

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	DIST. 8 ITS 2011-3	ST. CLAIR	10	3
		ILLINOIS	CONTRACT NO. 76E70	

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**

**PROPOSED**  
**HIGHWAY PLANS**

**FAI ROUTE 64 (I-64)**  
**SECTION DIST 8 ITS 2011-3**

**LED DMS REPLACEMENT @**  
**WB I-64 MP10.8 (STA. 466 + 75)**  
**ST. CLAIR COUNTY**

C-98-031-11

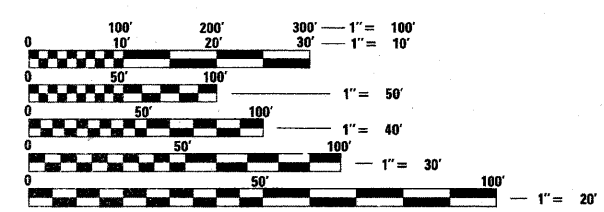
**INDEX OF SHEETS**

1. COVER SHEET
2. SUMMARY OF QUANTITIES, GENERAL NOTES, TRAFFIC VOLUME & LEGEND
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4. EX. OVERHEAD SIGN STRUCTURES GENERAL PLAN & ELEVATION-ALUMINUM TRUSS & STEEL SUPPORTS DETAILS
- 5 & 6. EX. OVERHEAD SIGN STRUCTURES ALUMINUM TRUSS DETAILS FOR TRUSS TYPES I-A, II-A AND III-A
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- 9 & 10. EX. OVERHEAD SIGN STRUCTURES ALUMINUM HANDRAILS DETAILS

SHEETS 4 - 10 ARE FOR INFORMATION , ONLY.

**STANDARDS**

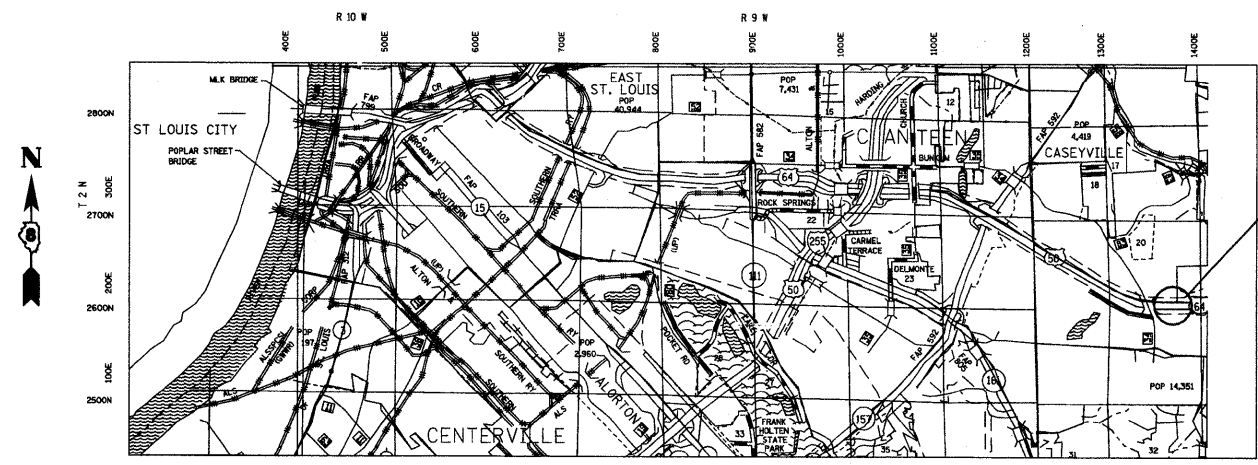
- |           |           |           |
|-----------|-----------|-----------|
| 000001-06 | 701001-02 | 701006-03 |
| 701101-02 | 701106-02 | 701400-05 |
| 701406-06 | 701446-02 | 701901-01 |



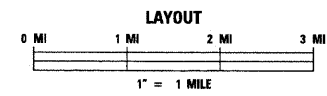
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
 1-800-892-0123  
 OR 811

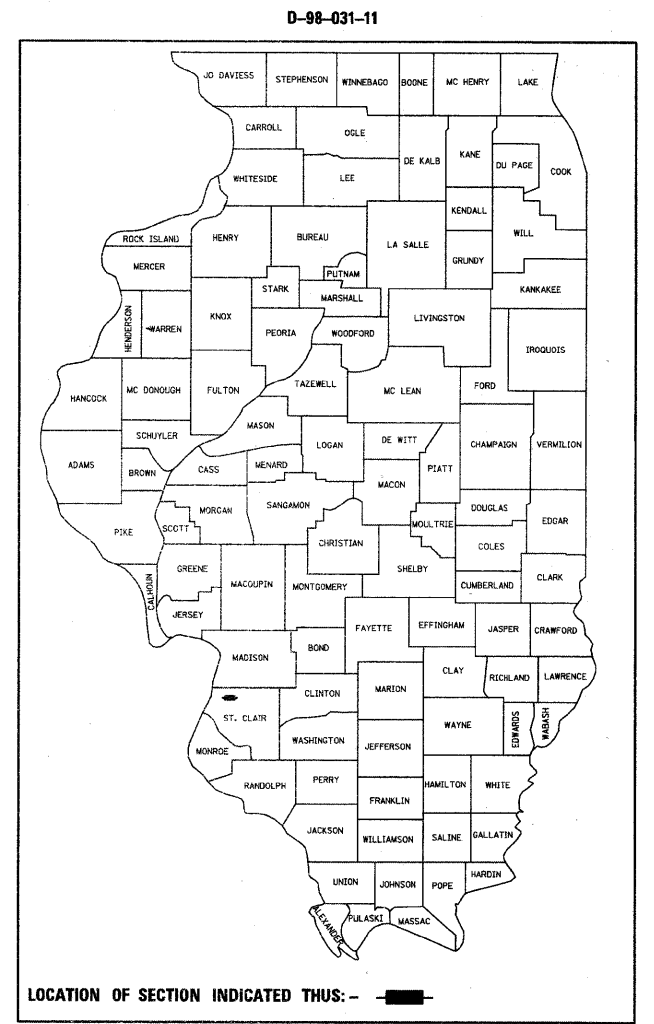
**PROJECT ENGINEER: PATTI LeBEAU (618) 346-3179**  
**SQUAD LEADER: MICHAEL PRESTON (618) 346-3143**  
**LIAISON ENGINEER: LINDA LEONARD (618) 346-3285**  
**CONTRACT NO. 76E70**



**ST. CLAIR COUNTY**



**DMS REPLACEMENT**  
**(006410.8W.01S)**  
**@WB I-64 MP10.8**  
**(STA. 466 + 75)**  
**BETWEEN**  
**IL 159 & IL 157**  
**CASEVILLE TWSHP.**



STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

SUBMITTED January 31 20 11  
Mary C. Jamie  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER

March 05 20 11  
Scott E. Stitt P.E.  
 Acting ENGINEER OF DESIGN AND ENVIRONMENT

March 05 20 11  
Christine M. Reed  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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**OF THE STATE OF ILLINOIS**

# SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES			URBAN 100% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0021	-----	-----
67100100	MOBILIZATION	L SUM	1	1		
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1	1		
70100815	TRAFFIC CONTROL AND PROTECTION, STANDARD 701446	L SUM	1	1		
86300305	CONTROLLER CABINET TYPE III, SPECIAL	EACH	1	1		
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	200	200		
81100504	CONDUIT ATTACHED TO STRUCTURE, 1 1/2" DIA., ALUMINUM	FOOT	100	100		
X0325479	RELOCATE EXISTING ITS EQUIPMENT TYPE A	EACH	1	1		
X0325482	REMOVE EXISTING ITS EQUIPMENT	EACH	1	1		
X0325485	TRUSS MOUNTED LED DYNAMIC MESSAGE SIGN	EACH	1	1		
Z0026346	NIGHTTIME WORK ZONE LIGHTING	L SUM	1	1		

TRAFFIC VOLUME SCHEDULE				
LOCATION	YEAR	ADT (ESTIMATED)	SUZ	MUZ
WB I-64 BETWEEN IL 159 & IL 157	2011	40,900	8.1	4.1

FIELD EQUIPMENT NUMBERING SYSTEM	
EXAMPLE : 006402.8W.11D	
<b>0064</b>	DESIGNATES HIGHWAY WHERE FIELD EQUIPMENT IS LOCATED.
<b>006402.8</b>	DESIGNATES MILE MARKER WHERE FIELD EQUIPMENT IS LOCATED.
<b>006402.8W</b>	DESIGNATES DIRECTION VIDEO DETECTOR IS MONITORING TRAFFIC OR DIRECTION TRAFFIC IS TRAVELLING TO RECEIVE DMS MESSAGE.
<b>006402.8W.11</b>	NUMBER ASSIGNED TO THAT FIELD EQUIPMENT
<b>006402.8W.11D</b>	A = ALL DIRECTIONS D = VEHICLE DETECTION C = CAMERA (P/T/Z SURVEILLANCE) H = HAR SIGNAGE WITH BEACON R = RADAR DETECTION

### LEGEND

ALUM	ALUMINUM
EP	EDGE OF PAVEMENT
PWR CBL	POWER CABLE
GSC	GALVANIZED STEEL CONDUIT
PVCC	POLYVINYL CHLORIDE CONDUIT
	EXISTING HANDHOLE
	EXISTING DOUBLE HANDHOLE
	EXISTING CONTROLLER
	EXISTING SERVICE INSTALLATION
---	EXISTING GALVANIZED STEEL CONDUIT
	EXISTING JUNCTION BOX
	EXISTING SIGN TRUSS
---	PROPOSED CONDUIT: "T" TRENCH, "P" PUSH, "ATS" ATTACHED TO STRUCTURE, SIZE SPECIFIED

### GENERAL NOTES

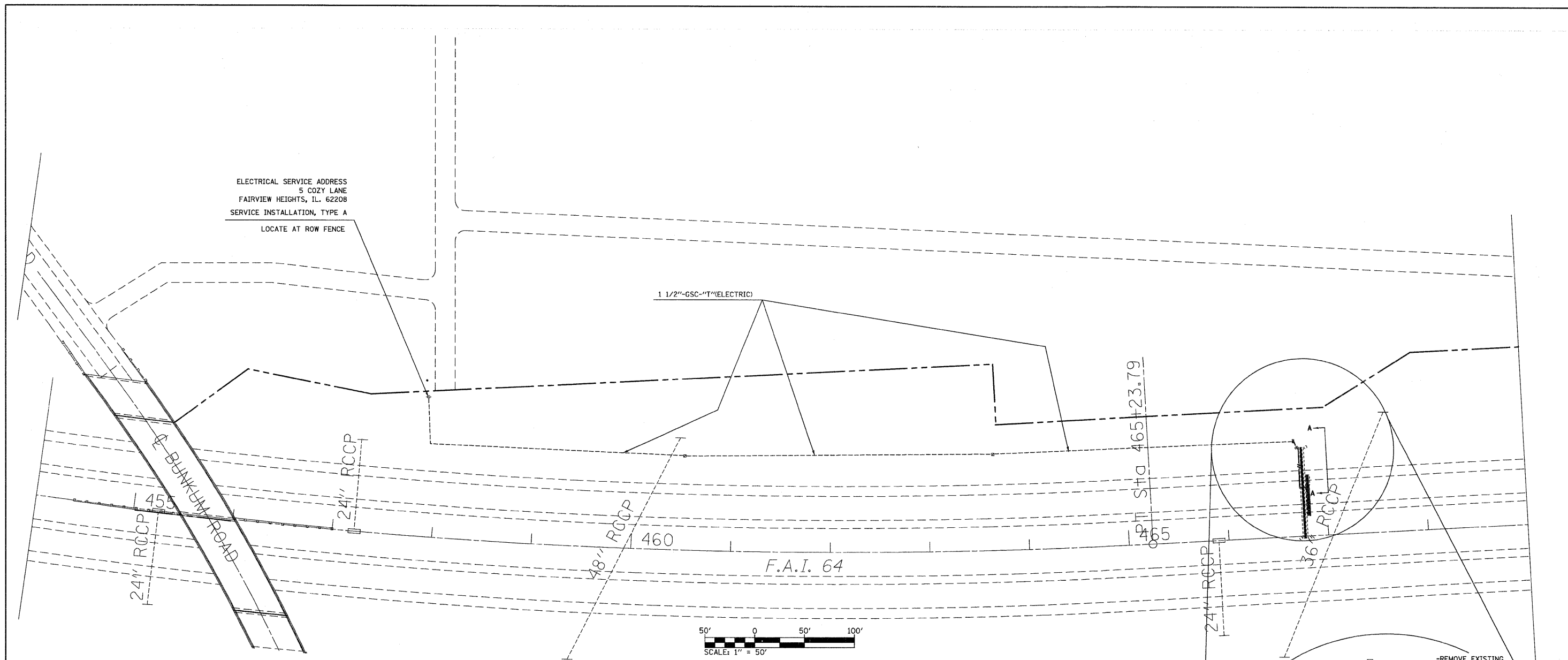
1. THE CONTROLLER CABINETS SHALL BE UNPAINTED ALUMINUM SHEET METAL UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. A 1/4 " DIA. NYLON ROPE SHALL BE INSTALLED IN ALL CONDUIT RUNS. THE COST OF PULL ROPE SHALL BE INCLUDED IN THE PROPOSED ELECTRIC CABLE INSTALLATION IN THAT CONDUIT.
3. ALL GROUND RODS SUPPLIED FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH ARTICLE 1087.01 EXCEPT THAT THEY SHALL BE 3/4 " DIAMETER X 12'-0" LONG. ALL CONNECTIONS TO GROUND RODS SHALL BE MADE VIA EXOTHERMIC WELD. COMPRESSION CLAMPS WILL NOT BE ALLOWED.
4. THE RESIDENT ENGINEER SHALL VERIFY THE EXISTENCE OF HIGHWAY LIGHTING AND/OR ITS UTILITIES WITHIN THE PROJECT LIMITS, AND IF THESE ITEMS REQUIRE LOCATING, THE CONTRACTOR SHALL BE DIRECTED TO DO SO ACCORDING TO SECTION 803 OF THE STANDARD SPECIFICATIONS. IF "LOCATING UNDERGROUND CABLE" IS NOT INCLUDED AS PART OF THE PLANS, THIS WORK SHALL BE PAID FOR ACCORDING TO ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.
5. THE CONTRACTOR SHALL GIVE THE ENGINEER TWO (2) WEEKS NOTICE PRIOR TO ANY INTERSTATE ROADWAY LANE CLOSURE.
6. ANY GROUND AREA THAT THE CONTRACTOR COMPACTS OR DISTURBS SHALL BE SEEDED AT THE END OF EACH WEEK WITH CLASS 7 TEMPORARY EROSION CONTROL SEEDING W/MULCH PER APPLICABLE PORTIONS OF SECTION 250 OF THE STANDARD SPECIFICATIONS. FOR PERMANENT SEEDING USE CLASS 2 ROADSIDE MIXTURE ALONG THE INTERSTATE.  
  
THE PRICE FOR THIS SEEDING SHALL BE INCLUDED IN THE UNIT COST FOR THE ASSOCIATED PAY ITEMS.
7. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

- AMEREN CIPS (ELECTRIC & GAS)
  - AT & T ILLINOIS (COMMUNICATIONS)
  - BUCKEYE PARTNERS L.P.-WOODRIVER PIPELINE (PIPELINE)
  - CASEYVILLE TOWNSHIP ADVANCED WASTE WATER TREATMENT SYSTEM (SANITARY SEWER)
  - CHARTER COMMUNICATION (CABLE TV)
  - CITY OF FAIRVIEW HEIGHTS (SANITARY SEWER)
  - CITY OF O'FALLON (WATER & SANITARY SEWER)
  - ILLINOIS AMERICAN WATER CO. (WATER)
  - PAETEC (COMMUNICATIONS)
  - VILLAGE OF CASEYVILLE (WATER & SANITARY SEWER)
- (MEMBER OF J.U.L.I.E. (800-892-0123) ARE INDICATED BY "M". NON J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.)

### LANE RESTRICTIONS SCHEDULE

SUNDAY		MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY			
NO LANE RESTRICTIONS PERMITTED		LANE RESTRICTIONS PERMITTED		NO LANE RESTRICTIONS PERMITTED		LANE RESTRICTIONS PERMITTED		NO LANE RESTRICTIONS PERMITTED		LANE RESTRICTIONS PERMITTED		NO LANE RESTRICTIONS PERMITTED			
		8:00P- 5:00A				8:00P- 5:00A				8:00P- 5:00A					
12A	12P	12A	12P	8P	12A	5A	12P	8P	12A	5A	12P	8P	12A	12P	12A

FILE NAME =	USER NAME = prestonme	DESIGNED - ---	REVISED - ---	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES, GENERAL NOTES, TRAFFIC VOLUME &amp; LEGEND</b>	F.A.I. RTE. 64	SECTION DIST. 8 ITS 2011-3	COUNTY ST. CLAIR	TOTAL SHEETS 10	SHEET NO. 2	
ca:\pv_work\p\dot\prestonme\d0239212\d08	6e78-sht-ITS.dgn	DRAWN - ---	REVISED - ---			SCALE: _____	SHEET NO. ___ OF ___ SHEETS	STA. _____ TO STA. _____	FED. ROAD DIST. NO. _____	ILLINOIS FED. AID PROJECT	CONTRACT NO. 76E70
	PLOT SCALE = 100.0000' / IN.	CHECKED - ---	REVISED - ---								
	PLOT DATE = 1/28/2011	DATE - ---	REVISED - ---								



ELECTRICAL SERVICE ADDRESS  
 5 COZY LANE  
 FAIRVIEW HEIGHTS, IL. 62208  
 SERVICE INSTALLATION, TYPE A  
 LOCATE AT ROW FENCE

1 1/2" GSC-T (ELECTRIC)

BUNHILL ROAD  
 455  
 24" RCCP

24" RCCP

48" RCCP

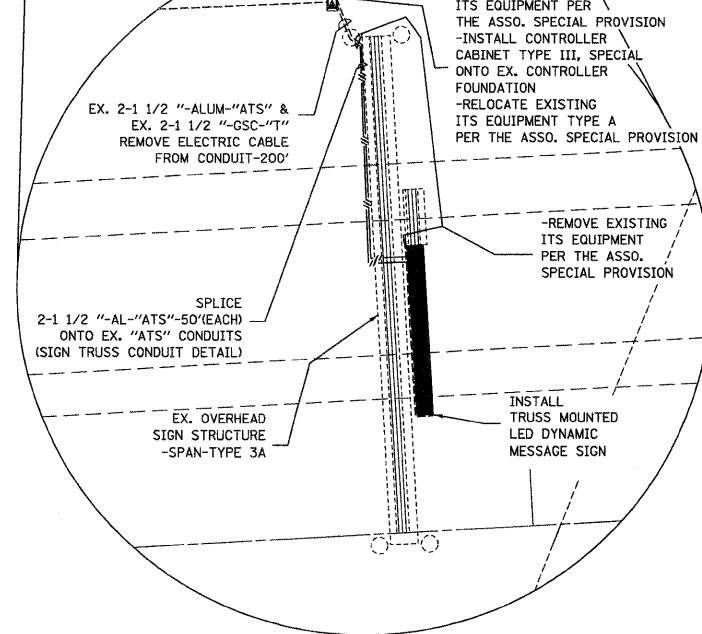
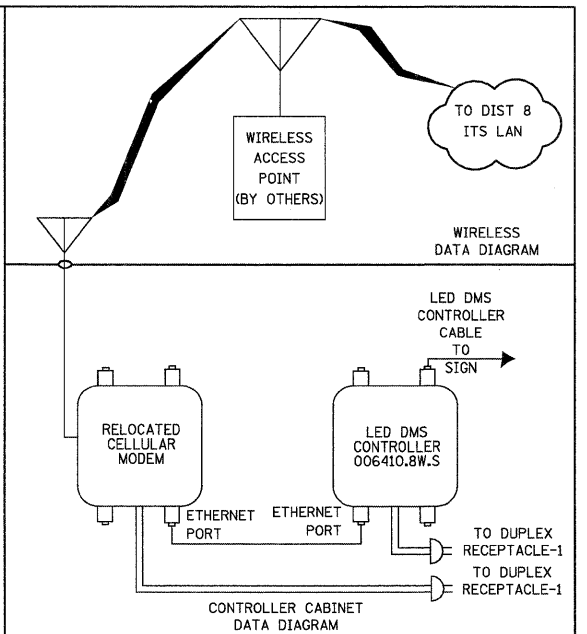
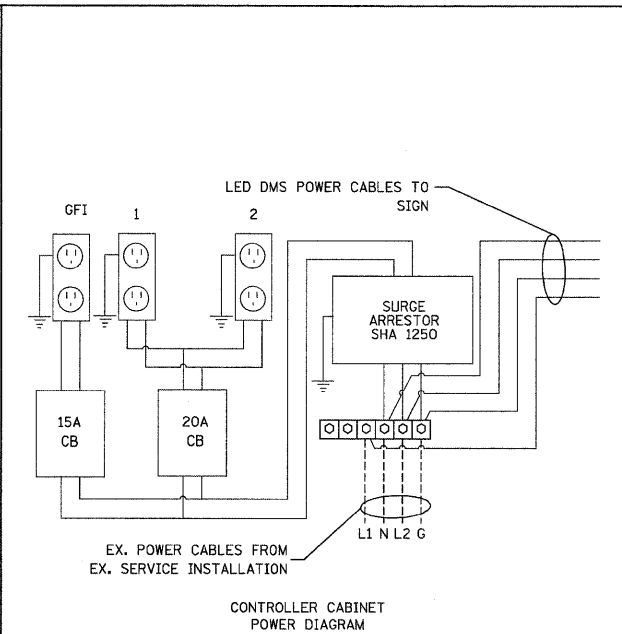
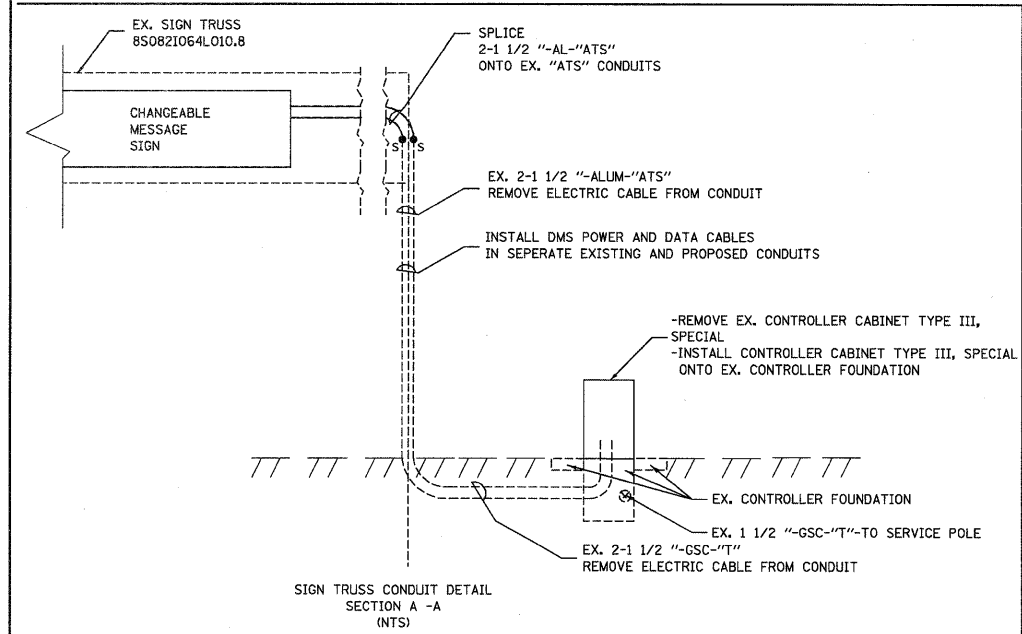
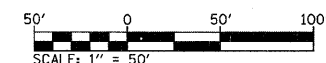
460

F.A.I. 64

465  
 465+23.79

24" RCCP

36" RCCP



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PLOT SCALE = 100.0000 / IN.		CHECKED -	REVISED -
PLOT DATE = 1/28/2011		DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

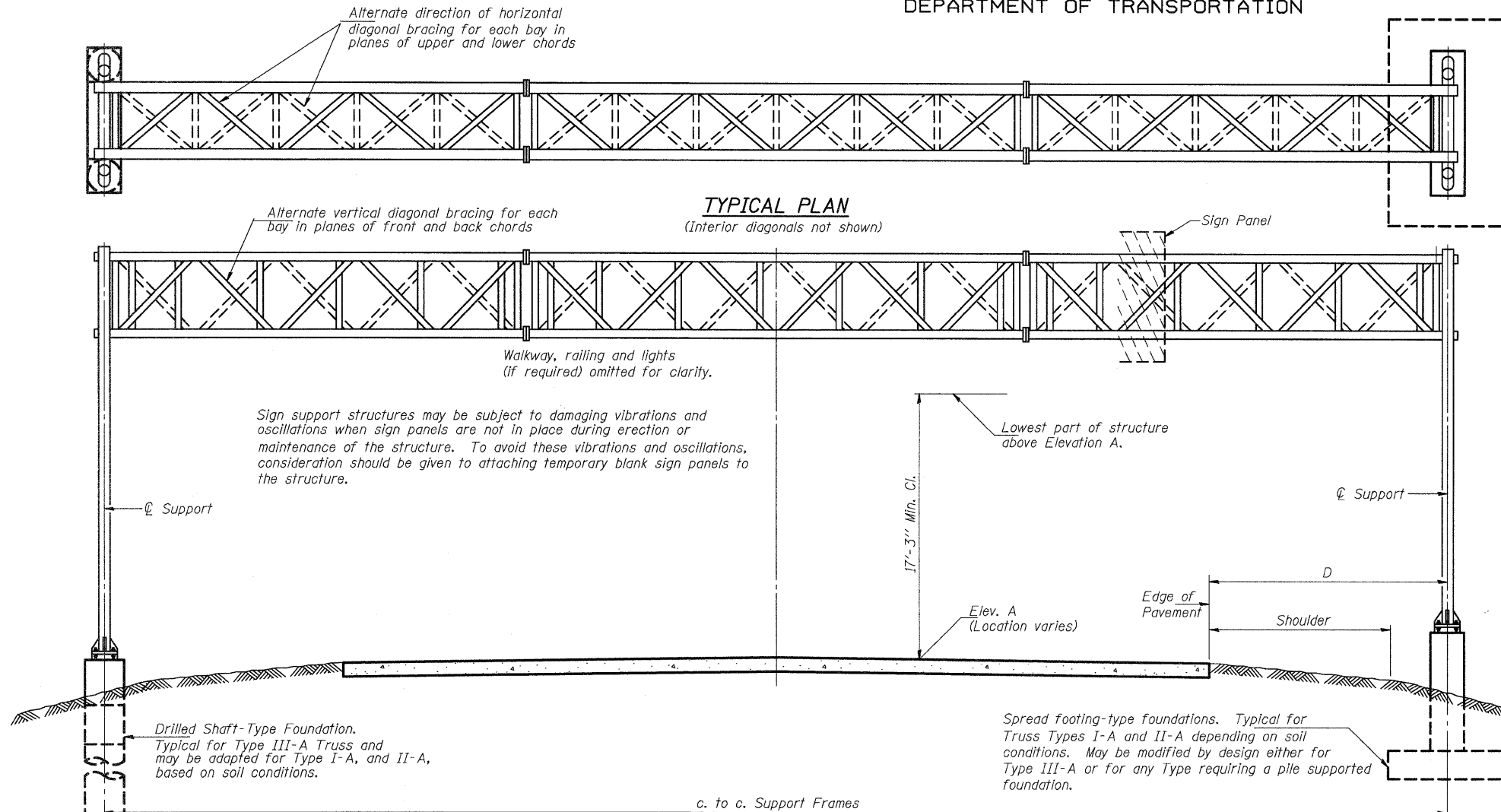
**LED DMS REPLACEMENT PLAN,  
 TRUSS CONDUIT AND CONTROLLER DIAGRAMS**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	DIST. 8 ITS 2011-3	ST. CLAIR	10	3
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT			CONTRACT NO. 76E70	

SCALE: \_\_\_\_\_ SHEET NO. \_\_\_ OF \_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	DIST. 8 ITS 2011-3	ST. CLAIR	10	4



**GENERAL NOTES**

**SPECIFICATIONS:**

**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  
WIND LOADING: 30 p.s.f. normal to Sign Panel Area and truss elements not behind sign Loading Diagram.  
WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

**ALLOWABLE UNIT STRESSES:**  
Structural Steel - 20,000 p.s.i.  
Reinforcing Steel - 20,000 p.s.i.  
Class SI Concrete - 1,400 p.s.i.  
Allowable unit stresses due to wind load in combination with other forces, are increased 1.33.

**MINIMUM CLEARANCE:** Vertical Roadway Clearance = 17'-3" (All Obstructions)

**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 with a minimum yield of 35,000 p.s.i., or A500 Grade B or C with a minimum yield of 46,000 p.s.i. 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\* (M183, M223 Gr. 50, or M222). Stainless steel for shims, washers 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:** Unless otherwise specified, all round or heavy hex head bolts shall be stainless steel conforming to ASTM A193, Grade B8 or B8M, Class 1. Eye and U-bolts shall be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished, or an equivalent material acceptable to the Engineer. All nuts shall be stainless steel conforming to ASTM A194, Grade 8 (AISI Type 304) or Grade 8F (AISI Type 303). The nuts shall be "locknuts" with nylon or steel inserts and semifinished hexagonal heads equivalent to the finished heavy hex series of the American National Standard. All washers shall be stainless steel conforming to ASTM A240, Type 302 or 304.

**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 AASHTO M314 Gr. 36 or 55 with a minimum Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F.

**CONCRETE SURFACES:** All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Bridge Seat 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" or "Drilled Shaft Concrete Foundations" shall include: All necessary excavation or drilling (except in rock); backfilling with excavated material; disposal of unsuitable or surplus material; formwork; and furnishing and placing the Class SI Concrete, reinforcement bars, conduit, anchor bolts, nuts, washers and ground rods complete in place.

\*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.

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

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

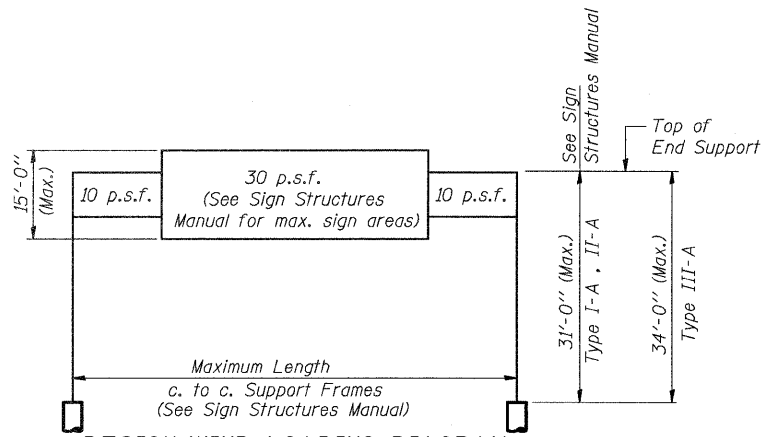
Structure Number	Station	Design Truss Type	c. to c. Supports	Elev. A	Dim. D	Height of Tallest Sign	Total Sign Area
8S0821064L010.3	466+75	III-A	91'-0"	578.75	33'-0"		
8S0601055L012.3	579+50	III-A	71'-0"	516.98	33'-0"		
8S0601270L008.4	528+00	III-A	96'-0"	425.75	33'-6"		

\*\*Looking upstation for structures with signs both sides.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE TYPE I-A (4'-0" x 4'-6")	Foot	
OVERHEAD SIGN STRUCTURE TYPE II-A (4'-6" x 5'-3")	Foot	
OVERHEAD SIGN STRUCTURE TYPE III-A (5'-0" x 7'-0")	Foot	258
OVERHEAD SIGN WALKWAY TYPE A	Foot	32
CONCRETE FOUNDATIONS	Cu. Yds.	
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	71.4

NUMBER	REVISION	DATE



EXAMINED  
PASSED  
ENGINEER OF STRUCTURAL SERVICES  
ENGINEER OF BRIDGES AND STRUCTURES

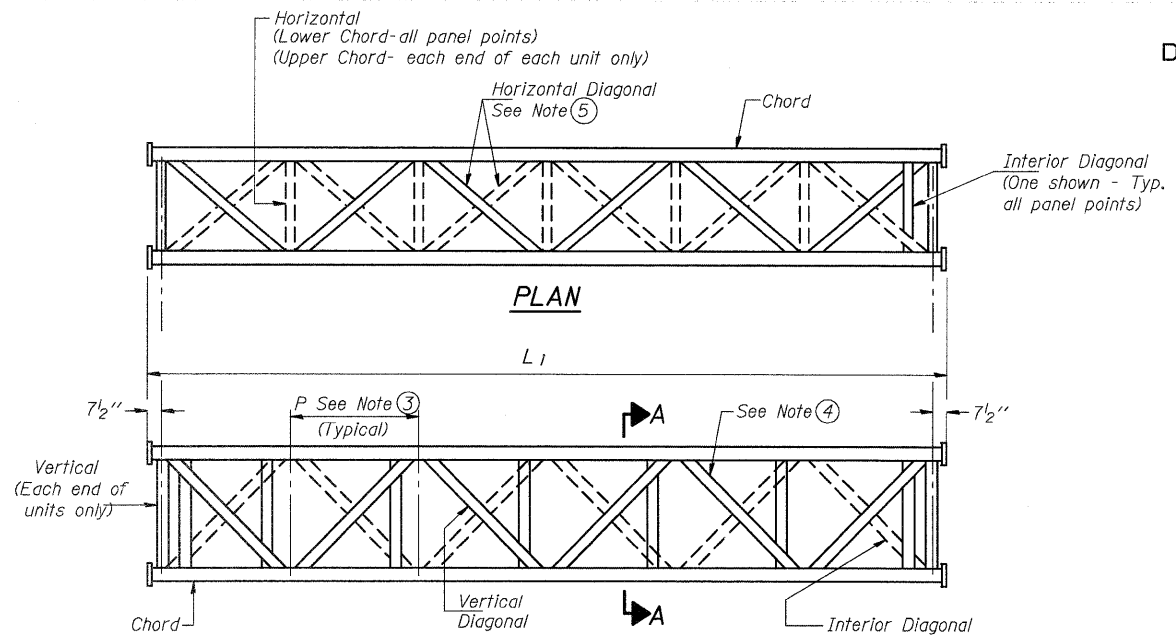
OS-A-1 7/1/2001

FILE NAME =	USER NAME = prestonme	DESIGNED -	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EX. OVERHEAD SIGN STRUCTURES: GENERAL PLAN & ELEVATION ALUMINUM TRUSS & STEEL SUPPORTS DETAILS	F.A.I. RT#	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
os:\pw\work\pwi\dot\prestonme\d0239212\d076e7d-shr-ITS.dgn		DRAWN -	REVISOR -			64	DIST. 8 ITS 2011-3	ST. CLAIR	10	4
PLOT SCALE = 1/8" = 1'-0" / IN.		CHECKED -	REVISOR -		SCALE: _____ SHEET NO. ____ OF ____ SHEETS STA. _____ TO STA. _____	FED. ROAD DIST. NO. _____ ILLINOIS FED. AID PROJECT				CONTRACT NO. 76E70
PLOT DATE = 1/28/2011		DATE -	REVISOR -							

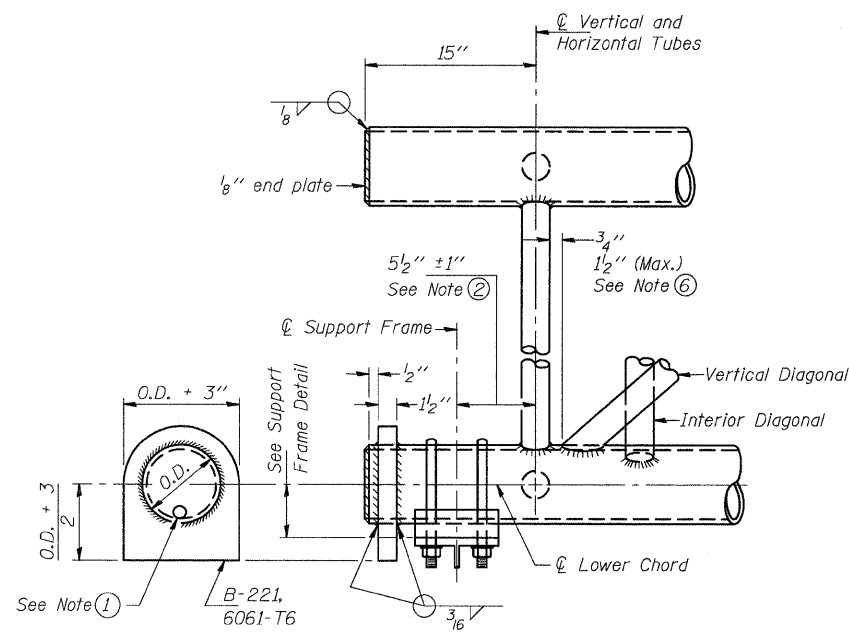
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DEPARTMENT OF TRANSPORTATION

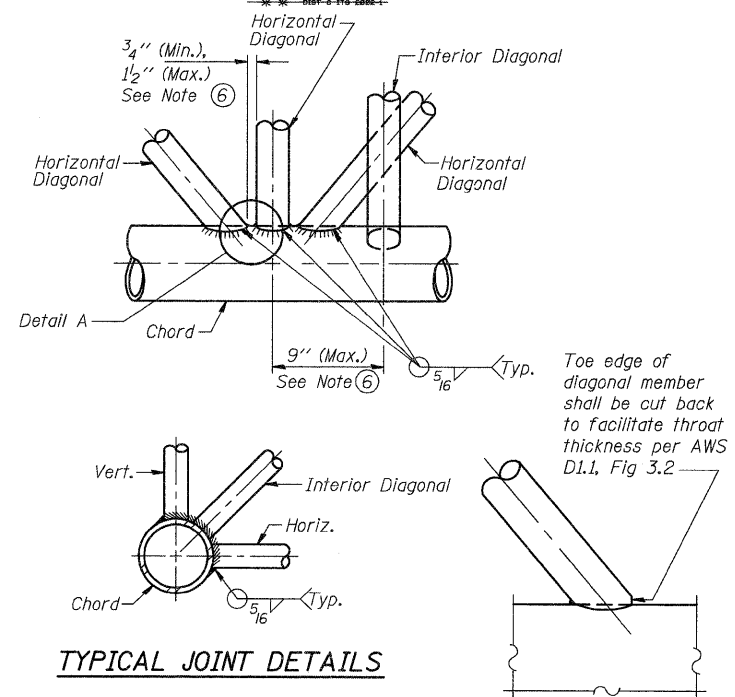
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	DIST. 8 ITS 2011-3	ST. CLAIR	10	5



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



**SUPPORT END DETAIL FOR EXTERIOR UNIT**

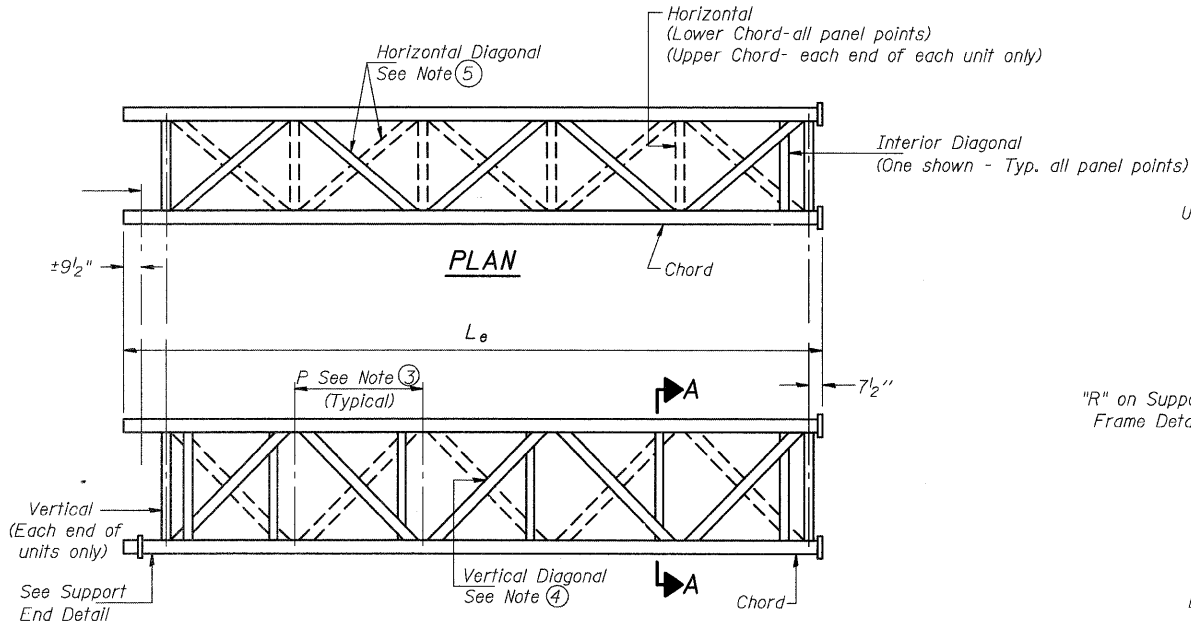


**TYPICAL JOINT DETAILS**

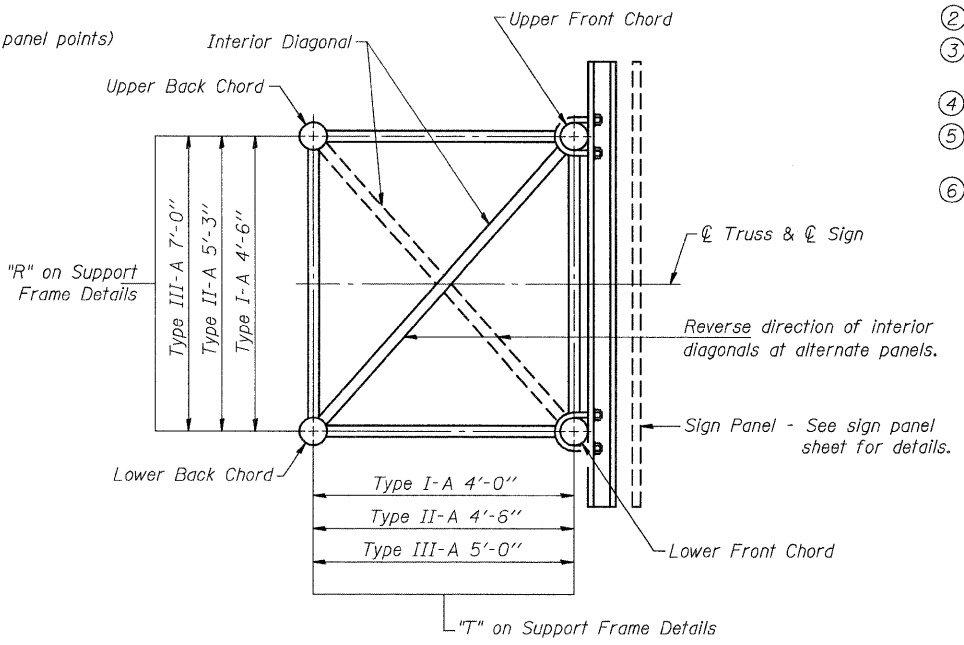
**DETAIL A**

**NOTES**

- Contractor may alternatively use standard aluminum drive-fit cap to close end. 1/2" diameter drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)
- 5 1/2" end dimension may vary by +/- 1" to provide uniform panel spacing (P).
- Panel spacing (P) shall be uniform for entire truss and between 4'-0" and 5'-0" for Type I-A or 4'-0" and 5'-6" for Types II-A and III-A.
- Vertical Diagonals in front and back face shall alternate.
- Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
- All diagonals shall be detailed for minimum offset from the panel point based on the following: Offset shall be such as to provide a 3/4" minimum to 1 1/2" maximum clearance between any diagonal and any horizontal or vertical member, and to provide clearance for U-bolt connections of signs or walkway brackets.



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



**SECTION A-A**  
(Vertical and horizontal diagonals not shown)

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

EXAMINED	208
PASSED	

NUMBER	REVISION	DATE

OS-A-2 7/1/2001

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		CHECKED -	REVISD -
		DATE -	REVISD -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EX. OVERHEAD SIGN STRUCTURES: ALUMINUM TRUSS DETAILS  
FOR TRUSS TYPES I-A, II-A AND III-A 1 OF 2

SCALE: \_\_\_\_\_ SHEET NO. \_\_\_\_ OF \_\_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	DIST. 8 ITS 2011-3	ST. CLAIR	10	5

FOR INFORMATION, ONLY

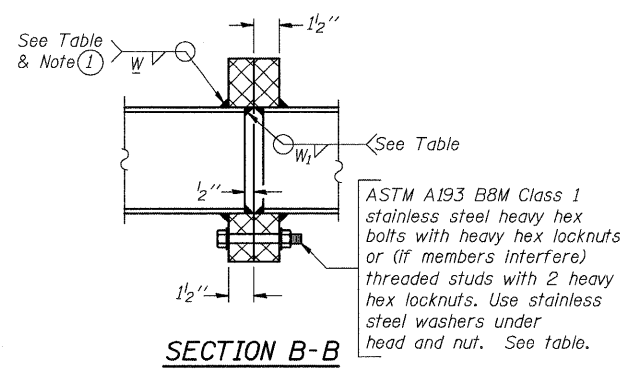
FED. ROAD DIST. NO. \_\_\_\_\_ ILLINOIS FED. AID PROJECT CONTRACT NO. 76E70

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRUSS UNIT TABLE

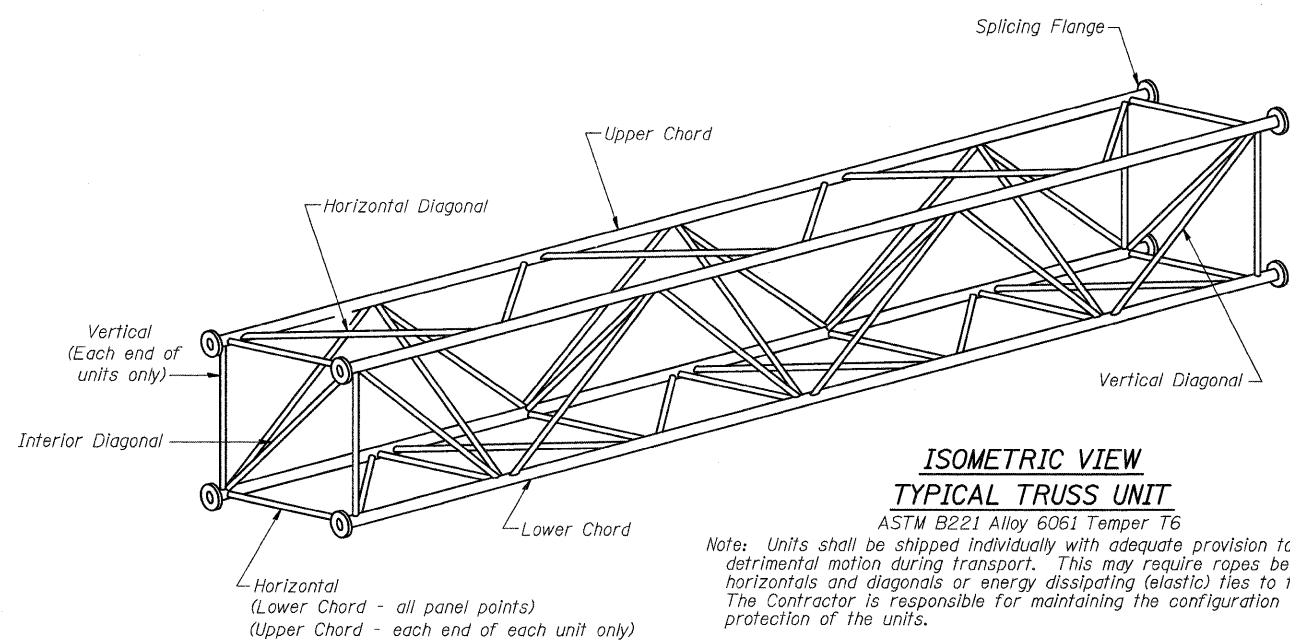
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			34	26
F.A.I.				SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

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.(L <sub>e</sub> )	Panel Lgth.(P)	No. Req'd.	No. Panels per Unit	Unit Lgth.(L <sub>i</sub> )	Panel Lgth.(P)	O.D.	Wall	O.D.	Wall		Bolts		Weld Sizes		A	B
															No./Splice	Dia.	W	W <sub>1</sub>		
8S0821064L010.8	466+75	III-A	5	29'-3 1/4"	5'-5 3/4"	1	6	34'-1 1/2"	5'-5 3/4"	7	5/16	3/4	5/16	1 7/8	6	1 1/4	7/16	5/16	1 1/2	15
8S0601055L012.3	579+50	III-A	7	36'-3 1/2"	4'-11"					7	5/16	3/4	5/16	1	6	1 1/4	7/16	5/16	1 1/2	15
8S0601270L008.4	528+00	III-A	6	32'-9"	5'-1 3/4"	1	6	32'-1 1/2"	5'-1 3/4"	7	5/16	3/4	5/16	2	6	1 1/4	7/16	5/16	1 1/2	15



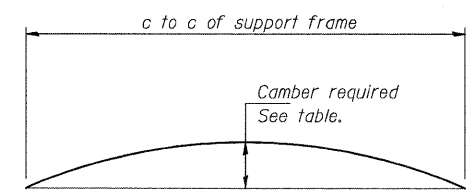
SECTION B-B

① Splicing Flanges shall be attached to each truss unit with the truss shop assembled to camber shown. Truss units shall be in proper alignment and 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.



ISOMETRIC VIEW  
TYPICAL TRUSS UNIT

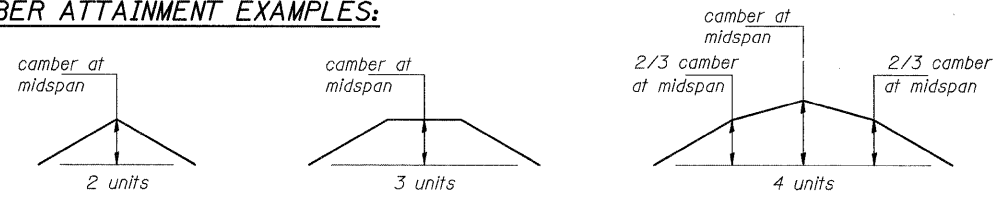
ASTM B221 Alloy 6061 Temper T6



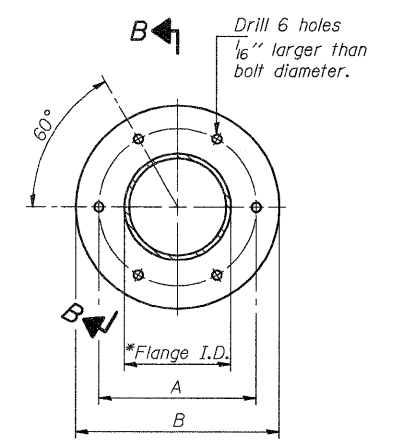
CAMBER DIAGRAM

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

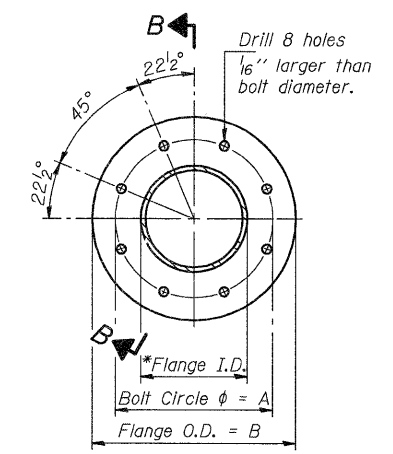
CAMBER ATTAINMENT EXAMPLES:



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 inch.

NUMBER	REVISION	DATE

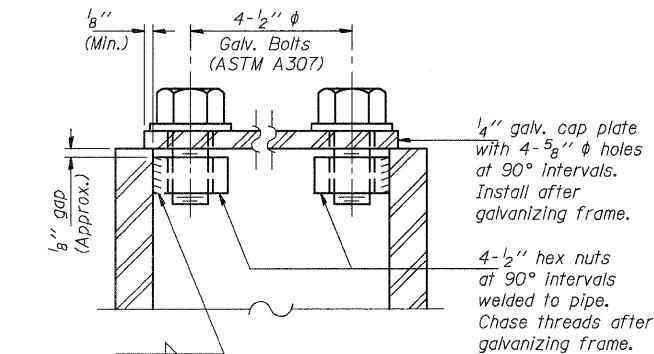
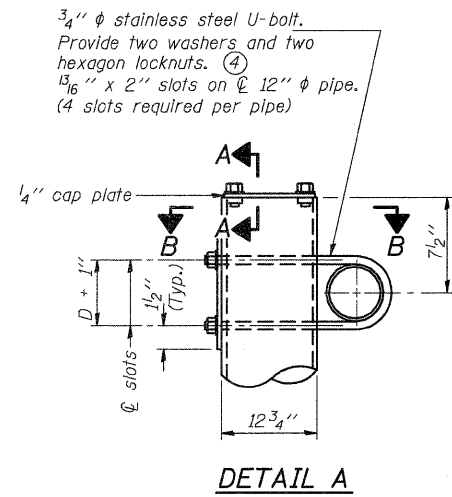
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CHECKED	EXAMINED
DRAWN	ENGINEER OF STRUCTURAL SERVICES
CHECKED	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

OS4-A-2 7/1/2001

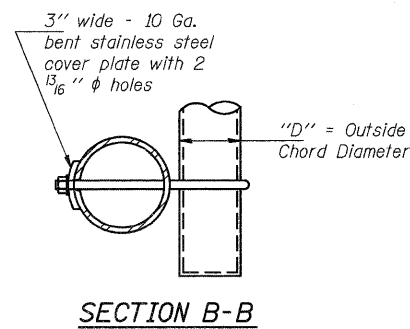
FOR INFORMATION, ONLY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

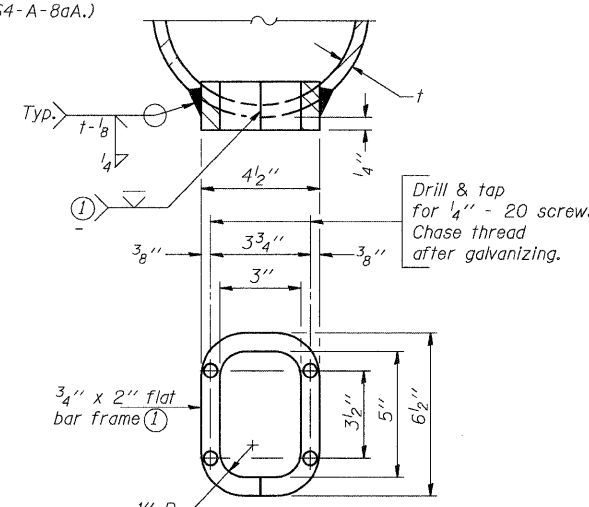
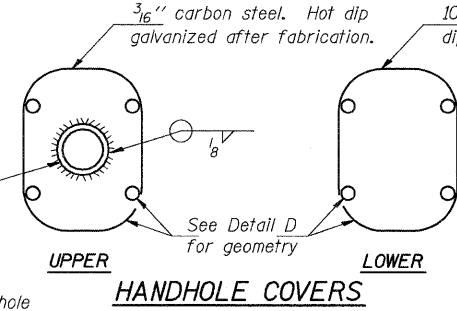
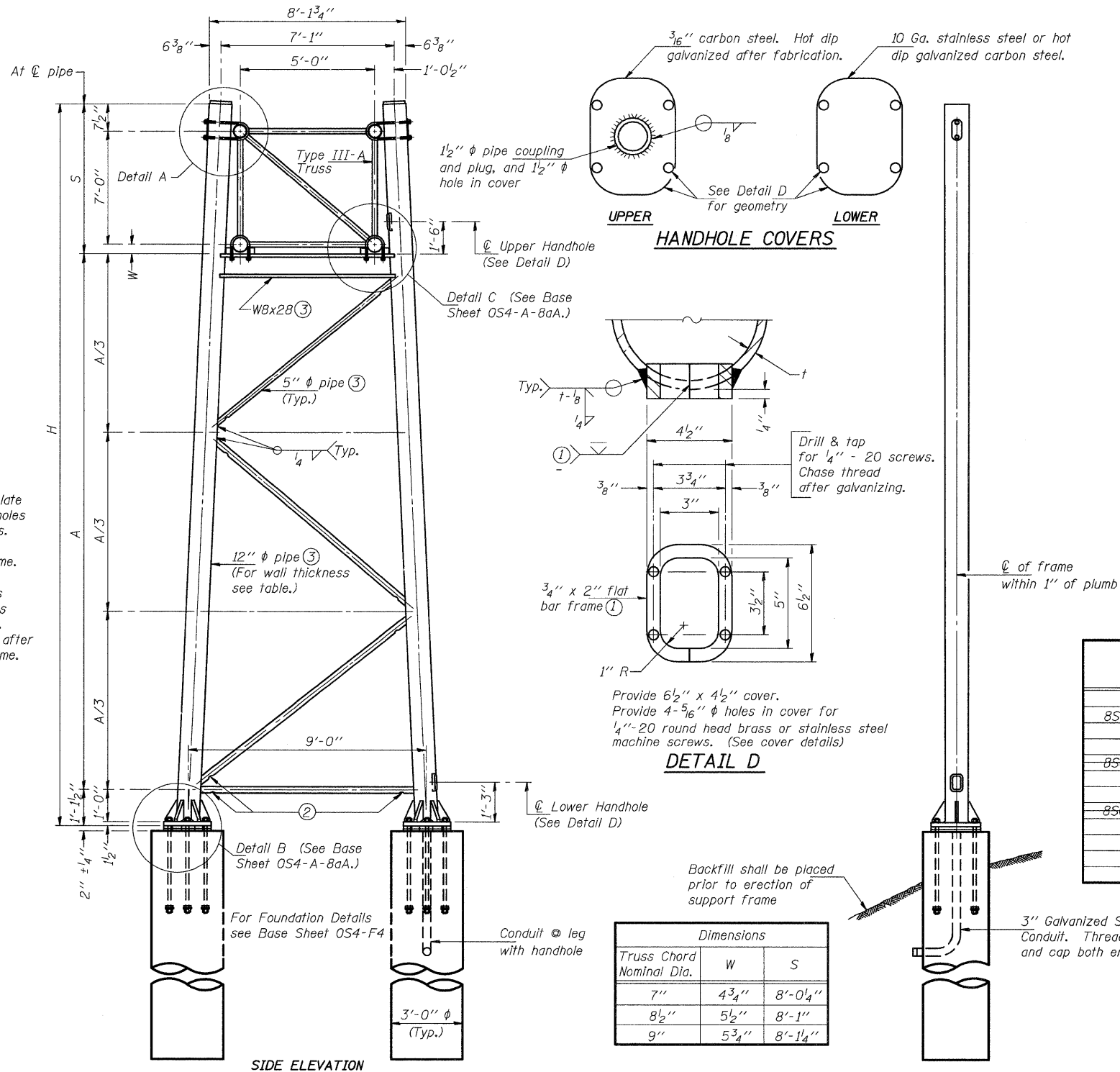
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
66	8	ITS	2011-3	10	7
F.A.I. PROJECT	ILLINOIS FED. AID PROJECT				



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



**SECTION B-B**



**DETAIL D**  
Provide 6 1/2" x 4 1/2" cover. Provide 4-5/8" diameter holes in cover for 1/4"-20 round head brass or stainless steel machine screws. (See cover details)

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

- 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  $\sqrt{in}$  or less.
- 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.)
- 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.
- See General Notes for fasteners.
- Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.

Structure Number	Station	Support		Pipe Wall Thickness	H	A
		Left	Right			
850821064L010.8	466+75	X		0.33	24'-3"	15'-1 1/4"
	466+75		X	0.33	28'-9"	19'-7 1/4"
850601055L012.3	579+50	X		0.33	25'-3"	16'-1 1/4"
	579+50		X	0.33	25'-11"	16'-9 1/4"
850601270L008.4	528+00	X		0.33	23'-9"	14'-7 1/4"
	528+00		X	0.33	30'-3"	21'-1 1/4"

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"  $\phi$  Pipe-Type III-A Truss)

DESIGNED	200
CHECKED	EXAMINED
DRAWN	ENGINEER OF STRUCTURAL SERVICES
CHECKED	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

NUMBER	REVISION	DATE

OS4-A-8a 7/1/2001

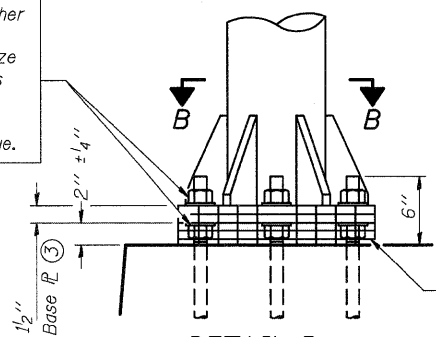
FOR INFORMATION, ONLY

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DEPARTMENT OF TRANSPORTATION

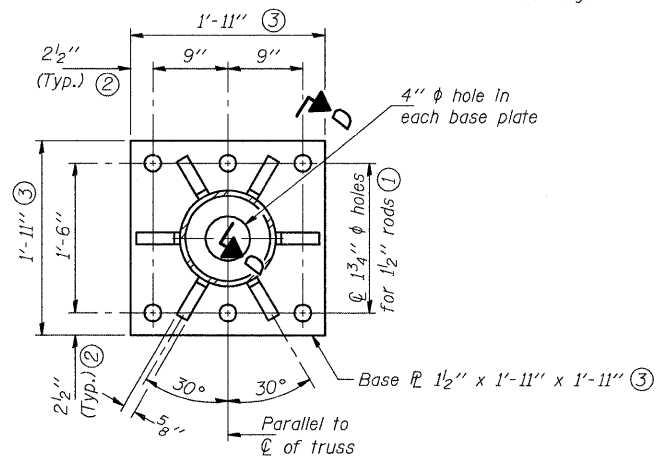
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.	*	*	34	28
F.A.	*	*		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. \_\_\_\_\_  
SHEETS \_\_\_\_\_

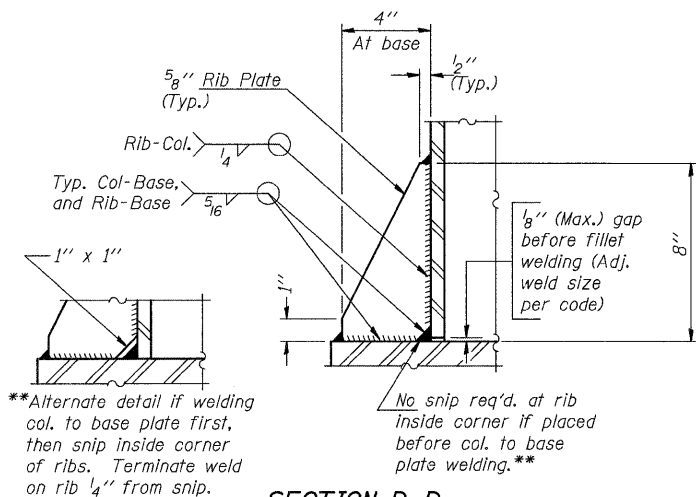
Hexagon locknut and washer (top), leveling nut and washer (bottom). Galvanize per AASHTO M232. Nuts shall each be tightened against base plate with 200 lb.-ft. minimum torque.



**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.

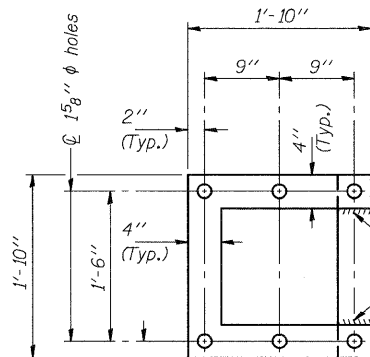


**SECTION B-B**



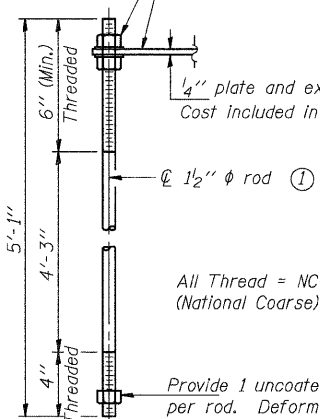
\*\*Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.

**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.  
1/4" plate and extra nuts become Contractor's property. Cost included in "Drilled Shaft Concrete Foundation".



**ANCHOR ROD DETAIL**

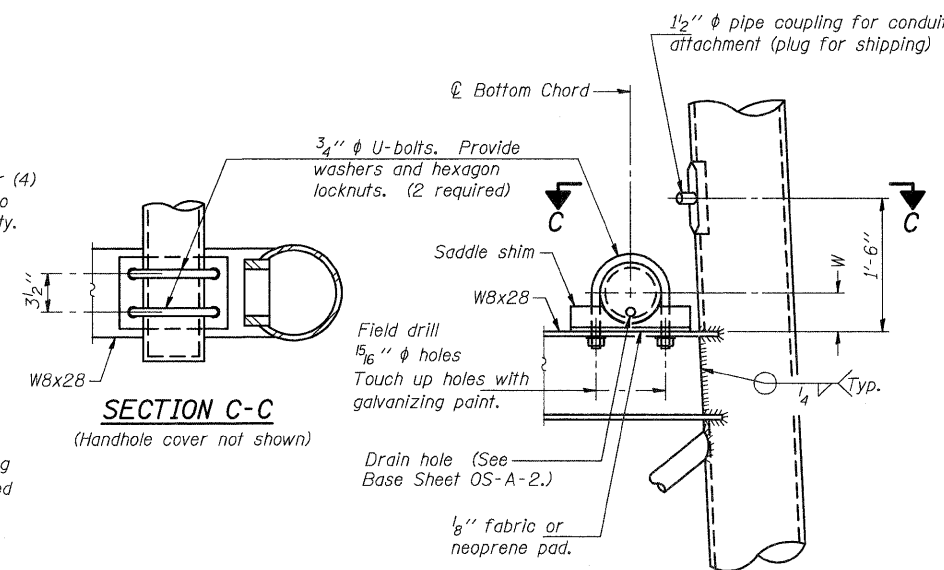
Anchor rods shall conform to AASHTO M314 Grade 36 or 55 and meet Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. Galvanize upper 12" per AASHTO M232. No welding shall be permitted on rods.

**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.:

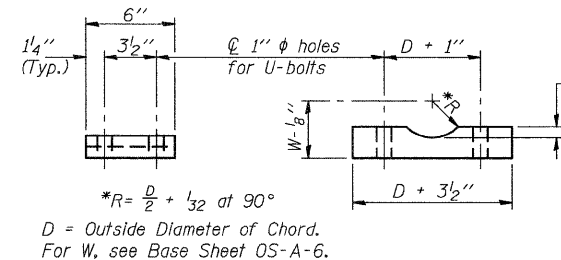
- ① 1 3/4" Ø rod, 2" Ø holes
- ② 2 3/4" edge distance
- ③ Base Pl. 1 5/8" x 1'-11 1/2" x 1'-11 1/2"



**SECTION C-C**

(Handhole cover not shown)

**DETAIL C**



**SADDLE SHIM DETAIL**

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

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

DESIGNED	200
CHECKED	EXAMINED
DRAWN	ENGINEER OF STRUCTURAL SERVICES
CHECKED	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

NUMBER	REVISION	DATE

OS4-A-8aA 7/1/2001

FILE NAME =	USER NAME = prestonme	DESIGNED -	REVISD -
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PLOT SCALE = 100.0000 / IN.		CHECKED -	REVISD -
PLOT DATE = 1/28/2011		DATE -	REVISD -

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EX. OVERHEAD SIGN STRUCTURES  
SUPPORT FRAME for TYPE III-A ALUMINUM TRUSS 2 OF 2

SCALE: \_\_\_\_\_ SHEET NO. \_\_\_ OF \_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

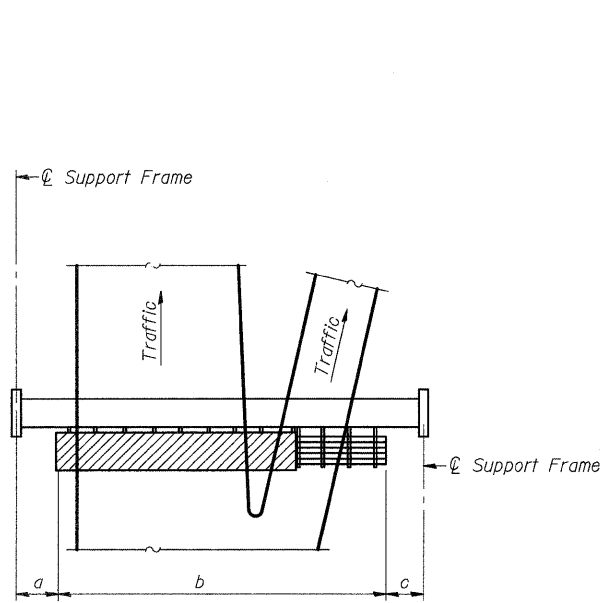
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	DIST. 8 ITS 2011-3	ST. CLAIR	10	8
FED. ROAD DIST. NO. _____ ILLINOIS FED. AID PROJECT			CONTRACT NO. 76E70	

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
S.B.L. F.A.	* * *	*	34	29	---
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

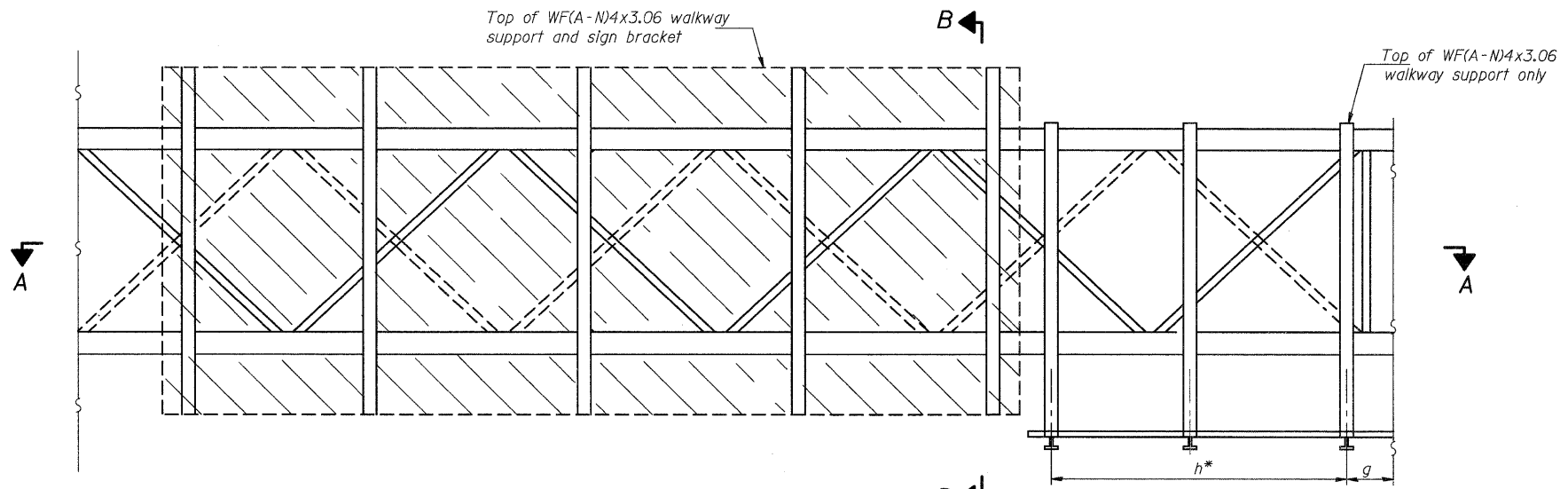


**PLAN**  
**WALKWAY AND HANDRAIL SKETCH**  
(Road plan beneath truss varies)

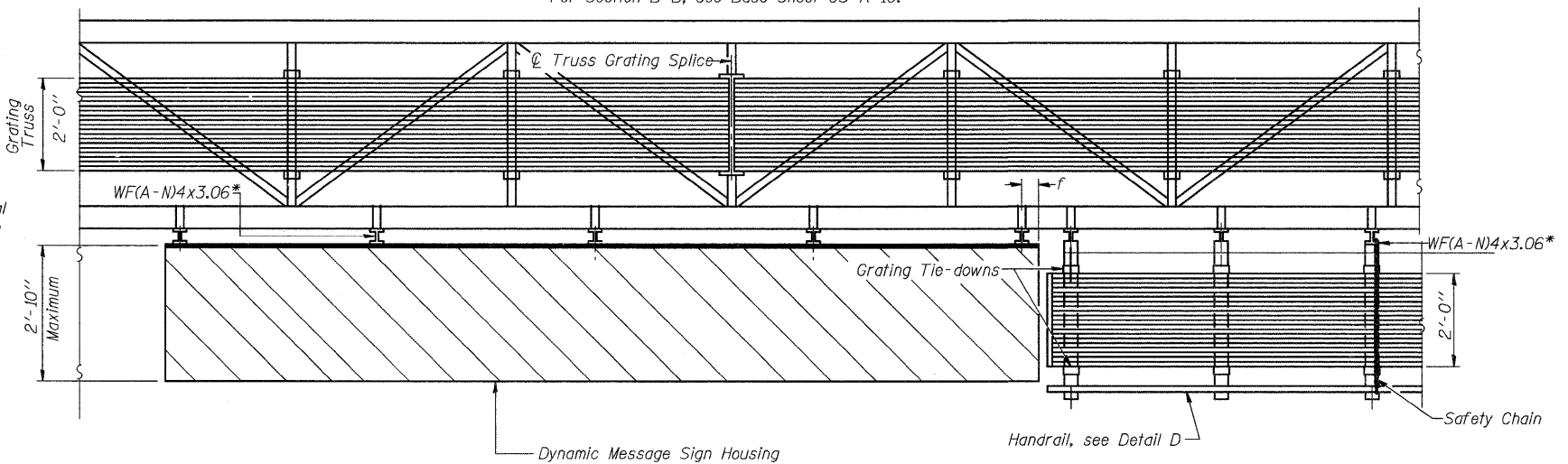
**BRACKET TABLE**

Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	10'-0"	2
10'-0"	16'-0"	3
16'-0"	22'-0"	4
22'-0"	28'-0"	5
28'-0"	34'-0"	6

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



**TYPICAL FRONT ELEVATION**  
With handrail omitted for clarity.  
For Section B-B, see Base Sheet OS-A-10.



**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. Grating and handrail 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".

Notes: \*Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x3.06 for efficiency and within limits shown:

- f = 12" maximum, 4" minimum (End of sign to  $\phi$  of nearest bracket)
- g = 12" maximum, 4" minimum (End of nearest grating to  $\phi$  of nearest support bracket)
- h = 6'-0" maximum ( $\phi$  to  $\phi$  sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)

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

For Details T and W, Section B-B and Grating Splice Details, see Base Sheet OS-A-10.  
For Details D, F, G and P and Handrail Splice Details, see Base Sheet OS-A-11.

Structure Number	Station	a	b	c	Walkway Grating and Handrail Lengths
8S0821064L010.8	466+75	22'-8"	38'-8"	29'-8"	8'
8S0601055L012.3	579+50	10'-8"	36'-8"	23'-8"	6'
8S0601270L008.4	528+00	18'-8"	48'-8"	28'-8"	18'

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

NUMBER	REVISION	DATE

OS-A-9-DMS 7/1/2001

FILE NAME =	USER NAME = prestonme	DESIGNED -	REVISD -
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PLOT SCALE = 100.0000 ' / IN.		CHECKED -	REVISD -
PLOT DATE = 1/28/2011		DATE -	REVISD -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

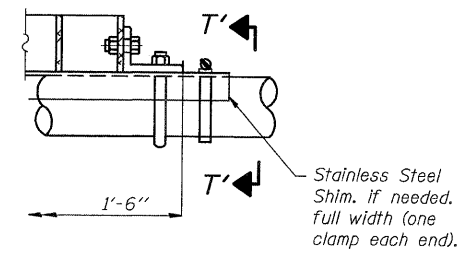
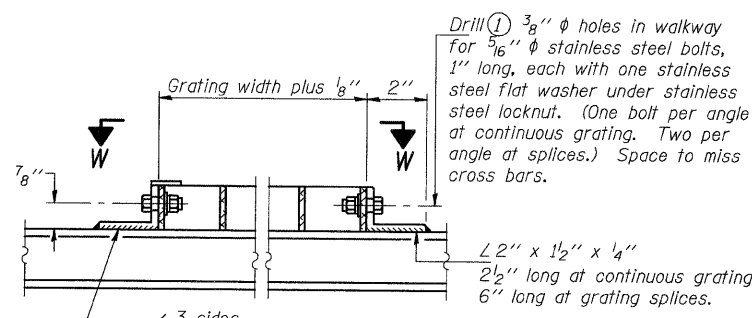
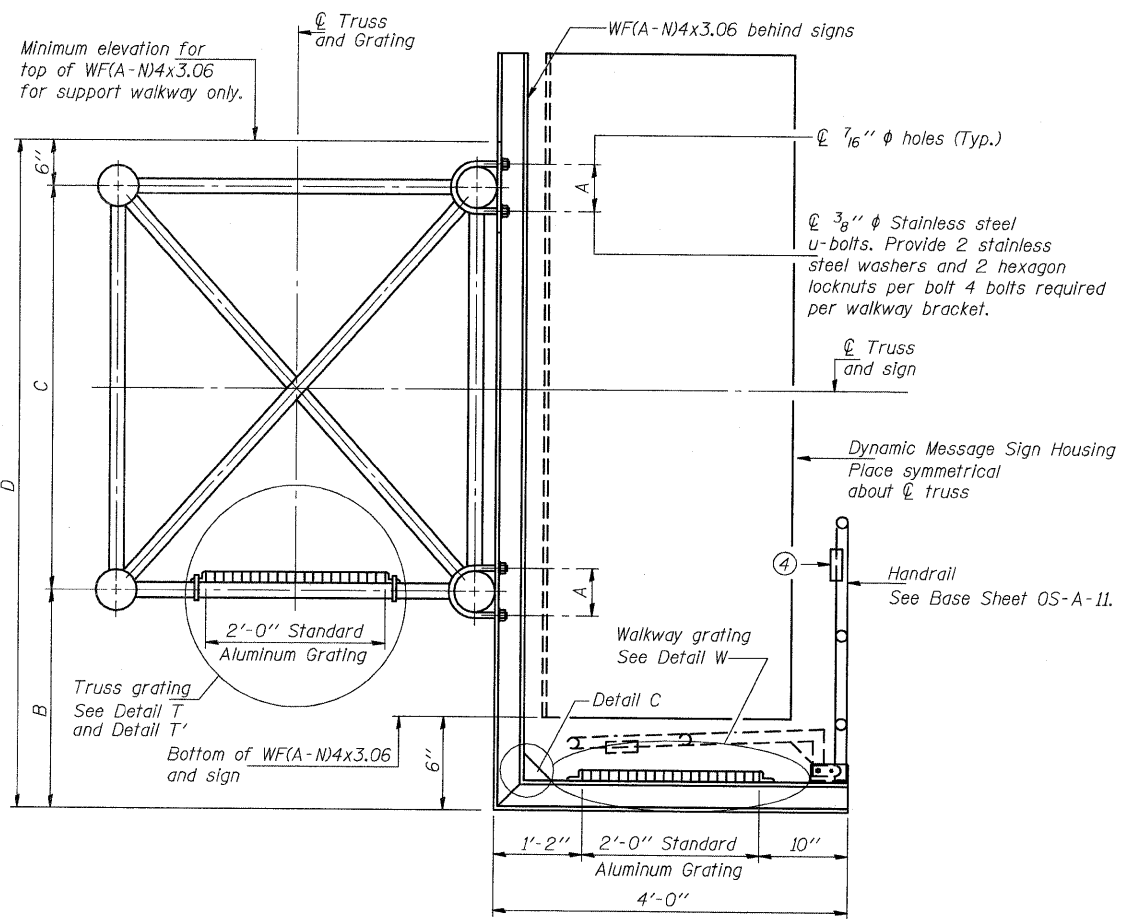
EX. OVERHEAD SIGN STRUCTURES  
ALUMINUM WALKWAY DETAILS 1 OF 2

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 76E70	

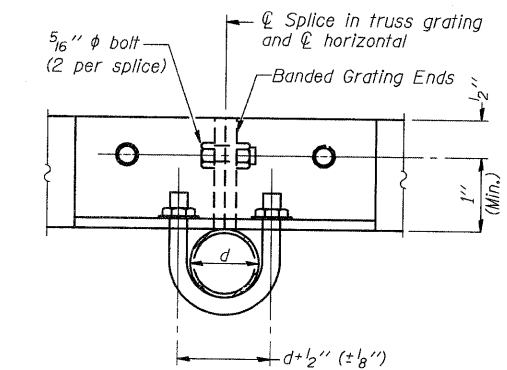
FOR INFORMATION, ONLY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

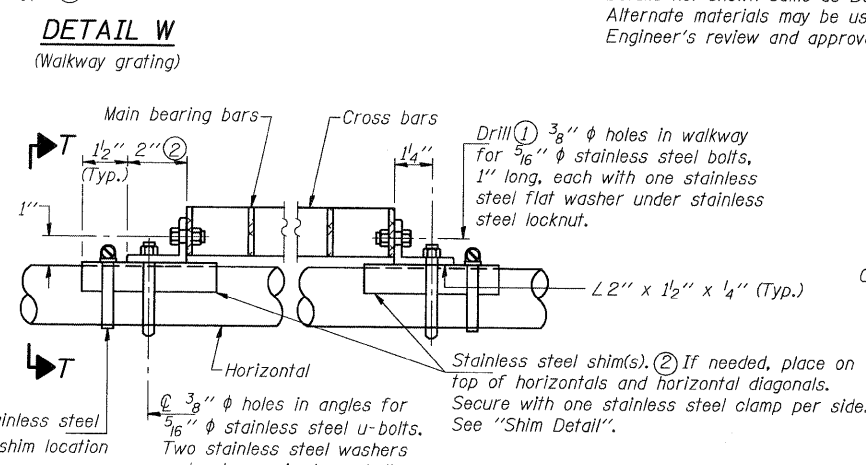
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F. A. I.	**	**	---	---	---



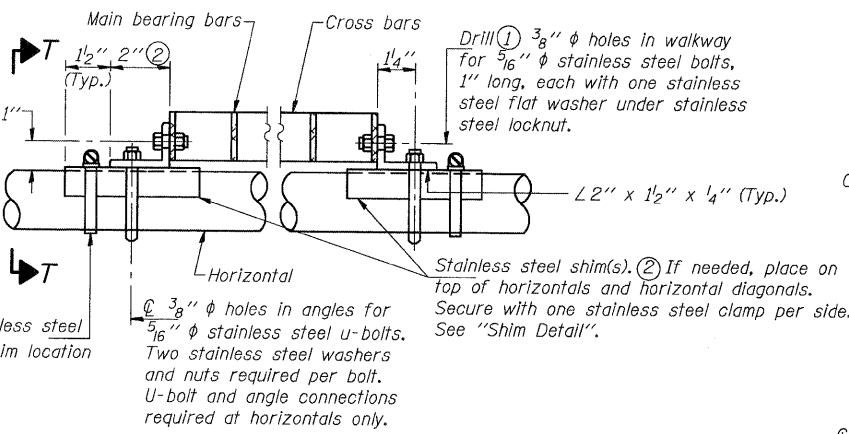
**DETAIL T'**  
(Truss grating splice)  
Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.



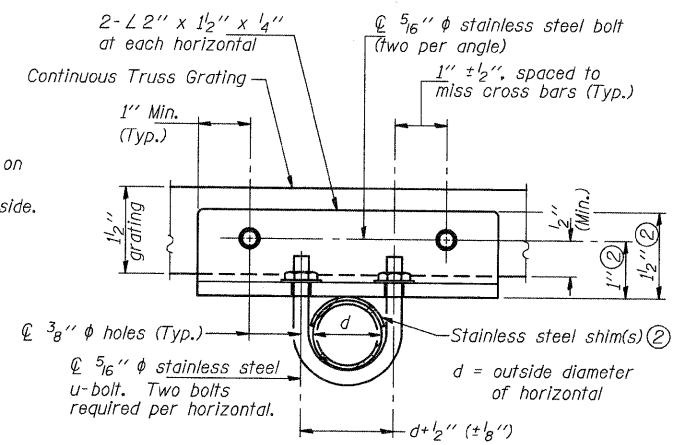
**SECTION T'-T'**



**DETAIL W**  
(Walkway grating)



**DETAIL T**  
(Continuous Truss grating)



**SECTION T-T**

**SPECIFICATIONS FOR STANDARD ALUMINUM GRATING**

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

OR

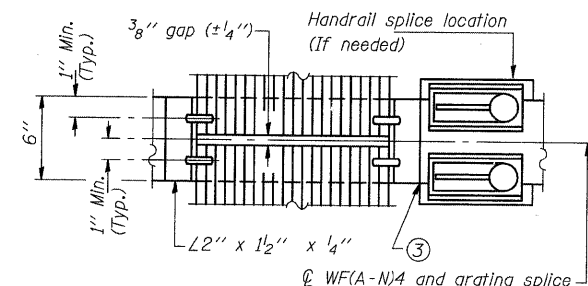
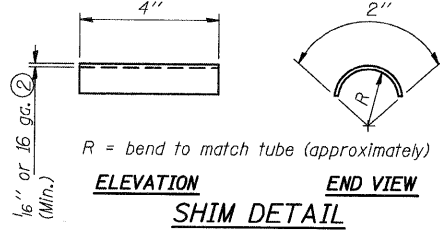
Aluminum Grating with modified "4" sections for main bearing bars shall meet the following requirements:  
Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.<sup>3</sup> per bar, a depth of 1/2", spaced on 1 3/16" centers.  
Cross bars shall conform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

Structure Number	Station	A	B	C	D
8S0821064L010.8	466+75	7 1/2"	1'-3"	7'-0"	9'-0"
8S0601055L012.3	579+50	7 1/2"	1'-3"	7'-0"	9'-0"
8S0601270L008.4	528+00	7 1/2"	1'-3"	7'-0"	9'-0"

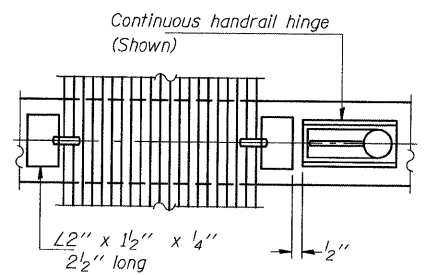
- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided 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 OS-A-11.)
- 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.

FOR INFORMATION, ONLY

**SECTION B-B**

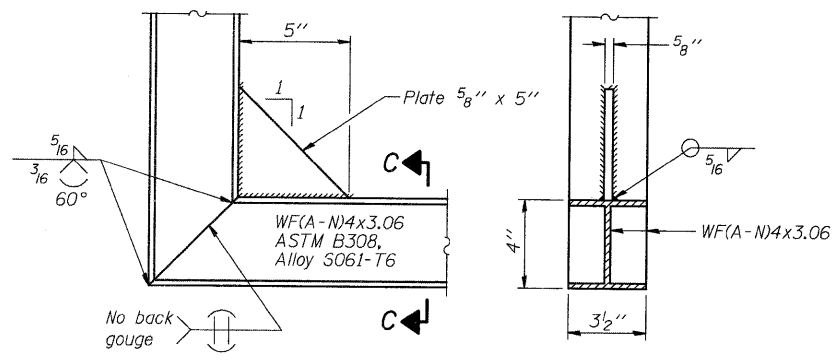


**(AT WALKWAY GRATING SPLICE)**



**SECTION W-W**  
**(CONTINUOUS WALKWAY GRATING)**

**SECTION C-C**



**DETAIL C**

(See Detail P, Base Sheet OS-A-11.)

DESIGNED	19
CHECKED	EXAMINED
DRAWN	PASSED
CHECKED	ENGINEER OF STRUCTURAL SERVICES
	ENGINEER OF BRIDGES AND STRUCTURES

NUMBER	REVISION	DATE

OS-A-10-DMS 7/1/2001

FILE NAME =	USER NAME = prestonme	DESIGNED -	REVISD -
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		CHECKED -	REVISD -
		DATE -	REVISD -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EX. OVERHEAD SIGN STRUCTURES  
ALUMINUM WALKWAY DETAILS 2 OF 2

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	DIST. 8 ITS 2011-3	ST. CLAIR	10	10
CONTRACT NO. 76E70				

SCALE: SHEET NO. OF SHEETS STA. TO STA.

FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT