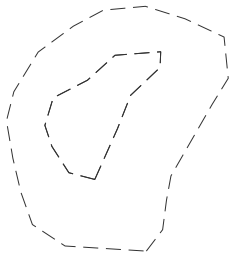


MODEL: Exit 16 - East IL 16 (Sheet)
FILE NAME: c:\p\work\hrtz\hrtz\kld852852\D774435-sheets-Roadway\SigningPlan.dgn



STA 96+10
G4-I100
30X24
M6-1R
21X15



STA 97+60
M3-9
36X18
M1-I100
36X36



STA 94+60
W3-3
48X48

STA. 96+75
R2-1
36X48



P

STA. 96+75
R2-1
36X48



MATCHLINE STA. 99+00.00

USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -
PLOT DATE = 8/21/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY SIGNS
IL 16

SCALE: 1"=20' SHEET 17 OF 29 SHEETS STA. 93+00.00 TO STA. 99+00.00

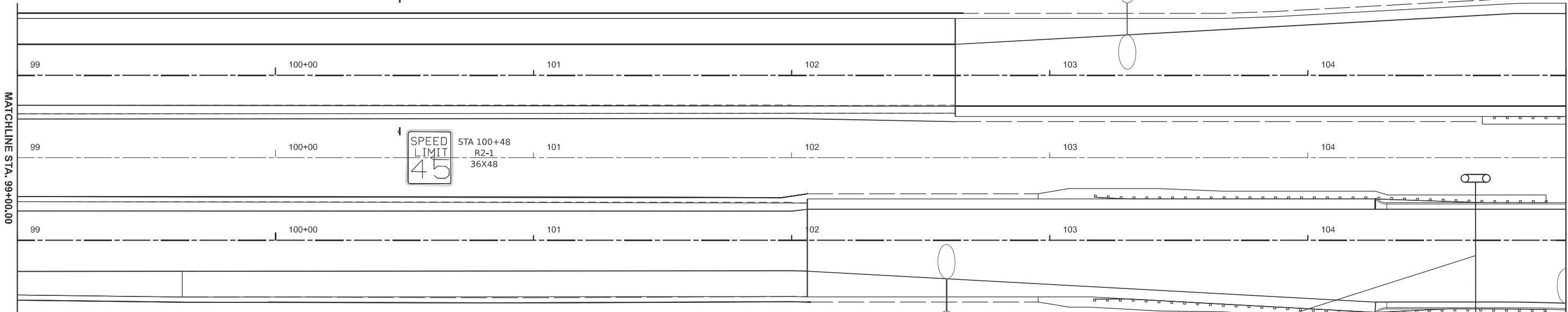
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	602
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



STA 100+48
R2-1
36X48



1



MATCHLINE STA. 99+00.00

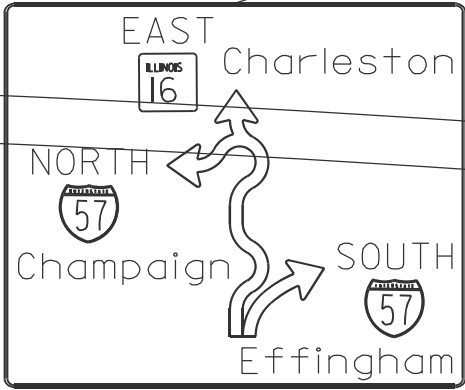
MATCHLINE STA. 105+00.00



STA 100+48
R2-1
36X48



STA 104+65
R3-1100A
24X24
MOUNT TO TRUSS SUPPORT



OVERHEAD SIGN STRUCTURE - SPAN
STA. 104+65
228X150

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

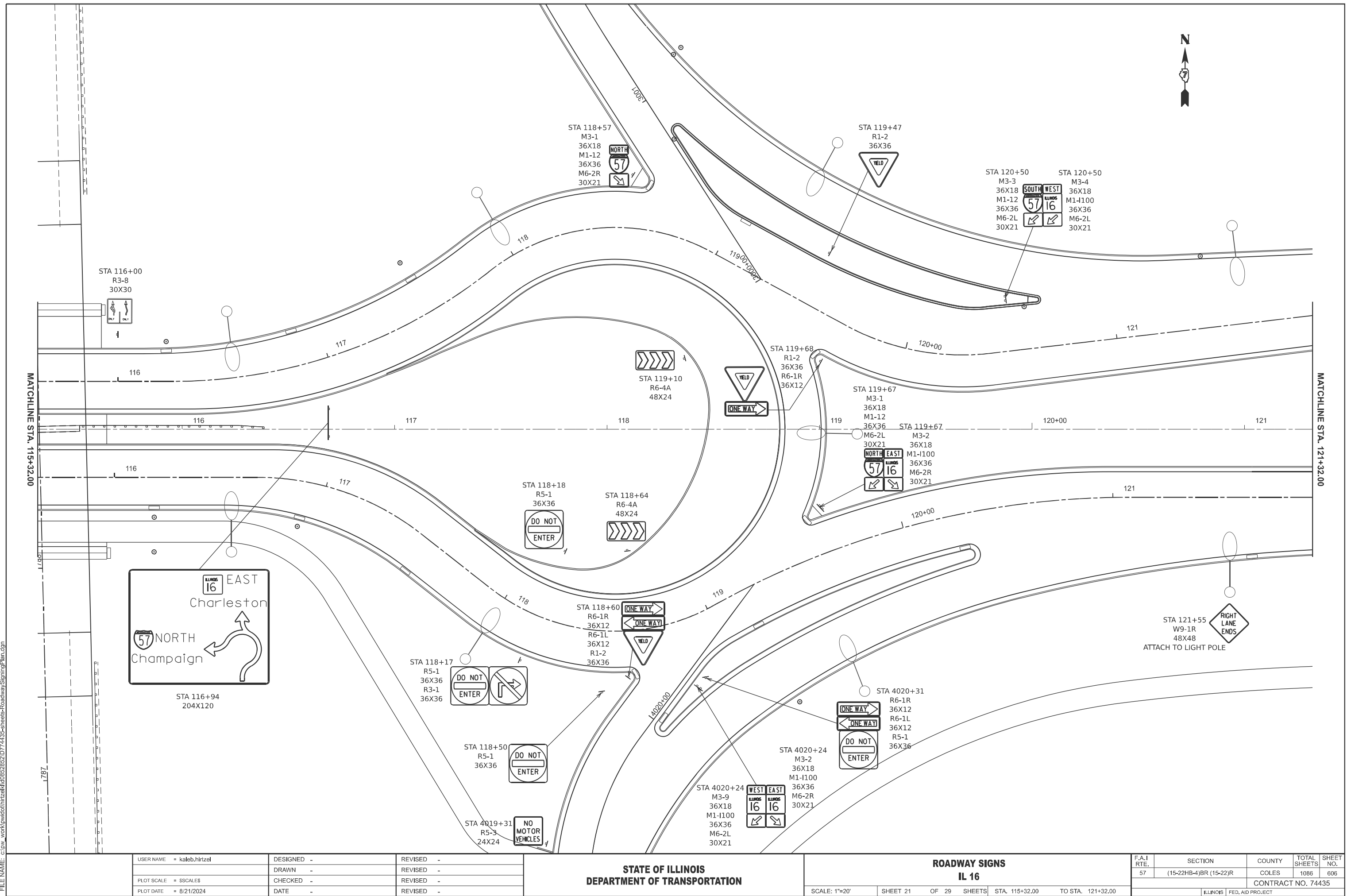
ROADWAY SIGNS
IL 16

SCALE: 1"=20' SHEET 18 OF 29 SHEETS STA. 99+00.00 TO STA. 105+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	603
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

MODEL: Exit 16 - East IL 17 (Sheet)
FILE NAME: c:\p\work\hrtz\k\ud852852\074435-sheets-Roadway\SigningPlan.sgn

USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -
PLOT DATE = 8/21/2024	DATE -	REVISED -



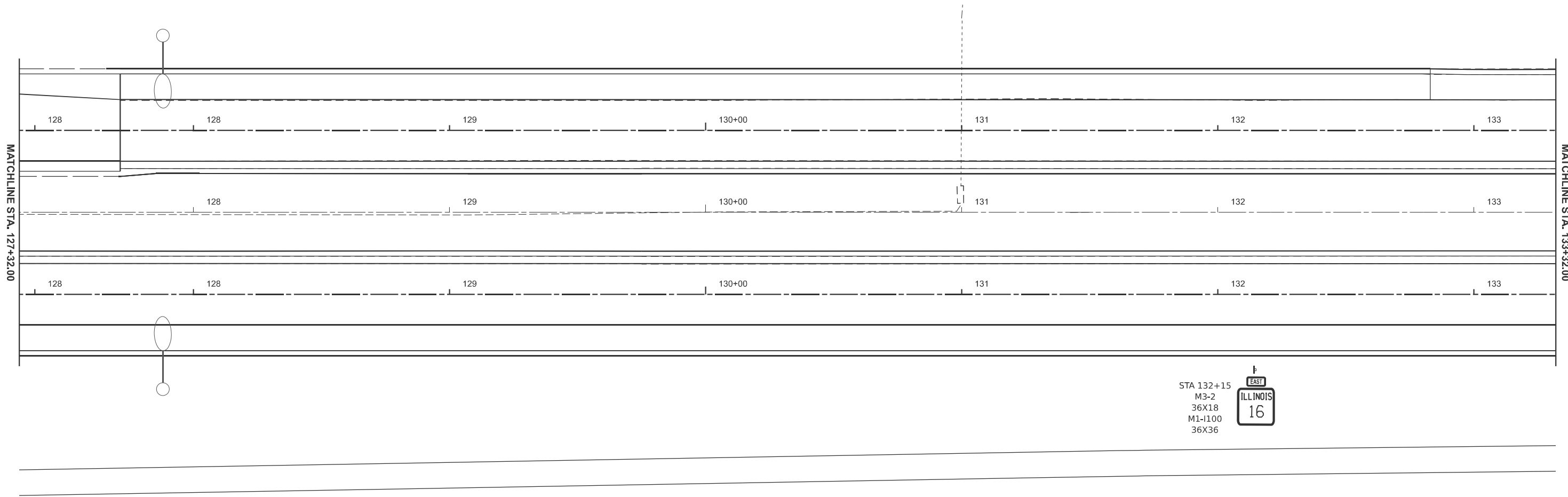
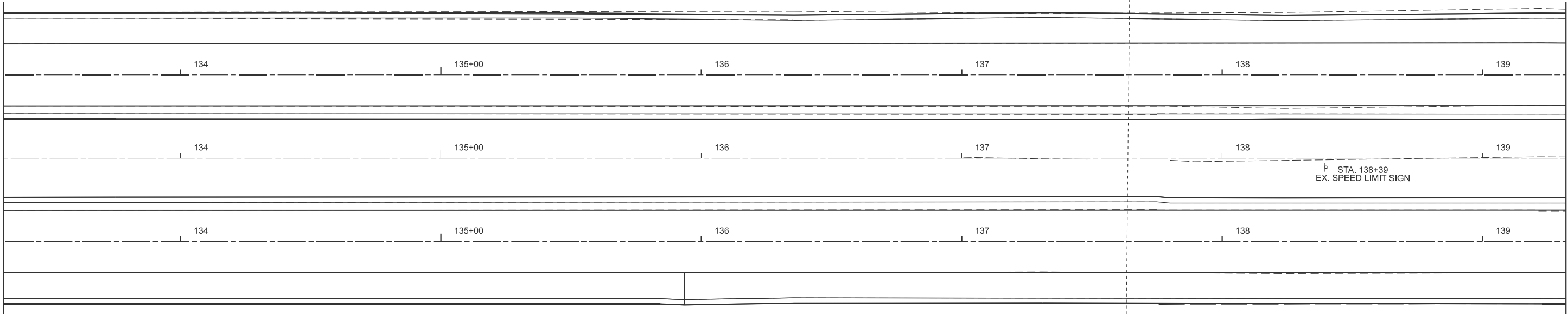


Diagram of a highway interchange. A vertical road on the left has a sign that reads "STA 132+15", "M3-2", "36X18", "M1-I100", and "36X36". A horizontal road branches off to the right. Above the horizontal road is a sign that reads "EAST". Below the horizontal road is a large rectangular sign that reads "ILLINOIS" and "16".

	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ROADWAY SIGNS					F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -		IL 16					57	(15-22HB-4)BR (15-22)R	COLES	1086	608
	PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -							CONTRACT NO. 74435				
	PLOT DATE = 8/21/2024	DATE -	REVISED -		SCALE: 1"=20'	SHEET 23	OF 29 SHEETS	STA. 127+32.00	TO STA. 133+32.00	ILLINOIS FED. AID PROJECT				

MODEL: Exit 16 - West IL 20 (Sheet)
FILE NAME: c:\p\work\pwh\hrtzel\ud852852\D774435-sheets-Roadway\SigningPlan.dgn

MATCHLINE STA. 133+32.00



MATCHLINE STA. 139+32.00

CHARLESTON 9 STA. 135+15
120X24

STA. 138+39
R2-1
36X48
SPEED
LIMIT
45

USER NAME	= kaleb.hirtzel	DESIGNED	-	REVISED	-
PLOT SCALE	= \$\$SCALE\$	DRAWN	-	REVISED	-
PLOT DATE	= 8/21/2024	CHECKED	-	REVISED	-
		DATE	-	REVISED	-

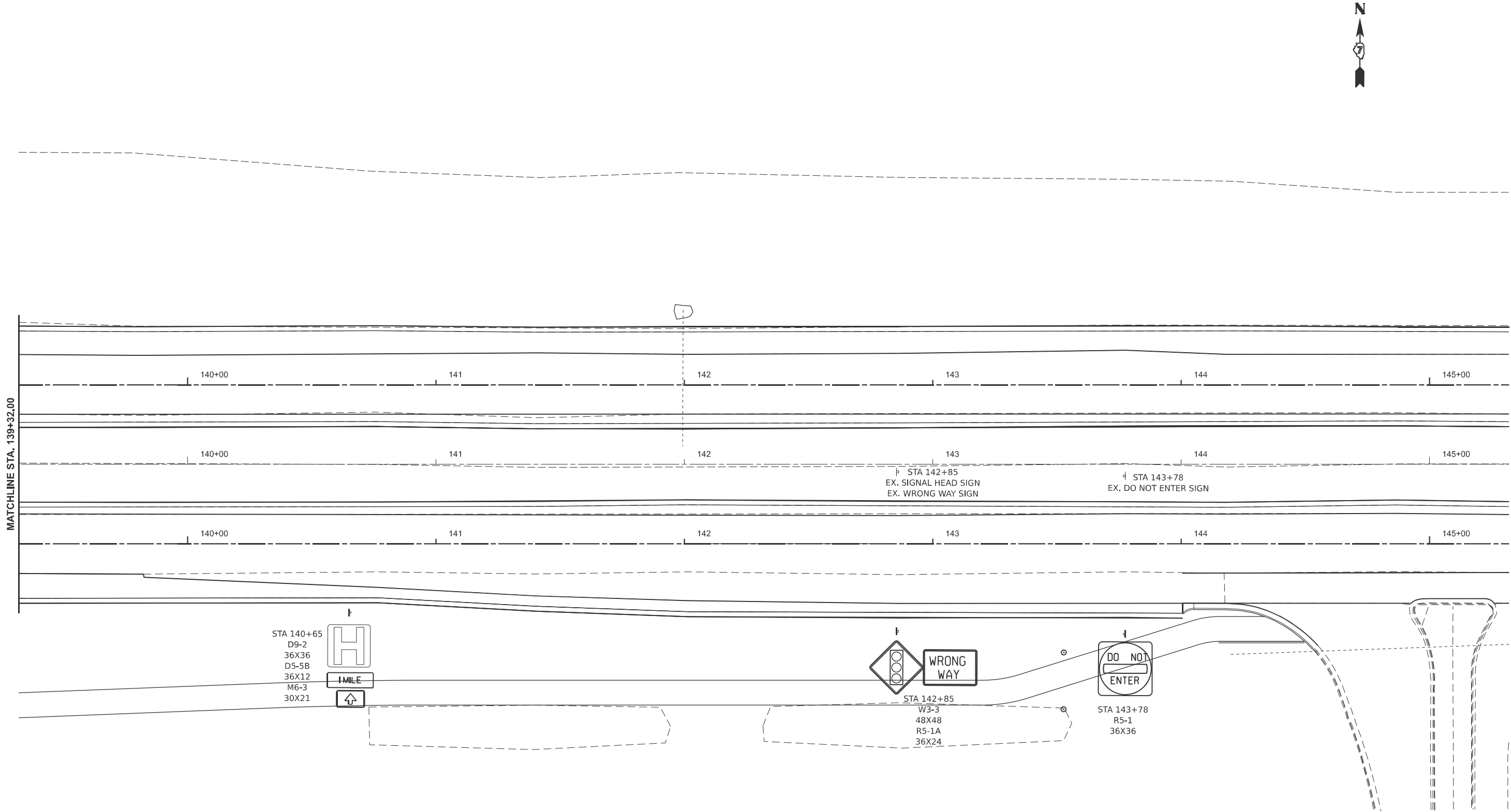
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY SIGNS
IL 16

SCALE: 1"=20' SHEET 24 OF 29 SHEETS STA. 133+32.00 TO STA. 139+32.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	609
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

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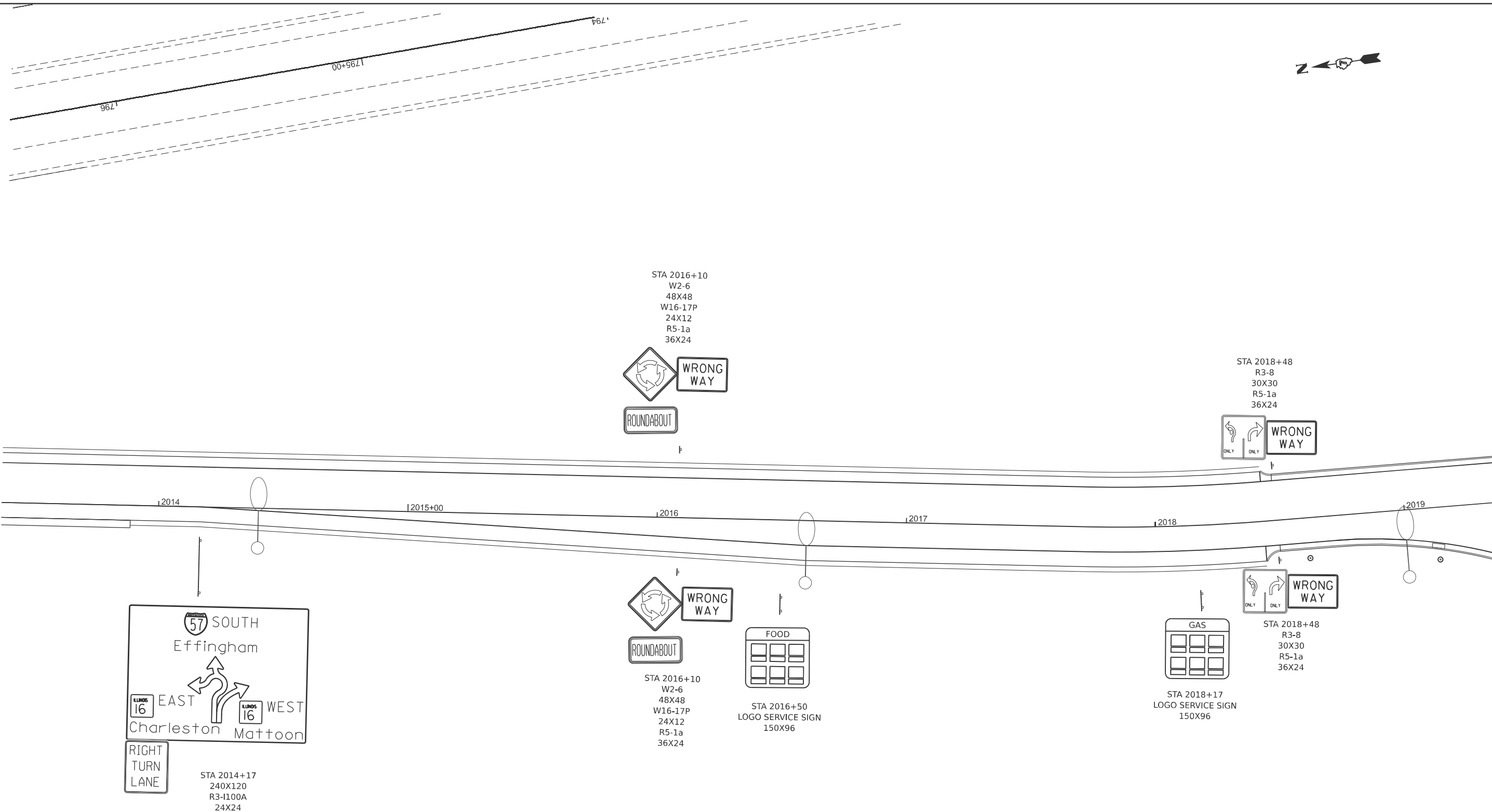
USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -
PLOT SCALE = \$SCALE\$	DRAWN -	REVISED -
PLOT DATE = 8/21/2024	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY SIGNS IL 16			
SCALE: 1"=20'	SHEET 25	OF 29	SHEETS
STA. 139+32.00		TO STA. 145+32.00	

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	610
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

MODEL: RAMPAS-OFF - Ramp A [Sheet]
FILE NAME: c:\p\work\hrtz\hrtz\082852\0774435-sheets-Roadway\SigningPlan.sgn



	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -
	PLOT DATE = 8/21/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY SIGNS RAMP A			
SCALE: 1"=20'	SHEET 26	OF 29 SHEETS	STA. 2013+37.00 TO STA. 2019+37.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	611
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -
PLOT DATE = 8/21/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

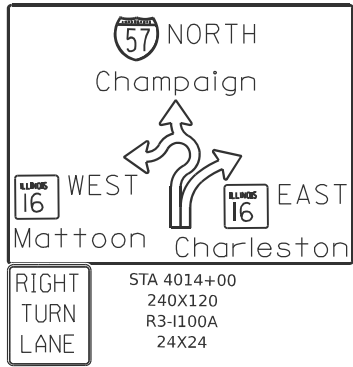
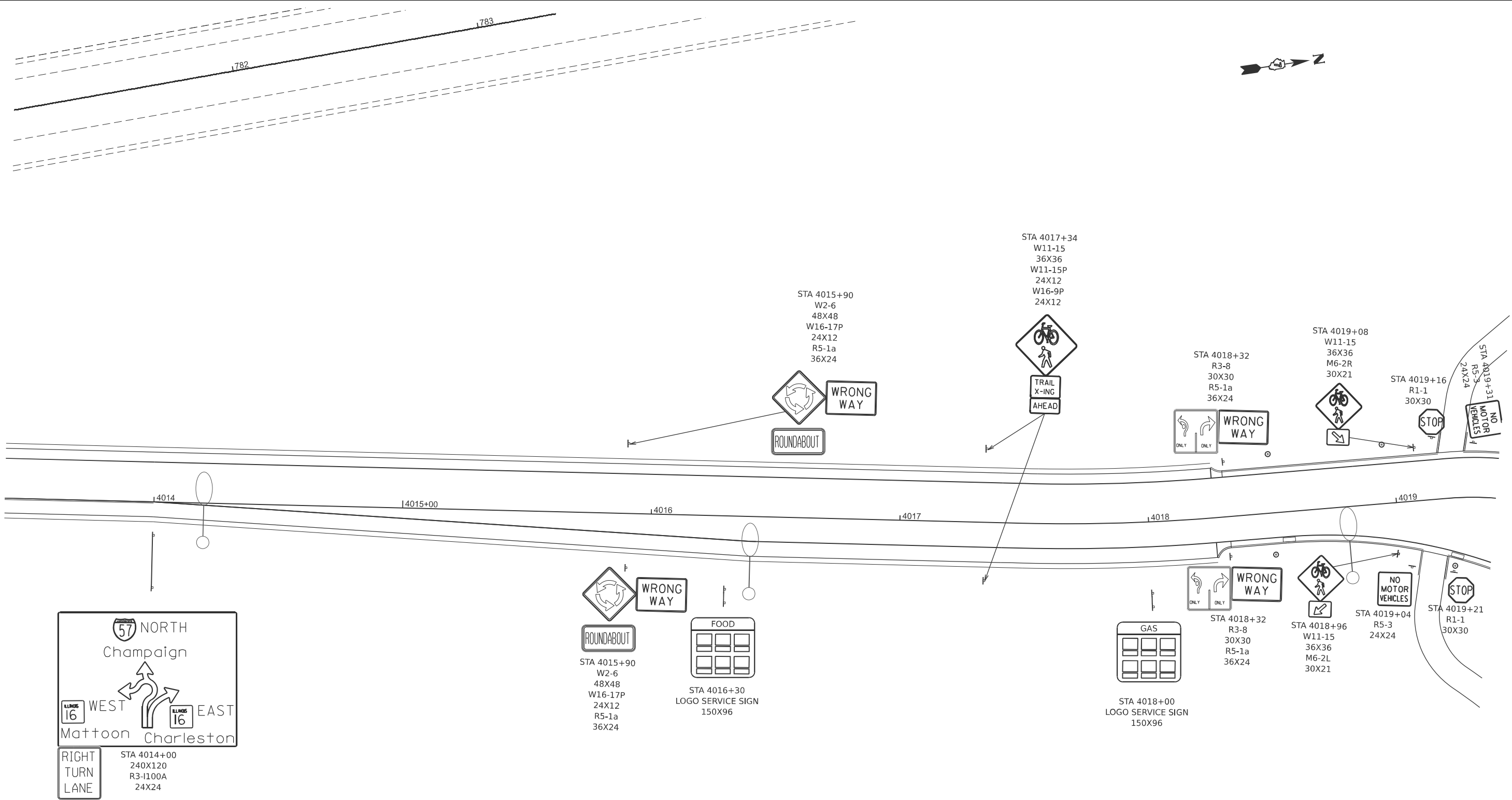
ROADWAY SIGNS

RAMP B

SCALE: 1"=20'	SHEET 27	OF 29	SHEETS	STA. 3001+15.00	TO STA. 3007+15.00
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F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	612
		CONTRACT NO. 74435		
ILLINOIS		FED. AID PROJECT		

MODEL: RAMPC-NBOFF - Ramp C [Sheet]
FILE NAME: c:\p\work\hrtz\hrtz\id852852\74435-sheets-Roadway\SigningPlan.sgn



USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -
DRAWN -	REVISED -	
PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -
PLOT DATE = 8/21/2024	DATE -	REVISED -

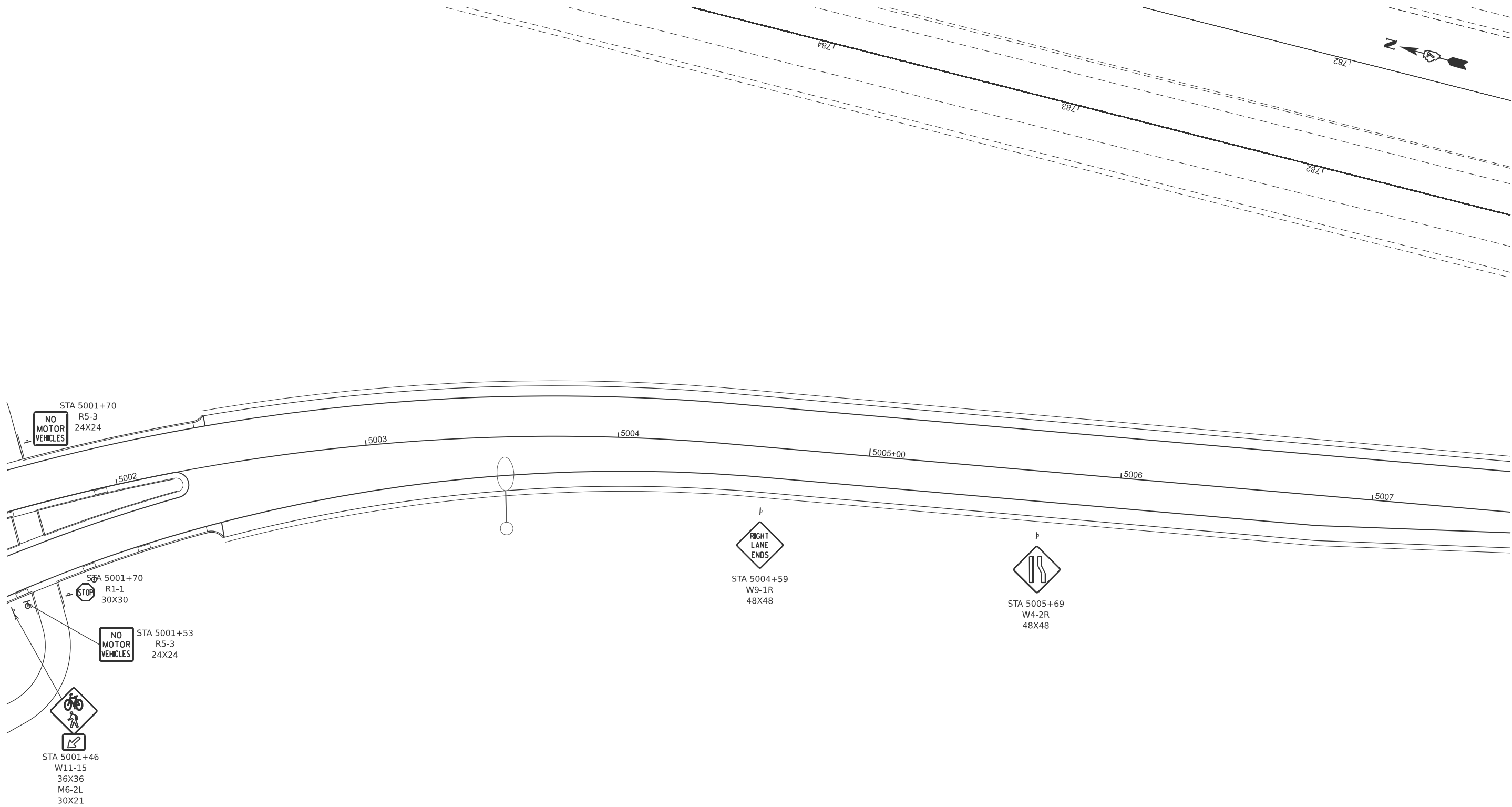
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY SIGNS
RAMP C

SCALE: 1"=20' SHEET 28 OF 29 SHEETS STA. 4013+40.00 TO STA. 4019+40.00

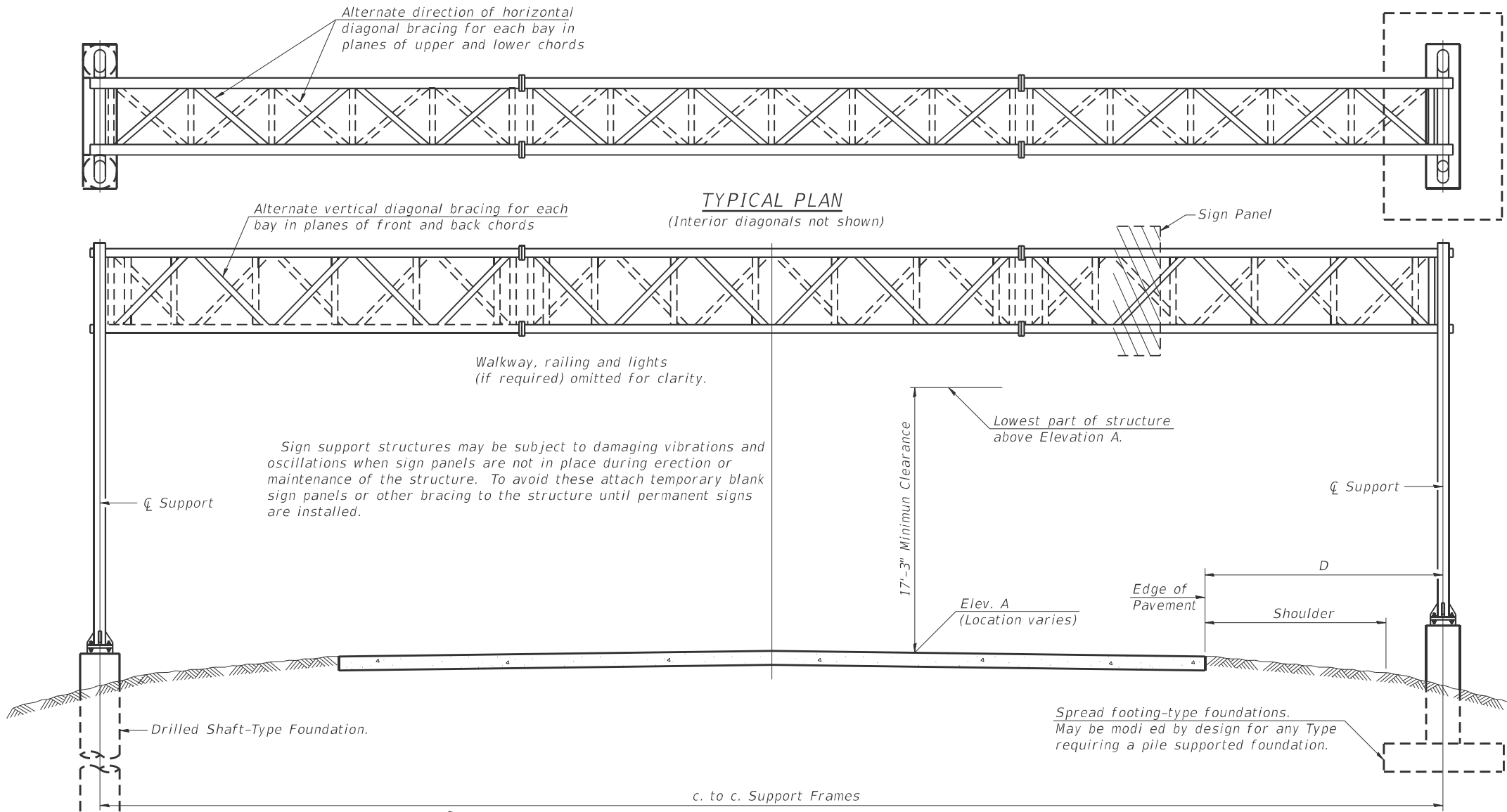
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	613
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

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FILE NAME: c:\p\work\hrtz\hrtz\062852\062852\RD74435-sheets-Roadway\SigningPlan.dgn



	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ROADWAY SIGNS RAMP D			F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = \$SCALE\$	DRAWN -	REVISED -					57	(15-22HB-4)BR (15-22)R	COLES	1086	614
	PLOT DATE = 8/21/2024	CHECKED -	REVISED -		SCALE: 1"=20'			CONTRACT NO. 74435				
		DATE -	REVISED -		SHEET 29	OF 29	SHEETS	STA. 5001+55.00	TO STA. 5007+55.00	ILLINOIS FED. AID PROJECT		

MODEL: Overhead Sign Str (Sheet)
FILE NAME: c:\pwworking\hrtzaki\082852\0774435-sheets-OverheadSpanSignStrDetails.dgn



TYPICAL PLAN
(Interior diagonals not shown)

TYPICAL ELEVATION
(Looking at Face of Signs**)

Elev. A = Elevation at point of minimum clearance to sign, walkway support or truss.

Structure Number	Station	Design Truss Type	c. to c. Supports	Elev. A	Dim. D	Height of Tallest Sign	Total Sign Area
7S015S016R008.07	104+65 (IL 16)	I-A	60'-0"	722.92	13'-6"	12'-6"	237.5 SQ FT
7S015S016L008.54	125+13 (IL 16)	I-A	60'-0"	715.14	13'-6"	12'-6"	237.5 SQ FT

**Looking upstation for structures with signs both sides.

* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

GENERAL NOTES

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

DESIGN STRESSES:
Field Units
f'_c = 3,500 p.s.i.
f_y = 60,000 p.s.i. (reinforcement)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum) and the Standard Specifications.

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B or A500 Grade B or C. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53. All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W*. Stainless steel for shims, sleeves and handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer. The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO M164 (ASTM A325), or approved alternate, and must have matching lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements of ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240 Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt installation shall conform to Article 505.04 (f) (2)d of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP") testing of bolts will not be required.

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Eyebolt lock nut.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to ASTM F1554 Gr. 105.

CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest natural ground line at each foundation shall be cleaned and coated with Concrete Sealer in accordance with the Standard Specifications.

REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

FOUNDATIONS: The contract unit price for Concrete Foundations and Drilled Shaft Concrete Foundations shall include reinforcement bars complete in place.

TOTAL BILL OF MATERIAL

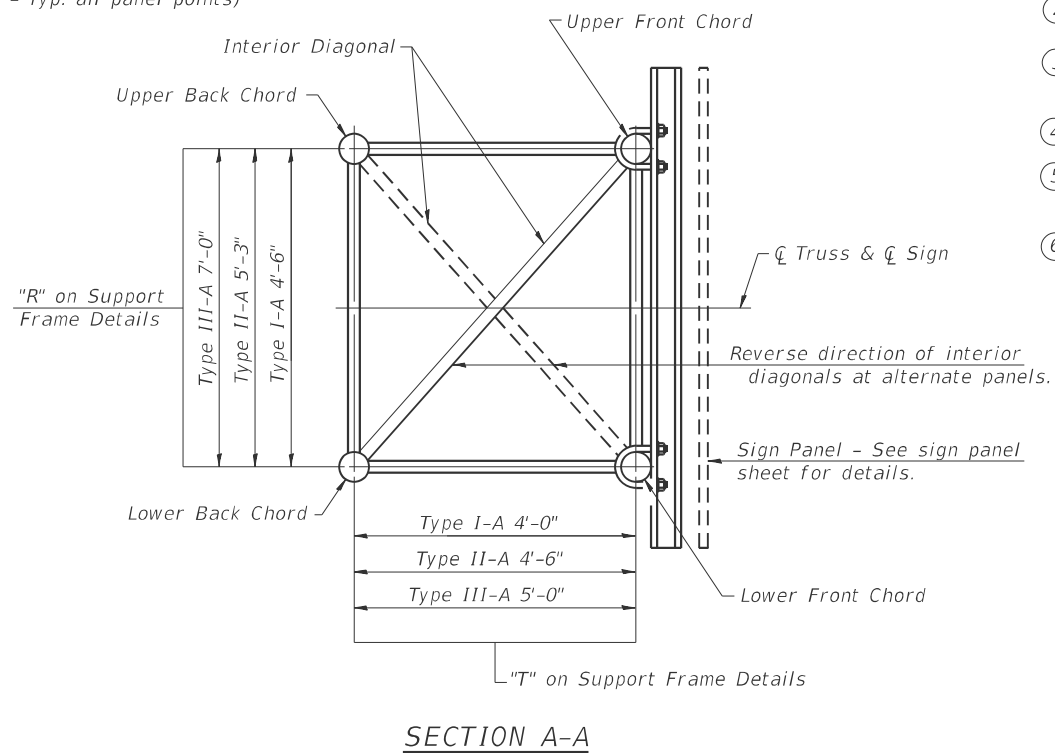
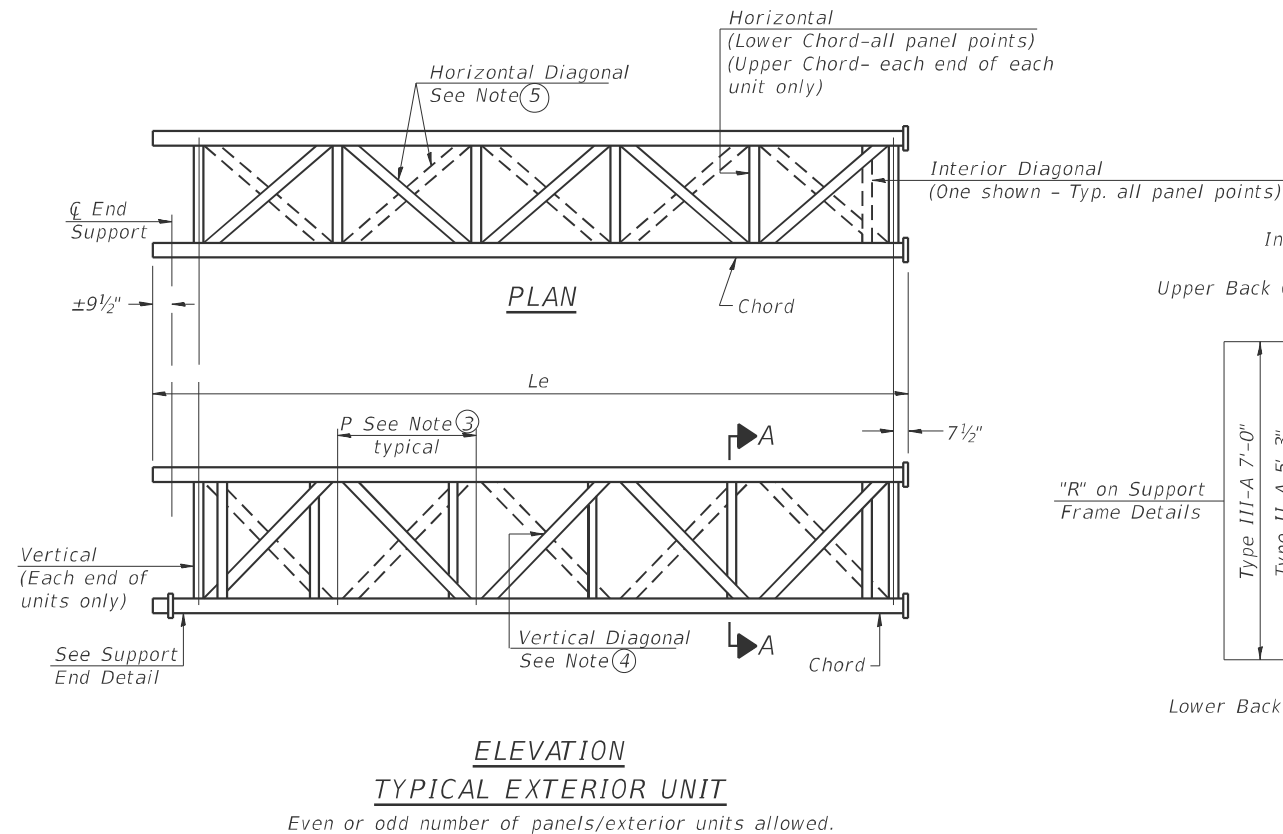
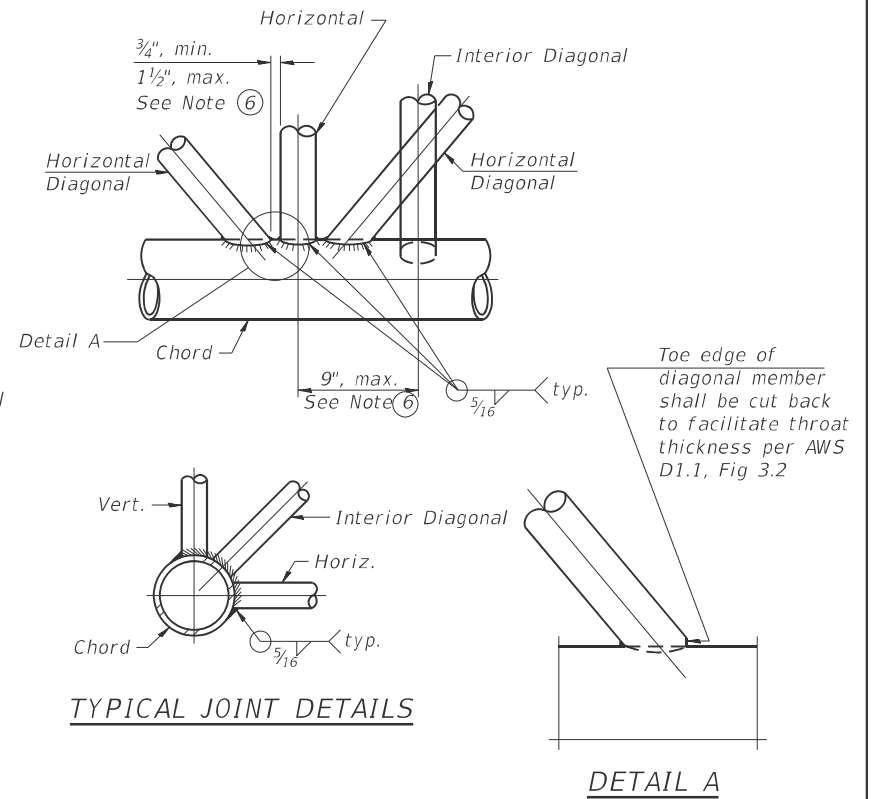
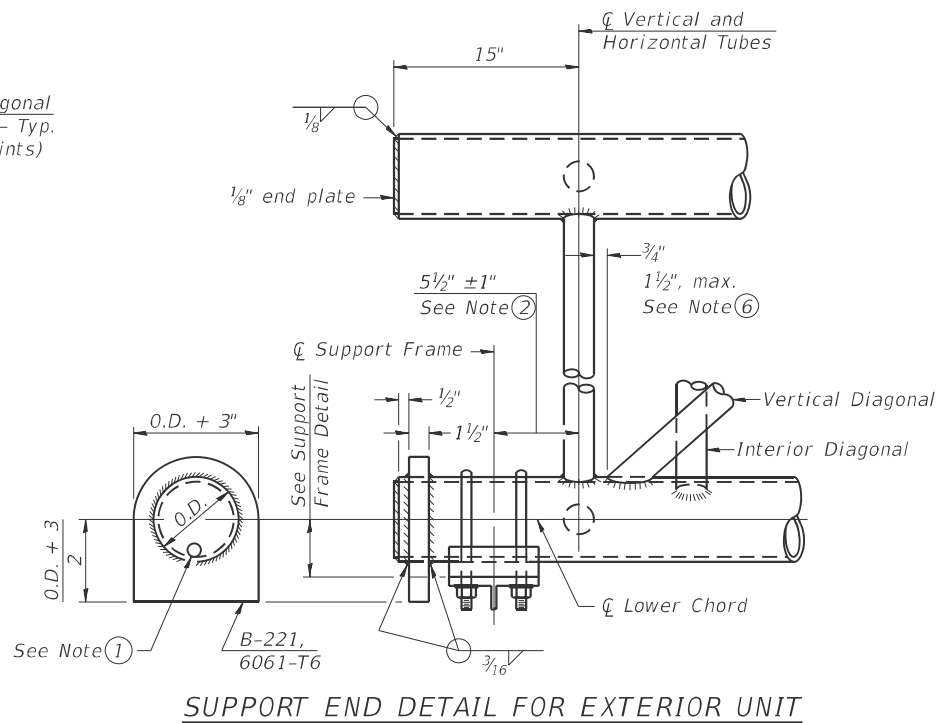
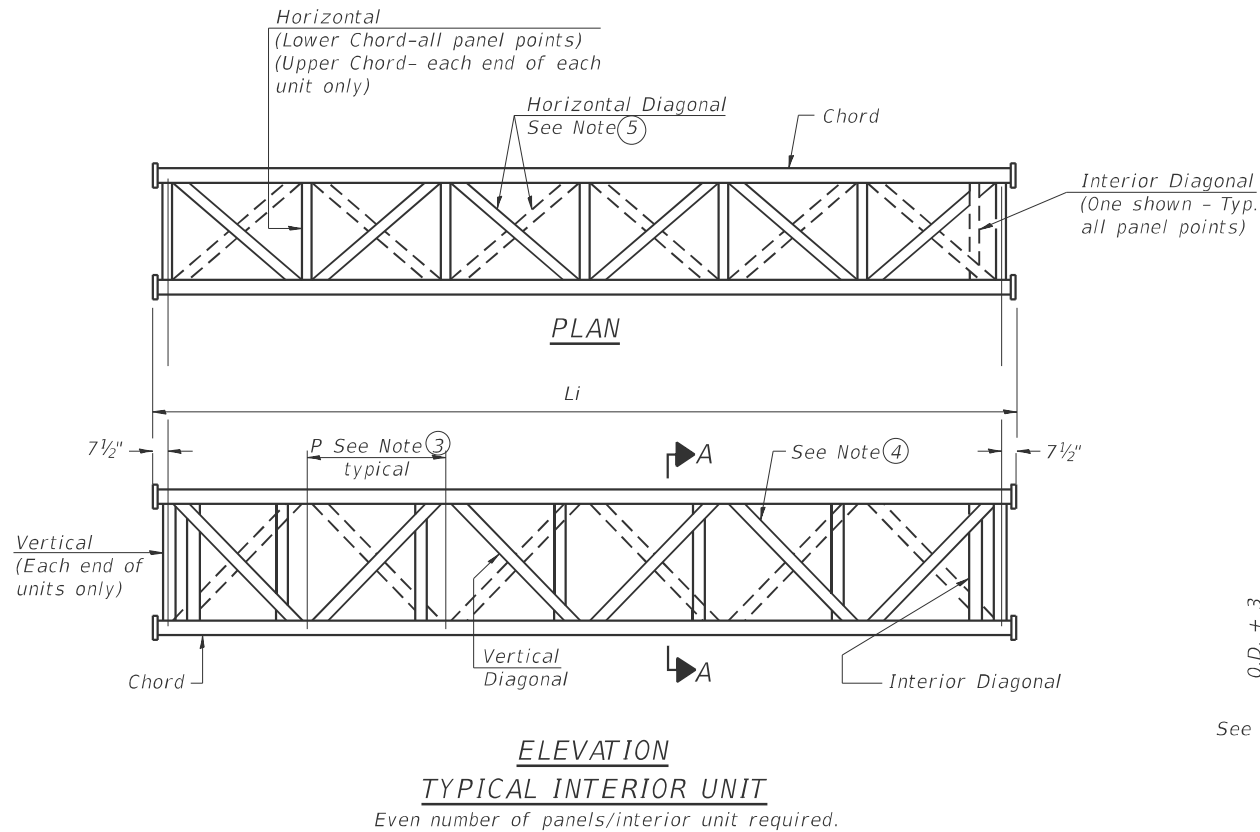
ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE SPAN TYPE I-A	Foot	120
OVERHEAD SIGN STRUCTURE SPAN TYPE II-A	Foot	-
OVERHEAD SIGN STRUCTURE SPAN TYPE III-A	Foot	-
OVERHEAD SIGN STRUCTURE WALKWAY TYPE A	Foot	-
CONCRETE FOUNDATIONS	Cu. Yds.	-
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	23.4

05-A-1

2-17-2017

DESIGNED - DRAWN - CHECKED - DATE -	USER NAME = kaleb.hirtzel PLOT SCALE = \$SCALE\$ PLOT DATE = 8/23/2024	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OVERHEAD SIGN STRUCTURES - GENERAL PLAN & ELEVATION - ALUMINUM TRUSS & STEEL SUPPORTS	SCALE: 1"=50'	SHEET 1 OF 9 SHEETS	STA. TO STA.	F.A.I R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
								57	(15-22HB-4)BR (15-22)R	COLES	1086	615
								CONTRACT NO. 74435				
								ILLINOIS FED. AID PROJECT				

MODEL: Overhead Sign Str 2 [Sheet]
FILE NAME: c:\pwworking\hrtz\k\052852.D774435-sheets-OverheadSignStrDetails.dgn



- Contractor may alternatively use standard aluminum drive- t cap to close end. 1/2" Ø drain hole in end plate/drive- t cap. (Typ. at ends of all chords)
- 5 1/2" end dimension may vary by ± 1" to provide uniform panel spacing (P).
- Panel spacing (P) shall be uniform for entire truss and between 4'-0" and 5'-0" for Type I-A or 4'-0" and 5'-6" for Types II-A and III-A.
- Vertical Diagonals in front and back face shall alternate.
- Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
- All diagonals shall be detailed for minimum offset from the panel point based on the following: Offset shall be such as to provide a 3/4" minimum to 1 1/2" maximum clearance between any diagonal and any horizontal or vertical member, and to provide clearance for U-bolt connections of signs or walkway brackets.

05-A-2

2-17-2017

USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -
PLOT SCALE = \$SCALE\$	DRAWN -	REVISED -
PLOT DATE = 8/21/2024	CHECKED -	REVISED -
	DATE -	REVISED -

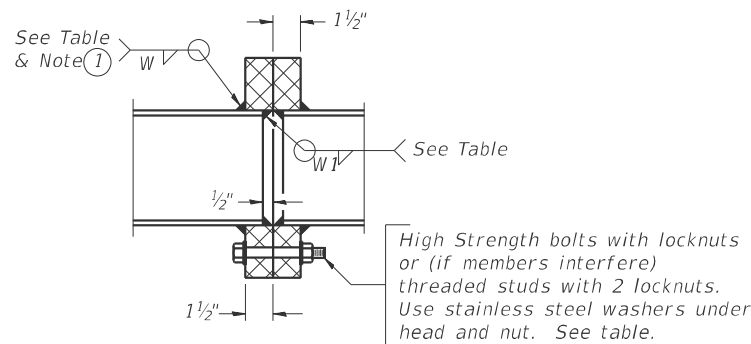
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS
DETAILS FOR TRUSS TYPES I-A, II-A AND III-A

SCALE: 1"=50' SHEET 2 OF 9 SHEETS STA. TO STA.

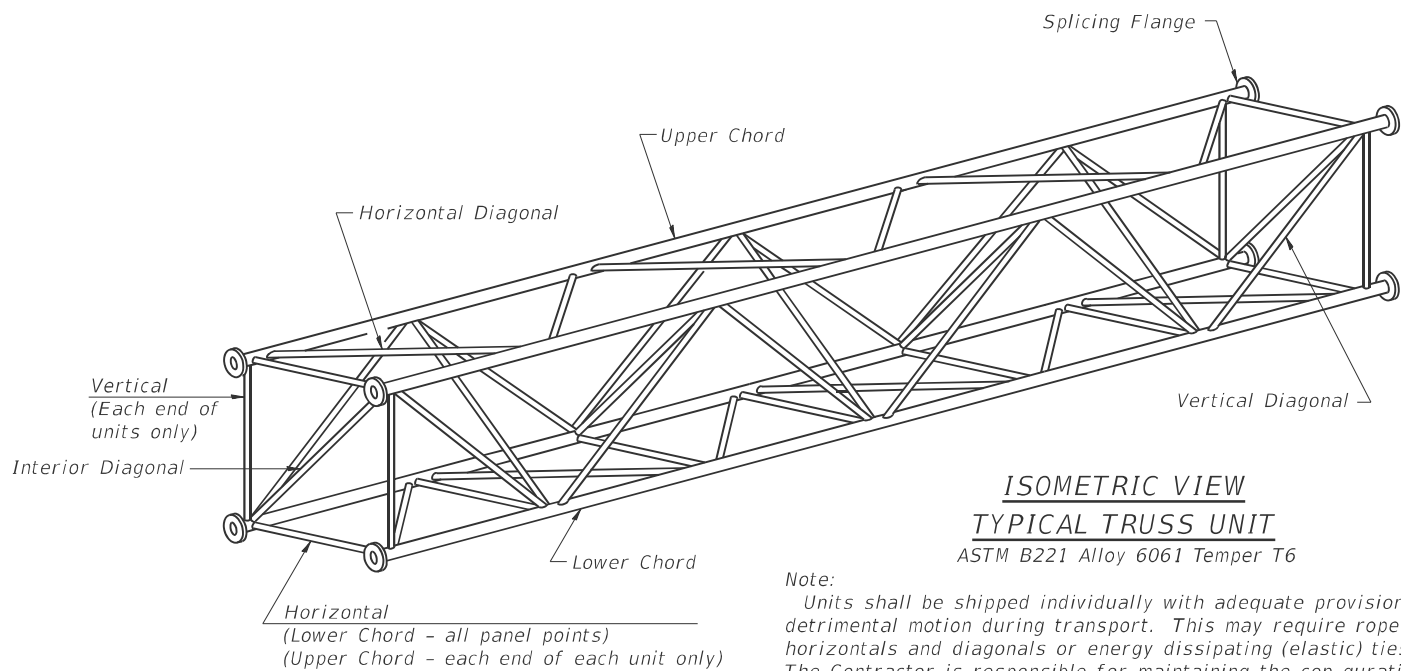
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CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

TRUSS UNIT TABLE

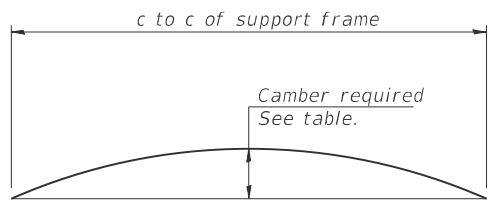
[illegible]

SECTION B-B

- ① *Splicing Flanges shall be attached to each truss unit with the truss shop assembled to camber shown. Truss units shall be in proper alignment and angle surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure angles until remaining welds are made after disassembly. Adjacent angles shall be "match marked" to insure proper field assembly.*



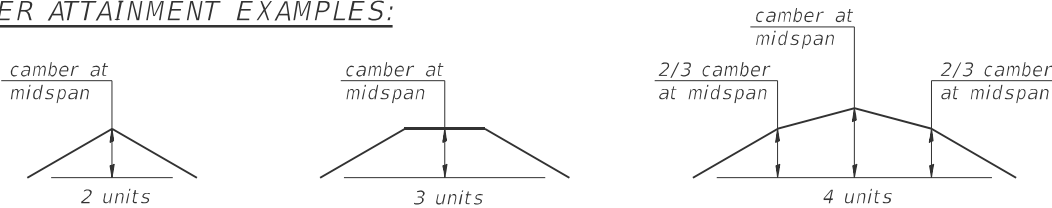
Note:
Units shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The Contractor is responsible for maintaining the con guration and protection of the units.



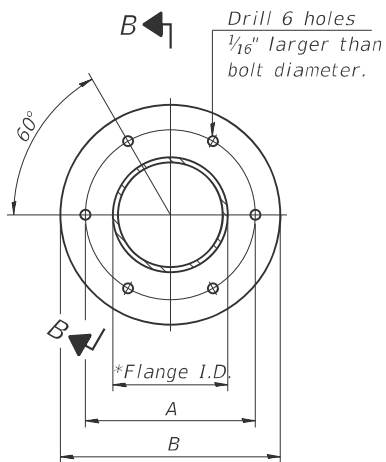
CAMBER DIAGRAM

Camber curve shown is theoretical. Actual camber attained by slope changes at splices between units.

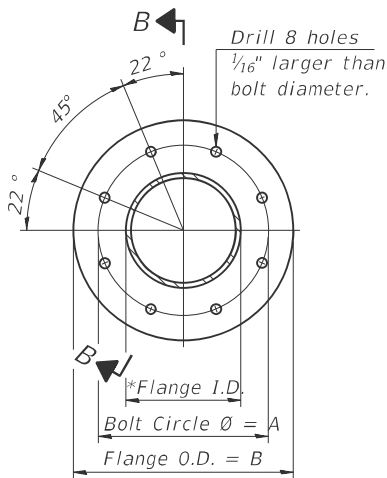
CAMBER ATTAINMENT EXAMPLES:



Camber shown is for fabrication only, measured with truss fully supported. (No-load condition)



TRUSS TYPES I-A, II-A, & III-A



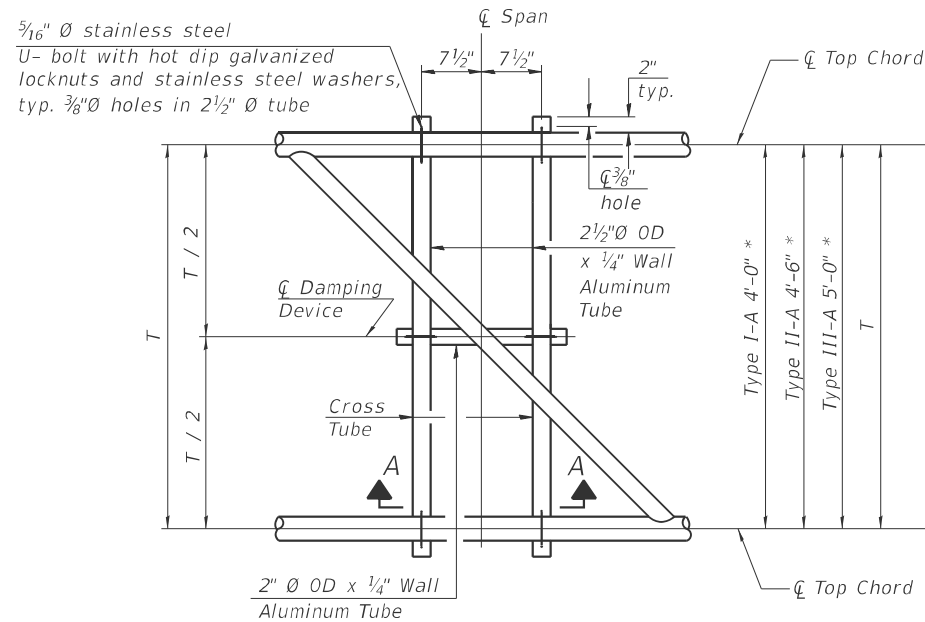
TRUSS TYPES II-A & III-A

SPLICING FLANGES

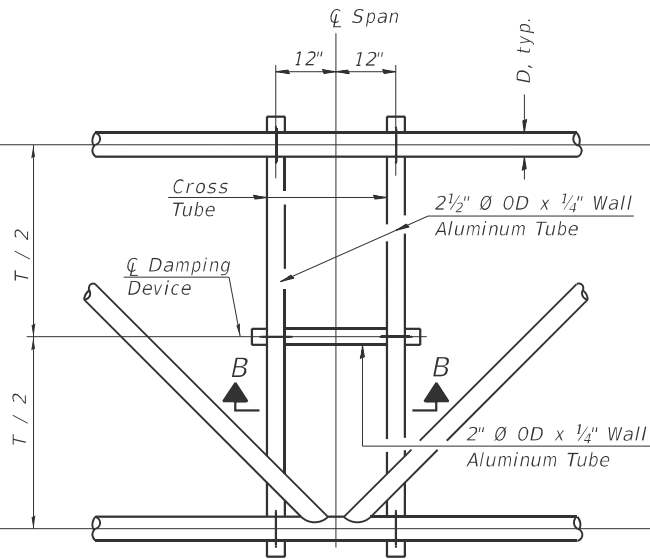
ASTM B221, Alloy 6061-T6
or ASTM B209, Alloy 6061-T651
*To t O.D. of Chord with maximum gap of $\frac{1}{16}$ ".

	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS DETAILS FOR TRUSS TYPES I-A, II-A AND III-A			F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -					57	(15-22HB-4)BR (15-22)R	COLES	1086	617
	PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -					CONTRACT NO. 74435				
	PLOT DATE = 8/21/2024	DATE -	REVISED -		SCALE: 1"=50'	SHEET 3 OF 9 SHEETS	STA. TO STA.					

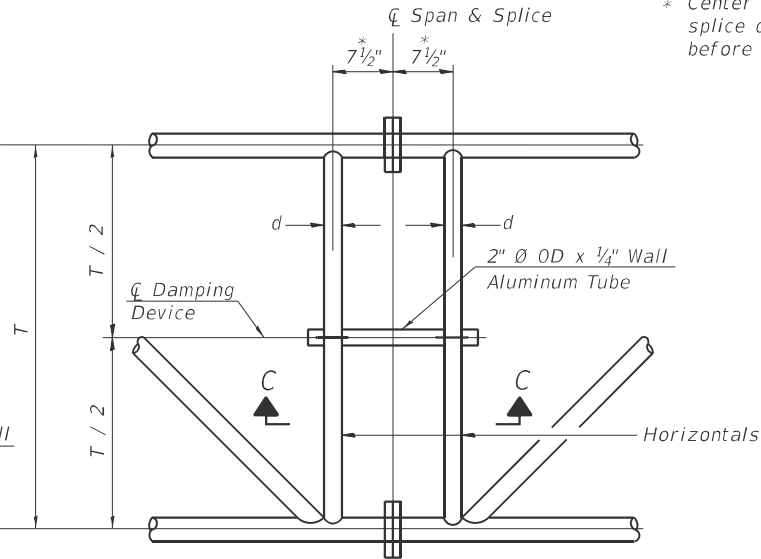
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PLAN DETAIL "A"
 $\varnothing$ Span between Panel Points



PLAN DETAIL "B"
 $\varnothing$ Span at Panel Point



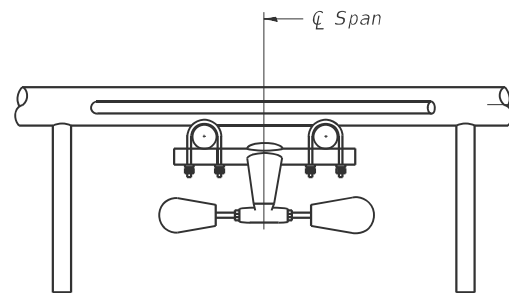
PLAN DETAIL "C"
 $\varnothing$ Span at $\varnothing$ Chord Splice

* Center of horizontal to center of
splice dimension may vary. Verify
before drilling holes in mounting tube.

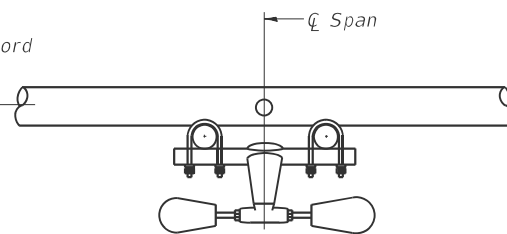
NOTES

Damper: One damper per truss. (31 lbs. minimum Stockbridge-Type
Aluminum - 29" minimum between ends of weights) Cost
included in Overhead Sign Structure...

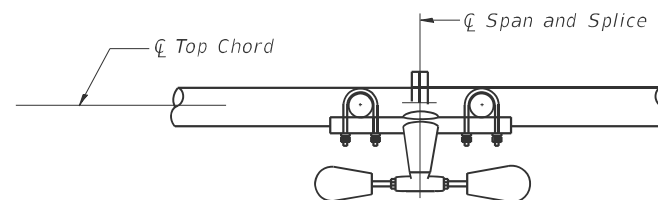
Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061
temper T6. Cost included in Overhead Sign Structure...



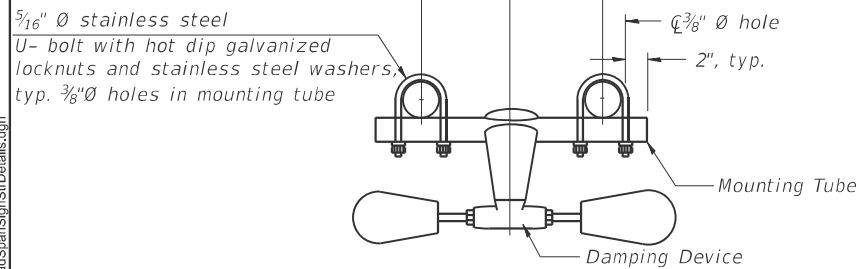
SECTION A-A



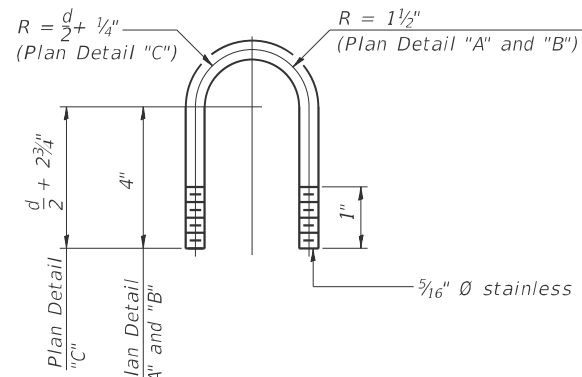
SECTION B-B



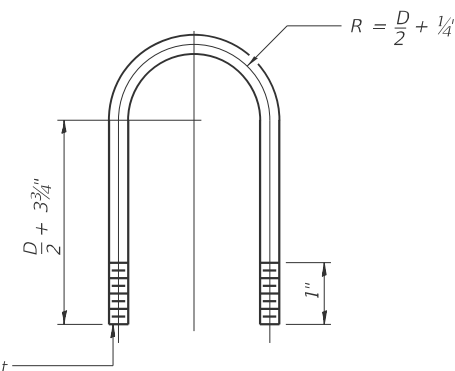
SECTION C-C



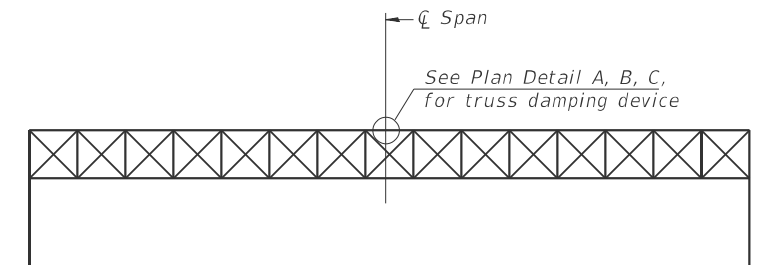
**TRUSS DAMPING
DEVICE CONNECTION DETAIL**
(Typical)



**DAMPING DEVICE MOUNTING
TUBE U-BOLT DETAIL**
(Typical)



**TOP CHORD TO CROSS TUBE
U-BOLT DETAIL**
(Typical - Detail "A" and "B")



ELEVATION
Aluminum Overhead
Sign Truss

05-A-D

2-17-2017

USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -
PLOT SCALE = \$SCALE\$	DRAWN -	REVISED -
PLOT DATE = 8/21/2024	CHECKED -	REVISED -
	DATE -	REVISED -

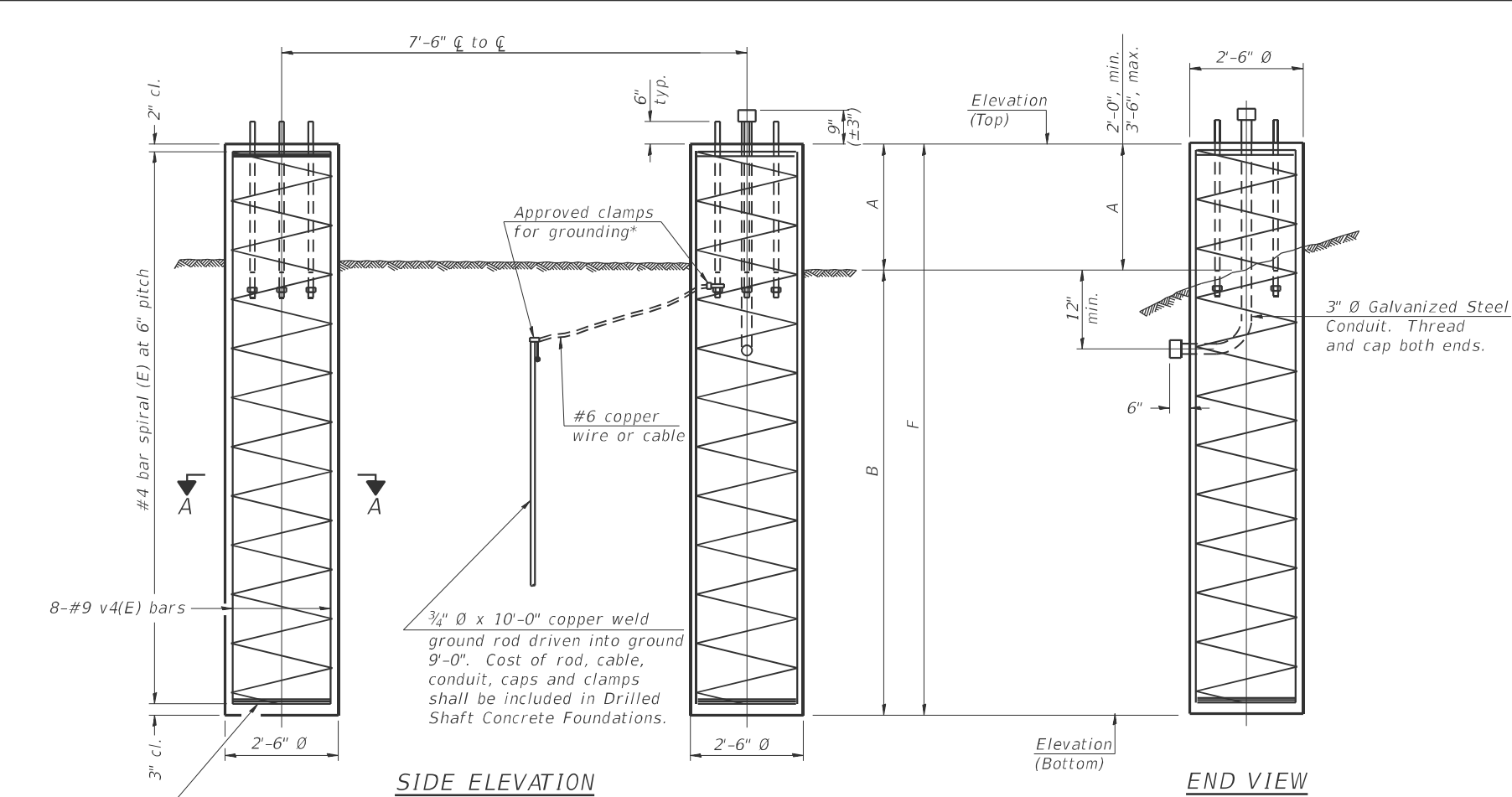
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURE
DAMPING DEVICE

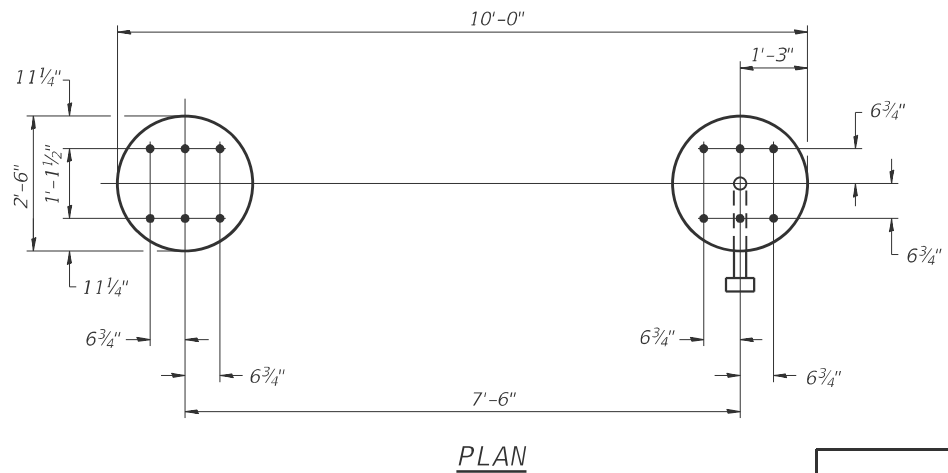
SCALE: 1"=50' SHEET 4 OF 9 SHEETS STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	618
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

MODEL: Overhead Sign Str 7 (Sheet)
FILE NAME: c:\pwworking\hartzel\dwg\852852.D74435-sheets-OverheadSignStrIDetails.dgn



3 hoops minimum
top and bottom



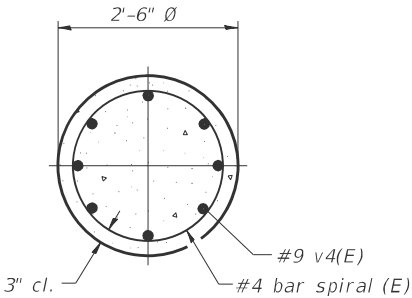
For anchor rod size and placement,
see Support Frame Detail Sheet.

* Anchor rod shall be ground or
led to bright metal at clamp
and cable connection location.

BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
v4(E)	16	#9	F less 5"	—
#4 bar spiral (E) - see Side Elevation				

NOTES:
The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Q_u) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.
If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.
No sonotubes or decomposable forms shall be used below the lower conduit entrance.
Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer's written permission.
Concrete shall be placed monolithically, without construction joints.
Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.
A normal surface finish followed by a Concrete Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.



DETAILS FOR 8" Ø SUPPORT FRAME
TYPE I-A TRUSS

Structure Number	Station	Left Foundation					Right Foundation					Class DS Concrete (Cu. Yds.)
		Elevation Top	Elevation Bottom	A	B	F	Elevation Top	Elevation Bottom	A	B	F	
7S015S016R008.07	104+65 (IL 16)	724.00	708.00	2'-6"	13'-6"	16'-0"	724.00	707.83	2'-8"	13'-6"	16'-2"	11.7
7S015S016L008.54	125+13 (IL 16)	716.70	700.70	2'-6"	13'-6"	16'-0"	716.70	700.62	2'-7"	13'-6"	16'-1"	11.7

054-F2

2-17-2017

USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -
PLOT SCALE = \$SCALE\$	DRAWN -	REVISED -
PLOT DATE = 8/21/2024	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
DRILLED SHAFT DETAILS

SCALE: 1"=50' SHEET 7 OF 9 SHEETS STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	621
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

Page 1 of 1

Date 10/19/17

	-40			
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BBS, form 137 (Rev. 8-99)

Page 1 of 1

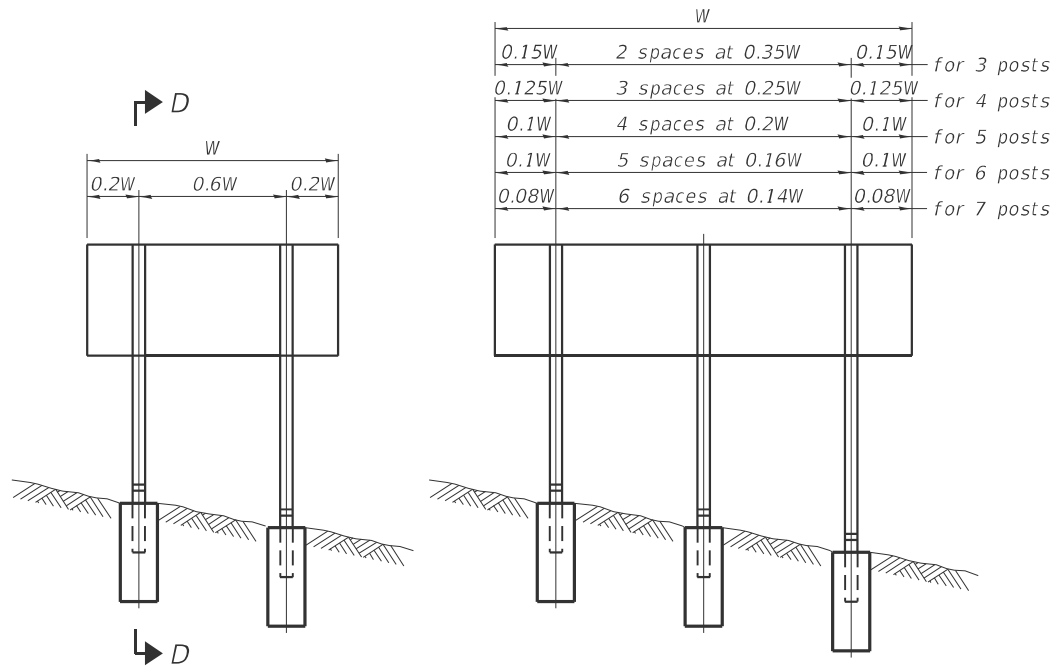
Date 10/19/17

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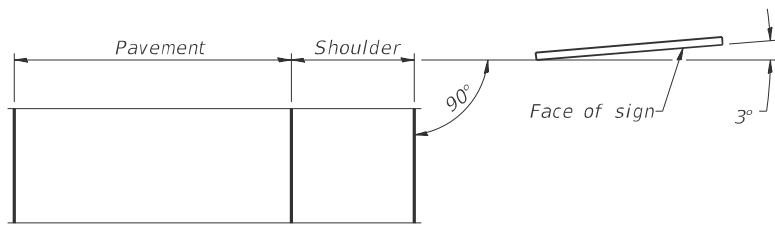
Length (LCS) Failure Mode is in

BBS, form 137 (Rev. 8-99)

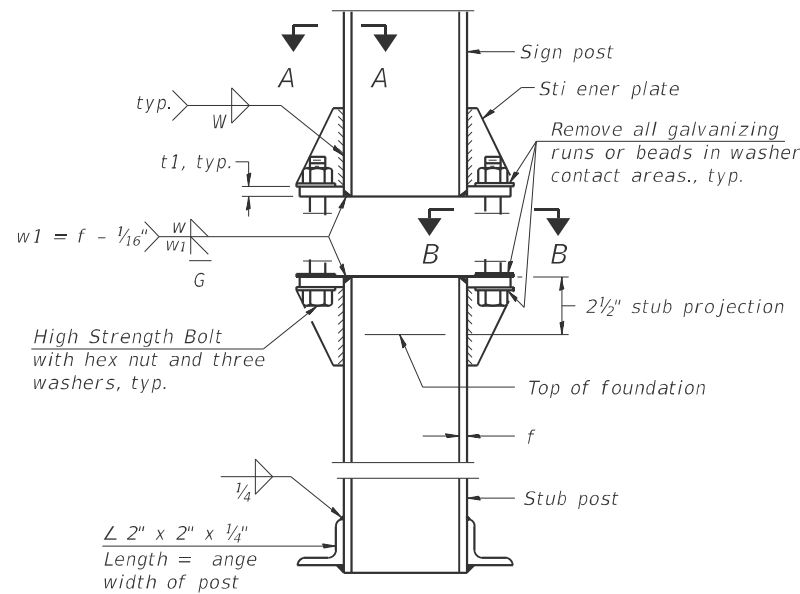
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FILE NAME: c:\paw\work\widoflfrz\kld852852\DW74435-sheets-BreakAwayWideFlangeSignPostDetails.dgn



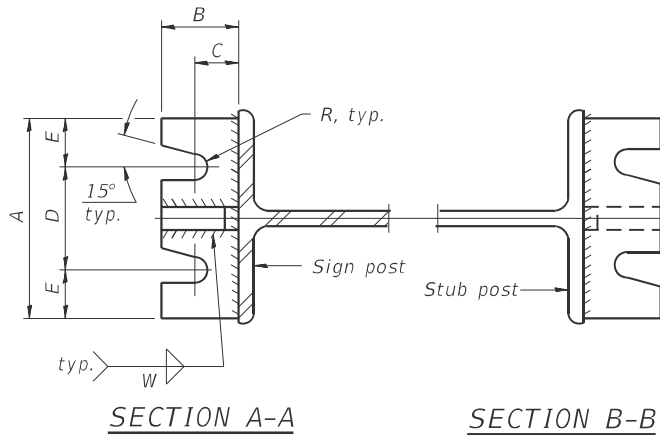
ELEVATION



LOCATION SKETCH

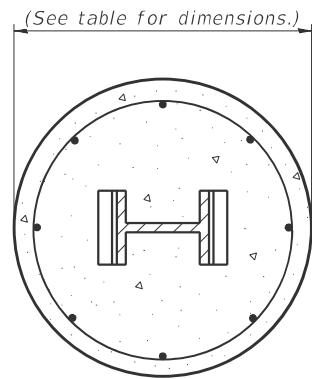


ELEVATION
SIGN POST & STUB POST

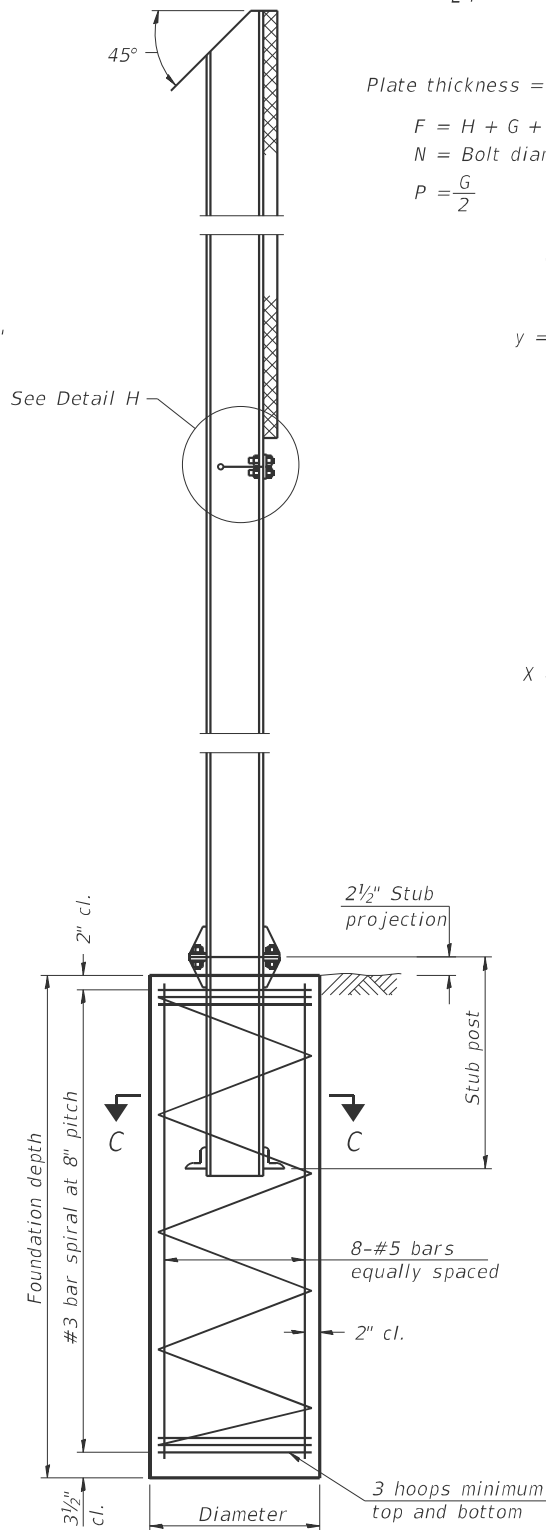


SECTION A-A

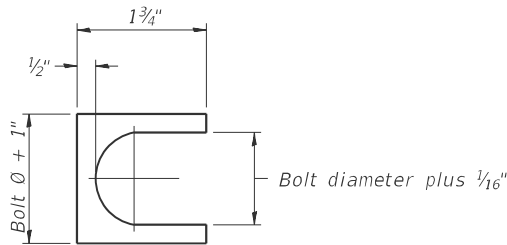
SECTION B-B



SECTION C-C

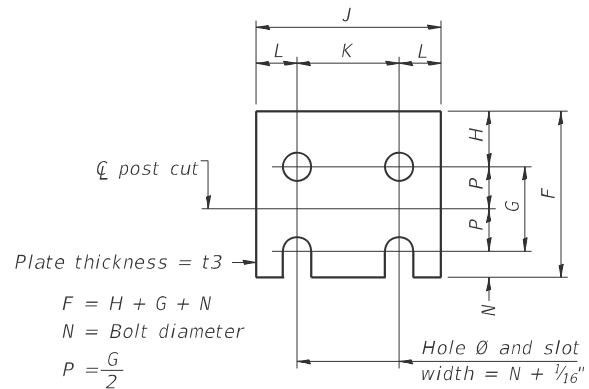


SECTION D-D

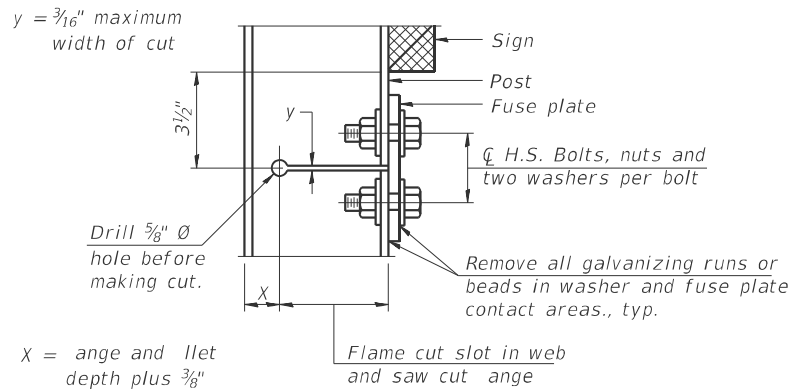


SHIM DETAIL

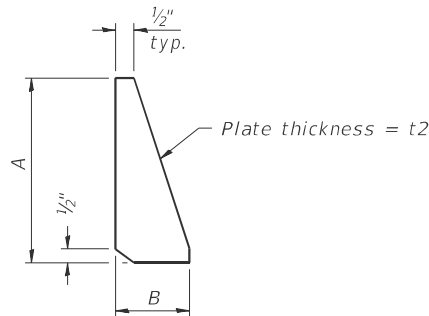
Furnish two 0.01" thick and two 0.03" thick stainless steel or brass (ASTM B36) shims per post.



FUSE PLATE DETAIL
(Install with notches down.)



DETAIL H



STIFFENER PLATE DETAIL
Diameter

GENERAL NOTES

Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article 727.05 and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

LOADING: 80 m.p.h. wind with 30% gust factor, normal to sign.

DESIGN STRESSES:
Structural steel - 20,000 p.s.i.
Reinforcing steel - 20,000 p.s.i.
Concrete - 1,400 p.s.i.
Footing soil pressure - 2,000 p.s.f.

After fabrication, the post, fuse plate and upper 6", min. of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.

Work this sheet with Base Sheet BAW-A-2.

(Sheet 1 of 2)

BAW-A-1

2-17-2017

USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 4/24/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BREAK-AWAY WIDE FLANGE
STEEL SIGN POST DETAILS

SCALE: SHEET 1 OF 2 SHEETS STA. TO STA.

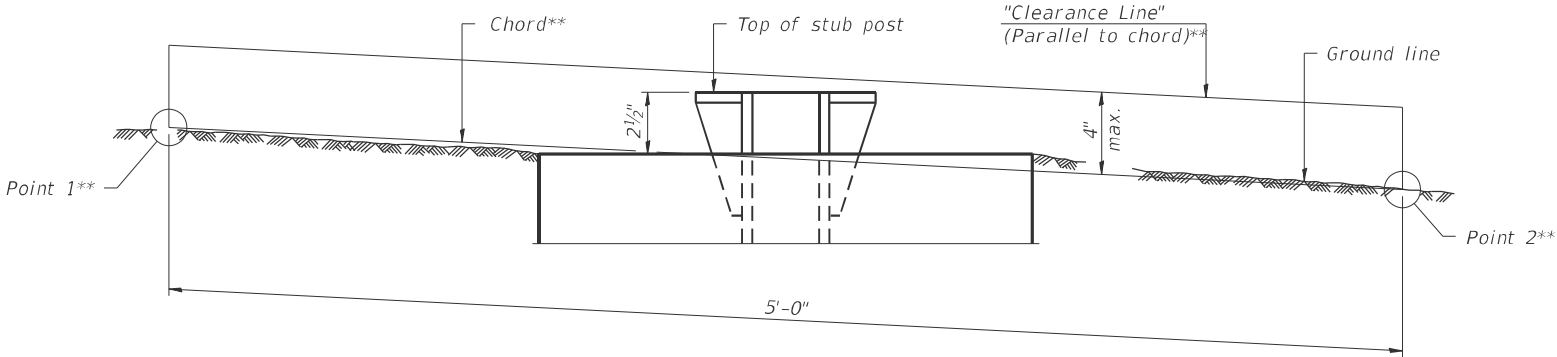
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	624
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

MODEL: Wide Flange Sign Post Details-1 [Sheet]
FILE NAME: c:\pw_work\pwid\hrtz\kld862852\DT74435-sheets-Break-Away\Wide Flange Sign Post Details.dgn

POST	CONCRETE FOUNDATION TABLE								POST TO STUB POST CONNECTION DATA										FUSE PLATE DATA			
	Foundation			Reinforcement				Stub Post Length	Bolt Size	A	B	C	D	E	t1	t2	R	W	J	K	L	t3
	Diameter*	Minimum Depth	Concrete① cu. yds.)	Vertical Bars Length	Bar Spirals Diameter	Length	lbs. ②															
W6x9	2'-0"	6'-0"	0.70	5'-9"	1'-8½"	79'-0"	78	2'-3"	⅝" x ¾"	6"	2¼"	1¼"	3½"	1¼"	¾"	½"	1⅓₂"	¼"	4"	2¼"	⅞"	¼"
W6x15	2'-0"	6'-0"	0.70	5'-9"	1'-8½"	79'-0"	78	2'-6"	⅝" x ¾"	6"	2¼"	1¼"	3½"	1¼"	¾"	½"	1⅓₂"	¼"	6"	3½"	1¼"	⅜"
W8x18	2'-0"	6'-0"	0.70	5'-9"	1'-8½"	79'-0"	78	2'-6"	¾" x 3¾"	6"	2½"	1⅜"	3¼"	1⅜"	1"	½"	1⅓₂"	⅕₁₆"	5¼"	2¾"	1¼"	⅜"
W10x22	2'-6"	6'-6"	1.18	6'-3"	2'-2½"	105'-0"	92	3'-0"	¾" x 3¾"	6"	2½"	1⅜"	3¼"	1⅜"	1"	½"	1⅓₂"	⅕₁₆"	5¾"	2¾"	1½"	½"
W10x26	2'-6"	7'-0"	1.27	6'-9"	2'-2½"	112'-0"	98	3'-0"	⅞" x 4"	7"	2¾"	1½"	4"	1½"	1"	¾"	1⅓₂"	⅜"	5¾"	2¾"	1½"	⅝"
W12x26	2'-6"	7'-9"	1.41	7'-6"	2'-2½"	119'-0"	107	3'-0"	⅞" x 4"	7"	2¾"	1½"	4"	1½"	1"	¾"	1⅓₂"	⅜"	6½"	3½"	1½"	⅝"
W14x30	3'-0"	7'-3"	1.90	7'-0"	2'-8½"	145'-0"	113	3'-0"	⅞" x 4"	7"	2¾"	1½"	4"	1½"	1"	¾"	1⅓₂"	⅜"	6¾"	3½"	1⅝"	½"
W14x38	3'-0"	8'-0"	2.09	7'-9"	2'-8½"	153'-0"	122	3'-6"	1" x 4½"	7½"	3"	1¾"	4"	1¾"	1¼"	¾"	1⅗₂"	⅜"	6¾"	3½"	1⅝"	½"
W16x45	3'-0"	8'-6"	2.23	8'-3"	2'-8½"	162'-0"	130	3'-6"	1" x 4½"	7½"	3"	1¾"	4"	1¾"	1¼"	¾"	1⅗₂"	⅜"	7"	3½"	1¾"	½"

*Dimensional changes required for varying site conditions shall be approved by the Engineer.

POST	FUSE PLATE BOLT SIZE																				
	Sign Height																				
	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"
W6x9	½" x 1½"	½" x 1½"	½" x 1½"	½" x 1½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W6x15	½" x 1¾"	½" x 1¾"	½" x 1¾"	5⁄8" x 2"	5⁄8" x 2"	¾" x 2"	¾" x 2"	¾" x 2"	¾" x 2"	—	—	—	—	—	—	—	—	—	—	—	—
W8x18	½" x 1¾"	½" x 1¾"	½" x 1¾"	½" x 1¾"	5⁄8" x 2"	5⁄8" x 2"	¾" x 2"	¾" x 2"	¾" x 2"	¾" x 2"	—	—	—	—	—	—	—	—	—	—	—
W10x22	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	5⁄8" x 2"	5⁄8" x 2"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	—	—	—	—	—	—	—	—
W10x26	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	5⁄8" x 2¼"	5⁄8" x 2¼"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	—	—	—	—	—	—	—
W12x26	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	5⁄8" x 2¼"	5⁄8" x 2¼"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	—	—	—	—	—	—
W14x30	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	5⁄8" x 2"	5⁄8" x 2"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	—	—	—	—
W14x38	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	5⁄8" x 2¼"	5⁄8" x 2¼"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	7⁄8" x 2½"	7⁄8" x 2½"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"
W16x45	—	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	5⁄8" x 2¼"	5⁄8" x 2¼"	5⁄8" x 2¼"	¾" x 2½"	¾" x 2½"	7⁄8" x 2½"	7⁄8" x 2½"	7⁄8" x 2½"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"



ELEVATION
GROUND LINE & STUB POST

** For all "Point 1" and "Point 2" locations, "Clearance Line" must be at or above top of stub post.

- ① Quantity includes all concrete necessary for one foundation.
- ② Includes reinforcement bars and spiral hooping for one foundation.

BAW-A-2

2-17-2017

(Sheet 2 of 2)

	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BREAK-AWAY WIDE FLANGE STEEL SIGN POST TABLES				F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -						57	(15-22HB-4)BR (15-22)R	COLES	1086	625
		CHECKED -	REVISED -						CONTRACT NO. 74435				
	PLOT DATE = 8/21/2024	DATE -	REVISED -						SCALE:	SHEET 2	OF 2	SHEETS	STA.

ILLINOIS FED. AID PROJECT

GENERAL NOTES

THIS PROJECT IS LOCATED CROSSING THE NORTH BOUND AND SOUTH BOUND EXIT RAMP OFF OF I-57 MATTOON INTERCHANGE IN COLES COUNTY. THE WORK INCLUDED IN THIS SECTION CONSISTS OF INSTALLING POST MOUNTED SIGNS WITH RRFB BEACONS, PEDESTRIAN PUSH BUTTONS, TEMPORARY SIGNALS AND ALL OTHER WORK NECESSARY TO COMPLETE THIS SECTION.

THE LOCATION OF ALL FLASHING BEACON COMPONENTS AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE FINAL LOCATION SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE EXISTING UTILITY LINES ARE SHOWN ON THE PLANS TO INDICATE THEIR PRESENCE AND APPROXIMATE LOCATION. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION. CALL J.U.L.I.E. AT 1-800-892-0123. THE TRAFFIC SIGNAL UTILITY LINES WILL BE LOCATED BY IDOT, CALL 217-342-5677.

THE TRAFFIC SIGNAL ENGINEER AT THE ILLINOIS DEPARTMENT OF TRANSPORTATION SHALL BE NOTIFIED AT 217-342-5677 AT LEAST 72 HOURS PRIOR TO TURNING ON ANY FLASHER OR CONTROLLER UNIT.

THE SIZE OF THE CABLE SUPPLIED SHALL BE EQUAL TO OR GREATER THAN THE SIZE OF THE CABLE REQUIRED TO CARRY THE LOAD BETWEEN THE CONTROLLER AND THE SERVICE INSTALLATION.

ALL NEW FLASHER SIGNAL WIRING SHALL EXTEND FROM FLASHER CONTROLLER TO THE FLASHER BEACONS.

ALL HARDWARE SHALL BE TIGHTENED AND WELL SECURED. CABLES SHALL BE NEATLY WOUND IN HANDHOLES. CABLES SHALL BE NEATLY TRAINED IN THE CONTROLLER CABINET.

ALL THREADS OF BOLTS USED IN ASSEMBLY OF TRAFFIC SIGNAL COMPONENTS SHALL BE COATED WITH A NON-LEAD BASED ANTI-SEIZE COMPOUND, SIMILAR TO LEAD PLATE, PRIOR TO ASSEMBLY.

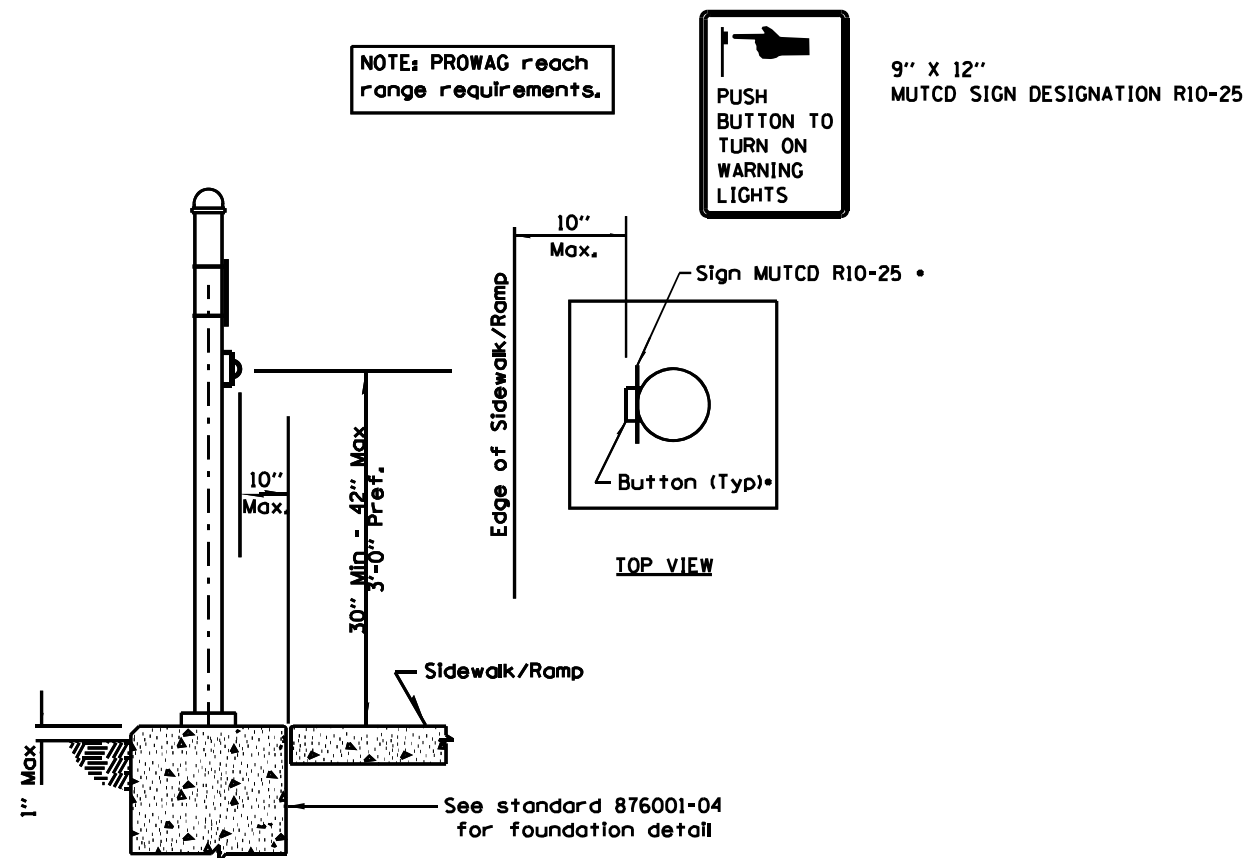
NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR PLACING CONDUIT AT GREATER THAN 2 FOOT MINIMUM DEPTH TO AVOID OBSTACLES SUCH AS UNDERGROUND UTILITIES.

THE CONTRACTOR IS RESPONSIBLE FOR UNCOVERING OR HAND DIGGING AROUND UTILITIES AS NECESSARY. THE COST OF THIS WORK IS TO BE INCLUDED WITH THE ELECTRICAL WORK PAY ITEM.

THE NUMBER OF CONDUCTORS FOR ELECTRIC CABLES AS SHOWN ON THE PLANS SHALL BE THE MINIMUM NUMBER OF CONDUCTORS FURNISHED FOR EACH LOCATION. THE CONTRACTOR MAY SUBSTITUTE AN ELECTRIC CABLE WITH MORE CONDUCTORS THAN SPECIFIED BUT NO ADDITIONAL COMPENSATION WILL BE MADE FOR THE EXTRA CONDUCTORS.

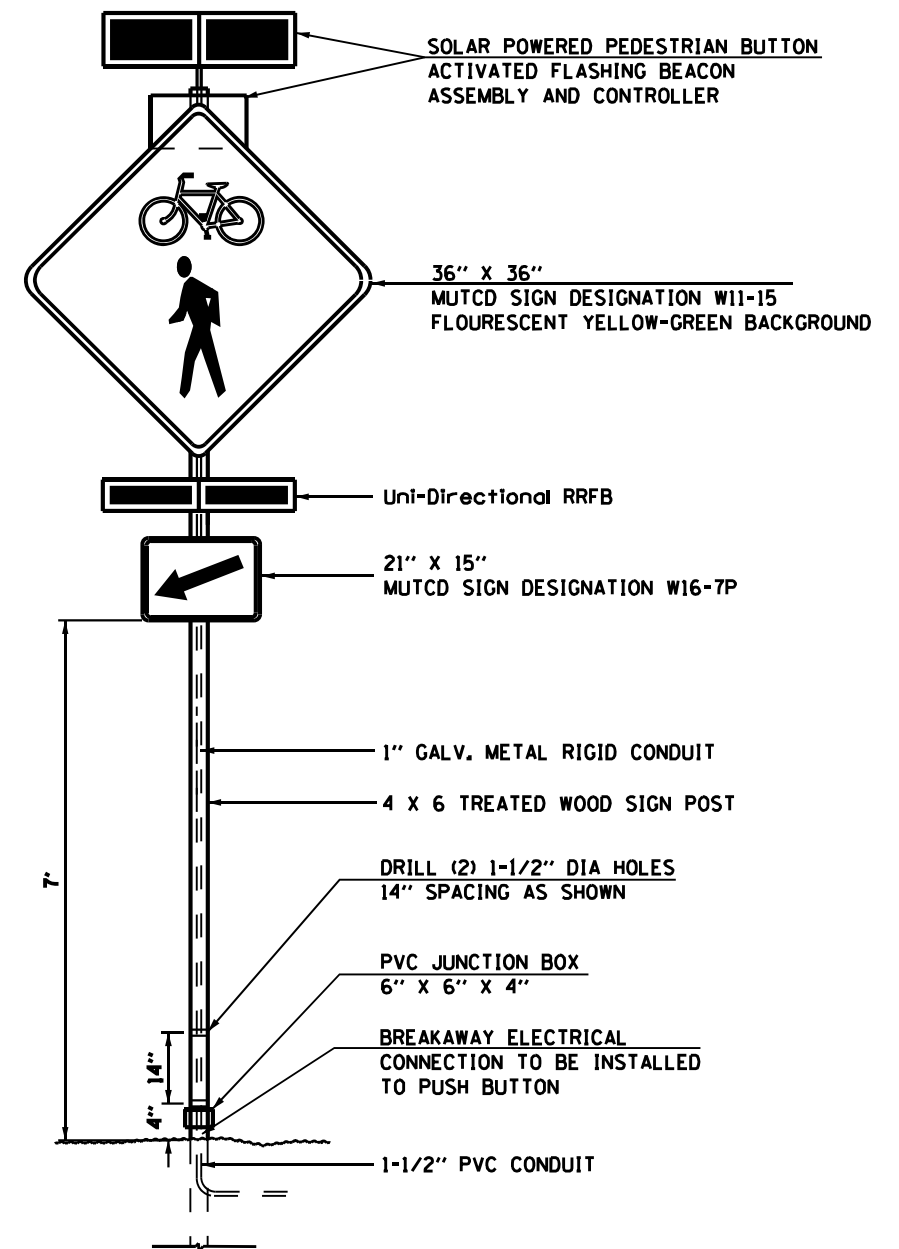
BILL OF MATERIALS

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PEDESTRIAN PUSH-BUTTON DETAIL

- Ped Button and signs included in the cost for the Rectangular rapid flashing beacon assembly (complete)



RRFB FLASHER SIGN DETAIL

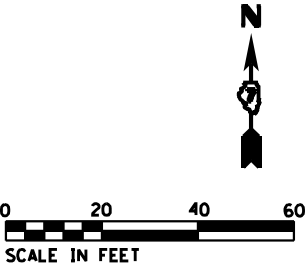
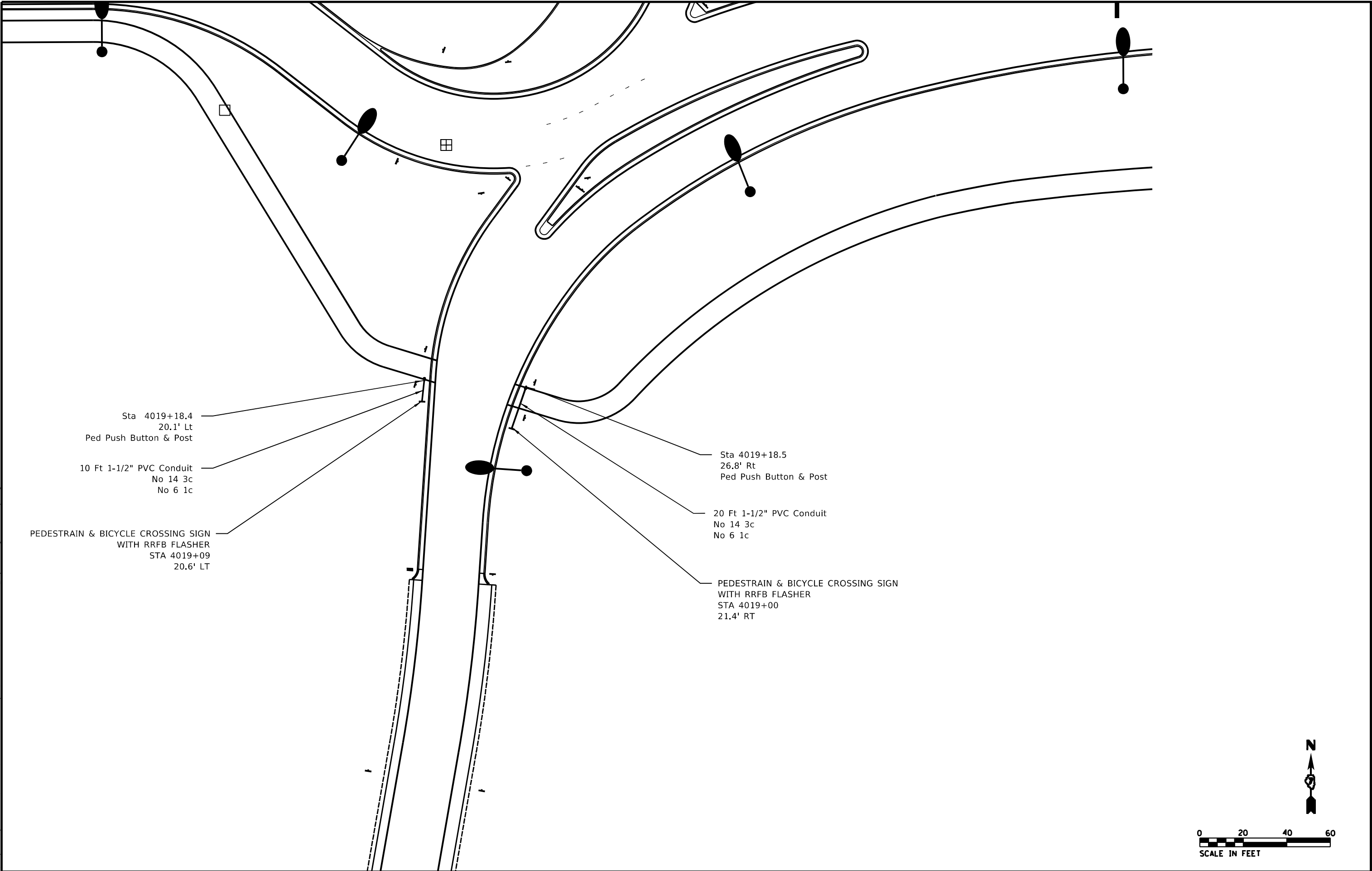
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PED/BICYCLE CROSSING DETAILS

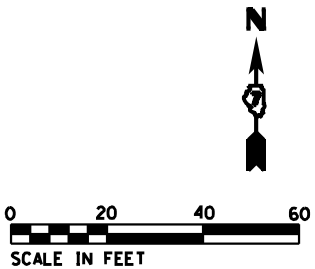
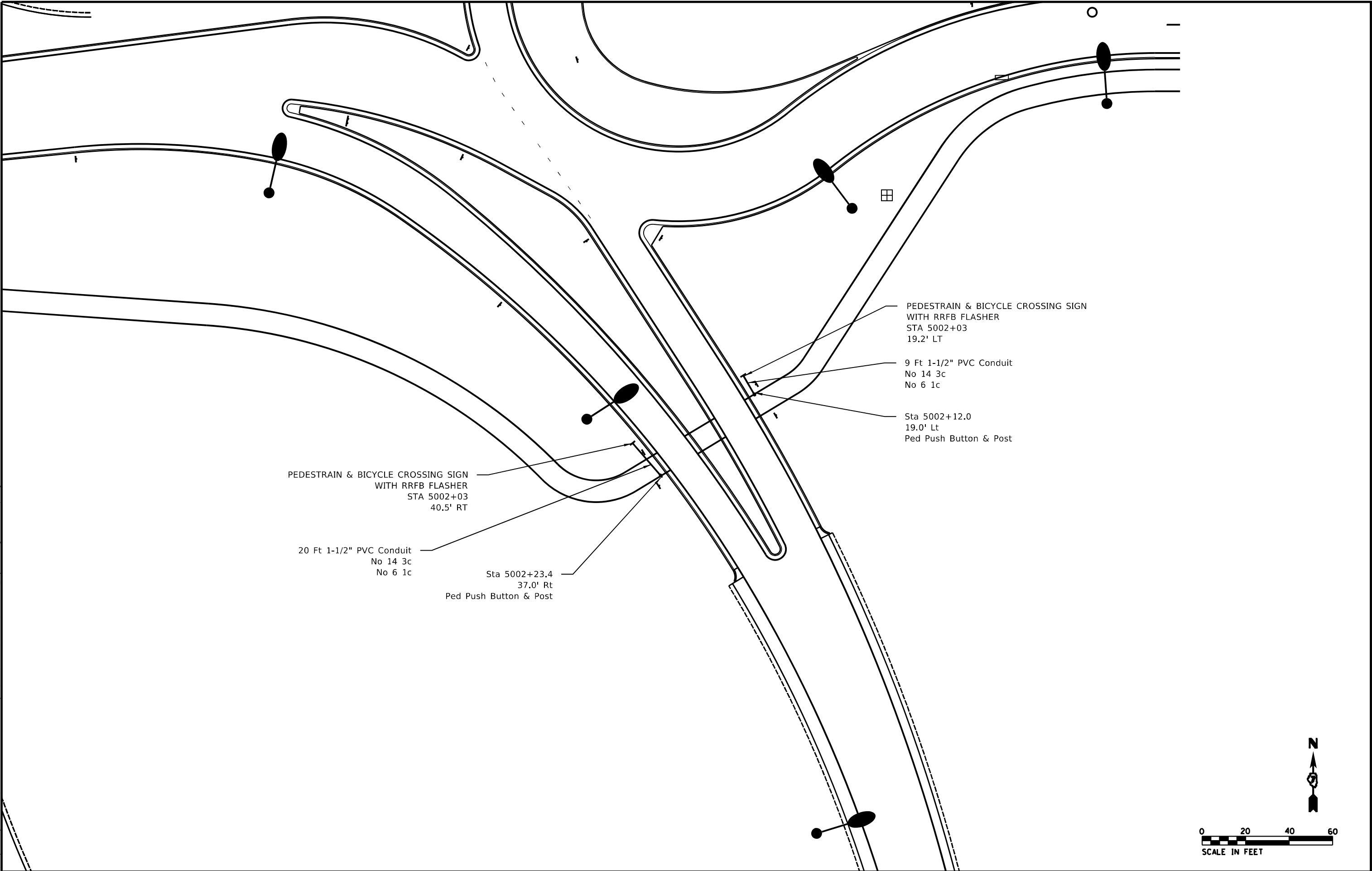
SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB)BR(15-22)R	COLES	1086	627
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

Model: Default
File: h:\miles\project-cw\hwy.com\p\w\DOT Documents\DOT Office\Director\Projects\74435\CADD\Drawings\74435-Ped Bicycle Crossing-East Side-sheet-1.dgn



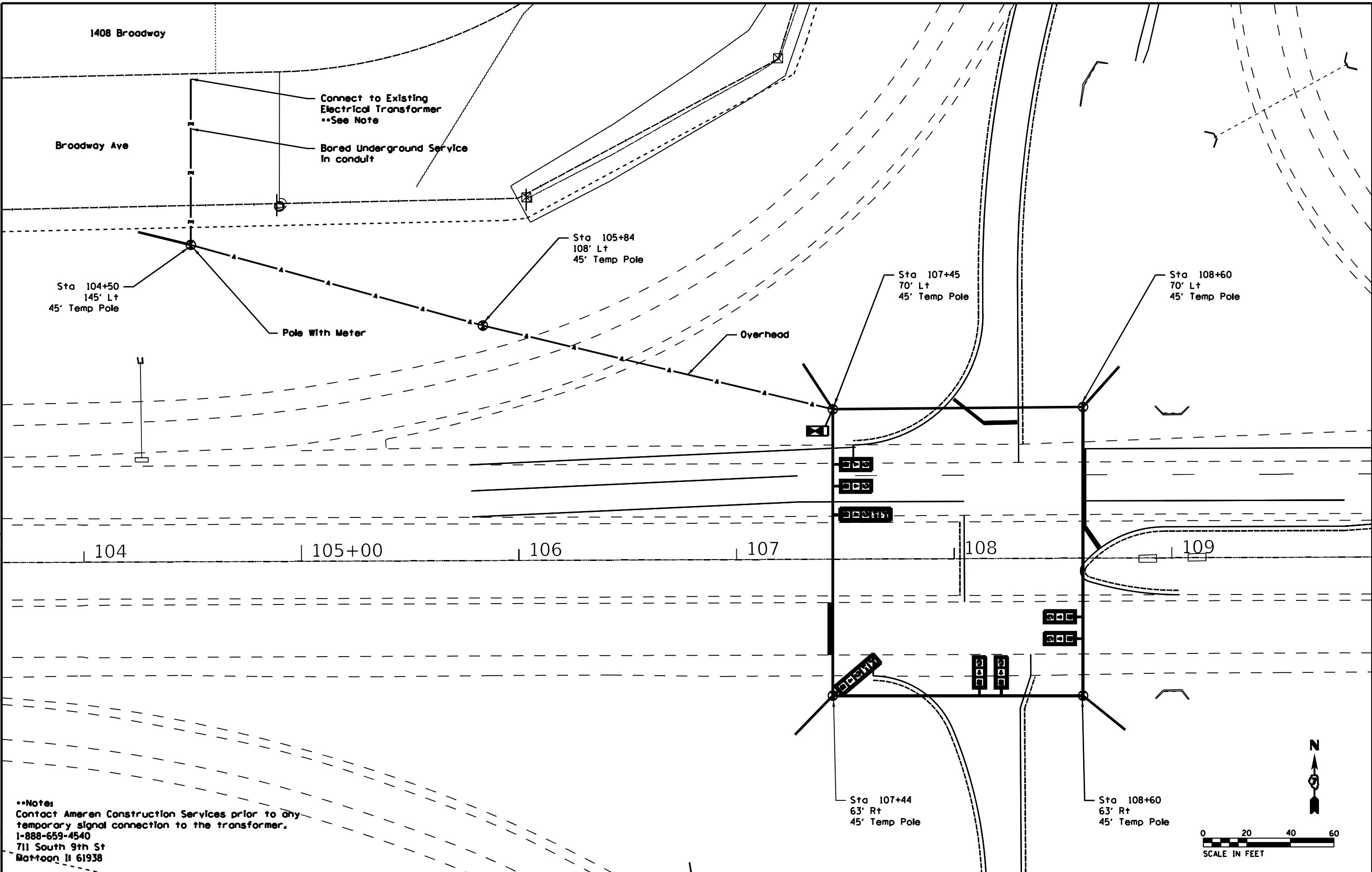
	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PED/BICYCLE CROSSING EAST SIDE SHARED-USE PATH & PR RAMP C	SCALE:	SHEET 1 OF 1 SHEETS	STA.	TO STA.	F.A.J RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -							57	(15-22HB)BR(15-22)R	COLES	1086	628
	PLOT SCALE = 40,0000 * / in.	CHECKED -	REVISED -							CONTRACT NO. 74435				
	PLOT DATE = 8/23/2024	DATE -	REVISED -							ILLINOIS FED. AID PROJECT				



MODEL: Default
FILE: h:\miles\g:\miles\aw-head\aw-head\DOT Documents\DOT Office\Dir\dir 7\Project\74435\CADD\Drawings\74435-Ped Bicycle Crossing-West Side-rh.dwg

	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PED/BICYCLE CROSSING WEST SHARED-USE PATH & PR RAMP D		F.A.J RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -				57	(15-22HB)BR(15-22)R	COLES	1086	629
	PLOT SCALE = 40,0000 * / in.	CHECKED -	REVISED -				CONTRACT NO. 74435				
	PLOT DATE = 8/23/2024	DATE -	REVISED -				ILLINOIS FED. AID PROJECT				
SCALE:		SHEET 1	OF 1	SHEETS	STA.	TO STA.					

MODEL: Default
FILE: 1408 Broadway
C:\Users\Public\Documents\DOT Office\Director\Projects\74435\CAD\Drawings\74435-15-West-Side-rtr-1408.dwg



••Note:
Contact Ameren Construction Services prior to any
temporary signal connection to the transformer.
1-888-659-4540
711 South 9th St
Mattoon IL 61938

0 20 40 60
SCALE IN FEET



STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				TEMPORARY SIGNAL WEST I-57 & IL-16				F.A.J. RTE. 57 SECTION (15-22HB)BR(15-22)R COUNTY COLES TOTAL SHEETS 1086 SHEET NO. 630			
CONTRACT NO. 74435				SCALE: SHEET OF SHEETS STA. TO STA.				ILLINOIS FED. AID PROJECT			
USER NAME = kaleb.hirtzel				DESIGNED -				REVISED -			
DRAWN -				REVISED -				REVISED -			
PLOT SCALE = 40,0000 * / in.				CHECKED -				REVISED -			
PLOT DATE = 8/23/2024				DATE -				REVISED -			

LEGEND

-  R
- EXISTING ELECTRIC SERVICE TO BE REMOVED.
- 
- PROPOSED ELECTRIC SERVICE, 120/240V.
-  R
- EXISTING LIGHTING CONTROLLER TO BE REMOVED.
- 
- PROPOSED LIGHTING CONTROLLER, 240V, 60A.
-  R
- EXISTING HIGH MAST TOWER LIGHTING UNIT AND FOUNDATION TO BE REMOVED.
-  FR
- EXISTING TOWER FOUNDATION TO BE REMOVED.
- 
- PROPOSED LIGHTING UNIT, LUMINAIRE, LED, ROADWAY, OUTPUT DESIGNATION G, 45FT ALUMINUM POLE, 15 FT DAVIT ARM, METAL FOUNDATION, BREAKAWAY COUPLINGS WITH SS SCREEN, 15 FT SETBACK FROM EOP.
-  R
- EXISTING SIGN LUMINAIRE TO BE REMOVED AND SALVAGED.
- 
- PROPOSED PEDESTRIAN UNDERPASS LUMINAIRE.
- 
- EXISTING ELECTRIC CABLE IN CONDUIT TO BE REMOVED.
- 
- PROPOSED UNIT DUCT, 600V, 2-1C NO.6, 1/C NO.6 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE (UNLESS STATED OTHERWISE)
- 
- PROPOSED COILABLE NONMETALLIC CONDUIT 2" DIA. LENGTH AS NOTED

BILL OF MATERIALS

DESCRIPTION	UNIT	QUANTITY
ELECTRIC SERVICE INSTALLATION	EACH	2
UNDERGROUND CONDUIT, COILABLE NONMETALLIC, 2" DIA.	FOOT	780
CONDUIT ATTACHED TO STRUCTURE, 1" DIA., STAINLESS STEEL	FOOT	245
CONDUIT EMBEDDED IN STRUCTURE, 1" DIA., PVC	FOOT	20
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 10" X 8" X 6"	EACH	2
UNIT DUCT, 600V, 2-1C NO.6, 1/C NO.6 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE	FOOT	14,236
UNIT DUCT, 600V, 4-1C NO.8, 1/C NO.8 GROUND, (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE	FOOT	75
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 8	FOOT	1,265
LUMINAIRE, LED, ROADWAY, OUTPUT DESIGNATION H	EACH	48
LUMINAIRE, LED, UNDERPASS, WALLMOUNT, OUTPUT DESIGNATION E	EACH	9
LIGHTING CONTROLLER, POLE MOUNTED, 240VOLT, 30AMP	EACH	1
LIGHTING CONTROLLER, PEDESTAL MOUNTED, 240VOLT, 60AMP	EACH	1
LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8 5/8" X 6'	EACH	48
LIGHT POLE, ALUMINUM, 45 FT. M.H., 15 FT. DAVIT ARM	EACH	48
BREAKAWAY DEVICE, COUPLING WITH STAINLESS STEEL SCREEN	EACH	192
REMOVAL OF TEMPORARY LIGHTING UNIT	EACH	5
REMOVAL OF LIGHTING TOWER, NO SALVAGE	EACH	2
REMOVAL OF LIGHTING CONTROLLER	EACH	1
REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1
REMOVAL OF LIGHTING CONTROLLER FOUNDATION	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	22,080
REMOVAL OF EXISTING SIGN LIGHTING UNIT WITH NO SALVAGE	EACH	19
REMOVAL OF TOWER FOUNDATION	EACH	6

GENERAL NOTES

1. ELECTRICAL WORK SHALL CONFROM TO NATIONAL, STATE, AND LOCAL CODES.
2. THE CONTRACTOR SHALL SET LIGHT POLES 15' BEHIND EDGE OF PAVEMENT.

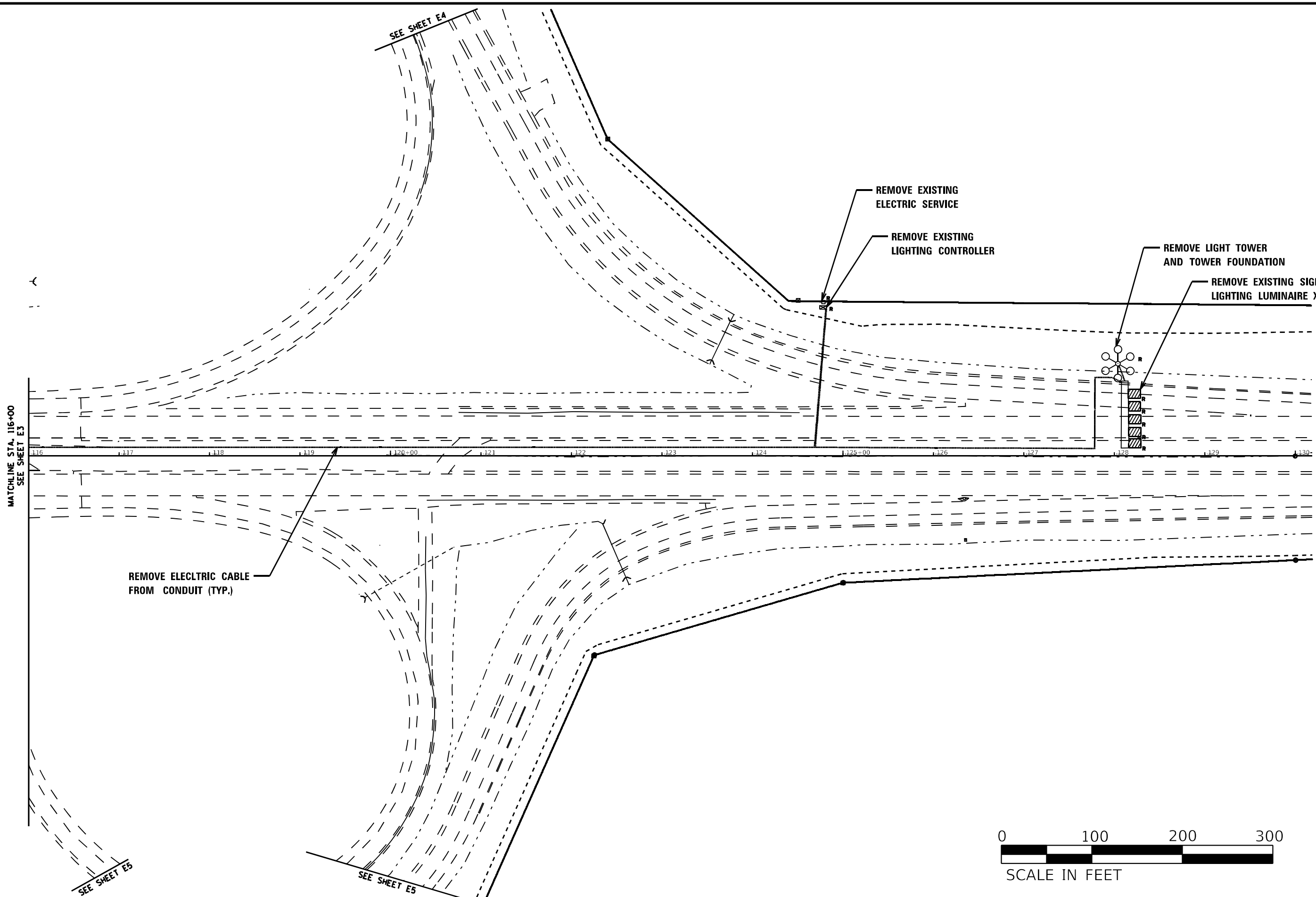
HIGHWAY STANDARDS

821101-02	LUMINAIRE WIRING IN POLE
825001-04	LIGHTING CONTROLLER POLE MOUNTED, 240V
825011-04	LIGHTING CONTROLLER PEDESTAL MOUNTED, 240V
830006-05	LIGHT POLE ALUMINUM DAVIT ARM
836001-04	LIGHT POLE FOUNDATION
838001-01	BREAKAWAY DEVICES

INDEX OF SHEETS

- E1 GENERAL NOTES, HIGHWAY STANDARDS, INDEX OF SHEETS, LEGEND, AND SUMMARY OF QUANTITIES
- E2 LIGHTING REMOVAL PLAN I-57 AND IL-16
- E3 LIGHTING REMOVAL PLAN I-57 AND IL-16
- E4 LIGHTING REMOVAL PLAN I-57 AND IL-16
- E5 LIGHTING REMOVAL PLAN I-57 AND IL-16
- E6 PROPOSED LIGHTING PLAN I-57 AND IL-16
- E7 PROPOSED LIGHTING PLAN I-57 AND IL-16
- E8 PROPOSED LIGHTING PLAN I-57 AND IL-16
- E9 PROPOSED LIGHTING PLAN I-57 AND IL-16
- E10 CULVERT LIGHTING PLAN
- E11 WIRING DIAGRAM
- E12 LUMINAIRE PERFORMANCE TABLES

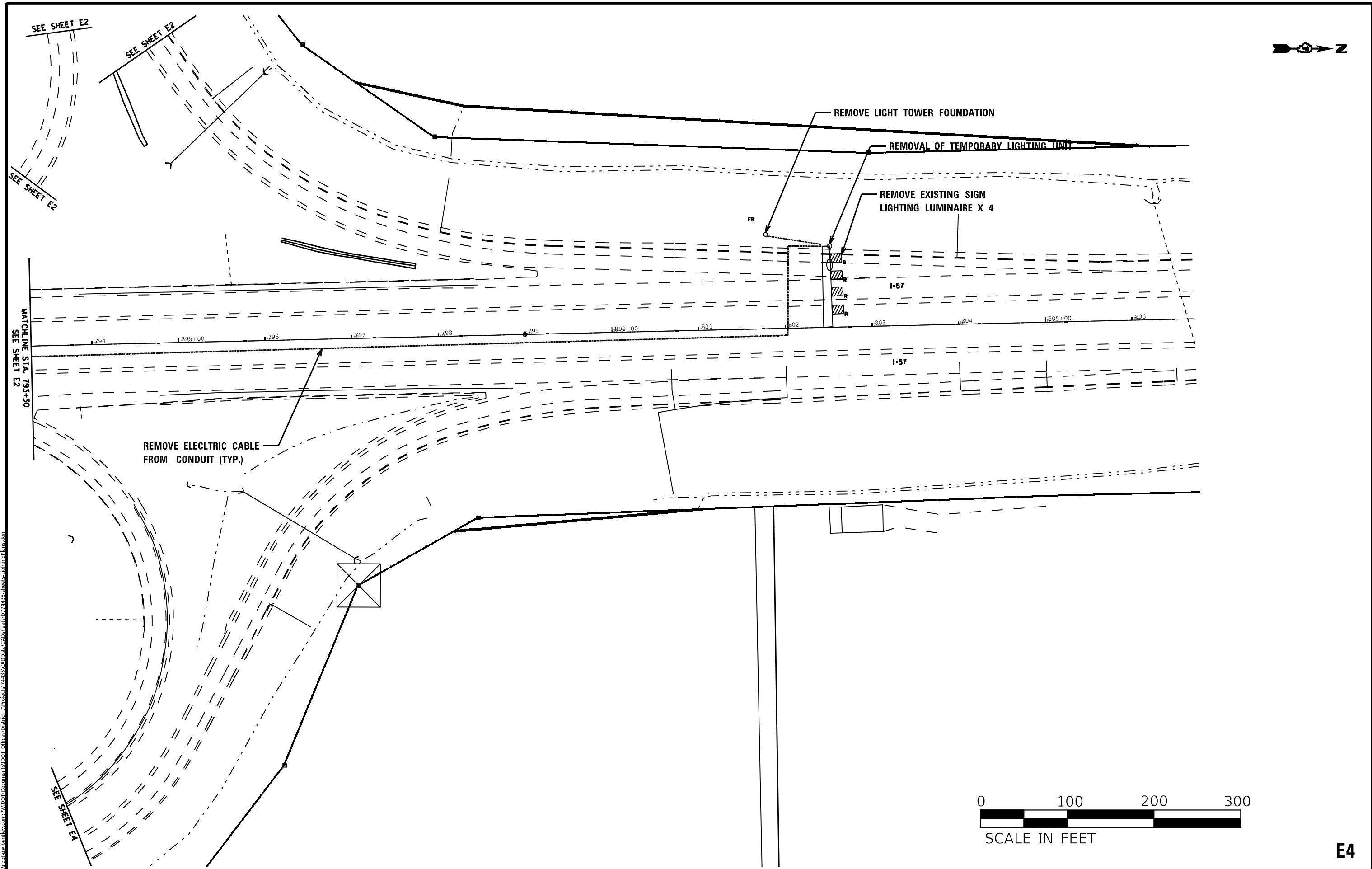
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	DRAWN -	REVISD -	REVISD -						57	(15-22HB-4)BR(15-22)R	COLES	1086	632
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	PLOT DATE = 8/23/2024	DATE -	REVISED -						ILLINOIS FED. AID PROJECT				



E3

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	PLOT DATE = 8/23/2024	DATE -	REVISED -					ILLINOIS FED. AID PROJECT				
SCALE:		SHEET 3 OF 12 SHEETS		STA.		TO STA.						



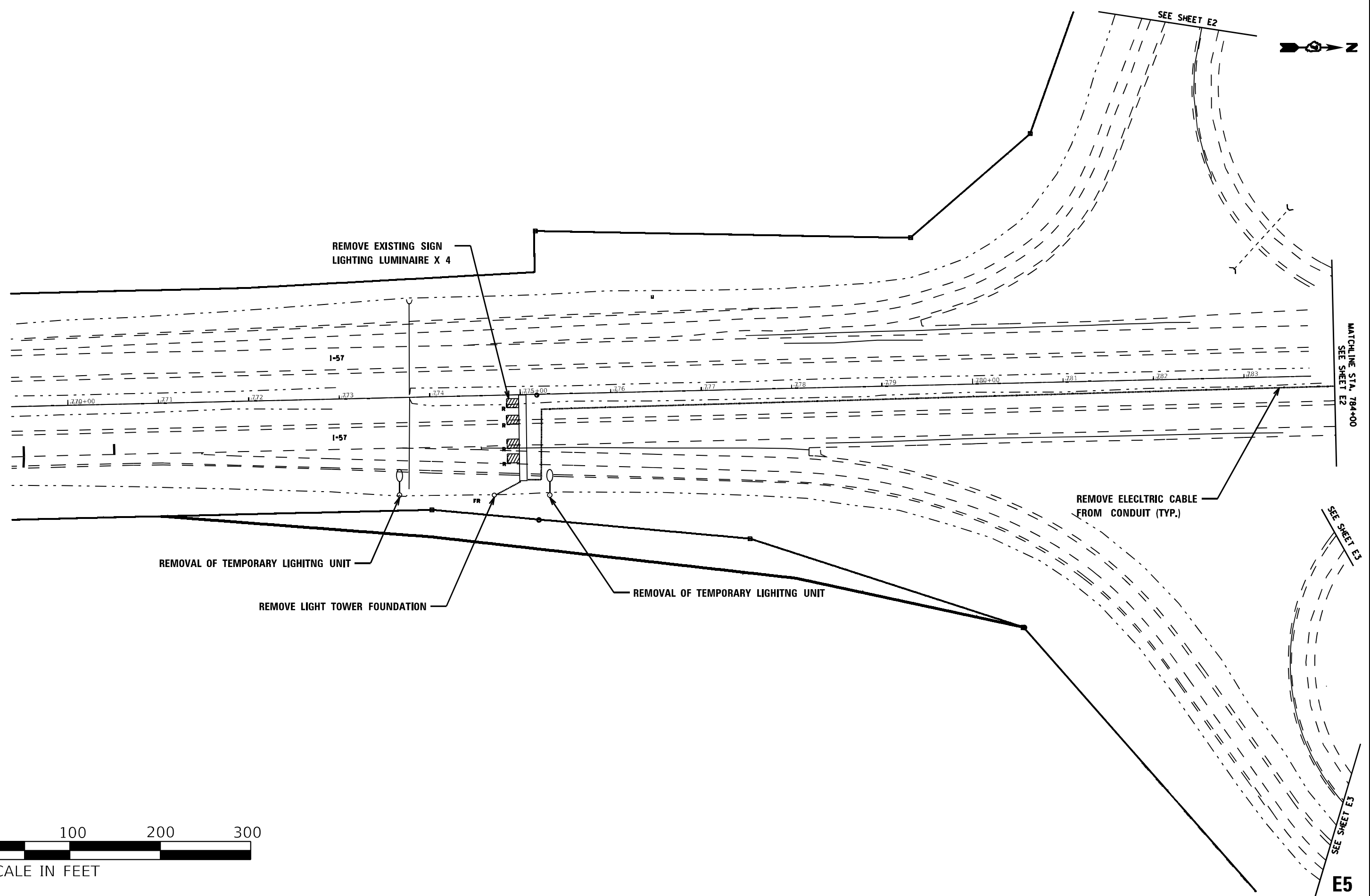
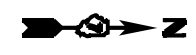
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SCALE IN FEET



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

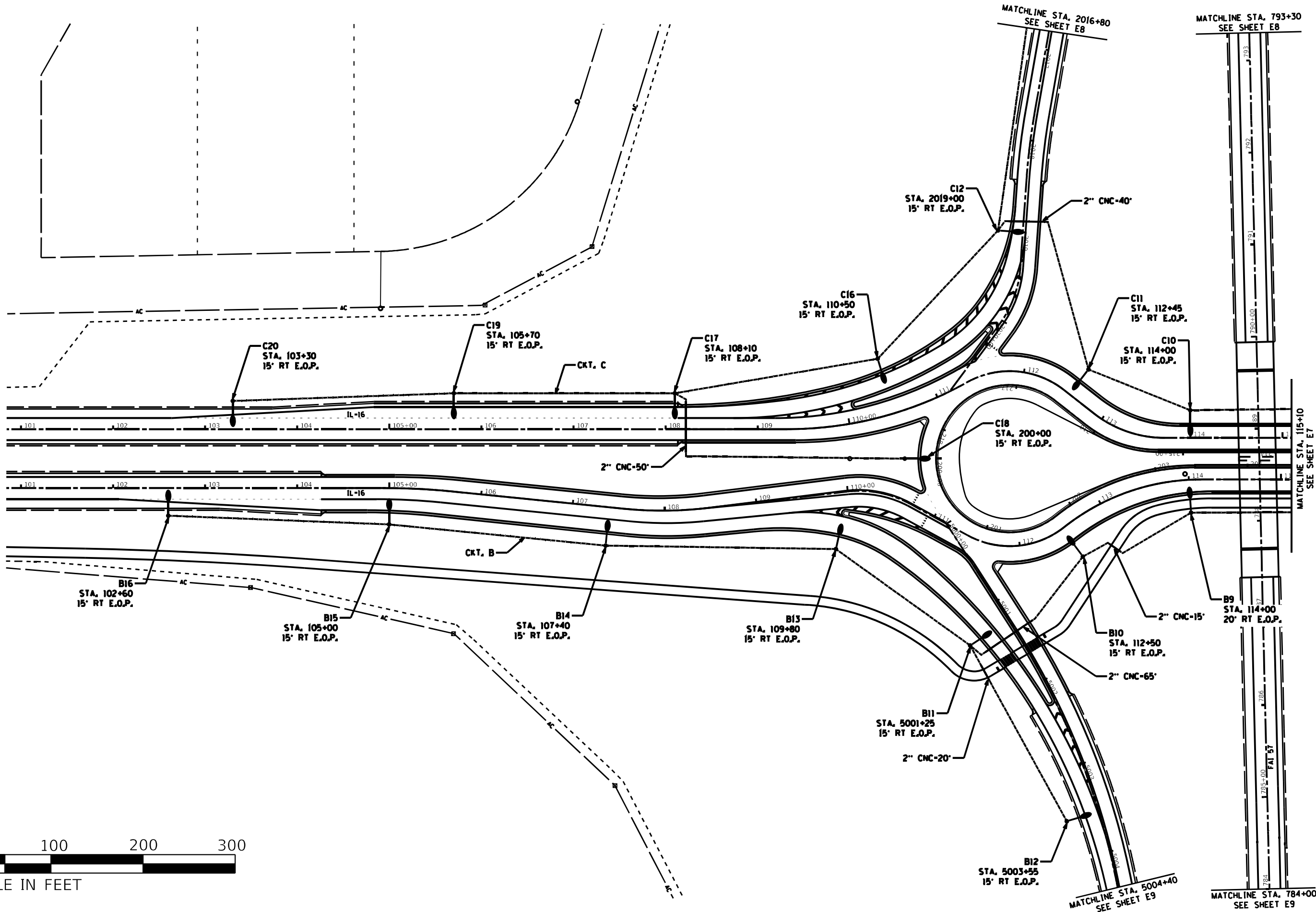
LIGHTING REMOVAL PLAN
I-57 & IL-16

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	DRAWN -	REVISED -
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PLOT DATE = 8/23/2024	DATE -	REVISED -

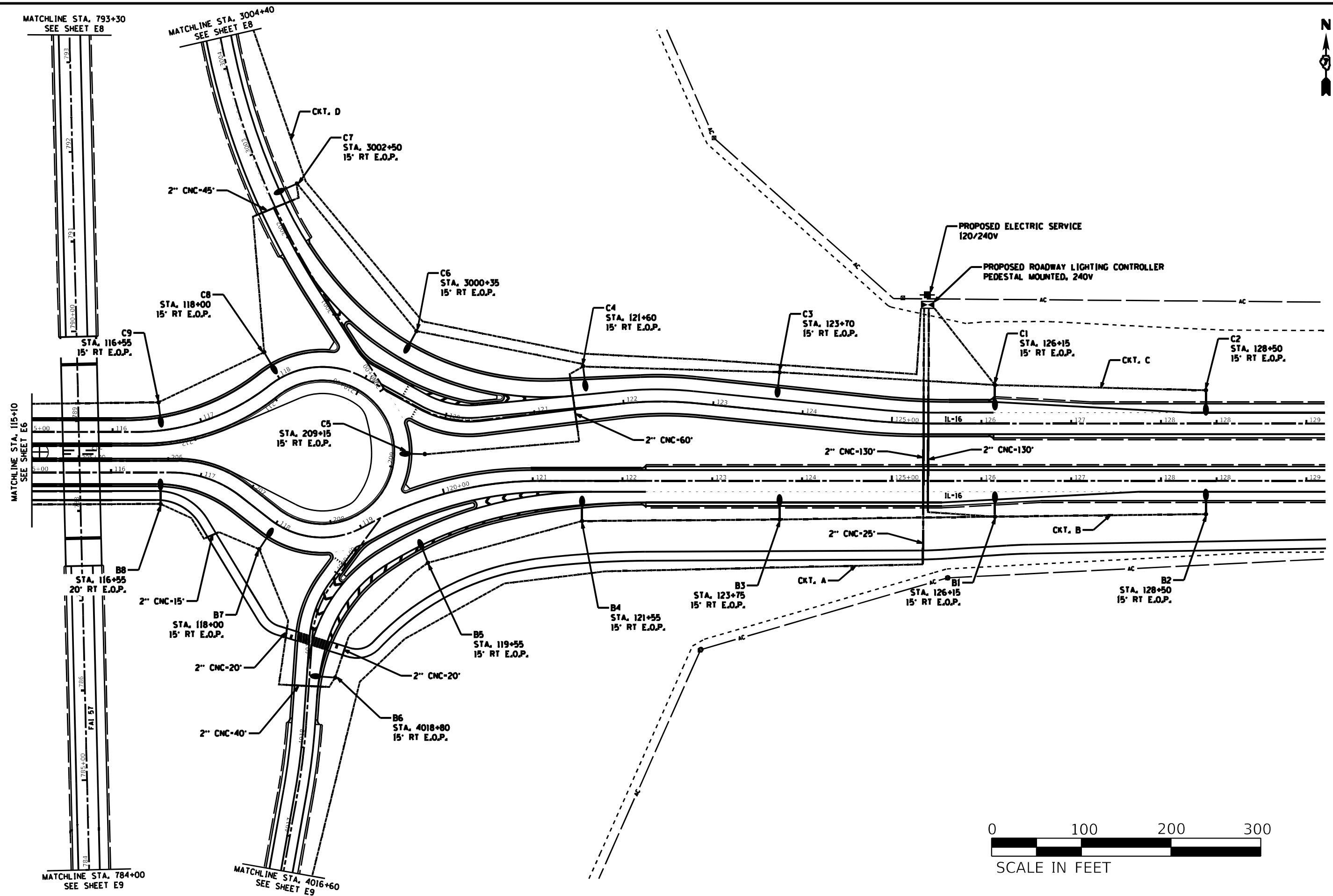
SCALE:	SHEET 5	OF 12 SHEETS	STA.	TO STA.
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	636
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

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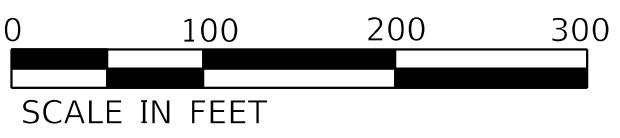
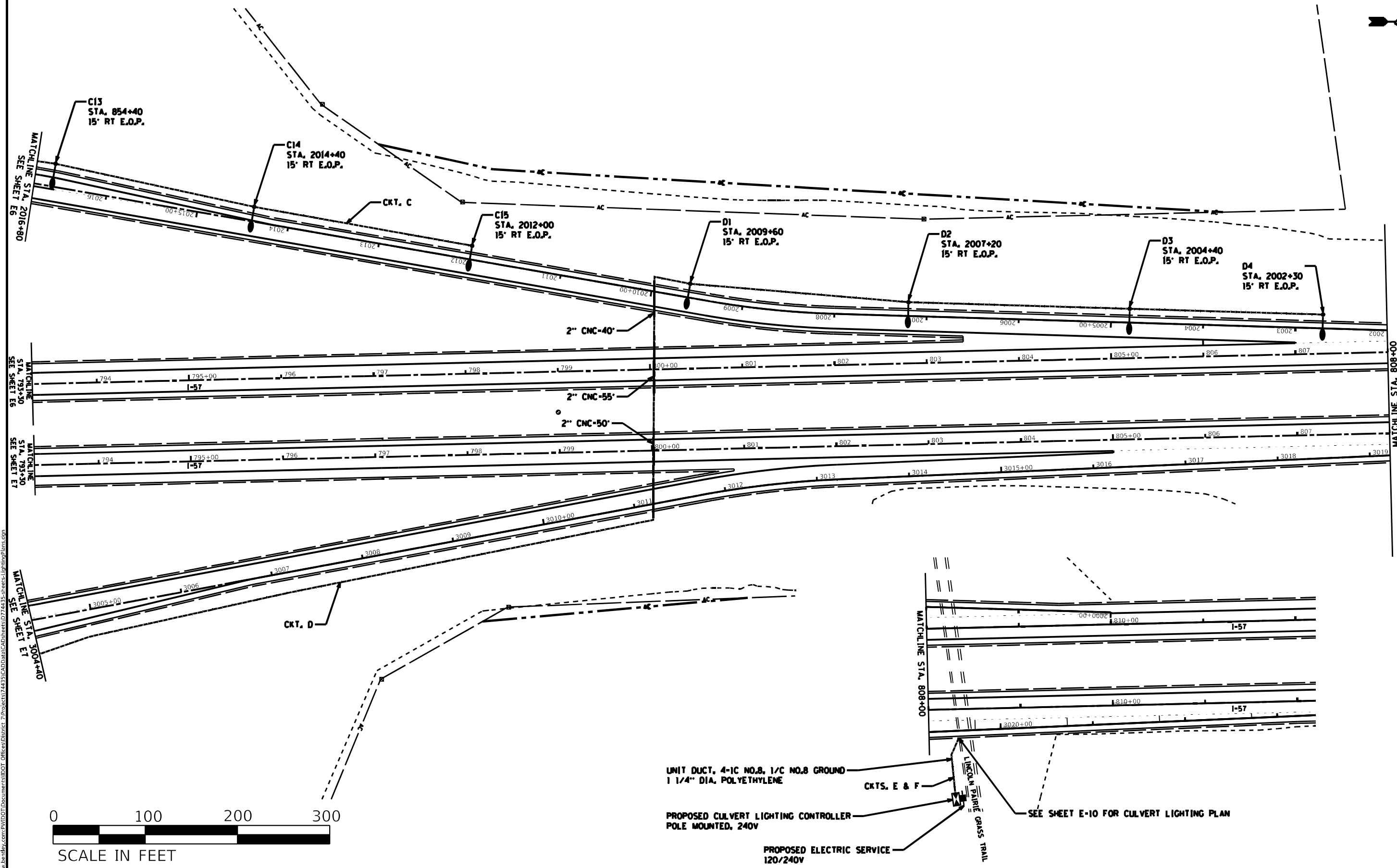


STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				PROPOSED LIGHTING PLAN I-57 & IL 16				F.A.I. SECTION COUNTY TOTAL SHEETS SHEET NO. 57 (15-22HB-4)BR(15-22)R COLES 1086 637 CONTRACT NO. 74435			
USER NAME = kaleb.hirtzel				SCALE: SHEET 6 OF 12 SHEETS STA. TO STA.				ILLINOIS FED. AID PROJECT			
DESIGNED -											
DRAWN -											
PLOT SCALE = 100,0000' / in.											
CHECKED -											
PLOT DATE = 8/23/2024											
DATE -											
REVISED -											
REVISED -											
REVISED -											



E7

USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				PROPOSED LIGHTING PLAN I-57 & IL-16				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -									57	(15-22HB-4)BR(15-22)R	COLES	1086	638
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -									CONTRACT NO. 74435				
PLOT DATE = 8/23/2024	DATE -	REVISED -					SCALE:	SHEET 7	OF 12	SHEETS	STA.	TO STA.		ILLINOIS FED. AID PROJECT	



UNIT DUCT, 4-1C NO.8, 1/C NO.8 GROUND
1 1/4" DIA. POLYETHYLENE

PROPOSED CULVERT LIGHTING CONTROLLER
POLE MOUNTED, 240V

PROPOSED ELECTRIC SERVICE
120/240V

CTKS. E & F

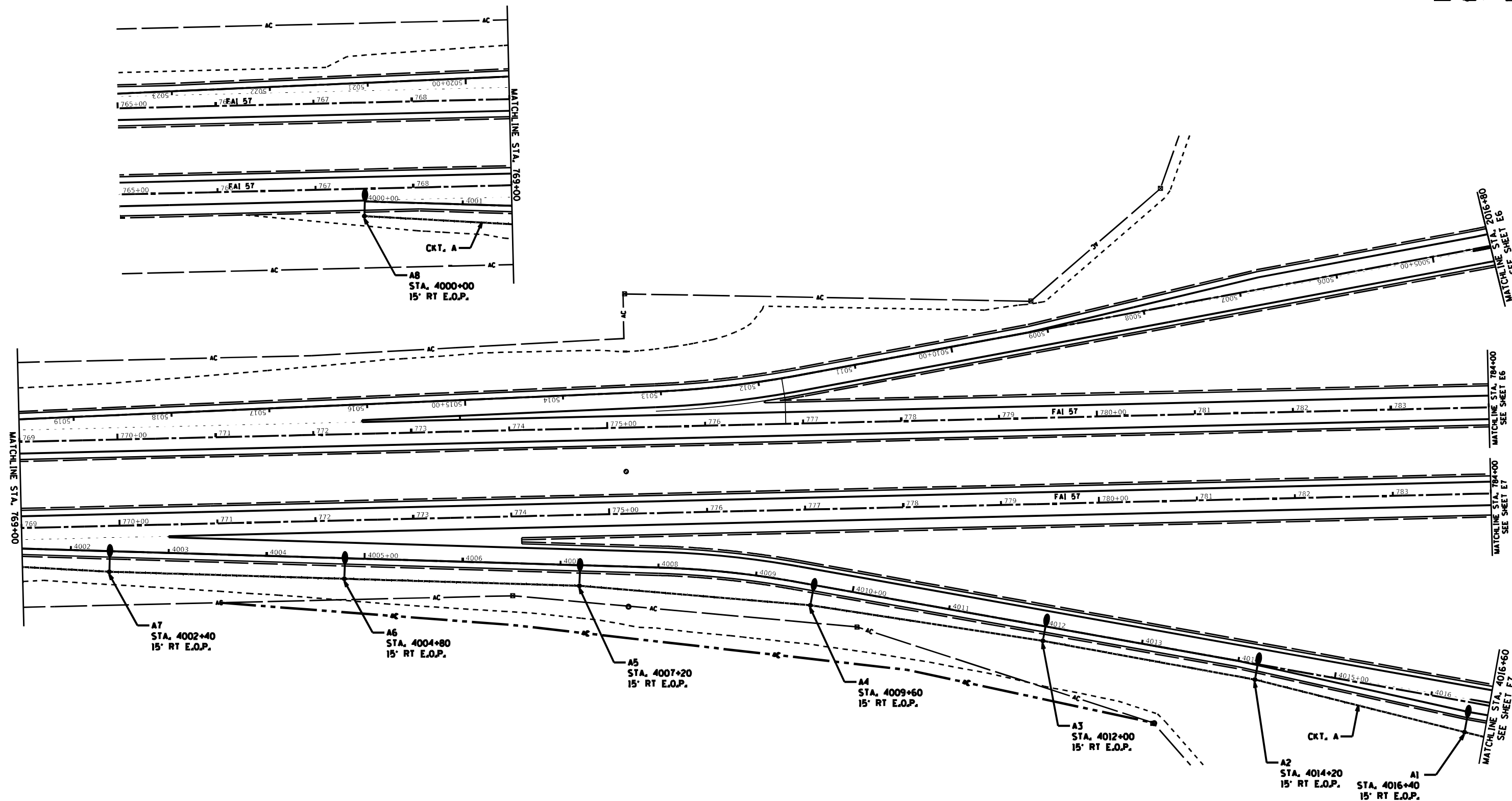
SEE SHEET E-10 FOR CULVERT LIGHTING PLAN

LINCOLN FAIRIE GRASS TRAIL

E8

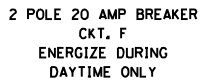
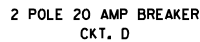
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		DATE -	REVISED -					ILLINOIS FED. AID PROJECT				
SCALE:		SHEET 8 OF 12 SHEETS		STA.		TO STA.						



E9

FILE NAME: D:\	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PROPOSED LIGHTING PLAN I-57 & IL-16				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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					SCALE:	SHEET 9	OF 12 SHEETS	STA.	TO STA.	ILLINOIS	FED. AID PROJECT		



PROPOSED LIGHTING CONTROLLER,
PEDESTAL MOUNTED, 240V, 60AMP

PROPOSED CULVERT LIGHTING CONTROLLER,
POLE MOUNTED, 240V, 30AMP

E11

NOTES:

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

WIRING DIAGRAM

F.A.I.
RTE.

SECTION

TOTAL SHEETS	SHEET NO.
-----------------	--------------

TOTAL SHEETS	SHEET NO.
-----------------	--------------

Luminaire Performance Table
Roadway Luminaire

Project

Date	Contract Number	Section Number	County
02/03/2023	74435	N/A	COLES

Marked Route Number	Municipality
I-57 AND IL-16	N/A

Roadway

Lane Width	# of Lanes	Median Width	I.E.S. Surface Classification	0-Zero Value
20	2	N/A	R3	0.07

Structure

Mounting Height	Arm Length	Set Back	Number of luminaires (Highmast & Sign Lighting Only)
45 FT	15 FT	15 FT	N/A

Luminaire

Description	I.E.S. Lateral Distribution	I.E.S. Vertical Distribution
ROADWAY LUMINAIRE, LED, OUTPUT DESIGNATION H	TYPE III	MEDIUM

Total Light Loss Factor (LLF)	BUG Rating	Shields	Dimming Protocol
0.7	U = 0	N/A	10V

Layout

Spacing (to Nearest 5 Ft) Configuration (Opposite, Staggered, 1 Sided, or Median)

190 FT	SINGLE SIDED
--------	--------------

Performance

Average Illuminance, E _{avg} (fc)	Uniformity Ratio, E _{avg} /E _{min}
0.8	3.0

Average Luminance, L _{avg} (cd/m²)	Uniformity Ratio, L _{avg} /L _{min}	Uniformity Ratio, L _{max} /L _{min}	Veiling Luminance Ratio, L _v /L _{min}
N/A	N/A	N/A	0.31

Light Trespass

Distance to ROW (behind pole)	Max. Horizontal Illuminance at ROW, E	Max. Vertical Illuminance at ROW, E
N/A	N/A	N/A

Notes

- Set Back is from Edge of Pavement (white line) except for sign luminaires when it is vertical and horizontal distance from the sign to the luminaire.
- Lighting calculations shall be performed with all luminaires oriented toward and perpendicular to roadway.
- Total Light Loss Factor (LLF) = the product of "Lumen Maintenance" (LLD) = 0.9, "Dirt Depreciation" (LDD) = 0.8, and "Equipment Factors" (EF) = 0.95.
- Performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions above.

CALCULATIONS ARE TO BE PERFORMED IN ONE DIRECTION ONLY.

COMPLIANCE WITH PERFORMANCE CRITERIA SHALL BE HELD TO ONE SIGNIFICATN DIGIT.

Luminaire Performance Table
Pedestrian Underpass Luminaire

Project

Date	Contract Number	Section Number	County
02/03/2023	74435	N/A	COLES

Marked Route Number	Municipality
I-57 AND IL-16	N/A

Roadway

Lane Width	# of Lanes	Median Width	I.E.S. Surface Classification	0-Zero Value
14	1	N/A	R3	0.07

Structure

Mounting Height	Arm Length	Set Back	Number of luminaires (Highmast & Sign Lighting Only)
14 FT	N/A	1 FT	N/A

Luminaire

Description	I.E.S. Lateral Distribution	I.E.S. Vertical Distribution
UNDERPASS LUMINAIRE, LED, OUTPUT DESIGNATION E	TYPE V	MEDIUM

Total Light Loss Factor (LLF)	BUG Rating	Shields	Dimming Protocol
0.7	U = 0	N/A	10V

Layout

Spacing (to Nearest 5 Ft) Configuration (Opposite, Staggered, 1 Sided, or Median)

20 FT	SINGLE SIDED
-------	--------------

Performance

Average Illuminance, E _{avg} (fc)	Uniformity Ratio, E _{avg} /E _{min}
4.0	3.0

Average Luminance, L _{avg} (cd/m²)	Uniformity Ratio, L _{avg} /L _{min}	Uniformity Ratio, L _{max} /L _{min}	Veiling Luminance Ratio, L _v /L _{min}
N/A	N/A	N/A	N/A

Light Trespass

Distance to ROW (behind pole)	Max. Horizontal Illuminance at ROW, E	Max. Vertical Illuminance at ROW, E
N/A	N/A	N/A

Notes

- Set Back is from Edge of Pavement (white line) except for sign luminaires when it is vertical and horizontal distance from the sign to the luminaire.
- Lighting calculations shall be performed with all luminaires oriented toward and perpendicular to roadway.
- Total Light Loss Factor (LLF) = the product of "Lumen Maintenance" (LLD) = 0.9, "Dirt Depreciation" (LDD) = 0.8, and "Equipment Factors" (EF) = 0.95.
- Performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions above.

CALCULATIONS ARE TO BE PERFORMED IN ONE DIRECTION ONLY.

COMPLIANCE WITH PERFORMANCE CRITERIA SHALL BE HELD TO ONE SIGNIFICATN DIGIT.

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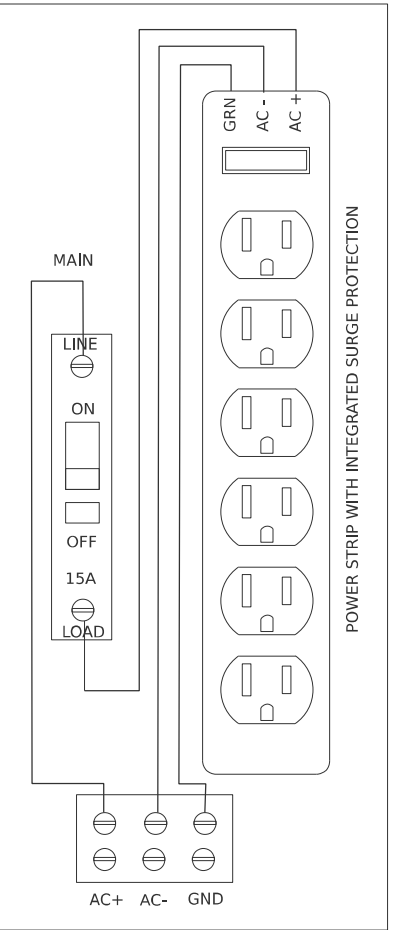
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PLOT DATE = 8/23/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

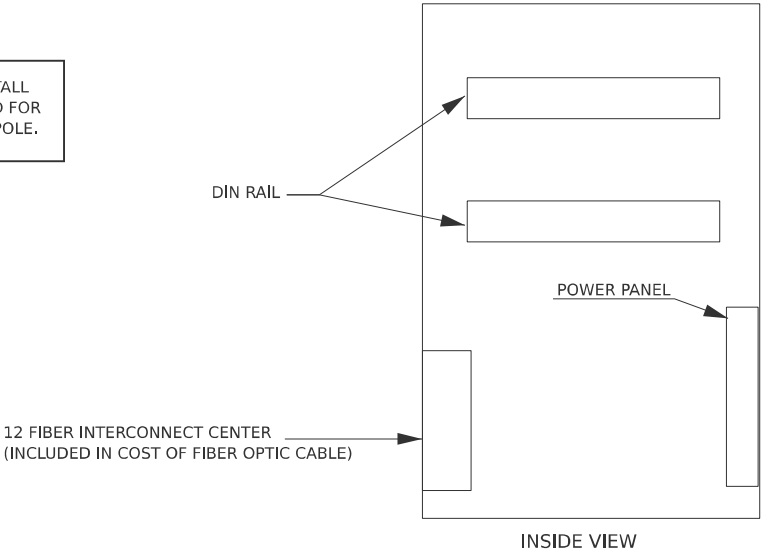
LUMINAIRE PERFORMANCE TABLES

SCALE: SHEET 12 OF 12 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	643
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



THE CONTRACTOR SHALL FURNISH AND INSTALL ALL BRACKETING AND HARDWARE REQUIRED FOR CABINET INSTALLATION ON THE PROPOSED POLE.

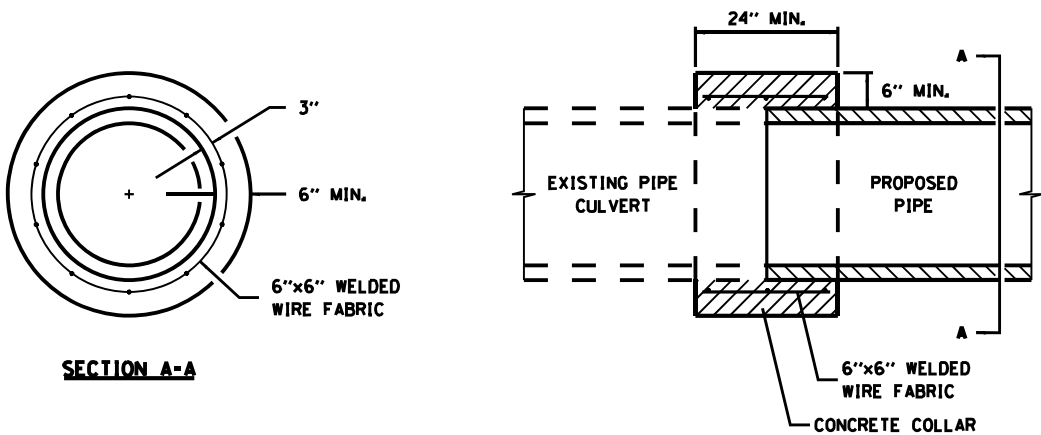


THE ITS EQUIPMENT CABINET SHALL BE A NEMA TYPE 3R CABINET WITH MINIMUM OUTSIDE DIMENSIONS OF 20" (H) X 14" (W) X 10" (D) (NOMINAL), THE CABINET SHALL BE CONSTRUCTED FROM 0.125" THICK ALUMINUM AND HAVE A NATURAL FINISH.

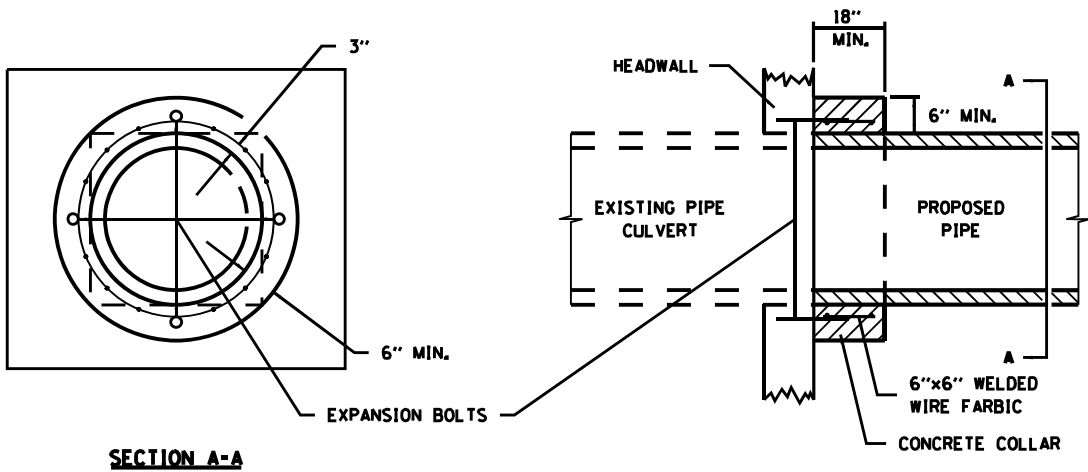
THE CABINET SHALL BE EQUIPPED WITH A #2 CORBIN SLAM LOCK AND ALL STAINLESS STEEL HARDWARE.

	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CCTV CAMERA DETAILS					F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 8/21/2024	DATE -	REVISED -							CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT														

EXISTING PIPE CULVERT WITHOUT HEADWALLS
(TO BE USED WITH UNLIKE DIAMETERS & MATERIALS.)



EXISTING PIPE CULVERT OR BOX CULVERT WITH HEADWALLS

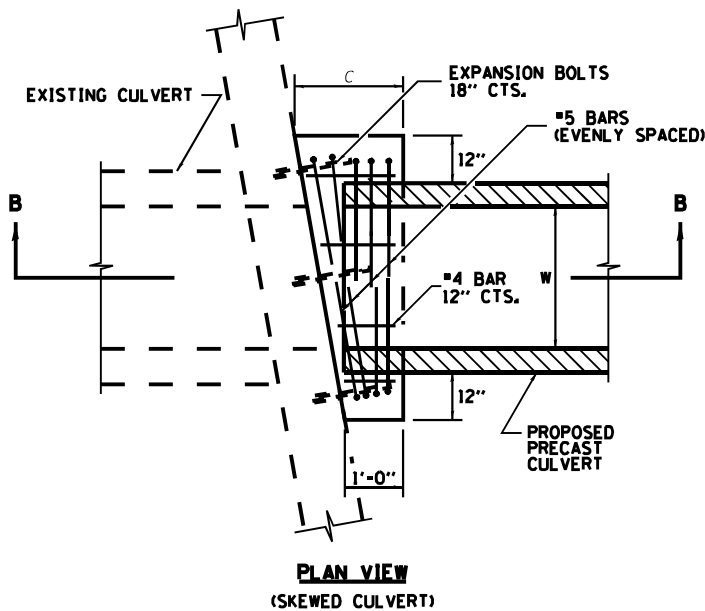
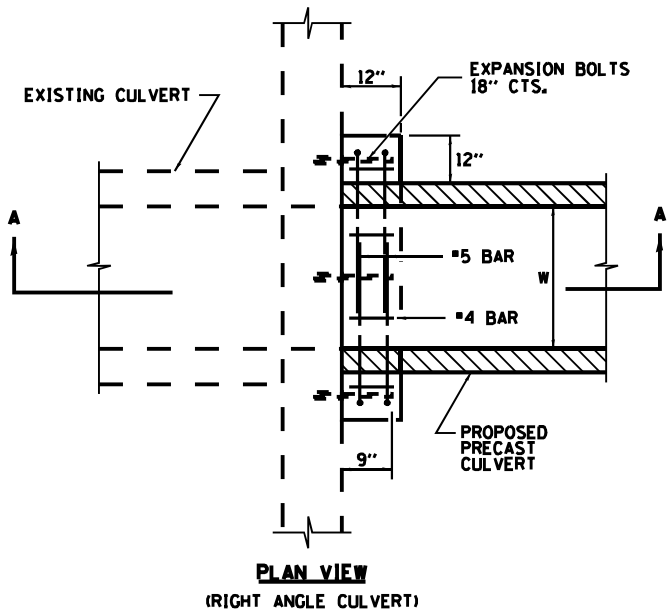


NOTE: EXPANSION BOLTS SHALL CONSIST OF SELF-DRILLING EXPANSION SHIELDS AND 3/4" DIAMETER HOOKED BOLTS IN ACCORDANCE WITH SECTION 1006.09. HOOKED BOLTS SHALL EXTEND A MINIMUM 6" INTO NEW CONCRETE.

6"x6" WELDED WIRE FABRIC SHALL BE INCLUDED IN THE COST OF THE CONCRETE COLLAR.

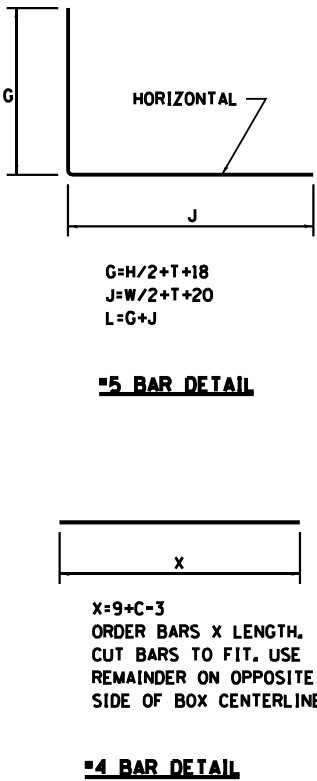
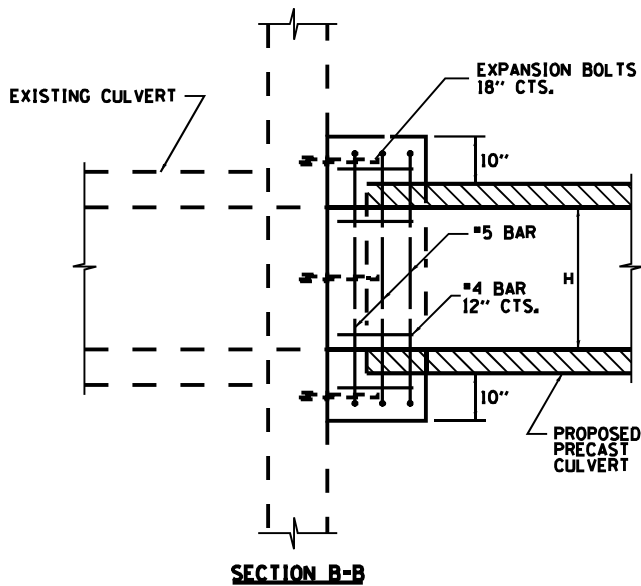
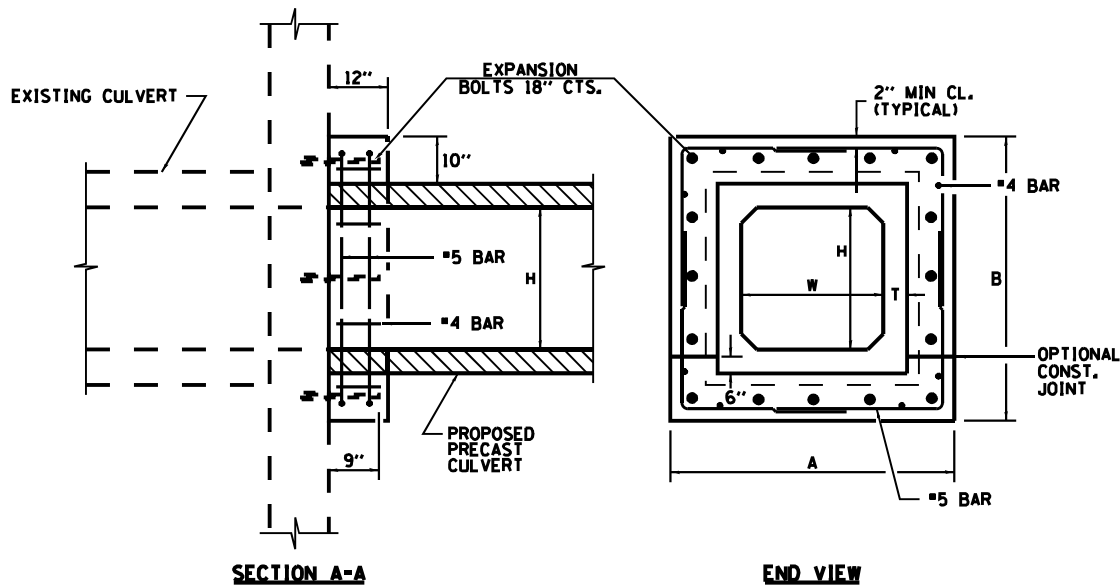
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pw\illdot\pubentley.com\PWIDOT\Documents\IDOT Offices\District 7\Projects\74435\CAD\DRAWINGS\74435-sheets\Drainage\74435-DR-01-01.dwg	10/15/2024	CHECKED -	REVISED -					57	(15-22)B-41BR (15-22)R	COLES	1086	646
PLOT SCALE : 100.0000' / in.	DATE -	DATE -	REVISED -		SCALE: 1" = 10'-0"			CONTRACT NO. 74435				
PLOT DATE : 8/23/2024	DATE -	DATE -	REVISED -		SHEET NO. OF SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT				

DETAIL OF CONCRETE COLLAR FOR BOX CULVERT EXTENSIONS

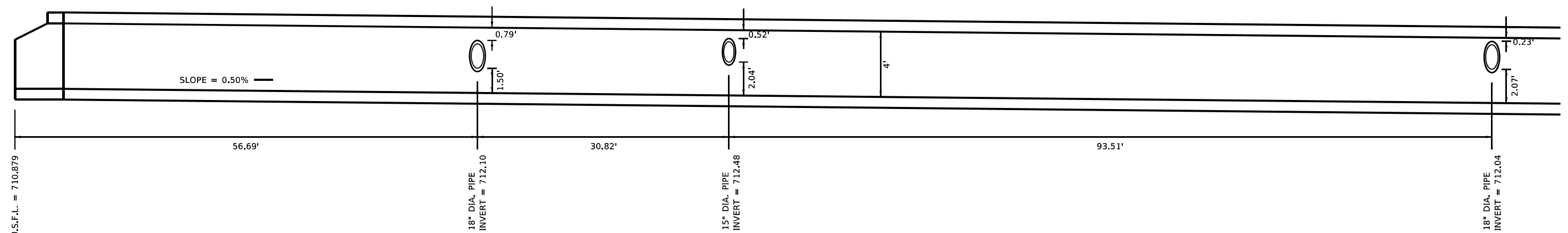


		DIMENSIONS						REINFORCEMENT BARS					EXPANSION BOLTS, 3/4"
		A	B	C	W	H	T	G	J	L	X	NUMBER BARS	
SIDE	STATION	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	EA	POUND
RT	807+00	136"	84"	36"	96"	48"	8"	50"	76"	126"	42	20	220
												19	50
LT	806+29	136"	84"	36"	96"	48"	8"	50"	76"	126"	42	20	220
												19	50
TOTAL =												540	48

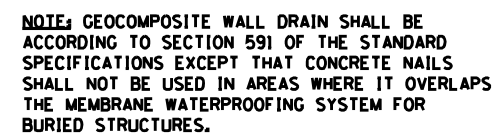
NOTE: EXPANSION BOLTS SHALL CONSIST OF SELF-DRILLING EXPANSION SHIELDS AND HOOKED BOLTS. HOOKED BOLTS SHALL EXTEND A MINIMUM OF 9" INTO THE NEW CONCRETE.



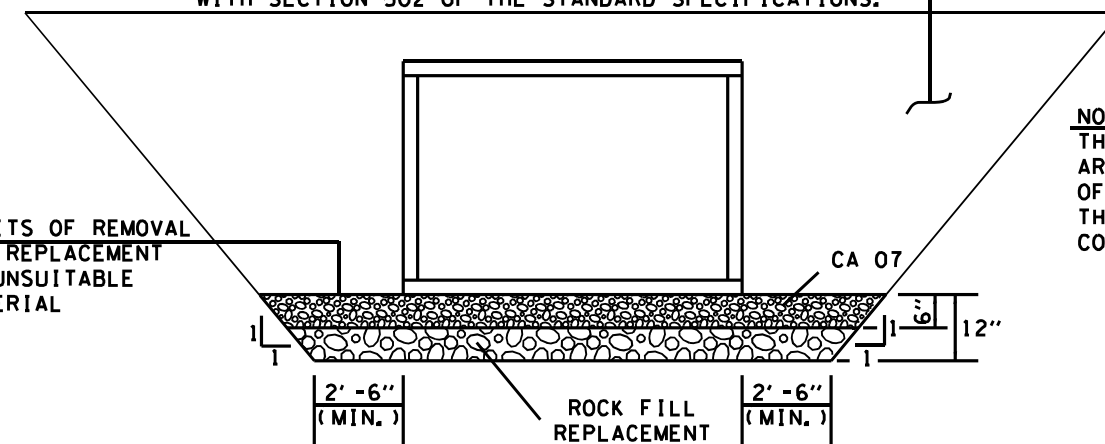
EAST SIDE VIEW



**POROUS GRANULAR BACKFILL WITHIN LIMITS
OF PROPOSED ROADWAY AND PAVED SHOULDERS.
OUTSIDE LIMITS OF PAVED SHOULDERS THE
CULVERT SHALL BE BACKFILLED IN ACCORDANCE
WITH SECTION 502 OF THE STANDARD SPECIFICATIONS.**



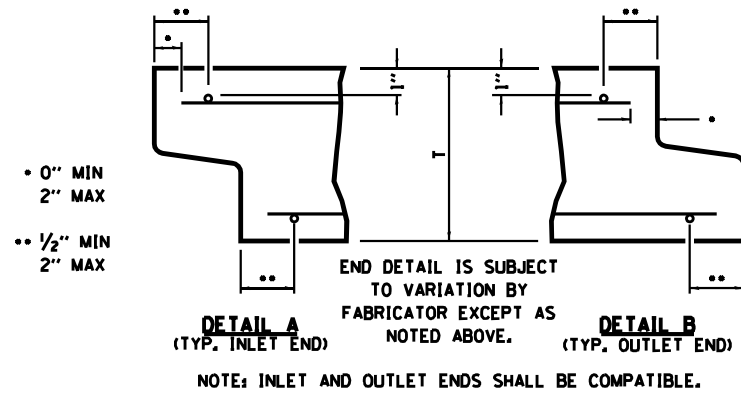
LIMITS OF REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL



NOTE:
THE LIMITS AND QUANTITIES SHOWN
ARE ESTIMATED. THE FINAL DEPTH
OF UNDERCUT WILL BE DETERMINED BY
THE ENGINEER AT THE TIME OF
CONSTRUCTION.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	648
		CONTRACT NO. 74435		
		ILLINOIS FED. AID PROJECT		

DETAIL OF PRECAST CONCRETE BOX CULVERT ASTM C1577



DESIGN LOADING:
COMBINED EARTH DEAD LOAD
AND AASHTO HL-93 LIVE LOAD

GENERAL NOTES

SHOP PLANS FOR THE REINFORCEMENT SHALL BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 540.06 OF THE STANDARD SPECIFICATIONS, AND THE CURRENT POLICY MEMORANDUM "QUALITY CONTROL/QUALITY ASSURANCE PROGRAM FOR PRECAST CONCRETE PRODUCTS."

MINIMUM CONCRETE STRENGTH SHALL BE 5000 PSI AFTER 28 DAYS.

THE JOINTS OF THE PRECAST BOX SECTIONS SHALL BE SEALED
IN ACCORDANCE WITH ARTICLE 540.06 OF THE STANDARD
SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

THE TERMS A_{s1} , A_{s2} , A_{s3} , A_{s4} , A_{s5} , A_{s6} , A_{s7} , AND A_{s8} , DENOTE THE REQUIRED STEEL AREAS FOR REINFORCEMENT AS SPECIFIED IN ASTM C1577. REINFORCEMENT SHALL BE WELDED WIRE FABRIC CONFORMING TO AASHTO SPECIFICATIONS M55 (A185) OR M221 (A497), OR REINFORCEMENT BARS, GRADE 60, CONFORMING TO A706.

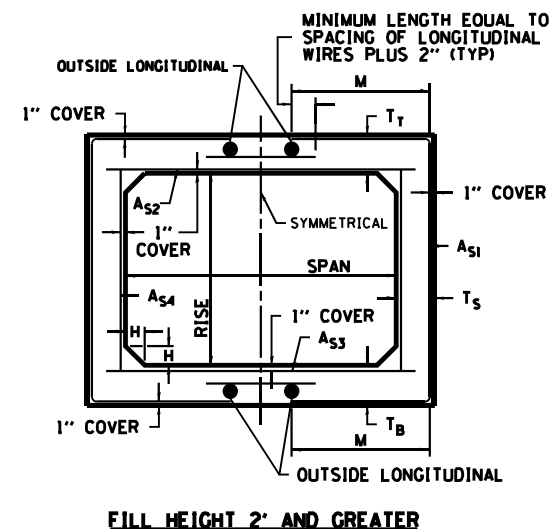
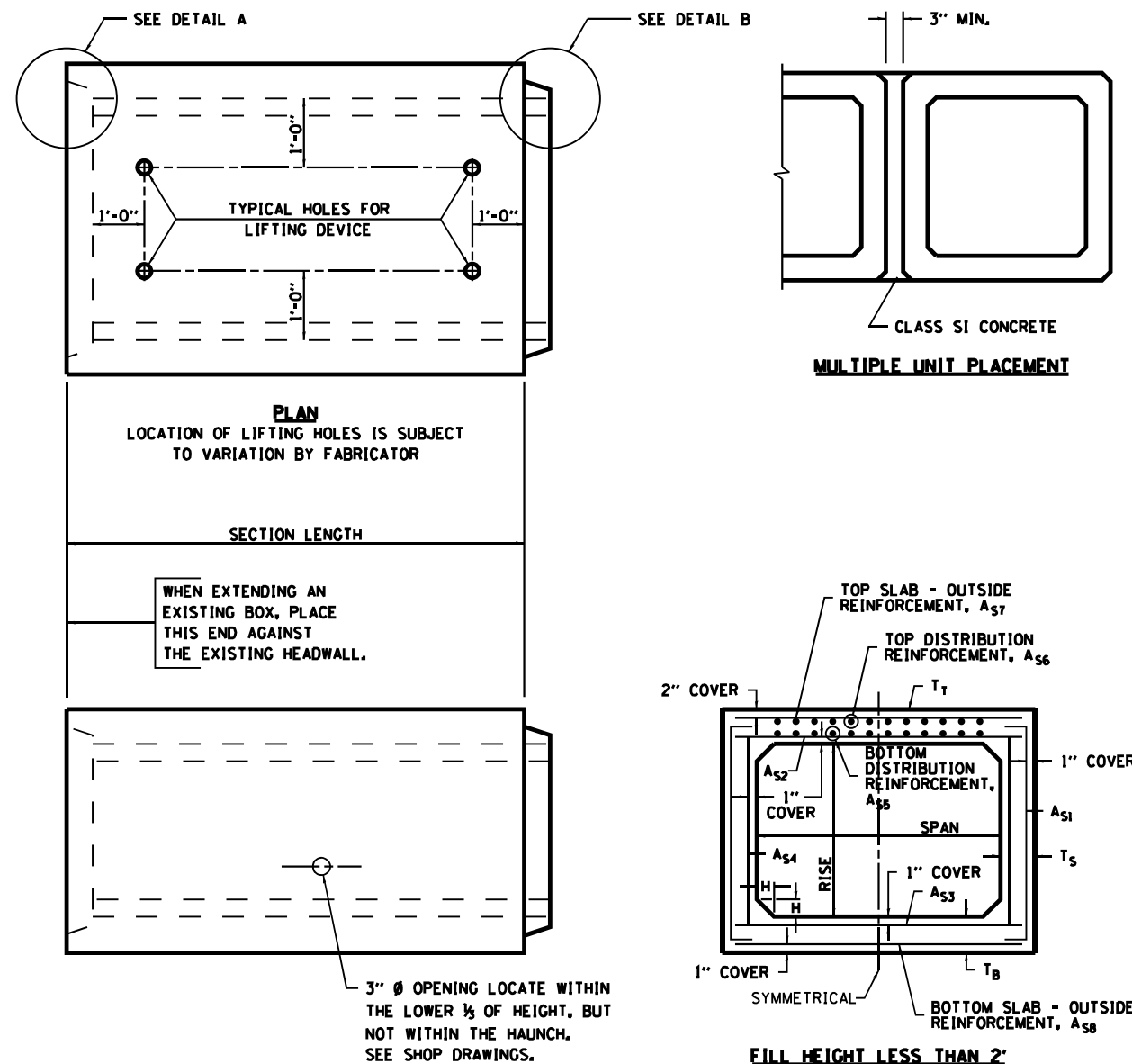
LIFTING HOLES SHALL BE FILLED IN ACCORDANCE WITH 540.06
OR PROJECT SPECIAL PROVISIONS.

DRAINAGE OPENINGS SHALL BE PROVIDED IN ACCORDANCE WITH ARTICLE 503.11 OF THE STANDARD SPECIFICATIONS. LOCATION AND SPACING OF THE OPENINGS SHALL BE SHOWN ON THE SHOP DRAWINGS.

DESIGN FILL HEIGHT (F):

MAXIMUM FILL HEIGHT ($f_{\max}$) AND MINIMUM FILL HEIGHT ($f_{\min}$)
ARE MEASURED BETWEEN THE EXTREME EDGES OF SHOULDER.

DESIGN FILL HEIGHTS APPLY TO ENTIRE CULVERT, INCLUDING
EXTENSIONS AND END SECTIONS.

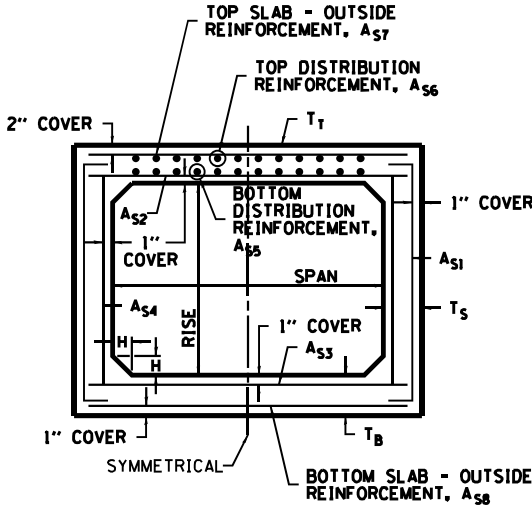


Standard Sizes							
Span (ft)	x	Rise (ft)	Design Earth Cover (ft)	Ts (in)	Tt (in)	Tb (in)	Max Earth Cover (ft)
3	x	2	0 < 2	4	7	6	N/A
3	x	2	≥ 2	4	4	4	35
3	x	3	0 < 2	4	7	6	N/A
3	x	3	≥ 2	4	4	4	35
4	x	2	0 < 2	5	7.5	6	N/A
4	x	2	≥ 2	5	5	5	30
4	x	3	0 < 2	5	7.5	6	N/A
4	x	3	≥ 2	5	5	5	30
4	x	4	0 < 2	5	7.5	6	N/A
4	x	4	≥ 2	5	5	5	30
5	x	3	0 < 2	6	8	7	N/A
5	x	3	≥ 2	6	6	6	30
5	x	4	0 < 2	6	8	7	N/A
5	x	4	≥ 2	6	6	6	30
5	x	5	0 < 2	6	8	7	N/A
5	x	5	≥ 2	6	6	6	30
6	x	3	0 < 2	7	8	7	N/A
6	x	3	≥ 2	7	7	7	30
6	x	4	0 < 2	7	8	7	N/A
6	x	4	≥ 2	7	7	7	30
6	x	5	0 < 2	7	8	7	N/A
6	x	5	≥ 2	7	7	7	30
6	x	6	0 < 2	7	8	7	N/A
6	x	6	≥ 2	7	7	7	30
7	x	4	≤ 30	8	8	8	30
7	x	5	≤ 30	8	8	8	30
7	x	6	≤ 30	8	8	8	30
7	x	7	≤ 30	8	8	8	30
8	x	4	≤ 20	8	8	8	20
8	x	5	≤ 20	8	8	8	20
8	x	6	≤ 20	8	8	8	20
8	x	7	≤ 20	8	8	8	20
8	x	8	≤ 20	8	8	8	20
9	x	5	≤ 25	9	9	9	25
9	x	6	≤ 25	9	9	9	25
9	x	7	≤ 20	9	9	9	20
9	x	8	≤ 20	9	9	9	20
9	x	9	≤ 20	9	9	9	20
10	x	5	≤ 25	10	10	10	25
10	x	6	≤ 25	10	10	10	25
10	x	7	≤ 25	10	10	10	25
10	x	8	≤ 20	10	10	10	20
10	x	9	≤ 20	10	10	10	20
10	x	10	≤ 20	10	10	10	20
11	x	4	≤ 25	11	11	11	25
11	x	6	≤ 25	11	11	11	25
11	x	8	≤ 25	11	11	11	25
11	x	10	≤ 20	11	11	11	20
11	x	11	≤ 20	11	11	11	20
12	x	4	≤ 25	12	12	12	25
12	x	6	≤ 25	12	12	12	25
12	x	8	≤ 25	12	12	12	25
12	x	10	≤ 25	12	12	12	25
12	x	12	≤ 20	12	12	12	20

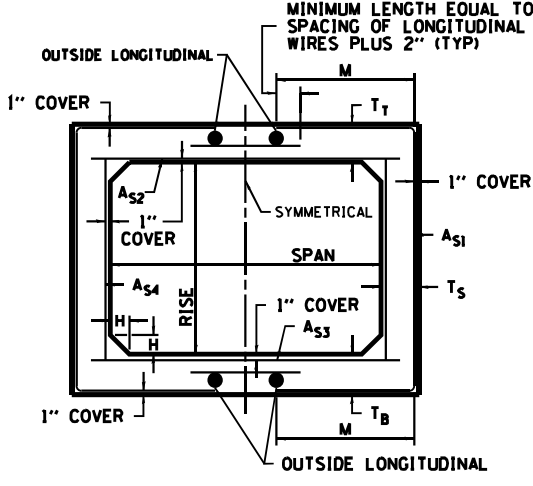
NOTE: Ts, Tt and Tb are minimums, per ASTM C1577.

- "T" MAY BE LARGER THAN SHOWN ON TABLE, PER ASTM C1577 SPECIFICATIONS.

DETAIL OF PRECAST CONCRETE BOX CULVERT END SECTION ASTM C1577



FILL HEIGHT LESS THAN 2'



FILL HEIGHT 2' AND GREATER

DESIGN LOADING:
COMBINED EARTH DEAD LOAD
AND AASHTO HL-93 LIVE LOAD

GENERAL NOTES

SHOP PLANS FOR THE REINFORCEMENT SHALL BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 540.06 OF THE STANDARD SPECIFICATIONS, AND THE CURRENT POLICY MEMORANDUM "QUALITY CONTROL/QUALITY ASSURANCE PROGRAM FOR PRECAST CONCRETE PRODUCTS."

MINIMUM CONCRETE STRENGTH SHALL BE 5000 PSI AFTER 28 DAYS.

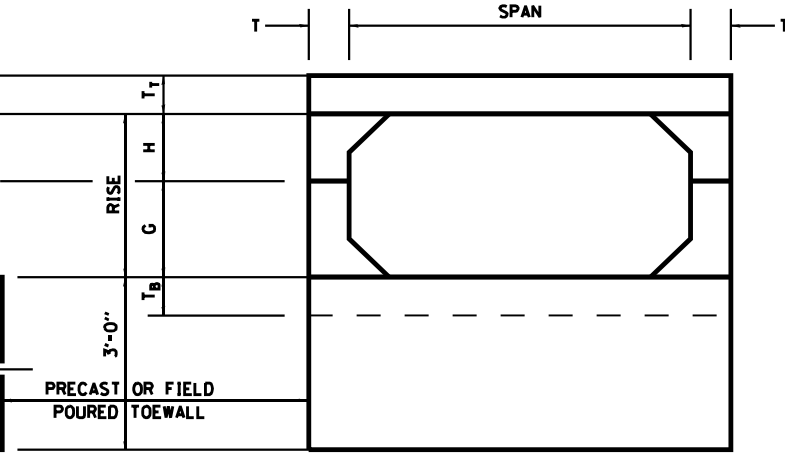
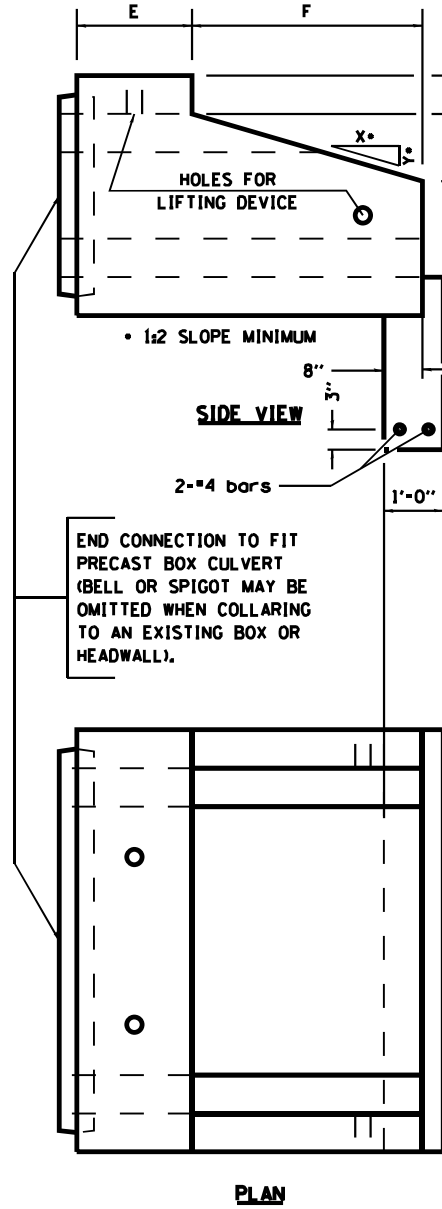
THE JOINTS OF THE PRECAST BOX SECTIONS SHALL BE SEALED IN ACCORDANCE WITH ARTICLE 540.06 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

THE TERMS As1, As2, As3, As4, As5, As6, As7, AND As8, DENOTE THE REQUIRED STEEL AREAS FOR REINFORCEMENT AS SPECIFIED IN ASTM C1577. REINFORCEMENT SHALL BE WELDED WIRE FABRIC CONFORMING TO AASHTO SPECIFICATIONS M55 (A185) OR M221 (A497), OR REINFORCEMENT BARS, GRADE 60, CONFORMING TO A706.

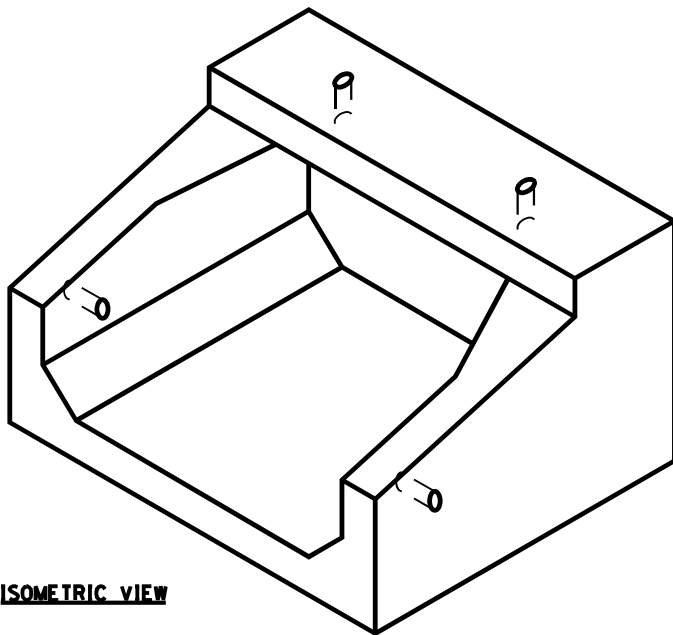
LIFTING HOLES SHALL BE FILLED IN ACCORDANCE WITH 540.06 OR PROJECT SPECIAL PROVISIONS.

DESIGN FILL HEIGHT (F):

MAXIMUM FILL HEIGHT (fmax) AND MINIMUM FILL HEIGHT (fmin) ARE MEASURED BETWEEN THE EXTREME EDGES OF SHOULDER. DESIGN FILL HEIGHTS APPLY TO ENTIRE CULVERT, INCLUDING EXTENSIONS AND END SECTIONS.



END VIEW



ISOMETRIC VIEW

Standard Sizes							
Span (ft)	x	Rise (ft)	Design Earth Cover (ft)	Ts (in)	Tt (in)	Tb (in)	Max Earth Cover (ft)
3	x	2	0 < 2	4	7	6	N/A
3	x	2	≥ 2	4	4	4	35
3	x	3	0 < 2	4	7	6	N/A
3	x	3	≥ 2	4	4	4	35
4	x	2	0 < 2	5	7.5	6	N/A
4	x	2	≥ 2	5	5	5	30
4	x	3	0 < 2	5	7.5	6	N/A
4	x	3	≥ 2	5	5	5	30
4	x	4	0 < 2	5	7.5	6	N/A
4	x	4	≥ 2	5	5	5	30
5	x	3	0 < 2	6	8	7	N/A
5	x	3	≥ 2	6	6	6	30
5	x	4	0 < 2	6	8	7	N/A
5	x	4	≥ 2	6	6	6	30
5	x	5	0 < 2	6	8	7	N/A
5	x	5	≥ 2	6	6	6	30
6	x	3	0 < 2	7	8	7	N/A
6	x	3	≥ 2	7	7	7	30
6	x	4	0 < 2	7	8	7	N/A
6	x	4	≥ 2	7	7	7	30
6	x	5	0 < 2	7	8	7	N/A
6	x	5	≥ 2	7	7	7	30
6	x	6	0 < 2	7	8	7	N/A
6	x	6	≥ 2	7	7	7	30
7	x	4	≤ 30	8	8	8	30
7	x	5	≤ 30	8	8	8	30
7	x	6	≤ 30	8	8	8	30
7	x	7	≤ 30	8	8	8	30
8	x	4	≤ 20	8	8	8	20
8	x	5	≤ 20	8	8	8	20
8	x	6	≤ 20	8	8	8	20
8	x	7	≤ 20	8	8	8	20
8	x	8	≤ 20	8	8	8	20
9	x	5	≤ 25	9	9	9	25
9	x	6	≤ 25	9	9	9	25
9	x	7	≤ 20	9	9	9	20
9	x	8	≤ 20	9	9	9	20
9	x	9	≤ 20	9	9	9	20
10	x	5	≤ 25	10	10	10	25
10	x	6	≤ 25	10	10	10	25
10	x	7	≤ 25	10	10	10	25
10	x	8	≤ 20	10	10	10	20
10	x	9	≤ 20	10	10	10	20
10	x	10	≤ 20	10	10	10	20
11	x	4	≤ 25	11	11	11	25
11	x	6	≤ 25	11	11	11	25
11	x	8	≤ 25	11	11	11	25
11	x	10	≤ 20	11	11	11	20
11	x	11	≤ 20	11	11	11	20
12	x	4	≤ 25	12	12	12	25
12	x	6	≤ 25	12	12	12	25
12	x	8	≤ 25	12	12	12	25
12	x	10	≤ 25	12	12	12	25
12	x	12	≤ 20	12	12	12	20

NOTE: Ts, Tt and Tb are minimums, per ASTM C1577.

• "T" MAY BE LARGER THAN SHOWN ON TABLE, PER ASTM C1577 SPECIFICATIONS.

DENCLIMARK:
BM 352: Brass disk in top of concrete parapet on the SE corner of SN 015-0052 on northbound I-57 over bike trail;
Sta. 807180, 68' right, Elev. 741.38

EXISTING STRUCTURES:

SN 015-0051 (SB) and SN 015-0052 (NB) were originally constructed in 1965 as F.A.I. Route 57, Section 15-22VB-1. In 2000, the concrete deck, wingwalls and bearings at the abutments were replaced on both structures as F.A.I. Route 57, Section 15-22(HB,VB-1,HB-5)BR. Each three-span structure consists of a concrete deck made composite (positive moment regions only) with continuous rolled W27 steel beams supported by stub abutments and multi-column piers with crashwalls. Abutments are founded on concrete piles and piers are founded on treated timber piles. Each structure is 141'-5" back to back of abutments, 44' 7½" out to out of deck and skewed 6° 35' 35" right forward.

NOTES:

- No Salvage.
Lincoln Prairie Grass (Bike) Trail to be closed during construction. Interstate traffic to be maintained utilizing median crossovers.
A lighting/security system is required inside the culvert. See Lighting plans.

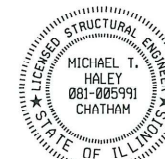
LOADING HL-93
Allow 50 psf for future wearing surface

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

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi (concrete)
fy = 60,000 psi (reinforcement)

INDEX OF SHEETS

1. General Plan
- 2-3. General Data
4. Stage Construction Details
- 5-6. Culvert Details
7. Bicycle Railing Details
- 8-10. Soil Boring Logs

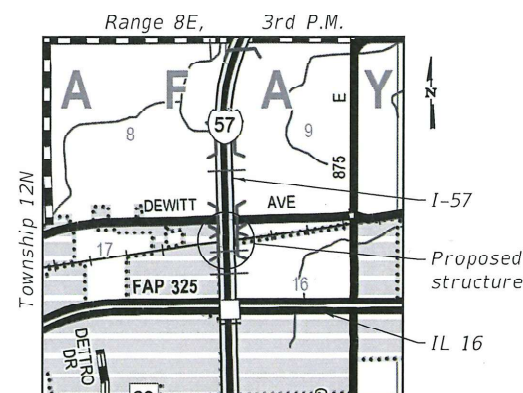


Michael T. Haley 10/23/2023

Michael T. Haley
Licensed Structural Engineer
State of Illinois No. 081-005991
Expires 11/30/2024

APPROVED
For Structural Adequacy Only

James F. Schaff
Engineer of Bridges & Structures



LOCATION SKETCH

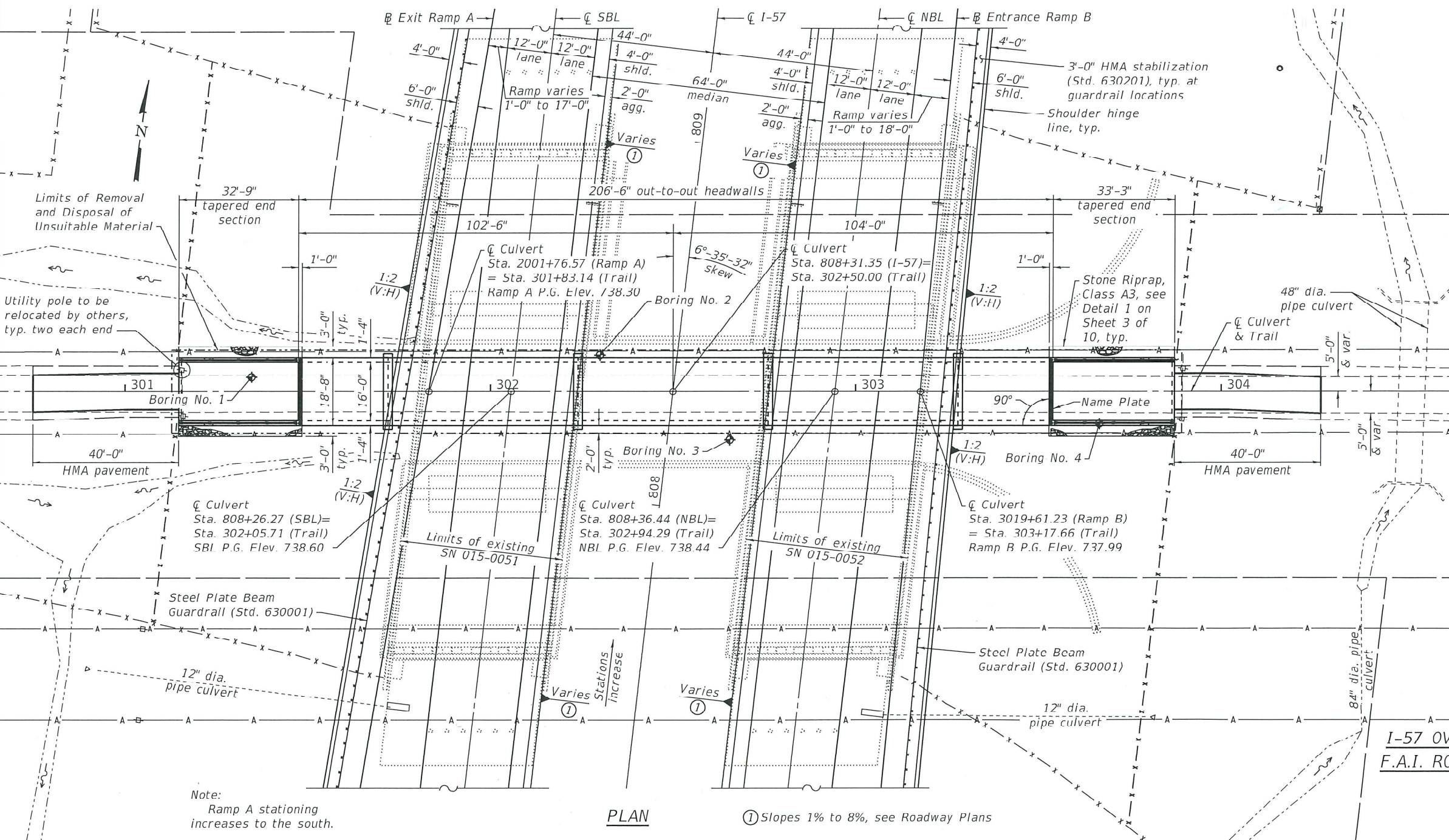
GENERAL PLAN

I-57 OVER LINCOLN PRAIRIE GRASS (BIKE) TRAIL
F.A.I. ROUTE 57 - SECTION (15-22HB-4)BR(15-22)R

COLES COUNTY

STATION 808+31.35

STRUCTURE NO. 015-2026



Note:
Ramp A stationing
increases to the south.

PLAN

① Slopes 1% to 8%, see Roadway Plans

LIN ENGINEERING, LTD.
Consulting Engineers
Springfield, Illinois

USER NAME	DESIGNED - NB	REVISED -
PLOT SCALE	CHECKED - CZ	REVISED -
PLOT DATE	DRAWN - AJF	REVISED -
	CHECKED - MTH	REVISED -

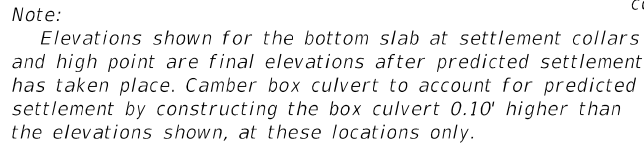
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	651
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

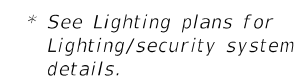
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FILE NAME: T:\Project\DOT\1343-08_74435\client\out\Lin\2023-09-XX_ESCA_revised structure plans for Lin review\Lin culvert files\015-2026\CADD_Sheets\0152026-74435-001-SPE.dgn
9/25/2023 8:21:11 AM

Dimensions @ right
angle to ζ I-57



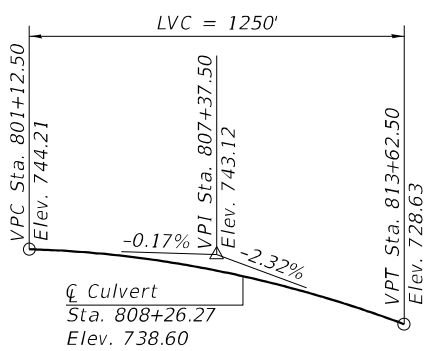
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presense of lead on this project.

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	1,442
Stone Riprap, Class A3	Sq. Yd.	52
Filter Fabric	Sq. Yd.	52
Removal of Existing Structures No. 3	Each	1
Removal of Existing Structures No. 4	Each	1
Slope Wall Removal	Sq. Yd.	1,477
Reinforcement Bars	Pound	176,150
Bicycle Railing	Foot	179
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	951.5
Geocomposite Wall Drain	Sq. Yd.	1,433
Pipe Underdrains for Structures 6"	Foot	700
Membrane Waterproofing System for Buried Structures	Sq. Yd.	469.5
Rock Fill - Replacement	Cu. Yd.	929

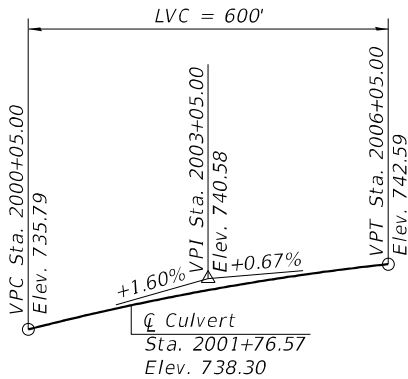


(Sheet 1 of 2)

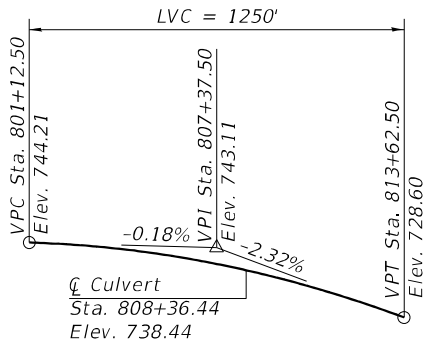
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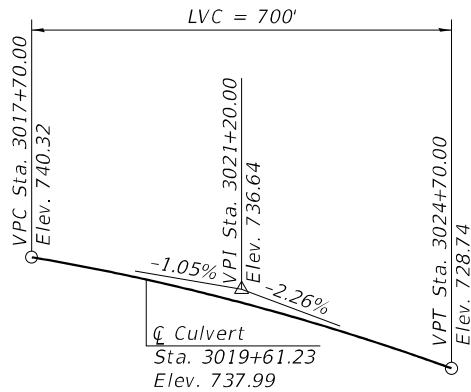
I-57 SBL PROFILE GRADE
(Along ζ lanes)



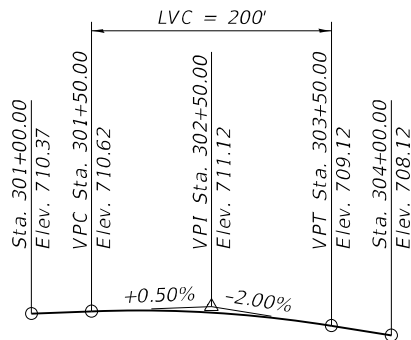
I-57 RAMP A PROFILE GRADE
(Along ζ ramp)



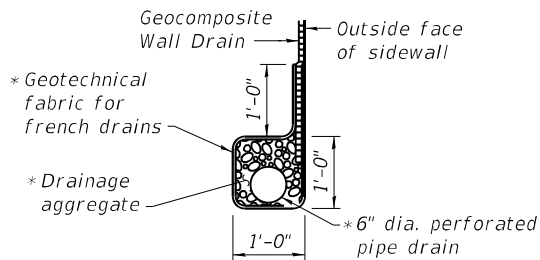
I-57 NBL PROFILE GRADE
(Along ζ lanes)



I-57 RAMP B PROFILE GRADE
(Along ζ ramp)



LINCOLN PRAIRIE GRASS (BIKE) TRAIL
PROFILE GRADE
(Along ζ trail)



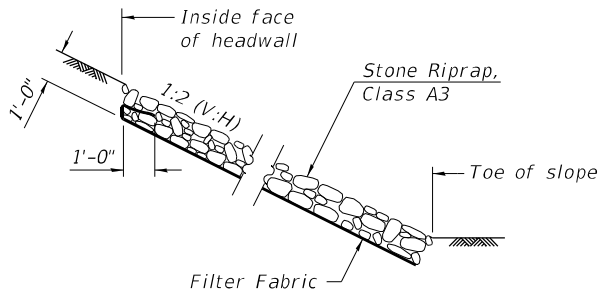
PIPE UNDERDRAIN DETAIL

Note:
All drainage system components shall extend to 2'-0" from the end of each end section except an outlet pipe shall extend until intersecting with the side slopes of the ditches. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

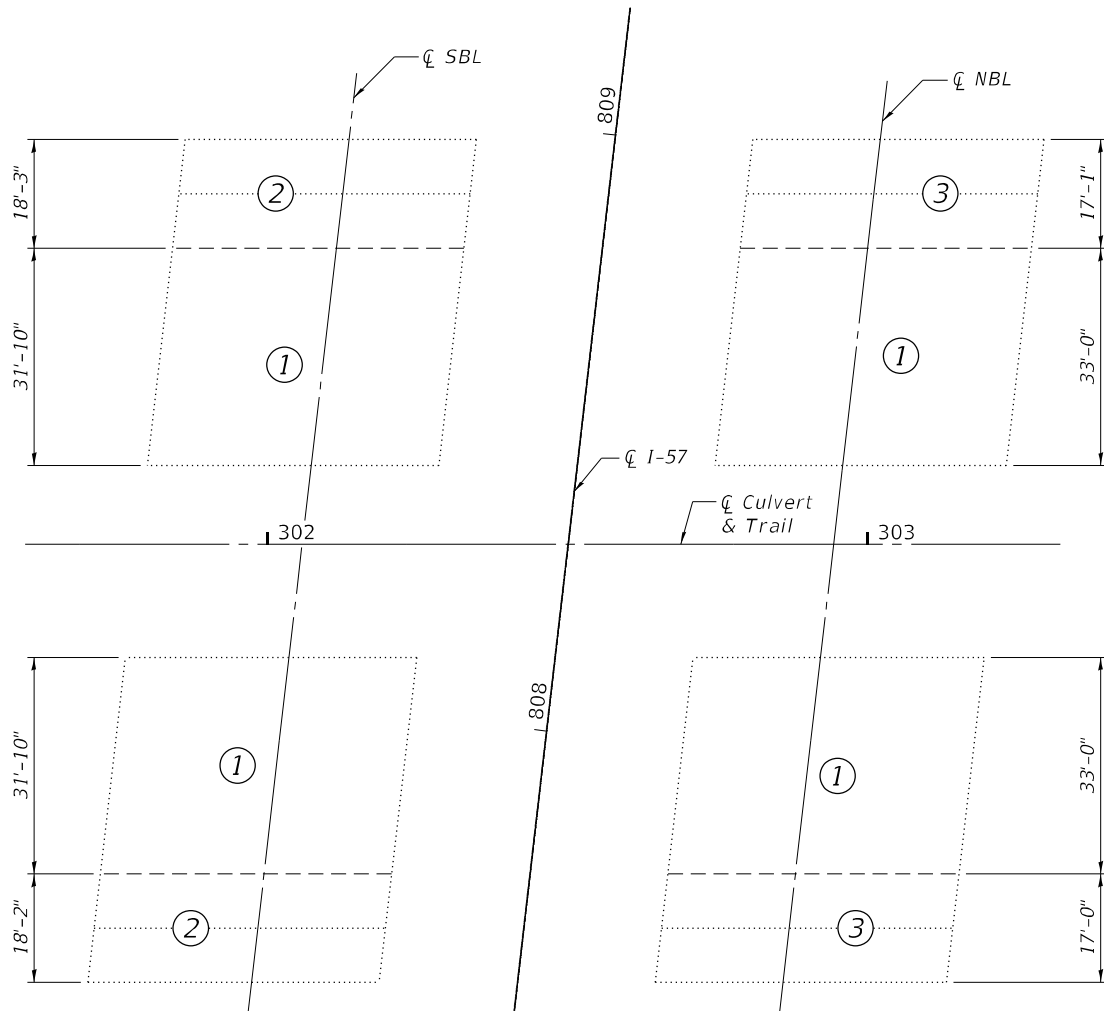
*Included in the cost of Pipe Underdrains for Structures 6".

STATION 808+31.35
BUILT 20 BY
STATE OF ILLINOIS
F.A.I. RT. 57 SEC. (15-22HB-4)BR(15-22)R
LOADING HL-93
STRUCTURE NO. 015-2026

NAME PLATE
See Std. 515001



DETAIL 1



SLOPE WALL REMOVAL SKETCH

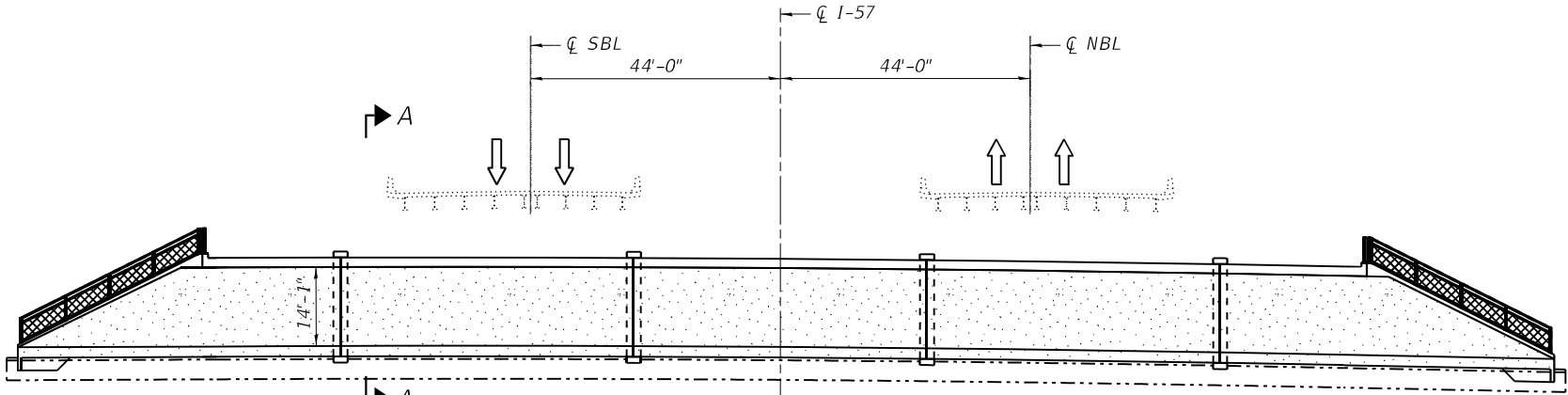
- ① Limits of Stage I removal
- ② Limits of Stage II removal
- ③ Limits of Stage III removal

(Sheet 2 of 2)

E LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois	USER NAME = _____		DESIGNED - NB		REVISED - _____		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA STRUCTURE NO. 015-2026					F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = _____		CHECKED - CZ		REVISED - _____			57	(15-22HB-4)BR(15-22)R		COLES	1086	653				
	PLOT DATE = 8/21/2024		DRAWN - AJF		REVISED - _____			CONTRACT NO. 74435									
			CHECKED - MTH		REVISED - _____			ILLINOIS FED. AID PROJECT									
SHEET 3 OF 10 SHEETS																	

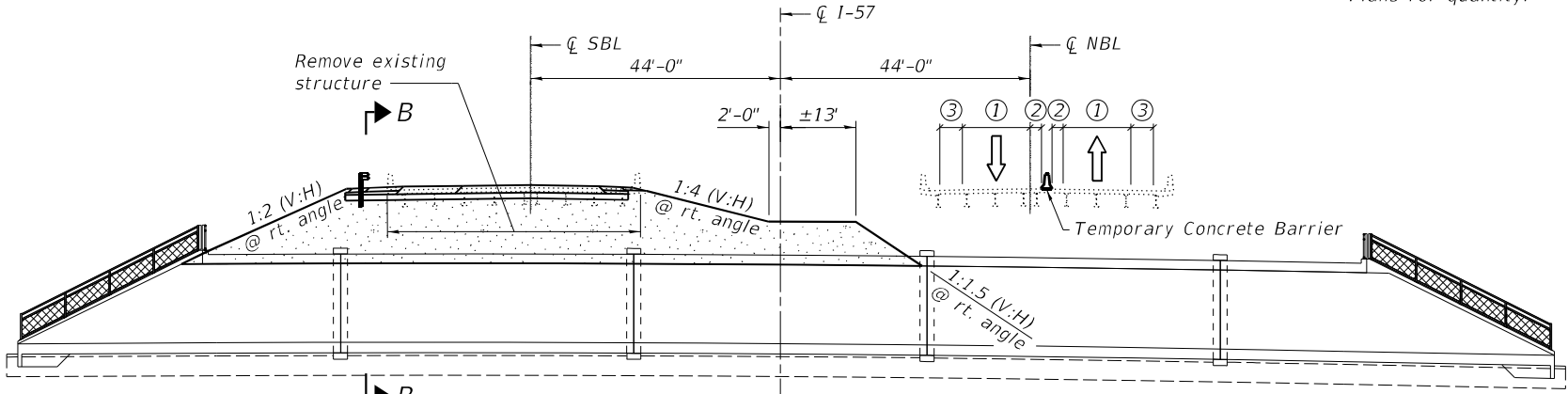
MONITORING OF EXISTING STRUCTURES:

The existing structures shall be monitored during construction of the box culvert and placement of embankment. The Engineer shall establish control points on each end of each existing pier prior to the start of box culvert construction. The Engineer shall monitor the control points daily during the period when embankment is being placed adjacent to or under the bridges. After embankment construction is completed, control points shall be monitored at least once per week as long as traffic is using the existing structures. Settlement or movement of a control point exceeding 1" in any direction will require closing the affected structure to traffic. In the event of an emergency closure, it shall be the Contractor's responsibility to set up a detour on an approved route, and the work will be paid for according to Article 109.04.



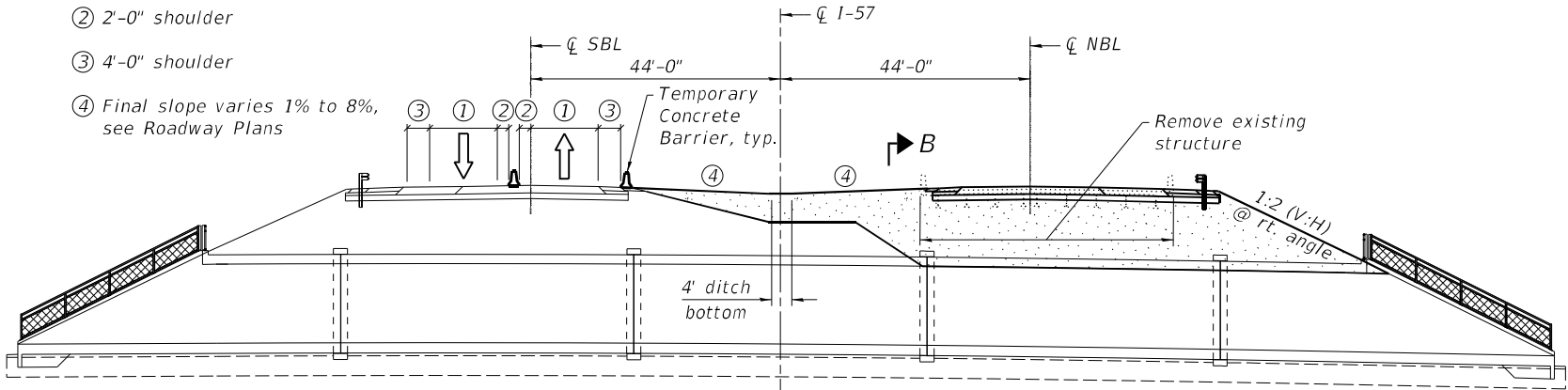
STAGE I
(Looking north)
(All lanes open to traffic)

Patterned areas indicate limits of embankment placed beside and on top of new box culvert. See Roadway Plans for quantity.

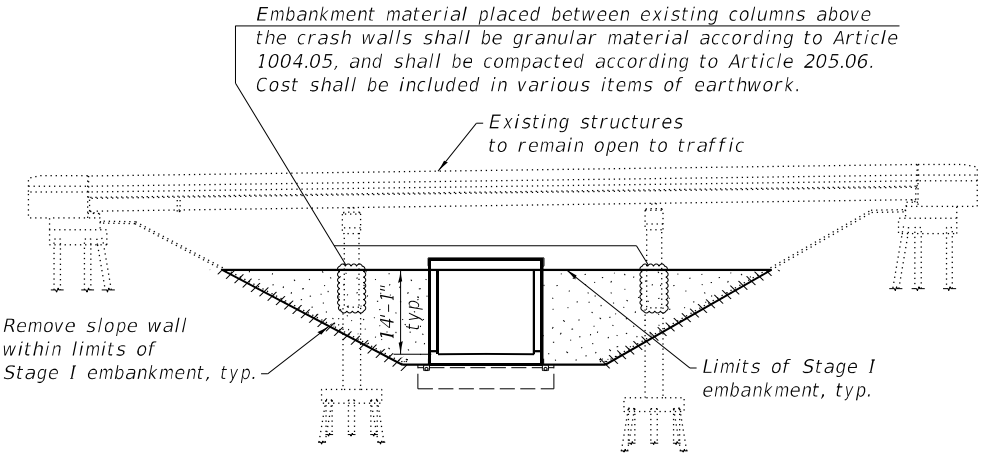


STAGE II
(Looking north)
(SB lanes closed, two-way traffic on NB lanes)

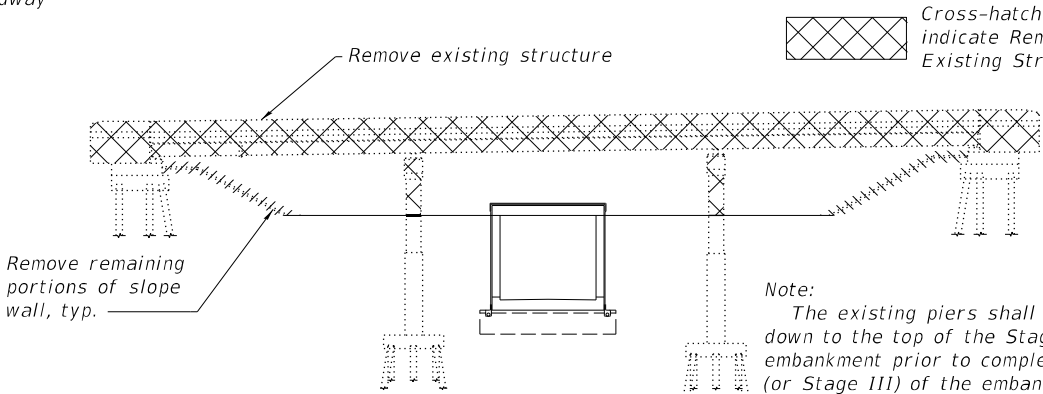
- 1 12'-0" traffic lane
- 2 2'-0" shoulder
- 3 4'-0" shoulder
- 4 Final slope varies 1% to 8%, see Roadway Plans



STAGE III
(Looking north)
(NB lanes closed, two-way traffic on SB lanes)

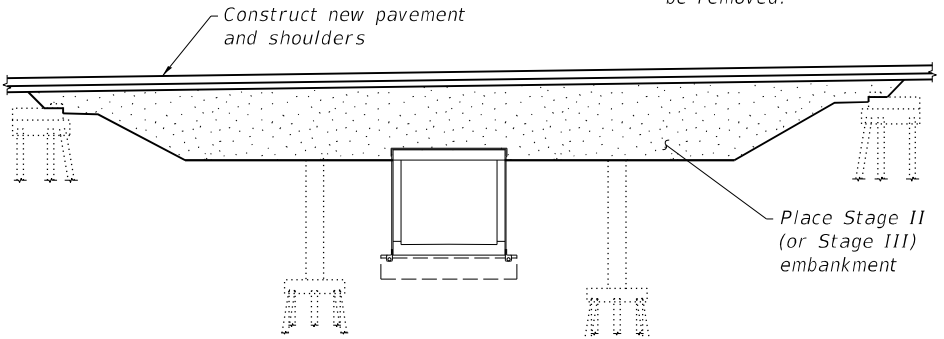


SECTION A-A



SECTION B-B
(Showing removal)

Note:
The existing piers shall be removed down to the top of the Stage I embankment prior to completing Stage II (or Stage III) of the embankment. Existing abutment wing walls and backwalls shall be removed down to the abutment seats. Abutment caps shall be left in place. Existing slope walls shall be removed.



SECTION B-B
(Showing construction)

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8/21/2024 11:38:53 AM

LINE ENGINEERING, LTD.
Consulting Engineers
Springfield, Illinois

USER NAME =	DESIGNED - NB	REVISED -
PLOT SCALE =	CHECKED - CZ	REVISED -
PLOT DATE = 8/21/2024	DRAWN - AJF	REVISED -
	CHECKED - MTH	REVISED -

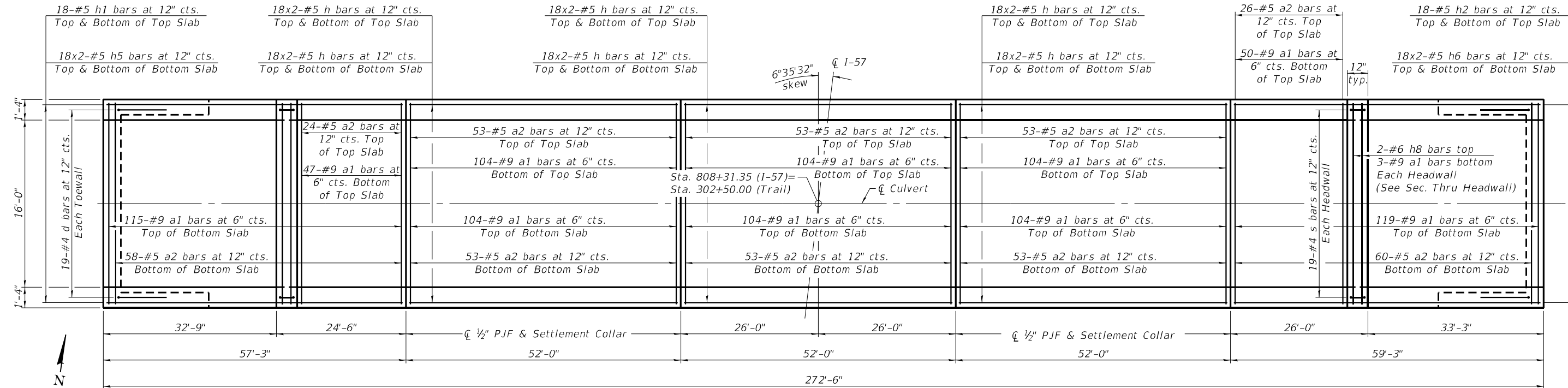
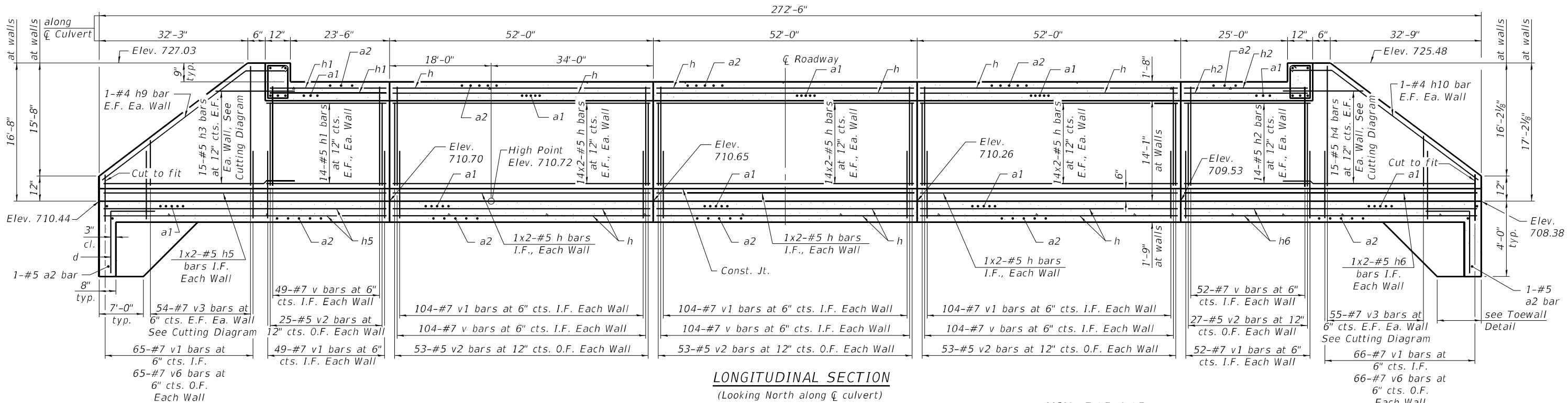
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 015-2026

SHEET 4 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	654
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

MODEL: Default
FILE NAME: Y:\DOT\1343-08_74435\CLIENT\SP SN 015-2026\CADD_Sheets\0152026-74435-005-Culvert_Details.dgn



Notes:
Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.
At the Contractor's option, a longer v1 bar may be ordered to replace the v bar. No reduction in quantities shall be made for this substitution.
See sheet 6 of 10 for Sections, bar bend details, bill of material, and Settlement Collar details.
Settlement collars not shown for clarity.

Note:
Elevations shown for the bottom slab at settlement collars and high point are final elevations after predicted settlement has taken place. Camber box culvert to account for predicted settlement by constructing the box culvert 0.10' higher than the elevations shown, at these locations only.

(Sheet 1 of 2)



USER NAME =	DESIGNED - NB	REVISED -
CHECKED - CZ	REVISED -	
PLOT SCALE =	DRAWN - AJF	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTH	REVISED -

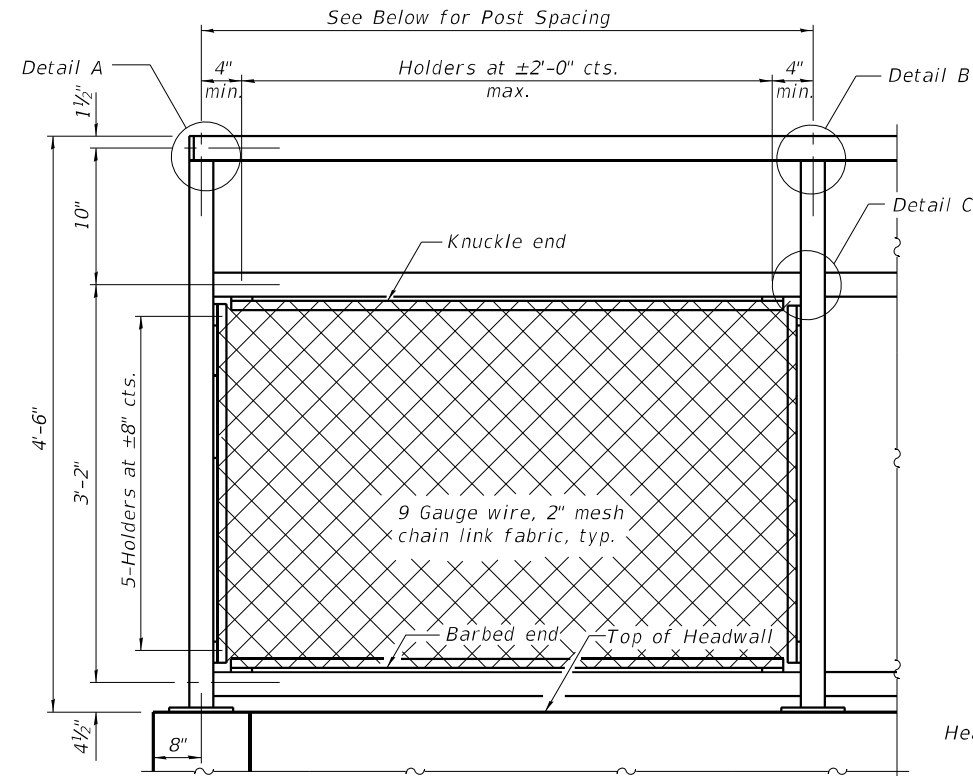
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT DETAILS
STRUCTURE NO. 015-2026

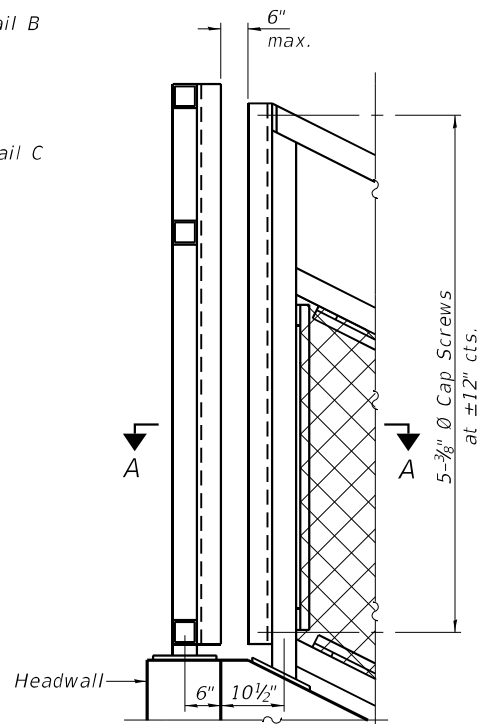
SHEET 5 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74435				
ILLINOIS FED.AID PROJECT				

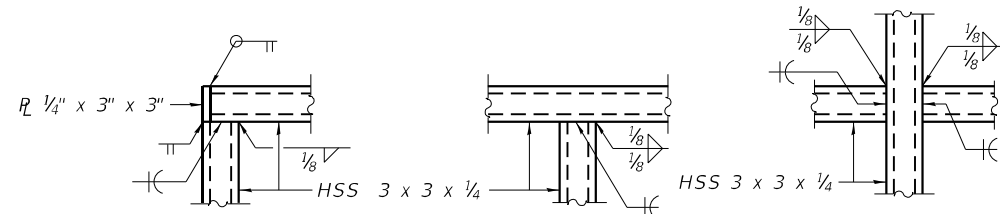
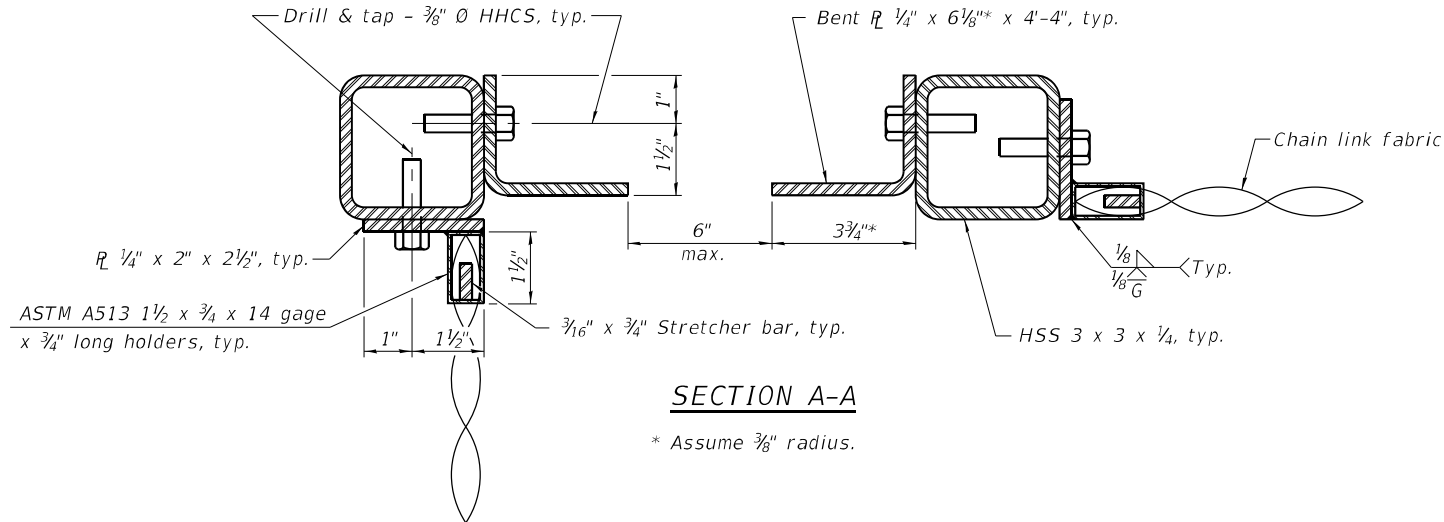
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BICYCLE RAILING



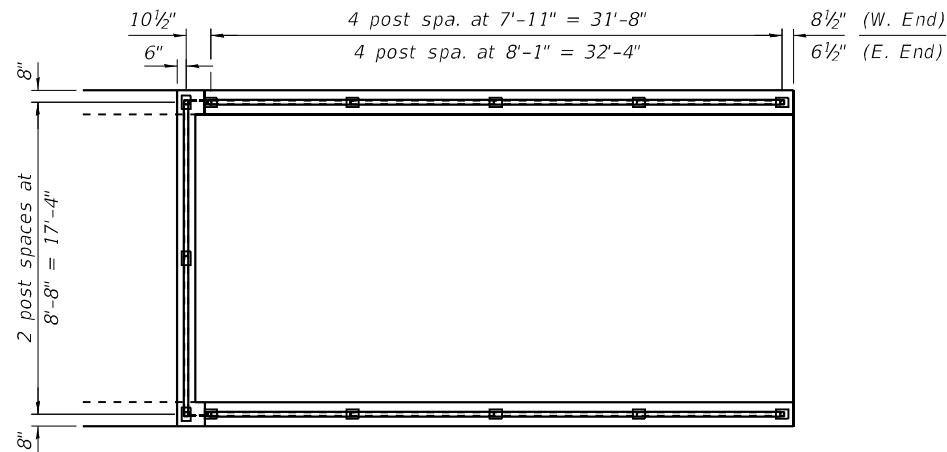
BICYCLE RAILING AT CORNER



DETAIL A

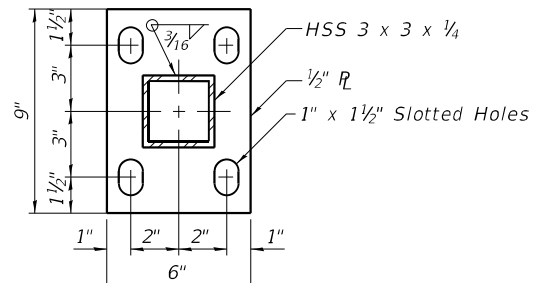
DETAIL B

DETAIL C

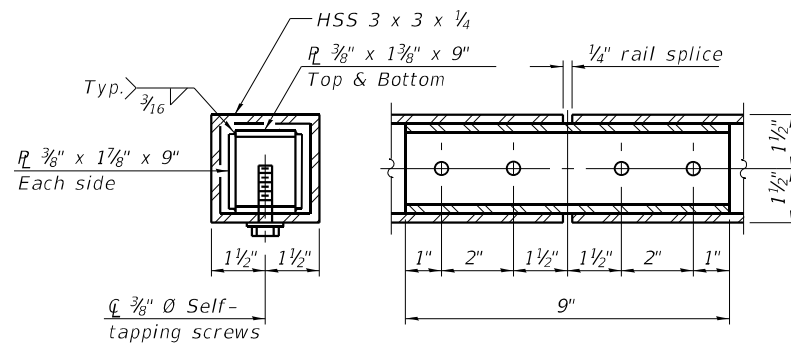


RAIL POST LAYOUT

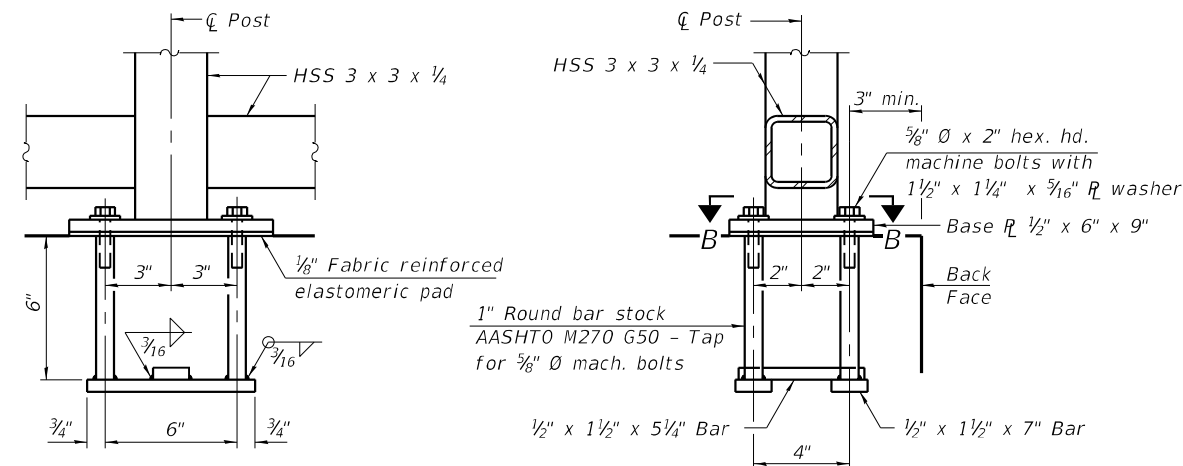
(at Each End of Culvert)
(Measured along horizontal line)



SECTION B-B



RAIL SPLICE



ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting $\frac{5}{8}" \emptyset$ 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
Bicycle Railing	Foot	179

RAILING CRITERIA

Bicycle Railing Weight (plf)	50
Max Post Spacing	10'-0"

Notes:
Place reinforcement bars to miss anchor rod locations.
CVN testing is not required for the HSS tubing used in the Bicycle Railing.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
All posts shall be vertical. Rails shall follow slope of end section walls.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BICYCLE RAILING DETAILS
STRUCTURE NO. 015-2026

SHEET 7 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	657
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

Page 1 of 2

Date 8/1/19

ROUTE FAI Route 57 DESCRIPTION I-57 over Lincoln Prairie Grass Bike Trail LOGGED BY: Sandschafer

SECTION 15-22VB-1 LOCATION 200' North of IL 16 in Mattoon, SEC. 16, TWP. 12N, RNG. 8E, 3rd PM, _____
Latitude 39.489732, Longitude -88.322466

COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-00)

Page 2 of 2

Date 8/1/19

ROUTE FAI Route 57 DESCRIPTION I-57 over Lincoln Prairie Grass Bike Trail LOGGED BY: Sandschafer

SECTION 15-22VB-1 LOCATION 200' North of IL 16 in Mattoon, SEC. 16, TWP. 12N, RNG. 8E, 3rd PM.
Latitude 39.489732, Longitude -88.322466

COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 1 of 2Date 8/13/19

ROUTE FAI Route 57 DESCRIPTION I-57 over Lincoln Prairie Grass Bike Trail LOGGED BY E. Sandschafe

SECTION	15-22VB-1	LOCATION	200' North of IL 16 in Mattoon, SEC. 16, TWP. 12N, RNG. 8E, 3 rd PM, Latitude 39.489777, Longitude -88.322144
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COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

MODEL: Default



USER NAME = _____	DESIGNED - NB	REVISED - _____
	CHECKED - CZ	REVISED - _____
PLOT SCALE = _____	DRAWN - AJF	REVISED - _____
PLOT DATE = 8/21/2024	CHECKED - MTH	REVISED - _____

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SOIL BORING LOGS
STRUCTURE NO. 015-2026

SHEET 8 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	658
		CONTRACT NO. 74435		
ILLINOIS		FED. AID PROJECT		

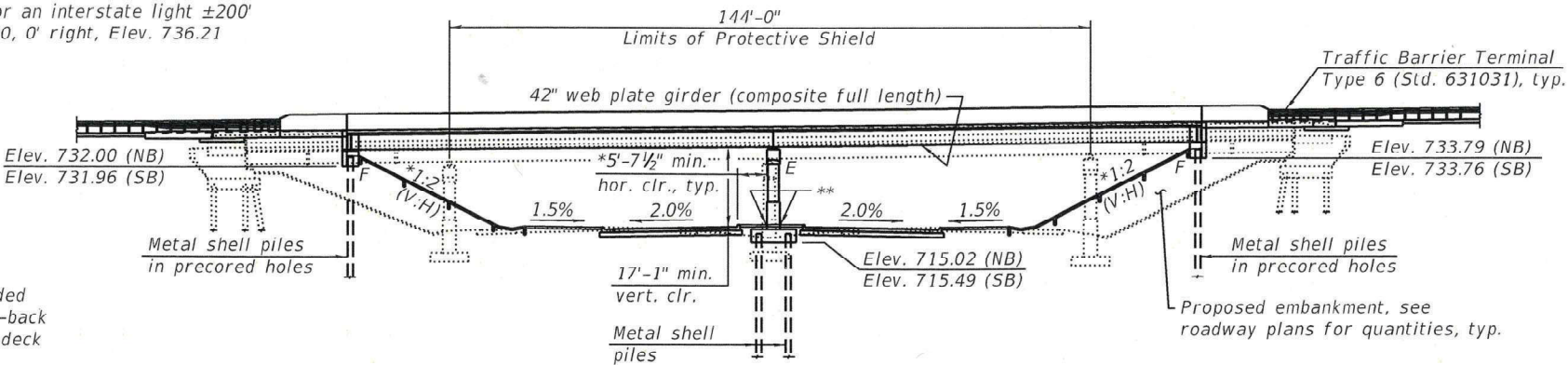
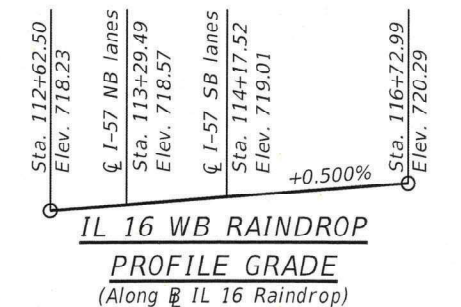
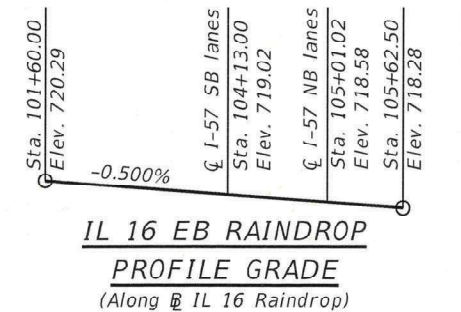
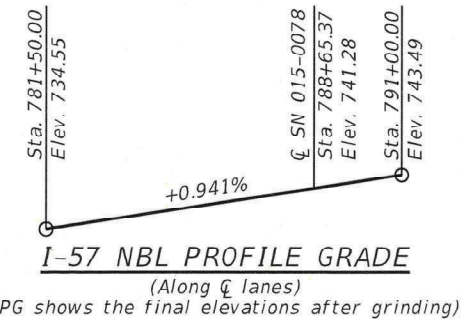
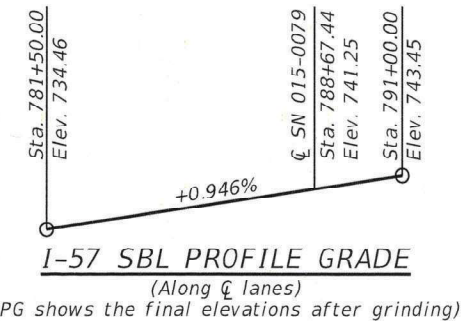
(Sheet 1 of 3)

8/21/2024 11:45:10 AM

BENCHMARK:
BM #300: Chiseled "X" on the north bolt of a light base for an interstate light $\pm 200'$ south of IL 16 in the center of the interstate; Station 786+50, 0' right, Elev. 736.21

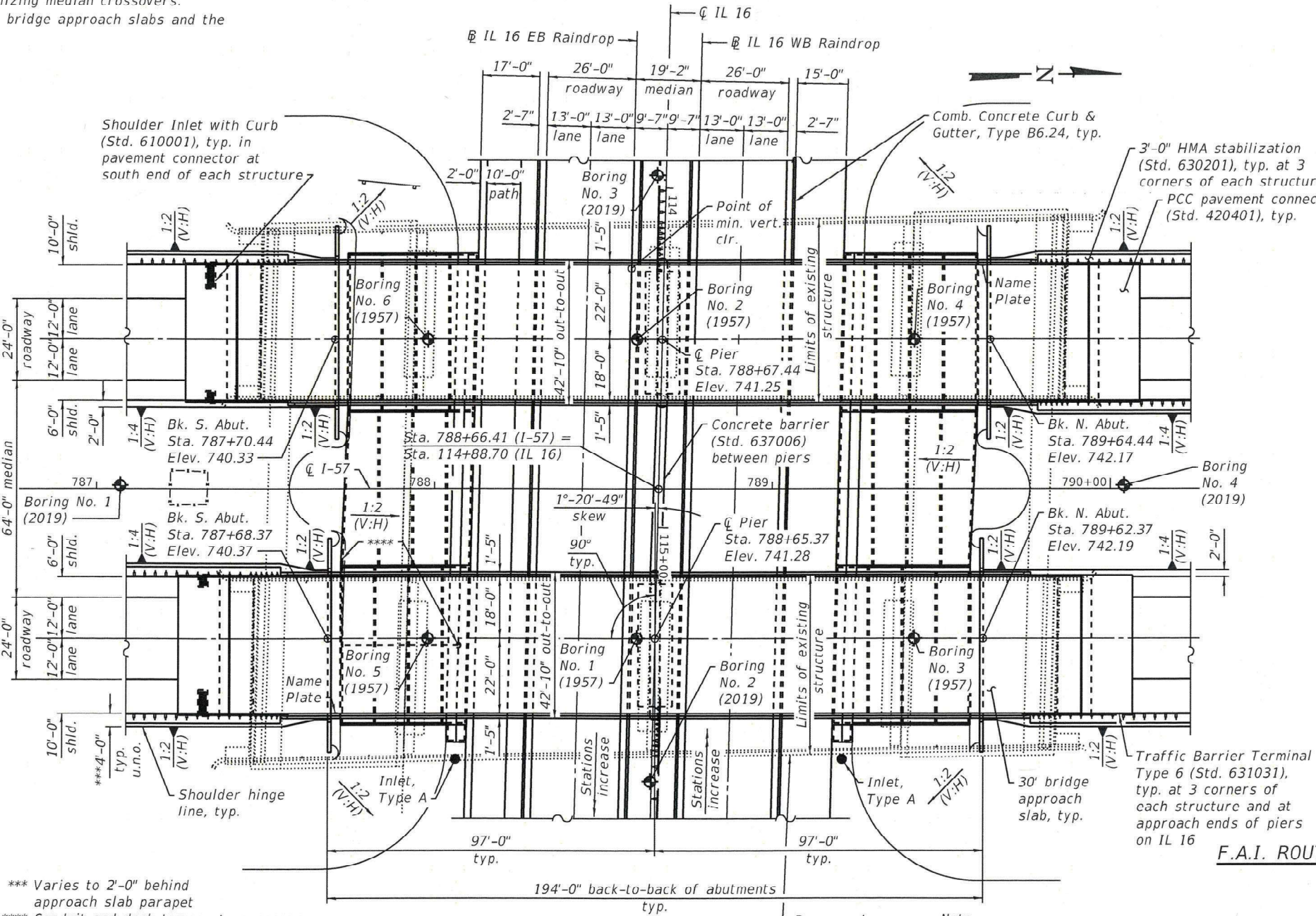
EXISTING STRUCTURES:
SN 015-0005 (NB) and SN 015-0006 (SB) were originally constructed in 1963 as F.A.I. Route 57, Section 15-22HB-4. In 1989, concrete parapets were replaced, deck was patched and overlaid, and expansion joints at the abutments were reconstructed on both structures as F.A.I. Route 57, Section 15-22HB-4-I. Each four-span structure consists of a concrete deck supported on non-composite continuous rolled W36 steel beams supported by stub abutments and multi-column piers with crashwalls. Abutments are founded on concrete piles and piers are founded on spread footings on soil. Each structure is 237'-8" back-to-back of abutments and skewed 1°-23'-50" left forward. Out-to-out deck width varies from 51'-5" to 55'-5" on each structure.

NOTES:
No Salvage.
At least one lane of traffic in each direction to be maintained on IL 16 during construction. Interstate traffic to be maintained utilizing median crossovers.
Up to $\frac{1}{4}$ " may be ground off the bridge deck, the bridge approach slabs and the pavement connectors.



ELEVATION
(SN 015-0078 shown, SN 015-0079 similar)

* At right angle to $\bar{C}$ IL 16
** Elev. 719.20 & varies (NB),
Elev. 719.66 & varies (SB)



PLAN

*** Varies to 2'-0" behind approach slab parapet
**** Conduit and deck temperature sensor for Roadway Weather Information System, see Roadway Plans for details and actual locations.

LOADING HL-93
Allow 50 psf for future wearing surface

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

DESIGN STRESSES
FIELD UNITS

$f'_c = 3,500$ psi (substructure concrete)
 $f'_c = 4,000$ psi (superstructure concrete)
 $f_y = 50,000$ psi (AASHTO M270, Grade 50)
 $f_y = 60,000$ psi (reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.176 g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.360 g
Site Soil Class = D

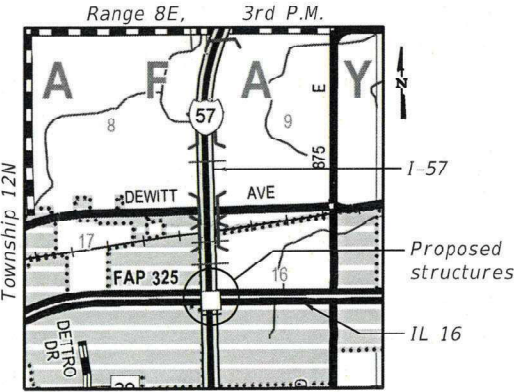
APPROVED
For Structural Adequacy Only
Michael T. Dooley
Engineer of Bridges & Structures



EXPIRES 11-30-24

Michael T. Dooley
SIGNATURE

10-19-2023
DATE



LOCATION SKETCH

GENERAL PLAN & ELEVATION
I-57 OVER IL 16

F.A.I. ROUTE 57 - SECTION (15-22HB-4)BR(15-22)R

COLES COUNTY

STATION 788+66.41

STRUCTURE NO. 015-0078 (NB)

STRUCTURE NO. 015-0079 (SB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	661
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 41 SHEETS

GENERAL NOTES

1. Fasteners shall be ASTM F3125 Grade A325 Type 1, hot-dip galvanized bolts in metallized areas. Bolts 7/8 in. diameter, holes 15/16 in. diameter, unless otherwise noted. See Special Provision for "Metallizing of Structural Steel."

2. Calculated weight of Structural Steel = 438,640 lbs. (Grade 50)
= 39,120 lbs. (Grade 36)

3. No field welding is permitted except as specified in the contract documents.

4. Reinforcement bars designated (E) shall be epoxy coated.

5. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

6. A film forming Concrete Sealer shall be applied to the designated areas of the piers.

7. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to address the presence of lead on this project.

8. All structural steel shall be metallized. See Special Provision for "Metallizing of Structural Steel."

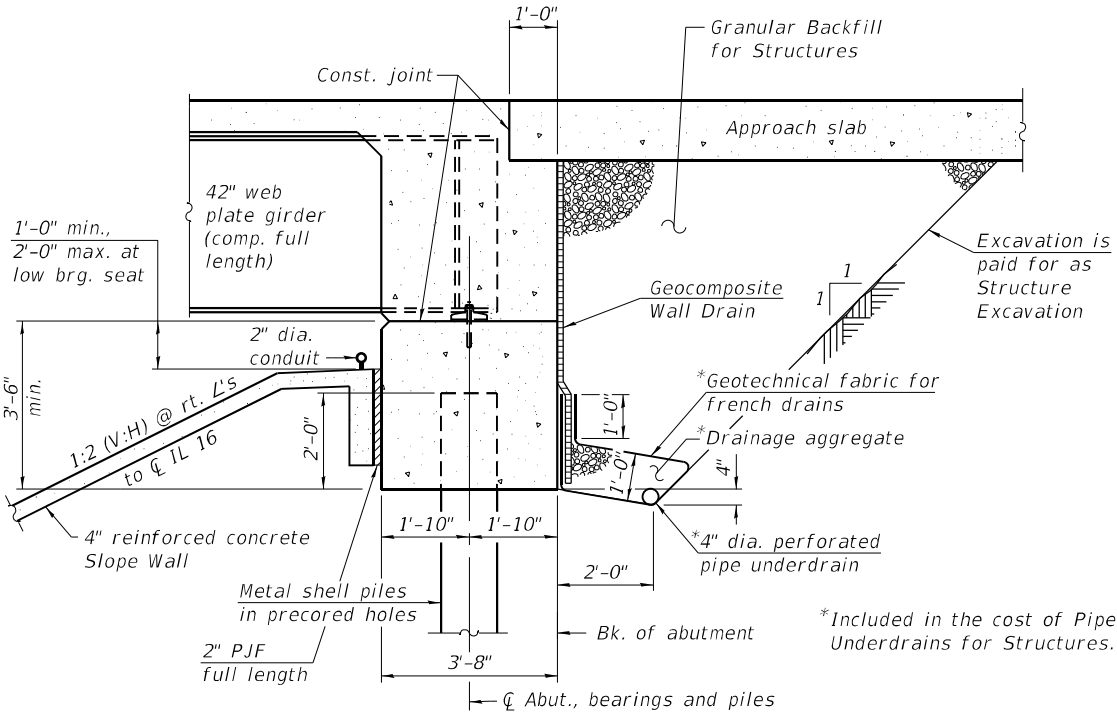
9. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

10. Removal of SN 015-0006 (SB) will be paid for as Removal of Existing Structures No. 1, and removal of SN 015-0005 (NB) will be paid for as Removal of Existing Structures No. 2. Removal of the sign panel assembly supported on the east side of SN 015-0005 (NB) is included in the cost of Removal of Existing Structures No. 2.

11. Cost of slope wall removal included in Removal of Existing Structures.

12. Two-way interstate traffic will be carried on the existing northbound structure (SN 015-0005) during construction of the proposed southbound structure (SN 015-0079). Two-way interstate traffic will then be carried on the new southbound structure (SN 015-0079) during construction of the proposed northbound structure (SN 015-0078).

13. Quantities of Deck Slab Repair are included to repair SN 015-0005 prior to allowing two-way traffic over the structure. The locations and quantities used shall be determined by the Engineer.



SECTION THRU INTEGRAL ABUTMENT

Notes:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).
The 2" diameter conduit shown in the Section Thru Integral Abutment is for wiring for a Roadway Weather Information System. See sheet 3 of 41 for additional information.

STRUCTURE INDEX OF SHEETS

General Plan & Elevation	Sheet No. 1 of 41
General Data	Sheet No. 2 of 41
Slope Wall Layout and Details	Sheet No. 3 of 41
Substructure Layout	Sheet No. 4 of 41
Bridge Deck Patching - SN 015-0005 (NB)	Sheet No. 5-6 of 41
Temporary Concrete Barrier	Sheet No. 7 of 41
Top of Slab Elevations (SB)	Sheet No. 8-9 of 41
Top of Slab Elevations (NB)	Sheet No. 10-11 of 41
Top of Approach Slab Elevations (SB)	Sheet No. 12 of 41
Top of Approach Slab Elevations (NB)	Sheet No. 13 of 41
Superstructure (SB)	Sheet No. 14 of 41
Superstructure (NB)	Sheet No. 15 of 41
Superstructure Details	Sheet No. 16 of 41
Diaphragm Details	Sheet No. 17 of 41
Bridge Approach Slab (SB)	Sheet No. 18 of 41
Bridge Approach Slab (NB)	Sheet No. 19 of 41
Bridge Approach Slab Details	Sheet No. 20 of 41
Steel Framing Plans	Sheet No. 21 of 41
Steel Framing Details	Sheet No. 22-23 of 41
Bearing Details	Sheet No. 24 of 41
South Abutment (SB)	Sheet No. 25 of 41
North Abutment (SB)	Sheet No. 26 of 41
South Abutment (NB)	Sheet No. 27 of 41
North Abutment (NB)	Sheet No. 28 of 41
Pier (SB)	Sheet No. 29-30 of 41
Pier (NB)	Sheet No. 31-32 of 41
Metal Shell Pile Details	Sheet No. 33 of 41
Bar Splicer Assembly and Mechanical Splicer Details	Sheet No. 34 of 41
Concrete Parapet Slipforming Option	Sheet No. 35 of 41
Boring Logs	Sheet No. 36-41 of 41

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Bituminous Materials (Tack Coat)	Pound	400		400
Polymerized Hot-Mix Asphalt Surface Course, IL-9.5, Mix "D", N90	Ton	200		200
Hot-Mix Asphalt Surface Removal, 2"	Sq. Yd.	1,760		1,760
Removal of Existing Structures No. 1	Each	1		1
Removal of Existing Structures No. 2	Each	1		1
Protective Shield	Sq. Yd.	1,710		1,710
Structure Excavation	Cu. Yd.		630	630
Concrete Structures	Cu. Yd.		318.2	318.2
Concrete Superstructure	Cu. Yd.	659.0		659.0
Protective Coat	Sq. Yd.	2,688		2,688
Concrete Superstructure (Approach Slab)	Cu. Yd.	238.4		238.4
Furnishing and Erecting Structural Steel	L Sum	1		1
Stud Shear Connectors	Each	11,556		11,556
Reinforcement Bars, Epoxy Coated	Pound	236,760	70,000	306,760
Mechanical Splicers	Each		120	120
Slope Wall 4 Inch	Sq. Yd.		1,336	1,336
Furnishing Metal Shell Piles 14" x 0.312"	Foot		3,609	3,609
Driving Piles	Foot		3,609	3,609
Test Pile Metal Shells	Each		6	6
Name Plates	Each	2		2
Elastomeric Bearing Assembly, Type I	Each	12		12
Anchor Bolts, 1"	Each		48	48
Anchor Bolts, 1 1/2"	Each		24	24
Granular Backfill for Structures	Cu. Yd.		340	340
Concrete Sealer	Sq. Ft.		2,470	2,470
Geocomposite Wall Drain	Sq. Yd.		176	176
Pipe Underdrains for Structures 4"	Foot		320	320
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	1,504		1,504
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	20		20
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	20		20
Deck Slab Repair (Partial)	Sq. Yd.	110		110
Diamond Grinding (Bridge Section)	Sq. Yd.	3,616		3,616

STATION 788+65.37
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RT. 57 SECTION
(15-22HB-4)BR(15-22)R
LOADING HL-93
STR. NO. 015-0078

NORTHBOUND NAME PLATE
See Std. 515001

STATION 788+67.44
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RT. 57 SECTION
(15-22HB-4)BR(15-22)R
LOADING HL-93
STR. NO. 015-0079

SOUTHBOUND NAME PLATE
See Std. 515001

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	662
CONTRACT NO. 74435				
ILLINOIS		FED. AID PROJECT		

SHEET 2 OF 41 SHEETS



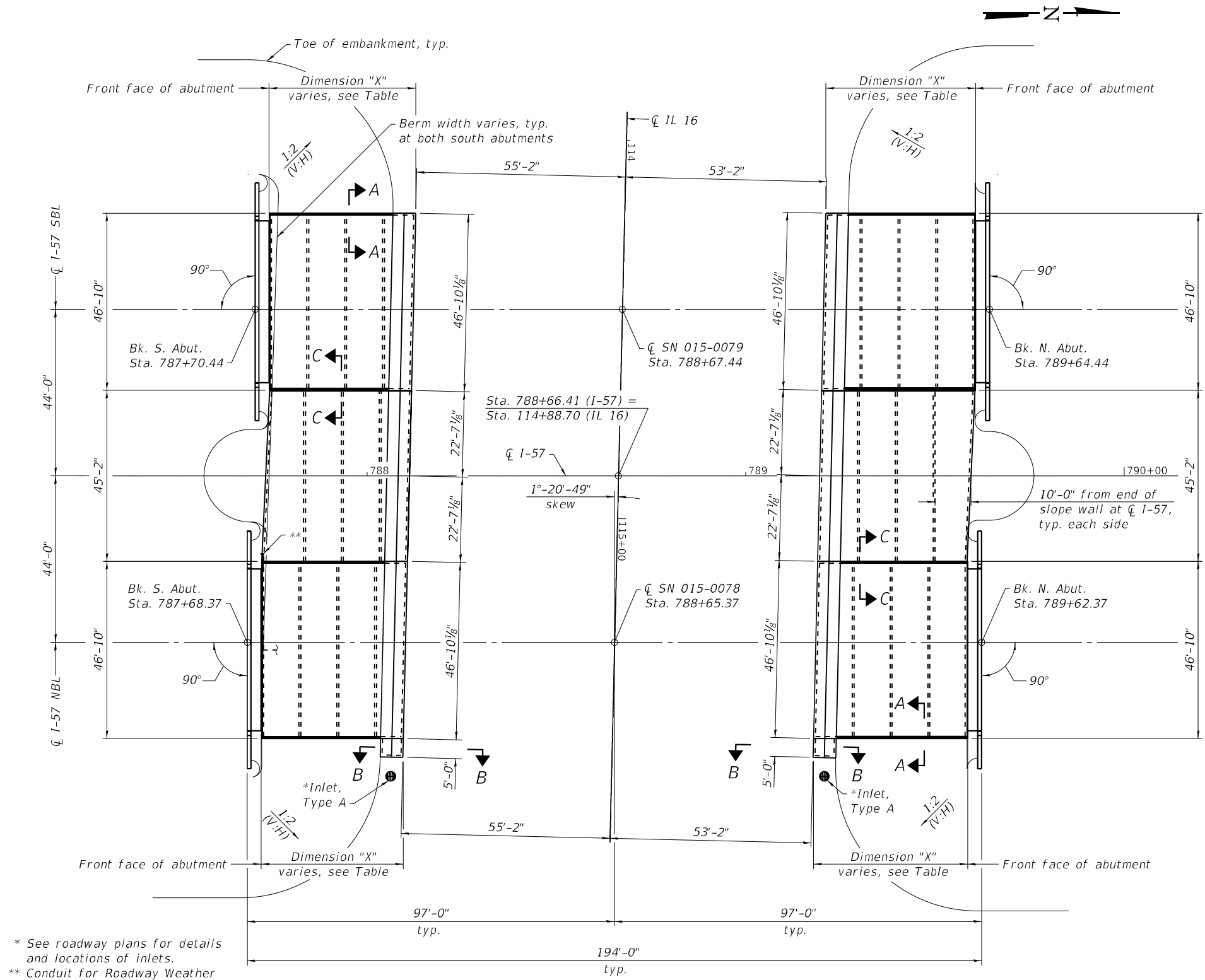
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PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - MTD 12/21
CHECKED - PRH 01/22
DRAWN - KAH/NHC 10/23
CHECKED - MTD/ELH 10/23

REVISED -
REVISED -
REVISED -
REVISED -

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\ISP_SN_015-0078_0079\0150078-74435-02-GenData.dgn
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Notes:
Slope wall and concrete gutter shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
2" diameter conduit shall be attached to the south slope wall of SN 015-0078, near the front face of the south abutment and according to Section 811 of the Standard Specifications. See roadway plans for additional details and conduit quantities.
The concrete gutters at the bottoms of the slope walls and the 5'-0" gutter extensions on the east side will be paid for as Slope Wall 4 Inch.
A 1/2" thick preformed joint filler shall be placed at all junctions between concrete gutter extensions and slope wall. Cost included in Slope Wall 4 Inch.

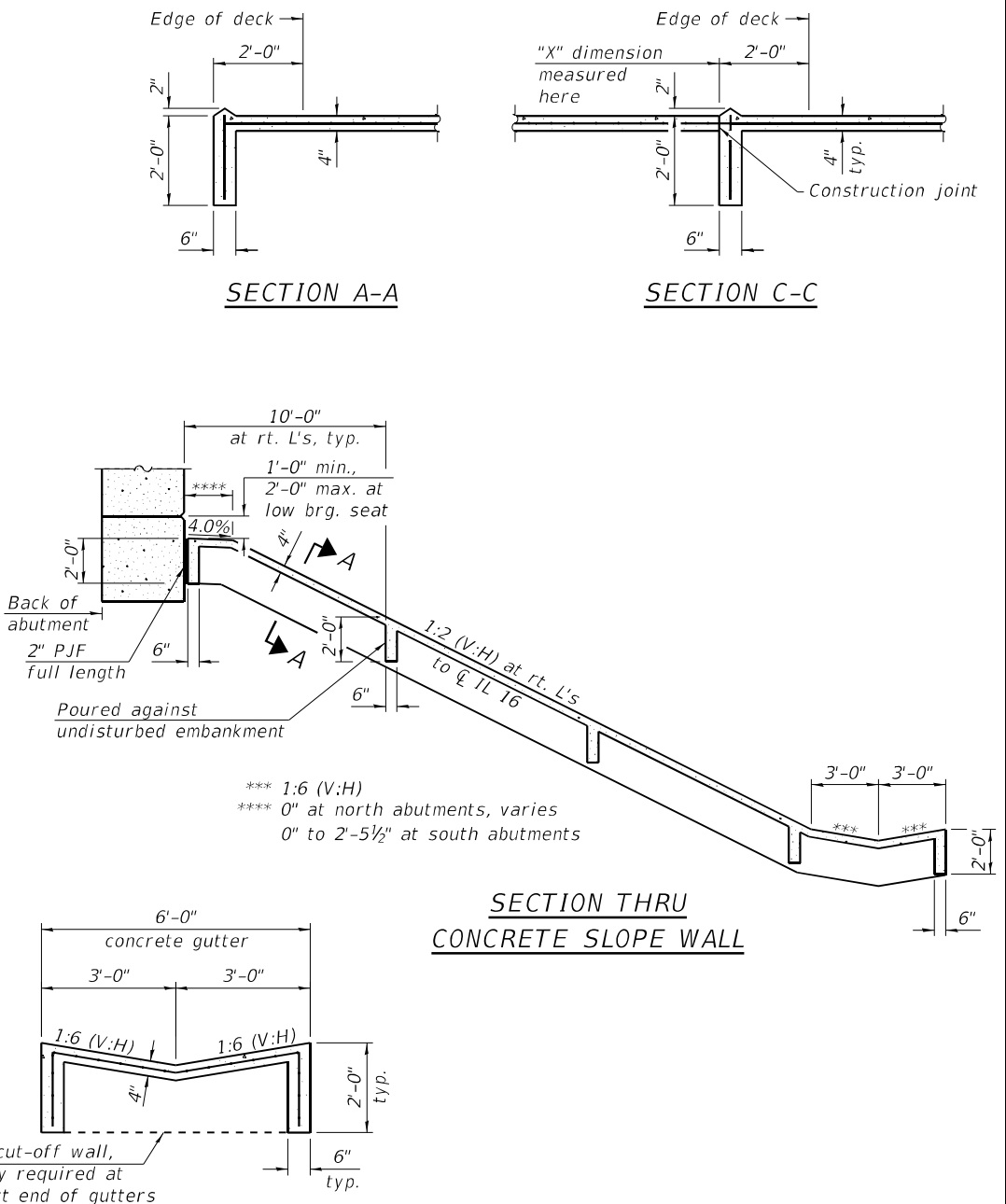


* See roadway plans for details and locations of inlets.
** Conduit for Roadway Weather Information System, see Notes.

SLOPE WALL PLAN

TABLE OF "X" DIMENSIONS

Location	West side	East side
SN 015-0078 (NB)		
S. Abut. Slope Wall	38'-7 ⁷ / ₈ "	37'-6 ⁵ / ₈ "
N. Abut. Slope Wall	39'-7 ³ / ₄ "	40'-9"
SN 015-0079 (SB)		
S. Abut. Slope Wall	38'-9"	37'-7 ³ / ₄ "
N. Abut. Slope Wall	39'-6 ⁵ / ₈ "	40'-7 ¹ / ₈ "



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Slope Wall 4 Inch	Sq. Yd.	1,336

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP SN 015-0078_0079\0150078-74435-03-SlopeWall.dgn



USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - PRH 01/22	REVISED -
PLOT SCALE	DRAWN - KAH/NHC 10/23	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD/ELH 10/23	REVISED -

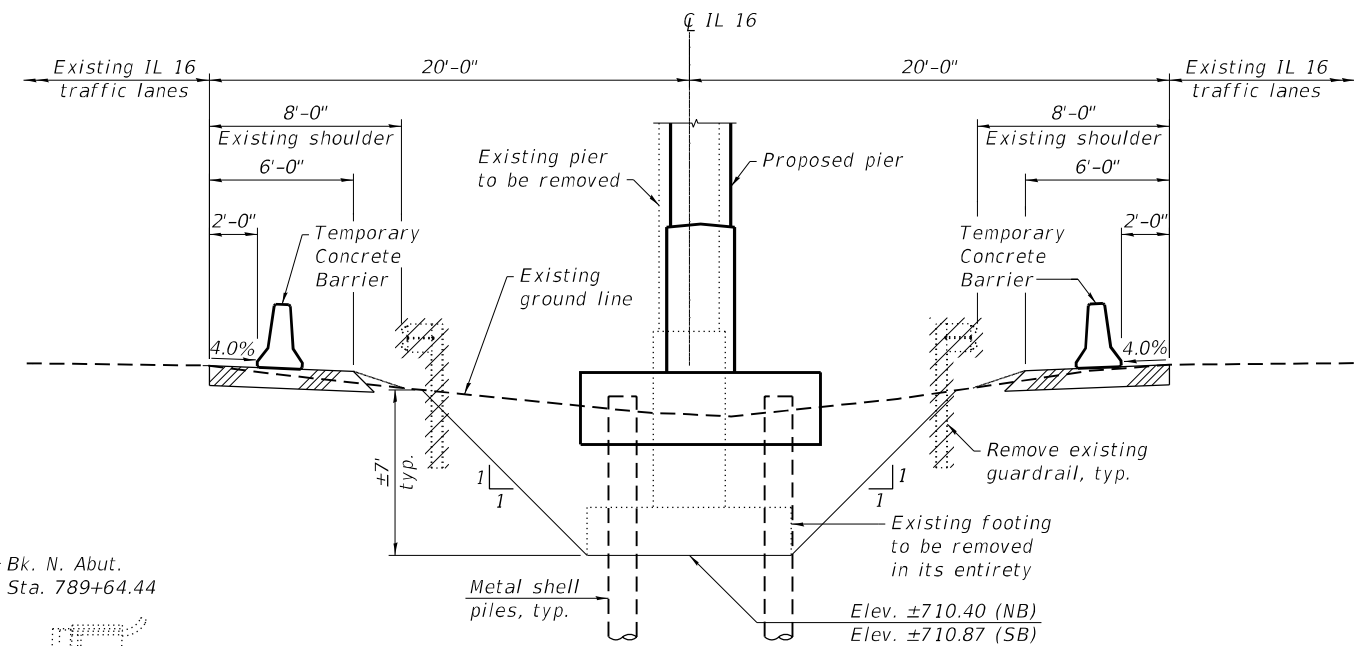
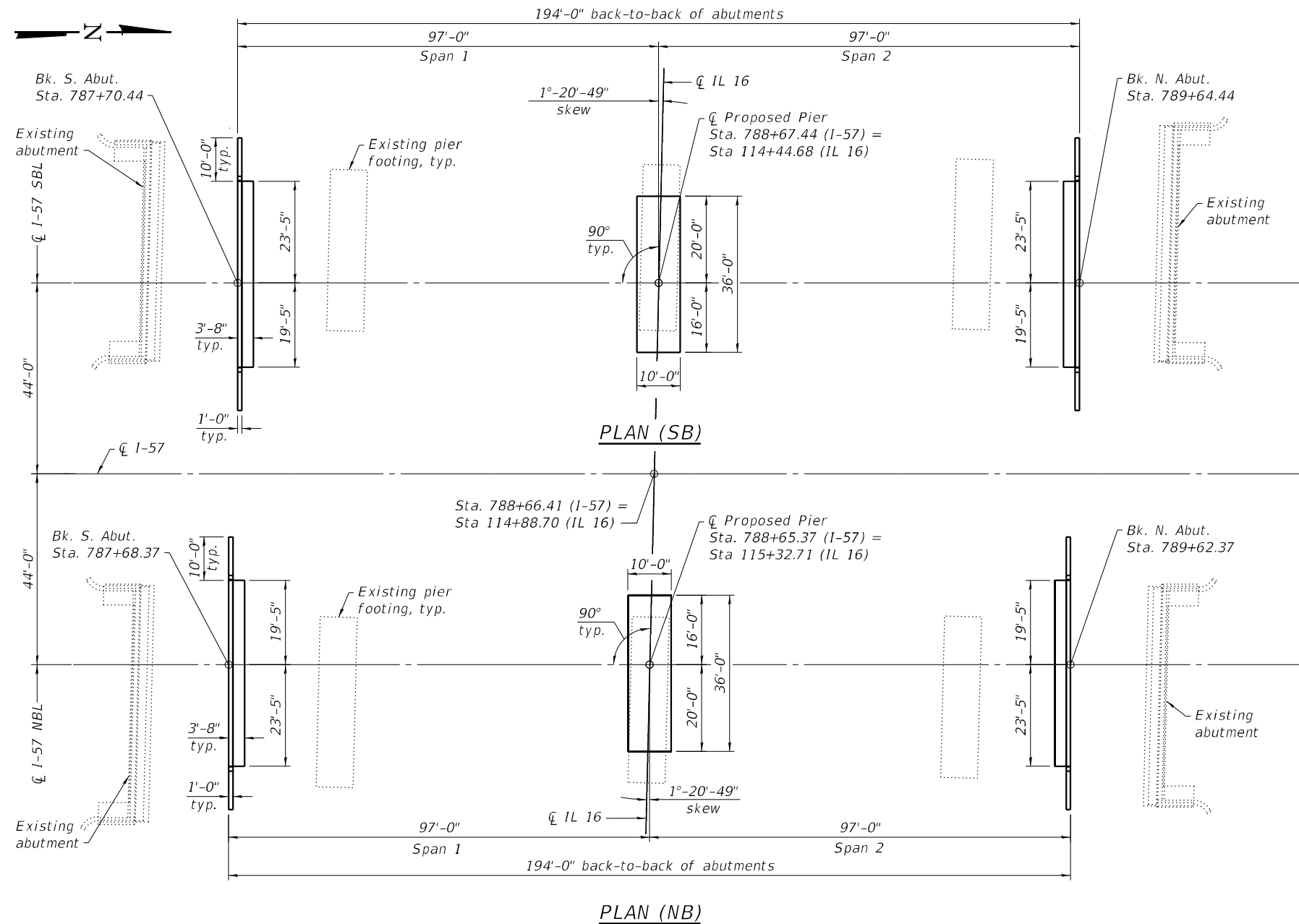
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SLOPE WALL LAYOUT AND DETAILS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 3 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	663
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

Notes:
Existing structure details are taken from existing plans and are subject to nominal construction variations.
For additional substructure details see sheets 25 thru 32 of 41.
See roadway plans for details and quantities of guardrail removal, temporary concrete barrier and shoulder reconstruction along IL 16.



TYP. SECTION AT CENTER PIERS

Note:
Cost of excavation required for removal of footing included with Removal of Existing Structures.

**SUGGESTED SEQUENCE OF OPERATIONS
AT CENTER PIERS**

1. Perform excavation and pier removal for SN 015-0079 (SB) after installation of Temporary Concrete Barrier and removal of guardrail along IL 16.
2. Backfill to the elevation of the bottom of proposed pier footing according to Article 502.10 of the Standard Specifications.
3. Drive piles and construct pier.
4. Complete backfilling according to Article 502.10 of the Standard Specifications.
5. Repeat sequence for SN 015-0078 (NB) after construction of the southbound bridge is complete and the new bridge is in service.

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-04-SubLayout.dgn



USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - PRH 01/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

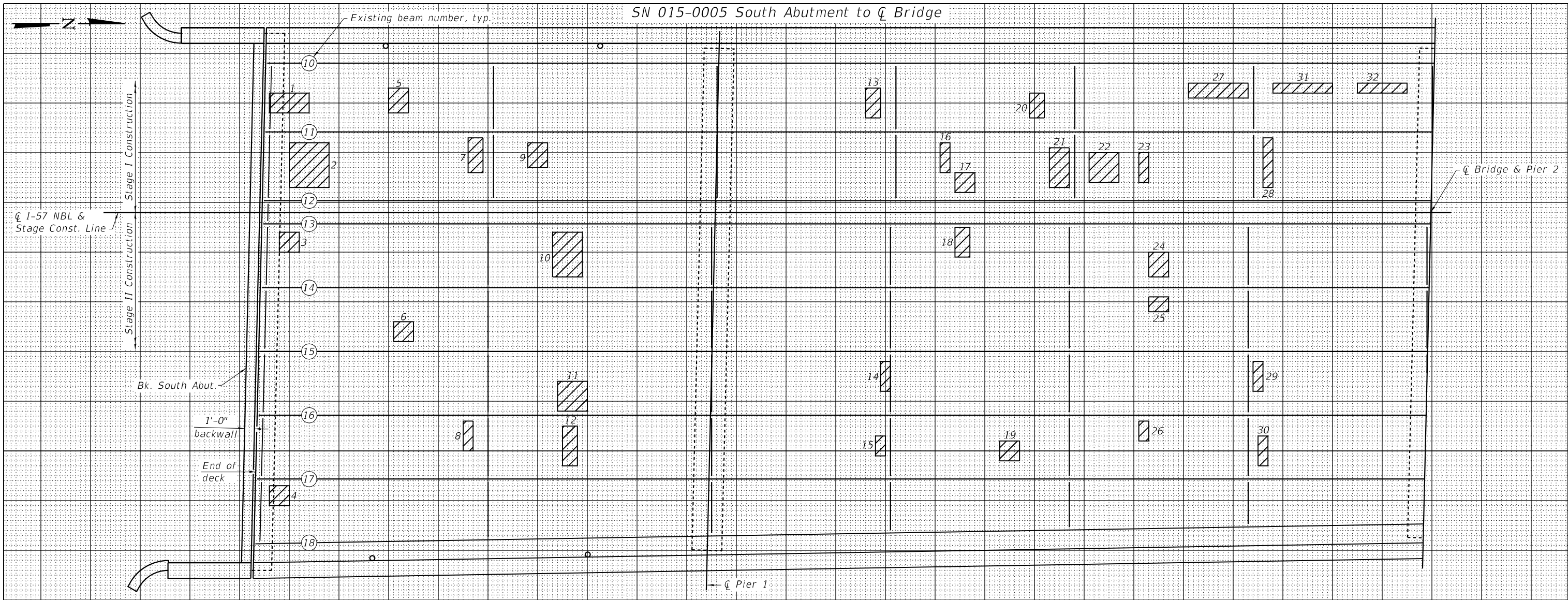
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE LAYOUT
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 4 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	664
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

SN 015-0005 South Abutment to ¢ Bridge



Patch	Size (ft. x ft.)		Deck Slab Repair (Full Depth)	
			Type I	Type II
No.	Length	Width	Sq. Yd.	Sq. Yd.
1	4.0	2.0		0.9
2	4.0	4.5		2.0
3	2.0	2.0	0.5	
4	2.0	2.0	0.5	
5	2.0	2.5	0.6	
6	2.0	2.0	0.5	
7	1.5	3.5		0.6
8	1.0	3.0	0.3	
9	2.0	2.5	0.6	
10	3.0	4.5		1.5
11	3.0	3.0		1.0
12	1.5	4.0		0.7
13	1.5	3.0	0.5	
14	1.0	3.0	0.3	
15	1.0	2.0	0.2	
16	1.0	3.0	0.3	
Sub-totals			4.3	6.7

Patch	Size (ft. x ft.)		Deck Slab Repair (Full Depth)	
			Type I	Type II
No.	Length	Width	Sq. Yd.	Sq. Yd.
17	2.0	2.0	0.4	
18	1.5	3.0	0.5	
19	2.0	2.0	0.5	
20	1.5	2.5	0.4	
21	2.0	4.0		0.9
22	3.0	3.0		1.0
23	1.0	3.0	0.3	
24	2.0	2.5	0.6	
25	2.0	1.5	0.3	
26	1.0	2.0	0.2	
27	6.0	1.5		1.0
28	1.0	5.0	0.6	
29	1.0	3.0	0.3	
30	1.0	3.0	0.3	
31	6.0	1.0		0.7
32	5.0	1.0	0.6	
Sub-totals			5.0	3.6

Notes:

Areas of deck slab repairs shown on this sheet and on sheet 6 of 41 are estimated. The Engineer shall determine actual locations and limits of deck slab repairs.

The following quantities were estimated from overall deck condition:

Deck Slab Repair (Partial) = 110 Sq. Yd.

The existing HMA surface course on SN 015-0005 and for a distance of 40 ft. on each approach to SN 015-0005 shall be removed and replaced. Thickness of HMA surface removal on the bridge deck is estimated to be 2" but may vary. Removal shall be to a depth that exposes the bare concrete deck. Thickness of HMA surface removal on the approaches shall match the removal depth at the abutments.

HMA surface removal will be paid for as Hot-Mix Asphalt Surface Removal, 2", regardless of actual depth removed.

A tack coat, according to Section 406 of the Standard Specifications, with a residual asphalt rate of 0.025 lb./sq. ft. shall be applied to the top of the concrete deck and approaches before the hot-mix asphalt surfacing is placed.

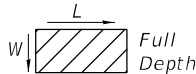
Prior to applying the tack coat, the top of the existing concrete deck shall be cleaned according to Article 406.05(b)(1) of the Standard Specifications.

The quantity of Polymerized Hot-Mix Asphalt Surface Course is calculated based on 2" uniform thickness and a placement factor of 112 lbs./sq. yd./inch. Actual thickness and cross slope of proposed HMA surface course shall be constructed to match existing elevations.

Staging sections shown on sheet 6 of 41 only apply to HMA surface removal and replacement and bridge deck patching for existing SN 015-0005. This work shall be completed prior to utilizing the crossovers to construct the proposed bridges (SN 015-0078 & 015-0079).

See roadway plans for crossovers and traffic control details.

The locations and sizes shown graphically above are approximate. See Table for actual sizes.



Date of Survey: Jan. 13, 2022
Survey By: D. Macklin
Method of Survey: Visual

BILL OF MATERIAL

Item	Unit	Quantity
Bituminous Materials (Tack Coat)	Pound	400
Polymerized Hot-Mix Asphalt Surface Course, IL-9.5, Mix "D", N90	Ton	200
Hot-Mix Asphalt Surface Removal, 2"	Sq. Yd.	1,765
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	20
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	20
Deck Slab Repair (Partial)	Sq. Yd.	110

See roadway plans for quantity of Temporary Concrete Barrier.

(Sheet 1 of 2)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING – SN 015-0005 (NB)
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 5 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	665
CONTRACT NO. 74435				

ILLINOIS FED. AID PROJECT

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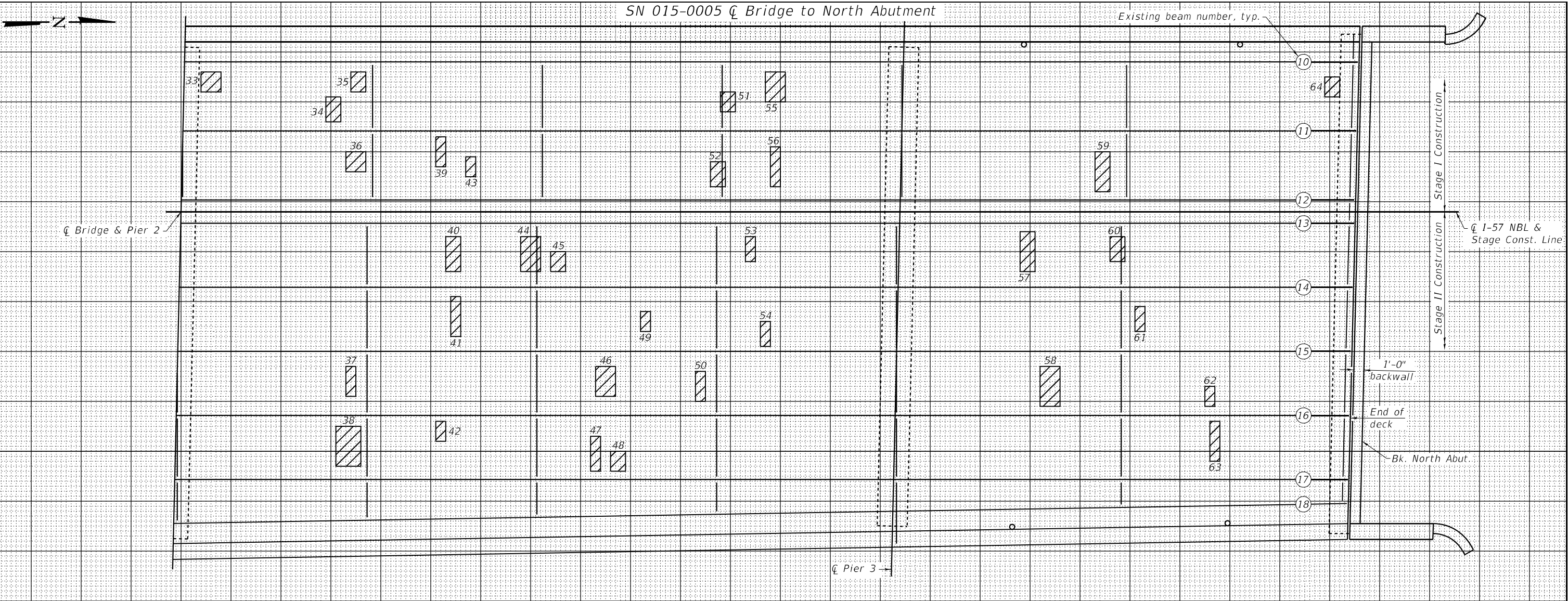


USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - D. Macklin	01/22
CHECKED - MTD	01/22
DRAWN - NHC	01/22
CHECKED - MTD	01/22

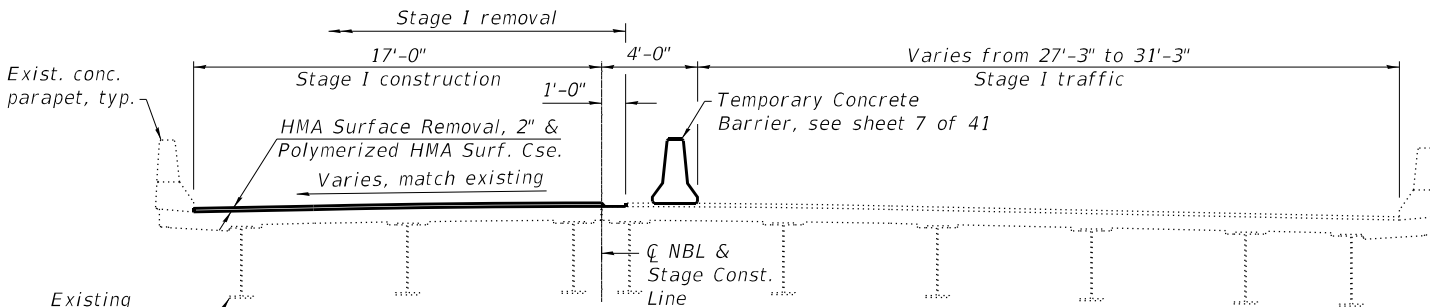
REVISED -
REVISED -
REVISED -
REVISED -

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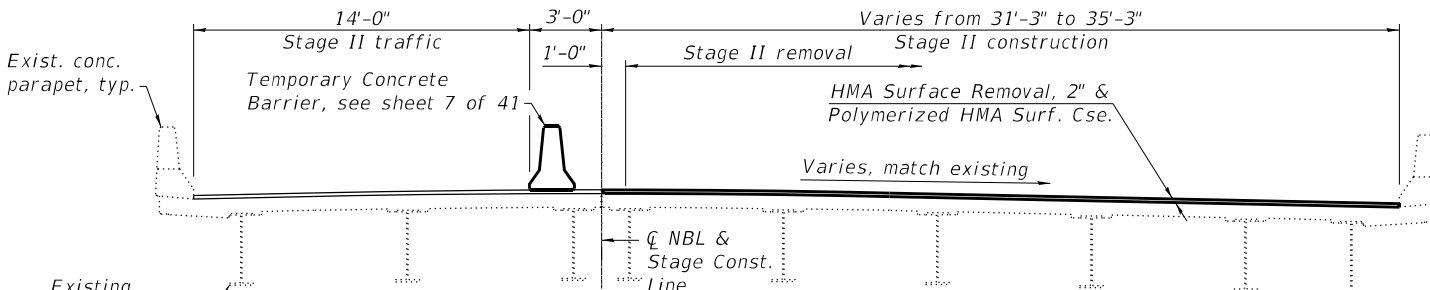


Patch No.	Size (ft. x ft.)		Deck Slab Repair (Full Depth)	
			Type I Sq. Yd.	Type II Sq. Yd.
33	2.0	2.0	0.5	
34	1.5	2.5	0.4	
35	1.5	2.0	0.3	
36	2.0	2.0	0.5	
37	1.0	3.0	0.3	
38	2.5	4.0		1.1
39	1.0	3.0	0.3	
40	1.5	3.5		0.6
41	1.0	4.0	0.5	
42	1.0	2.0	0.2	
43	1.0	2.0	0.2	
44	2.0	3.5		0.8
45	1.5	2.0	0.3	
46	2.0	3.0		0.7
47	1.0	3.5	0.4	
48	1.5	2.0	0.3	
Sub-totals			4.2	3.2

Patch No.	Size (ft. x ft.)		Deck Slab Repair (Full Depth)	
			Type I Sq. Yd.	Type II Sq. Yd.
49	1.0	2.0	0.2	
50	1.0	3.0	0.3	
51	1.5	2.0	0.3	
52	1.5	2.5	0.4	
53	1.0	2.5	0.3	
54	1.0	2.5	0.3	
55	2.0	3.0		0.7
56	1.0	4.0	0.5	
57	1.5	4.0		0.7
58	2.0	4.0		0.9
59	1.5	4.0		0.7
60	1.5	2.5	0.4	
61	1.0	2.5	0.3	
62	1.0	2.0	0.2	
63	1.0	4.0	0.5	
64	1.5	2.0	0.3	
Sub-totals			4.0	3.0

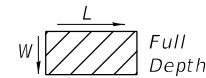


STAGE I CROSS SECTION
(SN 015-0005 looking north)

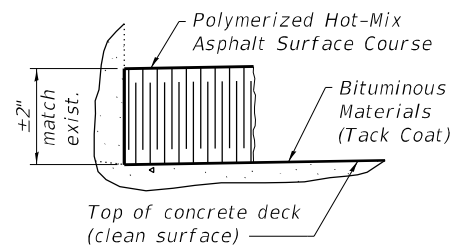


STAGE II CROSS SECTION
(SN 015-0005 looking north)

The locations and sizes shown graphically above are approximate. See Table for actual sizes.



Date of Survey: Jan. 13, 2022
Survey By: D. Macklin
Method of Survey: Visual



PROPOSED DECK SURFACING



USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - D. Macklin 01/22
CHECKED - MTD 01/22
DRAWN - NHC 01/22
CHECKED - MTD 01/22

REVISED -
REVISED -
REVISED -
REVISED -

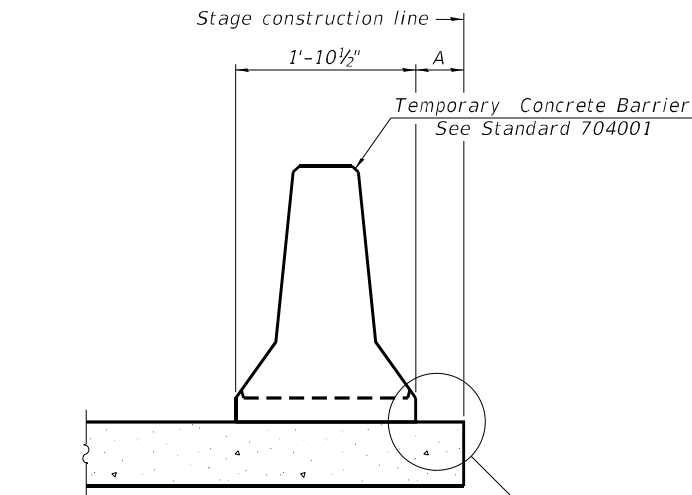
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING - SN 015-0005 (NB)
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 6 OF 41 SHEETS

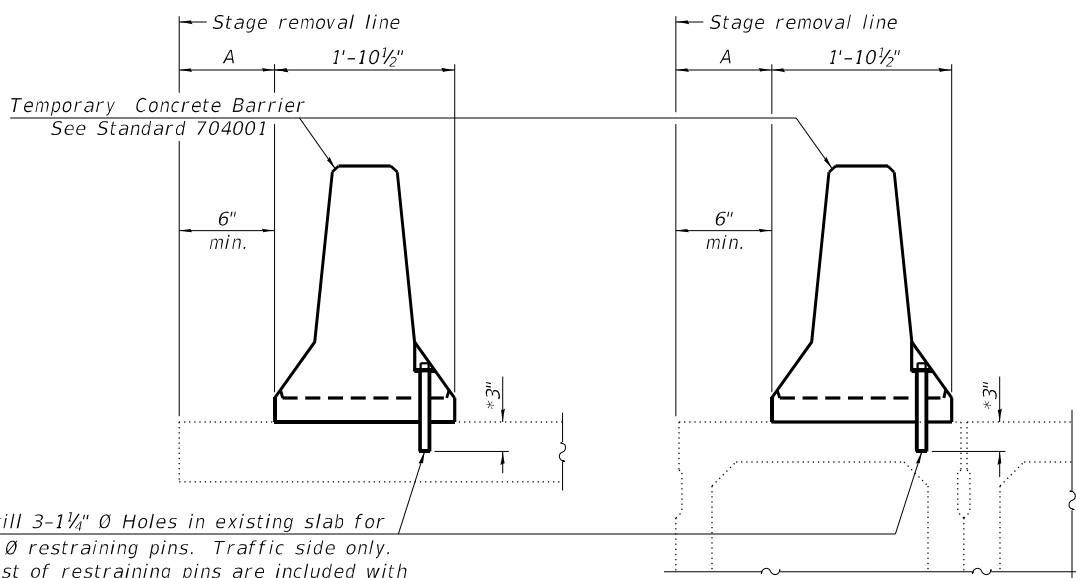
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	666
CONTRACT NO. 74435				

ILLINOIS FED. AID PROJECT



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM

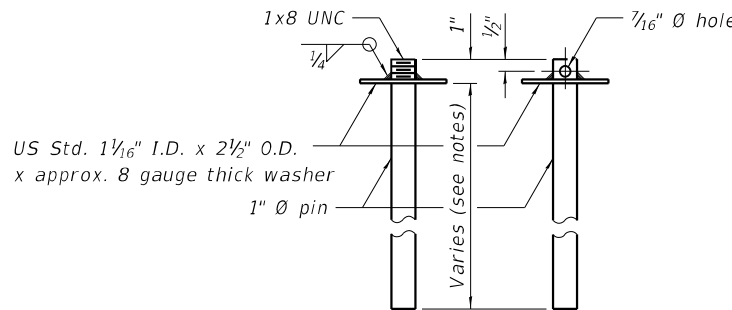


Drill 3-1 1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

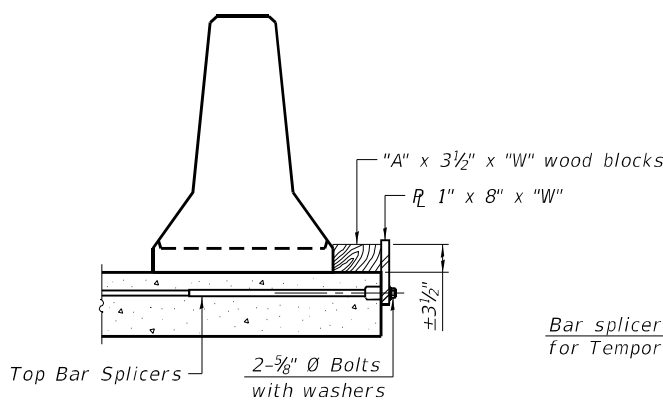
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

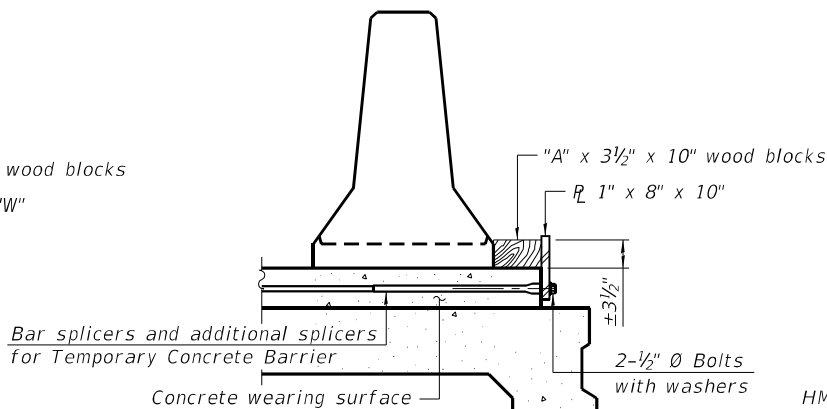


RESTRAINING PIN

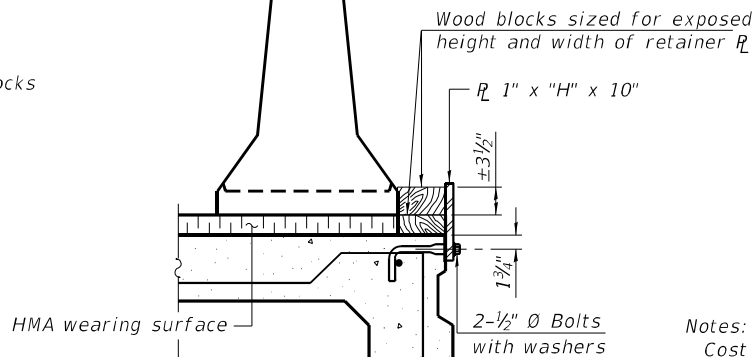
SECTIONS THRU SLAB OR DECK BEAM



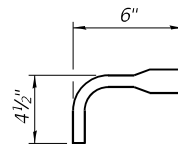
DETAIL I



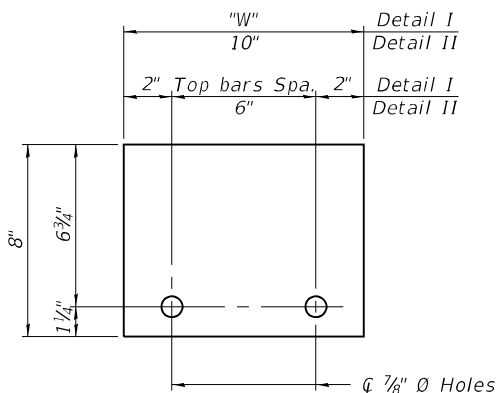
DETAIL II



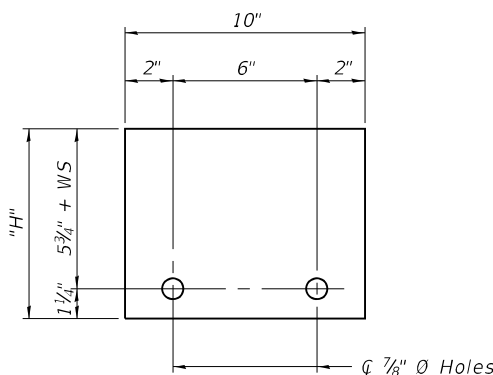
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W"
(Detail I and II)



STEEL RETAINER R 1" x "H" x 10"
(Detail III)

Notes:
Cost of retainer assembly is included with Temporary Concrete Barrier.
A retainer assembly shall be located at the approximate $\bar{C}$ of each temporary concrete barrier.
The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
When the 'A' dimension is less than 1 1/2", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.
Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.
Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27

10-12-2021

MODEL: PLOT
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USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - MTD 12/21
CHECKED - PRH 01/22
DRAWN - KAH 12/21
CHECKED - MTD 01/22

REVISED -
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REVISED -

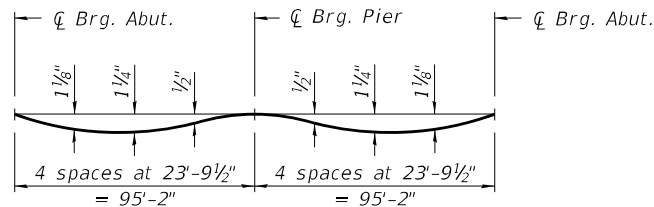
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 7 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	667
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

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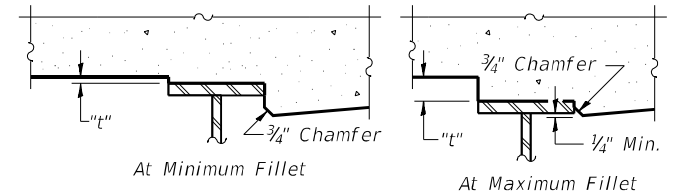


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

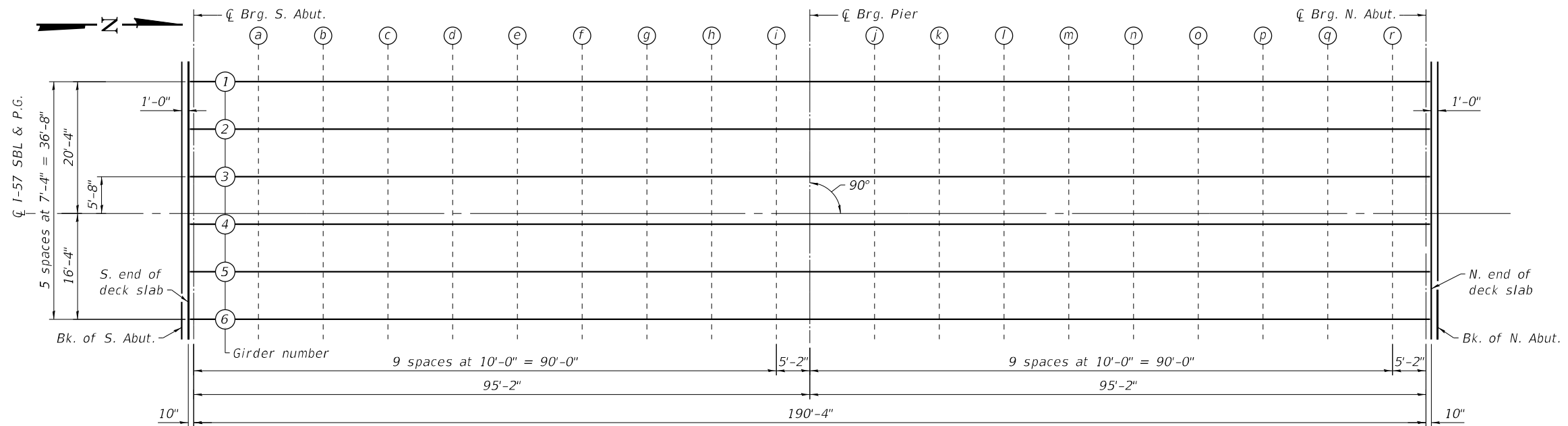
The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown on sheet 9 of 41.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown on sheet 9 of 41, minus the initial slab thickness prior to grinding, equals the fillet heights "t" above top flange of girders.

The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown on sheet 9 of 41. For grinding the deck, see Special Provisions.

FILLET HEIGHTS



PLAN (SB)

(Sheet 1 of 2)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (SB)
STRUCTURE NO. 015-0079 (SB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	668
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

SHEET 8 OF 41 SHEETS



USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - SHL 02/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

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GIRDER 1				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	-20.33	739.98	740.00
S. end of slab	787+71.44	-20.33	739.99	740.01
☒ Brg. S. Abut.	787+72.27	-20.33	740.00	740.02
a	787+82.27	-20.33	740.09	740.16
b	787+92.27	-20.33	740.19	740.29
c	788+02.27	-20.33	740.28	740.41
d	788+12.27	-20.33	740.38	740.51
e	788+22.27	-20.33	740.47	740.59
f	788+32.27	-20.33	740.57	740.66
g	788+42.27	-20.33	740.66	740.73
h	788+52.27	-20.33	740.76	740.80
i	788+62.27	-20.33	740.85	740.87
☒ Brg. Pier	788+67.44	-20.33	740.90	740.92
j	788+77.44	-20.33	741.00	741.03
k	788+87.44	-20.33	741.09	741.14
l	788+97.44	-20.33	741.18	741.27
m	789+07.44	-20.33	741.28	741.39
n	789+17.44	-20.33	741.37	741.50
o	789+27.44	-20.33	741.47	741.60
p	789+37.44	-20.33	741.56	741.68
q	789+47.44	-20.33	741.66	741.74
r	789+57.44	-20.33	741.75	741.80
☒ Brg. N. Abut.	789+62.61	-20.33	741.80	741.82
N. end of slab	789+63.44	-20.33	741.81	741.83
Bk. of N. Abut.	789+64.44	-20.33	741.82	741.84

GIRDER 4				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	1.67	740.30	740.32
S. end of slab	787+71.44	1.67	740.31	740.33
☒ Brg. S. Abut.	787+72.27	1.67	740.32	740.34
a	787+82.27	1.67	740.42	740.48
b	787+92.27	1.67	740.51	740.61
c	788+02.27	1.67	740.61	740.73
d	788+12.27	1.67	740.70	740.83
e	788+22.27	1.67	740.79	740.91
f	788+32.27	1.67	740.89	740.98
g	788+42.27	1.67	740.98	741.05
h	788+52.27	1.67	741.08	741.12
i	788+62.27	1.67	741.17	741.20
☒ Brg. Pier	788+67.44	1.67	741.22	741.24
j	788+77.44	1.67	741.32	741.35
k	788+87.44	1.67	741.41	741.46
l	788+97.44	1.67	741.51	741.59
m	789+07.44	1.67	741.60	741.71
n	789+17.44	1.67	741.70	741.82
o	789+27.44	1.67	741.79	741.92
p	789+37.44	1.67	741.89	742.00
q	789+47.44	1.67	741.98	742.07
r	789+57.44	1.67	742.07	742.12
☒ Brg. N. Abut.	789+62.61	1.67	742.12	742.14
N. end of slab	789+63.44	1.67	742.13	742.15
Bk. of N. Abut.	789+64.44	1.67	742.14	742.16

GIRDER 2				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	-13.00	740.13	740.15
S. end of slab	787+71.44	-13.00	740.14	740.16
☒ Brg. S. Abut.	787+72.27	-13.00	740.15	740.17
a	787+82.27	-13.00	740.24	740.31
b	787+92.27	-13.00	740.34	740.44
c	788+02.27	-13.00	740.43	740.55
d	788+12.27	-13.00	740.52	740.65
e	788+22.27	-13.00	740.62	740.74
f	788+32.27	-13.00	740.71	740.81
g	788+42.27	-13.00	740.81	740.88
h	788+52.27	-13.00	740.90	740.94
i	788+62.27	-13.00	741.00	741.02
☒ Brg. Pier	788+67.44	-13.00	741.05	741.07
j	788+77.44	-13.00	741.14	741.17
k	788+87.44	-13.00	741.24	741.29
l	788+97.44	-13.00	741.33	741.41
m	789+07.44	-13.00	741.43	741.53
n	789+17.44	-13.00	741.52	741.65
o	789+27.44	-13.00	741.62	741.74
p	789+37.44	-13.00	741.71	741.83
q	789+47.44	-13.00	741.80	741.89
r	789+57.44	-13.00	741.90	741.94
☒ Brg. N. Abut.	789+62.61	-13.00	741.95	741.97
N. end of slab	789+63.44	-13.00	741.96	741.98
Bk. of N. Abut.	789+64.44	-13.00	741.97	741.99

GIRDER 5				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	9.00	740.19	740.21
S. end of slab	787+71.44	9.00	740.20	740.22
☒ Brg. S. Abut.	787+72.27	9.00	740.21	740.23
a	787+82.27	9.00	740.31	740.37
b	787+92.27	9.00	740.40	740.50
c	788+02.27	9.00	740.50	740.62
d	788+12.27	9.00	740.59	740.72
e	788+22.27	9.00	740.68	740.80
f	788+32.27	9.00	740.78	740.87
g	788+42.27	9.00	740.87	740.94
h	788+52.27	9.00	740.97	741.01
i	788+62.27	9.00	741.06	741.09
☒ Brg. Pier	788+67.44	9.00	741.11	741.13
j	788+77.44	9.00	741.21	741.24
k	788+87.44	9.00	741.30	741.35
l	788+97.44	9.00	741.40	741.48
m	789+07.44	9.00	741.49	741.60
n	789+17.44	9.00	741.59	741.71
o	789+27.44	9.00	741.68	741.81
p	789+37.44	9.00	741.78	741.89
q	789+47.44	9.00	741.87	741.96
r	789+57.44	9.00	741.96	742.01
☒ Brg. N. Abut.	789+62.61	9.00	742.01	742.03
N. end of slab	789+63.44	9.00	742.02	742.04
Bk. of N. Abut.	789+64.44	9.00	742.03	742.05

GIRDER 3				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	-5.67	740.24	740.26
S. end of slab	787+71.44	-5.67	740.25	740.27
☒ Brg. S. Abut.	787+72.27	-5.67	740.26	740.28
a	787+82.27	-5.67	740.36	740.42
b	787+92.27	-5.67	740.45	740.55
c	788+02.27	-5.67	740.55	740.67
d	788+12.27	-5.67	740.64	740.77
e	788+22.27	-5.67	740.73	740.85
f	788+32.27	-5.67	740.83	740.92
g	788+42.27	-5.67	740.92	740.99
h	788+52.27	-5.67	741.02	741.06
i	788+62.27	-5.67	741.11	741.14
☒ Brg. Pier	788+67.44	-5.67	741.16	741.18
j	788+77.44	-5.67	741.26	741.29
k	788+87.44	-5.67	741.35	741.40
l	788+97.44	-5.67	741.45	741.53
m	789+07.44	-5.67	741.54	741.65
n	789+17.44	-5.67	741.64	741.76
o	789+27.44	-5.67	741.73	741.86
p	789+37.44	-5.67	741.83	741.94
q	789+47.44	-5.67	741.92	742.01
r	789+57.44	-5.67	742.01	742.06
☒ Brg. N. Abut.	789+62.61	-5.67	742.06	742.08
N. end of slab	789+63.44	-5.67	742.07	742.09
Bk. of N. Abut.	789+64.44	-5.67	742.08	742.10

GIRDER 6				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	16.33	740.06	740.08
S. end of slab	787+71.44	16.33	740.07	740.09
☒ Brg. S. Abut.	787+72.27	16.33	740.08	740.10
a	787+82.27	16.33	740.17	740.24
b	787+92.27	16.33	740.27	740.37
c	788+02.27	16.33	740.36	740.49
d	788+12.27	16.33	740.46	740.59
e	788+22.27	16.33	740.55	740.67
f	788+32.27	16.33	740.65	740.74
g	788+42.27	16.33	740.74	740.81
h	788+52.27	16.33	740.84	740.88
i	788+62.27	16.33	740.93	740.95
☒ Brg. Pier	788+67.44	16.33	740.98	741.00
j	788+77.44	16.33	741.08	741.11
k	788+87.44	16.33	741.17	741.22
l	788+97.44	16.33	741.26	741.35
m	789+07.44	16.33	741.36	741.47
n	789+17.44	16.33	741.45	741.58
o	789+27.44	16.33	741.55	741.68
p	789+37.44	16.33	741.64	741.76
q	789+47.44	16.33	741.74	741.82
r	789+57.44	16.33	741.83	741.88
☒ Brg. N. Abut.	789+62.61	16.33	741.88	741.90
N. end of slab	789+63.44	16.33	741.89	741.91
Bk. of N. Abut.	789+64.44	16.33	741.90	741.92

CENTERLINE SBL & PROFILE GRADE				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	0.00	740.33	740.35
S. end of slab	787+71.44	0.00	740.34	740.36
☒ Brg. S. Abut.	787+72.27	0.00	740.35	740.37
a	787+82.27	0.00	740.44	740.51
b	787+92.27	0.00	740.54	740.64
c	788+02.27	0.00	740.63	740.75
d	788+12.27	0.00	740.72	740.85
e	788+22.27	0.00	740.82	740.94
f	788+32.27	0.00	740.91	741.01
g	788+42.27	0.00	741.01	741.08
h	788+52.27	0.00	741.10	741.14
i	788+62.27	0.00	741.20	741.22
☒ Brg. Pier	788+67.44	0.00	741.25	741.27
j	788+77.44	0.00	741.34	741.37
k	788+87.44	0.00	741.44	741.49
l	788+97.44	0.00	741.53	741.61
m	789+07.44	0.00	741.63	741.73
n	789+17.44	0.00	741.72	741.85
o	789+27.44	0.00	741.82	741.94
p	789+37.44	0.00	741.91	742.03
q	789+47.44	0.00	742.00	742.09
r	789+57.44	0.00	742.10	742.14
☒ Brg. N. Abut.	789+62.61	0.00	742.15	742.17
N. end of slab	789+63.44	0.00	742.16	742.18
Bk. of N. Abut.	789+64.44	0.00	742.17	742.19

(Sheet 2 of 2)



USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

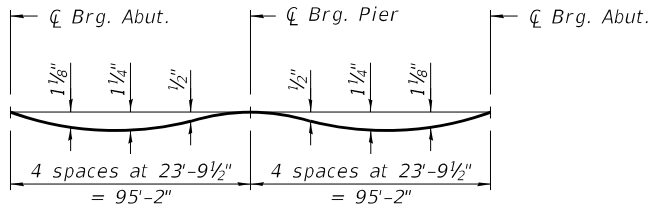
DESIGNED - MTD	12/21	REVISED -
CHECKED - SHL	02/22	REVISED -
DRAWN - KAH	12/21	REVISED -
CHECKED - MTD	01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (SB)
STRUCTURE NO. 015-0079 (SB)

SHEET 9 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	669
		CONTRACT NO. 74435		
		ILLINOIS	FED. AID PROJECT	

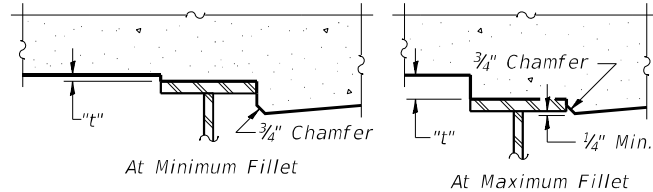


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

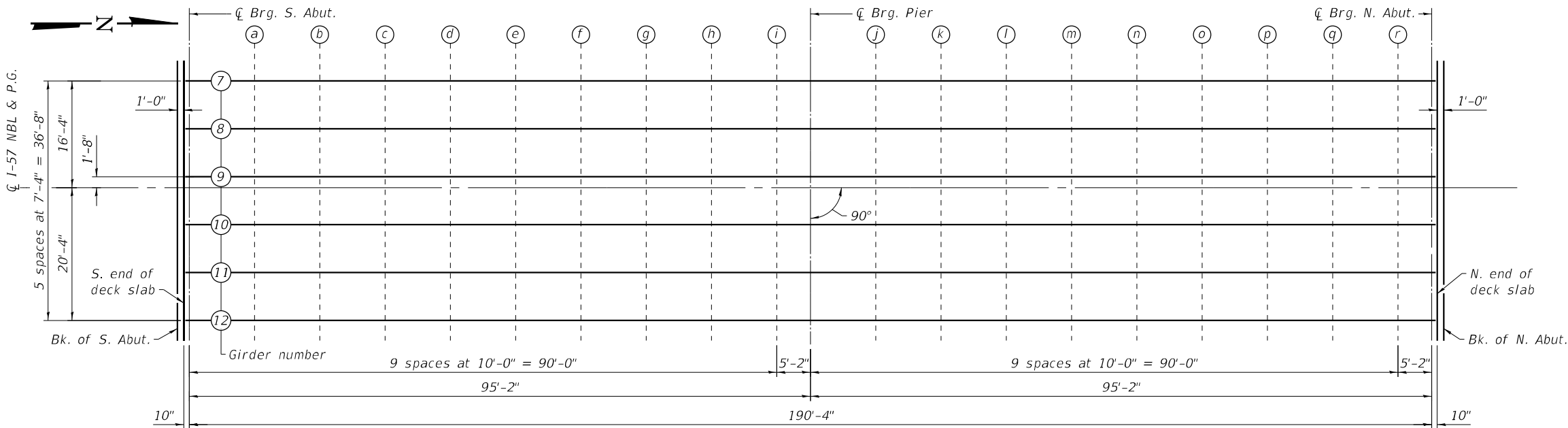
The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown on sheet 11 of 41.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown on sheet 11 of 41, minus the initial slab thickness prior to grinding, equals the fillet heights "t" above top flange of girders.

The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown on sheet 11 of 41. For grinding the deck, see Special Provisions.

FILLET HEIGHTS



PLAN (NB)

(Sheet 1 of 2)

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-10-TSlabElev\NB.dgn



USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - SHL 02/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (NB)
STRUCTURE NO. 015-0078 (NB)

SHEET 10 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	670
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\5P_5N_015-0078_0079\0150078-74435-11-TSlabNBL.dgn

GIRDER 7				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+68.37	-16.33	740.10	740.12
S. end of slab	787+69.37	-16.33	740.11	740.13
☒ Brg. S. Abut.	787+70.20	-16.33	740.12	740.14
a	787+80.20	-16.33	740.21	740.28
b	787+90.20	-16.33	740.31	740.41
c	788+00.20	-16.33	740.40	740.53
d	788+10.20	-16.33	740.49	740.62
e	788+20.20	-16.33	740.59	740.71
f	788+30.20	-16.33	740.68	740.78
g	788+40.20	-16.33	740.78	740.84
h	788+50.20	-16.33	740.87	740.91
i	788+60.20	-16.33	740.97	740.99
☒ Brg. Pier	788+65.37	-16.33	741.01	741.03
j	788+75.37	-16.33	741.11	741.14
k	788+85.37	-16.33	741.20	741.26
l	788+95.37	-16.33	741.30	741.38
m	789+05.37	-16.33	741.39	741.50
n	789+15.37	-16.33	741.49	741.61
o	789+25.37	-16.33	741.58	741.71
p	789+35.37	-16.33	741.67	741.79
q	789+45.37	-16.33	741.77	741.85
r	789+55.37	-16.33	741.86	741.91
☒ Brg. N. Abut.	789+60.54	-16.33	741.91	741.93
N. end of slab	789+61.37	-16.33	741.92	741.94
Bk. of N. Abut.	789+62.37	-16.33	741.93	741.95

GIRDER 10				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+68.37	5.67	740.28	740.30
S. end of slab	787+69.37	5.67	740.29	740.31
☒ Brg. S. Abut.	787+70.20	5.67	740.30	740.32
a	787+80.20	5.67	740.39	740.46
b	787+90.20	5.67	740.49	740.59
c	788+00.20	5.67	740.58	740.71
d	788+10.20	5.67	740.68	740.81
e	788+20.20	5.67	740.77	740.89
f	788+30.20	5.67	740.86	740.96
g	788+40.20	5.67	740.96	741.03
h	788+50.20	5.67	741.05	741.09
i	788+60.20	5.67	741.15	741.17
☒ Brg. Pier	788+65.37	5.67	741.20	741.22
j	788+75.37	5.67	741.29	741.32
k	788+85.37	5.67	741.38	741.44
l	788+95.37	5.67	741.48	741.56
m	789+05.37	5.67	741.57	741.68
n	789+15.37	5.67	741.67	741.79
o	789+25.37	5.67	741.76	741.89
p	789+35.37	5.67	741.86	741.97
q	789+45.37	5.67	741.95	742.04
r	789+55.37	5.67	742.04	742.09
☒ Brg. N. Abut.	789+60.54	5.67	742.09	742.11
N. end of slab	789+61.37	5.67	742.10	742.12
Bk. of N. Abut.	789+62.37	5.67	742.11	742.13

GIRDER 8				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+68.37	-9.00	740.23	740.25
S. end of slab	787+69.37	-9.00	740.24	740.26
☒ Brg. S. Abut.	787+70.20	-9.00	740.25	740.27
a	787+80.20	-9.00	740.34	740.41
b	787+90.20	-9.00	740.44	740.54
c	788+00.20	-9.00	740.53	740.66
d	788+10.20	-9.00	740.63	740.76
e	788+20.20	-9.00	740.72	740.84
f	788+30.20	-9.00	740.81	740.91
g	788+40.20	-9.00	740.91	740.98
h	788+50.20	-9.00	741.00	741.04
i	788+60.20	-9.00	741.10	741.12
☒ Brg. Pier	788+65.37	-9.00	741.15	741.17
j	788+75.37	-9.00	741.24	741.27
k	788+85.37	-9.00	741.33	741.39
l	788+95.37	-9.00	741.43	741.51
m	789+05.37	-9.00	741.52	741.63
n	789+15.37	-9.00	741.62	741.74
o	789+25.37	-9.00	741.71	741.84
p	789+35.37	-9.00	741.81	741.92
q	789+45.37	-9.00	741.90	741.99
r	789+55.37	-9.00	741.99	742.04
☒ Brg. N. Abut.	789+60.54	-9.00	742.04	742.06
N. end of slab	789+61.37	-9.00	742.05	742.07
Bk. of N. Abut.	789+62.37	-9.00	742.06	742.08

GIRDER 11				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+68.37	13.00	740.17	740.19
S. end of slab	787+69.37	13.00	740.18	740.20
☒ Brg. S. Abut.	787+70.20	13.00	740.18	740.20
a	787+80.20	13.00	740.28	740.34
b	787+90.20	13.00	740.37	740.48
c	788+00.20	13.00	740.47	740.59
d	788+10.20	13.00	740.56	740.69
e	788+20.20	13.00	740.66	740.77
f	788+30.20	13.00	740.75	740.85
g	788+40.20	13.00	740.84	740.91
h	788+50.20	13.00	740.94	740.98
i	788+60.20	13.00	741.03	741.06
☒ Brg. Pier	788+65.37	13.00	741.08	741.10
j	788+75.37	13.00	741.18	741.21
k	788+85.37	13.00	741.27	741.32
l	788+95.37	13.00	741.36	741.44
m	789+05.37	13.00	741.46	741.57
n	789+15.37	13.00	741.55	741.68
o	789+25.37	13.00	741.65	741.78
p	789+35.37	13.00	741.74	741.86
q	789+45.37	13.00	741.83	741.92
r	789+55.37	13.00	741.93	741.97
☒ Brg. N. Abut.	789+60.54	13.00	741.98	742.00
N. end of slab	789+61.37	13.00	741.99	742.01
Bk. of N. Abut.	789+62.37	13.00	741.99	742.01

GIRDER 9				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+68.37	-1.67	740.34	740.36
S. end of slab	787+69.37	-1.67	740.35	740.37
☒ Brg. S. Abut.	787+70.20	-1.67	740.36	740.38
a	787+80.20	-1.67	740.45	740.52
b	787+90.20	-1.67	740.55	740.65
c	788+00.20	-1.67	740.64	740.77
d	788+10.20	-1.67	740.74	740.87
e	788+20.20	-1.67	740.83	740.95
f	788+30.20	-1.67	740.92	741.02
g	788+40.20	-1.67	741.02	741.09
h	788+50.20	-1.67	741.11	741.15
i	788+60.20	-1.67	741.21	741.23
☒ Brg. Pier	788+65.37	-1.67	741.26	741.28
j	788+75.37	-1.67	741.35	741.38
k	788+85.37	-1.67	741.44	741.50
l	788+95.37	-1.67	741.54	741.62
m	789+05.37	-1.67	741.63	741.74
n	789+15.37	-1.67	741.73	741.85
o	789+25.37	-1.67	741.82	741.95
p	789+35.37	-1.67	741.92	742.03
q	789+45.37	-1.67	742.01	742.10
r	789+55.37	-1.67	742.10	742.15
☒ Brg. N. Abut.	789+60.54	-1.67	742.15	742.17
N. end of slab	789+61.37	-1.67	742.16	742.18
Bk. of N. Abut.	789+62.37	-1.67	742.17	742.19

GIRDER 12				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+68.37	20.33	740.02	740.04
S. end of slab	787+69.37	20.33	740.03	740.05
☒ Brg. S. Abut.	787+70.20	20.33	740.04	740.06
a	787+80.20	20.33	740.13	740.20
b	787+90.20	20.33	740.23	740.33
c	788+00.20	20.33	740.32	740.45
d	788+10.20	20.33	740.41	740.54
e	788+20.20	20.33	740.51	740.63
f	788+30.20	20.33	740.60	740.70
g	788+40.20	20.33	740.70	740.76
h	788+50.20	20.33	740.79	740.83
i	788+60.20	20.33	740.89	740.91
☒ Brg. Pier	788+65.37	20.33	740.93	740.95
j	788+75.37	20.33	741.03	741.06
k	788+85.37	20.33	741.12	741.18
l	788+95.37	20.33	741.22	741.30
m	789+05.37	20.33	741.31	741.42
n	789+15.37	20.33	741.41	741.53
o	789+25.37	20.33	741.50	741.63
p	789+35.37	20.33	741.59	741.71
q	789+45.37	20.33	741.69	741.77
r	789+55.37	20.33	741.78	741.83
☒ Brg. N. Abut.	789+60.54	20.33	741.83	741.85
N. end of slab	789+61.37	20.33	741.84	741.86
Bk. of N. Abut.	789+62.37	20.33	741.85	741.87

(Sheet 2 of 2)

	USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS (NB) STRUCTURE NO. 015-0078 (NB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	ESCA PROJECT NO. 1343.08	CHECKED - SHL 02/22	REVISED -			57	(15-22HB-4)BR(15-22)R	COLES	1086	671
	PLOT SCALE	DRAWN - KAH 12/21	REVISED -			CONTRACT NO. 74435				
	PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -			ILLINOIS FED. AID PROJECT				
	SHEET 11 OF 41 SHEETS									

SOUTH APPROACH SLAB (SB)

WEST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Appr.	787+41.44	-22.00	739.67	739.69
A1	787+51.44	-22.00	739.77	739.79
A2	787+61.44	-22.00	739.86	739.88
N. end of S. Appr.	787+71.44	-22.00	739.96	739.98

WEST EDGE OF ROADWAY

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Appr.	787+41.44	-12.00	739.87	739.89
A1	787+51.44	-12.00	739.97	739.99
A2	787+61.44	-12.00	740.06	740.08
N. end of S. Appr.	787+71.44	-12.00	740.16	740.18

CENTERLINE SBL & P.G.

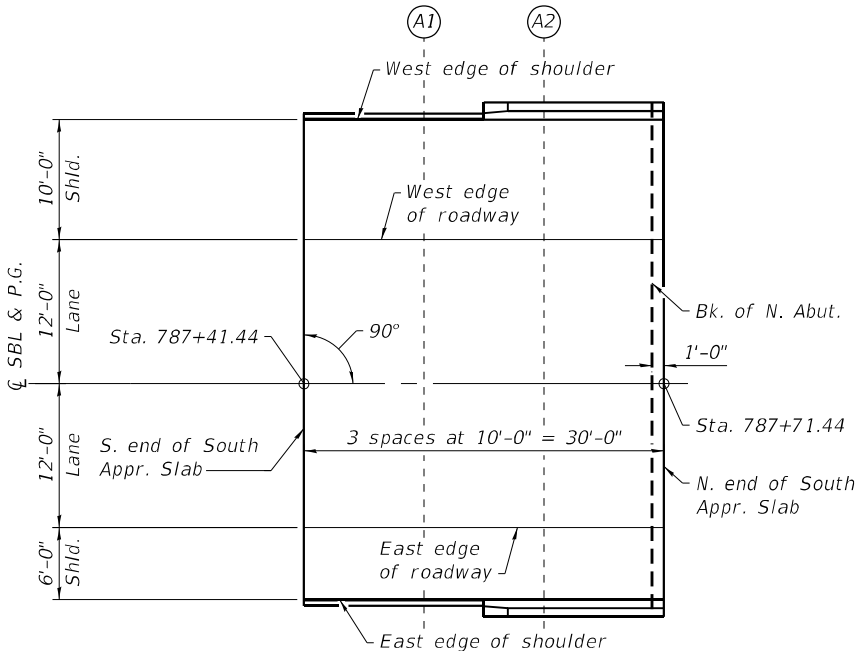
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Appr.	787+41.44	0.00	740.05	740.07
A1	787+51.44	0.00	740.15	740.17
A2	787+61.44	0.00	740.24	740.26
N. end of S. Appr.	787+71.44	0.00	740.34	740.36

EAST EDGE OF ROADWAY

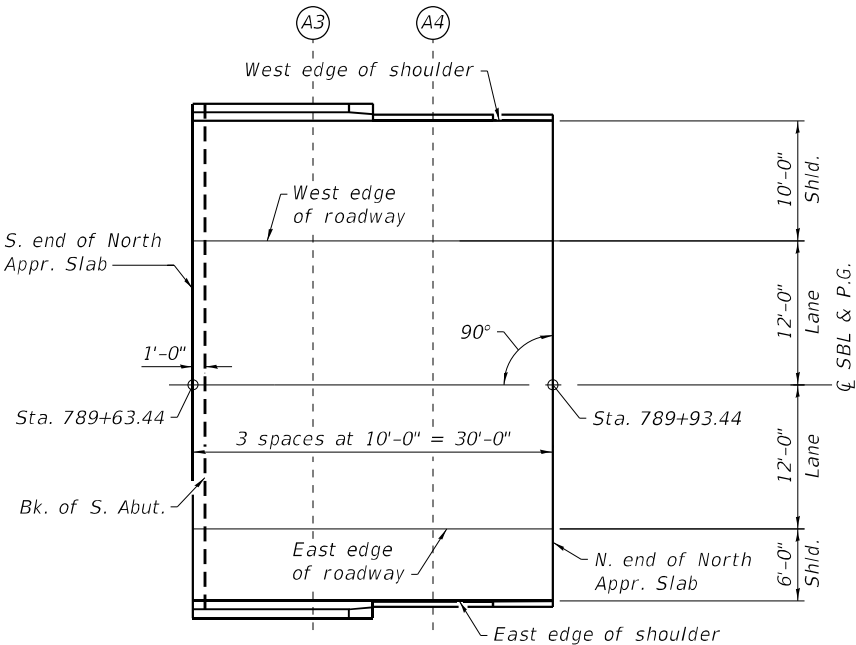
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Appr.	787+41.44	12.00	739.87	739.89
A1	787+51.44	12.00	739.97	739.99
A2	787+61.44	12.00	740.06	740.08
N. end of S. Appr.	787+71.44	12.00	740.16	740.18

EAST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Appr.	787+41.44	18.00	739.75	739.77
A1	787+51.44	18.00	739.85	739.87
A2	787+61.44	18.00	739.94	739.96
N. end of S. Appr.	787+71.44	18.00	740.04	740.06



SOUTH APPROACH SLAB PLAN (SB)



NORTH APPROACH SLAB PLAN (SB)

NORTH APPROACH SLAB (SB)

WEST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Appr.	789+63.44	-22.00	741.78	741.80
A3	789+73.44	-22.00	741.87	741.89
A4	789+83.44	-22.00	741.97	741.99
N. end of N. Appr.	789+93.44	-22.00	742.06	742.08

WEST EDGE OF ROADWAY

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Appr.	789+63.44	-12.00	741.98	742.00
A3	789+73.44	-12.00	742.07	742.09
A4	789+83.44	-12.00	742.17	742.19
N. end of N. Appr.	789+93.44	-12.00	742.26	742.28

CENTERLINE SBL & P.G.

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Appr.	789+63.44	0.00	742.16	742.18
A3	789+73.44	0.00	742.25	742.27
A4	789+83.44	0.00	742.35	742.37
N. end of N. Appr.	789+93.44	0.00	742.44	742.46

EAST EDGE OF ROADWAY

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Appr.	789+63.44	12.00	741.98	742.00
A3	789+73.44	12.00	742.07	742.09
A4	789+83.44	12.00	742.17	742.19
N. end of N. Appr.	789+93.44	12.00	742.26	742.28

EAST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Appr.	789+63.44	18.00	741.86	741.88
A3	789+73.44	18.00	741.95	741.97
A4	789+83.44	18.00	742.05	742.07
N. end of N. Appr.	789+93.44	18.00	742.14	742.16

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USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - SHL 02/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS (SB)
STRUCTURE NO. 015-0079 (SB)

SHEET 12 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	672
				CONTRACT NO. 74435
				ILLINOIS FED. AID PROJECT

SOUTH APPROACH SLAB (NB)

WEST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Appr.	787+39.37	-18.00	739.79	739.81
A1	787+49.37	-18.00	739.89	739.91
A2	787+59.37	-18.00	739.98	740.00
N. end of S. Appr.	787+69.37	-18.00	740.08	740.10

WEST EDGE OF ROADWAY

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Appr.	787+39.37	-12.00	739.91	739.93
A1	787+49.37	-12.00	740.01	740.03
A2	787+59.37	-12.00	740.10	740.12
N. end of S. Appr.	787+69.37	-12.00	740.20	740.22

CENTERLINE NBL & P.G.

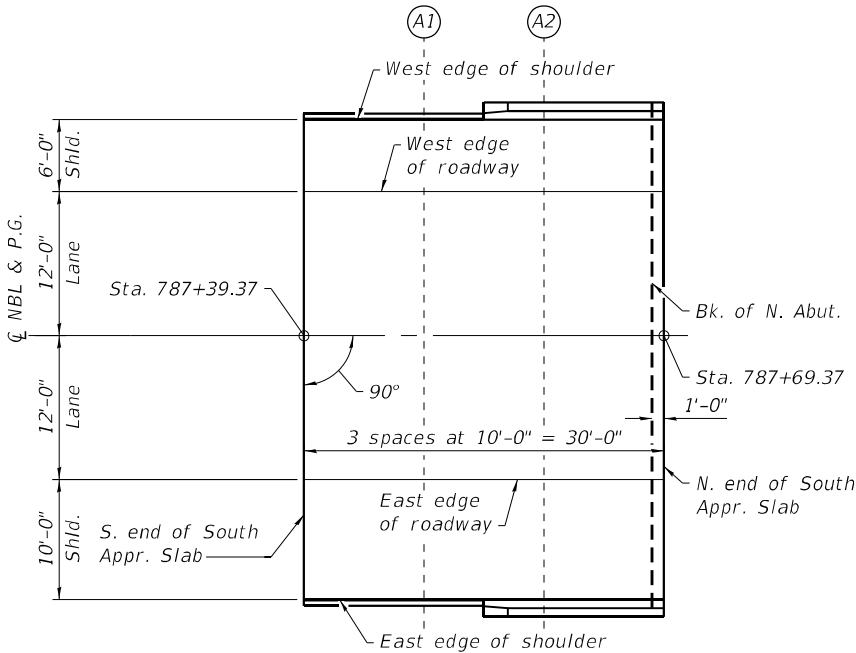
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Appr.	787+39.37	0.00	740.09	740.11
A1	787+49.37	0.00	740.19	740.21
A2	787+59.37	0.00	740.28	740.30
N. end of S. Appr.	787+69.37	0.00	740.38	740.40

EAST EDGE OF ROADWAY

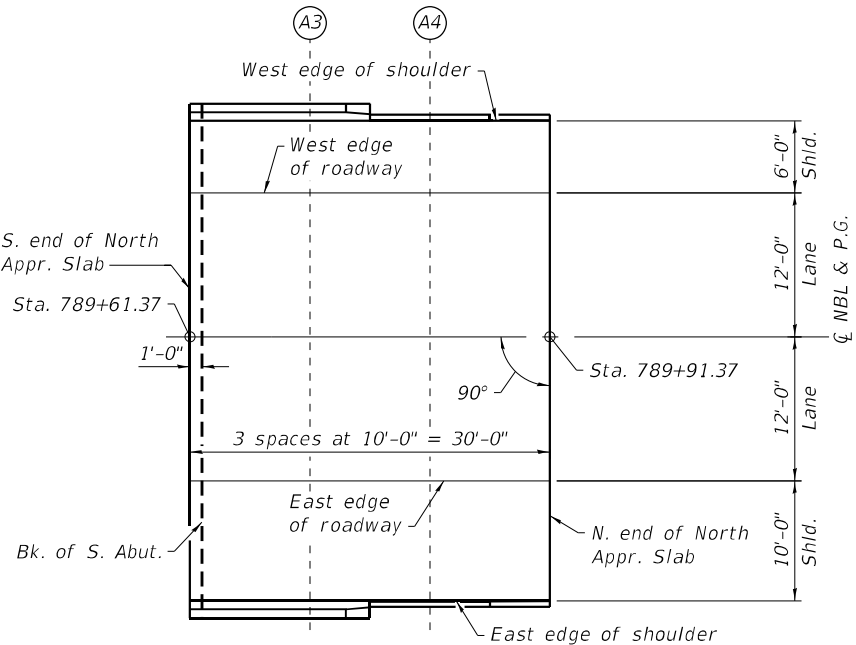
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Appr.	787+39.37	12.00	739.91	739.93
A1	787+49.37	12.00	740.01	740.03
A2	787+59.37	12.00	740.10	740.12
N. end of S. Appr.	787+69.37	12.00	740.20	740.22

EAST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Appr.	787+39.37	22.00	739.71	739.73
A1	787+49.37	22.00	739.81	739.83
A2	787+59.37	22.00	739.90	739.92
N. end of S. Appr.	787+69.37	22.00	740.00	740.02



SOUTH APPROACH SLAB PLAN (NB)



NORTH APPROACH SLAB PLAN (NB)

NORTH APPROACH SLAB (NB)

WEST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Appr.	789+61.37	-18.00	741.89	741.91
A3	789+71.37	-18.00	741.98	742.00
A4	789+81.37	-18.00	742.07	742.09
N. end of N. Appr.	789+91.37	-18.00	742.17	742.19

WEST EDGE OF ROADWAY

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Appr.	789+61.37	-12.00	742.01	742.03
A3	789+71.37	-12.00	742.10	742.12
A4	789+81.37	-12.00	742.19	742.21
N. end of N. Appr.	789+91.37	-12.00	742.29	742.31

CENTERLINE NBL & P.G.

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Appr.	789+61.37	0.00	742.19	742.21
A3	789+71.37	0.00	742.28	742.30
A4	789+81.37	0.00	742.37	742.39
N. end of N. Appr.	789+91.37	0.00	742.47	742.49

EAST EDGE OF ROADWAY

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Appr.	789+61.37	12.00	742.01	742.03
A3	789+71.37	12.00	742.10	742.12
A4	789+81.37	12.00	742.19	742.21
N. end of N. Appr.	789+91.37	12.00	742.29	742.31

EAST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Appr.	789+61.37	22.00	741.81	741.83
A3	789+71.37	22.00	741.90	741.92
A4	789+81.37	22.00	741.99	742.01
N. end of N. Appr.	789+91.37	22.00	742.09	742.11

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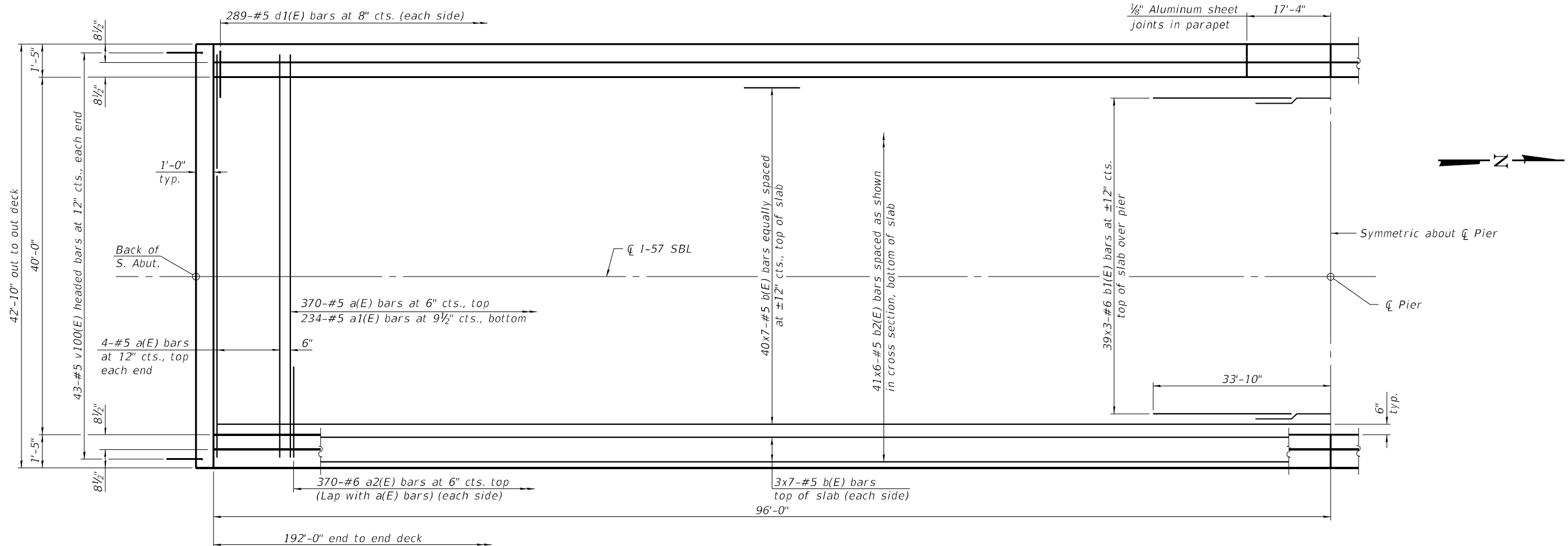
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ESCA PROJECT NO. 1343.08	CHECKED - SHL 02/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS (NB)
STRUCTURE NO. 015-0078 (NB)

SHEET 13 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	673
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

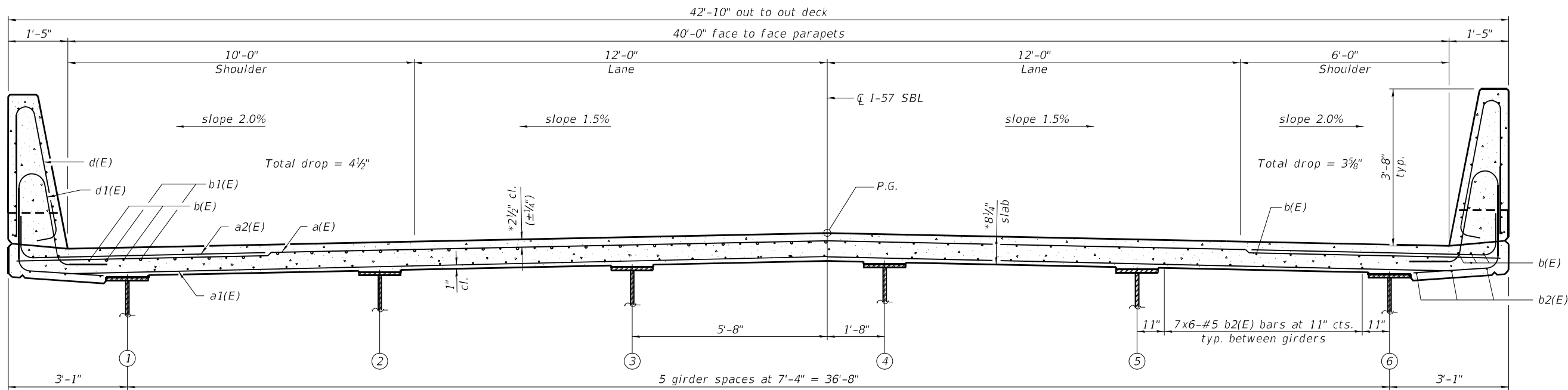


MINIMUM BAR LAP

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

PARTIAL PLAN

Notes:
See sheet 16 of 41 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.



NEAR PIER

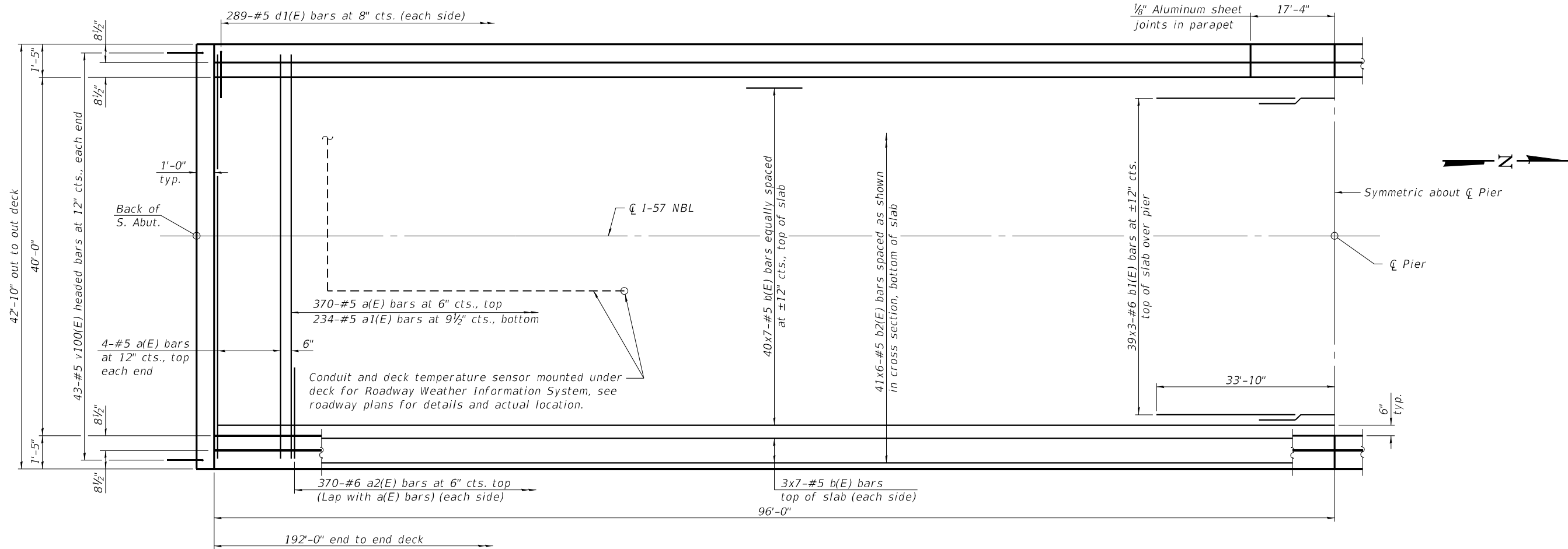
CROSS SECTION
(Looking North)

NEAR MIDSPAN

* Prior to grinding

MODEL: Default
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 LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois	USER NAME =	DESIGNED - AML	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE (SB) STRUCTURE NO. 015-0079 (SB)	SHEET 14 OF 41 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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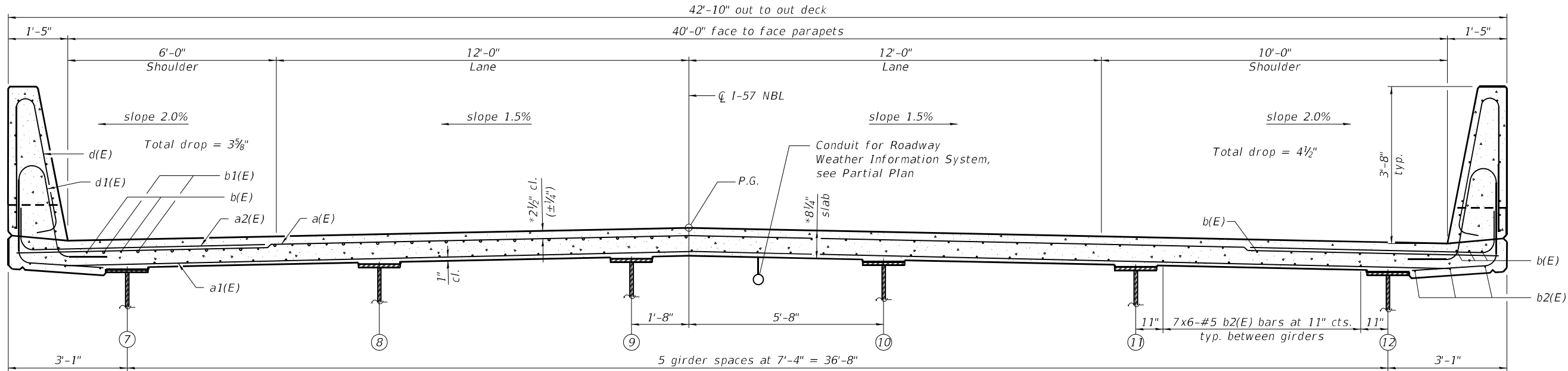


MINIMUM BAR LAP

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

PARTIAL PLAN

Notes:
See sheet 16 of 41 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.



NEAR PIER

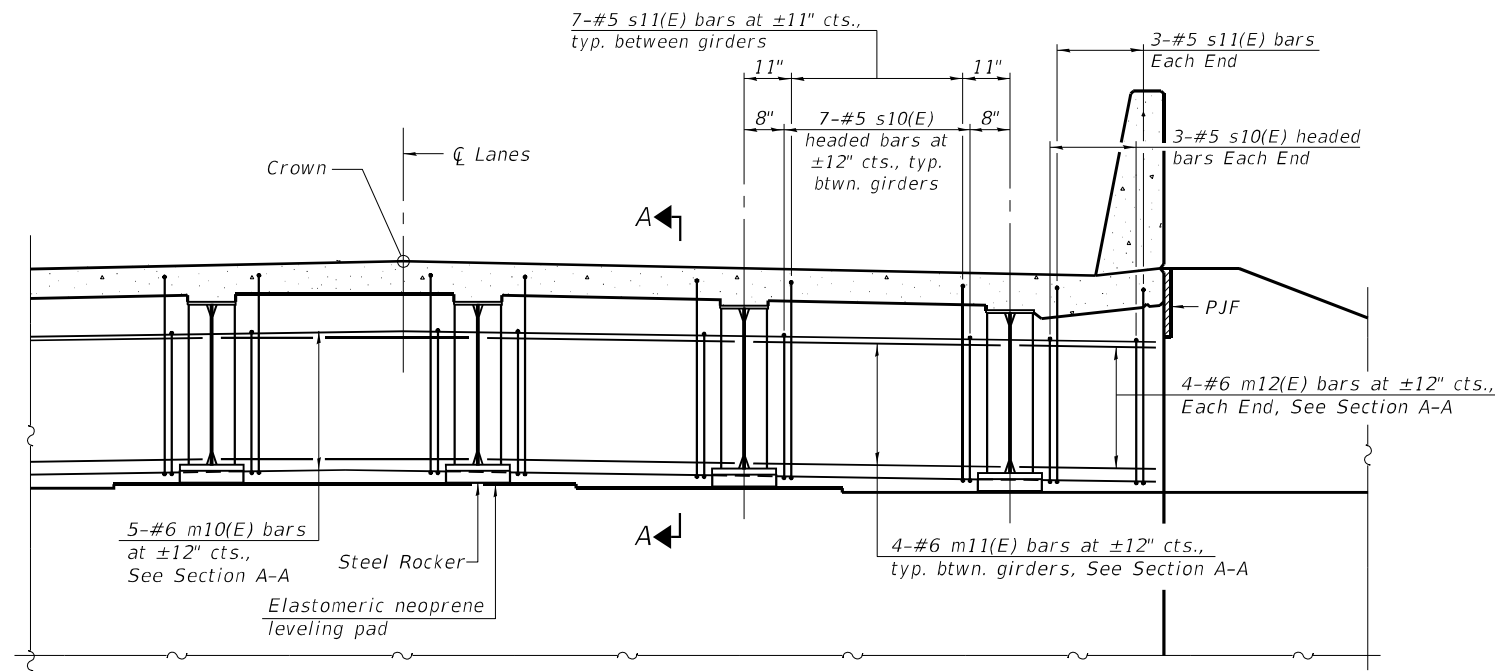
CROSS SECTION
(Looking North)

NEAR MIDSPAN

* Prior to grinding

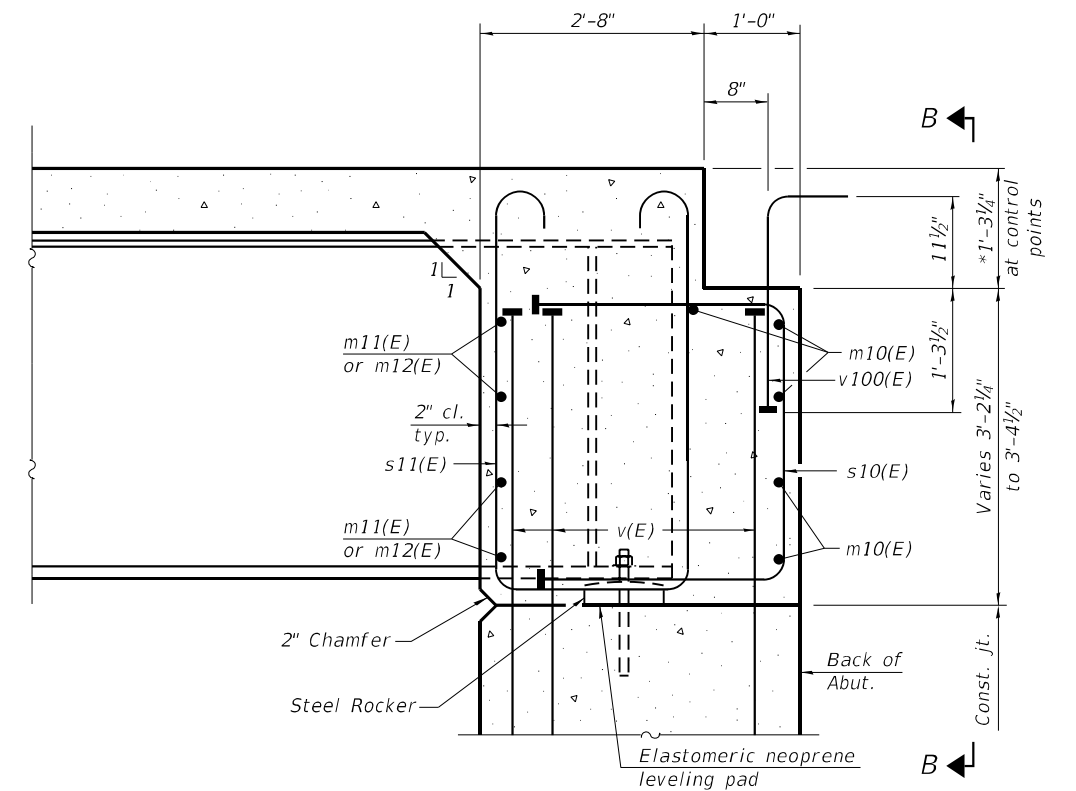
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LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois	USER NAME =	DESIGNED - AML	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE (NB) STRUCTURE NO. 015-0078 (NB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			57	(15-22HB-4)BR(15-22)R	COLES	1086	675
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	PLOT DATE = 8/21/2024	CHECKED - MTH	REVISED -			ILLINOIS FED. AID PROJECT				
	SHEET 15 OF 41 SHEETS									

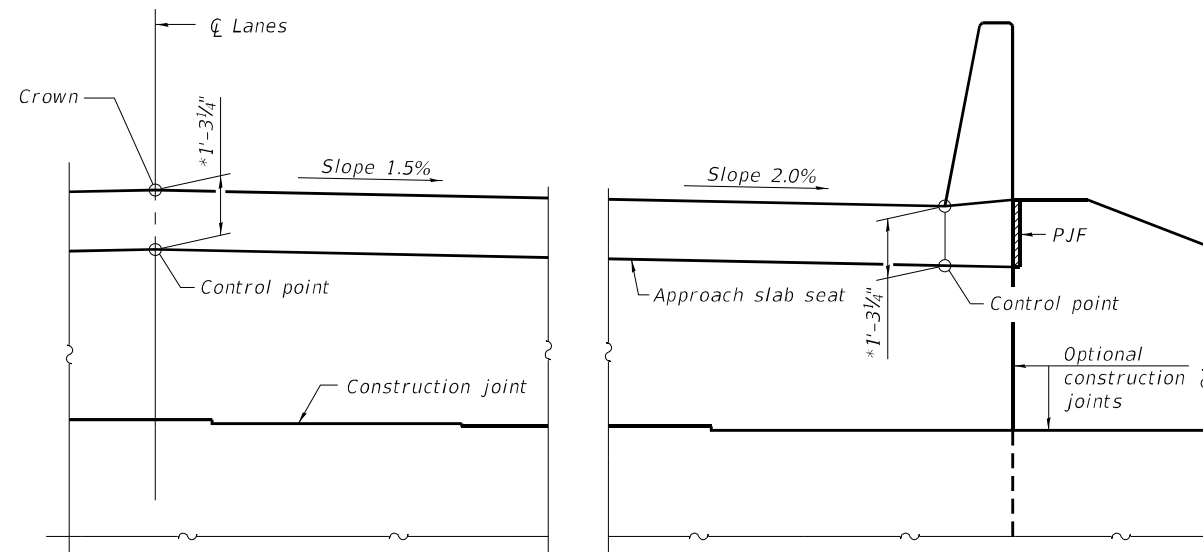


DIAPHRAGM AT ABUTMENT

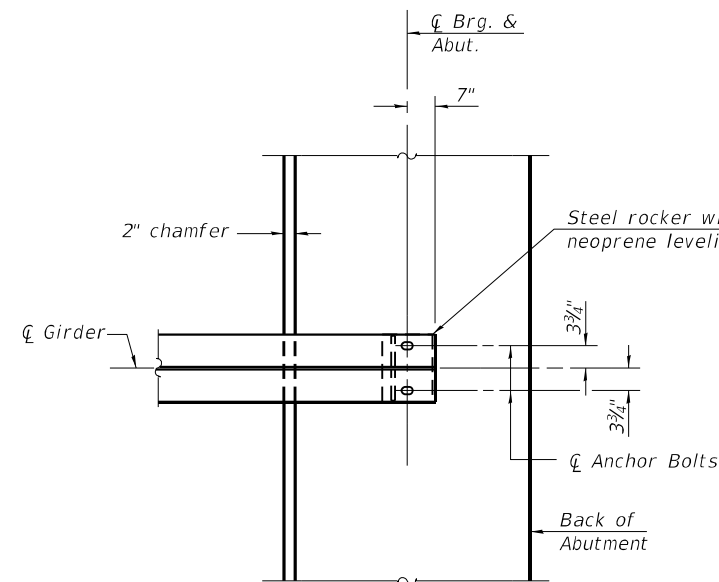
* Prior to grinding



SECTION A-A



VIEW B-B



PLAN AT ABUTMENT
(Showing bottom flange of girder)

Notes:
See sheet 16 of 41 for superstructure details and Bill of Material.
See sheet 18 or 19 of 41 for P.J.F. details.
The approach slab seat shall have a constant slope determined from the control points shown.

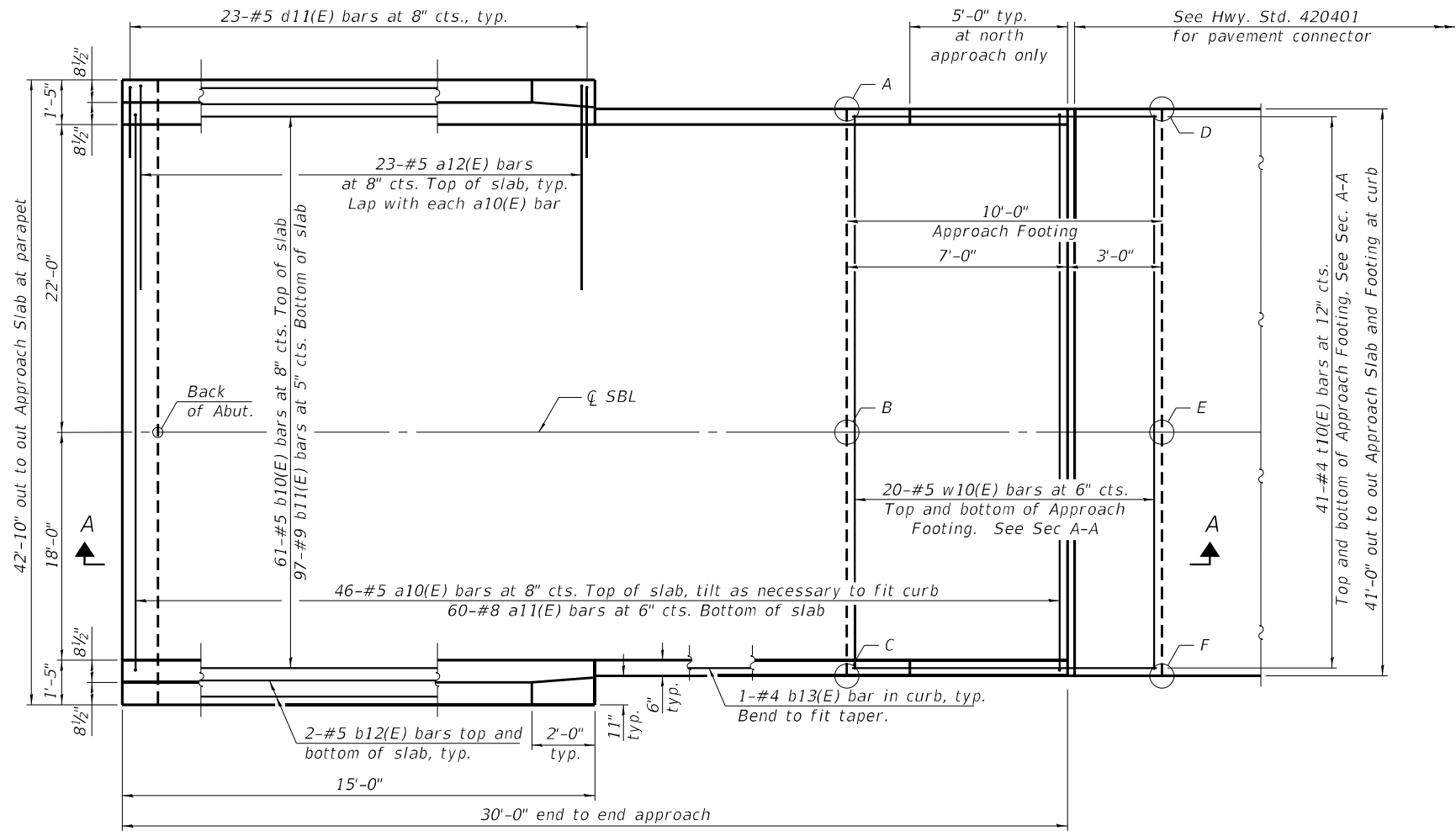
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DIAPHRAGM DETAILS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)**

SHEET 17 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	677
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

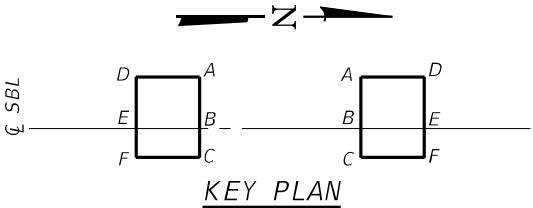
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CHECKED - MTH	REVISED -	
PLOT SCALE =	DRAWN - AJF	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTH	REVISED -



Note:
See sheet 20 of 41 for Section A-A, Bill of Material
and additional details.

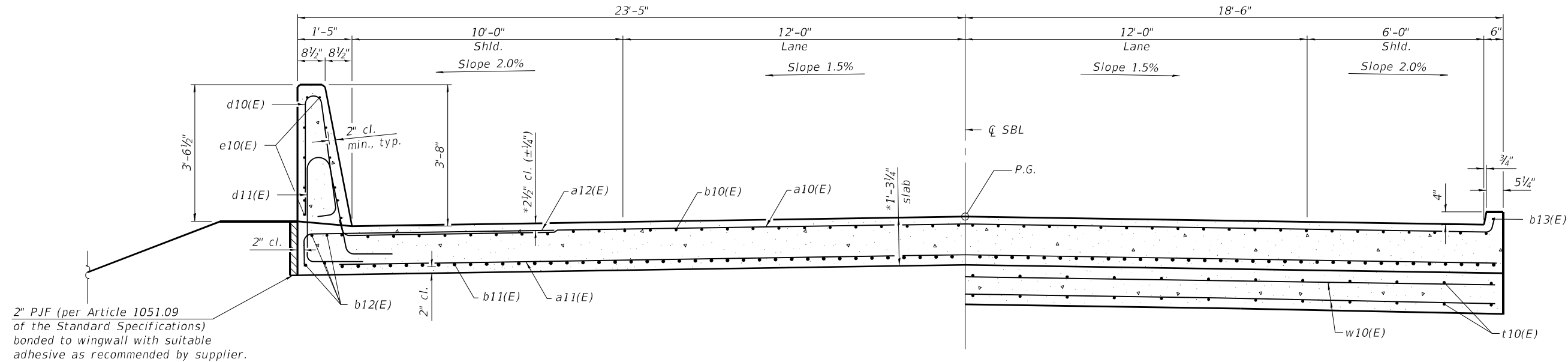
**TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING (SB)**

South Approach			North Approach		
Point/ Location	Top	Bottom	Point/ Location	Top	Bottom
A	738.48	737.65	A	740.74	739.91
B	738.87	738.04	B	741.13	740.30
C	738.56	737.73	C	740.82	739.99
D	738.39	737.56	D	740.83	740.00
E	738.78	737.95	E	741.22	740.39
F	738.47	737.64	F	740.91	740.08



PLAN

(North approach slab shown; South approach slab similar by opposite hand)



NEAR ABUTMENT

**CROSS SECTION
(Looking North)**

* Prior to grinding

AT APPROACH FOOTING

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB (SB)
STRUCTURE NO. 015-0079 (SB)**

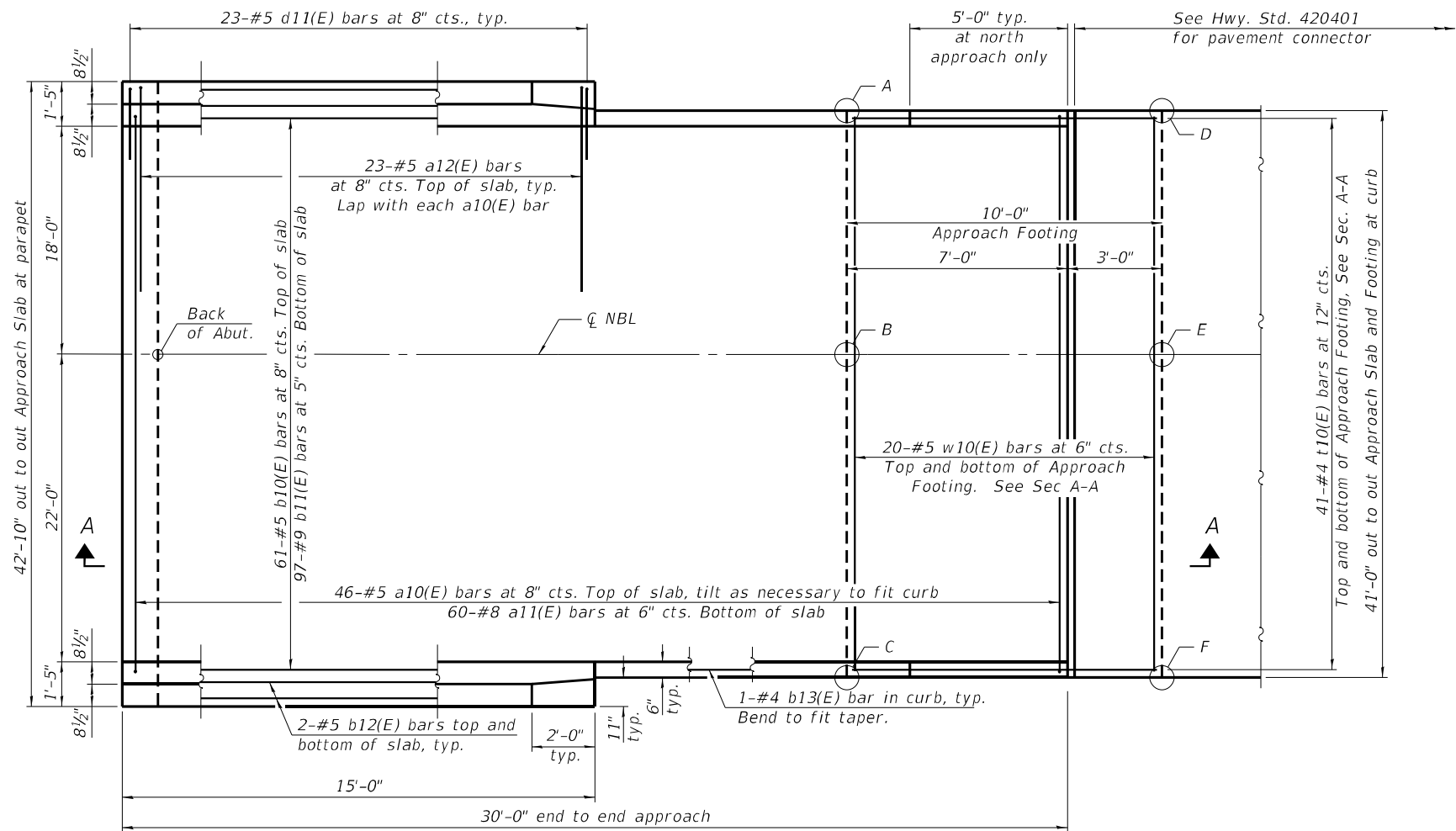
SHEET 18 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	678
CONTRACT NO. 74435				

ILLINOIS FED. AID PROJECT

USER NAME =	DESIGNED - AML	REVISED -
PLOT SCALE =	CHECKED - MTH	REVISED -
PLOT DATE = 8/21/2024	DRAWN - AJF	REVISED -
	CHECKED - MTH	REVISED -

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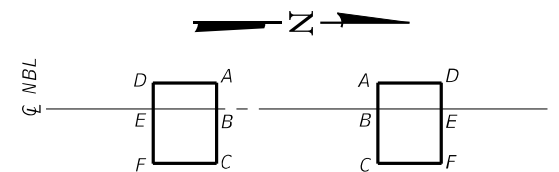
PLAN

(North approach slab shown; South approach slab similar by opposite hand)

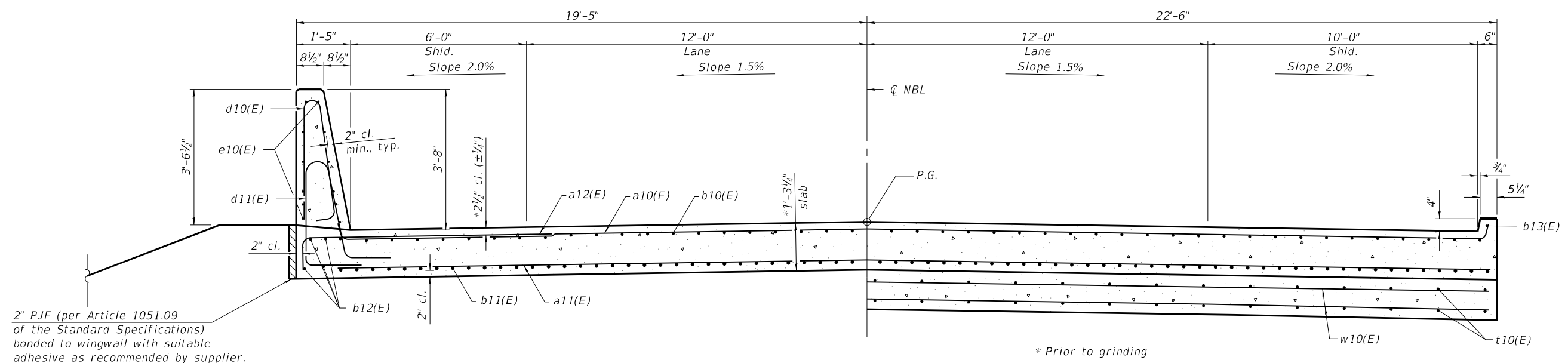
Note:
See sheet 20 of 41 for Section A-A, Bill of Material
and additional details.

TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING (NB)

South Approach			North Approach		
Point/ Location	Top	Bottom	Point/ Location	Top	Bottom
A	738.60	737.77	A	740.84	740.01
B	738.91	738.08	B	741.15	740.32
C	738.52	737.69	C	740.76	739.93
D	738.51	737.68	D	740.94	740.11
E	738.82	737.99	E	741.25	740.42
F	738.43	737.60	F	740.86	740.03



KEY PLAN



NEAR ABUTMENT

CROSS SECTION
(Looking North)

AT APPROACH FOOTING



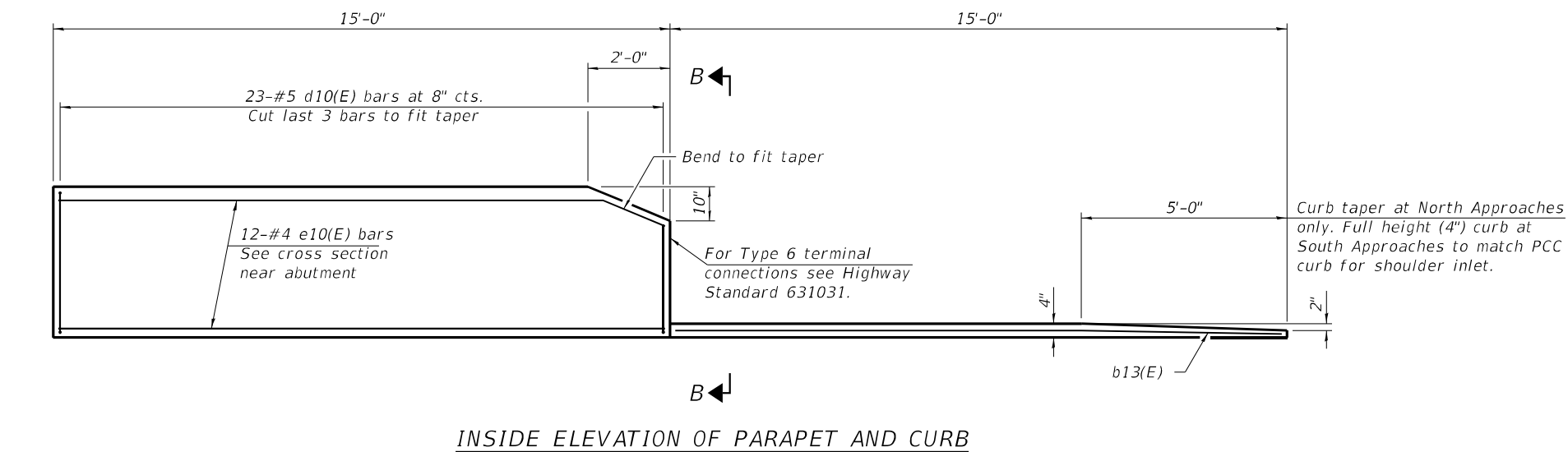
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PLOT SCALE =	CHECKED - MTH	REVISED -
PLOT DATE = 8/21/2024	DRAWN - AJF	REVISED -
	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB (NB)
STRUCTURE NO. 015-0078 (NB)

SHEET 19 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	679
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



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.

Parapet concrete shall be paid for as Concrete Superstructure.

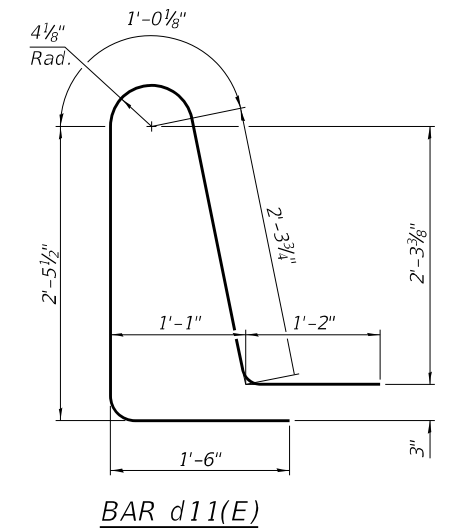
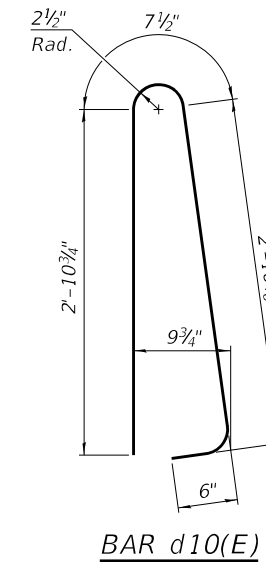
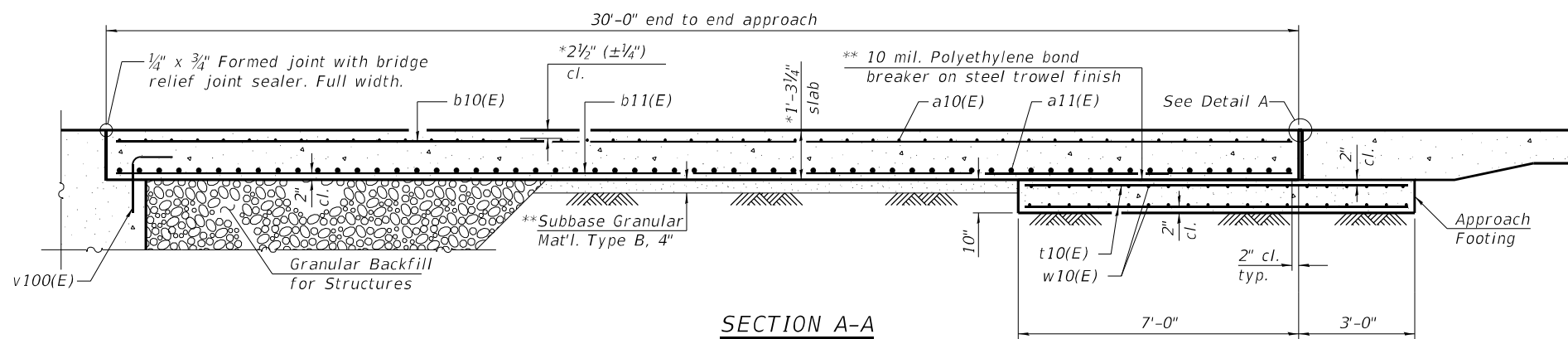
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).

Approach footing concrete shall be paid for as Concrete Structures.

The approach footing maximum applied service bearing pressure (Q_{max}) = 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 41.

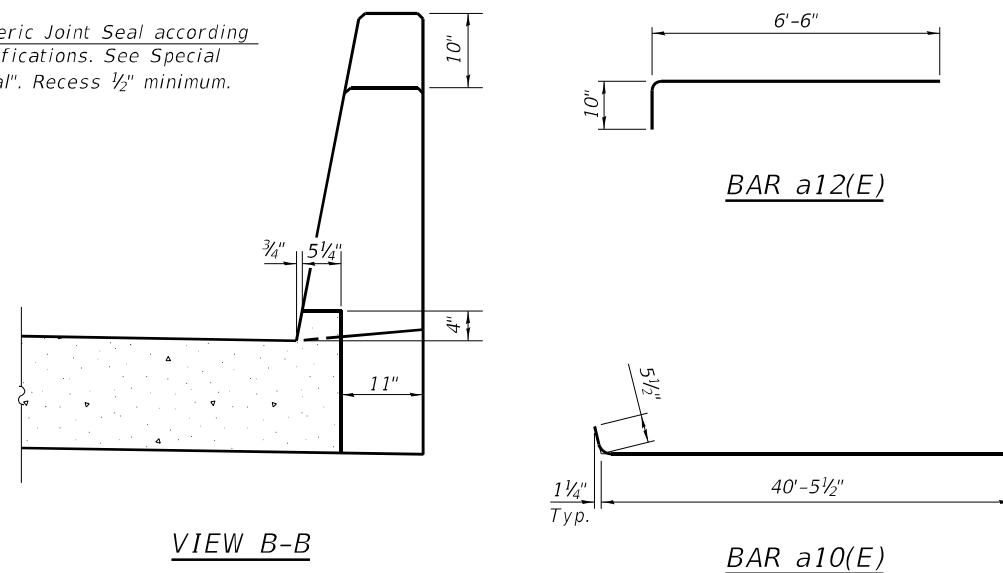
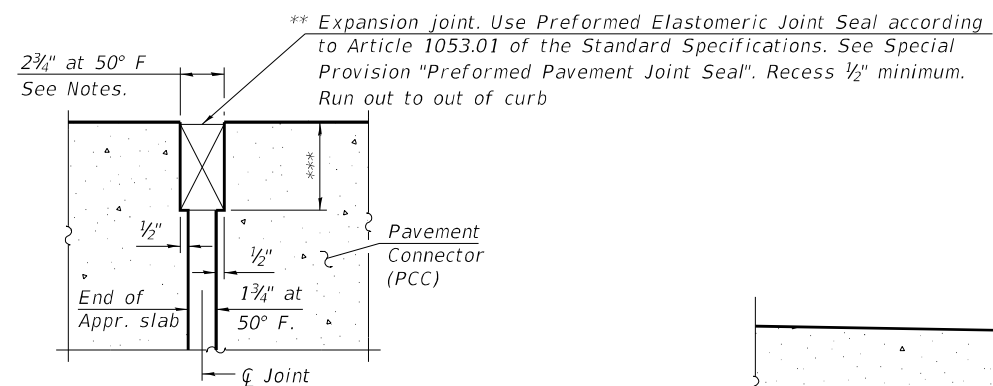


SOUTHBOUND (SB)
TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	92	#5	41'-5"	
a11(E)	120	#8	40'-8"	
a12(E)	92	#5	7'-4"	
b10(E)	122	#5	29'-8"	
b11(E)	194	#9	29'-8"	
b12(E)	16	#5	14'-8"	
b13(E)	4	#4	14'-8"	
d10(E)	92	#5	7'-0"	
d11(E)	92	#5	8'-6"	
e10(E)	48	#4	14'-8"	
t10(E)	164	#4	9'-8"	
w10(E)	80	#5	40'-8"	
Concrete Superstructure			Cu. Yd.	8.4
Concrete Superstructure (Approach Slab)			Cu. Yd.	119.2
Concrete Structures			Cu. Yd.	25.4
Reinforcement Bars, Epoxy Coated			Pound	47,760

NORTHBOUND (NB)
TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	92	#5	41'-5"	
a11(E)	120	#8	40'-8"	
a12(E)	92	#5	7'-4"	
b10(E)	122	#5	29'-8"	
b11(E)	194	#9	29'-8"	
b12(E)	16	#5	14'-8"	
b13(E)	4	#4	14'-8"	
d10(E)	92	#5	7'-0"	
d11(E)	92	#5	8'-6"	
e10(E)	48	#4	14'-8"	
t10(E)	164	#4	9'-8"	
w10(E)	80	#5	40'-8"	
Concrete Superstructure			Cu. Yd.	8.4
Concrete Superstructure (Approach Slab)			Cu. Yd.	119.2
Concrete Structures			Cu. Yd.	25.4
Reinforcement Bars, Epoxy Coated			Pound	47,760

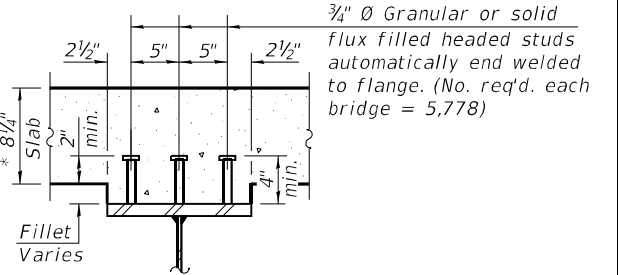
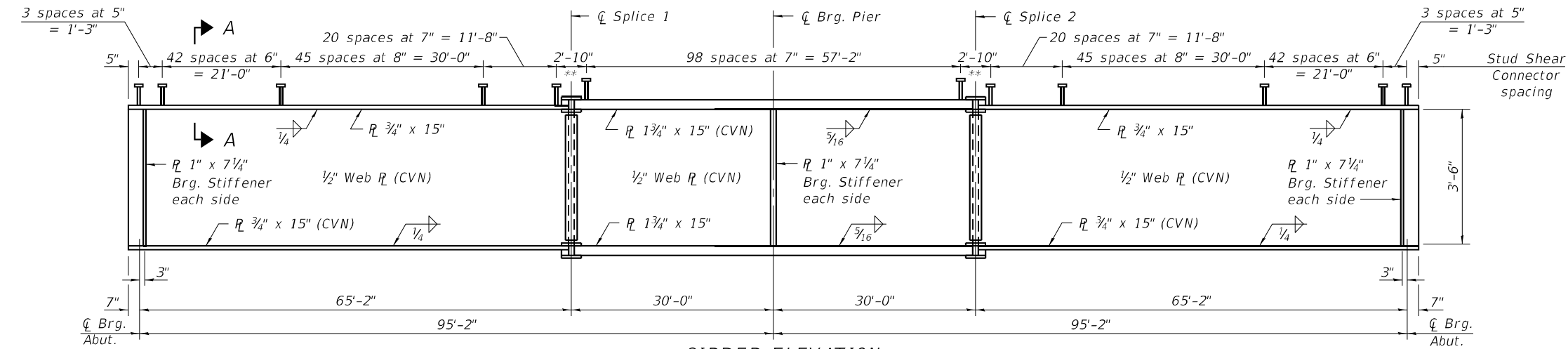
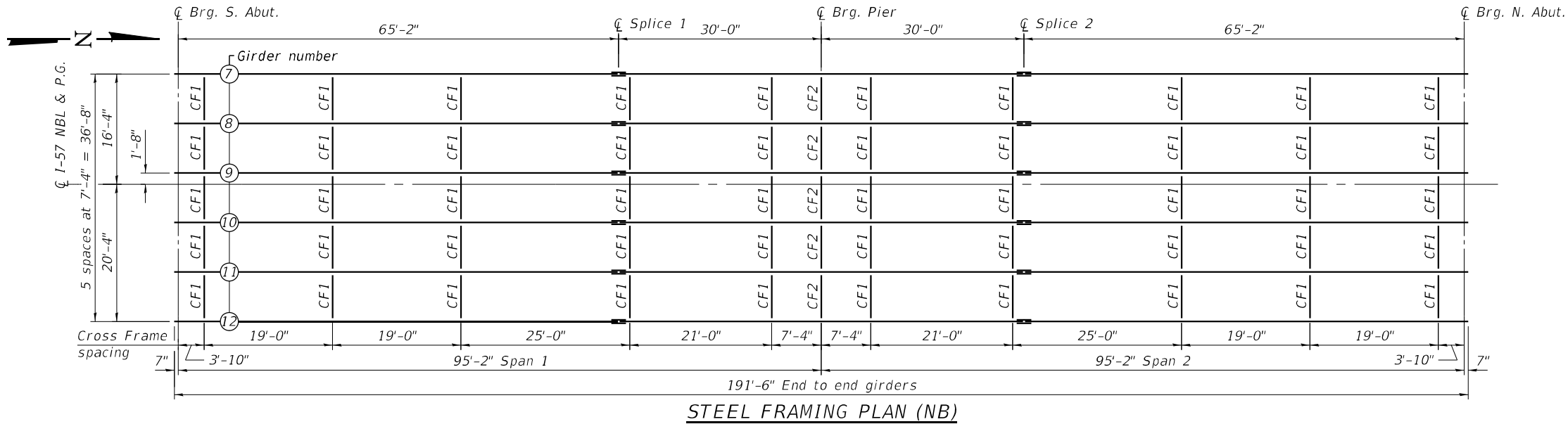
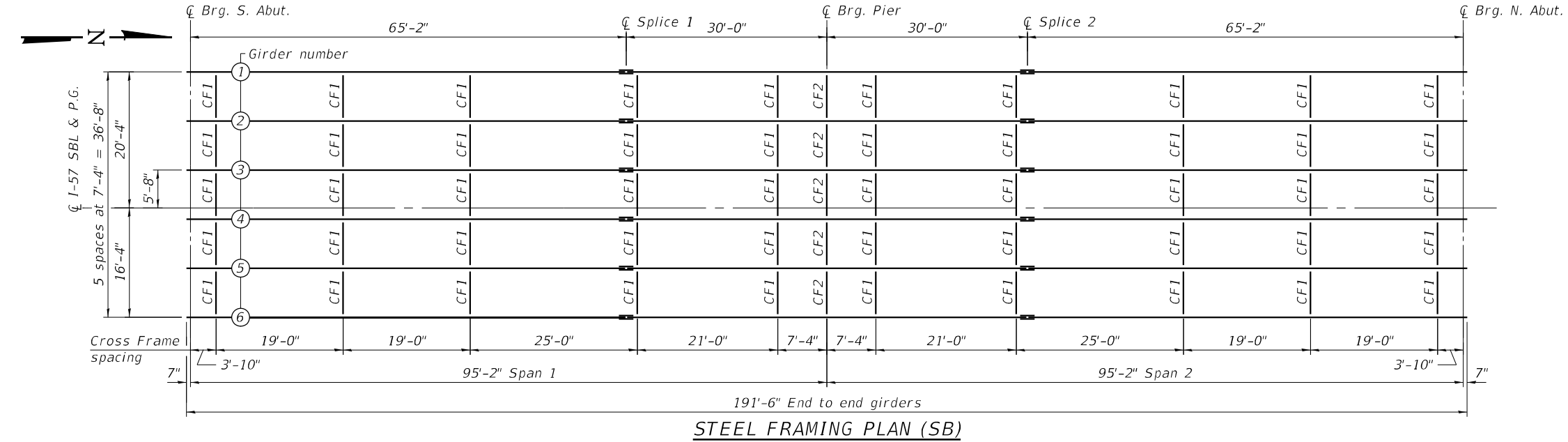


* Prior to grinding

** Cost included with Concrete Superstructure (Approach Slab).

*** Per manufacturer recommendations

Notes:
See sheets 22 and 23 of 41 for additional steel details.
All cross frames shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
All flange, web and bearing stiffener plates shall be AASHTO M270, Grade 50.



* Prior to grinding

** Omit shear connectors over splice plates

(CVN) denotes Charpy-V-Notch Impact Energy Requirements, Zone 2.

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-21-Steel\mPhD.dgn



USER NAME	= nhc
ESCA PROJECT NO.	1343.08
PLOT SCALE	
PLOT DATE	= 8/21/2024

DESIGNED	- MTD	12/21
CHECKED	- PRH	01/22
DRAWN	- KAH	12/21
CHECKED	- MTD	01/22

REVISED	-	
REVISED	-	
REVISED	-	
REVISED	-	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

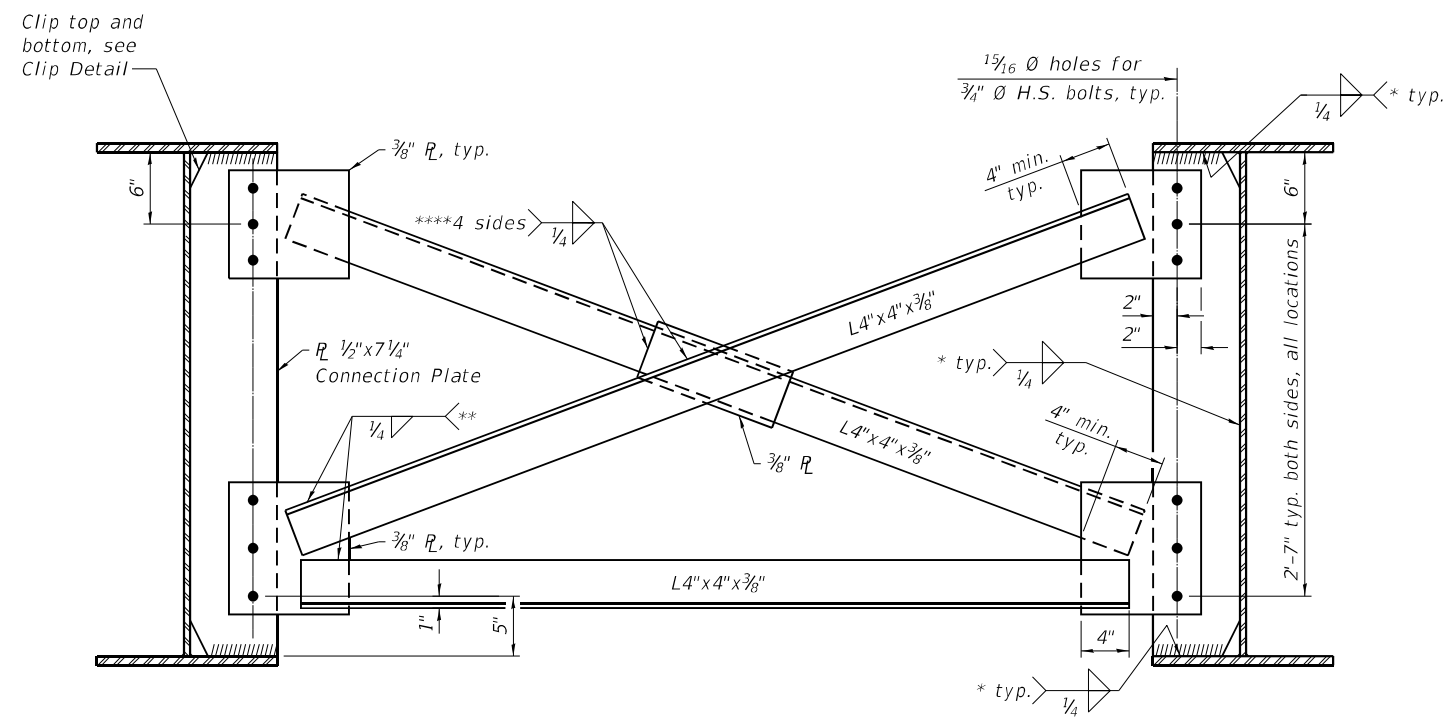
STEEL FRAMING PLANS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 21 OF 41 SHEETS

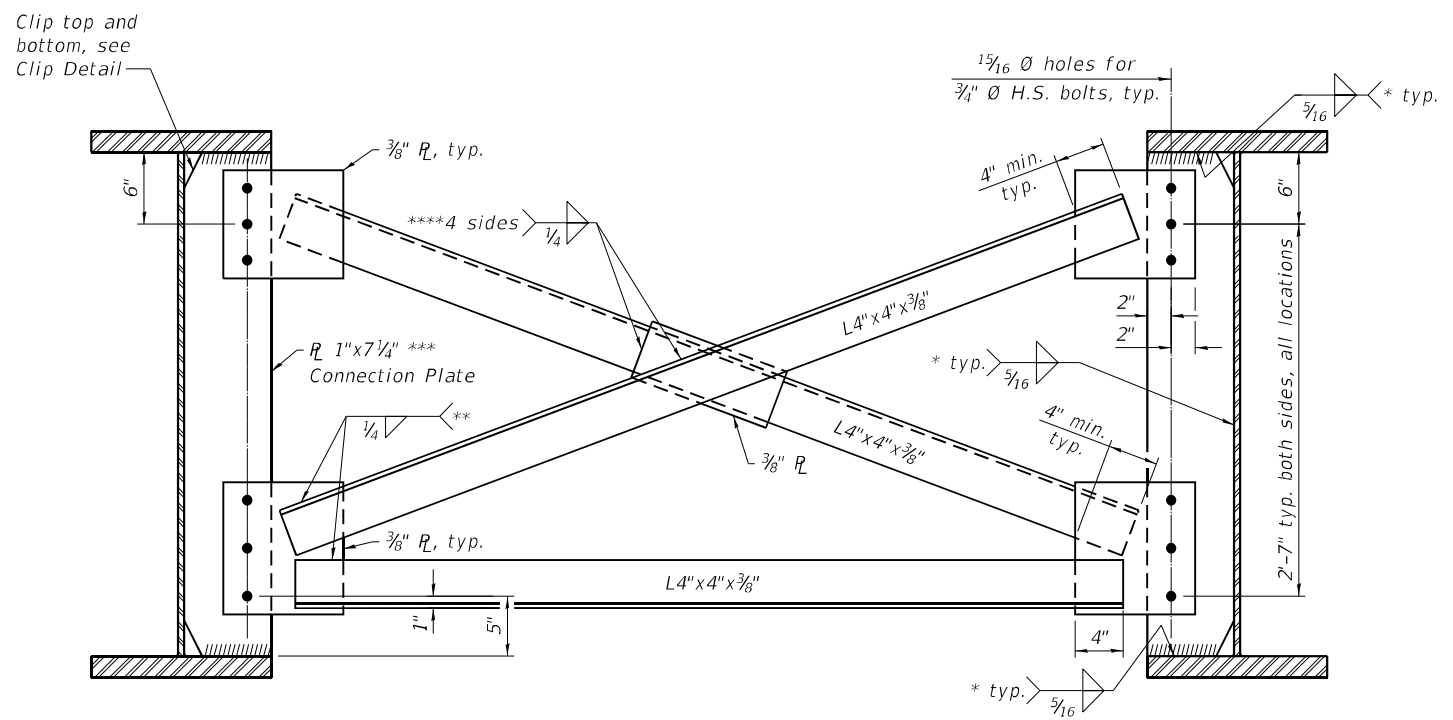
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	681
CONTRACT NO. 74435				

ILLINOIS FED. AID PROJECT

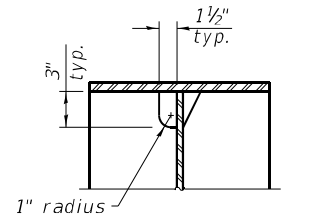
Notes:
Two hardened washers required for each set of oversized holes.
All splices are symmetrical about $\bar{C}$ splice except for fills.
All splice plates, except fill plates, shall be AASHTO M270, Grade 50.



INTERIOR CROSS FRAME - CF1
(No. req'd = 100)



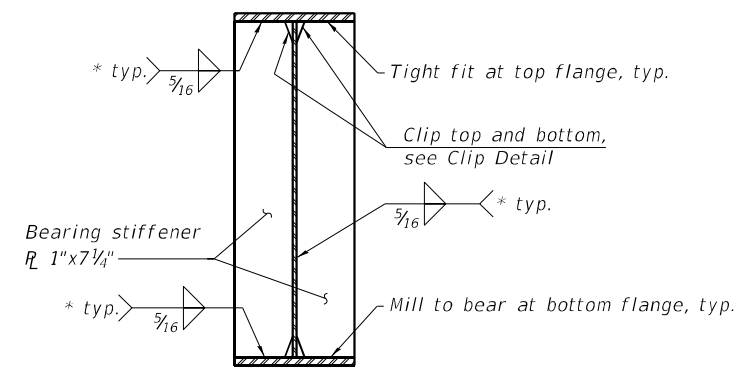
INTERIOR CROSS FRAME - CF2
(No. req'd = 10)



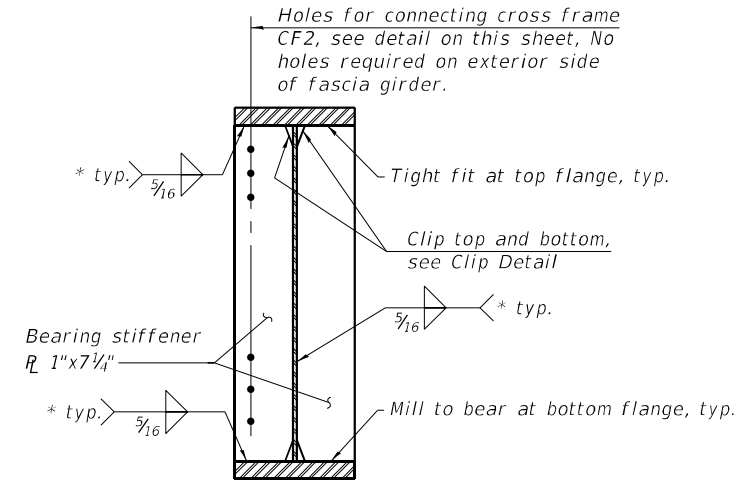
CLIP DETAIL

The Contractor has the option of using the standard clip or alternate clip. The clip detail selected shall be used for all connection plates and bearing stiffeners.

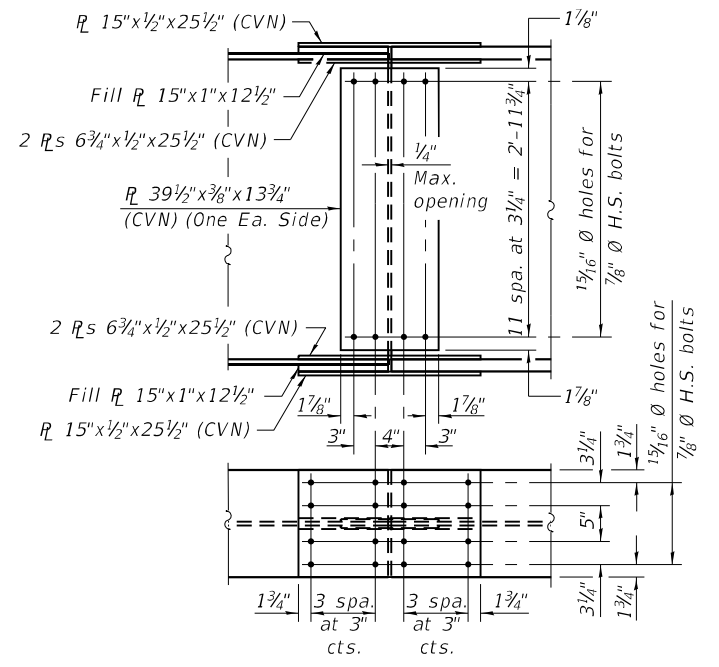
- * Terminate $1/4$ " ($\pm 1/8$ ") from edges of plate.
- ** Fillet weld angles along 3 sides on one face of gusset plate; however, if cross frames are galvanized, weld all-around.
- *** Also functions as bearing stiffener.
- **** If cross frames are galvanized, weld all-around.



SECTION AT ABUTMENT
(No. stiffeners req'd = 48)



SECTION AT PIER
(No. stiffeners req'd = 24)



FIELD SPLICE DETAIL

(CVN) denotes Charpy-V-Notch Impact Energy Requirements, Zone 2

(Sheet 1 of 2)

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-22-SIF.mxd

	USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STEEL FRAMING DETAILS STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	ESCA PROJECT NO. 1343.08	CHECKED - PRH 01/22	REVISED -			57	(15-22HB-4)BR(15-22)R	COLES	1086	682	
	PLOT SCALE	DRAWN - KAH 12/21	REVISED -			CONTRACT NO. 74435					
	PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -			SHEET 22 OF 41 SHEETS					
						ILLINOIS		FED. AID PROJECT			

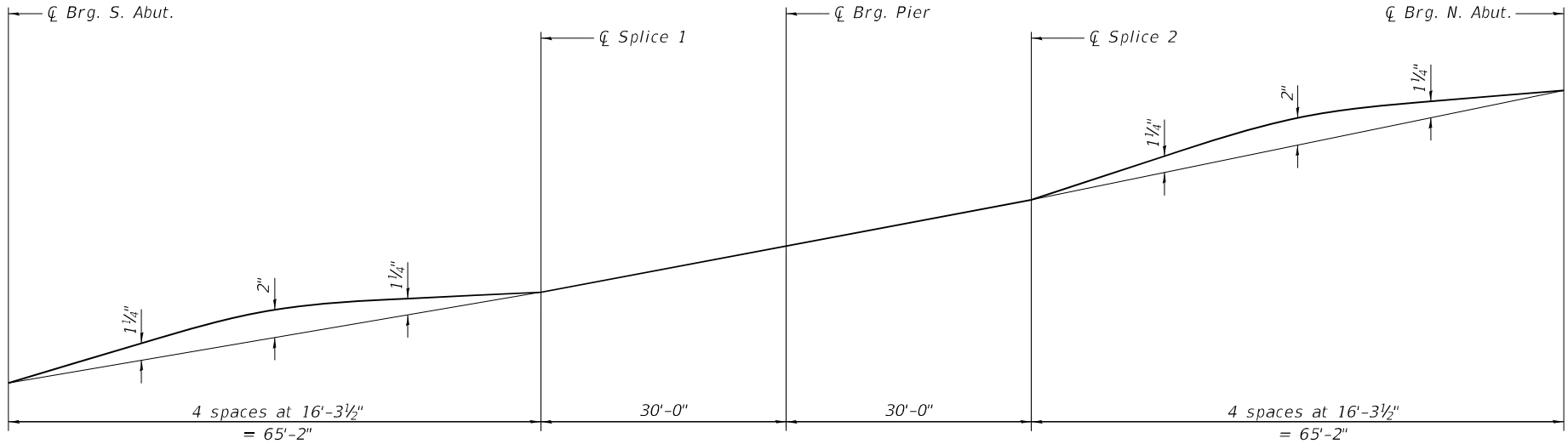
MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\5P_5N_015-0078_0079\0150078-74435-23-SIF\mDtls.dgn

GIRDER REACTION TABLE				
	Abutment		Pier	
	Interior	Exterior	Interior	Exterior
LLDF	0.7672	0.6545	0.7672	0.6545
OCF	-	1.00	-	-
R _{DC1}	(k)	31.4	31.3	125.1
R _{DC2}	(k)	6.4	6.4	23.4
R _{DW}	(k)	11.2	11.2	41.0
R _ℓ	(k)	68.8	58.6	135.5
R _{IM}	(k)	16.1	13.8	26.9
R _{Total}	(k)	133.9	121.3	351.9

INTERIOR GIRDER MOMENT TABLE		
	0.4 Sp. 1 or 0.6 Sp. 2	Pier
Is	(in ⁴)	13,368
Ic(n)	(in ⁴)	33,783
Ic(3n)	(in ⁴)	25,822
Ic(cr)	(in ⁴)	-
Ss	(in ³)	614.6
Sc(n)	(in ³)	854.9
Sc(3n)	(in ³)	789.3
Sc(cr)	(in ³)	-
DC1	(k/')	0.957
MDC1	(k)	511.9
DC2	(k/')	0.190
MDC2	(k)	106.4
DW	(k/')	0.333
MDW	(k)	186.5
LLDF		0.5980
M _ℓ + IM	(k)	1,198.4
f _ℓ (Strength I)	(ksi)	0
Mu + ½ f _ℓ Sxc	(k)	3,149.8
Øf Mn	(k)	4,189.4
fs DC1	(ksi)	9.99
fs DC2	(ksi)	1.62
fs DW	(ksi)	2.84
fs (ℓ+IM)	(ksi)	16.82
f _ℓ (Service II)	(ksi)	0
fs + ½ f _ℓ (Service II)	(ksi)	36.31
0.95RhF _{yr}	(ksi)	47.50
fs + ½ f _ℓ	(ksi)	-
(Total)(Strength I)	(ksi)	-
Øf Fn	(ksi)	-
Vf	(k)	68.8

- Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
- Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.⁴ and in.³).
- Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
- Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs (Total-Strength I, and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).
- DC1: Un-factored non-composite dead load (kips/ft.).
- MDC1: 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.).
- MDC2: 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.).
- MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M_ℓ + IM: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- f_ℓ (Strength I): Factored lateral flange stress (ksi).
- Mu + ½ f_ℓ Sxc: Factored design moment (kip-ft.).
- 1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_ℓ + IM + ½ f_ℓ (Strength I)Sxc
- Øf Mn: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
- fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
- MDC1/ Ss
- fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
- MDC2/ Sc(3n) or MDC2/ Sc(cr) as applicable.
- fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
- MDW/ Sc(3n) or MDW/ Sc(cr) as applicable.
- fs (ℓ+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
- M_ℓ + IM / Sc(n) or M_ℓ + IM / Sc(cr) as applicable.
- f_ℓ (Service II): Un-factored lateral flange stress (ksi).
- fs + ½ f_ℓ (Service II): Sum of stresses as computed below (ksi).
- fsDC1 + fsDC2 + fsDW + 1.3 fs(ℓ + IM) + ½ f_ℓ (Service II)
- 0.95RhF_{yf}: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
- fs + ½ f_ℓ (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
- 1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs(ℓ + IM) + ½ f_ℓ (Strength I)
- Øf Fn: Non-compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
- Vf: Maximum factored shear range in span computed according to Article 6.10.10.
- LLDF: Live Load Distribution Factor computed according to Table 4.6.2.2.2b-1, Table 4.6.2.2.2d-1, Table 4.6.2.2.3a-1 and Table 4.6.2.2.3b-1.
- OCF: Obtuse Correction Factor computed according to Table 4.6.2.2.3c-1 or as simplified in Section 3.3.1 of the Bridge Manual.

(Sheet 2 of 2)



CAMBER DIAGRAM

TOP OF WEB ELEVATIONS (SB)
(For fabrication only)

Girder	℄ Brg. S. Abut.	℄ Splice 1	℄ Brg. Pier	℄ Splice 2	℄ Brg. N. Abut.
1	739.20	739.73	740.02	740.30	741.00
2	739.34	739.87	740.16	740.44	741.14
3	739.46	739.99	740.28	740.56	741.26
4	739.52	740.05	740.34	740.62	741.32
5	739.41	739.94	740.23	740.51	741.21
6	739.28	739.81	740.10	740.38	741.08

TOP OF WEB ELEVATIONS (NB)
(For fabrication only)

Girder	℄ Brg. S. Abut.	℄ Splice 1	℄ Brg. Pier	℄ Splice 2	℄ Brg. N. Abut.
7	739.32	739.85	740.13	740.41	741.11
8	739.45	739.98	740.26	740.54	741.24
9	739.56	740.09	740.37	740.65	741.35
10	739.50	740.03	740.31	740.59	741.29
11	739.38	739.91	740.19	740.47	741.17
12	739.24	739.77	740.05	740.33	741.03



USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - MTD 12/21
CHECKED - PRH 01/22
DRAWN - KAH 12/21
CHECKED - MTD 01/22

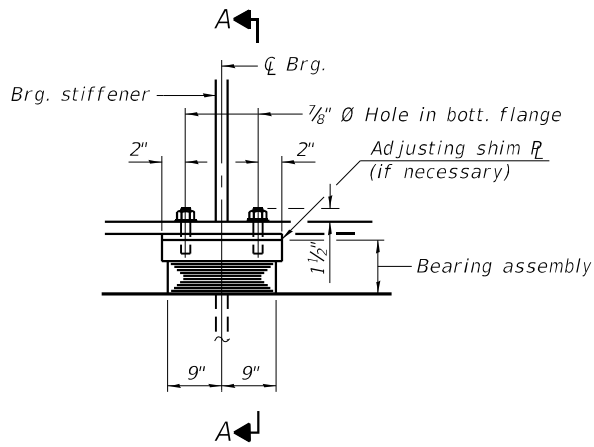
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

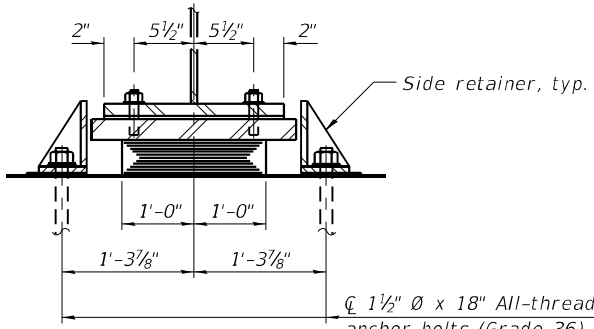
STEEL FRAMING DETAILS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 23 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	683
		CONTRACT NO. 74435		
		ILLINOIS	FED. AID PROJECT	

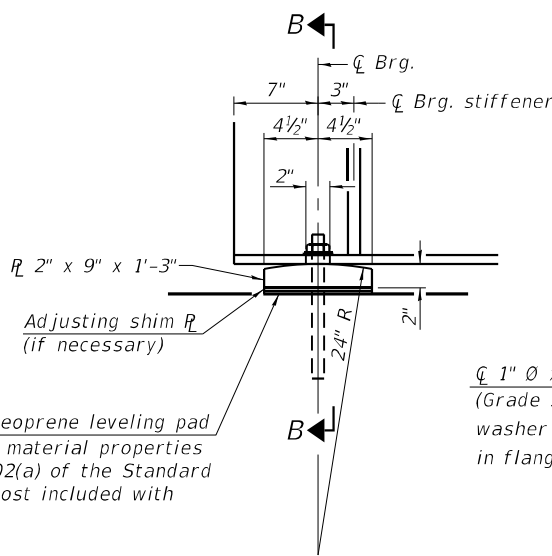


ELEVATION AT PIER

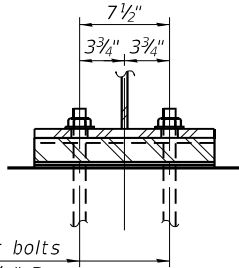


SECTION A-A

1 1/2" Ø x 18" All-thread anchor bolts (Grade 36) with 3" x 3" x 5/16" R washer under nut.



ELEVATION AT ABUT.

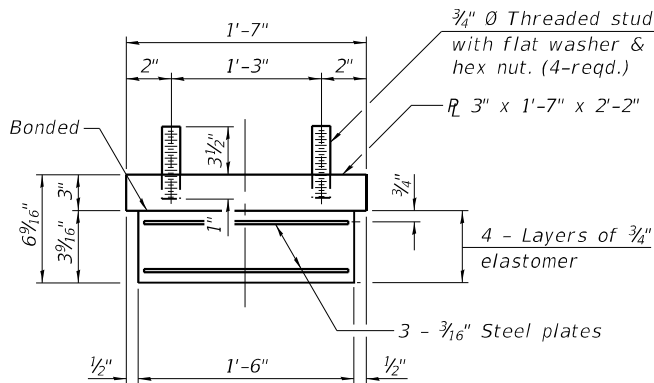


SECTION B-B

1" Ø x 12" All-thread anchor bolts (Grade 55) with 2 1/4" x 2 1/4" x 5/16" R washer under nut. 1 3/8" x 2" slotted holes in flange. 1 1/2" Ø holes in bearing plate.

1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.

TYPE I ELASTOMERIC EXP. BRG.

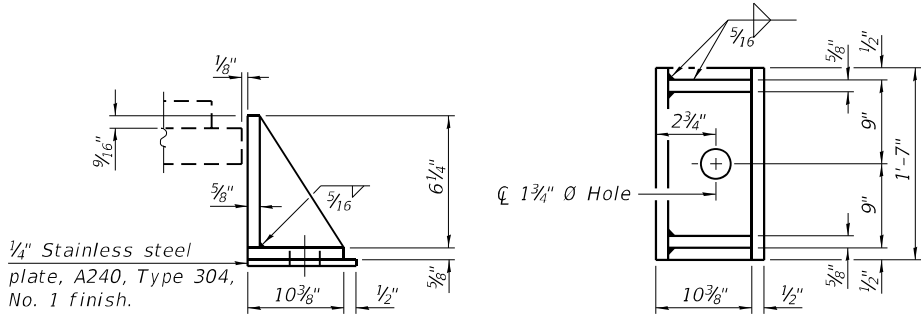


BEARING ASSEMBLY

Note:
Shim plates shall not be placed under bearing assembly.

Notes:
Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.
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.
Anchor bolts shall be according to Article 521.06 of the Standard Specifications.
Girders shall be braced for stability during erection and remain braced until deck is poured and cured.
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
The pier anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts at the piers will not be allowed.
All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

FIXED BEARING



SIDE RETAINER

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

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	12
Anchor Bolts, 1"	Each	48
Anchor Bolts, 1 1/2"	Each	24

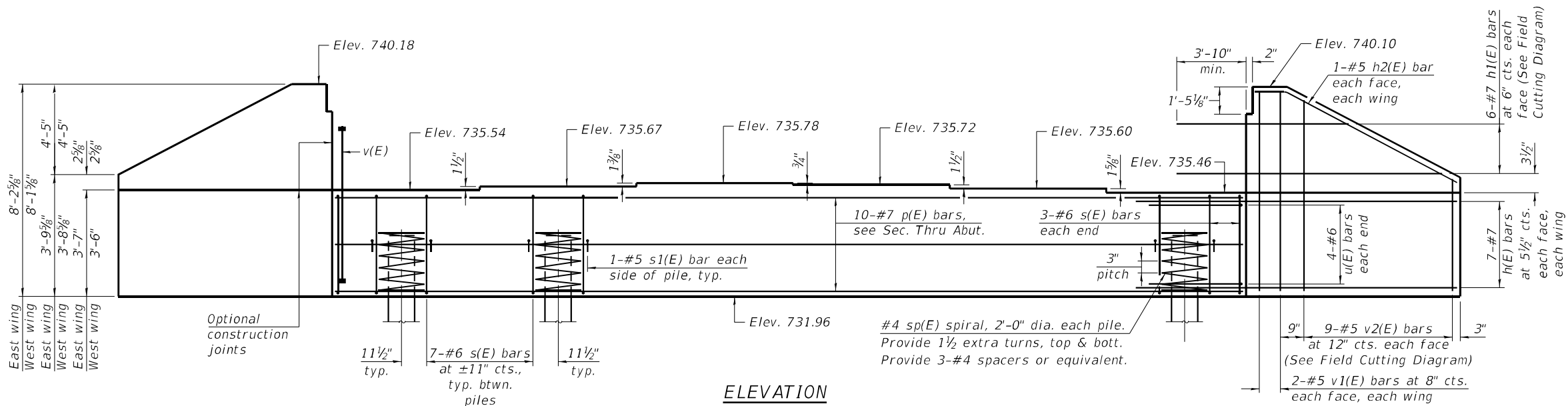
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

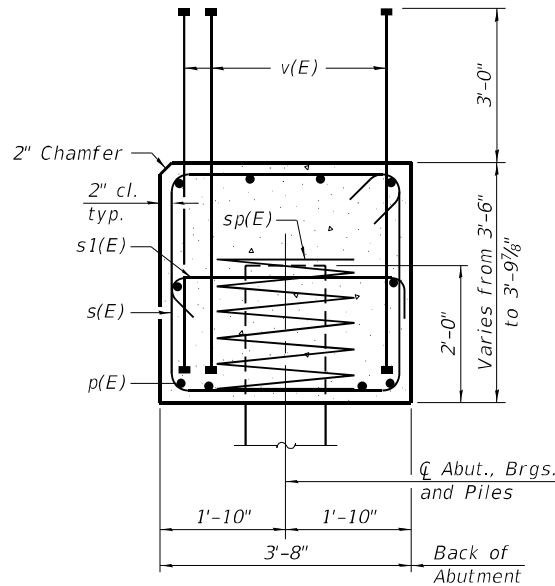
SHEET 24 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

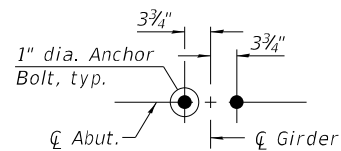
MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP SN 015-0078_0079\0150078-74435-25-SAbutSB.dgn



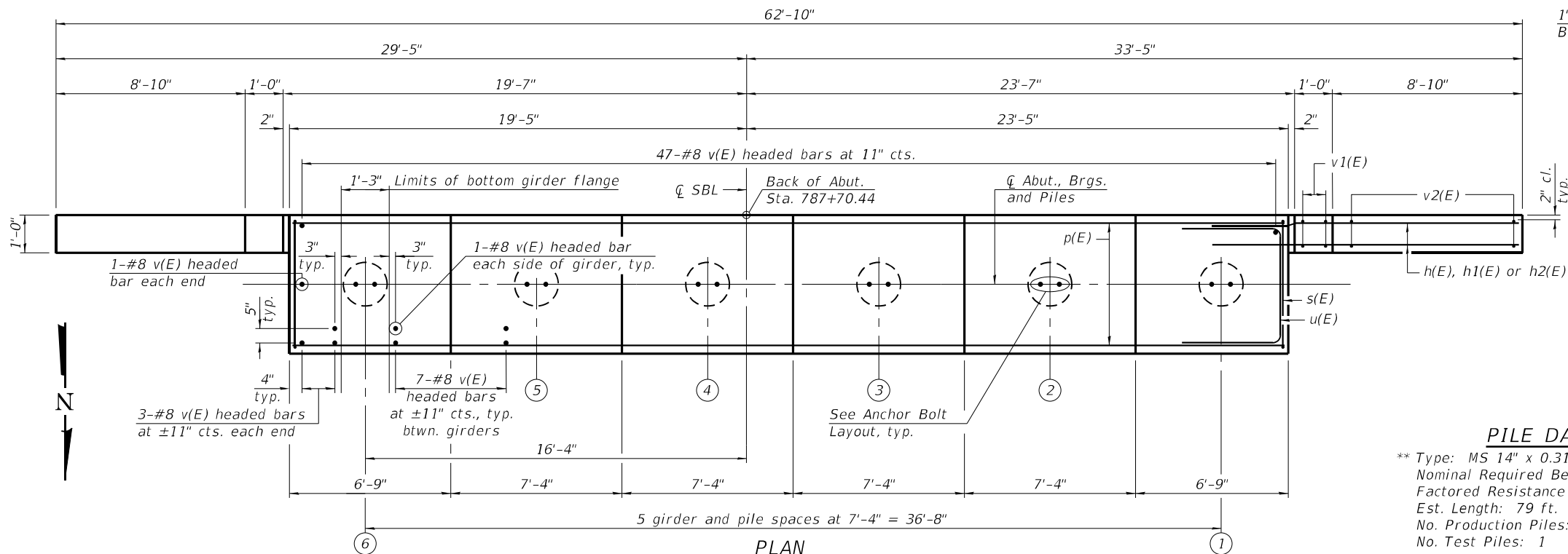
ELEVATION



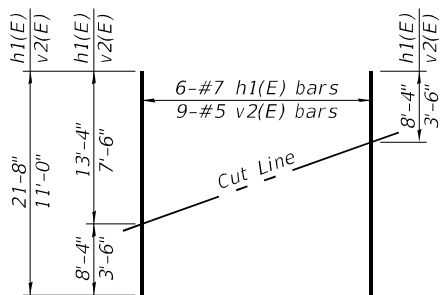
SEC. THRU ABUT.



ANCHOR BOLT LAYOUT

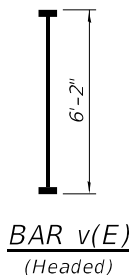


PLAN

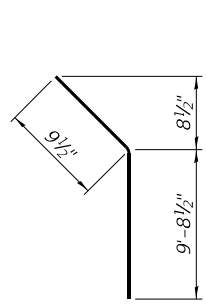


FIELD CUTTING DIAGRAM

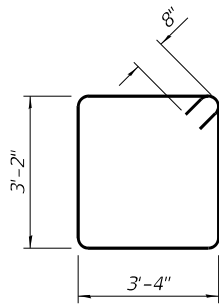
Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.



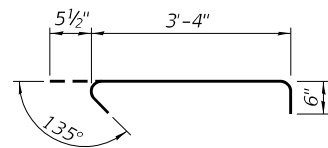
BAR v(E)
(Headed)



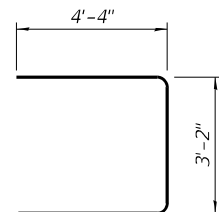
BAR h2(E)



BAR s(E)



BAR s1(E)



BAR u(E)

PILE DATA

** Type: MS 14" x 0.312"
Nominal Required Bearing: 520 kips
Factored Resistance Available: 286 kips
Est. Length: 79 ft.
No. Production Piles: 5
No. Test Piles: 1

** Piles shall be driven through 24 inch diameter precored holes extending to elevation 708.00 according to Article 512.09(c) of the Standard Specifications. Cost included in Driving Piles.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#7	13'-8"	
h1(E)	12	#7	21'-8"	
h2(E)	4	#5	10'-6"	
p(E)	10	#7	42'-6"	
s(E)	41	#6	14'-4"	
s1(E)	12	#5	4'-4"	
* sp(E)	6	#4	2'-0"	
u(E)	8	#6	11'-10"	
v(E)	102	#8	6'-2"	
v1(E)	8	#5	7'-10"	
v2(E)	18	#5	11'-0"	
Structure Excavation	Cu. Yd.	140		
Concrete Structures	Cu. Yd.	25.5		
Reinforcement Bars, Epoxy Coated	Pound	5,540		
Furnishing Metal Shell Piles 14" x 0.312"	Foot	395		
Driving Piles	Foot	395		
Test Pile Metal Shells	Each	1		

* Length is height of spiral.

Notes:
Space reinforcement in cap to miss anchor bolts. 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 33 of 41.



USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - SHL 01/22
CHECKED - MTD 01/22
DRAWN - KAH 12/21
CHECKED - MTD 01/22

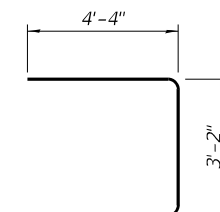
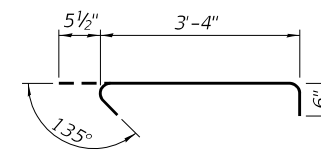
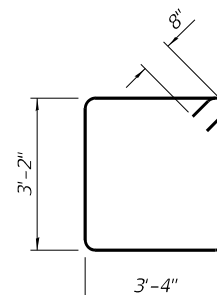
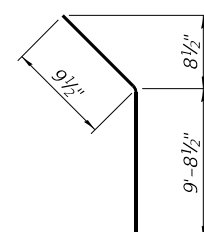
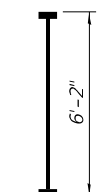
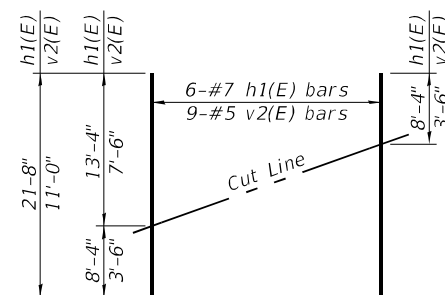
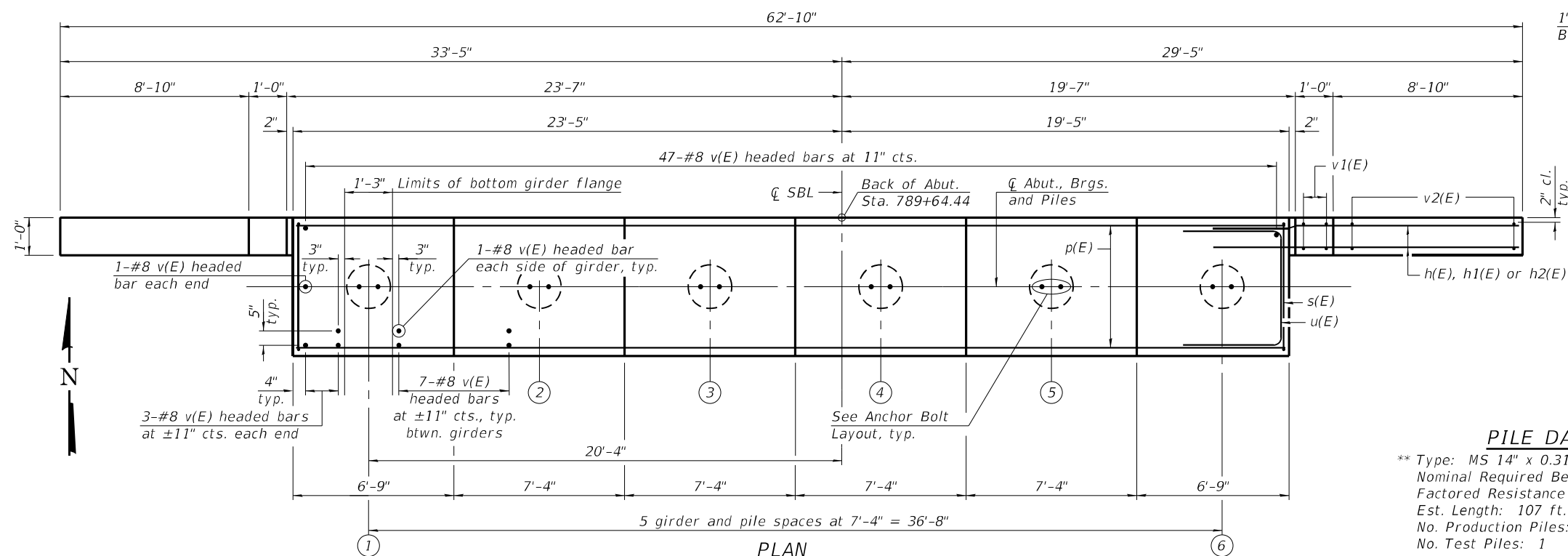
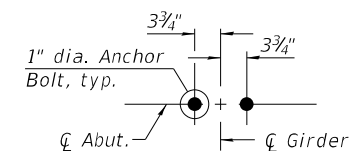
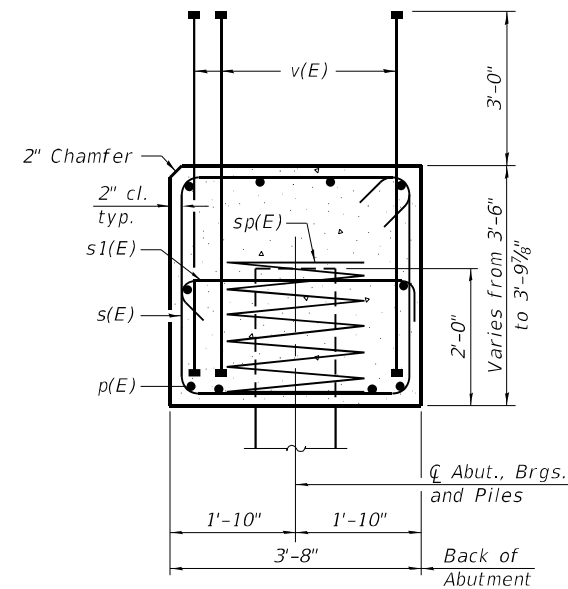
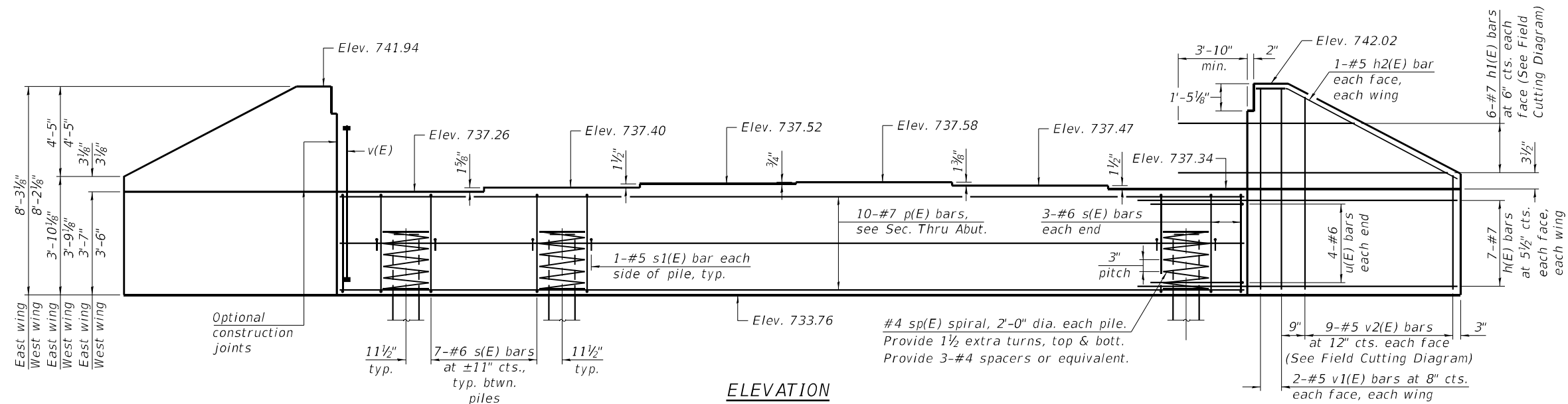
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT (SB)
STRUCTURE NO. 015-0079 (SB)

SHEET 25 OF 41 SHEETS

F.A.I. SECTION COUNTY TOTAL SHEETS SHEET NO.
RTE. (15-22HB-4)BR(15-22)R COLES 1086 685
CONTRACT NO. 74435
ILLINOIS FED. AID PROJECT



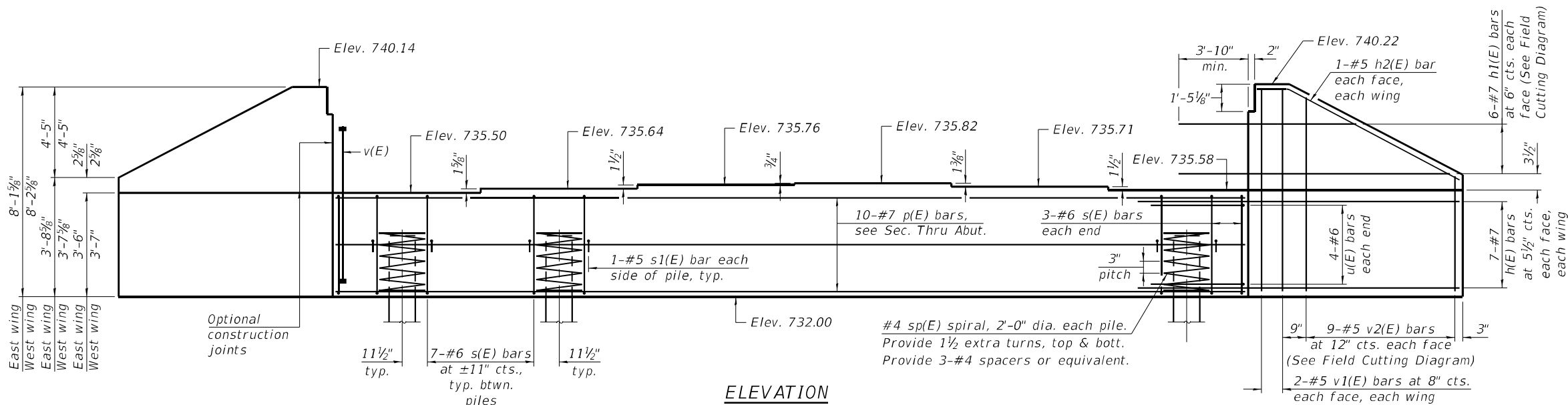
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#7	13'-8"	
h1(E)	12	#7	21'-8"	
h2(E)	4	#5	10'-6"	
p(E)	10	#7	42'-6"	
s(E)	41	#6	14'-4"	
s1(E)	12	#5	4'-4"	
* sp(E)	6	#4	2'-0"	
u(E)	8	#6	11'-10"	
v(E)	102	#8	6'-2"	
v1(E)	8	#5	7'-10"	
v2(E)	18	#5	11'-0"	
Structure Excavation			Cu. Yd.	140
Concrete Structures			Cu. Yd.	25.5
Reinforcement Bars, Epoxy Coated			Pound	5,540
Furnishing Metal Shell Piles 14" x 0.312"			Foot	535
Driving Piles			Foot	535
Test Pile Metal Shells			Each	1

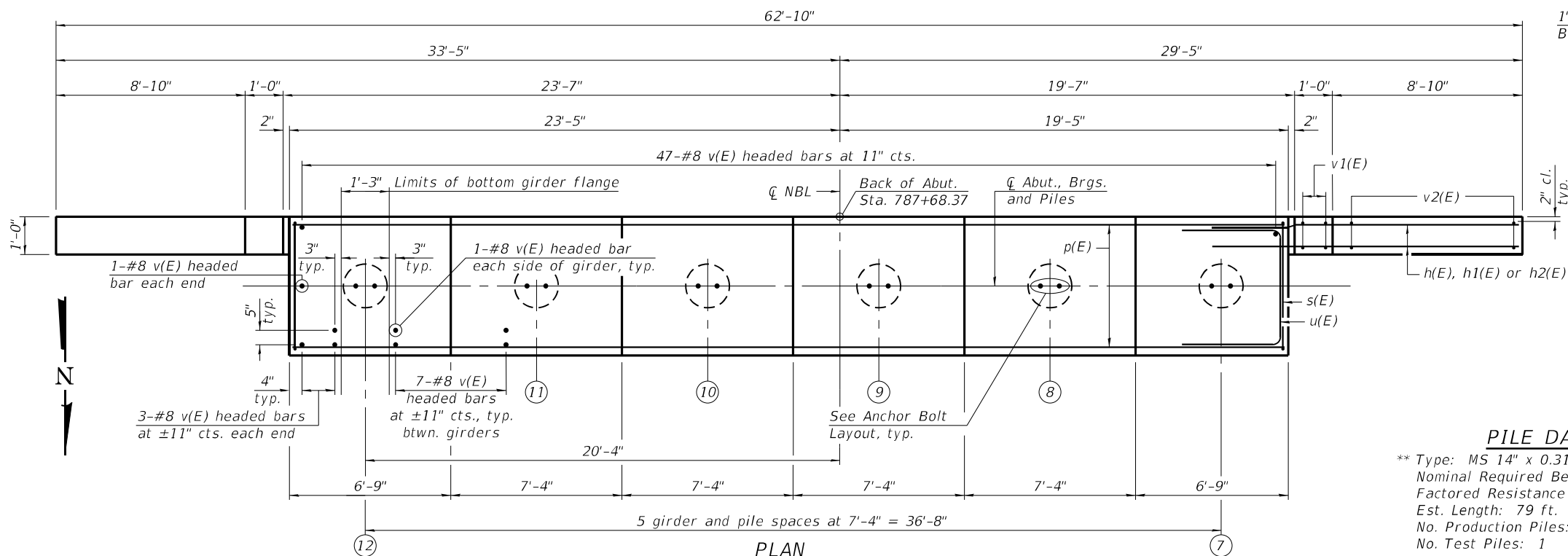
* Length is height of spiral.

Notes:
 Space reinforcement in cap to miss anchor bolts.
 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 33 of 41.

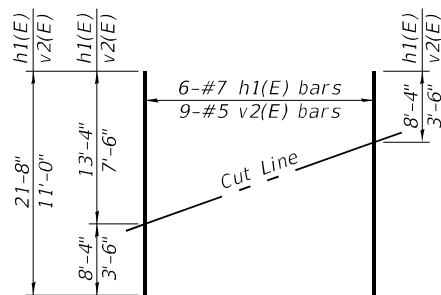
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FILE NAME: Y:\DOT\1343-08_74435\CADD\SP SN 015-0078_0079\0150078-74435-27-SAbutNB.dgn



ELEVATION

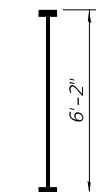


PLAN

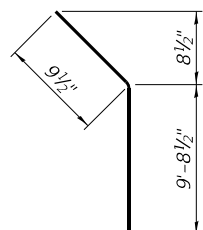


FIELD CUTTING DIAGRAM

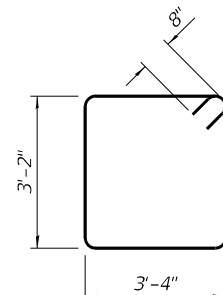
Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.



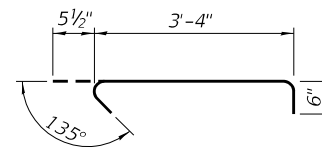
BAR v(E)
(Headed)



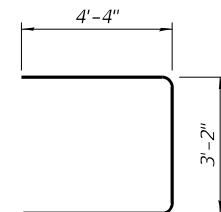
BAR h2(E)



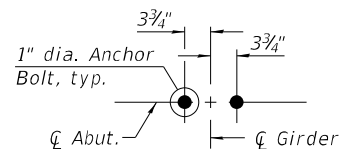
BAR s(E)



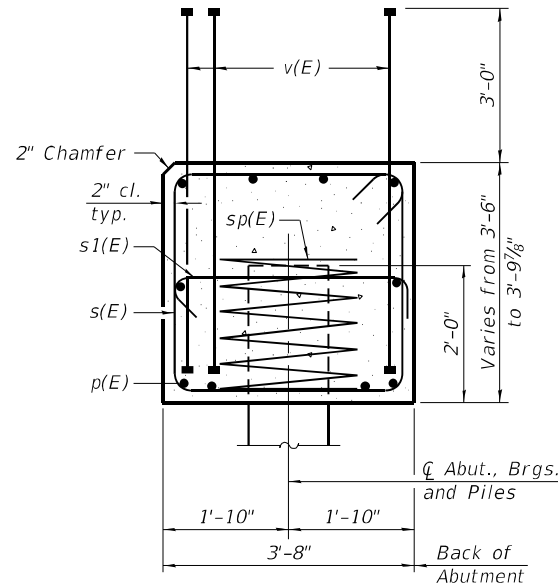
BAR s1(E)



BAR u(E)



ANCHOR BOLT LAYOUT



SEC. THRU ABUT.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#7	13'-8"	
h1(E)	12	#7	21'-8"	
h2(E)	4	#5	10'-6"	
p(E)	10	#7	42'-6"	
s(E)	41	#6	14'-4"	
s1(E)	12	#5	4'-4"	
sp(E)	6	#4	2'-0"	
u(E)	8	#6	11'-10"	
v(E)	102	#8	6'-2"	
v1(E)	8	#5	7'-10"	
v2(E)	18	#5	11'-0"	
Structure Excavation	Cu. Yd.	140		
Concrete Structures	Cu. Yd.	25.5		
Reinforcement Bars, Epoxy Coated	Pound	5,540		
Furnishing Metal Shell Piles 14" x 0.312"	Foot	395		
Driving Piles	Foot	395		
Test Pile Metal Shells	Each	1		

* Length is height of spiral.

Notes:
Space reinforcement in cap to miss anchor bolts. 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 33 of 41.



USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - SHL 01/22
CHECKED - MTD 01/22
DRAWN - KAH 12/21
CHECKED - MTD 01/22

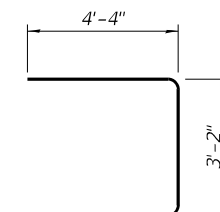
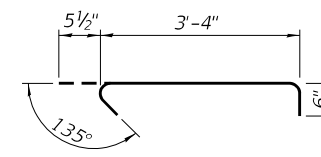
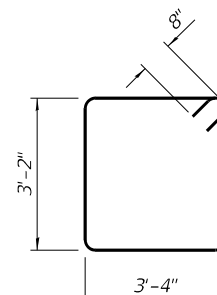
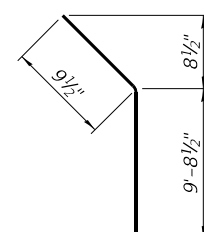
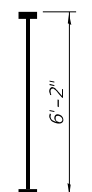
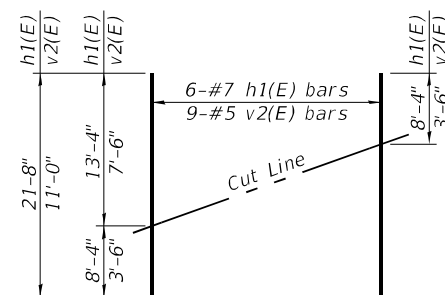
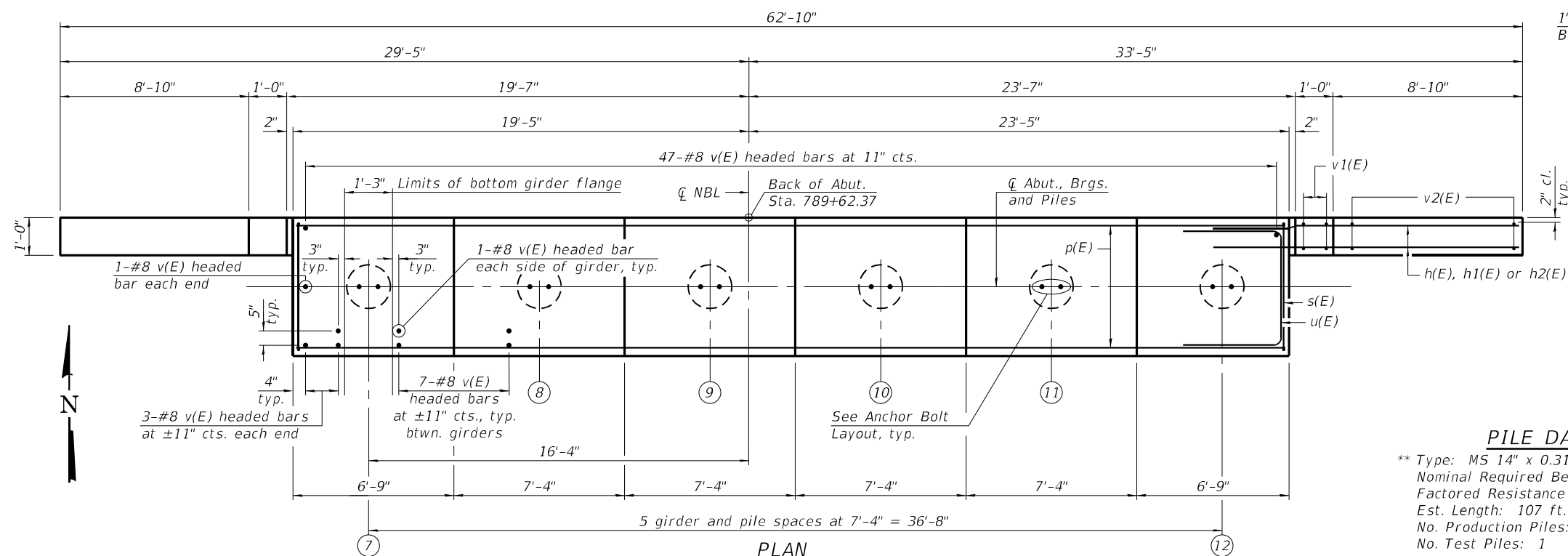
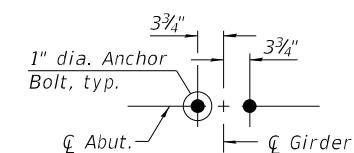
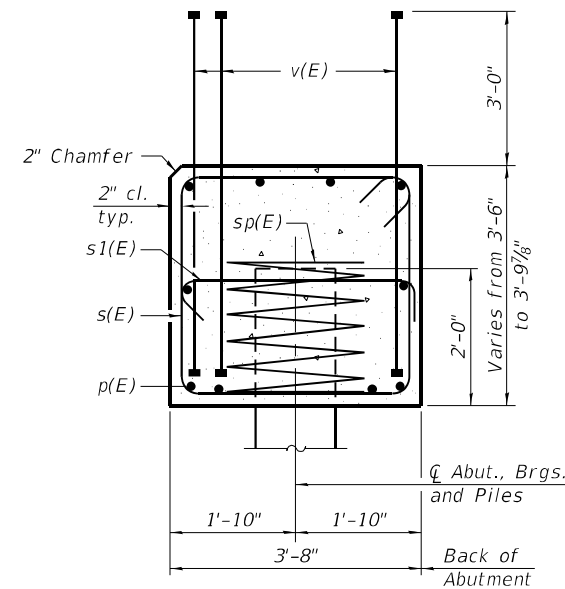
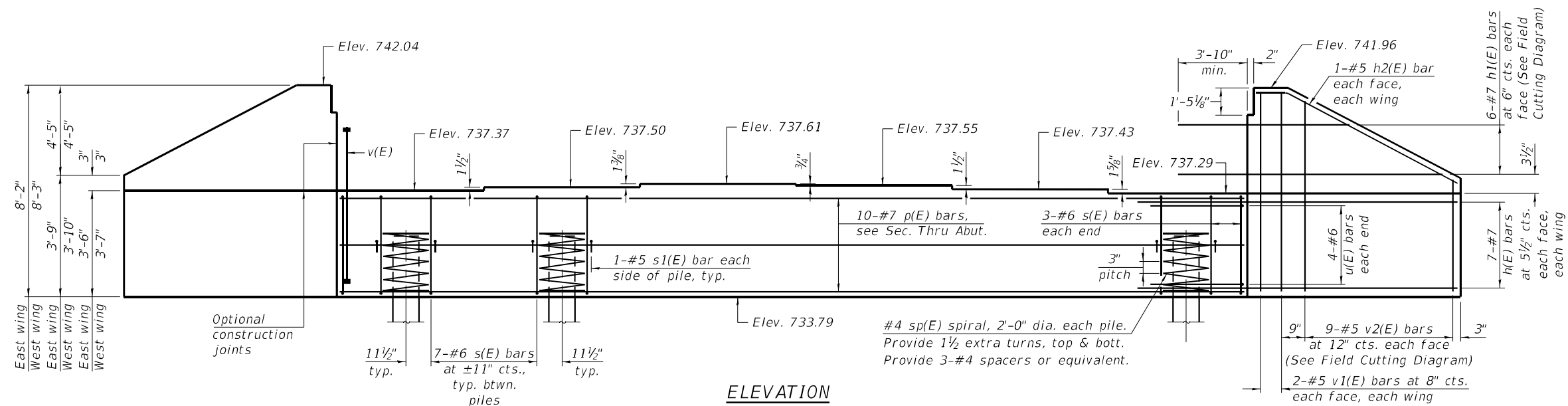
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT (NB)
STRUCTURE NO. 015-0078 (NB)

SHEET 27 OF 41 SHEETS

F.A.I. SECTION COUNTY TOTAL SHEETS SHEET NO.
57 (15-22HB-4)BR(15-22)R COLES 1086 687
CONTRACT NO. 74435
ILLINOIS FED. AID PROJECT



BILL OF MATERIAL

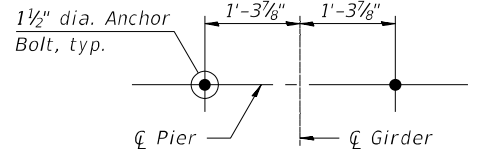
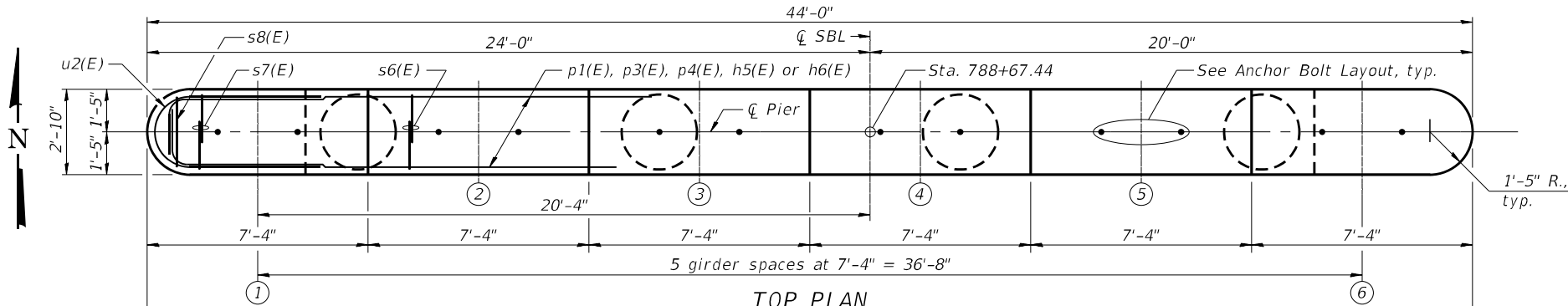
Bar	No.	Size	Length	Shape
h(E)	28	#7	13'-8"	
h1(E)	12	#7	21'-8"	
h2(E)	4	#5	10'-6"	
p(E)	10	#7	42'-6"	
s(E)	41	#6	14'-4"	
s1(E)	12	#5	4'-4"	
* sp(E)	6	#4	2'-0"	
u(E)	8	#6	11'-10"	
v(E)	102	#8	6'-2"	
v1(E)	8	#5	7'-10"	
v2(E)	18	#5	11'-0"	
Structure Excavation			Cu. Yd.	140
Concrete Structures			Cu. Yd.	25.5
Reinforcement Bars, Epoxy Coated			Pound	5,540
Furnishing Metal Shell Piles 14" x 0.312"			Foot	535
Driving Piles			Foot	535
Test Pile Metal Shells			Each	1

* Length is height of spiral.

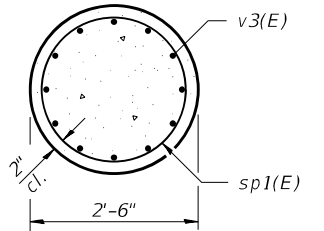
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
 For details of piles see sheet 33 of 41.

PILE DATA

Type: MS 14" x 0.312"
Nominal Required Bearing: 570 kips
Factored Resistance Available: 314 kips
Est. Length: 80 ft.
No. Production Piles: 11
No. Test Piles: 1



ANCHOR BOLT LAYOUT

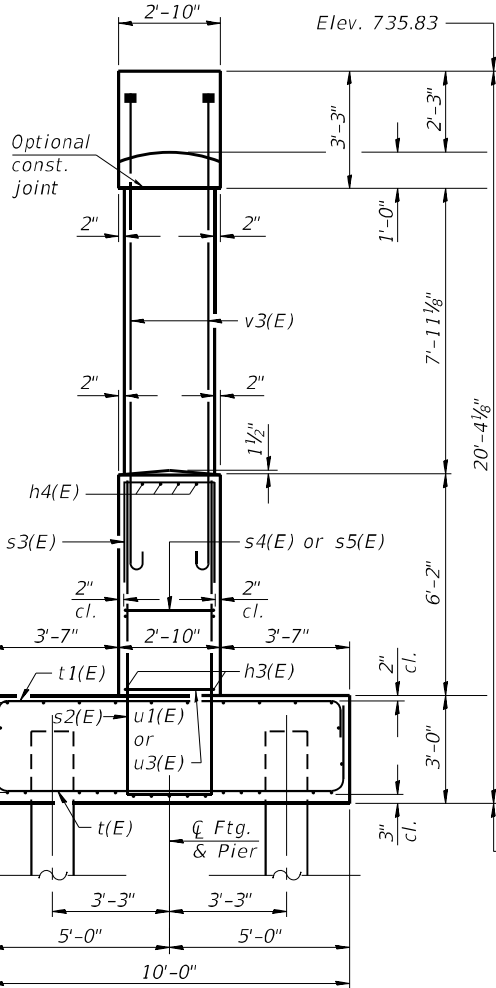


SEC. A-A

BILL OF MATERIAL

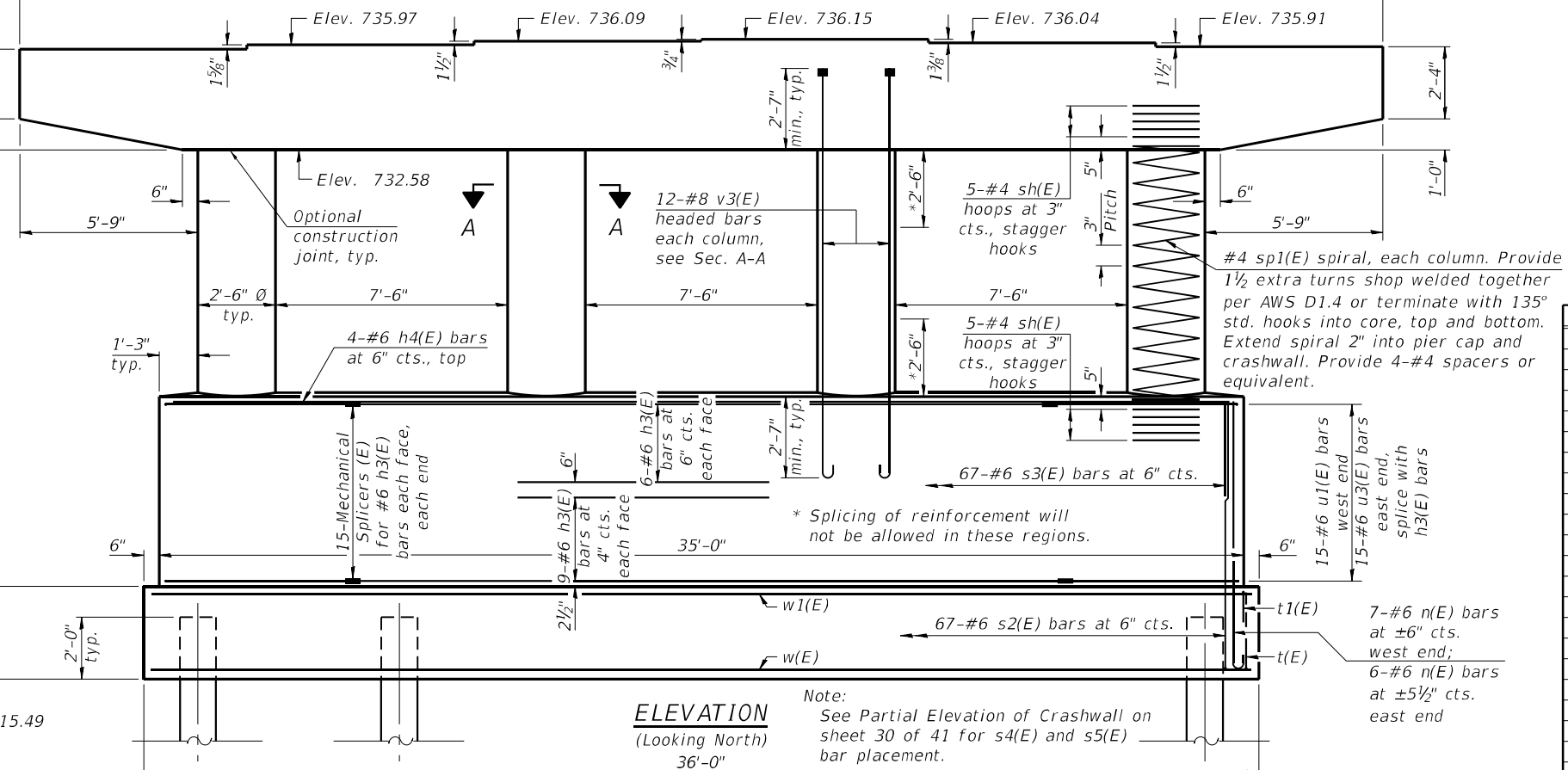
Bar	No.	Size	Length	Shape
h3(E)	30	#6	23'-6"	—
h4(E)	4	#6	34'-5"	—
h5(E)	2	#5	39'-1"	—
h6(E)	6	#5	41'-10"	—
n(E)	13	#6	9'-4"	U
p1(E)	6	#7	33'-7"	—
p2(E)	10	#7	5'-3"	—
p3(E)	6	#9	45'-0"	—
p4(E)	12	#9	29'-11"	—
s2(E)	67	#6	19'-9"	—
s3(E)	67	#6	8'-9"	—
s4(E)	444	#4	3'-3"	—
s5(E)	16	#4	3'-1"	—
s6(E)	160	#5	10'-0"	—
s7(E)	80	#5	7'-4"	—
s8(E)	2	#5	9'-7"	—
sh(E)	40	#4	9'-1"	—
sp1(E)	4	#4	8'-3"	—
t(E)	54	#9	14'-8"	—
t1(E)	72	#6	11'-8"	—
u1(E)	15	#6	12'-7"	—
u2(E)	8	#6	12'-5"	—
u3(E)	15	#6	13'-8"	—
v3(E)	48	#8	14'-1"	—
w(E)	19	#6	35'-8"	—
w1(E)	10	#5	35'-8"	—
Structure Excavation	Cu. Yd.	35		
Concrete Structures	Cu. Yd.	82.5		
Reinforcement Bars, Epoxy Coated	Pound	19,410		
Furnishing Metal Shell Piles 14" x 0.312"	Foot	880		
Driving Piles	Foot	880		
Test Pile Metal Shells	Each	1		
Concrete Sealer	Sq. Ft.	1,230		

** Length is height of spiral.



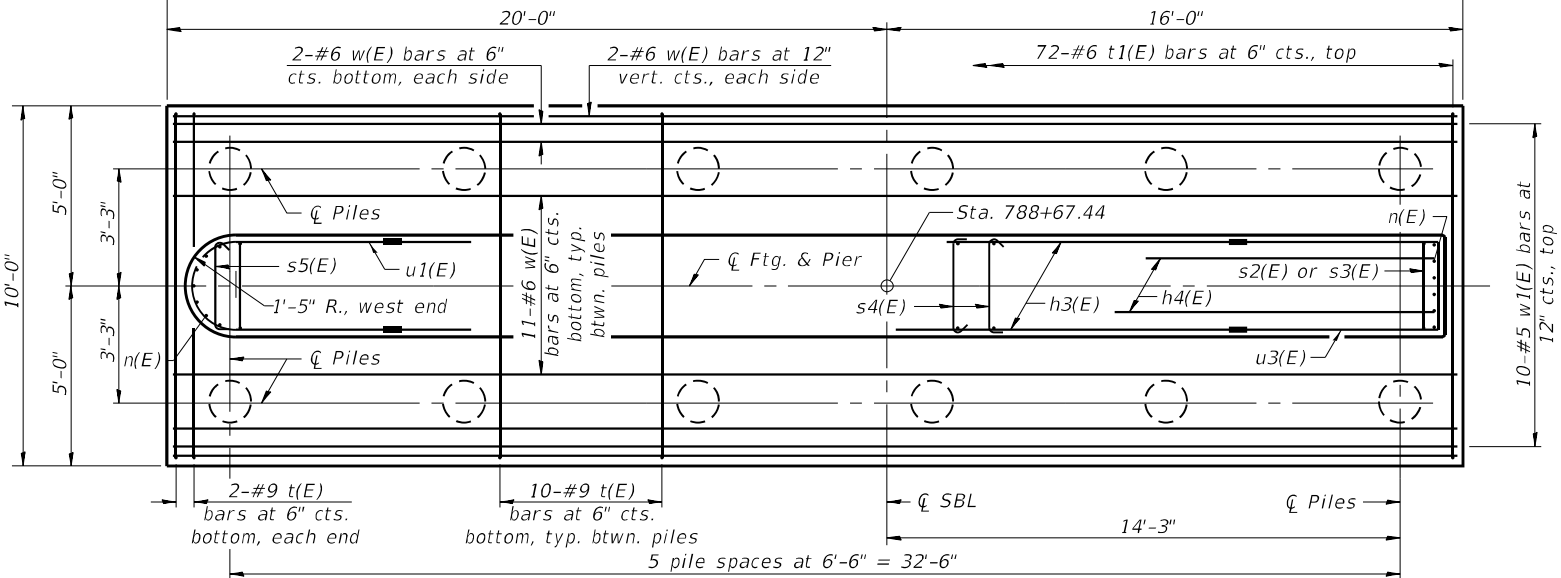
END VIEW

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles see sheet 33 of 41.
Reinforcement shall be placed in the tops of all piles according to the details shown on sheet 33 of 41.
For details of Mechanical Splicers see sheet 34 of 41.
For pier cap reinforcement and additional details see sheet 30 of 41.
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.
Bars indicated thus 6x2-#9 etc. indicates 6 lines of bars with 2 lengths per line.
When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook into core.
Concrete Sealer shall be applied to all exposed surfaces above proposed grade.



ELEVATION

(Looking North)
36'-0"



FOOTING PLAN

(Sheet 1 of 2)

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-29-Pier(SB).1.dgn



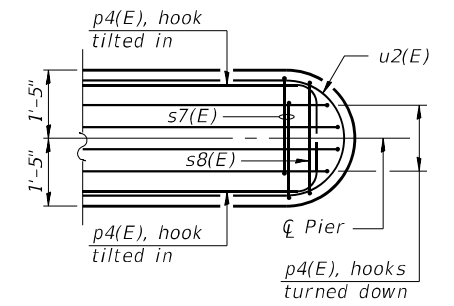
USER NAME = nhc	DESIGNED - SHL 01/22	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - MTD 01/22	REVISED -
PLOT SCALE	DRAWN - MTD/NHC 10/23	REVISED -
PLOT DATE = 8/21/2024	CHECKED - SHL/ELH 10/23	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER (SB)
STRUCTURE NO. 015-0079 (SB)

SHEET 29 OF 41 SHEETS

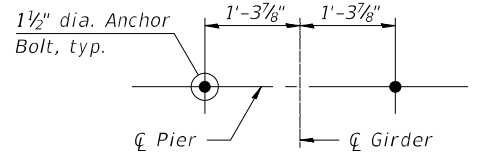
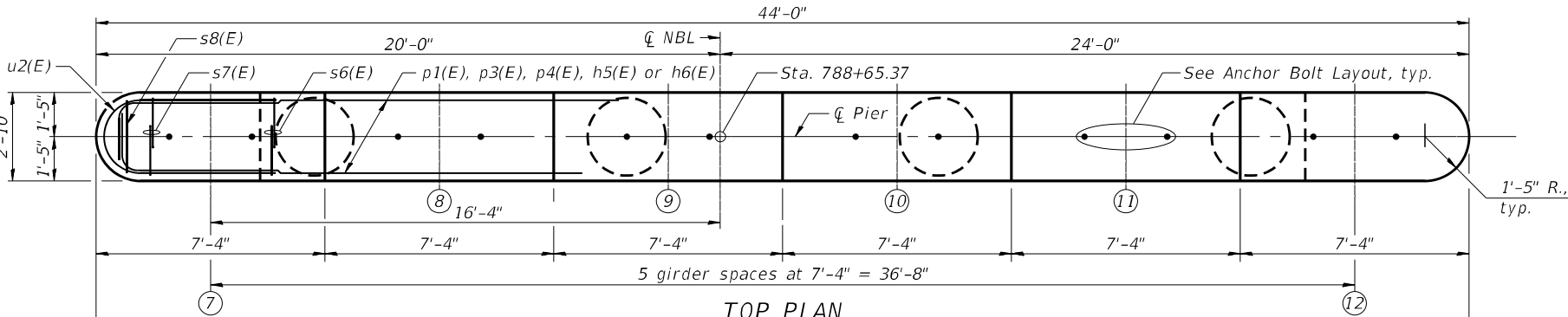
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	689
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



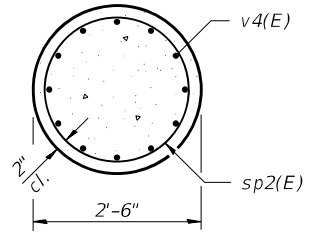
ILLINOIS	FED. AID PROJECT
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PILE DATA

Type: MS 14" x 0.312"
Nominal Required Bearing: 570 kips
Factored Resistance Available: 314 kips
Est. Length: 79 ft.
No. Production Piles: 11
No. Test Piles: 1



ANCHOR BOLT LAYOUT



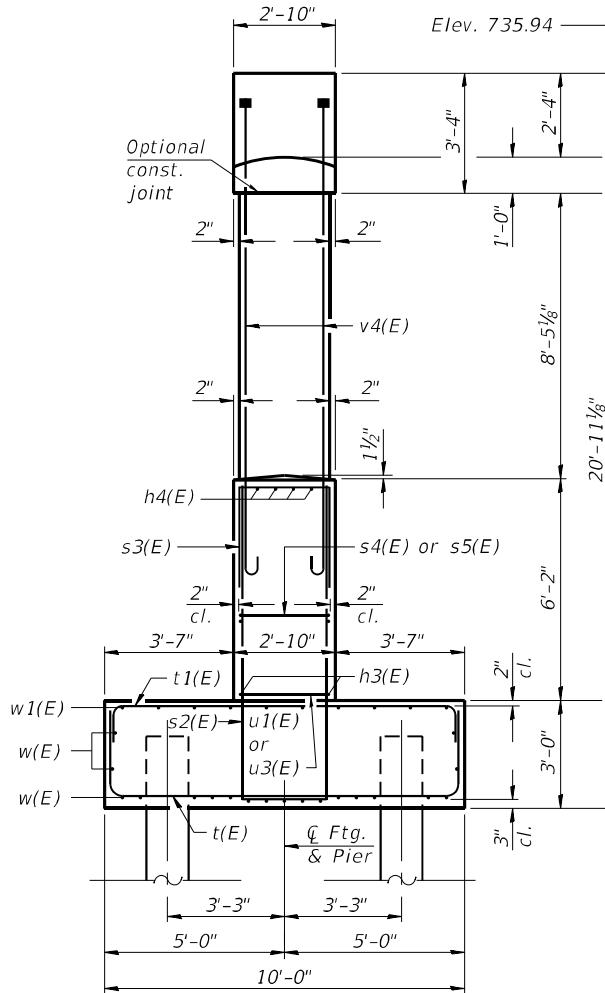
SEC. A-A

BILL OF MATERIAL

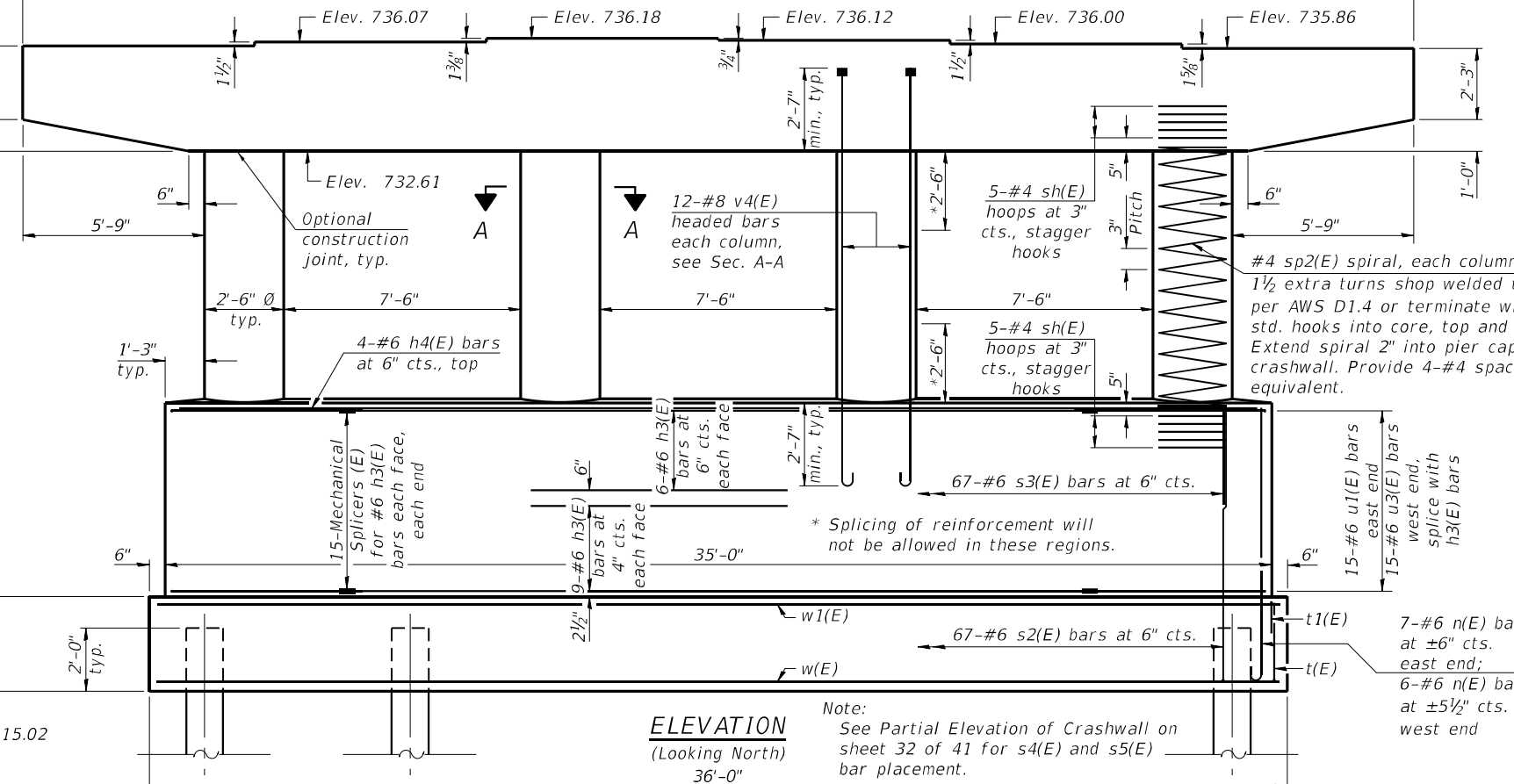
Bar	No.	Size	Length	Shape
h3(E)	30	#6	23'-6"	—
h4(E)	4	#6	34'-5"	—
h5(E)	2	#5	39'-1"	—
h6(E)	6	#5	41'-10"	—
n(E)	13	#6	9'-4"	U
p1(E)	6	#7	33'-7"	—
p2(E)	10	#7	5'-3"	—
p3(E)	6	#9	45'-0"	—
p4(E)	12	#9	29'-11"	—
s2(E)	67	#6	19'-9"	—
s3(E)	67	#6	8'-9"	—
s4(E)	444	#4	3'-3"	—
s5(E)	16	#4	3'-1"	—
s6(E)	160	#5	10'-0"	—
s7(E)	80	#5	7'-4"	—
s8(E)	2	#5	9'-7"	—
sh(E)	40	#4	9'-1"	—
sp2(E)	4	#4	8'-9"	—
t(E)	54	#9	14'-8"	—
t1(E)	72	#6	11'-8"	—
u1(E)	15	#6	12'-7"	—
u2(E)	8	#6	12'-5"	—
u3(E)	15	#6	13'-8"	—
v4(E)	48	#8	14'-7"	—
w(E)	19	#6	35'-8"	—
w1(E)	10	#5	35'-8"	—
Structure Excavation			Cu. Yd.	35
Concrete Structures			Cu. Yd.	82.9
Reinforcement Bars, Epoxy Coated			Pound	19,510
Furnishing Metal Shell Piles 14" x 0.312"			Foot	869
Driving Piles			Foot	869
Test Pile Metal Shells			Each	1
Concrete Sealer			Sq. Ft.	1,240

** Length is height of spiral.

END VIEW



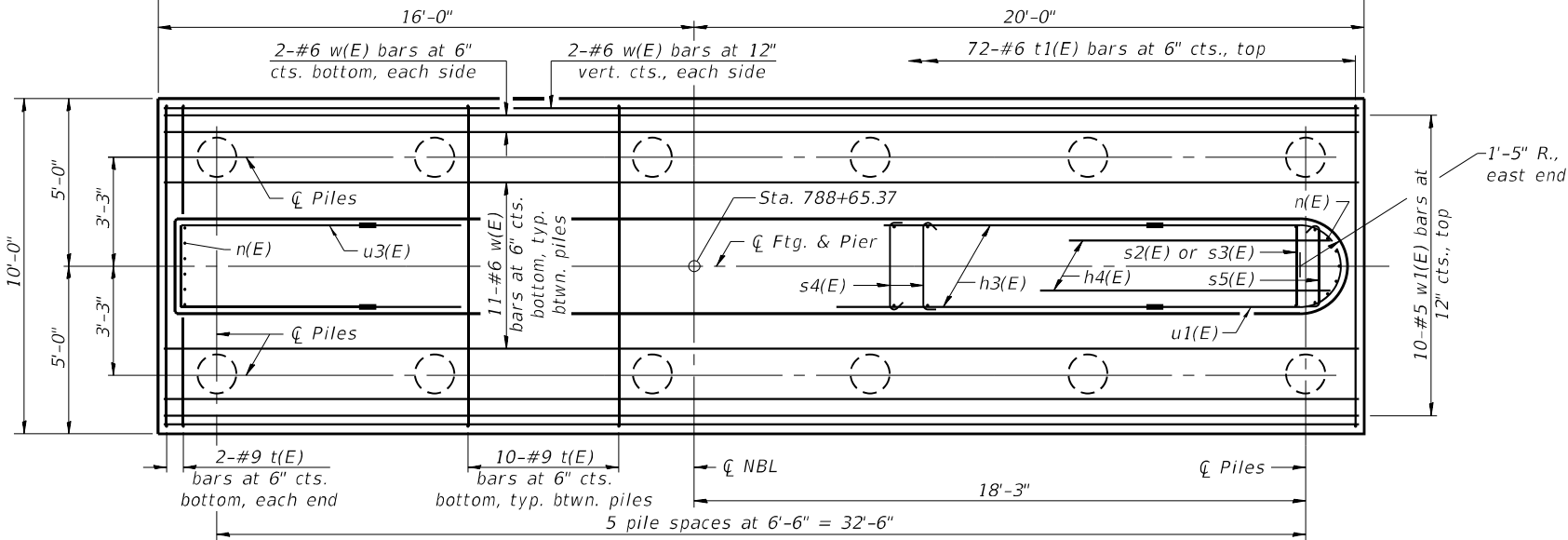
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles see sheet 33 of 41.
Reinforcement shall be placed in the tops of all piles according to the details shown on sheet 33 of 41.
For details of Mechanical Splicers see sheet 34 of 41.
For pier cap reinforcement and additional details see sheet 32 of 41.
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.
Bars indicated thus 6x2-#9 etc. indicates 6 lines of bars with 2 lengths per line.
When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook into core.
Concrete Sealer shall be applied to all exposed surfaces above proposed grade.



ELEVATION

(Looking North)
36'-0"

Note:
See Partial Elevation of Crashwall on sheet 32 of 41 for s4(E) and s5(E) bar placement.



FOOTING PLAN

(Sheet 1 of 2)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

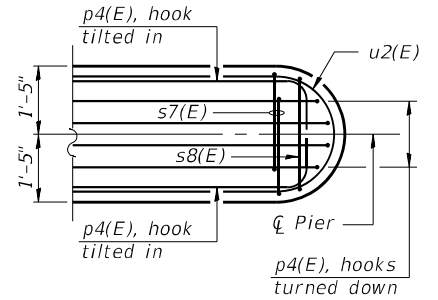
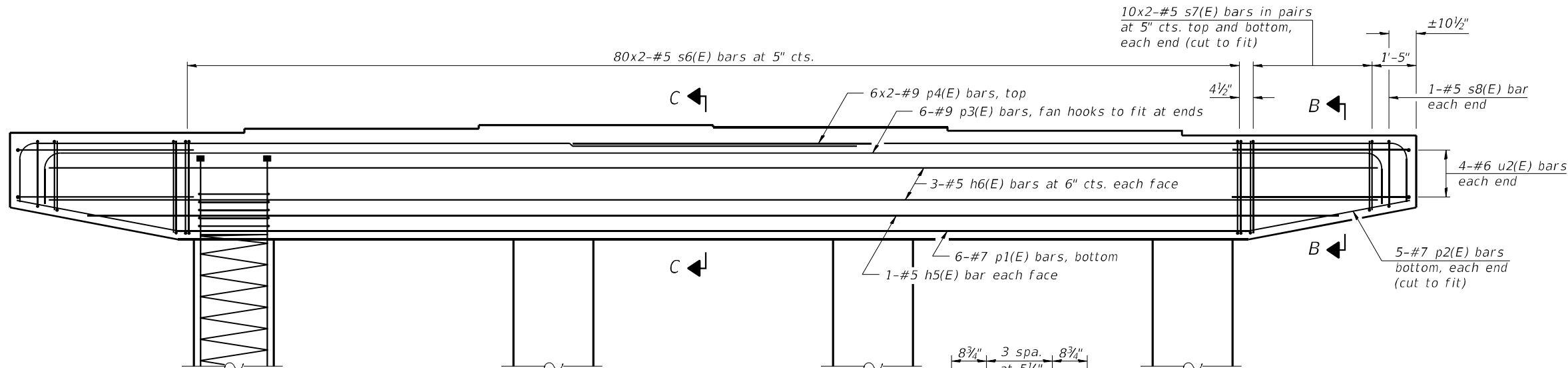
PIER (NB)
STRUCTURE NO. 015-0078 (NB)

SHEET 31 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	691
				CONTRACT NO. 74435
				ILLINOIS FED. AID PROJECT

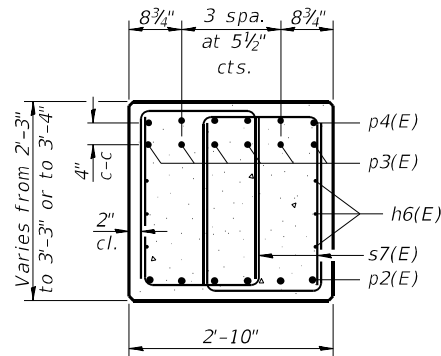


USER NAME = nhc	DESIGNED - SHL 01/22	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - MTD 01/22	REVISED -
PLOT SCALE	DRAWN - MTD/NHC 10/23	REVISED -
PLOT DATE = 8/21/2024	CHECKED - SHL/ELH 10/23	REVISED -

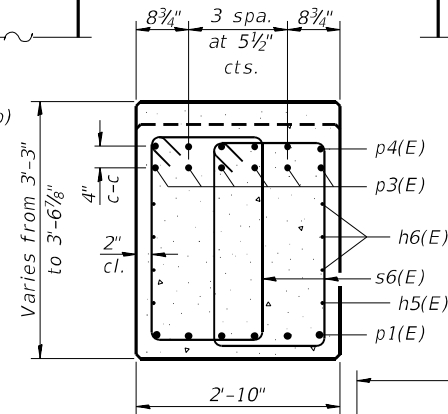


PIER CAP DETAIL
(Looking North, showing reinforcement in cap)

MIN. BAR LAP
#9 bar = 10'-4"

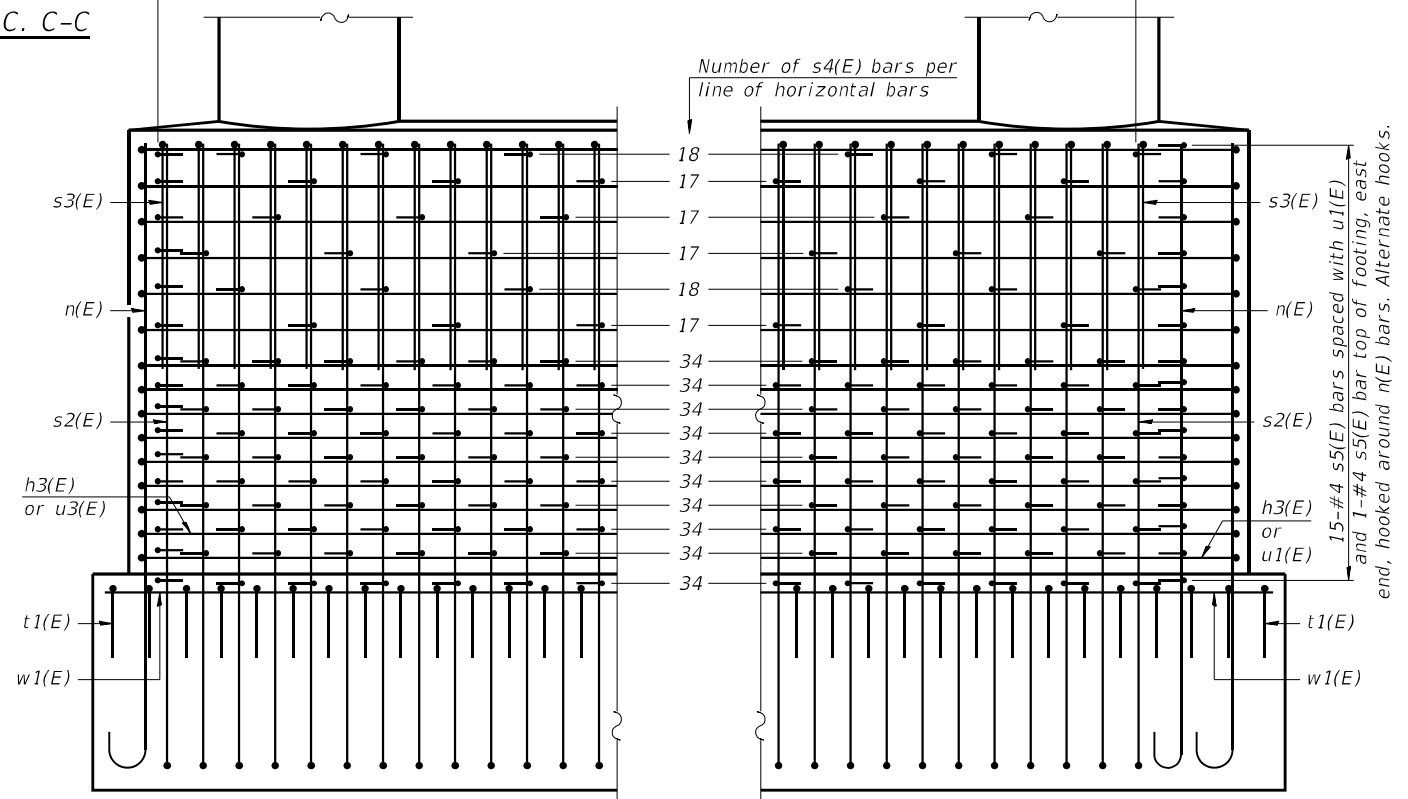


SEC. B-B



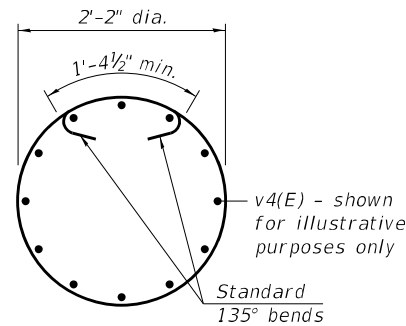
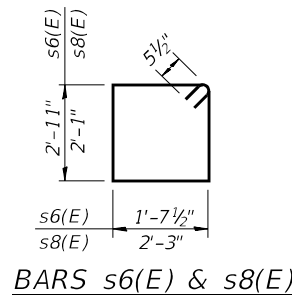
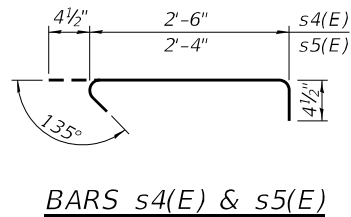
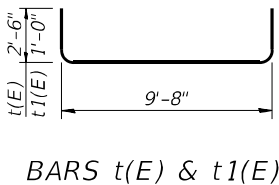
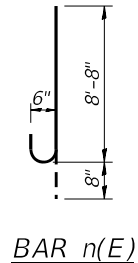
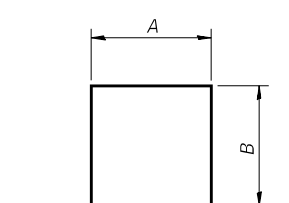
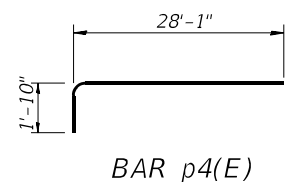
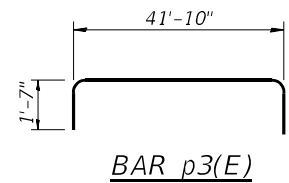
SEC. C-C

#4 s4(E) bars at 12" or 24" cts. as shown below, hooked around s2(E) bars. Stagger as shown and alternate hooks.



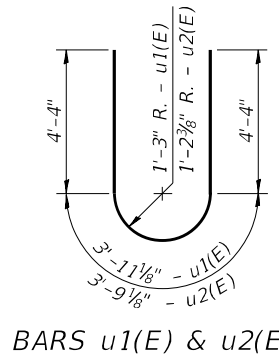
PARTIAL SOUTH ELEVATION OF CRASHWALL
(Showing placement of s4(E) and s5(E) bars)

(Sheet 2 of 2)



BAR sh(E)
(Seismic Hoop)

Mechanically spliced or shop welded (per AWS D1.4) seismic hoop alternates will be permitted at no additional cost to the Department.



BAR v4(E)
(Headed)
A & B DIMENSIONS

Bar	A	B
s2(E)	2'-4 1/2"	8'-8 1/4"
s3(E)	2'-4 1/2"	3'-2 1/4"
s7(E)	1'-7 1/2"	2'-10"
u3(E)	2'-6"	5'-7"

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-32-Pier(NB)2.dgn



USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - SHL 01/22
CHECKED - MTD 01/22
DRAWN - MTD/NHC 10/23
CHECKED - SHL/ELH 10/23

REVISED -
REVISED -
REVISED -
REVISED -

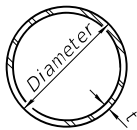
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER (NB)
STRUCTURE NO. 015-0078 (NB)

SHEET 32 OF 41 SHEETS

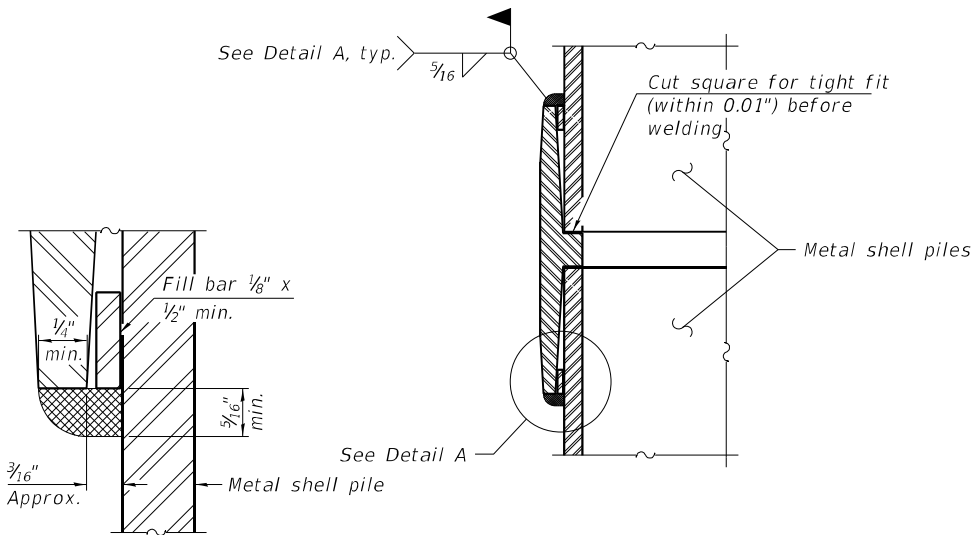
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	692
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

8/21/2024 1:22:29 PM

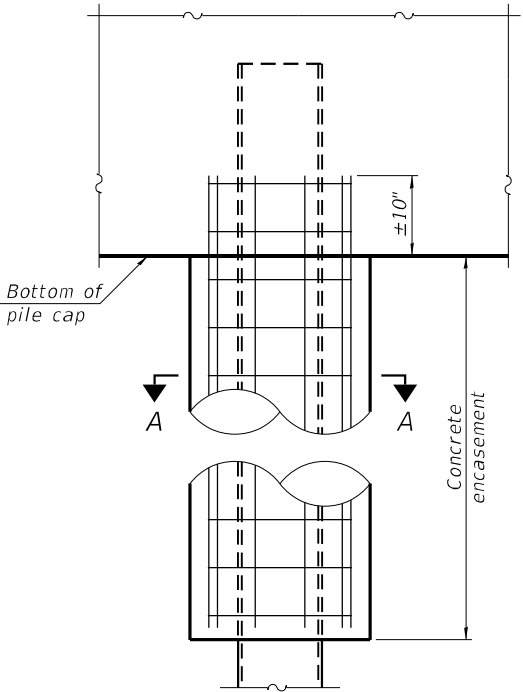


METAL SHELL PILE TABLE

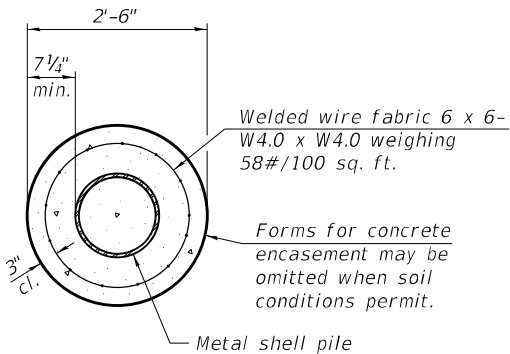
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361
PP16	0.312"	52.32	0.0478
PP16	0.375"	62.64	0.0470



DETAIL A

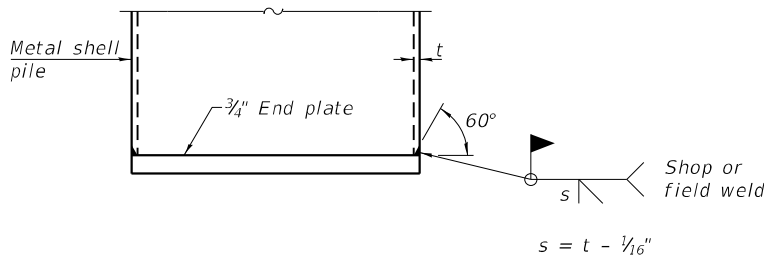


ELEVATION

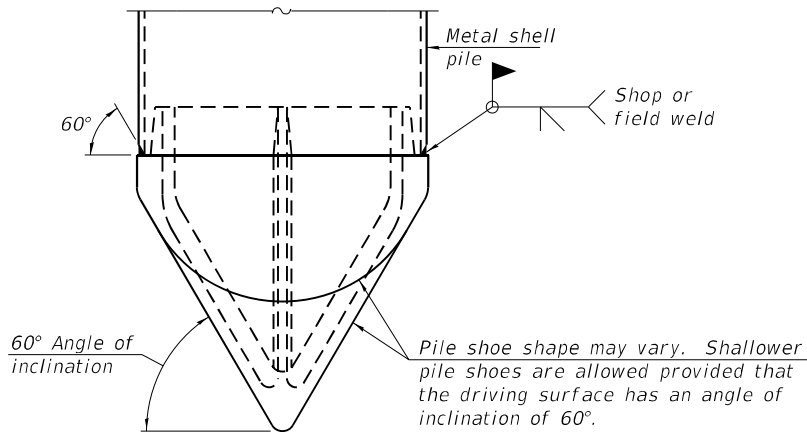


SECTION A-A

INDIVIDUAL PILE
CONCRETE ENCASEMENT
(When specified)



END PLATE ATTACHMENT

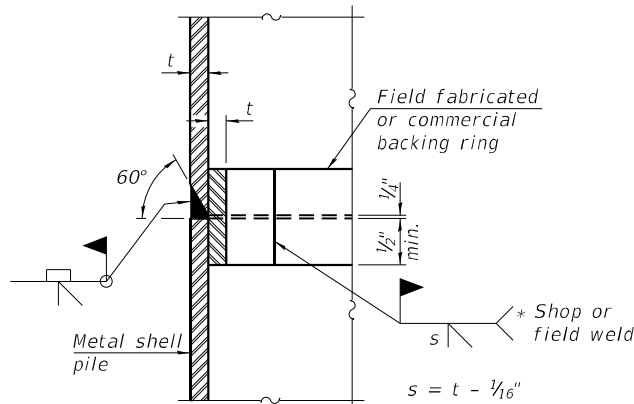


PILE SHOE ATTACHMENT

(When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 80-50 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld).

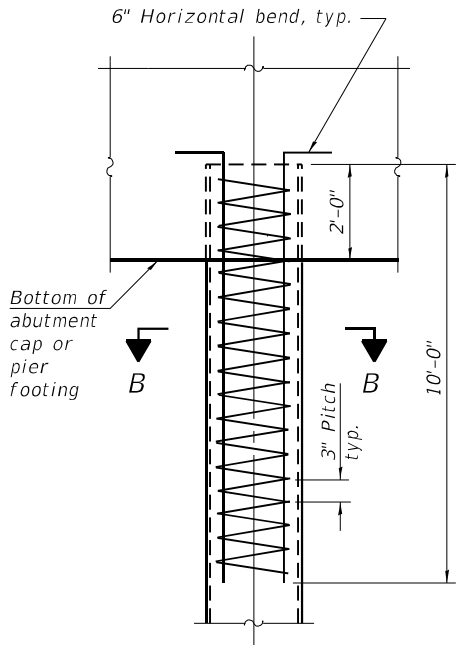
WELDED COMMERCIAL SPLICE

Notes:
The 1/8 inch x 1/2 inch min. fill bar may be constructed of 2 bars with a 1/8 inch max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

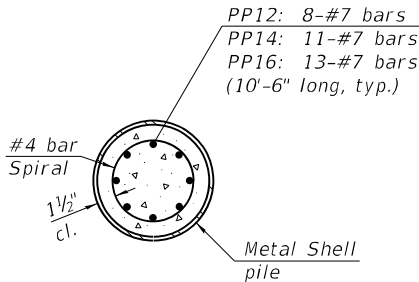


COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

REINFORCEMENT AT ABUTMENTS AND PIERS
(Omit when concrete encasement is specified)

Note:
The metal shell piles shall be according to Article 1006.05 of the Standard Specifications.

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-33-MSHD\1.s.dgn



USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

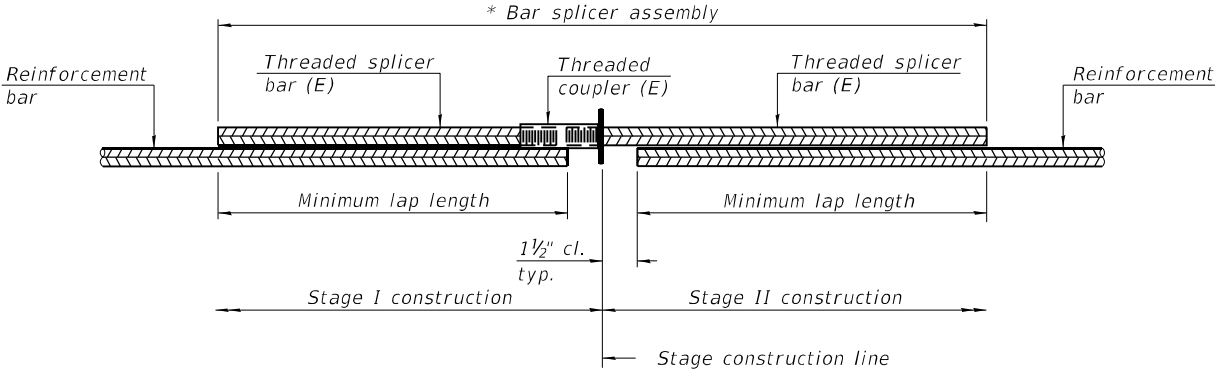
DESIGNED - MTD 12/21	REVISED -
CHECKED - PRH 01/22	REVISED -
DRAWN - KAH 12/21	REVISED -
CHECKED - MTD 01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 33 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	693
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

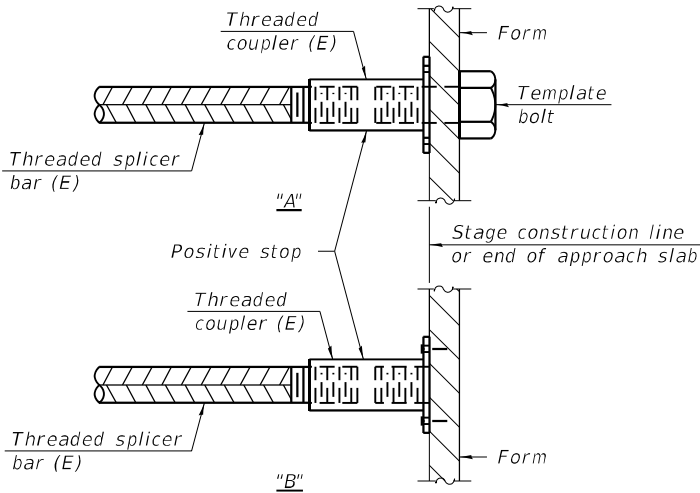


STANDARD BAR SPLICER ASSEMBLY PLAN
(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

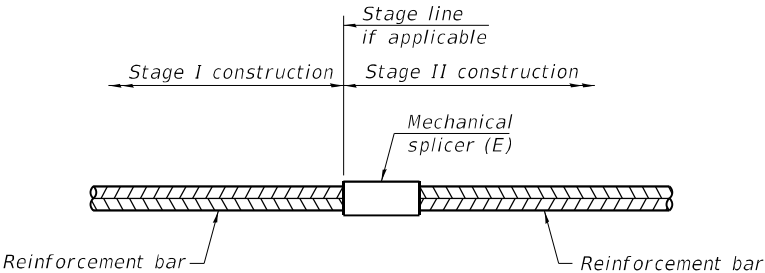
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
NA			



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Pier crashwall (SB)	#6	60
Pier crashwall (NB)	#6	60

Notes:
Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
All reinforcement shall be lapped and tied to the splicer bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

1-1-2020

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-34-BarSplicrDtls.dgn



USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

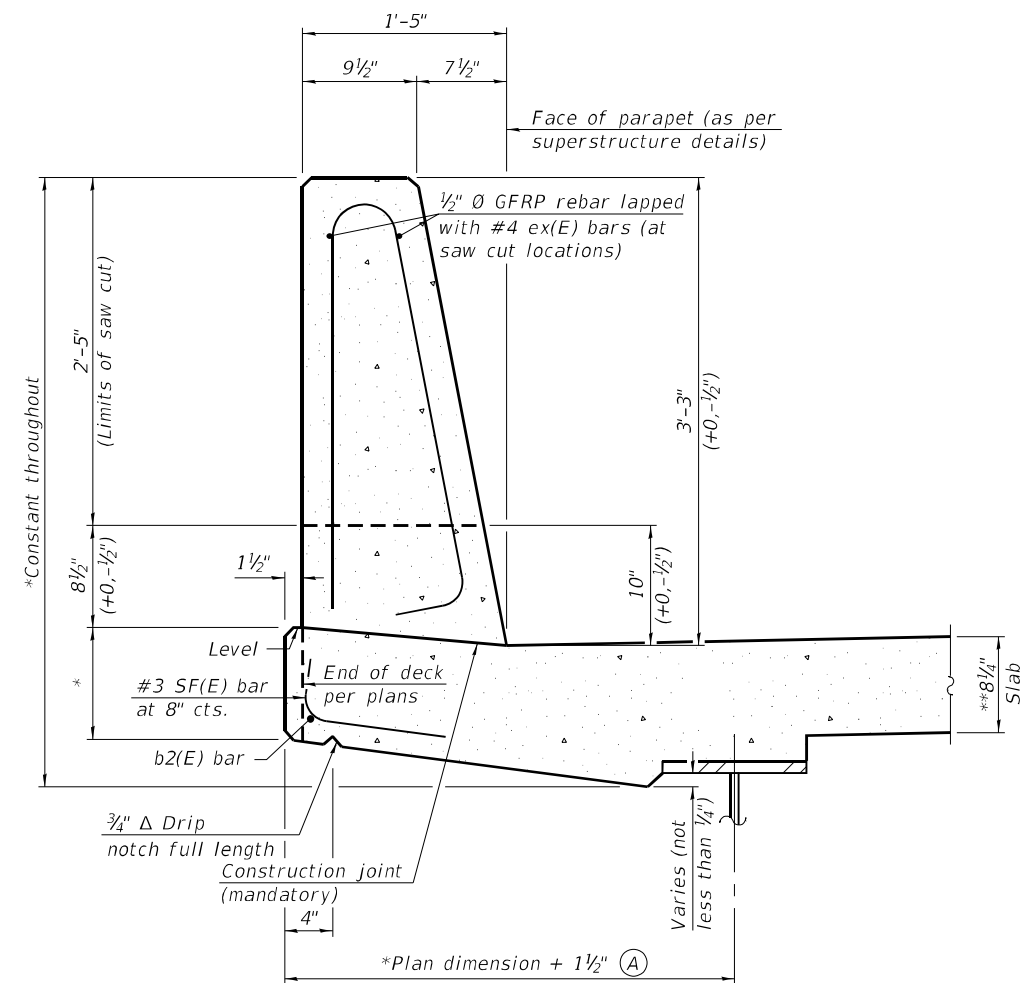
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CHECKED - PRH	01/22	REVISED -
DRAWN - KAH	12/21	REVISED -
CHECKED - MTD	01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

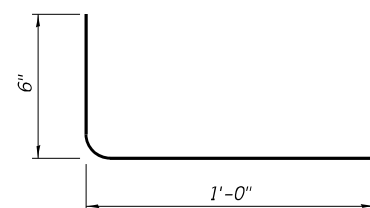
SHEET 34 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	694
				CONTRACT NO. 74435
		ILLINOIS	FED. AID PROJECT	

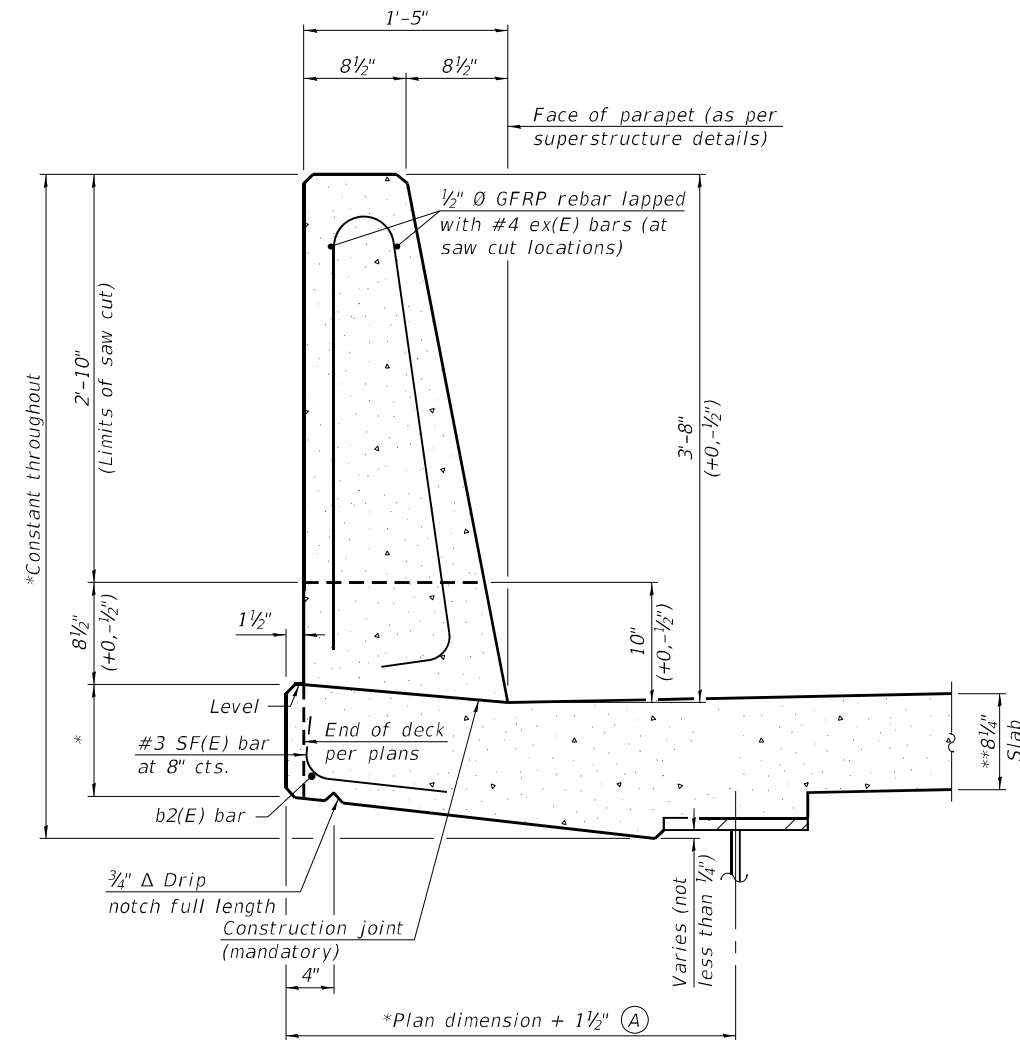


39" CONSTANT-SLOPE
PARAPET SECTION

(Showing dimensions, $d(E)$, and $\frac{1}{2}$ " $\emptyset$ GFRP rebar)

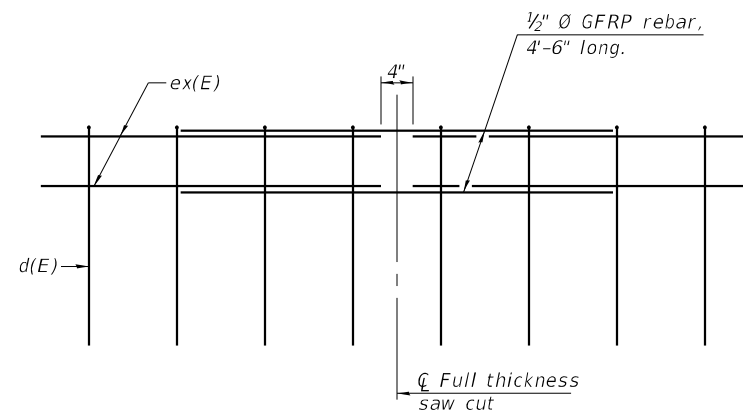


#3 SF(E) BAR



44" CONSTANT-SLOPE
PARAPET SECTION

(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)



GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section
at each parapet joint location.)

Notes:

All dimensions shall remain the same as shown on superstructure details, except dimension A which is to be revised as shown. Additional concrete needed to revise dimension A = 0.00348 cu. yds./ft. for 39" and 44" parapets.

Place full depth aluminum sheets as shown on superstructure details.

Replace all cork joint filler locations with a full thickness saw cut.

Steel superstructure shown. Other superstructure types similar.

Page 1 of 3

Date 10/23/19

ROUTE	FAI Route 57	DESCRIPTION	I-57 over IL 16 (Mattoon Interchange)	LOGGED BY	E. Sandschafer
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SECTION 15-22HB-4 LOCATION NW 1/4, SEC. 16, TWP. 12N, RNG. 8E, 3rd PM.

Latitude N 39.484477, Longitude W 88.321693

COUNTY	Coles	DRILLING METHOD	Hollow stem auger & split spoon	HAMMER TYPE	Auto 140#
--------	-------	-----------------	---------------------------------	-------------	-----------

STRUCT. NO.	015-0005, -0006(E) & 015-0078, -0079(P)
Station	788+65.76

BORING NO. 2 (East of Center Pier)
 Station 788+64
 Offset 42.0 ft East CL M
 Ground Surface Elev. 716.52

015-0005, -0006(E) & 015-0078-0079(P)
STRUCT. NO. 015-0078-0079(P)
Station 788+65.76

BORING NO. 2 (East of Center Pier)
Station 788+64
Offset 42.0 ft East **CL NBL**
Ground Surface Elev. 716.52 **ft**

Description	Depth (ft)	Diameter (ft)	Unit Weight (tsf)	Moisture (%)	Soil Profile			
					Color	Texture	Notes	Remarks
Brown, CLAY	0 - 1.5							
Very stiff, moist, brown, very fine, SANDY CLAY LOAM	1.5 - 2.5	3	3.1	11				
	2.5 - 3.5	7	S					
	3.5 - 4.5	7	S					
	4.5 - 5.5	7	S					
Stiff, moist, brown, CLAY LOAM	5.5 - 6.5	3	1.2	10				
	6.5 - 7.5	3	B					
	7.5 - 8.5	4	B					
	8.5 - 9.5	4	B					
Medium, grey (Till)	9.5 - 10.5	2	0.8	9				
	10.5 - 11.5	3	B					
	11.5 - 12.5	4	B					
	12.5 - 13.5	4	B					
Very stiff (Till)	13.5 - 14.5	2	2.1	11				
	14.5 - 15.5	3	B					
Stiff (Till)	15.5 - 16.5	1	1.3	12				
	16.5 - 17.5	3	B					
Stiff, moist, grey, SILTY LOAM	17.5 - 18.5	1	1.6	16				
	18.5 - 19.5	3	B					
	19.5 - 20.5	5	B					

Surface Water Elev. N/A **ft**
Stream Bed Elev. N/A **ft**

Groundwater Elev.:
First Encounter 647.0 **ft** ∇
Upon Completion 691.5 **ft** ∇
After 24 Hrs. 707.5 **ft** ∇

Soil Profile Summary:
 0 - 1.5 ft: Brown, CLAY
 1.5 - 5.5 ft: Very stiff, moist, brown, very fine, SANDY CLAY LOAM
 5.5 - 9.5 ft: Stiff, moist, brown, CLAY LOAM
 9.5 - 13.5 ft: Medium, grey (Till)
 13.5 - 15.5 ft: Very stiff (Till)
 15.5 - 17.5 ft: Stiff (Till)
 17.5 - 19.5 ft: Stiff, moist, grey, SILTY LOAM

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 2 of 3Date 10/23/19

ROUTE	FAI Route 57	DESCRIPTION	I-57 over IL 16 (Mattoon Interchange)	LOGGED BY: Sandschafer
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SECTION 15-22HB-4 LOCATION NW 1/4, SEC. 16, TWP. 12N, RNG. 8E, 3rd PM,

Latitude N 39.484477, Longitude W 88.321893

COUNTY	Coles	DRILLING METHOD	Hollow stem auger & split spoon	HAMMER TYPE	Auto 140#
--------	-------	-----------------	---------------------------------	-------------	-----------

STRUCT. NO.	015-0005, -0006(E) & 015-0078, -0079(P)
Station	788+65.76

BORING NO. 2 (East of Center Pier)
Station 788+64
Offset 42.0 ft East CL N
Ground Surface Elev. 716.52

[illegible]

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 3 of 3Date 10/23/19

ROUTE	FAI Route 57	DESCRIPTION	I-57 over IL 16 (Mattoon Interchange)	LOGGED BY	Sandsch
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SECTION 15-22HB-4 LOCATION NW 1/4, SEC. 16, TWP. 12N, RNG. 8E, 3rd PM.

Latitude N 39.484477, Longitude W 88.321693

COUNTY	Coles	DRILLING METHOD	Hollow stem auger & split spoon	HAMMER TYPE	Auto 140#
--------	-------	-----------------	---------------------------------	-------------	-----------

STRUCT. NO.	015-0005, -0006(E) & 015-0078, -0079(P)
Station	788+65.76

BORING NO. 2 (East of Center Pier)
Station 788+64
Offset 42.0 ft East CL
Ground Surface Elev. 716.52

[illegible]

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

(Sheet 2 of 6)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	697
		CONTRACT NO. 74435		
ILLINOIS		FED. AID PROJECT		

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08 74435\CADD\SP SN 015-0078 0079\0150078-74435-37-Soil.dgn



USER NAME = nhc	DESIGNED - MTD	12/21	REVISED -
ESCA PROJECT NO. 1343,08	CHECKED - PRH	01/22	REVISED -
PLOT SCALE	DRAWN - KAH	12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD	01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 37 OF 41 SHEETS

8/21/2024 1:22:39 PM



Page 1 of 3
Date 9/11/19

SECTION	15-22HB-4	LOCATION	NW 1/4, SEC. 16, TWP. 12N, RNG. 8E. 3 rd PM. Latitude N 39.484793, Longitude W 88.321843		
COUNTY	Coles	DRILLING METHOD	Hollow stem auger & split spoon	HAMMER TYPE	Auto 140#

[illegible]

Page 2 of 3

Date 9/11/19

SECTION	15-22HB-4	LOCATION	NW 1/4, SEC. 16, TWP. 12N, RNG. 8E, 3 rd PM. Latitude N 39.484793, Longitude W 88.321843		
COUNTY	Coles	DRILLING METHOD	Hollow stem auger & split spoon	HAMMER TYPE	Auto 140#

015-0005, -0006(E) & 015-0078, -0079(P)				BORING NO. 4 (North Abutment)				Surface Water Elev. <u>N/A</u> ft				DEPTH B L O W S U C S M O I S T			
STRUCT. NO. 015-0078, -0079(P)				Station 790+04				Stream Bed Elev. <u>N/A</u> ft				DEPTH B L O W S U C S M O I S T			
Station 788+65.76															
BORING NO. 4 (North Abutment)								Groundwater Elev.:							
Station 790+04								First Encounter 654.2 ft							
Offset 45.0 ft West CL NBL								Upon Completion 712.7 ft							
Ground Surface Elev. 738.67 ft								After 24 Hrs. 715.7 ft							
				(ft)	(in)	(tsf)	(%)					(ft)	(in)	(tsf)	(%)
Medium, moist, grey, Clay LOAM (Till)				5	0.9	13		Stiff, moist, grey, Clay LOAM (Till)				4	1.4	12	
				5	B							9	B		



Page 3 of 3
Date 9/11/19

SECTION	15-22HB-4	LOCATION	NW 1/4, SEC. 16, TWP. 12N, RNG. 8E, 3 rd PM, Latitude N 39.484793, Longitude W 88.321843		
COUNTY	Coles	DRILLING METHOD	Hollow stem auger & split spoon	HAMMER TYPE	Auto 140#

SOIL BORING 015-0005, 0006 SCH. 2019 GPR IL DOT.GDT 1/12/19

015-0005, -0006(E) & STRUCT. NO. 015-0078 - 0079(F) Station 788+65.76		D E P T H		B L O W S	U C S	M O I S T	Surface Water Elev. <u>N/A</u> ft Stream Bed Elev. <u>N/A</u> ft		D E P T H	B L O W S	U C S	M O I S T	Groundwater Elev.: First Encounter <u>654.2</u> ft Upon Completion <u>712.7</u> ft After <u>24</u> Hrs. <u>715.7</u> ft	
BORING NO. <u>4 (North Abutment)</u> Station <u>790+04</u> Offset <u>45.0 ft West</u> CL NBL Ground Surface Elev. <u>738.67</u> ft		(ft)	(/6")	(tsf)	Qu	(%)	(ft)		(ft)	(/6")	(tsf)	(%)	(ft)	
Stiff, moist, grey, Clay LOAM (Till)		4	8	1.6	B	11	637.67		4	4	1.6	B	20	
654.1							Benchmark: BM 300 - Chiseled "X" on the North bolt of a light base for an Interstate light +200' south of IL 16 center of the Interstate. End of Boring							
Very loose, moist, fine-grained, SAND 4.1% passing #200 sieve		-85	0			23			-105					
			0											
649.17														
Stiff, moist, brown, Silty LOAM		-90	7				-110							
			7	1.6	S	47								
			6											

BORING LOGS
015-0078 (NB) & 015-0079 (SB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	699
		CONTRACT NO. 74435		
ILLINOIS		FED. AID PROJECT		



USER NAME = ntic	DESIGNED - MTD	12/21	REVISED -
ESCA PROJECT NO. 1343,08	CHECKED - PRH	01/22	REVISED -
PLOT SCALE	CHECKED - KAH	12/21	REVISED -
PLOT DATE = 8/21/2024	DRAWN - MTD	01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOUNDATION INVESTIGATION

ROUTE FAI-04 STRUCTURE Twin bridges over DATE 9-3-57
SECTION 15-22 HB-4 FA Route 17 near WEATHER clear
COUNTY Coles Station 788+60 ENGINEER Woods
BORING NO. 1 BORING NO. _____
PILING _____

	Elev per Foot	qu-tens per sq.ft.	% Moisture	Elevation	Elevation	% Moisture	qu-tens per sq.ft.	Elevs per Foot	PILING
44 feet Right Station 788+60					690.0 Hole #1 Continued				
Ground elev.				721.0	116.8	2.7	15		
Brown Silty Firm				719.0	12.7	3.2	16		
Brown Mottled Clay Firm				717.0	12.9	3.2	16		
Brown Gray Mottled Clay Stiff	5	2.2	12.8	714.0	680.0	16.3	3.2	17	
Brown Gray Mottled Clay Till	7	2.4	12.2	714.0					
Very Stiff	10	2.7	14.1						
	13	2.7	13.1	708.0	673.0	12.5	3.9	14	
	13	3.9	12.6						
	13	3.4	12.4	700.0					
	20	3.4	13.7						
	12	2.7	13.3						
	12	2.4	13.3						
				690.0					

Vertical Scale: 1 inch = 5 feet
Weight of Hammer 170 lbs. Drop 2'-0"

Penetrometer Split-Spoon 33

Gray Clay Till
Very Stiff

Water elev. 24 hours after boring.

Limit of boring

FOUNDATION INVESTIGATION

ROUTE FAI-04 STRUCTURE Twin bridges over DATE 9-3-57
SECTION 15-22 HB-4 FA Route 17 near WEATHER clear
COUNTY Coles Station 788+60 ENGINEER Woods
BORING NO. 2 BORING NO. _____
PILING _____

	Elev per Foot	qu-tens per sq.ft.	% Moisture	Elevation	Elevation	% Moisture	qu-tens per sq.ft.	Elevs per Foot	PILING
44 feet Left Station 788+60					690.0 Hole #2 Continued				
Ground elev.				720.5	13.0	3.9	16		
Brown Silty Firm				719.0	12.3	3.2	15		
Brown Mottled Clay Firm				716.0	12.6	3.4	21		
Brown Gray Mottled Clay Till	7	2.9	14.9	716.0					
Very Stiff	10	3.2	14.3						
	13	3.9	12.6	710.5	676.0	16.2	3.2	20	
	15	2.7	13.2						
	13	3.9	12.7	702.5					
	16	4.3	12.5	700.0					
	16	4.4	12.2						
	14	4.1	12.7						
	15	3.6	12.9	690.0					

Vertical Scale: 1 inch = 5 feet
Weight of Hammer 170 lbs. Drop 2'-0"

Penetrometer Split-Spoon 33

Gray Clay Till
Very Stiff

Water elev. 24 hours after boring.

Limit of boring

FOUNDATION INVESTIGATION

ROUTE FAI-04 STRUCTURE Twin Bridges over DATE 9-4-57
SECTION 15-22 HB-4 FA Route 17 near WEATHER clear
COUNTY Coles Station 788+60 ENGINEER Woods
BORING NO. 3 BORING NO. _____
PILING _____

	Elev per Foot	qu-tens per sq.ft.	% Moisture	Elevation	Elevation	% Moisture	qu-tens per sq.ft.	Elevs per Foot	PILING
44 feet Right Station 789+42					690.0 Hole #3 Continued				
Ground elev.				721.0	13.8	2.2	14		
Brown Silty Firm				719.5	12.9	2.7	14		
Brown Mottled Clay Firm				717.0	13.0	3.9	18		
Brown Gray Mottled Clay Stiff to Firm	8	2.7	26.8	714.0	680.0	13.2	2.7	16	
	4	1.0	22.1	714.0					
Brown Gray Mottled Clay Till	9	2.3	15.4	711.0					
Stiff	9	2.7	14.2	708.0	673.0	13.3	2.4	17	
	10	3.1	12.8						
	11	2.4	13.7	700.0					
	10	2.2	14.0						
	11	2.7	13.8						
	11	2.2	14.2						
				690.0					

Vertical Scale: 1 inch = 5 feet
Weight of Hammer 170 lbs. Drop 2'-0"

Penetrometer Split-Spoon 33

Gray Clay Till
Stiff & Very Stiff

Water elev. 24 hours after boring.

Limit of boring

(Sheet 5 of 6)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	700
CONTRACT NO. 74435				

SHEET 40 OF 41 SHEETS

ILLINOIS FED. AID PROJECT



USER NAME = nhc	DESIGNED - MTD	12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - PRH	01/22	REVISED -
PLOT SCALE	DRAWN - KAH	12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD	01/22	REVISED -