

04-25-14 LETTING ITEM 083

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 331 (IL 13)
D9 CM DECK PATCH & RES 2014-1

MISC. BRIDGE REPAIR AND HMA OVERLAY
SALINE COUNTY

C-99-005-14

FOR INDEX OF SHEETS, SEE SHEET NO. 2

TRAFFIC DATA

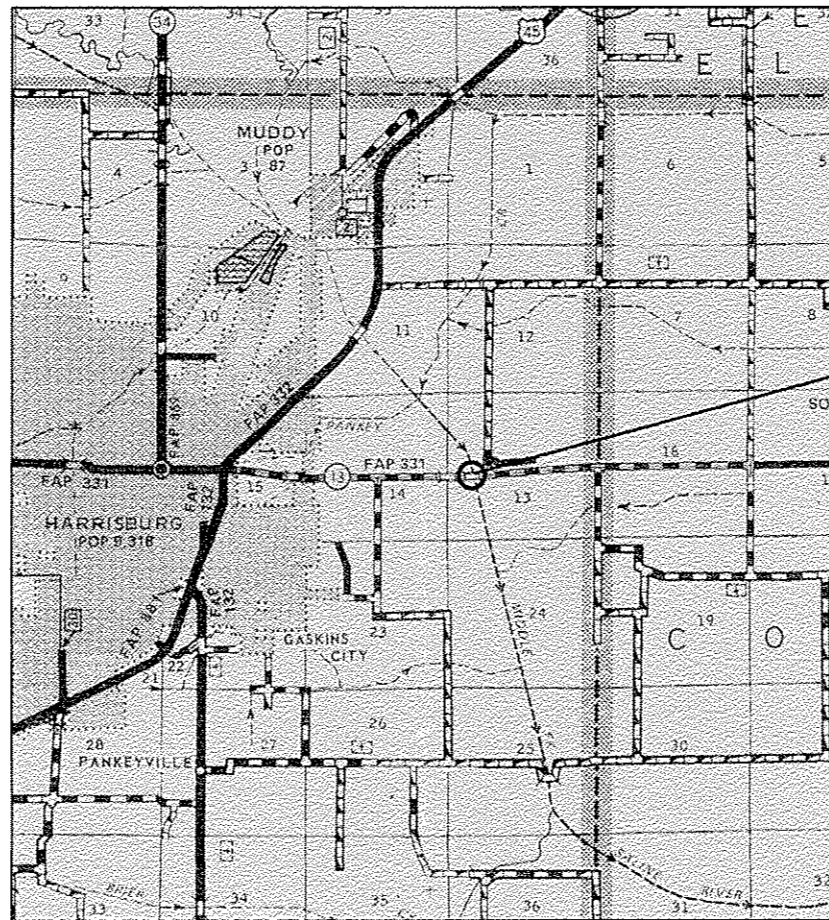
IL 13 SN 083-0045
2011 ADT = 4100 WITH 6% TRUCKS

TOWNSHIP:
HARRISBURG

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

DESIGNER: RUSS WALKER
PROJECT MANAGER: DAVID PICHE (618) 351-5227

CONTRACT NO. 78384



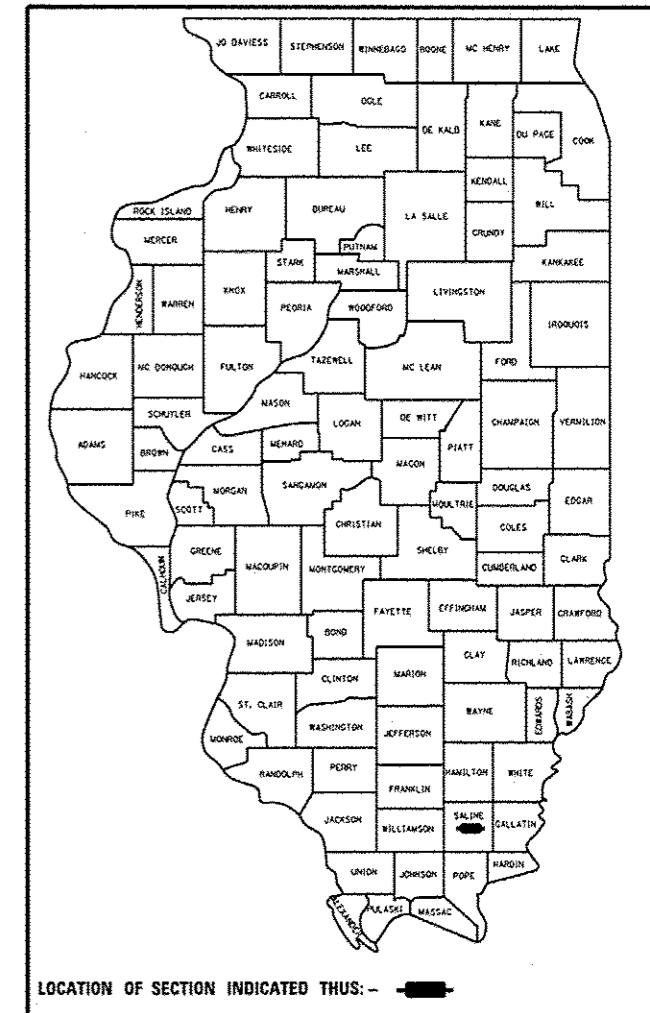
PROJECT LOCATION
SN 083-0045

GROSS LENGTH = 333 FT.
NET LENGTH = 333 FT.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	**	SALINE	8	1
ILLINOIS			CONTRACT NO. 78384	

** D9 CM DECK PATCH & RES 2014-1

D99-004-14



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Jan 22 20 14

Jeffrey J. [Signature]
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 21 20 14
John D. Baranzelli PE
ENGINEER OF DESIGN AND ENVIRONMENT

March 21 20 14
Omer Osman PE
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

GENERAL NOTES

- 1) THE THICKNESS OF HOT-MIX ASPHALT MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HOT-MIX ASPHALT MIXTURE IS PLACED.
- 2) FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:

ALL HOT MIX ASPHALT	2.016 TONS/CU YD
BITUMINOUS MATERIALS ON PAVEMENT	0.09 GAL /50 YD
- 3) PRIOR TO PLACEMENT OF THE FINAL PAVEMENT MARKINGS THE RESIDENT ENGINEER SHOULD CONTACT THE BUREAU OF OPERATIONS AND ARRANGE FOR INSPECTION AND APPROVAL OF THE PAVEMENT MARKING LAYOUT.
- 4) IN ADDITION TO THE REQUIREMENTS OF ARTICLE 107.16 THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECKS AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT AS DEFINED IN ARTICLE 101.16 REGARDLESS IF TRACK MOUNTED OR WHEELED.
- 5) THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 275 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.
- 6) COMMITMENTS: NONE AS OF JANUARY 17, 2014.

STANDARDS

- | | |
|-----------|---|
| 000001-06 | STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS |
| 701001-02 | OFF-ROAD, 2L2W MORE THAN 15' FROM PAVEMENT EDGE |
| 701006-05 | OFF-ROAD, 2L2W 15' TO 24" FROM PAVEMENT EDGE |
| 701201-04 | LANE CLOSURE, 2L2W DAY ONLY, FOR SPEEDS > 45 MPH |
| 701316-08 | LANE CLOSURE, 2L2W BRIDGE REPAIR, FOR SPEEDS > 45 MPH |
| 701901-03 | TRAFFIC CONTROL DEVICES |

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS, GENERAL NOTES, STANDARDS, MIX REQUIREMENTS, PAVEMENT MARKING SCHEDULE
- 3 SUMMARY OF QUANTITIES
- 4 SUMMARY OF QUANTITIES
- 5 GENERAL PLAN & ELEVATION
- 6 STAGING DETAILS
- 7 DECK PATCHING
- 8 BUTT JOINT DETAILS

MIXTURE REQUIREMENTS

LOCATION(S):	HOT-MIX ASPHALT SURFACE COURSE
MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE, MIX C, N90
AC/PG:	PG 64-22
ABR% (MAX):	SEE BDE SPECIAL PROVISION
DESIGN AIR VOIDS:	4% @ NDES 90
MIXTURE COMPOSITION (GRADATION MIXTURE):	IL 9.5 mm
FRICTION AGGREGATE:	C SURFACE

PAVEMENT MARKING SCHEDULE

STATION	LENGTH (INFORMATION ONLY)	TEMPORARY PAVEMENT MARKING - LINE 4''		PAINT PAVEMENT MARKING - LINE 4''	
		SOLID WHITE	YELLOW SKIP DASH (PASSING)	SOLID WHITE	YELLOW SKIP DASH (PASSING)
	FOOT	FOOT	FOOT	FOOT	FOOT
1164+45.5 TO 1167+78.5	333	666	84	666	84
TOTALS		750		750	

Prepared By: *Joe Zlaniewicz*
DISTRICT STUDIES & PLANS ENGINEER

Examined By: *John S. ...*
DISTRICT LAND ACQUISITION ENGINEER

Examined By: *Carrie Nelson*
DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By: *Carl ...*
DISTRICT OPERATIONS ENGINEER

Examined By: *...*
DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: *Daryl J. ...*
DISTRICT CONSTRUCTION ENGINEER

Examined By: *...*
DISTRICT MATERIALS ENGINEER

** D9 CM DECK PATCH & RES 2014-1

FILE NAME *	USER NAME * odanzon	DESIGNED/DRAW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES, STANDARDS, INDEX OF SHEETS, MIXTURE REQUIREMENTS, PAVEMENT MARKING SCHEDULE				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
...	...	DRAWN RAW	REVISED -		331	**	SALINE	8	2				
...	...	CHECKED TWH	REVISED -		CONTRACT NO. 78384				ILLINOIS FED. AID PROJECT				
...	...	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.		

SUMMARY OF QUANTITIES

CODE NUMBER	ITEM DESCRIPTION	UNIT	CONSTRUCTION TYPE CODE: 0014 FUNDING: 100% STATE
40300100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	135
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SO YD	160
40600990	TEMPORARY RAMP	SO YD	23
40603320	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90	TON	156
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	2
67100100	MOBILIZATION	L SUM	1
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	1
70300100	SHORT TERM PAVEMENT MARKING	FOOT	36
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	750
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SO FT	262
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	750

* SPECIALTY ITEM

14

FILE NAME :	USER NAME : #USER*	DESIGNEDRAW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
g:\pwork\pwork\adexcom\0358434\7834-dsign.dgn		DRAWN RAW	REVISED -			331	**	SALINE	8	3	
#MODELNAME#	PLLOT SCALE = 100.0000' / 1"	CHECKED TWH	REVISED -			SCALE: SHEET OF SHEETS STA. TO STA.		CONTRACT NO. 78384			
	PLLOT DATE = 1/31/2014	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

** D9 CM DECK PATCH & RES 2014-1

SUMMARY OF QUANTITIES

CODE NUMBER	ITEM DESCRIPTION	UNIT	CONSTRUCTION TYPE CODE: 0014 FUNDING: 100% STATE
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	3
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	3
86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SO YD	18
Z0016200	DECK SLAB REPAIR (PARTIAL)	SO YD	107
Z0021912	SILICONE JOINT SEALER, 2.5"	FOOT	87
Z0041895	POLYMER CONCRETE	CU FT	17.1

* SPECIALTY ITEM

FILE NAME =	USER NAME = *USER*	DESIGNED/DRAW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
c:\p\work\p\p\dot\edamsam\02358434\783	*design.dgn	DRAWN RAW	REVISED -			331	**	SALINE	8	4	
MODELNAME*	PLOT DATE * 1/31/2014	CHECKED TWH	REVISED -			SCALE: SHEET OF SHEETS STA. TO STA.		ILLINOIS FED. AID PROJECT			
		DATE -	REVISED -			** D9 CM DECK PATCH & RES 2014-1					

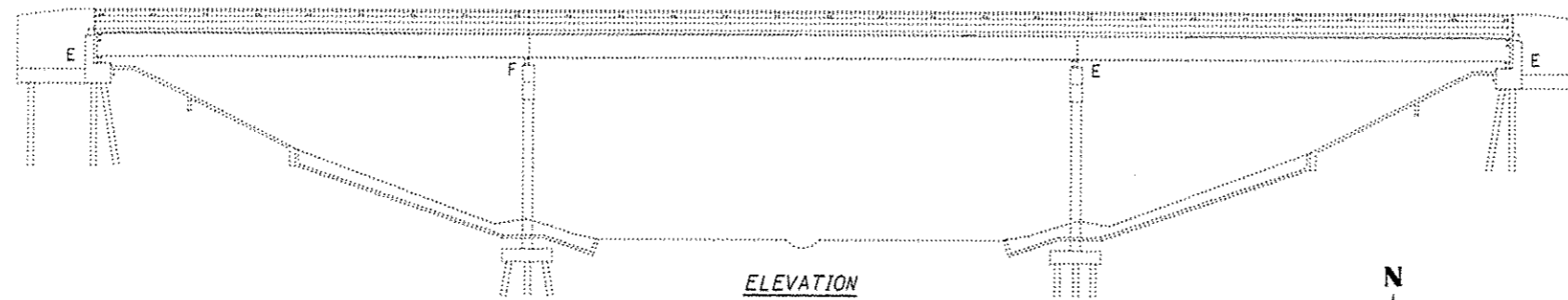
GENERAL NOTES

The bridge deck surface shall be cleaned with oil-free compressed air or wire brushes to remove all oil, grime, and loose particles. Surfaces that will not respond to cleaning by compressed air or wire brushes shall be cleaned by sandblasting.

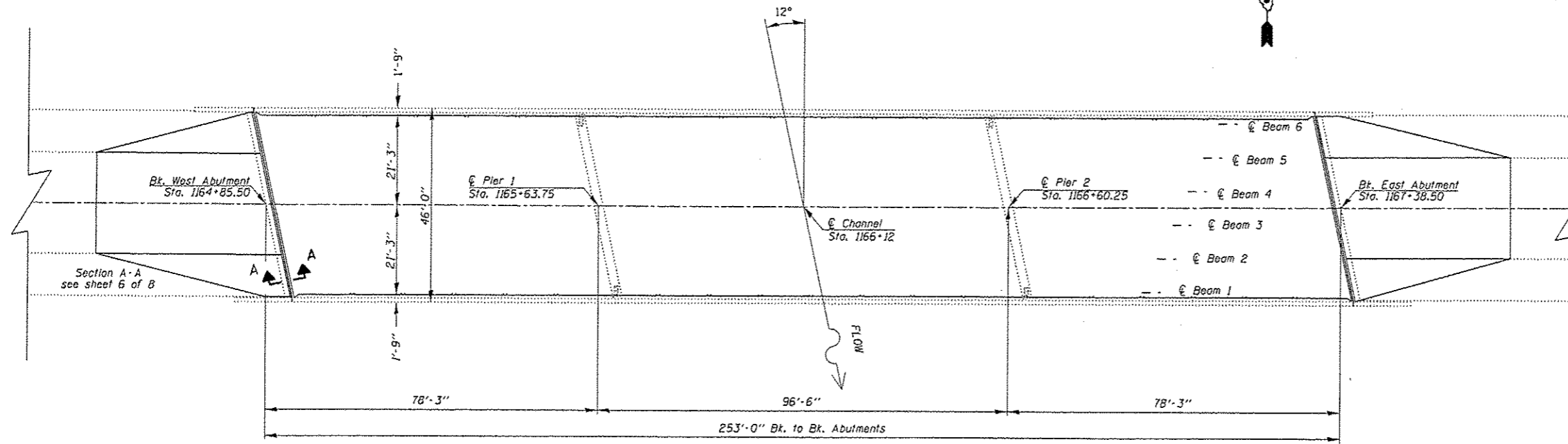
Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall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

Maintain existing deck drain openings and transition asphalt overlay at each drain location.

The removal of the existing neoprene joint, sawing and accessories shall be included in the cost of Silicone Joint Sealer, 2.5".



ELEVATION



PLAN

SCOPE OF WORK

Deck Slab Repair (Full Depth Type II) and Deck Slab Repair (Partial) with a 2" HMA Overlay with prime coat applied to the bridge deck with surface removal butt joints in the approach pavements. Neoprene joints will be removed and replaced with Silicone Joint Sealer, 2.5" and Polymer Concrete.

CURVE DATA

F.A.P. ROUTE 331
 P.I. Sta. 1159+47.81
 $\Delta = 2^{\circ}-52'-10''$
 $D = 0^{\circ}-08'-30''$
 $R = 40,444'$
 $T = 1012.95'$
 $L = 2025.50'$
 $E = 1268'$

DESIGN STRESSES

$f_c = 1200$ psi Deck Slab
 $f_c = 1400$ psi Curb, Parapet, Sub
 $f_s = 20000$ psi Reinforcement
 $f_s = 20000$ psi Structure
 $V_c = 75$ psi Flgs.
 $n = 10$

Allowable Live Load Deflection 2/1000
 Loading HS 20-44

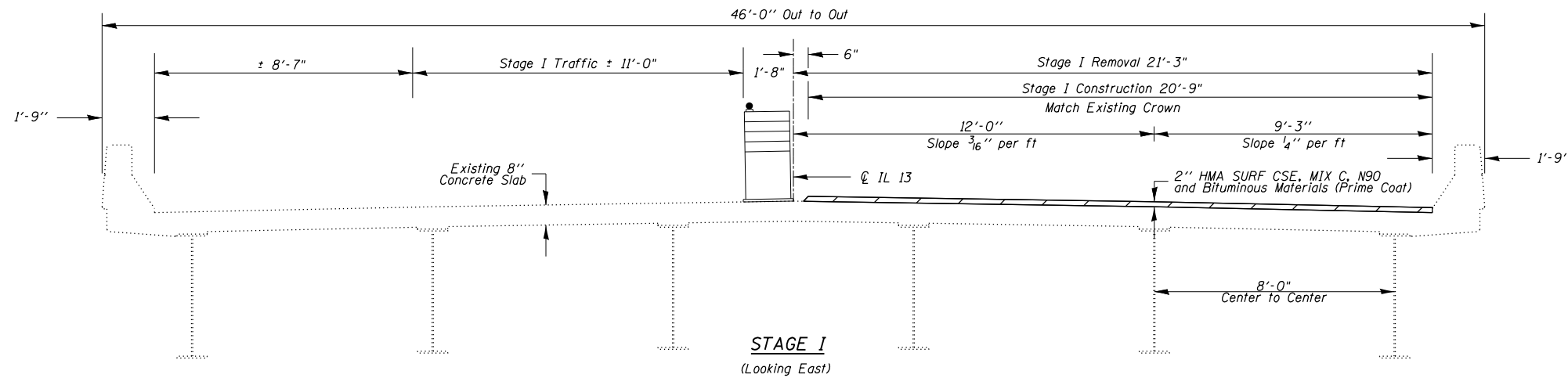


David Carl Puzey 3/7/14
Expires 11/30/14

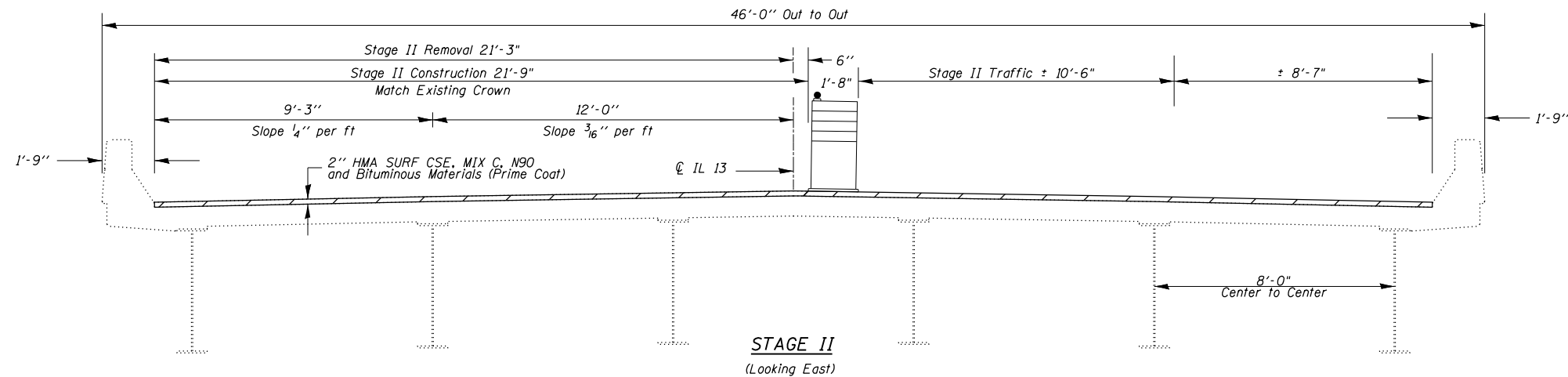
TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Bituminous Materials (Prime Coat)	Gallon	135
Hot-Mix Asphalt Surface Course, Mix "C", N90	Ton	156
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	18
Deck Slab Repair (Partial)	Sq. Yd.	107
Silicone Joint Sealer, 2.5"	Foot	87
Polymer Concrete	Cu. Ft.	17.1

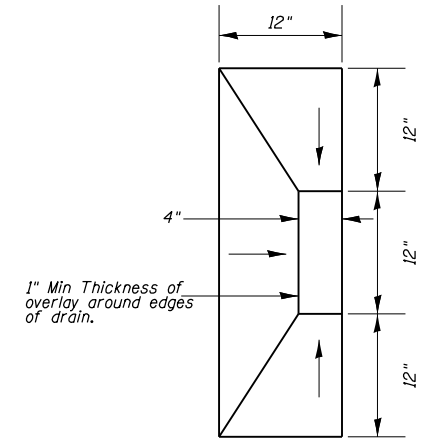
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	PLLOT DATE: 1/31/2014	DATE: -	REVISED: -			** D9 CM DECK PATCH & RES 2014-1					



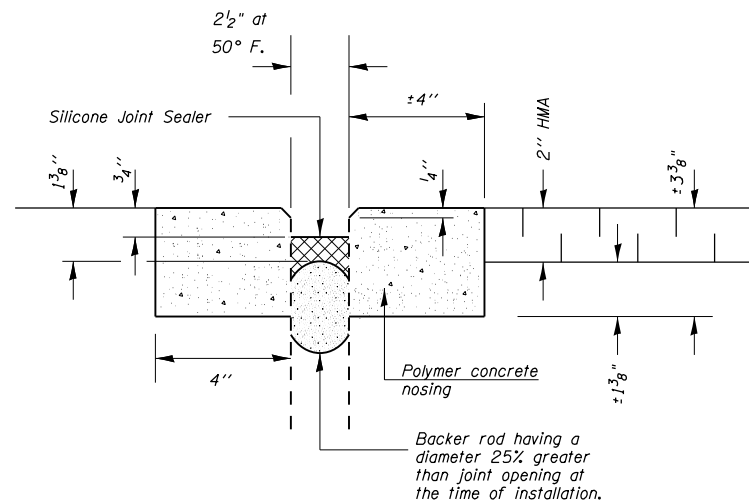
STAGE I
(Looking East)



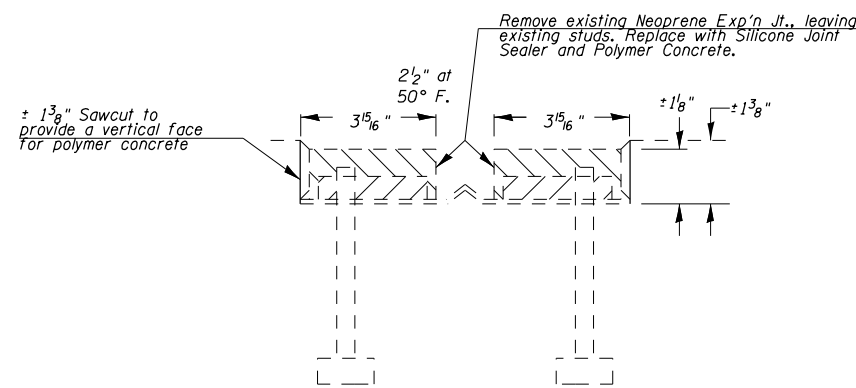
STAGE II
(Looking East)



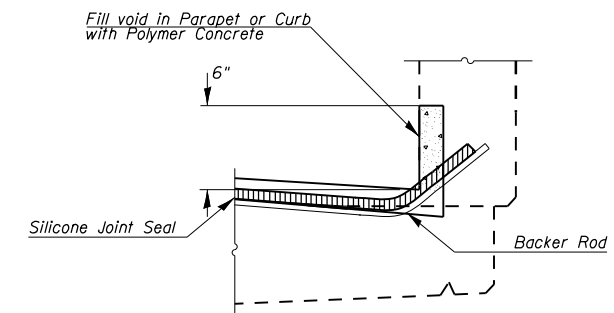
HMA TAPER
AT DECK DRAINS



SILICONE JOINT SEALER DETAIL
Both Joints



SECTION A-A
EXISTING NEOPRENE JOINT DETAIL



TYPICAL END OF SEAL TREATMENT
AT EXPANSION JOINT

FILE NAME =	USER NAME = \$USER\$	DESIGNEDRAW	REVISED -
ct:\pw_work\p\dot\adamsem\d0358434\78384-design.dgn		DRAWN RAW	REVISED -
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\$MODELNAME\$	PLOT DATE = 1/31/2014	DATE -	REVISED -

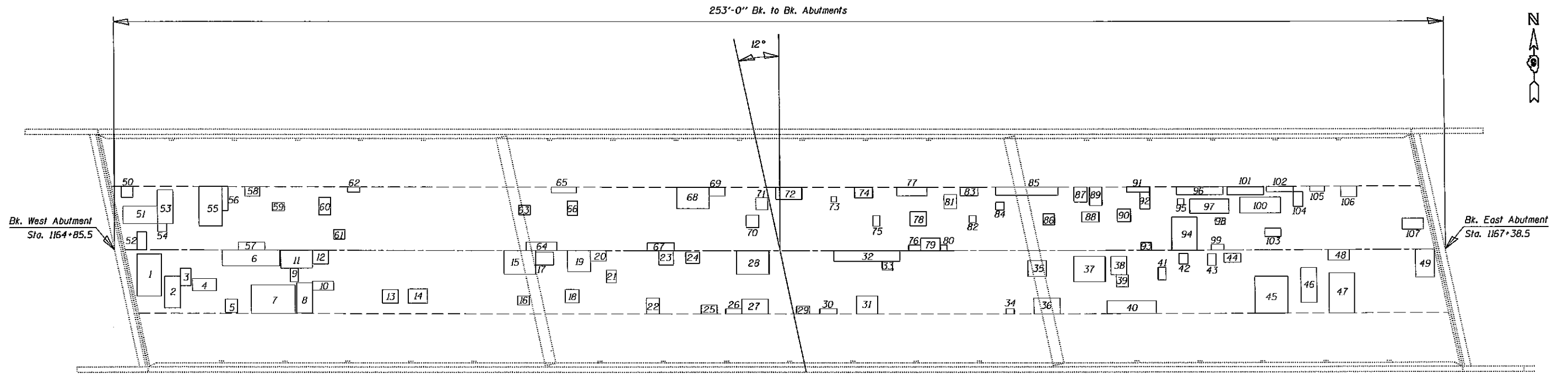
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGING DETAILS
SN 083-0045

SCALE: SHEET OF SHEETS STA. TO STA.

•• D9 CM DECK PATCH & RES 2014-1

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	••	SALINE	8	6
			CONTRACT NO. 78384	
ILLINOIS FED. AID PROJECT				



PLAN

Number	Length (ft)	Width (ft)	Area (sq yds)
1	4.6	8	4.1
2	3	6	2.0
3	2	3.3	0.7
4	4.6	2.3	1.2
5	2.3	2.6	0.7
6	10.9	3	3.6
7	8.2	5.4	4.9
8	3	5.7	1.9
9	1.5	2.4	0.4
10	4	1.7	0.8
11	6	3.4	2.3
12	3	2.6	0.9
13	3	2.5	0.8
14	3.7	2.7	1.1
15	6	4.5	3.0
16	2.2	1.7	0.4
17	3.4	2.4	0.9
18	2.7	2.5	0.8
19	4.3	4	1.9
20	3	2	0.7
21	1.9	2.4	0.5
22	2.5	3	0.8
23	2.8	2.7	0.8
24	2.6	2.1	0.6
25	3	1.7	0.6
26	3	1	0.3
27	5	2.8	1.6

Number	Length (ft)	Width (ft)	Area (sq yds)
28	6.1	4.5	3.1
29	2.5	1.5	0.4
30	3.3	1	0.4
31	4	3.4	1.5
32	12.5	2	2.8
33	2	1.7	0.4
34	1.5	1	0.2
35	3.5	3	1.2
36	5	3	1.7
37	6	4.8	3.2
38	3	3.5	1.2
39	2.3	2.3	0.6
40	9.4	2.4	2.5
41	1.5	2.4	0.4
42	1.7	2	0.4
43	1.6	2.2	0.4
44	3.2	1.7	0.6
45	6.3	7	4.9
46	3	6.6	2.2
47	4.8	7.6	4.1
48	4	2	0.9
49	3.5	5.3	2.1
50	2.3	2.1	0.5
51	6.6	3	2.2
52	1.8	3.4	0.7
53	2.9	6.4	2.1
54	1.7	1.5	0.3

Number	Length (ft)	Width (ft)	Area (sq yds)
55	4.4	7.5	3.7
56	1.1	4.6	0.6
57	5	1.5	0.8
58	2.9	1.8	0.6
59	2.3	1.6	0.4
60	2.3	3.3	0.8
61	2.2	1.8	0.4
62	2.3	1	0.3
63	2.2	1.8	0.4
64	5.9	1.6	1.0
65	4.8	1.1	0.6
66	1.9	2.7	0.6
67	5.2	1.5	0.9
68	6.1	4	2.7
69	3	1.7	0.6
70	2.3	2.4	0.6
71	2.2	2.3	0.6
72	5	2.3	1.3
73	1	1	0.1
74	3.4	2	0.8
75	1.3	2	0.3
76	2.3	1.1	0.3
77	5.7	1.6	1.0
78	3.1	2.7	0.9
79	3.7	2.4	1.0
80	1.3	1.1	0.2
81	2.4	2.7	0.7

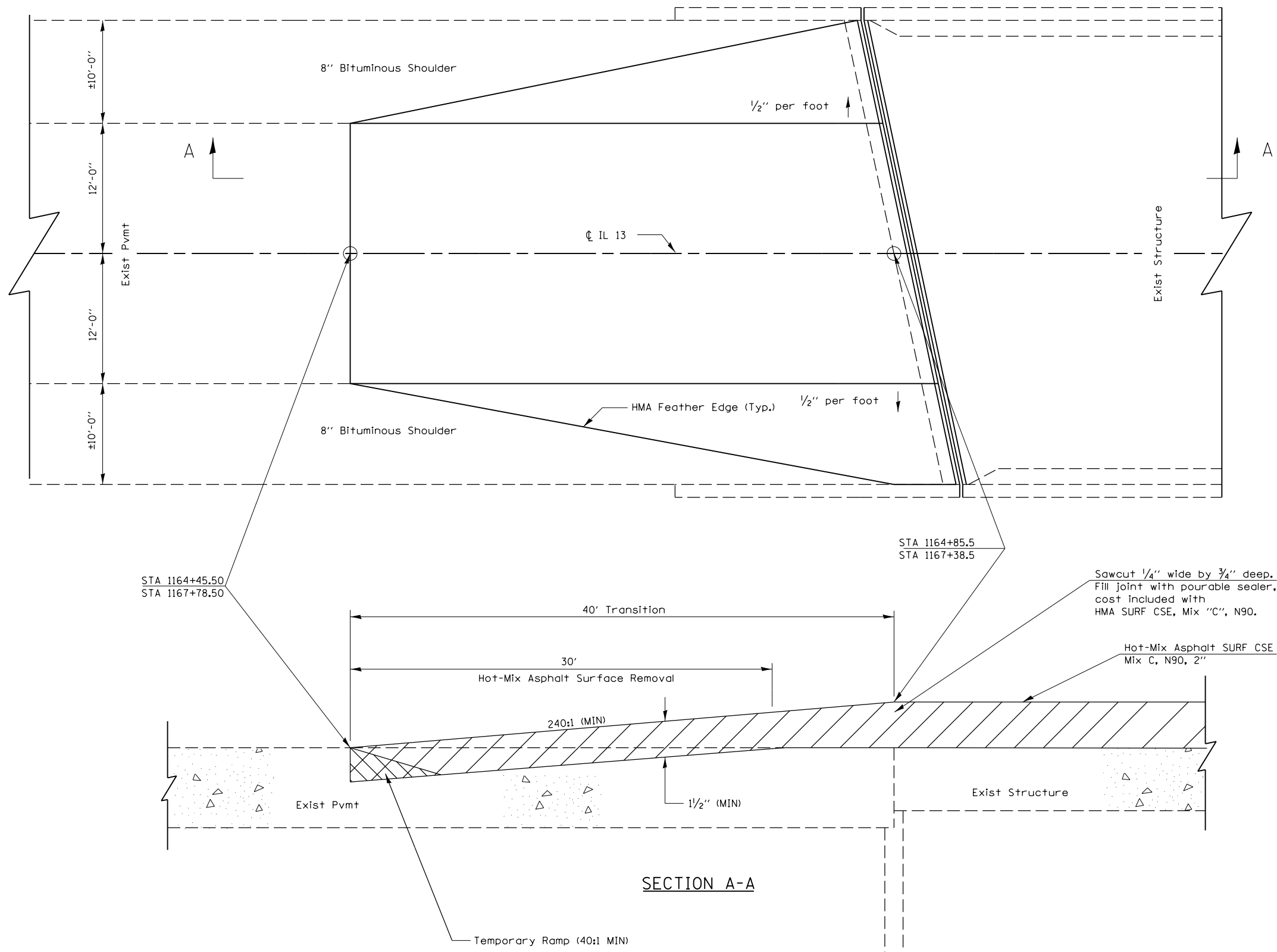
Number	Length (ft)	Width (ft)	Area (sq yds)
82	1.3	1.3	0.2
83	3.4	1.6	0.6
84	1.6	1.5	0.3
85	11.9	1.5	2.0
86	2.2	2.1	0.5
87	2.5	2.8	0.8
88	3.2	1.9	0.7
89	2.4	3.5	0.9
90	2.5	2.4	0.7
91	4.4	1	0.5
92	1.9	3.2	0.7
93	2	1.5	0.3
94	4.8	6.3	3.4
95	1.2	1.1	0.1
96	8.9	1.5	1.5
97	7.4	2.7	2.2
98	1.9	1.3	0.3
99	2.4	1.1	0.3
100	7.8	3	2.6
101	7	1.5	1.2
102	5.1	1	0.6
103	3	1.6	0.5
104	1.8	2.8	0.6
105	2.8	1	0.3
106	3.1	2	0.7
107	4.1	2.1	1.0

Notes: Deck sounding was performed in October 2013.
 The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin.
 The Engineer shall show actual locations of deck repairs on As-built Plans.
 * Deck Slab Repair (Full Depth, Type II)

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type II)	Sq Yd	18.0
Deck Slab Repair (Partial)	Sq Yd	107

BUTT JOINT



STD. 9-86

•• D9 CM DECK PATCH & RES 2014-1

REVISIONS

DRAWN	10-17-90
REVISED	10-10-13
REVISED	3-25-08
REVISED	

FILE NAME =	USER NAME = \$USER*	DESIGNED - RAW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BUTT JOINT DETAILS SN 083-0045			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ct:\pw\work\p\dot\adamsm\d0358434\78384-design.dgn		DRAWN - RAW	REVISED -		331	••	SALINE	8	8			
\$MODELNAME*	PLOT SCALE = 50.0000' / in.	CHECKED - TWH	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.			CONTRACT NO. 78384				
	PLOT DATE = 1/31/2014	DATE -	REVISED -		ILLINOIS FED. AID PROJECT							