

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAI ROUTE 24 (I-24)  
SECTION D9 CM BRIDGE REPAIR 2015-1

BRIDGE REPAIRS  
WILLIAMSON COUNTY

C-99-052-14

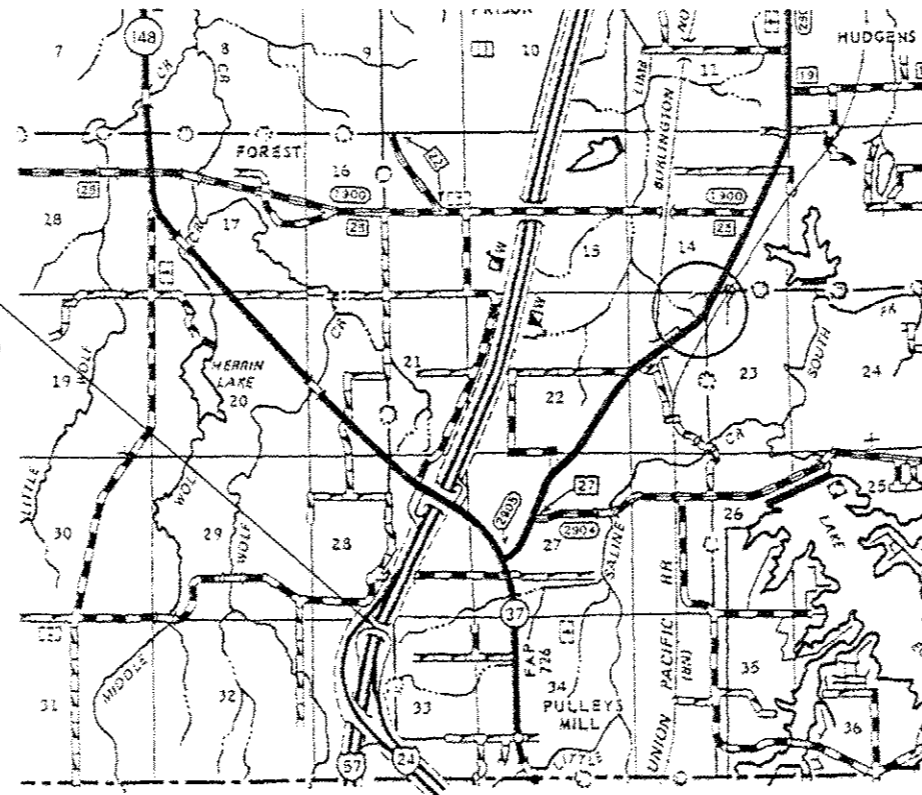
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	D9 CM BRIDGE REP. 2015-1	WILLIAMSON	19	1
ILLINOIS CONTRACT NO. 78424				

FOR INDEX OF SHEETS, SEE SHEET NO. 2  
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3

**TRAFFIC DATA**  
I-24 RAMP  
2013 ADT=50  
WITH 32% TRUCKS  
  
I-57  
2013 ADT=29100  
WITH 28% TRUCKS

**TOWNSHIP**  
COUNTY UNIT ROAD DISTRICT

IMPROVEMENT LOCATION  
STRUCTURE NO. 100-0059  
I-24 EXIT RAMP WB OVER  
I-57 TO I-57 SOUTH BOUND

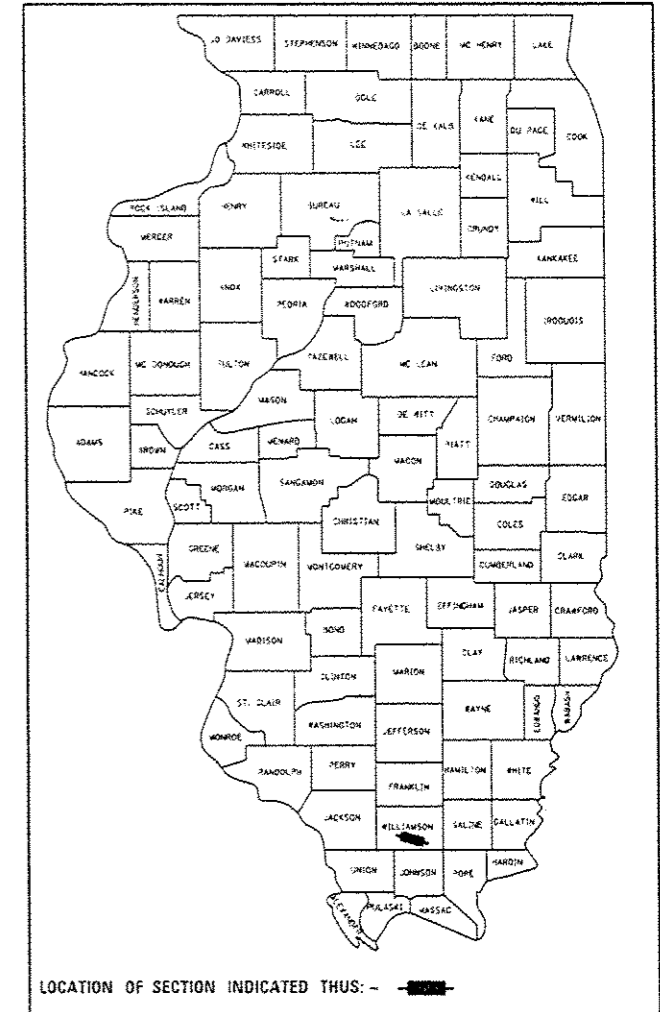


J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT ENGINEER: JOHN DAHMER  
PROJECT MANAGER: DAVID PICHE (618) 351-5227

CONTRACT NO. 78424

D-99-044-14



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED August 12, 2014  
*Debra L. Keenan*  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER  
 Oct 17 2014  
*John D. Baranzoli, P.E.*  
 ENGINEER OF DESIGN AND ENVIRONMENT  
 Oct 17 2014  
*Omer Osman, P.E.*  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS



# SUMMARY OF QUANTITIES

FUNDING:	100% STATE
LOCATION:	RURAL
ROUTE:	FAI 24 I-24
TOTAL QUANTITY	SN 100-0059 0014

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
40600285	POLYMERIZED BITUMINOUS MATERIALS (PRIME COAT)	POUND	390	390
40600985	PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT	SO YD	173	173
40603545	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90	TON	62	62
50157300	PROTECTIVE SHIELD	SO YD	327	327
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	1,713	1,713
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	8	8
52100520	ANCHOR BOLTS, 1"	EACH	32	32
58100200	WATERPROOFING MEMBRANE SYSTEM	SO YD	768	768
67100100	MOBILIZATION	L SUM	1	1
70100205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	2	2
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	8	8
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	730	730
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	8	8

\* SPECIALTY ITEM

FILE NAME :	USER NAME : Dahmer,je	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
dl:\pw_work\psidot\dahmer,je\0307649\78424-eh1-plan.dgn		DRAWN -	REVISED -			24	09 CM BRIDGE REP. 2015-1	WILLIAMSON	19	3
Default	PLOT SCALE = 100:0000 1/4" = 1'	CHECKED -	REVISED -		SCALE:	SHEET OF SHEETS STA.		TO STA.		
	PLOT DATE = 8/18/2014	DATE -	REVISED -		ILLINOIS FED. AID PROJECT					
CONTRACT NO. 78424										

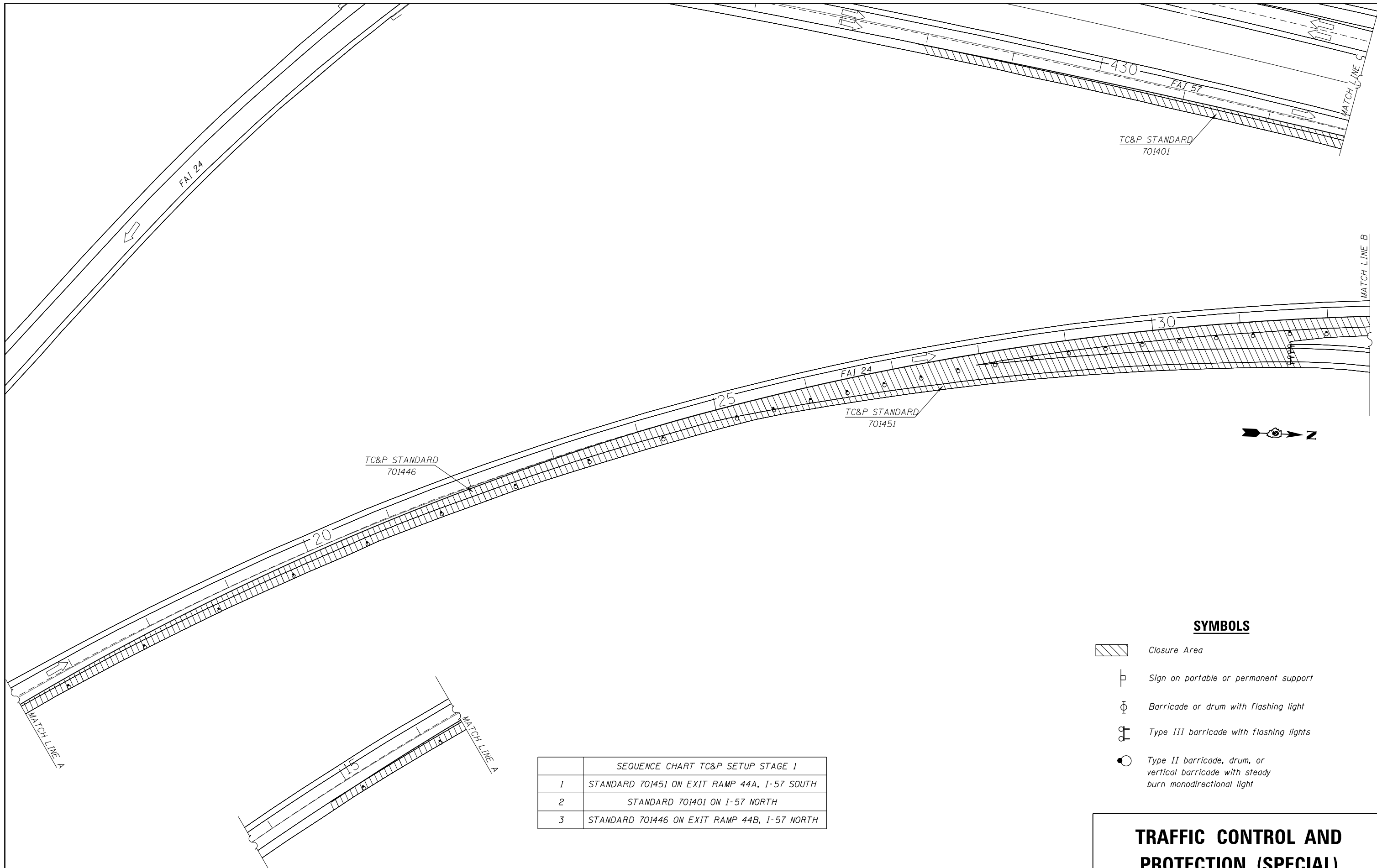
NOV 24 2014

## SUMMARY OF QUANTITIES - CONT

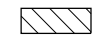




FUNDING:	100% STATE
LOCATION:	RURAL
ROUTE:	FAI 24 I-24
TOTAL QUANTITY	SN 100-0059 0014

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	42	42
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE 1)	SO YD	5	5
Z0016200	DECK SLAB REPAIR (PARTIAL)	SO YD	166	166
Z0016702	DETOUR SIGNING	L SUM	1	1
Z0021906	SILICONE JOINT SEALER, 1.5"	FOOT	58	58

5



**SYMBOLS**

-  Closure Area
-  Sign on portable or permanent support
-  Barricade or drum with flashing light
-  Type III barricade with flashing lights
-  Type II barricade, drum, or vertical barricade with steady burn monodirectional light

SEQUENCE CHART TC&P SETUP STAGE 1	
1	STANDARD 701451 ON EXIT RAMP 44A, I-57 SOUTH
2	STANDARD 701401 ON I-57 NORTH
3	STANDARD 701446 ON EXIT RAMP 44B, I-57 NORTH

**TRAFFIC CONTROL AND PROTECTION, (SPECIAL)**

FILE NAME =	USER NAME = Dahmer,ja	DESIGNED -	REVISED -
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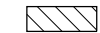




**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

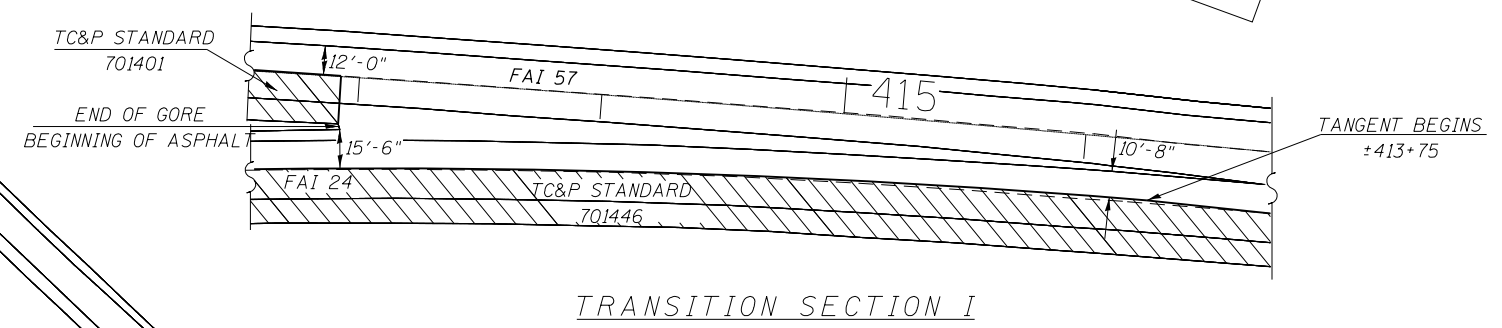
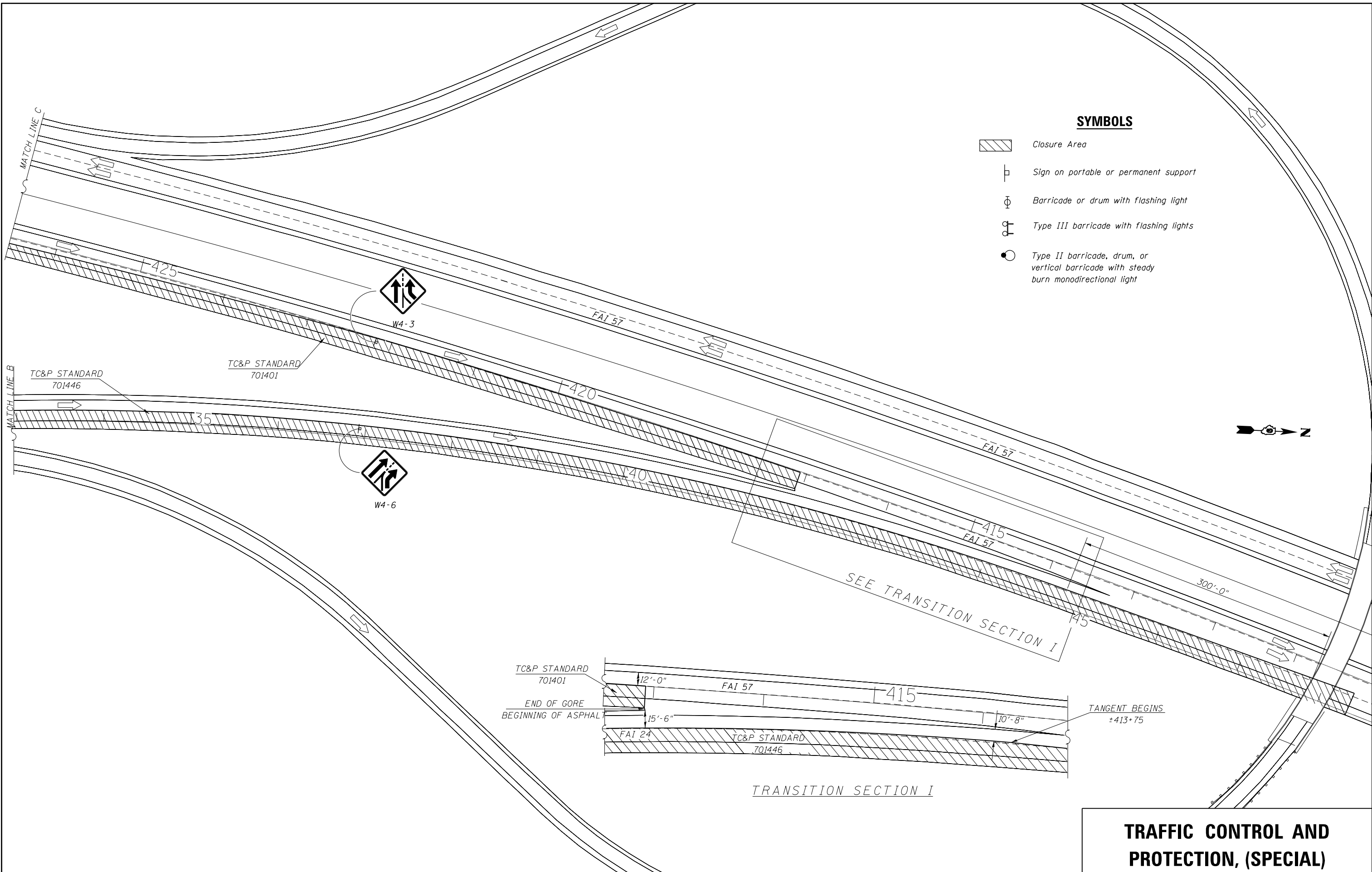
**TRAFFIC CONTROL AND PROTECTION, (SPECIAL)  
STAGE 1 (DAYTIME CLOSURE)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	D9 CM BRIDGE REP. 2015-1	WILLIAMSON	19	5
CONTRACT NO. 78424			ILLINOIS FED. AID PROJECT	

**SYMBOLS**

-  Closure Area
-  Sign on portable or permanent support
-  Barricade or drum with flashing light
-  Type III barricade with flashing lights
-  Type II barricade, drum, or vertical barricade with steady burn monodirectional light



**TRAFFIC CONTROL AND PROTECTION, (SPECIAL)**

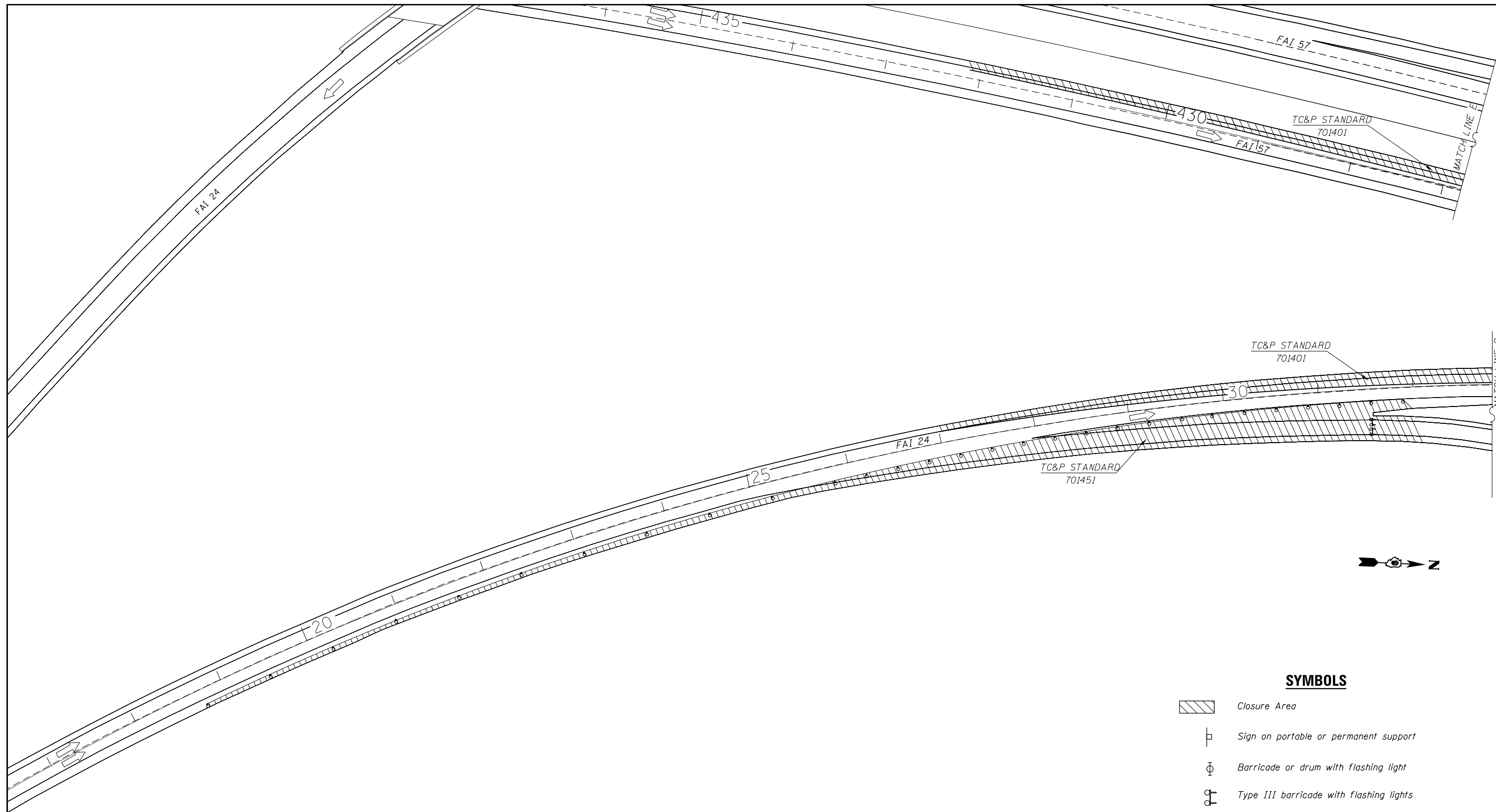
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Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 8/15/2014	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**






**TRAFFIC CONTROL AND PROTECTION, (SPECIAL)  
STAGE 1 (DAYTIME CLOSURE)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	D9 CM BRIDGE REP. 2015-1	WILLIAMSON	19	6
CONTRACT NO. 78424			ILLINOIS FED. AID PROJECT	



**SYMBOLS**

-  Closure Area
-  Sign on portable or permanent support
-  Barricade or drum with flashing light
-  Type III barricade with flashing lights
-  Type II barricade, drum, or vertical barricade with steady burn monodirectional light

SEQUENCE CHART TC&P SETUP STAGE 2	
1	STANDARD 701451 STILL UP FROM STAGE 1
2	STANDARD 701401 ON EXIT RAMP 44B, I-57 NORTH
3	STANDARD 701401 AND ADDITIONAL ON I-57 NORTH

**TRAFFIC CONTROL AND PROTECTION, (SPECIAL)**

FILE NAME =	USER NAME = Dahmer.ja	DESIGNED -	REVISED -
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	PLOT DATE = 8/15/2014	DATE -	REVISED -






**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

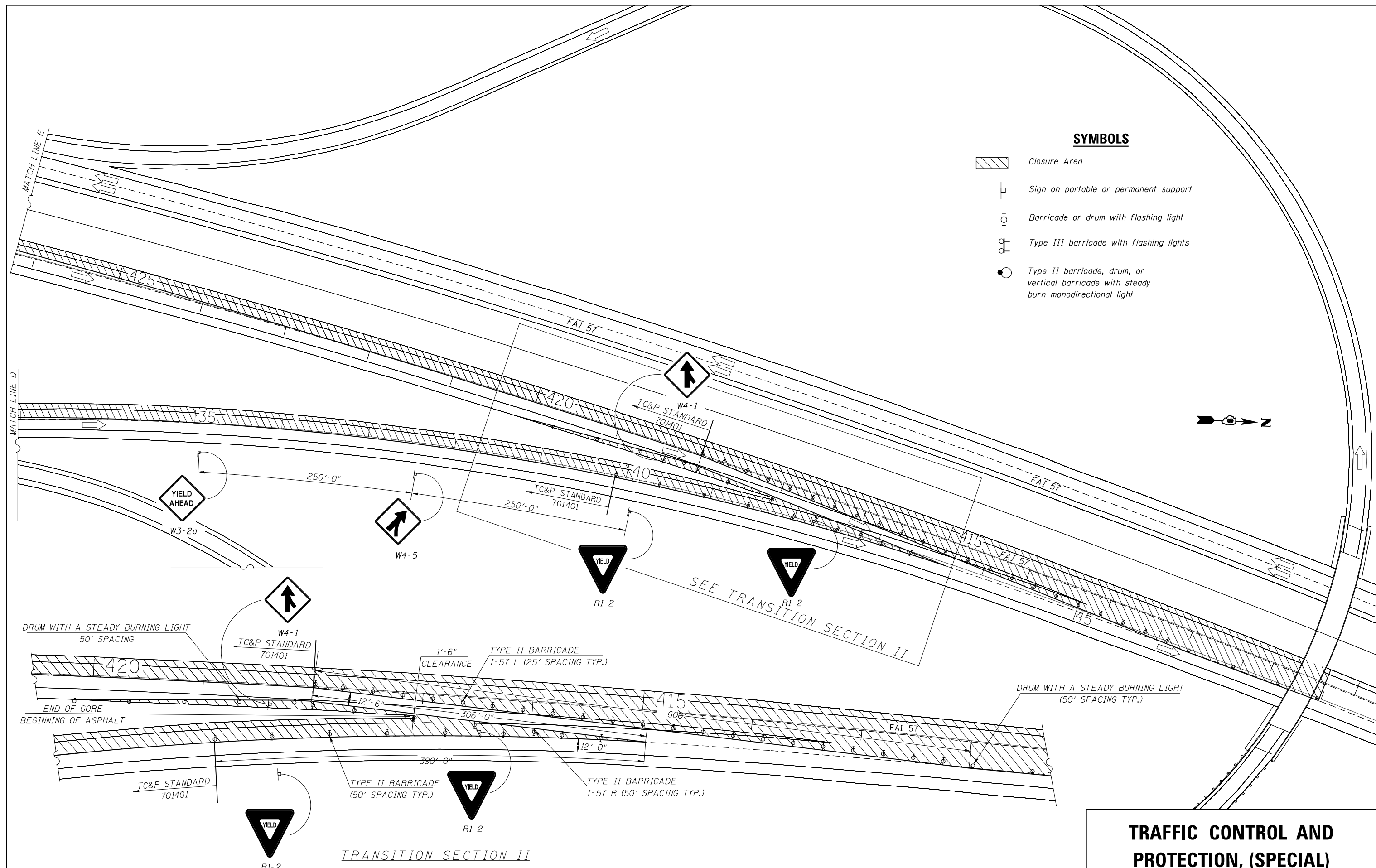
**TRAFFIC CONTROL AND PROTECTION, (SPECIAL)  
STAGE 2 (NIGHT TIME CLOSURE)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	D9 CM BRIDGE REP. 2015-1	WILLIAMSON	19	7
CONTRACT NO. 78424			ILLINOIS FED. AID PROJECT	

**SYMBOLS**

-  Closure Area
-  Sign on portable or permanent support
-  Barricade or drum with flashing light
-  Type III barricade with flashing lights
-  Type II barricade, drum, or vertical barricade with steady burn monodirectional light



**TRAFFIC CONTROL AND PROTECTION, (SPECIAL)**

FILE NAME =	USER NAME = Dahmer.ja	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC CONTROL AND PROTECTION, (SPECIAL) STAGE 2 (NIGHT TIME CLOSURE)</b>				F.A.I. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	24-sh-t-plan.dgn	DRAWN -	REVISED -		24	D9 CM BRIDGE REP. 2015-1	WILLIAMSON	19	8				
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.				CONTRACT NO. 78424				
	PLOT DATE = 8/15/2014	DATE -	REVISED -		ILLINOIS FED. AID PROJECT								



**GENERAL NOTES**

All structural steel shall be AASHTO M 270 Grade 36 unless otherwise noted. No field welding is permitted except as specified in the contract documents.

All structural steel shall be shop painted with inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Furnishing and Erecting Structural Steel.

If the analysis submitted to the Contractor for the jacking/temporary support system to be used show temporary stiffeners are required to prevent web crippling or bulking, the stiffeners shall be steel and bolted to the web. If stiffeners are not required, hardwood timbers shall be installed tightly between the top and bottom flange to prevent flange rotation.

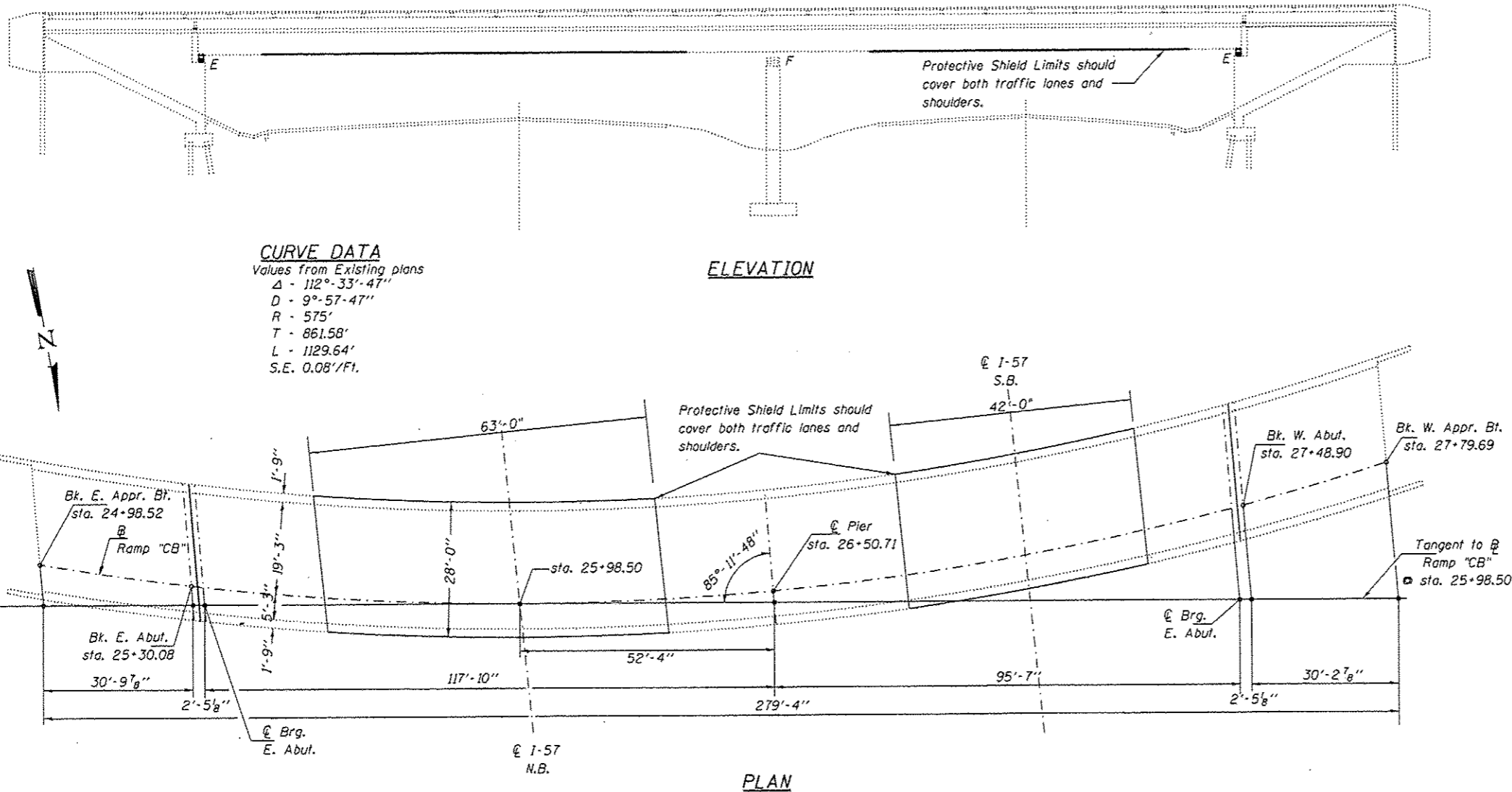
Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

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

Existing structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures."

The bearings and any area needing touched up shall be painted according to the requirements of Paint System 1 - OZ/E/U. The color of the Final Finish Coat for interior beams shall be GRAY, MUNSELL NO. 5B 7/1 and the exterior beams shall be INTERSTATE GREEN, MUNSELL NO. 7.5G 4/8.

Protective Shield shall be place before any work begins utilizing Traffic Control and Protection (Special) and shall be taken down once the work is completed.



**CURVE DATA**  
 Values from Existing plans  
 Δ - 112°-33'-47"  
 D - 9°-57'-47"  
 R - 575'  
 T - 861.58'  
 L - 1129.64'  
 S.E. 0.08'/Ft.

**ELEVATION**

**PLAN**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Waterproofing Membrane System	Sq. Yd.	768
Polymerized Hot-Mix Asphalt Surface Course, Mix "D", N90	Ton	63
Deck Slab Repair (Partial Depth)	Sq. Yd.	166
Deck Slab Repair (Full Depth)	Sq. Yd.	5
Protective Shield	Sq. Yd.	327
Elastomeric Bearing Assembly Type I	Each	8
Anchor Bolts, 1"	Each	32
Jack and Remove Existing Bearings	Each	8
Furnishing and Erecting Structural Steel	Pound	1,713
Silicone Joint Sealer, 1/2"	Foot	56
Structural Repair of Concrete ≤ 5"	Sq. Ft.	42

**Scope of Work**

- Close Structure
- Setup Traffic Control Special as shown in Plans
- Setup Protective Shield
- Takedown Traffic Control Special
- Complete Deck Slab Patching
- Structural Repair of Concrete ≤ 5 inches
- Silicone Joint and Bearing Replacement
- Install WMS and HMA Overlay
- Setup Traffic Control Special as shown in Plans
- Takedown Protective Shield
- Takedown Traffic Control Special



*David Carl Puzey* 7/24/14  
 Expires 11/30/14

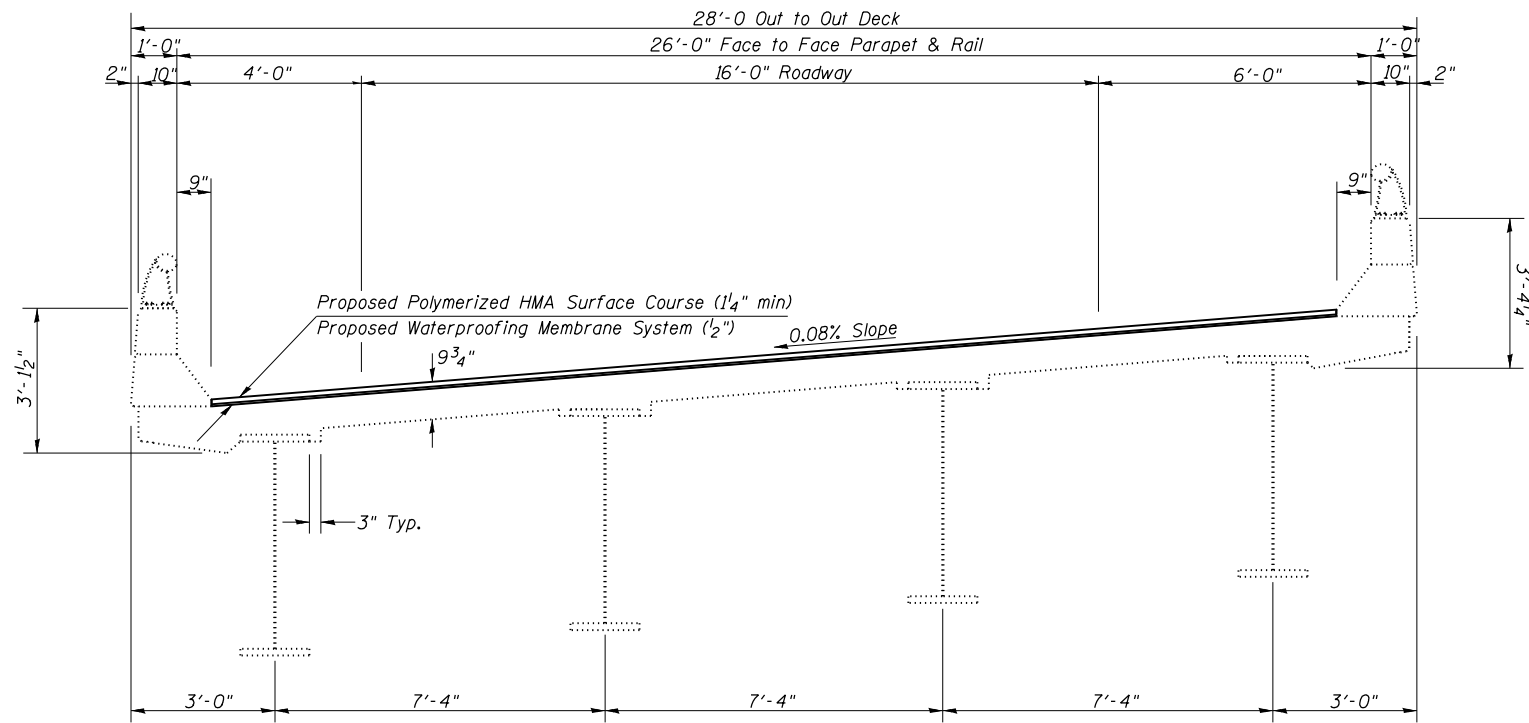
**Design Stresses**

**FIELD UNITS (New Construction)**  
 fy = 36,000 psi (AASHTO M270 Gr. 36)

**FIELD UNITS (Existing Construction)**  
 f'c = 1,200 psi (Deck Slab)  
 f'c = 1,400 psi (Curb, Parapet, Sub.)  
 fy = 20,000 psi (structural steel)  
 fy = 20,000 psi (reinforcement)  
 Vc = 75 psi (Figs.)  
 n = 10

**BRIDGE REPAIRS**  
**FAI 24 OVER FAI 57**  
**WILLIAMSON COUNTY**  
**STA. 25+30.08**  
**S. N. 100-0059**

FILE NAME: c:\pwworkspace\dahmerj\2014\11\24\14\112414.dgn	USER NAME: dahmerj	DESIGNED: JAD	REVISED: -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION	F.A.I. RTE.:	SECTION:	COUNTY:	TOTAL SHEETS:	SHEET NO.:
PLOT SCALE: 1/8"=1'-0"	CHECKED: TLC	REVISIONS:	24			09 CM BRIDGE REP. 2015-1	WILLIAMSON	19	9	
PLOT DATE: 8/19/2014	DATE:	SCALE:	CONTRACT NO. 78424			ILLINOIS FED. AID PROJECT				
			SHEET 1 OF 8 SHEETS			STA. TO STA.				



**BRIDGE CROSS-SECTION  
SHOWING NEW OVERLAY  
LOOKING UP STATION**

FILE NAME =	USER NAME = Dahmer.ja	DESIGNED -	REVISED -
ct:\pw\work\p\dot\dahmer.ja\d0387649\78424-sh-t-plan.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 8/15/2014	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TYPICAL SECTION**

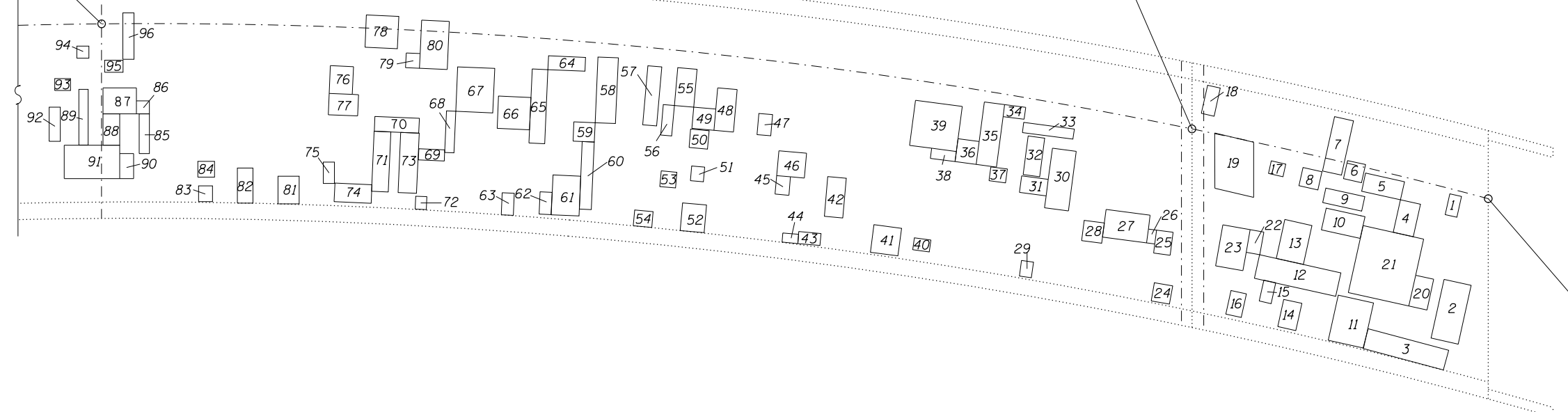
SCALE: SHEET 2 OF 8 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	D9 CM BRIDGE REP. 2015-1	WILLIAMSON	19	10
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78424	

☉ Pier  
sta. 26+50.71

Bk. E. Abut.  
sta. 25+30.08

Bk. E. Appr. Bt.  
sta. 24+98.52



NUMBER	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
1	1.6	2.3	0.4
2	3.0	6.5	2.2
3	9.0	2.2	2.2
4	3.6	2.2	0.9
5	2.0	4.3	1.0
6	2.0	2.0	0.4
7	2.1	6.0	1.4
8	2.0	2.1	0.5
9	4.3	1.6	0.8
10	4.3	2.4	1.1
11	5.0	9.3	5.2
12	2.6	9.0	2.6
13	3.0	4.3	1.4
14	2.0	3.0	0.7
15	1.3	2.3	0.3
16	1.7	2.6	0.5
17	1.6	1.4	0.2
18	1.4	3.1	0.5
19	3.3	5.8	2.1
20	2.0	3.4	0.8
21	7.4	6.7	5.5
22	1.5	2.5	0.4
23	4.5	4.5	2.3
24	2.0	2.0	0.4
25	1.8	2.5	0.5
26	0.9	1.5	0.2
27	4.8	3.0	1.6
28	2.2	2.2	0.5
29	1.3	1.7	0.2
30	3.0	6.1	2.0
31	3.4	1.2	0.5
32	1.8	4.2	0.8

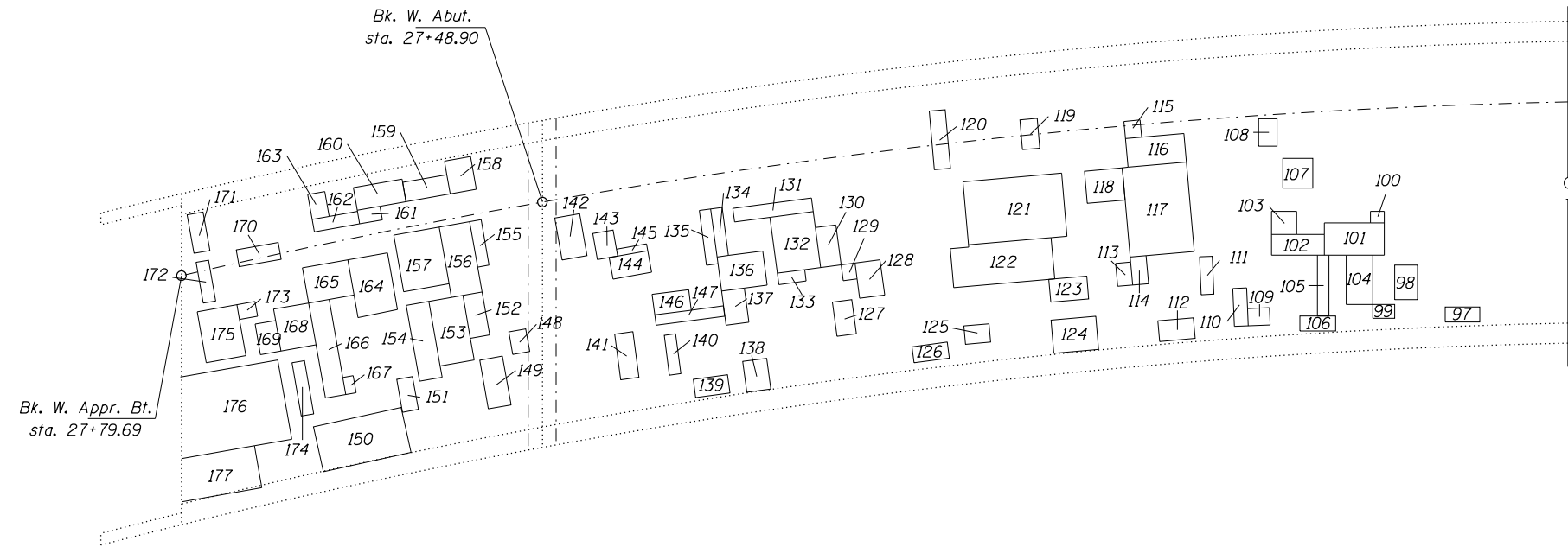
NUMBER	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
33	1.1	5.5	0.7
34	1.3	2.3	0.3
35	2.6	4.3	1.2
36	2.5	2.3	0.6
37	1.8	1.8	0.4
38	3.5	1.1	0.4
39	5.1	4.9	2.8
40	1.3	1.8	0.3
41	3.0	3.0	1.0
42	4.3	2.0	1.0
43	1.3	2.4	0.3
44	1.7	1.2	0.2
45	1.4	1.5	0.2
46	1.5	4.7	0.8
47	2.3	1.5	0.4
48	6.8	1.9	1.4
49	2.3	2.4	0.6
50	2.0	2.0	0.4
51	1.4	1.6	0.2
52	2.6	3.0	0.9
53	1.7	1.7	0.3
54	2.0	1.7	0.4
55	4.1	2.1	1.0
56	3.3	1.2	0.4
57	1.5	6.4	1.1
58	2.2	7.1	1.7
59	2.1	2.3	0.5
60	1.0	7.3	0.8
61	4.3	3.0	1.4
62	2.4	1.3	0.3
63	2.4	1.4	0.4
64	1.5	4.0	0.7

NUMBER	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
65	1.0	8.0	0.9
66	3.5	3.5	1.4
67	4.8	4.0	2.1
68	1.0	4.5	0.5
69	1.2	2.8	0.4
70	1.6	4.8	0.9
71	6.5	1.8	1.3
72	1.2	1.4	0.2
73	6.5	2.0	1.4
74	4.0	2.0	0.9
75	2.3	1.2	0.3
76	3.0	2.5	0.8
77	2.3	3.3	0.8
78	3.5	3.5	1.4
79	1.6	1.5	0.3
80	3.0	2.3	0.8
* 81	1.7	3.8	0.7
82	1.7	1.5	0.3
83	1.7	1.5	0.3
84	1.7	1.8	0.3
85	4.3	1.1	0.5
86	1.4	1.4	0.2
87	2.7	3.6	1.1
88	1.8	3.4	0.7
89	6.0	1.0	0.7
90	2.2	1.4	0.3
91	3.6	6.1	2.4
92	3.7	1.2	0.5
93	1.3	1.7	0.2
94	1.3	1.3	0.2
95	1.3	2.0	0.3
96	5.0	1.2	0.7

Notes: Work this sheet with sheet 12 of 19.  
Deck sounding was performed in May 2014  
The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin.  
\* Denotes Deck Slab Repair (Full Depth, Type I).

**DECK SLAB REPAIRS  
STRUCTURE NO. 100-0059**

FILE NAME =	USER NAME = Dahmer.ja	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DECK PATHING DETAILS</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	Plot Scale = 100.0000' / in.	DRAWN -	REVISED -			24	D9 CM BRIDGE REP. 2015-1	WILLIAMSON	19	11	
	Plot Date = 8/15/2014	CHECKED -	REVISED -			SCALE: SHEET 3 OF 8 SHEETS STA. TO STA.					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					



NUMBER	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
97	1.3	3.0	0.4
98	3.0	2.0	0.7
99	1.9	1.2	0.3
100	1.0	1.3	0.1
101	2.9	5.3	1.7
102	4.6	1.8	0.9
103	2.0	2.2	0.5
104	2.6	4.3	1.2
105	5.3	1.0	0.6
106	1.3	3.1	0.4
107	2.6	2.6	0.8
108	1.3	2.4	0.3
109	1.5	1.9	0.3
110	1.2	3.3	0.4
111	3.3	1.1	0.4
112	1.8	3.1	0.6
113	1.4	2.0	0.3
114	1.3	1.0	0.1
115	1.5	1.4	0.2
116	2.5	5.1	1.4
117	5.5	7.8	4.8
118	2.8	3.3	1.0
119	1.5	2.6	0.4
120	5.1	1.4	0.8
121	5.5	8.6	5.3
* 122	8.8	3	2.9
123	3.3	3.2	1.2
124	3.8	2.1	0.9

NUMBER	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
125	1.6	2.2	0.4
126	1.4	3.1	0.5
127	1.7	3.0	0.6
128	2.5	2.1	0.6
129	1.2	1.4	0.2
130	3.5	1.8	0.7
131	1.2	6.9	0.9
132	4.9	3.1	1.7
133	1.0	1.7	0.2
134	4.2	0.6	0.3
135	4.6	1.0	0.5
136	3.6	3.0	1.2
137	2.0	3.0	0.7
138	2.7	2.1	0.6
139	3.0	1.6	0.5
140	1.0	3.5	0.4
141	1.6	4.0	0.7
142	2.2	3.7	0.9
143	1.8	2.3	0.5
* 144	1.9	3.4	0.7
145	2.3	0.6	0.2
146	1.8	3.2	0.6
147	0.9	6.0	0.6
148	1.5	2.0	0.3
149	2.0	4.3	1.0
150	7.8	4.0	3.5
151	2.9	1.4	0.5
152	1.7	3.8	0.7

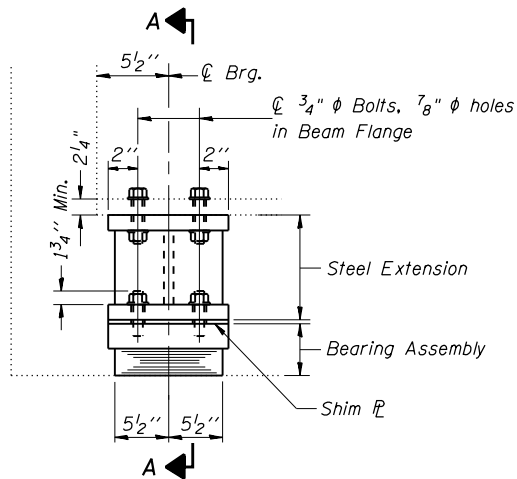
NUMBER	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
153	3.0	5.7	1.9
154	2.0	6.7	1.5
155	4.0	1.0	0.4
156	6.2	2.7	1.9
157	4.0	5.0	2.2
158	2.3	2.9	0.7
159	3.9	2.0	0.9
160	2.0	4.3	1.0
161	2.0	1.2	0.3
162	3.2	2.5	0.9
163	1.5	3.3	0.6
164	5.0	3.5	1.9
165	4.0	3.1	1.4
166	1.8	8.4	1.7
167	0.9	1.5	0.2
168	3.1	3.7	1.3
169	1.8	2.7	0.5
170	1.5	3.7	0.6
171	1.4	3.4	0.5
172	3.6	1.1	0.4
173	4.7	1.7	0.9
174	1.6	1.0	0.2
175	3.5	4.5	1.8
176	7	8.6	6.7
177	3.7	7.5	3.1

Notes: Deck sounding was performed in May 2014  
 The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin.  
 \* Denotes Deck Slab Repair (Full Depth, Type I).

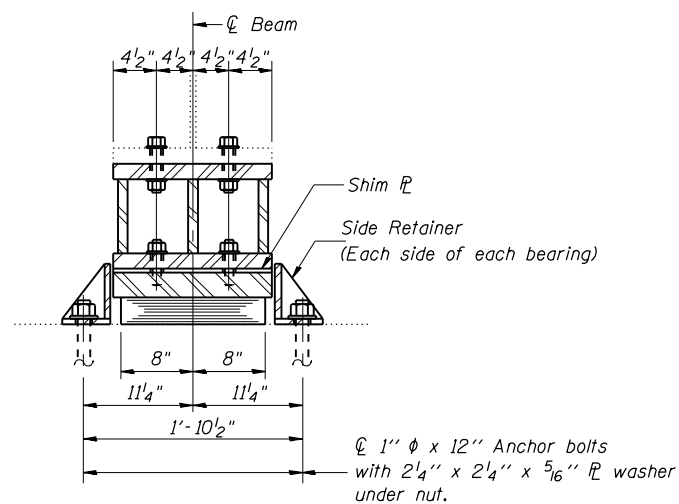
**BILL OF MATERIAL**

Item	Unit	Total
Deck Slab Repair (Full Depth)	Sq Yd	5
Deck Slab Repair (Partial Depth)	Sq Yd	166

**DECK SLAB REPAIRS  
 STRUCTURE NO. 100-0059**



ELEVATION AT ABUT.



SECTION A-A

**TYPE I ELASTOMERIC EXP. BRG.**

**Notes:**

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

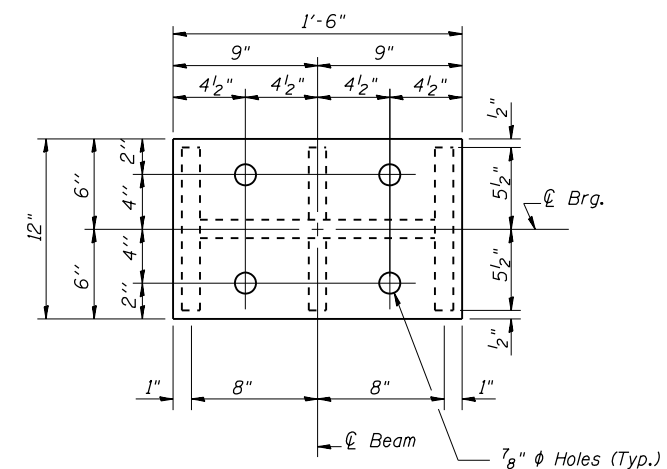
The minimum jack capacity required is 60 Tons.

Existing cross frame removal and reinstallation may be required to facilitate drilling holes, cost to be included with "Jack and Remove Existing Bearings".

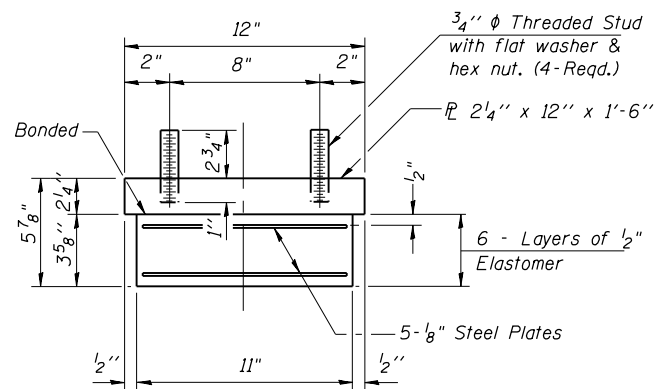
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

New steel extensions, connection bolts, Shim's are included in "Furnishing and Erecting Structural Steel".



PLAN-TOP & BOTTOM PLATE

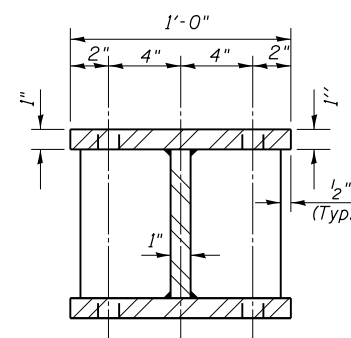


BEARING ASSEMBLY

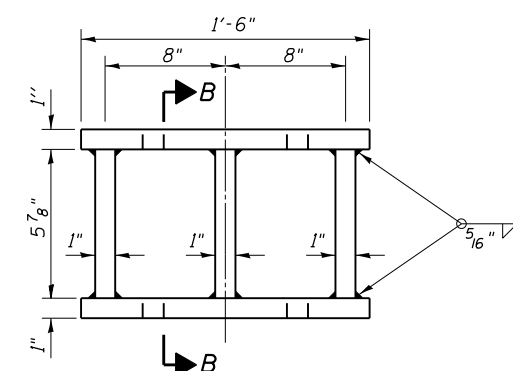
Note: Shim plates shall not be placed under Bearing Assembly.

**GIRDER REACTIONS**

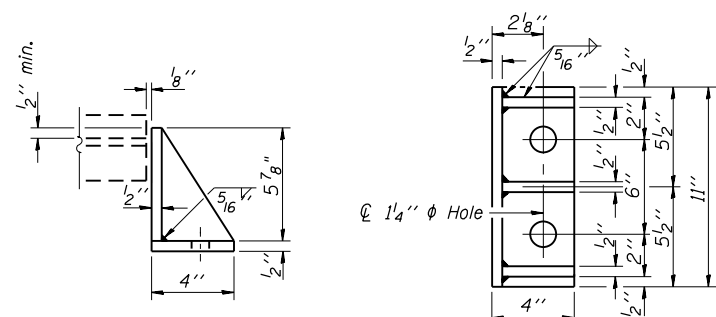
EAST ABUTMENT		
R <sub>D</sub>	(K)	78.4
R <sub>L</sub>	(K)	56.4
Imp.	(K)	11.6
R (Total)	(K)	146.4



SECTION B-B

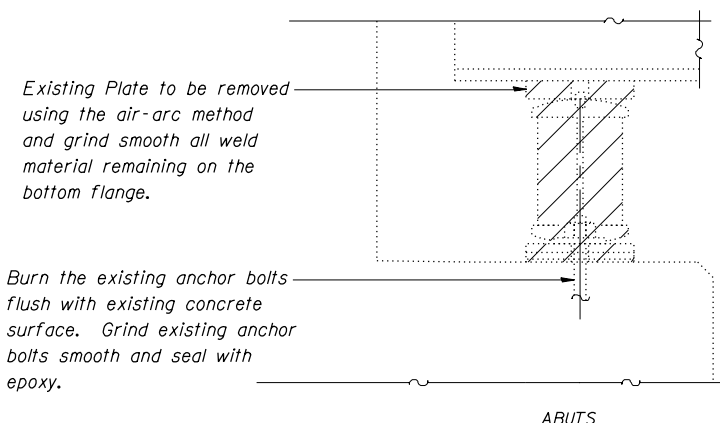


STEEL EXTENSION DETAIL



SIDE RETAINER

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



EXISTING BEARING REMOVAL DETAIL

Cost is included with Jack and Remove Existing Bearings

**BILL OF MATERIAL EAST ABUT.**

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	4
Anchor Bolts, 1"	Each	16
Jack and Remove Existing Bearings	Each	4
Furnishing and Erecting Structural Steel	Pound	890

**BEARING DETAILS EAST ABUTMENT STRUCTURE NO. 100-0059**

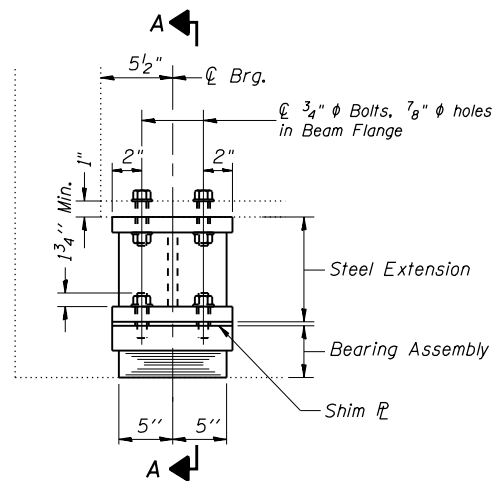
FILE NAME =	USER NAME = Dahmer.ja	DESIGNED -	REVISED -
c:\pwwork\pwwork\dahmer.ja\d0387649\78424-sh-t-plan.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -
	PLOT DATE = 8/15/2014	DATE -	REVISED -

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

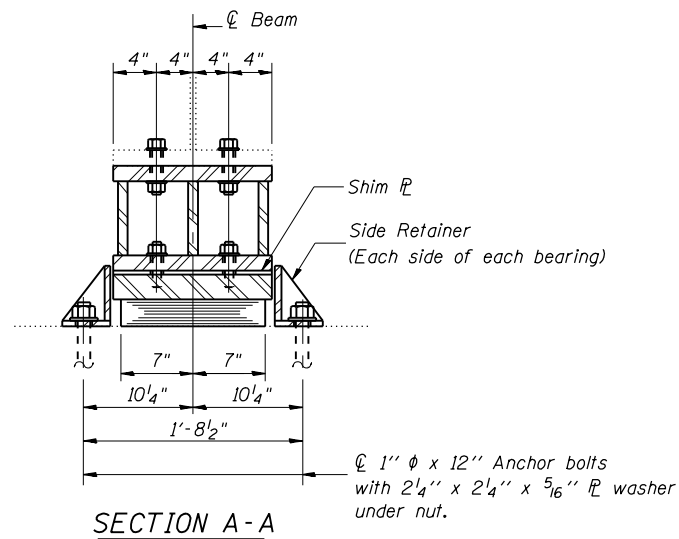
**BEARING DETAIL EAST ABUTMENT**

SCALE: SHEET 5 OF 8 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	D9 CM BRIDGE REP. 2015-1	WILLIAMSON	19	13
			CONTRACT NO. 78424	
ILLINOIS FED. AID PROJECT				



ELEVATION AT ABUT.



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

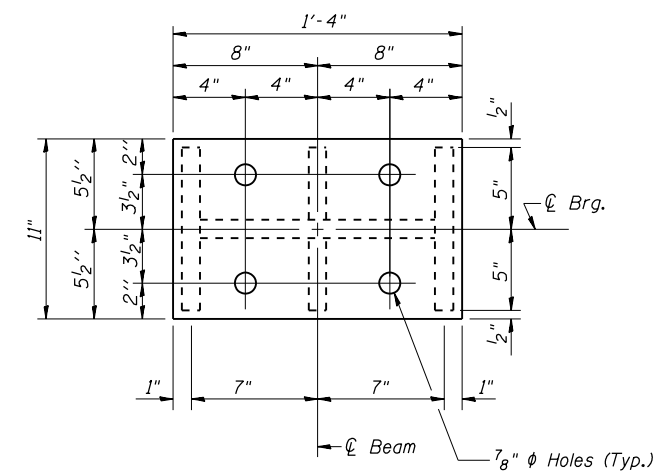
The minimum jack capacity required is 35 Tons.

Existing cross frame removal and reinstallation may be required to facilitate drilling holes, cost to be included with "Jack and Remove Existing Bearings".

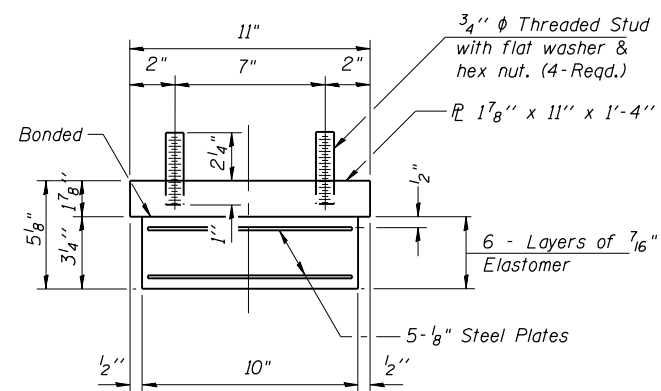
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

New steel extensions, connection bolts, Shim P's are included in "Furnishing and Erecting Structural Steel".



PLAN-TOP & BOTTOM PLATE

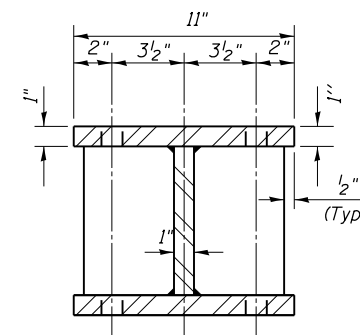


BEARING ASSEMBLY

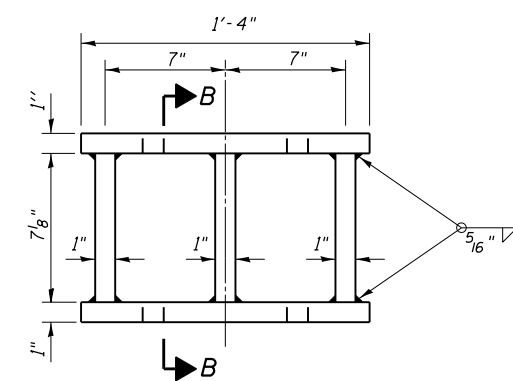
Note: Shim plates shall not be placed under Bearing Assembly.

GIRDER REACTIONS

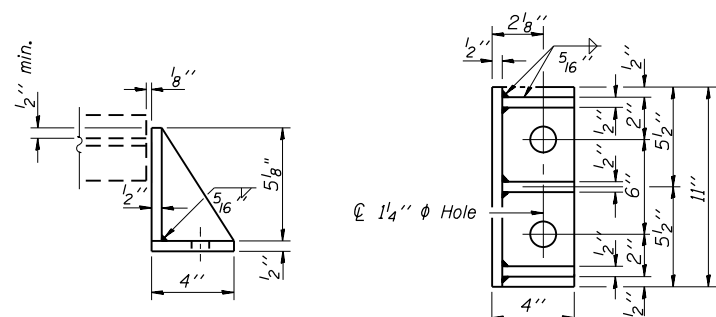
WEST ABUTMENT	
R <sub>D</sub>	(K) 46.7
R <sub>L</sub>	(K) 51.3
Imp.	(K) 11.6
R (Total)	(K) 109.6



SECTION B-B



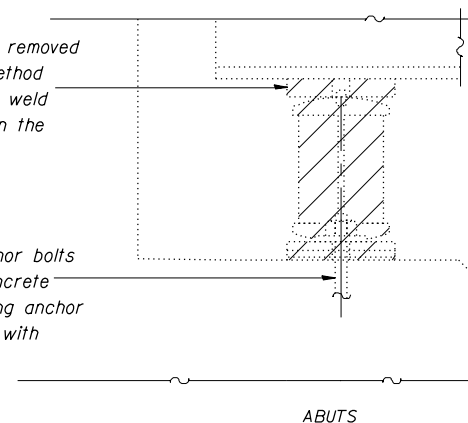
STEEL EXTENSION DETAIL



SIDE RETAINER

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

Existing Plate to be removed using the air-arc method and grind smooth all weld material remaining on the bottom flange.



EXISTING BEARING REMOVAL DETAIL

Cost is included with Jack and Remove Existing Bearings

BILL OF MATERIAL WEST ABUT.

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	4
Anchor Bolts, 1"	Each	16
Jack and Remove Existing Bearings	Each	4
Furnishing and Erecting Structural Steel	Pound	823

BEARING DETAILS WEST ABUTMENT STRUCTURE NO. 100-0059

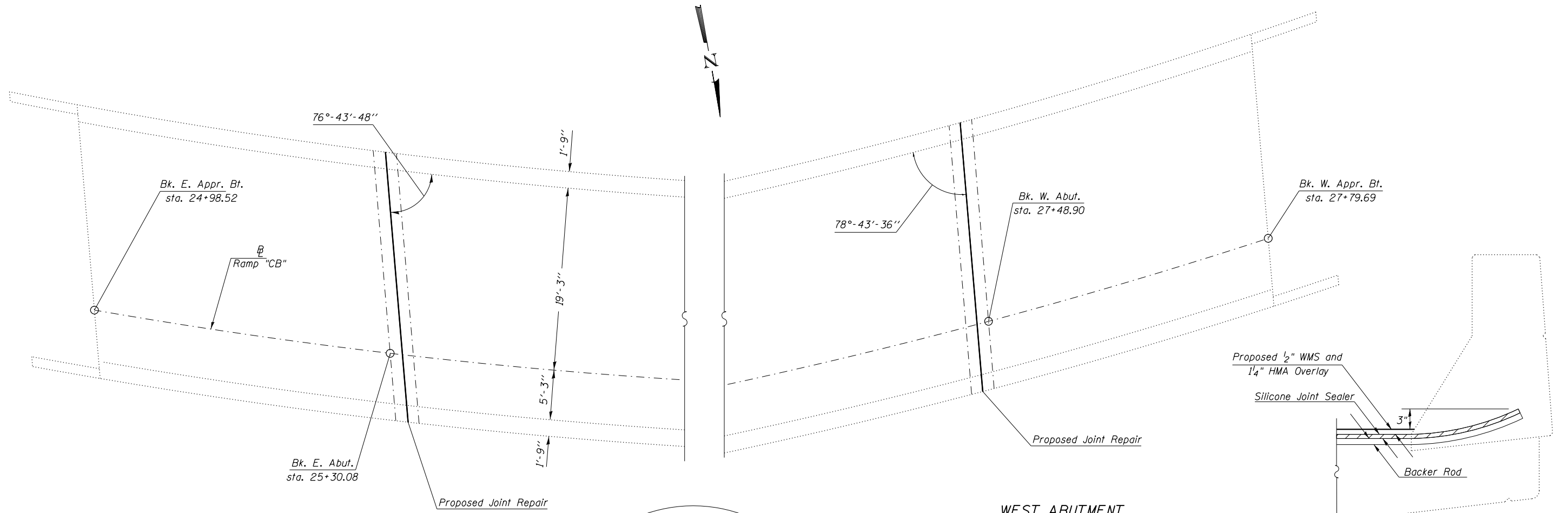
FILE NAME =	USER NAME = Dahmer.ja	DESIGNED -	REVISED -
Default	24-sh-t-plan.dgn	DRAWN -	REVISED -
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 8/15/2014	DATE -	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

BEARING DETAIL WEST ABUTMENT

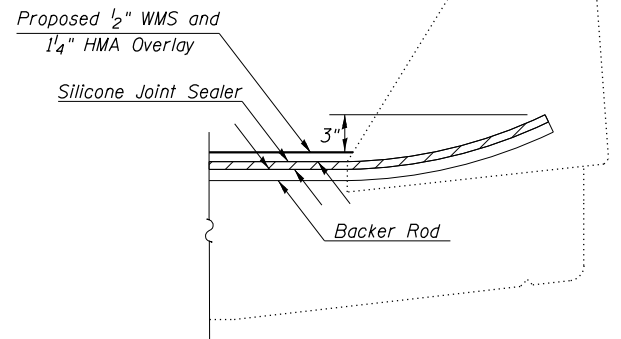
SCALE: SHEET 6 OF 8 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	D9 CM BRIDGE REP. 2015-1	WILLIAMSON	19	14
			CONTRACT NO. 78424	
ILLINOIS FED. AID PROJECT				

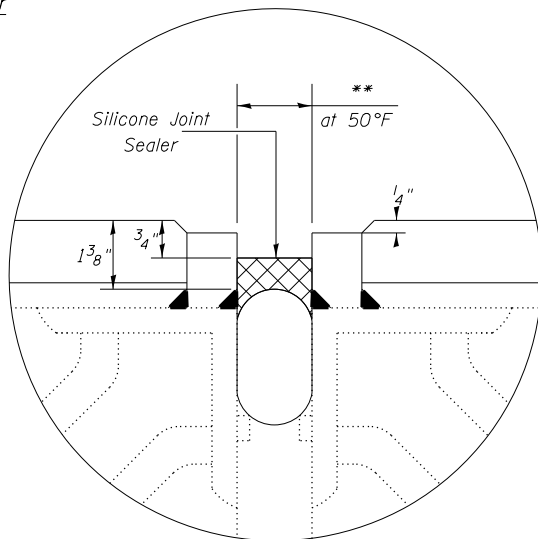


**EAST ABUTMENT**

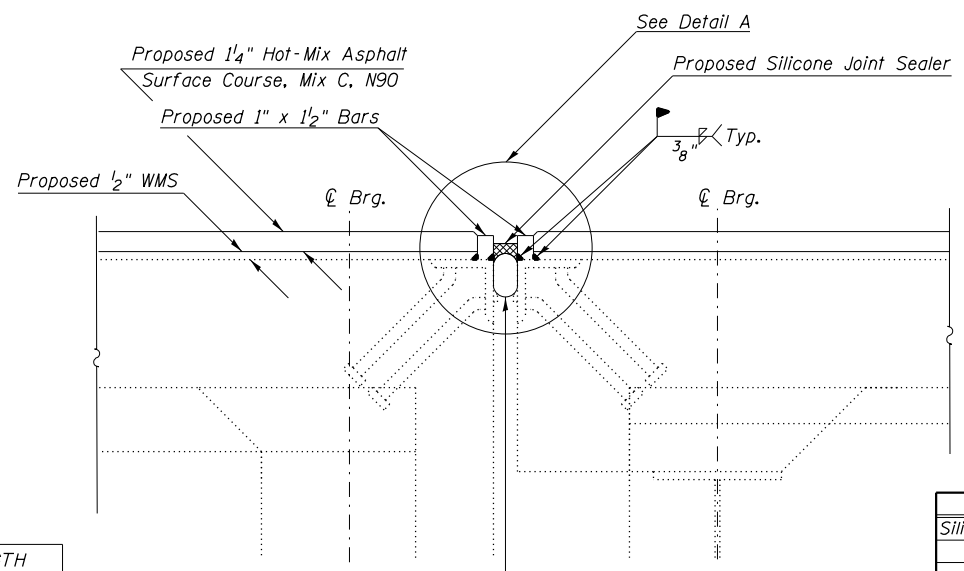
**WEST ABUTMENT**



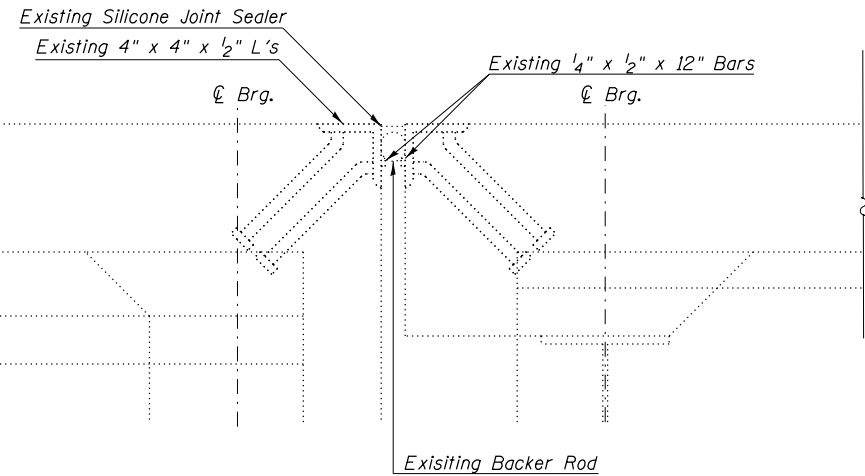
**TYPICAL END OF SEAL TREATMENT AT EXPANSION JOINT**



**DETAIL A**



**PROPOSED JOINT REPAIR DETAIL**



**EXISTING JOINT DETAIL**

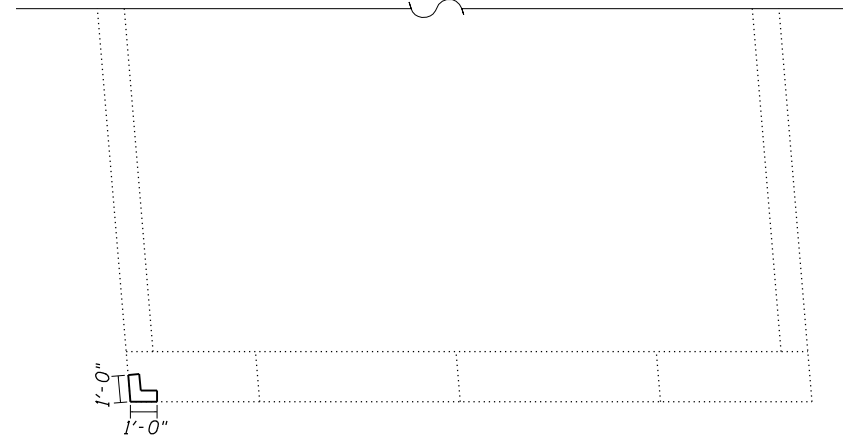
Notes: The removal of the existing joint and Furnishing and Erecting of the proposed 1" x 1/2" bars to be included in the cost of Silicone Joint Sealer, 1.5".

**BILL OF MATERIAL**

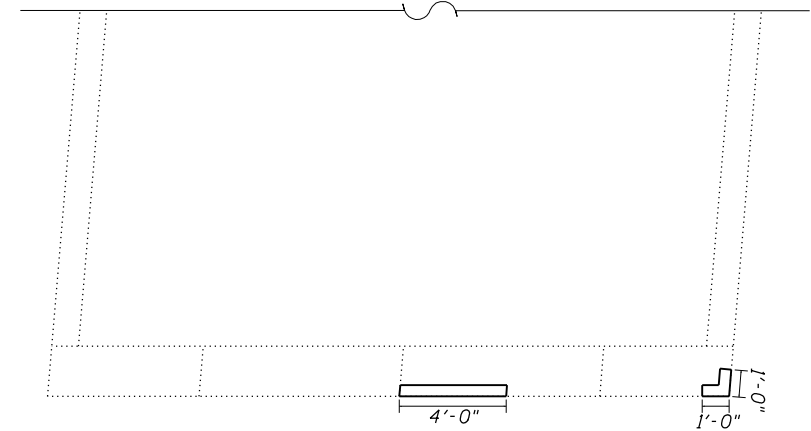
Item	Unit	Total
Silicone Joint Sealer, 1.5"	Foot	58

EXISTING OPENING **	LENGTH
	FOOT
WEST	1-1/2" 28.5
EAST	1-1/2" 28.6

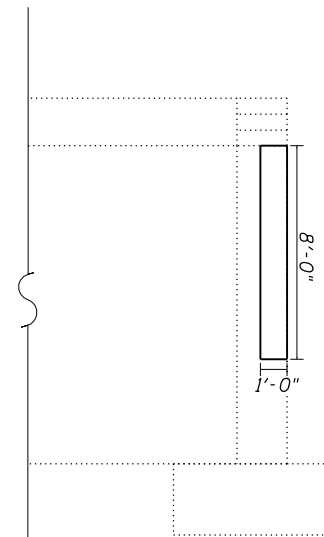
**EXPANSION JOINT REPAIRS STRUCTURE NO. 100-0059**



PLAN VIEW



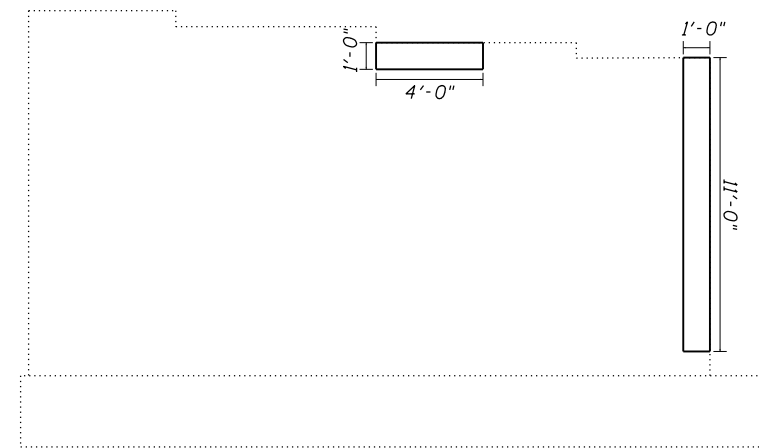
PLAN VIEW



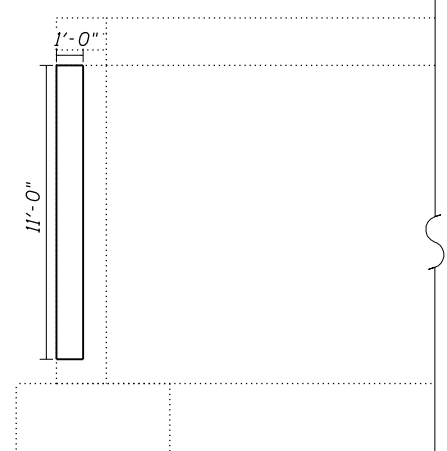
LOOKING NORTH  
AT ABUTMENT



LOOKING FROM  $\phi$  AT ABUTMENT



LOOKING FROM  $\phi$  AT ABUTMENT



LOOKING NORTH  
AT ABUTMENT

ELEVATION VIEW  
STRUCTURAL REPAIR OF CONCRETE  
(DEPTH  $\leq$  5 INCHES)  
WEST VAULT

ELEVATION VIEW  
STRUCTURAL REPAIR OF CONCRETE  
(DEPTH  $\leq$  5 INCHES)  
EAST VAULT

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete $\leq$ 5 in	Sq Ft	42

STRUCTURAL REPAIR OF CONCRETE  
STRUCTURE NO. 100-0059

FILE NAME =	USER NAME = Dahmer.ja	DESIGNED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

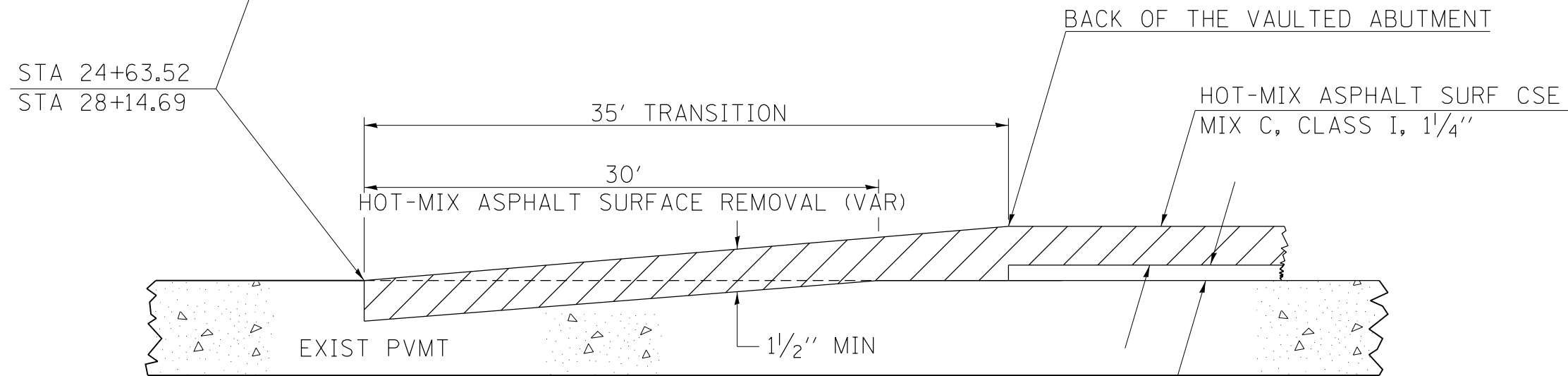
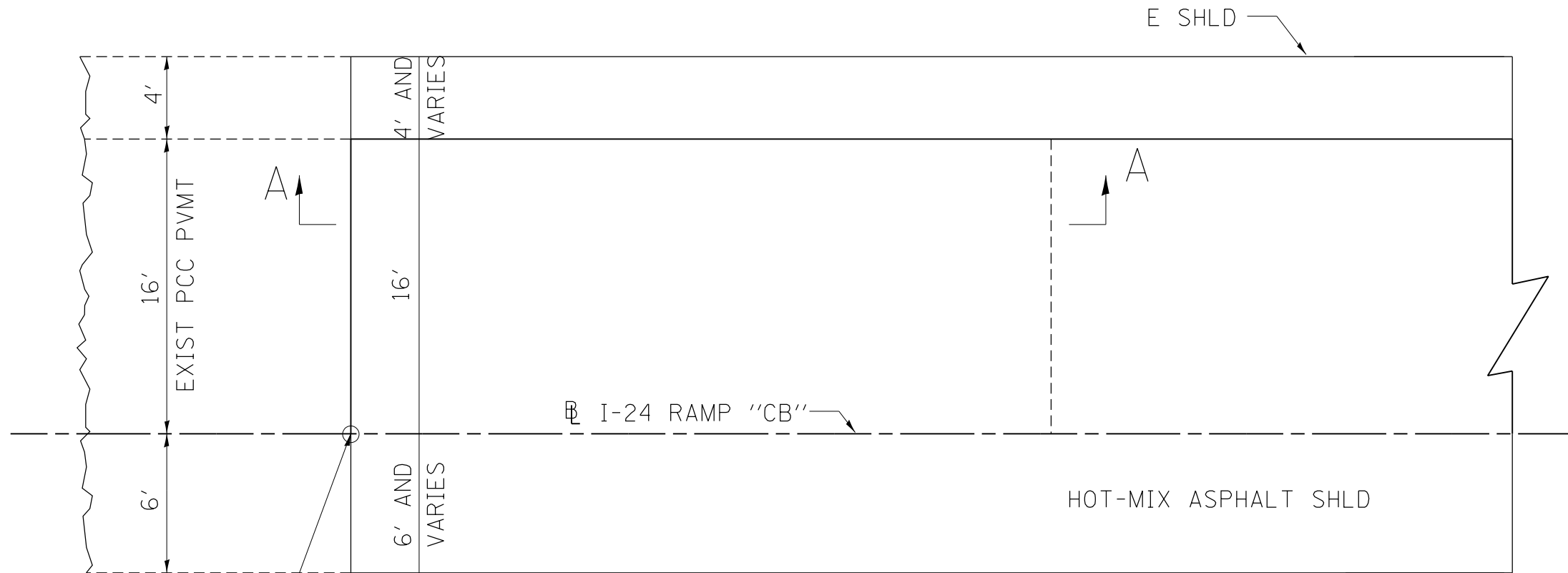
**STRUCTURAL REPAIR OF CONCRETE DETAILS**

SCALE: SHEET 8 OF 8 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	D9 CM BRIDGE REP. 2015-1	WILLIAMSON	19	16
CONTRACT NO. 78424			ILLINOIS FED. AID PROJECT	



# BUTT JOINT



STA 24+63.52  
STA 28+14.69

## SECTION A-A

### REVISIONS

DRAWN	10-17-90
REVISED	01-11-07
REVISED	3-25-08
REVISED	5-17-13

STD. 9-86

FILE NAME =	USER NAME = Dahmer.ja	DESIGNED -	REVISED -
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	PLOT SCALE = 100.0000' / 1" =	CHECKED -	REVISED -
	PLOT DATE = 8/15/2014	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

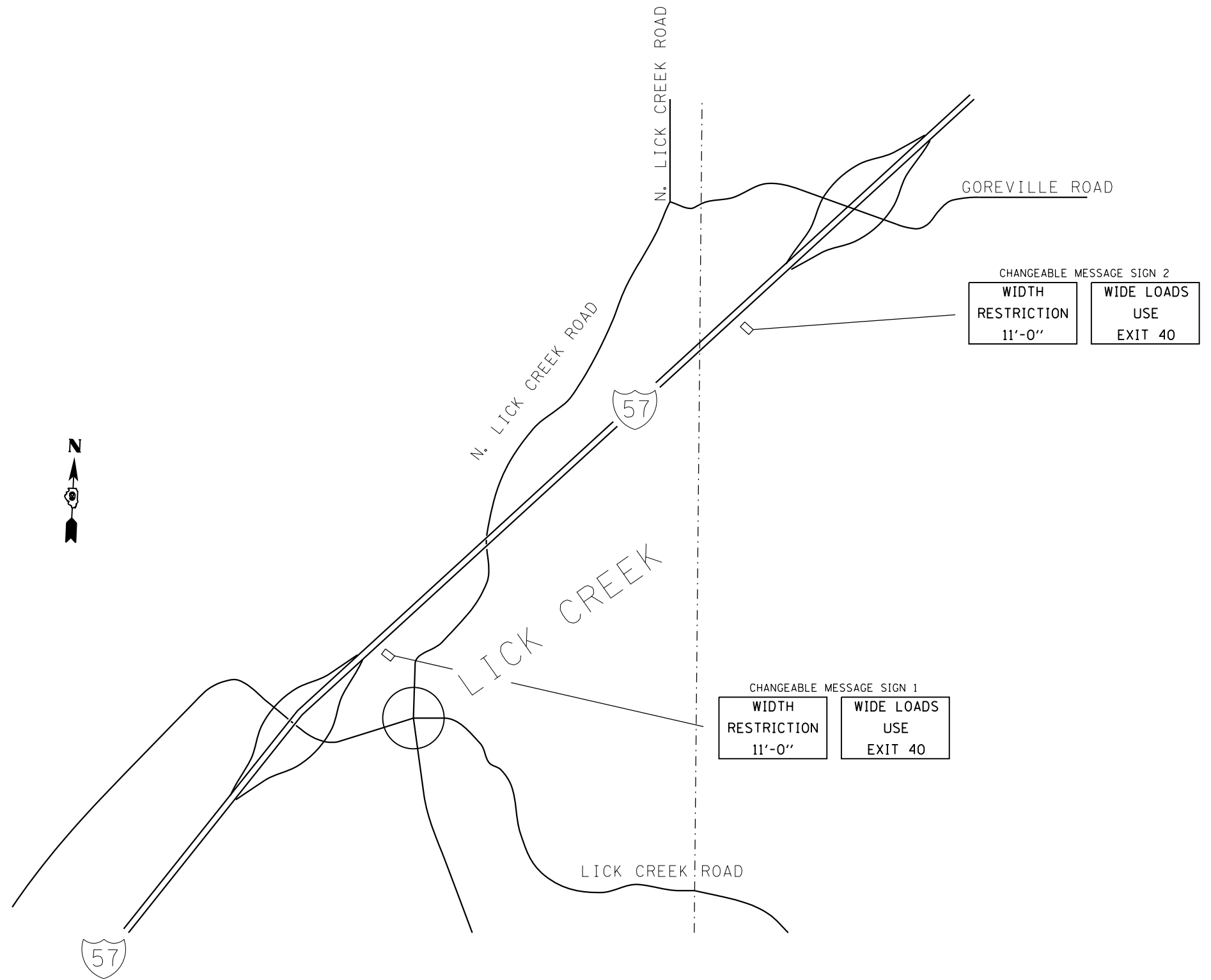
**BUTT JOINT DETAIL**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	D9 CM BRIDGE REP. 2015-1	WILLIAMSON	19	17
CONTRACT NO. 78424				
ILLINOIS FED. AID PROJECT				

# WIDTH RESTRICTION SIGNING

1. THE RELOCATING, MAINTENANCE OR REPLACEMENT OF CHANGEABLE MESSAGE SIGNS SHALL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04.
2. EXACT CHANGEABLE MESSAGE SIGN PLACEMENT WILL BE DETERMINED BY THE ENGINEER.
3. THE DISTRICT 9 OPERATIONS ENGINEER SHALL BE CONTACTED 10 DAYS PRIOR TO THE ERECTION OF CHANGEABLE MESSAGE SIGNS.
4. THE CONTRACTOR SHALL DISPLAY THE CHANGEABLE MESSAGE SIGNS TWO WEEKS BEFORE THE CLOSURE SHOWING THE WARNING AND CHANGE THE MESSAGE THE NIGHT OF THE CLOSURE.



FILE NAME =	USER NAME = Dahmer.ja	DESIGNED -	REVISED -
ct:\pw\work\p1dot\dahmer.ja\0387649\78424-sh1-plan.dgn		DRAWN -	REVISED -
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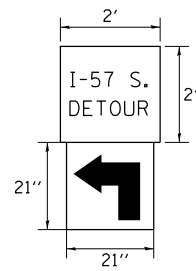
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

WIDTH RESTRICTION DETAILS			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 78424			ILLINOIS FED. AID PROJECT	

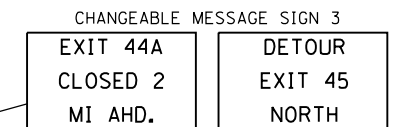
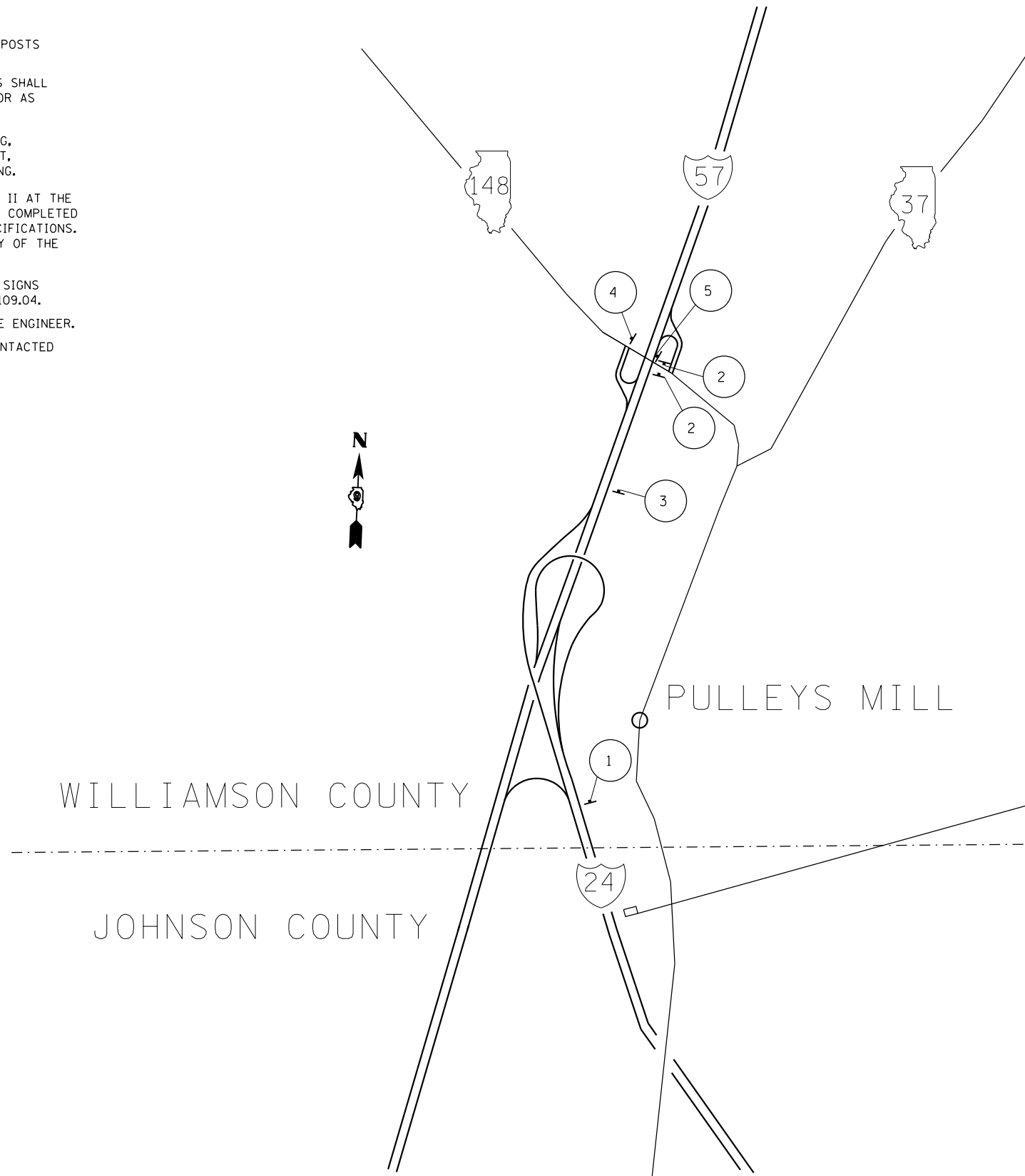
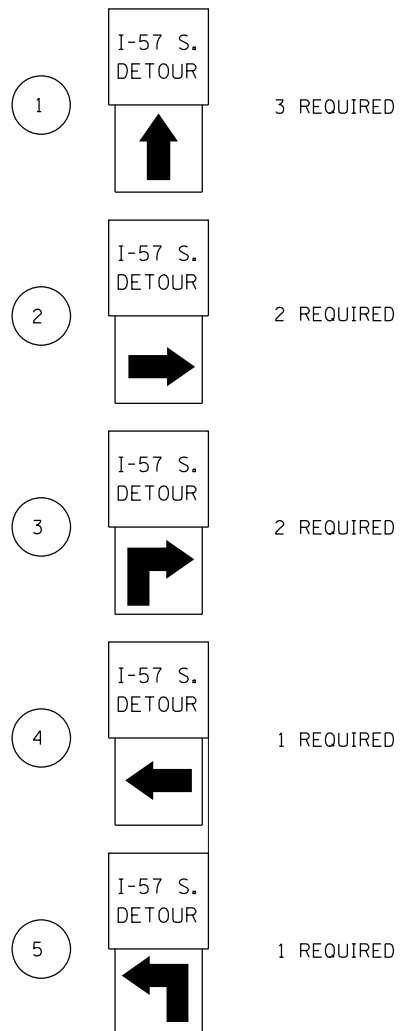
# DETOUR SIGNING

## SIGN DETAIL



### NOTES:

1. THE CONTRACTOR HAS THE OPTION OF USING METAL POSTS INSTEAD OF WOOD.
2. ALL SIGNS SHALL BE BLACK ON ORANGE. THE POSTS SHALL BE PLACED 12 FEET FROM THE EDGE OF PAVEMENT OR AS DIRECTED BY THE ENGINEER.
3. THE COST OF FURNISHING, REMOVING, AND INSTALLING, ALL SIGNS, AND HARDWARE AS SHOWN ON THIS SHEET, SHALL BE INCLUDED IN THE COST OF DETOUR SIGNING.
4. SIGNS SHALL BE REMOVED ON COMPLETION OF STAGE II AT THE DIRECTION OF THE ENGINEER. THIS WORK SHALL BE COMPLETED ACCORDING TO SECTION 724 OF THE STANDARD SPECIFICATIONS. THE SIGNS AND POSTS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
5. THE RELOCATING, MAINTENANCE OR REPLACEMENT OF SIGNS SHALL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04.
6. EXACT SIGN PLACEMENT WILL BE DETERMINED BY THE ENGINEER.
7. THE DISTRICT 9 OPERATIONS ENGINEER SHALL BE CONTACTED 10 DAYS PRIOR TO THE ERECTION OF SIGNS.



FILE NAME =	USER NAME = Dahmer,ja	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DETOUR SIGNING</b>			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
		DRAWN -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	24	D9 CM BRIDGE REP. 2015-1	WILLIAMSON	19	19
		CHECKED -	REVISED -		CONTRACT NO. 78424											
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT											