

11-4-16 Letting, Item 028

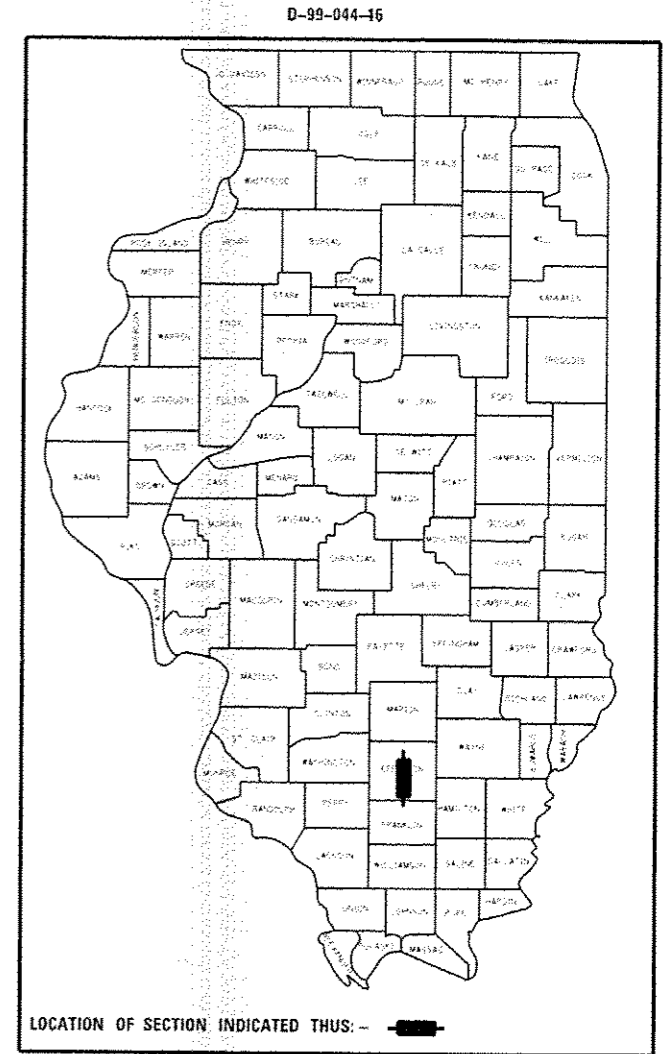
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
OFFICE OF HIGHWAYS PROJECT IMPLEMENTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41-2(BR-2)	JEFFERSON	17	1
		ILLINOIS	CONTRACT NO. 78542	

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3-5
FOR STRUCTURAL PAVEMENT DESIGN INFORMATION, SEE SHEET NO.: NA

PROPOSED HIGHWAY PLANS

FAI ROUTE 57 (I-57)
OVER DOODS CREEK
SECTION: 41-2(BR-2)
PROJECT: ACNHPP-0057(401)
STRUCTURAL REPAIRS
JEFFERSON COUNTY



TRAFFIC DATA

IL 57 TRAFFIC DATA

2015 ADT = 33,700
33 % TRUCKS

TOWNSHIP:

DODDS

DESIGN DESIGNATION : NA
COORDINATE SYSTEM : NA
POSTED SPEED : 65 MPH

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

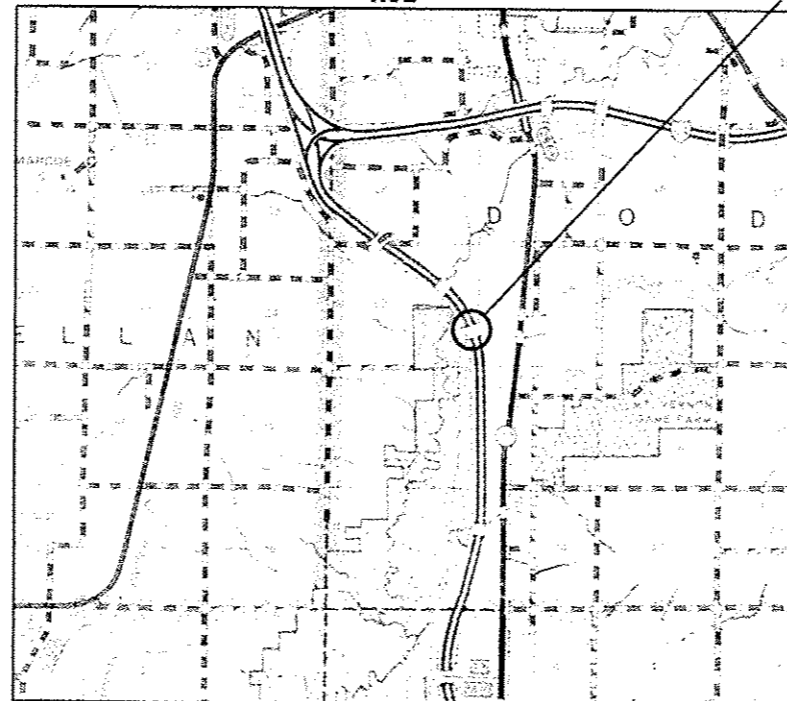
PROJECT ENGINEER: DAVID PICHE
PROJECT DESIGNER: T. WAYNE HALSTEAD

CONTRACT NO. 78542

C-99-044-16

R3E

T3S



PROJECT LOCATION
SN 041-0003 (NB) AND
041-0004 (SB)

GROSS LENGTH = 120.0 FT. = 0.023 MILES
NET LENGTH = 120.0 FT. = 0.023 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
OFFICE OF HIGHWAYS PROJECT IMPLEMENTATION

SUBMITTED August 12 20 16
Jeffrey L. Keim
REGION FIVE ENGINEER

Sept 30 20 16
Maureen M. Addis PE
acting ENGINEER OF DESIGN AND ENVIRONMENT

Sept 30 20 16
Annie Allen 2
DIRECTOR OF PROGRAM DEVELOPMENT

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OF THE STATE OF ILLINOIS

GENERAL NOTES

- 1) IN ADDITION TO THE REQUIREMENTS OF ARTICLE 107.16 THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECKS AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT AS DEFINED IN ARTICLE 101.16 REGARDLESS IF TRACK MOUNTED OR WHEELED.
- 2) COMMITMENTS: NONE AS OF AUGUST 12, 2016.

STANDARDS

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 701101-05 OFF-ROAD, MULTILANE 15' TO PAVEMENT EDGE
- 701400-08 APPROACH TO LANE CLOSURE FREEWAY/EXPRESSWAY
- 701402-11 LANE CLOSURE FREEWAY/EXPRESSWAY, WITH BARRIER
- 701426-08 LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATION, FOR SPEEDS \geq 45 MPH
- 701428-01 TRAFFIC CONTROL, SETUP AND REMOVAL, FREEWAY/EXPRESSWAY
- 701901-05 TRAFFIC CONTROL DEVICES
- 704001-08 TEMPORARY CONCRETE BARRIER
- 780001-05 TYPICAL PAVEMENT MARKINGS
- 781001-04 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS; GENERAL NOTES; STANDARDS
- 3-5 SUMMARY OF QUANTITIES
- 6 WIDE LOAD SIGNING DETAILS
- 7-17 STRUCTURAL REPAIR DETAILS

Prepared By: *[Signature]*
 DISTRICT STUDIES & PLANS ENGINEER

Examined By: *[Signature]*
 DISTRICT LAND ACQUISITION ENGINEER

Examined By: *[Signature]*
 DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By: *[Signature]*
 DISTRICT OPERATIONS ENGINEER

Examined By: *[Signature]*
 DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: *[Signature]*
 DISTRICT CONSTRUCTION ENGINEER

Examined By: *[Signature]*
 DISTRICT MATERIALS ENGINEER

FILE NAME	USER NAME	DESIGNED	TWN	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SIGNATURES, GENERAL NOTES, STANDARDS, & INDEX OF SHEETS	F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PROJECT NO.	PROJECT NAME	DRAWN	TWN	REVISED			57	41-21BR-21	JEFFERSON	17	2	
PLST SCALE	PLST DATE	CHECKED	DATE	REVISED			CONTRACT NO. 78542					
SCALE:	SHEET	OF	SHEETS	STA.			TO STA.	ILLINOIS FED. AID PROJECT				

SUMMARY OF QUANTITIES

JEFFERSON COUNTY	
SN 041-0003/4 ON FAI 57	
90% FEDERAL	10% STATE
CONSTRUCTION TYPE CODE 0014	

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
50102400	CONCRETE REMOVAL	CU YD	13.8
50300255	CONCRETE SUPERSTRUCTURE	CU YD	13.8
50300260	BRIDGE DECK GROOVING	SQ YD	1031
50300300	PROTECTIVE COAT	SQ YD	1056
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	34690
50800515	BAR SPLICERS	EACH	242
52000110	PREFORMED JOINT STRIP SEAL	FOOT	168
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5
67100100	MOBILIZATION	LSUM	1
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	10
70300100	SHORT TERM PAVEMENT MARKING	FOOT	32
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	11

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SUMMARY OF QUANTITIES - CONT

JEFFERSON COUNTY	
SN 041-0003/4 ON FAI 57	
90% FEDERAL	10% STATE
CONSTRUCTION TYPE CODE 0014	

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1180
70400100	TEMPORARY CONCRETE BARRIER	FOOT	750
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	650
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1180
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	4
X0327980	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	588
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	4
X5030301	CONCRETE WEARING SURFACE (VARIABLE DEPTH)	SQ YD	990.2
X7010410	SPEED DISPLAY TRAILER	CAL MO	10

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**Specialty Items*

045 01 004

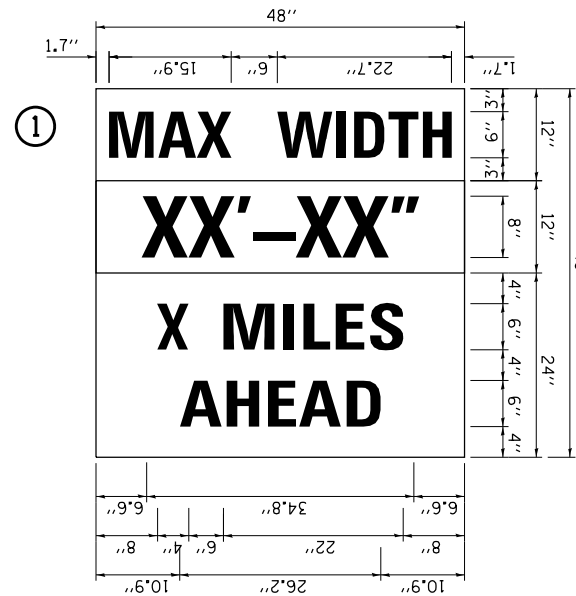
SUMMARY OF QUANTITIES - CONT

JEFFERSON COUNTY	
SN 041-0003/4 ON FAI 57	
90% FEDERAL	10% STATE
CONSTRUCTION TYPE CODE 0014	

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	48
X8570000	SMART TRAFFIC MONITORING SYSTEM	L SUM	1
Z0004556	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SO YD	990.2
Z0012132	BRIDGE DECK SCARIFICATION 1"	SO YD	990.2
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SO YD	4.5
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SO YD	27.9
Z0016200	DECK SLAB REPAIR (PARTIAL)	SO YD	11.1
X9700006	SMART TRAFFIC MONITORING DEVICE	CAL MO	14

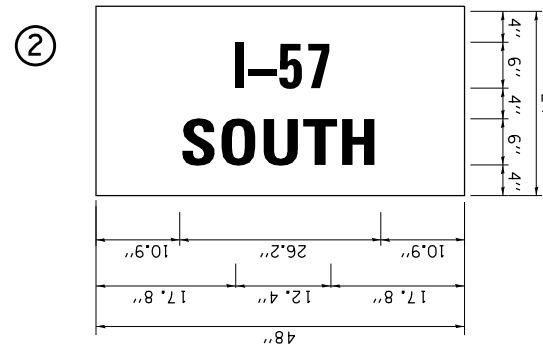
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SIGN LEGEND

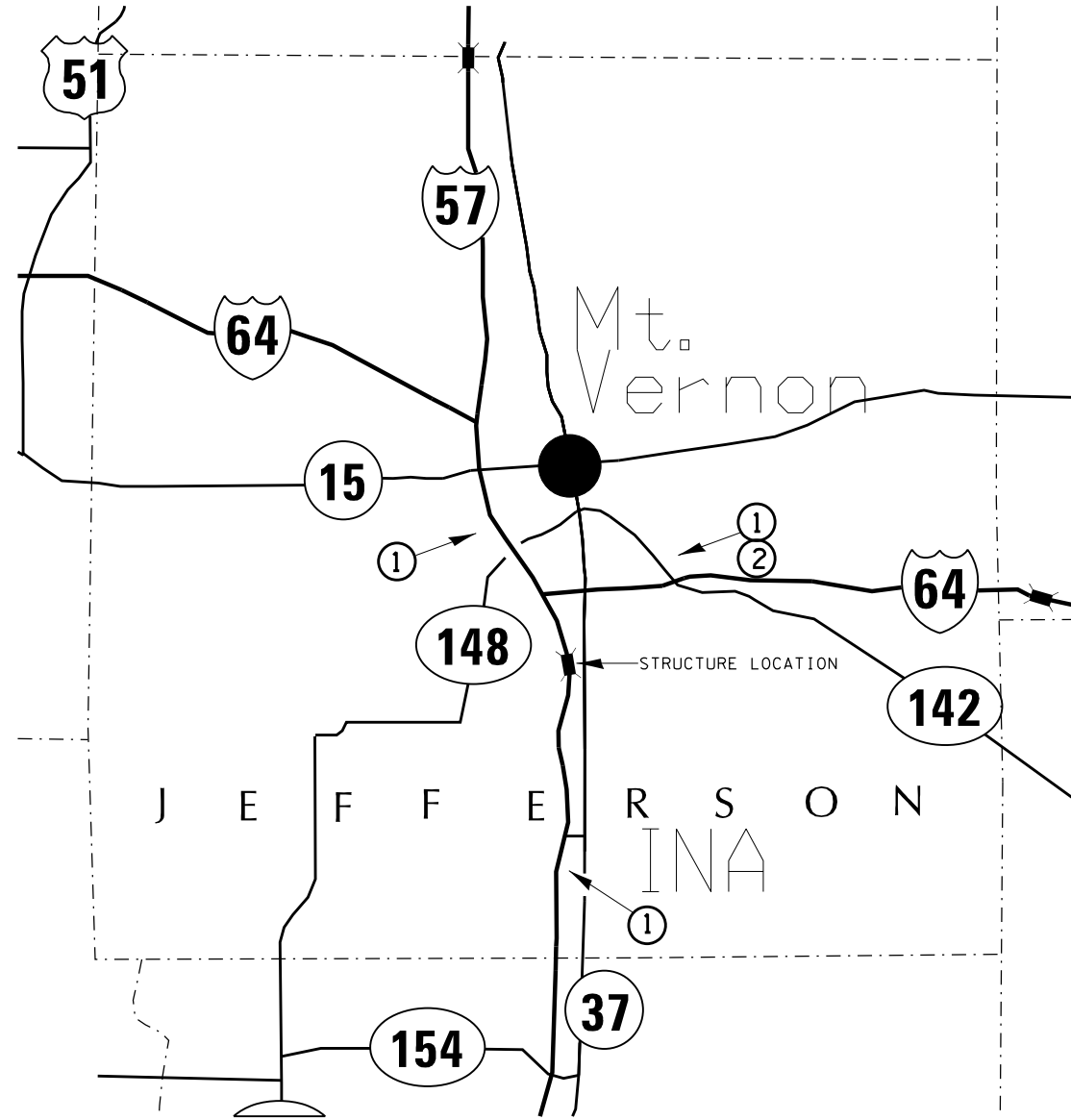


W12-1103

W12-1103 (WIDTH IS 8D);
 NO BORDER, BLACK ON WHITE;
 "MAX WIDTH" D;
 NO BORDER, BLACK ON ORANGE;
 "XX'-XX" D;
 NO BORDER, BLACK ON WHITE;
 "X MILES" D; "AHEAD" D



NO BORDER, BLACK ON WHITE;
 "I-57" D;
 NO BORDER, BLACK ON WHITE;
 "SOUTH" D



DETOUR SIGNING PLAN

DETOUR NOTES:

- THE CONTRACTOR SHALL FURNISH THE POSTS AND ERECT THE SIGNS AT THE LOCATIONS AS DIRECTED BY THE ENGINEER. ALL SIGNS SHALL BE POST MOUNTED.
- THE ABOVE NOTED WORK, INCLUDING SIGNS, POSTS, HARDWARE AND LABOR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE, EACH, FOR TRAFFIC CONTROL AND PROTECTION, STD 701402 AND NO OTHER COMPENSATION WILL BE ALLOWED.
- THE WIDTH SHOWN ON THE W12-1103 SIGN SHALL BE 14'-9" FOR STAGE I AND 15'-0" FOR STAGE II OR AS DIRECTED BY THE ENGINEER. THE "X" MILES AHEAD WILL BE DETERMINED BY THE ENGINEER.

FILE NAME =	USER NAME = halsteadtw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCALE:	SHEET NO. OF SHEETS STA. TO STA.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw:\11\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 9\Projects\78542\Drawings\CABsheets\78542.sht.dgn	PLotted	CHECKED -	REVISED -				57	41-2(BR-2)	JEFFERSON	17	6
PLOT SCALE = 200.0000' / in.	DATE -	DATE -	REVISED -				CONTRACT NO. 78542				
PLOT DATE = 8/9/2016	DATE -	DATE -	REVISED -				ILLINOIS FED. AID PROJECT				

GENERAL NOTES

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.

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	General Plan and Elevation
2	Staging Details
3	Temporary Concrete Barrier For Stage Construction
4-5	Deck Slab Repair Plan
6	Abutment Details
7	Joints and Overlay Details
8-10	Concrete Overlay Reinforcement Details
11	Bar Splicer Assembly and Mechanical Splicer Details

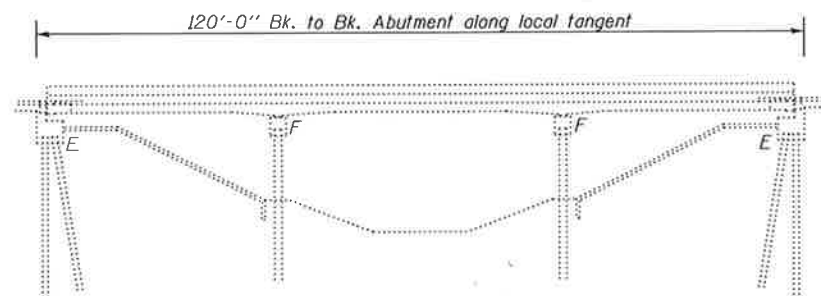
Design Stresses

FIELD UNITS (Existing Construction)

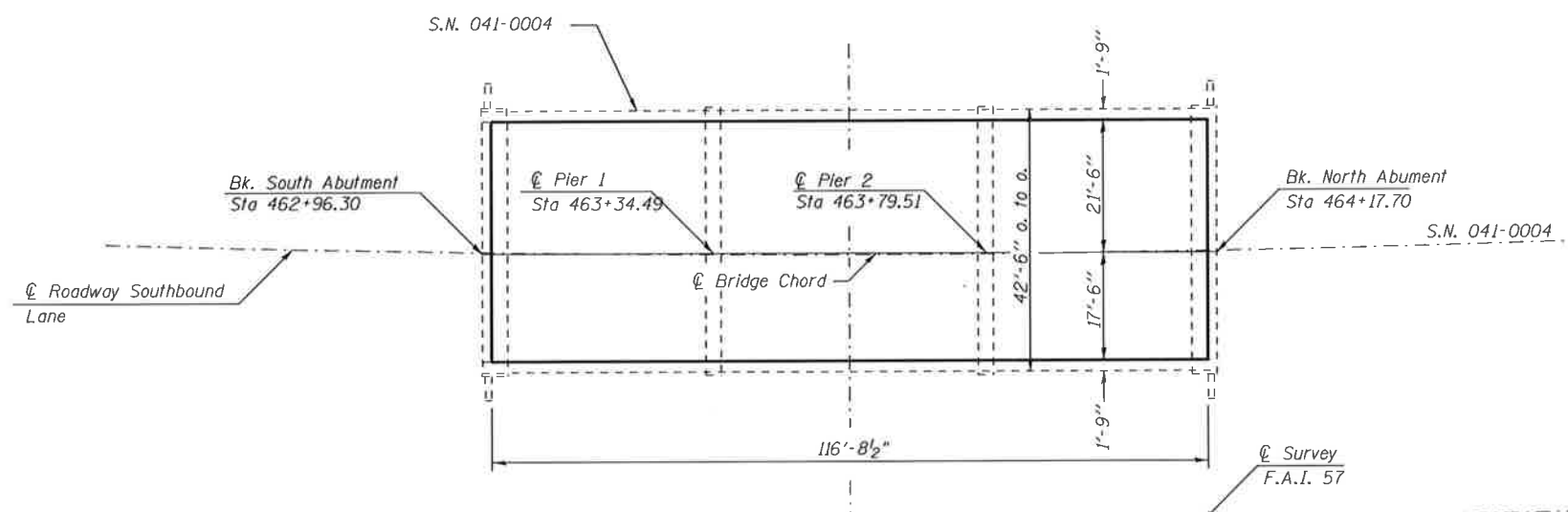
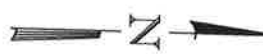
$f_c = 1,400$ psi (super & sub.)
 $f_s = 20,000$ psi Struct.(A-36)
 $f_s = 20,000$ psi (reinforcement)
 $V_c = 75$ psi (Figs.)
 $n = 10$

TOTAL BILL OF MATERIAL

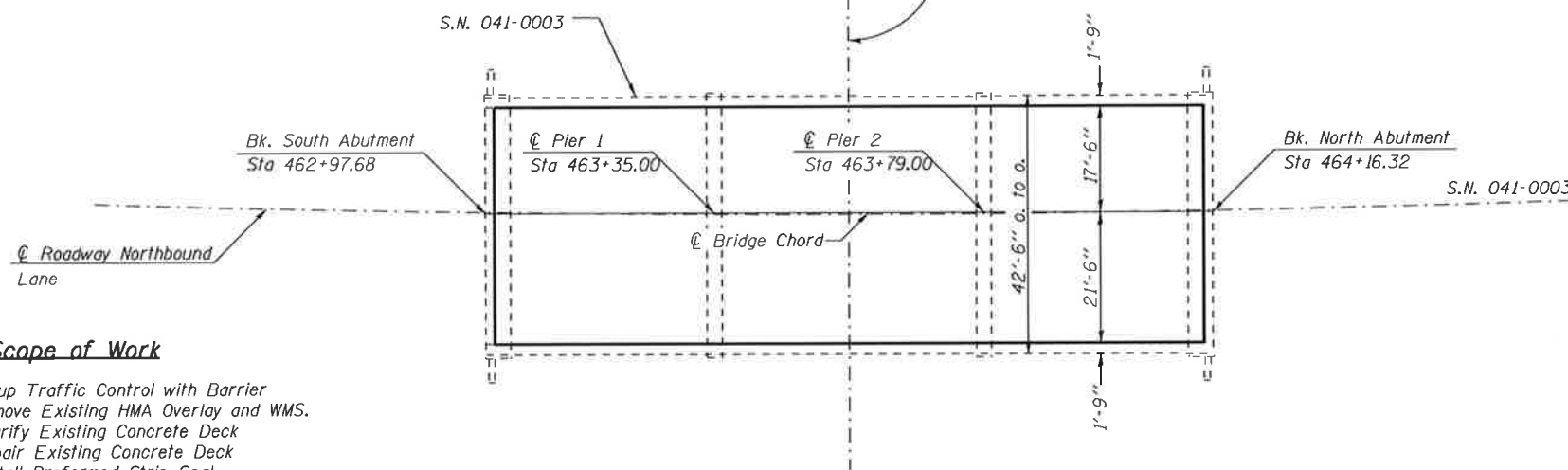
ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	13.8
Concrete Superstructure	Cu. Yd.	13.8
Bridge Deck Grooving	Sq. Yd.	1031
Protective Coat	Sq. Yd.	1056
Reinforcement Bars, Epoxy Coated	Pound	34,690
Bar Splicers	Each	242
Preformed Joint Strip Seal	Foot	168
Temporary Concrete Barrier	Foot	240
Concrete Wearing Surface (Variable Depth)	Sq. Yd.	990.2
HMA Surface Removal, (Deck)	Sq. Yd.	990.2
Bridge Deck Scarification 1"	Sq. Yd.	990.2
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	4.5
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	27.9
Deck Slab Repair (Partial)	Sq. Yd.	11.1



ELEVATION



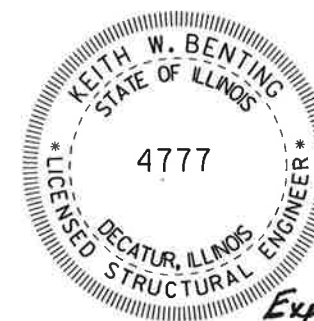
☉ Roadway Southbound Lane



☉ Roadway Northbound Lane

Scope of Work

- Setup Traffic Control with Barrier
- Remove Existing HMA Overlay and WMS.
- Scarify Existing Concrete Deck
- Repair Existing Concrete Deck
- Install Preformed Strip Seal
- Place Concrete Overlay
- Switch stages and repeat



Exp. 11/30/2016

DATE:

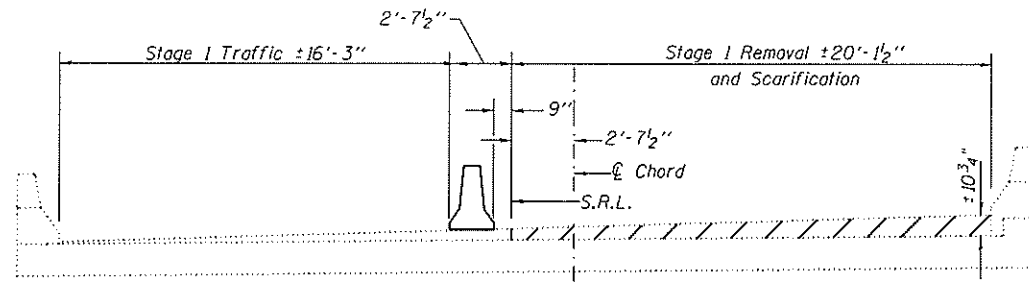
May 3, 2016
 Keith W. Benting

ILL. STRUCTURAL NO. 4777

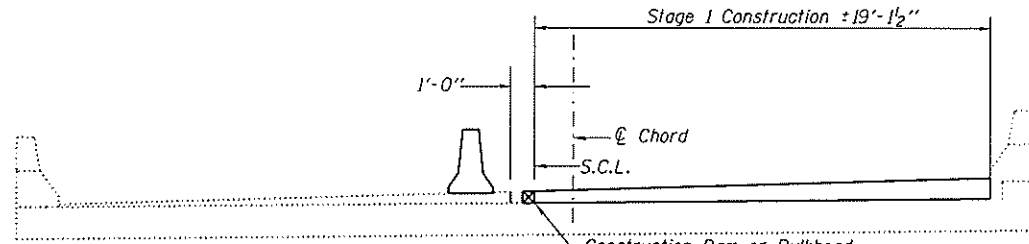
BRIDGE REPAIR
 FAI RT 57 OVER
 DODDS CREEK
 JEFFERSON COUNTY
 SECTION 41-2(BR-1)
 STA. 463+57
 SN 041-0003 (NB) SN 041-0004 (SB)

SECTIONS THRU BRIDGES

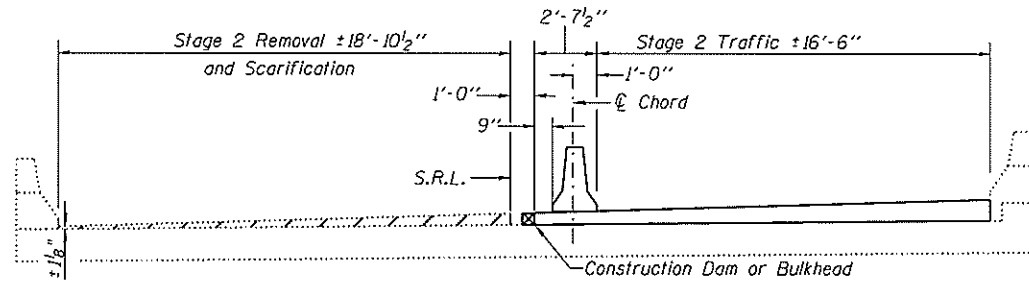
All Sections Looking North



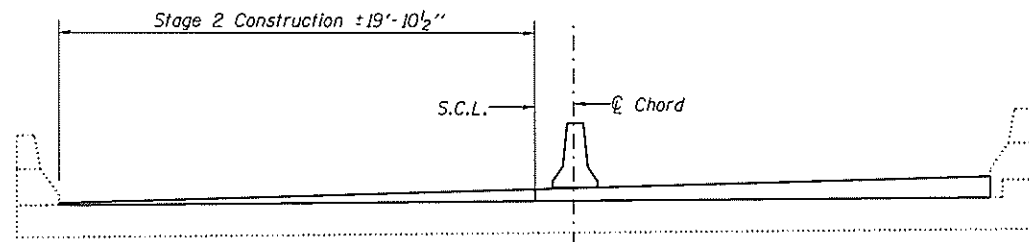
STAGE I REMOVAL
Southbound Lane



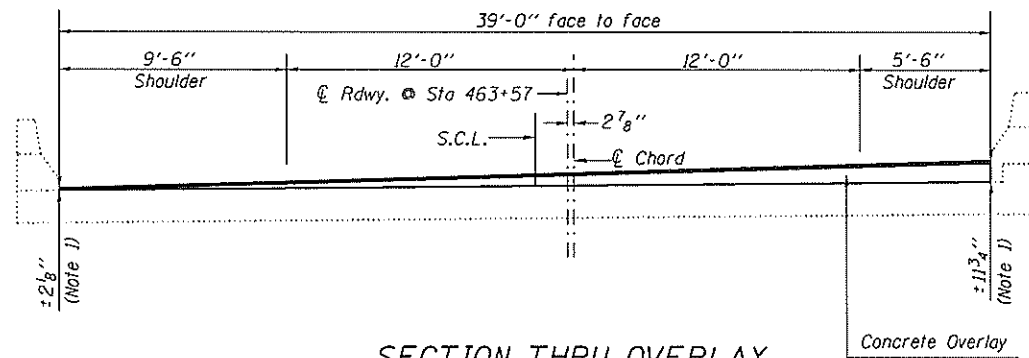
STAGE I CONSTRUCTION
Southbound Lane



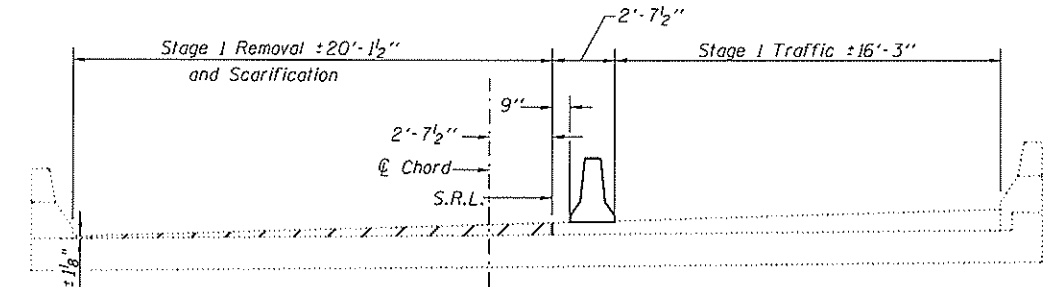
STAGE II REMOVAL
Southbound Lane



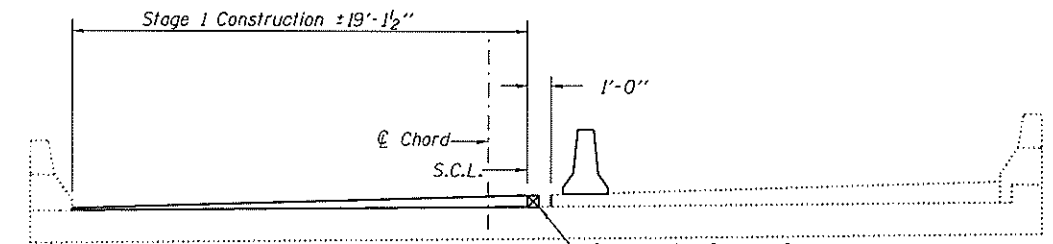
STAGE II CONSTRUCTION
Southbound Lane



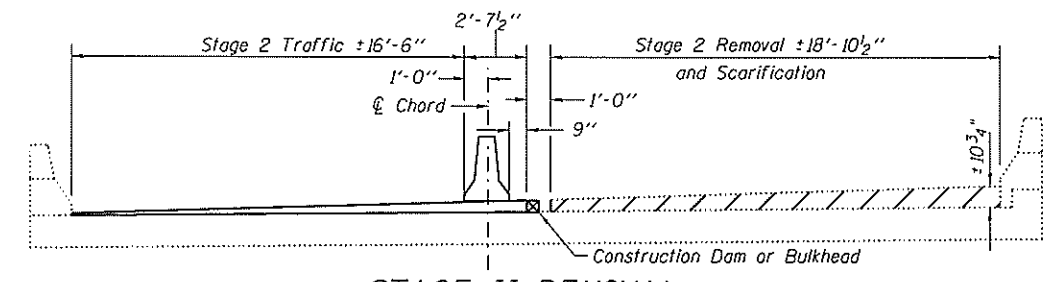
SECTION THRU OVERLAY
Southbound Lane



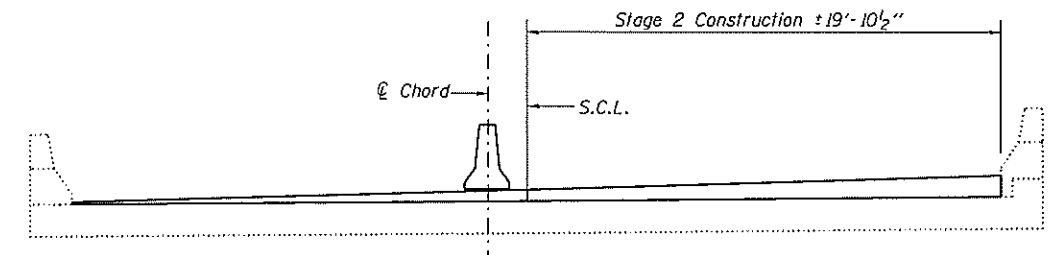
STAGE I REMOVAL
Northbound Lane



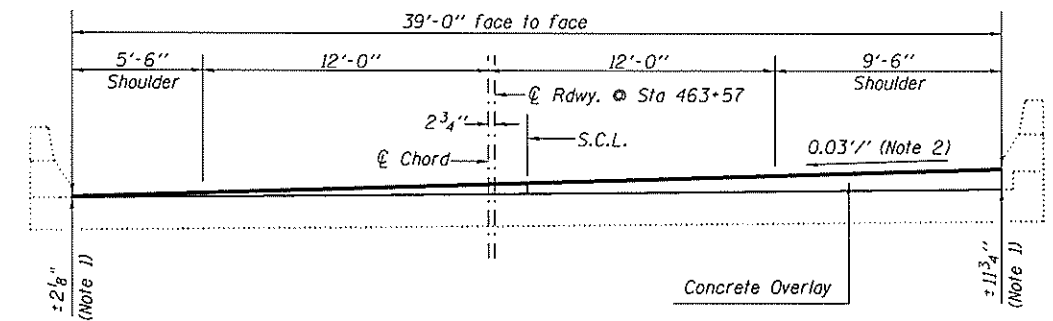
STAGE I CONSTRUCTION
Northbound Lane



STAGE II REMOVAL
Northbound Lane



STAGE II CONSTRUCTION
Northbound Lane



SECTION THRU OVERLAY
Northbound Lane



NOTES:

1. The proposed overlay thickness shown matches the existing overlay thickness plus a 1" scarification depth.
2. The original bridge deck portion was constructed on a slope of 0.01'/''. The original overlay section was constructed on a slope of 0.03'/''.
3. The Contractor may elect to change the sequence of staging, i.e., perform stage 2 first then stage 1, with approval of the Engineer.



USER NAME *	DESIGNED - KWB	REVISED -
PLOT SCALE *	CHECKED - NPP	REVISED -
PLOT DATE *	DRAWN - DCS	REVISED -
	CHECKED - KWB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

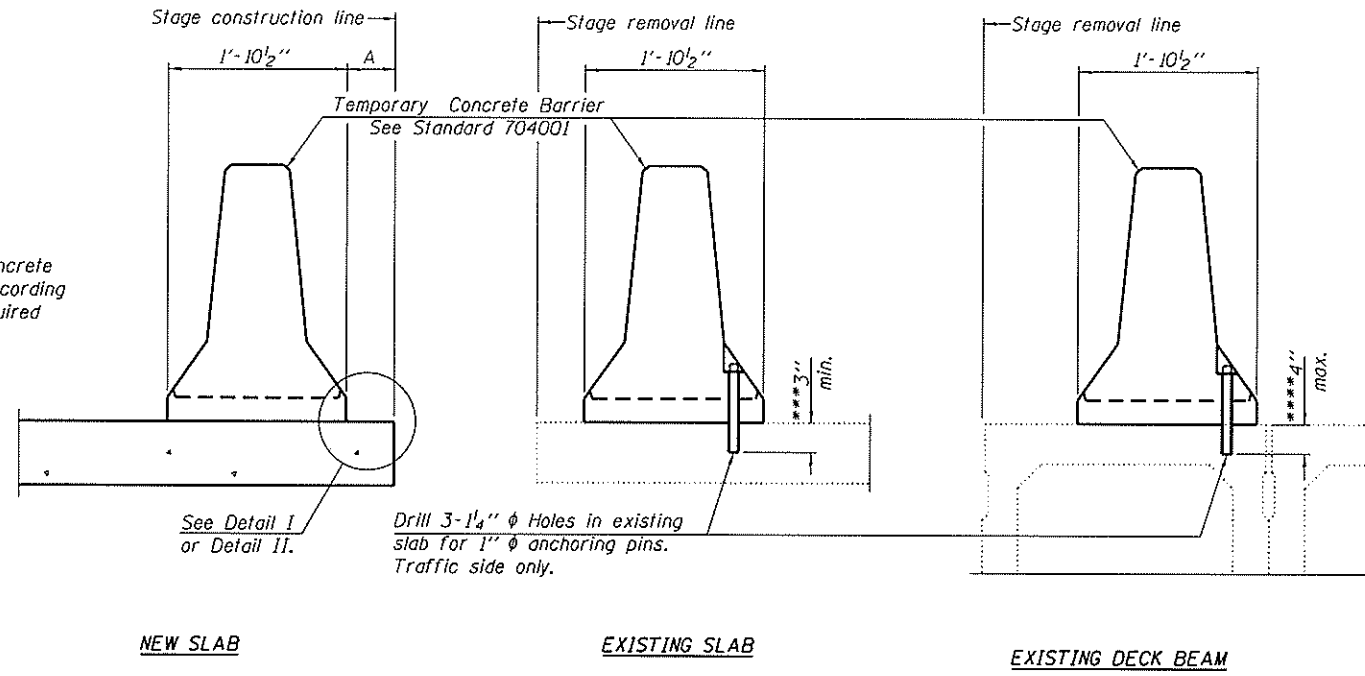
STAGING DETAILS
STRUCTURE NO. 041-0003 & 041-0004

SHEET 2 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41-2(BR-1)	JEFFERSON		
CONTRACT NO.				

ILLINOIS FED. AID PROJECT

When "A" is 3'-1" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-1".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

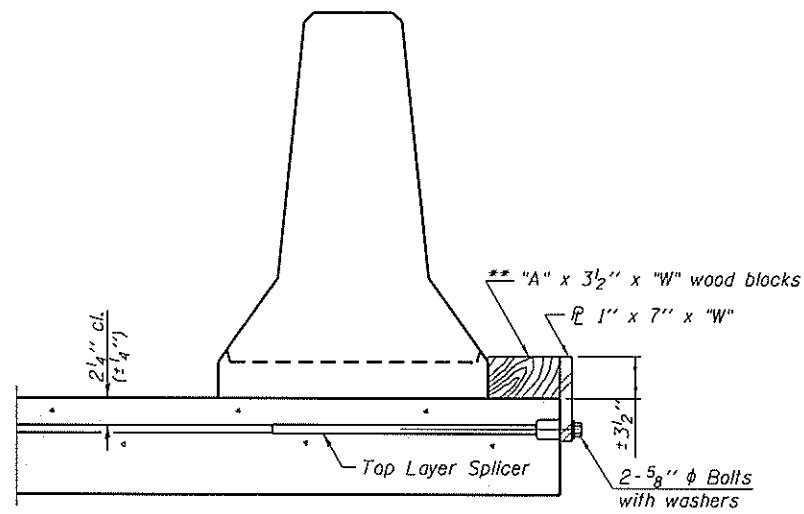
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel \bar{R} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel \bar{R} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

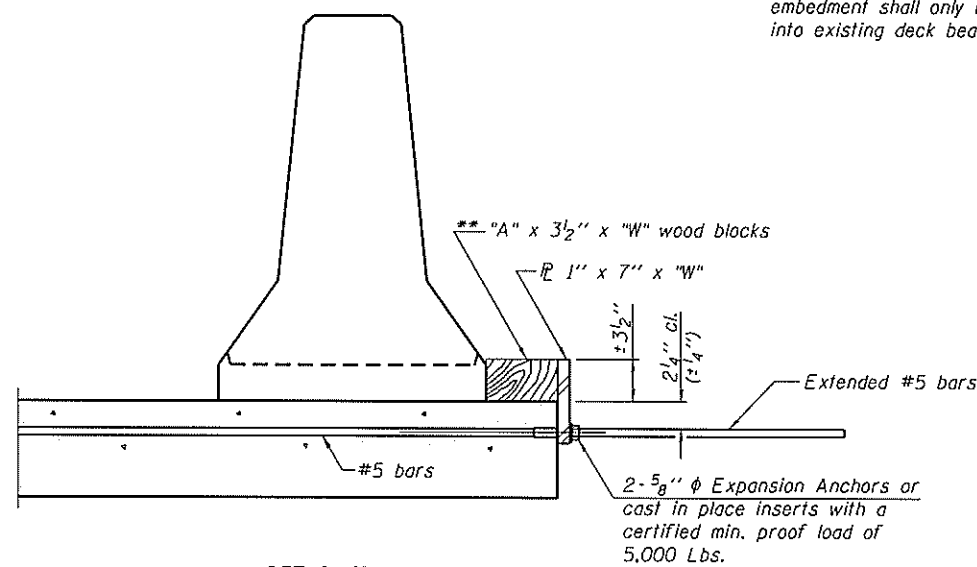
Cost of retainer assembly is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

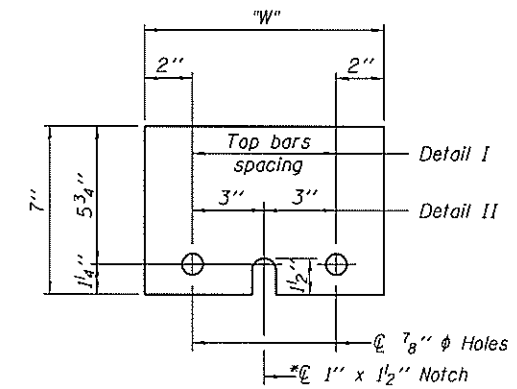
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER \bar{R} 1" x 7" x "W"

* Required only with Detail II

RETAINER ASSEMBLY

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

R-27

1-12-15



USER NAME :	DESIGNED - KWB	REVISED -
PLOT SCALE :	CHECKED - NPP	REVISED -
PLOT DATE :	DRAWN - DCS	REVISED -
	CHECKED - KWB	REVISED -

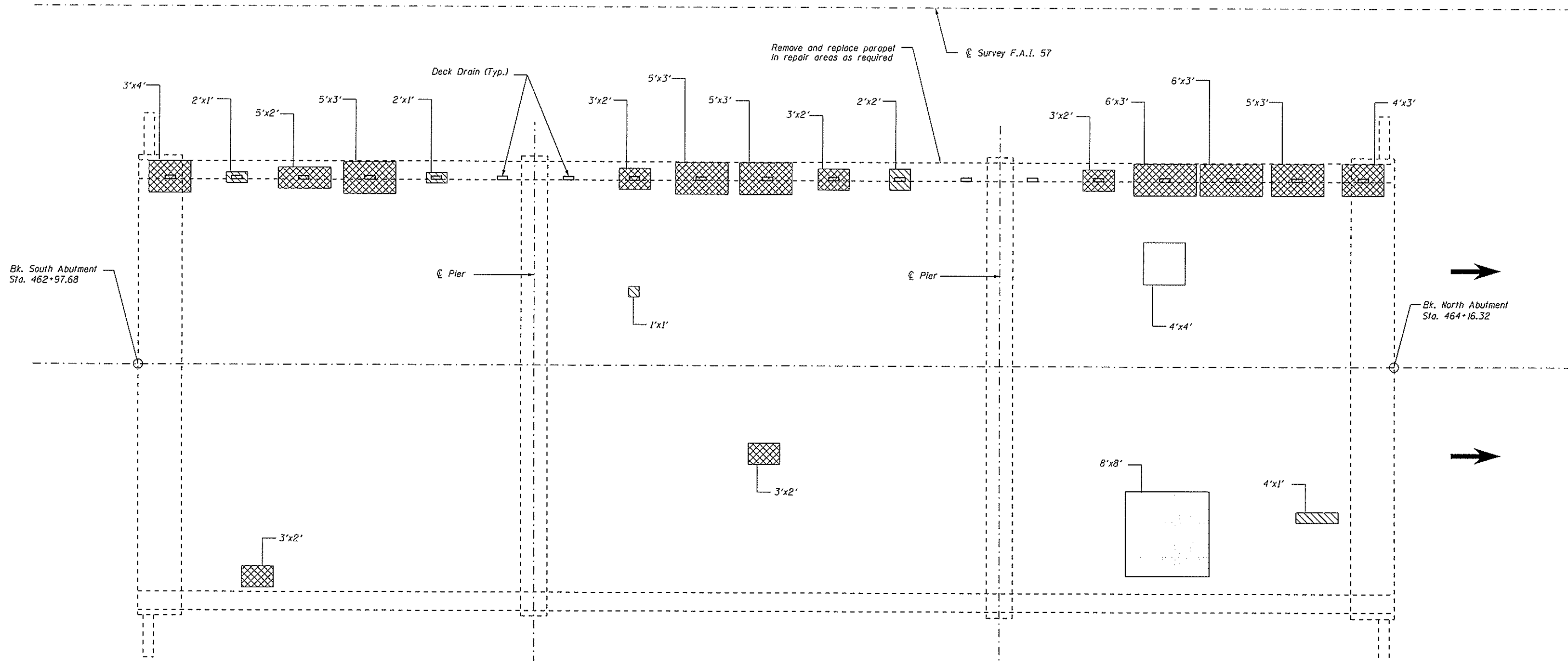
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 041-0003 & 041-0004

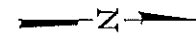
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41-2(BR-1)	JEFFERSON		
CONTRACT NO.				

SHEET 3 OF 11 SHEETS

ILLINOIS FED. AID PROJECT



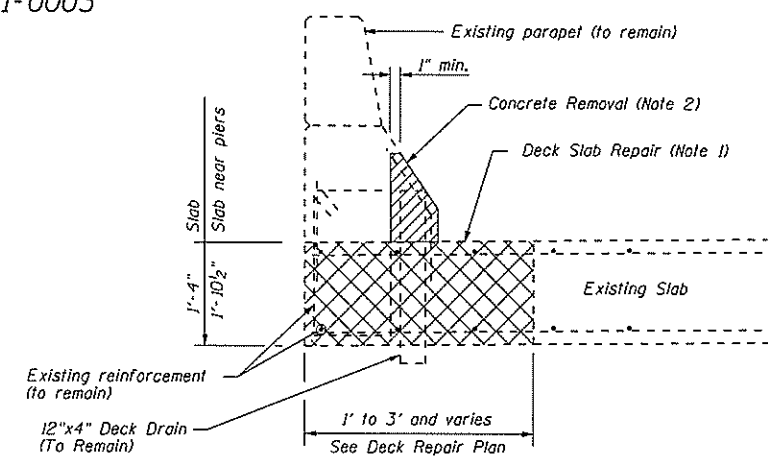
DECK REPAIR PLAN
SN 041-0003



LEGEND

- Area of Deck Slab Repair (Full Depth, Type I)
- Area of Deck Slab Repair (Full Depth, Type II)
- Area of Deck Slab Repair (Partial)
- Concrete Removal

- NOTES:**
1. All Deck Slab Repair to be performed per Deck Slab Repair Special Provision and Sections 501, 503 & 1020 of the Standard Specifications.
 2. Concrete Removal of parapets to be minimum required for Deck Slab Repair.



TYPICAL SECTION SHOWING DECK SLAB REPAIR AT WEST PARAPET

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	1.4
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	17.8
Deck Slab Repair (Partial)	Sq. Yd.	8.9
Concrete Removal	Cu. Yd.	1.3
Concrete Superstructure	Cu. Yd.	1.3

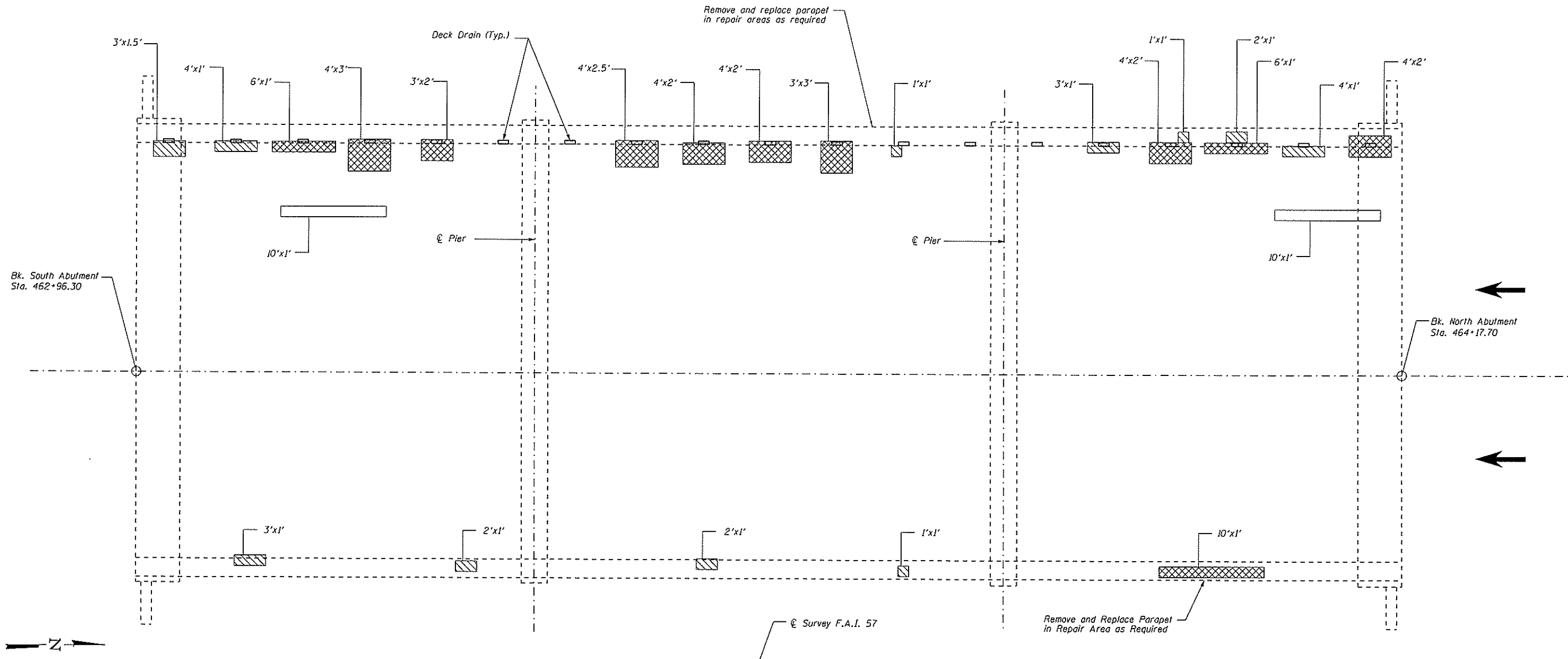


USER NAME =	DESIGNED - KWB	REVISED -
	CHECKED - NPP	REVISED -
PLOT SCALE =	DRAWN - DCS	REVISED -
PLOT DATE =	CHECKED - KWB	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK SLAB REPAIR PLAN
STRUCTURE NO. 041-0003**
SHEET 4 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41-2(BR-1)	JEFFERSON		
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

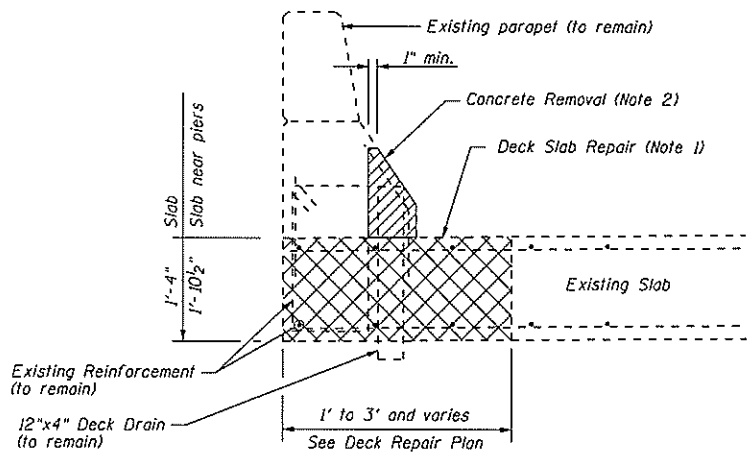


LEGEND

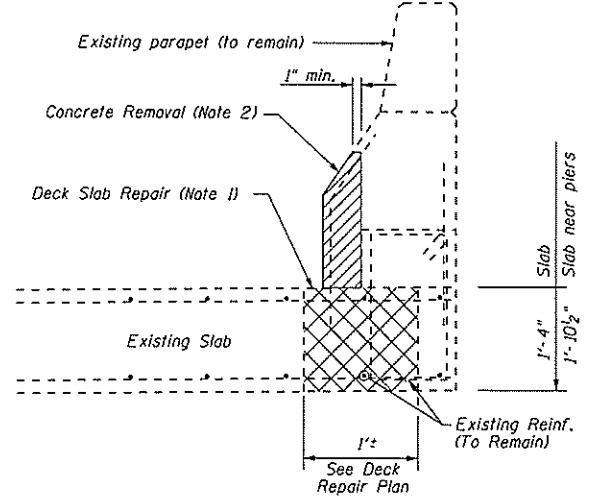
- Area of Deck Slab Repair (Full Depth, Type I)
- Area of Deck Slab Repair (Full Depth, Type II)
- Area of Deck Slab Repair (Partial)
- Concrete Removal

- NOTES:**
- All Deck Slab Repair to be performed per Deck Slab Repair Special Provision and Sections 501, 503 & 1020 of the Standard Specifications.
 - Concrete Removal of parapets to be minimum required for Deck Slab Repair.

**DECK REPAIR PLAN
SN 041-0004**



TYPICAL SECTION SHOWING DECK SLAB REPAIR AT WEST PARAPET



TYPICAL SECTION SHOWING DECK SLAB REPAIR AT EAST PARAPET

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	3.1
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	10.1
Deck Slab Repair (Partial)	Sq. Yd.	2.2
Concrete Removal	Cu. Yd.	2.0
Concrete Superstructure	Cu. Yd.	2.0



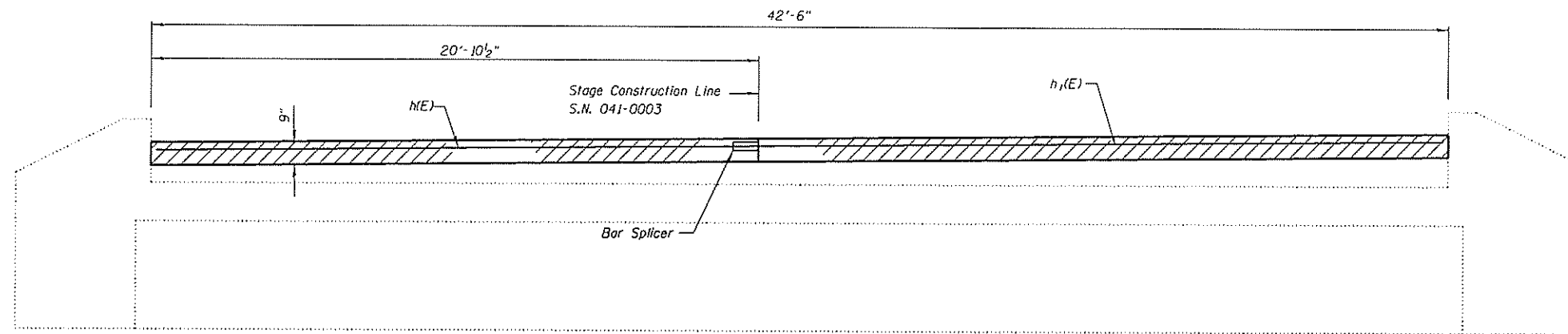
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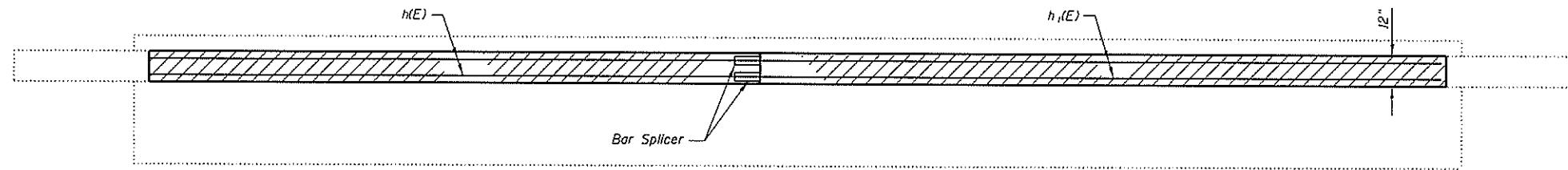
DECK SLAB REPAIR PLAN
STRUCTURE NO. 041-0004

SHEET 5 OF 11 SHEETS

F.A.I. RTE. 57	SECTION 41-2(BR-1)	COUNTY JEFFERSON	TOTAL SHEETS	SHEET NO.
CONTRACT NO.			ILLINOIS FED. AID PROJECT	

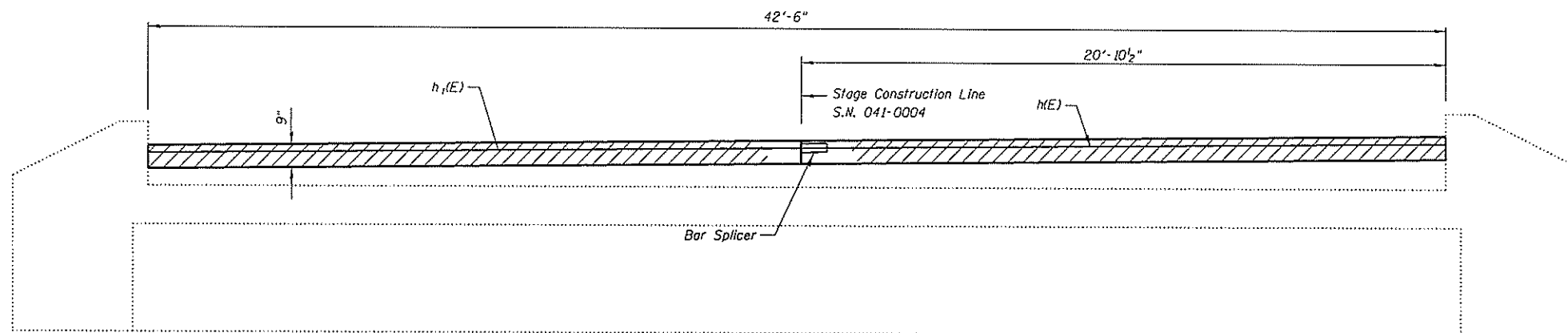


ELEVATION

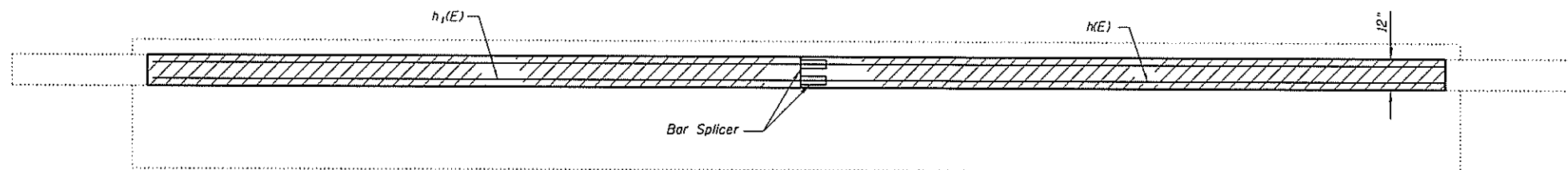


PLAN - SOUTH ABUTMENT
PLAN - NORTH ABUTMENT SIMILAR

ABUTMENT BACKWALL
S.N. 041-0003 LOOKING NORTH



ELEVATION



PLAN - SOUTH ABUTMENT
PLAN - NORTH ABUTMENT SIMILAR

ABUTMENT BACKWALL
S.N. 041-0004 LOOKING NORTH

Concrete Removal

S.N. 041-0003 & S.N. 041-0004
ABUTMENTS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	8	#6	20'-7"	—
h1(E)	8	#6	21'-4"	—
Concrete Removal			Cu. Yd.	4.7
Concrete Superstructure			Cu. Yd.	4.7
Reinforcement Bars, Epoxy Coated			Pound	510
Bar Splicers			Each	8



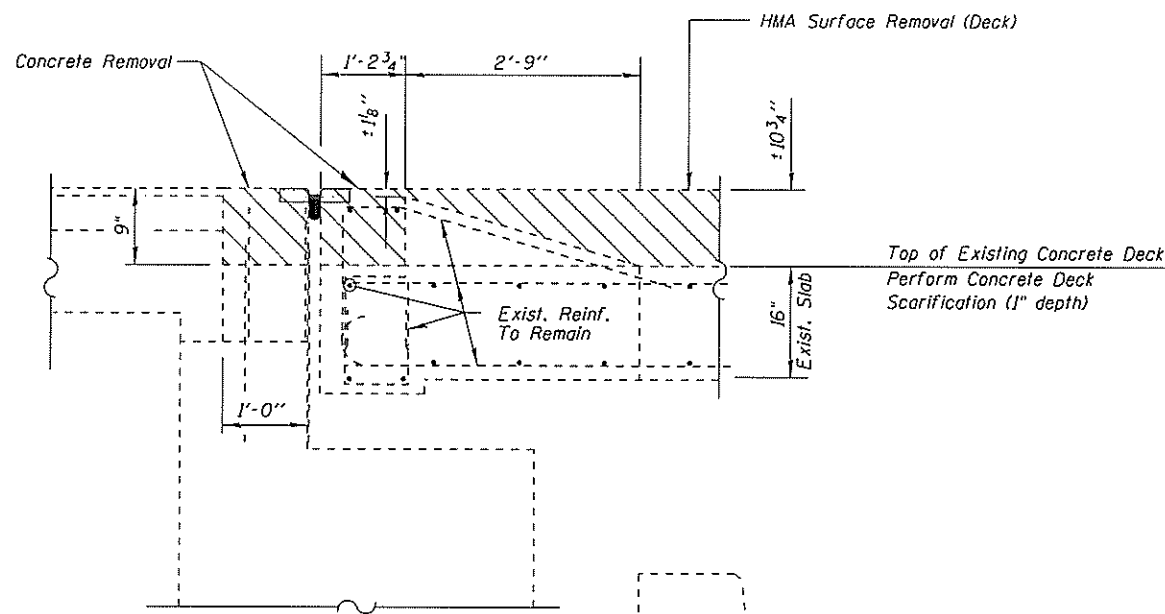
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

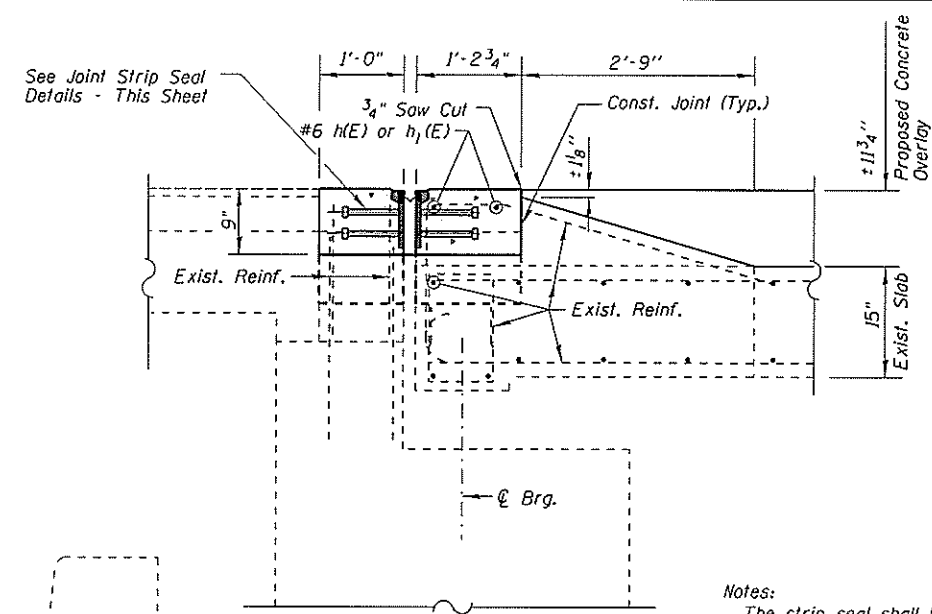
ABUTMENT DETAILS
STRUCTURE NO. 041-0003 & 041-0004

SHEET 6 OF 11 SHEETS

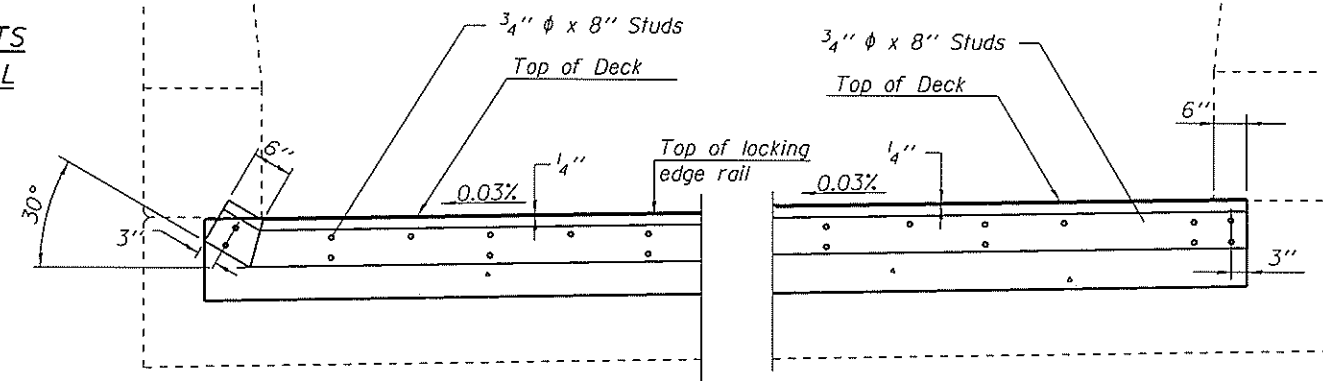
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41-2(BR-1)	JEFFERSON		
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



**SECTION AT JOINTS
SHOWING REMOVAL**



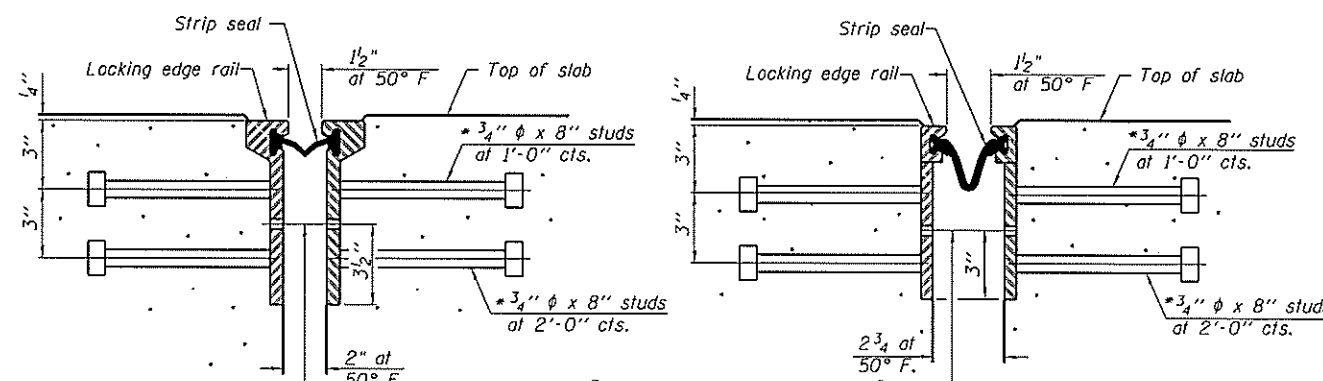
**PROPOSED SECTION AT JOINTS
SHOWING HIGH SIDE OF DECK**



**END TREATMENT AT
LOW SIDE OF DECK**

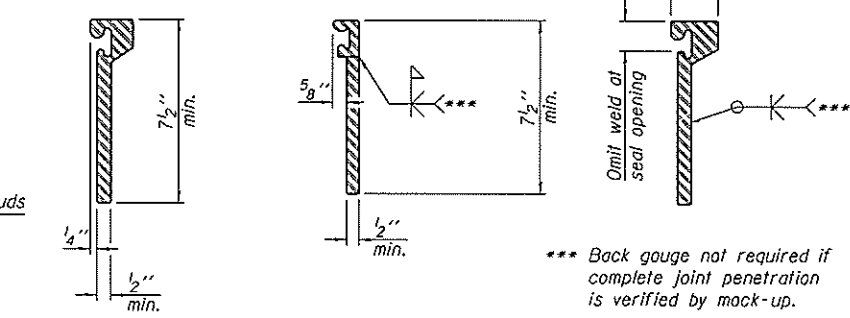
**END TREATMENT AT
HIGH SIDE OF DECK**

Notes:
 The strip seal shall be made continuous and shall have a minimum thickness of 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 conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.
 The manufacturer's recommended installation methods shall be followed.
 The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications. Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.
 Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.



**SECTION THRU
ROLLED RAIL JOINT**

**SECTION THRU
WELDED RAIL JOINT**



**ROLLED
EXTRUDED RAIL**

WELDED RAIL

**LOCKING EDGE
RAIL SPLICE**

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

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

**S.N. 041-0003 & S.N. 041-0004
DECK EXPANSION JOINT
BILL OF MATERIAL**

Item	Unit	Quantity
Preformed Joint Strip Seal	Foot	168
Concrete Removal	Cu. Yd.	5.8
Concrete Superstructure	Cu. Yd.	5.8

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

PREFORMED JOINT STRIP SEAL DETAILS

LOCKING EDGE RAILS



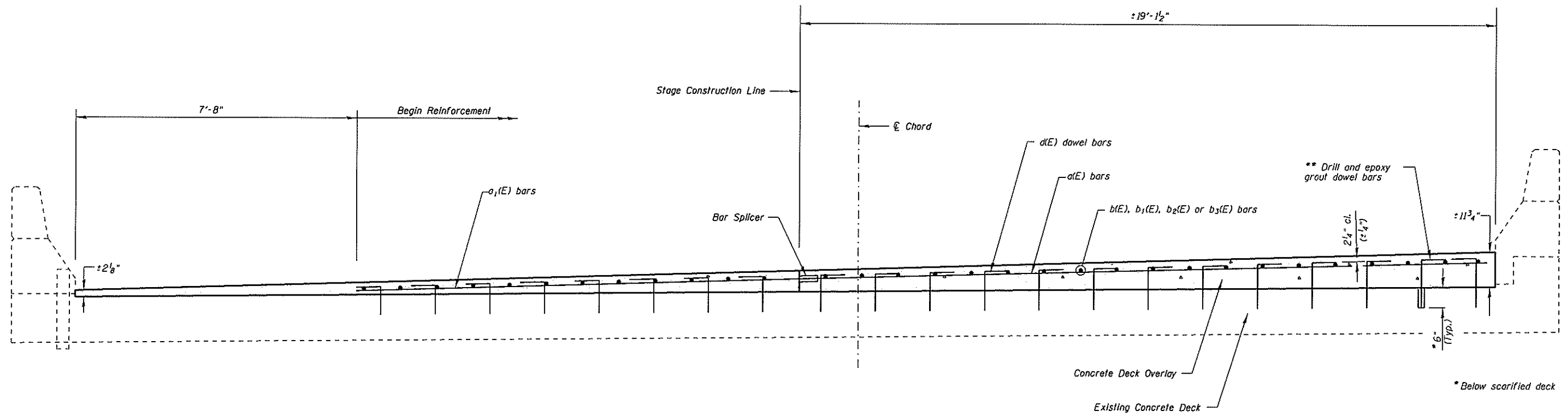
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DEPARTMENT OF TRANSPORTATION**

**JOINTS AND OVERLAY DETAILS
STRUCTURE NO. 041-0003 & 041-0004**

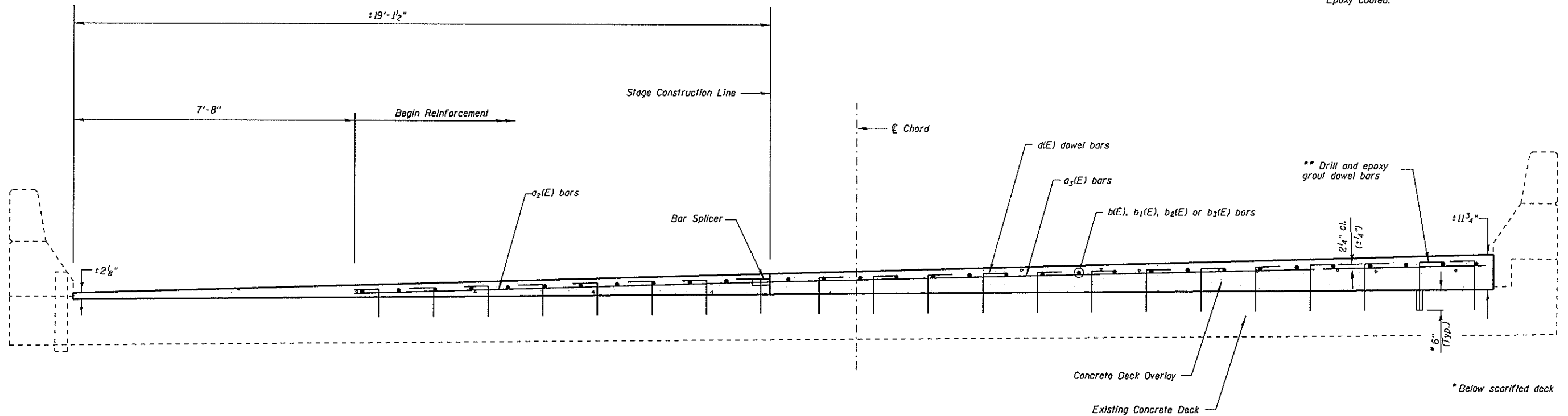
SHEET 7 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41-2(BR-1)	JEFFERSON		
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



DECK OVERLAY CROSS SECTION
S.N. 041-0004 LOOKING NORTH

** Epoxy grouted bars in accordance with Article 584 of the Standard Specifications. Cost of epoxy grouting bars is included in the cost of Reinforcement Bars, Epoxy Coated.



DECK OVERLAY CROSS SECTION
S.N. 041-0003 LOOKING NORTH



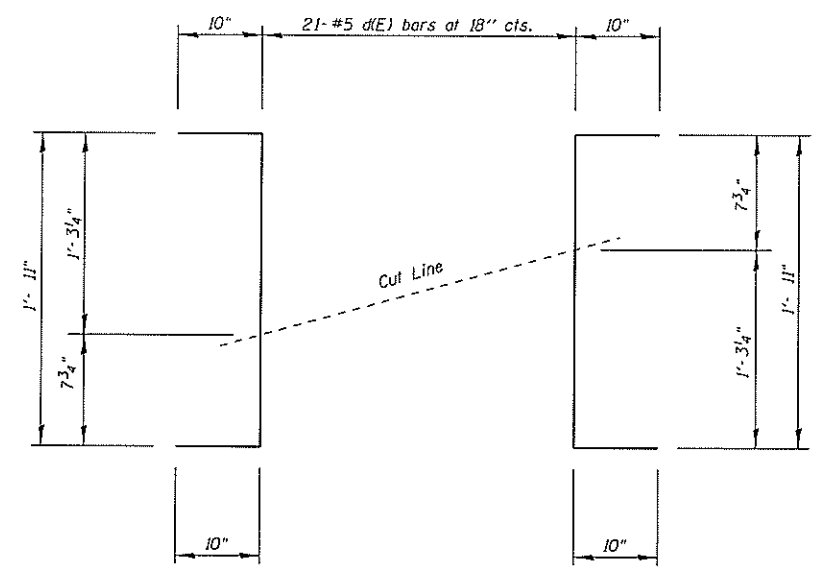
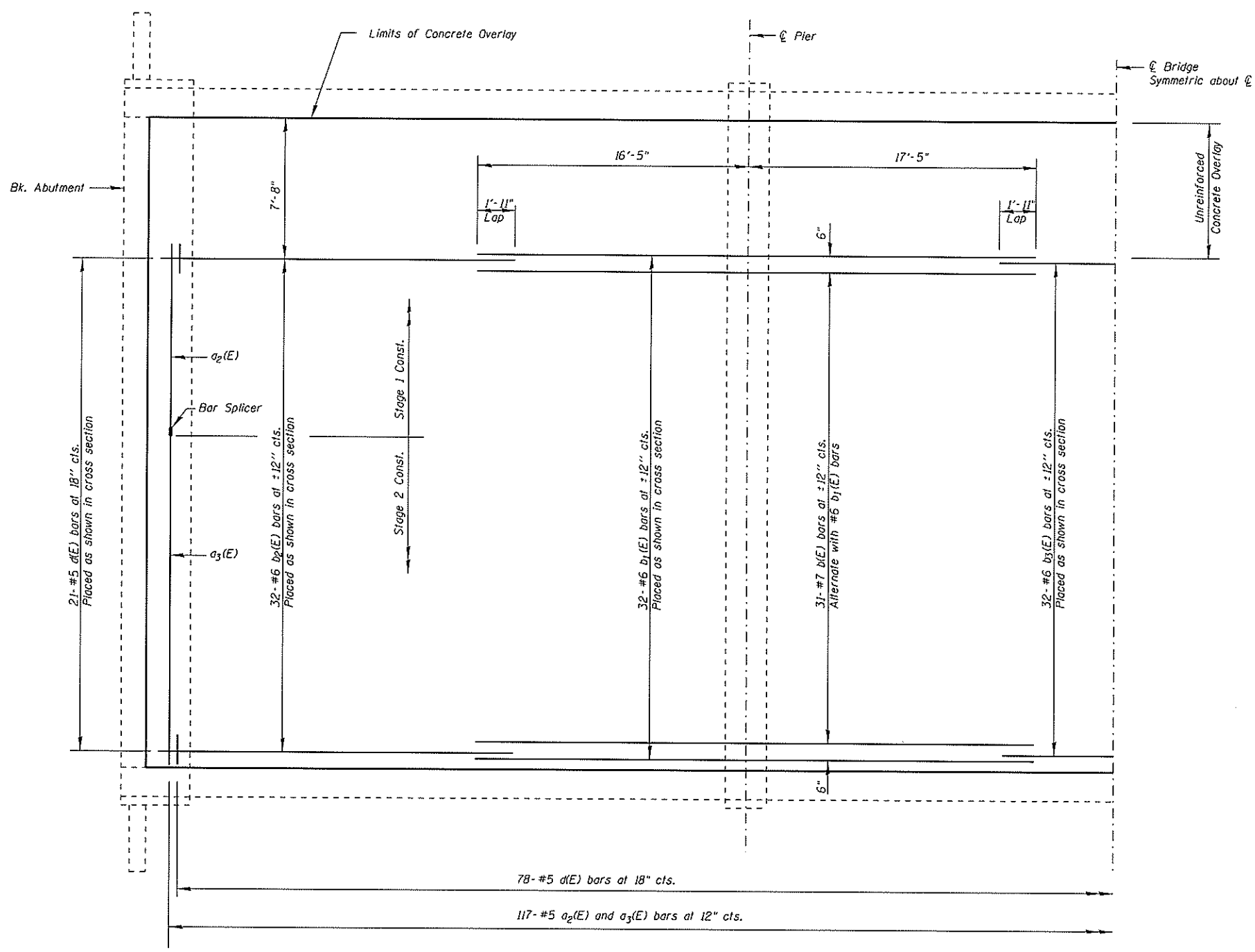
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CONCRETE OVERLAY REINFORCEMENT DETAILS
STRUCTURE NO. 041-0003 & 041-1004

SHEET 8 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41-2(BR-1)	JEFFERSON		
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

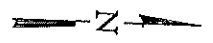


BAR d(E) FIELD CUTTING DIAGRAM

Order d(E) bars full length. Cut as shown and use remainder of bars in adjacent row

**S.N. 041-0003
SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a ₂ (E)	117	#5	11'-4"	—
a ₃ (E)	117	#5	19'-7"	—
b(E)	62	#7	33'-10"	—
b ₁ (E)	64	#6	33'-10"	—
b ₂ (E)	64	#6	21'-6"	—
b ₃ (E)	32	#6	13'-6"	—
d(E)	819	#5	3'-7"	U
Reinforcement Bars, Epoxy Coated			Pound	17,090
Bar Splicers			Each	117



**PARTIAL PLAN
S.N. 041-0003**



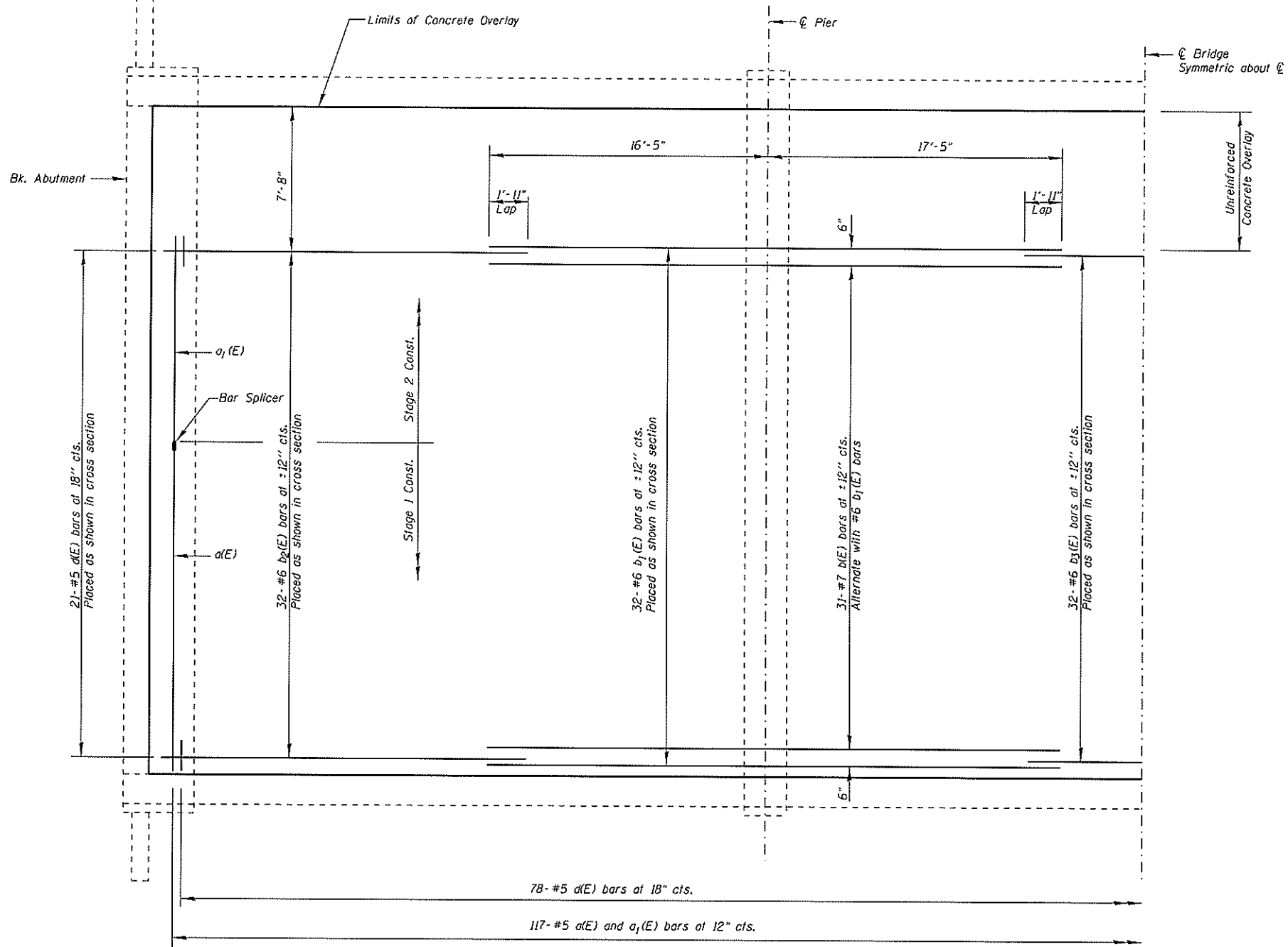
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

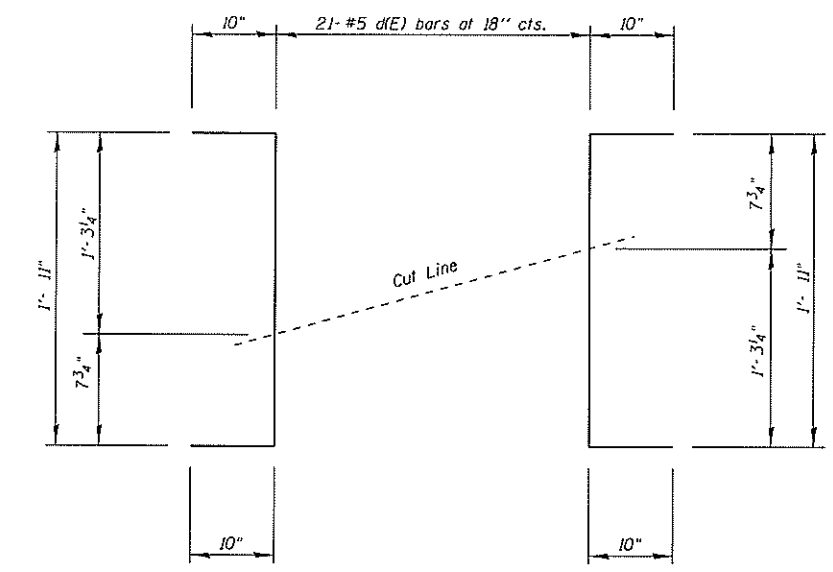
**CONCRETE OVERLAY REINFORCEMENT DETAILS
STRUCTURE NO. 041-0003**

SHEET 9 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41-2(BR-1)	JEFFERSON		
				CONTRACT NO.
ILLINOIS FED. AID PROJECT				



PARTIAL PLAN
S.N. 041-0004



BAR d(E) FIELD CUTTING DIAGRAM

Order d(E) bars full length. Cut as shown and use remainder of bars in adjacent row

S.N. 041-0004
SUPERSTRUCTURE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	117	#5	18'-10"	—
a1(E)	117	#5	12'-1"	—
b(E)	62	#7	33'-10"	—
b1(E)	64	#6	33'-10"	—
b2(E)	64	#6	21'-6"	—
b3(E)	32	#6	13'-6"	—
d(E)	819	#5	3'-7"	┌
Reinforcement Bars, Epoxy Coated		Pound	17,090	
Bar Splicers		Each	117	

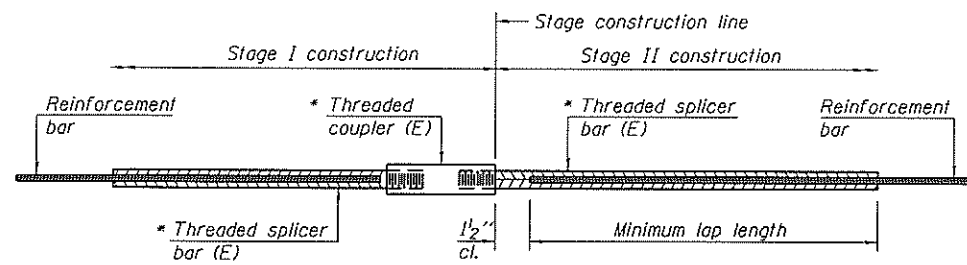


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CONCRETE OVERLAY REINFORCEMENT DETAILS
STRUCTURE NO. 041-0004

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41-2(BR-1)	JEFFERSON		
CONTRACT NO.				
[ILLINOIS] FED. AID PROJECT				



STANDARD BAR SPLICER ASSEMBLY

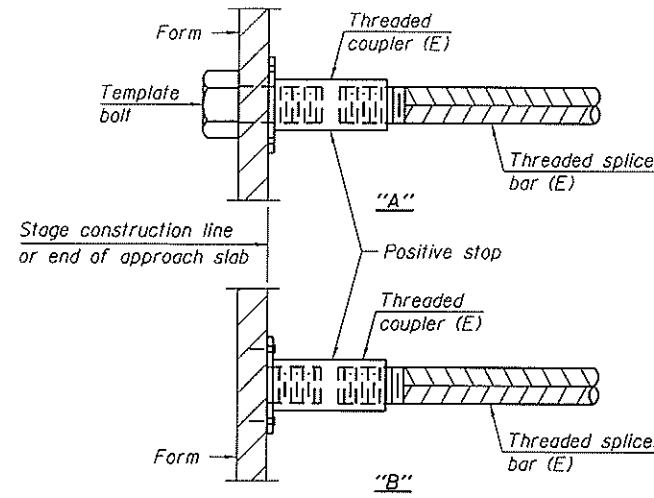
Bar size to be spliced	Minimum Lap Lengths					
	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

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

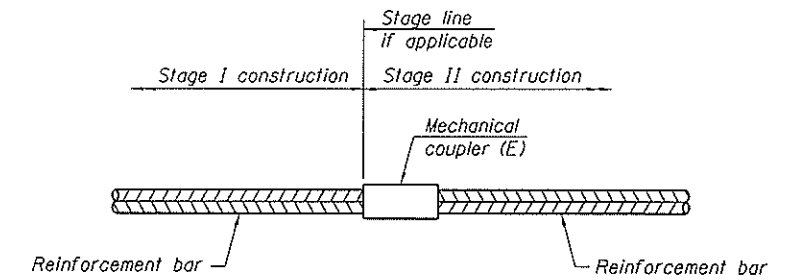
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#5	234	3
Abutment Backwall	#6	8	3



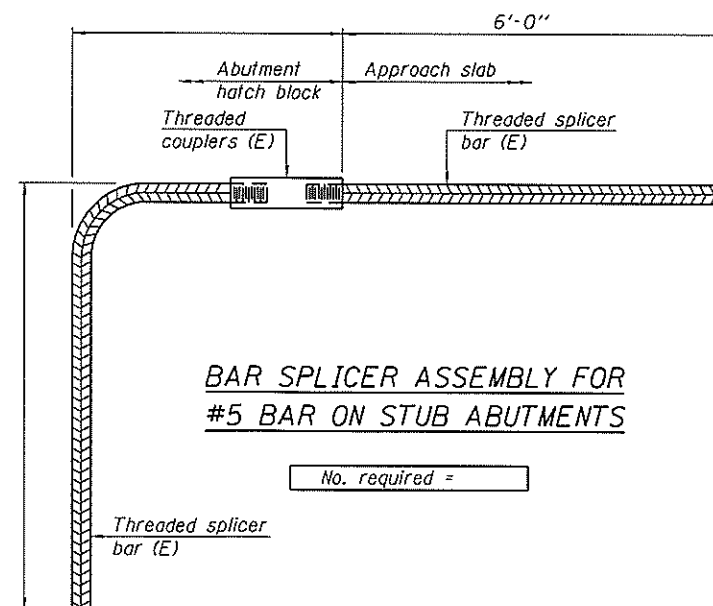
INSTALLATION AND SETTING METHODS

"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.

BSD-1 6-8-15



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BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 041-0003 & 041-0004

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41-2(BR-1)	JEFFERSON		

SHEET 11 OF 11 SHEETS

ILLINOIS FED. AID PROJECT