

025

11-09-2018 LETTING ITEM 025

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. B.Y.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BDR, BJR, BP	MENARD	18	1
CONTRACT NO. 72K86				

FOR INDEX OF SHEETS, SEE SHEET NO. 2

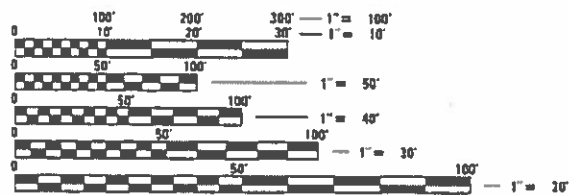
PROPOSED CONTRACT MAINTENANCE

FAP ROUTE 34 (IL 97)
SECTION (2) BDR, BJR, BP

BRIDGE DECK OVERLAY
MENARD COUNTY

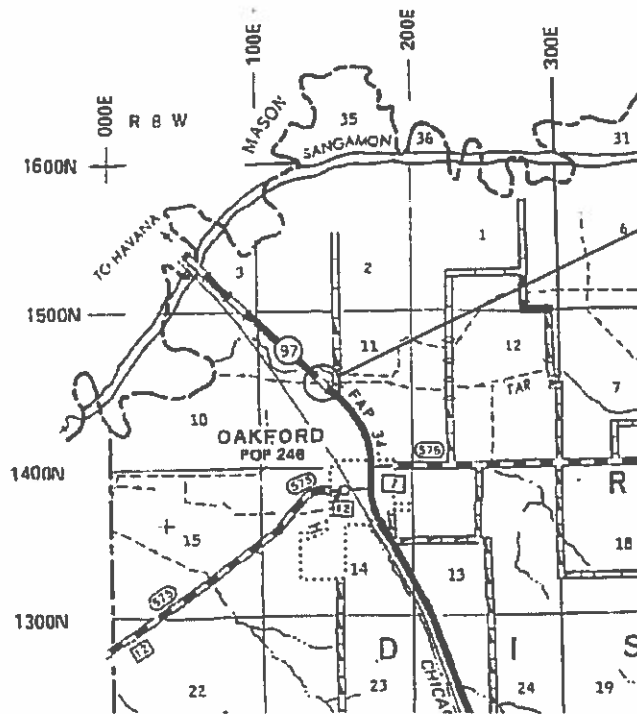
C-96-006-19

D-96-005-19



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 LOCATION
SN 065-0004
IL 97 OVER TAR CREEK
0.5 MI N OF OAKFORD

BRIDGE MAINTENANCE ENGINEER: BRANDON DUDLEY - (217) 785-9290

GROSS LENGTH = 453 FT. = 0.09 MILE
NET LENGTH = 453 FT. = 0.09 MILE

CONTRACT NO. 72K86

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 14 August 2018
[Signature] REGIONAL ENGINEER

Oct 5 2018
[Signature] ENGINEER OF DESIGN AND ENVIRONMENT

Oct 5 2018
[Signature] DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX, STANDARDS, SIGNATURES, GENERAL NOTES, & SCHEDULES
- 3-4 SUMMARY OF QUANTITIES
- 5 TYPICAL SECTIONS & ROADWAY PLAN
- 6 STAGING PLAN
- 7 TRAFFIC CONTROL PLAN
- 8-18 SN 055-0004 BRIDGE PLANS

GENERAL NOTES:

STANDARDS

- 000001-06
- 001001-02
- 001006
- 630001-12
- 631031-15
- 701001-02
- 701006-05
- 701201-04
- 701301-04
- 701321-17
- 701901-07
- 704001-08
- 780001-05
- 782006

PAVING SCHEDULE				
STA	TO STA	STA	BIT MATL (TACK CT) (POUND)	HMA SURF COURSE (TON)
788+06	-	789+62	250	55
791+07	-	792+59	243	53
TOTALS			493	108

PAVEMENT MARKING REMOVAL SCHEDULE				
STA	TO STA	LOC.	LINE TYPE	PAVT MARK REM (SQ FT)
STAGE I				
786+14	-	788+14	☒ SKIP DASH	21
788+06	-	792+62	LT SOLID	190
792+54	-	794+54	☒ SKIP DASH	21
STAGE II				
788+06	-	792+62	RT SOLID	190
TOTAL				422

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6

EXAMINED July 26th 20¹⁸
John C. Hooper
ENGINEER OF OPERATIONS

EXAMINED July 31st 20¹⁸
Shirley J. Johnson
ENGINEER OF PROJECT IMPLEMENTATION

EXAMINED July 17 20¹⁸
Paul P. Myer
ENGINEER OF PROGRAM DEVELOPMENT

MIXTURE USE(S)	HMA SURFACE
AC/PG	PG 64-22
DESIGN AIR Voids	4.0% @ MSO
MIX COMPOSITION (GRADATION MIXTURE)	IL - 9.5
FRICTION AGGREGATE	MIX "C"
QUALITY MANAGEMENT	OC/OA
SUBLOT SIZE	N/A

USLR MATL =	addition	DESIGNED -	REVISION -
FLAT SCALE =	100.0000' = 1" =	DRAWN -	REVISION -
PLT DATE =	8/10/2018	CHECKED -	REVISION -
		DATE -	REVISION -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, STANDARDS, GENERAL NOTES,
SIGNATURES, MIX DESIGNS, & QUANTITY SCHEDULES

F.A.P. RATE	SECTION	COUNTY	TOTAL SHEETS
34	(2) BDR, BIR, BP	MCARD	18
		CONTRACT NO. 72X86	2
		ILLINOIS	REL. AND PROJECT

0-01625-6014
SN 065-0004
100% STATE

0-01625-6014
SN 065-0004
100% STATE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE	
				0047	MENARD
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	493	493	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	711	711	
40600990	TEMPORARY RAMP	SQ YD	86	86	
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	108	108	
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	23	23	
50102400	CONCRETE REMOVAL	CU YD	15.2	15.2	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	16.9	16.9	
50300260	BRIDGE DECK GROOVING	SQ YD	471	471	
50300300	PROTECTIVE COAT	SQ YD	36	36	
50500505	STUD SHEAR CONNECTORS	EACH	72	72	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1860	1860	
50800515	BAR SPLICERS	EACH	24	24	
52000110	PREFORMED JOINT STRIP SEAL	FOOT	105	105	
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	5	5	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE	
				0047	MENARD
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4	
63200310	GUARDRAIL REMOVAL	FOOT	200	200	
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	
70300100	SHORT TERM PAVEMENT MARKING	FOOT	100	100	
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	33	33	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	500	500	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	500	500	
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2	
70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2	
* 78001120	PAINT PAVEMENT MARKING - LINE 5"	FOOT	1250	1250	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	4	4	

* SPECIALTY ITEM

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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BDR, BJR, BP	MENARD	18	3
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72K86	

0-01625-6014
 SN 065-0004
 100% STATE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE
				0047 MENARD
X0327979	PAVEMENT MARKING REMOVAL - GRINDING	SQ FT	422	422
X6030205	FRAMES AND GRATES TO BE ADJUSTED (SPECIAL)	EACH	4	4
X6330900	VERTICAL ADJUSTMENT OF GUARDRAIL	FOOT	555	555
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	120	120
X7200201	WIDTH RESTRICTION SIGNING	L SUM	1	1
Z0001800	APPROACH SLAB REPAIR (PARTIAL DEPTH)	SQ YD	13	13
Z0007114	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES	L SUM	1	1
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1
Z0012130	BRIDGE DECK SCARIFICATION, 3/4"	SQ YD	504	504
Z0012164	BRIDGE DECK MICROSILICA CONCRETE OVERLAY, 2-1/2"	SQ YD	504	504
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	4	4
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	22	22
Z0032470	JOINT SEALER	FOOT	32	32

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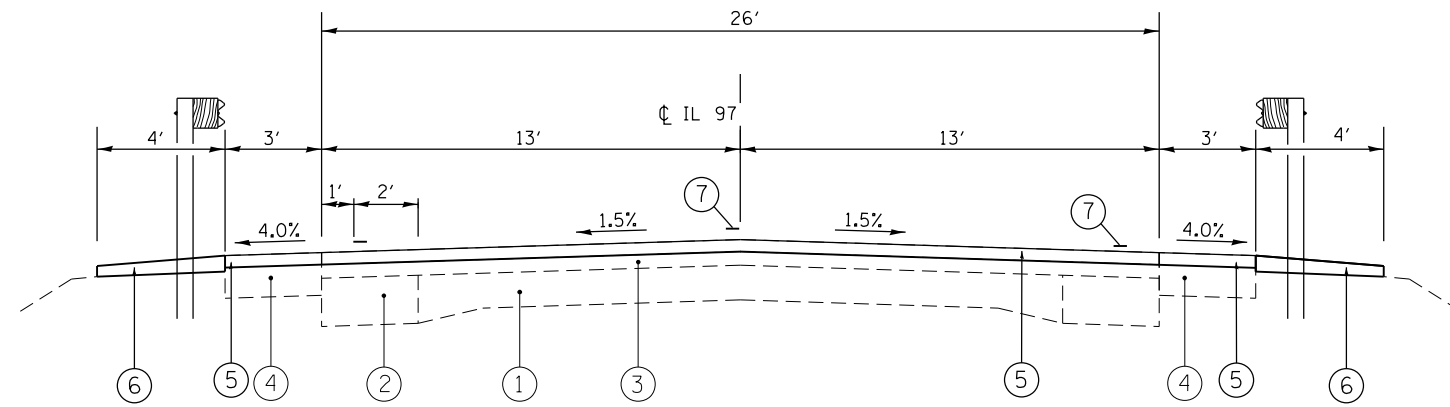
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BDR, BJR, BP	MENARD	18	4
			CONTRACT NO. 72K86	
			ILLINOIS FED. AID PROJECT	

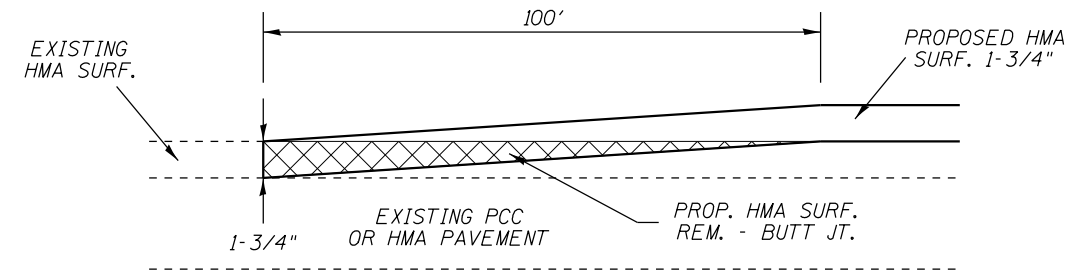


- LEGEND**
- ① EX 9-7-9 PCC PAVEMENT
 - ② EX HMA BASE COURSE WIDENING
 - ③ EX HMA SURFACE
 - ④ EX HMA SHOULDER
 - ⑤ PR HMA SURFACE COURSE, 1-3/4"
 - ⑥ PR AGGREGATE WEDGE SHOULDERS TYPE B
 - ⑦ PR PAVEMENT MARKING - LINE 5"

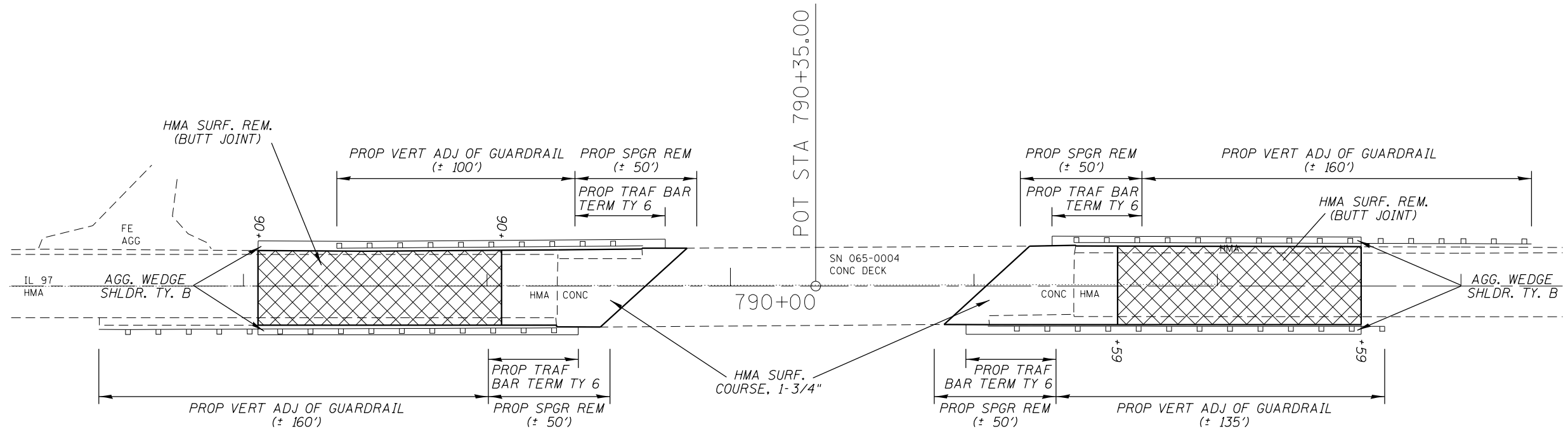
TYPICAL PAVEMENT CROSS SECTION

STA 788+06.00 TO STA 789+28.86
 STA 791+35.99 TO STA 792+59.00

PCC BRIDGE APPROACH: STA 789+28.86 TO STA 789+62.47
 BRIDGE OMISSION: STA 789+62.47 TO STA 791+07.53
 PCC BRIDGE APPROACH: STA 791+07.53 TO STA 791+35.99



BUTT JOINT ELEVATION



ROADWAY PLAN

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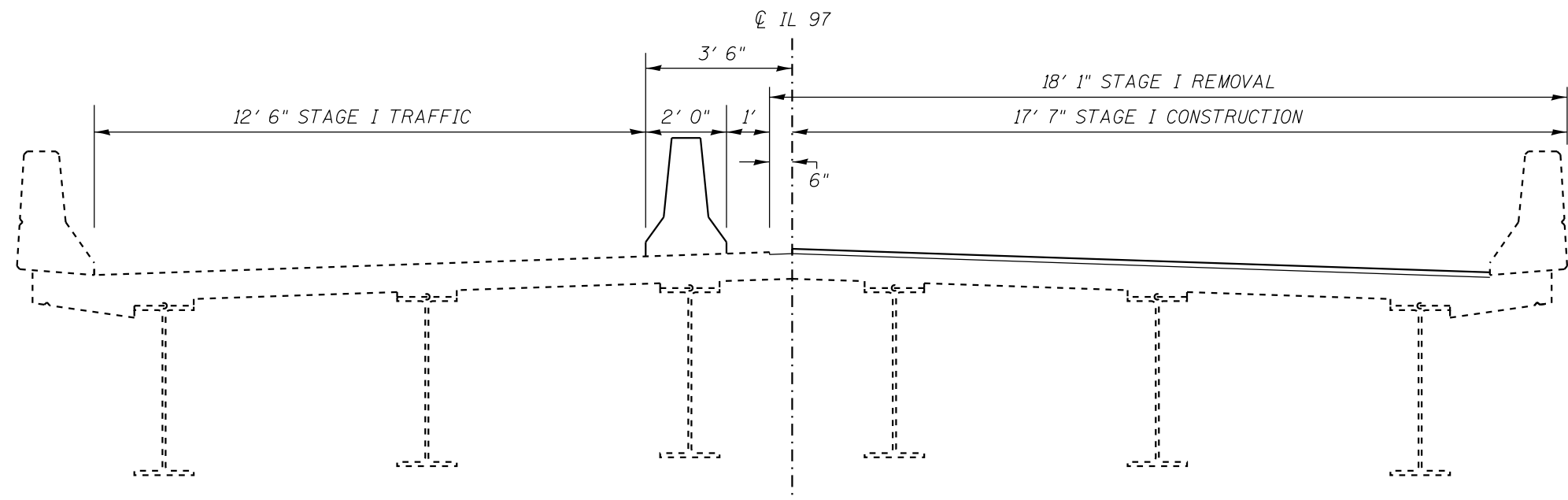
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

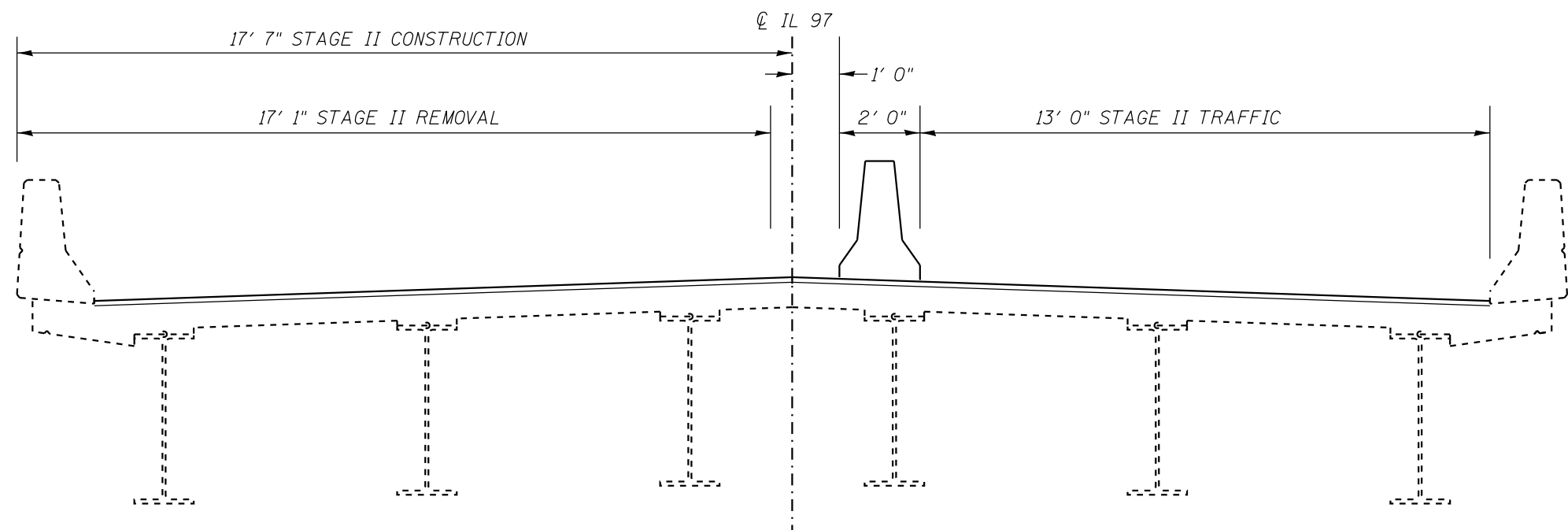
TYPICAL SECTIONS & ROADWAY PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BDR, BJR, BP	MENARD	18	5
CONTRACT NO. 72K86				
ILLINOIS FED. AID PROJECT				



STAGE I CROSS SECTION (LOOKING SOUTH)



STAGE II CROSS SECTION (LOOKING SOUTH)

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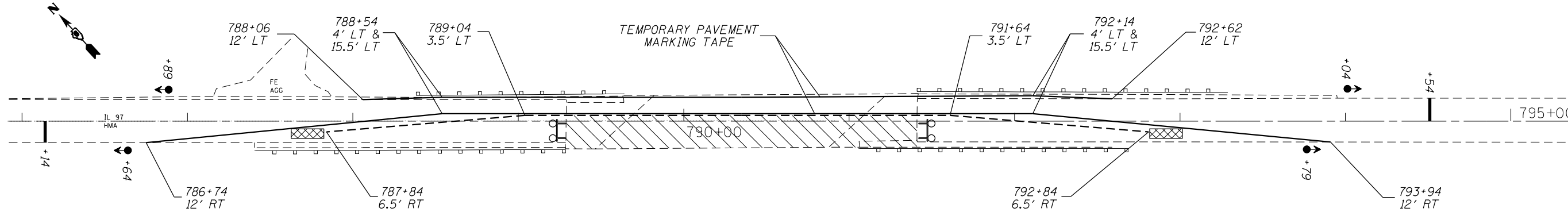
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

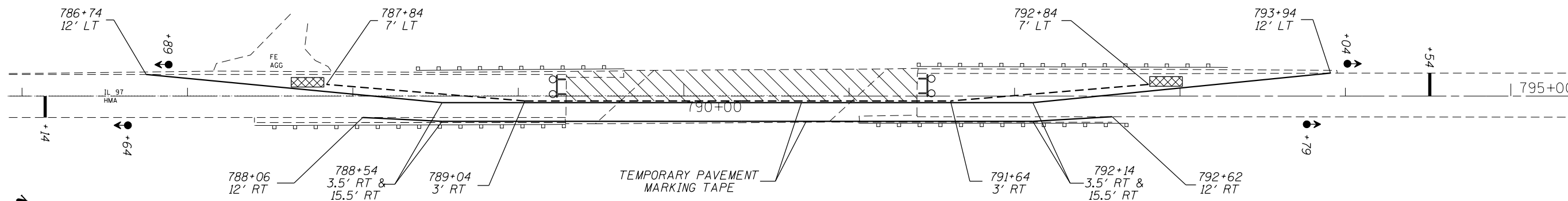
TRAFFIC STAGING PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BDR, BJR, BP	MENARD	18	6
CONTRACT NO. 72K86			ILLINOIS FED. AID PROJECT	








STAGE I TRAFFIC CONTROL PLAN



STAGE II TRAFFIC CONTROL PLAN

SYMBOLS

-  WORK AREA
-  TEMPORARY CONCRETE BARRIER
-  IMPACT ATTENUATOR
-  TRAFFIC SIGNAL
-  TYPE III BARRICADE WITH FLASHING LIGHTS

TRAFFIC CONTROL NOTES:

1. TRAFFIC CONTROL DEVICES NOT SHOWN IN THIS DETAIL SHALL BE PER STANDARD 701321. DEVICES AND TEMPORARY PAVEMENT MARKINGS SHOWN IN THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION, STANDARD 701321. IMPACT ATTENUATORS, AND TEMPORARY CONCRETE BARRIER SHALL BE PAID SEPARATELY.
2. TEMPORARY CONCRETE BARRIER OFFSETS GIVEN IN THIS DETAIL REFER TO THE EDGE OF THE BARRIER NEAREST TO LIVE TRAFFIC. ALL BARRIER WALL TAPERS SHALL BE 12:1.
3. RUMBLE STRIPS SHOWN IN STANDARD 701321 WILL NOT BE REQUIRED.

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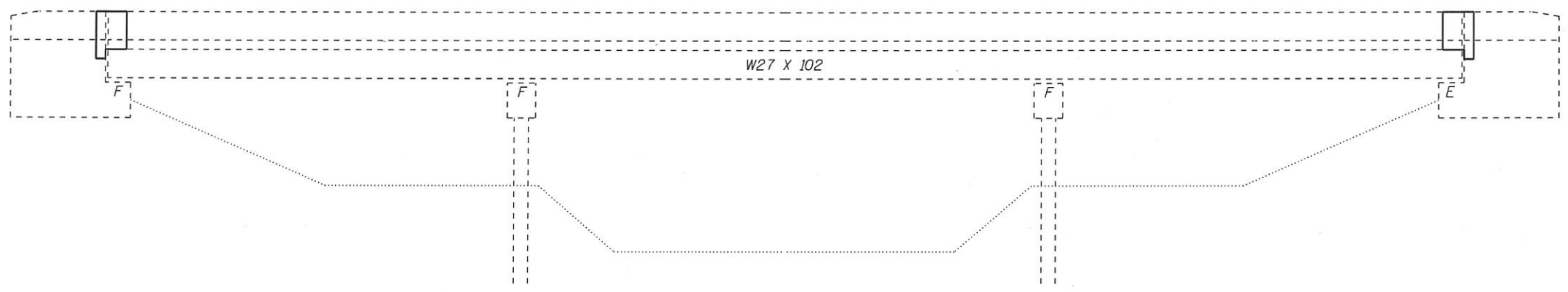
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

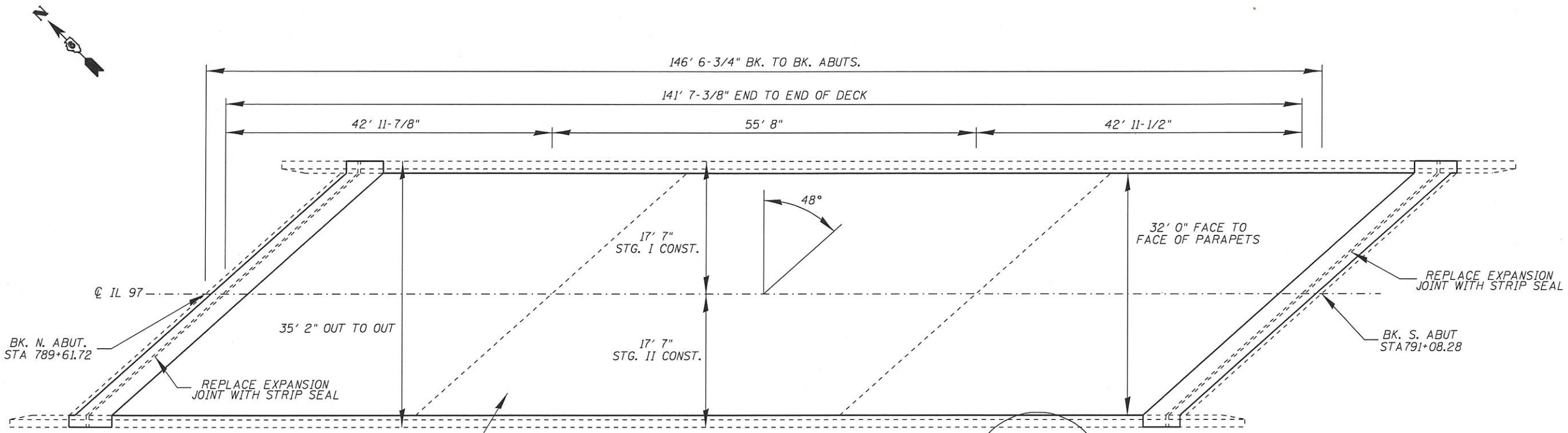
TRAFFIC CONTROL PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BDR, BJR, BP	MENARD	18	7
CONTRACT NO. 72K86				
ILLINOIS FED. AID PROJECT				



ELEVATION



PLAN



*David Carl Puzey 10/5/18
Expires 11/30/18*

SEE SHEET 2 OF 11 FOR GENERAL NOTES AND BILL OF MATERIAL.

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	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION SN 065-0004			
SCALE:	SHEET 1	OF 11 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BDR, BJR, BP	MENARD	18	8
CONTRACT NO. 72K86				
ILLINOIS FED. AID PROJECT				

STRUCTURE GENERAL NOTES:

ALL STRUCTURAL STEEL SHALL BE AASHTO M-270 GRADE 36, UNLESS OTHERWISE NOTED.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

PRIOR TO POURING THE NEW CONCRETE DECK, ALL HEAVY OR 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 CONCRETE REMOVAL.

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 THE SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

EXISTING REINFORCEMENT BARS EXTENDING INTO THE REMOVAL AREA 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.

JOINT OPENINGS SHALL BE ADJUSTED ACCORDING TO ARTICLE 520.04 OF THE STANDARD SPECIFICATIONS WHEN THE DECK IS POURED AT AN AMBIENT TEMPERATURE OTHER THAN 50°F.

PROTECTIVE COAT SHALL ONLY BE APPLIED TO THE DECK AND PARAPETS ADJACENT TO THE PROPOSED EXPANSION JOINTS AND NOT THE MICROSILICA OVERLAY.

SYNTHETIC FIBERS SHALL BE ADDED TO THE BRIDGE DECK MICROSILICA CONCRETE OVERLAY, SEE SPECIAL PROVISIONS.

AREAS TO BE CLEANED AND PAINTED SHALL ONLY CONSIST OF ALL BEAM ENDS, END DIAPHRAGMS, AND STEEL COMPONENTS OF BEARINGS AT BOTH ABUTMENTS. BEAM END PAINTING (12 ENDS) SHALL EXTEND 5' FROM THE ENDS OF THE BEAMS LONGITUDINALLY. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES." ALL AREAS TO BE PAINTED SHALL CLEANED PER NEAR WHITE BLAST CLEANING PER SSPC SP-10. ALL EXISTING STEEL CLEANED SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE INTERSTATE GREEN, MUNSELL 7.5G 4/8. ALL OTHER SURFACES SHALL BE GRAY, MUNSELL 5B 7/1. THE SSPC-OP-1 PAINTING CONTRACTOR CERTIFICATION WILL BE REQUIRED. THE USE OF AIR MONITORS WILL NOT BE REQUIRED. FINISH COAT SHALL NOT BE APPLIED UNTIL AFTER ALL ADJACENT STRUCTURAL WORK IS COMPLETED.

TOTAL BILL OF MATERIAL (065-0004)

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	15.2
Concrete Superstructure	Cu. Yd.	16.9
Bridge Deck Grooving	Sq. Yd.	471
Reinforcement Bars, Epoxy Coated	Pound	1860
Bar Splicers	Each	24
Prefomed Joint Strip Seal	Foot	105
Bridge Deck Scarification, 3/4"	Sq. Yd.	504
Bridge Deck Microsilica Concrete Overlay, 2-1/2"	Sq. Yd.	504
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	4
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	22
Approach Slab Repair (Partial Depth)	Sq. Yd.	13
Stud Shear Connectors	Each	72
Controlled Low-Strength Material	Cu. Yd.	5
Protective Coat	Sq. Yd.	36
Containment and Disposal Of Non-Lead Paint Cleaning Residues No. 1	L Sum	1
Cleaning And Painting Steel Bridge No. 1	L Sum	1
Joint Sealer	Foot	32
Frames And Gates To Be Adjusted (Special)	Each	4

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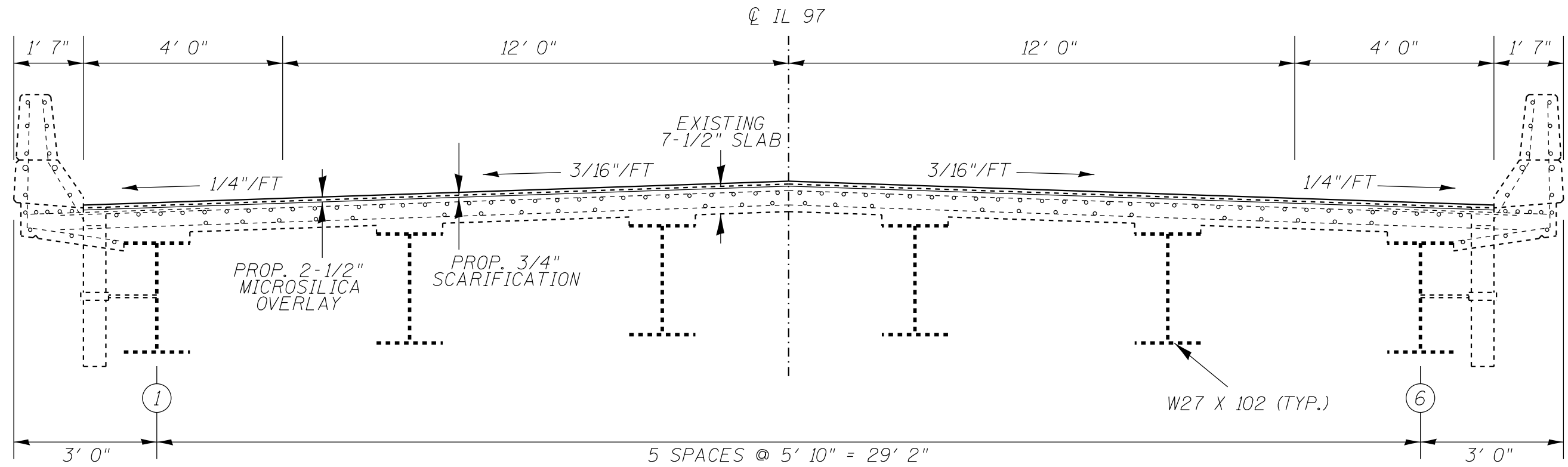
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

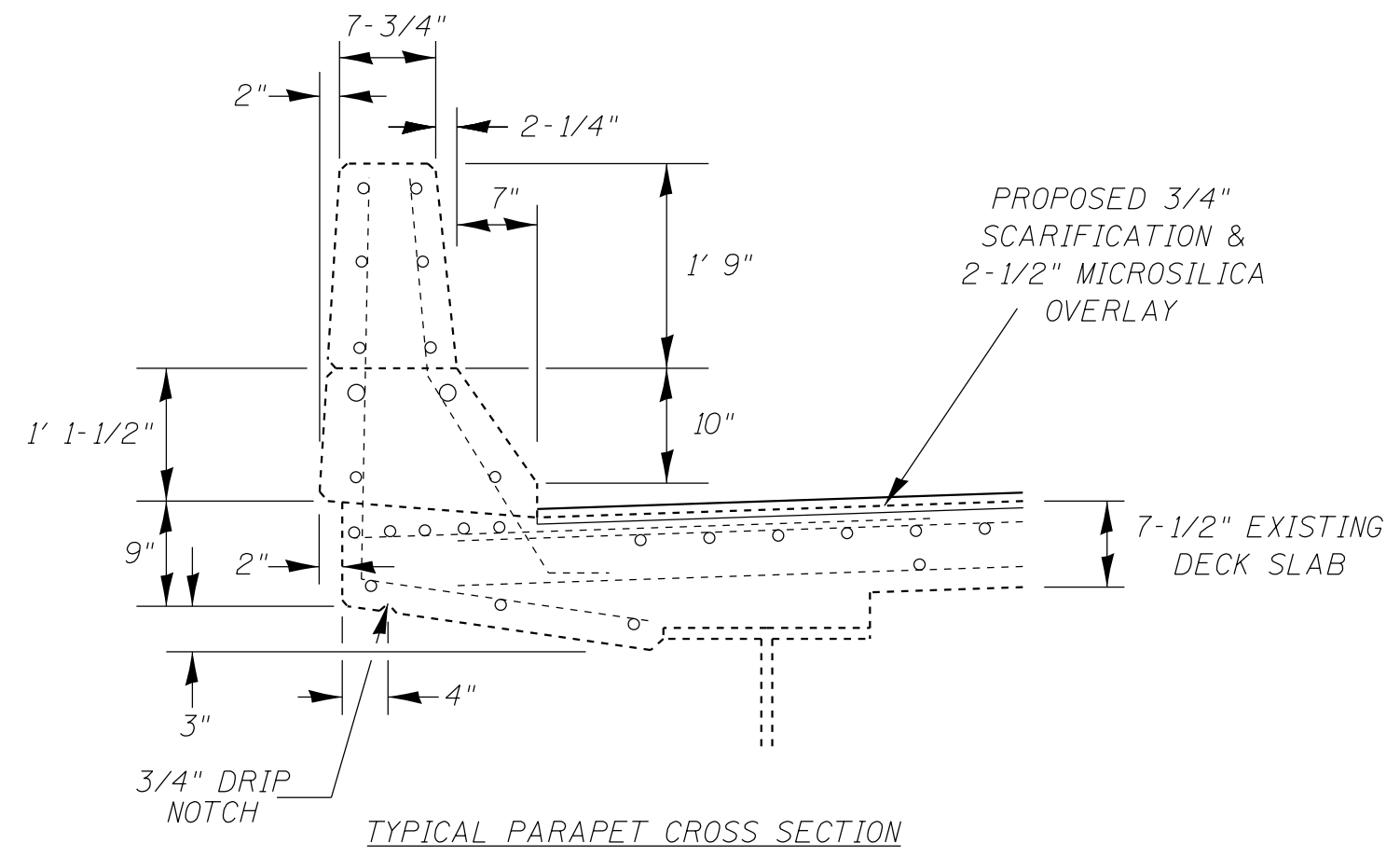
**STRUCTURE NOTES & BILL OF MATERIAL
SN 065-0004**

SCALE: SHEET 2 OF 11 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BDR, BJR, BP	MENARD	18	9
			CONTRACT NO. 72K86	
		ILLINOIS	FED. AID PROJECT	



BRIDGE CROSS SECTION, LOOKING SOUTH



TYPICAL PARAPET CROSS SECTION

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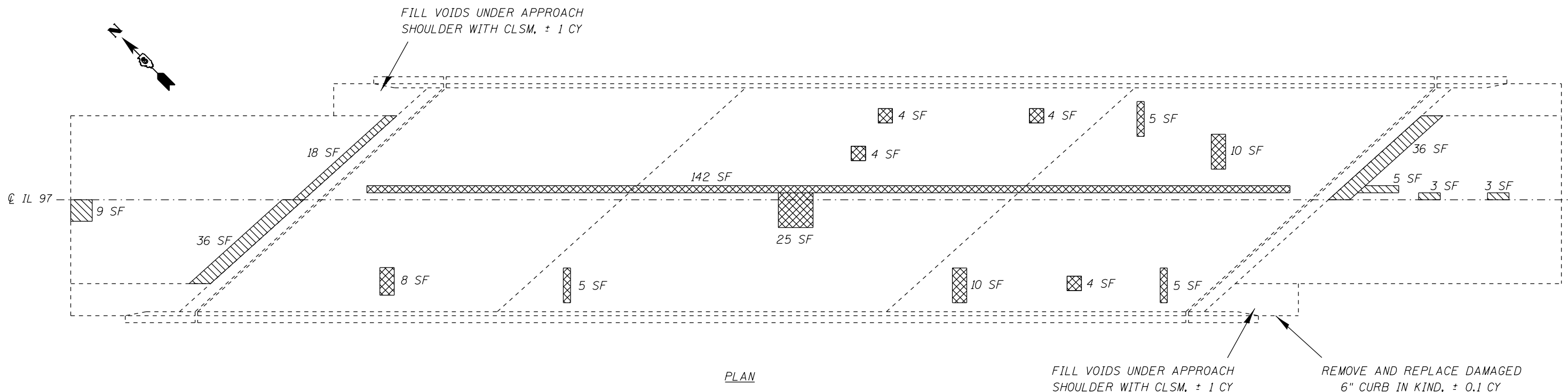
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	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION
SN 065-0004

SCALE: SHEET 3 OF 11 SHEETS STA. TO STA.

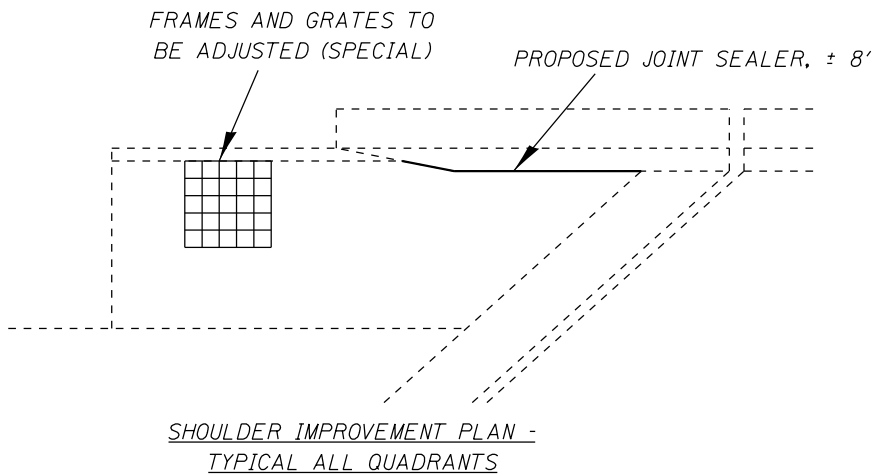
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BDR, BJR, BP	MENARD	18	10
CONTRACT NO. 72K86				
ILLINOIS FED. AID PROJECT				



PLAN

FILL VOIDS UNDER APPROACH SHOULDER WITH CLSM, ± 1 CY
 REMOVE AND REPLACE DAMAGED 6" CURB IN KIND, ± 0.1 CY

- PROPOSED APPROACH SLAB REPAIR (PARTIAL DEPTH)
- PROPOSED DECK SLAB REPAIR (FULL DEPTH)



SHOULDER IMPROVEMENT PLAN - TYPICAL ALL QUADRANTS

SLAB & SHOULDER REPAIR BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Approach Slab Repair (Partial Depth)	Sq. Yd.	13
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	4
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	22
Controlled Low-Strength Material	Cu. Yd.	2
Concrete Removal	Cu. Yd.	0.1
Concrete Superstructure	Cu. Yd.	0.1
Joint Sealer	Foot	32
Frames And Grates To Be Adjusted (Special)	Each	4

NOTES:

IDENTIFIED PATCHING LOCATIONS ARE ESTIMATED FROM A DECK SURVEY PERFORMED ON 5/24/2018. THESE LOCATIONS INDICATE PORTIONS OF THE DECK THAT HAVE HIGHER POTENTIAL FOR REQUIRING FULL DEPTH REPAIRS. THE CONTRACTOR SHALL NOT PERFORM FULL DEPTH PATCHING ANYWHERE ON THE DECK UNLESS SCARIFICATION OPERATIONS REVEAL THE NEED TO DO SO. THE PATCHING SURVEY INFORMATION IS INCLUDED FOR INFORMATION ONLY.

THE ENGINEER SHALL SHOW ACTUAL LOCATIONS OF DECK REPAIRS ON AS-BUILT PLANS.

PROPOSED JOINT SEALER SHALL BE PLACED PRIOR TO HMA OVERLAY.

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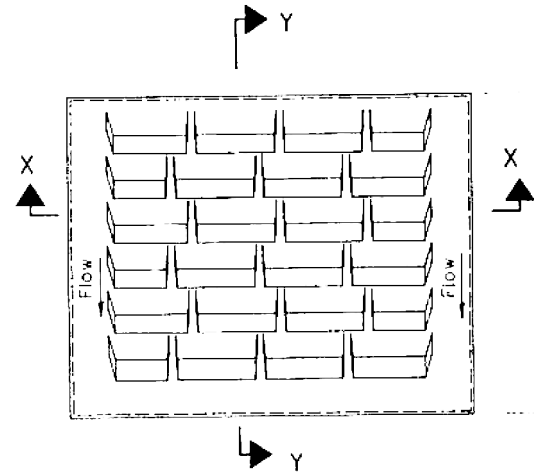
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PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -
PLOT DATE = 8/10/2018	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**DECK & APPROACH REPAIRS
 SN 065-0004**

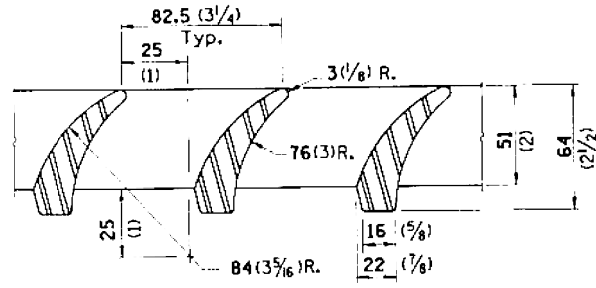
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BDR, BJR, BP	MENARD	18	11
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72K86	

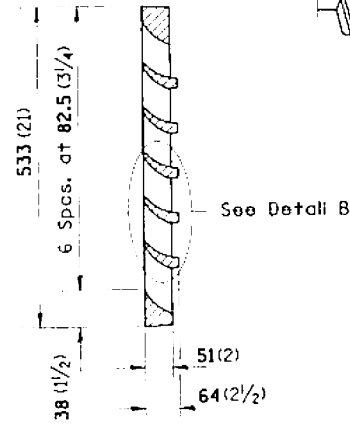


DETAIL OF CAST GRATE

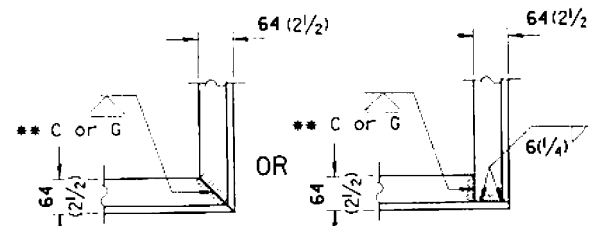
Type B requires 1 grate
 Type C requires 2 grates
 Type D requires 3 grates



DETAIL B

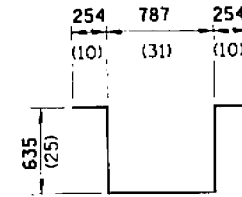


SECTION Y-Y

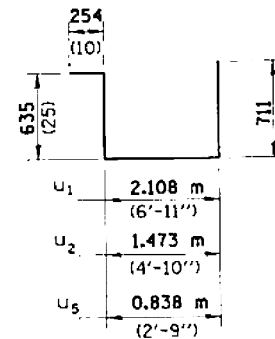


TYPICAL CORNER OF STEEL GRATING FRAME

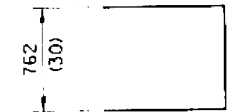
** Cut or Grind flush



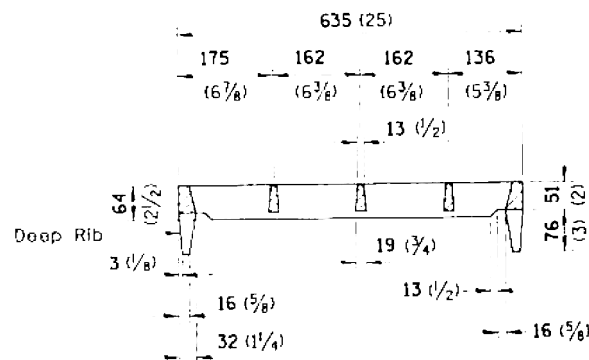
Bar u



Bars u₁ u₂ & u₅

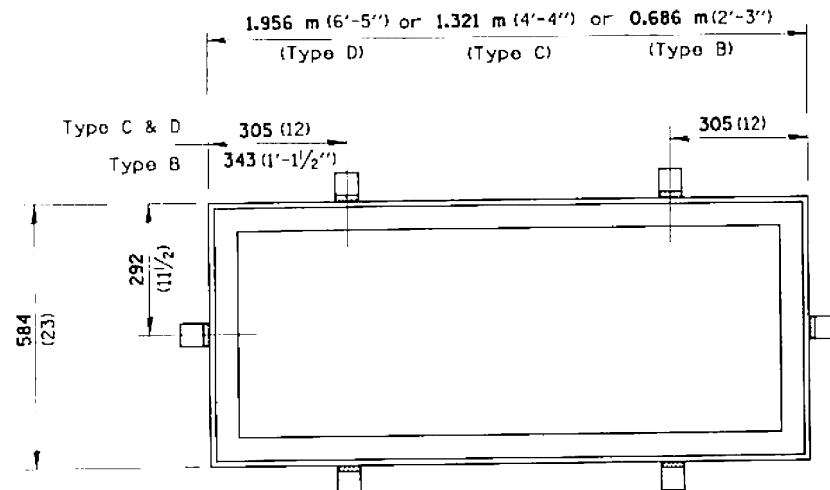


Bars u₃ u₄ & u₆



SECTION X-X

(Deep Rib shall be omitted for end(s) resting on frame perimeter.)



DETAIL OF STEEL FRAME

Cast frame to have same basic dimensions.

Material Required for One Type B Inlet Box

Bar	No.	Size	Length
u	4	#15 (#4)	2,565 m (8'-5")
u ₅	3	#15 (#4)	2,438 m (8'-0")
u ₆	4	#15 (#4)	1,880 m (6'-2")
Concrete-Class X or Precast		m ³ (Cu. Yds.)	0.3 (0.4)
Reinf. Bars		kg (Lbs.)	39.44 (60)
Grating		m ² (Sq. Ft.)	0.34 (3.7)

Material Required for One Type C Inlet Box

Bar	No.	Size	Length
u	6	#15 (#4)	2,565 m (8'-5")
u ₂	3	#15 (#4)	3,073 m (10'-1")
u ₄	4	#15 (#4)	2,540 m (8'-4")
Concrete-Class X or Precast		m ³ (Cu. Yds.)	0.7 (0.9)
Reinf. Bars		kg (Lbs.)	54.62 (80)
Grating		m ² (Sq. Ft.)	0.68 (7.3)

Material Required for One Type D Inlet Box

Bar	No.	Size	Length
u	8	#15 (#4)	2,565 m (8'-5")
u ₁	3	#15 (#4)	3,708 m (12'-2")
u ₃	4	#15 (#4)	3,150 m (10'-4")
Concrete-Class X or Precast		m ³ (Cu. Yds.)	0.9 (1.2)
Reinf. Bars		kg (Lbs.)	69.53 (100)
Grating		m ² (Sq. Ft.)	1.02 (11.0)

All dimensions are in millimeters (Inches) unless otherwise shown.

BRIDGE APPROACH SHOULDER PAVEMENT AND DRAIN

Sheet 2 of 2

STANDARD 2324-8

(FULL SIZE) D.W.M. ST.

Illinois Department of Transportation

PASSED *[Signature]* 1992
 ENGINEER OF POLICY AND PROCEDURES

APPROVED *[Signature]* 1992
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED R-27-4
 19-27-4

USER NAME = dudleybm	DESIGNED -	REVISED -
	DRAWN -	REVISED -
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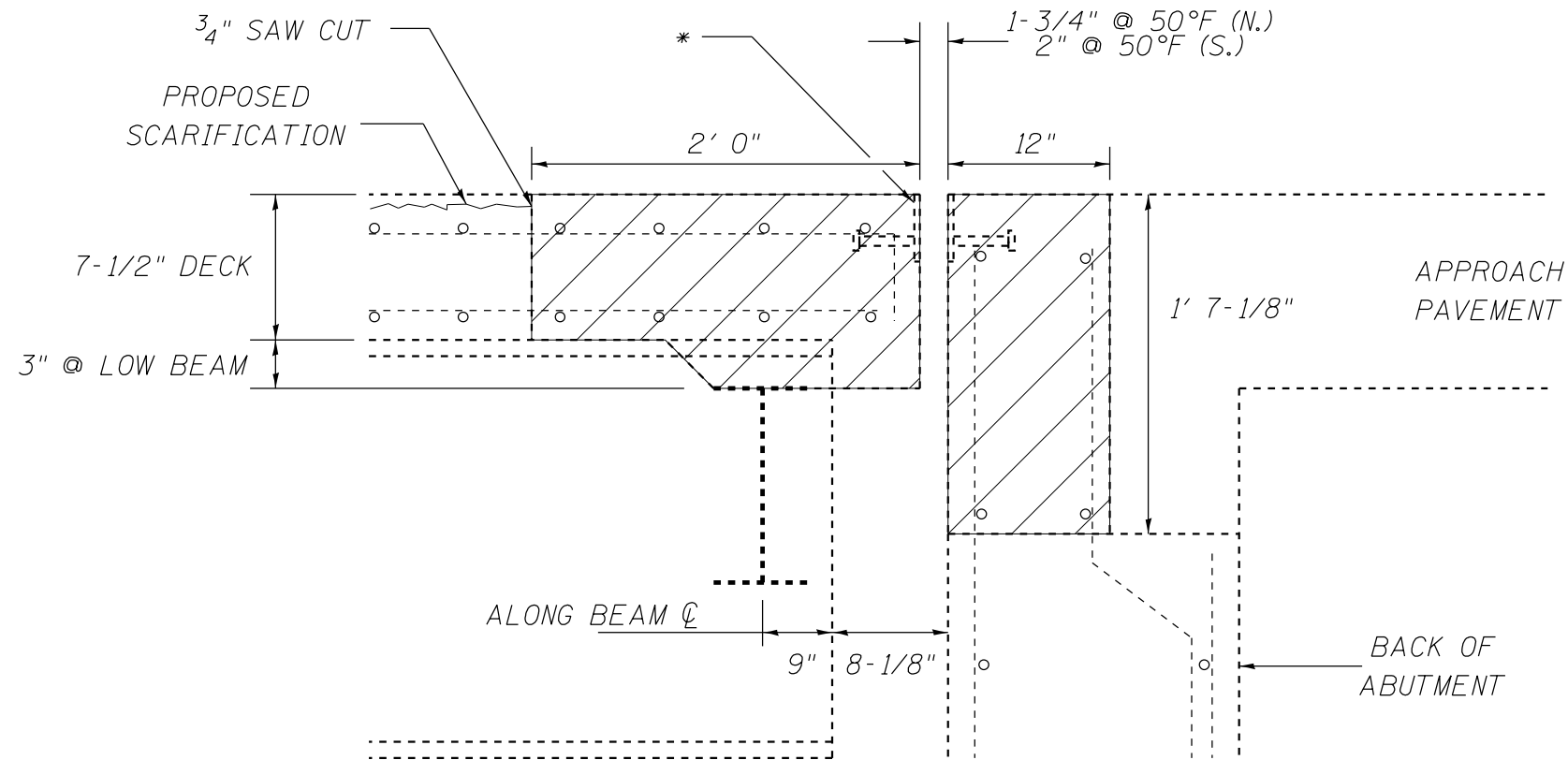
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

EXISTING FRAME & GRATE PLANS (FOR INFORMATION ONLY)
SN 065-0004

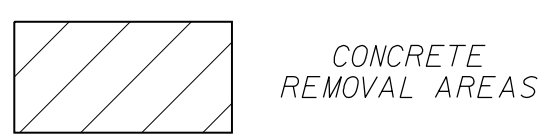
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 72K86	
ILLINOIS FED. AID PROJECT				

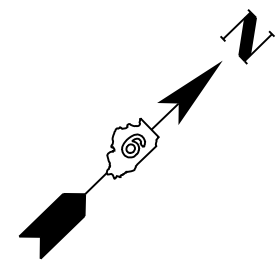
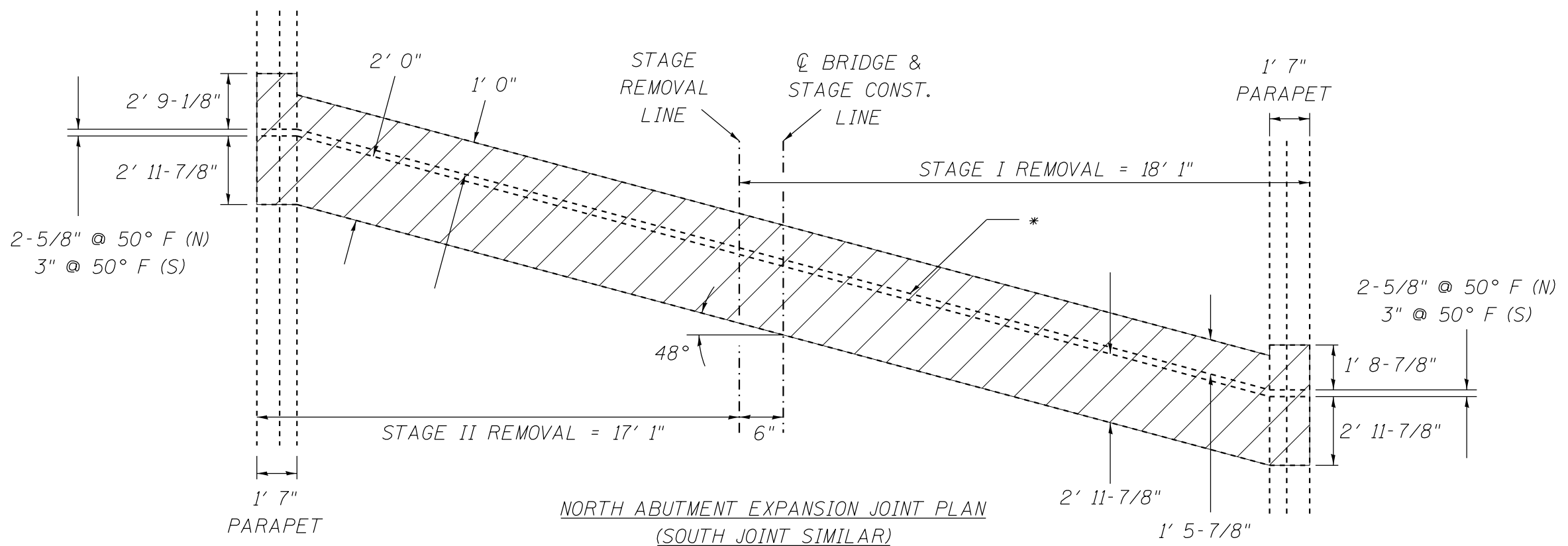
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 over by jbs@steele.com



* EXISTING JOINT TYPES ARE NEOPRENE AT SOUTH ABUTMENT AND PREFORMED RUBBER JOINT/STEEL NOSINGS AT NORTH ABUTMENT (SHOWN). THE COST OF REMOVING AND DISPOSING OF EXISTING JOINTS SHALL BE INCLUDED IN THE COST OF CONCRETE REMOVAL.



TYPICAL EXPANSION JOINT CROSS SECTION
(HORIZ. DIM. @ RIGHT ANGLES TO JOINT)



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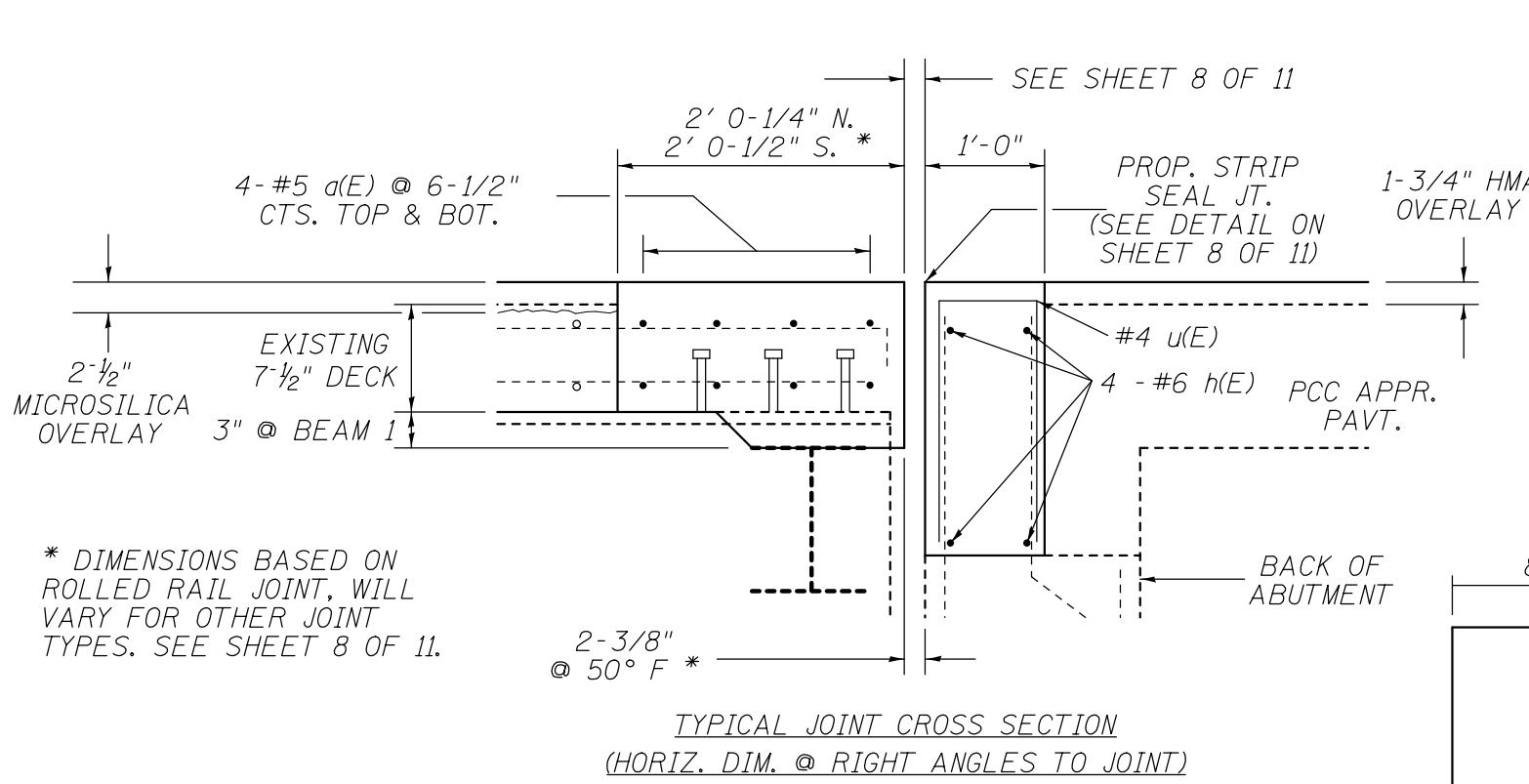
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

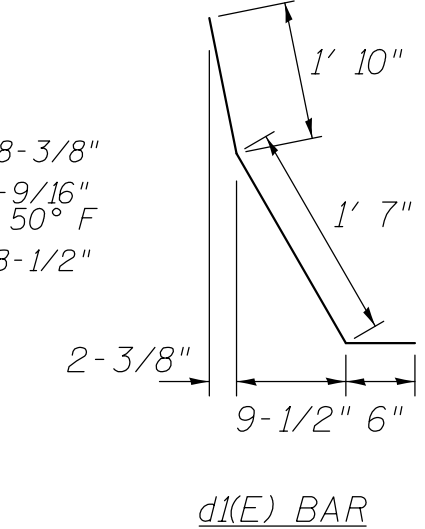
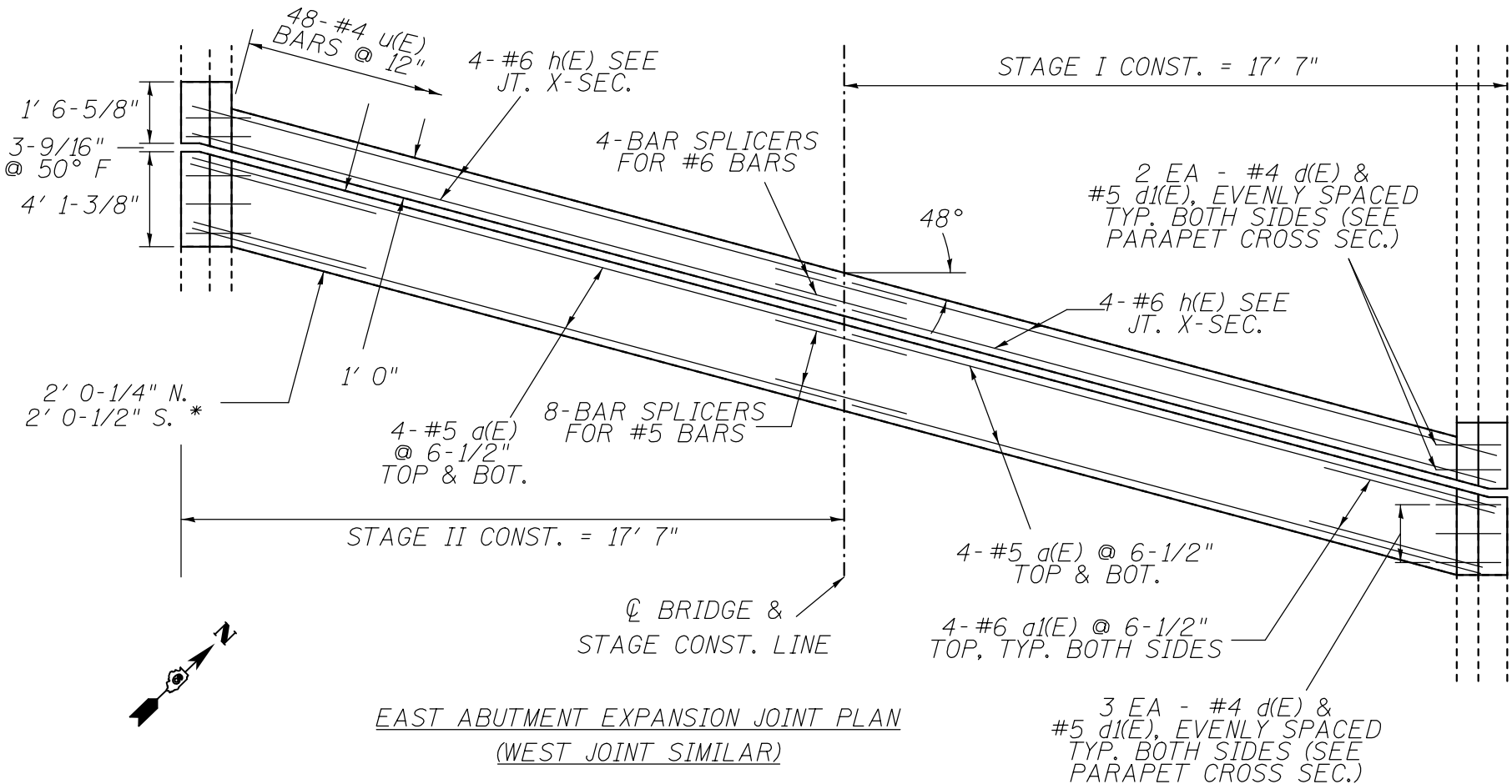
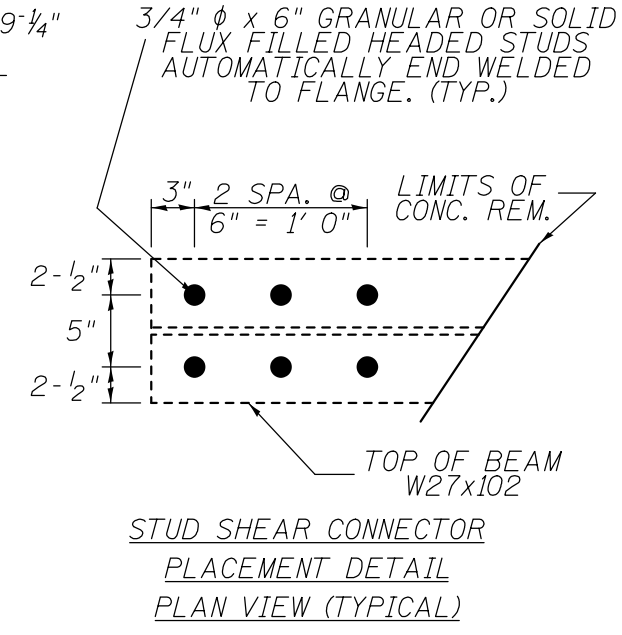
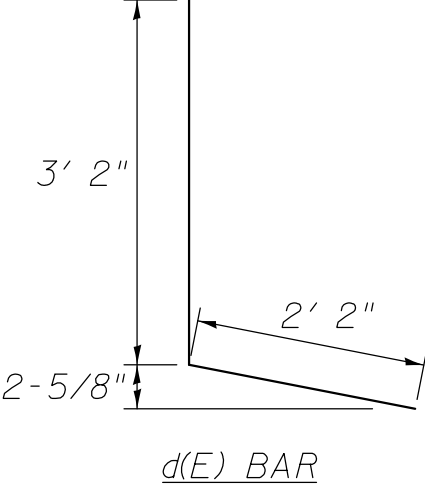
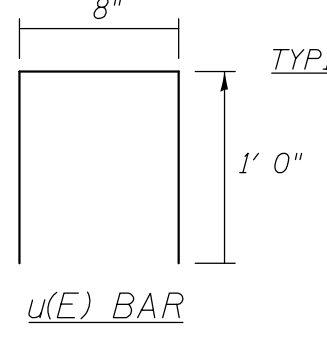
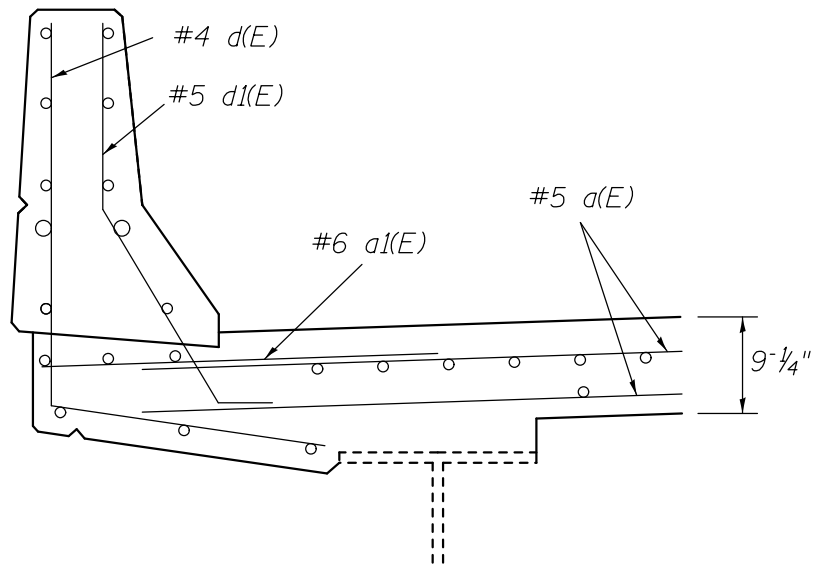
CONCRETE REMOVAL DETAILS
SN 065-0004

SCALE: SHEET 6 OF 11 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BDR, BJR, BP	MENARD	18	13
CONTRACT NO. 72K86			ILLINOIS FED. AID PROJECT	



* DIMENSIONS BASED ON ROLLED RAIL JOINT, WILL VARY FOR OTHER JOINT TYPES. SEE SHEET 8 OF 11.



BILL OF MATERIAL - 2 JOINTS				
BAR	#	SIZE	LENGTH	SHAPE
d(E)	32	#5	25' 0"	—
d1(E)	16	#6	4' 0"	—
d(E)	20	#4	5' 4"	L
d1(E)	20	#5	3' 11"	L
h(E)	16	#6	25' 0"	—
u(E)	96	#4	2' 8"	U
REINFORCEMENT BARS (EPOXY COATED)		POUND	1860	
CONC. SUPERSTRUCTURE		CU YD	16.7	
CONC. REMOVAL		CU YD	15.0	
BAR SPLICERS		EACH	24	
STUD SHEAR CONN.		EACH	72	

MODEL: SMOBELNAMES
FILE: SMOBELNAMES.DWG

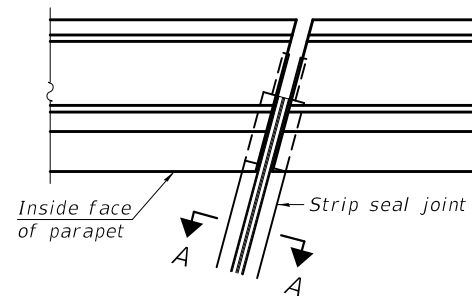
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT DETAILS
SN 065-0004

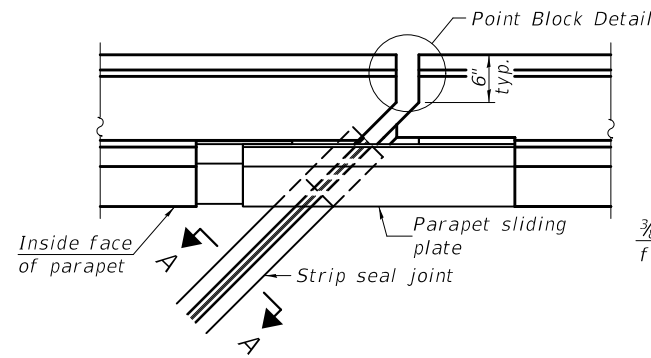
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 72K86			ILLINOIS FED. AID PROJECT	

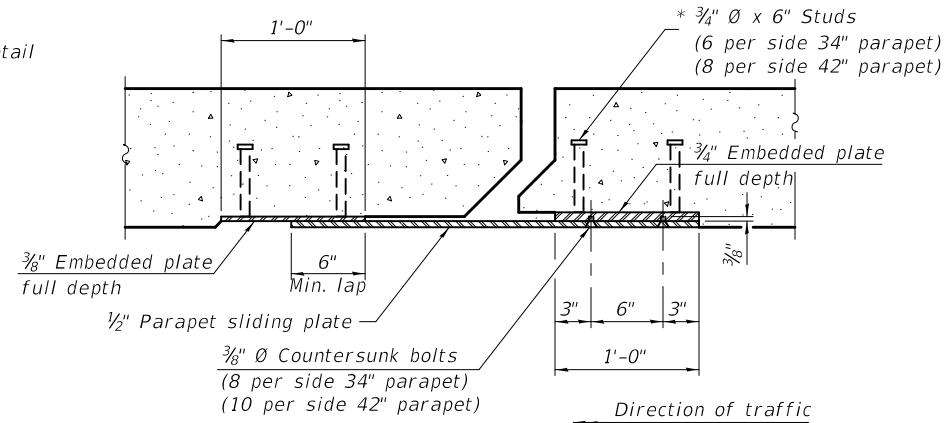


FOR SKEWS $\leq 30^\circ$

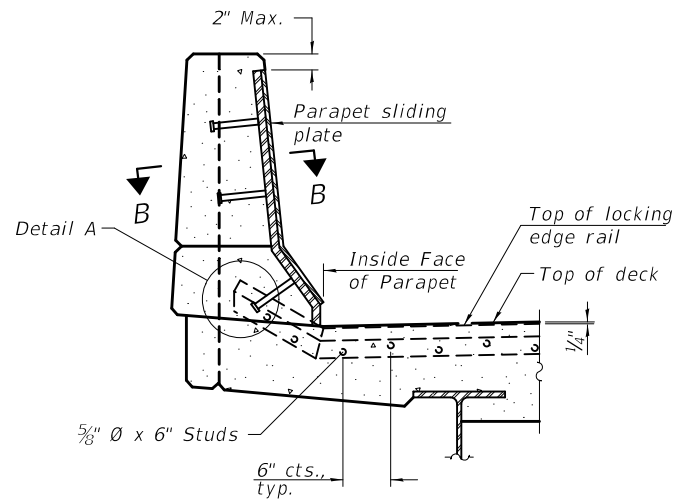
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

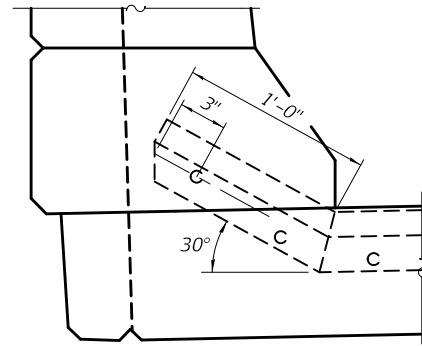


SECTION B-B

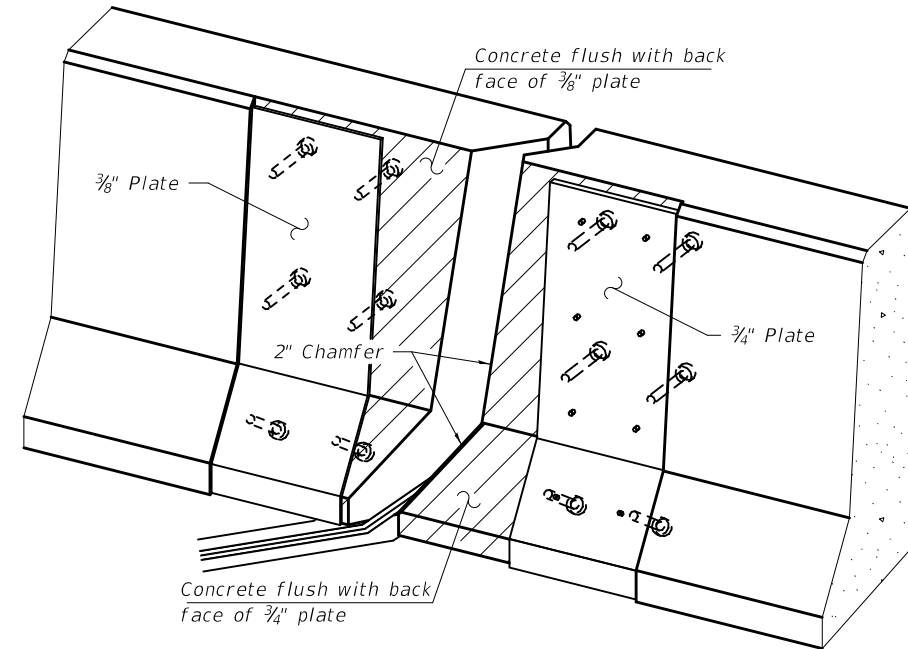


ELEVATION AT PARAPET

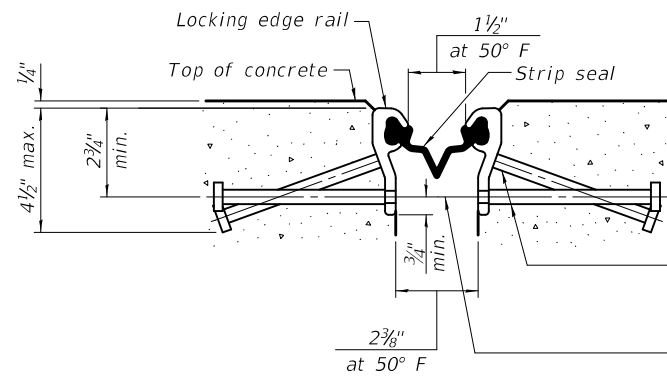
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW
(Showing embedded plates only)



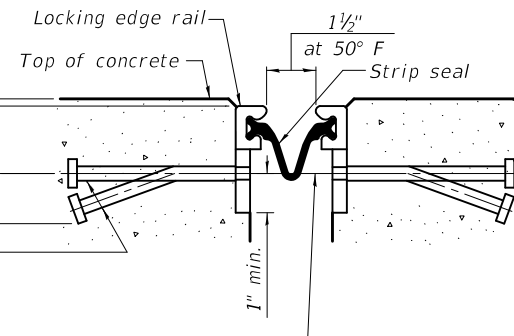
SHOWING ROLLED RAIL JOINT

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

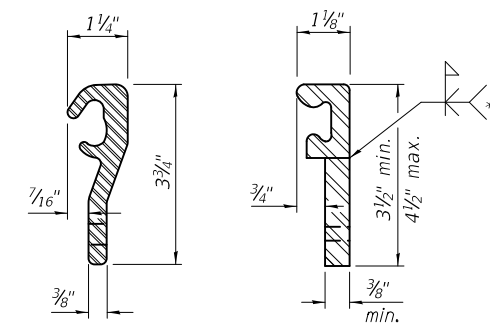
$3/8"$ ϕ threaded rods in $7/16"$ ϕ holes at $\pm 4"$ cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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



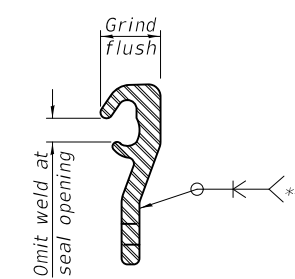
SHOWING WELDED RAIL JOINT



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	105

MODEL: SHOBELNAMES
FILE NAME: STILES

EJ-SS

8-11-17

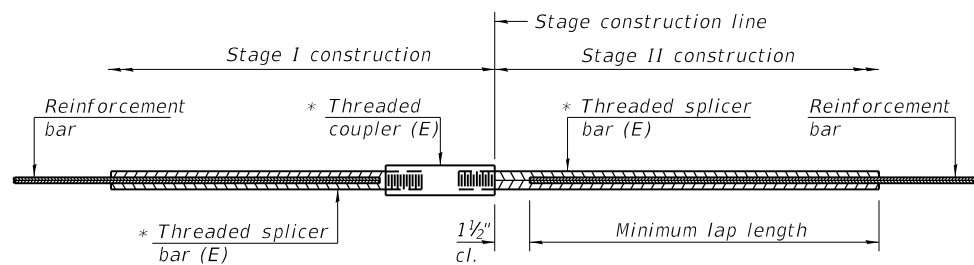
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	DATE - _____	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 065-0004

SCALE: _____ SHEET 8 OF 11 SHEETS STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34	(2) BDR, BJR, BP	MENARD	18	15
CONTRACT NO. 72K86				
ILLINOIS FED. AID PROJECT				

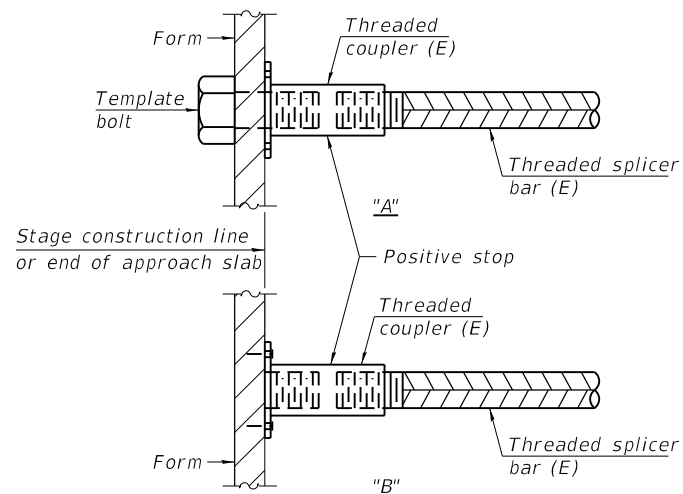


STANDARD BAR SPLICER ASSEMBLY

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

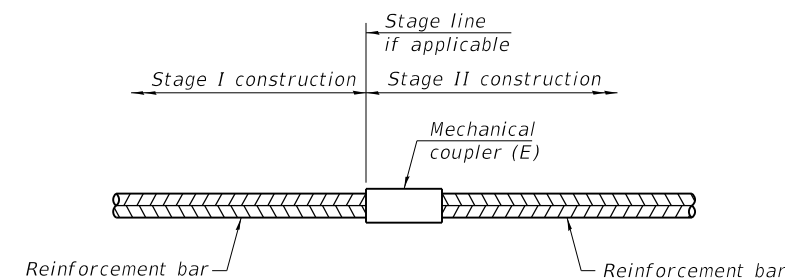
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Abuts. (deck side)	#5	16	3' 1"
Abuts. (appr. side)	#6	8	4' 5"



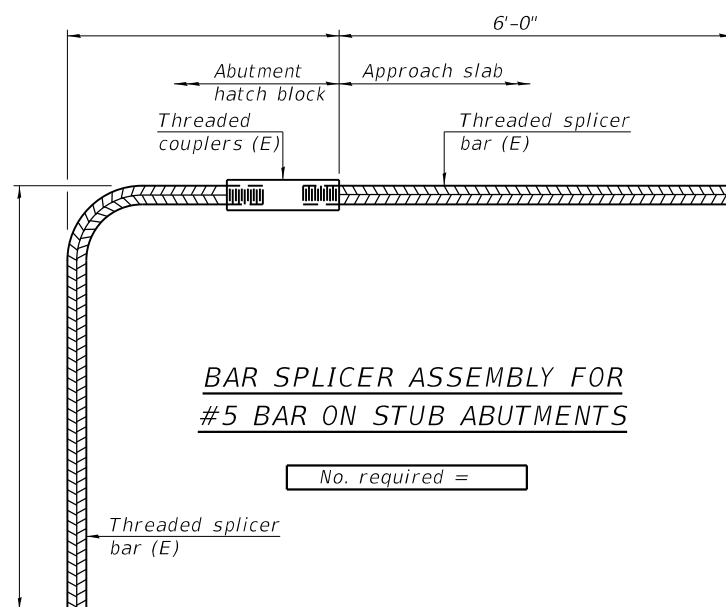
INSTALLATION AND SETTING METHODS

"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



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. 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

2-17-2017

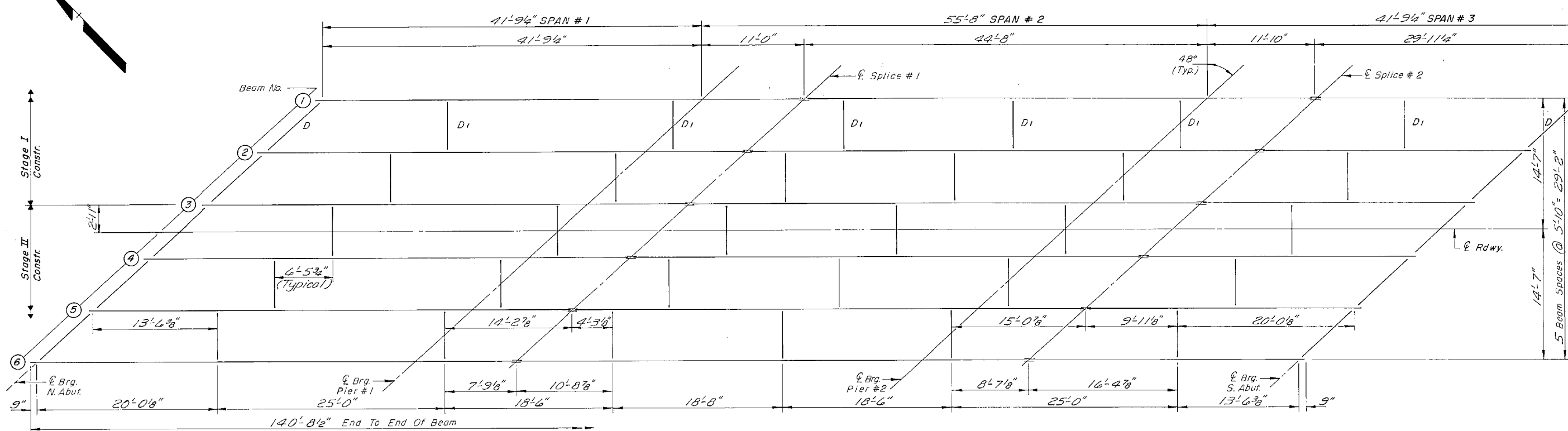
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
SN 065-0004**

SCALE: SHEET 9 OF 11 SHEETS STA. TO STA.

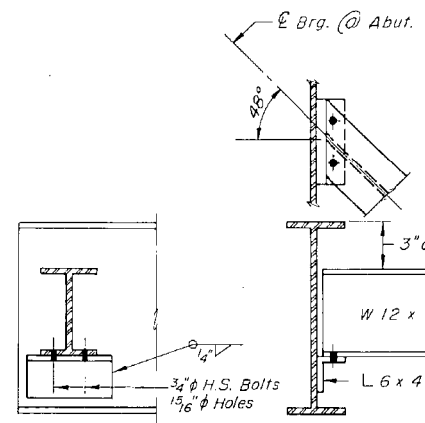
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			CONTRACT NO. 72K86	
		ILLINOIS	FED. AID PROJECT	



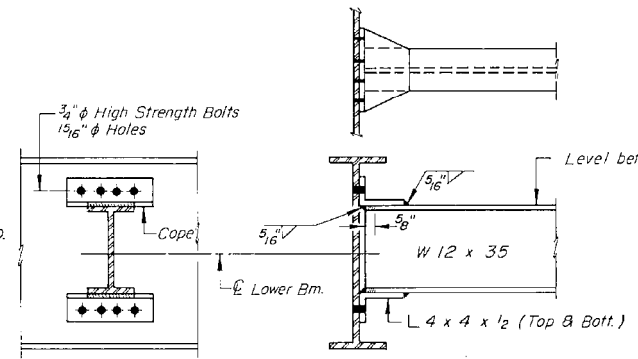
FRAMING PLAN
(All Beams Are W27 x 102 N.T.R.)
N.T.R. Indicates Notch Toughness Requirement

TOP OF BEAM ELEVATIONS
(For Fabrication Only)

LOCATION	BEAM NUMBER					
	1	2	3	4	5	6
℄ Brg. N. Abut.	481.11	481.21	481.28	481.28	481.14	481.04
℄ Brg. Pier # 1	481.05	481.15	481.25	481.25	481.14	481.04
℄ Splice # 1	481.03	481.13	481.24	481.24	481.14	481.04
℄ Brg. Pier # 2	480.95	481.05	481.18	481.18	481.10	481.00
℄ Splice # 2	480.93	481.03	481.16	481.16	481.09	480.99
℄ Brg. S. Abut.	480.93	481.03	481.17	481.17	481.12	481.02

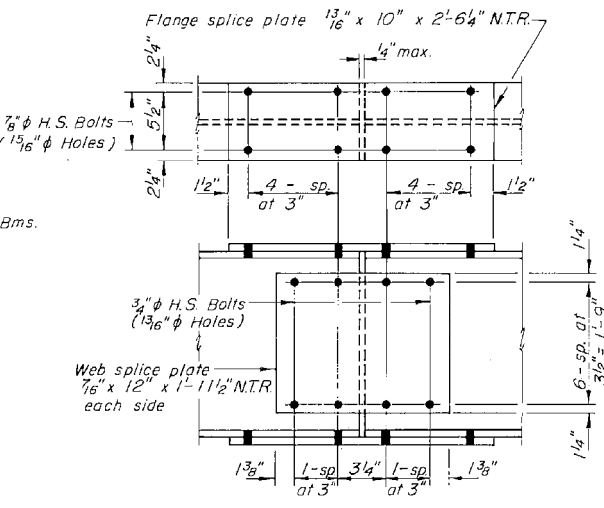


DIAPHRAGM D
10 - Required

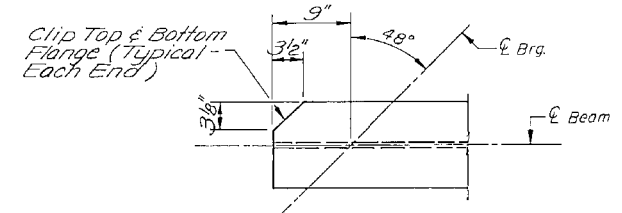


DIAPHRAGM Di
30 - Required

Note: Two hardened washers shall be required over all 1 5/16 inch holes in diaphragm connections.



SPlice

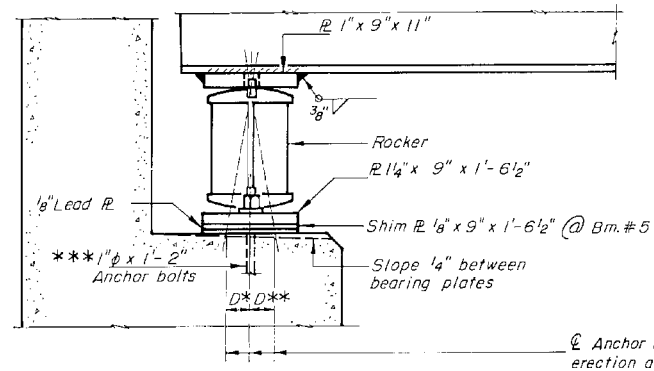


FLANGE CLIPPING DETAIL

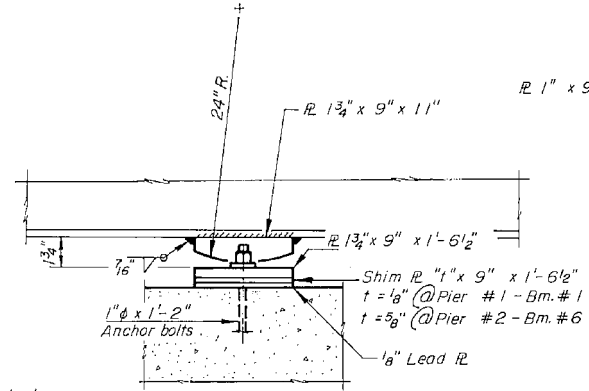
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CHECKED *AMS*
DRAWN *JAM*
CHECKED *AMS* *JAM*

B-30-80

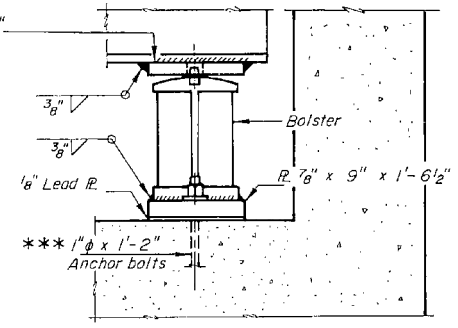
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OVERBY: jbs@stcnet.com



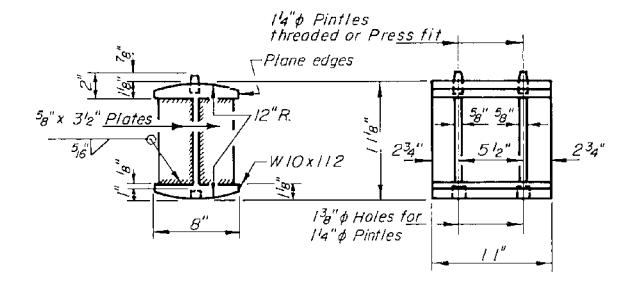
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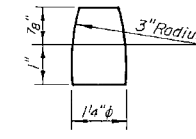
ELEVATION



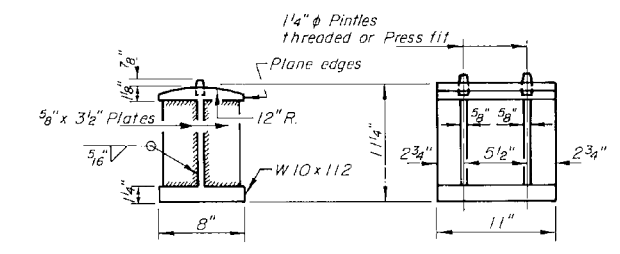
ELEVATION



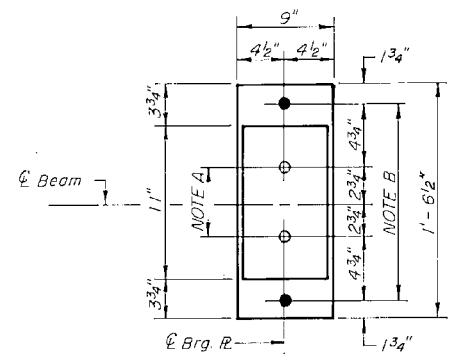
ROCKER



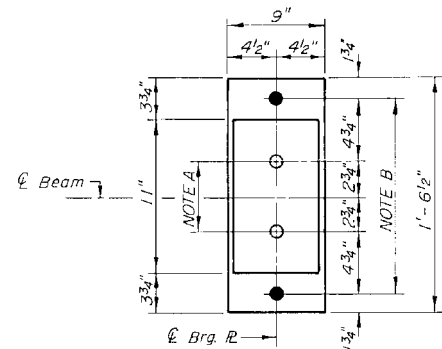
PINTLE



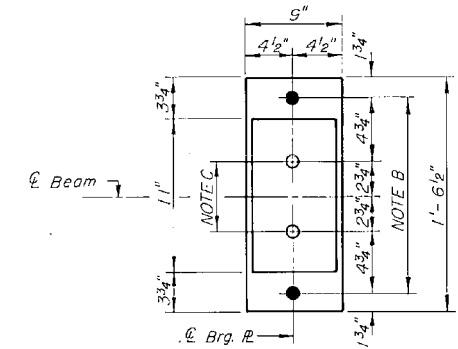
BOLSTER



PLAN SO. ABUTMENT



PLAN AT PIERS



PLAN NO. ABUTMENT

NOTE A
1 3/8" ϕ Holes - 1" deep in top R. for pintles. Threaded or press fit pintles into bottom R.

NOTE B
1 1/2" ϕ Holes for 1" ϕ anchor bolts. 5/16" x 2 1/2" x 2 1/2" R. Washers under nut.

NOTE C
1 3/8" ϕ Holes 1" deep in top R. only for 1 1/4" ϕ pintles.

BEARING ASSEMBLY DETAILS

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

(a) D^* (Side of brg. away from fixed brg.)
 $D^* = \frac{1}{8}"$ per each 100' of expansion for every 15° fall below the normal temp. of 50°F.

D^{**} (Side of brg. toward fixed brg.)
 $D^{**} = \frac{1}{8}"$ per each 100' of expansion for every 15° rise above the normal temp. of 50°F.

(b) After beams have been erected and dimensions D^* or D^{**} determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

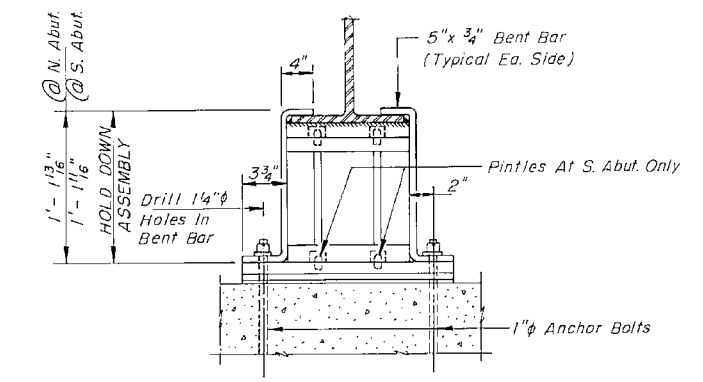
INTERIOR BEAM MOMENT TABLE			
	0.4 Sp.1 or 0.6 Sp.3	Pier	0.5 Sp.2
I_s (in. ⁴)	3620	3620	3620
S_s (in. ³)	267	267	267
Z (in. ³)	305	305	305
I_Ω (K/I)	0.970	0.970	0.970
M_Ω (1K)	108	238	138
M_4 (1K)	207	176	232
M_{Imp} (1K)	62	51	64
$S_3(M_4 + Imp)$ (1K)	448	378	493
M_a (1K)	723	801	820
M_u (1K)	915	915	915
$f_s \Omega$ (k.s.i.)	4.9	10.7	6.2
$f_s S_3(\Omega + I)$ (k.s.i.)	20.1	17.0	22.2
$f_s(Overload)$ (k.s.i.)	25.0	27.7	28.4
$f_s(Total)$ (k.s.i.)	32.5	36.0	-

INTERIOR BEAM REACTION TABLE		
	Abuts.	Piers
R_Ω (K)	14.6	52.9
R_4 (K)	28.1	35.3
Imp (K)	8.4	10.4
$R(Total)$ (K)	51.1	99.2

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
 Z is the plastic section modulus used to determine the Fully Plastic Moments.

M_a (Applied Moment) = $1.3 [M_\Omega + S_3 (M_4 + Imp)]$
 M_u is the Full Plastic Moment Capacity for Compact, Braced Section.

f_s (Overload) is the sum of the stresses due to $M_\Omega + S_3 (M_4 + Imp)$.
 f_s (Total) is the sum of the stresses due to $1.3 [M_\Omega + S_3 (M_4 + Imp)]$.



BEAM HOLD DOWN DETAIL

Note: Beams Shall Be Held Down At The Abutment On The Opposite End Of Bridge From Which The Deck Pour Is Commenced. After Pouring Is Completed The Hold Down Assembly Shall Be Removed And Nuts Placed On Anchor Bolts. Cost Of Hold Down Assembly Incidental To Class X Concrete.

BEARING DETAILS
F.A.P. RTE. 34 SEC. 2 BR-2
MENARD COUNTY
STA. 790 + 35

DESIGNED	JAM
CHECKED	L.M.S.
DRAWN	J.M.M.
CHECKED	L.M.S. JAM

6-1-82