

62968

SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
E-1-14-I-2	Du Page	12	1

FOR INDEX OF SHEETS SEE SHEET 2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT ONE

D-91-279-05

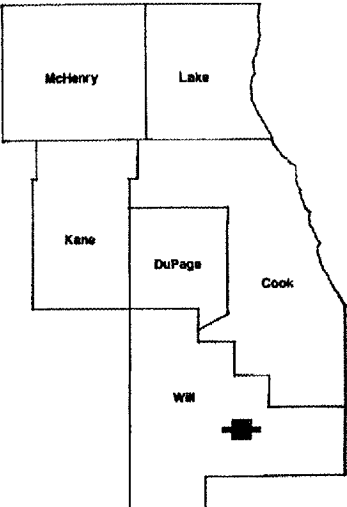
PROPOSED HIGHWAY PLANS

FAP 338 (IL 59)
OVER I-88 E-W TOLLWAY
SECTION E-1-14-I-2
BRIDGE REPAIR, JOINT RECONSTRUCTION
DU PAGE COUNTY
C-91-221-05
SN 022-9900

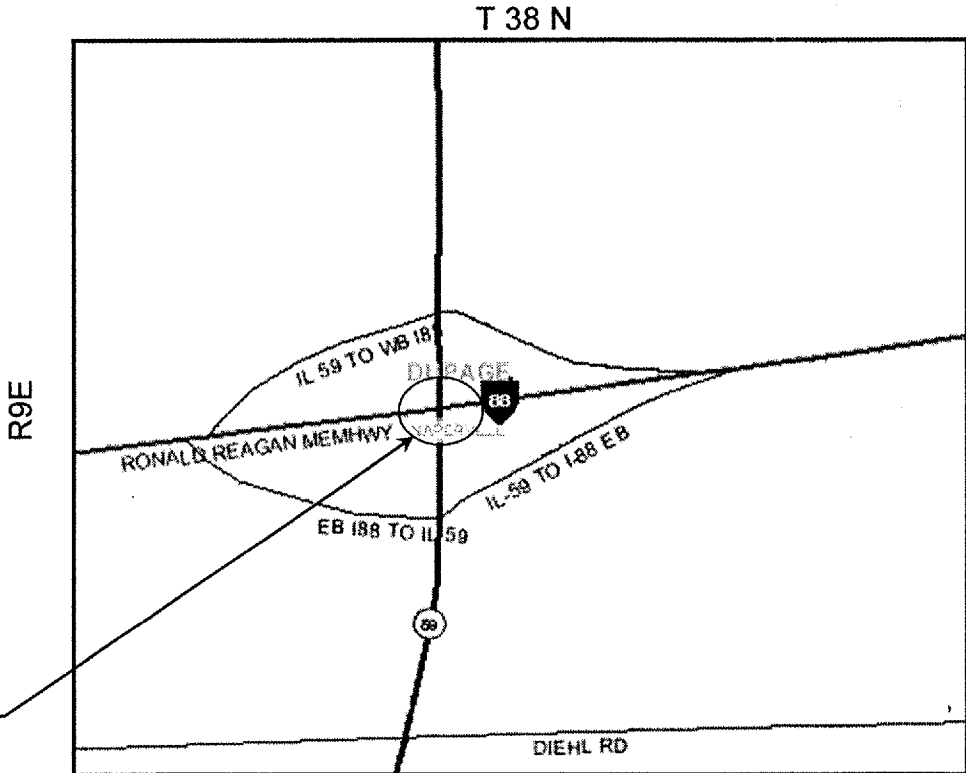
IMPROVEMENTS ARE
LOCATED IN
THE CITY OF NAPERVILLE

TRAFFIC DATA

IL 59 (SN 022-9900)
2003 ADT = 49,100
POSTED SPEED LIMIT = 45 MPH



LOCATION OF IMPROVEMENT INDICATED THUS: 



IMPROVEMENT
LOCATION
SN 022-9900

NAPERVILLE TOWNSHIP

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED: Feb. 28 2006
Diane M. O'Keefe/CD
DEPUTY DIRECTOR OF HIGHWAY, REGION ENGINEER

March 24, 2006
Mike Hine/CD
ENGINEER OF DESIGN AND ENVIRONMENT

March 24, 2006
Milton R. Sees, P.E./CD
DIRECTOR, DIVISION OF HIGHWAYS

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

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

DISTRICT ONE DESIGN PLAN PREPARATION ENGINEER
KEN ENG / R. BORO (847) 705-4178

CONTRACT 62968

SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
E-1-14-I-2	Du Page	12	2

INDEX OF SHEETS

1	TITLE SHEET
2	INDEX OF SHEETS AND LIST OF STATE STANDARDS AND GENERAL NOTES
3	SUMMARY OF QUANTITIES
4-6	TRAFFIC STAGING DETAILS
7-11	BRIDGE PLANS
12	TRAFFIC CONTROL & PROTECTION FOR SIDE ROADS, INTERSECTIONS & DRIVEWAYS

LIST OF STATE STANDARD

<u>STANDARD</u>	<u>DESCRIPTION</u>
701301- 02	LANE CLOSURE, 2L 2W, SHORT TIME OPERATION
701401 - 03	LANE CLOSURE, FREEWAY/EXPRESSWAY
702001 - 06	TRAFFIC CONTROL DEVICES

GENERAL NOTES

- BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION) AT (800) 892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. (48 HOUR NOTIFICATION IS REQUIRED).
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES.
- THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSION AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

- THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.
- THESE PLANS HAVE BEEN PREPARED FROM NOTES RECEIVED FROM FIELD BRIDGE MAINTENANCE ENGINEERS.
- THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING ELECTRICAL CONDUIT AND LIGHTING FACILITIES IN AND AROUND THE VICINITY OF THE REPAIR LOCATIONS OF THE BRIDGE.
- DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS

ILLINOIS DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS
LIST OF STATE STANDARDS
GENERAL NOTES

SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
E-1-14-I-2	Du Page	12	3

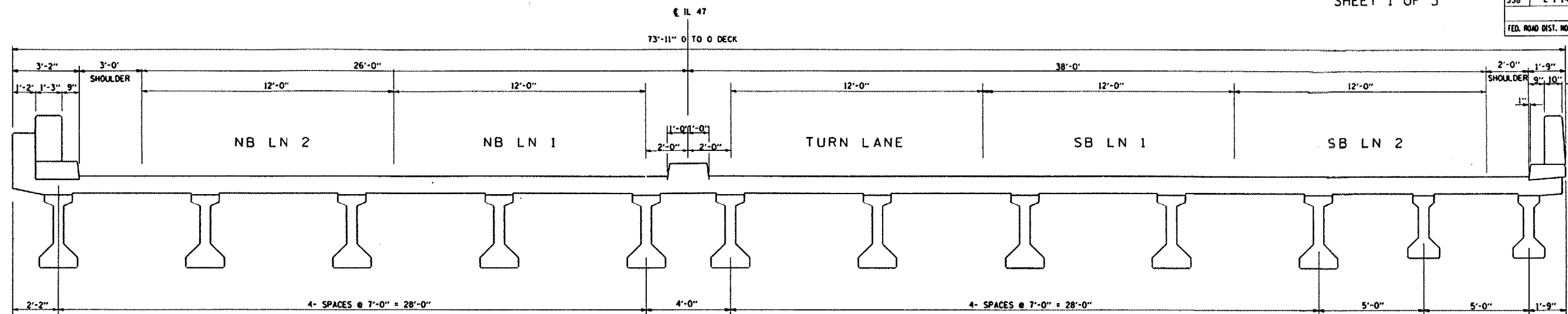
SUMMARY OF QUANTITIES				CONTRACT NO. 62968	
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	URBAN 100% STATE CONSTRUCTION TYPE CODE -SFTY-2A	
				DUPAGE COUNTY	
				LOC 1 022-9900	
50102400	CONCRETE REMOVAL	CU YD	14.2	14.20	
50300255	CONCRETE SUPER STRUCTURE	CU YD	14.2	14.20	
50300300	PROTECTIVE COAT	SQ YD	2040	2040	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1780	1780	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	2.0	2.0	
67100100	MOBILIZATION	L SUM	1.0	1.0	
70100800	TRAFFIC CONTROL AND PROTECTION STANDARD 701401	L SUM	1.0	1.0	
X0325294	<i>PREFORMED JOINT STRIP SEAL</i>	FOOT	149	149	
X0322467	TEMPORARY INFORMATION SIGNING FOR LANE CLOSURE	SQ FT	48	48	
Z0002600	BAR SPLICERS	EACH	28	28	

ILLINOIS DEPARTMENT OF TRANSPORTATION

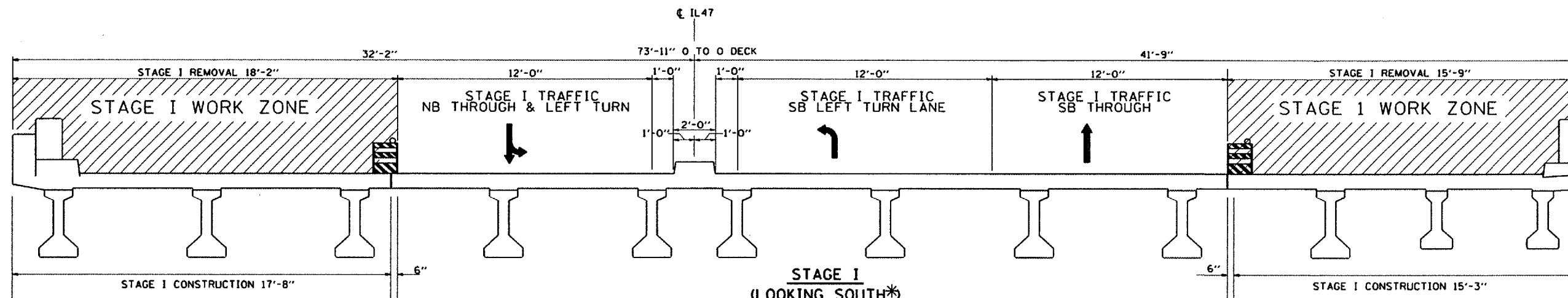
SUMMARY OF QUANTITIES

Rev.

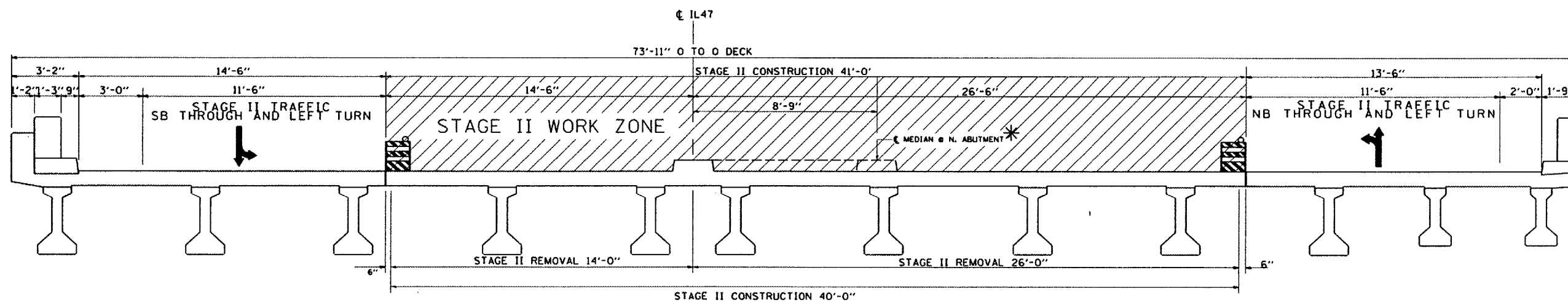
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338	E-1-14-1-2	DUPAGE	12	4
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	



CROSS SECTION
(LOOKING SOUTH*)



STAGE I
(LOOKING SOUTH*)



STAGE II
(LOOKING SOUTH*)

NOTE: ALL DIMENSIONS ARE AT RIGHT ANGLES TO THE ϕ RDWY
 WORK THIS SHEET WITH TRAFFIC CONTROL PLAN FOR EACH STAGE ON SHEETS 5 & 6
 * SHOWING MEDIAN CONFIGURATION & LEFT TURN LANE AT SOUTH ABUTMENT
 COVER CONFLICTING PAVEMENT MARKINGS WITH BLACK TYPE II TAPE.
 COST OF TYPE III TAPE & ITS REMOVAL IS INCLUDED IN THE COST OF "TRAFFIC CONTROL & PROTECTION STD 701401"

REVISIONS	NAME	DATE

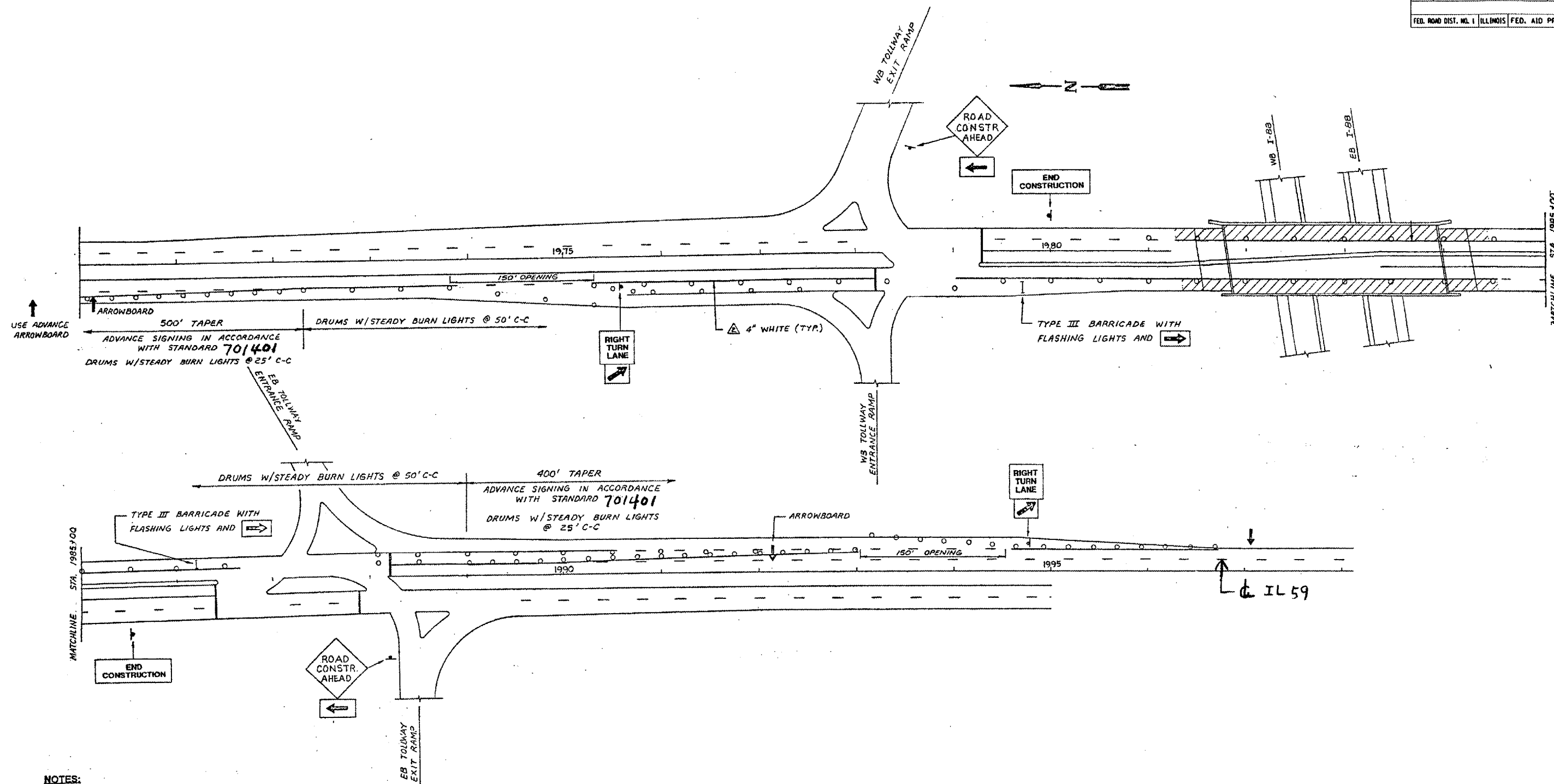
ILLINOIS DEPARTMENT OF TRANSPORTATION
 IL 59 OVER I-88 BRIDGE
 STAGING PLAN
 SN 022-9900

SCALE: NONE
 DATE: 2/10/06

DRAWN BY: SHB
 CHECKED BY:

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338	E-1-14-1-2	DUPAGE	12	9

FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT



NOTES:

- TWO (2) ARROWBOARDS SHALL BE USED IN EACH DIRECTION AS DIRECTED BY THE ENGINEER.
- THIS DETAIL SHALL BE USED ALONG WITH AND INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION - STANDARD 701401

REVISIONS	
NAME	DATE

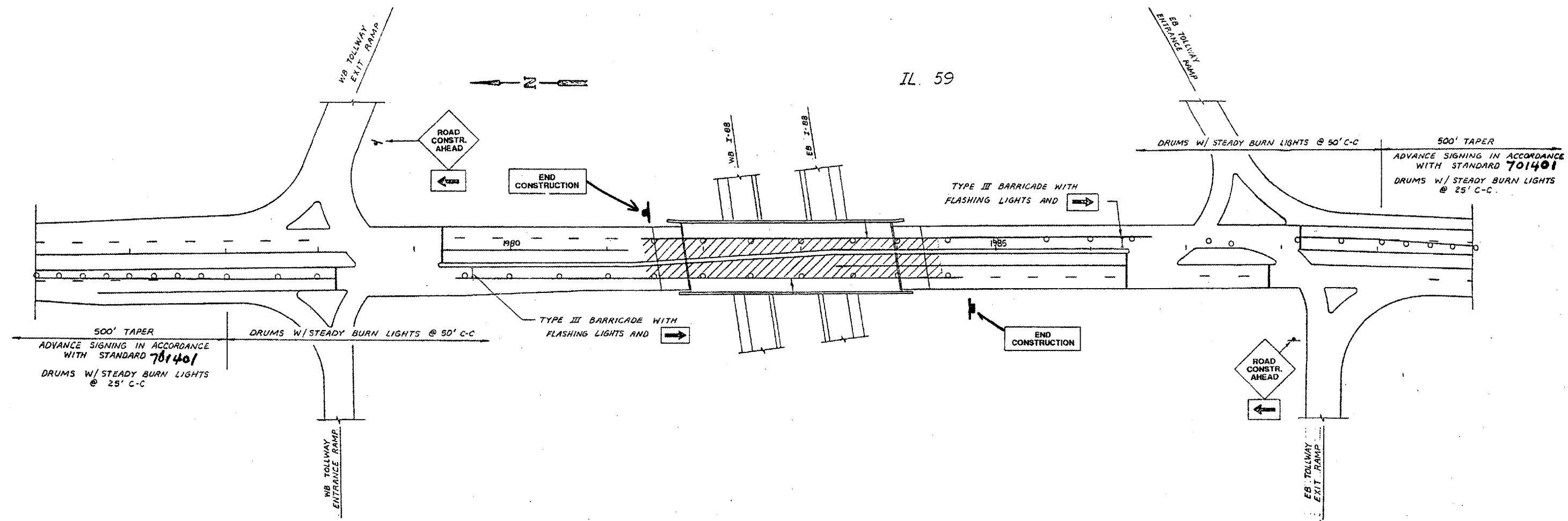
ILLINOIS DEPARTMENT OF TRANSPORTATION
 IL 59 OVER I-88 BRIDGE
 TRAFFIC CONTROL PLAN
 STAGE I (SN 022-9900)

SCALE: NONE
 DATE: 2/10/06

DRAWN BY: SHB
 CHECKED BY:

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338	E-1-14-1-2	DUPAGE	12	6

FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT



NOTES:

- TWO (2) ARROWBOARDS SHALL BE USED IN EACH DIRECTION AS DIRECTED BY THE ENGINEER.
- THIS DETAIL SHALL BE USED ALONG WITH AND INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION - STANDARD 701401

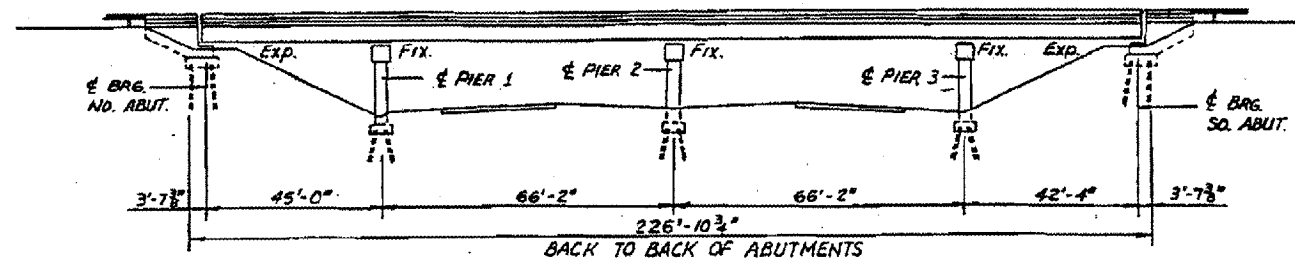
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION IL 59 OVER I-88 BRIDGE TRAFFIC CONTROL PLAN STAGE II (SN 022-9900)
NAME	DATE	

SCALE: NONE
DATE: 2/10/06

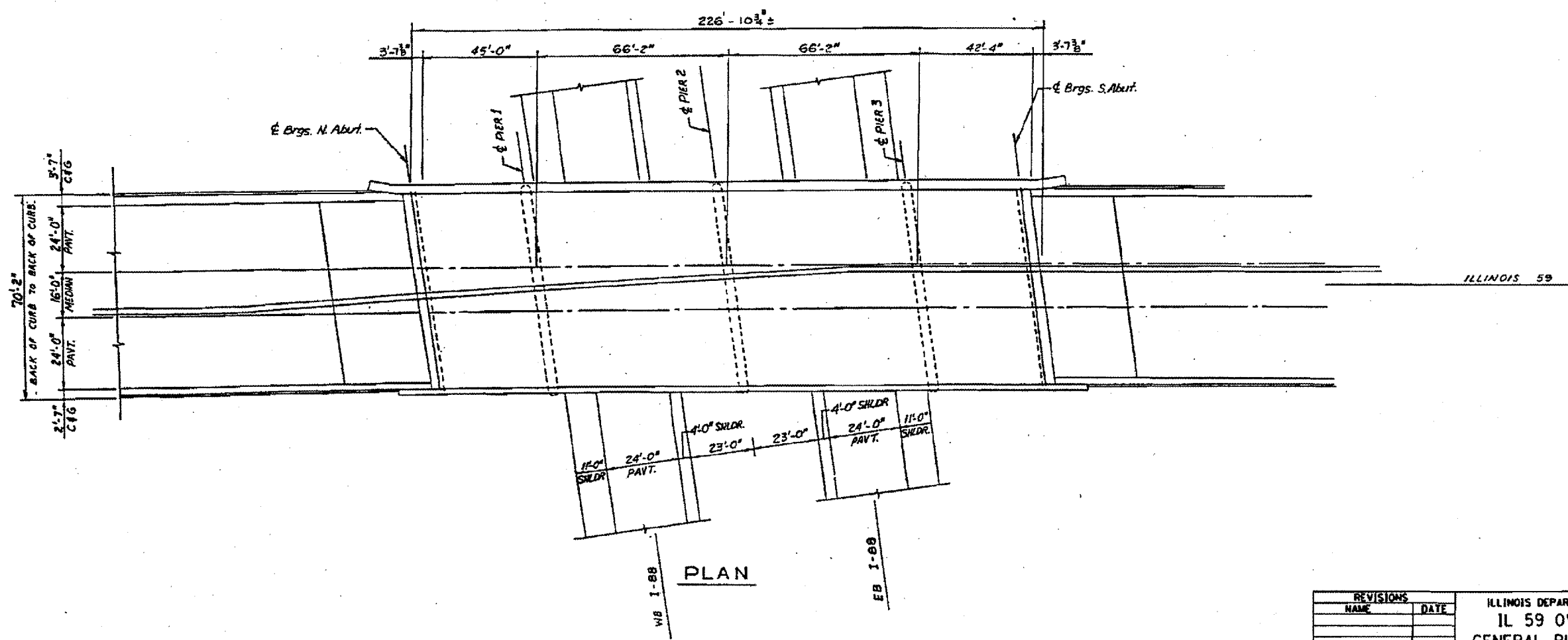
DRAWN BY: SHB
CHECKED BY:

3/1/2006 c:\projects\dt01105\dt01105a.m32

F.A.P. RTE. 338	SECTION E-1-14-1-2	COUNTY DUPAGE	TOTAL SHEETS 12	SHEET NO. 7
FED. AID DIST. NO. 1 ILLINOIS FED. AID PROJECT				



ELEVATION



PLAN

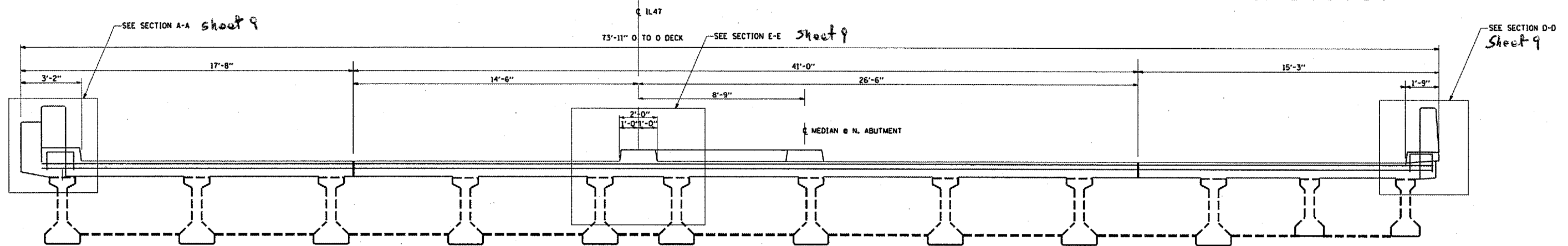
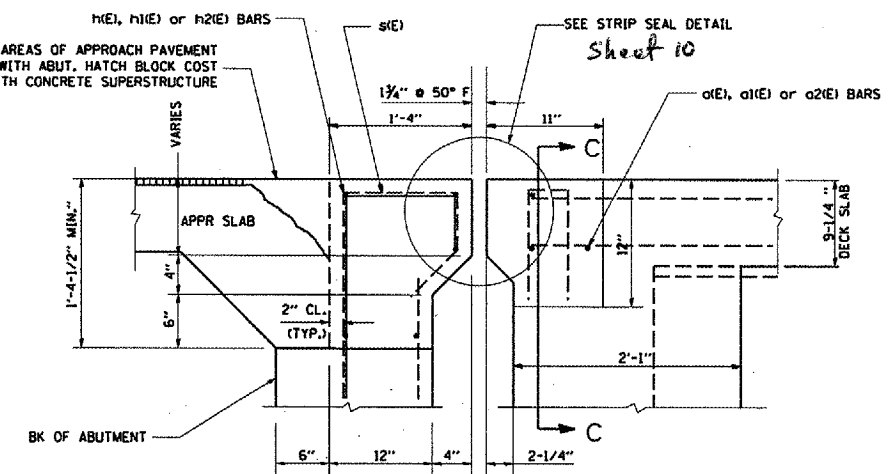
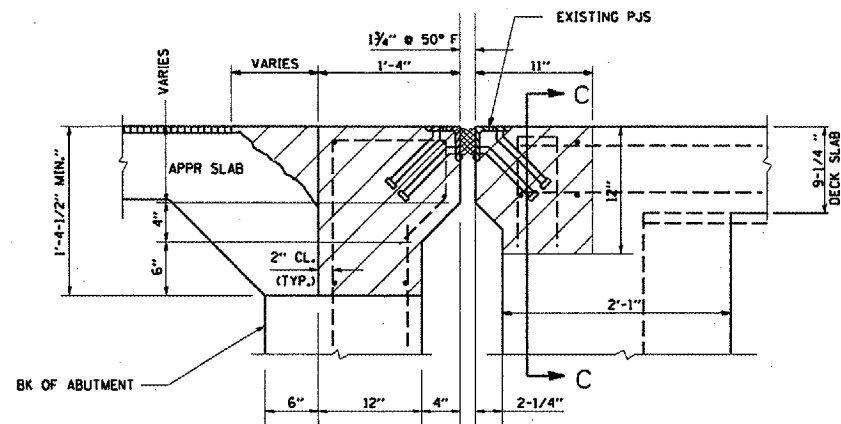
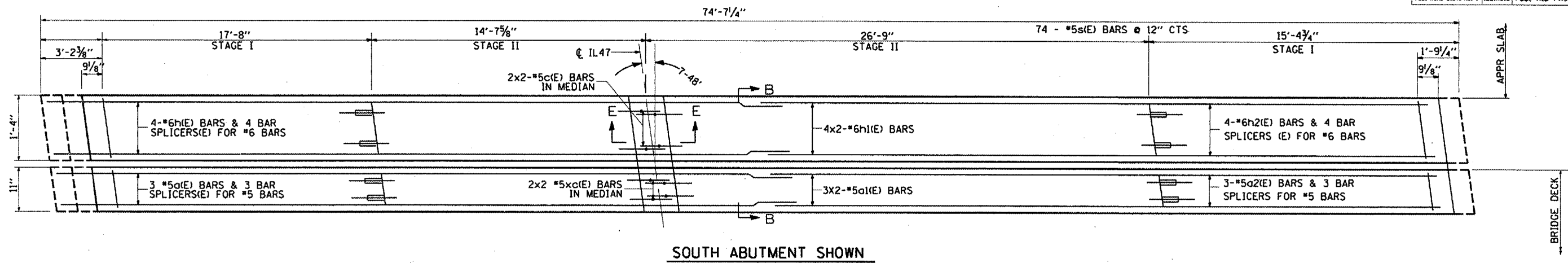
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 IL 59 OVER I-88 BRIDGE
 GENERAL PLAN AND ELEVATION
 INFORMATION ONLY
 (SN 022-9900)

SCALE: NONE
 DATE: 2/10/06
 DRAWN BY:
 CHECKED BY:

3/1/2006
 c:\projects\101105\101105.dwg

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338	E-1-14-1-2	DUPAGE	12	8
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**IL 59 OVER I-88 BRIDGE
 JOINT RECONSTRUCTION PLAN
 SN 022-9900**

SCALE: NONE
 DATE: 2/10/06

DRAWN BY: SHB
 CHECKED BY:

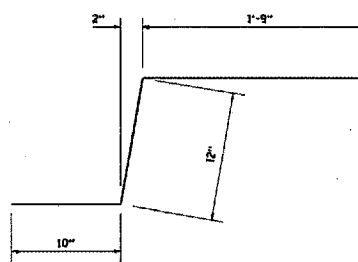
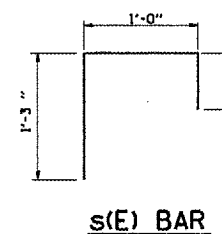
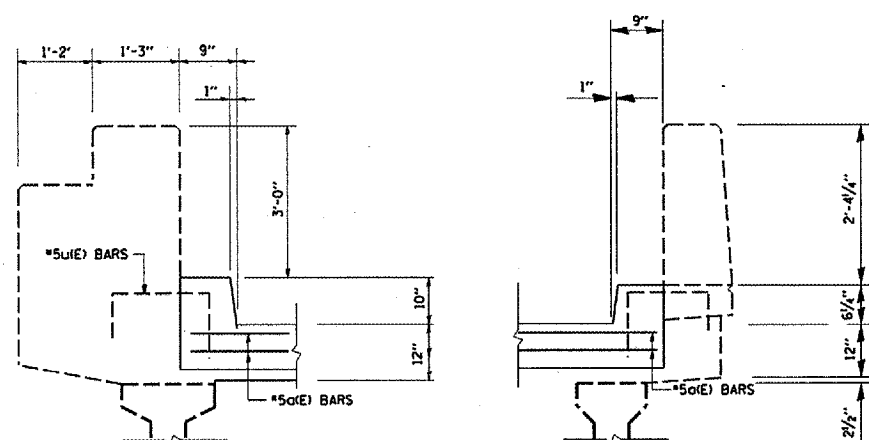
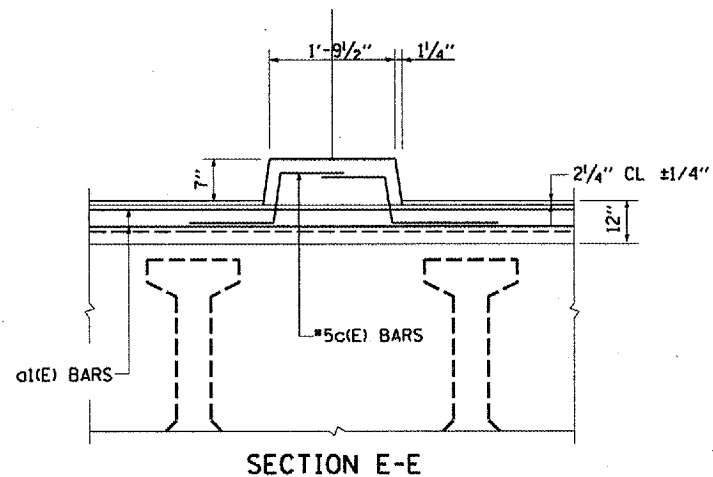
3/16/2006 ca@projec@101105@10110500.m32

F.A.P. RITE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338	E-1-14-1-2	DUPAGE	12	9
STA.	TO STA.			
FED. ROAD DIST. NO.	ALIGNED	FED. AID PROJECT		

CONTRACT 62968

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	6	#5	15'-0"	—
a1(E)	12	#5	21'-6"	—
a2(E)	12	#5	14'-2"	—
CE)	16	#5	3'-7"	—
h(E)	8	#6	15'-0"	—
h1(E)	16	#6	21'-9"	—
h2(E)	8	#6	14'-2"	—
s(E)	148	#5	2'-7"	└
ITEM		UNIT	QUANTITY	
REINFORCEMENT BARS, EPOXY COATED		POUND	1780	
CONCRETE REMOVAL		CU. YD.	14.2	
CONCRETE SUPERSTRUCTURE		CU. YD.	14.2	
BAR SPLICERS		EACH	28	
PREFORMED JOINT STRIP				
SEAL		FOOT	149	



NOTES:

EXISTING REINFORCEMENT BARS EXTENDING INTO NEW CONSTRUCTION SHALL BE CLEANED, STRAIGHTENED, AND INCORPORATED INTO THE NEW CONCRETE. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN REMOVING EXISTING CONCRETE SO AS TO NOT DAMAGE EXISTING REINFORCEMENT BARS.

BARS INDICATED THUS 3X2 #5 INDICATES 3 LINES OF BARS WITH 2 LENGTHS PER LINE

(E) INDICATES EPOXY COATED

REVISIONS	
NAME	DATE

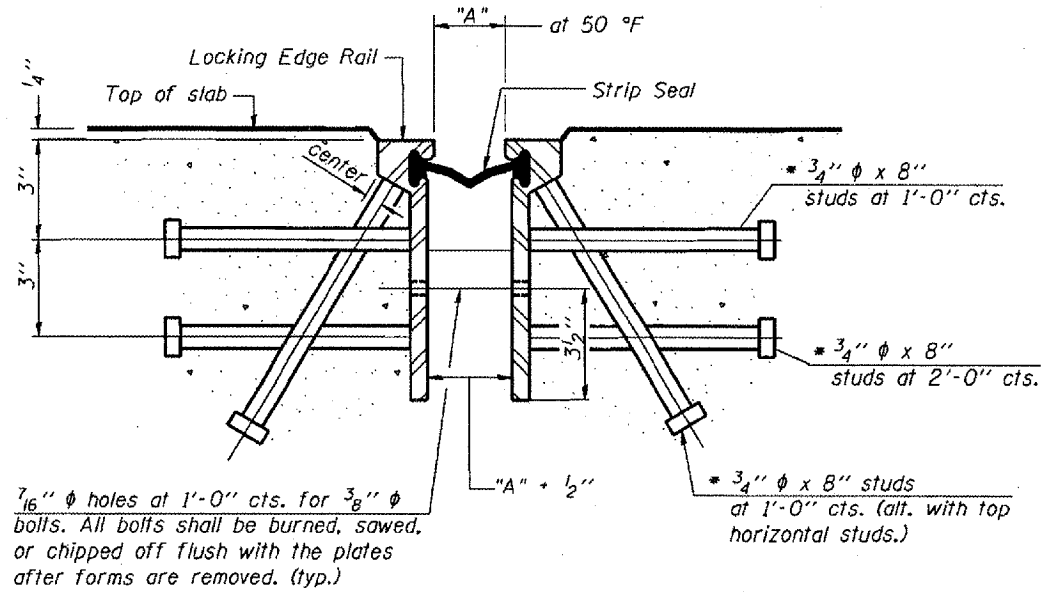
ILLINOIS DEPARTMENT OF TRANSPORTATION
 IL 47 OVER I-88 BRIDGE
 JOINT DETAILS
 SN 022-9900

SCALE: NONE
 DATE: 2/10/06

DRAWN BY: SHB
 CHECKED BY:

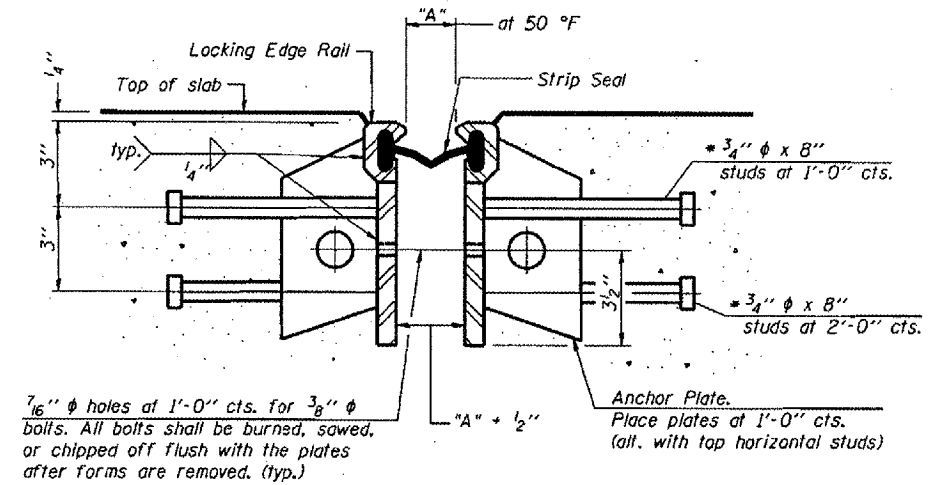
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338	E-1-14-1-2	DUPAGE	12	10
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



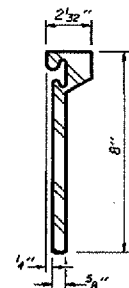
SECTION THRU ROLLED RAIL EXP. JOINT
(742 Studs Required)

Required Strip Seal rated movement	"A"
1"	1 1/8"
2"	1 3/4"

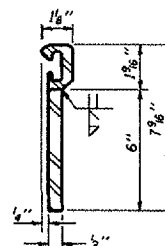


SECTION THRU WELDED RAIL EXP. JOINT
(445 Studs Required)
(297 Anchor Plates Required)

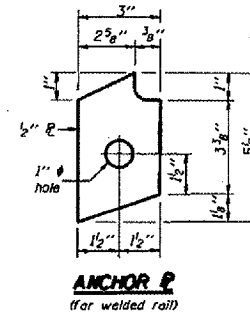
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED (EXTRUDED) RAIL



WELDED RAIL



ANCHOR PLATE
(for welded rail)

LOCKING EDGE RAILS

GENERAL NOTES

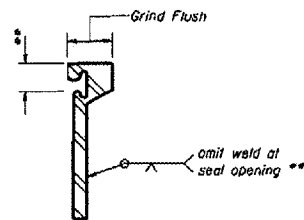
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

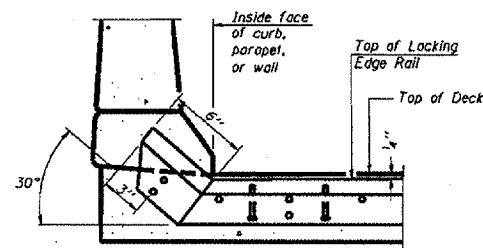
The manufacturer's recommended installation methods shall be followed.

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.

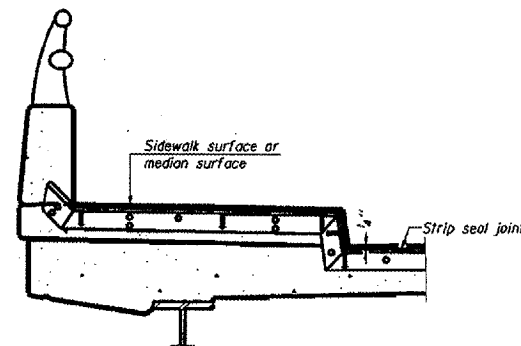


LOCKING EDGE RAIL SPLICE

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



AT CURB, PARAPET, OR WALL



AT SIDEWALK OR MEDIAN*

TYPICAL END TREATMENTS

* Shorter plates with a single row of studs at 12" centers may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

BRIDGE JOINT SYSTEM - EXPANSION (STRIP SEAL)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL 59 OVER I-88 BRIDGE
STRIP SEAL DETAILS
SN 022-9900

SCALE: NONE
DATE: 2/10/06

DRAWN BY: SHB
CHECKED BY:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
			12 11	5
SHEETS				

Contract # 62968

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:

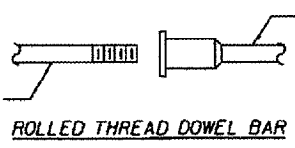
- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_1$
- ② Minimum "Pull-out Strength" (Tension in kips) = $1.25 \times f_{s_{allow}} \times A_1$

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_1 = 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."

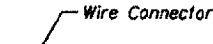
The diameter of this part is the same as the diameter of the bar spliced.



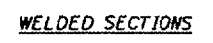
ROLLED THREAD DOWEL BAR



ONE PIECE



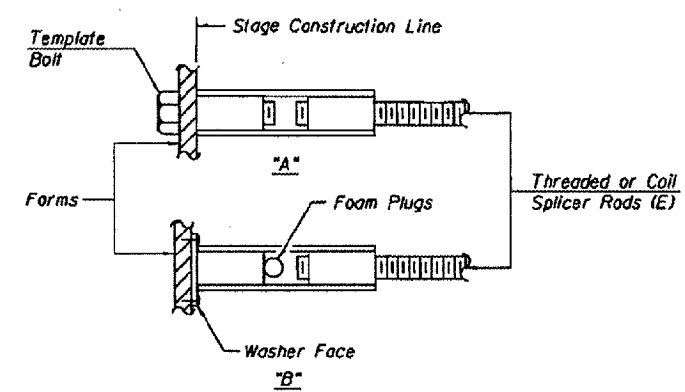
WIRE CONNECTOR



WELDED SECTIONS

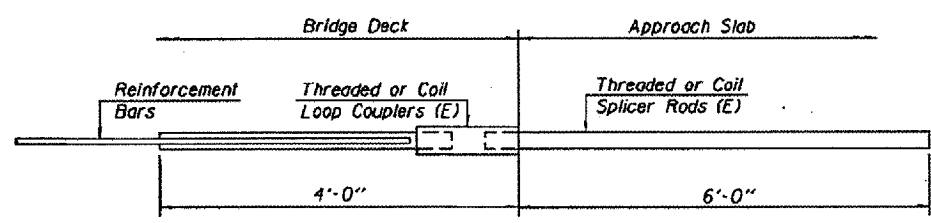
BAR SPLICER ASSEMBLY ALTERNATIVES

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



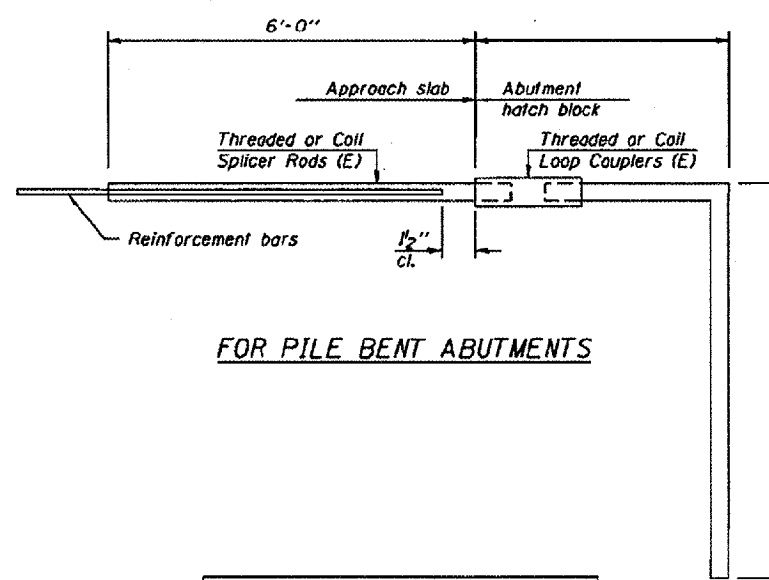
INSTALLATION AND SETTING METHODS

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



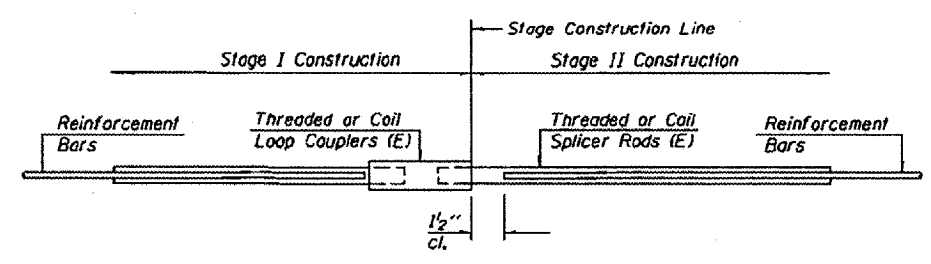
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

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



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 =

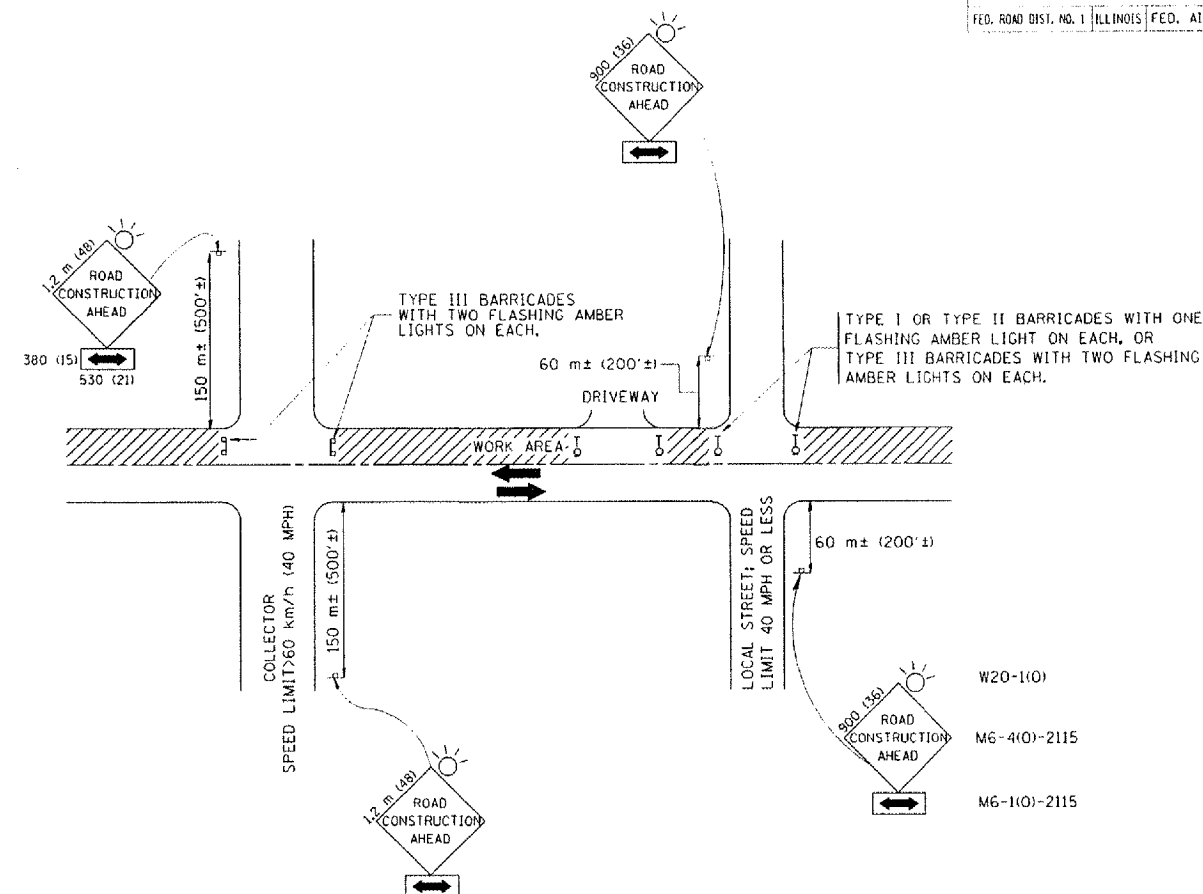


STANDARD

Bar Size	No. Assemblies Required	Location
# 5	12	DECK
# 6	16	ABUT

BAR SPLICER ASSEMBLY DETAILS

DESIGNED -	200
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

1. SIDE ROAD WITH A SPEED LIMIT OF 60 km/h (40 MPH) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 900x900 (36x36) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 60 m (200') IN ADVANCE OF THE MAIN ROUTE.

b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 60 km/h (40 MPH) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 1.2 m x 1.2 m (48x48) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 150 m (500') IN ADVANCE OF THE MAIN ROUTE.

b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

REVISIONS	
NAME	DATE
LHA	6/89
T. RAMMACHER	09/08/94
J. OBERLE	10/18/95
A. HOUSEH	03/06/96
A. HOUSEH	10/15/96
T. RAMMACHER	01/06/00

ILLINOIS DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL AND PROTECTION
 FOR
 SIDE ROADS, INTERSECTIONS, AND
 DRIVEWAYS**

SCALE: VERT.
 HORIZ.
 DATE 10/18/2002

DRAWN BY
 CHECKED BY
 TC-10