LETTING DATE **Dec 15, 2026**

Traffic Signs

NHSN-000-T(475)--2R-00

STATEWIDE COUNTY

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	**Title Sheets**
A.1	Title Sheet
B Sheets	**Typical Cross Sections and Details**
B.1 - 14	Typicals and Sign Panel Details
C Sheets	**Quantities and General Information**
C.1 - 3	Estimated Project Quantities
C.4 - 6	Tabulations
C.7 - 8	Signing Notes
J Sheets	**Traffic Control and Staging Sheets**
J.1	Traffic Control Plan
J.2 - 7	Allowable Lane Closure Maps
N Sheets	**Traffic Signal Sheets**
N.1 - 5	Traffic Signing Sheets

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

INTERSTATE ROAD SYSTEM

STATEWIDE COUNTY

Traffic Signs

Various Locations Statewide,
Type B Signing
FY 2027)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

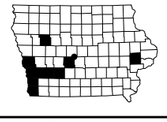
Value Engineering Saves. Refer to Article 1105.13 of the Specifications.

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

TOTAL 35
PROJECT IDENTIFICATION NUMBER
26-00-000-220
PROJECT NUMBER
NHSN-000-T(475)--2R-00
R.O.W. PROJECT NUMBER
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Scan the QR code or click the link below to leave plan quality feedback and help us improve future projects.



INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	Neal Fobian	Primary Signature Block	C.1 - C.3

LICENSED PROFESSIONAL ENGINEER
Neal T. Fobian 16513
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature — Date: 10-06-2026

Neal Fobian
Printed or Typed Name

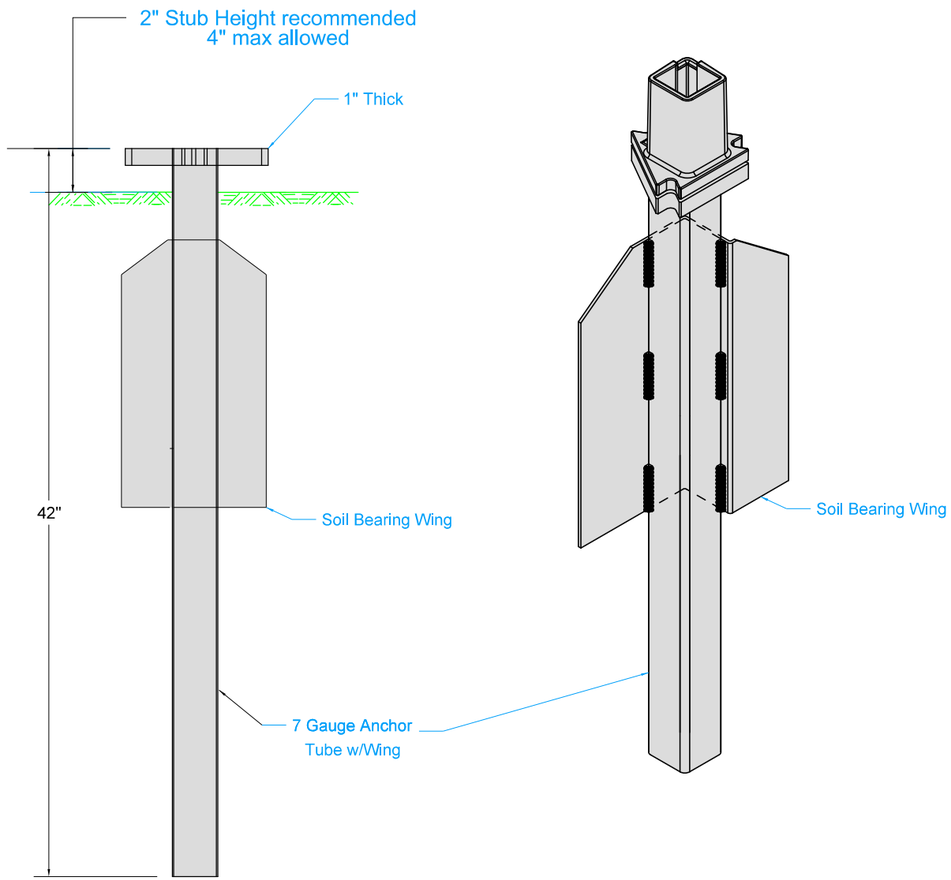
My license renewal date is December 31, 2026

Pages or sheets covered by this seal: A.1, B.1-14, C.1-8, J.1, N.1-5

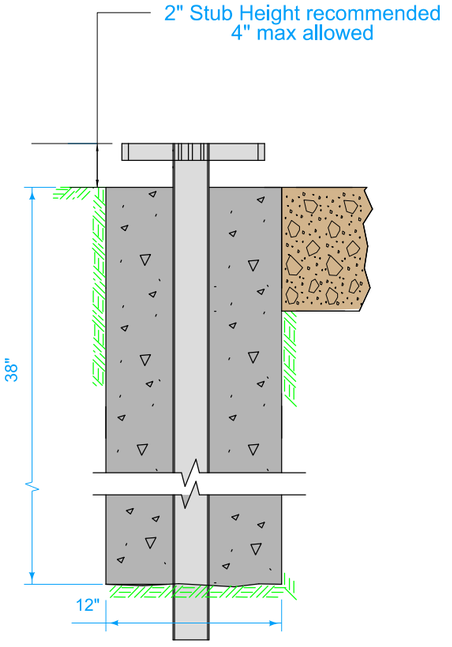
FILE NO. - -	ENGLISH	DESIGN TEAM Fobian / Hecker	STATEWIDE COUNTY	PROJECT NUMBER NHSN-000-T(475)--2R-00	SHEET NUMBER A.1

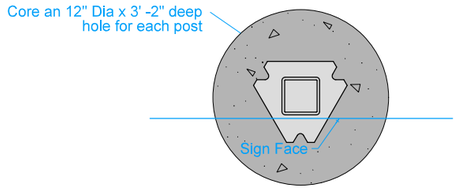
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TYPE 3 INSTALLATION
(TRIANGULAR SLIP BASE SOIL)



TYPE 4 INSTALLATION
(TRIANGULAR SLIP BASE CONCRETE)





IOWA DOT

REVISION	
-	00-00-00

TAS STANDARD

REVISION: __

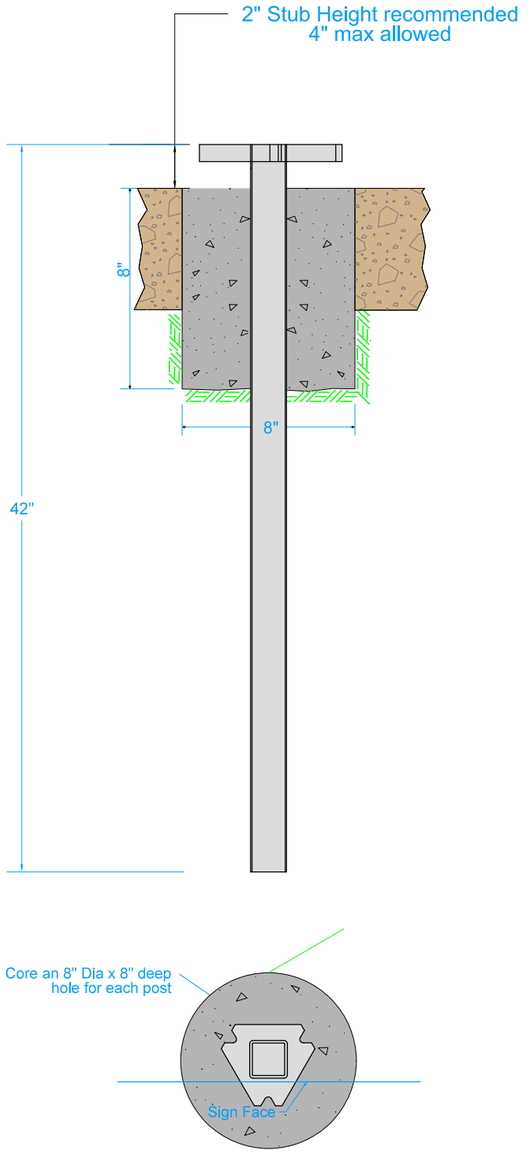
Support Structures -
Perforated Square Steel Tube
Anchor and Post

FILE NO. - -	ENGLISH	DESIGN TEAM **Fobian / Hecker**	**STATEWIDE** COUNTY	PROJECT NUMBER **HSN-000-T(475)--2R-00**	SHEET NUMBER **B.1**

7:48:38 AM 10/9/2026 dhecker pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\0000022026\TrafficAndSafety\TrafficEngineering_475_Signing\CADD Files\SHT_00000475_B01.dgn

(1)

TYPE 5 INSTALLATION
(TRIANGULAR SLIP BASE CONCRETE)



(1) Used in concrete islands.

IOWA DOT

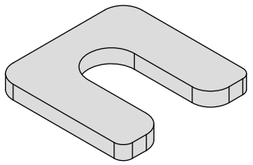
REVISION	
-	00-00-00
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	TAS STANDARD

REVISION: __

**Support Structures -
Perforated Square Steel Tube
Anchor and Post**

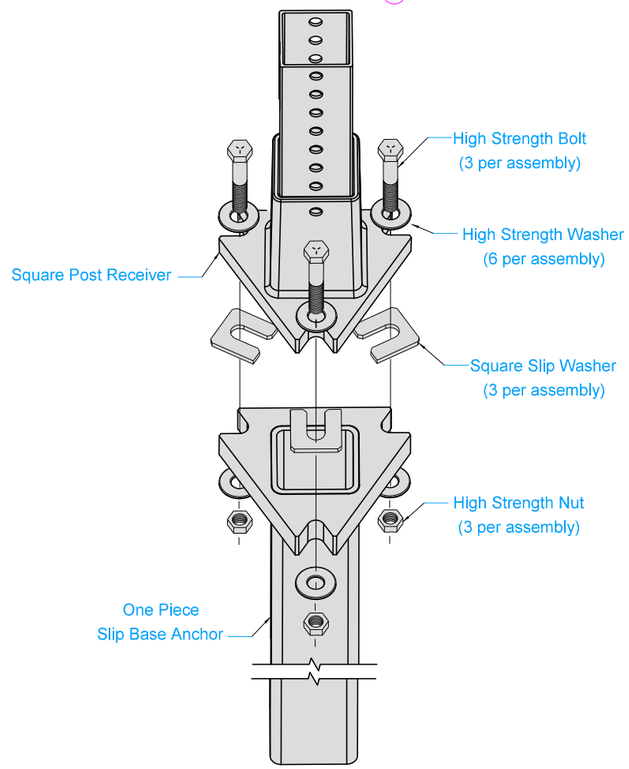
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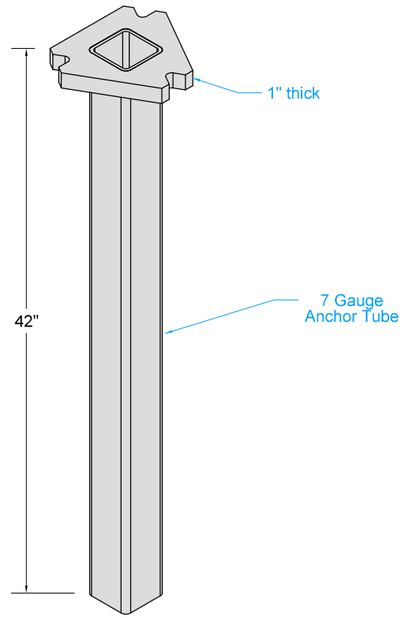
1 $\frac{3}{4}$" SQUARE X $\frac{3}{16}$" (1)
SQUARE SLIP WASHER

(2)



EXPLODED VIEW (1)
SLIP BASE, RECEIVER AND
CONNECTION HARDWARE

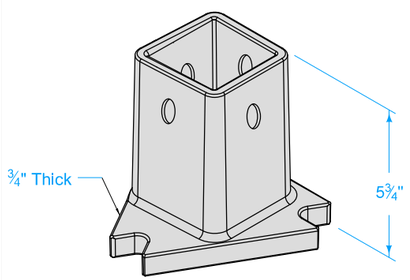
(1)
ONE PIECE
SLIP BASE ANCHOR



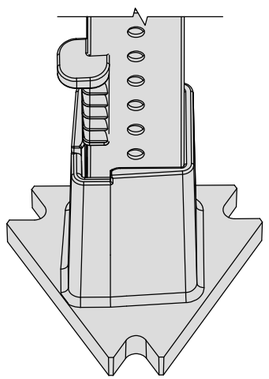
(1) Type III/IV installation

(2) Fastener size and installation procedure shall be according to manufacturer's recommendation.

OPTION 1



OPTION 2



2 $\frac{1}{2}$" SQUARE POST RECEIVER (1)

IOWA DOT

REVISION	
-	00-00-00

TAS STANDARD

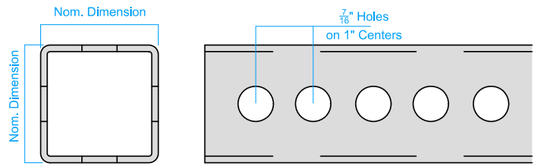
REVISION: __

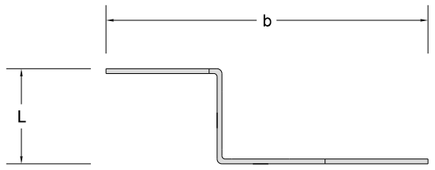
**Support Structures -
Perforated Square Steel Tube
Anchor and Post**

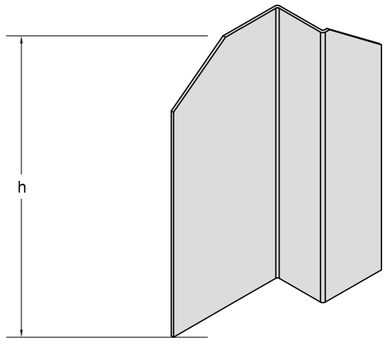
FILE NO. - -	ENGLISH	DESIGN TEAM **Fobian / Hecker**	**STATEWIDE** COUNTY	PROJECT NUMBER **HSN-000-T(475)--2R-00**	SHEET NUMBER **B.3**

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PERFORATED STEEL SQUARE TUBE POST DETAILS

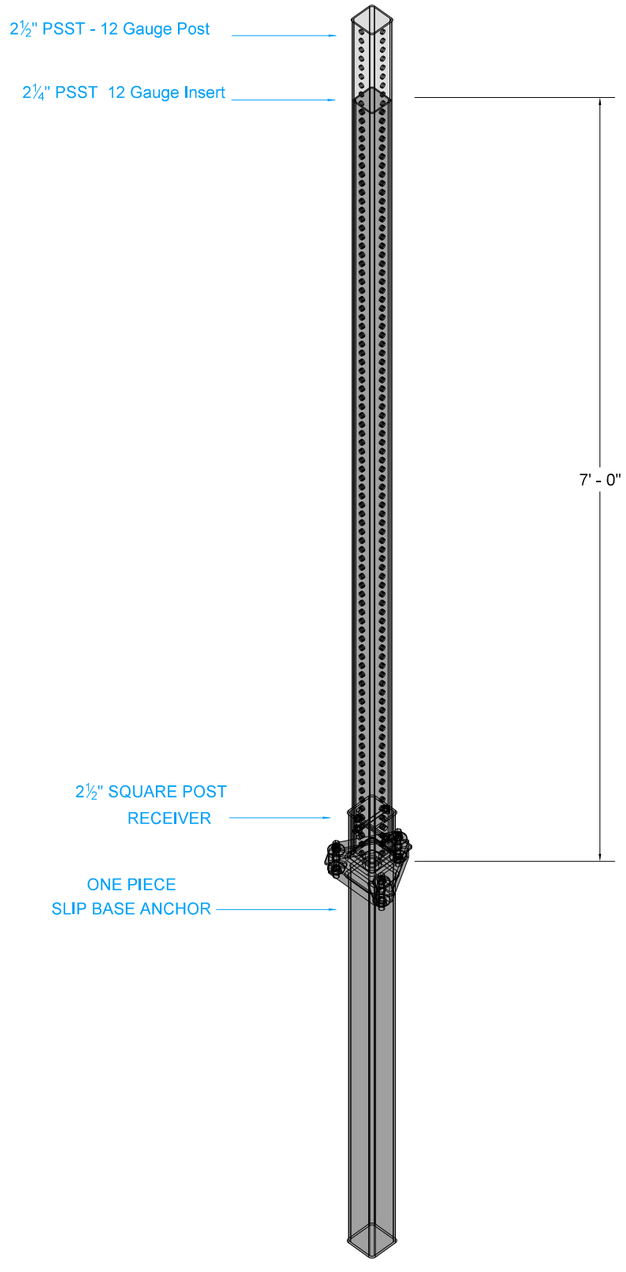




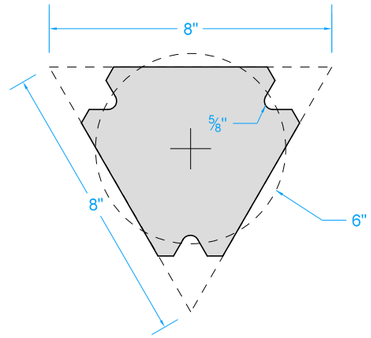


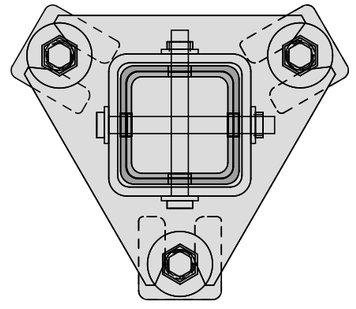
SOIL BEARING WING

SLIP BASE WITH NESTED PERFORATED SQUARE STEEL TUBE POST (1)



SLIP PLATE DIMENSIONS (1)





(1) Type III/IV installation only

IOWA DOT

REVISION	
-	00-00-00

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TAS STANDARD

REVISION: __

**Support Structures -
Perforated Square Steel Tube
Anchor and Post**

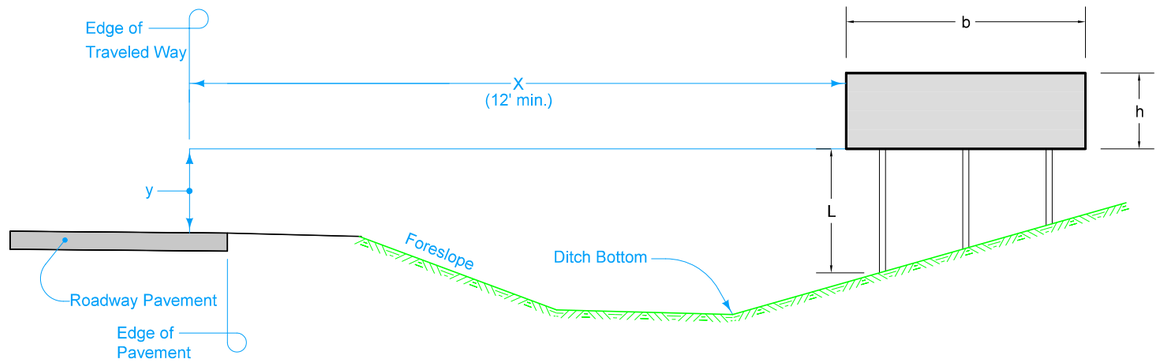
FILE NO. - -	ENGLISH	DESIGN TEAM **Fobian / Hecker**	**STATEWIDE** COUNTY	PROJECT NUMBER **HSN-000-T(475)--2R-00**	SHEET NUMBER **B.4**

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Note: The sign centroid is equivalent to L + h/2, (length of the longest post from the ground to the bottom of the sign plus the half the height of the sign.) and the Sign Area Yielding Design is the maximum area that the corresponding sign can have without failure. Sign Area is equivalent to b x h.

POST LOADING FOR PERFORATED SQUARE STEEL TUBE POSTS (1) (2)

SIGN CENTROID (FT)	SIGN AREA (SQ-FT) YIELDING DESIGN					
	TYPE 1 TYPE 2	TYPE 3/TYPE 4 (SLIP BASE REQUIRED)				
	2 ½" x 12ga	2 ½" x 12ga		2 ¼" x 12ga inserted into a 2 ½" x 12 ga		
	1 Post	2 Post	3 Post	1 Post	2 Post	3 Post
16.5	10.44	20.88	31.32	18.78	37.56	56.34
16	10.76	21.52	32.28	19.36	38.72	58.08
15.5	11.11	22.22	33.33	19.99	39.98	59.97
15	11.48	22.96	34.44	20.65	41.3	61.95
14.5	11.87	23.74	35.61	21.36	42.72	64.08
14	12.3	24.6	36.9	22.13	44.26	66.39
13.5	12.75	25.5	38.25	22.95	45.9	68.85
13	13.24	26.48	39.72	23.83	47.66	71.49
12.5	13.77	27.54	41.71	24.78	49.56	74.34
12	14.35	28.7	43.05	25.82	51.64	77.46
11.5	14.97	29.94	44.91	26.94	53.88	80.82
11	15.65	31.3	46.95	28.16	56.32	84.48
10.5	16.4	32.8	49.2	29.5	59	88.5
10	17.22	34.44	51.66	30.98	61.96	92.94
9.5	18.12	36.24	54.36	32.61	65.22	97.83
9	19.13	38.26	57.39	34.42	68.84	103.26
8.5	20.26	40.52	60.78	36.45	72.9	109.35
8	21.52	43.04	64.56	38.72	77.44	116.16



(1) Adapted from AASHTO Standard Specifications for - Highway Signs, Luminaires, and Traffic Signals. 6th Edition 2013. <Rev B 4/7/14>

(2) 90 MPH Wind Load

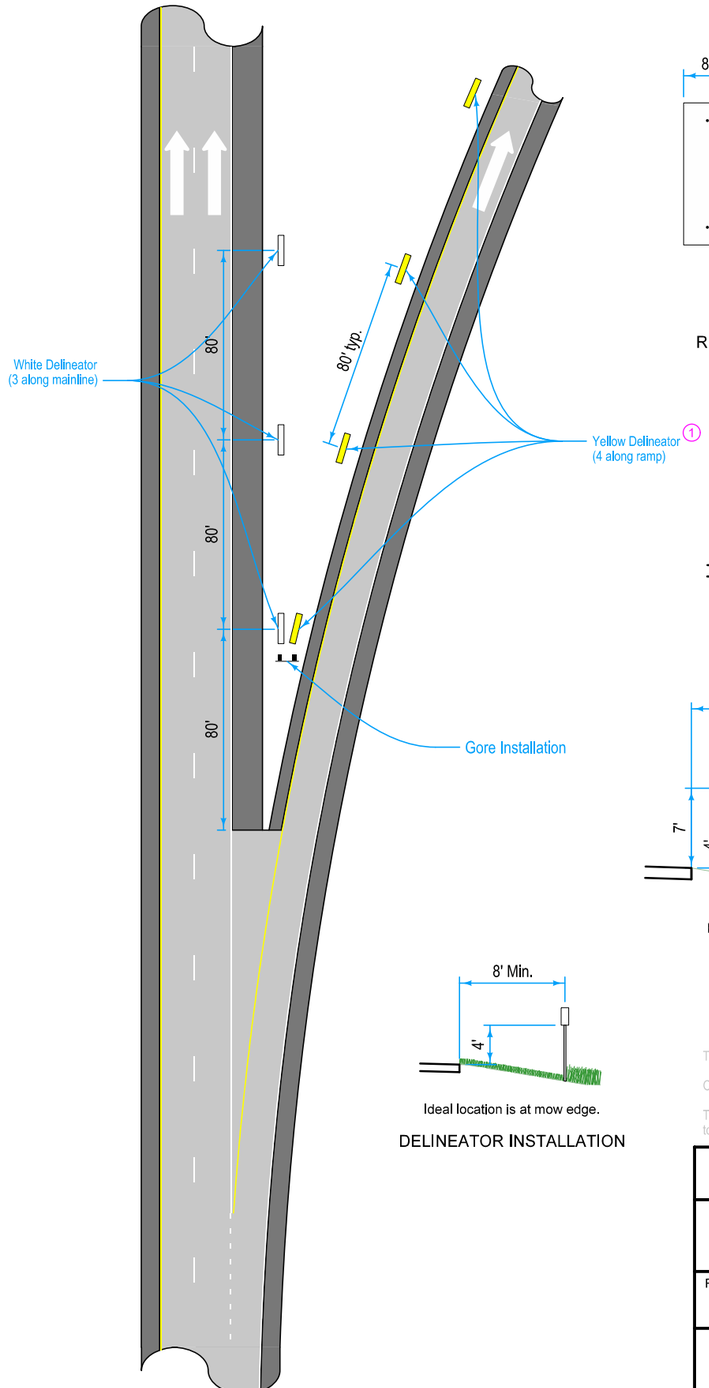
IOWA DOT

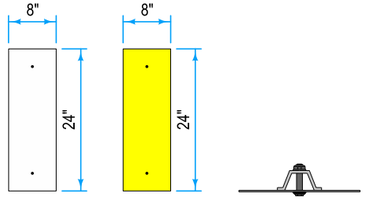
REVISION - 00-00-00

TAS STANDARD

REVISION: __

Support Structures - Perforated Square Steel Tube Anchor and Post

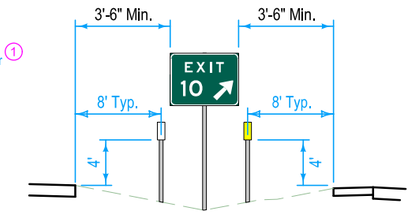




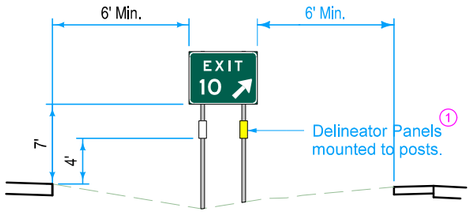
White or Yellow
(match edge line)

Panel to post attachment
same as for reference post
(refer to SI-171)

RETROREFLECTIVE DELINEATOR PANEL



MASSH-400 POST GORE INSTALLATION



Exit gore sign must be installed at 7' height above edge of roadway and be less than 80' from end of paved gore.

GORE INSTALLATION

Ideal location is at mow edge.

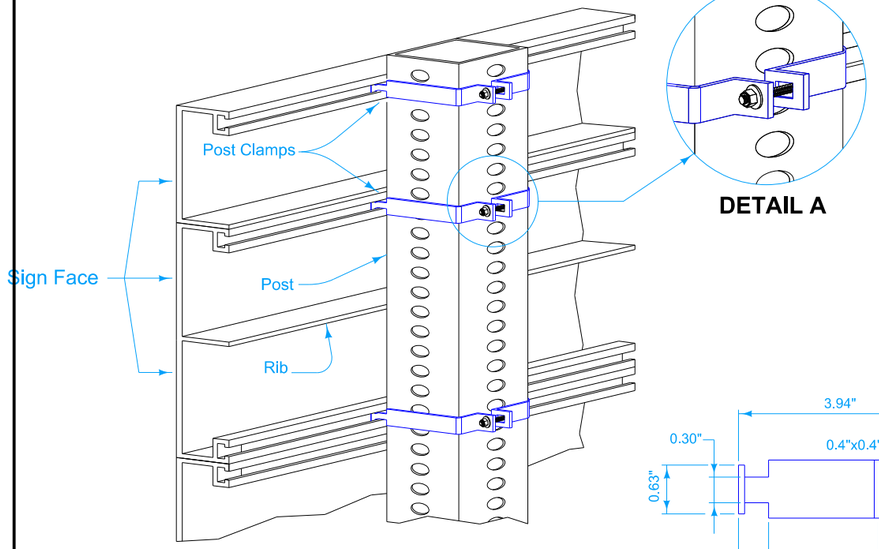
DELINEATOR INSTALLATION

This is a typical layout. Additional route signing may be required

Only one direction of travel shown.

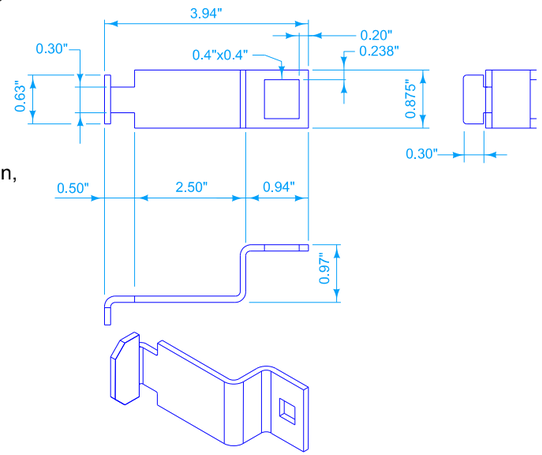
The distances given are for a rural application and may vary to fit existing conditions.

IOWA DOT	REVISION	
TYPICAL SIGNING LAYOUT	NEW	10-05-15
	TAS-811	TAS STANDARD
REVISION: __		
Gore Delineation		



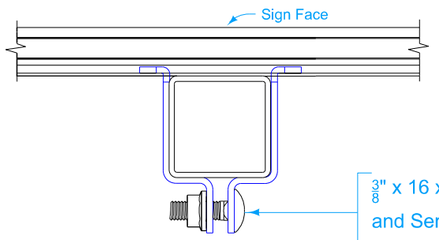
Install post clamps at top and bottom of the sign, and at each joint for each post.

DETAIL A



POST CLAMP DETAIL

Post clamp shall be stainless.



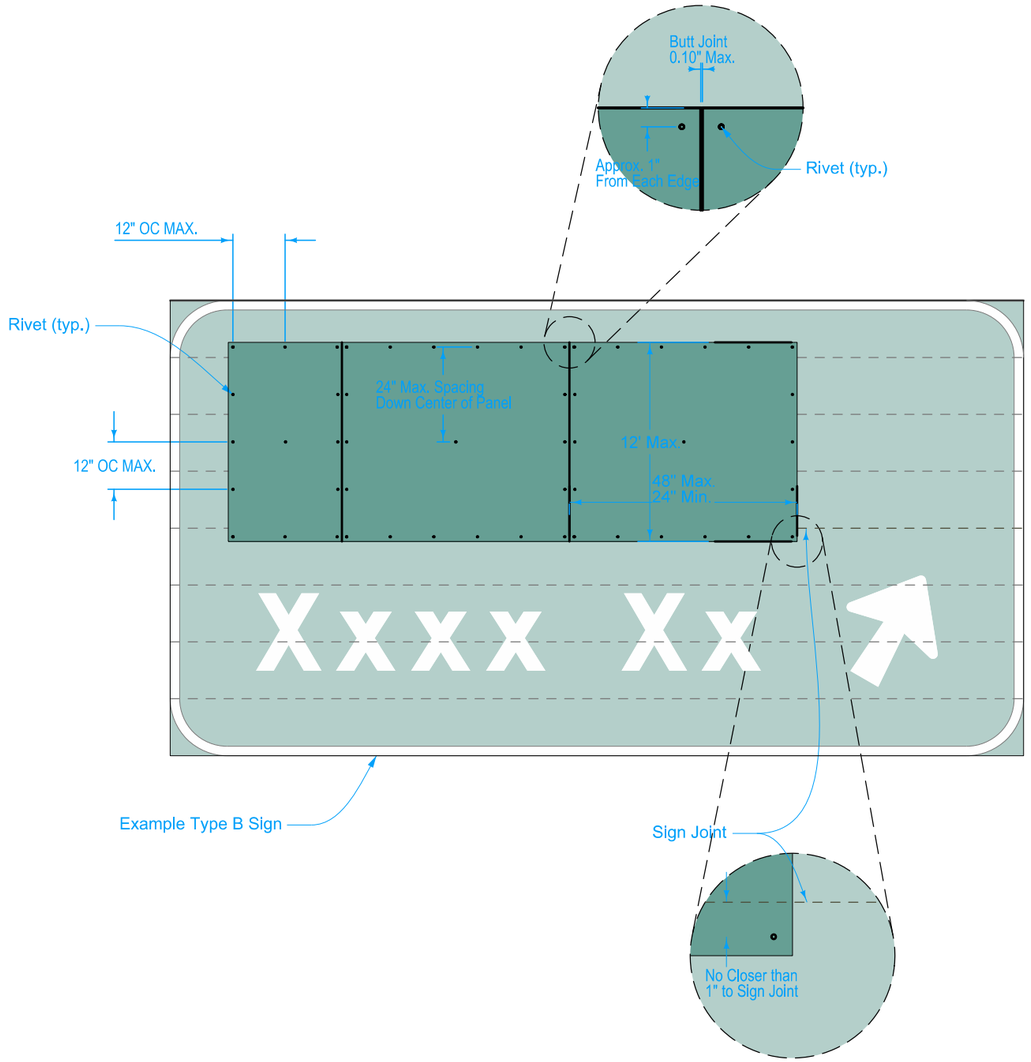
PLAN VIEW

DETAILS OF
PERFORATED SQUARE STEEL TUBE POST
TYPE "B" SIGN ATTACHMENT

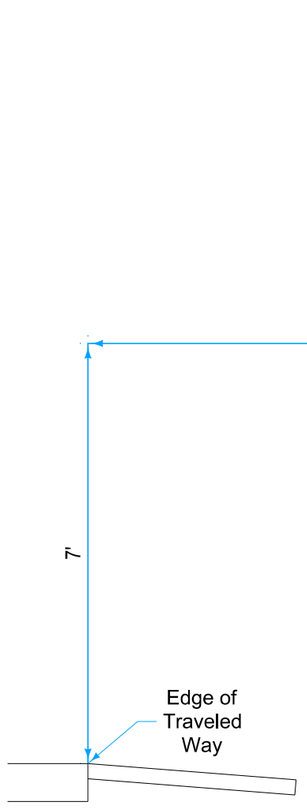
PSST POST - TYPE B
SIGN ATTACHMENT

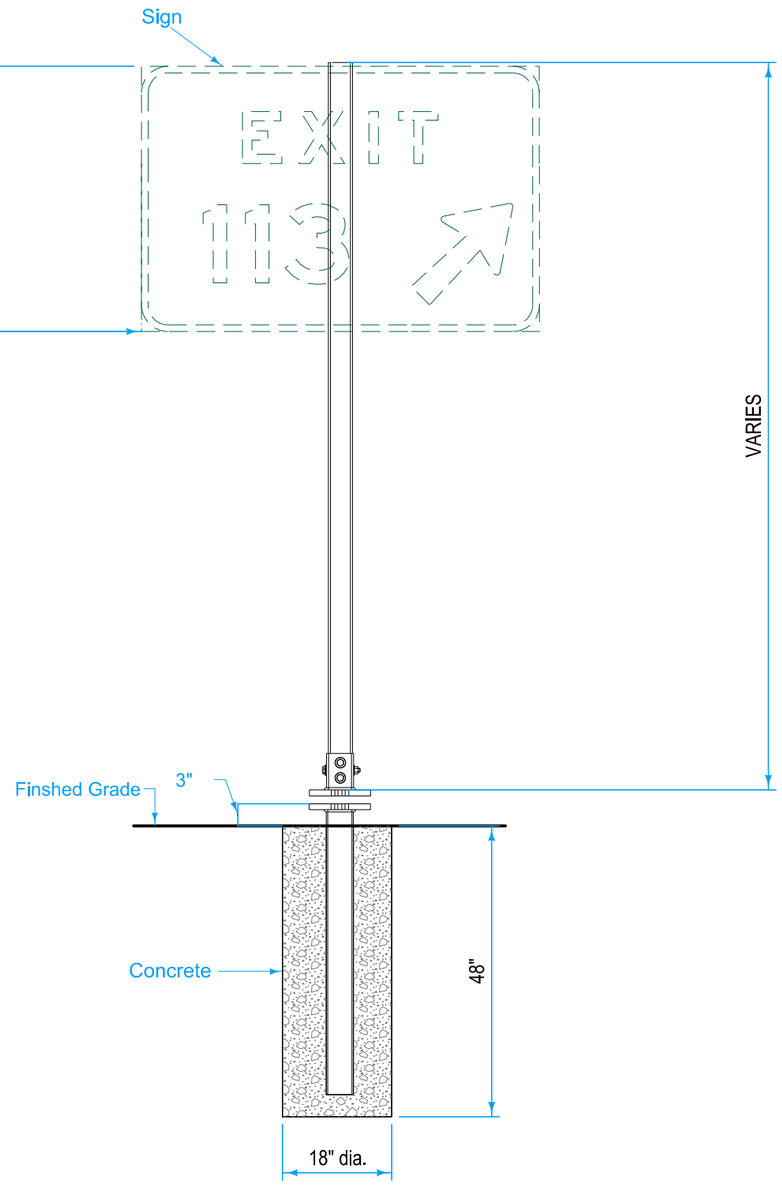
FILE NO. - -	ENGLISH	DESIGN TEAM Fobian / Hecker	STATEWIDE COUNTY	PROJECT NUMBER NHSN-000-T(475)--2R-00	SHEET NUMBER B.6

7:48:40 AM 10/9/2026 dhecker pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\0000022026\TrafficAndSafety\TrafficEngineering_475_Signing\CADD Files\SHT_00000475_B01.dgn



TYPE B SIGN
OVERLAY DETAILS



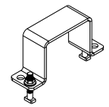


TYPICAL INSTALLATION

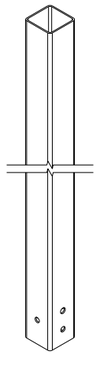
NOTE:
For sign installations, install 18" diameter by 48" depth concrete foundation.
Top of concrete foundation shall be flush with surrounding grade.
Top of slip base plate shall extend no higher than 3" above ground.



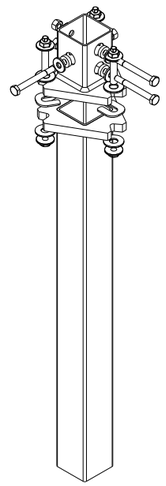
X4SQCC
Post Cap



UPC400SQ
Post Clamp



4" x 8ga
galvanized
sign post



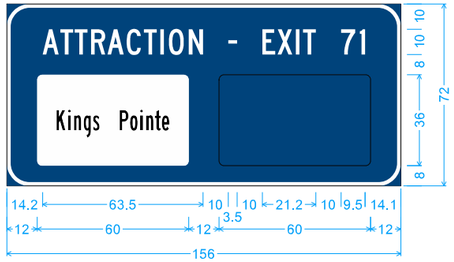
RT13UX-400A-48C-G
slip base assembly

MASSH POST
DETAIL

FILE NO. - -	ENGLISH	DESIGN TEAM **Fobian / Hecker**	**STATEWIDE** COUNTY	PROJECT NUMBER **HSN-000-T(475)--2R-00**	SHEET NUMBER **B.8**

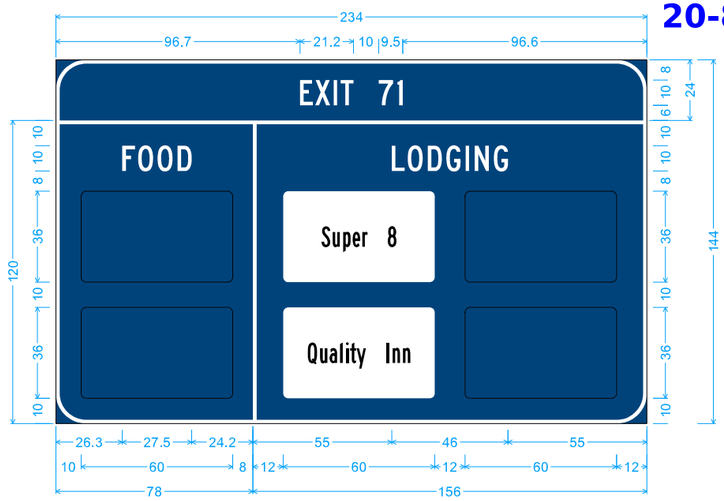
7:48:40 AM 10/9/2026 dhecker pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\0000022026\TrafficAndSafety\TrafficEngineering_475_Signing\CADD Files\SHT_00000475_B01.dgn

20-81-70 M002
20-81-70 M102



20-81-71 MA2-1;
9.0" Radius, 1.5" Border, White on Blue;
"ATTRACTION - EXIT 71", C 2K;
2.0" Radius, No border, Blue;
"Kings Pointe" Black, B 2K;
2.0" Radius, No border, Blue;

20-81-70 M004 Overlay
20-81-70 M104 Overlay



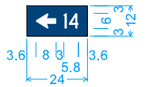
20-81-71 MF2L4;

12.0" Radius, 1.5" Border, White on Blue;
"EXIT 71", C 2K;

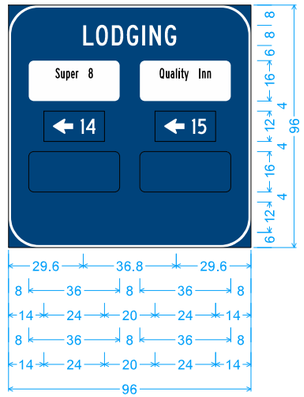
12.0" Radius, 1.5" Border, White on Blue;
"FOOD", C 2K; 2.0" Radius, No border, Blue; 2.0" Radius, No border, Blue;

12.0" Radius, 1.5" Border, White on Blue;
"LODGING", C 2K; 2.0" Radius, No border, White;
"Super 8" Black, B 2K;
2.0" Radius, No border, Blue; 2.0" Radius, No border, White;
"Quality Inn" Black, B 2K;
2.0" Radius, No border, Blue;

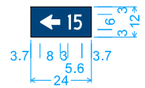
20-81-70 R002



No border, Blue;
Arrow III-6S - 8.0" 180^ White;
"14" White, C 2K;



20-81-71 RL2-2 EB;
12.0" Radius, 1.0" Border, White on Blue;
"LODGING", C 2K;
2.0" Radius, No border, White;
"Super 8" Black, B 2K;
2.0" Radius, No border, White;
"Quality Inn" Black, B 2K;
No border, Blue; No border, Blue;
2.0" Radius, No border, White;
"L1/R2" Black, B 2K;
2.0" Radius, No border, White;
"L2/R2" Black, B 2K;
No border, Blue; No border, Blue;

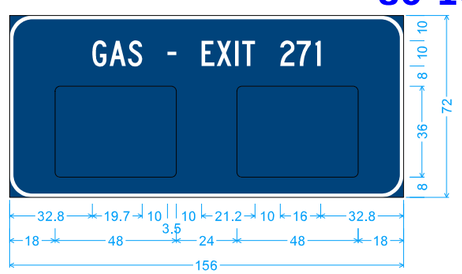


No border, Blue;
Arrow III-6S - 8.0" 180^ White;
"15" White, C 2K;

Note to Fabricator: Omit logo/business placards.

Note to Installing Contractor: Remove all logo/business placards from existing signs and reinstall on new signs as shown.

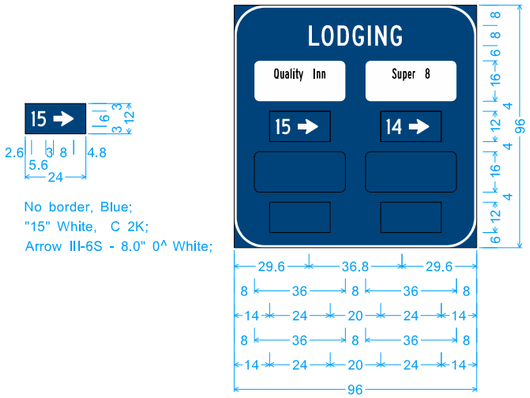
80-16-271 M103



80-16-271 MG2-1;
9.00" Radius, 1.50" Border, White on Blue;
"GAS - EXIT 271", C 2K;
2.00" Radius, No border, White;
"LOGO 1" Black, B 2K;
2.00" Radius, No border, White;
"LOGO 2" Black, B 2K;

STATEWIDE TYPE B SIGN DETAILS

20-81-70 R102

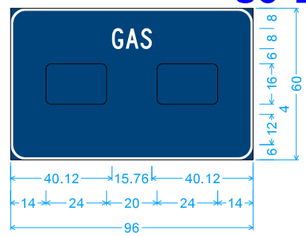


No border, Blue;
"15" White, C 2K;
Arrow III-6S - 8.0" 0^ White;

No border, Blue;
"14" White, C 2K;
Arrow III-6S - 8.0" 0^ White;

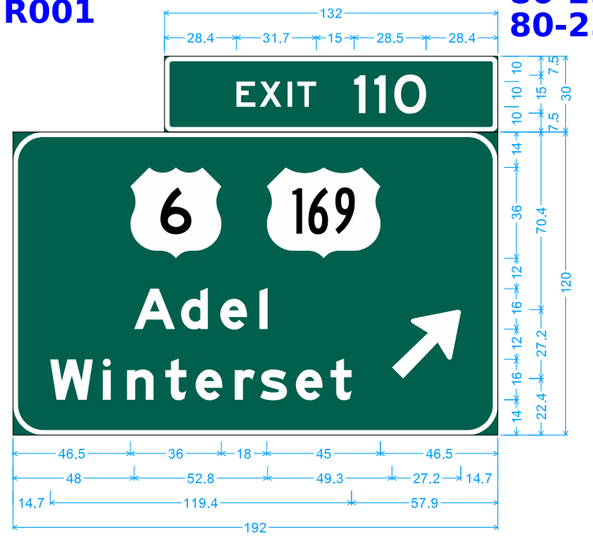
20-81-71 RL2-2 WB;
12.0" Radius, 1.0" Border, White on Blue;
"LODGING", C 2K;
2.0" Radius, No border, White;
"Quality Inn" Black, B 2K;
2.0" Radius, No border, White;
"Super 8" Black, B 2K;
No border, Blue; No border, Blue;
2.0" Radius, No border, White;
"L1/R2" Black, B 2K;
2.0" Radius, No border, White;
"L2/R2" Black, B 2K;
No border, Blue; No border, Blue;

80-16-271 R101
80-16-271 R001



80-16-271 RG2-1;
6.00" Radius, 1.00" Border, White on Blue;
"GAS", C 2K;
2.00" Radius, No border, White;
"L1/R1" Black, B 2K;
2.00" Radius, No border, White;
"L2/R1" Black, B 2K;
No border, Blue; No border, Blue;

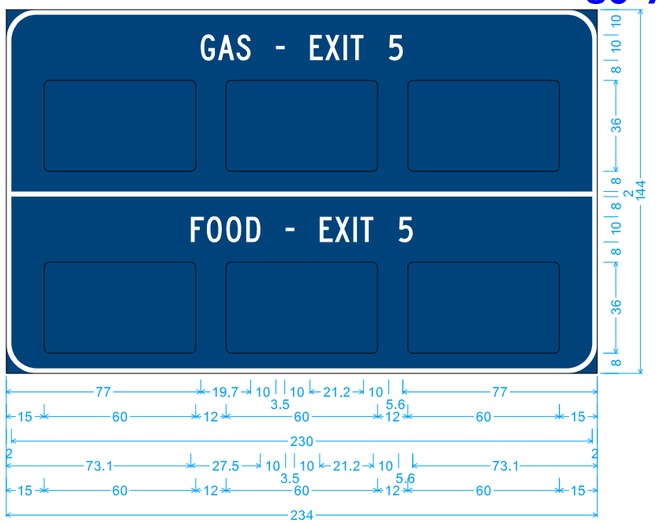
80-25-110 M109
80-25-110 M109A



E1-5P;
2.0" Border, White on Green;
"EXIT", E 2K 120% spacing; "110", E 2K;

Final Guide - 2 Dest 2 Route Template;
12.0" Radius, 2.0" Border, White on Green;
"Adel", E Mod 2K; "Winterset", E Mod 2K; Arrow I-F - 35.0" 45^;

80-78-5 M108

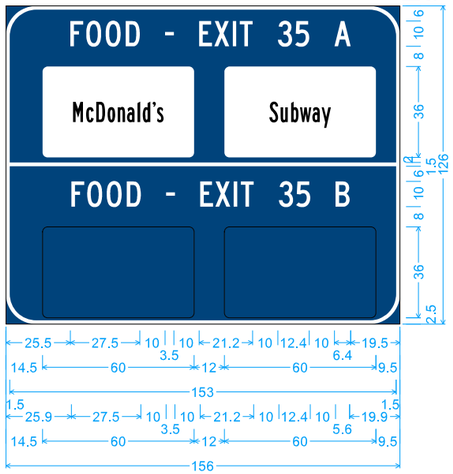


12.00" Radius, 2.00" Border, White on Blue;
"GAS - EXIT 5", C 2K; 2.00" Radius, No border, White;
"LOGO 1" Black, B 2K;
2.00" Radius, No border, White;
"LOGO 2" Black, B 2K;
2.00" Radius, No border, White;
"LOGO 3" Black, B 2K;
"FOOD - EXIT 5", C 2K; 2.00" Radius, No border, White;
"LOGO 1" Black, B 2K;
2.00" Radius, No border, White;
"LOGO 2" Black, B 2K;
2.00" Radius, No border, White;
"LOGO 3" Black, B 2K;

Note to Fabricator: Omit logo/business placards.

Note to Installing Contractor: Remove all logo/business placards from existing signs and reinstall on new signs as shown.

29-65-35 M005
29-65-35 M105



12.0" Radius, 1.5" Border, White on Blue;
"FOOD - EXIT 35 A", C 2K;
2.0" Radius, No border, White;
"McDonald's" Black, B 2K;
2.0" Radius, No border, White;
"Subway" Black, B 2K;
"FOOD - EXIT 35 B", C 2K;
2.0" Radius, No border, White;
"LOGO 1" Black, B 2K;
2.0" Radius, No border, White;
"LOGO 2" Black, B 2K;

STATEWIDE TYPE B SIGN DETAILS

80-78-40 R104



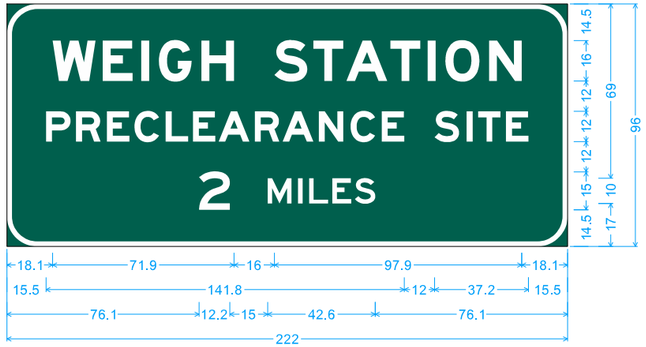
Expressway Destination 3 Line;

6.0" Radius, 1.5" Border, White on Green;
Arrow III-8S - 10.5" 180^; "Avoca", E Mod 2K;
"1", E Mod 2K;

6.0" Radius, 1.5" Border, White on Brown;
Arrow III-8S - 10.5" 180^; "Botna Bend Park", E Mod 2K;
"9", E Mod 2K;

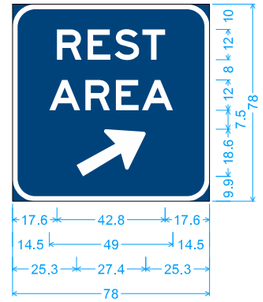
6.0" Radius, 1.5" Border, White on Brown;
Arrow III-8S - 10.5" 180^; "Nishna Heritage", E Mod 2K;
"Museum", E Mod 2K; "15", E Mod 2K;

80-78-46 M105



12.0" Radius, 2.0" Border, White on Green;
"WEIGH STATION", E Mod 2K; "PRECLEARANCE SITE", E Mod 2K; "2", E 2K;
"MILES", E 2K;

80-78-32 M001



D5-2b_78x78;
2.0" Border, White on Blue;
"REST", E 2K;
"AREA", E 2K;
Arrow I-D - 30.0" 30^;

880-78-15 M103
880-78-15 M103A
880-78-15 M003
880-78-15 M003A

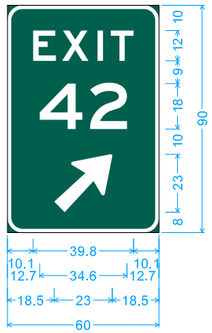


E1-5P;
2.0" Border, White on Green;
"EXIT", E 2K 120% spacing; "15", E 2K;

FInal Guide - 2 Dest 2 Route Template;
12.0" Radius, 2.0" Border, White on Green;
State Highway 191 M1-5;
Pentagonal County G8L M1-6; "Neola", E Mod 2K;
"Persia", E Mod 2K; Arrow I-F - 35.0" 45^;

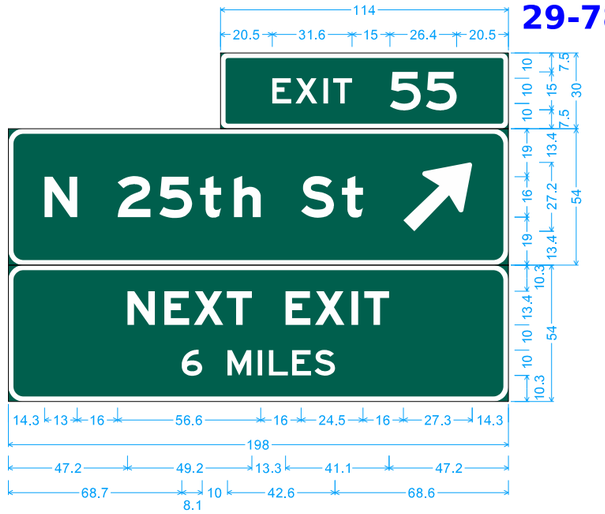
STATEWIDE TYPE B
SIGN DETAILS

29-65-42 M104



top;
6.0" Radius, 1.5" Border, White on Green;
"EXIT", E 2K 150% spacing;
"42", E 2K;
Arrow Custom - 29.3" 45^;

29-78-55 M004
29-78-55 M004A
29-78-55 M004B

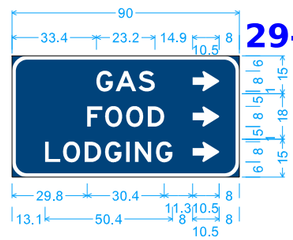


E1-5P;
2.0" Border, White on Green;
"EXIT", E 2K 120% spacing; "55", E 2K;

Final Guide - 1 Dest 1 Route Template;
6.0" Radius, 2.0" Border, White on Green;
"N 25th St", E Mod 2K; Arrow I-F - 35.0" 45^;

Supplemental Guide - 1 Dest Template;
6.0" Radius, 2.0" Border, White on Green;
"NEXT EXIT", E Mod 2K; "6 MILES", E 2K;

29-78-55 R002

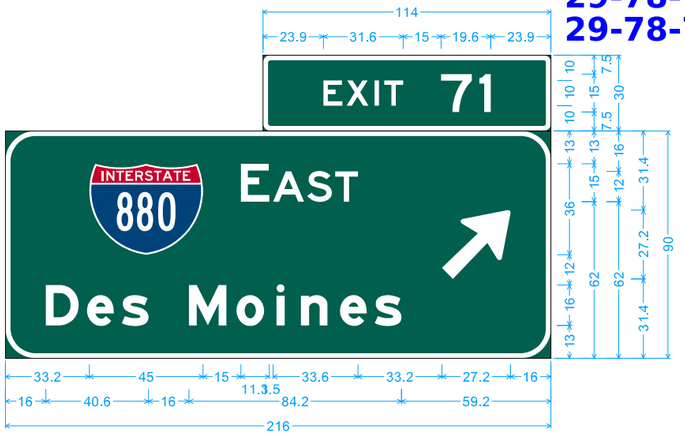


6.0" Radius, 1.5" Border, White on Blue;
"GAS", E 2K;
Arrow III-8S - 10.5" 0^;

2.0" Radius, 1.5" Border, White on Blue;
"FOOD", E 2K;
Arrow III-8S - 10.5" 0^;

6.0" Radius, 1.5" Border, White on Blue;
"LODGING", E 2K;
Arrow III-8S - 10.5" 0^;

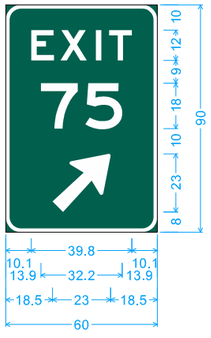
29-78-71 M002
29-78-71 M002A



E1-5P;
2.0" Border, White on Green;
"EXIT", E 2K 120% spacing; "71", E 2K;

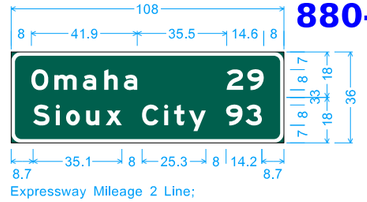
Final Guide - 1 Dest 1 Route Template;
12.0" Radius, 2.0" Border, White on Green;
"EAST", E 2K; "Des Moines", E Mod 2K; Arrow I-F - 35.0" 45^;

80-1-75 M003



top;
6.0" Radius, 1.5" Border, White on Green;
"EXIT", E 2K 150% spacing;
"75", E 2K;
Arrow Custom - 29.3" 45^;

880-78-16 M101



Expressway Mileage 2 Line;

4.0" Radius, 1.5" Border, White on Green;
"Omaha", E Mod 2K;
"29", E Mod 2K;

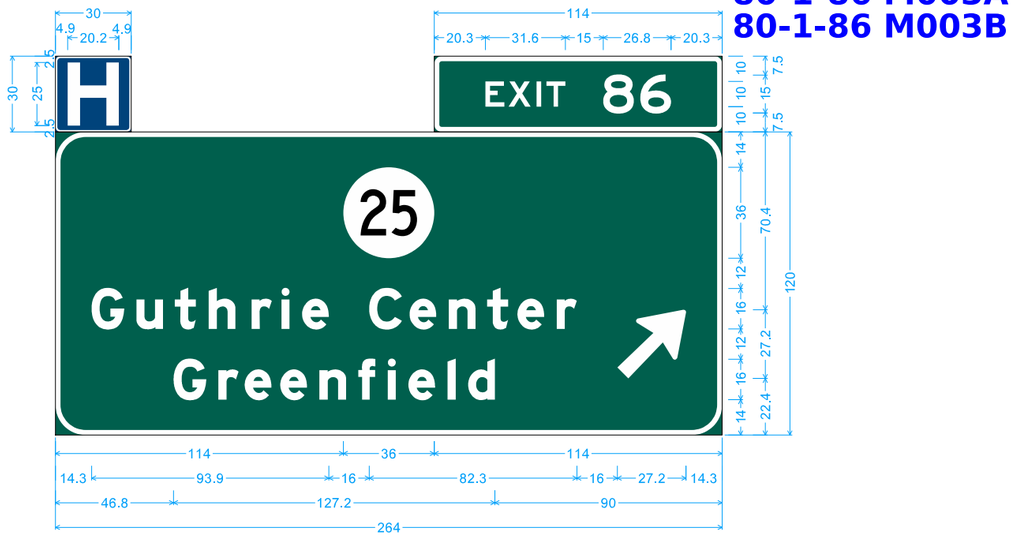
4.0" Radius, 1.5" Border, White on Green;
"Sioux City", E Mod 2K;
"93", E Mod 2K;

STATEWIDE TYPE B
SIGN DETAILS

FILE NO. - -	ENGLISH	DESIGN TEAM **Fobian / Hecker**	**STATEWIDE** COUNTY	PROJECT NUMBER **NHSN-000-T(475)--2R-00**	SHEET NUMBER **B.12**

7:48:42 AM 10/9/2026 dhecker pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\0000022026\TrafficAndSafety\TrafficEngineering_475_Signing\CADD Files\SHT_00000475_B01.dgn

80-1-86 M003
80-1-86 M003A
80-1-86 M003B

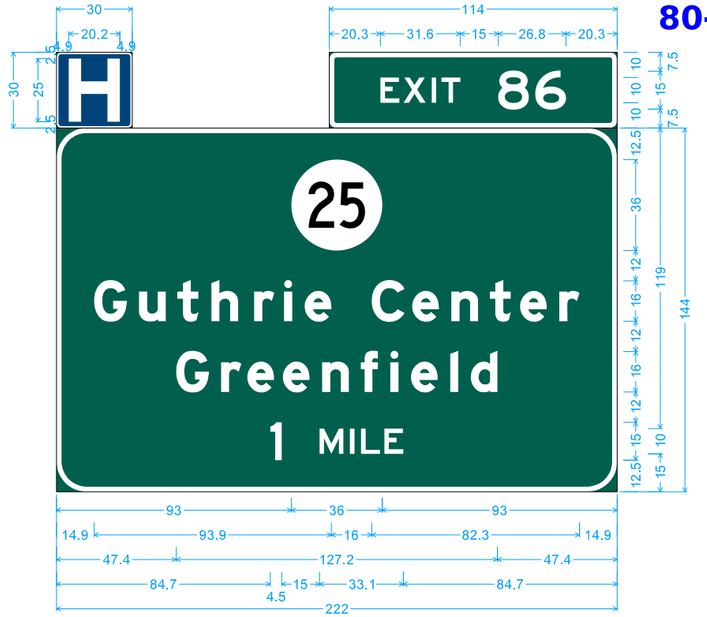


D9-2 Extruded Panel;
0.8" Border, White on Blue;
"H", E Mod 2K;

E1-5P;
2.0" Border, White on Green;
"EXIT", E 2K 120% spacing; "86", E 2K;

Final Guide - 2 Dest 2 Route Template;
12.0" Radius, 2.0" Border, White on Green;
State Highway 25 M1-5; "Guthrie Center", E Mod 2K; "Greenfield", E Mod 2K;
Arrow I-F - 35.0" 45^;

80-1-86 M101
80-1-86 M101A

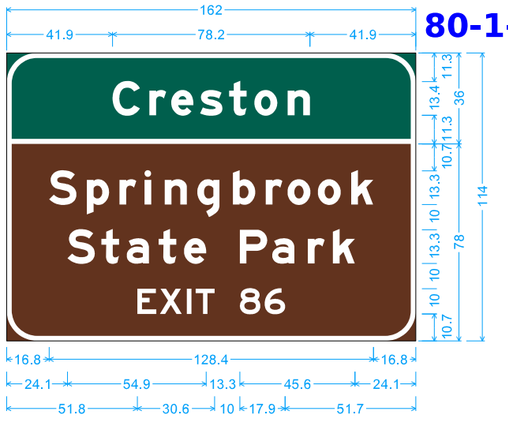


D9-2 Extruded Panel;
0.8" Border, White on Blue;
"H", E Mod 2K;

E1-5P;
2.0" Border, White on Green;
"EXIT", E 2K 120% spacing; "86", E 2K;

Adv Guide - 2 Dest 1 Route Template;
12.0" Radius, 2.0" Border, White on Green;
State Highway 25 M1-5; "Guthrie Center", E Mod 2K; "Greenfield", E Mod 2K;
"1", E 2K; "MILE", E 2K;

80-1-86 M002

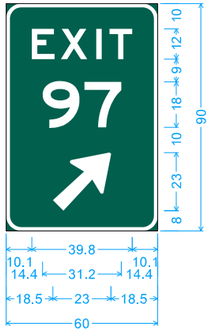


Supplemental Guide - 2 Dest 2 Color Template;
12.0" Radius, 2.0" Border, White on Green;
"Creston", E Mod 2K;

12.0" Radius, 2.0" Border, White on Brown;
"Springbrook", E Mod 2K; "State Park", E Mod 2K;
"EXIT 86", E 2K;

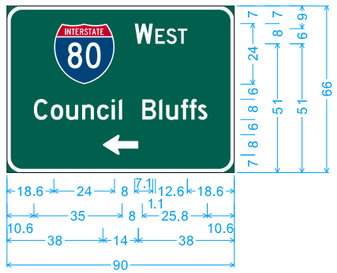
STATEWIDE TYPE B
SIGN DETAILS

80-1-97 M005



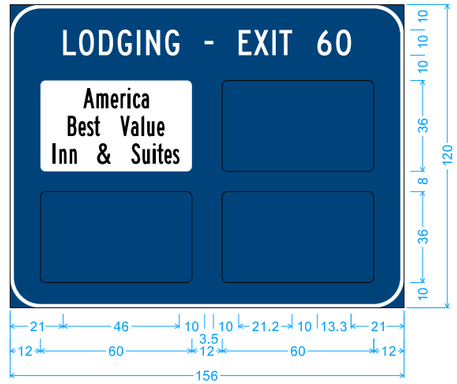
top;
6.0" Radius, 1.5" Border, White on Green;
"EXIT", E 2K 150% spacing;
"97", E 2K;
Arrow Custom - 29.3" 45^;

80-15-51 S005



SR Single Lane - 5 - Left Turn;
6.0" Radius, 1.5" Border, White on Green;
"WEST", D 2K;
"Council Bluffs", D 2K;
Arrow III-8L - 14.0" 180^;

80-15-60 M102

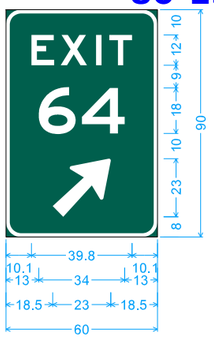


12.0" Radius, 1.5" Border, White on Blue;
"LODGING - EXIT 60", C 2K;
2.0" Radius, No border, White;
"America" Black, B 2K; "Best Value" Black, B 2K;
"Inn & Suites" Black, B 2K;
2.0" Radius, No border, White;
"LOGO 2" Black, B 2K;
2.0" Radius, No border, White;
"LOGO 3" Black, B 2K;
2.0" Radius, No border, White;
"LOGO 4" Black, B 2K;

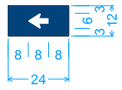
Note to Fabricator: Omit logo/business placards.

Note to Installing Contractor: Remove all logo/business placards from existing signs and reinstall on new signs as shown.

80-15-64 M003

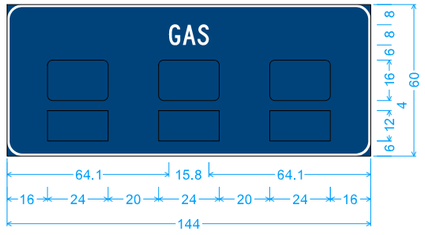


top;
6.0" Radius, 1.5" Border, White on Green;
"EXIT", E 2K 150% spacing;
"64", E 2K;
Arrow Custom - 29.3" 45^;

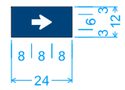


No border, Blue;
Arrow III-6S - 8.0" 180^ White;

80-78-40 R103



6.0" Radius, 1.0" Border, White on Blue;
"GAS", C 2K; 2.0" Radius, No border, White;
"L1/R3" Black, B 2K;
2.0" Radius, No border, White;
"L2/R2" Black, B 2K;
2.0" Radius, No border, White;
"L3/R1" Black, B 2K;
No border, Blue; No border, Blue; No border, Blue;

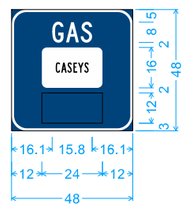


No border, Blue;
Arrow III-6S - 8.0" 0^ White;



No border, Blue;
Arrow III-6S - 8.0" 180^ White;
"1" White, C 2K;

80-25-104 R103



6.0" Radius, 1.0" Border, White on Blue;
"GAS", C 2K;
Rounded Rectangle 2.0" Radius;
Rectangle Blue;

STATEWIDE TYPE B
SIGN DETAILS

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Item no.	Item Code	Item	Unit	Quantities Estimated Traffic Sign Items	Estimate Reference Notes
1	2401-6745355	REMOVAL OF CONCRETE FOOTINGS OF HIGHWAY SIGNS	EACH	38	Refer to Tabulation of Materials for Type 'B' Signs for locations and details. This item shall consist of removal of concrete footings for steel breakaway sign support posts. Concrete footings or parts of concrete footings removed shall become the property of the Contractor, and shall be removed in accordance with Article 1104.08. Unless otherwise provided or ordered, concrete footings for steel breakaway sign support posts shall be removed 1 foot below natural ground surface. Where portions of the existing concrete footings lie wholly or in part within limits for a new structure (culvert, concrete footing, or other), they shall be removed as necessary to accommodate construction of the proposed structure. Holes remaining from the removal of concrete footings for steel breakaway sign support posts shall be backfilled with suitable earth to the original level or to the natural ground surface in accordance with Article 2402.09. Measurement: The Engineer will count each concrete footing for steel breakaway sign support post removed. Payment: For each concrete footing for steel breakaway sign support post removed, the Contractor shall be paid the contract unit price. This payment shall be full compensation for furnishing all material, equipment, and labor and for the performance of all work necessary for removal of the concrete footings from the project and for any backfilling made necessary by these operations.
2	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN	EACH	1	Refer to Tabulation of Materials for Type 'B' Signs for locations and details. The Contractor shall remove each sign and the hardware used to secure the sign to another sign, posts, or sign support structure. For signs mounted directly to posts, removal of the sign shall include removal of the posts. Posts may be either wood posts or steel breakaway sign posts. The removal of concrete footings for steel breakaway sign posts will be measured and paid for separately. Holes remaining from the removal of wood posts shall be backfilled with suitable earth to the original level or to the natural ground surface in accordance with Article 2402.09 of the Standard Specifications. All steel posts removed shall become the property of the Contractor. Unless otherwise noted, wood posts removed shall remain the property of DOT. The Contractor shall deliver the wood posts to a DOT storage area within 50 miles, as designated by the Engineer. **The existing sign shall be removed and stored. The Contractor shall remove the sign and transport it to a DOT storage area within 50 miles, as designated by the Engineer. The Contractor shall transport the sign back to the job site when ready for reinstallation. The Contractor shall furnish all necessary hardware to install the signs. When the new installation is similar to the original installation, unless otherwise noted, the existing hardware may be used to reinstall the sign. Signs damaged by the Contractor's activities shall be replaced at the Contractor's expense. Replacement materials shall be new. The DOT will furnish all details necessary for fabrication of the replacement materials. MEASUREMENT: The Engineer will count each sign removed and reinstalled. PAYMENT: For each sign removed and reinstalled, the Contractor shall be paid the contract unit price.

Item no.	Item Code	Item	Unit	Quantities Estimated Traffic Sign Items	Estimate Reference Notes
3	2524-6765120	REMOVAL OF TYPE B SIGN	EACH	4	Refer to Tabulation of Materials for Type 'B' Signs for location and details. Item is for the removal of extruded aluminum structural panel from its support structure ie: wood/steel posts, overhead truss or other sign. Measurement: Each. The Engineer will count the number of Type B sign panels removed. Payment: The Contractor will be paid the contract unit price for each Type B sign panel removed.
4	2524-6765210	REMOVAL OF TYPE A SIGN ASSEMBLY	EACH	1	Refer to Tabulation of Materials for Type 'B' Signs for location and details. This item for the removal of Type A Sign Assemblies, including the sign panels, sign brackets, supporting structures and hardware. Contractor shall carefully dismantle each sign assembly. Sign posts, brackets and hardware shall become property of the Contractor. Sign panels shall become property of the DOT and shall be delivered to the nearest DOT maintenance facility. All holes resulting from removal of post shall be filled level with the adjacent grade with backfill material conforming to the Standard Specifications. Measurement: The Engineer will count the number of sign assemblies removed. Payment: The Contractor will be paid the contract unit price for each sign assembly removed.
5	2524-6765220	REMOVAL OF TYPE B SIGN ASSEMBLY	EACH	29	Refer to Tabulation of Materials for Type 'B' Signs for location and details. This item for the removal of Type B Sign Assemblies, including the sign panels, sign brackets, supporting structures and hardware. Contractor shall carefully dismantle each sign assembly. Sign panels, posts, brackets and hardware shall become property of the Contractor. All holes resulting from removal of posts shall be filled level with the adjacent grade with backfill material conforming to the Standard Specifications. Measurement: The Engineer will count the number of sign assemblies removed. Payment: The Contractor will be paid the contract unit price for each sign assembly removed.
6	2524-9081275	CONCRETE FOOTING FOR BREAKAWAY SIGN POST, 2'-8" DIA. X 7'-6"	EACH	32	Refer to Tabulation of Materials for Type 'B' Signs for locations and details.
7	2524-9081290	CONCRETE FOOTING FOR BREAKAWAY SIGN POST, 2'-8" DIA. X 9'-0"	EACH	10	
8	2524-9276010	PERFORATED SQUARE STEEL TUBE POSTS	LF	80	
9	2524-9276027	PERFORATED SQUARE STEEL TUBE POST ANCHOR, TRIANGULAR SLIP BASE ASSEMBLY	EACH	6	
10	2524-9281210	STEEL BREAKAWAY SIGN POSTS FOR TYPE A OR B SIGNS, W 8 X 21	LF	613	
11	2524-9281426	STEEL BREAKAWAY SIGN POSTS FOR TYPE A OR B SIGNS, W 12 X 26	LF	212	
12	2524-9380001	TYPE B SIGNS, EXTRUDED ALUMINUM STRUCTURAL PANEL	SF	3,342	
13	2526-8285040	CONSTRUCTION SURVEY, LOCATION SURVEY	LS	1	
14	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to Traffic Control Plan on Sheet J.01 and allowable lane closure maps on Sheets J.2 - J.8.

Item no.	Item Code	Item	Unit	Quantities Estimated Traffic Sign Items	Estimate Reference Notes
15	2533-4980005	MOBILIZATION	LS	1	- -
16	2545-1000000	OVERLAY TYPE B GUIDE SIGNS	SF	468	Refer to Tabulation of Materials for Type 'B' Signs for locations and details.
17	2599-9999005	('EACH' ITEM) DELINEATOR, GORE	EACH	28	This item is for gore delineators as detailed in Typical Signing Layout TAS-811. Refer to Tabulation 190-25 for location and details. Fabricate gore delineators with materials complying with Section 4186 of the Standard Specifications. Gore delineators shall be: - 8" wide by 24" tall. - White or yellow (to match edge lines). - Attach gore delineator to a Type I delineator posts. Post lengths are to be sufficient to ensure the proper installation height and provide a minimum of 2'-6" embedment. Ensure top of post does not extend above top of gore delineator panel. Measurement: Each gore delineator will be counted by the various types installed. Payment: The Contractor shall be paid the contract until price for each gore delineator furnished and installed complete. Payment is full compensation for furnishing, fabricating, and erecting the gore delineators including posts, fittings and attachments, and all labor necessary to complete the work.
18	2599-9999005	('EACH' ITEM) MASSH POST	EACH	6	Item is for furnishing and installing MASSH-400 breakaway post system. Refer to sheet B.8 for installation details. Item includes: - (1) 13” slip base top kit - (1) 13” unibase 4”x48" (including concrete for complete 18"x48" footing) - (1) 18"x48" concrete footing - (1) ¾” redi Torque kit - (3) universal post clamp note: minimum of 1 clamp per 10 sq. ft. of sign with a min. of at least 3 clamps - (1) closure cap for 4” sq post - (1) sign post 4”x(varies)’ 8ga. - All hardware required to assemble the sign post system complete Refer to Tabulation of Materials for Type 'B' Signs for locations and details for location and details on posts. Post lengths are assumed and not based on survey information. The Contractor should take steps to verify post lengths prior to ordering/fabrication to minimize installation conflicts. The Contractor shall install the posts per the manufacturer's installation guidelines. Measurement: Each. The Engineer shall count each MASSH-400 post furnished and installed. Payment: Each. The Contractor shall be paid the contract until price for each MASSH-400 post furnished and installed complete.

STANDARDS

The following Standards apply to construction work on this project.

Number	Date	Title
SI-102	04-19-16	Locations - Type 'B' Signs
SI-112	04-19-16	Footings For Steel Breakaway Posts
SI-113	10-15-19	Support Structures - Steel Breakaway Posts
SI-121	10-16-18	Fabrication - Sign Legend Components
SI-123	10-20-20	Fabrication - Type 'B' Signs
SI-132	04-17-18	Installation - Type 'B' Signs
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-211	10-15-19	Lane Closure on Low Volume Roadway
TC-402	04-18-23	Work Within 15 ft of Traveled Way
TC-416	10-15-19	Partial Lane Closure on Ramps
TC-418	04-18-23	Lane Closure on Divided Highway
TC-420	10-16-18	Lane Closure at Ramps

Tabulation of Materials for Type 'B' Signs

Line No.	SIGN NUMBER					DIR OF TRAVEL	SIGN LOCATION				SIGN SIZE					OVERLAY AREA (SQ FT) (3)	Existing POSTS			New POSTS			POST INFORMATION										NEW FOOTINGS			INSTALLATION			Remove Type A y (EA)	Remove Type B Sign (EA)	Remove Type B Assembly (EA)	Remove Reinstall Sign (EA)	Remove Footing (EA)	SEE SIGNING NOTES	Sign Text
							EXISTING		NEW		EXISTING		NEW				No.Post	Met(M) Wood(W) PSST (T)	Sig Mat Ply(P) Alum(A)	No.Post	Met(M) Wood(W) PSST(T)	Sig Mat Ply(P) Alum(A)	2.5" 12 ga PSST			MAASH	W6x12	W6x12	W8x21	W8x21	W12x26	W12x26	W12x26	1'-0" x 3'-2"	1'-6" x 4'-0"	2'-8" x 6'-0"	2'-8" x 7'-6"	2'-8" x 9'-0"	TYPE	DIM "X" (FT)	DIM "Y" (FT)							
	RTE.	CO.	Exit	Road ID	Seq. No.		M.P.	STATION	M.P.(1)	STATION	WIDTH (FT)	HEIGHT (FT)	WIDTH (FT)	HEIGHT (FT)	AREA (SQ FT)								Post 1	Post 2	Post 3	Post 1	Post 1	Post 2	Post 1	Post 1	Post 2	Post 1	Post 2	Post 3														
1.0	20	81	71	M	4	EB	70.77		70.77		19.5	12	19.5	12		234	3	M	A			A																						SO -OR- RB, IB	EXIT 71 FOOD LODGING
2.0	20	81	71	M	104	WB	72.23		72.23		19.5	12	19.5	12		234	3	M	A			A																						SO -OR- RB, IB	EXIT 71 FOOD LODGING
3.0	20	81	71	R	2	EB	71 (R)		71(R)		8	5	8	8	64		2	M	A	2	M	A							18	18						1		7			1			RB, IB, PB - Re-use exiting footings	LODGING
4.0	20	81	71	R	102	WB	71 (R)		71 ®		8	5	8	8	64		2	M	A	2	M	A							18	18						1		7			1			RB, IB, PB - Re-use exiting footings	LODGING
5.0	20	81	71	M	2	EB			70.37				13	6	78					2	M	A							13	13					2		1	30	7						IB, PB - New Footings	ATTRACTION - EXIT 71
6.0	20	81	71	M	102	WB			72.56				13	6	78					2	M	A							13	13					2		1	30	7						IB, PB - New Footings	ATTRACTION - EXIT 71
7.0	29	36	10	M	1	NB	9.25		9.25		18.5	8	18.5	8	148		4	T	A	2	M	A									19		21			2	1	30	7			1		2	RB, IB, PB, RF, and new footings.	Weigh Station Pre Clearance site 2 miles
8.0	29	65	35	M	5	NB	34.47		34.47		13	10	13	12	156		2	M	A																	1		7		1				RB, IB - Use existing posts and footings	FOOD - EXIT 35 A FOOD - EXIT 35 B
9.0	29	65	35	M	105	SB	36.61		36.61		13	10	13	12	156		2	M	A																	1		7		1				RB, IB - Use existing posts and footings	FOOD - EXIT 35 A FOOD - EXIT 35 B
10.0	29	65	42	M	104	SB	43.00		43.00		6.5	5	5	7.5	37.5		2	W	A	1	T	A				18										3	12	7			1			RB, IB, PP, MASSH Post.	Exit 42 RDA
11.0	29	78	55	M	004A	NB	55.37		55.37		8	2	9.5	2.5	23.75				A			A														1								IB, Install on top right of 29-78-55 M004	EXIT 55
12.0	29	78	55	M	4	NB	55.37		55.37		10	5	16.5	4.5	74.25		2	M	A	2	M	A							23.4	22.3					2	1	30	7			1		2	RB, IB, PB, RF, and new footings.	N 25TH ST RDA
13.0	29	78	55	M	004B	NB	55.37		55.37		10	4	16.5	4.5	74.25		2	M	A	2	M	A														1					1		2	IB, Install below 29-78-55 M004	Next Exit 6 Miles
14.0	29	78	55	R	2	NB	55.61		55.61		9	4.5	7.5	4	30		2	M	A	2	M	A							14.9	14.2					2	1	24	7			1		2	RB, IB, PB, RF, and new footings.	Gas RA. Food RA. Lodging RA.
15.0	29	78	71	M	002A	NB	69.75		69.75		7.5	2.5	9.5	2.5	23.75				A			A														1								IB, Install on top right of 29-78-71 M002	EXIT 71
16.0	29	78	71	M	2	NB	69.75		69.70		14.5	9	18	7.5	135		2	M	A	2	M	A							19	17					2	1	30	7			1		2	RB, IB, PB, RF, New Footings, Move this sign to 69.70	880 East Des Moines 2 miles
17.0	29	43	82	M	1	NB	80.08				15	6					2	M	A																				1		2	RB, RF	Gas Exit 82
18.0	29	43	82	M	101	SB	83.65				15	6					2	M	A																				1		2	RB, RF	Gas Exit 82
18.0	29	78				SB	56.12		56.12																																2	RF, Remove Concrete footing on left and right side of interstate.	
19.0	80	78	5	M	108	WB	5.59		5.59		19.5	10	19.5	12	234		4	M	A																	1		7		1				RB, IB - Use existing posts and footings	GAS - EXIT 5 FOOD - EXIT 5
20.0	80	78	32	M	1	EB	31.95		31.95		6.5	6.5	6.5	6.5	42.25		2	T	P	1	T	A				17										3	12	7	1	1				IB, RA, PP, MASSH Post	Rest Area RDA
21.0	80	78	40	R	104	WB	40.3		40.3		14	6.5	13	5.5	71.5		2	M	A	2	M	A							15.8	13.9					2	1	24	7			1		2	RB, IB, PB, RF, and new footings. Install on left side.	Avoca 1 LA Botna Bend Park 9 LA Nishna Heritage Museum 15 LA
22.0	80	78	40	R	103A	WB	40.42		40.42		4.5	3							A																								RB	Diesel w/ left and right arrow
23.0	80	78	40	R	103	WB	40.42		40.42		4.5	5.5	4.5	4	18		2	T	A	2	T	A	14		14										1	24	7			1			RB, IB, PP, SLIP Base.	Gas LA
24.0	80	78	46	M	105	WB	46.4		46.4		18.5	8	18.5	8	148		4	T	A	2	M	A									18		18			2	1	30	7			1			RB, IB, PB, and new footings.	Weigh Station Pre Clearance Site 2 miles
25.0	80	15	51	S	5	NB	51.6		51.6		10	4	8.5	5.5	46.75		2	M	A	2	M	A							15	16.5					2	1	24	7			1		2	RB, IB, PB, RF, and new footings.	80 West Council Bluffs LA
26.0	80	15	60	M	102	WB	61.7		61.7		13	10	13	10	130		2	M	A	2	M	A							24.3	26.1					2	1	30	7			1		2	RB, IB, PB, RF, and new footings.	Lodging Exit 60
27.0	80	15	64	M	3	EB	64.5		64.5		6.5	5	5	7.5	37.5		2	W	A	1	T	A				18										3	12	7			1			RB, IB, PP, MASSH Post	Exit 64 RDA

Tabulation of Materials for Type 'B' Signs

Line No.	SIGN NUMBER					DIR OF TRAVEL	SIGN LOCATION				SIGN SIZE					OVERLAY AREA (SQ FT) (3)	Existing POSTS			New POSTS			POST INFORMATION														NEW FOOTINGS					INSTALLATION			Remove Type A Y (EA)	Remove Type B Sign (EA)	Remove Type B Assembly (EA)	Remove Reinstall Sign (EA)	Remove Footing (EA)	SEE SIGNING NOTES	Sign Text
							EXISTING		NEW		EXISTING		NEW				No.Post	Met(M) Wood(W) PSST (T)	Sig Mat Ply(P) Alum(A)	No.Post	Met(M) Wood(W) PSST(T)	Sig Mat Ply(P) Alum(A)	2.5" 12 ga PSST			MAASH	W6x12	W6x12	W8x21	W8x21	W12x26	W12x26	W12x26	1'-0" x 3'-2"	1'-6" x 4'-0"	2'-8" x 6'-0"	2'-8" x 7'-6"	2'-8" x 9'-0"	TYPE	DIM "X" (FT)	DIM "Y" (FT)							
	RTE.	CO.	Exit	Road ID	Seq. No.		M.P.	STATION	M.P.(1)	STATION	WIDTH (FT)	HEIGHT (FT)	WIDTH (FT)	HEIGHT (FT)	AREA (SQ FT)							Post 1	Post 2	Post 3	Post 1	Post 1	Post 2	Post 1	Post 1	Post 2	Post 1	Post 2	Post 3																			
28.0	80	1	75	M	3	EB	75.45		75.45		6.5	5	5	7.5	37.5		2	W	A	1	T	A				18													3	12	7			1			RB, IB, PP, MASSH Post. Move sign 65' west of existing sign location.	Exit 75 RDA
29.0	80	1	86	M	2	EB	85.5		85.5		13	8.5	13.5	9.5	128.25		2	M	A	2	M	A									20.8	18.5					2			1	30	7			1		2	RB, IB, PB, RF, and new footings.	Creston Springbrook State Park Exit 86
30.0	80	1	86	M	003A	EB	86		86		7.5	2	9.5	2.5	23.75				A			A																	1								IB, Install on top right of 80-1-86 M003	Exit 86
31.0	80	1	86	M	003B	EB	86		86		2.5	2.5	2.5	2.5	6.25				A			A																	1								IB, Install on top left of 80-1-86 M003	H
32.0	80	1	86	M	3	EB	86		86		18.5	13	22	10	220		3	M	A	3	M	A											23.3	23.3	23.3				3	1	30	7			1		3	RB, IB, PB, RF, and new footings.	25 Guthrie Center Greenfield RDA
33.0	80	1	86	M	101B	WB	87.55		87.55		2.5	2.5	2.5	2.5	6.25				A			A																	1								IB, Install on the top left of 80-1-86 M101B	H
34.0	80	1	86	M	101A	WB	87.55		87.55		9	2	9.5	2.5	23.75				A			A																	1								IB, Install on the top right of 80-1-86 M101A	Exit 86
35.0	80	1	86	M	101	WB	87.55		87.55		18.5	11.5	18.5	12	222		3	M	A	3	M	A											22	22	22				3	1	30	7			1		3	RB, IB, PB, RF, and new footings.	25 Guthrie Center Greenfield 1 Mile
36.0	80	1	97	M	5	EB	97		97		6.5	5	5	7.5	37.5		2	W	A	1	T	A				18													3	12	7			1			RB, IB, PP, MASSH Post.	Exit 97 RDA
37.0	80	25	104	R	103	WB	104.23		104.23		4.5	4	4.5	4	18		2	T	A	1	T	A				14													1	16	7			1			Install on 4" PSST. Move out to 16'. New elevation '- 3'6". Sign is located on off ramp	Gas LA
38.0	80	25	110	M	109A	WB	110.45		110.45		10	2	11	2.5	27.5				A			A																	1								Install on the top right of 80-25-110 M109	Exit 110
39.0	80	25	110	M	109	WB	110.45		110.45		11.5	9	16	10	160		2	M	A	2	M	A									18.5	14.5					2			1	30	7			1		2	RB, IB, PB, and new footings.	169 6 Adel Winterset RDA
40.0	80	16	271	M	GS1	WB	271.77				9	4					2	W	A																							1			RB	LODGING EXIT 271
41.0	80	16	271	R	GS1	WB	271 (R)				9	3					2	M	A																							1		2	RB	LA LODGING
42.0	80	16	271	R	GS1	EB	271(R)				8	2					2	W	A																							1			RB	LODGING RA
43.0	80	16	271	M	2	EB			269.44				13	6	78					2	M	A									16	16					2		1	30	7						IB, PB - New Footings	GAS - EXIT 271
44.0	80	16	271	R	1	EB			271 (R)				8	5	40					2	M	A									15	15					2		1	24	7						IB, PB - New Footings	GAS
45.0	80	16	271	M	102	WB			271.41				13	6	78					2	M	A									16	16					2		1	30	7						IB, PB - New Footings	GAS - EXIT 271
46.0	80	16	271	R	101	WB			271 (R)				8	5	40					2	M	A									15	15					2		1	24	7						IB, PB - New Footings	GAS
47.0	880	78	15	M	3	EB	15.20		15.20		11.5	10	12.5	10	125		2	M	A	2	M	A									16	16					2		1	30	7			1		2	RB, IB, PB, RF, and new footings.	191 G8L Neola Persia RDA
48.0	880	78	15	M	003A	EB	15.20		15.20		8	2.5	9.5	2.5	23.75				A			A																	1								IB, Install on top right of 880-78-15 M003	EXIT 15
49.0	880	78	15	M	103A	WB	16.10		16.10		8	2.5	9.5	2.5	23.75				A			A																	1								IB, Install on top right of 880-78-15 M103	Exit 15
50.0	880	78	15	M	103	WB	16.10		16.10		11.5	10	12.5	10	125		2	M	A	2	M	A									18	20					2		1	30	7			1		2	RB, IB, PB, RF, and new footings.	191 G8L Neola Persia RDA
51.0	880	78	16	M	101	WB	16.20		16.20		11	3	9	3	27		2	W	A	2	T	A	13		13													1	30	7			1			RB, IB, PP, SLIP Base, Install 100' back from current location	Omaha 29 Sioux City 93
52.0	880	78	16	M	102	WB	16.20		16.20		4	3							P	2	T		13		13													1		7				1		RR, PP, SLIP Base	Mosquito Creek
					TOTALS										3341.75	468.00							80.0	103.0		0.0		612.7			211.9	0	0	0	32	10				1	4	29	1	38		

(1) Mile post information is given for general location only. Use station numbers or stakes for exact location.
(2) Post lengths are estimates. Actual post length to be determined by field measurment.
(3) Remove and reinstall white and yellow panels under sign. See sheet B4 for details.

SIGNING NOTES

The following tolerances will be allowed on all signs:

Accumulation error of not greater than +/-0.50" per line of copy, not greater than +/-0.50" for spacing between lines of copy, and the margin between lines of copy and the inside edge of the sign border.

The following tolerances will be allowed on each letter or numeral:

nominal height	variation in height	variation in width
4" thru 12"	-1/8" to +3/8"	-1/4" to +1/4"
over 12"	-1/8" to +3/8"	-3/8" to +3/8"

Type B signs can be separated into two categories:
- Major Guide Signs.
- Minor Guide Signs.

Major Guide Signs include the advance and exit direction guide signs for an interchange or intersection.

Minor Guide Signs include all other guide signs such as NEXT EXIT signs, supplemental guide signs, logo signs, exit gore signs, post-interchange mileage signs, ramp destination signs, and ramp logo signs for an interchange, as well as destination signs along sideroads.

Type A signs are not separated into categories, but special consideration should be given to regulatory signs.

Do not remove Type B signs until replacement signs have been installed. If construction activities require the removal of a sign, the existing sign may be relocated to temporary posts, or a temporary plywood sign may be installed to replace the existing sign.

Existing non-regulatory Type A signs are NOT required to remain in place until installation of replacement signs. Existing regulatory Type A signs, particularly Stop signs, should not be removed until replacement signs are installed. Where a staged traffic control plan is contrary to this guidance, follow the direction of the traffic control plan.

Apply the following during the replacement or modification of signs:
- No more than one of the major guide signs for each direction of travel at an interchange out of service at any one time.
- No major guide sign out of service for more than 8 hours.
- No minor guide out of service for more than 24 hours.

Remove existing signs and posts within 24 hours following the installation of a new replacement sign.

In any case where the plans call for a new sign and posts to be installed at the same station location and offset as an existing sign, install the new posts at a minimum of either 5 ft ahead or behind the existing sign installation. Signs shall not be installed more than 25 ft ahead or behind the existing sign installation. Whenever posts for a replacement sign are erected directly in front of an existing sign, install the new replacement sign and remove the existing sign installation within 24 hours of the time that the new posts are erected.

Where signs are located behind guardrail, locate the near edge of the sign a minimum of 3 ft behind the guardrail posts.

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10/15/25

SIGNING NOTES

Unless noted otherwise, leave auxiliary panels, such as exit number panels, in place or reattach to the sign using the existing mounting hardware. Also, when replacing an existing logo sign with a new logo sign, remove the business logo panel(s) from the existing sign and attach to the new sign as directed by the Engineer. Do not damage the auxiliary or logo panels when removing and reattaching them. This work is incidental to other work and no separate payment will be made.

The following notes apply to the corresponding sign installations shown on the plan sheets and listed in the tabulations.

IB INSTALL NEW TYPE B SIGN
IA INSTALL NEW TYPE A SIGN

Install new signs at the location identified in the plans.

For installation of new signs on an existing sign support structure, refer to note (L).

For installation of new signs on existing posts:

- if the new sign is taller than the existing sign, furnish the necessary hardware to extend the sign above the posts. Refer to Standard Road Plan SI-132.

- if the new sign is shorter than the existing sign:

- for wood posts and perforated square tube posts, install the sign at the proper height and cut off the excess post length.

- for MASSH-400 and steel breakaway posts, install the sign at the top of the posts.

For plywood signs, no vertical splices are allowed in signs less than or equal to 10 ft wide. No horizontal splices are allowed in signs less than or equal to 4 ft tall.

Each new sign installed shall have a sticker applied to the back of the sign that shows the date the sign was installed. The Contractor shall supply the sticker for all contractor suppled signs. The DOT will supply date stickers on any signs supplied by the department.

Payment for installing Type A signs or Type B signs includes furnishing hardware for mounting, extending signs above existing posts, and cutting posts to length.

MS MODIFICATION OF EXISTING SIGNS

For removal and/or installation of logo panels, and other sign modifications. Refer to the project plans and typical details for additional information.

SC SIGN COVER

For the installation or removal of temporary sign covers for the purposes of temporary traffic control. Sign covers shall completely cover the existing Sign. Care should be taken so that covers, fasteners, and installation practices do not damage the existing sign. Tape of any type shall not be applied to the sheeted face of the existing sign under any circumstances. Repair of damage to the existing sign caused by sign covers will be the responsibility of the Contractor.

SO OVERLAY TYPE B GUIDE SIGNS
MB INSTALL SPECIAL MOUNTING BRACKET

Install special mounting brackets at the locations identified in the plans. Refer to Tabulations 190-51 and/or 190-65.

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SIGNING NOTES

PB INSTALL NEW BREAKAWAY STEEL POSTS AND FOOTING
PP INSTALL NEW PERFORATED SQUARE TUBE POSTS AND ANCHORS
PM INSTALL NEW MASSH-400 POSTS AND ANCHORS

Install new breakaway steel posts and footings, perforated square tube posts and anchors, or MASSH-400 posts and anchors at the locations identified in the plans. Refer to the Standard Road Plans, Typicals, and Tabulations 190-51 and 190-50 for post size and footing information.

New posts shall be installed in undisturbed soil. The new posts shall not be placed in the hole of removed posts.

Remove excess soil from footing hole. Do not spread soil on adjacent seeded or vegetated areas.

If note (RR) accompanies (PB), (PP), or (PM), install an existing sign on the new posts.

RR REMOVE AND REINSTALL SIGN AS PER PLAN

Do not remove existing major Type B guide signs on posts until the new posts are installed. Promptly remove sign and install at the new location.

Existing major Type B guide signs on overhead support structures, minor Type B guide signs, plywood signs, and Type A signs may be removed and stored. Transport the signs to a DOT storage area as designated by the Engineer. Transport the signs back to the job site when ready for installation at the new location.

Signs to be reinstalled shall not be stored for any length of time with the sheeted face in contact with the ground.

Replace signs damaged by the Contractor's activities at no additional cost to the Contracting Authority.

Payment for Remove and Reinstall Sign includes sign removal, delivery to and from the DOT storage area (if applicable), and reinstallation, including any hardware required for reinstallation. When noted in the plans, payment for delivery and stockpile of existing signs will be separate from the payment for Remove and Reinstall Sign.

RA REMOVAL OF TYPE A SIGN ASSEMBLY
RB REMOVAL OF TYPE B SIGN ASSEMBLY

Type A Sign Assembly consists of one or more signs installed on one or more posts, either directly mounted to the post or mounted to the post with special sign mounting brackets.

Type B Sign Assembly consists of the main sign, all auxiliary signs and brackets, and posts.

Unless stated otherwise in the plans, remove all posts with the signs and brackets.

Remove each sign assembly identified in the plans. Sign posts removed become the property of the Contractor. All other materials removed remain the property of the DOT.

For each sign assembly removed, disassemble each assembly before delivering to the DOT.

* For Type A sign assemblies, unbolt all signs, special mounting brackets, and posts from each other.

* For Type B assemblies, unbolt all extruded aluminum panels, brackets, and posts from each other. Do not damage the disassembled materials.

When the plans call for the removal of posts, the entire existing post shall be removed. The post shall not be broken off or cut off at the ground line. Place backfill in holes remaining from the removal of posts and restore to the surrounding conditions.

Deliver the removed signs, special sign mounting brackets, and extruded aluminum panels to a DOT storage area, as designated by the Engineer.

The concrete footings for steel posts are not considered part of the sign assembly. Refer to note RF for concrete footing removal.

Payment for Removal of Type A Sign Assembly or Removal of Type B Sign Assembly includes sign assembly removal and disassembly, post removal (if applicable), delivery to the DOT storage area, placing backfill in holes, and restoration of the surrounding conditions.

RF REMOVE EXISTING CONCRETE FOOTING FOR STEEL POST

Remove existing concrete footings to a depth of at least 1 ft below the natural groundline. Place backfill in holes remaining from removal and restore to the normal surrounding conditions. This work is incidental to other work and no separate payment will be made.

RS REMOVE EXISTING TYPE B SIGN SUPPORT STRUCTURE

The following are considered Type B Sign Support Structures:
- Overhead sign trusses and foundations
- Cantilever sign trusses and foundations
- Bridge-mounted brackets

Unless stated otherwise in the plans, existing overhead trusses, cantilever trusses, and bridge brackets which are removed become the property of the Contractor. If stated in the plans, deliver overhead trusses, cantilever trusses, and bridge brackets to a DOT storage area, as designated by the Engineer.

Payment for Removal of Sign Support Structure and Foundation includes sign support structure removal, delivery to the DOT storage area (if applicable), and restoration of the surrounding conditions. Removal of the foundation includes removal of the stem to a minimum of 1 ft below the natural groundline.

L MODIFY SIGN SUPPORT ANGLES NEEDED TO INSTALL SIGNS ON EXISTING SIGN SUPPORT STRUCTURES

Refer to the sign support structure details for information on the required angle brackets.

Provided all specifications are met, the existing sign support angles may be reused. Install existing sign support angles to be reused only on the sign support structure from which they were removed.

Sign support angles removed and not reused become the property of the Contractor.

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When reusing the existing sign support angles with a shorter replacement sign, the sign support angles may need to be trimmed. Refer to the sign support details to determine if and where to trim the sign support angles.

Do not use existing fasteners. Use new U-Bolts, stainless steel bolts and nuts to install the existing or new sign support angles to the sign support structure.

Removal of existing sign support angles is incidental to removal of the sign.

Reinstalling and/or modifying existing sign support angles; furnishing and installing new sign support angles (if required); and furnishing and installing new fasteners is incidental to work associated with Type B signs.

SIGN INSTALLATION QUALITY CONTROL NOTES

Post lengths have been derived from the proposed grading cross sections. Verify post lengths in the field prior to ordering or fabrication.

Slight differences between the design template and the actual conditions should be expected. These variations should be resolved by doing some localized shaping and grading. Obtain material needed to meet the site requirements of SI-112 from the excavation and/or the area immediately adjacent to the work. Ensure reshaping work does not substantially change foreslopes or the drainage in the vicinity of the sign.

Significant differences between the plan design and the actual field conditions shall be resolved in this manner:

Survey the location and draw the actual template on the cross section. Recalculate each post length and compare to the maximum allowable leg length. If all of the maximum leg lengths are less than or equal to the maximum allowable leg length, then the proposed post design will be sufficient. If any leg is greater than the maximum allowable leg length, then submit the cross section with the actual template drawn (including offsets and elevation from the survey shown) to the Engineer. The Engineer may forward this information to the Engineer of Record in order to complete a new post design.

Install the footings, stub posts, and posts according to the tolerances shown on the applicable SI Series Standard Road Plans.

Footing construction is the controlling activity that substantially affects the quality of the site installation. Verify the elevation difference between the stubs is exactly the same as the elevation difference between the post lengths. If the Engineer requests, submit documentation detailing the site cross section in order to verify site installation.

108_23A

8/15/22

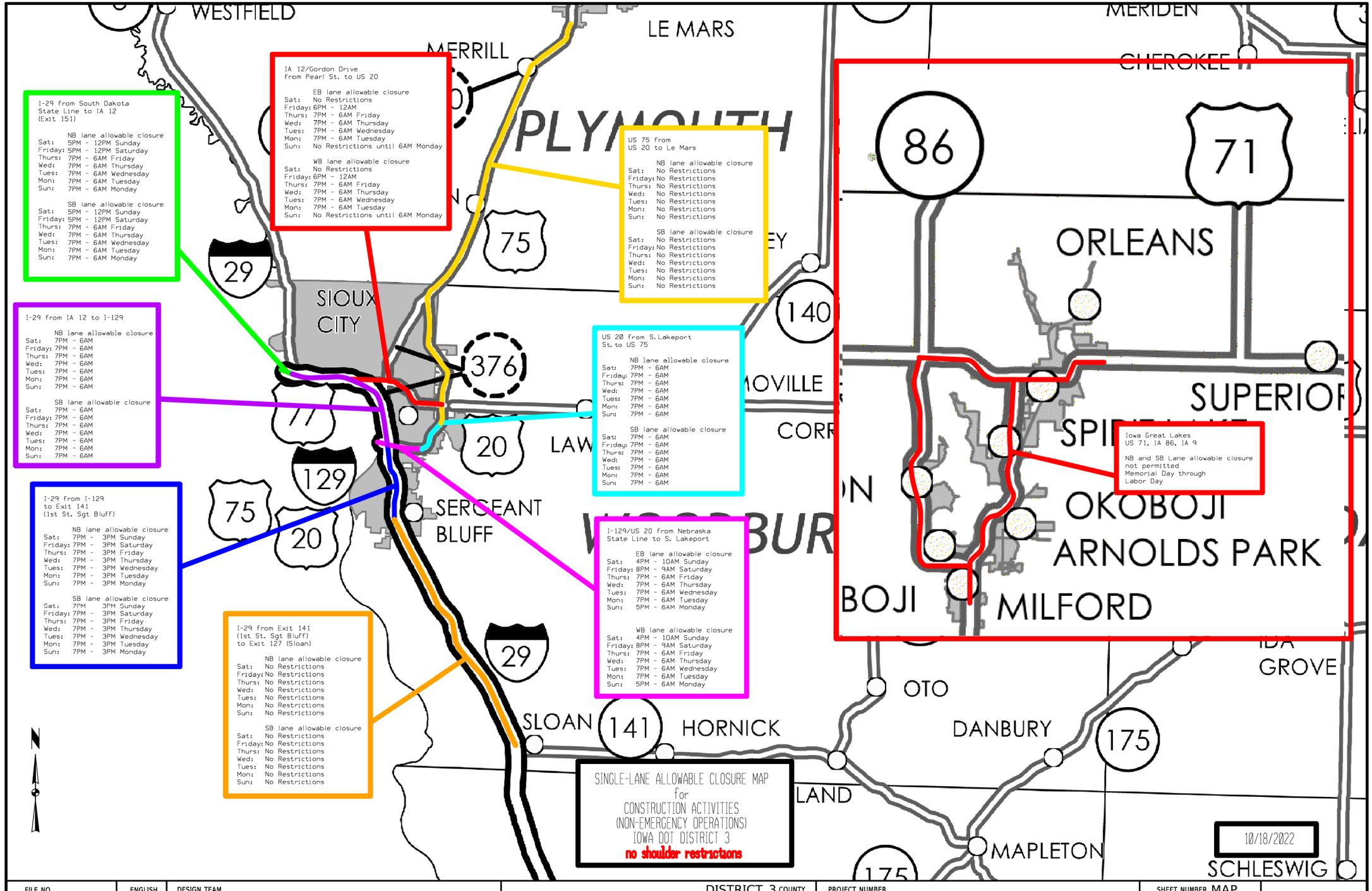
TRAFFIC CONTROL PLAN

Traffic Shall be maintained at all times except as noted.

Traffic control on this project shall be in accordance with the Standard Road Plans included in Tabulation 105-4. For additional information, refer to Part 6 of the Manual on Uniform Traffic Control Devices and the Standard Specifications. The contractor shall coordinate traffic control with other projects in the area as needed.

No traffic control devices shall be placed before any of the time restrictions.

All lane and/or shoulder closures shall be coordinated with District Staff or as approved by the Engineer. For lane closure information refer to the Allowable Multi-lane Lane Closure Maps on Sheets J.2 - J.7.

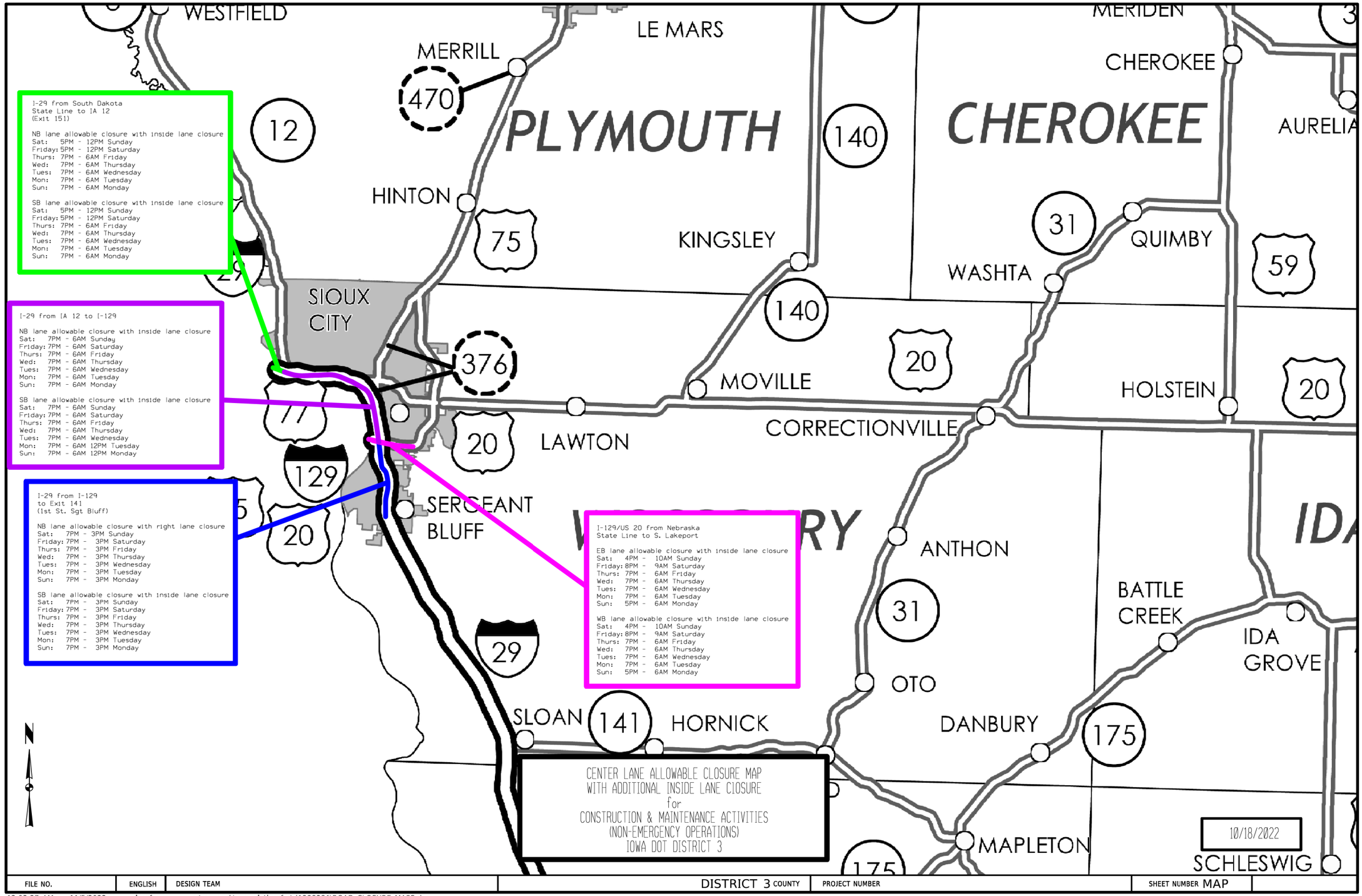


FILE NO.	ENGLISH	DESIGN TEAM	DISTRICT 3 COUNTY	PROJECT NUMBER	SHEET NUMBER MAP

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FILE NO. - -	ENGLISH	DESIGN TEAM **Fobian / Hecker**	**STATEWIDE** COUNTY	PROJECT NUMBER **HSN-000-T(475)--2R-00**	SHEET NUMBER **J.2**

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FILE NO.	ENGLISH	DESIGN TEAM	DISTRICT 3 COUNTY	PROJECT NUMBER	SHEET NUMBER MAP

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FILE NO. - -	ENGLISH	DESIGN TEAM **Fobian / Hecker**	**STATEWIDE** COUNTY	PROJECT NUMBER **HSN-000-T(475)--2R-00**	SHEET NUMBER **J.3**

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Version Date
10 February 2023

I-29 from Exit 75 to Exit 95
No Restrictions

I-880
No Restrictions

I-680
No Restrictions

I-80 from Exit 110 to Exit 122
Nighttime closures only for Right and Left lanes
Single lane closures allowed Sun through Thurs: 9 PM - 5 AM
No Right or Left lane closures Fri 5 AM through Sun 9 PM

Center Lane closures requires a Left or Right lane closure
Double lane closures allowed Sun through Thurs: 10 PM - 4 AM
No Center lane closures Fri 4 AM through Sun 10 PM

No shoulder closures during peak commuter periods
Mon - Fri: 6 AM - 9 AM; 3 PM - 6 PM Daily

I-29 from Exit 56 to Exit 75
No lane closures Fri 2 PM through 6 PM

I-80 from Exit 8 to Exit 110
Nighttime Closures Only
Lane closures allowed Sun through Thurs: 6 PM - 6 AM
No lane closures Fri 6 AM through Sun 6 PM

No shoulder closures during peak commuter periods
Mon - Fri: 6 AM - 9 AM and 3 PM - 6 PM

I-29 from Exit 42 to Exit 56
I-80 from Missouri River to Exit 8
Refer to Council Bluffs Interstate System Map

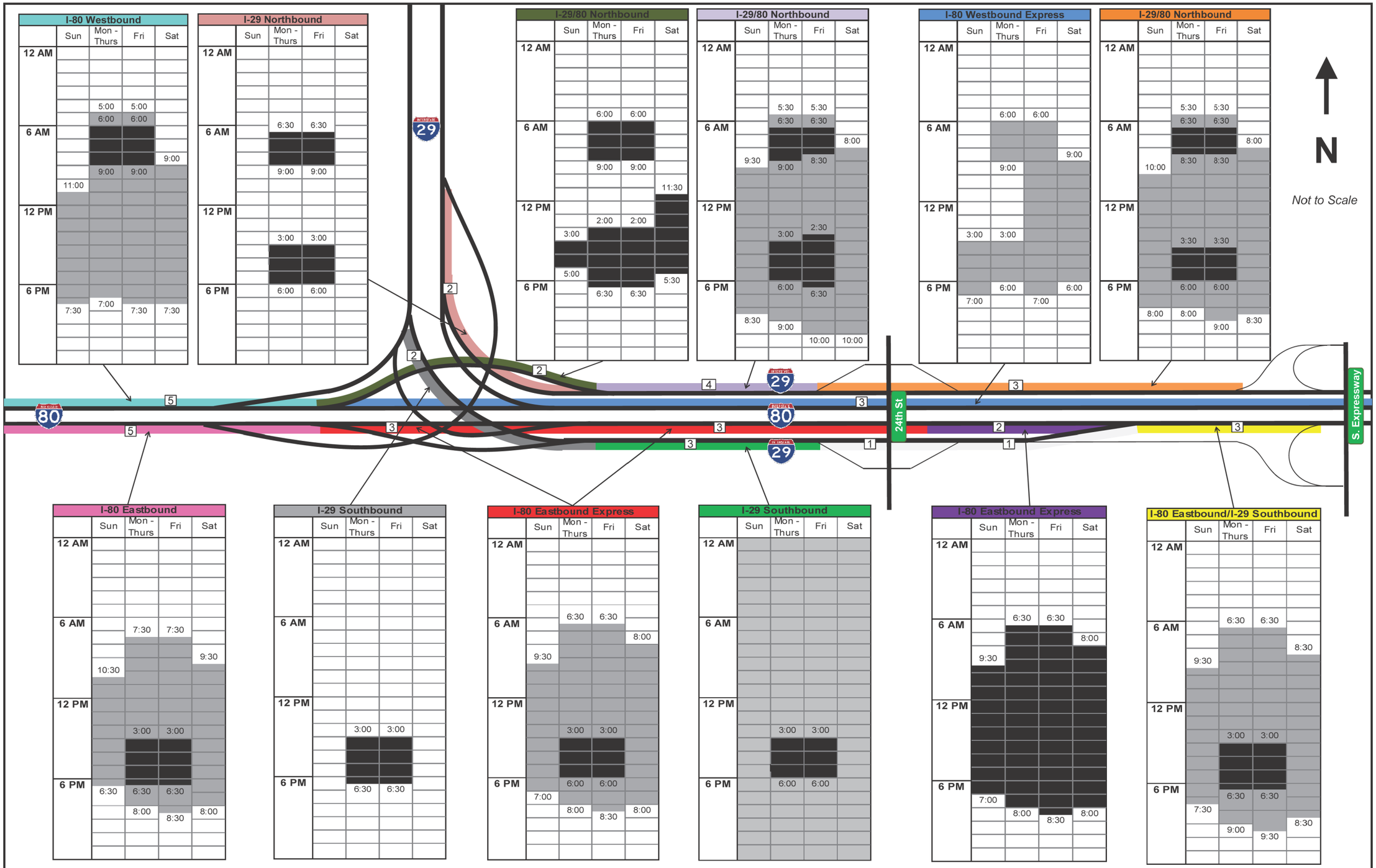
I-29 from Missouri State Line to Exit 42
No lane closures Fri 2 PM through 6 PM

Allowable Interstate Lane and Shoulder Closure Map Iowa DOT District 4

FILE NO. - -	ENGLISH	DESIGN TEAM **Fobian / Hecker**	**STATEWIDE** COUNTY	PROJECT NUMBER **HSN-000-T(475)--2R-00**	SHEET NUMBER **J.4**

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Figure 15.4.2.1.1 - Segment 2 Closure Time Restrictions



FILE NO. - -	ENGLISH	DESIGN TEAM Fobian / Hecker	STATEWIDE COUNTY	PROJECT NUMBER HSN-000-T(475)--2R-00	SHEET NUMBER J.5

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Figure 15.4.2.1.2 - Segment 3 Closure Time Restrictions

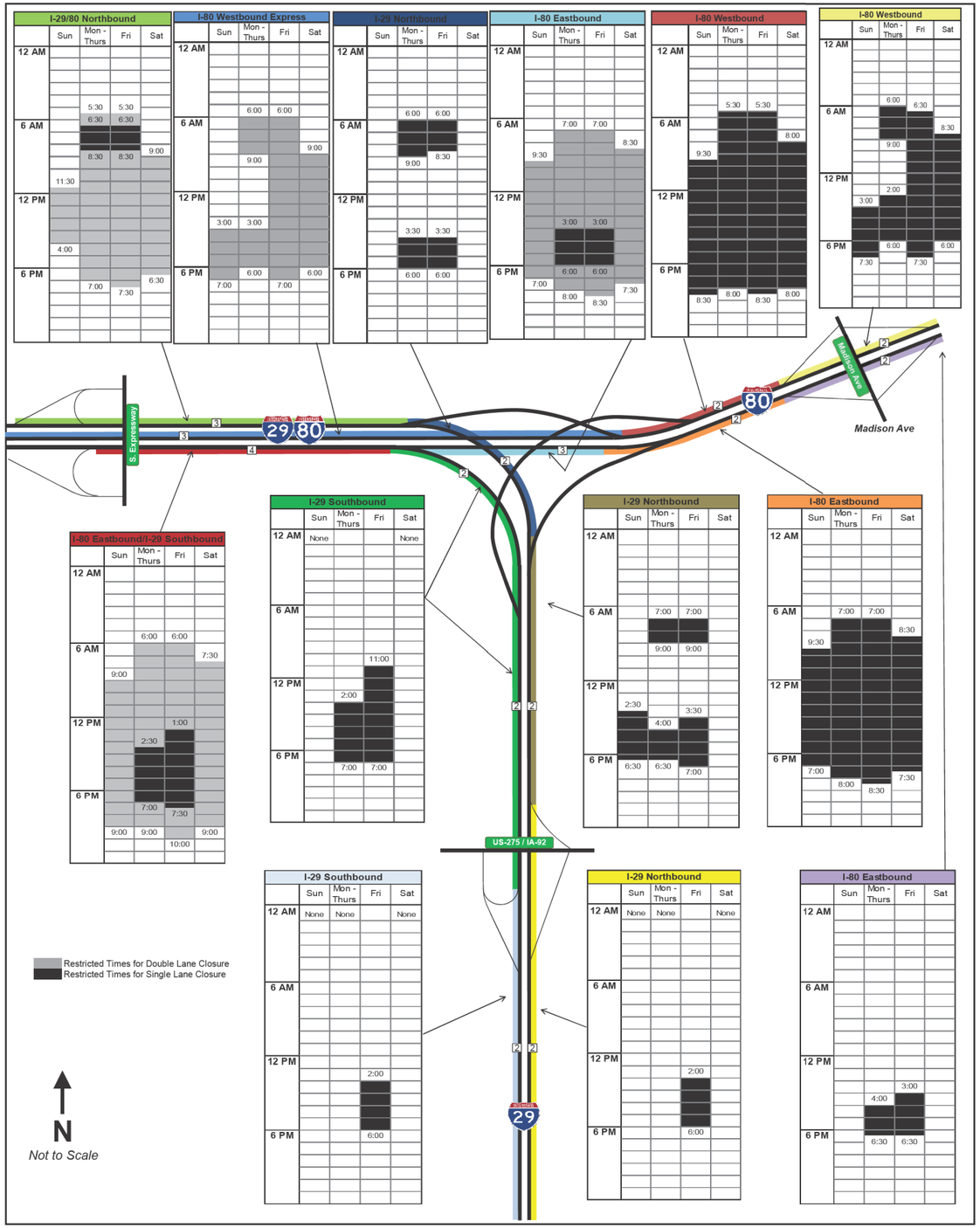
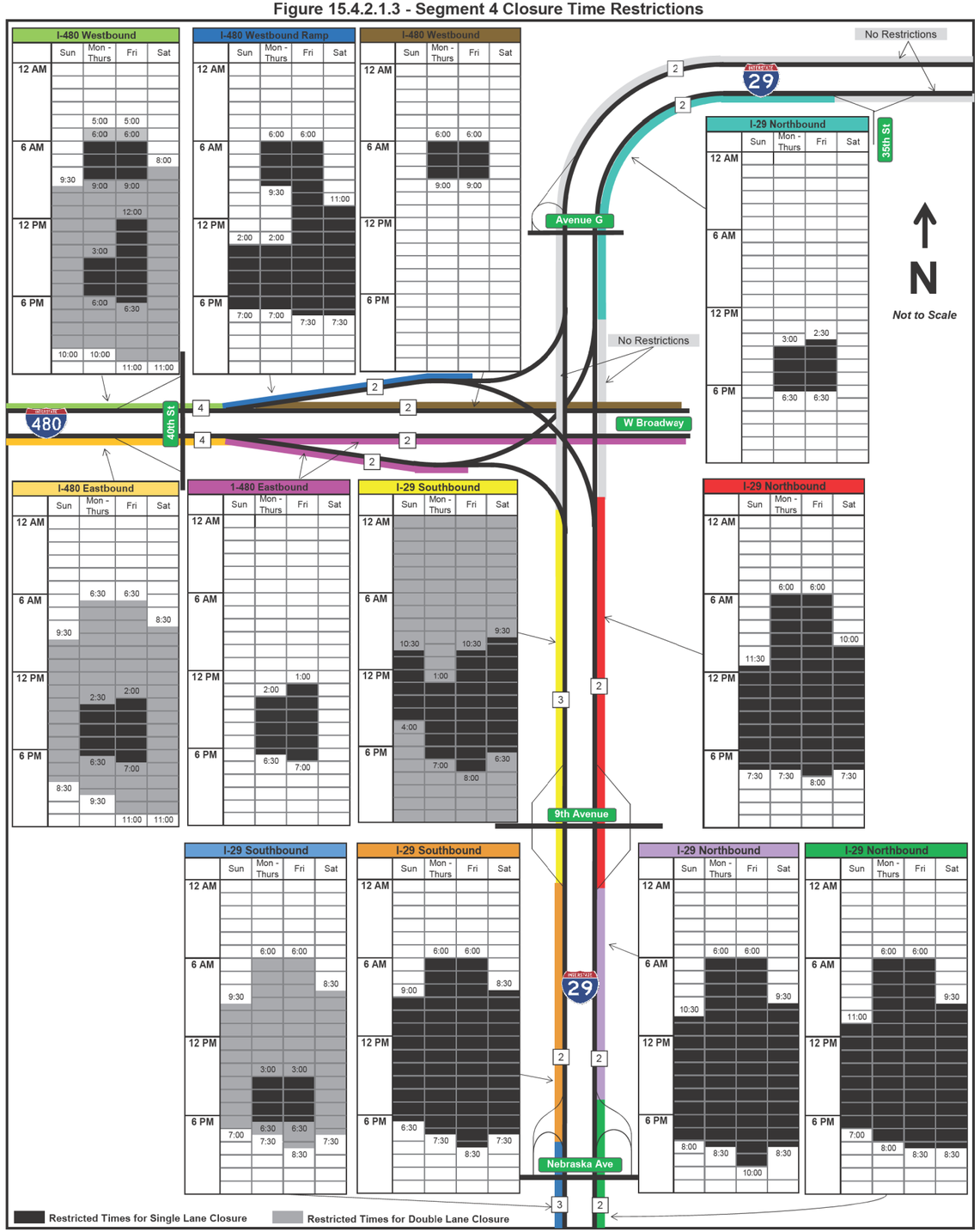
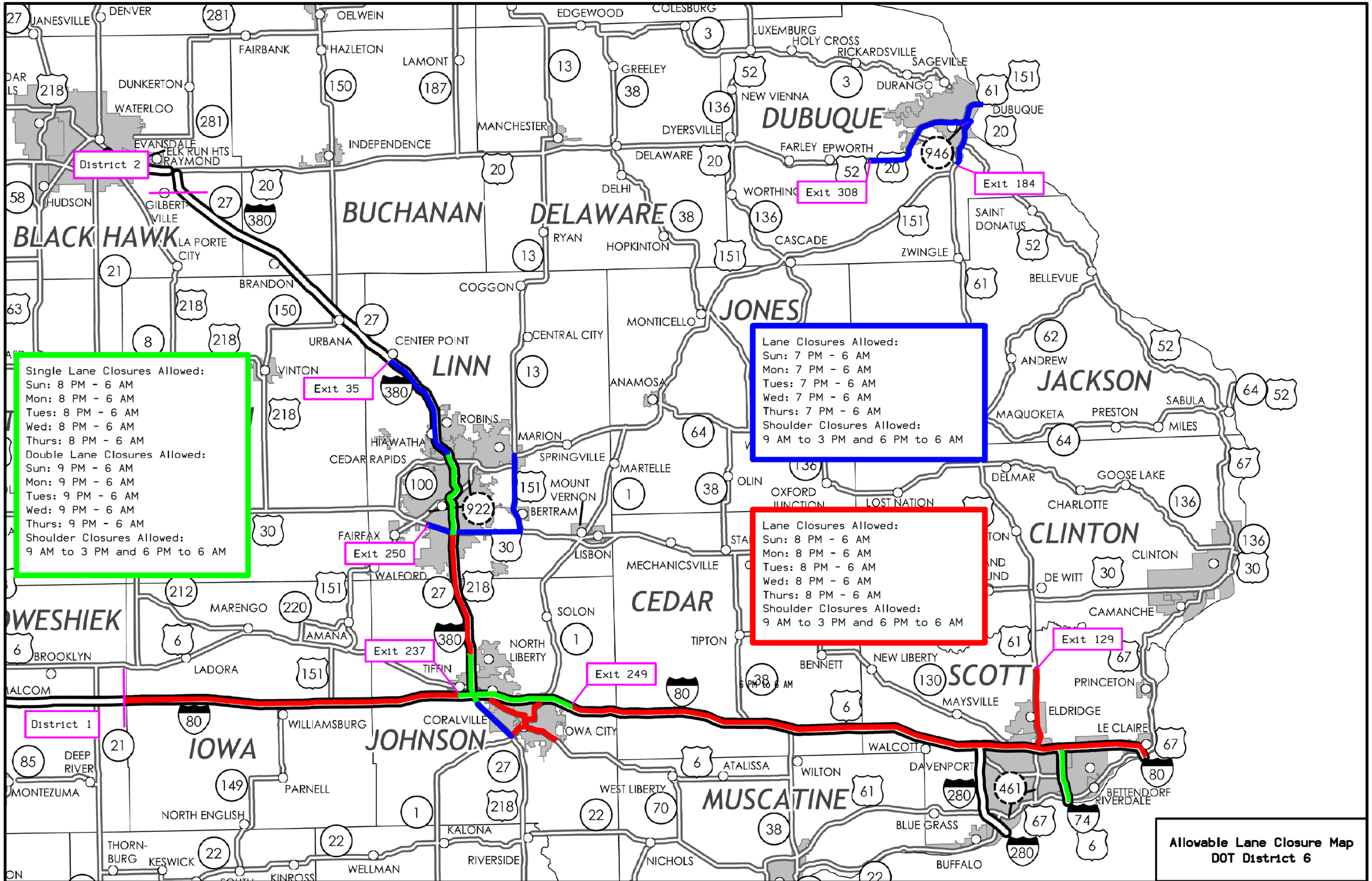


Figure 15.4.2.1.3 - Segment 4 Closure Time Restrictions



FILE NO. - -	ENGLISH	DESIGN TEAM **Fobian / Hecker**	**STATEWIDE** COUNTY	PROJECT NUMBER **HSN-000-T(475)--2R-00**	SHEET NUMBER **J.6**

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FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
- -		Fobian / Hecker	STATEWIDE	HSN-000-T(475)--2R-00	J.7

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Jackson Ave

20

INSTALL
20-81-71 M002
Steel Breakaway Posts and Footings
MM 70.37

U.A.C.
Supplemental Cable Slot
Lane Vacant Quick Punch
Steel Breakaway Posts
MM 70.42

ATTRACTION - EXIT 71
Kings Pointe

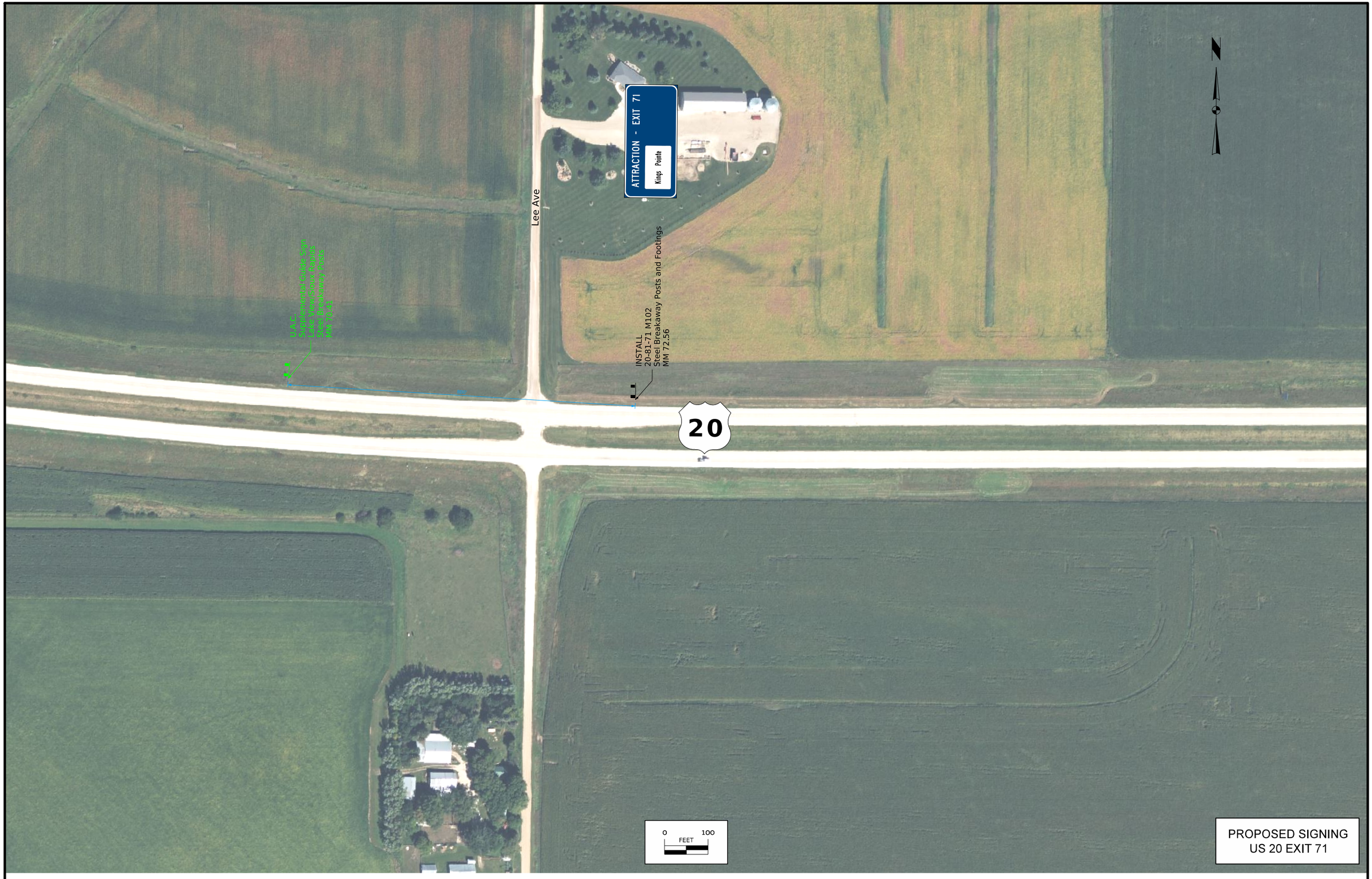
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FEET

PROPOSED SIGNING
US 20 EXIT 71

FILE NO. - -	ENGLISH	DESIGN TEAM Fobian / Hecker	STATEWIDE COUNTY	PROJECT NUMBER NHSN-000-T(475)--2R-00	SHEET NUMBER N.1

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xit 271 WB of Interchange

INTERSTATE 80

INTERSTATE 80

Muscatine Rd

800'

U.P.C.
EA 271 L Mile Adjacent Guide Sign
Steel Breakaway Posts
MM 268.28

INSTALL
80-16-271 M002
Steel Breakaway Posts and Footings
MM 269.44

GAS - EXIT 271
LOGO 1
LOGO 2

0 100
FEET

PROPOSED SIGNING
I-80 Exit 271

FILE NO. - -	ENGLISH	DESIGN TEAM Fobian / Hecker	STATEWIDE COUNTY	PROJECT NUMBER NHSN-000-T(475)--2R-00	SHEET NUMBER N.3	

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