

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I-1	MARSHALL	19	1
ILLINOIS				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

FAI ROUTE 412 (I-39) (NB)
SECTION (62-2VB)I-1

MARSHALL COUNTY

C-93-085-05

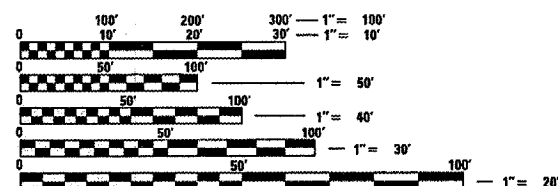
STRUCTURE & APPROACH SLAB REPAIR

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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 GUARD RAIL |
| 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 |
| 781001-02 | TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS |
| 704001-02 | TEMPORARY CONCRETE BARRIER |



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

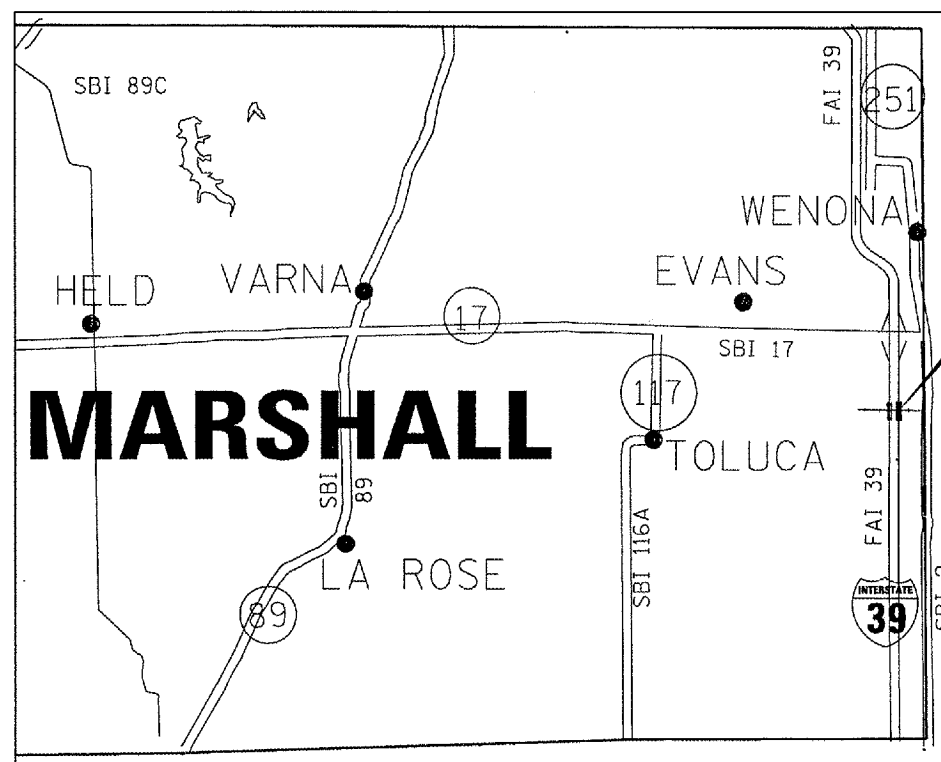
DISTRICT 3 NO. (815) 434-6131

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

CONTRACT NO. 66579



LOCATION OF SECTION INDICATED THIS: -



PROJECT LOCATION
S.N. 062-0052 (NB)
1.26 MILES SOUTH OF IL ROUTE 17
FAI 412 OVER BNSF RAILROAD

LOCATION MAP

NOT TO SCALE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED July 7 2005
Jungas L Alonzo
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Aug 19 2005
Mike Pine 10
ENGINEER OF DESIGN AND ENVIRONMENT

Aug 19 2005
Peter Mader 10
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I-1	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 FRICTION AGGREGATE	BAM
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/QA 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-1
STA. 165+90.23
MARSHALL COUNTY

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

DRAWN BY RLV
CHECKED BY

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)1-1	MARSHALL	19	3
FED. ROAD DIST. NO. - ILLINOIS		PROJECT		

SUMMARY OF QUANTITIES

CONSTRUCTION CODE TYPE: SFTY-2A

CODE NO.	ITEM	UNIT	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	597
42001400	BRIDGE APPROACH PAVEMENT (SPECIAL)	SQ YD	136
42001420	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	SQ YD	504
44000700	APPROACH SLAB REMOVAL	SQ YD	274
44002100	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REMOVAL	SQ YD	103
44004510	PORTLAND CEMENT CONCRETE SHOULDER REMOVAL	SQ YD	263
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

Date: 05/07/2005
File: c:\projects\cman06\cm309\details.dgn

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUMMARY OF QUANTITIES
 FAI 412 (I-39)
 SECTION (62-2VB)1-1
 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	(62-2VB1)-1	MARSHALL	19	4
FED. ROAD DIST. NO. - ILLINOIS		PROJECT		

SUMMARY OF QUANTITIES

CONSTRUCTION CODE TYPE: **SFTY-2A**

CODE NO.	ITEM	UNIT	100% STATE 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 (62-2VB1)-1
 STA. 165+90.23
 MARSHALL COUNTY

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

DRAWN BY RLW
 CHECKED BY _____

Date: 05/07/2005
 File: c:\projects\main05\cm308\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	62-2VB1-1	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

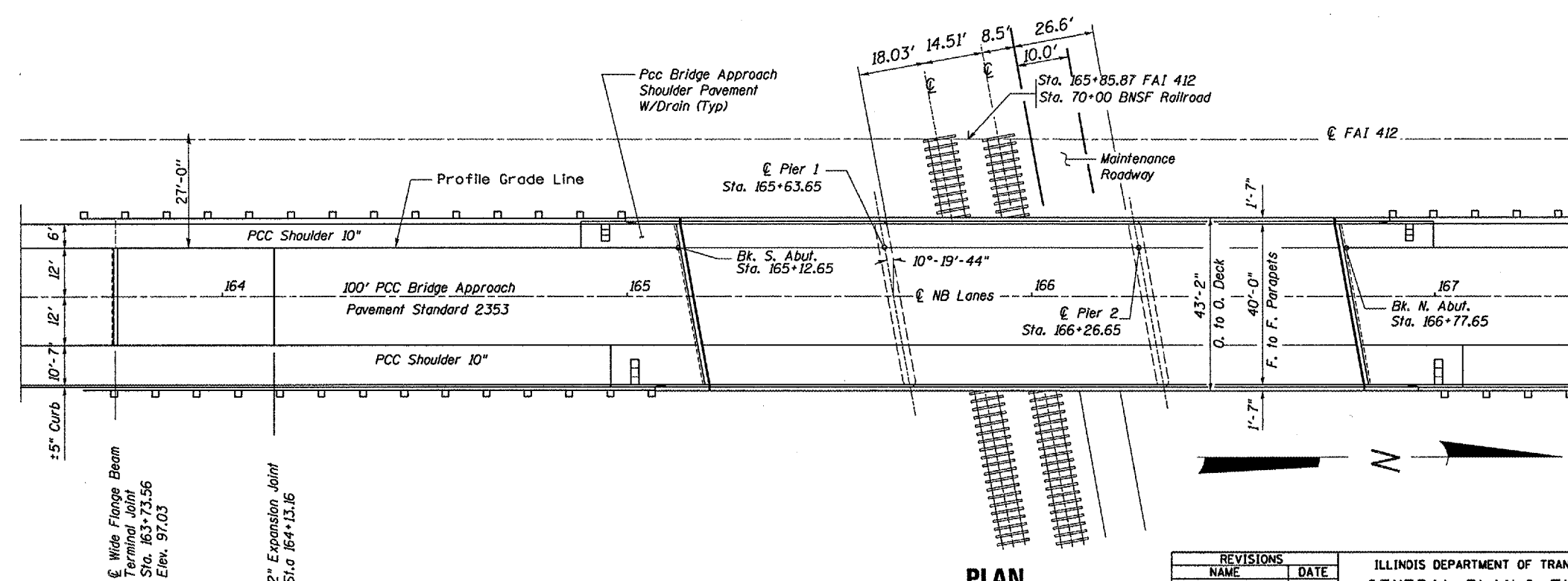
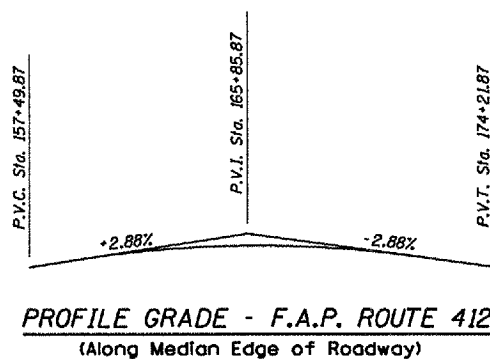
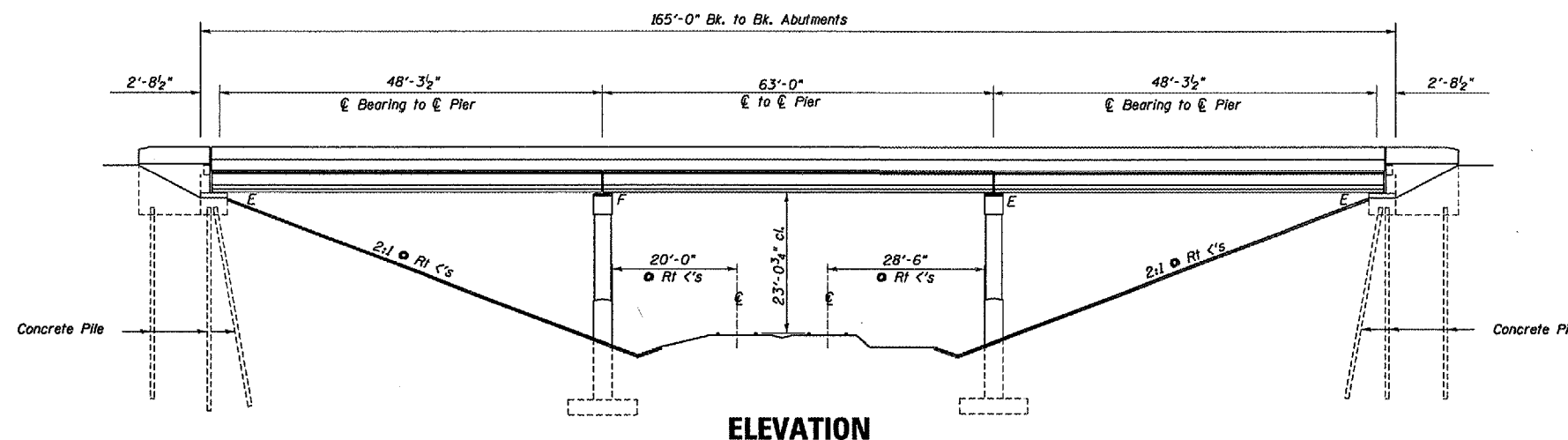
PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING ROADWAY AND STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND TO MAKE NECESSARY APPROVED ADJUSTMENTS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



PLAN
SN 062-0052 NB

REVISIONS	
NAME	DATE

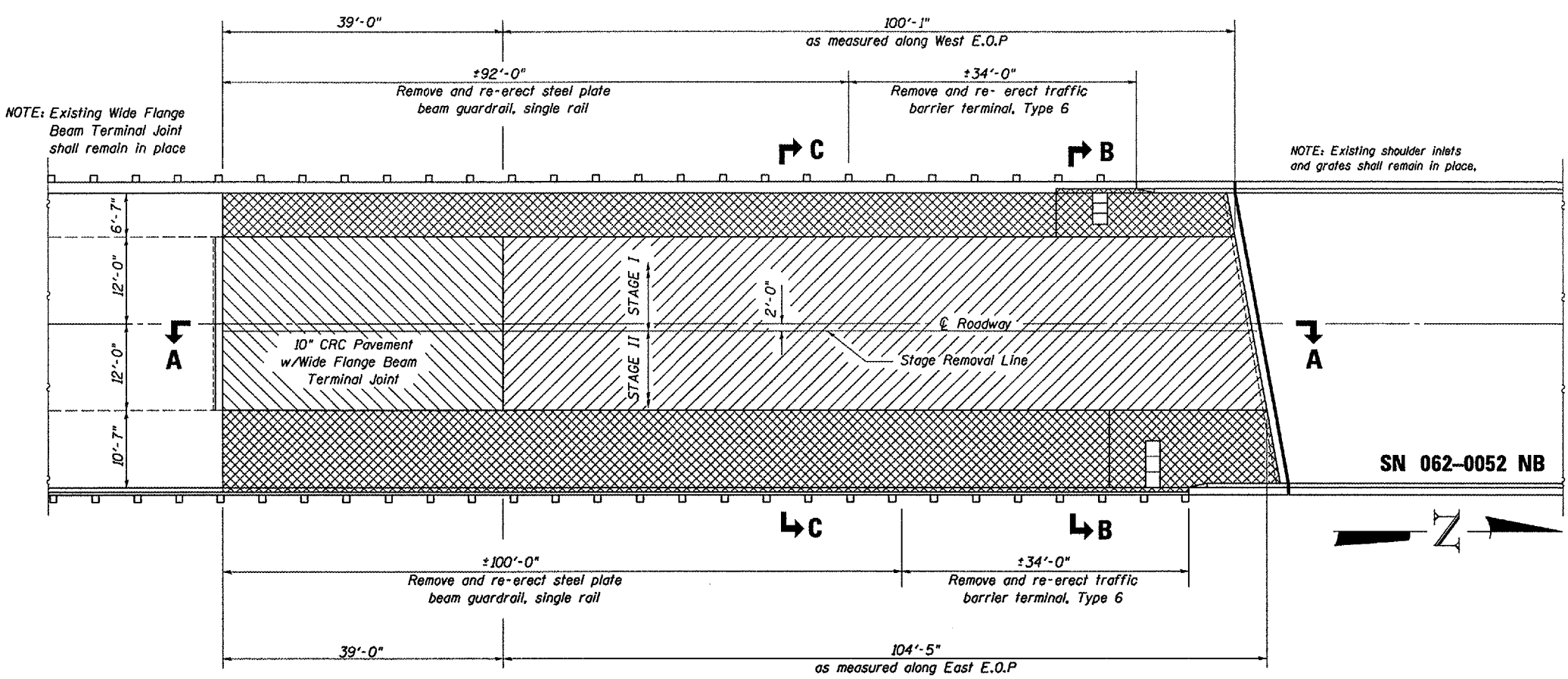
ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN & ELEVATION
 NORTHBOUND LANES
 FAI 412 (I-39)
 SECTION (62-2VB1)-1
 STA. 165+90.23
 MARSHALL COUNTY

SCALE: VERT. 1"=7'
 HORIZ. 1"=70'
 DATE 04/26/2005

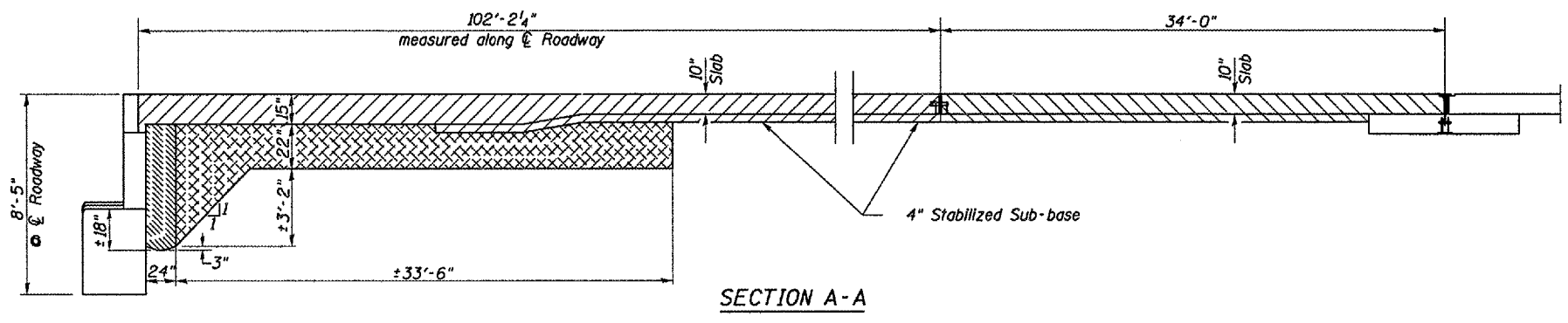
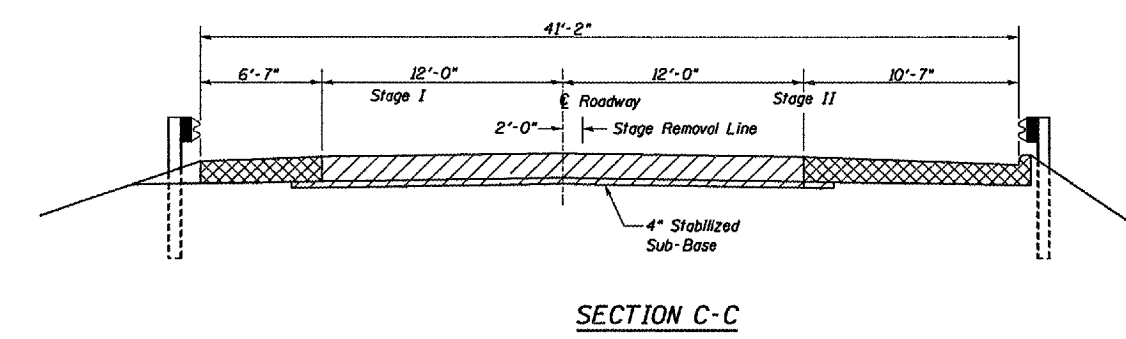
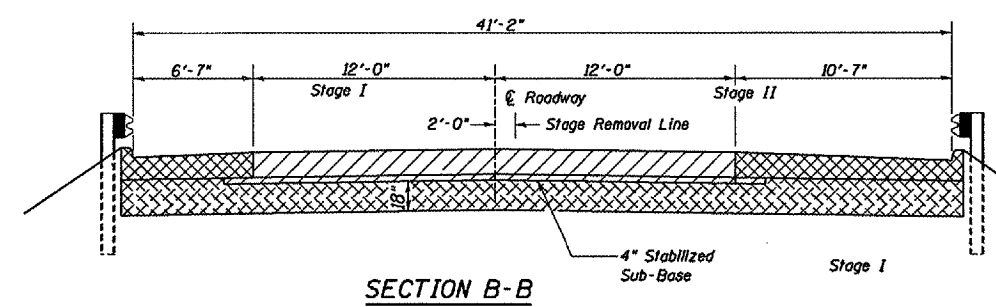
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Date: 05/08/2005
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I-1	MARSHALL	19	6
FED. ROAD DIST. NO.	ILLINOIS PROJECT			



PLAN
NORTHBOUND LANES



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.

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**EXISTING APPROACH PAVEMENT
 DETAILS - SOUTH APPROACH**
 FAI 412 (I-39)
 SECTION (62-2VB)I-1
 STA. 165+90.23
 MARSHALL COUNTY

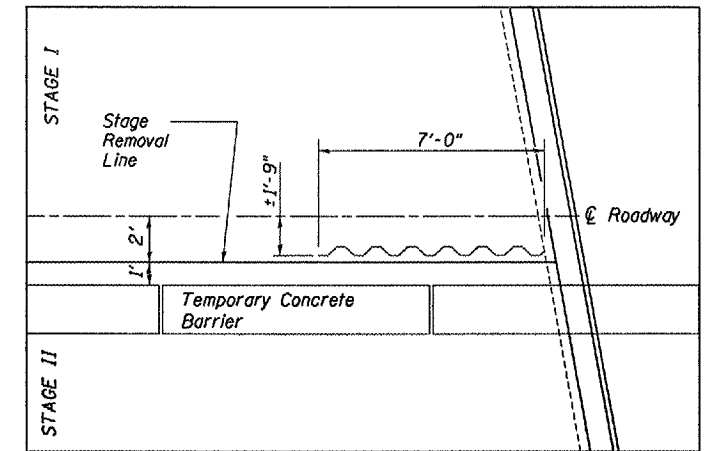
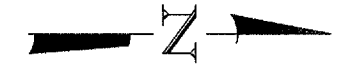
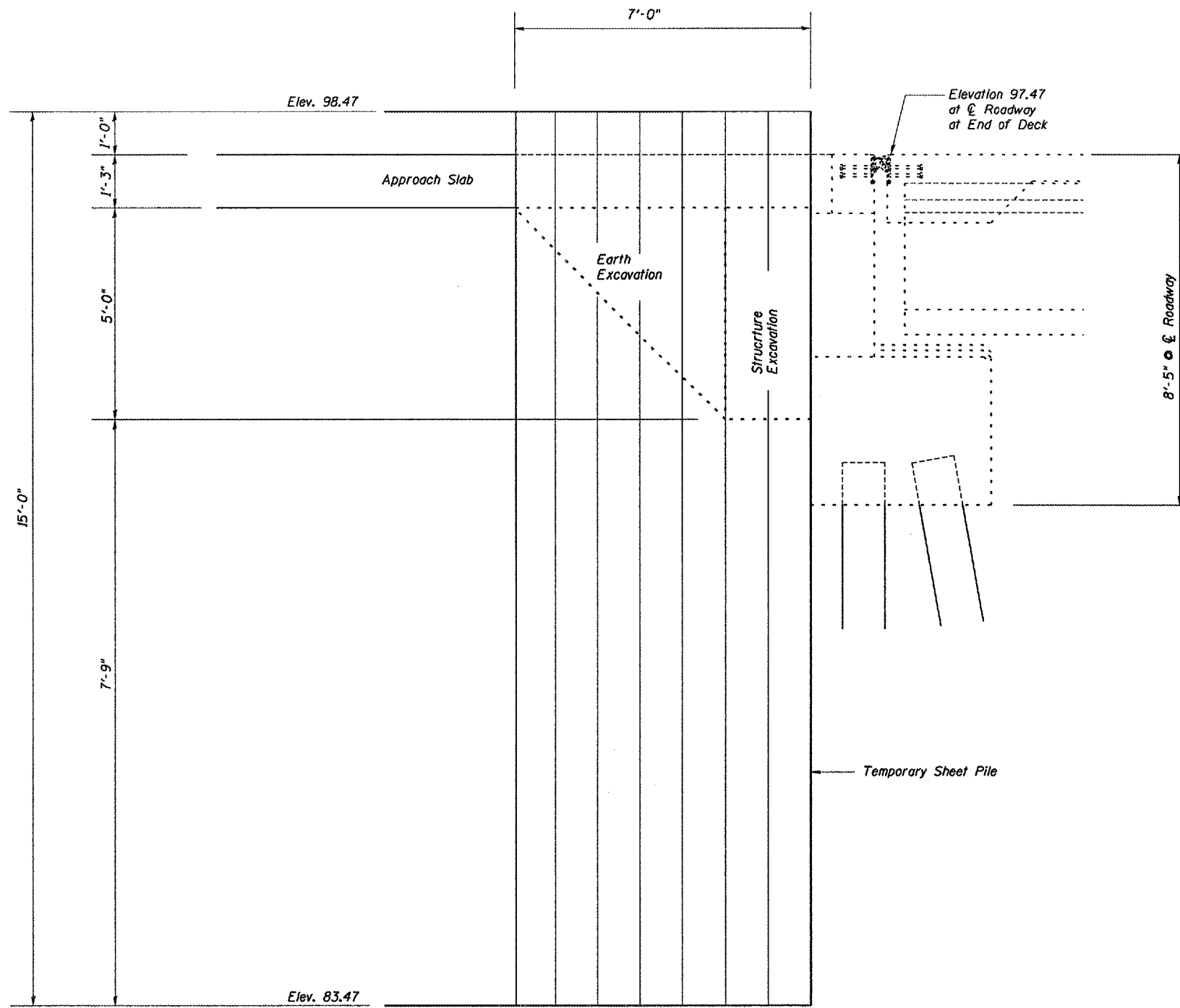
SCALE: VERT. _____
 HORIZ. _____
 DATE 06/09/2005

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 CHECKED BY _____

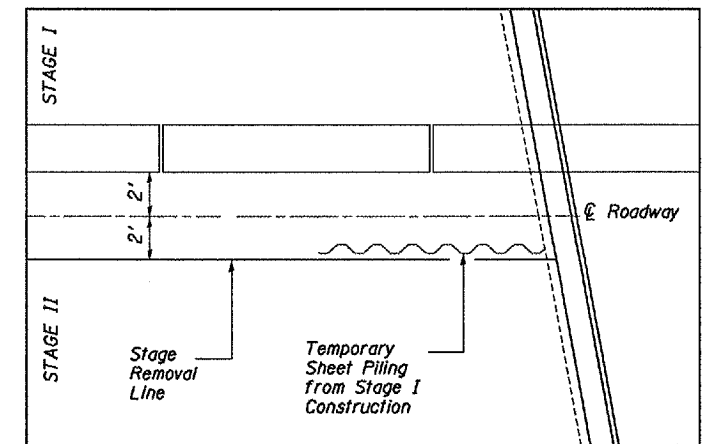
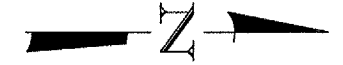
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I-1	MARSHALL	19	7
FED. ROAD DIST. NO. -		ILLINOIS PROJECT		

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



DETAIL "A"
STAGE I



DETAIL "B"
STAGE II

REVISIONS	
NAME	DATE

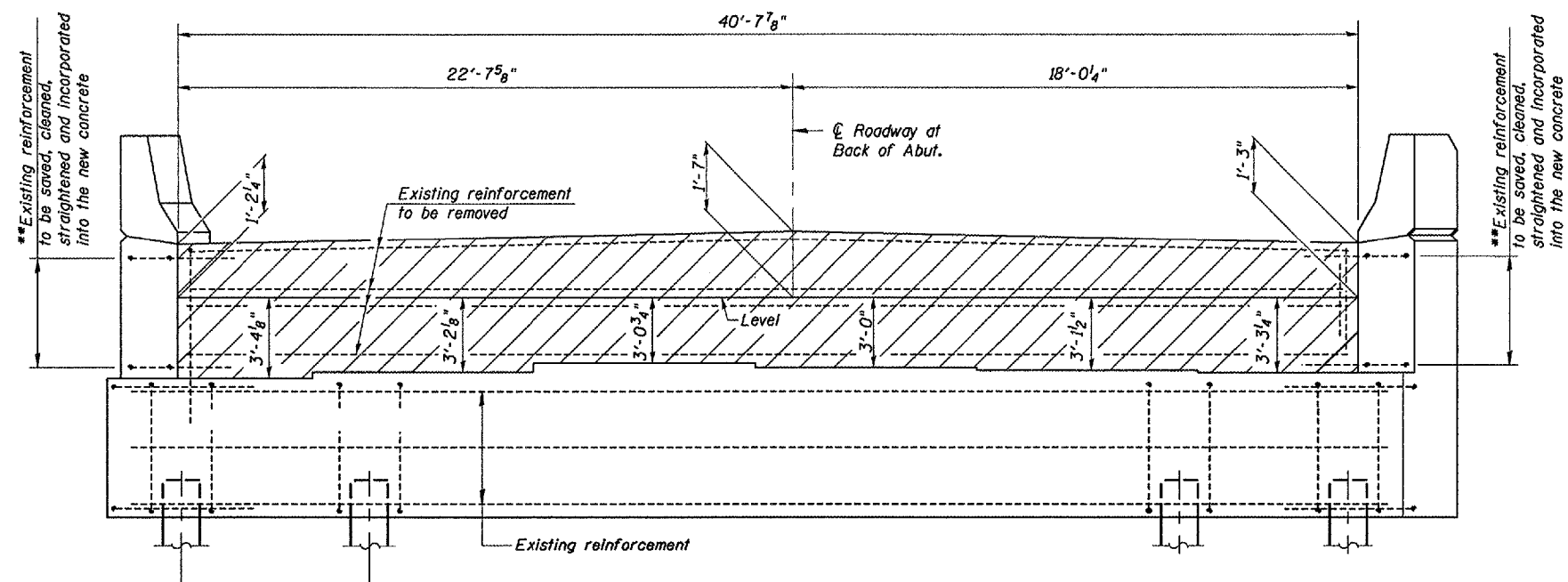
ILLINOIS DEPARTMENT OF TRANSPORTATION
TEMPORARY SHEET PILE DETAILS
 FAI 412 (I-39)
 SECTION (62-2VB)I-1
 STA. 165+90.23
 MARSHALL COUNTY

SCALE: VERT. _____
 HORIZ. _____
 DATE 06/09/2005

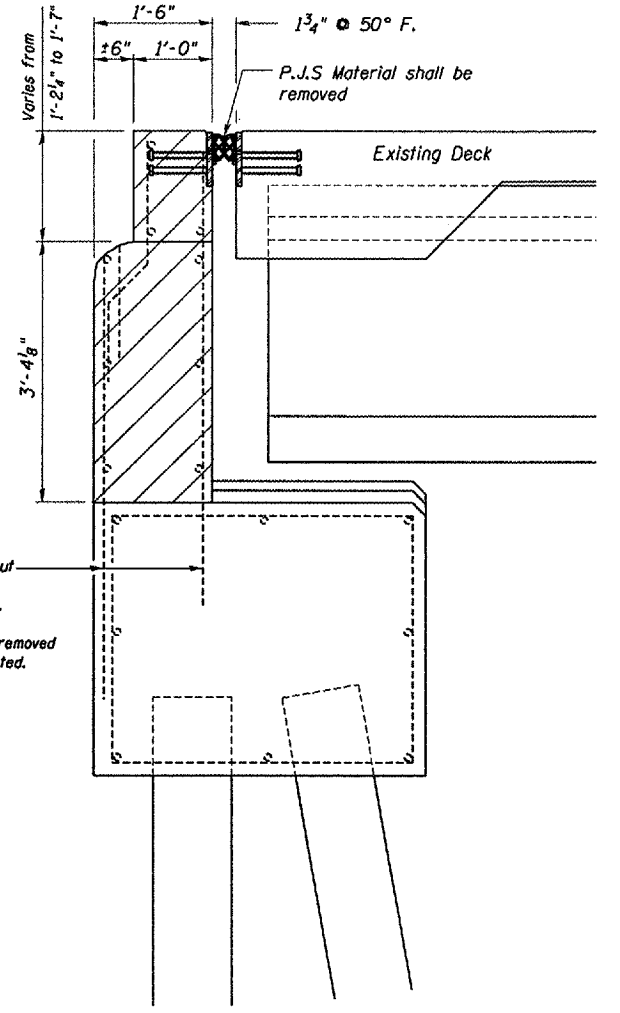
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 CHECKED BY _____

Date: 06/08/2005
 File: c:\projects\main\06\cm309\details.dgn

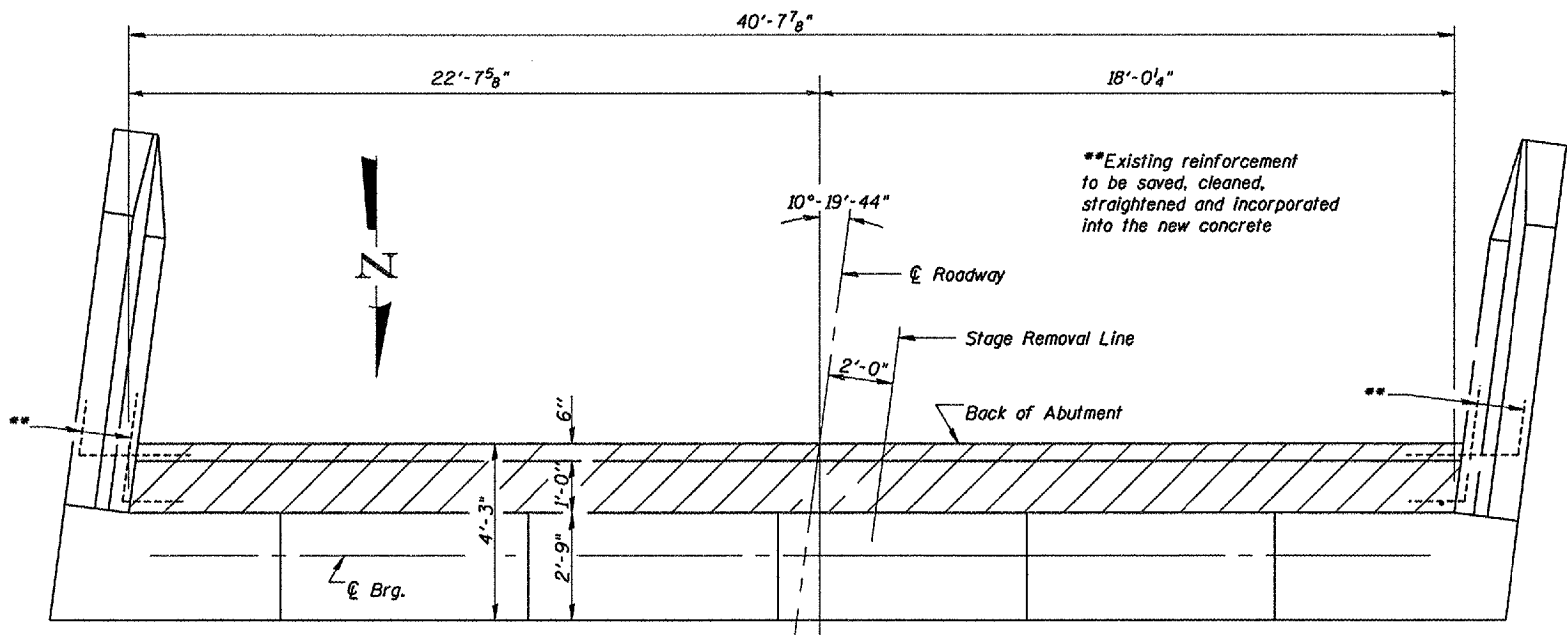
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)1-1	MARSHALL	19	8
FED. ROAD DIST. NO. .		ILLINOIS	PROJECT	



ELEVATION



ABUTMENT SECTION



PLAN VIEW

REVISIONS	
NAME	DATE

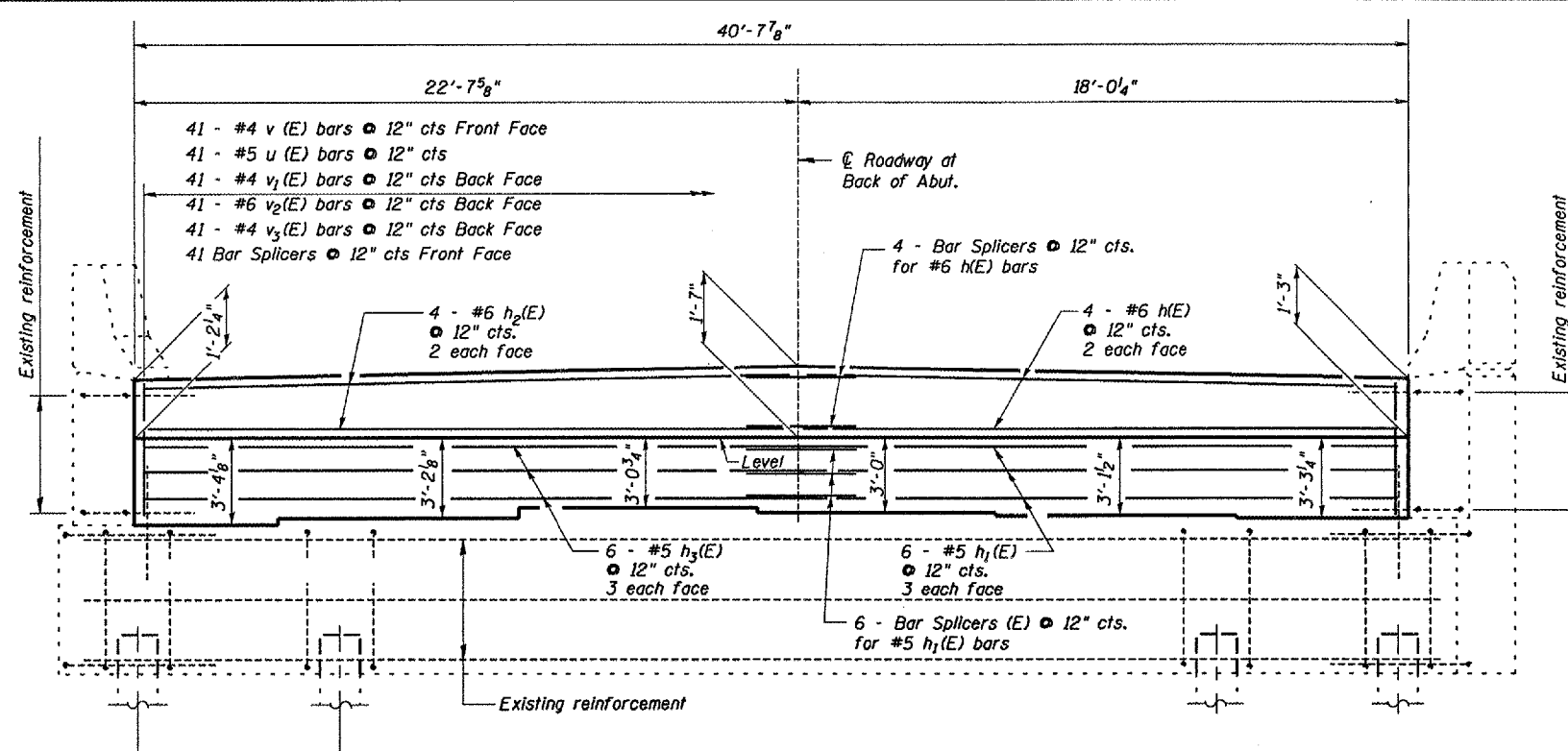
ILLINOIS DEPARTMENT OF TRANSPORTATION
EXISTING ABUTMENT DETAILS
 SOUTH ABUTMENT
 FAI 412 (I-39)
 SECTION (62-2VB)1-1
 STA. 165+90.23
 MARSHALL COUNTY

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

DRAWN BY RLW
 CHECKED BY _____

Date: 05/07/2005
 File: c:\projects\main06\cm309\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)1-1	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 1/8". Seal space with silicone sealant suitable for structural steel.

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

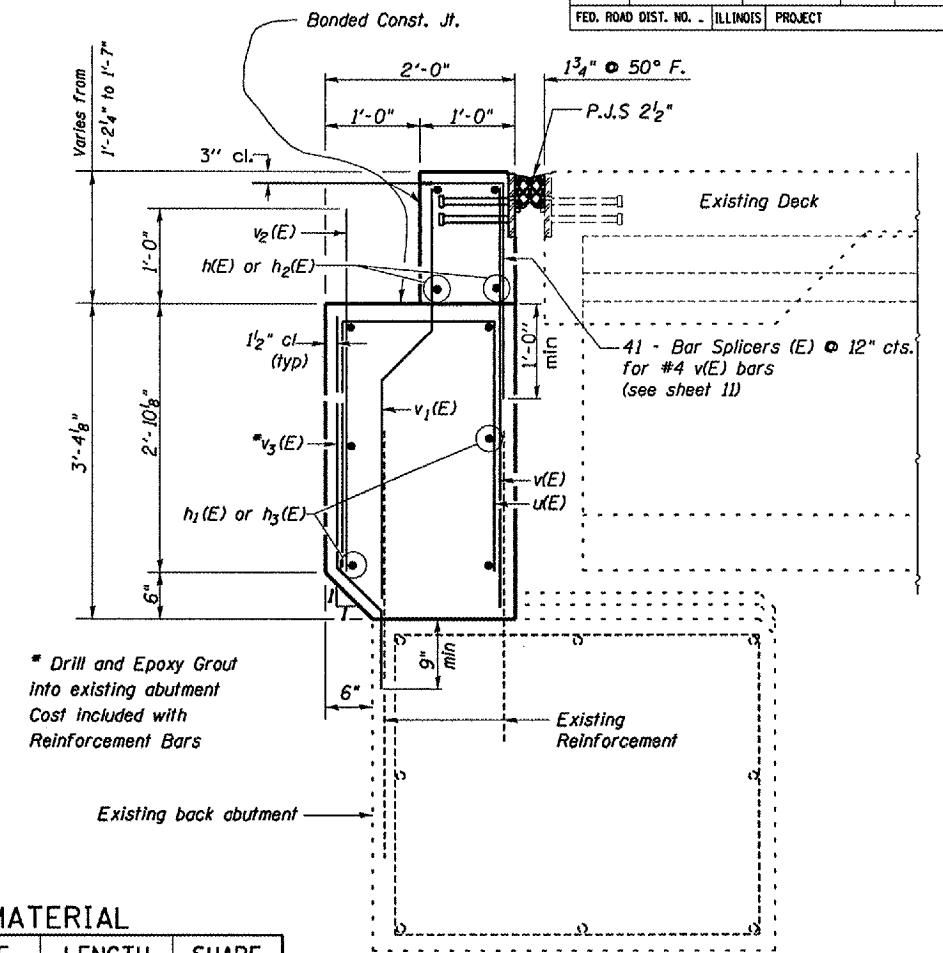
Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.

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.

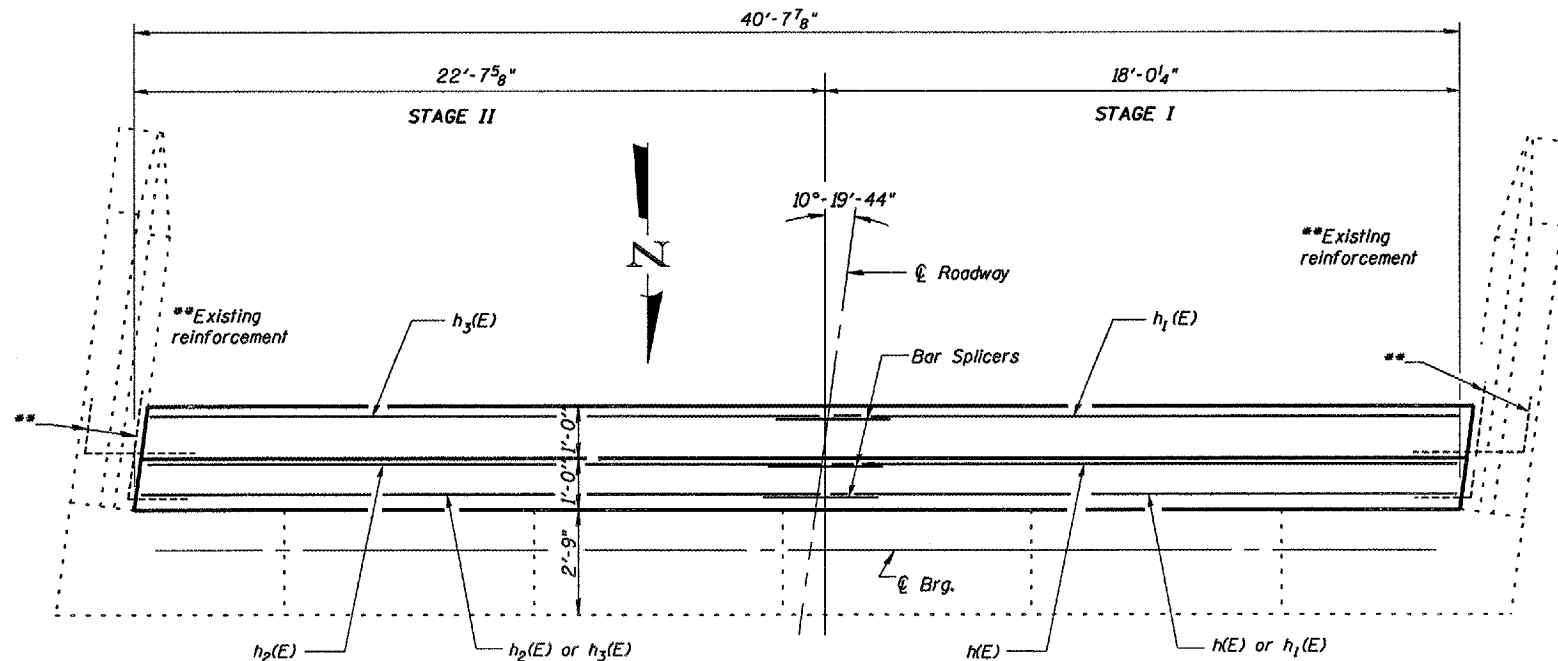
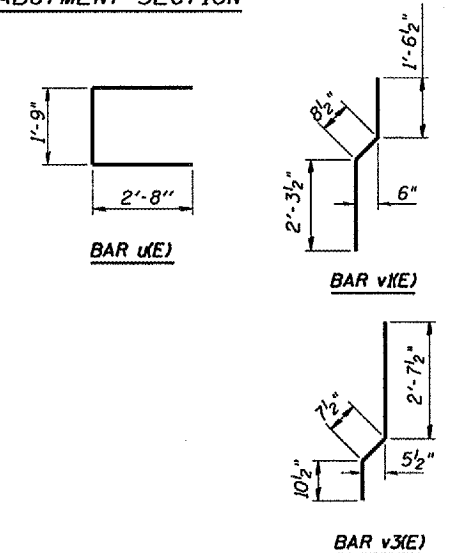


ABUTMENT SECTION

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		POUND	1282	
EPOXY COATED				
BAR SPLICERS		EACH	51	

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



PLAN VIEW

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PROPOSED ABUTMENT DETAILS
 SOUTH ABUTMENT
 FAI 412 (I-39)
 SECTION (62-2VB)1-1
 STA. 165+90.23
 MARSHALL COUNTY
 SCALE: VERT. 1"=10'
 HORIZ. 1"=20'
 DATE: 06/09/2005
 DRAWN BY: RLW
 CHECKED BY:

Date: 06/08/2005
 File: c:\projects\main06\cm309\details.dgn

F.A.L. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)1-1	MARSHALL	19	10
FED. ROAD DIST. NO. -		ILLINOIS PROJECT		

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.

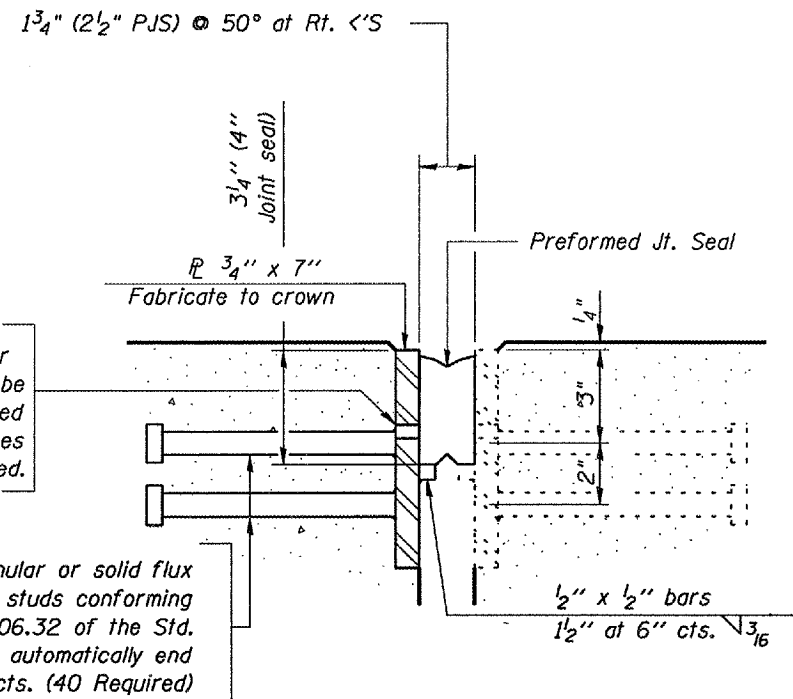
Expansion guards shall be fabricated and erected according to Article 503.10(c) of the Standard Specifications and are included in quantity of structural steel.

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

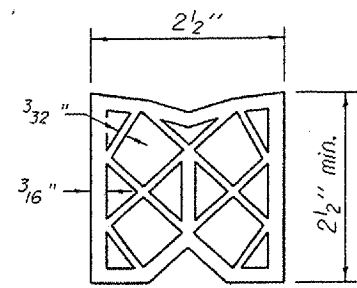
Calculated weight of Structural Steel = 260 pounds

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

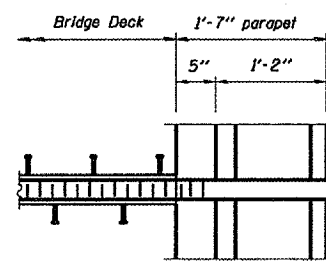
Furnish steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be 3/16". Seal space with silicone sealant suitable for structural steel.



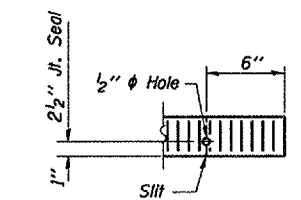
SECTION THRU EXPANSION JOINT AT SOUTH ABUTMENT



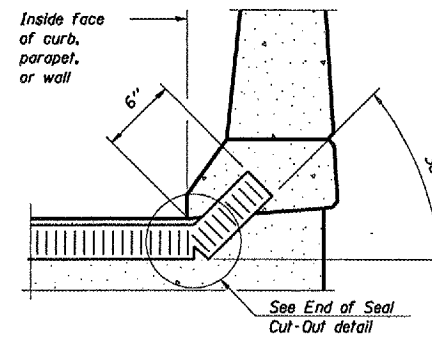
2 1/2" PREFORMED JOINT SEAL



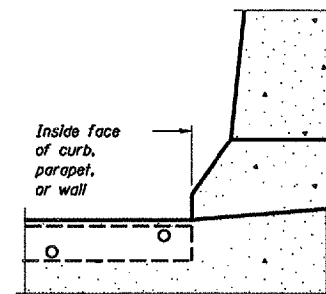
PLAN AT PARAPET



END OF SEAL CUT-OUT

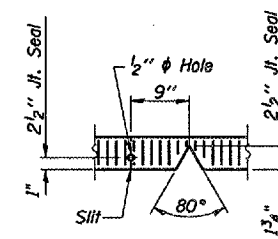


AT CURB, PARAPET, OR WALL (Showing seal)



AT CURB, PARAPET, OR WALL (Showing plate)

TYPICAL END TREATMENTS



SEAL CUT-OUT AT CURB

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		<p>EXPANSION JOINT DETAILS</p> <p>SCALE: VERT. HORIZ. DATE 04/26/2005</p> <p>DRAWN BY RLW CHECKED BY</p>

Date: 06/08/2005
File: c:\projects\main05\cm309\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)1-1	MARSHALL	19	11
FED. ROAD DIST. NO. - ILLINOIS		PROJECT		

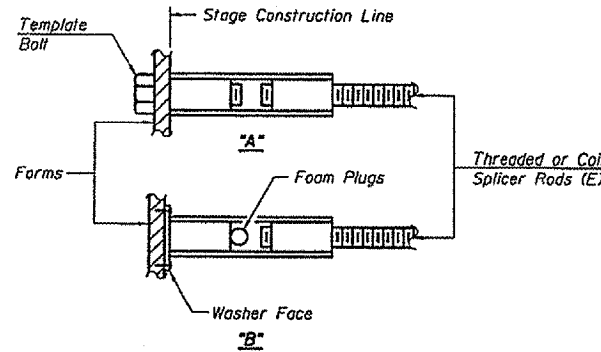
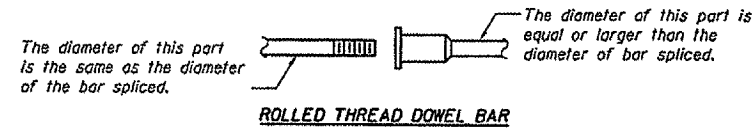
NOTES

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) = $1.25 \times f_{sallow} \times A_L$
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 f_{sallow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_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

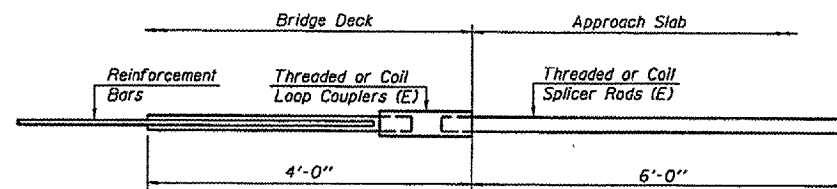
Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



INSTALLATION AND SETTING METHODS

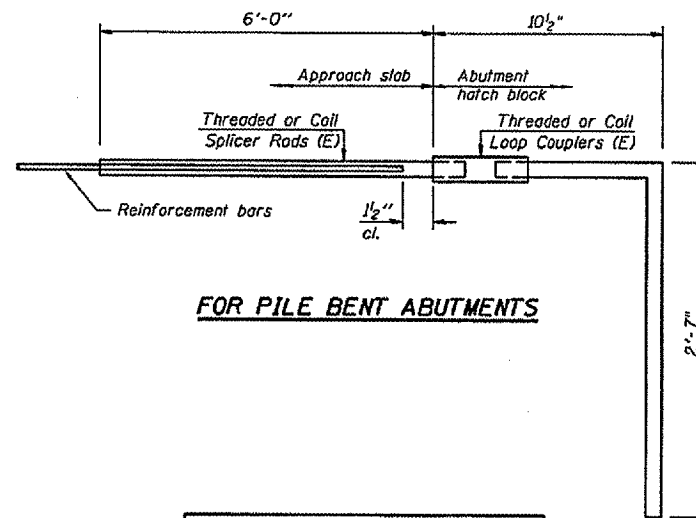
"A": Set bar splicer assembly by means of a template bolt.
 "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.

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



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

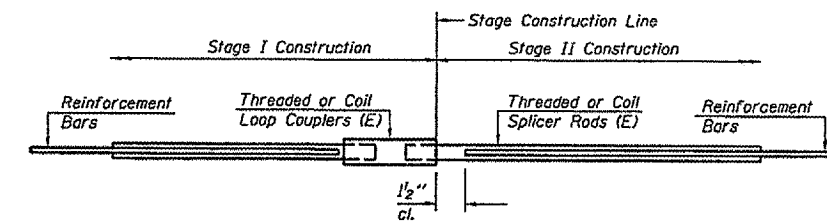
Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



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)1-1
 STA. 165+90.23
 MARSHALL COUNTY

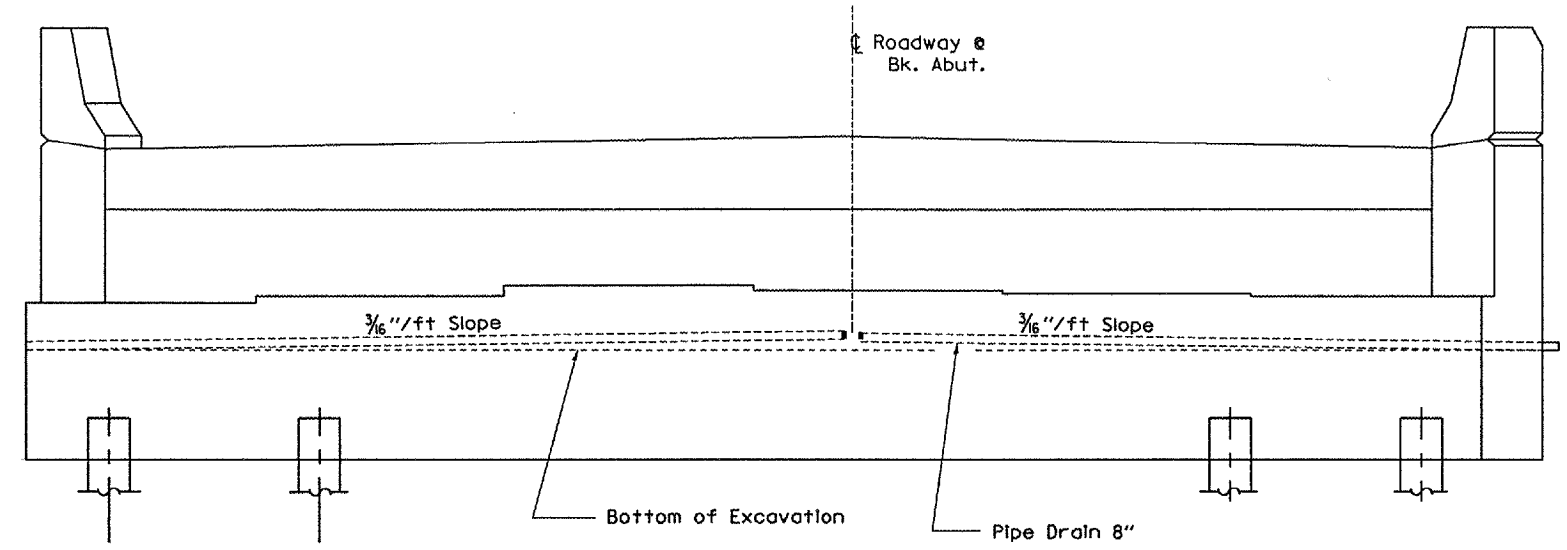
SCALE: VERT. _____
 HORIZ. _____
 DATE: 04/26/2005

DRAWN BY: R.L.W.
 CHECKED BY: _____

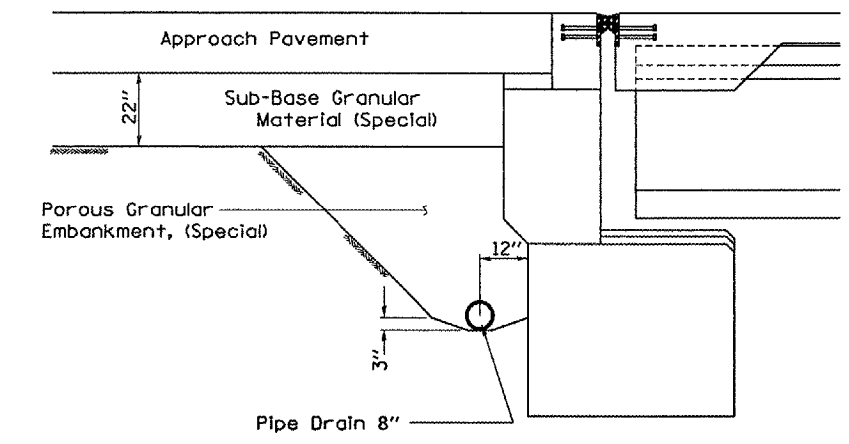
BSD-1 9-01-03

Date: 06/08/2005 File: c:\projects\main05\con309\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO. .		ILLINOIS PROJECT		

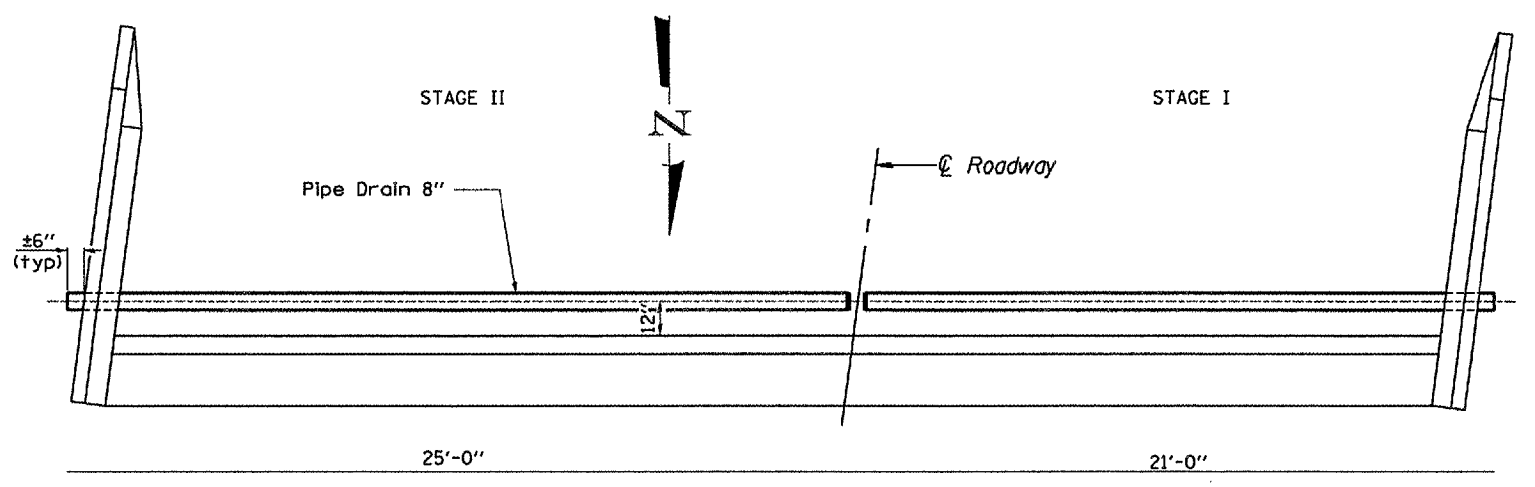


ELEVATION

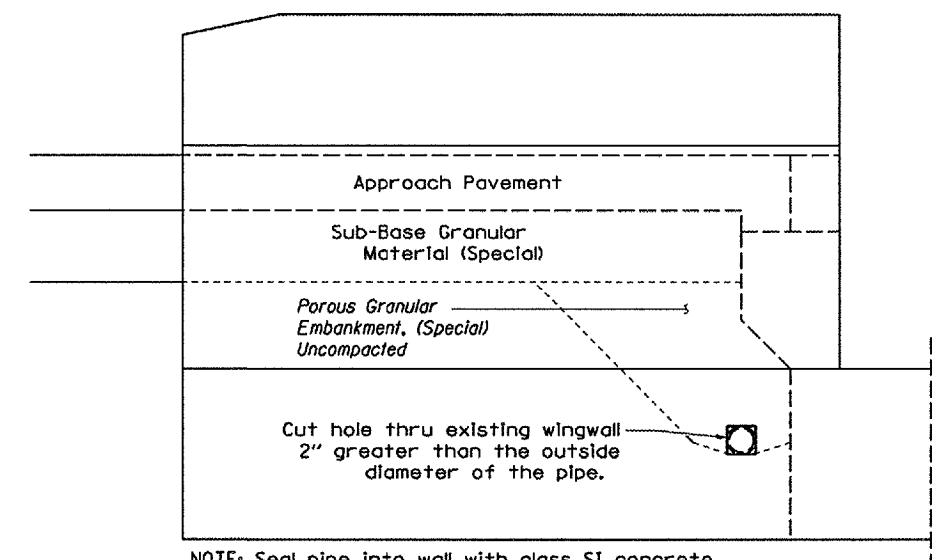


SECTION

NOTE: The pipe underdrain at the C 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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIPE DRAIN DETAILS
 FAI 412 (I-39)
 SECTION (62-2VB)I-1
 STA. 165+90.23
 MARSHALL COUNTY

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

DRAWN BY RLW
 CHECKED BY _____

Date: 05/08/2005
 File: c:\projects\main06\cm-309\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)1-1	MARSHALL	19	13
FED. ROAD DIST. NO. - ILLINOIS PROJECT				

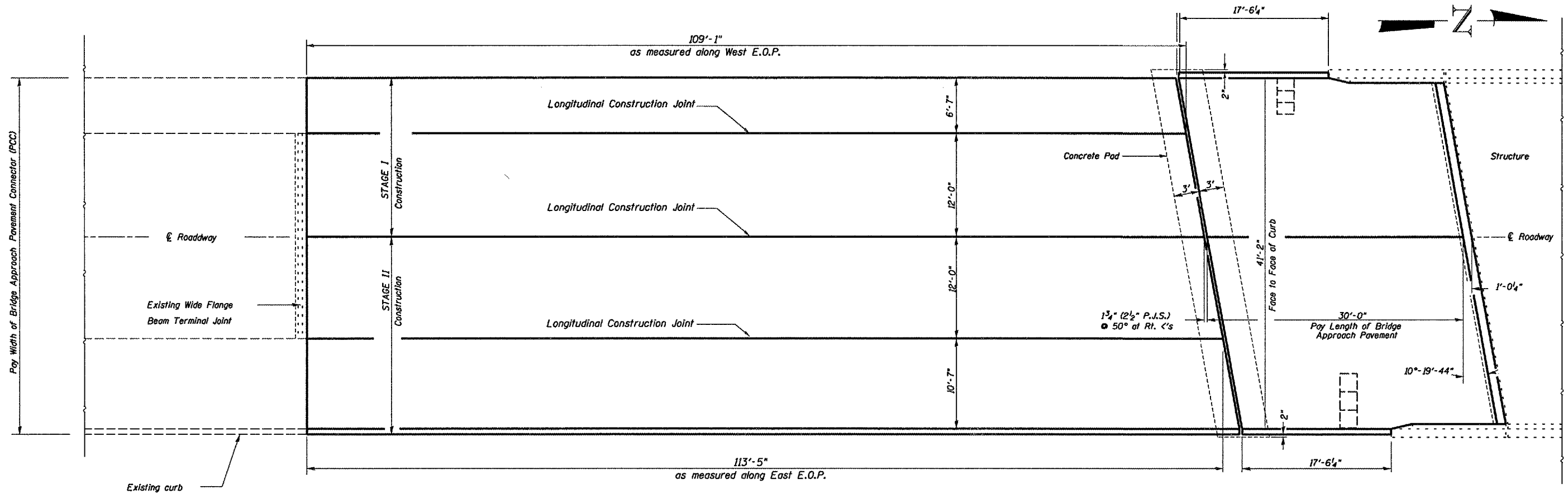
GENERAL NOTES

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	
NAME	DATE

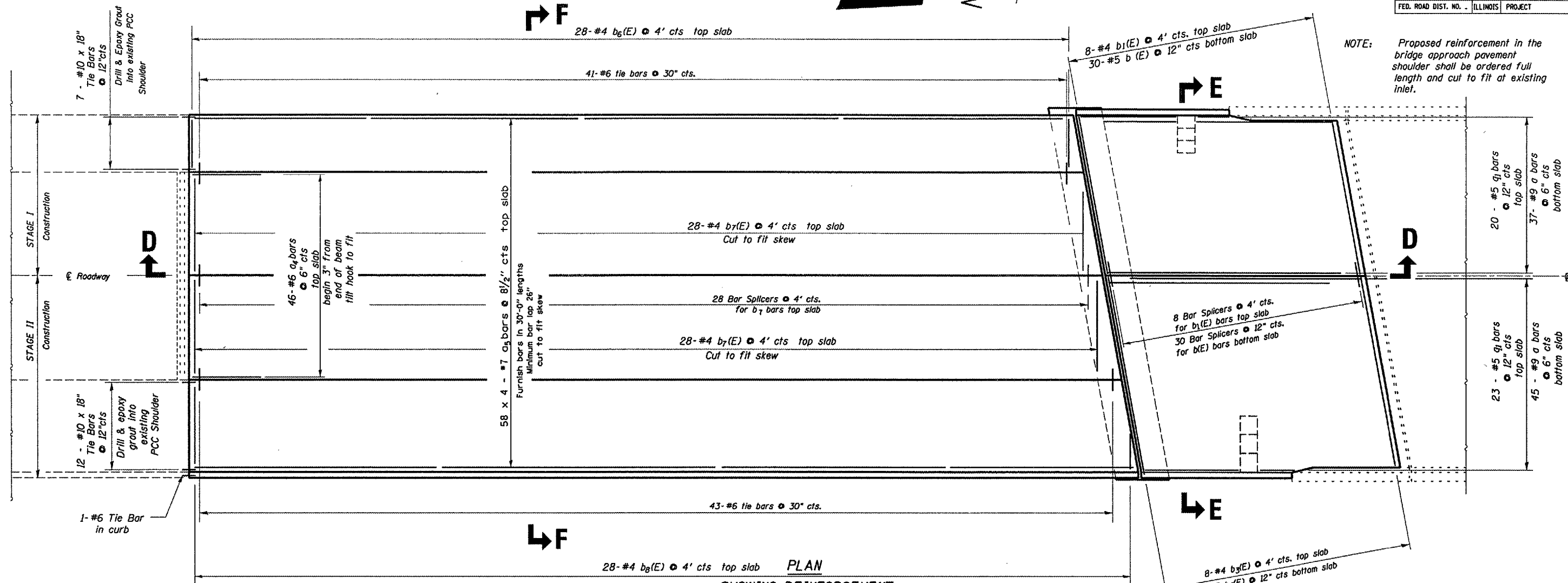
ILLINOIS DEPARTMENT OF TRANSPORTATION
**PROPOSED APPROACH PAVEMENT
 DETAILS - SOUTH APPROACH**
 FAI 412 (I-39)
 SECTION (62-2VB)1-1
 STA. 165+90.23
 MARSHALL COUNTY

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

DRAWN BY RLW
 CHECKED BY _____

Date: 06/09/2005
File: c:\projects\main\06\cm\309\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I-1	MARSHALL	19	14
FED. ROAD DIST. NO. ILLINOIS PROJECT				

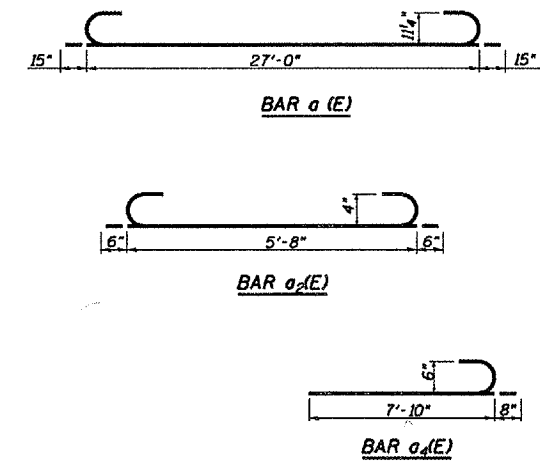


NOTE: Proposed reinforcement in the bridge approach pavement shoulder shall be ordered full length and cut to fit at existing inlet.

PLAN
SHOWING REINFORCEMENT

* BRIDGE APPROACH PAVEMENT CONNECTOR (PCC) REINFORCEMENT TABLE

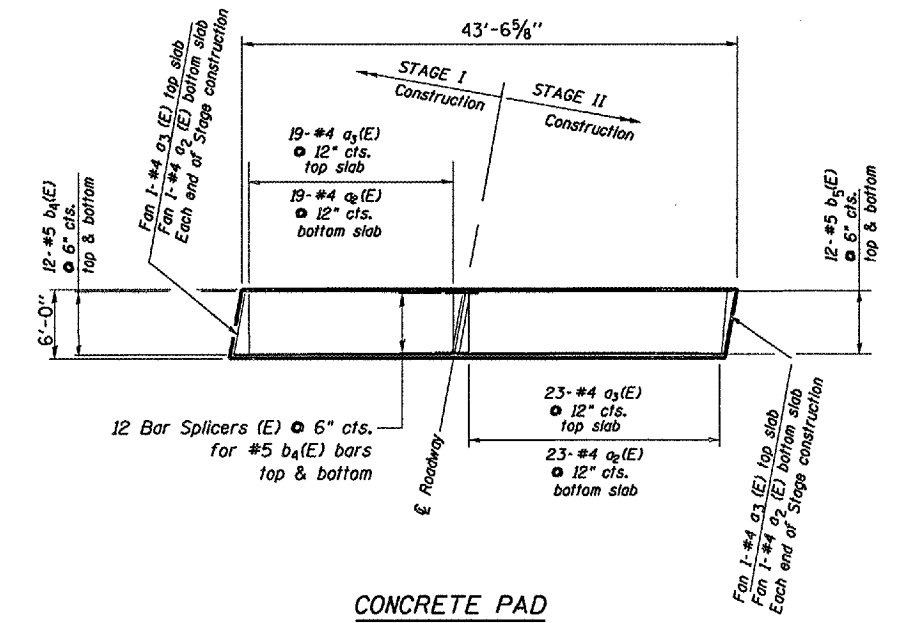
BAR	NO.	SIZE	LENGTH	SHAPE
a4	46	#6	8'-6"	U
a5	232	#7	30'-0"	—
b6	28	#4	6'-2"	—
b7	56	#4	11'-8"	—
b8	28	#4	10'-3"	—
REINFORCEMENT BARS				15557
BAR SPLICERS				52
TIE BARS				103



** BRIDGE APPROACH PAVEMENT REINFORCEMENT TABLE

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	82	#9	29'-6"	U
a1(E)	43	#5	29'-6"	—
a2(E)	44	#4	6'-8"	U
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)

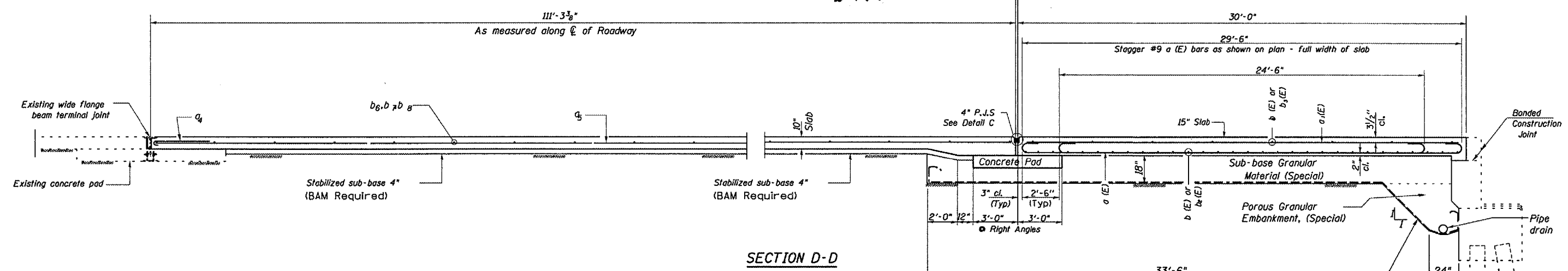
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PROPOSED APPROACH PAVEMENT
DETAILS - SOUTH APPROACH
FAI 412 (I-39)
SECTION (62-2VB)I-1
STA. 165+90.23
MARSHALL COUNTY
SCALE: VERT. 1"=4'
HORIZ. 1"=10'
DATE 04/26/2005
DRAWN BY RLW
CHECKED BY

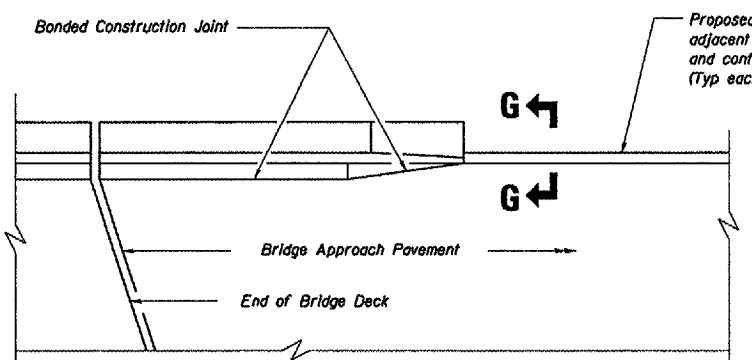
Date: 06/08/2005
File: c:\projects\main\06\cm309\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO. - ILLINOIS PROJECT				

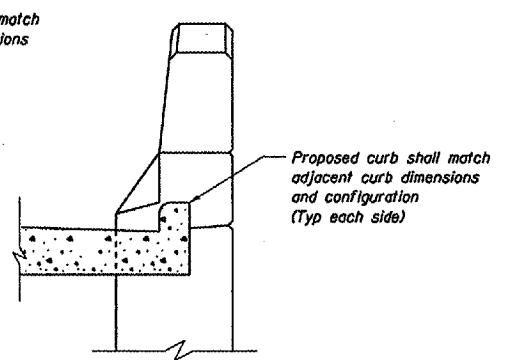
2 3/4" x 4" P.I.S. @ 50° F. at c/s



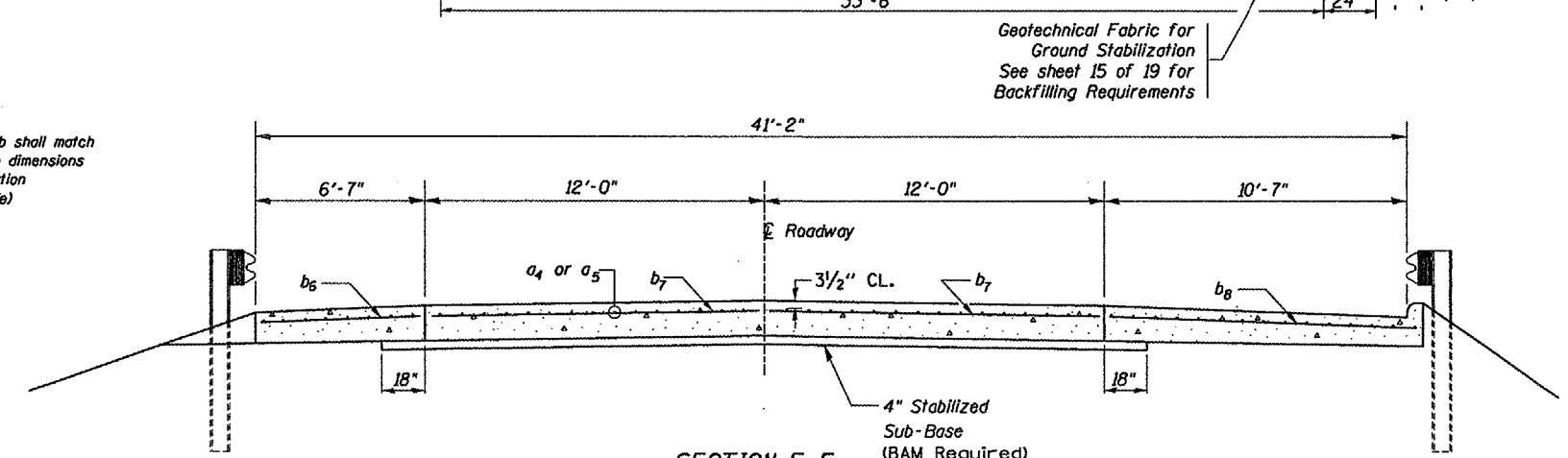
SECTION D-D



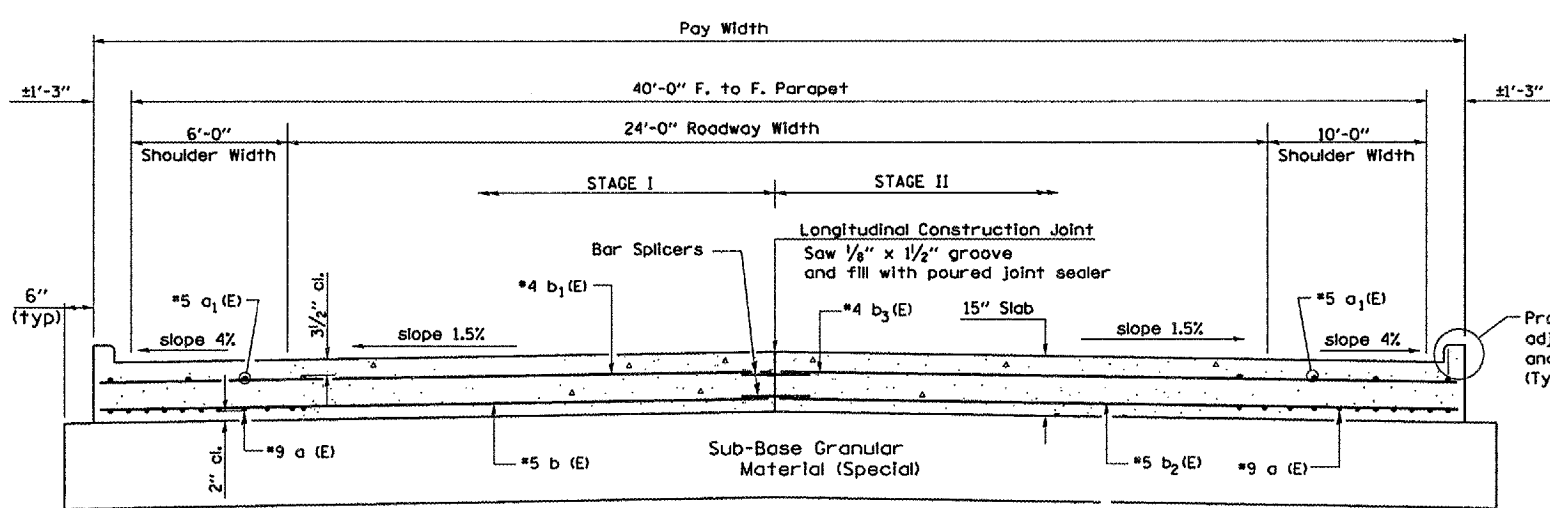
PARAPET TO CURB TRANSITION



SECTION G-G

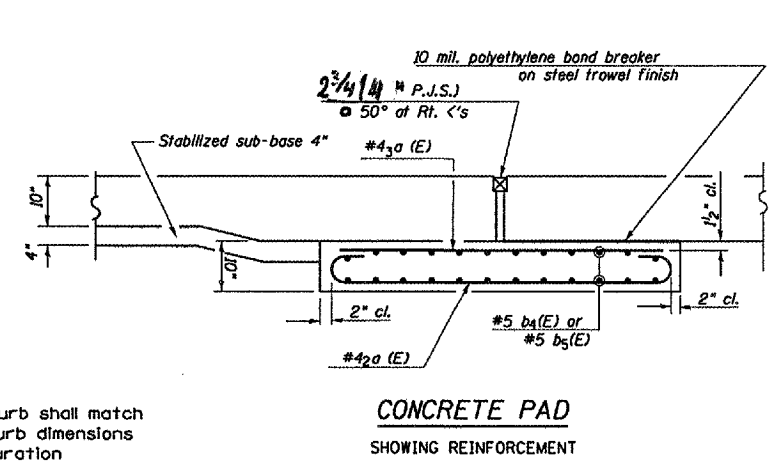


SECTION F-F

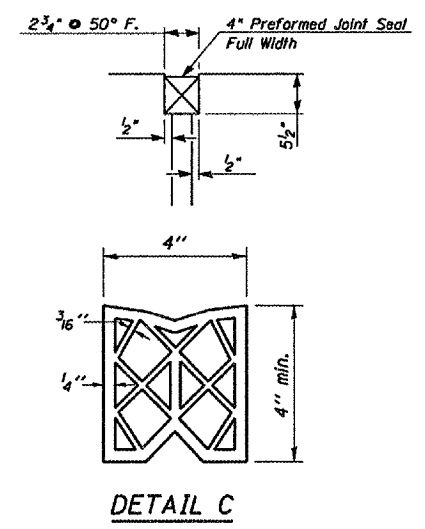


SECTION E-E

See Plan for Dimensions not shown
All reinforcement bars shall be Epoxy Coated



CONCRETE PAD SHOWING REINFORCEMENT



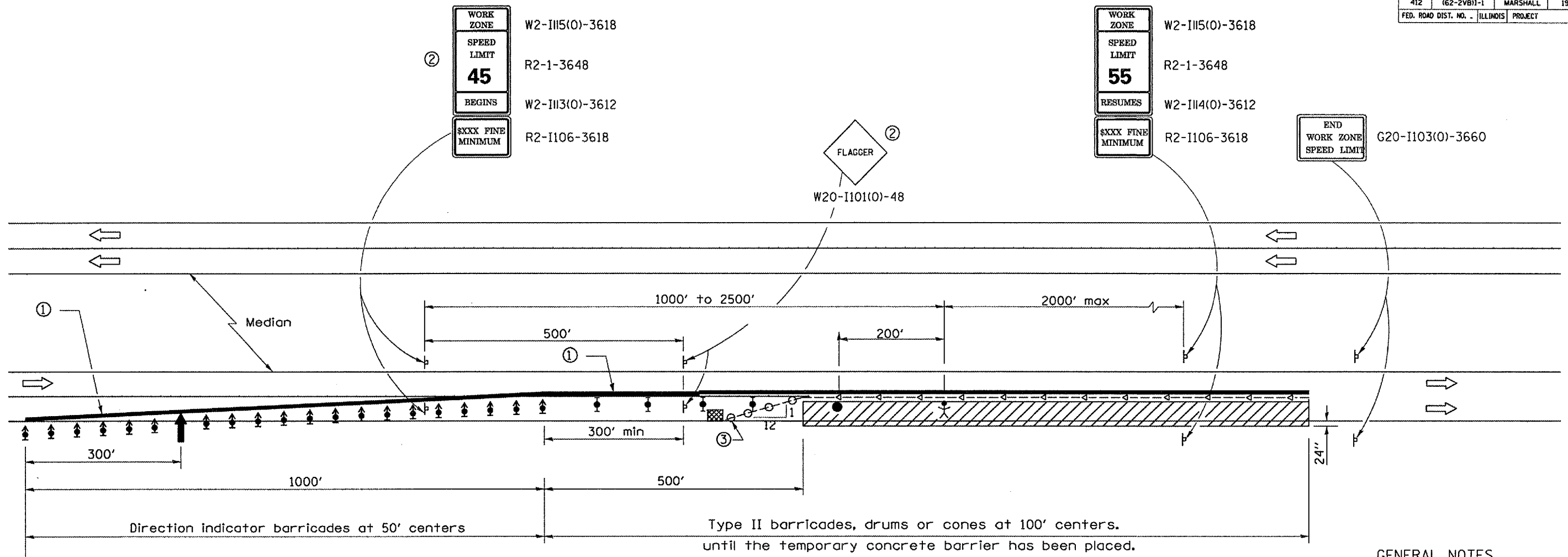
DETAIL C

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**PROPOSED APPROACH PAVEMENT
 DETAILS - SOUTH APPROACH**
 FAI 412 (I-39)
 SECTION (62-2VB)I-1
 STA. 165+90.23
 MARSHALL COUNTY
 SCALE: VERT. 1"=4'-0"
 HORIZ. 1"=40'-0"
 DATE 04/26/2005
 DRAWN BY RLW
 CHECKED BY

Date: 06/08/2005 File: c:\projects\main\06\cm309\details.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)-1	MARSHALL	19	16
FED. ROAD DIST. NO. -		ILLINOIS PROJECT		



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.

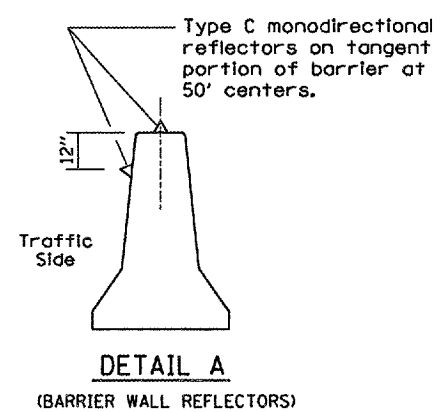
The cost of materials, equipment and labor to utilize this traffic control and protection as shown will be paid for at the contract unit bid price for TRAFFIC CONTROL AND PROTECTION, STANDARD 701402 (SPECIAL) and no further compensation will be allowed.

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

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.

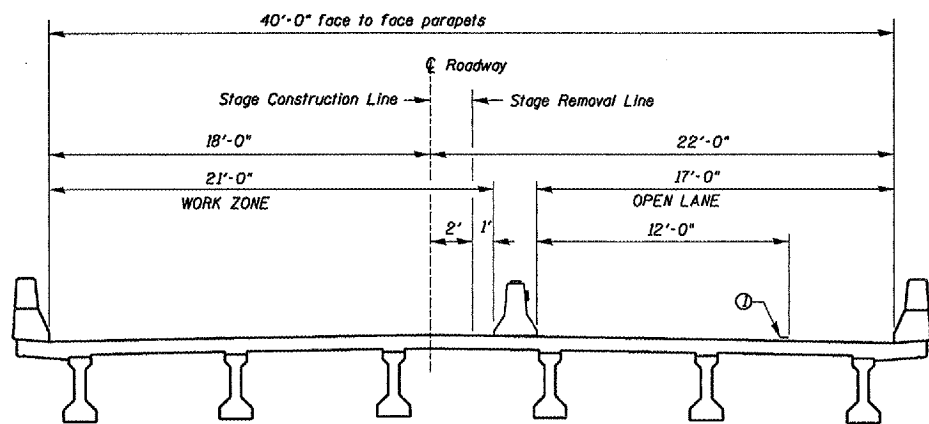


See Standard 701400 for approach Start of lane closure taper

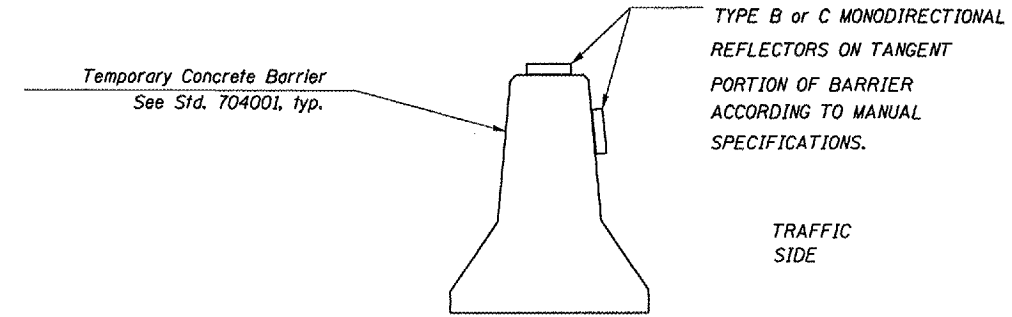
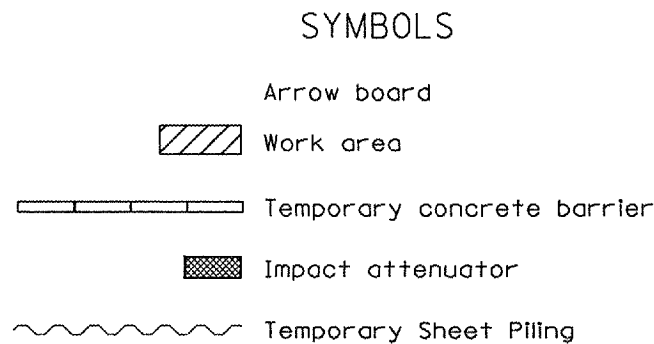
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL & PROTECTION
STANDARD 701402 (SPECIAL)
 FAI 412 (I-39)
 SECTION (62-2VB)-1
 STA. 165+90.23
 SCALE: VERT. MARSHALL COUNTY
 HORIZ. DATE 04/18/05
 DRAWN BY RW
 CHECKED BY

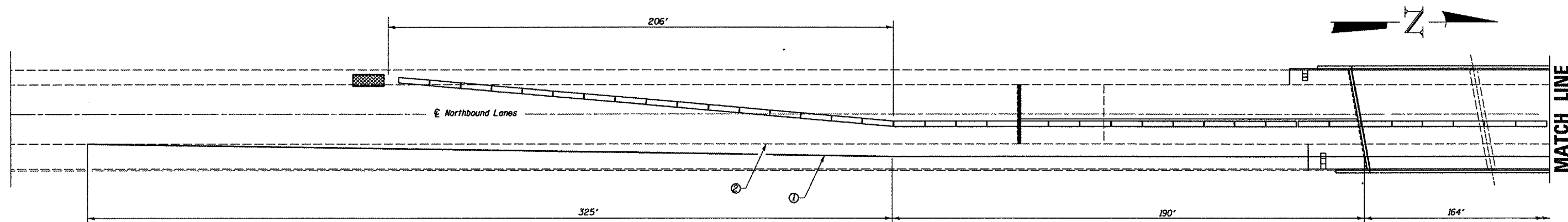
F.A.L. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)I-1	MARSHALL	19	17
FED. ROAD DIST. NO. - ILLINOIS PROJECT				



CROSS SECTION
LOOKING NORTH



TEMPORARY CONCRETE BARRIER



PLAN VIEW

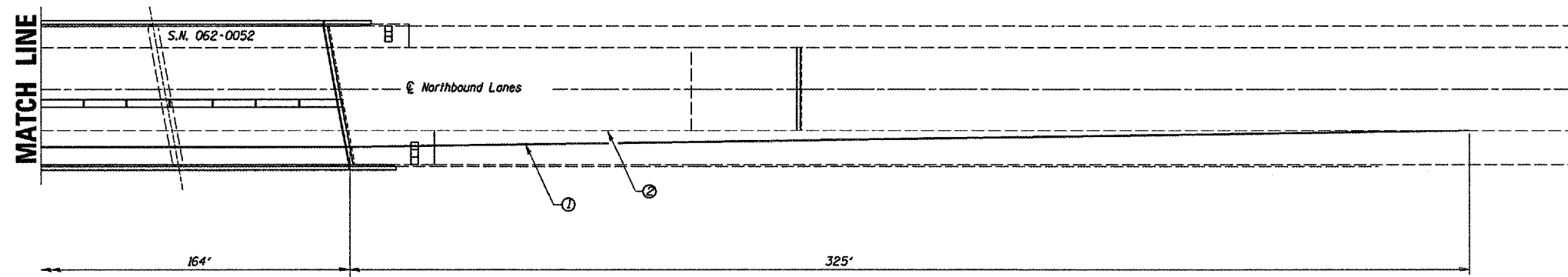
GENERAL NOTES

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

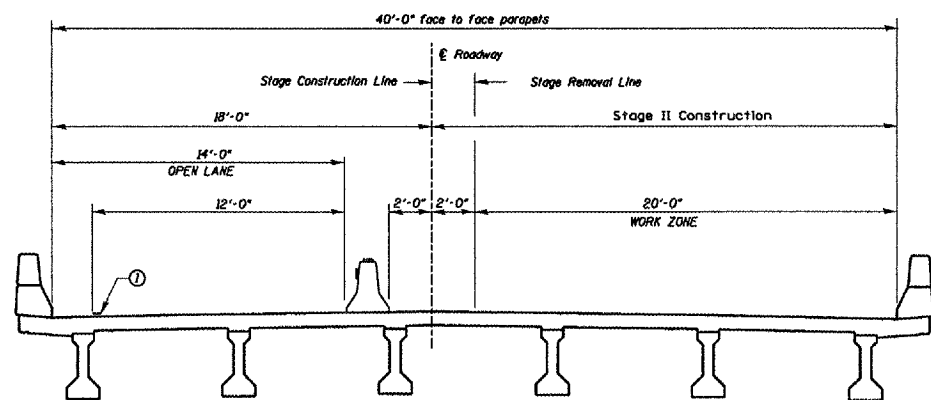
WORK THIS DETAIL WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402 (SPECIAL)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 STAGING AND TRAFFIC CONTROL DETAILS
 STAGE I
 FAI 412 (I-39)
 SECTION (62-2VB)I-1
 STA. 165+90.23
 MARSHALL COUNTY
 SCALE: VERT. HORIZ.
 DATE 04/26/2005
 DRAWN BY R/LW
 CHECKED BY

Date: 06/08/2005 File: c:\projects\main\06\cam309\details.dgn

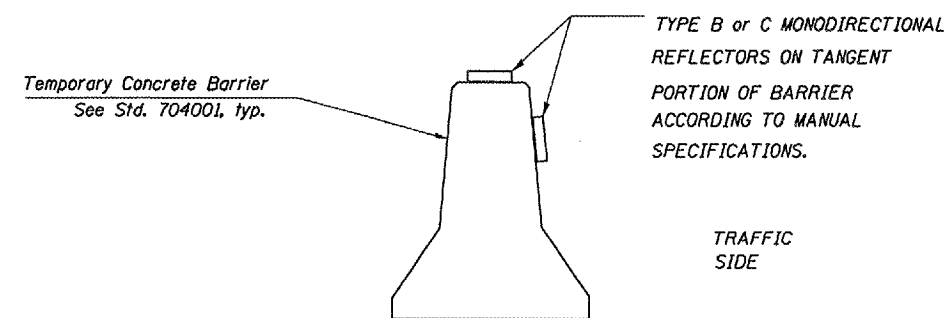
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
412	(62-2VB)1-1	MARSHALL	19	18
FED. ROAD DIST. NO. - ILLINOIS PROJECT				



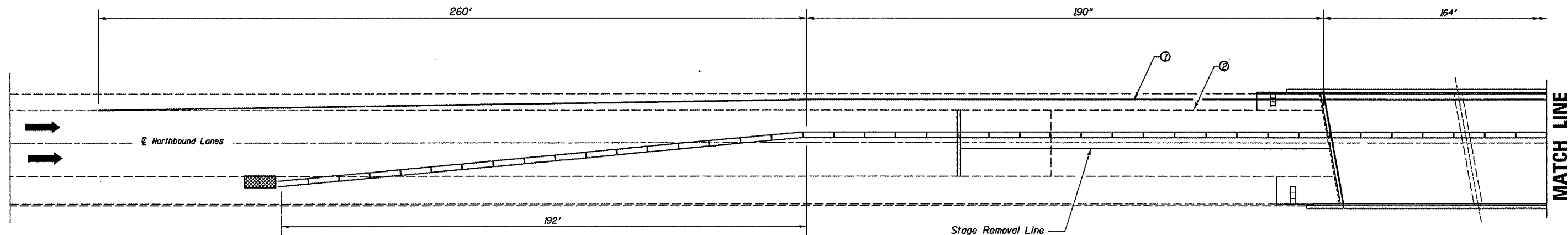
CROSS SECTION
LOOKING NORTH

SYMBOLS

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



TEMPORARY CONCRETE BARRIER



PLAN VIEW



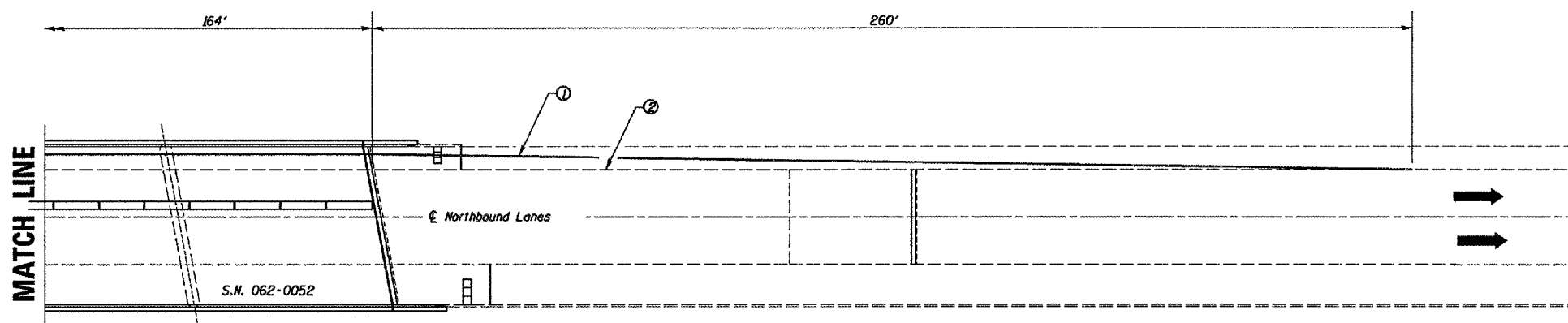
GENERAL NOTES

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

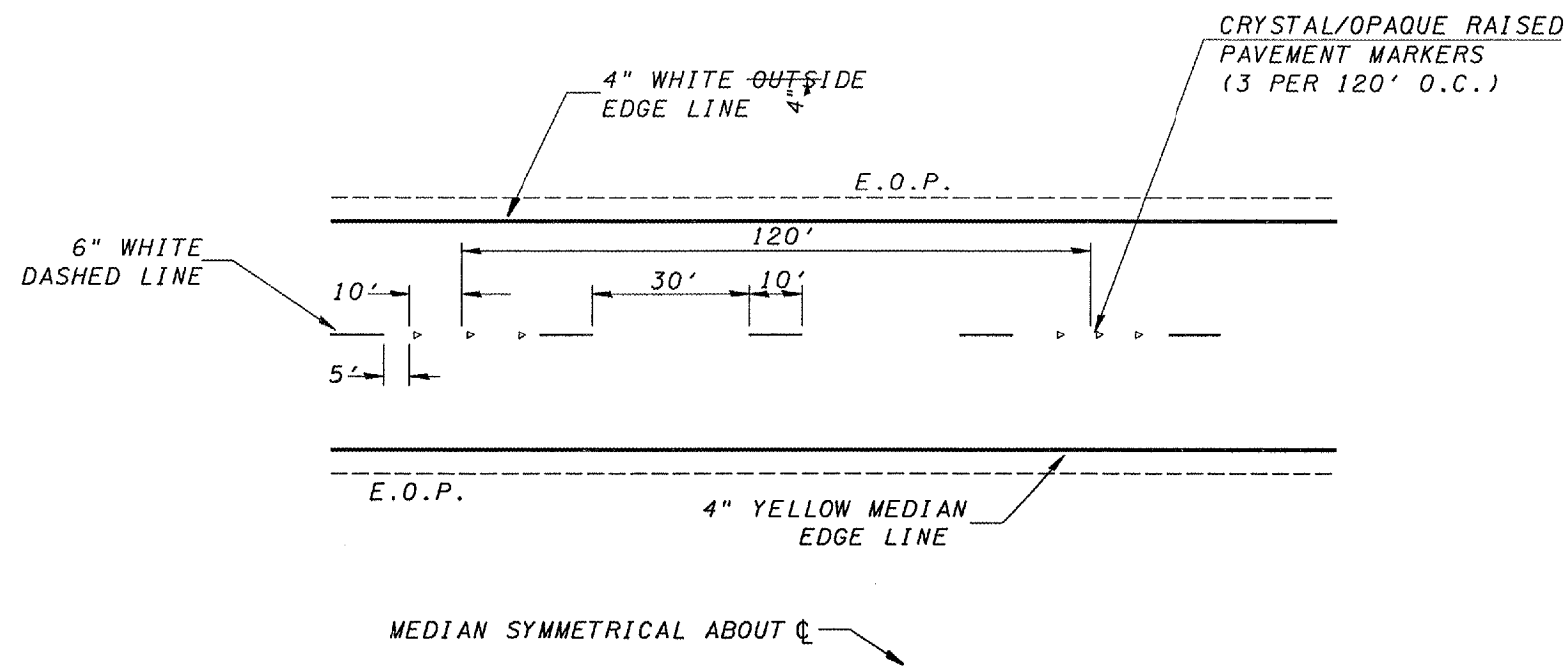
WORK THIS DETAIL WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402 (SPECIAL)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
STAGING & TRAFFIC CONTROL DETAILS
STAGE II
FAI 412 (I-39)
SECTION (62-2VB)1-1
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-1	MARSHALL	19	19
FED. ROAD DIST. NO. - ILLINOIS		PROJECT		



TYPICAL PAVEMENT MARKINGS

Date: 06/08/2005
File: c:/projects/cmaat06/cm309/details.dgn

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKING DETAILS
 FAI 412 (I-39)
 SECTION (62-2VB)I-1
 STA. 165+90.23
 MARSHALL COUNTY

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

DRAWN BY RLW
 CHECKED BY _____