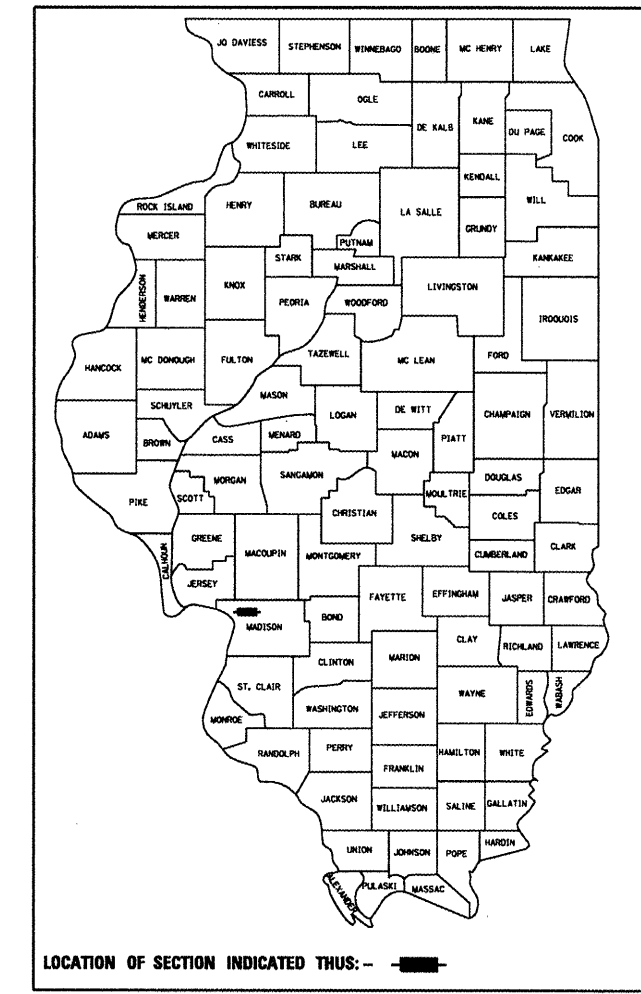


STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
**PROPOSED
 HIGHWAY PLANS**
 FAP ROUTE 785 (IL 111/140)
 SECTION 132-4RS
**BRIDGE DECK PATCHING AND MICROSILICA OVERLAY
 MADISON COUNTY**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
785	132-4RS	MADISON	12	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 76B89		

D-98-064-08



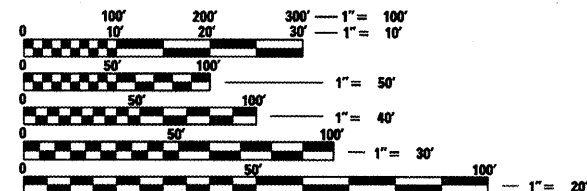
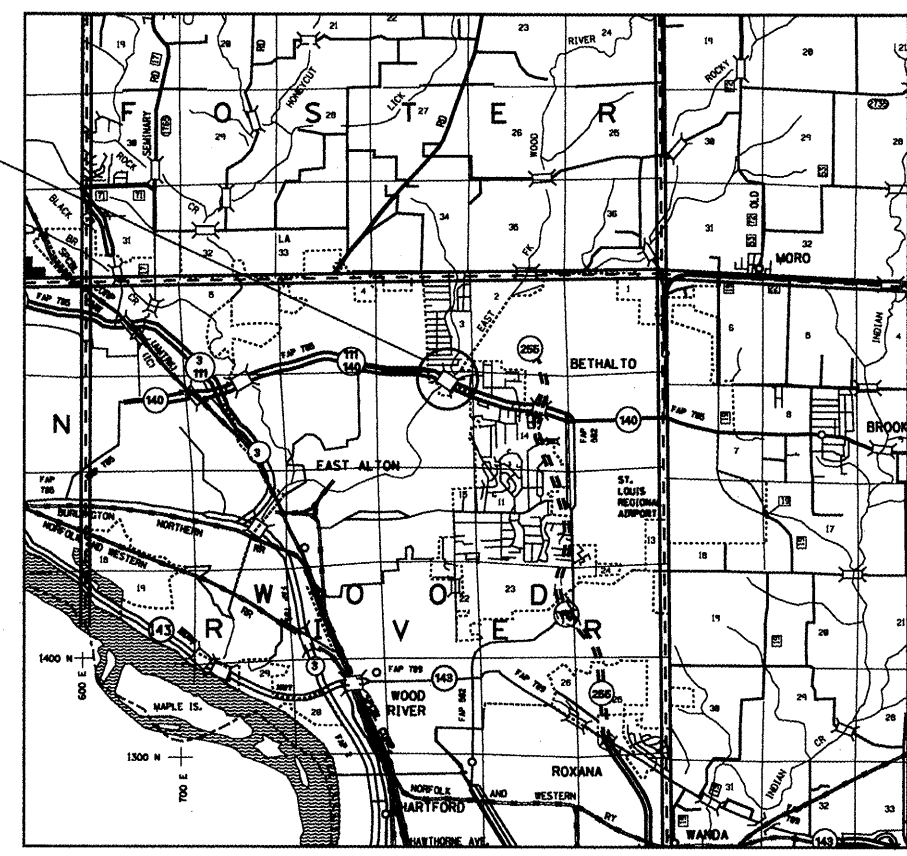
FOR INDEX OF SHEETS, SEE SHEET NO. 2

C-98-074-08

R 9 W

SN 060-0187(EB) & 060-0190(WB)

T 5 N



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

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

PROJECT ENGINEER: CHERYL KEPLAR (618) 346-3186
 PROJECT MANAGER: PATTI LEBEAU (618) 346-3179

CONTRACT NO. 76B89

GROSS LENGTH = 460 FT. = 0.087 MILE
 NET LENGTH = 460 FT. = 0.087 MILE

LATITUDE = 38° 54' 25"
 LONGITUDE = -90° 05' 04"

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED December 18, 2008

Wanda C. Jamie
 DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER

January 30, 2009
Charles F. Ingersoll
 ENGINEER OF DESIGN AND ENVIRONMENT

January 30, 2009
Christine M. Reed
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	SFTY 2A 100% STATE
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.6	0.6
40600300	AGGREGATE (PRIME COAT)	TON	2.8	2.8
40600990	TEMPORARY RAMP	SQ YD	217	217
40603345	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90	TON	179	179
44000157	HOT-MIX ASPHALT SURFACE REMOVAL, 2"	SQ YD	1868	1868
44213000	PATCHING REINFORCEMENT	SQ YD	14.4	14.4
44213200	SAW CUTS	FOOT	49	49
X0325996	CLASS A PATCHES, TYPE II, 15 INCH (SPECIAL)	SQ YD	14.4	14.4
48101200	AGGREGATE SHOULDERS, TYPE B	TON	8	8
48203100	HOT-MIX ASPHALT SHOULDERS	TON	119	119
50102400	CONCRETE REMOVAL	CU YD	24	24
50300255	CONCRETE SUPERSTRUCTURE	CU YD	27.9	27.9
50300260	BRIDGE DECK GROOVING	SQ YD	1460	1460
50300300	PROTECTIVE COAT	SQ YD	1559	1559
50300530	FLOOR DRAIN EXTENSION	EACH	40	40
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3120	3120
50800515	BAR SPLICERS	EACH	32	32
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5	5
67100100	MOBILIZATION	L SUM	1	1
70100320	TRAFFIC CONTROL AND PROTECTION, STANDARD 701422	L SUM	1	1
* 78003110	PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 4"	FOOT	3510	3510
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	6	6
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	4	4
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	10	10
X0321468	PLUG EXISTING DECK DRAINS	EACH	73	73
X0323644	PAVEMENT MARKING GROOVING	FOOT	3510	3510
X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	72	72
XZ193500	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 1/4"	SQ YD	1487	1487
Z0006204	BRIDGE DECK HYDRO-SCARIFICATION 1/2"	SQ YD	1487	1487
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	2	2
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	141	141

INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES, STANDARDS, GENERAL NOTES
3. ROADWAY TYPICAL SECTION
4. BRIDGE GENERAL PLAN & ELEVATION
5. BRIDGE CROSS SECTIONS
6. JOINT RETROFIT DECK CROSS SECTIONS
7. JOINT RETROFIT PLAN VIEWS
8. JOINT RETROFIT SECTIONS
9. DRAIN EXTENSION AND PLUGGING DETAILS
10. BRIDGE DECK PATCHING PLAN SKETCH
11. BRIDGE DECK PATCHING SCHEDULE
12. BAR SPLICER BASE SHEET

HIGHWAY STANDARDS

- 000001-05
- 701101-02
- 701422-02
- 701901-01
- 781001-03
- 780001-02**

GENERAL NOTES

1. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

- AMEREN IP
- AT&T ILLINOIS
- VILLAGE OF BETHALTO
- CHARTER COMMUNICATIONS
- VILLAGE OF EAST ALTON

(MEMBERS OF J.U.L.I.E. (800) 892-0123 ARE INDICATED BY *. NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.)

2. THIS PROJECT SHALL UTILIZE STAGE CONSTRUCTION WITH A MINIMUM LANE WIDTH OF 11 FEET ON THE BRIDGE DECK AND ROADWAY THROUGHOUT THE DURATION OF THE CONTRACT.

3. ANY SHOULDER DROP OFF AT THE ENDS OF THE BRIDGE SHALL BE CORRECTED WITH ROADWAY MILLED OIL AND CHIP MATERIAL PRIOR TO SWITCHING STAGE WORK. THE MAXIMUM SLOPE SHALL BE 9% AND THE MATERIAL SHALL BE COMPACTED TO THE SATISFACTION OF THE ENGINEER. THESE RAMPS SHALL BE INCLUDED IN THE COST OF "HOT-MIX ASPHALT SURFACE REMOVAL, 2".

4. THE ROADWAY HMA SURFACE REMOVAL OPERATION WILL PRODUCE AN ESTIMATED 210 TONS OF MATERIAL.

5. PLAN QUANTITIES FOR HMA SURFACE COURSE ITEMS ARE CALCULATED USING A UNIT WEIGHT OF 112 LB/SY/IN.

6. ROAD CONSTRUCTION AHEAD SIGNS SHALL BE PLACED AT THE BEGINNING OF THE PROJECT PLUS INTERSECTING SIDEROADS, AND WILL BE CONSIDERED INCLUDED IN THE TRAFFIC CONTROL PAY ITEMS. ALL CONSTRUCTION SIGNS SHALL BE 48"x48" FLUORESCENT ORANGE.

7. THE RESIDENT ENGINEER SHALL VERIFY THE EXISTENCE OF HIGHWAY LIGHTING AND/OR ITS UTILITIES WITHIN THE PROJECT LIMITS. IF HIGHWAY LIGHTING AND/OR ITS EXISTS WITHIN THE PROJECT LIMITS, AND IF THESE ITEMS REQUIRE LOCATING, THE CONTRACTOR SHALL BE DIRECTED TO DO SO ACCORDING TO SECTION 803 OF THE STANDARD SPECIFICATIONS. IF "LOCATING UNDERGROUND CABLE" IS NOT INCLUDED AS PART OF THE PLANS, THIS WORK SHALL BE PAID FOR ACCORDING TO ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

8. ALL EXISTING AND PROPOSED RIGHT-OF-WAY LINES AND PROPERTY LINES SHOWN ON THE PLAN SHEETS ARE GRAPHICAL REPRESENTATIONS AND SHALL NOT BE USED AS A MEANS TO ESTABLISH OWNERSHIP. IN ALL MATTERS RELATING TO RIGHT-OF-WAY, THE PLAT OF HIGHWAYS SHALL BE THE CONTROLLING DOCUMENT.

9. PROPOSED PAVEMENT MARKING SHALL BE PLACED IN THE SAME LOCATION AS EXISTING AS DIRECTED BY THE RESIDENT ENGINEER.

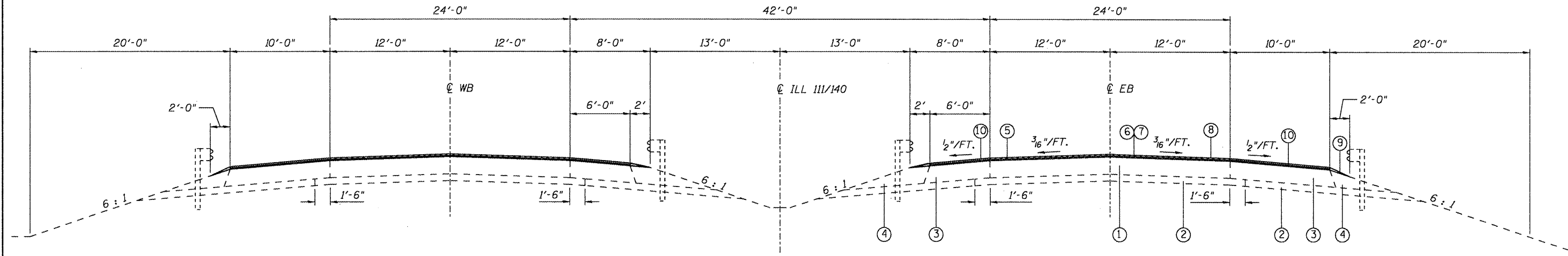
10. THE FOLLOWING SUPERPAVE MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

MIXTURE USE	PG	RAP % (MAX)	DESIGN AIR VOIDS	MIX COMPOSITION (GRADATION MIX)	FRICTION AGGREGATE
SURFACE	64-22	10 %	4.0% @ Ndes = 90		MIXTURE D
SHOULDERS*	64-22	30%	2.0% @ Ndes = 30		BAM

* TOP LIFT SHOULDERS - DESIGN AT 2.0% VOIDS AND ADD ASPHALT TO REDUCE VOIDS TO 1.5%

**specialty items*

FILE NAME =	USER NAME = #USER#	DESIGNED <i>J. Uehle</i>	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN <i>J. Uehle</i>	REVISED -			785	132-4RS	MADISON	12	2	
	PLOT SCALE = #SCALE#	CHECKED <i>B. Williams</i>	REVISED -			CONTRACT NO. 76B89					
	PLOT DATE = #DATE#	DATE <i>10-1-08</i>	REVISED -			SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.



TYPICAL APPROACH SECTION (LOOKING EAST)
STA 210+00 TO 215+00

- LEGEND**
- ① EXISTING 8" CRC PAVEMENT
 - ② EXISTING 4" STABILIZED SUBBASE
 - ③ EXISTING HMA SHOULDER
 - ④ EXISTING AGGREGATE SHOULDERS
 - ⑤ EXISTING HMA OVERLAY, TO BE REMOVED
 - ⑥ PROPOSED BITUMINOUS MATERIALS (PRIME COAT)
 - ⑦ PROPOSED AGGREGATE (PRIME COAT)
 - ⑧ PROPOSED HMA SURFACE REMOVAL, 2" AND HMA SURFACE COURSE, MIX "D", N90
 - ⑨ PROPOSED AGGREGATE SHOULDERS, TYPE B
 - ⑩ PROPOSED HMA SHOULDERS

FILE NAME =	USER NAME = *USER*	DESIGNED <i>J. Uehle</i>	REVISED -
#FILE#		DRAWN <i>J. Uehle</i>	REVISED -
	PLOT SCALE = *SCALE*	CHECKED <i>B. Williams</i>	REVISED -
	PLOT DATE = *DATE*	DATE <i>10-1-08</i>	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCALE: 1"=5'	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
785	132-4RS	MADISON	12	3
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT			CONTRACT NO. 76B89	

Existing Structure: SN 060-0187 & 060-0190 built in 1969 as FA 67, Section 132-4B at station 212+85.00
 The structure is a 3 span wide flange on pile bent abutments and solid wall piers. The existing deck shall be hydroscarified, patched, and overlaid with microsilica concrete overlay.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

One lane of traffic is to be maintained in each direction with staged construction.

No salvage.

INDEX OF SHEETS

1. General Plan & Elevation
2. Deck Cross Section
3. Joint Retrofit Deck Cross Sections
4. Joint Retrofit Plan Views
5. Joint Retrofit Sections
6. Drain Extension and Plugging Details
7. Deck Patching Plan Sketch
8. Deck Patching Plan Schedule
9. Bar Splicer Base Sheet

HIGHWAY CLASSIFICATION

FAP 785 - IL 111/140
 Functional Class: Other Principal Arterial
 ADT: 21,800 (2007); 27,100 (2029)
 ADTT: 5.5%
 Design Speed: 55 mph
 Posted Speed: 55 mph

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ (reinforcement)

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.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions

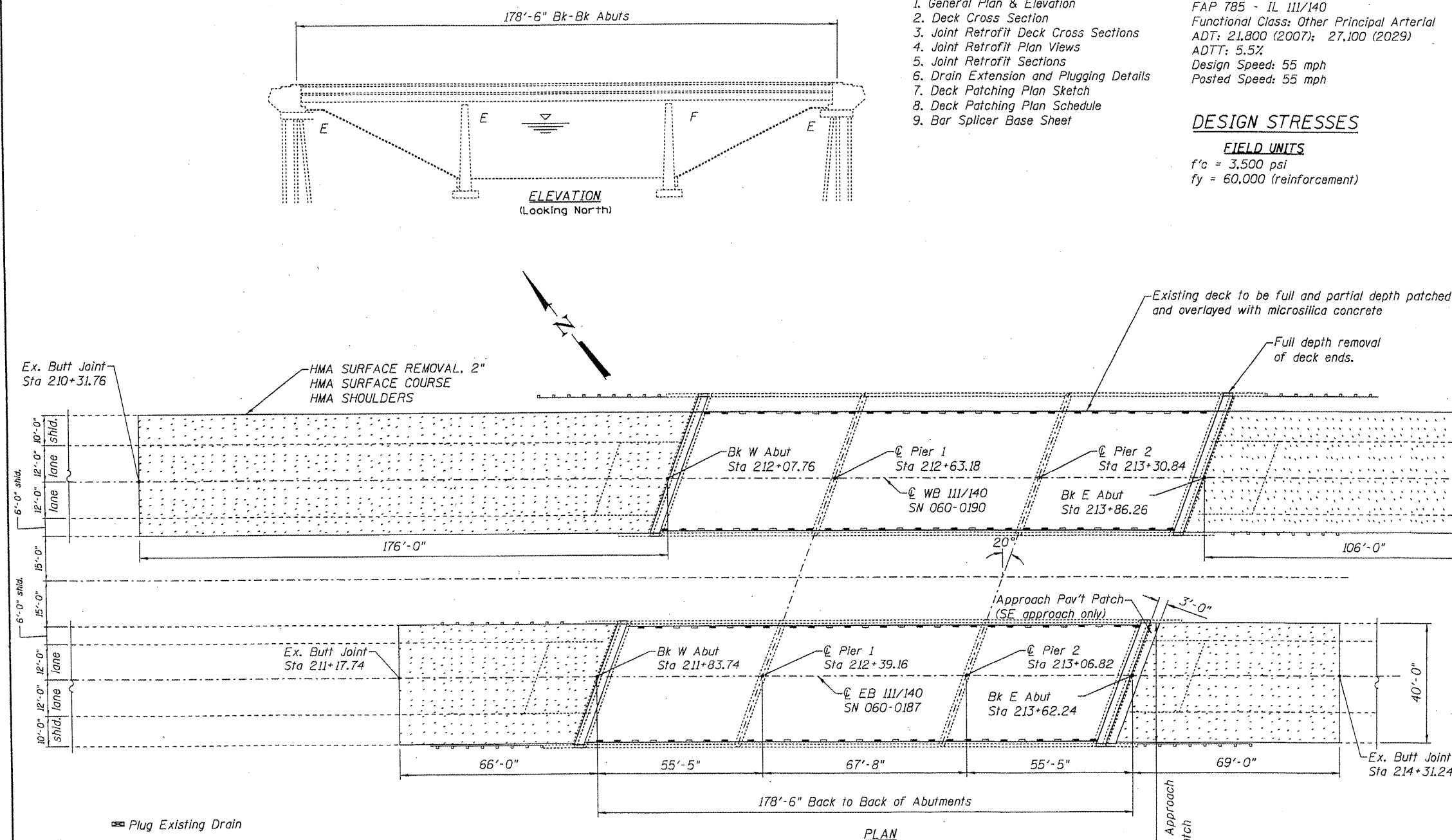
Reinforcement bars designated (E) shall be epoxy coated.

All existing HMA patches on the bridge deck shall be removed entirely prior to hydroscarification. Cost included with BRIDGE DECK HYDROSCARIFICATION, 1/2".

The quantity of STRUCTURAL REPAIR OF CONCRETE (DEPTH <= 5") is for repairs to the backwalls in various locations.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

Existing reinforcement bars extending into the removal areas shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.



TOTAL BILL OF MATERIAL

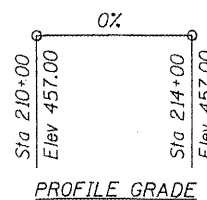
ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	24.0		24.0
Concrete Superstructure	Cu. Yd.	27.9		27.9
Bridge Deck Grooving	Sq. Yd.	1460		1460
Protective Coat	Sq. Yd.	1559		1559
Floor Drain Extension	Each	40		40
Reinforcement Bars, Epoxy Coated	Pound	3120		3120
Bar Splicers	Each	32		32
Plug Existing Drains	Each	73		73
Structural Repair of Concrete (Depth <= 5")	Each		72	72
Bridge Deck Microsilica Concrete Overlay 2 1/4"	Sq. Yd.	1487		1487
Bridge Deck Hydro-Scarification 1/2"	Sq. Yd.	1487		1487
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	2		2
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	141		141

Plug Existing Drain

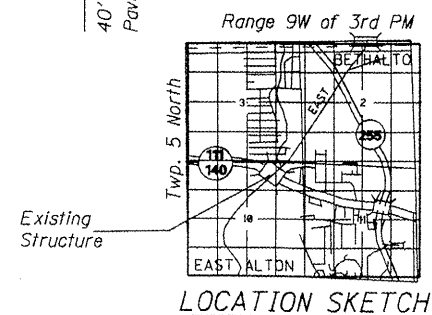
Extend Existing Drain

(Note: Each gutter line has 28 existing drains, except the WB south gutter has 29.)

PLAN



PROFILE GRADE



LOCATION SKETCH

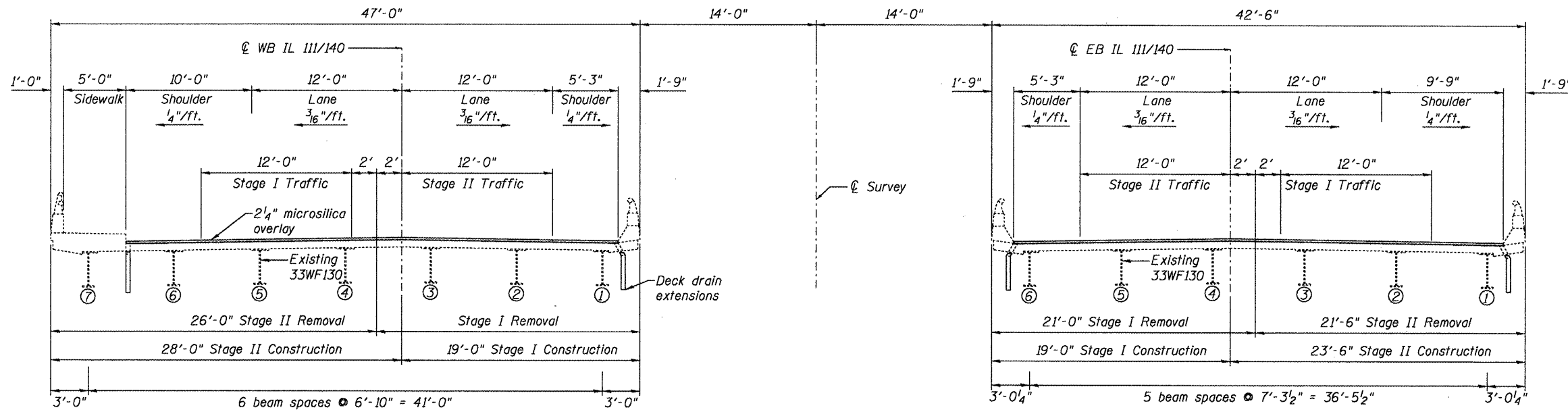
GENERAL PLAN & ELEVATION
 IL 111/140 OVER WOOD RIVER CREEK
 STATION 212+85.00

DESIGNED	J. Uehle
CHECKED	B. Williams
DRAWN	J. Uehle
CHECKED	B. Williams

NOVEMBER 17, 2008
EXAMINED
PASSED
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 1	F.A.P. RTE. 785	SECTION 132-4RS	COUNTY MADISON	TOTAL SHEETS 12	SHEET NO. 4
9 SHEETS	SN 060-0187 & 0190		CONTRACT NO. 76B89		
FED. ROAD DIST. NO. -		ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

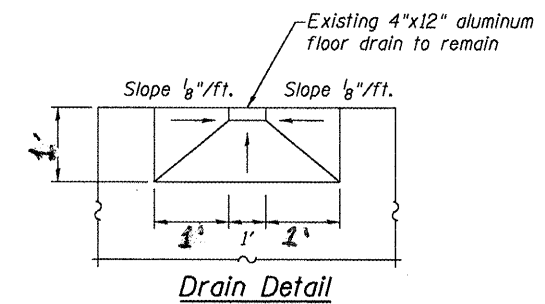


North Bridge (WB)
SN 060-0190
(Looking East)

South Bridge (EB)
SN 060-0187
(Looking East)

Notes

The existing 7 1/2" deck shall be scarified 1/2" and overlaid with 2 1/4" microsilica concrete overlay.
All drains shall be plugged or extended. See sheet 1 for locations.

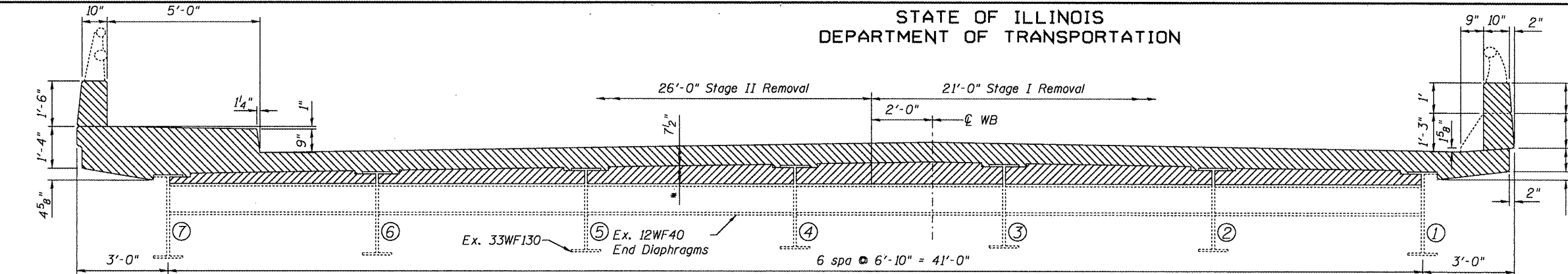


DESIGNED J. Uehle	2008
CHECKED B. Williams	EXAMINED
DRAWN J. Uehle	ENGINEER OF BRIDGE DESIGN
CHECKED B. Williams	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

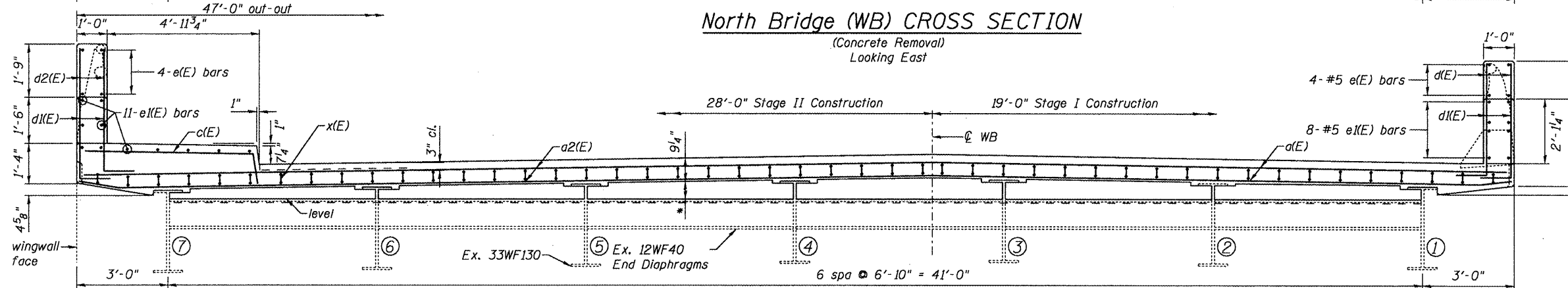
DECK CROSS SECTIONS
IL 111/140 OVER WOOD RIVER CREEK

SHEET NO. 2	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	785	132-4RS	MADISON	12	5
9 SHEETS	SN 060-0187 & 0190		CONTRACT NO. 76B89		
	FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

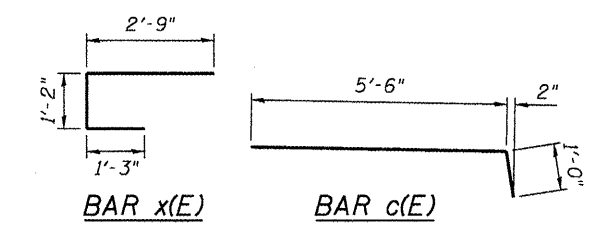
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



North Bridge (WB) CROSS SECTION
(Concrete Removal)
Looking East

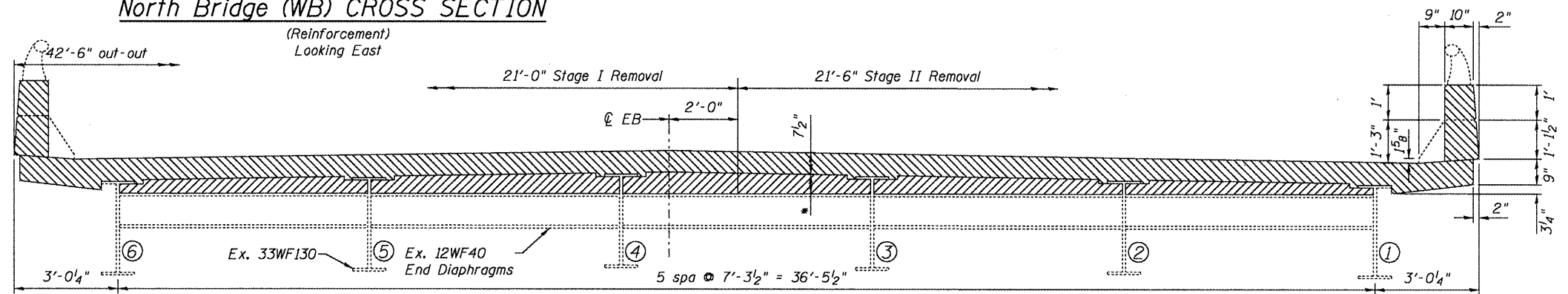
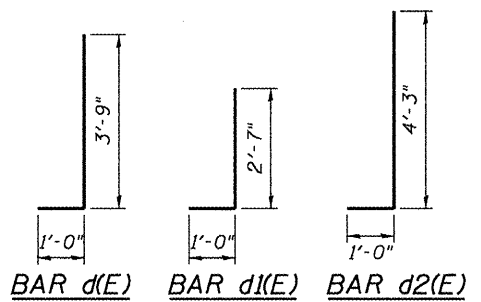


North Bridge (WB) CROSS SECTION
(Reinforcement)
Looking East

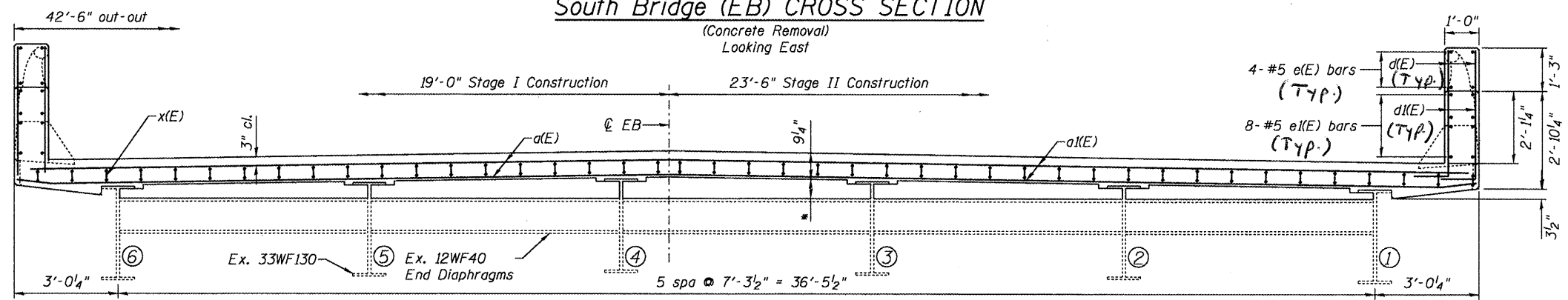


BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	32	#5	18'-9"	
d1(E)	16	#5	23'-3"	
d2(E)	16	#5	27'-9"	
c(E)	8	#5	6'-6"	
d(E)	24	#6	4'-9"	
d1(E)	32	#6	3'-7"	
d2(E)	8	#6	5'-3"	
e(E)	32	#5	0'-8"	
e1(E)	70	#5	2'-8"	
x(E)	180	#5	5'-2"	
Concrete Removal		Cu. Yds.	22.9	
Reinforcement Bars, Epoxy Coated		Pound	3120	
Concrete Superstructure		Cu. Yds.	26.8	



South Bridge (EB) CROSS SECTION
(Concrete Removal)
Looking East



South Bridge (EB) CROSS SECTION
(Reinforcement)
Looking East

* Varies 3 1/2" (Bm7) - 9" (C) - 5 3/4" (Bm1) WB
Varies 3 3/8" (Bm1) - 8" (C) - 4 3/4" (Bm6) EB

DESIGNED J. Uehle	NOVEMBER 17, 2008
CHECKED B. Williams	EXAMINED
DRAWN J. Uehle	ENGINEER OF BRIDGE DESIGN
CHECKED B. Williams	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

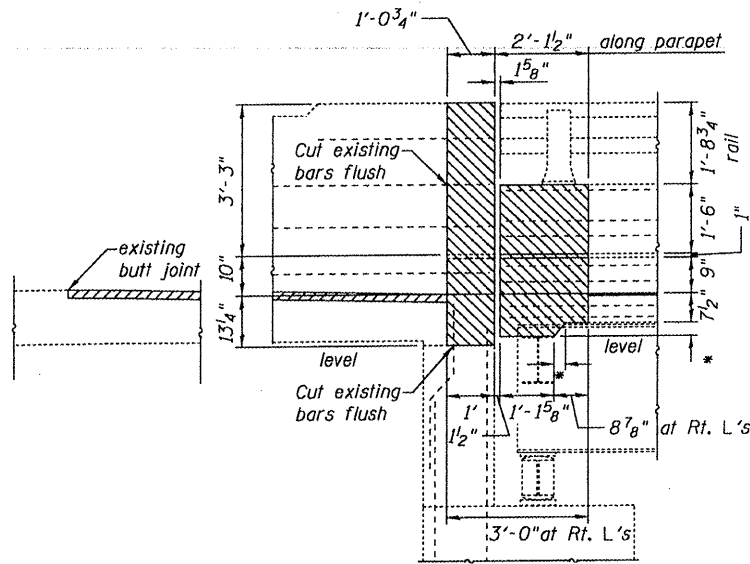
JOINT RETROFIT DECK CROSS SECTIONS
IL 111/140 OVER WOOD RIVER CREEK

SHEET NO. 3 9 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	785	132-4RS	MADISON	12	6
SN 060-0187 & 0190			CONTRACT NO. 76B89		
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

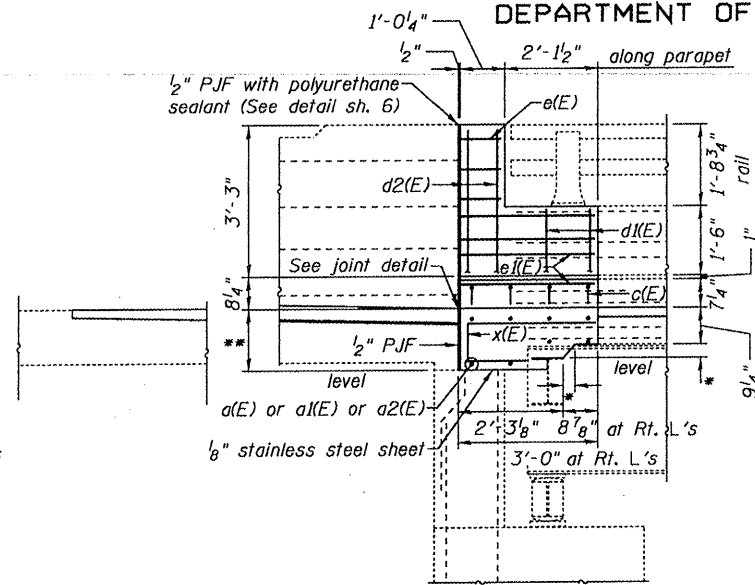
* Varies 3 1/2"(Bm7)-9"(C)-5 3/4"(Bm1) WB
Varies 3 5/8"(Bm1)-8"(C)-4 3/4"(Bm6) EB

** Varies 13 1/4"(outside gutter) to 18"(C) to 14 1/2"(median gutter)



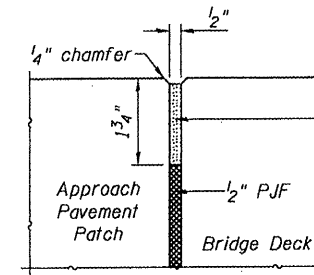
SECTION A-A

Sidewalk side (N. side of N. bridge)

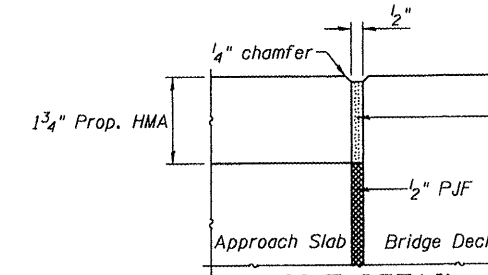


SECTION B-B

Sidewalk side (N. side of N. bridge)

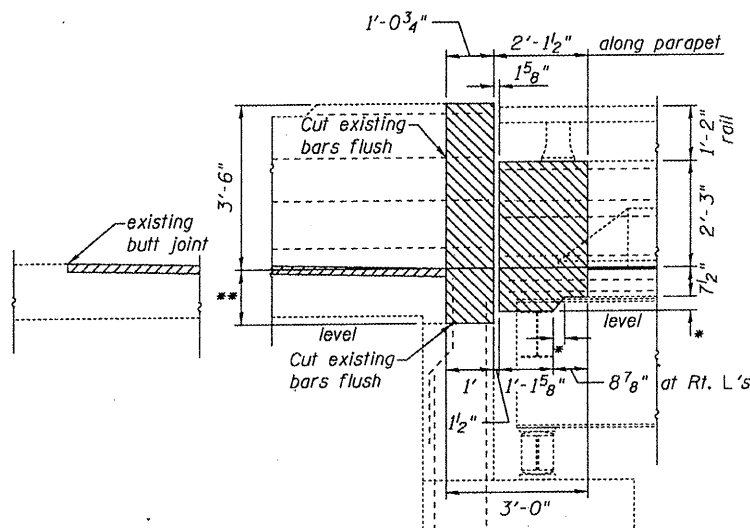


JOINT DETAIL
(SE Approach only)



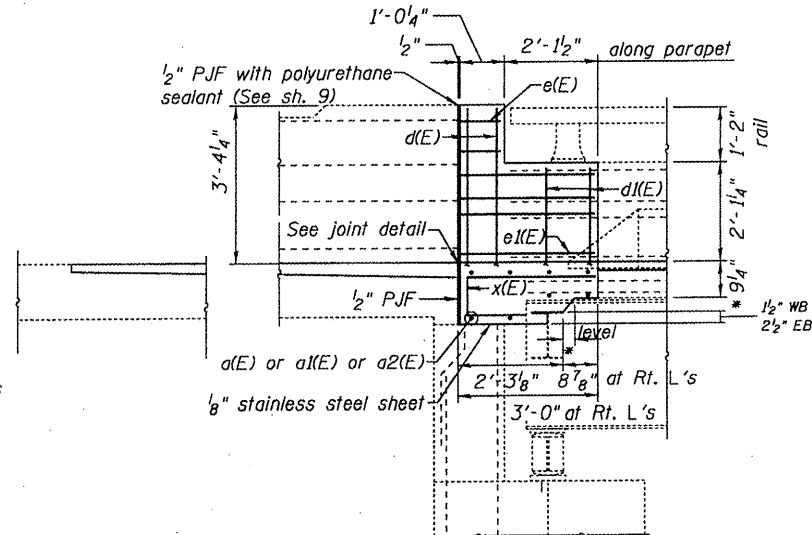
JOINT DETAIL
(NW, NE, & SW Approaches)

The 1/8" stainless steel sheet shall be placed full length and bonded to the top of the backwall. Areas where the top of the backwall is spalled or is not a smooth, level surface, shall be repaired with formed concrete repair. The cost for this work shall be included with CONCRETE SUPERSTRUCTURE.



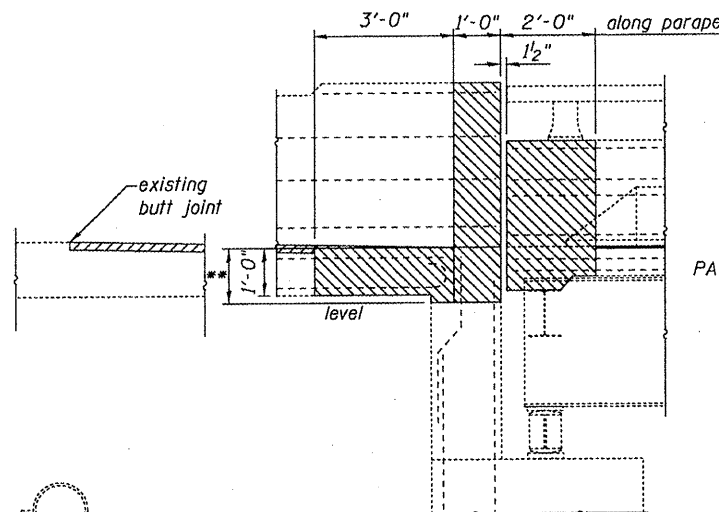
SECTION C-C

Parapet Side



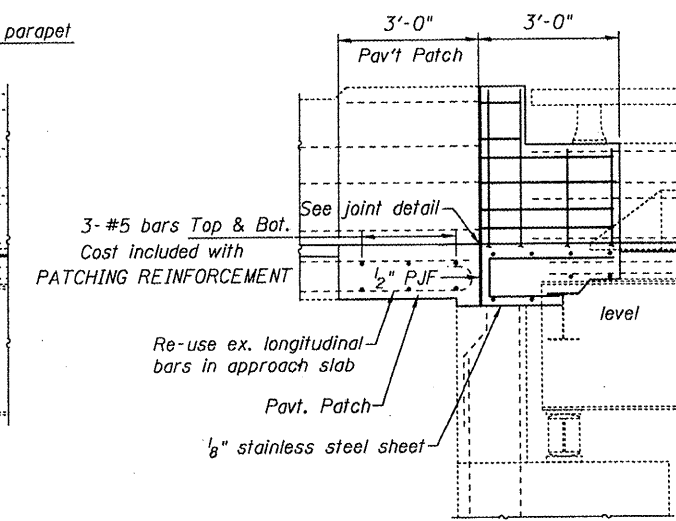
SECTION D-D

Parapet Side



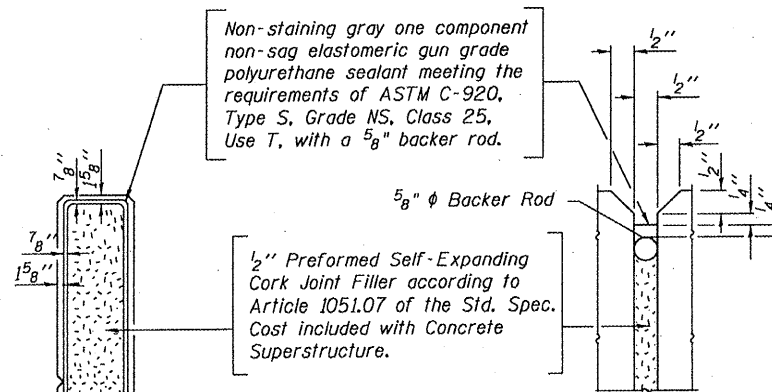
SECTION E-E

(S.E. approach only)



SECTION F-F

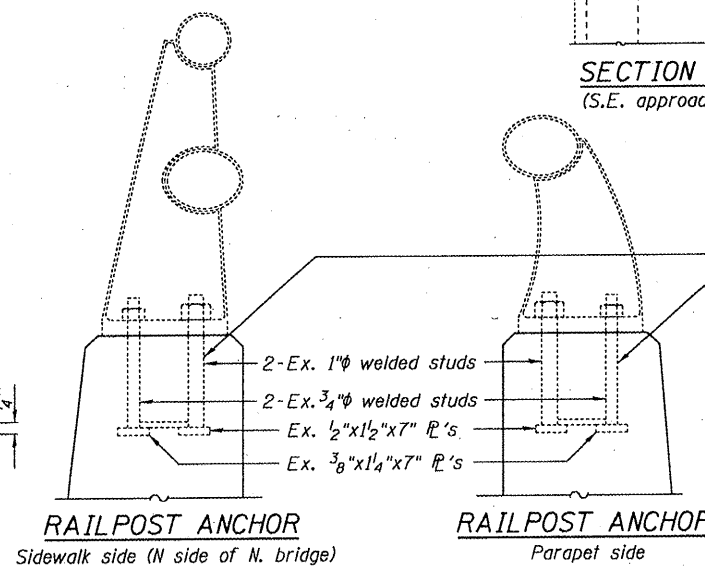
(S.E. approach only)



Non-staining gray one component non-sag elastomeric gun grade polyurethane sealant meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25, Use T, with a 5/8" backer rod.

1/2" Preformed Self-Expanding Cork Joint Filler according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.

PARAPET JOINT DETAILS



RAILPOST ANCHOR

Sidewalk side (N side of N. bridge)

RAILPOST ANCHOR

Parapet side

The existing rail post anchors shall be cleaned and cast into the the reconstructed wingwalls. Cost included with CONCRETE SUPERSTRUCTURE.

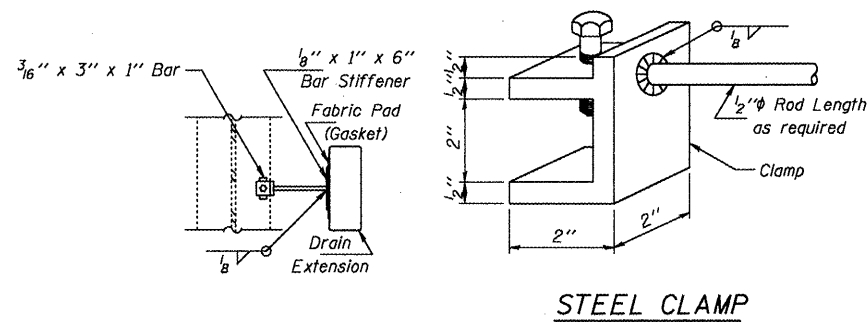
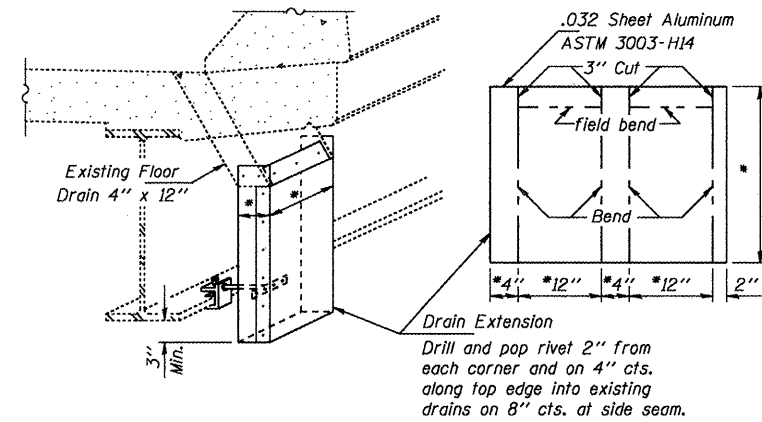
JOINT RETROFIT SECTIONS
IL 111/140 OVER WOOD RIVER CREEK

DESIGNED	J. Uehle
CHECKED	B. Williams
DRAWN	J. Uehle
CHECKED	B. Williams

EXAMINED	2008
PASSED	ENGINEER OF BRIDGE DESIGN
	ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 5	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	785	132-4RS	MADISON	12	8
9 SHEETS	SN 060-0187 & 0190		CONTRACT NO. 76B89		
	FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

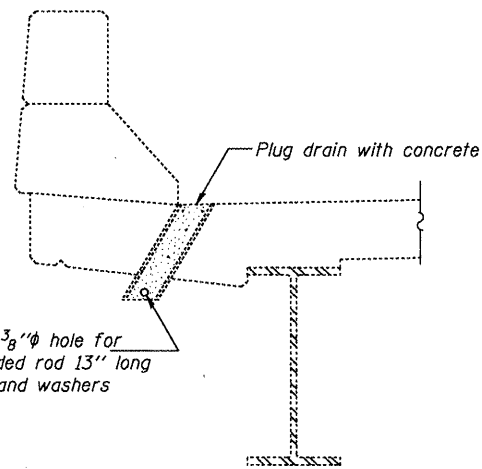
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



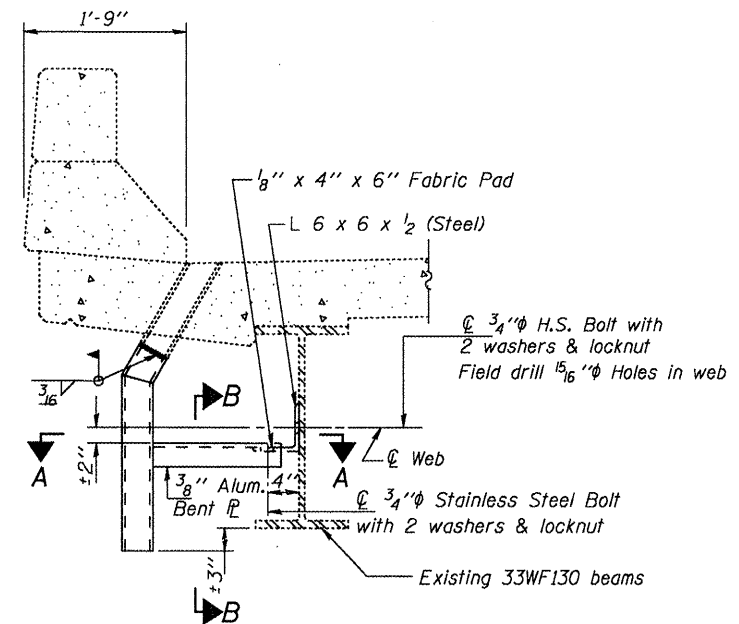
STEEL CLAMP

Notes: Pop rivet the 1/8" x 1" bar to Drain Extension. Weld or securely attach rod to both the clamp and bar stiffener. Use 3/16" stainless steel pop rivets of sufficient length. Clamp shown in approximate dimensions. Similar commercially available may be substituted. * Field measure cut to fit existing drain. An aluminum extrusion drain extension of similar dimensions may be substituted.

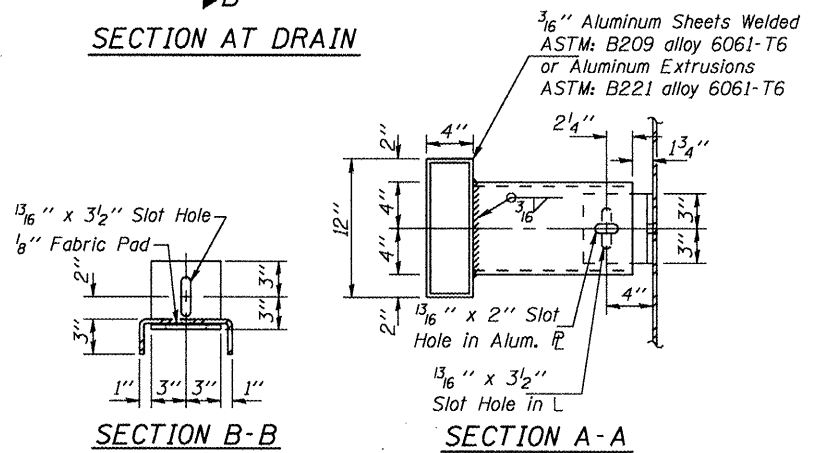
DRAIN EXTENSION DETAILS



PLUG DRAIN DETAIL



SECTION AT DRAIN



SECTION B-B

SECTION A-A

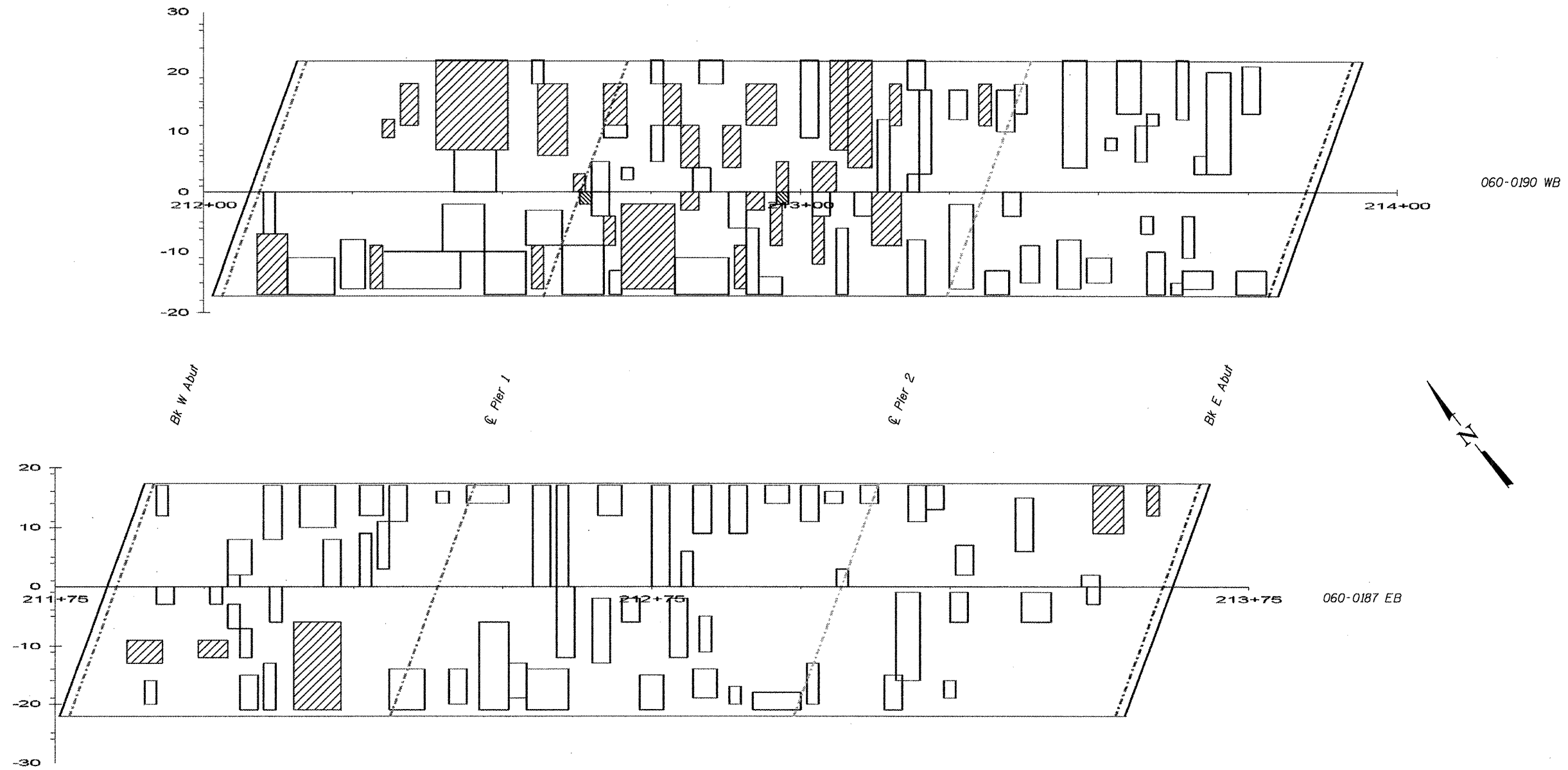
ALTERNATE DRAIN EXTENSION DETAILS




DESIGNED J. Uehle	2008
CHECKED B. Williams	EXAMINED
DRAWN J. Uehle	ENGINEER OF BRIDGE DESIGN
CHECKED B. Williams	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

DRAIN DETAILS
IL 111/140 OVER WOOD RIVER CREEK

SHEET NO. 6	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	785	132-4RS	MADISON	12	9
SHEETS 9	SN 060-0187 & 0190		CONTRACT NO. 76B89		
	FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



-  DECK SLAB REPAIR (FULL DEPTH, TYPE I) 0.9 SY
-  DECK SLAB REPAIR (FULL DEPTH, TYPE II) 123 SY
-  DECK SLAB REPAIR (PARTIAL) 282 SY

NOTES

Partial depth patches are paid for with the overlay and are shown for information only.

The areas of deck repairs are estimated. Plan quantities have been increased by 15% over the quantities shown in the deck survey and schedules. The Engineer will show actual locations on as-built plans.

Deck Survey Date: 9-11-08

DESIGNED <i>J. Uehle</i>	2008
CHECKED <i>B. Williams</i>	EXAMINED
DRAWN <i>J. Uehle</i>	PASSED
CHECKED <i>B. Williams</i>	ENGINEER OF BRIDGES AND STRUCTURES

**DECK PATCHING SKETCH
IL 111/140 OVER WOOD RIVER CREEK**

SHEET NO. 7	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	785	132-4RS	MADISON	12	10
SHEETS 8	SN 060-0187 & 0190		CONTRACT NO. 76B89		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

060-0190 (WB)

060-0187 (EB)

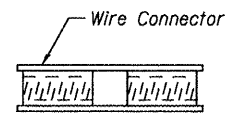
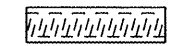
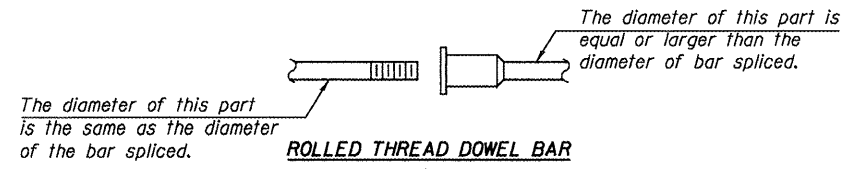
Deck Survey Summary

	Total Deck Area (sy)	Deck Slab Repair Partial (sy)	Deck Slab Repair F.D. Type I (sy)	Deck Slab Repair F.D. Type II (sy)	% of Deck Area	# of patches
EB Deck Survey	778	134	0.0	23	20.2%	63
WB Deck Survey	774	148	0.9	100	32.1%	85
Total Deck Survey	1552	282	0.9	123	26.1%	148
Estimated Quantity	1552	324	2.0	141	30.1%	170

Patch #	Start Sta	End Sta	Offsets (ft)		Length (ft.)	Width (ft.)	Area (sq)	Full or Partial Depth	Type I or II (Full Depth)
			From	To					
1	212+30	212+32	9 Lt	12 Lt	2	3	0.67	F	Type II
2	212+33	212+36	11 Lt	18 Lt	3	7	2.33	F	Type II
3	212+39	212+51	7 Lt	22 Lt	12	15	20.00	F	Type II
4	212+42	212+49	0 Lt	7 Lt	7	7	5.44	P	
5	212+56	212+61	6 Lt	18 Lt	5	12	6.67	F	Type II
6	212+55	212+57	18 Lt	22 Lt	2	4	0.89	P	
7	212+62	212+64	0 Lt	3 Lt	2	3	0.67	F	Type II
8	212+65	212+68	0 Lt	5 Lt	3	5	1.67	P	
9	212+67	212+71	11 Lt	18 Lt	4	7	3.11	F	Type II
10	212+67	212+71	9 Lt	11 Lt	4	2	0.89	P	
11	212+70	212+72	2 Lt	4 Lt	2	2	0.44	P	
12	212+75	212+77	5 Lt	11 Lt	2	6	1.33	P	
13	212+75	212+77	18 Lt	22 Lt	2	4	0.89	P	
14	212+77	212+80	11 Lt	18 Lt	3	7	2.33	F	Type II
15	212+80	212+83	4 Lt	11 Lt	3	7	2.33	F	Type II
16	212+82	212+85	0 Lt	4 Lt	3	4	1.33	P	
17	212+83	212+87	18 Lt	22 Lt	4	4	1.78	P	
18	212+87	212+90	4 Lt	11 Lt	3	7	2.33	F	Type II
19	212+91	212+96	11 Lt	18 Lt	5	7	3.89	F	Type II
20	212+96	212+98	0 Lt	5 Lt	2	5	1.11	F	Type II
21	213+00	213+03	9 Lt	22 Lt	3	13	4.33	P	
22	213+02	213+06	0 Lt	5 Lt	4	5	2.22	F	Type II
23	213+05	213+08	7 Lt	22 Lt	3	15	5.00	F	Type II
24	213+08	213+12	4 Lt	22 Lt	4	18	8.00	F	Type II
25	213+13	213+15	0 Lt	12 Lt	2	12	2.67	P	
26	213+15	213+17	11 Lt	18 Lt	2	7	1.56	F	Type II
27	213+18	213+20	0 Lt	3 Lt	2	3	0.67	P	
28	213+20	213+22	3 Lt	17 Lt	2	14	3.11	P	
29	213+18	213+21	17 Lt	22 Lt	3	5	1.67	P	
30	213+25	213+28	12 Lt	17 Lt	3	5	1.67	P	
31	213+30	213+32	11 Lt	18 Lt	2	7	1.56	F	Type II
32	213+33	213+36	10 Lt	17 Lt	3	7	2.33	P	
33	213+36	213+38	13 Lt	18 Lt	2	5	1.11	P	
34	213+44	213+48	4 Lt	22 Lt	4	18	8.00	P	
35	213+51	213+53	7 Lt	9 Lt	2	2	0.44	P	
36	213+53	213+57	13 Lt	22 Lt	4	9	4.00	P	
37	213+56	213+58	5 Lt	11 Lt	2	6	1.33	P	
38	213+58	213+60	11 Lt	13 Lt	2	2	0.44	P	
39	213+63	213+65	12 Lt	22 Lt	2	10	2.22	P	
40	213+66	213+68	3 Lt	6 Lt	2	3	0.67	P	
41	213+68	213+72	3 Lt	20 Lt	4	17	7.56	P	
42	213+74	213+77	13 Lt	21 Lt	3	8	2.67	P	
43	212+10	212+12	0 Rt	7 Rt	2	7	1.56	P	
44	212+09	212+14	7 Rt	17 Rt	5	10	5.56	F	Type II
45	212+14	212+22	11 Rt	17 Rt	8	6	5.33	P	
46	212+23	212+27	8 Rt	16 Rt	4	8	3.56	P	
47	212+30	212+43	10 Rt	16 Rt	13	6	8.67	F	Type II
48	212+28	212+30	9 Rt	16 Rt	2	7	1.56	P	
49	212+40	212+47	2 Rt	10 Rt	7	8	6.22	P	
50	212+47	212+54	10 Rt	17 Rt	7	7	5.44	P	
51	212+54	212+60	3 Rt	9 Rt	6	6	4.00	P	
52	212+55	212+57	9 Rt	16 Rt	2	7	1.56	F	Type II
53	212+60	212+67	9 Rt	17 Rt	7	8	6.22	P	
54	212+63	212+65	0 Rt	2 Rt	2	2	0.44	F	Type I
55	212+65	212+68	0 Rt	4 Rt	3	4	1.33	P	
56	212+67	212+69	4 Rt	9 Rt	2	5	1.11	F	Type II
57	212+68	212+70	13 Rt	17 Rt	2	4	0.89	P	
58	212+70	212+79	2 Rt	16 Rt	9	14	14.00	F	Type II
59	212+79	212+88	11 Rt	17 Rt	9	6	6.00	P	
60	212+80	212+83	0 Rt	3 Rt	3	3	1.00	F	Type II
61	212+88	212+91	0 Rt	6 Rt	3	6	2.00	P	
62	212+89	212+91	9 Rt	16 Rt	2	7	1.56	F	Type II
63	212+91	212+93	6 Rt	17 Rt	2	11	2.44	P	
64	212+91	212+94	0 Rt	3 Rt	3	3	1.00	F	Type II
65	212+93	212+97	14 Rt	17 Rt	4	3	1.33	P	
66	212+95	212+97	2 Rt	9 Rt	2	7	1.56	F	Type II
67	212+96	212+98	0 Rt	2 Rt	2	2	0.44	F	Type I
68	213+02	213+04	4 Rt	12 Rt	2	8	1.78	F	Type II
69	213+02	213+05	0 Rt	4 Rt	3	4	1.33	P	
70	213+06	213+08	6 Rt	17 Rt	2	11	2.44	P	
71	213+09	213+12	0 Rt	4 Rt	3	4	1.33	P	
72	213+12	213+17	0 Rt	9 Rt	5	9	5.00	F	Type II
73	213+18	213+21	8 Rt	17 Rt	3	9	3.00	P	
74	213+25	213+29	2 Rt	16 Rt	4	14	6.22	P	
75	213+31	213+35	13 Rt	17 Rt	4	4	1.78	P	
76	213+34	213+37	0 Rt	4 Rt	3	4	1.33	P	
77	213+37	213+40	9 Rt	15 Rt	3	6	2.00	P	
78	213+43	213+47	8 Rt	16 Rt	4	8	3.56	P	
79	213+48	213+52	11 Rt	15 Rt	4	4	1.78	P	
80	213+57	213+59	4 Rt	7 Rt	2	3	0.67	P	
81	213+58	213+61	10 Rt	17 Rt	3	7	2.33	P	
82	213+62	213+64	15 Rt	17 Rt	2	2	0.44	P	
83	213+64	213+66	4 Rt	11 Rt	2	7	1.56	P	
84	213+64	213+69	13 Rt	16 Rt	5	3	1.67	P	
85	213+73	213+78	13 Rt	17 Rt	5	4	2.22	P	

Patch #	Start Sta	End Sta	Offsets (ft)		Length (ft.)	Width (ft.)	Area (sq)	Full or Partial Depth	Type I or II (Full Depth)
			From	To					
1	211+92	211+94	12 Lt	17 Lt	2	5	1.11	P	
2	212+04	212+06	0 Lt	2 Lt	2	2	0.44	P	
3	212+04	212+08	2 Lt	8 Lt	4	6	2.67	P	
4	212+10	212+13	8 Lt	17 Lt	3	9	3.00	P	
5	212+16	212+22	10 Lt	17 Lt	6	7	4.67	P	
6	212+20	212+23	0 Lt	8 Lt	3	8	2.67	P	
7	212+26	212+28	0 Lt	9 Lt	2	9	2.00	P	
8	212+26	212+30	12 Lt	17 Lt	4	5	2.22	P	
9	212+29	212+31	3 Lt	11 Lt	2	8	1.78	P	
10	212+31	212+34	11 Lt	17 Lt	3	6	2.00	P	
11	212+39	212+41	14 Lt	16 Lt	2	2	0.44	P	
12	212+44	212+51	14 Lt	17 Lt	7	3	2.33	P	
13	212+55	212+58	0 Lt	17 Lt	3	17	5.67	P	
14	212+59	212+61	0 Lt	17 Lt	2	17	3.78	P	
15	212+66	212+70	12 Lt	17 Lt	4	5	2.22	P	
16	212+75	212+78	0 Lt	17 Lt	3	17	5.67	P	
17	212+80	212+82	0 Lt	6 Lt	2	6	1.33	P	
18	212+82	212+85	9 Lt	17 Lt	3	8	2.67	P	
19	212+88	212+91	9 Lt	17 Lt	3	8	2.67	P	
20	212+94	212+98	14 Lt	17 Lt	4	3	1.33	P	
21	213+00	213+03	11 Lt	17 Lt	3	6	2.00	P	
22	213+04	213+07	14 Lt	16 Lt	3	2	0.67	P	
23	213+06	213+08	0 Lt	3 Lt	2	3	0.67	P	
24	213+10	213+13	14 Lt	17 Lt	3	3	1.00	P	
25	213+18	213+21	11 Lt	17 Lt	3	6	2.00	P	
26	213+21	213+24	13 Lt	17 Lt	3	4	1.33	P	
27	213+26	213+29	2 Lt	7 Lt	3	5	1.67	P	
28	213+36	213+39	6 Lt	15 Lt	3	9	3.00	P	
29	213+47	213+50	0 Lt	2 Lt	3	2	0.67	P	
30	213+49	213+54	9 Lt	17 Lt	5	8	4.44	F	Type II
31	213+58	213+60	12 Lt	17 Lt	2	5	1.11	F	Type II
32	211+87	211+93	9 Rt	13 Rt	6	4	2.67	F	Type II
33	211+90	211+92	16 Rt	20 Rt	2	4	0.89	P	
34	211+92	211+95	0 Rt	3 Rt	3	3	1.00	P	
35	212+01	212+03	0 Rt	3 Rt	2	3	0.67	P	
36	211+99	212+04	9 Rt	12 Rt	5	3	1.67	F	Type II
37	212+04	212+06	3 Rt	7 Rt	2	4	0.89	P	
38	212+06	212+08	7 Rt	12 Rt	2	5	1.11	P	
39	212+06	212+09	15 Rt	21 Rt	3	6	2.00	P	
40	212+10	212+12	13 Rt	21 Rt	2	8	1.78	P	
41	212+11	212+13	0 Rt	6 Rt	2	6	1.33	P	
42	212+15	212+23	6 Rt	21 Rt	8	15	13.33	F	Type II
43	212+31	212+37	14 Rt	21 Rt	6	7	4.67	P	
44	212+41	212+44	14 Rt	20 Rt	3	6	2.00	P	
45	212+46	212+51	6 Rt	21 Rt	5	15	8.33	P	
46	212+51	212+54	13 Rt	19 Rt	3	6	2.00	P	
47	212+54	212+61	14 Rt	21 Rt	7	7	5.44	P	
48	212+59	212+62	0 Rt	12 Rt	3	12	4.00	P	
49	212+65	212+68	2 Rt	13 Rt	3	11	3.67	P	
50	212+70	212+73	2 Rt	6 Rt	3	4	1.33	P	
51	212+73	212+77	15 Rt	21 Rt	4	6	2.67	P	
52	212+78	212+81	2 Rt	12 Rt	3	10	3.33	P	
53	212+82	212+86	14 Rt	19 Rt	4	5	2.22	P	
54	212+83	212+85	5 Rt	11 Rt	2	6	1.33	P	
55	212+88	212+90	17 Rt	20 Rt	2	3	0.67	P	
56	212+92	213+00	18 Rt	21 Rt	8	3	2.67	P	
57	213+01	213+03	13 Rt	20 Rt	2	7	1.56	P	
58	213+14	213+17	15 Rt	21 Rt	3	6	2.00	P	
59									

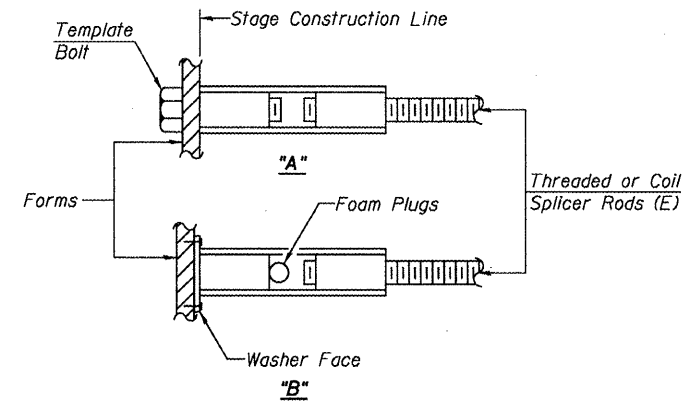
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



WELDED SECTIONS

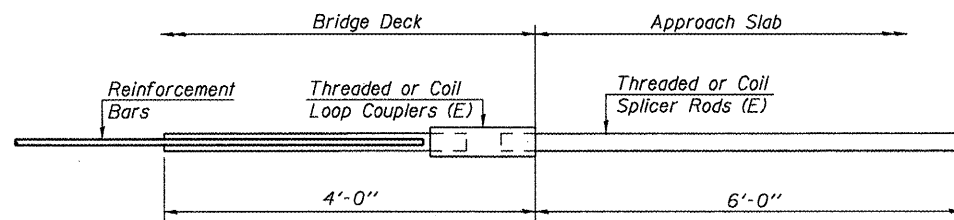
BAR SPLICER ASSEMBLY ALTERNATIVES

**Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.

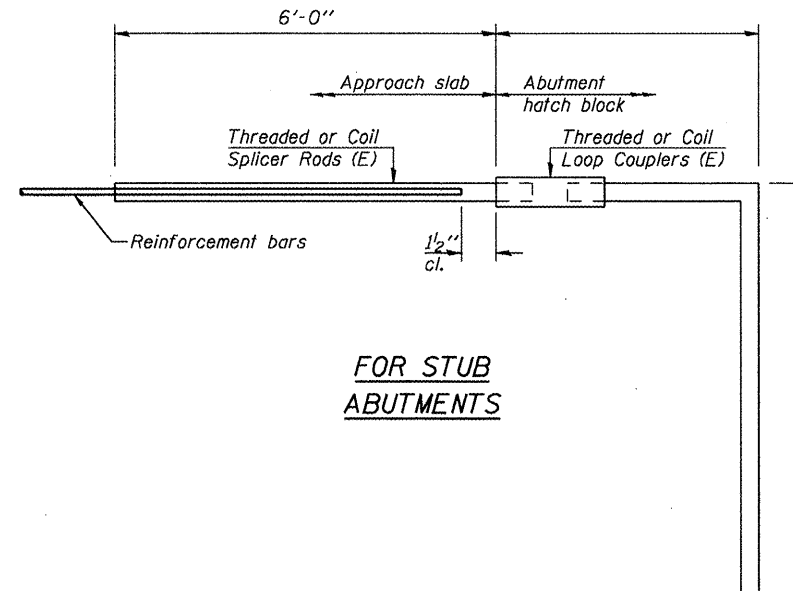


INSTALLATION AND SETTING METHODS

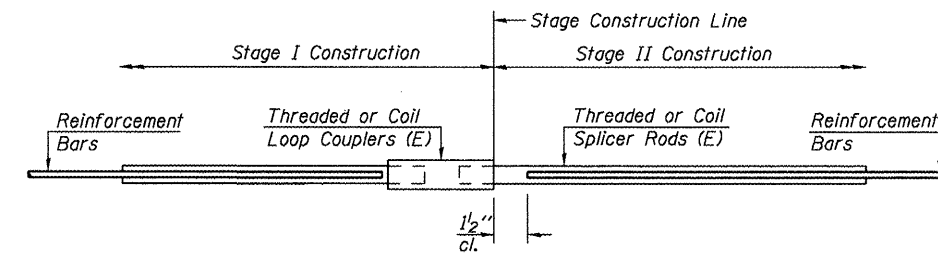
"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS



FOR STUB ABUTMENTS



STANDARD

Bar Size	No. Assemblies Required	Location
#5	32	Ends of Deck

Bar Splicer for #5 bar	
Min. Capacity =	23.0 kips - tension
Min. Pull-out Strength =	12.3 kips - tension
No. Required =	

Bar Splicer for #5 bar	
Min. Capacity =	23.0 kips - tension
Min. Pull-out Strength =	12.3 kips - tension
No. Required =	

DESIGNED	J. Uehle
CHECKED	B. Williams
DRAWN	J. Uehle
CHECKED	B. Williams

NOVEMBER 17, 2008
EXAMINED
PASSED
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

BSD-1

10-1-08

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
 All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
 Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity = $1.25 \times f_y \times A_t$
 (Tension in kips)
- ② Minimum *Pull-out Strength = $0.66 \times f_y \times A_t$
 (Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8

BAR SPLICER ASSEMBLY DETAILS
STRUCTURE NO.

SHEET NO. 9	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	875	132-4RS	MADISON	12	12
9 SHEETS	SN 060-0187 & 0190		CONTRACT NO. 76B89		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					