

CONTRACT NO. 66578			
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
412	(62-2VB)I	MARSHALL	19
ILLINOIS			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAI ROUTE 412 (I-39) (SB)
SECTION (62-2VB)I

MARSHALL COUNTY
C-93-084-05

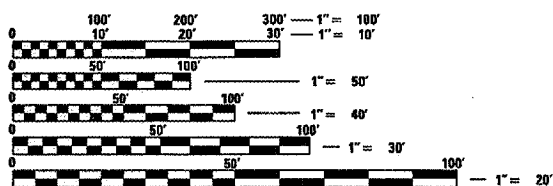
STRUCTURE & APPROACH SLAB REPAIR

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STANDARDS

- 000001-04 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001001 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 420001-06 PAVEMENT JOINTS
- 630001-05 STEEL PLATE BEAM GUARDRAIL
- 631031-05 TRAFFIC BARRIER TERMINAL, TYPE 6
- 701101-01 OFF-ROAD OPERATIONS MULTILANE, 4.5 m (15') TO 600 mm (24") FROM PAVEMENT EDGE
- 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
- 781001-02 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS



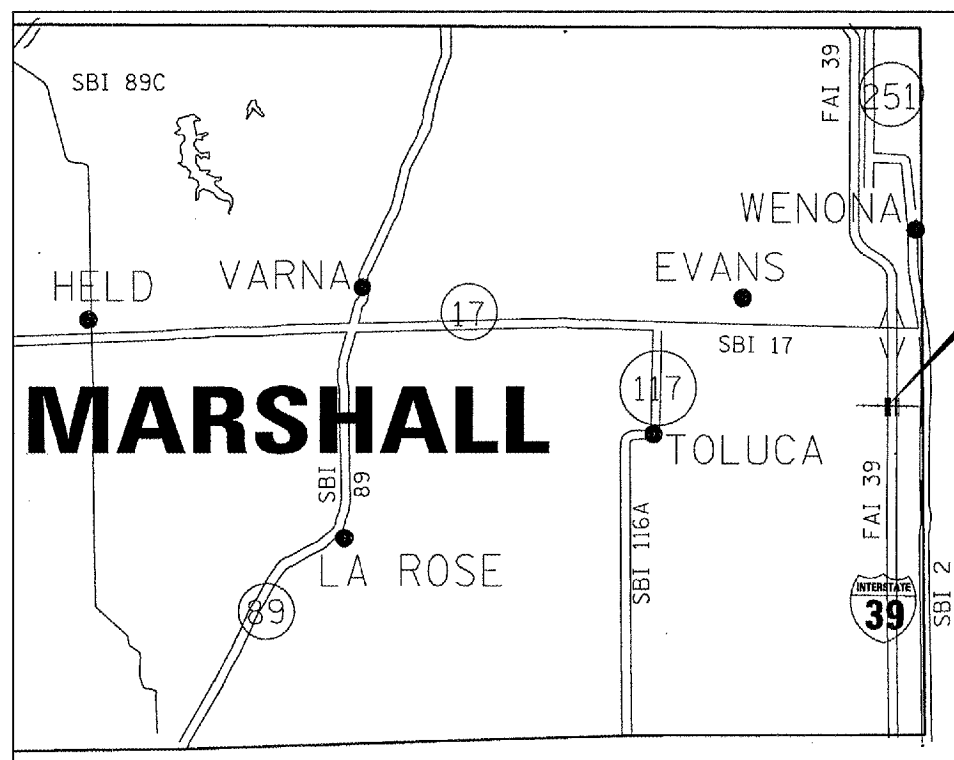
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

DISTRICT 3 NO. (815) 434-6131

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

CONTRACT NO. 66578



PROJECT LOCATION
S.N. 062-0051 (SB)
1.26 MILES SOUTH OF IL ROUTE 17
FAI 412 OVER BNSF RAILROAD



LOCATION OF SECTION INDICATED THUS: -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED July 7 20 05
Gregory L. Davis
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

August 19, 20 05
Mike Hine
ENGINEER OF DESIGN AND ENVIRONMENT

August 19, 20 05
Victor Mader
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

Date: 04/26/2005
File: c:\projects\cm308\detalls.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	2
FED. ROAD DIST. NO. - ILLINOIS		PROJECT		

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.

FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.

FOR STABILIZATION, ALL TYPE II BARRICADES SHALL REQUIRE A MINIMUM OF TWO SAND BAGS PER BARRICADE.

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.

ON EXISTING PAVEMENT WHICH MAY BE SUPERELEVATED, THE NEW CONCRETE PAVEMENT SHALL BE BUILT WITH THE SAME SUPERELEVATION UNLESS NEW SUPERELEVATION RATES ARE GIVEN ON THE PLANS.

ALL ELEVATIONS REFERRING TO U.S.G.S. MEAN SEA LEVEL DATUM.

ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

	Superpave Stabilized Sub-base
PG GRADE	PG58-22
MAX % RAP ALLOWABLE	30%
DESIGN AIR VOIDS	2.0% @ N30
MIXTURE COMPOSITION	BAM
FRICITION AGGREGATE	
PLANT CONTROL LIMITS	NON-CLASS I
DENSITY CONTROL METHOD	.

*MATERIAL SHALL BE COMPACTED TO 93 TO 97 PERCENT OF THE MAXIMUM THEORETICAL DENSITY EXCEPT THE THE BOTTOM LIFT SHALL BE COMPACTED TO A MINIMUM OF 91.0 PERCENT. THE MAXIMUM THEORETICAL DENSITY SHALL BE DETERMINED FROM THE MOVING AVERAGE AS SPECIFIED IN THE QC/OA SPECIFICATION.

**IF RAP OPTION IS SELECTED, THE ASPHALT CEMENT GRADE MAY NEED TO BE ADJUSTED. THIS WILL BE DETERMINED BY THE ENGINEER.

DATE: July 6, 2005

PREPARED BY: [Signature]
DISTRICT OPERATIONS ENGINEER

EXAMINED BY: [Signature]
DISTRICT CONSTRUCTION ENGINEER

[Signature]
ACTING DISTRICT STUDIES & PLANS ENGINEER

[Signature]
DISTRICT MATERIALS ENGINEER

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL NOTES
 FAI 412 (I-39)
 SECTION (62-2VB)I
 STA. 165+90.23
 MARSHALL COUNTY

SCALE: VERT. _____
 HORIZ. _____
 DATE 04/26/2005

DRAWN BY R/LW
 CHECKED BY _____

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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	3
FED. ROAD DIST. NO. -	ILLINOIS	PROJECT		

SUMMARY OF QUANTITIES

CONSTRUCTION CODE TYPE: SFTY-2A

CODE NO.	ITEM	UNIT	SFTY-2A 100% STATE TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	19
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	16
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	175
31100100	SUB-BASE GRANULAR MATERIAL, TYPE A	TON	30
31102900	SUB-BASE GRANULAR MATERIAL (SPECIAL)	CU YD	96
42001300	PROTECTIVE COAT	SQ YD	615
42001400	BRIDGE APPROACH PAVEMENT (SPECIAL)	SQ YD	137
42001420	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	SQ YD	479
44000700	APPROACH SLAB REMOVAL	SQ YD	272
44002100	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REMOVAL	SQ YD	89
44004510	PORTLAND CEMENT CONCRETE SHOULDER REMOVAL	SQ YD	252
48101200	AGGREGATE SHOULDERS, TYPE B	TON	10
50102400	CONCRETE REMOVAL	CU YD	10
50200100	STRUCTURE EXCAVATION	CU YD	16
50300120	PREFORMED JOINT SEAL 2 1/2"	FOOT	44
50300225	CONCRETE STRUCTURES	CU YD	12
50300300	PROTECTIVE COAT	SQ YD	12
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1436
51205200	TEMPORARY SHEET PILING	SQ FT	105

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REVISIONS	
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ILLINOIS DEPARTMENT OF TRANSPORTATION
SUMMARY OF QUANTITIES
FAI 412 (I-39)
SECTION (62-2VB)I
STA. 165+90.23
MARSHALL COUNTY

SCALE: VERT. _____
HORIZ. _____
DATE: 04/26/2005
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	4
FED. ROAD DIST. NO. . ILLINOIS		PROJECT		

SUMMARY OF QUANTITIES

CONSTRUCTION CODE TYPE:

SFTY -2A

SFTY-2A

100% STATE
TOTAL
QUANTITY

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
60100925	PIPE DRAINS 8"	FOOT	46
63301100	REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL, SINGLE RAIL	FOOT	192
63302700	REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	2
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	2
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	1878
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	620
70400100	TEMPORARY CONCRETE BARRIER	FOOT	560
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	546
* 78005110	EPOXY PAVEMENT MARKING - LINE 4"	FOOT	1878
* 78005130	EPOXY PAVEMENT MARKING - LINE 6"	FOOT	250
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	3
78300100	PAVEMENT MARKING REMOVAL	SQ FT	620
X3120700	STABILIZED SUB-BASE 4", SUPERPAVE	SQ YD	309
Z0002600	BAR SPLICERS	EACH	51
⊗ Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	1
⊗ Z0030350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	1

⊗ SFTY-3N

*** SPECIALTY ITEMS**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUMMARY OF QUANTITIES
FAI 412 (I-39)
SECTION (62-2VB)I
STA. 165+90.23
MARSHALL COUNTY

SCALE: VERT. _____
HORIZ. _____
DATE 04/26/2005
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	5
FED. ROAD DIST. NO. - ILLINOIS PROJECT				

BM #1 Northwest quadrant of North abutment of S.N. 062-0051 (SB) Chisled "□" Elev. 100.00

GENERAL NOTES

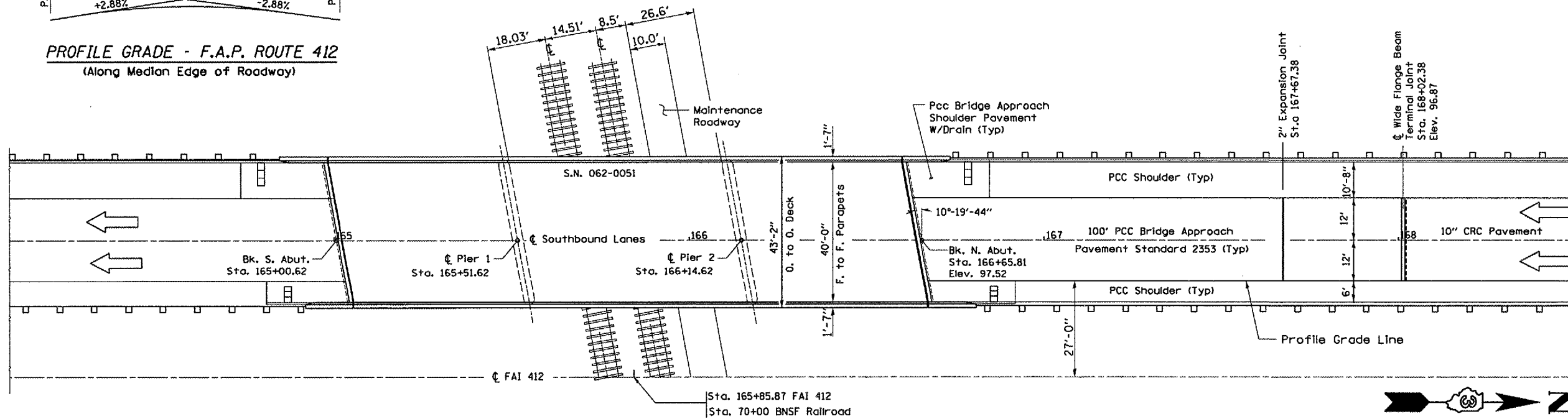
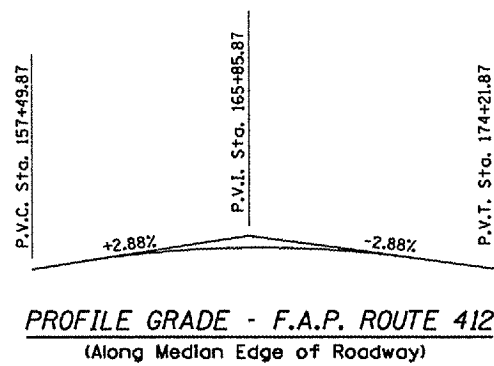
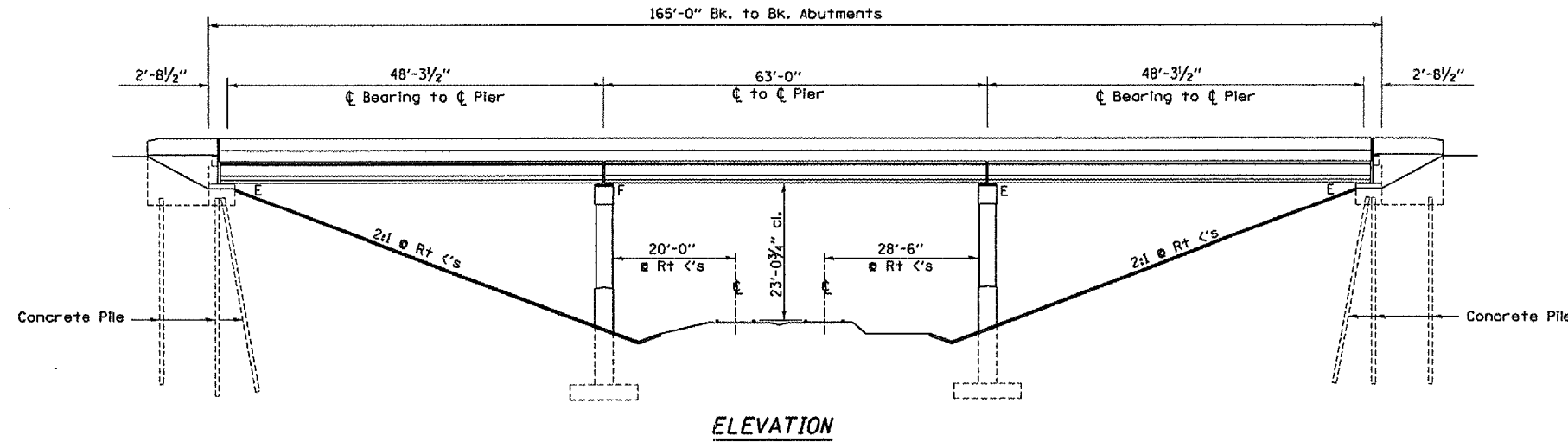
PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING ROADWAY AND STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND TO MAKE NECESSARY APPROVED ADJUSTMENTS 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.

NEW REINFORCEMENT BARS SHALL BE EPOXY COATED

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31 OR M 322 GRADE 60.

EXISTING REINFORCEMENT BARS EXTENDING INTO THE REMOVAL AREA SHALL BE CLEANED, STRAIGHTENED AND INCORPORATED INTO THE NEW CONSTRUCTION. ANY REINFORCEMENT BARS THAT ARE DAMAGED DURING CONCRETE REMOVAL SHALL BE REPLACED WITH AN APPROVED BAR SPLICER OR ANCHORAGE SYSTEM. COST INCLUDED WITH CONCRETE REMOVAL.

JOINT OPENINGS SHALL BE ADJUSTED ACCORDING TO ARTICLE 503.10(C) OF THE STANDARD SPECIFICATIONS WHEN THE DECK IS POURED AT AN AMBIENT TEMPERATURE OTHER THAN 50 DEG F.



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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN & ELEVATION
SOUTHBOUND LANES
FAI 412 (I-39)
SECTION (62-2VB)I
STA. 165+90.23
MARSHALL COUNTY

SCALE: VERT. 1"=10'
HORIZ. 1"=40'

DATE: 04/26/2005

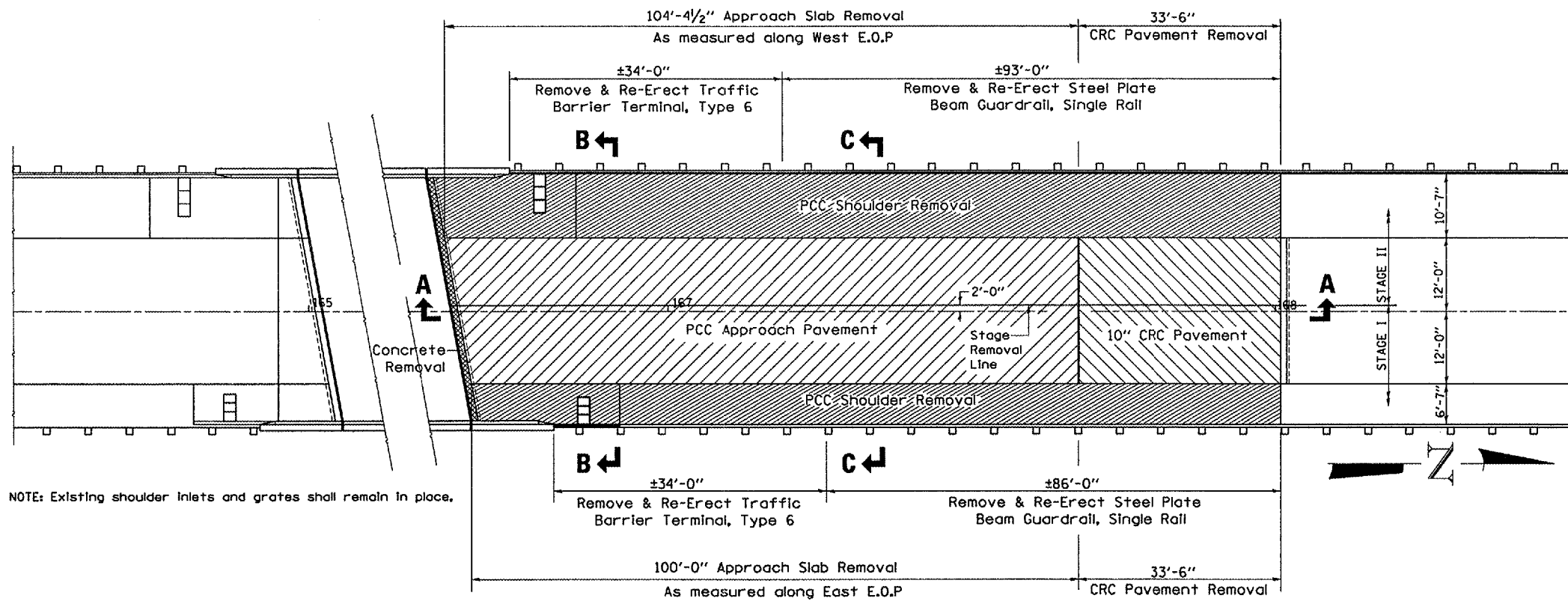
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	6
FED. ROAD DIST. NO. ILLINOIS PROJECT				

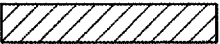




GENERAL NOTES

Existing reinforcement bars extending into the concrete removal area (abutment), that are to remain, shall be cleaned, straightened and incorporated into the new concrete. If reinforcement bars that are to remain, are damaged during concrete removal operation, or the Engineer has determined that they are deteriorated beyond effectiveness, the bars shall be cut off flush with the concrete and v (E) bars shall be drilled and epoxy grouted. The cost of drilling and grouting new bars shall be paid for as specified elsewhere.

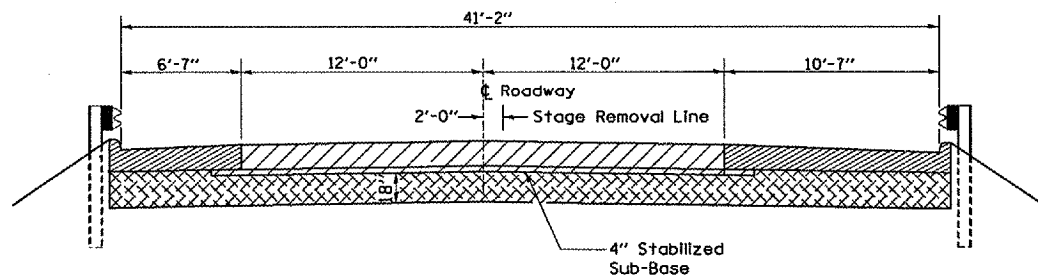
Existing approach slab seat shall be thoroughly cleaned prior to placement of concrete, and all unsuitable material shall be removed. The Contractor shall monitor the approach slab seat during the concrete placement to insure the seat remain clean and free from all unsuitable material.



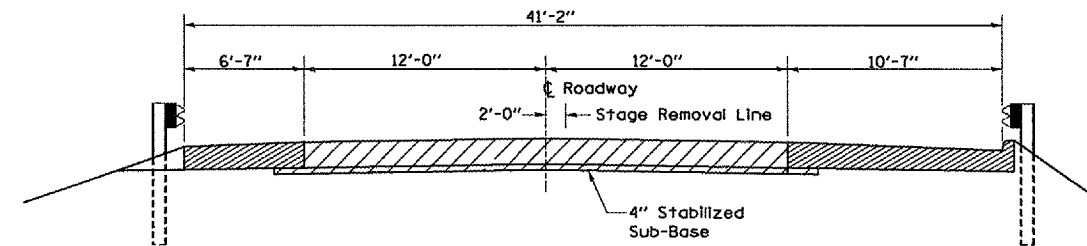
NOTE: Existing shoulder inlets and grates shall remain in place.

-  APPROACH SLAB REMOVAL
-  CRC PAVEMENT REMOVAL
-  STRUCTURE EXCAVATION
-  EARTH EXCAVATION
-  PCC SHOULDER REMOVAL

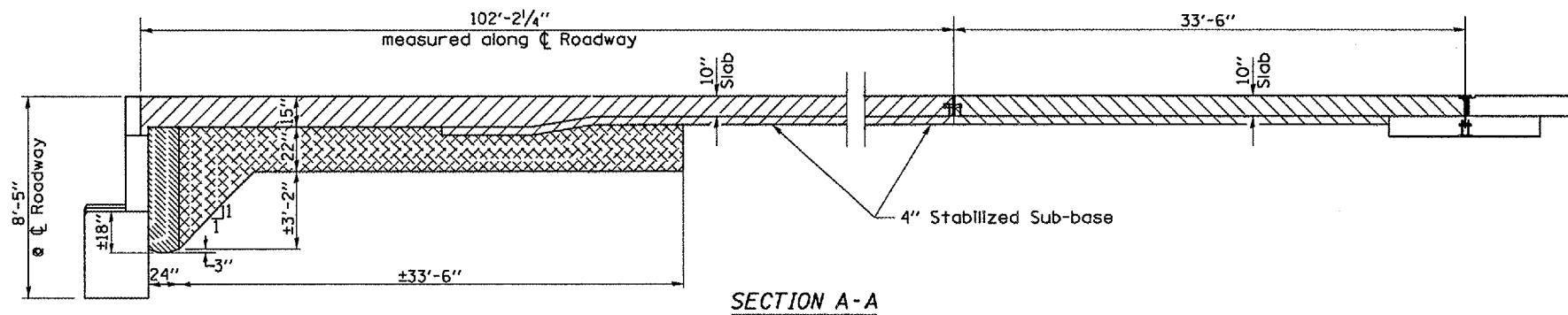
PLAN
NORTH APPROACH PAVEMENT



SECTION B-B



SECTION C-C



SECTION A-A

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**EXISTING APPROACH PAVEMENT
 DETAILS - NORTH APPROACH**
 FAI 412 (I-39)
 SECTION (62-2VB)I
 STA. 165+90.23
 MARSHALL COUNTY

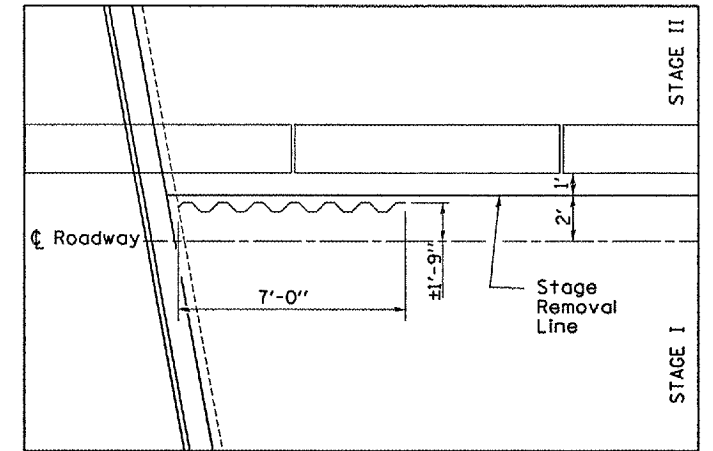
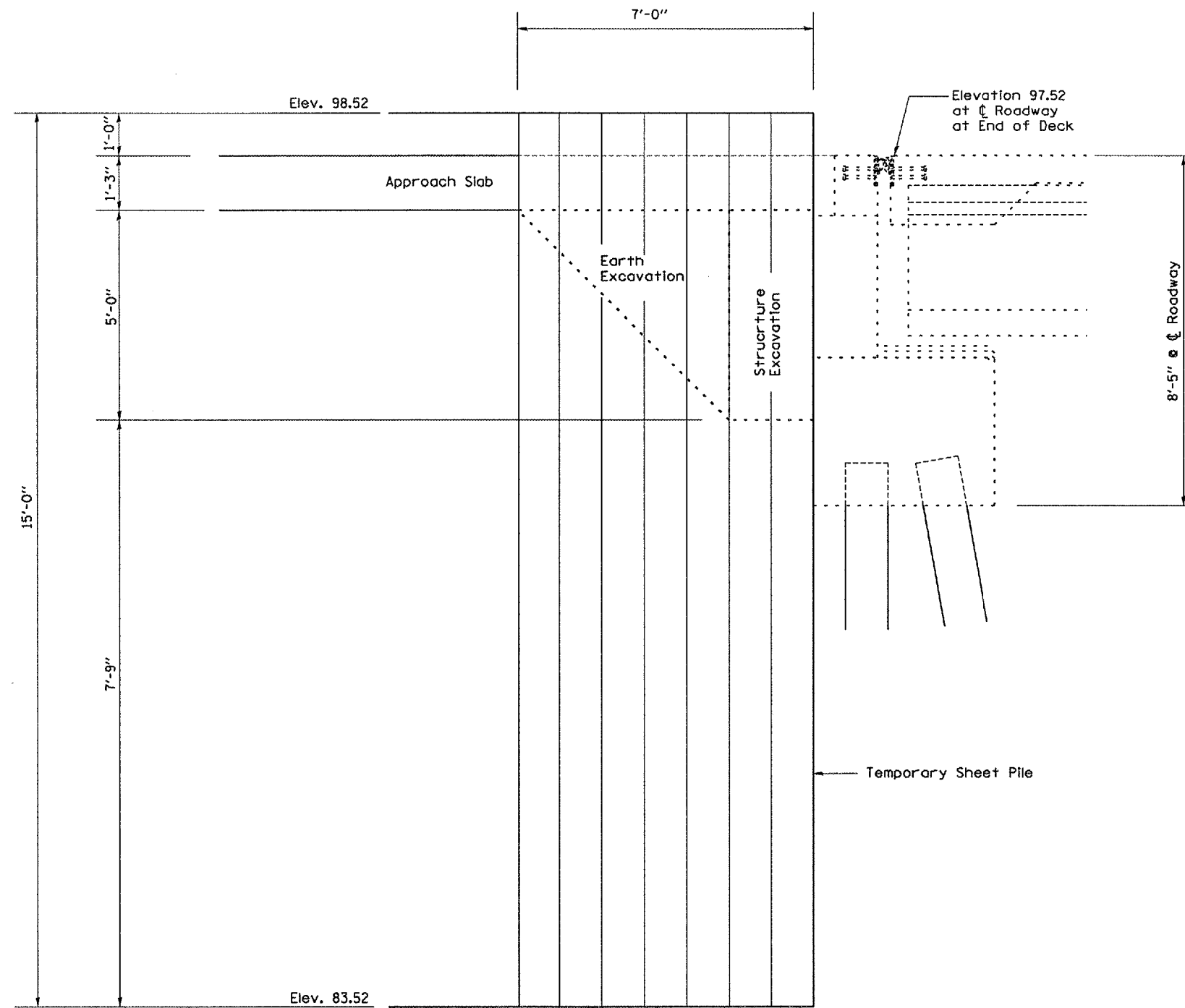
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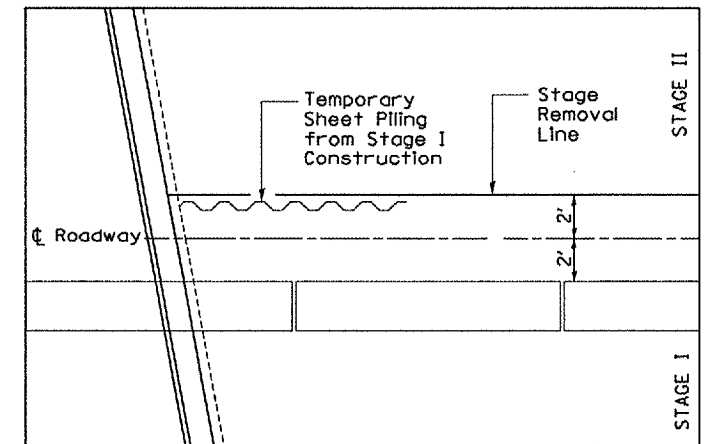
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	7
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

BM #1 Northwest quadrant of North abutment of S.N. 062-0051 (SB) Chisled "□" Elev. 100.00



DETAIL "A"
STAGE I



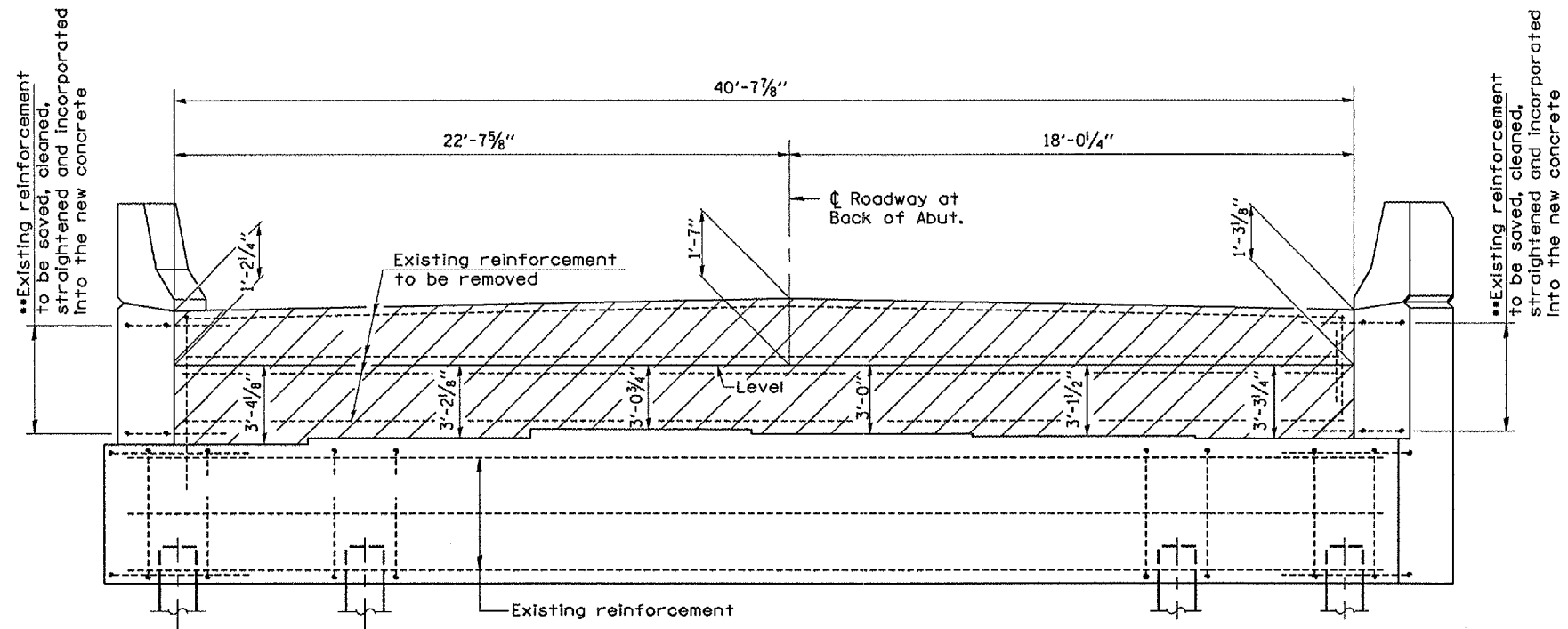
DETAIL "B"
STAGE II

Date: 04/26/2005
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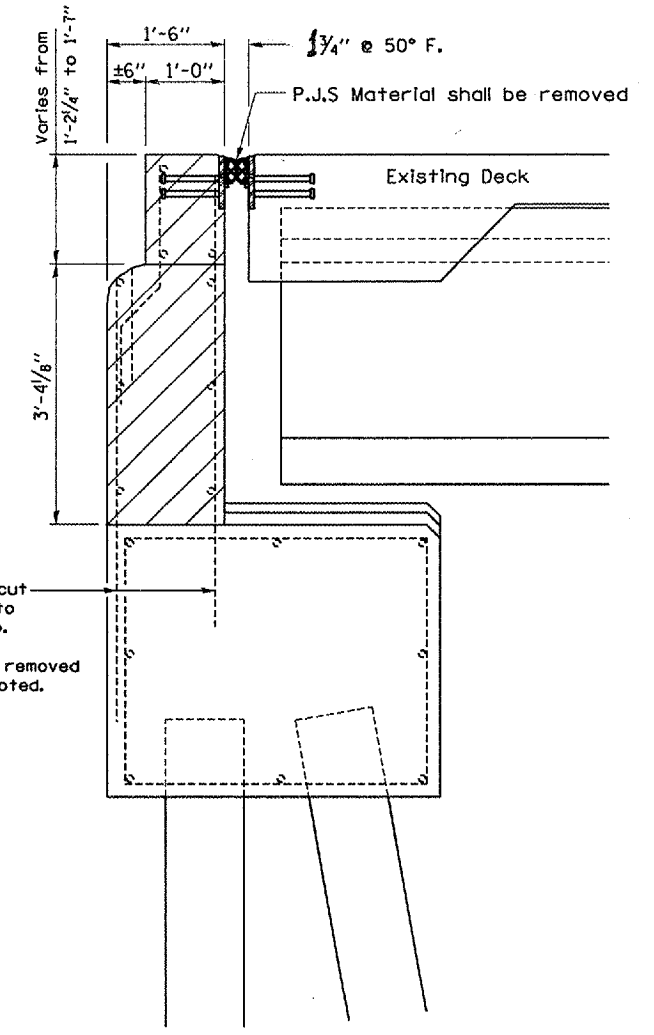
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 TEMPORARY SHEET PILE DETAILS
 FAI 412 (I-39)
 SECTION (62-2VB)I
 STA. 165+90.23
 MARSHALL COUNTY
 SCALE: VERT. DATE 04/26/2005
 HORIZ.
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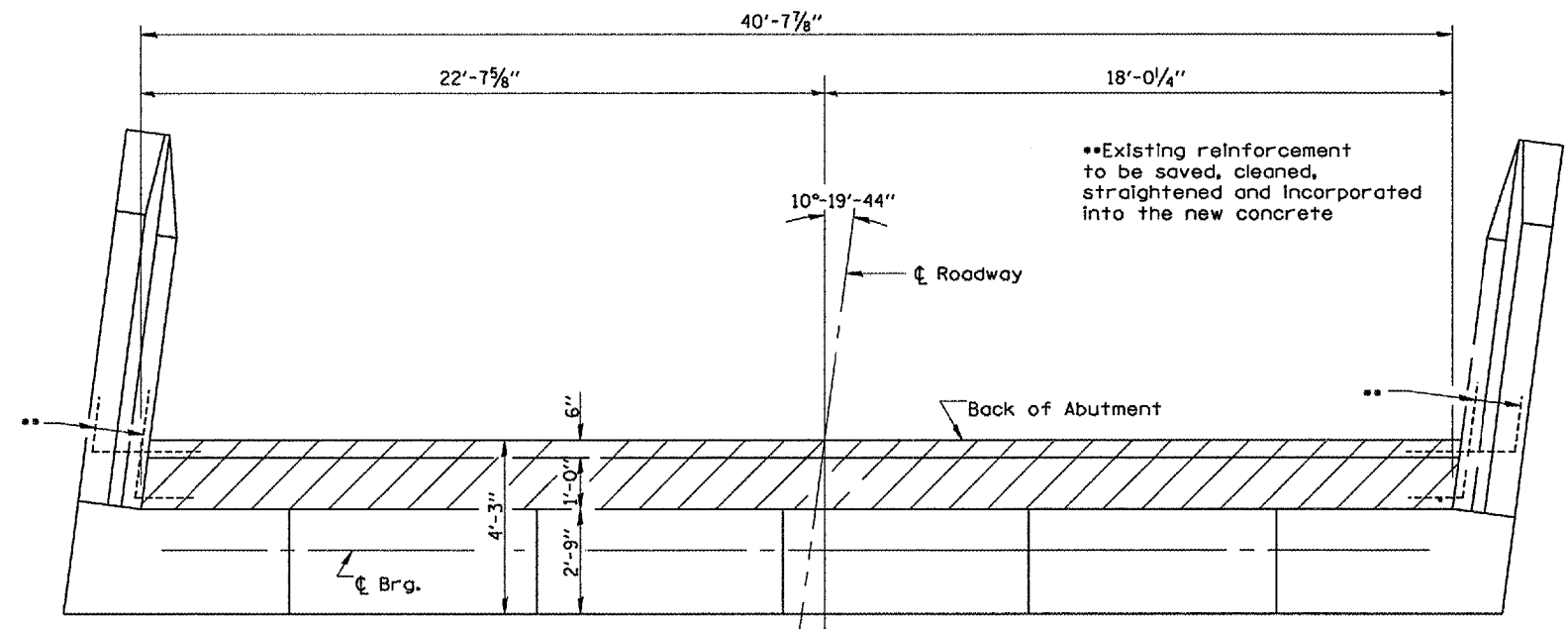
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	8
FED. ROAD DIST. NO. - ILLINOIS		PROJECT		



ELEVATION



ABUTMENT SECTION



PLAN VIEW



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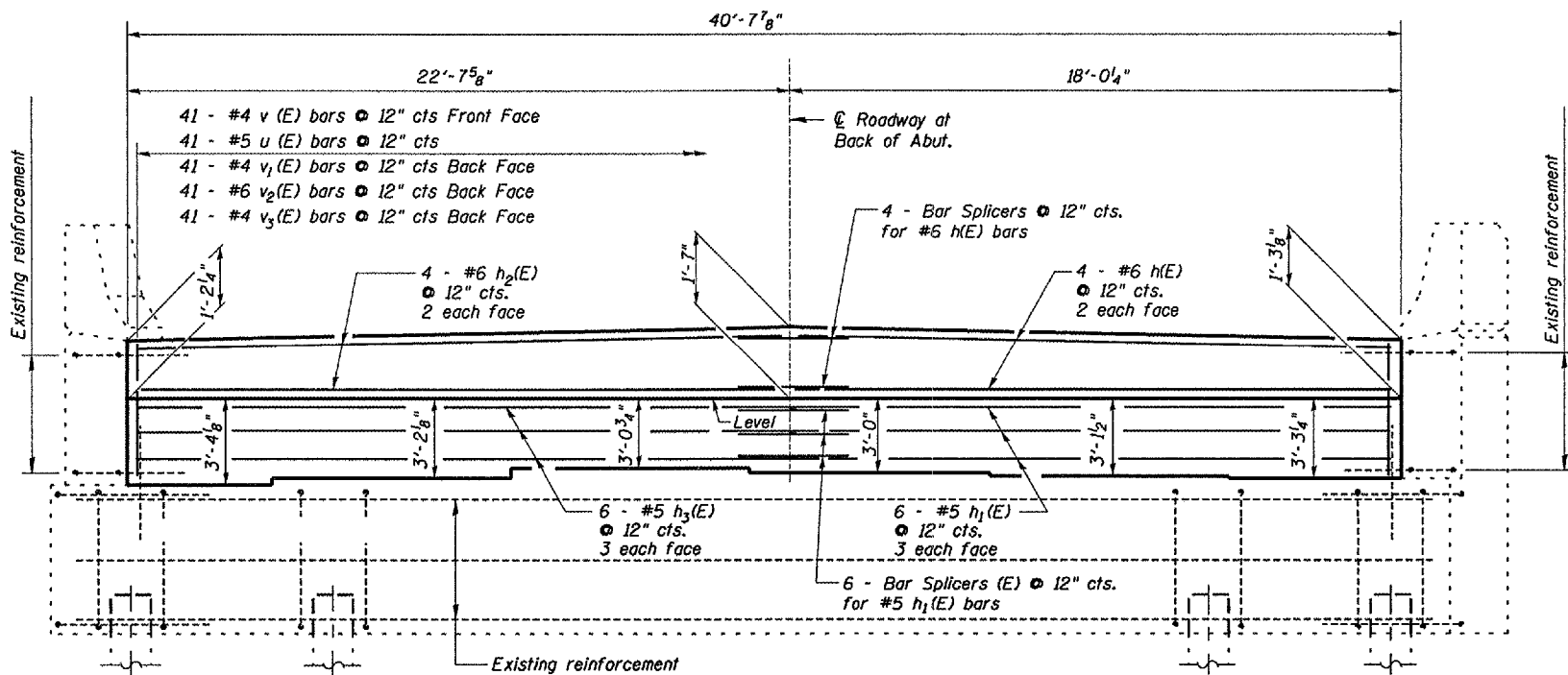
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 EXISTING ABUTMENT DETAILS
 NORTH ABUTMENT
 FAI 412 (I-39)
 SECTION (62-2VB)I
 STA. 165+90.23
 MARSHALL COUNTY

SCALE: VERT. HORIZ.
 DATE: 04/26/2005

DRAWN BY: RLW
 CHECKED BY:

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)	MARSHALL	19	9
FED. ROAD DIST. NO. - ILLINOIS PROJECT				



ELEVATION

GENERAL NOTES

Furnish steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be 3/16". Seal space with silicone sealant, suitable for structural steel.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

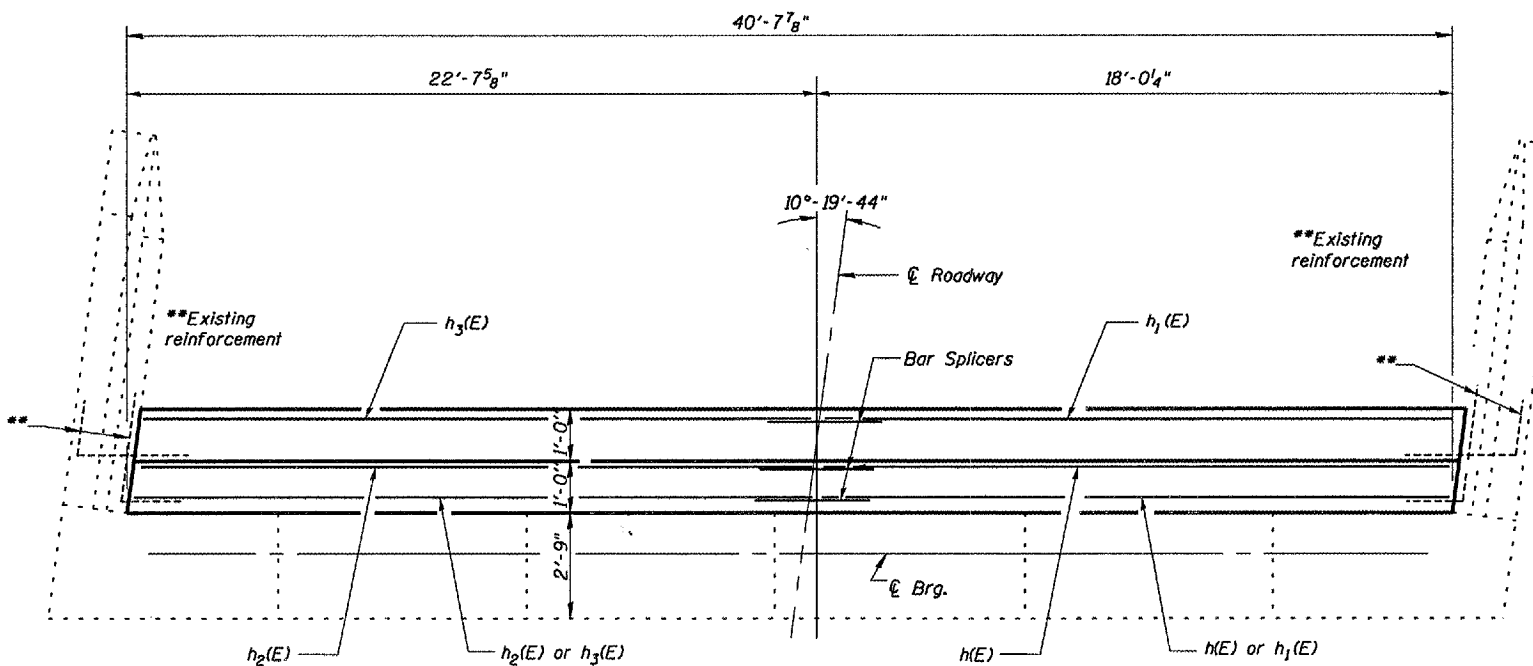
Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.

Calculated weight of Structural Steel = 824 Pounds

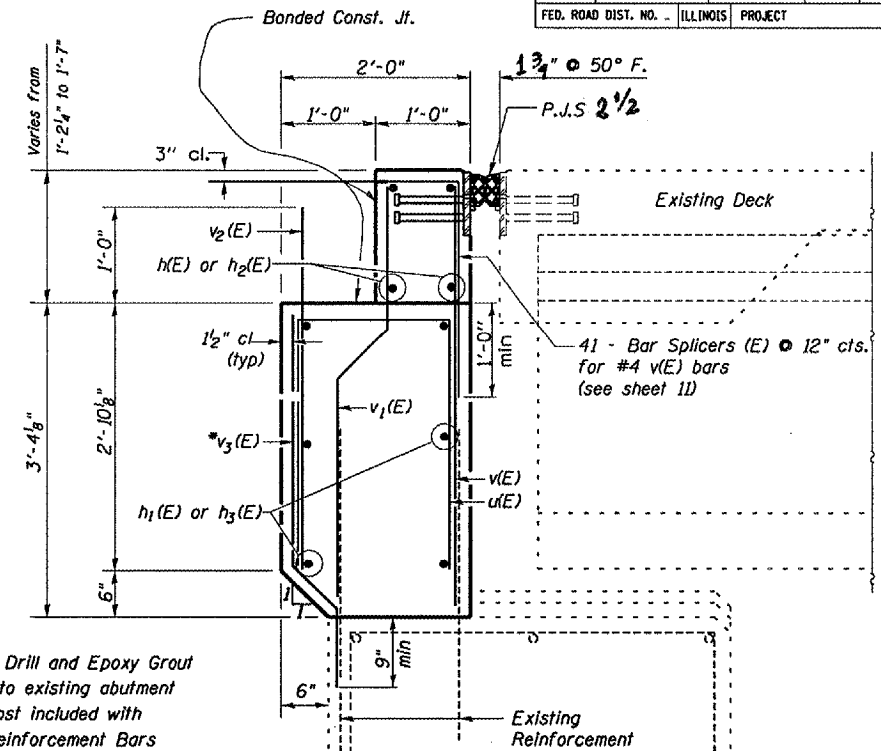
Roadway expansion guards shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

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



PLAN VIEW

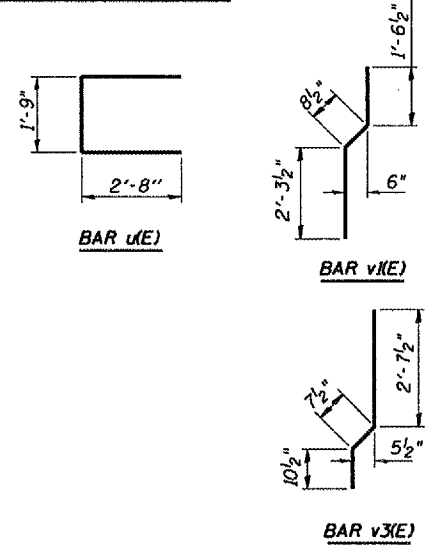


ABUTMENT SECTION

ABUTMENT BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	4	#6	18'-0"	—
h1(E)	6	#5	18'-0"	—
h2(E)	4	#6	22'-0"	—
h3(E)	6	#5	22'-0"	—
u(E)	41	#5	7'-1"	□
v(E)	41	#4	4'-1"	—
v1(E)	41	#4	4'-6"	—
v2(E)	41	#5	3'-11"	—
v3(E)	41	#4	4'-1"	—
CONCRETE REMOVAL			CU YD	10
CONCRETE STRUCTURE			CU YD	12
REINFORCEMENT BARS EPOXY COATED			POUND	1282
BAR SPLICERS			EACH	51

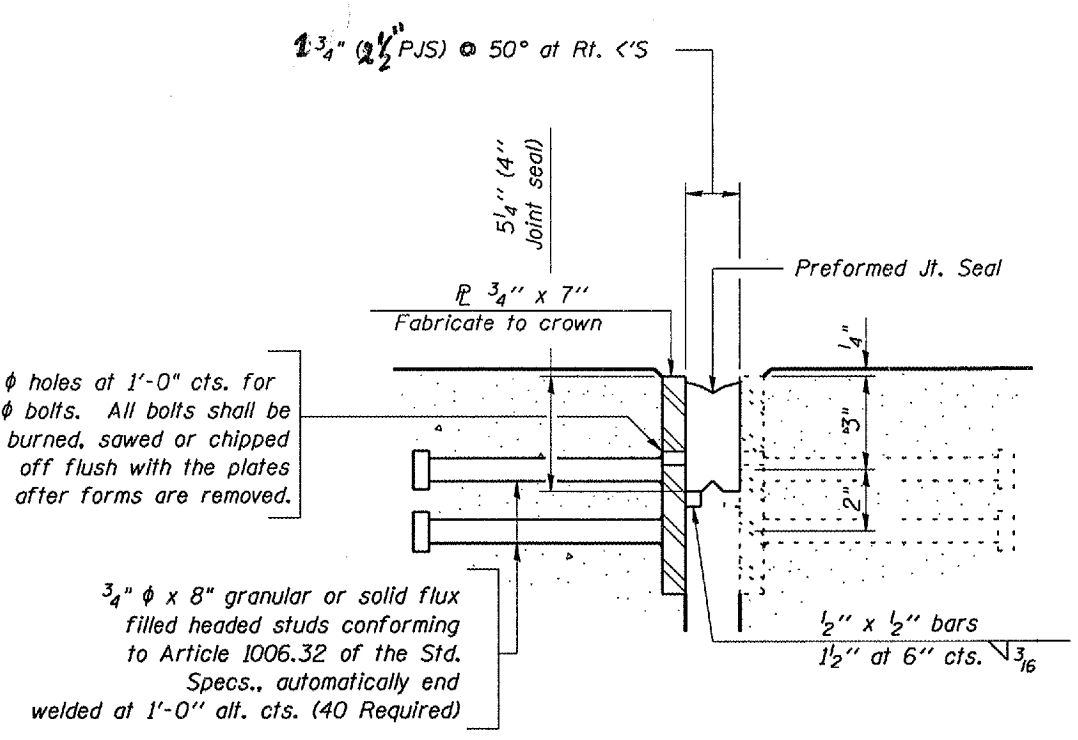
NOTE: Reinforcement bars designated (E) shall be Epoxy Coated



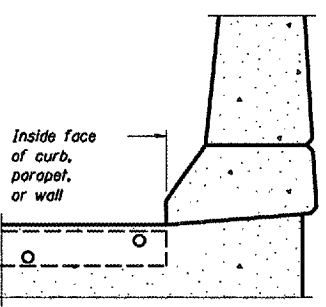
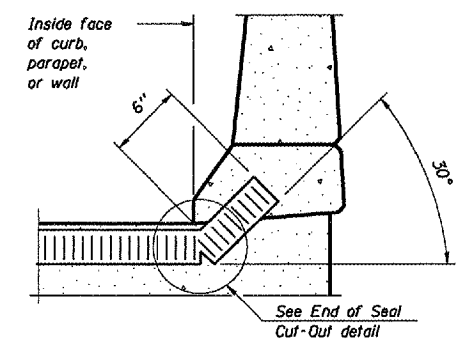
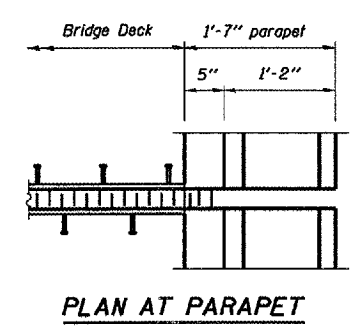
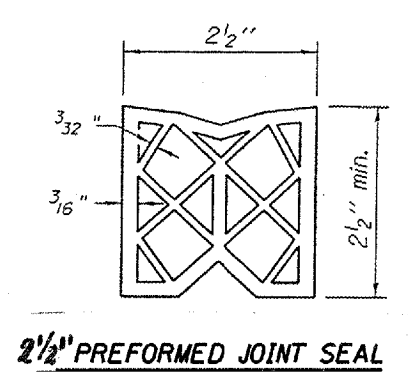
REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 PROPOSED ABUTMENT DETAILS
 NORTH ABUTMENT
 FAI 412 (I-39)
 SECTION (62-2VB)I
 STA. 165+90.23
 MARSHALL COUNTY
 SCALE: VERT. _____
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 File: c:\projects\main06\cm308\details.dgn

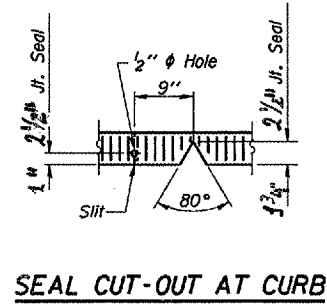
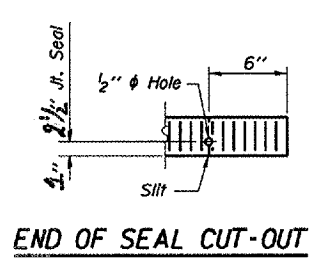


SECTION THRU EXPANSION JOINT
AT SOUTH ABUTMENT



AT CURB, PARAPET, OR WALL
(Showing plate)

TYPICAL END TREATMENTS



GENERAL NOTES

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 bid for the work.

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

Roadway expansion guards shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.

Expansion guards shall be fabricated and erected according to Article 503.10(c) of the Standard Specifications and are included in quantity of structural steel.

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

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Furnish steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be 3/16". Seal space with silicone sealant suitable for structural steel.

REVISIONS		DATE	ILLINOIS DEPARTMENT OF TRANSPORTATION EXPANSION JOINT DETAILS NORTH ABUTMENT FAI 412 (I-39) SECTION (62-2VB)I STA. 165+90.23 MARSHALL COUNTY	DRAWN BY RLV
NAME				

SCALE: VERT. HORIZ. DATE 04/26/2005

CHECKED BY

Date: 04/26/2005
File: c:\projects\main06\cm308\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	11
FED. ROAD DIST. NO. .		ILLINOIS	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.

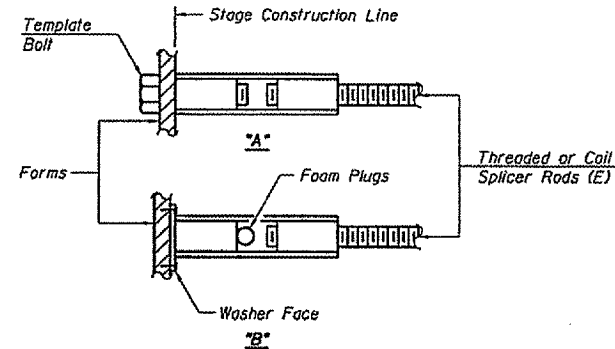
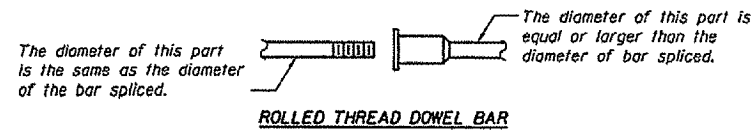
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_l$
- ② Minimum Pull-out Strength (Tension in kips) = $1.25 \times f_{s_{allow}} \times A_l$

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

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	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

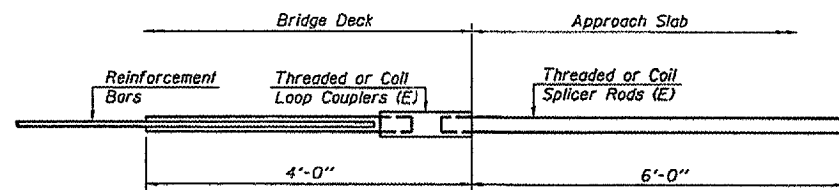
Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



INSTALLATION AND SETTING METHODS

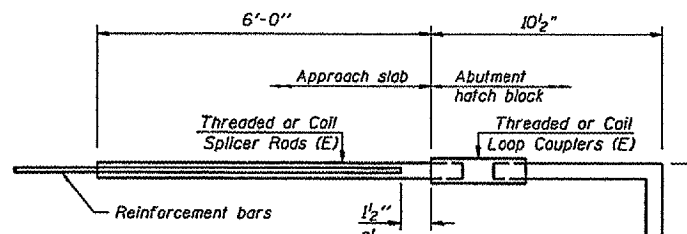
"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.

4 - Bar Splicers @ 12" cts. for #6 h(E) bars



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

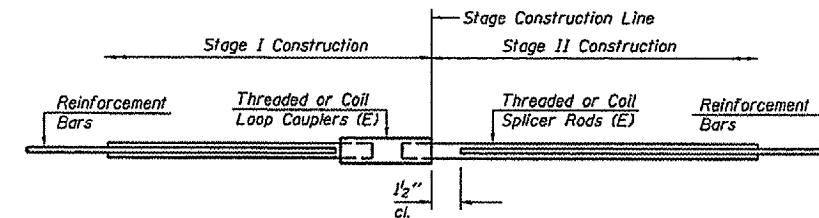
Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



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 =

Size	No. Assemblies Required	Location
#4	41	BACK WALL



STANDARD

Size	No. Assemblies Required	Location
#6	4	END DAM
#5	6	BACK WALL
#4	8	Approach Pavement
#5	30	Approach Pavement
#4	24	Approach Pavement (Concrete Pad)
#6	28	Approach Pavement Connector

BAR SPLICER ASSEMBLY DETAILS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAIL
 FAI 412 (I-39)
 SECTION (62-2VB)I
 STA. 165+90.23
 MARSHALL COUNTY

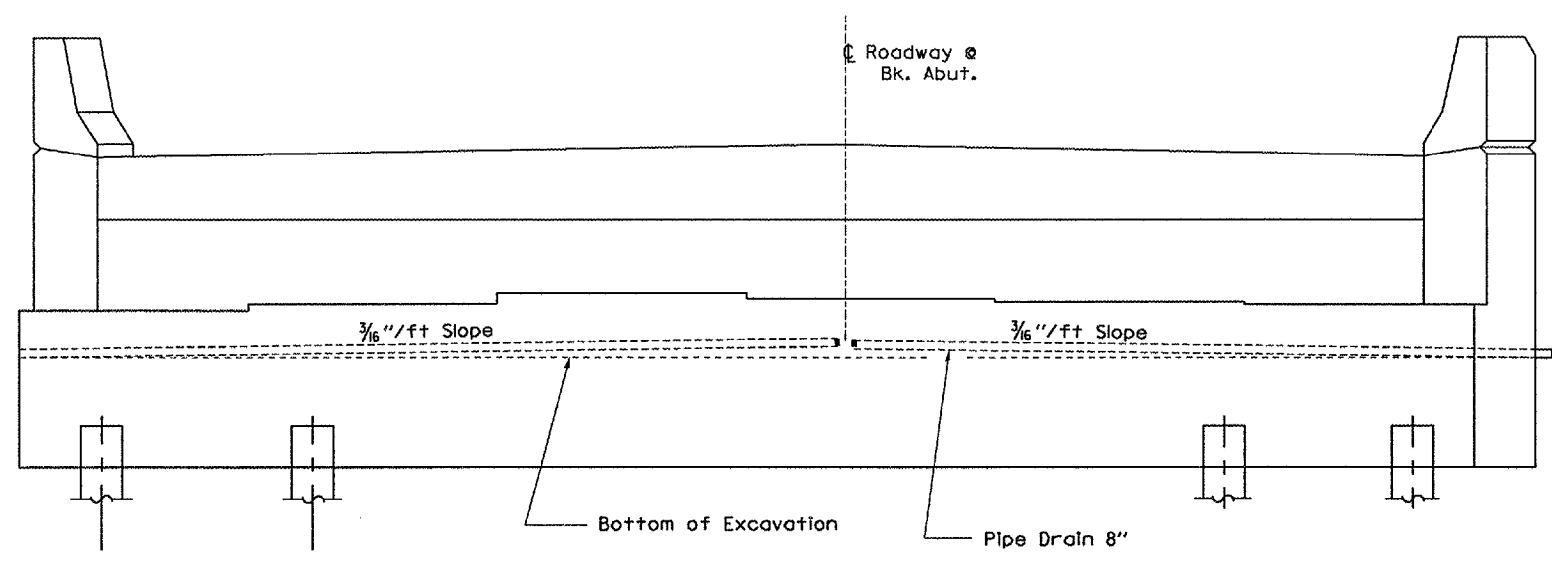
SCALE: VERT. 1"=1'-0"
 HORIZ. 1"=10'-0"
 DATE 04/26/2005

DRAWN BY RLW
 CHECKED BY

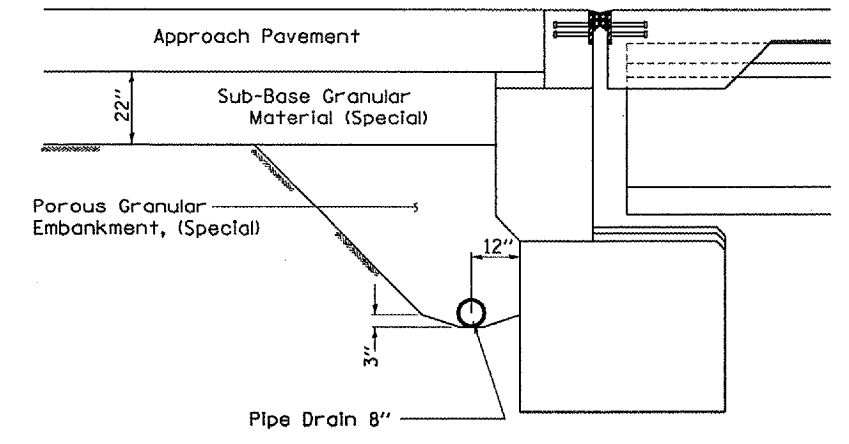
MARCH 21, 2005 C:\PROJECTS\CMA\106\CM301\DETAILS.DGN

BSD-1 9-01-03

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	12
FED. ROAD DIST. NO. - ILLINOIS		PROJECT		

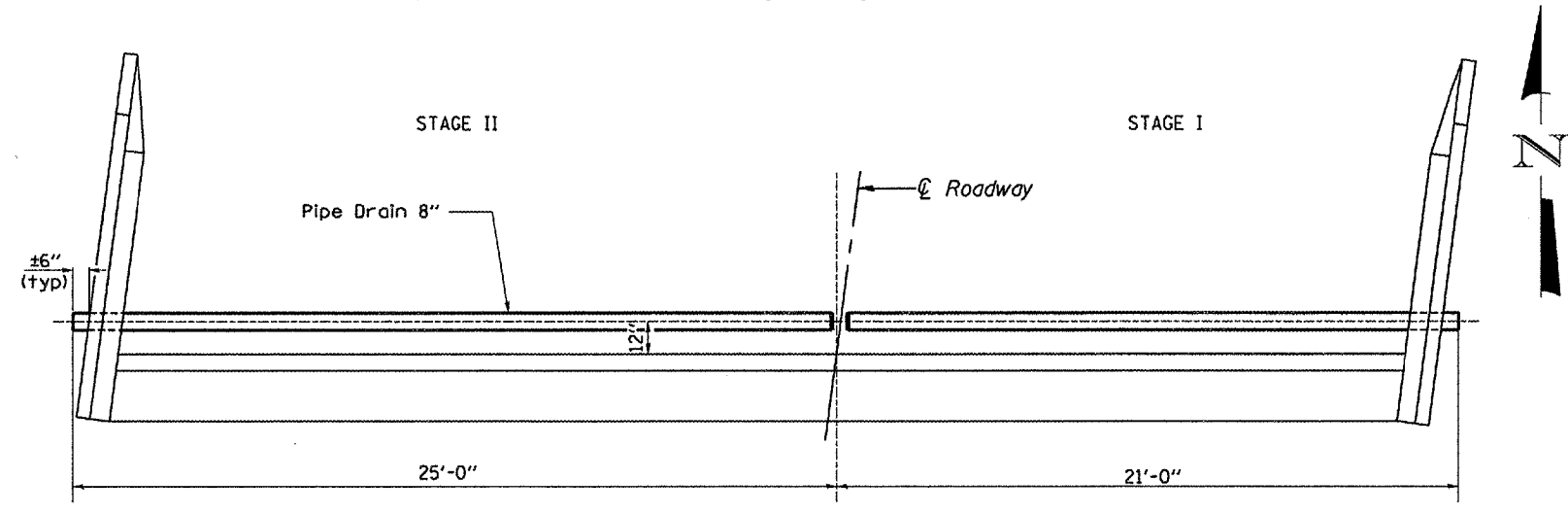


ELEVATION

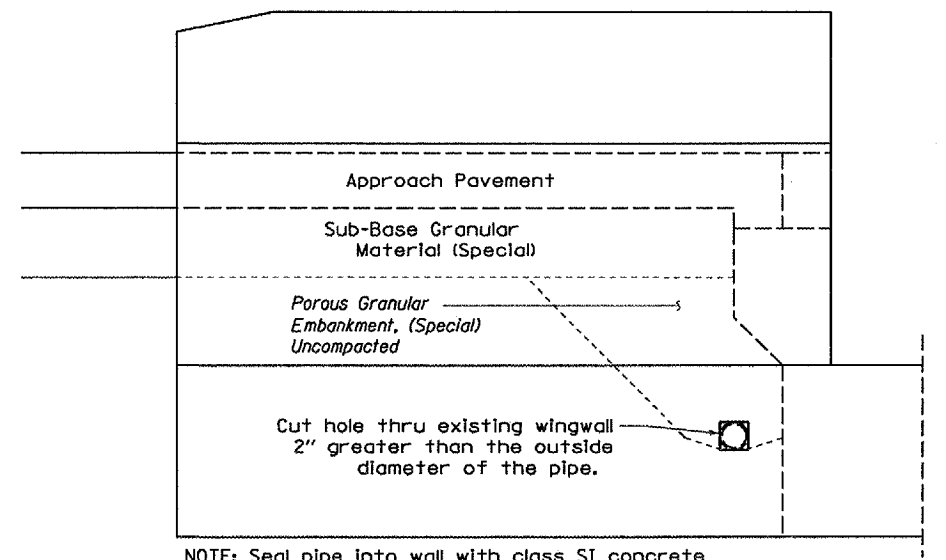


SECTION

NOTE: The pipe underdrain at the ϕ Roadway shall be capped or sealed with approved materials as directed by the Engineer



PLAN



NOTE: Seal pipe into wall with class SI concrete
Cost included with Pipe Underdrain

ELEVATION

Date: 04/26/2005
File: c:/projects/cm308/details.dgn

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIPE DRAINS
FAI 412 (I-39)
SECTION (62-2VB)I
STA. 165+90.23
MARSHALL COUNTY

SCALE: VERT. _____
 HORIZ. _____
DATE: 04/26/2005

DRAWN BY: RLW
CHECKED BY: _____

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	13
FED. ROAD DIST. NO. - ILLINOIS		PROJECT		

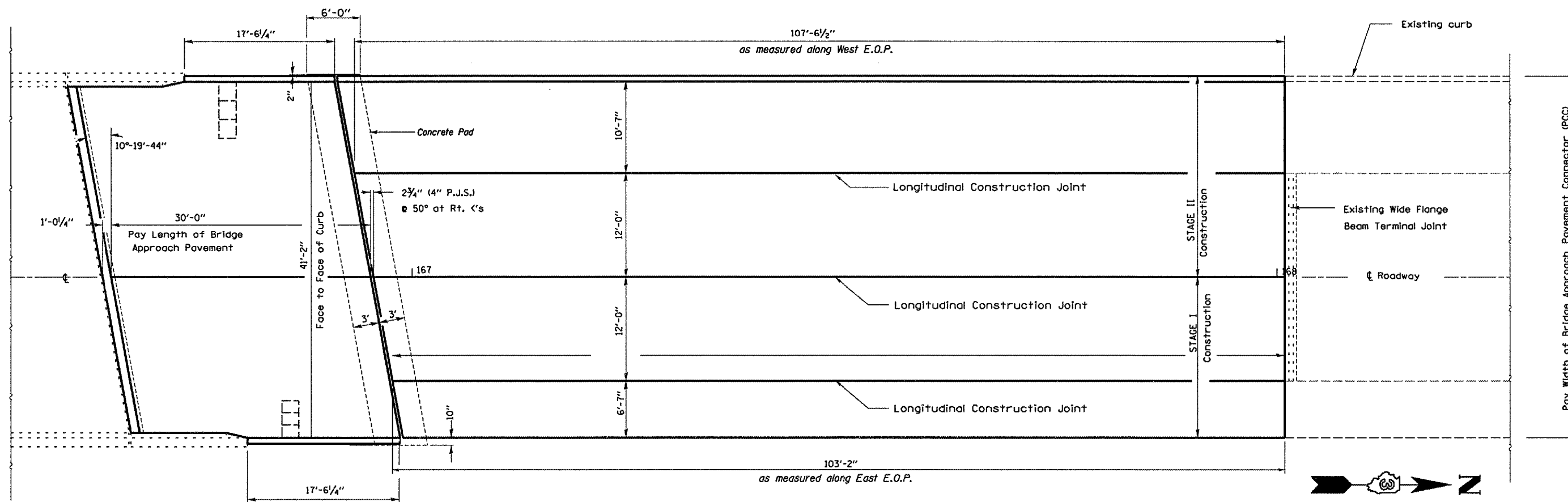
GENERAL NOTES

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.

REINFORCEMENT BARS OR TIE BARS THAT ARE TO REMAIN IN PLACE WHICH ARE DAMAGED DURING THE REMOVAL OPERATIONS SHALL BE REPAIRED OR REPLACED USING APPROVED BAR SPLICER OR ANCHORAGE SYSTEM. COST INCLUDED WITH THE REMOVAL ITEMS AND NO OTHER COMPENSATION WILL BE ALLOWED.

NEW REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31 OR M 322 GRADE 60.

NEW REINFORCEMENT BARS SHALL BE EPOXY COATED



NOTE: Pay Width of Bridge Approach Pavement shall be from back of curb to back of curb

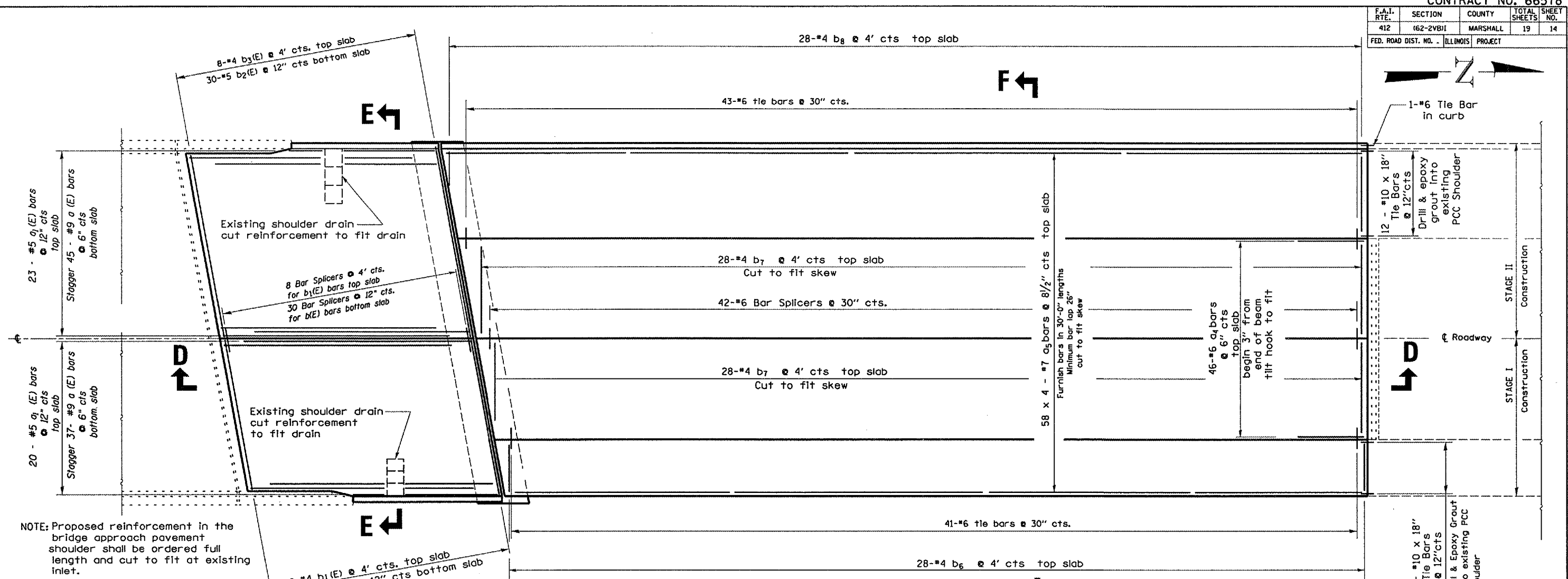
PLAN
SHOWING DIMENSIONS

REVISIONS	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**PROPOSED APPROACH PAVEMENT
 DETAILS - NORTH APPROACH**
 FAI 412 (I-39)
 SECTION (62-2VB)I
 STA. 165+90.23
 MARSHALL COUNTY
 SCALE: VERT. DRAWN BY R.L.W.
 HORIZ. CHECKED BY
 DATE 04/26/2005

Date: 04/26/2005
File: c:\projects\cm308\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	14
FED. ROAD DIST. NO. - ILLINOIS		PROJECT		

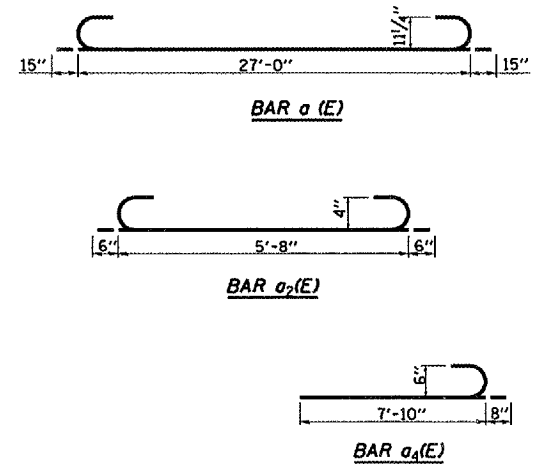


NOTE: Proposed reinforcement in the bridge approach pavement shoulder shall be ordered full length and cut to fit at existing inlet.

PLAN SHOWING REINFORCEMENT

BRIDGE APPROACH PAVEMENT CONNECTOR (PCC) REINFORCEMENT TABLE

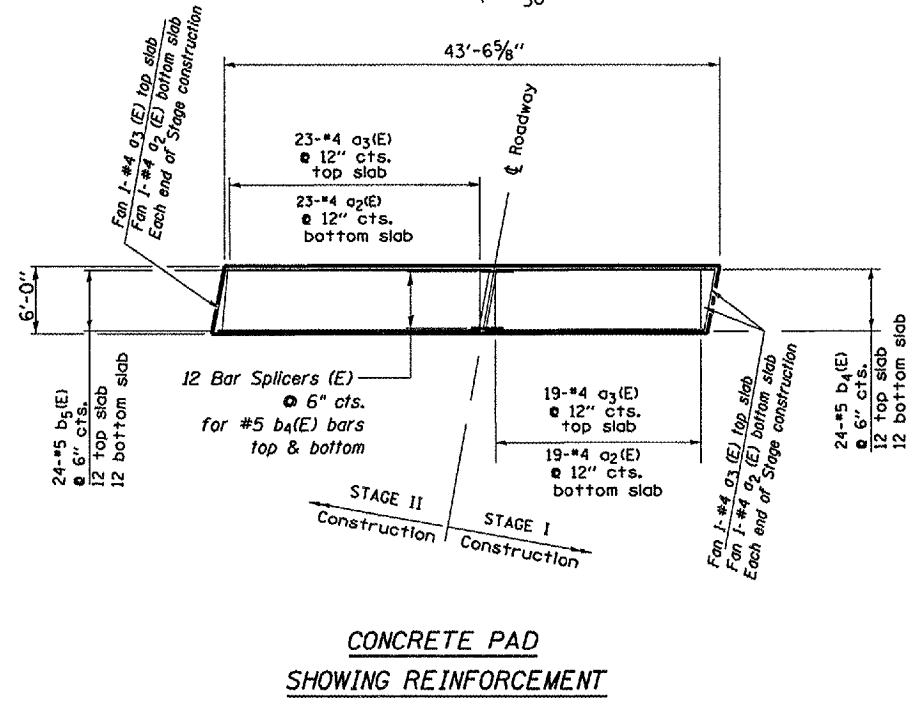
BAR	NO.	SIZE	LENGTH	SHAPE
a4	46	#6	8'-6"	
a5	232	#7	30'-0"	
a1(E)	43	#5	29'-6"	
a2(E)	44	#4	6'-8"	
a3(E)	44	#4	5'-8"	
b(E)	30	#5	19'-3"	
b1(E)	8	#4	19'-3"	
b2(E)	30	#5	23'-3"	
b3(E)	8	#4	23'-3"	
b4(E)	24	#5	19'-5"	
b5(E)	24	#5	23'-5"	
REINFORCEMENT BARS				15557
BAR SPLICERS				52
TIE BARS				103



BRIDGE APPROACH PAVEMENT REINFORCEMENT TABLE

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	82	#9	29'-6"	
a1(E)	43	#5	29'-6"	
a2(E)	44	#4	6'-8"	
a3(E)	44	#4	5'-8"	
b(E)	30	#5	19'-3"	
b1(E)	8	#4	19'-3"	
b2(E)	30	#5	23'-3"	
b3(E)	8	#4	23'-3"	
b4(E)	24	#5	19'-5"	
b5(E)	24	#5	23'-5"	
REINFORCEMENT BARS, EPOXY COATED				12540
BAR SPLICERS				38

NOTE: Reinforcement bars designated (E) shall be Epoxy Coated Bars indicated thus 58x4 #7 a indicates 58 lines of bars with 4 lengths per line



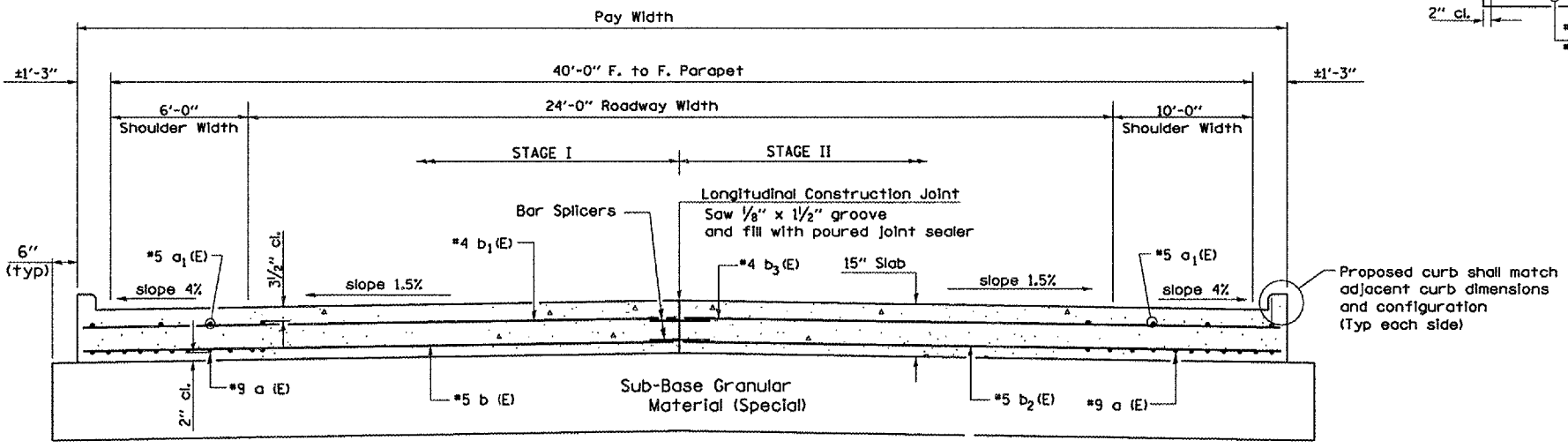
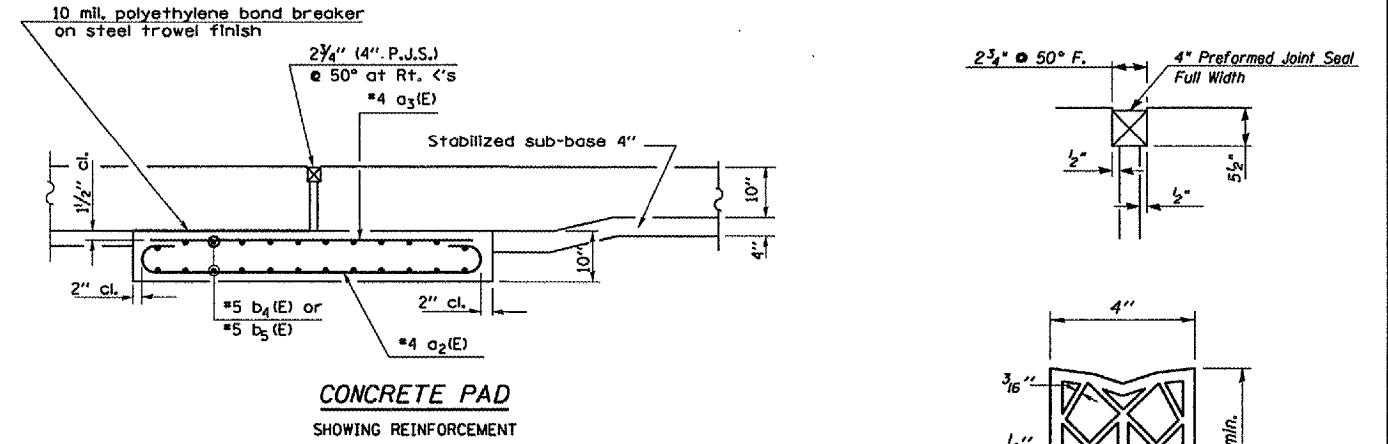
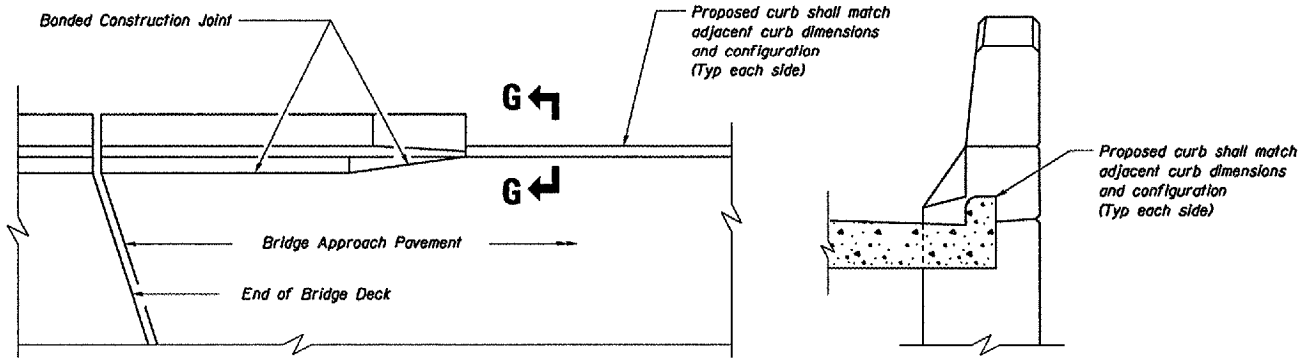
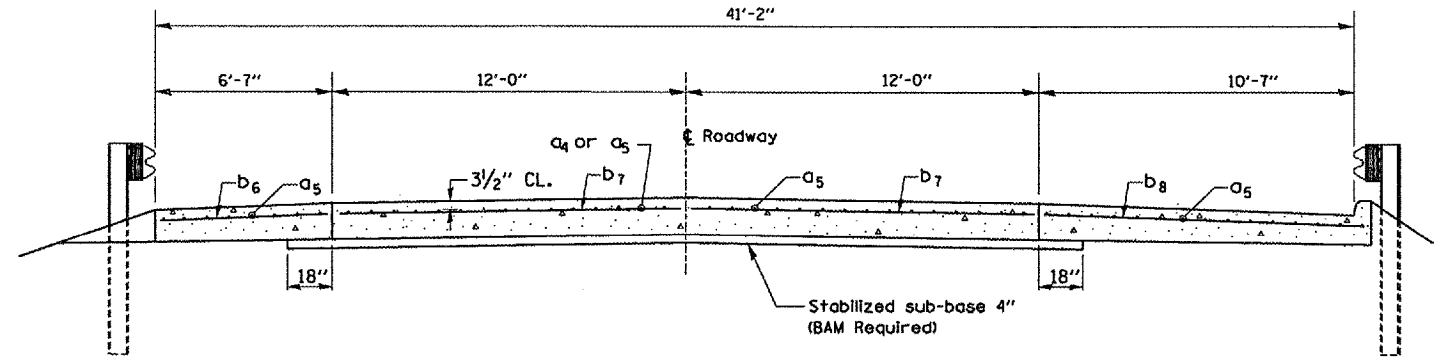
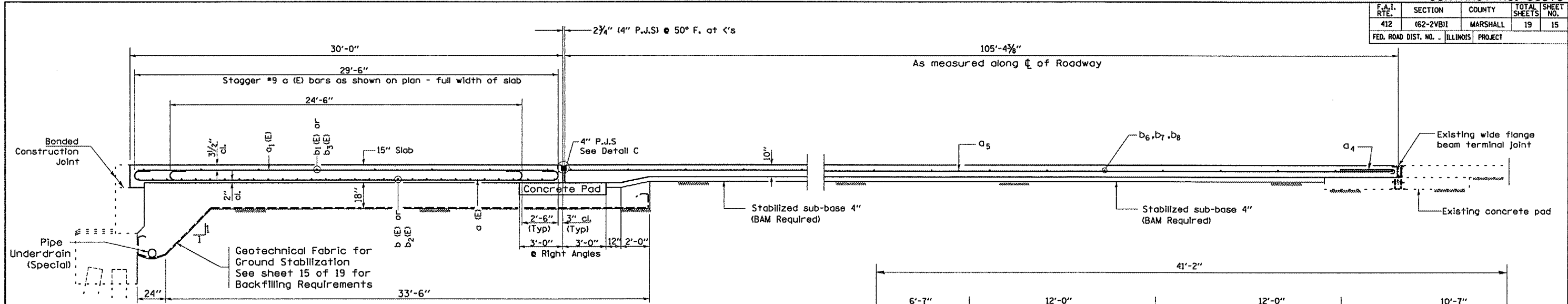
CONCRETE PAD SHOWING REINFORCEMENT

* For information only. Cost included with Bridge Approach Pavement Connector (PCC).
 ** For information only. Cost included with Bridge Approach Pavement (Special)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 PROPOSED APPROACH PAVEMENT
 DETAILS - NORTH APPROACH
 FAI 412 (I-39)
 SECTION (62-2VB)I
 STA. 165+90.23
 MARSHALL COUNTY
 SCALE: VERT. HORIZ.
 DATE 04/26/2005
 DRAWN BY RLW
 CHECKED BY

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	15
FED. ROAD DIST. NO. - ILLINOIS PROJECT				

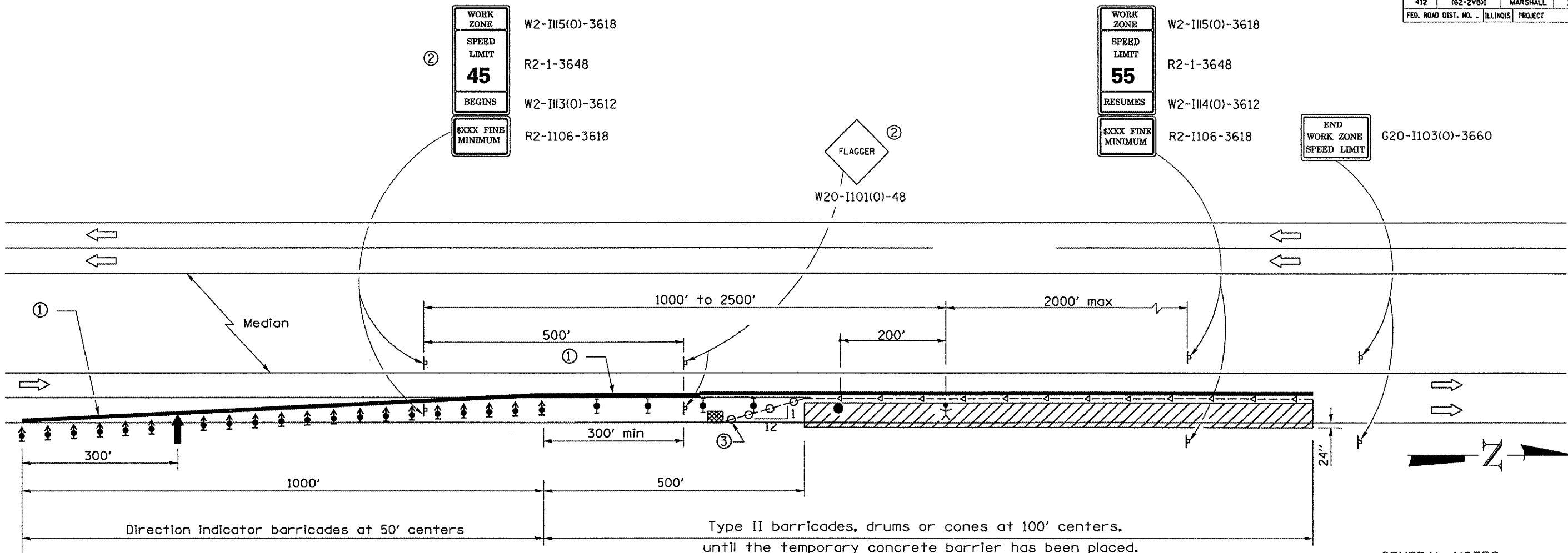


REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION PROPOSED APPROACH PAVEMENT DETAILS - NORTH APPROACH FAI 412 (I-39) SECTION (62-2VB)I STA. 165+90.23 MARSHALL COUNTY	DRAWN BY RLW CHECKED BY
NAME	DATE		

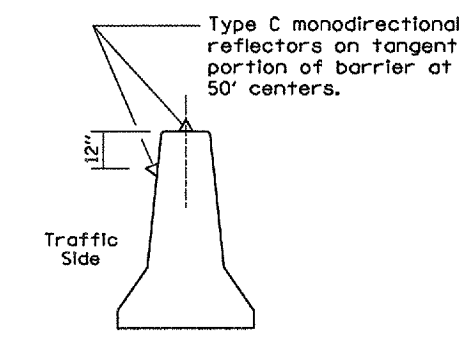
SCALE: VERT. HORIZ. DATE 04/26/2005

Date: 04/26/2005
File: c:\projects\cmaln06\cm308\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	16
FED. ROAD DIST. NO. - ILLINOIS		PROJECT		



See Standard 701400 for approach Start of lane closure taper



DETAIL A
(BARRIER WALL REFLECTORS)

SYMBOLS

- Arrow board
- Work area
- Worker
- Sign
- Direction indicator barricade with steady burn monodirectional light
- Type II barricade, drum, or vertical barricade with steady burn monodirectional light
- Flagger with traffic control sign
- Temporary concrete barrier
- Type C Monodirectional reflector
- Vertical panel with steady burn monodirectional light.
- Impact attenuator

- ① ReflectORIZED temporary pavement marking tape shall be placed throughout the taper and along-side the temporary concrete barrier. The edge line shall be white for right lane closure and yellow for left lane closures. Temporary raised reflectORIZED pavement markers at 25' centers shall be used to supplement the pavement marking tape.
- ② Type II barricades, drums or cones shall be used alongside the tangent portion of the work zone to provide protection during the installation of the temporary concrete barrier. Work Zone speed limit signs and FLAGGER signs shall be covered after the temporary concrete barrier is in place and uncovered when the temporary concrete barrier is removed and replaced with Type II barricades, drums or cones to maintain the lane closure. The additional drums, Type II barricades or cones, required shall be included in the cost of Traffic Control and Protection, Standard 701402 (Special).
- ③ Vertical panels at 25' centers with steady burning monodirectional lights.

GENERAL NOTES

This Standard is used where at any time any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 24" of the edge of pavement whenever temporary concrete barrier is warranted.

This Standard must always be used in combination with Standard 701400.

This Standard also applies when work is being performed in the left lane. Under these conditions, the set up would be a mirror image to what is shown.

A check barricade shall be placed in the middle of the closed lane and at the shoulder at 1000' centers.

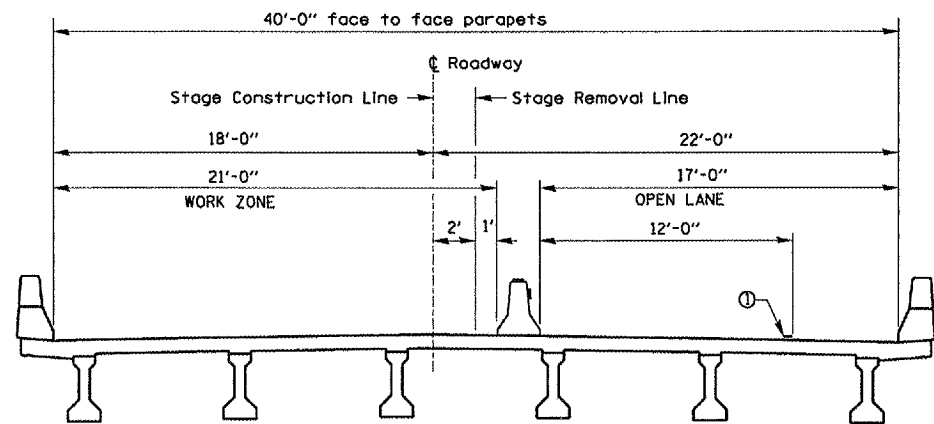
The cost of materials, equipment and labor to utilize this traffic control and protection as shown will be paid for at the contract unit bid price for TRAFFIC CONTROL AND PROTECTION, STANDARD 701402 (SPECIAL) and no further compensation will be allowed.

Temporary concrete barrier shall be paid for according to Section 704 of the Standard Specifications.

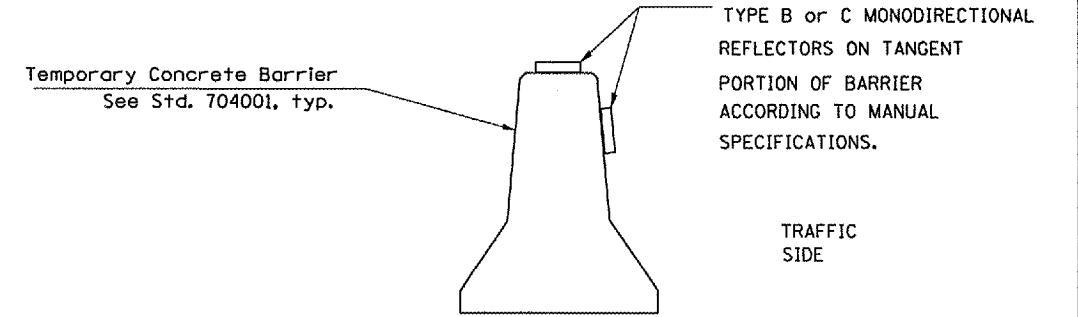
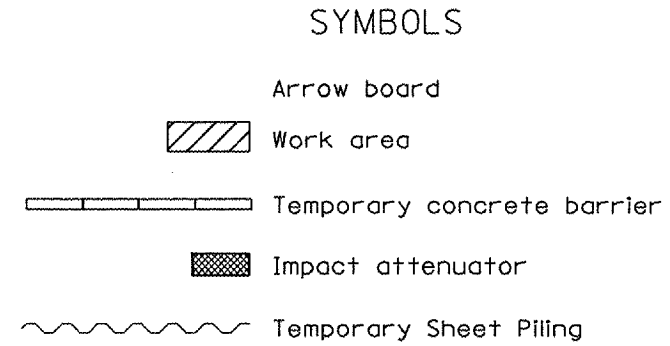
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL & PROTECTION
STANDARD 701402 (SPECIAL)
 FAI 412 (I-39)
 SECTION (62-2VB)I
 STA. 165+90.23
 MARSHALL COUNTY
 SCALE: VERT. _____
 HORIZ. _____
 DATE 04/18/05
 DRAWN BY RW
 CHECKED BY _____

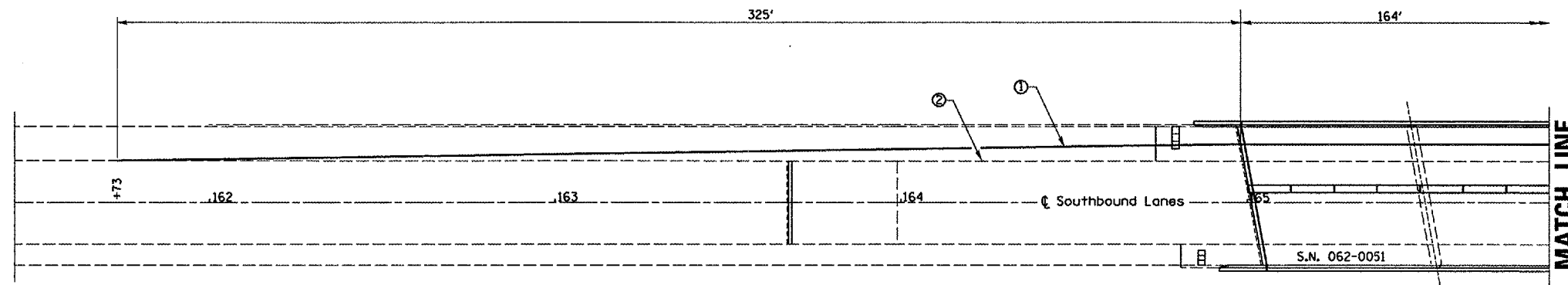
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I	MARSHALL	19	17
FED. ROAD DIST. NO. - ILLINOIS		PROJECT		



CROSS SECTION
(LOOKING SOUTH)



TEMPORARY CONCRETE BARRIER



PLAN VIEW

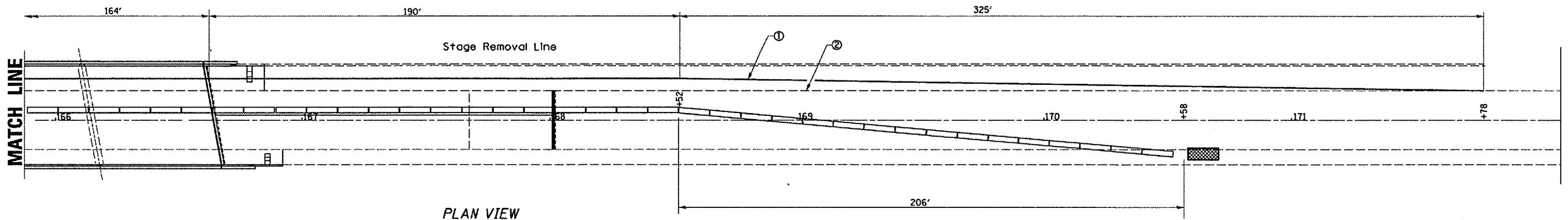
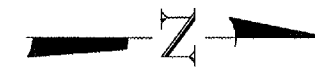
GENERAL NOTES

This Detail is used where at any time any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 24" of the edge of pavement.

This Detail must always be used in combination with Standard 701402 (Special)

① Reflectorized temporary pavement marking tape shall be placed throughout the work area as shown. The edge line shall be white for right lane closure and yellow for left lane closures.

② Pavement Marking Removal



PLAN VIEW

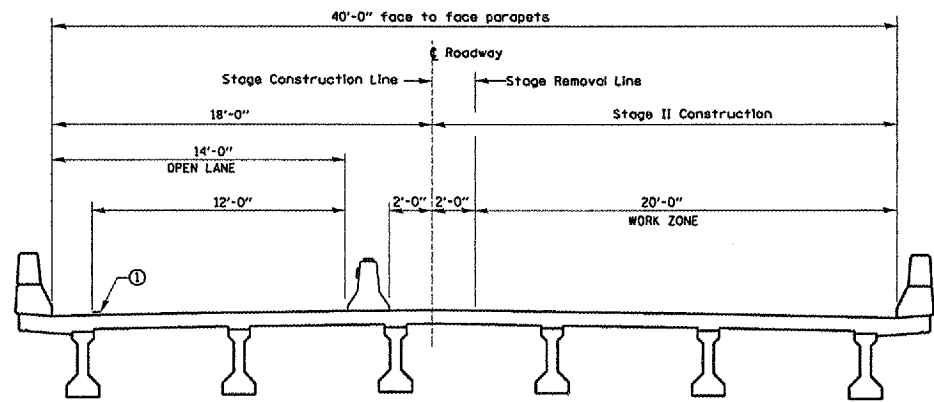
WORK THIS DETAIL WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402 (SPECIAL)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
STAGING AND TRAFFIC CONTROL DETAILS
STAGE I
 FAI 412 (I-39)
 SECTION (62-2VB)I
 STA. 165+90.23
 MARSHALL COUNTY
 SCALE: VERT. _____
 HORIZ. _____
 DATE 04/26/2005
 DRAWN BY RLW
 CHECKED BY _____

Date: 04/26/2005
 File: c:\projects\cm308\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	162-2VB1	MARSHALL	19	18
FED. ROAD DIST. NO. - ILLINOIS PROJECT				

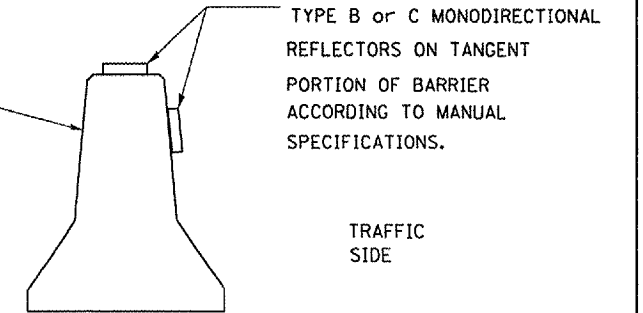


CROSS SECTION
(LOOKING SOUTH)

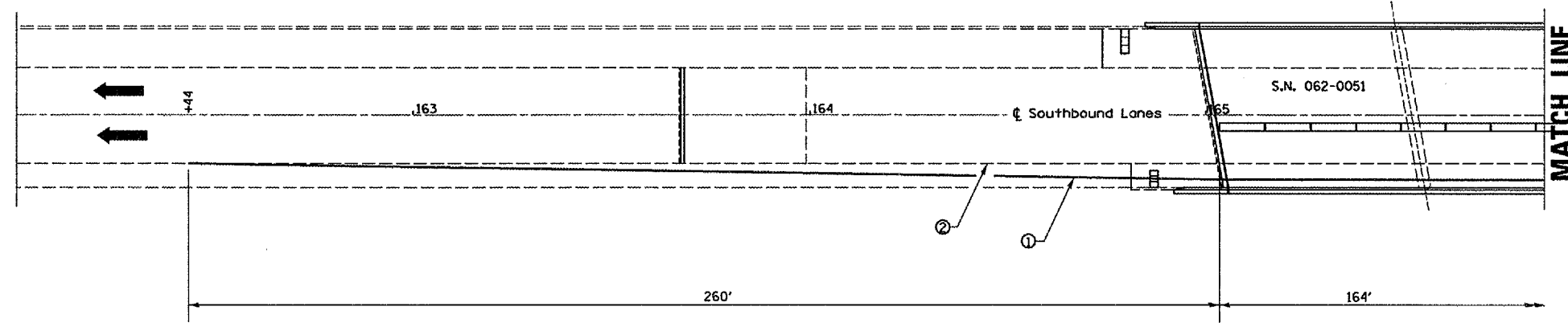
SYMBOLS

- Arrow board
- Work area
- Temporary concrete barrier
- Impact attenuator
- Temporary Sheet Piling

Temporary Concrete Barrier
See Std. 704001, typ.



TEMPORARY CONCRETE BARRIER



PLAN VIEW

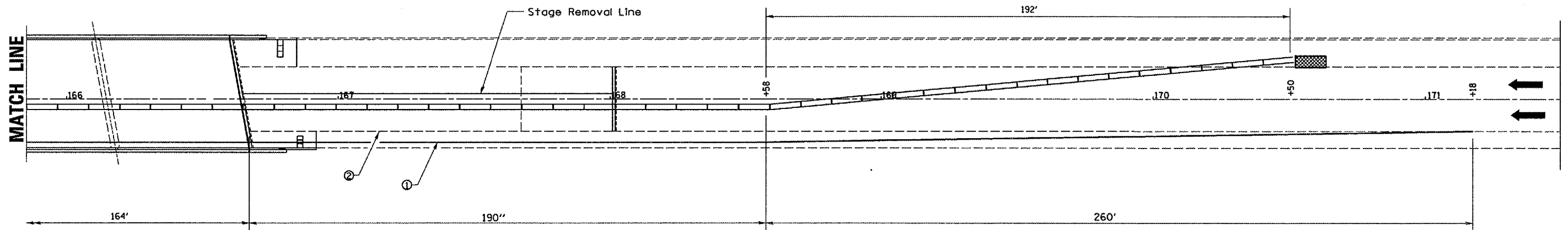
GENERAL NOTES

This Detail is used where at any time any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 24" of the edge of pavement.

This Detail must always be used in combination with Standard 701402 (Special)

① ReflectORIZED temporary pavement marking tape shall be placed throughout the work area as shown. The edge line shall be white for right lane closure and yellow for left lane closures.

② Pavement Marking Removal



PLAN VIEW

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
STAGING & TRAFFIC CONTROL DETAILS
STAGE II
FAI 412 (I-39)
SECTION (62-2VB)I
STA. 165+90.23
MARSHALL COUNTY

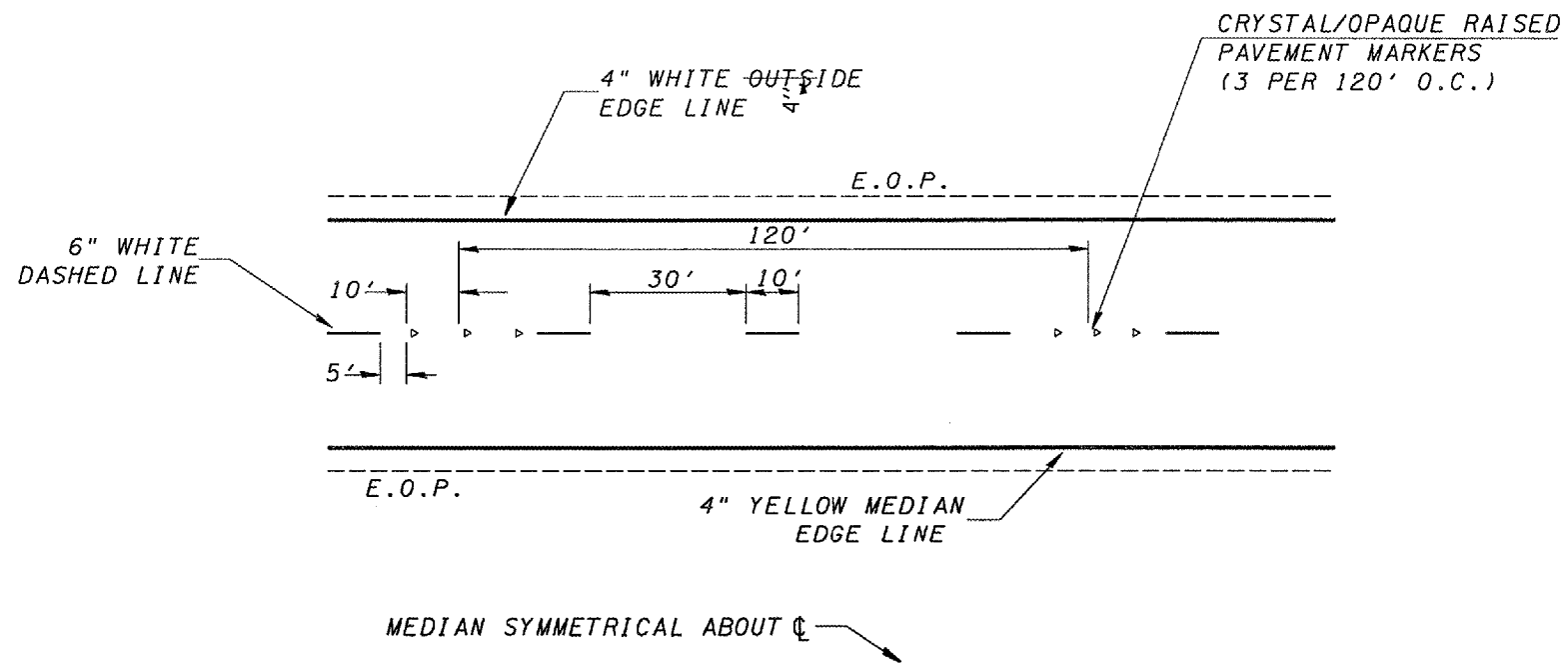
SCALE: VERT. HORIZ.
DATE 04/26/2005

DRAWN BY RLW
CHECKED BY

WORK THIS DETAIL WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402 (SPECIAL)

Date: 04/26/2005
File: c:\projects\cmain06\cm308\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)	MARSHALL	19	19
FED. ROAD DIST. NO. - ILLINOIS		PROJECT		



TYPICAL PAVEMENT MARKINGS

Date: 04/26/2005
 File: c:/projects/cm308/detalls.dgn

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 PAVEMENT MARKING DETAILS
 FAI 412 (I-39)
 SECTION (62-2VB)
 STA. 165+90.23
 MARSHALL COUNTY

SCALE: VERT. _____
 HORIZ. _____
 DATE 04/26/2005

DRAWN BY RLW
 CHECKED BY _____