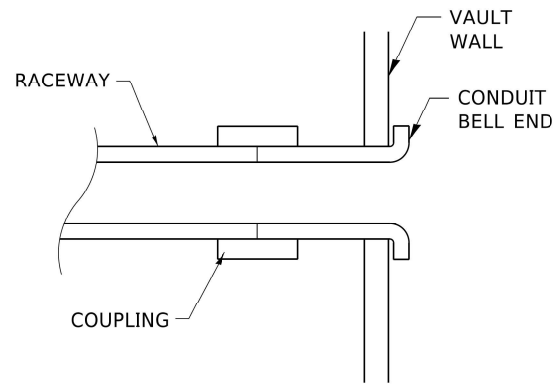
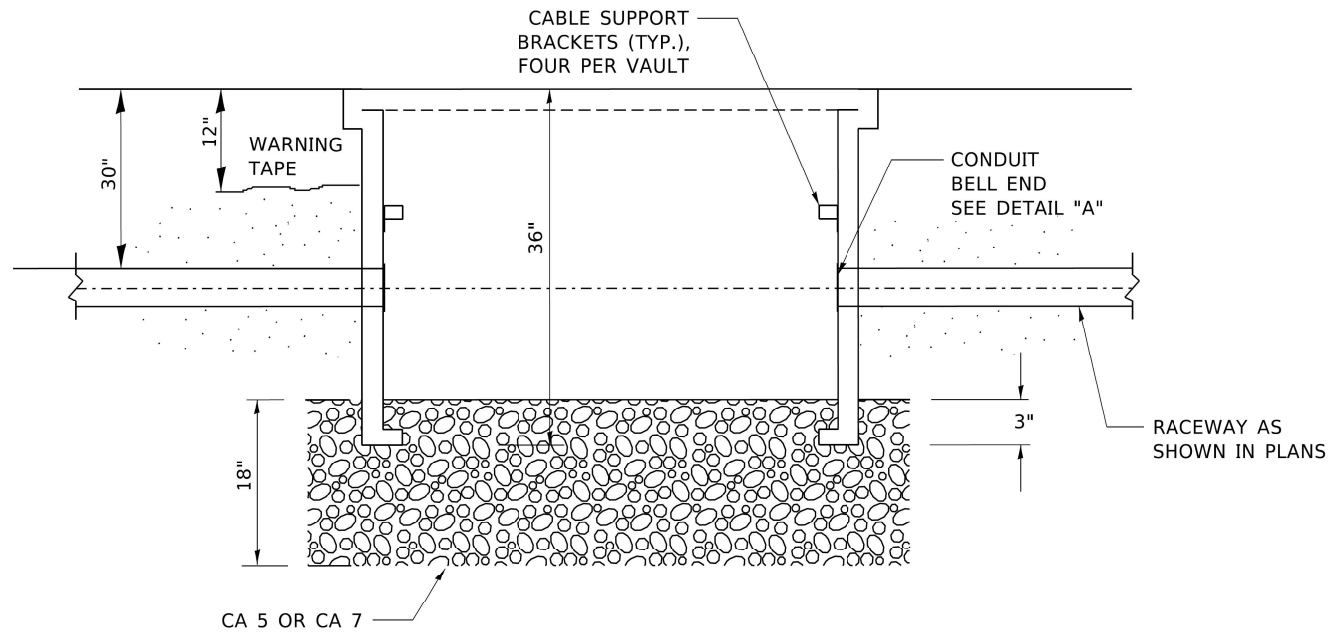


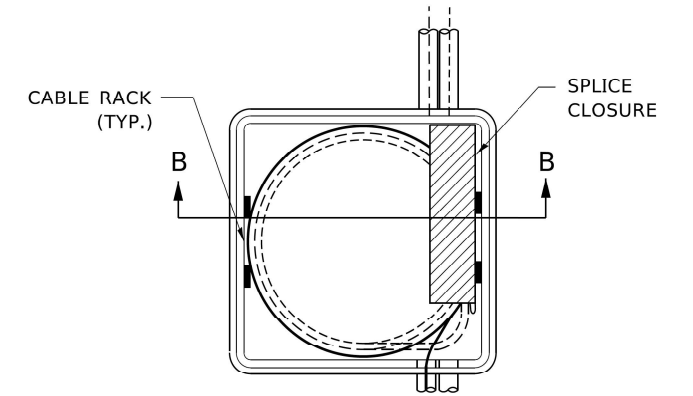
COMMUNICATIONS VAULT LOAD RATINGS			
COMPONENT	ANSI TIER	LOADING	
		DESIGN	TEST
BOX	22	22,500 lbs.	37,750 lbs.
COVER	22	22,500 lbs.	37,750 lbs.



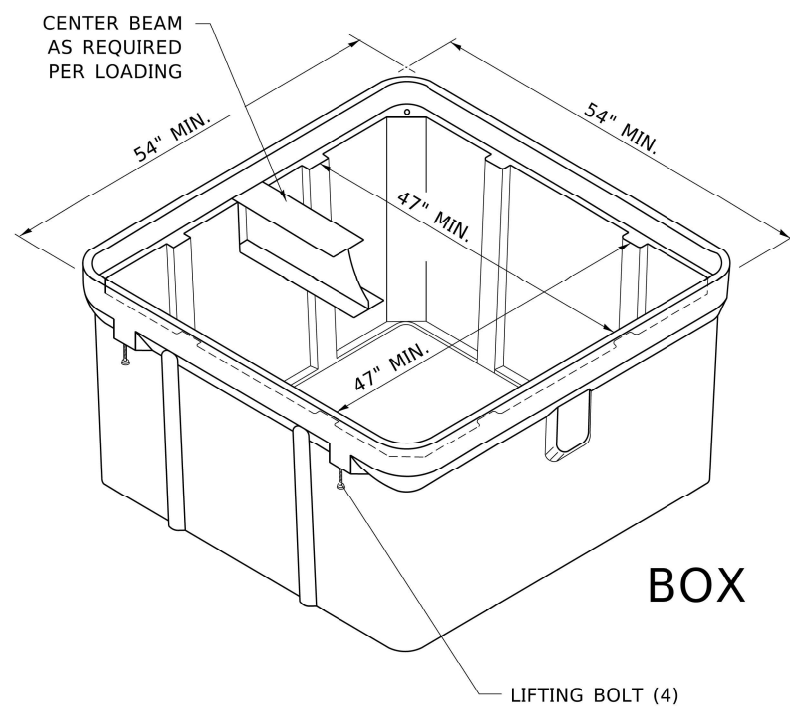
DETAIL A



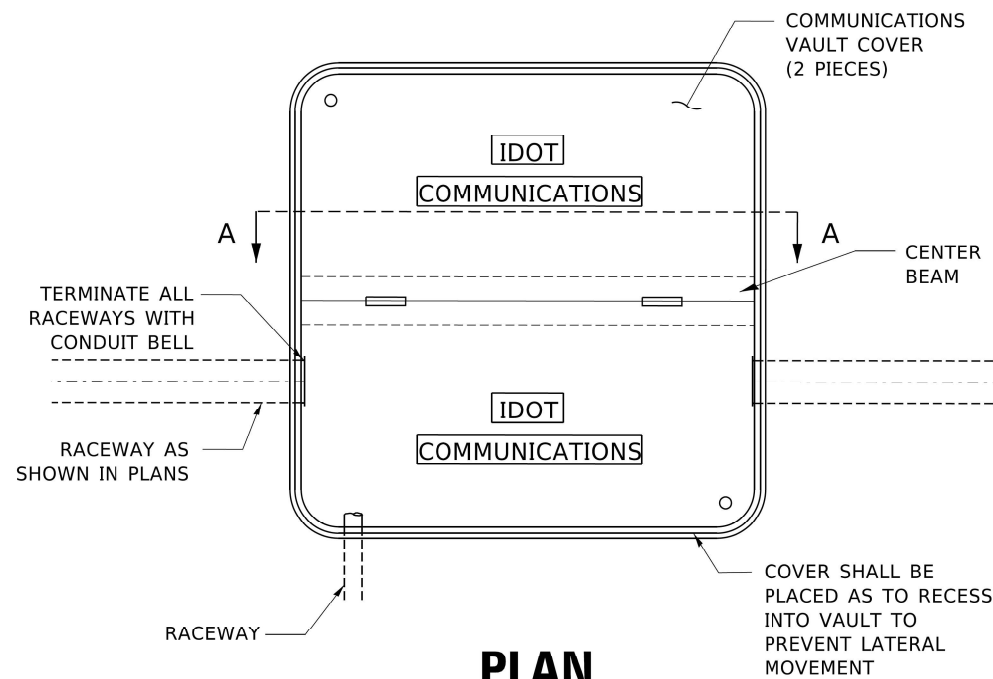
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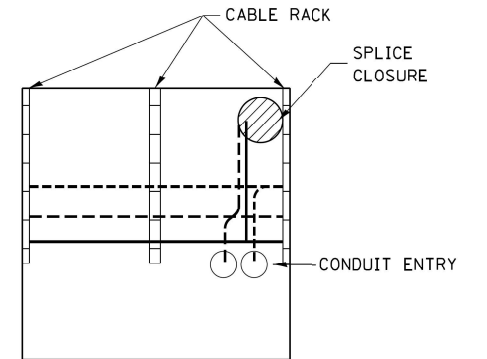
TOP VIEW



ISOMETRIC



PLAN



SECTION B-B

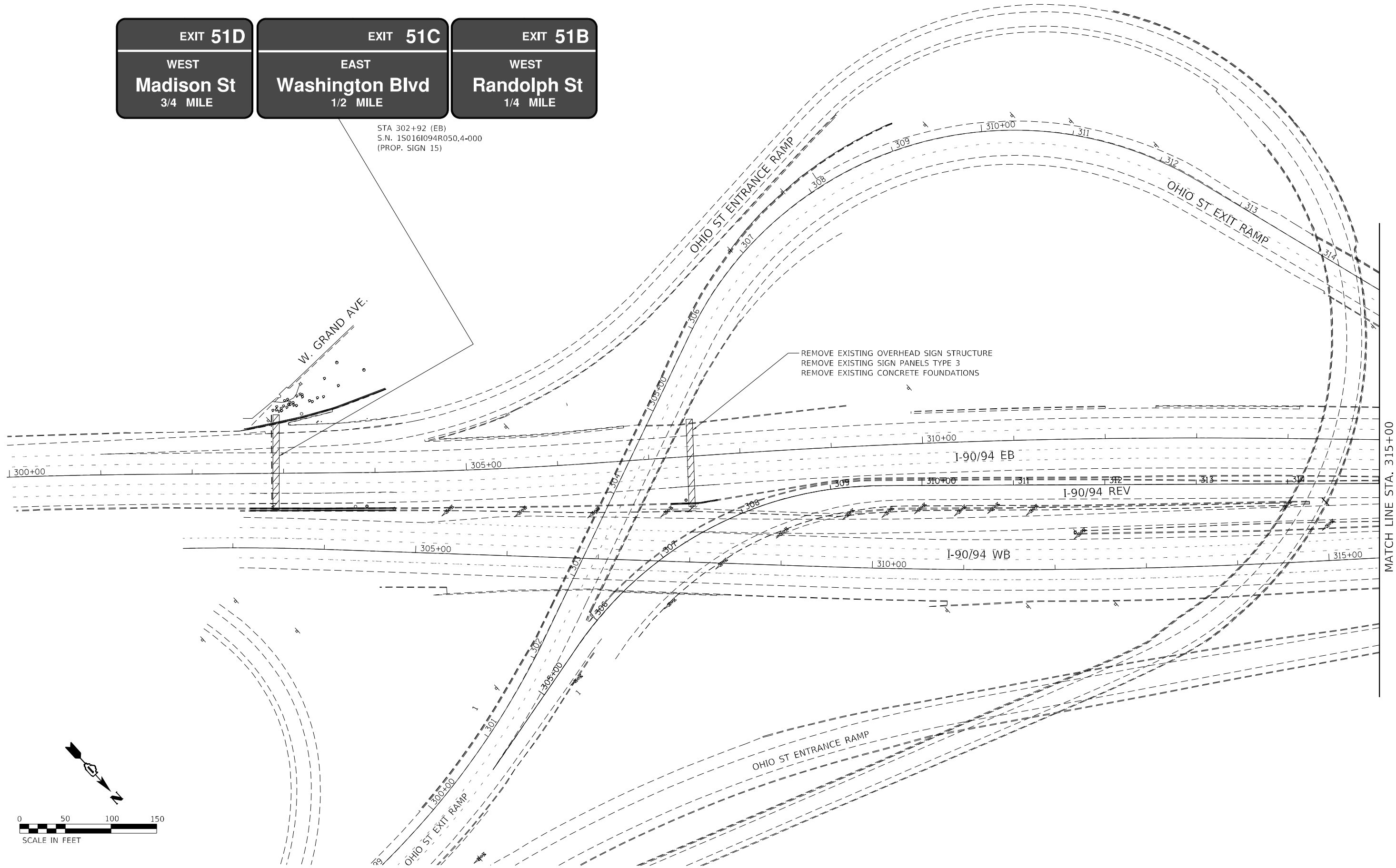
NOTES:

1. BOX SHALL HAVE AN OPEN BASE.
2. ALL OPENINGS IN STRUCTURE MUST BE MACHINED AT TIME OF FABRICATION OR PUNCH DRIVEN AT TIME OF PLACEMENT, IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
3. FIELD PLACEMENT OF COMMUNICATIONS VAULT SHALL BE AS DIRECTED BY THE ENGINEER.
4. ALL DIMENSIONS ARE MINIMUM AND A LARGER SIZE HANDHOLE MAY BE USED, WITH THE APPROVAL OF THE ENGINEER, TO FACILITATE USING A MANUFACTURER'S STANDARD PRODUCT.

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EXIT 51D	EXIT 51C	EXIT 51B
WEST	EAST	WEST
Madison St	Washington Blvd	Randolph St
3/4 MILE	1/2 MILE	1/4 MILE

STA 302+92 (EB)
S.N. 150161094R050.4-000
(PROP. SIGN 15)



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8501 W. Higgins Road, Suite 280
Chicago, Illinois 60634 (773) 399-0112

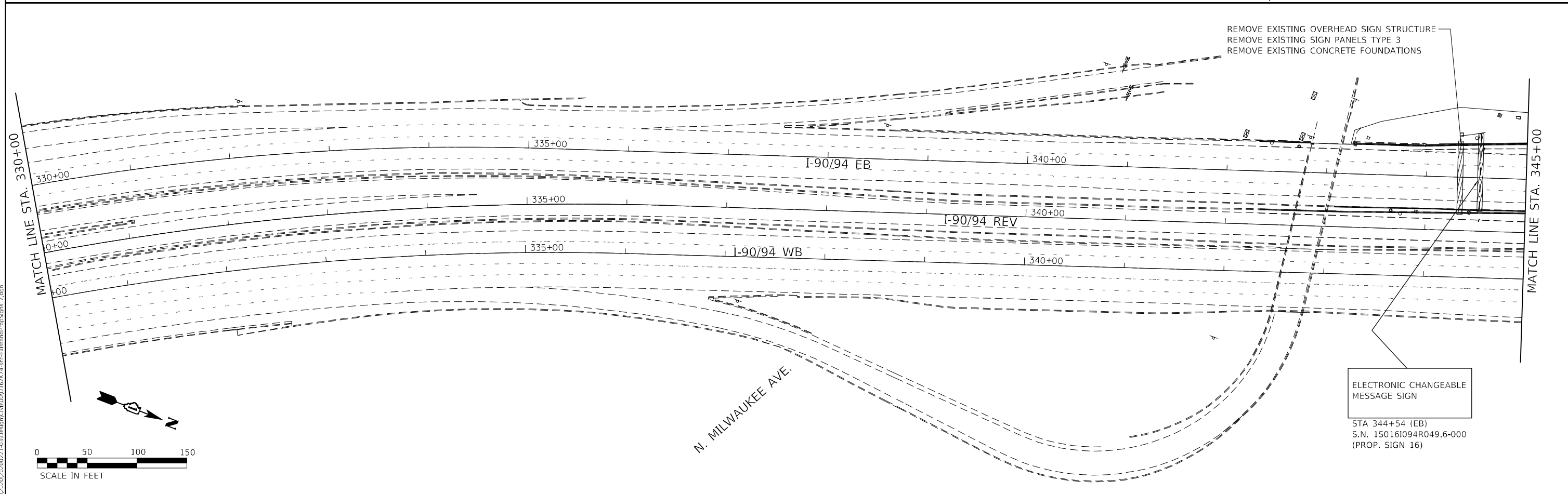
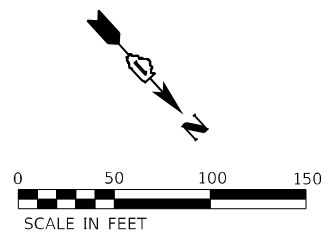
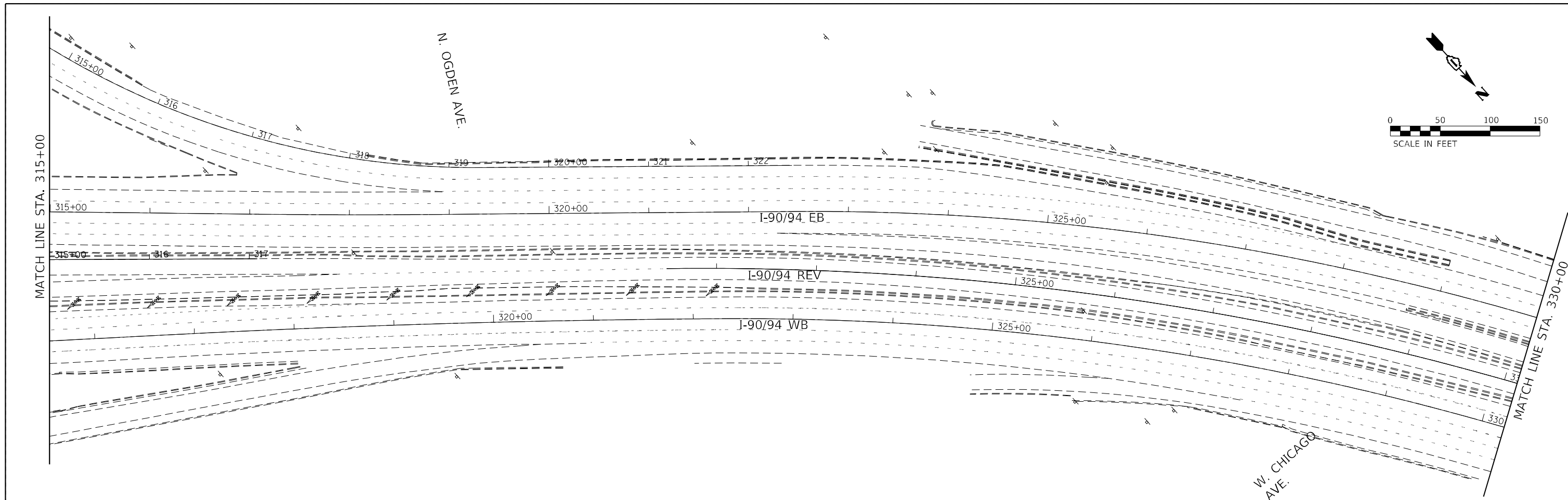
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXISTING AND PROPOSED OHSS LOCATION PLANS
SBREV INTERSTATE 90/94 (KENNEDY EXPY)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	302
JOB NO.		CONTRACT NO. 62K74		
ILLINOIS FED. AID PROJECT				



REMOVE EXISTING OVERHEAD SIGN STRUCTURE
 REMOVE EXISTING SIGN PANELS TYPE 3
 REMOVE EXISTING CONCRETE FOUNDATIONS

ELECTRONIC CHANGEABLE
 MESSAGE SIGN

STA 344+54 (EB)
 S.N. 1S016I094R049.6-000
 (PROP. SIGN 16)



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GRAEF
 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631; (773) 399-0112

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 PLOT DATE = 10/18/2022

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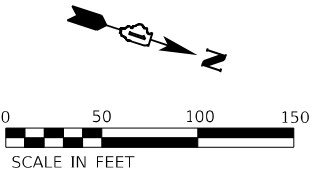
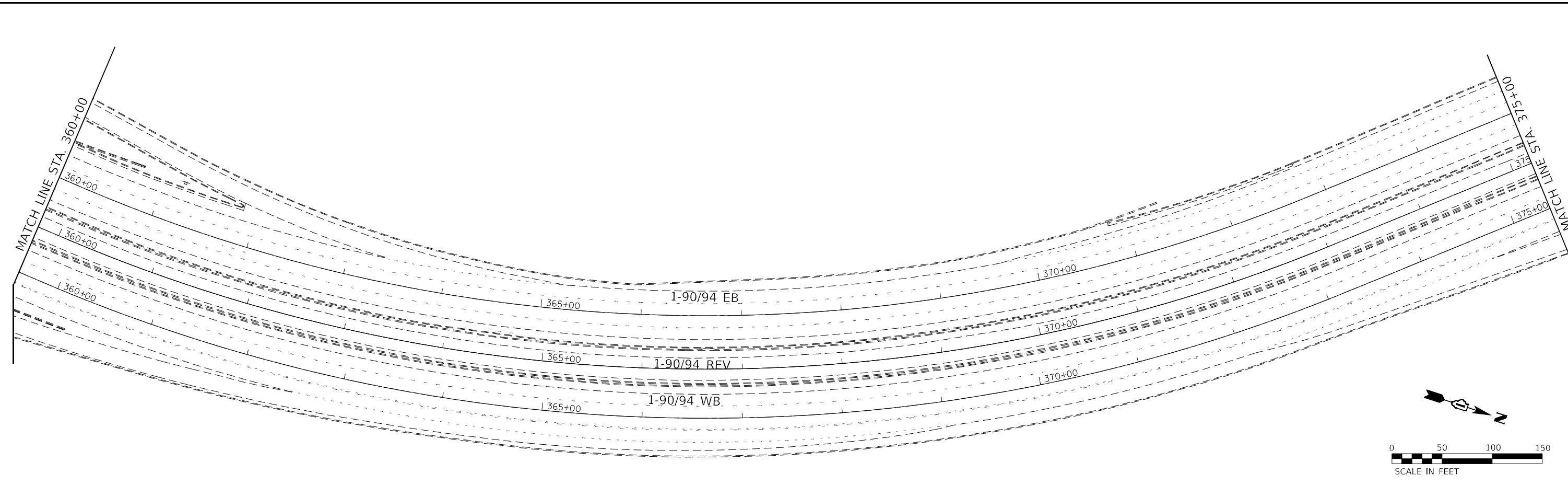
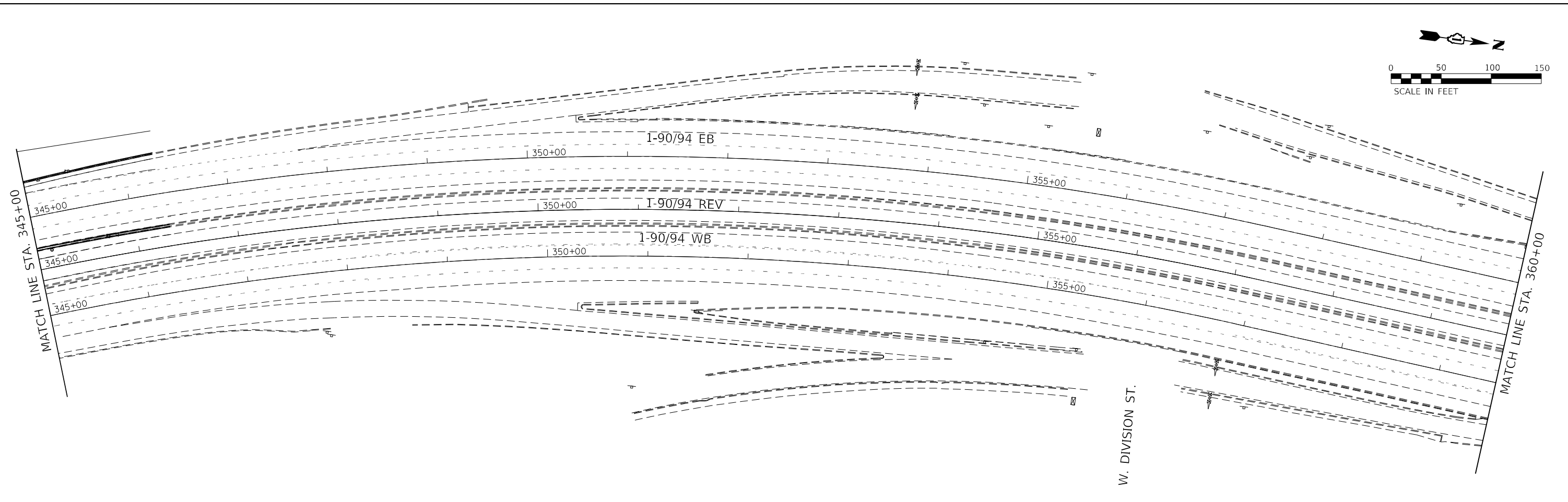
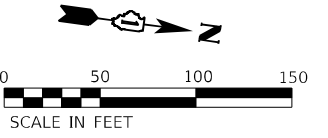
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 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**EXISTING AND PROPOSED OHSS LOCATION PLANS
 SB/REV INTERSTATE 90/94 (KENNEDY EXPY)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	303
			CONTRACT NO. 62K74	
ILLINOIS FED. AID PROJECT				



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GRAEF
 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631 | (773) 399-0112

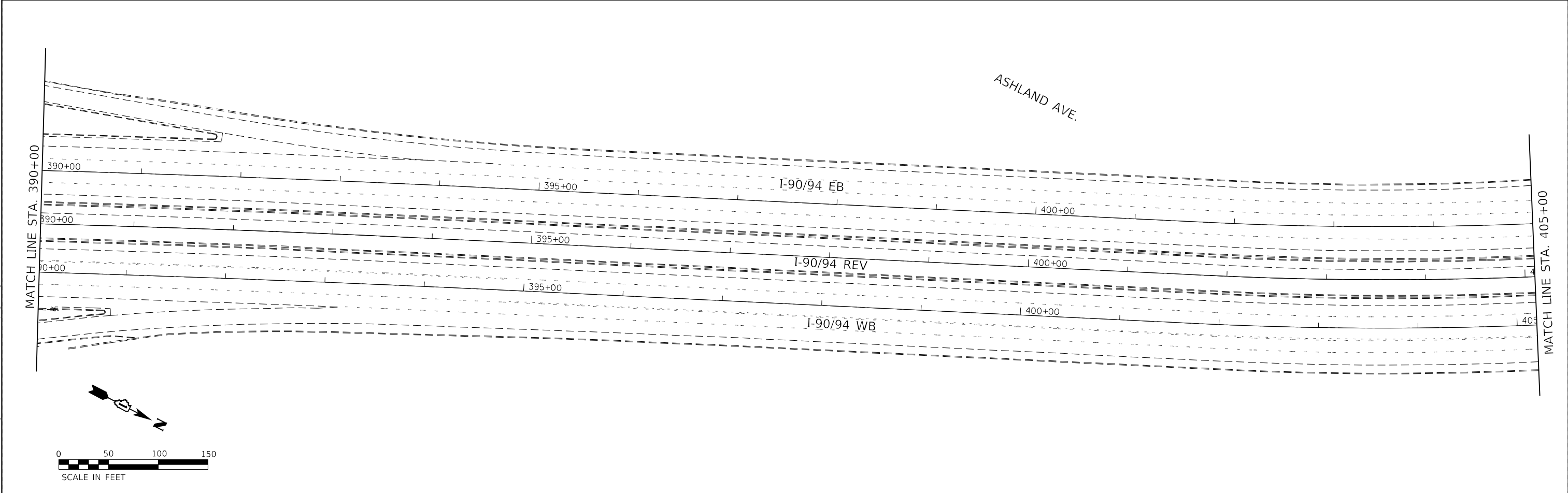
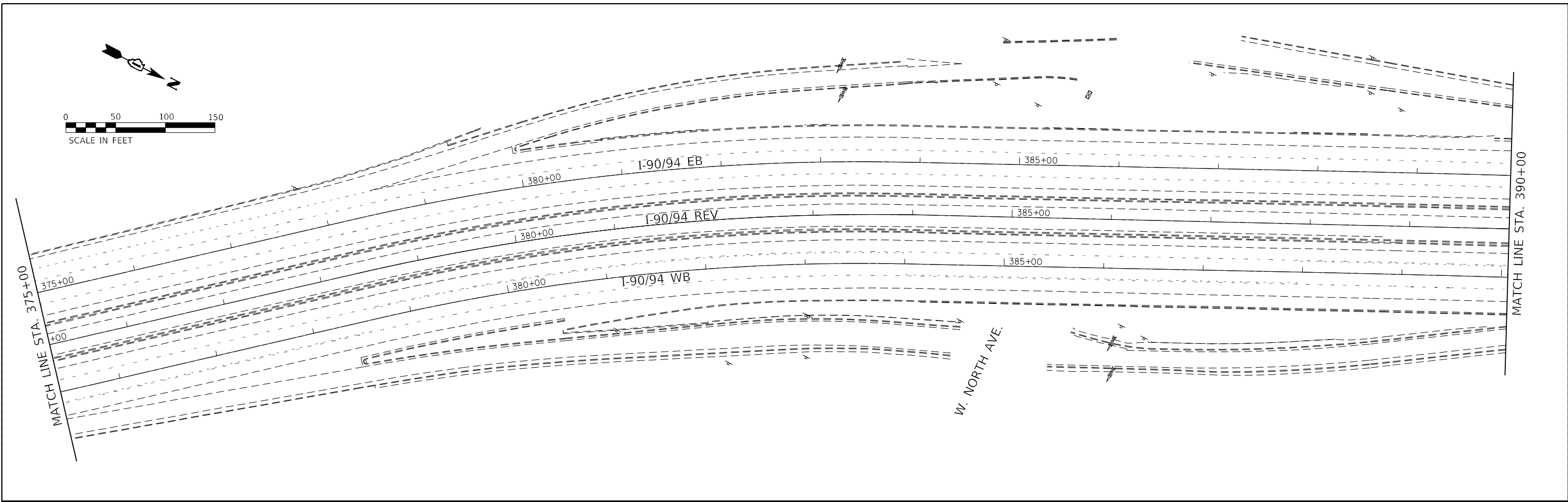
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PLOT DATE = 10/18/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING AND PROPOSED OHSS LOCATION PLANS
SB/REV INTERSTATE 90/94 (KENNEDY EXPY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	304
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



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 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631 | (773) 399-0112

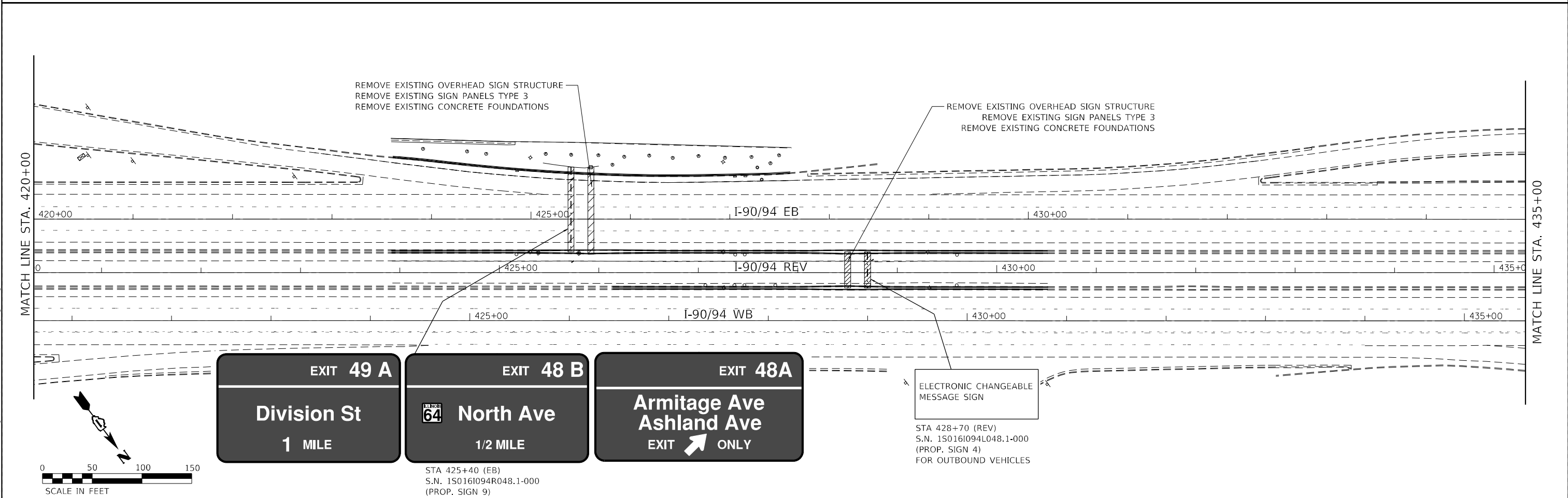
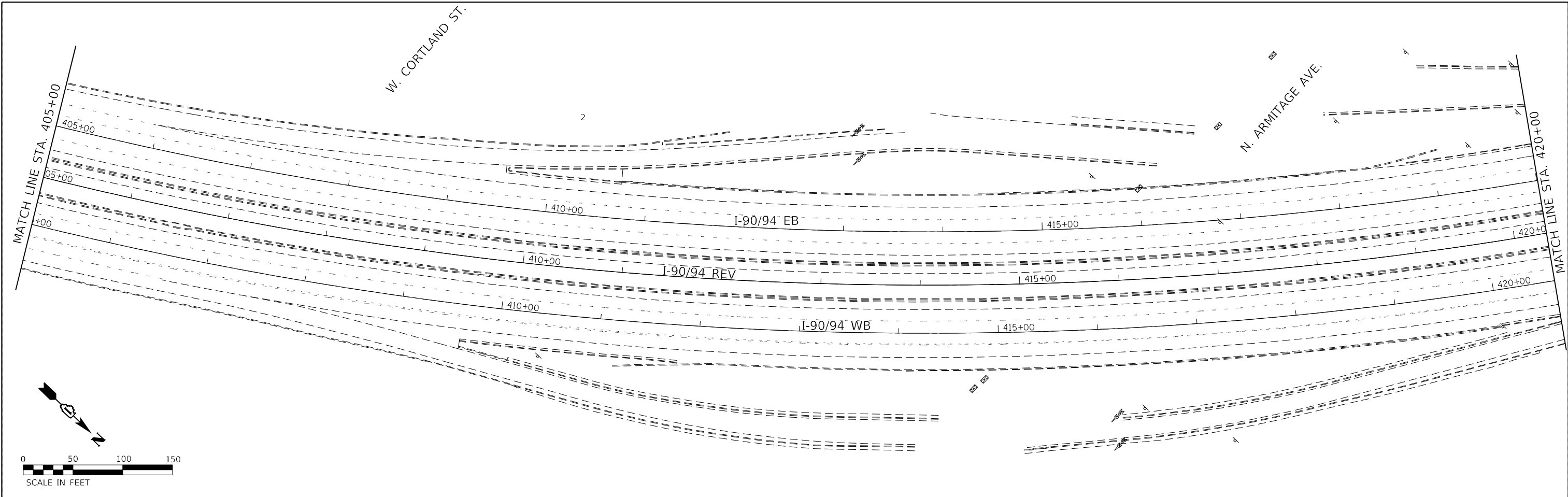
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	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING AND PROPOSED OHSS LOCATION PLANS
SB/REV INTERSTATE 90/94 (KENNEDY EXPY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	305
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	



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8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

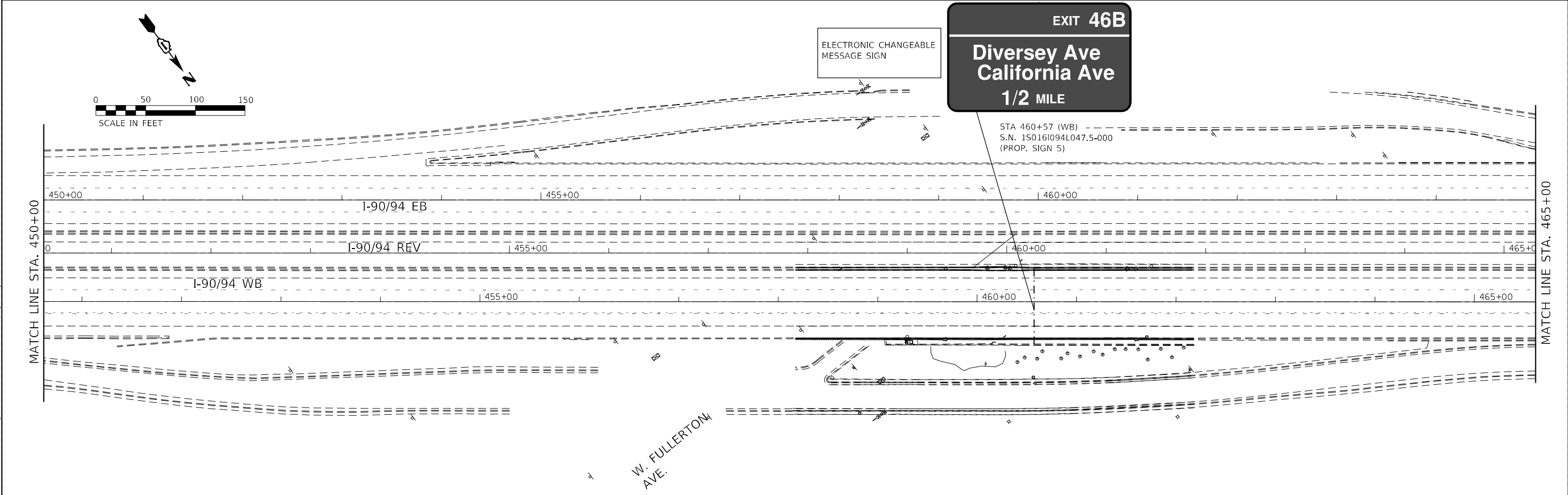
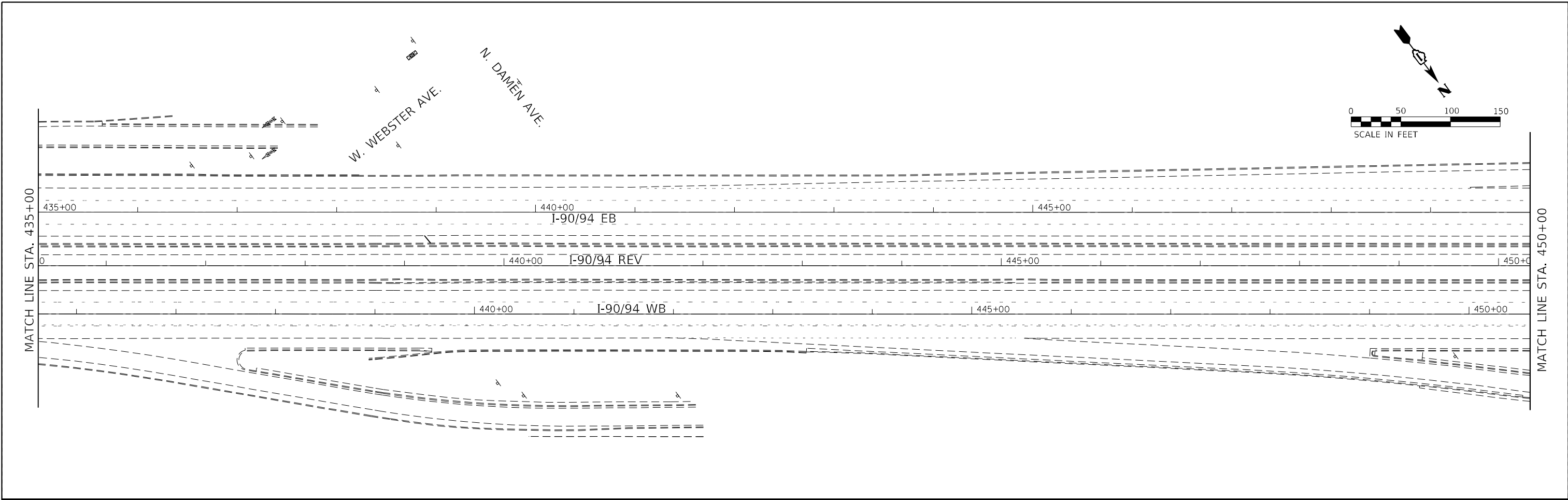
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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXISTING AND PROPOSED OHSS LOCATION PLANS
SB/REV INTERSTATE 90/94 (KENNEDY EXPY)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	306
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	



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 Chicago, Illinois 60631; (773) 399-0112

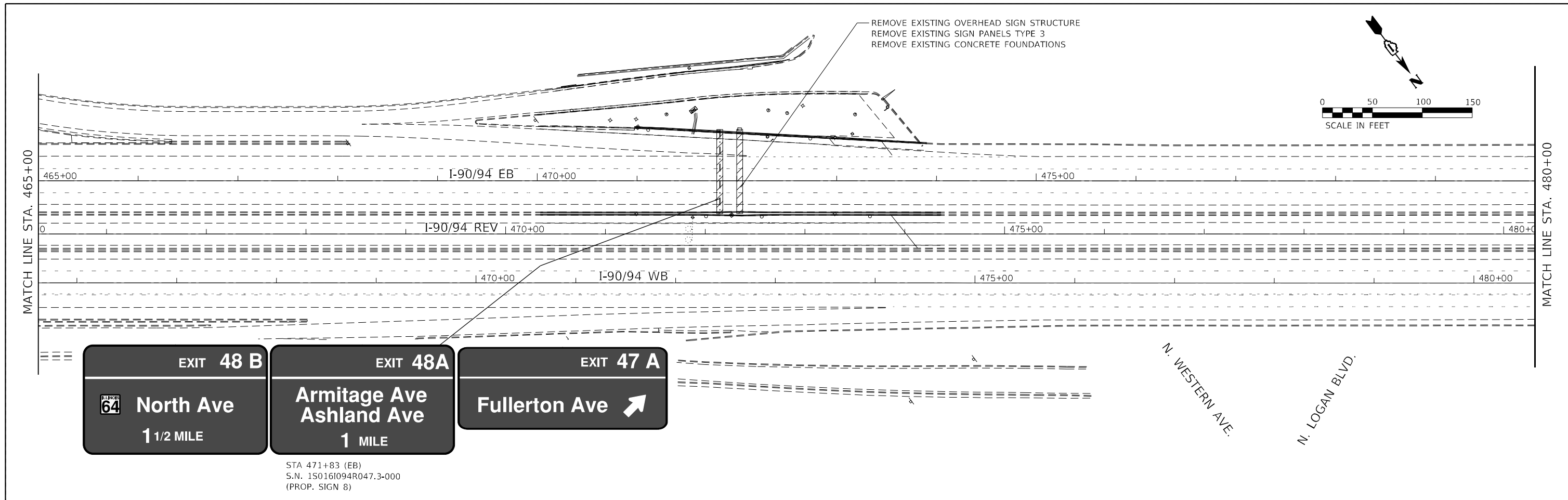
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

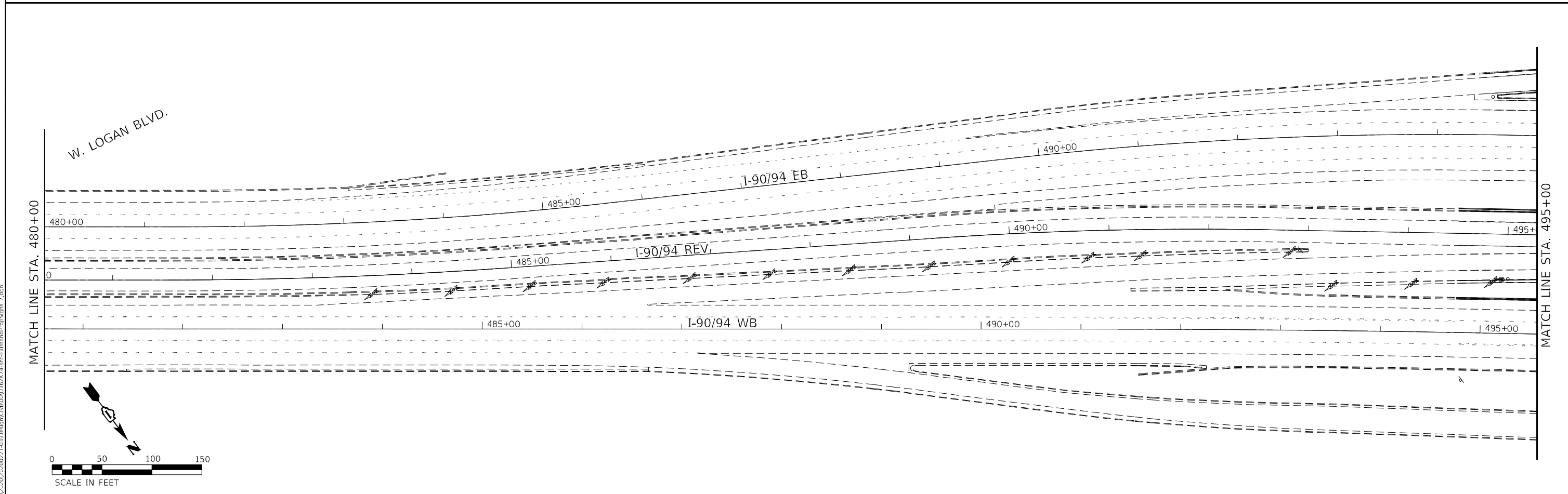
EXISTING AND PROPOSED OHSS LOCATION PLANS
SB/REV INTERSTATE 9094 (KENNEDY EXPY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	307
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	



STA 471+83 (EB)
S.N. 150161094R047.3-000
(PROP. SIGN 8)



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GRAEF
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631 | (773) 399-0112

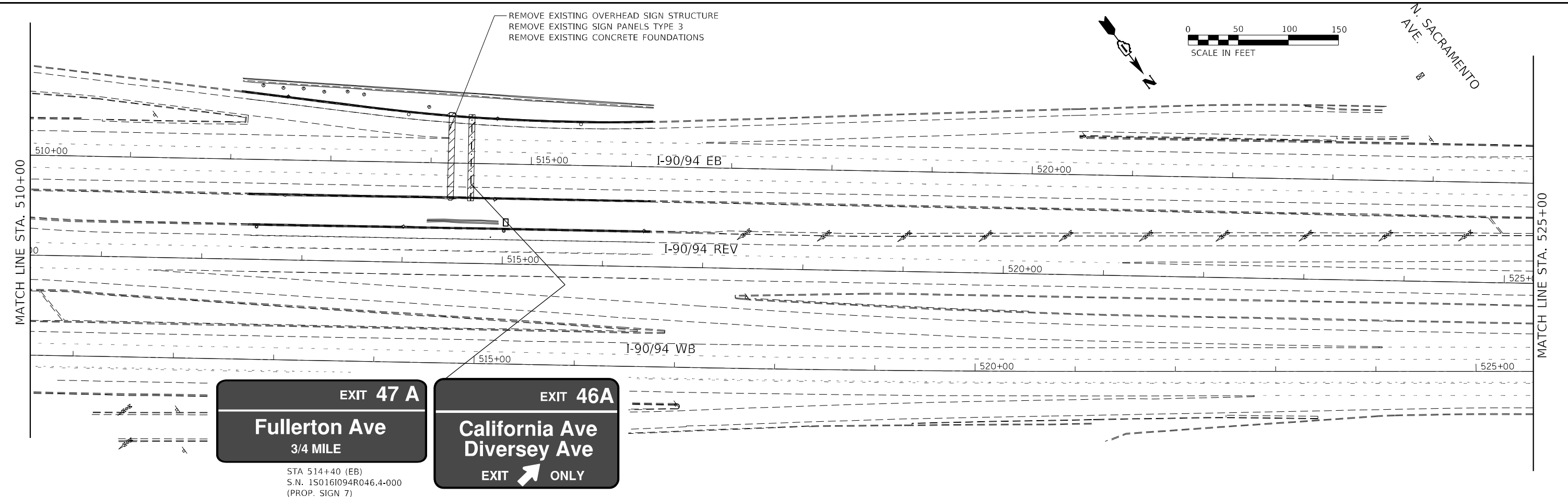
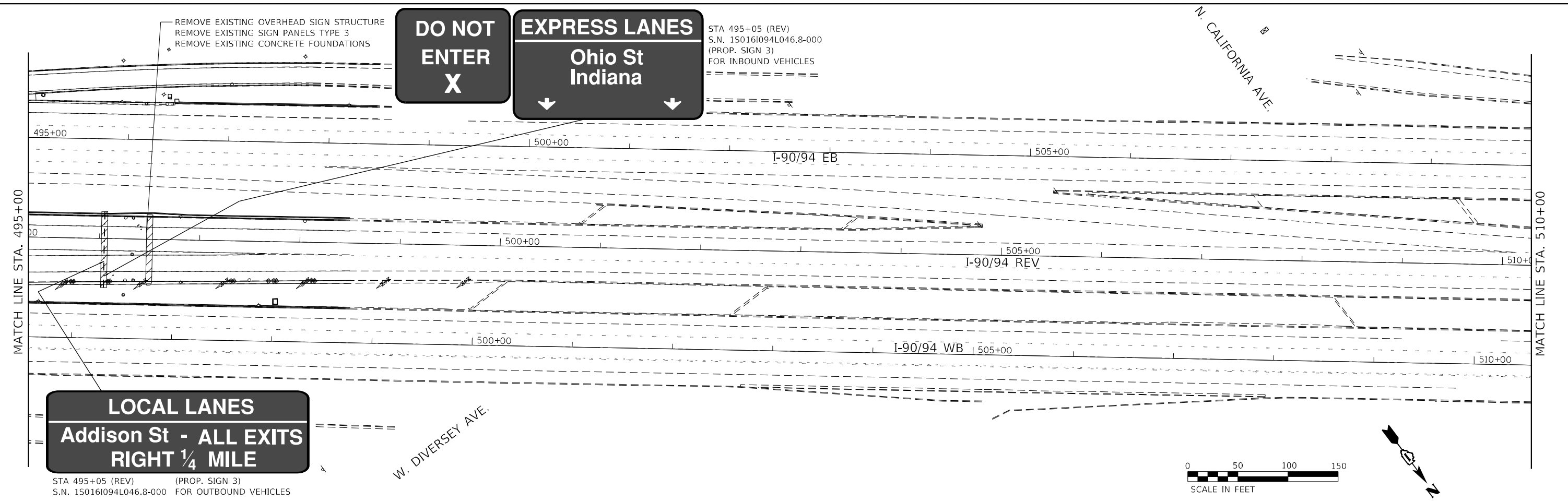
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PLOT DATE = 10/18/2022	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXISTING AND PROPOSED OHSS LOCATION PLANS
SB/REV INTERSTATE 9094 (KENNEDY EXPY)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	308
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



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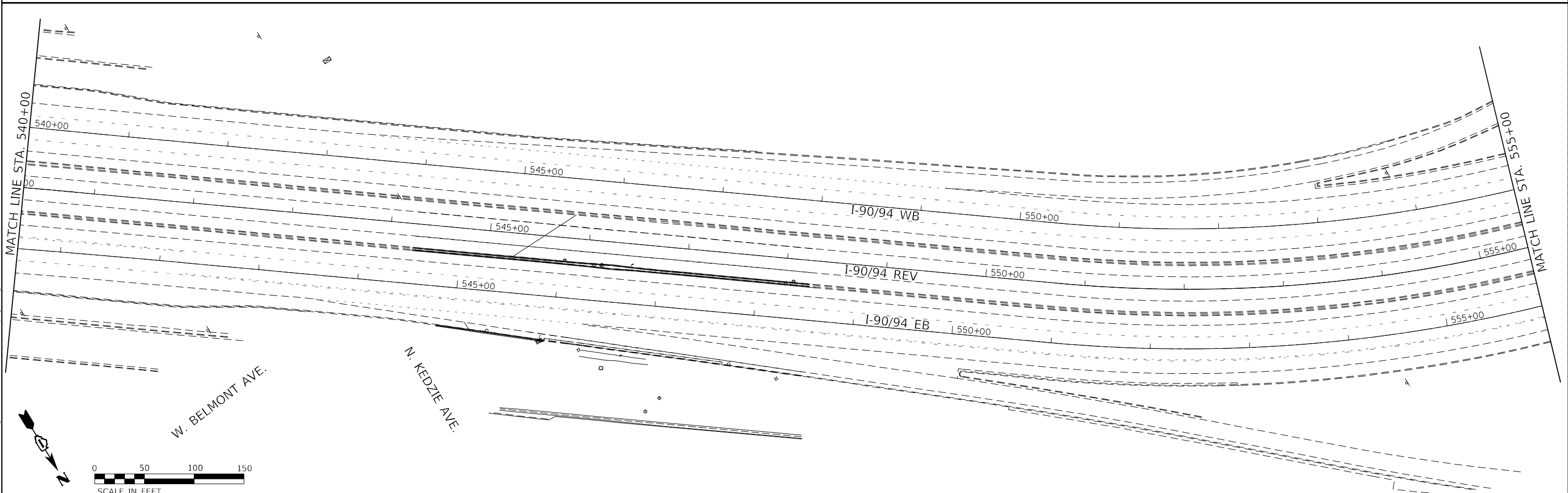
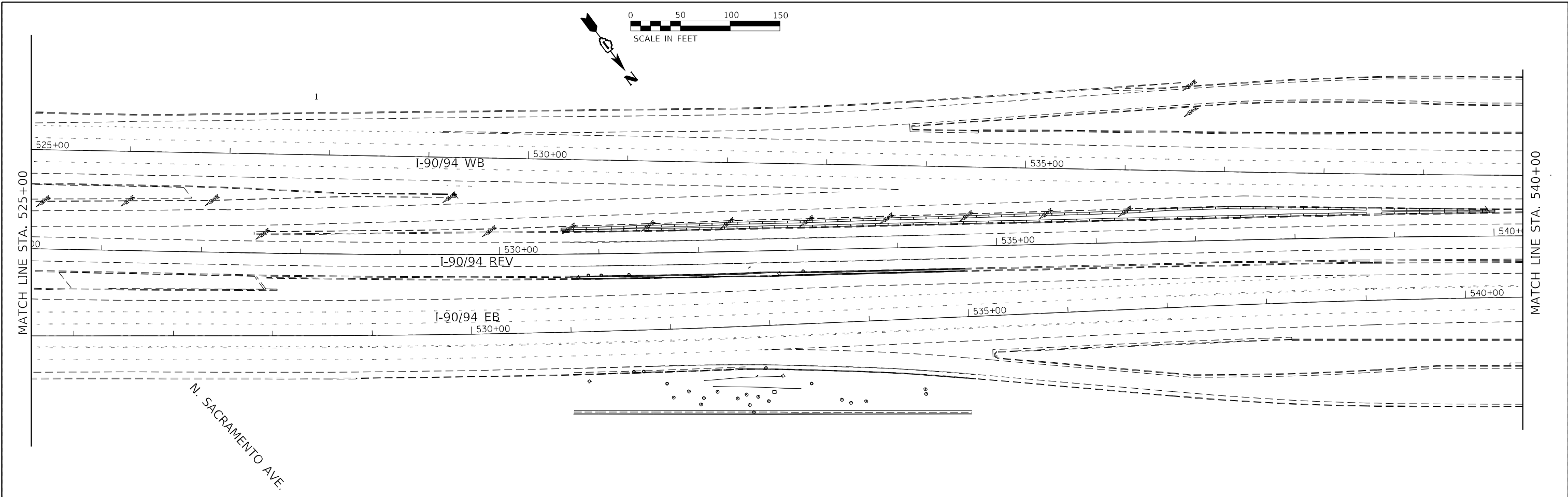
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		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING AND PROPOSED OHSS LOCATION PLANS
SB/REV INTERSTATE 9094 (KENNEDY EXPY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	309
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



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GRAEF
 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631 | (773) 399-0112

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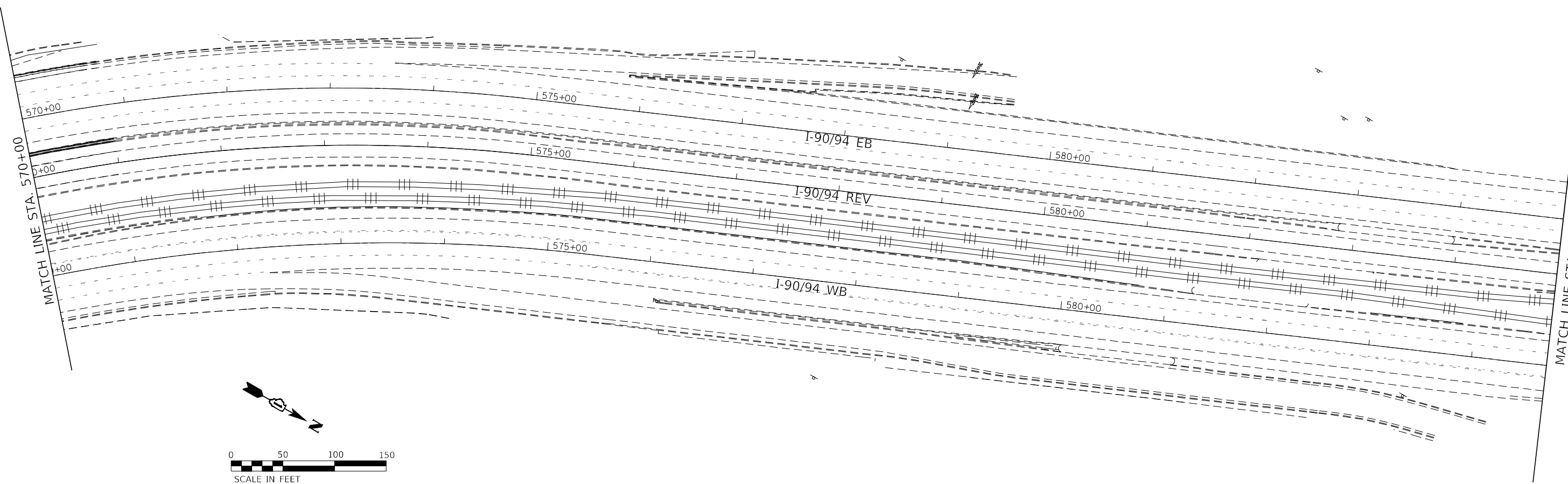
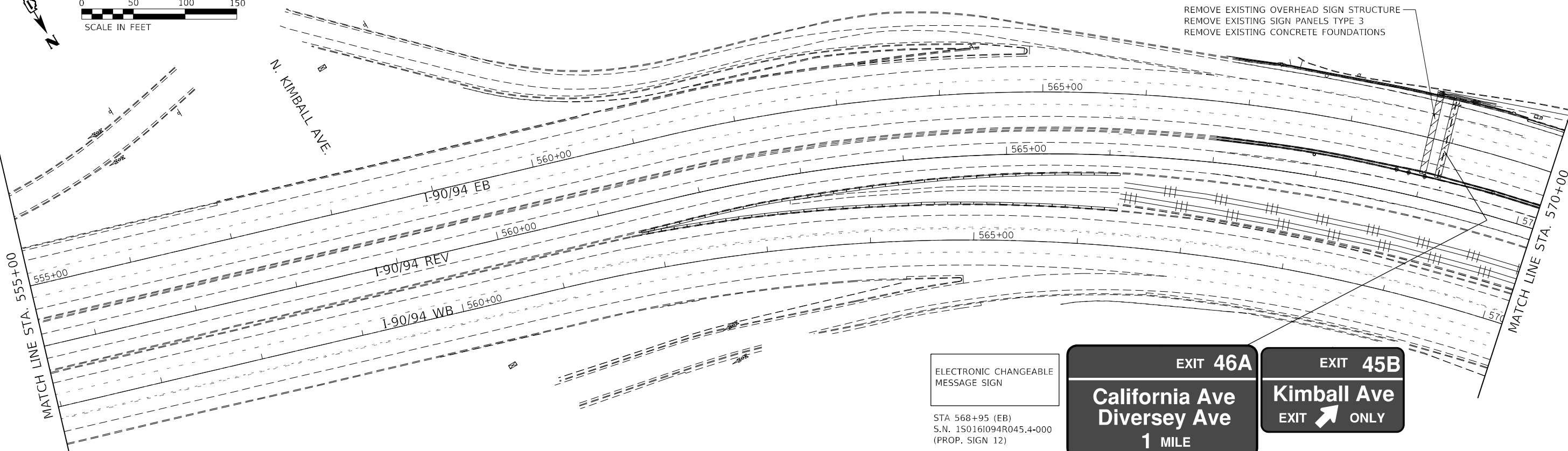
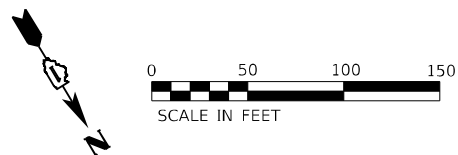
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 DRAWN - NRM
 CHECKED - PMJ
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 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING AND PROPOSED OHSS LOCATION PLANS
 SB/REV INTERSTATE 90/94 (KENNEDY EXPY)
 SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	310
CONTRACT NO. 62K74			ILLINOIS FED. AID PROJECT	



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GR&E
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631 | (773) 399-0112

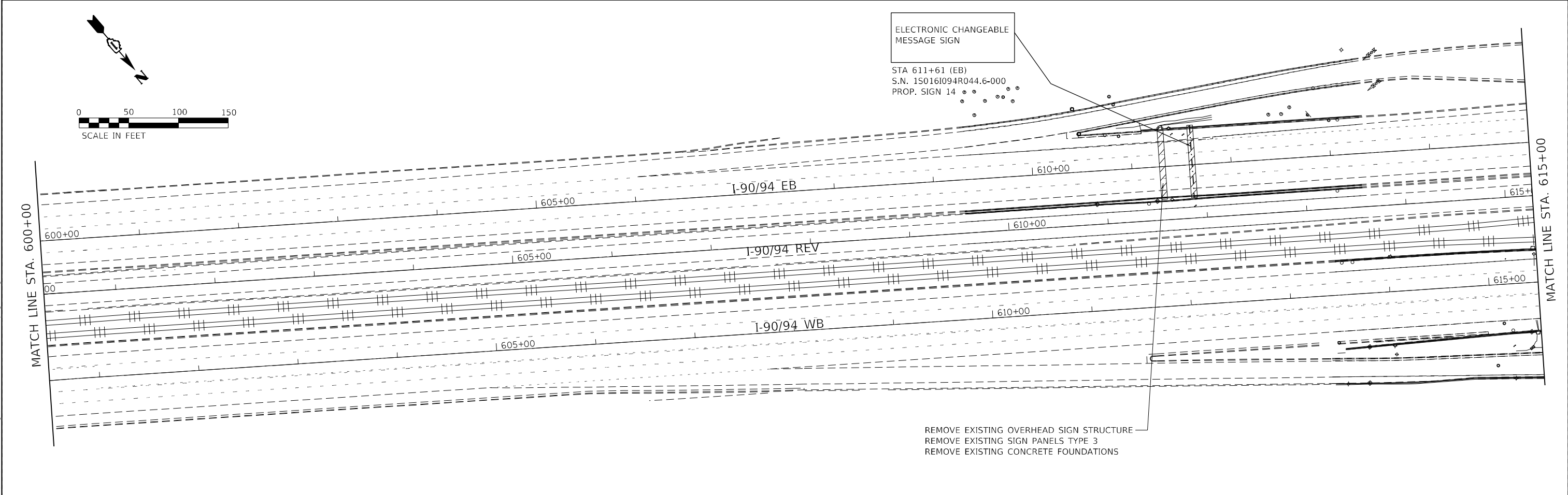
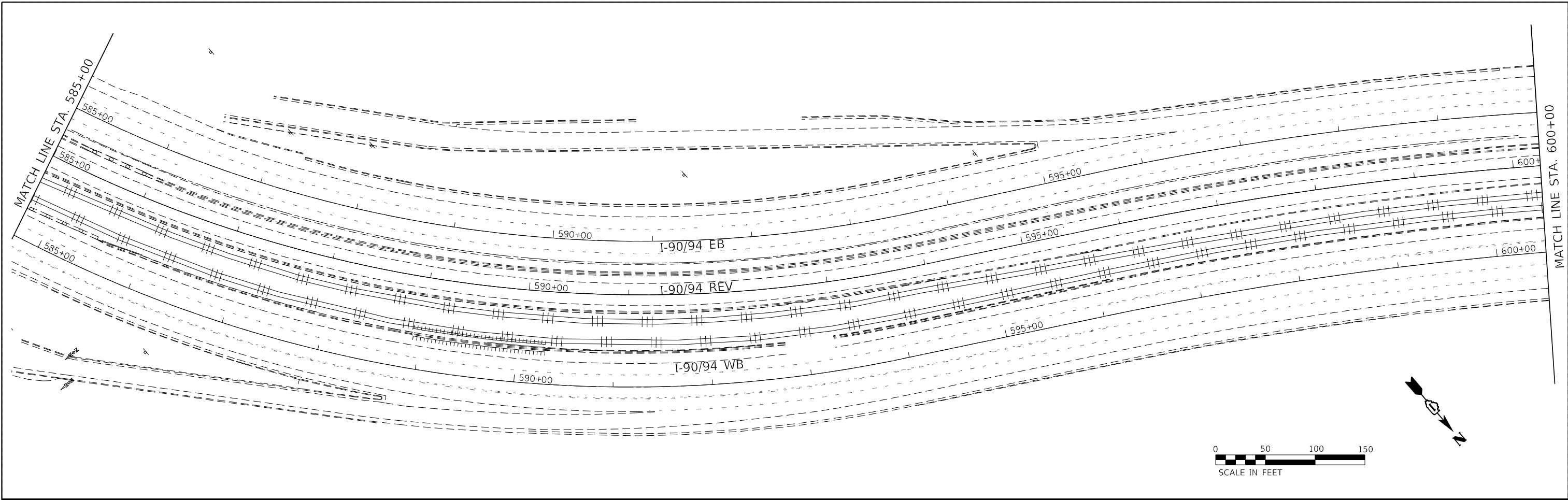
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PLOT DATE = 10/18/2022	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXISTING AND PROPOSED OHSS LOCATION PLANS
SB/REV INTERSTATE 90/94 (KENNEDY EXPY)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	311
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



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GRAEF
 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631; (773) 399-0112

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

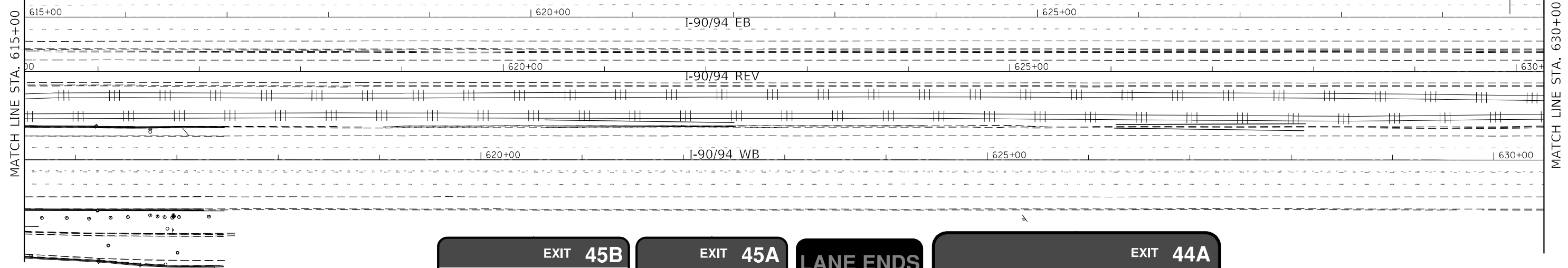
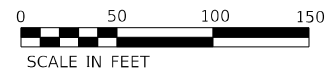
EXISTING AND PROPOSED OHSS LOCATION PLANS
SB/REV INTERSTATE 90/94 (KENNEDY EXPY)

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	312
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET OF SHEETS STA. TO STA.

N. PULASKI RD.

W. IRVING PARK RD.



EXIT 45B
Kimball Ave
 1 1/2 MILES

EXIT 45A
Addison St
 1 MILE

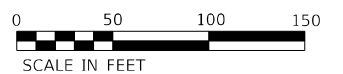
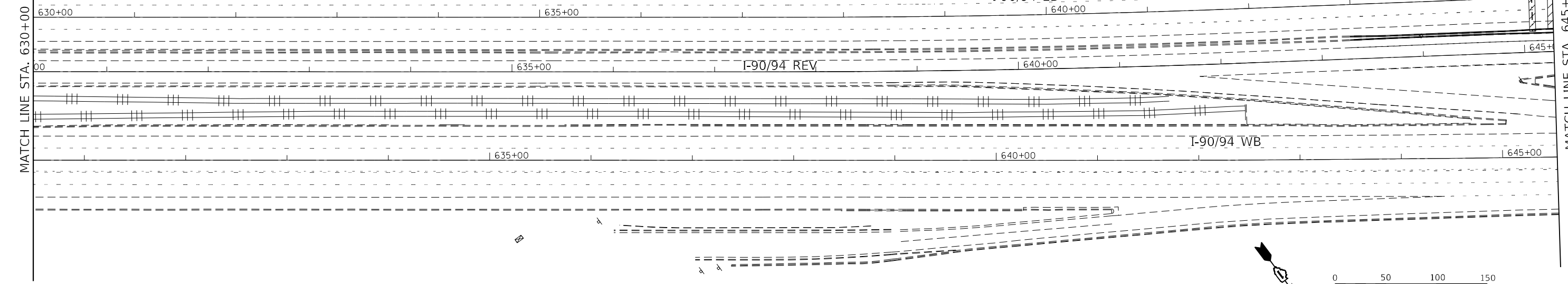
LANE ENDS
 500 FEET
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EXIT 44A
 ILLINOIS 19
Keeler Ave
Irving Park Rd
 EXIT ONLY

STA 644+79 (EB)
 S.N. 15016I094R044.2-000
 (PROP. SIGN 1)

REMOVE EXISTING OVERHEAD SIGN STRUCTURE
 REMOVE EXISTING SIGN PANELS TYPE 3
 REMOVE EXISTING CONCRETE FOUNDATIONS

N. KEELER AVE.



MODEL: Default
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GRAEF
 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631 | (773) 399-0112

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PLOT DATE = 10/18/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING AND PROPOSED OHSS LOCATION PLANS	
SBREV INTERSTATE 90/94 (KENNEDY EXPY)	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	313
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



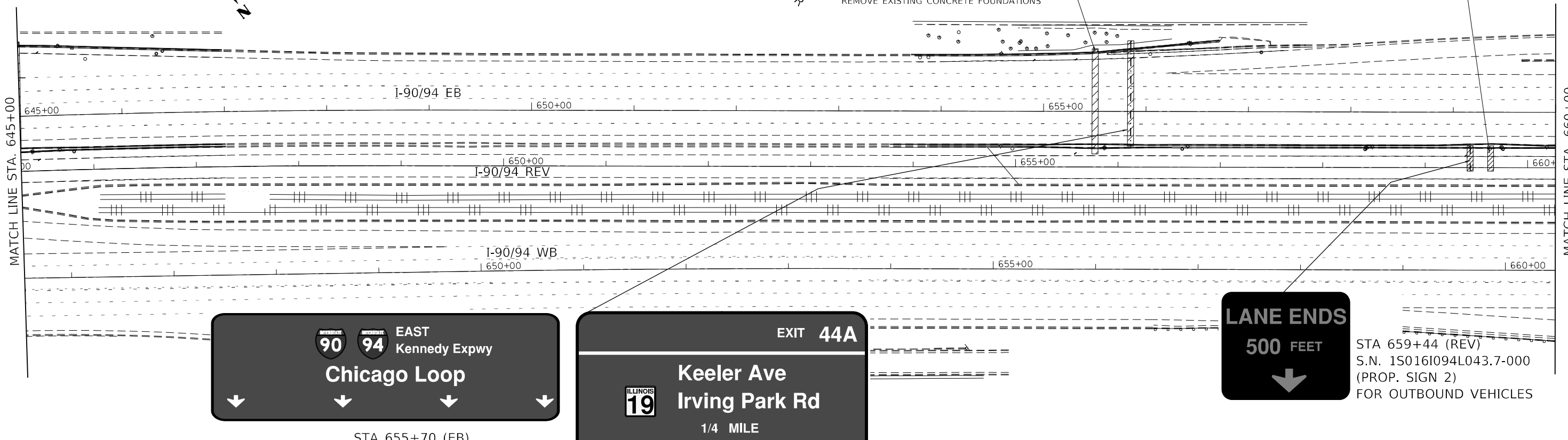
N. KOSTNER AVE.

REMOVE EXISTING OVERHEAD SIGN STRUCTURE
REMOVE EXISTING SIGN PANELS TYPE 3
REMOVE EXISTING CONCRETE FOUNDATIONS

REMOVE EXISTING OVERHEAD SIGN STRUCTURE
REMOVE EXISTING SIGN PANELS TYPE 3
REMOVE EXISTING CONCRETE FOUNDATIONS

MATCH LINE STA. 645+00

MATCH LINE STA. 660+00



EAST Kennedy Expwy
Chicago Loop
 ↓ ↓ ↓ ↓

STA 655+70 (EB)
S.N. 15016I094R043.8-000
(PROP. SIGN 6)

EXIT **44A**

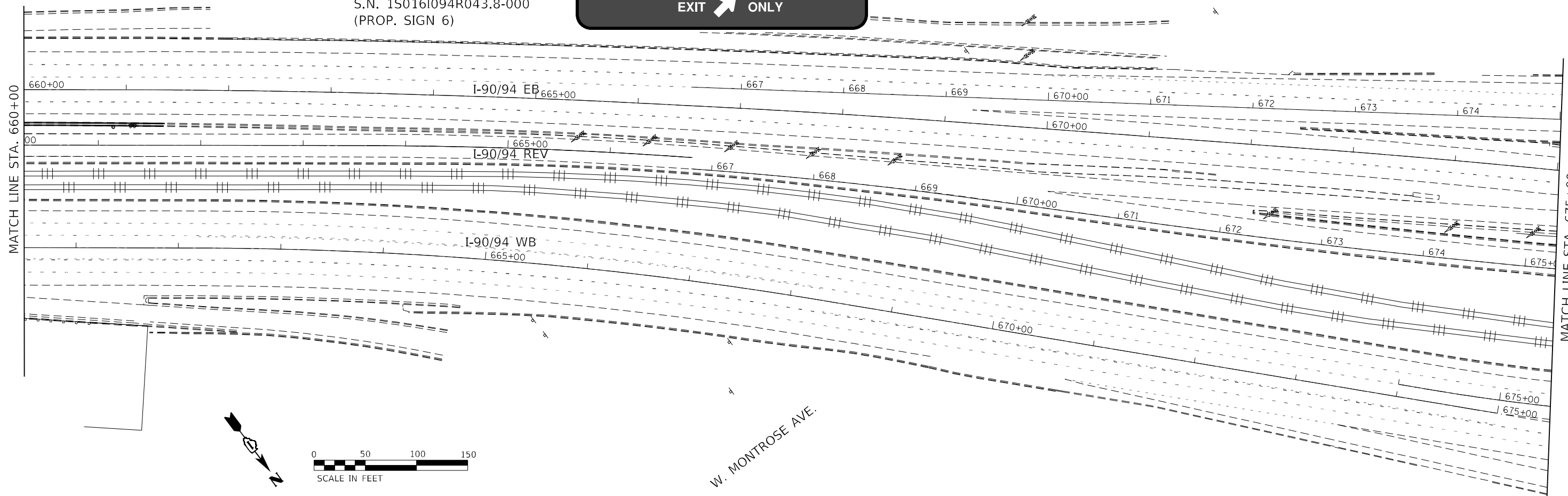
Keeler Ave
Irving Park Rd
 1/4 MILE
 EXIT ONLY

LANE ENDS
500 FEET
 ↓

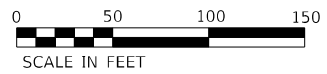
STA 659+44 (REV)
S.N. 15016I094L043.7-000
(PROP. SIGN 2)
FOR OUTBOUND VEHICLES

MATCH LINE STA. 660+00

MATCH LINE STA. 675+00



W. MONTROSE AVE.



MODEL: Default
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 User: JLA

GRAEF
 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631 | (773) 399-0112

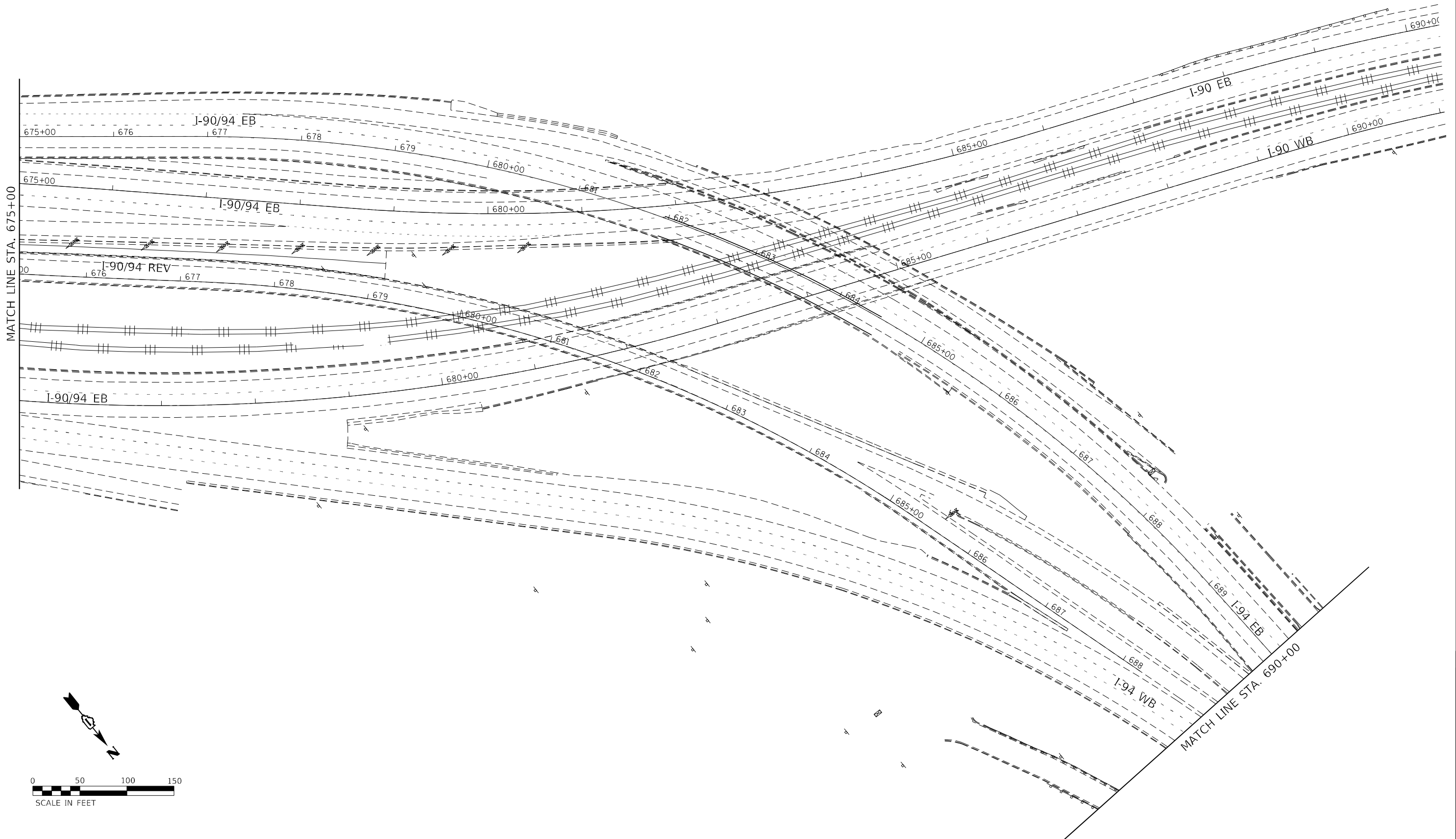
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PLOT DATE = 10/18/2022	CHECKED - PMJ	REVISED -
	DATE -	REVISED -

DESIGNED - JLA	REVISED -
DRAWN - NRM	REVISED -
CHECKED - PMJ	REVISED -
DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING AND PROPOSED OHSS LOCATION PLANS			
SB/REV INTERSTATE 90/94 (KENNEDY EXPY)			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	314
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



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GRAEF
 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60634 (773) 399-0112

USER NAME = 2080
PLOT SCALE = 100,0000' / in.
PLOT DATE = 10/18/2022

DESIGNED - JLA
DRAWN - NRM
CHECKED - PMJ
DATE -

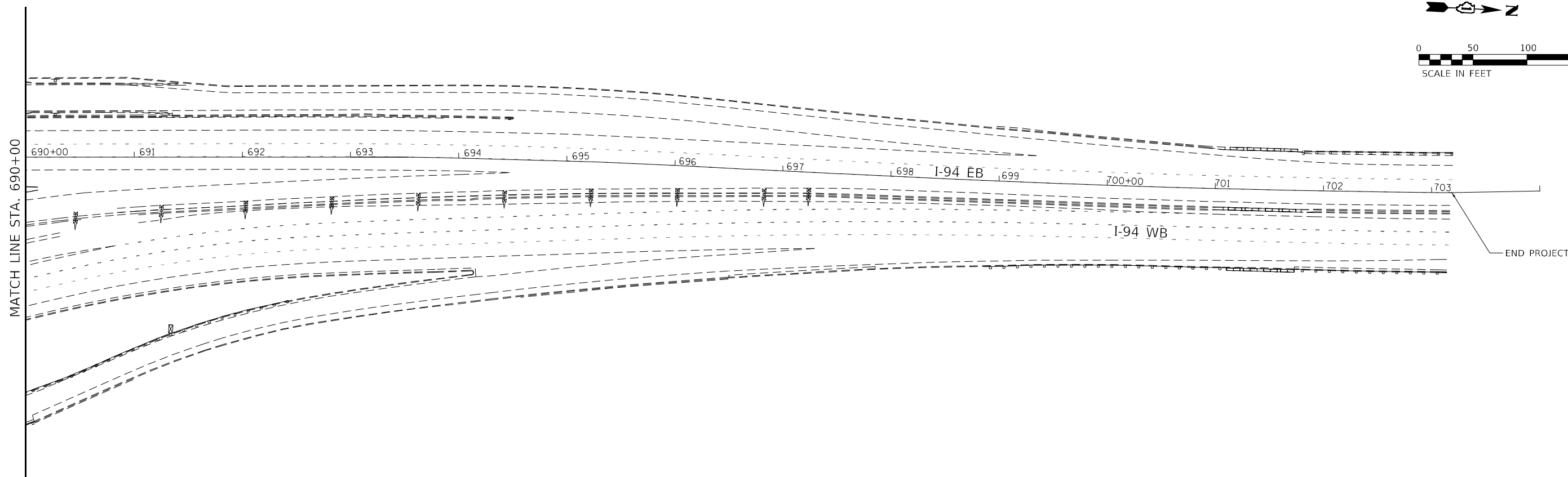
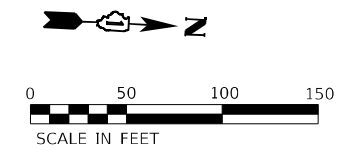
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**EXISTING AND PROPOSED OHSS LOCATION PLANS
 SB/REV INTERSTATE 90/94 (KENNEDY EXPY)**

SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	315
JOB NO.		CONTRACT NO. 62K74		
		ILLINOIS	FED. AID PROJECT	



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GRAEF
 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631 | (773) 399-0112

USER NAME = 2080	DESIGNED - JLA	REVISED -
	DRAWN - NRM	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED - PMJ	REVISED -
PLOT DATE = 10/18/2022	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**EXISTING AND PROPOSED OHSS LOCATION PLANS
 SB/REV INTERSTATE 9094 (KENNEDY EXPY)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	316
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

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.
fy = 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 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 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.

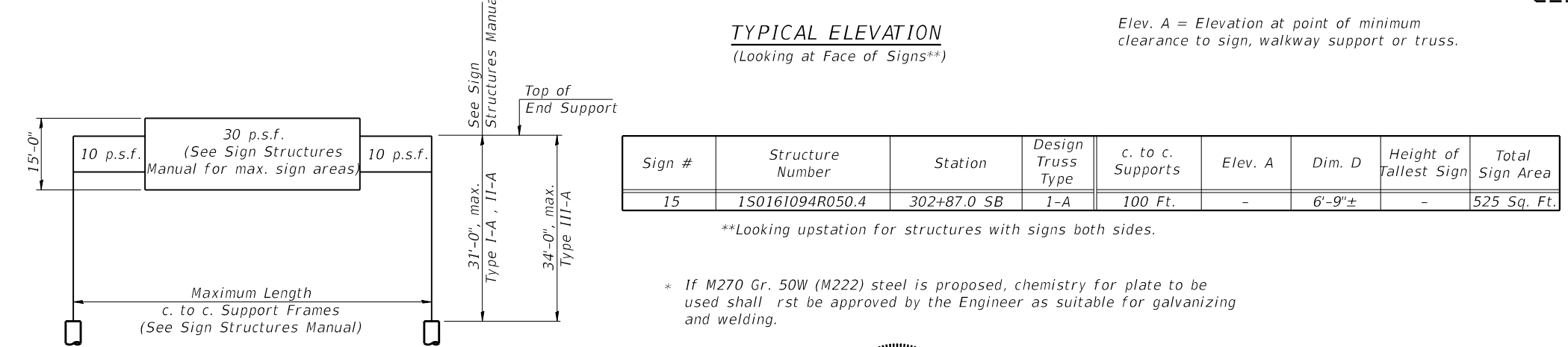
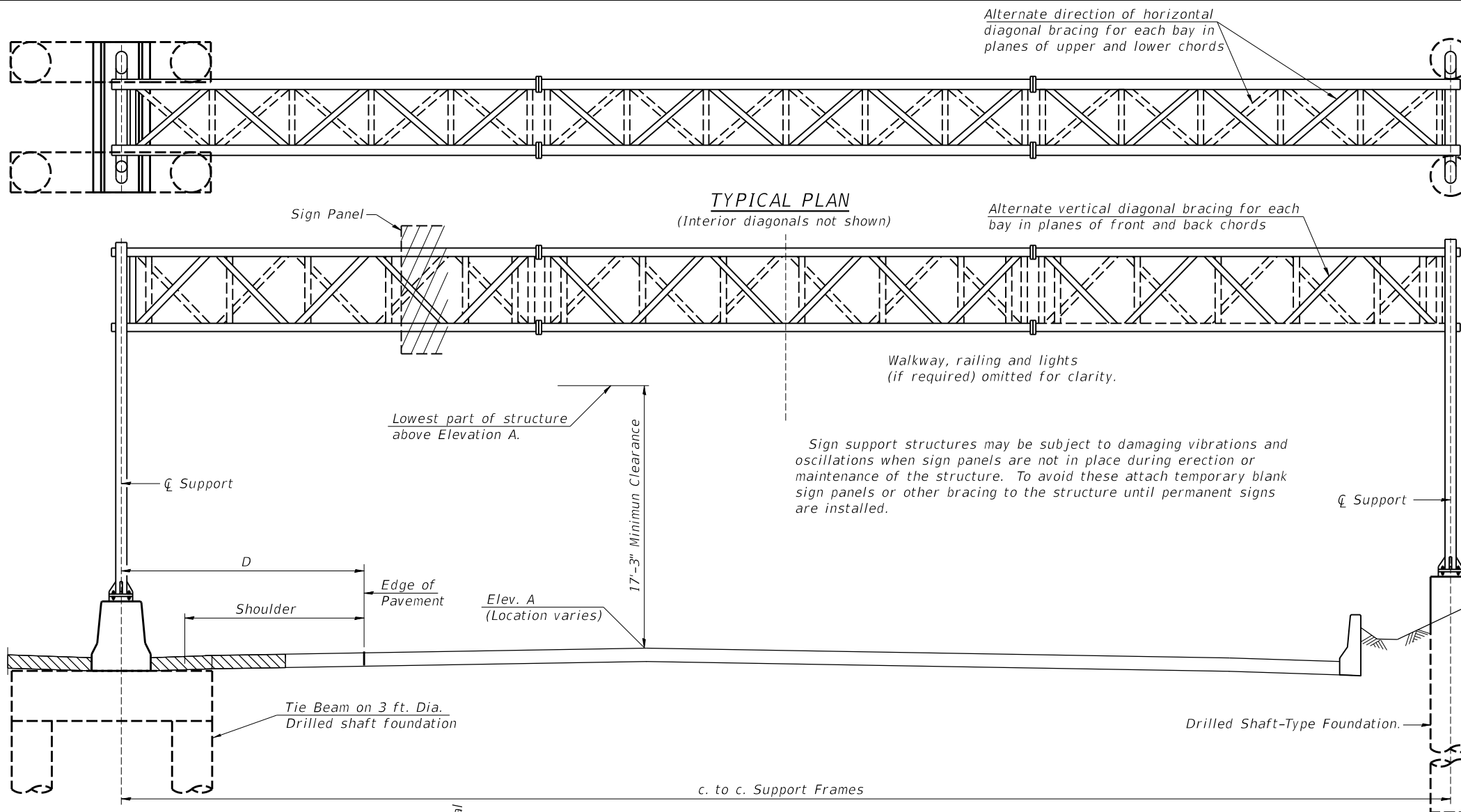
CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest natural ground line at each foundation shall be cleaned and coated with Concrete Sealer in accordance with the Standard Specifications.

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
CONCRETE BARRIER REMOVAL	Foot	52
STRUCTURE EXCAVATION	Cu. Yds.	41
TEMPORARY SOIL RETENTION SYSTEM	Sq. Ft.	178
CONCRETE BARRIER TRANSITION	Foot	40
OVERHEAD SIGN STRUCTURE - SPAN, TYPE I-A (4'-0" X 4'-6")	Foot	100
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	71.5
REMOVE OVERHEAD SIGN STRUCTURE - SPAN	Each	1



TYPICAL ELEVATION
(Looking at Face of Signs**)

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

**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.



SIGNATURE
09/09/2022
DATE
LIC. EXP. DATE: 11/30/2024

DESIGN WIND LOADING DIAGRAM

Parameters shown are basis for I.D.O.T. Standards and Sign Manual Tables. Installations not within dimensional limits shown require special analysis for all components.

05-A-1

2-17-2017



USER NAME =	DESIGNED - PMH	REVISED -
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PLOT DATE =	DRAWN - MGM	REVISED -
	DATE - 09/09/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

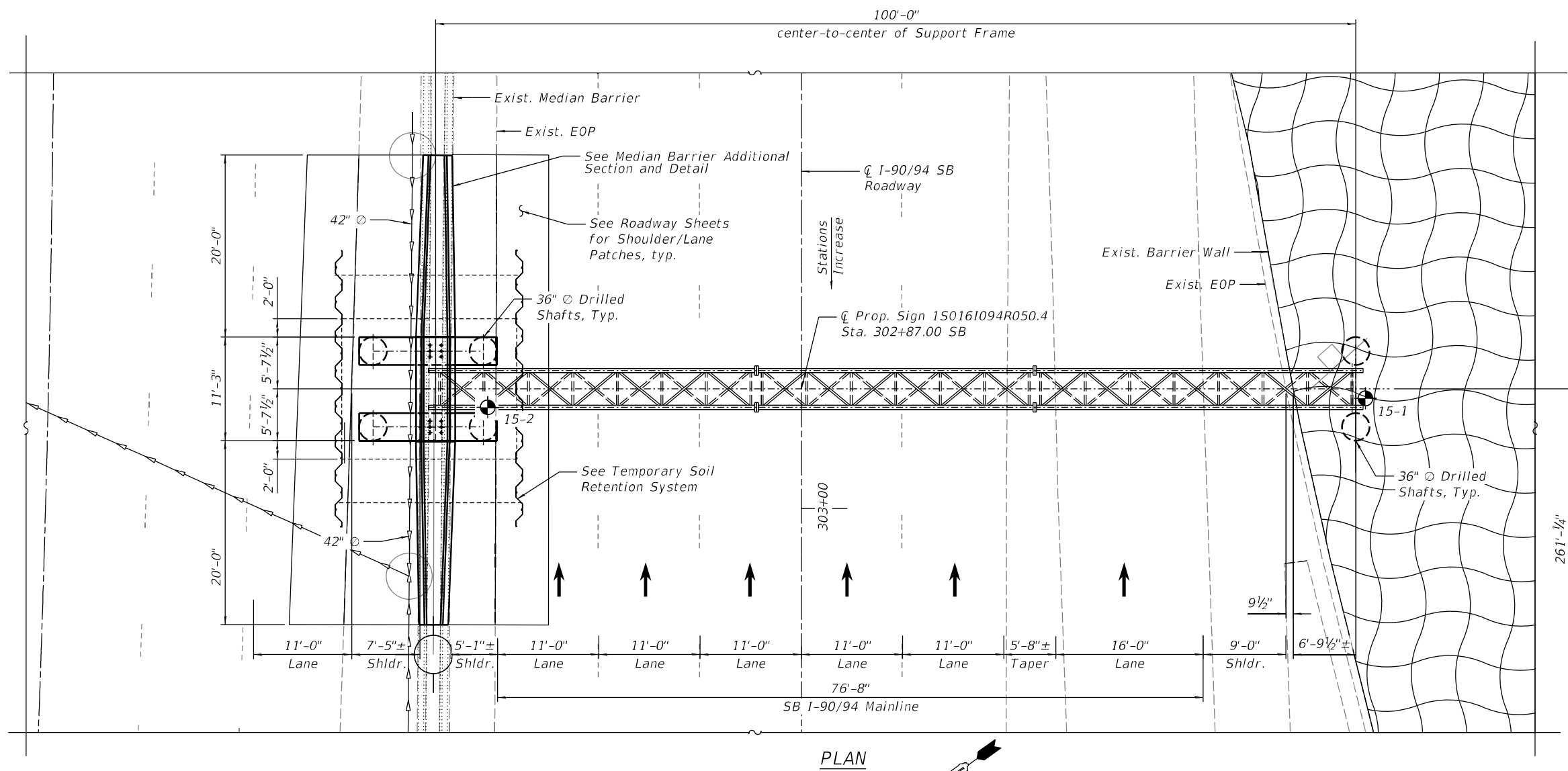
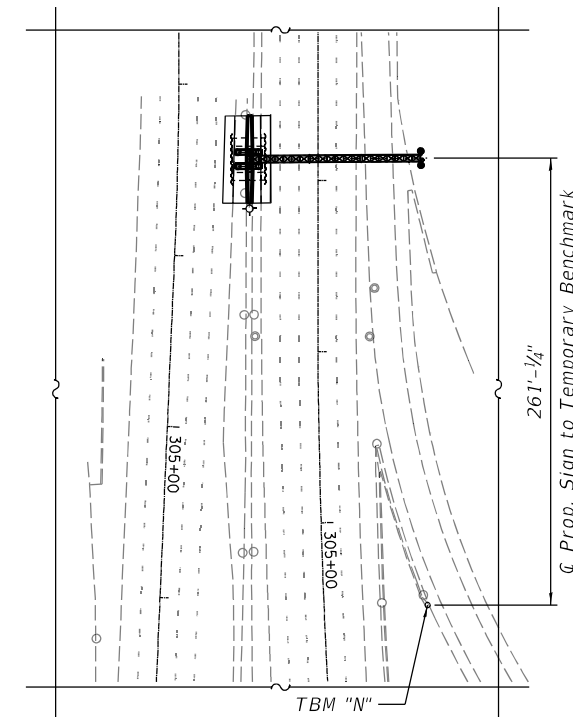
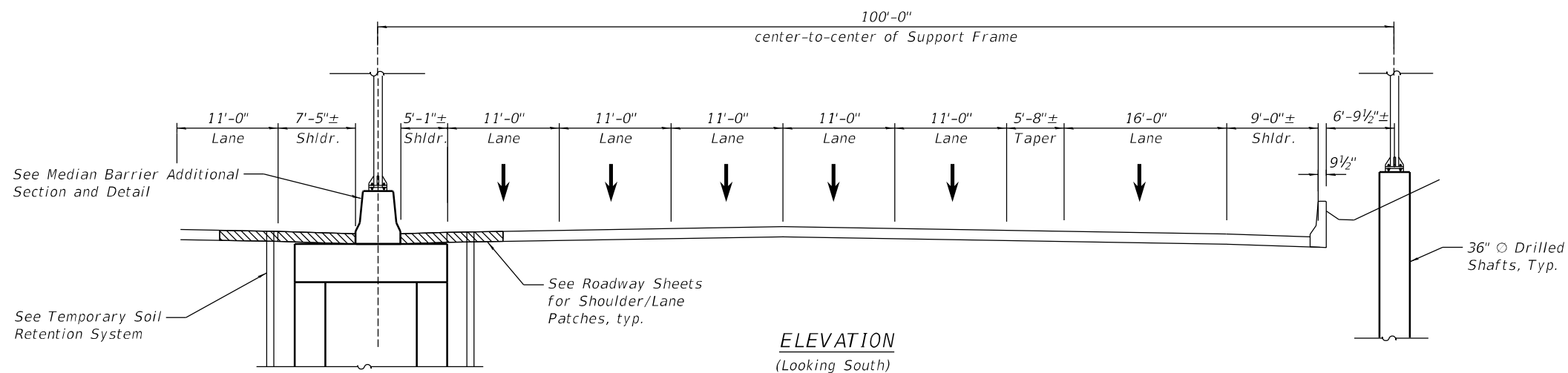
GENERAL PLAN & ELEVATION - ALUMINUM TRUSS & STEEL SUPPORT
SN 1S0161094R050.4

SHEET OSGI-01 OF OSGI-15 SHEETS

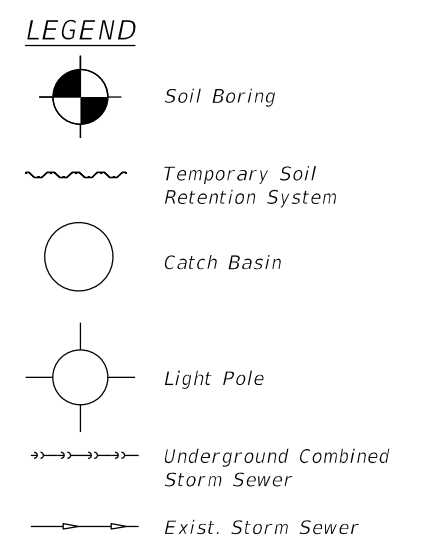
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	317
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

MODEL: Default
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12/5/2022 4:13:49 PM

Benchmark: TBM "N" Square cut on top of the end of Jersey wall that is entering I-90/I94 from Grand Ave.
Sta. 305+50.51, Offset 60.44' Lt. (measured along SB I-90/94 mainline). Elevation 577.74



- NOTES:**
- Stations that are shown are with respect to the SB 190/94 baseline.
 - The contractor shall establish a local version of the SB Baseline based on the dimensions shown on this plan. The stationing shall be with respect to the center line of existing sign truss as shown. The offset of the baseline shall be measured from existing features as shown.



MODEL: Default
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CHECKED - BWC	REVISED -	
PLOT SCALE =	DRAWN - MGM	REVISED -
PLOT DATE =	DATE - 09/09/2022	REVISED -

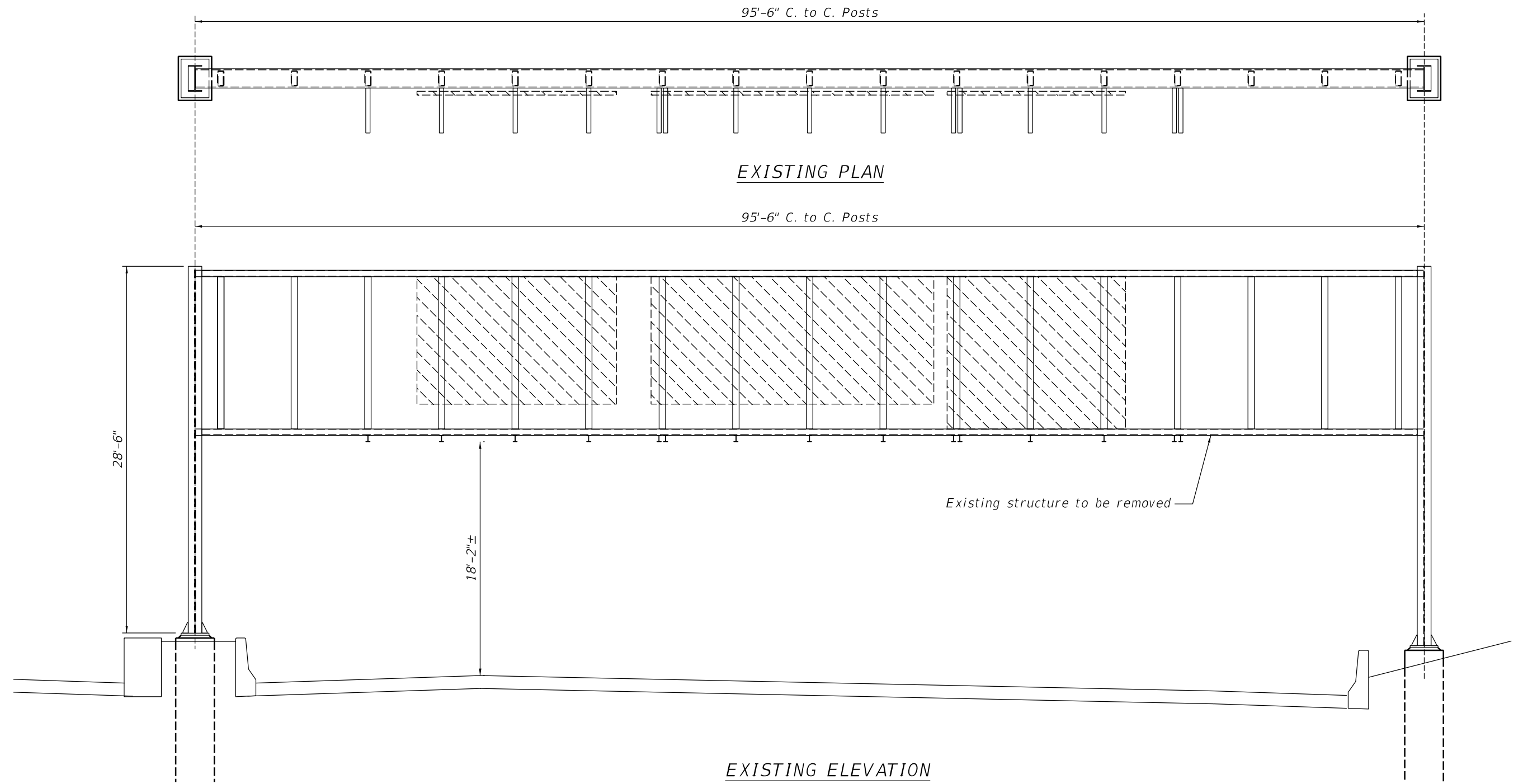
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SITE PLAN
SN 1S0161094R050.4

SHEET OSG1-02 OF OSG1-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	318
CONTRACT NO. 62K74				

ILLINOIS FED. AID PROJECT



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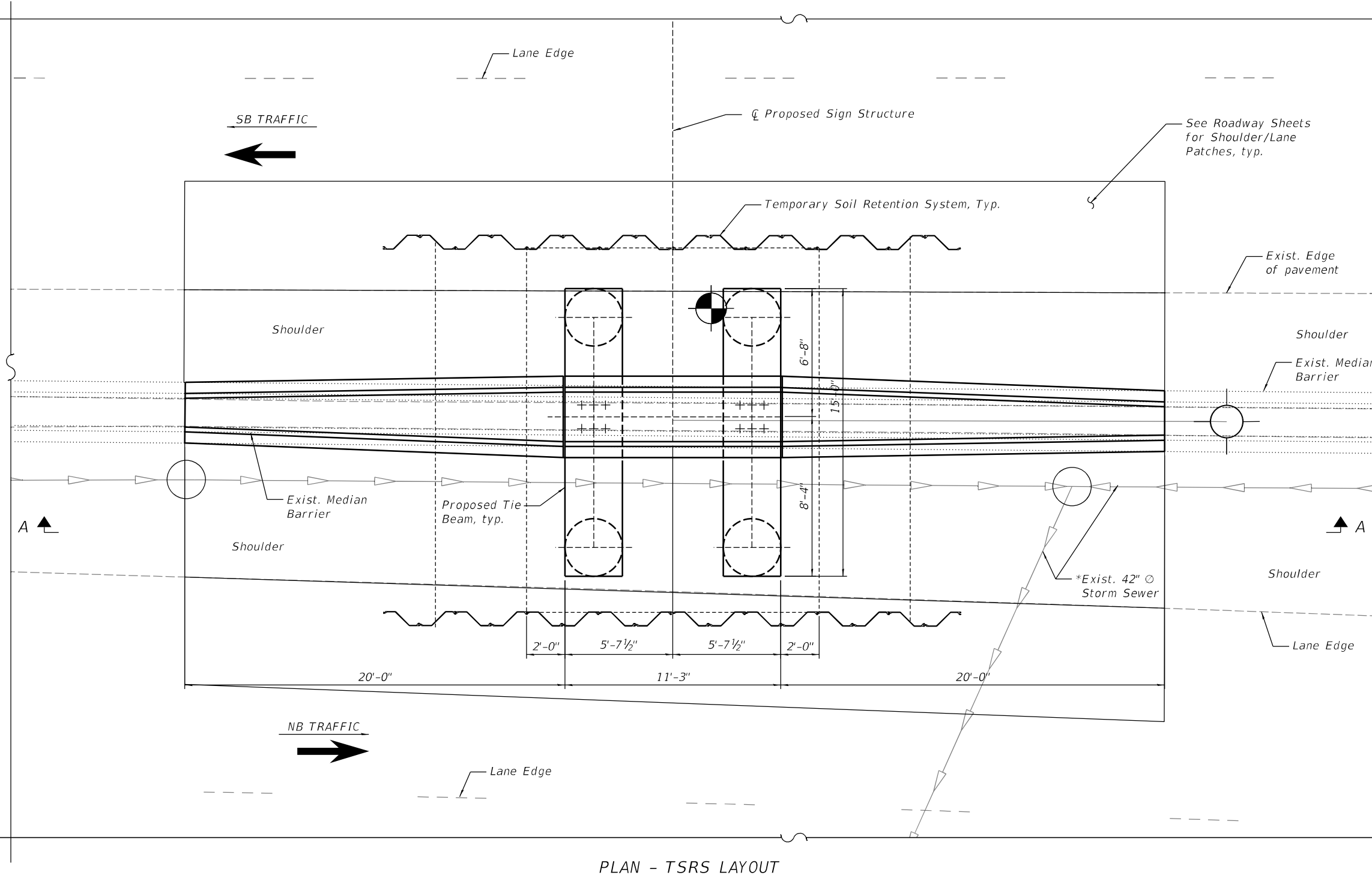
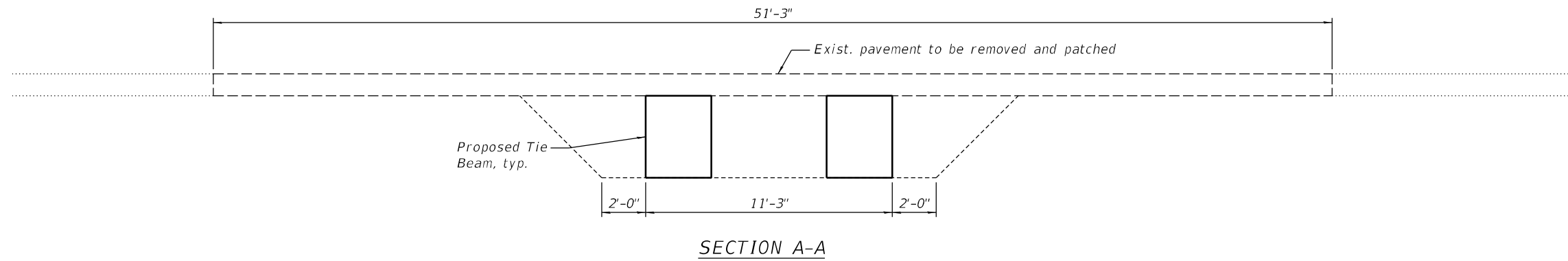
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PLOT SCALE =	DRAWN - MGM	REVISED -
PLOT DATE =	DATE - 09/09/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**REMOVAL DETAILS
SN 1S016I094R050.4**

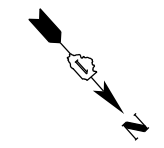
SHEET OSG1-03 OF OSG1-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	319
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



- LEGEND**
- Soil Boring
 - Temporary Soil Retention System
 - Catch Basin
 - Light Pole
 - Underground Combined Storm Sewer
 - Exist. Storm Sewer

* Contractor shall verify location of existing storm sewer prior to beginning construction of any foundation elements.



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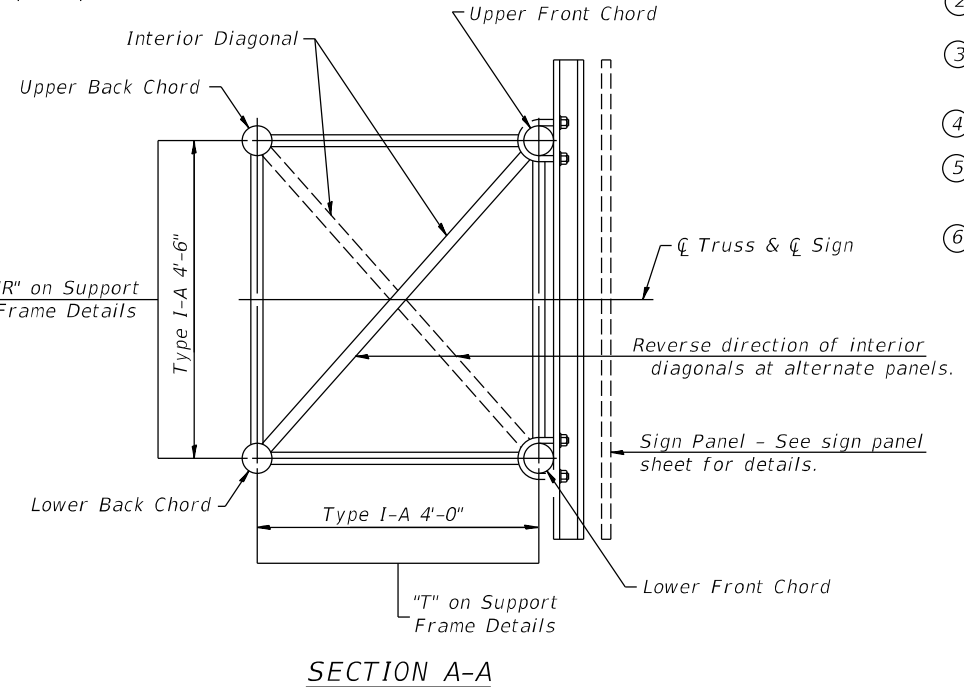
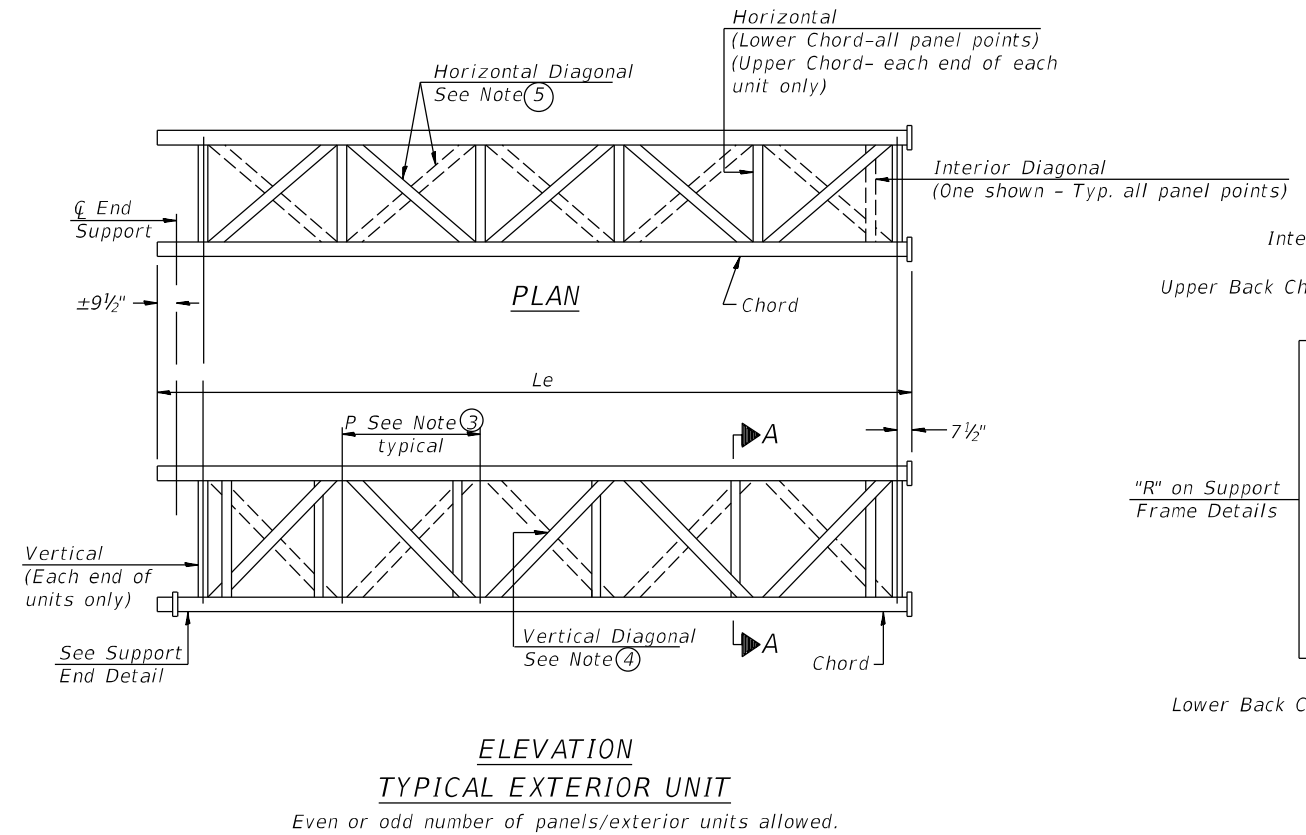
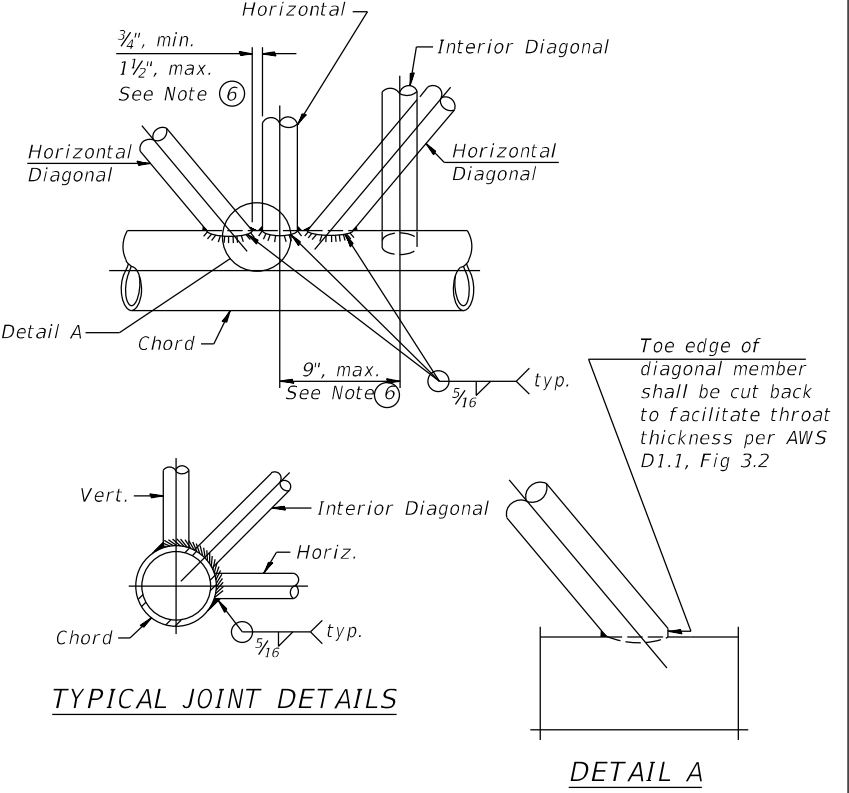
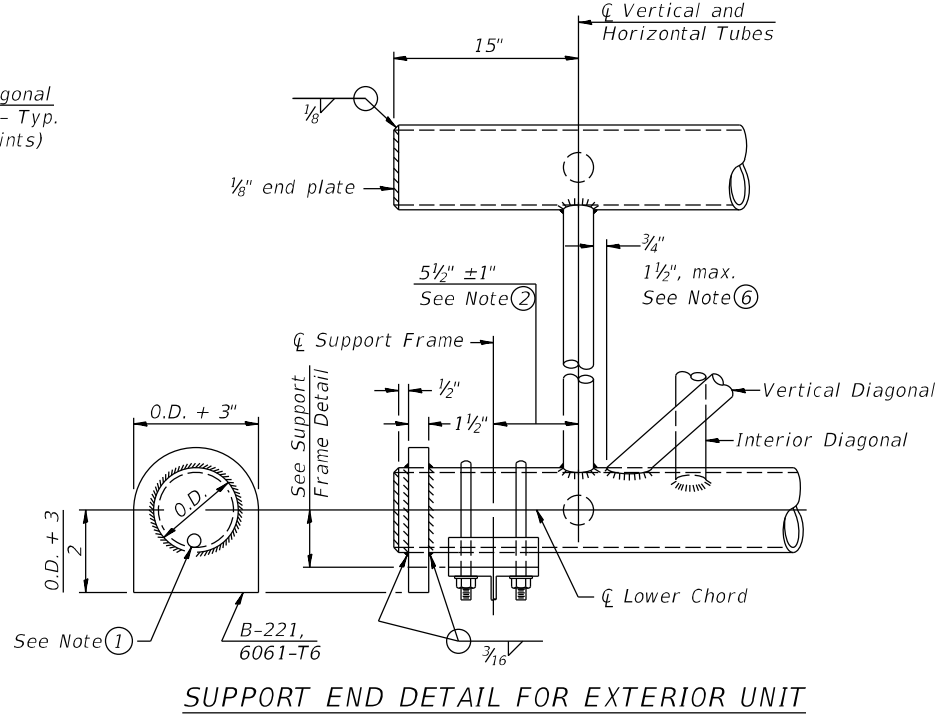
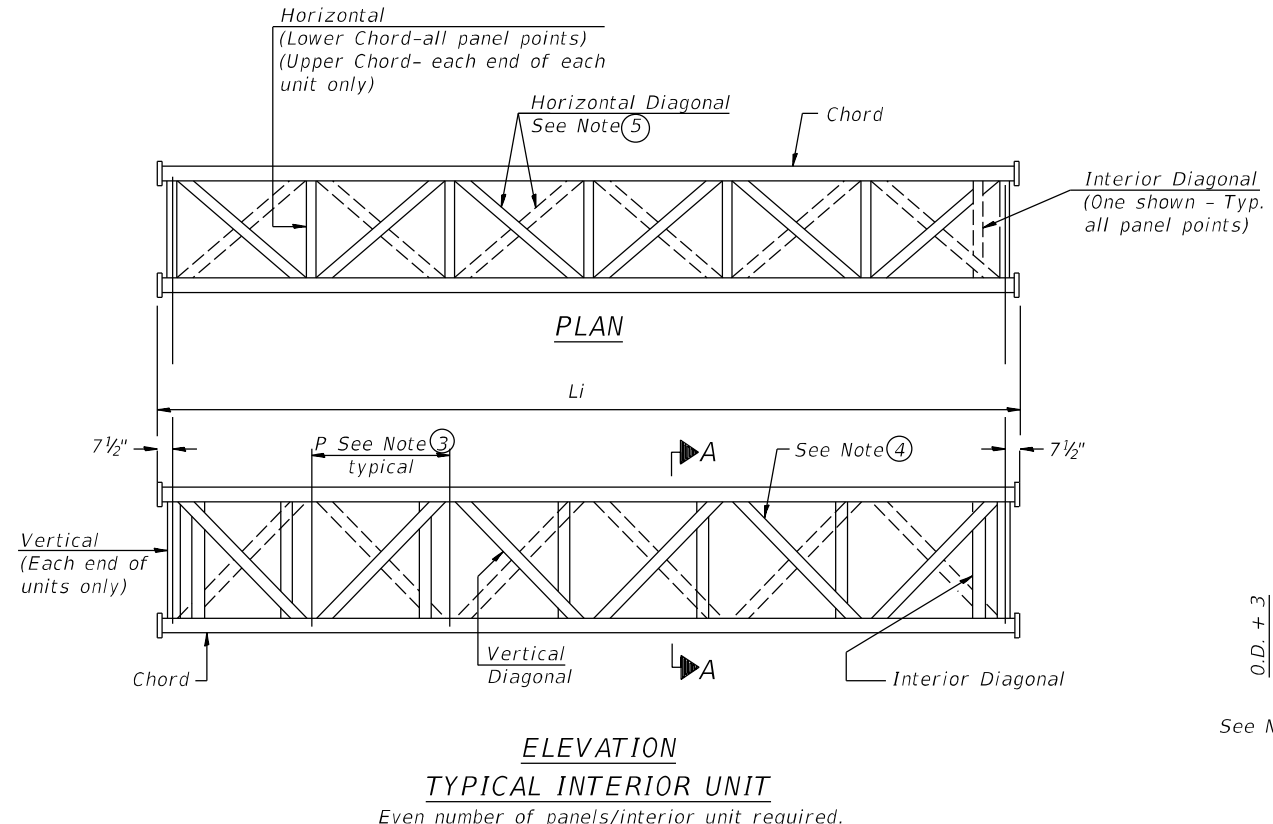
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PLOT SCALE =	DRAWN - MGM	REVISED -
PLOT DATE =	DATE - 09/09/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY SOIL RETENTION SYSTEM
SN 1S016I094R050.4**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	320
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET OSG1-04 OF OSG1-15 SHEETS



- ① Contractor may alternatively use standard aluminum drive-fit cap to close end. 1/2" Ø drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)
- ② 5 1/2" end dimension may vary by ±1" to provide uniform panel spacing (P).
- ③ 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.
- ④ Vertical Diagonals in front and back face shall alternate.
- ⑤ Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
- ⑥ 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.

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05-A-2

2-17-2017



USER NAME =	DESIGNED - PMH	REVISED -
PLOT SCALE =	CHECKED - BWC	REVISED -
PLOT DATE =	DRAWN - MGM	REVISED -
	DATE - 09/09/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ALUMINUM TRUSS DETAILS FOR TRUSS TYPES I-A, II-A AND III-A
SN 1S016I094R050.4**

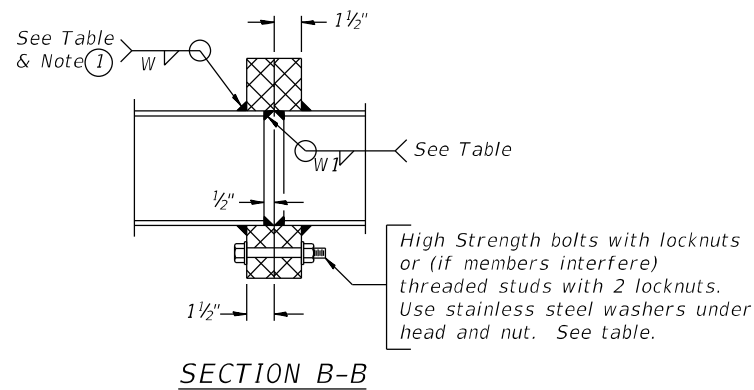
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	321
CONTRACT NO. 62K74				

SHEET OSG1-05 OF OSG1-15 SHEETS

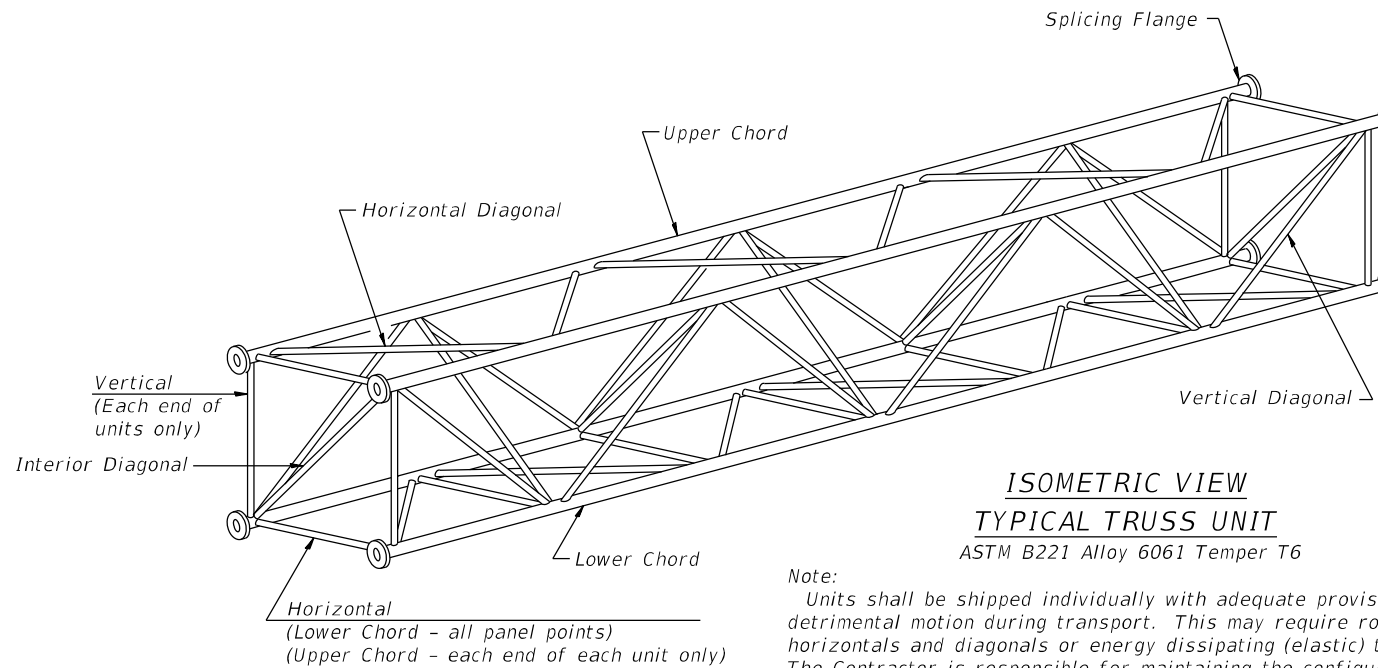
ILLINOIS FED. AID PROJECT

TRUSS UNIT TABLE

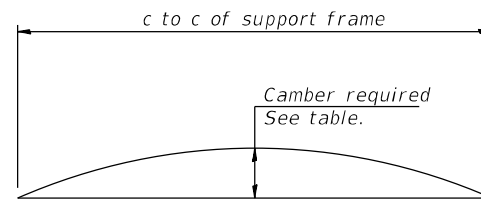
Sign #	Structure Number	Station	Design Truss Type	Exterior Units (2)			Interior Unit			Upper & Lower Chord		Verticals; Horizontals; Vertical, Horizontal, and Interior Diagonals		Camber at Midspan	Splicing Flange						
				No. Panels per Unit	Unit Lgth.(Le)	Panel Lgth.(P)	No. Req'd.	No. Panels per Unit	Unit Lgth.(Li)	Panel Lgth.(P)	O.D.	Wall	O.D.		Wall	Bolts		Weld Sizes		A	B
																No./Splice	Dia.	W	W1		
15	1S0161094R050.4	302+87.00 SB	I-A	7	35'-8 1/2"	4'-10"	1	6	30'-3"	4'-10"	5 1/2"	3/16"	2 1/2"	3/16"	3 1/4"	6	7/8"	3/8"	1/4"	9 1/4"	12 1/4"



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 flange surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure flanges until remaining welds are made after disassembly. Adjacent flanges shall be "match marked" to insure proper field assembly.

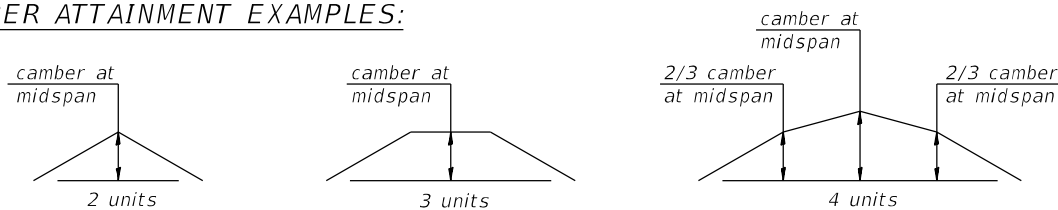


Note:
Units shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The Contractor is responsible for maintaining the configuration and protection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

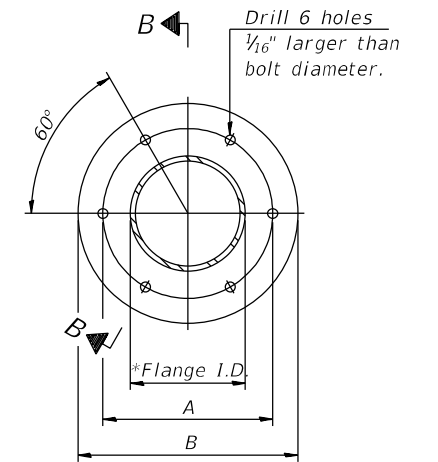


CAMBER DIAGRAM
Camber curve shown is theoretical. Actual camber attained by slope changes at splices between units.

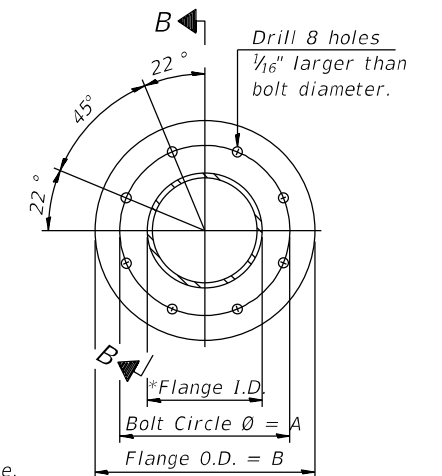
CAMBER ATTAINMENT EXAMPLES:



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 fit O.D. of Chord with maximum gap of 1/16".

054-A-2

2-17-2017



USER NAME =	DESIGNED - PMH	REVISED -
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PLOT SCALE =	DRAWN - MGM	REVISED -
PLOT DATE =	DATE - 09/09/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

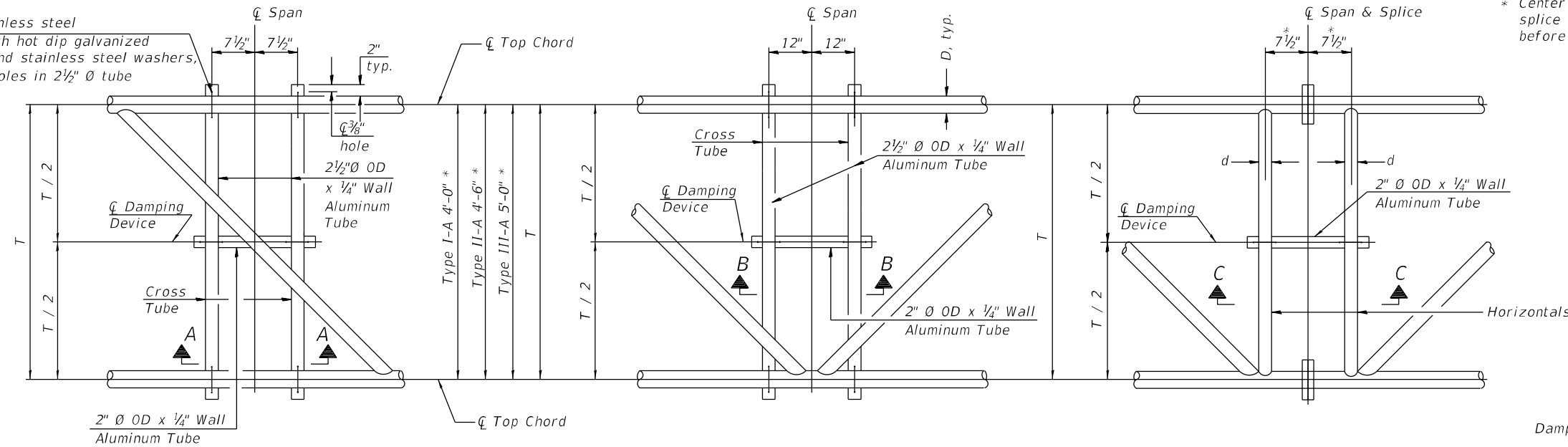
ALUMINUM TRUSS DETAILS FOR TRUSS TYPES I-A, II-A AND III-A
SN 1S0161094R050.4

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	322
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

SHEET OSG1-06 OF OSG1-15 SHEETS

MODEL: Default
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8/31/2022 2:33:48 PM

$\frac{5}{16}$ " \varnothing stainless steel
U-bolt with hot dip galvanized
locknuts and stainless steel washers,
typ. $\frac{3}{8}$ " \varnothing holes in $2\frac{1}{2}$ " \varnothing tube



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

PLAN DETAIL "A"
☐ Span between Panel Points

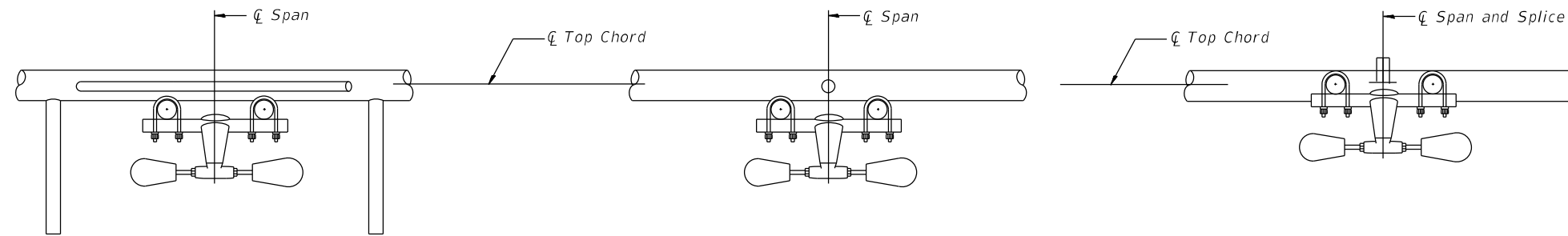
PLAN DETAIL "B"
☐ Span at Panel Point

PLAN DETAIL "C"
☐ Span at ☐ Chord Splice

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...

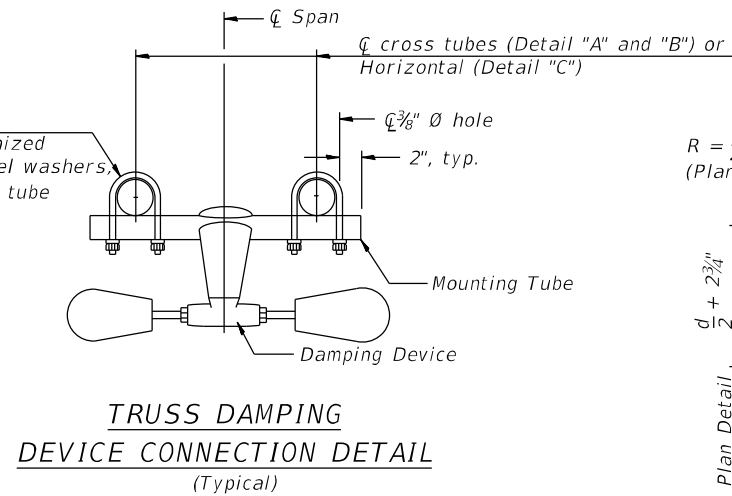


SECTION A-A

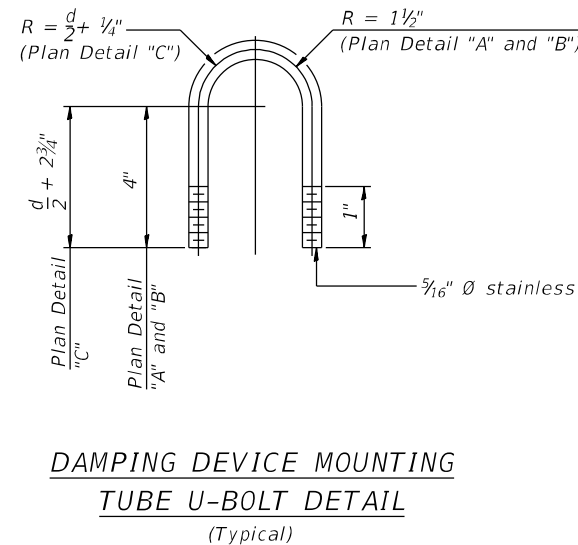
SECTION B-B

SECTION C-C

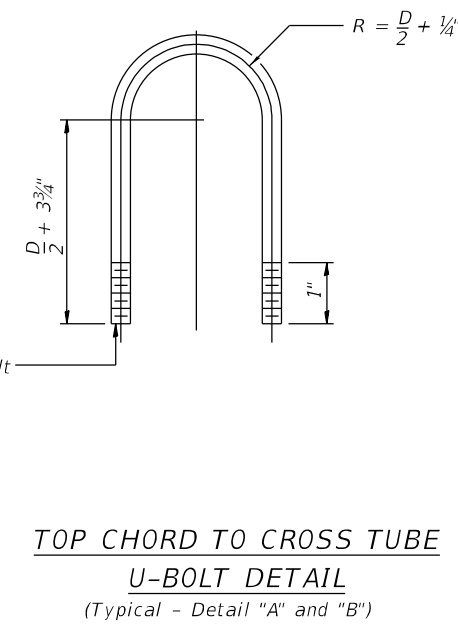
$\frac{5}{16}$ " \varnothing stainless steel
U-bolt with hot dip galvanized
locknuts and stainless steel washers,
typ. $\frac{3}{8}$ " \varnothing holes in mounting tube



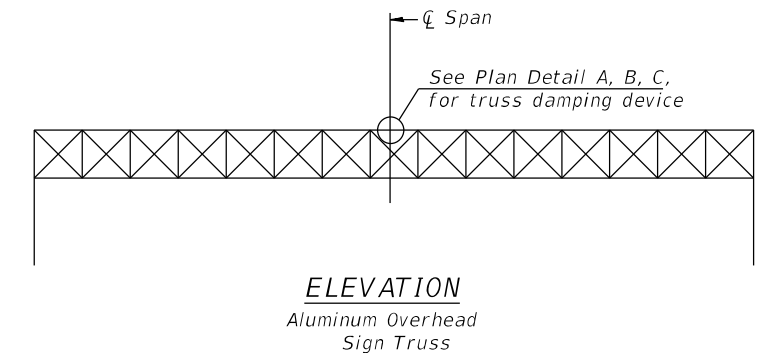
**TRUSS DAMPING
DEVICE CONNECTION DETAIL**
(Typical)



**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

MODEL: Default
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05-A-D

2-17-2017

USER NAME =	DESIGNED - PMH	REVISED -
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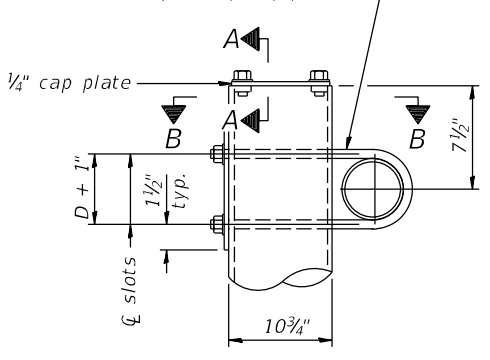
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DAMPING DEVICE
SN 1S016I094R050.4**

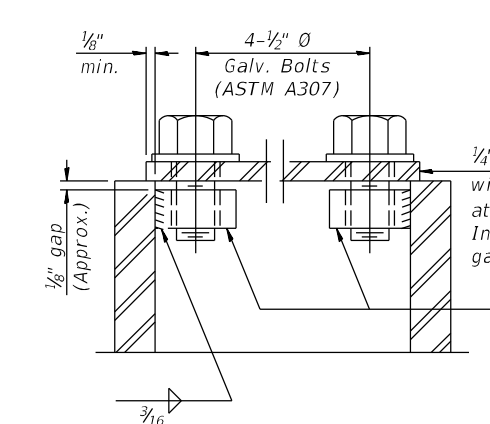
SHEET OSG-07 OF OSG-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	323
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

3/4" Ø stainless steel U-bolt.
Provide two washers and two hexagon locknuts. ④
1 3/16" x 2" slots on 10" Ø pipe.
(4 slots required per pipe)

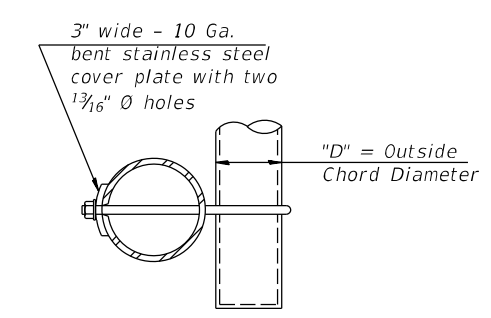


DETAIL A

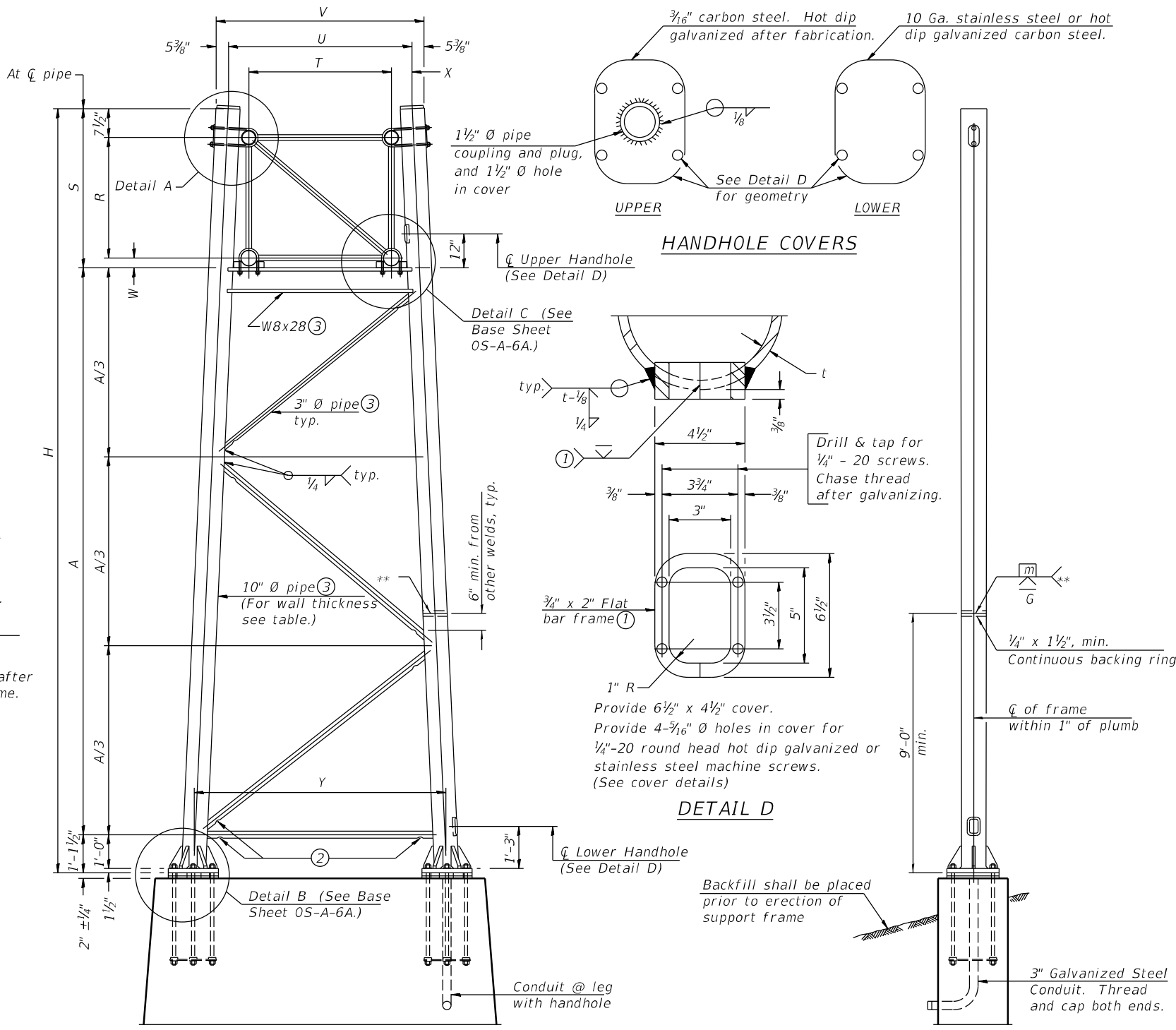


SECTION A-A

As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.



SECTION B-B



For Foundation Details, see base sheet OS-F3 (Spread Footing) or OS4-F3 (Drilled Shaft).

SIDE ELEVATION

END ELEVATION

Support Design Loads: See Base Sheet OS-A-1 for design and loading criteria.
Load combinations checked include deadload plus:
a) 100% wind normal to sign, 20% parallel to sign
b) 60% wind normal to sign, 30% parallel to sign

- ① In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500µ in or less.
- ② Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
- ③ Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Base Sheet OS-A-1.
- ④ See General Notes for fasteners.
- ⑤ Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
- ⑥ "H" based on 15'-0" or actual sign height, whichever is greater.

10" Ø PIPE TRUSS SUPPORT FRAME

** One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

Truss Type	Dimensions							
	R	S	T	U	V	W	X	Y
I-A	4'-6"	5'-5 1/2"	4'-0"	5'-6"	6'-4 3/4"	4"	9"	8'-3"

Sign #	Structure Number	Station	Support		Truss Type	Pipe Wall Thickness	H ⑥	A
			Left	Right				
15	1S0161094R050.4	302+87.00 SB	X		I-A	0.279	25'-1 1/4"	18'-6 1/4"
15	1S0161094R050.4	302+87.00 SB		X	I-A	0.279	20'-5 3/8"	13'-10 3/8"

OS-A-6

2-17-2017

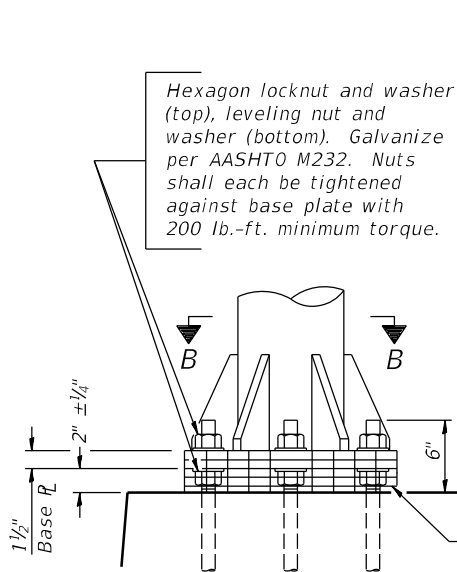
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PLOT SCALE =	CHECKED - BWC	REVISED -
PLOT DATE =	DRAWN - MGM	REVISED -
	DATE - 09/09/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPPORT FRAME FOR ALUMINUM TRUSS
SN 1S0161094R050.4

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	324
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

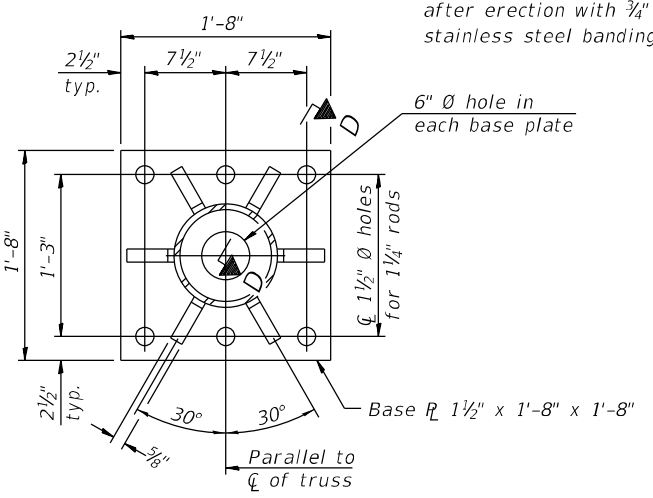
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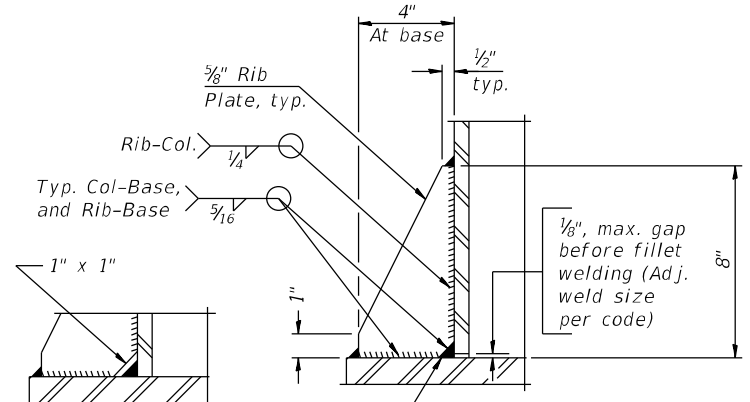
DETAIL B

Ribs shall be cut to fit slope of pipe.

Stainless Steel Standard Grade Wire Cloth, 3" wide, 1/4" maximum opening with a minimum wire diameter of AWG No. 16 with a minimum 2" lap. Secure to base plate after erection with 3/4" stainless steel banding.



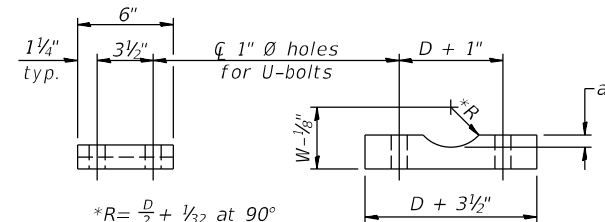
SECTION B-B



SECTION D-D

** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.

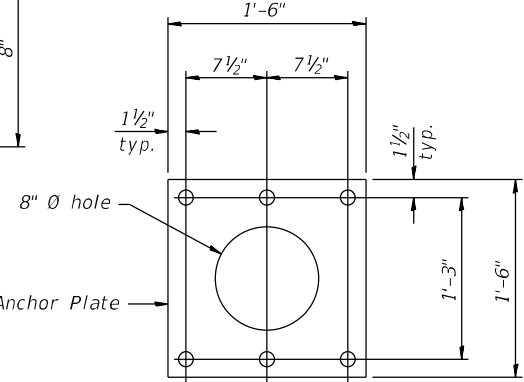
No snip req'd. at rib inside corner if placed before col. to base plate welding.**



SADDLE SHIM DETAIL

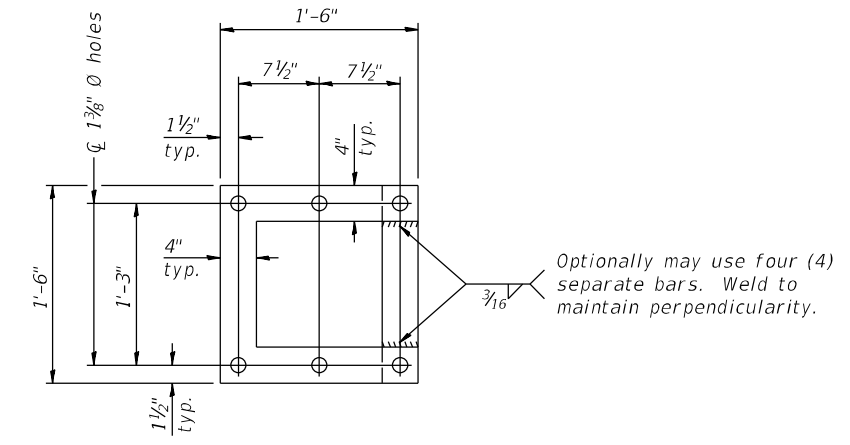
ASTM B26 Alloy 356-F or ASTM B209 Alloy 6061-T651 (4 required per sign truss)

Truss Chord Nominal Dia.	a
5"	3/4"
5 1/2"	1 1/16"
6"	7/8"
6 1/2"	1 5/16"
7"	1"



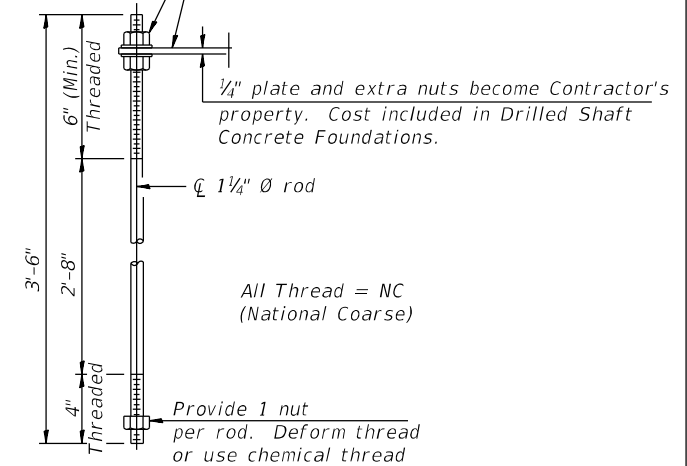
ANCHOR ROD DETAIL

Spread Footing Foundation



POSITIONING PLATE(S)

At each location, provide 1/4" thick positioning plate(s) and six (6) additional nuts to be used with leveling nuts to maintain anchor bolts position during concrete placement.



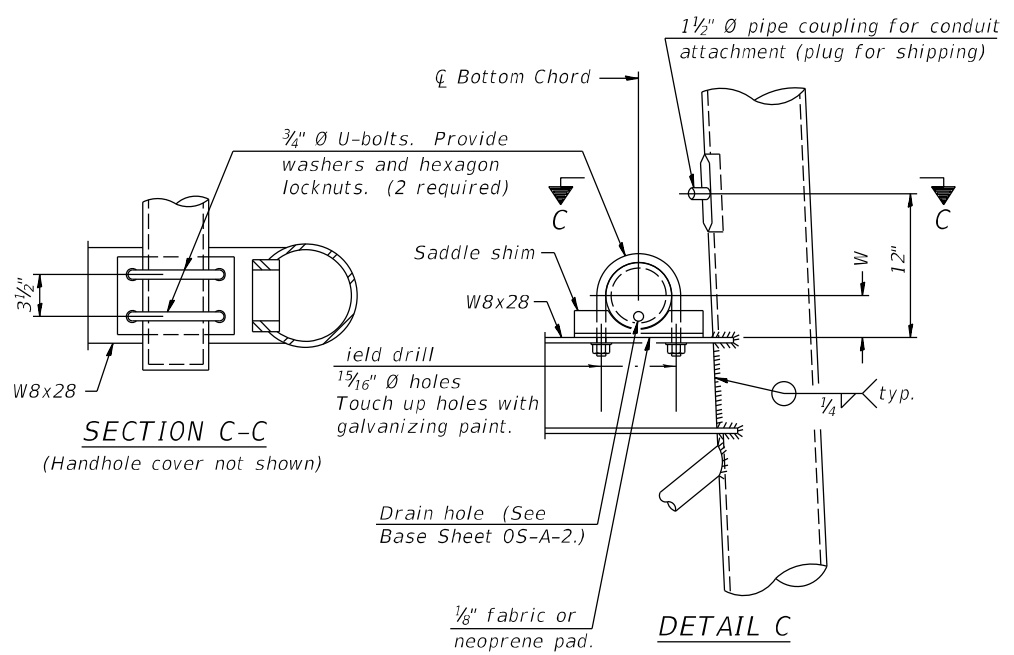
ANCHOR ROD DETAIL

Drilled Shaft Foundation

All Thread = NC (National Coarse)

All Thread = NC (National Coarse)

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.



SECTION C-C

(Handhole cover not shown)

DETAIL C

10" Ø PIPE SUPPORT FRAME DETAILS

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OS-A-6A

2-17-2017



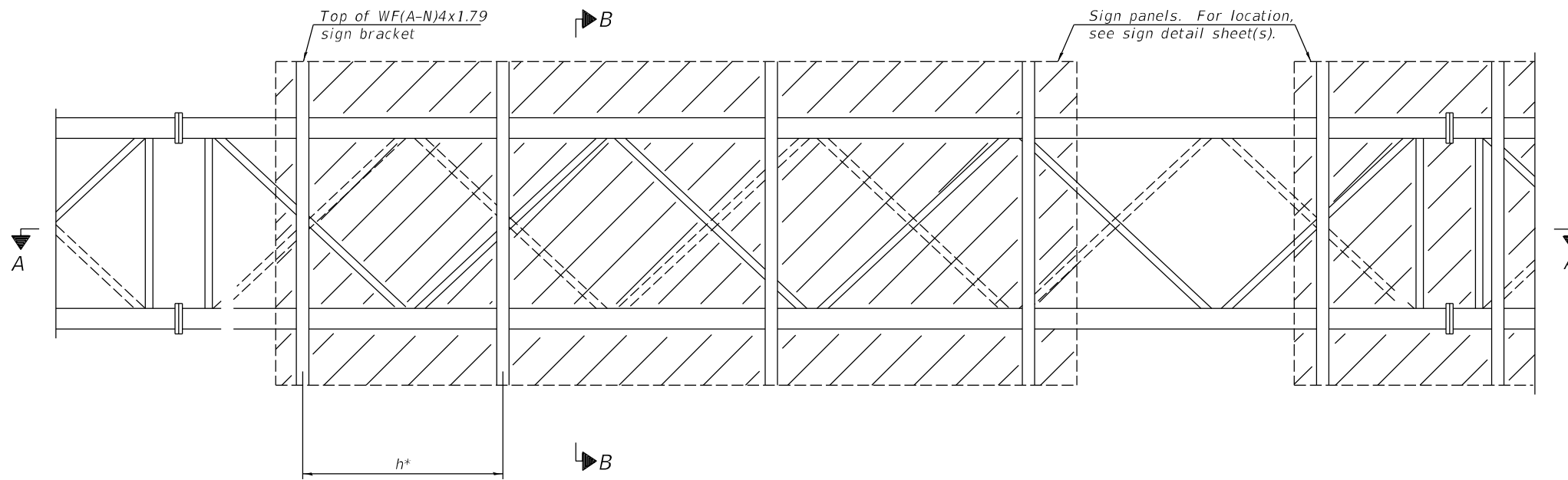
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CHECKED -	BWC	REVISED -	
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PLOT DATE =	DATE -	09/09/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

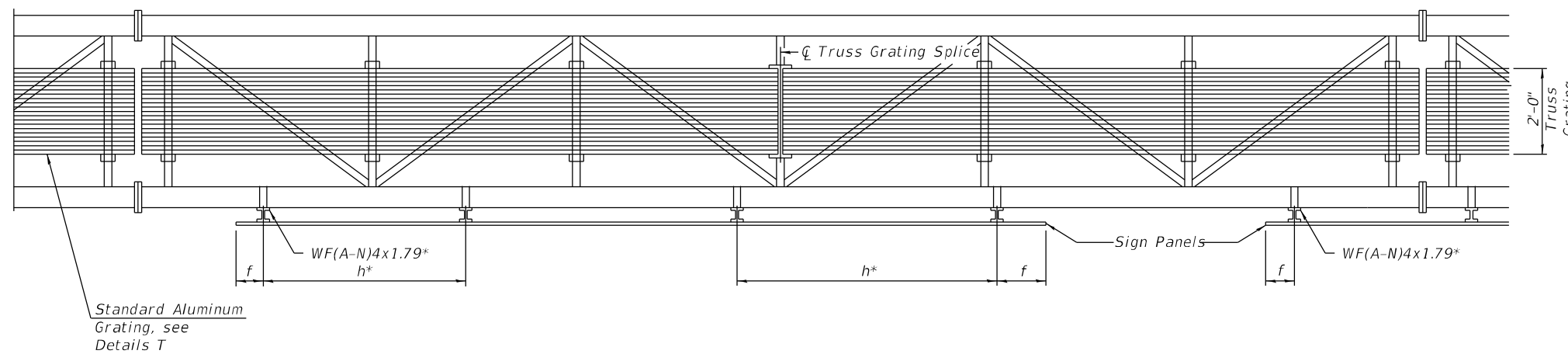
**SUPPORT FRAME DETAILS - ALUMINUM TRUSS
SN 1S016I094R050.4**

SHEET OSG1-09 OF OSG1-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	325
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



TYPICAL FRONT ELEVATION



SECTION A-A

Place all sign brackets as close to panel points as practical.

BRACKET TABLE

WF(A-N)4x1.79 ASTM B308, Alloy 6061-T6		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

* Space sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to center of nearest bracket)
h = 6'-0" maximum (center to center of support brackets, WF(A-N)4x1.7)

Notes:

For Detail T and Section B-B, see Base Sheet 05-A-10-NW.
Truss grating to facilitate inspection shall run full length (center to center of support frames) 12"± on overhead trusses.
Cost of truss grating is included in "Overhead Sign Structure".
Truss Grating width dimensions are nominal and may vary 1/2"± based on available standard widths.

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05-A-9-NW

4-1-2020



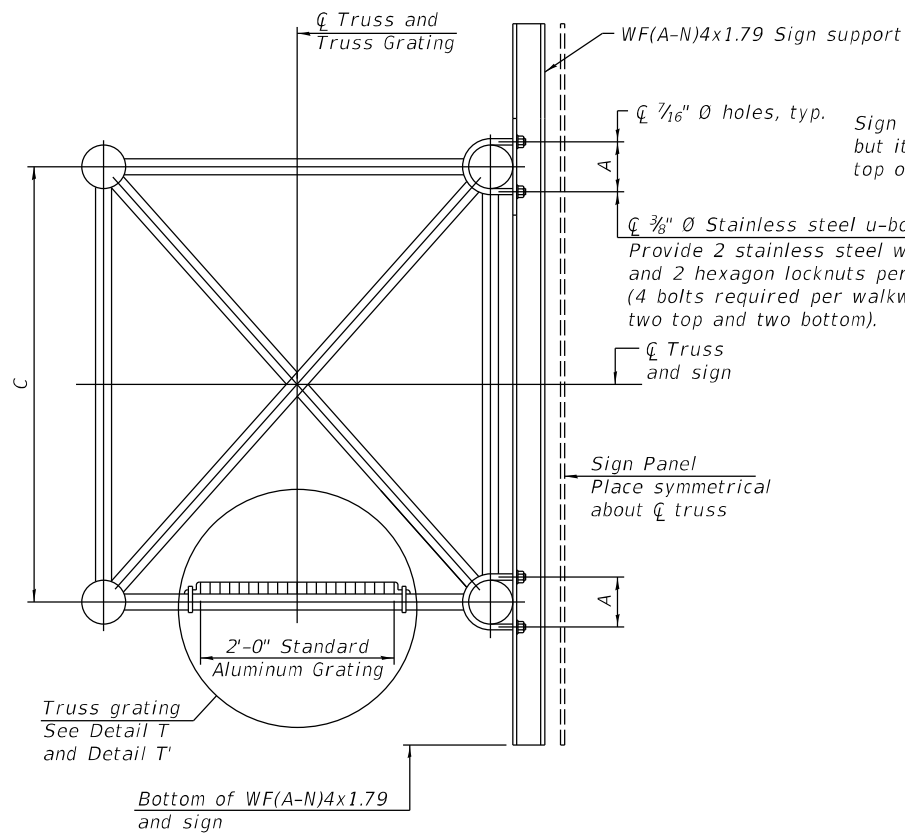
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PLOT SCALE =	CHECKED - BWC	REVISED -
PLOT DATE =	DRAWN - MGM	REVISED -
	DATE - 09/09/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ALUMINUM WALKWAY DETAILS
SN 1S016I094R050.4

SHEET OSG1-10 OF OSG1-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	326
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

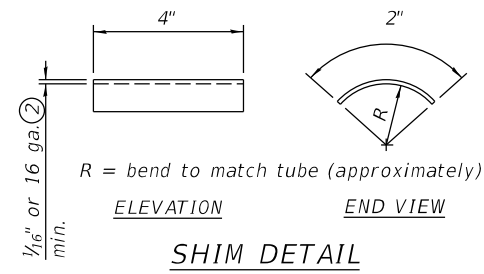


SECTION B-B

Sign shall be even with the top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.

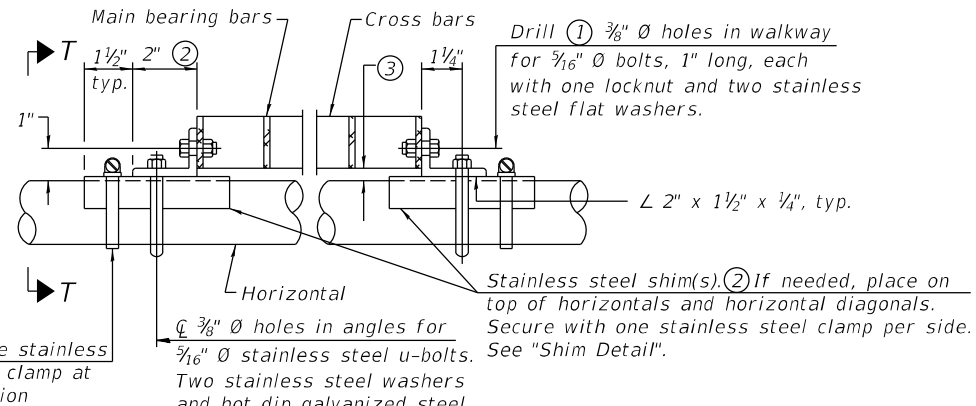
Provide 2 stainless steel washers and 2 hexagon locknuts per bolt. (4 bolts required per walkway bracket, two top and two bottom).

Place symmetrical about \bar{C} truss

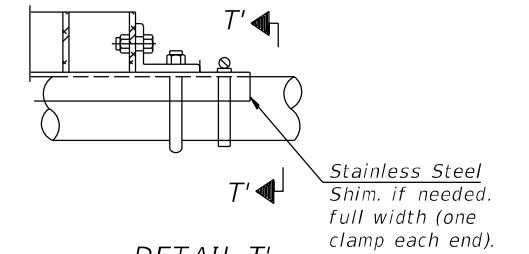


SHIM DETAIL

- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- Tube to grating gap may vary from 0 to 1/2", max. to align walkway, allow for camber, etc.



DETAIL T
(Continuous Truss grating)



DETAIL T'
(Truss grating splice)
Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.

SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

Main Bearing Bars shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B221 Alloy 6061-T6.

Cross bars shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

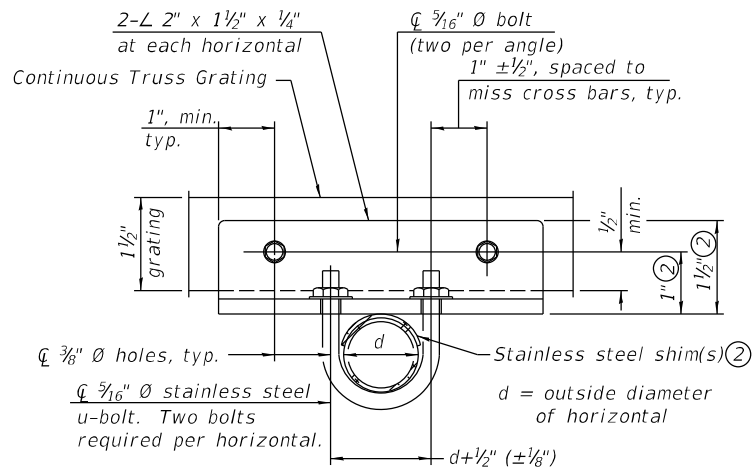
OR

Aluminum Grating with modified "t" sections for main bearing bars shall meet the following requirements:

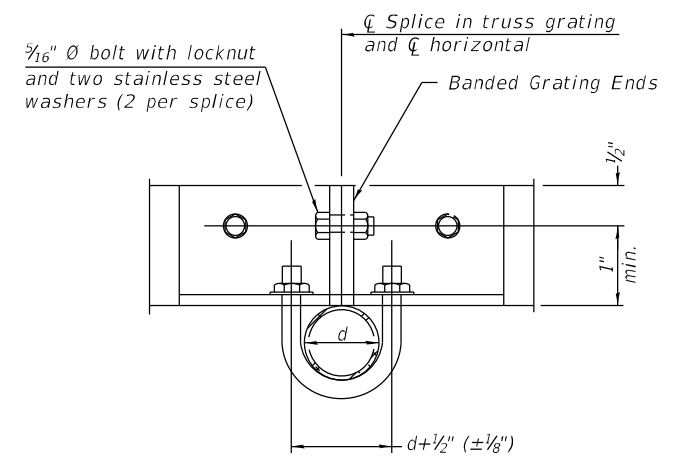
Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.³ per bar, a depth of 1 1/2", spaced on 1 3/16" centers.

Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

Sign #	Structure Number	Station	A	C
15	1S0161094R050.4	302+87.00 SB	6"	4'-6"



SECTION T-T



SECTION T'-T'

OS-A-10-NW

4-1-2020

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ALUMINUM WALKWAY DETAILS
SN 1S0161094R050.4

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	327

CONTRACT NO. 62K74

SHEET OSG1-11 OF OSG1-15 SHEETS

ILLINOIS FED. AID PROJECT

BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
v4(E)	24	#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.

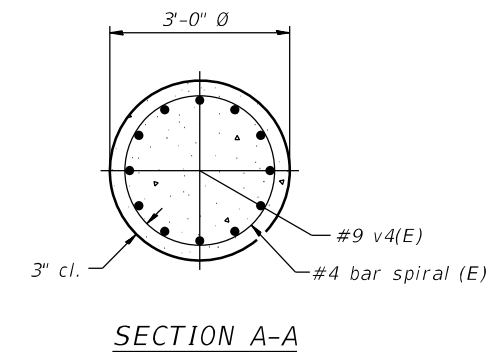
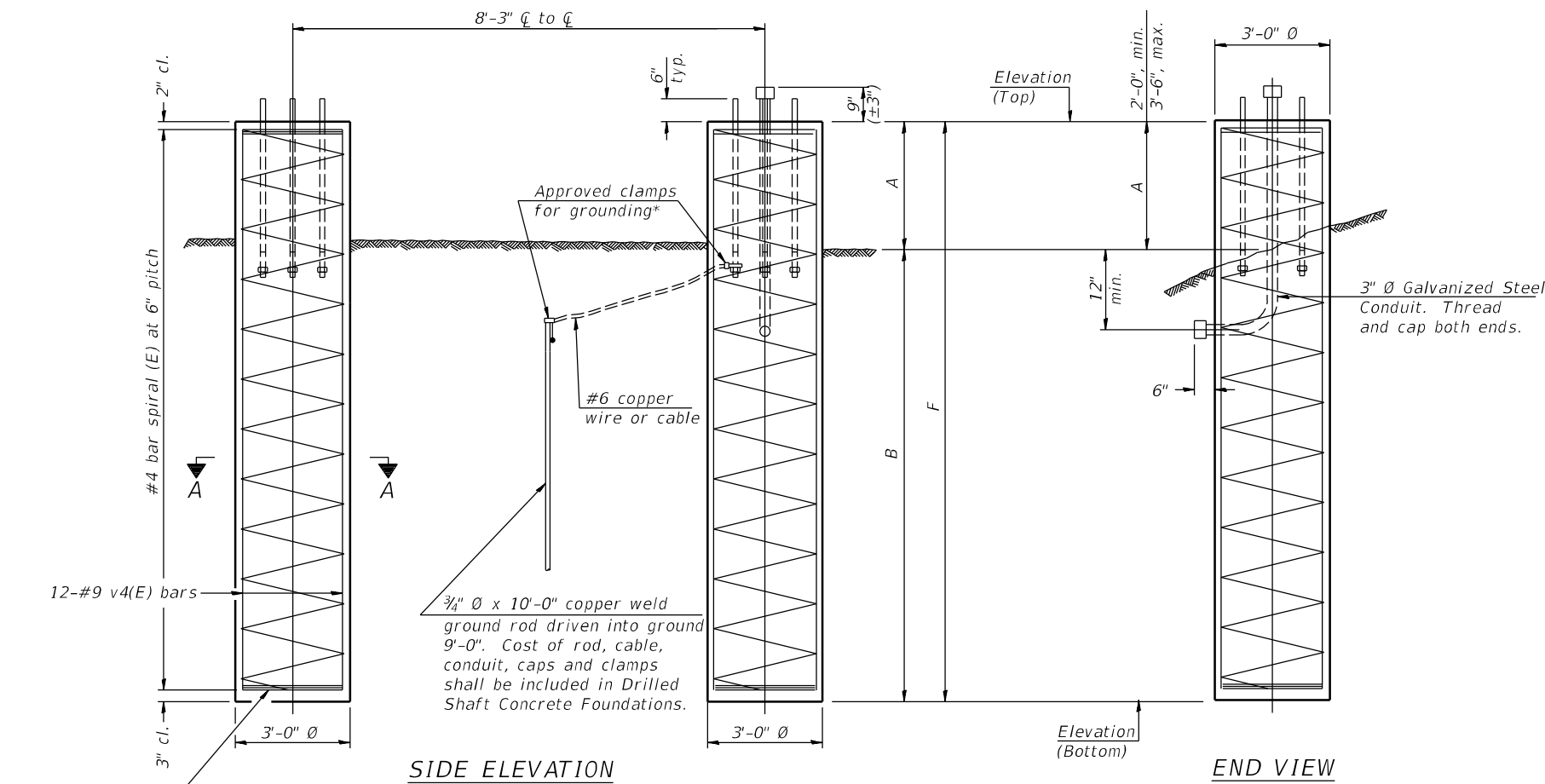
If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District 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.

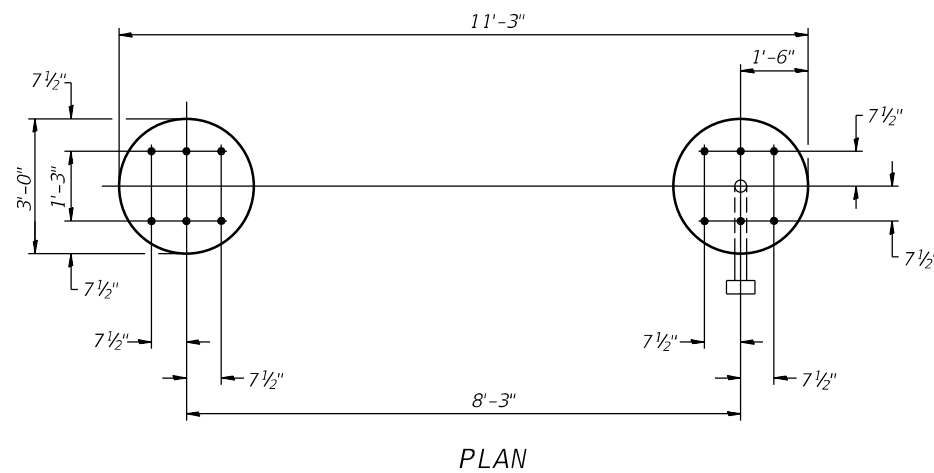
Concrete shall be placed monolithically, without construction joints.

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.



3 hoops minimum top and bottom



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

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

**DETAILS FOR 10" Ø SUPPORT FRAME
TYPE I-A or II-A TRUSS**

Sign #	Structure Number	Station	Left Foundation			Right Foundation			Class DS Concrete (Cu. Yds.)			
			Elevation Top	Elevation Bottom	F	Elevation Top	Elevation Bottom	F				
15	1S0161094R050.4	302+87.00 SB	"-"	"-"	"-"	"-"	682.50	645.00	2'-6"	35'-0"	37'-6"	19.7

OS4-F3

2-17-2017

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

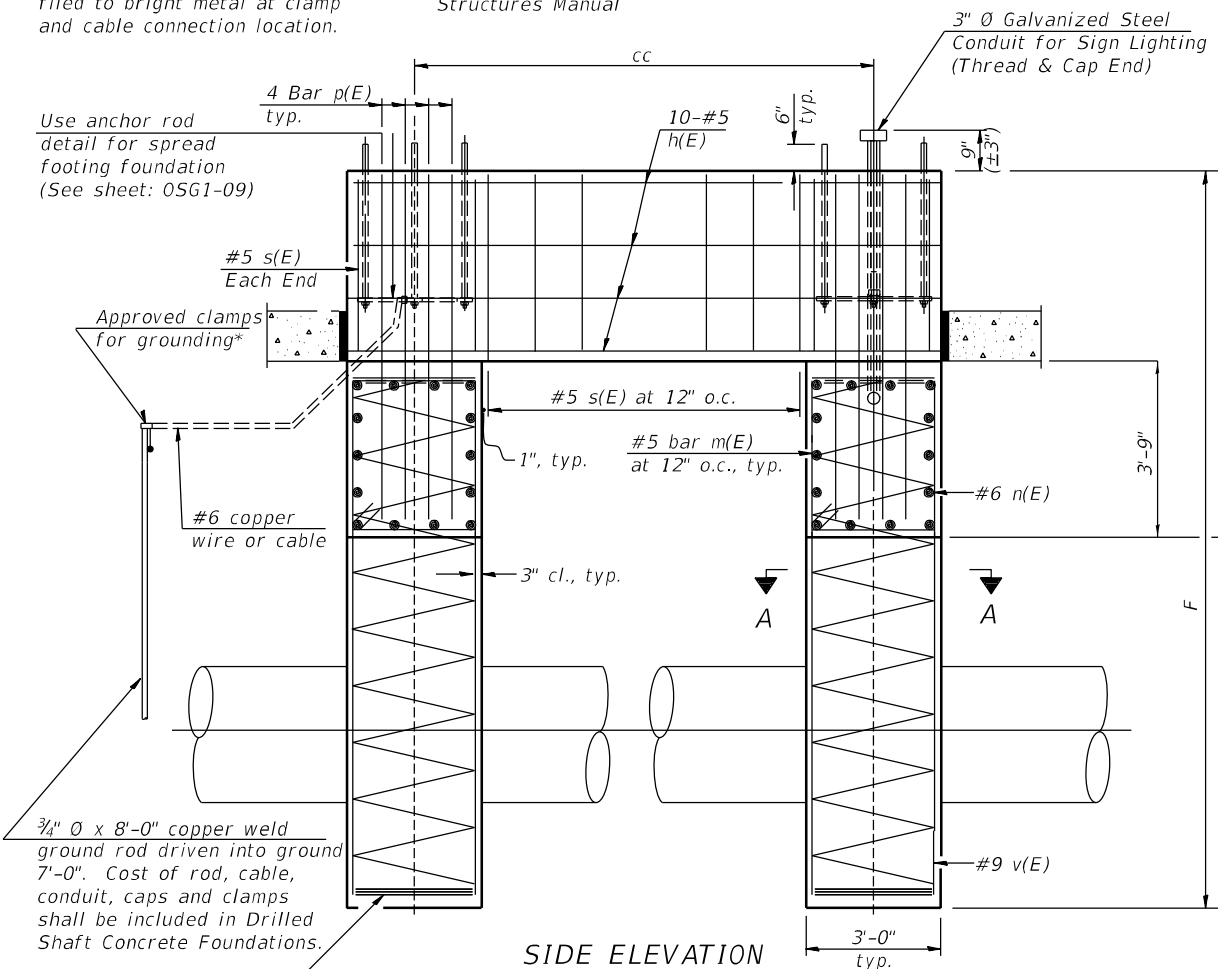
**DRILLED SHAFT DETAILS
SN 1S0161094R050.4**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

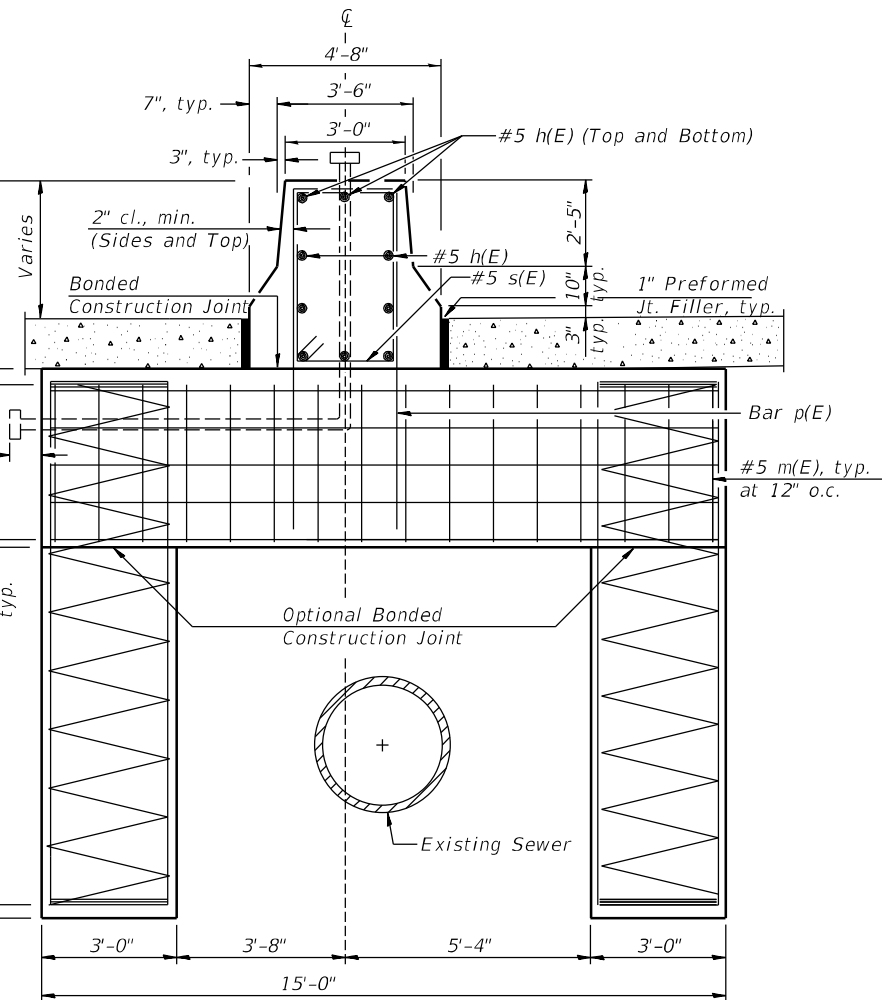
SHEET OSG-12 OF OSG-15 SHEETS

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

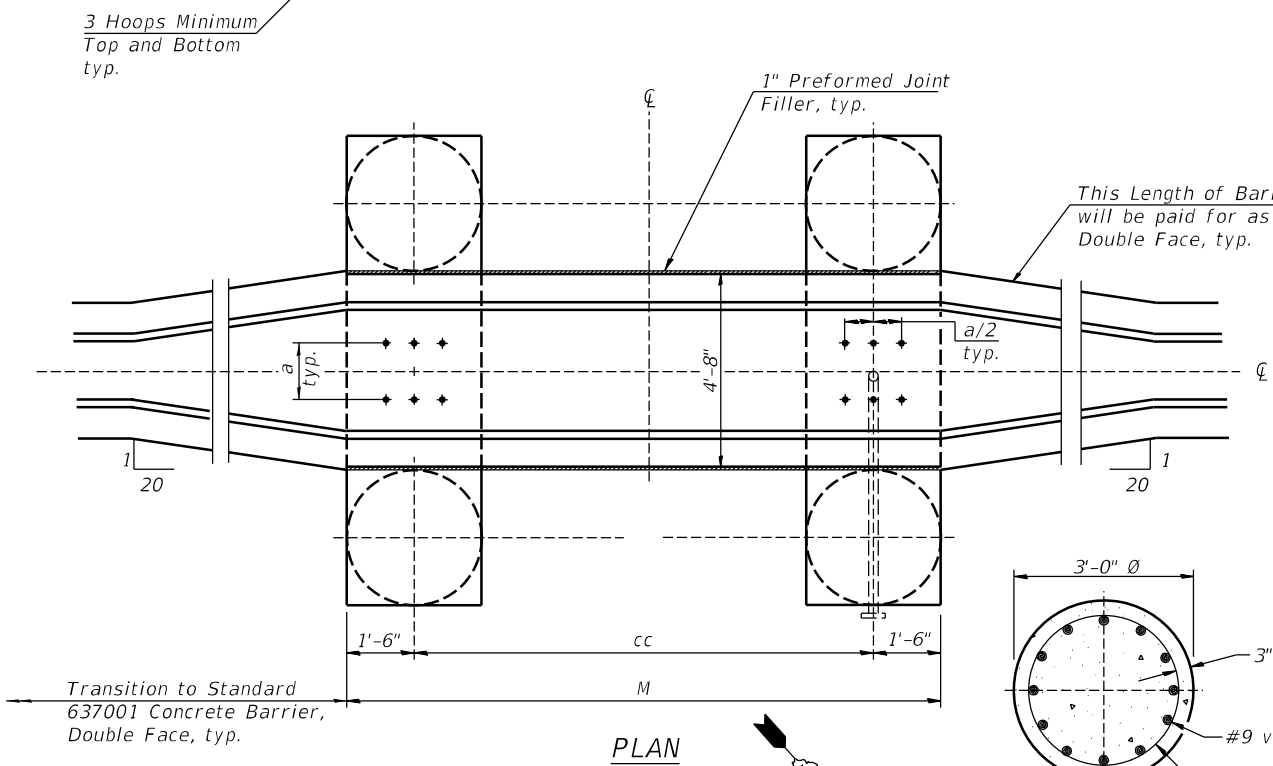
** B = 1/2 the depth given in the Sign Structures Manual



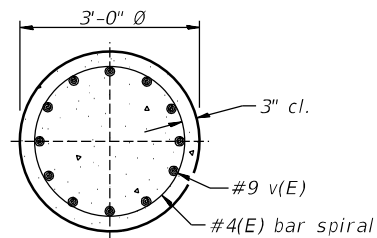
SIDE ELEVATION



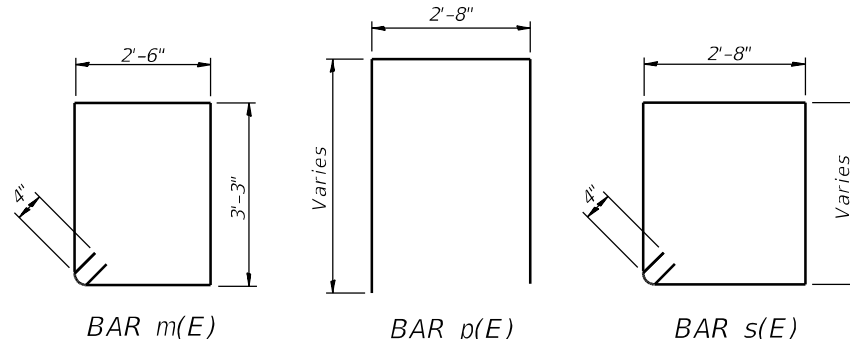
END VIEW
(Anchor rods not shown)



PLAN



SECTION A-A
(Typical for 4 Shafts)



NOTES:

The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) 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.

BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
h(E)	10	#5	M less 4"	—
s(E)	Varies	#5	Varies	□
v(E)	48	#9	B less 0'-5"	—
m(E)	32	#5	12'-0"	□
n(E)	28	#6	14'-6"	—
p(E)	8	#5	Varies	□

#4 Bar Spiral - See Side Elevation

Pipe Support Frames	cc	M	a	a/2
10"Ø	8'-3"	11'-3"	1'-3"	7 1/2"

Sign #	Structure Number	Station	Left Foundation				Right Foundation				Class DS Concrete (Cu. Yds.)
			Elevation Top	Elevation Bottom	B	F	Elevation Top	Elevation Bottom	B	F	
15	1S0161094R050.4	302+87.00 SB	677.84	638.59	35'-0"	39'-3"	"-"	"-"	"-"	"-"	51.8

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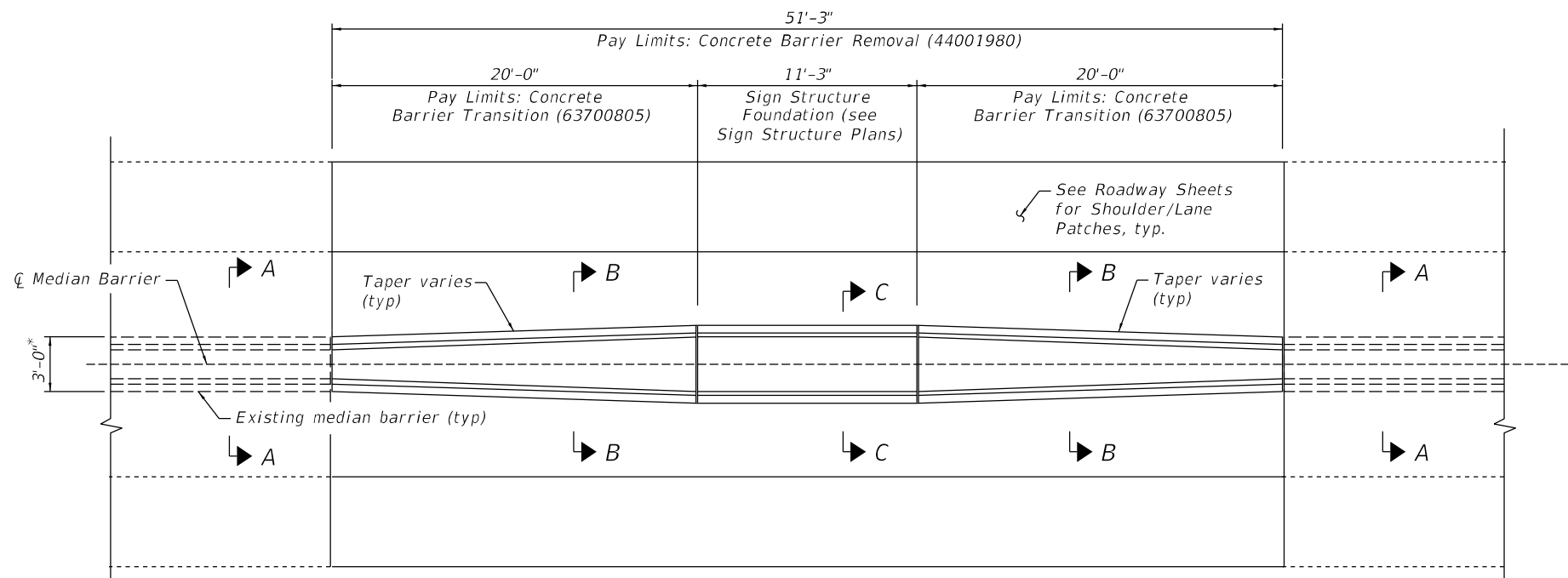


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PLOT DATE =	DRAWN - MGM	REVISED -
	DATE - 09/09/2022	REVISED -

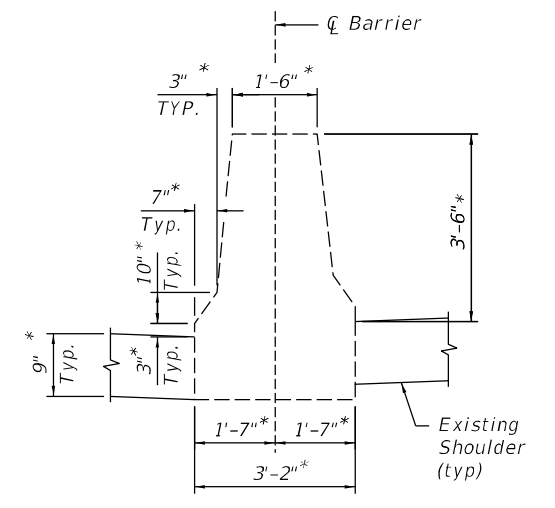
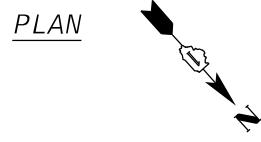
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MEDIAN SUPPORT FOUNDATION DETAILS
SN 1S0161094R050.4

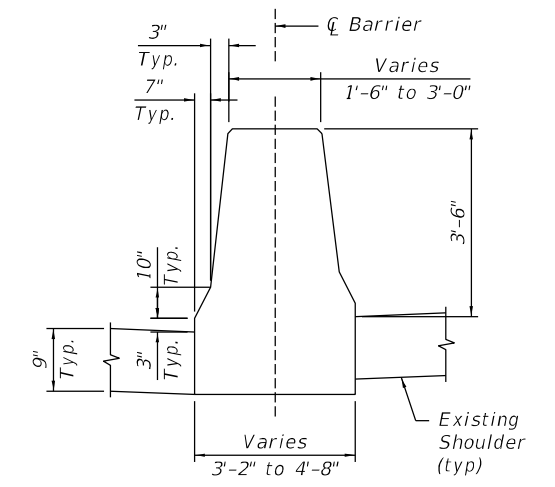
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	329
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



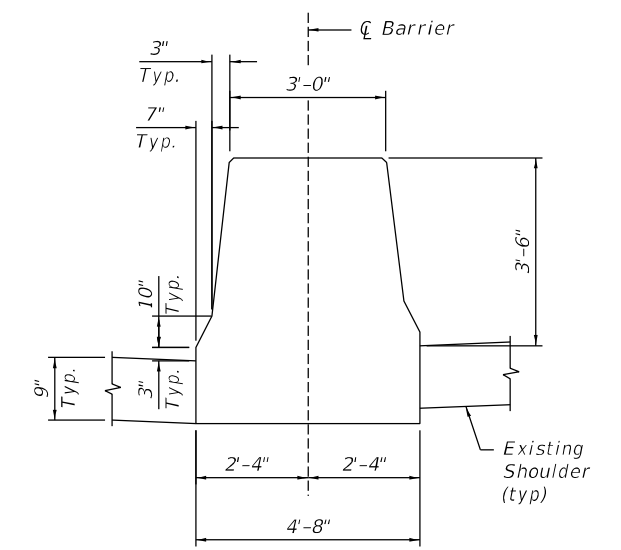
*Verify in field to match existing



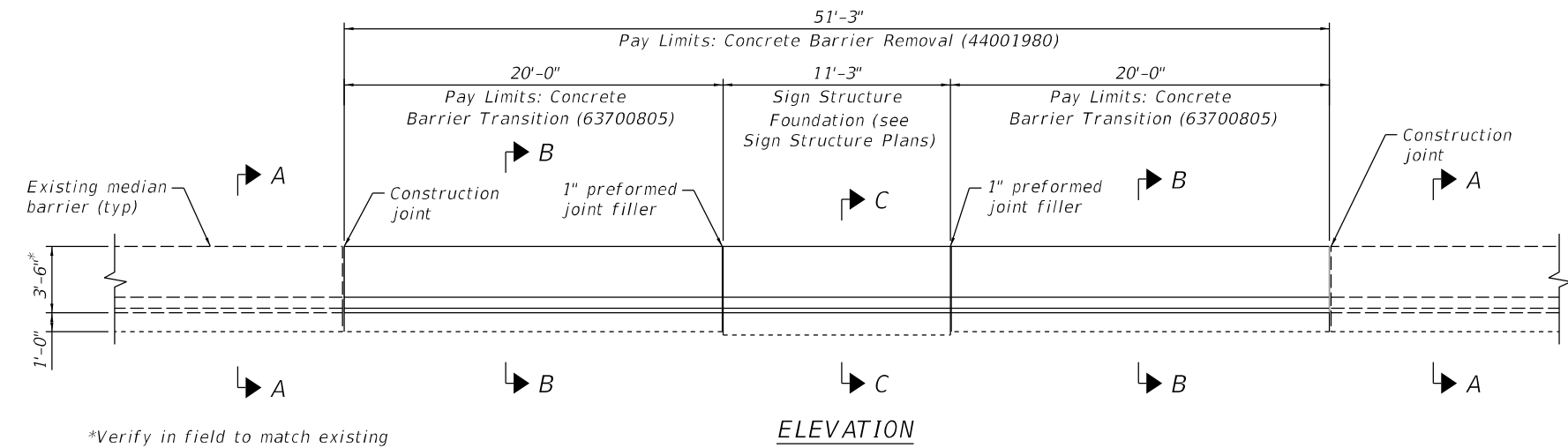
*Verify in field to match existing
SECTION A-A



SECTION B-B



SECTION C-C



*Verify in field to match existing

ELEVATION
CONCRETE MEDIAN BARRIER TRANSITION AT
MEDIAN SIGN STRUCTURE FOUNDATION (N.T.S.)

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PLOT DATE =	DATE - 09/09/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE MEDIAN BARRIER TRANSITION DETAILS
SN 1S016I094R050.4

SHEET OSG1-14 OF OSG1-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	330
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



GSI Job No. 19079-B
 Page 1 of 1
 Date 10/26/21

SOIL BORING LOG

PROJECT PTB 185-012, WO #32
 LOCATION I-90 & I-94 Tollway
 COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic
 CLIENT HBM
 BORING NO. OSB-29
 Northing 1903749
 Easting 1169777
 Ground Surface Elev. 573.2 ft

DEPTH (ft)	BLOW (1/6")	UCS (tsf)	M O I S (%)	DRY DENSITY (pcf)	Surface Water Elev. ft	Stream Bed Elev. ft	GROUNDWATER Elev.:	DEPTH (ft)	BLOW (1/6")	UCS (tsf)	M O I S (%)	DRY DENSITY (pcf)
CRUSHED STONE-medium dense (Fill)					CLAY-gray-soft to medium stiff (continued)							
	16							2				
	18		8					2	0.60	23		
	9							4		B		
	570.2							550.2				
CLAY-gray-soft to medium stiff					CLAY LOAM-gray-stiff							
	2							2				
	1	0.50	25					3	1.00	16		
	2	B						3		B		
	-5							-25				
	1							3				
	2	0.50	25					4	1.20	18		
	1	B						5		B		
	1							3				
	1	0.50	25					4	1.30	19		
	2	B						6		B		
	-10							543.2				
					End Of Boring @ -30.0'. Boring backfilled with cuttings.							
	0											
	0	0.50	25									
	0	B										
	1											
	1	0.25	25									
	2	P										
	-15											
	1											
	2	0.50	25									
	2	B										
	1											
	2	1.40	23									
	4	B										
	-20											

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)



GSI Job No. 19079-B
 Page 1 of 1
 Date 10/23/21

SOIL BORING LOG

PROJECT PTB 185-012, WO #32
 LOCATION I-90 & I-94 Tollway
 COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic
 CLIENT HBM
 BORING NO. OSB-30
 Northing 1903784
 Easting 1169875
 Ground Surface Elev. 574.7 ft

DEPTH (ft)	BLOW (1/6")	UCS (tsf)	M O I S (%)	DRY DENSITY (pcf)	Surface Water Elev. ft	Stream Bed Elev. ft	GROUNDWATER Elev.:	DEPTH (ft)	BLOW (1/6")	UCS (tsf)	M O I S (%)	DRY DENSITY (pcf)
10.0" CONCRETE					CLAY-gray-soft to medium stiff (continued)							
	573.9											
	2							2				
	3							3	0.60	20		
	2							2		B		
	6							0				
	5							2	1.00	21		
	3							3		B		
	-25							549.2				
CLAY-gray-soft to medium stiff					CLAY LOAM-gray-medium stiff to stiff							
	3							2				
	2	0.50	24					3	1.00	16		
	3	P						4		P		
	1							3				
	2	0.50	24					3	2.30	20		
	2	B						5		B		
	-10							544.7				
					End Of Boring @ -30.0'. Boring backfilled with cuttings.							
	0											
	1	0.50	24									
	2	B										
	1											
	0	0.25	23									
	1	P										
	-15											
	1											
	1	0.50	25									
	2	B										
	1											
	2	1.00	24									
	2	B										
	-20											

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
 BBS, from 137 (Rev. 8-99)

MODEL: Default
 FILE NAME: I:\2010\1512010\1512010\1512010\CAD\CAD_Sheets\Struct\15-15_Soil_Boring_Logs.dgn



USER NAME =	DESIGNED - PMH	REVISED -
	CHECKED - BWC	REVISED -
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PLOT DATE =	DATE - 09/09/2022	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
 SN 1S016I094R050.4

SHEET OSG1-15 OF OSG1-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	331
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

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.
fy = 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.

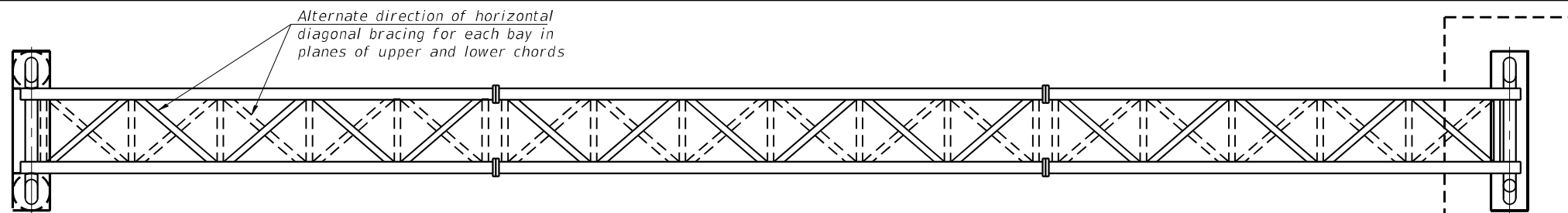
GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

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

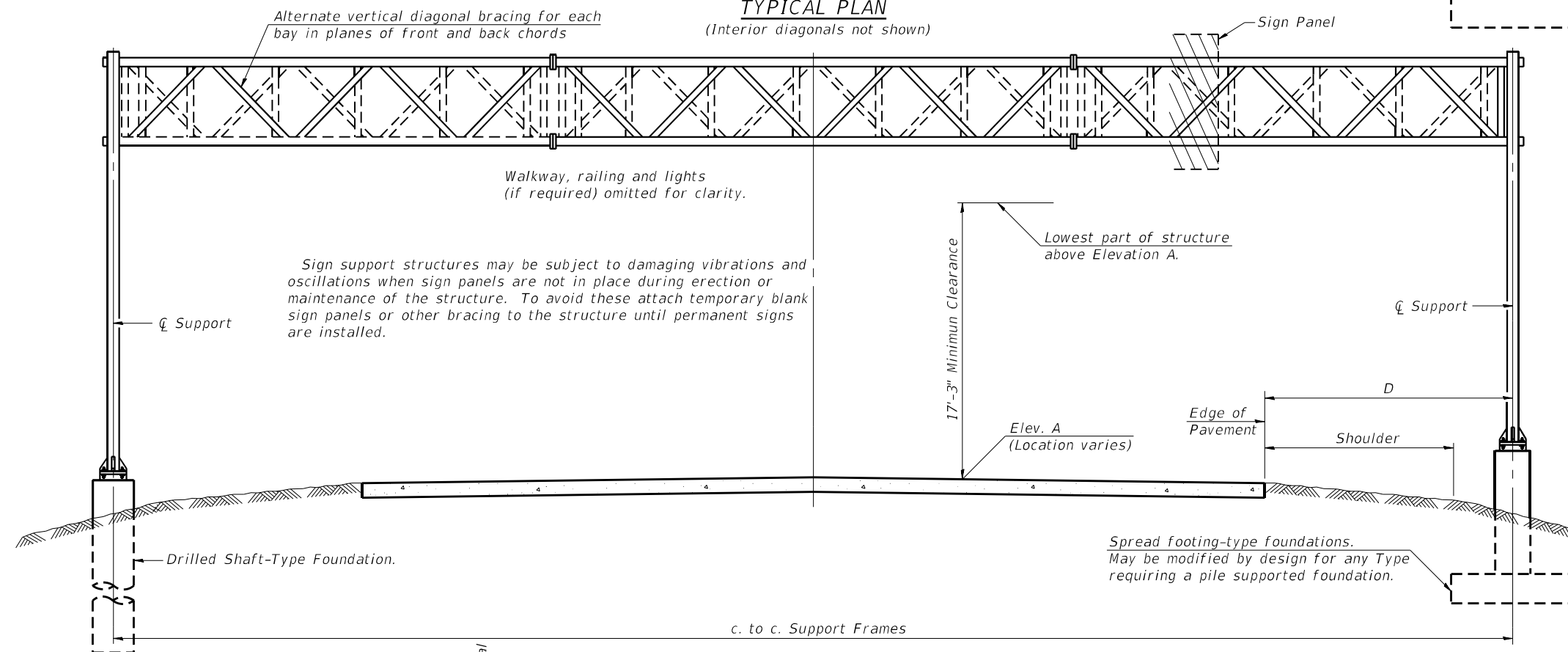
CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Concrete Sealer in accordance with the Standard Specifications.

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.

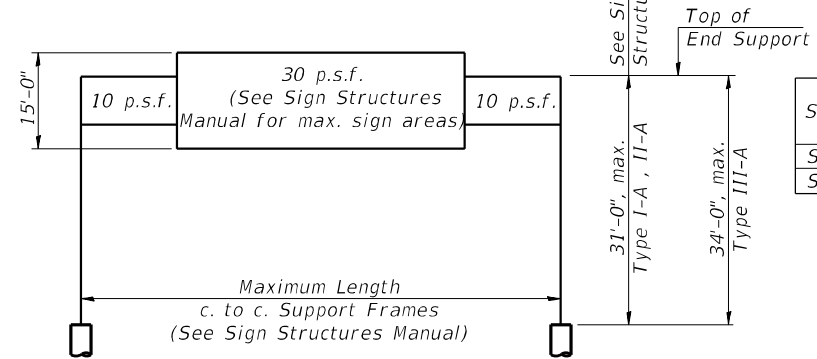


TYPICAL PLAN
(Interior diagonals not shown)



TYPICAL ELEVATION
(Looking at Face of Signs**)

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



DESIGN WIND LOADING DIAGRAM

Parameters shown are basis for I.D.O.T. Standards and Sign Manual Tables. Installations not within dimensional limits shown require special analysis for all components.

Sign #	Structure Number	Station (SB Baseline)	Design Truss Type	c. to c. Supports	Elev. A ***	Dim. D	Height of Tallest Sign	Total Sign Area
Sign 9	150161094R048.1	425+40.12	I-A	83'-0"	600.41	10'-6 1/8"±	11'-6"	490.75 Sq. Ft.
Sign 8	150161094R047.3	471+82.88	I-A	86'-0"	606.85	10'-9 1/8"±	11'-0"	492 Sq. Ft.

**Looking upstation for structures with signs both sides.

*** For Sign 9 Layout See Sheet OSG3-02
For Sign 8 Layout See Sheet OSG3-03

* 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.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concret	Foot	88
Concret	Foot	66
Overhe	Foot	169
Drilled Sh	Cu Yd	67
Remove Ove	Each	2.0



Signed Moussa A. Issa
Dr. Moussa A. Issa, S.E. Il. Lic. No. 081-005738
Expires 11-30-2024

Date 12/05/2022 FOR SHEETS OSG3-01 THRU OSG3-18
(TOTAL OF 18 SHEETS)

05-A-1

2-17-2017



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PLOT DATE =	DRAWN - SK	REVISED -
	DATE - 12/5/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

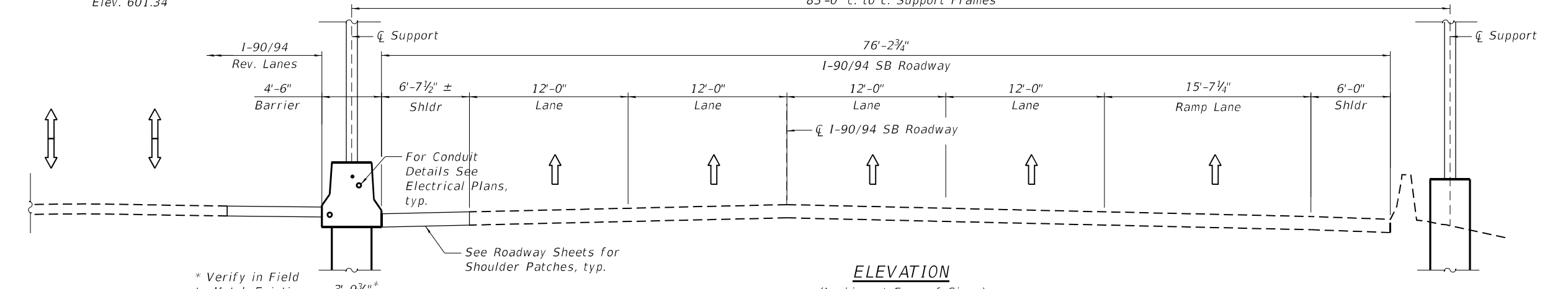
**OVERHEAD SIGN STRUCTURES - GENERAL PLAN &
ELEVATION - ALUMINUM TRUSS & STEEL SUPPORTS**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	332
CONTRACT NO. 62K74				
SHEET OSG3-01 OF OSG3-18 SHEETS				
ILLINOIS FED. AID PROJECT				

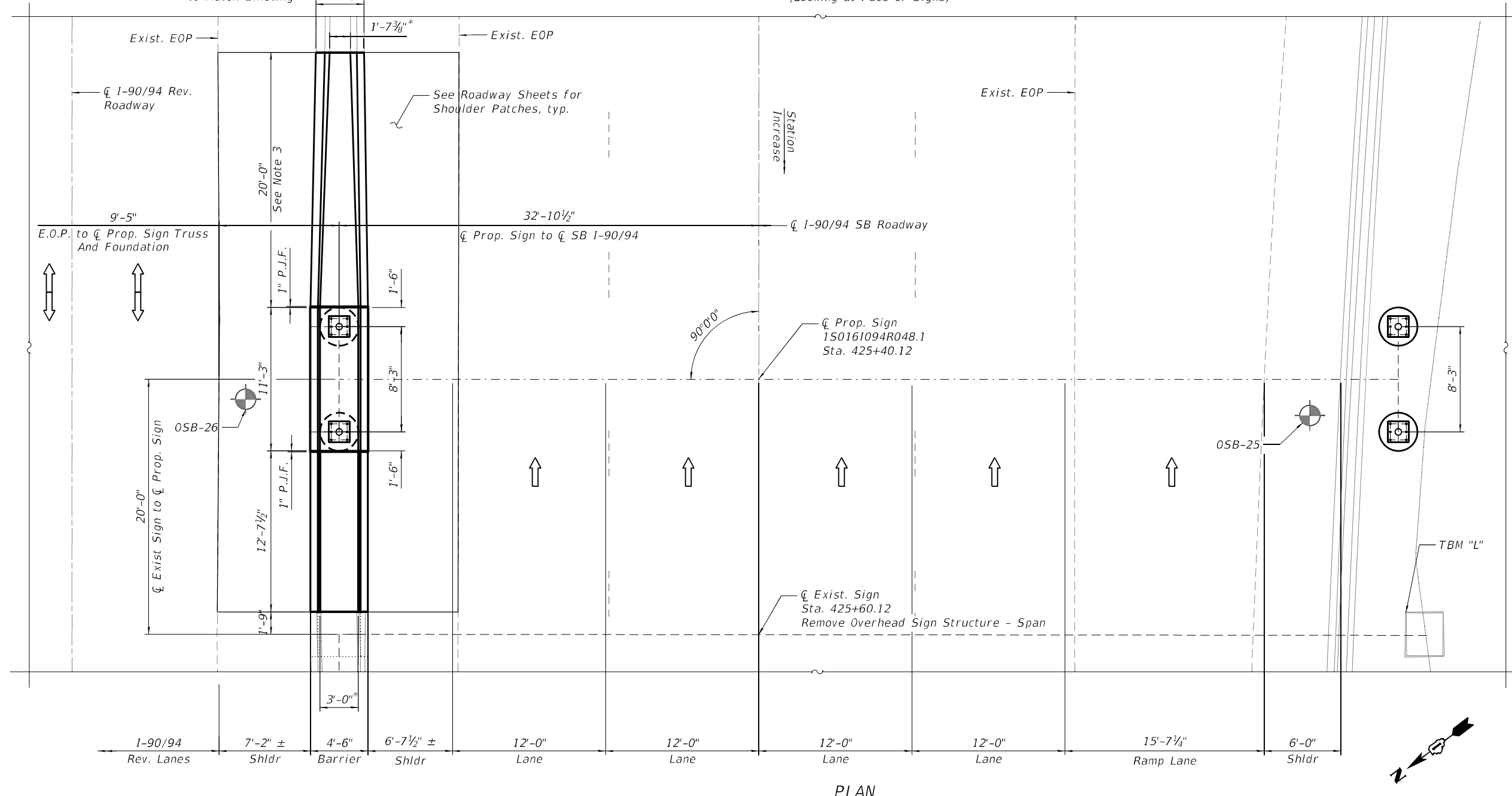
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Benchmark: TBM "L" Square cut on top of NE edge of overhead sign foundation for "Exit 48A" at Station 425+58.47 Offset 50.79 LT measured along CL SB I-90/94. Elev. 601.34

83'-0" c. to c. Support Frames



ELEVATION
(Looking at Face of Signs)



PLAN

NOTES:

1. Stations that are shown are with respect to the SB 190/94 baseline.
2. The contractor shall establish a local version of the SB Baseline based on the dimension shown on this plan. The stationing shall be with respect to the center line of existing sign truss as shown. The offset of the baseline shall be measured from existing features as shown.
3. Paid for as Concrete Barrier Transition.

LEGEND:

- Soil Boring
- Exist. Storm Sewer
- Exist. sanitary sewer
- Exist. Gas Line

MODEL: Default
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PLOT DATE =	DATE - 9/9/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

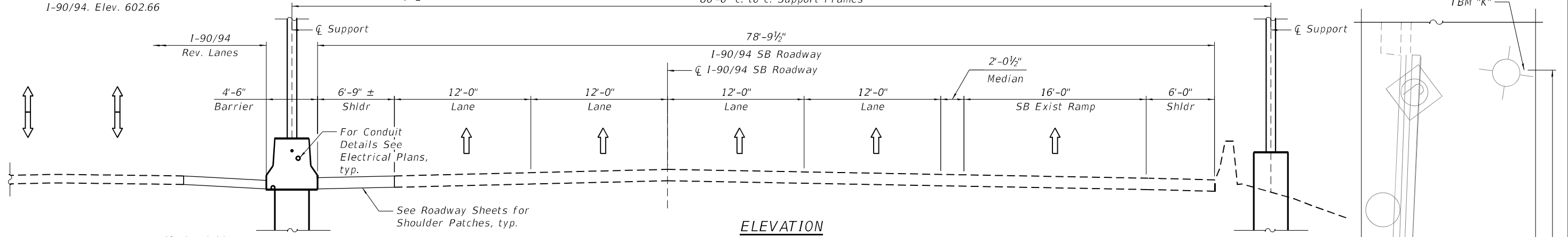
**GENERAL PLAN AND ELEVATION
S.N. 1S016I094R048.1 (SIGN 9)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	333
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET OSG3-02 OF OSG3-18 SHEETS

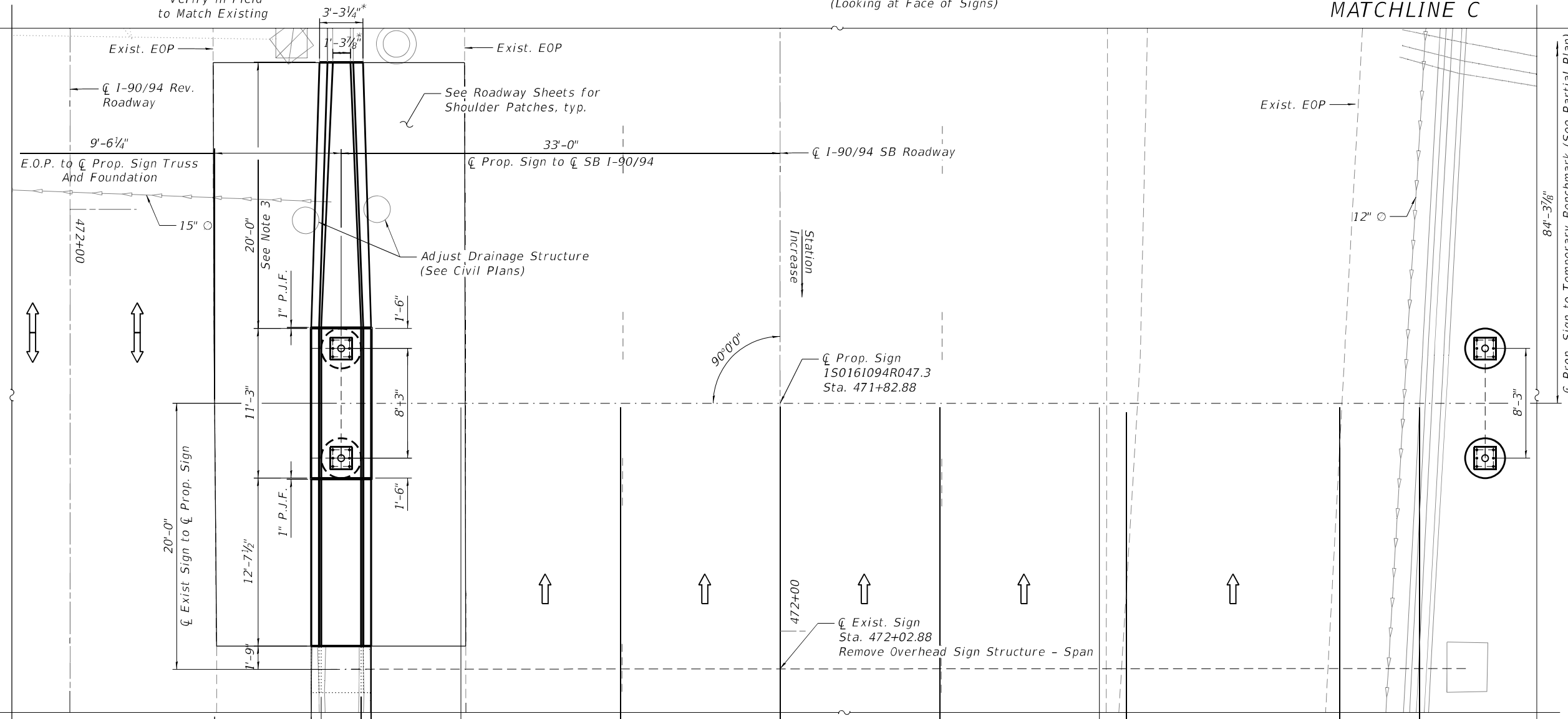
Benchmark: TBM "K" Square cut on top of light pole foundation (Pole # NL9) at entrance to I-90/I-94 at Station 471+98.56 Offset 63.17 LT measured along ϕ SB I-90/94. Elev. 602.66

86'-0" c. to c. Support Frames

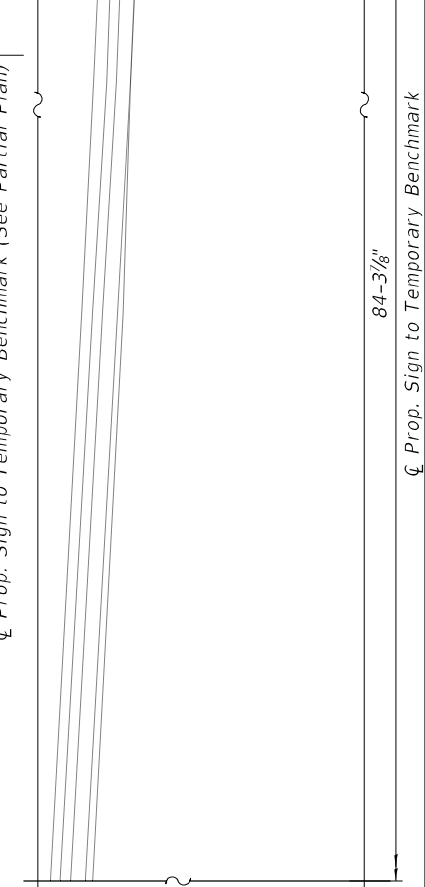


ELEVATION
(Looking at Face of Signs)

MATCHLINE C



PLAN

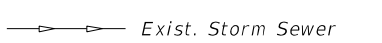


MATCHLINE C

PARTIAL PLAN

- NOTES:**
1. Stations that are shown are with respect to the SB 190/94 baseline.
 2. The contractor shall establish a local version of the SB Baseline based on the dimension shown on this plan. The stationing shall be with respect to the center line of existing sign truss as shown. The offset of the baseline shall be measured from existing features as shown.
 3. Paid for as Concrete Barrier Transition.

LEGEND:



MODEL: Default
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

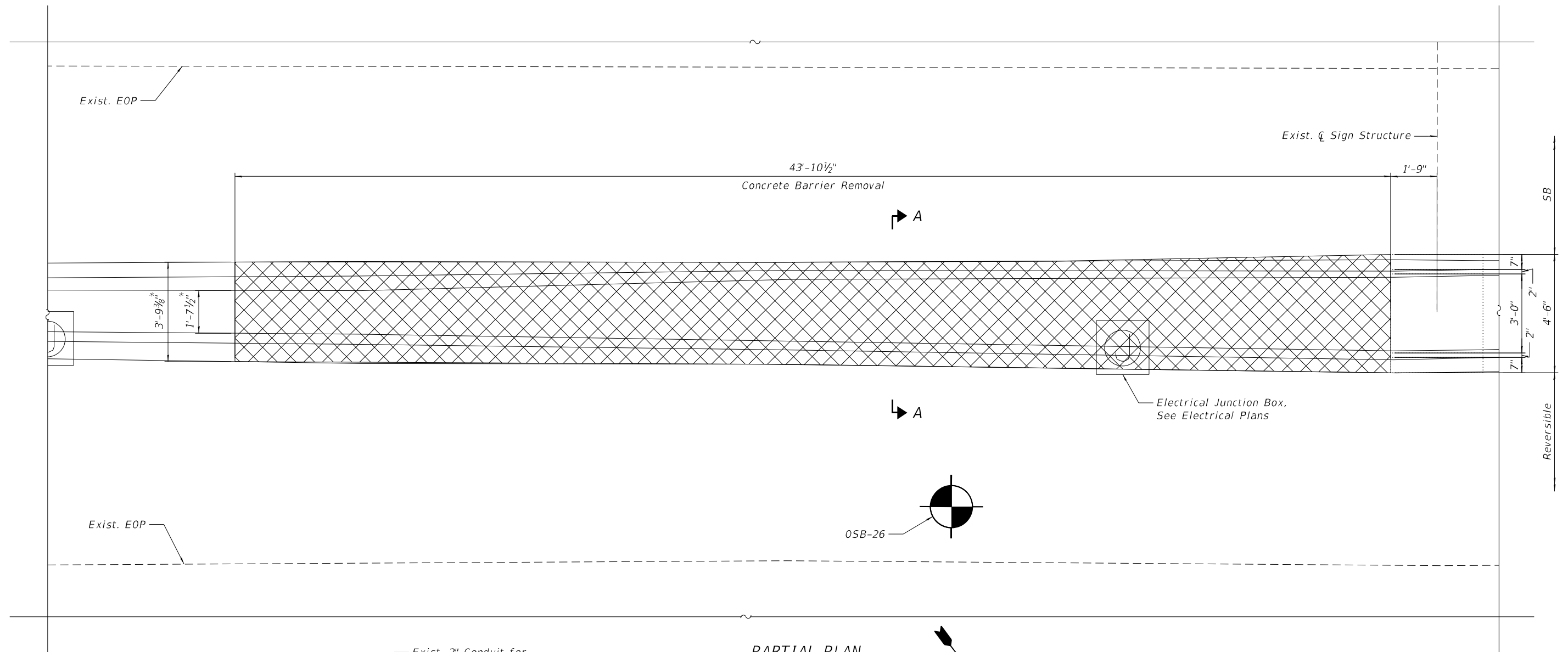
GENERAL PLAN AND ELEVATION
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SHEET OSG3-03 OF OSG3-18 SHEETS

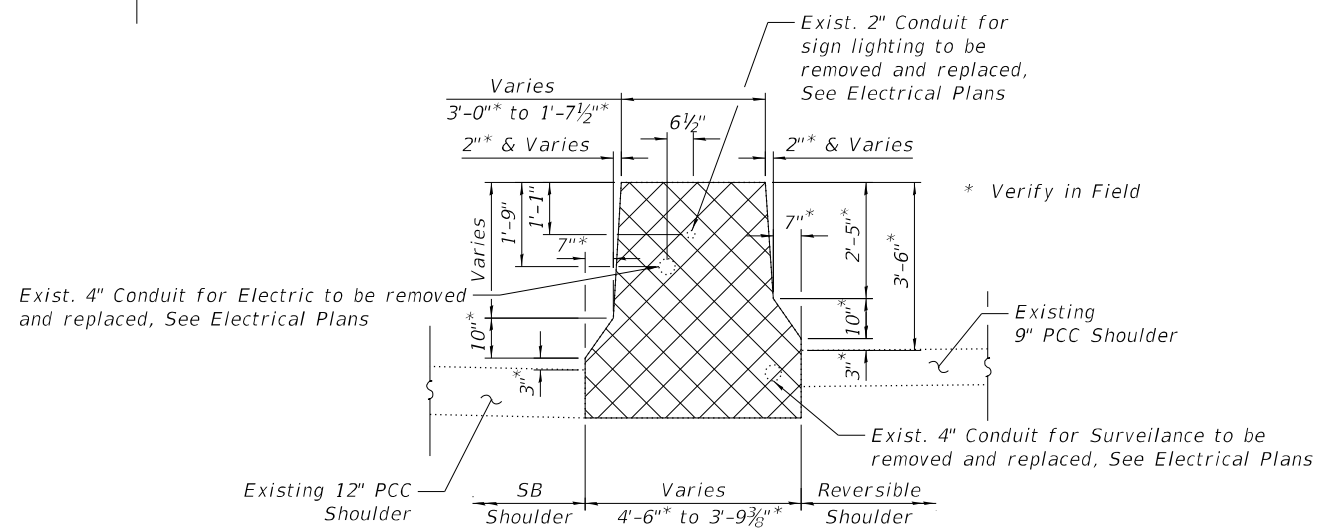
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	334
CONTRACT NO. 62K74				

ILLINOIS FED. AID PROJECT

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PARTIAL PLAN



SECTION A-A

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Barrier Removal	Foot	44.0

LEGEND



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	CHECKED - MI	REVISED -
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PLOT DATE =	DATE - 9/9/2022	REVISED -

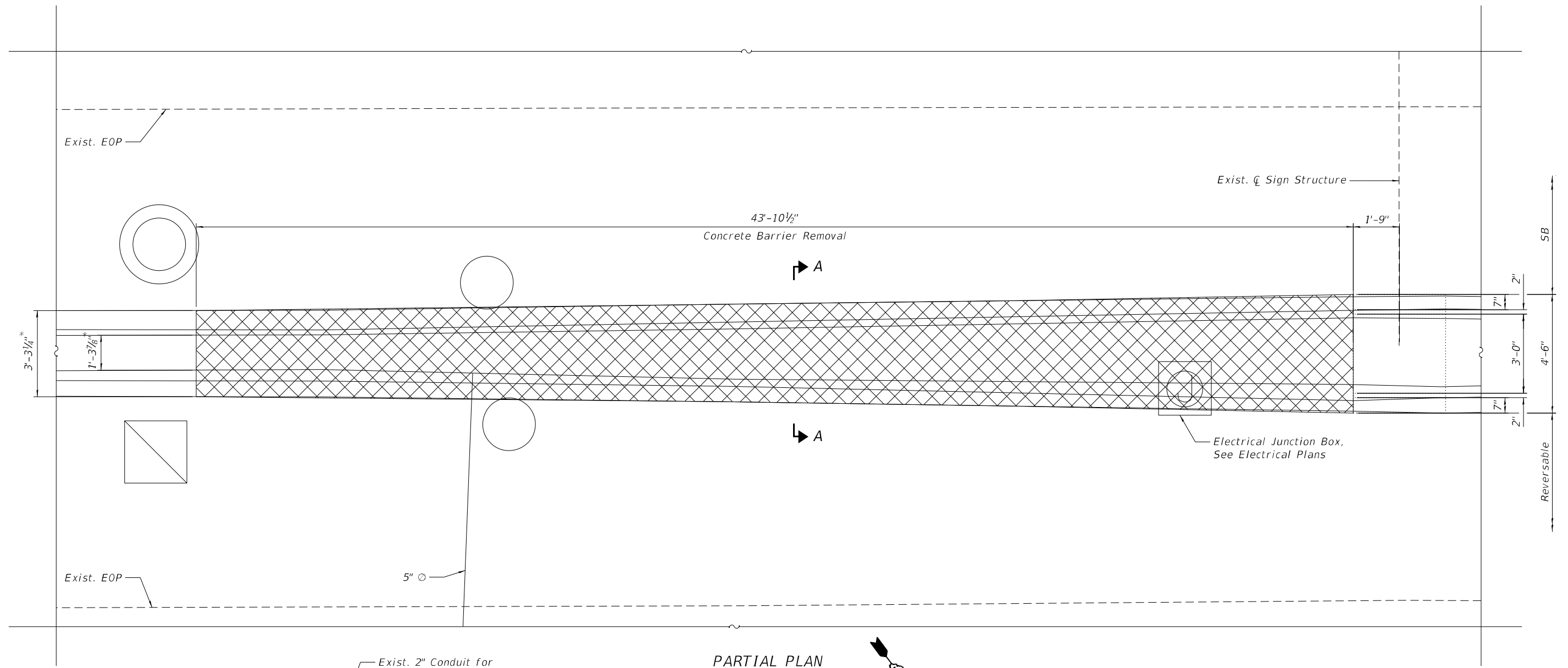
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REMOVAL DETAILS FOR EXISTING MEDIAN BARRIER
 SN 1S016I094R048.1 (SIGN 9)

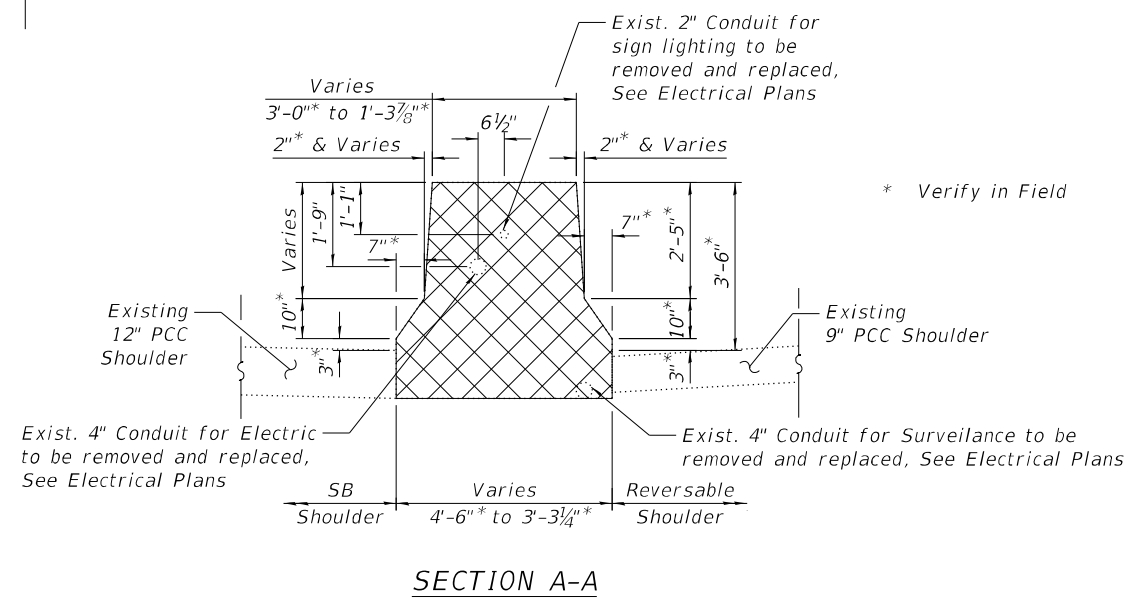
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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PARTIAL PLAN

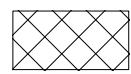
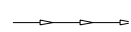




SECTION A-A

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Barrier Removal	Foot	44.0

LEGEND

-  Concrete Barrier Removal
-  Exist. Storm Sewer
-  Exist. Catch Basin
-  Exist. Manhole



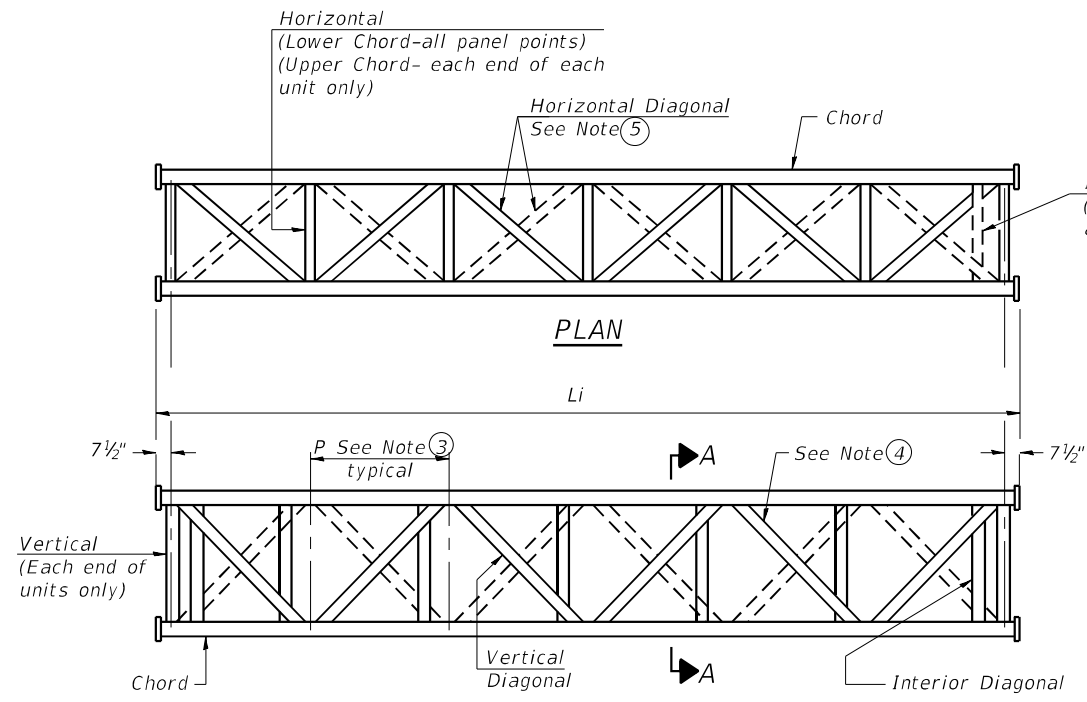
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PLOT DATE =	DATE - 9/9/2022	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

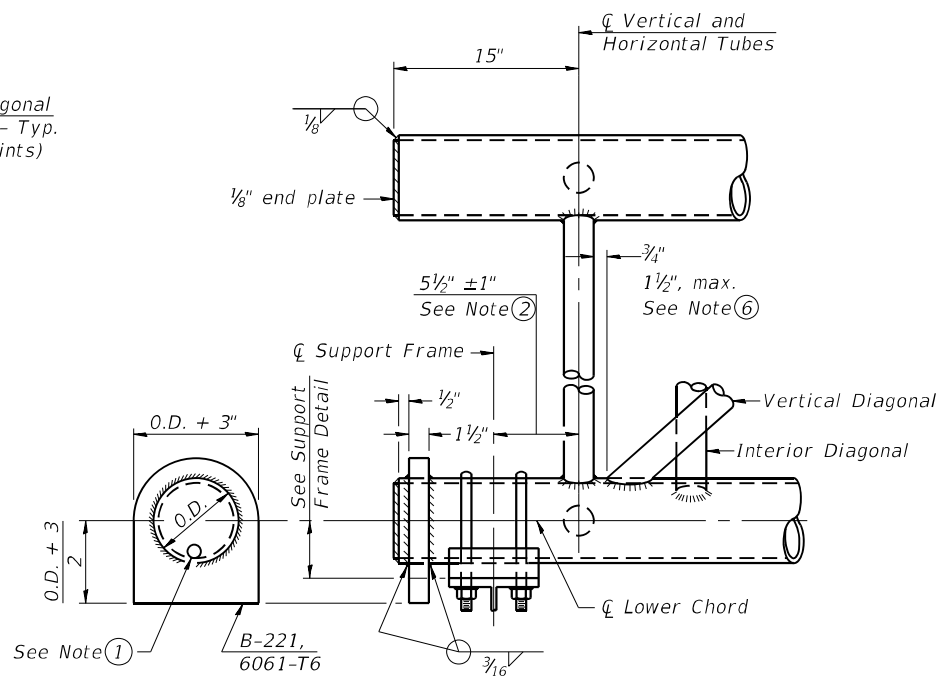
REMOVAL DETAILS FOR EXISTING MEDIAN BARRIER
 SN 1S016I094R049.6 (SIGN 8)

SHEET OSG3-05 OF OSG3-18 SHEETS

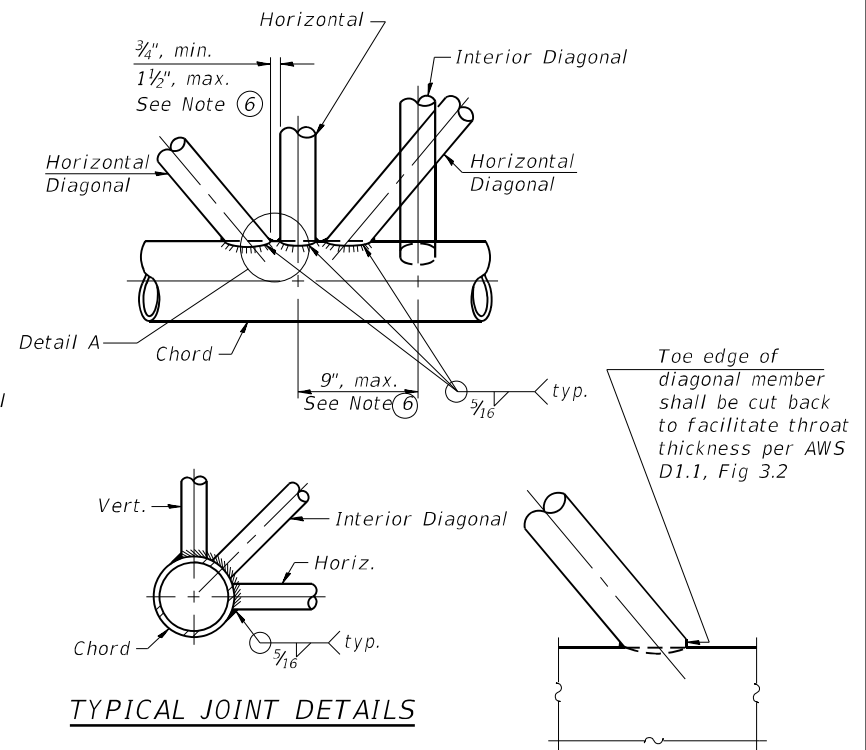
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	336
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



**ELEVATION
TYPICAL INTERIOR UNIT**
Even number of panels/interior unit required.

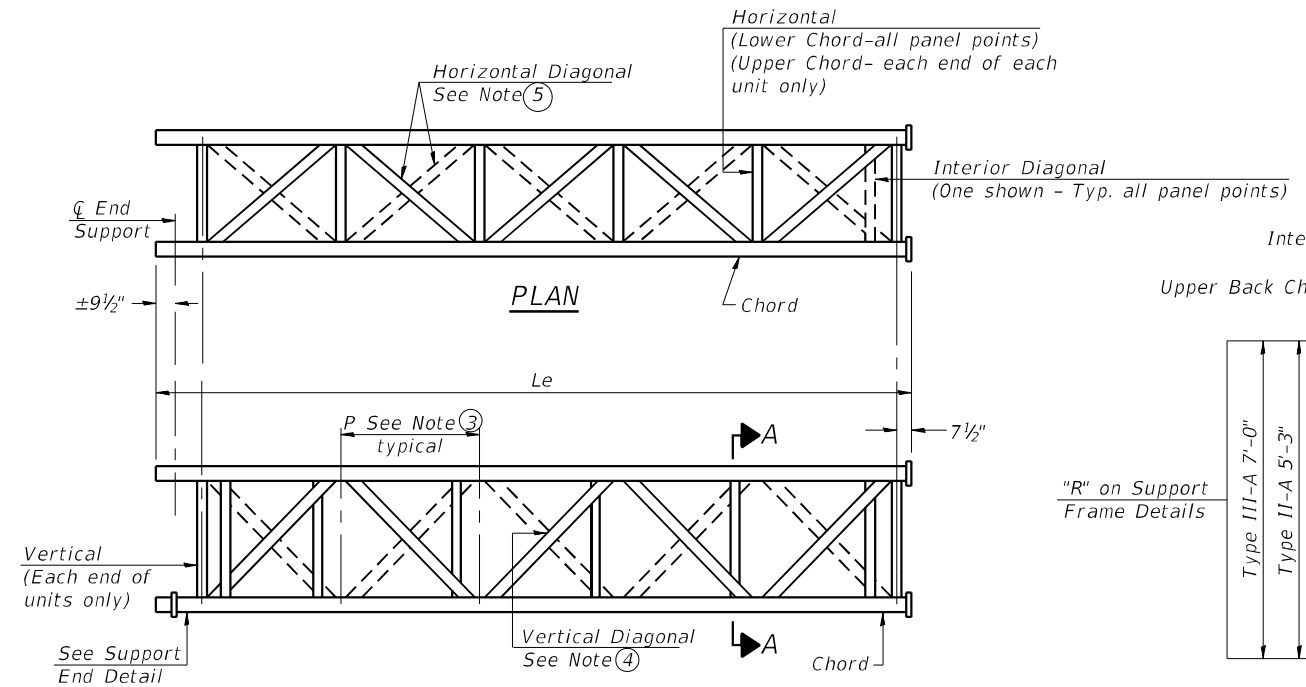


SUPPORT END DETAIL FOR EXTERIOR UNIT

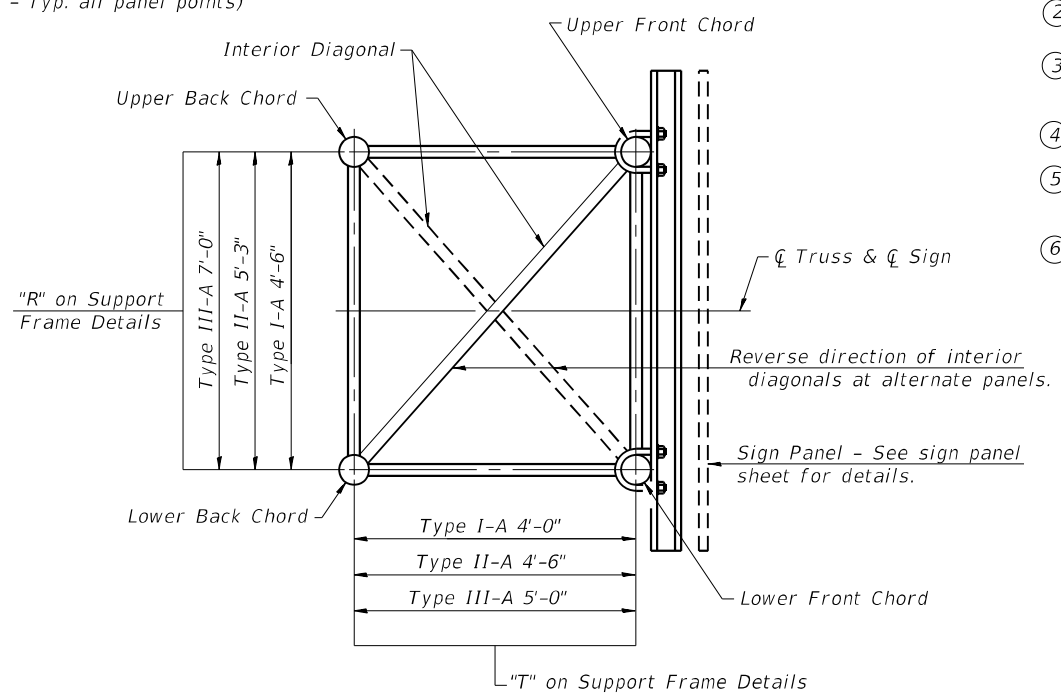


TYPICAL JOINT DETAILS

DETAIL A



**ELEVATION
TYPICAL EXTERIOR UNIT**
Even or odd number of panels/exterior units allowed.



SECTION A-A

- ① Contractor may alternatively use standard aluminum drive-fit cap to close end. 1/2" Ø drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)
- ② 5 1/2" end dimension may vary by ±1" to provide uniform panel spacing (P).
- ③ 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.
- ④ Vertical Diagonals in front and back face shall alternate.
- ⑤ Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
- ⑥ 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.

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PLOT DATE =	DATE - 9/9/2022	REVISOR -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

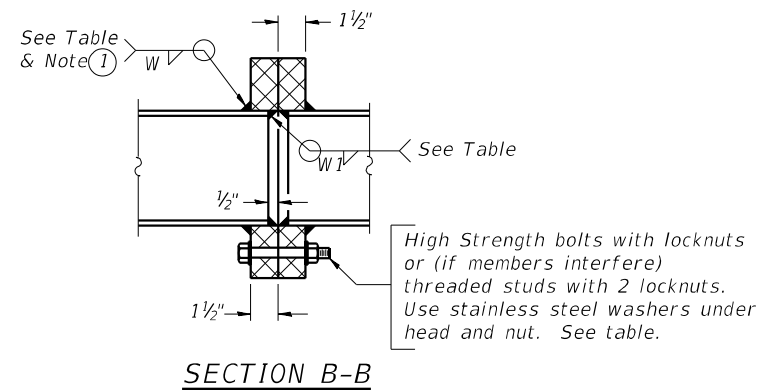
**OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS
DETAILS FOR TRUSS TYPE I-A**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	337
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

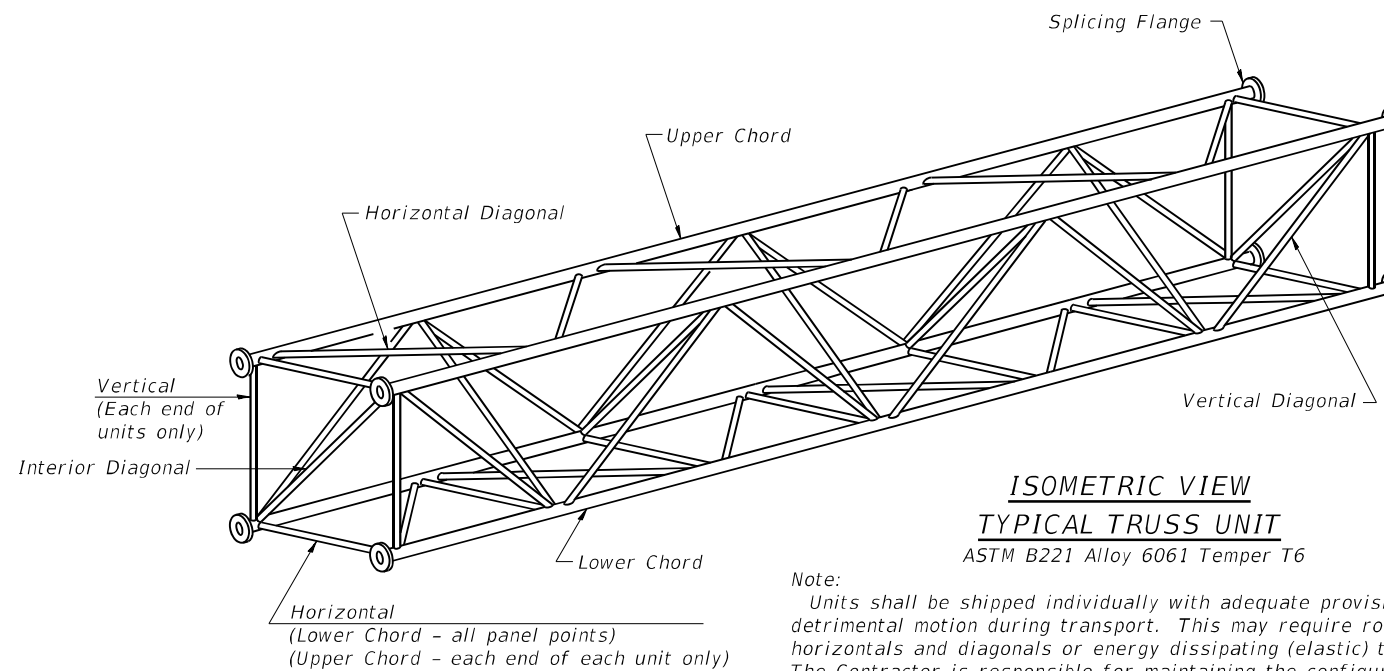
SHEET OSG3-06 OF OSG3-18 SHEETS

TRUSS UNIT TABLE

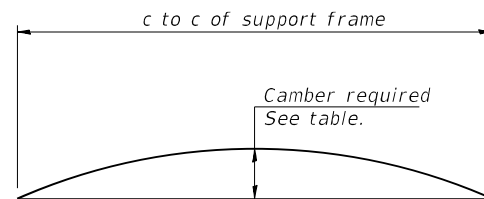
Sign #	Structure Number	Station	Design Truss Type	Exterior Units (2)			Interior Unit				Upper & Lower Chord		Verticals; Horizontals; Vertical, Horizontal, and Interior Diagonals		Camber at Midspan	Splicing Flange					
				No. Panels per Unit	Unit Lgth. (Le)	Panel Lgth. (P)	No. Req'd	No. Panels per Unit	Unit Lgth. (Li)	Panel Lgth. (P)	O.D.	Wall	O.D.	Wall		Bolts		Weld Sizes		A	B
																No./Splice	Dia.	W	W1		
Sign 9	150161094R048.1	425+40.12	I-A	5	26'-9 1/4"	4'-11 3/4"	1	6	31'-1 1/2"	4'-11 3/4"	5"	5/16"	2 1/2"	5/16"	2.40"	6	7/8"	5/16"	1/4"	8 3/4"	11 3/4"
Sign 8	150161094R047.3	471+82.88	I-A	6	29'-4 1/2"	4'-7"	1	6	28'-9"	4'-7"	5"	5/16"	2 1/2"	5/16"	2.55"	6	7/8"	5/16"	1/4"	8 3/4"	11 3/4"



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 flange surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure flanges until remaining welds are made after disassembly. Adjacent flanges shall be "match marked" to insure proper field assembly.

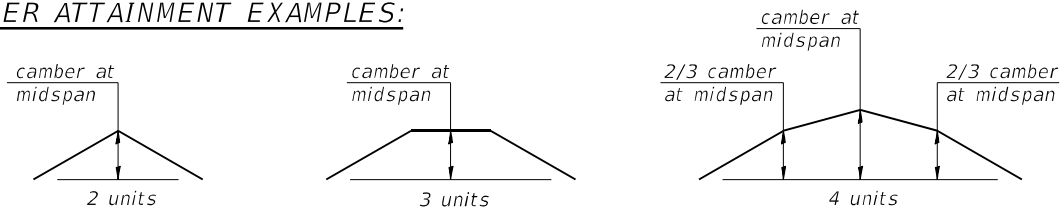


Note: Units shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The Contractor is responsible for maintaining the configuration and protection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

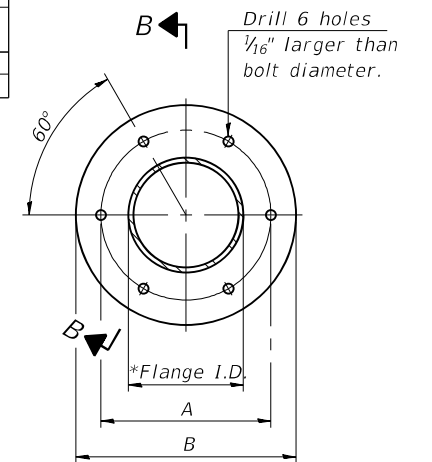


CAMBER DIAGRAM
Camber curve shown is theoretical. Actual camber attained by slope changes at splices between units.

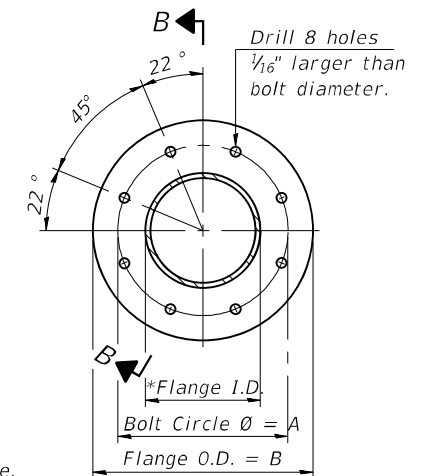
CAMBER ATTAINMENT EXAMPLES:



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 fit O.D. of Chord with maximum gap of 1/16".

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2-17-2017



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PLOT DATE =	DATE - 9/9/2022	REVISED -

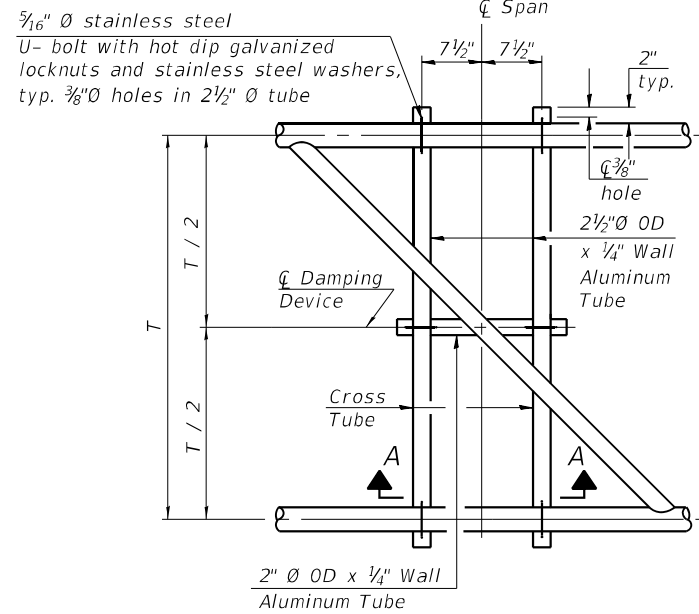
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS
DETAILS FOR TRUSS TYPE I-A**

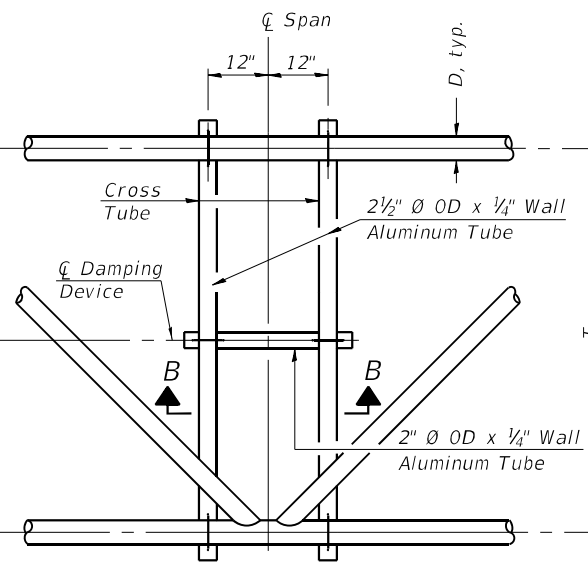
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	338
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET OSG3-07 OF OSG3-18 SHEETS

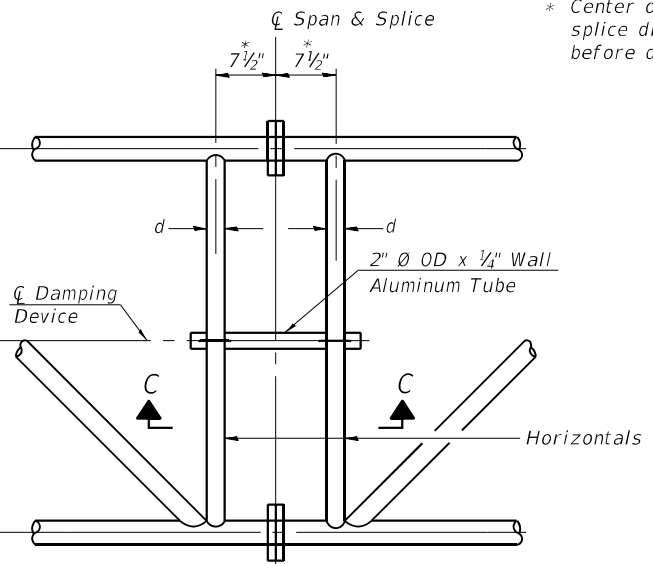
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 9/9/2022 6:48:23 PM



PLAN DETAIL "A"
 ☐ Span between Panel Points



PLAN DETAIL "B"
 ☐ Span at Panel Point



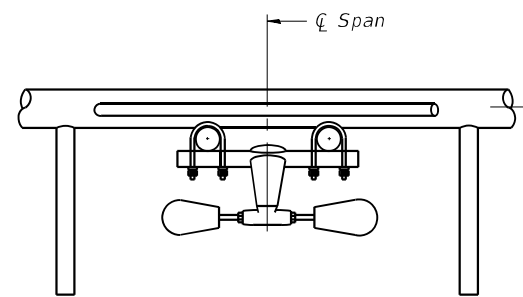
PLAN DETAIL "C"
 ☐ Span at ☐ Chord Splice

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

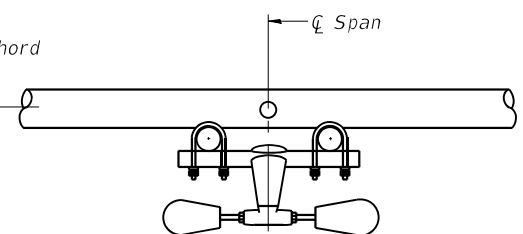
NOTES

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

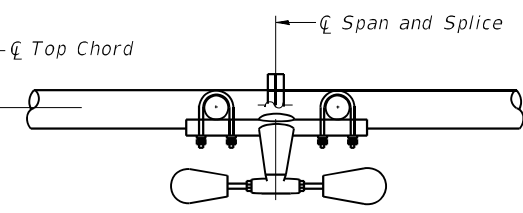
Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure Span Type I-A.



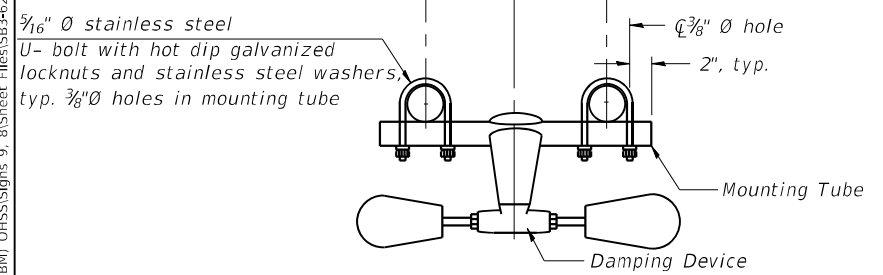
SECTION A-A



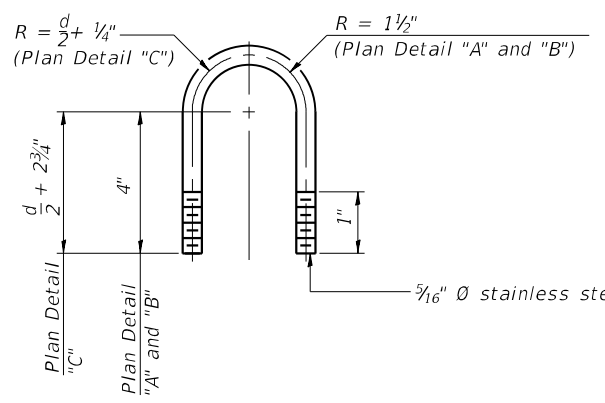
SECTION B-B



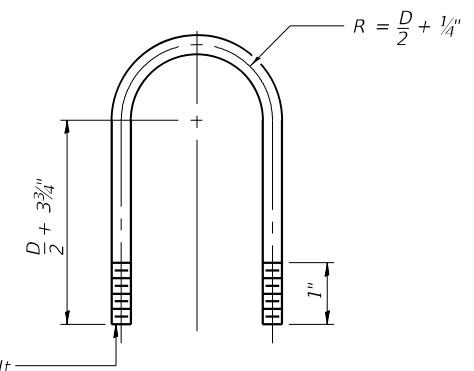
SECTION C-C



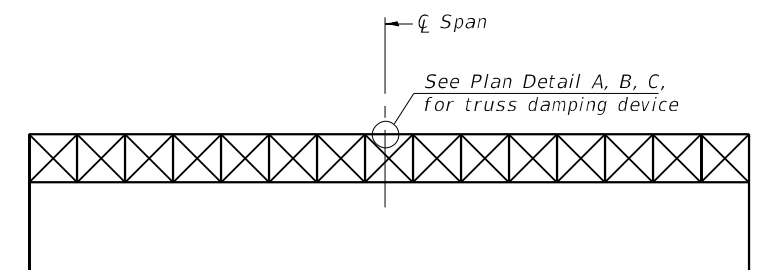
TRUSS DAMPING DEVICE CONNECTION DETAIL
 (Typical)



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



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CHECKED - MI	REVISIONS -	
PLOT SCALE =	DRAWN - SK	REVISED -
DATE = 9/9/2022	DATE - 9/9/2022	REVISED -

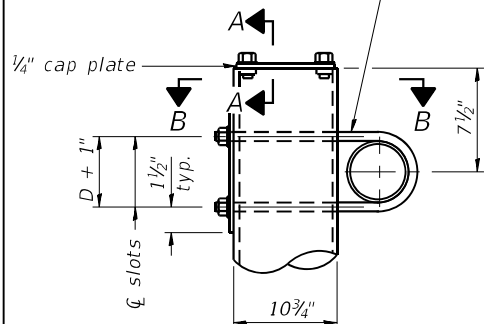
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURE
 DAMPING DEVICE**

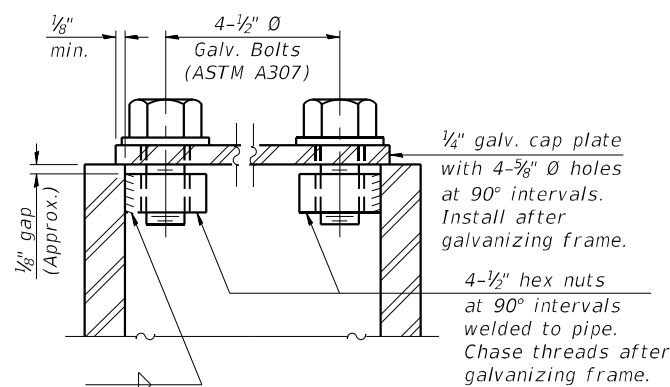
SHEET OSG3-08 OF OSG3-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	339
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

$\frac{3}{4}$ " \emptyset stainless steel U-bolt.
Provide two washers and two hexagon locknuts. ④
 $1\frac{3}{16}$ " x 2" slots on \emptyset 10" \emptyset pipe.
(4 slots required per pipe)

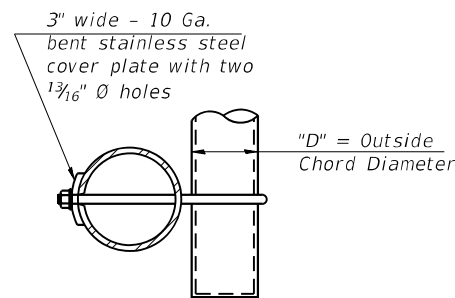


DETAIL A

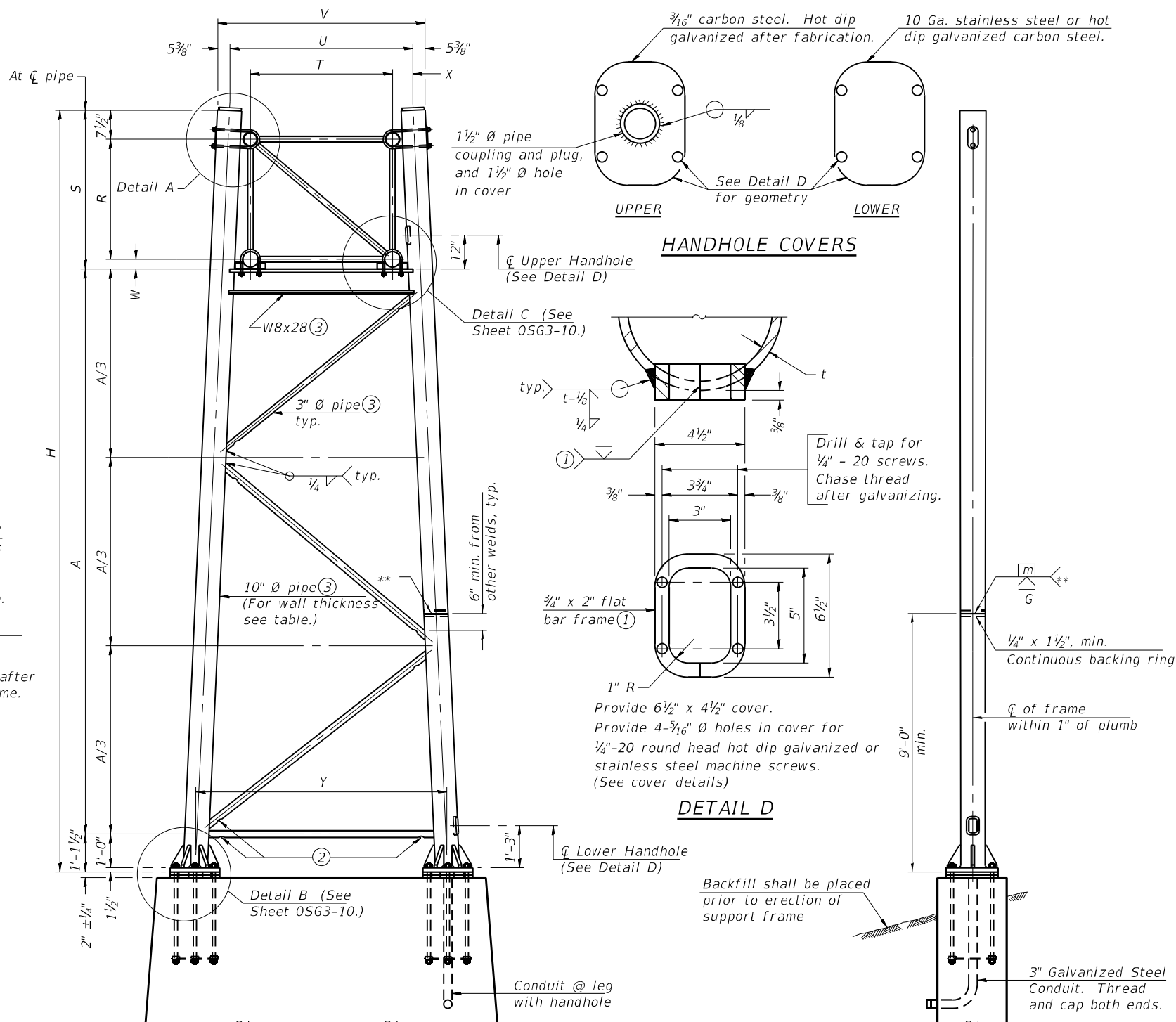


SECTION A-A

As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.



SECTION B-B



For Foundation Details, see Sheets OSG3-13 and #MED2 thru #MBD3.

SIDE ELEVATION

END ELEVATION

Support Design Loads: See Sheet OSG3-01r design and loading criteria.
Load combinations checked include deadload plus:
a) 100% wind normal to sign, 20% parallel to sign
b) 60% wind normal to sign, 30% parallel to sign

- ① In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500 μ in or less.
- ② Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
- ③ Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Sheet OSG3-01.
- ④ See General Notes for fasteners.
- ⑤ Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
- ⑥ "H" based on 15'-0" or actual sign height, whichever is greater.

10" \emptyset PIPE TRUSS SUPPORT FRAME

** One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

Truss Type	Dimensions							
	R	S	T	U	V	W	X	Y
I-A	4'-6"	5'-5 1/2"	4'-0"	5'-6"	6'-4 3/4"	4"	9"	8'-3"
II-A ⑤	5'-3"	6'-3 1/4"	4'-6"	6'-1"	6'-11 3/4"	4 3/4"	9 1/2"	8'-3"

Sign #	Structure Number	Station	Support		Truss Type	Pipe Wall Thickness	H ⑥	A
			Left	Right				
Sign 9	150161094R048.1	425+40.12	X		I-A	0.279"	24'-9 1/8"	18'-2 1/8"
				X			26'-0 5/8"	19'-5 5/8"
Sign 8	150161094R047.3	471+82.88	X		I-A	0.279"	25'-2 3/4"	18'-7 3/4"
				X			26'-5 1/2"	19'-10 1/2"

05-A-6 2-17-2017



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR TYPE I-A ALUMINUM TRUSS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	340
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET OSG3-09 OF OSG3-18 SHEETS

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2-17-2017



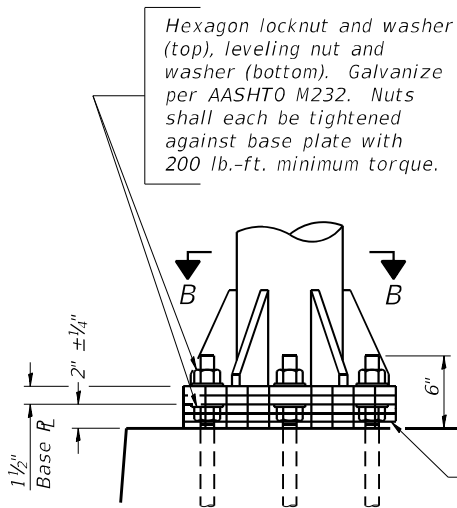
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PLOT DATE =	DATE - 9/9/2022	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
 SUPPORT FRAME DETAILS FOR TYPE I-A - ALUMINUM TRUSS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	341
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

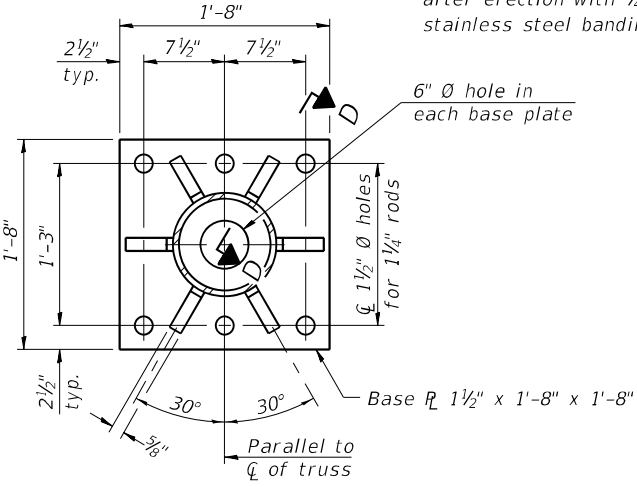
SHEET OSG3-10 OF OSG3-18 SHEETS



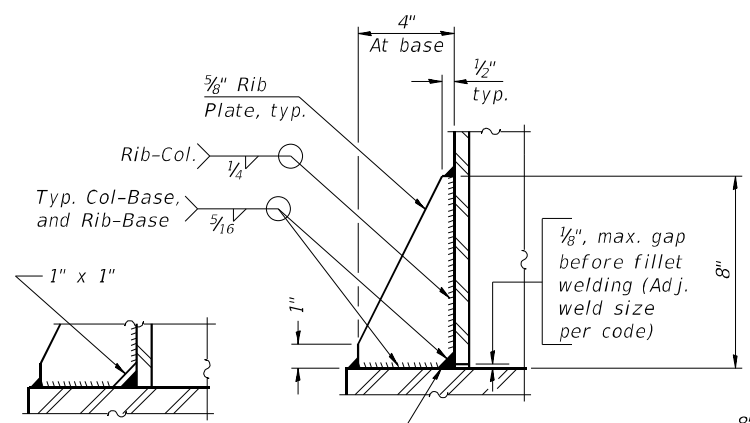
DETAIL B

Ribs shall be cut to fit slope of pipe.

Stainless Steel Standard Grade Wire Cloth, 3" wide, 1/4" maximum opening with a minimum wire diameter of AWG. No. 16 with a minimum 2" lap. Secure to base plate after erection with 3/4" stainless steel banding.



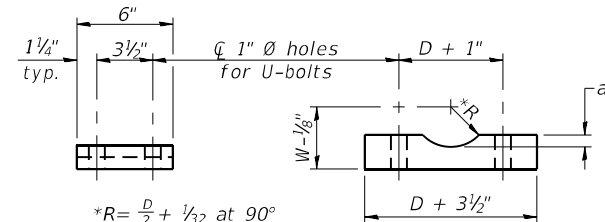
SECTION B-B



SECTION D-D

** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.

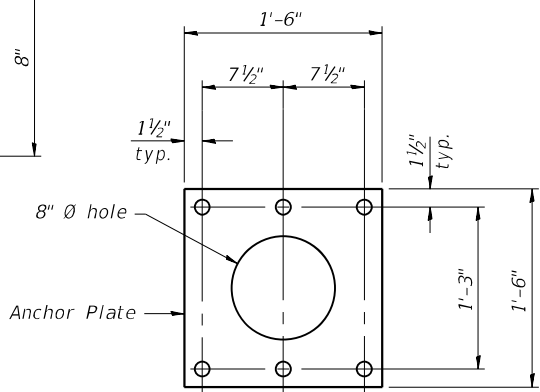
No snip req'd. at rib inside corner if placed before col. to base plate welding.**



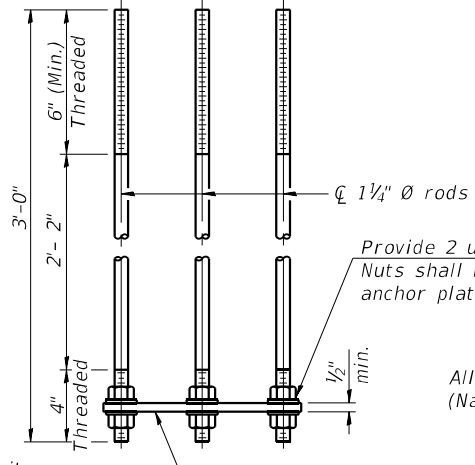
SADDLE SHIM DETAIL

ASTM B26 Alloy 356-F
 or
 ASTM B209 Alloy 6061-T651 (4 required per sign truss)

Truss Chord Nominal Dia.	a
5"	3/4"
5 1/2"	1 1/16"
6"	7/8"
6 1/2"	1 5/16"
7"	1"

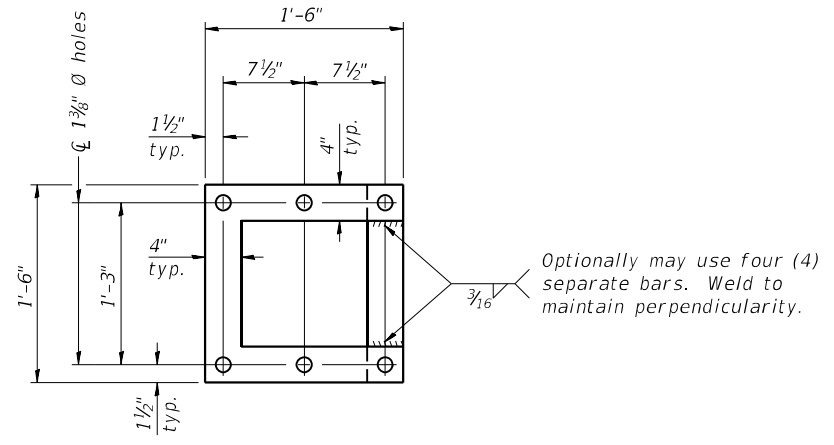


ANCHOR ROD DETAIL Spread Footing Foundation



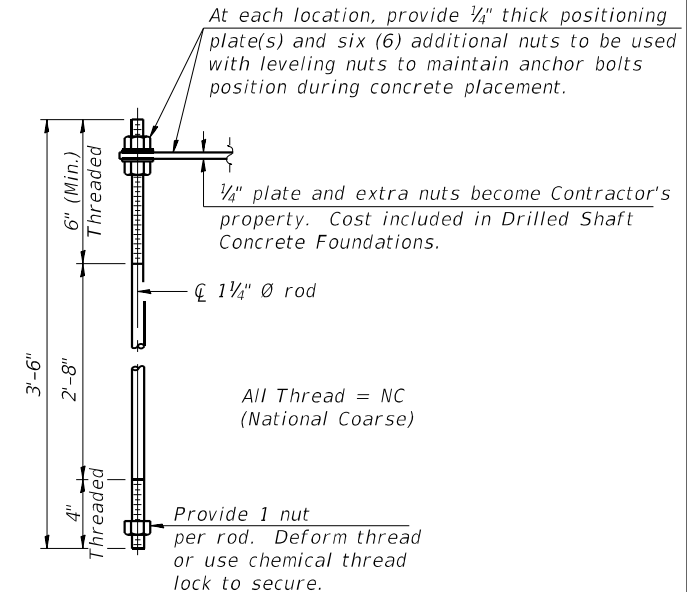
Provide 2 uncoated nuts per rod. Nuts shall be "snug tight" against anchor plate.

All Thread = NC (National Coarse)



POSITIONING PLATE(S)

Optionally may use four (4) separate bars. Weld to maintain perpendicularity.

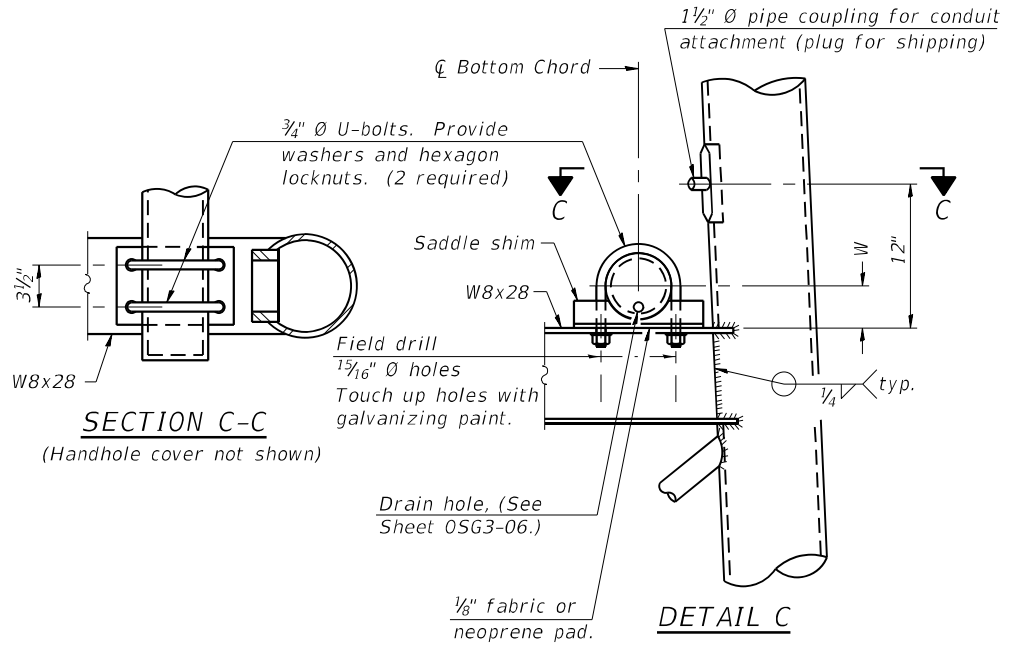


ANCHOR ROD DETAIL Drilled Shaft Foundation

At each location, provide 1/4" thick positioning plate(s) and six (6) additional nuts to be used with leveling nuts to maintain anchor bolts position during concrete placement.

All Thread = NC (National Coarse)

Provide 1 nut per rod. Deform thread or use chemical thread lock to secure.

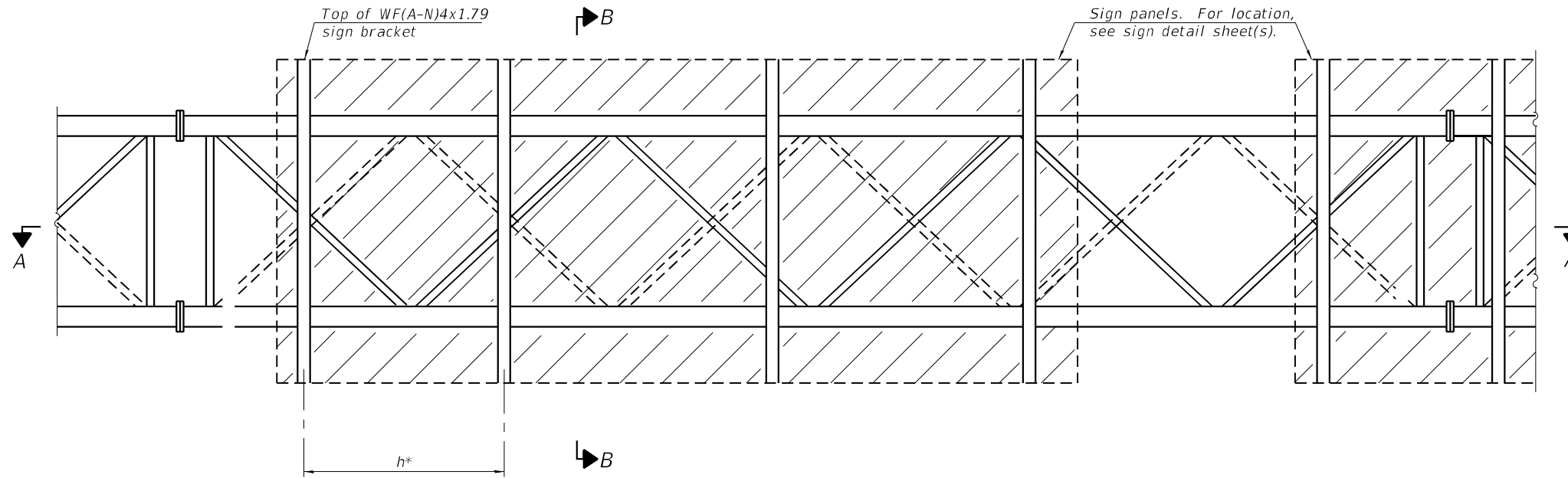


SECTION C-C (Handhole cover not shown)

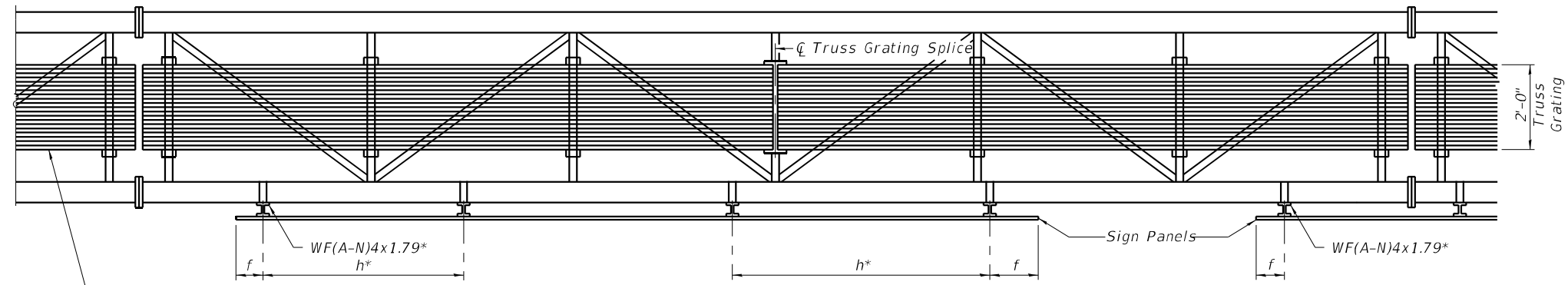
DETAIL C

10" Ø PIPE SUPPORT FRAME DETAILS

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.



TYPICAL FRONT ELEVATION



SECTION A-A

Place all sign brackets as close to panel points as practical.

BRACKET TABLE

WF(A-N)4x1.79 ASTM B308, Alloy 6061-T6		
Sign Width Greater Than	Less Than or Equal To	Number Brackets Required
8'-0"	20'-0"	3
14'-0"	26'-0"	4
20'-0"	32'-0"	5
26'-0"		6

* Space sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to \bar{c} of nearest bracket)
h = 6'-0" maximum (\bar{c} to \bar{c} sign support brackets, WF(A-N)4x1.7)

Notes:

For Detail T and Section B-B, see Base Sheet OS-A-10-NW.
Truss grating to facilitate inspection shall run full length (center to center of support frames) 12"± on overhead trusses.
Cost of truss grating is included in "Overhead Sign Structure".
Truss Grating width dimensions are nominal and may vary 1/2"± based on available standard widths.

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05-A-9-NW

4-1-2020



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PLOT SCALE =	DRAWN - SK	REVISED -
PLOT DATE =	DATE - 9/9/2022	REVISED -

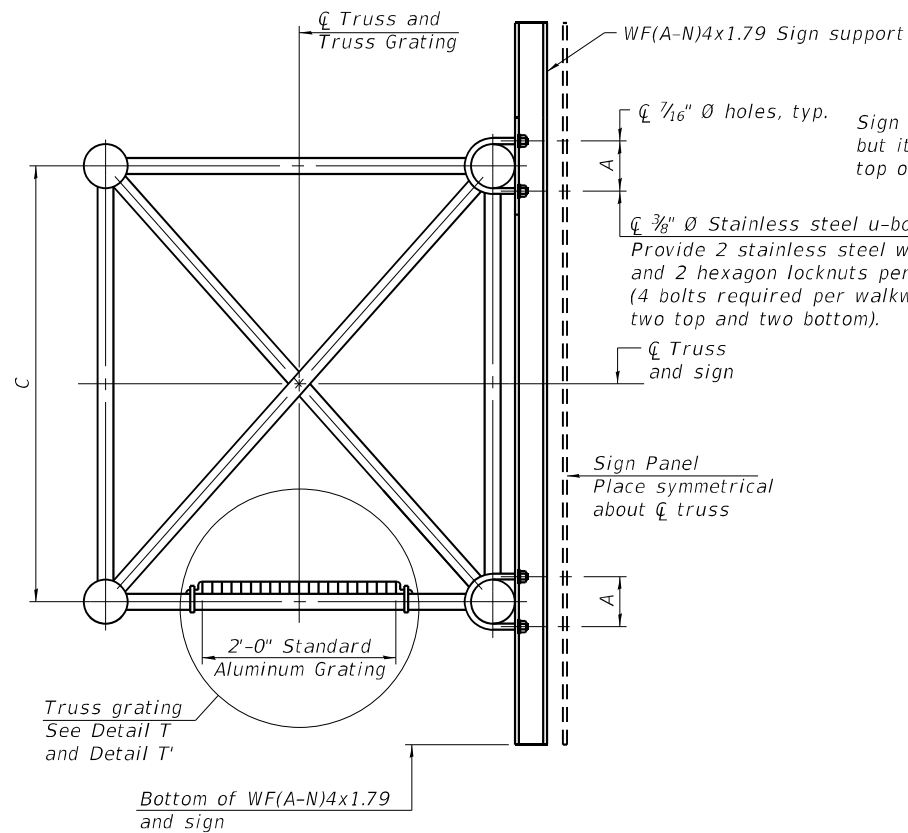
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
ALUMINUM WALKWAY DETAILS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	342
CONTRACT NO. 62K74				

SHEET OSG3-11 OF OSG3-18 SHEETS

ILLINOIS FED. AID PROJECT



SECTION B-B

SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

Main Bearing Bars shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B221 Alloy 6061-T6.

Cross bars shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

OR

Aluminum Grating with modified "t" sections for main bearing bars shall meet the following requirements:

Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.³ per bar, a depth of 1 1/2", spaced on 1 3/16" centers.

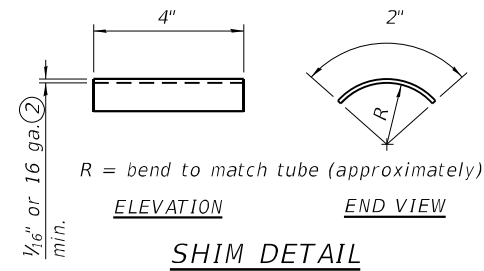
Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

Sign #	Structure Number	Station	A	C
Sign 9	150161094R048.1	425+40.12	5.5"	4'-6"
Sign 8	150161094R047.3	471+82.88	5.5"	4'-6"

Sign shall be even with the top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.

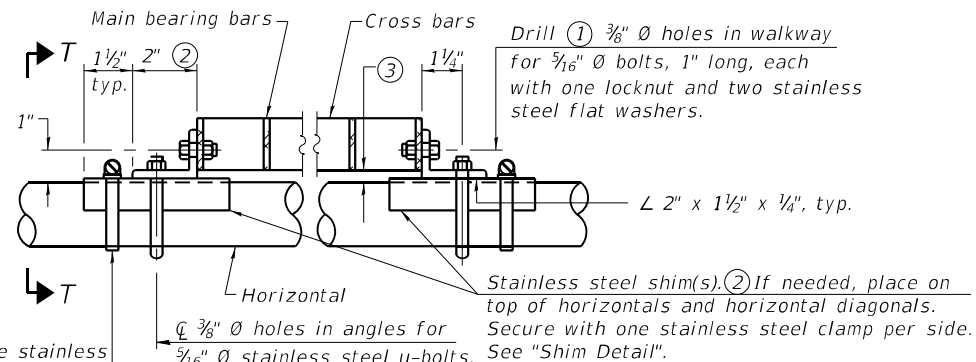
Provide 2 stainless steel washers and 2 hexagon locknuts per bolt. (4 bolts required per walkway bracket, two top and two bottom).

Place symmetrical about center truss

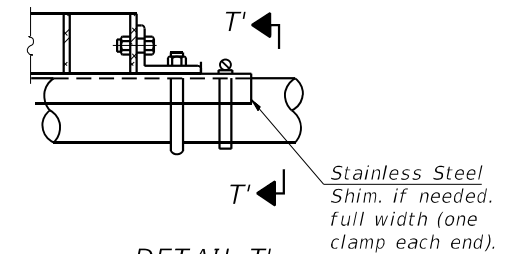


SHIM DETAIL

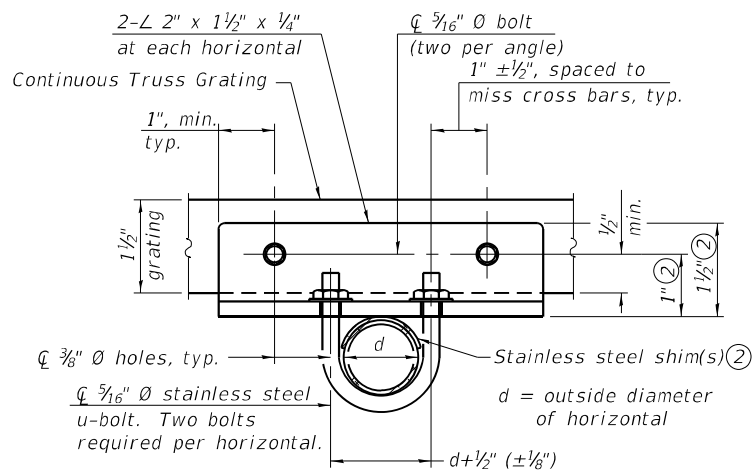
- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- Tube to grating gap may vary from 0 to 1/2", max. to align walkway, allow for camber, etc.



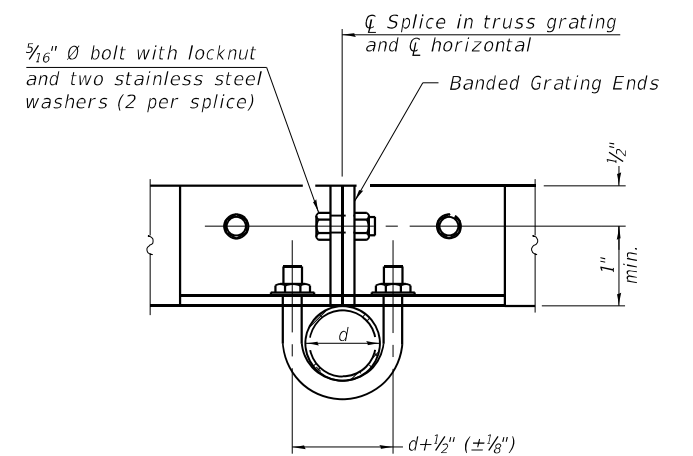
DETAIL T
(Continuous Truss grating)



DETAIL T'
(Truss grating splice)
Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.



SECTION T-T



SECTION T'-T'

05-A-10-NW 4-1-2020



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PLOT SCALE =	CHECKED - MI	REVISED -
PLOT DATE =	DRAWN - SK	REVISED -
	DATE - 9/9/2022	REVISED -

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OVERHEAD SIGN STRUCTURES
ALUMINUM WALKWAY DETAILS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	343
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET OSG3-12 OF OSG3-18 SHEETS

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BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
v4(E)	24	#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 (Qu) 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.

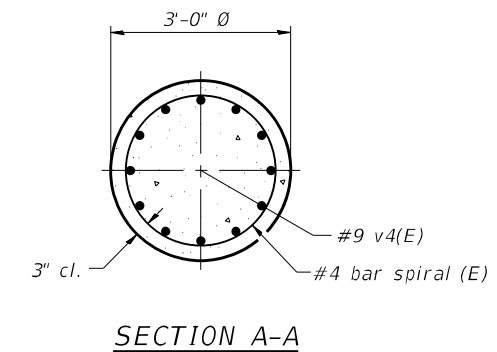
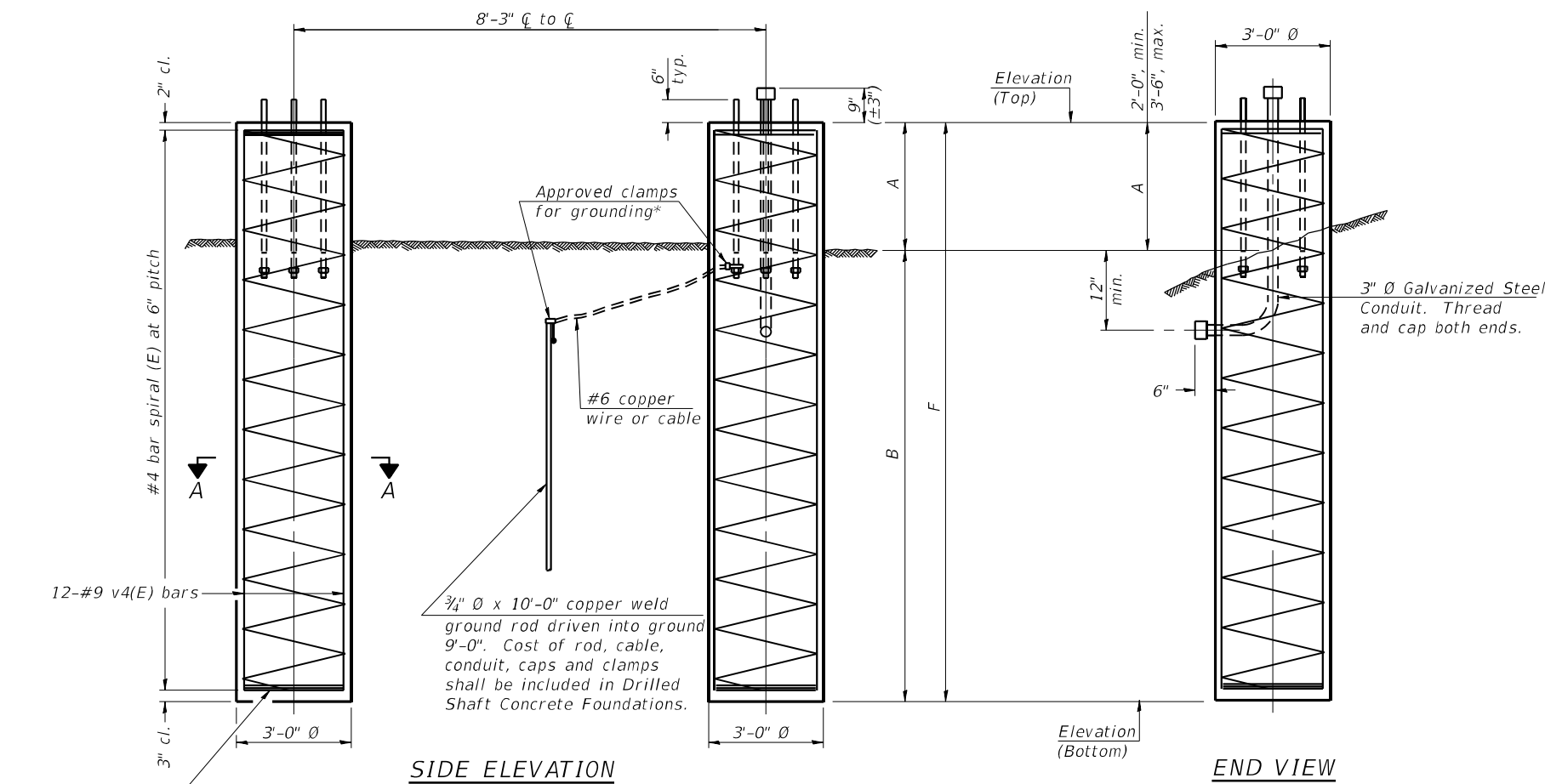
If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District 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.

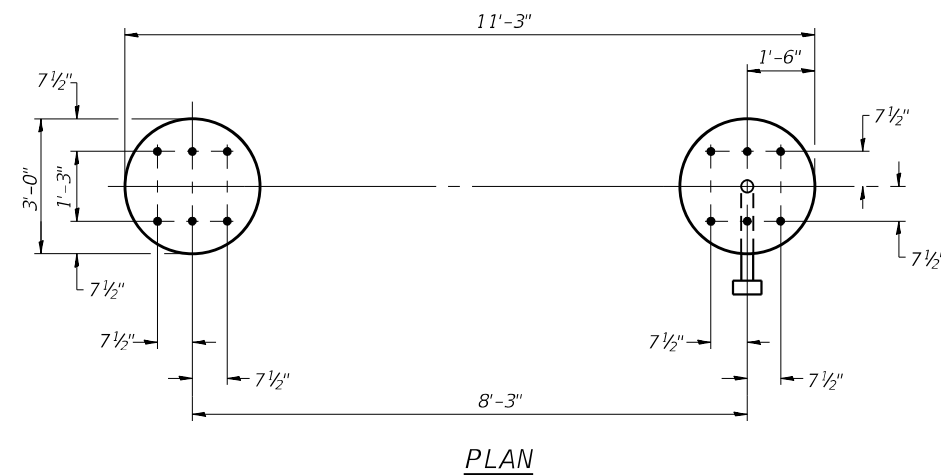
Concrete shall be placed monolithically, without construction joints.

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.



3 hoops minimum top and bottom



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

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

**DETAILS FOR 10" Ø SUPPORT FRAME
TYPE I-A or II-A TRUSS**

Sign #	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
Sign 9	1S0161094R048.1	425+40.12						602.31	568.81	3'-6"	30'-0"	33'-6"	17.6
Sign 8	1S0161094R047.3	471+82.88						608.35	588.35	3'-6"	16'-6"	20'-0"	10.5

054-F3

2-17-2017



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PLOT DATE =	DRAWN - SK	REVISED -
	DATE - 9/9/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

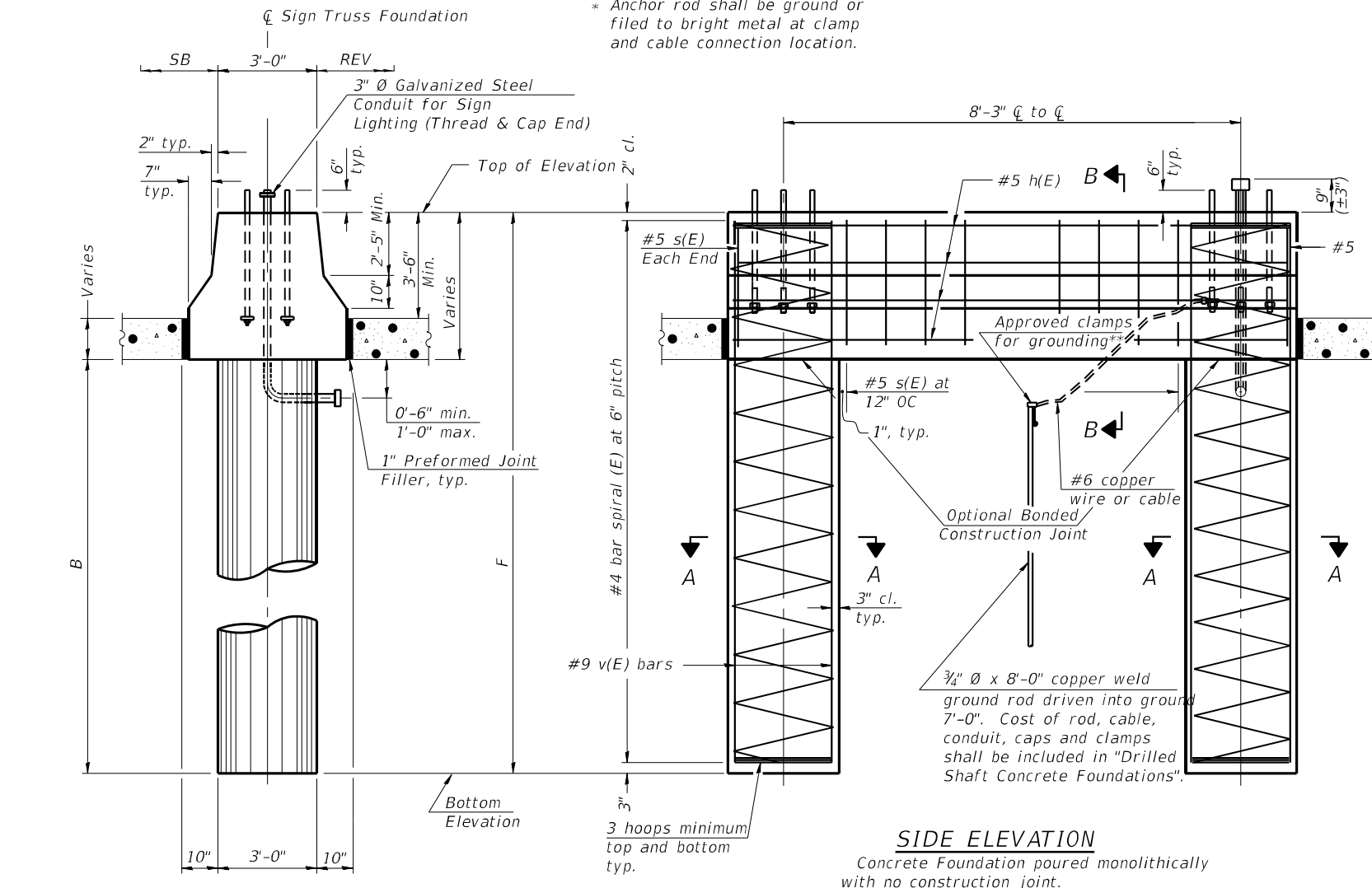
OVERHEAD SIGN STRUCTURES DRILLED SHAFT DETAILS
SN 1S0161094R048.1 (SIGN 9) & SN 1S0161094R047.3 (SIGN 8)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	344
CONTRACT NO. 62K74				

SHEET OSG3-13 OF OSG3-18 SHEETS

ILLINOIS FED. AID PROJECT

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

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.

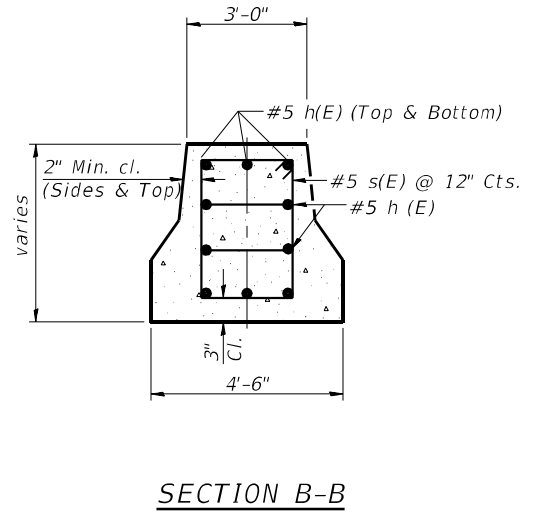
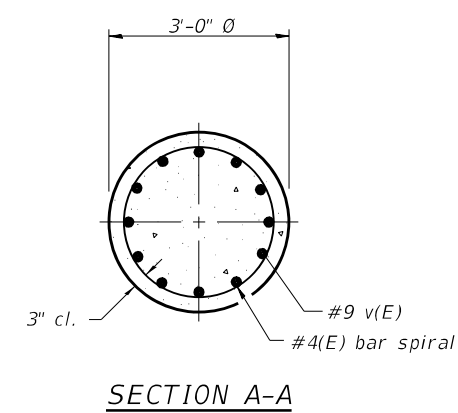
Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.

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.

Pipe Support Frames	cc	M	a	a/2
10'0"	8'-3"	11'-3"	1'-3"	7 1/2"

BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
h(E)	10	#5	M less 4"	—
s(E)	Varies	#5	Varies	□
v(E)	24	#9	F less 0'-5"	—
#4(E) bar spiral see Side Elevation				



For Section at 1S0161094R048.1 See Sheet OSG3-15
 For Section at 1S0161094R047.3 See Sheet OSG3-16

Sign #	Structure Number	Station	Left Foundation				Right Foundation				Class DS Concrete (Cu. Yds.)
			Elevation Top	Elevation Bottom	B	F	Elevation Top	Elevation Bottom	B	F	
Sign 9	1S0161094R048.1	425+40.12	603.61	568.70	30'-0"	34'-10 7/8"	-	-	-	-	23.3
Sign 8	1S0161094R047.3	471+82.88	609.58	588.58	16'-6"	21'-0"	-	-	-	-	15.60



USER NAME =	DESIGNED - #DSD2DE	REVISED -
PLOT SCALE =	CHECKED - #DSD2CH	REVISED -
PLOT DATE =	DRAWN - #DSD2DR	REVISED -
	DATE - 9/22/2022	REVISED -

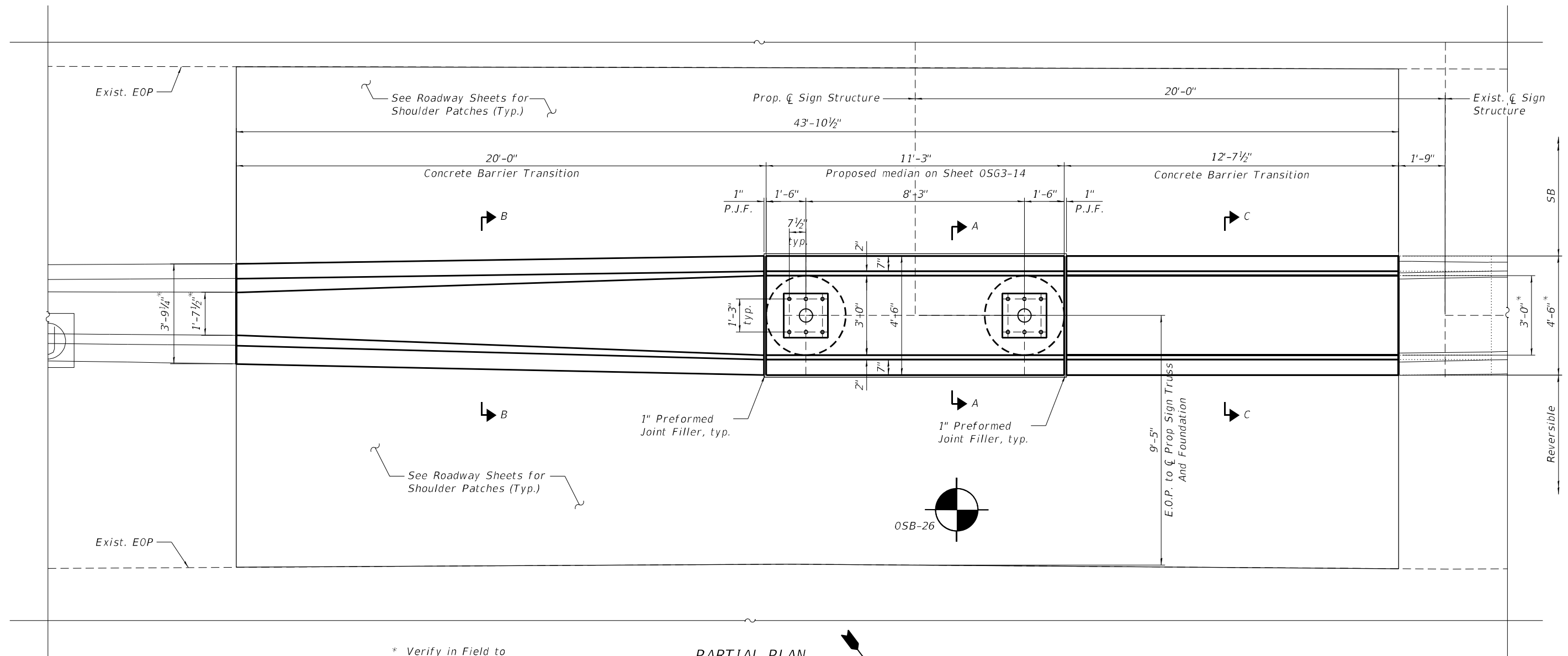
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES
 MEDIAN SUPPORT FOUNDATION DETAILS II**

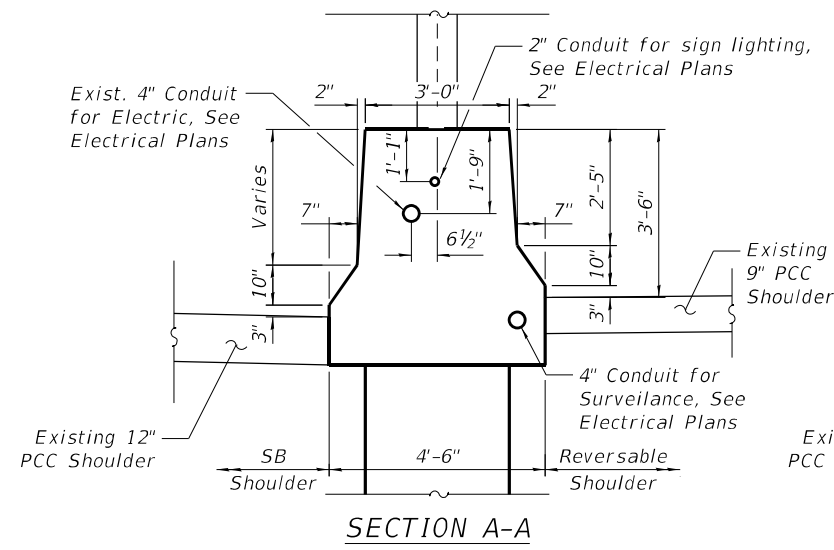
SHEET OSG3-14 OF OSG3-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9094	2020-004-BR	COOK	1492	345
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

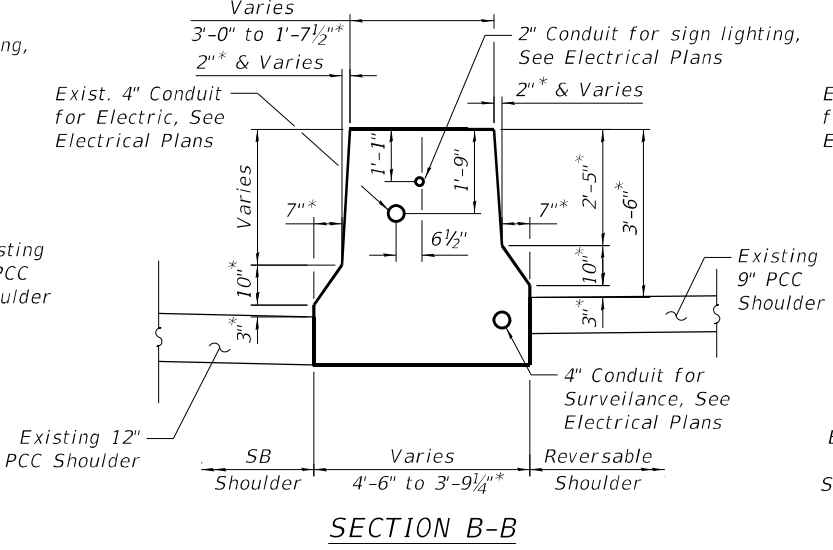
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 9/22/2022 10:39:03 AM



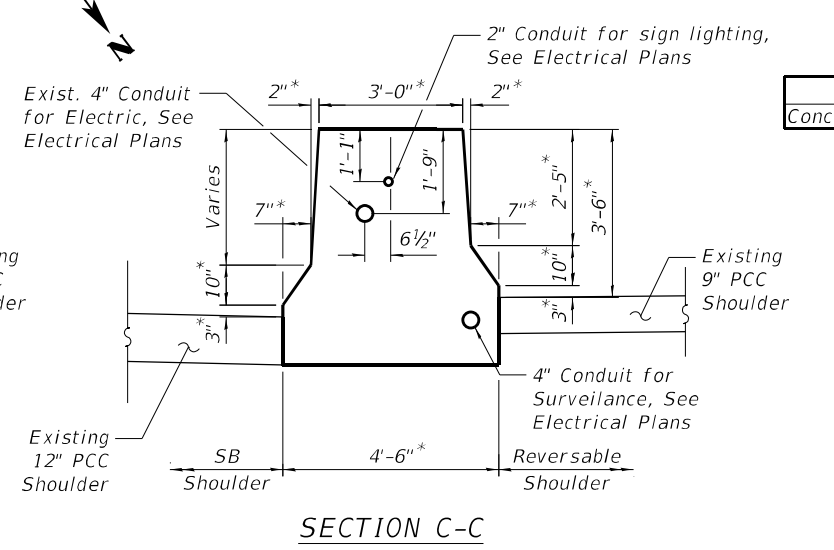
PARTIAL PLAN



SECTION A-A



SECTION B-B



SECTION C-C

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Barrier Transition	Foot	33



USER NAME =	DESIGNED - SK	REVISED -
CHECKED - MI	REVISED -	
PLOT SCALE =	DRAWN - SK	REVISED -
PLOT DATE =	DATE - 9/22/2022	REVISED -

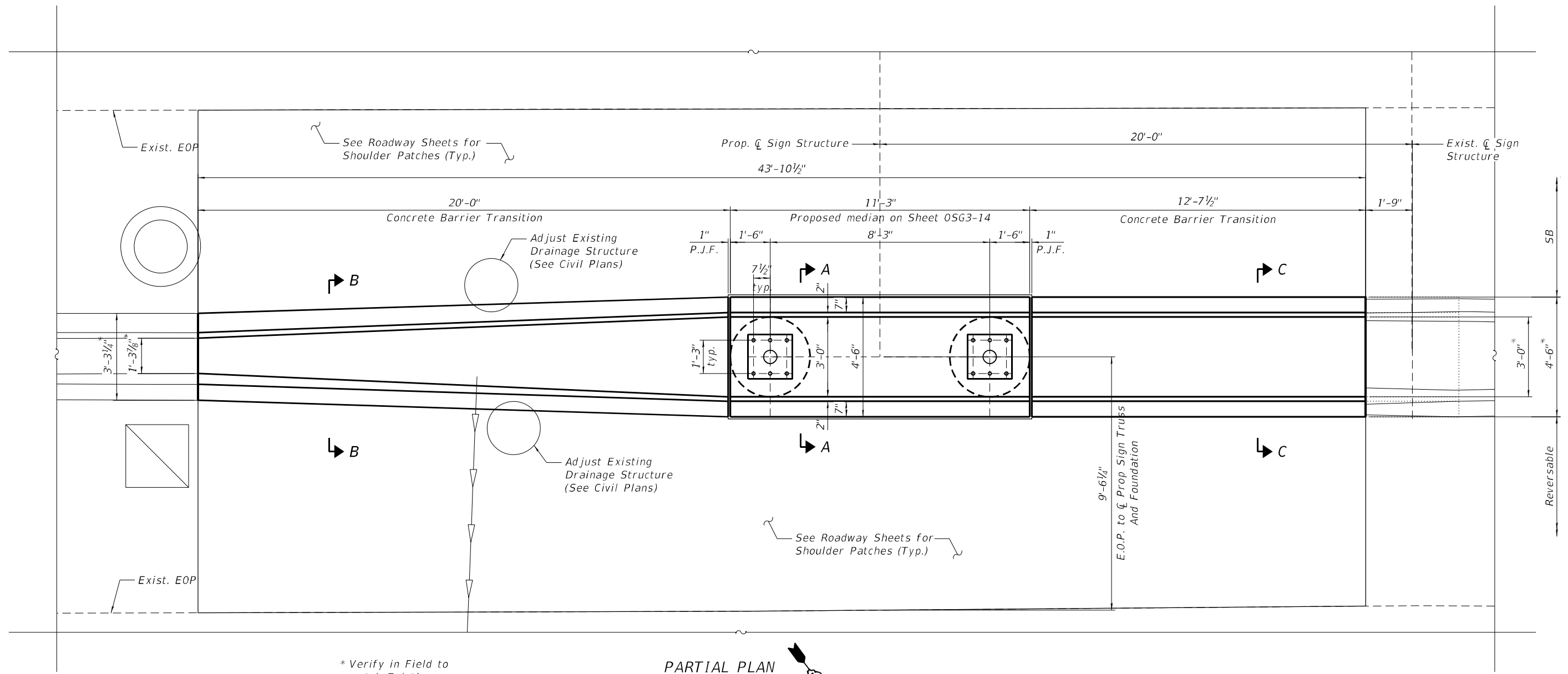
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**MEDIAN BARRIER ADDITIONAL SECTIONS AND DETAILS
 SN 1S016I094R048.1 (SIGN 9)**

SHEET OSG3-15 OF OSG3-18 SHEETS

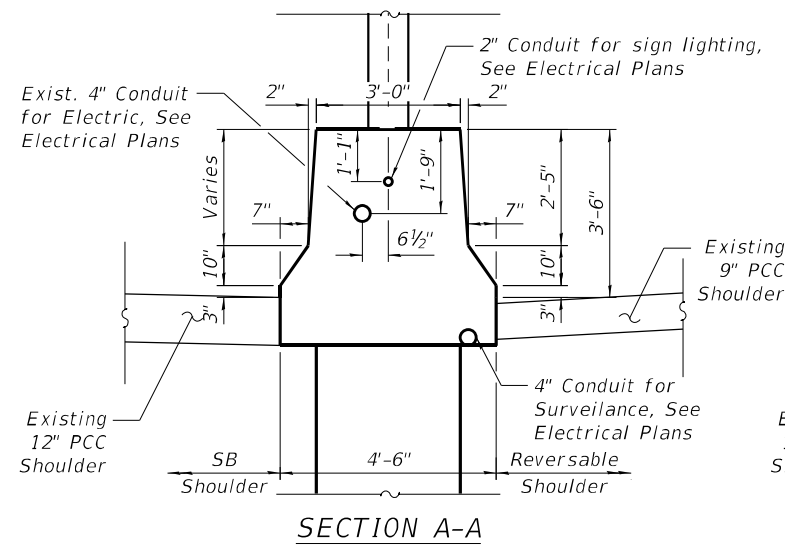
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	346
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

MODEL: Default
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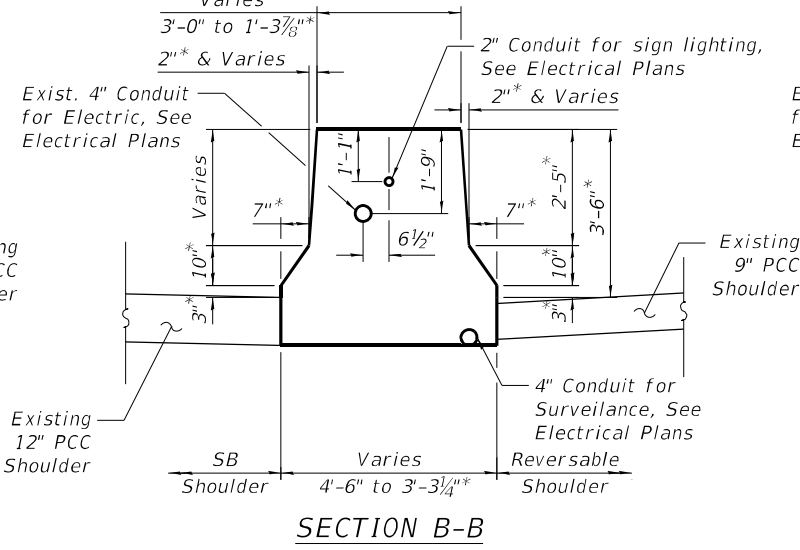


* Verify in Field to match Existing

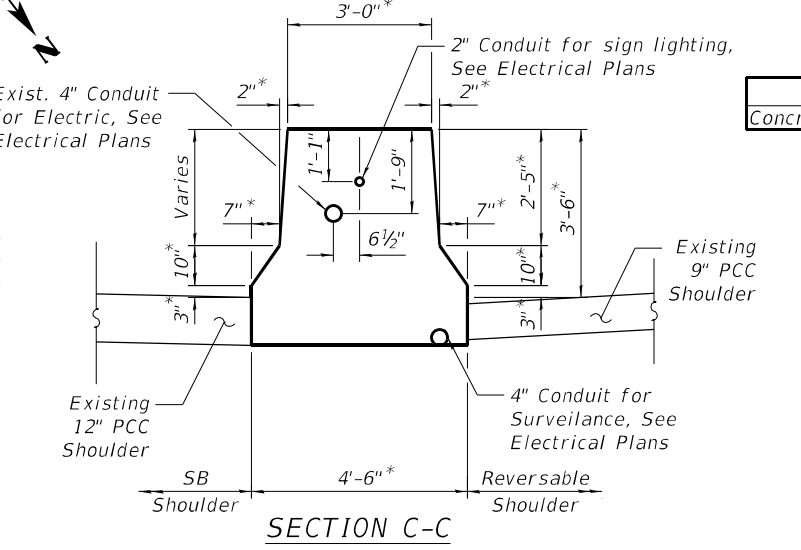
PARTIAL PLAN



SECTION A-A



SECTION B-B



SECTION C-C

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Barrier Transition	Foot	33



USER NAME =	DESIGNED - SK	REVISED -
CHECKED - MI	REVISED -	
PLOT SCALE =	DRAWN - SK	REVISED -
PLOT DATE =	DATE - 9/9/2022	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**MEDIAN BARRIER ADDITIONAL SECTIONS AND DETAILS
 SN 1S016I094R047.3 (SIGN 8)**

SHEET OSG3-16 OF OSG3-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	347
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



GSI Job No. 19079-B

SOIL BORING LOG

Page 1 of 1

Date 11/9/21

PROJECT PTB 185-012, WO #32

LOCATION I-90 & I-94 Tollway

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

CLIENT HBM

BORING NO. OSB-25
Northing 1913889
Easting 1163840
Ground Surface Elev. 599.4 ft

Table with columns for Depth (ft), Blows (blows/6"), UCS (tsf), Moisture (pct), and Soil Description. Includes soil layers like CLAY-loam-medium stiff, SAND & GRAVEL, CRUSHED STONE, and CRUSHED BRICK & STONE.

Z:\PROJECTS\201911079-B\EFK\DOT 192-007-WO#15 KENNEDY PROJECTS\62K73862K74\19079-B BORING LOGS\19079-B_LOG.GPJ 12/9/21



GSI Job No. 19079-B

SOIL BORING LOG

Page 1 of 1

Date 10/21/21

PROJECT PTB 185-012, WO #32

LOCATION I-90 & I-94 Tollway

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

CLIENT HBM

BORING NO. OSB-26
Northing 1913955
Easting 1163891
Ground Surface Elev. 599.4 ft

Table with columns for Depth (ft), Blows (blows/6"), UCS (tsf), Moisture (pct), and Soil Description. Includes soil layers like CLAY LOAM, CINDERS, SILTY CLAY, and SILTY SAND & STONE.

Z:\PROJECTS\201911079-B\EFK\DOT 192-007-WO#15 KENNEDY PROJECTS\62K73862K74\19079-B BORING LOGS\19079-B_LOG.GPJ 12/9/21

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger BBS, from 137 (Rev. 8-99)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger BBS, from 137 (Rev. 8-99)



Table with columns for USER NAME, DESIGNED, CHECKED, PLOT SCALE, PLOT DATE, REVISIONS, and DATE.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

BORING LOGS I SN 1S016I094R048.1 (SIGN 9)

SHEET OSG3-17 OF OSG3-18 SHEETS

Table with columns for F.A.I. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., and CONTRACT NO.

MODEL: Default

9/9/2022 6:48:40 PM



GSI Job No. 19079-B

SOIL BORING LOG

Page 1 of 1

Date 11/8/21

PROJECT PTB 185-012, WO #32

LOCATION I-90 & I-94 Tollway

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

CLIENT HBM

BORING NO. OSB-20
Northing 1916702
Easting 1160083
Ground Surface Elev. 606.6 ft

DEPTH (ft)	BLOW COUNT (blows/6")	UNIFIED SOIL CLASSIFICATION (tsf)	MATERIAL DESCRIPTION (%)	WET UNIT WEIGHT (pcf)	SURFACE WATER ELEV. (ft)	STREAM BED ELEV. (ft)	GROUNDWATER ELEV. (ft)	FIRST ENCOUNTER UPON COMPLETION (ft)	AFTER (ft)	HOURS (hrs)	DEPTH (ft)	BLOW COUNT (blows/6")	UNIFIED SOIL CLASSIFICATION (tsf)	MATERIAL DESCRIPTION (%)	WET UNIT WEIGHT (pcf)
---------------	-----------------------------	---	--------------------------------	--------------------------	-----------------------------	--------------------------	---------------------------	--	---------------	----------------	---------------	-----------------------------	---	--------------------------------	--------------------------

12.0" CONCRETE	605.6				586.1						CLAY-gray-soft to medium stiff				
CRUSHED STONE-loose to medium dense (Fill)		6										2			
		3	5									3	0.60	26	
		3										2	B		
		5										3			
		4	8									2	0.60	26	
		20										4	B		
		-5										-25			
CLAY LOAM-dark brown & gray-very stiff (Fill)	601.1										CLAY-gray-soft to medium stiff				
		2										2			
		4	3.10	16								2	0.25	22	
		8	B									1	P		
		3										1			
		4	2.50	17								2	0.25	26	
		4	B									2	P		
		-10									End Of Boring @ -30.0'. Boring backfilled with cuttings.				
		3													
		5	3.50	16											
		6	B												
SILTY CLAY LOAM-dark gray-stiff (Fill)	593.6														
		2													
		5	1.50	21											
		50	B												
		-15													
CLAY LOAM-brown & gray-stiff to very stiff	591.1														
		2													
		4	2.20	19											
		7	B												
		3													
		4	1.80	20											
		5	B												
		-20													

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
BBS, from 137 (Rev. 8-99)



GSI Job No. 19079-B

SOIL BORING LOG

Page 1 of 1

Date 10/20/21

PROJECT PTB 185-012, WO #32

LOCATION I-90 & I-94 Tollway

COUNTY Cook DRILLING METHOD HSA/Rotary HAMMER TYPE CME Automatic

CLIENT HBM

BORING NO. OSB-21
Northing 1916767
Easting 1160136
Ground Surface Elev. 605.9 ft

DEPTH (ft)	BLOW COUNT (blows/6")	UNIFIED SOIL CLASSIFICATION (tsf)	MATERIAL DESCRIPTION (%)	WET UNIT WEIGHT (pcf)	SURFACE WATER ELEV. (ft)	STREAM BED ELEV. (ft)	GROUNDWATER ELEV. (ft)	FIRST ENCOUNTER UPON COMPLETION (ft)	AFTER (ft)	HOURS (hrs)	DEPTH (ft)	BLOW COUNT (blows/6")	UNIFIED SOIL CLASSIFICATION (tsf)	MATERIAL DESCRIPTION (%)	WET UNIT WEIGHT (pcf)
---------------	-----------------------------	---	--------------------------------	--------------------------	-----------------------------	--------------------------	---------------------------	--	---------------	----------------	---------------	-----------------------------	---	--------------------------------	--------------------------

10.0" CONCRETE	605.1										CLAY LOAM-brown & gray-stiff to very stiff (continued)				
CRUSHED STONE		5										4			
SCREENINGS-loose (Fill)		7	4									6	3.30	19	
		2										9	B		
		3													
		4	2.00	23								2	0.80	18	
		5	B									3	B		
		-5										-25			
		4										2			
		5	4.60	17								3	0.90	24	
		7	B									3	B		
		3										3			
		4	3.40	14								2	0.80	22	
		11	B									1	B		
		-10													
		6													
		4	3.00	18											
		7	B												
SANDY CLAY LOAM-dark brown & black-stiff (Fill)	592.9														
		5													
		6	1.00	21											
		7	P												
		-15													
CLAY LOAM with Stone-gray-stiff (Fill)	590.4														
		4													
		4	1.50	22											
		6	P												
		3													
		3	1.00	23											
		2	P												
		-20													

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger
BBS, from 137 (Rev. 8-99)



USER NAME =	DESIGNED - SK	REVISED -
CHECKED - MI	REVISOR -	
PLOT SCALE =	DRAWN - SK	REVISED -
PLOT DATE =	DATE - 9/9/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS II
SN 1S016I094R047.3 (SIGN 8)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	349
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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.
fy = 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.

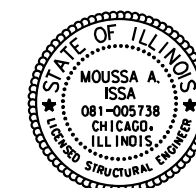
GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

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

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

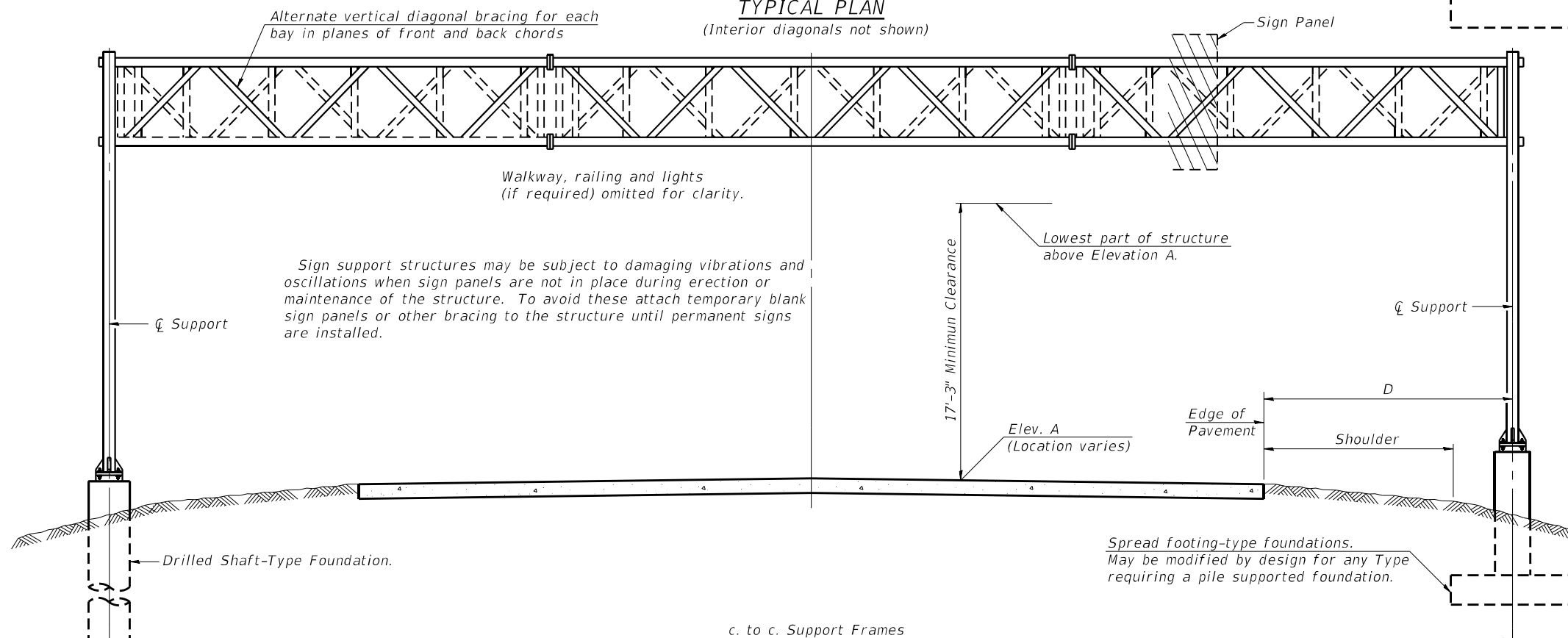
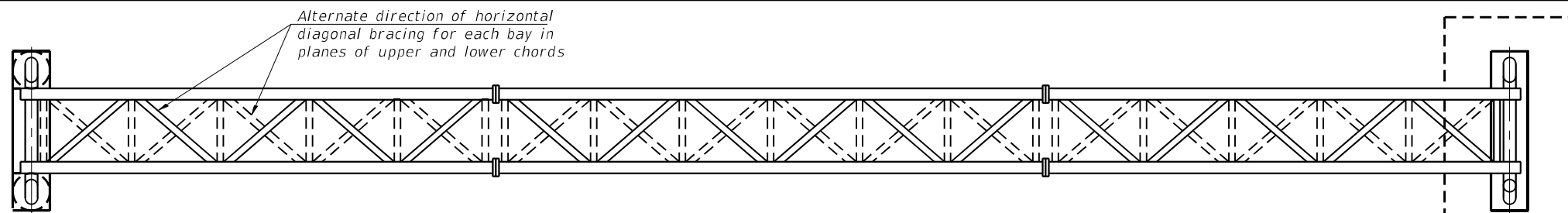
REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

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



SIGNED *Moussa A. Issa*
DR. MOUSSA A. ISSA, S.E., IL. LIC. NO. 081-005738
EXPIRES 11-30-2024

DATE 12/05/2022 FOR SHEETS OSG2-01 THRU OSG2-25 (TOTAL OF 25 SHEETS)



TYPICAL ELEVATION
(Looking at Face of Signs**)

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

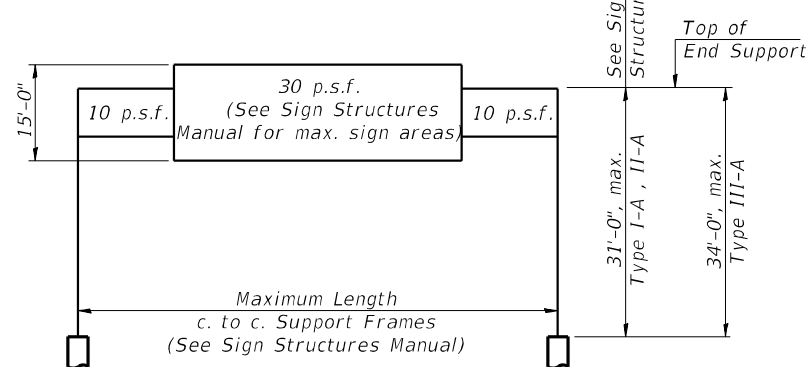
Sign #	Structure Number	Station (SB Baseline)	Design Truss Type	c. to c. Supports	Elev. A	Dim. D	Height of Tallest Sign	Total Sign Area
Sign 16	1S0161094R049.6	344+53.87	III-A	79'-0"	580.29	16'-9 3/4"	7'-11"	231 Sq. Ft.
Sign 12	1S0161094R045.4	568+94.52	III-A	81'-0"	597.18	9'-5"	11'-3 5/8"	597.3 Sq. Ft.
Sign 14	1S0161094R044.6	611+60.67	III-A	73'-6"	607.27	16'-4 1/8"	7'-11"	231 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.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Barrier Removal	Foot	130
Concrete Barrier Transition	Foot	83
Overhead Sign Structure - Span, Type III-A (5'-0" X 7'-0")	Foot	234
Overhead Sign Structure Walkway, Type A	Foot	119
Drilled Shaft Concrete Foundations	Cu Yd	142.4
Remove Overhead Sign Structure - Span	Each	3



DESIGN WIND LOADING DIAGRAM

Parameters shown are basis for I.D.O.T. Standards and Sign Manual Tables. Installations not within dimensional limits shown require special analysis for all components.

05-A-1 2-17-2017



USER NAME =	DESIGNED - SK	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE =	DRAWN - SK	REVISED -
	DATE - 12/5/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES - GENERAL PLAN &
ELEVATION - ALUMINUM TRUSS & STEEL SUPPORTS

SHEET OSG2-01 OF OSG2-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	350
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

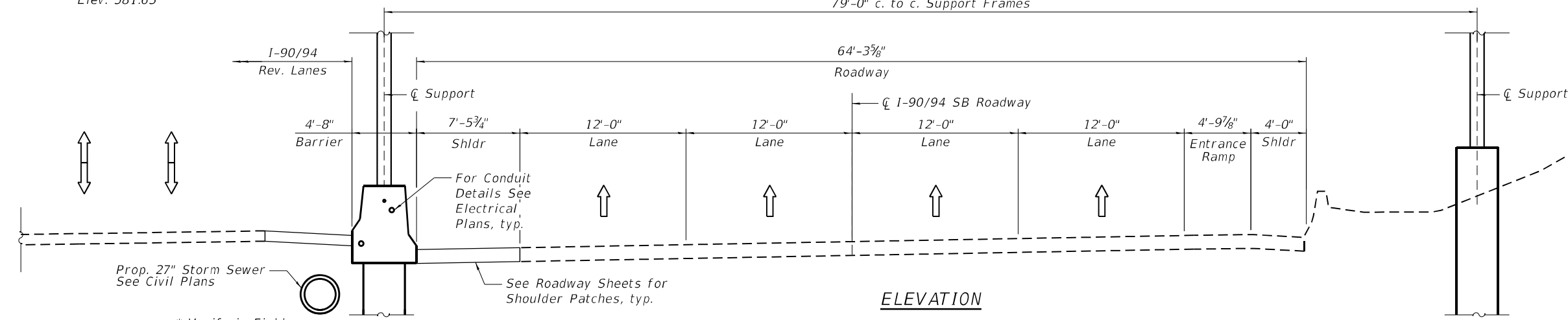
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Benchmark: TBM "M" Square cut on top of NW edge of light pole foundation (Pole # PJ10) at Station 343+97.06 Offset 31.11 LT measured along CL SB 1-90/94 . Elev. 581.65

79'-0" c. to c. Support Frames

NOTES:

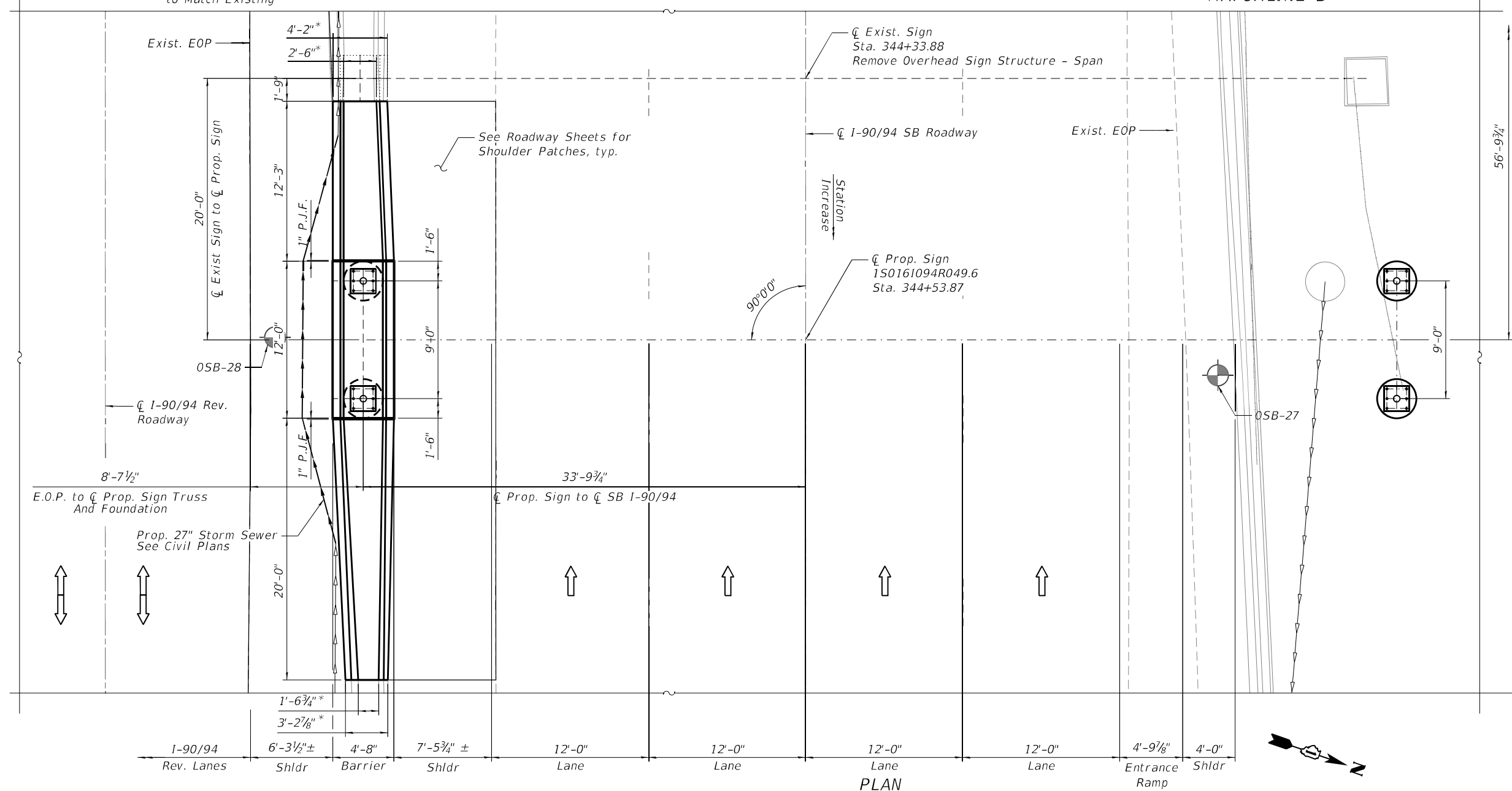
1. Stations that are shown are with respect to the SB 190/94 baseline.
2. The contractor shall establish a local version of the SB Baseline based on the dimension shown on this plan. The stationing shall be with respect to the center line of existing sign truss as shown. The offset of the baseline shall be measured from existing features as shown.



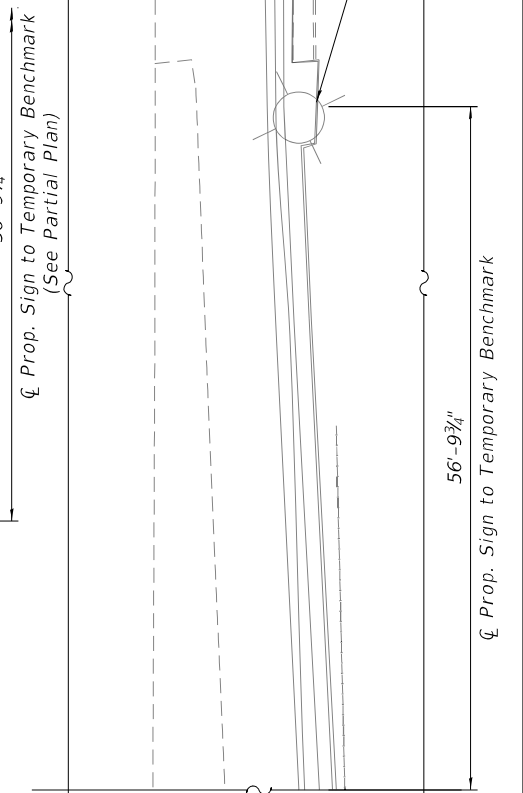
ELEVATION

(Looking West at Face of Signs)

MATCHLINE B



PLAN



**MATCHLINE B
PARTIAL PLAN**

LEGEND:

- Soil Boring
- Exist. Storm Sewer
- Exist. Sanitary Sewer
- Exist. Gas Line

MODEL: Default
FILE NAME: P:\2004-825 PTB195-014 HBM\W0#16 I-90 OHSS\SB (HBM) OHSS\Signs 12, 14, 16\Sheet Files\SB2-62K74-502-Sign16 GPE.dgn
9/9/2022 5:52:26 PM



USER NAME =	DESIGNED - SK	REVISED -
	CHECKED - MI, LAB	REVISED -
PLOT SCALE =	DRAWN - SK	REVISED -
PLOT DATE =	DATE - 9/9/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

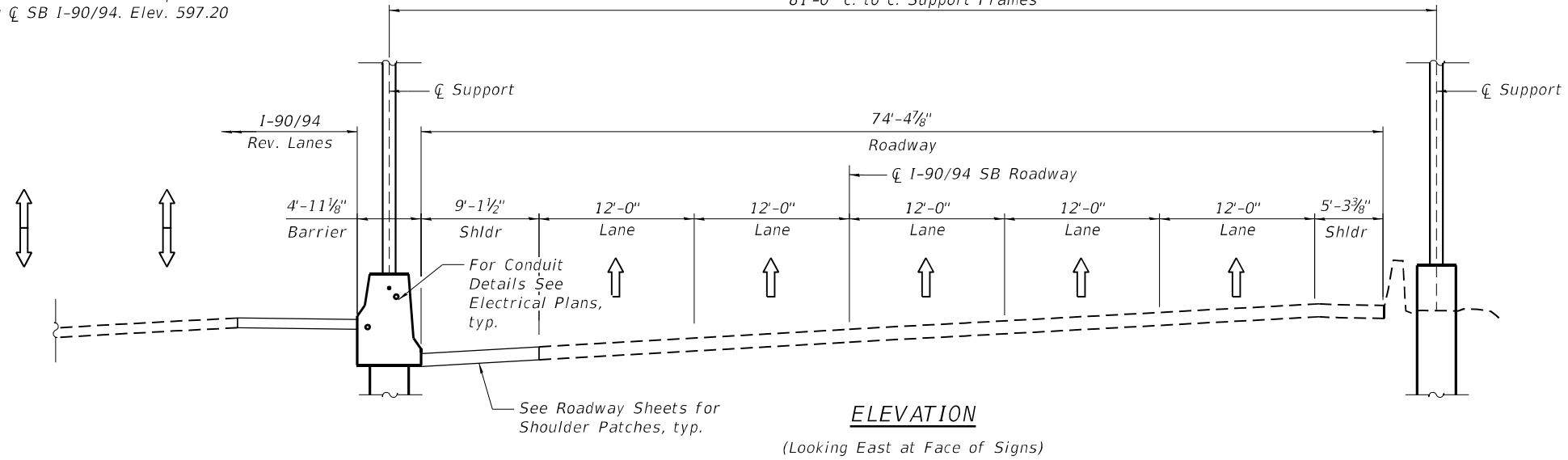
**GENERAL PLAN AND ELEVATION
S.N. 1S0161094R049.6 (SIGN 16)**

SHEET OSG2-02 OF OSG2-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	351
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

Benchmark: TBM "H" Square cut on top of NW corner of street light control box foundation at the end of entrance ramp at Station 569+76.48 Offset 45.69
 LT measured along \bar{C} SB I-90/94. Elev. 597.20

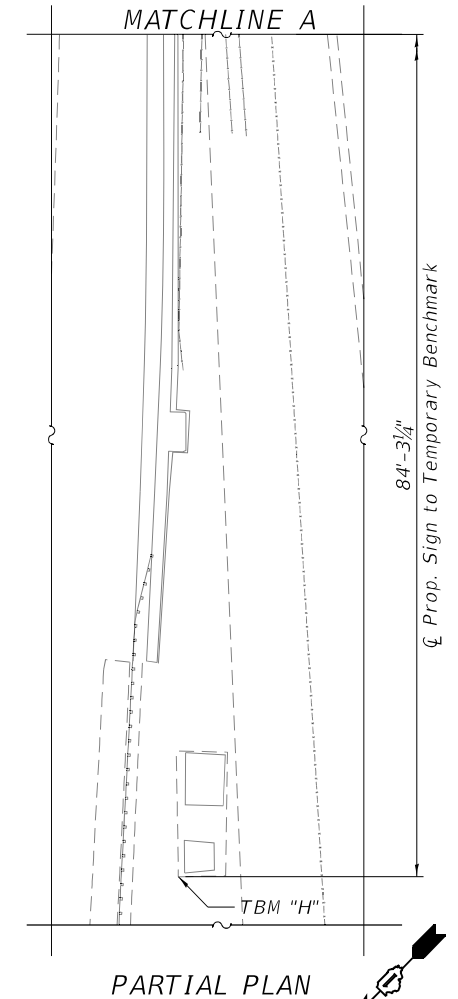
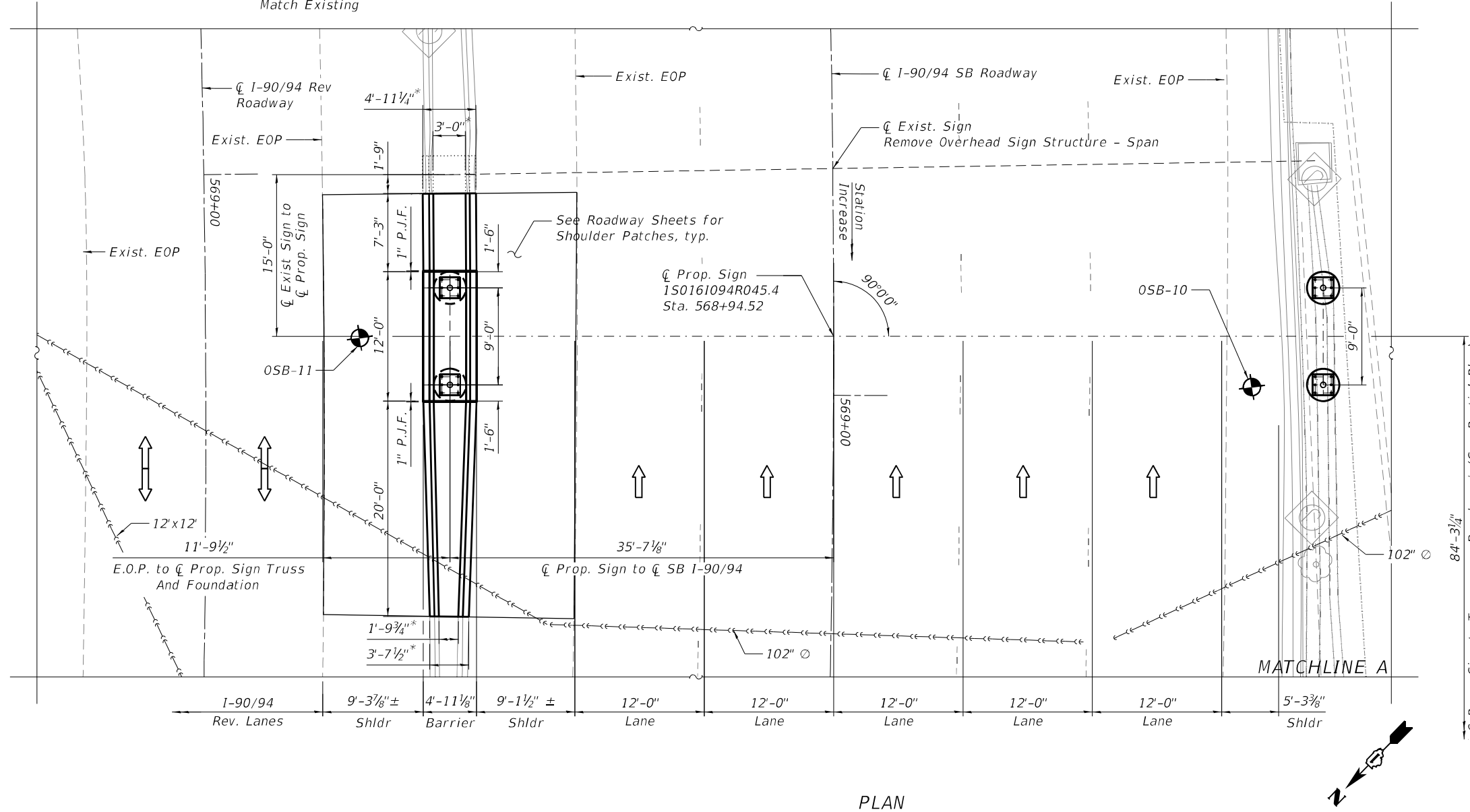
81'-0" c. to c. Support Frames



NOTES:

1. Stations that are shown are with respect to the SB 190/94 baseline.
2. The contractor shall establish a local version of the SB Baseline based on the dimension shown on this plan. The stationing shall be with respect to the center line of existing sign truss as shown. The offset of the baseline shall be measured from existing features as shown.

* Verify in Field to Match Existing



LEGEND

- Soil Boring
- Exist. Underground Combined Sewer

MODEL: Default
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PLOT DATE =	DATE - 9/9/2022	REVISED -

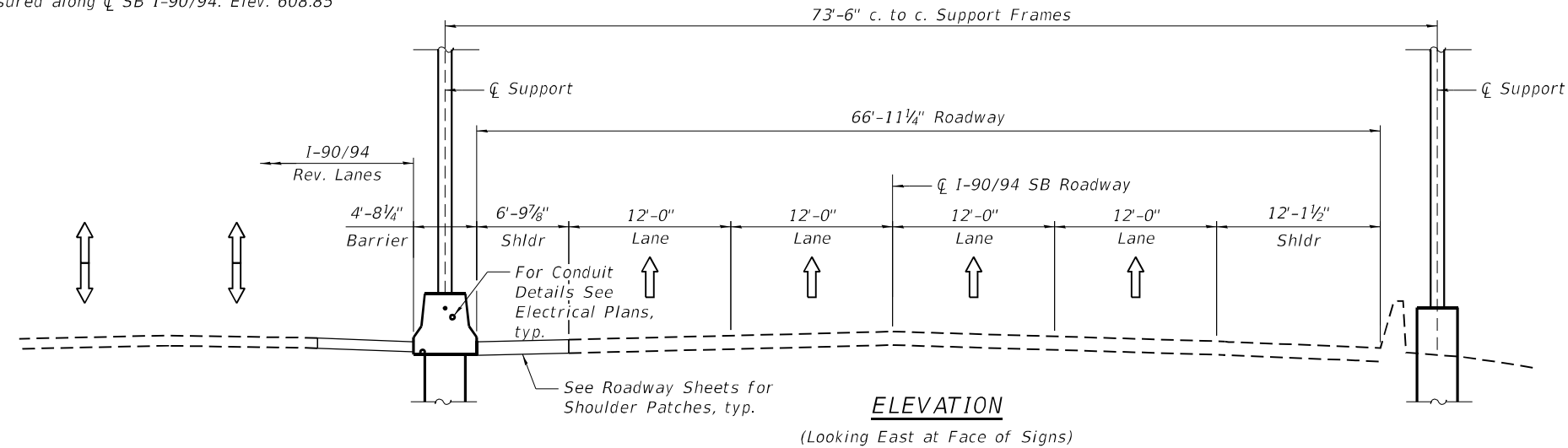
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PLAN AND ELEVATION
 SN 1S0161094R045.4 (SIGN 12)**

SHEET OSG2-03 OF OSG2-25 SHEETS

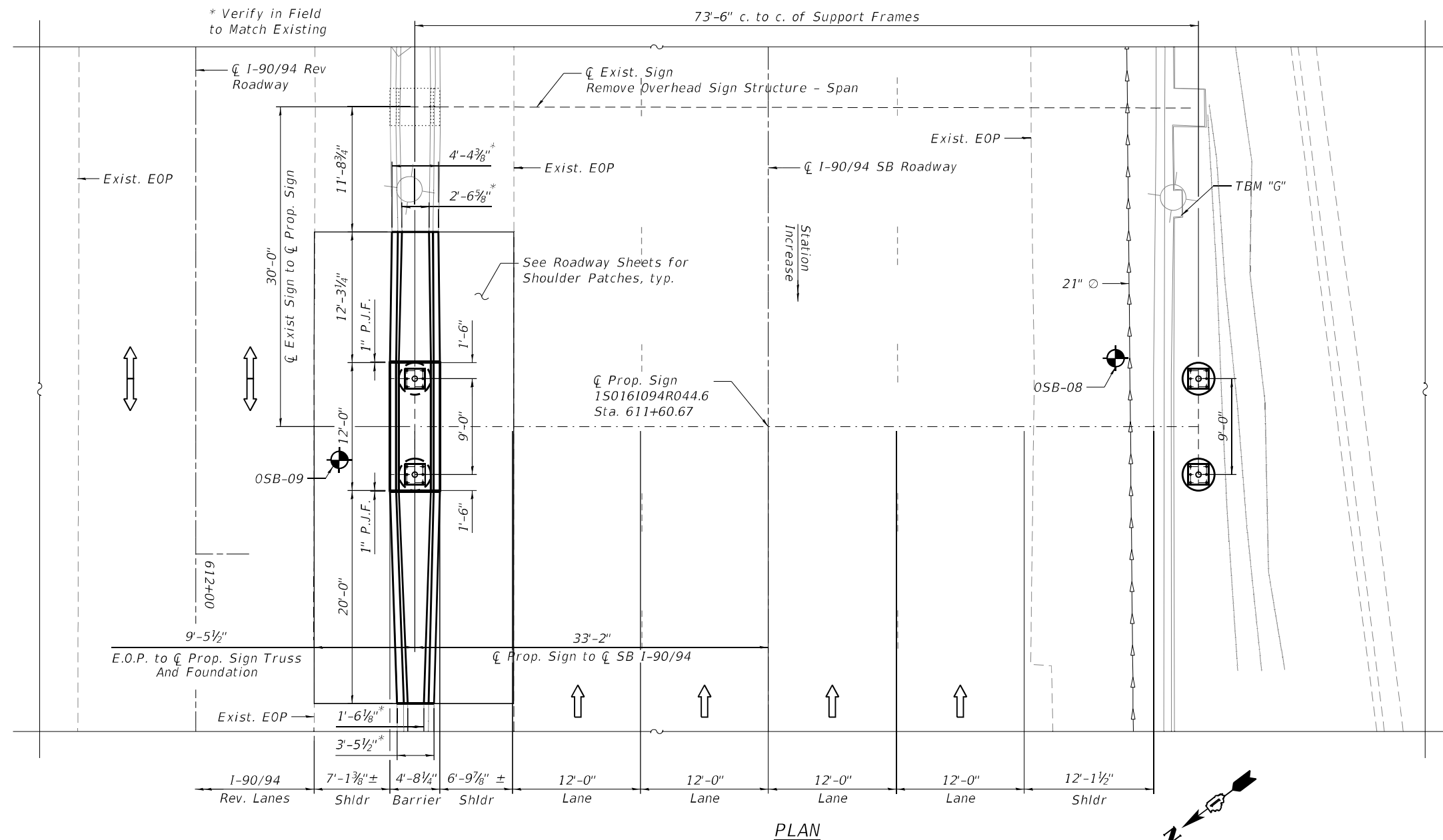
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	352
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

Benchmark: TBM "G" Square cut on top of SE edge of light pole foundation at end of entrance to I-90/I-94 eastbound at Station 611+40.88 Offset 38.71 LT. measured along ζ SB I-90/94. Elev. 608.85



NOTES:

1. Stations that are shown are with respect to the SB 190/94 baseline.
2. The contractor shall establish a local version of the SB Baseline based on the dimension shown on this plan. The stationing shall be with respect to the center line of existing sign truss as shown. The offset of the baseline shall be measured from existing features as shown.



LEGEND

- Soil Boring
- Exist. Underground Storm Sewer
- Exist. Light Pole

MODEL: Default
FILE NAME: P:\2004-825 PTB\195-014 HBM\W0#16 I-90 OHSS\SB (HBM) OHSS\Signs\12, 14, 16\Sheet Files\SB2-62K74-504-Sign 14_GPE.dgn



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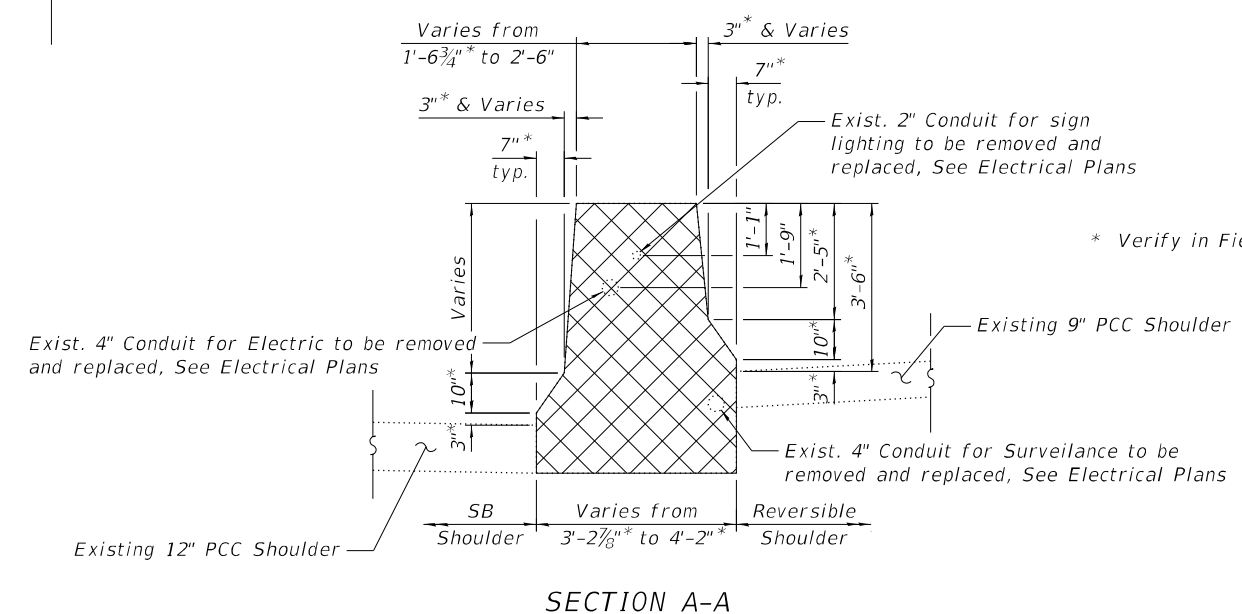
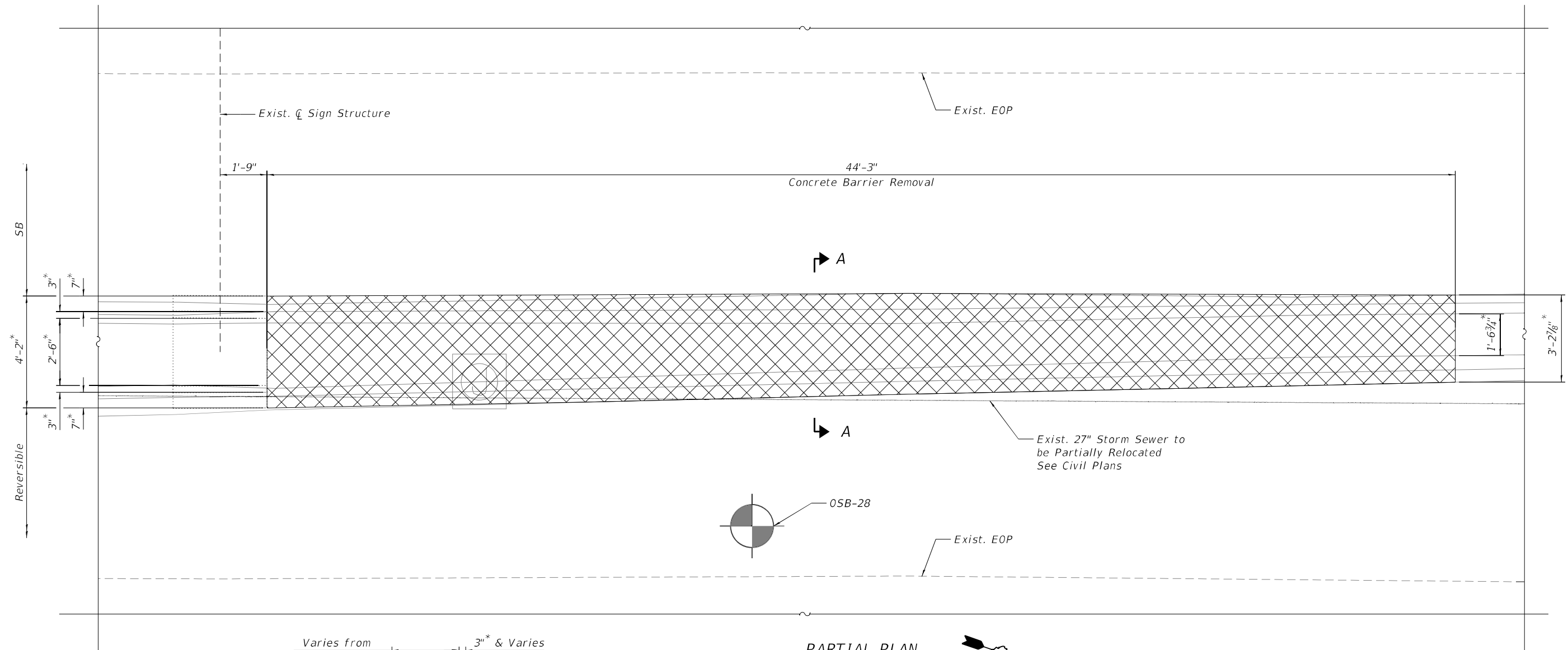
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
SN 1S0161094R044.6 (SIGN 14)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	353
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

SHEET OSG2-04 OF OSG2-25 SHEETS

MODEL: Default
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PARTIAL PLAN

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Barrier Removal	Foot	45

LEGEND



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PLOT SCALE =	DRAWN - SK	REVISED -
PLOT DATE =	DATE - 9/9/2022	REVISED -

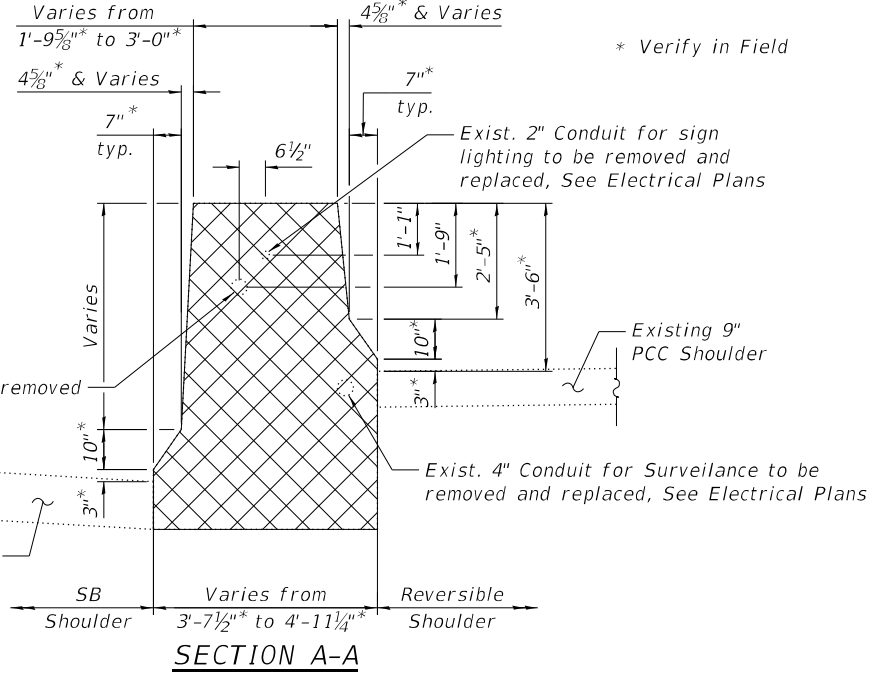
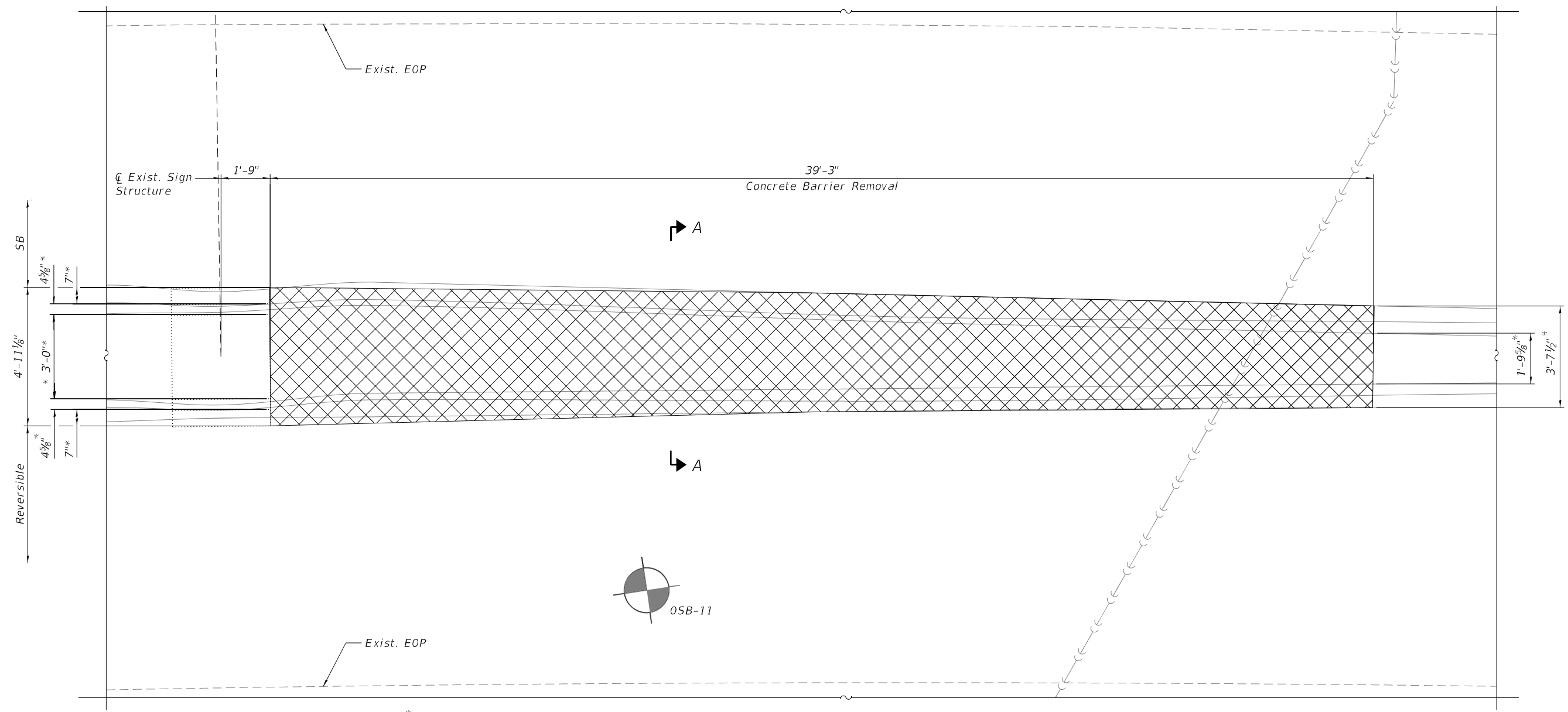
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**REMOVAL DETAILS FOR EXISTING MEDIAN, OUTSIDE BARRIER
 AND SIGN FOUNDATION SN 1S0161094R047.3 (SIGN 16)**

SHEET OSG2-05 OF OSG2-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	354
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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PARTIAL PLAN

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Barrier Removal	Foot	40

LEGEND

- Concrete Barrier Removal
- Exist. Underground Combined Sewer



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	CHECKED - MI, LAB	REVISED -
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PLOT DATE =	DATE - 9/9/2022	REVISED -

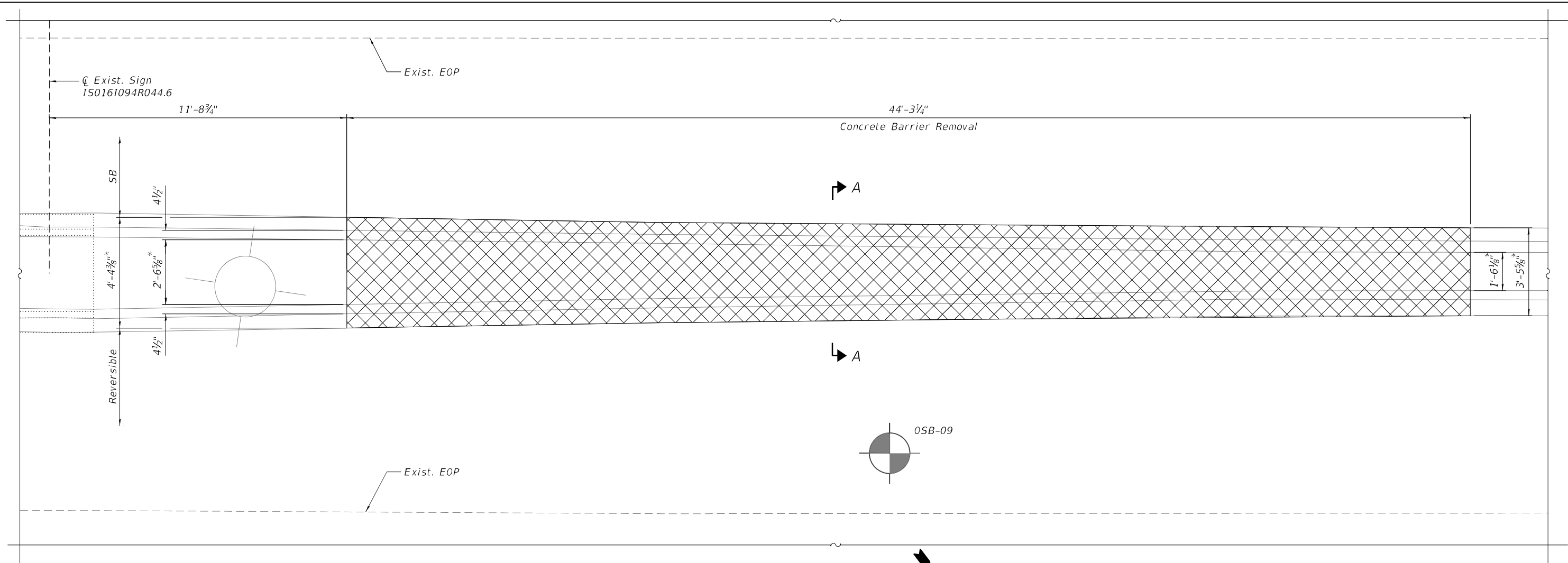
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**REMOVAL DETAILS FOR EXISTING MEDIAN, OUTSIDE BARRIER
 AND SIGN FOUNDATION SN 1S0161094R045.4 (SIGN 12)**

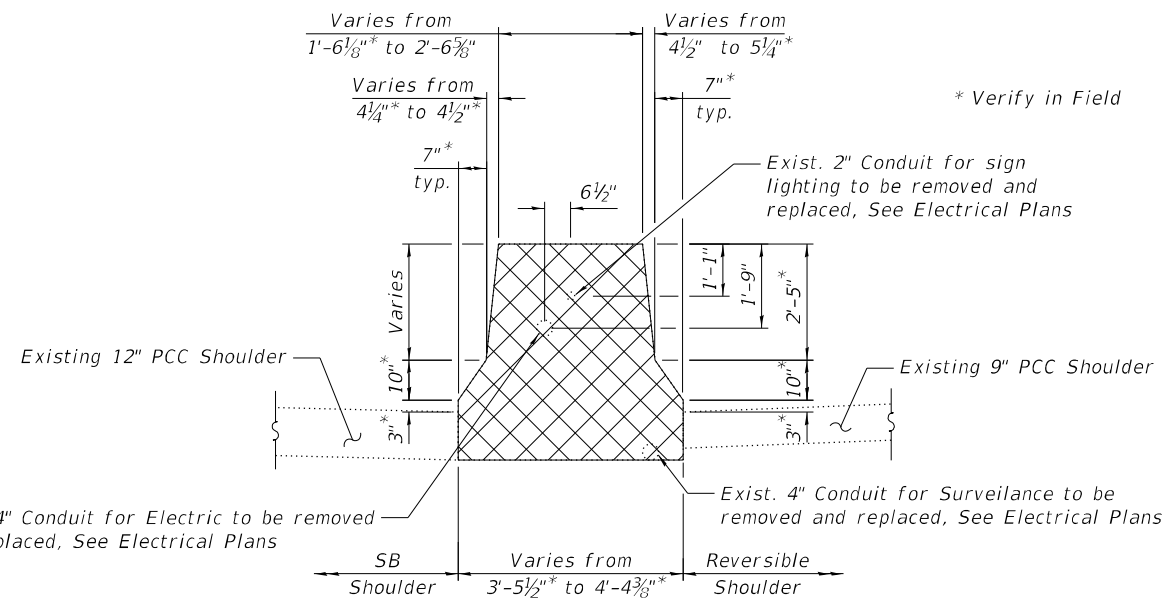
SHEET OSG2-06 OF OSG2-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	355
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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PARTIAL PLAN

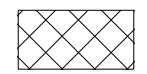
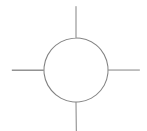


SECTION A-A

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Barrier Removal	Foot	45

LEGEND

-  Concrete Barrier Removal
-  Exist. Light Pole



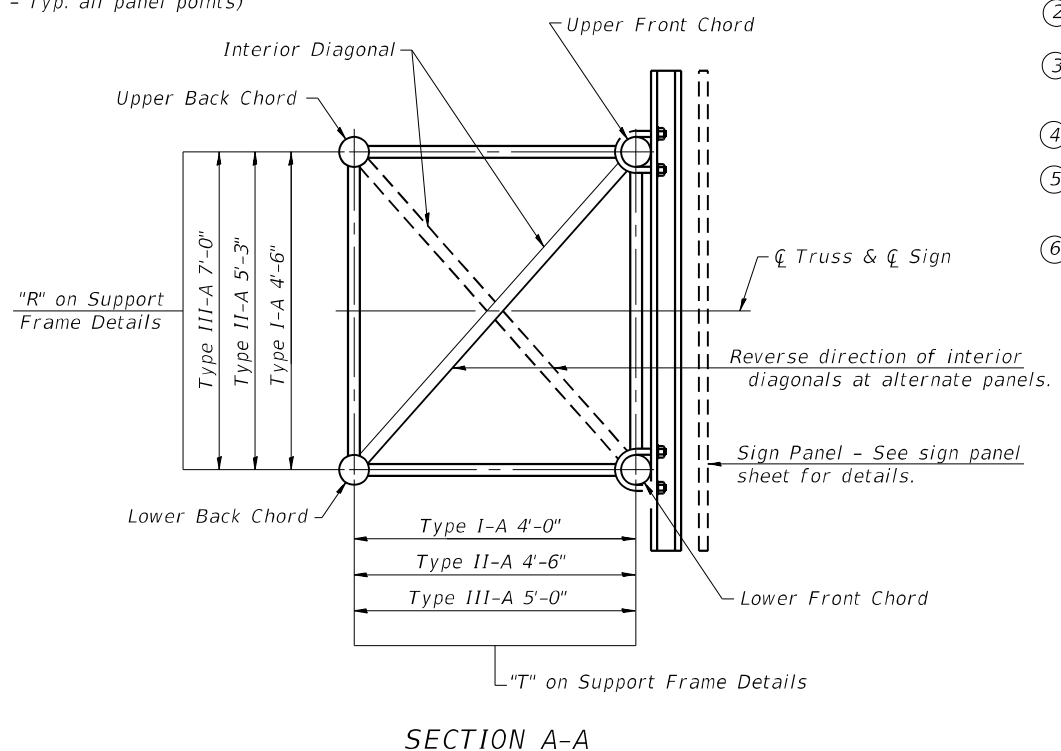
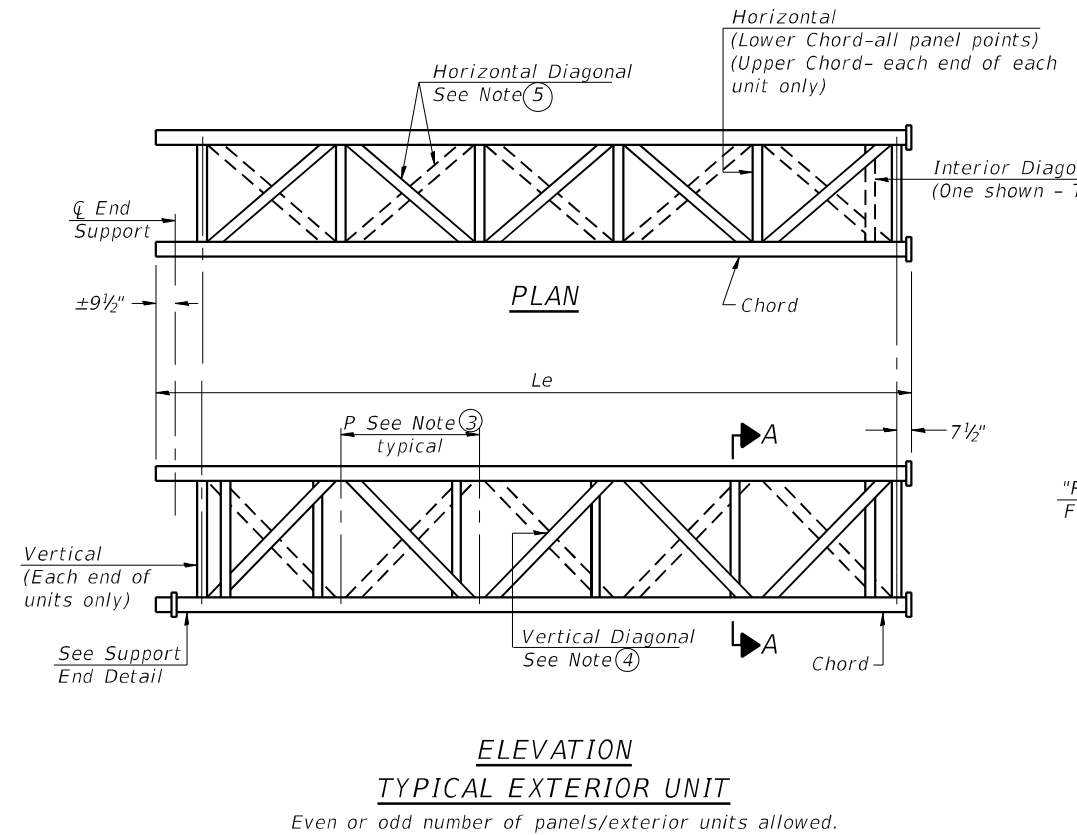
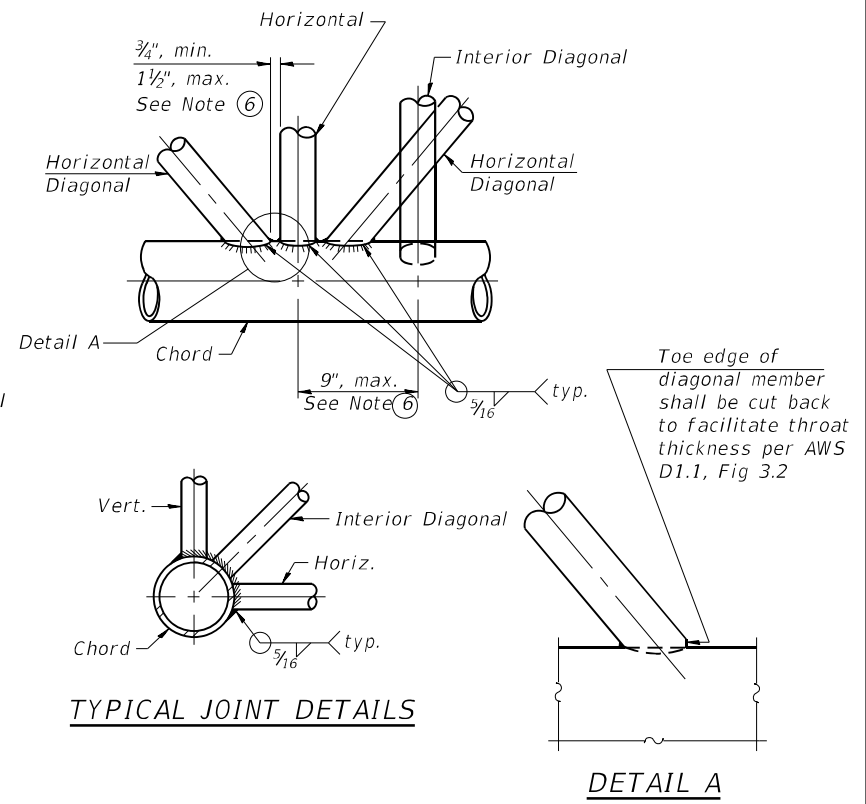
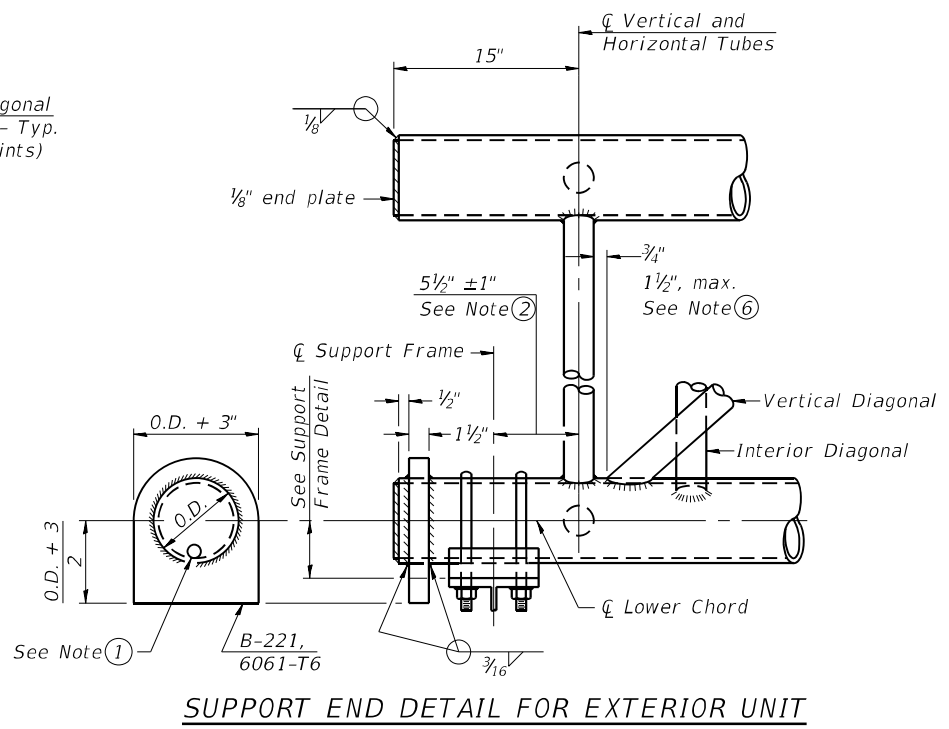
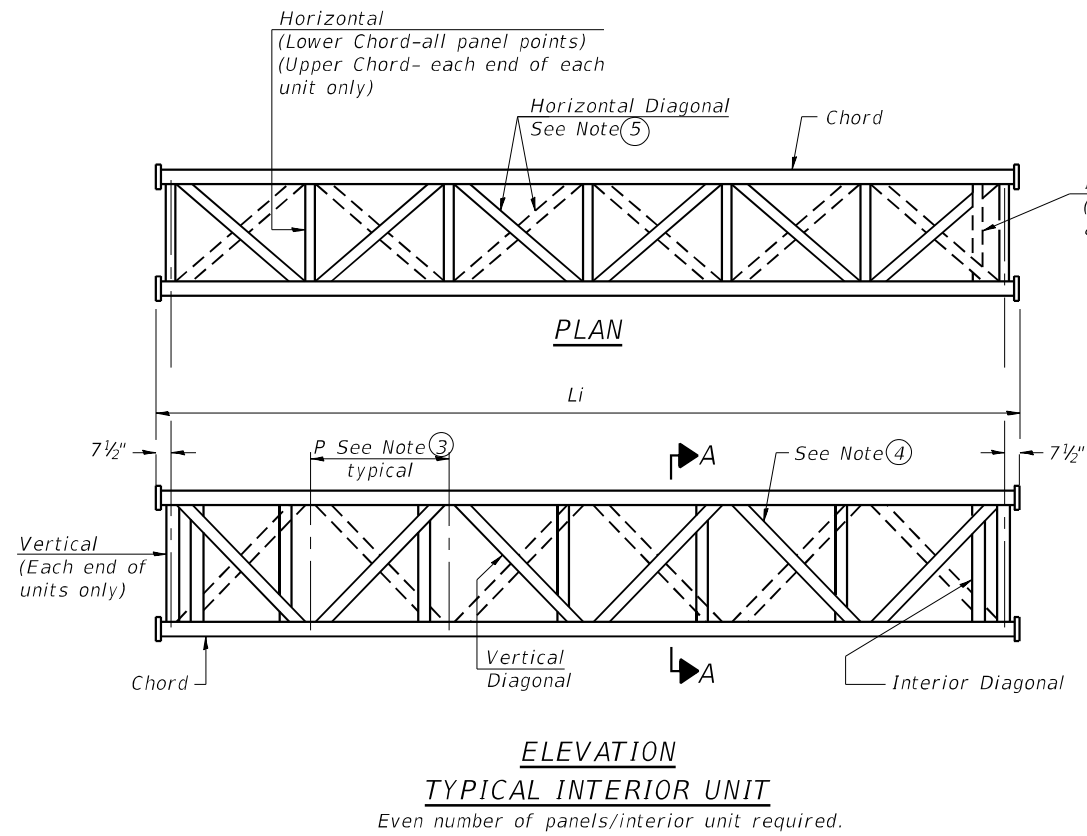
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PLOT DATE =	DATE - 9/9/2022	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REMOVAL DETAILS FOR EXISTING MEDIAN, OUTSIDE BARRIER
 AND SIGN FOUNDATION SN 1S0161094R044.6 (SIGN 14)

SHEET OSG2-07 OF OSG2-25 SHEETS

F.A.I. RTE. 90/94	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 356
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



- ① Contractor may alternatively use standard aluminum drive-fit cap to close end. 1/2" Ø drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)
- ② 5 1/2" end dimension may vary by ±1" to provide uniform panel spacing (P).
- ③ 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.
- ④ Vertical Diagonals in front and back face shall alternate.
- ⑤ Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
- ⑥ 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.

MODEL: Default
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2-17-2017



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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

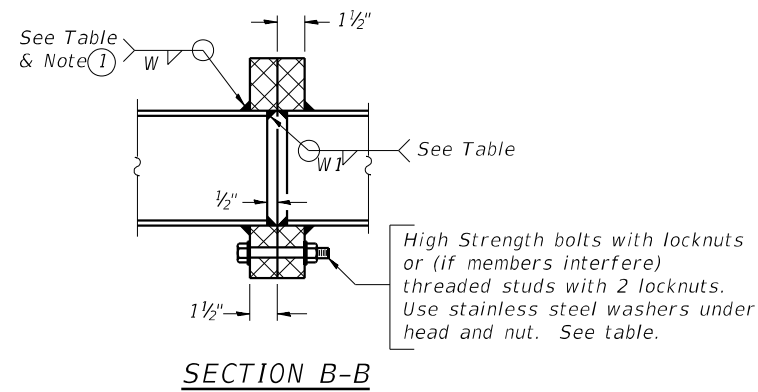
**OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS
DETAILS FOR TRUSS TYPE III-A**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	357
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

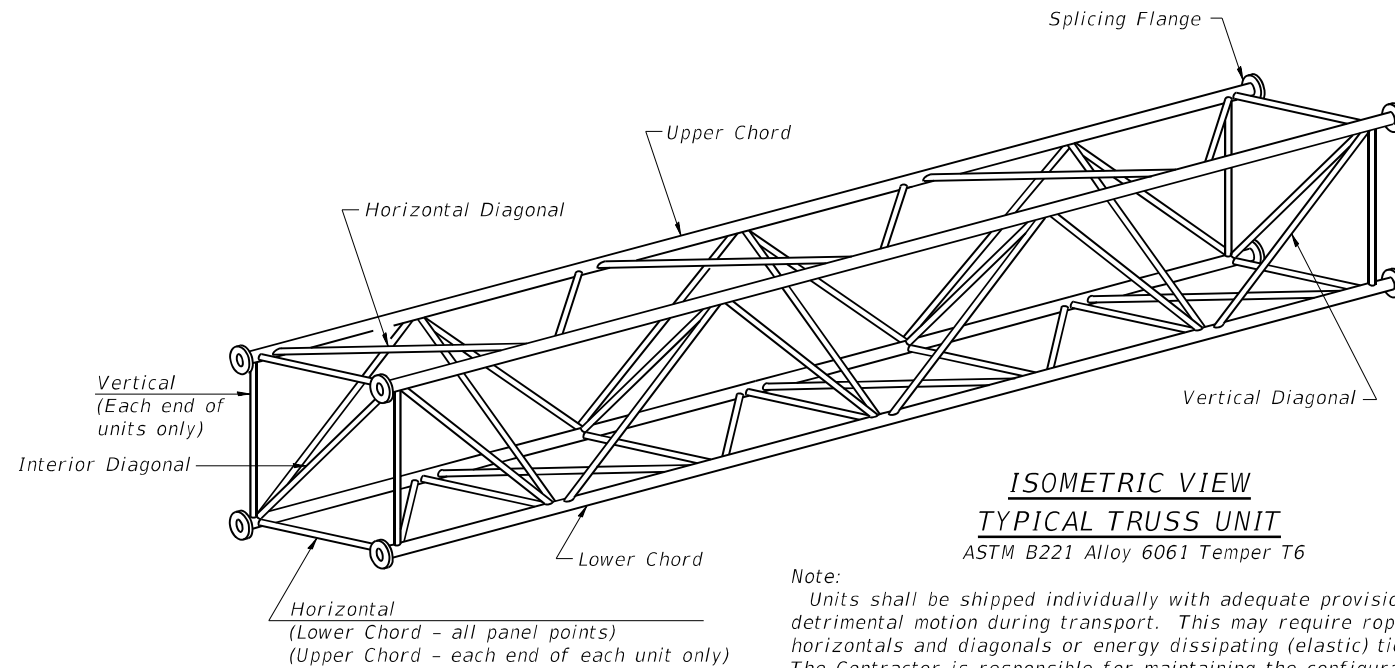
SHEET OSG2-08 OF OSG2-25 SHEETS

TRUSS UNIT TABLE

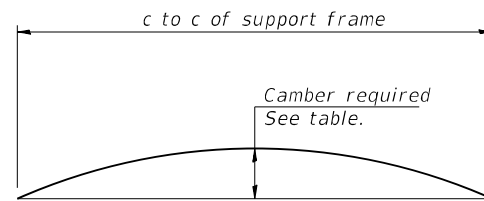
Sign #	Structure Number	Station	Design Truss Type	Exterior Units (2)			Interior Unit				Upper & Lower Chord		Verticals; Horizontals; Vertical, Horizontal, and Interior Diagonals	Camber at Midspan	Splicing Flange						
				No. Panels per Unit	Unit Lgth. (Le)	Panel Lgth. (P)	No. Req'd	No. Panels per Unit	Unit Lgth. (Le)	Panel Lgth. (P)	O.D.	Wall			O.D.	Wall	Bolts		Weld Sizes		A
												No./Splice	Di.	W	W1						
Sign 16	150161094R049.6	344+53.87	III-A	5	28'-10 1/4"	5'-4 3/4"	1	4	22'-10"	5'-4 3/4"	7"	5/16"	3 1/4"	5/16"	0.94"	6	1"	7/16"	5/16"	11 1/2"	15"
Sign 12	150161094R045.4	568+94.52	III-A	5	26'-1 3/4"	4'-10 1/4"	1	6	30'-4 1/2"	4'-10 1/4"	7"	5/16"	3 1/4"	5/16"	0.97"	6	1"	7/16"	5/16"	11 1/2"	15"
Sign 14	150161094R044.6	611+60.67	III-A	7	37'-6 1/2"	5'-1 1/8"	-	-	-	-	7"	5/16"	3 1/4"	5/16"	0.88"	6	1"	7/16"	5/16"	11 1/2"	15"



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 flange surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure flanges until remaining welds are made after disassembly. Adjacent flanges shall be "match marked" to insure proper field assembly.

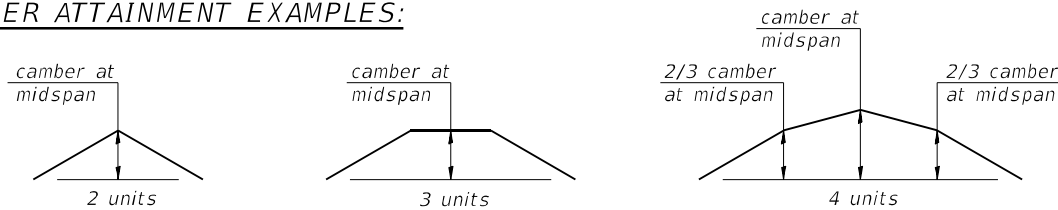


Note: Units shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The Contractor is responsible for maintaining the configuration and protection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

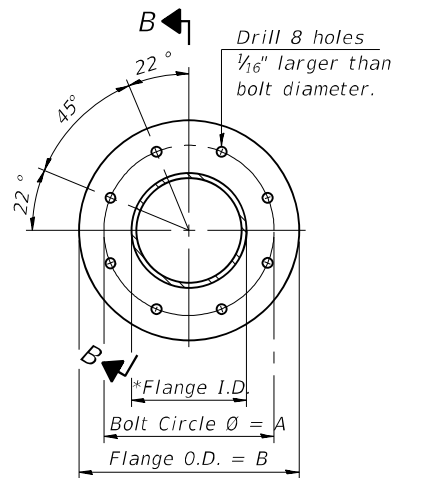
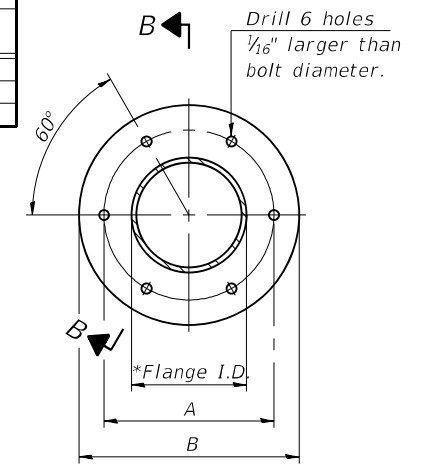


Camber curve shown is theoretical. Actual camber attained by slope changes at splices between units.

CAMBER ATTAINMENT EXAMPLES:



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



SPLICING FLANGES

ASTM B221, Alloy 6061-T6 or ASTM B209, Alloy 6061-T651
*To fit O.D. of Chord with maximum gap of 1/16".

MODEL: Default
FILE NAME: P:\2004-825 PTB\95-014 HBM\WO#16 I-90 OHSS\SB (HBM) OHSS\Signs 12, 14, 16\Sheet Files\SB2-62K74-509-Truss Details IL.dgn
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2-17-2017



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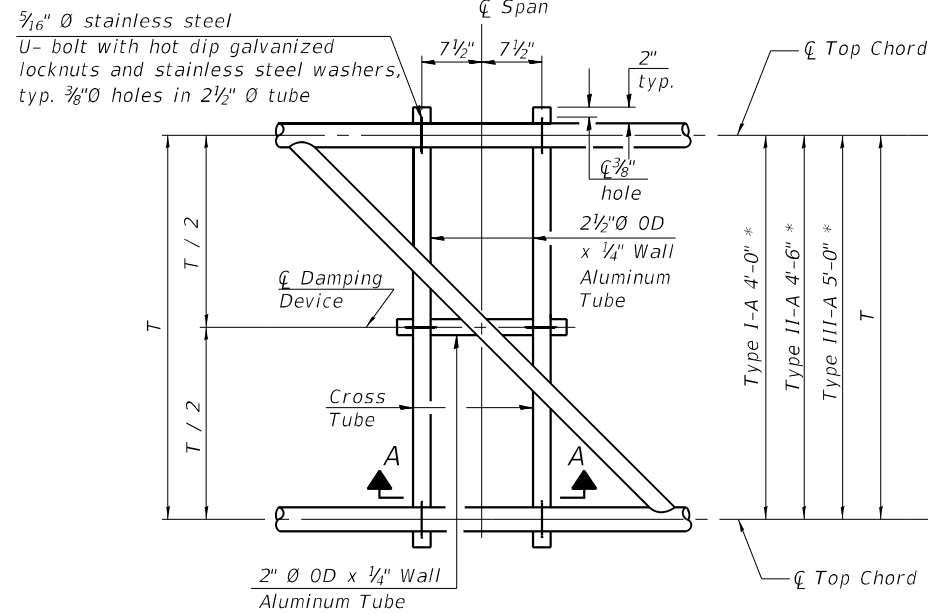
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS DETAILS
FOR TRUSS TYPES III-A**

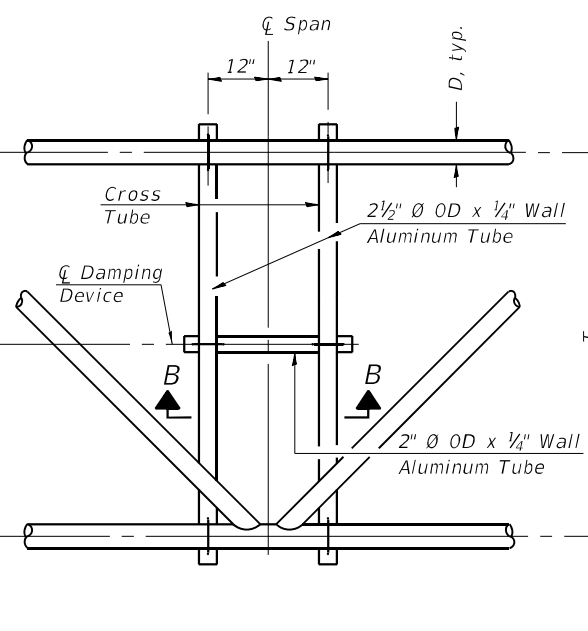
SHEET OSG2-09 OF OSG2-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

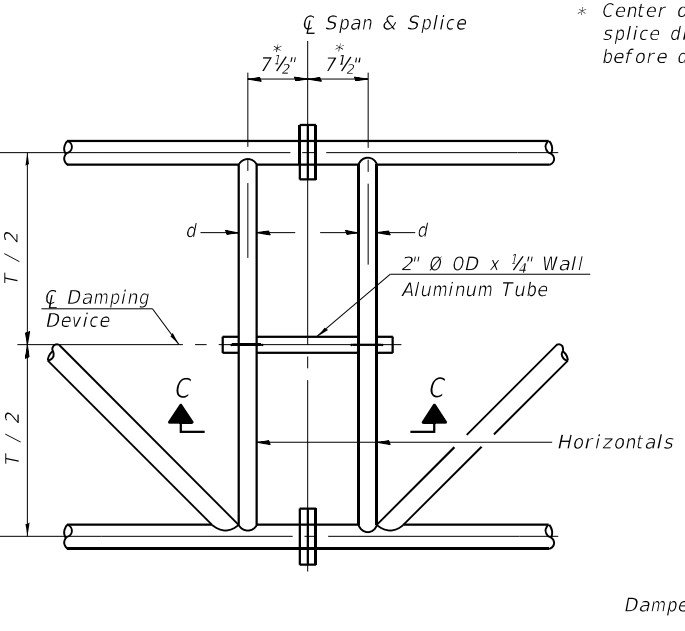
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PLAN DETAIL "A"
 ☐ Span between Panel Points



PLAN DETAIL "B"
 ☐ Span at Panel Point



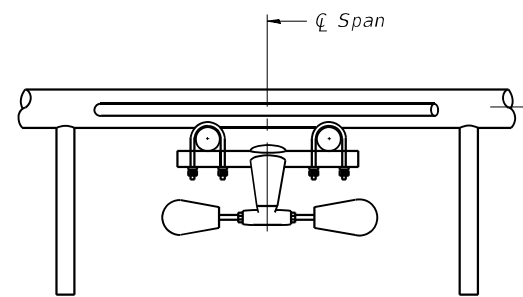
PLAN DETAIL "C"
 ☐ Span at ☐ Chord Splice

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

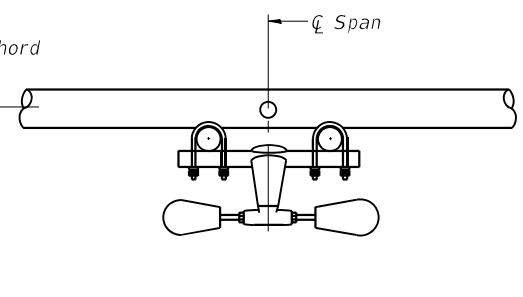
NOTES

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

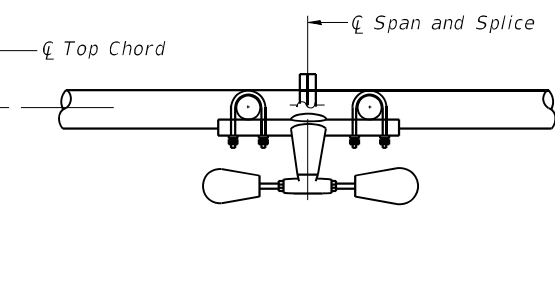
Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure Span Type III-A.



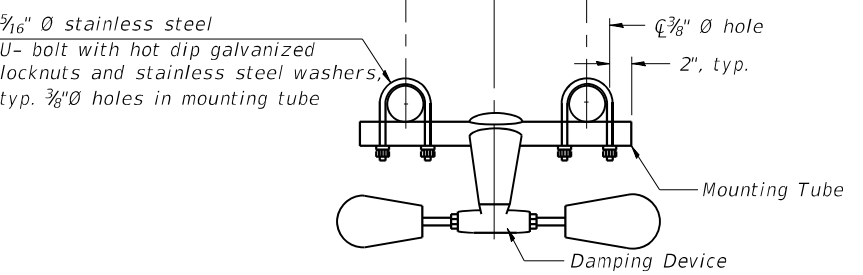
SECTION A-A



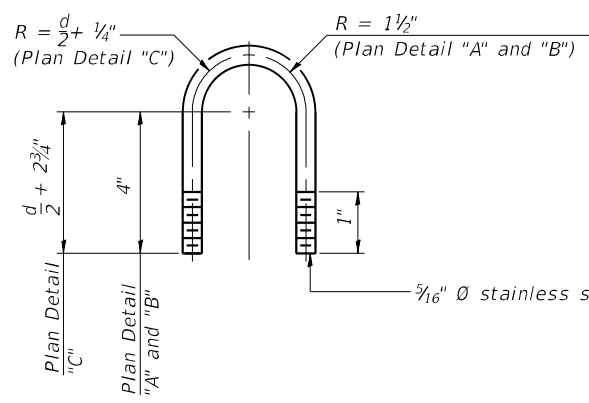
SECTION B-B



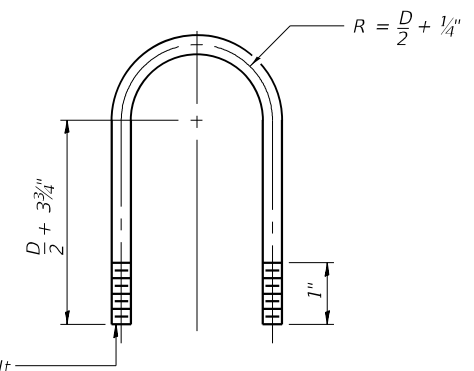
SECTION C-C



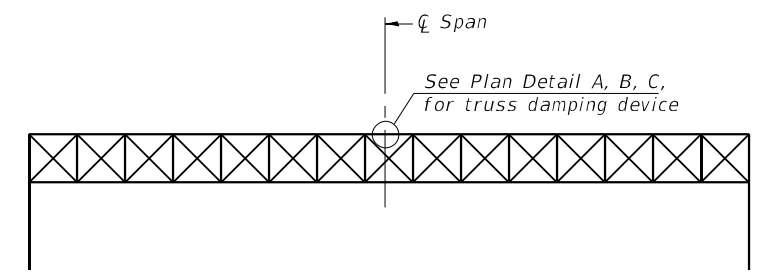
TRUSS DAMPING DEVICE CONNECTION DETAIL
 (Typical)



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



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PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE =	DRAWN - SK	REVISED -
	DATE - 9/9/2022	REVISED -

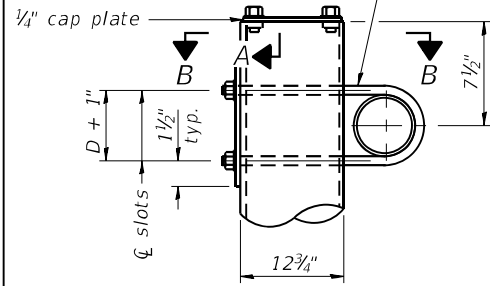
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURE
 DAMPING DEVICE**

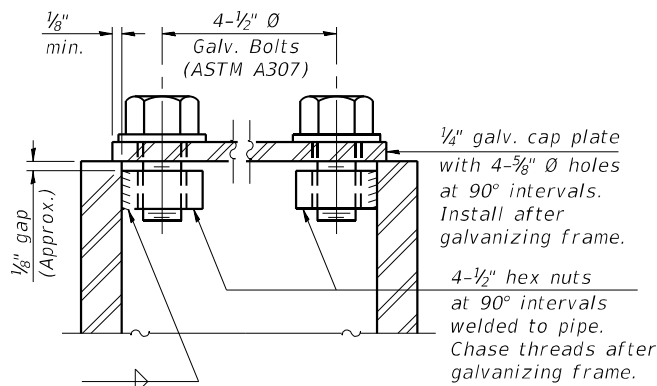
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90/94	2020-004-BR	COOK	1492	359
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET OSG2-10 OF OSG2-25 SHEETS

3/4" Ø stainless steel U-bolt.
Provide two washers and two hexagon locknuts. (4)
1 3/16" x 2" slots on 1/2" Ø pipe.
(4 slots required per pipe)

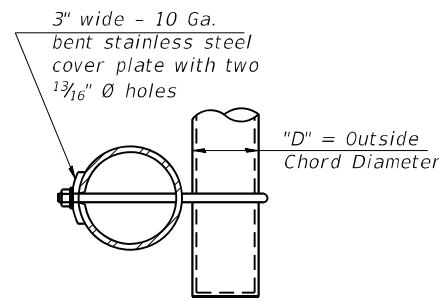


DETAIL A

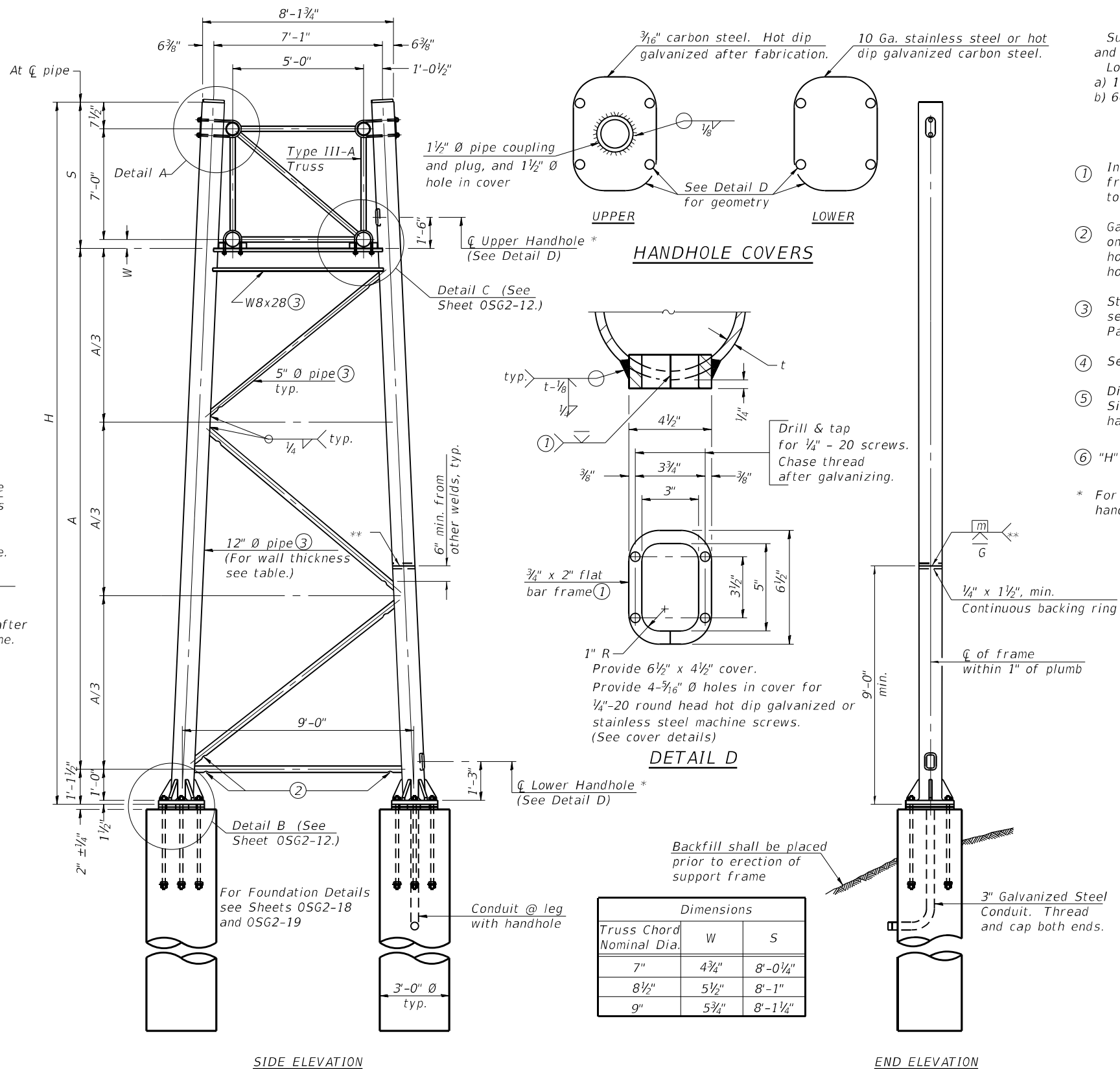


SECTION A-A

As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.



SECTION B-B



SIDE ELEVATION

END ELEVATION

Dimensions		
Truss Chord Nominal Dia.	W	S
7"	4 3/4"	8'-0 1/4"
8 1/2"	5 1/2"	8'-1"
9"	5 3/4"	8'-1 1/4"

TRUSS SUPPORT DETAILS

(12" Ø Pipe-Type III-A Truss)

** One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

Support Design Loads: See Sheet OSG2-01 for design and loading criteria.

Load combinations checked include deadload plus:
a) 100% wind normal to sign, 20% parallel to sign
b) 60% wind normal to sign, 30% parallel to sign

- ① In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500 µin or less.
- ② Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
- ③ Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Sheet OSG2-01.
- ④ See General Notes for fasteners.
- ⑤ Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
- ⑥ "H" based on 15'-0" or actual sign height, whichever is greater.

* For dynamic message sign installations, provide upper and lower handholes in both legs of each support frame.

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2-17-2017



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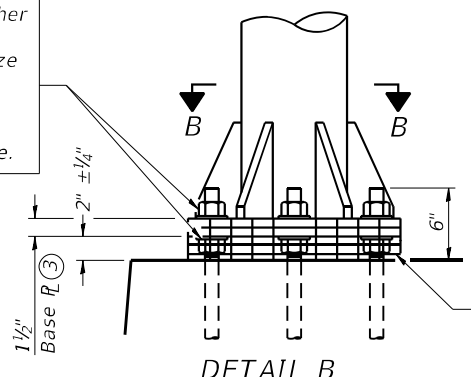
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR TYPE III-A ALUMINUM TRUSS

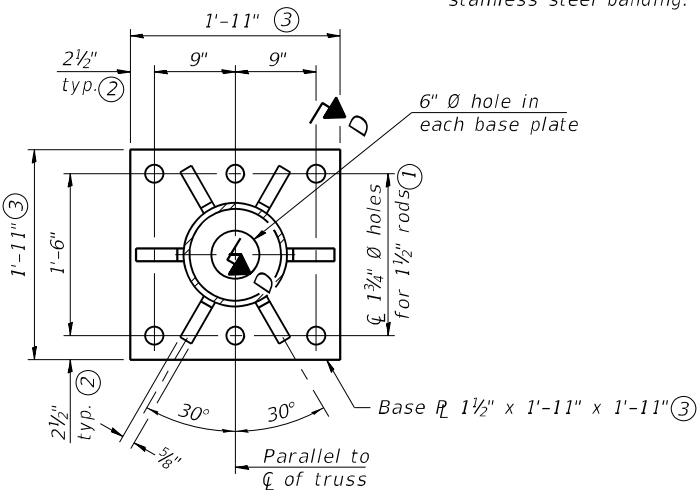
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET OSG2-11 OF OSG2-25 SHEETS

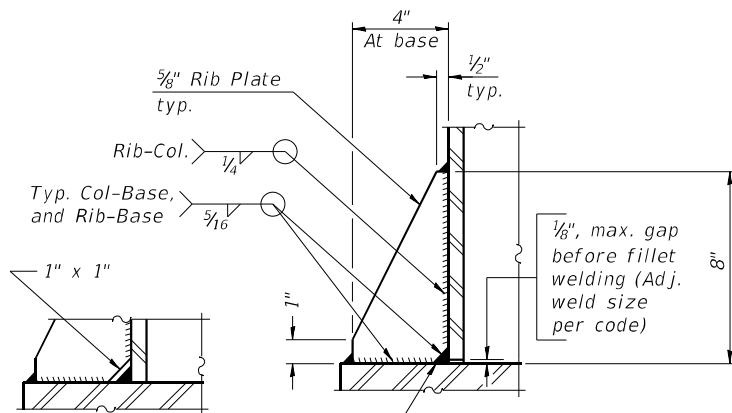
Hexagon locknut and washer (top), leveling nut and washer (bottom). Galvanize per AASHTO M232. Nuts shall each be tightened against base plate with 200 lb.-ft. minimum torque.



Stainless Steel Standard Grade Wire Cloth, 3" wide, 1/4" maximum opening with a minimum wire diameter of AWG. No. 16 with a minimum 2" lap. Secure to base plate after erection with 3/4" stainless steel banding.

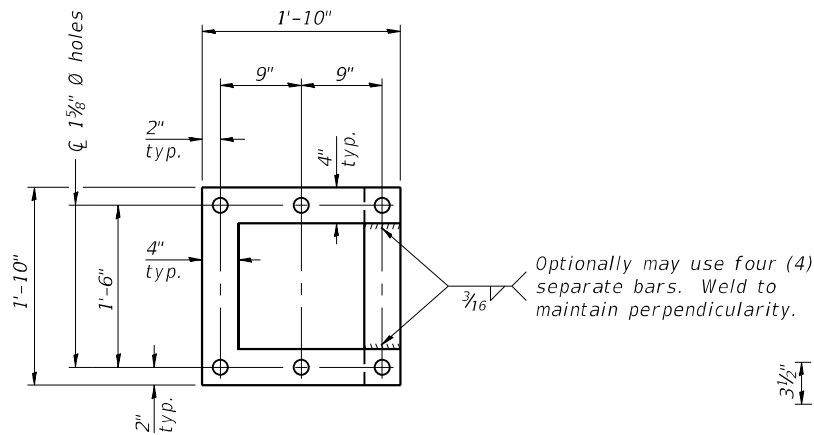


SECTION B-B



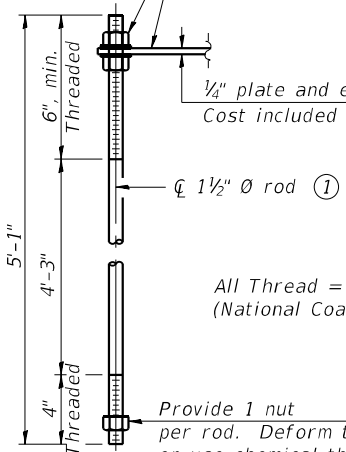
** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.

SECTION D-D



POSITIONING PLATE(S)

At each location, provide 1/4" thick positioning plate(s) and six (6) additional nuts to be used with leveling nuts to maintain anchor bolts position during concrete placement.



All Thread = NC (National Coarse)

Provide 1 nut per rod. Deform thread or use chemical thread lock to secure.

ANCHOR ROD DETAIL

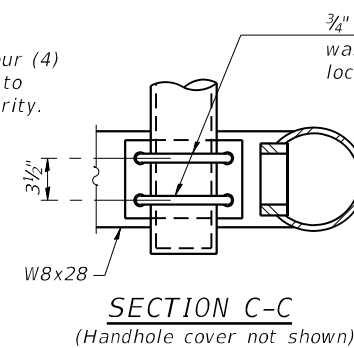
Anchor rods shall conform to ASTM F1554 Grade 105 Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.

TYPE III-A TRUSS

12" Ø PIPE SUPPORT FRAME DETAILS

Notes:
For Type III-A Truss spans greater than 150 ft, and up to 160 ft.:

- ① 1 3/4" Ø rod, 2" Ø holes
- ② 2 3/4" edge distance
- ③ Base Pl 1 5/8" x 1'-11 1/2" x 1'-11 1/2"



SECTION C-C
(Handhole cover not shown)

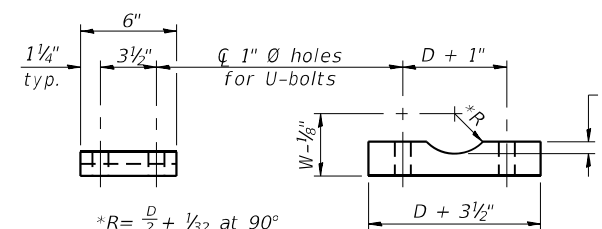
3/4" Ø U-bolts. Provide washers and hexagon locknuts. (2 required)

Field drill 1 5/16" Ø holes Touch up holes with galvanizing paint.

Drain hole (See Sheet OSG2-08.)

1/8" fabric or neoprene pad.

DETAIL C



*R = D/2 + 1/2 at 90°

D = Outside Diameter of Chord.
For W, see Sheet #SAT2.

Truss Chord Nominal Dia.	a
7"	1"
8 1/2"	1 1/4"
9"	1 3/8"

SADDLE SHIM DETAIL

ASTM B26 Alloy 356-F
or
ASTM B209 Alloy 6061-T651
(4 required per sign truss)

054-A-8aA

2-17-2017



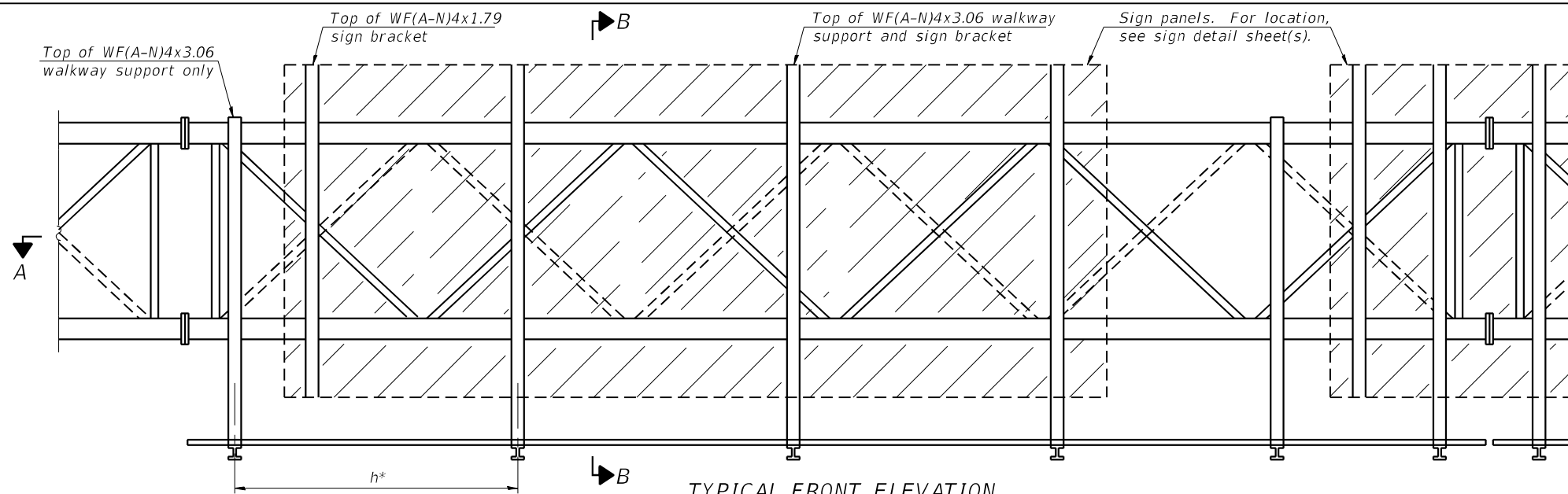
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PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE =	DRAWN - SK	REVISED -
	DATE - 9/9/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

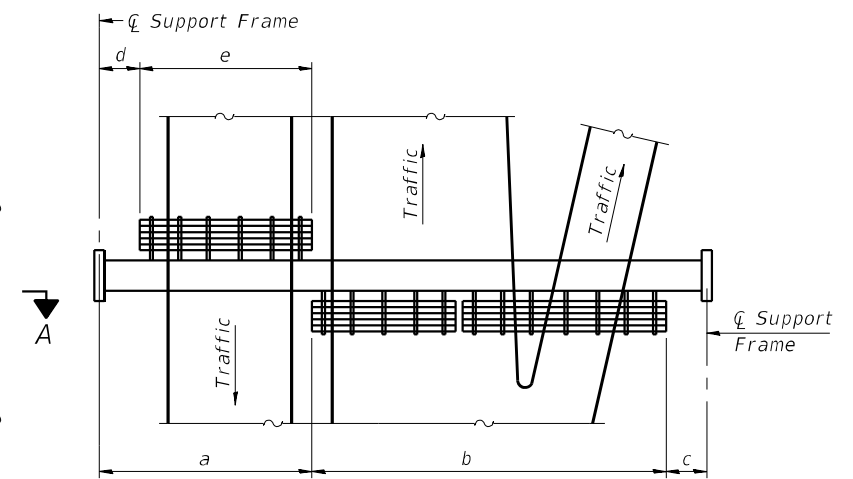
OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR TYPE III-A ALUMINUM TRUSS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	361
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET OSG2-12 OF OSG2-25 SHEETS



TYPICAL FRONT ELEVATION
 With lights and handrail omitted for clarity.
 For Section B-B, see Base Sheet 05-A-10.



PLAN
WALKWAY AND HANDRAIL SKETCH
 (Road plan beneath truss varies)

BRACKET TABLE

Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

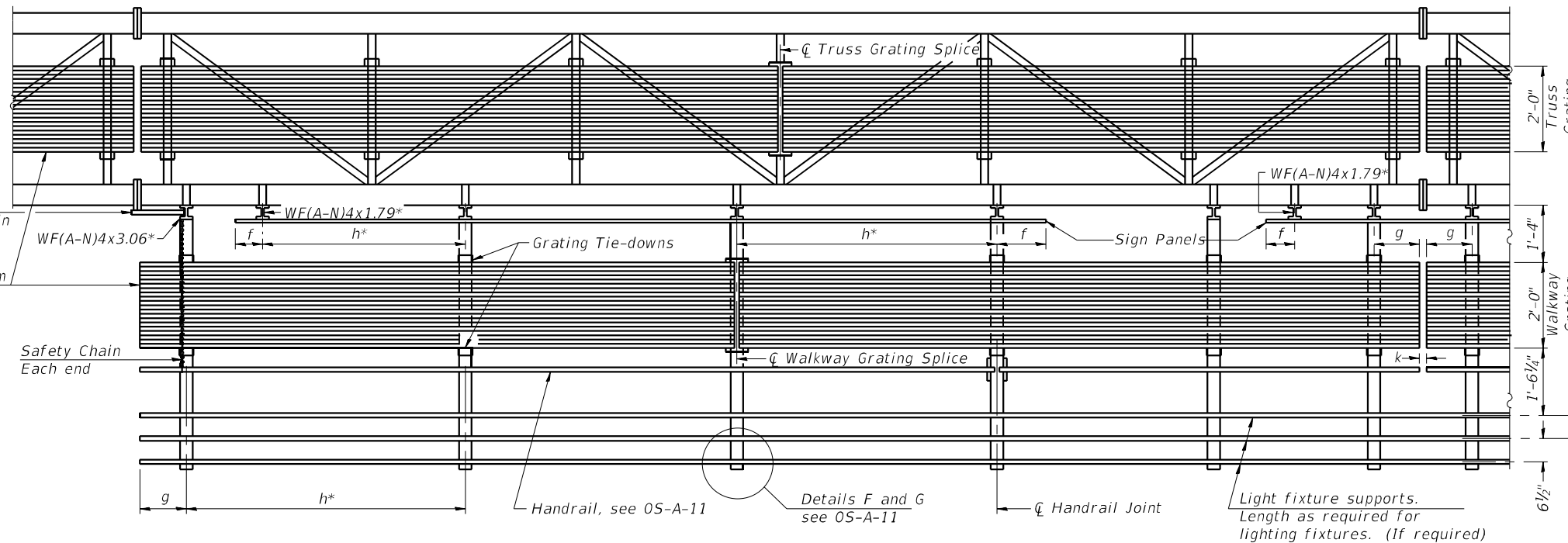
Notes:
 * Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:
 $f = 12"$ maximum, 4" minimum (End of sign to ϕ of nearest bracket)
 $g = 12"$ maximum, 4" minimum (End of walkway grating to ϕ of nearest support bracket)
 $h = 6'-0"$ maximum (ϕ to ϕ sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)
 $k = 2"$ maximum gap between adjacent walkway grating sections and handrail ends

** If walkway bracket at safety chain location is behind sign, add angle to bracket, see Alternate Safety Chain Attachment on Base Sheet 05-A-11.

For Details T and W, Section B-B and Grating Splice Details see Base Sheet 05-A-10.

For Handrail Details see Base Sheet 05-A-11.

** Alternate angle for safety chain attachment
 Standard Aluminum Grating, see Details T and W



SECTION A-A

Handrail and walkway shall span a minimum of three brackets between splices and/or gap joints. Place all sign and walkway brackets as close to panel points as practical. Handrail joints, grating, and light support splices placed as needed.

Truss grating to facilitate inspection shall run full length (center to center of support frames) $\pm 12"$ on overhead trusses. Cost of truss grating is included in "Overhead Sign Structure".

Sign #	Structure Number	Station	a	b	c	Ls	Walkway Grating and Handrail Lengths
Sign 12	1S0161094R045.4	568+94.52	1'-6"	17'-11 1/2"	20'-2 1/2"	29'-1"	39'-0"

Walkway and Truss Grating width dimensions are nominal and may vary $\pm 1/2"$ based on available standard widths.

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05-A-9 2-17-2017



USER NAME =	DESIGNED - SK	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE =	DRAWN - SK	REVISED -
	DATE - 9/9/2022	REVISED -

STATE OF ILLINOIS
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OVERHEAD SIGN STRUCTURES
 ALUMINUM WALKWAY DETAILS

SHEET OSG2-13 OF OSG2-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	362
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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05-A-9-DMS

2-17-2017



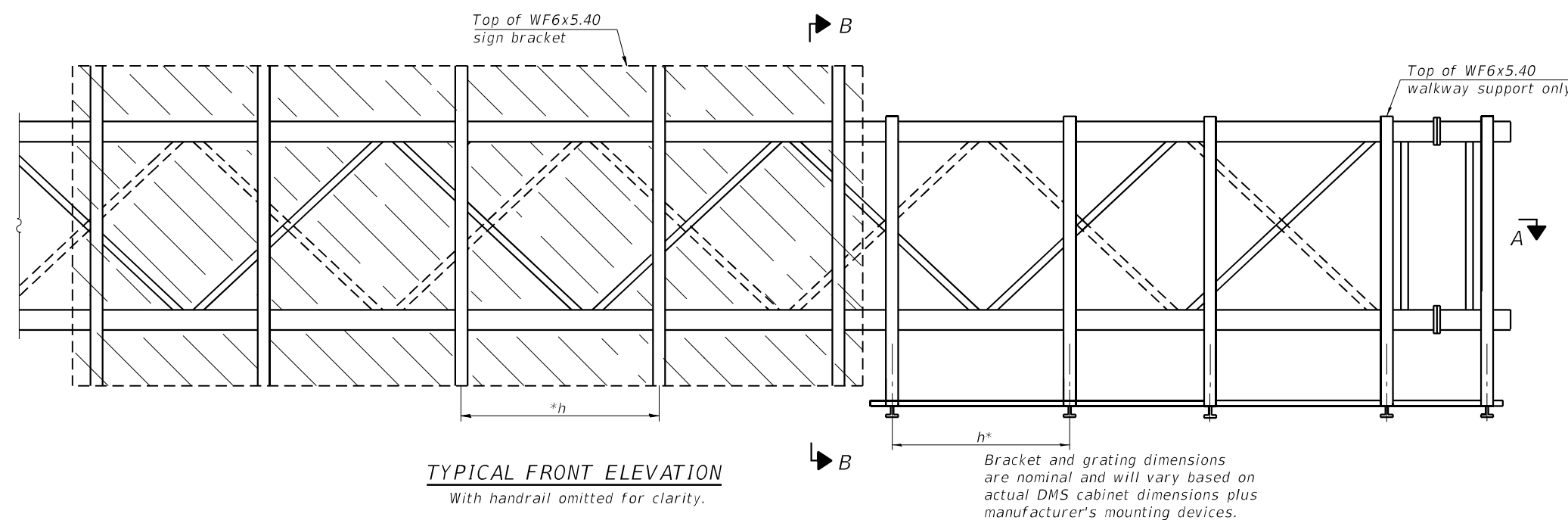
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

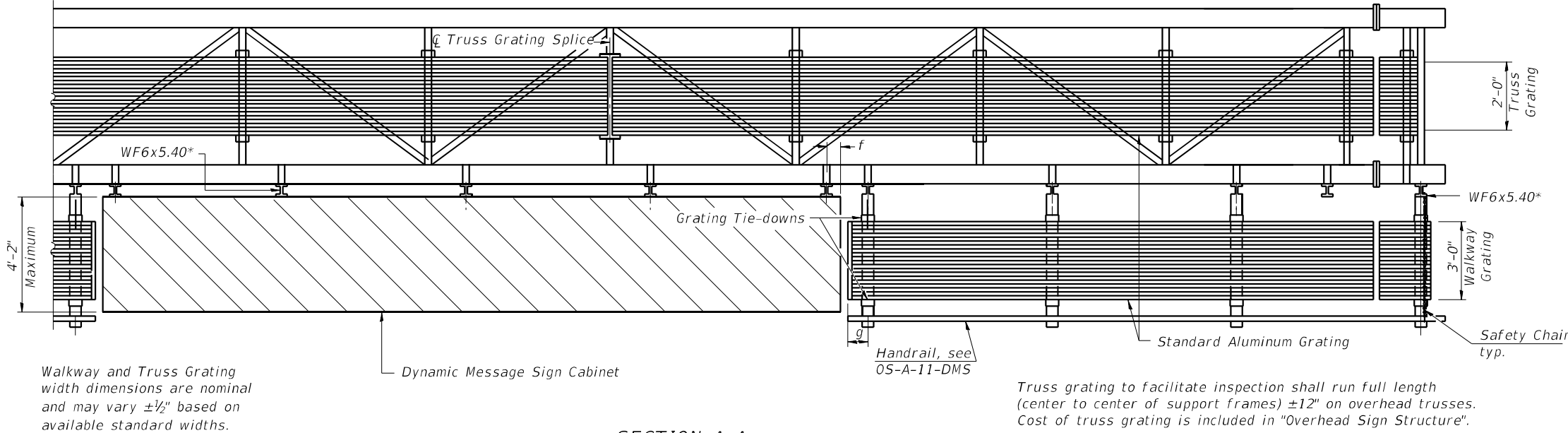
OVERHEAD SIGN STRUCTURES
ALTERNATE ALUMINUM WALKWAY DETAILS FOR DMS I

SHEET OSG2-14 OF OSG2-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	363
CONTRACT NO. 62K74				
		ILLINOIS	FED. AID PROJECT	



① If walkway is required left of the DMS cabinet, a=1'-6" and b=walkway lengths. If walkway is not required left of the DMS cabinet, b=0 and "a" is dimension from left support frame to left end of cabinet.



BRACKET TABLE

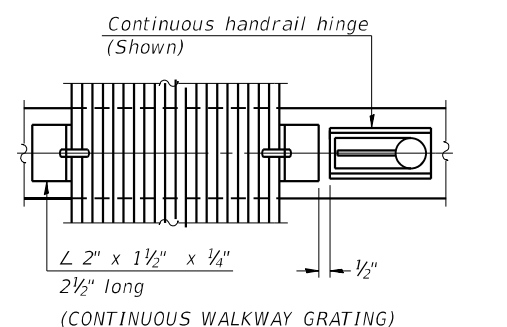
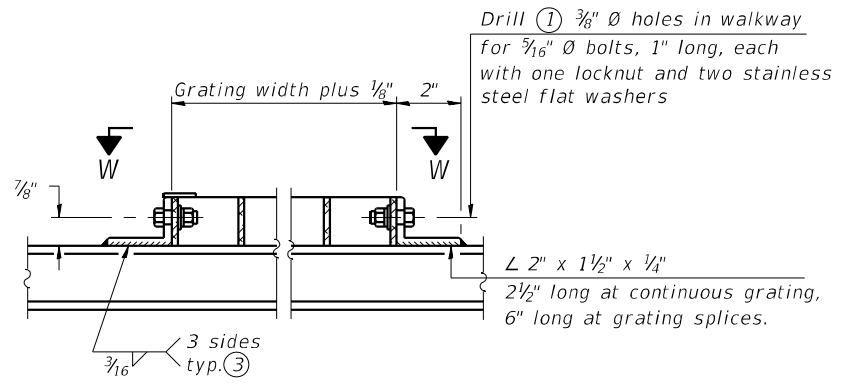
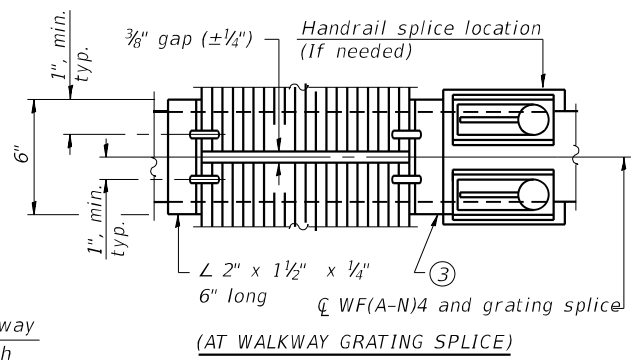
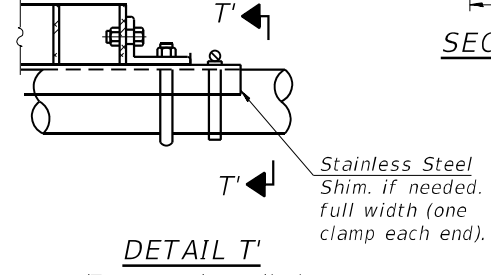
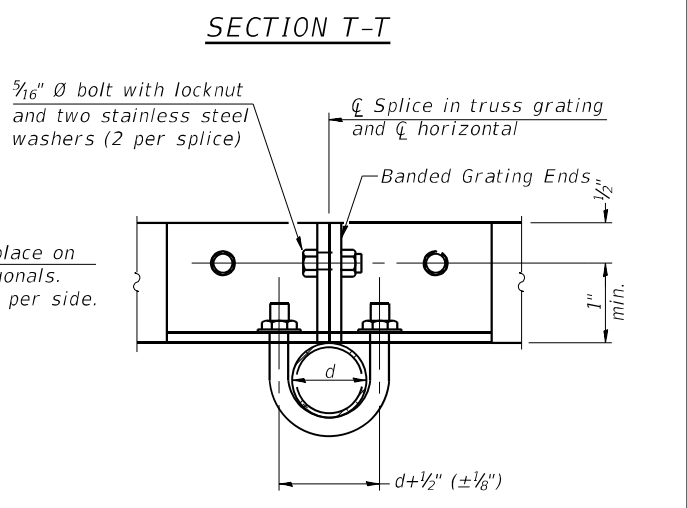
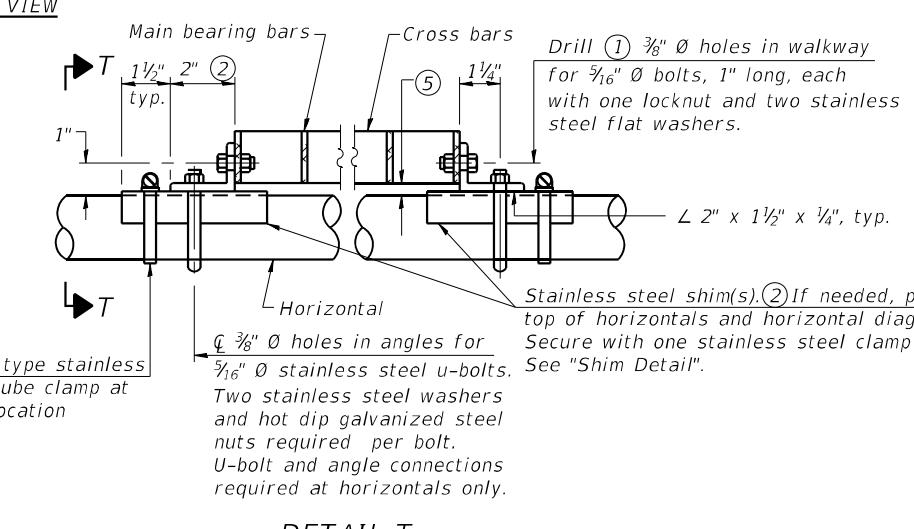
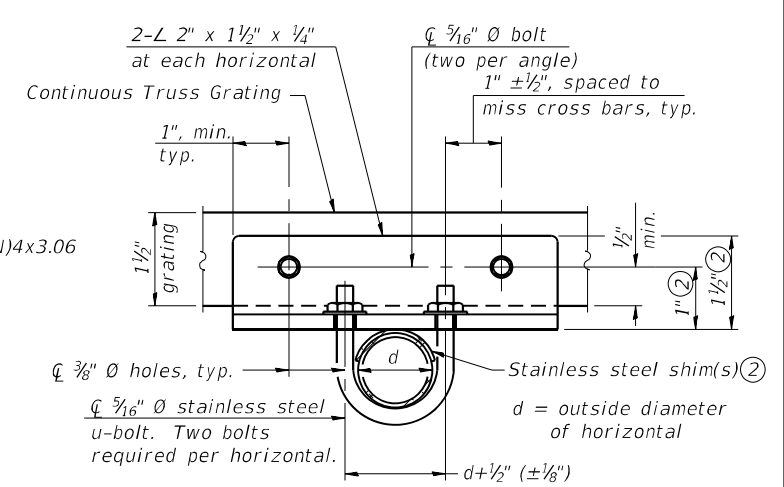
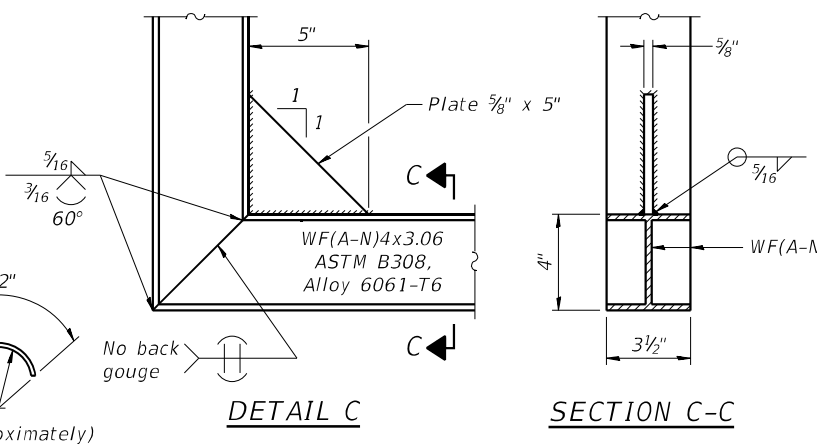
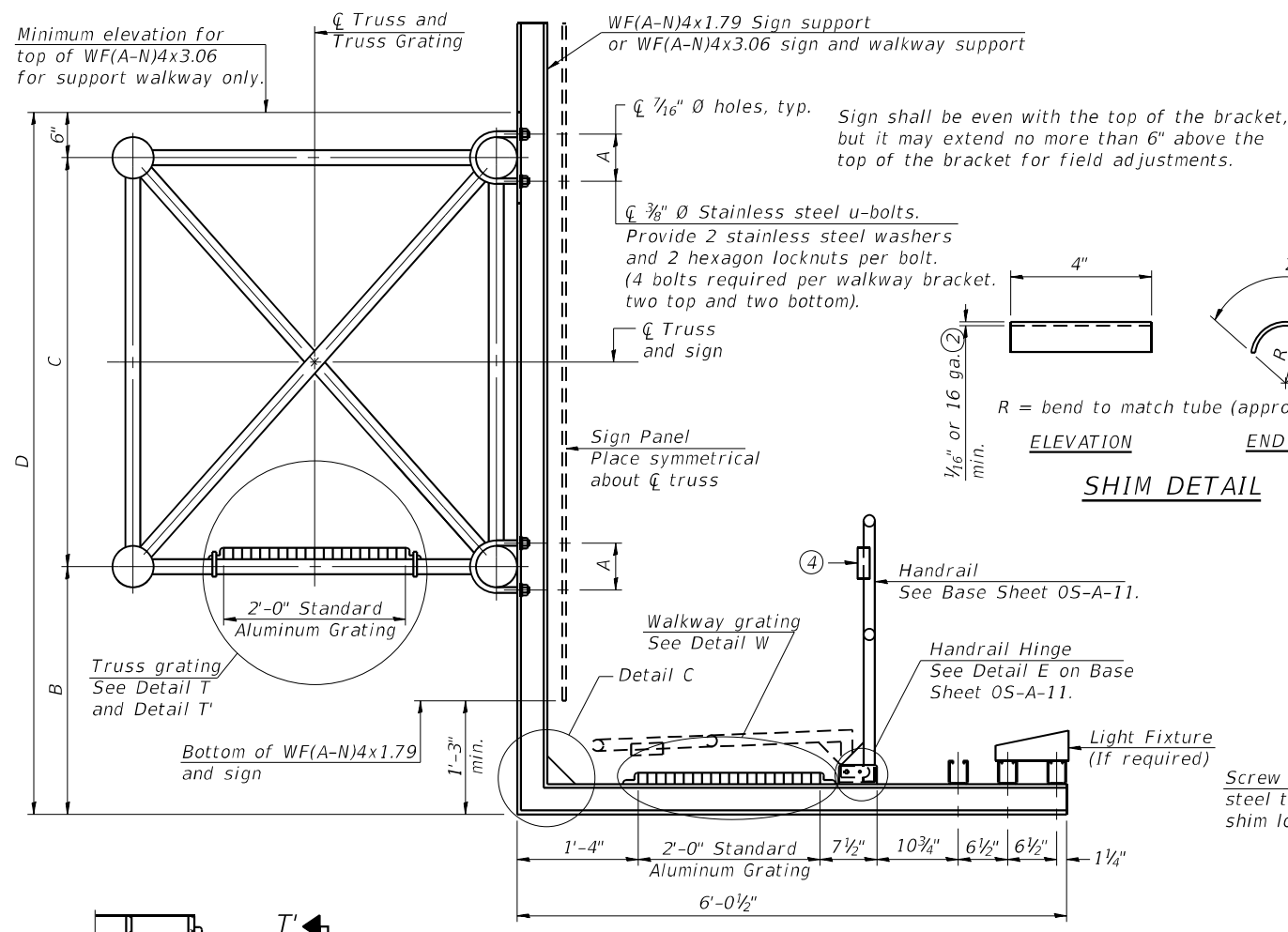
WF6x5.40 ASTM B308, Alloy 6061-T6		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

Notes:
* Space walkway brackets WF6x5.40 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to center of nearest bracket)
g = 12" maximum, 4" minimum (End of walkway grating to center of nearest support bracket)
h = 6'-0" maximum (center to center of sign and/or walkway support brackets, WF6x5.40)

Maximum DMS weight = 5000 lbs. 4'-2" maximum cabinet depth includes depth of cabinet plus connection to WF6x5.40.
For Section B-B and Grating Splice Details, see Sheet OSG2-16.
For Handrail Splice Details, see Sheet OSG2-17.

Sign #	Structure Number	Station	a	b	c	Ls	Walkway Grating and Handrail Lengths
Sign 16	1S0161094R049.6	344+53.87	1'-6"	17'-11 1/2"	20'-2 1/2"	29'-1"	39'-0"
Sign 14	1S0161094R044.6	611+60.67	1'-6"	17'-1 1/2"	23'-7"	29'-1"	41'-0"



SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

Main Bearing Bars shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B221 Alloy 6061-T6.
 Cross bars shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.
 OR
 Aluminum Grating with modified "t" sections for main bearing bars shall meet the following requirements:
 Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.³ per bar, a depth of 1 1/2", spaced on 1 3/16" centers.
 Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- If Handrail Joint present, weld angle to WF(A-N)4 and 1/4" extension bars. (See Base Sheet 0S-A-11.)
- 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.
- Tube to grating gap may vary from 0 to 1/2", max. to align walkway, allow for camber, etc.
- Based on actual height of tallest sign given on 0S-A-1.

Sign #	Structure Number	Station	A	⑥ B	C	⑥ D
Sign 12	1S0161094R045.4	568+94.52	7 3/8"	3'-4 3/4"	7'-0"	10'-10 3/4"

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0S-A-10

2-17-2017



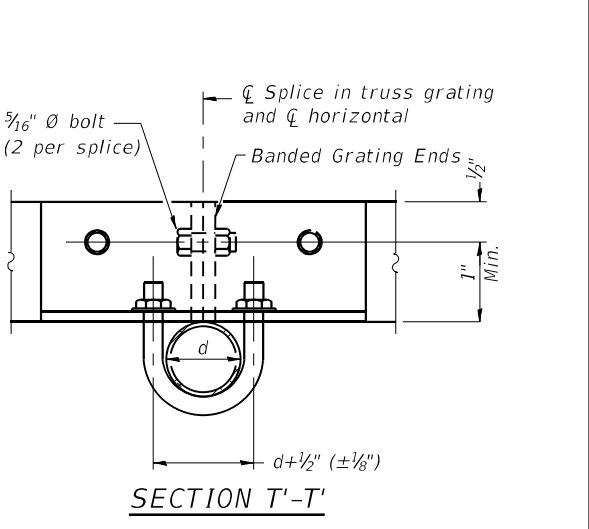
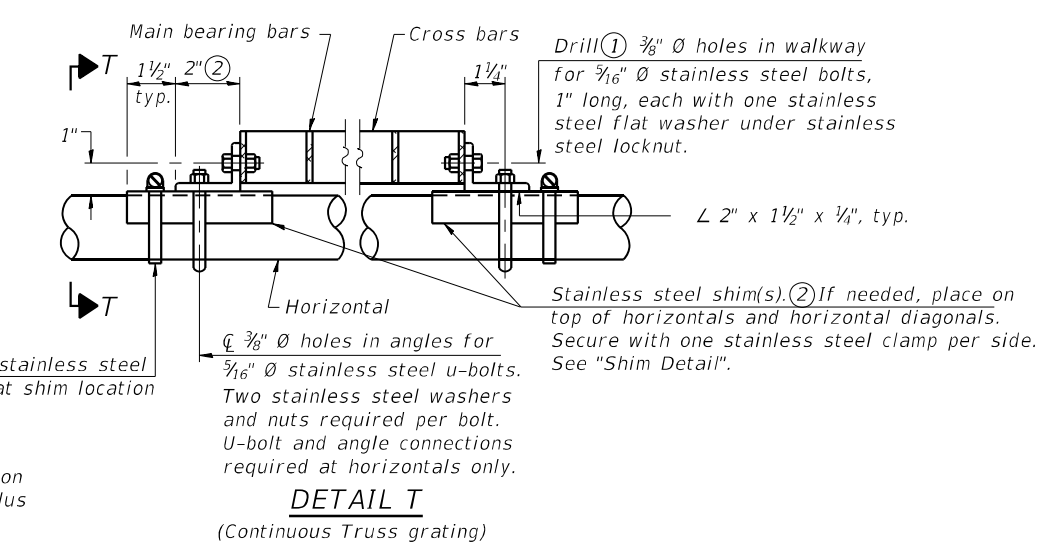
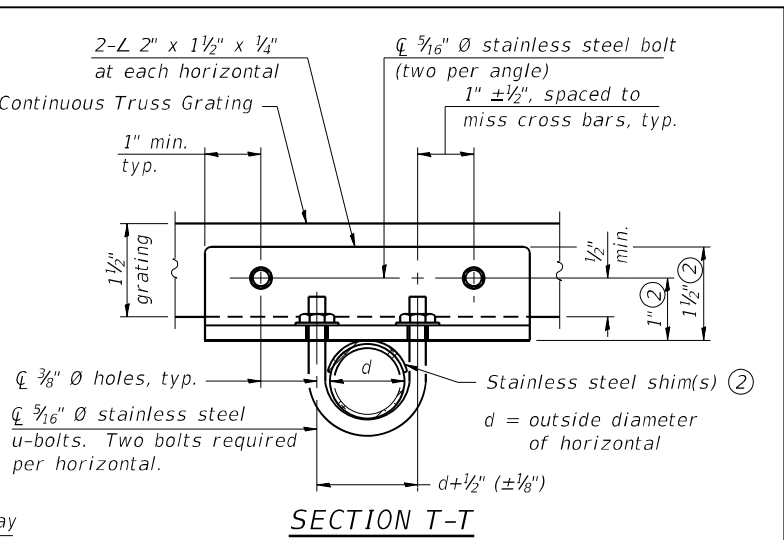
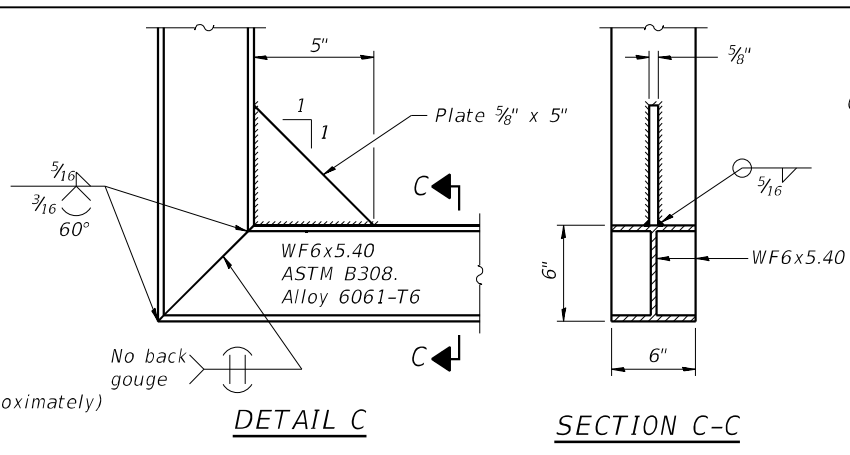
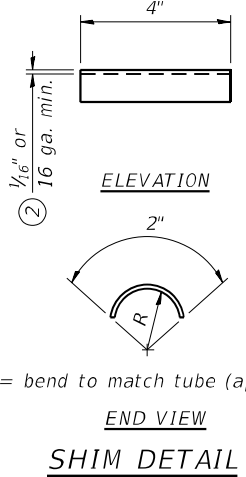
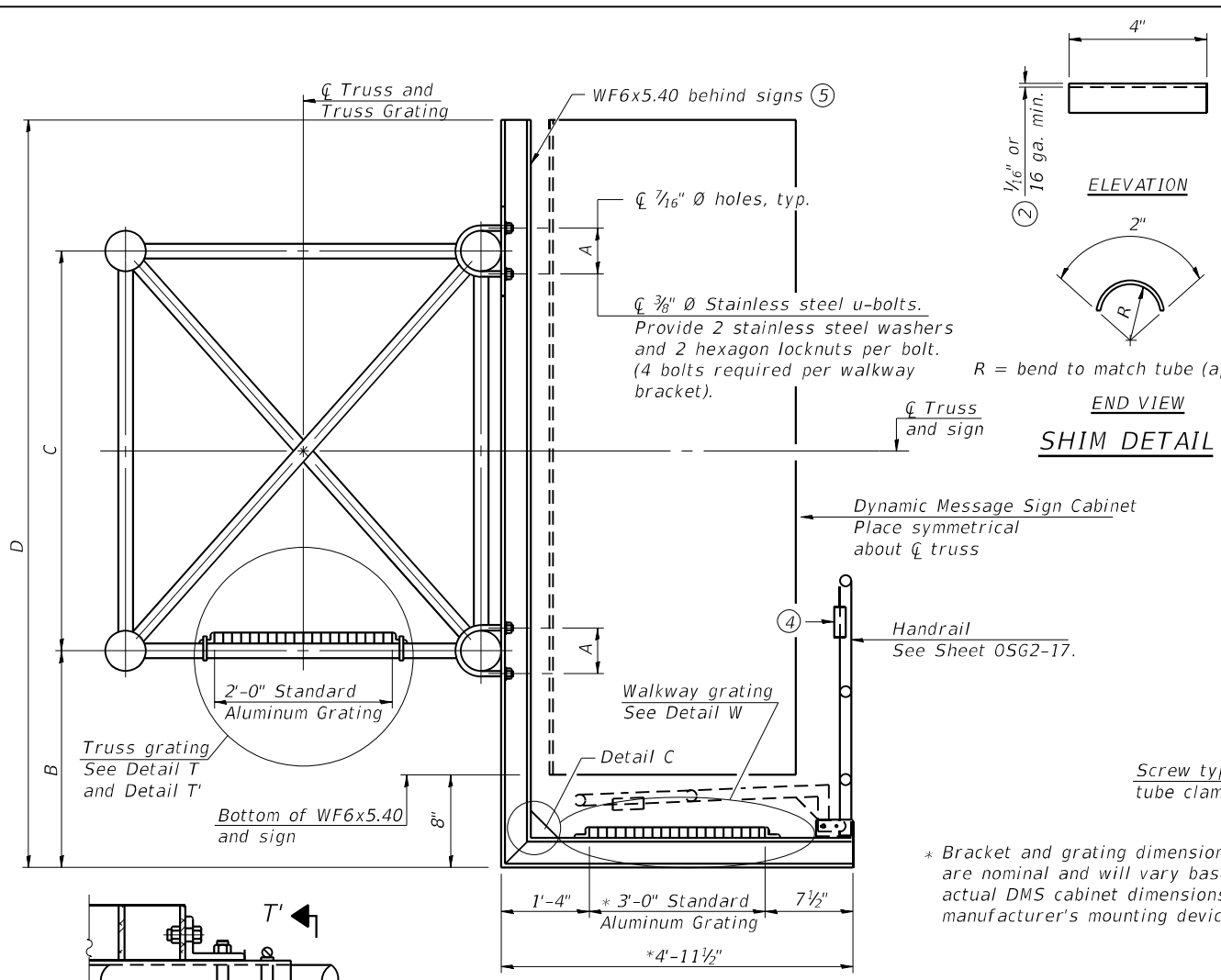
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
 ALUMINUM WALKWAY DETAILS

SHEET OSG2-15 OF OSG2-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	364
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



* Bracket and grating dimensions are nominal and will vary based on actual DMS cabinet dimensions plus manufacturer's mounting devices.

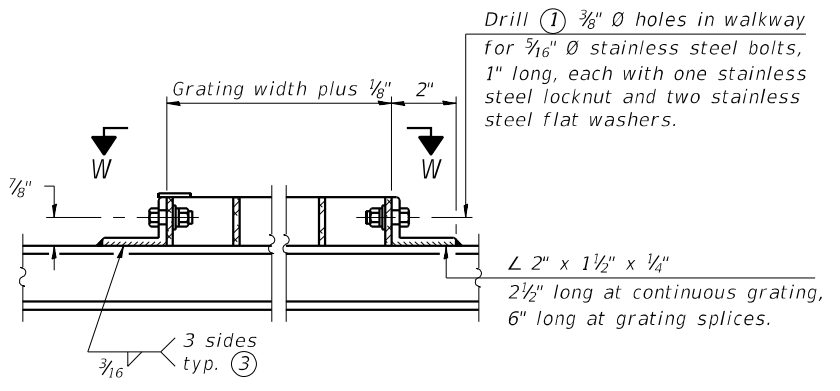
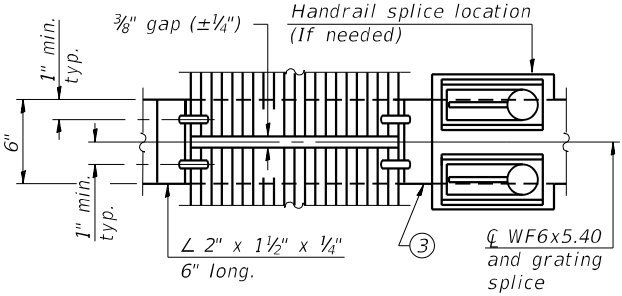
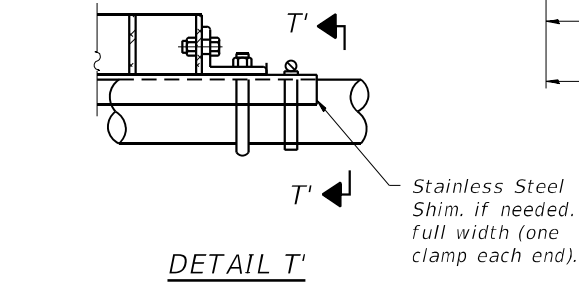
SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

Main Bearing Bars shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B211 Alloy 6061-T6.
 Cross bars shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

OR

Aluminum Grating with modified "L" sections for main bearing bars shall meet the following requirements:
 Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.³ per bar, a depth of 1 1/2", spaced on 1 3/16" centers.
 Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

- ① Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- ② Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- ③ If Handrail Joint present, weld angle to WF(A-N)4 and 1/4" extension bars. (See Base Sheet OS-A-11.)
- ④ R 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.
- ⑤ Cabinet manufacturer must design and supply hardware for connection of cabinet to WF6's. Bolts must be stainless steel or hot dip galvanized high strength per IDOT specifications.
- ⑥ Based on actual height of tallest sign given on Sheet OSG2-01.



Sign #	Structure Number	Station	A	⑥ B	C	⑥ D
Sign 16	1S0161094R049.6	344+53.87	7 3/8"	1'-1 1/2"	7'-0"	8'-7"
Sign 14	1S0161094R044.6	611+60.67	7 3/8"	1'-1 1/2"	7'-0"	8'-7"

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OS-A-10-DMS 2-17-2017



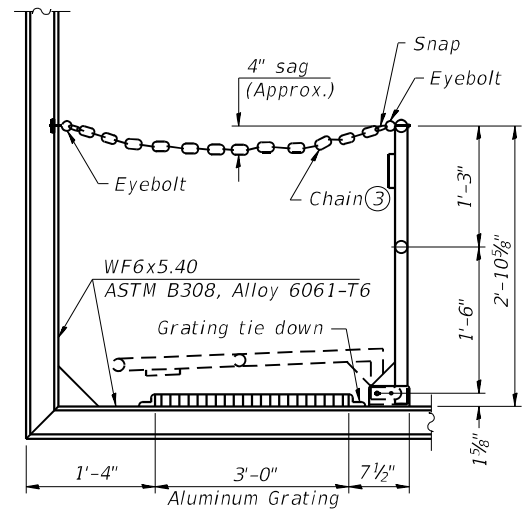
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

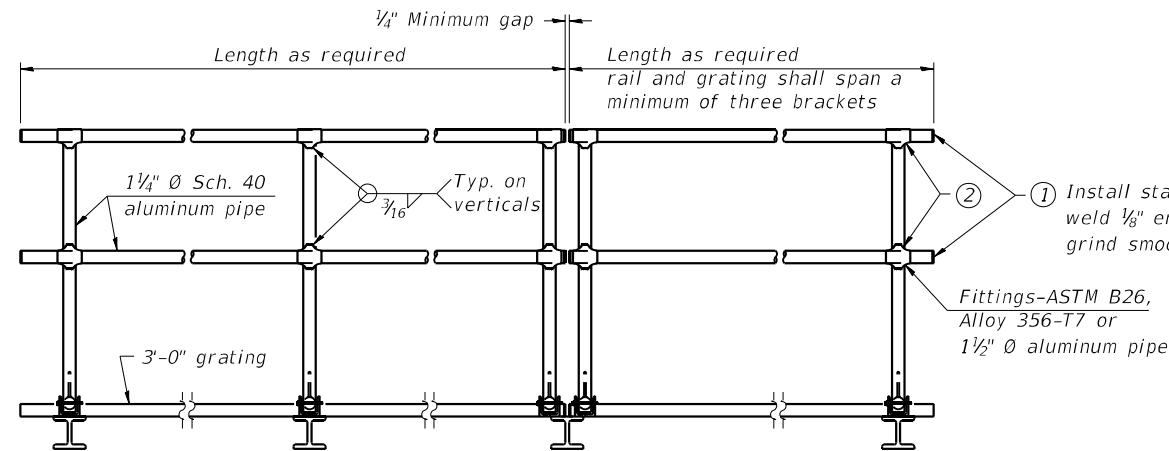
OVERHEAD SIGN STRUCTURES
 ALTERNATE ALUMINUM WALKWAY DETAILS FOR DMS II

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	365
CONTRACT NO. 62K74				
ILLINOIS FED. AD PROJECT				

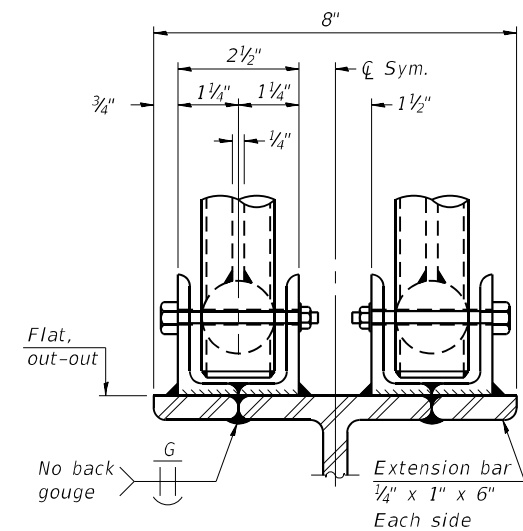
SHEET OSG2-16 OF OSG2-25 SHEETS



SIDE ELEVATION
(Showing safety chain w/o sign)



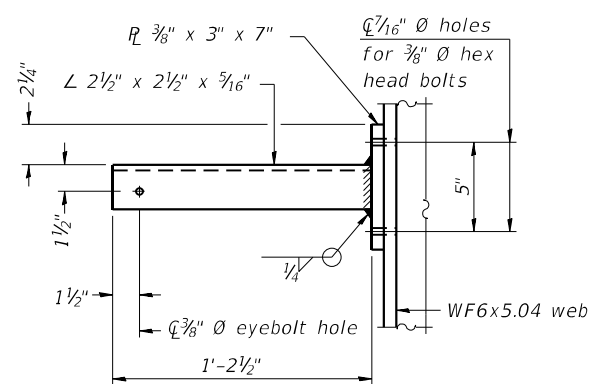
FRONT ELEVATION



ELEVATION AT HANDRAIL JOINT ④

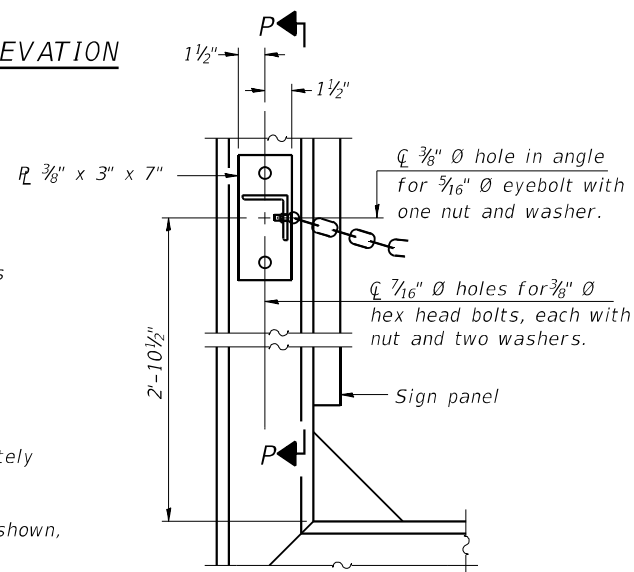
HANDRAIL DETAILS

Handrail pipe shall be ASTM B241, Alloy 6063-T6 or Alloy 6061-T6.



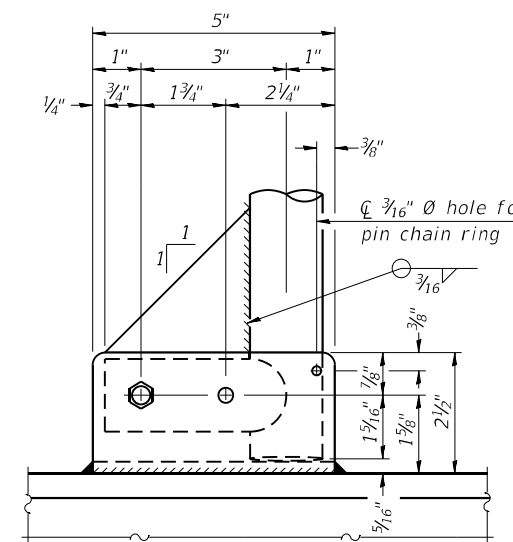
SECTION P-P

- ② Horizontal handrail member shall be continuous thru fitting. Provide 1/16 inch diameter hole in fitting for 3/8 inch diameter bolt. Field drill 1/16 inch diameter hole in horizontal rail member. Provide washer and locknut for bolt. (Use 3/16 inch eyebolts in 1/16 inch diameter holes on top rail at ends only.)
- ③ 3/16 inch type 304L stainless steel chain, approximately 12 links per foot.
- ④ Extrusions may be used in lieu of the details shown, with approval of the Engineer.

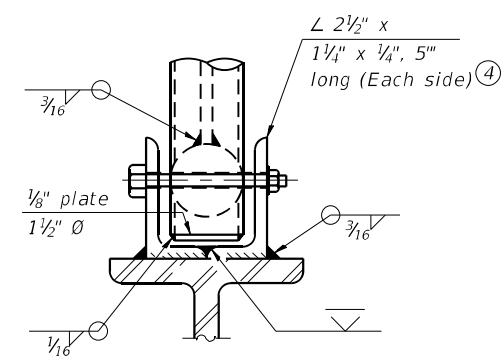


ALTERNATE SAFETY CHAIN ATTACHMENT

(With Sign Present)
Items not shown same as "Side Elevation" of "Handrail Details"

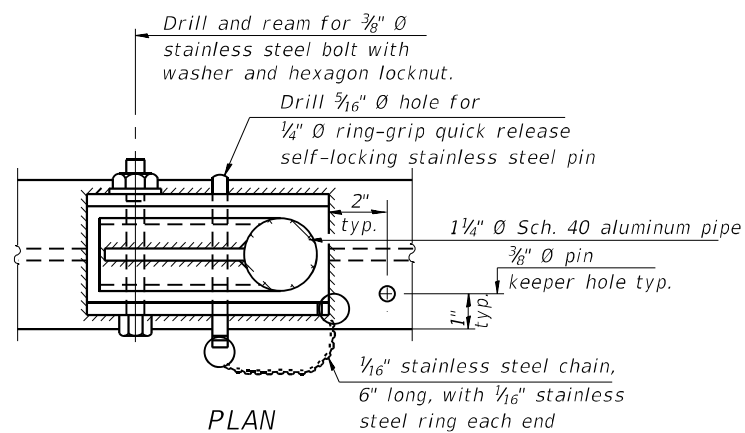


SIDE ELEVATION

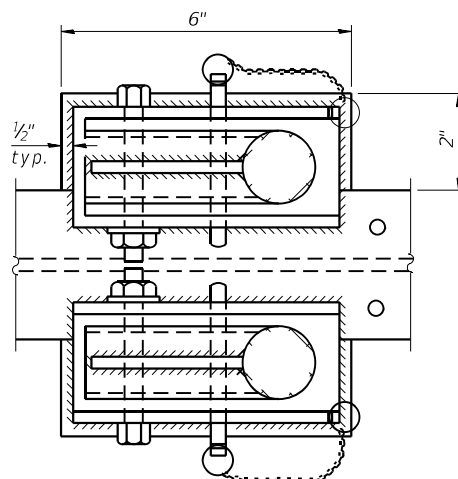


FRONT ELEVATION

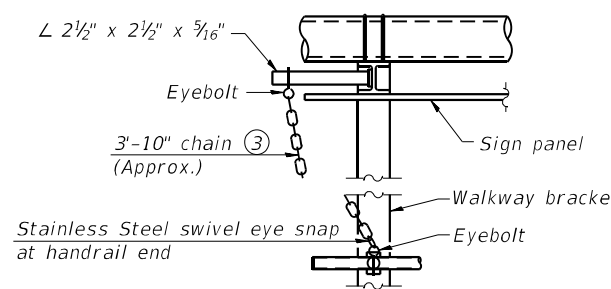
See "ELEVATION" at right for dimensions.



PLAN
DETAIL E HANDRAIL HINGE

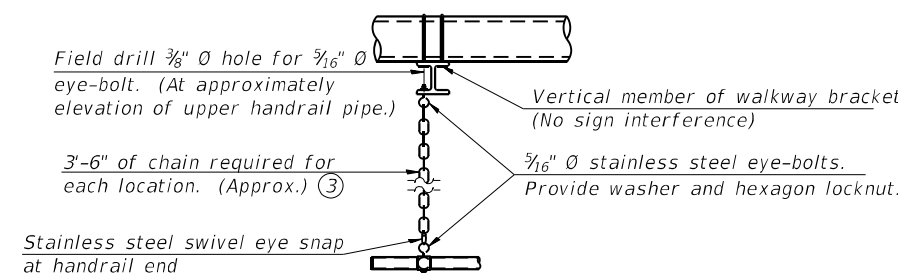


PLAN AT HANDRAIL JOINT
Details not shown same as "PLAN"



ALTERNATE SAFETY CHAIN ATTACHMENT

Details not shown similar to "Safety Chain" Details
(Walkway omitted for clarity)



SAFETY CHAIN

One required for each end of each walkway.

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05-A-11-DMS 2-17-2017



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PLOT DATE =	DRAWN - SK	REVISED -
	DATE - 9/9/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES
ALTERNATE ALUMINUM HANDRAIL DETAILS FOR DMS**

SHEET OSG2-17 OF OSG2-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	366
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
v4(E)	24	#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.

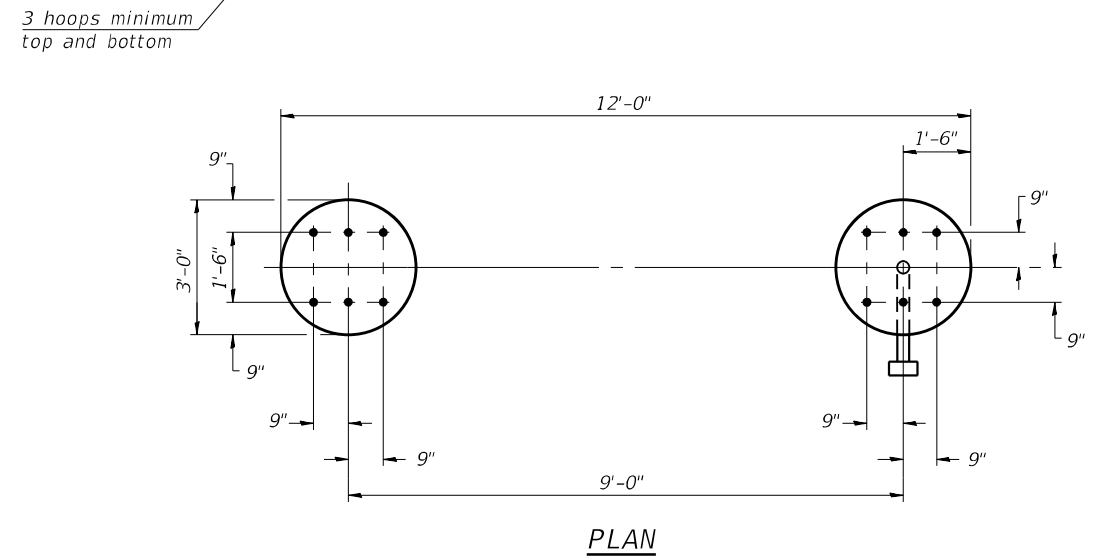
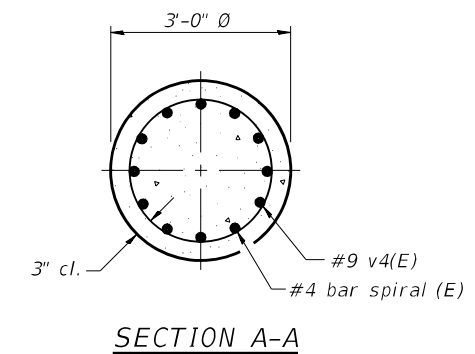
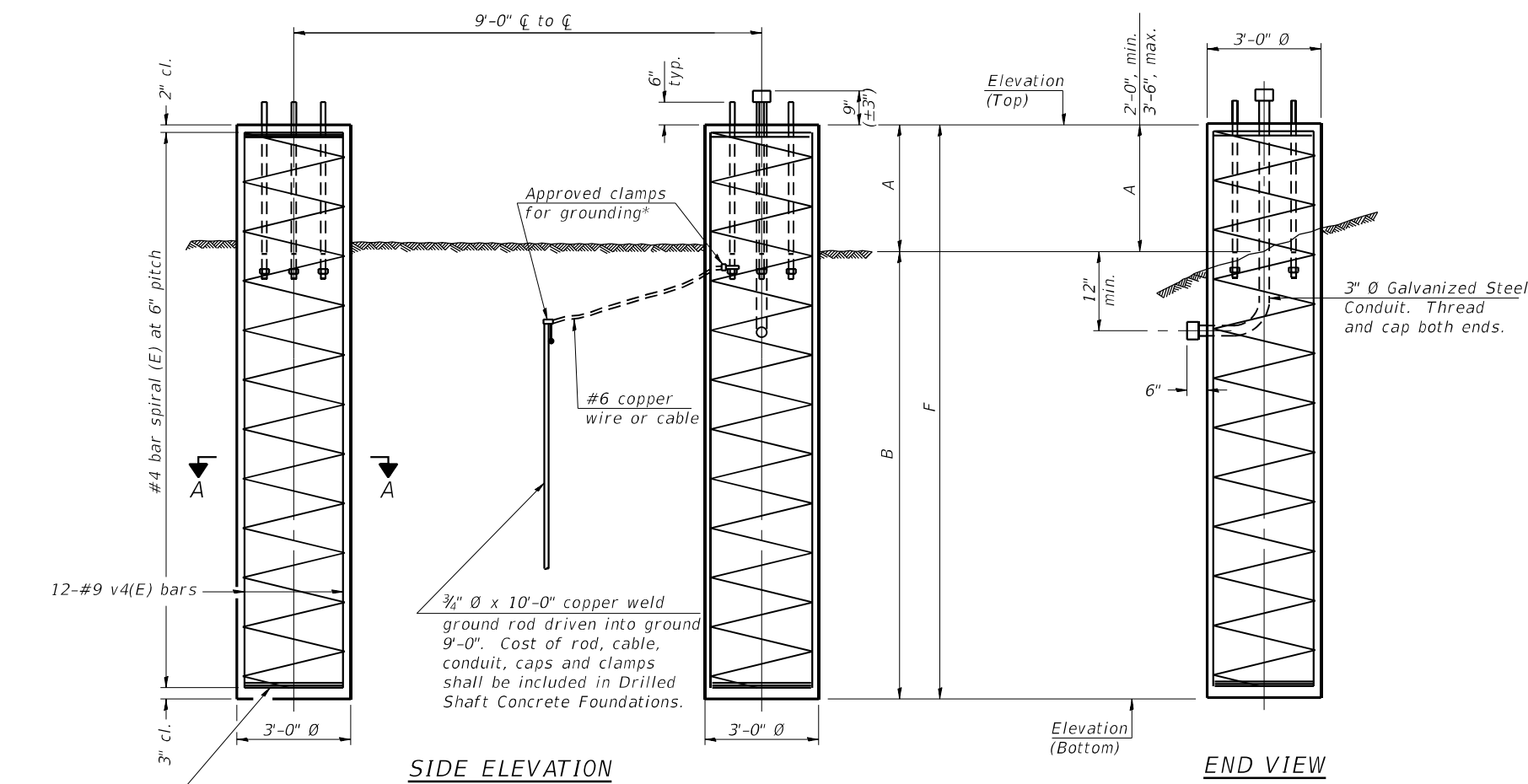
If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District 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.



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

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

DETAILS FOR 12" Ø SUPPORT FRAME TYPE III-A TRUSS

Sign #	Structure Number	Station	Left Foundation			Right Foundation			Class DS Concrete (Cu. Yds.)		
			Elevation Top	Elevation Bottom	F	Elevation Top	Elevation Bottom	F			
Sign 16	1S0161094R049.6	344+53.87				586.59	538.09	3'-6"	45'-0"	48'-6"	25.4
Sign 12	1S0161094R045.4	568+94.52				600.17	574.67	3'-6"	22'-0"	25'-6"	13.4
Sign 14	1S0161094R044.6	611+60.67				609.04	570.54	3'-6"	35'-0"	38'-6"	20.2

054-F4

2-17-2017



USER NAME =	DESIGNED - SK	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE =	DRAWN - SK	REVISED -
	DATE - 9/9/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES
DRILLED SHAFT DETAILS I**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	367
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

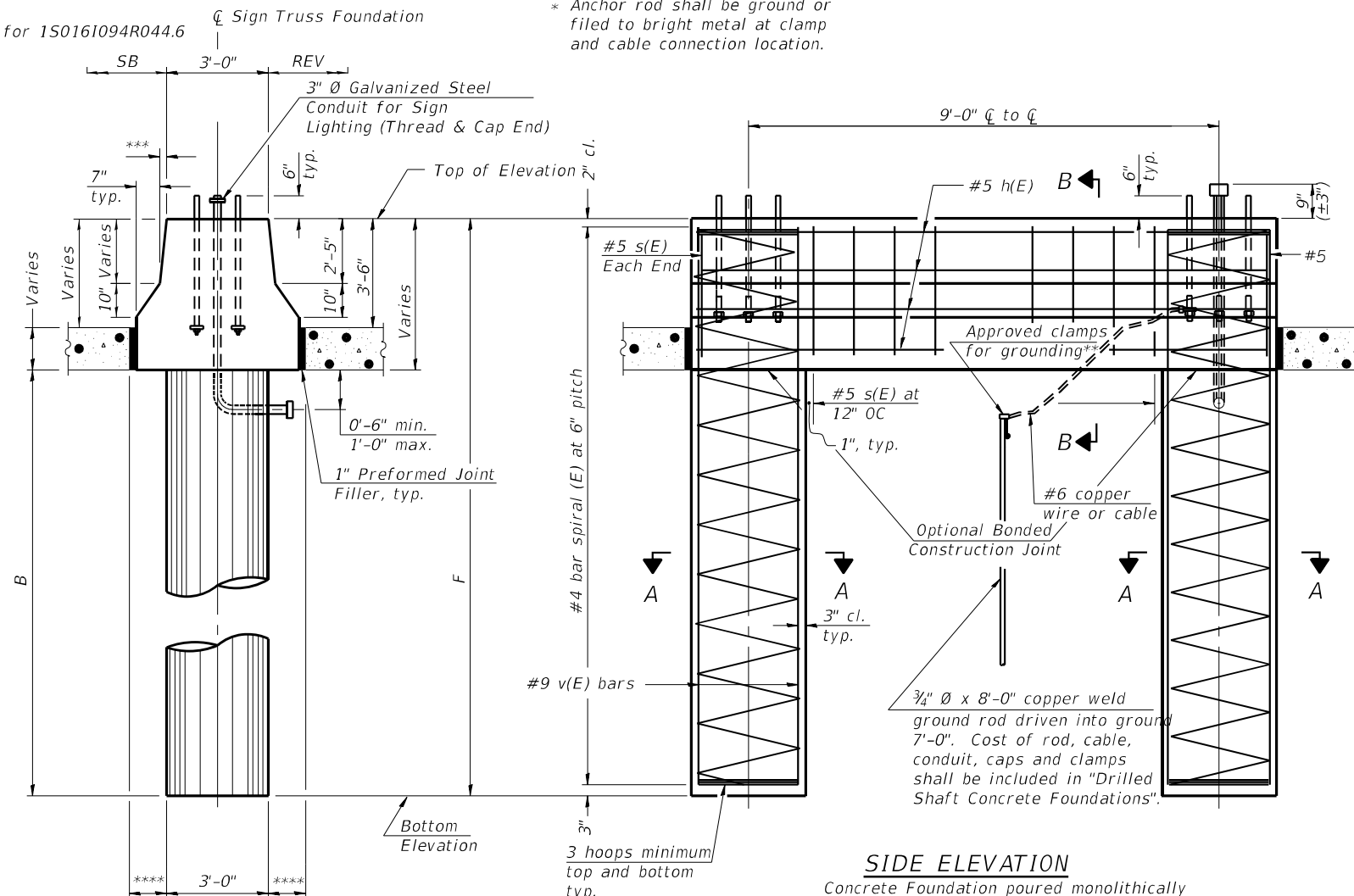
SHEET OSG2-18 OF OSG2-25 SHEETS

MODEL: Default
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9/9/2022 5:52:56 PM

***3" for 1S0161094R049.6

4 5/8" for 1S0161094R045.4

3 1/8" for 1S0161094R044.6



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

NOTES:

The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Ou) 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.

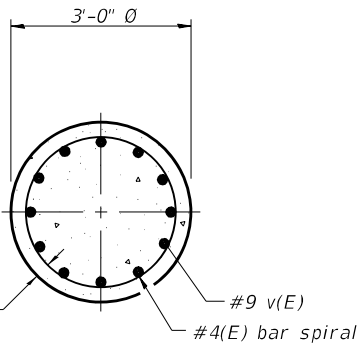
A normal surface finish followed by a Concrete Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.

Pipe Support Frames	cc	M	a	a/2
12"Ø	9'-0"	12'-0"	1'-6"	9"

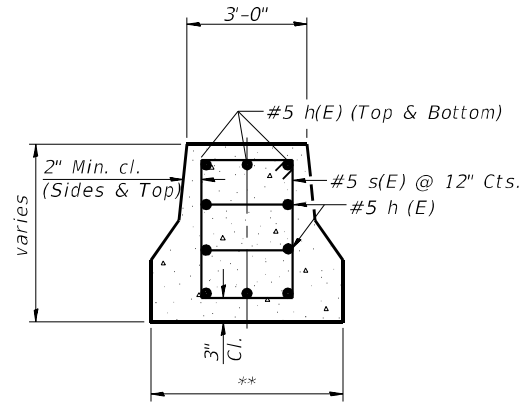
BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
h(E)	10	#5	M less 4"	—
s(E)	Varies	#5	Varies	□
v(E)	24	#9	F less 0'-5"	—

#4(E) bar spiral see Side Elevation



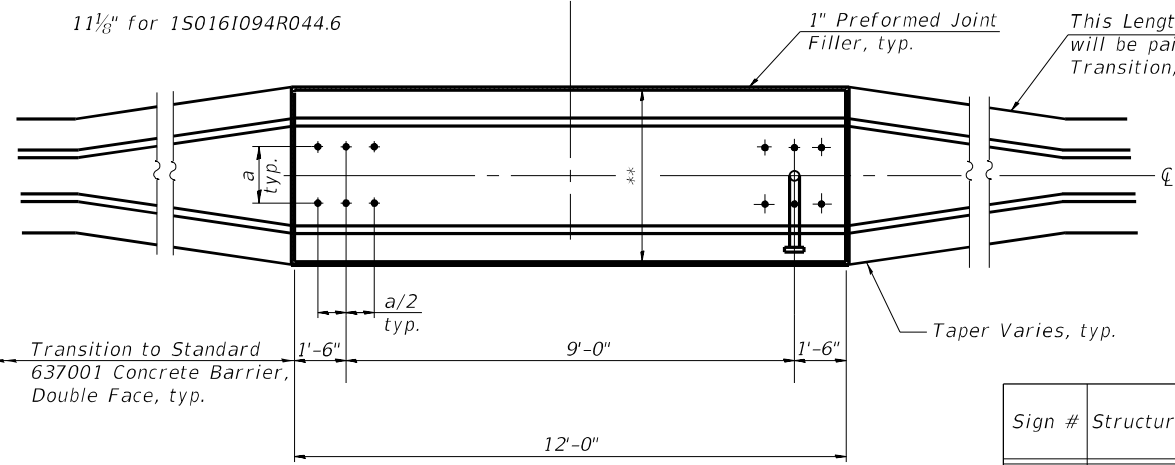
SECTION A-A



SECTION B-B

For Section at 1S0161094R049.6 See Sheet OSG2-20
 For Section at 1S0161094R045.4 See Sheet OSG2-21
 For Section at 1S0161094R044.6 See Sheet OSG2-22

**** 11" for 1S0161094R049.6
 1'-0 5/8" for 1S0161094R045.4
 11 1/8" for 1S0161094R044.6



PLAN

** 4'-8" for 1S0161094R049.6
 4'-11 1/4" for 1S0161094R045.4
 4'-8 1/4" for 1S0161094R044.6

Sign #	Structure Number	Station	Left Foundation		Right Foundation		Elevation Top	Elevation Bottom	B	F	Class DS Concrete (Cu. Yds.)
			Elevation Top	Elevation Bottom	Elevation Top	Elevation Bottom					
Sign 16	1S0161094R049.6	344+53.87	583.81	533.22					45'-0"	50'-7"	33.1
Sign 12	1S0161094R045.4	568+94.52	599.50	570.45					22'-0"	29'-0 5/8"	24.3
Sign 14	1S0161094R044.6	611+60.67	610.09	570.59					35'-0"	39'-6"	26.0

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USER NAME =	DESIGNED - SK	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE =	DRAWN - SK	REVISED -
	DATE - 9/22/2022	REVISED -

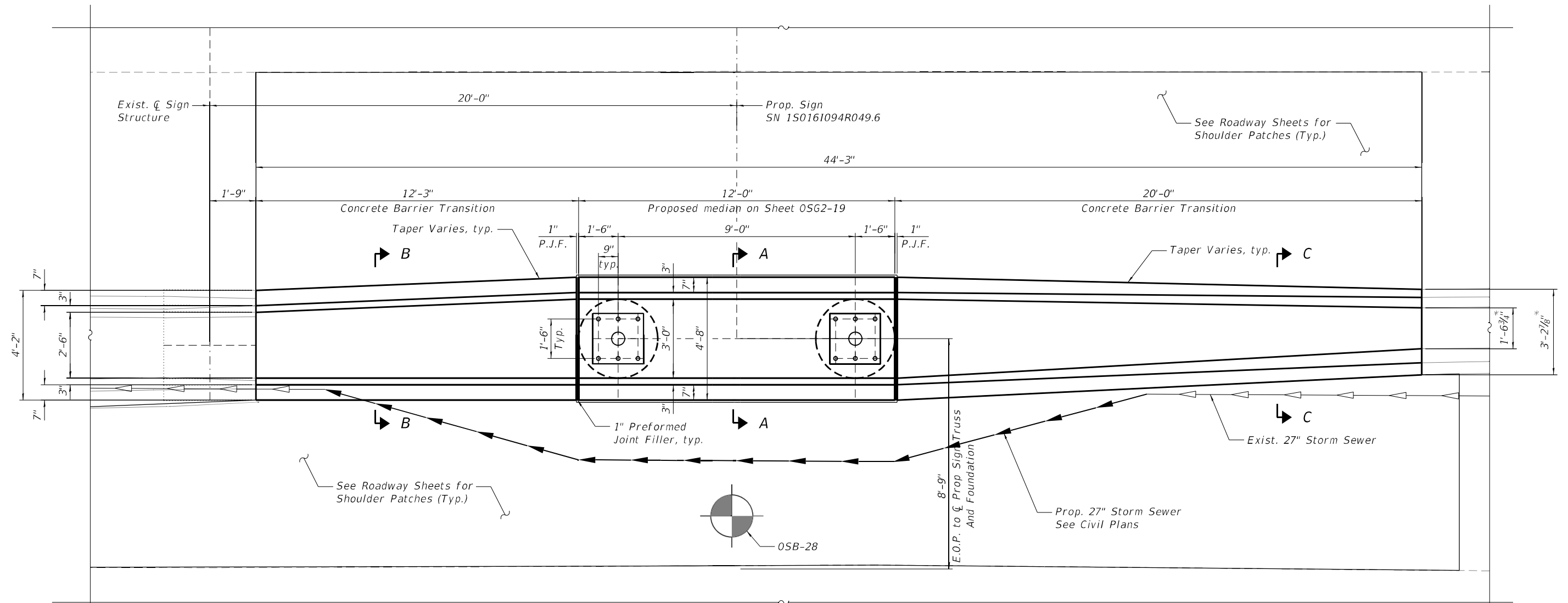
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES
 MEDIAN SUPPORT FOUNDATION DETAILS II**

SHEET OSG2-19 OF OSG2-25 SHEETS

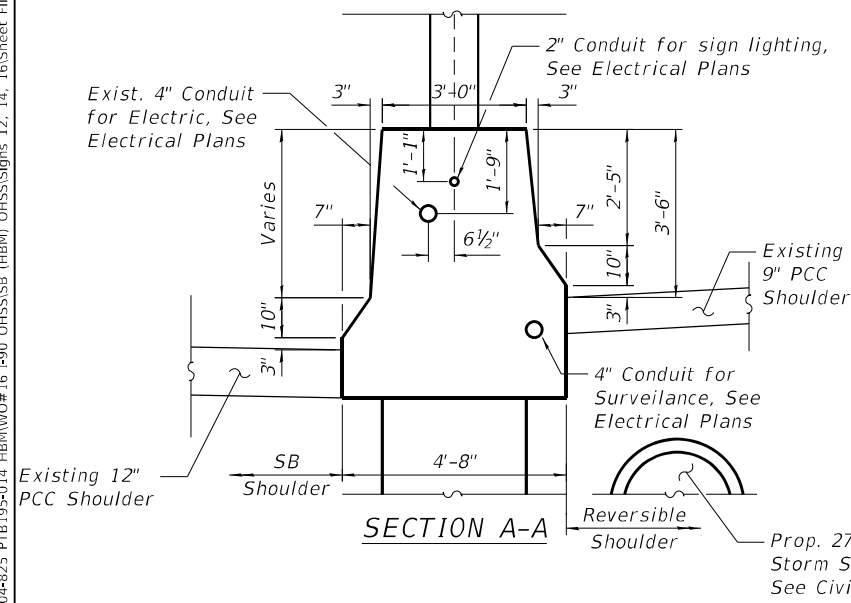
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9094	2020-004-BR	COOK	1492	368
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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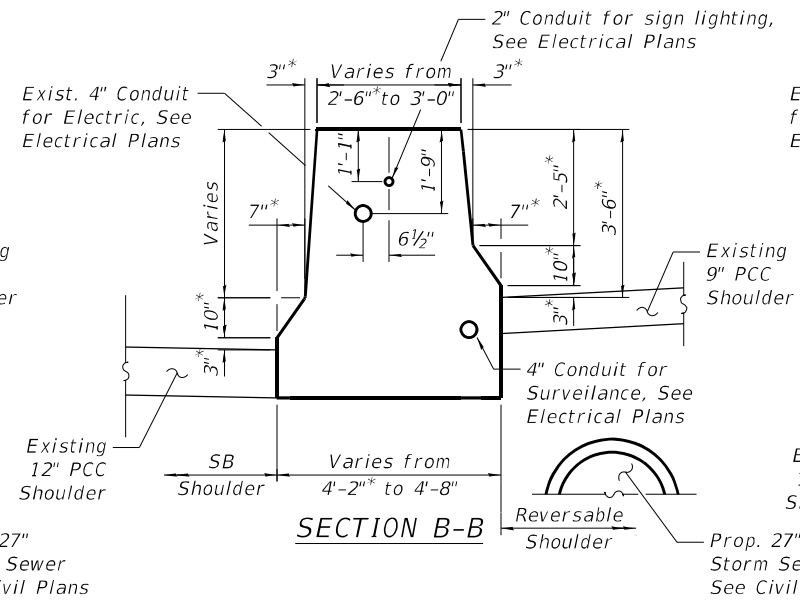


* Verify in Field to match Existing

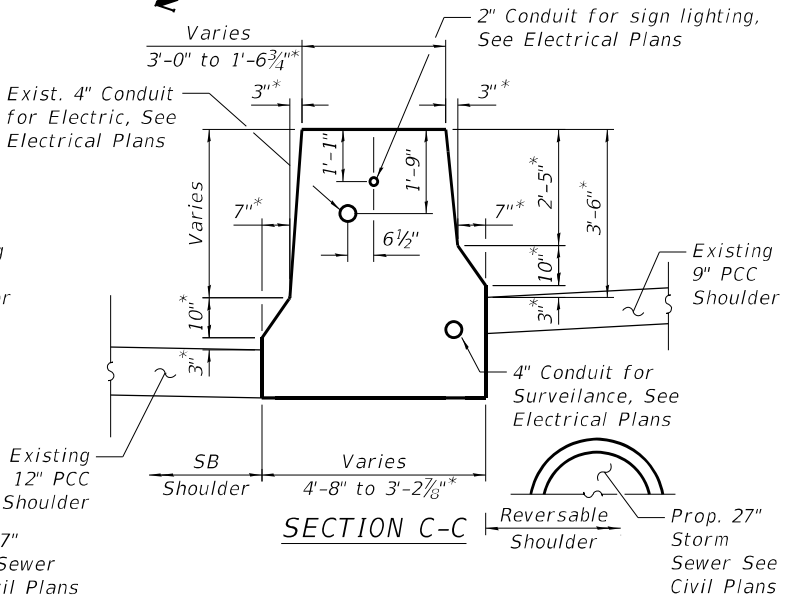
PARTIAL PLAN



SECTION A-A



SECTION B-B



SECTION C-C

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Barrier Transition	Foot	33



USER NAME =	DESIGNED - SK	REVISED -
CHECKED - MI, LAB	REVISED -	
PLOT SCALE =	DRAWN - SK	REVISED -
PLOT DATE =	DATE - 9/22/2022	REVISED -

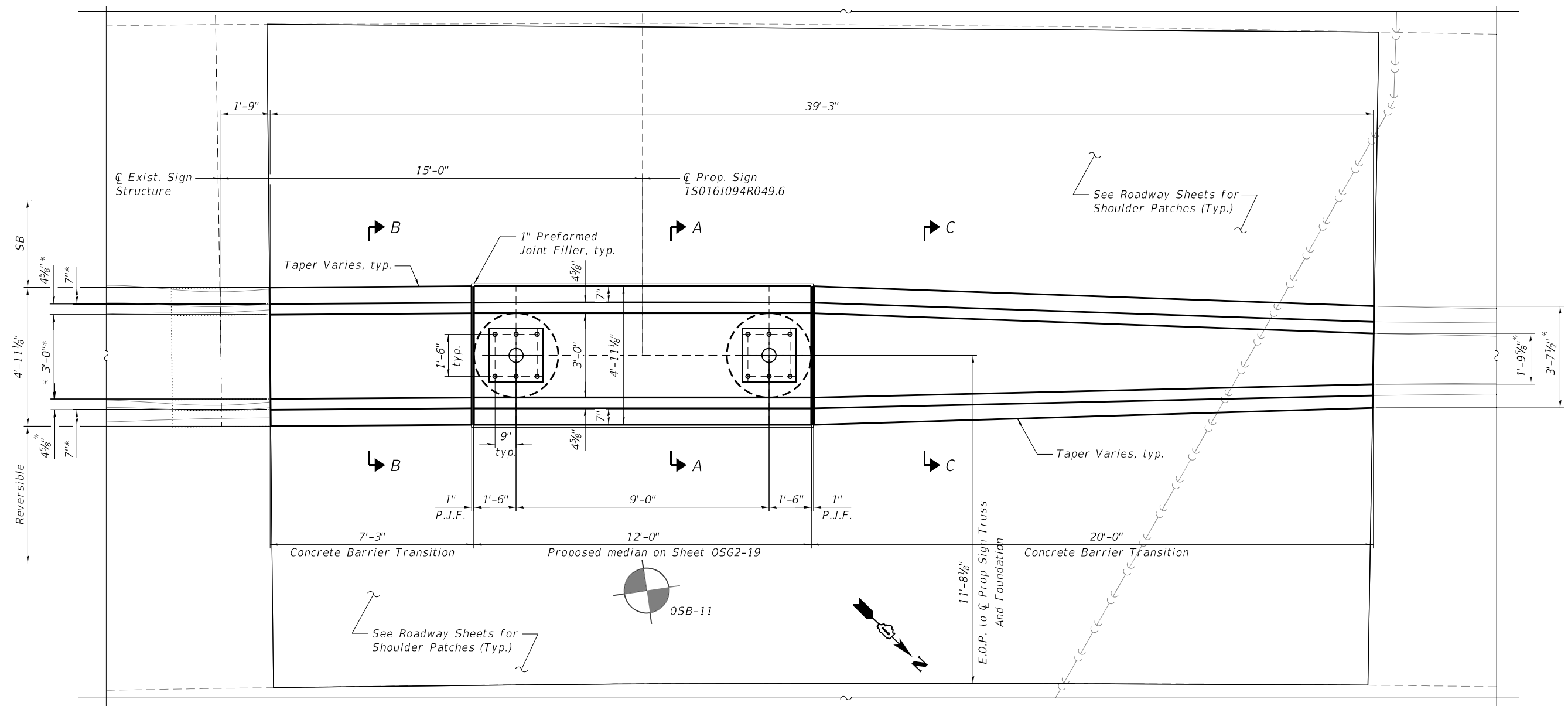
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**MEDIAN BARRIER ADDITIONAL SECTIONS AND DETAILS
 SN 1S0161094R049.6 (SIGN 16)**

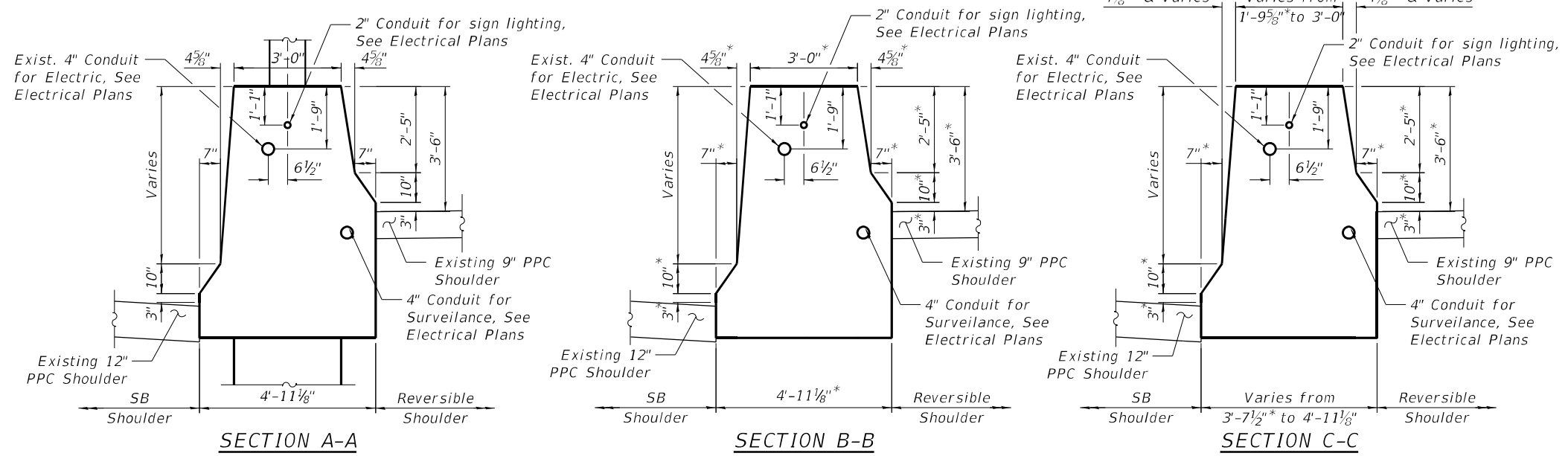
SHEET OSG2-20 OF OSG2-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	369
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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* Verify in Field to match Existing



BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Barrier Transition	Foot	28



USER NAME =	DESIGNED - SK	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE =	DRAWN - SK	REVISED -
	DATE - 9/22/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

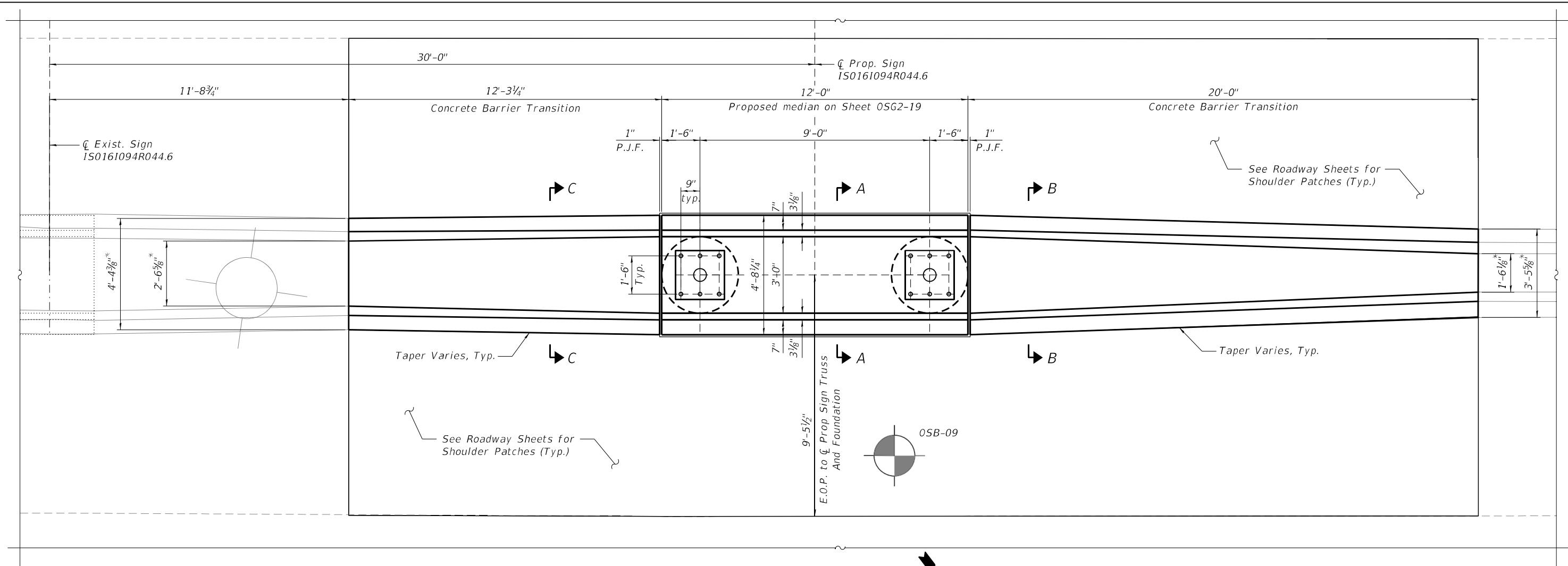
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SN 1S0161094R045.4 (SIGN 12)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	370
CONTRACT NO. 62K74				

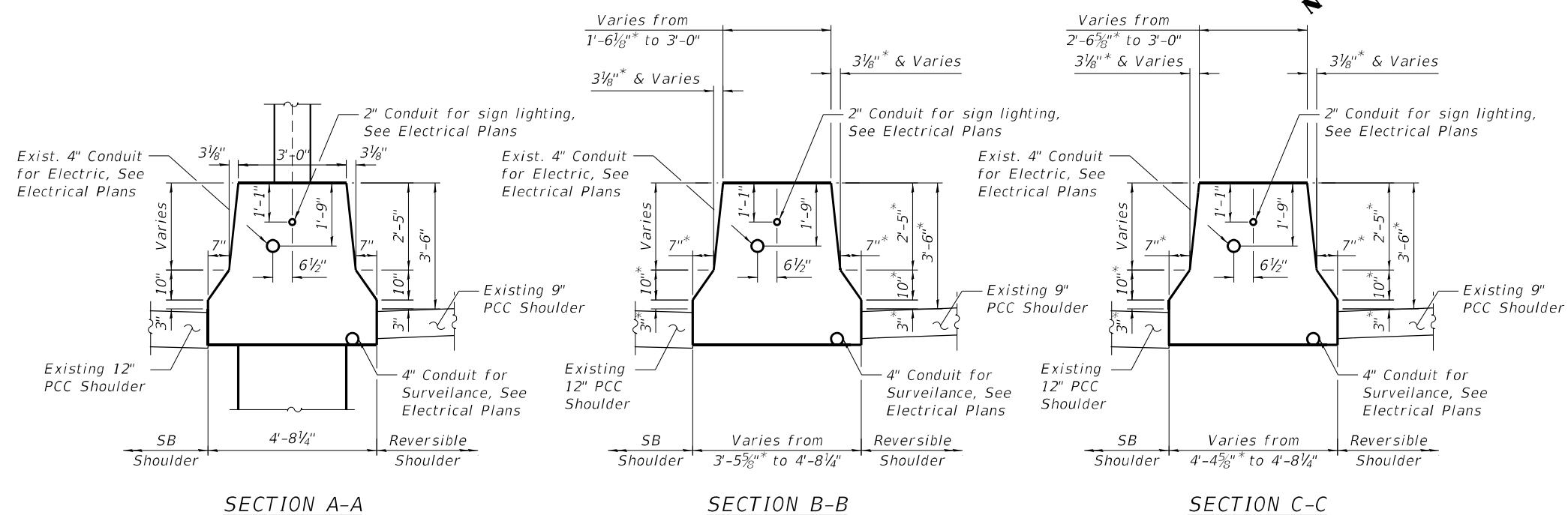
SHEET OSG2-21 OF OSG2-25 SHEETS

ILLINOIS FED. AID PROJECT

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 9/22/2022 10:41:58 AM



* Verify in Field to match Existing



BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Barrier Transition	Foot	22



USER NAME =	DESIGNED - SK	REVISED -
	CHECKED - MI, LAB	REVISED -
PLOT SCALE =	DRAWN - SK	REVISED -
PLOT DATE =	DATE - 9/22/2022	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MEDIAN BARRIER ADDITIONAL SECTIONS AND DETAILS
 SN 1S0161094R044.6 (SIGN 14)

SHEET OSG2-22 OF OSG2-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	371
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		



GSI Job No. 19079-B

SOIL BORING LOG

Page 1 of 1

Date 11/11/21

PROJECT PTB 185-012, WO #32

LOCATION I-90 & I-94 Tollway

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

CLIENT HBM
 BORING NO. OSB-27
 Northing 1906971
 Easting 1167344
 Ground Surface Elev. 580.3 ft

Surface Water Elev. _____ ft
 Stream Bed Elev. _____ ft
 Groundwater Elev.:
 First Encounter 562.3 ft
 Upon Completion _____ ft
 After _____ Hrs. _____ ft

DEPTH (ft)	BLOW COUNT (/6")	UCS (tsf)	MOISTURE (%)	PCF	SOIL DESCRIPTION	DEPTH (ft)	BLOW COUNT (/6")	UCS (tsf)	MOISTURE (%)	PCF	SOIL DESCRIPTION
579.3					12.0" CONCRETE						CLAY-gray-soft to medium dense (continued)
	50/5"				CRUSHED ASPHALT & STONE-very dense (Fill)	1					
		2.10	12			2	0.60	25			
						2	B				
577.3					CLAY LOAM-gray-medium stiff to stiff						
	7					1					
	4	1.50	15			2	0.25	25			
	4	P				1	P				
	-5										
	2					1					
	3	0.50	17			1	0.25	25			
	4	B				1	P				
572.3					CLAY-gray-soft to medium dense						
	1					1					
	1	0.50	25			1	0.50	24			
	1	B				1	B				
	-10										
	2										
	1	0.50	25								
	1	B									
	1										
	2	0.60	25								
	1	B									
	-15										
	1										
	2	0.60	17								
	2	B									
	1										
	3	0.60	21								
	1	B									
	-20										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger BBS, from 137 (Rev. 8-99)



GSI Job No. 19079-B

SOIL BORING LOG

Page 1 of 1

Date 10/21/21

PROJECT PTB 185-012, WO #32

LOCATION I-90 & I-94 Tollway

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

CLIENT HBM
 BORING NO. OSB-28
 Northing 1906992
 Easting 1167413
 Ground Surface Elev. 579.6 ft

Surface Water Elev. _____ ft
 Stream Bed Elev. _____ ft
 Groundwater Elev.:
 First Encounter _____ ft
 Upon Completion _____ ft
 After _____ Hrs. _____ ft

DEPTH (ft)	BLOW COUNT (/6")	UCS (tsf)	MOISTURE (%)	PCF	SOIL DESCRIPTION	DEPTH (ft)	BLOW COUNT (/6")	UCS (tsf)	MOISTURE (%)	PCF	SOIL DESCRIPTION
578.8					10.0" CONCRETE						CLAY-gray-soft to medium stiff (continued)
	5				CRUSHED STONE-loose (Fill)	2					
	2					2	0.80	22			
	3					9	B				
576.6					CLAY LOAM-gray-medium stiff to stiff						
	2					2					
	3	1.80	14			6	0.80	15			
	4	B				7	P				
	-5										
	2										
	3	1.40	16			5	3.10	16			
	3	B				7	B				
571.6					CLAY-gray-soft to medium stiff						
	1					4					
	1	0.80	24			6	2.00	19			
	2	B				8	P				
	-10										
	1										
	1	0.40	25								
	2	B									
	1										
	2	0.80	25								
	2	B									
	-15										
	2										
	2	0.80	24								
	3	B									
	2										
	2	0.80	24								
	3	B									
	-20										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger BBS, from 137 (Rev. 8-99)

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USER NAME =	DESIGNED - SK	REVISED -
CHECKED - MI, LAB	REVISED -	
PLOT SCALE =	DRAWN - SK	REVISED -
PLOT DATE =	DATE - 9/9/2022	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BORING LOGS I
 SN 1S0161094R049.6 (SIGN 16)

SHEET OSG-23 OF OSG-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	372
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		



GSI Job No. 19079-B

SOIL BORING LOG

Page 1 of 1

Date 11/8/21

PROJECT PTB 185-012, WO #32

LOCATION I-90 & I-94 Tollway

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

CLIENT HBM

BORING NO. OSB-10
Northing 1922177
Easting 1152177
Ground Surface Elev. 597.1 ft

DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)	SPT (pcf)	Surface Water Elev. ft	Stream Bed Elev. ft	Groundwater Elev.: First Encounter Dry ft	Upon Completion Dry ft	After Hrs. ft	DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)	SPT (pcf)
12.0" CONCRETE 596.1 Drillers Observation: Concrete Fill (continued)														
CRUSHED STONE-medium dense (Fill) 16 10 5 5 9 20 5 591.6 CLAY LOAM-brown & gray-stiff to very stiff 3 4 7 2.30 21 B 1 3 3 1.50 24 P -10 -30 2 3 3 1.00 23 B becoming gray @ -13.0' 2 6 4 1.50 12 B -15 -35 581.6 SILTY GRAVEL with Sand-gray-very dense 35 22 50/2" 5 579.1 Drillers Observation: Concrete Fill 50/0" NR -20 -40														

Z:\PROJECTS\2019\19079-B\EFK_IDOT_192-007-WO#15 KENNEDY PROJECTS 62K73862K74\19079-B BORING LOGS\19079-B_LOG.GPJ 12/9/21

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger BBS, from 137 (Rev. 8-99)



GSI Job No. 19079-B

SOIL BORING LOG

Page 1 of 1

Date 10/19/21

PROJECT PTB 185-012, WO #32

LOCATION I-90 & I-94 Tollway

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

CLIENT HBM

BORING NO. OSB-11
Northing 1922232
Easting 1152239
Ground Surface Elev. 595.0 ft

DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)	SPT (pcf)	Surface Water Elev. ft	Stream Bed Elev. ft	Groundwater Elev.: First Encounter 580.0 ft	Upon Completion ft	After Hrs. ft	DEPTH (ft)	BLOW COUNT (blows/6")	UCS (tsf)	MOISTURE (%)	SPT (pcf)
10.0" CONCRETE 594.2 SILTY GRAVEL & STONE-very dense (Fill) (continued)														
CRUSHED STONE-medium dense to dense (Fill) 31 34 25 4 7 10 3 5 572.5 Auger Refusal @ -22.5'. 3 Attempts Made. End Of Boring. Boring backfilled with cuttings. 8 13 20 11 6 5 7 6 -10 -30 584.5 CLAY LOAM-gray-medium stiff to hard(Fill) 4 2 5 0.50 24 P 5 15 17 4.50 13 P -15 -35 579.5 SILTY GRAVEL & STONE-very dense (Fill) 60/0" NR 50/1" 18 -20 -40														

Z:\PROJECTS\2019\19079-B\EFK_IDOT_192-007-WO#15 KENNEDY PROJECTS 62K73862K74\19079-B BORING LOGS\19079-B_LOG.GPJ 12/9/21

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger BBS, from 137 (Rev. 8-99)

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CHECKED - MI, LAB	REVISOR -	
PLOT SCALE =	DRAWN - SK	REVISED -
PLOT DATE =	DATE - 9/9/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS II
SN 1S0161094R044.6 (SIGN 14)
SHEET OSG2-24 OF OSG2-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	373
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		



GSI Job No. 19079-B

SOIL BORING LOG

Page 1 of 1

Date 11/1/21

PROJECT PTB 185-012, WO #32

LOCATION I-90 & I-94 Tollway

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

Table with client information (HBM), boring number (OSB-08), northing (1925245), easting (1149424), and ground surface elevation (606.0 ft).

Main soil boring log table with columns for depth, blow count, soil type, and groundwater levels. Includes soil descriptions like 'CLAY LOAM-brown & gray-medium stiff to stiff' and 'CRUSHED STONE-dense to very dense (Fill)'.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger BBS, from 137 (Rev. 8-99)



GSI Job No. 19079-B

SOIL BORING LOG

Page 1 of 1

Date 10/19/21

PROJECT PTB 185-012, WO #32

LOCATION I-90 & I-94 Tollway

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

Table with client information (HBM), boring number (OSB-09), northing (1925309), easting (1149460), and ground surface elevation (605.9 ft).

Main soil boring log table with columns for depth, blow count, soil type, and groundwater levels. Includes soil descriptions like 'CLAY LOAM-gray-medium stiff to stiff' and 'CRUSHED STONE-medium dense (Fill)'.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), GP-Geoprobe Hand Auger BBS, from 137 (Rev. 8-99)

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Revision table with columns for USER NAME, DESIGNED, CHECKED, PLOT SCALE, and PLOT DATE.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

BORING LOGS III SN 1S0161094R044.6 (SIGN 14)

Table with project details including SECTION (2020-004-BR), COUNTY (COOK), TOTAL SHEETS (1492), and SHEET NO. (374).

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.
fy = 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.

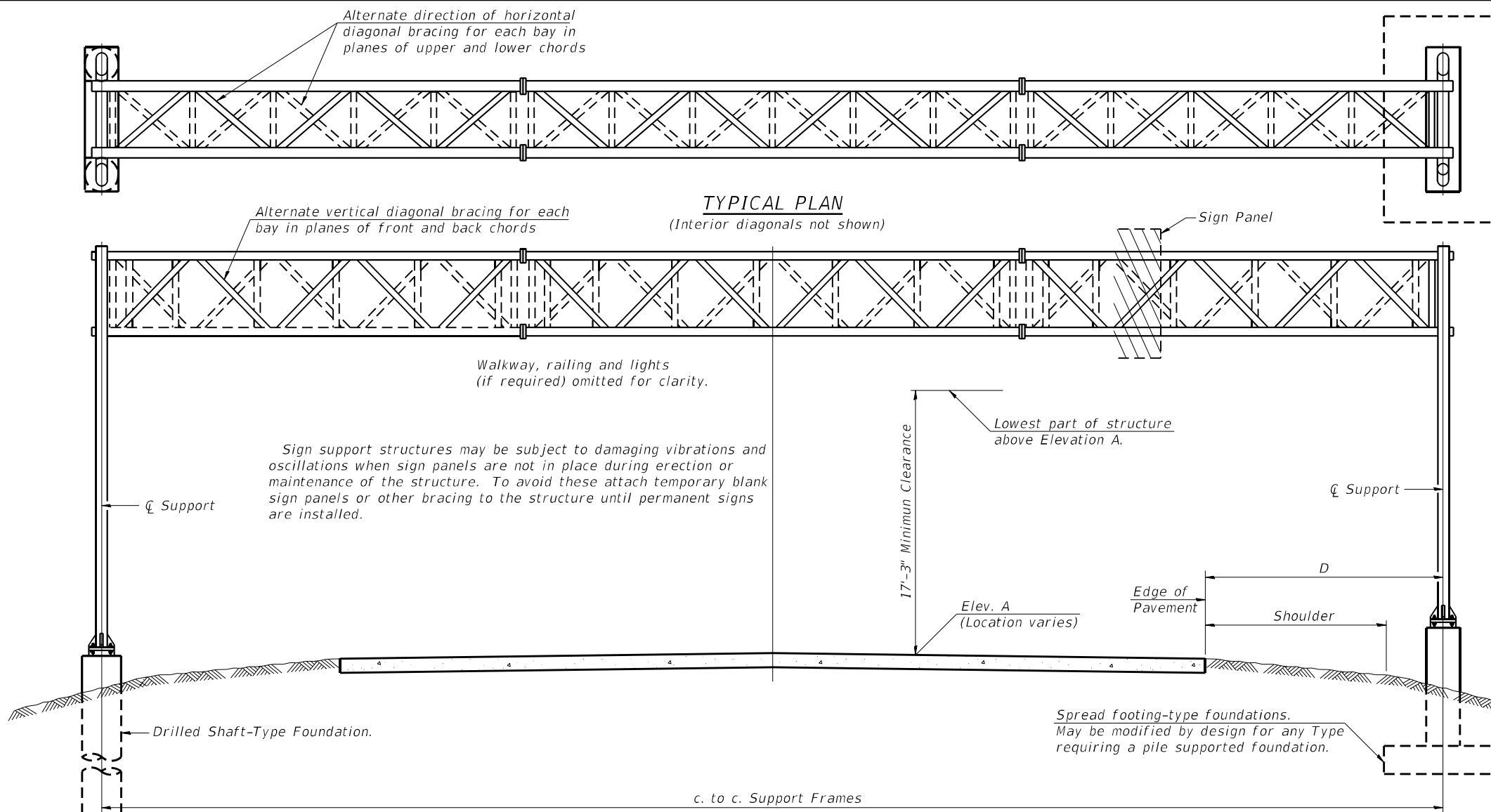
GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

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

CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final 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.



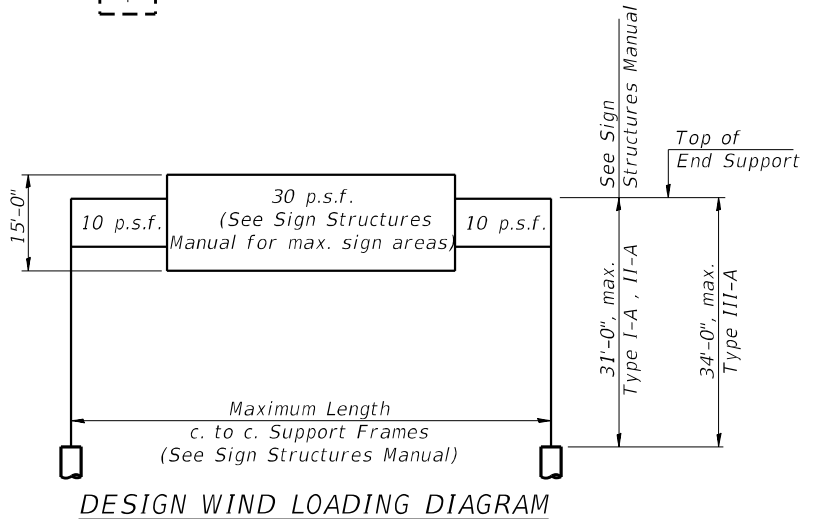
TYPICAL ELEVATION
(Looking at Face of Signs)**)

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

Sign #	Structure Number	Station (SB Baseline)	Design Truss Type	c. to c. Supports	Elev. A	*** Dim. D	Height of Tallest Sign	Total Sign Area
Sign 7	1S0161094R046.4	514+40.05	1-A	85.0'	606.81	8.49'	11.5'	361.5

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
CONCRETE REMOVAL	Cu. Yds.	2.4
STRUCTURE EXCAVATION	Cu. Yds.	33.7
OVERHEAD SIGN STRUCTURE - SPAN, TYPE I-A (4'-0" X 4'-6")	Foot	85
CONCRETE FOUNDATIONS	Cu. Yds.	23.7
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	9.7
REMOVE OVERHEAD SIGN STRUCTURE SPAN	Each	1



Parameters shown are basis for I.D.O.T. Standards and Sign Manual Tables. Installations not within dimensional limits shown require special analysis for all components.

* 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.

**Looking upstation for structures with signs both sides.

***For Sign 7 Layout See Sheet 2

PARSONS
HBA AHMED ABDALLA, PhD, PE, SE
*08-007634

HBA Ahmed Abdalla
DATE: 12/05/2022

EXPIRATION DATE: 11-30-2024

SIGNATURE AND SEAL APPLY TO SIGN STRUCTURE NO. 7 DRAWINGS

PARSONS
TRANSPORTATION GROUP
1500 N. MICHIGAN AVE., SUITE 400
CHICAGO, IL 60606
Tel: 312.467.8100
Fax: 312.467.8100

USER NAME = p009959A	DESIGNED - JAB	REVISED -
PLOT SCALE =	CHECKED - HAA	REVISED -
PLOT DATE = 12/5/2022	DRAWN - JAB	REVISED -
	DATE - 08/26/2022	REVISED -

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OVERHEAD SIGN STRUCTURES - GENERAL PLAN &
ELEVATION - ALUMINUM TRUSS & STEEL SUPPORTS

SHEET 1 OF 13 SHEETS

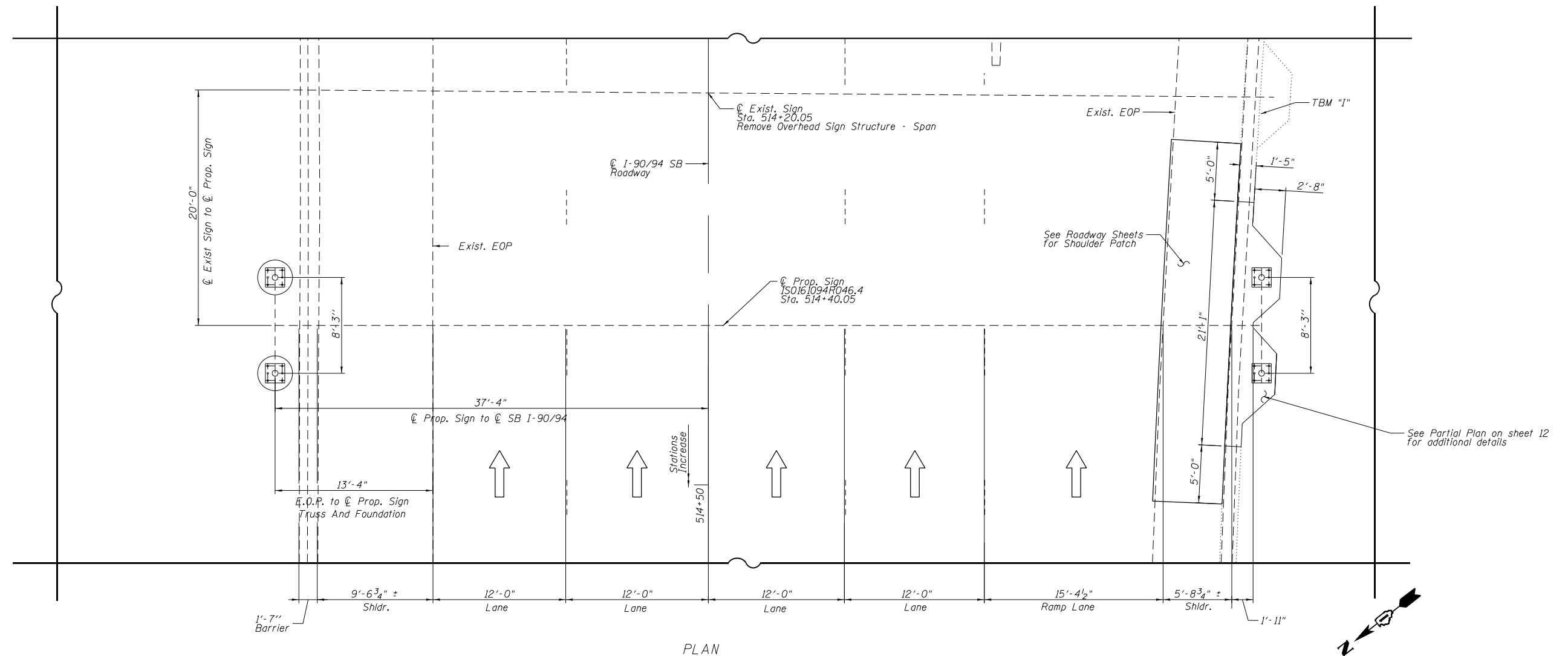
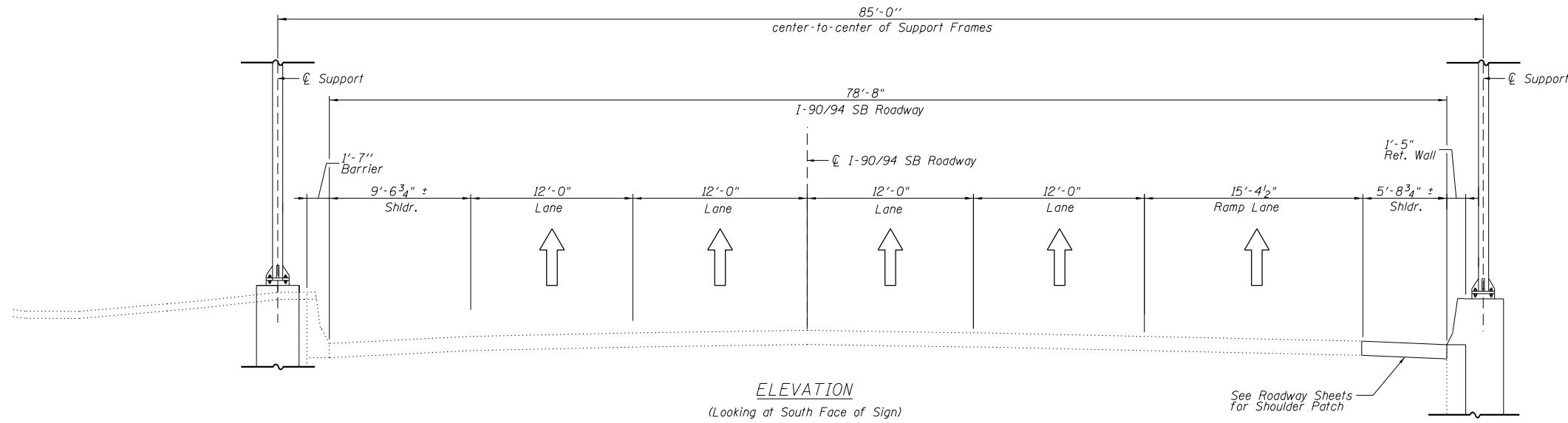
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90/94	2020-004-BR	COOK	1492	375
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

FILE NAME = par\VANVAQ\PI\INT\Illinois State Documents\IDOT\HBM\Task Order\Work Order 12 12 1-98&leah\94_Sign_Replacements\40 - Design\CAD\Signs\Sheets\Overhead_Sign_Structures_Bldg.dgn

Benchmark: TBM "I" Square cut on top of NW edge of overhead sign for "Exit 46A" at Station 514+21.84 Offset 47.60 LT measured along CL SB I-90/94. Elev. 610.42

NOTES

1. Stations that are shown are with respect to the SB I-90/94 Baseline.
2. The contractor shall establish a local version of the SB Baseline based on the dimension shown on this plan. The stationing shall be with respect to the center line of existing sign truss as shown. The offset of the baseline shall be measured from existing features as shown.
3. Soil Boring OSB-17 located at Station 514+60.67 Offset 71.94 RT measured along CL SB I-90/94.



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PLOT SCALE =	CHECKED - HAA	REVISED -
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	DATE - 08/26/2022	REVISED -

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GENERAL PLAN AND ELEVATION
S.N. 1S0161094R046.4 (SIGN 7)

SHEET 2 OF 13 SHEETS

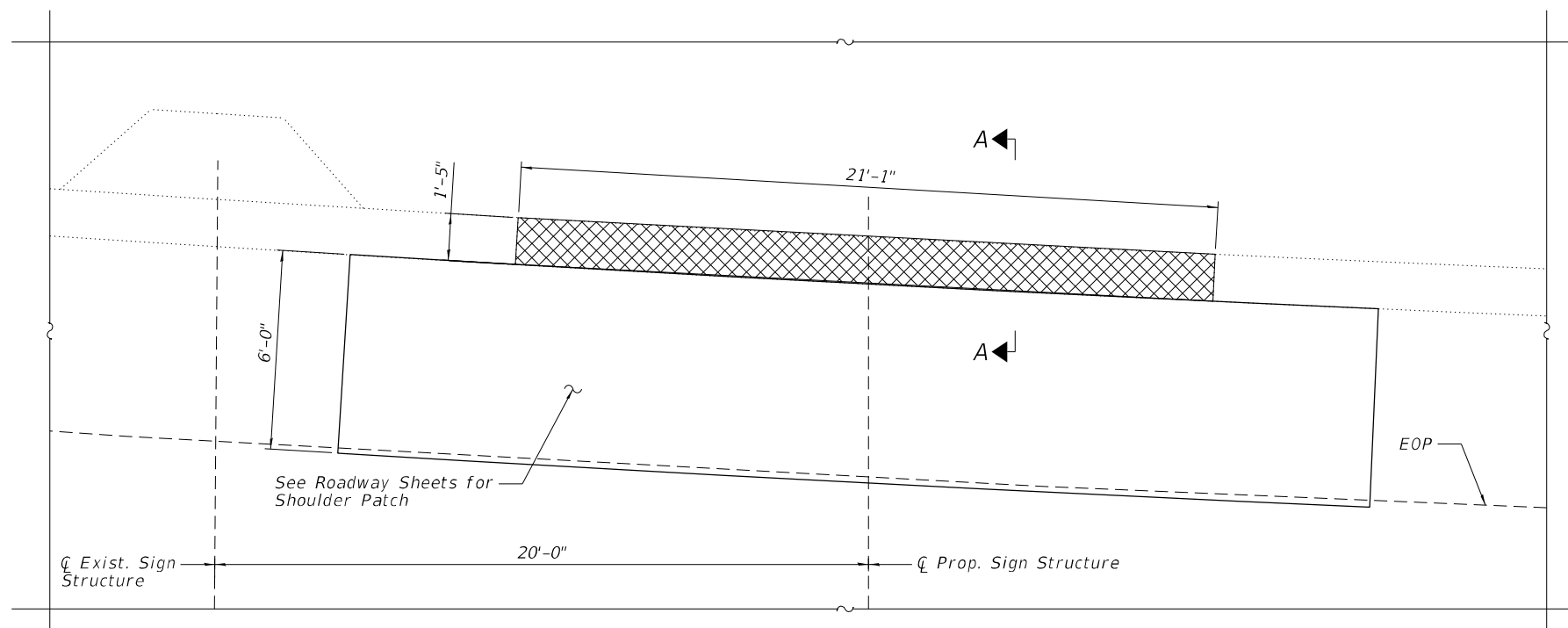
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90/94	2020-004-BR	COOK	1492	376
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

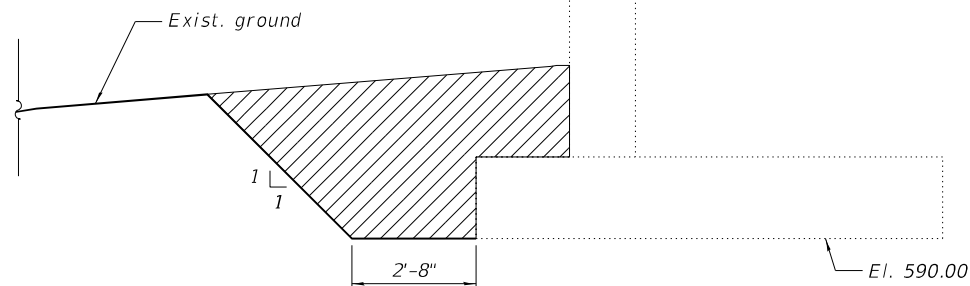
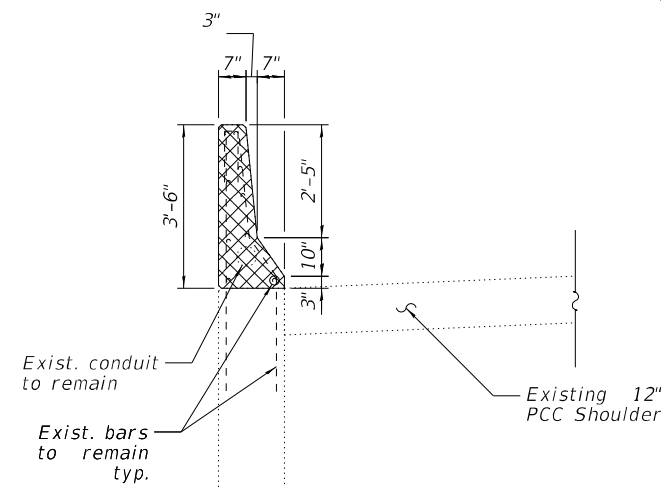
Item	Unit	Total
Concrete Removal	Cu. Yd.	2.4
Structure Excavation	Cu. Yd.	16.9
Remove Overhead Sign Structure Span	Each	1

NOTES:

- Existing reinforcement extended into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system at the Contractor's expense.
- The Contractor is responsible to protect the existing conduit embedded in the barrier during removal and construction. Any damage to the existing conduit shall be repaired by the Contractor at his or her expense at no charge to IDOT.
- The Contractor shall verify all existing dimensions and details affecting new construction and removals and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work.



PARTIAL PLAN



SECTION A-A

LEGEND

	Concrete Removal
	Structure Excavation

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PLOT DATE = 8/31/2022	DATE - 08/26/2022	REVISED -

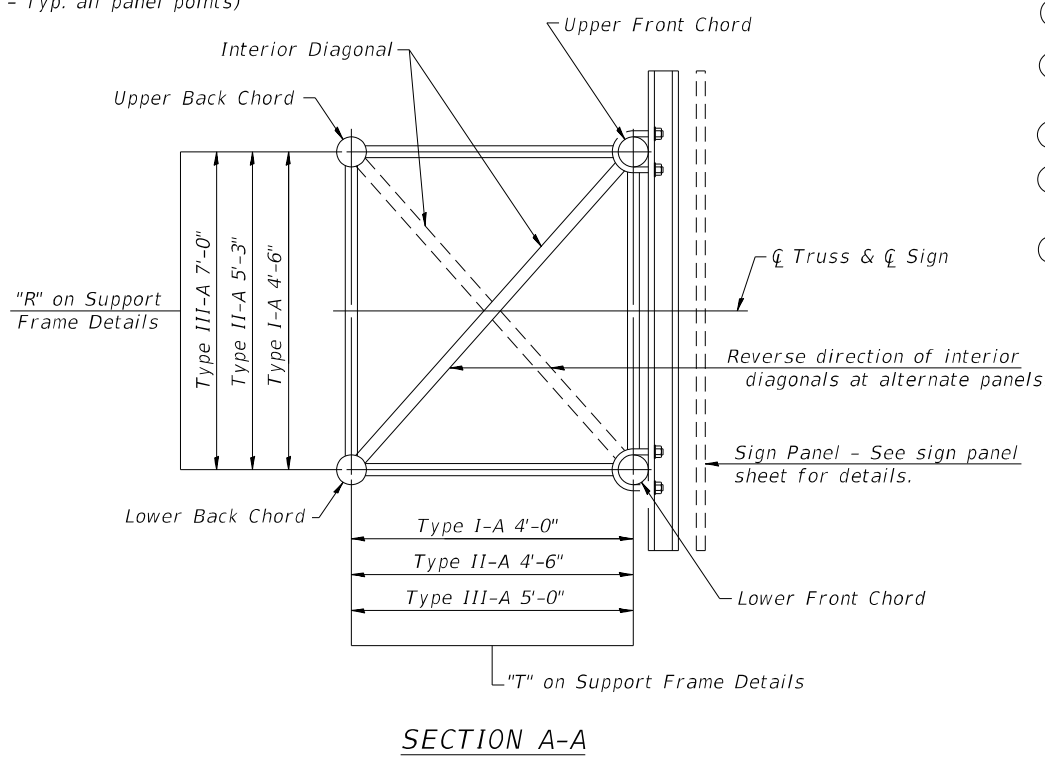
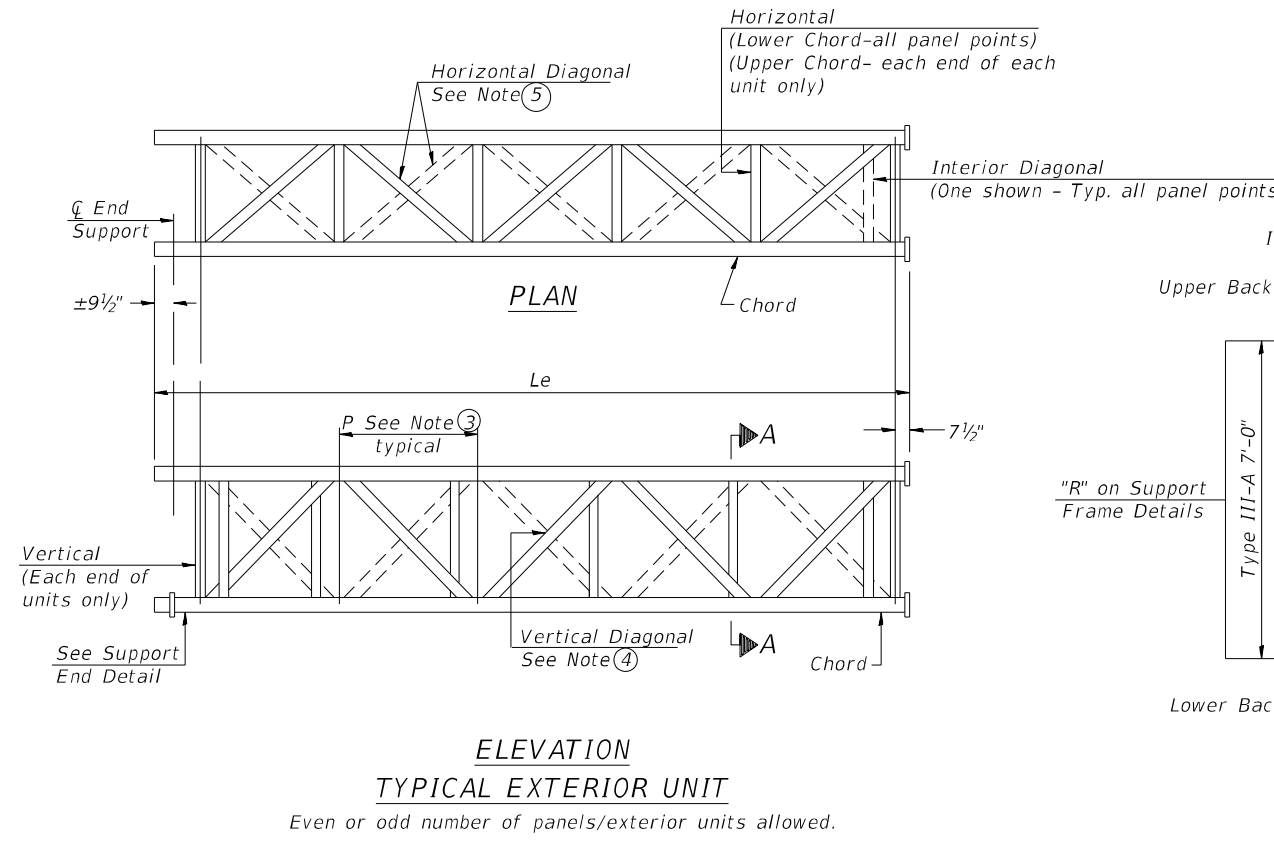
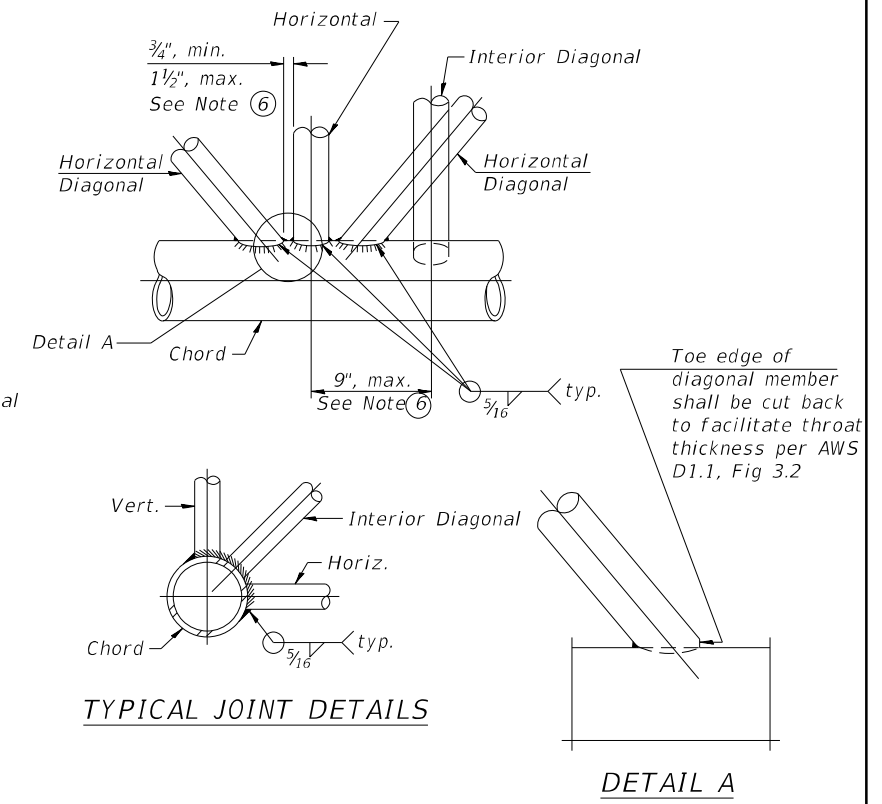
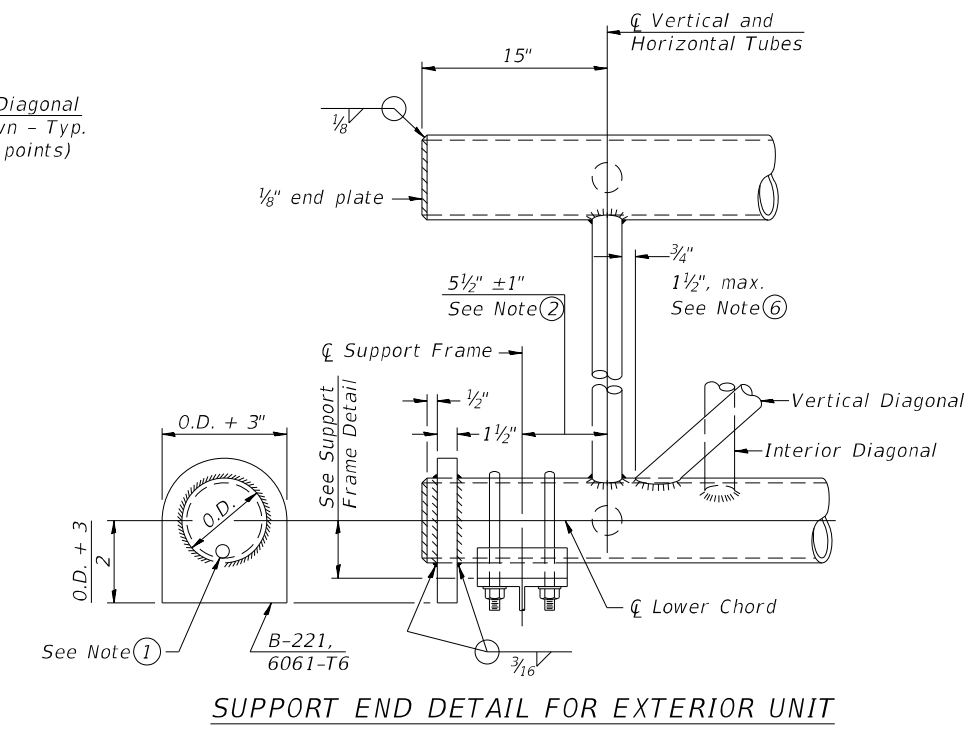
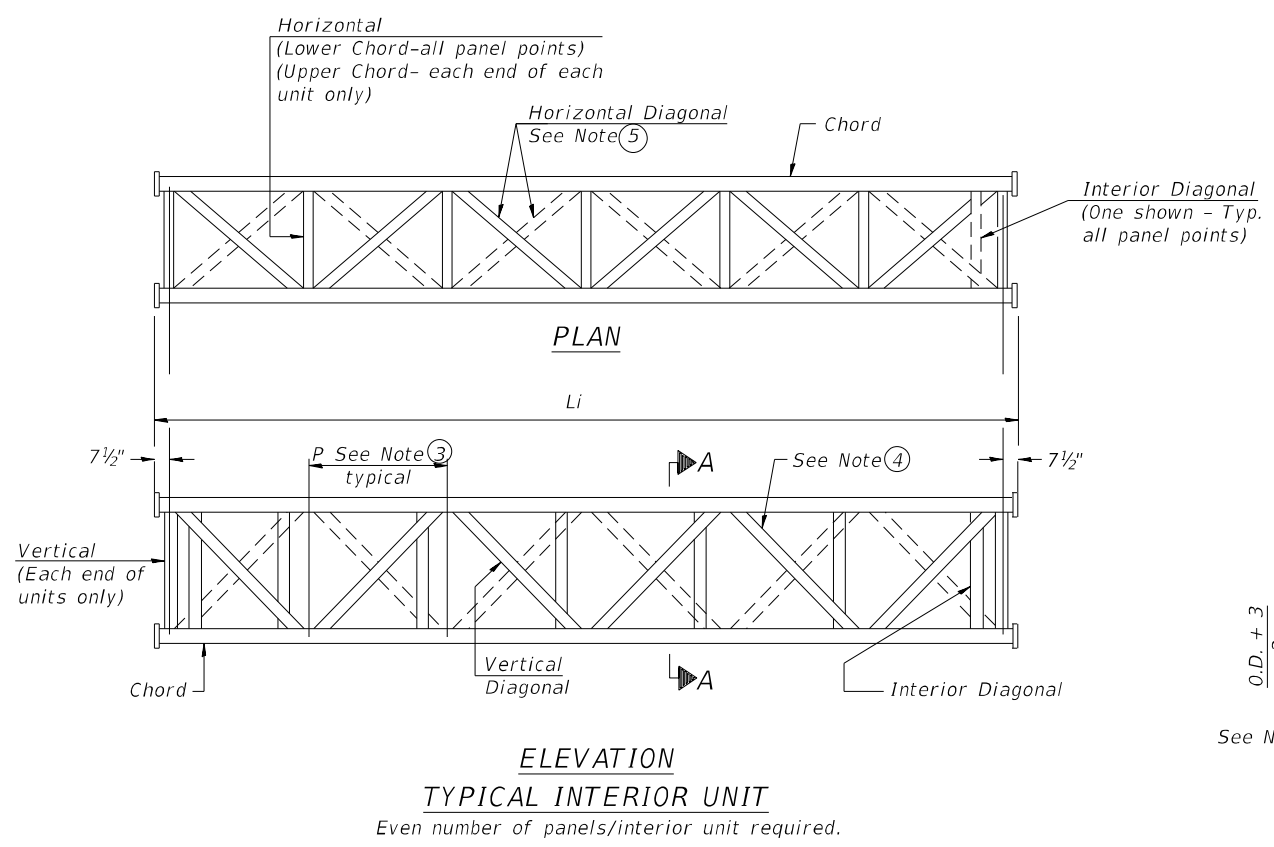
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REMOVAL DETAILS
S.N. 1S0161094R046.4 (SIGN 7)

SHEET 3 OF 13 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

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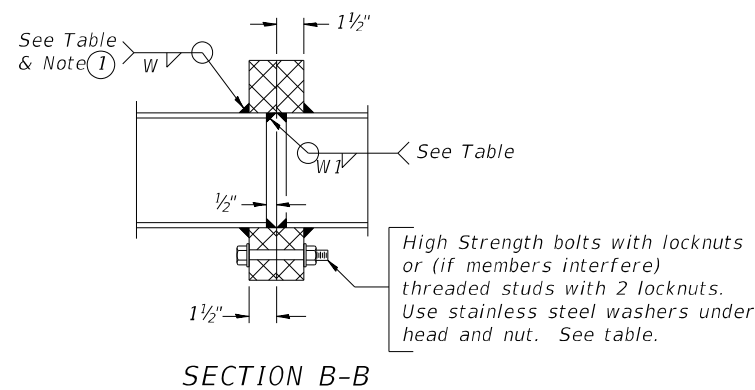
- ① Contractor may alternatively use standard aluminum drive-fit cap to close end. 1/2" Ø drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)
- ② 5 1/2" end dimension may vary by ±1" to provide uniform panel spacing (P).
- ③ Panel spacing (P) shall be uniform for entire truss and between 4'-0" and 5'-0" for Type I-A or 4'-0" and 5'-6" for Types II-A and III-A.
- ④ Vertical Diagonals in front and back face shall alternate.
- ⑤ Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
- ⑥ 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.

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	DATE - 08/26/2022	REVISED -

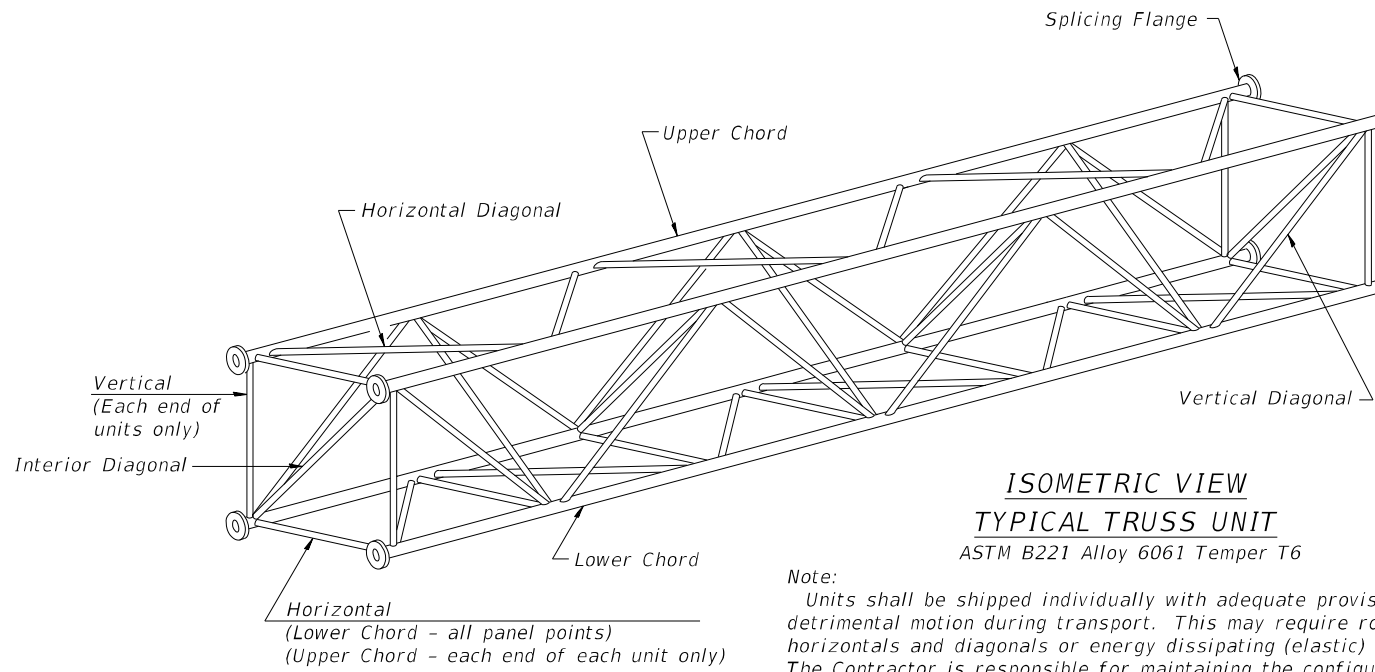
F.A.U. RTE. 90/94	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 378
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

TRUSS UNIT TABLE

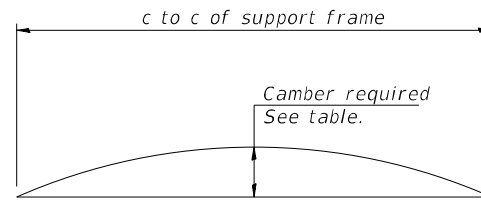
Structure Number	Station	Design Truss Type	Exterior Units (2)			Interior Unit				Upper & Lower Chord		Verticals; Horizontal; and Interior Diagonals		Camber at Midspan	Splicing Flange					
			No. Panels per Unit	Unit Lgth.(Le)	Panel Lgth.(P)	No. Req'd.	No. Panels per Unit	Unit Lgth.(Li)	Panel Lgth.(P)	O.D.	Wall	O.D.	Wall		Bolts		Weld Sizes		A	B
															No./Splice	Dia.	W	WI		
1S016I094R046.4	514+40.05	I-A	6	29'-1 1/2"	4'-6 1/2"	1	6	28'-6"	4'-6 1/2"	5"	5/16"	2 1/2"	5/16"	2 1/2"	6	7/8"	5/16"	1/4"	8 3/4"	11 3/4"



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 flange surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure flanges until remaining welds are made after disassembly. Adjacent flanges shall be "match marked" to insure proper field assembly.

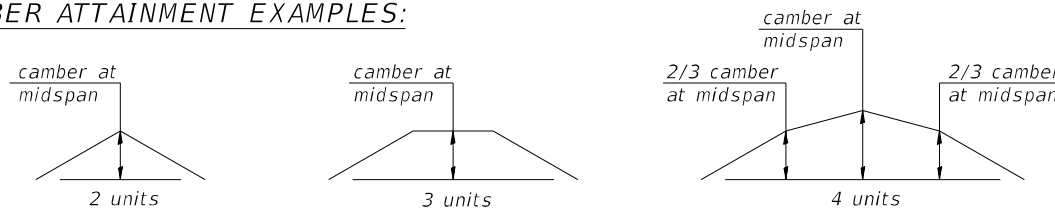


Note: Units shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The Contractor is responsible for maintaining the configuration and protection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

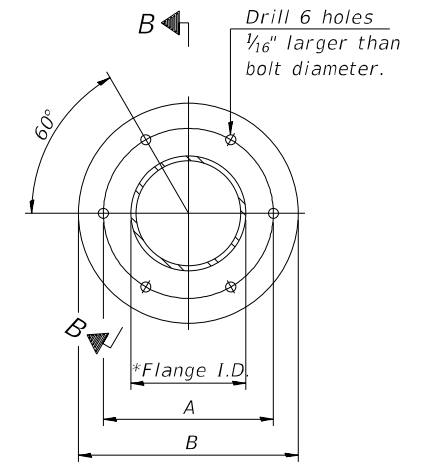


Camber curve shown is theoretical. Actual camber attained by slope changes at splices between units.

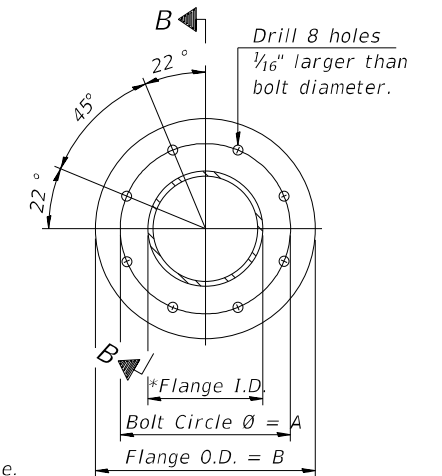
CAMBER ATTAINMENT EXAMPLES:



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 fit O.D. of Chord with maximum gap of 1/16".

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054-A-2

2-17-2017



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PLOT DATE = 8/31/2022	DATE - 08/26/2022	REVISED -

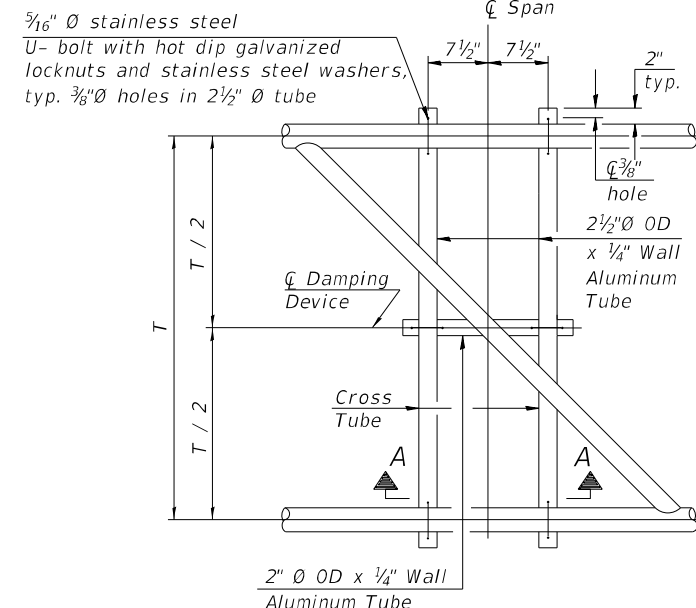
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DEPARTMENT OF TRANSPORTATION

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

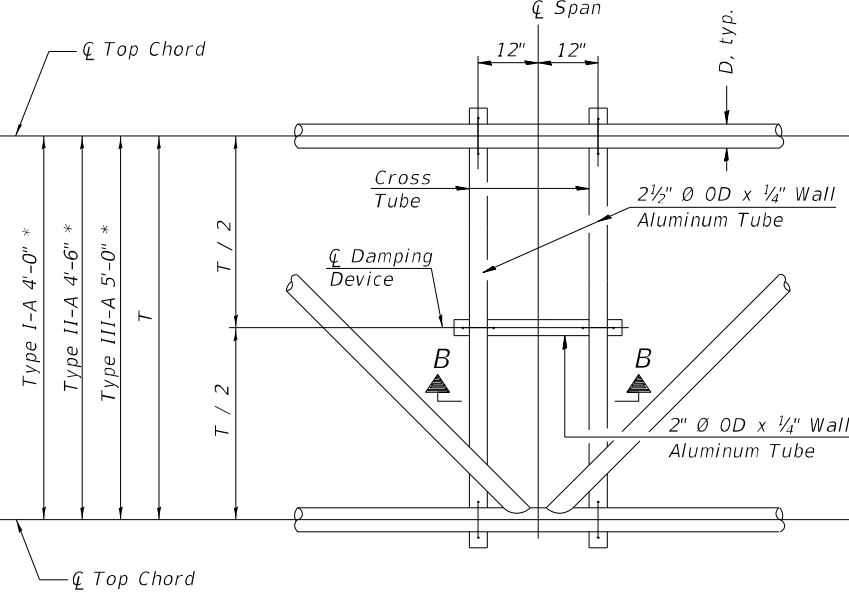
SHEET 5 OF 13 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 62K74	
ILLINOIS FED. AID PROJECT				

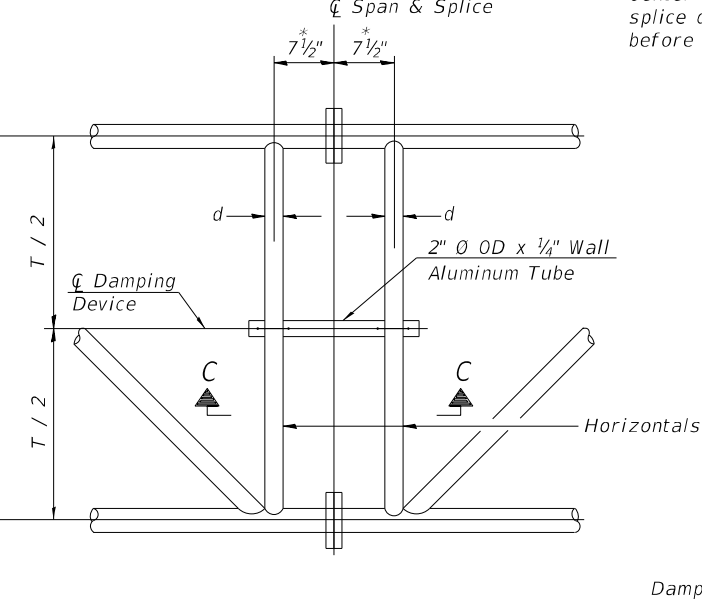
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PLAN DETAIL "A"
 ☐ Span between Panel Points



PLAN DETAIL "B"
 ☐ Span at Panel Point



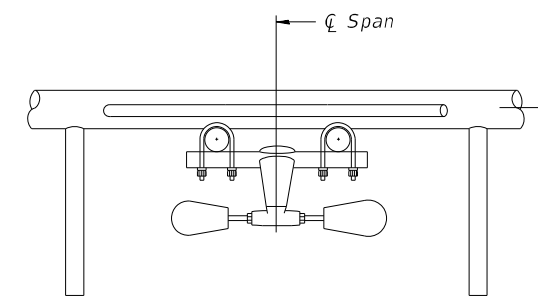
PLAN DETAIL "C"
 ☐ Span at ☐ Chord Splice

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

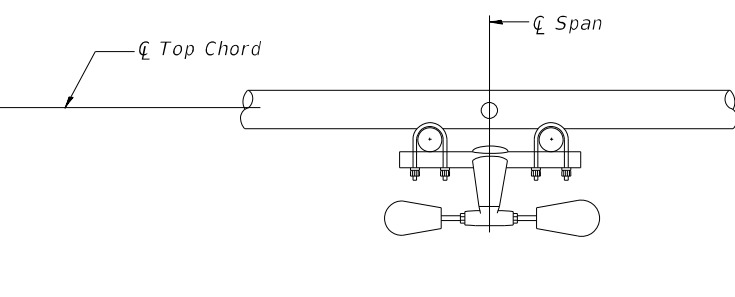
NOTES

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

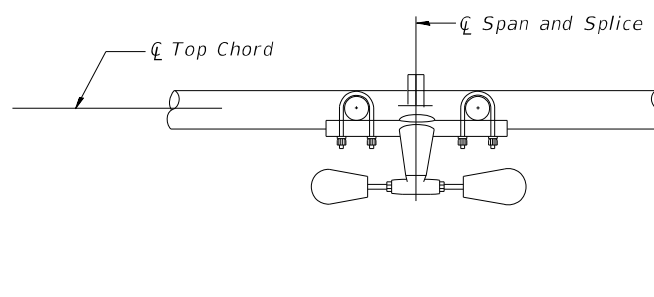
Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure...



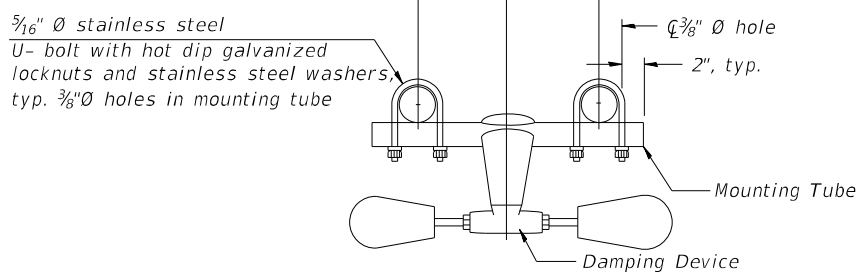
SECTION A-A



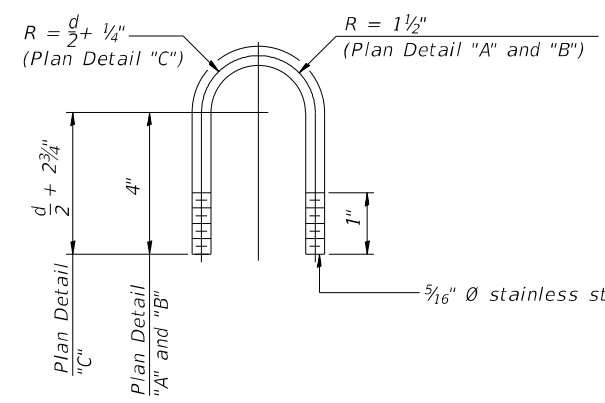
SECTION B-B



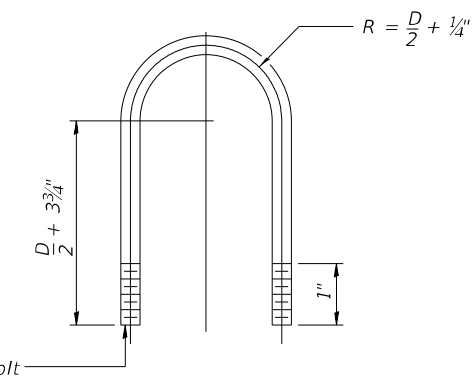
SECTION C-C



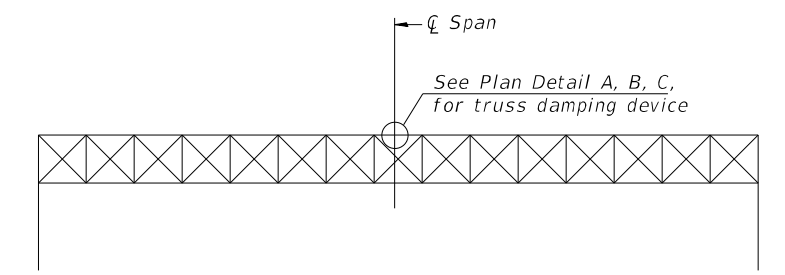
TRUSS DAMPING DEVICE CONNECTION DETAIL
 (Typical)



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

0S-A-D

2-17-2017



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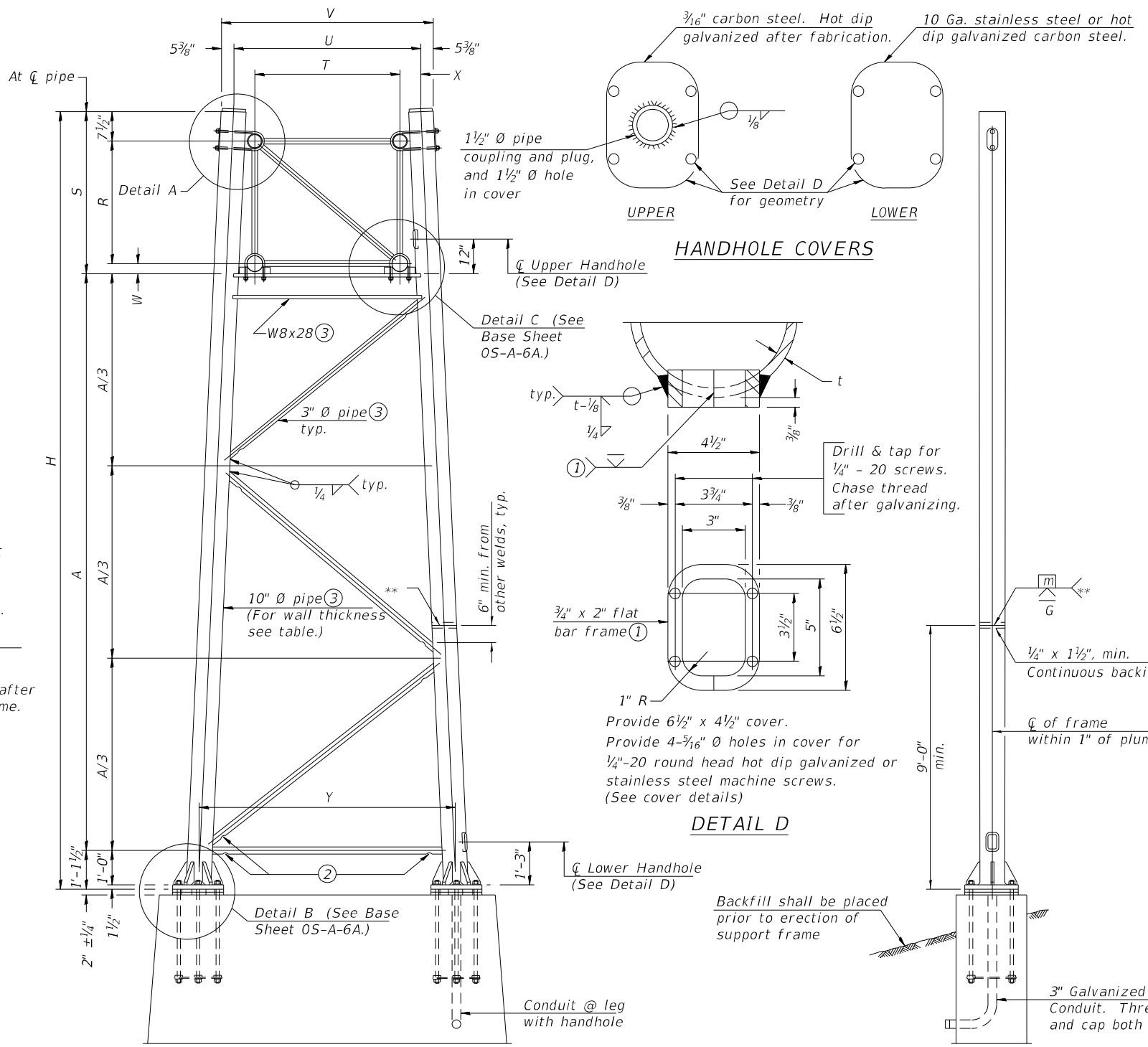
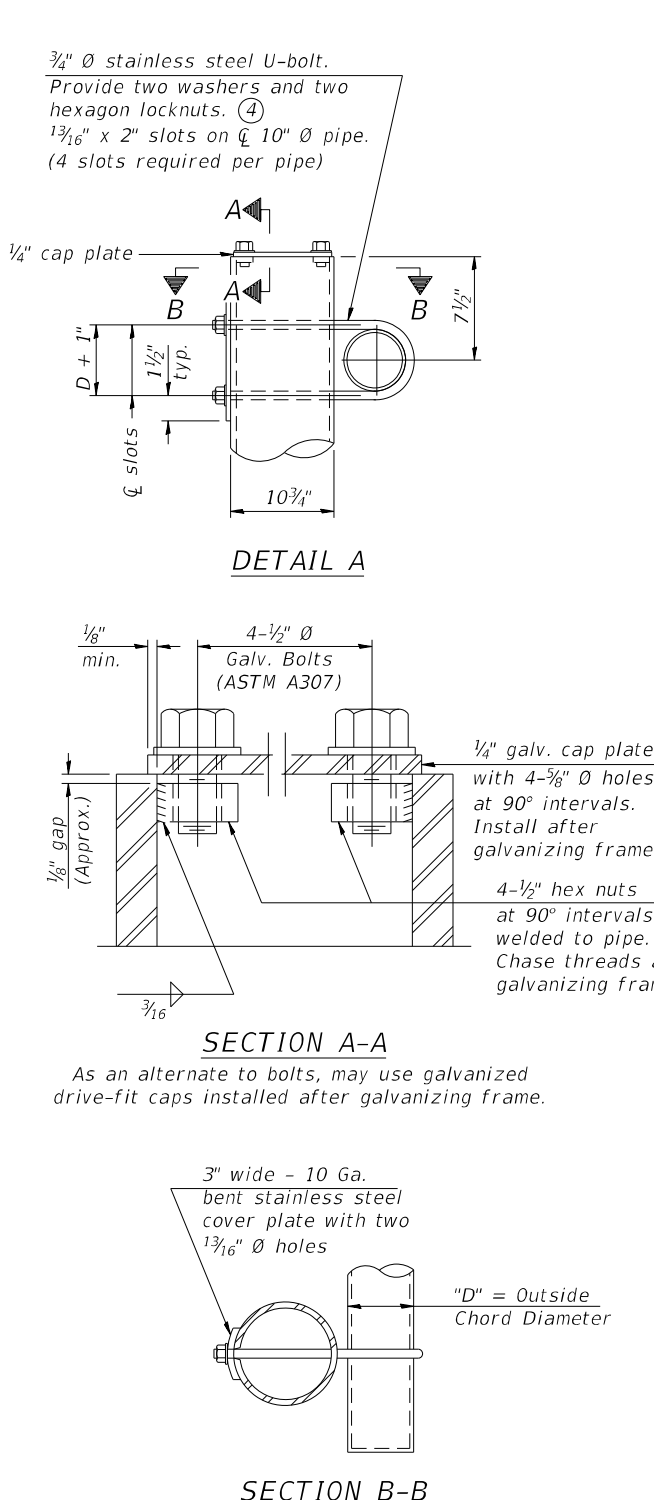
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OVERHEAD SIGN STRUCTURE
 DAMPING DEVICE

SHEET 6 OF 13 SHEETS

F.A.U. RTE. 90/94	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 380
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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Support Design Loads: See Base Sheet OS-A-1 for design and loading criteria.
 Load combinations checked include deadload plus:
 a) 100% wind normal to sign, 20% parallel to sign
 b) 60% wind normal to sign, 30% parallel to sign

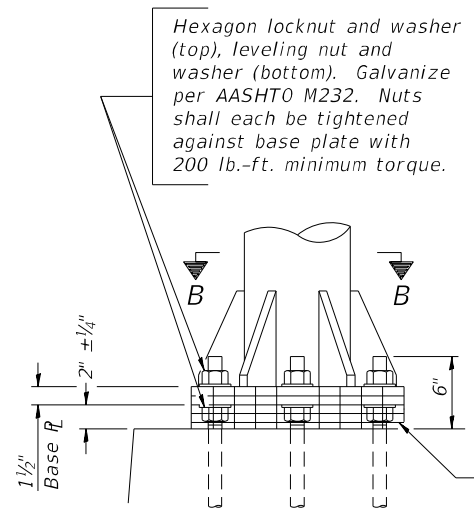
- ① In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500µ or less.
- ② Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
- ③ Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Base Sheet OS-A-1.
- ④ See General Notes for fasteners.
- ⑤ Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
- ⑥ "H" based on 15'-0" or actual sign height, whichever is greater.

10" Ø PIPE TRUSS SUPPORT FRAME
 ** One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

Truss Type	Dimensions							
	R	S	T	U	V	W	X	Y
I-A	4'-6"	5'-5 1/2"	4'-0"	5'-6"	6'-4 3/4"	4"	9"	8'-3"
II-A ⑤	5'-3"	6'-3 1/4"	4'-6"	6'-1"	6'-11 3/4"	4 3/4"	9 1/2"	8'-3"

Structure Number	Station	Support		Truss Type	Pipe Wall Thickness	H ⑥	A
		Left	Right				
150161094R046.4	514+40.05	X		I-A	0.279"	24.00'	17.42'
150161094R046.4	514+40.05		X	I-A	0.279"	26.93'	20.35'

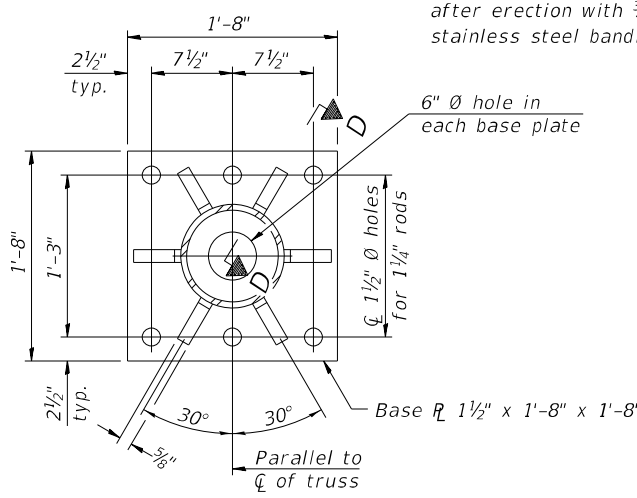
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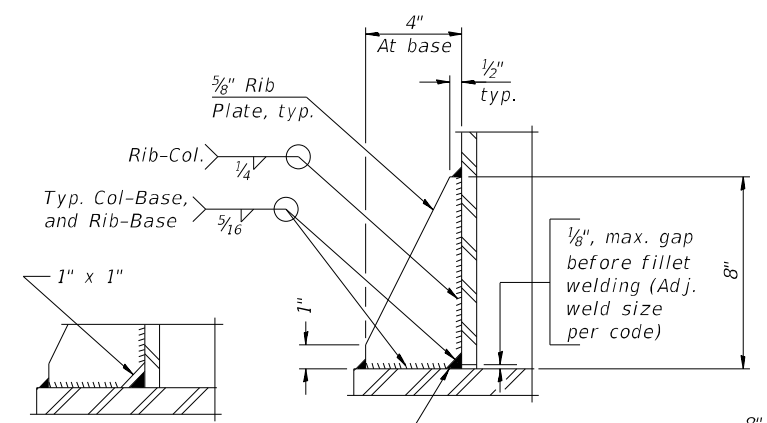
DETAIL B

Ribs shall be cut to fit slope of pipe.

Stainless Steel Standard Grade Wire Cloth, 3" wide, 1/4" maximum opening with a minimum wire diameter of AWG. No. 16 with a minimum 2" lap. Secure to base plate after erection with 3/4" stainless steel banding.



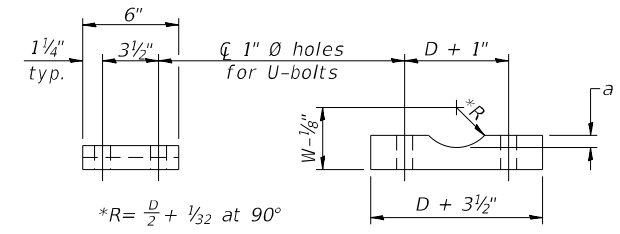
SECTION B-B



SECTION D-D

** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.

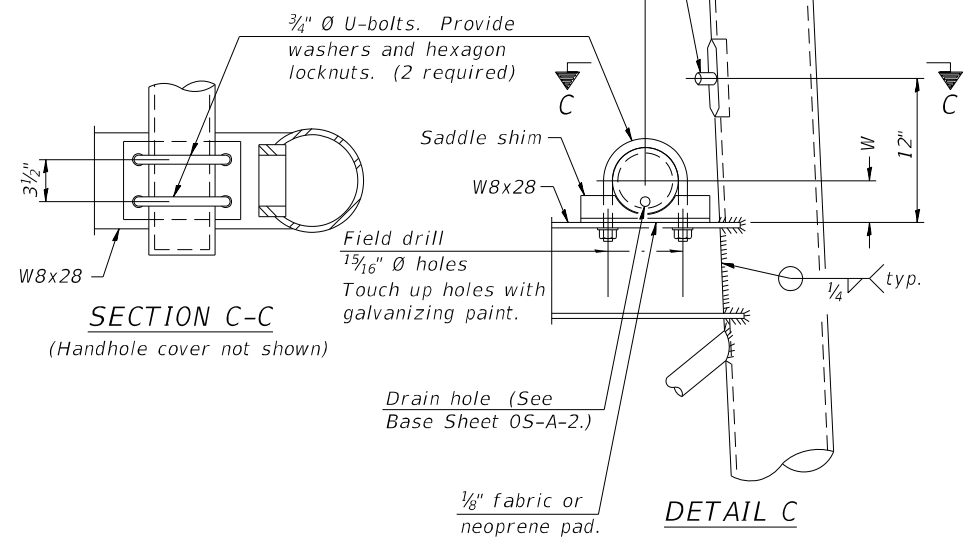
No snip req'd. at rib inside corner if placed before col. to base plate welding.**



SADDLE SHIM DETAIL

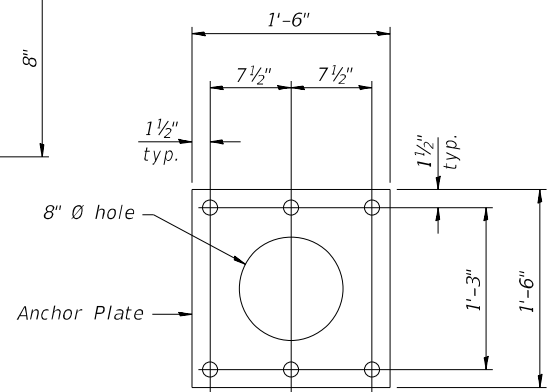
ASTM B26 Alloy 356-F or ASTM B209 Alloy 6061-T651 (4 required per sign truss)

Truss Chord Nominal Dia.	a
5"	3/4"
5 1/2"	1 3/16"
6"	7/8"
6 1/2"	1 5/16"
7"	1"

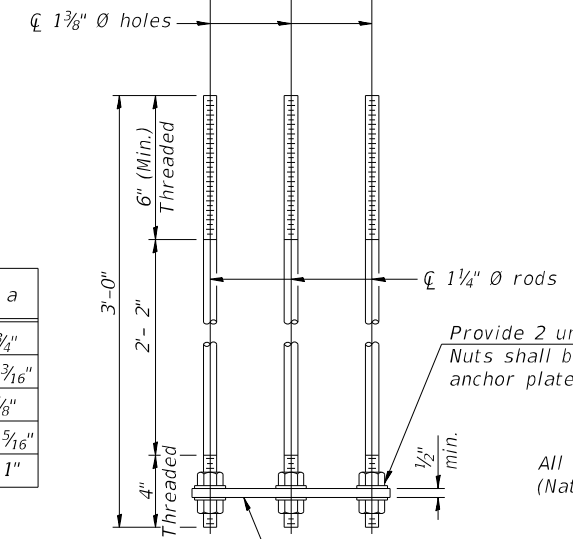


SECTION C-C

DETAIL C



Anchor Plate

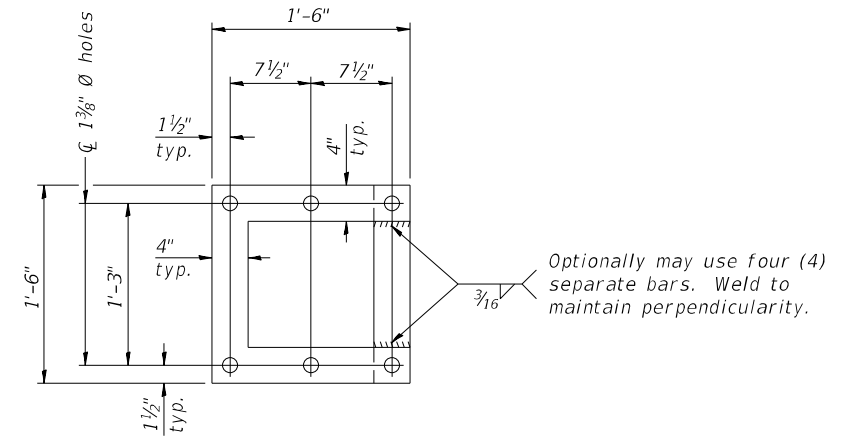


ANCHOR ROD DETAIL

Spread Footing Foundation

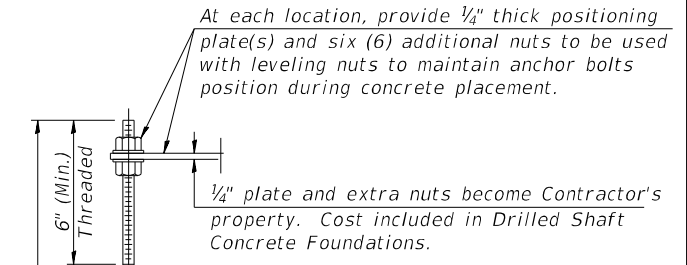
All Thread = NC (National Coarse)

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.



POSITIONING PLATE(S)

Optionally may use four (4) separate bars. Weld to maintain perpendicularity.



ANCHOR ROD DETAIL

Drilled Shaft Foundation

All Thread = NC (National Coarse)

10" Ø PIPE SUPPORT FRAME DETAILS

05-A-6A

2-17-2017



USER NAME = p005687B	DESIGNED - JAB	REVISED -
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	DATE - 08/26/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

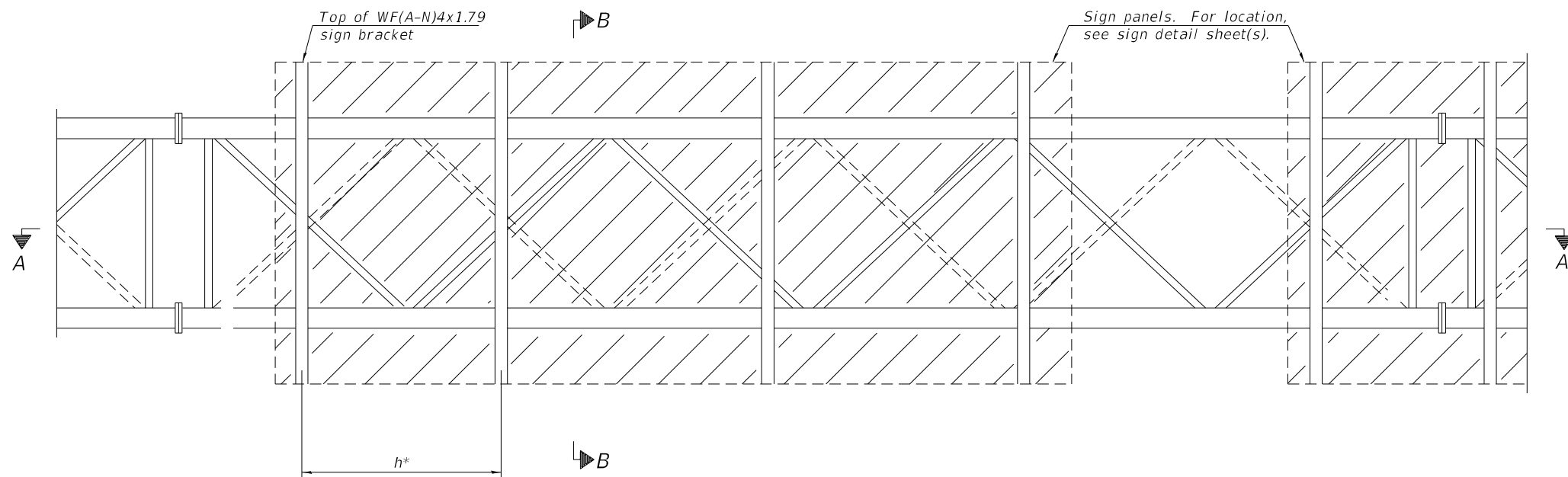
OVERHEAD SIGN STRUCTURES
SUPPORT FRAME DETAILS - ALUMINUM TRUSS

SHEET 8 OF 13 SHEETS

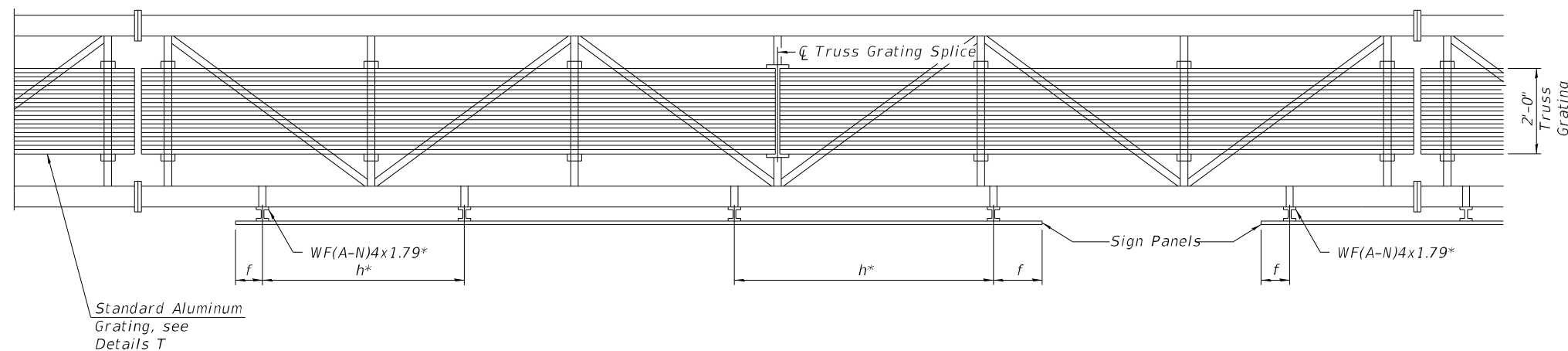
F.A.U. RTE. 90/94	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 382
CONTRACT NO. 62K74				

ILLINOIS FED. AID PROJECT

FILE NAME = par\va\va01\p\int\illinois\State\Documents\1111nos\State\Documents\DOT\HBM\Task Order\Work Order 12\fig 1-98&dash194_Sign_Replacements\40 - Design\CAD\Signs\Sheets\Overhead_Sign_Structures_Bldg.dgn



TYPICAL FRONT ELEVATION



SECTION A-A

Place all sign brackets as close to panel points as practical.

BRACKET TABLE

WF(A-N)4x1.79 ASTM B308, Alloy 6061-T6		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

* Space sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:

$f = 12"$ maximum, $4"$ minimum (End of sign to ϕ of nearest bracket)
 $h = 6'-0"$ maximum (ϕ to ϕ sign support brackets, WF(A-N)4x1.7)

Notes:

For Detail T and Section B-B, see Base Sheet 05-A-10-NW.
 Truss grating to facilitate inspection shall run full length (center to center of support frames) $12" \pm$ on overhead trusses. Cost of truss grating is included in "Overhead Sign Structure".
 Truss Grating width dimensions are nominal and may vary $\frac{1}{2}" \pm$ based on available standard widths.

05-A-9-NW

4-1-2020



USER NAME = p005687B	DESIGNED - JAB	REVISED -
PLOT SCALE =	CHECKED - HAA	REVISED -
PLOT DATE = 8/31/2022	DRAWN - JAB	REVISED -
	DATE - 08/26/2022	REVISED -

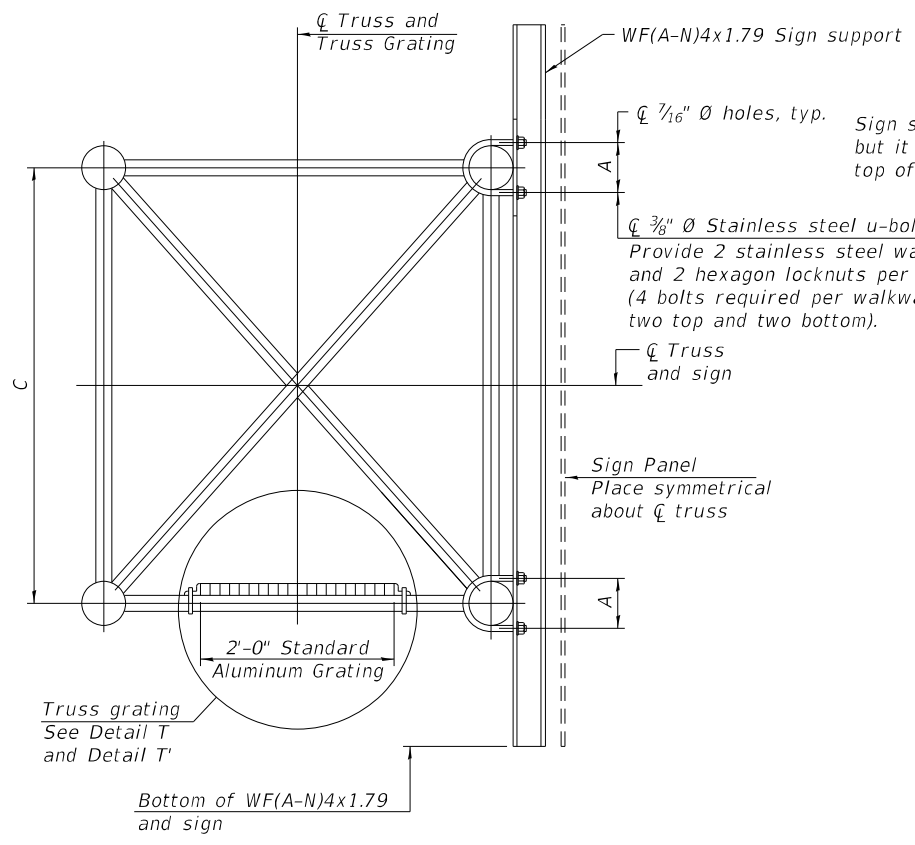
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
ALUMINUM WALKWAY DETAILS

SHEET 9 OF 13 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	383
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

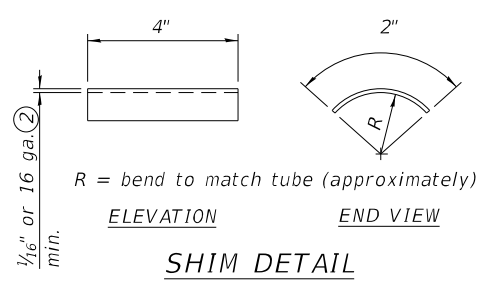
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SECTION B-B

Sign shall be even with the top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.

Provide 2 stainless steel washers and 2 hexagon locknuts per bolt. (4 bolts required per walkway bracket, two top and two bottom).



SHIM DETAIL

- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- Tube to grating gap may vary from 0 to 1/2", max. to align walkway, allow for camber, etc.

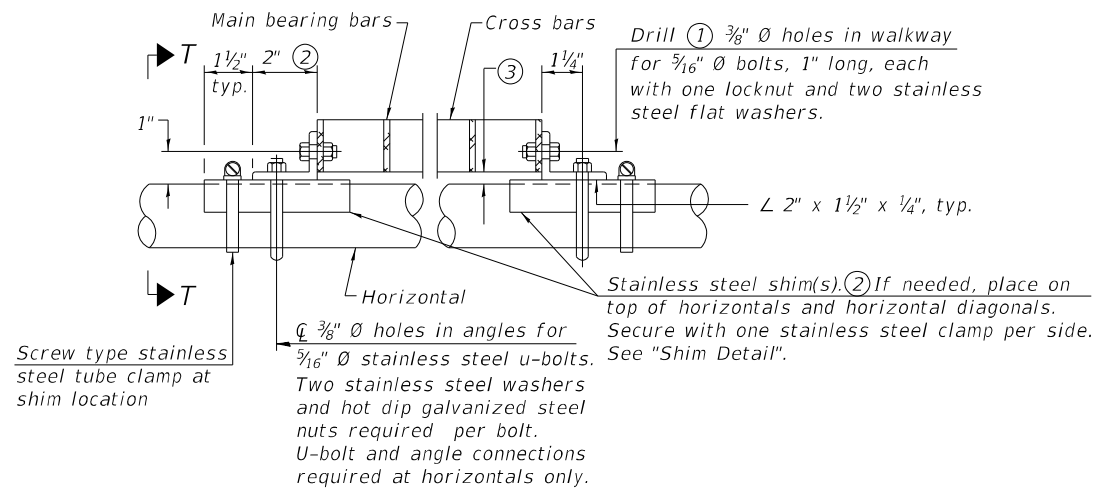
SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

Main Bearing Bars shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B221 Alloy 6061-T6.
 Cross bars shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

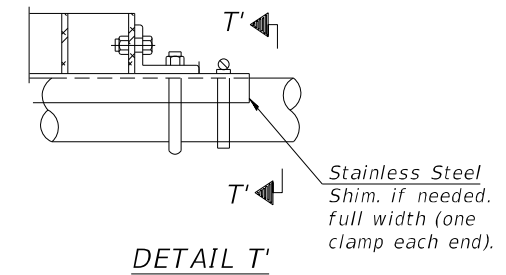
OR

Aluminum Grating with modified "t" sections for main bearing bars shall meet the following requirements:
 Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.³ per bar, a depth of 1 1/2", spaced on 1 3/16" centers.
 Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

Structure Number	Station	A	C
1S0161094R046.4	514+40.05	5 7/16"	4'-6"

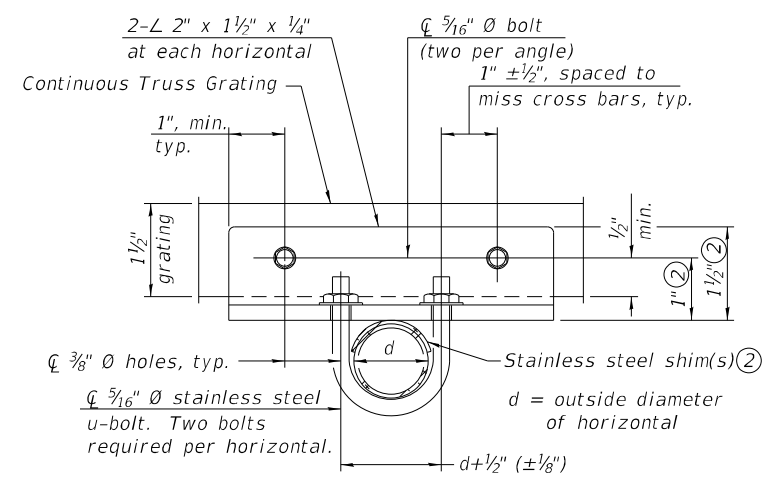


DETAIL T
(Continuous Truss grating)

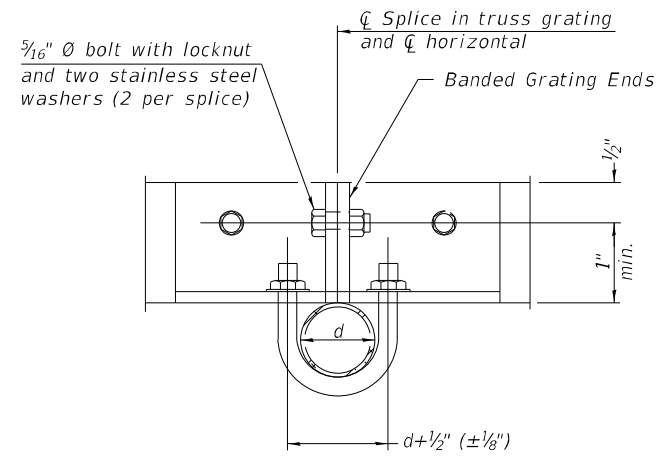


DETAIL T'
(Truss grating splice)

Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.



SECTION T-T



SECTION T'-T'

05-A-10-NW 4-1-2020



USER NAME = p005687B	DESIGNED - JAB	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
ALUMINUM WALKWAY DETAILS

SHEET 10 OF 13 SHEETS

F.A.U. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	384
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
v4(E)	24	#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 (Qu) 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.

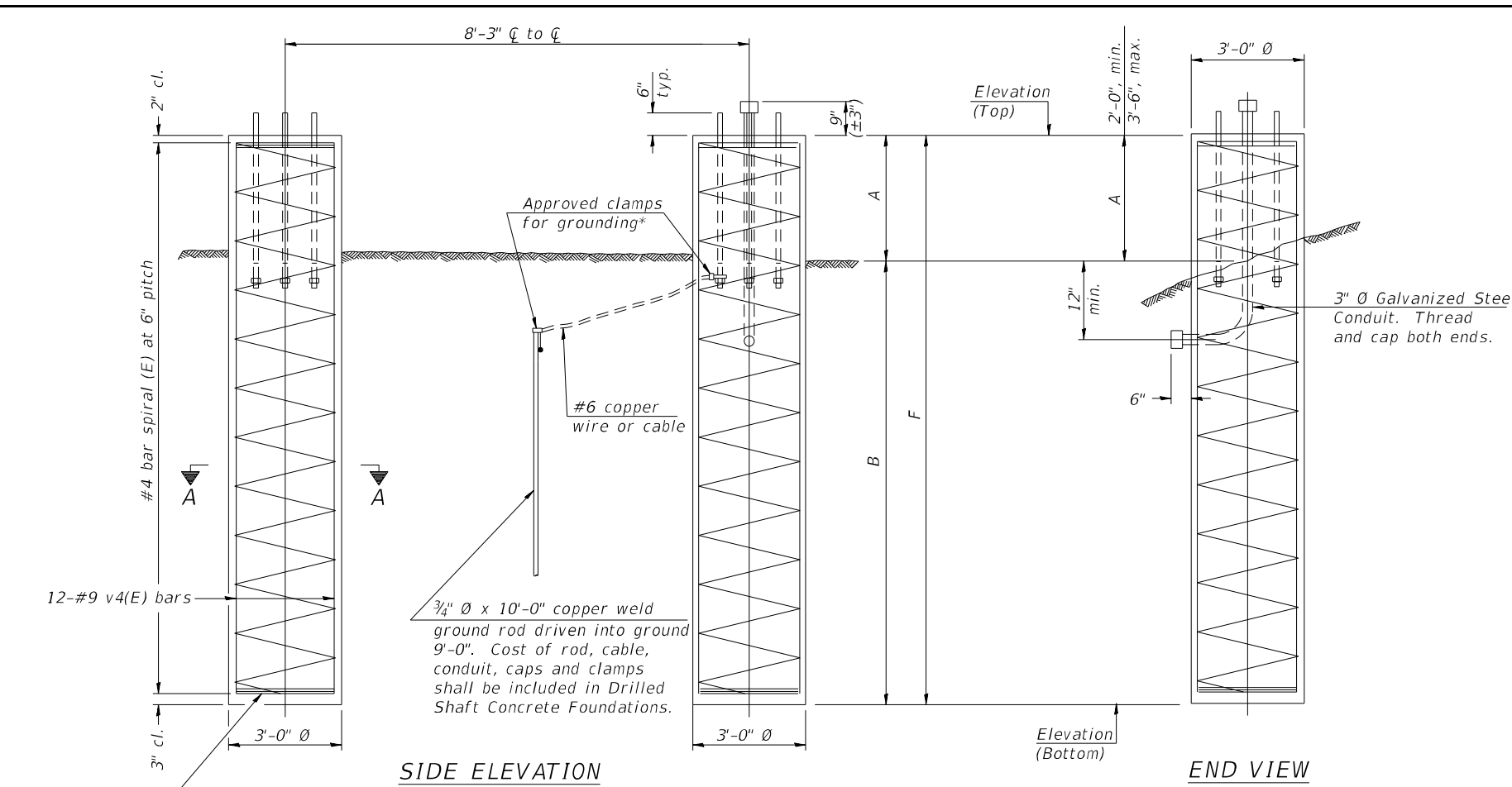
If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District 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.

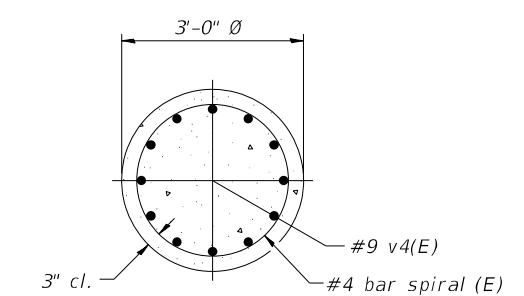
Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.

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.

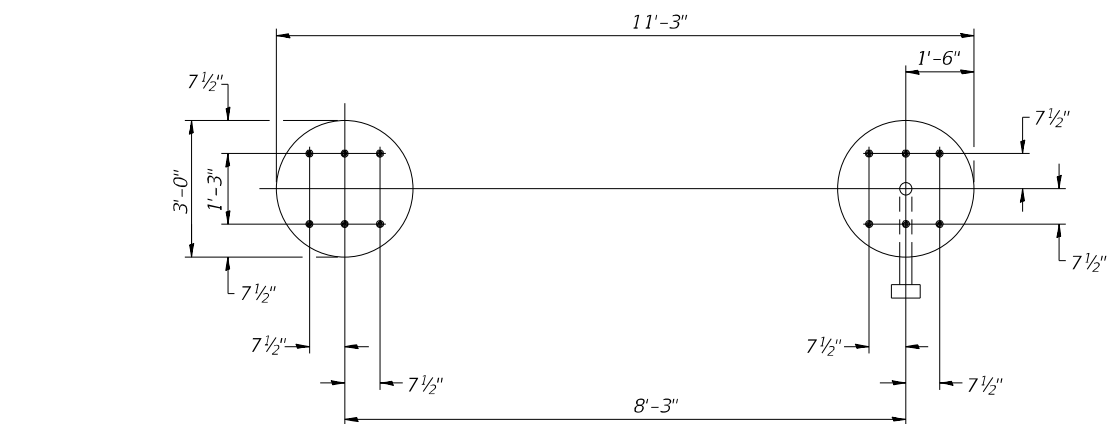


SIDE ELEVATION

END VIEW



SECTION A-A



PLAN

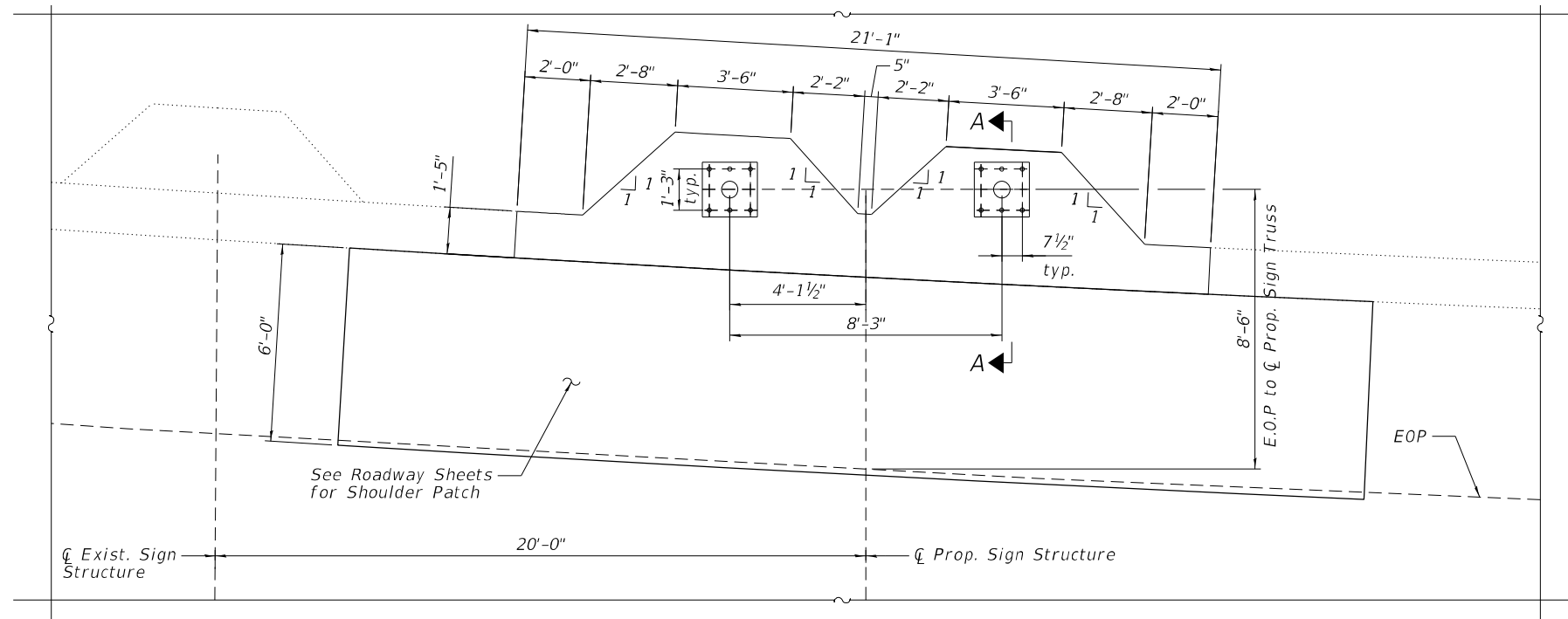
For anchor rod size and placement, see Support Frame Detail Sheet.

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

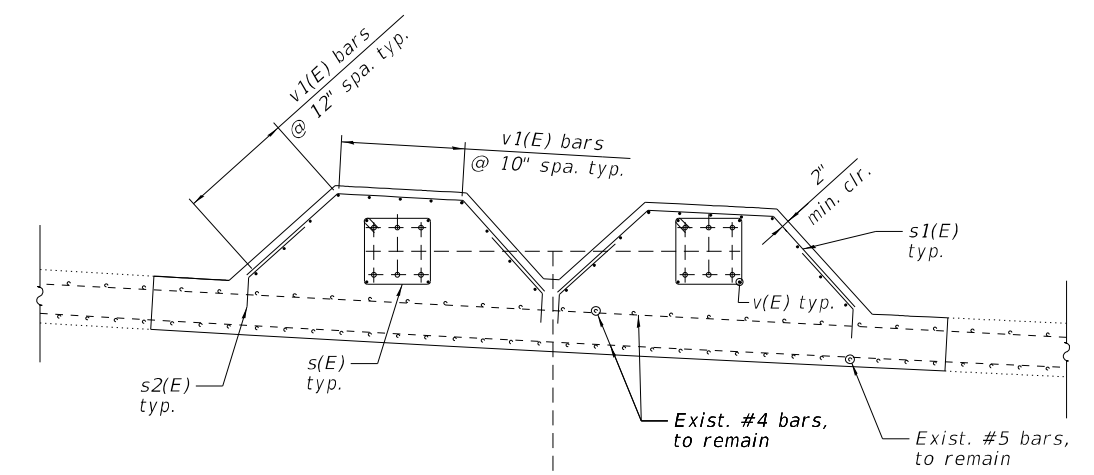
**DETAILS FOR 10" Ø SUPPORT FRAME
TYPE I-A or II-A TRUSS**

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	
1S0161094R046.4	514+40.05	610.02	591.52	0.50'	18.00'	18.50'	-	-	-	-	-	10.0

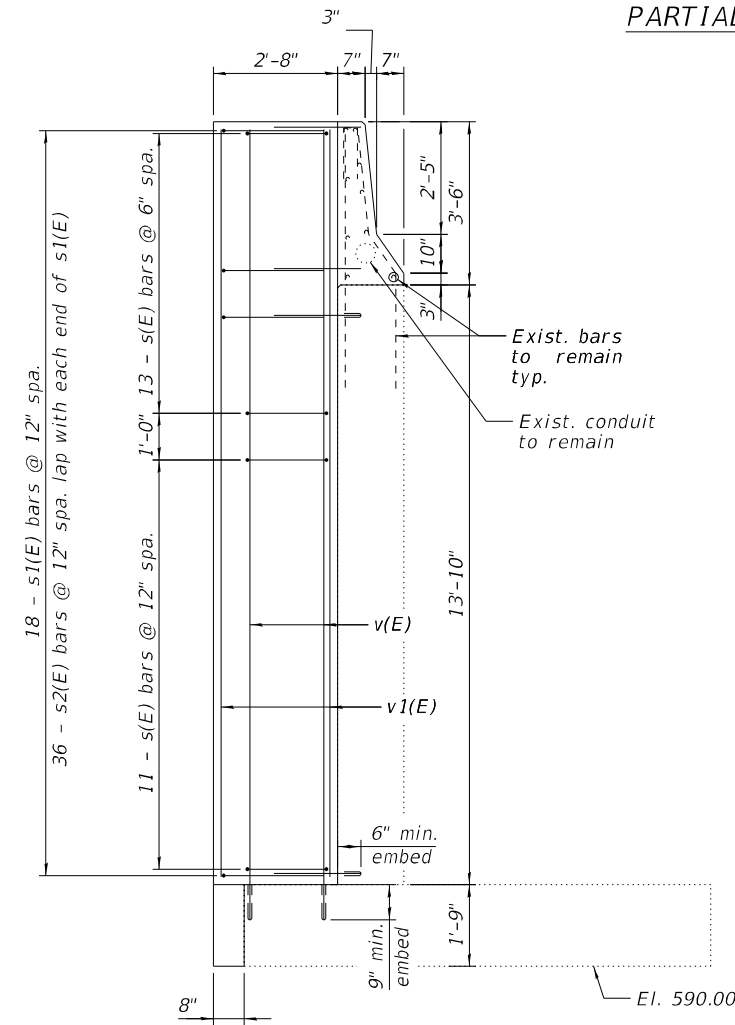
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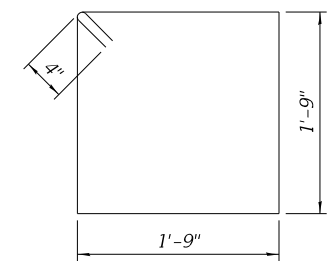
PARTIAL PLAN



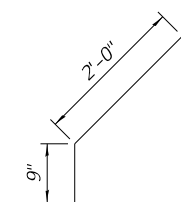
SIGN TRUSS BASE REINFORCEMENT DETAILS



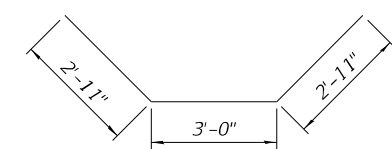
SECTION A-A



BAR s(E)



BAR s2(E)



BAR s1(E)

BILL OF MATERIAL

Bar	Number	Size	Length	Shape
s(E)	24	#4	7'-8"	
s1(E)	36	#4	8'-10"	
s2(E)	72	#4	2'-9"	
v(E)	8	#5	17'-9"	
v1(E)	22	#5	17'-0"	
Concrete Foundations			Cu Yd	23.7

NOTES:

1. Epoxy grout s2(E) and v(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Foundations.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. All exposed concrete edges shall have a 3/4"x45° chamfer except where shown otherwise.
4. The Contractor shall confirm all existing and final elevations and dimensions based on field measurements.



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PLOT DATE = 8/31/2022	DRAWN - JAB	REVISED -
	DATE - 08/26/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHOULDER BARRIER ADDITIONAL SECTIONS AND DETAILS
S.N. IS016I094R046.4 (SIGN 7)
SHEET 12 OF 13 SHEETS

F.A.U. RT. 90/94	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 386
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

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.
fy = 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.

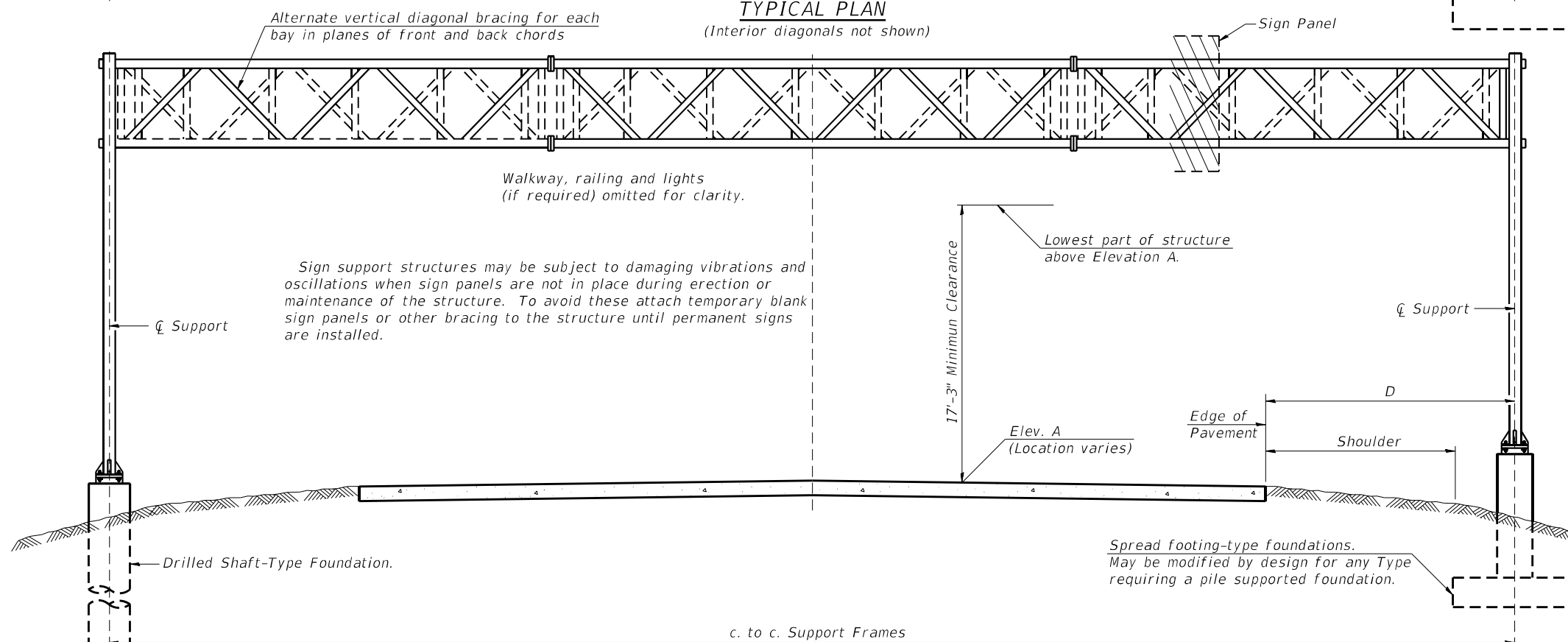
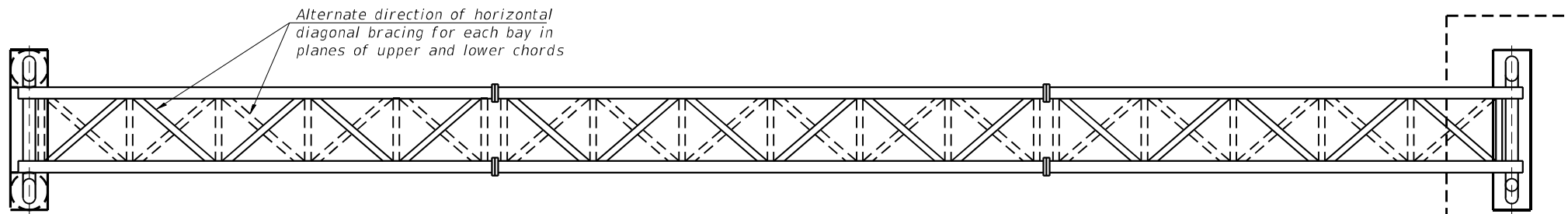
CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Concrete Sealer in accordance with the Standard Specifications.

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
Concrete Barrier Removal	Foot	95.0
Structure Excavation	Cu Yd	44.5
Temporary Soil Retention System	Sq Ft	280
Concrete Barrier Transition	Foot	72.5
Overhead Sign Structure Span Type II-A (4'-6" x 5'-3")	Foot	212.0
Drilled Shaft Concrete Foundations	Cu Yd	83.9
Remove Overhead Sign Structure - Span	Each	2.0



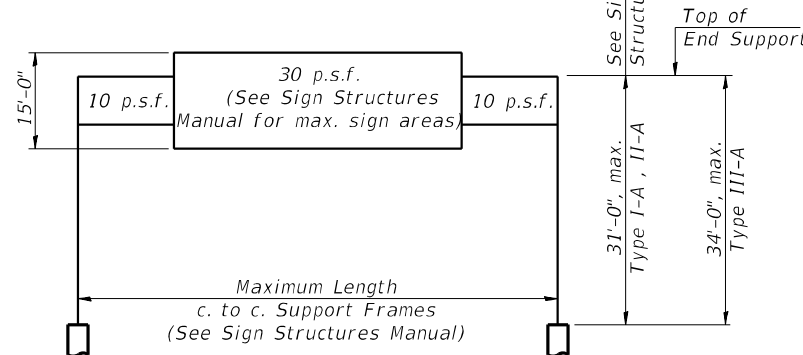
TYPICAL ELEVATION
(Looking at Face of Signs**)

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
Sign 6 1S0161094R043.8	655+85.00 (SB)	II-A	103	621.75	17'-1"	15'-0"	727.0 Sq. Ft.
Sign 1 1S0161094R044.2	644+79.47 (SB)	II-A	109	625.66	12'-11"	13'-0"	639.75 Sq. Ft.

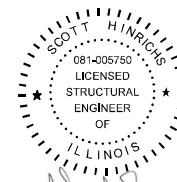
**Looking upstation for structures with signs both sides.

* 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.



DESIGN WIND LOADING DIAGRAM

Parameters shown are basis for I.D.O.T. Standards and Sign Manual Tables. Installations not within dimensional limits shown require special analysis for all components.



Engineer Full Name: Scott Hinrichs Date: 10-20-2022
Illinois Registered Engineer No. 081-005750
Registration Expires 11. 30, 2024

05-A-1 2-17-2017

MODEL: SMODELNAMES
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\Overhead Sign Structures\SB1-62K74-501-GPES.dgn

GR&E
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

USER NAME =	DESIGNED -	K.M.	REVISED -
PLOT SCALE =	CHECKED -	H.A.	REVISED -
PLOT DATE =	DRAWN -	D.C.P.	REVISED -
	CHECKED -	K.M.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES - GENERAL PLAN &
ELEVATION - ALUMINUM TRUSS & STEEL SUPPORTS**

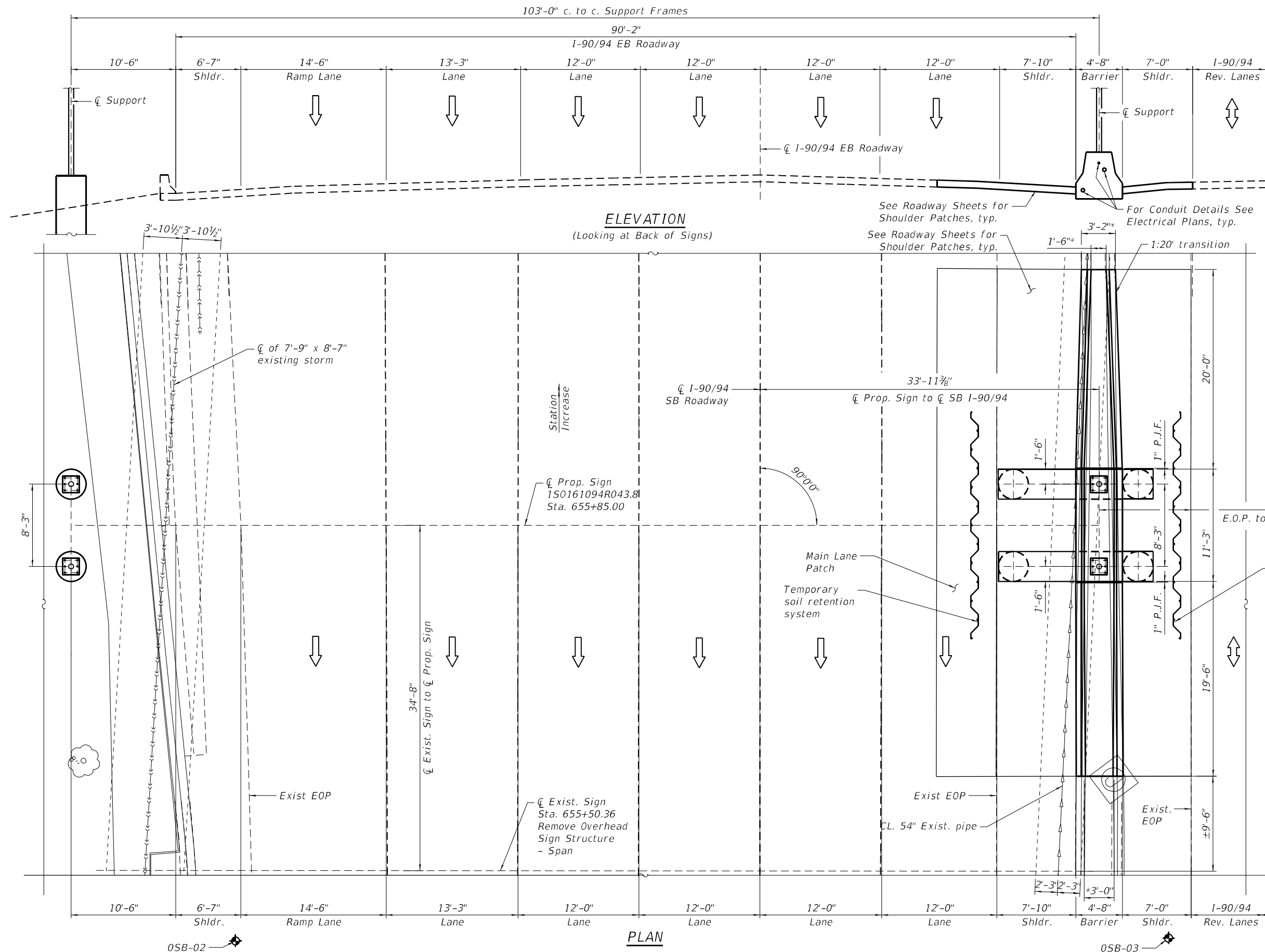
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	388
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET OSG-01 OF OSG-19 SHEETS

Benchmark: TBM "E" Square cut on top of light pole foundation along I-90 NW of exit 44A sign '1/4 Mile to Exit' along eastbound entrance ramp Montrose ave. At Station 656+42.60 Offset 68.14 Lt. measured along \bar{C} SB I-90/94. Elev. 622.951.

NOTES:

1. Stations that are shown are with respect to the SB 190/94 baseline.
2. The contractor shall establish a local version of the SB baseline based on the dimension shown on this plan. The stationing shall be with respect to the center line of existing sign truss as shown. The offset of the baseline shall be measured from existing features as shown



* Verify in Field to Match Existing

LEGEND:

◆ Soil Boring

MODEL: sMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\Overhead Sign Structures\SB1-62K74-502-Sign6GPE.dgn
10/18/2022 2:31:07 PM

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Chicago, Illinois 60631; (773) 399-0112

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PLOT DATE =	DRAWN -	D.C.P.	REVISED -
	CHECKED -	K.M.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION
SN 1S0161094R043.8 (SIGN 6)**

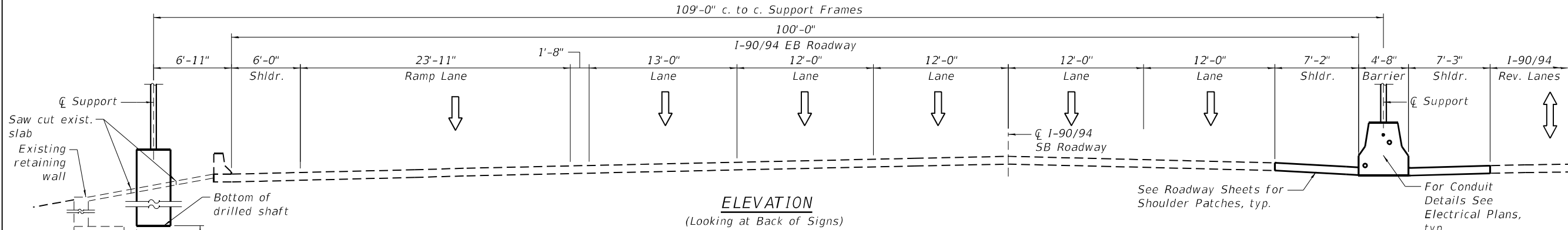
SHEET OSG-02 OF OSG-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	389
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

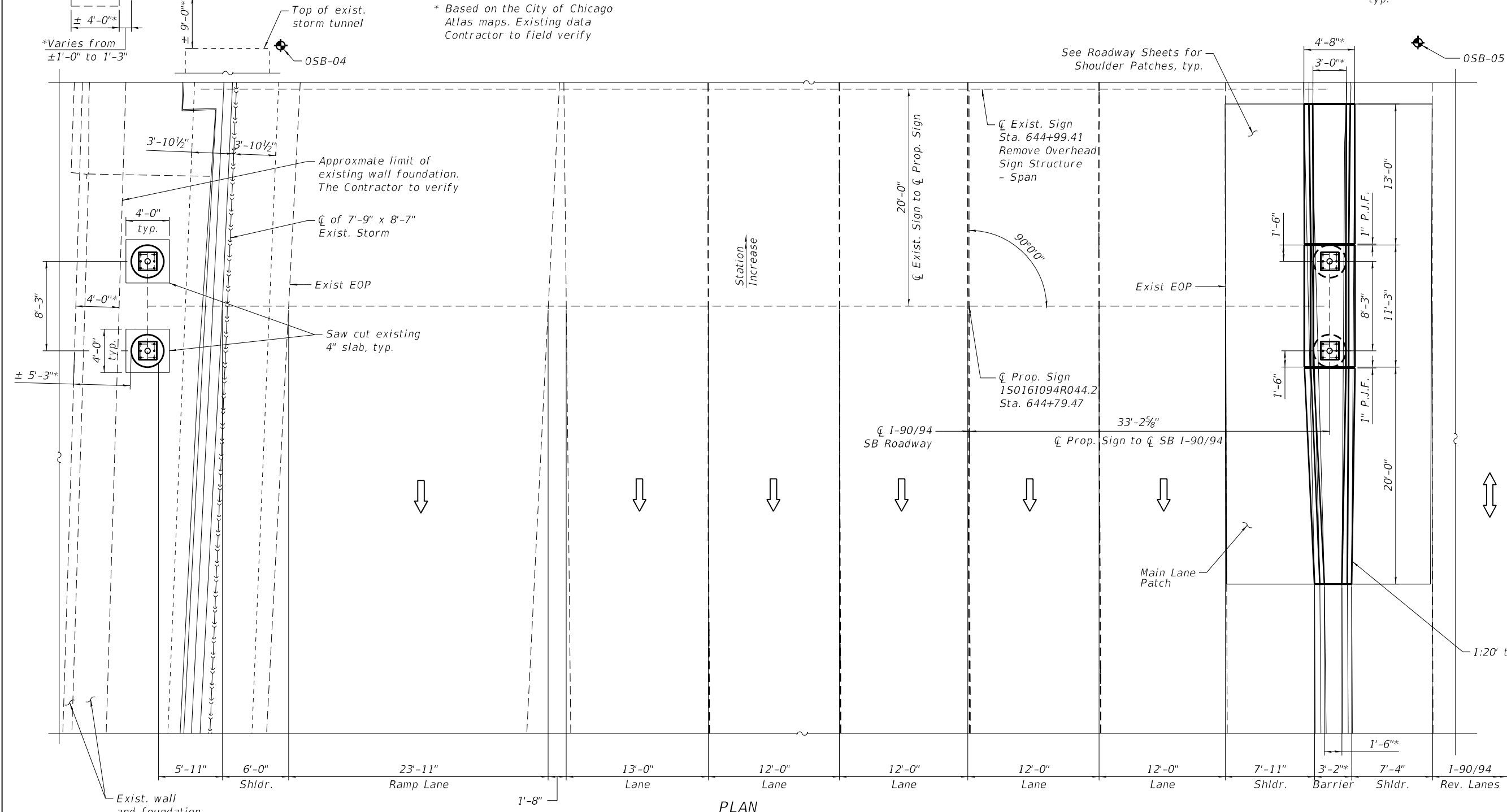
Benchmark: TBM "F" Top of NE bolt of 'Exit 44A' overhead sign at I-90/I-9 Irving park rd. exist ramp.
At Station 644+98.67 Offset 70.02 Lt. measured along \bar{C} SB I-90/I-94. Elev. 628.157.

NOTES:

1. Stations that are shown are with respect to the SB 190/94 baseline.
2. The contractor shall establish a local version of the SB baseline based on the dimension shown on this plan. The stationing shall be with respect to the center line of existing sign truss as shown. The offset of the baseline shall be measured from existing features as shown.



ELEVATION
(Looking at Back of Signs)



PLAN

MODEL: sMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\Overhead Sign Structures\SB1-62K74-503-Sign1.GPJ.dgn
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USER NAME =	DESIGNED -	K.M.	REVISED -
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PLOT DATE =	DRAWN -	D.C.P.	REVISED -
	CHECKED -	K.M.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

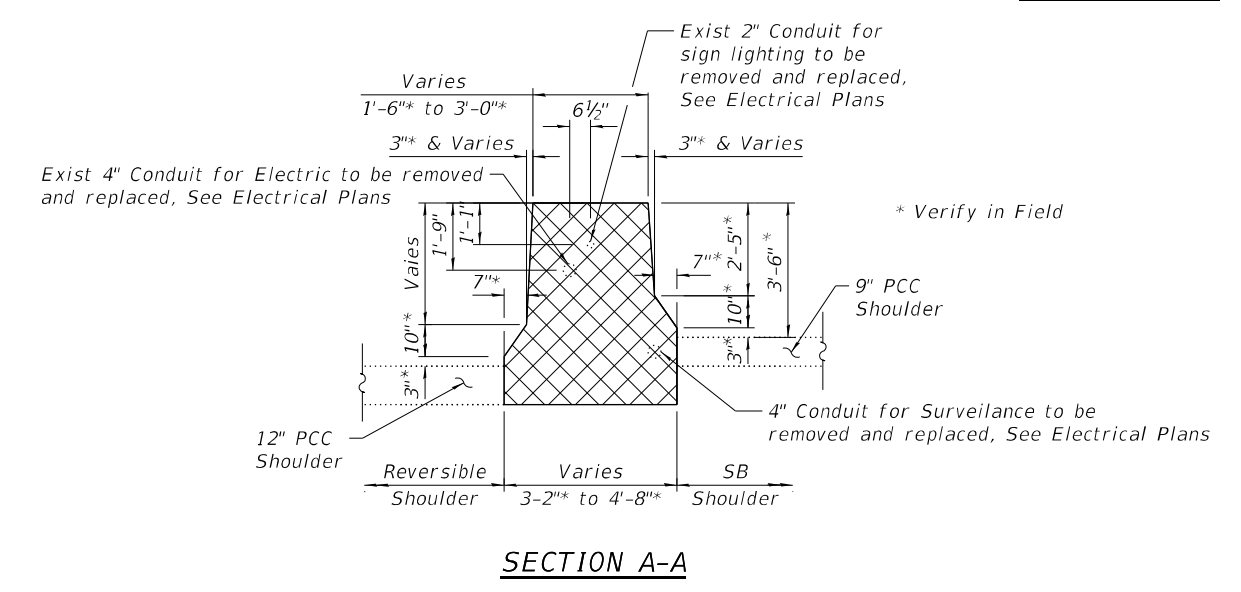
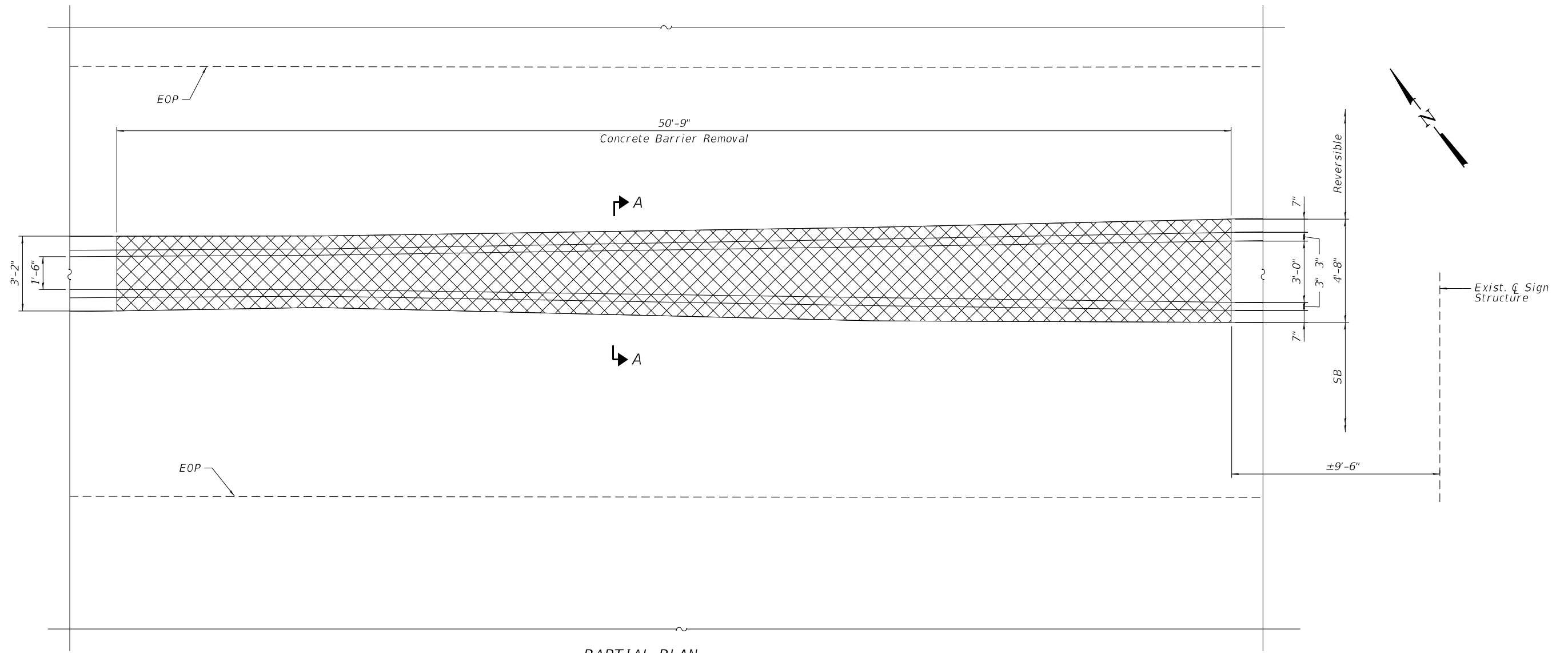
**GENERAL PLAN AND ELEVATION
SN 1S0161094R044.2 (SIGN 1)**

SHEET OSG5-03 OF OSG5-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	390
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

LEGEND:

◆ Soil Boring



BILL OF MATERIAL

Item	Unit	Quantity
Concrete Barrier Removal	Foot	50.75

LEGEND



MODEL: sMODELNAME5
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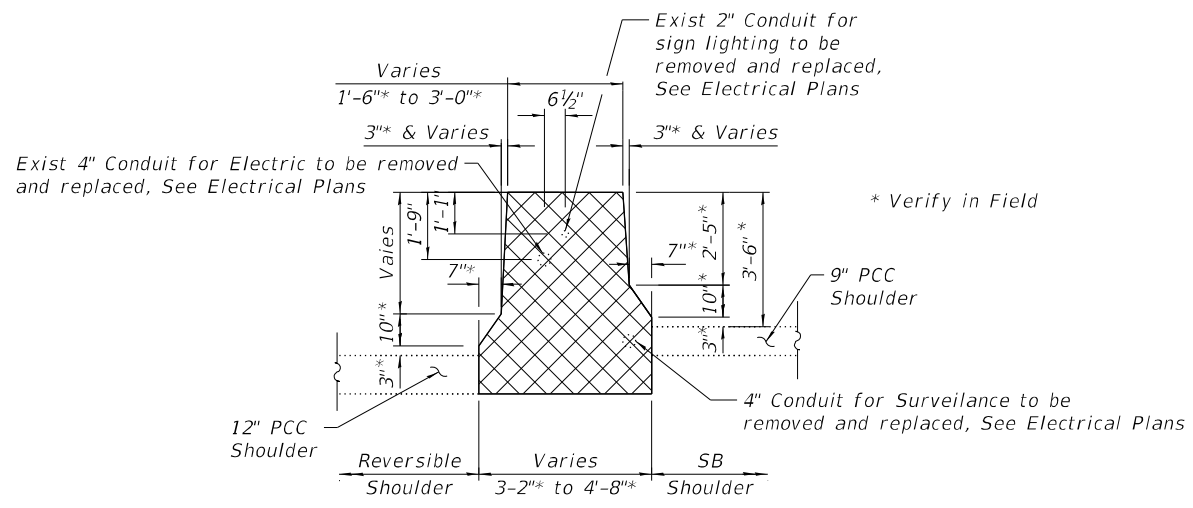
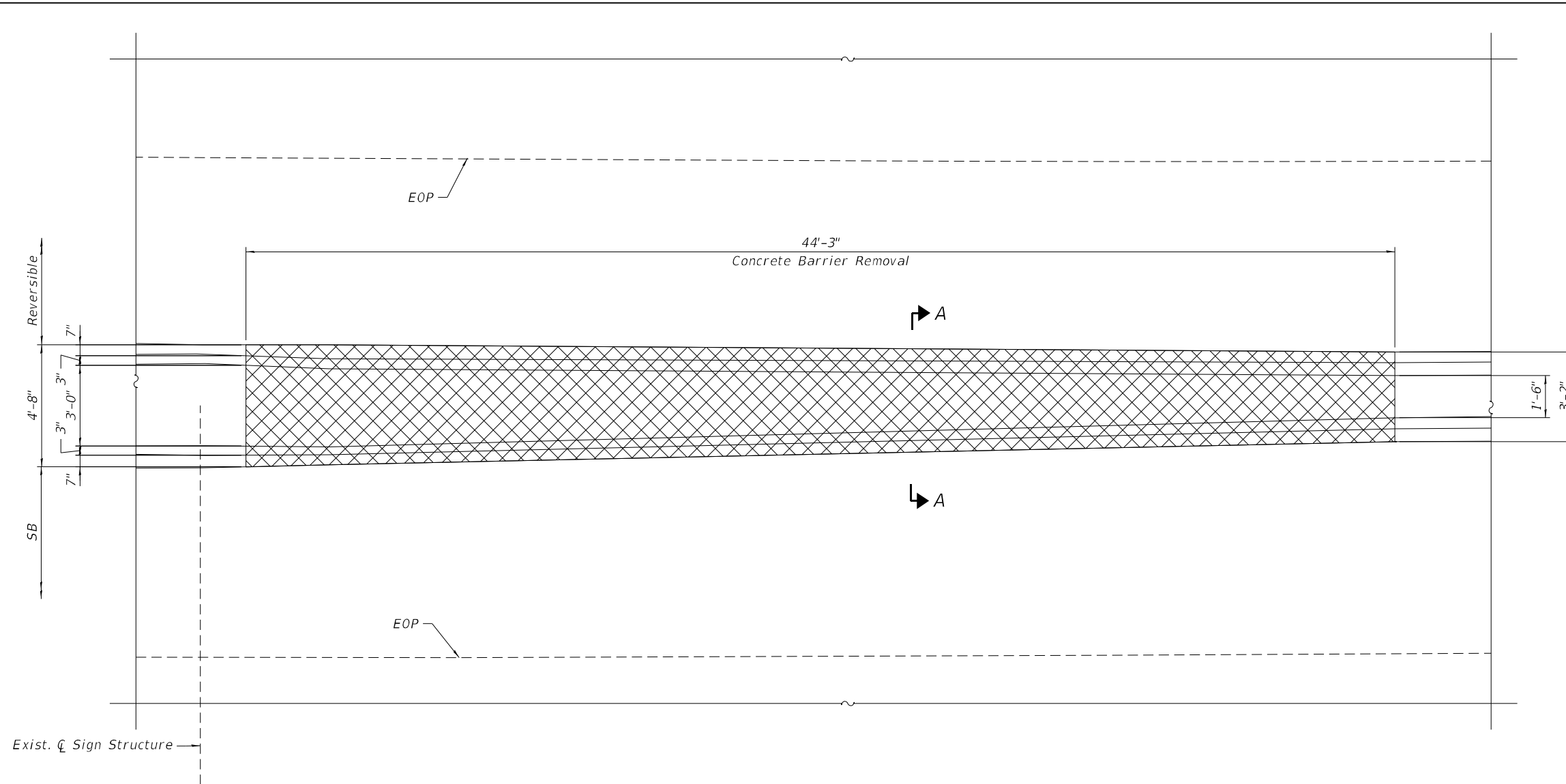
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PLOT SCALE =	DRAWN -	D.C.P.	REVISED -
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DEPARTMENT OF TRANSPORTATION

REMOVAL DETAILS FOR EXISTING MEDIAN BARRIER
SN 1S0161094R043.8 (SIGN 6)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	391
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

SHEET OSG5-04 OF OSG5-19 SHEETS



BILL OF MATERIAL

Item	Unit	Quantity
Concrete Barrier Removal	Foot	44.25

LEGEND

Concrete Barrier Removal

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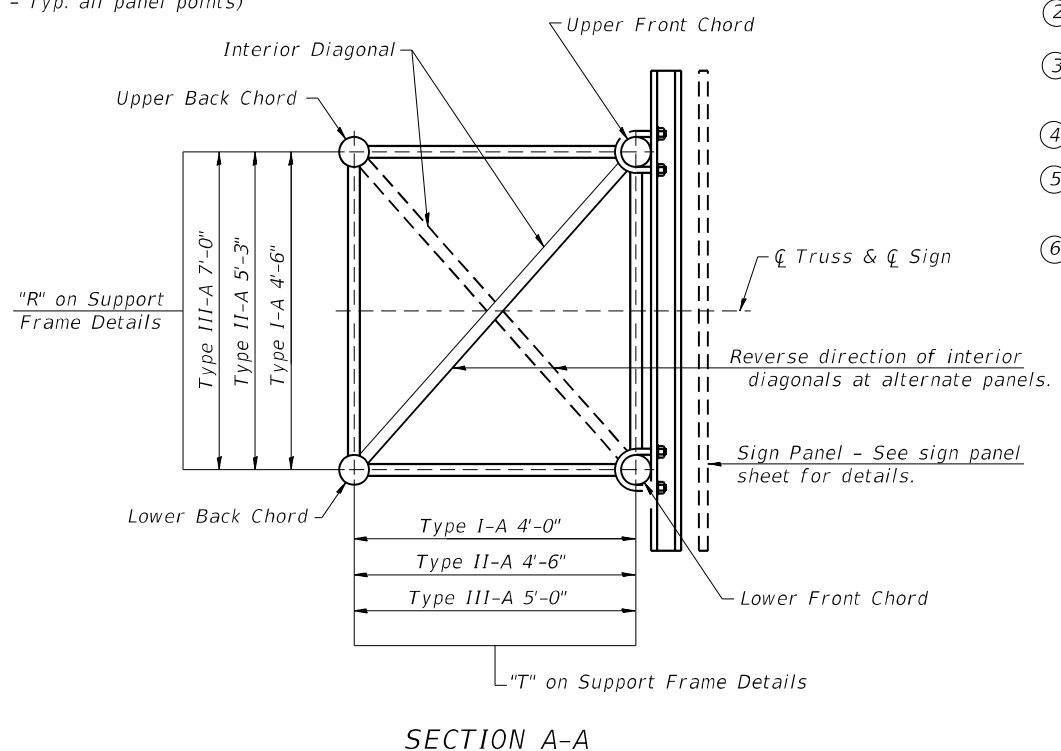
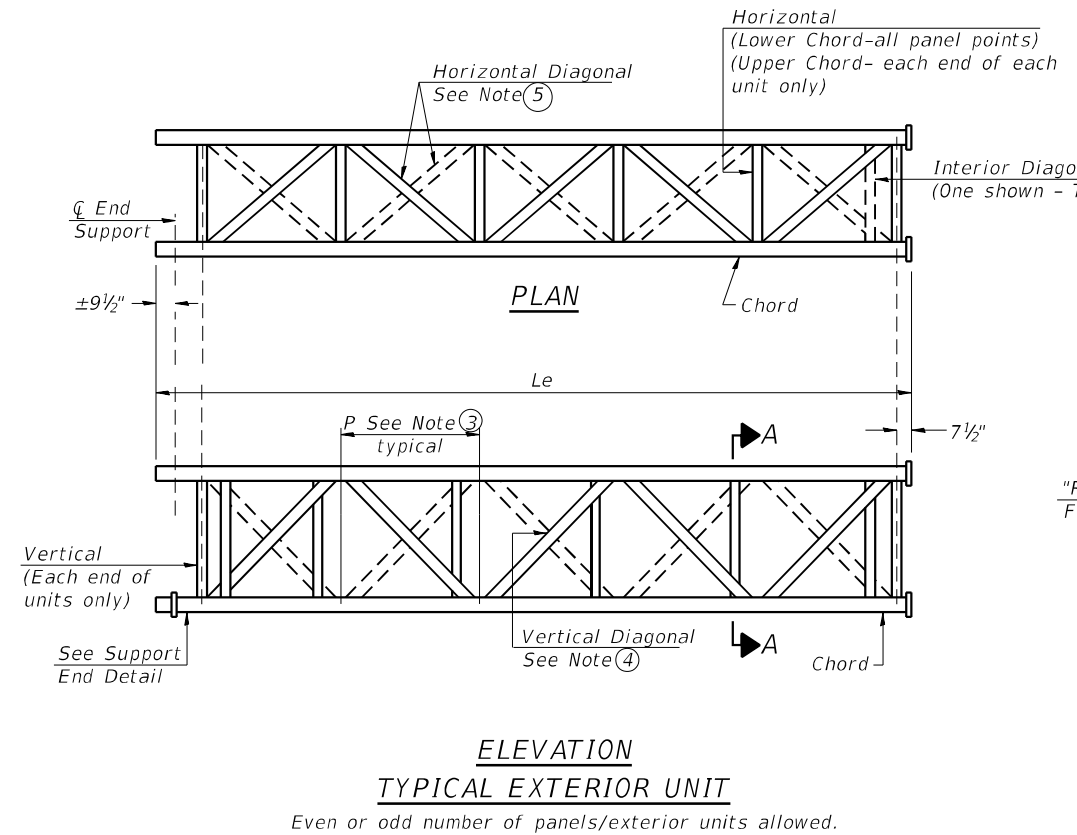
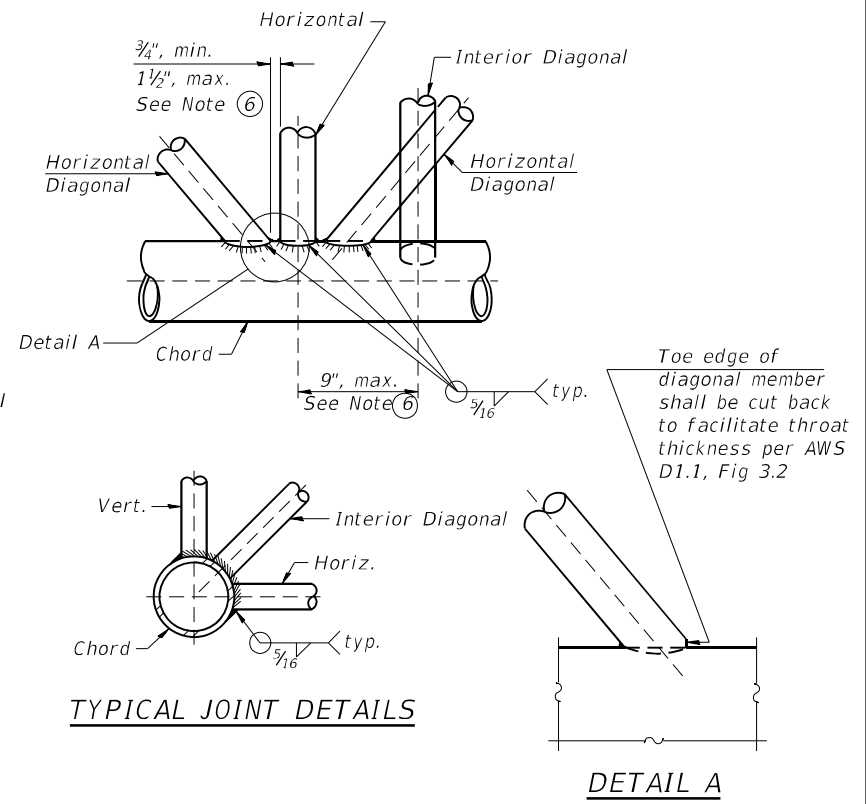
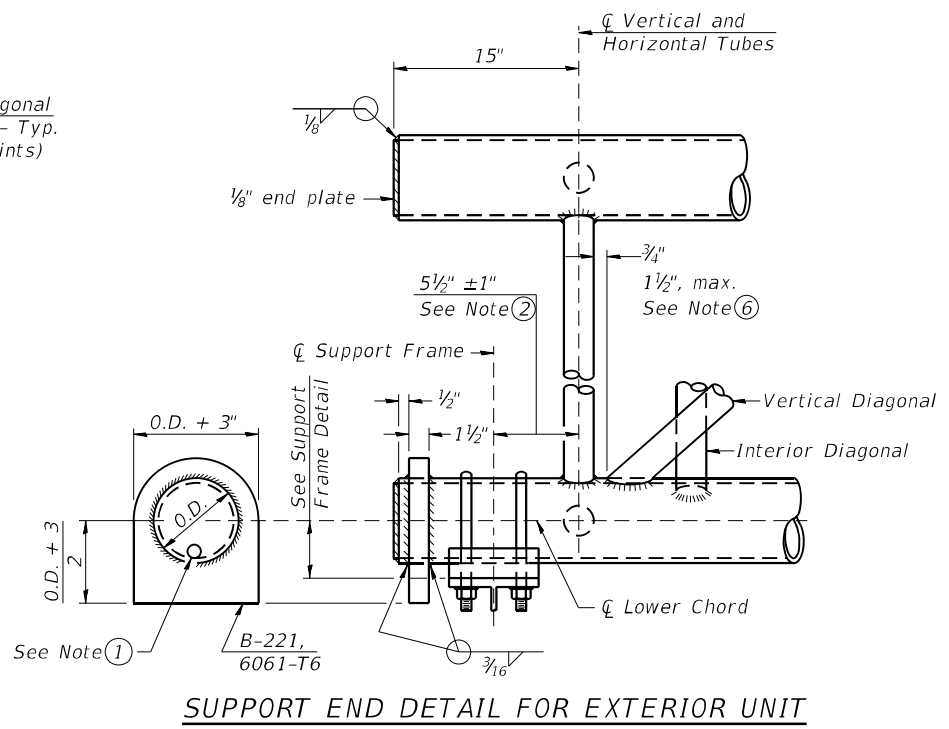
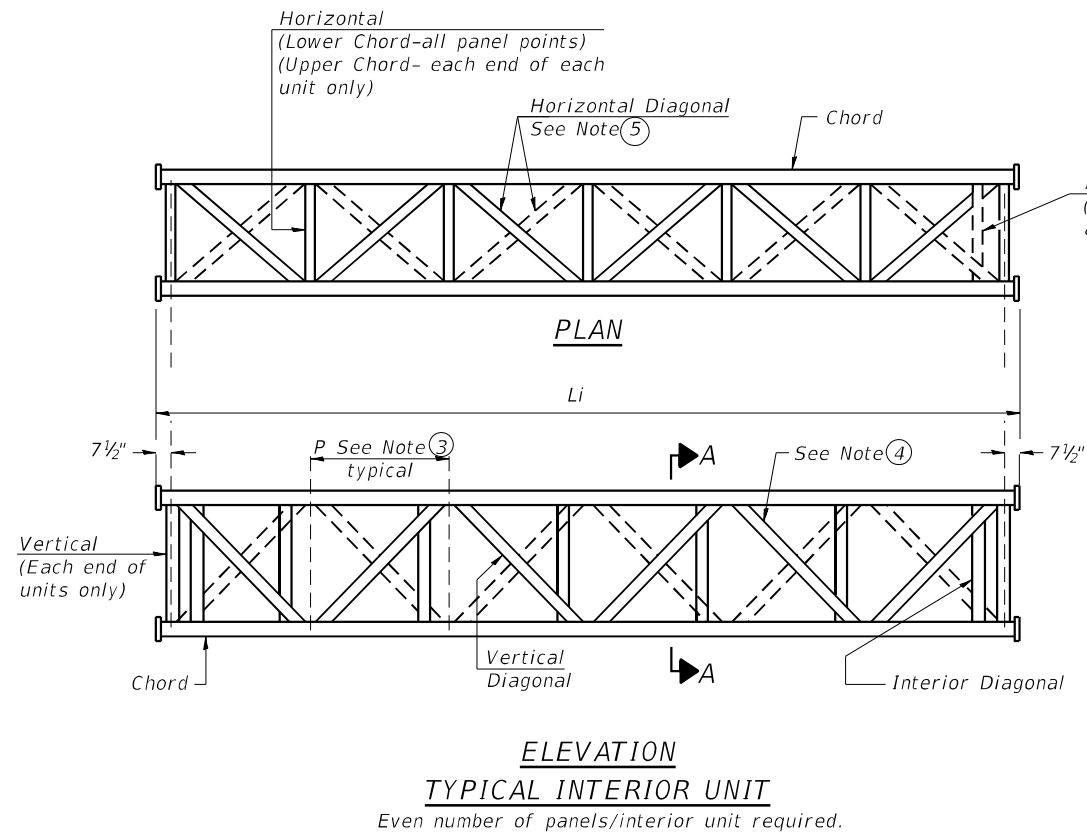
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PLOT DATE =	CHECKED -	K.M.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**REMOVAL DETAILS FOR EXISTING MEDIAN BARRIER
SN 1S016I094R044.2 (SIGN 1)**

SHEET OSG5-05 OF OSG5-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	392
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		



- ① Contractor may alternatively use standard aluminum drive-fit cap to close end. 1/2" Ø drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)
- ② 5 1/2" end dimension may vary by ±1" to provide uniform panel spacing (P).
- ③ 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.
- ④ Vertical Diagonals in front and back face shall alternate.
- ⑤ Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
- ⑥ 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.

MODEL: sMODELNAME5
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05-A-2

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	CHECKED - K.M.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

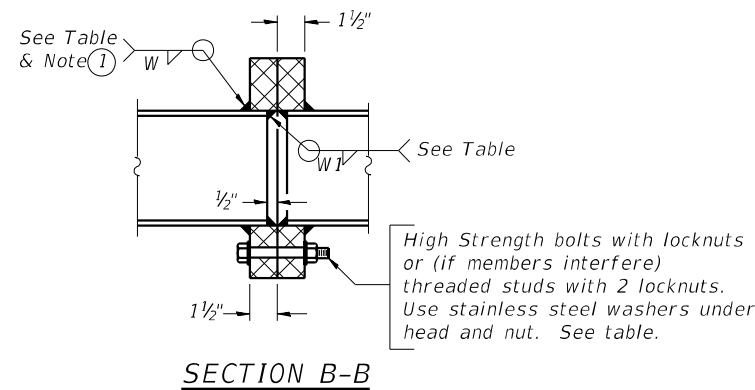
**OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS
DETAILS I FOR TRUSS TYPES I-A, II-A AND III-A**

SHEET OSG5-06 OF OSG5-19 SHEETS

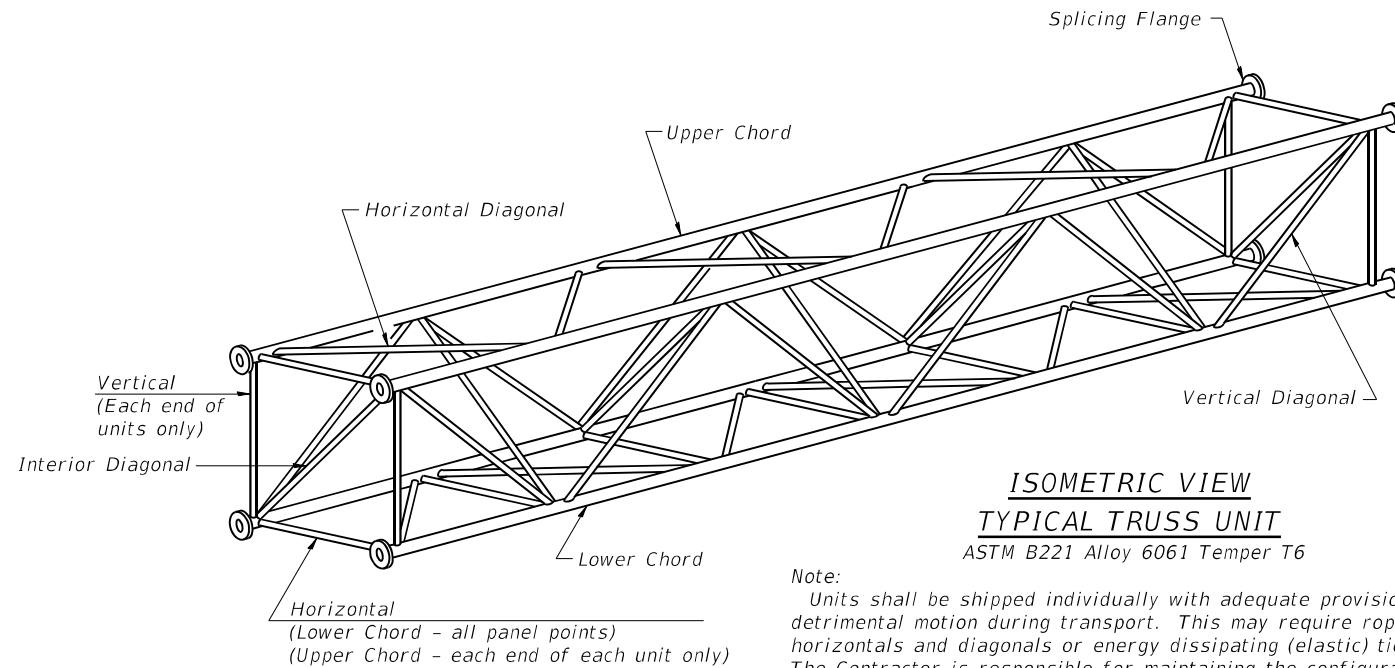
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	393
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

TRUSS UNIT TABLE

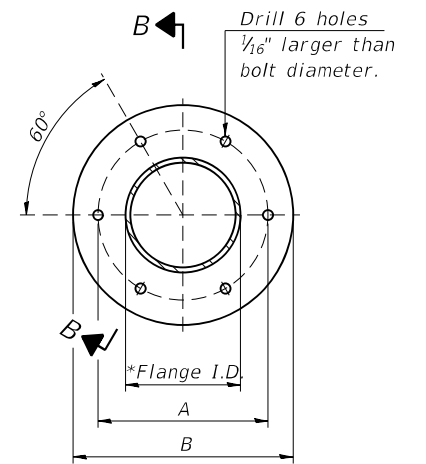
Structure Number	Station	Design Truss Type	Exterior Units (2)			Interior Unit				Upper & Lower Chord		Verticals; Horizontals; Vertical, Horizontal, and Interior Diagonals		Camber at Midspan	Splicing Flange						
			No. Panels per Unit	Unit Lgth.(Le)	Panel Lgth.(P)	No. Req'd.	No. Panels per Unit	Unit Lgth.(Li)	Panel Lgth.(P)	O.D.	Wall	O.D.	Wall		Bolts		Weld Sizes		A	B	
															No./Splice	Dia.	W	WI			
Sign 6	1S0161094R043.8	655+85.00 (SB)	II-A	7	36'-8 3/4"	4'-11 3/4"	1	6	31'-1 1/2"	4'-11 3/4"	6 1/2"	5/16"	3"	5/16"	3 1/4"	6	1"	3/8"	1/4"	11"	14 1/2"
Sign 1	1S0161094R044.2	644+79.47 (SB)	II-A	7	38'-9 1/4"	5'-3 1/4"	1	6	32'-10 1/2"	5'-3 1/4"	6 1/2"	5/16"	3"	5/16"	3 5/8"	6	1"	3/8"	1/4"	11"	14 1/2"



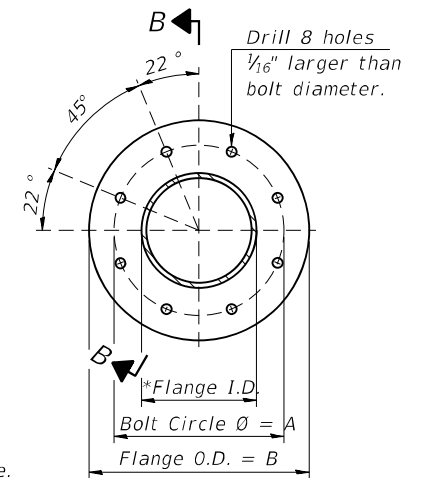
① Splicing Flanges shall be attached to each truss unit with the truss shop assembled to camber shown. Truss units shall be in proper alignment and flange surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure flanges until remaining welds are made after disassembly. Adjacent flanges 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 configuration and protection of the units.



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 fit O.D. of Chord with maximum gap of 1/16".

MODEL: sMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\Overhead Sign Structures\SB1-62K74-507-TrussDetails II.dgn
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054-A-2

2-17-2017

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	CHECKED - K.M.	REVISED -

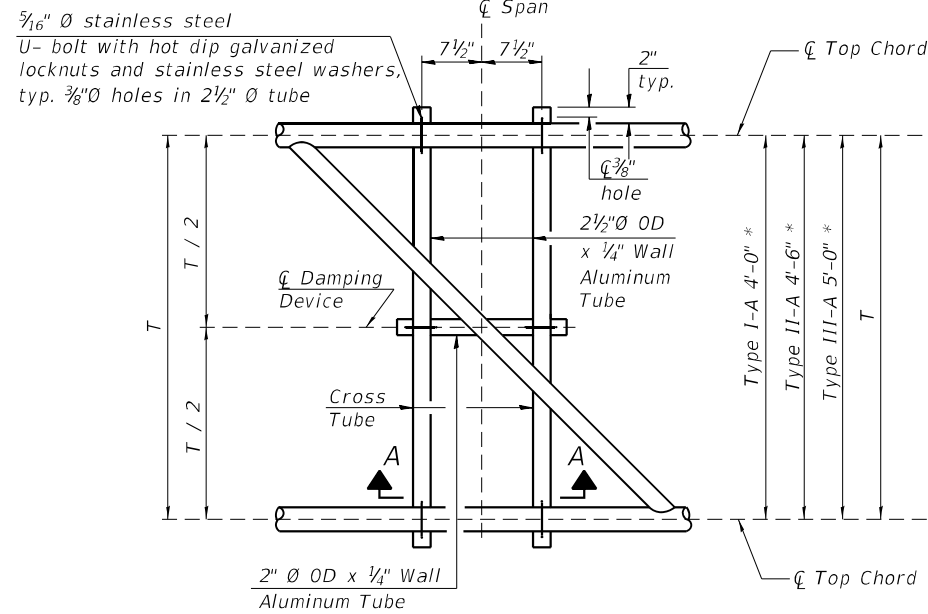
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

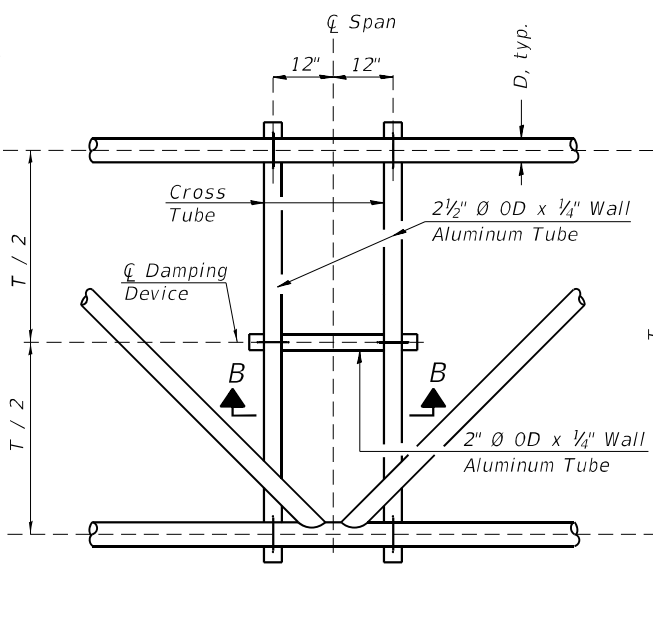
SHEET OSG5-07 OF OSG5-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	394
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		

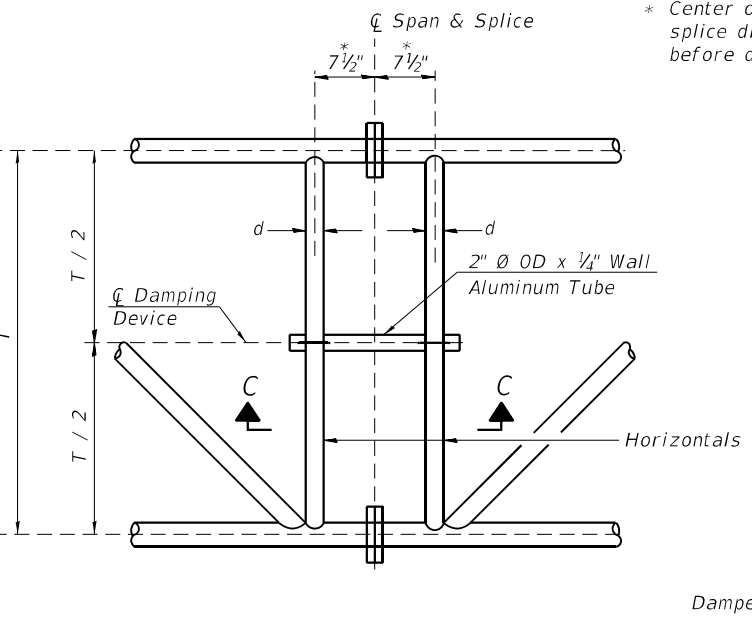
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PLAN DETAIL "A"
 ☐ Span between Panel Points



PLAN DETAIL "B"
 ☐ Span at Panel Point



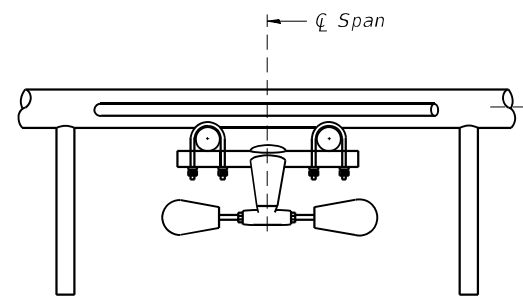
PLAN DETAIL "C"
 ☐ Span at ☐ Chord Splice

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

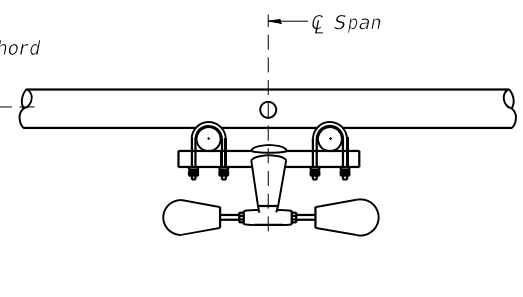
NOTES

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

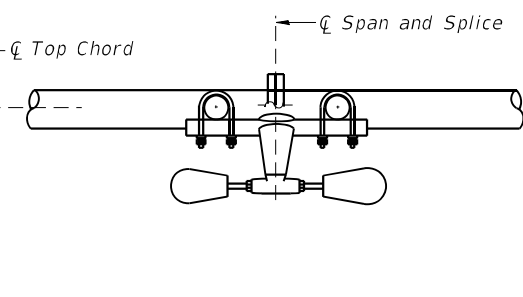
Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure...



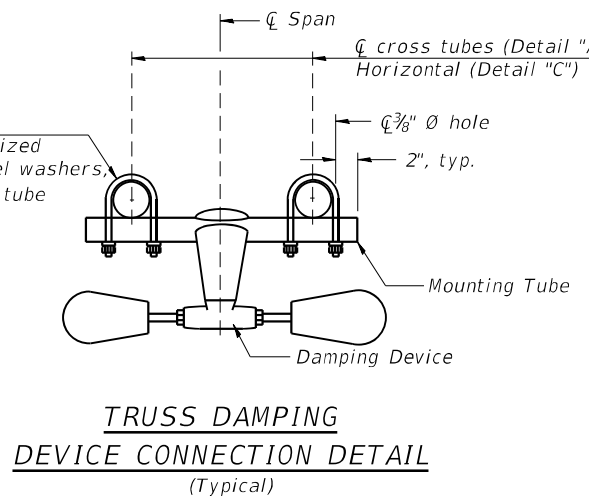
SECTION A-A



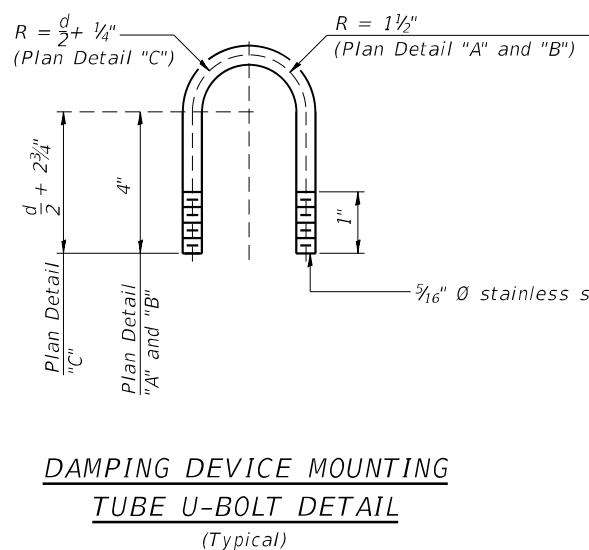
SECTION B-B



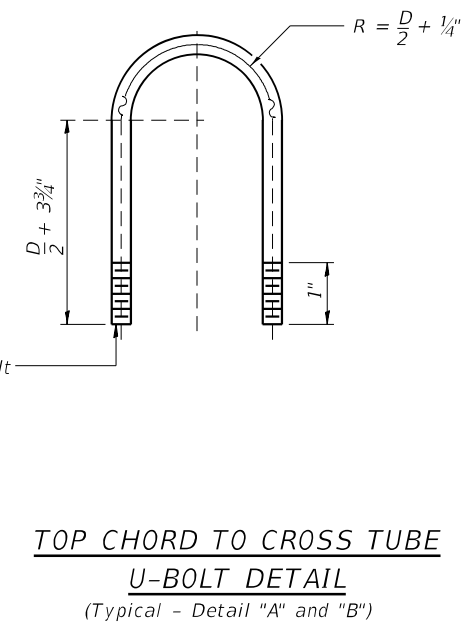
SECTION C-C



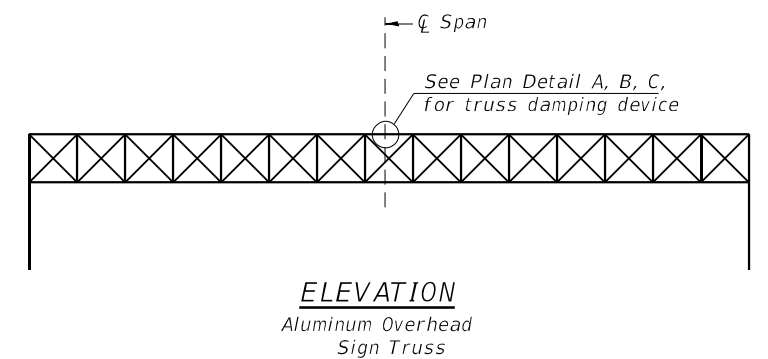
TRUSS DAMPING DEVICE CONNECTION DETAIL
 (Typical)



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

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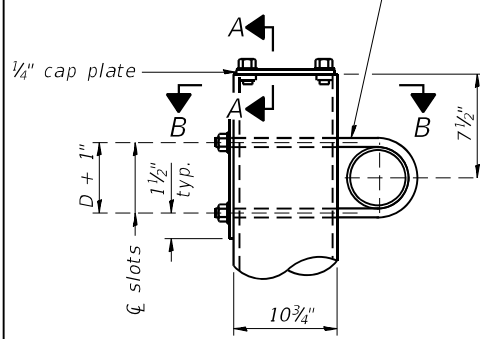
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURE
DAMPING DEVICE

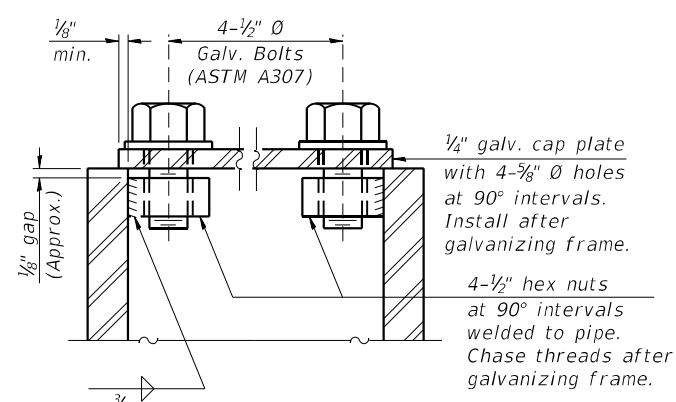
SHEET OSG5-08 OF OSG5-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	395
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		

3/4" Ø stainless steel U-bolt.
Provide two washers and two hexagon locknuts. ④
1 3/16" x 2" slots on 10" Ø pipe.
(4 slots required per pipe)

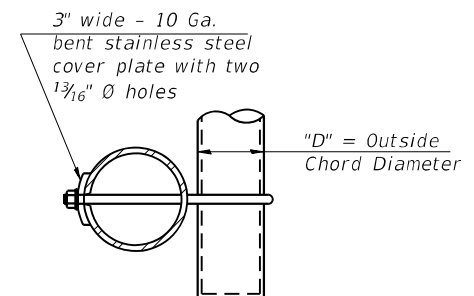


DETAIL A

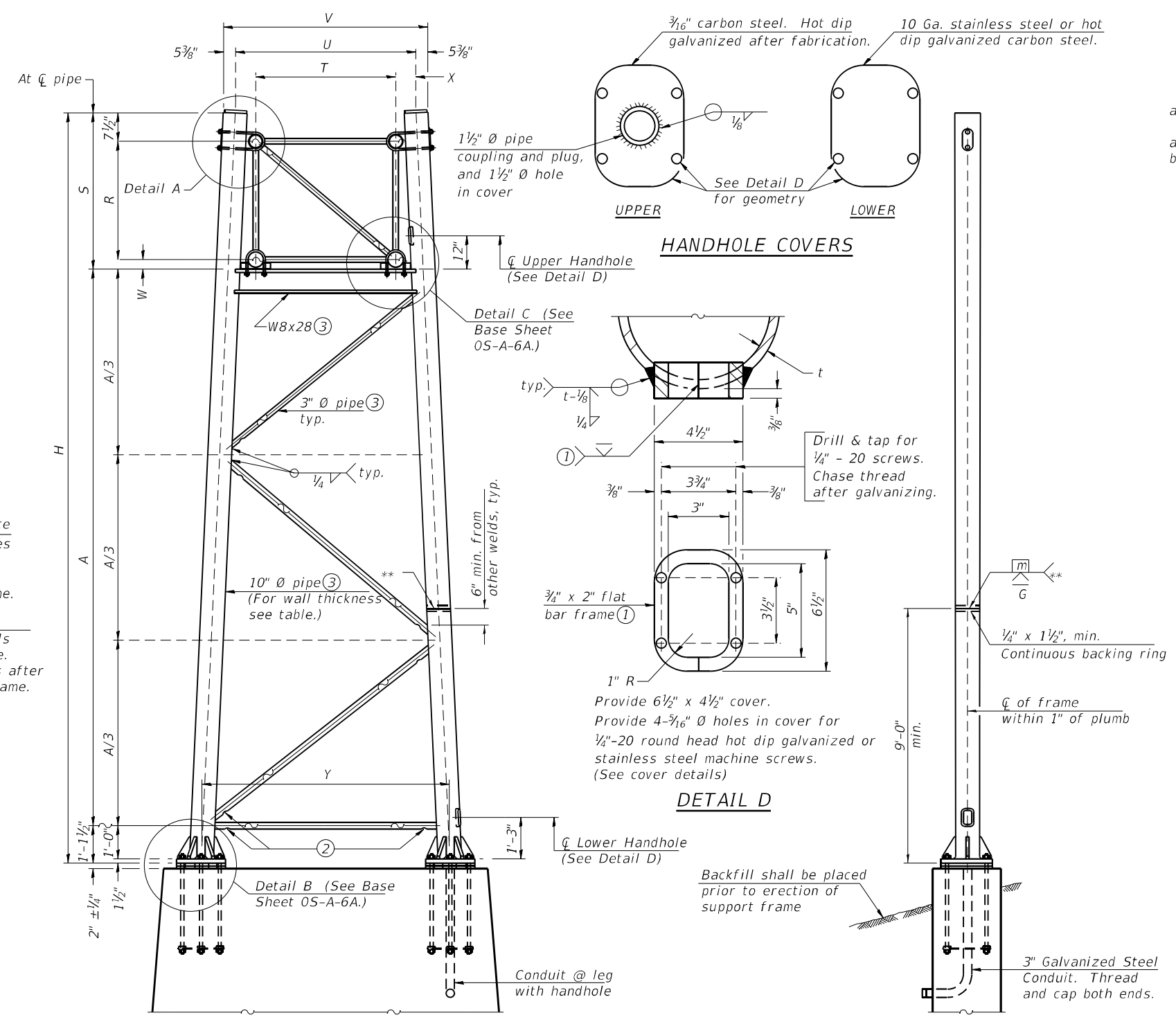


SECTION A-A

As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.



SECTION B-B



For Foundation Details, see base sheet OS-F3 (Spread Footing) or OS4-F3 (Drilled Shaft).

SIDE ELEVATION

END ELEVATION

Support Design Loads: See Base Sheet OS-A-1 for design and loading criteria.
Load combinations checked include deadload plus:
a) 100% wind normal to sign, 20% parallel to sign
b) 60% wind normal to sign, 30% parallel to sign

- ① In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500µ in or less.
- ② Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
- ③ Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Base Sheet OS-A-1.
- ④ See General Notes for fasteners.
- ⑤ Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
- ⑥ "H" based on 15'-0" or actual sign height, whichever is greater.

10" Ø PIPE TRUSS SUPPORT FRAME

** One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

Truss Type	Dimensions							
	R	S	T	U	V	W	X	Y
I-A	4'-6"	5'-5 1/2"	4'-0"	5'-6"	6'-4 3/4"	4"	9"	8'-3"
II-A ⑤	5'-3"	6'-3 1/4"	4'-6"	6'-1"	6'-11 3/4"	4 3/4"	9 1/2"	8'-3"

Structure Number	Station	Support		Truss Type	Pipe Wall Thickness	H ⑥	A
		Left	Right				
Sign 6 150161094R043.8	655+85.00	X		II-A	0.365	25'-6 1/4"	18'-1 1/2"
			X	II-A	0.365	29'-1 5/8"	21'-8 7/8"
Sign 1 150161094R044.2	644+79.47	X		II-A	0.365	25'-6"	18'-1 1/4"
			X	II-A	0.365	29'-0 3/4"	21'-8"

MODEL: SMODELNAME5
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05-A-6

2-17-2017

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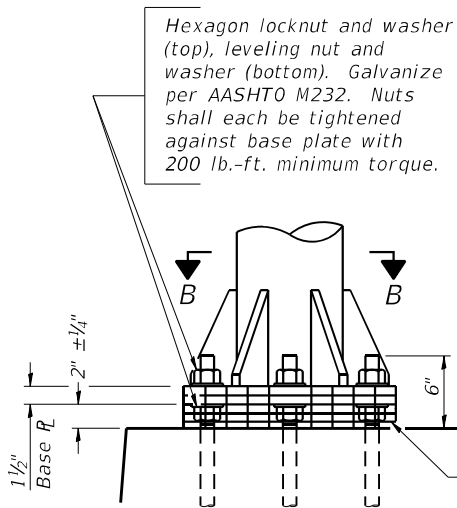
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR ALUMINUM TRUSS**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	396
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET OSG5-09 OF OSG5-19 SHEETS

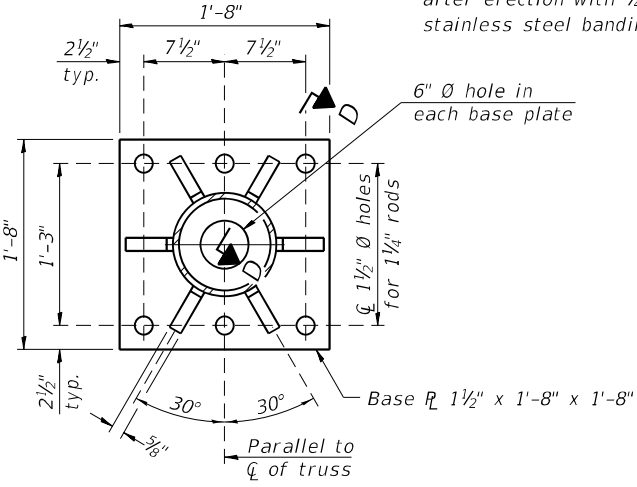
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 10/18/2022 2:31:13 PM



DETAIL B

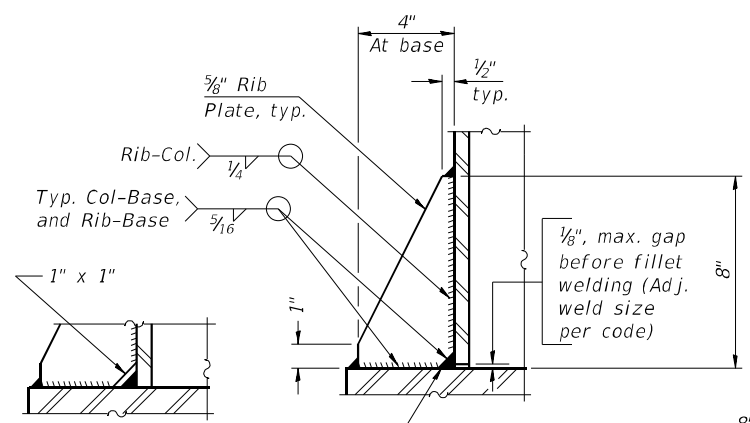
Hexagon locknut and washer (top), leveling nut and washer (bottom). Galvanize per AASHTO M232. Nuts shall each be tightened against base plate with 200 lb.-ft. minimum torque.

Ribs shall be cut to fit slope of pipe.



SECTION B-B

Stainless Steel Standard Grade Wire Cloth, 3" wide, 1/4" maximum opening with a minimum wire diameter of AWG. No. 16 with a minimum 2" lap. Secure to base plate after erection with 3/4" stainless steel banding.

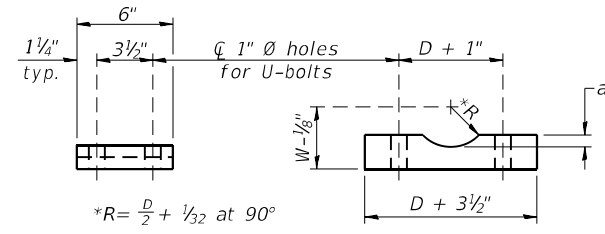


SECTION D-D

1/8" max. gap before fillet welding (Adj. weld size per code)

No snip req'd. at rib inside corner if placed before col. to base plate welding.**

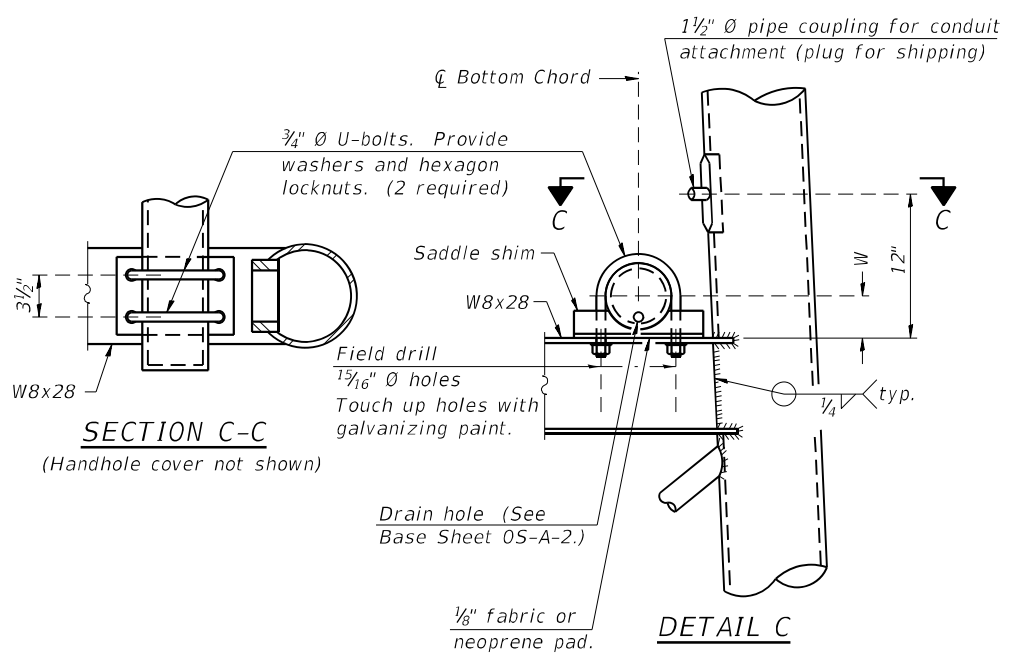
** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.



SADDLE SHIM DETAIL

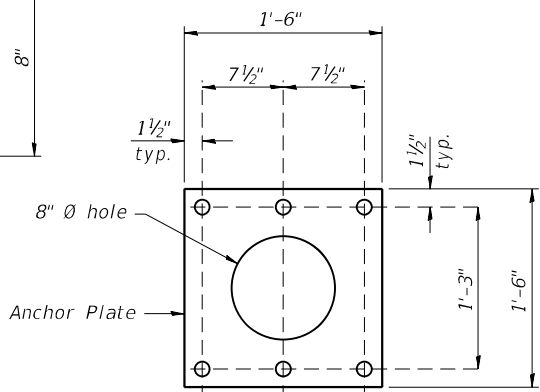
ASTM B26 Alloy 356-F
 or
 ASTM B209 Alloy 6061-T651 (4 required per sign truss)

Truss Chord Nominal Dia.	a
5"	3/4"
5 1/2"	1 1/16"
6"	7/8"
6 1/2"	1 5/16"
7"	1"

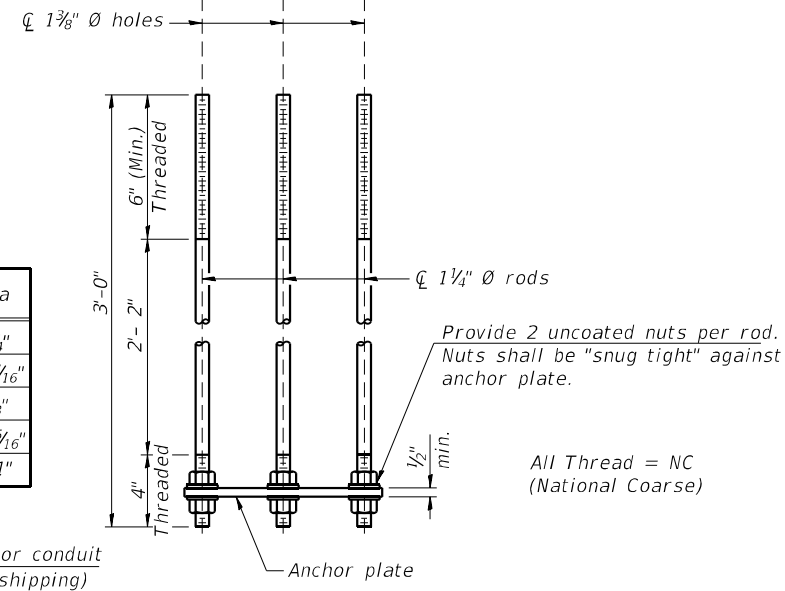


SECTION C-C

DETAIL C



Anchor Plate

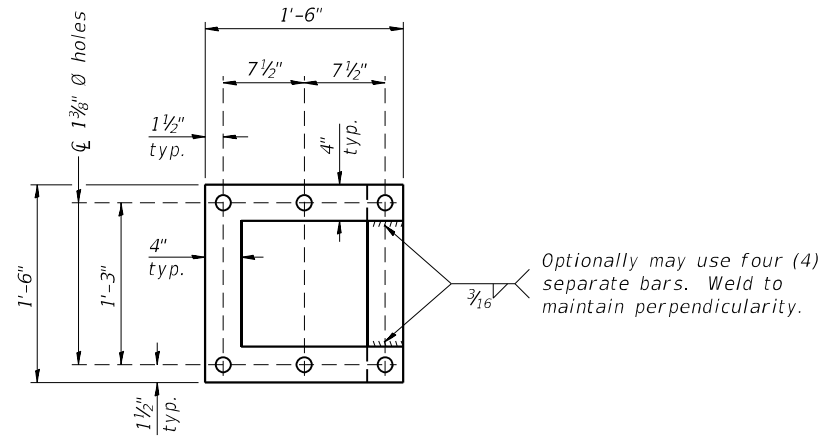


ANCHOR ROD DETAIL
 Spread Footing Foundation

All Thread = NC (National Coarse)

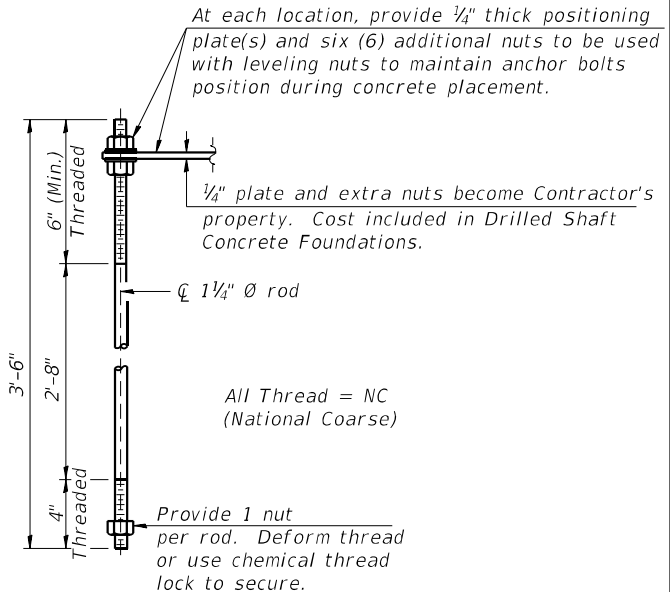
Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.

10" Ø PIPE SUPPORT FRAME DETAILS



POSITIONING PLATE(S)

Optionally may use four (4) separate bars. Weld to maintain perpendicularity.



ANCHOR ROD DETAIL
 Drilled Shaft Foundation

All Thread = NC (National Coarse)

05-A-6A

2-17-2017

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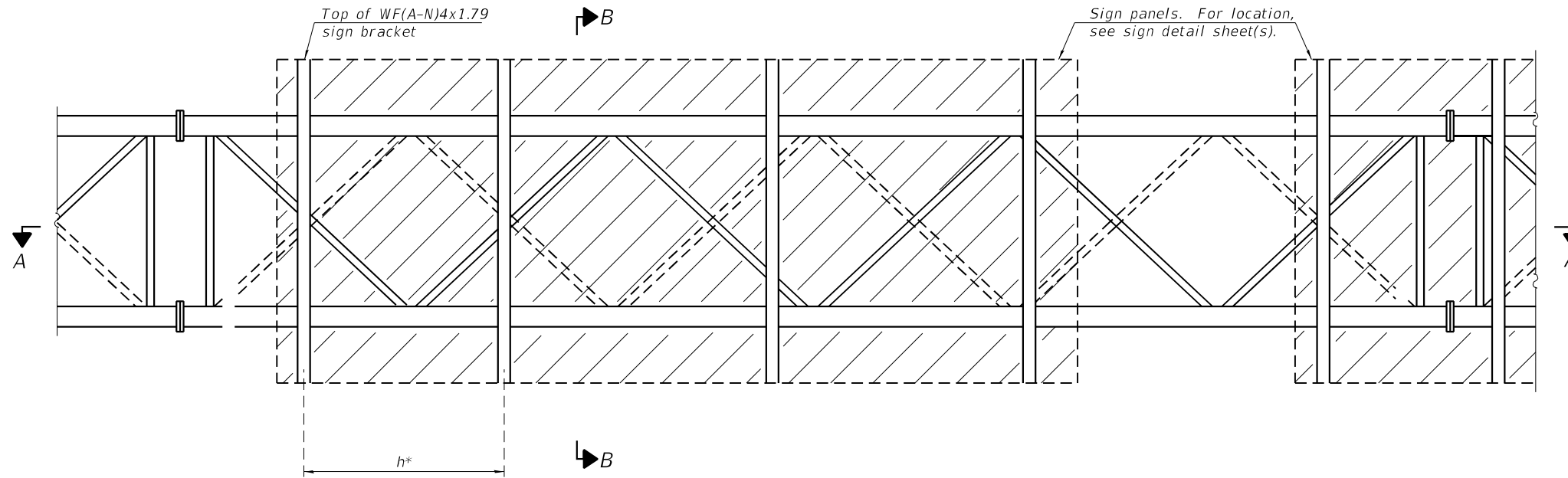
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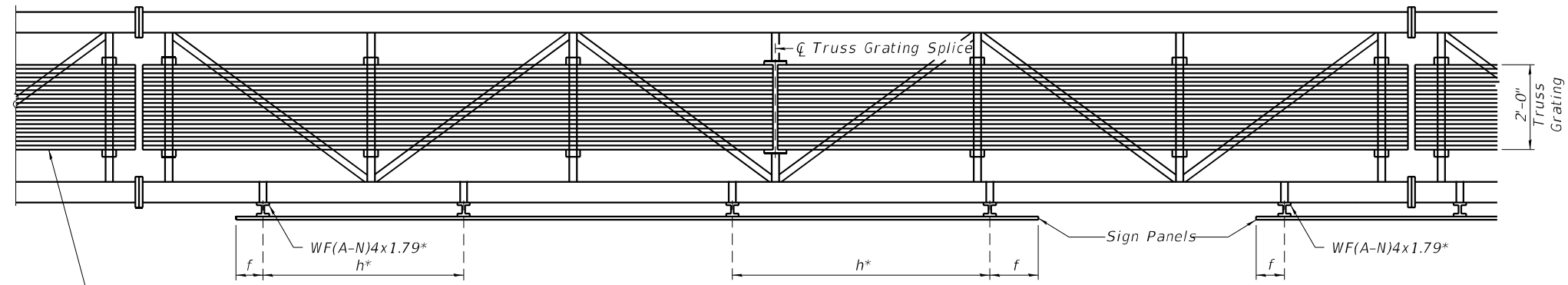
OVERHEAD SIGN STRUCTURES
SUPPORT FRAME DETAILS - ALUMINUM TRUSS

SHEET OSG5-10 OF OSG5-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	397
CONTRACT NO. 62K74				
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TYPICAL FRONT ELEVATION



SECTION A-A

Place all sign brackets as close to panel points as practical.

BRACKET TABLE

WF(A-N)4x1.79 ASTM B308, Alloy 6061-T6		
Sign Width Greater Than	Less Than or Equal To	Number Brackets Required
8'-0"	20'-0"	3
14'-0"	26'-0"	4
20'-0"	32'-0"	5
26'-0"		6

* Space sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to \bar{c} of nearest bracket)
h = 6'-0" maximum (\bar{c} to \bar{c} sign support brackets, WF(A-N)4x1.7)

Notes:

For Detail T and Section B-B, see Base Sheet OS-A-10-NW.
Truss grating to facilitate inspection shall run full length (center to center of support frames) 12"± on overhead trusses.
Cost of truss grating is included in "Overhead Sign Structure".
Truss Grating width dimensions are nominal and may vary 1/2"± based on available standard widths.

MODEL: sMODELNAME5
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4-1-2020

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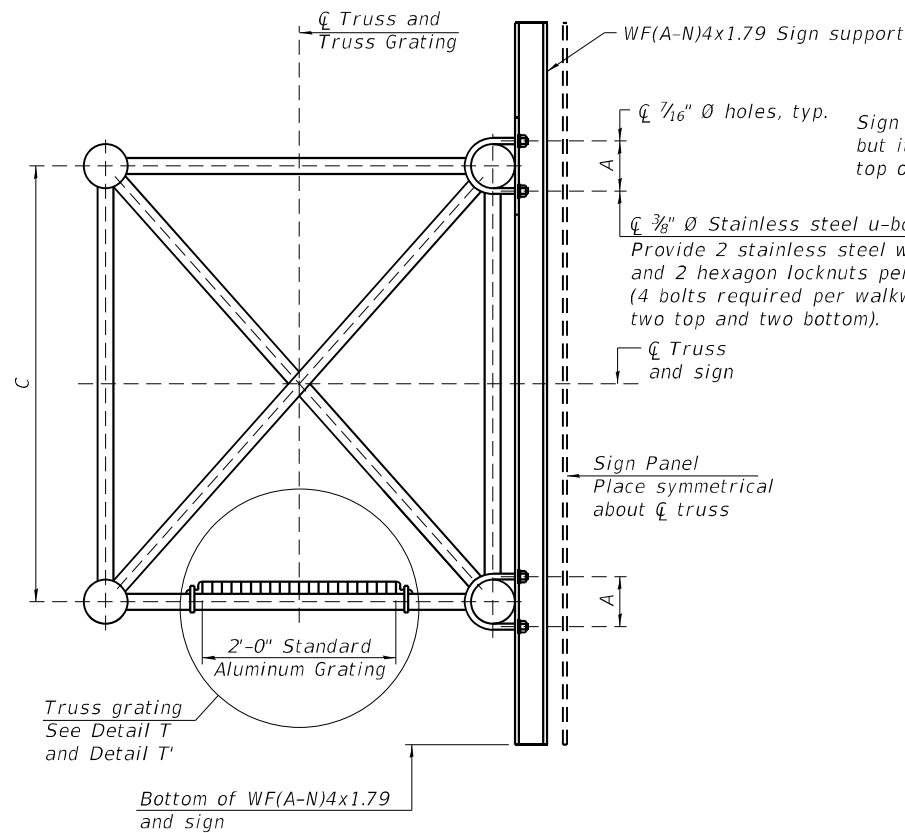
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PLOT SCALE =	DRAWN -	D.C.P.	REVISED -
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OVERHEAD SIGN STRUCTURES
ALUMINUM WALKWAY DETAILS I

SHEET OSG5-11 OF OSG5-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	398
			CONTRACT NO. 62K74	
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SECTION B-B

SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

Main Bearing Bars shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B221 Alloy 6061-T6.

Cross bars shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

OR

Aluminum Grating with modified "t" sections for main bearing bars shall meet the following requirements:

Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.³ per bar, a depth of 1 1/2", spaced on 1 3/16" centers.

Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

	Structure Number	Station	A	C
Sign 6	1S0161094R043.8	655+85.00	7"	5'-3"
Sign 1	1S0161094R044.2	644+79.47	7"	5'-3"

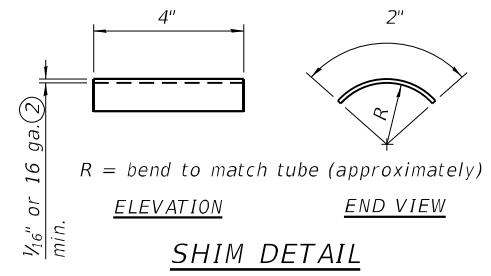
Sign shall be even with the top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.

3/8" Ø Stainless steel u-bolts.
Provide 2 stainless steel washers and 2 hexagon locknuts per bolt. (4 bolts required per walkway bracket, two top and two bottom).

Sign Panel
Place symmetrical about truss

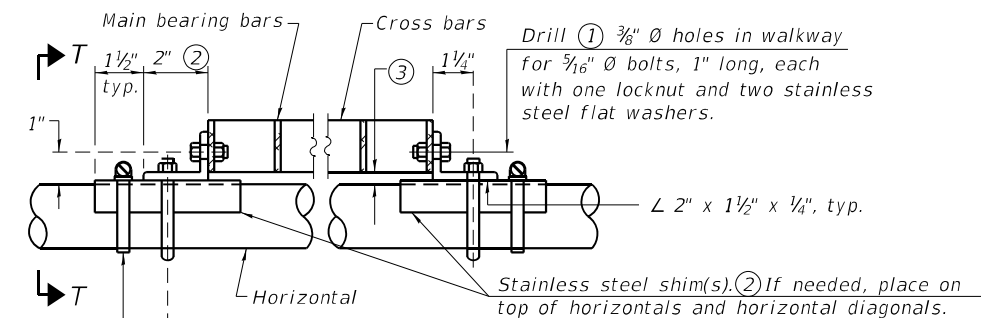
Truss grating
See Detail T and Detail T'

Bottom of WF(A-N)4x1.79 and sign

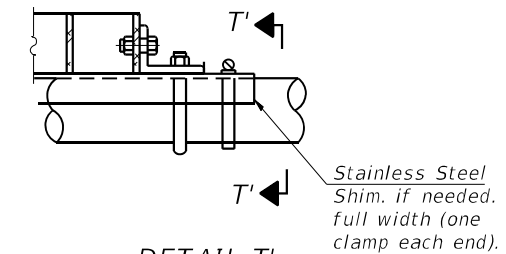


SHIM DETAIL

- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- Tube to grating gap may vary from 0 to 1/2", max. to align walkway, allow for camber, etc.

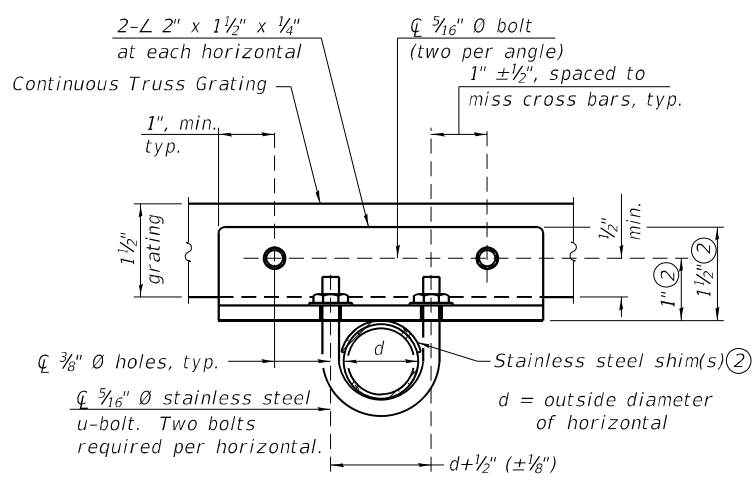


DETAIL T
(Continuous Truss grating)

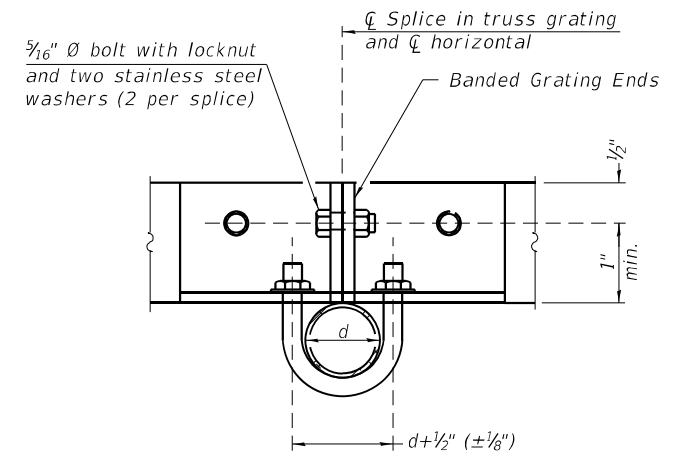


DETAIL T'
(Truss grating splice)

Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.



SECTION T-T



SECTION T'-T'

05-A-10-NW

4-1-2020

MODEL: sMODELNAME
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**OVERHEAD SIGN STRUCTURES
ALUMINUM WALKWAY DETAILS II**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	399
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

SHEET OSG5-12 OF OSG5-19 SHEETS

BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
v4(E)	24	#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 (Qu) 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.

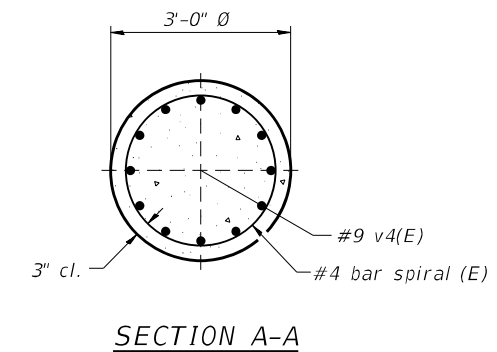
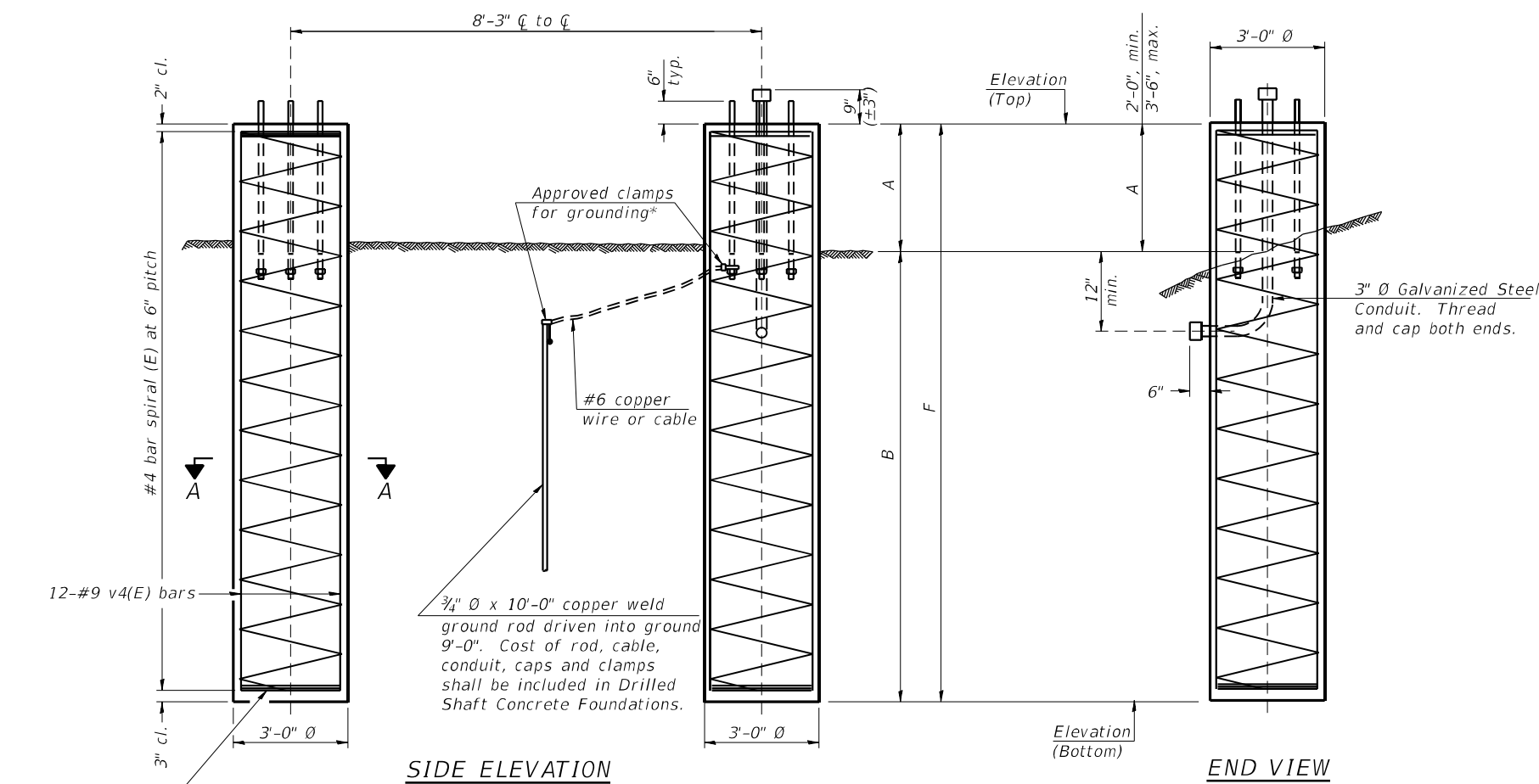
If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District 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.

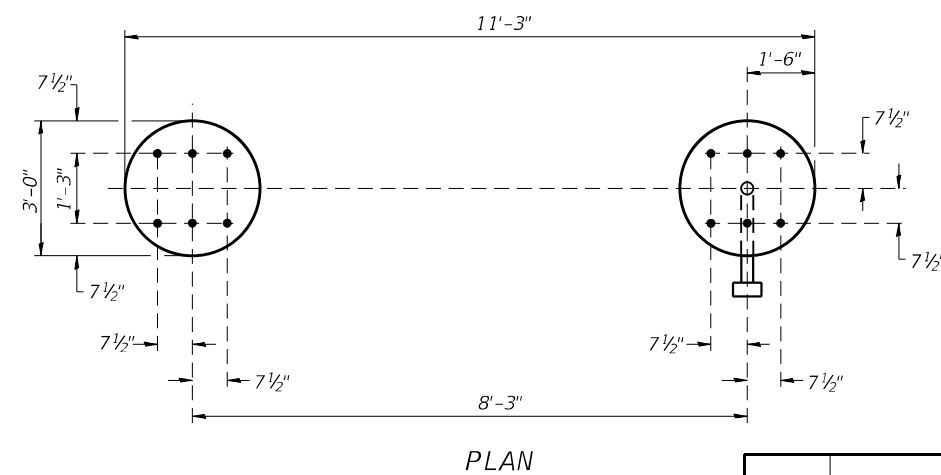
Concrete shall be placed monolithically, without construction joints.

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.



3 hoops minimum top and bottom



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

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

**DETAILS FOR 10" Ø SUPPORT FRAME
TYPE I-A or II-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
Sign 6	1S0161094R043.8	655+85.00						620.94	596.94	3'-6"	20.5'	24'-0"	12.6
Sign 1	1S0161094R044.2	644+79.47						624.93	600.93	3'-6"	20.5'	24'-0"	12.6

MODEL: sMODELNAME5
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**OVERHEAD SIGN STRUCTURES
DRILLED SHAFT DETAILS I**

SHEET OSG5-13 OF OSG5-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	400
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				