEGEND**

Approximate Limits of Removal and Replacement of Unsuitable Soil

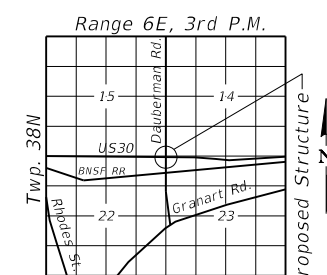


**PLAN**



**PROFILE GRADE DAUBERMAN**  
Along  $\zeta$  Dauberman Rd.

**PROPOSED & FUTURE PROFILE GRADE US30**  
Along  $\zeta$  US30



**LOCATION SKETCH**

**GENERAL PLAN & ELEVATION**  
**DAUBERMAN ROAD (F.A.S. 1107)**

**OVER US ROUTE 30**  
**SECTION 15-00277-01-BR**  
**KANE COUNTY**  
**STATION 660+00.00**  
**STRUCTURE NO. 045-3402**

11/18/2022 7:51:10 AM



USER NAME = dkierpiec	DESIGNED - HB	REVISIONS
PLOT SCALE = NTS	CHECKED - TJJ	REVISIONS
PLOT DATE = 11/18/2022	DRAWN - HB	REVISIONS
	CHECKED - TJJ	REVISIONS

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION**  
**STRUCTURE NO. 045-3402**

SHEET NO. 1 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	246
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES**

Reinforcement bars designated (E) shall be epoxy coated.

Slipforming of the parapets is not allowed.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

1. Locate existing utilities that are to remain. Contractor to coordinate any required improvements to or removals of existing utilities with utility owner(s). See Civil Plans.
2. Complete the Removal and Disposal of Unsuitable Materials and replace with Porous Granular Embankment.
3. Drive the Piles.
4. Construct the abutments and MSE walls.
5. Place the Precast Prestressed Concrete Beams on the abutments.
6. Construct the bridge deck, parapets, and railings.

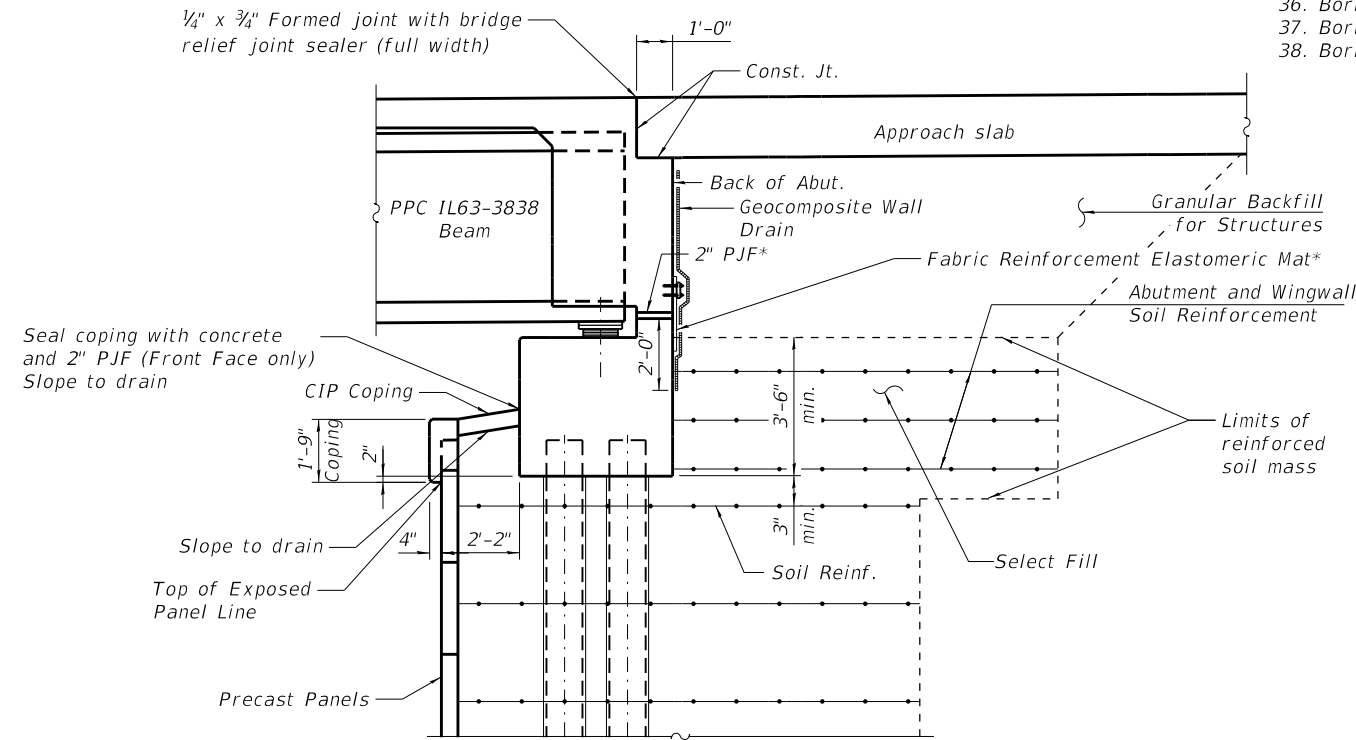
\*See Diaphragm Details sht. 11 of 38.

**INDEX OF SHEETS**

1. General Plan & Elevation
2. General Data
3. Top of Slab Elevations I
4. Top of Slab Elevations II
5. Top of South Approach Slab Elevations
6. Top of North Approach Slab Elevations
7. Superstructure Plan
8. Superstructure Cross Section
9. Parapet and Path Cross Sections
10. Parapet Elevations
11. Diaphragm Details
12. Superstructure Details
13. South Precast Bridge Approach Slab
14. North Precast Bridge Approach Slab
15. Precast Bridge Approach Slab Details I
16. Precast Bridge Approach Slab Details II
17. Precast Bridge Approach Slab Details III
18. Bridge Approach Slab Parapet Elevations
19. Preformed Joint Strip Seal and Wood Railing Details
20. Parapet Railing Details
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24. Fixed Bearing Details
25. Elastomeric Bearing Details
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27. South Abutment Details
28. North Abutment Plan and Elevation
29. North Abutment Details
30. South Abutment MSE Wall Plan
31. North Abutment MSE Wall Plan
32. MSE Wall Sections and Details
33. HP Pile Details
34. Boring Logs (1 of 5)
35. Boring Logs (2 of 5)
36. Boring Logs (3 of 5)
37. Boring Logs (4 of 5)
38. Boring Logs (5 of 5)

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu Yd	-	1087	1087
Structure Excavation	Cu Yd	-	638	638
Removal And Disposal Of Unsuitable Material For Structures	Cu Yd	-	1087	1087
Concrete Structures	Cu Yd	-	106.7	106.7
Concrete Superstructure	Cu Yd	307.0	-	307.0
Protective Coat	Sq Yd	224	-	224
Furnishing And Erecting Precast Prestressed Concrete Beams, IL63	Foot	932	-	932
Reinforcement Bars, Epoxy Coated	Pound	82,950	6170	89,140
Parapet Railing	Foot	384	-	384
Furnishing Steel Piles Hp12X53	Foot	-	3080	3080
Driving Piles	Foot	-	3080	3080
Test Pile Steel Hp12X53	Each	-	2	2
Pile Shoes	Each	-	30	30
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	110.5	-	110.5
Elastomeric Bearing Assembly, Type I	Each	7	-	7
Anchor Bolts, 1 1/2"	Each	28	-	28
Mechanically Stabilized Earth Retaining Wall	Sq Ft	-	4705	4705
Granular Backfill For Structures	Cu Yd	-	338	338
Geocomposite Wall Drain	Sq Yd	-	132	132
Chain Link Fence, 4'	Foot	209	-	209
Anti-Graffiti Coating	Sq Ft	-	4506	4506
Concrete Wearing Surface, 5"	Sq Yd	271	-	271
Precast Bridge Approach Slab	Sq Ft	3251	-	3251
Bridge Deck Thin Polymer Overlay 3/8"	Sq Yd	867	-	867



**SECTION THRU ABUTMENT**  
 (North Abutment shown, South Abutment similar)  
 (See sheets 30 thru 32 of 38 for MSE Wall details)

BUILT 202\_ BY  
 KANE COUNTY  
 SEC. 15-00277-01-BR  
 F.A.S. RT. 1107 STA. 660+00.00  
 STR. NO. 045-3402 LOADING HL-93

**NAME PLATE**  
 See Std. 515001

11/18/2022 7:47:29 AM



USER NAME = dkierpiec	DESIGNED - HB	REVISED -
PLOT SCALE = NTS	CHECKED - TJJ	REVISED -
PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA**  
**STRUCTURE NO. 045-3402**

SHEET NO. 2 OF 38 SHEETS

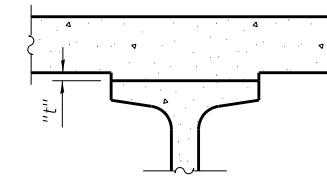
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	247
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of South Abut.	659+32.04	-18.50	729.01	729.01
☉ Brg. South Abut.	659+34.04	-18.50	728.96	728.96
A	659+44.04	-18.50	728.69	728.73
B	659+54.04	-18.50	728.42	728.49
C	659+64.04	-18.50	728.14	728.25
D	659+74.04	-18.50	727.85	727.99
E	659+84.04	-18.50	727.56	727.71
F	659+94.04	-18.50	727.26	727.42
G	660+04.04	-18.50	726.95	727.12
H	660+14.04	-18.50	726.64	726.80
I	660+24.04	-18.50	726.32	726.47
J	660+34.04	-18.50	726.00	726.12
K	660+44.04	-18.50	725.67	725.75
L	660+54.04	-18.50	725.33	725.38
☉ Brg. North Abut.	660+65.63	-18.50	724.94	724.94
Back of North Abut.	660+67.96	-18.50	724.86	724.86

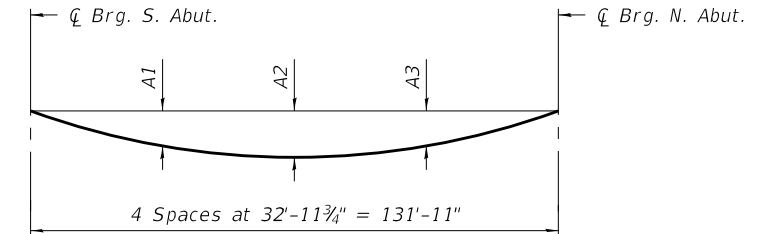
**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of South Abut.	659+32.04	-10.50	729.17	729.17
☉ Brg. South Abut.	659+34.04	-10.50	729.12	729.12
A	659+44.04	-10.50	728.85	728.89
B	659+54.04	-10.50	728.58	728.66
C	659+64.04	-10.50	728.30	728.42
D	659+74.04	-10.50	728.01	728.16
E	659+84.04	-10.50	727.72	727.89
F	659+94.04	-10.50	727.42	727.60
G	660+04.04	-10.50	727.11	727.30
H	660+14.04	-10.50	726.80	726.98
I	660+24.04	-10.50	726.48	726.64
J	660+34.04	-10.50	726.16	726.29
K	660+44.04	-10.50	725.83	725.92
L	660+54.04	-10.50	725.49	725.55
☉ Brg. North Abut.	660+65.63	-10.50	725.10	725.10
Back of North Abut.	660+67.96	-10.50	725.02	725.02



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown below, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

**FILLET HEIGHTS**

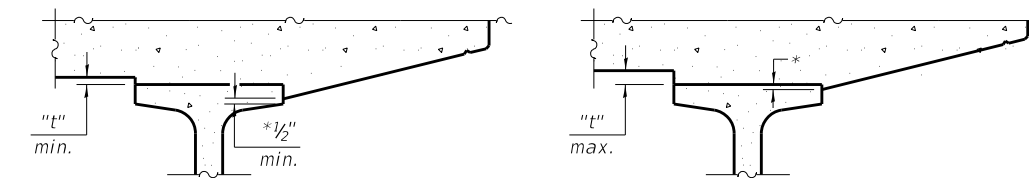


**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

Note:  
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown in these plans.

Beam No.	A1	A2	A3
1 & 7	1 3/8"	2"	1 3/8"
2 thru 6	1 5/8"	2 1/4"	1 5/8"



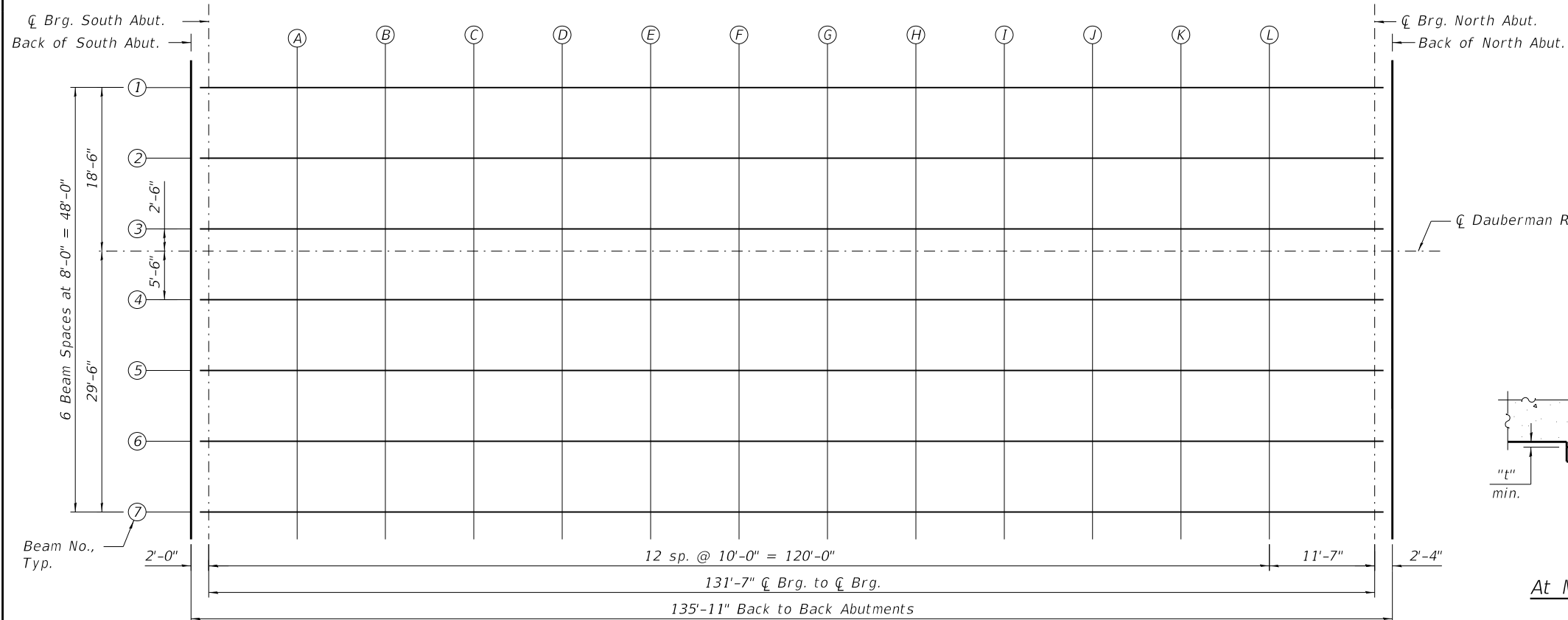
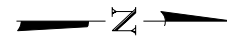
**At Minimum Fillet**

**At Maximum Fillet**

\* Variable (not less than 1/2")

**NOTE:**

Top of deck elevations shown on this sheet do not include adjustments for the 3/8" polymer overlay.



**PLAN**

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS I  
STRUCTURE NO. 045-3402**

SHEET NO. 3 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	248
CONTRACT NO. 61H95				

ILLINOIS FED. AID PROJECT

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of South Abut.	659+32.04	-2.50	729.33	729.33
☉ Brg. South Abut.	659+34.04	-2.50	729.28	729.28
A	659+44.04	-2.50	729.01	729.05
B	659+54.04	-2.50	728.74	728.82
C	659+64.04	-2.50	728.46	728.58
D	659+74.04	-2.50	728.17	728.32
E	659+84.04	-2.50	727.88	728.05
F	659+94.04	-2.50	727.58	727.76
G	660+04.04	-2.50	727.27	727.46
H	660+14.04	-2.50	726.96	727.14
I	660+24.04	-2.50	726.64	726.80
J	660+34.04	-2.50	726.32	726.45
K	660+44.04	-2.50	725.99	726.08
L	660+54.04	-2.50	725.65	725.71
☉ Brg. North Abut.	660+65.63	-2.50	725.26	725.26
Back of North Abut.	660+67.96	-2.50	725.18	725.18

**☉ DAUBERMAN ROAD & PGL**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of South Abut.	659+32.04	0.00	729.38	729.38
☉ Brg. South Abut.	659+34.04	0.00	729.33	729.33
A	659+44.04	0.00	729.06	729.10
B	659+54.04	0.00	728.79	728.87
C	659+64.04	0.00	728.51	728.63
D	659+74.04	0.00	728.22	728.37
E	659+84.04	0.00	727.93	728.10
F	659+94.04	0.00	727.63	727.81
G	660+04.04	0.00	727.32	727.51
H	660+14.04	0.00	727.01	727.19
I	660+24.04	0.00	726.69	726.85
J	660+34.04	0.00	726.37	726.50
K	660+44.04	0.00	726.04	726.13
L	660+54.04	0.00	725.70	725.76
☉ Brg. North Abut.	660+65.63	0.00	725.31	725.31
Back of North Abut.	660+67.96	0.00	725.23	725.23

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of South Abut.	659+32.04	5.50	729.27	729.27
☉ Brg. South Abut.	659+34.04	5.50	729.22	729.22
A	659+44.04	5.50	728.95	728.99
B	659+54.04	5.50	728.68	728.76
C	659+64.04	5.50	728.40	728.52
D	659+74.04	5.50	728.11	728.26
E	659+84.04	5.50	727.82	727.99
F	659+94.04	5.50	727.52	727.70
G	660+04.04	5.50	727.21	727.40
H	660+14.04	5.50	726.90	727.08
I	660+24.04	5.50	726.58	726.74
J	660+34.04	5.50	726.26	726.39
K	660+44.04	5.50	725.93	726.02
L	660+54.04	5.50	725.59	725.65
☉ Brg. North Abut.	660+65.63	5.50	725.20	725.20
Back of North Abut.	660+67.96	5.50	725.12	725.12

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of South Abut.	659+32.04	13.50	729.11	729.11
☉ Brg. South Abut.	659+34.04	13.50	729.06	729.06
A	659+44.04	13.50	728.79	728.83
B	659+54.04	13.50	728.52	728.60
C	659+64.04	13.50	728.24	728.36
D	659+74.04	13.50	727.95	728.10
E	659+84.04	13.50	727.66	727.83
F	659+94.04	13.50	727.36	727.54
G	660+04.04	13.50	727.05	727.24
H	660+14.04	13.50	726.74	726.92
I	660+24.04	13.50	726.42	726.58
J	660+34.04	13.50	726.10	726.23
K	660+44.04	13.50	725.77	725.86
L	660+54.04	13.50	725.43	725.49
☉ Brg. North Abut.	660+65.63	13.50	725.04	725.04
Back of North Abut.	660+67.96	13.50	724.96	724.96

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of South Abut.	659+32.04	21.50	729.00	729.00
☉ Brg. South Abut.	659+34.04	21.50	728.95	728.95
A	659+44.04	21.50	728.68	728.73
B	659+54.04	21.50	728.41	728.49
C	659+64.04	21.50	728.13	728.25
D	659+74.04	21.50	727.84	728.00
E	659+84.04	21.50	727.55	727.73
F	659+94.04	21.50	727.25	727.44
G	660+04.04	21.50	726.94	727.13
H	660+14.04	21.50	726.63	726.81
I	660+24.04	21.50	726.32	726.48
J	660+34.04	21.50	725.99	726.12
K	660+44.04	21.50	725.66	725.76
L	660+54.04	21.50	725.33	725.38
☉ Brg. North Abut.	660+65.63	21.50	724.93	724.93
Back of North Abut.	660+67.96	21.50	724.85	724.85

**BEAM 7**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of South Abut.	659+32.04	29.50	729.12	729.12
☉ Brg. South Abut.	659+34.04	29.50	729.07	729.07
A	659+44.04	29.50	728.80	728.84
B	659+54.04	29.50	728.53	728.60
C	659+64.04	29.50	728.25	728.36
D	659+74.04	29.50	727.96	728.10
E	659+84.04	29.50	727.67	727.83
F	659+94.04	29.50	727.37	727.54
G	660+04.04	29.50	727.06	727.23
H	660+14.04	29.50	726.75	726.91
I	660+24.04	29.50	726.44	726.58
J	660+34.04	29.50	726.11	726.23
K	660+44.04	29.50	725.78	725.87
L	660+54.04	29.50	725.45	725.49
☉ Brg. North Abut.	660+65.63	29.50	725.05	725.05
Back of North Abut.	660+67.96	29.50	724.97	724.97

**NOTE:**  
Top of deck elevations shown on this sheet do not include adjustments for the 3/8" polymer overlay.

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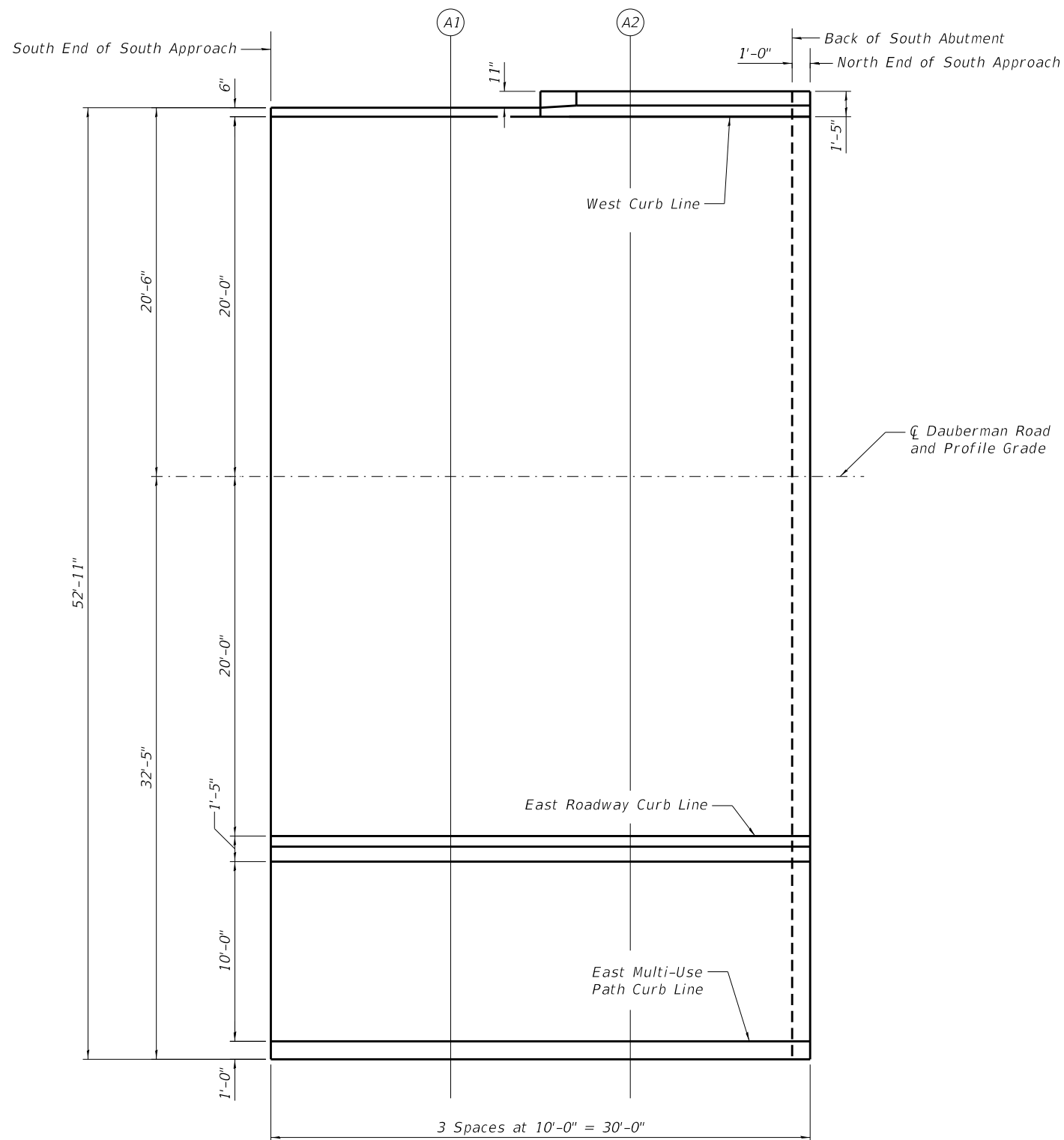
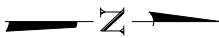
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS II  
STRUCTURE NO. 045-3402**

SHEET NO. 4 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	249
ILLINOIS FED. AID PROJECT			CONTRACT NO. 61H95	



PLAN

**NOTE:**

Approach slab elevations shown on this sheet do not include adjustments for the 3/8" polymer overlay.

**WEST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
South End of South Appr.	659+03.04	-20.00	729.72
A1	659+13.04	-20.00	729.47
A2	659+23.04	-20.00	729.21
North End of South Appr.	659+33.04	-20.00	728.95

**CL DAUBERMAN ROAD & PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations
South End of South Appr.	659+03.04	0.00	730.12
A1	659+13.04	0.00	729.87
A2	659+23.04	0.00	729.61
North End of South Appr.	659+33.04	0.00	729.35

**EAST ROADWAY CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
South End of South Appr.	659+03.04	20.00	729.72
A1	659+13.04	20.00	729.47
A2	659+23.04	20.00	729.21
North End of South Appr.	659+33.04	20.00	728.95

**EAST MULTI-USE PATH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
South End of South Appr.	659+03.04	31.42	729.89
A1	659+13.04	31.42	729.64
A2	659+23.04	31.42	729.39
North End of South Appr.	659+33.04	31.42	729.12

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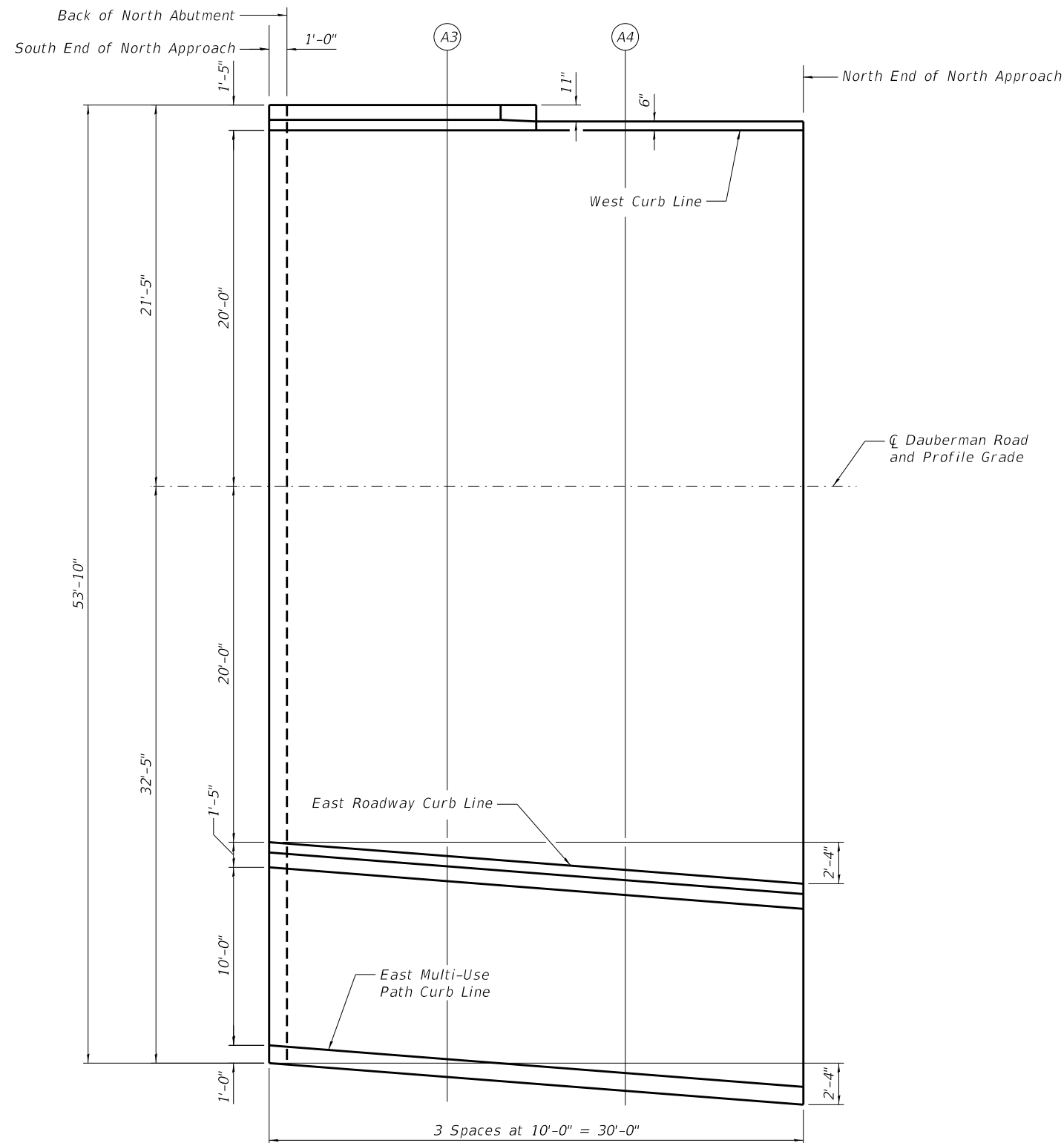
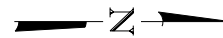
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TOP OF SOUTH APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 045-3402

SHEET NO. 5 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	250
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				





PLAN

**NOTE:**

Approach slab elevations shown on this sheet do not include adjustments for the 3/8" polymer overlay.

**WEST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
South End of North Appr.	660+66.96	-20.00	724.86
A3	660+76.96	-20.00	724.51
A4	660+86.96	-20.00	724.15
North End of North Appr.	660+96.96	-20.00	723.79

**CL DAUBERMAN ROAD & PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations
South End of North Appr.	660+66.96	0.00	725.26
A3	660+76.96	0.00	724.91
A4	660+86.96	0.00	724.55
North End of North Appr.	660+96.96	0.00	724.19

**EAST ROADWAY CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
South End of North Appr.	660+66.96	20.00	724.86
A3	660+76.96	20.78	724.50
A4	660+86.96	21.56	724.12
North End of North Appr.	660+96.96	22.33	723.75

**EAST MULTI-USE PATH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
South End of North Appr.	660+66.96	31.42	725.03
A3	660+76.96	32.19	724.67
A4	660+86.96	32.97	724.29
North End of North Appr.	660+96.96	33.75	723.92

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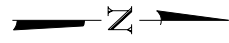
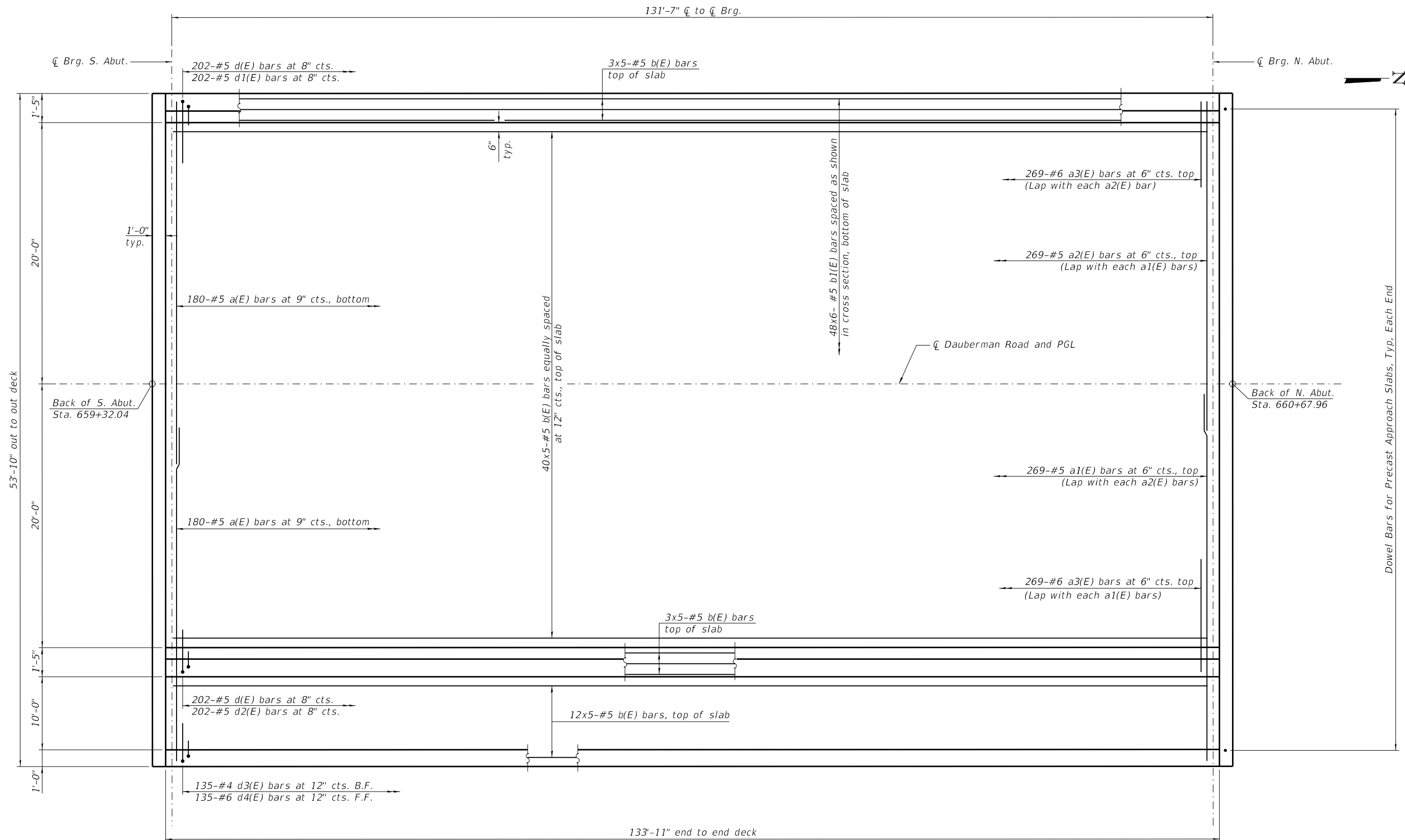
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DEPARTMENT OF TRANSPORTATION

TOP OF NORTH APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 045-3402

SHEET NO. 6 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	251
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



**MINIMUM BAR LAP**  
#5 bar = 3'-6"

**PLAN**

Notes:  
See sheet 12 of 38 for superstructure details and Bill of Material.  
Bars indicated thus 40 x 5-#5 etc. indicates 40 lines of bars with 5 lengths per line.  
See sheet 10 of 38 for parapet reinforcement.  
See sheet 8 of 38 for deck cross section.

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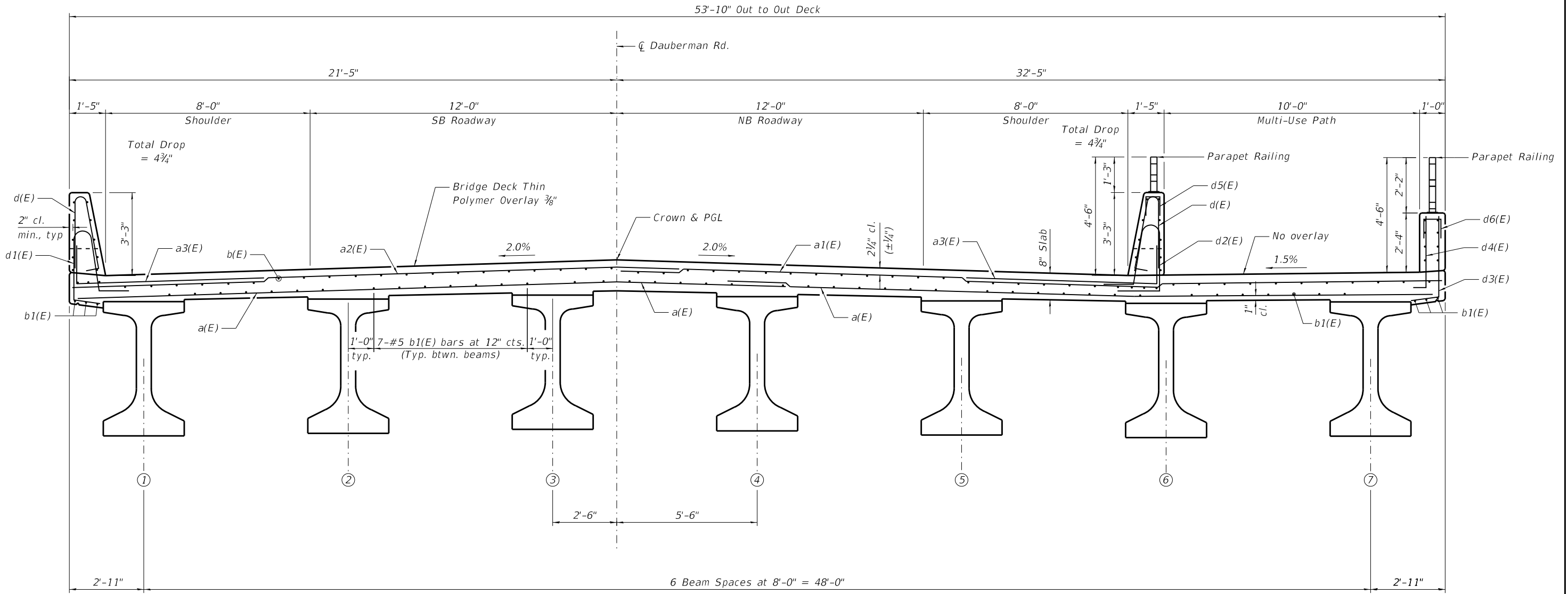
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**STATE OF ILLINOIS  
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**SUPERSTRUCTURE PLAN  
STRUCTURE NO. 045-3402**

SHEET NO. 7 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	252
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



**CROSS SECTION**  
(Looking North)

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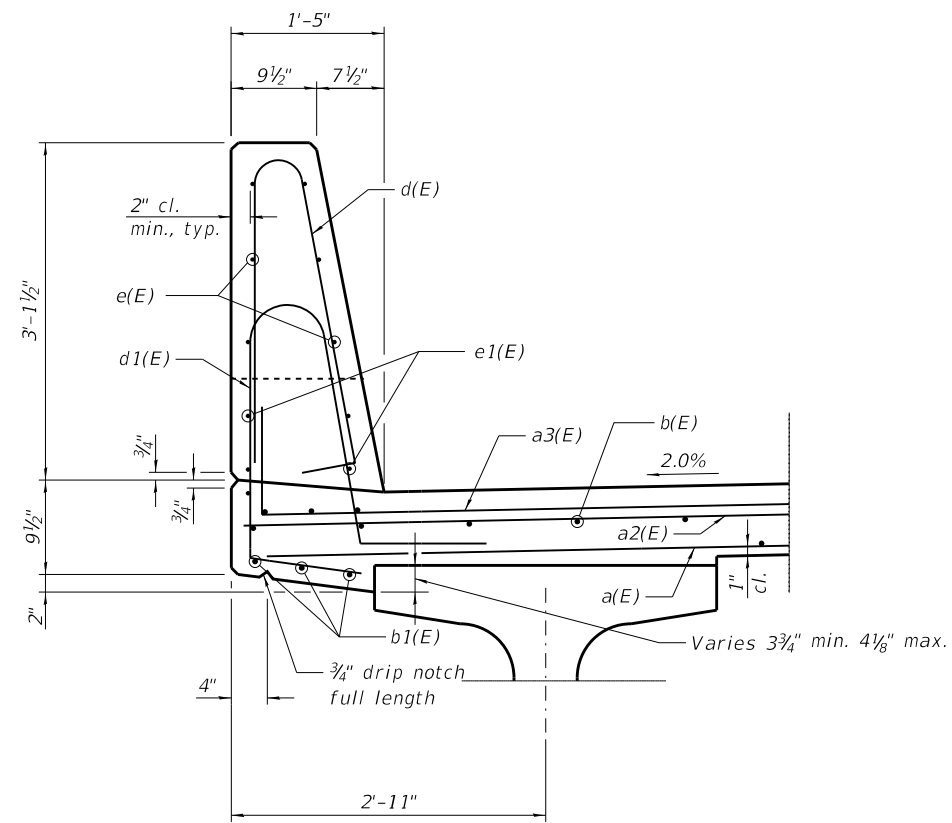
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**DEPARTMENT OF TRANSPORTATION**

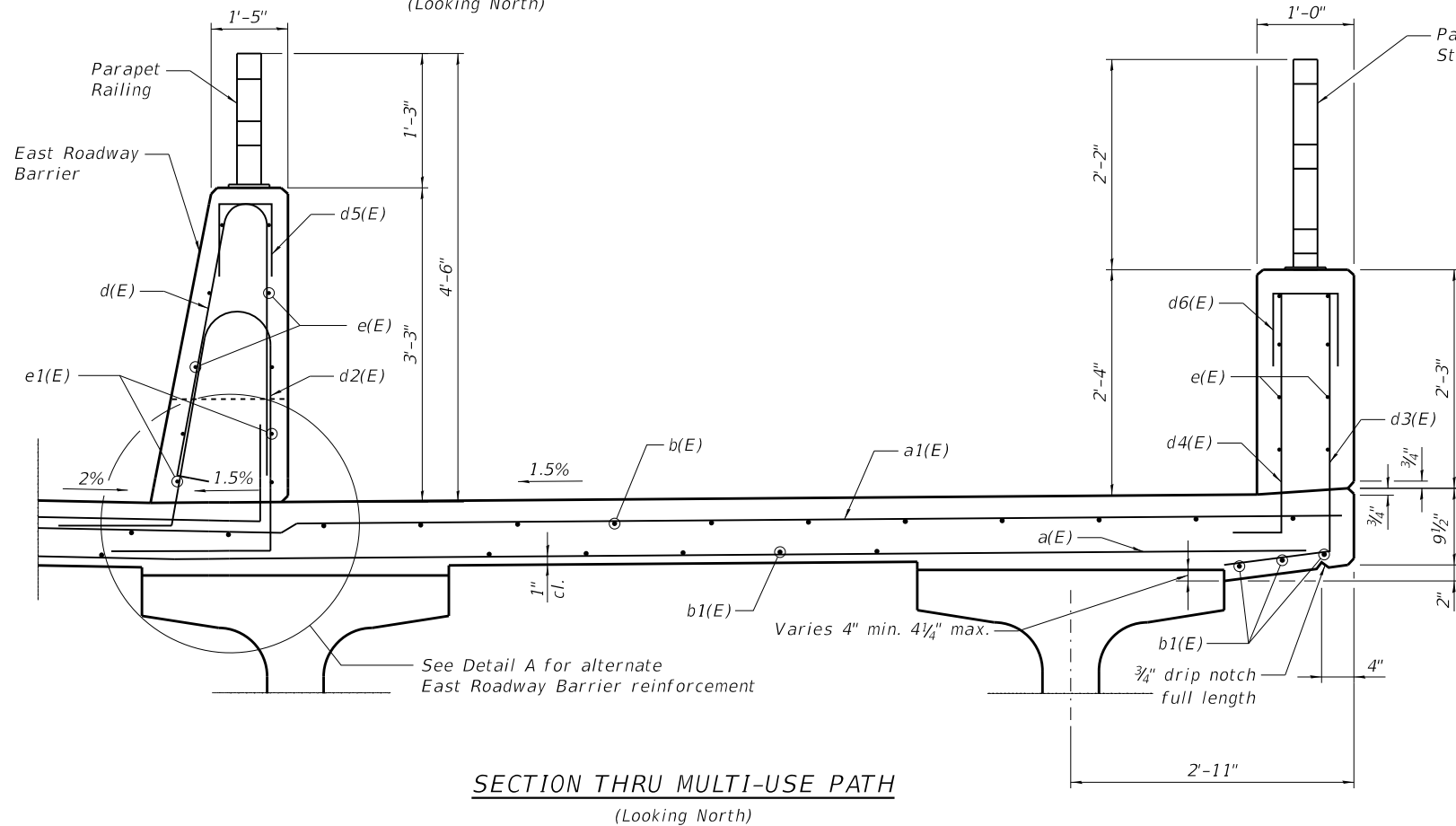
**SUPERSTRUCTURE CROSS SECTION**  
**STRUCTURE NO. 045-3402**

SHEET NO. 8 OF 38 SHEETS

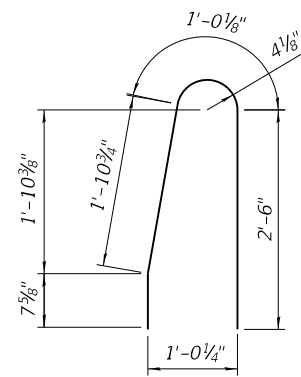
F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 253
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



**SECTION THRU WEST ROADWAY PARAPET**  
(Looking North)

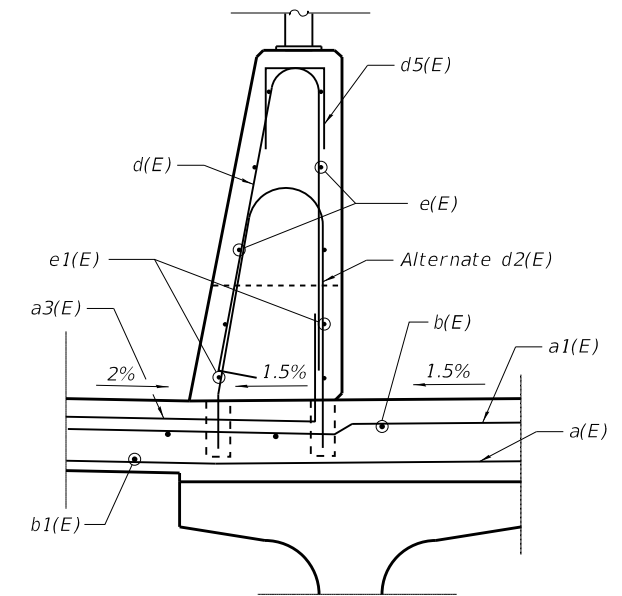


**SECTION THRU MULTI-USE PATH**  
(Looking North)



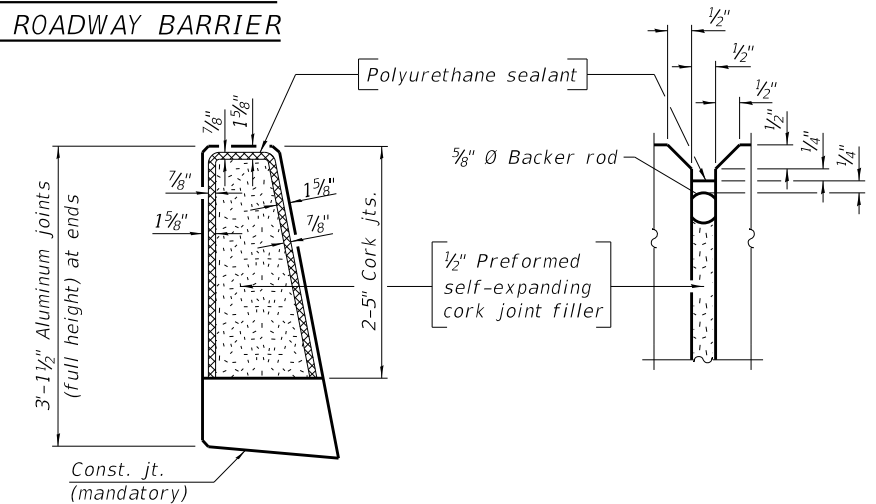
**ALTERNATE BAR d2(E)**  
At East Roadway Barrier

Drill and set Alternate #5 d2(E) bar according to Article 509.06 of the Standard Specifications. Drilled holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of hole shall not exceed 6". The Contractor shall take all necessary precautions to prevent drilled hole interference with deck reinforcement bars. Locate longitudinal bars to miss drilled locations. Locate drilled holes to miss transverse bars in deck.  
If alternate parapet reinforcement is chosen, cost of alternate d2(E) bars, drilling, and setting is included with the cost of Reinforcement Bars, Epoxy Coated. No additional payment will be made.  
Drill and set alternate shall only be allowed at the East Roadway Barrier.



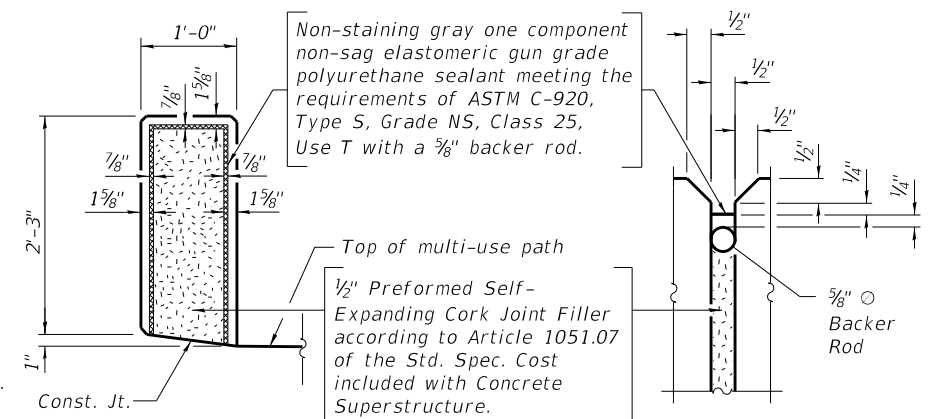
**DETAIL A**

**DRILL AND SET ALTERNATE AT EAST ROADWAY BARRIER**



**ROADWAY PARAPET/BARRIER JOINT DETAILS**

Notes:  
The 1/8" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.  
The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.  
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
Reinforcement bars shall not pass thru aluminum sheets and cork joint filler.



**MULTI-USE PATH PARAPET JOINT DETAILS**

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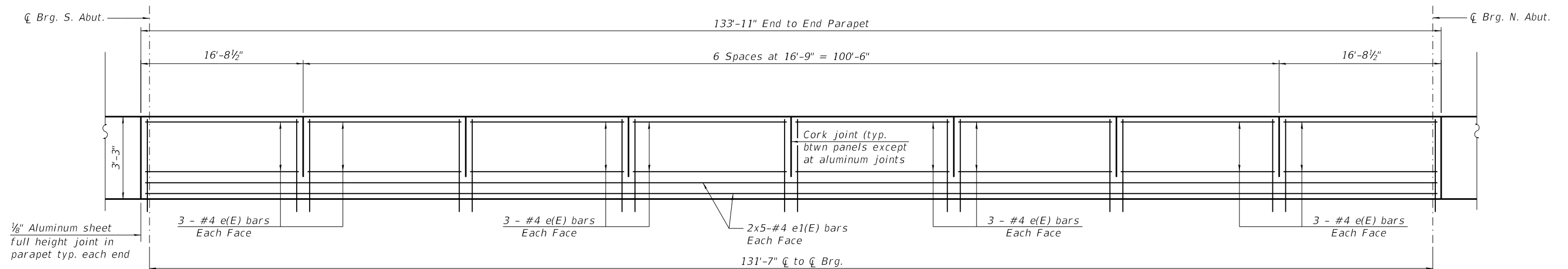
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PARAPET AND PATH CROSS SECTIONS  
STRUCTURE NO. 045-3402

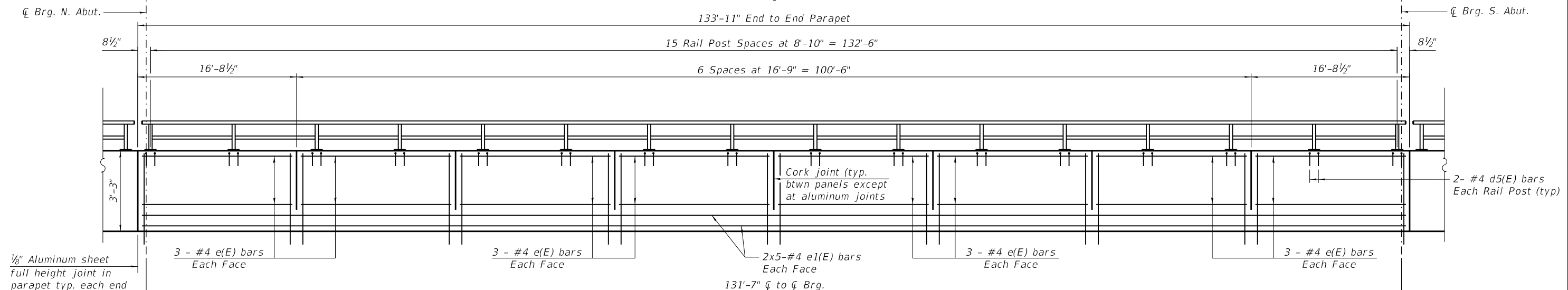
SHEET NO. 9 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	254
CONTRACT NO. 61H95				

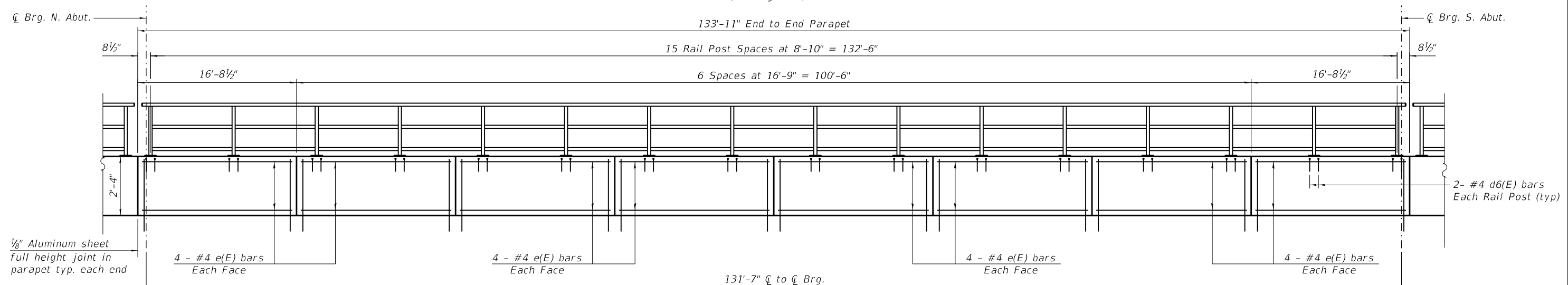
ILLINOIS FED. AID PROJECT



**INSIDE ELEVATION OF WEST ROADWAY PARAPET**  
(Looking West)



**INSIDE ELEVATION OF EAST ROADWAY BARRIER**  
(Looking East)



**INSIDE ELEVATION OF EAST MULTI-USE LANE PARAPET**  
(Looking East)

**MINIMUM BAR LAP**  
#4 bar = 2'-5"

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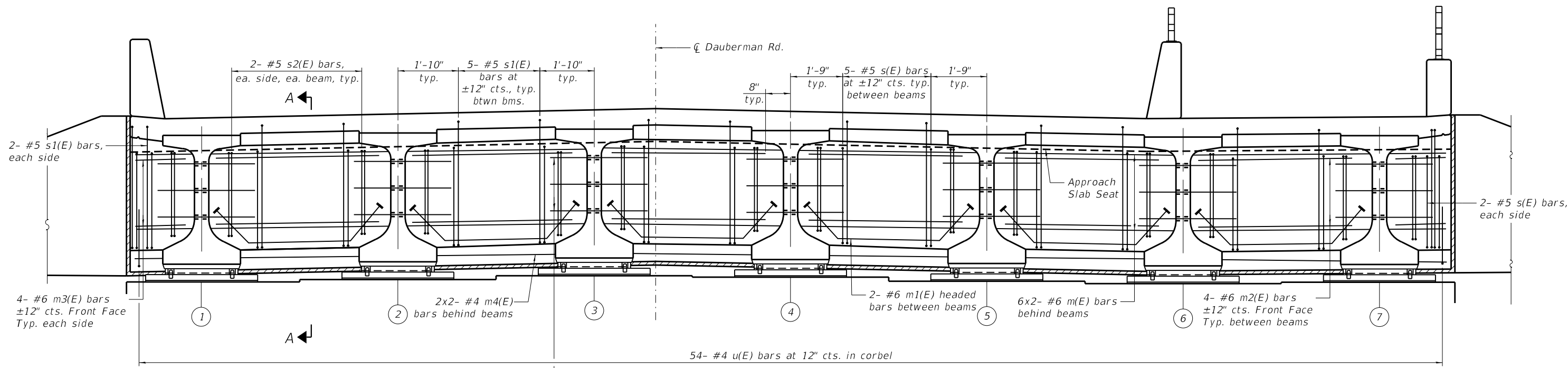
USER NAME = dkierpiec	DESIGNED - HB	REVISED -
PLOT SCALE = NTS	CHECKED - TJJ	REVISED -
PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PARAPET ELEVATIONS  
STRUCTURE NO. 045-3402**

SHEET NO. 10 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	255
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

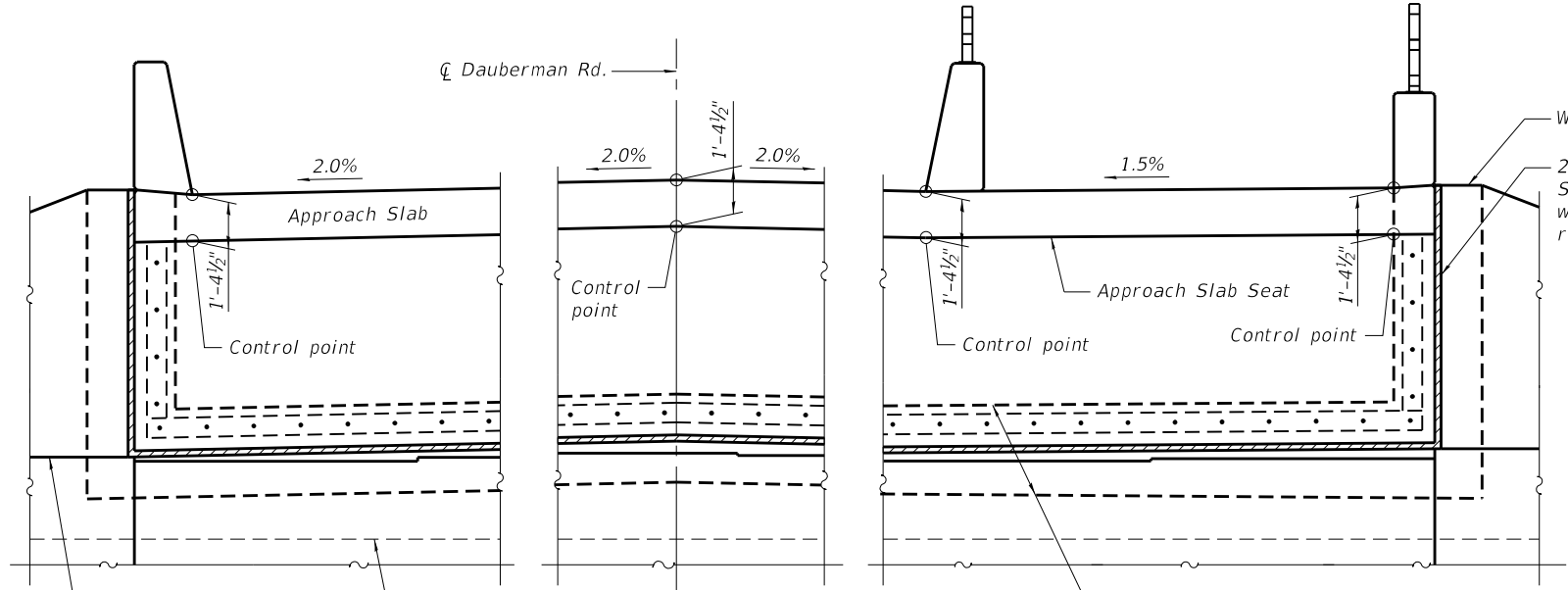


3- #5 m5(E) bars, typ. placed thru 1 1/4"  $\circ$  formed holes in each beam, 4-0" long. Secure bars such that they remain centered and level during the pouring of the concrete.

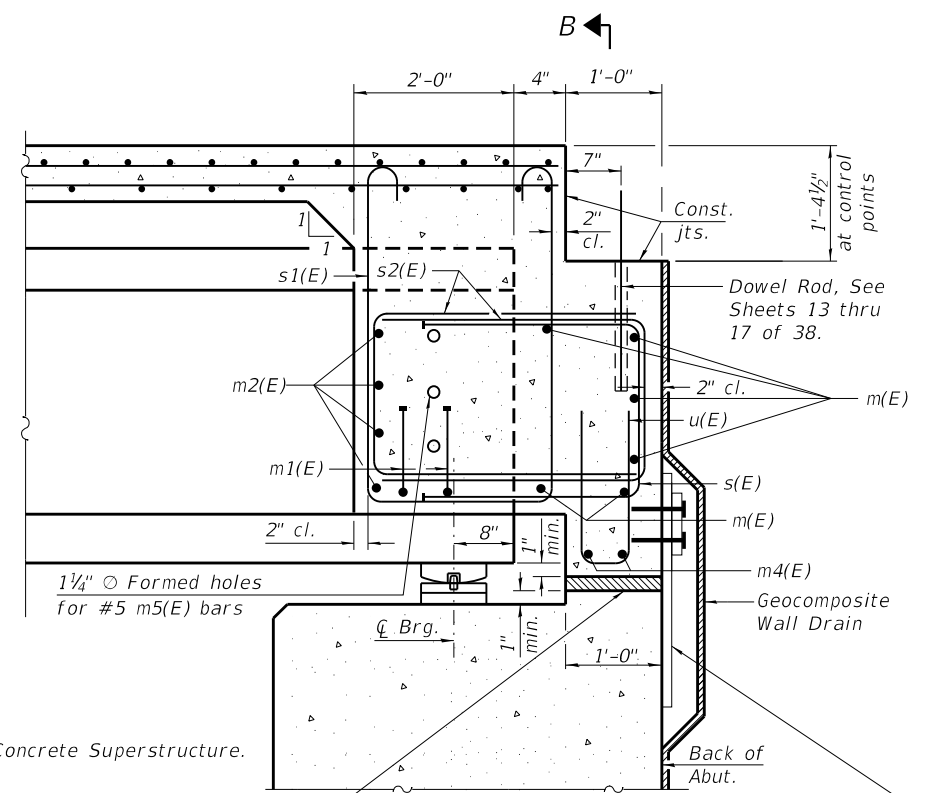
**DIAPHRAGM ELEVATION AT ABUTMENT**  
(North Abutment Shown, South Abutment Similar)

**Notes:**

Reinforcement bars in diaphragm are billed with superstructure on sheet 12 of 38. Concrete in diaphragm is included with Concrete Superstructure on sheet 12 of 38. For details of bars s(E), s1(E), s2(E) and u(E) see sheet 12 of 38. The approach slab seat shall have a constant slopes determined from the control points shown. Bars indicated thus 6x2-#6 etc. indicates 6 lines of bars with 2 lengths per line.



**SECTION B-B**



**SECTION A-A**

(Fixed Bearing shown for South Abutment Elastomeric Bearing at North Abutment Similar)

\* Cost included with Concrete Superstructure.

2" PJF (per Article 1051.09 of the Standard Specifications) full width and vertically at edges bonded to abutment cap with suitable adhesive as recommended by supplier. \*

Fabric Reinforced Elastomeric Mat according to Section 1028 of the Standard Specifications. Fabric mat shall be 24" wide and attached full width and vertically at edges to the abutment cap with a 3/8" x 5" steel plate and 1/2"  $\circ$  studs with nuts and washers at 12" cts. according to Article 1006.29(d) of the Standard Specifications. \*

**MINIMUM BAR LAP**

#4 bar = 2'-5"  
#6 bar = 3'-7"

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PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

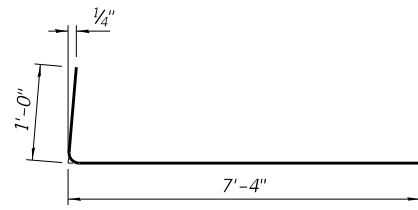
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DIAPHRAGM DETAILS**  
**STRUCTURE NO. 045-3402**

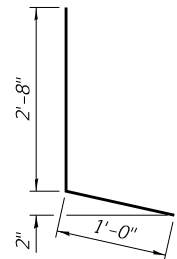
SHEET NO. 11 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	256
CONTRACT NO. 61H95				

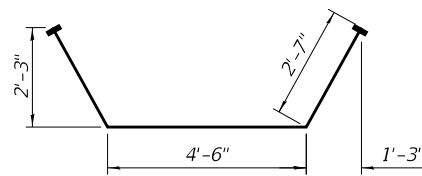
ILLINOIS FED. AID PROJECT



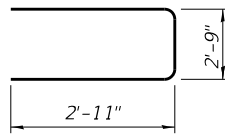
BAR a3(E)



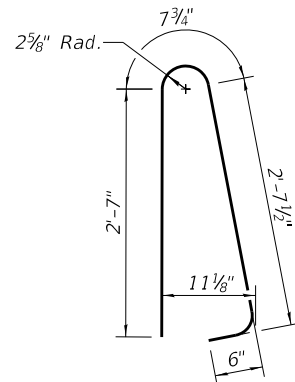
BAR d3(E)



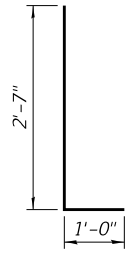
BAR m1(E)  
(Headed)



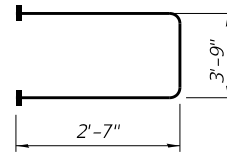
BARS s2(E)



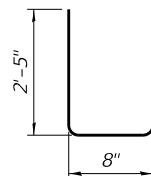
BAR d(E)



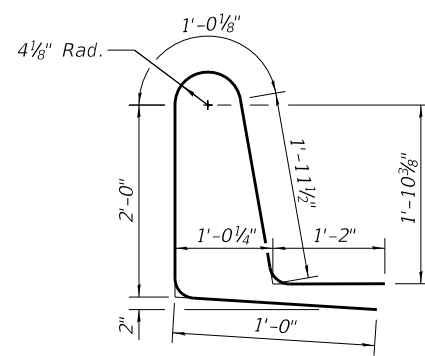
BAR d4(E)



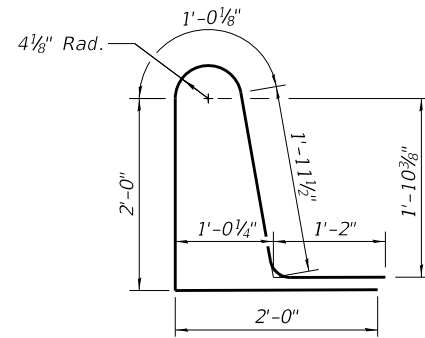
BARS s(E)  
(Headed)



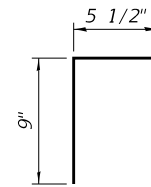
BAR u(E)



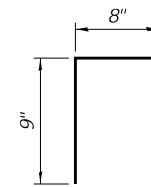
BAR d1(E)



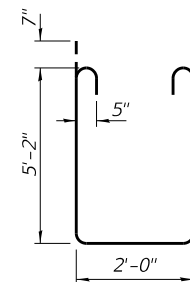
BAR d2(E)



BAR d5(E)



BAR d6(E)



BAR s1(E)

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	360	#5	28'-7"	—
a1(E)	269	#5	32'-6"	—
a2(E)	269	#5	24'-8"	—
a3(E)	538	#6	8'-4"	┌
b(E)	290	#5	29'-9"	—
b1(E)	288	#5	25'-5"	—
d(E)	404	#5	6'-5"	┌
d1(E)	202	#5	7'-2"	┌
d2(E)	202	#5	8'-2"	┌
d3(E)	135	#4	3'-8"	┌
d4(E)	135	#6	3'-7"	┌
d5(E)	32	#4	1'-11 1/2"	┌
d6(E)	32	#4	2'-2"	┌
e(E)	160	#4	16'-4"	—
e1(E)	40	#4	28'-10"	—
m(E)	24	#6	28'-8"	—
m1(E)	24	#6	9'-8"	┌
m2(E)	48	#6	6'-8"	—
m3(E)	16	#6	2'-1"	—
m4(E)	8	#4	28'-1"	—
m5(E)	42	#5	4'-0"	—
s(E)	68	#5	8'-11"	┌
s1(E)	68	#5	13'-6"	┌
s2(E)	56	#5	9'-7"	┌
u(E)	108	#4	5'-5"	┌
Reinforcement Bars, Epoxy Coated			Lbs.	64,520
Concrete Superstructure			Cu. Yd.	289.9
Protective Coat			Sq. Yd.	182
Bridge Deck Thin Polymer Overlay 3/8"			Sq. Yd.	596

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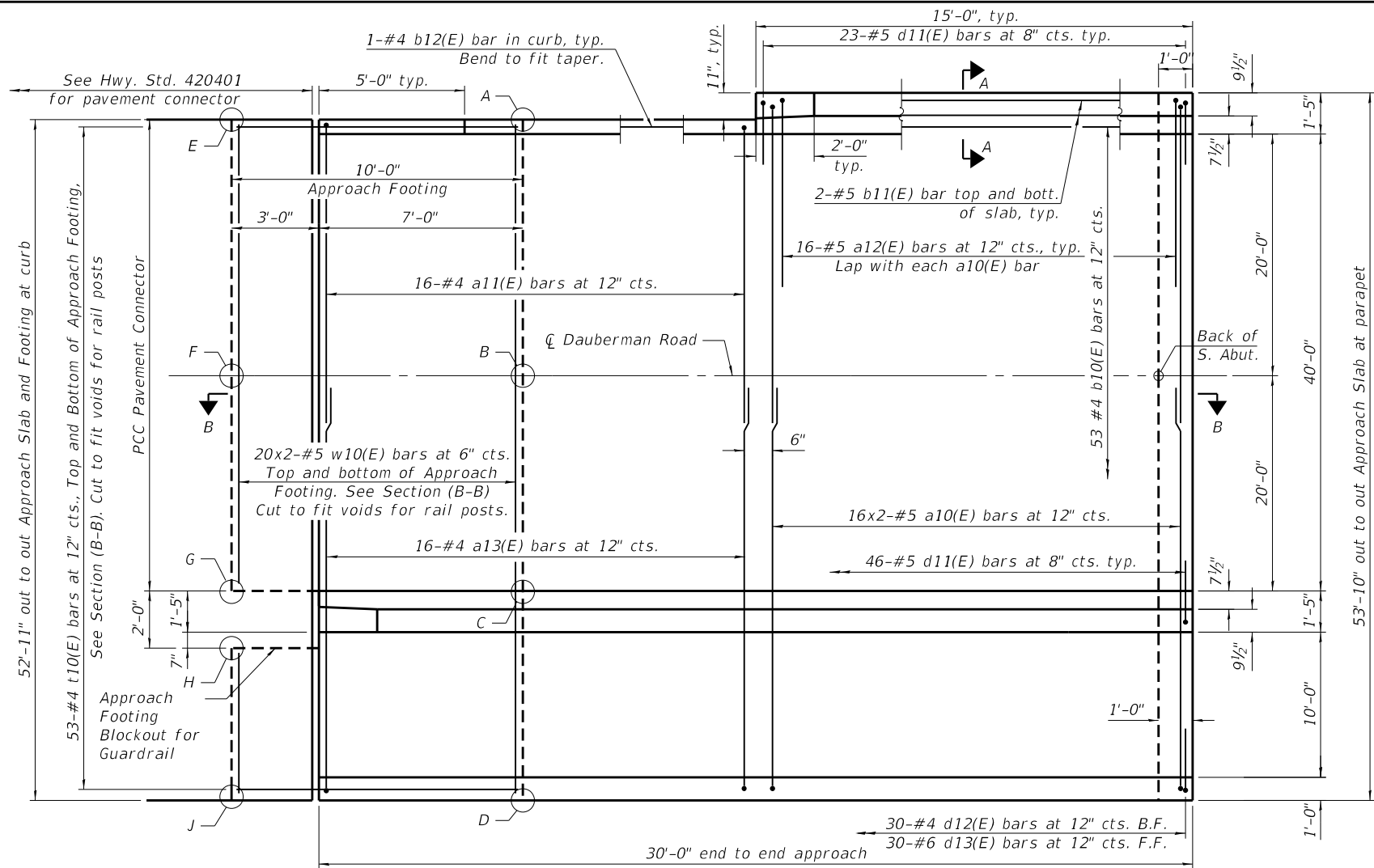
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	CHECKED - TJJ	REVISED -
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PLOT DATE = 11/18/2022	CHECKED - TJJ	REVISED -

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SUPERSTRUCTURE DETAILS  
STRUCTURE NO. 045-3402

SHEET NO. 12 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	257
			CONTRACT NO. 61H95	
ILLINOIS FED. AID PROJECT				

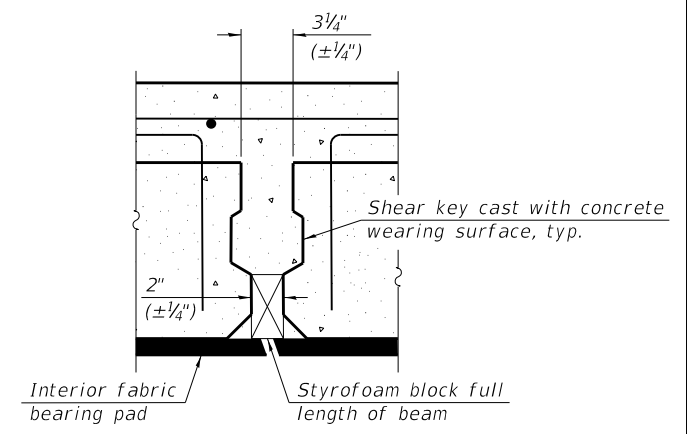


**PLAN**

**TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING**

South Approach			
Point	Offset	Top	Bottom
A	-20.50	728.16	727.33
B	0.00	728.57	727.74
C	20.00	728.17	727.34
D	32.42	728.36	727.52
E	-20.50	728.41	727.57
F	0.00	728.82	727.98
G	20.00	728.42	727.58
H	22.00	728.45	727.61
J	32.42	728.60	727.77

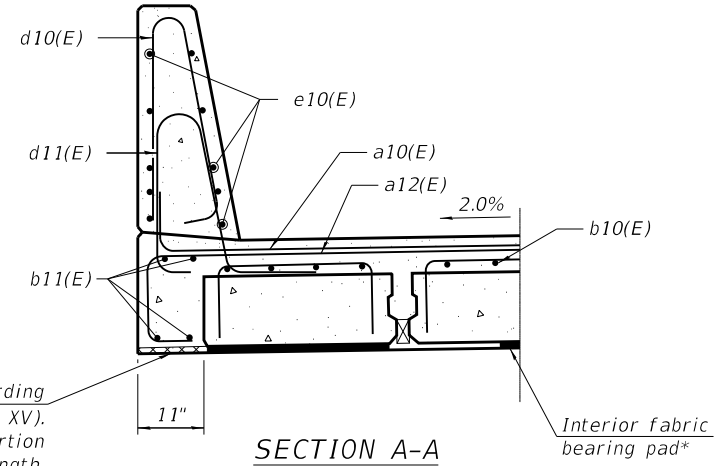
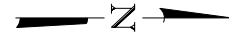
\* Fabric bearing pads at the expansion end shall be recessed 1/4" into the approach footing and bonded. Adjusting shims, when required, shall be bonded to the top of the fabric bearing pads.



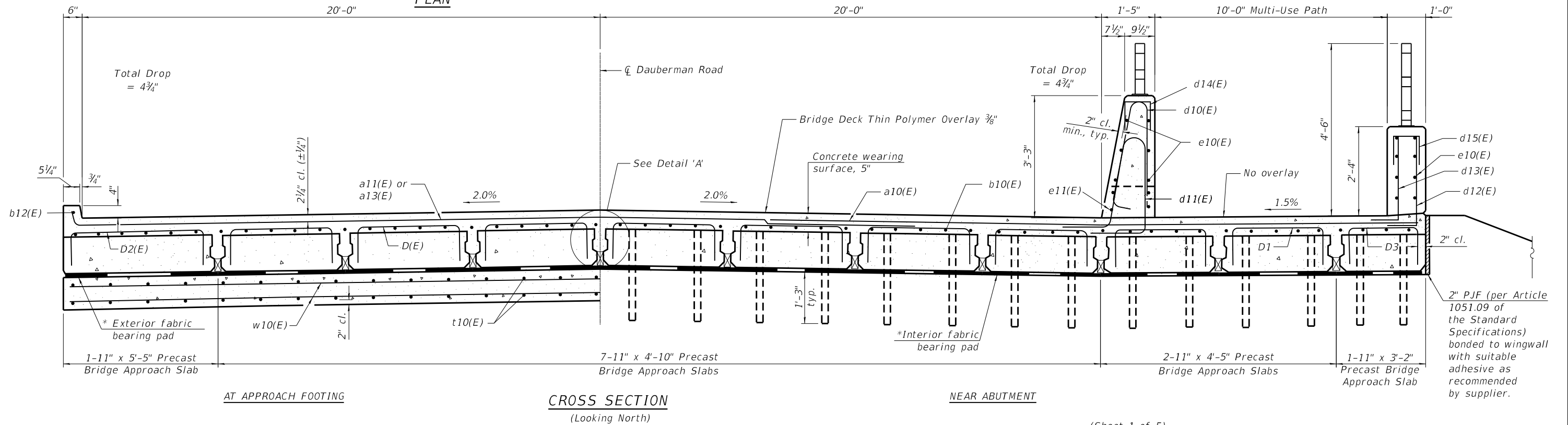
**DETAIL 'A'**

**MINIMUM BAR LAP**

#4 bar = 2'-7"  
#5 bar = 3'-2"



**SECTION A-A**



**CROSS SECTION (Looking North)**

(Sheet 1 of 5)

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USER NAME = dkierpiec	DESIGNED - HB	REVISD -
PLOT SCALE = NTS	CHECKED - TJJ	REVISD -
PLOT DATE = 11/18/2022	DRAWN - HB	REVISD -
	CHECKED - TJJ	REVISD -

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DEPARTMENT OF TRANSPORTATION**

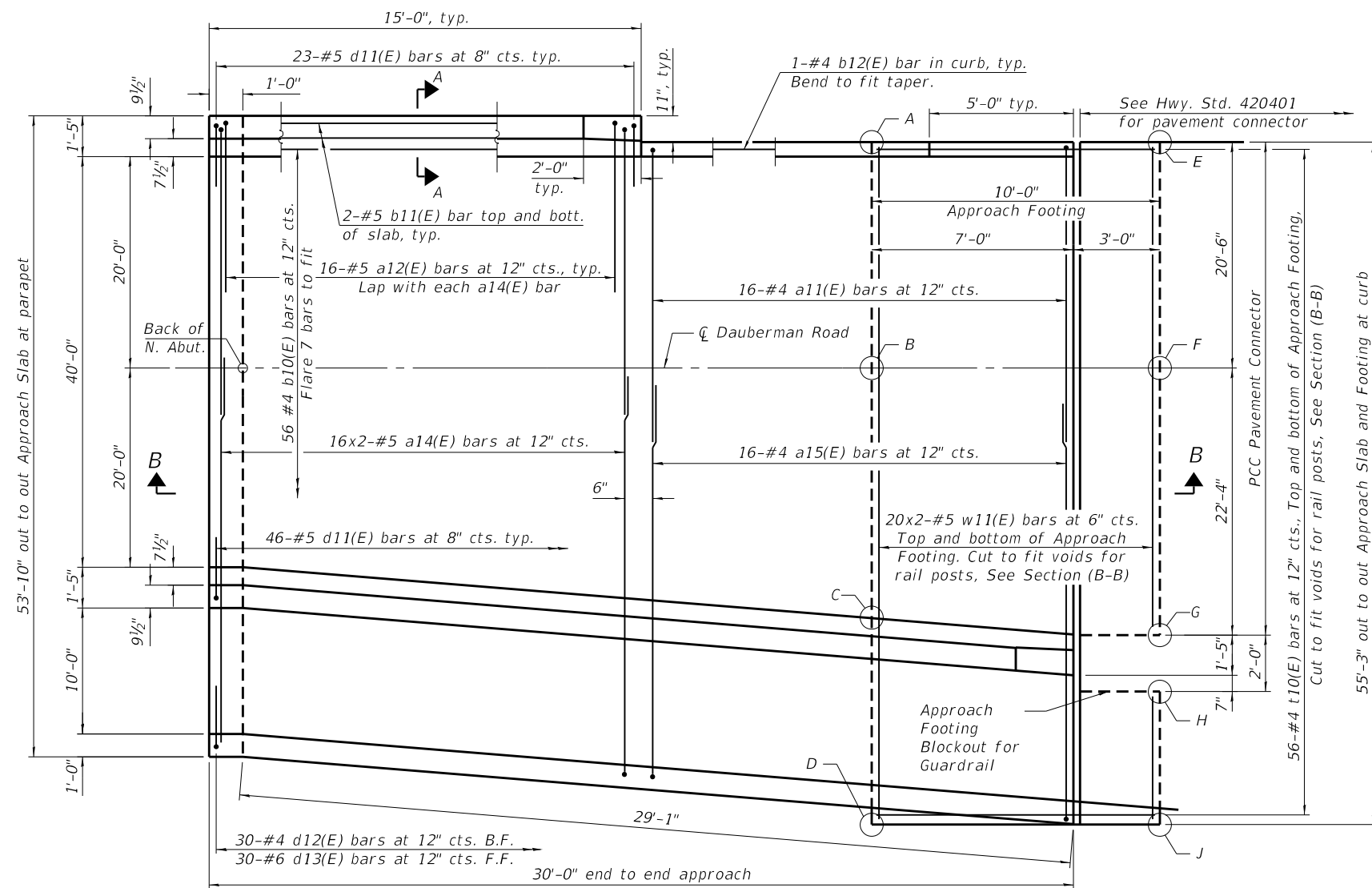
**SOUTH PRECAST BRIDGE APPROACH SLAB  
STRUCTURE NO. 045-3402**

SHEET NO. 13 OF 38 SHEETS

F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 258
CONTRACT NO. 61H95				

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**TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING**

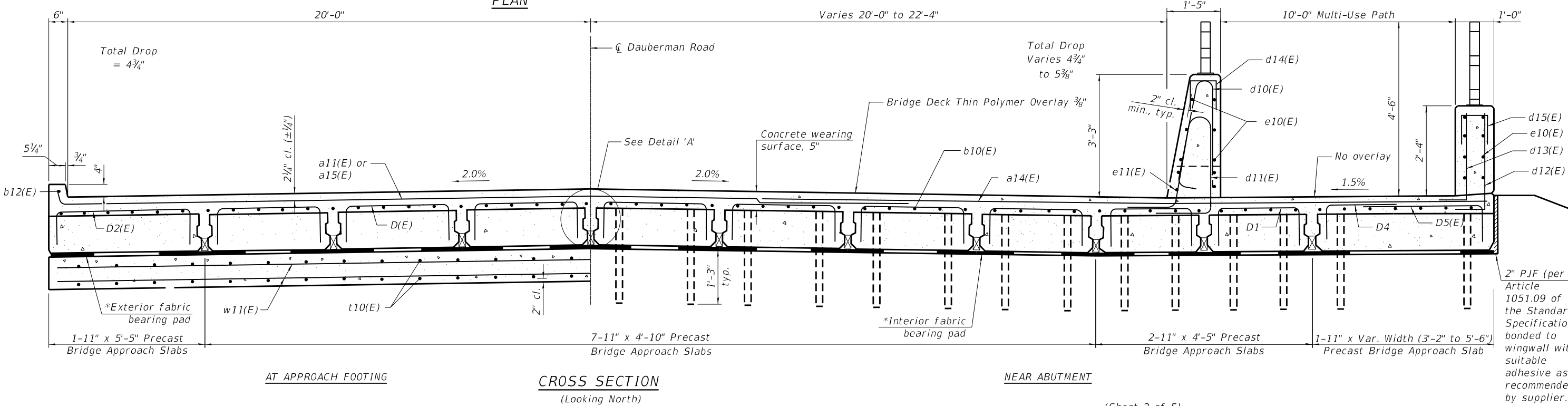
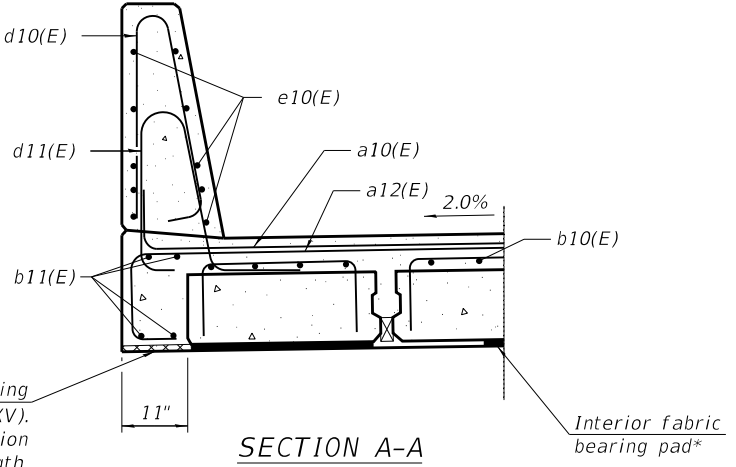
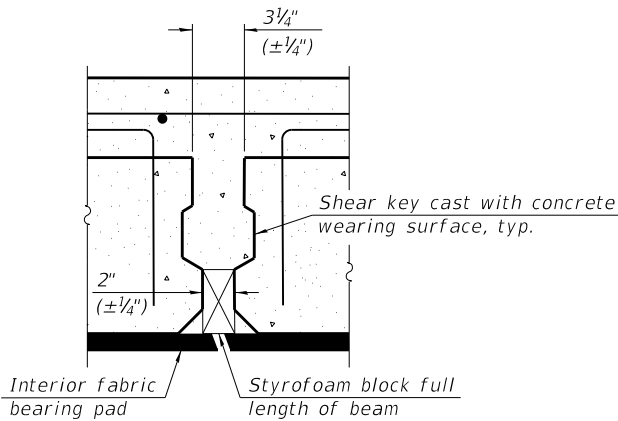
North Approach			
Point	Offset	Top	Bottom
A	-20.50	722.66	721.83
B	0.00	723.07	722.24
C	21.77	722.64	721.80
D	34.75	722.83	722.00
E	-20.50	722.30	721.46
F	0.00	722.71	721.87
G	22.33	722.26	721.43
H	24.33	722.29	721.46
J	34.75	722.45	721.61

\* Fabric bearing pads at the expansion end shall be recessed  $\frac{1}{4}$ " into the approach footing and bonded. Adjusting shims, when required, shall be bonded to the top of the fabric bearing pads.

**MINIMUM LAP BAR**

#4 bar = 2'-7"  
#5 bar = 3'-2"

$\frac{1}{2}$ " Cellular polystyrene according to ASTM C 578 (Types V, VII or XV). Placed under cast in place portion of approach slab full length.



**AT APPROACH FOOTING**

**CROSS SECTION (Looking North)**

**NEAR ABUTMENT**

(Sheet 2 of 5)



USER NAME = dkierpiec	DESIGNED - HB	REVISD -
PLOT SCALE = NTS	CHECKED - TJJ	REVISD -
PLOT DATE = 11/18/2022	DRAWN - HB	REVISD -
	CHECKED - TJJ	REVISD -

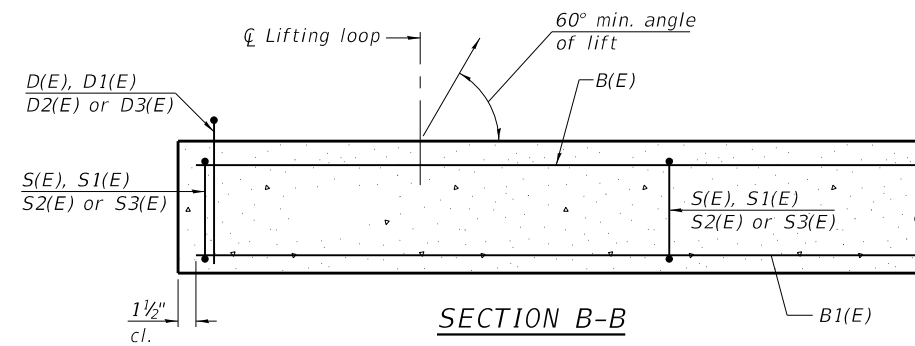
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**NORTH PRECAST BRIDGE APPROACH SLAB  
STRUCTURE NO. 045-3402**

SHEET NO. 14 OF 38 SHEETS

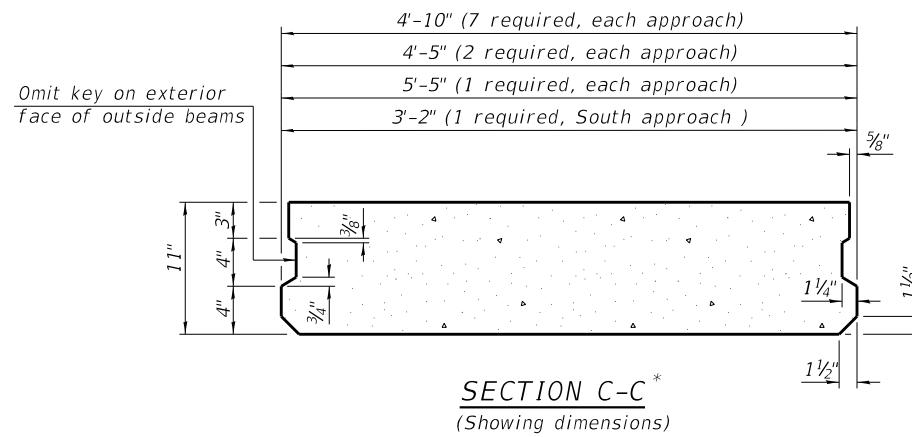
F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 259
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

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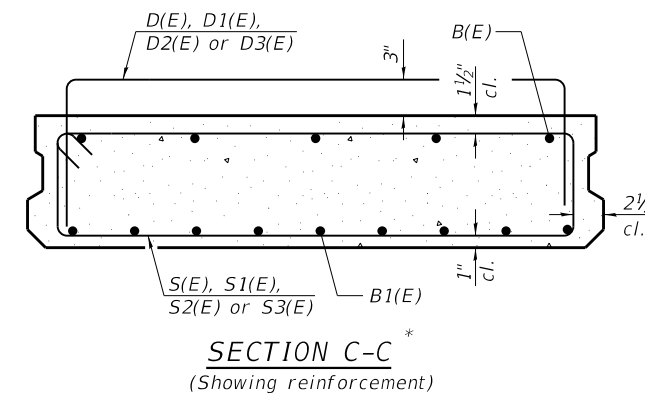


Beam Location	No.	
	Top	Bot.
W Roadway Interior	6	12
X West Exterior	6	13
Y East Exterior	4	8
Z Multi-use Path Interior	5	11

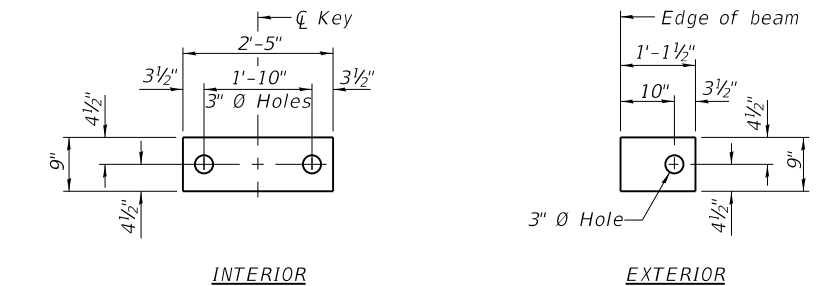
BARS B(E) and B1(E)



SECTION C-C\*  
(Showing dimensions)

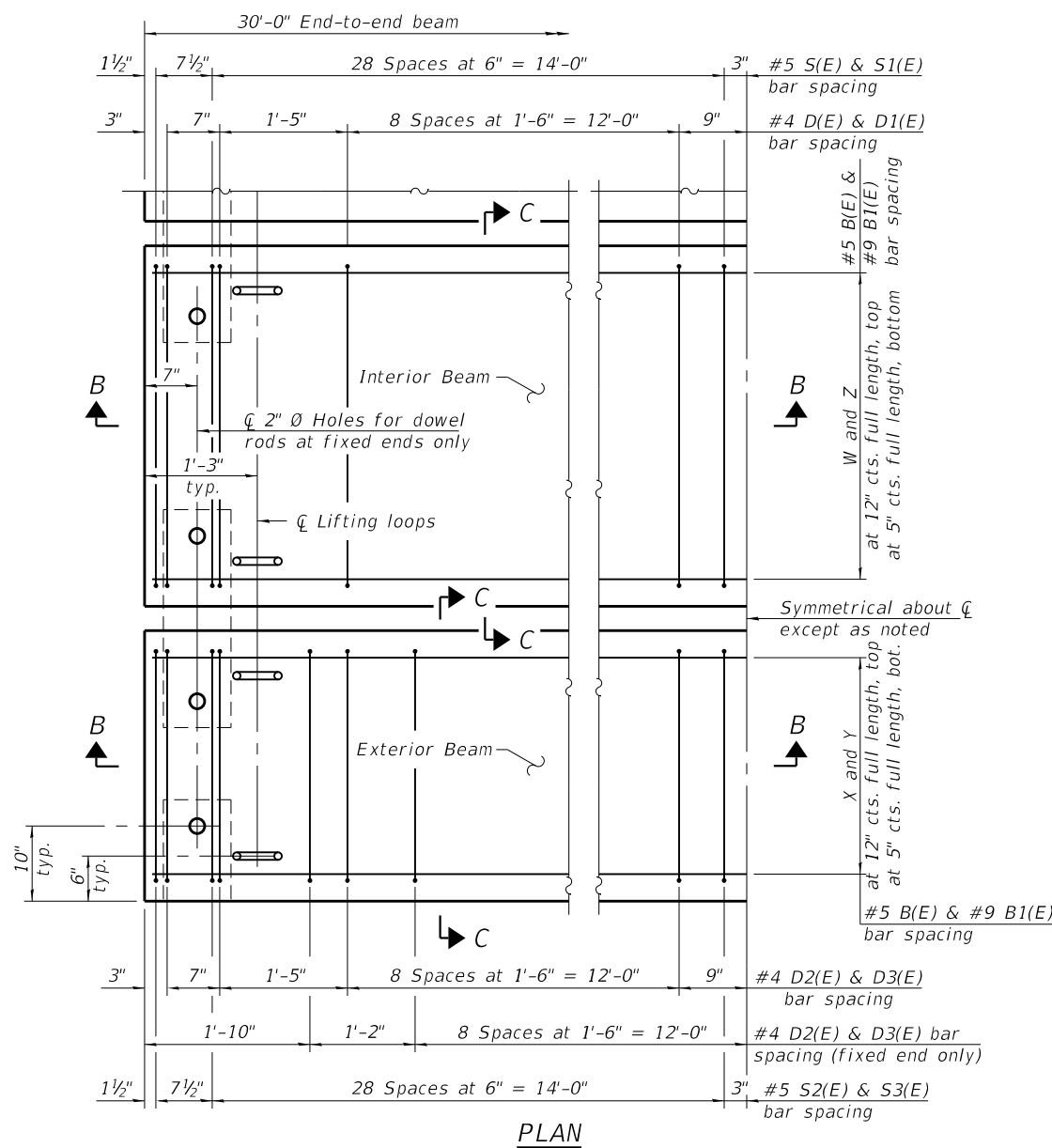


SECTION C-C\*  
(Showing reinforcement)



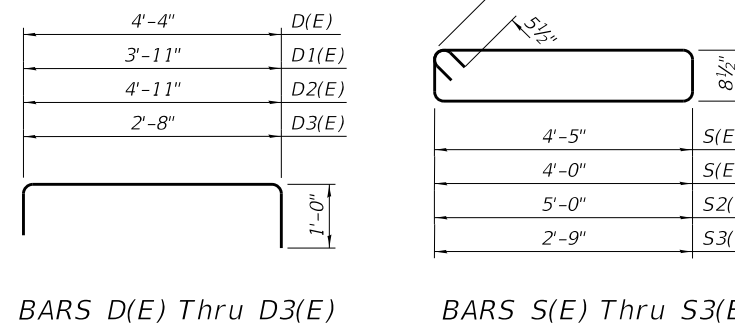
FABRIC BEARING PAD

Notes:  
 Bearing pads at fixed end shall be 1/2" thick and bearing pads at expansion end shall be 3/4" thick.  
 Omit holes for fabric bearing pads at approach slab footing end of beams.



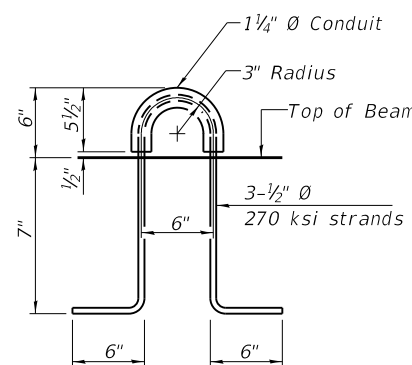
PLAN

(Northwest Corner, South Approach Shown, Others Similar)



BARS D(E) Thru D3(E)

BARS S(E) Thru S3(E)



LIFTING LOOP DETAIL

(An alternate lifting loop with a proof load of 25,000 lbs. and utilized according to the manufacturer's recommendations may be used)

BAR LIST  
EACH ROADWAY INTERIOR BEAM  
(For information only)

Bar	No.	Size	Length	Shape
B(E)	6	#5	29'-8"	—
B1(E)	12	#9	29'-8"	—
D(E)	22	#4	6'-4"	┌
S(E)	58	#5	11'-2"	▬

BAR LIST  
EACH WEST EXTERIOR BEAM  
(For information only)

Bar	No.	Size	Length	Shape
B(E)	6	#5	29'-8"	—
B1(E)	13	#9	29'-8"	—
D2(E)	32	#4	6'-11"	┌
S2(E)	58	#5	12'-4"	▬

BAR LIST  
EACH MULTI-USE PATH  
INTERIOR BEAM  
(For information only)

Bar	No.	Size	Length	Shape
B(E)	5	#5	29'-8"	—
B1(E)	11	#9	29'-8"	—
D1(E)	22	#4	5'-11"	┌
S1(E)	58	#5	10'-4"	▬

BAR LIST  
EACH EAST EXTERIOR BEAM  
(For information only)

Bar	No.	Size	Length	Shape
B(E)	4	#5	29'-8"	—
B1(E)	8	#9	29'-8"	—
D3(E)	32	#4	4'-8"	┌
S3(E)	58	#5	7'-10"	▬

(Sheet 3 of 5)

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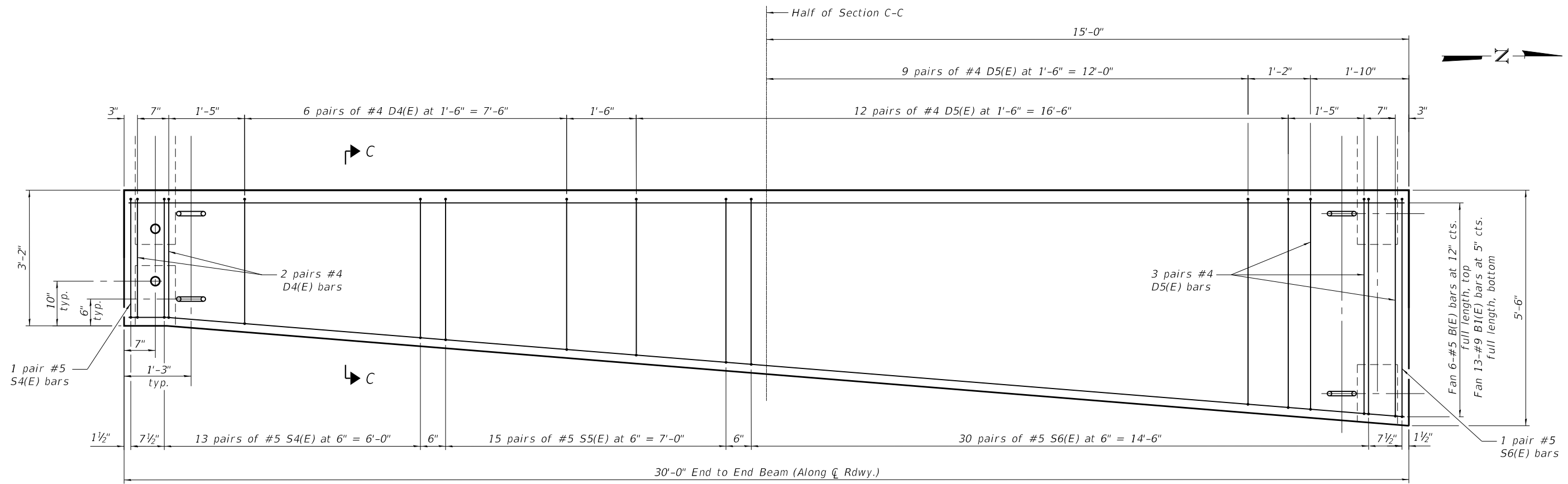
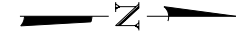
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PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

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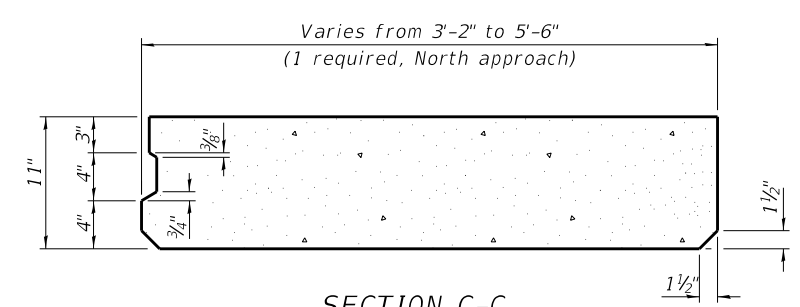
PRECAST BRIDGE APPROACH SLAB DETAILS I  
STRUCTURE NO. 045-3402

SHEET NO. 15 OF 38 SHEETS

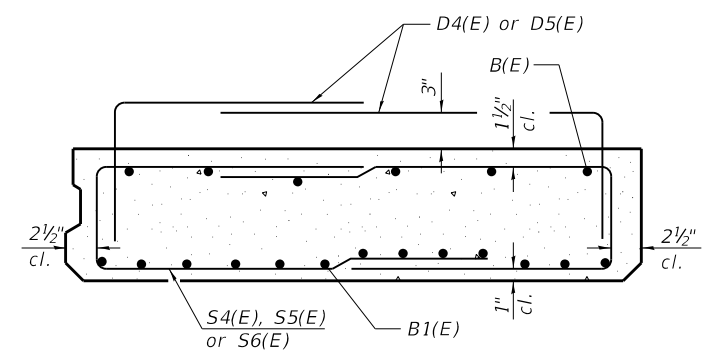
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	260
				CONTRACT NO. 61H95
ILLINOIS FED. AID PROJECT				



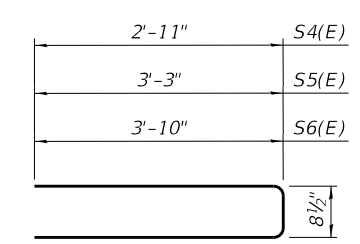
**PLAN**  
(North approach exterior flared beam)



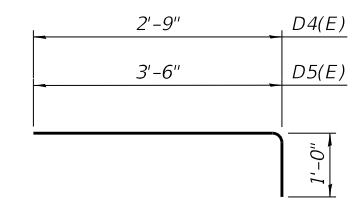
**SECTION C-C**  
(Showing dimensions)



**SECTION C-C**  
(Showing reinforcement)



**BARS S4(E) Thru S6(E)**



**BARS D4(E) & D5(E)**

**BAR LIST**  
**FLARED EXTERIOR BEAM**  
(For information only)

Bar	No.	Size	Length	Shape
B(E)	6	#5	29'-8"	—
B1(E)	13	#9	29'-8"	—
D4(E)	16	#4	3'-9"	┌
D5(E)	48	#4	4'-6"	┌
S4(E)	28	#5	6'-6 1/2"	▮
S5(E)	30	#5	7'-2 1/2"	▮
S6(E)	62	#5	8'-4 1/2"	▮

**MINIMUM BAR LAP**

#4 bar = 2'-7"  
#5 bar = 3'-2"

(Sheet 4 of 5)

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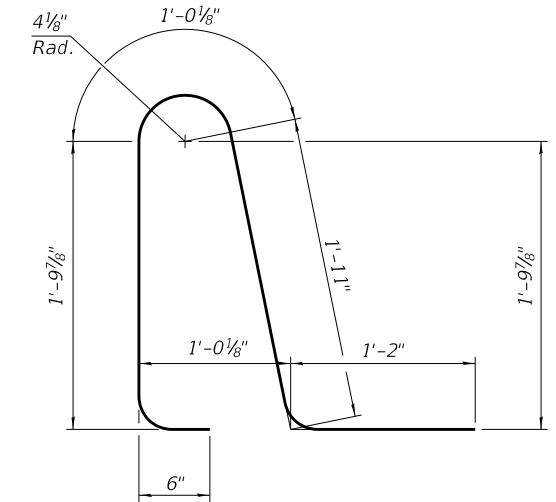
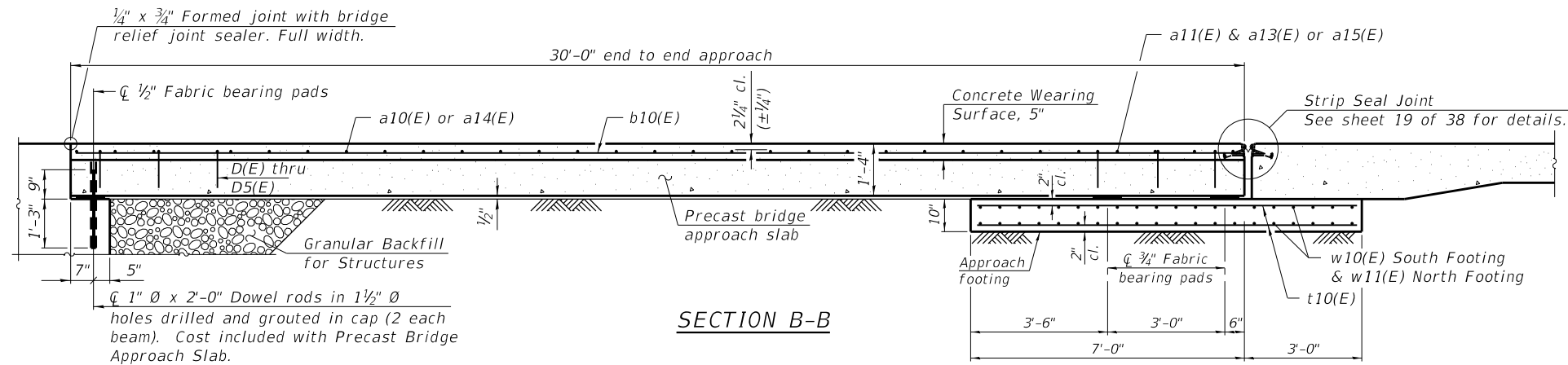
USER NAME = dkierpiec	DESIGNED - HB	REVISED -
PLOT SCALE = NTS	CHECKED - TJJ	REVISED -
PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

**STATE OF ILLINOIS**  
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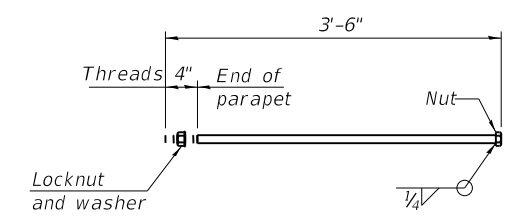
**PRECAST BRIDGE APPROACH SLAB DETAILS II**  
**STRUCTURE NO. 045-3402**

SHEET NO. 16 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	261
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

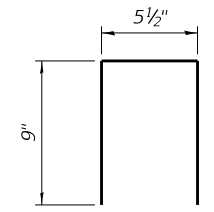


BAR d11(E)

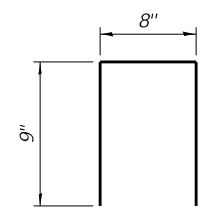


1" Ø ANCHOR BOLT

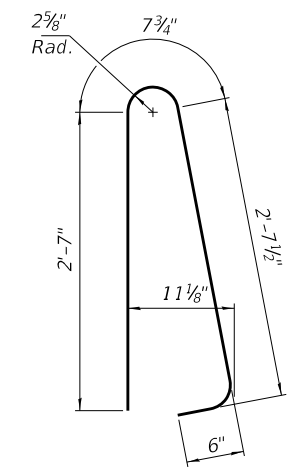
(Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications. Cost of anchor bolt assemblies included with Concrete Superstructure)



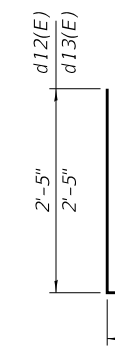
BAR d14(E)



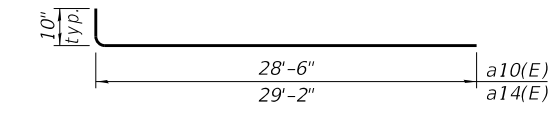
BAR d15(E)



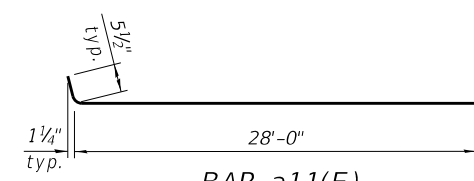
BAR d10(E)



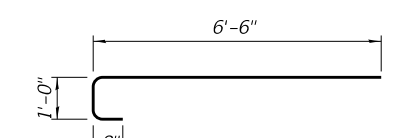
BAR d12(E) & d13(E)



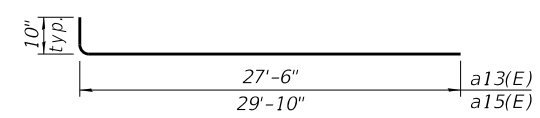
BAR a10(E) & a14(E)



BAR a11(E)



BAR a12(E)



BAR a13(E) & a15(E)

TWO APPROACHES  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	32	#5	29'-4"	┌───┐
a11(E)	32	#4	28'-6"	┌───┐
a12(E)	32	#5	8'-2"	┌───┐
a13(E)	16	#4	28'-5"	┌───┐
a14(E)	32	#5	30'-0"	┌───┐
a15(E)	16	#4	30'-8"	┌───┐
b10(E)	109	#4	29'-8"	┌───┐
b11(E)	8	#5	14'-8"	┌───┐
b12(E)	2	#4	14'-8"	┌───┐
d10(E)	138	#5	6'-5"	┌───┐
d11(E)	138	#5	6'-5"	┌───┐
d12(E)	60	#4	4'-3"	┌───┐
d13(E)	60	#6	4'-3"	┌───┐
d14(E)	16	#4	1'-11 1/2"	┌───┐
d15(E)	16	#4	2'-2"	┌───┐
e10(E)	76	#4	14'-8"	┌───┐
e11(E)	8	#4	29'-8"	┌───┐
t10(E)	218	#4	9'-8"	┌───┐
w10(E)	80	#5	28'-0"	┌───┐
w11(E)	80	#5	29'-1"	┌───┐
Concrete Superstructure			Cu Yd	17.1
Concrete Structures			Cu Yd	33.4
Reinforcement Bars, Epoxy Coated			Pound	15,320
Precast Bridge Approach Slab			Sq Ft	3,251
Concrete Wearing Surface, 5"			Sq Yd	271
Protective Coat			Sq Yd	42
Bridge Deck Thin Polymer Overlay 3/8"			Sq Yd	271

Notes:

The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.

After precast bridge approach slabs have been erected, holes shall be drilled into abutment and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of precast slab and cured according to Article 1020.13(a)(3) or 1020.13(a)(5) of the Standard Specifications for a minimum of 24 hours before casting the shear keys and wearing surface.

Any concrete poured monolithically with the wearing surface, such as curbs, shall not be paid for separately, but will be included in the cost of Concrete Wearing Surface, 5".

The strip seal shall extend 6" beyond the edge of the approach slab on each end. Parapet concrete shall be paid for as Concrete Superstructure.

Approach footing concrete shall be paid for as Concrete Structures.

The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.

Cost of excavation for approach footing included with Concrete Structures.

For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 38.

Cost of cellular polystyrene is included with Concrete Superstructure.

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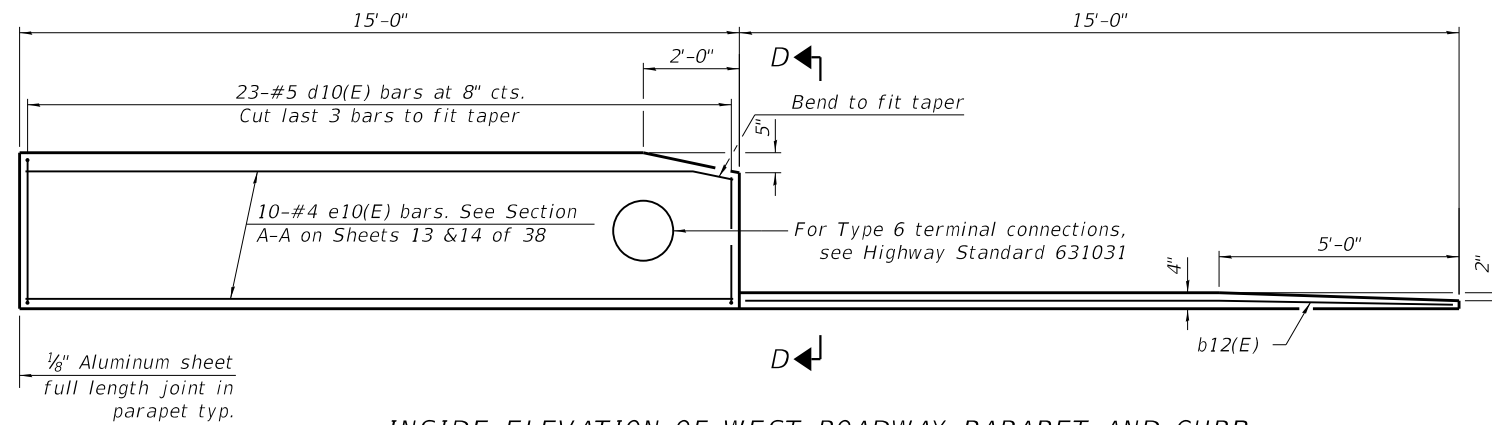
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PLOT SCALE = NTS	CHECKED - TJJ	REVISED -
PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

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DEPARTMENT OF TRANSPORTATION

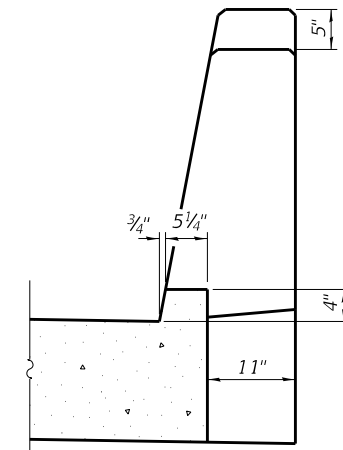
PRECAST BRIDGE APPROACH SLAB DETAILS III  
STRUCTURE NO. 045-3402

SHEET NO. 17 OF 38 SHEETS

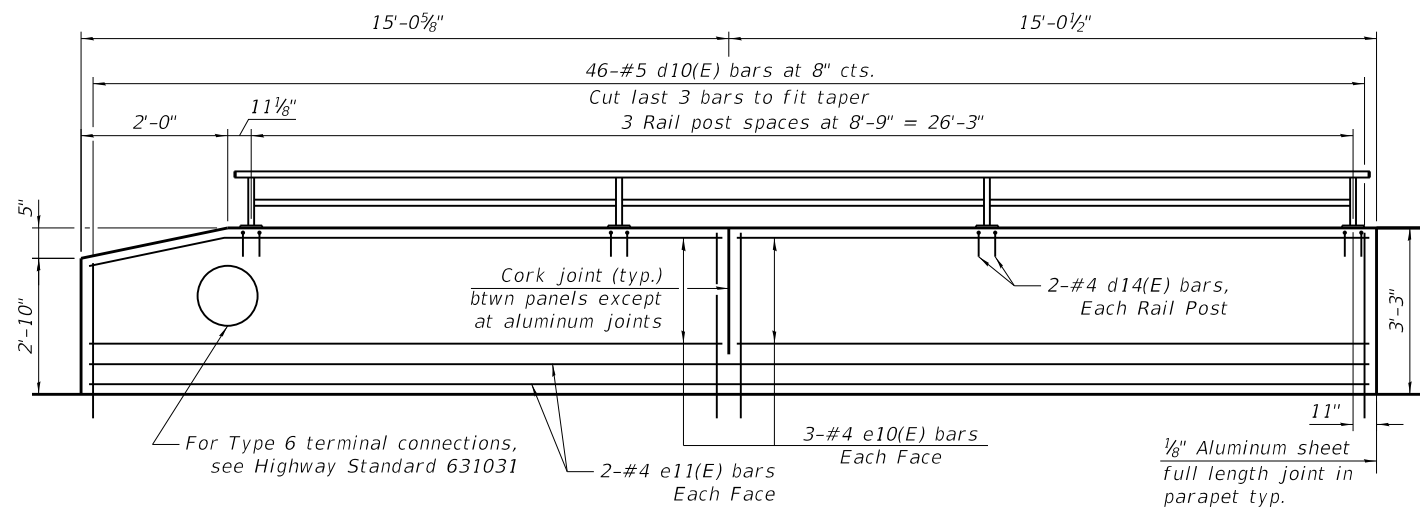
F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 262
				CONTRACT NO. 61H95
ILLINOIS FED. AID PROJECT				



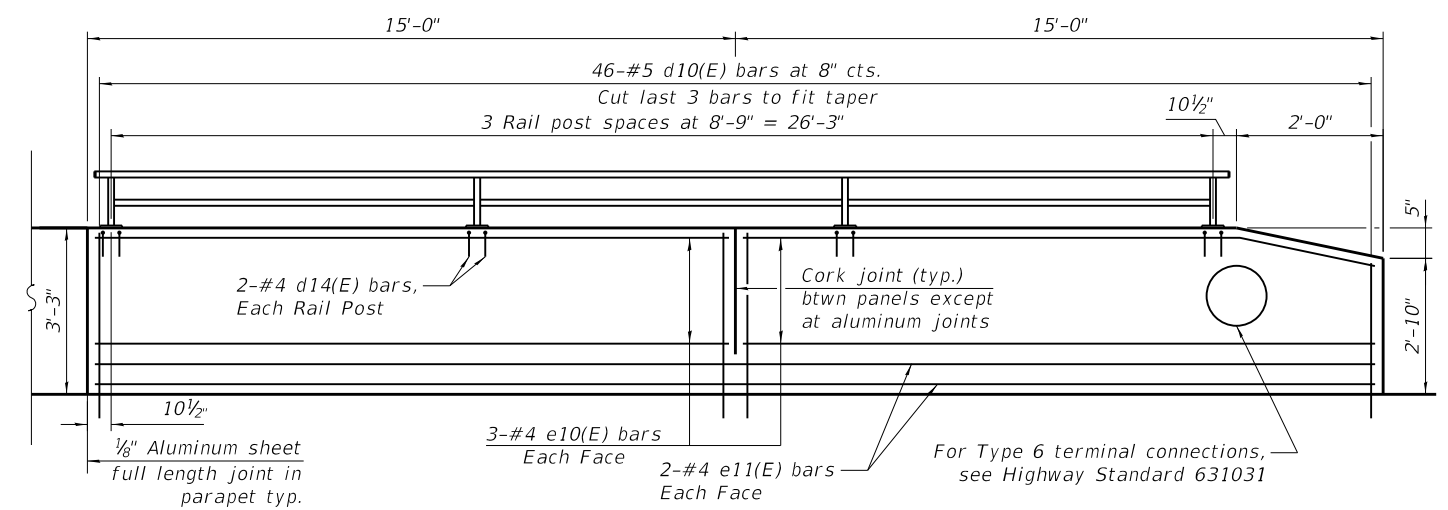
**INSIDE ELEVATION OF WEST ROADWAY PARAPET AND CURB**  
(Looking West, North approach shown, South approach similar)



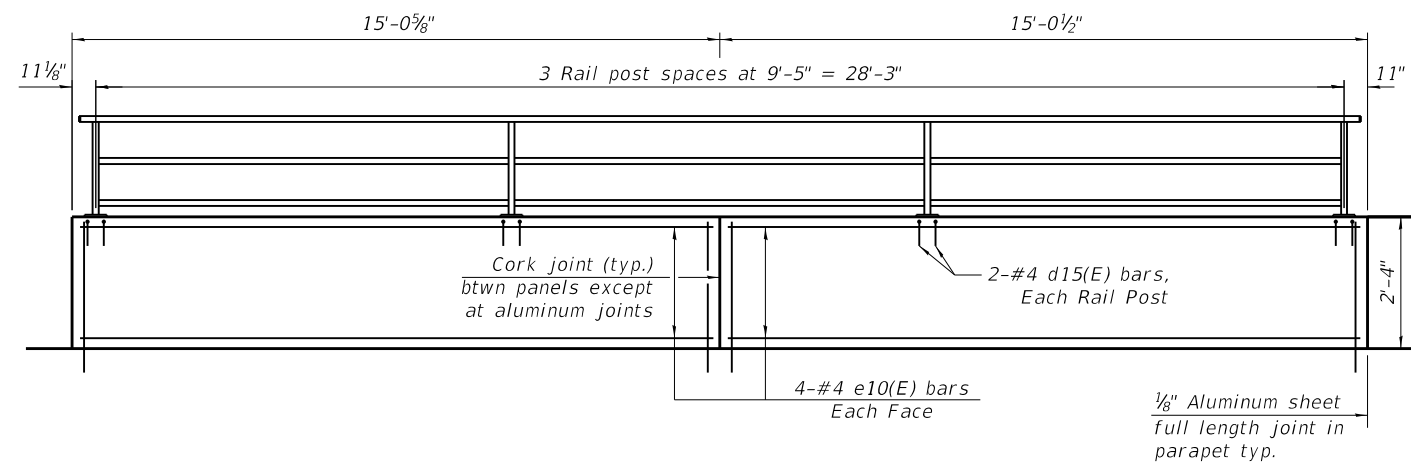
**VIEW D-D**



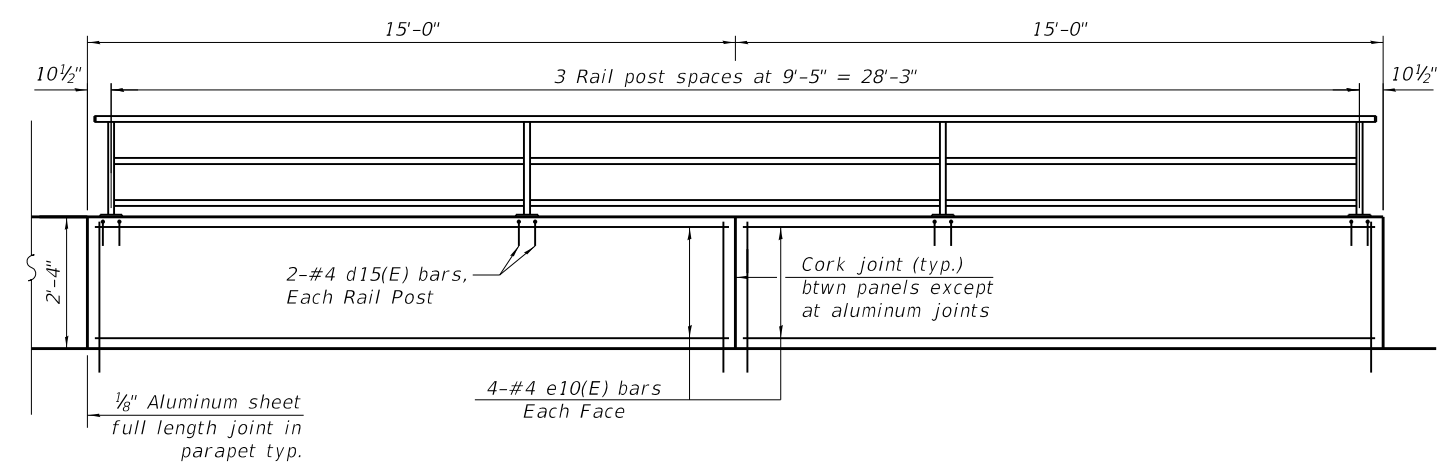
**NORTH APPROACH - INSIDE ELEVATION OF EAST ROADWAY BARRIER**  
(Looking East)



**SOUTH APPROACH - INSIDE ELEVATION OF EAST ROADWAY BARRIER**  
(Looking East)



**NORTH APPROACH - INSIDE ELEVATION OF EAST MULTI-USE PATH PARAPET**  
(Looking East)



**SOUTH APPROACH - INSIDE ELEVATION OF EAST MULTI-USE PATH PARAPET**  
(Looking East)

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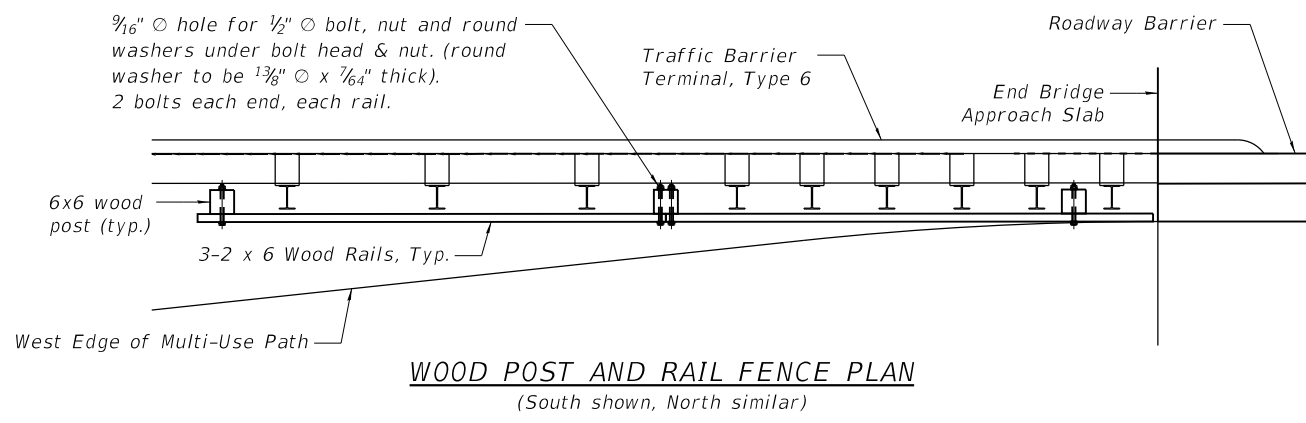
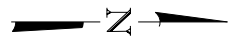
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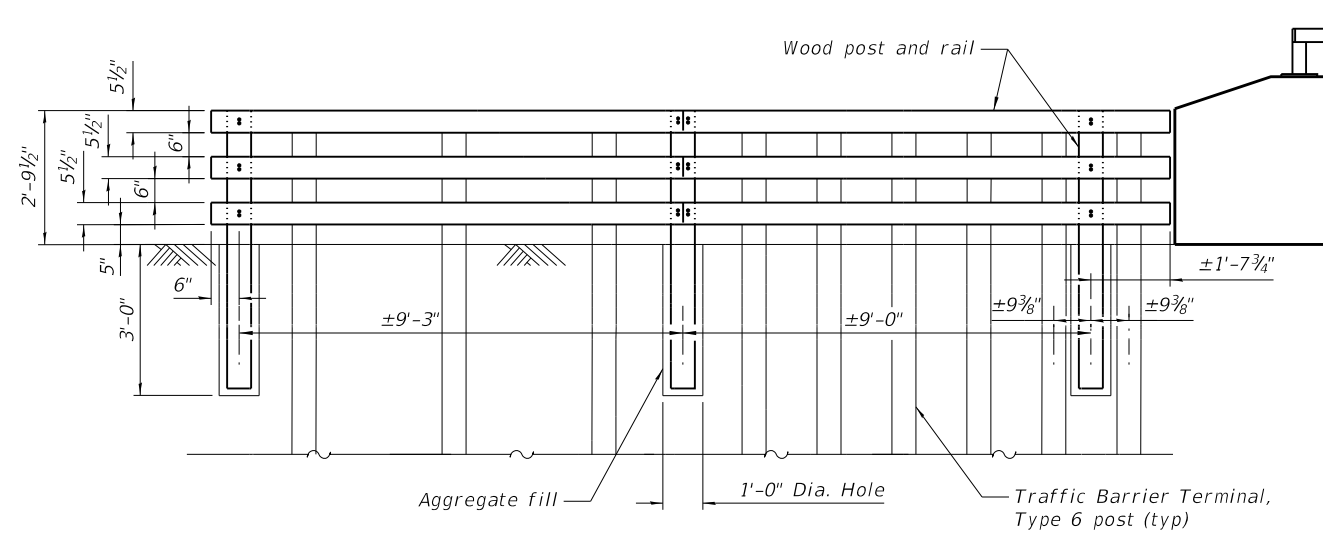
**BRIDGE APPROACH SLAB - PARAPET ELEVATION  
STRUCTURE NO. 045-3402**

SHEET NO. 18 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	263
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

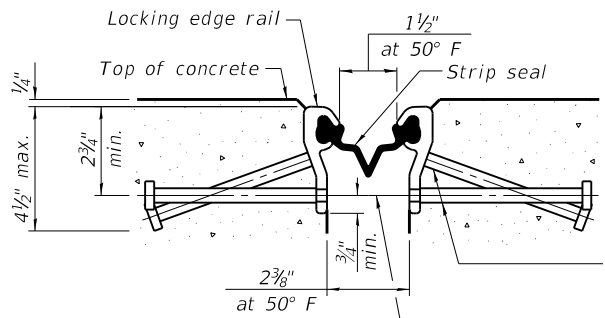


**WOOD POST AND RAIL FENCE PLAN**  
(South shown, North similar)

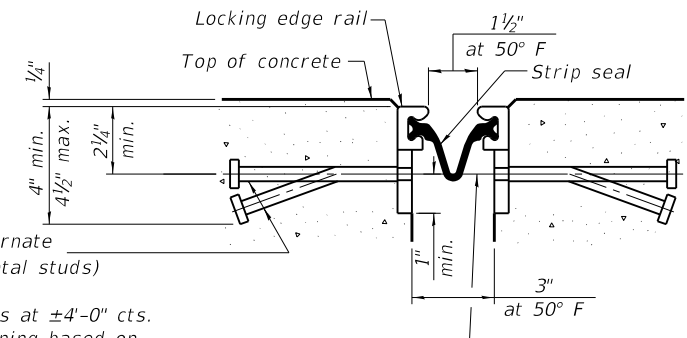


**WOOD POST AND RAIL FENCE ELEVATION**  
(South shown, North similar)

Notes:  
See Wood Post and Rail Special Provision for details.



**SHOWING ROLLED RAIL JOINT**

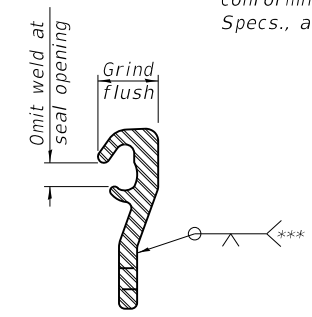


**SHOWING WELDED RAIL JOINT**

\* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)  
3/8" Ø threaded rods in 7/16" Ø holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

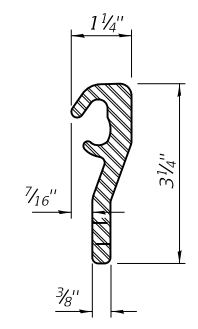
**SECTION A-A**

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

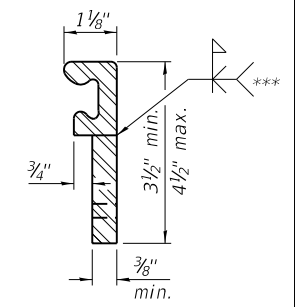


**LOCKING EDGE RAIL SPLICE**

Rolled rail shown, welded rail similar.



**ROLLED (EXTRUDED) RAIL**



**WELDED RAIL**

**LOCKING EDGE RAIL**

Notes:  
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
The locking edge rails depicted configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.  
The manufacturer's recommended installation methods shall be followed. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.  
The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.  
Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.  
39" constant slope barrier shown, 44" constant slope barrier similar as noted.  
The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

\*\*\* Back gouge not required if complete joint penetration is verified by mock-up.

**BILL OF MATERIAL**

Item	Unit	Quantity
Preformed Joint Strip Seal	Foot	110.5

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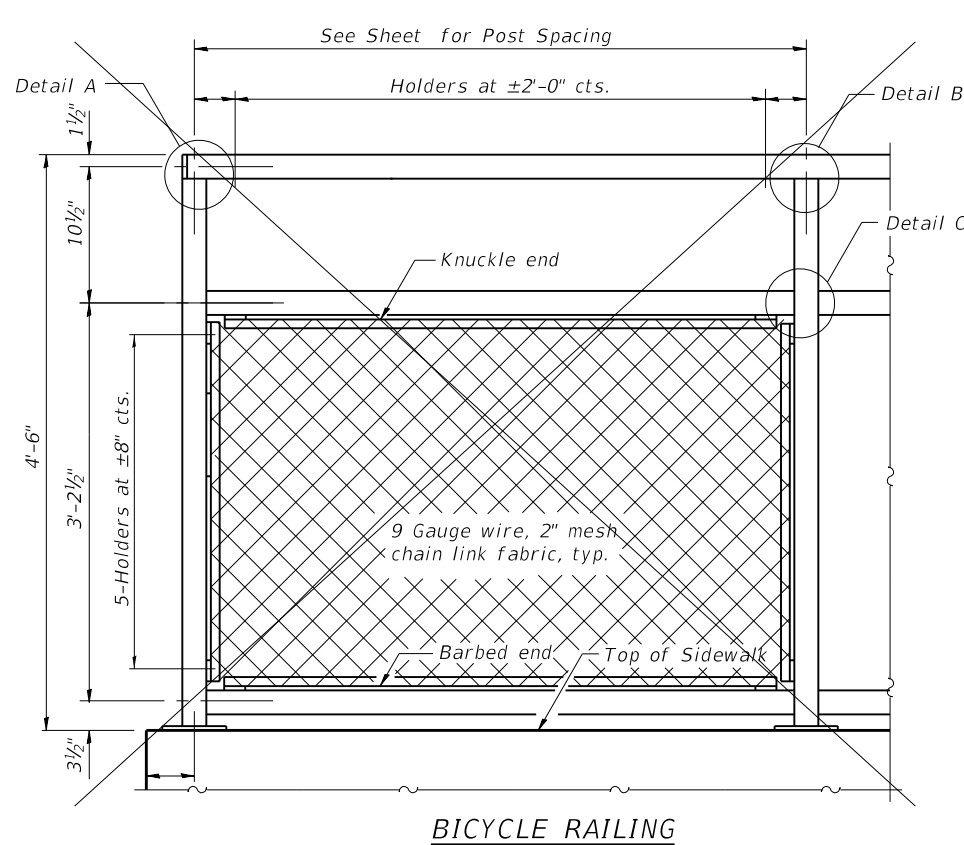
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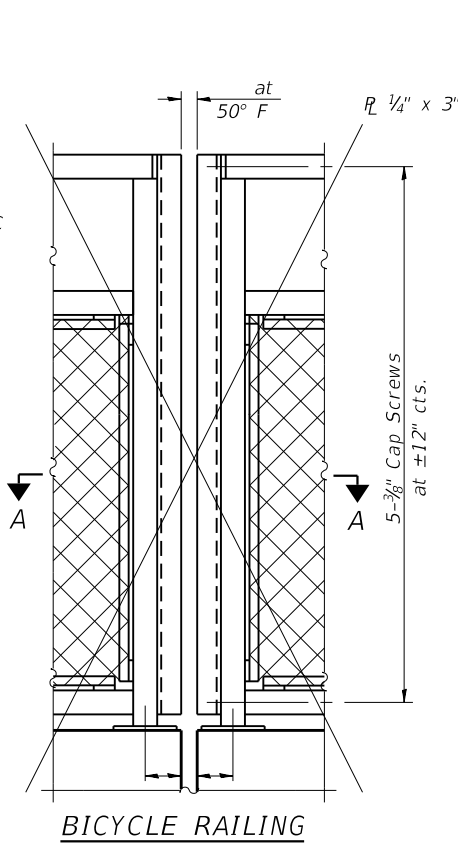
**PREFORMED JOINT STRIP SEAL & WOOD RAILING DETAILS**  
**STRUCTURE NO. 045-3402**

SHEET NO. 19 OF 38 SHEETS

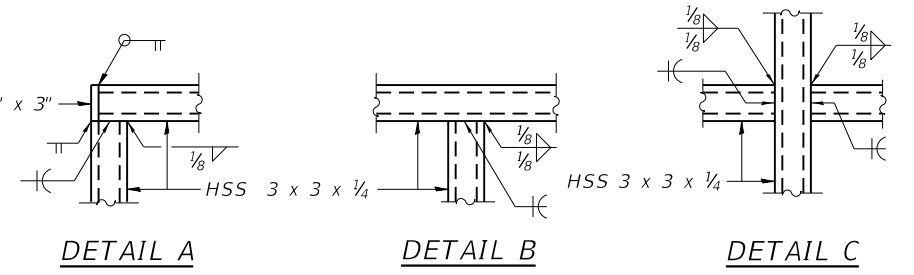
F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 264
			CONTRACT NO. 61H95	
ILLINOIS FED. AID PROJECT				



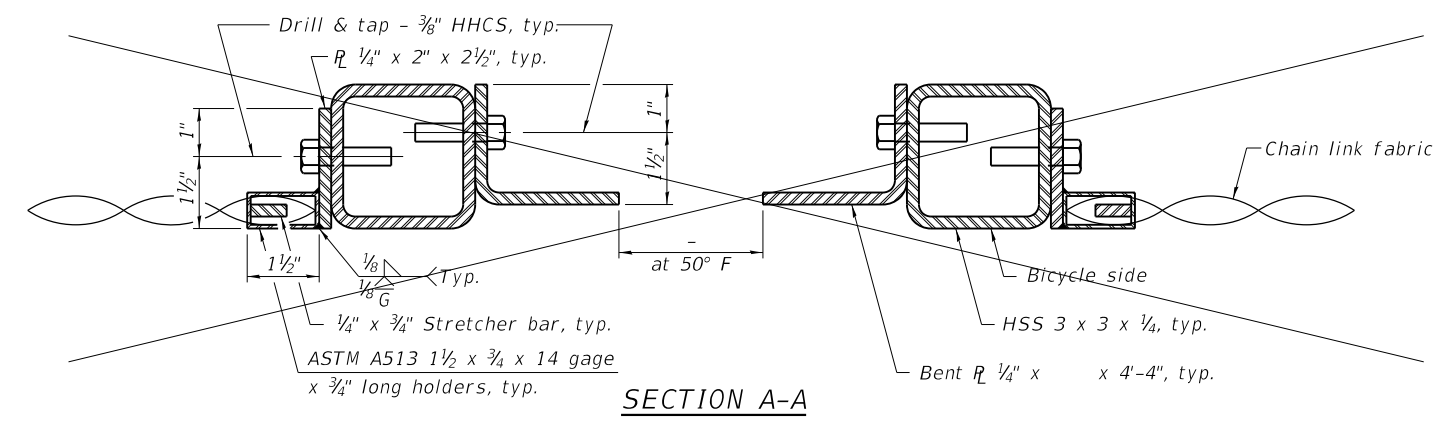
**BICYCLE RAILING**



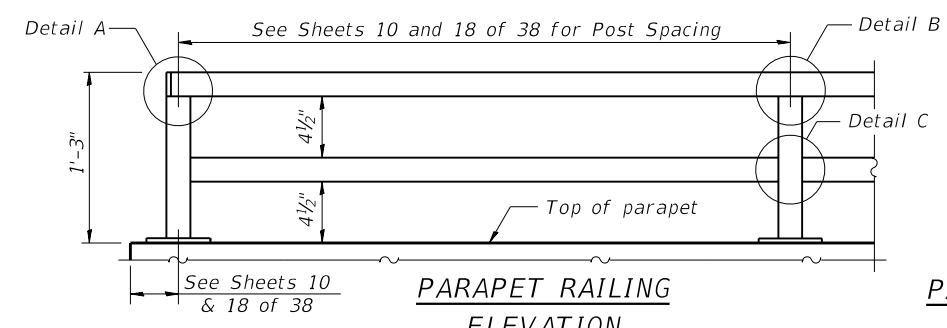
**BICYCLE RAILING**



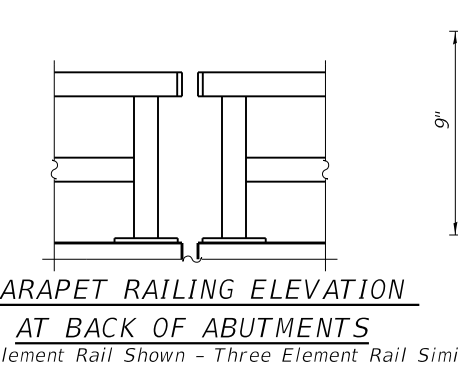
**DETAIL A      DETAIL B      DETAIL C**



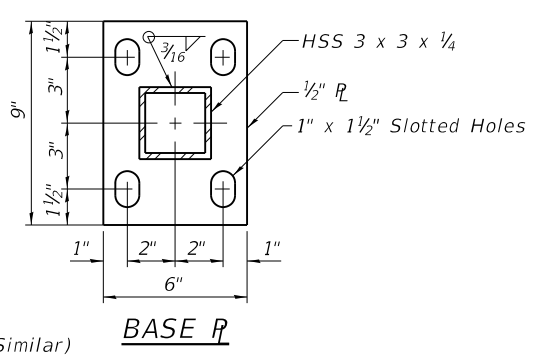
**SECTION A-A**



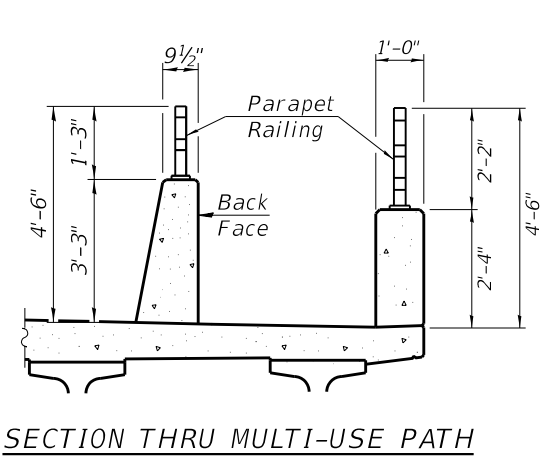
**PARAPET RAILING ELEVATION**  
(Inside Face of Two Element Rail)



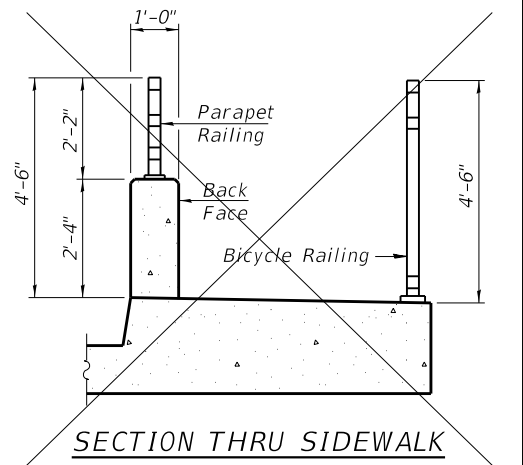
**PARAPET RAILING ELEVATION AT BACK OF ABUTMENTS**  
(Two Element Rail Shown - Three Element Rail Similar)



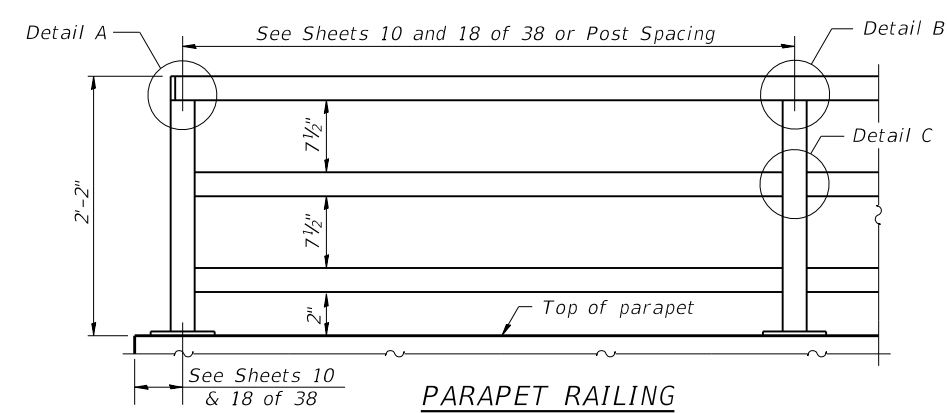
**BASE R**



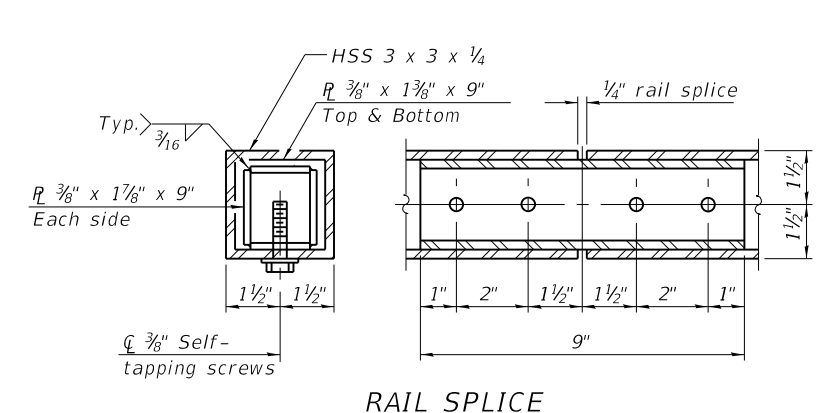
**SECTION THRU MULTI-USE PATH**



**SECTION THRU SIDEWALK**

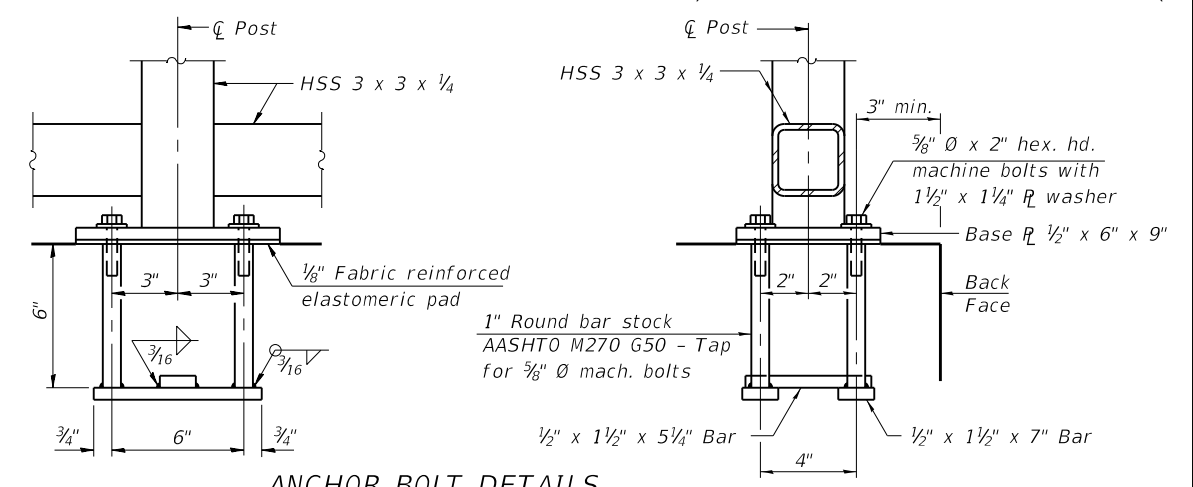


**PARAPET RAILING ELEVATION**  
(Inside Face of Three Element Rail)



**RAIL SPLICE**

Notes:  
All structural steel tubing, post and railing, for parapet railing shall be CVN tested according to 1006.34(b) of the Standard Specifications. CVN testing may be omitted for the Bicycle Railing.  
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



**ANCHOR BOLT DETAILS**

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" Ø anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

**BILL OF MATERIAL**

Item	Unit	Quantity
Parapet Railing	Foot	384

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R-29      1-14-2019      (10'-0" Maximum Post Spacing)



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	CHECKED - TJJ	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PARAPET RAILING DETAILS  
STRUCTURE NO. 045-3402**

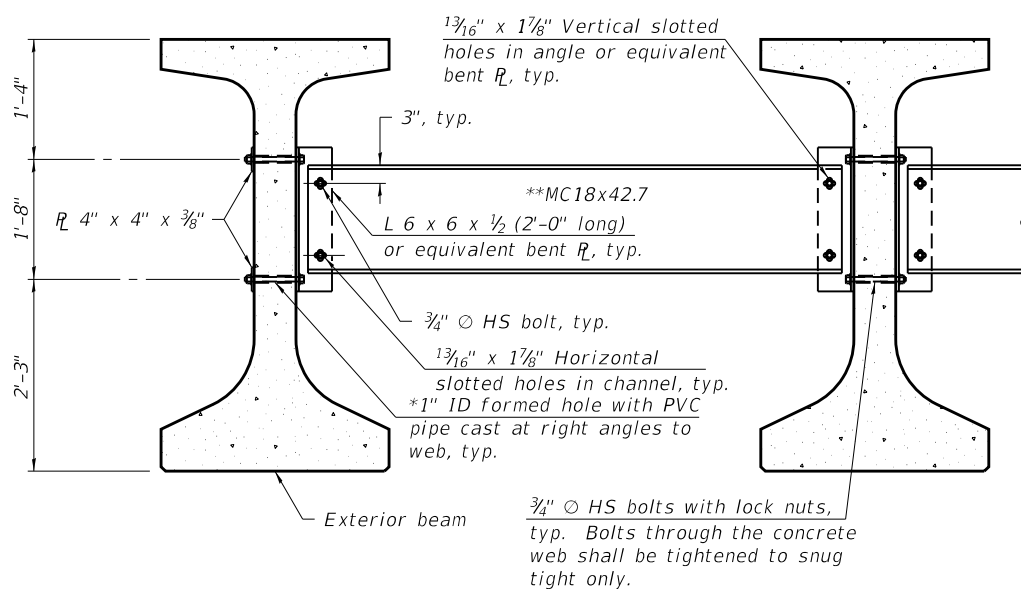
SHEET NO. 20 OF 38 SHEETS

F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 265
				CONTRACT NO. 61H95
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INTERIOR BEAM MOMENT TABLE		0.5 Span
I	(in <sup>4</sup> )	527,741
I'	(in <sup>4</sup> )	1,157,207
S <sub>b</sub>	(in <sup>3</sup> )	18,688
S <sub>b</sub> '	(in <sup>3</sup> )	26,396
S <sub>t</sub>	(in <sup>3</sup> )	15,182
S <sub>t</sub> '	(in <sup>3</sup> )	60,397
DC1	(k/ft)	1.915
M <sub>DC1</sub>	(k)	4,145
DC2	(k/ft)	0.251
M <sub>DC2</sub>	(k)	543
DW	(k/ft)	0.286
M <sub>DW</sub>	(k)	619
LLDF	(k)	0.653
M <sub>L + IM</sub>	(k)	2,728

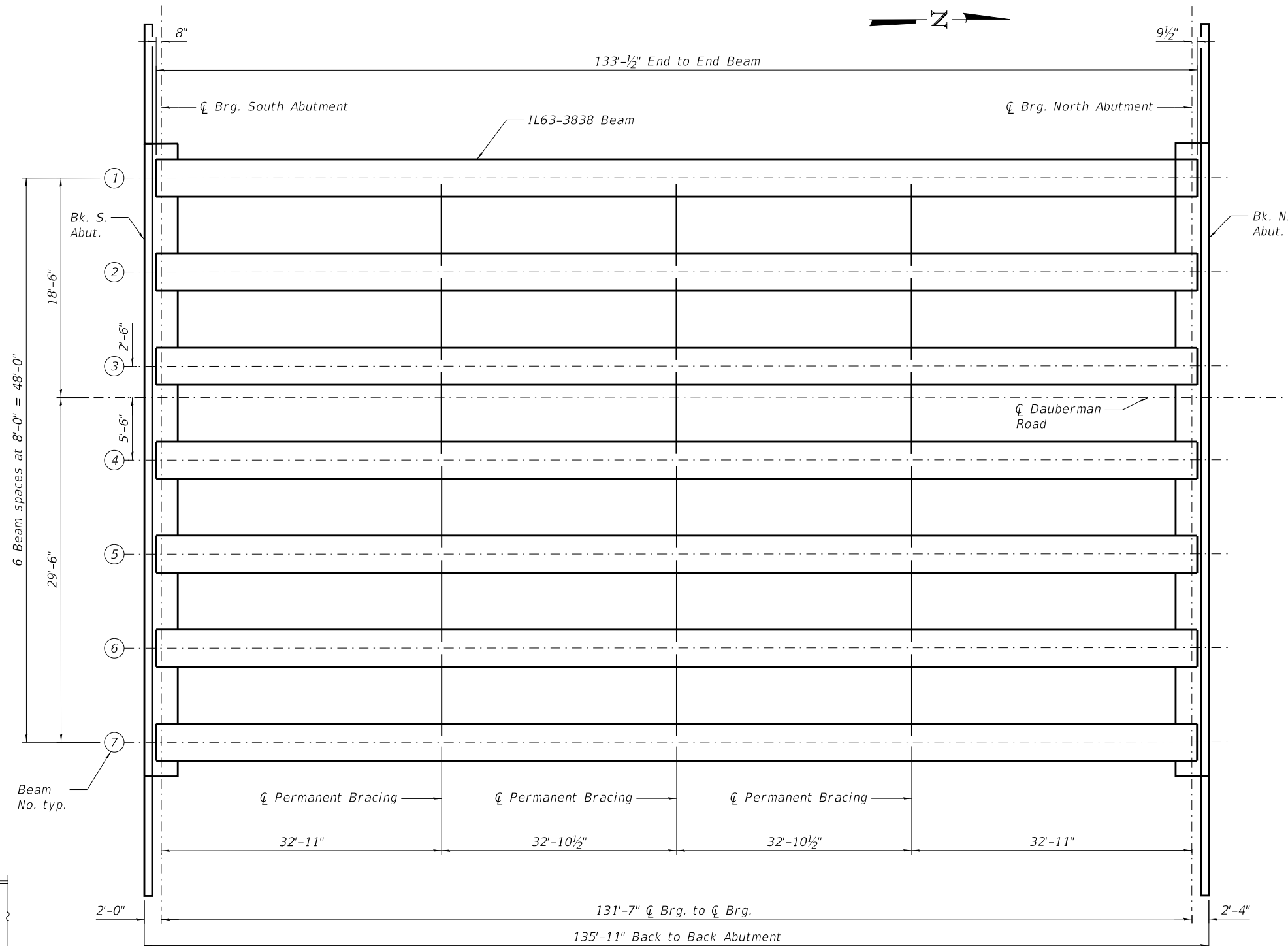
INTERIOR BEAM REACTION TABLE		Abutment
LLDF	(k)	0.814
R <sub>DC1</sub>	(k)	126.0
R <sub>DC2</sub>	(k)	16.5
R <sub>DW</sub>	(k)	18.8
R <sub>L</sub>	(k)	88.9
R <sub>IM</sub>	(k)	18.0
R <sub>Total</sub>	(k)	268.2

- I: Non-composite moment of inertia of beam section (in<sup>4</sup>).
- I': Composite moment of inertia of beam section (in<sup>4</sup>).
- S<sub>b</sub>: Non-composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).
- S<sub>b</sub>': Composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).
- S<sub>t</sub>: Non-composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).
- S<sub>t</sub>': Composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M<sub>L + IM</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).



**PERMANENT BRACING DETAILS**

\*Fabricator shall locate to miss strands within permissible tolerances.  
 \*\*Alternate MC18x45.8 channels are permitted to facilitate material acquisition.



**FRAMING PLAN**

- Notes:
- All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.
  - Two hardened washers are required for each set of oversized holes.
  - All holes shall be 1 5/16"  $\varnothing$  unless otherwise noted.
  - 5/16" x 3" x 3" plate washers are required over all slotted holes.
  - All bolts shall be galvanized according to AASHTO M232.
  - Bracing shall be installed as beams are erected and tightened as soon as possible during erection.
  - Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Beams, IL63.

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PLOT SCALE = NTS	CHECKED - TJJ	REVISIONS
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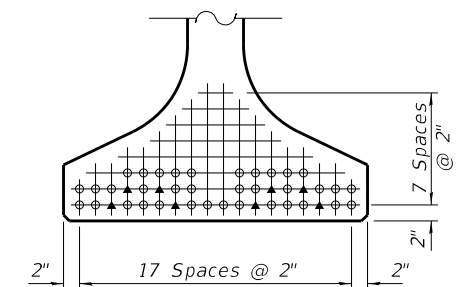
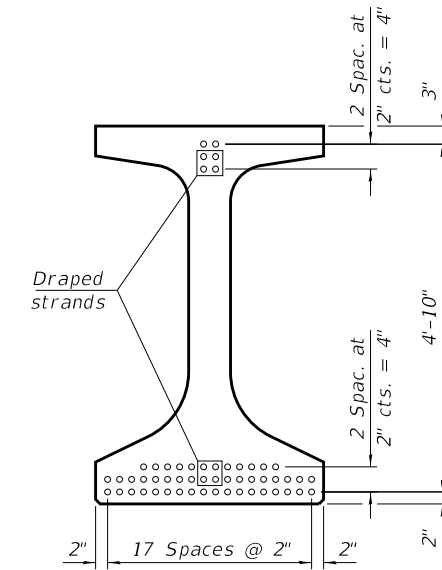
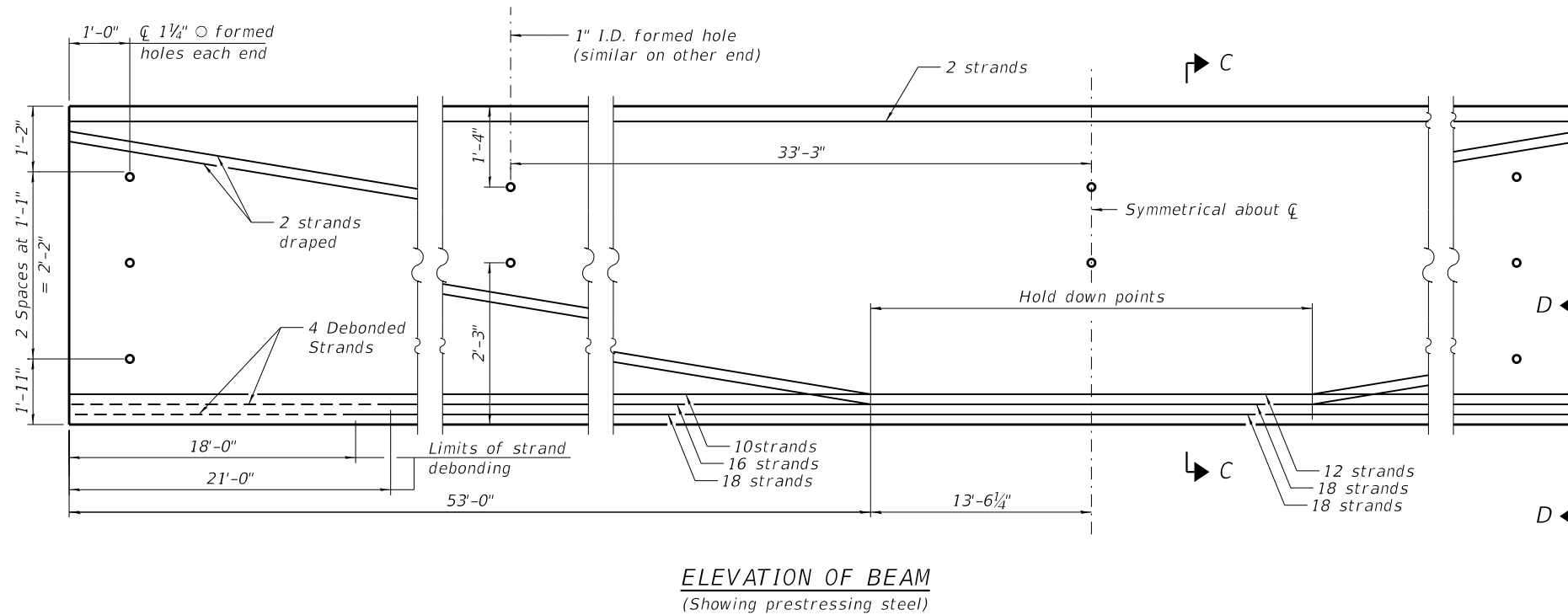
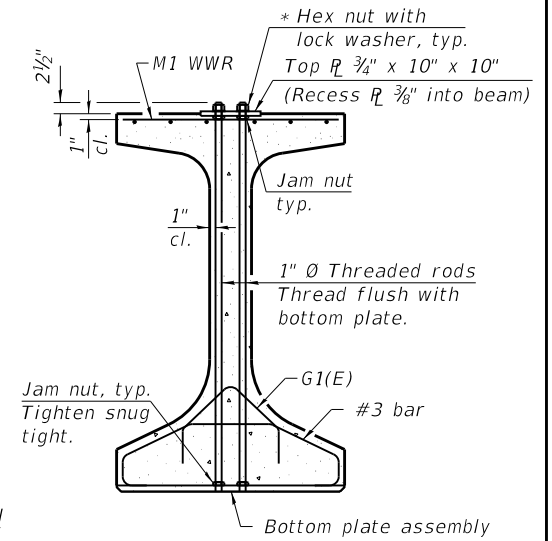
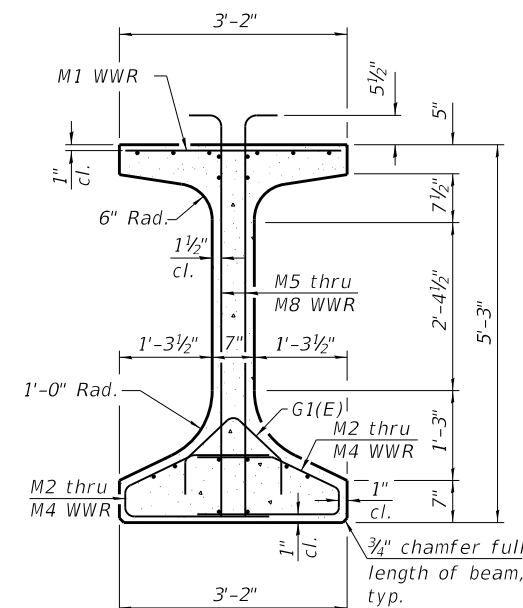
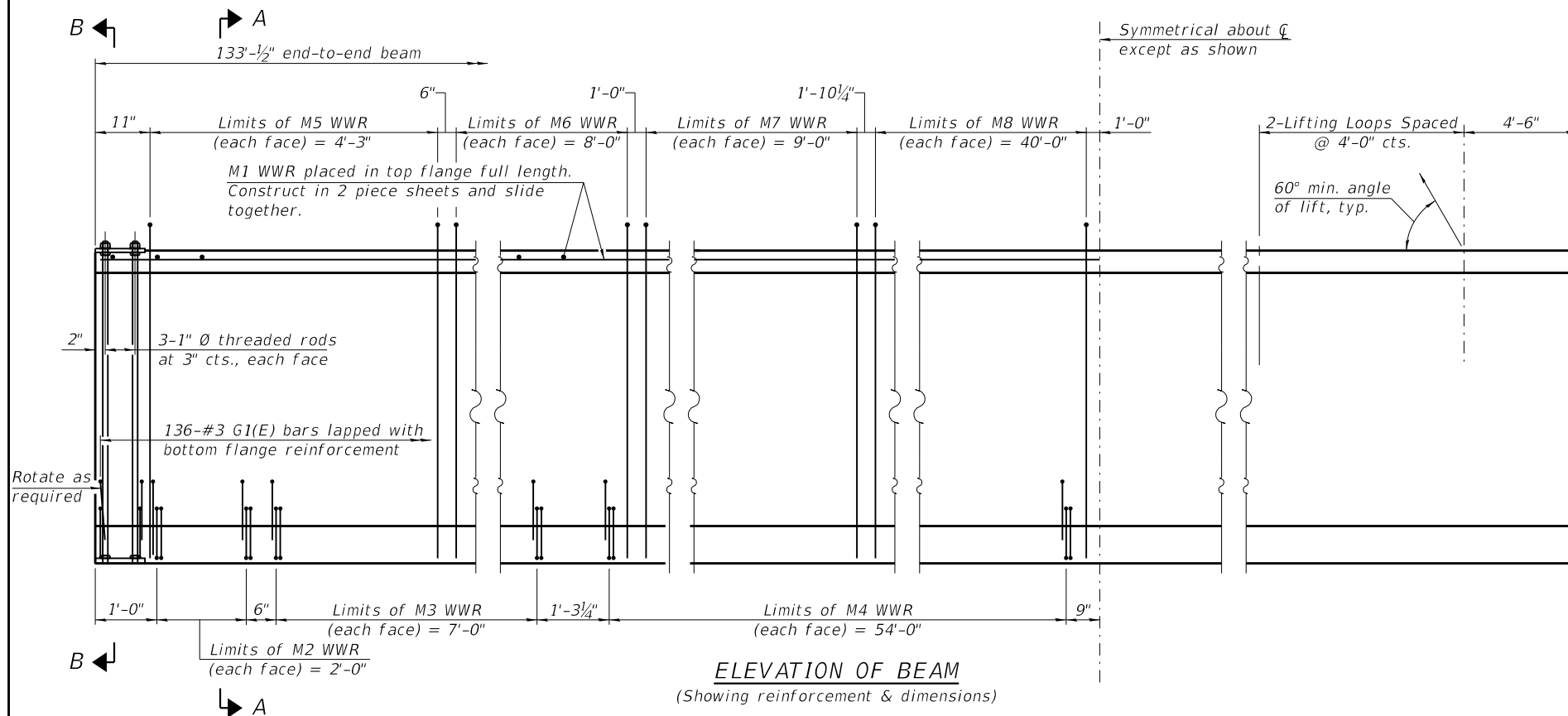
STATE OF ILLINOIS  
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FRAMING PLAN  
STRUCTURE NO. 045-3402

SHEET NO. 21 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	266
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				





○ Fully bonded strand  
▲ Partially debonded strand

Note:  
See sheet 23 of 38 for additional details and Bill of Material.

IL63-3838

8-13-2021

**BLA, Inc.**

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PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

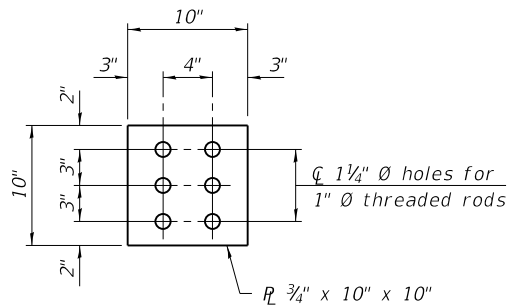
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**IL63 PPC BEAM DETAILS I**  
**STRUCTURE NO. 045-3402**

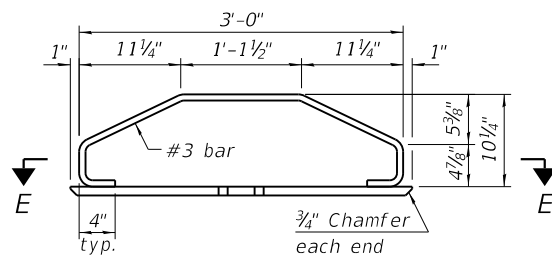
SHEET NO. 22 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	267
CONTRACT NO. 61H95				

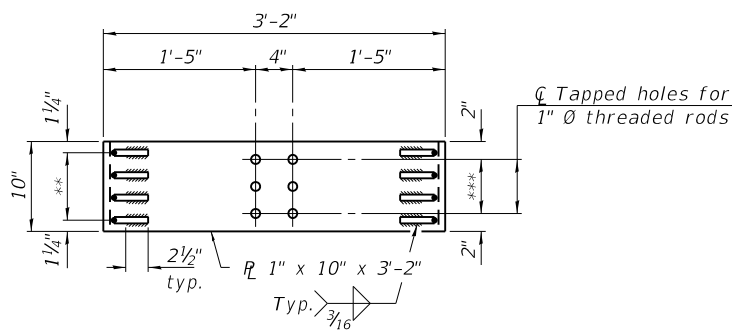
ILLINOIS FED. AID PROJECT



PLAN - TOP PLATE



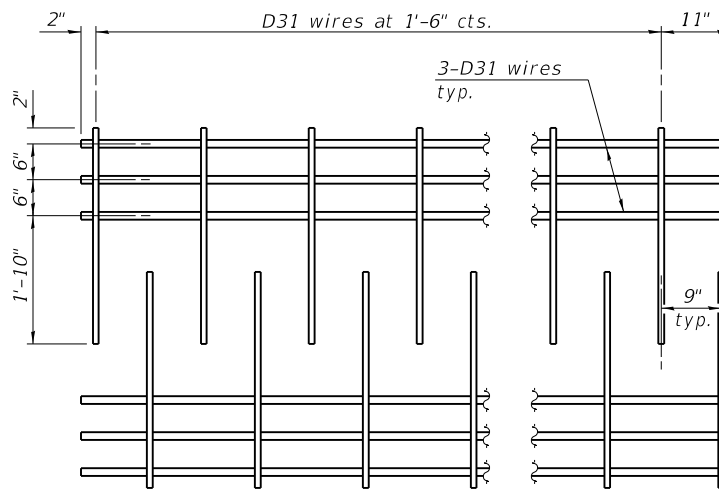
ELEVATION - BOTTOM PLATE ASSEMBLY



SECTION E-E

\*\* 3 Spaces at 2 1/2" = 7 1/2"

\*\*\* 2 Spaces at 3" = 6"



M1 WWR DETAIL

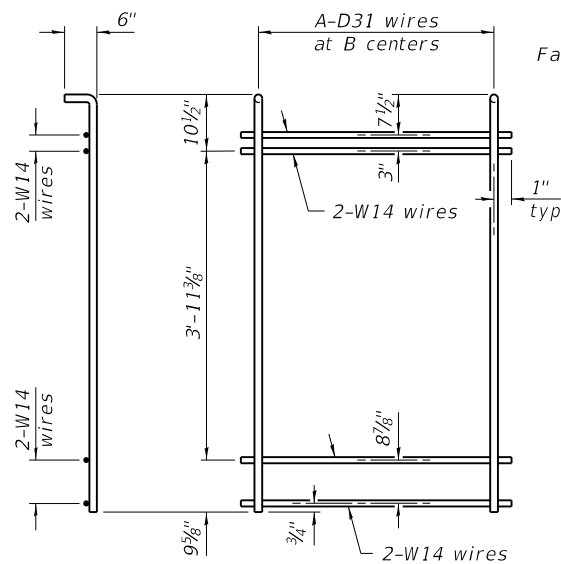
When multiple sheets of M1 WWR are required along the beam length, #5(E) bars (5'-0" long) shall be used to splice the longitudinal D31 wires together (Min. Lap 2'-2").

TABLE OF DIMENSIONS

(The WWR designs assume grade 60. If necessary, this permits the fabricator to directly substitute grade 60 rebar as detailed in the Manual for Fabrication of Precast Prestressed Concrete Products.)

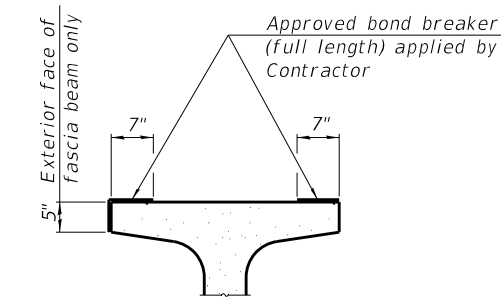
SPAN 1

WWR	A	B
M2	9	3"
M3	15	6"
M4	37	1'-6"
M5	18	3"
M6	17	6"
M7	10	1'-0"
M8	21	2'-0"



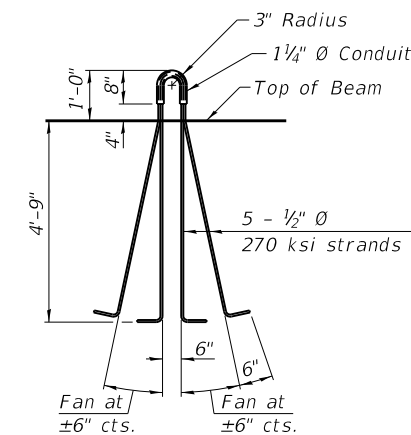
M5 THRU M8 WWR DETAIL

(See Table of Dimensions)

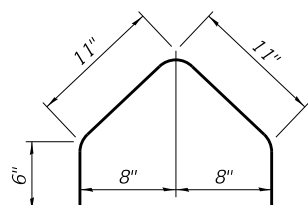


SECTION THRU TOP FLANGE

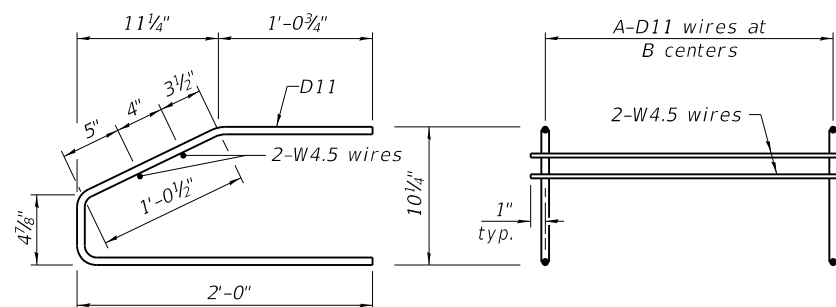
(Showing limits of bond breaker)



LIFTING LOOP DETAIL



BAR G1(E)



M2 THRU M4 WWR DETAIL

(See Table of Dimensions)

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Beams, IL63	Ft.	932

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IL63-3838D

8-13-2021



USER NAME = dkierpiec	DESIGNED - HB	REVISED -
PLOT SCALE = NTS	CHECKED - TJJ	REVISED -
PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

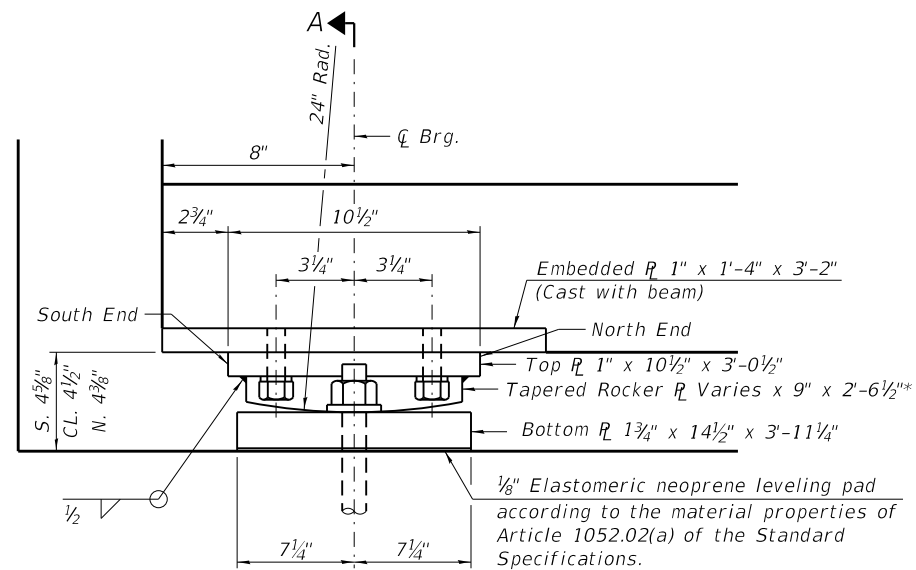
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

IL63 PPC BEAM DETAILS II  
STRUCTURE NO. 045-3402

SHEET NO. 23 OF 38 SHEETS

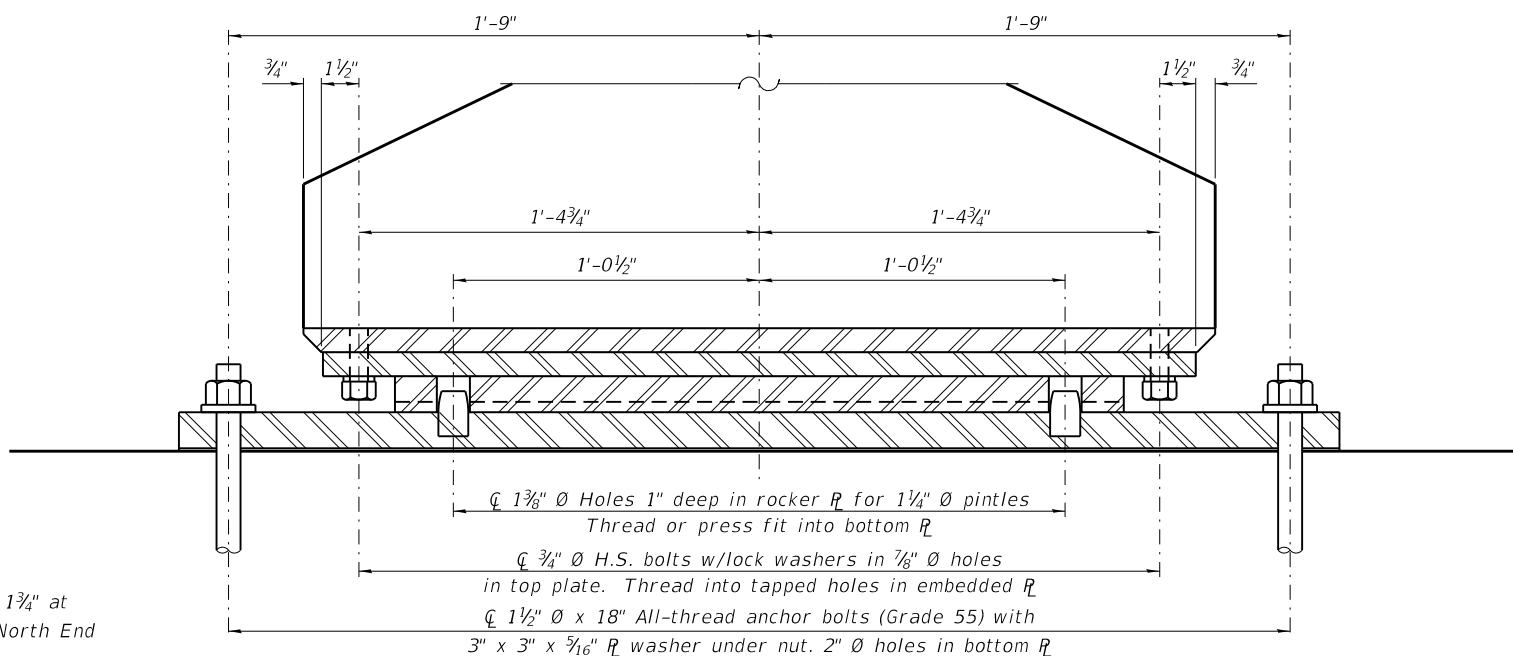
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	268
				CONTRACT NO. 61H95

ILLINOIS FED. AID PROJECT

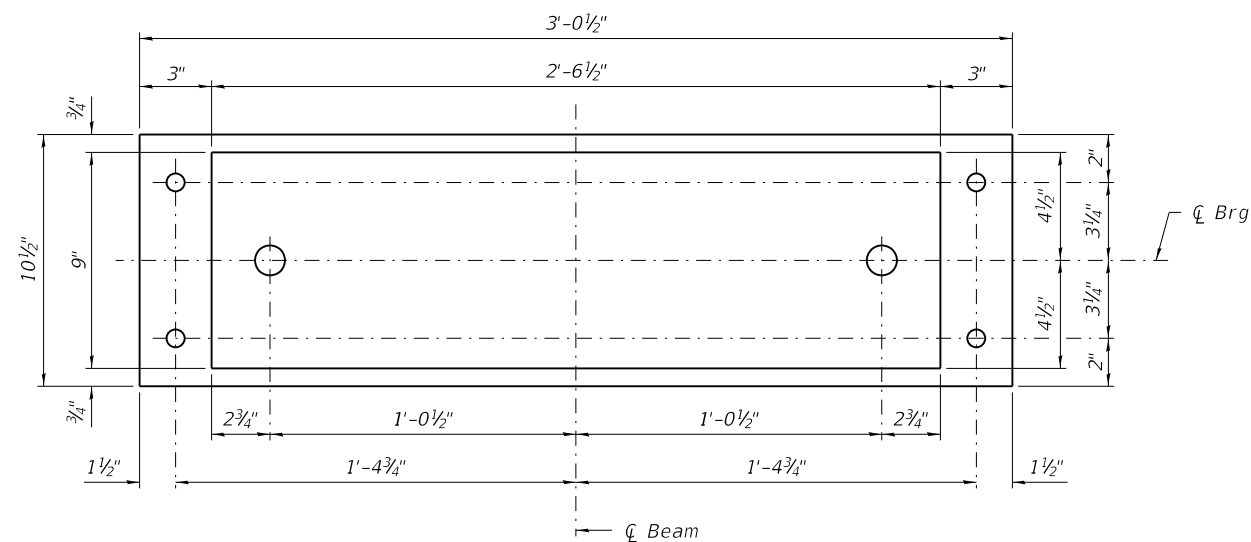


ELEVATION AT SOUTH ABUTMENT

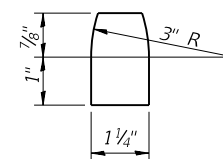
\*Tapered Rocker R thickness is 1 3/4" at the South End and 1 1/2" at the North End



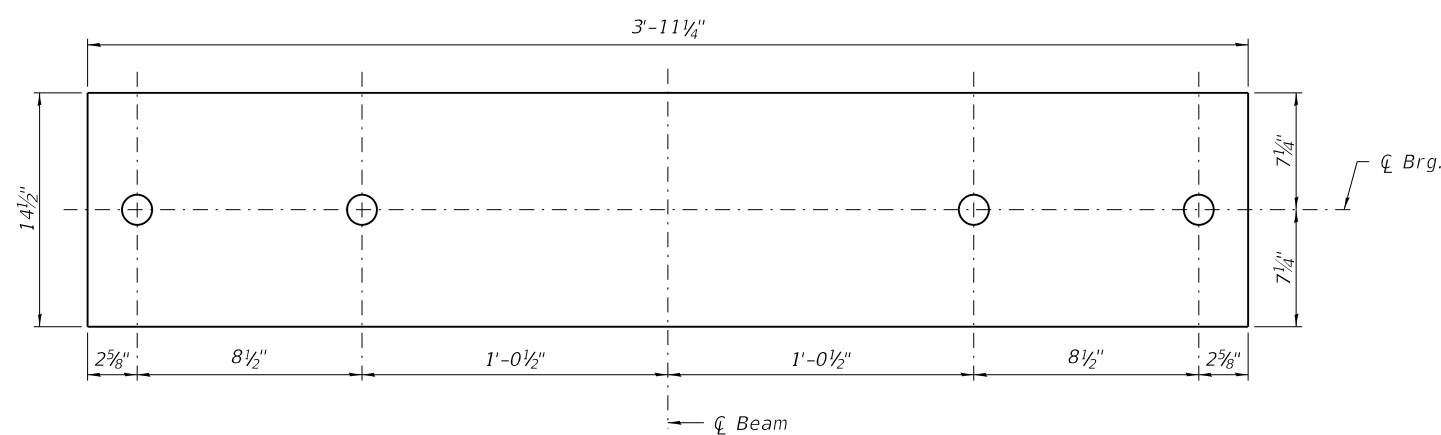
SECTION A-A



PLAN OF TOP PLATE & ROCKER PLATE  
(Looking from below at top plate and rocker plate only)



PINTLE



PLAN OF BOTTOM PLATE

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts as fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place and prior to pouring the deck.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Anchor bolts shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

See sheet 23 of 38 for additional details of embedded plate.

All plates, hardware, and leveling pads required for the bearing, except anchor bolts, shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete IL63 Beams.

The structural steel plates and pintles of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

All plate material for bearings shall be hot dip galvanized according to AASHTO M111.

All bolts and washers shall be galvanized according to AASHTO M232.

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1 1/2"	Each	14

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PI-2FB

6-15-2019



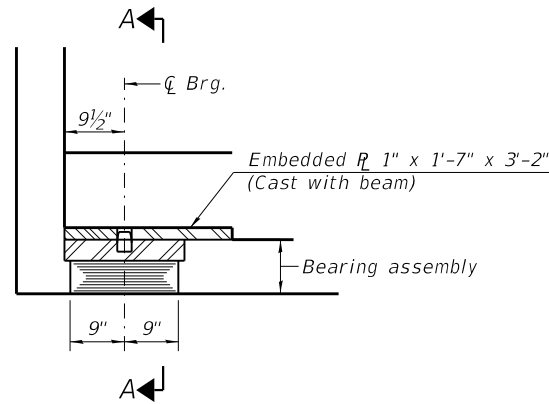
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	CHECKED - TJJ	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

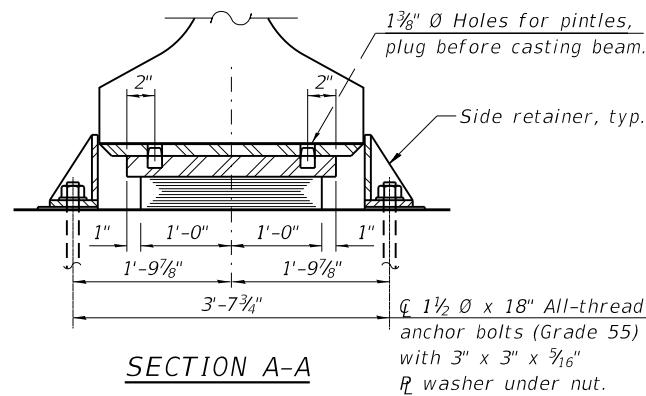
FIXED BEARING DETAILS  
STRUCTURE NO. 045-3402

SHEET NO. 24 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	269
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

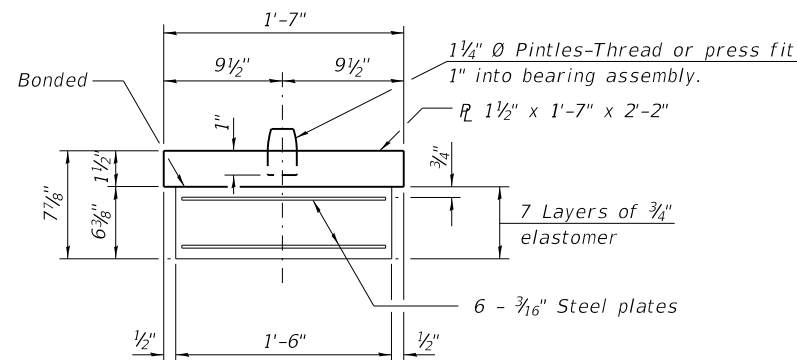


ELEVATION AT NORTH ABUTMENT

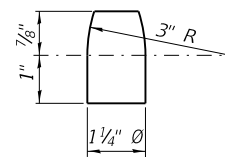


SECTION A-A

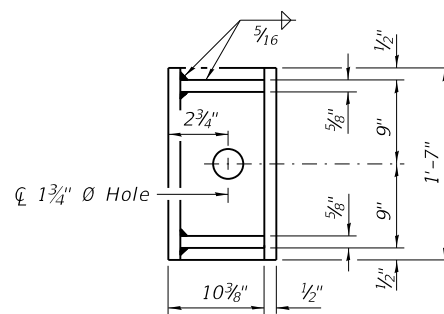
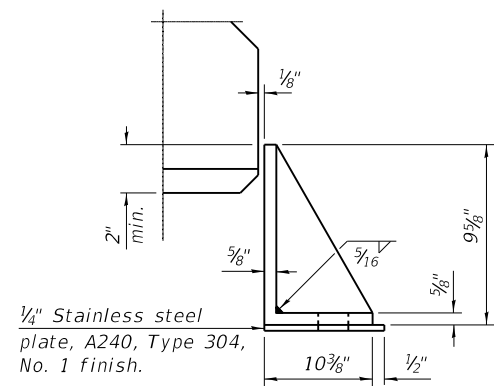
TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY



PINTLE



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

- Notes:
- Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.
  - See sheet 23 of 38 for additional details of embedded plate.
  - Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.
  - All exposed bearing plates and side retainers shall be hot dip galvanized according to AASHTO M111.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	7
Anchor Bolts, 1 1/2"	Each	14

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PI-2E-1

6-15-2019



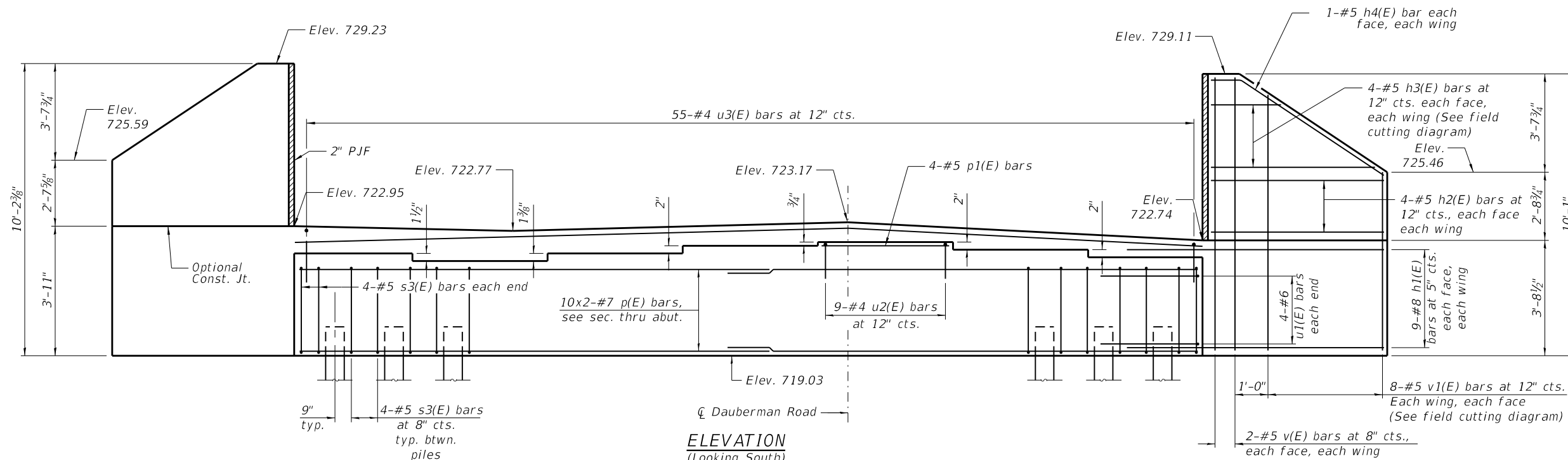
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ELASTOMERIC BEARING DETAILS  
STRUCTURE NO. 045-3402

SHEET NO. 25 OF 38 SHEETS

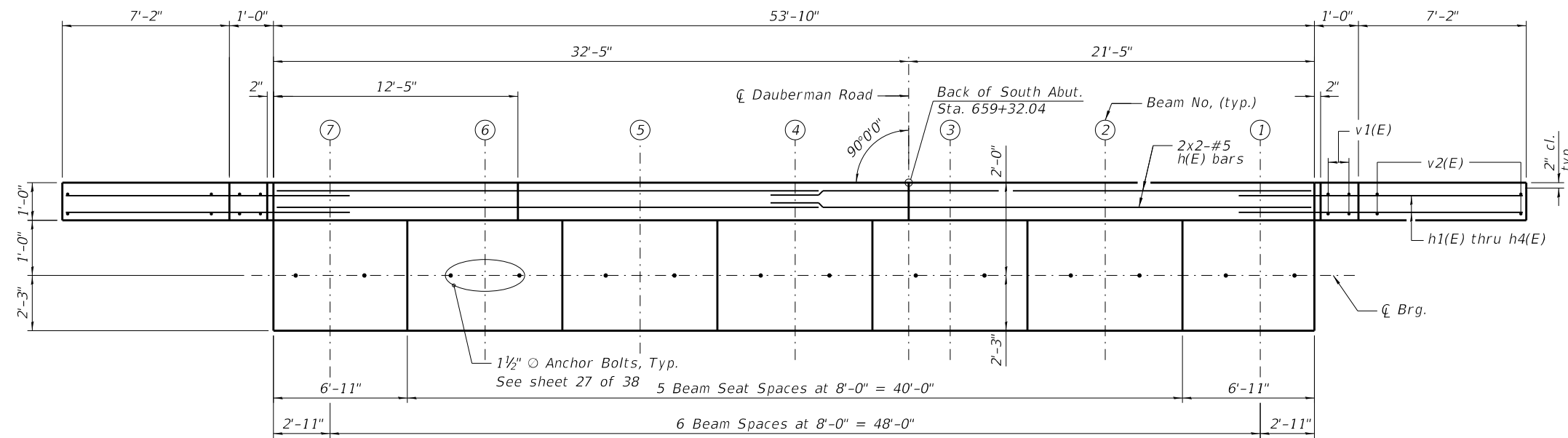
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	270
			CONTRACT NO. 61H95	
ILLINOIS		FED. AID PROJECT		



**ELEVATION**  
(Looking South)

**BEAM SEAT ELEVATIONS**

Beam	Elev.
1	722.54
2	722.70
3	722.86
4	722.80
5	722.64
6	722.53
7	722.65



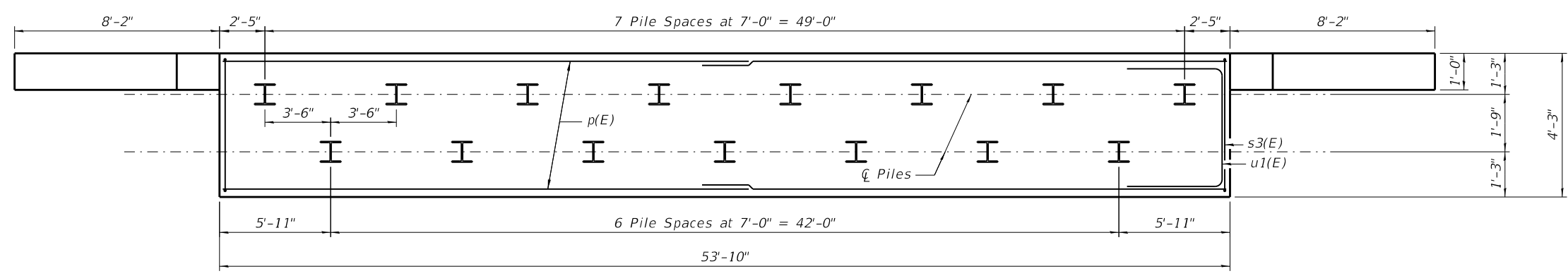
**TOP VIEW**

**MIN. BAR LAP**

#5 = 3'-7"  
#7 = 5'-0"

**PILE DATA**

Type: HP12x53 with Pile Shoes  
Nominal Required Bearing: 400 kips  
Factored Resistance Available: 200 kips  
Est. Length: 109 ft  
No. Production Piles: 14  
No. Test Piles: 1



**PLAN - PILE CAP**

Notes:  
Pour steps monolithically with cap.  
Space reinforcement in cap to miss anchor bolts  
For details of piles see sheet 33 of 38.

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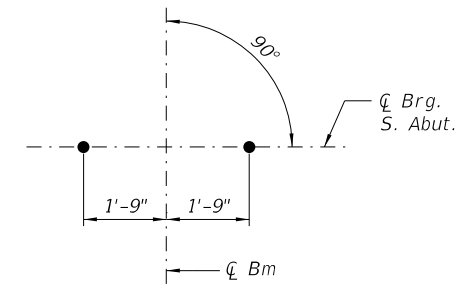
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

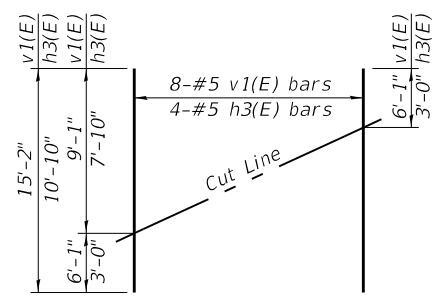
**SOUTH ABUTMENT PLAN AND ELEVATION**  
**STRUCTURE NO. 045-3402**

SHEET NO. 26 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	271
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

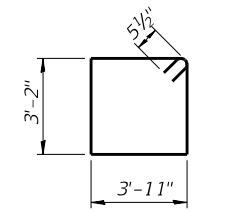


**ANCHOR BOLT DETAILS**

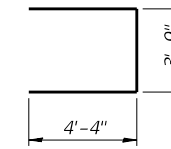


**FIELD CUTTING DIAGRAM**

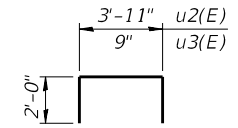
Order v1(E) and h3(E) bars full length. Cut as shown and use remainder of bars in opposite face.



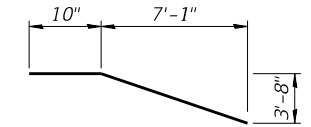
**BARS s3(E)**



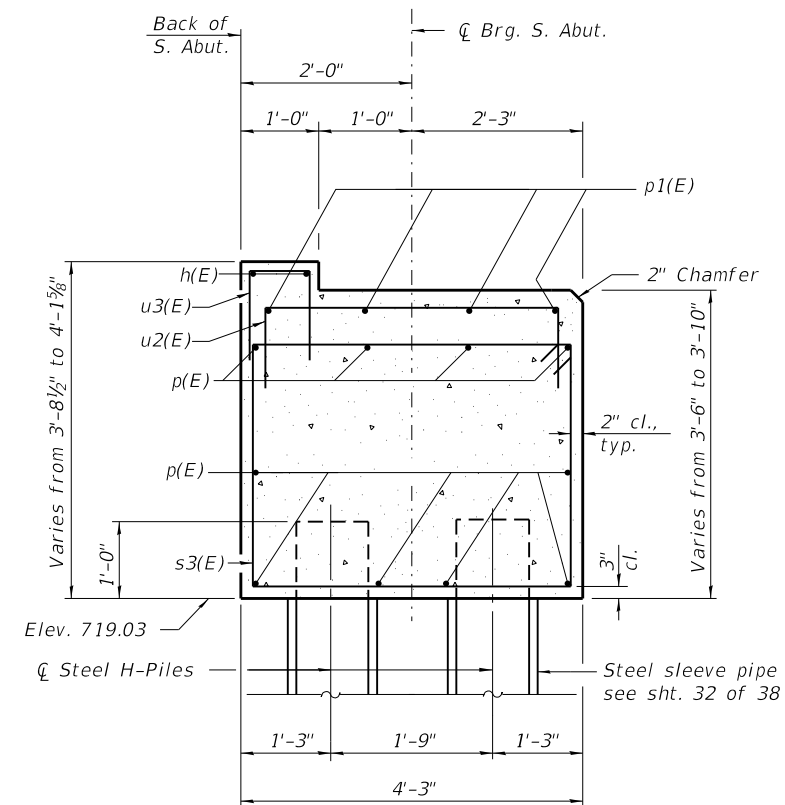
**BAR u1(E)**



**BAR u2(E) & u3(E)**



**BAR h4(E)**



**SECTION THRU SOUTH ABUTMENT**

**SOUTH ABUTMENT BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	4	#5	28'-7"	————
h1(E)	36	#8	13'-7"	————
h2(E)	16	#5	8'-0"	————
h3(E)	8	#5	10'-10"	————
h4(E)	4	#5	8'-10"	————
p(E)	20	#7	29'-3"	————
p1(E)	4	#5	7'-9"	————
s3(E)	64	#5	15'-1"	□
u1(E)	8	#6	9'-7"	U
u2(E)	9	#4	7'-11"	U
u3(E)	55	#4	4'-9"	U
v(E)	8	#5	9'-9"	————
v1(E)	16	#5	15'-2"	————
Concrete Structures			Cu. Yd.	36.6
Reinforcement Bars, Epoxy Coated			Pound	4,600
Furnishing Steel Piles HP 12x53			Foot	1,526
Driving Piles			Foot	1,526
Test Pile, HP 12x53			Each	1
Geocomposite Wall Drain			Sq. Yd.	66

For details of piles see sheet 33 of 38.

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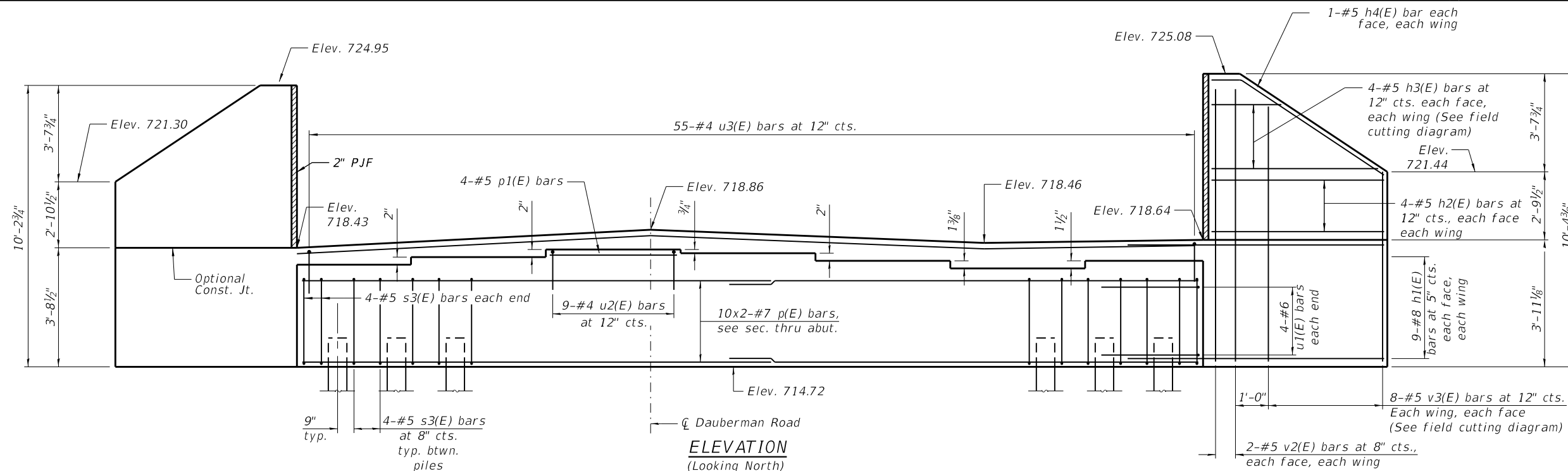
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PLOT DATE = 11/18/2022	CHECKED - TJJ	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT DETAILS  
STRUCTURE NO. 045-3402

SHEET NO. 27 OF 38 SHEETS

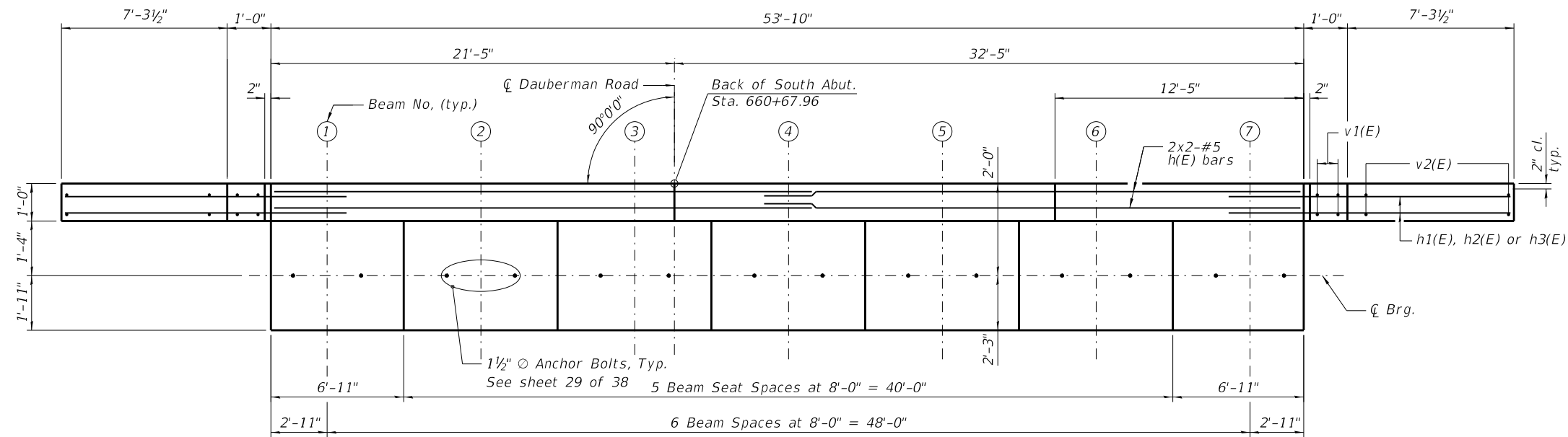
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	272
			CONTRACT NO. 61H95	
		ILLINOIS	FED. AID PROJECT	



**ELEVATION**  
(Looking North)

**BEAM SEAT ELEVATIONS**

Beam	Elev.
1	718.23
2	718.39
3	718.55
4	718.49
5	718.33
6	718.22
7	718.34



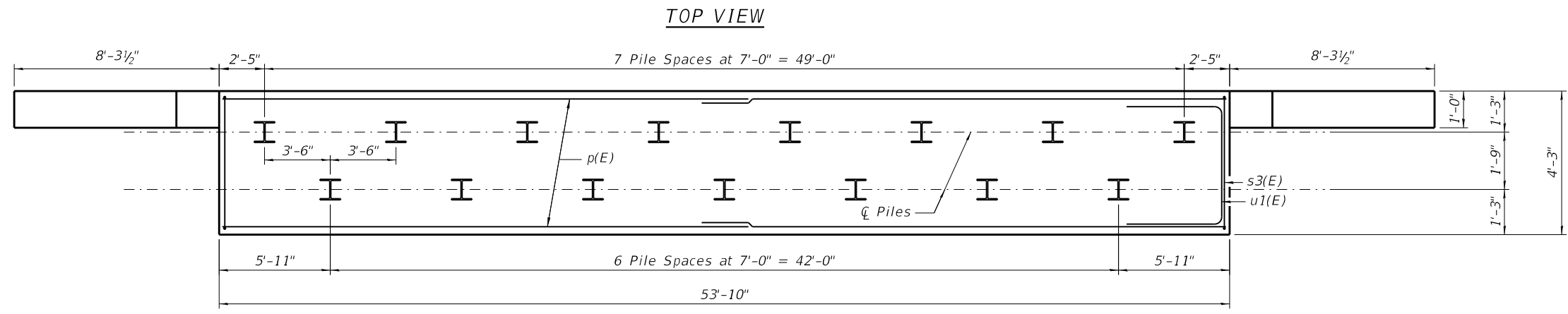
**TOP VIEW**

**MIN. BAR LAP**

#5 = 3'-7"  
#7 = 5'-0"

**PILE DATA**

Type: HP12x53 with Pile Shoes  
Nominal Required Bearing: 406 kips  
Factored Resistance Available: 200 kips  
Est. Length: 111 ft  
No. Production Piles: 14  
No. Test Piles: 1



**PLAN - PILE CAP**

Notes:  
Pour steps monolithically with cap.  
Space reinforcement in cap to miss anchor bolts  
For details of piles see sheet 33 of 38.

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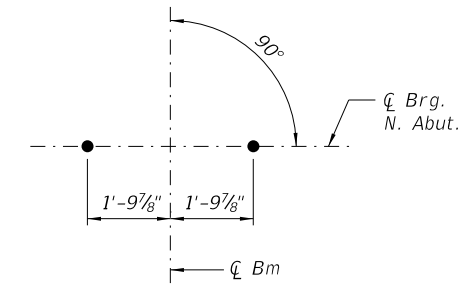
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

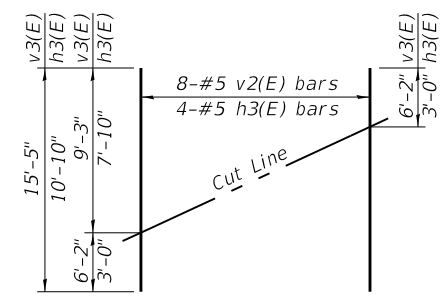
**NORTH ABUTMENT PLAN AND ELEVATION**  
**STRUCTURE NO. 045-3402**

SHEET NO. 28 OF 38 SHEETS

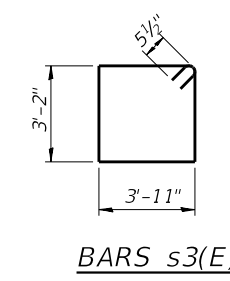
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	273
			CONTRACT NO. 61H95	
ILLINOIS FED. AID PROJECT				



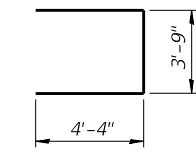
**ANCHOR BOLT DETAILS**



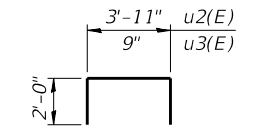
**FIELD CUTTING DIAGRAM**  
Order v3(E) and h3(E) bars full length. Cut as shown and use remainder of bars in opposite face.



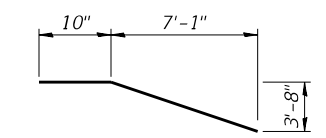
**BARS s3(E)**



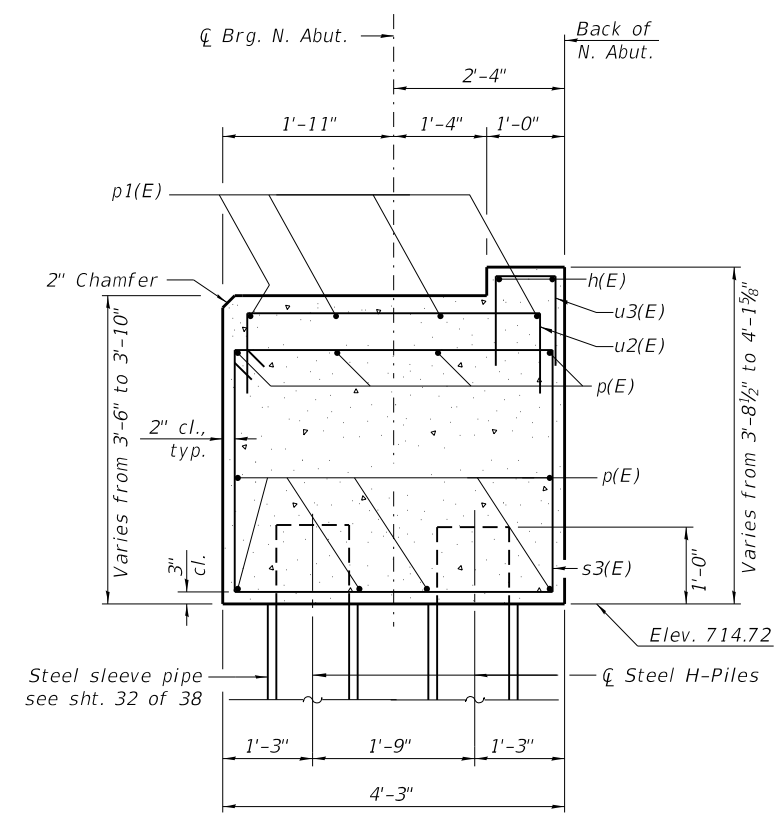
**BAR u1(E)**



**BAR u2(E) & u3(E)**



**BAR h4(E)**



**SECTION THRU NORTH ABUTMENT**

**NORTH ABUTMENT BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	4	#5	28'-7"	—
h1(E)	36	#8	13'-7"	—
h2(E)	16	#5	8'-0"	—
h3(E)	8	#5	10'-10"	—
h4(E)	4	#5	8'-10"	—
p(E)	20	#7	29'-3"	—
p1(E)	4	#5	7'-9"	—
s3(E)	64	#5	15'-1"	□
u1(E)	9	#6	9'-7"	□
u2(E)	24	#4	7'-11"	□
u3(E)	55	#4	4'-9"	□
v2(E)	8	#5	9'-10"	—
v3(E)	16	#5	15'-5"	—
Concrete Structures			Cu. Yd.	36.7
Reinforcement Bars, Epoxy Coated			Pound	4,700
Furnishing Steel Piles HP 12x53			Foot	1,554
Driving Piles			Foot	1,554
Test Pile, HP 12x53			Each	1
Geocomposite Wall Drain			Sq. Yd.	66

For details of piles see sheet 33 of 38.

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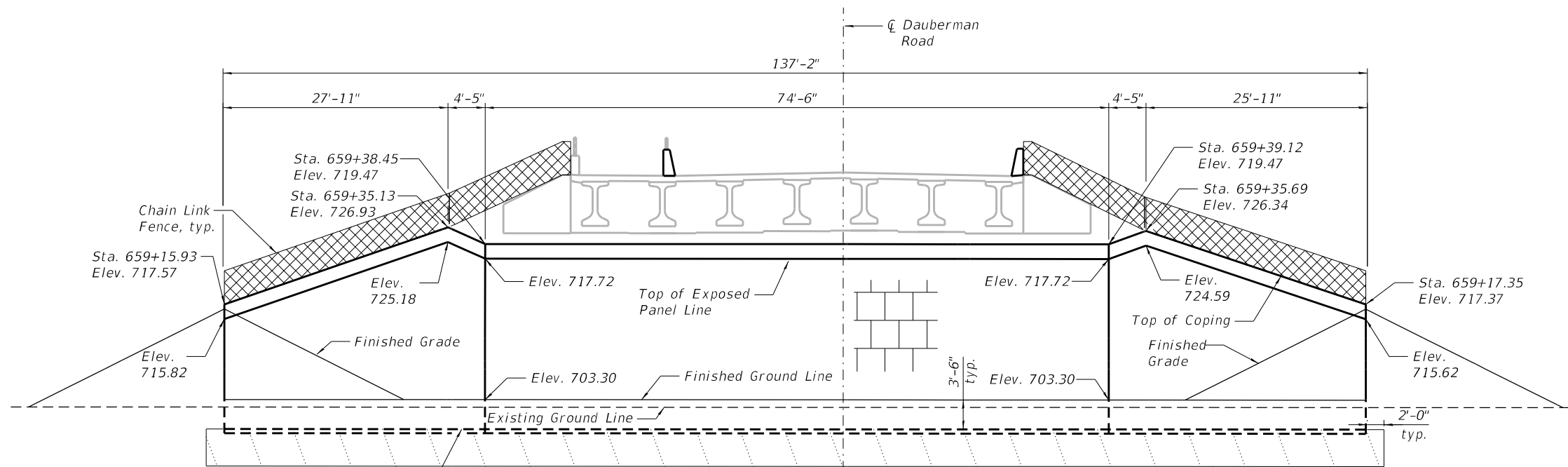
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT DETAILS  
STRUCTURE NO. 045-3402**

SHEET NO. 29 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	274
ILLINOIS FED. AID PROJECT			CONTRACT NO. 61H95	





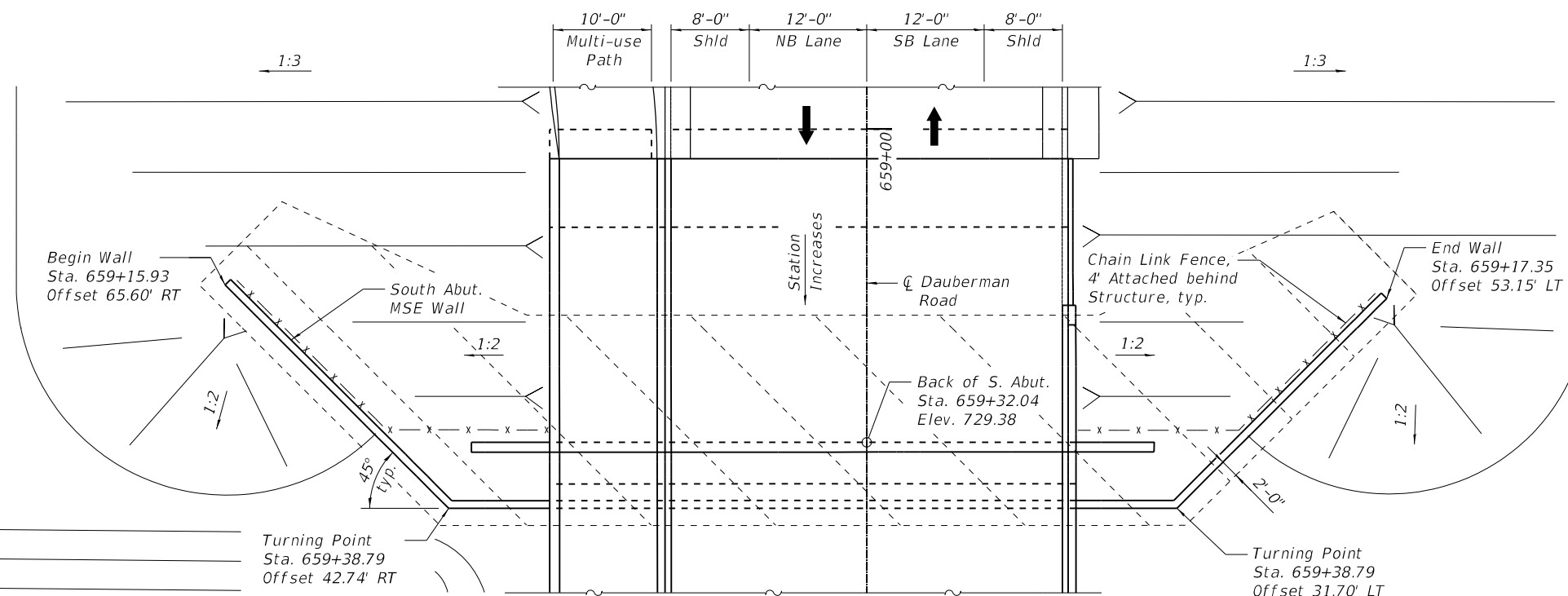
**SOUTH ABUTMENT MSE WALL DEVELOPED ELEVATION**

(Looking South)

**LEGEND**



Approximate Limits of Removal and Disposal of Unsuitable Material and Replacement with Porous Granular Embankment



**SOUTH ABUTMENT MSE WALL PLAN**



**BILL OF MATERIAL**

Item	Unit	Total
Porous Granular Embankment	Cu Yd	546
Structure Excavation	Cu Yd	399
Removal And Disposal Of Unsuitable Material For Structures	Cu Yd	546
Mechanically Stabilized Earth Retaining Wall	Sq Ft	2,628
Chain Link Fence, 4'	Foot	103
Anti-Graffiti Coating	Sq Ft	2,525

Notes:

1. Wall stations offsets are given to the front face of wall and are measured from the  $\text{\O}$  of Dauberman Road.
2. Wall to be built in conjunction with new bridge SN 045-3402.
3. Horizontal dimensions measured along front face of precast panels.
4. Existing and proposed ROW are outside of construction limits.
5. Cast-in-place concrete and reinforcing steel, epoxy coated, required for coping will be included in payment for Mechanically Stabilized Earth Retaining Wall.
6. Contractor shall coordinate MSE retaining wall construction with abutment construction. Piles are to be driven prior to MSE retaining wall construction.
7. See sheet 32 of 38 for additional details.

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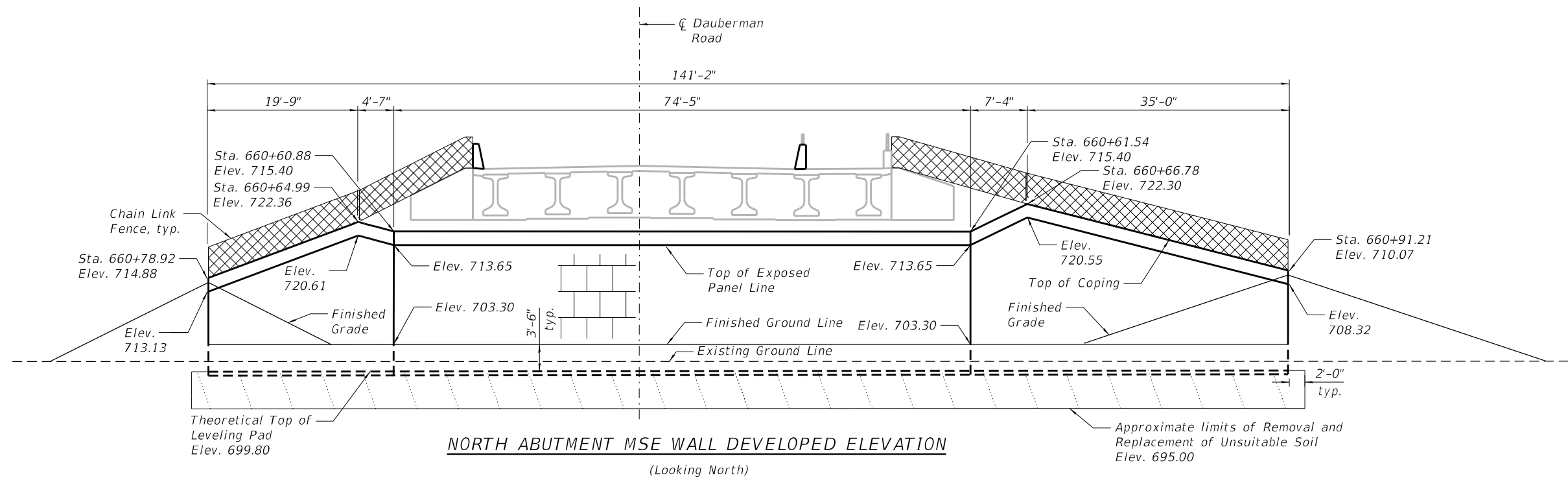
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PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION


**SOUTH ABUTMENT MSE WALL PLAN**  
**STRUCTURE NO. 045-3402**

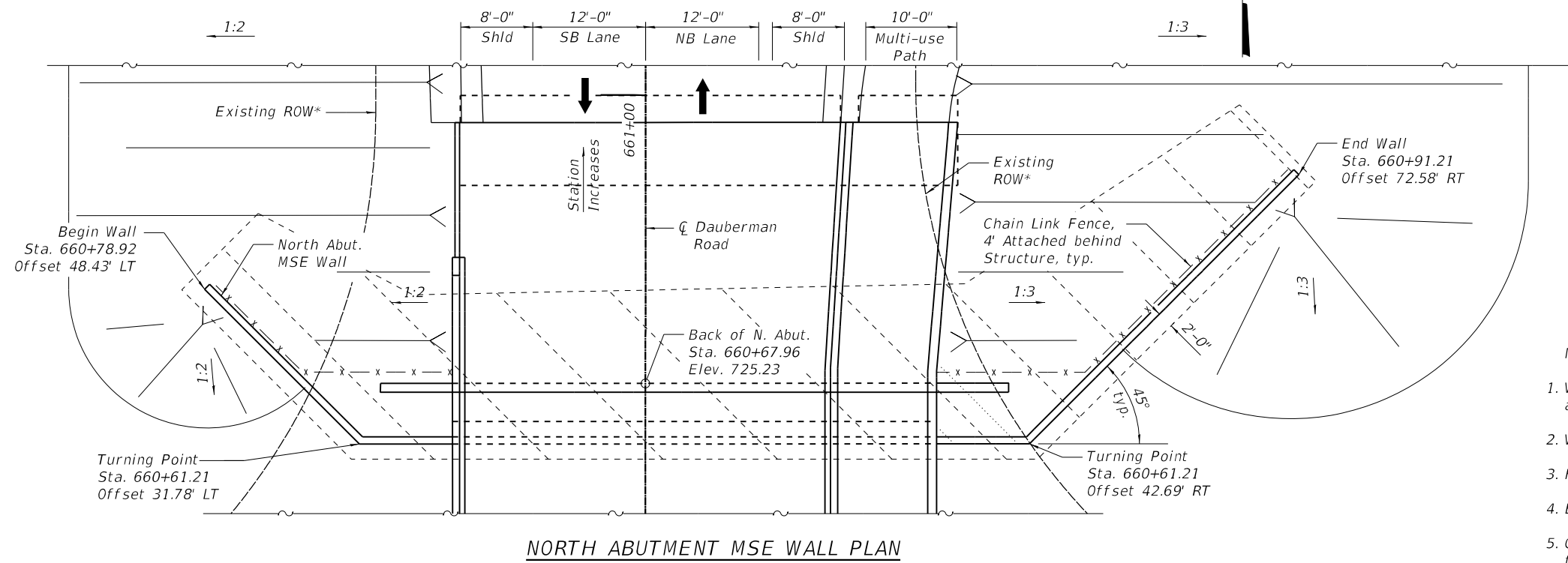
SHEET NO. 30 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	275
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



**NORTH ABUTMENT MSE WALL DEVELOPED ELEVATION**  
(Looking North)

**LEGEND**  
 Approximate Limits of Removal and Disposal of Unsuitable Material and Replacement with Porous Granular Embankment



**NORTH ABUTMENT MSE WALL PLAN**

**BILL OF MATERIAL**

Item	Unit	Total
Porous Granular Embankment	Cu Yd	541
Structure Excavation	Cu Yd	239
Removal And Disposal Of Unsuitable Material For Structures	Cu Yd	541
Mechanically Stabilized Earth Retaining Wall	Sq Ft	2,077
Chain Link Fence, 4'	Foot	106
Anti-Graffiti Coating	Sq Ft	1,981

- Notes:
1. Wall stations offsets are given to the front face of wall and are measured from the  $\text{\O}$  of Dauberman Road.
  2. Wall to be built in conjunction with new bridge SN 045-3402.
  3. Horizontal dimensions measured along front face of precast panels.
  4. Existing and proposed ROW are outside of construction limits.
  5. Cast-in-place concrete and reinforcing steel, epoxy coated, required for coping will be included in payment for Mechanically Stabilized Earth Retaining Wall.
  6. Contractor shall coordinate MSE retaining wall construction with abutment construction. Piles are to be driven prior to MSE retaining wall construction.
  7. See sheet 32 of 38 for additional details.

\* Proposed ROW is outside of construction limits.

11/18/2022 7:54:29 AM



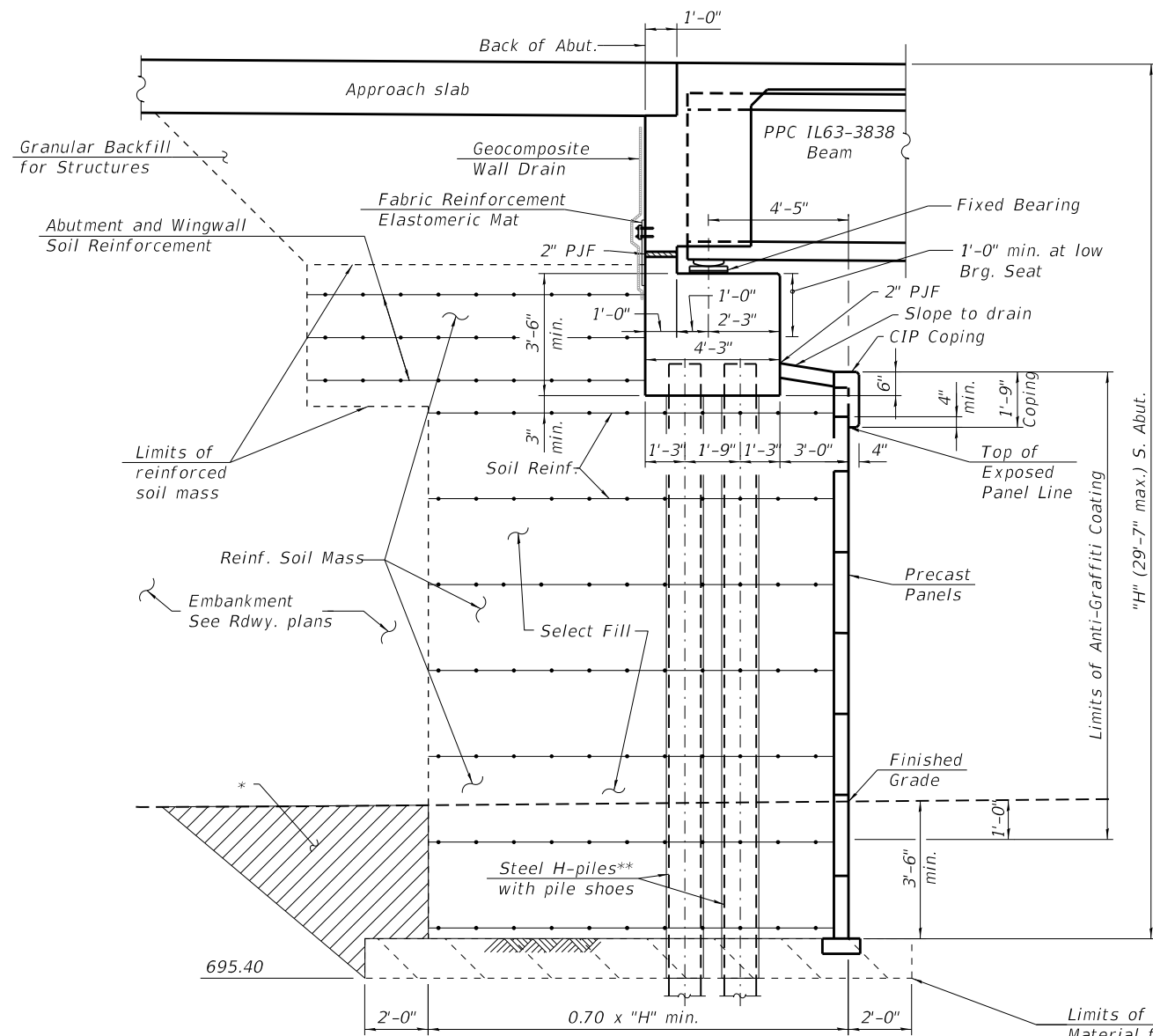
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PLOT DATE = 11/18/2022	CHECKED - TJJ	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

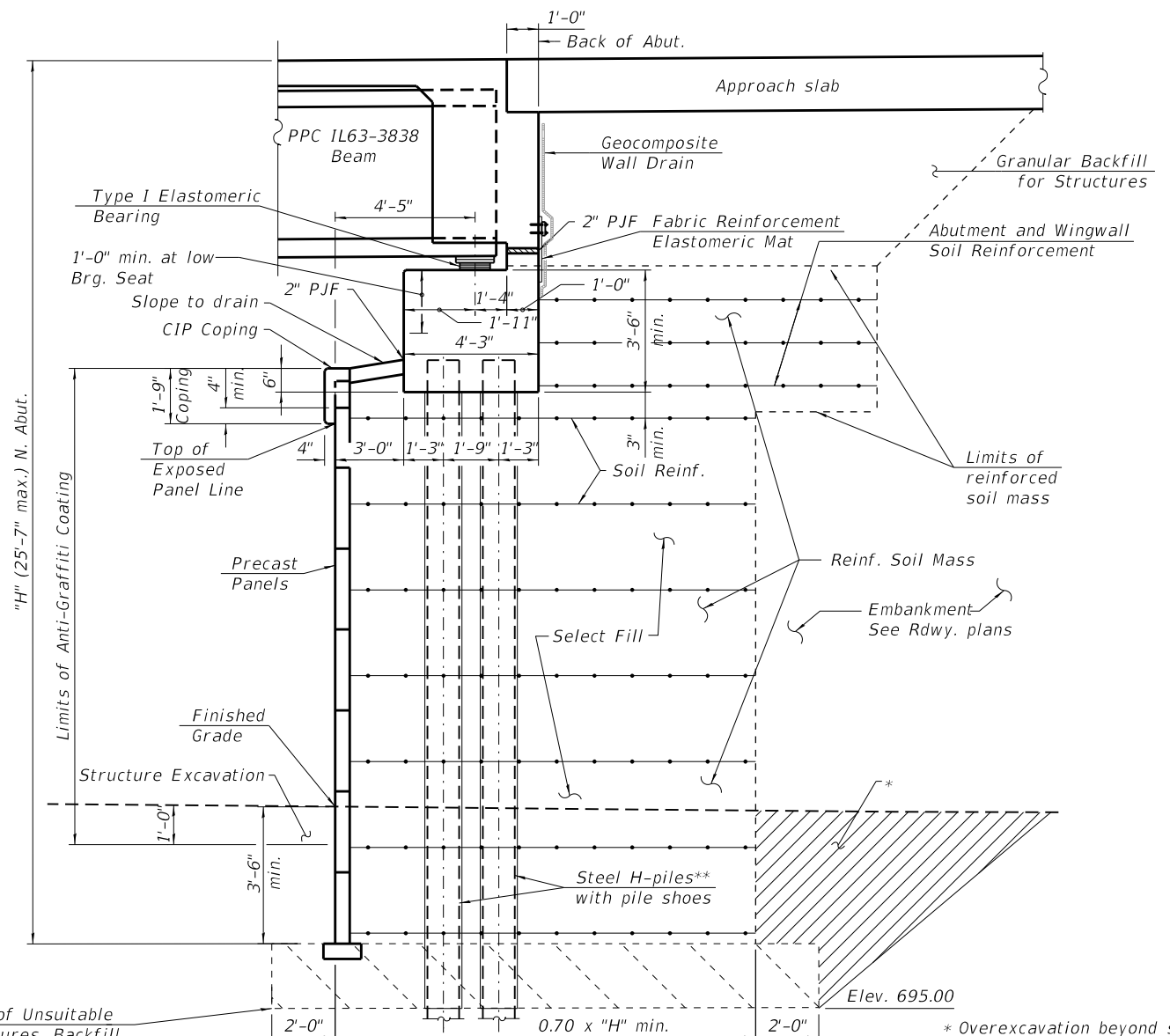
**NORTH ABUTMENT MSE WALL PLAN  
STRUCTURE NO. 045-3402**

SHEET NO. 31 OF 38 SHEETS

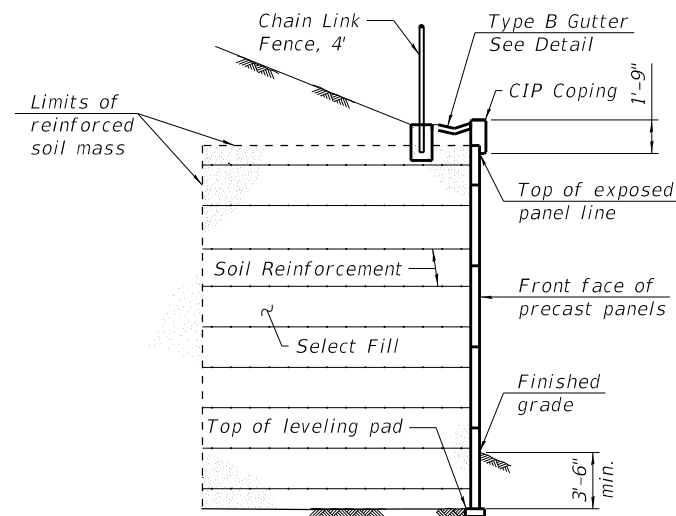
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	276
ILLINOIS FED. AID PROJECT			CONTRACT NO. 61H95	



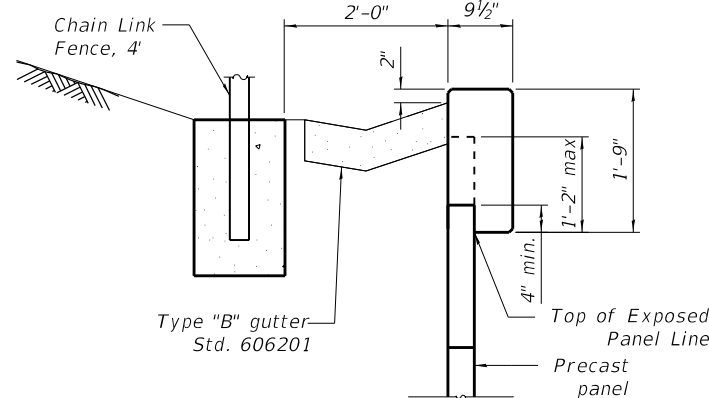
**SECTION THRU SOUTH ABUTMENT**  
(Horiz. dim at Rt. L's)



**SECTION THRU NORTH ABUTMENT**  
(Horiz. dim at Rt. L's)

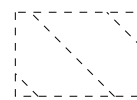


**SECTION THRU MSE WALL**



**COPING DETAIL**  
At Wingwalls

**LEGEND**



Approximate Limits of Removal of Unsuitable Material for Structures

\* Overexcavation beyond structure excavation and removal of unsuitable material.

\*\* Piles shall be driven before the construction of MSE walls. 21" O corrugated galvanized steel pipe, 10 gage min. shall be provided from the bottom of the abutment cap to the bottom of the excavation level. Install sleeves around piles and backfill sleeves with dry, loose sand.

11/18/2022 7:47:59 AM



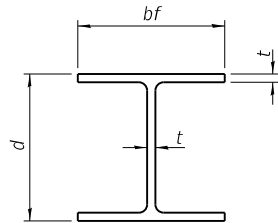
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PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**MSE WALL SECTIONS AND DETAILS**  
**STRUCTURE NO. 045-3402**

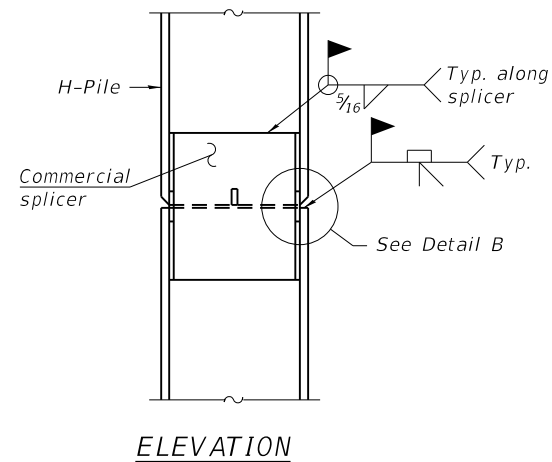
SHEET NO. 32 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	277
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

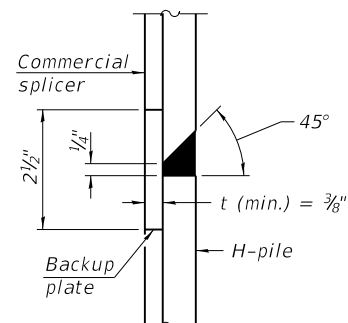


**STEEL PILE TABLE**

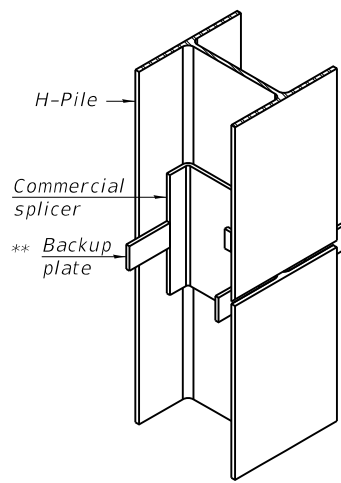
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



**ELEVATION**

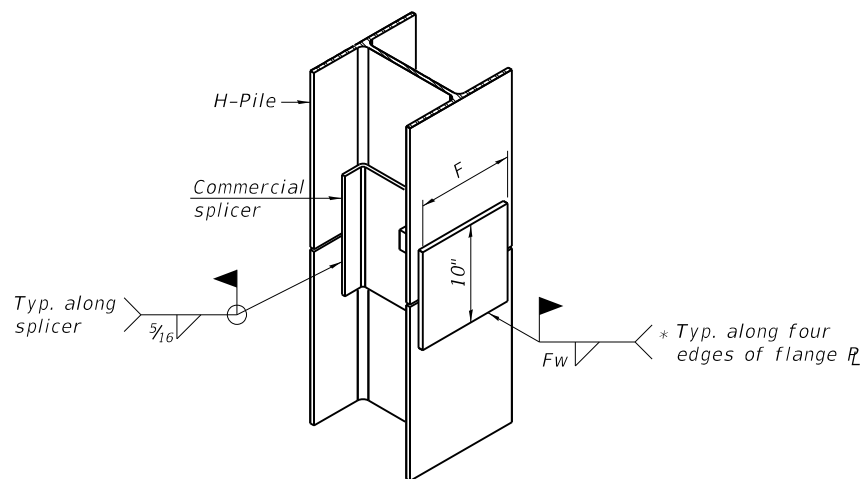


**DETAIL "B"**



**ISOMETRIC VIEW**

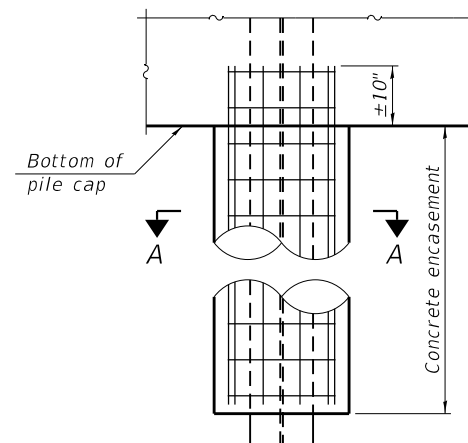
**WELDED COMMERCIAL SPLICE**



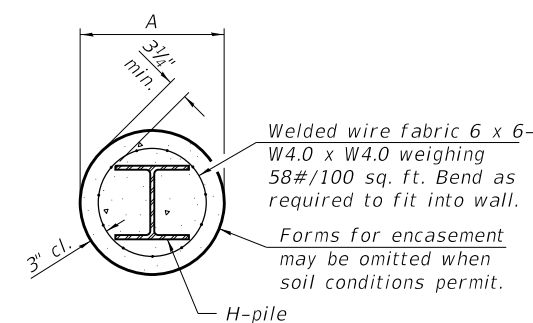
**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE ALTERNATE**

- \* Interrupt welds 1/4" from end of web and/or each flange.
- \*\* Remove portions of backup plates that extend outside the flanges.
- \*\*\* Weld size per pile shoe manufacturer (5/16" min.).

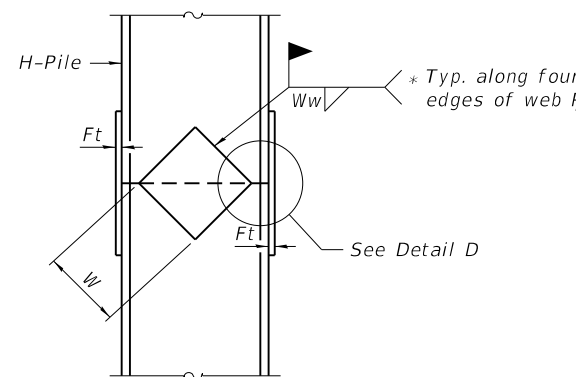


**ELEVATION**

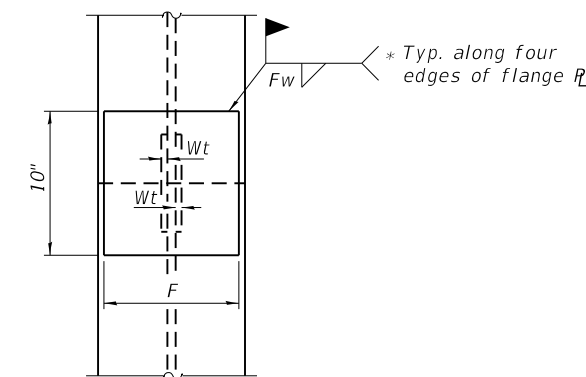


**SECTION A-A**

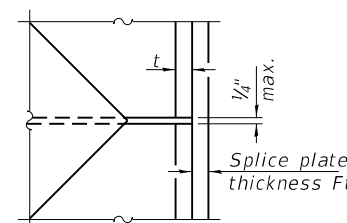
**INDIVIDUAL PILE CONCRETE ENCASUREMENT (when specified)**



**ELEVATION**



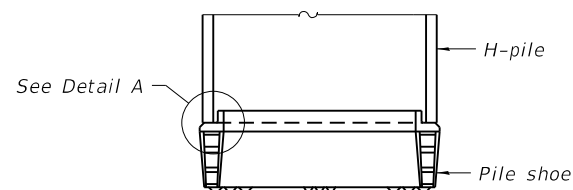
**END VIEW**



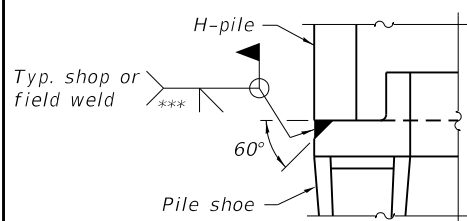
**DETAIL D**

**WELDED PLATE FIELD SPLICE**

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	3/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	3/8"	7/16"	4 1/4"	1/2"	3/8"



**ELEVATION**



**DETAIL A**

**SHOE ATTACHMENT**

Note:  
The steel H-piles shall be according to AASHTO M270 Grade 50.

11/18/2022 7:48:00 AM

F-HP 1-1-2020



USER NAME = dkierpiec	DESIGNED - HB	REvised -
PLOT SCALE = NTS	CHECKED - TJJ	REvised -
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	CHECKED - TJJ	REvised -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**HP PILE DETAILS  
STRUCTURE NO. 045-3402**

SHEET NO. 33 OF 38 SHEETS

F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 278
			CONTRACT NO. 61H95	
ILLINOIS FED. AID PROJECT				

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blows/6 in)	CU (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blows/6 in)	CU (tsf)	Moisture Content (%)
699.9	12-inch thick, black and brown SILTY CLAY --TOPSOIL--							680.4	Very dense, gray LOAM, little gravel; wet to saturated						
	Medium stiff, yellowish brown CLAY LOAM --silt lenses; moist--	1	2	2	0.50	14					9	26	NP	11	
		2	2	2							26	26			
697.9	Soft, yellowish brown and gray SILTY CLAY	2	1	2	0.25	20		677.9	Medium dense to very dense, gray, fine SAND; saturated	10	12	14	NP	20	
		5	1	1							15	15			
695.4	Loose to medium dense, yellowish brown and gray LOAM to SILTY LOAM, trace gravel --L <sub>c</sub> (%)=18, P <sub>c</sub> (%)=14-- --%Gravel=7.0-- --%Sand=33.9-- --%Silt=49.7-- --%Clay=9.3-- --A-4 (0)--	3	3	6	2.13	12					11	15	NP	20	
		4	2	3	1.15	12					16	17	NP	20	
		10	4	4							22	22			
690.4	Loose, gray SILT; saturated --%Gravel=0.1-- --%Sand=2.6-- --%Silt=92.5-- --%Clay=4.8-- --A-4 (0)--	5	4	4	NP	19					10	7	NP	7	
		6	5	5	NP	21					16	23	NP	19	
	--fine sand lenses--	15	4	4							12	10	NP	22	
685.4	Very stiff, gray CLAY LOAM to LOAM, trace gravel --hard drilling, 17.5 to 21.0 ft-- --pebbly--	7	3	3	2.00	11					17	12	NP	22	
		8	4	4	2.00	13					11	12	NP	16	
		20	6	4							15	15			

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	11-29-2016	Complete Drilling	11-29-2016	While Drilling	6.00 ft		
Drilling Contractor	Wang Testing Services	Drill Rig		At Completion of Drilling	10 ft (mud)		
Driller	K & R	Logger	J. Foote	Checked by	C. Marin		
Drilling Method	3.25" HSA; backfilled upon completion			Time After Drilling	NA		
				Depth to Water	NA		
				The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blows/6 in)	CU (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blows/6 in)	CU (tsf)	Moisture Content (%)
659.9	--continuous chatter from 41.0 ft--							638.9	--hard drilling, 62.0 to 63.0 ft-- --pebbly--						
	Medium dense to dense, gray SANDY GRAVEL; saturated														
	--%Gravel=47.8-- --%Sand=44.3-- --%Silt=7.2-- --%Clay=0.7-- --A-1-b (0)--	15	16	21	NP	11		634.1	Medium dense to dense, gray, fine to medium SAND, little gravel; saturated	19	10	13	NP	8	
		25	15	24							17	17			
		30	11	15	NP	20					13	13			
		50	16	17	NP	7					20	17	NP	17	
		55	10	7	NP	7					17	15	NP	16	
		60	7	10							16	16			
649.1	Medium dense, gray, medium to coarse SAND, little gravel; saturated	17	10	12	NP	22					21	13	NP	16	
	--rig chatter, 56.0 ft-- --pebbly--	55	12	12							19	20	NP	18	
		60	6	7	NP	8					16	16			

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	11-29-2016	Complete Drilling	11-29-2016	While Drilling	6.00 ft		
Drilling Contractor	Wang Testing Services	Drill Rig		At Completion of Drilling	10 ft (mud)		
Driller	K & R	Logger	J. Foote	Checked by	C. Marin		
Drilling Method	3.25" HSA; backfilled upon completion			Time After Drilling	NA		
				Depth to Water	NA		
				The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blows/6 in)	CU (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blows/6 in)	CU (tsf)	Moisture Content (%)
619.1	Dense to very dense, gray GRAVELLY SAND; saturated							599.1	Hard, greenish blue SILTY CLAY LOAM						
	--%Gravel=24.6-- --%Sand=68.3-- --%Silt=6.1-- --%Clay=0.9-- --A-1-b (0)--	23	14	23	NP	13					27	48	> 4.50	14	
		29	29	29							60	42	P		
		65	19	13	NP	8		595.9	--constant chatter from 105.0 ft-- Very dense, blue and green weathered SHALE --WEATHERED SHALE BEDROCK--	105					
		70	20	17	NP	17					28	NP	10		
		90	24	22	NP	13					50/2"				
		95	25	28	NP	19		590.9	Boring terminated at 110.00 ft	110					
		100	26	45	NP	15									
		115	5	5											
604.1	Very dense, gray SANDY GRAVEL; saturated	26	45	5	NP	15									

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	11-29-2016	Complete Drilling	11-29-2016	While Drilling	6.00 ft		
Drilling Contractor	Wang Testing Services	Drill Rig		At Completion of Drilling	10 ft (mud)		
Driller	K & R	Logger	J. Foote	Checked by	C. Marin		
Drilling Method	3.25" HSA; backfilled upon completion			Time After Drilling	NA		
				Depth to Water	NA		
				The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

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USER NAME = dkierpiec	DESIGNED - HB	REVISED -
PLOT SCALE = NTS	CHECKED - TJJ	REVISED -
PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BORING LOGS (1 OF 5)  
 STRUCTURE NO. 045-3402  
 SHEET NO. 34 OF 38 SHEETS

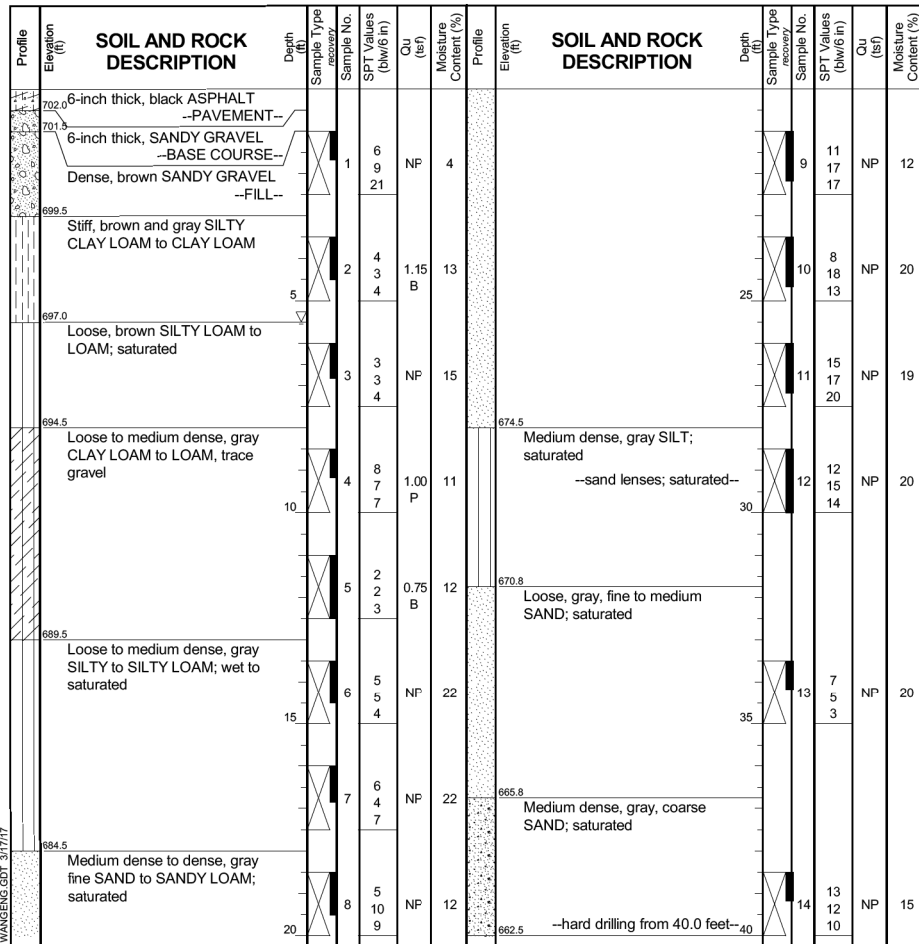
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-002771-01-BR	KANE	542	279
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

**Wang Engineering**  
wangeng@wangeng.com  
1145 N Main Street  
Lombard, IL 60148  
Telephone: 630 953-9928  
Fax: 630 953-9938

**BORING LOG B-04**  
WEI Job No.: 790-87-01  
Datum: NAVD 88  
Elevation: 702.54 ft  
North: 1856901.73 ft  
East: 931159.41 ft  
Station: 660+77.80  
Offset: 12.08' Lt.

Client: **TranSystems Corporation**  
Project: **Dauberman Road from US 30 to Granart Road**  
Location: **Kane County, Illinois**

Page 1 of 3



**GENERAL NOTES**  
Begin Drilling 12-01-2016 Complete Drilling 12-01-2016  
Drilling Contractor Wang Testing Services Drill Rig  
Driller K & J Logger J. Foote Checked by C. Marin  
Drilling Method 3.25" HSA; backfilled upon completion

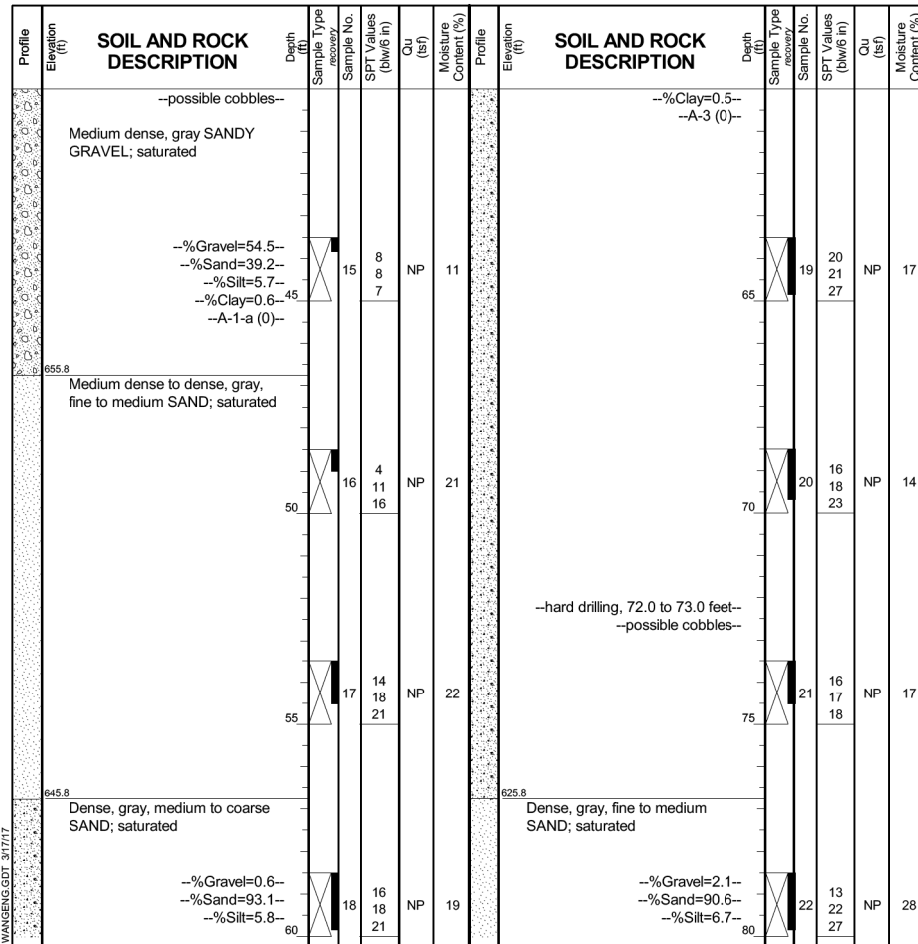
**WATER LEVEL DATA**  
While Drilling 5.50 ft  
At Completion of Drilling 14 ft (mud)  
Time After Drilling NA  
Depth to Water NA  
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

**Wang Engineering**  
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**BORING LOG B-04**  
WEI Job No.: 790-87-01  
Datum: NAVD 88  
Elevation: 702.54 ft  
North: 1856901.73 ft  
East: 931159.41 ft  
Station: 660+77.80  
Offset: 12.08' Lt.

Client: **TranSystems Corporation**  
Project: **Dauberman Road from US 30 to Granart Road**  
Location: **Kane County, Illinois**

Page 2 of 3



**GENERAL NOTES**  
Begin Drilling 12-01-2016 Complete Drilling 12-01-2016  
Drilling Contractor Wang Testing Services Drill Rig  
Driller K & J Logger J. Foote Checked by C. Marin  
Drilling Method 3.25" HSA; backfilled upon completion

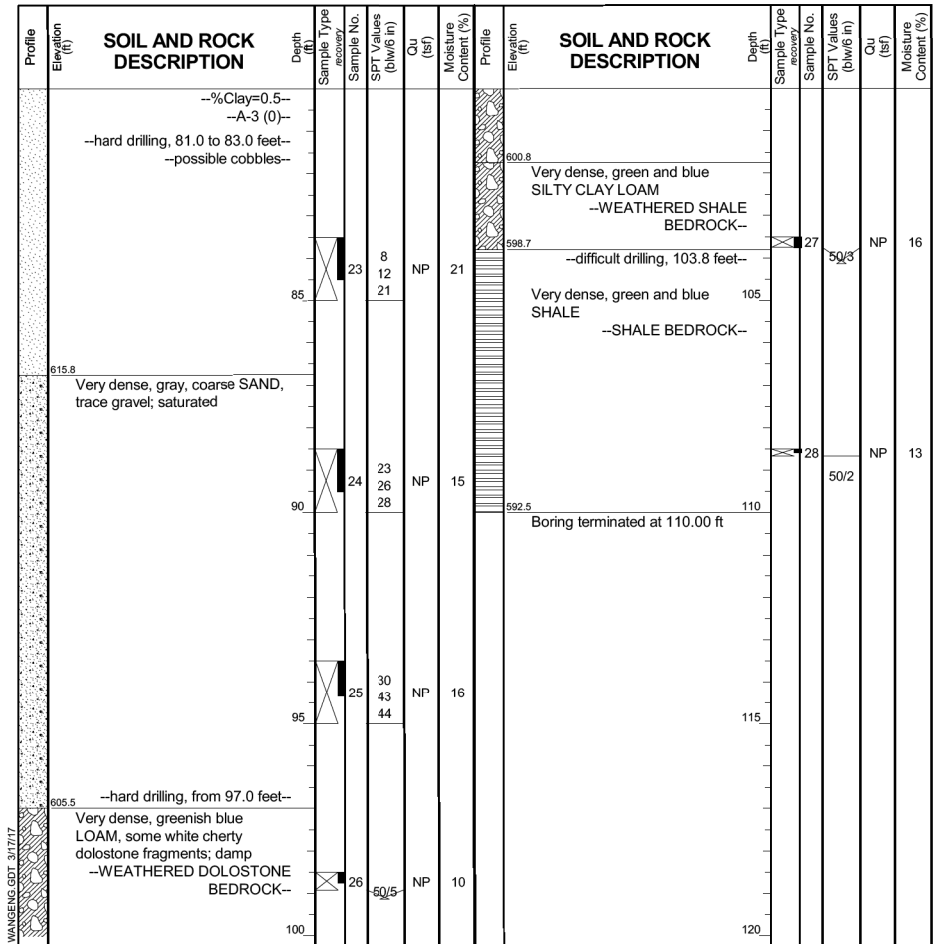
**WATER LEVEL DATA**  
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At Completion of Drilling 14 ft (mud)  
Time After Drilling NA  
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**BORING LOG B-04**  
WEI Job No.: 790-87-01  
Datum: NAVD 88  
Elevation: 702.54 ft  
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East: 931159.41 ft  
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Offset: 12.08' Lt.

Client: **TranSystems Corporation**  
Project: **Dauberman Road from US 30 to Granart Road**  
Location: **Kane County, Illinois**

Page 3 of 3



**GENERAL NOTES**  
Begin Drilling 12-01-2016 Complete Drilling 12-01-2016  
Drilling Contractor Wang Testing Services Drill Rig  
Driller K & J Logger J. Foote Checked by C. Marin  
Drilling Method 3.25" HSA; backfilled upon completion

**WATER LEVEL DATA**  
While Drilling 5.50 ft  
At Completion of Drilling 14 ft (mud)  
Time After Drilling NA  
Depth to Water NA  
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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USER NAME = dkierpiec	DESIGNED - HB	REVISED -
PLOT SCALE = NTS	CHECKED - TJJ	REVISED -
PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS (2 OF 5)  
STRUCTURE NO. 045-3402

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	280
CONTRACT NO. 61H95				

SHEET NO. 35 OF 38 SHEETS

ILLINOIS FED. AID PROJECT

**Wang Engineering**  
 wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG RW-05**  
 WEI Job No.: 790-87-01  
 Datum: NAVD 88  
 Elevation: 701.49 ft  
 North: 1856764.06 ft  
 East: 931089.95 ft  
 Station: 659+40.14  
 Offset: 81.49' Lt.

Client: **TranSystems Corporation**  
 Project: **Dauberman Road from US 30 to Granart Road**  
 Location: **Kane County, Illinois**

**Wang Engineering**  
 wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

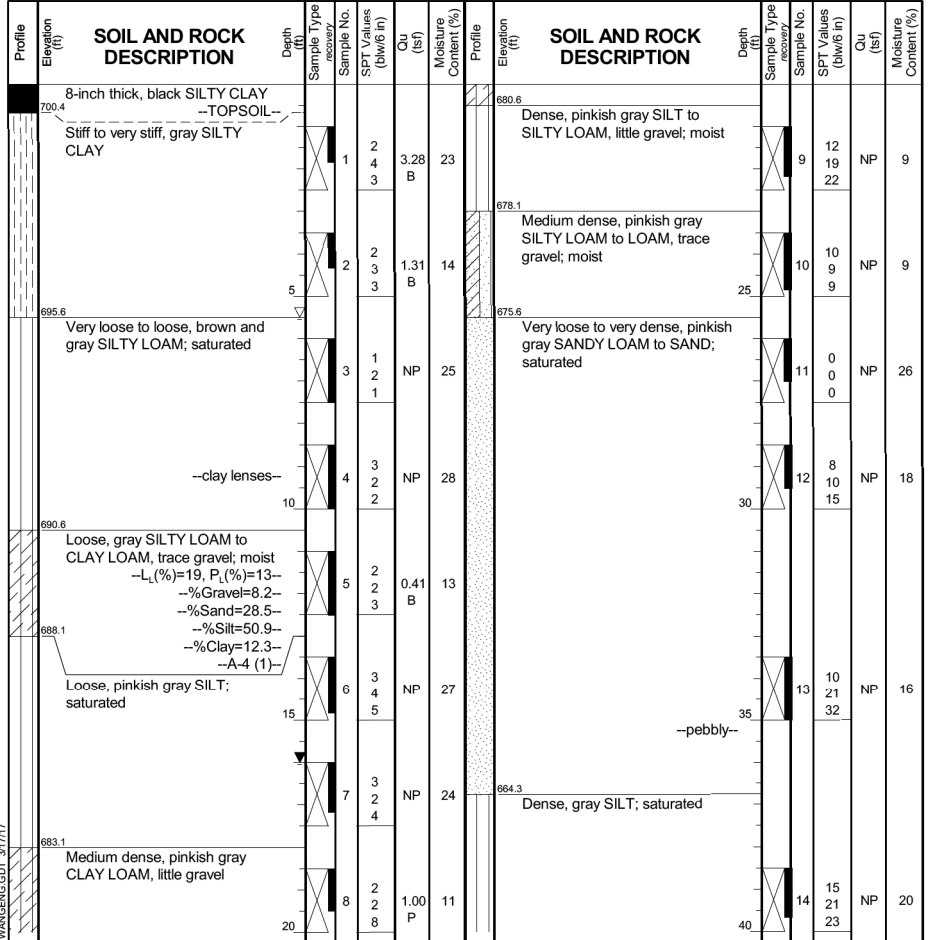
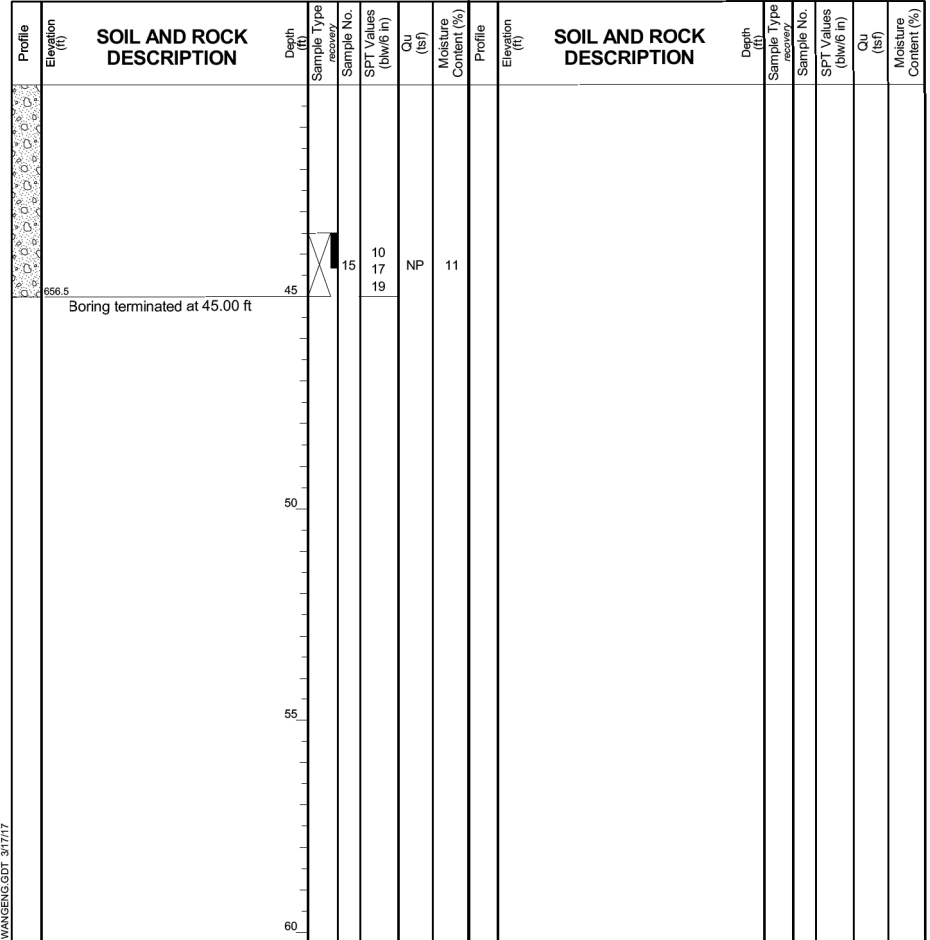
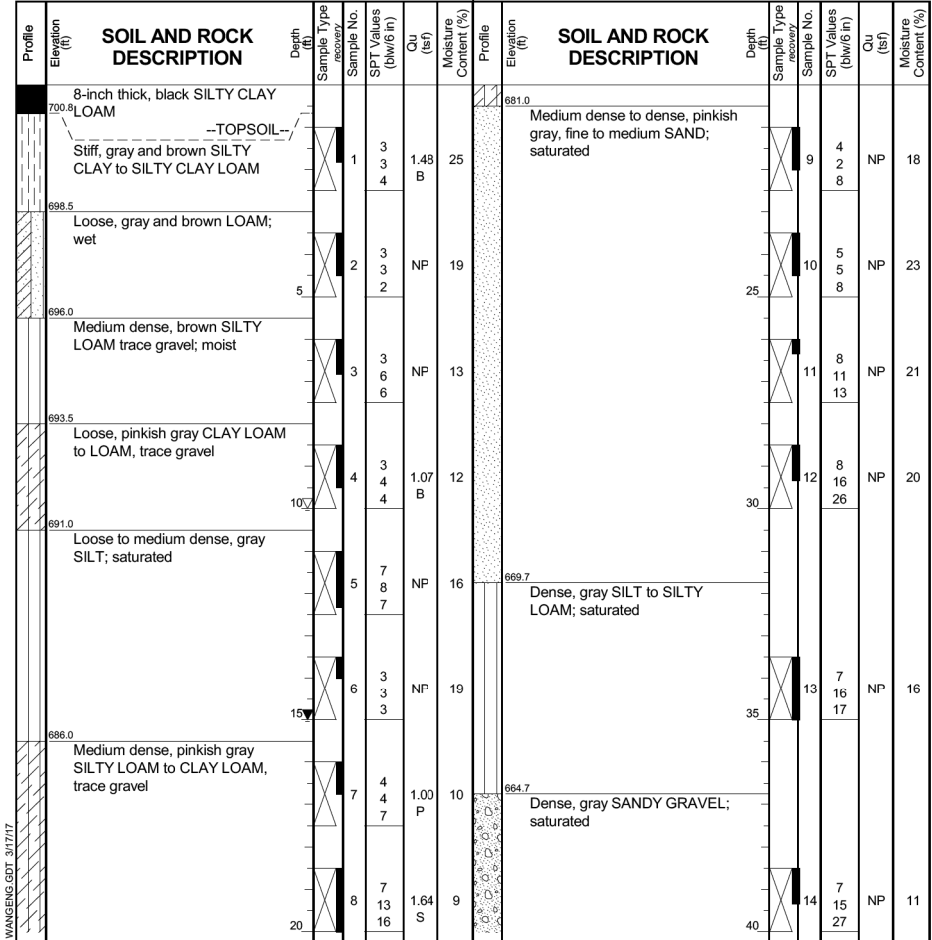
**BORING LOG RW-05**  
 WEI Job No.: 790-87-01  
 Datum: NAVD 88  
 Elevation: 701.49 ft  
 North: 1856764.06 ft  
 East: 931089.95 ft  
 Station: 659+40.14  
 Offset: 81.49' Lt.

Client: **TranSystems Corporation**  
 Project: **Dauberman Road from US 30 to Granart Road**  
 Location: **Kane County, Illinois**

**Wang Engineering**  
 wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG RW-06**  
 WEI Job No.: 790-87-01  
 Datum: NAVD 88  
 Elevation: 701.06 ft  
 North: 1856764.66 ft  
 East: 931267.65 ft  
 Station: 659+40.70  
 Offset: 96.21' Rt.

Client: **TranSystems Corporation**  
 Project: **Dauberman Road from US 30 to Granart Road**  
 Location: **Kane County, Illinois**



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	11-23-2016	Complete Drilling	11-23-2016
Drilling Contractor	Wang Testing Services	Drill Rig	
Driller	K & J	Logger	J. Foote
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	3.25" HSA; backfilled upon completion	Depth to Water	NA

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	11-23-2016	Complete Drilling	11-23-2016
Drilling Contractor	Wang Testing Services	Drill Rig	
Driller	K & J	Logger	J. Foote
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	3.25" HSA; backfilled upon completion	Depth to Water	NA

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	11-23-2016	Complete Drilling	11-23-2016
Drilling Contractor	Wang Testing Services	Drill Rig	
Driller	K & J	Logger	J. Foote
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	3.25" HSA; backfilled upon completion	Depth to Water	NA

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PLOT SCALE = NTS	CHECKED - TJJ	REVISED -
PLOT DATE = 11/18/2022	DRAWN - HB	REVISED -
	CHECKED - TJJ	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BORING LOGS (3 OF 5)  
 STRUCTURE NO. 045-3402

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	281
CONTRACT NO. 61H95				

SHEET NO. 36 OF 38 SHEETS

ILLINOIS FED. AID PROJECT

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 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG RW-06**  
 WEI Job No.: 790-87-01  
 Client: **TranSystems Corporation**  
 Project: **Dauberman Road from US 30 to Granart Road**  
 Location: **Kane County, Illinois**

Datum: NAVD 88  
 Elevation: 701.06 ft  
 North: 1856764.66 ft  
 East: 931267.65 ft  
 Station: 659+40.70  
 Offset: 96.21' Rt.

Page 2 of 2

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample Type	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample Type	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
659.3	Dense, gray GRAVEL; saturated														
656.1	Boring terminated at 45.00 ft	45	15		12 12 21	NP	10								

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	11-23-2016	Complete Drilling	11-23-2016	While Drilling	▽	5.50 ft	
Drilling Contractor	Wang Testing Services	Drill Rig		At Completion of Drilling	▽	16.00 ft	
Driller	K & J	Logger	J. Foote	Checked by	C. Marin	Time After Drilling	NA
Drilling Method	3.25" HSA; backfilled upon completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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 Fax: 630 953-9938

**BORING LOG RW-07**  
 WEI Job No.: 790-87-01  
 Client: **TranSystems Corporation**  
 Project: **Dauberman Road from US 30 to Granart Road**  
 Location: **Kane County, Illinois**

Datum: NAVD 88  
 Elevation: 700.84 ft  
 North: 1856884.64 ft  
 East: 931083.53 ft  
 Station: 660+60.73  
 Offset: 87.94' Lt.

Page 1 of 2

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample Type	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample Type	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
700.1	9-inch thick, black SILTY CLAY --TOPSOIL--														
697.8	Medium stiff, yellowish brown, brown, and gray SILTY CLAY														
697.8	Soft, brown CLAY LOAM to LOAM														
695.3	Loose to medium dense, gray LOAM to CLAY LOAM; saturated														
690.3	Medium dense to very dense, gray SILT to SILTY LOAM; saturated														
689.1	Medium dense, gray SAND; saturated														
682.8	Dense, gray CLAY LOAM, trace gravel														

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	11-30-2016	Complete Drilling	11-30-2016	While Drilling	▽	5.50 ft	
Drilling Contractor	Wang Testing Services	Drill Rig		At Completion of Drilling	▽	21.00 ft	
Driller	K & J	Logger	J. Foote	Checked by	C. Marin	Time After Drilling	NA
Drilling Method	3.25" HSA; backfilled upon completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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**BORING LOG RW-07**  
 WEI Job No.: 790-87-01  
 Client: **TranSystems Corporation**  
 Project: **Dauberman Road from US 30 to Granart Road**  
 Location: **Kane County, Illinois**

Datum: NAVD 88  
 Elevation: 700.84 ft  
 North: 1856884.64 ft  
 East: 931083.53 ft  
 Station: 660+60.73  
 Offset: 87.94' Lt.

Page 2 of 2

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample Type	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample Type	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
655.8	Boring terminated at 45.00 ft	45	15		9 12 16	NP	12								

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	11-30-2016	Complete Drilling	11-30-2016	While Drilling	▽	5.50 ft	
Drilling Contractor	Wang Testing Services	Drill Rig		At Completion of Drilling	▽	21.00 ft	
Driller	K & J	Logger	J. Foote	Checked by	C. Marin	Time After Drilling	NA
Drilling Method	3.25" HSA; backfilled upon completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BORING LOGS (4 OF 5)  
 STRUCTURE NO. 045-3402  
 SHEET NO. 37 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	282
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



**Wang Engineering**  
 wangeng@wangeng.com  
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 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG RW-08**  
 WEI Job No.: 790-87-01  
 Client: **TranSystems Corporation**  
 Project: **Dauberman Road from US 30 to Granart Road**  
 Location: **Kane County, Illinois**

Datum: NAVD 88  
 Elevation: 700.72 ft  
 North: 1856888.77 ft  
 East: 931264.05 ft  
 Station: 660+64.81  
 Offset: 92.58' Rt.

Page 1 of 2

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
699.7	12-inch thick, black SILTY CLAY LOAM --TOPSOIL--	1	2 4 4	0.75 P	22		680.2	--hard drilling, 20.0 to 21.0 feet-- --pebbly--	9	20 26 29	NP	9	
697.7	Medium stiff, yellowish brown SILTY CLAY to SILTY CLAY LOAM	2	2 2 4	0.75 P	19		677.7	Very dense, gray SILTY LOAM; moist	10	14 9 7	NP	13	
695.2	Medium stiff, yellowish brown CLAY LOAM to LOAM, trace gravel; moist	3	7 9 4	0.57 B	16			Medium dense to very dense, gray, fine SAND to SANDY LOAM; saturated	11	6 11 10	NP	16	
690.2	Loose to medium dense, yellowish brown LOAM to SILTY LOAM, trace gravel; moist --L <sub>c</sub> (%)=19, P <sub>c</sub> (%)=15-- --%Gravel=9.3-- --%Sand=37.7-- --%Silt=45.2-- --%Clay=7.8--	4	3 3 3	0.82 B	12			--coarse sand lenses--	12	9 13 21	NP	14	
690.2	Medium dense to very dense, gray SILT; saturated	5	5 6 8	NP	18				13	13 24 40	NP	15	
682.7	Loose, gray CLAY LOAM to LOAM	8	3 3 5	0.50 P	12			--coarse sand lenses--	14	5 16 26	NP	15	

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	11-30-2016	Complete Drilling	11-30-2016	While Drilling	▽	10.50 ft	
Drilling Contractor	Wang Testing Services	Drill Rig		At Completion of Drilling	▽	23.50 ft	
Driller	K & J	Logger	J. Foote	Checked by	C. Marin	Time After Drilling	NA
Drilling Method	3.25" HSA; backfilled upon completion			Depth to Water	▽	NA	

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG RW-08**  
 WEI Job No.: 790-87-01  
 Client: **TranSystems Corporation**  
 Project: **Dauberman Road from US 30 to Granart Road**  
 Location: **Kane County, Illinois**

Datum: NAVD 88  
 Elevation: 700.72 ft  
 North: 1856888.77 ft  
 East: 931264.05 ft  
 Station: 660+64.81  
 Offset: 92.58' Rt.

Page 2 of 2

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
685.7	Boring terminated at 45.00 ft	45	15	7 10 11	NP	15							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	11-30-2016	Complete Drilling	11-30-2016	While Drilling	▽	10.50 ft	
Drilling Contractor	Wang Testing Services	Drill Rig		At Completion of Drilling	▽	23.50 ft	
Driller	K & J	Logger	J. Foote	Checked by	C. Marin	Time After Drilling	NA
Drilling Method	3.25" HSA; backfilled upon completion			Depth to Water	▽	NA	

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BORING LOGS (5 OF 5)  
 STRUCTURE NO. 045-3402  
 SHEET NO. 38 OF 38 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	283
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

**BOX CULVERT DATA & POROUS GRANULAR EMBANKMENT SCHEDULE**

Culvert Number	Station	Culvert Size (Span x Rise)	Cu. Yd.
1	Garnart Rd Sta. 628+16.69	3'x2'	211
2	Dauberman Rd Sta. 636+51.94	4'x2'	222
3	Bike Path Sta. 636+51.95	4'x2'	26
4	Dauberman Rd Sta. 636+66.94	5'x3'	208
5	Bike Path Sta. 636+66.94	5'x3'	37
6	Dauberman Rd Sta. 649+50.00	4'x2'	128
7	Dauberman Rd Sta. 651+50.00	4'x2'	149
8	Dauberman Rd Sta. 655+92.00	4'x2'	147
9	Dauberman Rd Sta. 666+21.23	5'x2'	210
10	Dauberman Rd Sta. 666+38.13	4'x3'	475
11	US 30 Sta. 354+70.27	7'x3'	375

**INDEX OF SHEETS**

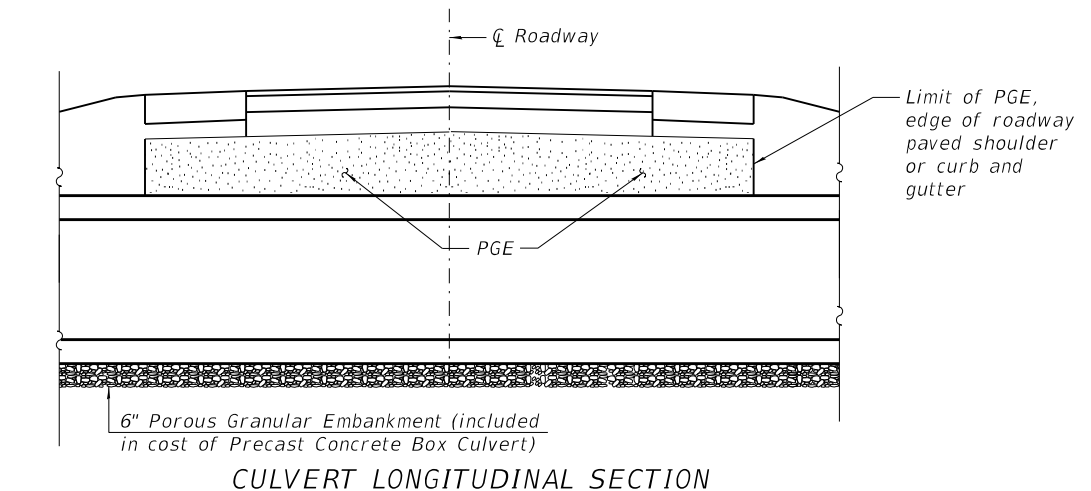
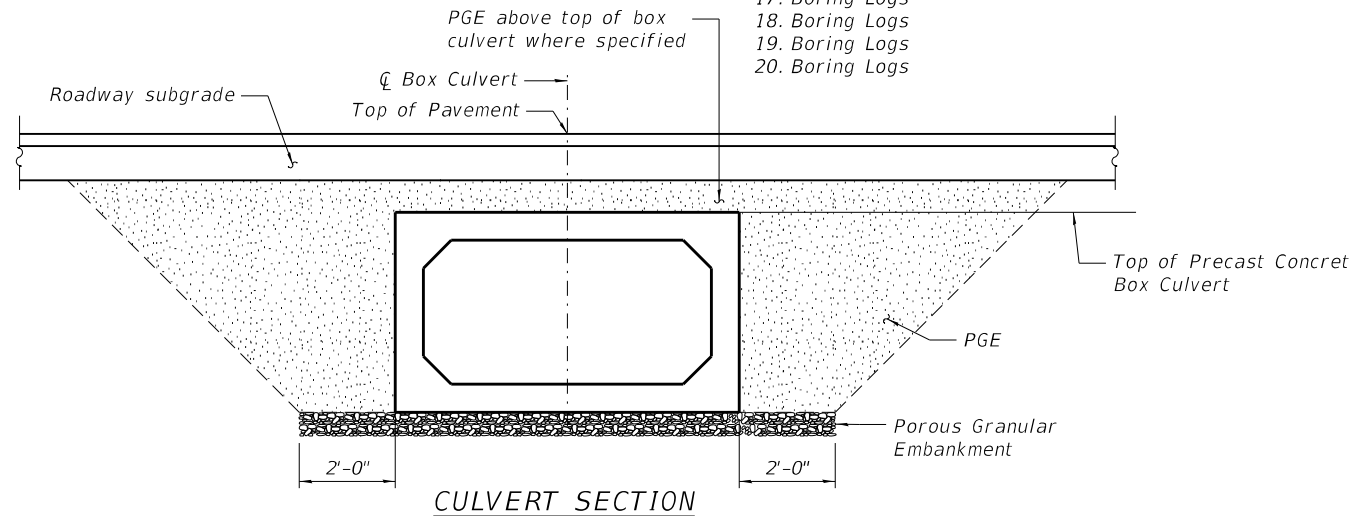
- General Data Culvert No. 1 Thru Culvert No. 11
- General Plan and Elevation Culvert No. 11
- Stage Construction Details Culvert No. 11
- Box Culvert End Section Details Culvert No. 11 Upstream
- Box Culvert End Section Details Culvert No. 11 Downstream
- Box Culvert End Section Details Culvert No. 11 Downstream
- Box Culvert End Section Details Culvert No. 11 Downstream
- Single Cell Precast Box Culvert Tapered End Sections Culvert No. 1 Thru 8
- Single Cell Precast Box Culvert Tapered End Sections Culvert No. 1 Thru 8
- Box Culvert End Section Details Culvert No. 9 & 10 Downstream
- Box Culvert End Section Details Culvert No. 9 Upstream
- Box Culvert End Section Details Culvert No. 10 Upstream
- Box Culvert End Section Details Culvert No. 9 & 10
- Box Culvert End Section Details Culvert No. 9 & 10
- Box Culvert Boring Location Plan
- Boring Logs
- Boring Logs
- Boring Logs
- Boring Logs
- Boring Logs

**GENERAL NOTES**

See Drainage plans for additional culvert details.  
 Any information concerning type or location of underground and other utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to the type and location of the utilities as may be necessary to avoid damage thereto. Contractor shall call J.U.L.I.E. prior to excavation.  
 Structural seal does not include design of precast elements.  
 Exposed edges shall have a 3/4" chamfer.  
 Cover from the face of cast-in-place concrete to face of reinforcement bars shall be 3" for surfaces cast against earth and 2" for all other surfaces, unless otherwise noted.  
 The size specified shall conform to the applicable requirements of Section 540 of the Standard Specification and ASTM C 1577, and the Special Provisions.  
 Precast box culverts shall be cast without bells and spigots on the ends at cast-in-place end sections.  
 The 6 in. thick layer of porous granular material required for precast concrete box culverts per Article 540.06 of the Standard Specifications shall also apply to the end sections. Cost of the porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required.  
 Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.  
 Cost of culvert wingwalls are included in the Box Culvert End Sections for the respective culvert.  
 Geocomposite Wall Drain shall be according to Section 591 of the Standard Specifications, except that concrete nails shall not be used in areas where it overlaps Membrane Waterproofing System for Buried Structures.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Porous Granular Embankment	Cu. Yd.	2,188
Name Plates	Each	1
Temporary Soil Retention System	Sq. Ft.	432
Box Culvert End Sections, Culvert No. 1	Each	2
Box Culvert End Sections, Culvert No. 2	Each	2
Box Culvert End Sections, Culvert No. 3	Each	2
Box Culvert End Sections, Culvert No. 4	Each	2
Box Culvert End Sections, Culvert No. 5	Each	2
Box Culvert End Sections, Culvert No. 6	Each	2
Box Culvert End Sections, Culvert No. 7	Each	2
Box Culvert End Sections, Culvert No. 8	Each	2
Box Culvert End Sections, Culvert No. 9	Each	2
Box Culvert End Sections, Culvert No. 10	Each	2
Box Culvert End Sections, Culvert No. 11	Each	2
Precast Concrete Box Culverts 3'x2'	Foot	114
Precast Concrete Box Culverts 4'x2'	Foot	675
Precast Concrete Box Culverts 4'x3'	Foot	149
Precast Concrete Box Culverts 5'x2'	Foot	137
Precast Concrete Box Culverts 5'x3'	Foot	106
Precast Concrete Box Culverts 7'x3'	Foot	135
Geocomposite Wall Drain	Sq. Yd.	411
Membrane Waterproofing for Buried Structures	Sq. Yd.	411



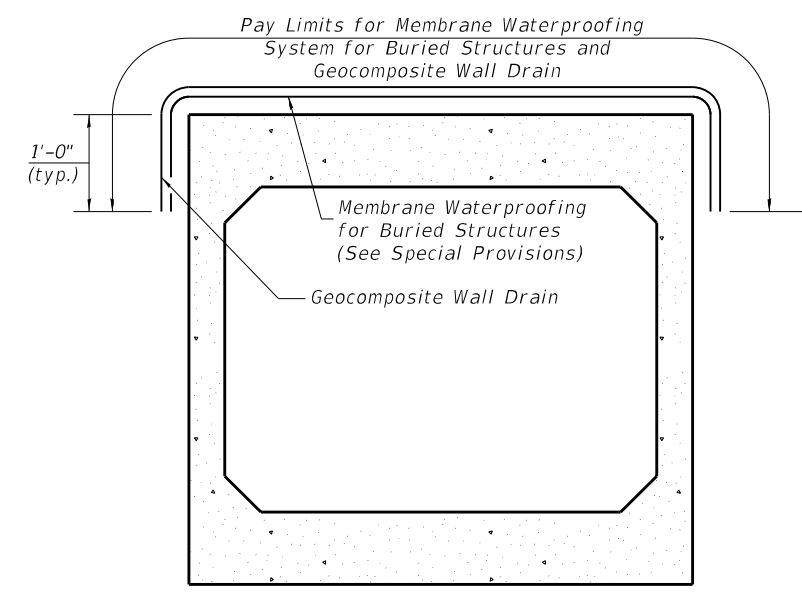
**Notes:**  
 Work shown in the detail shall be performed in accordance with applicable portions of Section 207 and Section 540 of the Standard Specifications.  
 Precast concrete box culverts and box culvert end sections shall be backfilled with Porous Granular Embankment to the top of the box culvert extending to a vertical plane 2 ft from the exterior sides of the culvert, 2 ft from the back face of the end sections, and not closer than 2 ft from the face of embankment. Include additional backfill with Porous Granular Embankment with a 1:1 slant slope extending to above the top of box culverts as shown in Culvert Section.  
 Porous Granular Embankment shall be placed above the top of box culverts to the bottom of the subgrade, for the lateral limit shown at Culverts No. 1, 2, 4, 9, 10 and 11.

**POROUS GRANULAR EMBANKMENT DETAILS**



*Joel Hildebrand*  
 DATE SIGNED: 11-17-2022  
 EXP. DATE: 11-30-2022

I certify that to the best of my knowledge, information and belief, this design is structurally adequate for the design loading shown on the plans. The design is an economical one of the style of structure and complies with the requirements of the current AASHTO LRFD Bridge Design Specifications.



**PRECAST BOX CULVERT MEMBRANE WATERPROOFING SYSTEM**  
 For Box Culvert Nos. 3, 4 & 5

**DESIGN SPECIFICATIONS**

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

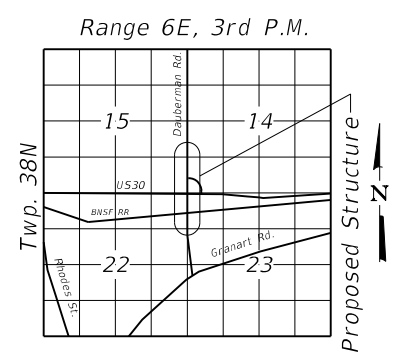
**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

**PRECAST UNITS**

$f'_c = 5,000$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 65,000$  psi (Welded Wire Fabric)



**LOCATION SKETCH**

**GENERAL DATA**  
**CULVERT NO. 1 THRU CULVERT NO. 11**  
**DAUBERMAN ROAD**  
**F.A.S. RTE 1107**  
**SECTION 15-00277-01-BR**  
**KANE COUNTY**  
**STA. 628+00 TO STA. 667+00**

11/18/2022 11:20:12 AM



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PLOT DATE = 11/18/2022	DRAWN -	REVISED -
	CHECKED -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA**  
**CULVERT NO. 1 THRU CULVERT NO. 11**  
 SHEET NO. 1 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	284
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

Benchmark: Railroad spike set in power pole with light on south side of U.S. 30 Elev. 702.56

Existing Structure: None

**GENERAL NOTES**

The design fill height for this box is 3 feet. The precast box culvert sections shall conform to the requirements of ASTM C 1577. The 6 in. thick layer of porous granular material required for the precast concrete box culvert per Art. 540.06 of the Standard Specifications shall also apply to the end sections. Cost of the porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required. Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard. Precast concrete box culverts and box culvert end sections shall be backfilled with Porous Granular Embankment below the top of the box culvert extending to a vertical plane 2 ft from the exterior sides of the culvert, 2 ft from the back face of the end sections, and not closer than 2 ft from the face of embankment, and from the top of the top of the box culvert to the bottom of the roadway subgrade. Include additional backfill with Porous Granular Embankment with a 1:1 slant slope extending to above the top of box culverts as shown in Culvert Section. See Sheet 1 of 20.

**DESIGN SPECIFICATIONS**  
2020 AASHTO LRFD Bridge Design Specifications  
9th Edition

**LOADING HL-93**

**DESIGN STRESSES**

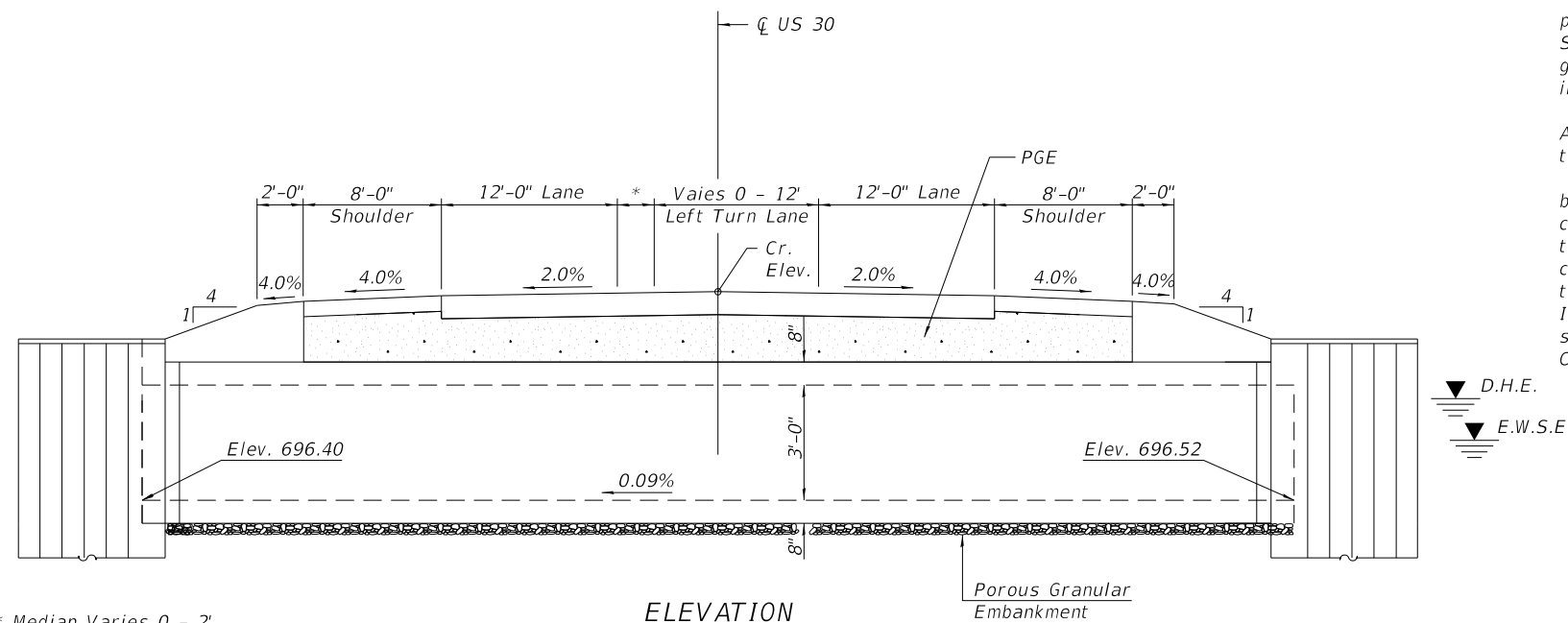
**PRECAST UNITS**

$f'_c = 5,000$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 65,000$  psi (Welded Wire Reinforcement)

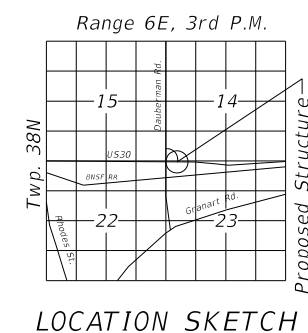
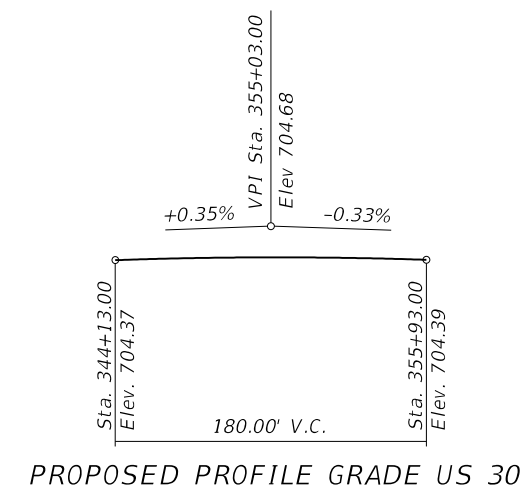
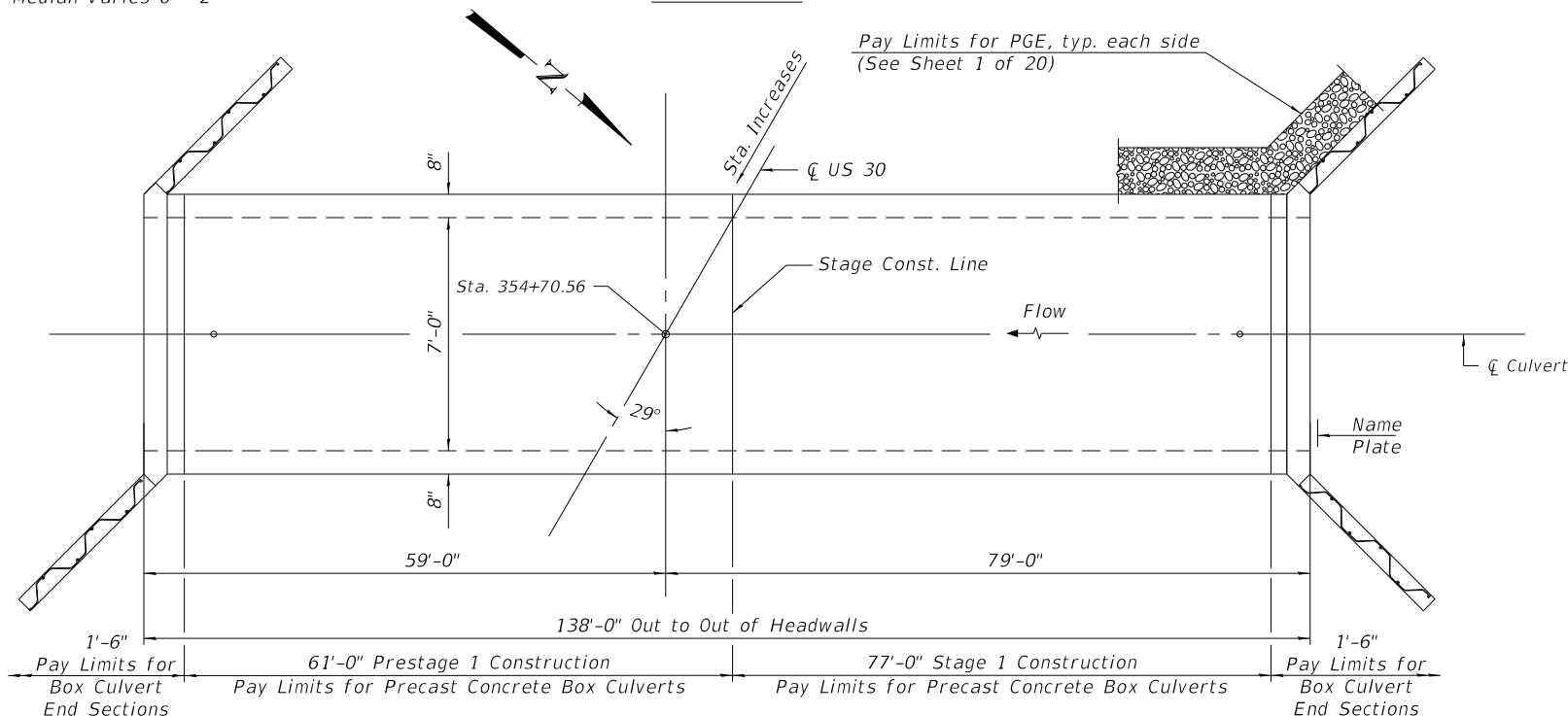
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BUILT 202\_ BY  
STATE OF ILLINOIS  
F.A.S. RTE. 1107  
SEC. 15-00277-01-BR  
LOADING HL-93  
STRUCTURE NO. 045-3803

**NAME PLATE**

See Std. 515001



\* Median Varies 0 - 2'



**WATERWAY INFORMATION**

Drainage Area = sq. mi.		Low Grade Elev. = @ Sta.							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	70.3	14.7	19.5	699.3	0.1	0.0	699.4	699.3
Base	50	97.8	15.5	20.2	699.4	0.6	0.4	700.0	699.8
Base	100	113.1	15.8	20.4	699.4	0.8	0.6	700.2	700.0
Overtopping									
Max. Calc.	500	213.9	18.3	21.0	700.0	3.4	2.7	703.4	702.7

(Sheet 1 of 6)

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	CHECKED -	REVISED -

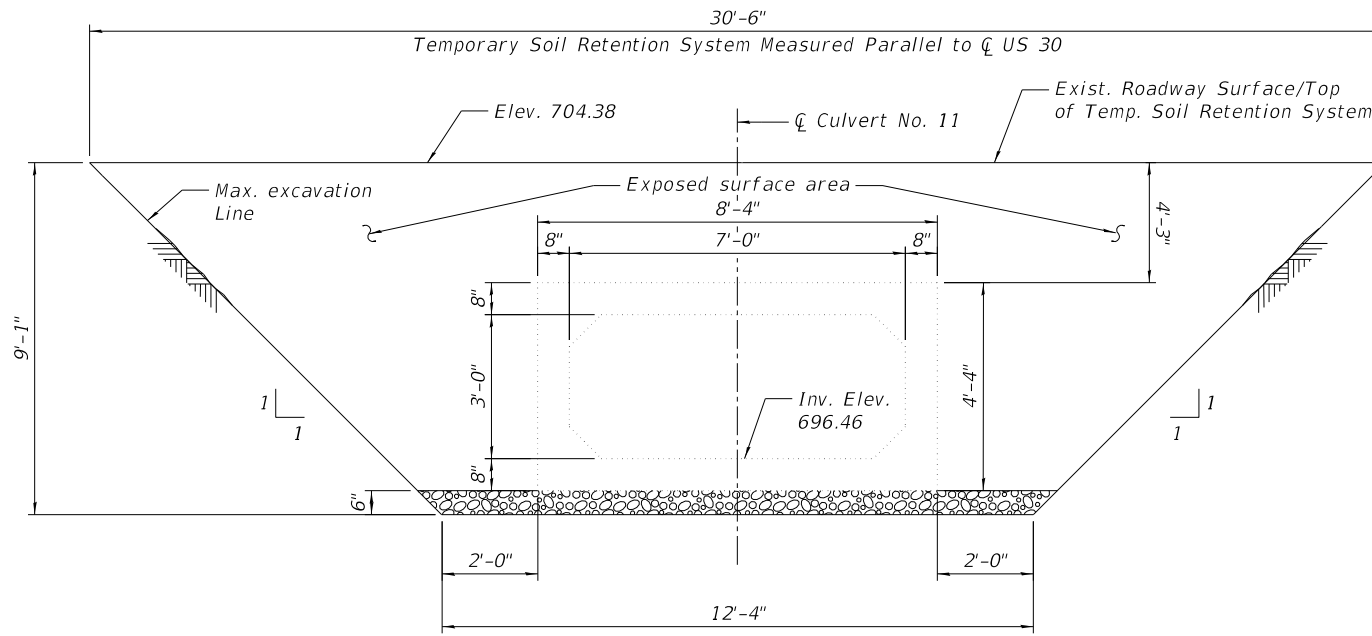
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION**  
**STRUCTURE NO. 045-8303**

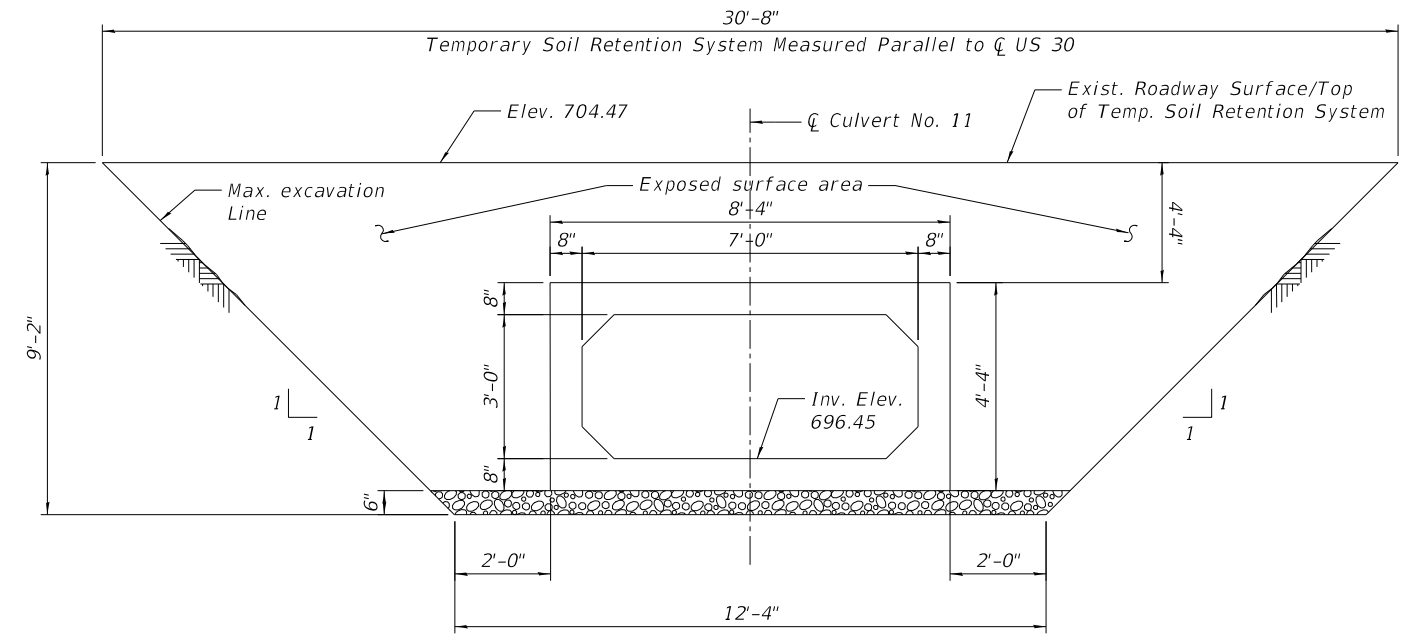
SHEET NO. 2 OF 20 SHEETS

**GENERAL PLAN AND ELEVATION**  
**U.S. RTE. 30 CULVERT NO. 11**  
**OVER UNNAMED DITCH**  
**F.A.S. RTE. 1107 SEC. 15-00277-01-BR**  
**KANE COUNTY**  
**STATION 354+70.56**  
**S.N. 045-8303**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	285
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

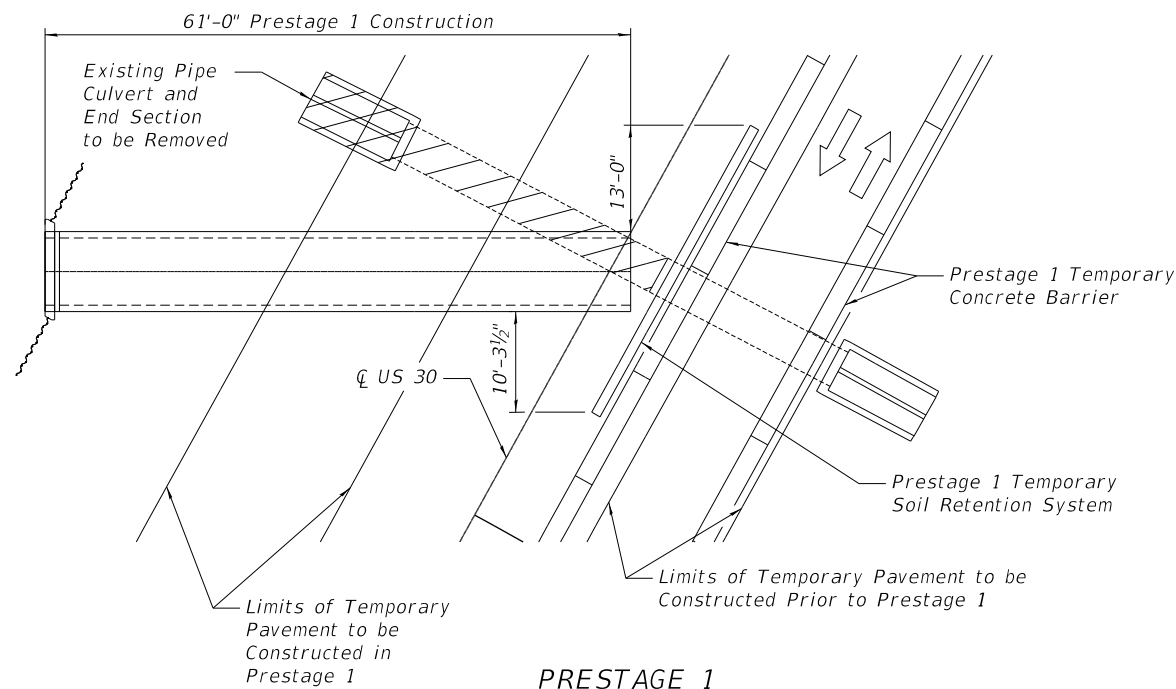
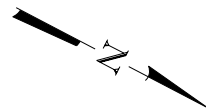
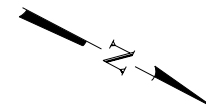
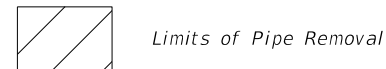


**PRESTAGE 1 TEMPORARY SOIL RETENTION SYSTEM**  
(At Stage Construction Line Looking North)

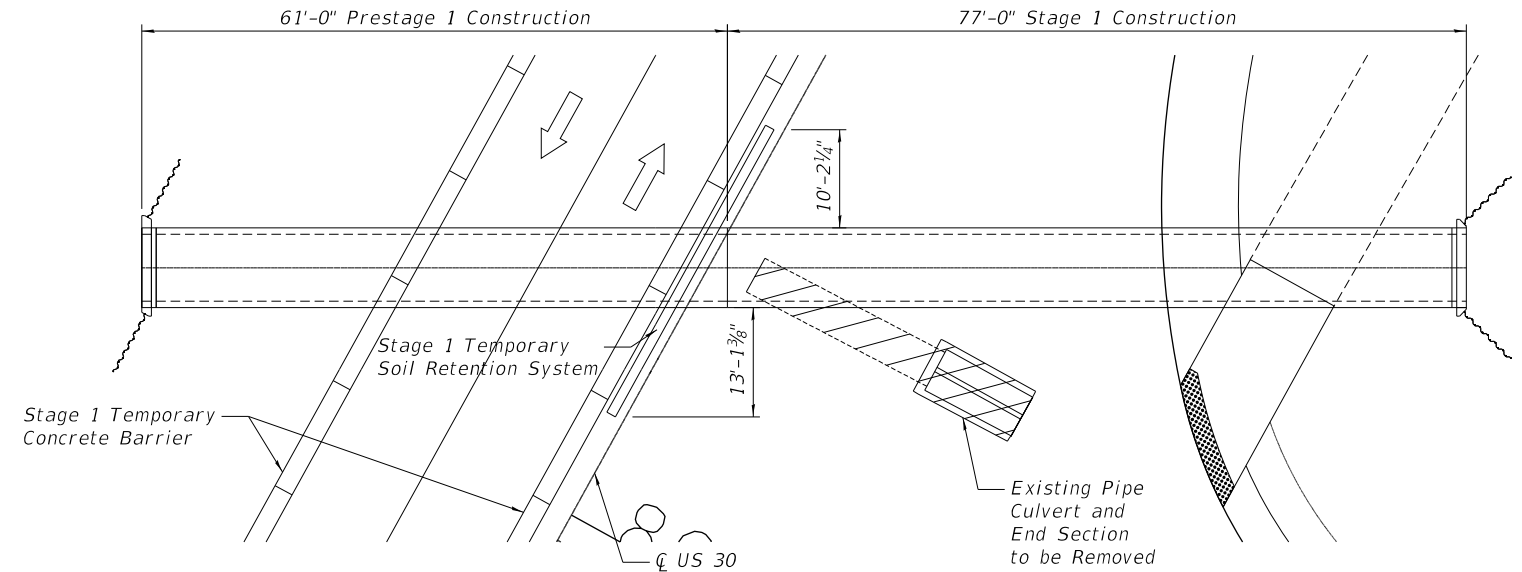


**STAGE 1 TEMPORARY SOIL RETENTION SYSTEM**  
(At Stage Construction Line Looking South)

**LEGEND**



**PRESTAGE 1**



**STAGE 1**

Note: See Maintenance of Traffic plans for construction staging.

**BILL OF MATERIAL**

Item	Unit	Total
Temporary Soil Retention System	Sq. Ft.	432

(Sheet 2 of 6)

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USER NAME = bmsetzke	DESIGNED - HB	REVISED -
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PLOT DATE = 7/7/2022	DRAWN -	REVISED -
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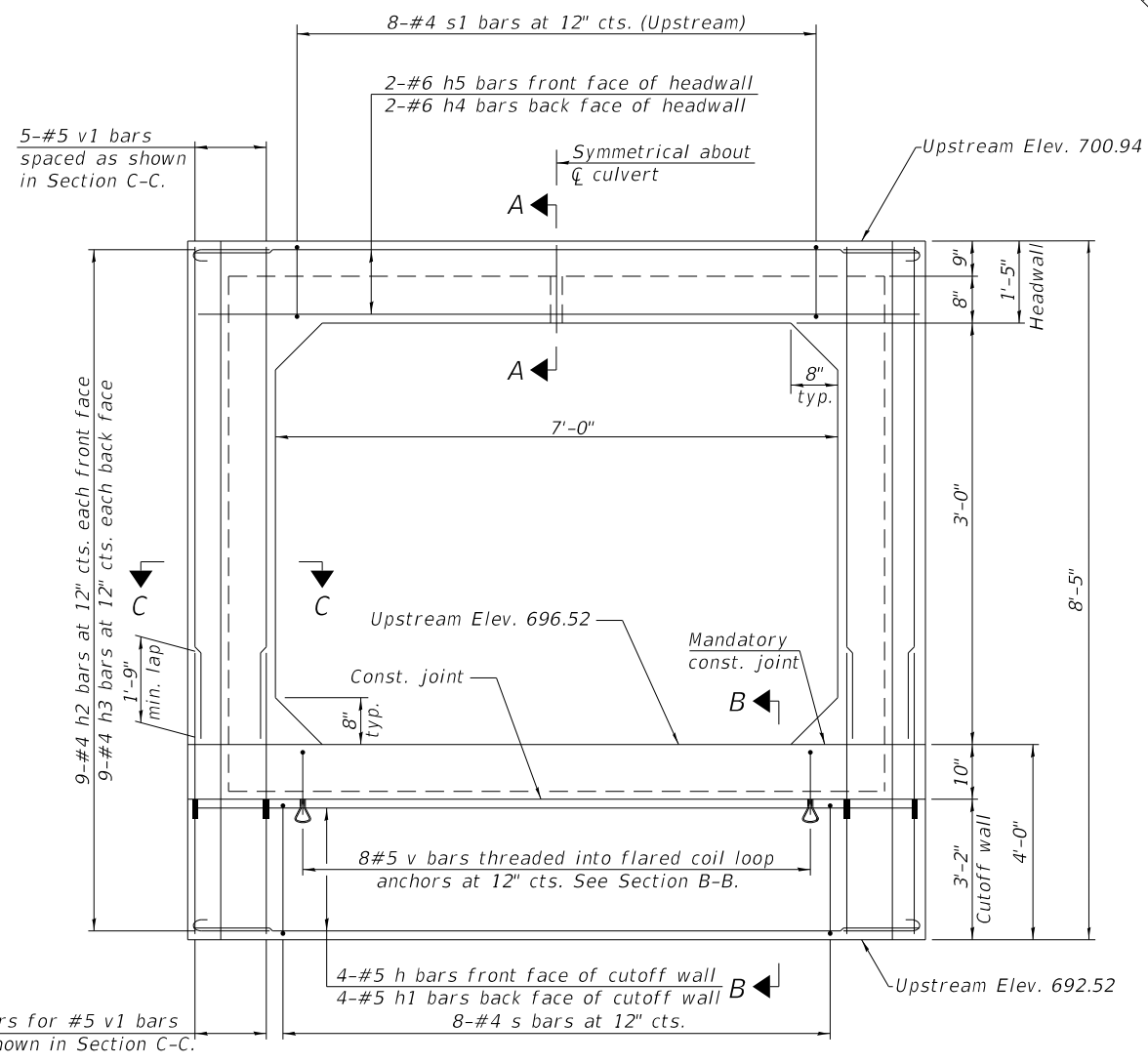
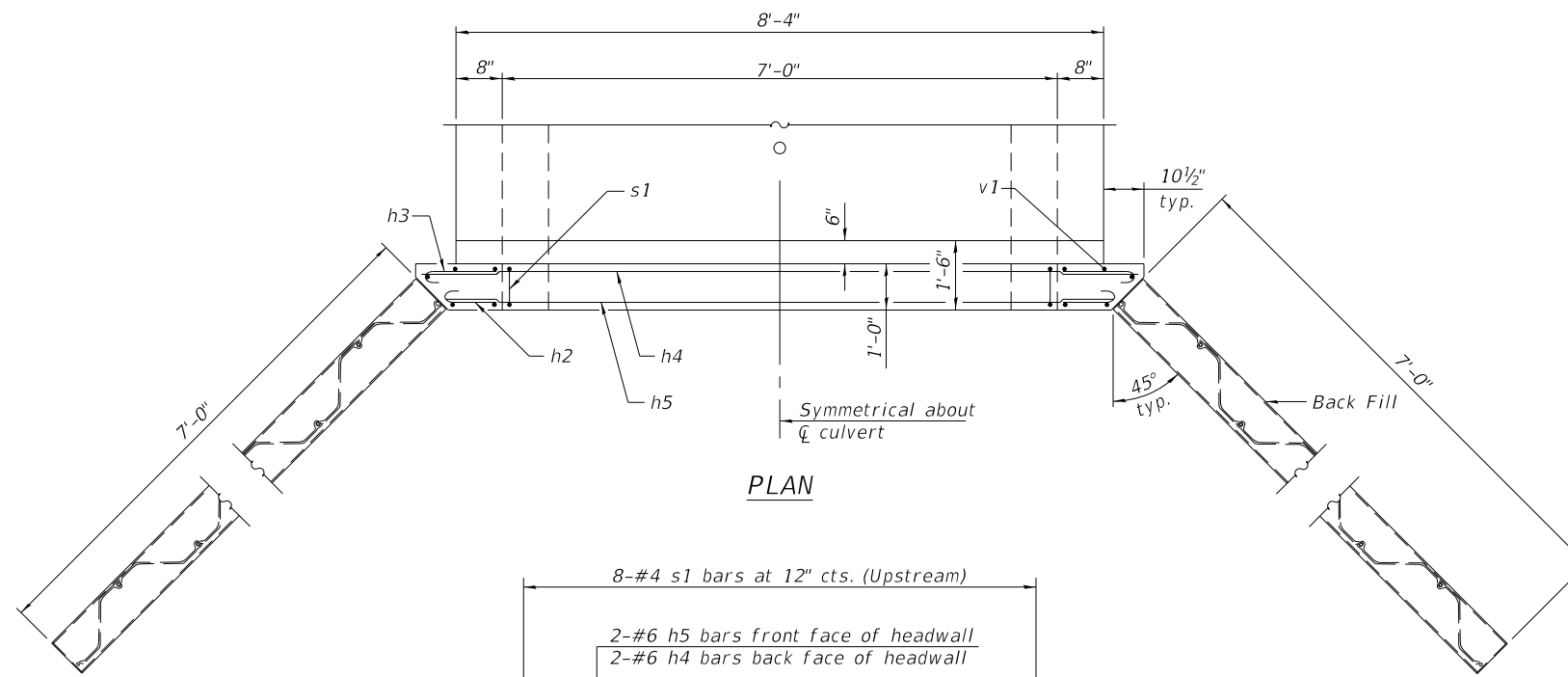
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS**  
**STRUCTURE NO. 045-8303**

SHEET NO. 3 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	286
CONTRACT NO. 61H95				

ILLINOIS FED. AID PROJECT



**Note:**  
 The design fill height for this structure is 3 feet. The precast concrete box culvert sections shall conform to the standard designs of ASTM C 1577. The box culvert end section shall be built in the field and a precast option is not allowed except the cutoff wall may be precast. If the Contractor elects to use a precast cutoff wall, shop drawings and a proposed construction sequence shall be submitted to the Engineer for approval. Areas of the precast box culvert in contact with cast-in-place concrete shall be sandblasted, cleaned, and wetted prior to placing concrete in the field according to Article 503.09(b). The ends of the precast box sections adjacent to the end section shall be formed without male and female shapes. The joints between precast box sections shall be sealed, all voids filled with a mastic joint sealer. In addition, the joints shall be externally sealed on all four sides with a 13 inch wide external sealing band. The seal shall be centered over the joint, secured in place and protected during the backfilling process. Tilt h2 and h3 bars as required to maintain clearance. Extend precast concrete box culvert welded wire reinforcement into end section. Bend as necessary to provide 1 1/2" clear cover. See sheet 1 of 6 for culvert construction sequence. See sheet 4 of 6 for Section A-A, B-B and C-C. See sheet 4 of 6 for additional wing wall details.

**BILL OF MATERIAL**

Item	Unit	Total
Box Culvert End Sections, Culvert No. 11	Each	1

**END ELEVATION**  
 (Wingwalls omitted in this view for clarity.)

(Sheet 3 of 6)

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	CHECKED - JJI	REVISED -
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

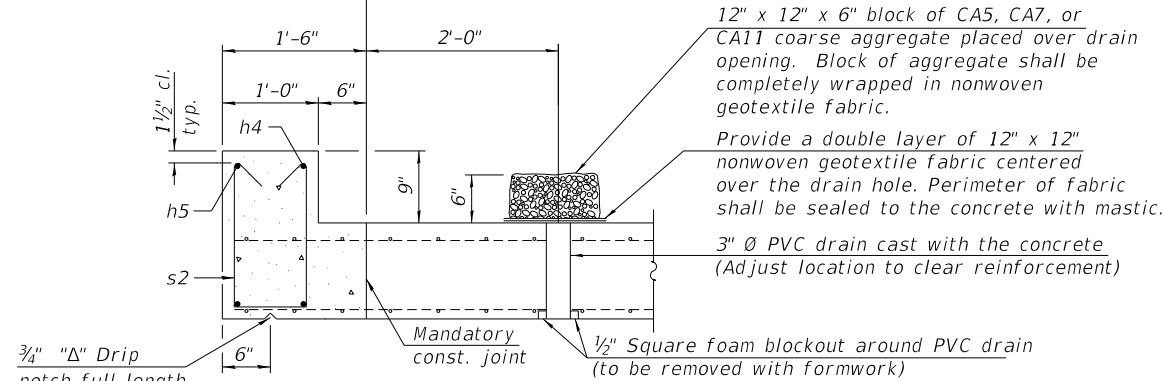
**BOX CULVERT END SECTION DETAILS**  
**STRUCTURE NO. 045-8303 CULVERT 11 UPSTREAM**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	287
CONTRACT NO. 61H95				

SHEET NO. 4 OF 20 SHEETS

ILLINOIS FED. AID PROJECT

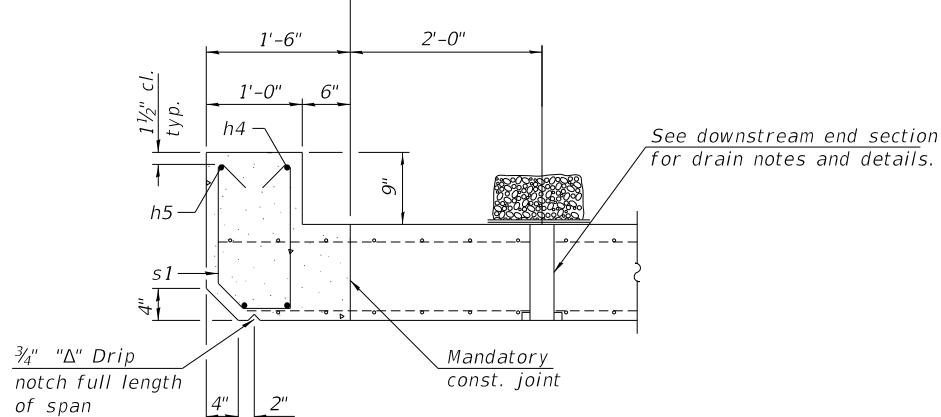
Pay Limits for Box Culvert End Sections      Pay Limits for Precast Concrete Box Culverts



**SECTION A-A**  
(Downstream End)

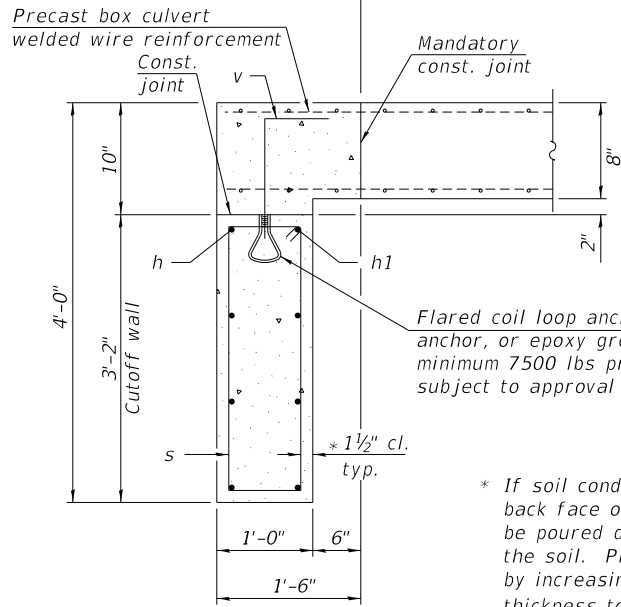
(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

Pay Limits for Box Culvert End Sections      Pay Limits for Precast Concrete Box Culverts

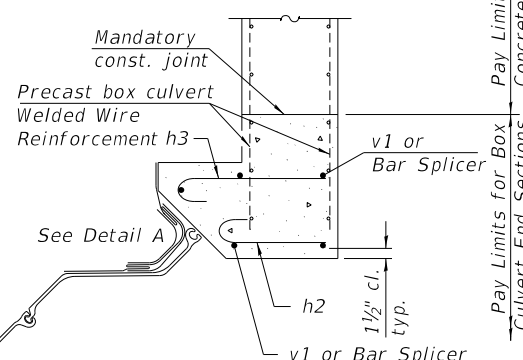


**SECTION A-A**  
(Upstream End)

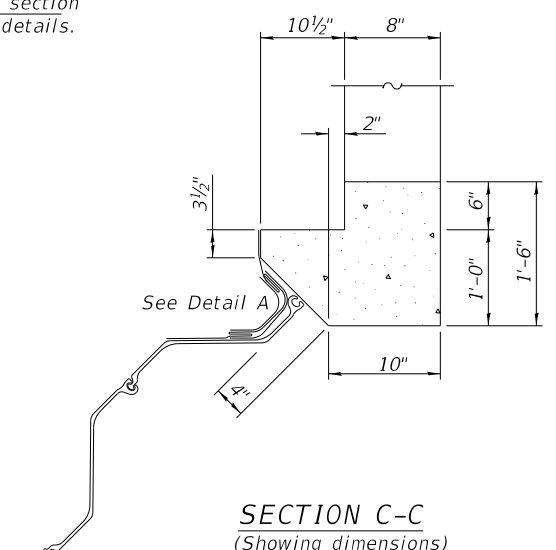
Pay Limits for Box Culvert End Sections      Pay Limits for Precast Concrete Box Culverts



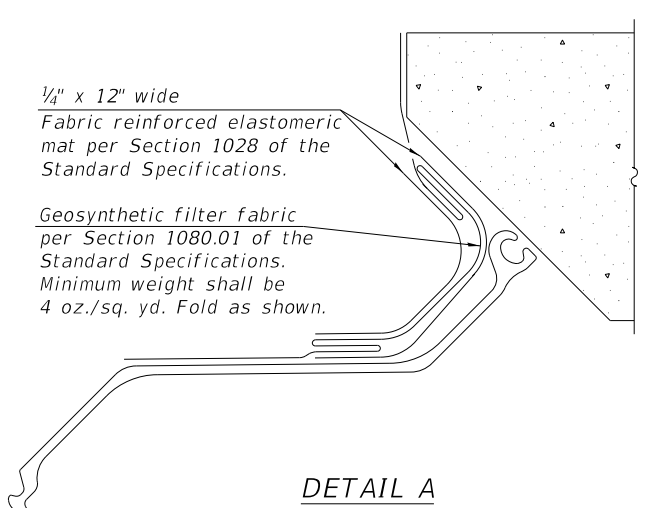
**SECTION B-B**



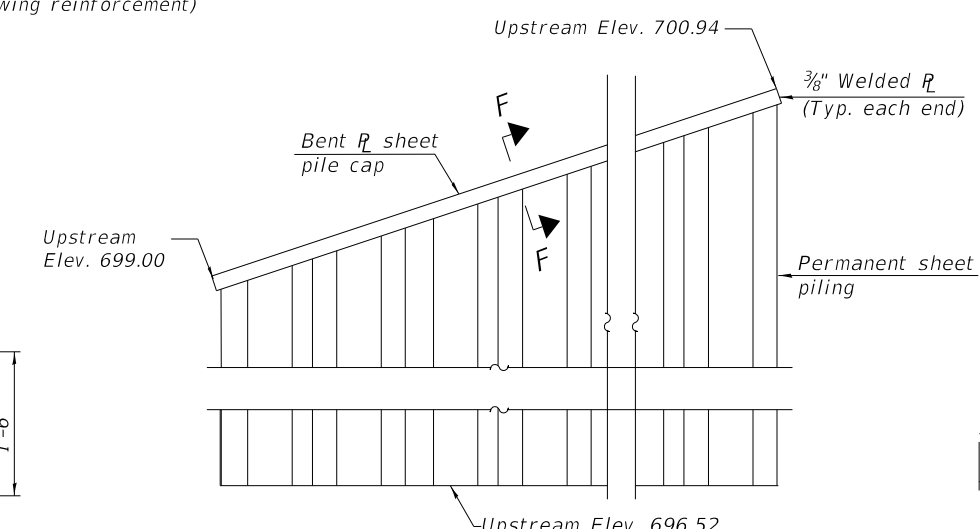
**SECTION C-C**  
(Showing reinforcement)



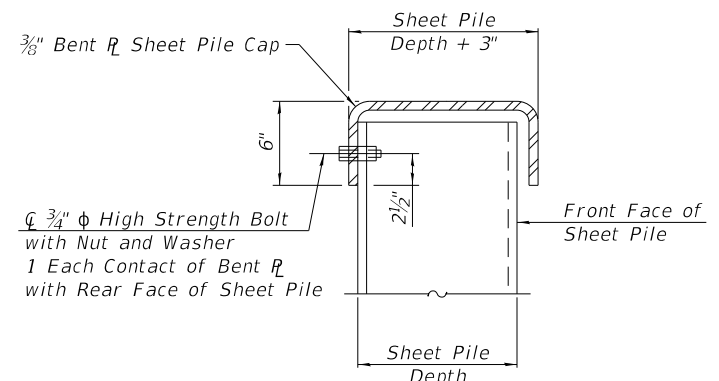
**SECTION C-C**  
(Showing dimensions)



**DETAIL A**



**UPSTREAM WINGWALL ELEVATION**  
(Looking downstream)

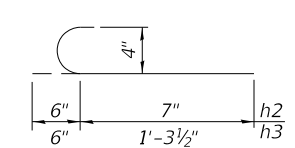


**SECTION F-F**

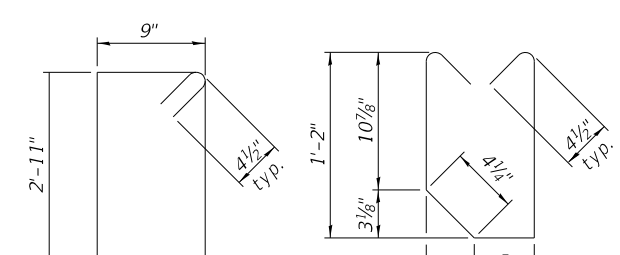
Notes:  
The minimum effective section modulus of the permanent sheet pile wall shall be (xxx) in.<sup>3</sup>/ft.  
Sheet piling shall not be driven until the concrete strength has attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.  
The cost of furnishing and installing the bent R sheet pile cap, elastomeric mat, and filter fabric shall be included in the cost of the end section.  
See sheet 1 of 6 for culvert construction sequence.

**ONE END SECTION**  
**BILL OF MATERIAL**  
(For Information Only)

Bar	No.	Size	Length	Shape	
h	4	#5	8'-5"	—	
h1	4	#5	9'-10"	—	
h2	18	#4	1'-1"	C	
h3	18	#4	1'-9 1/2"	C	
h4	2	#6	9'-10"	—	
h5	2	#6	8'-5"	—	
s	8	#4	8'-1"	□	
s1	8	#4	3'-8"	U	
v	8	#5	1'-7 1/2"	—	
v1	10	#5	4'-2"	—	
Concrete Box Culverts				Cu. Yd.	2.7
Reinforcement Bars				Pound	290
Bar Splicers				Each	10
Permanent Sheet Piling				Sq. Ft.	63

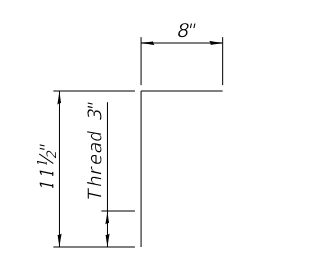


**BAR h2 and h3**



**BAR s**

**BAR s1**



**BAR v**

CIPES-PSSP-ZS-DETAILS 8-11-2017

(Sheet 4 of 6)

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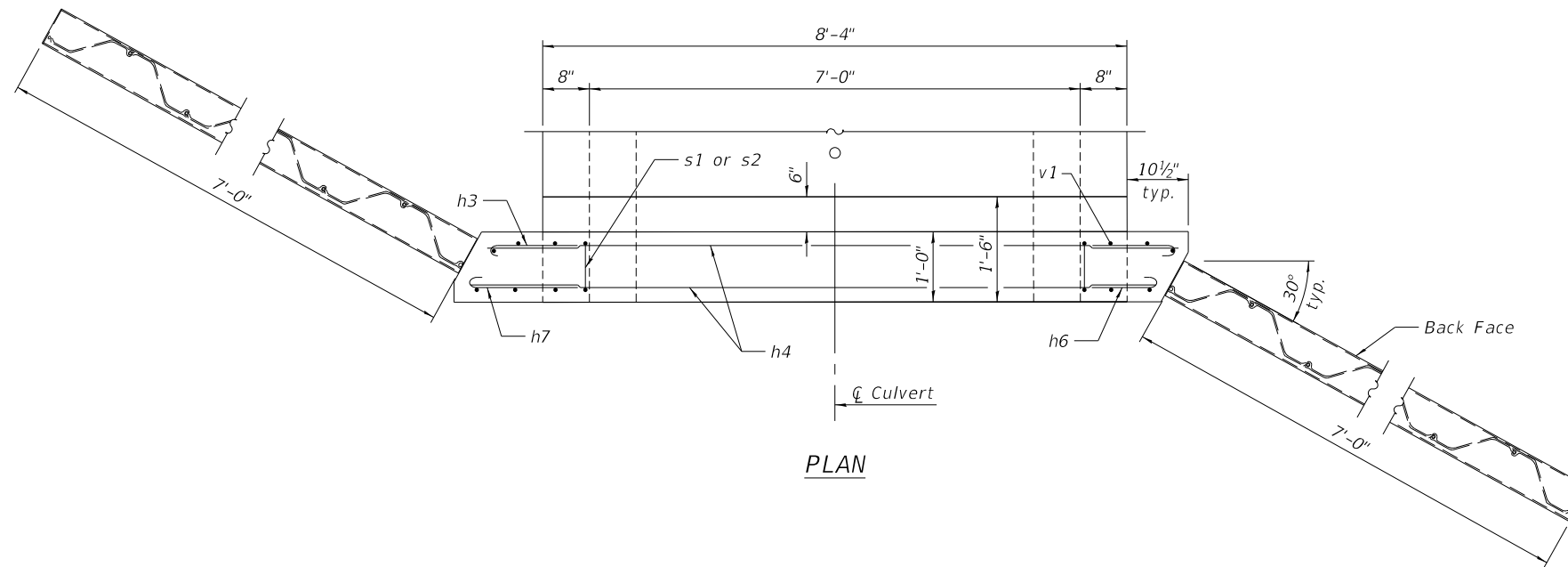
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

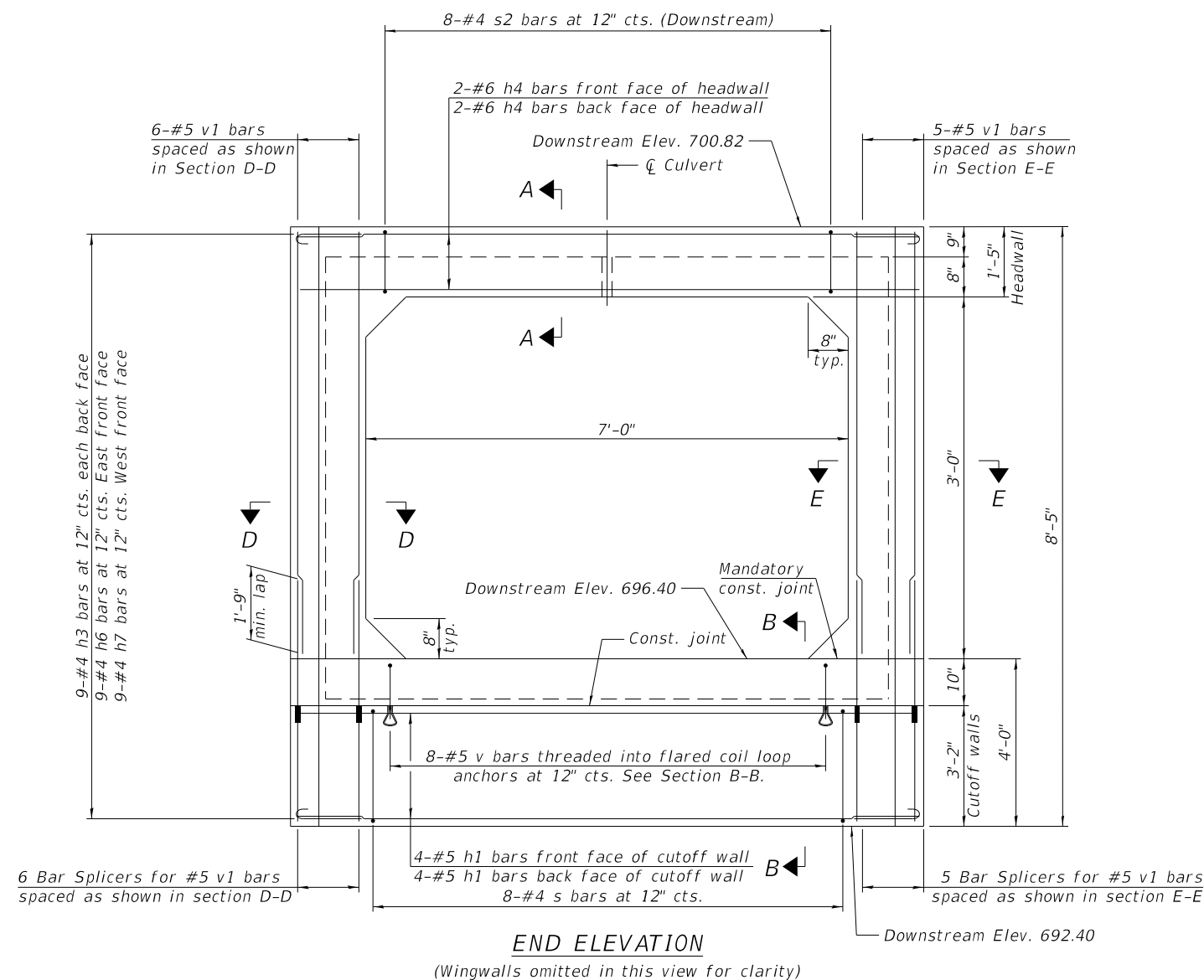
BOX CULVERT END SECTION DETAILS  
STRUCTURE NO. 045-8303 CULVERT NO. 11 UPSTREAM

SHEET NO. 5 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	288
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



PLAN



END ELEVATION

(Wingwalls omitted in this view for clarity)

Note:  
 The design fill height for this structure is 3 feet. The precast concrete box culvert sections shall conform to the standard designs of ASTM C 1577. The box culvert end section shall be built in the field and a precast option is not allowed except the cutoff wall may be precast. If the Contractor elects to use a precast cutoff wall, shop drawings and a proposed construction sequence shall be submitted to the Engineer for approval.  
 Areas of the precast box culvert in contact with cast-in-place concrete shall be sandblasted, cleaned, and wetted prior to placing concrete in the field according to Article 503.09(b).  
 The ends of the precast box sections adjacent to the end section shall be formed without male and female shapes.  
 The joints between precast box sections shall be sealed, all voids filled with a mastic joint sealer. In addition, the joints shall be externally sealed on all four sides with a 13 inch wide external sealing band. The seal shall be centered over the joint, secured in place and protected during the backfilling process.  
 Tilt h2 and h3 bars as required to maintain clearance. Extend precast concrete box culvert welded wire reinforcement into end section. Bend as necessary to provide 1½" clear cover.  
 See sheet 1 of 6 for culvert construction sequence. See sheet 4 of 6 for Section A-A and B-B. See sheet 6 of 6 for additional wing wall details. See sheet 6 of 6 for section D-D and E-E.

**BILL OF MATERIAL**

Item	Unit	Total
Box Culvert End Sections, Culvert No. 11	Each	1

(Sheet 5 of 6)

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	CHECKED - JJI	REVISED -
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PLOT DATE = 7/7/2022	CHECKED -	REVISED -

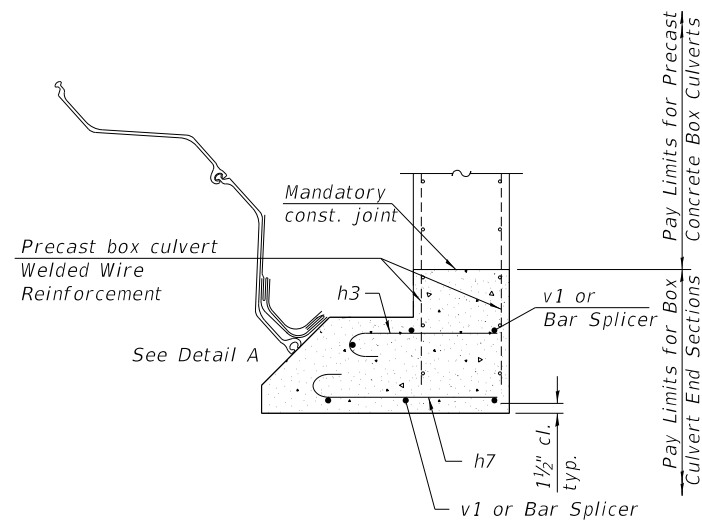
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BOX CULVERT END SECTION DETAILS  
STRUCTURE NO. 045-8303 CULVERT 11 DOWNSTREAM**

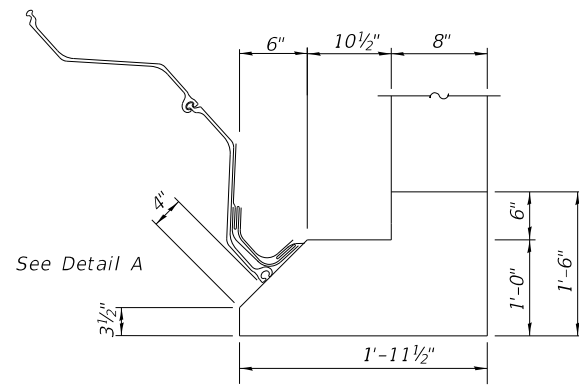
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	289
CONTRACT NO. 61H95				

SHEET NO. 6 OF 20 SHEETS

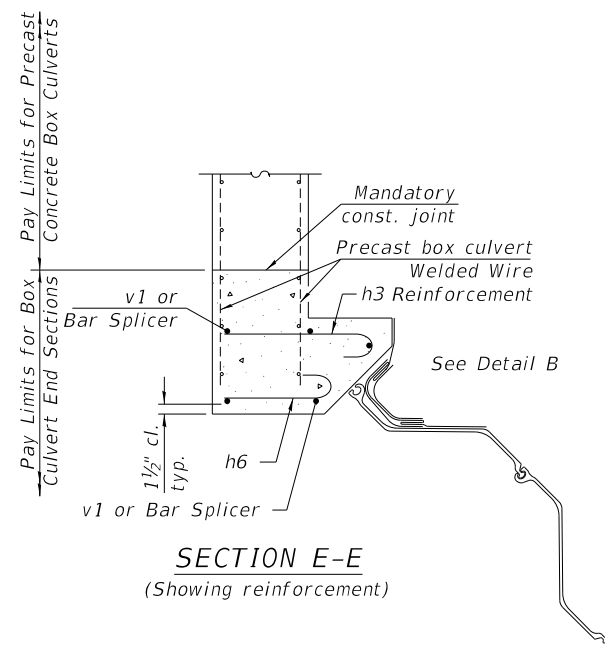
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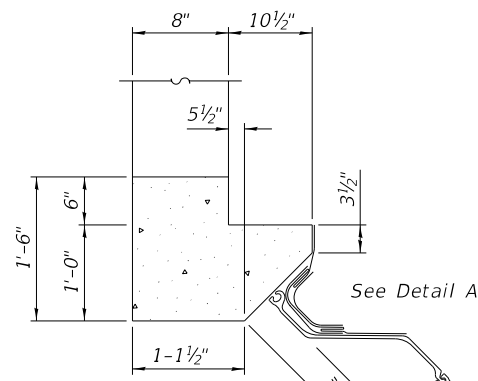
SECTION D-D  
(Showing reinforcement)



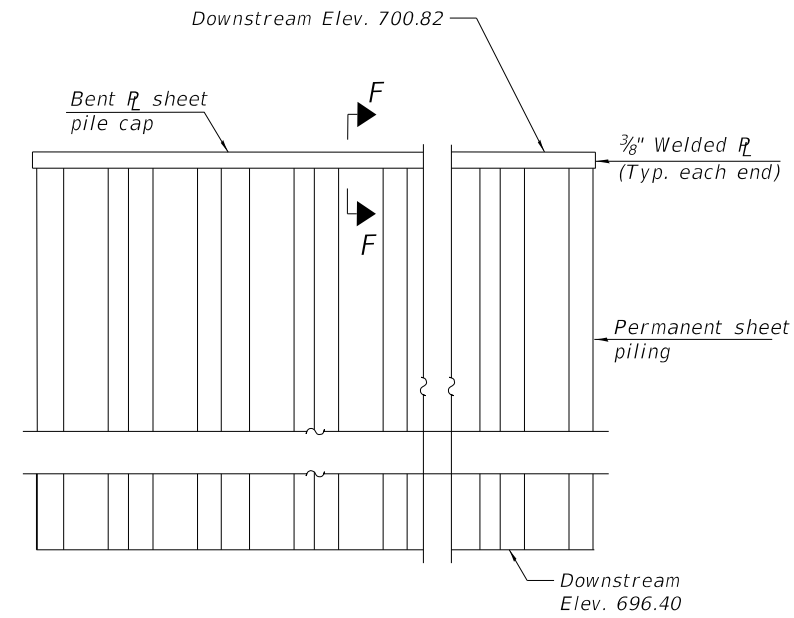
SECTION D-D  
(Showing Dimensions)



SECTION E-E  
(Showing reinforcement)



SECTION E-E  
(Showing Dimensions)



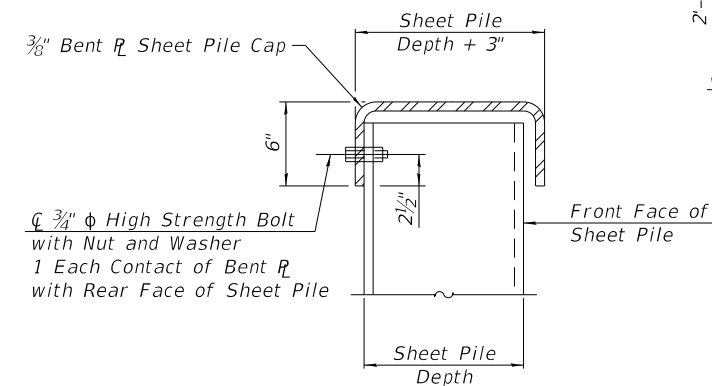
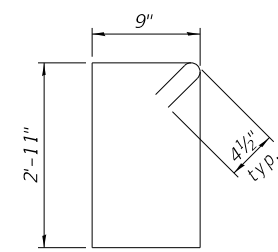
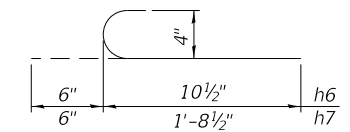
DOWNSTREAM WINGWALL ELEVATION  
(Looking upstream)

Notes:  
 The minimum effective section modulus of the permanent sheet pile wall shall be (xxx) in.<sup>3</sup>/ft.  
 Sheet piling shall not be driven until the concrete strength has attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.  
 The cost of furnishing and installing the bent R sheet pile cap, elastomeric mat, and filter fabric shall be included in the cost of the end section.  
 See sheet 1 of 6 for culvert construction sequence.

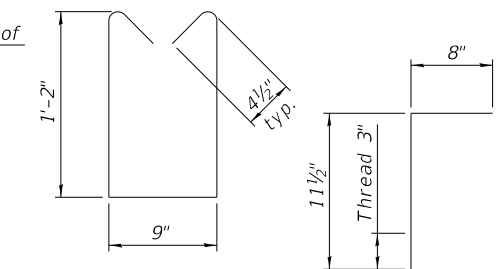
ONE END SECTION  
BILL OF MATERIAL

(For information only)

Bar	No.	Size	Length	Shape
h1	8	#5	9'-10"	—
h3	18	#4	1'-9 1/2"	C
h6	9	#4	1'-4 1/2"	C
h7	9	#4	2'-2 1/2"	C
h4	4	#6	9'-10"	—
s	8	#4	8'-1"	□
s2	8	#4	3'-10"	□
v	8	#5	1'-7 1/2"	—
v1	11	#5	4'-2"	—
Concrete Box Culverts	Cu. Yd.		2.9	
Reinforcement Bars	Pound		310	
Bar Splicers	Each		11	
Permanent Sheet Piling	Sq. Ft.		76	



SECTION F-F



BAR s2

BAR v

(Sheet 6 of 6)

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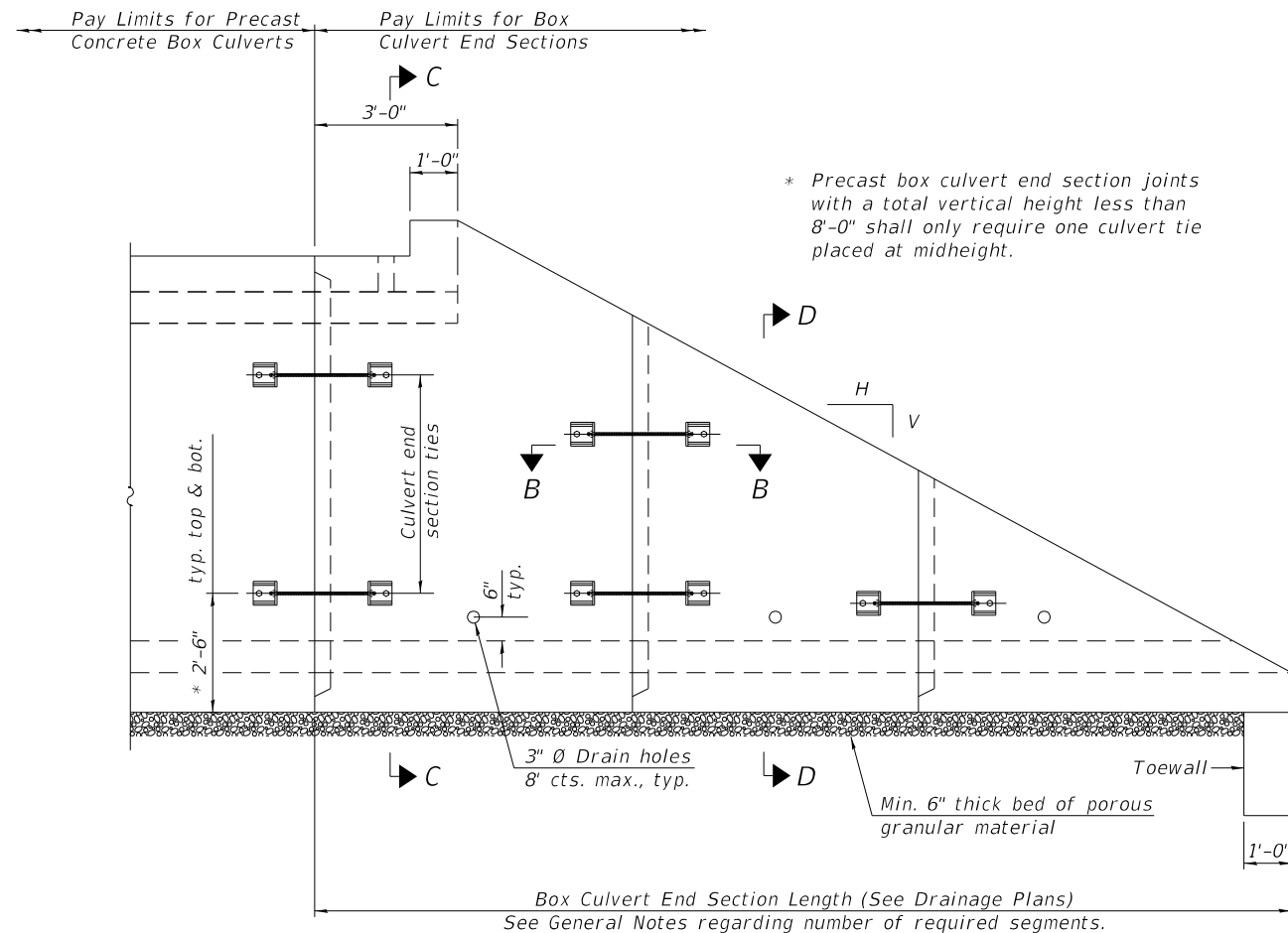
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BOX CULVERT END SECTION DETAILS  
STRUCTURE NO. 045-8303 CULVERT 11 DOWNSTREAM

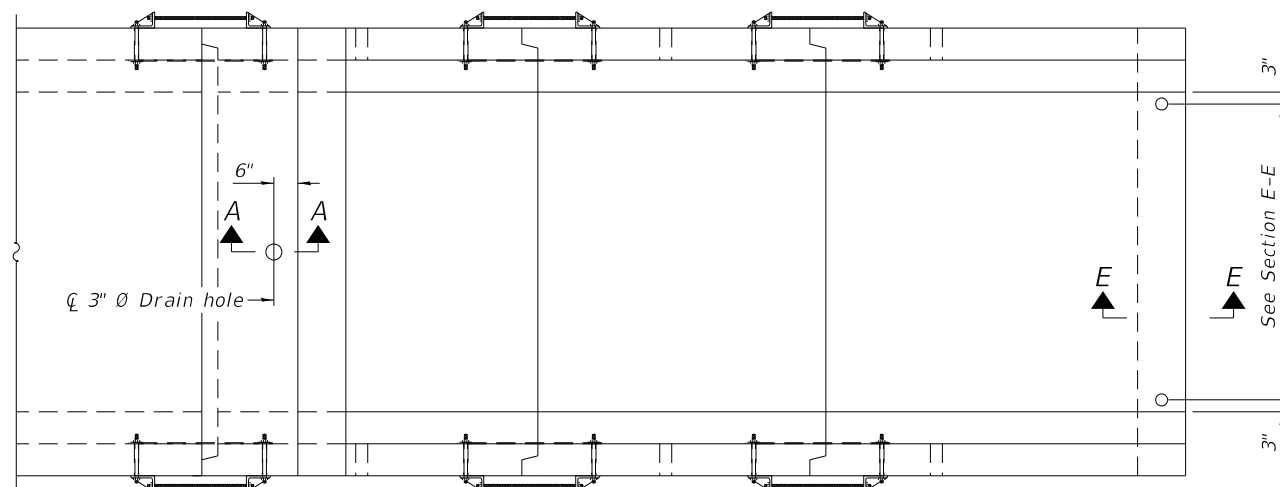
SHEET NO. 7 OF 20 SHEETS

F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 290
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

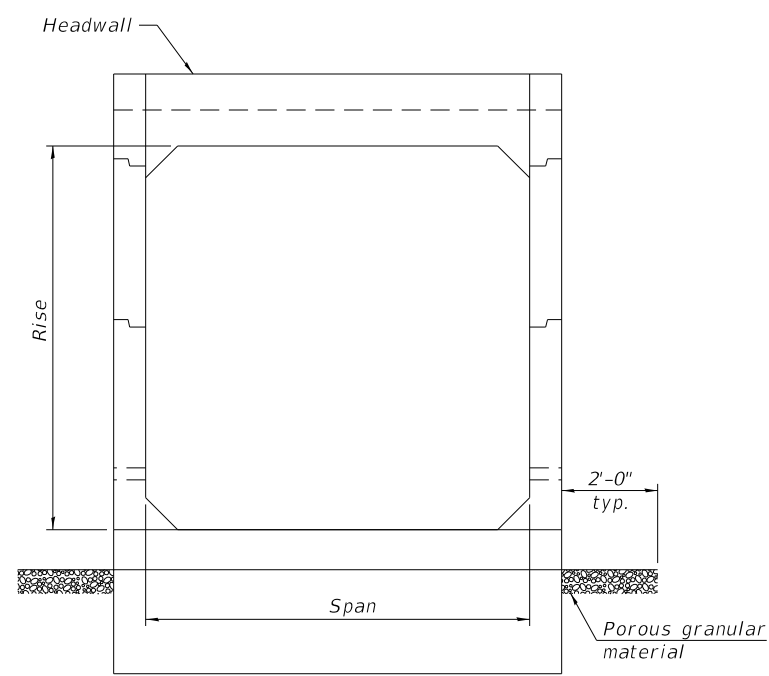




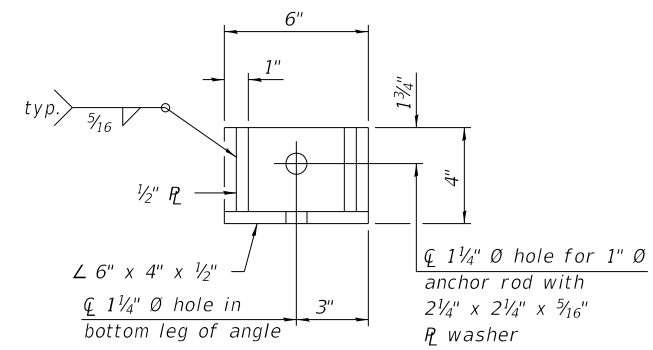
**ELEVATION**



**PLAN**



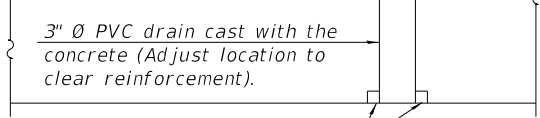
**END VIEW**



**RESTRAINT ANGLE DETAIL**

12" x 12" x 6" block of CA5, CA7, or CA11 coarse aggregate placed over drain opening. Block of aggregate shall be completely wrapped in nonwoven geotextile fabric.

Provide a double layer of 12" x 12" nonwoven geotextile fabric centered over the drain hole. Fabric shall be sealed to the concrete with mastic.



**SECTION A-A**

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.) (Sheet 1 of 2)

**GENERAL NOTES**

See sheet 1 of 20 for culvert span and rise, box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. This work will be measured for payment as each, with each end of each culvert being one each. End sections will be paid for at the contract unit price per each for Box Culvert End Sections of the culvert number specified.

Typical box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements of ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

Number of segments shown in Elevation is for example only. Length and number of precast box sections required to construct Box Culvert End Sections shall be determined by the Contractor.

See roadway plans for embankment slope (V:H).

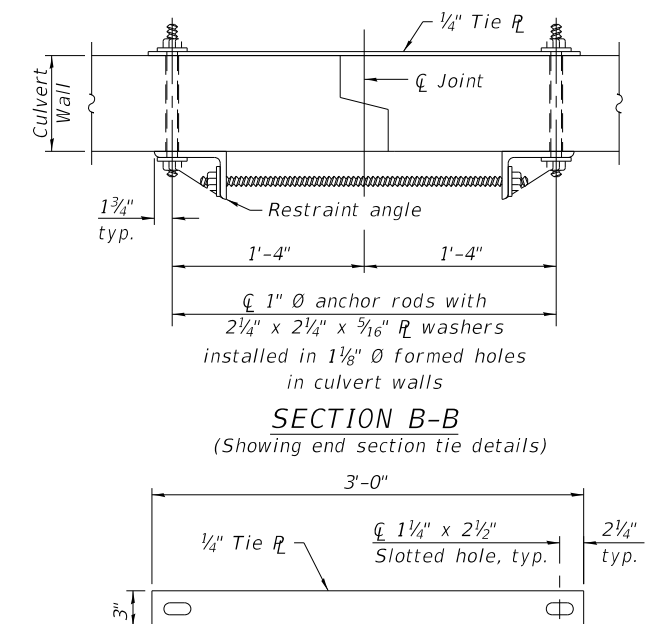
1" Ø anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2 1/4" x 2 1/4" x 5/16" plate washers shall be provided under each nut required for the anchor rods. Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional 1/2 turn on one of the nuts for anchor rods installed in the walls. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the contract unit price for Box Culvert End Sections of the culvert number specified.

Drain holes shall conform to the requirements of Article 503.11 of the Standard Specifications unless noted otherwise.

Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01. The minimum weight of the fabric shall be 6 oz. / sq. yd..

For end sections with traversable pipe grate systems, see grate detail sheet for required modifications.



**TIE PLATE DETAIL**

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SCB-TES

2-17-2017



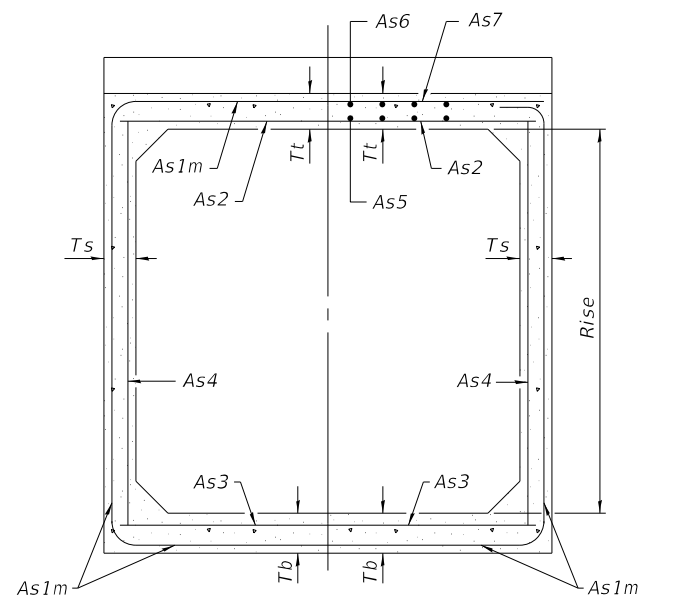
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PLOT DATE = 7/7/2022	DRAWN -	REVISED -
	CHECKED -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SINGLE CELL PRECAST BOX CULVERT TAPERED END SECTIONS  
CULVERT NO. 1 THRU CULVERT NO. 8**

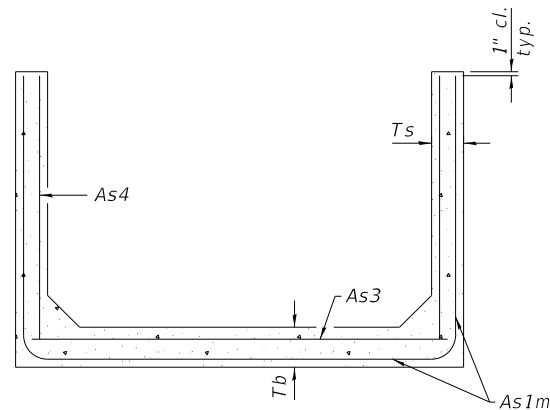
SHEET NO. 8 OF 20 SHEETS

F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 291
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

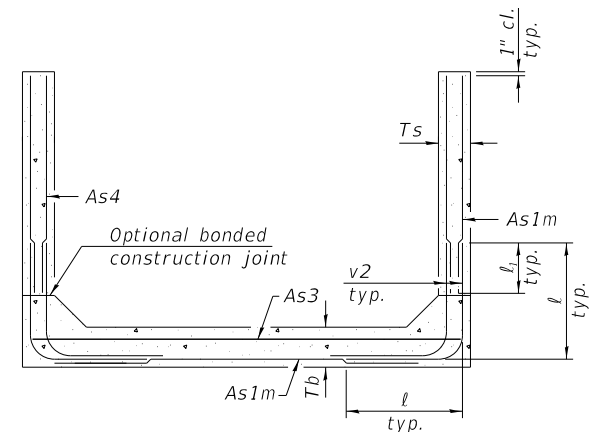


(Design Earth Cover  $\geq$  2 ft) (Design Earth Cover < 2 ft)

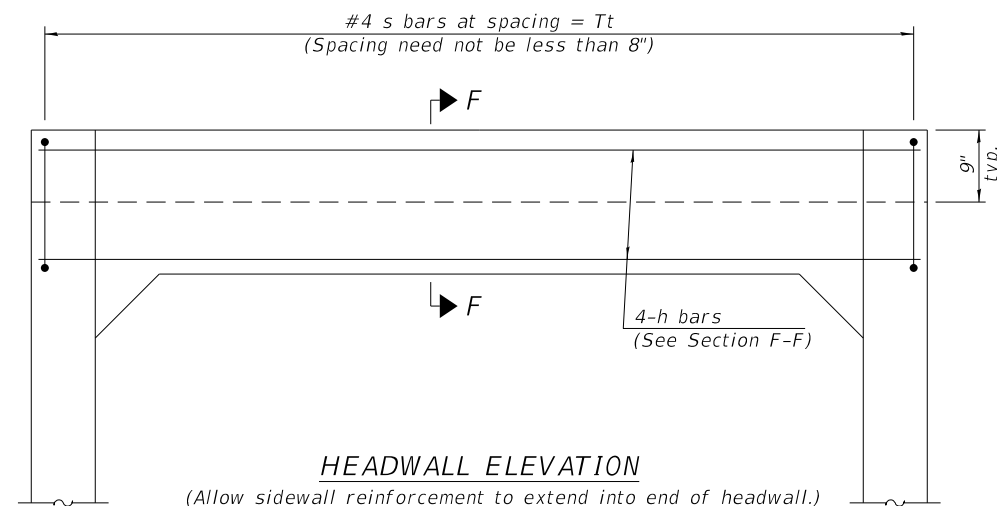
**SECTION C-C**



**SECTION D-D**



**ALTERNATE SECTION D-D**



**HEADWALL ELEVATION**

(Allow sidewall reinforcement to extend into end of headwall.)

		<b>As1m REINFORCEMENT</b>										
		(in. <sup>2</sup> /ft)										
Ts (in.)	Rise (ft)	2	3	4	5	6	7	8	9	10	11	12
4	0.19	0.17										
5	0.26	0.21	0.18									
6	0.22	0.26	0.23	0.22								
7	0.25	0.33	0.59	0.27	0.28							
8	0.40	0.35	0.43	0.39	0.36	0.34	0.40					
9	0.44	0.39	0.35	0.43	0.40	0.37	0.36	0.48				
10	0.48	0.42	0.38	0.47	0.44	0.41	0.38	0.42	0.56			
11	0.52	0.45	0.54	0.50	0.46	0.44	0.41	0.46	0.50	0.65		
12	0.55	0.49	0.58	0.54	0.50	0.48	0.45	0.46	0.46	0.61	0.75	

(As1m reinforcement based upon welded wire reinforcement conforming to AASHTO M 55 or M 221).

**l<sub>1</sub> DIMENSION**

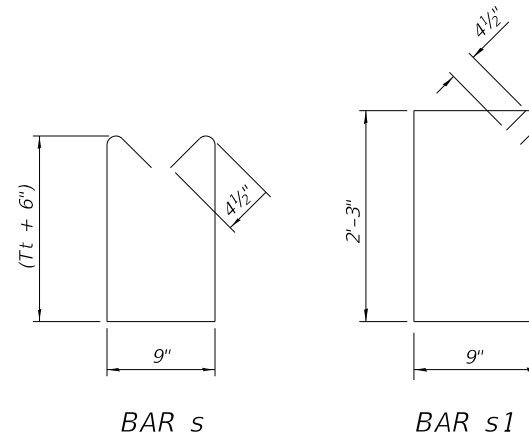
- #3 bar = 2'-0"
- #4 bar = 2'-8"
- #5 bar = 3'-4"
- #6 bar = 3'-11"

**Notes:**

Alternate Section D-D is provided to allow the Contractor the option of casting the bottom slab of the end section first followed by construction of the sidewalls using conventional forming methods. Shop drawings that detail slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval when using Alternate Section D-D.

The size and spacing of the v2 bars shall provide a minimum reinforcement area along each face of the walls (in.<sup>2</sup>/ft.) equal to 1.10\*(As1m). v2 bars may consist of #3 thru #6 size reinforcement bars and the longitudinal spacing shall not exceed the lesser of the wall thickness or 8 inches.

Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.

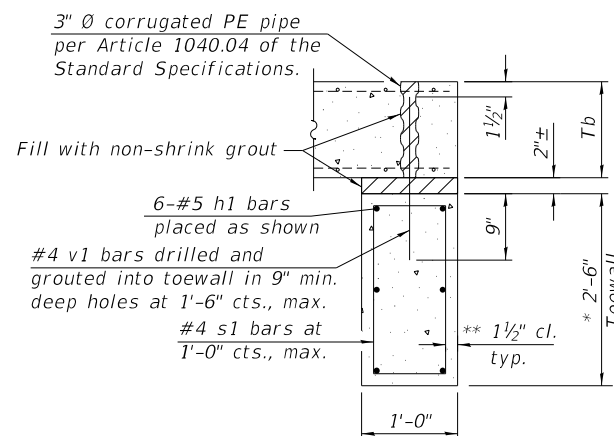


**TOEWALL CONSTRUCTION SEQUENCE**

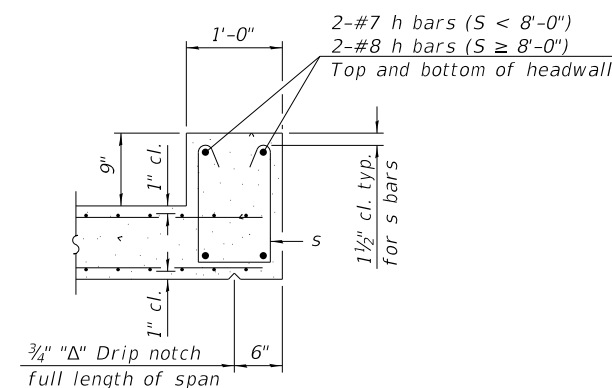
1. Perform excavation and construct toewall.
2. Backfill according to the applicable paragraphs of Article 502.10 of the Standard Specifications and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.

\* The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling method.

\*\* If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.



**SECTION E-E**



**SECTION F-F**

(Sheet 2 of 2)

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SCB-TES

2-17-2017



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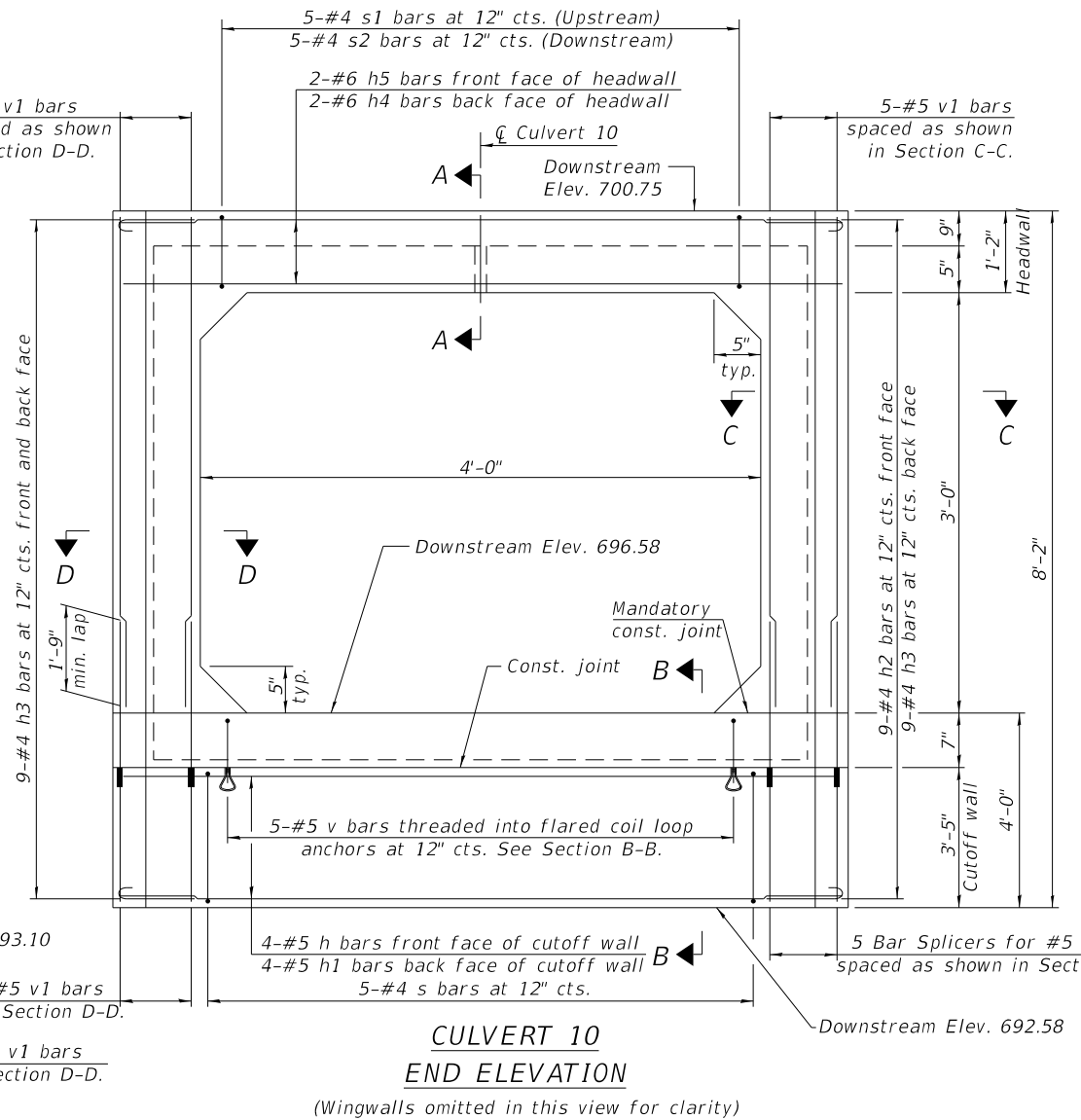
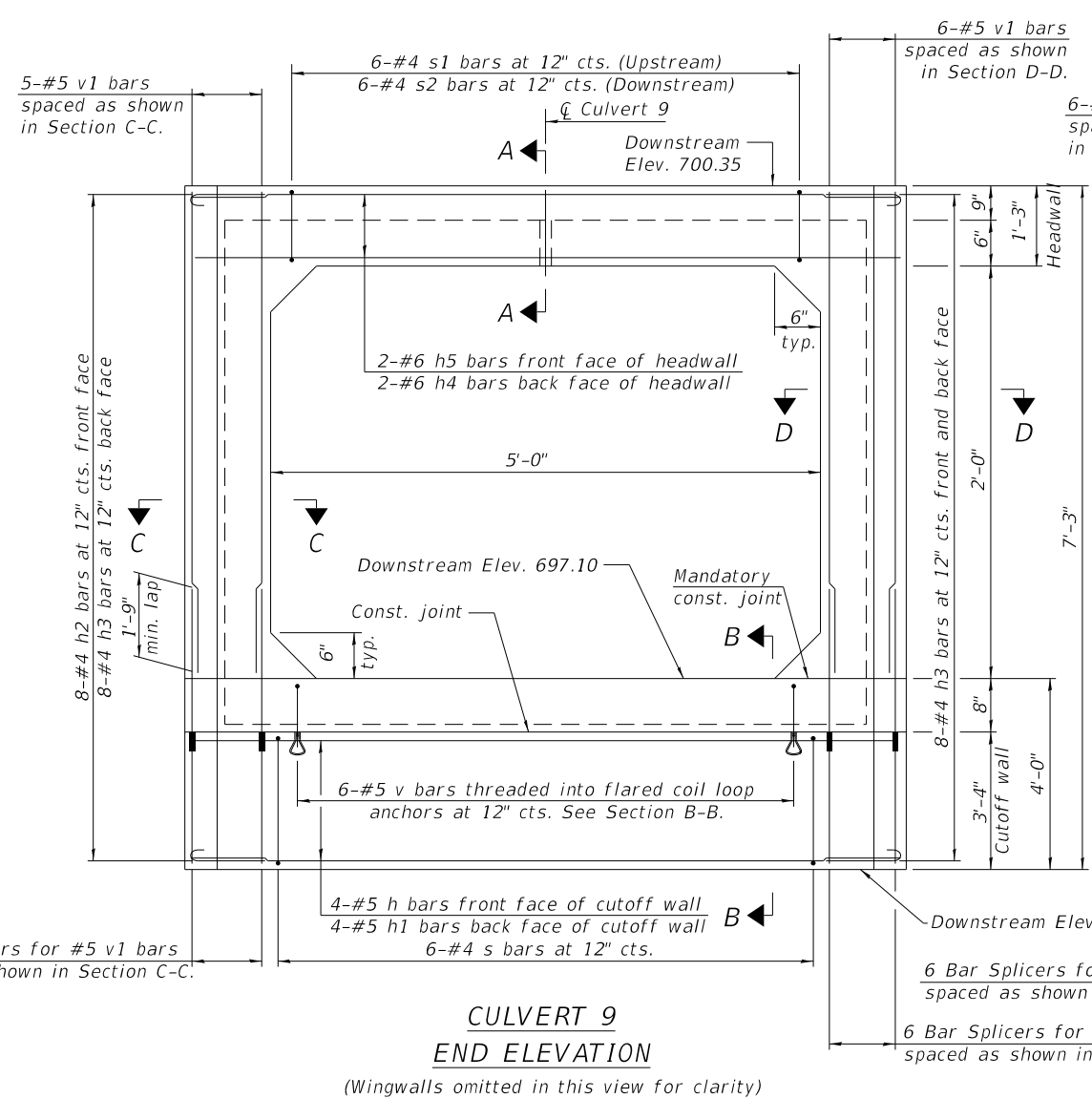
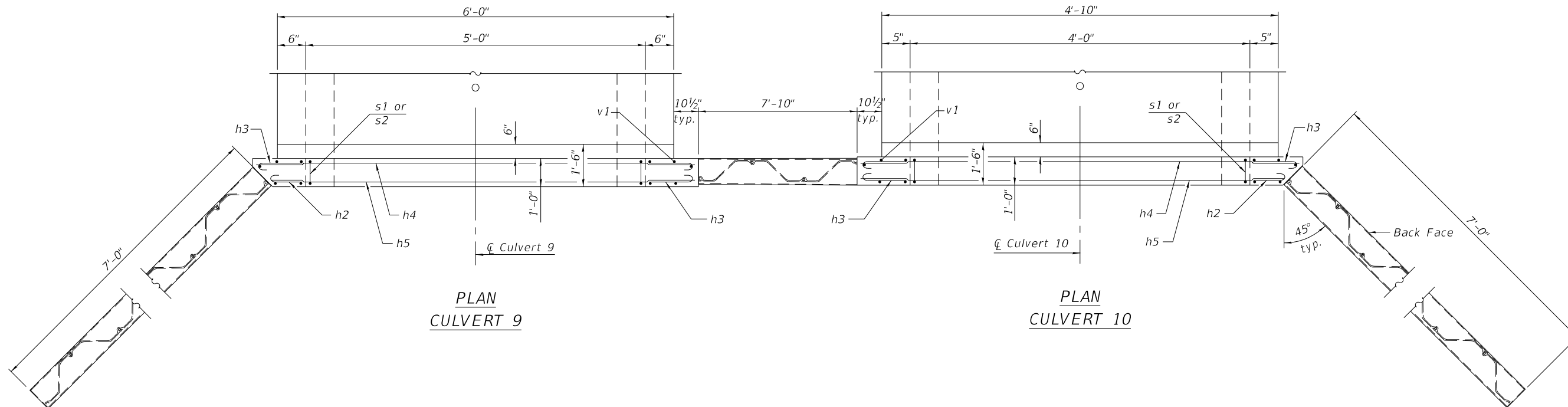
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SINGLE CELL PRECAST BOX CULVERT TAPERED END  
SECTIONS CULVERT NO. 1 THRU CULVERT NO. 8**

SHEET NO. 9 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	292
				CONTRACT NO. 61H95

ILLINOIS FED. AID PROJECT



**Note:**  
 The design fill height for Culvert No. 9 is 3 feet and for Culvert No. 10 is 4 feet.  
 The precast concrete box culvert sections shall conform to the standard designs of ASTM C 1577.  
 The box culvert end section shall be built in the field and a precast option is not allowed except the cutoff wall may be precast. If the Contractor elects to use a precast cutoff wall, shop drawings and a proposed construction sequence shall be submitted to the Engineer for approval.  
 Areas of the precast box culvert in contact with cast-in-place concrete shall be sandblasted, cleaned, and wetted prior to placing concrete in the field according to Article 503.09(b).  
 The ends of the precast box sections adjacent to the end section shall be formed without male and female shapes.  
 The joints between precast box sections shall be sealed, all voids filled with a mastic joint sealer. In addition, the joints shall be externally sealed on all four sides with a 13 inch wide external sealing band. The seal shall be centered over the joint, secured in place and protected during the backfilling process.  
 Tilt h2 and h3 bars as required to maintain clearance.  
 Extend precast concrete box culvert welded wire reinforcement to end section. Bend as necessary to provide 1 1/2" clear cover.  
 See sheet 4 of 5 for Section A-A, B-B, C-C and D-D.  
 See sheet 5 of 5 for additional wing wall details.

**BILL OF MATERIAL**

Item	Unit	Total
Box Culvert End Sections, Culvert No. 9	Each	1
Box Culvert End Sections, Culvert No. 10	Each	1

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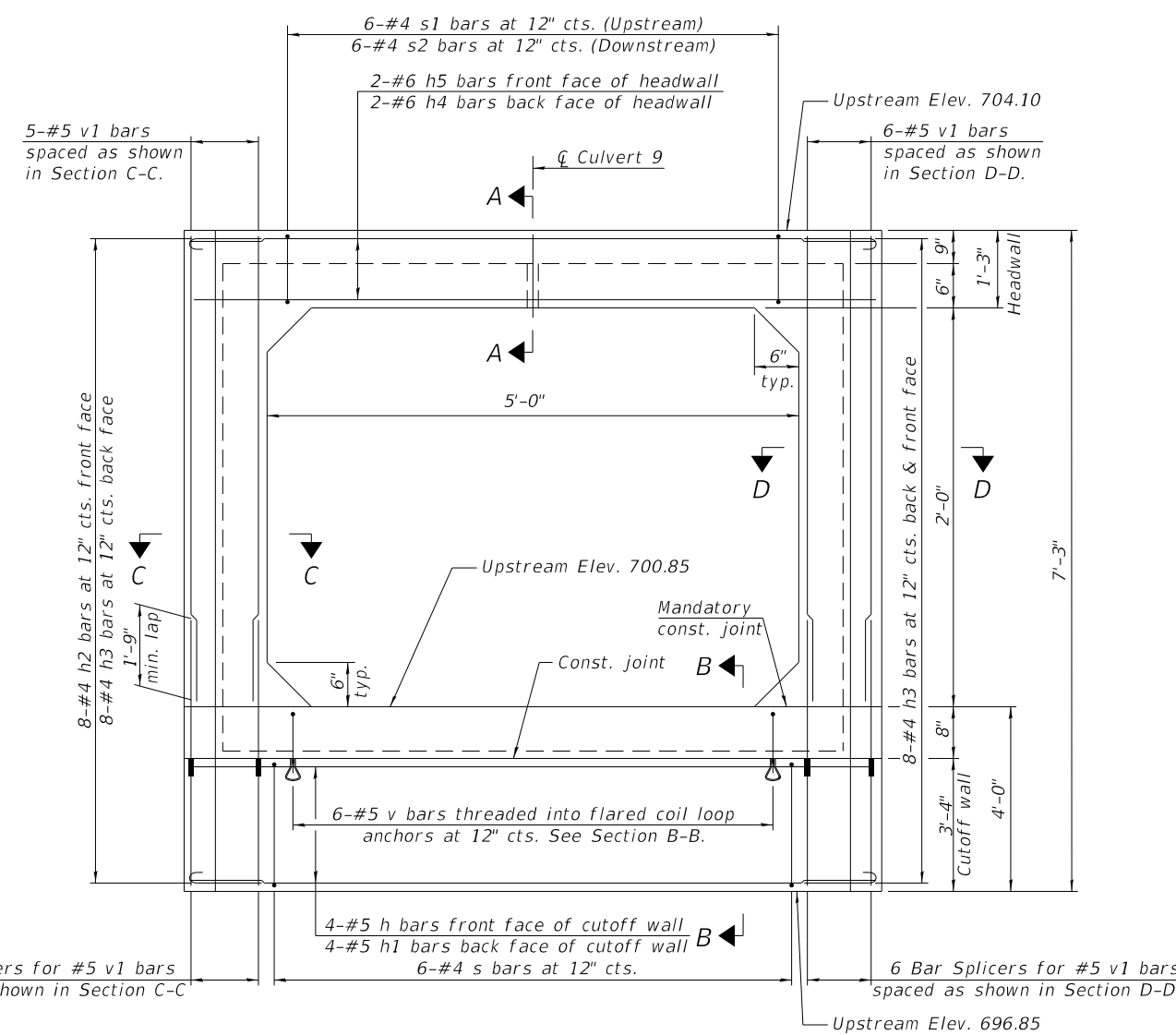
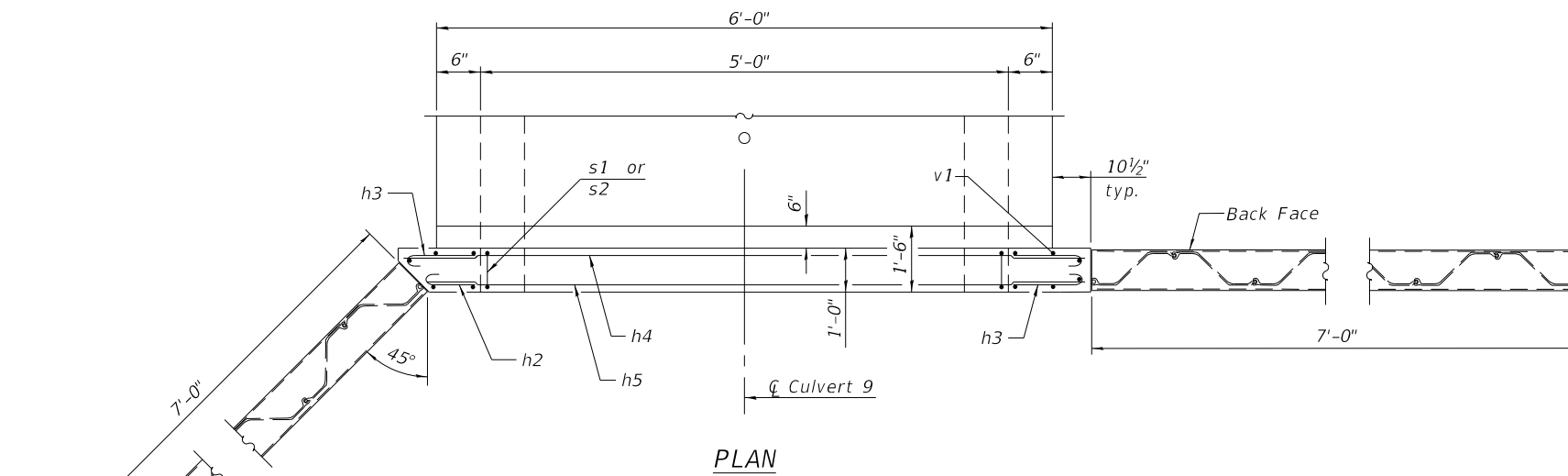
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BOX CULVERT END SECTION DETAILS  
CULVERT NO. 9 AND CULVERT NO. 10 DOWNSTREAM**

SHEET NO. 10 OF 20 SHEETS

F.A.S. RTE. 1107	SECTION 15-00277-01-BR	COUNTY KANE	TOTAL SHEETS 542	SHEET NO. 293
			CONTRACT NO. 61H95	
		ILLINOIS FED. AID PROJECT		

(Sheet 1 of 5)



**Note:**  
 The design fill height for this structure is 3 feet. The precast concrete box culvert sections shall conform to the standard designs of ASTM C 1577.  
 The box culvert end section shall be built in the field and a precast option is not allowed except the cutoff wall may be precast. If the Contractor elects to use a precast cutoff wall, shop drawings and a proposed construction sequence shall be submitted to the Engineer for approval.  
 Areas of the precast box culvert in contact with cast-in-place concrete shall be sandblasted, cleaned, and wetted prior to placing concrete in the field according to Article 503.09(b).  
 The ends of the precast box sections adjacent to the end section shall be formed without male and female shapes.  
 The joints between precast box sections shall be sealed, all voids filled with a mastic joint sealer. In addition, the joints shall be externally sealed on all four sides with a 13 inch wide external sealing band. The seal shall be centered over the joint, secured in place and protected during the backfilling process.  
 Tilt h2 and h3 bars as required to maintain clearance. Extend precast concrete box culvert welded wire reinforcement into end section. Bend as necessary to provide 1 1/2" clear cover.  
 See sheet 4 of 5 for Section A-A, B-B, C-C and D-D.  
 See sheet 5 of 5 for additional wing wall details.

**BILL OF MATERIAL**

Item	Unit	Total
Box Culvert End Sections, Culvert No. 9	Each	1

5 Bar Splicers for #5 v1 bars spaced as shown in Section C-C  
 6 Bar Splicers for #5 v1 bars spaced as shown in Section D-D

**END ELEVATION**  
 (Wingwalls omitted in this view for clarity)

(Sheet 2 of 5)

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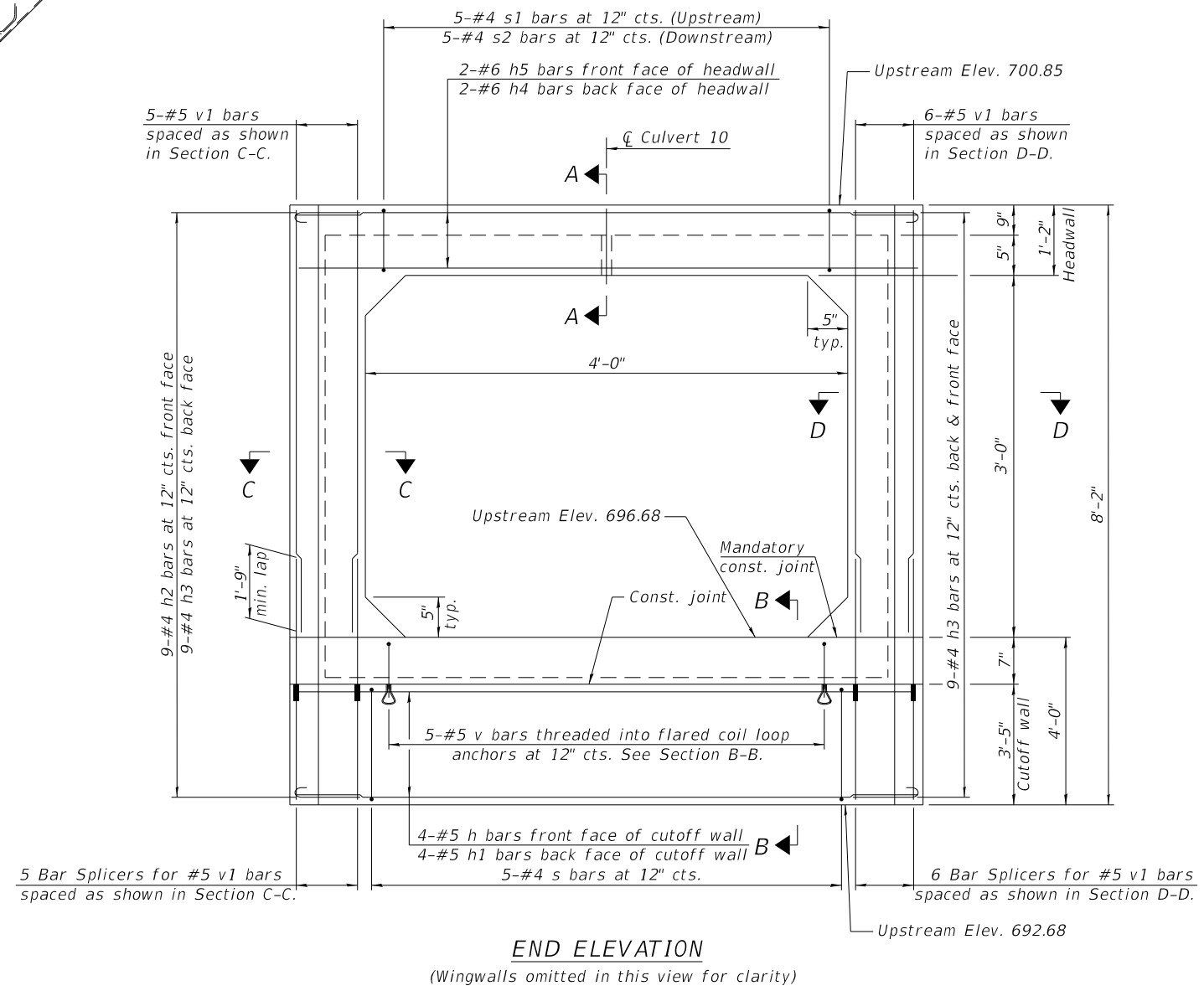
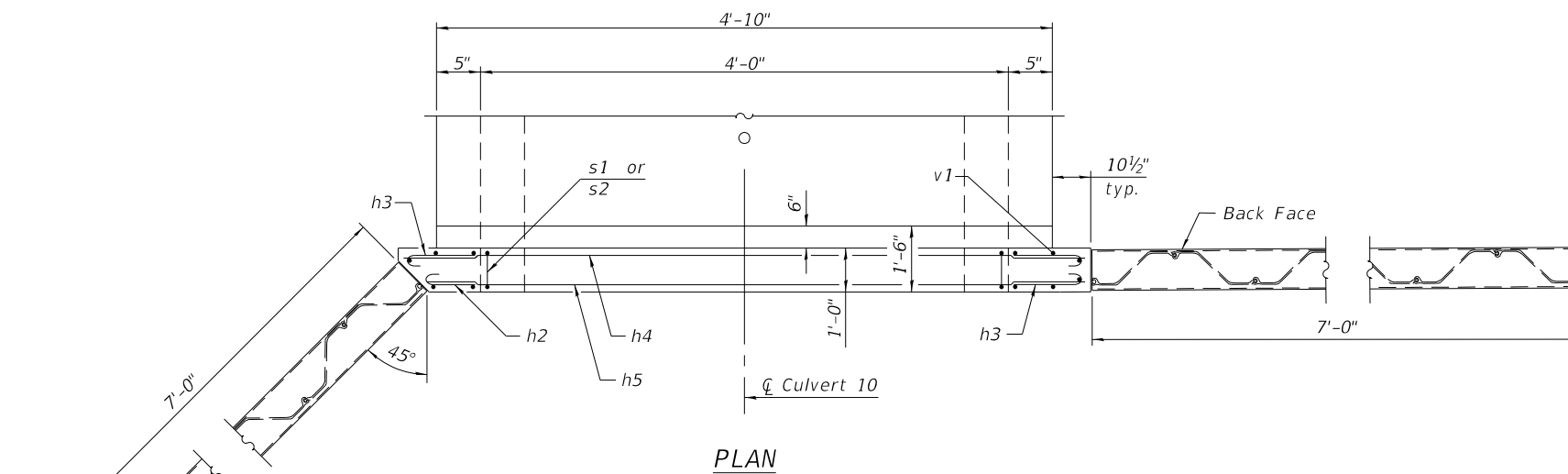
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BOX CULVERT END SECTION DETAILS**  
**CULVERT NO. 9 UPSTREAM**

SHEET NO. 11 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	294
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



**Note:**  
 The design fill height for this structure is 4 feet. The precast concrete box culvert sections shall conform to the standard designs of ASTM C 1577.  
 The box culvert end section shall be built in the field and a precast option is not allowed except the cutoff wall may be precast. If the Contractor elects to use a precast cutoff wall, shop drawings and a proposed construction sequence shall be submitted to the Engineer for approval.  
 Areas of the precast box culvert in contact with cast-in-place concrete shall be sandblasted, cleaned, and wetted prior to placing concrete in the field according to Article 503.09(b).  
 The ends of the precast box sections adjacent to the end section shall be formed without male and female shapes.  
 The joints between precast box sections shall be sealed, all voids filled with a mastic joint sealer. In addition, the joints shall be externally sealed on all four sides with a 13 inch wide external sealing band. The seal shall be centered over the joint, secured in place and protected during the backfilling process.  
 Tilt h2 and h3 bars as required to maintain clearance. Extend precast concrete box culvert welded wire reinforcement into end section. Bend as necessary to provide 1 1/2 inch clear cover.  
 See sheet 4 of 5 for Section A-A, B-B, C-C and D-D. See sheet 5 of 5 for additional wing wall details.

**BILL OF MATERIAL**

Item	Unit	Total
Box Culvert End Sections, Culvert No. 10	Each	1

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

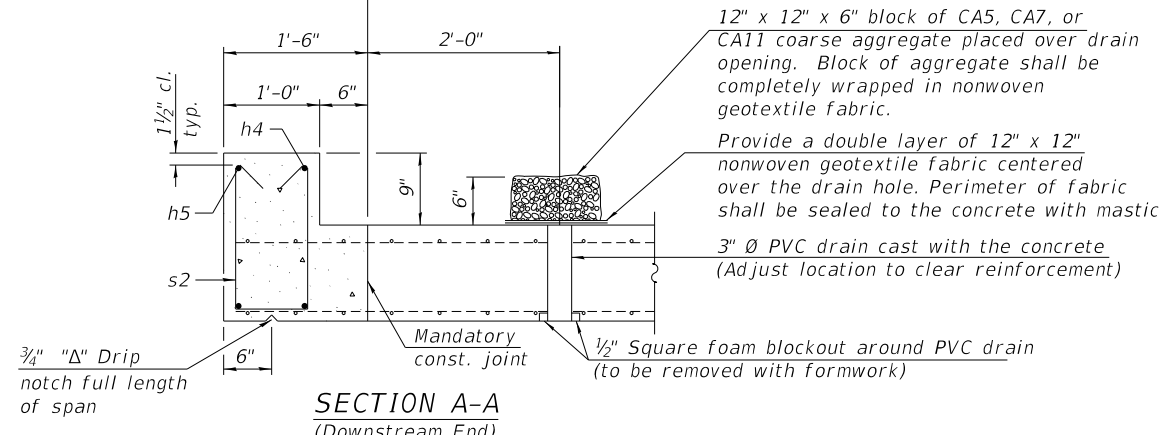
**BOX CULVERT END SECTION DETAILS  
 CULVERT NO. 10 UPSTREAM**

(Sheet 3 of 5)

SHEET NO. 12 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	295
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

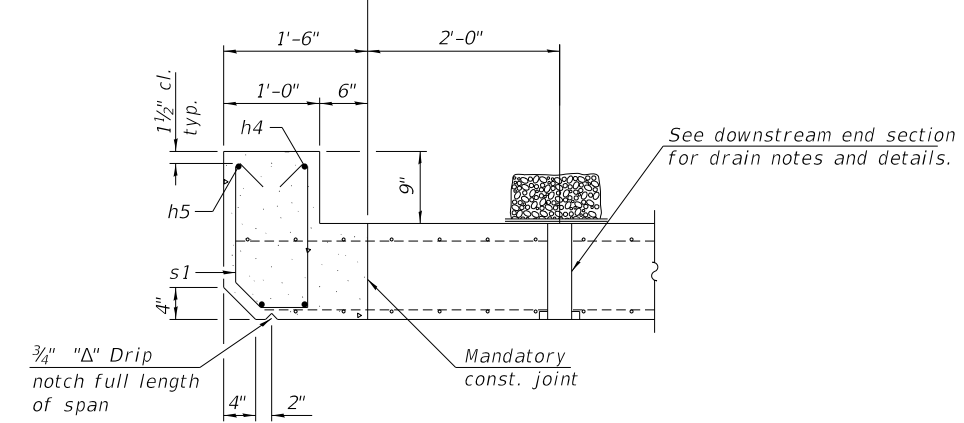
Pay Limits for Box Culvert End Sections | Pay Limits for Precast Concrete Box Culverts



**SECTION A-A**  
(Downstream End)

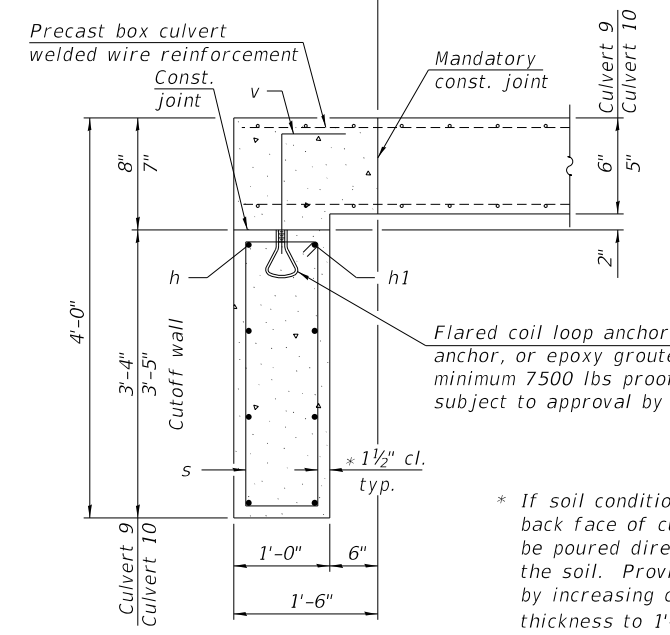
(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

Pay Limits for Box Culvert End Sections | Pay Limits for Precast Concrete Box Culverts



**SECTION A-A**  
(Upstream End)

Pay Limits for Box Culvert End Sections | Pay Limits for Precast Concrete Box Culverts



**SECTION B-B**

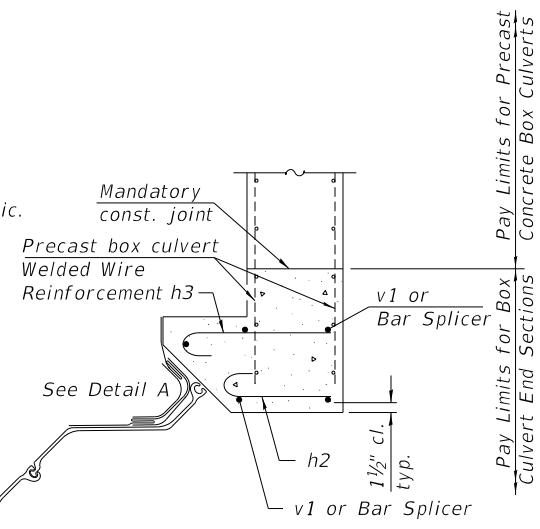
\* If soil conditions permit, the back face of cutoff wall may be poured directly against the soil. Provide 3" cover by increasing cutoff wall thickness to 1'-1 1/2".

12" x 12" x 6" block of CA5, CA7, or CA11 coarse aggregate placed over drain opening. Block of aggregate shall be completely wrapped in nonwoven geotextile fabric.

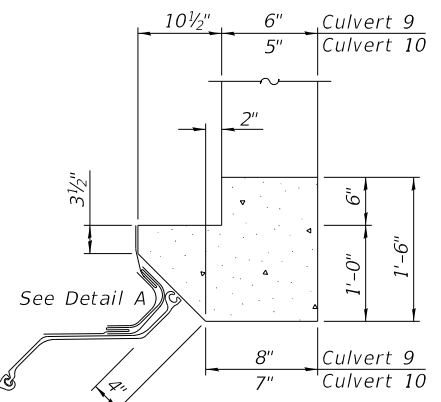
Provide a double layer of 12" x 12" nonwoven geotextile fabric centered over the drain hole. Perimeter of fabric shall be sealed to the concrete with mastic.

3" Ø PVC drain cast with the concrete (Adjust location to clear reinforcement)

1/2" Square foam blockout around PVC drain (to be removed with formwork)



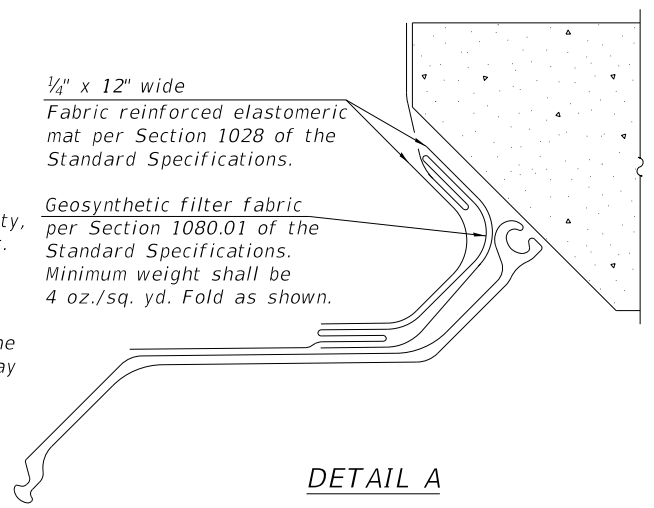
**SECTION C-C**  
(Showing reinforcement)



**SECTION C-C**  
(Showing dimensions)

1/4" x 12" wide Fabric reinforced elastomeric mat per Section 1028 of the Standard Specifications.

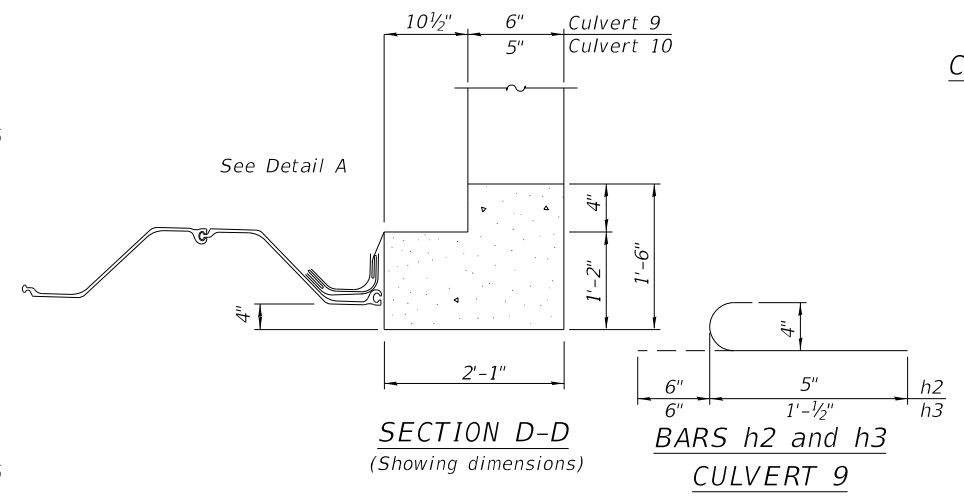
Geosynthetic filter fabric per Section 1080.01 of the Standard Specifications. Minimum weight shall be 4 oz./sq. yd. Fold as shown.



**DETAIL A**

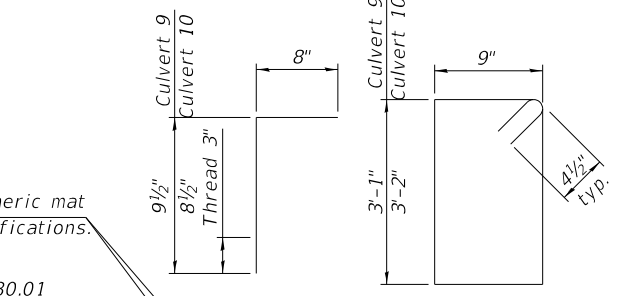
1/4" x 12" wide Fabric reinforced elastomeric mat per Section 1028 of the Standard Specifications.

Geosynthetic filter fabric per Section 1080.01 of the Standard Specifications. Minimum weight shall be 4 oz./sq. yd. Fold as shown.



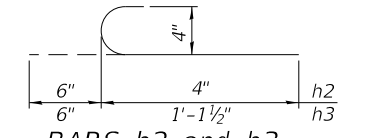
**SECTION D-D**  
(Showing dimensions)

**BARS h2 and h3**  
**CULVERT 9**

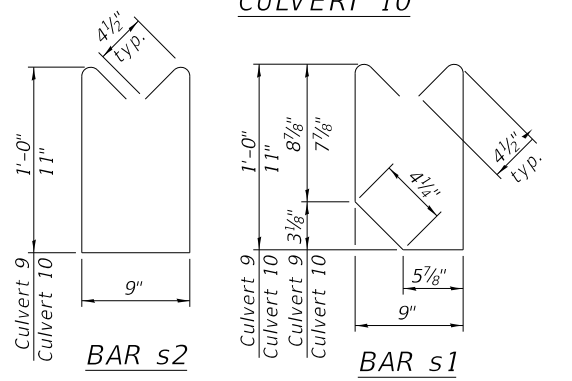


**SECTION D-D**  
(Showing reinforcement)

**BARS v and s**



**BARS h2 and h3**  
**CULVERT 10**



**BARS s2**

**BARS s1**

**CULVERT 9 ONE END SECTION**

**BILL OF MATERIAL**

(For information only)

Bar	No.	Size	Length	Shape
h	4	#5	6'-9 1/2"	—
h1	4	#5	7'-6"	—
h2	8	#4	11"	C
h3	24	#4	1'-7 1/2"	C
h4	2	#6	7'-6"	—
h5	2	#6	6'-9 1/2"	—
s	6	#4	8'-5"	U
s1	6	#4	3'-4"	U
s2	6	#4	3'-6"	U
v	6	#5	1'-5 1/2"	—
v1	11	#5	3'-0"	—
Concrete Box Culverts	Cu. Yd.	1.9		
Reinforcement Bars	Pound	320		
Bar Splicers	Each	11		
Permanent Sheet Piling	Sq. Ft.	52		

**CULVERT 10 ONE END SECTION**

**BILL OF MATERIAL**

(For information only)

Bar	No.	Size	Length	Shape
h	4	#5	5'-7 1/2"	—
h1	4	#5	6'-4"	—
h2	9	#4	10"	C
h3	27	#4	1'-6 1/2"	C
h4	2	#6	6'-4"	—
h5	2	#6	5'-7 1/2"	—
s	5	#4	8'-7"	U
s1	5	#4	3'-2"	U
s2	5	#4	3'-4"	U
v	5	#5	1'-4 1/2"	—
v1	11	#5	3'-11"	—
Concrete Box Culverts	Cu. Yd.	1.6		
Reinforcement Bars	Pound	300		
Bar Splicers	Each	11		
Permanent Sheet Piling	Sq. Ft.	60		

(Sheet 4 of 5)

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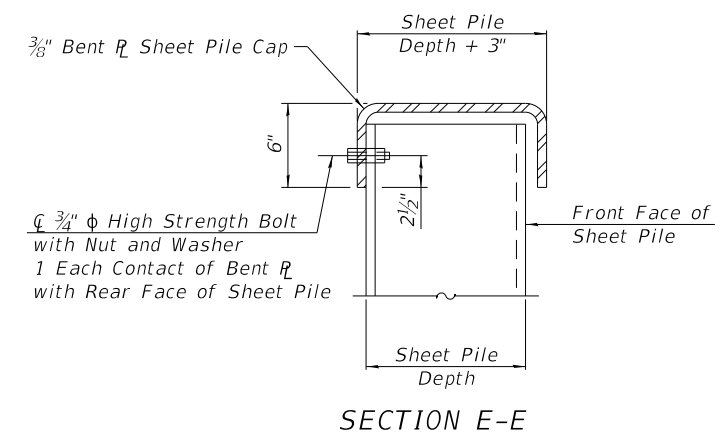
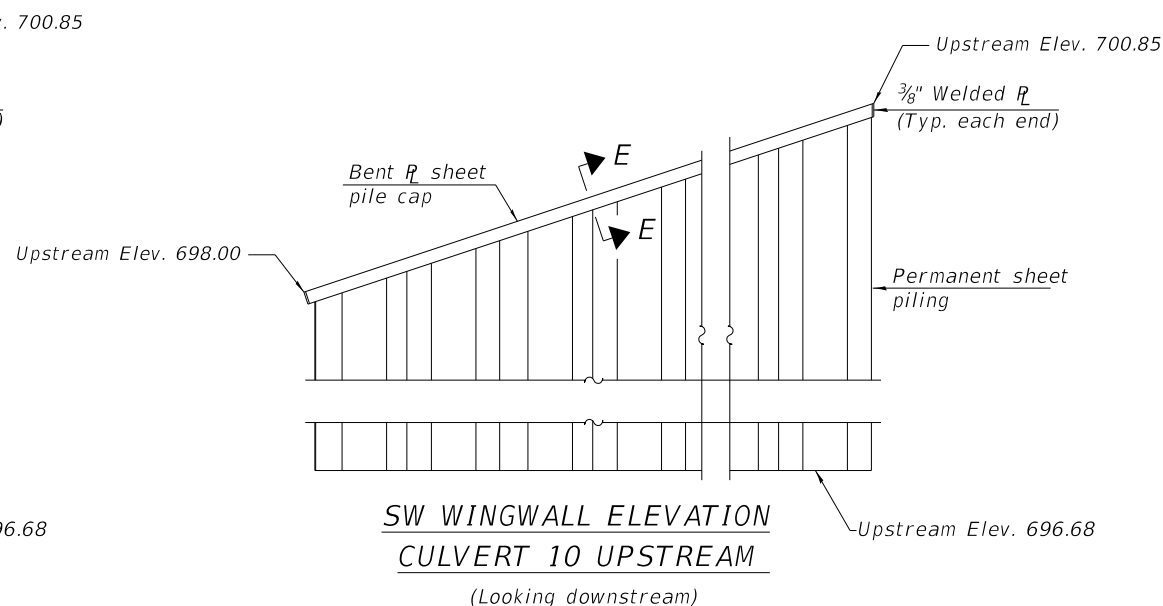
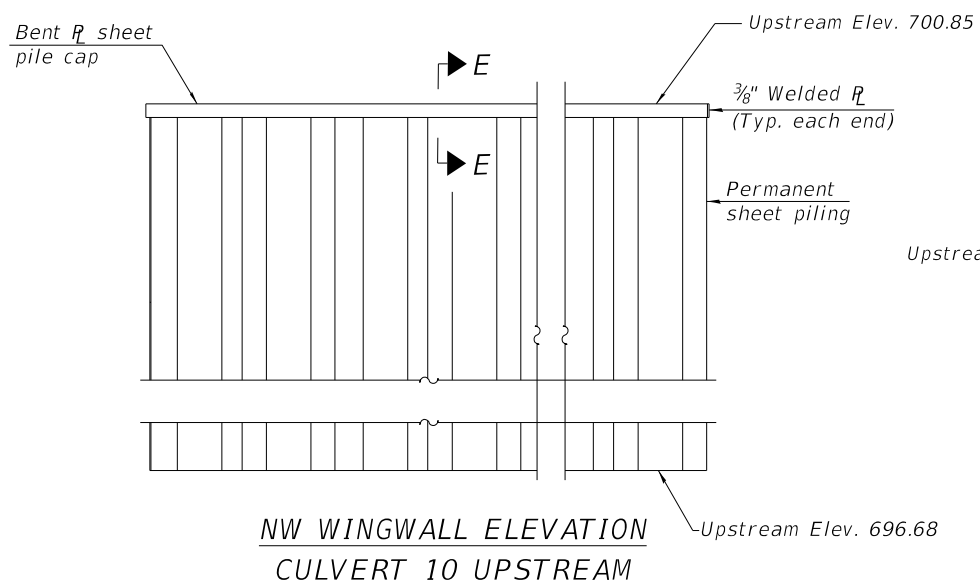
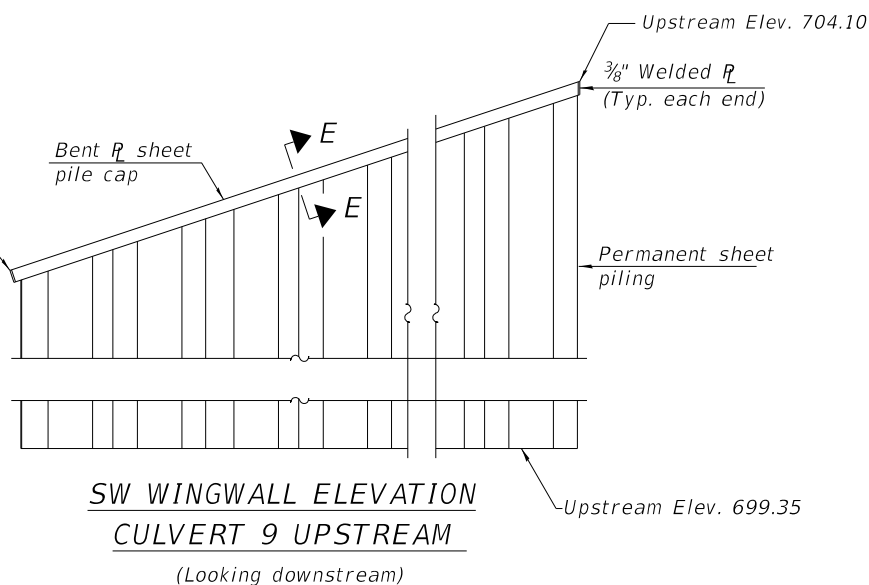
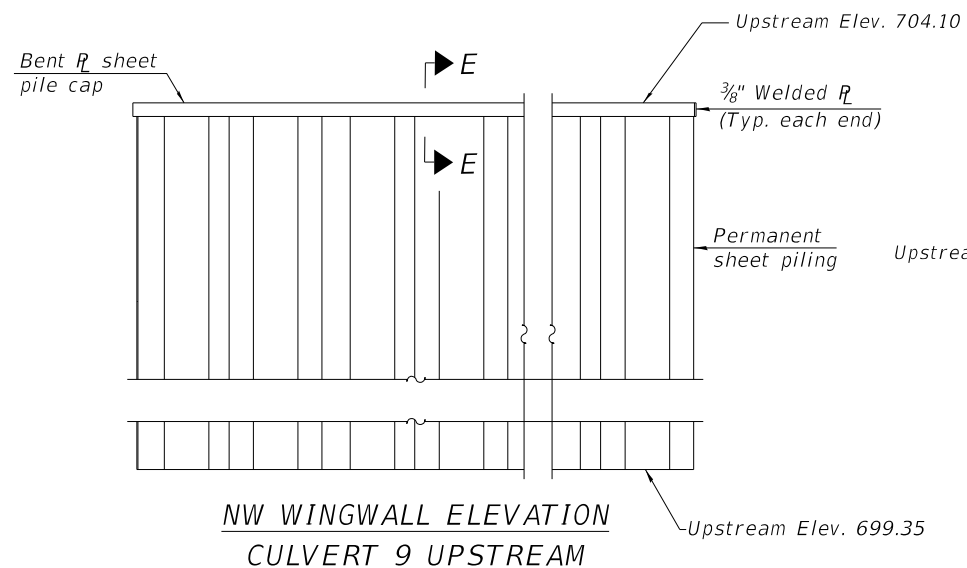
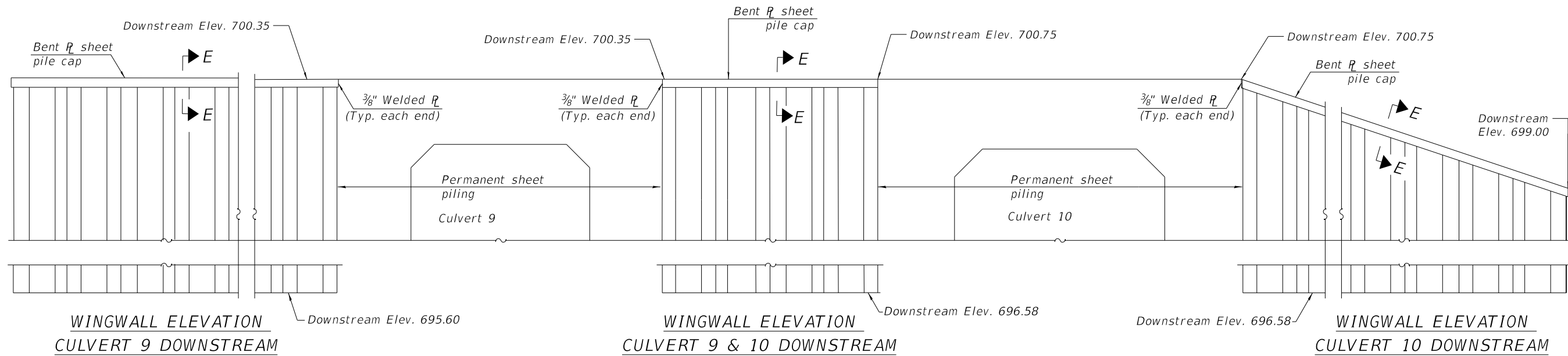
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BOX CULVERT END SECTION DETAILS**  
**CULVERT NO. 9 & CULVERT NO. 10**

SHEET NO. 13 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	296
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



Notes:  
 The minimum effective section modulus of the permanent sheet pile wall shall be (XXX) in.<sup>3</sup>/ft.  
 Sheet piling shall not be driven until the concrete strength has attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.  
 The cost of furnishing and installing the bent R sheet pile cap, elastomeric mat, and filter fabric shall be included in the cost of the end section.

(Sheet 5 of 5)

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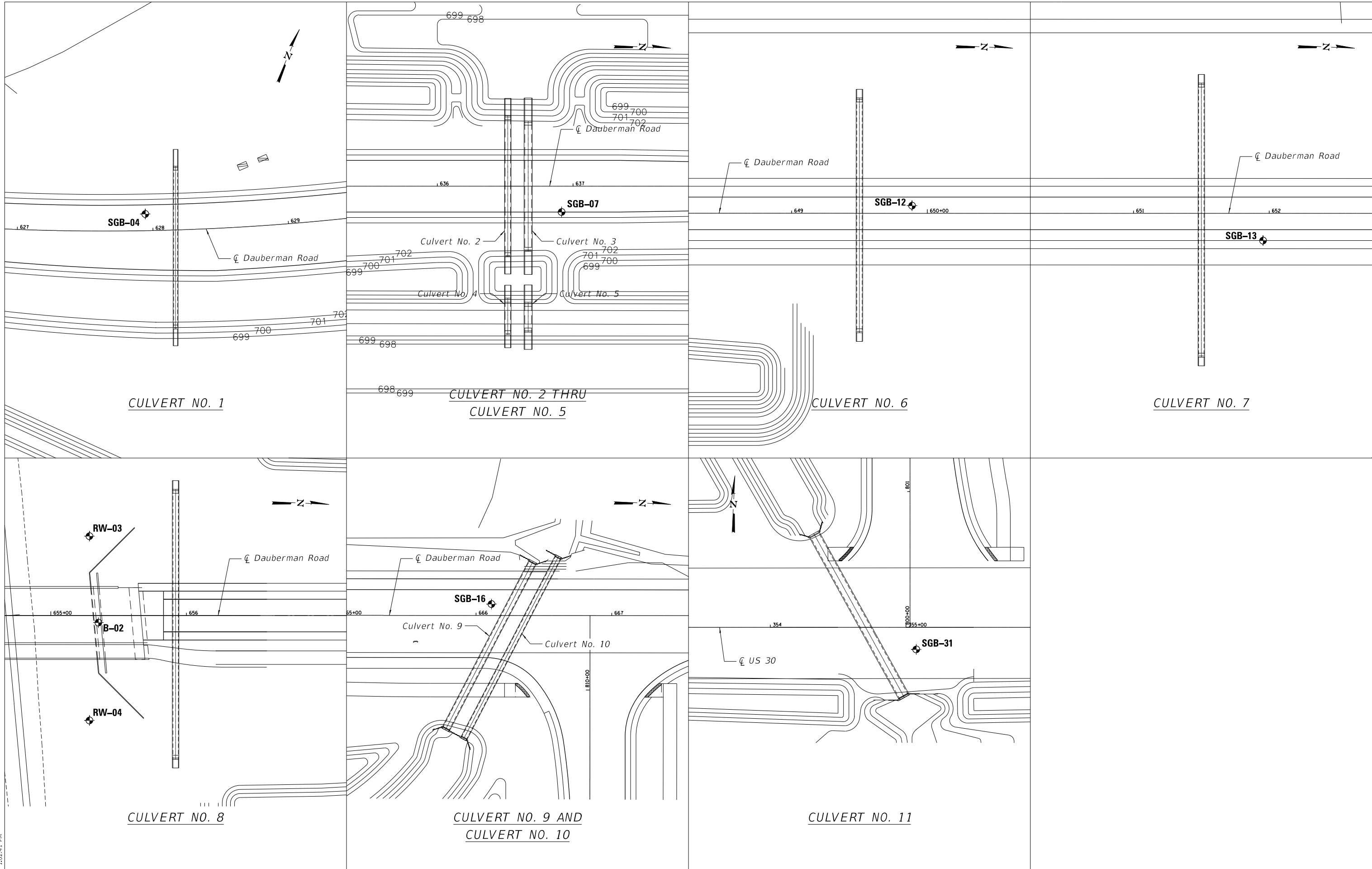
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BOX CULVERT END SECTION DETAILS  
CULVERT NO. 9 AND 10

SHEET NO. 14 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	297
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CULVERT BORING LOCATION PLAN  
DAUBERMAN ROAD EXTENSION**

SHEET NO. 15 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	298
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				



Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
699.0	16-inch thick, black SILTY CLAY LOAM --TOPSOIL-- Stiff, gray SILTY CLAY to SILTY CLAY LOAM	1	3	2	1.15	24	677.3	--possible cobbles, 21 feet--	9	16	NP	11			
697.3	Loose, brown LOAM to CLAY LOAM, trace gravel --sand lenses; wet-- -L <sub>1</sub> (%)=18, P <sub>1</sub> (%)=14-- --%Gravel=2.9-- --%Sand=43.0-- --%Silt=43.6-- --%Clay=10.5-- --A-4 (0)--	2	3	2	0.57	18	674.1	Very stiff, gray CLAY LOAM, trace gravel	10	5	8	2.05	15		
692.3	Medium dense, brown SILTY LOAM, little gravel; moist to wet	3	2	2	1.15	17	653.6	Medium dense to very dense, gray SANDY LOAM; saturated	11	5	10	NP	23		
688.8	Loose, gray LOAM; moist --%Gravel=13.6-- --%Sand=41.0-- --%Silt=37.9-- --%Clay=7.6-- --A-4 (0)--	4	3	11	NP	12	648.6	Dense, gray, fine to medium SAND; saturated	12	16	26	NP	17		
687.3	Medium dense to very dense, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel --light chatter, 15.0 to 16.0 feet-- --pebbly--	5	2	2	NP	11	628.6	Dense, gray, coarse SAND; saturated	13	21	32	NP	20		
		6	18	31	NP	16	626.6	Medium dense to very dense, gray, coarse SAND, trace gravel; saturated	14	16	15	NP	14		
		7	35	57/6	NP	12	622.3	Dense to very dense, gray, fine SAND, trace gravel; saturated	15	16	18	NP	24		
		8	18	31	NP	11			16	18	17	NP	12		

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-05-2016	Complete Drilling	12-05-2016	While Drilling	4.00 ft		
Drilling Contractor	Wang Testing Services	Drill Rig	D50 ATV [88%]	At Completion of Drilling	14 ft (mud)		
Driller	J & M	Logger	J. Foote	Time After Drilling	NA		
Checked by	C. Marin	Depth to Water	NA				
Drilling Method	3.25" HSA; backfilled upon completion			The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
653.6	Dense, gray, fine to medium SAND; saturated	16	14	16	NP	22	628.6	Medium dense to very dense, gray, coarse SAND, trace gravel; saturated	19	26	22	NP	22		
648.6	Dense, gray, coarse SAND; saturated	17	16	15	NP	14	626.6	Medium dense to very dense, gray, coarse SAND, trace gravel; saturated	20	20	25	NP	20		
643.6	Dense to very dense, gray, fine SAND, trace gravel; saturated	18	16	18	NP	24			21	13	11	NP	14		
		19	18	17	NP	12			22	15	11	NP	17		

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-05-2016	Complete Drilling	12-05-2016	While Drilling	4.00 ft		
Drilling Contractor	Wang Testing Services	Drill Rig	D50 ATV [88%]	At Completion of Drilling	14 ft (mud)		
Driller	J & M	Logger	J. Foote	Time After Drilling	NA		
Checked by	C. Marin	Depth to Water	NA				
Drilling Method	3.25" HSA; backfilled upon completion			The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
618.6	Medium dense, gray, fine to medium SAND, trace gravel; saturated	23	10	12	NP	19	598.3	--hard drilling, 102.0 to 103.0 feet-- --possible cobbles--	27	18	21	NP	16		
608.6	Dense, gray GRAVELLY SAND; saturated	24	9	12	NP	23	590.3	Dense to very dense, gray GRAVELLY SAND; saturated	28	15	21	NP	15		
602.3	Medium dense, gray SAND; saturated	25	15	17	NP	19			29	15	21	NP	15		
		26	12	13	NP	22									

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-05-2016	Complete Drilling	12-05-2016	While Drilling	4.00 ft		
Drilling Contractor	Wang Testing Services	Drill Rig	D50 ATV [88%]	At Completion of Drilling	14 ft (mud)		
Driller	J & M	Logger	J. Foote	Time After Drilling	NA		
Checked by	C. Marin	Depth to Water	NA				
Drilling Method	3.25" HSA; backfilled upon completion			The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

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USER NAME = bmssetzke	DESIGNED - HB	REVISED -
PLOT SCALE = NTS	CHECKED - JJI	REVISED -
PLOT DATE = 7/7/2022	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

**BORING LOGS (1 OF 5)**  
**STRUCTURE NO. 045-3402**  
 SHEET NO. 16 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	299
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				

**Wang Engineering**  
 wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG RW-03**  
 WEI Job No.: 790-87-02  
 Client: **TranSystems Corporation**  
 Project: **Dauberman Road**  
 Location: **Kane County**

Datum: NAVD 88  
 Elevation: 700.65 ft  
 North: 1856350.09 ft  
 East: 931087.48 ft  
 Station: 655+26.18  
 Offset: 84.07 LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
699.7	12-inch thick, black SILTY CLAY --TOPSOIL-- Medium stiff to stiff, brown and gray SILTY CLAY LOAM	1	1	2	0.50	22		680.2	Very dense, gray SILT to SILTY LOAM, little gravel	9	9	21	37	NP	7
	--silt and sand lenses; saturated--	2	2	2	1.25	28				10	10	27	40	NP	8
		3	3	4	1.00	16		675.7	--hard drilling at 25 feet-- Loose, gray SANDY GRAVEL; saturated	11	11	0	2	NP	16
692.7	Medium dense, brown SILTY LOAM; moist to wet	4	4	5	NP	12		672.7	Medium dense to dense, gray, fine to medium SAND; saturated	12	12	5	3	NP	22
690.2	Gray LOAM; saturated	5	5	5	NP	10				13	13	10	6	NP	22
689.0	Medium dense to very dense, gray SILT; saturated	6	6	20	NP	12				14	14	5	13	NP	12
685.7	--hard drilling, 15.0 to 18.0 feet-- --possible cobbles--	7	7	50.5"	NP	3		663.9	Dense, gray, very fine SAND; saturated	15	15	17	24	NP	8
682.7	Stiff, gray CLAY LOAM	8	8	6	1.64	10				16	16	0	2	NP	16
	--silt lenses; wet--	14	14	6	1.64	10				17	17	24	21	NP	8

**GENERAL NOTES**  
 Begin Drilling 12-02-2016 Complete Drilling 12-02-2016  
 Drilling Contractor Wang Testing Services Drill Rig D50 ATV [88%]  
 Driller K & J Logger J. Foote Checked by C. Marin  
 Drilling Method 3.25" HSA; backfilled upon completion

**WATER LEVEL DATA**  
 While Drilling 4.00 ft  
 At Completion of Drilling 12.00 ft  
 Time After Drilling NA  
 Depth to Water NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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**BORING LOG RW-03**  
 WEI Job No.: 790-87-02  
 Client: **TranSystems Corporation**  
 Project: **Dauberman Road**  
 Location: **Kane County**

Datum: NAVD 88  
 Elevation: 700.65 ft  
 North: 1856350.09 ft  
 East: 931087.48 ft  
 Station: 655+26.18  
 Offset: 84.07 LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
658.9	Dense, gray SANDY GRAVEL; saturated	15	15	17	NP	8									
655.7	Boring terminated at 45.00 ft	45													

**GENERAL NOTES**  
 Begin Drilling 12-02-2016 Complete Drilling 12-02-2016  
 Drilling Contractor Wang Testing Services Drill Rig D50 ATV [88%]  
 Driller K & J Logger J. Foote Checked by C. Marin  
 Drilling Method 3.25" HSA; backfilled upon completion

**WATER LEVEL DATA**  
 While Drilling 4.00 ft  
 At Completion of Drilling 12.00 ft  
 Time After Drilling NA  
 Depth to Water NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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**BORING LOG RW-04**  
 WEI Job No.: 790-87-02  
 Client: **TranSystems Corporation**  
 Project: **Dauberman Road**  
 Location: **Kane County**

Datum: NAVD 88  
 Elevation: 699.90 ft  
 North: 1856362.47 ft  
 East: 931266.98 ft  
 Station: 655+38.51  
 Offset: 95.44 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
699.4	12-inch thick, black SILTY CLAY --TOPSOIL-- Stiff, brown and gray SILTY CLAY	1	1	4	1.25	20		679.4	Medium dense to very dense, gray SILT to SILTY LOAM; moist --hard drilling, 20.0 to 22.0 feet-- --pebbly--	9	9	17	19	NP	8
696.9	Soft, brown and gray CLAY LOAM to LOAM	2	2	2	0.25	25				10	10	19	38	NP	7
694.4	Loose to medium dense, brown LOAM to CLAY LOAM; saturated	3	3	2	NP	14				11	11	15	12	NP	11
		4	4	5	NP	12		671.9	Very stiff, gray SILTY CLAY LOAM to CLAY LOAM	12	12	6	8	3.03	10
689.4	Loose to medium dense, gray SILT; wet	5	5	5	NP	11				13	13	12	27	NP	16
	--%Gravel=0.0-- --%Sand=1.5-- --%Silt=93.7-- --%Clay=4.8-- --A-4 (0)--15	6	6	3	NP	12		668.2	Medium dense to very dense, gray, fine to medium SAND; saturated	13	13	12	27	NP	16
684.4	Medium dense to dense, gray CLAY LOAM to LOAM, trace to little gravel; moist	7	7	6	2.62	10				14	14	11	18	NP	14
	--light chatter, 18.0 to 18.5 feet-- --pebbly--	8	8	15	4.50	9				15	15	18	28	NP	14

**GENERAL NOTES**  
 Begin Drilling 12-02-2016 Complete Drilling 12-02-2016  
 Drilling Contractor Wang Testing Services Drill Rig D50 ATV [88%]  
 Driller K & J Logger J. Foote Checked by C. Marin  
 Drilling Method 3.25" HSA; backfilled upon completion

**WATER LEVEL DATA**  
 While Drilling 5.50 ft  
 At Completion of Drilling 19.00 ft  
 Time After Drilling NA  
 Depth to Water NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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USER NAME = bmssetzke	DESIGNED - HB	REVISED -
PLOT SCALE = NTS	CHECKED - JJI	REVISED -
PLOT DATE = 7/7/2022	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

**BORING LOGS (2 OF 5)**  
**STRUCTURE NO. 045-3402**  
 SHEET NO. 17 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1107	15-00277-01-BR	KANE	542	300
CONTRACT NO. 61H95				
ILLINOIS FED. AID PROJECT				