

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24 B-1	MCHENRY	13	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 60D92		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

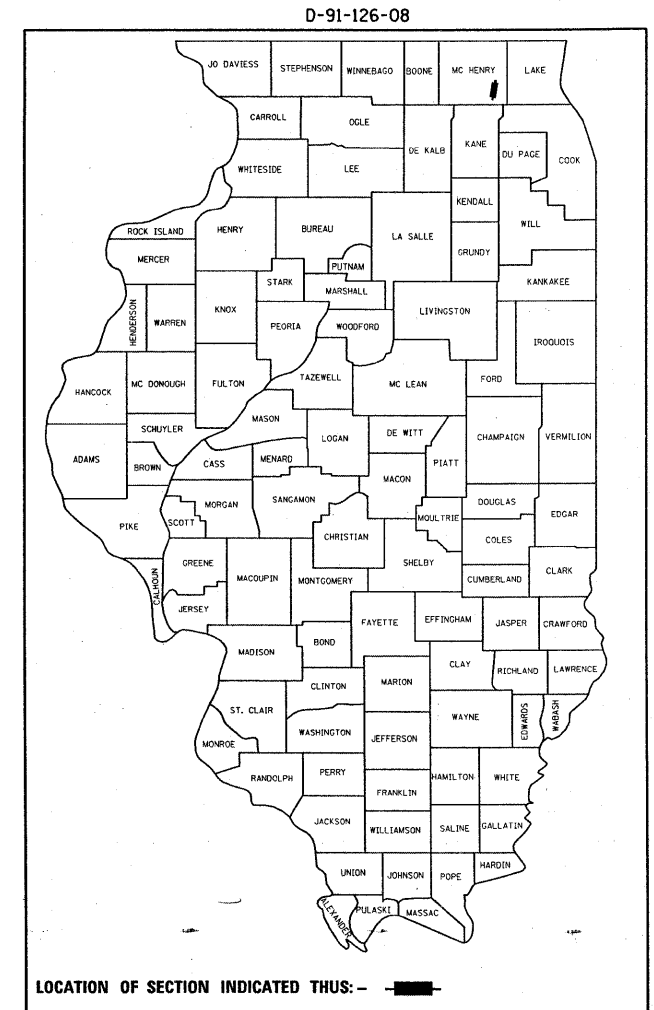
F.A.P. ROUTE 324: IL 23
OVER COON CREEK
SECTION 24B-1
PPC DECK BEAM REPLACEMENT
MCHENRY COUNTY
C-91-126-08

FOR INDEX OF SHEETS, SEE SHEET NO. 2

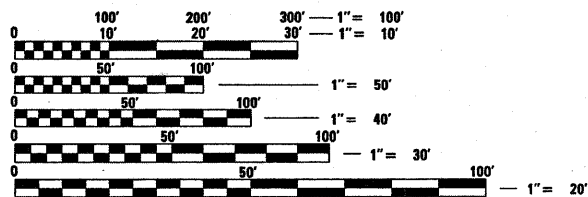
IMPROVEMENT LOCATED IN RILEY TOWNSHIP

TRAFFIC DATA

2007 ADT = 2200
POSTED SPEED LIMIT = 55 MPH



IMPROVEMENT LOCATION
SN 056-0012

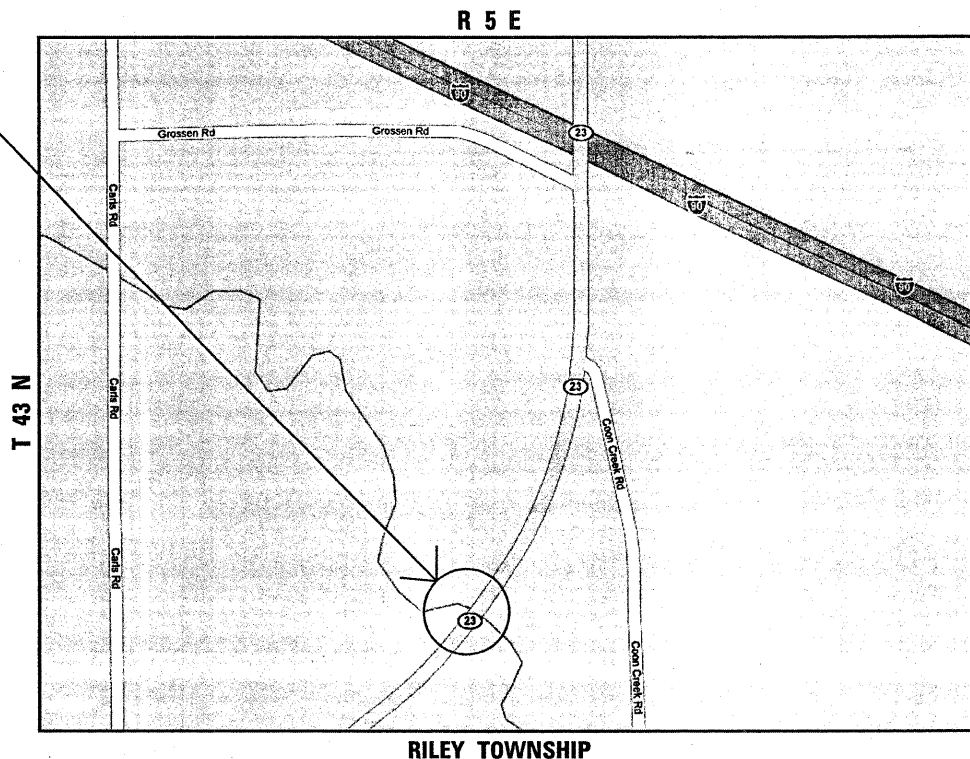


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER KEN ENG
PROJECT MANAGER ROBERT BORO (847) 705-4178

CONTRACT NO. 60D92



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED FEBRUARY 22, 2008

Diana M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
March 21, 2008

Eric E. Heron
Interim ENGINEER OF DESIGN AND ENVIRONMENT
March 21, 2008

Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

<u>SHEETING</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	INDEX OF SHEETS, STATE STANDARDS, GENERAL NOTES
3	SUMMARY OF QUANTITIES
4-6	BRIDGE REPAIRS
7	TRAFFIC STAGING PLAN
8-11	TRAFFIC STAGING LIGHTING PLAN
12	TRAFFIC CONTROL AND PROTECTION FOR SIDEROADS, INTERSECTIONS, AND DRIVEWAYS (TC-10)
13	DISTRICT ONE TYPICAL PAVEMENT MARKING (TC-13)

STATE STANDARDS

<u>STANDARD NO.</u>	<u>DESCRIPTION</u>
701301-02	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
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 "J.U.L.I.E." AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE, AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH THE UTILITY COMPANIES.

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

ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE THE REMOVAL LINE SHOWN ON THE PLANS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE DEPARTMENT.

BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCE, ALL EXISTING PAVEMENT MARKING LINES (AND RAISED REFLECTIVE PAVEMENT MARKERS) IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS 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) 741- 4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

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

THESE PLANS HAVE BEEN PREPARED FROM NOTES RECEIVED FROM BRIDGE INSPECTORS.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

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

CONCRETE WEARING SURFACE SHALL HAVE A SEVEN DAY MINIMUM CURE TIME.

The Department has determined that in stream work is not required for the work specified in this contract. Activities requiring an ASCOE 404 Permit are not permitted.

FILE NAME = c:\projects\dl12608\design\design.dgn	USER NAME = n1esrb	DESIGNED - DRAWN -	REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STATE STANDARDS, GENERAL NOTES	F.A.P. RTE. 324	SECTION 24 B-I	COUNTY MCHENRY	TOTAL SHEETS 13	SHEET NO. 2	
PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -	SCALE:			SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			
PLOT DATE = 3/7/2008	DATE -	REVISED -									
CONTRACT NO. 60D92											

CONTRACT 60D92

SUMMARY OF QUANTITIES			URBAN 100% STATE CONSTRUCTION TYPE CODE SFTY-2A					
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	SN 056-0012				
50300300	PROTECTIVE COAT	SO YD	29.1	29.1				
50301200	CONCRETE WEARING SURFACE	SO YD	29.1	29.1				
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SO FT	192	192				
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	610	610				
67000400	ENGINEERS FIELD OFFICE, TYPE A	CAL MO	3	3				
67100100	MOBILIZATION	L SUM	1	1				
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1				
70400100	TEMPORARY CONCRETE BARRIER	FOOT	362.5	362.5				
*78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	1169	1169				
80400100	ELECTRIC SERVICE INSTALLATION	EACH	1	1				
80400200	ELECTRIC UTILITY SERVICE CONNECTION	L SUM	1	1				
*81100200	CONDUIT ATTACHED TO STRUCTURE, 3/4" DIA., GALVANIZED STEEL	FOOT	200	200				
*81700120	ELECTRIC CABLE IN CONDUIT, 600V (EPR-TYP RHW) 1/C#6	FOOT	250	250				
*81800320	AERIAL CABLE, 3-1/C#4 WITH MESSENGER WIRE	FOOT	1450	1450				
*82103400	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTOCELL CONTROL, 400 WATT	EACH	6	6				
*83057355	LIGHT POLE, WOOD, 60 FOOT, CLASS 4, WITH 15FT MAST ARM	EACH	6	6				
X0320047	REMOVAL OF EXISTING PRECAST PRESTRESSED CONCRETE DECK BEAMS	SO FT	196	196				
*X0321781	MECHANICAL SPLICE	EACH	129	129				
X0322467	TEMPORARY INFORMATION SIGNING FOR LANE CLOSURE	SO FT	48	48				
X0323574	MAINTENANCE OF LIGHTING SYSTEM	CAL MO	6	6				
X5030275	CONCRETE WEARING SURFACE REMOVAL	SO YD	7.3	7.3				
X8900005	TEMPORARY BRIDGE/TRAFFIC SIGNAL INSTALLATION	EACH	1	1				
*XX006937	GROUND ROD, 5/8" DIA. X 10 FT.	EACH	3	3				
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON - REDIRECTIVE), TEST LEVEL 3	EACH	2	2				

SUMMARY OF QUANTITIES			URBAN 100% STATE CONSTRUCTION TYPE CODE SFTY-2A					
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	SN 056-0012				
X0325949	ELECTRIC SERVICE DISCONNECT, LIGHTING AND TRAFFIC SIGNAL	EACH	1	1				
X0325948	TEMPORARY LIGHTING SYSTEM REMOVAL, NO SALVAGE	L SUM	1	1				
70300520	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	1280	1280				
70300560	PAVEMENT MARKING TAPE, TYPE III 12"	FOOT	24	24				
*78200200	BIDIRECTIONAL PRISMATIC BARRIER REFLECTOR	EACH	20	20				
78300100	PAVEMENT MARKING REMOVAL	SR FT	715	715				

*SPECIALTY ITEMS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUMMARY OF QUANTITIES

Rev.

3/7/2008 10:41:12 AM C:\Users\jason\Documents\60D92\60D92.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		McHenry	13	4
SHEET NO. 1 3 SHEETS				

Contract Number: 60D92

GENERAL NOTES

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.

If the contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new or existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. If heavy equipment will be placed on new PPC deck beams, the following shall be done prior to placement of the timber mats: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys.

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.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

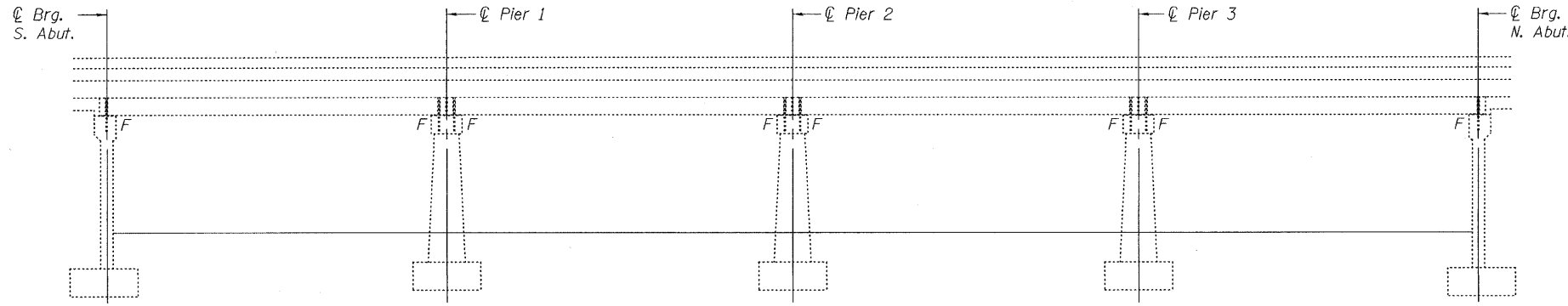
Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause 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 A 706 Gr 60 (IL Modified). See Special Provisions.

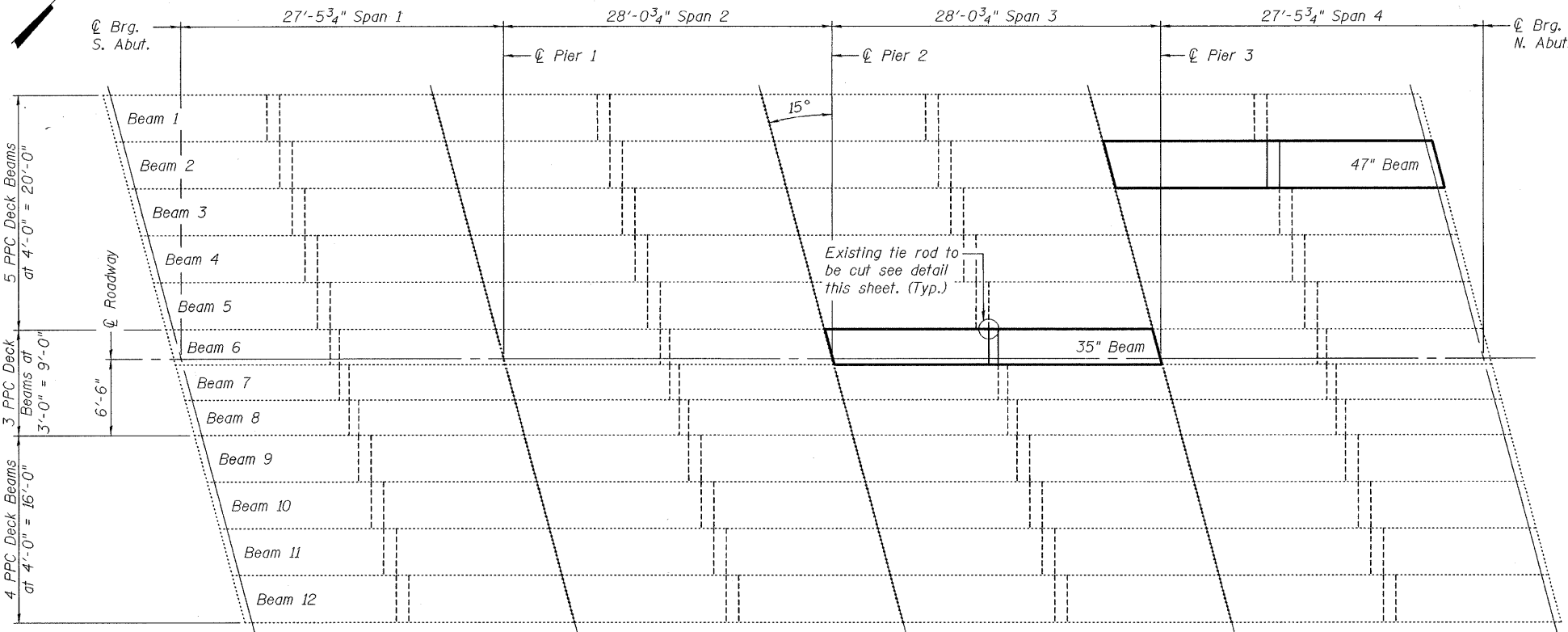
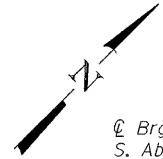
Reinforcement bars designated (E) shall be epoxy coated.

Temporary concrete barrier shall only be anchored into the overlay and not into the PPC Deck Beams.

The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Wearing Surface.



ELEVATION



ELEVATION

DESIGN STRESSES
PRECAST UNITS

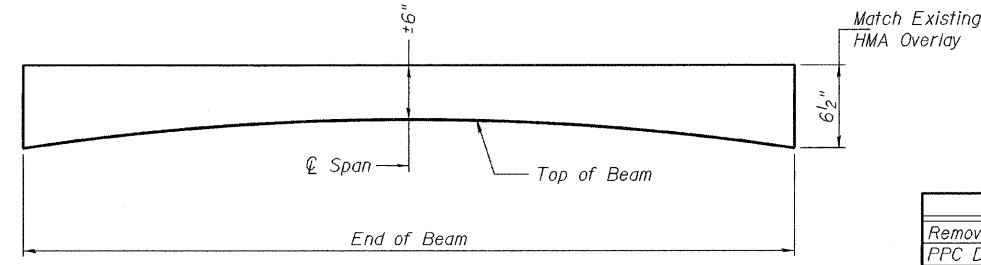
$f'_c = 5,000$ psi
 $f'_{ci} = 4,000$ psi
 $f'_s = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax strands)
 $f'_{si} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax strands)

DESIGNED	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>
DRAWN	<i>[Signature]</i>
CHECKED	AJB ATK

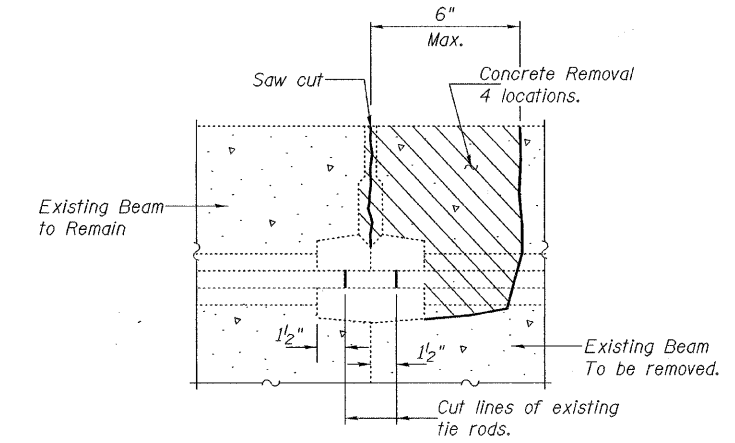
March 14, 2008
EXAMINED *[Signature]*
ENGINEER OF STRUCTURAL SERVICES
PASSED *[Signature]*
ENGINEER OF BRIDGES AND STRUCTURES



Expires: November 30, 2008



CONCRETE WEARING SURFACE PROFILE



BEAM REMOVAL DETAIL AT TRANSVERSE TIES

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Removal of Existing PPC Deck Beams	Sq. Ft.	196
PPC Deck Beams (17" Depth)	Sq. Ft.	192
Concrete Wearing Surface Removal	Sq. Yd.	7.3
Reinforcement Bars, Epoxy Coated	Pound	610
Concrete Wearing Surface	Sq. Yd.	29.1
Mechanical Splice	Each	129
Protective Coat	Sq. Yd.	29.1

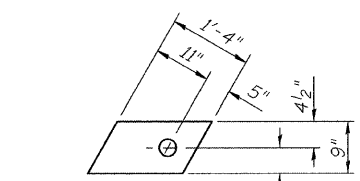
PLAN AND ELEVATION
IL 23 OVER COON CREEK
McHENRY COUNTY
SN 056-0012

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

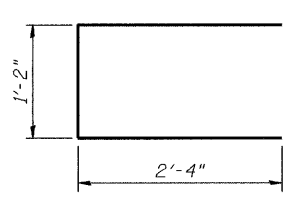
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		McHenry	13	5
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 2
3 SHEETS

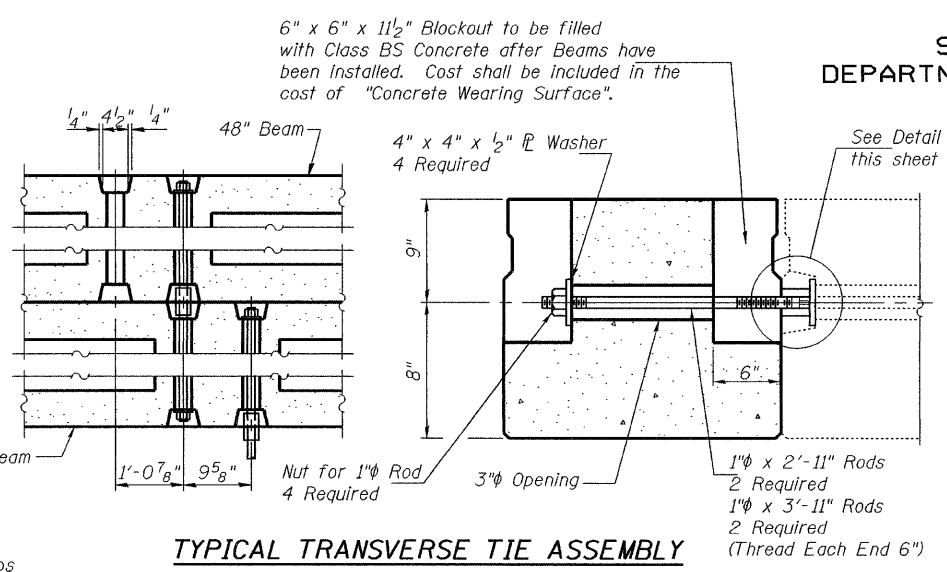
Contract Number: 60D92



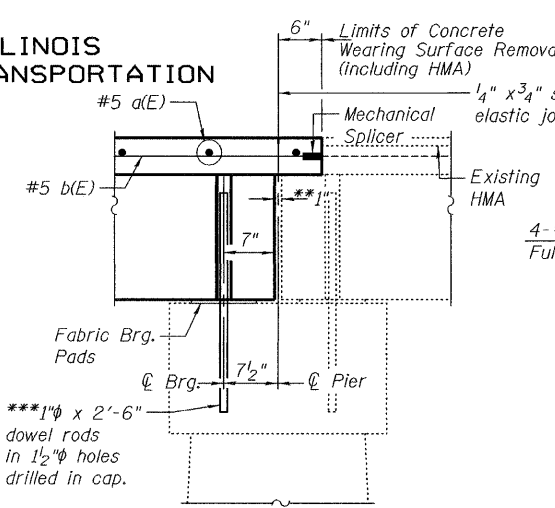
FABRIC ADJUSTING SHIM



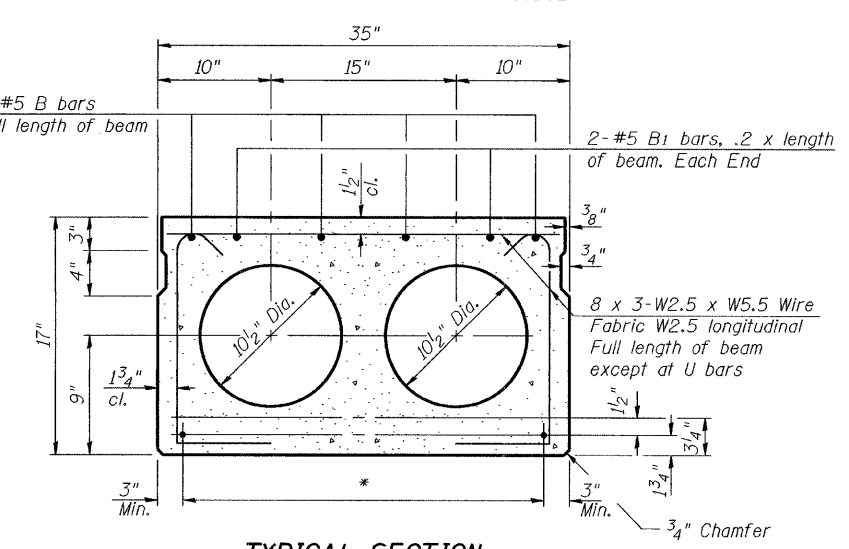
BAR U1



TYPICAL TRANSVERSE TIE ASSEMBLY



TYPICAL SECTION AT PIER



TYPICAL SECTION

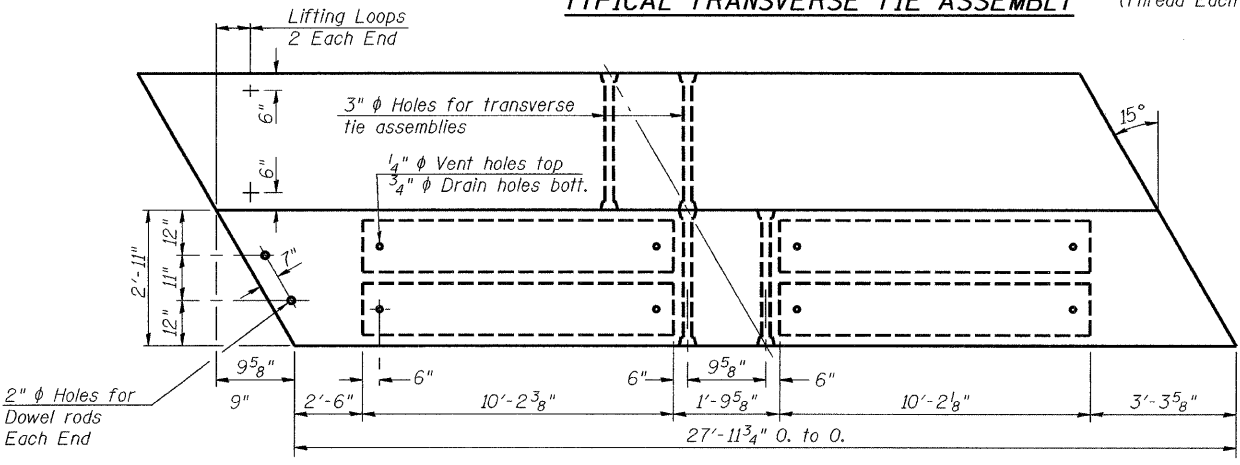
8 - 1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
6-Strands 1 3/4" up, 2-Strands 3/4" up

* TRANSVERSE PLACEMENT GUIDELINES

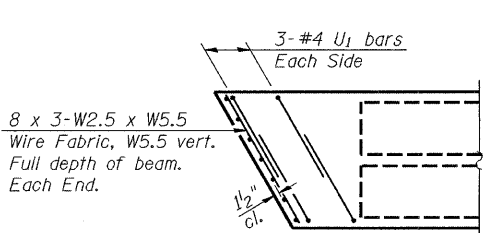
1. Place strands symmetrically about centerline of beam.
2. The minimum distance from center to center of strands in all directions shall be 2".
3. The minimum clearance from strand to dowel hole shall be 1/2".
4. The minimum clearance from strand to void shall be 1/2".

Vertical placement of strands shall not be adjusted to satisfy the above guidelines.

**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.



PLAN



END PLAN

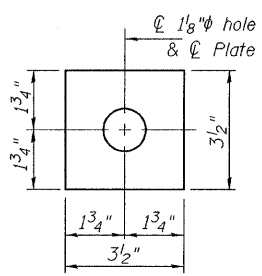
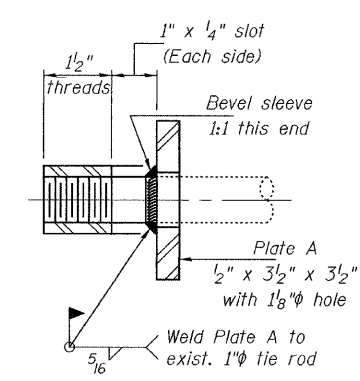
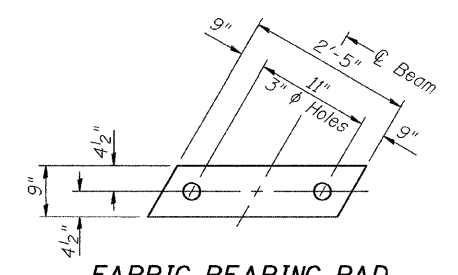


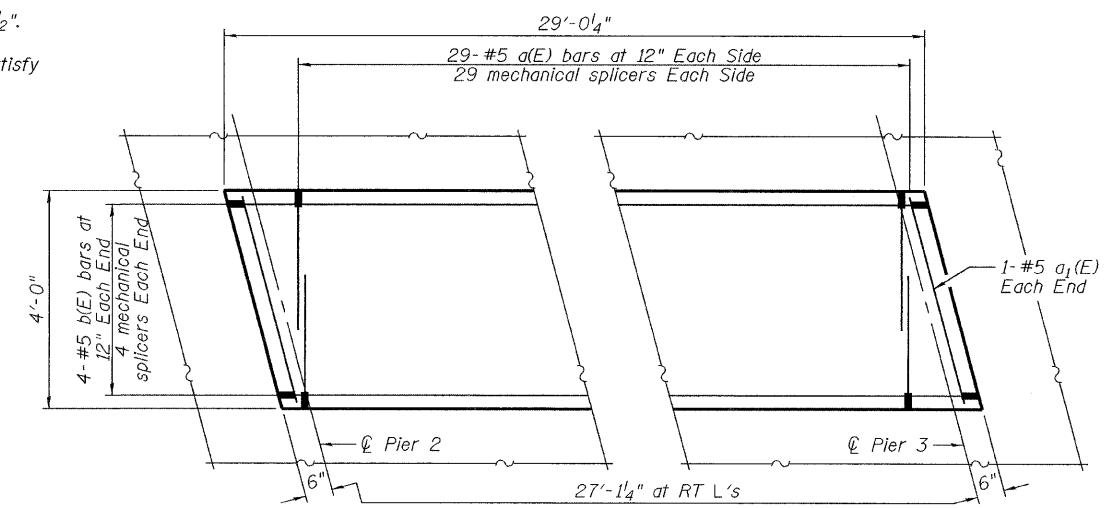
PLATE A
(4 Required)



SECTION A-A
(4 Required)



FABRIC BEARING PAD



PARTIAL OVERLAY PLAN SPAN 3

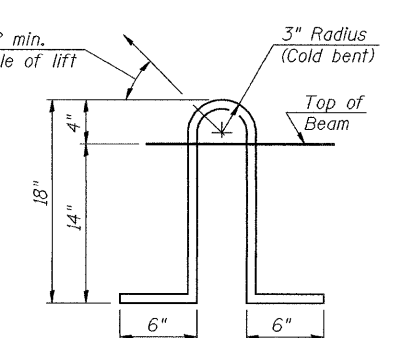
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	58	#5	2'-4"	—
a1(E)	2	#5	3'-10"	—
b(E)	8	#5	14'-11"	—
Concrete Wearing Surface Removal			Sq. Yd.	3.6
PPC Deck Beams (17")			Sq. Ft.	82
Concrete Wearing Surface			Sq. Yd.	12.9
Reinforcement Bars, Epoxy Coated			Pound	270

SPAN 3 BEAM DETAILS
IL 23 OVER COON CREEK
MCHENRY COUNTY
SN 056-0012

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 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, 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

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

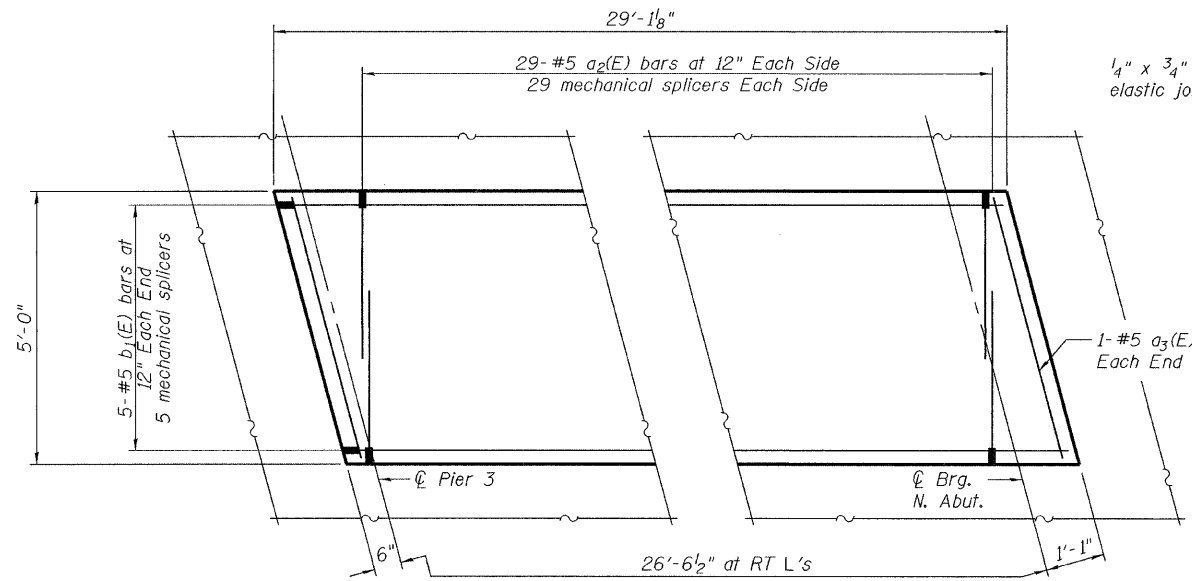
EXAMINED	March 14, 2008
PASSED	Carl P... ENGINEER OF STRUCTURAL SERVICES
	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

PD-3-R 11-1-06

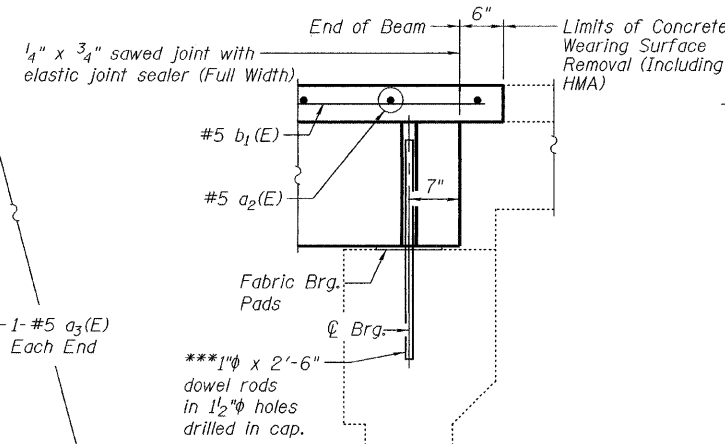
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		McHenry	13	6
FED. ROAD DIST. NO. 7		BLINDS	FED. AID PROJECT	

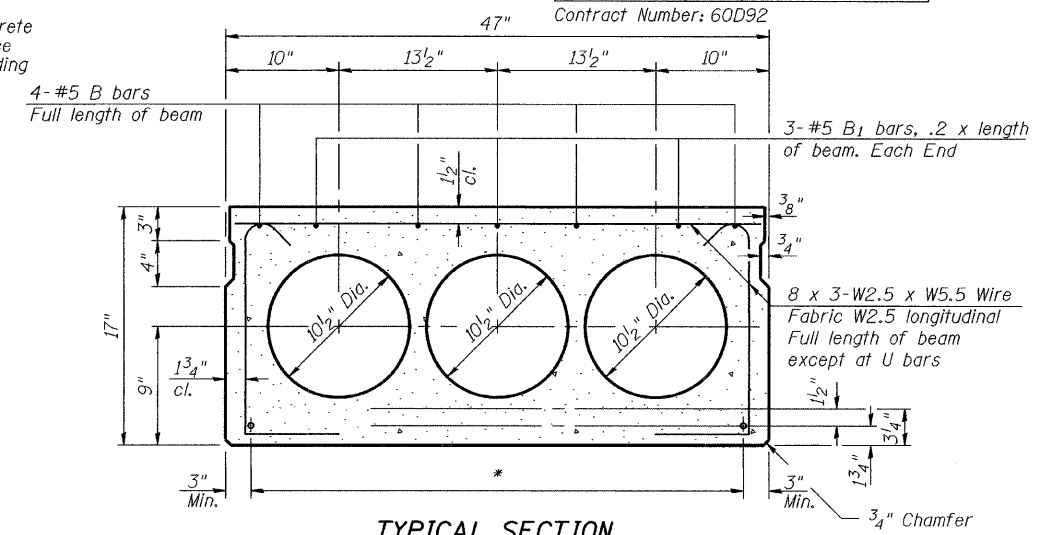
SHEET NO. 3
3 SHEETS



PARTIAL OVERLAY PLAN SPAN 4



TYPICAL SECTION AT ABUTMENT



TYPICAL SECTION

* TRANSVERSE PLACEMENT GUIDELINES

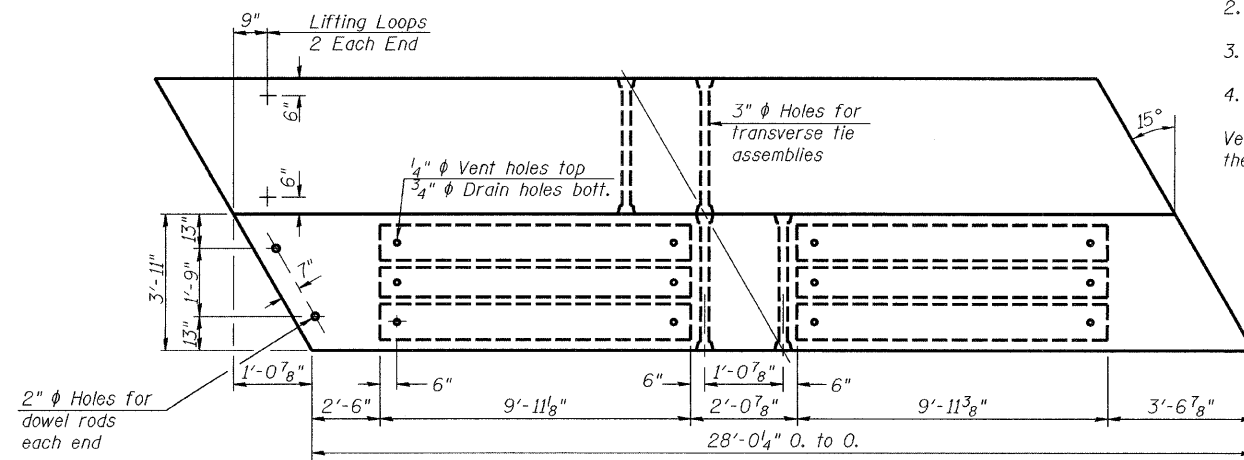
1. Place strands symmetrically about centerline of beam.
2. The minimum distance from center to center of strands in all directions shall be 2".
3. The minimum clearance from strand to dowel hole shall be 1/2".
4. The minimum clearance from strand to void shall be 1 1/2".

Vertical placement of strands shall not be adjusted to satisfy the above guidelines.

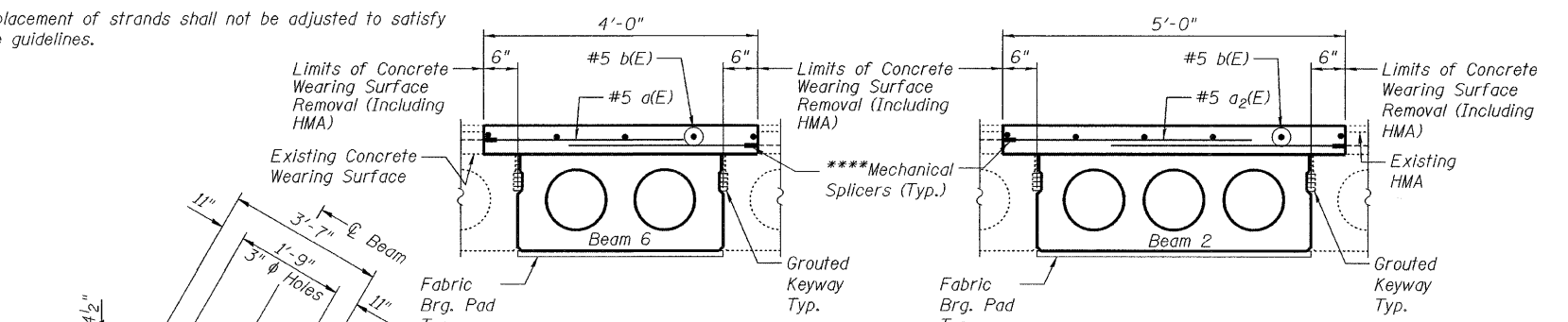
***1" Joint shall be filled with non-shrink grout. Dimension may vary to accommodate tolerance in beam lengths.

***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.

****Attach existing reinforcement with mechanical splicers. Existing reinforcement to extend 6" min into the removal area to allow attachment of the mechanical splicers.



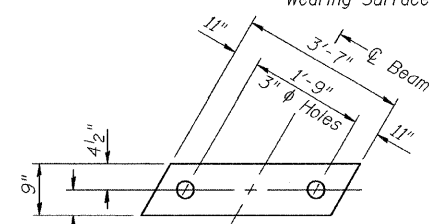
PLAN



PARTIAL SPAN 3
CROSS SECTION

PARTIAL SPAN 4
CROSS SECTION

FABRIC BEARING PAD



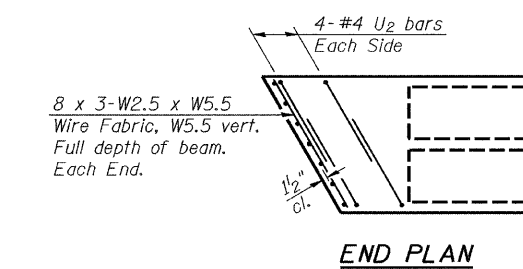
NOTES

- 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" phi-270 ksi strands, as shown. The 1" phi 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 shown on Sheet 2 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.

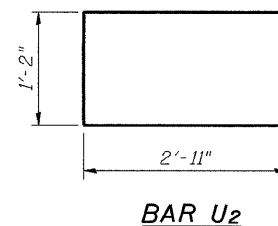
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	58	#5	2'-10"	
a3(E)	2	#5	4'-11"	
b(E)	10	#5	14'-11"	
Concrete Wearing Surface Removal			Sq. Yd.	3.7
Concrete Wearing Surface			Cu. Yd.	16.2
PPC Deck Beams (17")			Sq. Ft.	110
Reinforcement Bars, Epoxy Coated			Pound	340

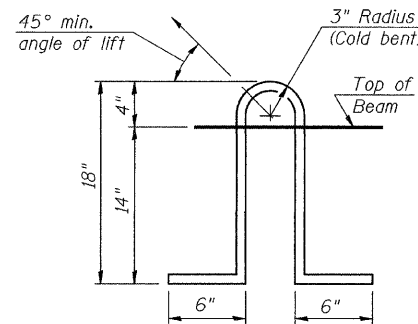
SPAN 4 BEAM DETAILS
IL 23 OVER COON CREEK
McHENRY COUNTY
SN 056-0012



END PLAN



BAR U2



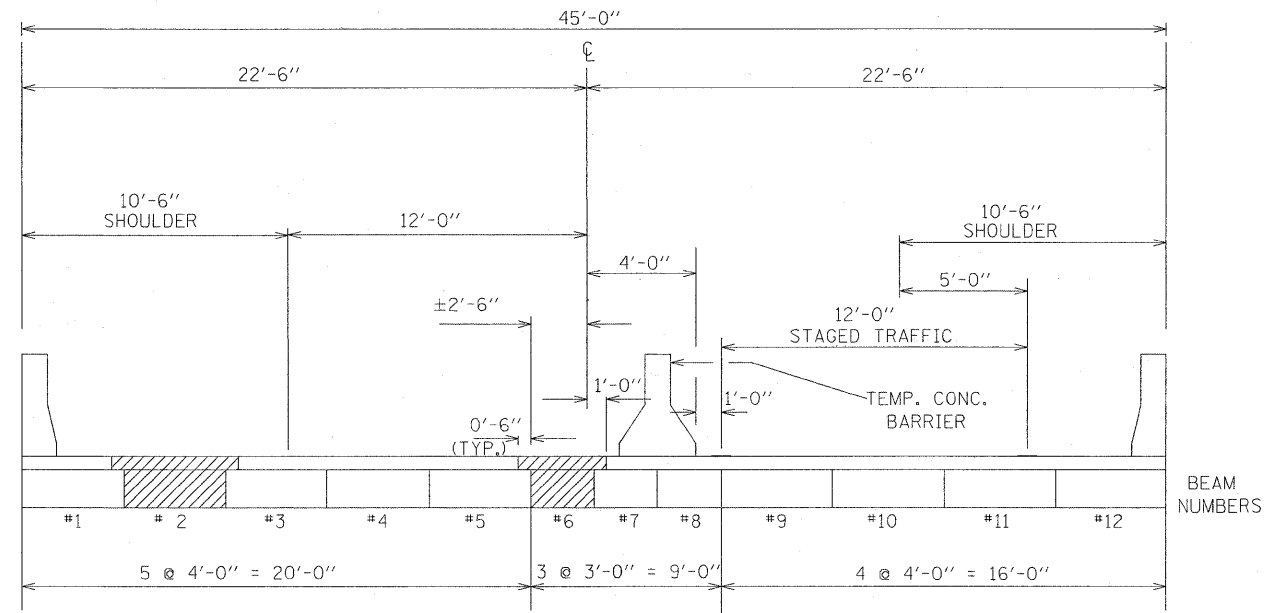
LIFTING LOOP DETAIL

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

March 14, 2008	
EXAMINED	Carl Perry
ENGINEER OF STRUCTURAL SERVICES	
PASSED	Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES	

PD-4-R

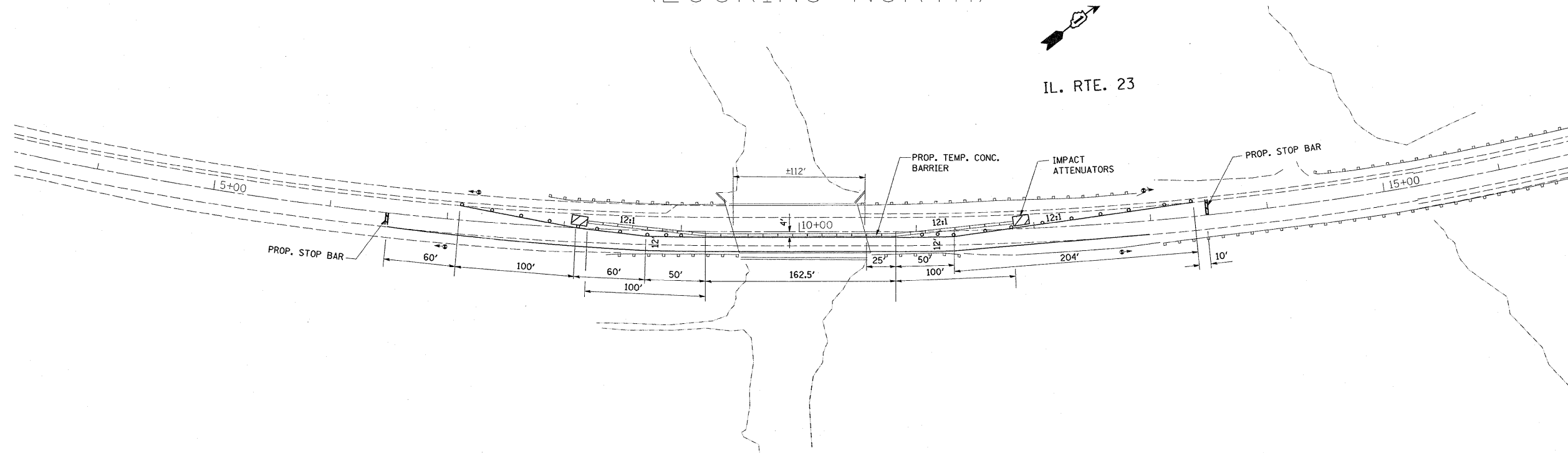
11-1-06



CROSS SECTION
(LOOKING NORTH)



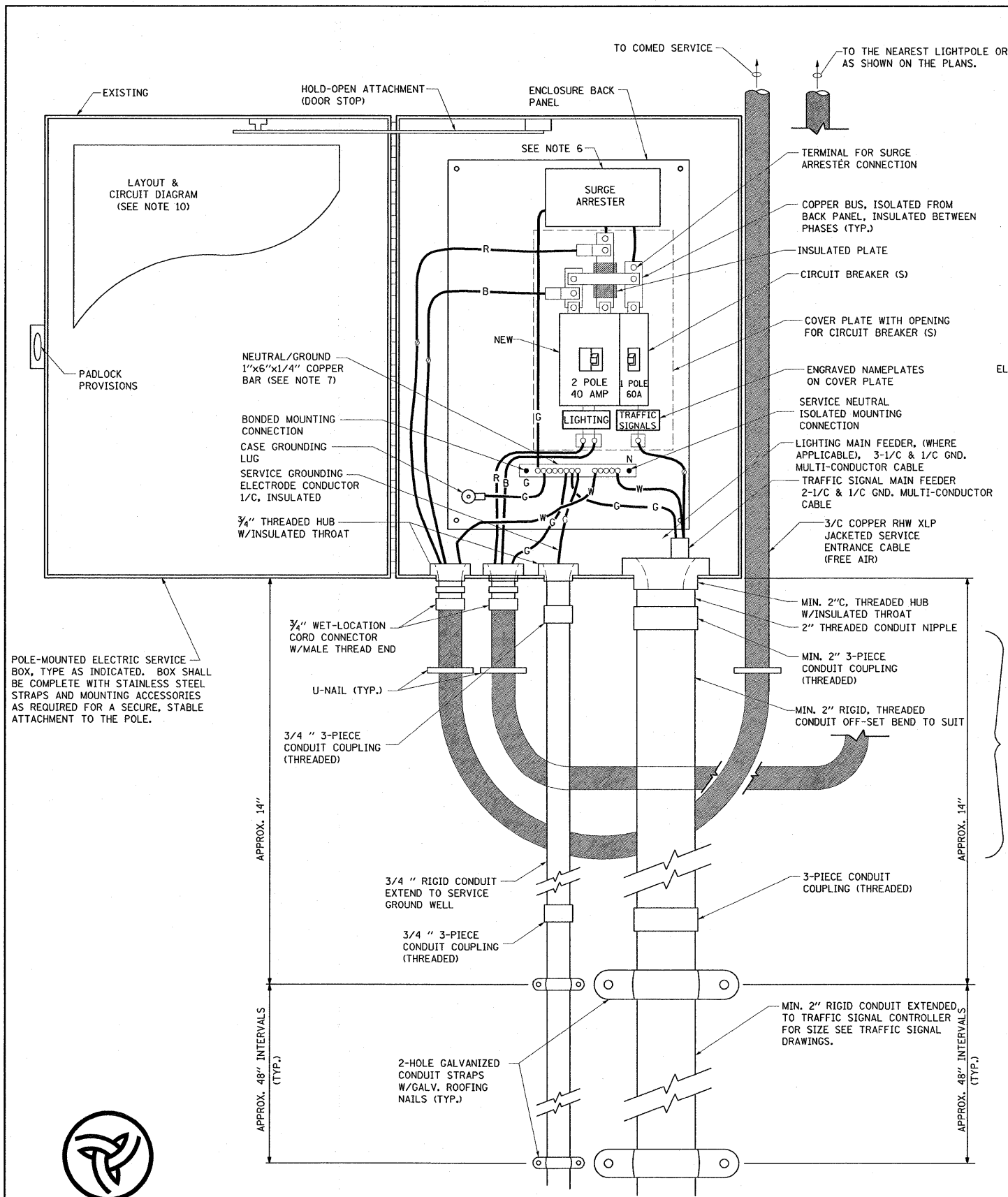
IL. RTE. 23



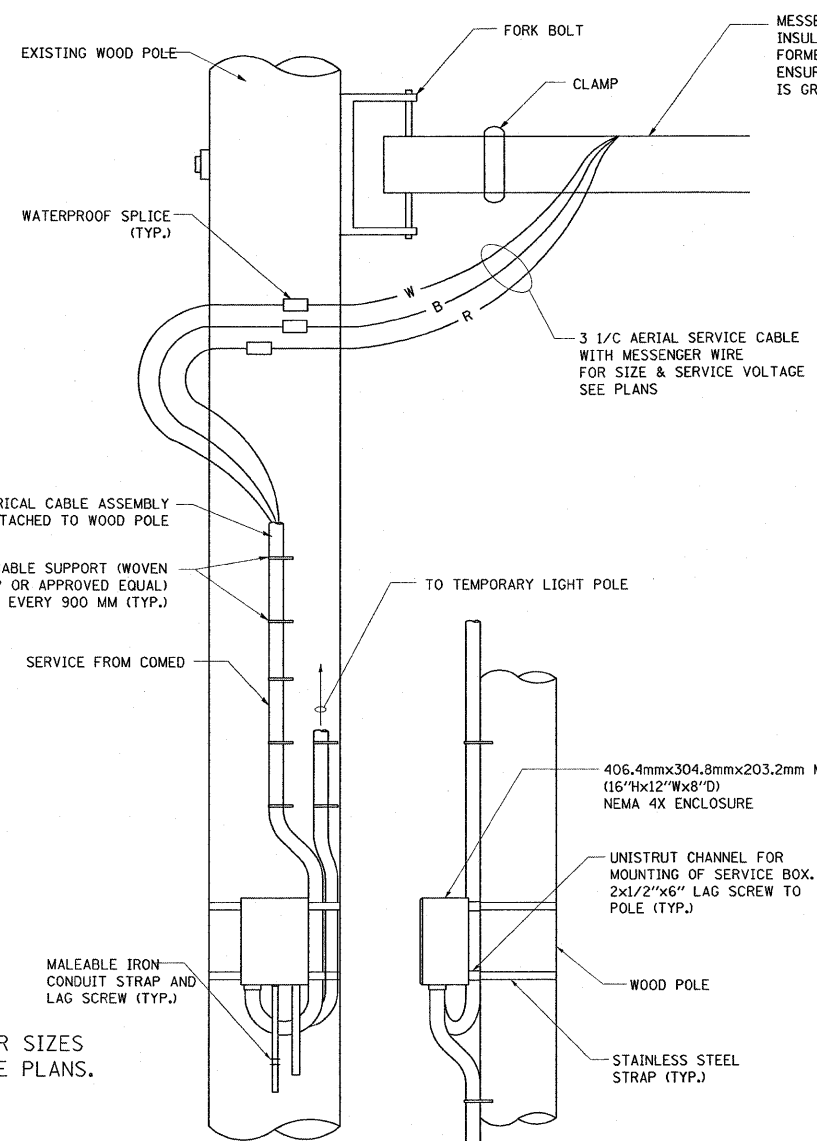
PLAN

NOTES: TRAFFIC CONTROL SHALL FOLLOW STANDARD 701321

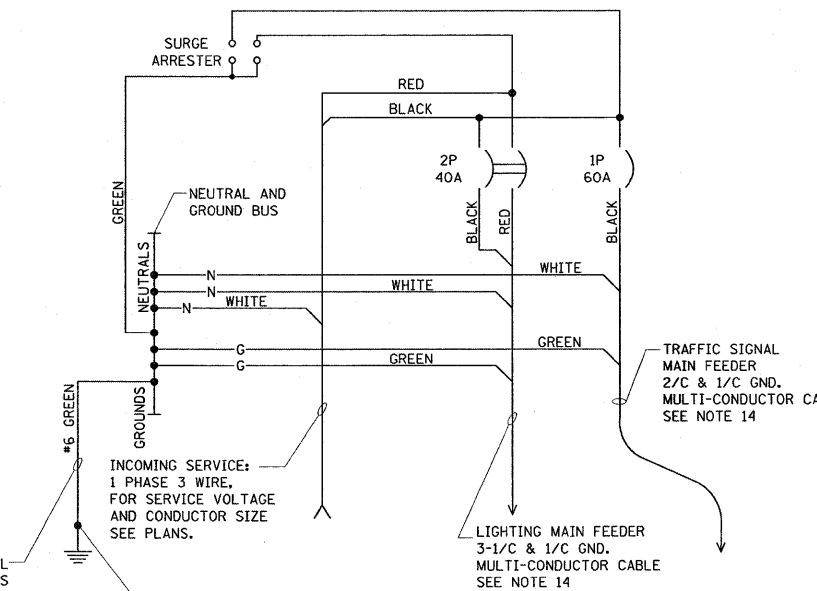
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	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO.	
	PLOT DATE = 3/7/2008	CHECKED -	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							
		DATE -	REVISED -		<i>Rev.</i>							



POLE-MOUNTED ELECTRIC SERVICE ENTRANCE
GENERAL LAYOUT DIAGRAM



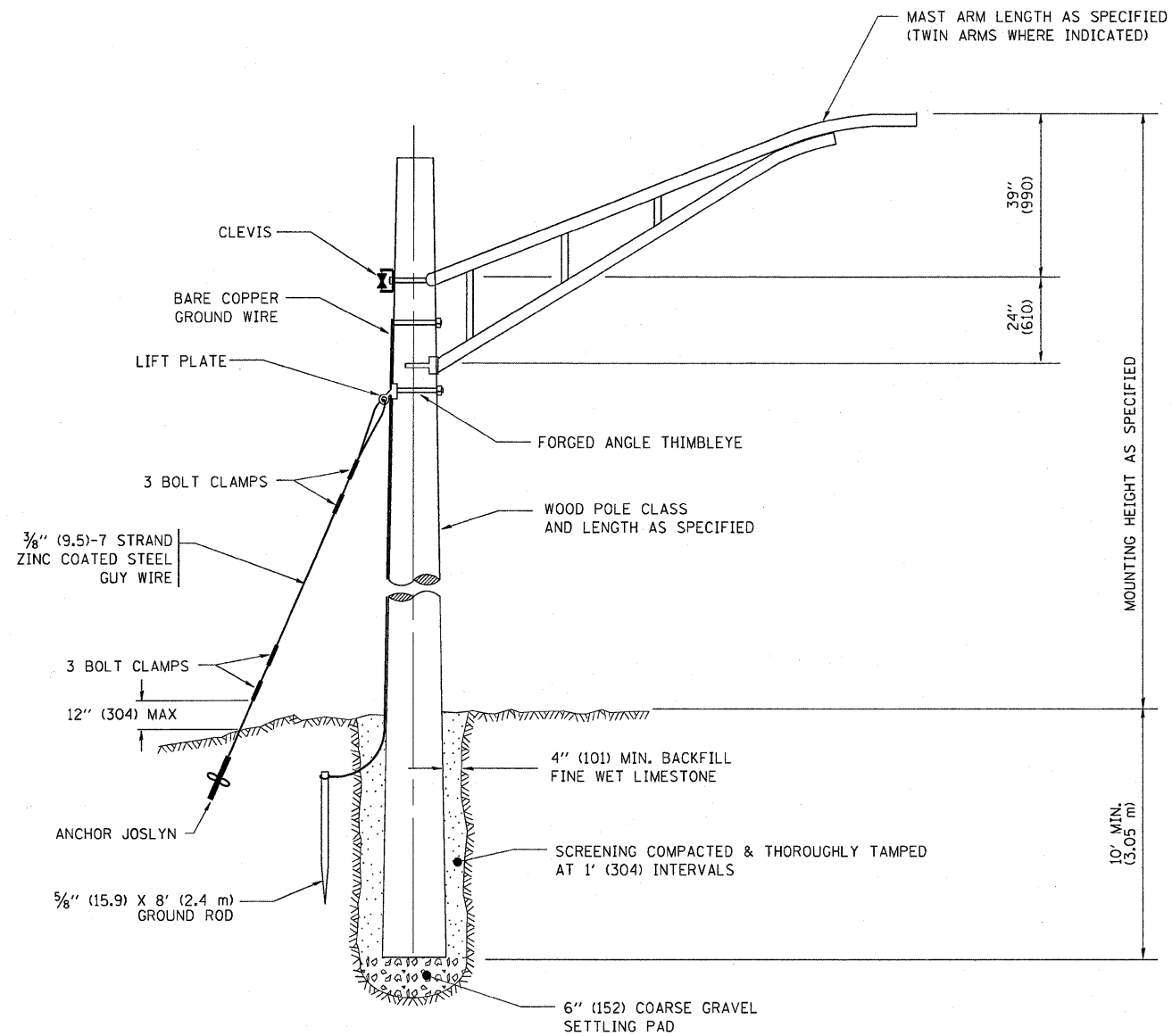
DISCONNECT MOUNTING DETAIL
N.T.S.



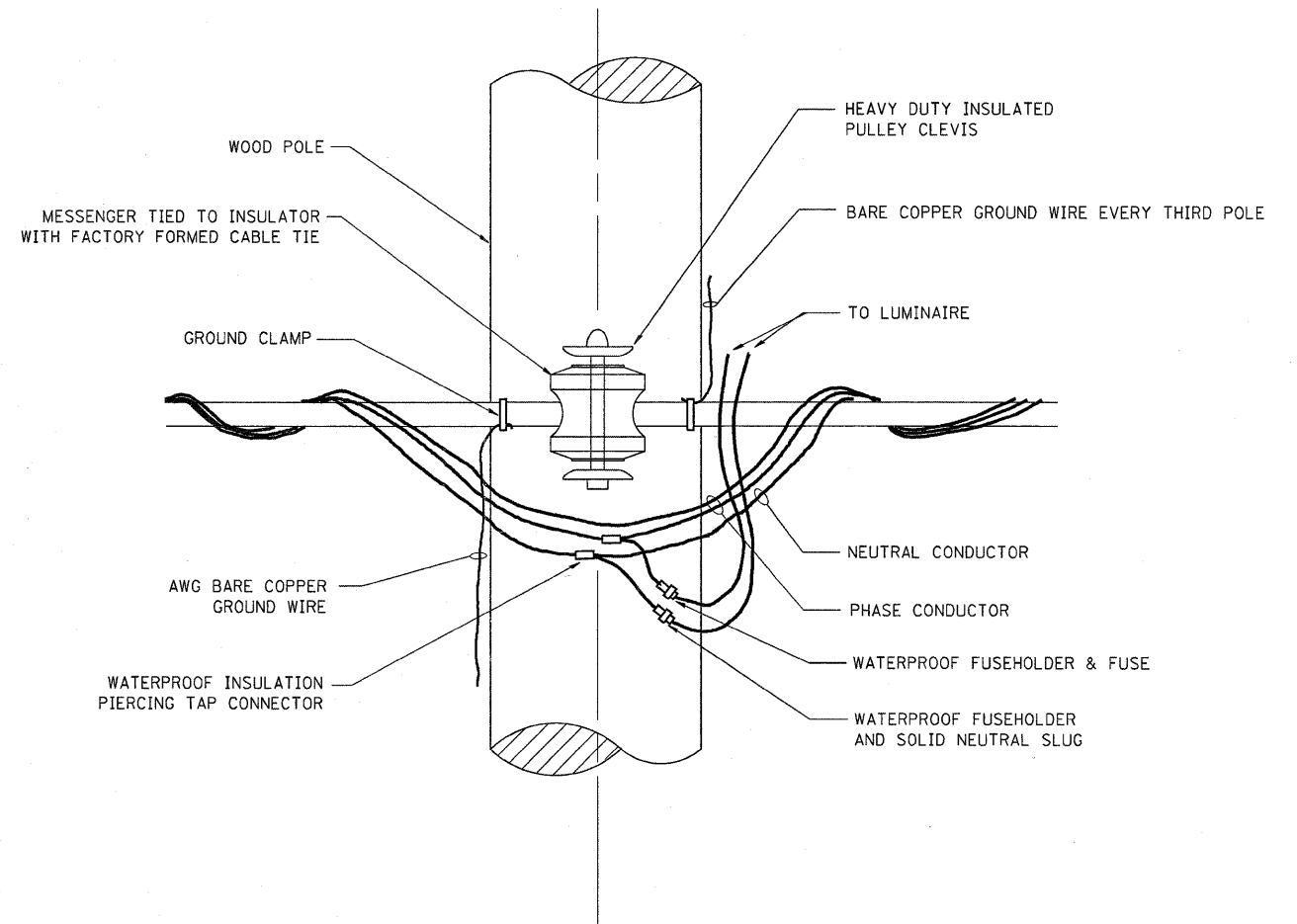
SCHEMATIC DIAGRAM

- NOTES:**
- ELECTRIC SERVICE SHALL BE OF THE VOLTAGE INDICATED OR DESIGNATED BY THE ENGINEER, AND SERVICE DROP CABLE SHALL BE COMPATIBLE WITH THE SERVICE ACCORDINGLY. SOME INSTALLATIONS MAY CALL FOR SERVICE ENTRANCE EQUIPMENT SUITABLE FOR 3-WIRE SERVICE EVEN THOUGH INITIALLY WIRED FOR 2-WIRE SERVICE.
 - THE POLE-MOUNTED ELECTRIC SERVICE BOX DETAIL DEPICTS THE BASIC CONSTRUCTION OF THE EQUIPMENT. SLIGHT MODIFICATIONS APPLY FOR DIFFERING SERVICES AND APPLICATIONS AS FOLLOWS:
 TYPE A FULLY EQUIPPED FOR 240/120V. 3W SERVICE, COMPLETE WITH LIGHTING MAIN BREAKER
 TYPE A1 FULLY EQUIPPED FOR 240/120V. 3W SERVICE, BLANK COVER IN LIEU OF LIGHTING MAIN BREAKER
 TYPE B EQUIPPED FOR 120V. SERVICE, COMPLETE WITH 1P, 60A. TRAFFIC SIGNALS MAIN BREAKER
 TYPE B1 EQUIPPED FOR 120V. SERVICE, COMPLETE WITH 1P, 40A. TRAFFIC SURVEILLANCE MAIN BREAKER
 - THE ELECTRIC SERVICE EQUIPMENT ASSEMBLY SHALL BE UL LISTED AS SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT.
 - THE ELECTRIC SERVICE EQUIPMENT ENCLOSURE SHALL BE NEMA 4X STAINLESS STEEL, NOMINALLY 12"W X 16"H X 8"D, WITH A PIANO-HINGED DOOR, STEEL BACK PANEL, FAST-ACTING STAINLESS STEEL ENCLOSURE CLAMPS, PADLOCK PROVISIONS AND DOOR STOP, HOFFMAN CATALOG NO. A-16H1208SS6LP/A-16 P12/A-DSTOPK/C-PMK12, OR APPROVED EQUAL.
 - CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC BOLT-ON TYPE WITH A MINIMUM INTERRUPTING CAPACITY OF 25,000 SYMMETRICAL AMPERES AT 240 VOLTS. THEY SHALL BE LOCKABLE IN THE "OFF" POSITION FOR COMPLIANCE WITH OSHA LOCK-OUT/TAG-OUT REQUIREMENTS. HANDLES SHALL BE TRIP FREE.
 - THE SURGE PROTECTOR SHALL BE SUITABLE FOR THE SERVICE VOLTAGE SINGLE PHASE 60HZ AC, WITH A SURGE ENERGY CAPABILITY OF 2160 JOULES OR BETTER AT 8/20 MICRO-SECONDS, RATED -40 TO 60 DEGREES C., WITH LED OPERATING INDICATORS, AND SHALL BE UL LISTED PER UL 1449, CUTLER-HAMMER CMOV230L065XST OR APPROVED EQUAL.
 - BUS BARS, CONNECTORS, AND LUGS SHALL BE COPPER, INSULATED AND ISOLATED, AND CONFIGURED TO PREVENT SHORTED CONDITIONS FROM TIGHTENING TERMINATIONS, ETC. THE OVERALL BUS SECTION SHALL BE CONFIGURED BEHIND AN INSULATING BARRIER SHIELD WHICH IS REMOVABLE FOR ACCESS TO CONNECTIONS, OR THE ASSEMBLY SHALL BE A MANUFACTURED SPECIALTY PANELBOARD, CUTLER-HAMMER PRL2A OR APPROVED EQUAL.
 - THE COMBINATION GROUND AND NEUTRAL BAR SHALL BE CONFIGURED WITH SEPARATE GROUND AND NEUTRAL SECTIONS AND SPARE TERMINALS AS INDICATED. THE HEADS OF GROUND SCREWS SHALL BE PAINTED GREEN. THE HEADS OF NEUTRAL SCREWS SHALL BE PAINTED WHITE. THE SERVICE NEUTRAL AND SERVICE GROUNDING ELECTRODE CONDUCTOR SHALL BE TERMINATED ADJACENT TO EACH OTHER AT THE DIVIDE BETWEEN THE SECTIONS AND WIRING SHALL BE TERMINATED ONLY UPON THE APPROPRIATE SECTION.
 - THE WIRING TERMINALS, INCLUDING THE GROUND/NEUTRAL BAR SHALL BE ARRANGED TO PROVIDE ADEQUATE ROOM FOR PERFORMING FIELD TERMINATIONS.
 - A PLASTIC LAMINATED LAYOUT AND CIRCUIT DIAGRAM SHALL BE MECHANICALLY SECURED TO THE INTERIOR SIDE OF THE ENCLOSURE DOOR.
 - A 2-COLOR ENGRAVED PLASTIC NAMEPLATE, ATTACHED WITH SCREWS, AND ENGRAVED AS INDICATED, SHALL BE PROVIDED FOR EACH MAIN BREAKER.
 - LUGS AND CONNECTORS SHALL BE RATED FOR 75 C CONDUCTOR.
 - THE EXACT MOUNTING HEIGHT OF THE BOX SHALL BE FIELD DETERMINED TO AVOID OBSTRUCTIONS AND PUBLIC ACCESS. TYPICAL HEIGHT SHALL BE APPROXIMATELY 10 FEET ABOVE GRADE.
 - THE FEEDER CABLE (MATERIAL & INSTALLATION) FROM SERVICE DISCONNECT TO THE FIRST LIGHT POLE / CONTROLLER, AS SHOWN ON PLANS IS PART OF THE PAY ITEM "ELECTRIC SERVICE DISCONNECT, LIGHTING AND TRAFFIC SIGNALS" ALSO KNOWN AS COMBINATION LIGHTING AND TRAFFIC POLE MOUNTED ELECTRICAL SERVICE BOX. FOR THE SIZE OF CONDUCTORS, SEE PLANS.

FILE NAME = c:\projects\view\d12608\lighting.dgn	USER NAME = mresrb	DESIGNED - DG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	COMBINATION LIGHTING & TRAFFIC POLE MOUNTED ELECTRIC SERVICE BOX DETAIL		F.A.P. RTE. 324	SECTION 24 B-1	COUNTY McHenry	TOTAL SHEETS 13	SHEET NO. 9
PLOT SCALE = 50,00000 ' / IN.	CHECKED -	DRAWN - RL	REVISED -		SCALE: NONE	SHEET NO. 2 OF 3 SHEETS	STA.	TO STA.		CONTRACT NO. 60D92	
PLOT DATE = 3/7/2008	DATE - 2-19-08	REVISOR -	REVISOR -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT						



TEMPORARY LIGHT POLE DETAIL

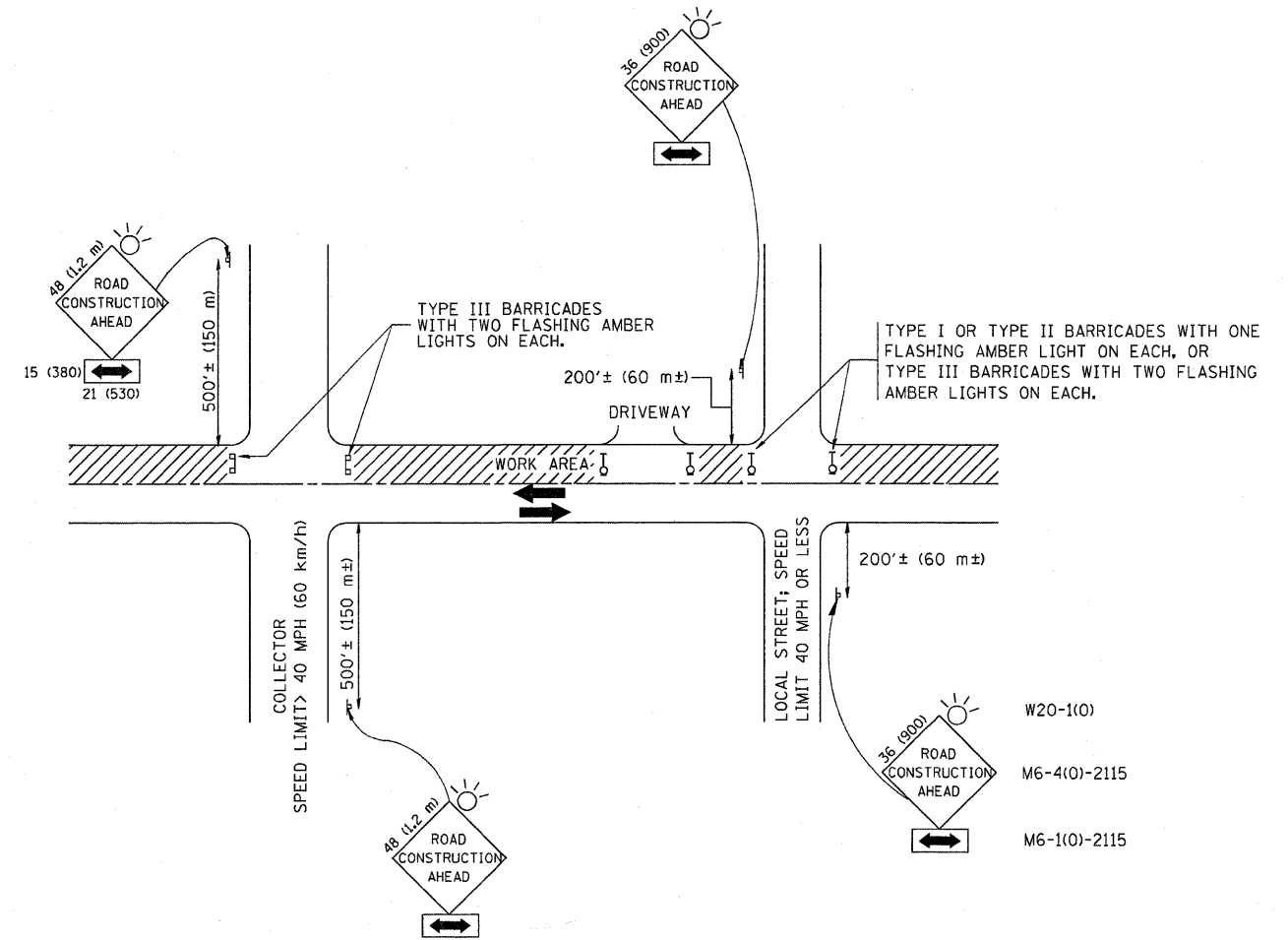


TEMPORARY LIGHT POLE ATTACHMENT DETAIL

NOTES:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED

FILE NAME = W:\dststd\22x34\be000.dgn	USER NAME = gaglienobt	DESIGNED -	REVISED - 08-08-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY LIGHT POLE DETAILS			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50,000 ' / IN.	DRAWN -	REVISED -					324	24 B-I	McHenry	13	11
	PLOT DATE = 1/4/2008	CHECKED -	REVISED -		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.			BE-800		CONTRACT NO.		
		DATE -	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							



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

NOTES:

- A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS
 - 1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - a) 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.
 - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
 - 2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - a) 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.
 - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
 - 3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
- B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:
 - USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
 - C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
 - D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

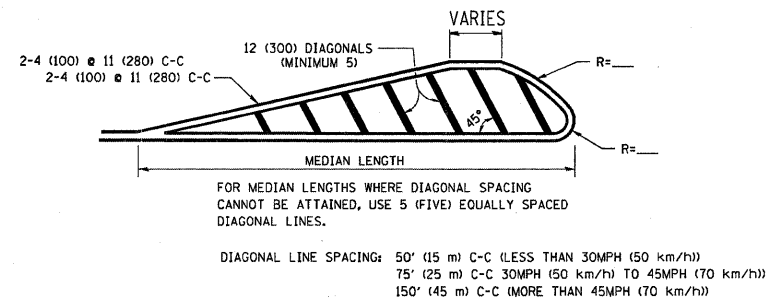
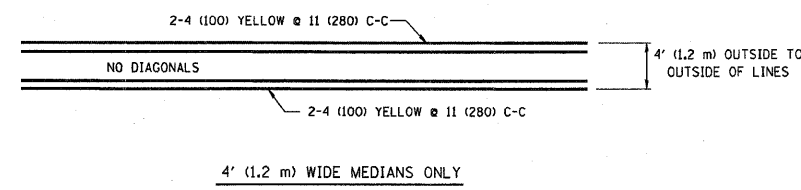
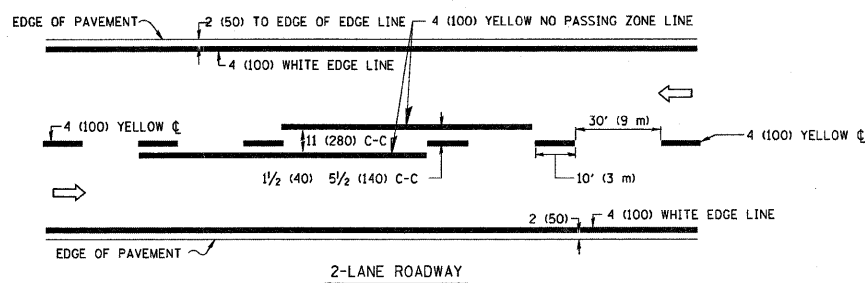
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		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 50,000' / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 1/4/2008	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

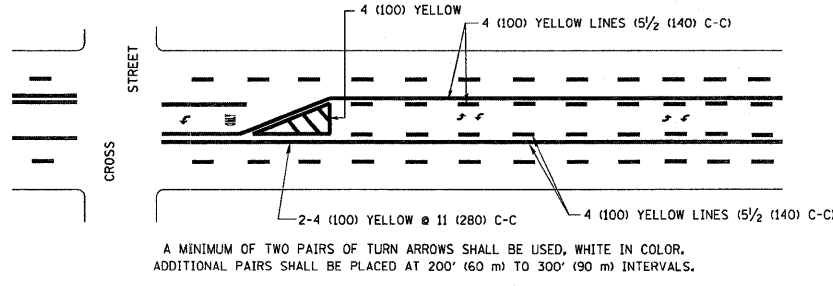
TRAFFIC CONTROL AND PROTECTION FOR
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
324	24 B-I	McHenry	13	12
TC-10			CONTRACT NO.	
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT				

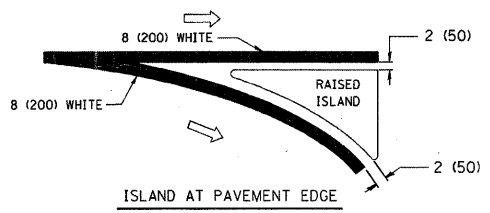
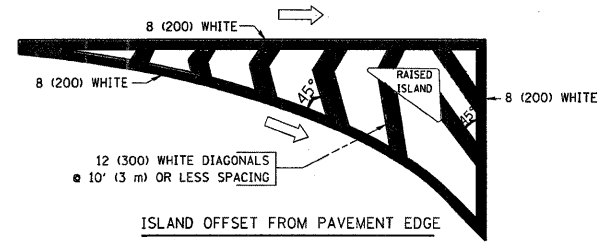


MEDIANS OVER 4' (1.2 m) WIDE

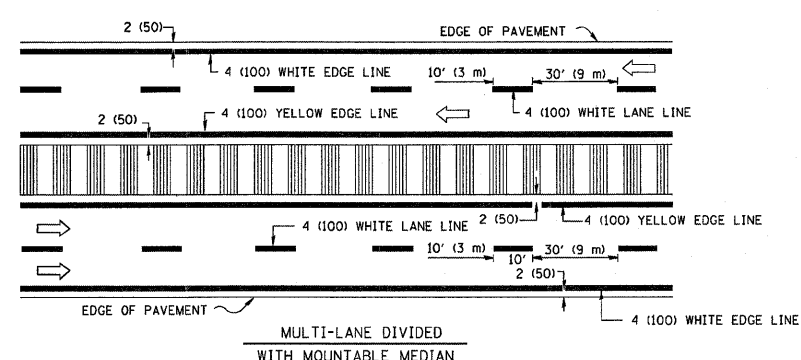
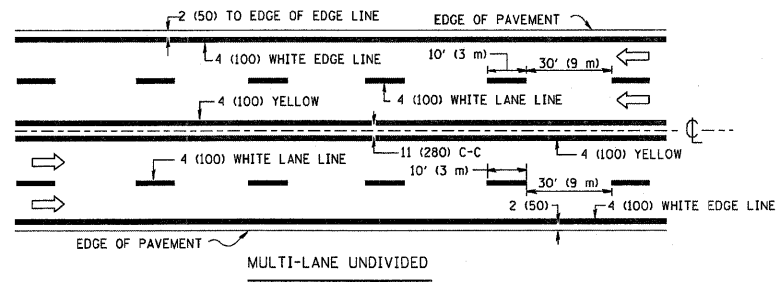


MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

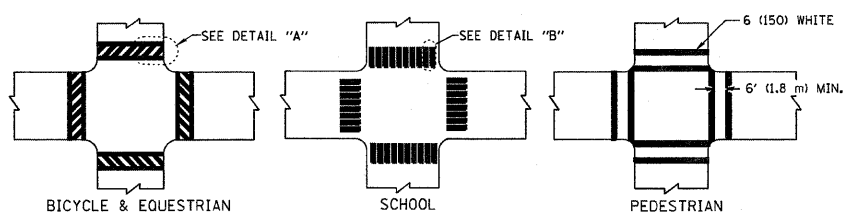


TYPICAL ISLAND MARKING

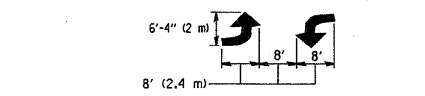


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING



TYPICAL CROSSWALK MARKING



TYPICAL TURN LANE MARKING

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

* 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".

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	4 (100)	SOLID	YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE
NO PASSING ZONE LINES: FOR BOTH DIRECTIONS	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100)	SKIP-DASH	WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
	5 (125) ON FREEWAYS	SKIP-DASH	WHITE	
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	SKIP-DASH AND SOLID	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE
	8' (2.4m) LEFT ARROW	IN PAIRS	WHITE	SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN)	2 @ 6 (150)	SOLID	WHITE	NOT LESS THAN 6' (1.8 m) APART
A. DIAGONALS (BIKE & EQUESTRIAN)	12 (300) @ 45°	SOLID	WHITE	2' (600) APART
B. LONGITUDINAL BARS (SCHOOL)	12 (300) @ 90°	SOLID	WHITE	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°	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
	NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS			
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 inches (millimeters) unless otherwise shown.