

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	23 B-2-1	MCHENRY	10	7

CONTRACT NUMBER: 60B96

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

PLANS FOR PROPOSED HIGHWAY

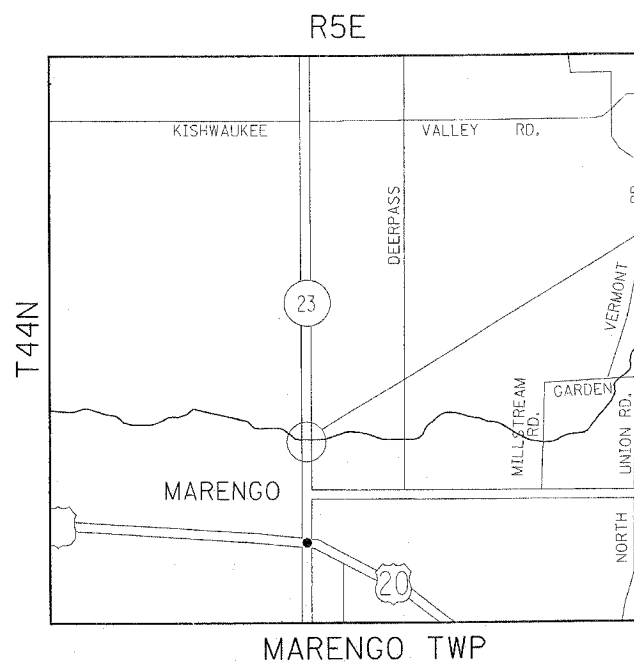
FAP ROUTE 324: IL-23
 OVER THE KISHWAUKEE RIVER (SN 056-0010)
 SECTION 23 B-2-1
 PPC DECK BEAM REPLACEMENT
 MCHENRY COUNTY
 C-91-054-07

FOR INDEX OF SHEETS, SEE SHEET NO. 2

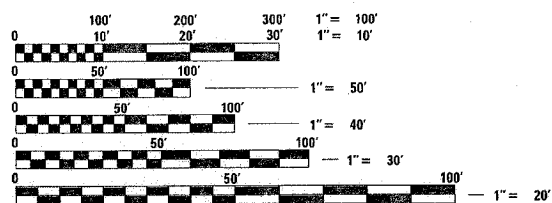
IMPROVEMENTS LOCATED IN
 THE VILLAGE OF MARENGO

TRAFFIC DATA:

2005 ADT = 7600
 SPEED LIMIT = 55 MPH



IL-23 OVER THE KISHWAUKEE RIVER SN 056-0010



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
 800-892-0123

CONTRACT NO. 60B96

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED Nov. 2 20 06

Diane O'Keefe
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

December 8, 2006
Eric E. Hansen
 ENGINEER OF DESIGN AND ENVIRONMENT

December 8, 20 06
Milton R. Sees, P.E.
 DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY
 OF THE STATE OF ILLINOIS

DISTRICT ONE - BUREAU OF DESIGN:
 DESIGN ENGINEER: K. ENG/R. BORO (847) 705-4178

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	23 B-2-I	MCHEMRY	12	2

CONTRACT NUMBER: 60B96

INDEX OF SHEETS

SHEET NO	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS, STATE STANDARDS, & GENERAL NOTES
3	SUMMARY OF QUANTITIES
*4 -7	BRIDGE REPAIR PLANS SN 056-0010
10	TRAFFIC CONTROL
11	RAISED REFLECTIVE PAVEMENT MARKERS (SNOW PLOW RESISTANT)
12	DISTRICT ONE TYPICAL PAVEMENT MARKINGS

* SHEETS 8 & 9 NOT USED

STATE STANDARDS

701301-02	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701321-02	LANE CLOSURE, 2L 2W, BRIDGE REPAIR WITH BARRIER
702001-06	TRAFFIC CONTROL DEVICES
704001-03	TEMPORARY CONCRETE BARRIER

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. (48 HOUR NOTIFICATION IS REQUIRED).

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

BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD (FOR FUTURE REFERENCES), ALL EXISTING PAVEMENT MARKING LINES & RAISED REFLECTIVE PAVEMENT MARKERS IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL STRIPING SHALL BE AS DIRECTED BY THE ENGINEER.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGGING WORK.

THE FIELD ENGINEER SHALL CONTACT MS. DEBBIE HANLON, TRAFFIC FIELD ENGINEER, AT (847) 438-2300 A MINIMUM OF TWO (2) WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS.

THESE PLANS HAVE BEEN PREPARED FROM NOTES RECEIVED FROM THE BUREAU OF MAINTAINENCE

THE THICKNESS OF BITUMINOUS MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

HMA MIXTURE REQUIREMENTS

MIX TYPE	AC TYPE	AIR VOIDS
HMA SURFACE COURSE, MIX "D", N50	PG 64-22	4% @ 50 GYR

THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT SURFACE MIXTURE QUANTITIES IS 112 LBS/50 YD/IN

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS
 STATE STANDARDS
 GENERAL NOTES

SCALE: NONE
 DATE

DRAWN BY
 CHECKED BY

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT		URBAN 100% STATE SFTY-2A SN 056-0010					
44001005	HOT-MIX ASPHALT SURFACE REMOVAL	SQ YD	20.6	20.6					
40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	14	14					
50300255	CONCRETE SUPERSTRUCTURE	CU YD	3.1	3.1					
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	770	770					
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	479	479					
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	70	70					
50900905	REMOVING AND RE-ERECTING EXISTING RAILING	FOOT	53	53					
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	99	99					
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	418	418					
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	2	2					
67100100	MOBILIZATION	L SUM	1	1					
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1					
70400100	TEMPORARY CONCRETE BARRIER	FOOT	225	225					
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	225	225					
78300100	PAVEMENT MARKING REMOVAL	SQ FT	700	700					
89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1	1					
X0301424	SILICONE JOINT SEALER	FOOT	15	15					
X0320047	REMOVAL OF EXISTING PRECAST PRESTRESSED CONCRETE DECK BEAMS	SQ FT	791	791					
X0322467	TEMPORARY INFORMATION SIGNING FOR LANE CLOSURE	SQ FT	48	48					
* XX006058	POLYUREA PAVEMENT MARKING - LINE 4"	FOOT	2080	2080					
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	5	5					
⊙ Z0030140	IMPACT ATTENUATORS (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	2					
⊙ Z0030340	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	2					

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT							

© SFTY-3NJ
*SPECIALTY ITEMS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUMMARY OF QUANTITIES

Rev.

11/2/2006 08:40:18 188105407868580_000.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
		McHenry	12	4
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1

4 SHEETS

Contract Number: 60B96

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.

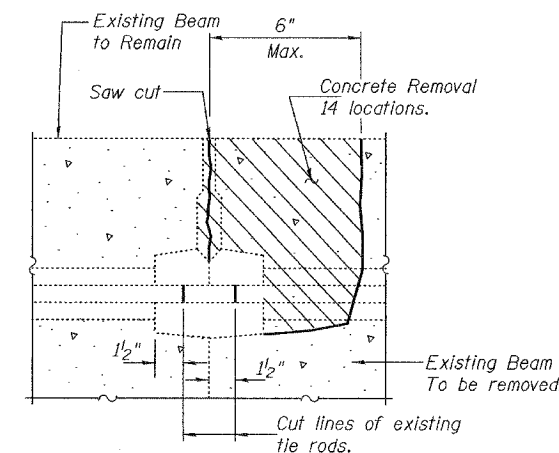
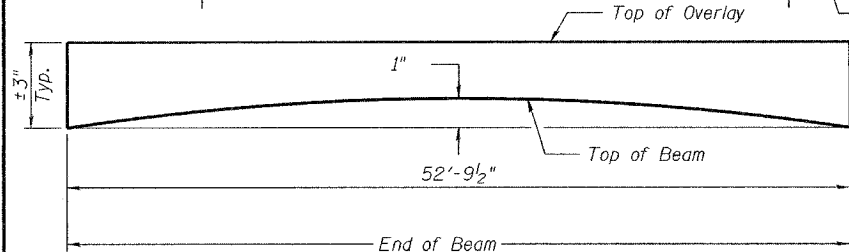
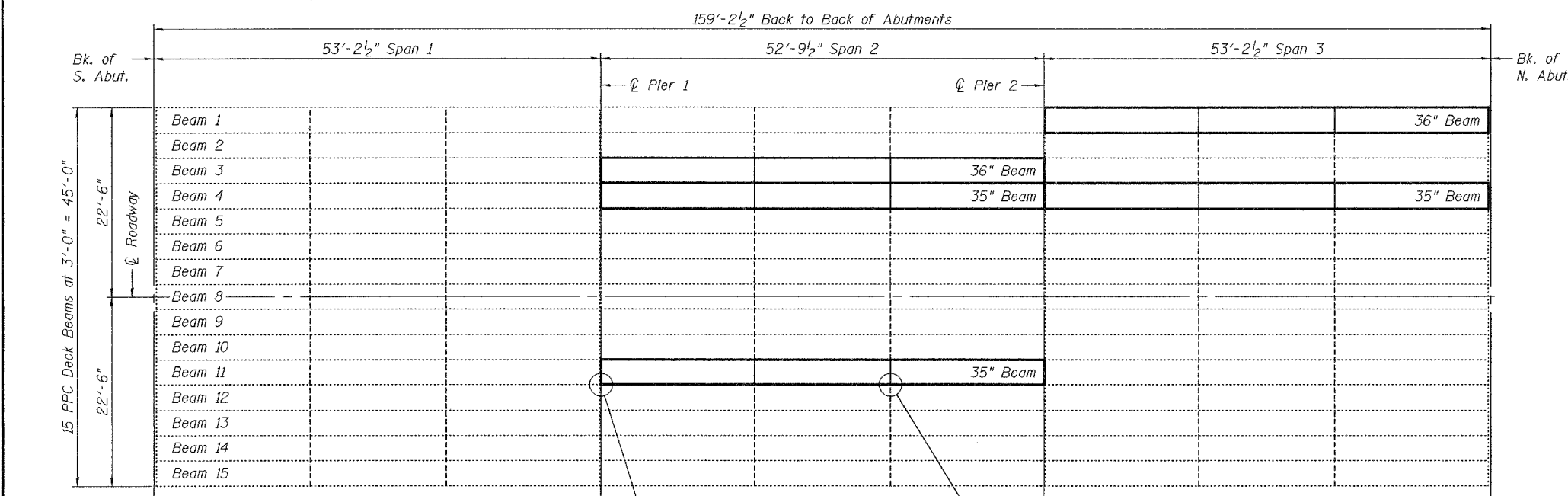
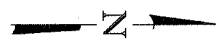
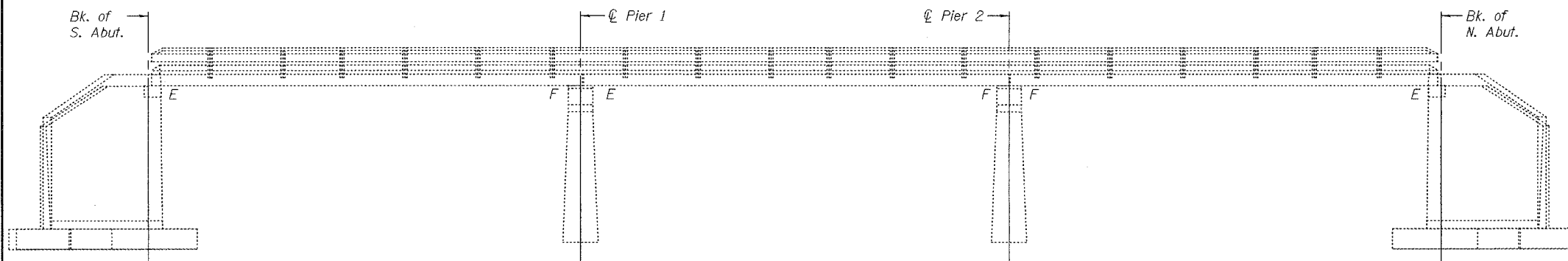
All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Furnishing and Erecting Structural Steel.

Any damage done to the bridge during beam removal shall be repaired by the Contractor. Cost to be included in the cost of Removal of Existing PPC Deck Beams.

The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to the exterior face and 9" in on the underside of each fascia beam. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

For quantities of Temporary Concrete Barrier, see Roadway Plans. If required to be anchored, temporary concrete barrier shall only be anchored into the overlay and not the PPC Deck Beams. Holes shall be patched with non-shrink material following relocation / removal of barrier. Cost included in Temporary Concrete Barrier.



**DESIGN STRESSES
PRECAST UNITS**

$f'_c = 5,000$ psi
 $f'_{ct} = 4,000$ psi
 $f'_s = 270,000$ psi ($1/2"$ ϕ low lax strands)
 $f'_{sl} = 201,960$ psi ($1/2"$ ϕ low lax strands)

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	770
Removal of Existing PPC Deck Beams	Sq. Ft.	791
HMA Surface Course Mix "D" N50	Tons	14.0
PC Mortar Fairing Course	Foot	418
Removing and Re-erecting Existing Railing	Foot	53
Silicone Joint Sealer	Foot	15
Furnishing and Erecting Structural Steel	Pound	479
Concrete Superstructure	Cu. Yd.	3.1
Reinforcement Bars Epoxy Coated	Pound	70
Asbestos Bearing Pad Removal	Each	5
Hot-Mix Asphalt Surface Removal	Sq. Yd.	20.6
Waterproofing Membrane System	Sq. Yd.	99

PLAN AND ELEVATION
F.A.P. RT. 324
McHENRY COUNTY
SN 056-0010

DESIGNED	Victor H. Veliz
CHECKED	[Signature]
DRAWN	[Signature]
CHECKED	VHV ASB

EXAMINED	December 4, 2006
John A. Morris	ENGINEER OF STRUCTURAL SERVICES
PASSED	[Signature]
Ralph E. Anderson	ENGINEER OF BRIDGES AND STRUCTURES

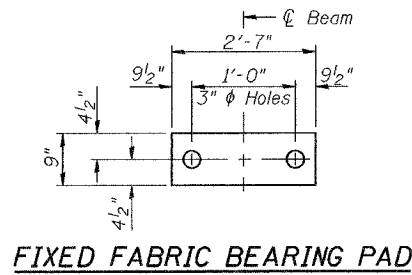


Expires: November 30, 2008

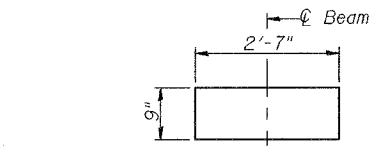
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 2
		McHenry	12	5	4 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT-	

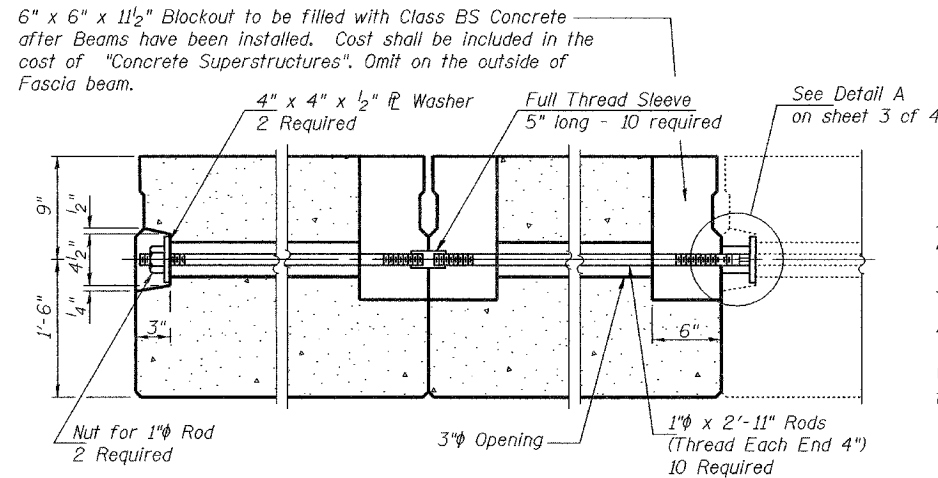
Contract Number: 60B96



FIXED FABRIC BEARING PAD



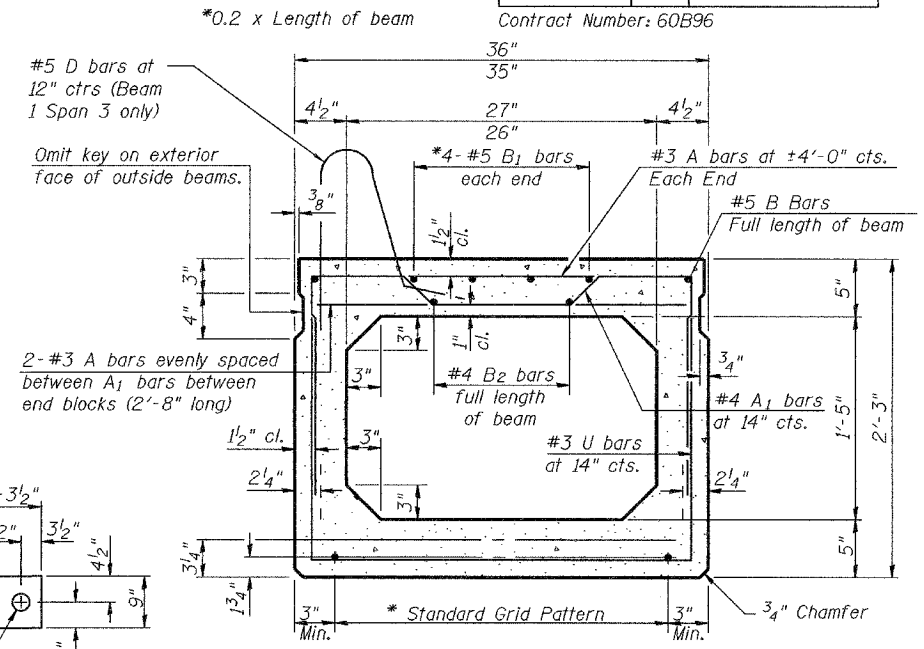
EXPANSION FABRIC BEARING PAD



TYPICAL TRANSVERSE TIE ASSEMBLY

*** TRANSVERSE PLACEMENT GUIDELINES**

1. Place strands symmetrically about centerline of beam.
 2. The minimum distance from center to center of strands in all directions shall be 2".
 3. The minimum clearance from strand to dowel hole shall be 1/2".
 4. The minimum clearance from strand to void shall be 1/2".
- Vertical placement of strands shall not be adjusted to satisfy the above guidelines.

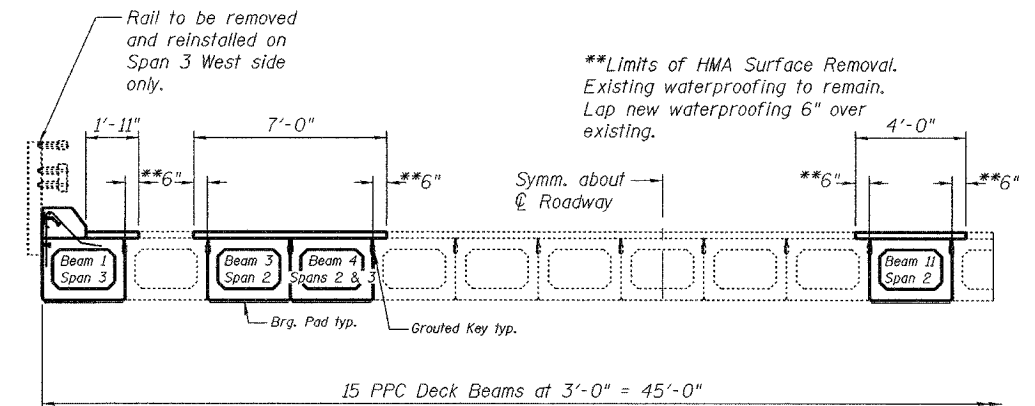


TYPICAL SECTION

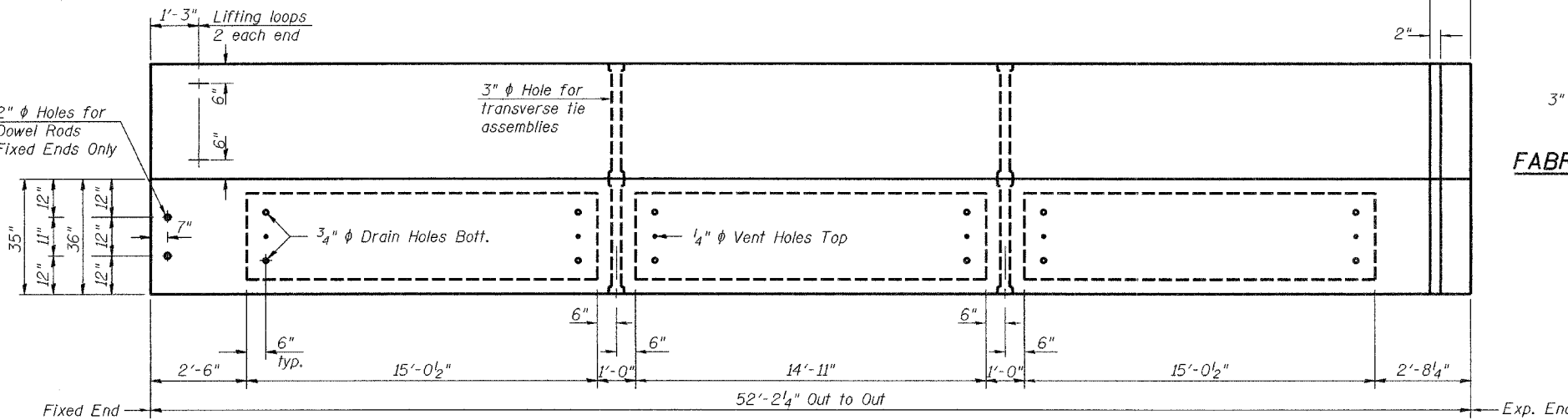
1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
6-Strands 1 3/4" up, 6-Strands 3 1/4" up

FABRIC ADJUSTING SHIMS

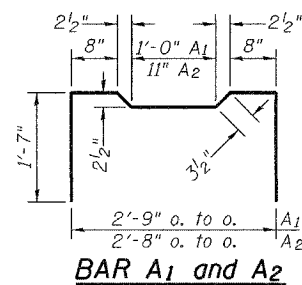
(Fixed shown, Expansion similar without hole)



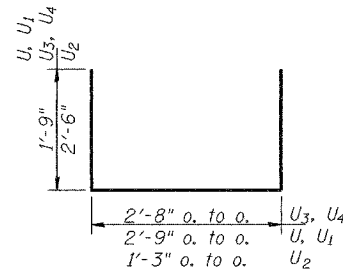
PARTIAL DECK CROSS SECTION



PLAN



BAR A1 and A2



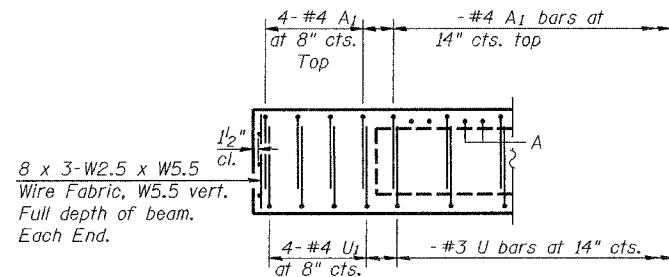
BARS U, U1, U2, U3 & U4

NOTES

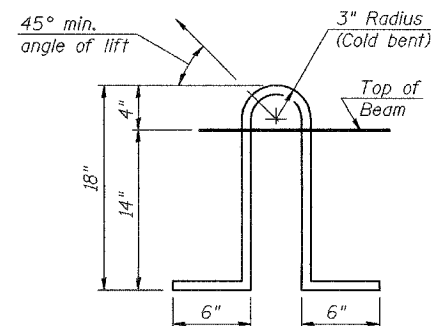
- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2 - 1/2" ϕ -270 ksi strands, as shown.
- The 1" ϕ rods in the transverse tie assembly shall 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.
- The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions shown 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, according to Article 1020.05(b)(12) and 1021.06 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.
- Non prestressing steel shall conform to ASTM A706 (Illinois Modified), Grade 60.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
Precast Prestressed Conc. Deck Bms.			Sq. Ft.	770



END ELEVATION



LIFTING LOOP DETAIL

DESIGNED	V.H.V.
CHECKED	A.J.B.
DRAWN	Drew Christopher
CHECKED	V.H.V. A.J.B.

December 4, 2006
 EXAMINED *John A. Morris*
 ENGINEER OF STRUCTURAL SERVICES
 PASSED *Ralph E. Anderson*
 ENGINEER OF BRIDGES AND STRUCTURES

PD-5-S 10-22-04

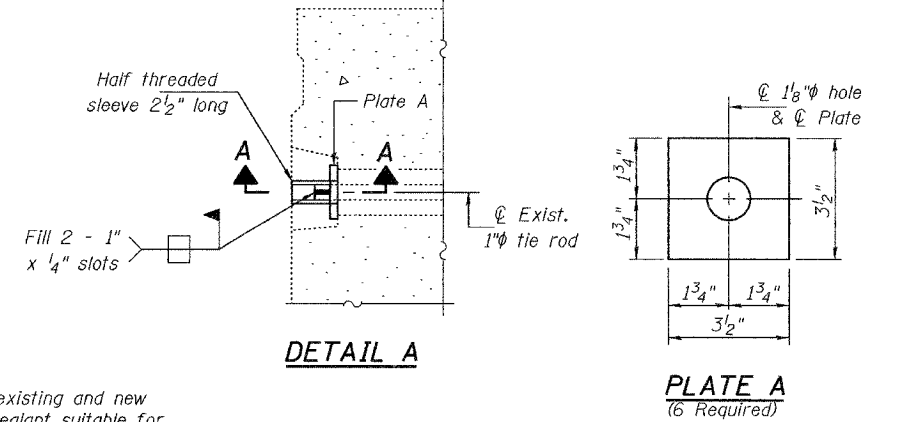
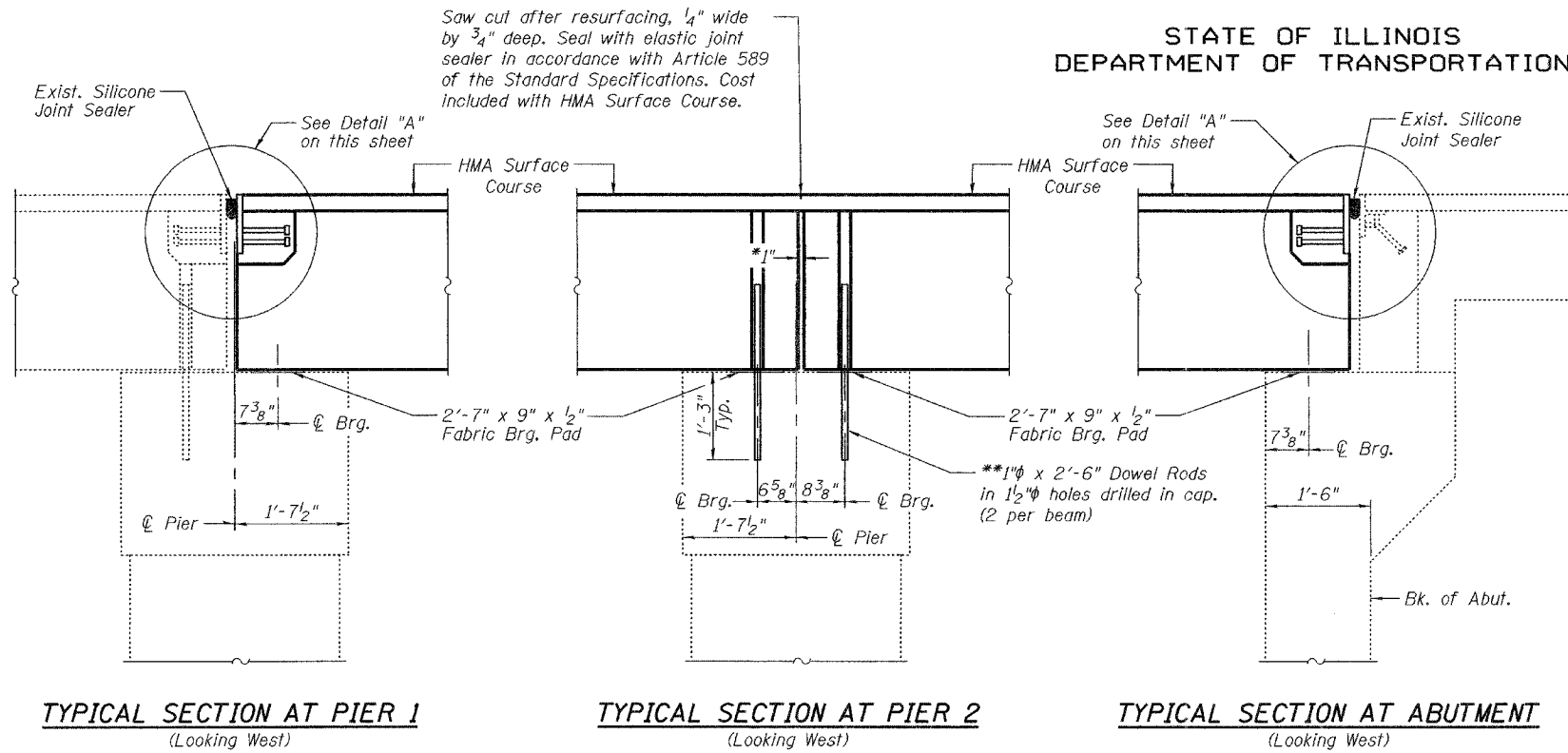
BEAM DETAILS
F.A.P. RT. 324
MCHENRY COUNTY
SN 056-0010

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

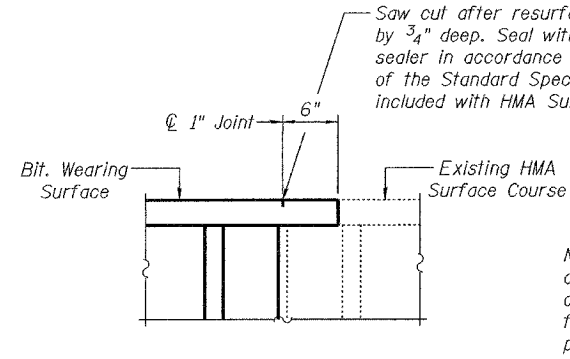
ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.	SHEET NO. 3 4 SHEETS
		McHenry	12	6	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	Contract Number: 60B96		

*1" Joint shall be filled with non-shrink grout. Dimension may vary to accommodate tolerance in beam lengths.

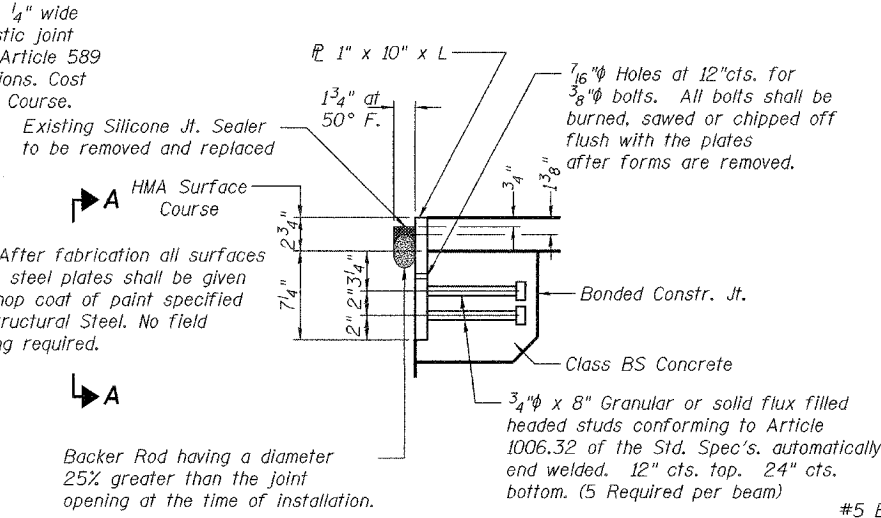
**Existing dowel rods are to be burned off, ground flush, and sealed with epoxy prior to placement of new beams. Cost included in Removal of Existing PPC Deck Beams. After beams have been erected holes shall be drilled into cap and dowel rods placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure a minimum of 24 hours prior to grouting the shear keys.



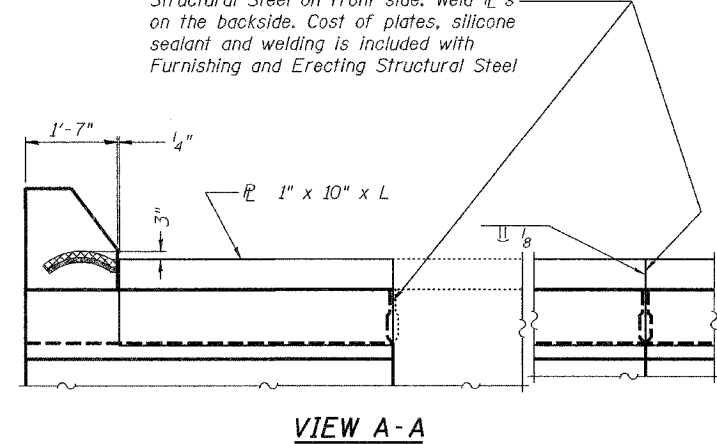
Seal space between existing and new plates with silicone sealant suitable for Structural Steel on front side. Weld plates on the backside. Cost of plates, silicone sealant and welding is included with Furnishing and Erecting Structural Steel



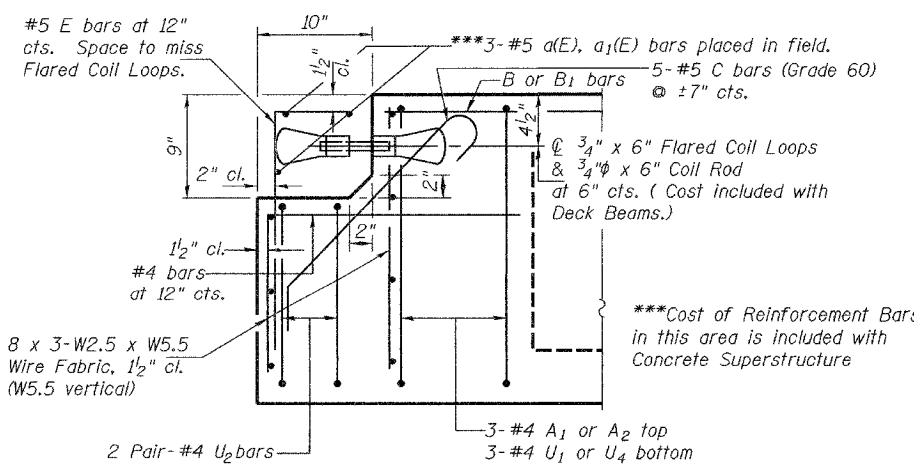
ALTERNATE OVERLAY AT SINGLE BEAM REPLACEMENT AT PIER 2



DETAIL "A"

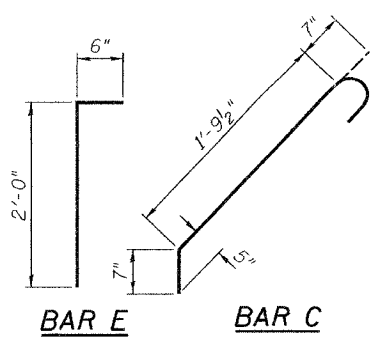


VIEW A-A



EXPANSION END OF BEAM

Beam	Span	End	L
3 & 4	2	South	6'-0"
11	2	South	3'-0"
1	3	North	1'-4 3/4"
4	3	North	3'-0"



BAR E BAR C

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	9	#5	2'-11"	—
a1(E)	3	#5	5'-10"	—

BEAM DETAILS
F.A.P. RT. 324
MCHENRY COUNTY
SN 056-0010

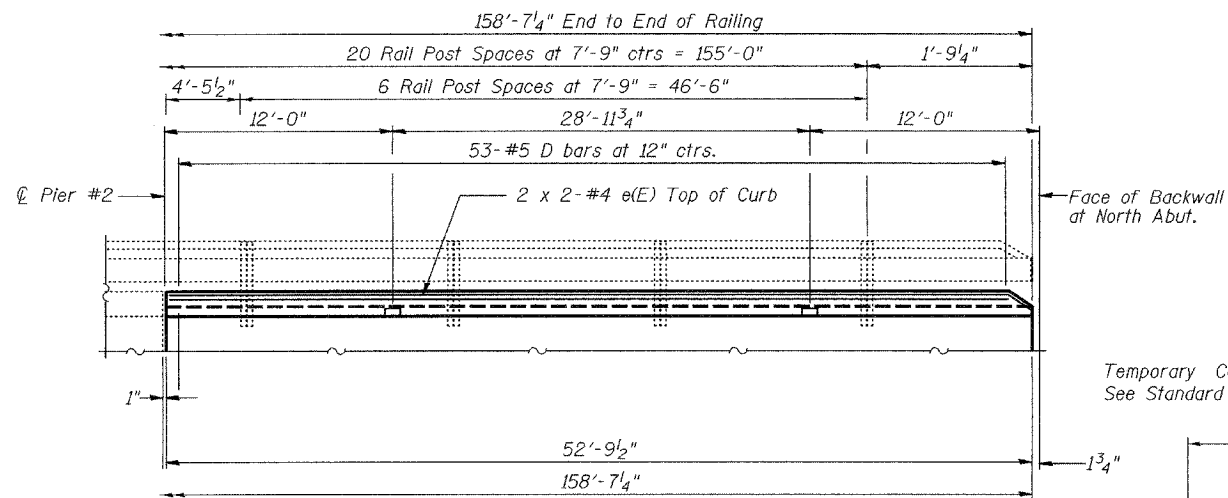
DESIGNED	V.H.V.
CHECKED	A.J.B.
DRAWN	Drew Christopher
CHECKED	V.H.V. A.J.B.

December 4, 2006
EXAMINED John A. Morris
PASSED Ralph E. Anderson

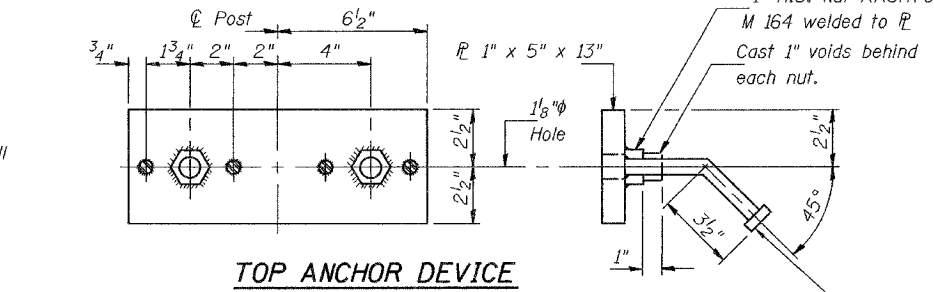
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
Contract Number: 60B96				

SHEET NO. 4
4 SHEETS

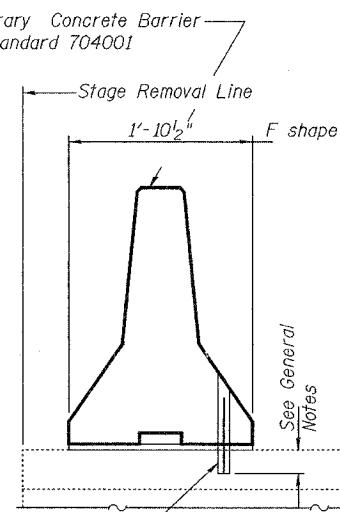


SPAN 3 CURB ELEVATION
(Looking West)



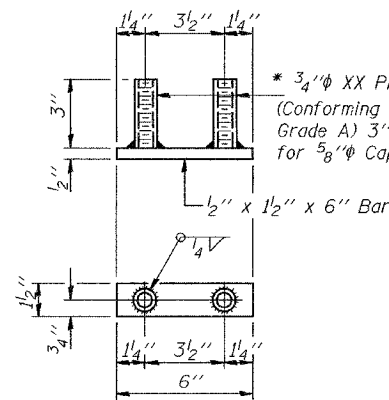
TOP ANCHOR DEVICE

3/4" x 7" Granular or solid flux filled headed studs conforming to Article 1006.32 of the Standard Specification automatically end welded. 4 required per plate.



EXISTING SLAB

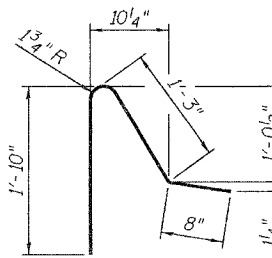
SECTIONS THRU SLAB



BOTTOM ANCHOR DEVICE

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e(E)	4	#4	26'-9"	
Concrete Superstructure			Cu. Yd.	3.1
Reinforcement Bars, Epoxy Coated			Lbs.	70



Bar d(E)

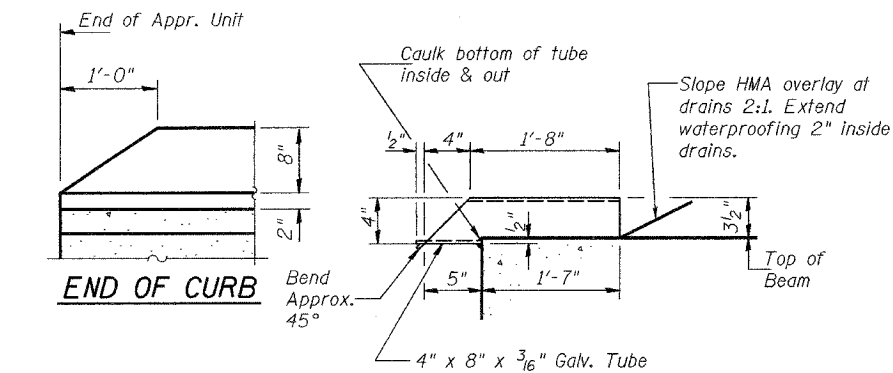
* Threaded areas shall be plugged or blocked off during casting of beam.

2-1/2" x 1'-1" Round Head Bolts (With slot or approved recess in head.) with locknut & flat washer.

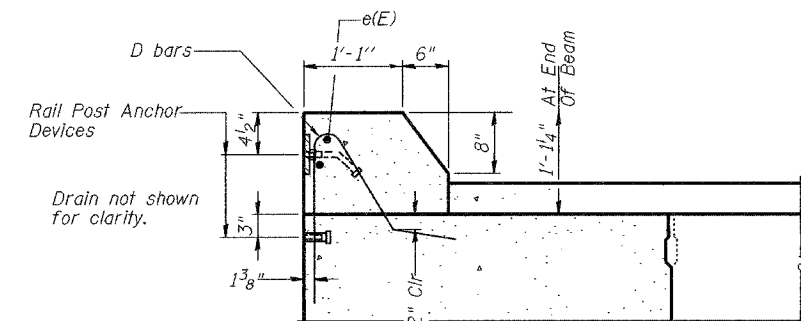
2-3/4" x 1'-1" Round Head Bolts (With slot or approved recess in head.) with locknut & flat washer.

2-1" x 3 3/4" H.S. Bolts with flat washer

2-5/8" x 1 3/4" Cap Screw with flat washer



DRAIN DETAIL

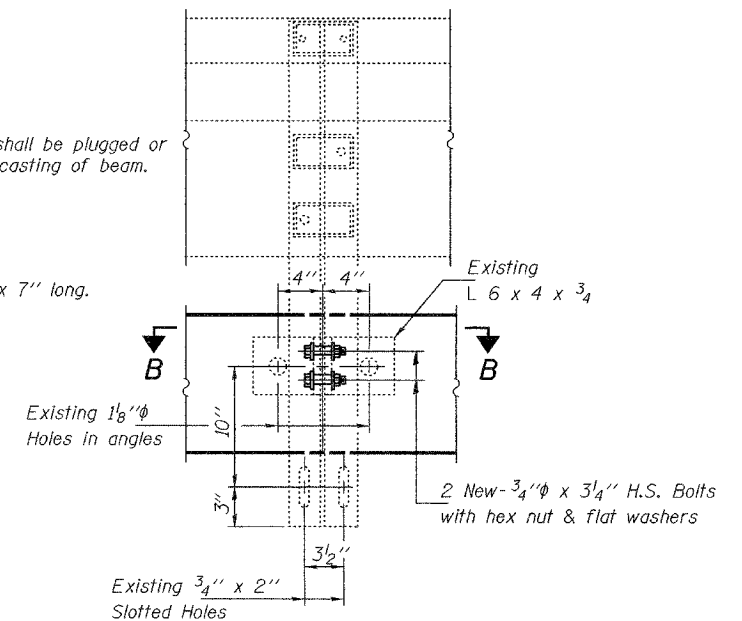


TYPICAL SECTION THRU CURB
Except as noted

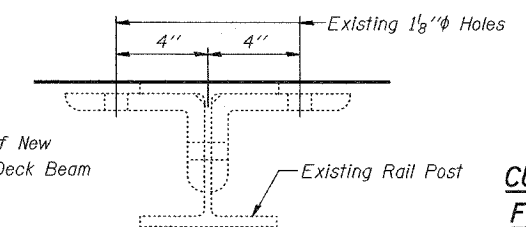
DESIGNED	V.H.V.
CHECKED	A.J.B.
DRAWN	Drew Christopher
CHECKED	V.H.V. A.J.B.

EXAMINED	John A. Morris ENGINEER OF STRUCTURAL SERVICES
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

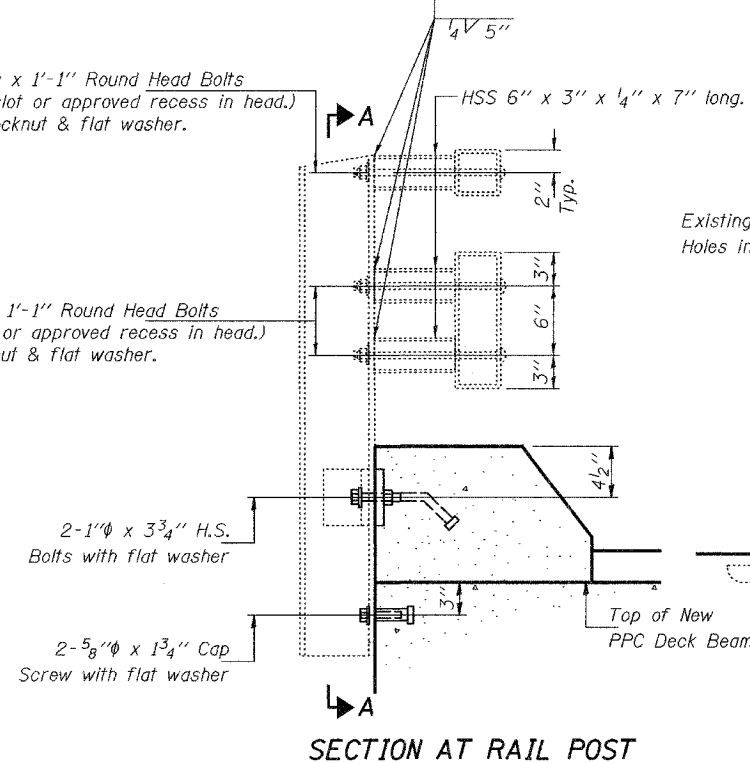
December 4, 2006



SECTION A-A



SECTION B-B



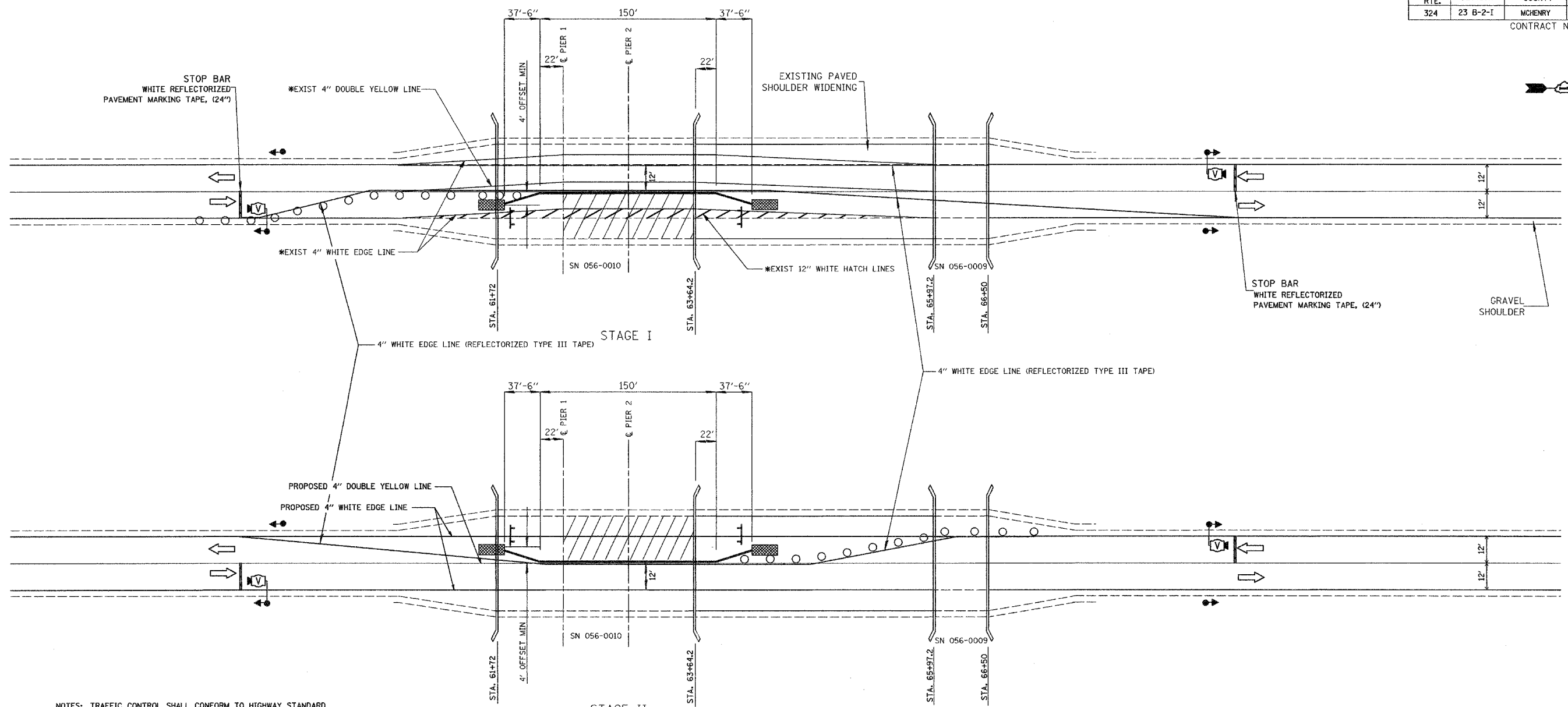
SECTION AT RAIL POST

CURB AND RAIL
F.A.P. RT. 324
McHENRY COUNTY
SN 056-0010

* PAGES 8 and 9 WERE NOT USED *

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	23 B-2-I	MCHENRY	12	10

CONTRACT NUMBER: 60B96



NOTES: TRAFFIC CONTROL SHALL CONFORM TO HIGHWAY STANDARD 701321, EXCEPT AS SHOWN. COST OF ADDITIONAL BARRELS SHALL BE INCLUDED IN THE COST OF STANDARD 701321.

COVER CONFLICTING PAVEMENT MARKINGS WITH BLACK TYPE III TAPE. COST OF TYPE III TAPE & ITS REMOVAL IS INCLUDED IN THE COST OF "TRAFFIC CONTROL & PROTECTION 701321"

AT THE START OF STAGE II CONSTRUCTION, THE ENGINEER SHALL CONTACT AL RICHARDSON AT (847) 705-4411 TO HAVE THE WEIGHT RESTRICTION SIGNS REMOVED.

*EXISTING PAVEMENT MARKINGS TO BE REMOVED PRIOR TO STAGE I COST INCLUDED IN "PAVEMENT MARKING REMOVAL"

TEMPORARY BRIDGE TRAFFIC SIGNAL SHALL INCLUDE VIDEO DETECTION

THE CONTRACTOR IS RESPONSIBLE FOR SECURING ELECTRICAL SERVICE FOR TRAFFIC SIGNALS

- BARRICADE, OR DRUM WITH STEADY BURNING LIGHTS, (SPACED 25' CT.-CT.)
- ⊥ TYPE III BARRICADE WITH FLASHING LIGHT
- TRAFFIC SIGNAL
- ▨ TEMPORARY IMPACT ATTENUATOR
- Ⓜ VIDEO DETECTION CAMERA

REVISIONS	
NAME	DATE

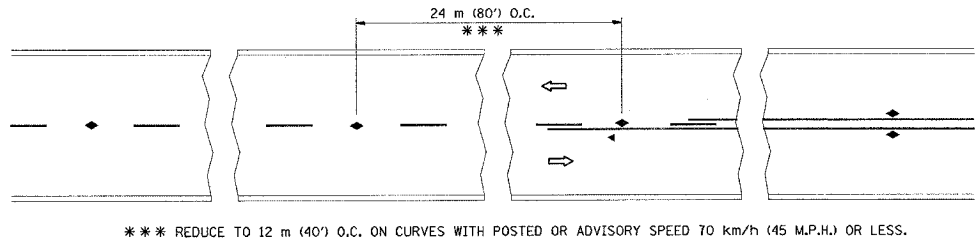
ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS

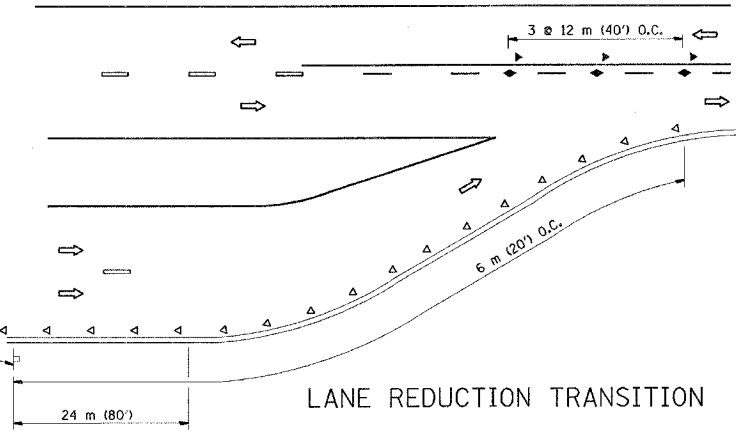
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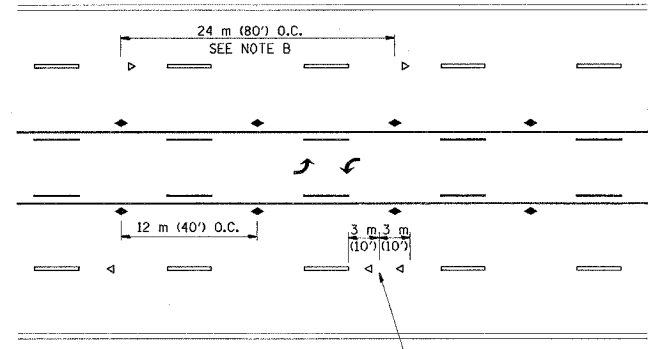
F.A.P. R/FE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	23 B-2-1	MCHENRY	12	11
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



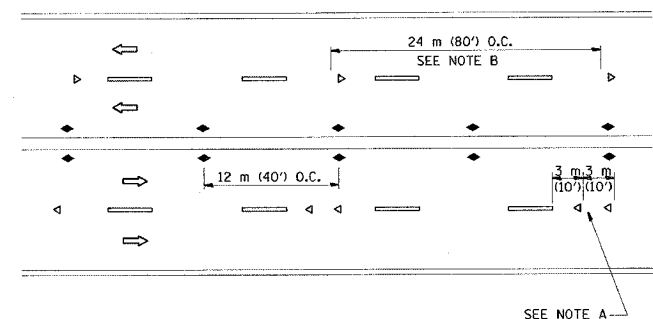
TWO-LANE/TWO-WAY



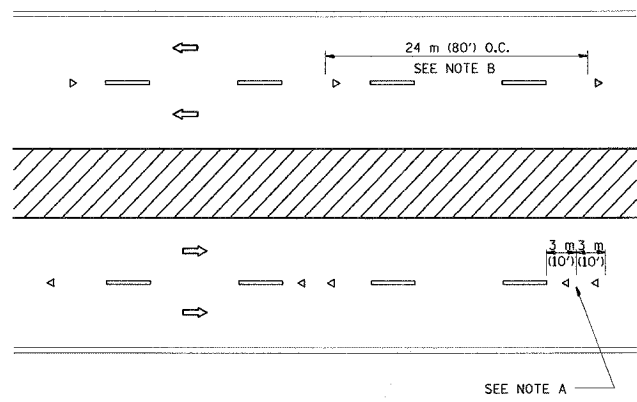
LANE REDUCTION TRANSITION



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 50 TO 75 (2 TO 3) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 150 m (500') 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

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

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.

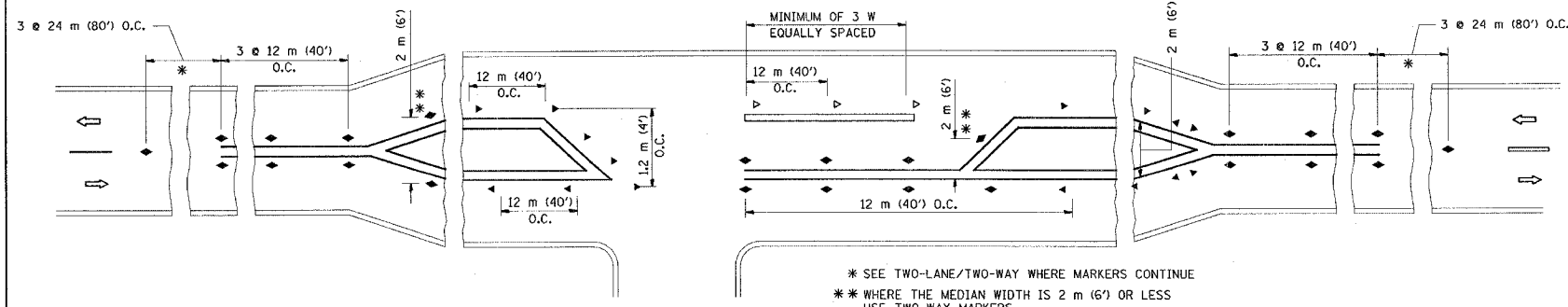
All dimensions are in millimeters (Inches) unless otherwise shown.

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)

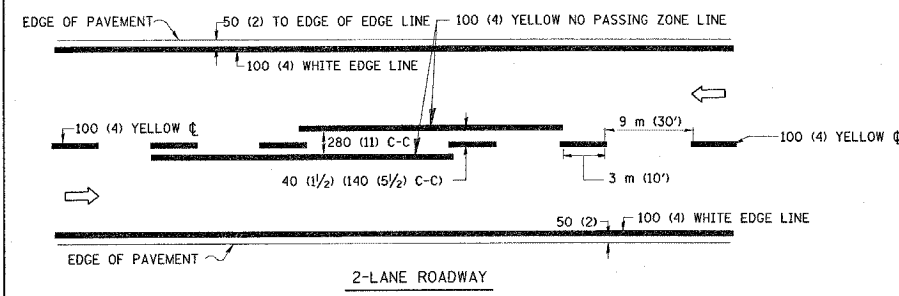
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CHECKED BY

PLOT DATE = 11/3/2006
 PLOT USER = cadd
 PLOT SCALE = 50.0000 / IN.
 USER NAME = enseris

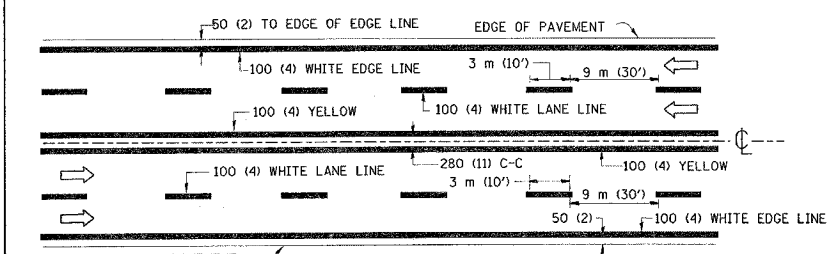


LEFT TURN

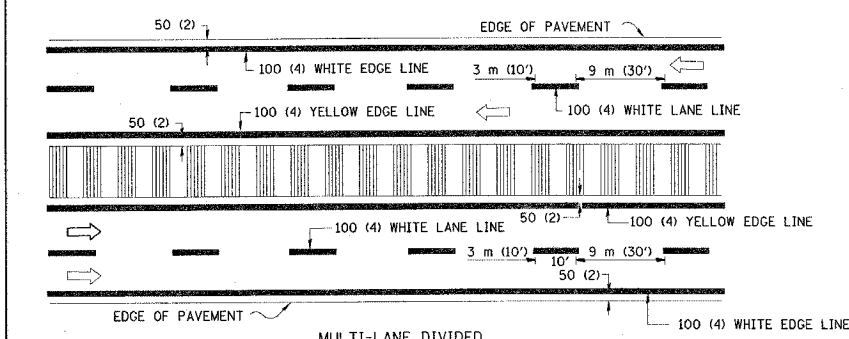
F.A.P. RTE. 324	SECTION 23 B-2-I	COUNTY MCHENRY	TOTAL SHEETS 12	SHEET NO. 12
STA. TO STA.		ILLINOIS FED. AID PROJECT		



2-LANE ROADWAY



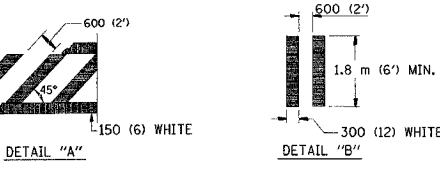
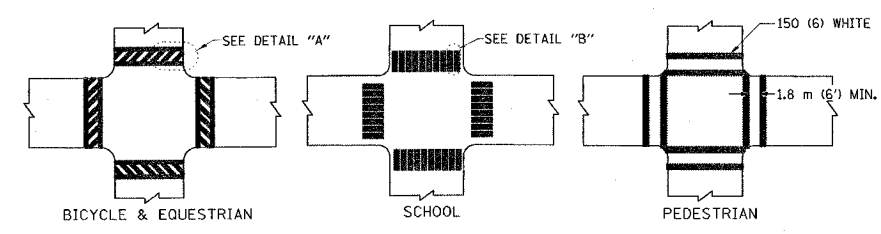
MULTI-LANE UNDIVIDED



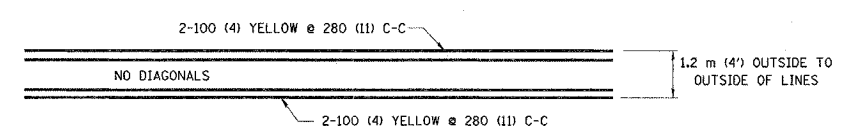
MULTI-LANE DIVIDED WITH MOUNTABLE MEDIAN

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

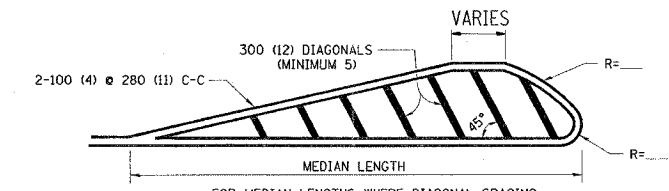
TYPICAL LANE AND EDGE LINE MARKING



TYPICAL CROSSWALK MARKING

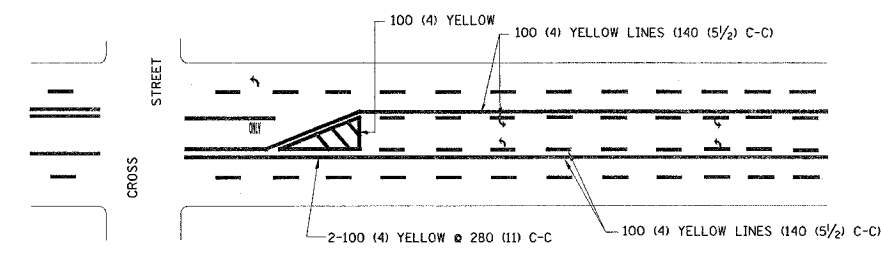


1.2 m (4') WIDE MEDIANS ONLY

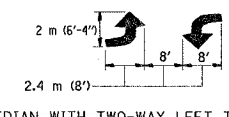


FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.
 DIAGONAL LINE SPACING: 15 m (50') C-C (LESS THAN 50 km/h (30 MPH))
 25 m (75') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH))
 45 m (150') C-C (MORE THAN 70 km/h (45 MPH))

MEDIANS OVER 1.2 m (4') WIDE

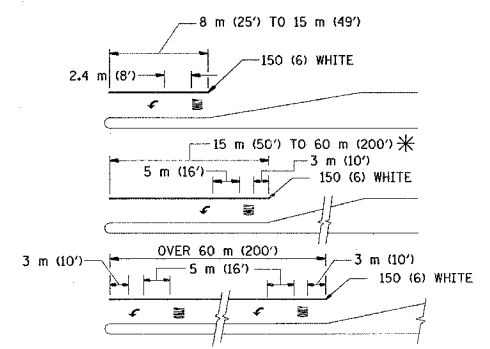


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 60 m (200') TO 90 m (300') INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

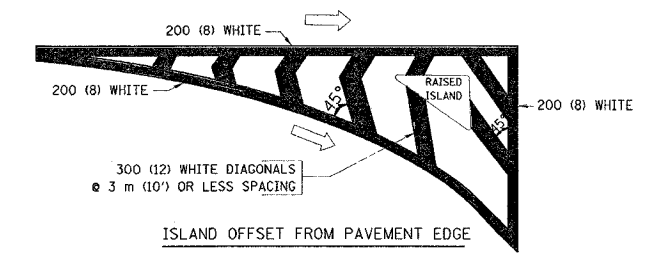


FULL SIZE LETTERS 2.4 m (8') AND ARROWS SHALL BE USED. AREA = 1.5 m² (15.6 SQ. FT.) ONLY AREA = 1.9 m² (20.8 SQ. FT.)

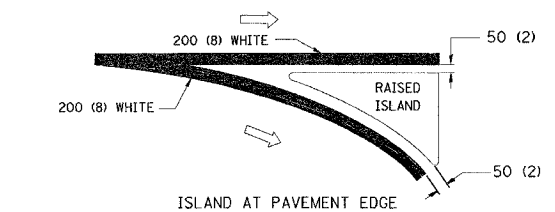
* TURN LANES IN EXCESS OF 120 m (400') IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



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	100 (4)	SKIP-DASH	YELLOW	3 m (10') LINE WITH 9 m (30') SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 100 (4)	SOLID	YELLOW	280 (11) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	100 (4) 2 @ 100 (4)	SOLID SOLID	YELLOW YELLOW	140 (5 1/2) C-C FROM SKIP-DASH CENTERLINE 280 (11) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	100 (4) 125 (5) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	3 m (10') LINE WITH 9 m (30') SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	600 (2') LINE WITH 1.8 m (6') SPACE
EDGE LINES	100 (4)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	150 (6) LINE; FULL SIZE LETTERS & SYMBOLS (2.4 m (8'))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 100 (4) EACH DIRECTION 2.4 m (8') LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	3 m (10') LINE WITH 9 m (30') SPACE FOR SKIP-DASH; 140 (5 1/2) 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 @ 150 (6) 300 (12) @ 45° 300 (12) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 1.8 m (6') APART 600 (2') APART 600 (2') APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	600 (24)	SOLID	WHITE	PLACE 1.2 m (4') IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 100 (4) WITH 300 (12) DIAGONALS @ 45° NO DIAGONALS USED FOR 1.2 m (4') WIDE MEDIANS	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	280 (11) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	200 (8) WITH 300 (12) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 4.5 m (15') C-C (LESS THAN 50 km/h (30 MPH)) 6 m (20') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH)) 9 m (30') C-C (OVER 70 km/h (45 MPH))
RAILROAD CROSSING	600 (24) TRANSVERSE LINES; "RR" IS 1.8 m (6') LETTERS; 400 (16) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=0.33m ² (3.6 SQ. FT.) EACH "X"=5.0 m ² (54.0 SQ. FT.)
SHOULDER DIAGONALS	300 (12) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	15 m (50') C-C (LESS THAN 50 km/h (30 MPH)) 25 m (75') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH)) 45 m (150') C-C (OVER 70 km/h (45 MPH))

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: 11/3/2006
 DRAWN BY CADD
 CHECKED BY
 TC-13
 REVISION DATE: 01/06/00

DATE = 11/3/2006
 PLOT SCALE = 50.0000
 USER NAME = enser19