CONTRACT NO. 66571

SECTION COUNTY LASALLE 29

D-93-002-05

N JO DAYLESS STEPHENSON WINNEBAGO BOOKE MC HENRY LAKE
CAPROLL DOLE
TOWNTESSIDE LEE DE KALS KANE DU PAGE COOK
KENDALL
ROCK ISLAND HOMEY BUREAU GRUNDY
MERCER FUTHAM LA SALLE GRUNDY STARK MARRAILE KANKAREE
TARREN ANOX PESRIA WOOFGRO LIVINGSTON MODALIS
MANCOCK MC DONOUGH PLATON PARTIEL MC LEAN PORTS
SCHUYLER LOGAN OF WITT CHAMPAIGN VERMILION
BROWN ACON MACON
PINE SCOTT CHRISTIAN COLCS
CLARK CLARK CLARK
JERSEY MACOUPIN MONTCOMERY CUMBERLAND CLARK FANCTIE EFFINGHAM MASPER PRANFORD
MADISON BOND
CLINTON MARION PRICERAND LARRENCE
ST. CLAIR WASHIGTON REFERSON
RANDOLPH PERRY HAMILTON WHITE
JACKSON WILLTANGON SALINE GALLATIN
HARDIN
ONION JOHNSON POPE
TO THE WASH
LOCATION OF SECTION INDICATED THUS:

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS						
SUBMITTED	5/19 20 05					
	DEPOTY DIRECTOR OF HIGHWAYS, REGION ENGINEER					
-	PRINCE HOLE ENVIRONMENT					
	July 1, 2005 Moder 10					
	DIRECTOR OF HIGHWAYS, CHIEF ENGINEER					

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

FAI ROUTE 412 (I-39) SECTION (50-5B)I

LASALLE COUNTY C-93-077-05 **BRIDGE REPAIR**

EAP TO SET OF ME	FAP 587 EARLVILLE SB7 NDOTA 39
	TRIUMPH 169 169 FAP 603)52(
	TROY PRAIRIE CENTER WALTHAM
	LASALLE
PER	EAST NAPLATE SEA SEA SEA SEA SEA SEA SEA SEA SEA SE
FAP 619 C	GLESPI FAP 627 FAP 619 VERMILIONVILLE
	EDAR ELOWELL

LOCATION MAP

GROSS LENGTH OF PROJECT = SB: 136 FEET 0.03 MI NET LENGTH OF PROJECT = SB: 136 FEET 0.03 MI

INDEX OF SHEETS

- 1. COVER SHEET
- 2. GENERAL NOTES
- 3. SUMMARY OF QUANTITIES
- 4. PLAN & ELEVATION
- 5. DECK RECONSTRUCTION DETAILS CROSS SECTIONS
- 6. CONCRETE REMOVAL NORTH ABUTMENT DECK DETAILS
- 7. CONCRETE REMOVAL NORTH ABUTMENT PARAPET DETAILS
- 8. CONCRETE REMOVAL SOUTH ABUTMENT DECK DETAILS
- 9. CONCRETE REMOVAL SOUTH ABUTMENT PARAPET DETAILS
- 10. RECONSTRUCTION NORTH ABUTMENT DECK DETAILS
- 11. RECONSTRUCTION NORTH ABUTMENT PARAPET DETAILS
- 12. RECONSTRUCTION SOUTH ABUTMENT DECK DETAILS
- 13. RECONSTRUCTION SOUTH ABUTMENT PARAPET DETAILS
- 14. STRIP SEAL EXPANSION JOINT DETAILS
- 15. PPC DECK BEAM REPAIR
- 16. PPC DECK BEAM REPAIR
- 17. PARAPET WALL REPAIR
- 18. ABUTMENT WALL REPAIR
- 19. BEARING REPLACEMENT DETAILS
- 20. BEARING REPLACEMENT DETAILS
- 21. ANCHOR BOLT DETAIL FOR BEARINGS
- 22. DECK DRAIN EXTENSION DETAILS
- 23. BAR SPLICER ASSEMBLY DETAILS
- 24. PRE-STAGING DETAILS
- 25. TRAFFIC CONTROL AND PROTECTION, STANDARD 701402 (SPECIAL)
- 26. STAGING AND TRAFFIC CONTROL TYPICALS
- 27. TEMPORARY CONCRETE BARRIER STAGE I
- 28. TEMPORARY CONCRETE BARRIER STAGE II
- 29. TYPICAL PAVEMENT MARKING

PROJECT LOCATION

SN 050-0173 FAI 412 (I-39) SOUTHBOUND OVER A CREEK 3.5 mi NORTH OF I-80

MICROFILMED REEL NUMBER AWARDED___ RESIDENT ENGINEER ___ AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS ___

JULIE 1-800-892-0123

DISTRICT 3 NO. (815) 434-6131

PROJECT ENGINEER: TOM HUFNAGEL (815) 434-8418 UNIT CHIEF: RON WOODSHANK (815) 434-8419

CONTRACT NO. 66571

SECTION: (50-5B)I

FAI 412 (I-39)

LASALLE COUNTY

GENERAL NOTES:

Pian dimensions and details relative to the existing roadway and 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 to 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.

The contractor shall be responsible for protecting utility property from construction operations as outlined in Article 107.31 of the Standard Specifications. The "Julie" Number is 1-800-892-0123. A minimum of forty-eight (48) hours advance notice is required.

The cost of any saw cuts made to complete the work as described in plan details, unless otherwise noted shall not be paid for separately but shall be included in the various pay items involved.

Where section or subsection monuments are encountered, the engineer shall be notified before such monuments are removed. The contractor shall protect and carefully preserve all monuments until an authorized surveyor or agent has witnessed or otherwise referenced their location. The contractor shall be responsible for having an authorized surveyor reestablish any section or subsection monuments destroyed by his operations.

Any reference to a standard in these plans shall be interpreted to mean the edition as indicated by the subnumber listed on the index of sheets or the copy of the standard included in these plans.

New Reinforcement bars shall be Epoxy Coated.

Reinforcement bars that are to remain in place which are damaged during concrete removal operations shall be repaired or replaced using approved bar splicer or anchorage system. Cost included with "Concrete Removal".

All structural steel shall be AASHTO M 270 Grade 50 except expansion joint plates and attached bars which shall be AASHTO M 270 Grade 36.

Anchor Bolts shall be high strength bolts (AASHTO M 164, Type3). $1\frac{1}{2}$ " dia. open holes for 1" dia. bolts.

Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M322 Grade 60.

<u>STANDARDS</u>

000001-04	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS AREAS OF REINFORCEMENT
001006	DECIMAL OF AN INCH AND OF A FOOT
483001-02	PCC SHOULDER
609001-02	BRIDGE APPROACH SHOULDER PAVEMENT AND DRAIN
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
701101-01	OFF-ROAD OPERATIONS, MULTILANE, 4.5 m (15') TO 600mm (24")
	FROM EDGE OF PAVEMENT
701106-01 701400-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 4.5 m (15') AWAY APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
702001-05	TRAFFIC CONTROL DEVICES
704001-02	TEMPORARY CONCRETE BARRIER

May 18,200

PREPARED BY:

DISTRICT OPERATIONS ENGINEER

EXAMINED BY:

DISTRICT CONSTRUCTION ENGINEER

DISTRICT STUDIES & PLANS ENGINEER

DISTRICT MATERIALS ENGINEER

REVISIONS ILLINOIS D

NAME DATE

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F

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ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL NOTES
S.N. 050-0173
F.A.I. 412 SOUTHBOUND
OVER C. & N.W. RAILROAD
SECTION (50-5B)I
STA. 1216+43.45

DATE 04/24/2005

DRAWN BY RW

MARCH 24, 2005

CONTRACT NO. 66571

RTE.	SECTION	0	OUNTY	SHEETS	NO.
412	(50-5B)I		LASALLE	29	3
CEO DO	AD DICT AM	te a theater	CTATE A	10 000	

SUMMARY OF QUANTITIES				
	CONSTRUCTION CODE TYPE:	AS-180X	RURAL 100% STATE	
CODE NO.	ITEM	UNIT	TOTAL QUANTITY	
31101900	SUB-BASE GRANULAR MATERIAL, TYPE C	TON	200	
42001500	PCC BRIDGE APPROACH SHOULDER PAVEMENT	SQ YD	45	
44000910	BITUMINOUS CONCRETE REMOVAL (DECK)	SQ YD	575	
44001430	BITUMINOUS SHOULDER REMOVAL	SQ YD	1714	
48300500	PCC SHOULDER 10"	SQ YD	1708	
50102400	CONCRETE REMOVAL	CU YD	31.2	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	31.2	
50301245	FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 5")	SQ FT	239	
50500725	JACK AND REPLACE BEARINGS	EACH	12	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	6354	
60260100	INLETS TO BE ADJUSTED	EACH	2	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5	
67100100	MOBILIZATION	L SUM	1	
70100305	TRAFFIC CONTROL AND PROTECTION, STANDARD 701400	L SUM	1	
70101605	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402 (SPECIAL)	EACH	1	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1580	
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	521	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	555	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	555	
78005110	EPOXY PAVEMENT MARKING - LINE 4"	FOOT	1580	
78005130	EPOXY PAVEMENT MARKING - LINE 6"	FOOT	34	
78300100	PAVEMENT MARKING REMOVAL	SQ FT	521	
XX005128	STRIP SEAL EXPANSION JOINT ASSEMBLY	FOOT	85	
XZ191205	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 3"	SQ YD	519	
X0300136	BRIDGE APPROACH SHOULDER REMOVAL	SQ YD	29	
X0322194	POLYMER MODIFIED PORTLAND CEMENT MORTAR	SQFT	27	
X0322379	CONCRETE SEALER	SQ YD	73	
X0322905	PCC I-BEAM REPAIRS	L SUM	1	
Z0002600	BAR SPLICER	EACH	38	
Z0006205	BRIDGE DECK HYDRO-SCARIFICATION 1 1/2"	SQ YD	519	
Z0015595	DECK DRAIN EXTENSIONS	EACH	3	
Z0030250 Z0047300 Z0030350	IMPACT ATTENUTOR, TEMPORARY, NON-REDIRECTIVE, TEST LEVEL 3 IMPACT ATTENUTOR, RELOCATE, NON-REDIRECTIVE, TEST LEVEL 3	EACH S@Yo EACH	112	

REVISIONS ILL

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

S.N. 050-0173

F.A.I. 412 SOUTHBOUND

OVER C. & N.W. RAILROAD

SECTION (50-5B)I

STA. 1216 + 43.45

DRAWN BY

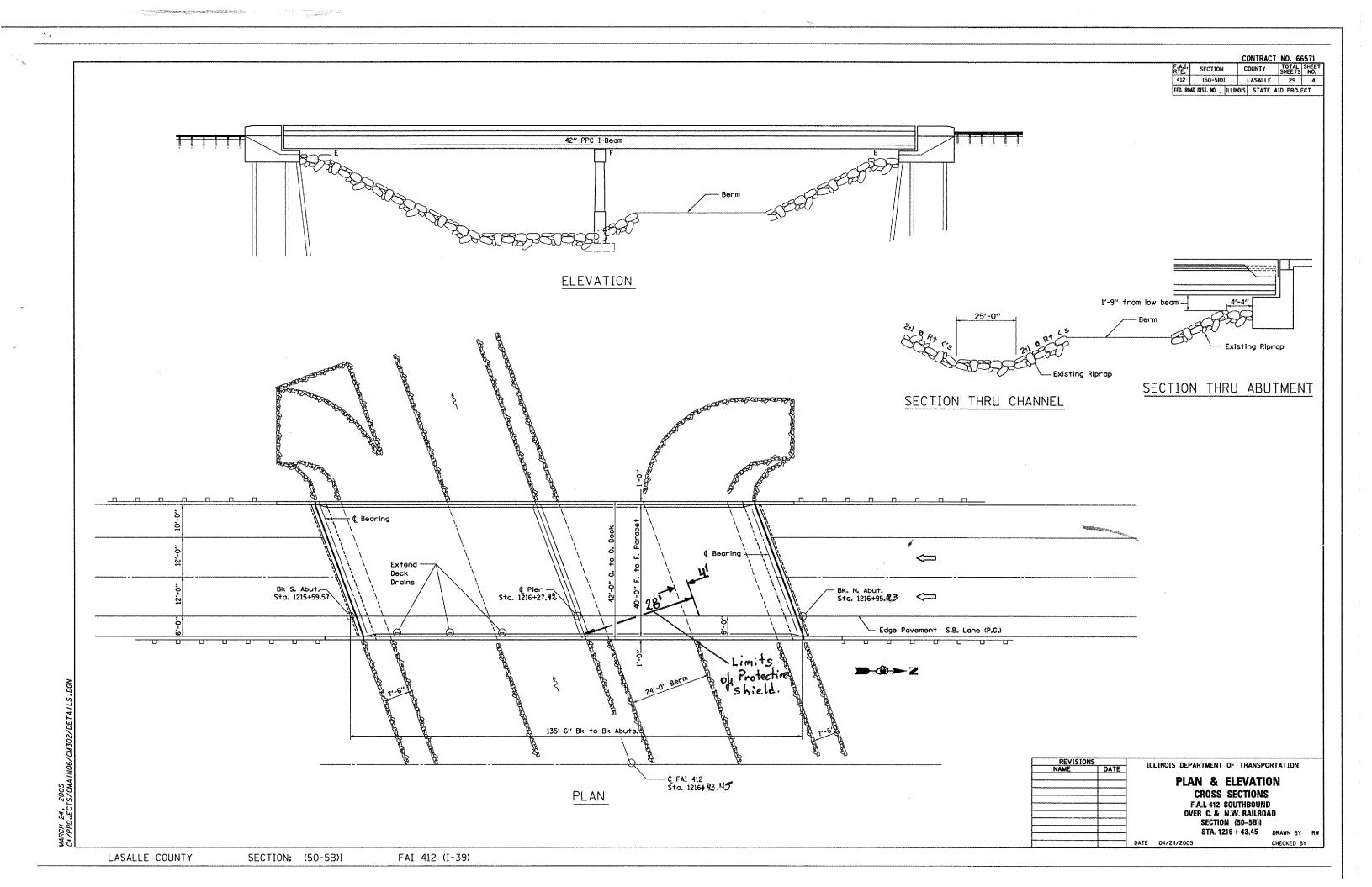
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LASALLE COUNTY

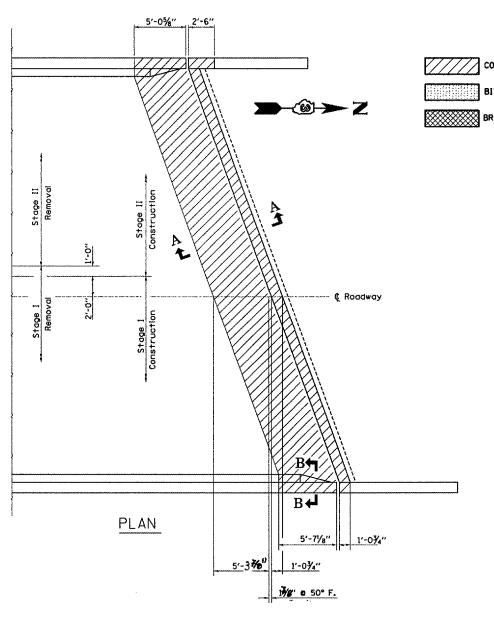
SECTION: (50-5B)I



FED. ROAD DIST. NO. _ ILLINOIS STATE AID PROJECT 40'-0" FACE TO FACE C OF ROADWAY 18'-0" 22'0" 21'-0" TO REMOVAL LINE 19'-0" TO REMOVAL LINE 3′-0″ REMOVAL LINE 11/2" BITUMINOUS REMOVAL (DECK) - 1½" BRIDGE DECK HYDRO SCARIFICATION - 71/2" SLAB EXISTING CROSS SECTION Looking South 40'-0" FACE TO FACE 18'-0" 22'0" 6′~0" 12'-0" 12'-0" 10'-0" OF ROADWAY Epoxy Pavement --Epoxy Pavement Marking Line 6" (typ) Marking Line 4" (typ) Stage Construction Line 3" BRIDGE DECK-MICROSILLICA CONCRETE OVERLAY CONCRETE SEALER (TYP.) PROPOSED CROSS SECTION Looking South ILLINOIS DEPARTMENT OF TRANSPORTATION **DECK RECONSTRUCTION DETAILS** CROSS SECTIONS F.A.I. 412 SOUTHBOUND OVER C. & N.W. RAILROAD SECTION (50-5B)I STA. 1216 + 43.45 DRAWN BY RW DATE 04/24/2005 CHECKED BY

LASALLE COUNTY

SECTION: (50-5B)I



CONCRETE REMOVAL

BITUMINOUS REMOVAL (DECK)

BRIDGE DECK HYDRO-SCARIFICATION

<u>Minimum Bar Lap</u>

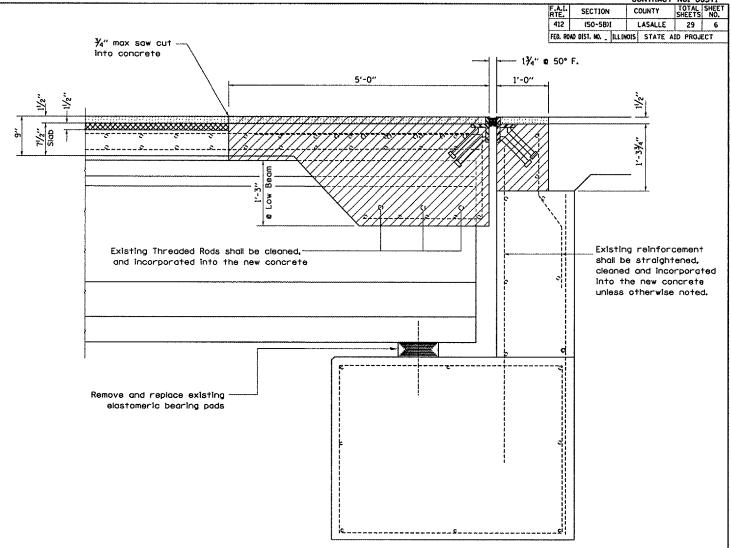
#4 1'-8''	4 11	-8.,	
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2'-2"

2'-7"

3'-5"

4'-6"



SECTION A-A

@ Rt <'s

GENERAL NOTES:

Plan dimensions and details relative to the existing roadway and 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 to 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 poid for the quantity actually furnished at the unit price bid for the work.

Two coats of an approved Bridge Seat Sealer shall be applied to the deck and face of parapet to the limits shown on plan details. Cost of this work shall be paid for per sq yd for "Concrete Sealer".

New Reinforcement bars shall be Epoxy Coated.

Reinforcement bars that are to remain in place which are damaged during concrete removal operations shall be repaired ar replaced using approved bar spilicer or anchorage system. Cost included with "Concrete Removal".

The roadway expansion plates shall be flame cut as provided in Article 505.04(k) of the Standard

Expansion guards shall be fabricated and erected according to Article 503.10(c) of the Standard Specifications and are included in the quantity of "Bridge Expansion Joint System".

All expansion joint plates and attached bars shall be AASHTO M 270 Grade 36

Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.

Anchor bolts, High Strength Steel Bolts, Nuts and washers shall conform to the requirements of Article 1006.08 and Article 1006.09 of the Standard Specifications.

Reinforcement bors shall conform to the requirements of AASHTO M 31 or M322 Grade 60.

Existing reinforcement extending into the concrete removal area shall be cut to provide the required

The Contractor shall exercise care during concrete removal operations so the the existing PPC Beams are not damaged. If the beams are damaged due to the Contractor's operations, they shall be repaired to the satisfaction of the Engineer at no expense to the department.

Removal of existing expansion joint steel, anchor studs, expansion material shall ne be paid for separately but shall be included in the cost of "Concrete Removal".

SHEET 1 OF 2

CONTRACT NO. 66571

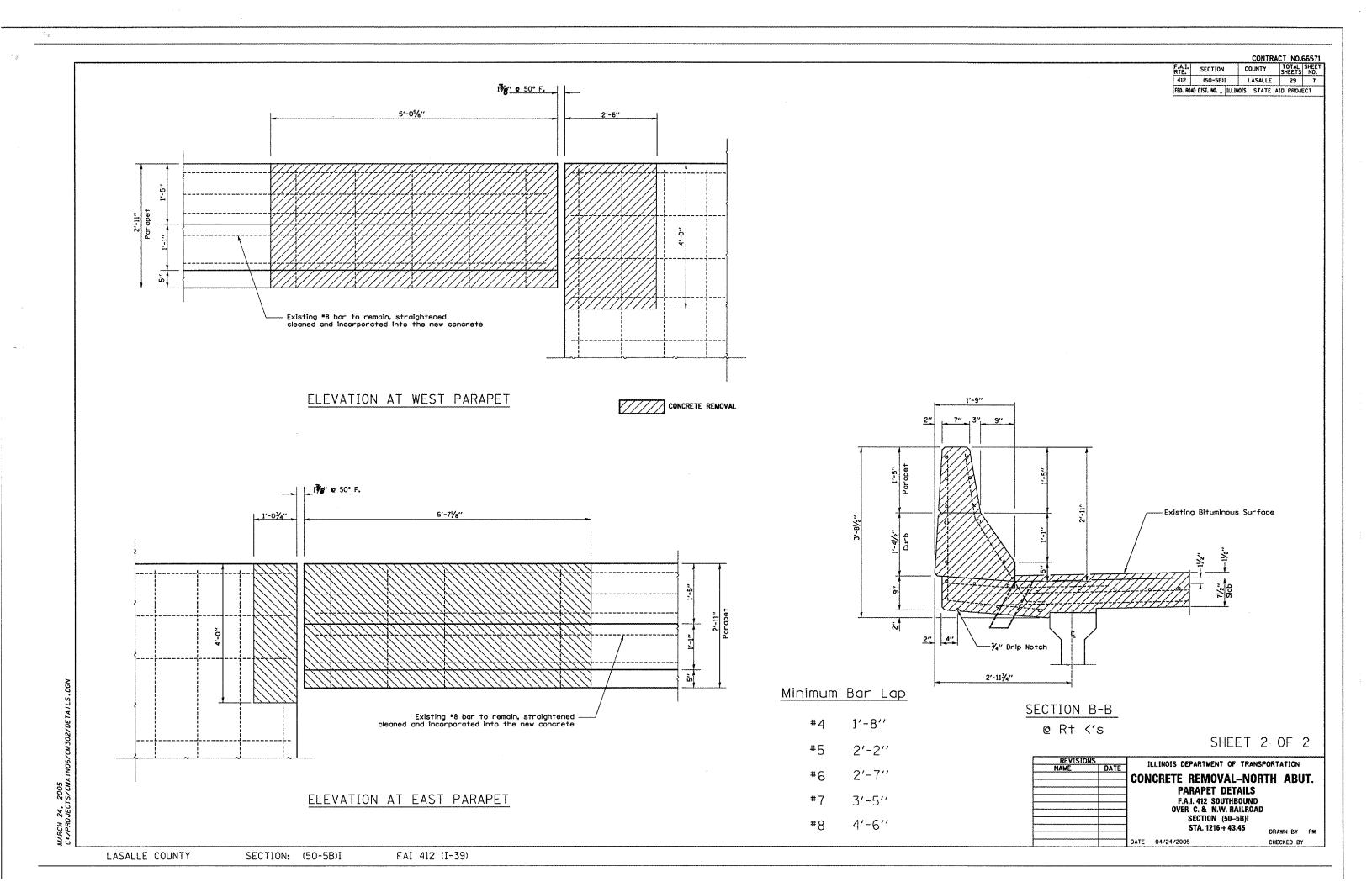
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-			CON	ICRETE REMOVAL-NOR	TH ABUT.
				DECK DETAILS	
				F.A.I. 412 SOUTHBOUND OVER C. & N.W. RAILROAD	
				SECTION (50-5B)I	
				STA. 1216 + 43.45	DRAWN BY RY
1			DATE	04/24/2005	CHECKED BY

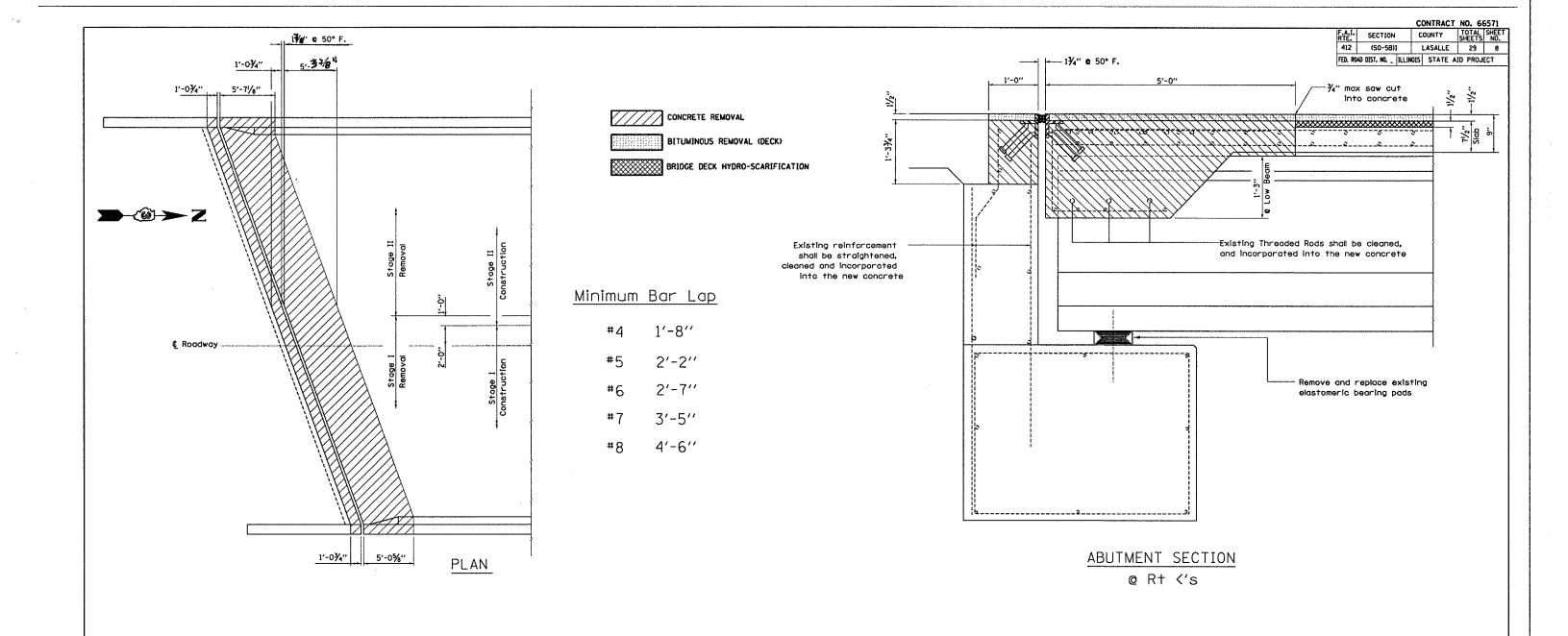
BILL OF MATERIAL NORTH ABUTMENT

Item	Unit	Total
CONCRETE REMOVAL	CU. YD.	15.7
JACK AND REPLACE BEARINGS	EACH	6

LASALLE COUNTY

SECTION: (50-5B)I





BILL OF MATERIAL SOUTH ABUTMENT

Item	Unit	Total
CONCRETE REMOVAL	CU. YD.	15.5
JACK AND REPLACE BEARINGS	EACH	6

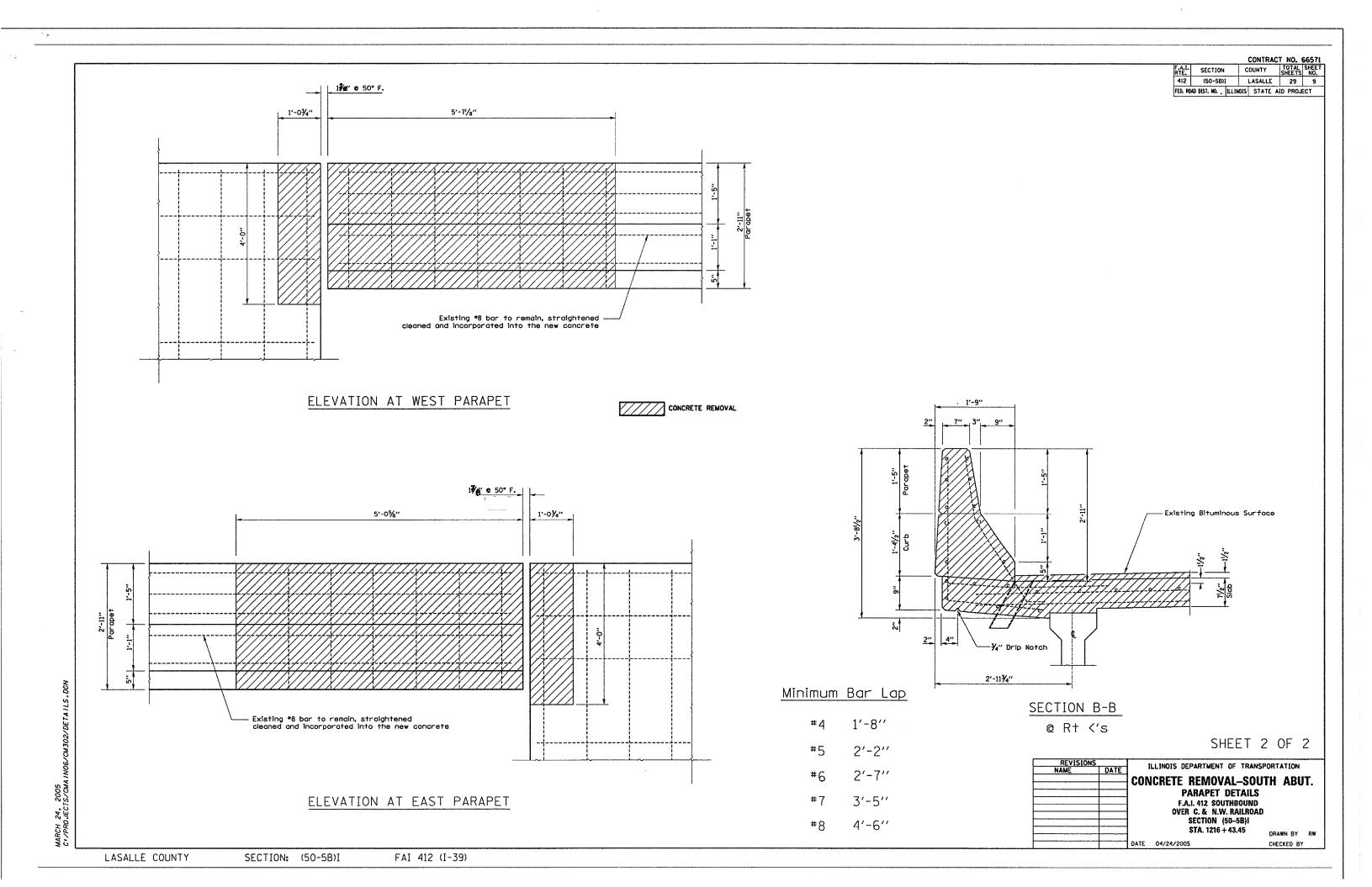
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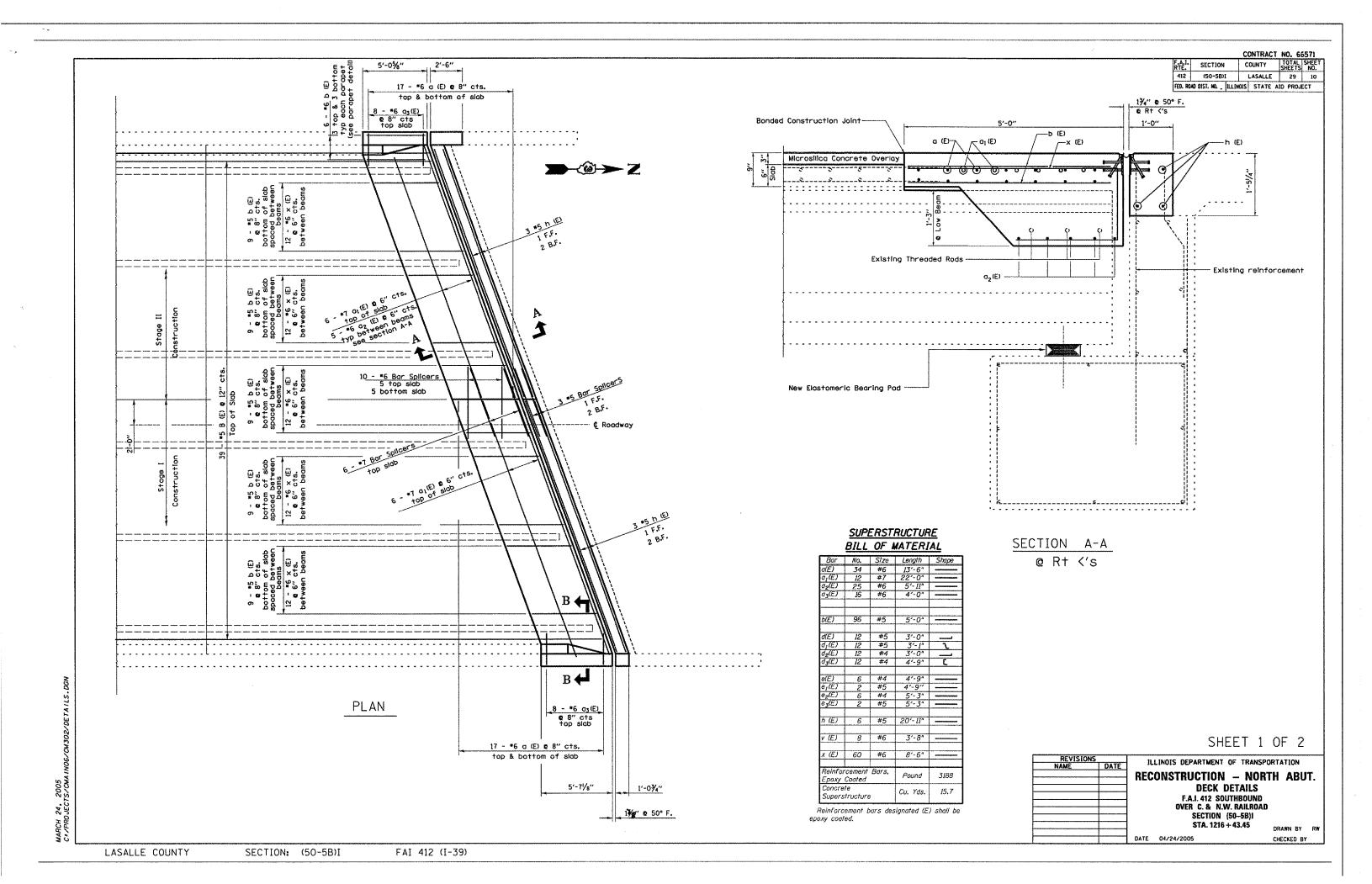
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NAME	DATE	10	ENOIS DELAKTMENT OF TRANS	II ON IAI ION
WT		CON	ICRETE REMOVAL-SO	UTH ARUT
		••••		 /
			DECK DETAILS	
	-+		F.A.I. 412 SOUTHBOUND	
			OVER C. & N.W. RAILROA	/D
			\$ECTION (50-5B)!	
			STA. 1216 + 43.45	DRAWN BY RW
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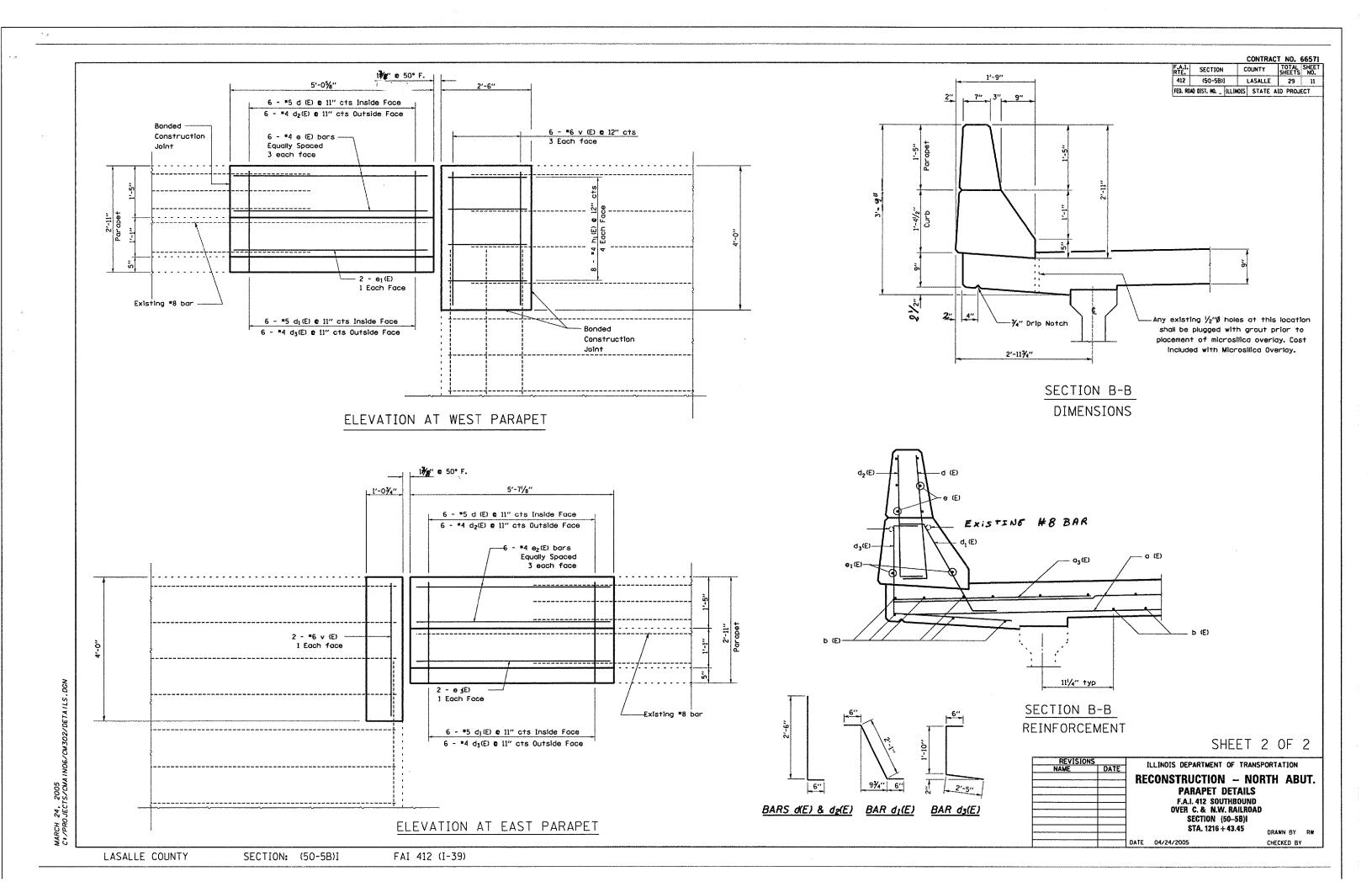
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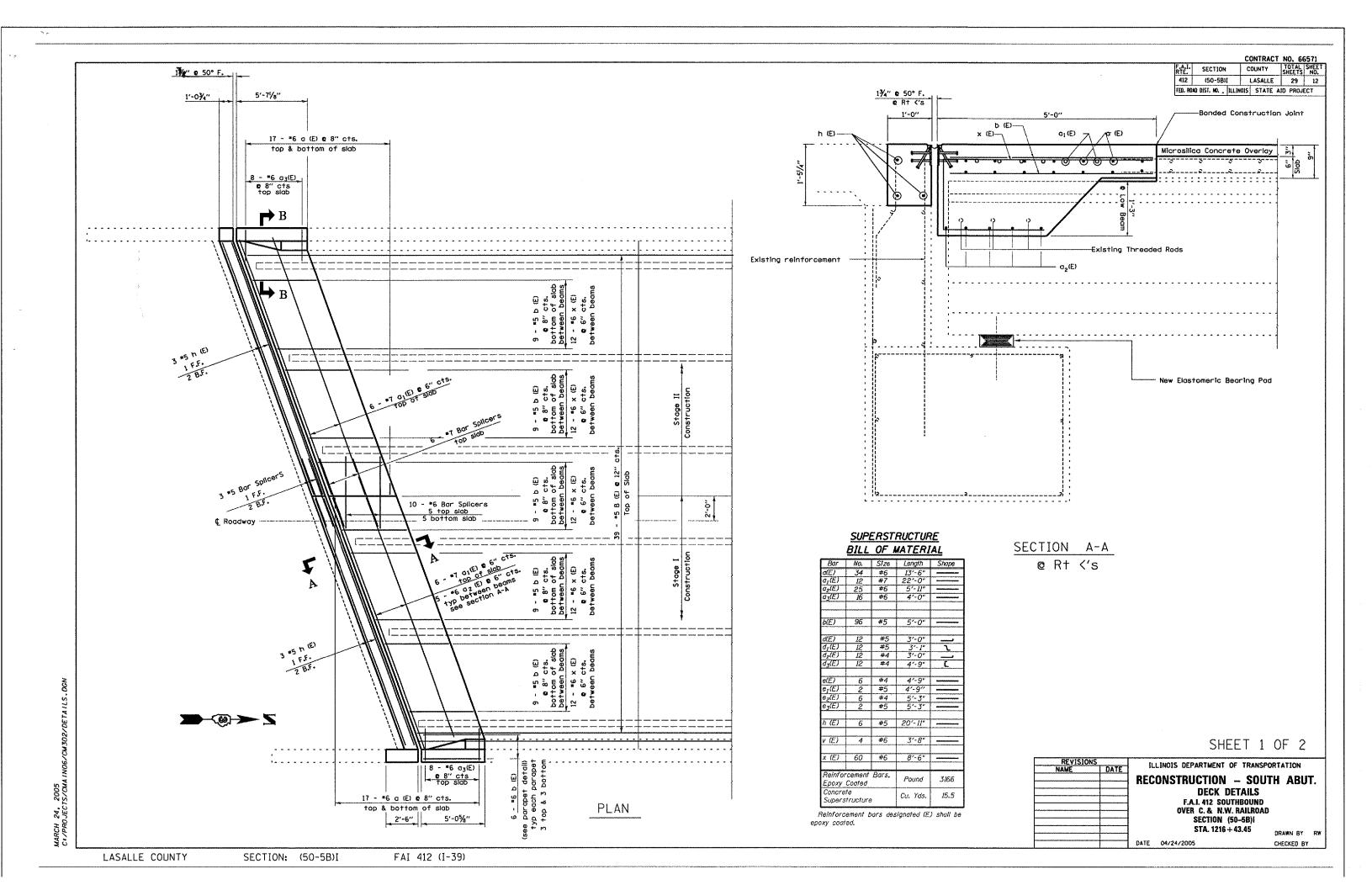
LASALLE COUNTY SECTION: (50-5B)I

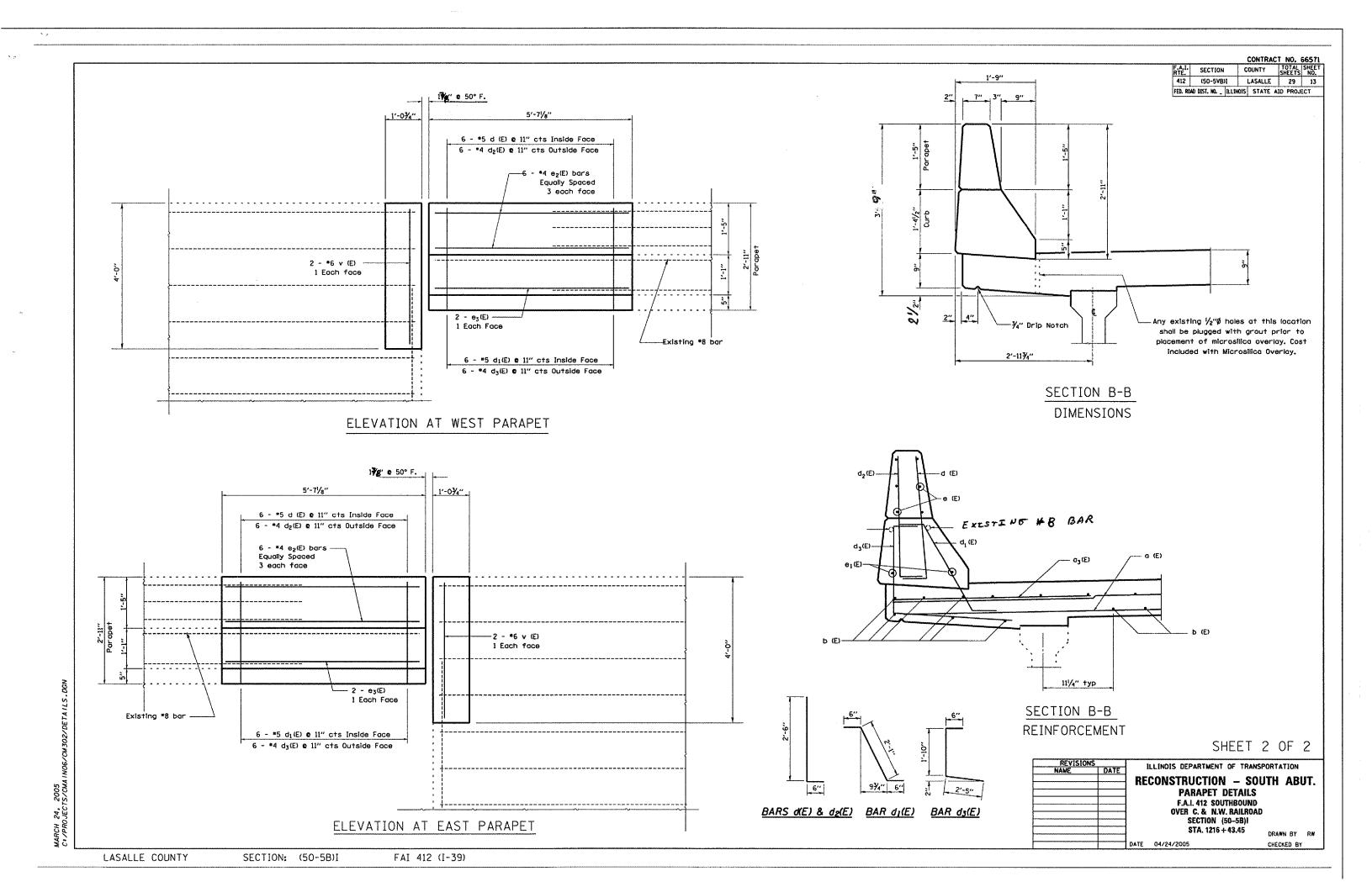
(50-5B)I FAI 412 (I-39)



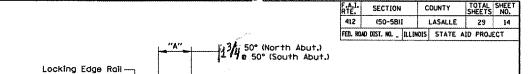


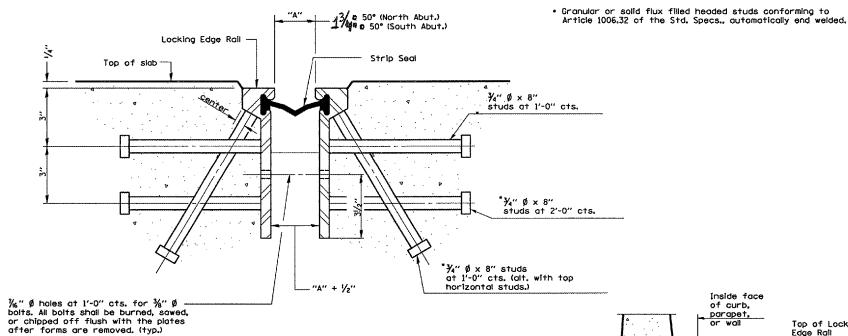




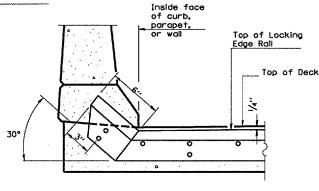








SECTION THRU ROLLED RAIL EXP. JOINT (424 Studs Required)

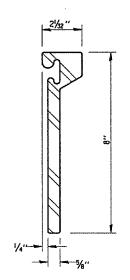


Locking Edge Rail-Strip Seal Top of slab * ¾" Ø x 8" studs at 1'-0" cts. * ¾" Ø x 8" studs at 2'-0" cts. Anchor Plate. Piece plates at 1'-0" cts. %6 % holes at 1'-0" cts. for %8 % — boits. All boits shall be burned, sawed, (alt. with top horizontal studs) or chipped off flush with the plates after forms are removed. (typ.)

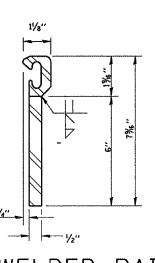
SECTION THRU WELDED RAIL EXP. JOINT

(256 Studs Required) (172 Anchor Plates Required)

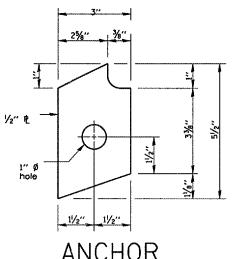
AT PARAPET



ROLLED (EXTRUDED) RAIL LOCKING EDGE RAILS



WELDED RAIL



ANCHOR

(for welded rail)

GENERAL NOTES

The strip seal shall be made continuous and shall have a minimum thickness of $\frac{1}{4}$ ". The configuration of the strip seal shall match the configuration of the Locking

Edge Rolls,
The height and thickness of the Locking Edge Rolls 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.

The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a preformed joint seal. If the contractor elects to use the alternate 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.

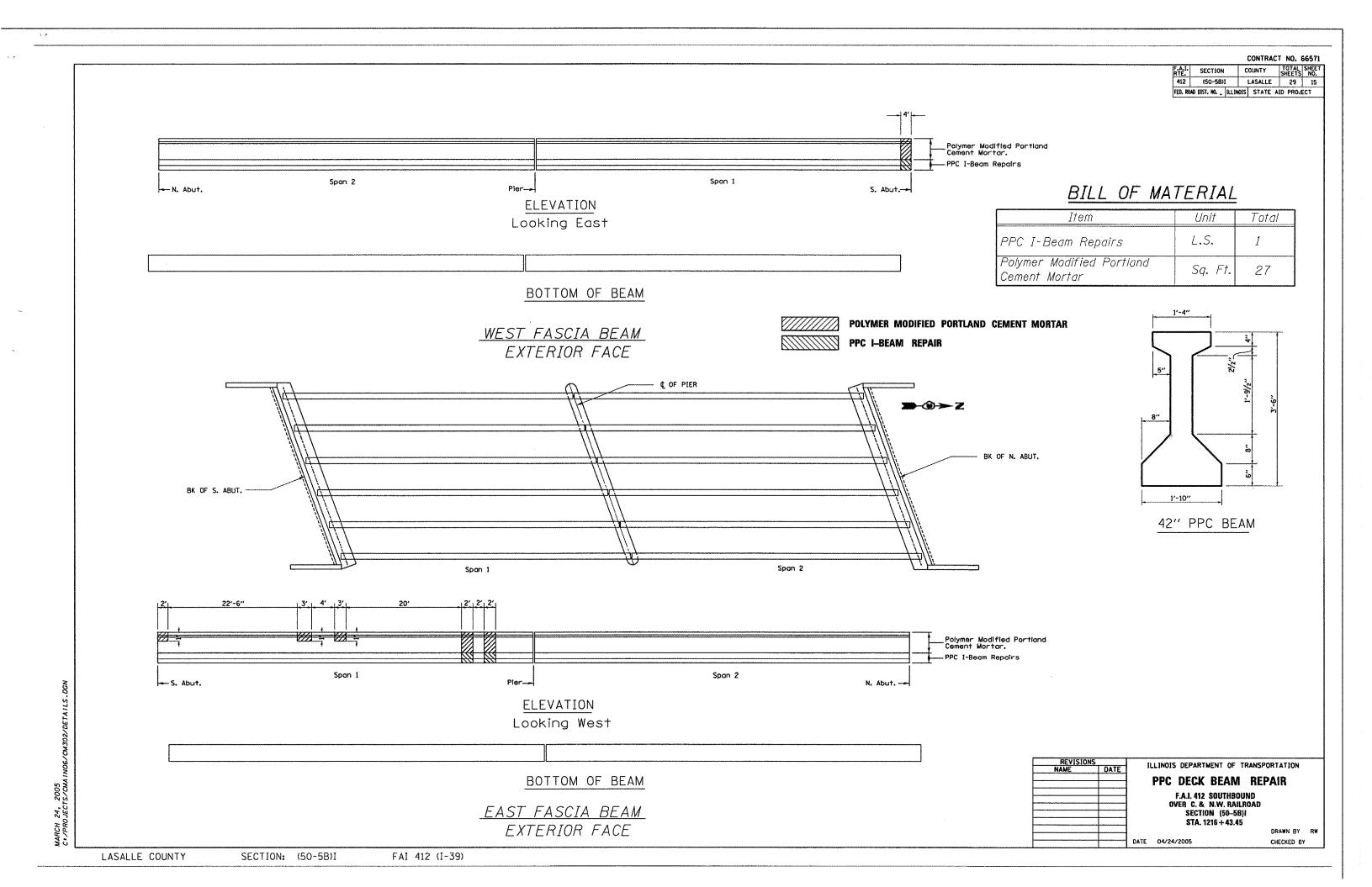
ILLINOIS DEPARTMENT OF TRANSPORTATION **BRIDGE JOINT SYSTEM**

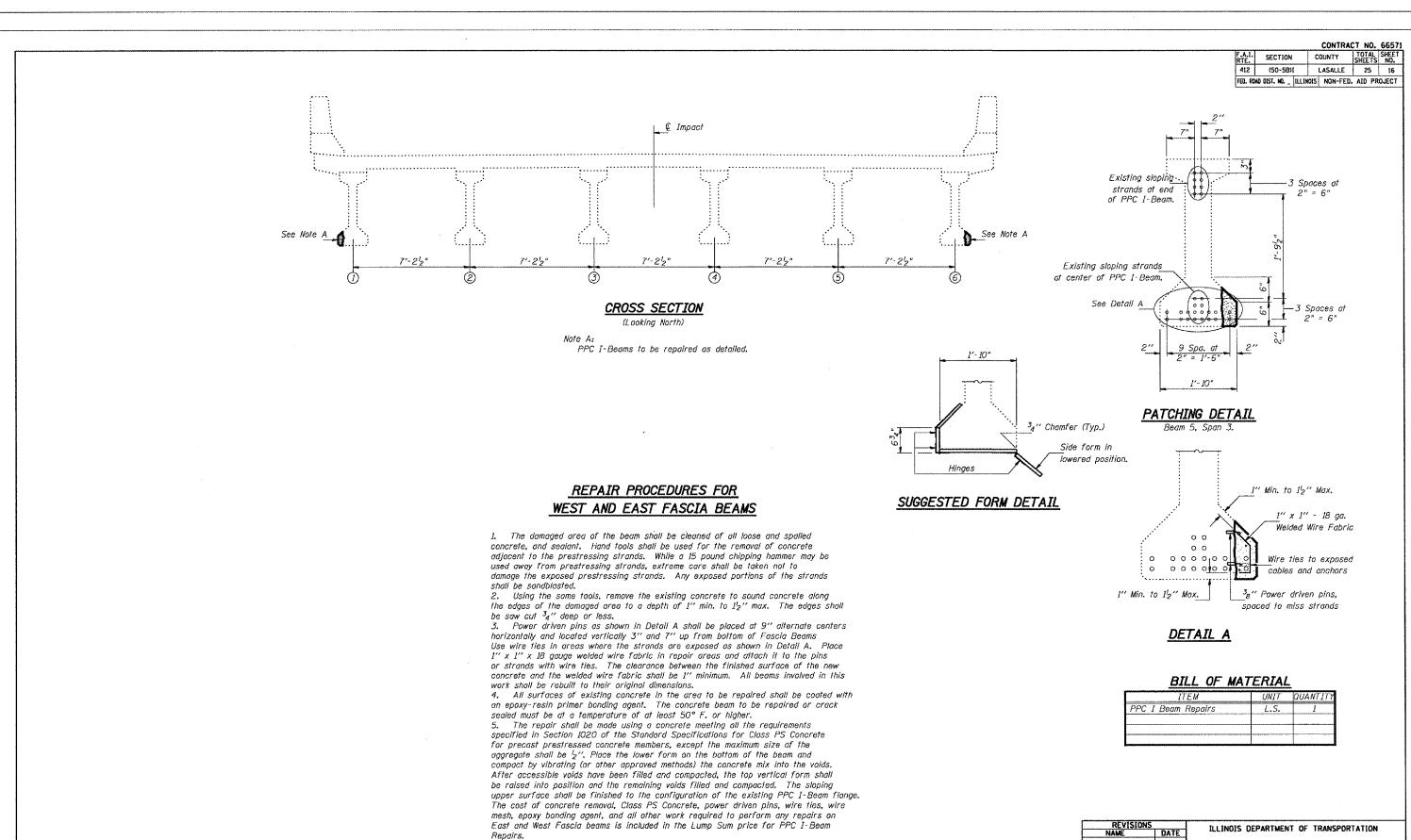
F.A.I. 412 SOUTHBOUND OVER C. & N.W. RAILROAD SECTION (50-5B)! STA. 1216 + 43.45

DRAWN BY RW CHECKED BY

LASALLE COUNTY

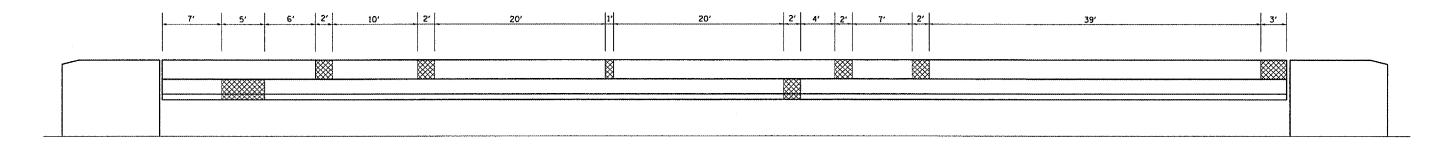
SECTION: (50-5B)I





PPC I-BEAMS REPAIR
S.N. 050--0173 (SB)
F.A.I. 412 OVER C. & N.W. RAILROAD
SECTION (50--5B)I
STA. 1216 + 43.45

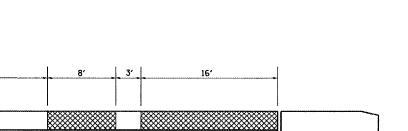
F	A.I.	SECTION		COUNTY	S	OTAL HEETS	SHEET ND.
	412	(50-58)]		LASALLE		29	17
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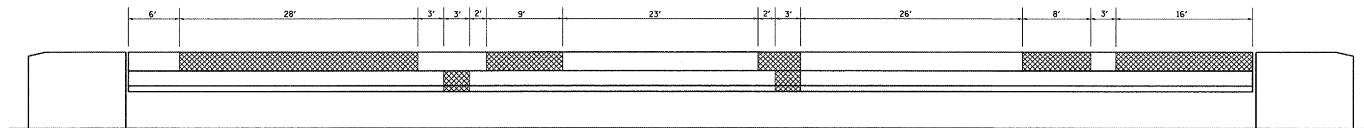
BILL OF MATERIAL WEST PARAPET

Item	Unit	Total
Formed Concrete Repair (Depth ≤ 5")	Sq. Ft.	28

WEST PARAPET ELEVATION INSIDE FACE



FORMED CONCRETE REPAIR < 5"



EAST PARAPET ELEVATION INSIDE FACE

BILL OF MATERIAL EAST PARAPET

Item	Unit	Total
Formed Concrete Repair (Depth ≤ 5")	Sq. Ft.	103

NAME DATE	ILLINOIS DEPARTMENT OF	TRANSPORTATION
	PARAPET_WALL	REPAIR

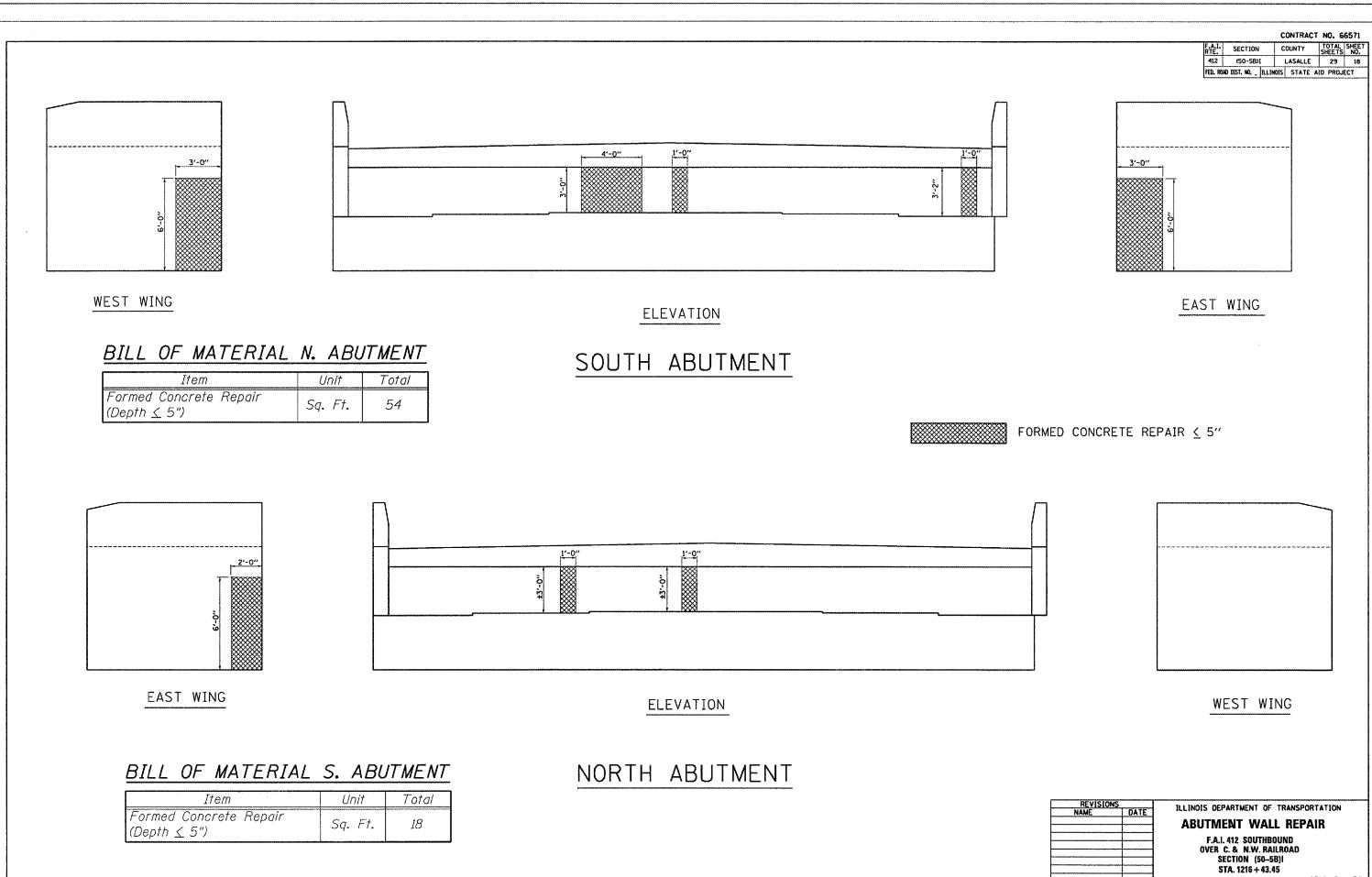
F.A.I. 412 SOUTHBOUND OVER C. & N.W. RAILROAD SECTION (50-5B)I STA. 1216 + 43.45

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LASALLE COUNTY

FAI 412 (I-39)

SECTION: (50-5B)I



SECTION: (50-5B)I

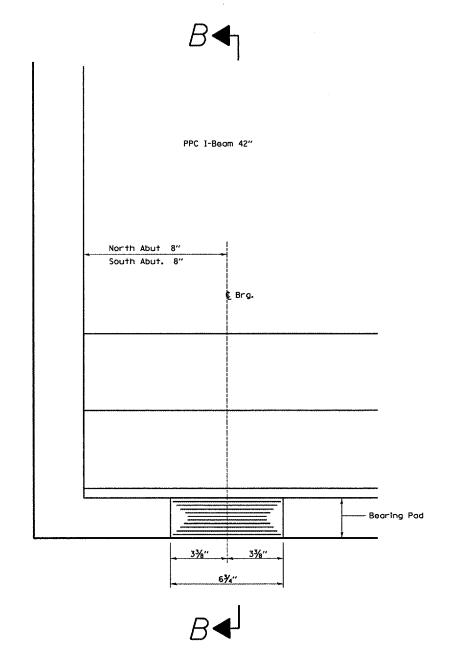
FAI 412 (I-39)

DATE 04/24/2005

DRAWN BY RW CHECKED BY



F.A.I. RTE.	SECTION		С	OUNTY	TOTAL SHEETS	SHEET NO.
412	(50-58)	1		LASALLE	29	19
FED. ROAD DIST. NO		ILLIN	210	STATE A	ID PROJ	ECT



ELEVATION AT ABUT.

Remove and Replace Elastomeric Bearing Pad Remove Existing Bracket INside face & Exterior Beams Proposed Bracket Proposed Bracket PPC I Beam 42" Cut off existing anchor Drill 11/2" Ø hole bolt flush with concrete for 1" Ø Anchor Bolt and seal with approved 1'-25%'' 1'-25%" 1′-5%″ 1′-5%″

SECTION B-B

Reaction for Bearing Replacement

R OL = 37.5 klps R SDL = 7.3 klps R LL = 38.8 klps R Imp = 10.1 klps

Min jack size: $1.5 \cdot (R DL + R SDL + 1/2(R LL + R Imp))/2$ in Tons

NOTE: The minimum jack size assumes no traffic over bearings being replaced plus a 50% safety factor for the Jack.

Sheet 1 OF 2

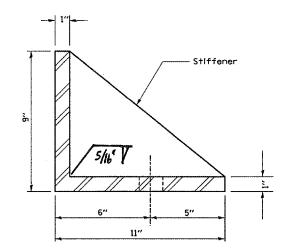
REVISIONS	ILLINOIS DEPARTMENT OF TRANSPORTATION	
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	BEARING REPLACEMENT DETAILS	
	F.A.I. 412 SOUTHBOUND	
	OVER C. & N.W. RAILROAD	
	SECTION (50–5B)I	
	STA. 1216 + 43.45	
	DRAWN BY RW	
	DATE 04/24/2005 CHECKED BY	

SECTION: (50-5B)I

FAI 412 (I-39)

LASALLE COUNTY

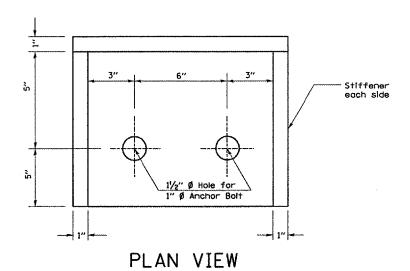
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SIDE VIEW

The cost of side retainers and anchor bolts is included with Eiastomeric Bearing Assembly Type I

FRONT VIEW



% Sealing rib

5 - 1/2 " Steel Plates

1/8" Sealing rib

1/8" Sealing rib

1/8" Sealing rib

ELASTOMERIC BEARING PAD

2²/₃₂ " X 6³/₄" X 1'-6" 12 REQUIRED

BRACKET DETAIL

11" X 9" X 1" X 1'-2"

24 REQUIRED

BILL OF MATERIAL

Item	Unit .	Total
Elastomeric Bearing	Each	10
Assembly Type I	L den	12

Sheet 2 OF 2

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REVISIO		ILLINOIS DEPARTMENT OF TRANSF	OPTATION
NAME	DATE	ICCINOIS DEFAITMENT OF TRANSF	UNIATION
		BEARING REPLACEMENT	DETAILS
***************************************		F.A.I. 412 SOUTHBOUND	
		OVER C. & N.W. RAILROAD SECTION (50–5B)I	
	+ +	STA. 1216 + 43.45	
	******************************		DRAWN BY RY
		DATE 04/24/2005	CHECKED BY

MARCH 24, 2005

 F.A.I. RTE.	SECTION		COUNTY		TOTAL, SHEETS	SHEET NO.
412	(50-5B))		LASALLE		29	21
FED. ROAD DIST. NO II		ILLINO	115	STATE A	D PROJ	ۂT

item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and ′′d′′Ø Hol<u>es with zerk</u> the fabrication of this bolt for use on highway projects for epoxy grout in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt. "D"0 134" 18" 38' 138" 116" 2" Anchor Bolt (See Bearing Details 15/6" 218" for number, size and length.) 11316 " 28" 258" 256" 338" Top of base plate End of End of groove coil lock 532 wide x 332 deep groove in anchor bolt with 18" \$ 16" at Bottom_ PLAN-COIL WIRE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any sultable soft steel wire. The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed. The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

- 1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete
- 2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part

- 1. A threaded rod stud with nut and washer of the type specified.
- 2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Туре
Abutments	A307

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted. Prior to setting the bolts, the holes shall be dry and all dust and loose

particles shall be removed by the use of compressed air or vacuuming. The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

anchor bolts may be substituted for the anchor bolts shown above.

ILLINOIS DEPARTMENT OF TRANSPORTATION **ANCHOR BOLT DETAILS**

> FOR BEARINGS F.A.I. 412 SOUTHBOUND OVER C. & N.W. RAILROAD SECTION (50-58)! STA. 1216 + 43.45

DATE 04/24/2005

DRAWN BY CHECKED BY

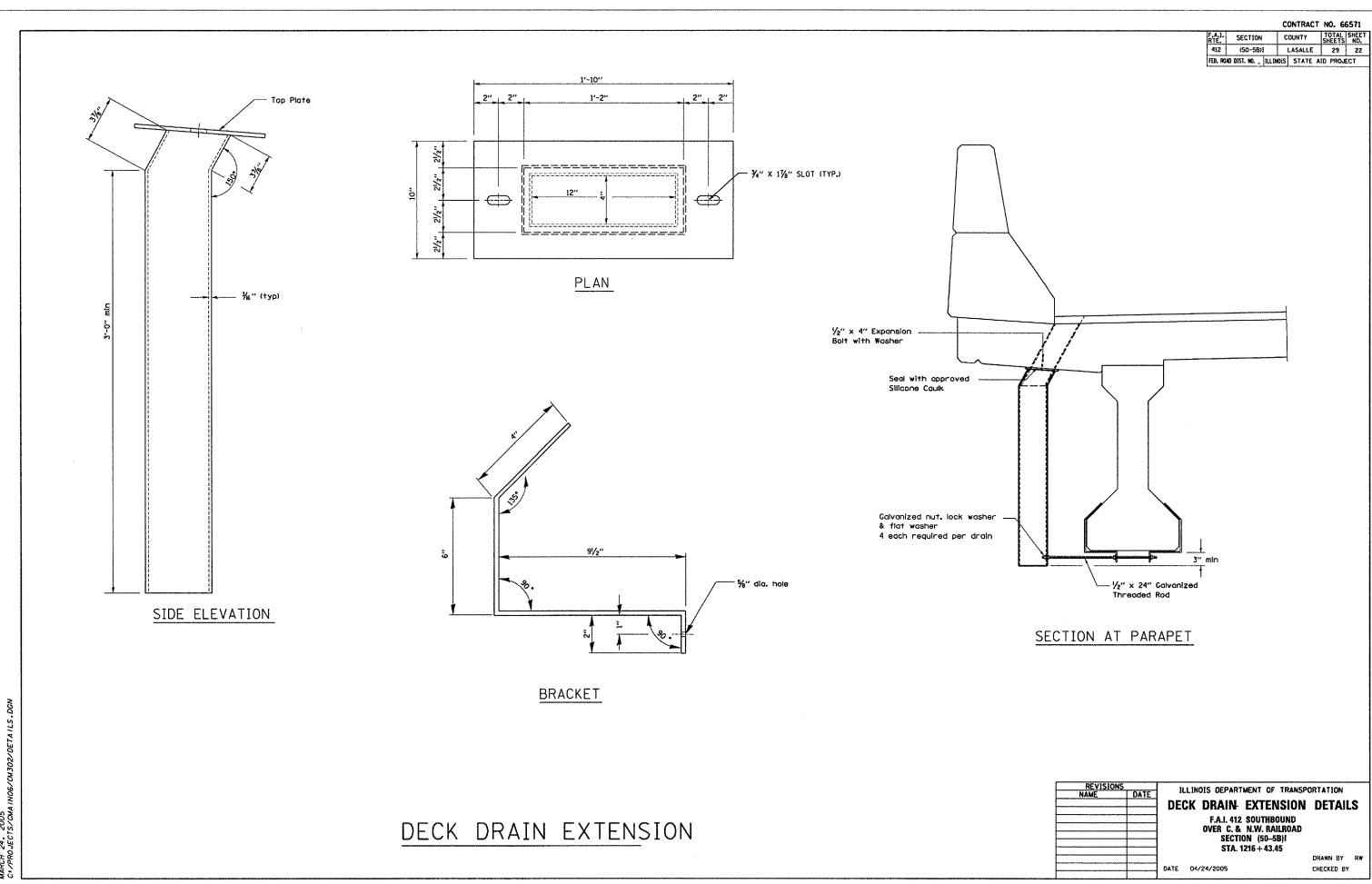
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SECTION: (50-5B)I

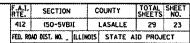
ILLINOIS COIL-LOCK ANCHOR BOLT

LASALLE COUNTY

The Illinois Coil-Lock Anchor Bolt is a proprietary



SECTION: (50-5B)I



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 fied 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:

Minimum Capacity (Tension in kips) = 1.25 \times fy \times A_t 1

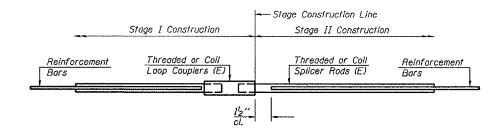
(Tension in kips) Minimum *Pull-out Strength = $1.25 \times fs_{allow} \times A_t$

Where fy = Yield strength of lapped reinforcement bars in ksi.

fs_{allow}= Allowable tensile stress in lapped reinforcement bars in ksi (Service Load) A₁ = Tensile stress area of lapped reinforcement bars. * = 28 day concrete

BAR SPLICER ASSEMBLIES							
		Strength Requirements					
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	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	<i>23</i> .6				
#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."



STANDARD

Bar Size	No. Assemblies Required	Location
		· · · · · · · · · · · · · · · · · · ·

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION						
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		BAR	SPLICER	ASSEMBLY	DET	AIL:	S	
			OVER C. &	SOUTHBOUND N.W. RAILROAD				
)N (50–5B)I 216 + 43.45				
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		DATE (04/24/2005		CHECKE	D BY		

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

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** ONE PIECE -Wire Connector עינייניין גיעיעיע

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

Washer Face

<u>"B"</u>

<u>"A"</u>

- Stage Construction Line

Foam Plugs

Threaded or Coil

Splicer Rods (E)

Template

Forms -

"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.

6'-0"

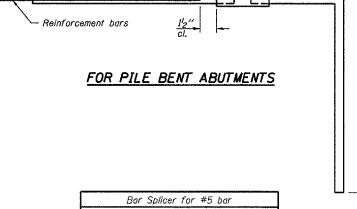
Threaded or Coil

Splicer Rods (E)

Bridge Deck Approach Slab Threaded or Coil Reinforcement Threaded or Coil Splicer Rods (E) Loop Couplers (E) 4'-0"

FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

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



Approach slab

Abutment hatch block

Threaded or Coil

Loop Couplers (E)

Min. Capacity = 23.0 kips - tension Min. Pull-out Strength = 9,2 kips - tension No. Required =

Min. Pull-out Strength = 9.2 kips - tension

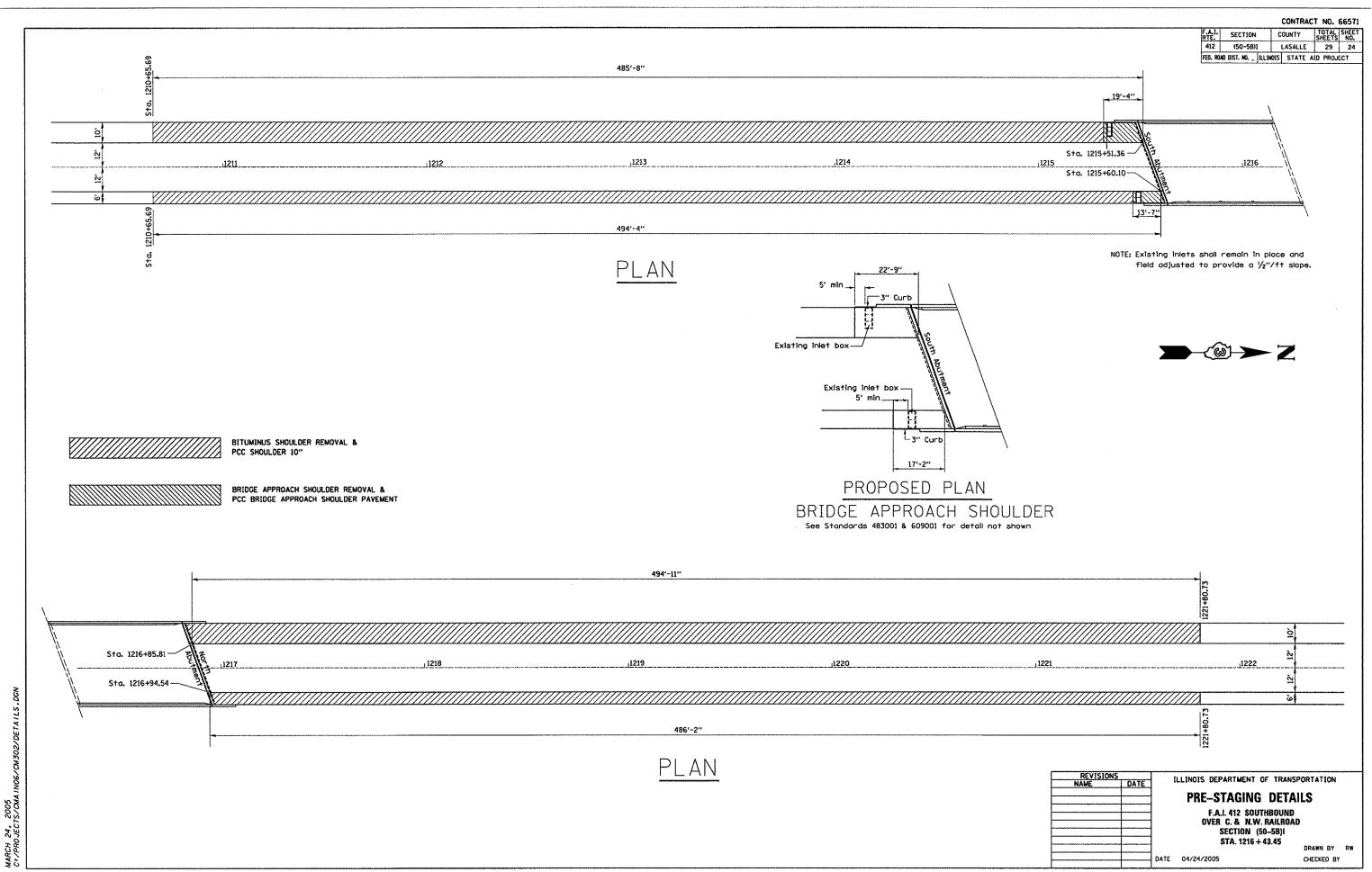
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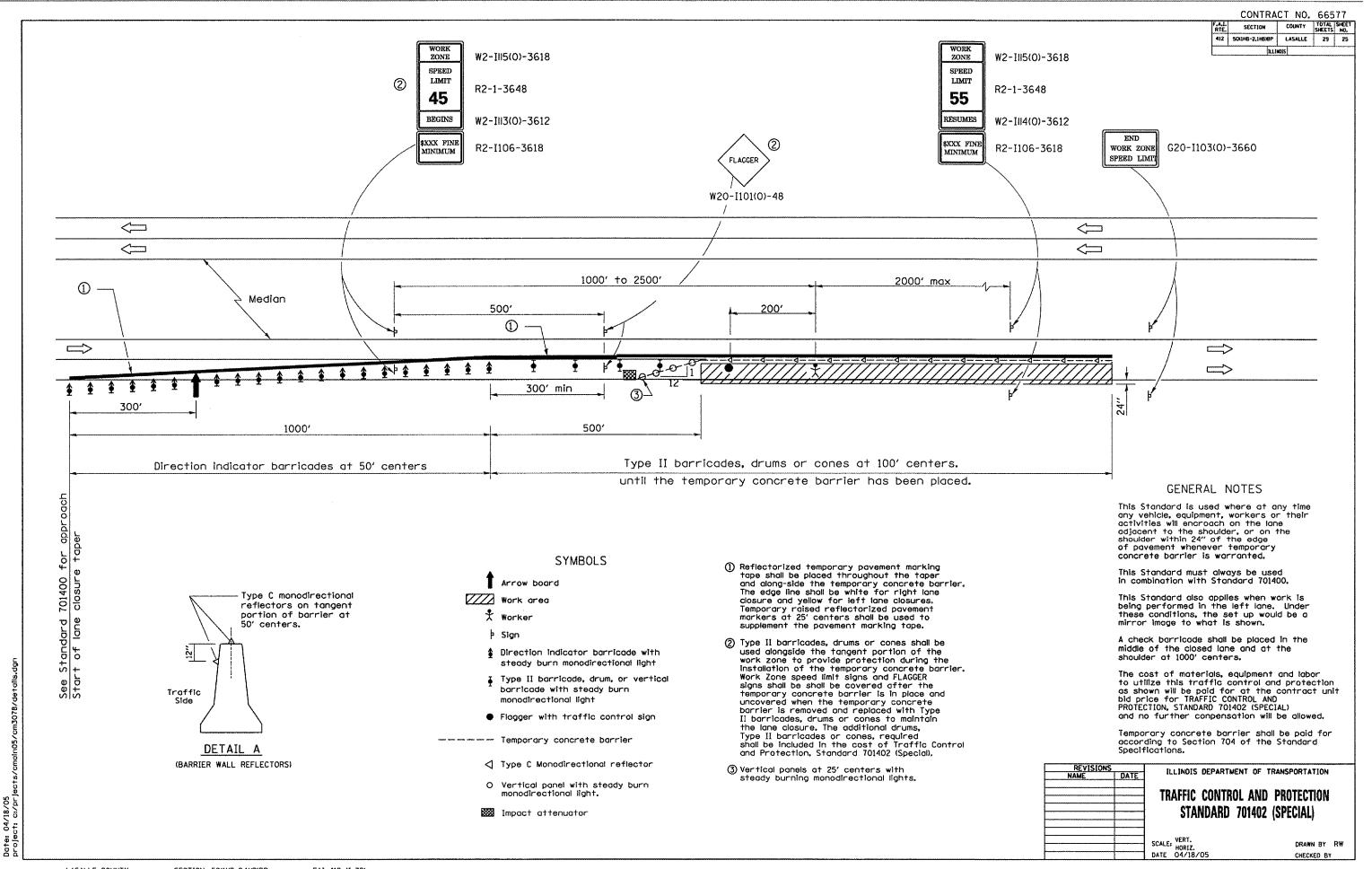
FAI 412 (I-39)

LASALLE COUNTY

SECTION: (50-5B)I



SECTION: (50-5B)I



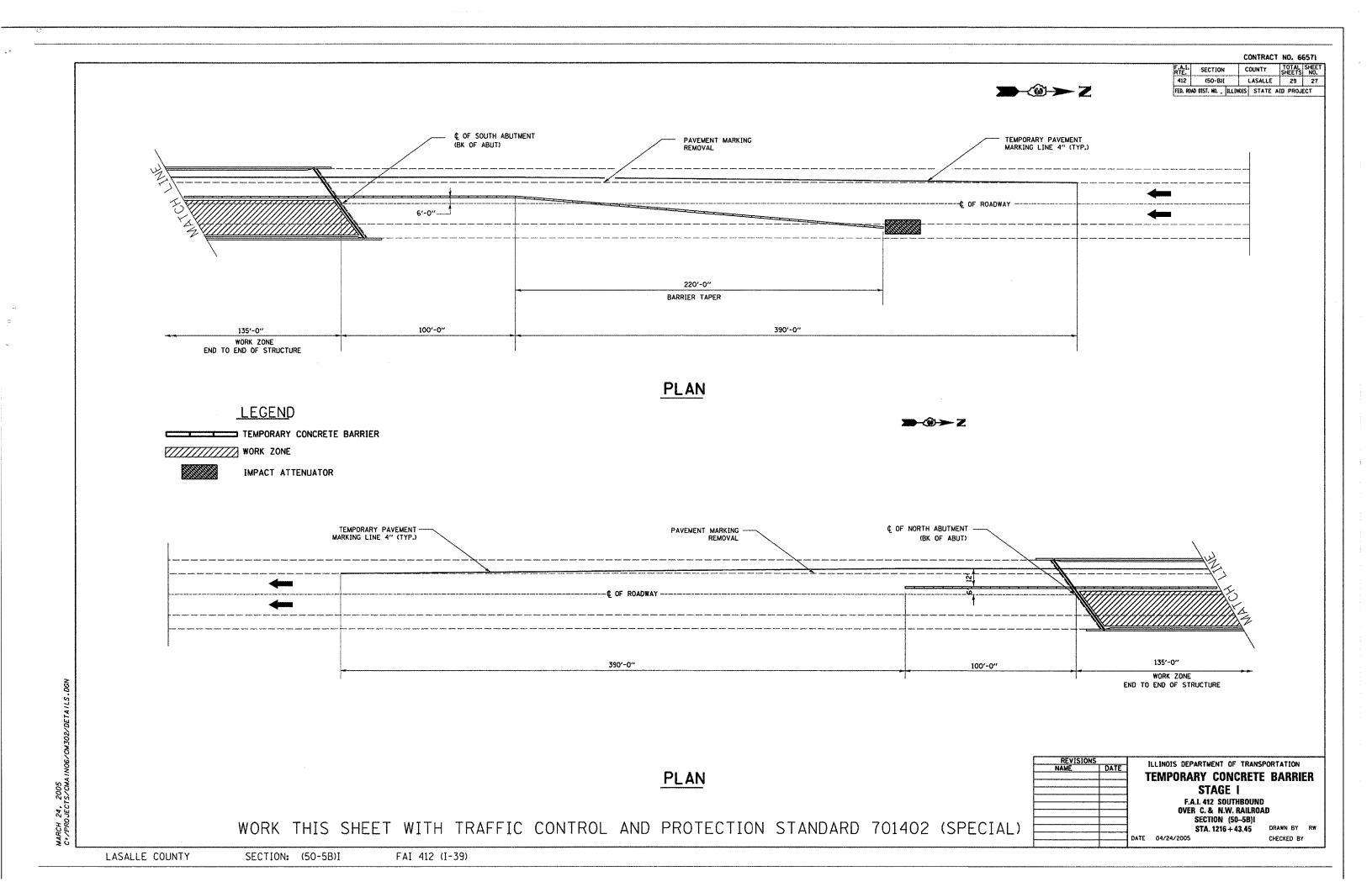
SECTION: 50(1HB-2,1HB)BP

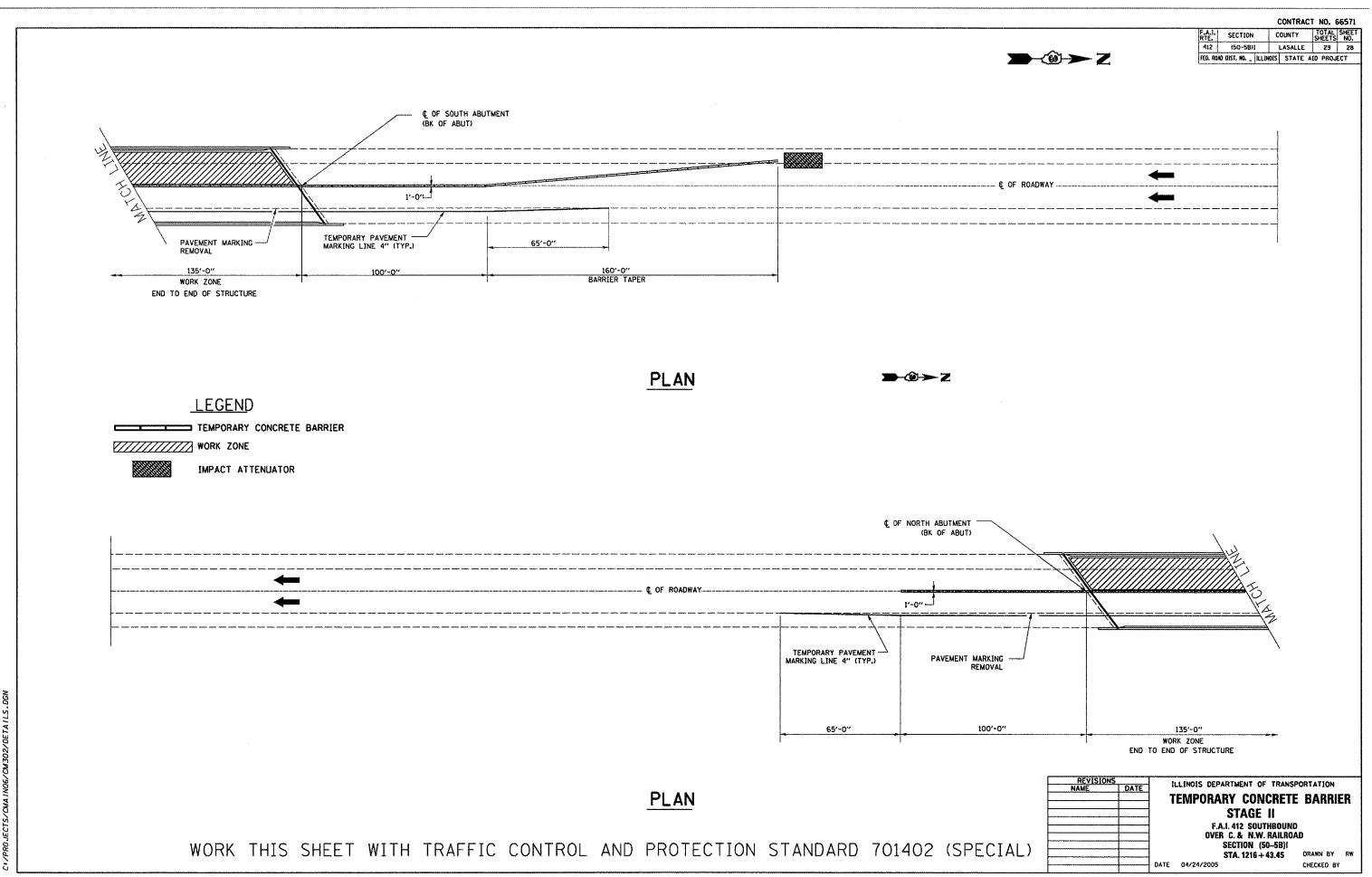
CONTRACT NO. 66571 40'-0" FACE TO FACE E.O.P. E.O.P. C OF ROADWAY 12'-0" DRIVING LANE 5'-3" SHOULDER 12'-0" PASSING LANE 9'-3" SHOULDER 14'-3" OPEN LANE 21'-3" WORK ZONE 3'-0" REMOVAL LINE 12'-0" TRAFFIC LANE 2'-0" CONST. LINE STAGE I TEMPORARY PAVEMENT - MARKING LINE 4" (TYP.) 40'-0" FACE TO FACE E.O.P. E.O.P. C OF ROADWAY 5'-3" SHOULDER 12'-0" PASSING LANE 12'-0" DRIVING LANE 9'-3" SHOULDER 3'-0"
REMOVAL LINE
2'-0"
CONST.
LINE 1'-0" 16'-3" OPEN LANE 12'-0" TRAFFIC LANE STAGE II TEMPORARY PAVEMENT -MARKING LINE 4" (TYP.) ILLINOIS DEPARTMENT OF TRANSPORTATION **STAGING & TRAFFIC CONTROL TYPICALS** F.A.I. 412 SOUTHBOUND

OVER C. & N.W. RAILROAD

SECTION (50-5B)I

STA. 1216 + 43.45 DRAWN BY RW DATE 04/24/2005 CHECKED BY LASALLE COUNTY SECTION: (50-5B)I FAI 412 (I-39)





SECTION: (50-5B)I

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