

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BDR-2, BRR, BJR-3	CASS	24	1
		ILLINOIS	CONTRACT NO. 72M49	

03-10-2023 LETTING ITEM 145

FOR LIST OF HIGHWAY STANDARDS, SEE SHEET 2

PROPOSED HIGHWAY PLANS

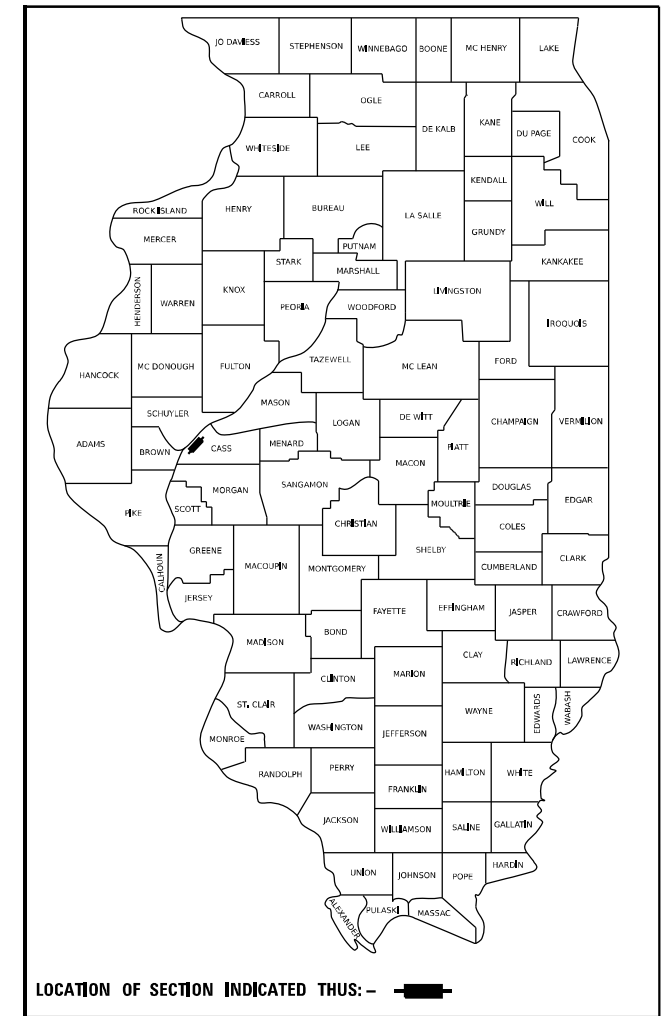
FAP 67 (IL 125)
SECTION (86) BDR-2, BRR, BJR-3
PROJECT HBFP-6BFX(703)
BRIDGE DECK OVERLAY
CASS COUNTY

C-96-015-21

INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES, COMMITMENTS AND LIST OF STANDARDS
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- 9 STAGE OF CONSTRUCTION
- 10 STAGING CROSS SECTION
- 11-23 STRUCTURAL PLANS (009-0002)
- 24 INLETS TO BE ADJUSTED WITH NEW FRAME AND GRATE, SPECIAL DETAIL

D-96-002-21

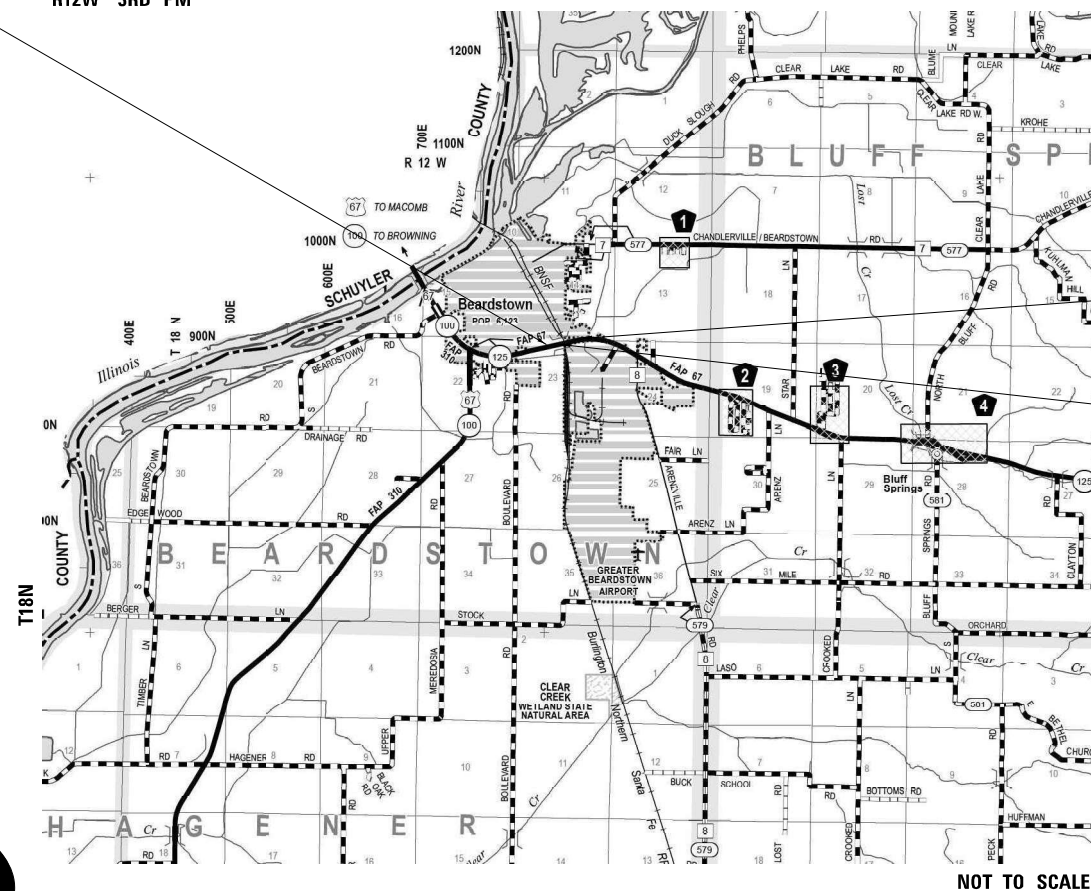


ROADWAY CLASSIFICATION
MINOR ARTERIAL

AVERAGE DAILY TRAFFIC
5,850 (2021)
MU 5.13%
SU 2.91%
PV 91.97%

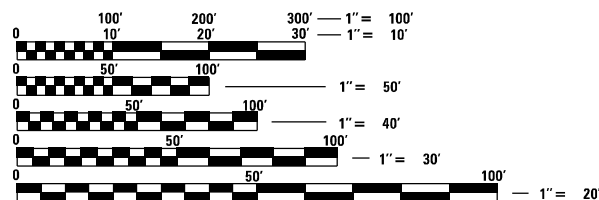
BEGIN IMPROVEMENT
STA. 144 + 20.00

R12W 3RD PM



END IMPROVEMENT
STA. 154 + 25.00

EXISTING SN 009-0002
6-SPAN 486.6' BK-BK ABUTS
CONTINUOUS STEEL STRUCTURE
OVER BNSF RR



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



CIVIL DESIGN, INC.
WBE / DBE
LICENSE #184.003222

PROJECT ENGINEER BRIAN LANINGHAM
217-782-6990
PROJECT MANAGER
CONTRACT NO. 72M49

GROSS LENGTH = 1005.00 FT. = 0.191 MILE
NET LENGTH = 1005.00 FT. = 0.191 MILE



SHEETS 1-10,24
ROBERT HANFLAND, PE
STATE OF ILLINOIS NO. 062-064104
EXPIRES 11-30-2023

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED September 7, 2022

John P. Meyer
REGIONAL ENGINEER

October 14, 2022

Steph M. Smith
ENGINEER OF DESIGN AND ENVIRONMENT

October 14, 2022

Steph M. Smith
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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

GENERAL NOTES

- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED TO CALCULATE PLAN QUANTITIES:
 BITUMINOUS MATERIALS (TACK COAT) 0.05 LBS/SQ FT (ON PAVEMENT)
 HOT-MIX ASPHALT MATERIAL 0.056 TON/SQ YD PER 1"
- AREAS OF DECK REPAIRS SHOWN ARE ESTIMATED. THE ENGINEER SHALL SHOW ACTUAL LOCATIONS OF DECK REPAIRS ON AS-BUILT PLANS.
- THE CONTRACTOR SHALL SUBMIT A SEQUENCE OF CONSTRUCTION FOR APPROVAL TO THE RESIDENT ENGINEER BEFORE THIS PROJECT IS STARTED.
- IDOT DISTRICT 6 OPERATIONS TRAFFIC SIGNAL SECTION SHALL BE CONTACTED AT (217) 524-9161 FOR CONTROLLER PROGRAMMING AND TIMING APPROVAL PRIOR TO ACTIVATING THE TEMPORARY BRIDGE TRAFFIC SIGNALS.
- SYNTHETIC FIBERS ARE NOT REQUIRED IN THE BRIDGE DECK MICROSILICA CONCRETE OVERLAY.

MIXTURE REQUIREMENTS

MIXTURE USE(S)	HMA SURFACE CSE	HMA SHOULDERS
PG	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4.0% @ N50	4.0% @ N50
MIX COMPOSITION	IL 9,5	IL 9,5
FRICTION AGGREGATE	MIX "D"	MIX "D"
MIXTURE WEIGHT	112 LB/SY-IN	112 LB/SY-IN
QUALITY MANAGEMENT	QC/QA	QC/QA
SUBLOT SIZE	N/A	N/A
MTD REQUIRED	NO	NO

COMMITMENTS

THERE ARE NO COMMITMENTS.

LIST OF STANDARDS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 M) AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5 M) TO 24' (600 MM) FROM PAVEMENT EDGE
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701321-18	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER ≥ 45 MPH
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
780001-05	TYPICAL PAVEMENT MARKINGS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
001006	DECIMAL OF AN INCH AND OF A FOOT
631031-17	TRAFFIC BARRIER TERMINAL, TYPE 6

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6**

EXAMINED August 22 20 22

[Signature]

ENGINEER OF OPERATIONS

EXAMINED August 26 20 22

[Signature]

ENGINEER OF PROJECT IMPLEMENTATION

EXAMINED August 29 20 22

[Signature]

ENGINEER OF PROGRAM DEVELOPMENT

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES, COMMITMENTS AND
LIST OF STANDARDS**

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BDR-2, BRR, BJR-3	CASS	24	2
			CONTRACT NO. 72M49	
ILLINOIS FED. AID PROJECT				

6-00684-0100

80% FED
20% STATE
BRIDGE
0047
009-0002

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	849	849
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	560	560
40600990	TEMPORARY RAMP	SQ YD	94	94
40604060	HOT-MIX ASPHALT SURFACE COURSE, 1L-9.5, MIX "D", N50	TON	113	113
48203100	HOT-MIX ASPHALT SHOULDERS	TON	72	72
50102400	CONCRETE REMOVAL	CU YD	17.1	17.1
50157300	PROTECTIVE SHIELD	SQ YD	372	372
50300255	CONCRETE SUPERSTRUCTURE	CU YD	19.1	19.1
50300260	BRIDGE DECK GROOVING	SQ YD	2,107	2,107
50300300	PROTECTIVE COAT	SQ YD	2,238	2,238
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2,300	2,300
50800515	BAR SPLICERS	EACH	40	40
52000110	PREFORMED JOINT STRIP SEAL	FOOT	114	114

6-00684-0100

80% FED
20% STATE
BRIDGE
0047
009-0002

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	
63302700	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 6	EACH	4	4
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6
67100100	MOBILIZATION	L SUM	1	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	30	30
70300100	SHORT TERM PAVEMENT MARKING	FOOT	208	208
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	35	35
70300231	TEMPORARY PAVEMENT MARKING - LINE 5" - PAINT	FOOT	4,548	4,548
70400100	TEMPORARY CONCRETE BARRIER	FOOT	738	738
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	738	738
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2

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	SCALE: SCALE SHEET 1 OF 2 SHEETS STA. TO STA.	ILLINOIS FED. AID PROJECT				

6-00684-0100
 80% FED
 20% STATE
 BRIDGE
 0047
 009-0002

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	
70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
* 78001120	PAINT PAVEMENT MARKING - LINE 5"	FOOT	4,548	4,548
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	13	13
78300201	PAVEMENT MARKING REMOVAL - GRINDING	SQ FT	2,622	2,622
X6024503	INLETS TO BE ADJUSTED WITH NEW FRAME AND GRATE (SPECIAL)	EACH	4	4
X7200201	WIDTH RESTRICTION SIGNING	L SUM	1	1
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SQ YD	2,190	2,190
Z0012164	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 1/2"	SQ YD	2,190	2,190
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	498	498
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	5	5
Z0018051	DRAINAGE SCUPPERS TO BE ADJUSTED	EACH	10	10
Z0041895	POLYMER CONCRETE	CU FT	14	14
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1
Ø Z0076600	TRAINEES	HOUR	500	500
Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	1	1
Ø Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500	500

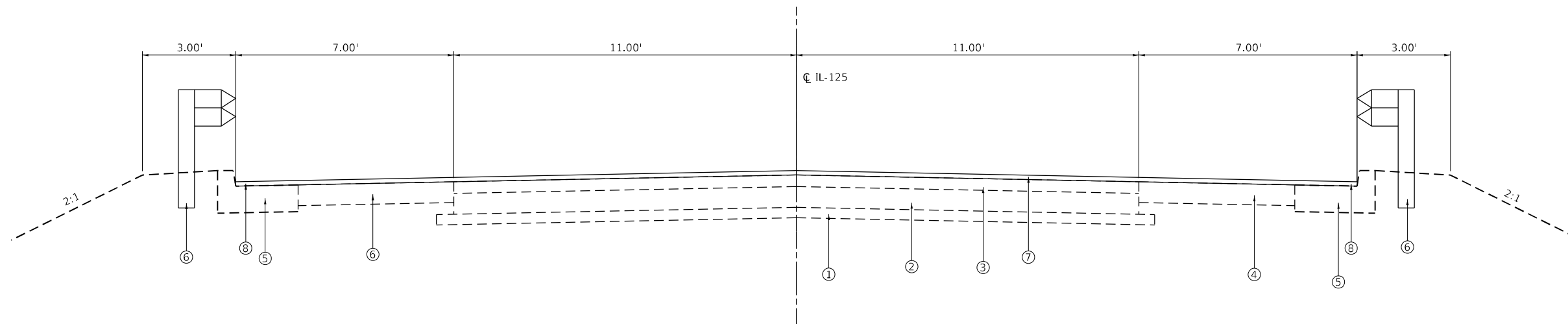
* SPECIALTY ITEM

Ø 0042

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	PLOT DATE = 9/8/2022	CHECKED - RLH	REVISED -					CONTRACT NO. 72M49				
	DATE -	REVISED -		SCALE: SCALE	SHEET 2	OF 2	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		



STA 144+30.00 TO STA 146+89.71
 STA 152+48.29 TO STA 154+60.00

LEGEND

- ① EXISTING AGGREGATE SUB-BASE 4"
- ② EXISTING PCC BASE COURSE 8"
- ③ EXISTING HMA OVERLAY 6 3/4" ±
- ④ EXISTING HMA SHOULDER 8"
- ⑤ EXISTING 6.24 COMBINATION CURB AND GUTTER
- ⑥ PROPOSED GUARDRAIL
- ⑦ PROPOSED HMA SURFACE COURSE, IL-9.5, MIX "D" N50, 1 3/4"
- ⑧ PROPOSED HMA SHOULDERS

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

TYPICAL SECTIONS

SCALE: SCALE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BDR-2, BRR, BJR-3	CASS	24	5
CONTRACT NO. 72M49				
ILLINOIS FED. AID PROJECT				

PAVING SCHEDULE							
STATION	TO	STATION	40600290	40600982	40600990	40604060	48203100
			BITUMINOUS MATERIALS (TACK COAT)	HMA SURFACE REMOVAL - BUTT JOINT	TEMPORARY RAMP	HMA SURFACE COURSE, IL-9.5 MIX "D", N50	HMA SHOULDERS
			POUND	SQ YD	SQ YD	TON	TON
144+30.00	-	146+89.71	467.5	280.0	46.6	62.2	39.6
152+48.29	-	154+60.00	381.1	280.0	46.6	50.7	32.3
TOTAL			848.6	560.0	93.2	112.9	71.9
USE			849	560	94	113	72

TRAFFIC CONTROL					
LOCATION	STAGE	70400100	70400200	70600260	70600332
		TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	IMPACT ATTENUATORS, TEMP. (FULLY REDIRECTIVE) NARROW), TL3	IMPACT ATTENUATORS, RELOCATE TEMP. (FULLY REDIRECTIVE) NARROW), TL3
		FOOT	FOOT	EACH	EACH
SN 009-0002	1	737.5		2	
SN 009-0002	2		737.5		2
TOTAL		737.5	737.5	2	2
USE		738	738	2	2

SHORT TERM PAVEMENT MARKING SCHEDULE					
STATION	TO	STATION	NUMBER OF APPLICATIONS	70300100	70300150
				SHORT TERM PAVEMENT MARKING	SHORT TERM PAVEMENT MARKING REMOVAL
				FOOT	SQ FT
144+00.00		155+37.00	2	208	34.7
TOTAL				208	34.7
USE				208	35

GUARDRAIL SCHEDULE	
STATION	63302700
	REMOVE & REERECT TRAFFIC BARRIER TERMINAL TYPE 6
EACH	
147+15	1
147+15	1
152+22	1
152+22	1
TOTAL	4

PAVEMENT MARKING SCHEDULE							
STATION	TO	STATION	78001120		78300200	70300231	78300201
			PAINT PAVEMENT MARKING - LINE 5"		RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	TEMPORARY PAVEMENT MARKING - LINE 5" - PAINT	PAVEMENT MARKING REMOVAL - GRINDING
			FOOT		EACH	FOOT	SQ FT
			WHITE	DOUBLE YELLOW			
144+00		155+37	2274			2274	1410
144+00		155+37		2274	13	2274	1212
SUBTOTAL			2274	2274			
TOTAL			4548		13	4548	2622

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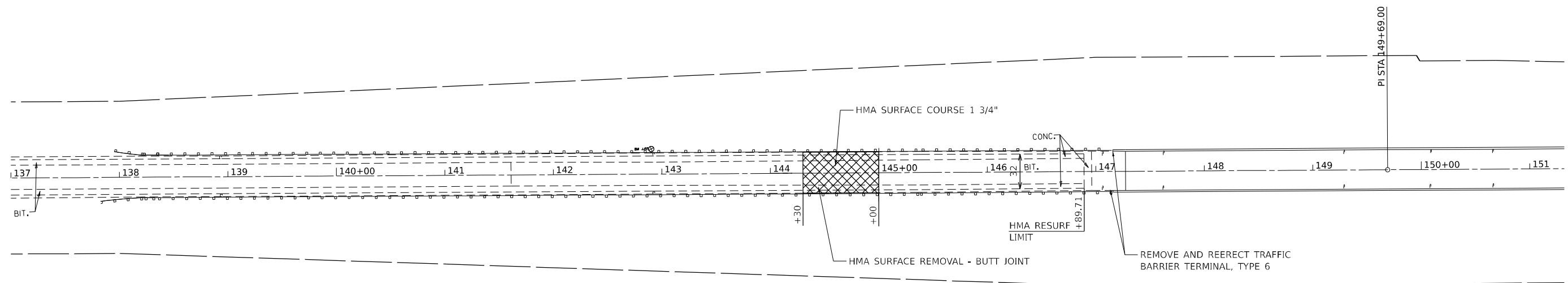
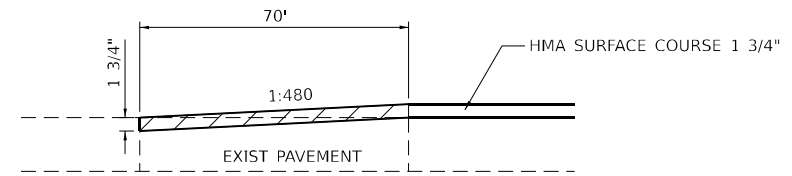
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULES
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BDR-2, BRR, BJR-3	CASS	24	6
CONTRACT NO. 72M49				
ILLINOIS FED. AID PROJECT				



HOT-MIX ASPHALT SURFACE REMOVAL BUTT-JOINT DETAIL



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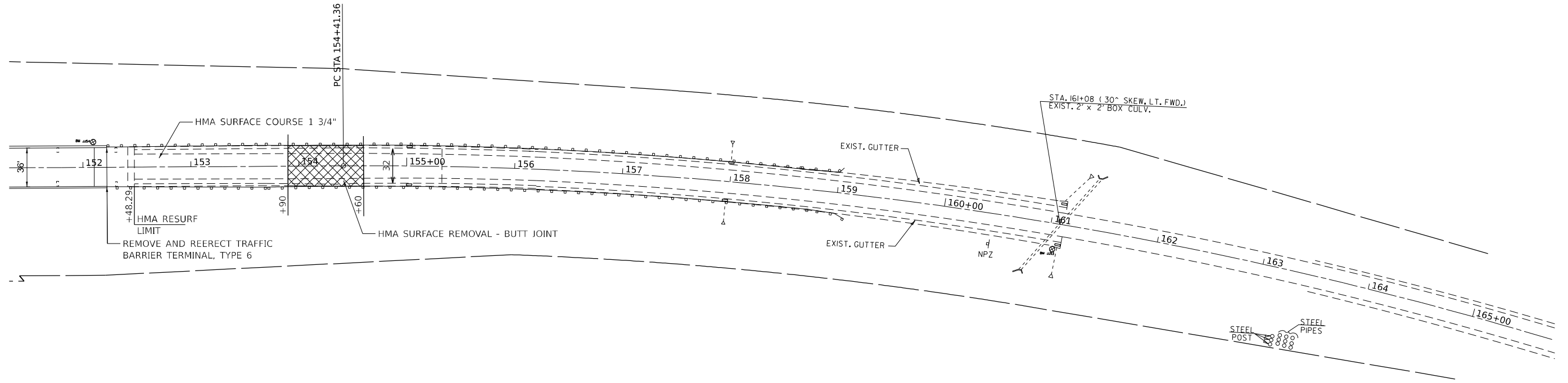
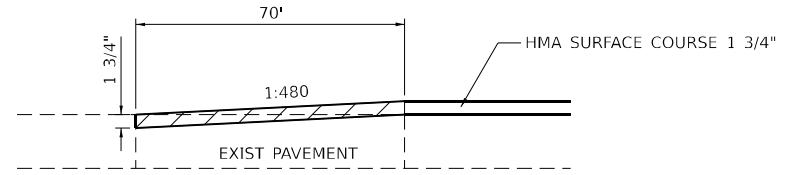


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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCALE: SCALE		SHEET 1 OF 2 SHEETS		PLAN	
				STA. 137+00.00 TO STA. 151+31.74	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 72M49				
ILLINOIS FED. AID PROJECT				



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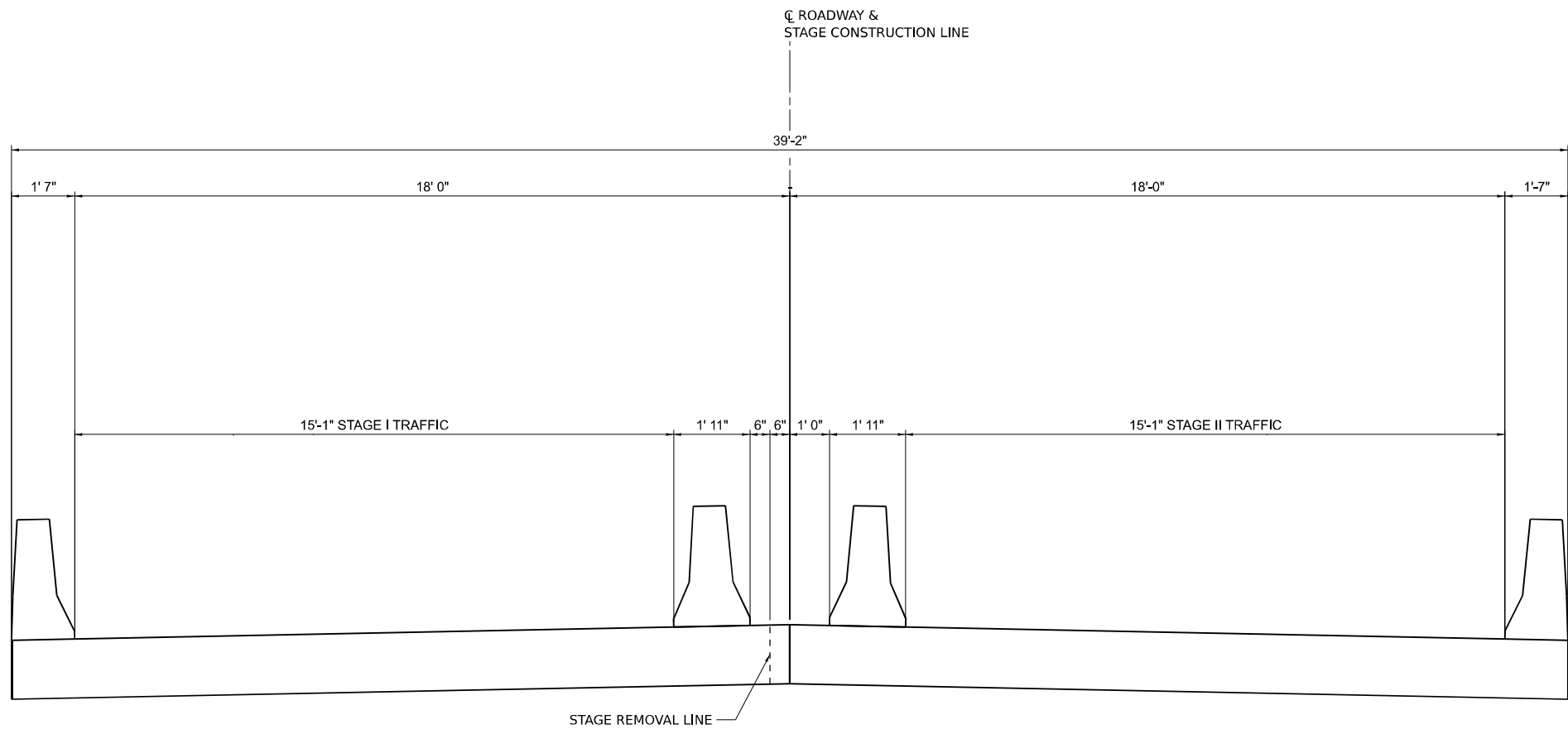


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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PLAN			
SCALE:	SHEET 2	OF 2	SHEETS
	STA. 151+31.74	TO STA. 165+79.23	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BDR-2, BRR, BJR-3	CASS	24	8
CONTRACT NO. 72M49				
ILLINOIS FED. AID PROJECT				



STAGING CROSS SECTION

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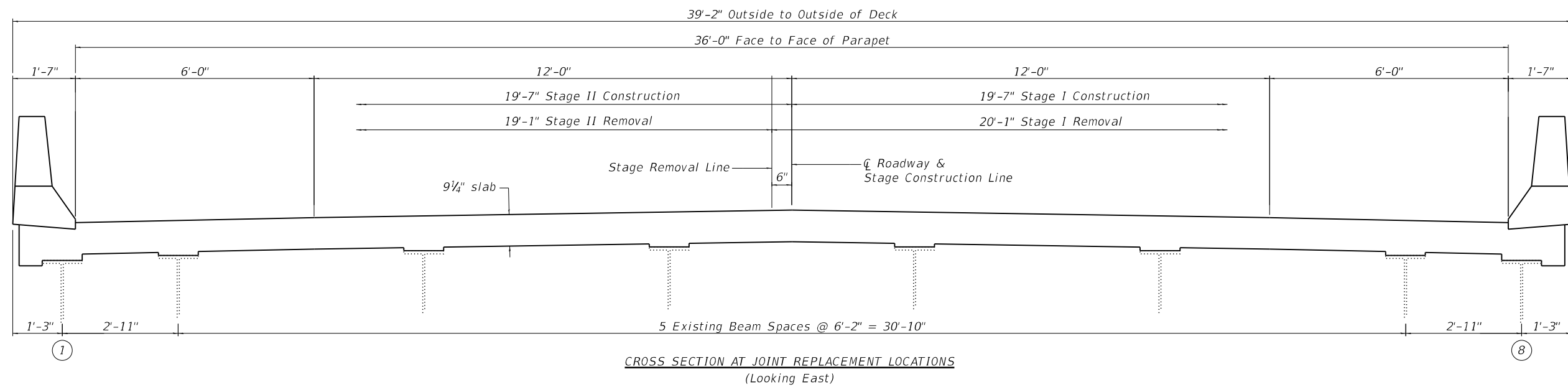
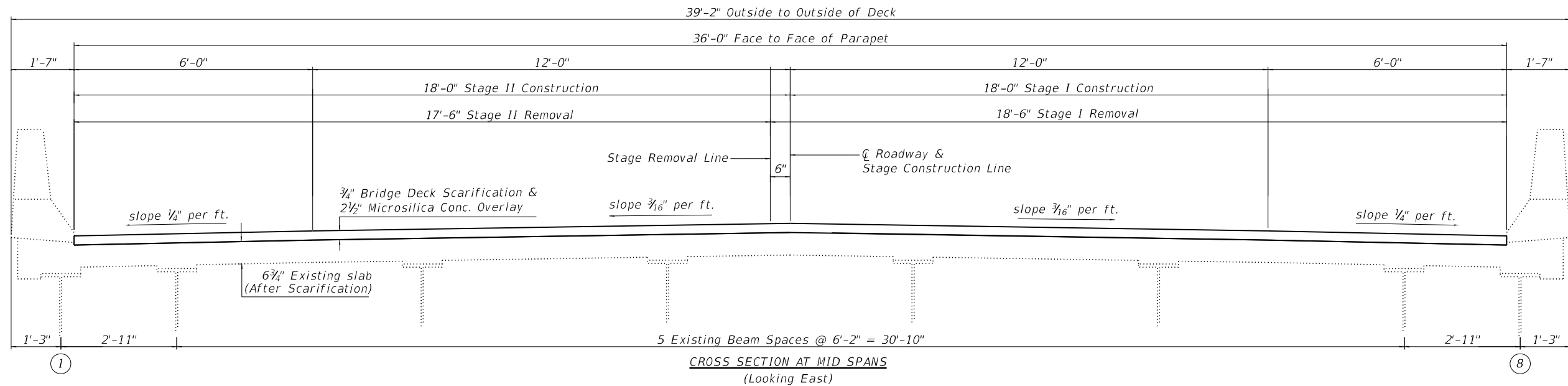


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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE: SCALE		SHEET 1	OF 1	SHEETS	STA.	TO STA.
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BDR-2, BRR, BJR-3	CASS	24	10
CONTRACT NO. 72M49				
ILLINOIS FED. AID PROJECT				



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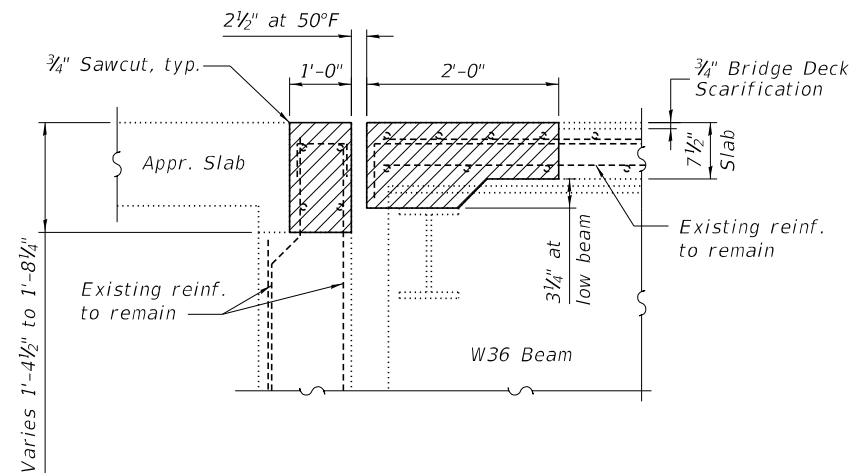
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

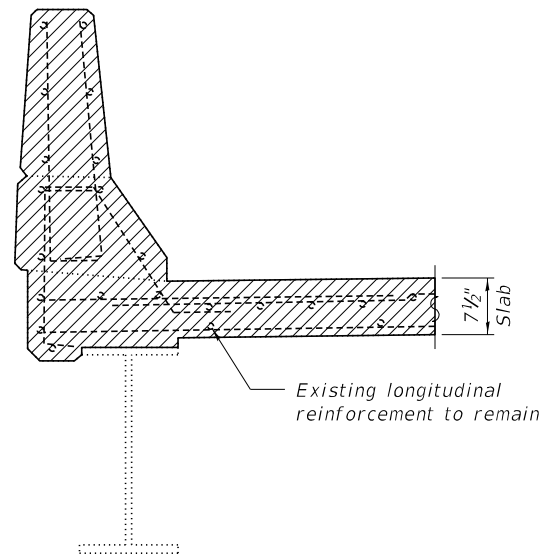
CROSS SECTIONS
STRUCTURE NO. 009-0002

SHEET 2 OF 13 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BJR-1	CASS	24	12
CONTRACT NO. 72M49				
ILLINOIS FED. AID PROJECT				

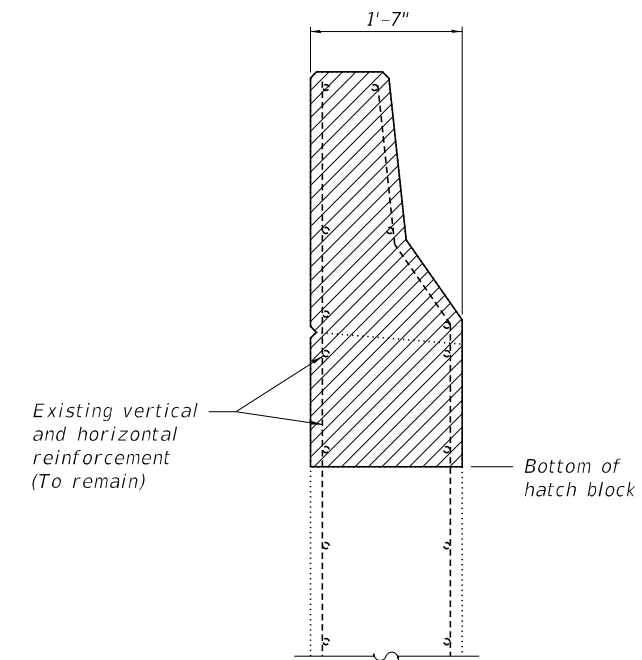


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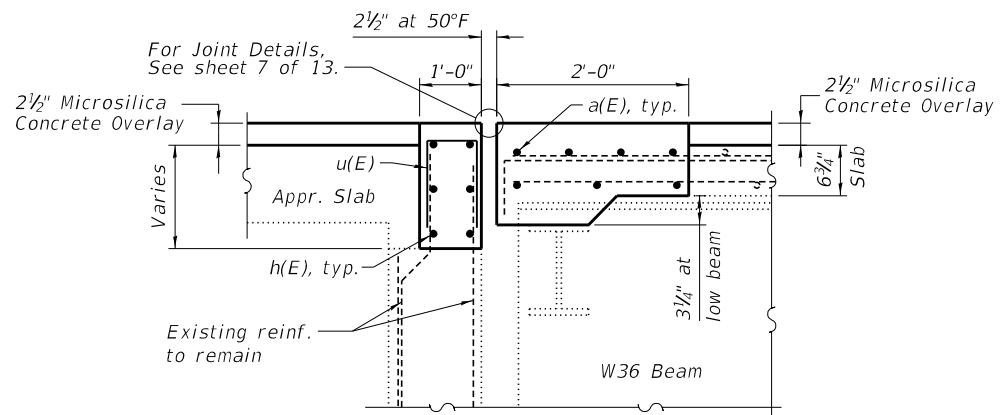
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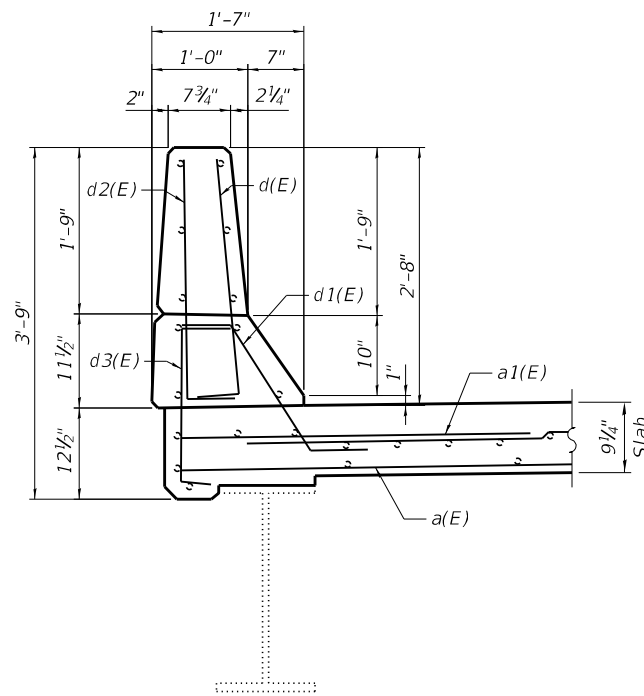


SECTION THRU WINGWALL

(Showing Removal)

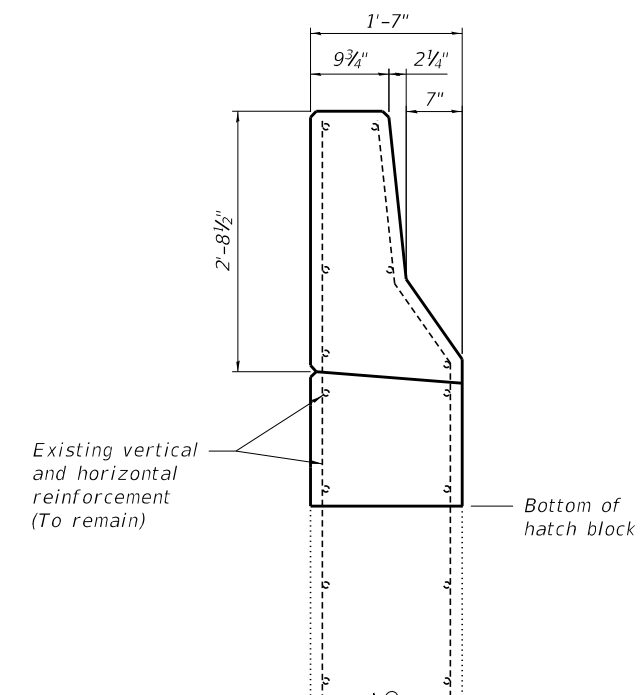


SECTION B-B



SECTION THRU PARAPET

(Showing Proposed)



SECTION THRU WINGWALL

(Proposed)

(Sheet 2 of 2)

MODEL: D:\cfd\p\...
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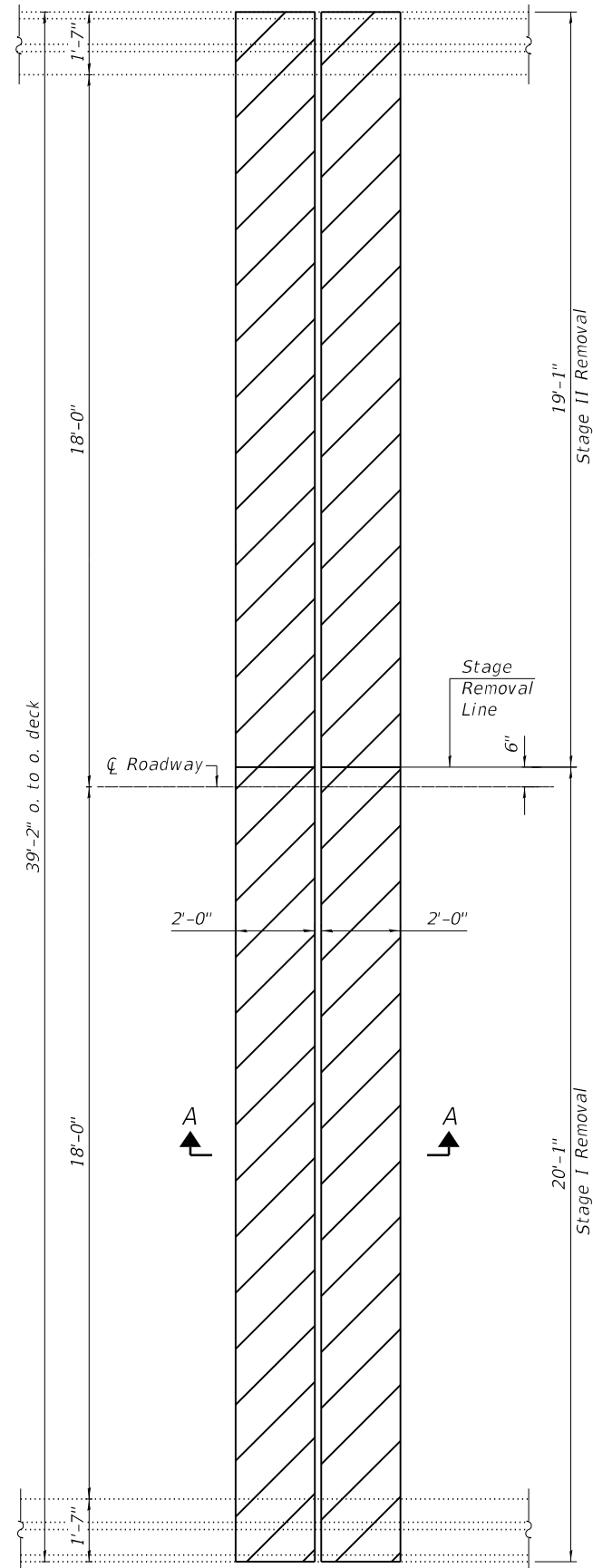
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

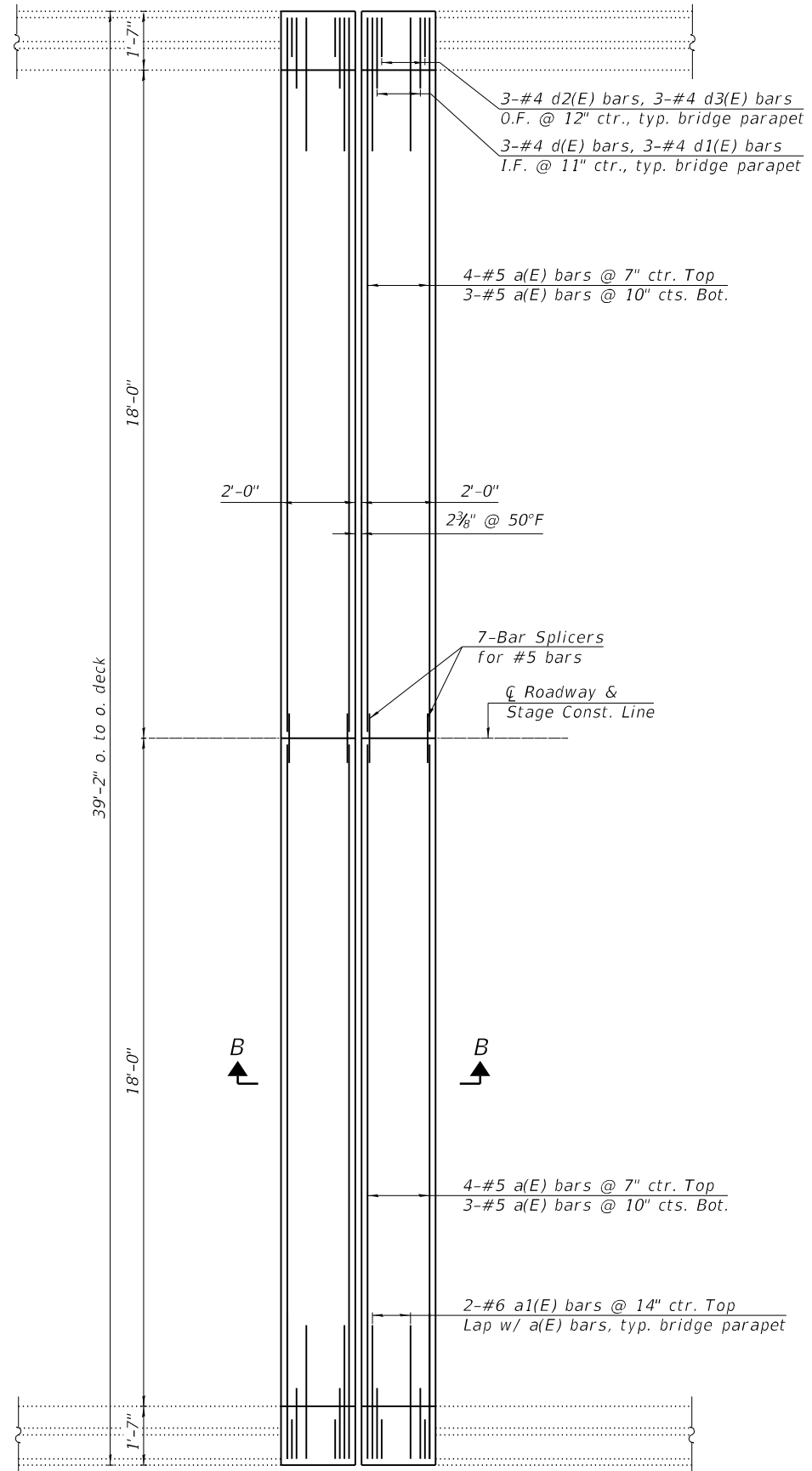
JOINT REMOVAL AND REPLACEMENT DETAILS AT ABUTMENTS
STRUCTURE NO. 009-0002

SHEET 4 OF 13 SHEETS

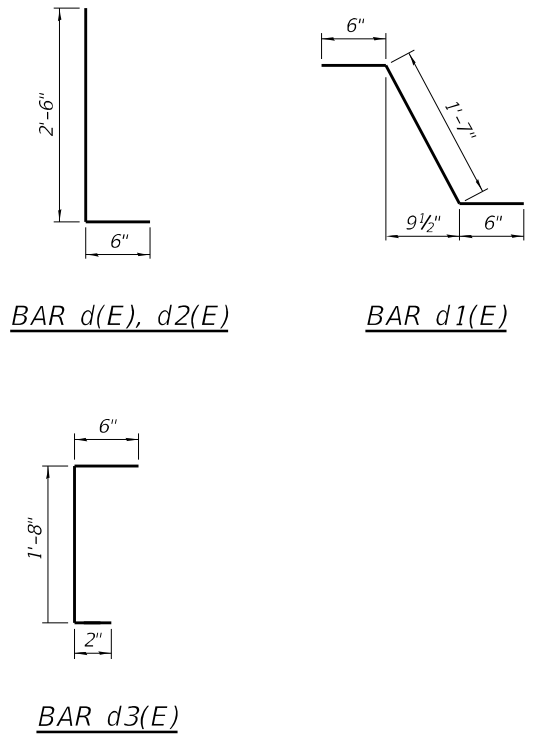
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BJR-1	CASS	24	14
CONTRACT NO. 72M49				
ILLINOIS FED. AID PROJECT				



CONCRETE REMOVAL AT PIER 3



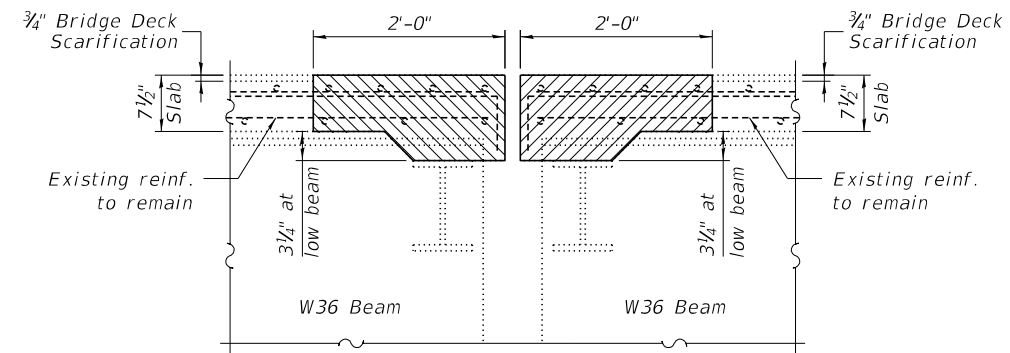
PROPOSED CONCRETE AT PIER 3



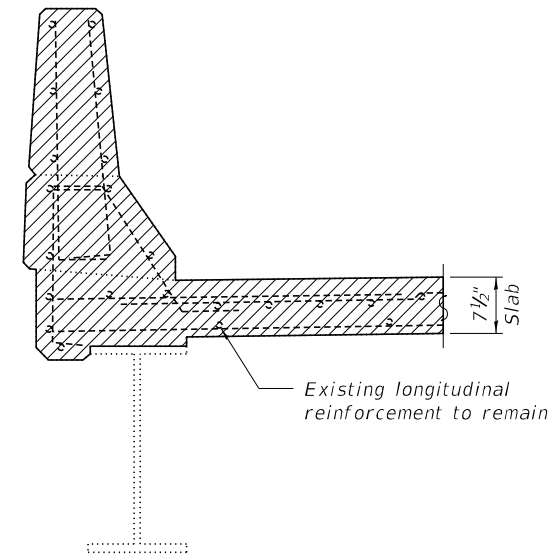
BILL OF MATERIAL
PIER

Bar	No.	Size	Length	Shape
a(E)	28	#5	19'-1"	—
a1(E)	8	#6	4'-0"	—
d(E)	12	#5	3'-0"	┌
d1(E)	12	#5	2'-7"	┌
d2(E)	12	#4	3'-0"	┌
d3(E)	12	#4	2'-4"	┌
Concrete Removal			Cu. Yd.	6.0
Reinforcement Bars, Epoxy Coated			Pound	720
Concrete Superstructure			Cu. Yd.	6.8

(Sheet 1 of 2)

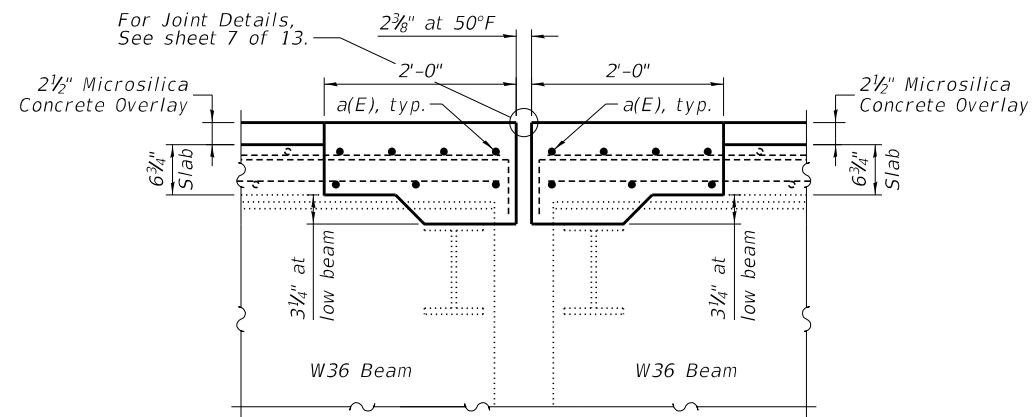
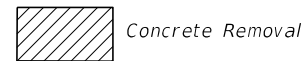


SECTION A-A

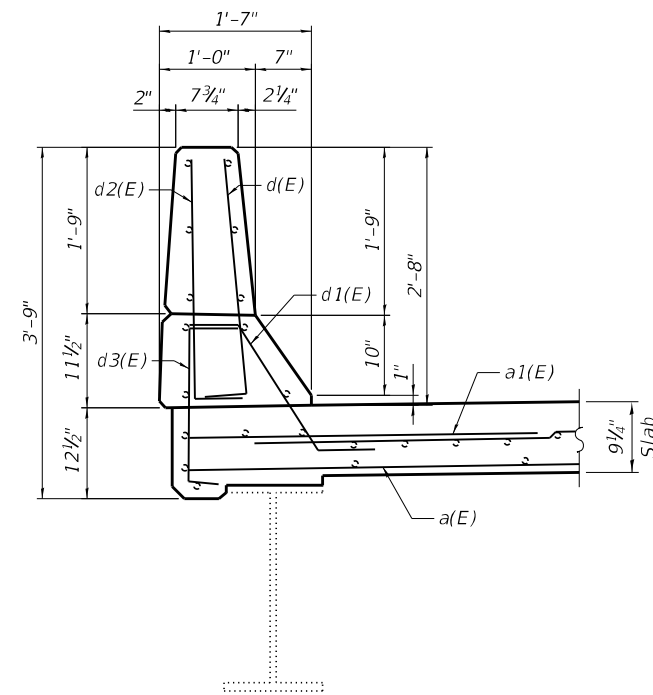


SECTION THRU PARAPET

(Showing Removal)



SECTION B-B



SECTION THRU PARAPET

(Showing Proposed)

(Sheet 2 of 2)

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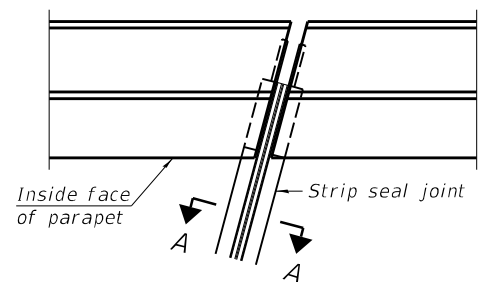
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT REMOVAL AND REPLACEMENT DETAILS AT PIER 3
STRUCTURE NO. 009-0002

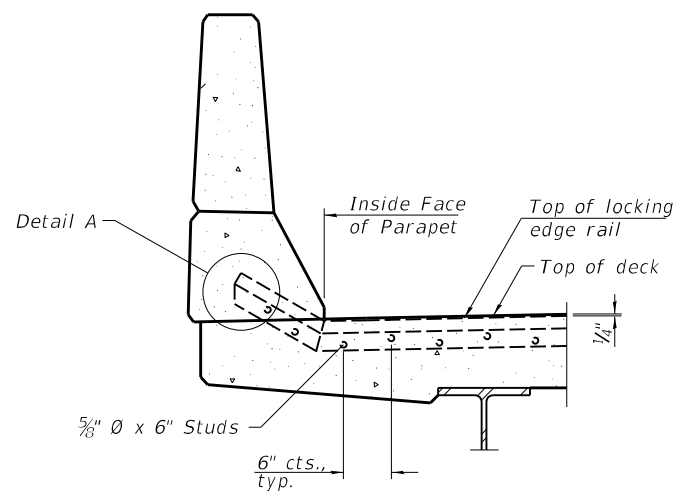
SHEET 6 OF 13 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BJR-1	CASS	24	16
			CONTRACT NO. 72M49	
		ILLINOIS FED. AID PROJECT		

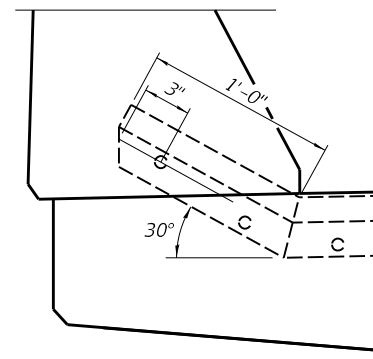


FOR SKEWS $\leq 30^\circ$

PLAN AT PARAPET



SECTION AT PARAPET



DETAIL A

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of $\frac{1}{4}$ ". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

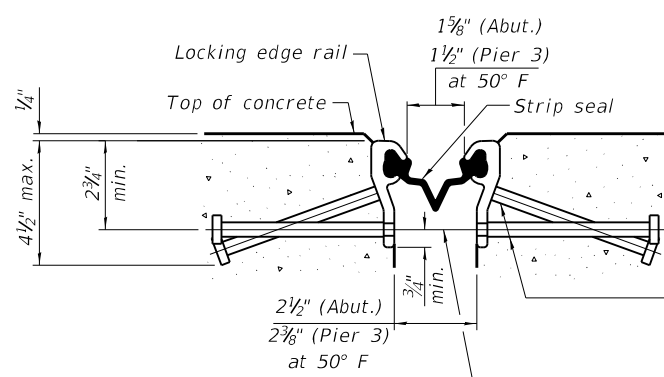
The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the $4\frac{1}{2}$ " maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be $\frac{3}{16}$ " and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.



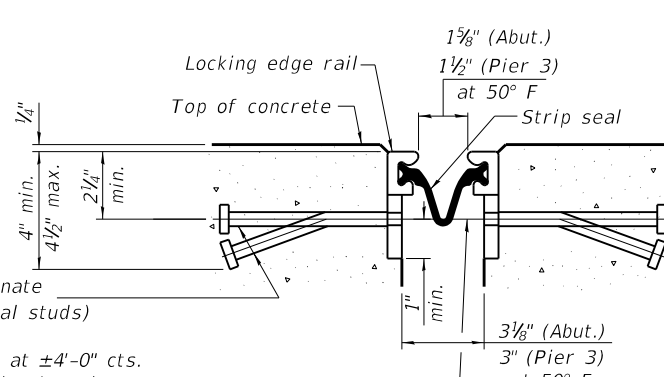
SHOWING ROLLED RAIL JOINT

* $\frac{5}{8}$ " ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

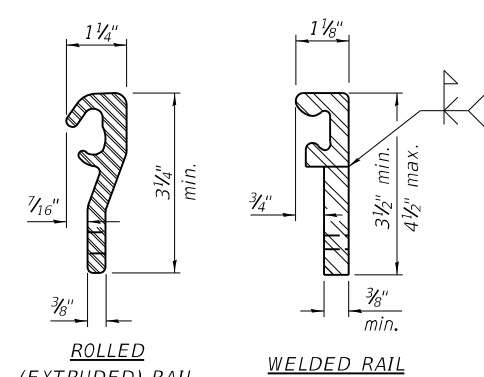
$\frac{3}{8}$ " ϕ threaded rods in $\frac{7}{16}$ " ϕ holes at $\pm 4'-0"$ cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



SHOWING WELDED RAIL JOINT

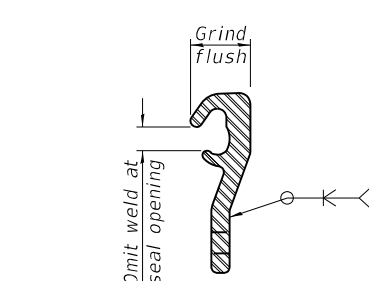


ROLLED (EXTRUDED) RAIL

WELDED RAIL

LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	114

MODEL: D:\p\h\... FILE NAME: 20230320\20230320\Structure Sheets\1672m49_dtd_Performed Joint Strip Seal.DGN



CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LICENSE # 184.003222

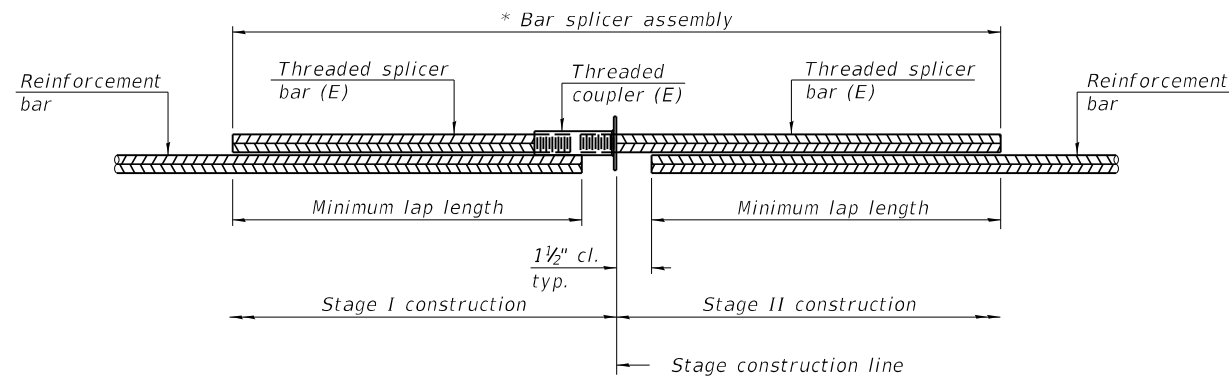
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 009-0002

SHEET 7 OF 13 SHEETS

F.A.P. RTE. 67	SECTION (86) BJR-1	COUNTY CASS	TOTAL SHEETS 24	SHEET NO. 17
CONTRACT NO. 72M49				
ILLINOIS FED. AID PROJECT				

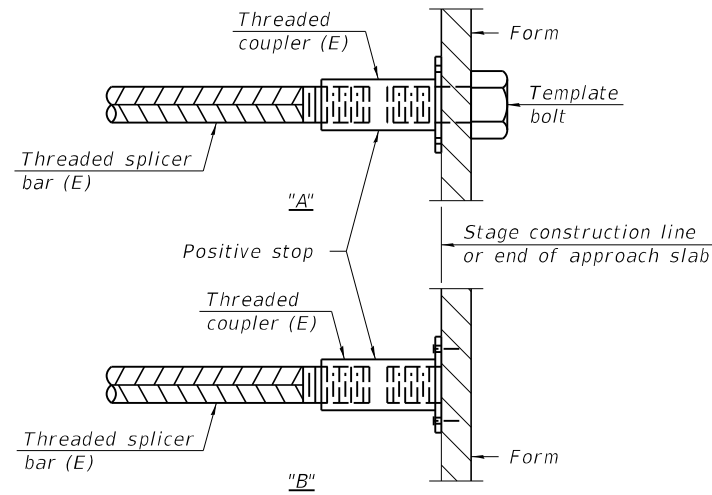


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Bridge Deck - Pier	#5	14	3'-6"
Bridge Deck - Abut.	#5	14	3'-6"
Hatch Block - Abut.	#6	12	4'-0"

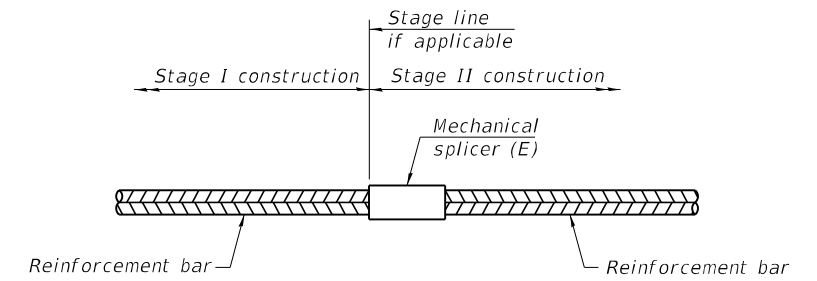


INSTALLATION AND SETTING METHODS

"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.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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BSD-1

1-1-2020



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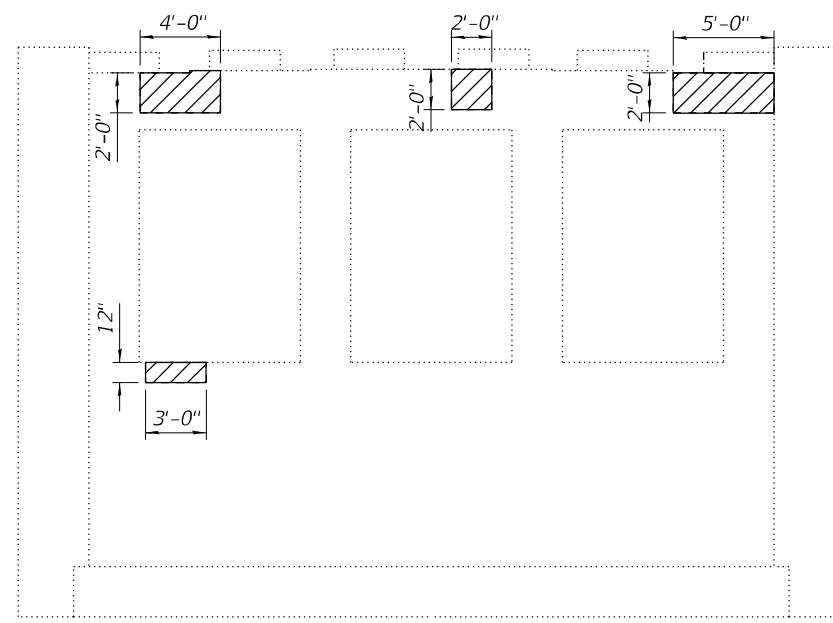
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 STRUCTURE NO. 009-0002**

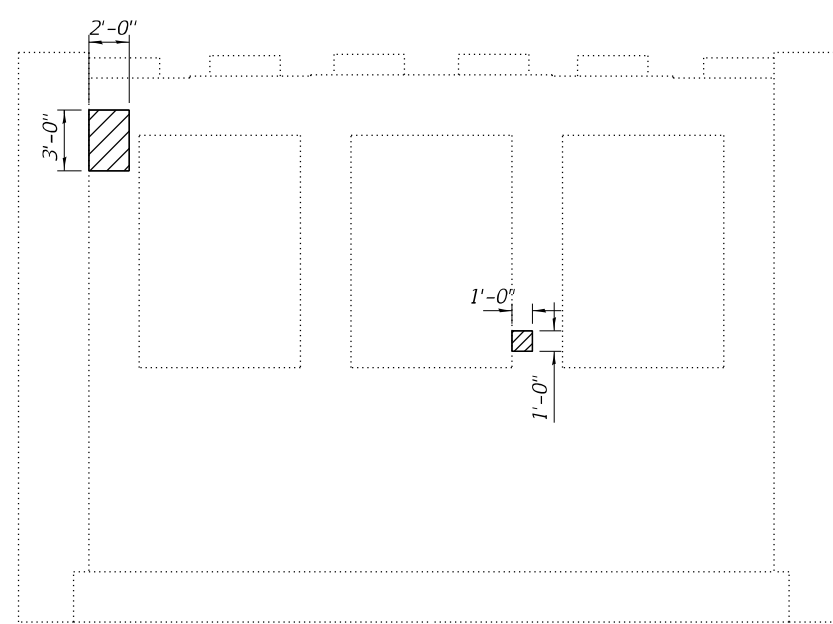
SHEET 8 OF 13 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BJR-1	CASS	24	18
				CONTRACT NO. 72M49
				ILLINOIS FED. AID PROJECT

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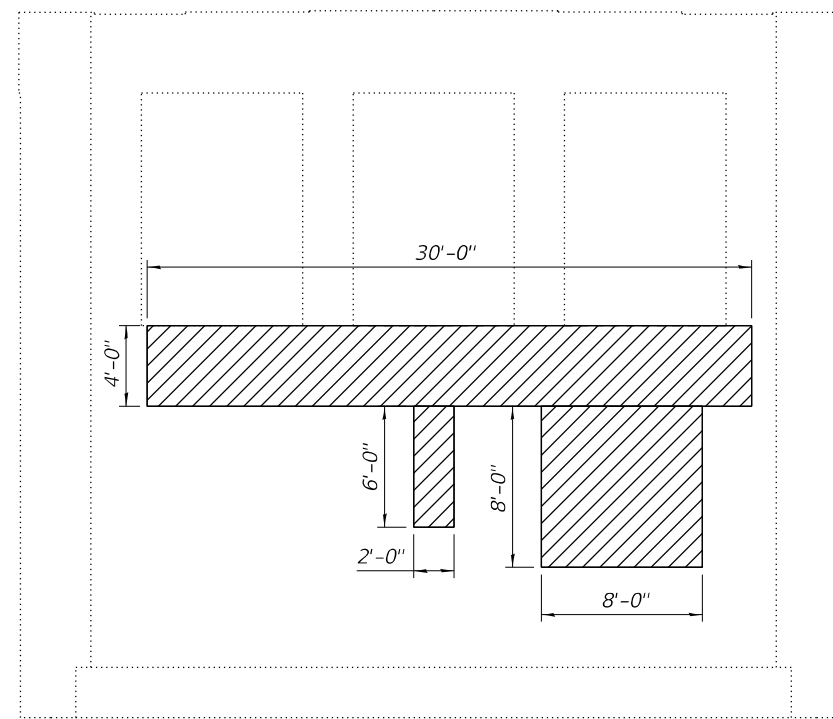


WEST FACE

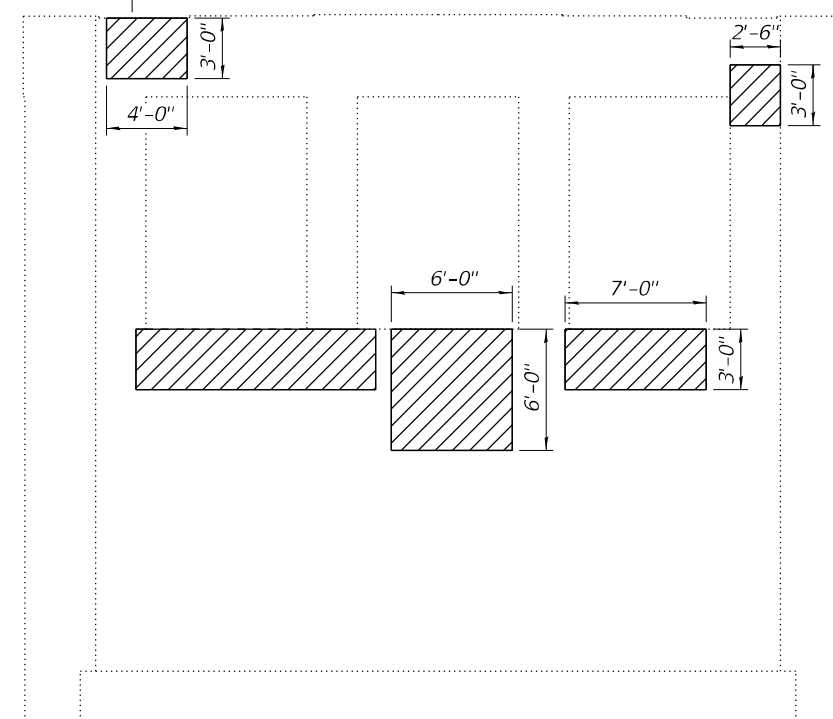


EAST FACE

PIER 2 ELEVATION



WEST FACE



EAST FACE

PIER 3 ELEVATION

SUBSTRUCTURE REPAIR PLAN

▨ Substructure Repair (Less than 5")

⊕ Beam 7
Temporary Shoring and Cribbing

BEAM REACTION

R _φ	(k)	28.7
R _⊥	(k)	34.3
R _{IMP}	(k)	8.6
R _{TOTAL}	(k)	71.6

Note: For Beam 7 Temporary Shoring and Cribbing Design

SUBSTRUCTURE BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete < 5"	Sq. Ft.	366
Temporary Shoring and Cribbing	Each	1

(Sheet 2 of 3)

REVISED 10-25-2022 REV. - TJZ



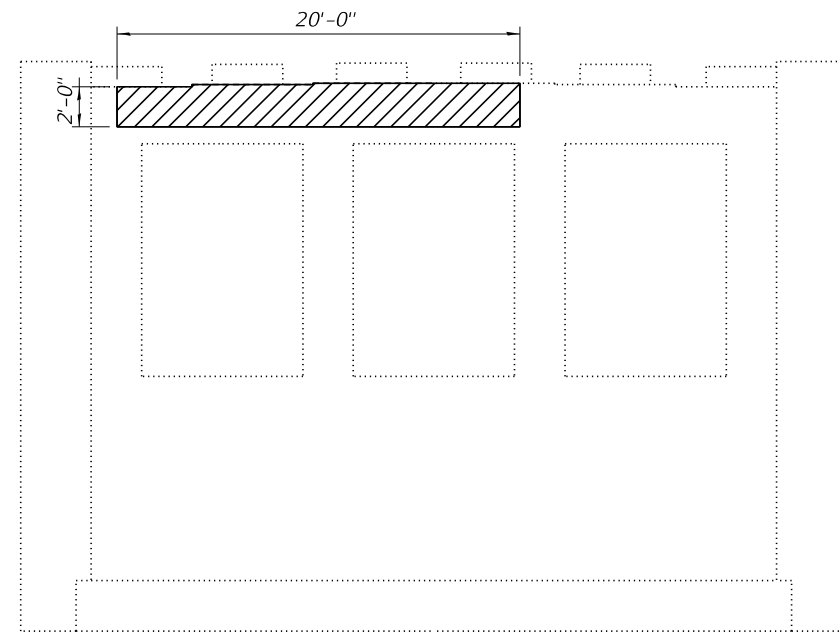
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

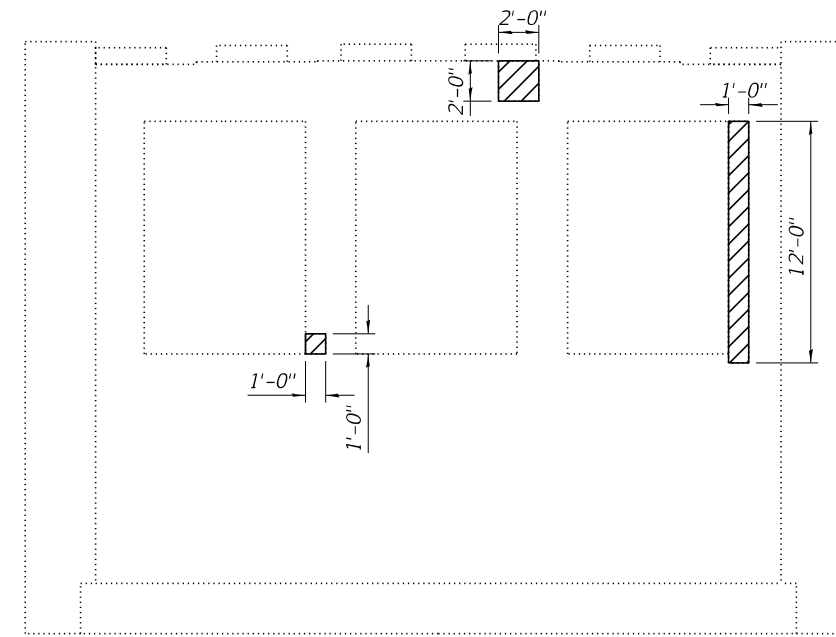
**SUBSTRUCTURE REPAIR DETAILS
STRUCTURE NO. 009-0002**

SHEET 10 OF 13 SHEETS

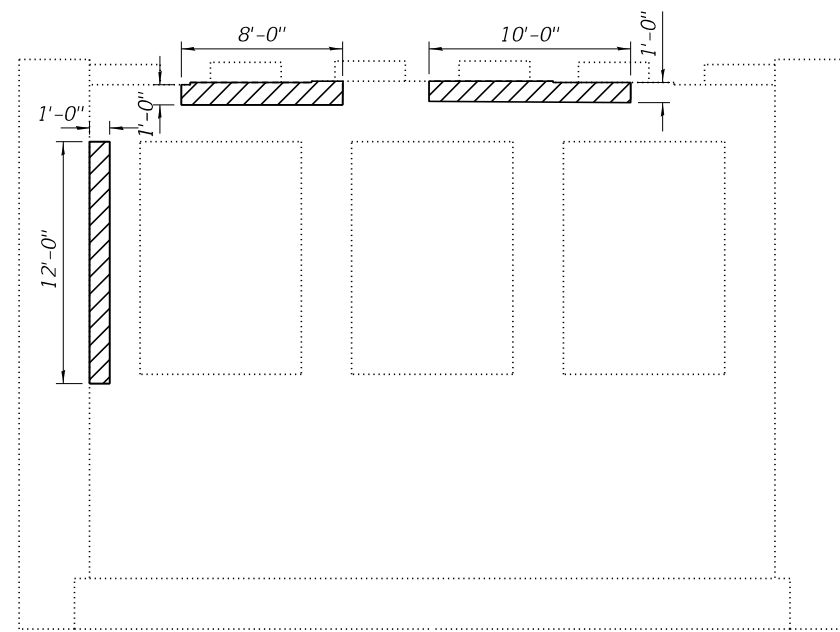
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67	(86) BJR-1	CASS	24	20
CONTRACT NO. 72M49				
ILLINOIS FED. AID PROJECT				



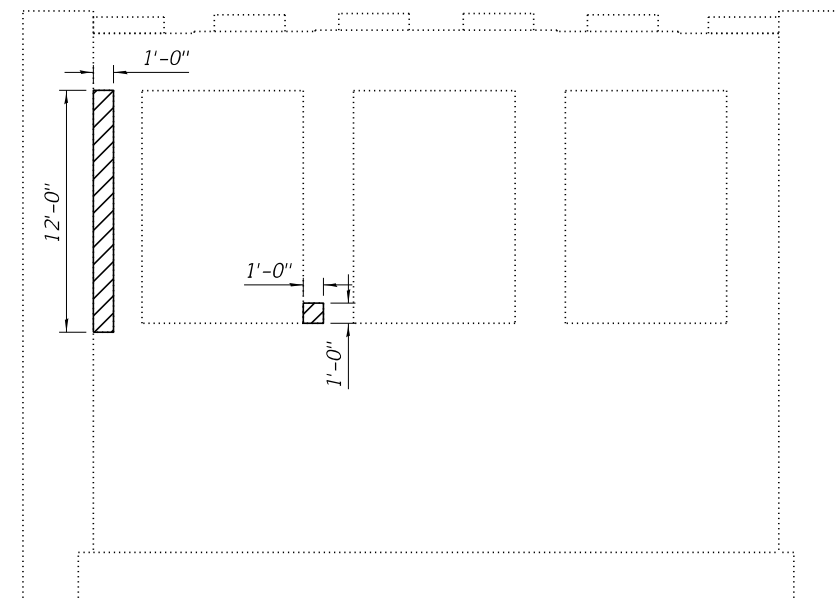
WEST FACE



WEST FACE



EAST FACE



EAST FACE

PIER 4 ELEVATION

PIER 5 ELEVATION

SUBSTRUCTURE REPAIR PLAN

▨ Substructure Repair (Less than 5")

SUBSTRUCTURE
BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete < 5"	Sq. Ft.	100

(Sheet 3 of 3)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIR DETAILS
STRUCTURE NO. 009-0002

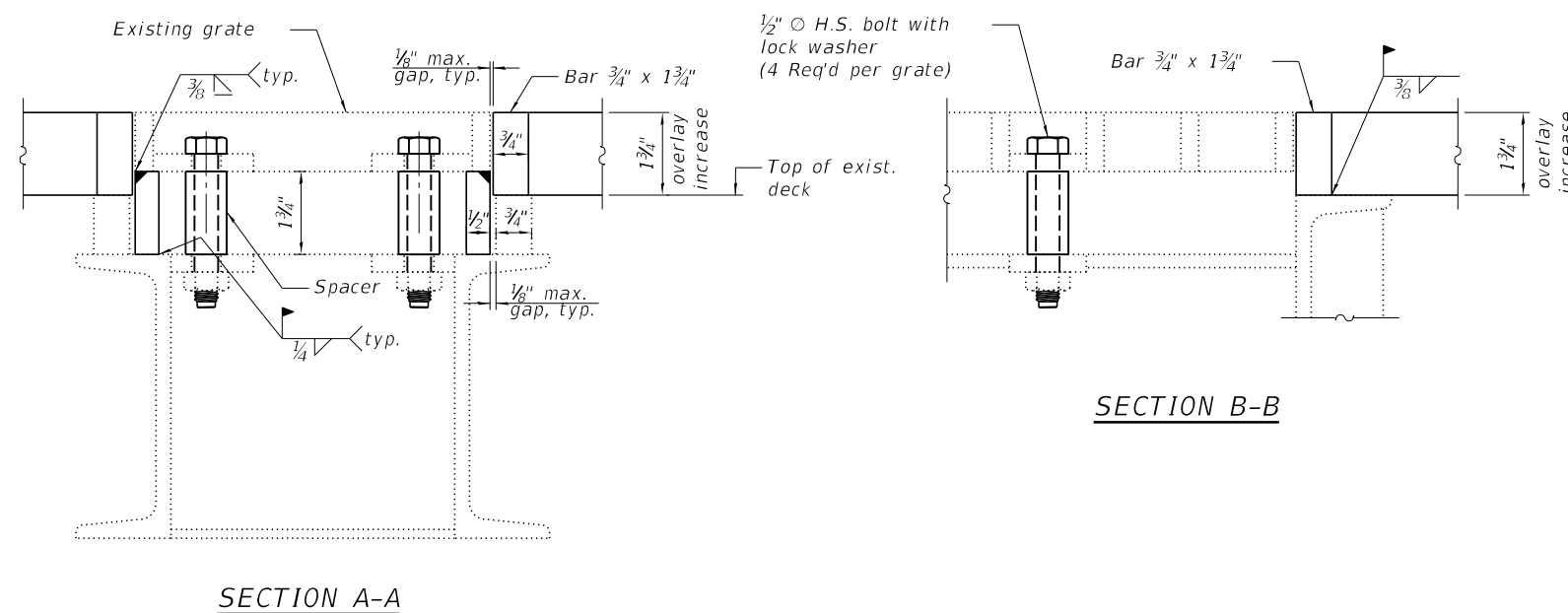
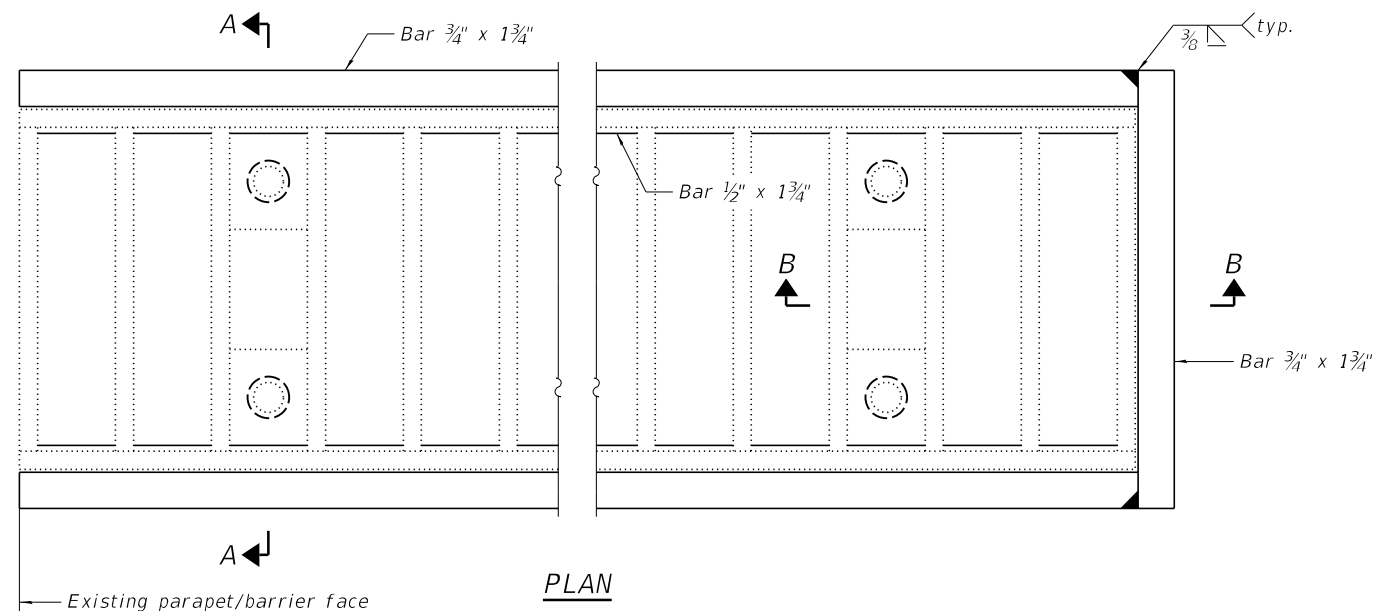
SHEET 11 OF 13 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BJR-1	CASS	24	21
CONTRACT NO. 72M49				
ILLINOIS FED. AID PROJECT				

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PLOT DATE = 9/6/2022	CHECKED - TJZ	REVISED -



Notes:

1. Existing drainage scupper gates shall be adjusted so that the top of the existing grate is flush with the top of the bridge deck overlay.
2. Proposed structural steel for adjusting the scupper gates shall conform to AASHTO Classification M-270 Gr. 36. All proposed components adjusting the scupper gates shall be hot dipped galvanized.
3. Bolts shall be 1/2" O ASTM F3125 Grade A325 Type 1, mechanically galvanized. Spacer may be fabricated from round steel pipe.
4. The Contractor shall ensure that no damage is done to the existing grates to be reused.
5. Shop plans for the proposed scupper adjustment ring shall be submitted to the Engineer for approval prior to fabrication.
6. See existing scupper plans for details and dimensions not shown. The Contractor shall field verify the type of scupper present and the scupper dimensions.
7. Galvanizing for field welded areas shall be repaired per ASTM A 780.
8. Cost of all labor and materials necessary to remove existing grates, clean existing scuppers and downspouts, furnish and install scupper adjustment ring, and reinstalling the grates is included in the cost per unit each for Drainage Scupper to be Adjusted.
9. Clean existing scuppers and downspouts.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Drainage Scupper to be Adjusted	Each	10

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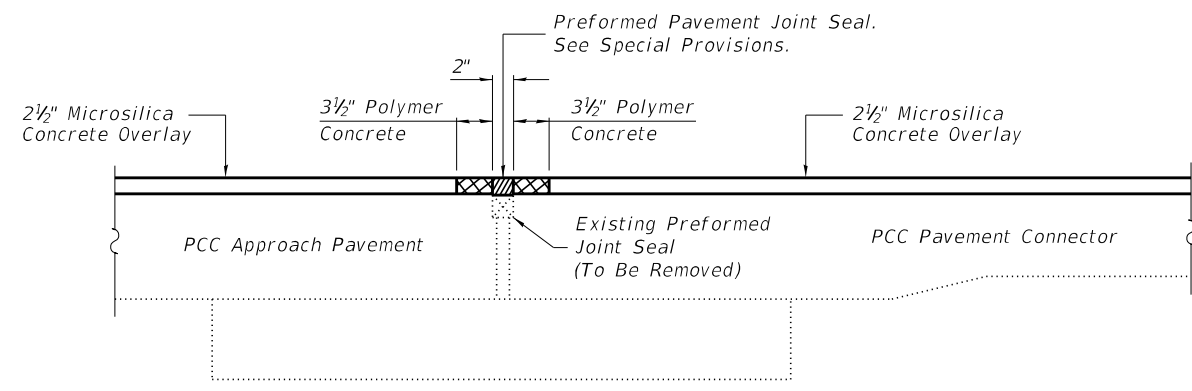
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER ADJUSTMENT DETAILS
STRUCTURE NO. 009-0002

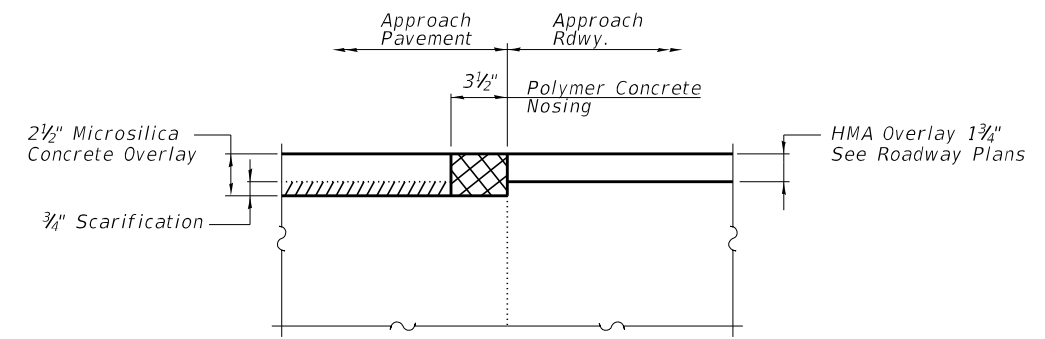
SHEET 12 OF 13 SHEETS

F.A.P. RTE. 67	SECTION (86) BJR-1	COUNTY CASS	TOTAL SHEETS 24	SHEET NO. 22
CONTRACT NO. 72M49				
ILLINOIS FED. AID PROJECT				



PREFORMED JOINT SEAL TREATMENT
 (Typ. Ea. Approach, at Preformed Joint)

Note:
 Once the existing preformed joint is removed, the Contractor shall keep the exposed joint free of debris. Removal of the existing preformed material will be included in the cost of preformed pavement joint seal.



POLYMER CONCRETE NOSING DETAIL
 (Typ. Ea. Approach)

BILL OF MATERIAL

Item	Unit	Total
Polymer Concrete	Cu. Ft.	14

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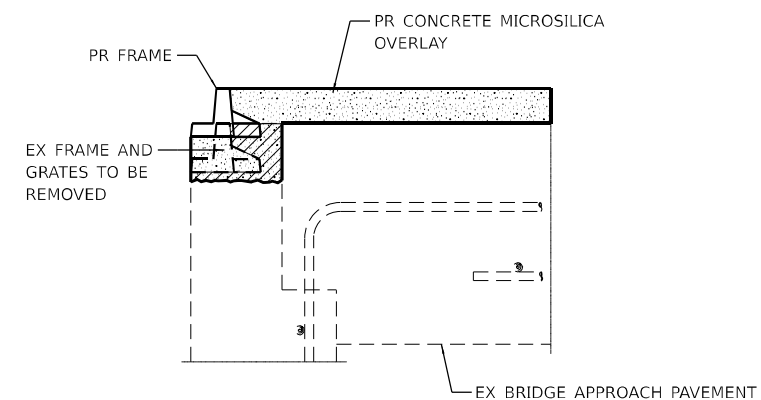
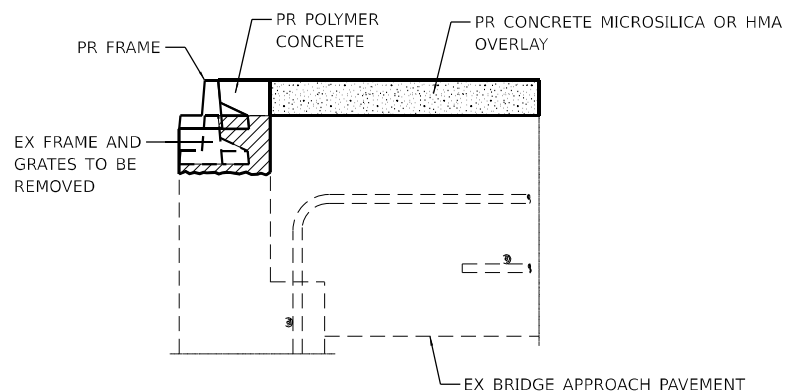
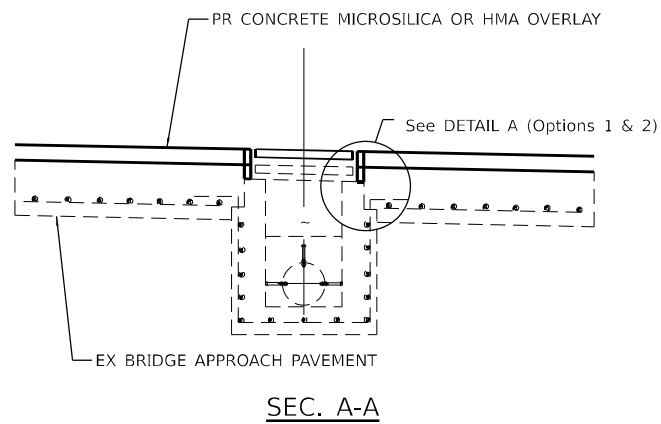
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**




**APPROACH JOINT DETAILS
 STRUCTURE NO. 009-0002**

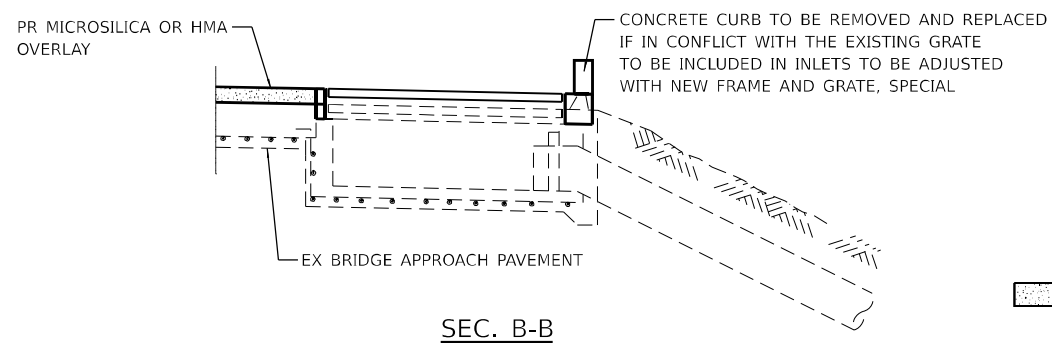
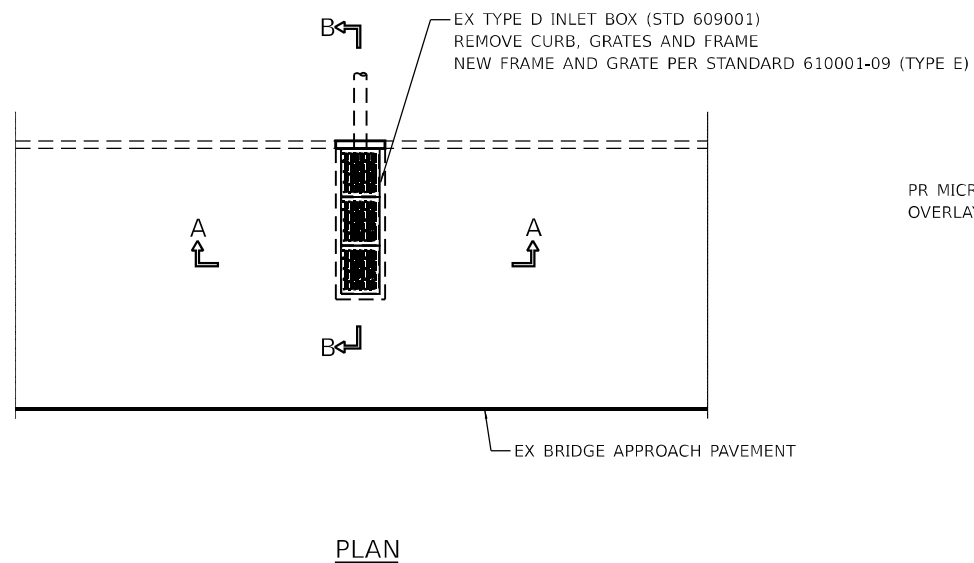
SHEET 13 OF 13 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BJR-1	CASS	24	23
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72M49	

DETAIL: INLET BOXES TO BE ADJUSTED



-  POLYMER CONCRETE
-  CONCRETE REMOVAL
-  CONCRETE MICROSILICA OR HMA OVERLAY



 CONCRETE MICROSILICA OR POLYMER CONCRETE
SEE OPTIONS 1 & 2 ABOVE

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**INLETS TO BE ADJUSTED WITH
NEW FRAME AND GRATE, SPECIAL**

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(86) BDR-2, BRR, BJR-3	CASS	24	24
CONTRACT NO. 72M49				
ILLINOIS FED. AID PROJECT				