

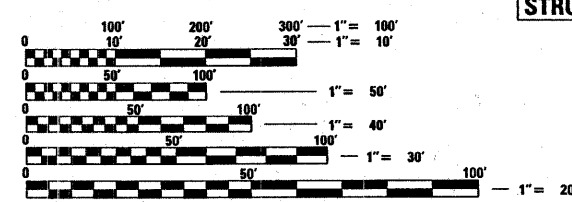
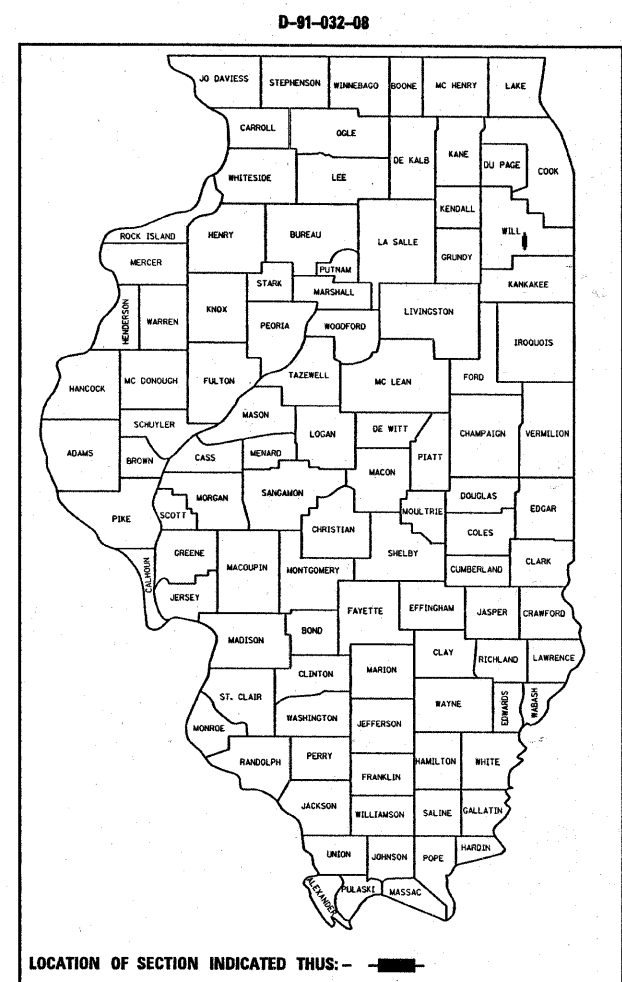
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	105 B(1&2)R-1	WILL	33	1
FED. ROAD DIST. NO. 1		ILLINOIS	CONTRACT NO. 60D50	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

**PROPOSED
 HIGHWAY PLANS**
**F.A.P. 330 /US 45 (LA GRANGE RD.)
 OVER N. BRANCH PRAIRIE CREEK
 AND PRAIRIE CREEK
 BRIDGE BEAM AND DECK REPLACEMENT
 SECTION NO.: 105 B(1&2)R-1
 STRUCTURE NO.: 099-0118, 099-0119
 WILL COUNTY
 C-91-032-08**

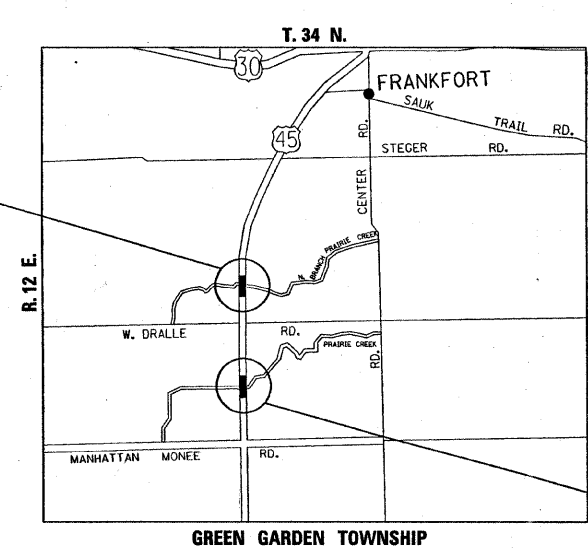
IMPROVEMENT LOCATED IN THE
 VILLAGE OF FRANKFORT



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
 OR 811

IMPROVEMENT LOCATION
 STRUCTURE NO.: 099-0118



TRAFFIC DATA:
 2005 ADT - 7100
 SPEED LIMIT - 50 MPH

IMPROVEMENT LOCATION
 STRUCTURE NO.: 099-0119

PROJECT ENGINEER: J. CHANG (847) 705-4432
 PROJECT MANAGER: KEN ENG (847) 705-4247

GROSS AND NET LENGTH OF IMPROVEMENT - 204 LIN. FT. = .04 MI.

CONTRACT NO. 60D50

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED Nov 13 20 07

Dione O'Keefe/ed
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

December 7, 20 07
Eric E. Harms/ed
 SENIOR ENGINEER OF DESIGN AND ENVIRONMENT

December 7, 20 07
Christine M. Reed/ed
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
 OF THE STATE OF ILLINOIS

INDEX OF SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	COVER SHEET
2	INDEX OF SHEETS, STATE STANDARDS, AND GENERAL NOTES
3-4	SUMMARY OF QUANTITIES
5-6	EXISTING AND PROPOSED TYPICAL SECTIONS
7-8	ROADWAY PLAN AND PROFILE
9	PAVEMENT MARKING PLANS
10-27	BRIDGE DECK REPAIR PLANS
28	BUTT JOINT AND HMA TAPER DETAILS
29	DETAILS FOR STEEL PLATE BEAM GUARDRAIL ADJACENT TO CURB AND GUTTER; SHOULDER WIDENING FOR TBT. TY. 1 SPL.
30	TRAFFIC CONTROL AND PROTECTION, FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS
31	RAISED REFLECTIVE PAVEMENT MARKERS
32	DISTRICT ONE TYPICAL PAVEMENT MARKINGS
33	ARTERIAL ROAD INFORMATION SIGNING

STATE STANDARDS

000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
420401-06	BRIDGE APPROACH PAVEMENT
503001	CONCRETE PARAPET SLIP FORM OPTION
515001-02	NAME PLATE FOR BRIDGES
630001-07	STEEL PLATE BEAM GUARDRAIL
631031-06	TRAFFIC BARRIER TERMINAL, TYPE 6
701006-02	OFF ROAD OPERATIONS 2L, 2W, 4.5m (15') TO PAVEMENT EDGE FOR SPEEDS GREATER THAN OR EQUAL TO 45 MPH
701206-01	LANE CLOSURE 2L, 2W, NIGHT ONLY ON-ROAD TO 600mm (24") OFF-ROAD FOR SPEEDS GREATER THAN OR EQUAL TO 45 MPH
701321-09	LANE CLOSURE 2L, 2W BRIDGE REPAIR WITH BARRIER
701901	TRAFFIC CONTROL DEVICES
704001-04	TEMPORARY CONCRETE BARRIER

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT 800-892-0123 OR "CUAN" (CHICAGO UTILITY ALERT NETWORK) AT 312-744-7000 FOR FIELD LOCATIONS OF BURIED ELECTRIC TELEPHONE AND GAS FACILITIES (48 HOURS PRIOR TO NOTIFICATION BEING REQUIRED).

10 FEET (3 METERS) TRANSITIONS SHALL BE USED TO MATCH PROPOSED CURB AND GUTTER AND MEDIAN ITEMS OF WORK TO EXISTING CURB AND GUTTERS AND MEDIANS IN THE FIELD, UNLESS OTHERWISE SHOWN. THE TRANSITION SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEMS OF WORK SPECIFIED.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITIES AND THE VILLAGE OF FRANKFORT.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

THE CONTRACTOR CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR CORY JUCUIS AT 847-705-4470 A MINIMUM OF 72 HOURS PRIOR TO START OF WORK.

WHEN MILLED PAVEMENT IS OPEN TO TRAFFIC THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1 1/2 INCHES (40 MM) WHERE THE SPEED LIMIT IS 45 MPH (80 KM/H). WITH WRITTEN APPROVAL FROM THE ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES (75 MM) MAY BE ALLOWED IF THE EDGE OF THE MACHINE SLOPED A MINIMUM 1:3 (V:H).

BUTT JOINTS WILL BE INSTALLED AT THE ENDS OF ALL RESURFACING (WHERE RESURFACING MEETS EXISTING PAVEMENT), IN ACCORDANCE WITH THE "BUTT JOINT AND BITUMINOUS TAPER DETAILS" SHEET INCLUDED IN THE PLANS, UNLESS OTHERWISE SPECIFIED.

FILE NAME = c:\projects\0183208\design_00.dgn	USER NAME = steedip	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STATE STANDARDS, AND GENERAL NOTES US 45--OVER N. BRANCH PRAIRIE CREEK & PRAIRIE CREEK				F.A.P. RTE. 330	SECTION 105 B(1&2)R-1	COUNTY WILL	TOTAL SHEETS 33	SHEET NO. 2
	PLDT SCALE = 50,0000' / IN.	DRAWN -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		
	PLDT DATE = 12/3/2007	CHECKED -	REVISED -		CONTRACT NO. 60D50								
		DATE -	REVISED -										

CONTRACT NO.: 60D50

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT		LOCATION 1 OVER PRAIRIE CREEK SN# 099-0119	LOCATION 2 OVER N. BRANCH PRAIRIE CREEK SN# 099-0118				
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	1		1				
40600300	AGGREGATE (PRIME COAT)	TON	1		1				
40600400	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	1		1				
40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	33	11	22				
40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	60	17	43				
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	570	285	285				
42001300	PROTECTIVE COAT	SQ YD	421	191	230				
44000100	PAVEMENT REMOVAL	SQ YD	108	54	54				
44000158	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/4"	SQ YD	506		506				
44000700	APPROACH SLAB REMOVAL	SQ YD	362	174	188				
44300200	STRIP REFLECTIVE CRACK CONTROL TREATMENT	FOOT	416		416				
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	2	1	1				
50102400	CONCRETE REMOVAL	CU YD	0.9	0.9					
50300225	CONCRETE STRUCTURES	CU YD	3.6	3.6					
50300255	CONCRETE SUPERSTRUCTURE	CU YD	21.9	8.3	13.6				
50300260	BRIDGE DECK GROOVING	SQ YD	336	153	183				
50301200	CONCRETE WEARING SURFACE	SQ YD	383	174	209				
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	1568	1568					
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1883		1883				
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	8710	3640	5070				
50800515	BAR SPLICERS	EACH	93	38	55				
51500100	NAME PLATES	EACH	2	1	1				
63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	910	455	455				
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	8	4	4				
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	8	4	4				
63200310	GUARDRAIL REMOVAL	FOOT	910	455	455				
67100100	MOBILIZATION	L SUM	1	0.5	0.5				

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT		LOCATION 1 OVER PRAIRIE CREEK SN# 099-0119	LOCATION 2 OVER N. BRANCH PRAIRIE CREEK SN# 099-0118				
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2	1	1				
70100455	TRAFFIC CONTROL AND PROTECTION, STANDARD 701206	L SUM	2	1	1				
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	4	2	2				
70106700	TEMPORARY RUMBLE STRIP	EACH	12	6	6				
70400100	TEMPORARY CONCRETE BARRIER	FOOT	300	140	160				
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	300	140	160				
*78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	376	124	252				
*78008210	POLYUREA PAVEMENT MARKING - LINE 4" ^{TYPE I}	FOOT	102	47	55				
*78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	16	6	10				
*78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	5	2	3				
*78200405	GUARDRAIL MARKERS	EACH	12	6	6				
*78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	8	4	4				
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	14	5	9				
*80400100	ELECTRIC SERVICE INSTALLATION	EACH	2	1	1				
*80400200	ELECTRIC UTILITY SERVICE CONNECTION	L SUM	1	0.5	0.5				
*81800320	AERIAL CABLE, 3-1/C NO. 4 WITH MESSENGER WIRE	FOOT	3200	1600	1600				
*82103400	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL, 400 WATT	EACH	12	6	6				
*83057355	LIGHT POLE, WOOD, 60 FOOT, CLASS 4, WITH 15FT MAST ARM	EACH	12	6	6				
*84100110	REMOVAL OF TEMPORARY LIGHTING UNITS	EACH	12	6	6				
*84500110	REMOVAL OF LIGHTING CONTROLLER	EACH	2	1	1				
*84500120	REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	2	1	1				
X0301245	SHOULDER REMOVAL	SQ YD	40	20	20				
X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	102.8	51.4	51.4				
X0323574	MAINTENANCE OF LIGHTING SYSTEM	CAL MO	12	6	6				
X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	486	173	313				

* SPECIALITY ITEMS

Rev.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUMMARY OF QUANTITIES
FAP 330/ US 45 (LA GRANGE RD.)
OVER N. BRANCH PRAIRIE CREEK &
PRAIRIE CREEK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	105 B(1&2)R-1	WILL	33	4
FED. ROAD DIST. NO. 1		ILLINOIS	HIGHWAY PROJECT	

CONTRACT NO.: 60D50

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT		LOCATION 1 OVER PRAIRIE CREEK SN: 099-0119	LOCATION 2 OVER N. BRANCH PRAIRIE CREEK SN: 099-0118				
X4400100	PORTLAND CEMENT CONCRETE SURFACE REMOVAL (VARIABLE DEPTH)	SQ YD	50	50					
*X8250090	COMBINATION POLE LIGHTING CONTROLLER	EACH	2	1	1				
*XX006937	GROUND ROD, 5/8" DIA. X 10 FT.	EACH	6	3	3				
Z0030240	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 2	EACH	8	4	4				
Z0030340	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 2	EACH	8	4	4				

SUMMARY OF QUANTITIES				TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT	LOCATION 1 OVER PRAIRIE CREEK SN: 099-0119		LOCATION 2 OVER N. BRANCH PRAIRIE CREEK SN: 099-0118				

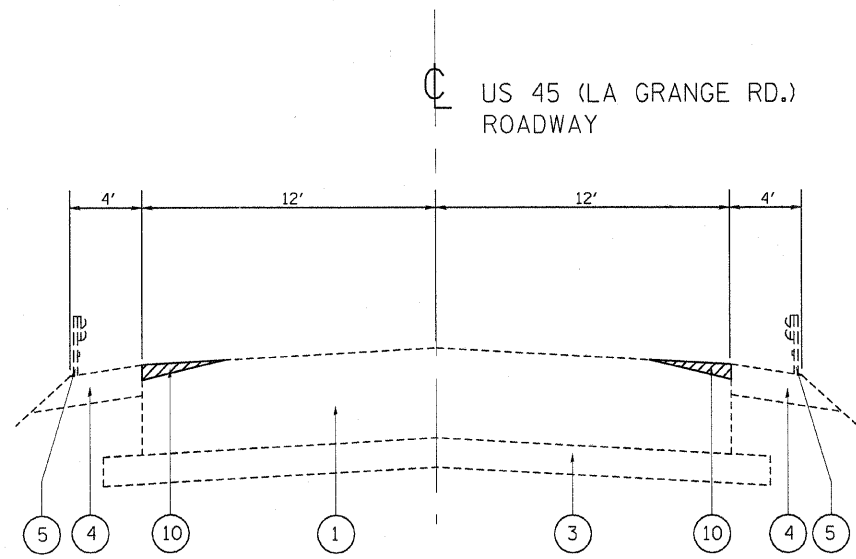
* SPECIALITY ITEMS

REVISIONS	
NAME	DATE

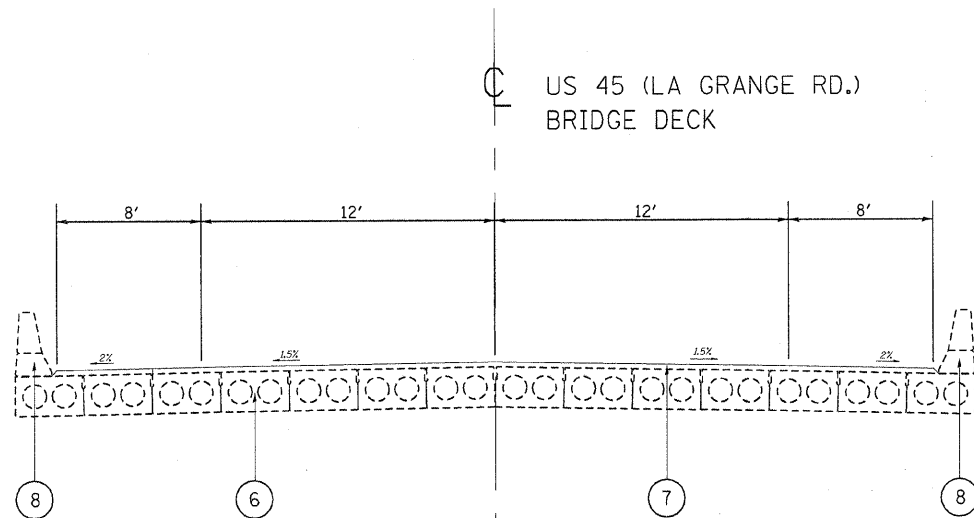
ILLINOIS DEPARTMENT OF TRANSPORTATION
SUMMARY OF QUANTITIES
FAP 330/ US 45 (LA GRANGE RD.)
OVER N. BRANCH PRAIRIE CREEK &
PRAIRIE CREEK

PLOT DATE: 11/16/2007

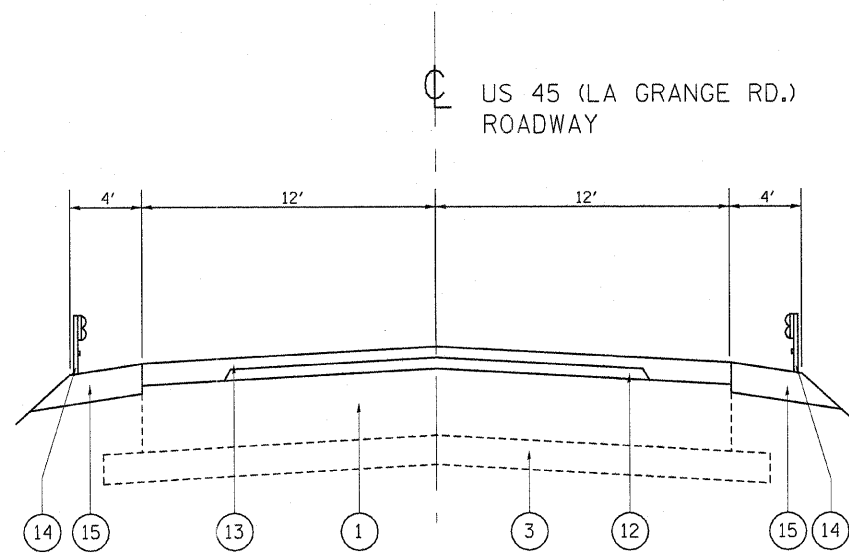
11/16/2007 10:00:00 AM



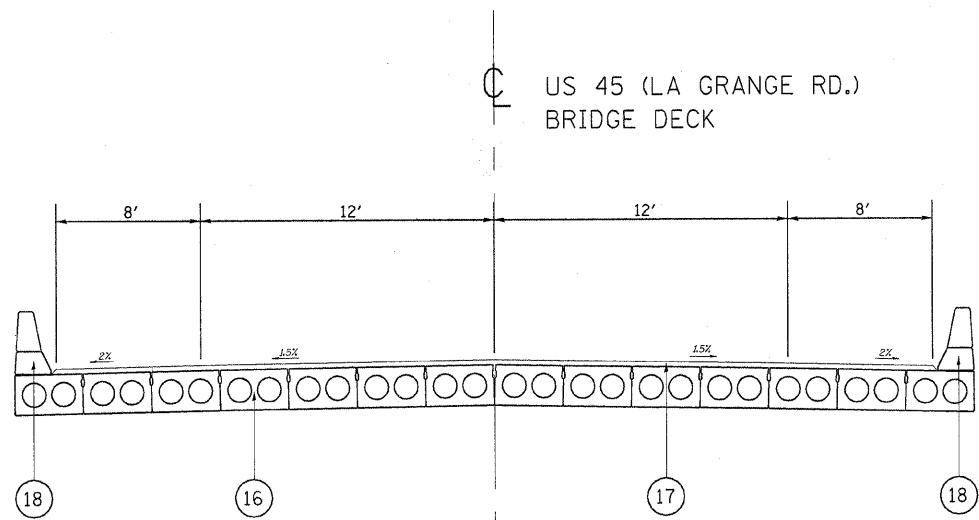
EXISTING TYPICAL SECTION
 STA. 319+80 TO 320+03
 STA. 321+01 TO 321+20



EXISTING TYPICAL SECTION
 STA. 320+34 TO 320+71



PROPOSED TYPICAL SECTION
 STA. 319+80 TO 320+03
 STA. 321+01 TO 321+20



PROPOSED TYPICAL SECTION
 STA. 320+34 TO 320+71

LEGEND:

- ① EXIST. P.C.C. PAVEMENT 10"
- ② EXIST. HOT-MIX ASPHALT SURFACE, 3"
- ③ EXIST. STABILIZED SUB-BASE, 4"
- ④ EXIST. HOT-MIX ASPHALT SHOULDER, 8"
- ⑤ EXIST. GUARDRAIL
- ⑥ EXIST. DECK BEAMS
- ⑦ EXIST. HOT-MIX OVERLAY
- ⑧ EXIST. PARAPET WALL
- ⑨ PROP. HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/4"
- ⑩ PROP. P.C.C. SURFACE REMOVAL (VARIABLE DEPTH)
- ⑪ PROP. LEVELING BINDER (MACHINE METHOD), N50, 3/4"
- ⑫ PROP. LEVELING BINDER (MACHINE METHOD), N50, 1"
- ⑬ PROP. HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 1 1/2"
- ⑭ PROP. STEEL PLATE BEAM GUARDRAIL, TYPE A
- ⑮ PROP. PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)
- ⑯ PROP. PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)
- ⑰ PROP. REINFORCED CONCRETE OVERLAY
- ⑱ PROP. PARAPET WALL

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USER NAME = steedpa

DESIGNED -

REVISED -

DRAWN -

REVISED -

PLOT SCALE = 50.0000' / IN.

CHECKED -

REVISED -

PLOT DATE = 12/3/2007

DATE -

REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

EXISTING AND PROPOSED TYPICAL SECTIONS
 US 45 (LA GRANGE RD.)--OVER PRAIRIE CREEK

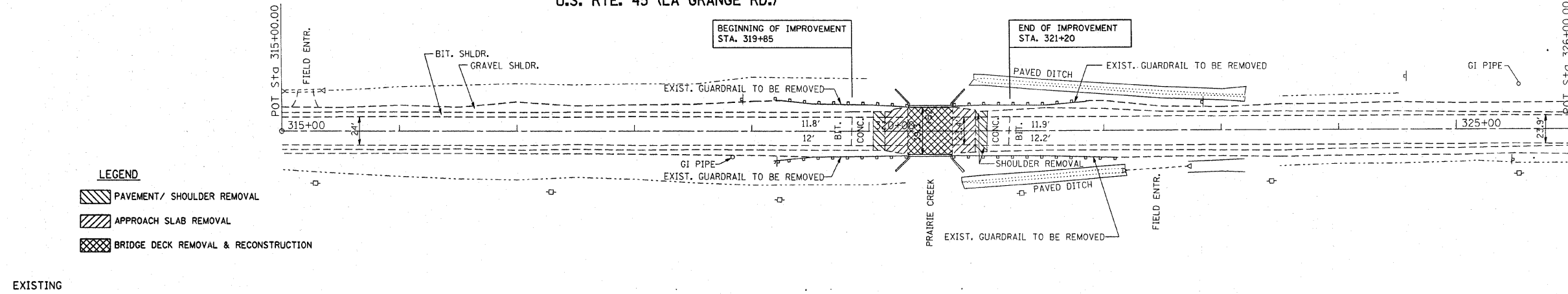
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	105 B(1&2)R-1	WILL	33	6
SN: 099-0119		CONTRACT NO. 60D50		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

DATE	BY
REVISION	BY
NOTED	BY
ALIGNED	CHECKED
AS-BUILT	CHECKED
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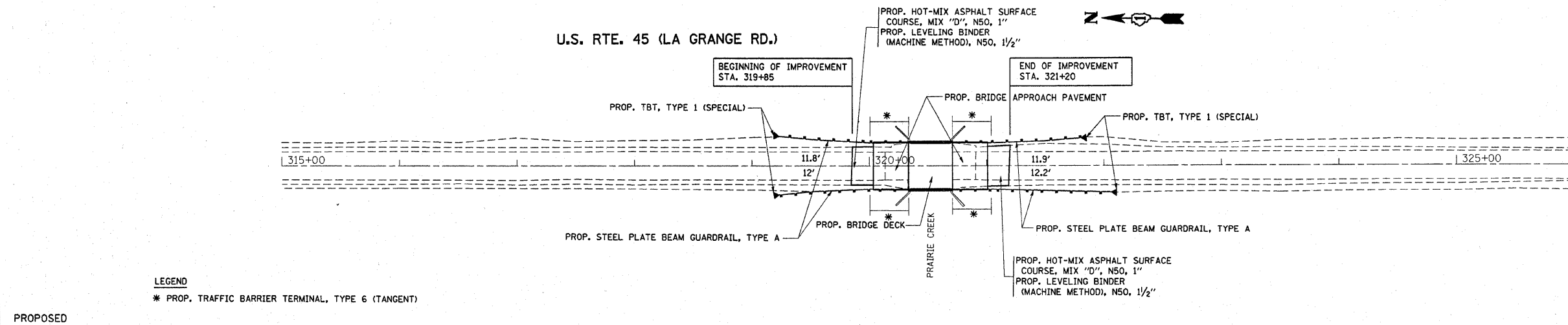
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REVISION	BY
NOTED	BY
GRADES CHECKED	BY
STRUCTURE NOTATIONS CHECKED	BY
NO.	NO.

U.S. RTE. 45 (LA GRANGE RD.)

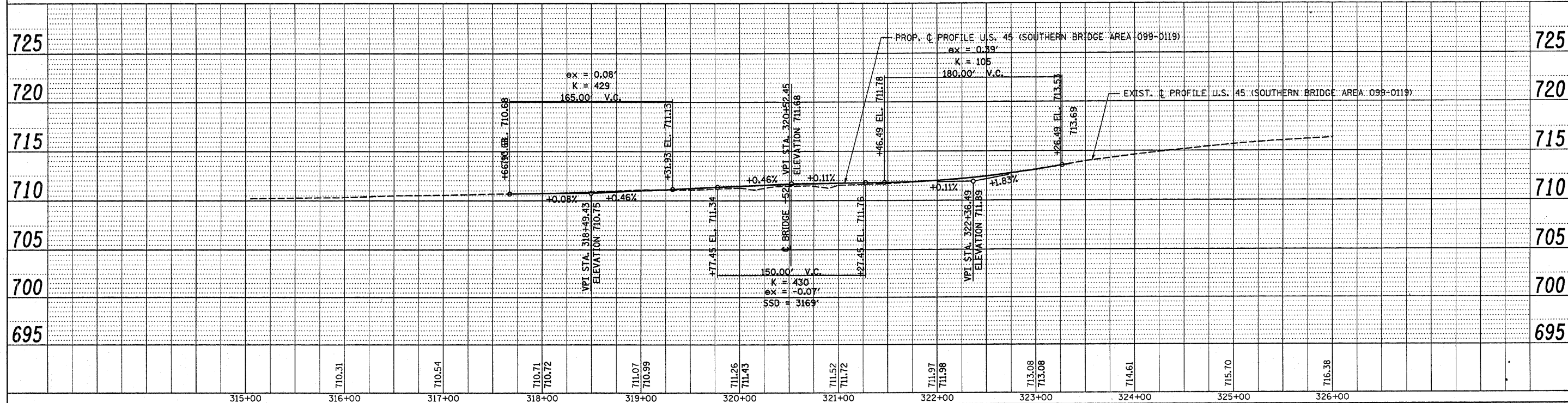


EXISTING

U.S. RTE. 45 (LA GRANGE RD.)

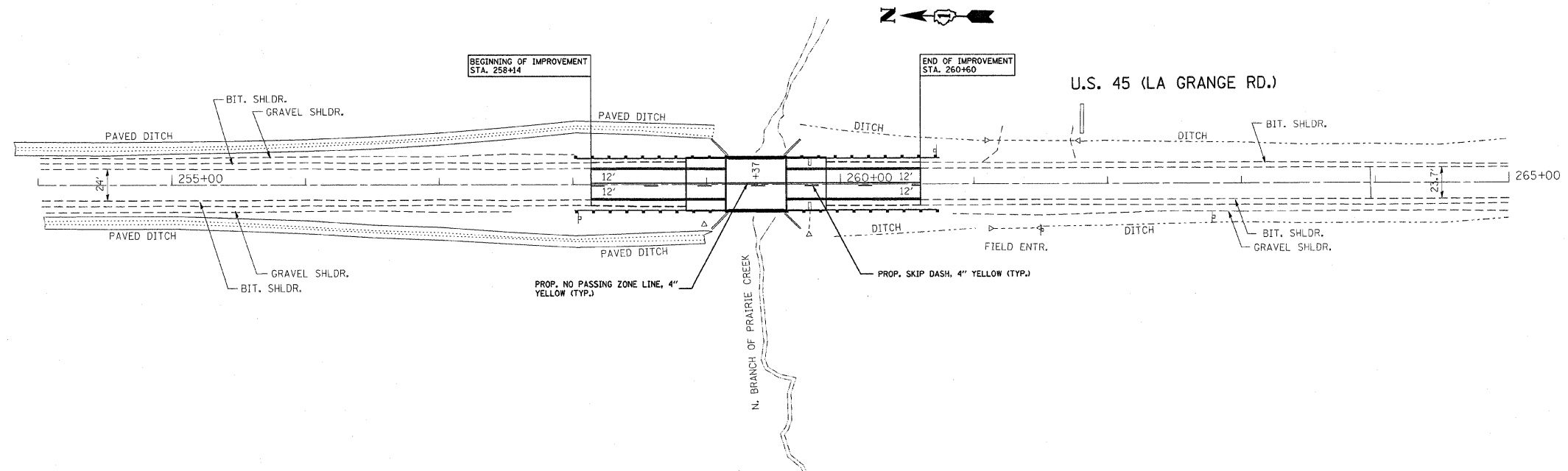


PROPOSED

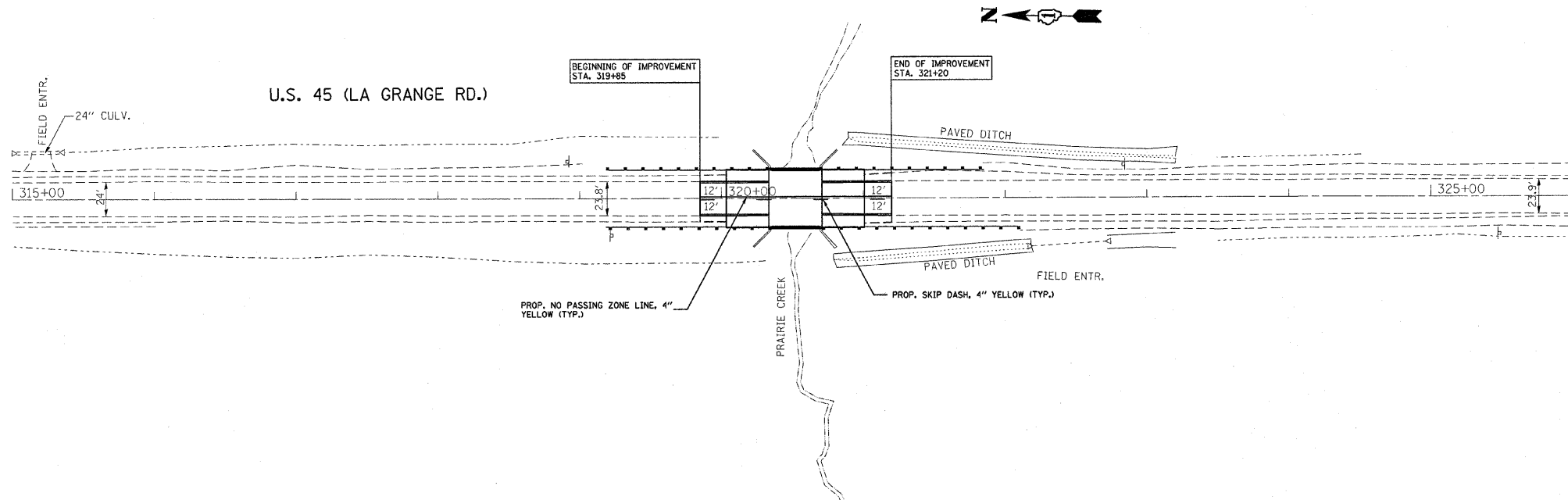


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CONTRACT NO. 60D50	SCALE: 1"=50'	SHEET NO. OF SHEETS STA. TO STA.	SN:099-0119 FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT									
PLOT SCALE = 58.0000' / IN.	CHECKED -	REVISIONS										
PLOT DATE = 11/16/2007	DATE -	REVISIONS										

(NORTH)
 SN: 099-0118
 OVER N. BRANCH PRAIRIE CREEK



(SOUTH)
 SN: 099-0119
 OVER PRAIRIE CREEK



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 PLOT DATE = 11/16/2007

DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISED -
 REVISED -
 REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
 US 45--OVER N. BRANCH PRAIRIE CREEK & PRAIRIE CREEK
 SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	105 B(1&2)R-1	WILL	33	9
CONTRACT NO. 60D50				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 330	105B-1R	WILL	33	10
SHEET NO. 1 9 SHEETS				

Benchmark: Disc in corner of NE Wingwall Elev. 734.36

Existing Structure: S.N. 099-0118, built in 1978 as a single span 21"x36" PPC Deck Beam Bridge with 2" Bituminous wearing surface on closed abutments on spread footings. The structure measures 44'-6" Back to Back abutments and 42'-0" out to out deck. Bridge was rehabilitated in 2005 with partial beam replacement. Traffic is to be maintained utilizing stage construction. One lane for both directions will be provided by using temporary traffic signals.

Salvage: None

GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See Special Provisions.

The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

Attach new Name Plate to the inside face of parapet as shown. Existing name plate is to be removed, cleaned and relocated adjacent to new name plate. Cost included in the cost of Name Plates.

Reinforcement Bars designated (E) shall be epoxy coated.

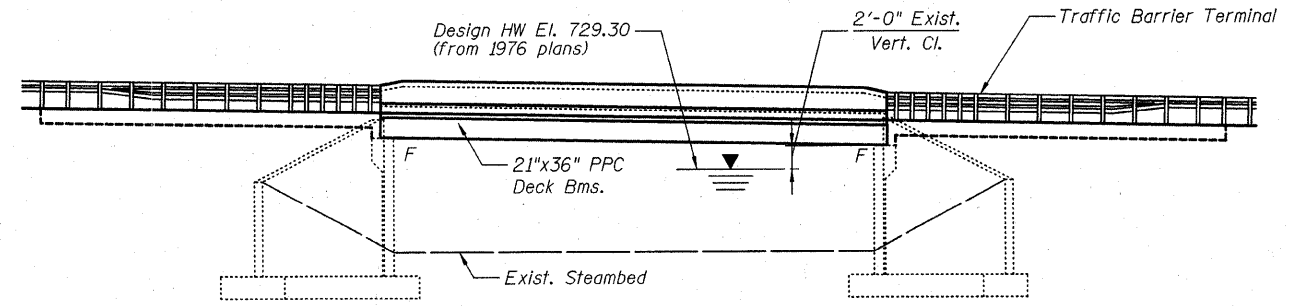
No in-stream work will be allowed on this project.

Slip forming of the parapets is not allowed.

The minimum thickness of the concrete overlay shall be 5" and varies as required to adjust for the new profile grade and beam camber.

Repair of the substructure shall be completed prior to placement of the new deck beams.

- INDEX OF SHEETS**
1. General Plan & Elevation
 2. Stage Construction Details
 3. Temporary Concrete Barrier
 4. Beam Details (21"x36")
 5. Superstructure Details
 6. Parapet Details
 7. Concrete Removal and Substructure Repair
 8. North & South Abutments
 9. Bar Splicer Details



SCOPE OF WORK

1. Total superstructure removal and replacement.
2. Substructure repairs.
3. Approach slab removal and replacement. See Roadway sheets for details.
4. Caution should be exercised when working in the vicinity of Overhead Electric Lines on the North-West side of bridge.

ELEVATION

STATION 259+37.00
REBUILT 20 BY
STATE OF ILLINOIS
F.A.P. RT. 330 SEC. 105B-1R
LOADING HS20-44
STR. NO. 099-0118

NAME PLATE
See Std. 515001

LOADING HS-20-44
Allow 50 psf for future wearing surface

DESIGN SPECIFICATIONS
2002 AASHTO Standard Specifications
2003 IDOT Prestressed Concrete Manual

DESIGN STRESSES

FIELD UNITS	PRESTRESSED UNITS
f'c = 3,500 psi	f'c = 5000 psi
f'y = 60,000 psi	f'ci = 4000 psi
	f's = 270,000 psi (1/2" ϕ low lax. strands)
	f'si = 201,900 psi (1/2" ϕ low lax. strands)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock acceleration coefficient (A) = .04
Site Coefficient (S) = 1.2

WATERWAY INFORMATION

Drainage Area = 1510 Acres

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	500	283	283	729.30	0	0		
Base	100	630			729.80	0	0		
Overtopping									
Max. Calc.	500								

All time H.W. Elev. 731.10
Information taken from 1976 plans and adjusted to project datum.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Removal of Existing Superstructures	Each	1
Concrete Superstructures	Cu.Yd.	13.6
Bridge Deck Grooving	Sq.Yd.	183
Protective Coat	Sq.Yd.	230
Concrete Wearing Surface (5")	Sq.Yd.	209
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq.Ft.	1,883
Reinforcement Bars, Epoxy Coated	Pound	5,070
Bar Splicers	Each	55
Name Plates	Each	1
Structural Repair of Concrete (Depth Equal to or Less than 5 inches)	Sq.Ft.	313

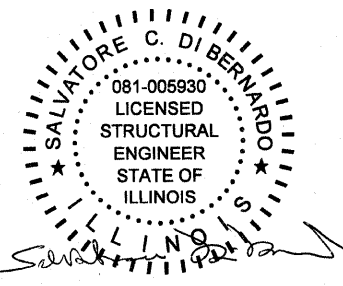
* Special Provision

GENERAL PLAN AND ELEVATION

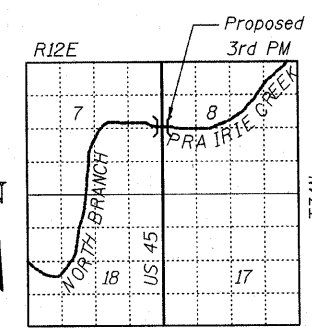
US RTE 45 OVER NORTH
BRANCH OF PRAIRIE CREEK

F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 259+37.00
S.N. 099-0118

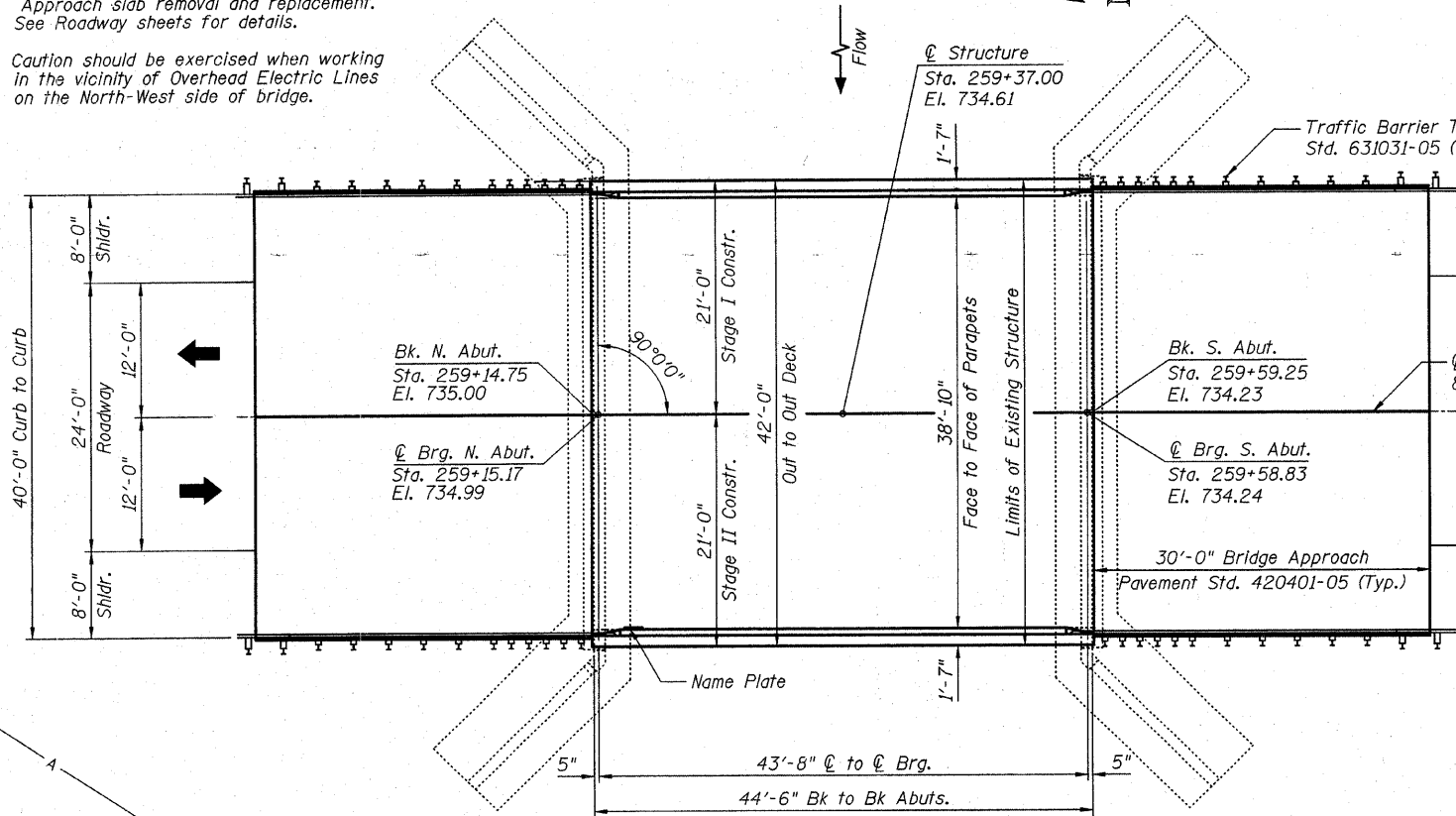
APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES



DATE: 10/17/2007
SEAL EXPIRES: 11/30/2008



LOCATION SKETCH



PLAN

PROFILE GRADE

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter

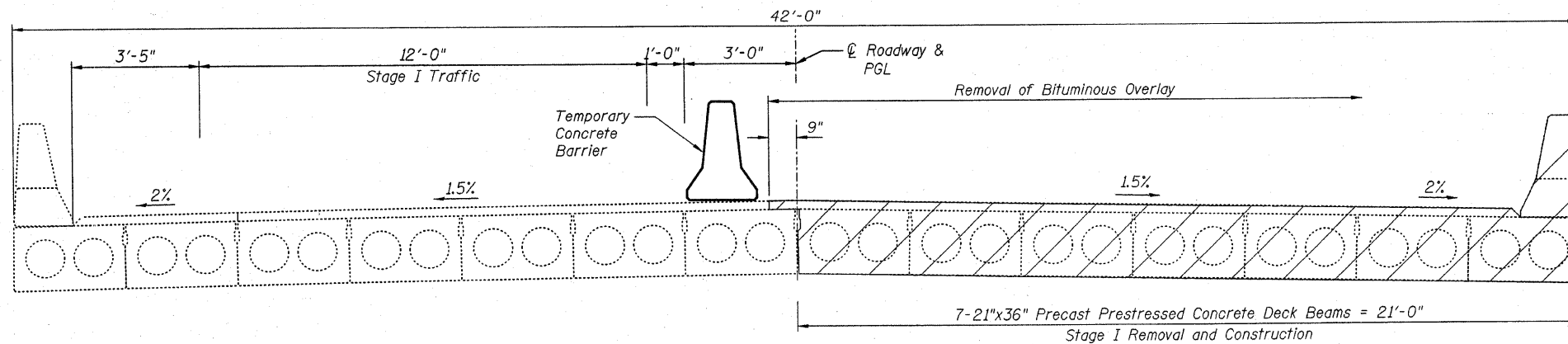
Giorgio Group, Inc.
CONSULTING ENGINEERS
5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60656
Tel. 773.775.4009 Fax 773.775.4014 Email chicago@giorgio.com

10/17/2007 rdenley n:\proj\3329\3329_04\Design\structural\Cad\st\3329_04_01 GP.sht

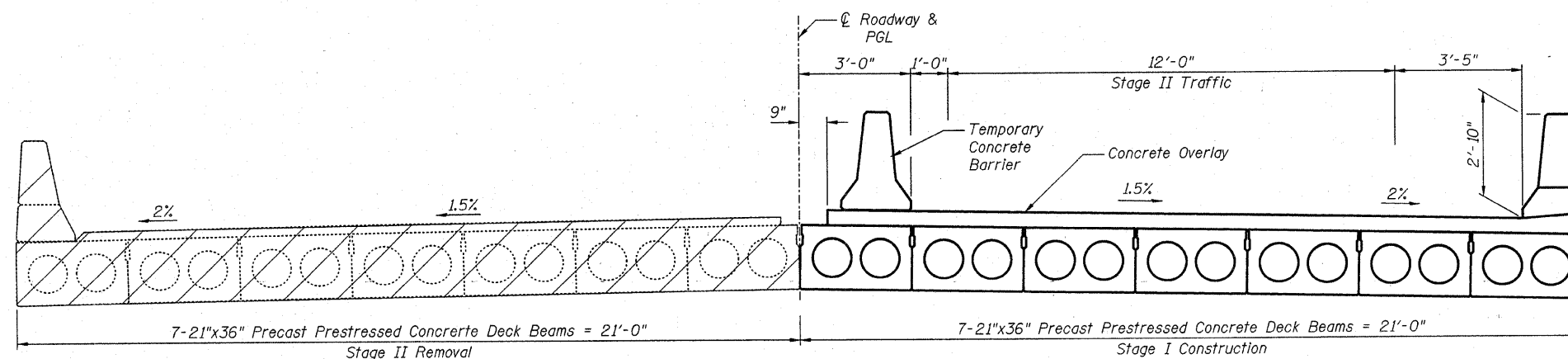
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 330	105B-1R	WILL	33	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

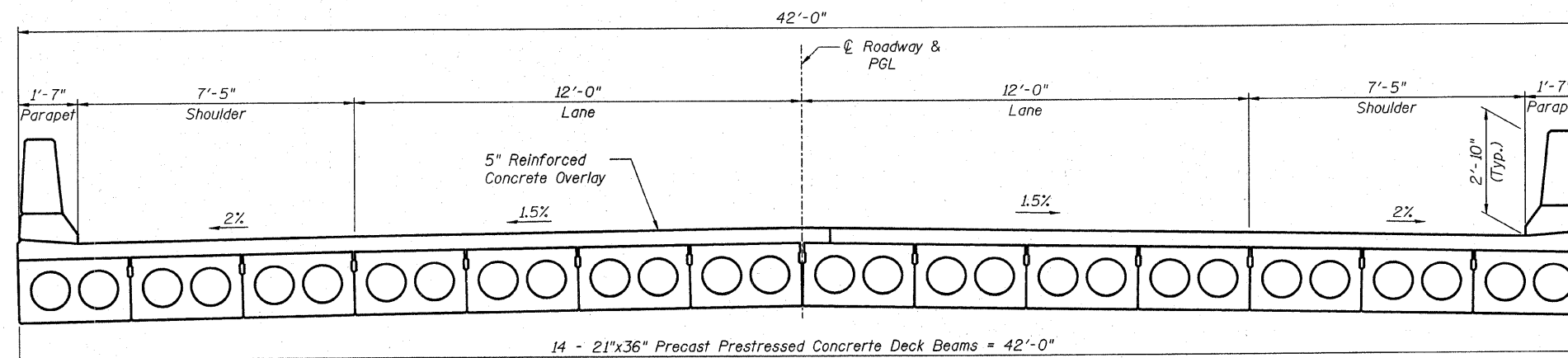
Contract # 60D50



STAGE I REMOVAL
(Looking North)

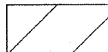


STAGE I CONSTRUCTION & STAGE II REMOVAL
(Looking North)



FINAL
(Looking North)

LEGEND:

 Removal of Existing Superstructure

NOTE:

1. See Sheet No. 3 for Temporary Concrete Barrier Details.
2. The main vertical reinforcement is in the front face of the abutment stem. In order to guarantee the stability of the abutments during construction staging, no more than three existing beams shall be removed at a time. Installation of new beams shall include grouted dowels to guarantee the stability of the abutments. The Contractor may use, at his option, the Temporary Wall Bracing System. The cost of the temporary bracing system shall be included with Removal of Existing Superstructures.
3. The Contractor shall submit details and calculations, prepared and sealed by an Illinois Licensed Structural Engineer, of the temporary wall bracing system he proposes to use for approval by the Engineer. Such approval shall in no way relieve the Contractor of responsibility for the safety of the structure. The submittal shall include sequences for existing beam removal, bracing system erection, and the bracing system removal and shall account for the stability of the closed abutments during both stages of removal and construction.
4. After the bracing system is no longer required, it shall be completely removed. All materials shall become the property of the Contractor. After removal of the Temporary Wall Bracing System, the Contractor shall restore damaged concrete surfaces to match the existing surface of the concrete structure with proposed repairs.
5. The Contractor is ultimately responsible of means and methods to ensure the complete stability of the structural members during construction.

STAGE CONSTRUCTION DETAILS

**US RTE 45 OVER NORTH
BRANCH OF PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 259+37.00
S.N. 099-0118**

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter



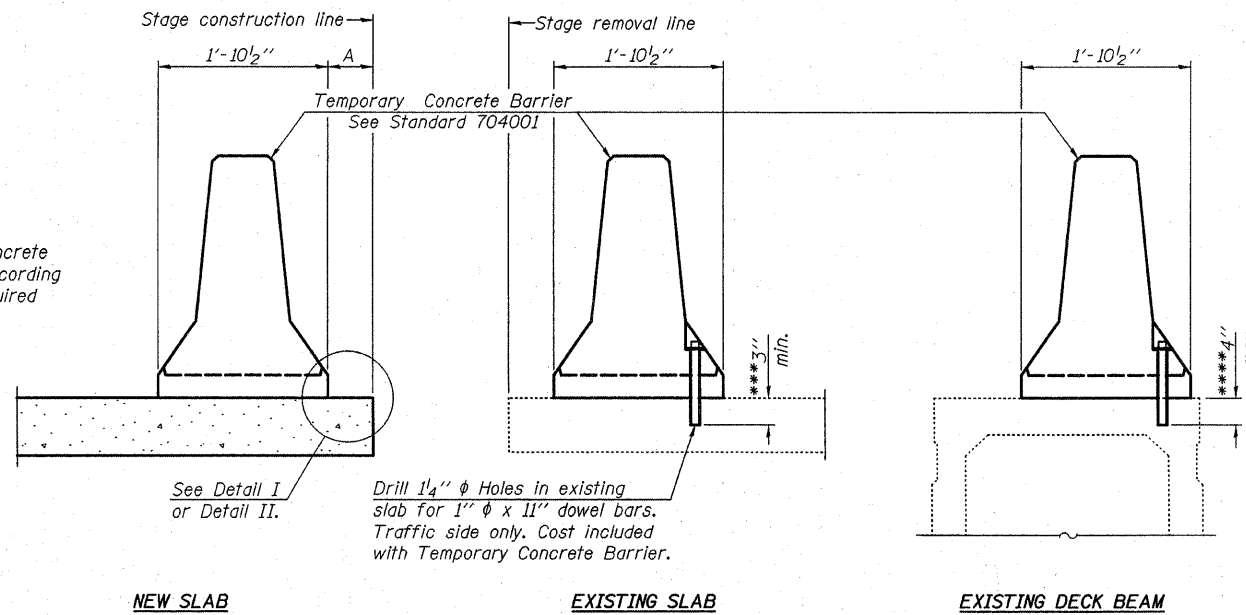
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CONSULTING ENGINEERS
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Tel. 773.775.4009 Fax 773.775.4014 Email chicago@giorba.com

10/17/2007 rdanley int:\pro\3329\3329_04\design\structural\cad\sh1\3329_04_02 Stage Construction.sht

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3 9 SHEETS
FAP 330	105B-1R	WILL	33	12	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract # 60D50



When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".

See Detail I or Detail II.

Drill 1/4" ϕ Holes in existing slab for 1" ϕ x 11" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

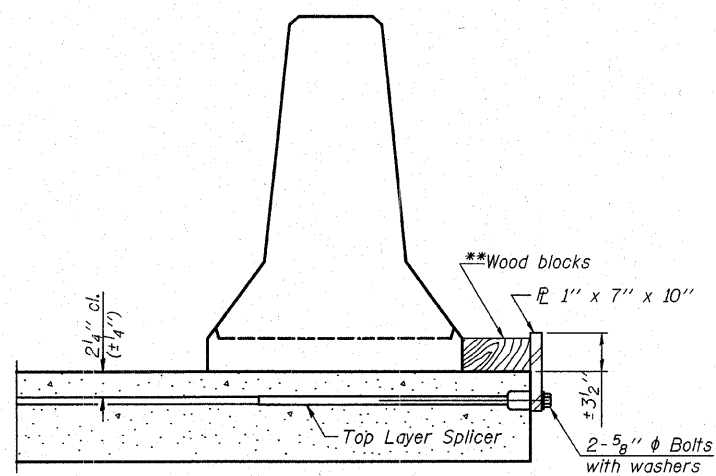
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{L} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

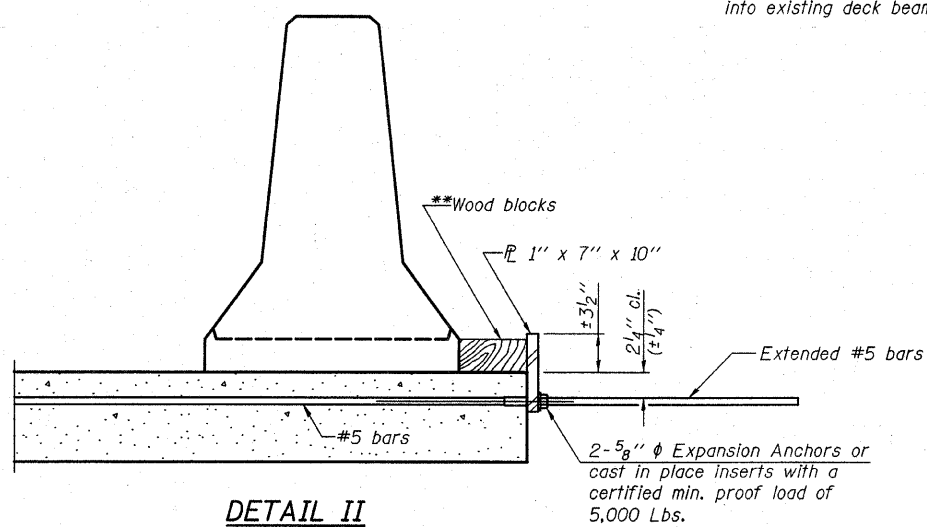
SECTIONS THRU SLAB OR DECK BEAM

***Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

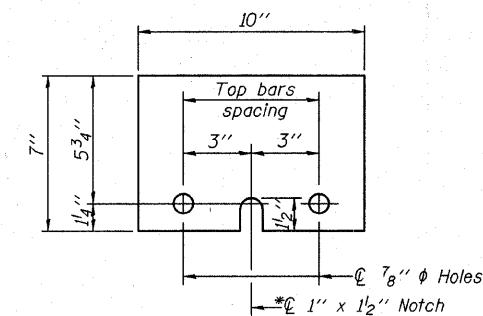
****If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER \bar{L} 1" x 7" x 10"

* Required only with Detail II

**Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

TEMPORARY CONCRETE BARRIER

FOR STAGE CONSTRUCTION

**US RTE 45 OVER NORTH
BRANCH OF PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 259+37.00
S.N. 099-0118**

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter

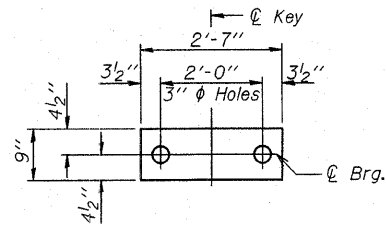


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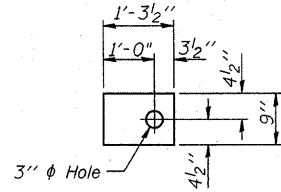
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAP 330	SECTION 105B-1R	COUNTY WILL	TOTAL SHEETS 33	SHEET NO. 13	SHEET NO. 4 9 SHEETS
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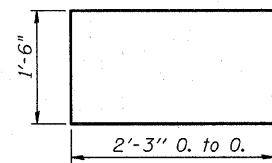
Contract # 60D50



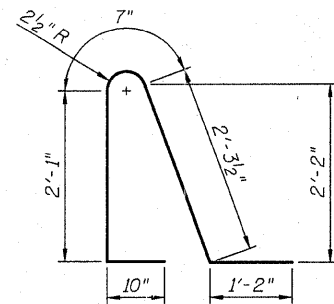
FABRIC BEARING PAD
(Interior)
(26-Required)



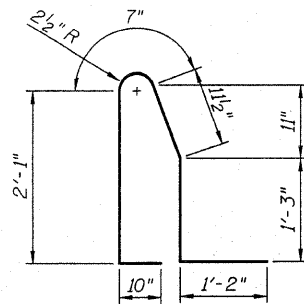
FABRIC BEARING PAD
(Exterior)
(4-Required)



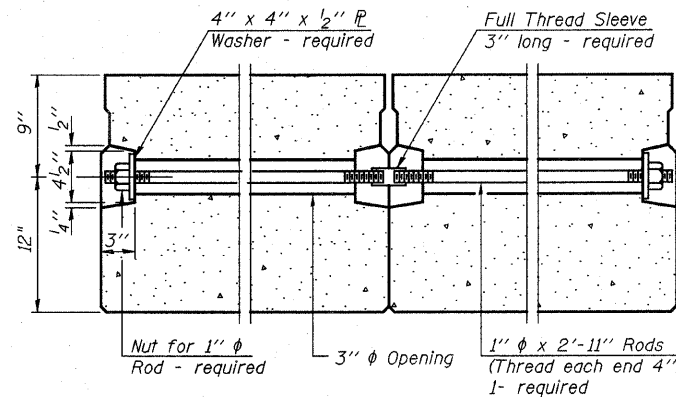
BAR U



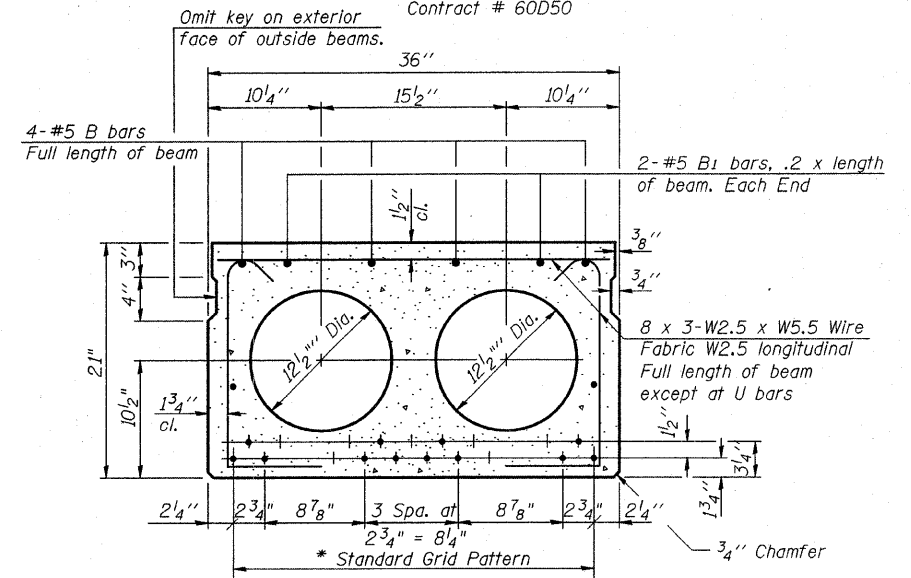
BAR D(E)



BAR D1



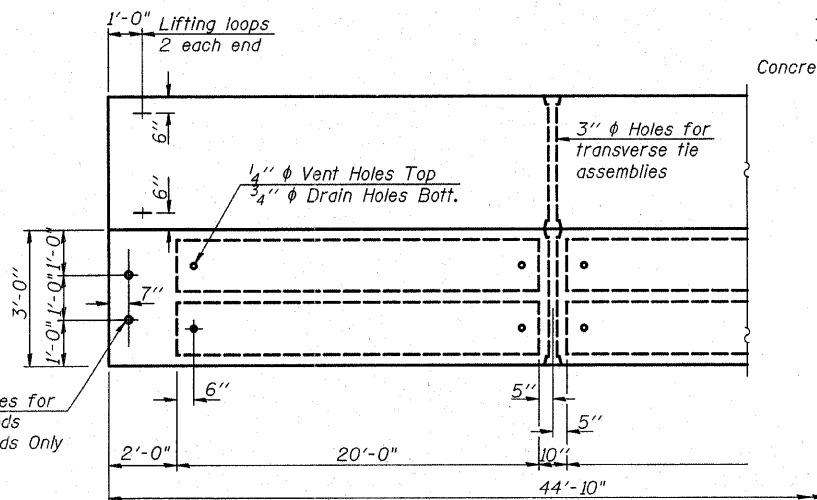
TYPICAL TRANSVERSE TIE ASSEMBLY



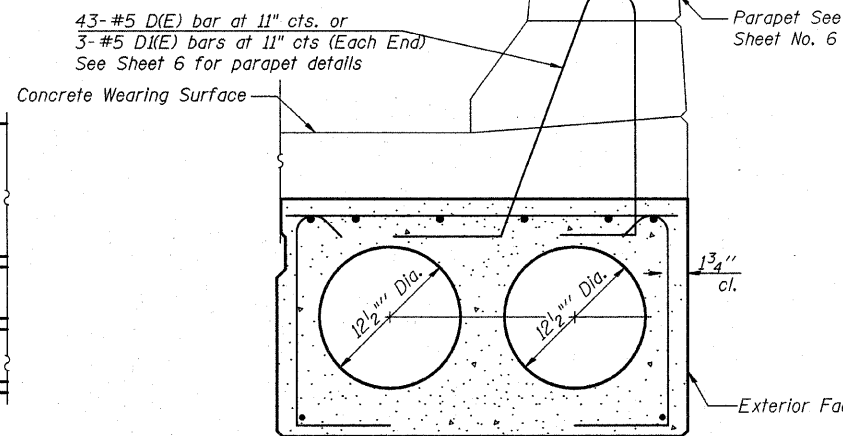
TYPICAL SECTION

1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
8-Strands 1 3/4" up, 4 -Strands 3/4" up, 2-strands 9" up

* Suggested location of strands in the bottom layer to avoid the conflict with dowel rod holes at the ends.
Note:
Place strands symmetrically about ϕ of beam.

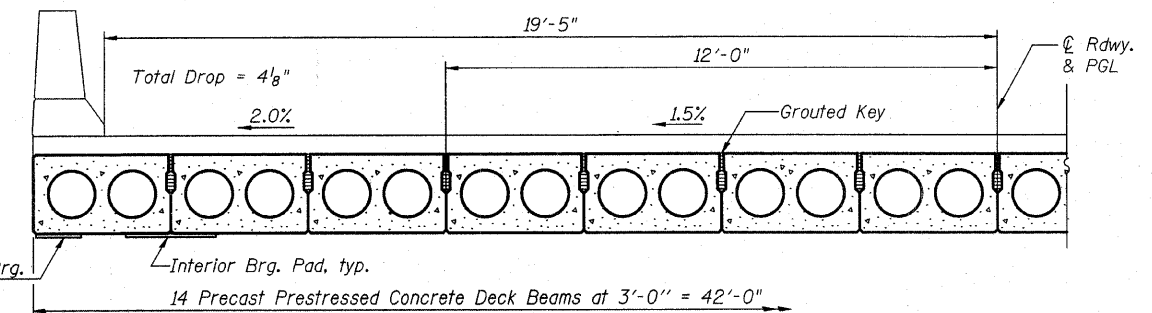


PLAN



SECTION THRU EXTERIOR BEAM

See Typical Section Thru Interior Beam for strand pattern, dimensions and bar call outs.
Parapets shall be poured in the field.



HALF CROSS SECTION

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
B	4	#5	44'-7"	—
B1	4	#5	9'-0"	—
D(E)	43	#5	6'-11 1/2"	U
D1(E)	6	#5	6'-10 1/2"	U
U	6	#4	6'-0"	C
Precast Prestressed Conc. Deck Bms. (21')			Sq. Ft.	1,883

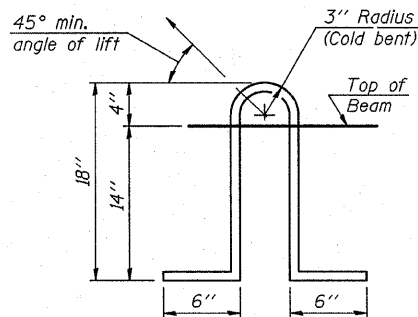
* Exterior beams only

BEAM DETAILS (21"x36")

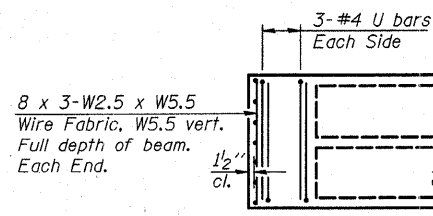
US RTE 45 OVER NORTH
BRANCH OF PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 259+37.00
S.N. 099-0118

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2 - 1/2" ϕ -270 ksi strands, as shown. The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Non prestressing steel shall conform to ASTM A 706 (IL MOD), Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4,000 p.s.i.



LIFTING LOOP DETAIL



END PLAN

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter

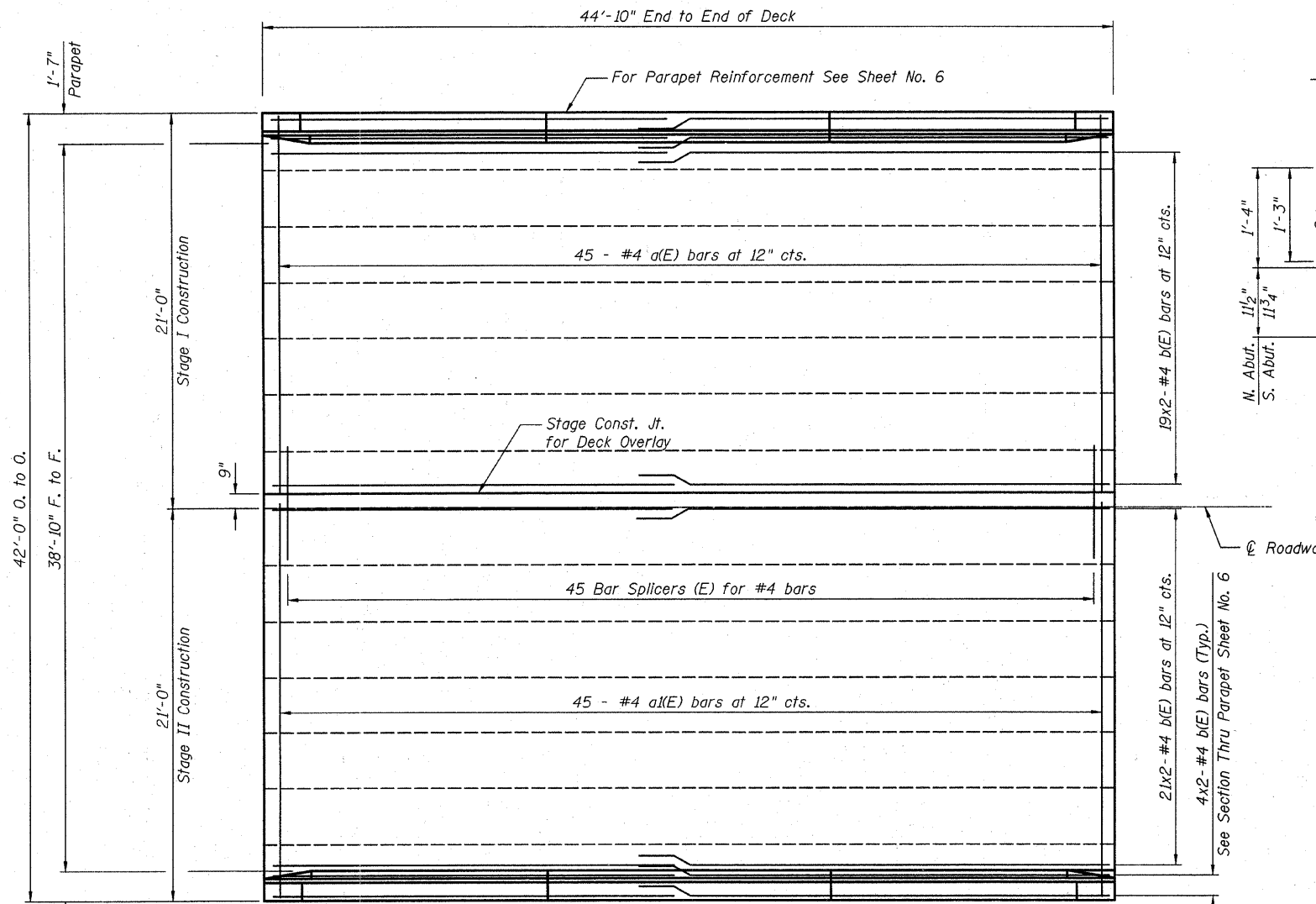


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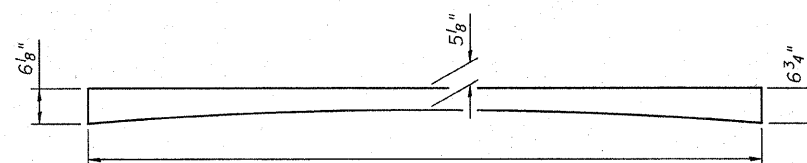
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATION	SHEET	SHEET NO.
FAP 330	105B-1R	WILL	33	14	9 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

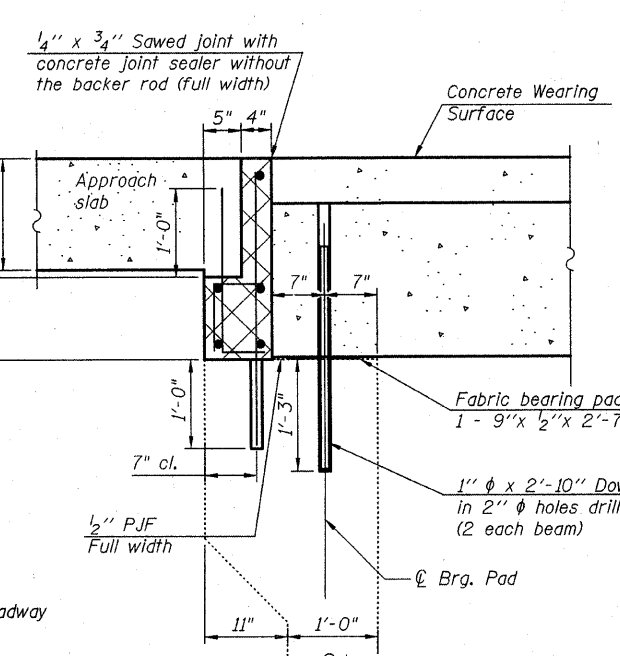
Contract # 60D50



CONCRETE WEARING SURFACE - PLAN

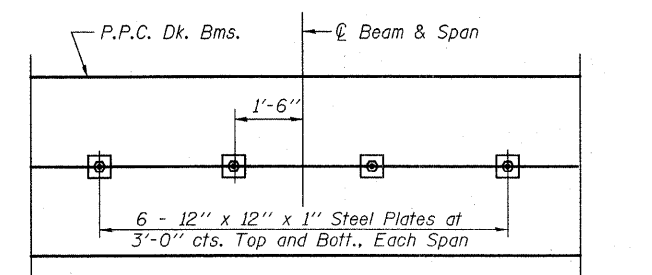


REINFORCED CONCRETE WEARING SURFACE PROFILE

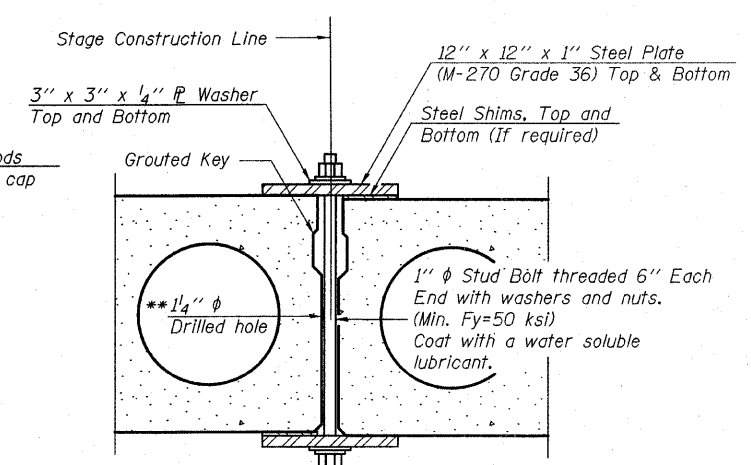


SECTION THRU ABUTMENT

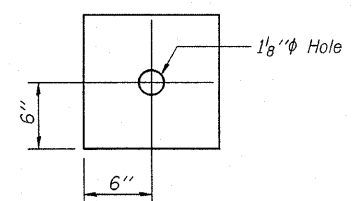
Notes:
After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
All horizontal dimensions are at right angles to beam ends. Hatched area to be poured after concrete wearing surface is in place.
See sheet No. 4 - for bearing pad details.
See sheet No. 8 - for Abutment reinforcement details.
See sheet No. 6 - for quantities.



PLAN



SECTION



CLAMPING PLATE

SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.

Cost included with Precast Prestressed Concrete Deck Beams.
See Stage Construction Details for traffic lanes.

** As an alternate to the drilled holes, the Contractor may request the Fabricator to cast 2" diameter semi-circular recesses in the sides of each beam adjacent to the stage construction line. These recesses should align to form a hole at the appropriate locations for the clamping device bolts. If the Contractor elects to use this alternate, the details shall be identified on the shop drawings.

LAP LENGTH
4 bars - 1'-8"

SUPERSTRUCTURE DETAILS
US RTE 45 OVER NORTH
BRANCH OF PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 259+37.00
S.N. 099-0118

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter

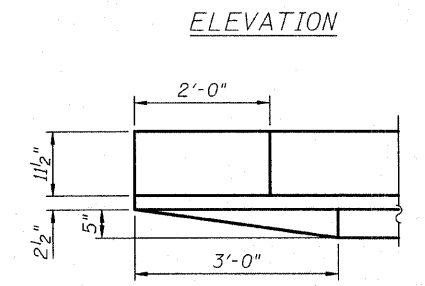
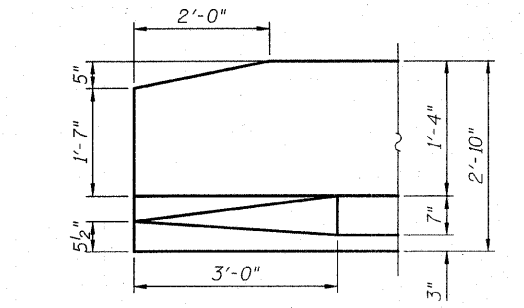
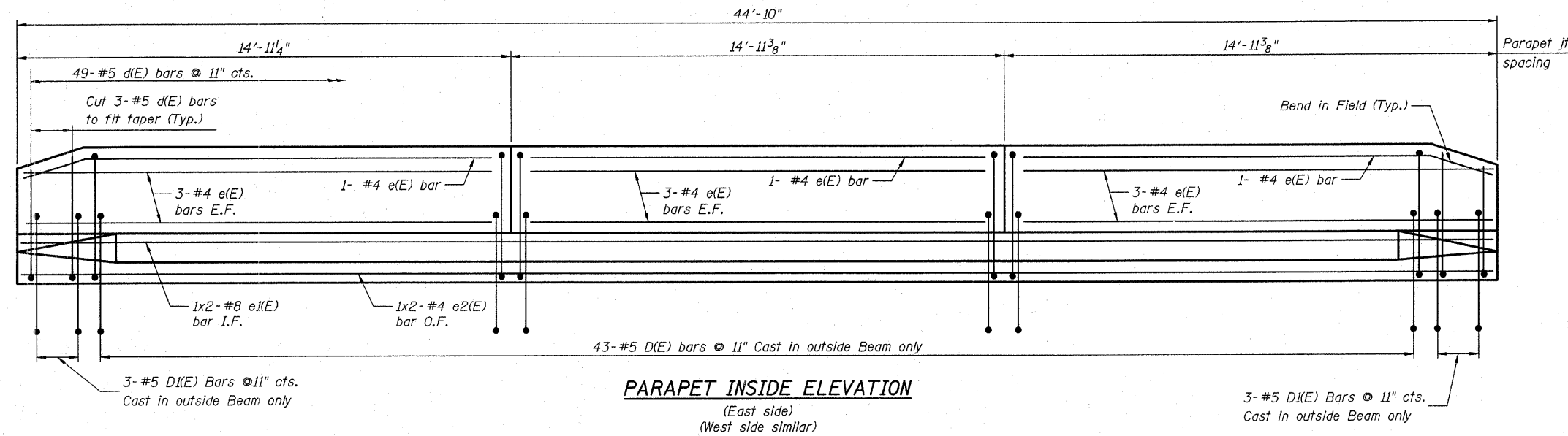
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Tel. 773.775.4009 Fax 773.775.4014 Email chicago@giorba.com

10/17/2007 r-danley M:\PROJ\3329\3329_04_08 Superstructure Details.sht

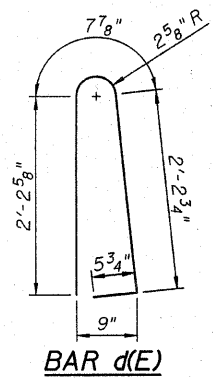
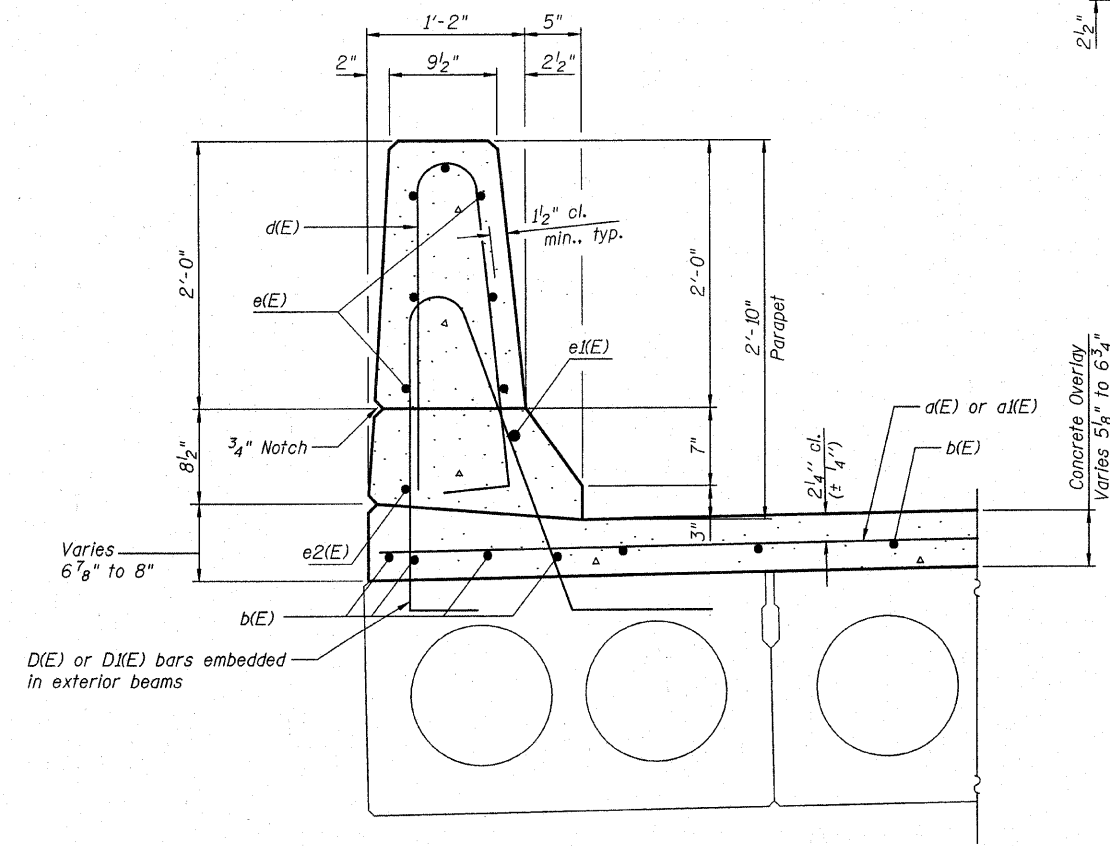
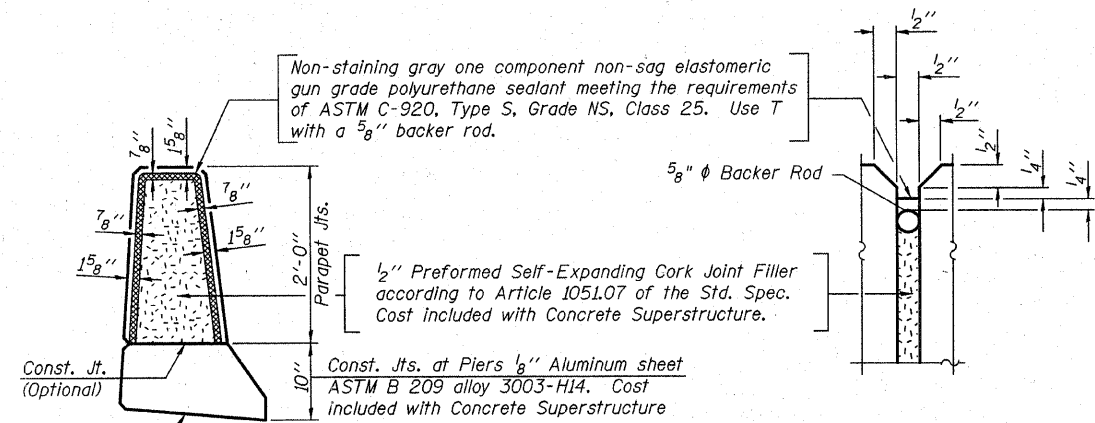
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAP 330	SECTION 105B-IR	COUNTY WILL	TOTAL SHEETS 33	SHEET NO. 15	SHEET NO. 6 9 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract # 60D50



PARAPET END DETAILS



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	45	#4	19'-11"	—
a1(E)	45	#4	21'-5"	—
b(E)	96	#4	23'-1"	—
d(E)	98	#5	5'-7"	U
e(E)	42	#4	14'-7"	—
e1(E)	4	#8	24'-6"	—
e2(E)	4	#4	23'-1"	—
Reinforcement Bars, Epoxy Coated			Pound	4,030
Concrete Superstructure			Cu. Yd.	10.0
Concrete Wearing Surface (5")			Sq. Yd.	209
Bar Splicers			Each	45
Bridge Deck Grooving			Sq. Yd.	183
Protective Coat			Sq. Yd.	230

Notes:
1. Bars Indicated thus 1x2- #5 etc. indicates 1 line of bars with 2 lengths per line.

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter

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LAP LENGTH	
#4 bars	- 1'-8"
#8 bars	- 4'-6"

PARAPET DETAILS
US RTE 45 OVER NORTH
BRANCH OF PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-IR
WILL COUNTY
STA. 259+37.00
S.N. 099-0118

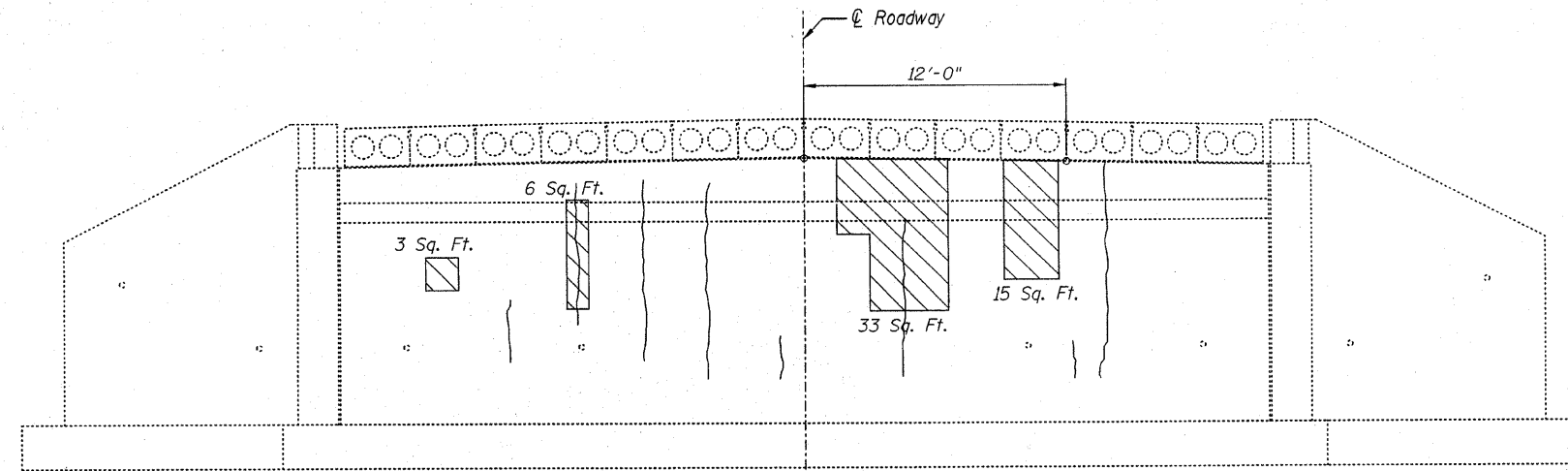
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 330	105B-1R	WILL	33	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

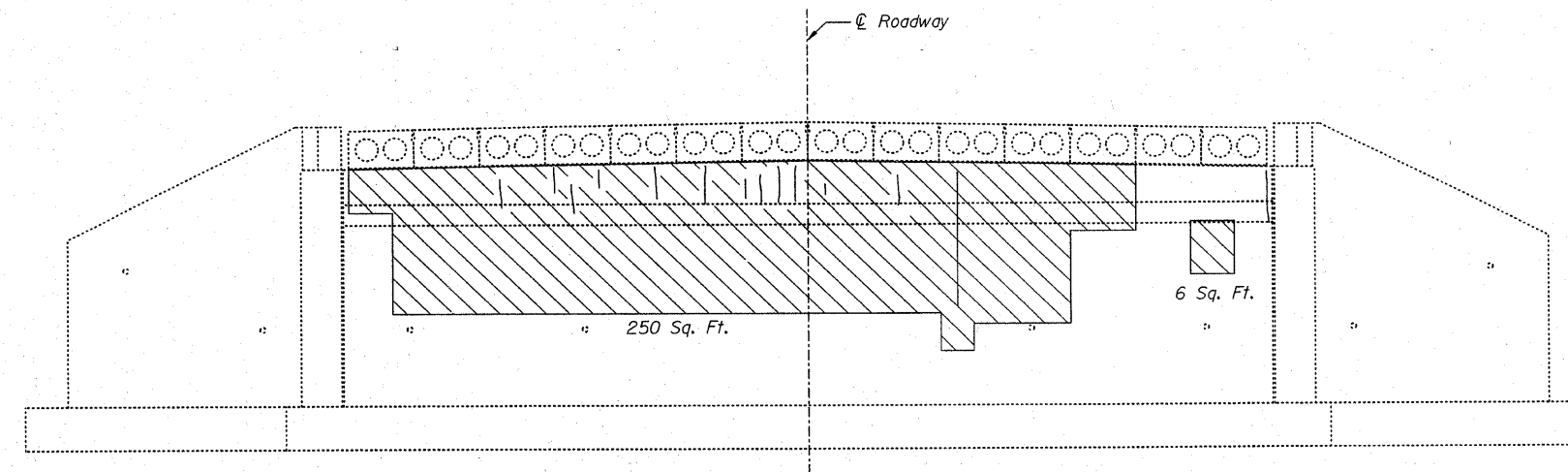
SHEET NO. 7
9 SHEETS

Contract # 60D50



NORTH ABUTMENT - ELEVATION



Looking North



SOUTH ABUTMENT - ELEVATION

Looking South

LEGEND

-  Structural Repair of Concrete
-  Hairline Crack - No Repairs

BILL OF MATERIAL

Item	Unit	Quantity
Structural Repair of Concrete (Depth Equal to or Less than 5")	Sq. Ft.	313

Note:

Repairs of the existing Abutments shall include but not be limited to the areas shown. The actual areas to be determined by the engineer at the time of construction.

**CONCRETE REMOVAL
AND SUBSTRUCTURE REPAIR**

**US RTE 45 OVER NORTH
BRANCH OF PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 259+37.00
S.N. 099-0118**

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CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter



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10/17/2007 rdanley n:\proj\3329\3329_04\design\structural\load\sh\3329_04_07 Substructure Repair.sht

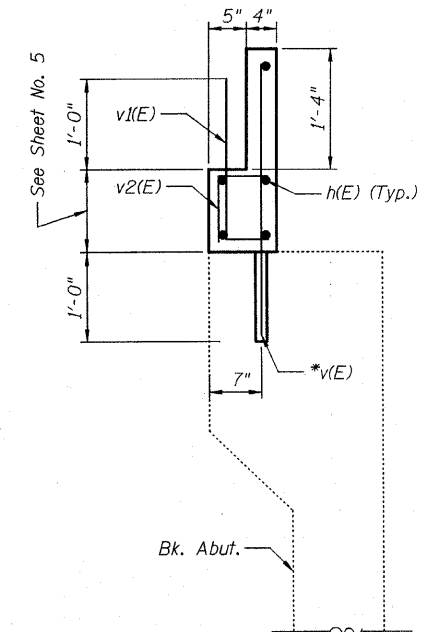
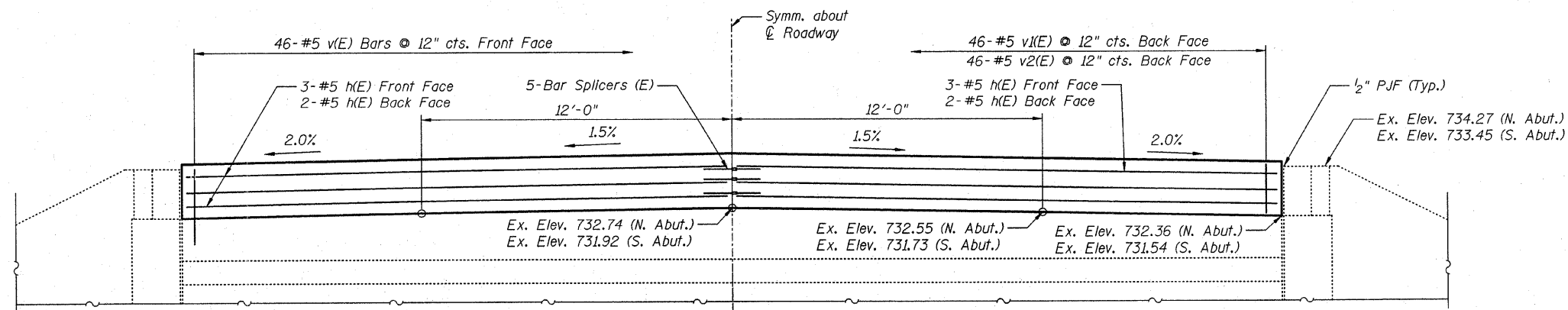
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 330	105B-1R	WILL	33	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8

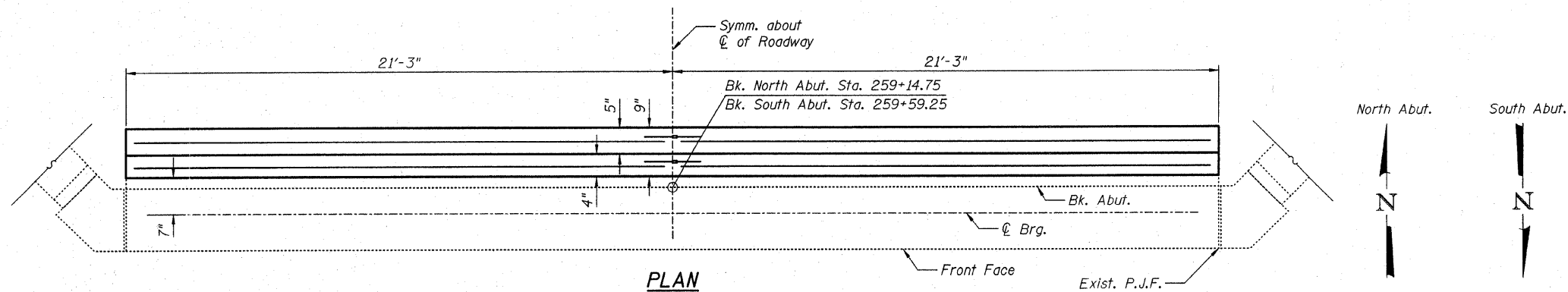
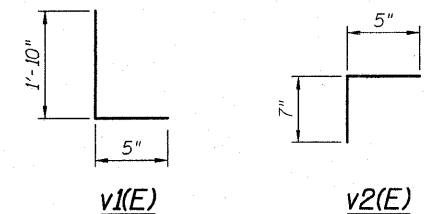
9 SHEETS

Contract # 60D50



SECTION THROUGH ABUTMENT

* Drill and grout v(E) bars 12" min. in accordance with Article 584 of the Standard Specifications.



BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
h(E)	20	#5	20'-11"	—	
v(E)	92	#5	3'-0"	—	
v1(E)	92	#5	2'-3"	—	
v2(E)	92	#5	1'-0"	—	
Reinforcement Bars, Epoxy Coated				Pound	1.040
Concrete Superstructures				Cu. Yd.	3.6
Bar Splicers				Each	10

**NORTH & SOUTH ABUTMENTS
US RTE 45 OVER NORTH
BRANCH OF PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 259+37.00
S.N. 099-0118**

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	B. Sauter



Ciorba Group, Inc.
CONSULTING ENGINEERS
5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60656
Tel. 773.775.4009 Fax 773.775.4014 Email chicago@ciorba.com

10/17/2007 rdanley c:\p\proj\3329\3329_04\design\structural\cad\sh1\3329_04_08 North and South Abut.sht

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 330	105B-1R	WILL	33	18
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 9
9 SHEETS

Contract # 60D50

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

The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



**** ONE PIECE**

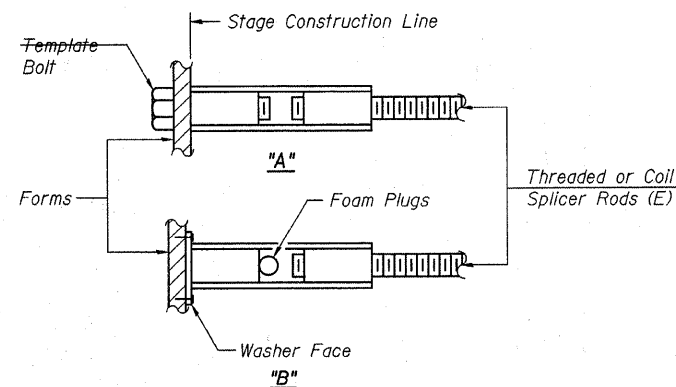
Wire Connector



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

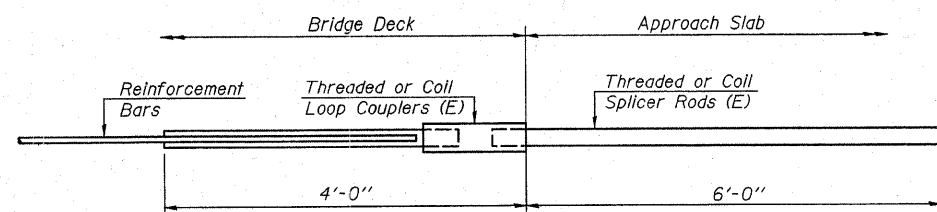
"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

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:

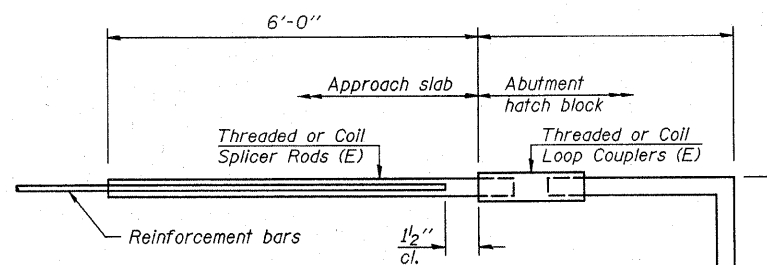
- ① Minimum Capacity = $1.25 \times f_y \times A_s$
(Tension in kips)
 - ② Minimum *Pull-out Strength = $0.66 \times f_y \times A_s$
(Tension in kips)
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_s = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
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	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



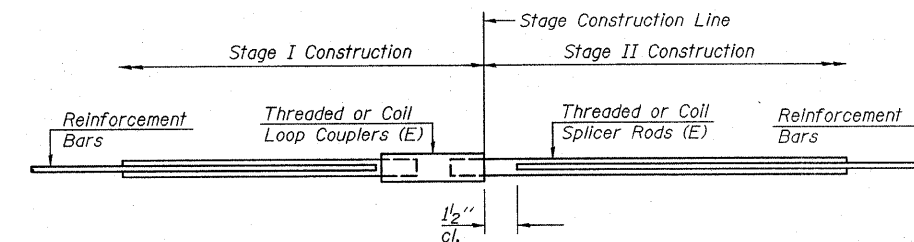
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location
#4	45	Deck Overlay
#5	10	Abut. Backwall

BAR SPLICER DETAILS
US RTE 45 OVER NORTH
BRANCH OF PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 259+37.00
S.N. 099-0118

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BS071

11-1-06

10/17/2007 rdanley na:\proj\3329\3329_04\design\structural\cad\shh\3329_04_05 Bar Splicer Details.sht

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAP 330	105B-1R	WILL	33	19
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		9 SHEETS

GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See Special Provisions.

The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

Attach new Name Plate to the inside face of parapet as shown. Existing name plate is to be removed, cleaned and relocated adjacent to new name plate. Cost included in the cost of Name Plates.

Reinforcement Bars designated (E) shall be epoxy coated.

No in-stream work will be allowed on this project.

Slip forming of the parapets is not allowed.

The minimum thickness of the concrete overlay shall be 5" and varies as required to adjust for the new profile grade and beam camber.

Repair of the substructure shall be completed prior to placement of the new deck beams.

INDEX OF SHEETS

1. General Plan & Elevation
2. Stage Construction Details
3. Temporary Concrete Barrier
4. Beam Details (17"x36")
5. Superstructure Details
6. Parapet Details
7. Concrete Removal and Substructure Repair
8. North & South Abutments
9. Bar Splicer Details

STATION 320+52
REBUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 330 SEC. 105B-1R
LOADING HS20-44
STR. NO. 099-0119

NAME PLATE

See Std. 515001

LOADING HS-20-44

Allow 50 psf for future wearing surface

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications
2003 IDOT Prestressed Concrete Manual

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi

PRESTRESSED UNITS

f'c = 5000 psi
f'ci = 4000 psi
f's = 270,000 psi (1/2" ϕ low lax. strands)
f'si = 201,900 psi (1/2" ϕ low lax. strands)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock acceleration coefficient (A) = .04
Site Coefficient (S) = 1.2

WATERWAY INFORMATION

Drainage Area = 2560 Acres

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10				707.14	0.42	0.42		
Base	50	810	275	275	707.44	0.64	0.64		
Overtopping	100	1050							
Max. Calc.	500								

Information taken from 1976 plans and adjusted to project datum.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Removal of Existing Superstructures	Each	1
Concrete Removal	Cu.Yd.	0.9
Concrete Superstructures	Cu.Yd.	8.3
Bridge Deck Grooving	Sq.Yd.	153
Protective Coat	Sq.Yd.	191
* Concrete Wearing Surface (5")	Sq.Yd.	174
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq.Ft.	1,568
Reinforcement Bars, Epoxy Coated	Pound	3,640
Bar Splicers	Each	38
Name Plates	Each	1
* Structural Repair of Concrete (Depth Equal to or Less than 5")	Sq.Ft.	173

* Special Provision

**GENERAL PLAN AND ELEVATION
US RTE 45 OVER PRAIRIE CREEK**

F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 320+52.00
S.N. 099-0119

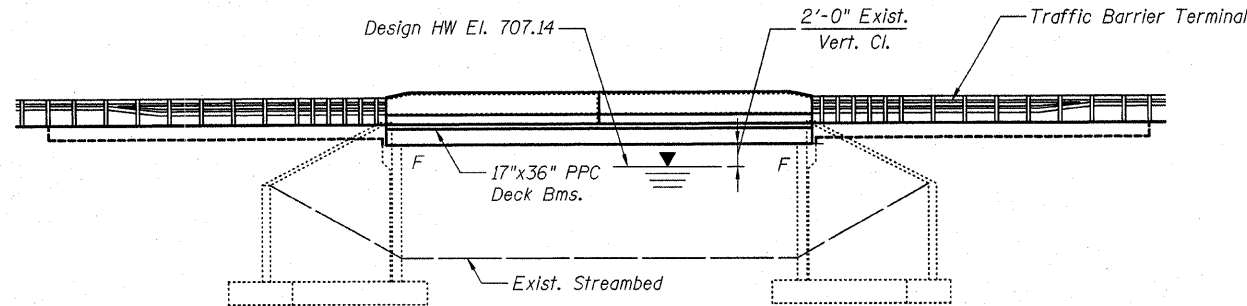
APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Robert E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

Benchmark: Square Cut on SE wingwall of bridge Elev. 711.29

Existing Structure: S.N. 099-0119 built in 1978 as a single span 17"x36" PPC Deck Beam Bridge with 2" Bituminous wearing surface on closed abutments on spread footings. The structure measures 37'-0" Back to Back abutments and 42'-0" out to out deck. Bridge was rehabilitated in 2005 with partial beam replacement. Traffic is to be maintained utilizing stage construction. One lane for both directions will be provided by using temporary traffic signals.

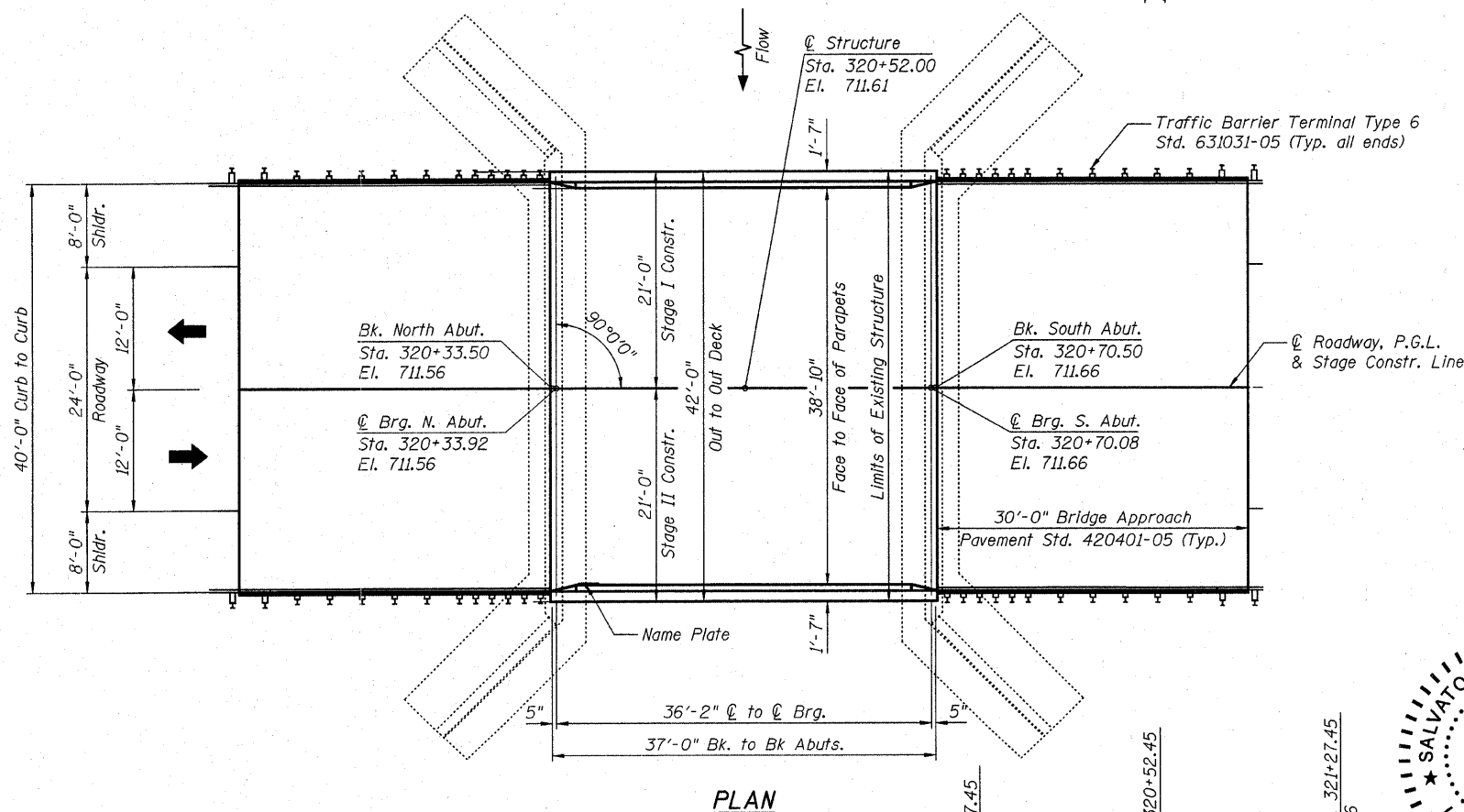
Salvage: None



ELEVATION

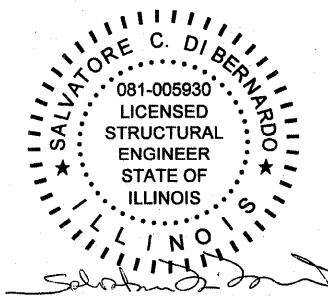
SCOPE OF WORK

1. Total superstructure removal and replacement.
2. Substructure repairs.
3. Approach slab removal and replacement. See Roadway sheets for details.

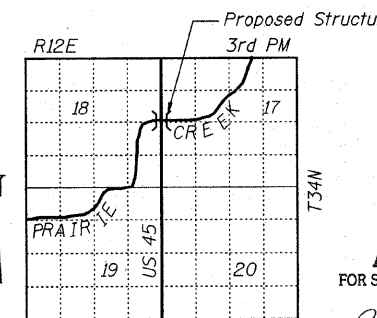


PLAN

PROFILE GRADE



DATE: 10/17/2007
SEAL EXPIRES: 11/30/2008



LOCATION SKETCH

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	E. Mroczek

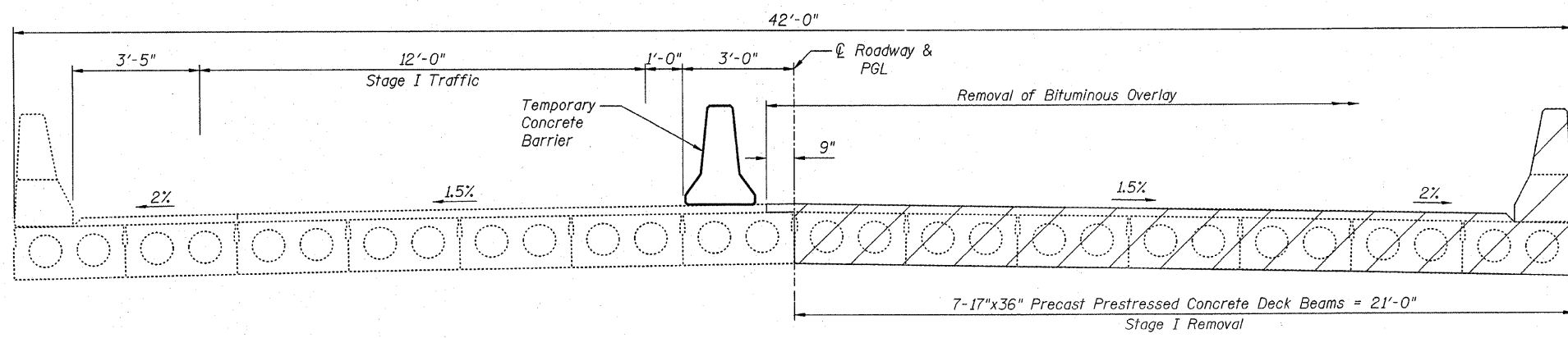
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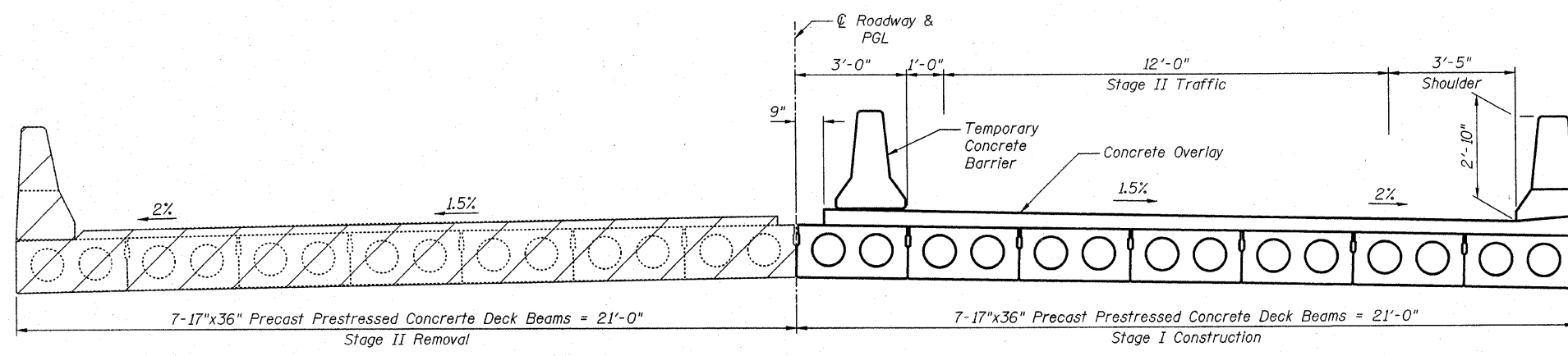
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 330	105B-1R	WILL	33	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

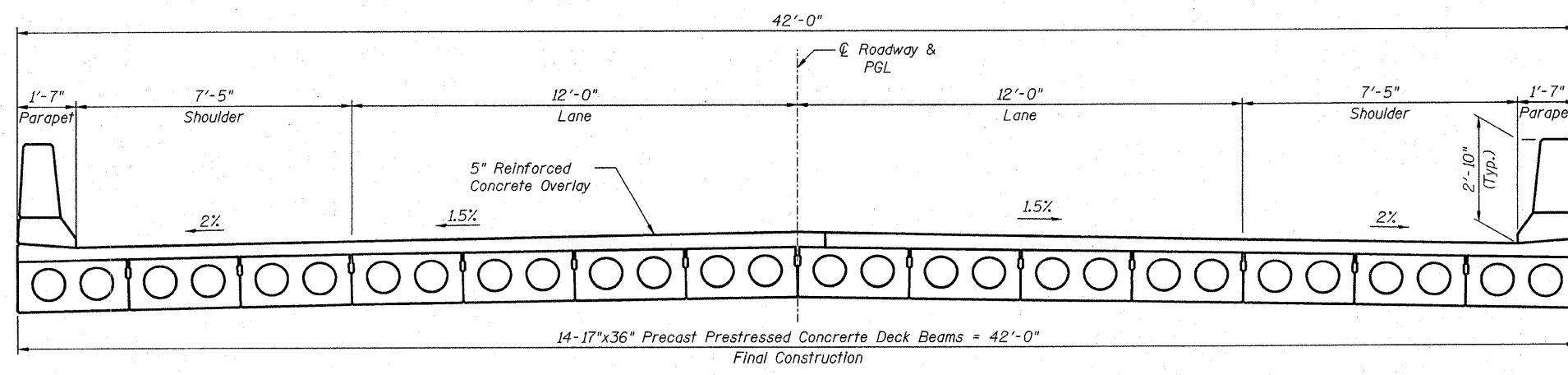
Contract # 60D50



STAGE I REMOVAL
(Looking North)

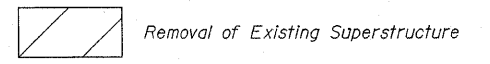


STAGE I CONSTRUCTION & STAGE II REMOVAL
(Looking North)



FINAL
(Looking North)

LEGEND:



NOTE:

- See Sheet No. 3 for Temporary Concrete Barrier Details.
- The main vertical reinforcement is in the front face of the abutment stem. In order to guarantee the stability of the abutments during construction staging, no more than three existing beams shall be removed at a time. Installation of new beams shall include grouted dowels to guarantee the stability of the abutments.
- The Contractor may use, at his option, the Temporary Wall Bracing System. The cost of the temporary bracing system shall be included with Removal of Existing Superstructures.
- The Contractor shall submit details and calculations, prepared and sealed by an Illinois Licensed Structural Engineer, of the temporary wall bracing system he proposes to use for approval by the Engineer. Such approval shall in no way relieve the Contractor of responsibility for the safety of the structure. The submittal shall include sequences for existing beam removal, bracing system erection, and the bracing system removal and shall account for the stability of the closed abutments during both stages of removal and construction.
- After the bracing system is no longer required, it shall be completely removed. All materials shall become the property of the Contractor. After removal of the Temporary Wall Bracing System, the Contractor shall restore damaged concrete surfaces to match the existing surface of the concrete structure with proposed repairs.
- The Contractor is ultimately responsible of means and methods to ensure the complete stability of the structural members during construction.

STAGE CONSTRUCTION DETAILS
US RTE 45 OVER PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 320+52.00
S.N. 099-0119

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	E. Mroczek

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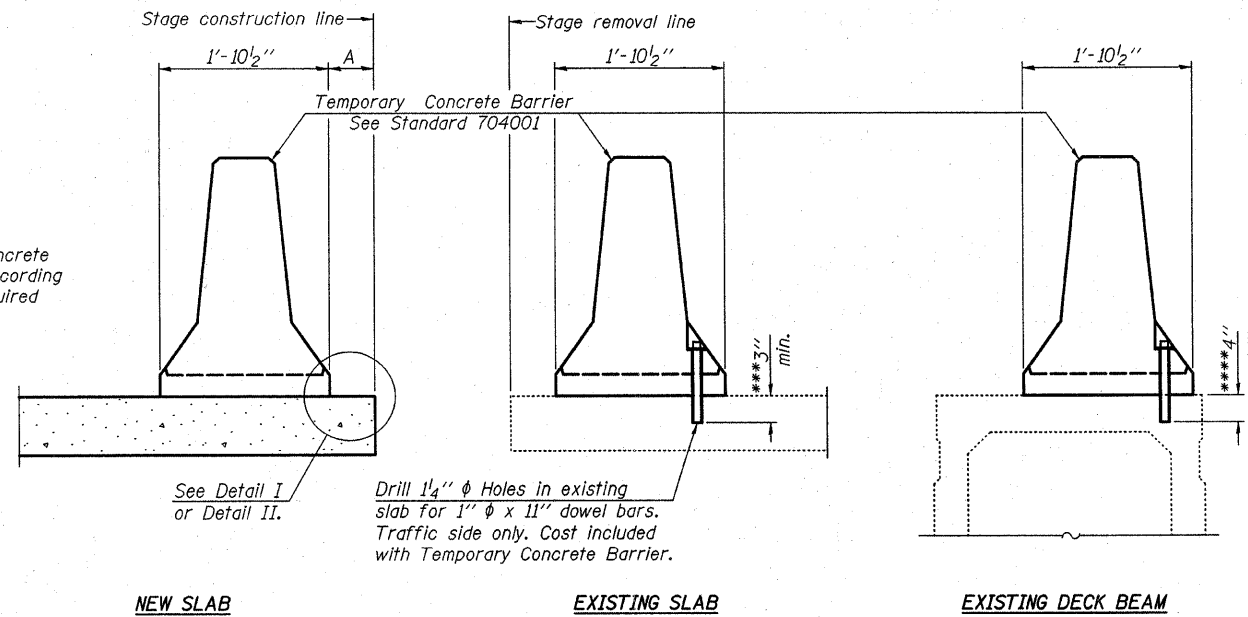
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
FAP 330	105B-1R	WILL	33	21
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 3
9 SHEETS

Contract # 60D50



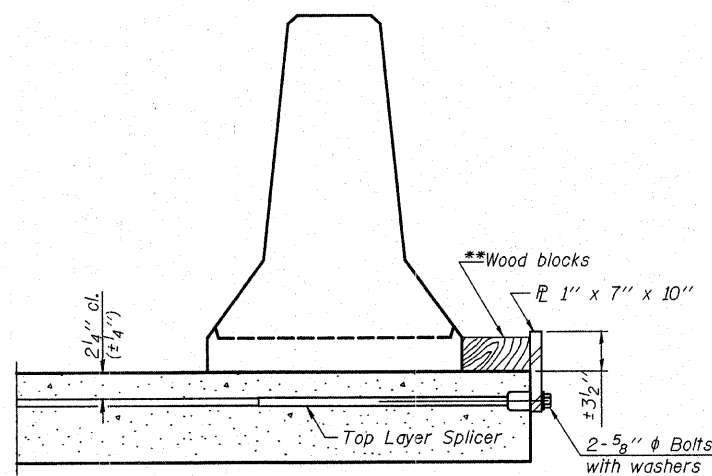
When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".

NOTES

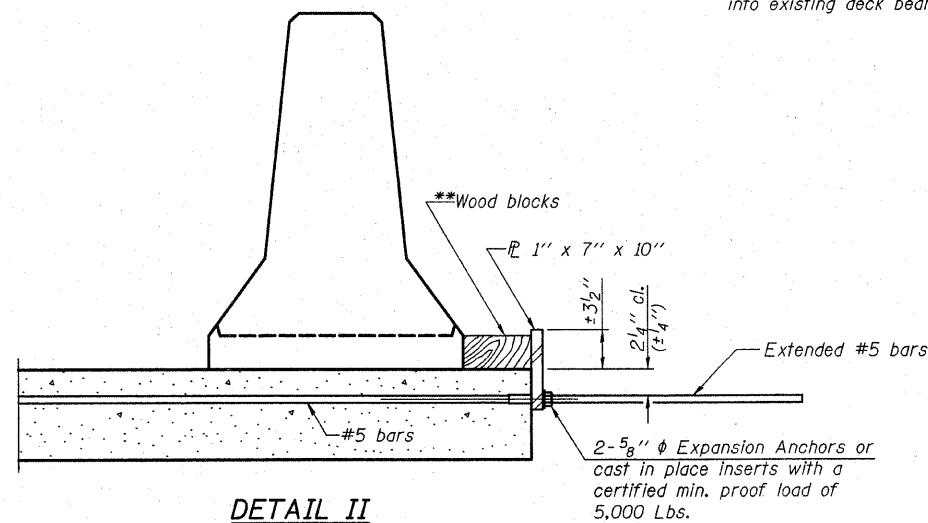
- Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{L} to the top layer of couplers with 2- $\frac{5}{8}$ " ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.
- Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{L} to the concrete slab or concrete wearing surface with 2- $\frac{5}{8}$ " ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

SECTIONS THRU SLAB OR DECK BEAM

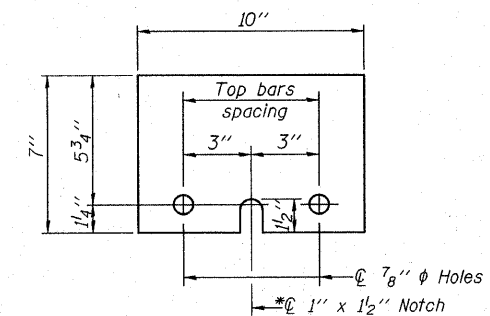
- ***Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.
- ***If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER \bar{L} 1" x 7" x 10"

* Required only with Detail II

**Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

**TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
US RTE 45 OVER PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 320+52.00
S.N. 099-0119**

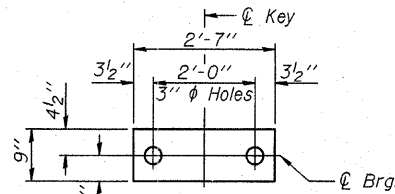
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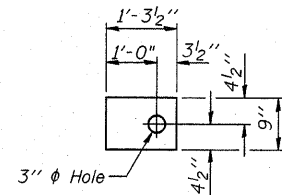
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAP 330	105B-1R	WILL	33	22	9 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

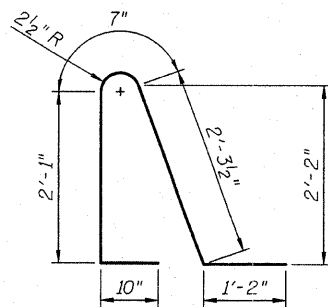
Contract # 60D50



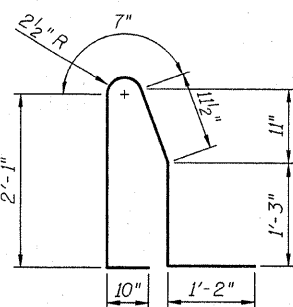
FABRIC BEARING PAD
(Interior)
(26 - Required)



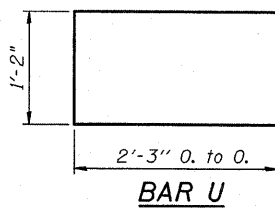
FABRIC BEARING PAD
(Exterior)
(4 - Required)



BAR D(E)

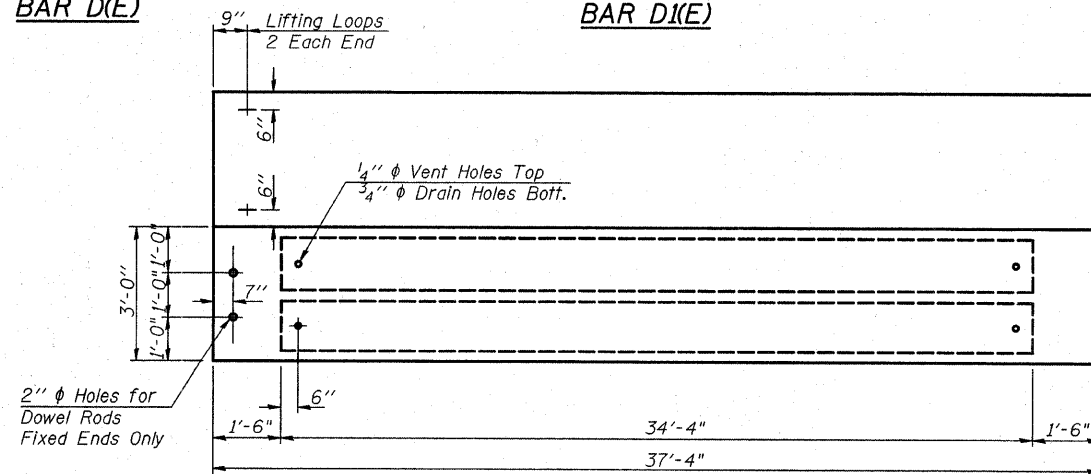


BAR D(E)

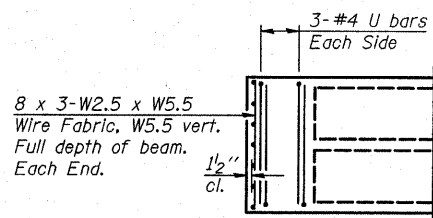


BAR U

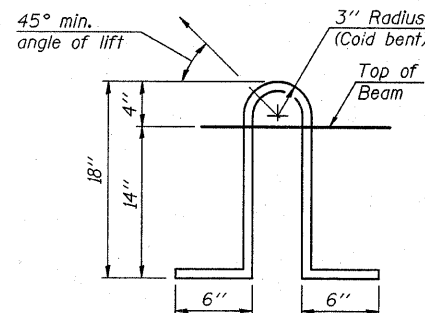
FIXED



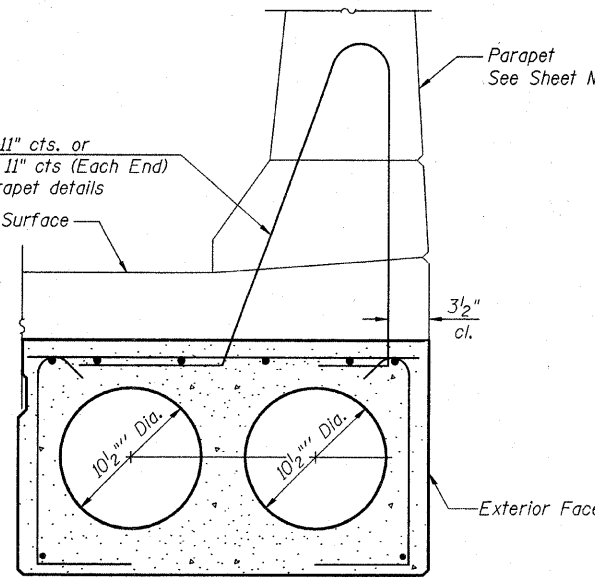
PLAN



END PLAN

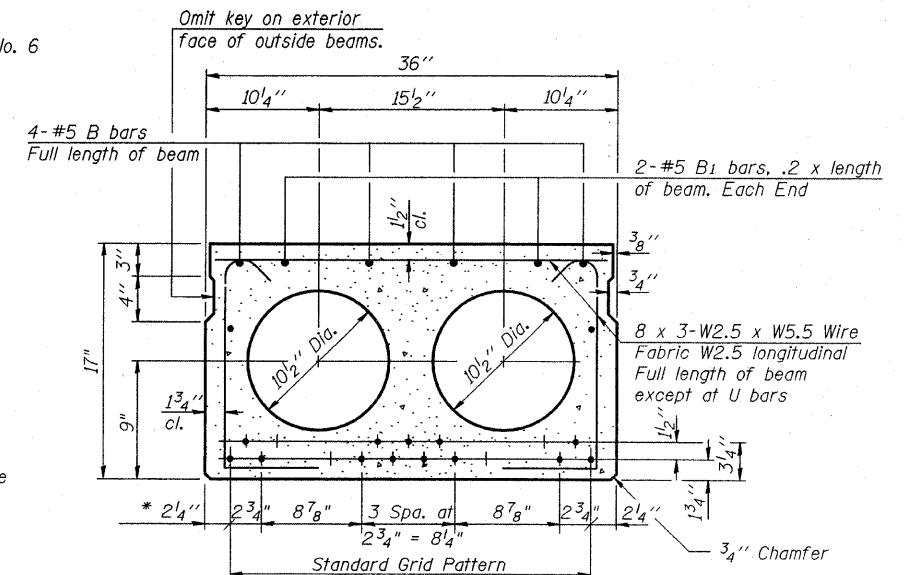


LIFTING LOOP DETAIL



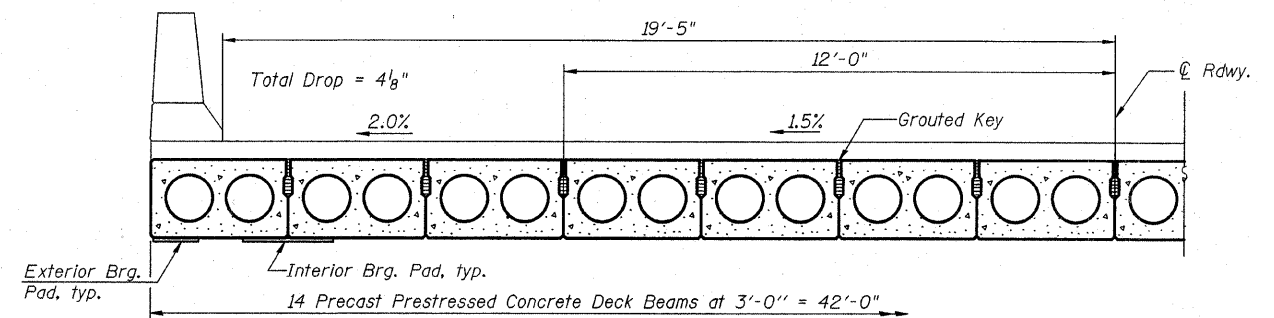
SECTION THRU EXTERIOR BEAM

See Typical Section Thru Interior Beam for strand pattern, dimensions and bar call outs.
Parapets shall be poured in the field.



TYPICAL SECTION

1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
8-Strands 1 3/4" up, 5-Strands 3/4" up, 2-Strands 12" up
* Suggested location of strands in the bottom layer to avoid the conflict with dowel rod holes at the ends.
Note:
Place strands symmetrically about ϕ of beam.



HALF CROSS SECTION

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2 - 1/2" ϕ - 270 ksi strands, as shown.
Non prestressing steel shall conform to ASTM A 706 (IL MOD), Grade 60.
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.
Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.
Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Required Release Strength, f' ci, shall be 4,000 p.s.i.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
B	4	#5	37'-1"	—
B1	4	#5	6'-11"	—
D(E)	36	#5	6'-11 1/2"	U
D(E)	6	#5	6'-10 1/2"	U
U	6	#4	5'-8"	C
Precast Prestressed Conc. Deck Bms. (17")		Sq. Ft.	1,568	

* Exterior beams only

BEAM DETAILS (17"x36")
US RTE 45 OVER PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 320+52.00
S.N. 099-0119

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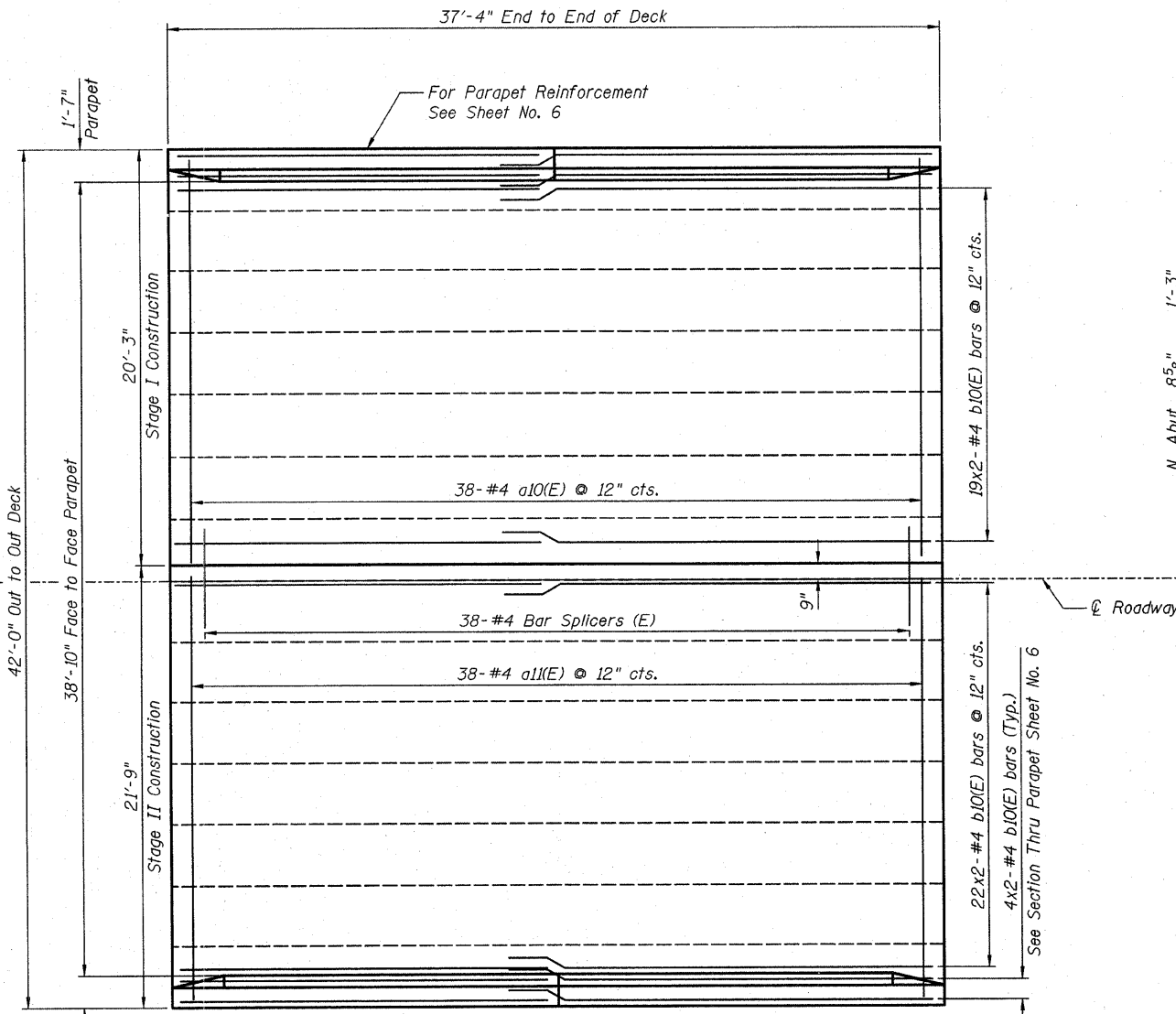
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Tel. 773.775.4009 Fax 773.775.4014 Email chicago@ciorba.com

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

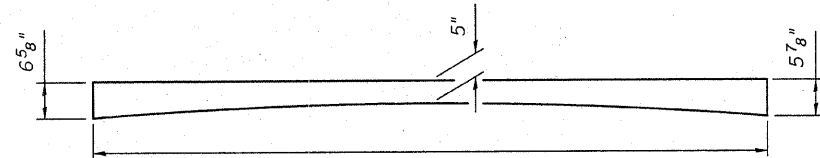
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 330	105B-1R	WILL	33	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 5
9 SHEETS

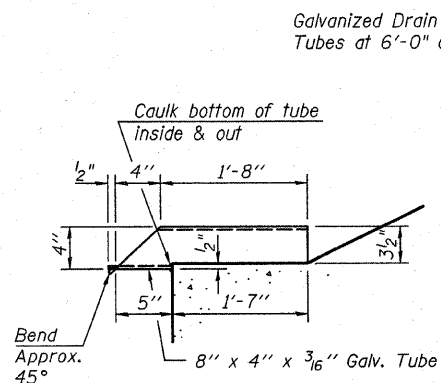
Contract # 60D50



CONCRETE WEARING SURFACE - PLAN

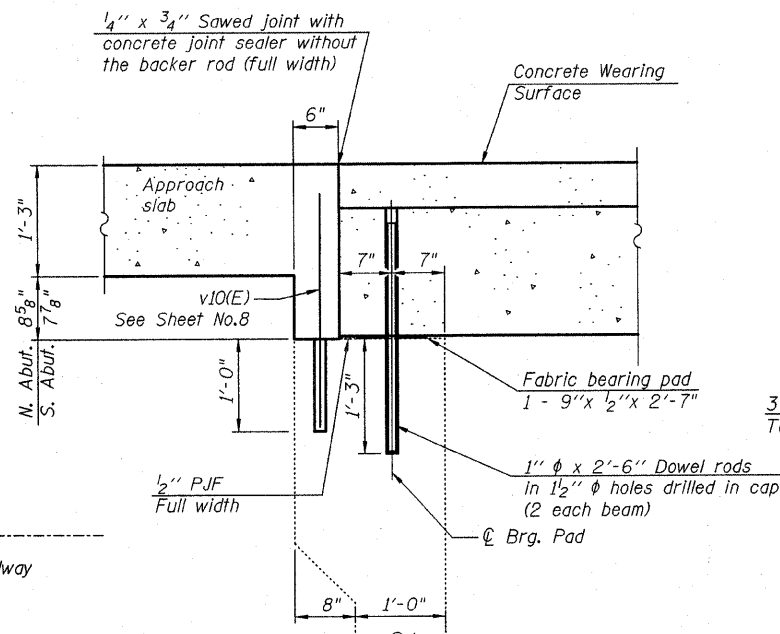


REINFORCED CONCRETE WEARING SURFACE PROFILE



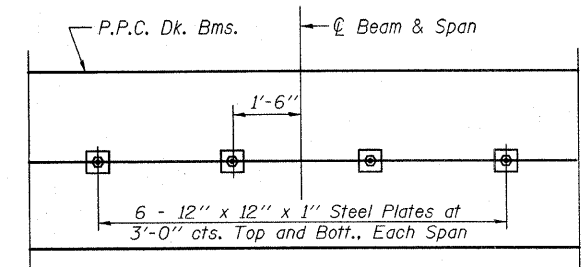
DRAIN DETAIL

Cost of drains is included with Concrete Wearing Surface

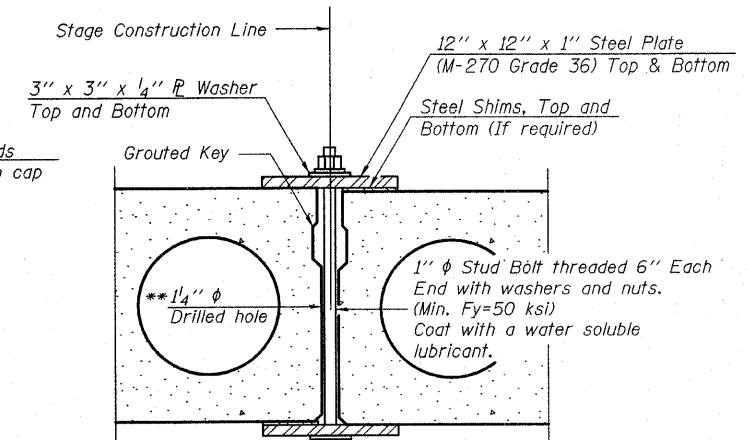


SECTION THRU ABUTMENT

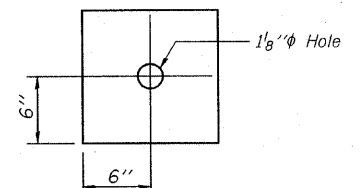
Notes:
After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
All horizontal dimensions are at right angles to beam ends. Hatched area to be poured after concrete wearing surface is in place.
See sheet No. 4 for bearing pad details.
See sheet No. 6 for Abutment reinforcement details.
See sheet No. 6 for Bill of Material



PLAN



SECTION

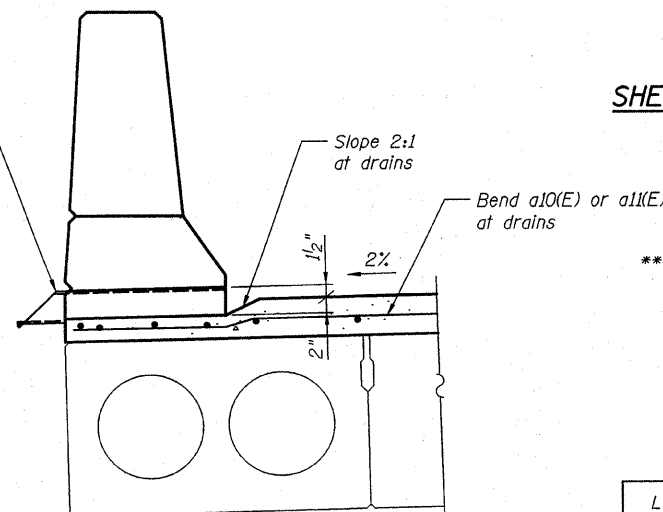


CLAMPING PLATE

SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.

Cost included with Precast Prestressed Concrete Deck Beams.
See Stage Construction Details for traffic lanes.

** As an alternate to the drilled holes, the Contractor may request the Fabricator to cast 2" diameter semi-circular recesses in the sides of each beam adjacent to the stage construction line. These recesses should align to form a hole at the appropriate locations for the clamping device bolts. If the Contractor elects to use this alternate, the details shall be identified on the shop drawings.



SECTION THRU PARAPET
SHOWING DRAIN

LAP LENGTH
4 bars - 1'-8"

SUPERSTRUCTURE DETAILS
US RTE 45 OVER PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 320+52.00
S.N. 099-0119

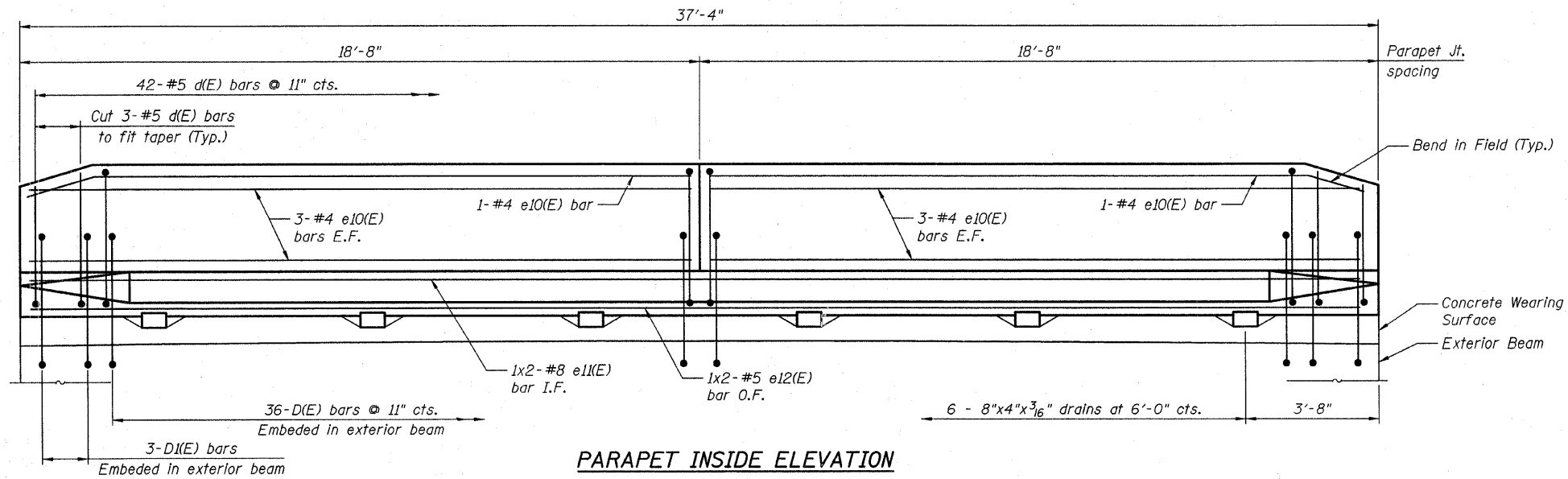
DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	E. Mroczek

CG Ciorba Group, Inc.
CONSULTING ENGINEERS
6507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60656
Tel. 773.775.4009 Fax 773.775.4014 Email chicago@ciorba.com

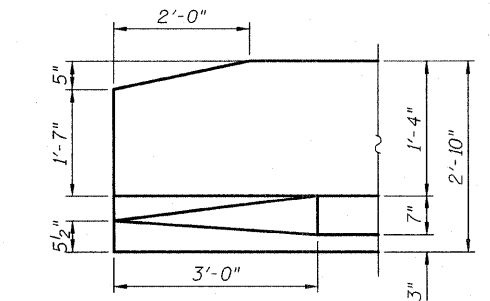
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAP 330	SECTION 105B-1R	COUNTY WILL	TOTAL SHEETS 33	SHEET NO. 24	SHEET NO. 6 9 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

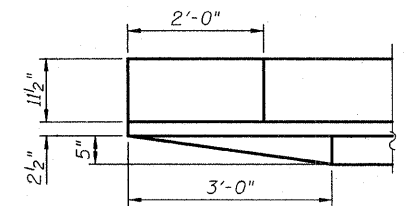
Contract # 60D50



PARAPET INSIDE ELEVATION

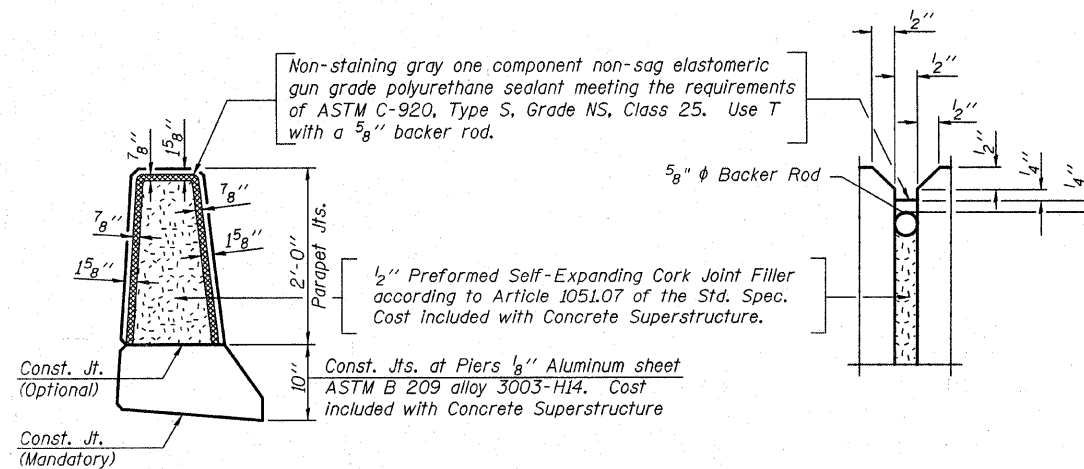


ELEVATION

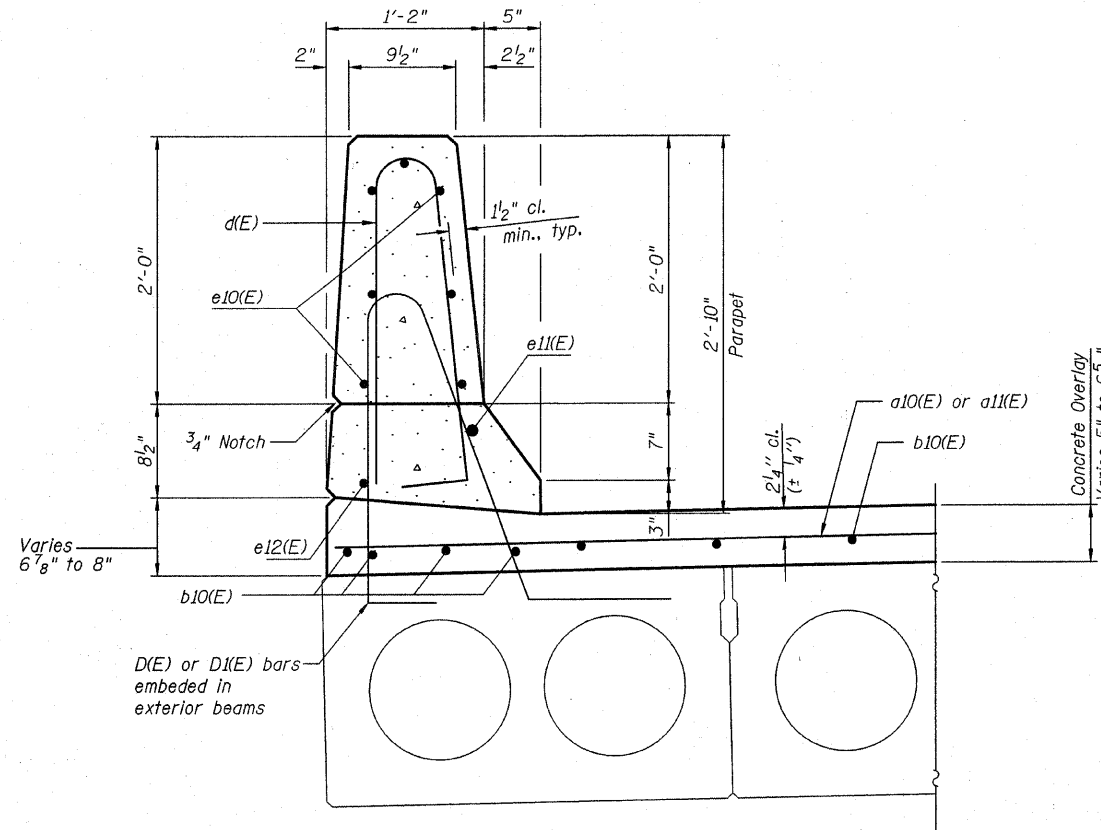


PLAN

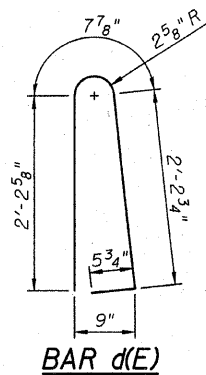
PARAPET END DETAILS



PARAPET JOINT DETAILS



SECTION THRU PARAPET



BAR d(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	38	#4	19'-11"	
a11(E)	38	#4	21'-5"	
b10(E)	96	#4	19'-4"	
d(E)	84	#5	5'-7"	
e10(E)	28	#4	18'-4"	
e11(E)	4	#8	20'-3"	
e12(E)	4	#4	19'-4"	
Reinforcement Bars, Epoxy Coated			Pound	3,390
Concrete Superstructure			Cu. Yd.	8.3
Concrete Wearing Surface (5")			Sq. Yd.	174
Bar Splacers			Each	38
Bridge Deck Grooving			Sq. Yd.	153
Protective Coat			Sq. Yd.	191

Note:
Bars indicated thus 1x2- #5 etc.
Indicates 1 line of bars with 2 lengths per line.

PARAPET DETAILS
US RTE 45 OVER PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 320+52.00
S.N. 099-0119

LAP LENGTH
#4 bars - 1'-8"
#8 bars - 4'-6"

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	E. Mroczek

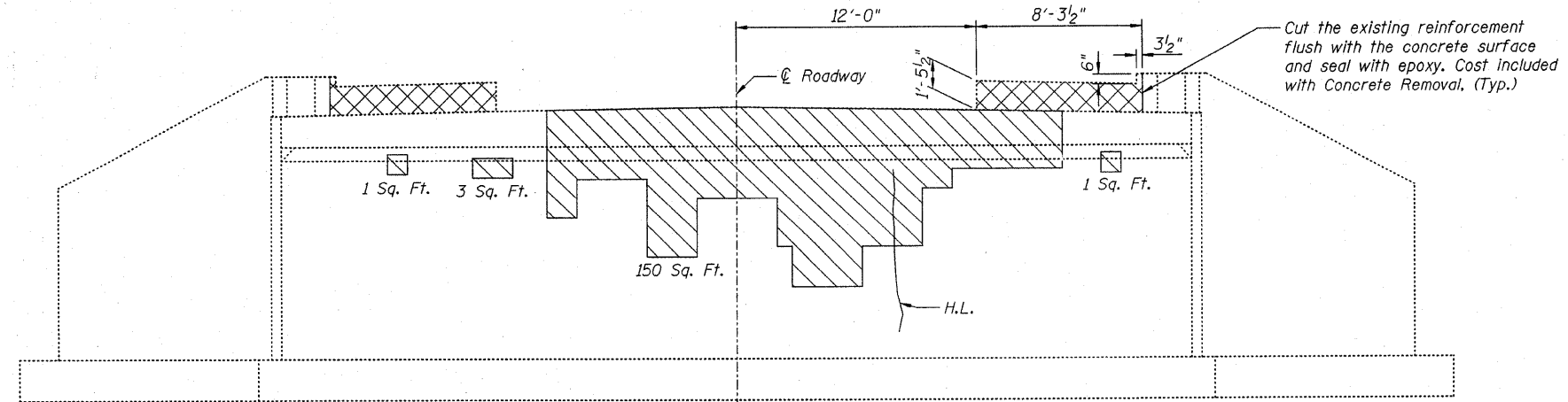
Ciorba Group, Inc.
CONSULTING ENGINEERS
5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60656
Tel. 773.775.4009 Fax 773.775.4014 Email chicago@ciorba.com

10/17/2007 rdanley na:\proj\3329\3329_05\design\structural\lead\shh\3329_05_06 Parapet Details.sht

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

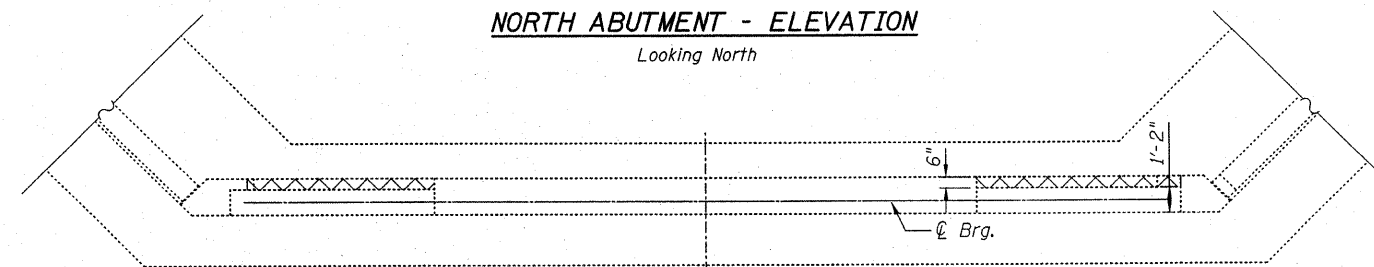
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAP 330	105B-IR	WILL	33	25
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

Contract # 60D50



NORTH ABUTMENT - ELEVATION

Looking North



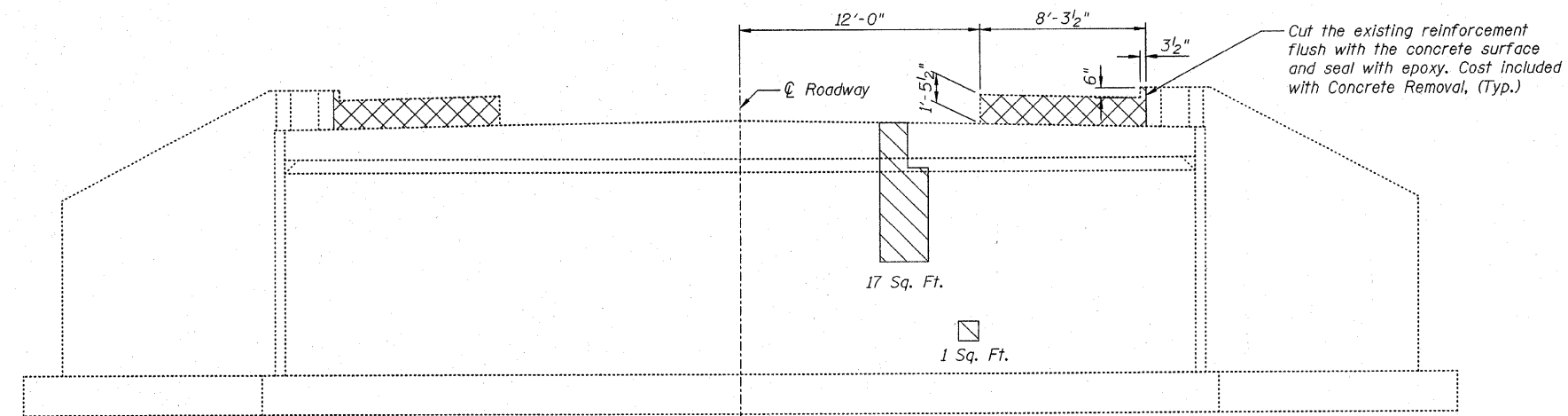
NORTH ABUTMENT - PLAN

LEGEND

Structural Repair of Concrete

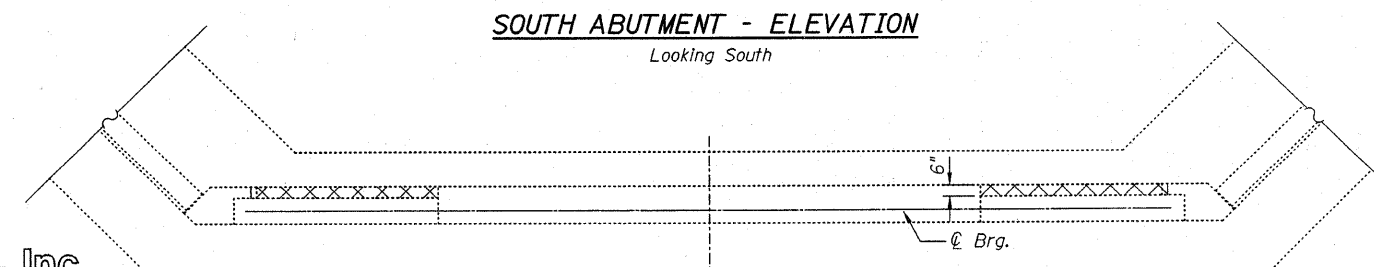
Concrete Removal

H.L. Hairline Crack - No Repairs



SOUTH ABUTMENT - ELEVATION

Looking South



SOUTH ABUTMENT - PLAN

BILL OF MATERIAL

Item	Unit	Quantity
Structural Repair of Concrete (Depth Equal to or Less than 5")	Sq. Ft.	173
Concrete Removal	Cu. Yd.	0.9

Note:

Repairs of the existing Abutments shall include but not be limited to the areas shown. The actual areas to be determined by the engineer at the time of construction.

**CONCRETE REMOVAL
AND SUBSTRUCTURE REPAIR
US RTE 45 OVER PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-IR
WILL COUNTY
STA. 320+52.00
S.N. 099-0119**

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	E. Mroczek

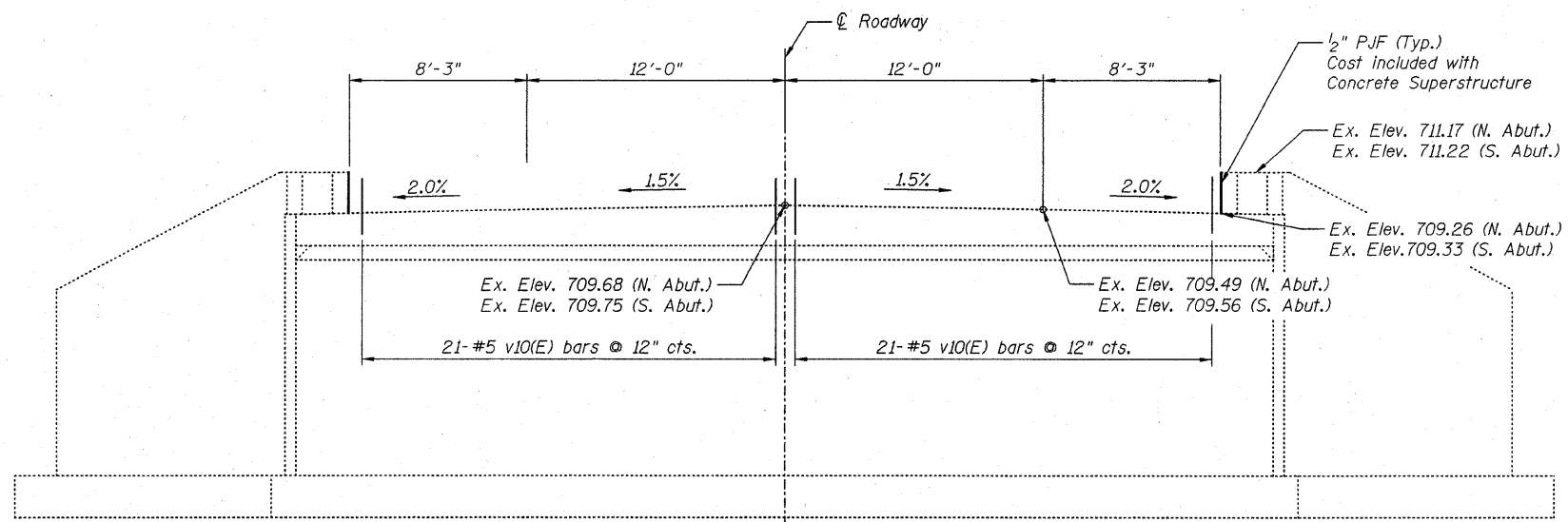


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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

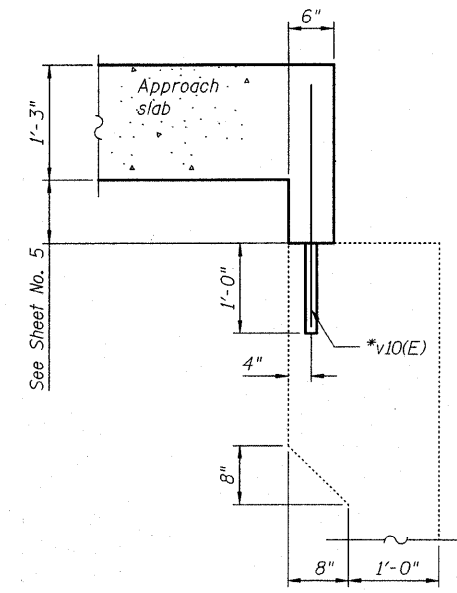
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8
FAP 330	105B-IR	WILL	33	26	9 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract # 60D50



ELEVATION

Existing elevations were taken from the existing drawings and adjusted to project datum.



SECTION THRU ABUTMENT

* Drill and grout v10(E) bars min. 12" in accordance with Article 584 of the Standard Specifications.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
v10(E)	84	#5	2'-9 1/2"	—	
Reinforcement Bars, Epoxy Coated				Pound	250

DESIGNED	B. Sauter
CHECKED	E. Mroczek
DRAWN	R. Danley
CHECKED	E. Mroczek

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**NORTH & SOUTH ABUTMENTS
US RTE 45 OVER PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-IR
WILL COUNTY
STA. 320+52.00
S.N. 099-0119**

10/17/2007 rdanley m:\p\proj\3329\3329_05\design\structural\cad\shh\3329_05_08 North and South Abutments

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 330	105B-1R	WILL	33	27
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 9
9 SHEETS

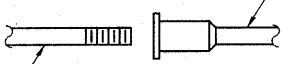
Contract # 60D50

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) = $1.25 \times f_y \times A_t$
 - ② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

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



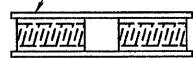
The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



** ONE PIECE

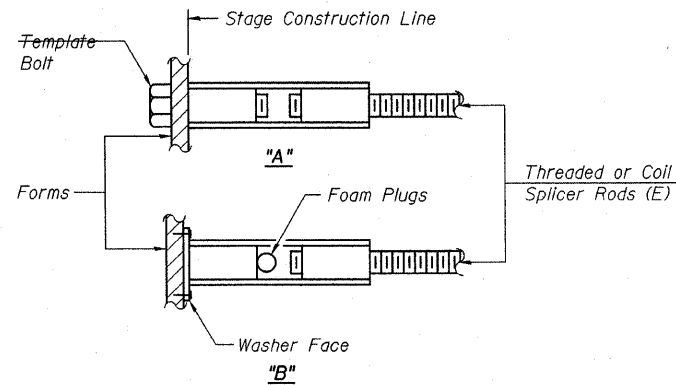
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

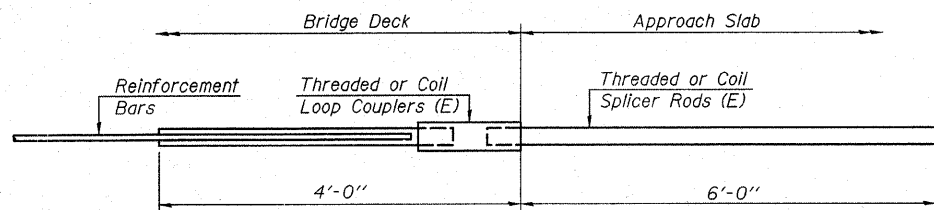
** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

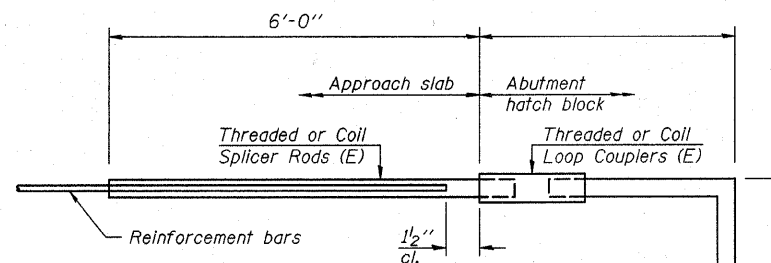
"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

BAR SPLICER ASSEMBLIES			
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	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



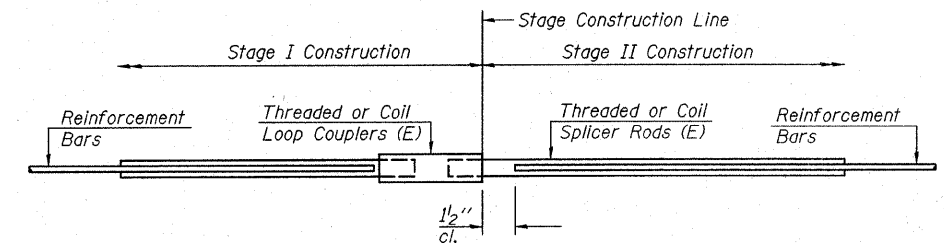
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location
#4	38	Deck Overlay

BAR SPLICER DETAILS
US RTE 45 OVER PRAIRIE CREEK
F.A.P. RT. 330
SECTION 105B-1R
WILL COUNTY
STA. 320+52.00
S.N. 099-0119

DESIGNED B. Sauter
CHECKED E. Mroczek
DRAWN R. Danley
CHECKED E. Mroczek

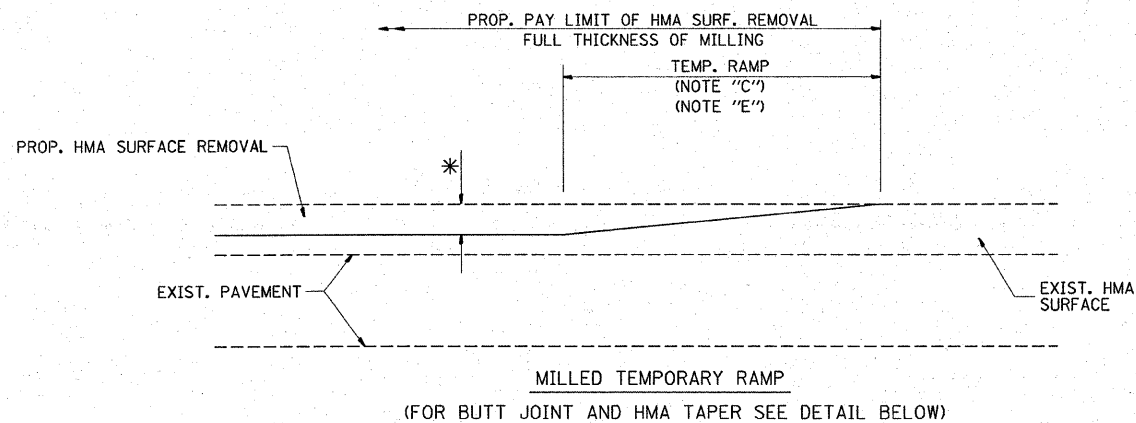


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CONSULTING ENGINEERS
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Tel. 773.775.4009 Fax 773.775.4014 Email chicago@giorba.com

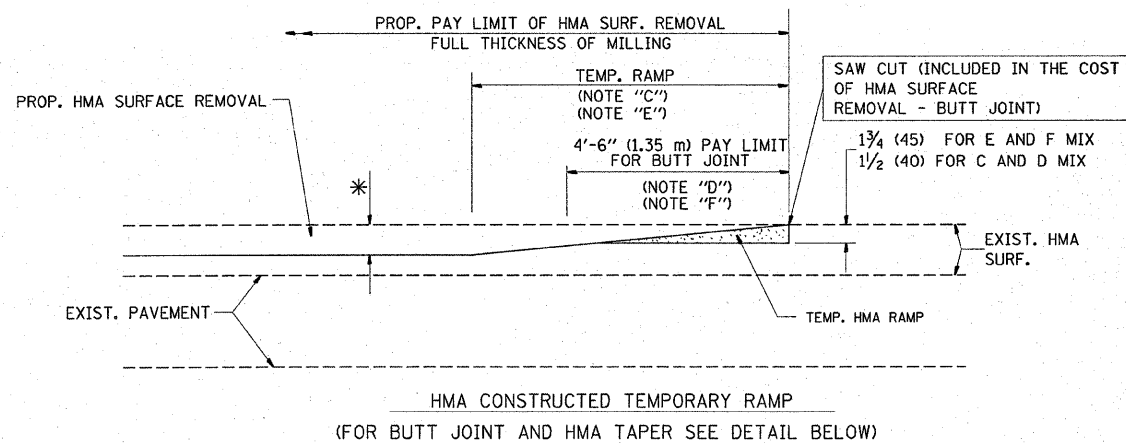
BS071

11-1-06

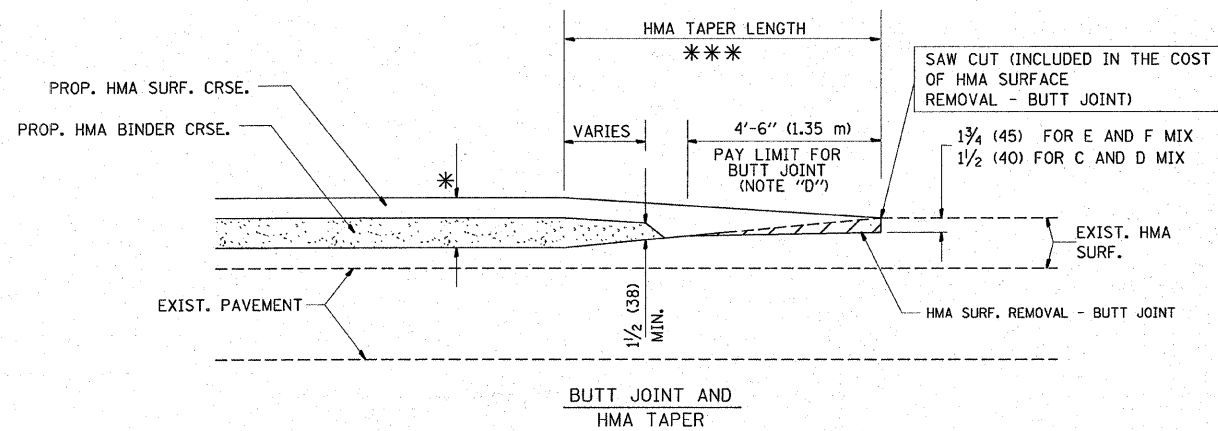
10/17/2007 10:32:29 AM C:\design\structural\ced\ahh\3329_05_09 Bar Splicer Detail.dwg



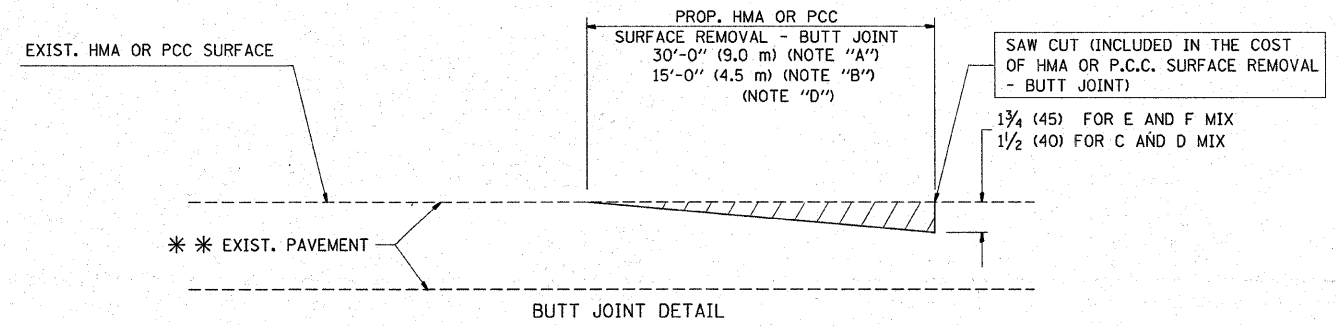
OPTION 1



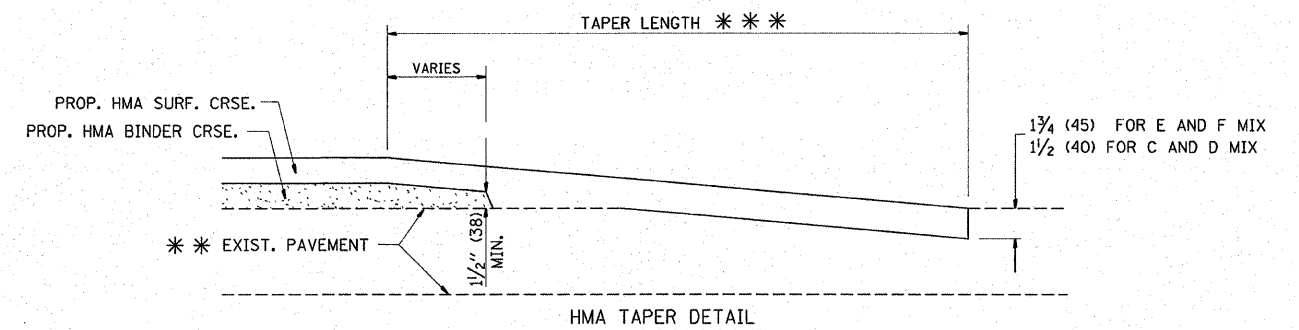
OPTION 2
TYPICAL TEMPORARY RAMP



TYPICAL BUTT JOINT AND HMA TAPER
FOR MILLING AND RESURFACING



BUTT JOINT DETAIL



HMA TAPER DETAIL

TYPICAL BUTT JOINT AND HMA TAPER
FOR RESURFACING ONLY

*** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

NOTES

- A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
 - B: MINOR SIDE ROADS.
 - C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
 - D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
 - E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
 - F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT
 - G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
- * SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- *** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

REVISIONS	
NAME	DATE
M. DE YONG	6-13-90
M. DE YONG	7-3-90
M. DE YONG	3-27-92
R. SHAH	09/09/94
R. SHAH	10/25/94
A. ABBAS	03/21/97
M. GOMEZ	04/06/01
R. BORO	01/01/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND
HMA TAPER
DETAILS

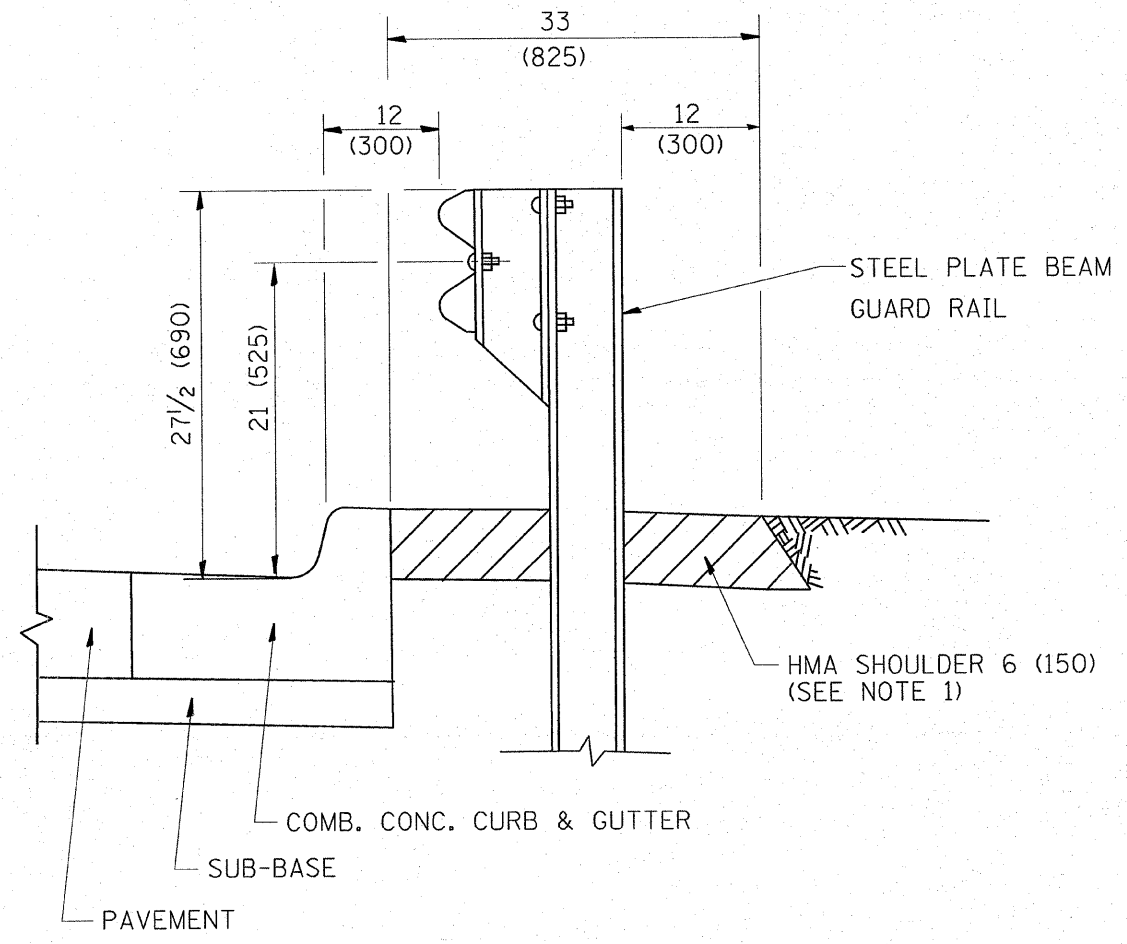
SCALE: VERT. NONE
HORIZ. NONE
PLOT DATE: 11/16/2007

DRAWN BY

CHECKED BY

BD400-05 (VI-BD32)

REVISION DATE: 01/01/07



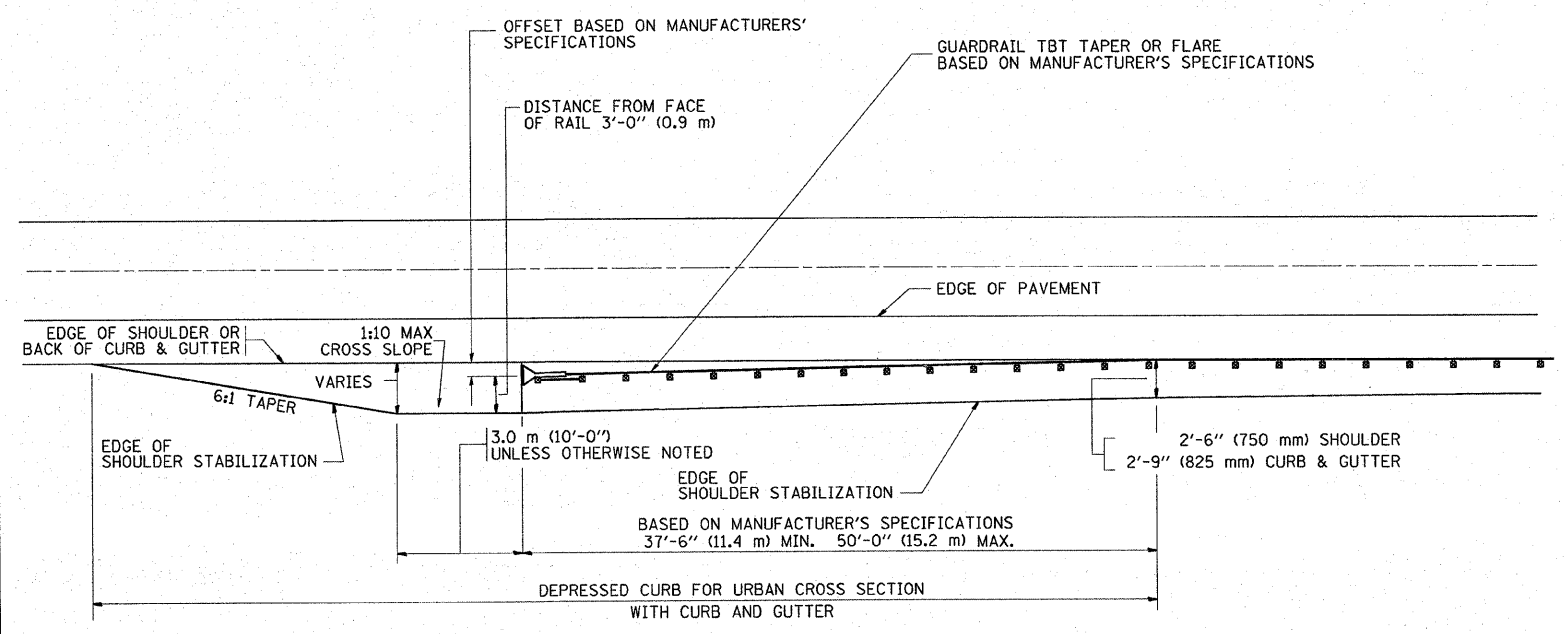
- NOTES: 1. THE HMA SHOULDER SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL
2. GUARD RAIL MAY BE PLACED AT THE BACK OF CURB WHEN DIRECTED BY THE ENGINEER.

BASIS OF PAYMENT: HMA SHOULDER 6 (150) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SHOULDER 6" (150 mm)".

STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

**DETAILS FOR STEEL PLATE BEAM
GUARD RAIL ADJACENT TO CURB AND GUTTER
[FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]**

PLOT DATE = 11/16/2007
 FILE NAME = c:\p\j\105 B(1&2)R-1\105 B(1&2)R-1.dgn
 USER NAME = jshah



STABILIZATION AT TBT TY. 1 SPL.

TBT = TRAFFIC BARRIER TERMINAL
 ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

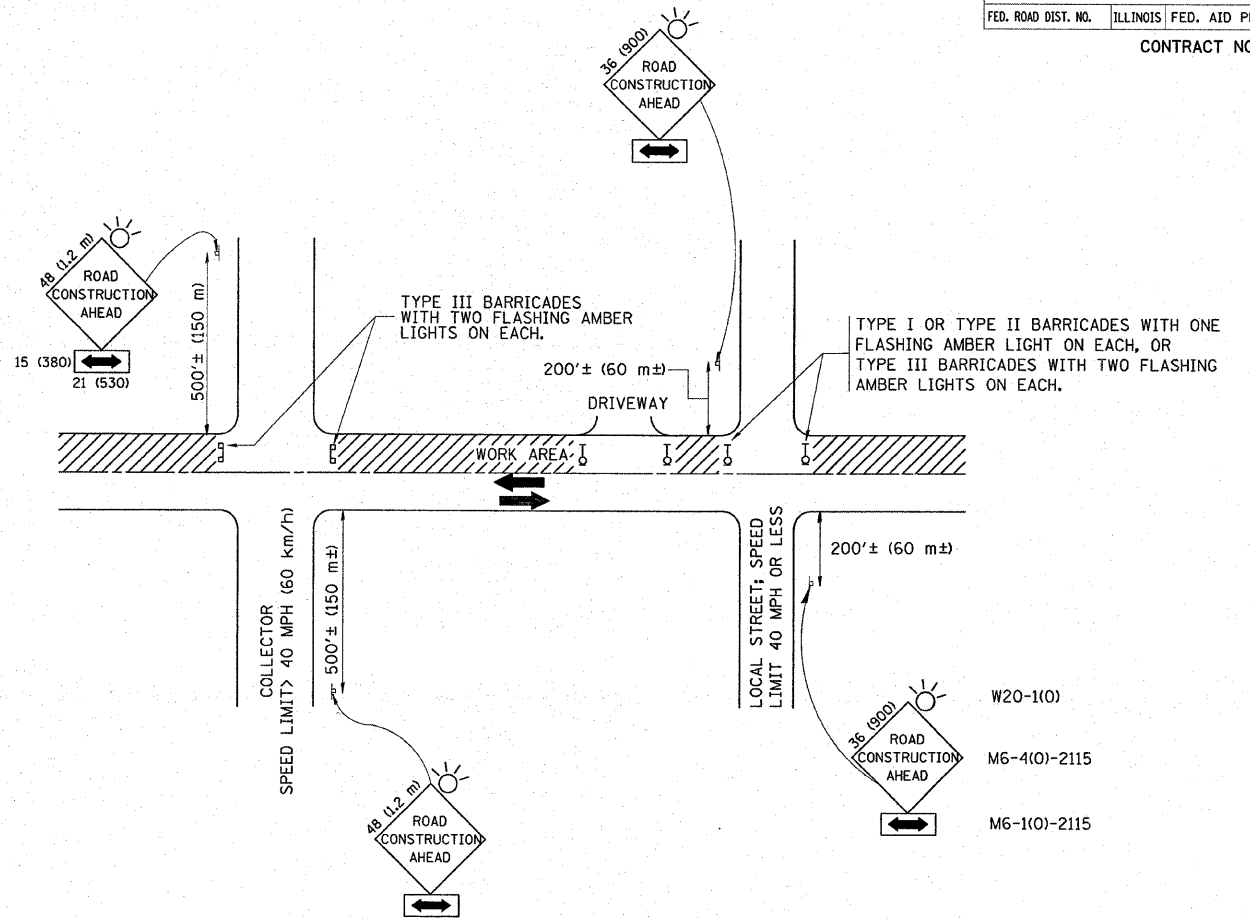
REVISIONS	
NAME	DATE
M. DE YONG	09-22-90
M. DE YONG	07-14-92
R. SHAH	09/09/94
R. SHAH	10/25/94
R. SHAH	02/23/95
A. ABBAS	03/21/97
E. GOMEZ	08/28/00
R. BORO	01/01/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

**DETAILS FOR
STEEL PLATE BEAM GUARD RAIL
ADJACENT TO CURB AND GUTTER
STABILIZATION AT TBT TY 1 SPL.**

SCALE: VERT. NONE
 HORIZ. NONE
 PLOT DATE: 11/16/2007

DRAWN BY Jls
 CHECKED BY



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

NOTES:

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

- SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - ONE **ROAD CONSTRUCTION AHEAD** SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
 - 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.
- SIDE ROAD WITH A SPEED LIMIT GREATER THAN 60 km/h (40 MPH) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - ONE **ROAD CONSTRUCTION AHEAD** SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
 - 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.
- 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.

All dimensions are in millimeters (inches) unless otherwise shown.

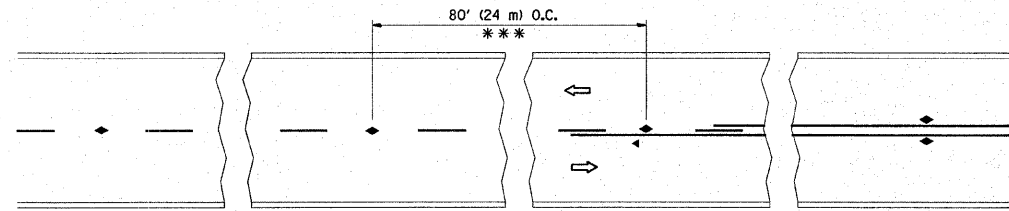
REVISIONS	
NAME	DATE
LHA	6/89
T. RAMMACHER	09/08/94
J. OBERLE	10/18/95
A. HOUSEH	03/06/96
A. HOUSEH	10/15/96
T. RAMMACHER	01/06/00

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

SCALE:
 DATE: 11/16/2007

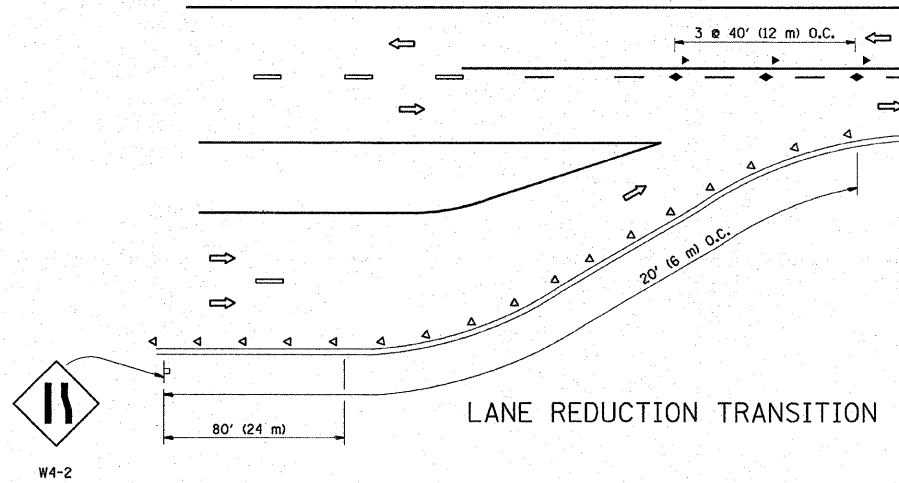
DRAWN BY
 CHECKED BY
 TC-10

REVISION DATE: 01/06/00

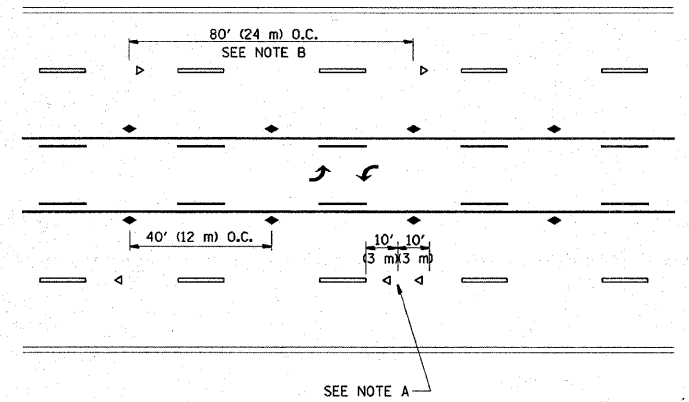


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

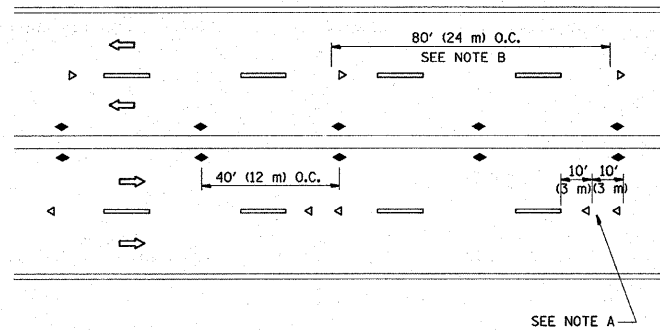
TWO-LANE/TWO-WAY



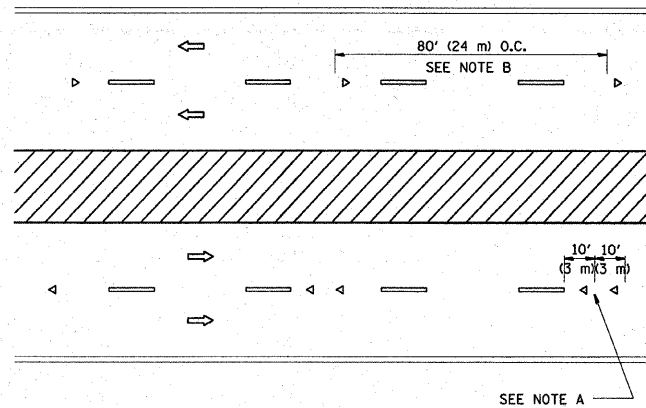
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

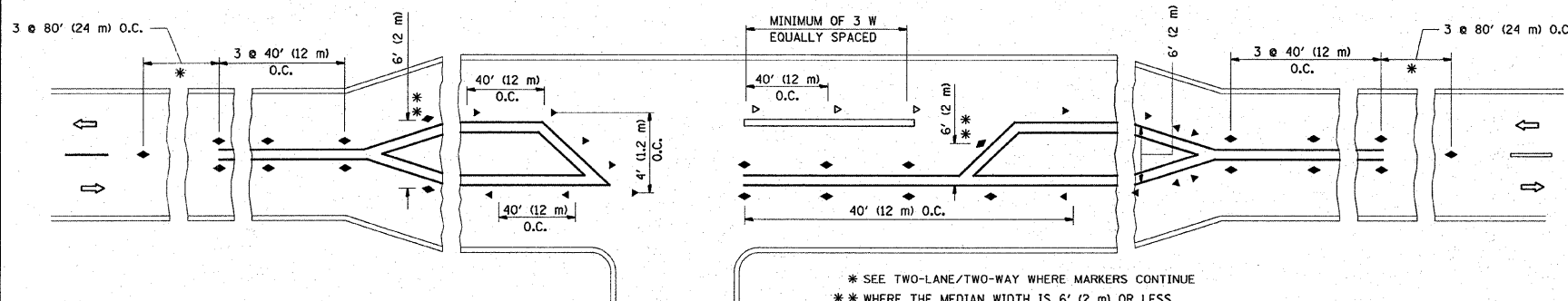
LANE MARKER NOTES

- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.
- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.

All dimensions are in millimeters (Inches) unless otherwise shown.



LEFT TURN

* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE
 ** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

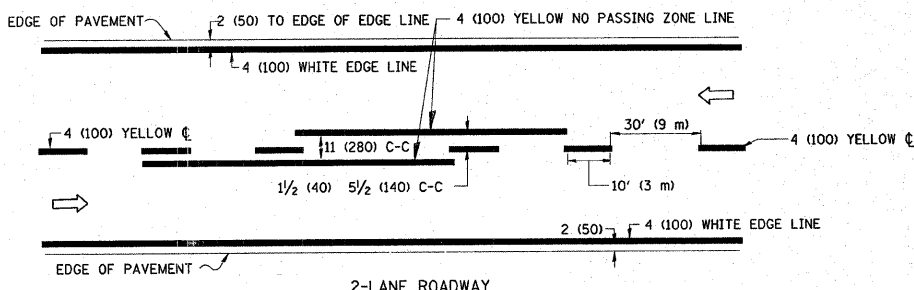
REVISIONS	
NAME	DATE
T. RAMMACHER	09-19-94
T. RAMMACHER	03-12-99
T. RAMMACHER	01-06-00

ILLINOIS DEPARTMENT OF TRANSPORTATION
 TYPICAL APPLICATIONS
 RAISED REFLECTIVE PAVEMENT
 MARKERS (SNOW-PLOW RESISTANT)

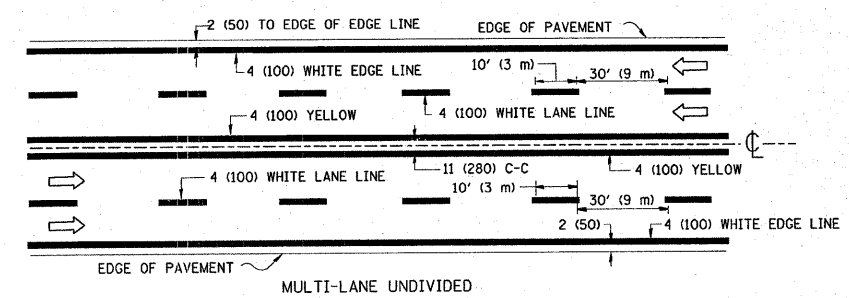
SCALE: NONE
 DATE: 11/16/2007

DRAWN BY CADD
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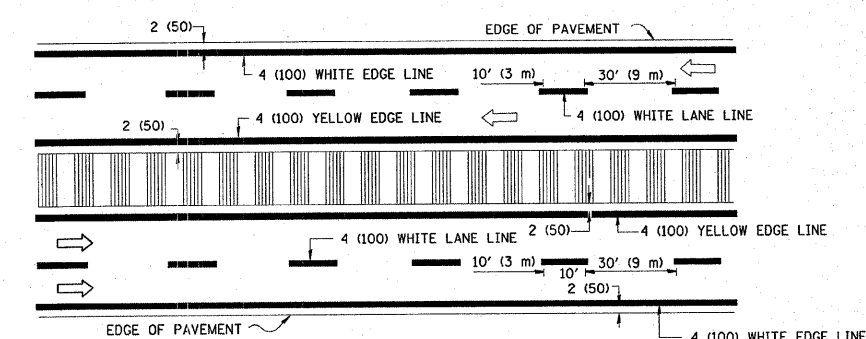
TC-11
 REVISION DATE: 01/06/00



2-LANE ROADWAY



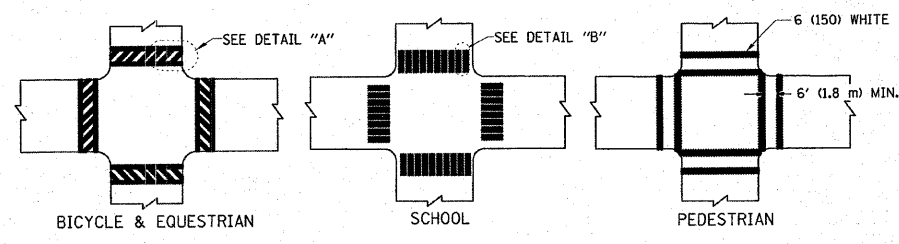
MULTI-LANE UNDIVIDED



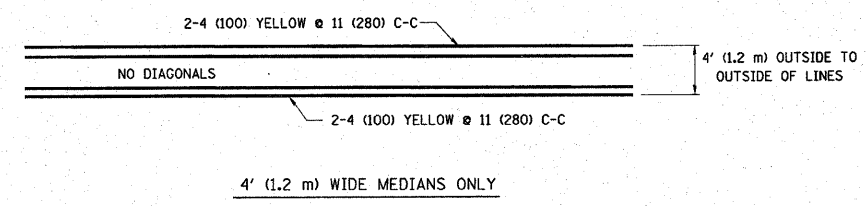
MULTI-LANE DIVIDED WITH MOUNTABLE MEDIAN

NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

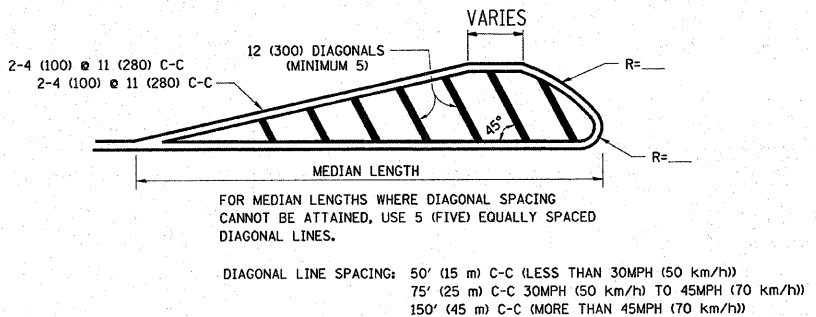
TYPICAL LANE AND EDGE LINE MARKING



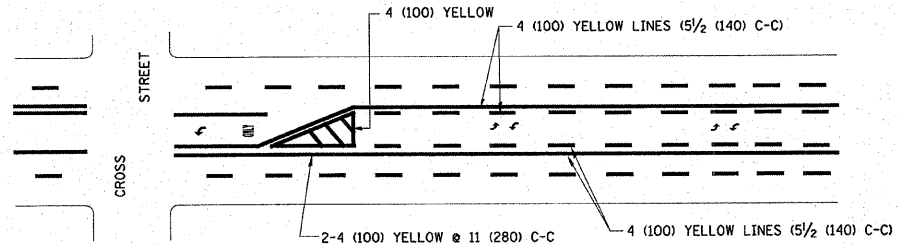
TYPICAL CROSSWALK MARKING



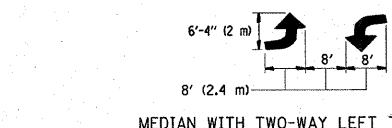
4' (1.2 m) WIDE MEDIANS ONLY



MEDIANS OVER 4' (1.2 m) WIDE

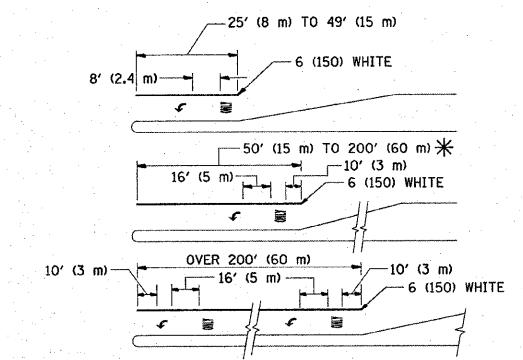


TYPICAL PAINTED MEDIAN MARKING



MEDIAN WITH TWO-WAY LEFT TURN LANE

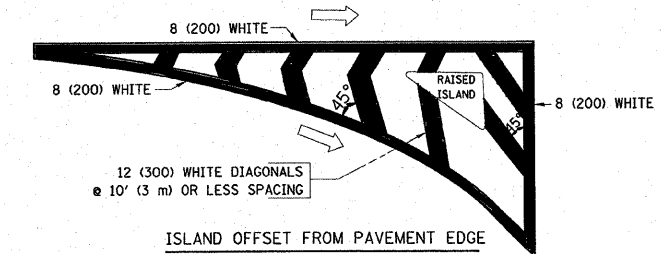
TYPICAL TURN LANE MARKING



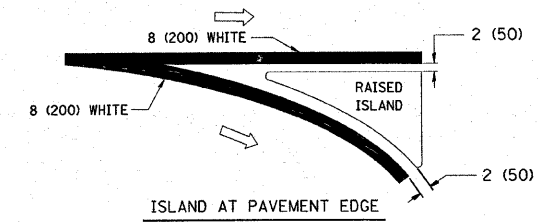
TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING

FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
 * TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

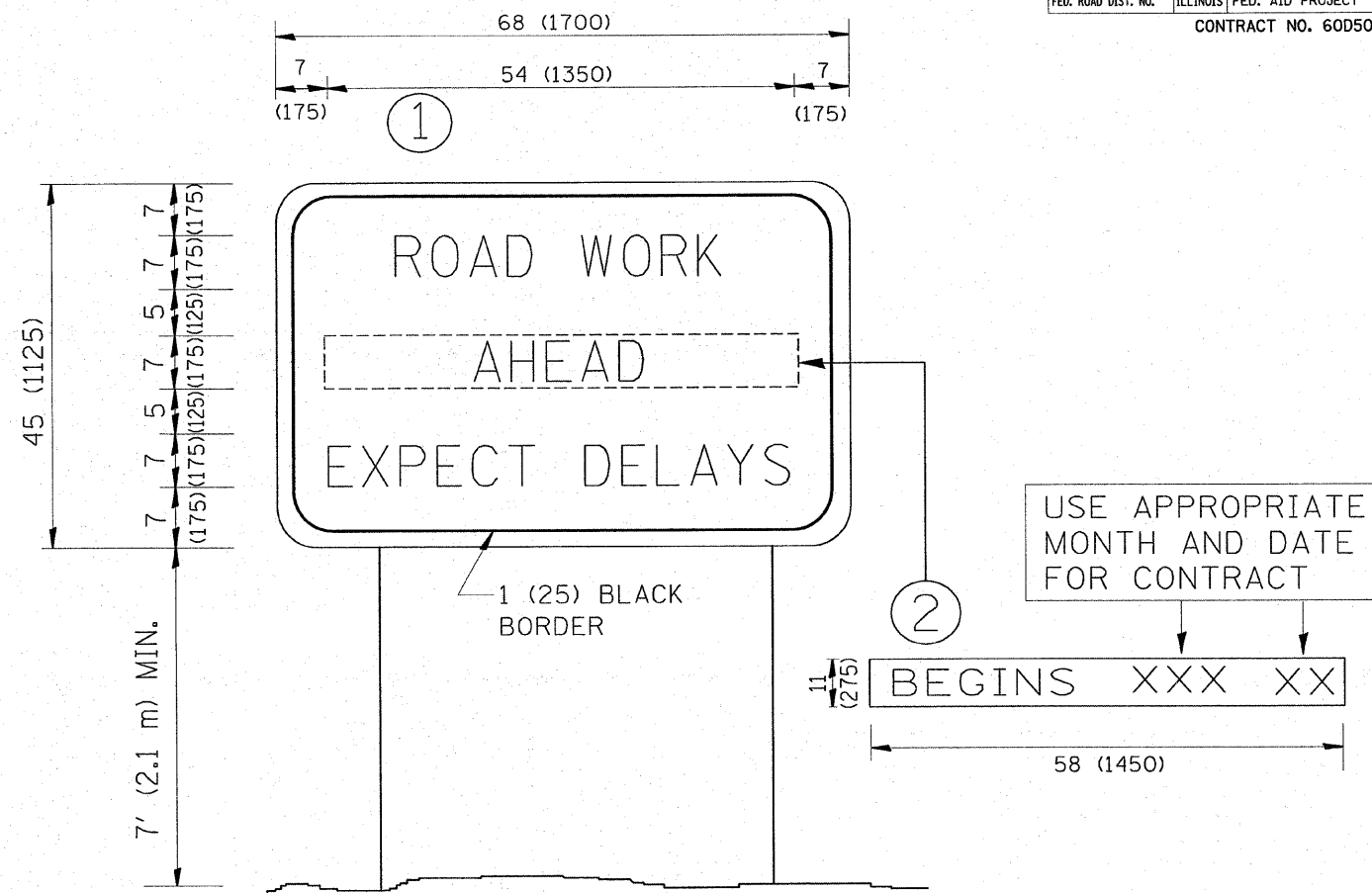
TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C (30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m ²) EACH "X"=54.0 SQ. FT. (5.0 m ²)
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in millimeters (inches) unless otherwise shown.

REVISIONS	
NAME	DATE
EVERS	03-19-90
T. RAMMACHER	10-27-94
ALEX HOUSEH	10-09-96
ALEX HOUSEH	10-17-96
T. RAMMACHER	01-06-00

ILLINOIS DEPARTMENT OF TRANSPORTATION
 DISTRICT ONE
 TYPICAL PAVEMENT MARKINGS
 SCALE: NONE
 DATE: 11/16/2007
 DRAWN BY CADD
 CHECKED BY
 TC-13
 REVISION DATE: 01/06/00



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE
R. MIRS	9-15-97
R. MIRS	12-11-97
T. RAMMACHER	2-2-99
C. JUCIUS	1-31-07

ILLINOIS DEPARTMENT OF TRANSPORTATION

ARTERIAL ROAD INFORMATION SIGN

SCALE: NONE

DRAWN BY DESIGN

CHECKED BY

TC22