

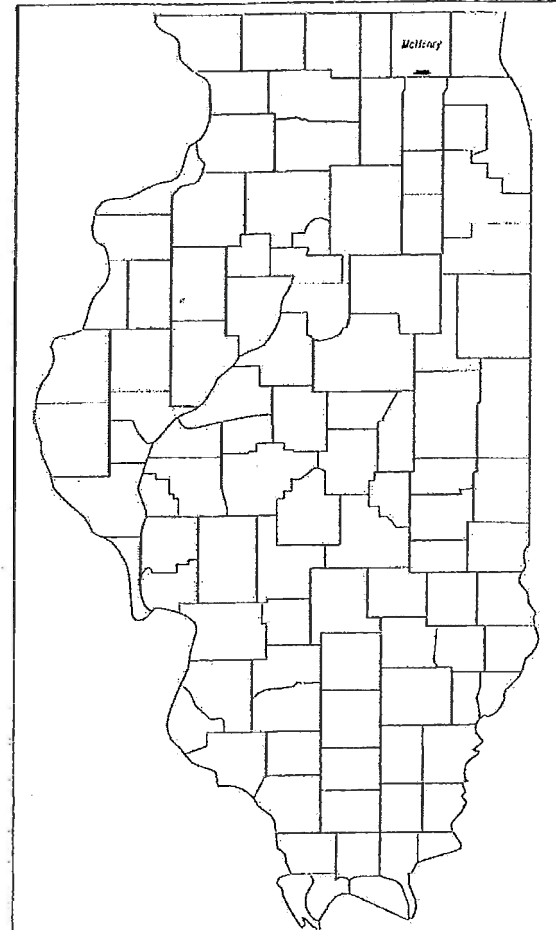
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH A-47	A	McHenry	12	1
FED. ROAD DIST. NO. 7		DISTRICT	FED. AID PROJECT	
*14-00428-00-BR				

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	DECK SCARIFICATION AND CONCRETE REMOVAL
3	REMOVAL CROSS SECTIONS
4	TOP OF SLAB/DECK REINFORCEMENT
5	BOTTOM OF SLAB REINFORCEMENT
6	REFLECTED UNDERSIDE OF EXISTING DECK
7	REHABILITATION CROSS SECTIONS
8	ABUTMENT AND PIER DETAILS
9	STEEL RAILING TYPE S1, MODIFIED
10	STEEL PLATE BEAM GUARDRAIL, SPECIAL
11	DETOUR PLAN SIGNAGE
12	ARTERIAL ROAD INFORMATION SIGN

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
**PLANS FOR PROPOSED
BRIDGE REPAIR**

MCHENRY COUNTY
SECTION 14-00428-00-BR
MAIN ST. (CH A-47)
NON-MFT FUNDS

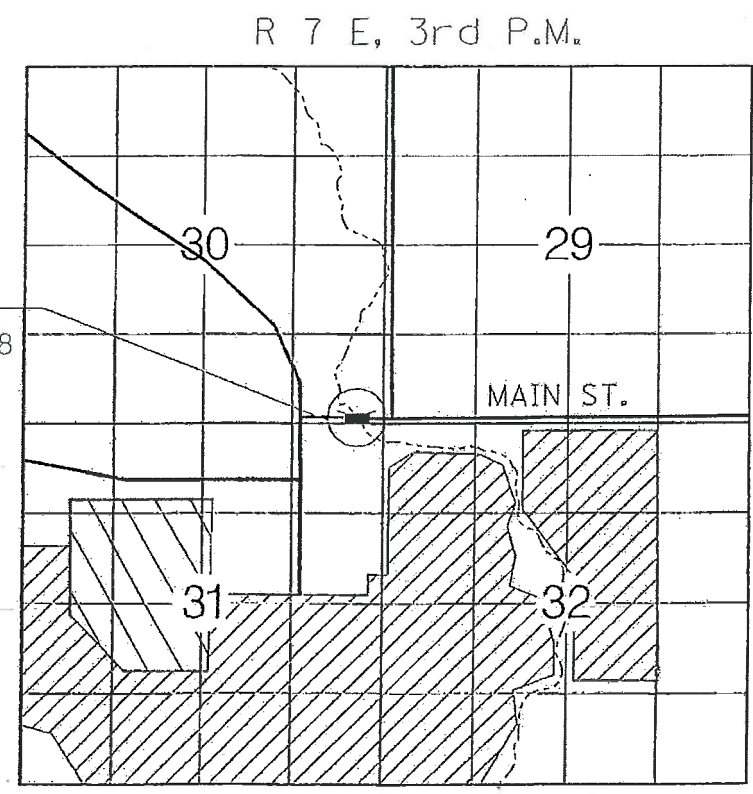


LOCATION OF SECTION INDICATED THIS:

APPROVED APRIL 15 20 14
Joseph R. Korpalski, Jr.
JOSEPH R. KORPALSKI, JR., PE MCHENRY COUNTY ENGINEER

PASSED _____ 20____
DISTRICT ONE ENGINEER OF LOCAL ROADS & STREETS
Releasing for Bid Based on Limited Review _____ 20____
DEPUTY DIRECTOR OF HIGHWAYS, REGION ONE ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

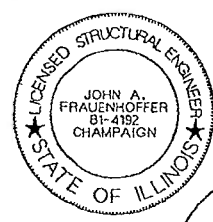
NOT FOR BID



LOCATION MAP

ADT = 8,500 (2009); 10,100 (2032)
FUNCTIONAL CLASS = MINOR ARTERIAL (URBAN)

NET LENGTH OF SECTION = 103 FEET = 0.019 MILES

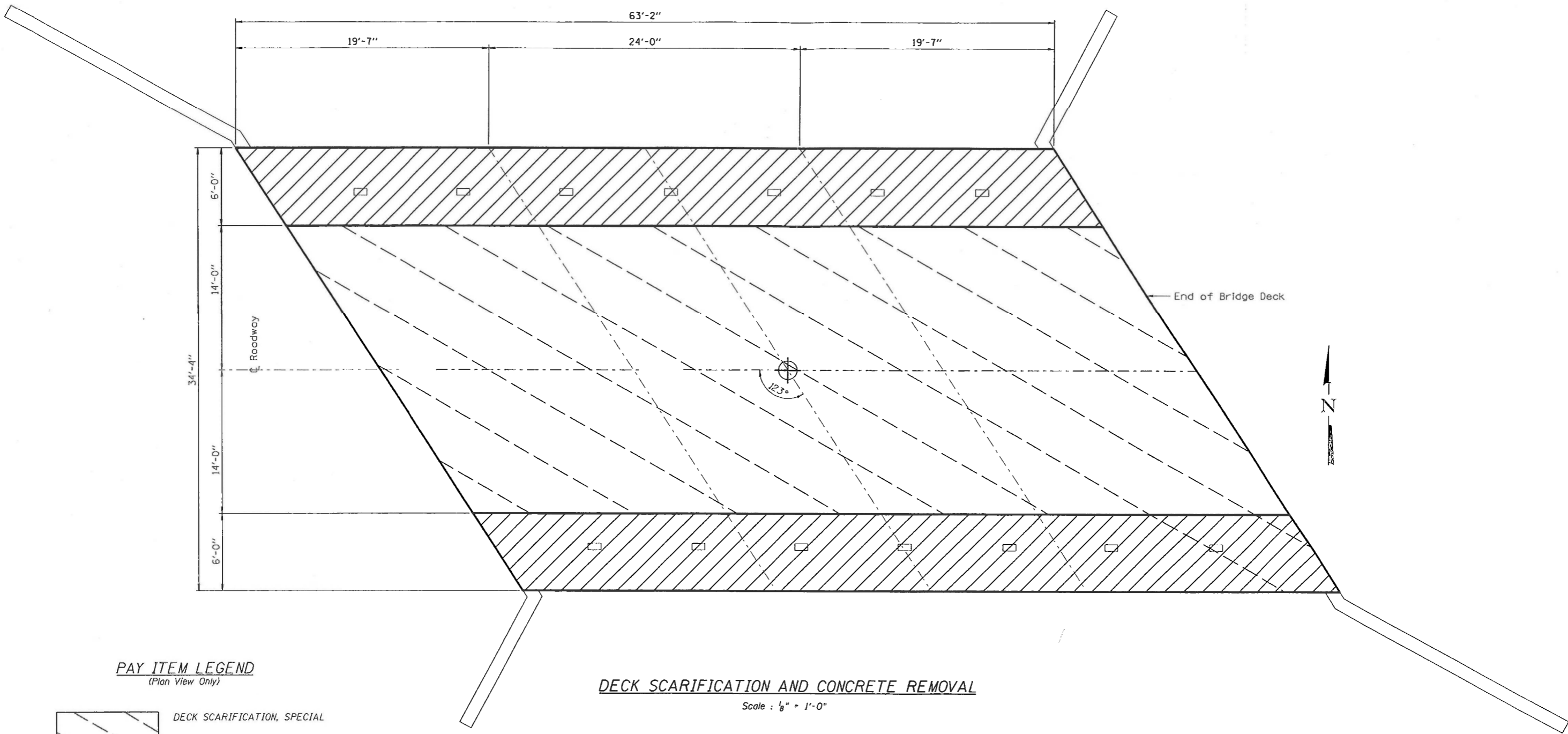


John A. Frauenhoffer
JOHN A. FRAUENHOFFER
Illinois Licensed Structural Engineer Number 4192

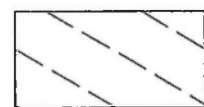


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CONSULTING ENGINEERS, SCIENTISTS & SURVEYORS

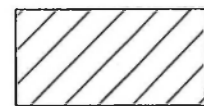
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PAY ITEM LEGEND
(Plan View Only)



DECK SCARIFICATION, SPECIAL



CONCRETE REMOVAL
40 CU. YD.

DECK SCARIFICATION AND CONCRETE REMOVAL

Scale : 1/8" = 1'-0"

The underside of the Bridge Deck has spalls and corroded reinforcing bars. Repair in accordance with the Special Provision for STRUCTURAL REPAIR OF CONCRETE.

DESIGN	J.R. Wolf						
DR	C.S. SEDLACKO						
CHK	J.R. Wolf						
APPROV	J.A. Fraenhoffer	NO.	DATE	REVISION	BY	APPROV	



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10 S. RIVERSIDE PLAZA, SUITE 1800 CHICAGO, ILLINOIS 60606
PHONE 312.683.0110, FAX 312.474.6099

DECK SCARIFICATION AND CONCRETE REMOVAL

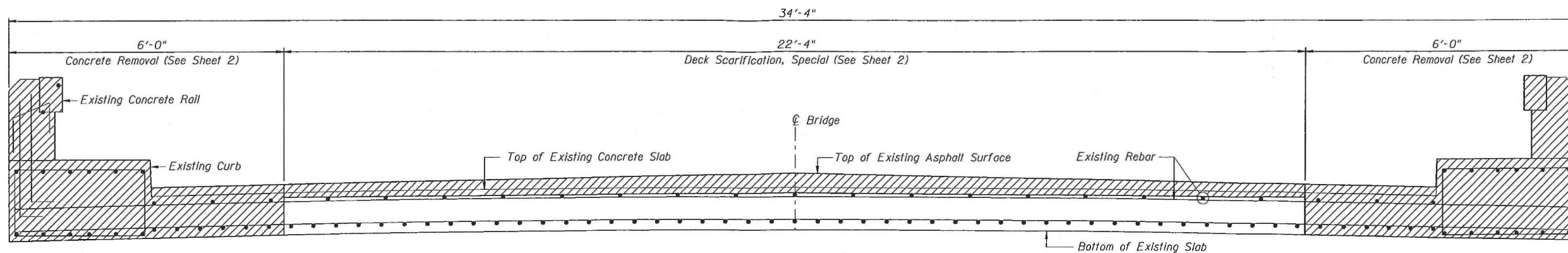
MAIN STREET BRIDGE (FAS 35) OVER KISHWAUKEE RIVER
SEC. 14-00428-00-BR
MCHENRY COUNTY

SHEET 2

DWG NO. 13006.01.061

DATE MAR 2014

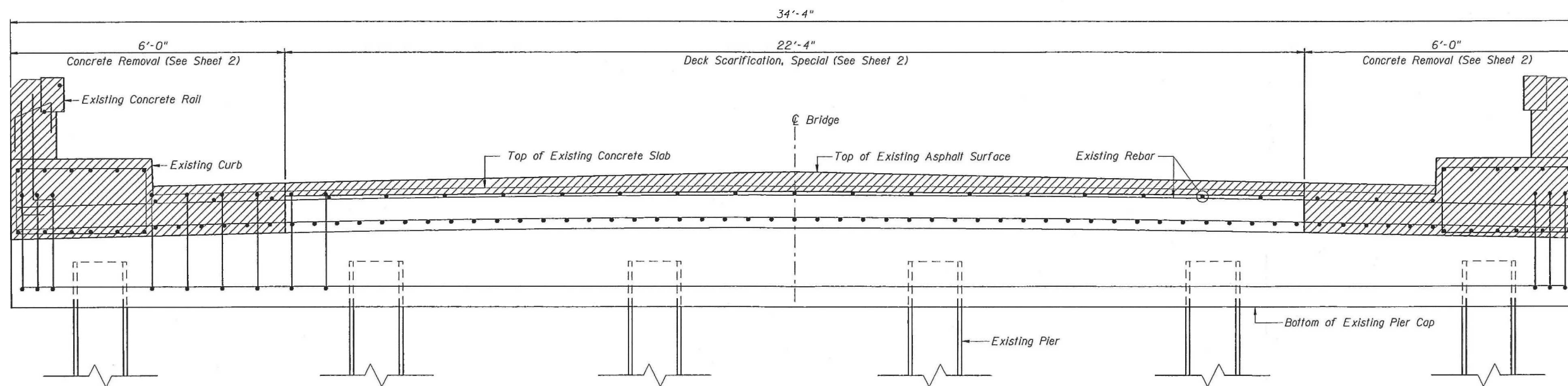
PROJ NO. C13006.01



CROSS SECTION NEAR ABUTS SHOWING REMOVAL

Scale : $\frac{3}{8}'' = 1'-0''$

Note:
The rebar in the top of the slab is to be preserved. Work shall be considered incidental to Concrete Removal. If damaged, the rebar shall be repaired or replaced at Contractor's expense.



CROSS SECTION AT PIERS SHOWING REMOVAL

Scale : $\frac{3}{8}'' = 1'-0''$

DESIGN	J.R. Wolf					
DR	C.S. SEDLACKO					
CHK	J.R. Wolf					
APPROVED	J.A. Fraunhofer	No.	DATE	REVISION	BY	APPROVED



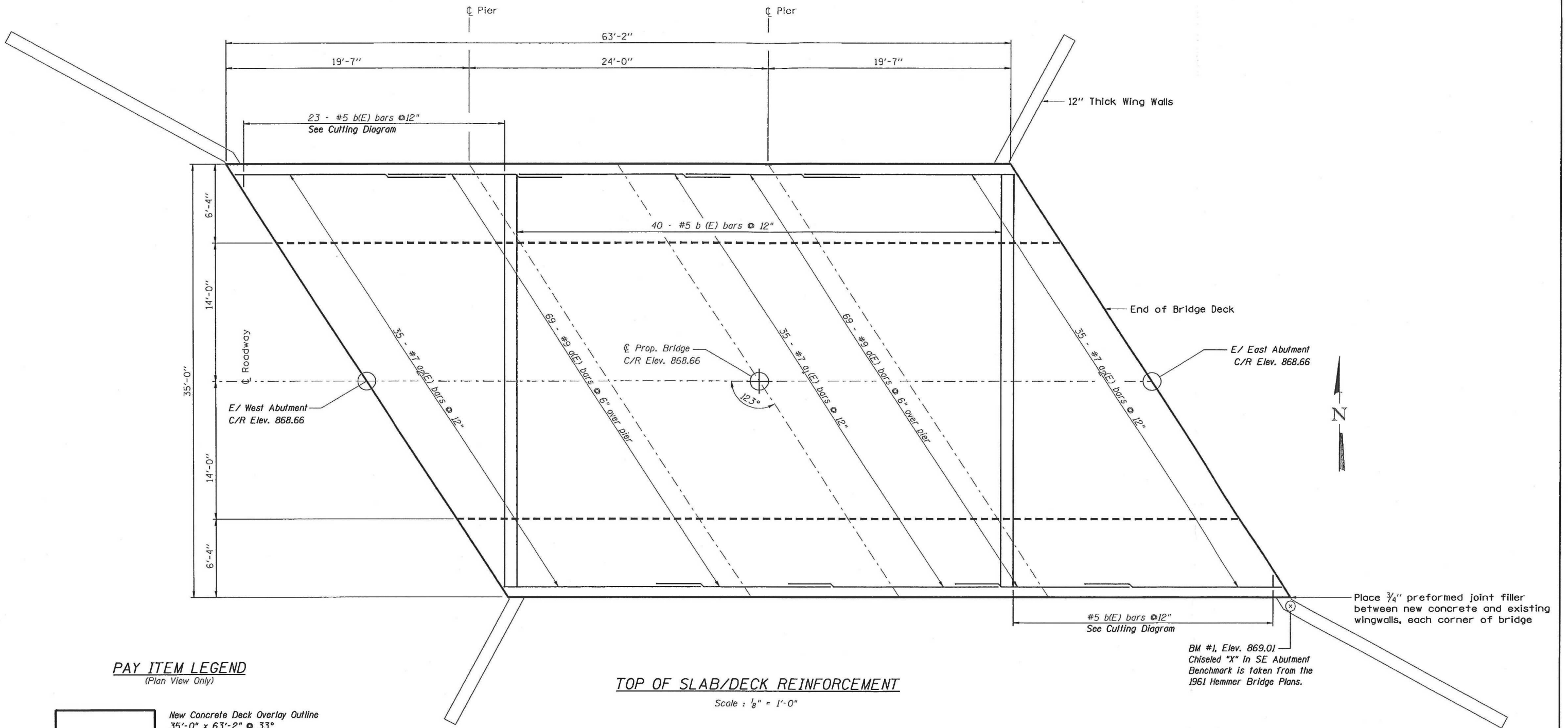
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REMOVAL CROSS SECTIONS		SHEET 3
MAIN STREET BRIDGE (CH A-47) OVER KISHWAUKEE RIVER		DWG NO. 13006.01.061
SEC. 14-00428-00-BR		DATE MAR 2014
MCHENRY COUNTY		PROJ NO. C13006.01



PAY ITEM LEGEND
(Plan View Only)

- New Concrete Deck Overlay Outline
35'-0" x 63'-2" @ 33°
- Concrete Slab Replacement
6'-4" Each Side

Concrete Superstructure, Special
52 CU. YD.

TOP OF SLAB/DECK REINFORCEMENT

Scale : 1/8" = 1'-0"

DESIGN	J.R. Wolf						
DR	C.S. SEDLACKO						
CHK	J.R. Wolf						
APPROV	J.A. Frauenhoffer	NO.	DATE	REVISION	BY	APPROV	

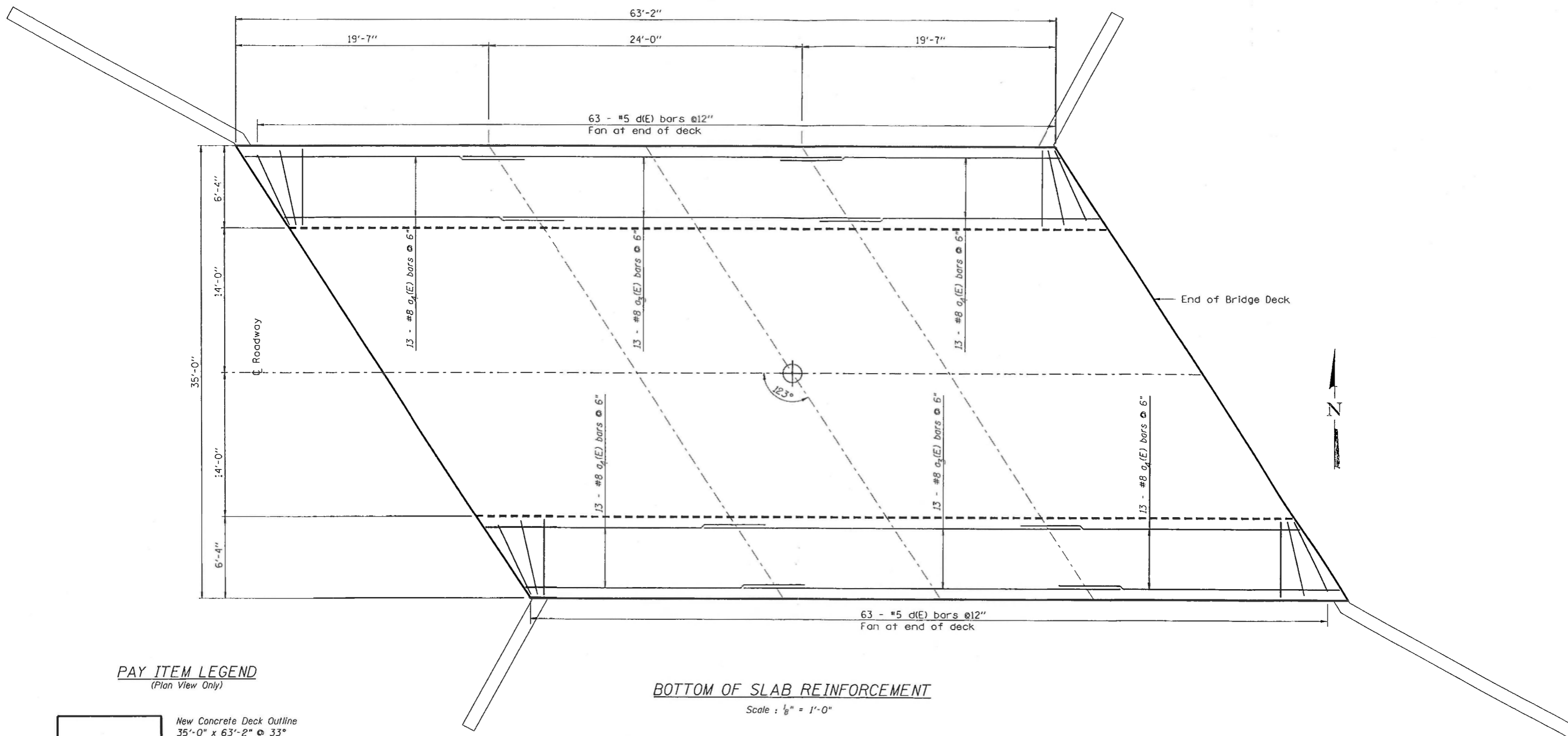


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TOP OF SLAB/DECK REINFORCEMENT		SHEET 4
MAIN STREET BRIDGE (CH A-47) OVER KISHWAUKEE RIVER		DWG NO. 13006.01.064
SEC. 14-00428-00-BR		DATE MAR 2014
MCHENRY COUNTY		PROJ NO. C13006.01



PAY ITEM LEGEND
(Plan View Only)

- New Concrete Deck Outline
35'-0" x 63'-2" @ 33°
- Concrete Slab Replacement
6'-4" Each Side

BOTTOM OF SLAB REINFORCEMENT

Scale : 1/8" = 1'-0"

056N	J.R. Wolf				
DR	C.S. SEDLACKO				
CHK	J.R. Wolf				
APVD	J.A. Fraunhoffer	NO.	DATE	REVISION	BY



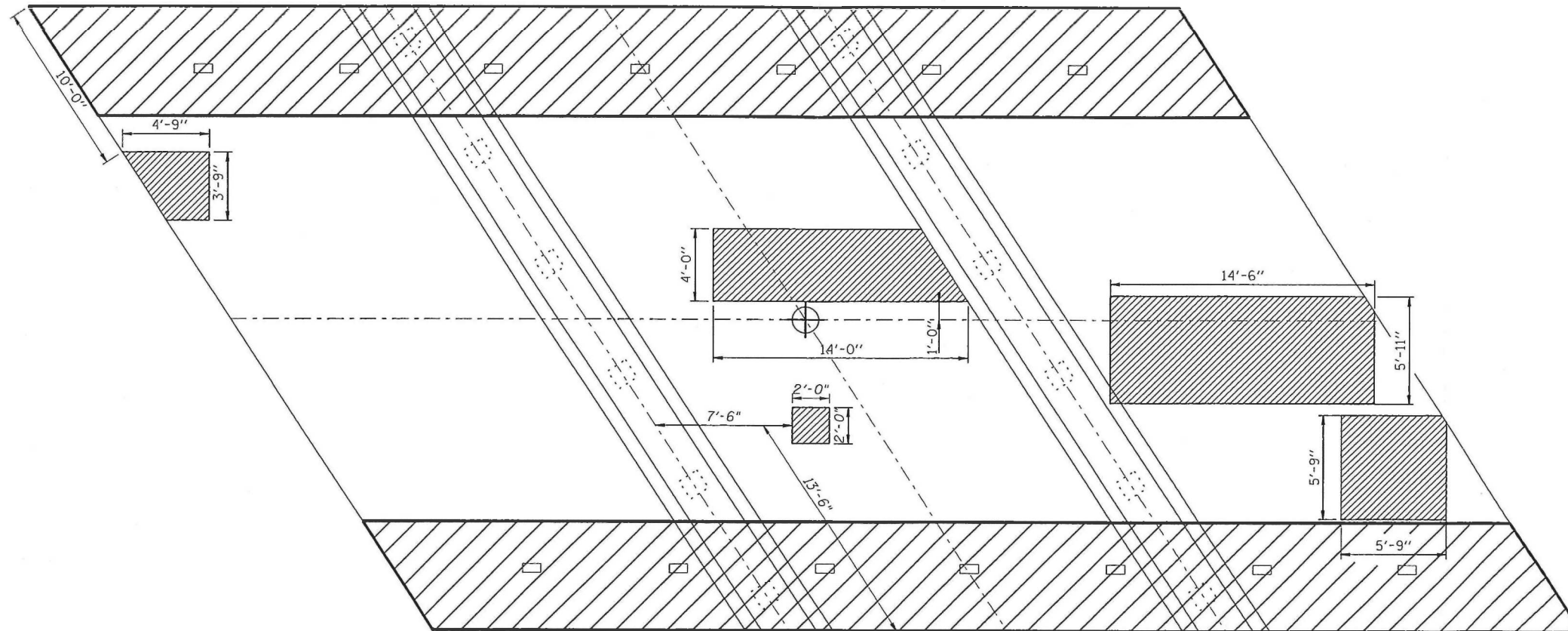
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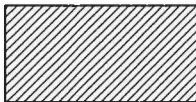
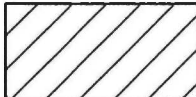
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BOTTOM OF SLAB REINFORCEMENT		SHEET 5
MAIN STREET BRIDGE (CH A-47) OVER KISHWAUKEE RIVER		DWG NO. 13006.01.061
SEC. 14-00428-00-BR		DATE MAR 2014
MCHENRY COUNTY		PROJ NO. C13006.01



PAY ITEM LEGEND
(Plan View Only)

-  STRUCTURAL REPAIR OF CONCRETE
200 SQ. FT.
-  CONCRETE REMOVAL

REFLECTED UNDERSIDE OF EXISTING DECK

Scale : 1/8" = 1'-0"

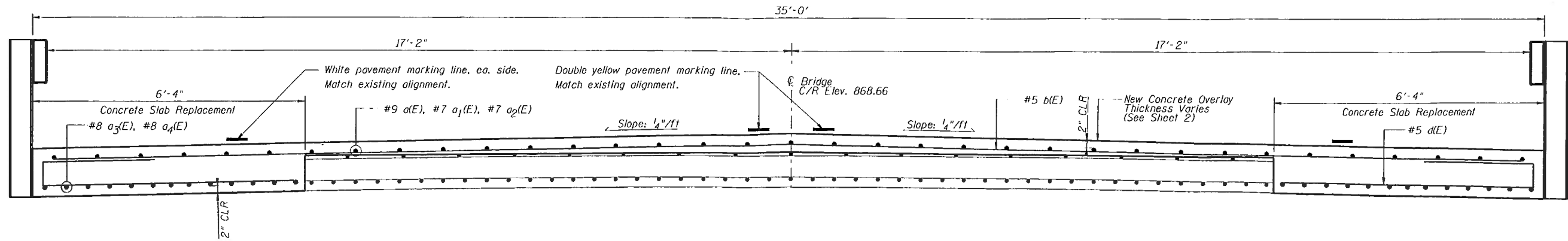
DESIGN	J.R. Wolf				
DR	C.S. SEDLACKO				
CHK	J.R. Wolf				
APPROV	J.A. Fraenhoffer	NO.	DATE	REVISION	BY



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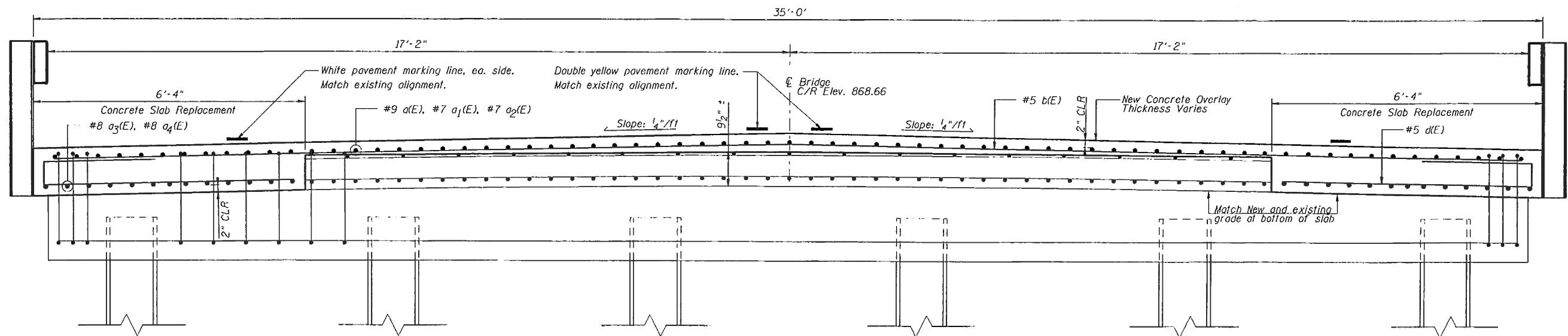
• 3002 CROSSING COURT, CHAMPAIGN, ILLINOIS 61822
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• 10 S. RIVERSIDE PLAZA, SUITE 1800 CHICAGO, ILLINOIS 60606
PHONE 312.683.0110, FAX 312.474.6099

REFLECTED UNDERSIDE OF EXISTING DECK		SHEET 6
MAIN STREET BRIDGE (CH A-47) OVER KISHWAUKEE RIVER		DWG NO. 13006.01.061
SEC. 14-00428-00-BR		DATE MAR 2014
MCHENRY COUNTY		PROJ NO. C13006.01



CROSS SECTION NEAR ABUTS SHOWING NEW SUPERSTRUCTURE AND REBAR

Scale : $\frac{3}{8}'' = 1'-0''$



CROSS SECTION AT PIERS SHOWING NEW SUPERSTRUCTURE AND REBAR

Scale : $\frac{3}{8}'' = 1'-0''$

DESIGN	J.R. Wolf				
DR	C.S. SEDLACKO				
CHK	J.R. Wolf				
APPROV	J.A. Frauenhoffer	NO.	DATE	REVISION	BY



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REHABILITATION CROSS SECTIONS

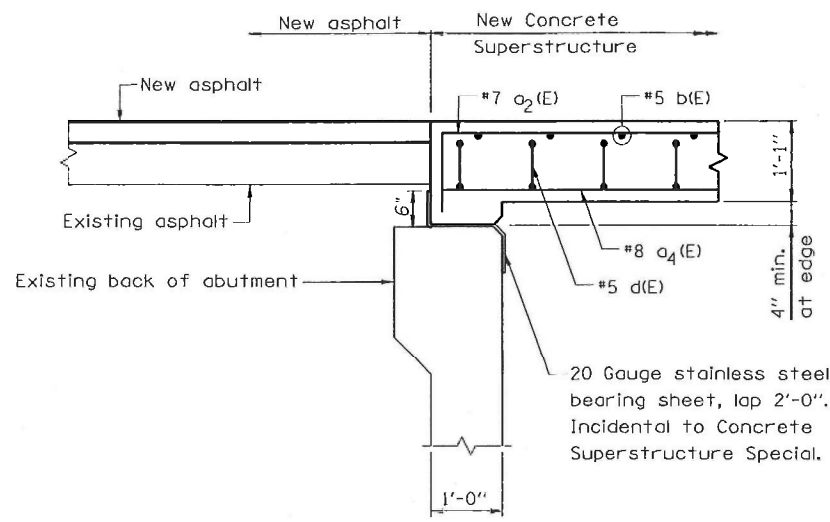
MAIN STREET BRIDGE (FAS 35) OVER KISHAWAUKEE RIVER
SEC. 14-00428-00-BR
MCHENRY COUNTY

SHEET 7

DRG NO. 13006.01.061

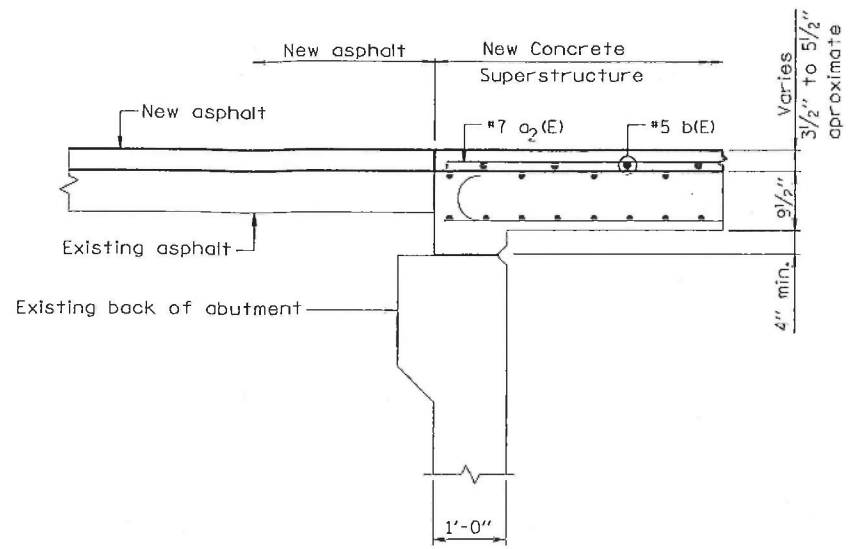
DATE MAR 2014

PROJ NO. C13006.01



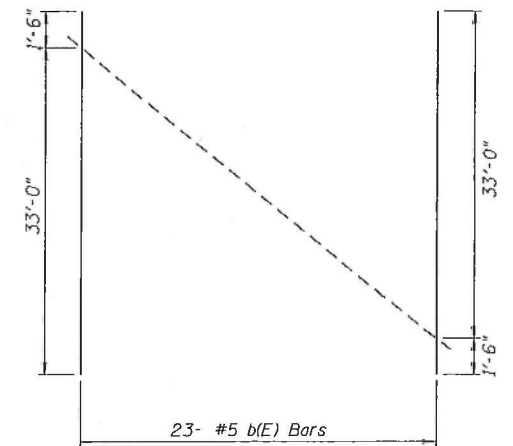
SECTION AT ABUTMENT AT DECK EDGE

Scale : 3/8" = 1'-0"



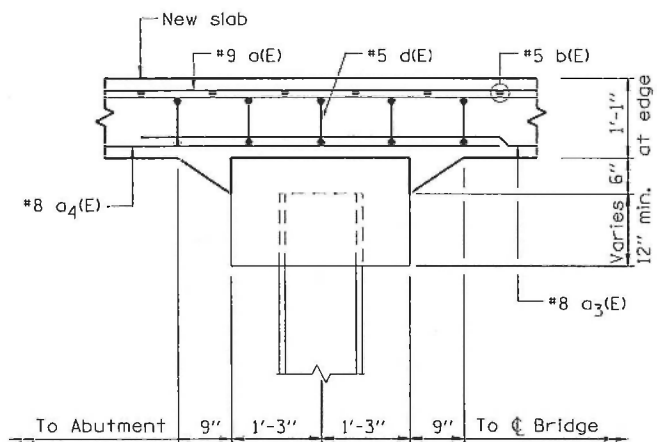
SECTION AT ABUTMENT

Scale : 3/8" = 1'-0"



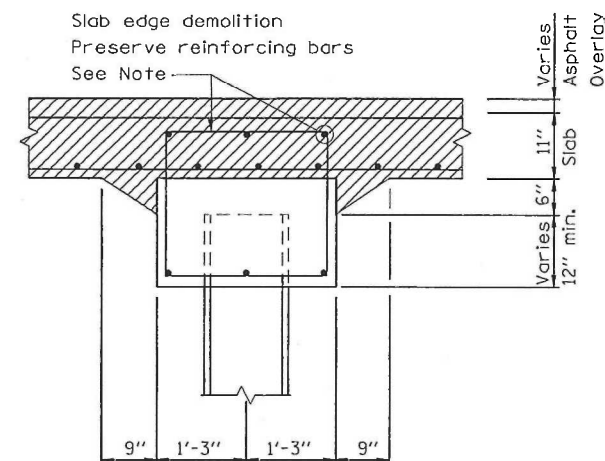
BAR CUTTING DIAGRAM

Place 1/2 of the bars in the opposite end of the deck



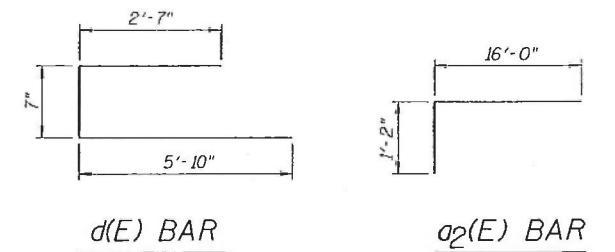
SECTION AT PIER AT SLAB EDGE

Scale : 3/8" = 1'-0"



SECTION AT PIER AT SLAB EDGE (DEMO)

Scale : 3/8" = 1'-0"



d(E) BAR

a2(E) BAR

Note:
Clean and paint existing bars over pier.
The rebar in the pier cap is to be preserved.
Work shall be considered incidental to Concrete Removal. If damaged, the rebar shall be repaired or replaced at Contractor's expense.

BILL OF MATERIAL - ALL NEW REINFORCEMENT BARS

Bar	No.	Size	Length	Shape
a (E)	138	#9	14'-0"	—
a1 (E)	35	#7	17'-0"	—
a2 (E)	70	#7	17'-2"	—
a3 (E)	26	#8	29'-0"	—
a4 (E)	52	#8	22'-0"	—
b (E)	63	#5	34'-6"	—
d (E)	126	#5	9'-0"	—
Total				Pounds
Reinforcement Bars, Epoxy Coated				18760

DESIGN	J.R. Wolf				
DR	C.S. SEDLACKO				
CHK	J.R. Wolf				
APPROV	J.A. Frauenhoffer	NO.	DATE	REVISION	BY



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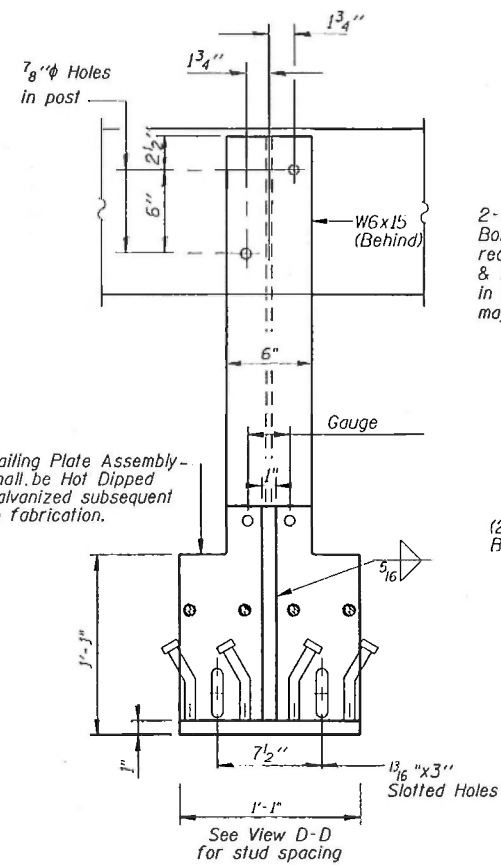
35701 WEST AVENUE
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ABUTMENT AND PIER DETAILS
MAIN STREET BRIDGE (CH A-47) OVER KISHAWAUKEE RIVER
SEC. 14-00428-00-BR
MCHENRY COUNTY

SHEET 8
DWG NO. 13006.01.06H
DATE MAR 2014
PROJ NO. C13006.01



SI MODIFIED ELEVATION

2-3/4" x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" Holes in Hollow structural section may be drilled in the field.

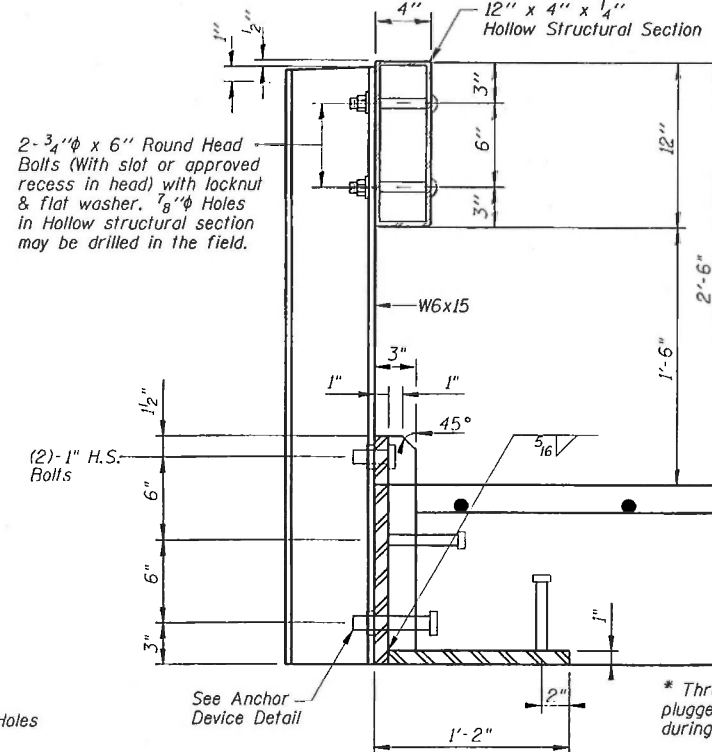
(2)-1" H.S. Bolts

1 3/16" x 3" Slotted Holes

See View D-D for stud spacing

Gauge

Railing Plate Assembly shall be Hot Dipped Galvanized subsequent to fabrication.



SI MODIFIED SECTION

* Threaded areas shall be plugged or blocked off during casting of beam.

See Anchor Device Detail

Gauge

12" x 4" x 1/4" Hollow Structural Section

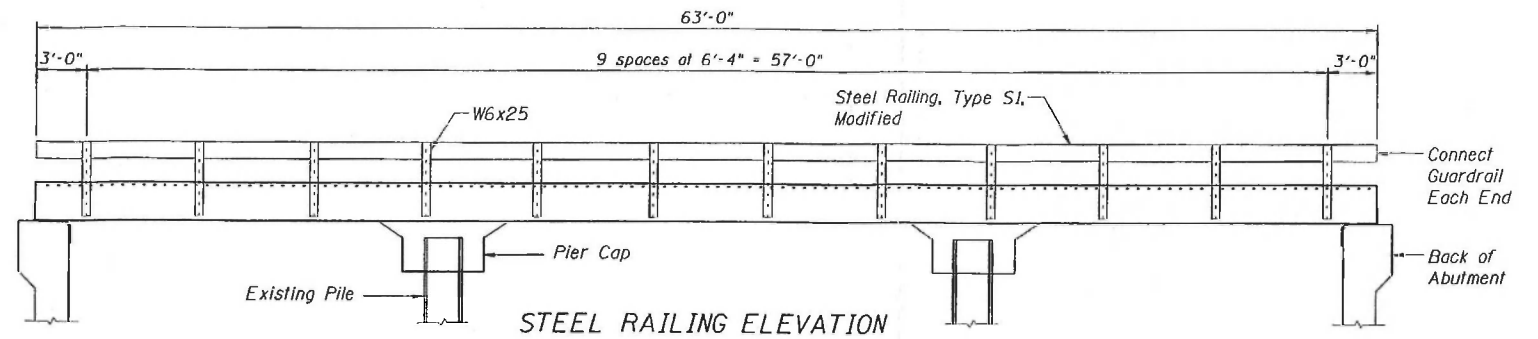
W6x15

(2)-1" H.S. Bolts

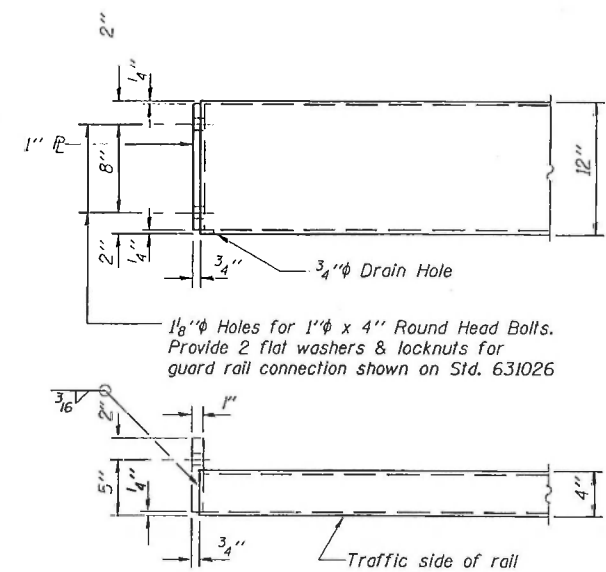
1 3/16" x 3" Slotted Holes

See View D-D for stud spacing

Railing Plate Assembly shall be Hot Dipped Galvanized subsequent to fabrication.



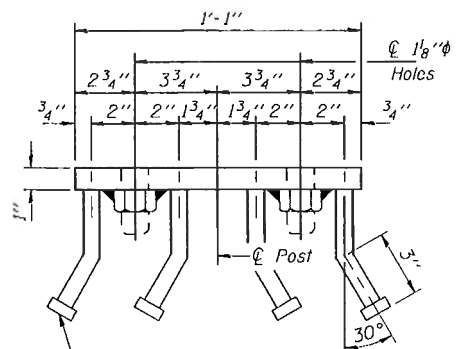
STEEL RAILING ELEVATION



END OF RAIL DETAILS

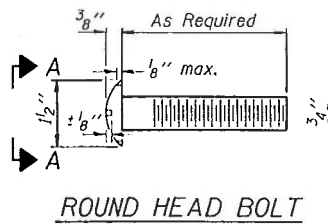
1/8" Holes for 1" x 4" Round Head Bolts. Provide 2 flat washers & locknuts for guard rail connection shown on Std. 631026

Traffic side of rail

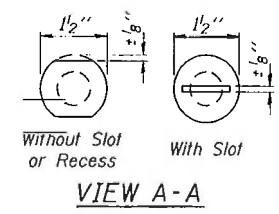


VIEW D-D

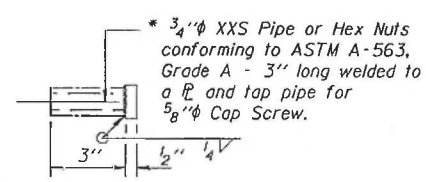
3/4" x 6" Granular or solid flux filled headed studs conforming to article 1006.32 of the Std. Specs. automatically end welded. 8 Required per post.



ROUND HEAD BOLT

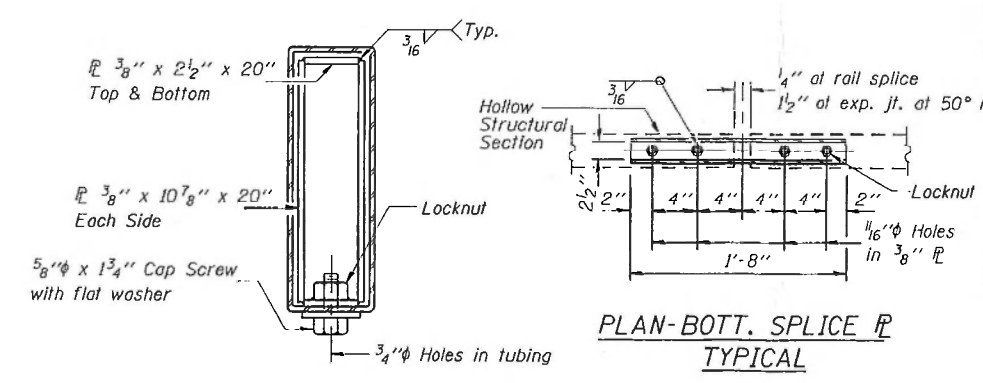


VIEW A-A



ANCHOR DEVICE

* 3/4" XXS Pipe or Hex Nuts conforming to ASTM A-563, Grade A - 3" long welded to a 1/2" and top pipe for 5/8" Cap Screw.

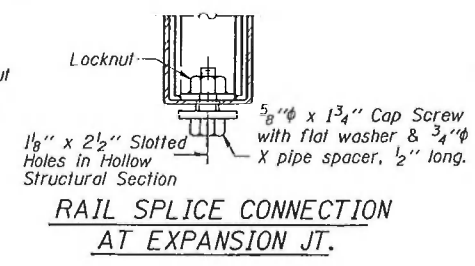


SECTIONS AT RAIL SPLICE

PLAN-BOTT. SPLICE TYPICAL

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing Type S-1	Foot	126



RAIL SPLICE CONNECTION AT EXPANSION JT.

NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M-270 Grade 36 except posts and angles shall conform to AASHTO M-270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M-164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M-232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL RAILING, TYPE S-1 MODIFIED.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

The 5/8" cap screws in the bottom of posts shall be tightened to a snug fit only.

NO.	DATE	REVISION	BY	APVD
066				A. Fraenhoffer
07				C.S. Sedlacko
08				J.R. Wolf
09				A. Fraenhoffer

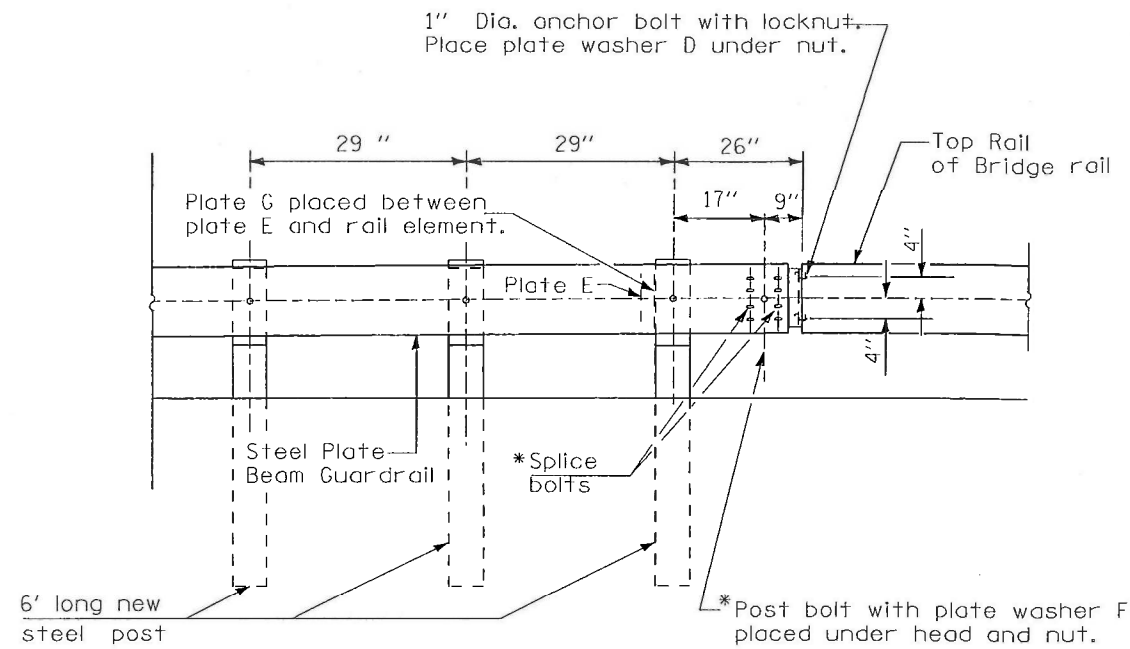


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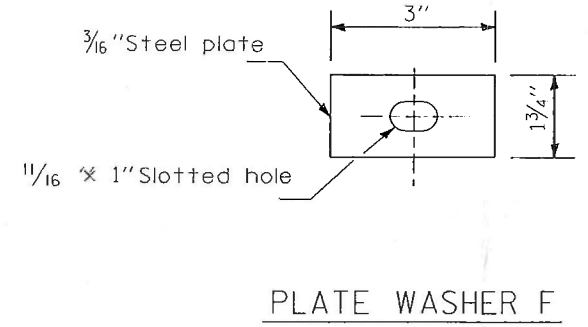
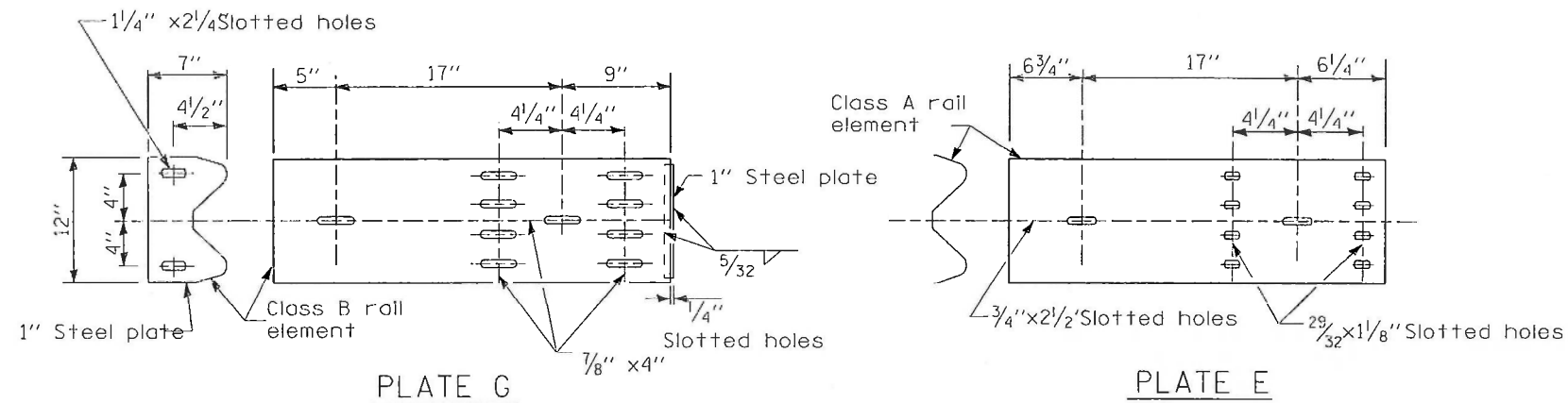
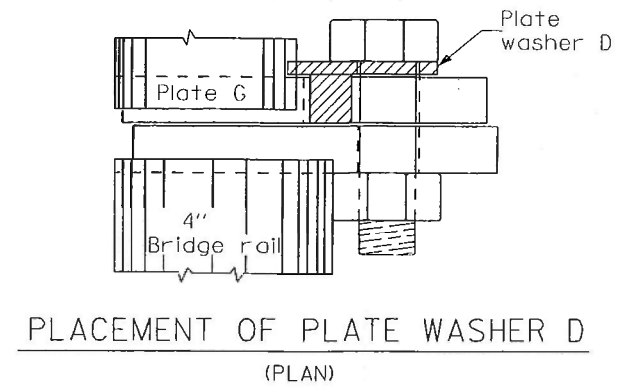
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PHONE 312.683.0110, FAX 312.474.6099

STEEL RAILING, TYPE S1 MODIFIED		SHEET 9
MAIN STREET BRIDGE (FAS 35) OVER KISHWAUKEE RIVER		DWG NO. 13006.01.061
SEC. 14-00428-00-BR		DATE MAR 2014
MCHENRY COUNTY		PROJ NO. C13006.0



TERMINAL TYPE 5A



NOTE: Plate washer F shall be used on type A guardrail only where specified. Plate washer F shall be used at all other locations where rail element is bolted to a block-out unless otherwise noted.

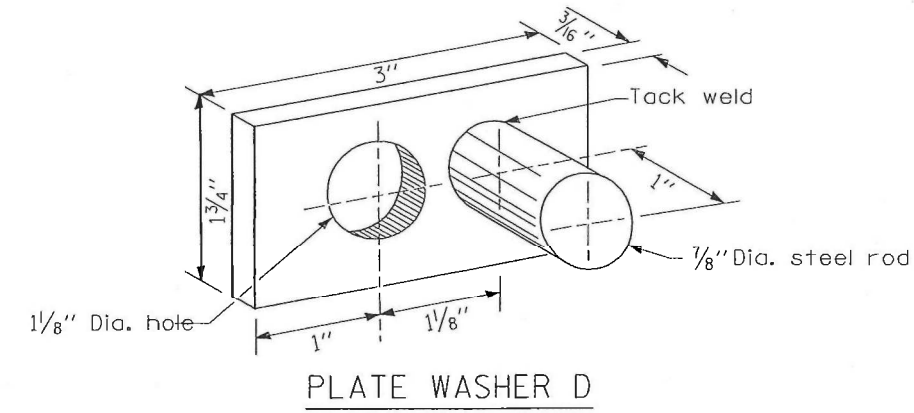
GENERAL NOTES

Install plate washer D so that the 1" projection fills the remainder of the slotted holes in the 1" end plate on plate G after the 1" dia. bolts are in place.

* Bolts shall be provided with locknut or double nut and shall be tightened only to a point that will allow plate G to be free to move when an expansion joint exists below the connector.

BILL OF MATERIAL

ITEM	UNIT	QTY
Remove and Reerect Steel Plate Beam Guardrail, See Special Provision	Foot	80



DESIGN	A. Frauenhoffer				
OR	C.S. SEDLACKO				
CHK	J.R. Wolf				
APPROV	J.A. Frauenhoffer	NO.	DATE	REVISION	BY

ENGINEERING RESOURCE ASSOCIATES, INC.
 CONSULTING ENGINEERS, SCIENTISTS & SURVEYORS

35701 WEST AVENUE SUITE 150 WARRENVILLE, IL 60555
 PHONE (630) 393-3060 FAX (630) 393-2152

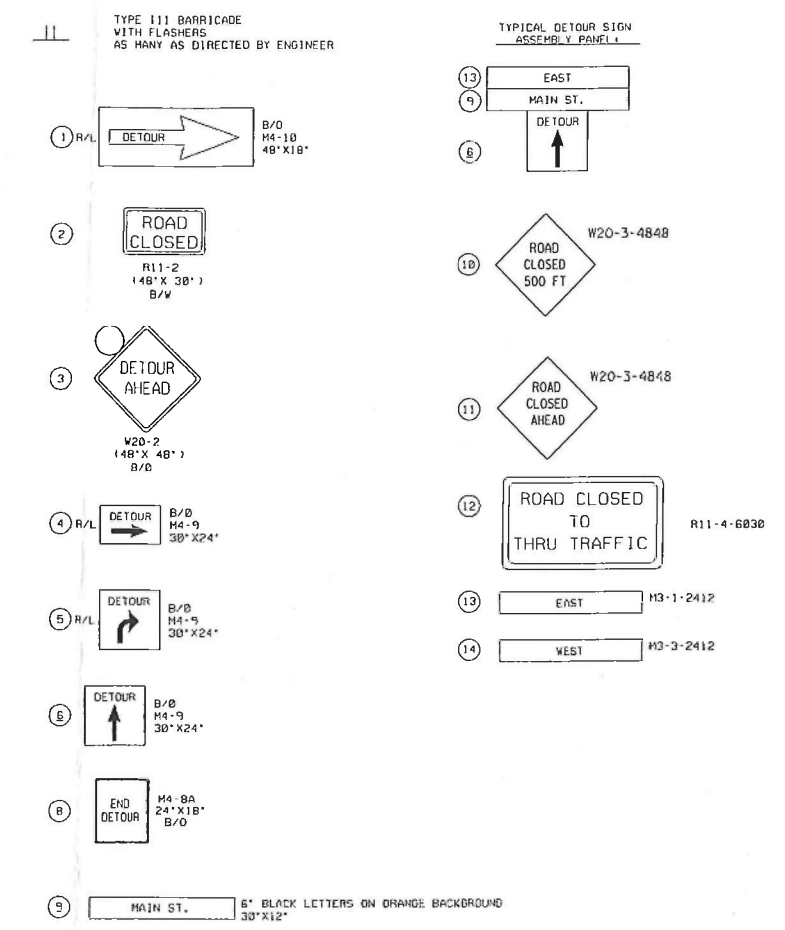
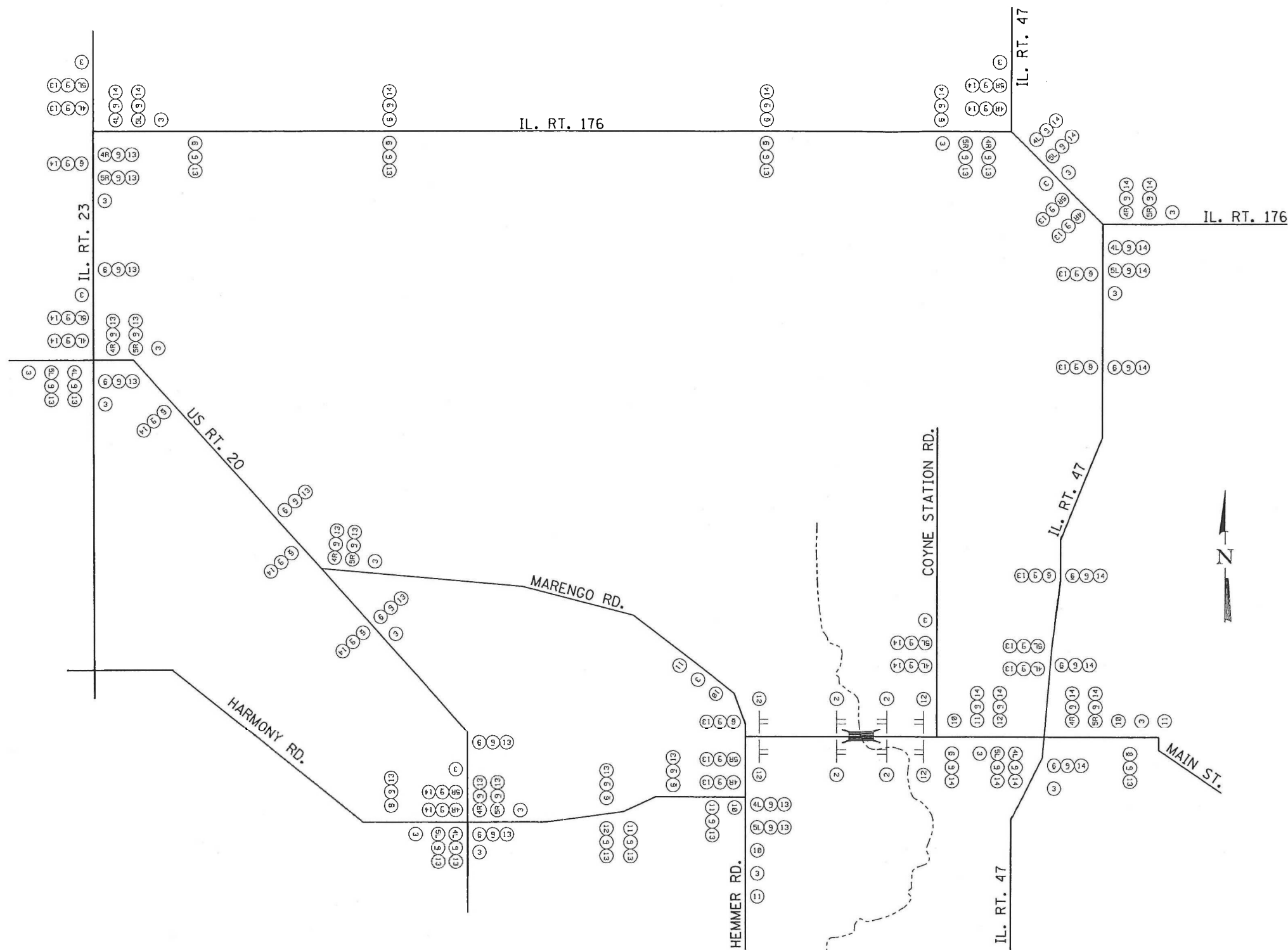
3002 CROSSING COURT, CHAMPAIGN, ILLINOIS 61822
 PHONE 217.351.6268, FAX 217.355.1902

10 S. RIVERSIDE PLAZA, SUITE 1800 CHICAGO, ILLINOIS 60606
 PHONE 312.683.0110, FAX 312.474.6099

STEEL PLATE BEAM GUARDRAIL, SPECIAL

MAIN STREET BRIDGE (FAS 35) OVER KISHWAUKEE RIVER
 SEC. 14-00428-00-BR
 MCHENRY COUNTY

SHEET 10
 DWG NO. 13006.01.061
 DATE MAR 2014
 PROJ NO. C13006.01



- NOTES:**
- MULTIPLE SIGNS AT ANY ONE LOCATION SHALL BE MOUNTED ON A COMMON POST OR STRUCTURE WHEN POSSIBLE. SIGNS MAY BE MOUNTED ON STREET LIGHT STANDARDS WHERE AVAILABLE. SIGN SPACING SHALL BE ACCORDING TO IDOT DISTRICT DETAIL TC-21.
 - ALL DETOUR SIGNS SHALL BE MOUNTED A MINIMUM OF 7 FEET ABOVE THE EXISTING SURFACE ON POSTS DRIVEN INTO THE GROUND PER STATE STANDARD 701901.
 - B/O - BLACK LEGEND ON ORANGE BACKGROUND
B/W - BLACK LEGEND ON WHITE BACKGROUND
 - SIGN SPACING MAY BE ADJUSTED TO SUIT FIELD CONDITIONS.
 - L/R INDICATES LEFT OR RIGHT.
 - SIGNS NOT IN USE TO BE DROPPED OR BAGGED.
 - SIGNAGE SHOWN IS A SUGGESTED MINIMUM. COUNTY HAS THE RIGHT TO REQUEST ADDITIONAL SIGNAGE WITH NO ADDITIONAL COMPENSATION FOR CONTRACTOR.

DESIGN	J.R. Wolf				
DR	C.S. Sedlacko				
CHK	J.R. Wolf				
APPROV	J.A. Fraenhoffer	NO.	DATE	REVISION	DY

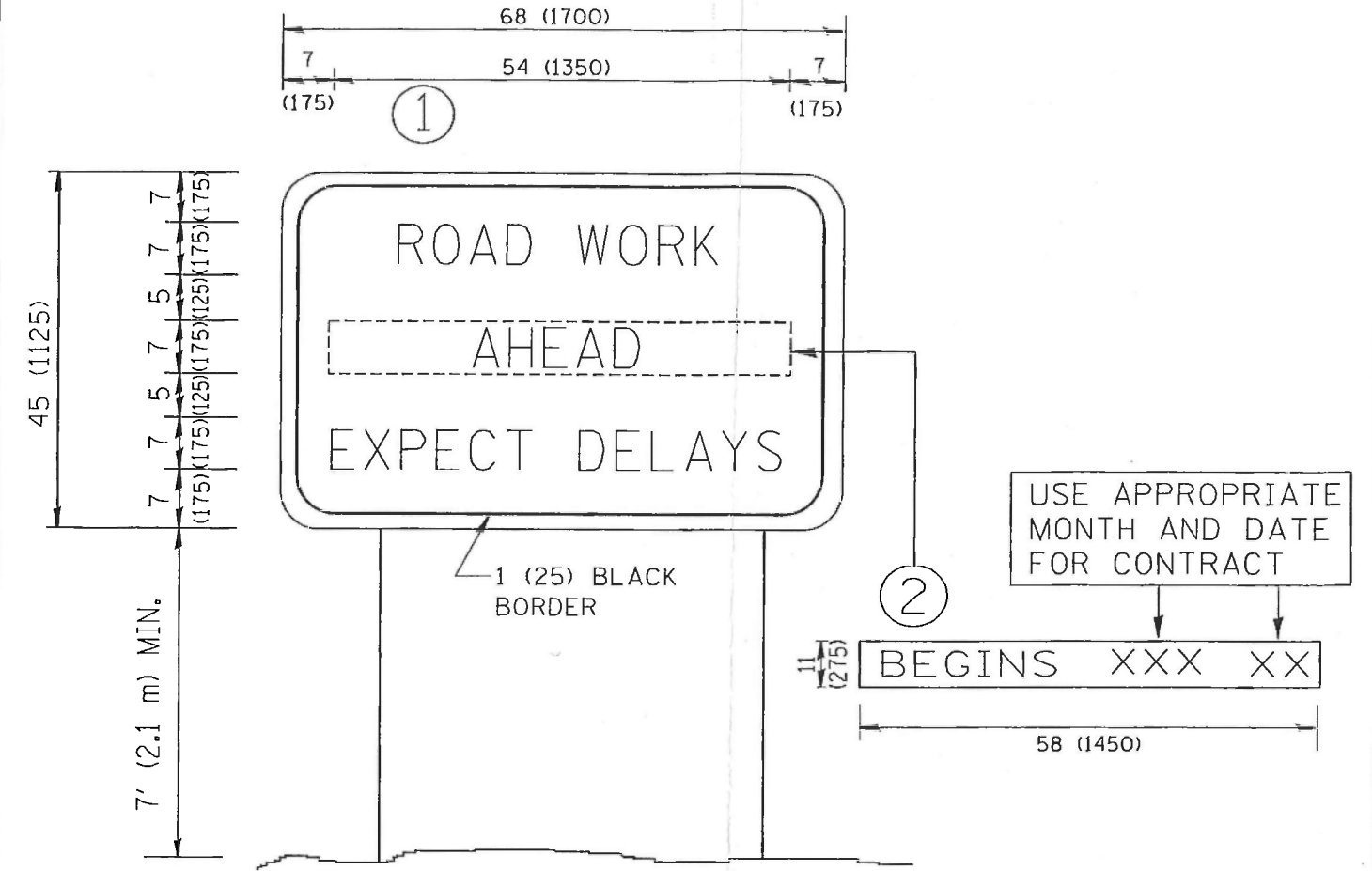


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PHONE 312.683.0110, FAX 321.474.6099

DETOUR PLAN SIGNAGE		SHEET 11
HEMMER BRIDGE, MAIN ST.(CH A47) OVER KISHWAUKEE RIVER		DWG NO. 13006.01.061
SEC. 11-00428-00-BR		DATE MAR 2014
MCHENRY COUNTY		PROJ NO. C13006.01



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = M:\diststd\22x34\te22.dgn	USER NAME = gqghenbt	DESIGNED - DRAWN -	REVISED - R. MIRS 09-15-97	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ARTERIAL ROAD INFORMATION SIGN		F.A. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.	
PLOT SCALE = 50.000 "/td> <td>CHECKED -</td> <td>REVISED - T. RAMMACHER 02-02-99</td> <td>TC-22</td> <td>14-00428-00-BR</td> <td>McHenry</td> <td>12</td> <td>12</td>	CHECKED -	REVISED - T. RAMMACHER 02-02-99	TC-22		14-00428-00-BR	McHenry	12	12
PLOT DATE = 1/4/2008	DATE -	REVISED - C. JUCIUS 01-31-07	CONTRACT NO.		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			