

DESIGNER: CLARK JONES  
PHONE: (309)671-3452

PROJECT ENGINEER: JIM MILLER  
PHONE: (309)671-3451

CONTRACT NO. 68437

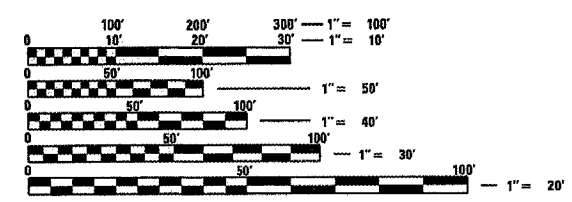
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4BRIDGE REP.	WARREN	20	I

**INDEX OF SHEETS:**

1. COVER SHEET
2. GENERAL NOTES
- 3~4. SUMMARY OF QUANTITIES
5. SCHEDULE OF QUANTITIES
6. 7. TRAFFIC STAGING PLAN
8. STAGE REMOVAL & CONSTRUCTION
9. PLAN AND ELEVATION
10. SUPERSTRUCTURE
- 11~12. SUPERSTRUCTURE DETAILS
13. JOINT DETAILS
- 14~15. ABUTMENT CONCRETE REMOVAL
- 16~19. ABUTMENT CONCRETE REPLACEMENT
20. BAR SPLICER DETAIL

**STANDARDS:**

- 701400-02 702001-05
- 701402-05 704001-02



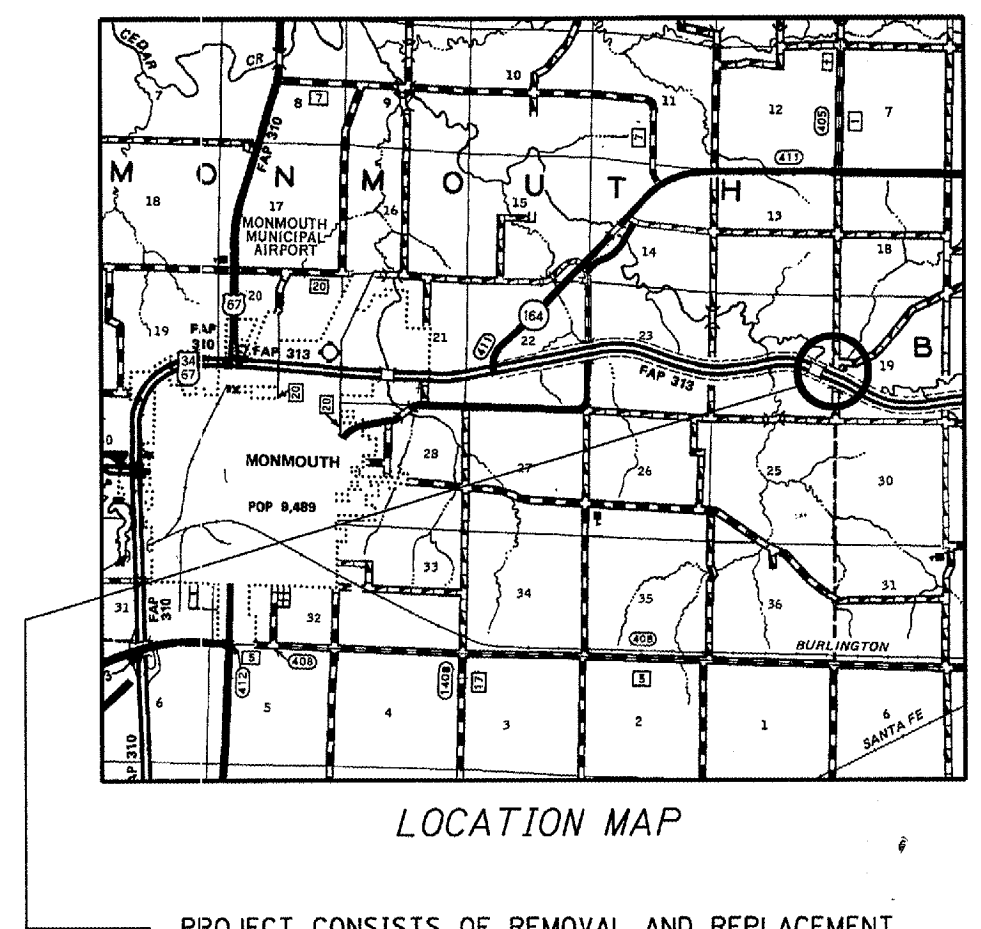
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

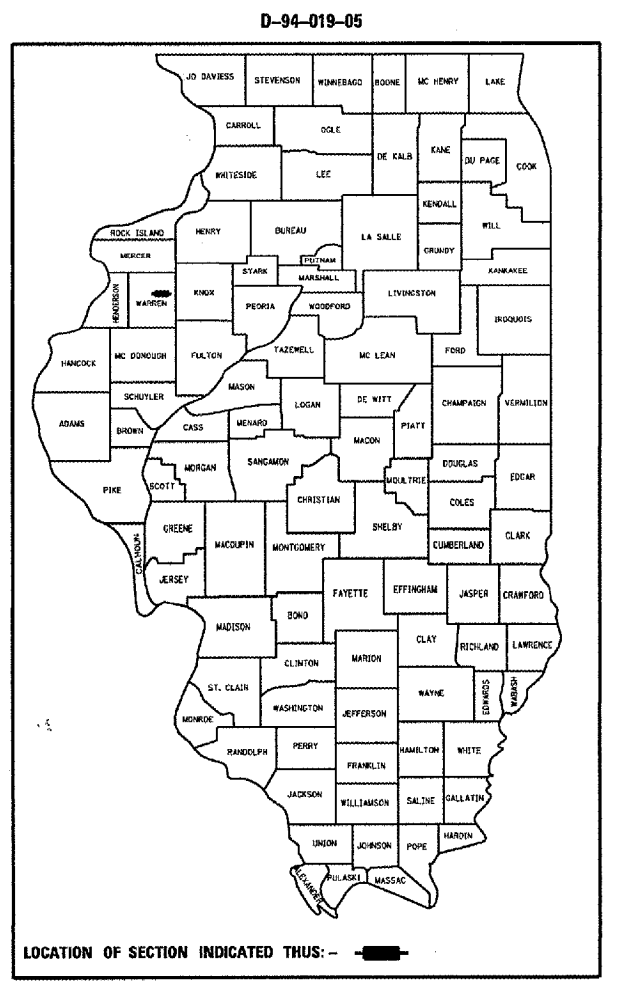
DIVISION OF HIGHWAYS  
**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE 404 (US 34)  
SECTION D4 BRIDGE REPAIR 2006  
WARREN COUNTY  
C-94-021-05



LOCATION MAP

PROJECT CONSISTS OF REMOVAL AND REPLACEMENT OF PJS JOINTS WITH STRIP SEALS ON PARALLEL STRUCTURES SN 094-0025 & 094-0026 CARRYING US 34 OVER TR 162 AND REPAIR TO BACKWALL OF WB STRUCTURE SN 094-0025



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED *July 8, 2005*  
*[Signature]*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

*Aug 19, 2005*  
*Mike Hene*  
ENGINEER OF DESIGN AND ENVIRONMENT

*Aug 19, 2005*  
*Victor Mader*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4 BRIDGE REP.	WARREN	20	2
STA. 459+08.81		TO STA. 460+84.25		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

## COMMI TMENTS

*NO COMMITMENTS HAVE BEEN MADE FOR THIS PROJECT.*

## GENERAL NOTES

*PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD 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 THE WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.*

SN 094-0025/094-0026  
US 34 over TR 162

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

## GENERAL NOTES

SCALE: VERT.  
HORIZ.  
DATE 05-05-2005

DRAWN BY CEJ  
CHECKED BY

F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS
404	D4 BRIDGE REP.	WARREN	20
STA. 459+08.81		TO STA. 460+84.25	3
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT

# SUMMARY OF QUANTITIES

100% STATE SAFETY - 2A  
WARREN COUNTY

CODE NO.	ITEM	UNIT	RURAL	TOTAL
50102400	CONCRETE REMOVAL	CU. YD.	55.0	55.0
50300255	CONCRETE SUPERSTRUCTURE	CU. YD.	55.0	55.0
50301245	FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 5'')	SQ. FT.	12	12
50800205	REINFORCEMENT BARS, EPOXY COATED	POUNDS	10280	10280
67100100	MOBILIZATION	L. SUM	1.0	1.0
70100805	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	LSUM	1.0	1.0
70100305	TRAFFIC CONTROL AND PROTECTION, STANDARD 701400	LSUM	1.0	1.0

PLOT DATE \*DATE\*  
 PLOT NAME \*NAME\*  
 PLOT SCALE \*SCALE\*  
 PLOT REFERENCE \*REF\*

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

## SUMMARY OF QUANTITIES

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_  
 DATE: 05-05-2005

DRAWN BY CEJ  
 CHECKED BY \_\_\_\_\_

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	04 BRIDGE REP.	WARREN	20	4
STA. 459+08.81		TO STA. 460+84.25		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

# SUMMARY OF QUANTITIES

		100% STATE SAFETY - 2A WARREN COUNTY		
CODE NO.	ITEM	UNIT	RURAL	TOTAL
70300520	PAVEMENT MARKING TAPE, TYPE III, 4' '	FOOT	1562	1562
70400100	TEMPORARY CONCRETE BARRIER	FOOT	780	780
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	780	780
XX005128	STRIP SEAL EXPANSION JOINT ASSEMBLY	FOOT	202	202
Z0002600	BAR SPLICERS	EACH	80	80
Δ Z0030250	IMPACT ATTENUATORS, TEMPORARY(NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2
Δ Z0030350	IMPACT ATTENUATORS, RELOCATE(NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2

Δ SFTY-3N

PLT DATE \* SCALE \* SHEET  
 FILE NAME \* SHEET  
 PLOT SCALE \* SCALE \* REF

REVISIONS	
NAME	DATE

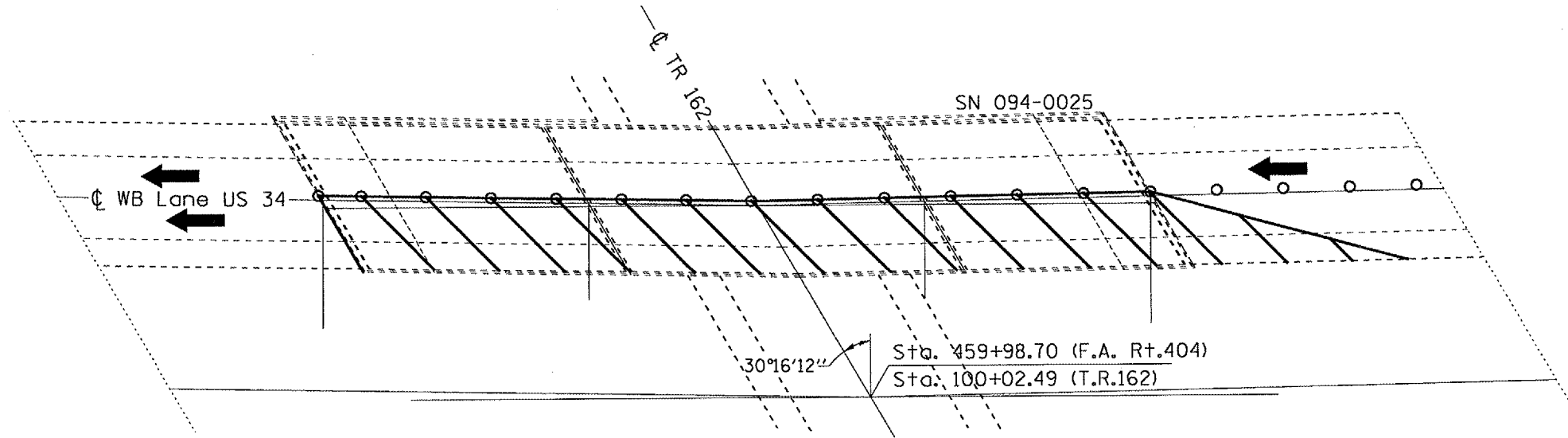
ILLINOIS DEPARTMENT OF TRANSPORTATION







## SUMMARY OF QUANTITIES

SCALE: VERT.      DRAWN BY CEJ  
 HORIZ.              CHECKED BY  
 DATE 08-03-2009

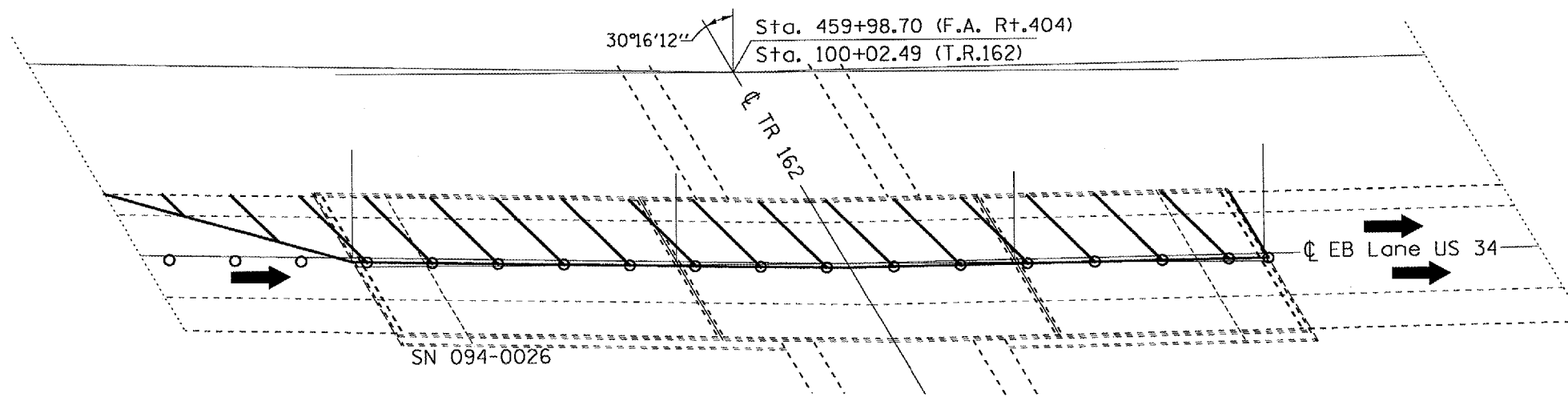


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4 BRIDGE REP.	WARREN	20	6
STA. 459+08.81		TO STA. 460+84.25		
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT	



-  Arrow Board
-  Work Area
-  Sign
-  Direction Indicator barricade with steady burn monodirectional light
-  Cone, Drum, or Barricade
-  Flagger w/traffic control sign

Stage I  
Traffic & Control



**NOTE**

Refer to Highway Standard 701402 for exact placement of traffic management devices and other clarifications as construction staging symbols and dimensioning were duplicated off of this standard.

SN 094-0025/094-0026  
US 34 over TR 162

Stage I  
Traffic & Control

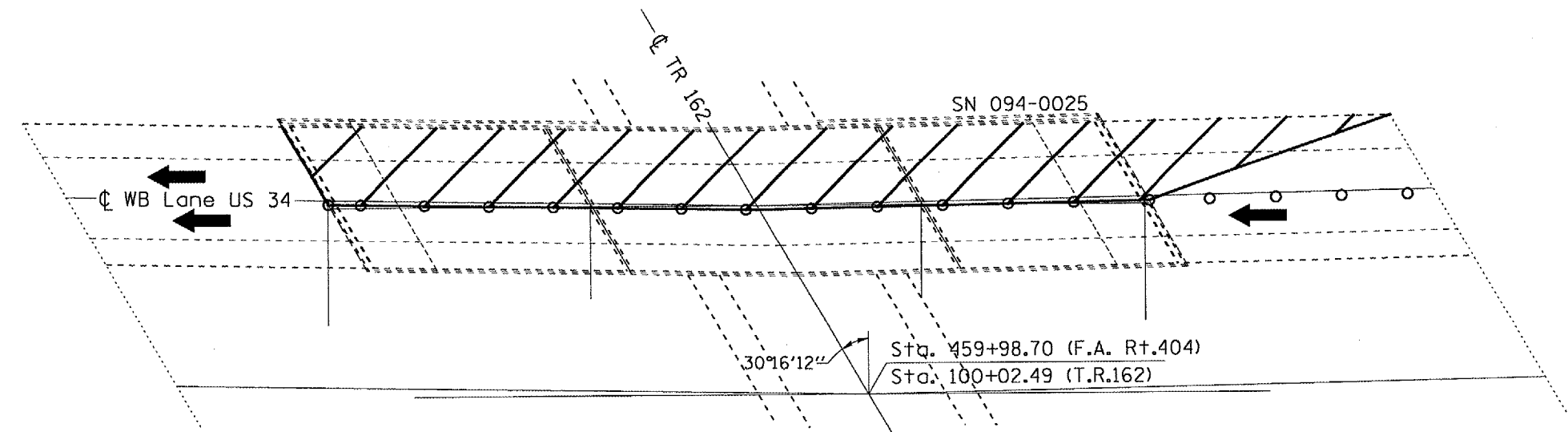
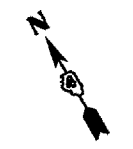
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		TRAFFIC STAGING PLAN

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE 03-01-2005

DRAWN BY CEJ  
CHECKED BY \_\_\_\_\_

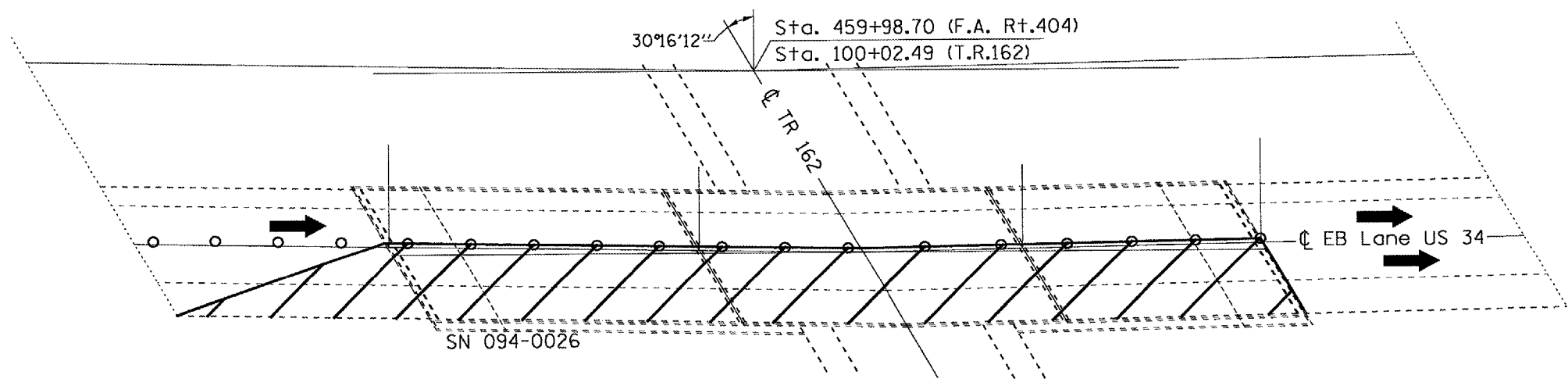
PLOT DATE \* DATE \*  
FILE NAME \* FILE \*  
PLOT SCALE \* SCALE \*  
REFERENCE \* REF \*

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	04 BRIDGE REP.	WARREN	20	7
STA. 459+08.81		TO STA. 460+84.25		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



*Stage II  
Traffic & Control*

- Arrow Board
- Work Area
- Sign
- Direction Indicator barricade with steady burn monodirectional light
- Cone, Drum, or Barricade
- Flagger w/traffic control sign



*Stage II  
Traffic & Control*

**NOTE**  
Refer to Highway Standard 701402 for exact placement of traffic management devices and other clarifications as construction staging symbols and dimensioning were duplicated off of this standard.

SN 094-0025/094-0026  
US 34 over TR 162

DATE \* DATE \*  
FILE NAME \* FILE \*  
PLOT SCALE \* SCALE \*  
REFERENCE \* REF \*

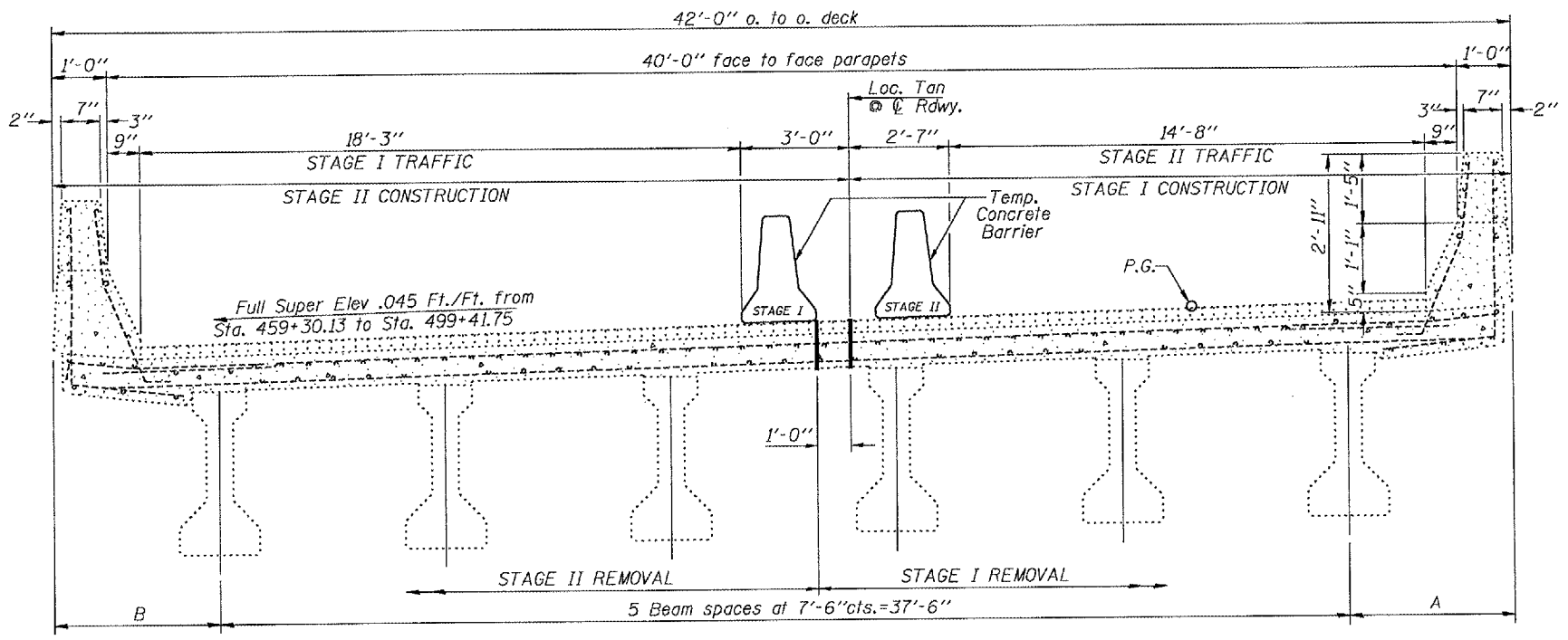
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**TRAFFIC STAGING PLAN**

SCALE: VERT.      DRAWN BY CEJ  
 HORIZ.              CHECKED BY  
 DATE 03-01-2005

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
04	BRIDGE REP.	WARREN	20	8
STA. 459+08.81		TO STA. 460+84.25		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

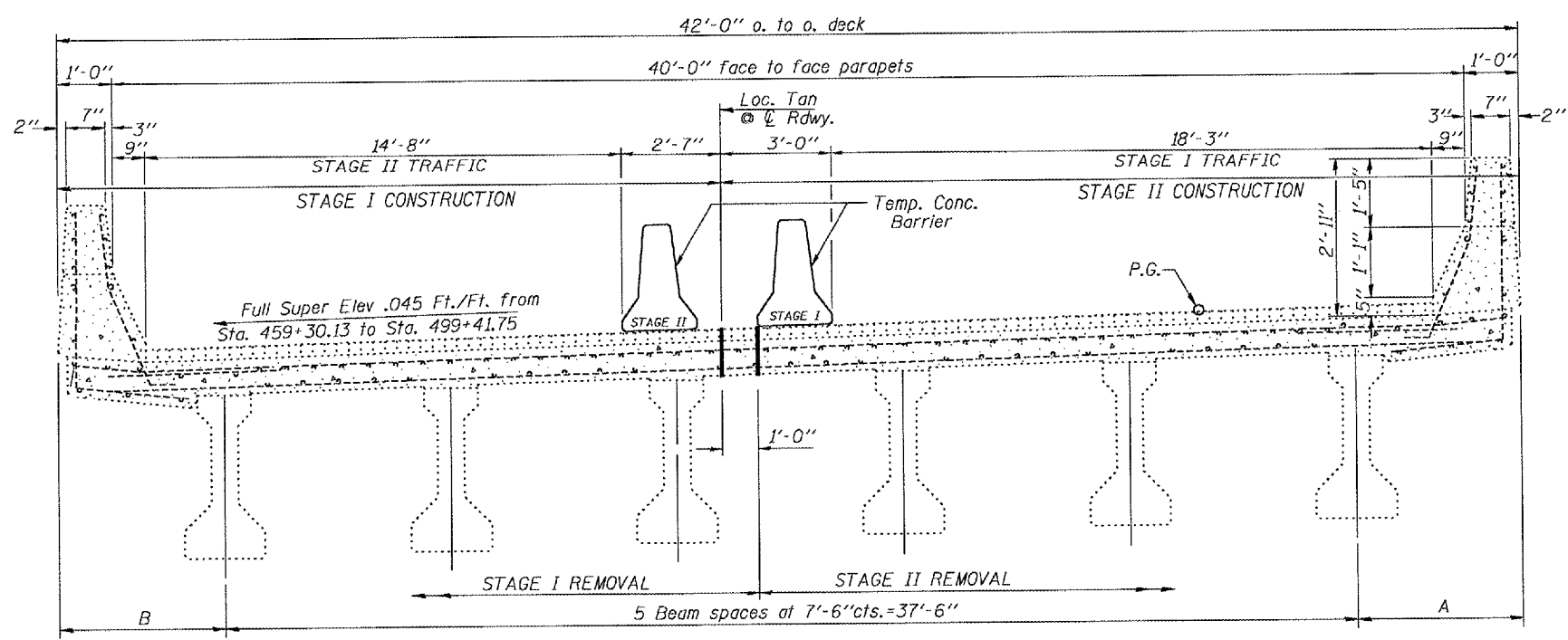


**CROSS SECTION**

(W.B. Looking East)  
SN 094-0025

A & B Dimensions West bound lanes

Location	A	B
West End of Deck	2'-1"	2'-10 <sup>5</sup> / <sub>8</sub> "
East End of Deck	2'-7 <sup>5</sup> / <sub>8</sub> "	1'-9 <sup>1</sup> / <sub>8</sub> "



**CROSS SECTION**

(E.B. Looking East)  
SN 094-0026

A & B Dimensions East bound lanes

Location	A	B
West End of Deck	2'-8 <sup>3</sup> / <sub>8</sub> "	1'-11 <sup>5</sup> / <sub>8</sub> "
East End of Deck	1'-8 <sup>5</sup> / <sub>8</sub> "	2'-4 <sup>3</sup> / <sub>8</sub> "

**NOTE**  
Refer to Highway Standard 701402 for exact placement of traffic management devices and other clarifications as construction staging symbols and dimensioning were duplicated off of this standard.

SN 094-0025/094-0026  
US 34 over TR 162

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

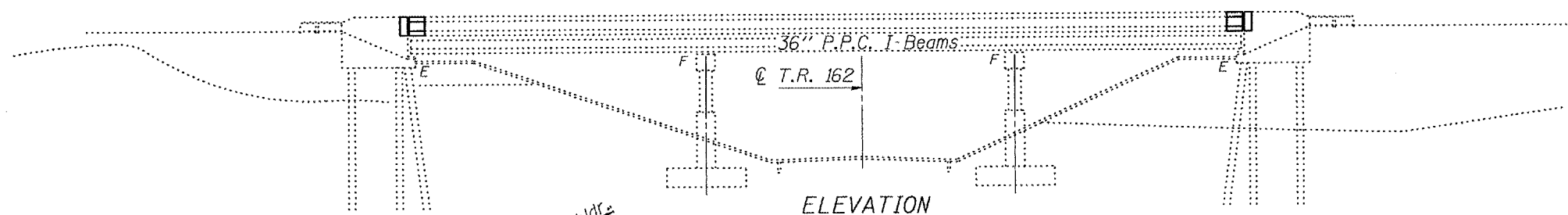
**STAGE REMOVAL & CONSTRUCTION**

SCALE: VERT.      DRAWN BY CEJ  
 HORIZ.              CHECKED BY  
 DATE 03-16-2005

PLT DATE \* NUMBER \*  
 FILE NAME \* #FILE# \*  
 PLOT SCALE \* #SCALE# \*  
 REFERENCE \* #REF# \*



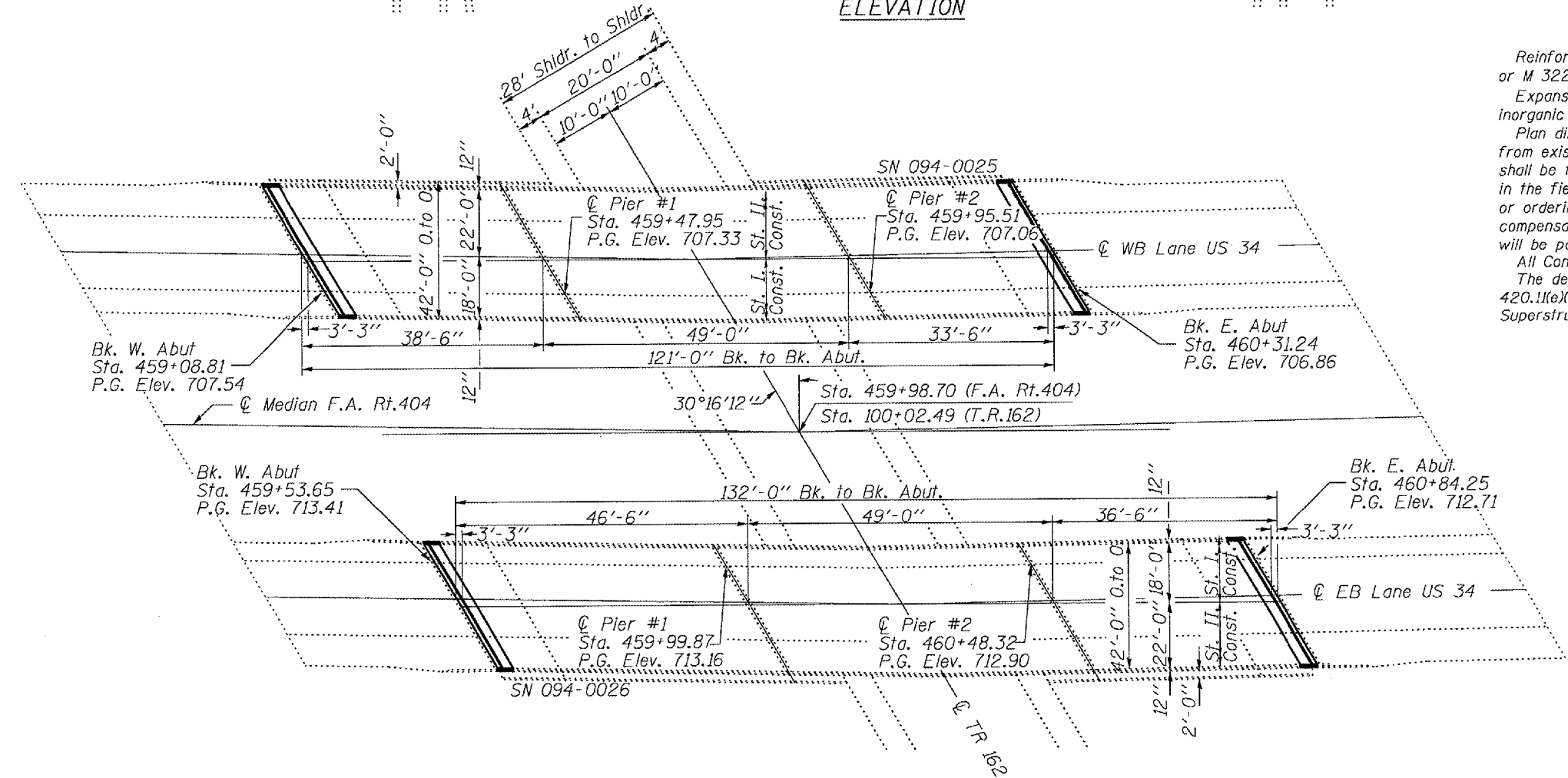
F.A.P. RY.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	04 BRIDGE REP.	WARREN	20	9
STA. 459+08.81 TO STA. 460+84.25				
FED. ROAD DIST. NO. 4 ILLINOIS			FED. AID PROJECT	



ELEVATION

**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.  
 Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.  
 Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the work, however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.  
 All Construction joints shall be bonded.  
 The deck surface shall have its final finish tined according to Article 420.11(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.



PLAN VIEW

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	55.0
Formed Concrete Repair (Depth Equal to or Less Than 5")	Sq. Ft.	12
Strip Seal Expansion Joint Assembly	Foot	202
Reinforcement Bars, Epoxy Coated	Pound	10280
Bar Splicers	Each	80
Concrete Superstructure	Cu. Yd.	55.0

\* Use Strip Seal Joint only - no option. See Special Provisions.

SN 094-0025/094-0026  
 US 34 over TR 162

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**PLAN AND ELEVATION**

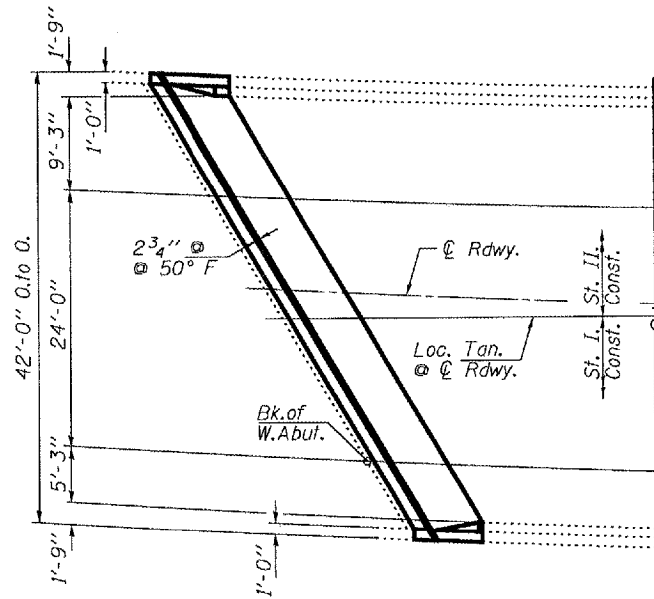
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 HORIZ. \_\_\_\_\_

DATE 05-05-2005

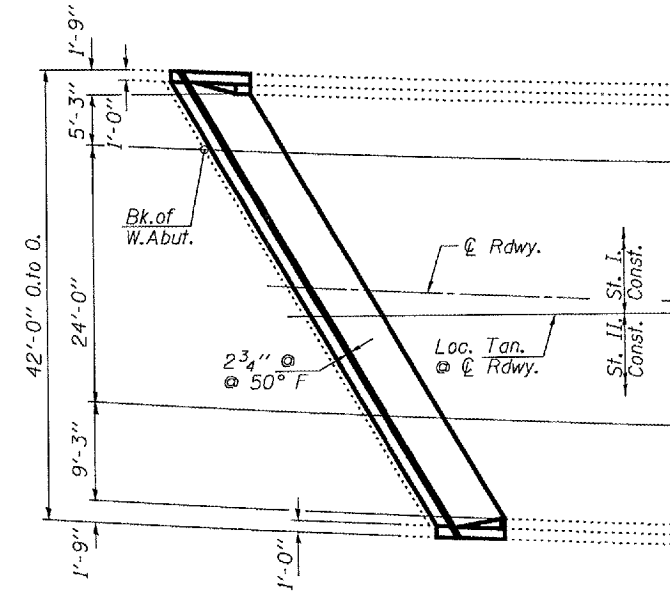
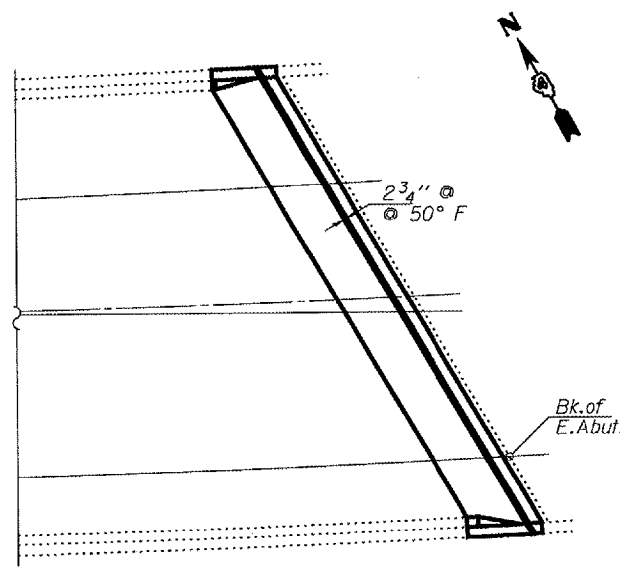
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 CHECKED BY \_\_\_\_\_

PLOT DATE \*  
 FILE NAME \*  
 PLOT SCALE \*  
 REFERENCE \*

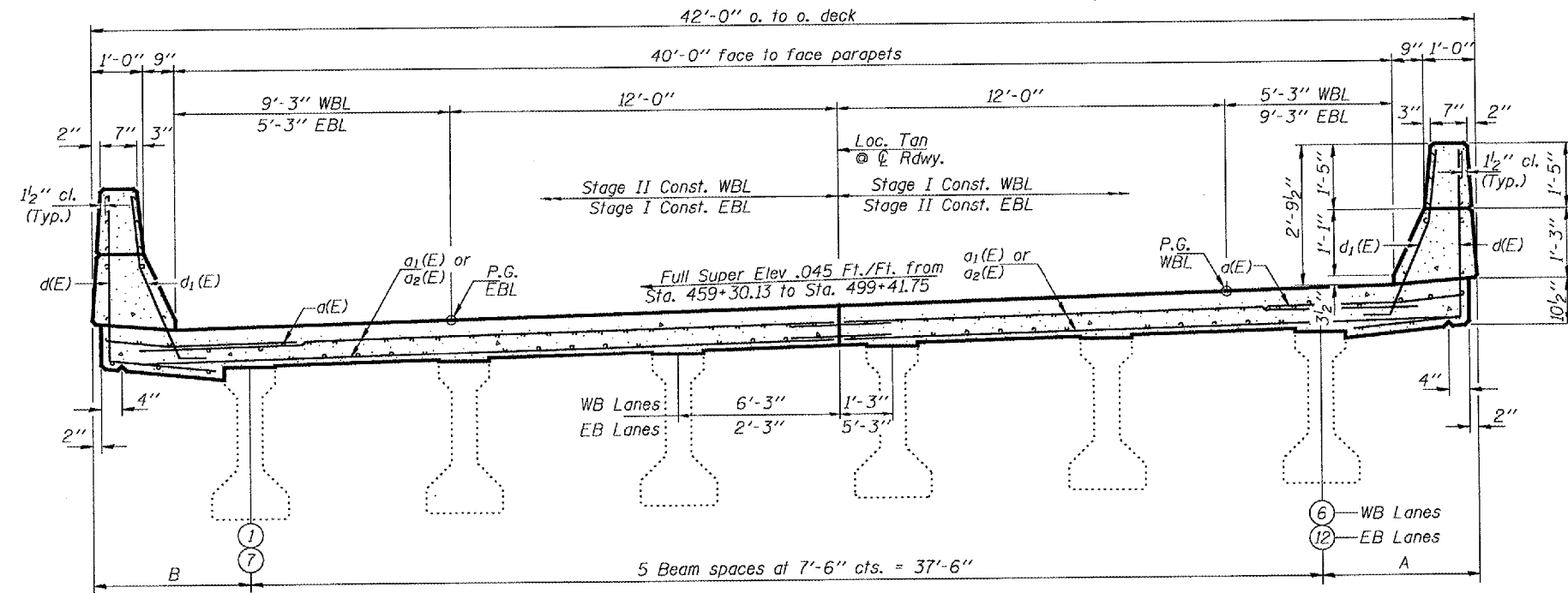
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4 BRIDGE REP.	WARREN	20	10
STA. 459+08.81 TO STA. 460+84.25		ILLINOIS FED. AID PROJECT		



**PLAN**  
WB Lanes



**PLAN**  
EB Lanes



**CROSS SECTION**  
(Looking East)

Reinforcement bars designated (E) shall be epoxy coated.

A & B Dimensions West bound lanes

Location	A	B
West End of Deck	2'-1"	2'-10 <sup>5</sup> / <sub>8</sub> "
East End of Deck	2'-7 <sup>5</sup> / <sub>8</sub> "	1'-9 <sup>1</sup> / <sub>8</sub> "

A & B Dimensions East bound lanes

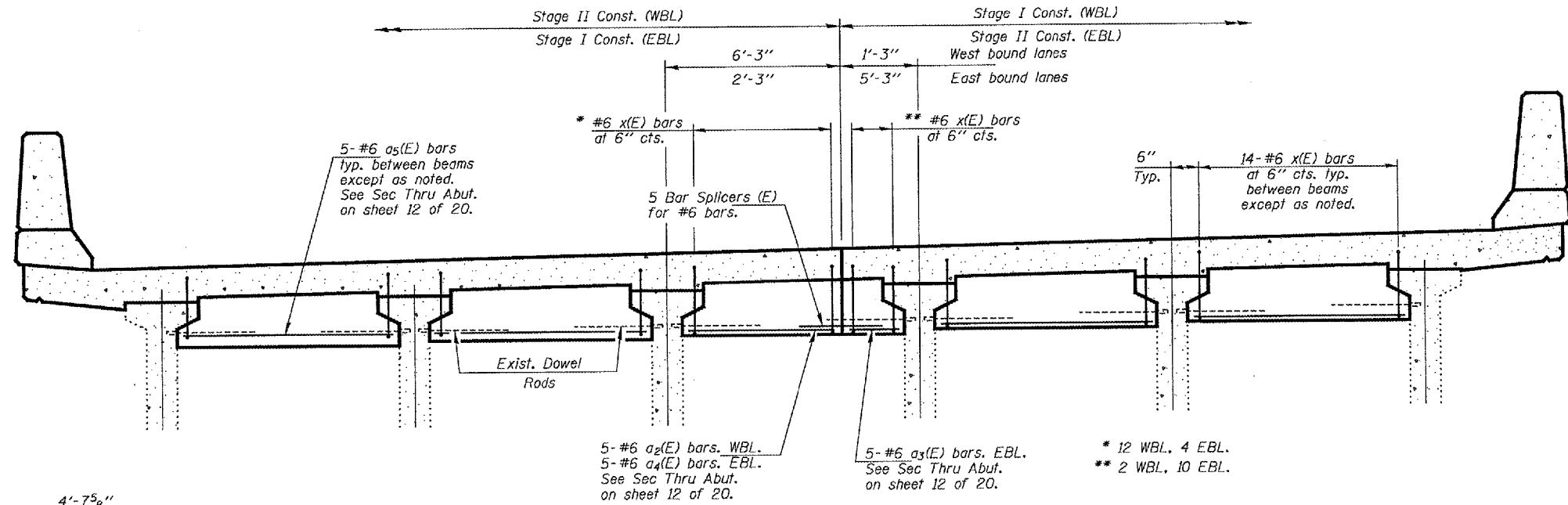
Location	A	B
West End of Deck	2'-8 <sup>3</sup> / <sub>8</sub> "	1'-11 <sup>5</sup> / <sub>8</sub> "
East End of Deck	1'-8 <sup>5</sup> / <sub>8</sub> "	2'-4 <sup>3</sup> / <sub>8</sub> "

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**SUPERSTRUCTURE**  
SCALE: VERT. 1"=4'-0"  
HORIZ. 1"=40'-0"  
DATE 02-16-2005  
DRAWN BY CEJ  
CHECKED BY

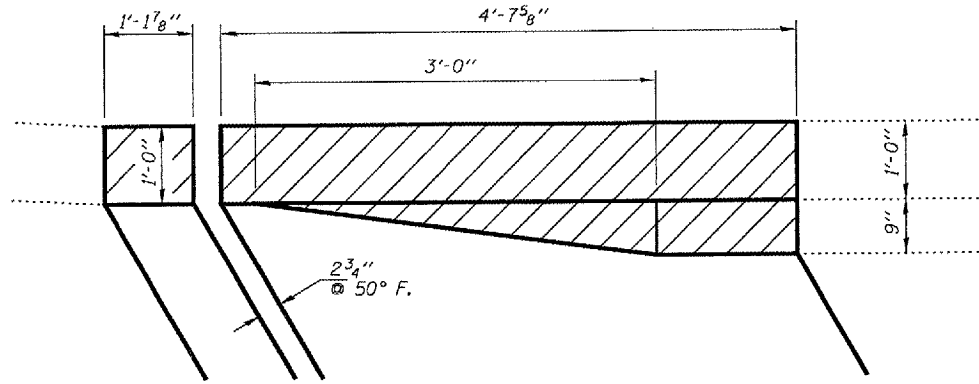
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FILE NAME: 02-16-2005  
PLOT SCALE: 1"=4'-0"  
REFERENCE: 02-16-2005

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4 BRIDGE REP.	WARREN	20	11
STA. 459+08.81		TO STA. 460+84.25		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		

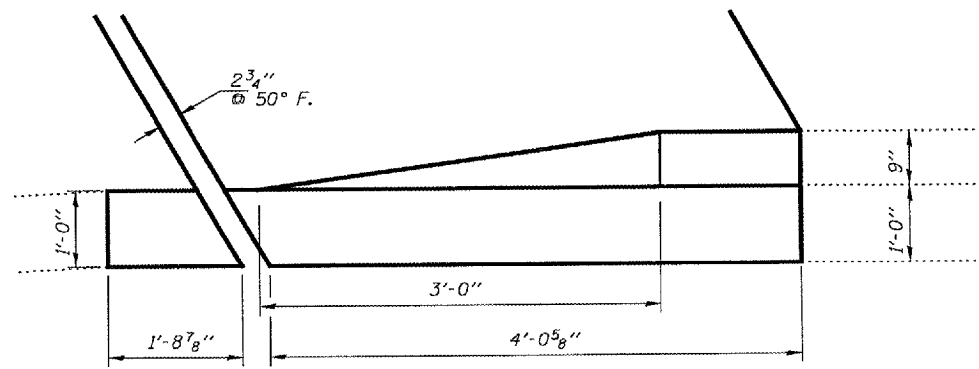


**DIAPHRAGM AT ABUTMENT**

(Looking East)

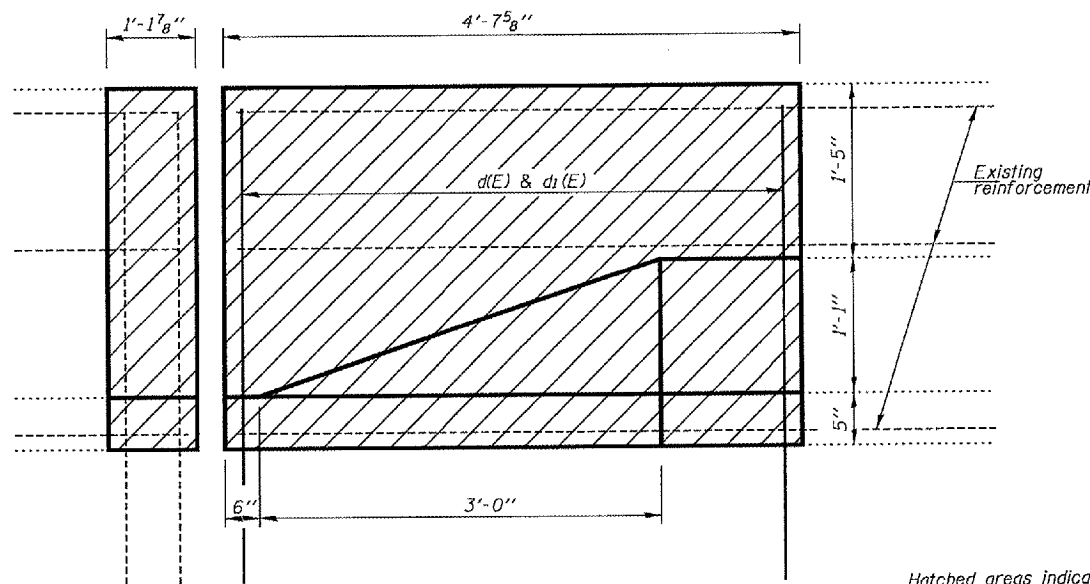


**PLAN PARAPET REMOVAL**



**PLAN PARAPET REPLACEMENT**

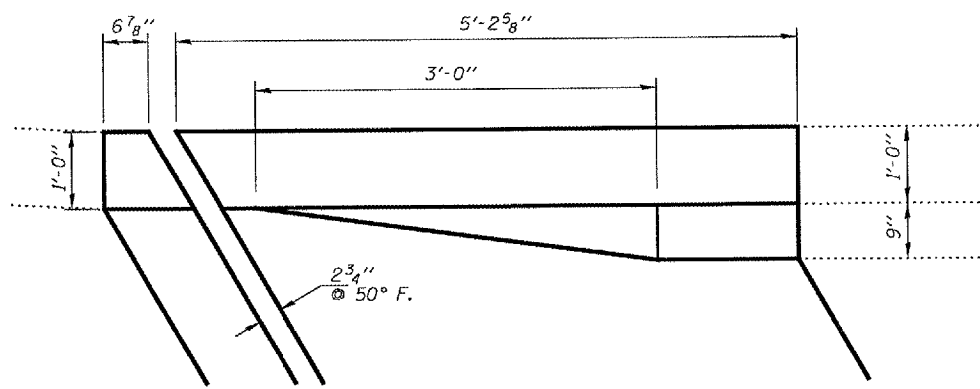
(Typical S. West & N. East corners)



**INSIDE ELEVATION OF PARAPET REPLACEMENT AT ABUTMENTS**

(Typical when facing Parapet)

Hatched areas indicate concrete removal & replacement. Existing reinforcement to be cleaned, straightened, and incorporated into new construction. Cost included with concrete removal.



**PLAN PARAPET REPLACEMENT**

(Typical N. West & S. East corners)

**BILL OF MATERIAL**

BAR NO.	SIZE	LENGTH	SHAPE
a(E)	#6	4'-6"	—
a1(E)	#7	27'-7"	—
a2(E)	#7	22'-1"	—
a3(E)	#6	5'-2"	—
a4(E)	#6	1'-9"	—
a5(E)	#6	7'-3"	—
a6(E)	#6	6'-4"	—
a7(E)	#6	22'-1"	—
a8(E)	#6	27'-7"	—
d(E)	#4	5'-3"	L
d1(E)	#5	4'-0"	L
x(E)	#6	7'-7"	—
Bar Splicers		Each	80
Reinforcement Bars, Epoxy Coated		Pound	10280
Concrete Superstructure		Cu. Yd.	55.0
Concrete Removal		Cu. Yd.	55.0

Reinforcement bars designated (E) shall be epoxy coated.

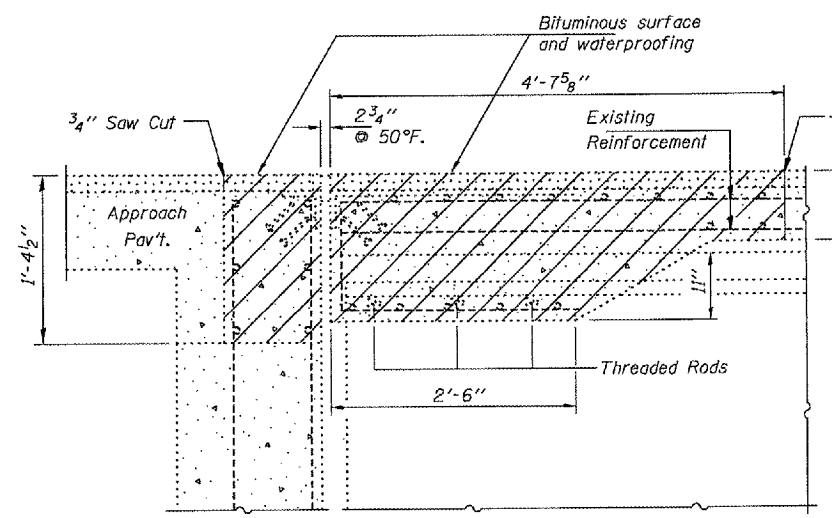
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**SUPERSTRUCTURE DETAILS**

SCALE: VERT. HORIZ. DATE: 05-05-2005 DRAWN BY: CEJ CHECKED BY:  

PLT DATE = 05/05/05  
 FILE NAME = 050505.DWG  
 PLOT SCALE = AS SHOWN  
 REFERENCE =

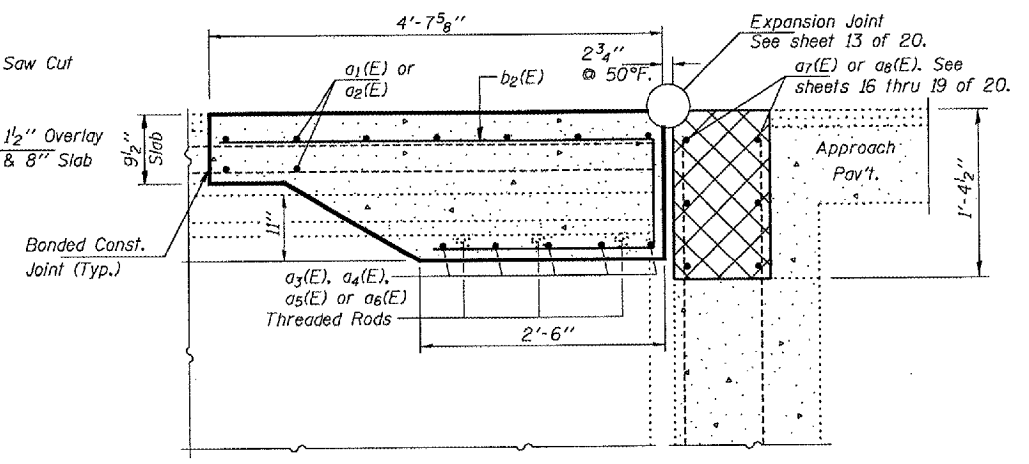
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4 BRIDGE REP.	WARREN	20	12
STA. 459+08.81 TO STA. 460+84.25		ILLINOIS FED. AID PROJECT		



**SECTION THRU ABUTMENT**  
At Rt. Ls  
(Showing removal)

Hatched areas indicate concrete removal. Quantity of Bituminous surface and waterproofing removal included with Concrete Removal. Existing reinforcement & threaded rods to be cleaned, straightened, and incorporated into new construction. Cost included with concrete removal.

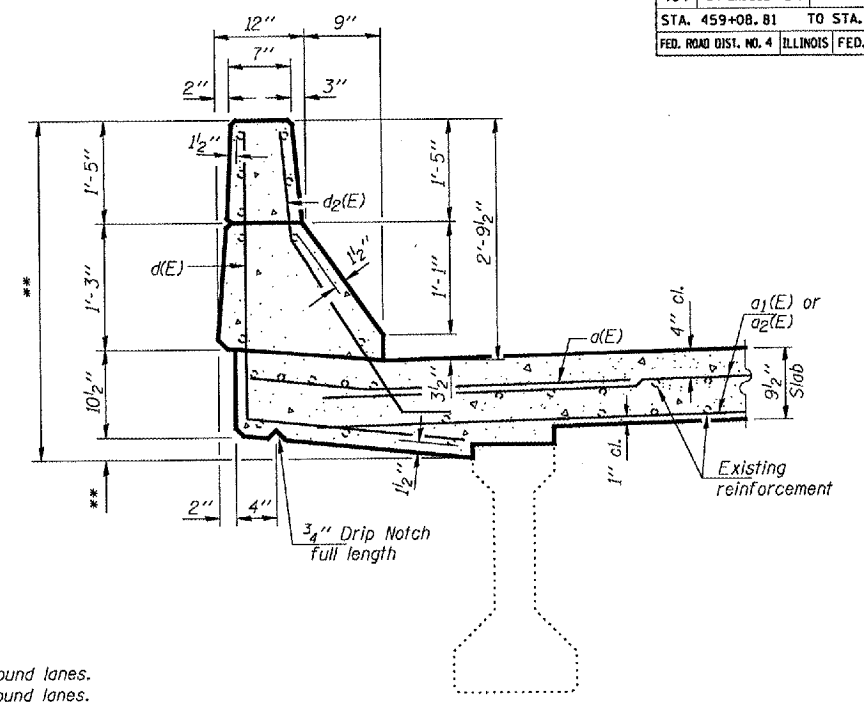
Cross hatched area to be poured after superstructure concrete is in place. Concrete quantity is included with Concrete Superstructure. Reinforcement bar quantity in cross hatched area is included on this sheet.



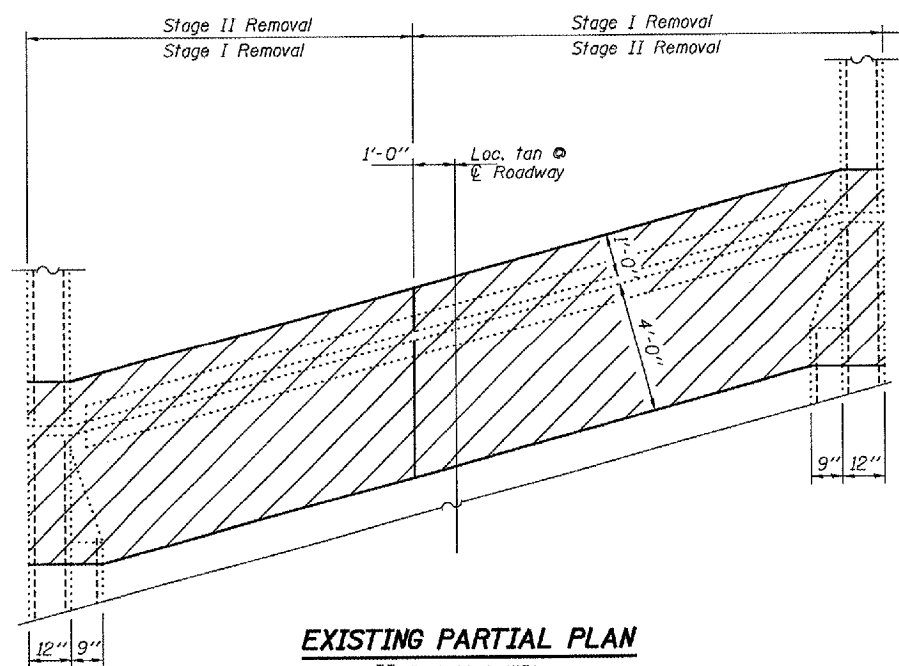
**SECTION THRU ABUTMENT**  
At Rt. Ls  
(Showing replacement)

\*\* 2 3/4" No. Parapet, West bound lanes.  
2 5/8" No. Parapet, East bound lanes.  
3 3/4" So. Parapet, West bound lanes.  
3 1/8" So. Parapet, East bound lanes.

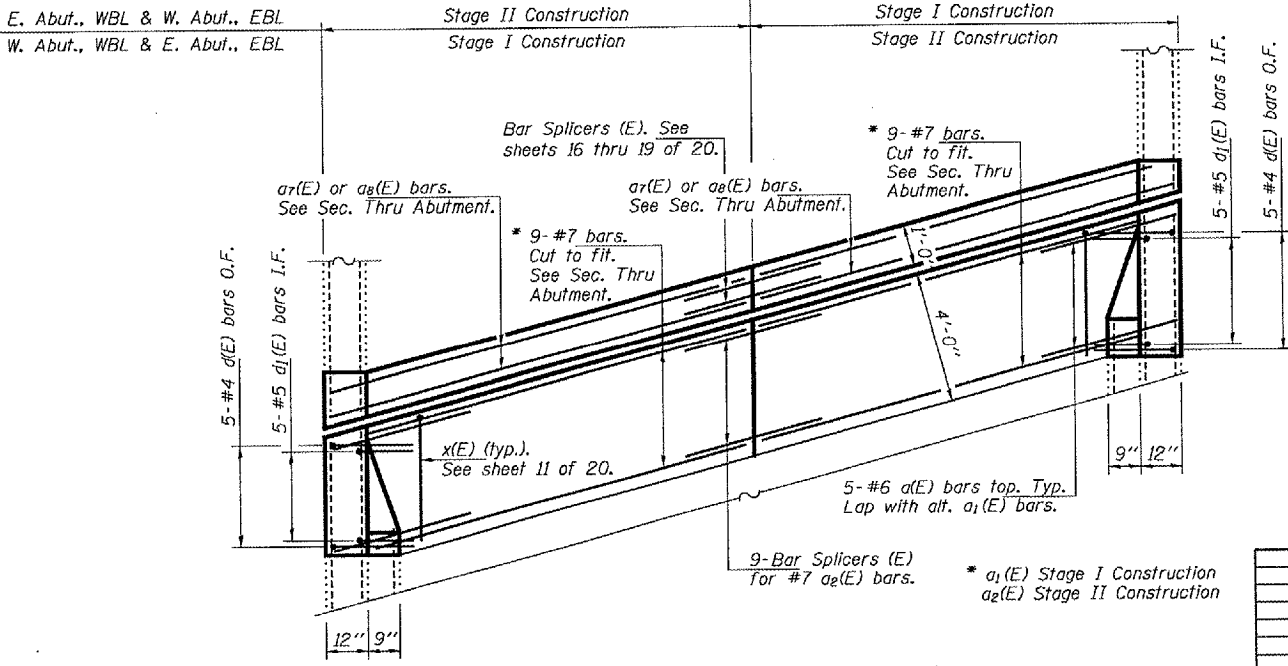
\*\*\* 3'-9 1/4" No. Parapet, West bound lanes.  
3'-9 1/8" No. Parapet, East bound lanes.  
3'-9 3/4" So. Parapet, West bound lanes.  
3'-9 5/8" So. Parapet, East bound lanes.



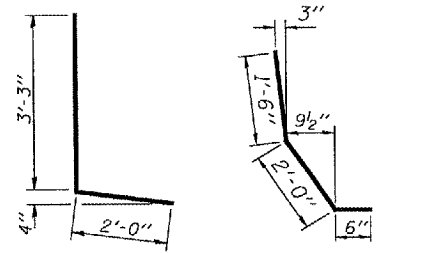
**SECTION THRU PARAPET**



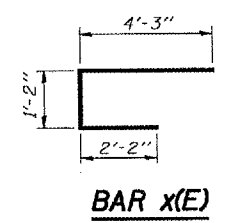
**EXISTING PARTIAL PLAN**  
\*\* East Abut. WBL  
West Abut. EBL



**PROPOSED PARTIAL PLAN**  
\*\* East Abut. WBL  
West Abut. EBL



**BAR d(E)**      **BAR d1(E)**



**BAR x(E)**

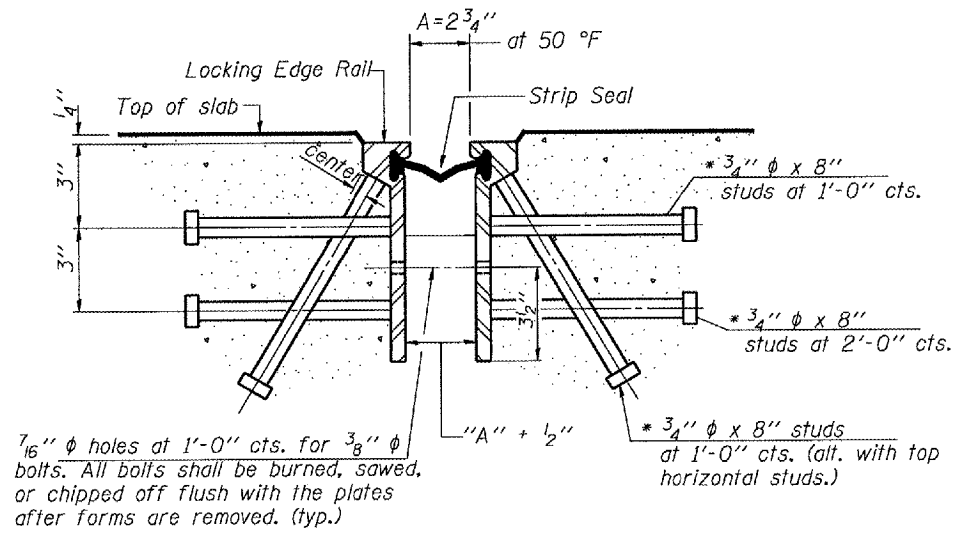
Reinforcement bars designated (E) shall be epoxy coated.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**JOINT RECONSTRUCTION DETAIL**  
SCALE: VERT.      DRAWN BY CEJ  
          HORIZ.      CHECKED BY  
DATE 05-05-2005

PLOT DATE \* NUMBER  
FILE NAME \* FILE#  
PLOT SCALE \* SCALE  
REFERENCE \* REF#

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4 BRIDGE REP.	WARREN	20	13
STA. 459+08.81		TO STA. 460+84.25		
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT	



**SECTION THRU ROLLED RAIL EXP. JOINT**

(236 Studs Required pre joint, 944 total)

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

Required Strip Seal	"A"
rated movement	4"
	2 3/4"

**GENERAL NOTES**

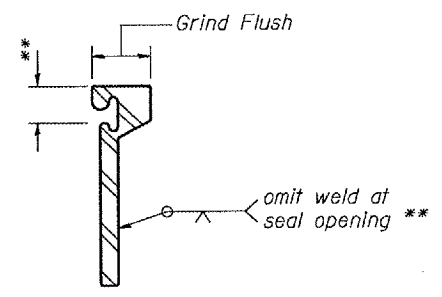
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. 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 and stage construction joints and shall be galvanized.

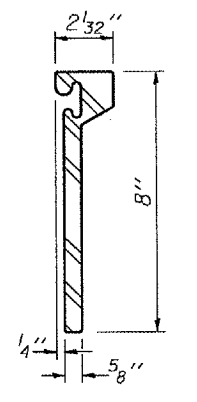
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed are based on the original superstructure plans. For the strip seal 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.

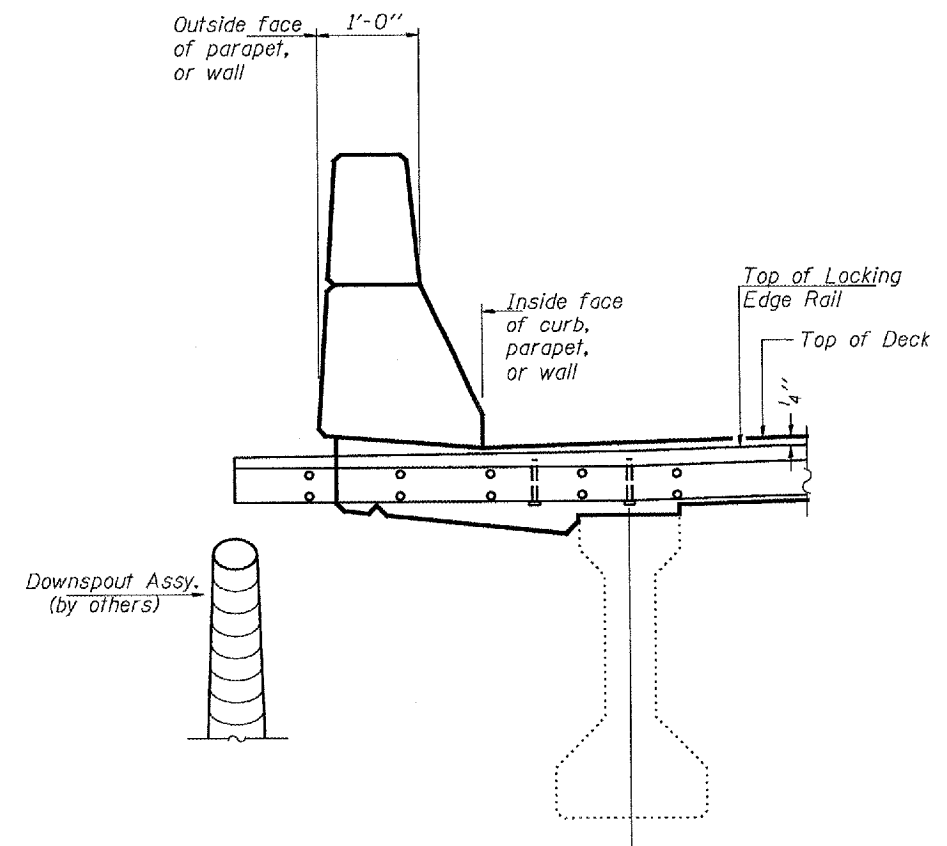


**LOCKING EDGE RAIL SPLICE**

\*\* The inside of the locking edge rail groove shall be free of weld residue.



**ROLLED (EXTRUDED) LOCKING EDGE RAIL**



**AT CURB, PARAPET, OR WALL**

ITEM	UNIT	TOTAL
Strip Seal Expansion Joint Assembly	Foot	202

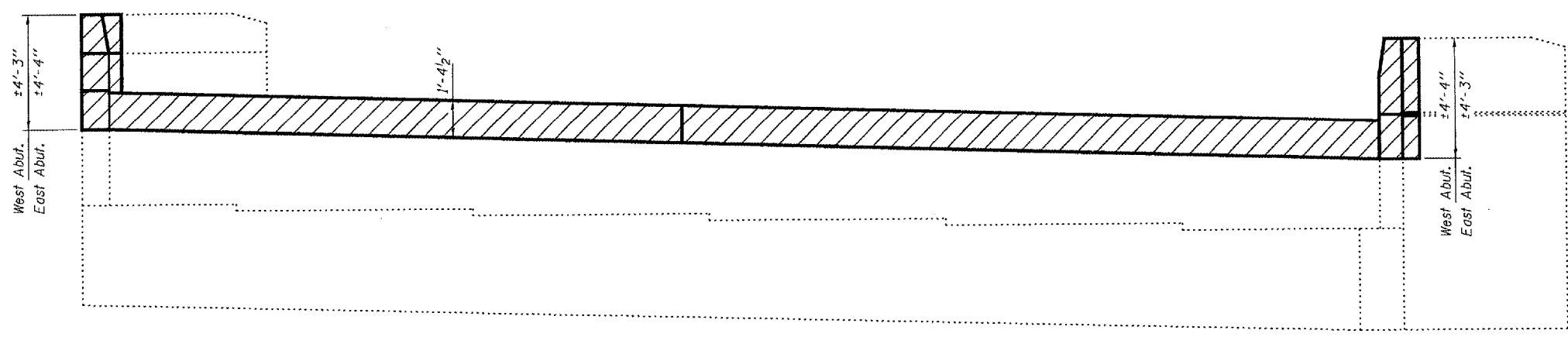
**NOTE**

The recommended replacement seal shall be Wabo Strip Seal System SE300 series with Type F anchorage made by Watson-Bowman Galvanize Anchorage, or D.S. Brown Shelflex 55PA galvanized rail with L2-400 sealing element.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		<p><b>EXPANSION JOINT REPLACEMENT DETAIL</b></p> <p>SCALE: VERT.      DRAWN BY CEJ                      HORIZ.              CHECKED BY                      DATE 05-05-2005</p>

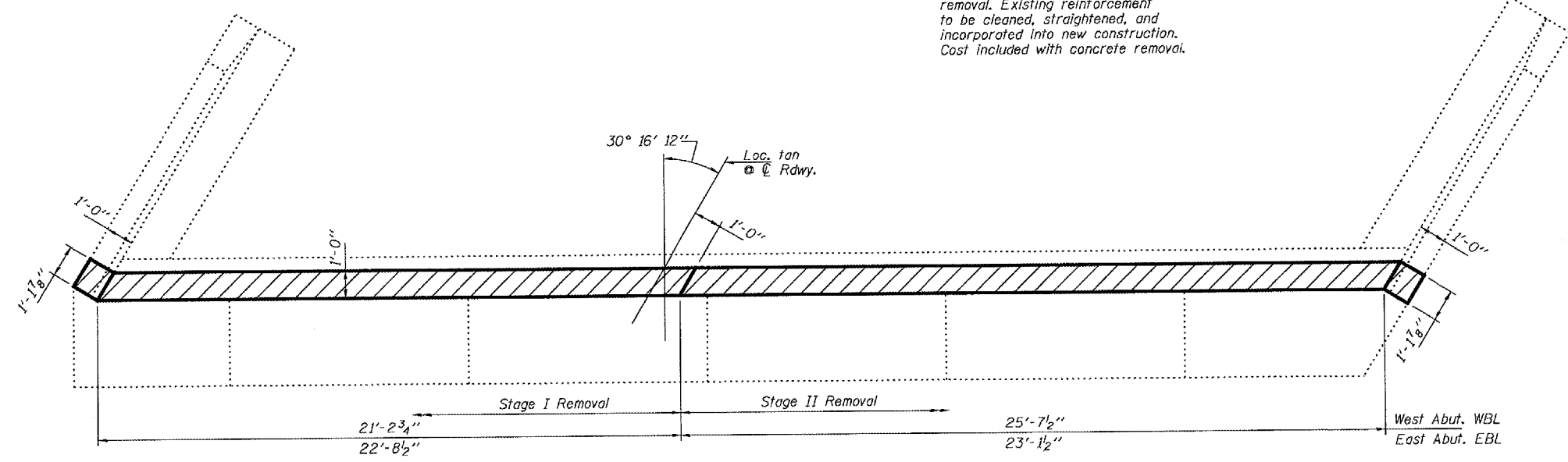
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 PLOT SCALE = \*SCALE\*  
 REFERENCE = \*REF\*

F.A.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	04 BRIDGE REP.	WARREN	20	14
STA. 459+08.81 TO STA. 460+84.25				
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



**ELEVATION**  
 West Abut. WBL (Looking West).  
 & East Abut. EBL (Looking East).

Hatched areas indicate concrete removal. Existing reinforcement to be cleaned, straightened, and incorporated into new construction. Cost included with concrete removal.



**TOP VIEW**

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	5.5

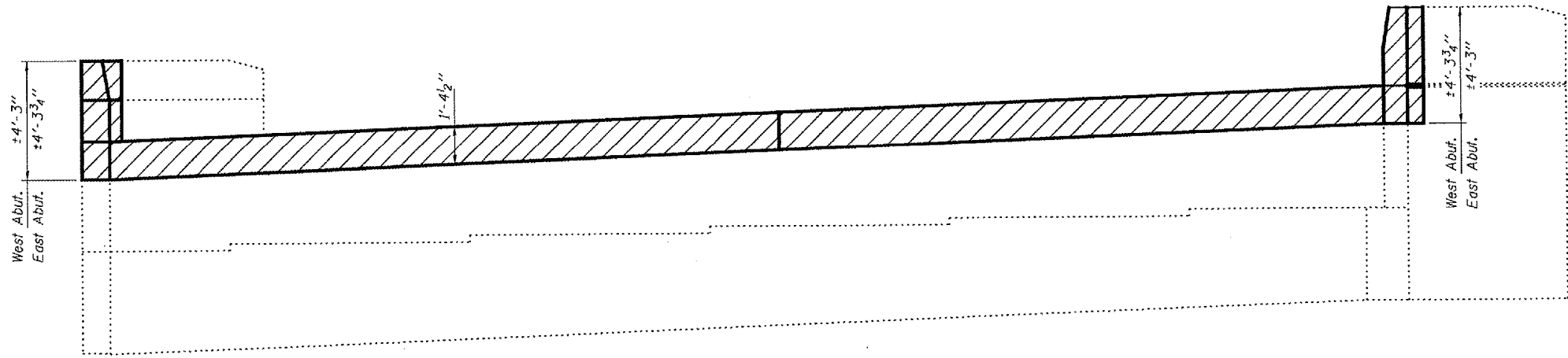
**WEST ABUTMENT WBL  
 EAST ABUTMENT EBL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**ABUTMENT CONCRETE  
 REMOVAL**  
 SCALE: VERT.      DRAWN BY CEJ  
 HORIZ.              CHECKED BY  
 DATE 02-14-2005

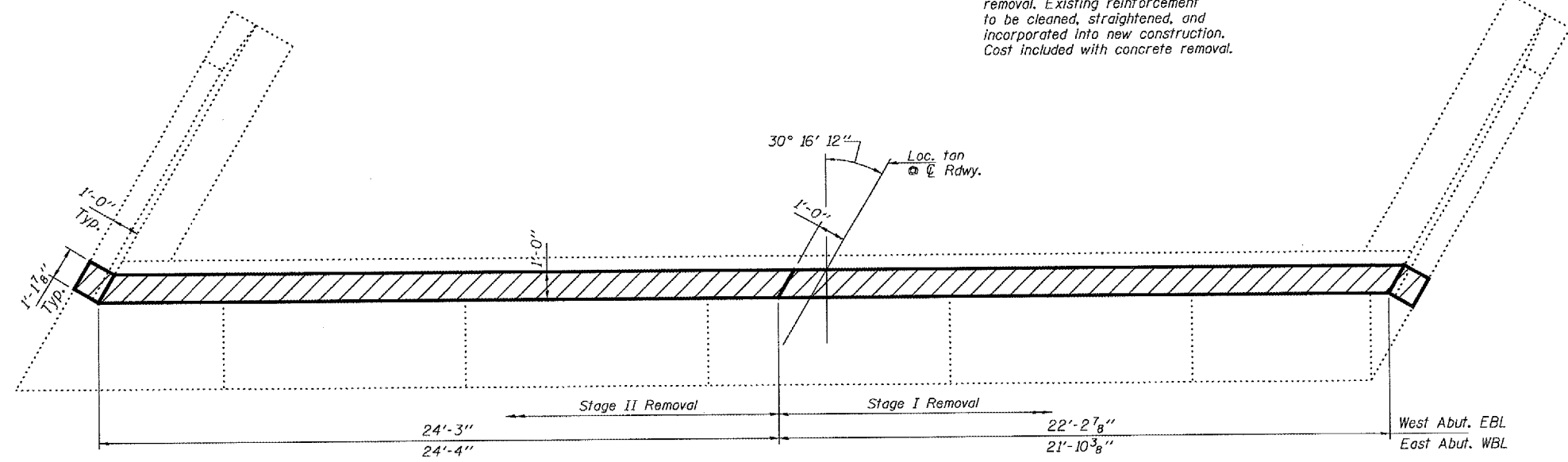
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 PLOT SCALE = 1/8"=1'-0"  
 REFERENCE = 021405.DWG

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4 BRIDGE REP.	WARREN	20	15
STA. 459+08.81		TO STA. 460+84.25		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



**ELEVATION**  
 West Abut. EBL (Looking West).  
 & East Abut. WBL (Looking East).

Hatched areas indicate concrete removal. Existing reinforcement to be cleaned, straightened, and incorporated into new construction. Cost included with concrete removal.



**TOP VIEW**

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	5.5

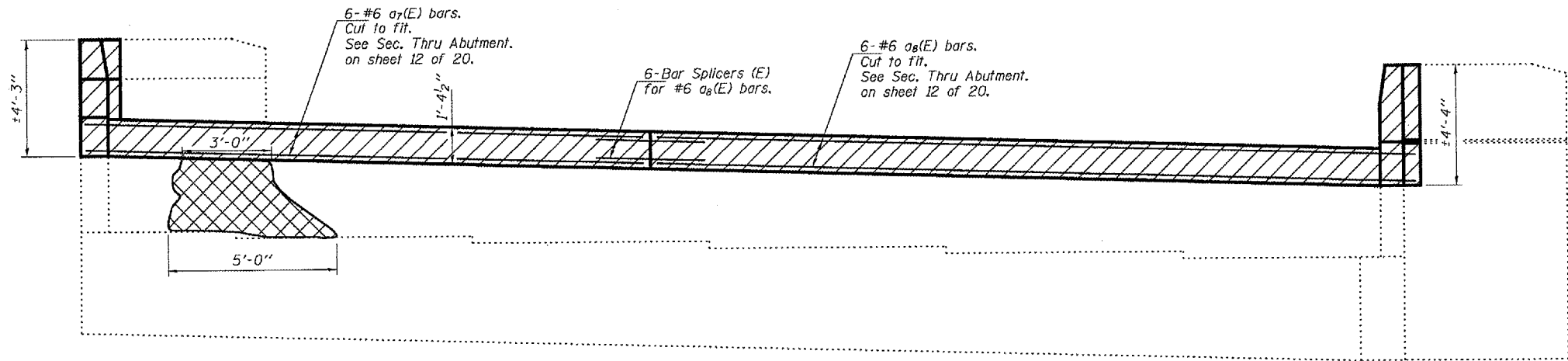
**WEST ABUTMENT EBL  
 EAST ABUTMENT WBL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**ABUTMENT CONCRETE  
 REMOVAL**  
 SCALE: VERT.      DRAWN BY CEJ  
 HORIZ.              CHECKED BY  
 DATE 02-14-2005

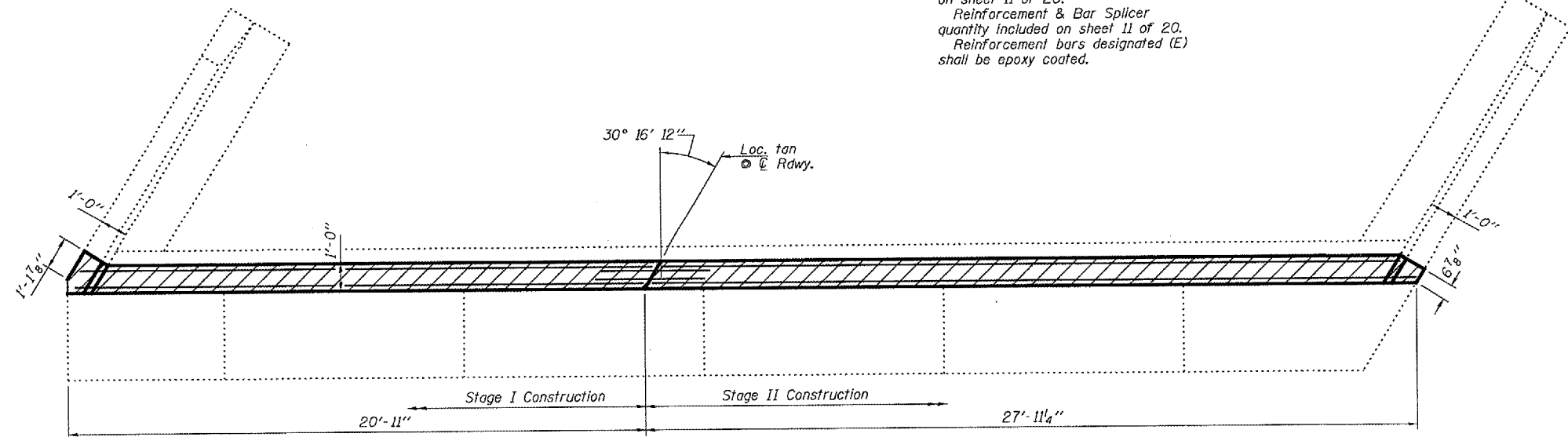
PLT DATE \* NOTES  
 FILE NAME \* FILES  
 PLOT SCALE \* SCALES  
 REFERENCE \* REFS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4 BRIDGE REP.	WARREN	20	16
STA. 459+08.81 TO STA. 460+84.25				
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



**ELEVATION**

Concrete quantity included with Concrete Superstructure on sheet 11 of 20.  
 Reinforcement & Bar Splicer quantity included on sheet 11 of 20.  
 Reinforcement bars designated (E) shall be epoxy coated.



**TOP VIEW**

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Formed Concrete Repair (Depth Equal to or Less Than 5")	Sq. Ft.	12

**WEST ABUTMENT WBL**

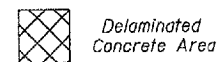
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**ABUTMENT CONCRETE REPLACEMENT**

SCALE: VERT. HORIZ. DATE 02-14-2005

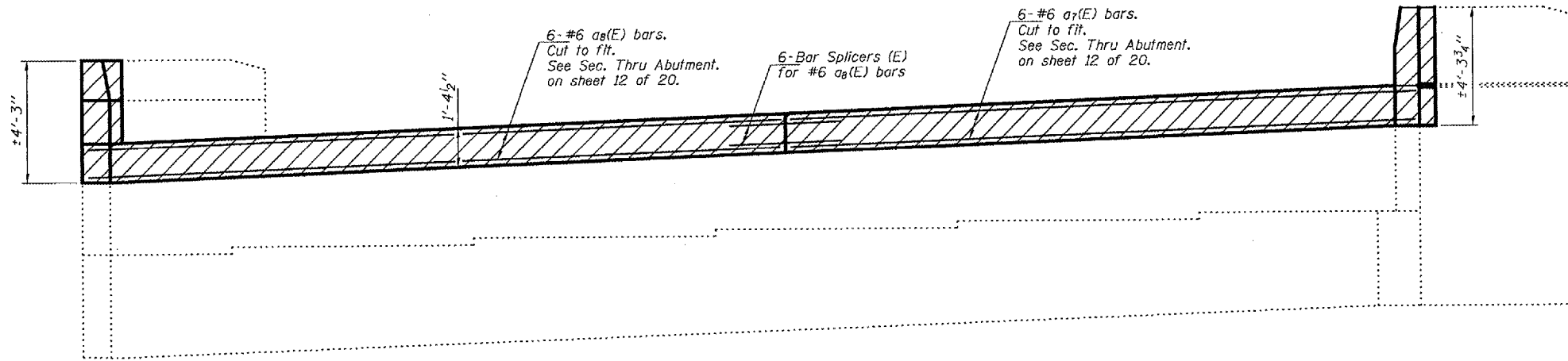
DRAWN BY CEJ CHECKED BY



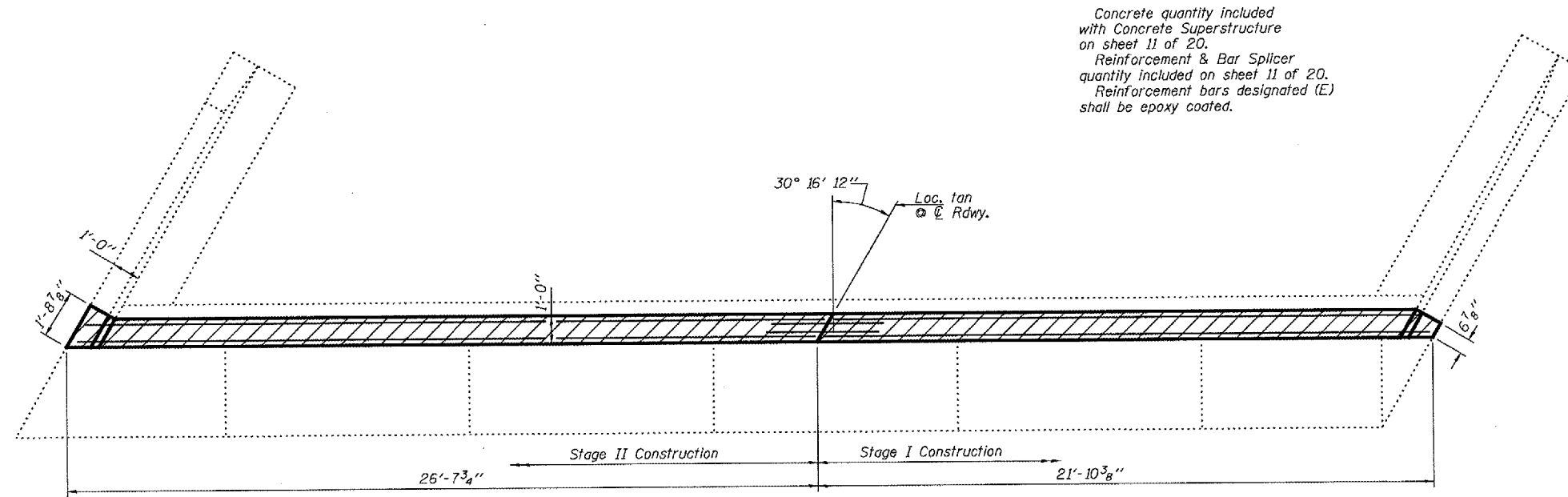
PLT DATE \* 02/14/05  
 FILE NAME \* WBL16L  
 PLOT SCALE \* 1/8"=1'-0"  
 REFERENCE \* REF1



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4 BRIDGE REP.	WARREN	20	17
STA. 459+08.81 TO STA. 460+84.25				
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



**ELEVATION**



**TOP VIEW**

**EAST ABUTMENT WBL**

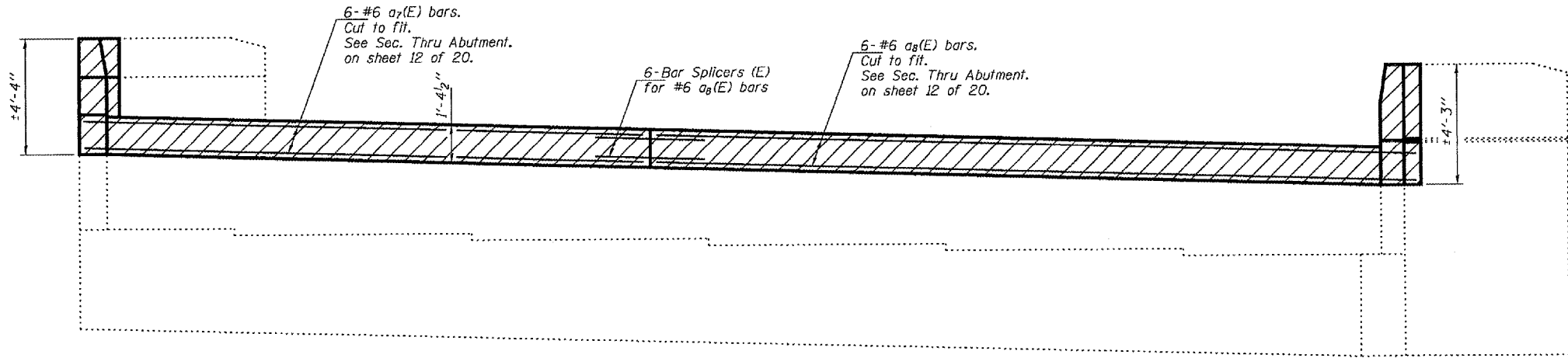
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**ABUTMENT CONCRETE REPLACEMENT**

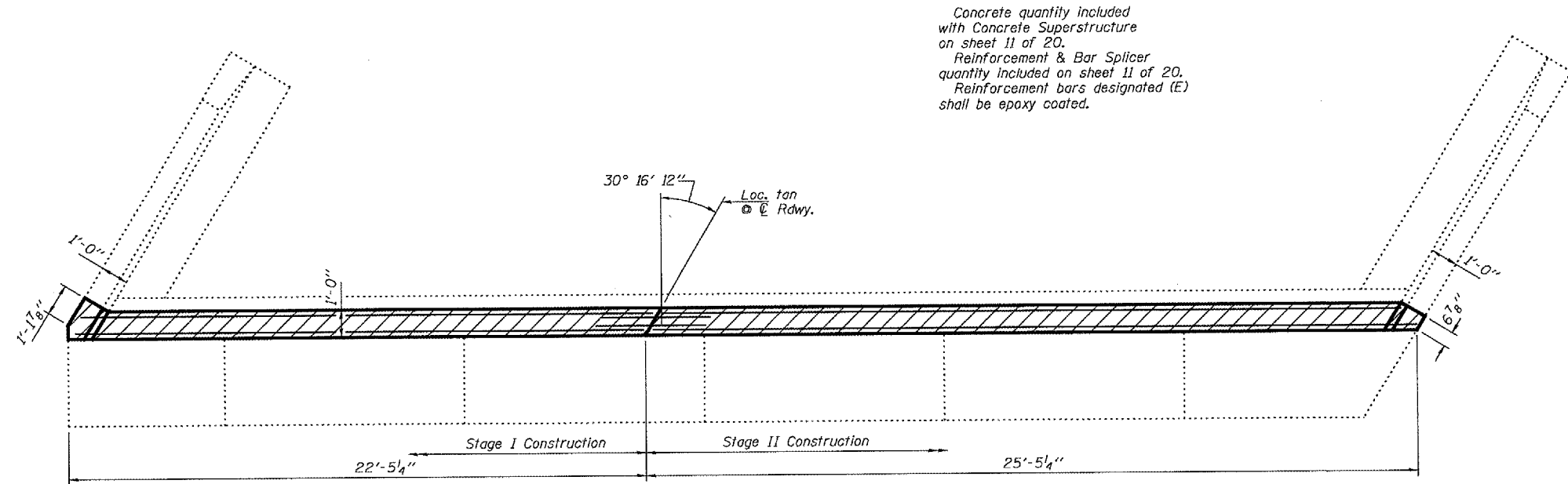
SCALE: VERT.      DRAWN BY CEJ  
          HORIZ.      CHECKED BY  
DATE 02-14-2005

PLOT DATE \* DATE \*  
FILE NAME \* FILE \*  
PLOT SCALE \* SCALE \*  
REFERENCE \* REF \*

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4 BRIDGE REP.	WARREN	20	18
STA. 459+08.81		TO STA. 460+84.25		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



**ELEVATION**



**TOP VIEW**

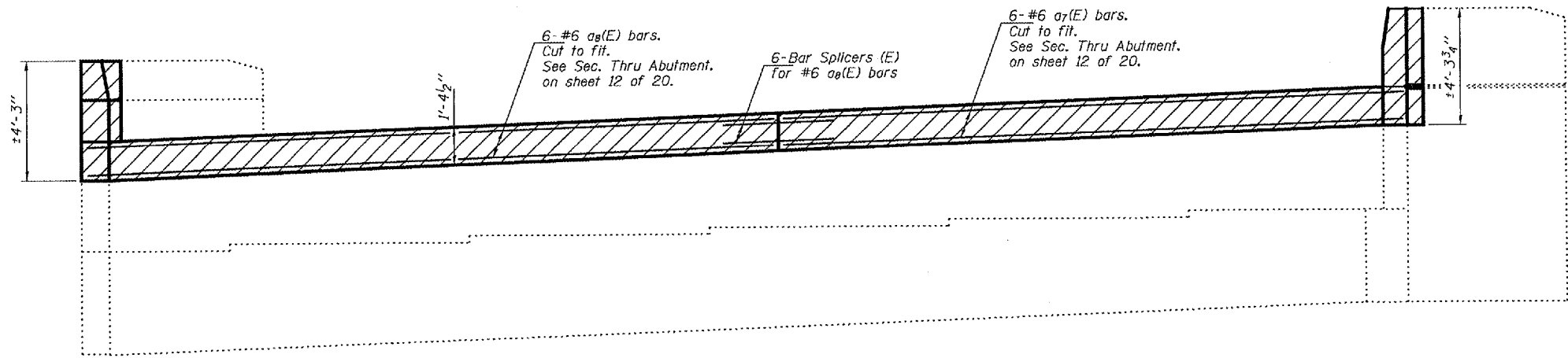
**EAST ABUTMENT EBL**

REVISIONS	
NAME	DATE

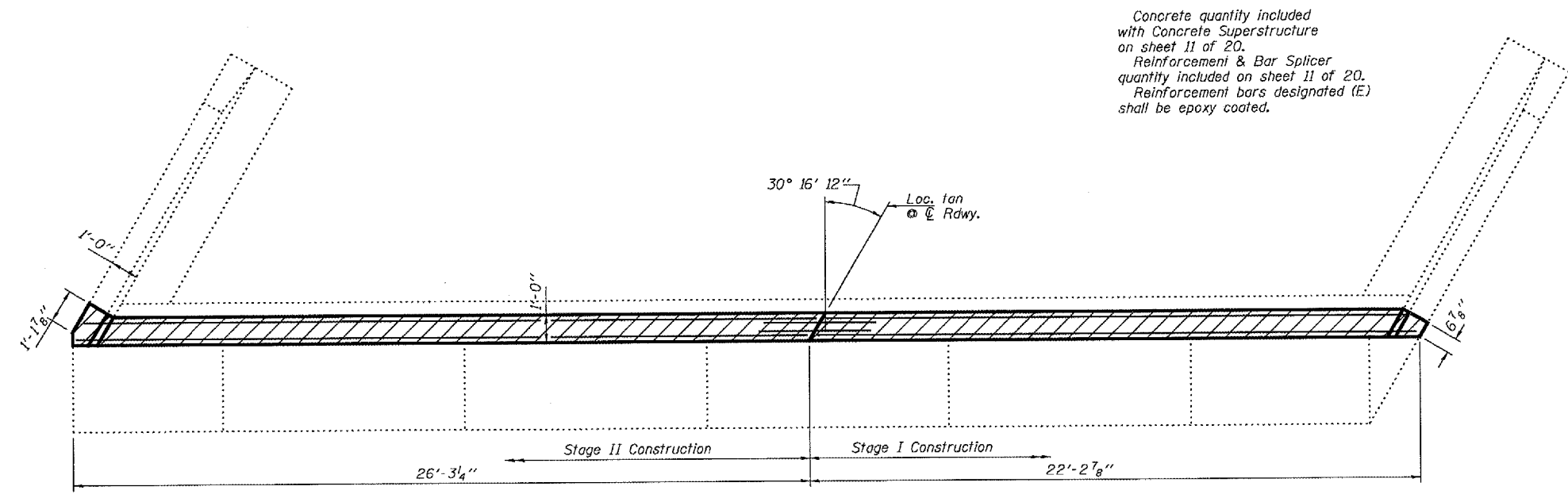
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**ABUTMENT CONCRETE REPLACEMENT**  
 SCALE: VERT.      DRAWN BY CEJ  
 HORIZ.              CHECKED BY  
 DATE 02-14-2005

PLOT DATE \* DATE  
 FILE NAME \* FILE#  
 PLOT SCALE \* SCALE  
 REFERENCE \* REF#

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4 BRIDGE REP.	WARREN	20	19
STA. 459+08.81		TO STA. 460+84.25		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



**ELEVATION**



**TOP VIEW**

Concrete quantity included with Concrete Superstructure on sheet 11 of 20.  
 Reinforcement & Bar Splicer quantity included on sheet 11 of 20.  
 Reinforcement bars designated (E) shall be epoxy coated.

**WEST ABUTMENT EBL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**ABUTMENT CONCRETE REPLACEMENT**

SCALE: VERT. HORIZ. DATE 02-14-2005

DRAWN BY CEJ CHECKED BY

PLOT DATE: 02/14/05  
 FILE NAME: #FILEL  
 PLOT SCALE: #SCALE  
 REFERENCE: #REF

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
404	D4 BRIDGE REP.	WARREN	20	20
STA. 459+08.81 TO STA. 460+84.25				
FED. ROAD DIST. NO. 4 ILLINOIS			FED. AID PROJECT	

**NOTES**

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

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

Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $f_{sallow}$  = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
 \* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.5
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

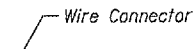
Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

The diameter of this part is equal or larger than the diameter of bar spliced.  
 The diameter of this part is the same as the diameter of the bar spliced.

**ROLLED THREAD DOWEL BAR**



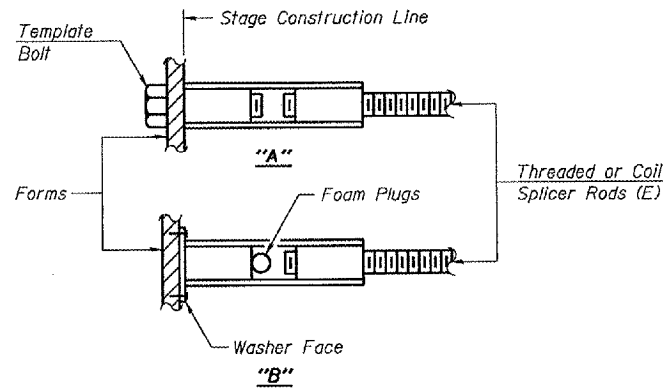
\*\* ONE PIECE



WELDED SECTIONS

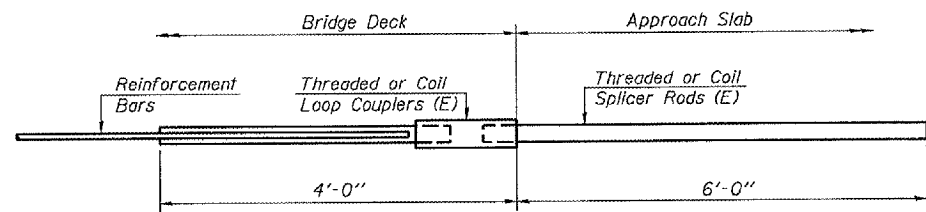
**BAR SPLICER ASSEMBLY ALTERNATIVES**

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



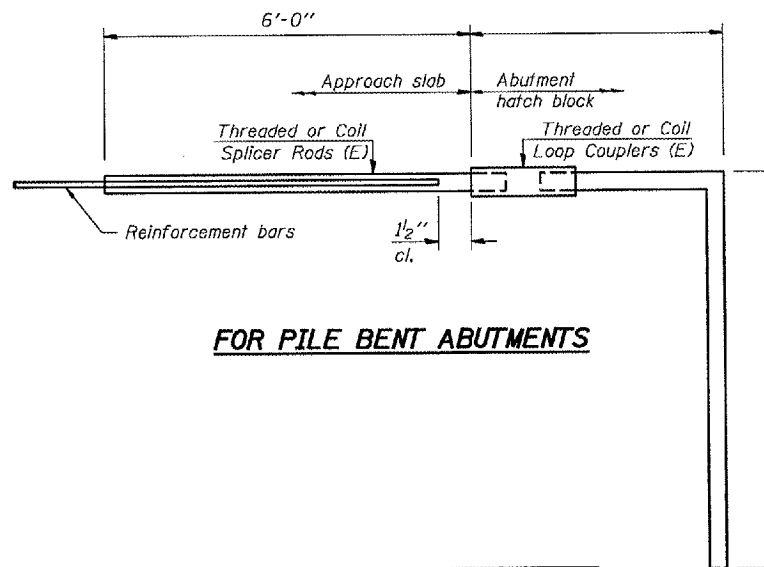
**INSTALLATION AND SETTING METHODS**

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



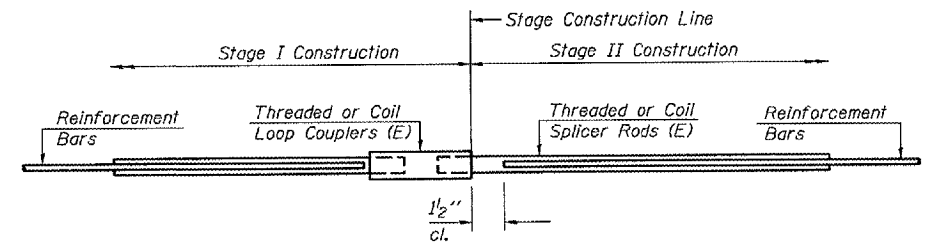
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 44



**FOR PILE BENT ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 0



**STANDARD**

Bar Size	No. Assemblies Required	Location
#7	36	Deck
#6	24	Abutment
#6	20	End diaphragms

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**BAR SPLICER DETAIL**

SCALE: VERT. HORIZ. DATE 05-05-2005

DRAWN BY CEJ CHECKED BY