STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

FAI ROUTE 412 (I-39) SECTION (50–5B)I–1

LASALLE COUNTY C-93-076-05 **BRIDGE REPAIR**

gyyppynyng denblos myn edd hibdeg hag y pysteg bloden dd o nden i diblidh d	yr gladdi dd a bhyda a cinhachin da a dddin bladdin ga gana h d bladain h	Markitti Mil Lill Willia a a la hi a kin a hidin a diphandan pandan ya pappan	
FAP 7 587 M	NDOTA 39	MERIDEN E	FAP 587 ARLVILLE
	169 169 F	TRIUMPH	
	TROY GROVE V	PRAIF CENTE VALTHAM	
		LASA	ALLE
PER		NAPL	A I E 621
FAP 619, SPUR	GL SP FAP	VERMILIC	NVILLE
	EDAR WE	ELOWELL	

LOCATION MAP NOT TO SCALE

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 050-0174 FAI 412 (I-39) NORTHBOUND OVER A CREEK 3.5 mi NORTH OF I-80

MICROFILMED	
AWARDED	
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

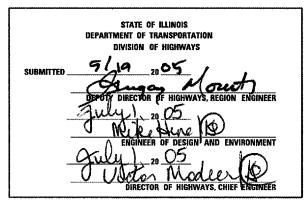
CONTRACT NO. 66570

FAI 412 (I-39)

COUNTY SECTION (50-5B)I-1 LASALLE 29

D-93-002-05





PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

LASALLE COUNTY

SECTION: (50-5B)I-1

				CC	NTRACT	T N	0. 66	5570
_	F.A.I. RTE.	SECT10	V	C	OUNTY	S	OTAL HEETS	SHEET NO.
	412	(50-58)	[-]		LASALLE		29	2
	FFD. RO.	AD DIST. NO.	TO 1 IN	210	STATE	AID	PRO.I	FCT

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 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
001001	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	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 4.5 m (15') AWAY
701400-02	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
702001-05	TRAFFIC CONTROL DEVICES
704001-02	TEMPORARY CONCRETE BARRIER

PREPARED BY:

DISTRICT OPERATIONS ENGINEER

EXAMINED BY:

DISTRICT CONSTRUCTION ENGINEER

ACTOG DISTRICT STUDIES & PLANS ENGINEER

DISTRICT MATERIALS ENGINEER

MARCH 30, 2005 C*/PROJECTS/CMAINO6/CM303/DETAIL:

CONTRACT NO. 66570

F.A.I. RTE.	SECTION	(OUNTY	SHEETS	SHE
412	(50-58)[-1	T	LASALLE	29	3
FFD. RO	AD DIST. NO. ILL	21041	STATE	AID PROJ	FCT

	SUMMARY OF QUANTITIES					
	CONSTRUCTION CODE TYPE: X081-ZA					
CODE NO.	ITEM	UNIT	RURAL 100% STATE TOTAL QUANTITY			
31101900	SUB-BASE GRANULAR MATERIAL, TYPE C	TON	200			
42001500	PCC BRIDGE APPROACH SHOULDER PAUT	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	157			
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	SQ FT	29			
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 SQYD EACH	1 1			

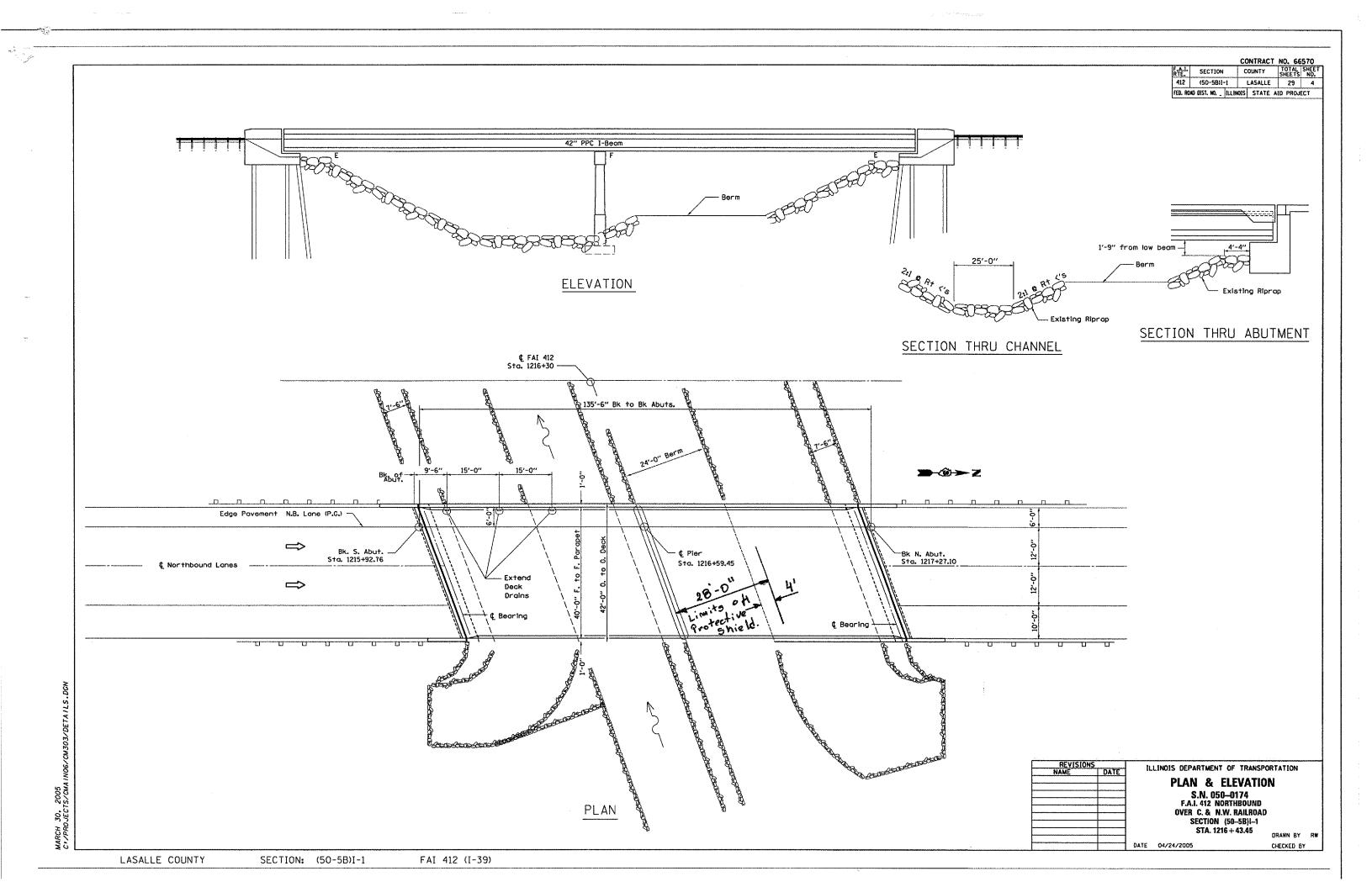
REVISIONS
NAME
DATE

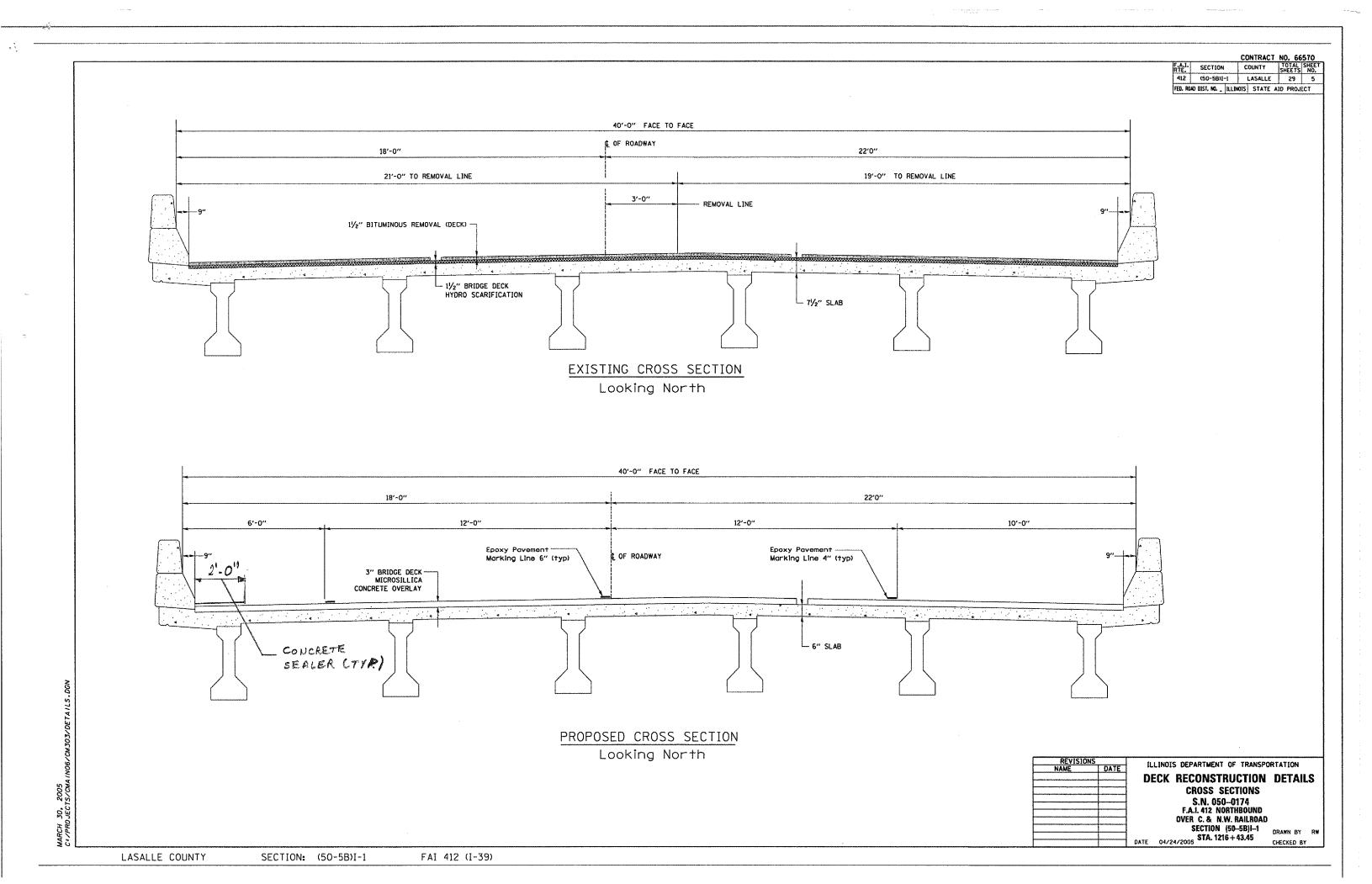
SUMMARY OF QUANTITIES
S.N. 050—0174
F.A.I. 412 NORTHBOUND
OVER C. & N.W. RAILROAD
SECTION (50–5B)I-1
STA. 1216 + 43.45
DATE 04/24/2005
CHECKED BY

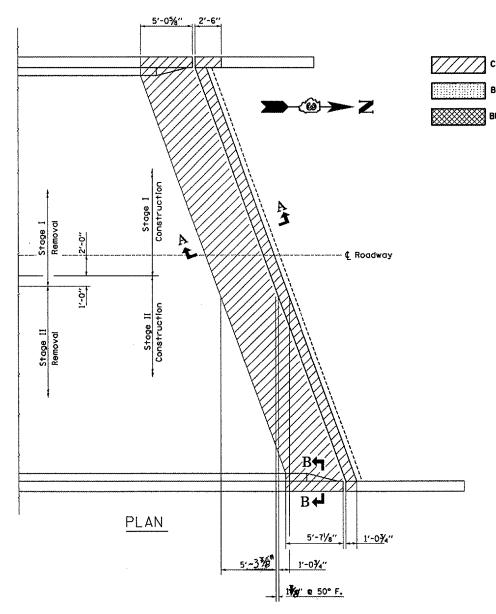
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LASALLE COUNTY

SECTION: (50-5B)I-1







CONCRETE REMOVAL

BITUMINOUS REMOVAL (DECK)

BRIDGE DECK HYDRO-SCARIFICATION

Minimum Bar Lap

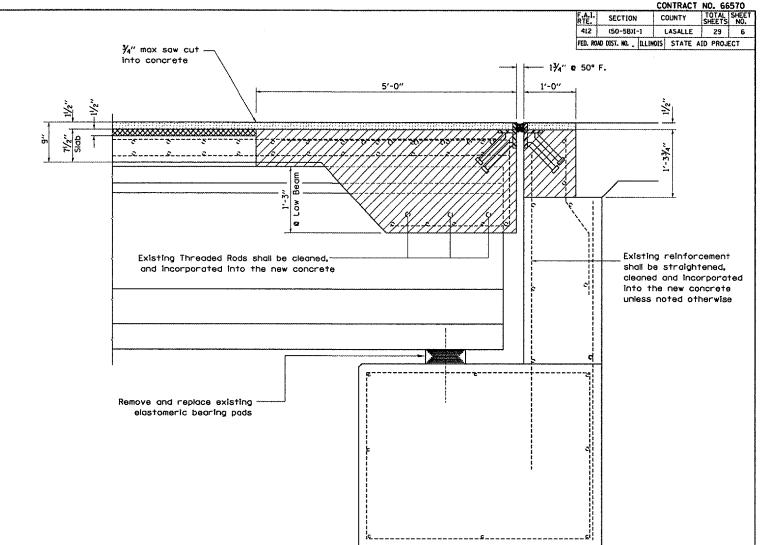
#4 1'-8''

#5 2′-2′′

#6 2'-7''

‡7 3′-5′′

#8 4'-6''



GENERAL NOTES:

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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 replaced using approved bar splicer 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 Specifications.

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 bor lap for the size of bar as shown. All other reinforcement shall be removed and replaced with new Epoxy Coated bars.

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".

SECTION A-A

© Rt ('s

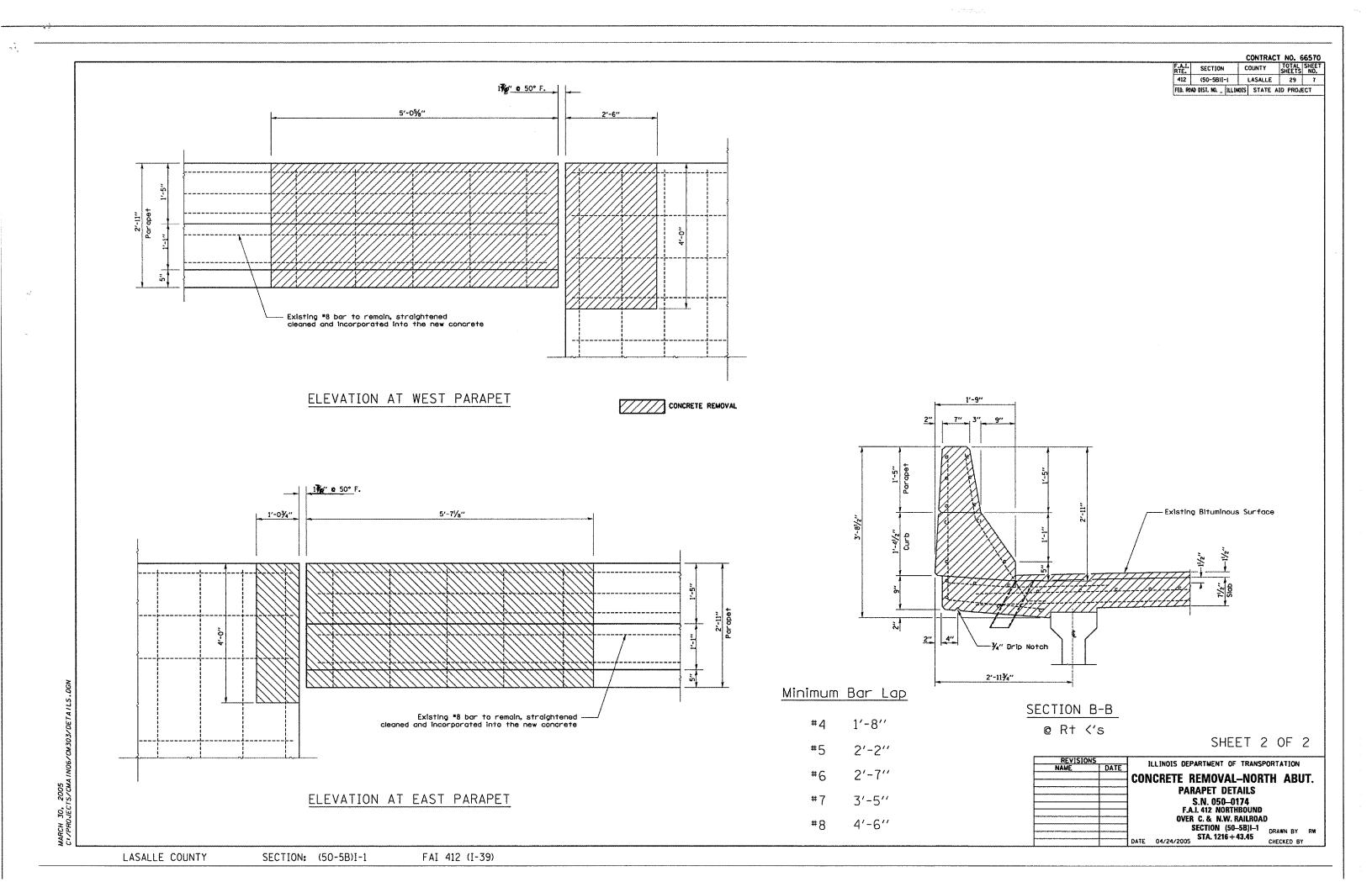
BILL OF MATERIAL NORTH ABUTMENT

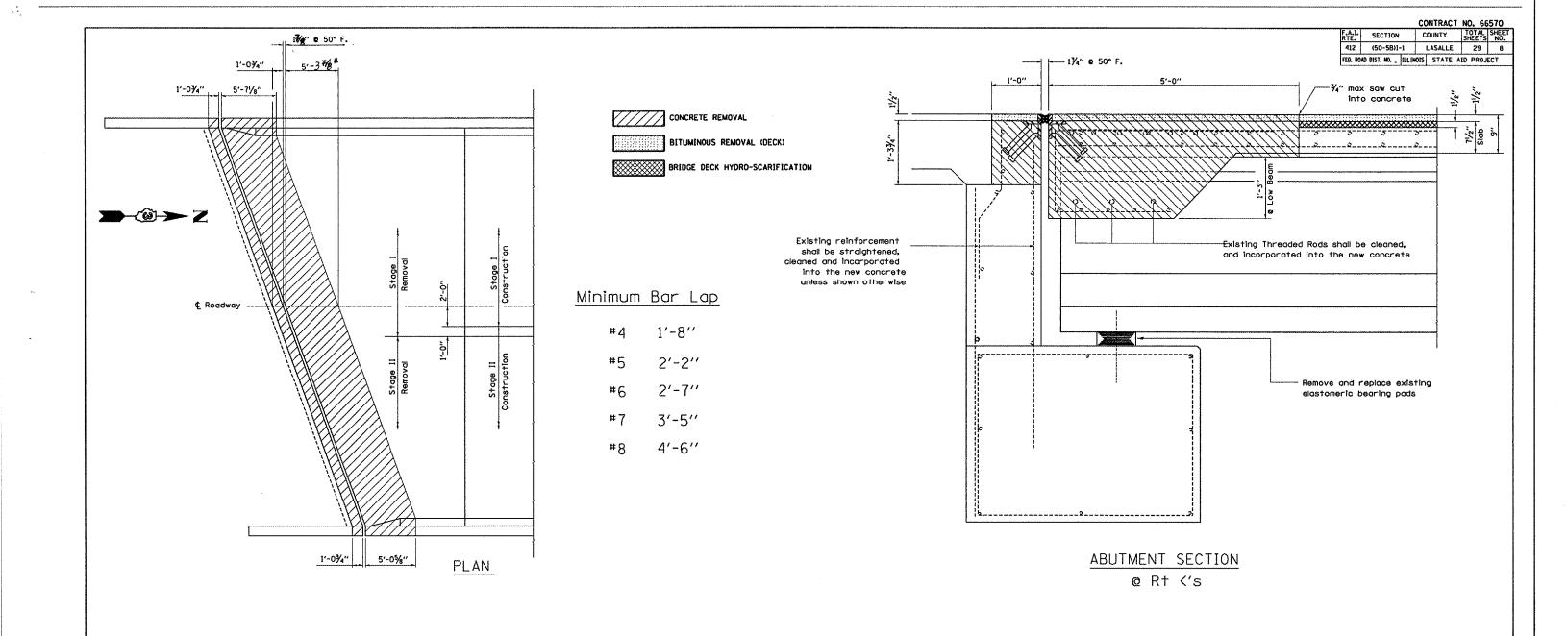
Item	Unit	Total
CONCRETE REMOVAL	CU. YD.	15.7
JACK AND REPLACE BEARINGS	EACH	6

SHEET 1 OF 2

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION					
NAME	DATE	TELINOIS DELANIMENT OF THRESTON INTO THE					
		CONCRETE REMOVAL—NORTH ABUT.					
		DECK DETAILS					
		S.N. 050-0174 F.A.I. 412 NORTHBOUND					
	+	OVER C. & N.W. RAILROAD					
		SECTION (50-5B)I-1 DRAWN BY RW					
	1	DATE 04/24/2005 STA. 1216 + 43.45 CHECKED BY					

ARCH 30, 2005





BILL OF MATERIAL SOUTH ABUTMENT

Item	Unit	Total
CONCRETE REMOVAL	CU. YD.	<i>15.5</i>
JACK AND REPLACE BEARINGS	EACH	6

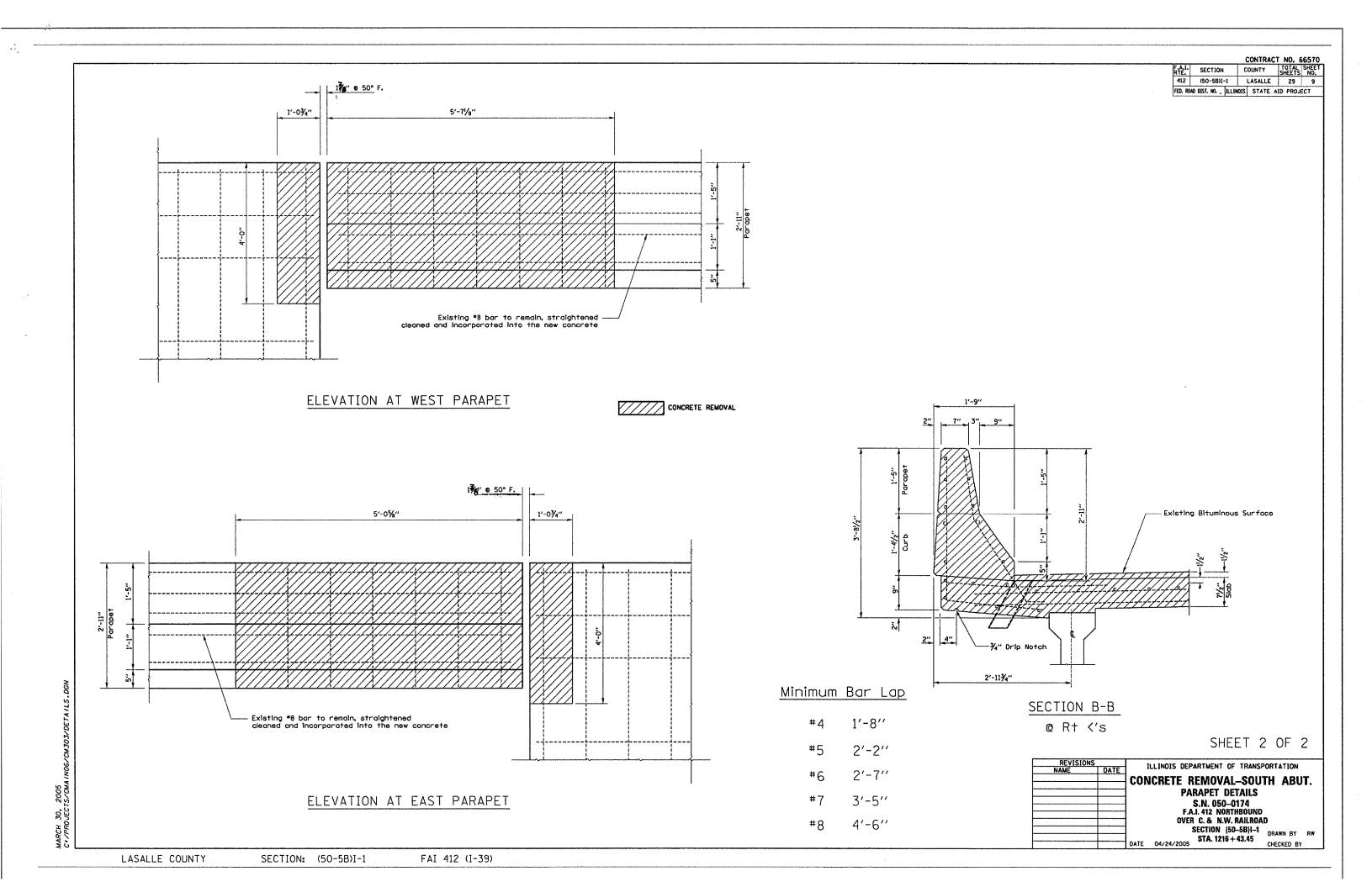
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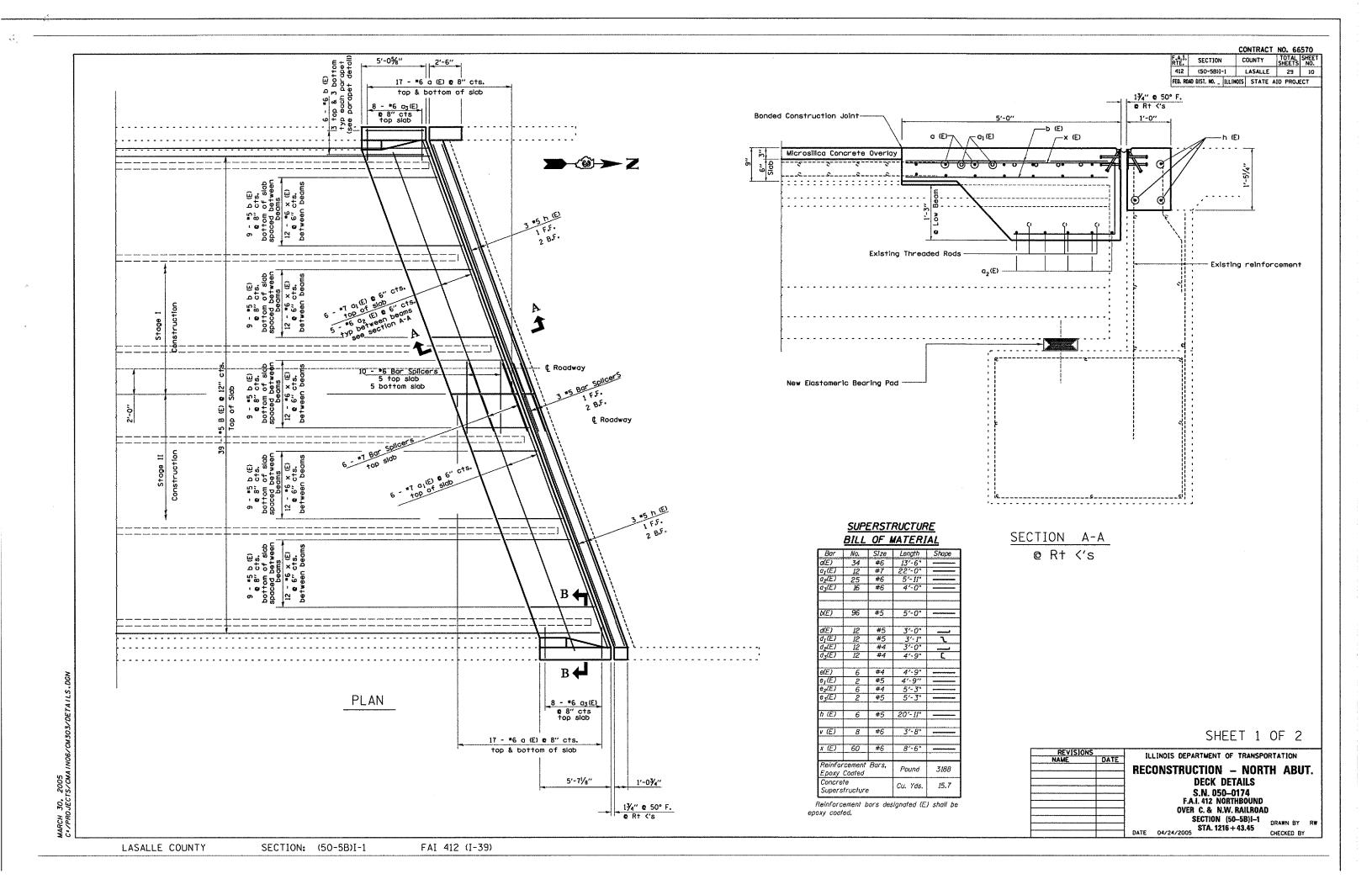
REVISIONS NAME DATE	ILLINOIS DEPARTMENT OF TRANSPORTATION
	CONCRETE REMOVAL—SOUTH ABUT.
	DECK DETAILS
	S.N. 0500174 F.A.L 412 NORTHBOUND
	OVER C. & N.W. RAILROAD
	SECTION (50-5B)I-1 DRAWN BY RW
	DATE 04/24/2005 STA. 1210 T 43.43 CHECKED BY

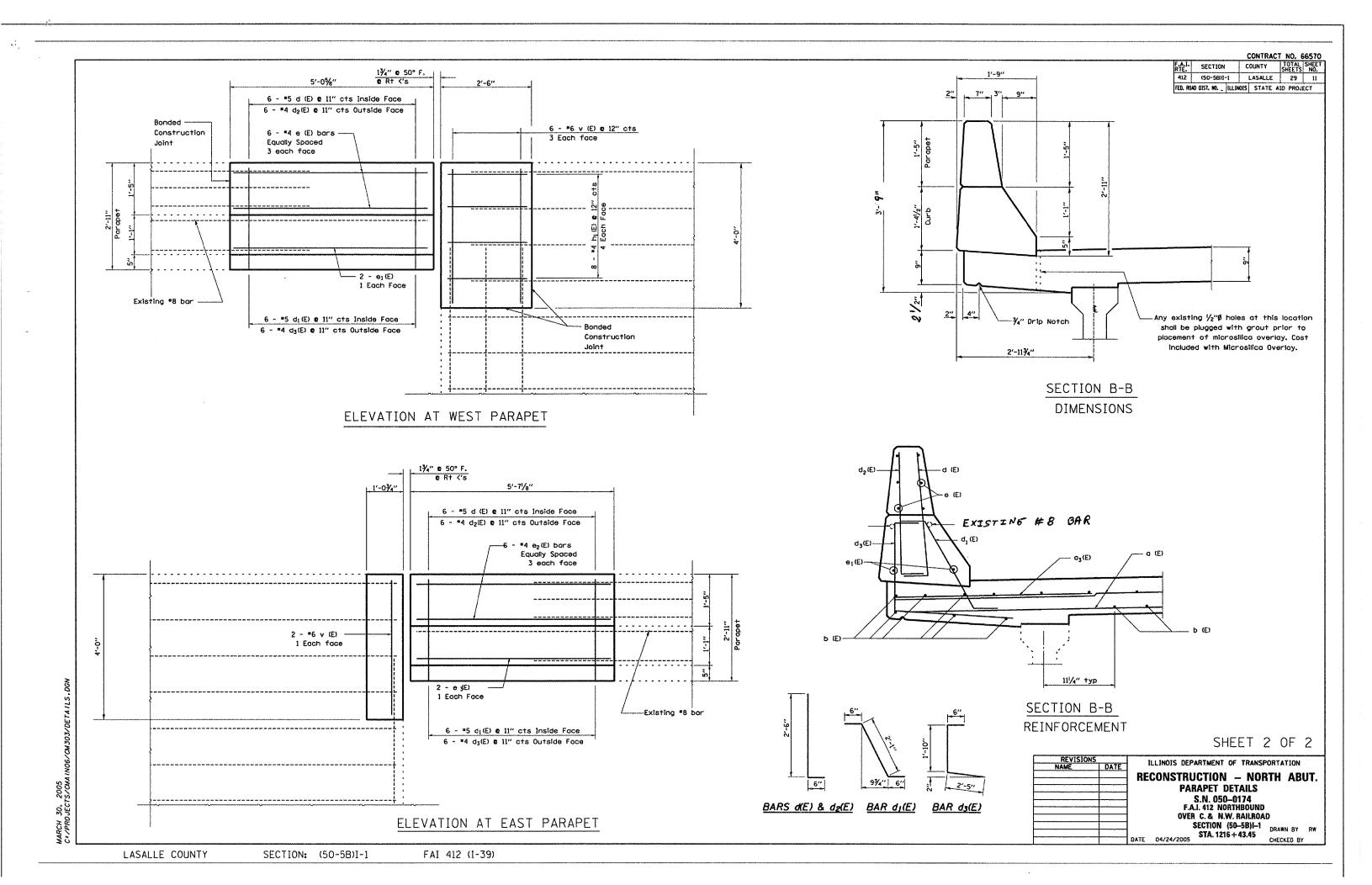
WARCH 30, 2005

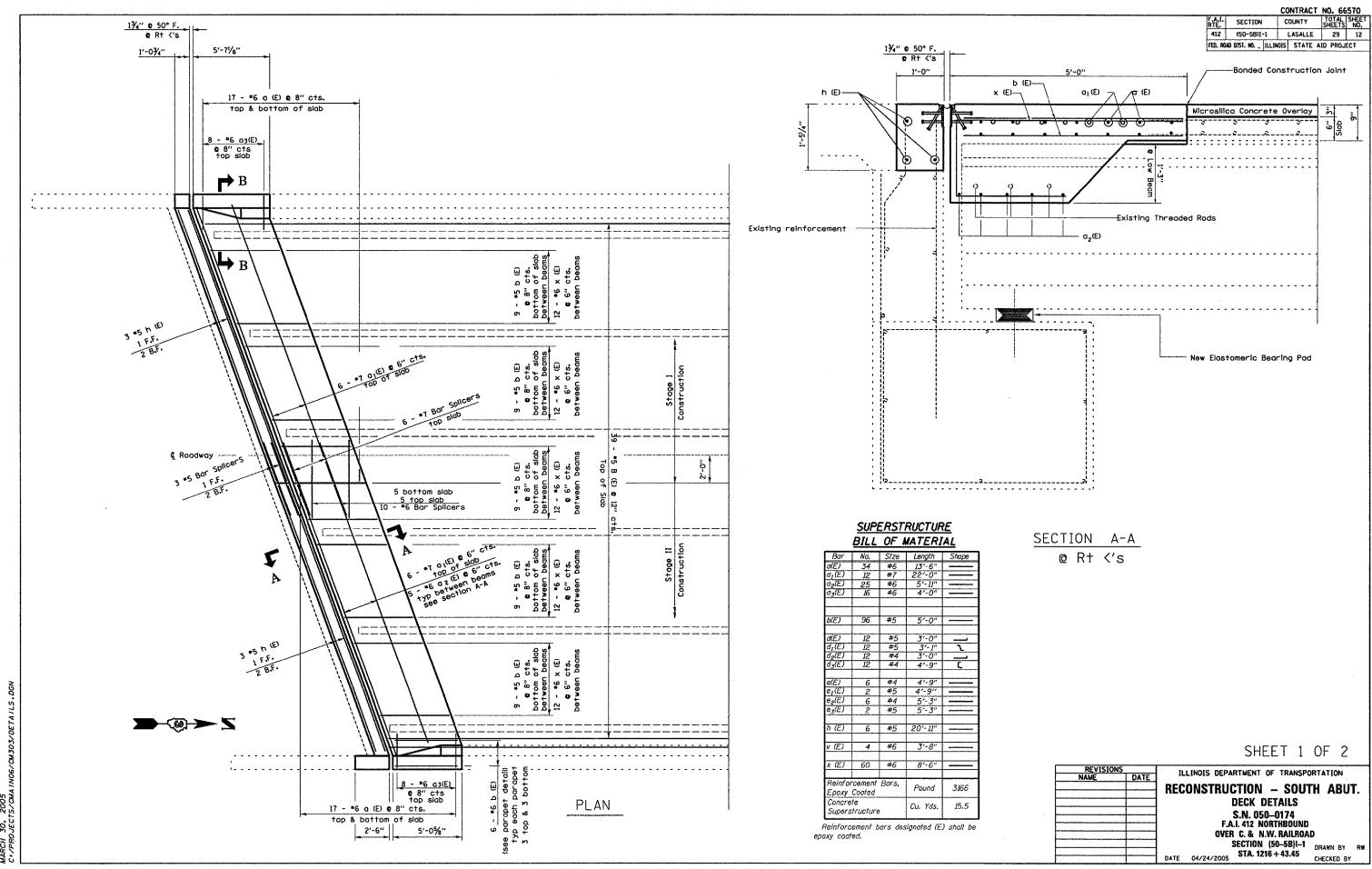
LASALLE COUNTY SECT

SECTION: (50-5B)I-1



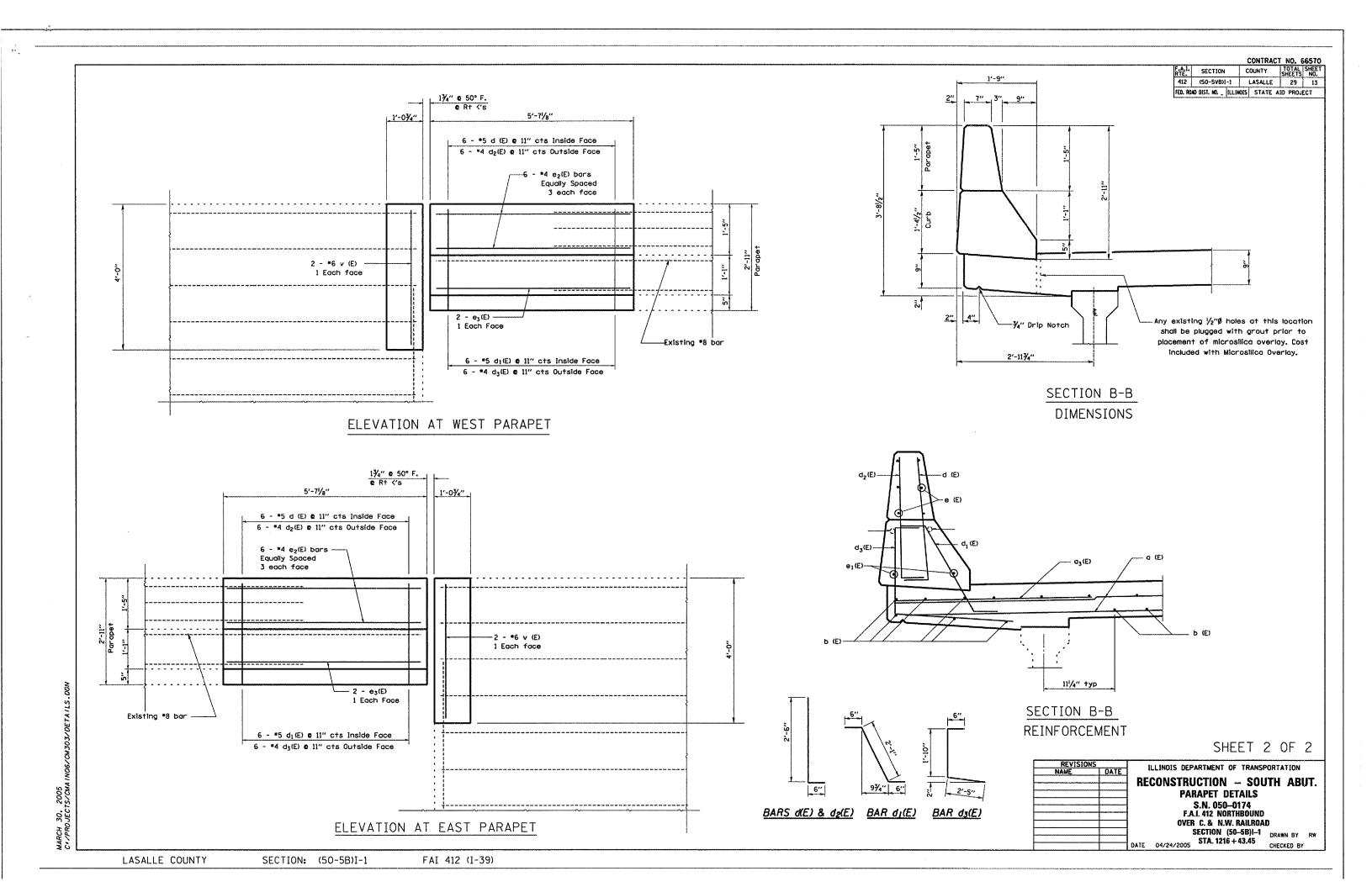




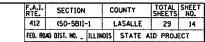


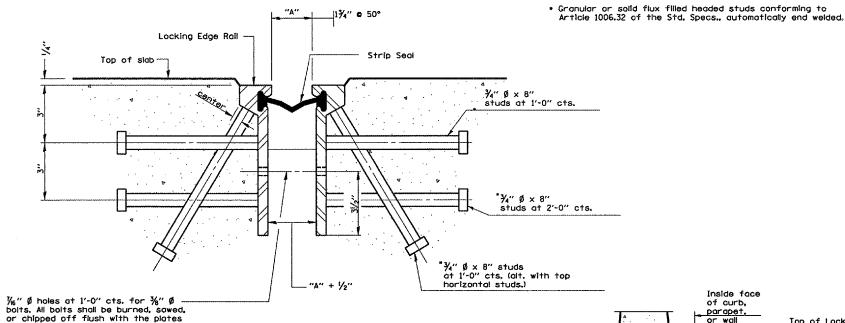
LASALLE COUNTY

SECTION: (50-5B)I-1

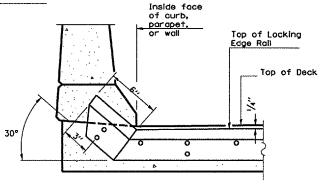








SECTION THRU ROLLED RAIL EXP. JOINT (424 Studs Required)

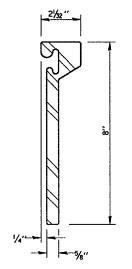


__174" € 50° Locking Edge Rail -Strip Seal Top of slab * ¾" Ø x 8" studs at 1'-0" cts. studs at 2'-0" cts. Place plates at 1'-0" cts.
(alt. with top horizontal studs) %6" Ø holes at 1'-0" cts. for %" Ø — bolts. All bolts shall be burned, sawed, or chipped off flush with the plates

SECTION THRU WELDED RAIL EXP. JOINT

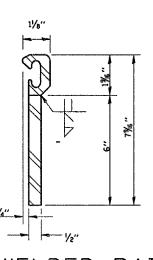
(256 Studs Required) (172 Anchor Plates Required)

AT PARAPET

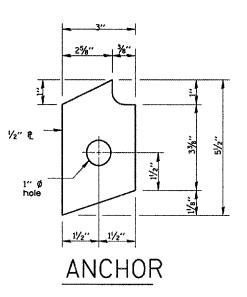


ROLLED (EXTRUDED) RAIL

LOCKING EDGE RAILS



WELDED RAIL



(for welded rail)

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 Ralls 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.

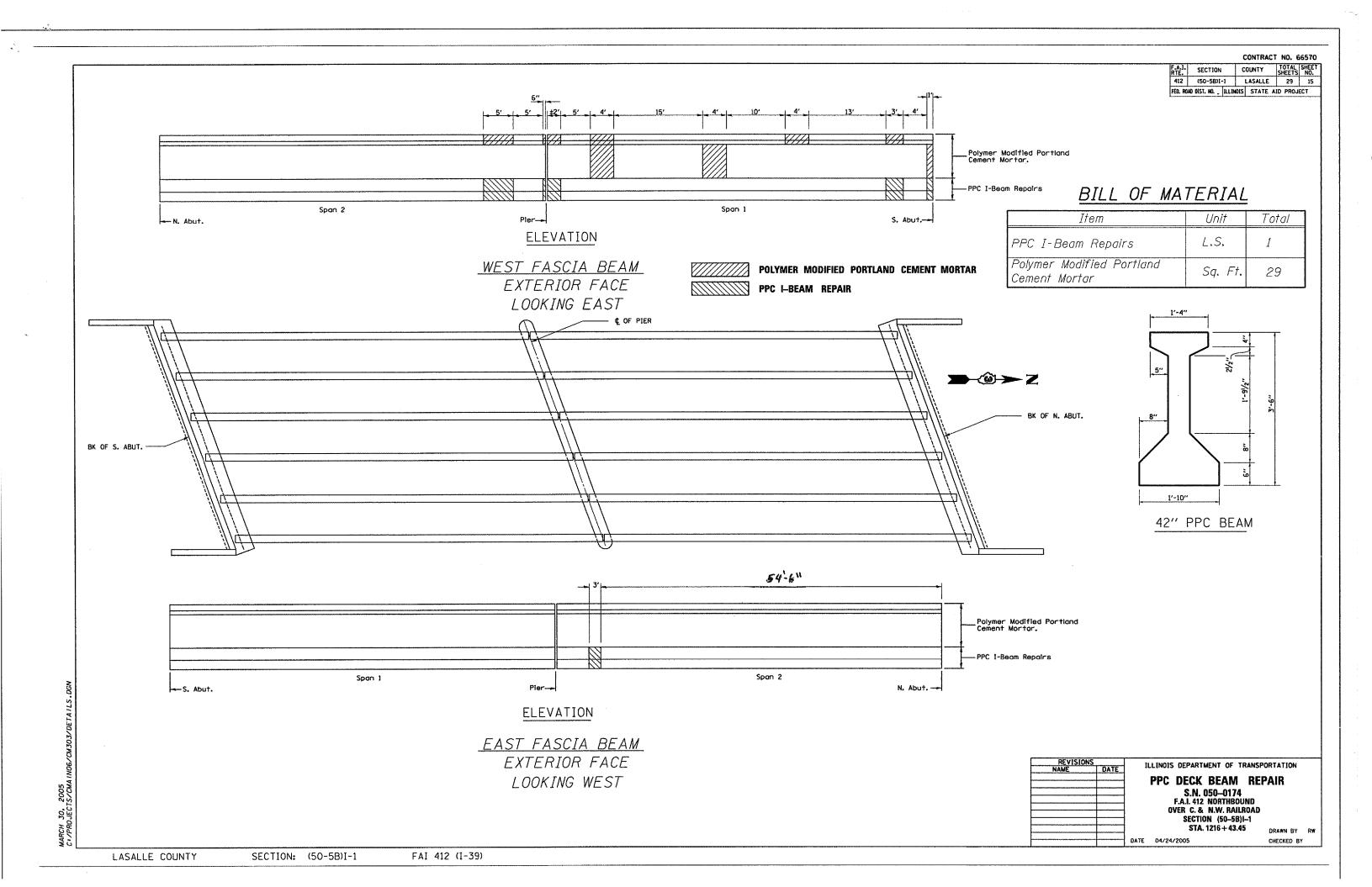
ILLINOIS DEPARTMENT OF TRANSPORTATION STRIP SEAL EXPANSION **JOINT DETAILS** S.N. 050-0174 OVER C. & N.W. RAILROAD SECTION (50-5B)1-1

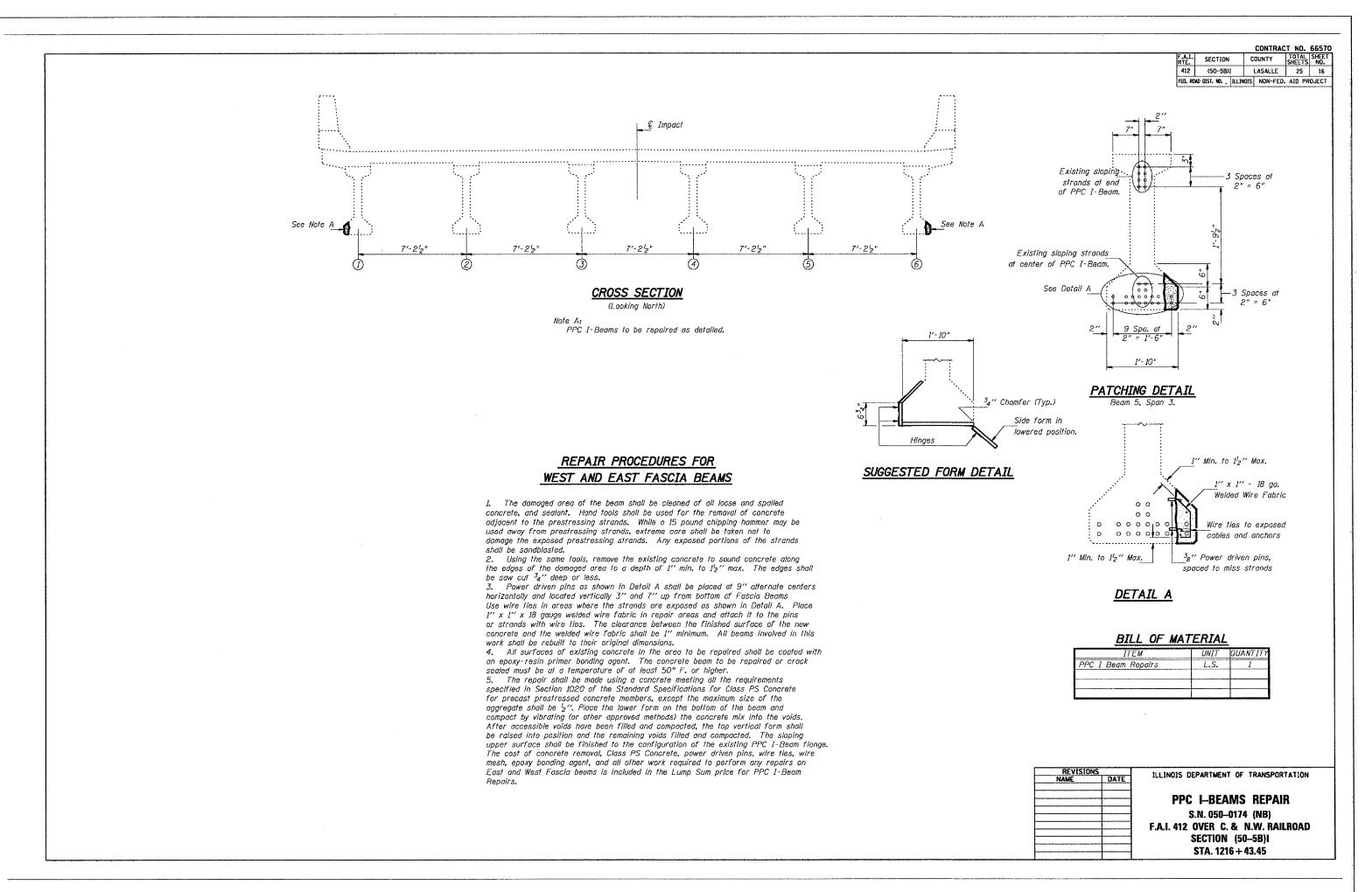
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LASALLE COUNTY

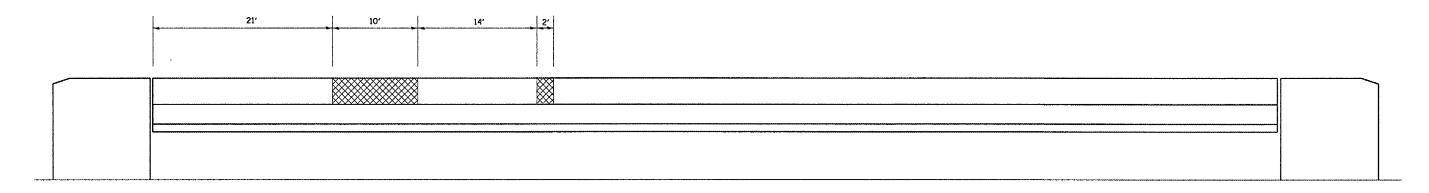
after forms are removed. (typ.)

SECTION: (50-5B)I-1





F.A.I.	SECTION		COUNTY	TOTAL	SHEET NO.
412	(50-5B))	-1	LASALLE	29	17
FED, R	FED, ROAD DIST, NO, _		STATE A	AID PROJ	ECT

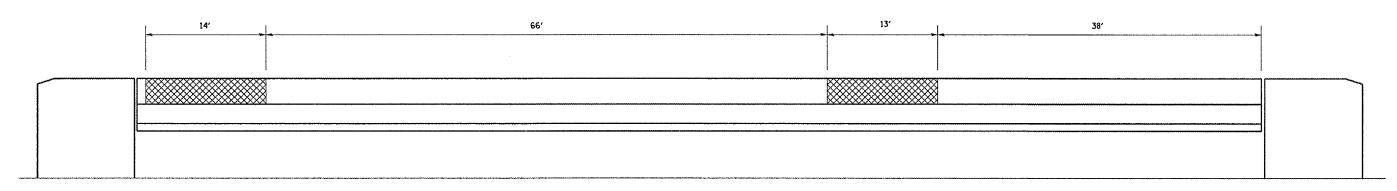


BILL OF MATERIAL WEST PARAPET

Item	Unit	Total
Formed Concrete Repair (Depth <u>≤</u> 5")	Sq. Ft.	36

WEST PARAPET ELEVATION INSIDE FACE





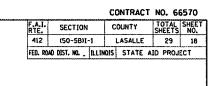
<u>EAST PARAPET ELEVATION</u> INSIDE FACE

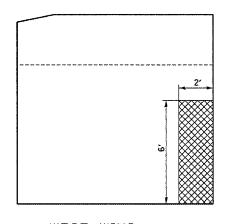
BILL OF MATERIAL EAST PARAPET

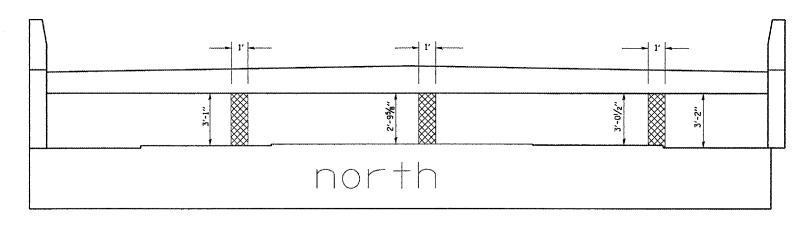
Item	Unit	Total
Formed Concrete Repair (Depth ≤ 5")	Sq. Ft.	56

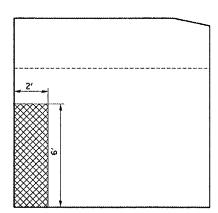
REVISIONS	ILLINOIS DEPARTMENT OF TRANSPORTATION						
NAME	DATE	11.	CINOIS DELAN	IMENI OF	INAMORY	MINITON	
			PARAPET	WALL	REPA	IR	
			F.A.I. 412	50-0174 Northbol	JND		
				N.W. RAIL N (505B) 1216 + 43.4	I1	DRAWN BY	RW
		DATE	04/24/2005			CHECKED BY	

MARCH 30, 2005









WEST WING

ELEVATION

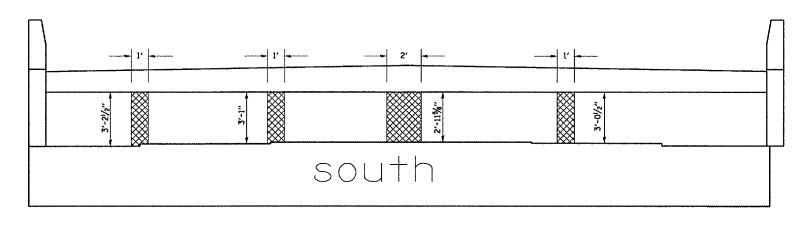
EAST WING

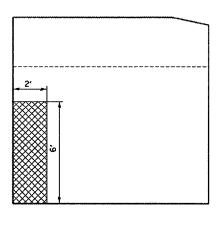
BILL OF MATERIAL N. ABUTMENT

	Item	Unit	Total
1	ormed Concrete Repair Depth <u><</u> 5")	Sq. Ft.	33

NORTH ABUTMENT







EAST WING

ELEVATION

WEST WING

BILL OF MATERIAL S. ABUTMENT

Item	Unit	Total
Formed Concrete Repair (Depth \leq 5")	Sq. Ft.	32

S	0	U	T	H	Α	В	U	T	M	E	N	T
						_	-	-		-		*****

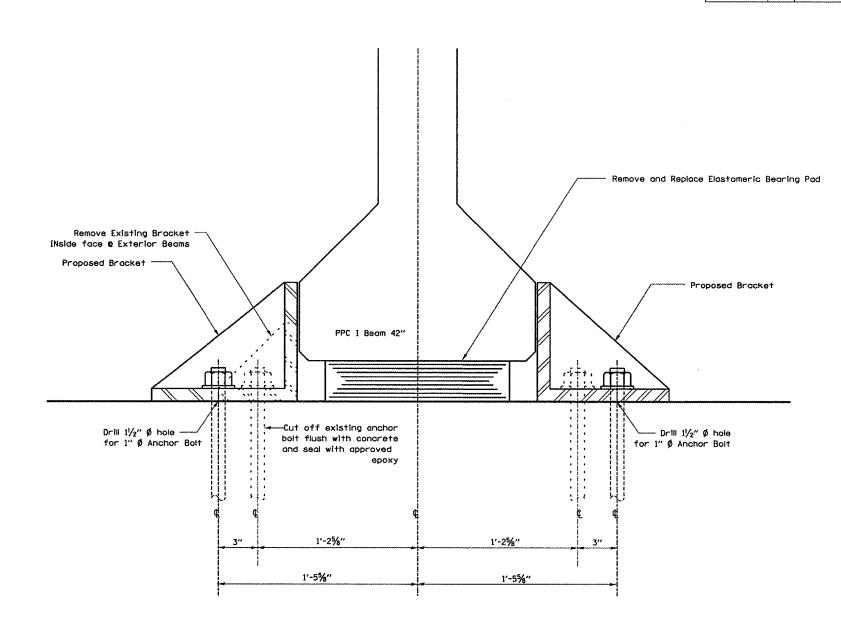
REVISIO	NS I		LINOIS DEPARTMENT OF TRANSI	COSTATION	
NAME	DATE		ABUTMENT WALL REI		
				rain	
			S.N. 0500174 F.A.I. 412 NORTHBOUND		
			OVER C. & N.W. RAILROAD SECTION (50-58)I-1	J	
~~~			STA. 1216 + 43.45	DRAWN BY	RW
		DATE	04/24/2005	CHECKED BY	



RTE. SECTION	COUNTY	SHEETS	NO
412 (50-5B)	-1 LASALI	E 29	15

PPC I-Beam 42" € Brg. 33/8"

ELEVATION AT ABUT.



SECTION B-B

#### **Reaction for Bearing Replacement**

R DL = 37.5 kips

R SDL = 7.3 kips

R LL = 38.8 klps

R Imp = 10.1 klps

Min jack size: 1.5+(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

ILLINOIS DEPARTMENT OF TRANSPORTATION BEARING REPLACEMENT DETAILS S.N. 050-0174 F.A.I. 412 NORTHBOUND OVER C. & N.W. RAILROAD SECTION (50-5B)1-1 STA. 1216 + 43.45 DRAWN BY RW DATE 04/24/2005 CHECKED BY

LASALLE COUNTY

SECTION: (50-5B)I-1

CONTRACT NO. 66570

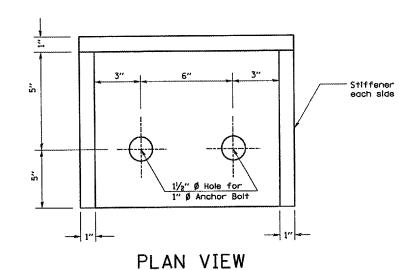
F.A.I. RTE.	SECTION	COUNTY	TOTAL	SHEET NO.
412	(50-5B)I-1	LASALLE	29	20
rra or	ID DICT NO ULL	HOTE CTATE	10 000	CCT

SIDE VIEW

Bearing Assembly Type I.

The cost of the side retainers and anchor bolts is included with Elastomeric

FRONT VIEW



— 1∕8" Sealing rib ⅓2 " Steel Plates

# 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 Assembly Type I	Each	12

Sheet 2 OF 2

ILLINOIS DEPARTMENT OF TRANSPORTATION **BEARING REPLACEMENT DETAILS** S.N. 050-0174 F.A.I. 412 NORTHBOUND OVER C. & N.W. RAILROAD SECTION (50-5B)I-1 STA. 1216 + 43.45 DRAWN BY RW CHECKED BY

LASALLE COUNTY

SECTION: (50-5B)I-1

F.A.I. SECTION		С	OUNTY	TOTAL	SHEET NO.	
412	(50-5B)			LASALLE	29	21
FED. RO	AD DIST. NO.	ILLIN	OIS	STATE	ID PROJ	ECT

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" Holes with zerk 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. Ø "D"\$ _== 134' 138" 16" 2" === Anchor Bolt (See Bearing Details 2" 15/6 28'  $\equiv$ for number, size and length.) 11316 " 278 2" 2" 28" Top of base plate ___ End of End of groove  $^{5}32'$  wide x  $^{3}32'$  deep groove in anchor bolt with 18" \$ coil wire 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 suitable 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 system composed of:

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

#### 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.

REVISION: NAME		
NAME	DATE	

ILLINOIS DEPARTMENT OF TRANSPORTATION **ANCHOR BOLT DETAILS** FOR BEARINGS

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

DATE 04/24/2005

DRAWN BY RY CHECKED BY

ABB-1 4-30-99

LASALLE COUNTY

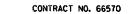
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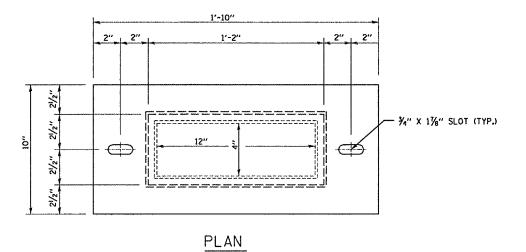
FAI 412 (I-39)

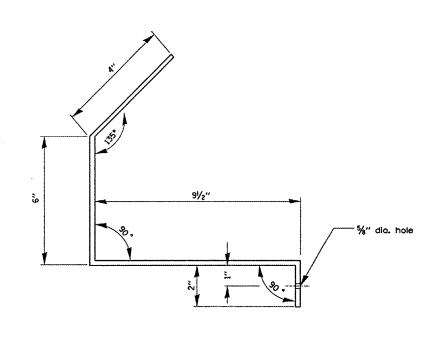
ILLINOIS COIL-LOCK ANCHOR BOLT

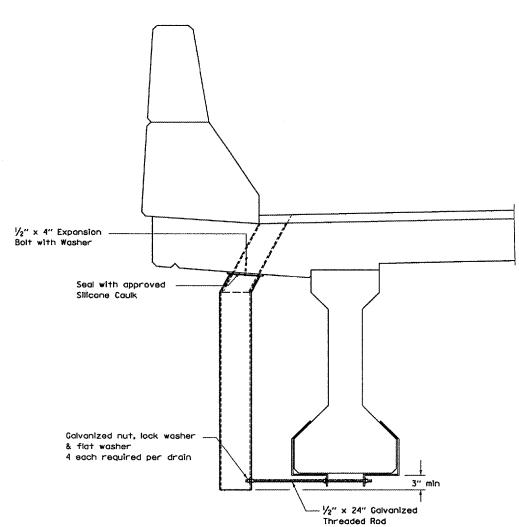
MARCH 30, 2005 C:/PROJECTS/CMAINO6/CM303/DETAILS

The Illinois Coil-Lock Anchor Bolt is a proprietary









SECTION AT PARAPET

# DECK DRAIN EXTENSION

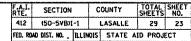
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REVISION		ILLINOIS DEPARTMENT OF TRANSPORTATION					
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		DECK	DRAIN	EXTENS	ON	DETAIL	S
				SOUTHBOUN			
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				1216 + 43.45			
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MARCH 30, 2005

SIDE ELEVATION

---- 1/6" (typ)



#### **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:

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

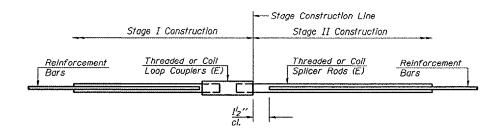
Tension in kips, Minimum *Pull-out Strength =  $1.25 \times fs_{ollow} \times A_t$ 

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 SPLIC	CER ASSEMBLI	ES		
Bar Size to be Spliced	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	23.6		
#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

REVISI	ONS DATE	ILLINOIS DEPARTMENT OF TRANSPORTATIO			RTATION	
NAME	DATE	BAR	SPLICER	ASSEMBLY	DETAIL	S
				050-0174		
				NORTHBOUND N.W. RAILROAD		
				)N (50–5B)I–1 1216 + 43.45	DRAWN BY	RI
		DATE	04/24/2005		CHECKED 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

"" ONE PIECE -Wire Connector TITITI **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>

6'-0"

<u>"A "</u>

- Stage Construction Line

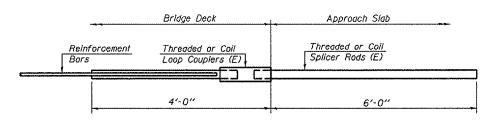
Foom Plugs

Threaded or Coil

<u>Template</u>

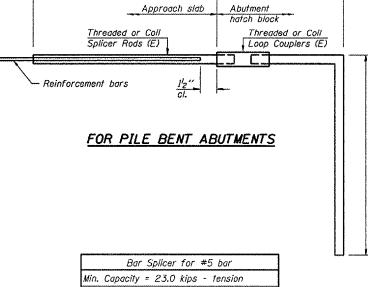
Forms-

"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.



#### 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 =



Min. Pull-out Strength = 9.2 kips - tension No. Required =

BSD-1

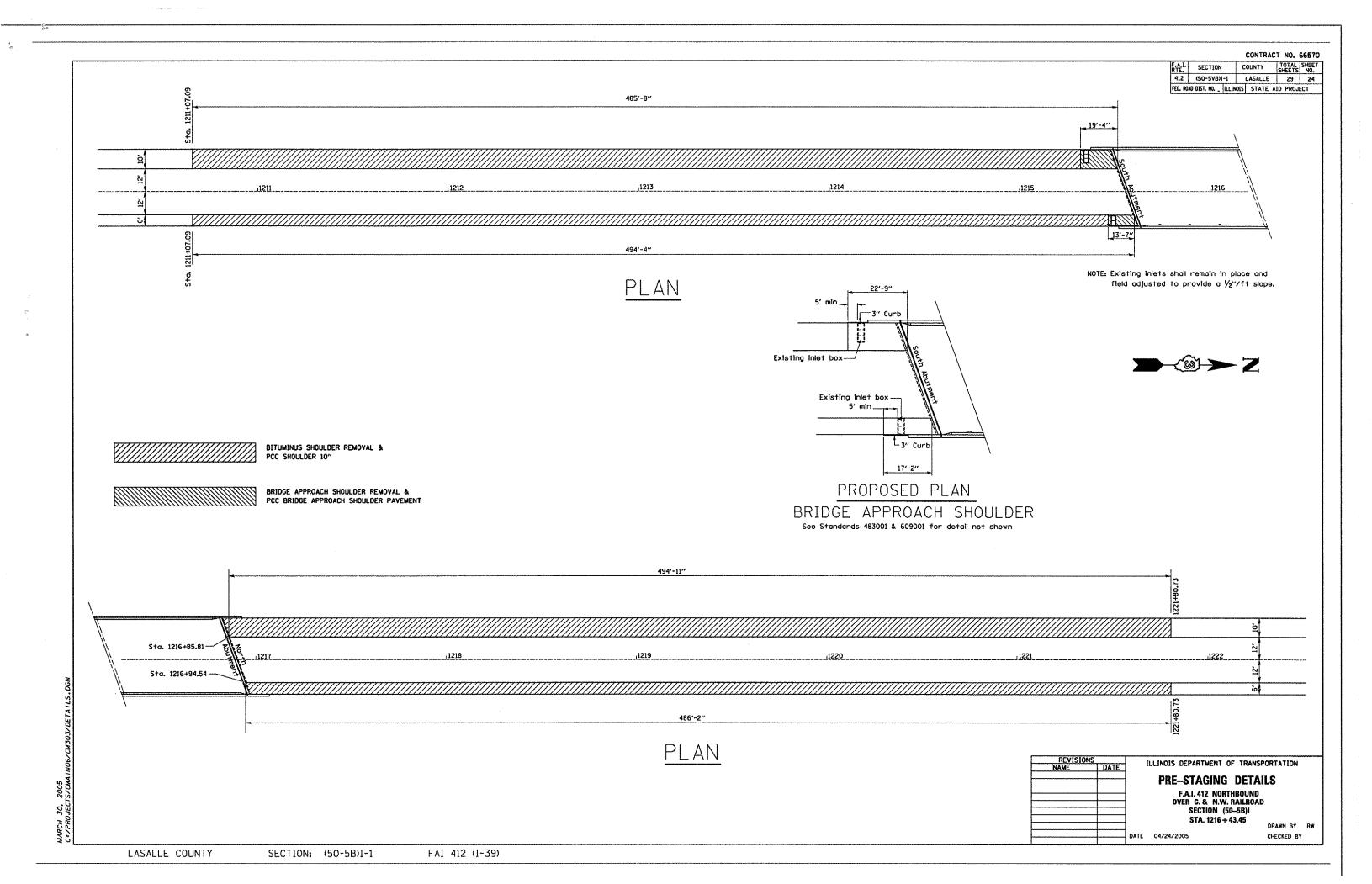
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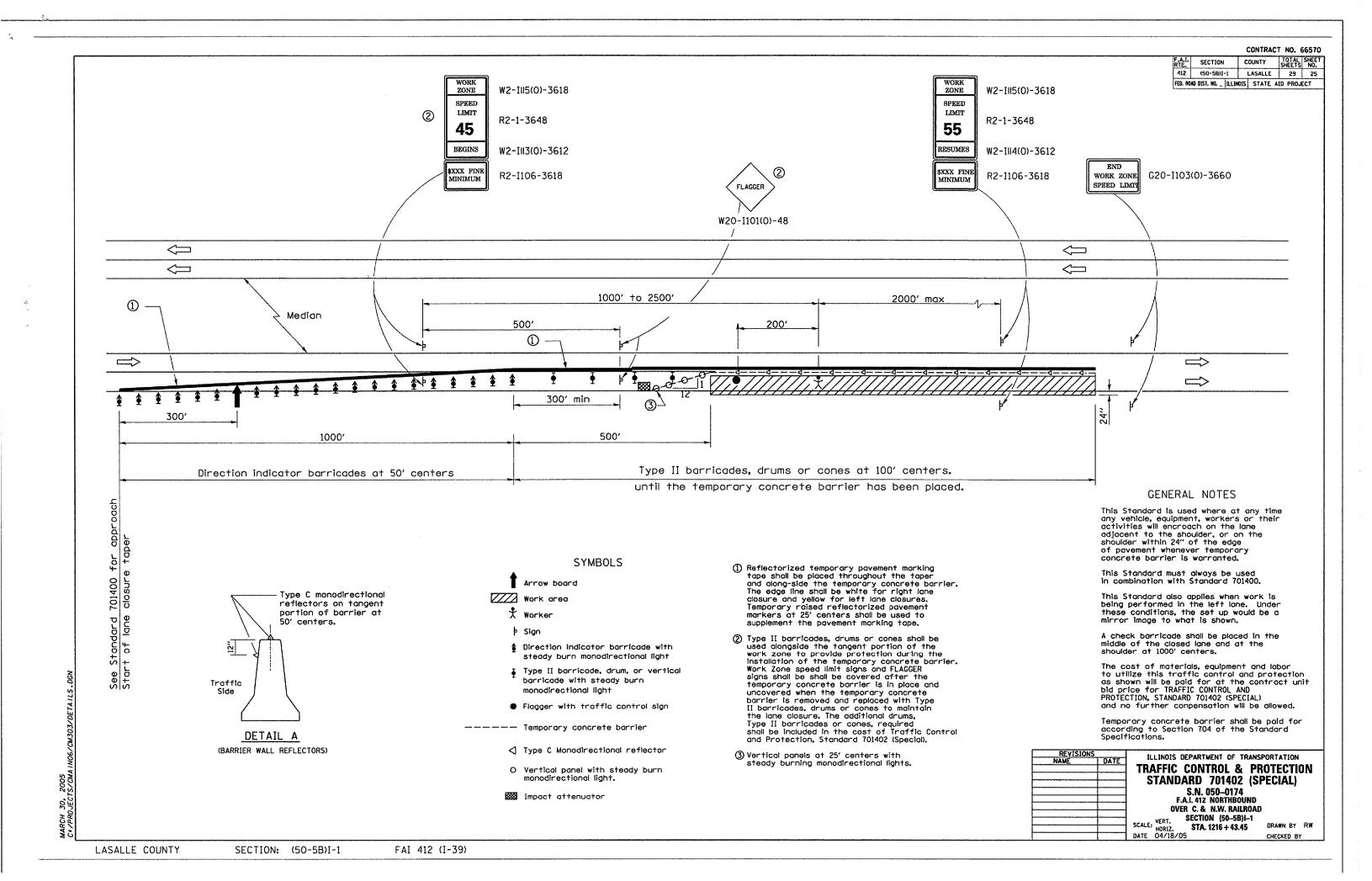
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FAI 412 (I-39)

PCH 30, 2005

LASALLE COUNTY





F.A.I. SECTION
412 (50-58)I-1 FED. ROAD DIST. NO. _ ILLINOIS STATE AID PROJECT 40'-0" FACE TO FACE E.O.P. E.O.P. C OF ROADWAY 12'-0" PASSING LANE 12'-0" DRIVING LANE 5'-3" SHOULDER 9'-3" SHOULDER 14'-3" OPEN LANE 21'-3" WORK ZONE 3'-0" 1'-0" REMOVAL LINE 12'-0" TRAFFIC LANE 2'-0" CONST. LINE STAGE I TEMPORARY PAVEMENT - MARKING LINE 4" (TYP.) 40'-0" FACE TO FACE C OF ROADWAY E.O.P. 5'-3" SHOULDER 12'-0" PASSING LANE 12'-0" DRIVING LANE 9'-3" SHOULDER 22'-3" WORK ZONE 14'-3" PASSING LANE 1'-0" 12'-0" TRAFFIC LANE STAGE II TEMPORARY PAVEMENT - MARKING LINE 4" (TYP.) ILLINOIS DEPARTMENT OF TRANSPORTATION **STAGING & TRAFFIC CONTROL** TYPICALS
S.N. 050-0174
F.A.I. 412 NORTHBOUND
OVER C. & N.W. RAILROAD
SECTION (50-5B)I-1 DRAWN BY RW
DATE 04/24/2005 STA. 1216+43.45 CHECKED BY LASALLE COUNTY SECTION: (50-5B)I-1 FAI 412 (I-39)

