

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

**PROPOSED
 HIGHWAY PLANS**

FAU ROUTE 1584: 115TH ST. (EB)
 OVER FAI 94 (BISHOP FORD EXPY)
 SECTION 1111-700 HB-BR
 BRIDGE REPAIR
 COOK COUNTY
 C-91-196-08

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1584	1111-700 HB-BR	COOK	30	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 60E12		

FOR INDEX OF SHEETS, SEE SHEET NO. 2

THIS IMPROVEMENT IS LOCATED
 IN THE CITY OF CHICAGO

TRAFFIC DATA

115th Street

2006 ADT = 10,800
 POSTED SPEED LIMIT = 30 MPH

I-94/Bishop Ford

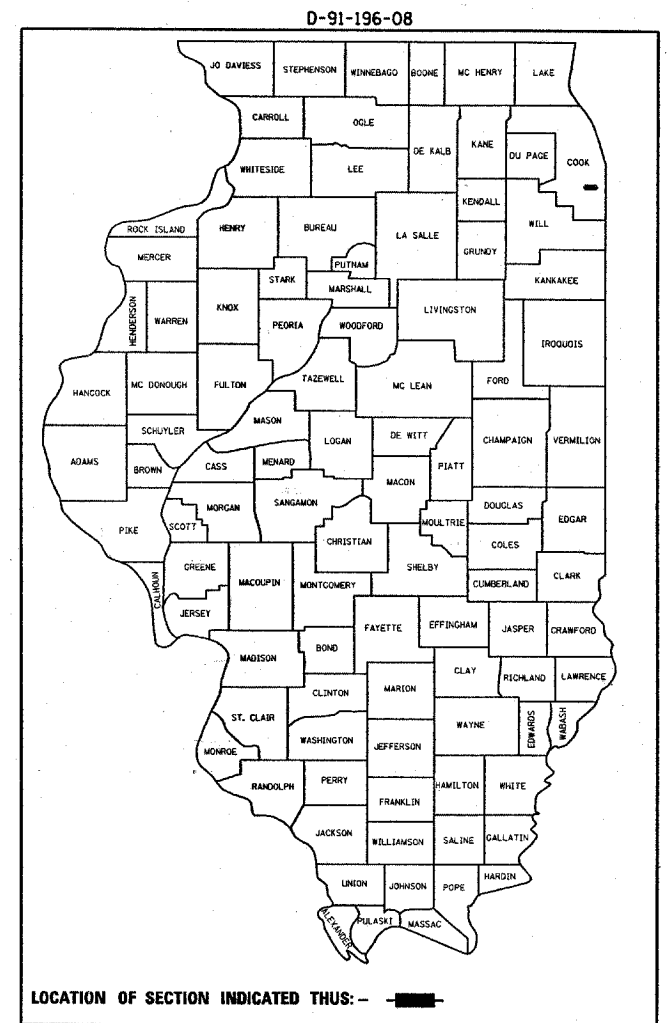
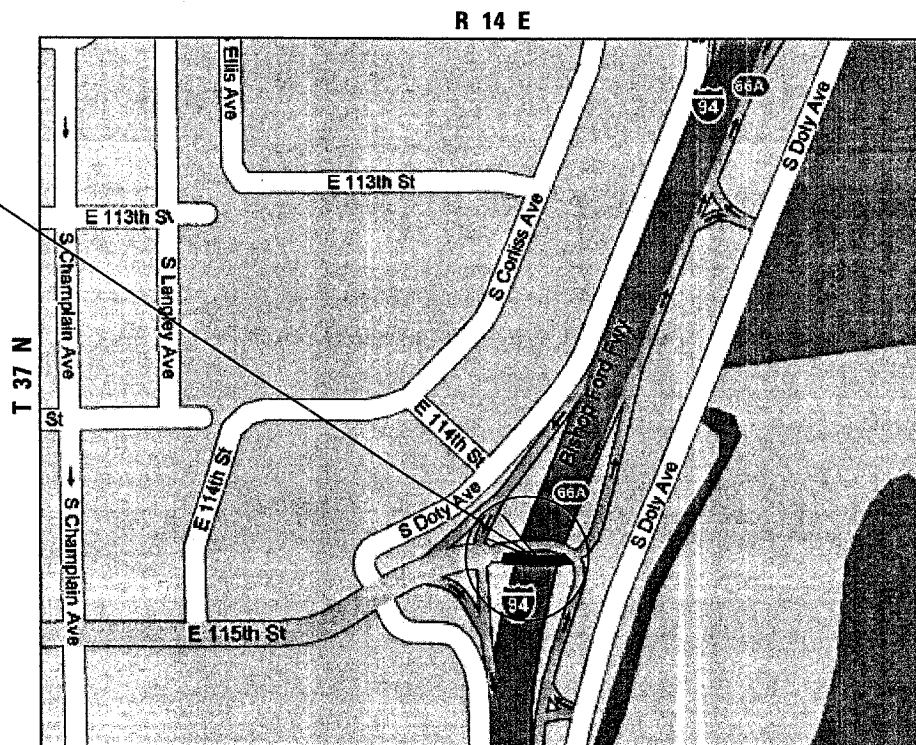
2007 ADT = 132,400
 POSTED SPEED LIMIT = 55 MPH

IMPROVEMENT LOCATION
 SN 016-2042

C.U.A.N.: CHICAGO UTILITY
 ALERT NETWORK
 (312) 744-7000

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

CONTRACT NO. 60E12



STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED APRIL 9, 2008
Diana M. O'Keefe
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 9, 2008
Eric E. Haral
 INTERIM ENGINEER OF DESIGN AND ENVIRONMENT

May 9, 2008
Christine M. Reed
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
 OF THE STATE OF ILLINOIS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
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19-26	UNDERPASS LIGHTING DETAILS
27	CONSTRUCTION SEQUENCE PLAN
28	TRAFFIC CONTROL AND PROTECTION FOR SIDEROADS, INTERSECTIONS, AND DRIVEWAYS (TC-10)
29	TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE AND MULTI-LANE WEAVE (TC-9)
30	TRAFFIC CONTROL FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES (TC-17)

STATE STANDARDS

STANDARD NO.	DESCRIPTION
701400-02	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-04	LANE CLOSURE, FREEWAY/EXPRESSWAY
701411-04	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS > 45 MPH TO 55 MPH
701426-02	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATIONS FOR SPEEDS >45 MPH
701446	TWO LANE CLOSURE, FREEWAY/EXPRESSWAY
701901	TRAFFIC CONTROL DEVICES

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL C.U.A.N. CHICAGO UTILITY ALERT NETWORK 1-312-744-7000 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.

WHEN ARTIFICIAL LIGHTING IS UTILIZED IN NIGHT OPERATIONS, THE CONTRACTOR SHALL EXERCISE THE UTMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJOINING RESIDENTIAL AREAS.

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705- 4470 (FOR ARTERIALS) AND (847) 705-4151 (FOR EXPRESSWAYS) A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

THE 'ADVANCED WARNING SIGN DETEAIL FOR ARTERIAL TRAFFIC' LOCATED IN THE SPECIAL PROVISION FOR 'TEMPORARY INFORMATION SIGNING FOR LANE CLOSURES' IS APPLICABLE ONLY TO ARTERIAL ROADS AND SHALL NOT BE APPLIED TO EXPRESSWAYS.

SLIPFORMING OF PARAPETS IS NOT ALLOWED.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE CITY OF CHICAGO.

CONCRETE SUPERSTRUCTURE SHALL HAVE A SEVEN DAY MINIMUM CURE.

THE CONTRACTOR SHALL SALVAGE AND RETURN THE EXISTING TEMPORARY CONCRETE BARRIER TO:

BISHOP FORD YARD
16915 VANDAM ROAD
SOUTH HOLLAND, ILLINOIS 60473

THIS WORK SHALL INCLUDE REMOVING, TRANSPORTING, AND UNLOADING THE EXISTING TEMPORARY CONCRETE BARRIER TO THE ABOVE YARD WHICH COST IS INCLUDED IN THE COST OF "RELOCATE TEMPORARY CONCRETE BARRIER".

NO PERMANENT LANE CLOSURES ARE ALLOWED ON I-94.

FILE NAME = c:\projects\dl19688\design.ee.dgn	USER NAME = tsnakosmv	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STATE STANDARDS GENERAL NOTES				F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -						1584	1111-700 HB-BR	COOK	30	2
	PLOT DATE = 4/30/2008	CHECKED -	REVISED -		CONTRACT NO. 60E12								
	DATE -	REVISED -	SCALE:		SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT				

MCHD CLAIM NO. 735298

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT	URBAN TOTAL QUANTITIES	MCHD SFTY-2A				
50104720	REMOVAL OF EXISTING CONCRETE DECK	EACH	1	1				
50157300	PROTECTIVE SHIELD	SO YD	205	205				
50300255	CONCRETE SUPERSTRUCTURE	CU YD	55.8	55.8				
50300260	BRIDGE DECK GROOVING	SO YD	167	167				
50300300	PROTECTIVE COAT	SO YD	235.6	235.6				
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	9720	9720				
50500505	STUD SHEAR CONNECTORS	EACH	375	375				
50501110	STRUCTURAL STEEL REMOVAL	POUND	9720	9720				
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	13,830	13,830				
52000110	PREFORMED JOINT STRIP SEAL	FOOT	75	75				
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	5	5				
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3	3				
67100100	MOBILIZATION	L SUM	1	1				
70101800	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1				
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	90	90				
* 72000300	SIGN PANEL - TYPE 3	SO FT	88	88				
* 73304000	OVERHEAD SIGN STRUCTURE - BRIDGE MOUNTED	FOOT	13	13				
* 81100320	CONDUIT ATTACHED TO STRUCTURE, 1" DIA., PVC COATED GALVANIZED STEEL	FOOT	250	250				
* 81300220	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 6" x 6" x 4"	EACH	4	4				
* 81300530	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" x 10" x 6"	EACH	3	3				
* 81800340	AERIAL CABLE, 3-1/C NO. 8 WITH MESSENGER WIRE	FOOT	50	50				
X0322467	TEMPORARY INFORMATION SIGNING FOR LANE CLOSURE	SO FT	48	48				
* X0323710	REMOVE CONDUIT ATTACHED TO STRUCTURE	FOOT	300	300				
X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1	1				
* X8170100	ELECTRIC CABLE IN CONDUIT, REMOVE ALL CONDUCTORS	FOOT	300	300				
* X8210055	FLUORESCENT LUMINAIRE FOR SIGN LIGHTING	EACH	7	7				
* XX003079	REMOVE JUNCTION BOX	EACH	3	3				

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT	URBAN TOTAL QUANTITIES	MCHD SFTY-2A				
* XX004046	AERIAL CABLE REMOVAL	FOOT	250	250				
* XX004308	LIQUID TIGHT FLEXIBLE METALLIC CONDUIT, 1 INCH	FOOT	50	50				
Z0003480	BEAM REPOSITIONING	EACH	4	4				
Z0003600	BEAM STRAIGHTENING	L SUM	1	1				
Z0040330	PIN AND LINK PLATE REPLACEMENT	EACH	5	5				
* X0326097	ELECTRIC CABLE IN CONDUIT, 600V, (EPR-TYPE RHW), 3-1/C NO.10, 1/C NO.10 GROUND	FOOT	300	300				

4/30/2008

* Specialty Items

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUMMARY OF QUANTITIES
115TH ST. (EB) OVER FAI 94
SN. 016-2042

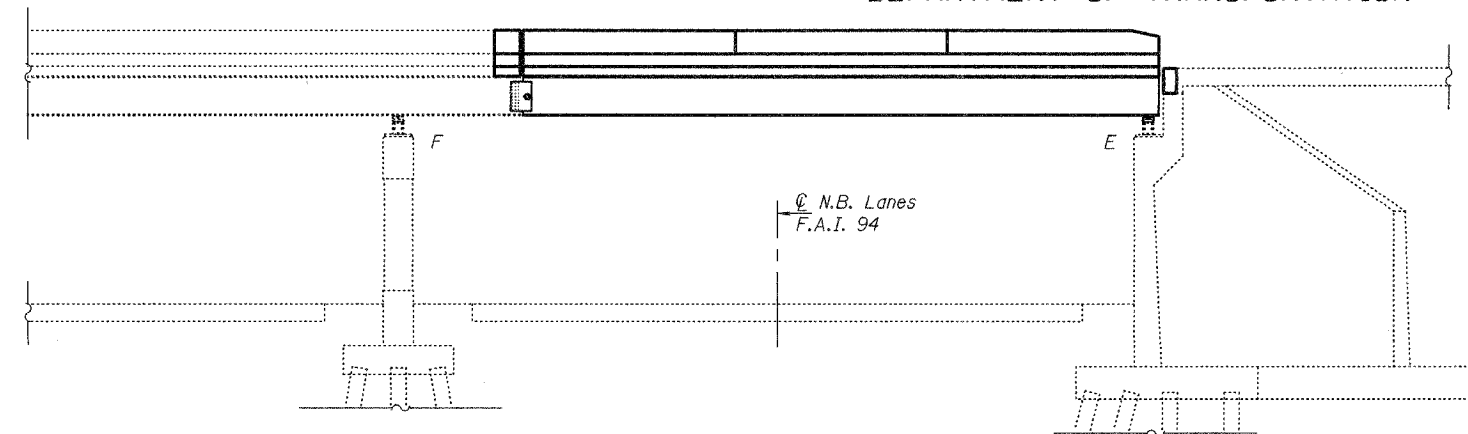
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1 15 SHEETS
FAI 94	*	COOK	30	4	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

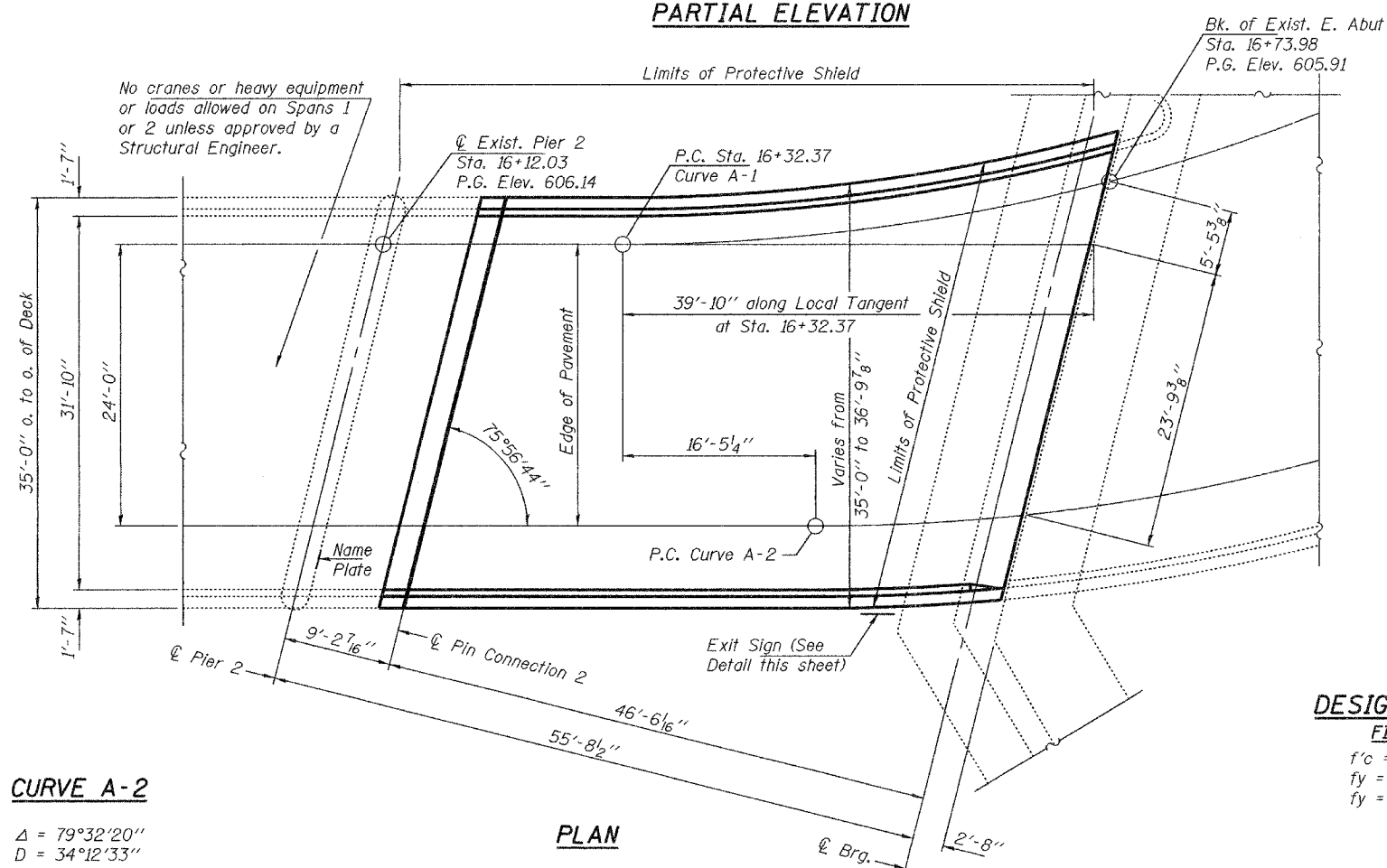
Contract Number: 60E12
* 1111-700 HB-BR

GENERAL NOTES

- All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
- Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{13}{16}$ " ϕ , unless otherwise noted.
- 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.
- Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.
- 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, except the pin diameters, 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.
- Cost of removal and re-Installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Furnishing and Erecting Structural Steel.
- The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat shall be Interstate Green, Munsell No. 7.5 4/8. See Special Provision "Cleaning and Painting New Metal Structures". Cost included with Furnishing and Erecting Structural Steel.
- All existing steel surfaces behind link plates shall be cleaned and primed before installation of new link plates. Cost included with Furnishing and Erecting Structural Steel.
- Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". Cost included with Furnishing and Erecting Structural Steel.
- 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.
- Diaphragm connection holes shall be $\frac{15}{16}$ " ϕ for $\frac{3}{4}$ " ϕ bolts. Two hardened washers shall be required at diaphragm connections.
- The Pins and Link Plates shall conform to the minimum Charpy V-Notch Toughness of 25 ft.-lbs. at 40° F.
- The pins, link plates, bushings, nuts, and silicone sealant are the items included in Pin and Link Plate Replacement.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.



PARTIAL ELEVATION



PLAN

CURVE A-1

$\Delta = 79^\circ 32' 20''$
 $D = 35^\circ 09' 03''$
 $R = 163.00'$
 $T = 135.66'$
 $L = 225.30'$
 $E = 49.07'$
 P.C. Sta. 16+32.37

CURVE A-2

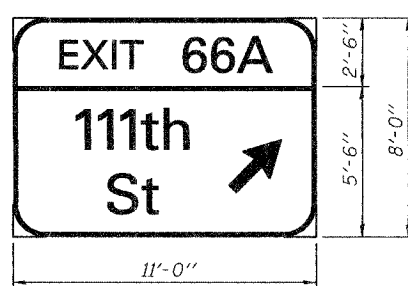
$\Delta = 79^\circ 32' 20''$
 $D = 34^\circ 12' 33''$
 $R = 167.49'$
 $T = 139.39'$
 $L = 232.51'$
 $E = 50.42'$

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)
 $f_y = 36,000$ psi

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
** Removal of Existing Concrete Deck	Each	1
Concrete Superstructure	Cu. Yd.	55.8
* Structural Steel Removal	Pound	9720
Furnishing and Erecting Structural Steel	Pound	9720
Beam Repositioning	Each	4
Beam Straightening	L.S.	1
Pin and Link Plate Replacement	Each	5
Elastomeric Bearing Assembly Type I	Each	5
Preformed Joint Strip Seal	Foot	75
Reinforcement Bars, Epoxy Coated	Pound	13,830
Stud Shear Connectors	Each	375
Bridge Deck Grooving	Sq. Yd.	167
Protective Coat	Sq. Yd.	235.6
Overhead Sign Structure - Bridge Mounted	Foot	13
Protective Shield	Sq. Yd.	205
Sign Panel, Type 3	Sq. Ft.	88



EXIT SIGN DETAIL

* Quantity includes damaged Beam 1 already removed from bridge and stored behind guardrail on F.A.I. 94 North Bound.

** Quantity includes section of deck already removed from bridge and stored behind guardrail on F.A.I. 94 North Bound.

DESIGNED	Adrian J. Holloway
CHECKED	Vickie H. Volitz
DRAWN	Steffen
CHECKED	ATH VHV

MAY 16, 2008
 EXAMINED *Carl Pussey*
 ENGINEER OF STRUCTURAL SERVICES
 PASSED *Ralph E. Quinn*
 ENGINEER OF BRIDGES AND STRUCTURES



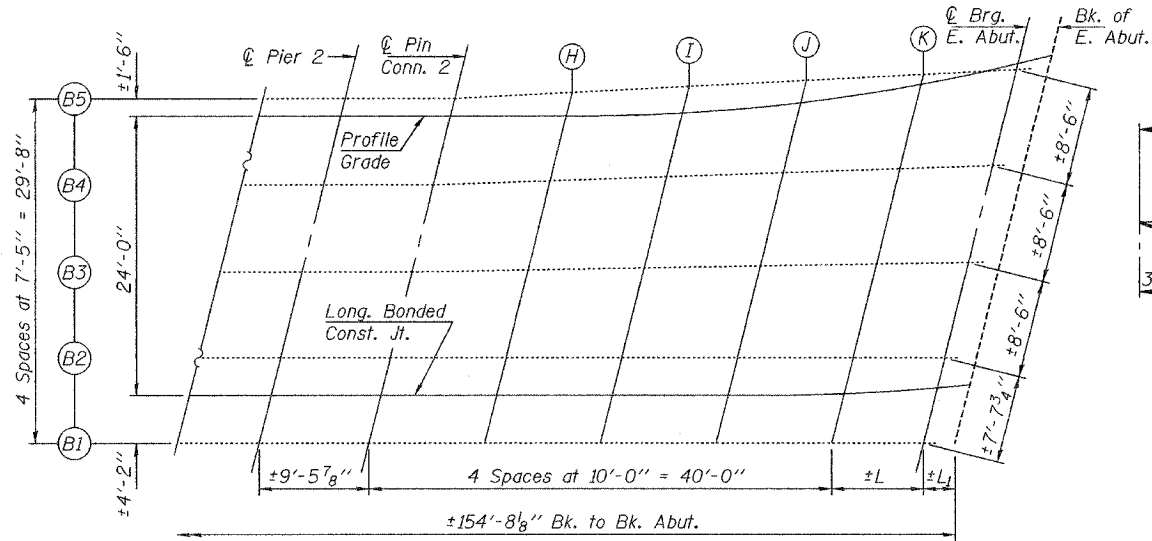
EXPIRES 11-30-2008

PLAN & ELEVATION
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042

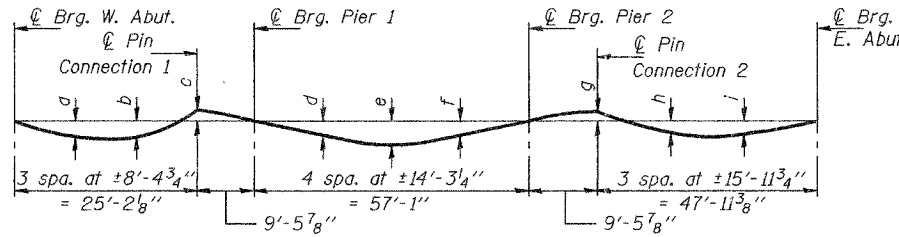
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO. 2
FAI 94	*	COOK	30	5	15 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract Number: 60E12
* 1111-700 HB-BR

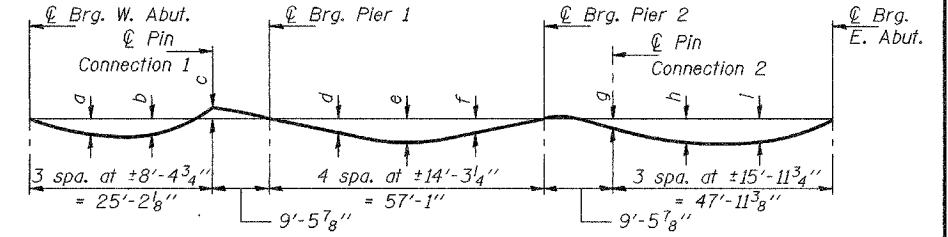


ELEVATIONS LOCATION PLAN



DEAD LOAD DEFLECTION DIAGRAM - BEAMS 2-4

(Includes weight of concrete only)



DEAD LOAD DEFLECTION DIAGRAM - BEAMS 1 & 5

(Includes weight of concrete only)

NOTE:

The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown below.

If the Engineer is working from the grade elevations adjusted for dead load deflections, the elevations shown below shall be adjusted as follow: Shoot top of steel or bottom of top flange elevations at locations shown prior to and after removal of deck. Use the difference in these two elevations to adjust for the grade elevations adjusted for dead load deflection.

i.e. Theoretical Grade Elevations Adjusted for Dead Load Deflection = Top of steel after deck removal - Top of steel before deck removal + Theoretical Grade Elevation Adjusted for Dead Load Deflection shown in tables.

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Pier 2	1604.981	28.167	605.866	605.866
Pin Connection 2	1614.468	28.167	605.833	605.840
H	1624.465	28.167	605.794	605.821
I	1634.156	28.183	605.760	605.798
J	1642.669	28.554	605.726	605.761
K	1651.125	29.445	605.687	605.706
☉ Brg. E. Abut.	1657.773	30.517	605.653	605.653
Bk. E. Abut.	1660.055	30.963	605.640	605.640

LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Pier 2	1606.022	24.000	605.906	605.906
Pin Connection 2	1615.509	24.000	605.873	605.875
H	1625.509	24.000	605.883	605.853
I	1635.106	24.026	605.800	605.830
J	1643.804	24.461	605.765	605.794
K	1652.450	25.292	605.726	605.742
☉ Brg. E. Abut.	1659.450	25.945	605.694	605.694
Bk. E. Abut.	1661.884	26.162	605.684	605.684

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Pier 2	1606.838	20.750	605.937	605.937
Pin Connection 2	1616.325	20.750	605.904	605.900
H	1626.321	20.750	605.684	605.877
I	1635.874	20.798	605.831	605.854
J	1644.722	21.284	605.795	605.818
K	1653.497	22.310	605.753	605.766
☉ Brg. E. Abut.	1660.382	23.503	605.717	605.717
Bk. E. Abut.	1662.743	23.992	605.703	605.703

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Pier 2	1608.695	13.333	606.008	606.008
Pin Connection 2	1618.182	13.333	605.974	605.970
H	1628.176	13.166	605.937	605.950
I	1637.744	13.090	605.904	605.927
J	1646.982	13.531	605.867	605.890
K	1656.144	14.535	605.825	605.838
☉ Brg. E. Abut.	1663.523	15.764	605.786	605.786
Bk. E. Abut.	1665.996	16.263	605.773	605.773

BEAM 4

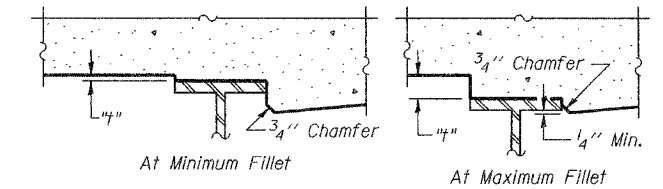
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Pier 2	1610.551	5.917	606.078	606.078
Pin Connection 2	1620.039	5.917	606.045	606.041
H	1630.029	5.579	606.009	606.022
I	1639.780	5.411	605.977	606.000
J	1649.440	5.819	605.938	605.961
K	1659.020	6.816	605.895	605.908
☉ Brg. E. Abut.	1666.946	8.099	605.854	605.854
Bk. E. Abut.	1669.540	8.612	605.839	605.839

PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Pier 2	1612.030	0.000	606.135	606.135
Pin Connection 2	1621.517	0.000	606.102	606.107
H	1631.517	0.000	606.062	606.075
I	1641.517	0.000	606.027	606.050
J	1651.517	0.000	605.992	606.015
K	1661.517	0.000	605.957	605.970
☉ Brg. E. Abut.	1670.957	0.000	605.924	605.924
Bk. E. Abut.	1673.982	0.000	605.914	605.914

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Pier 2	1612.408	-1.500	606.149	606.149
Pin Connection 2	1621.895	-1.500	606.116	606.121
H	1631.879	-2.006	606.082	606.107
I	1642.003	-2.237	606.048	606.085
J	1652.124	-1.847	606.009	606.043
K	1662.157	-0.840	605.964	605.982
☉ Brg. E. Abut.	1670.688	0.516	605.920	605.920
Bk. E. Abut.	1673.412	1.049	605.905	605.905



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

DIMENSION L

Length	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Profile Grade	Long. Bonded Const. Jt.
L	7'-11 1/4"	7'-11 1/4"	8'-1 7/8"	8'-4 5/8"	8'-7 1/2"	9'-5 1/4"	8'-1 1/2"
L1	2'-9"	2'-9"	2'-9 1/8"	2'-9 1/4"	2'-9 1/2"	3'-0 1/4"	2'-10"

TABLE OF DIMENSIONS

Beam	a	b	c	d	e	f	g	h	i
1	1/16"	1/16"	0	1/16"	9"	1/16"	1/16"	1/16"	3/8"
2-4	1/16"	1/16"	1/8"	3/16"	1/4"	3/16"	1/16"	1/4"	1/4"
5	3/8"	1/16"	1/16"	1/8"	3/16"	1/16"	1/16"	3/8"	3/8"

TOP OF SLAB ELEVATIONS
EAST BOUND STRUCTURE
115th ST. OVER FAI RT. 94

COOK COUNTY
SN 016-2042

DESIGNED	ATH
CHECKED	VHV
DRAWN	Steffen
CHECKED	ATH VHV

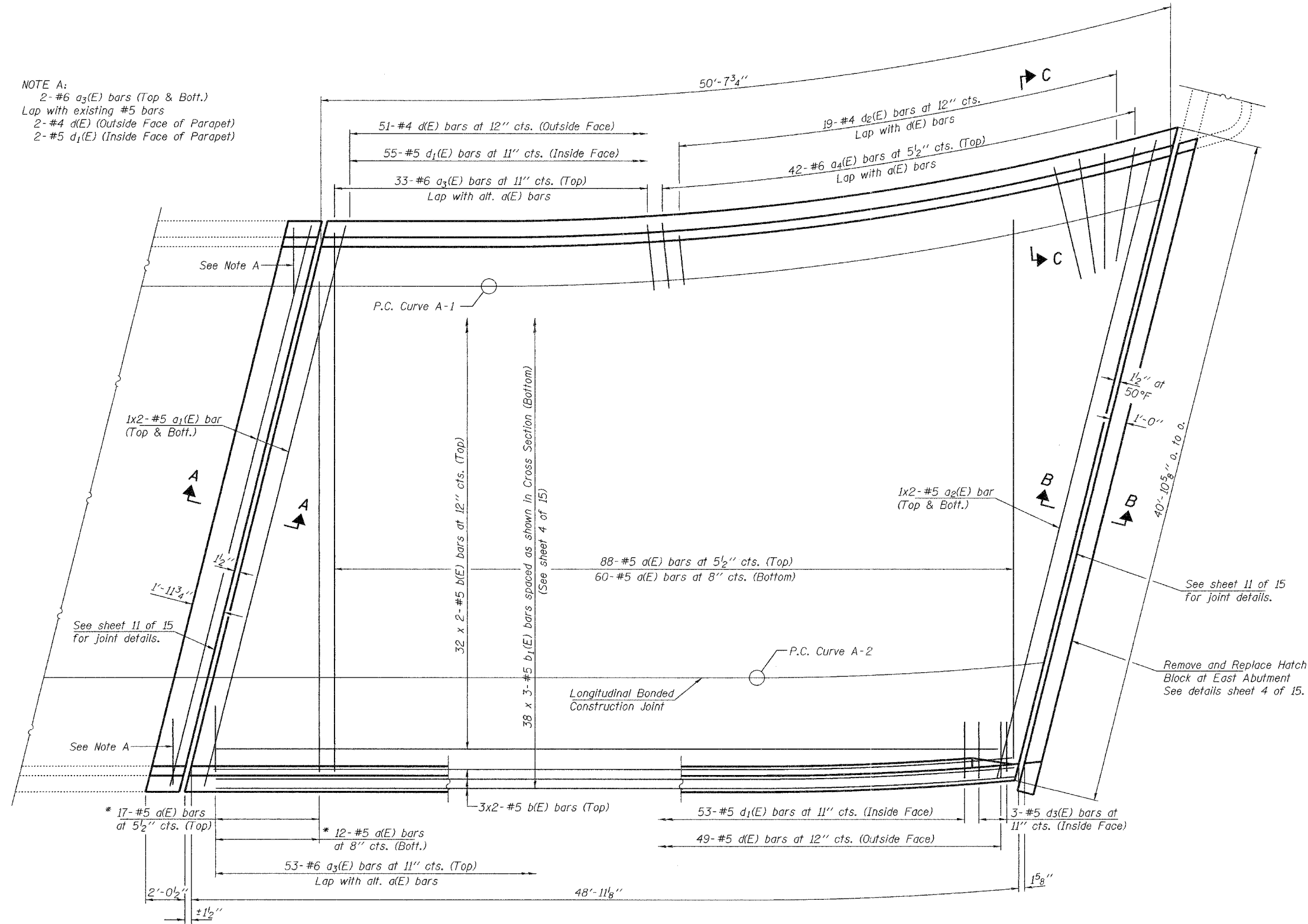
MAY 16, 2008
EXAMINED *Carl Proyer*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 3 15 SHEETS
FAI 94	*	COOK	30	6	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract Number: 60E12
* 1111-700 HB-BR

NOTE A:
2- #6 a₃(E) bars (Top & Bott.)
Lap with existing #5 bars
2- #4 d(E) (Outside Face of Parapet)
2- #5 d₁(E) (Inside Face of Parapet)



DESIGNED	ATH
CHECKED	VHV
DRAWN	Steffen
CHECKED	ATH VHV

MAY 16, 2008
EXAMINED *Carl P. [Signature]*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

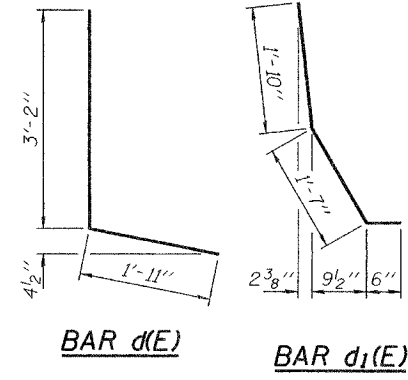
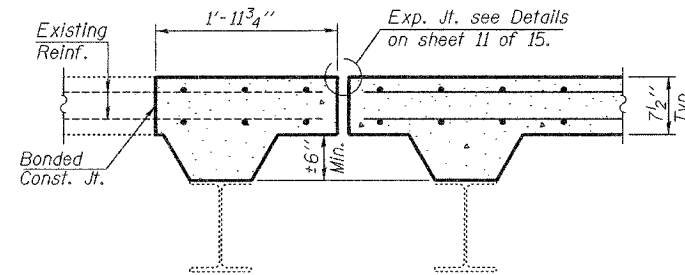
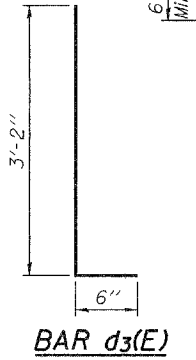
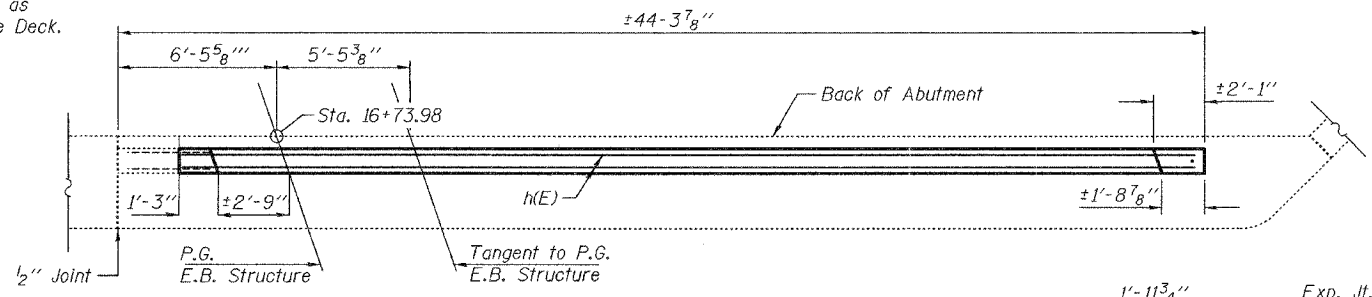
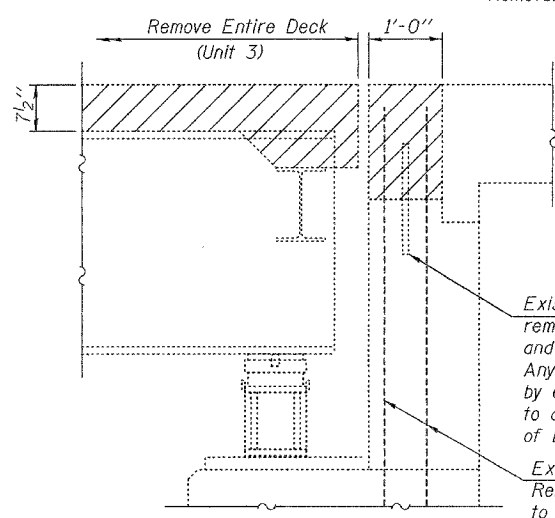
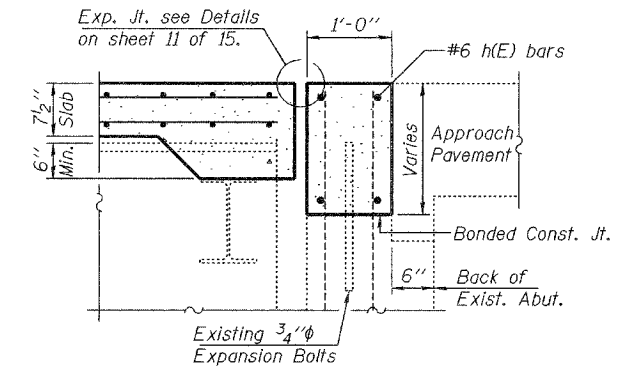
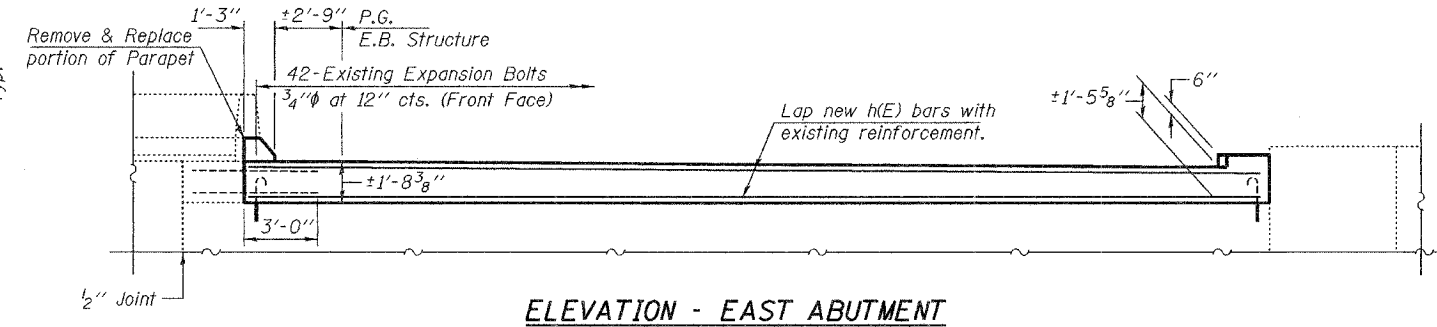
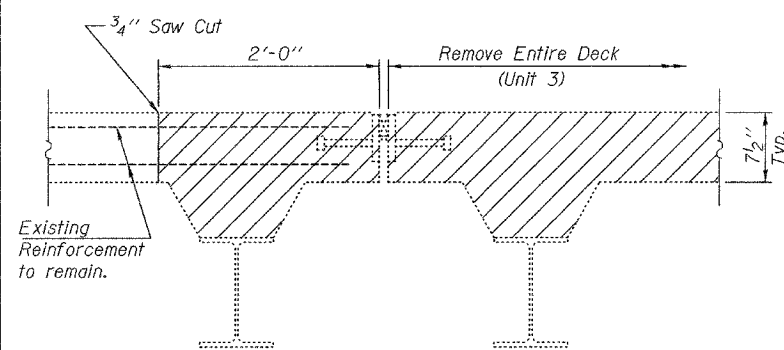
SUPERSTRUCTURE DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
FAI 94	*	COOK	30	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
15 SHEETS

Contract Number: 60E12
* 1111-700 HB-BR



Note:
Hatched areas indicate Concrete Removal and will be paid for as Removal of Existing Concrete Deck.

Existing expansion bolts extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any expansion bolts damaged shall be replaced by epoxy grouting #6 (E) bars (9" min.) adjacent to damaged bolt. Cost included with Removal of Existing Concrete Deck.

Existing Reinforcement to remain.

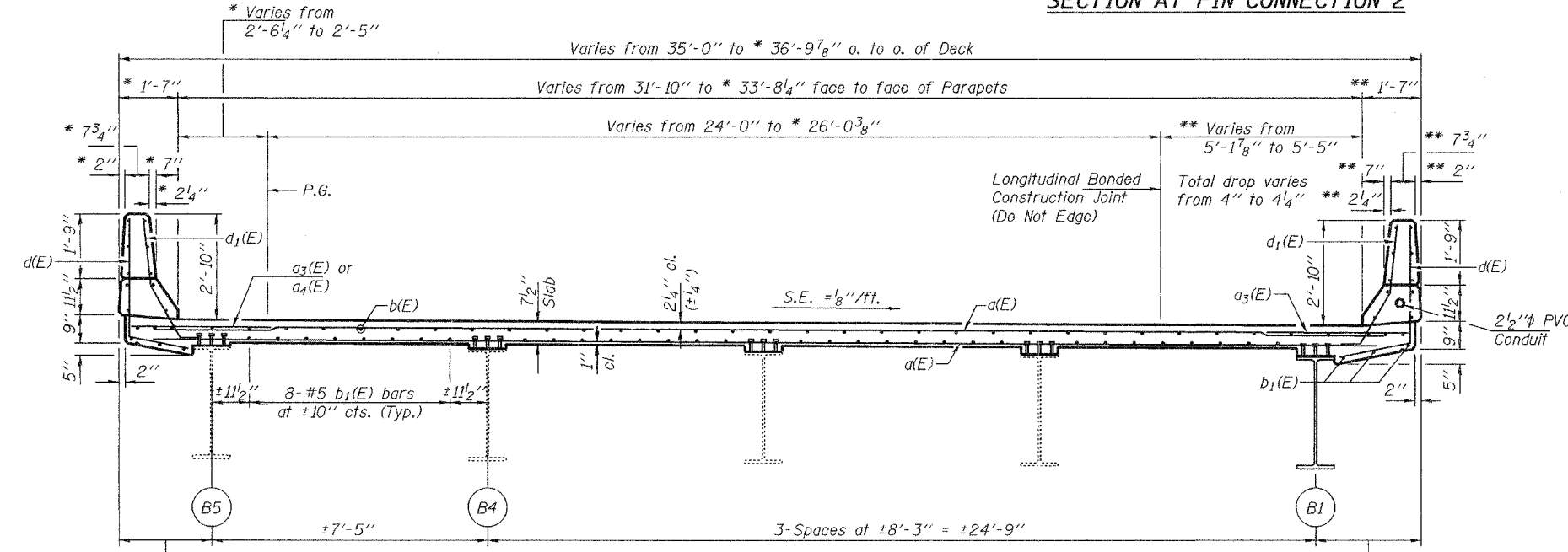
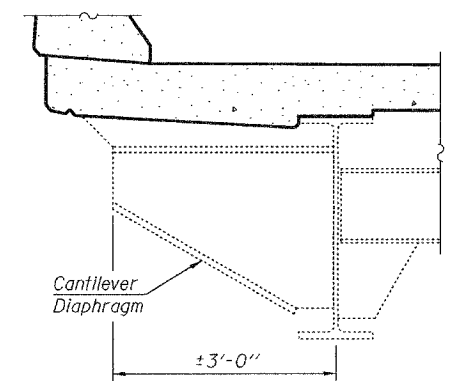
MIN. BAR LAP
#5 bars = 2'-2"
#6 bars = 2'-7"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	177	#5	33'-0"	
a1(E)	8	#5	18'-10"	
a2(E)	4	#5	21'-3"	
a3(E)	94	#6	4'-0"	
a4(E)	42	#6	7'-0"	
b(E)	76	#5	26'-4"	
b1(E)	114	#5	18'-4"	
d(E)	104	#4	5'-1"	
d1(E)	112	#5	3'-11"	
d2(E)	19	#4	3'-0"	
d3(E)	3	#5	3'-8"	
h(E)	8	#6	22'-3"	
Concrete Superstructure			Cu. Yd.	45.3
Reinforcement Bars, Epoxy Coated			Pound	12,630

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

SUPERSTRUCTURE & ABUTMENT DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042



DESIGNED	ATH
CHECKED	VHV
DRAWN	Steffen
CHECKED	ATH VHV

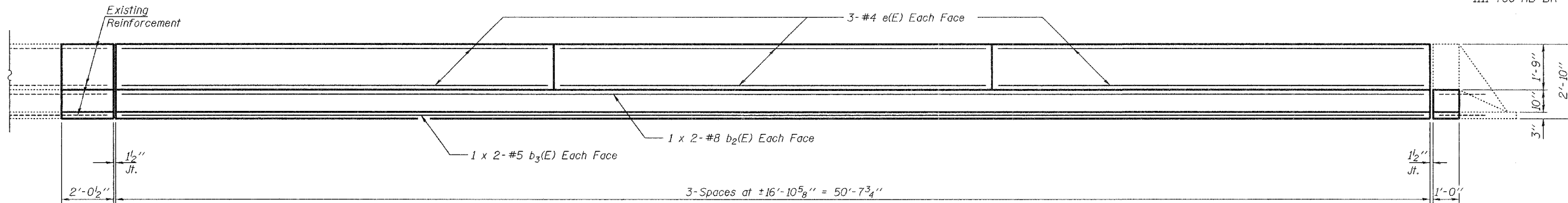
MAY 16, 2008
EXAMINED *A. Carl Proyer*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

* Radial only to Curve A-1 at curved portion.
** Radial only to Curve A-2 at curved portion.

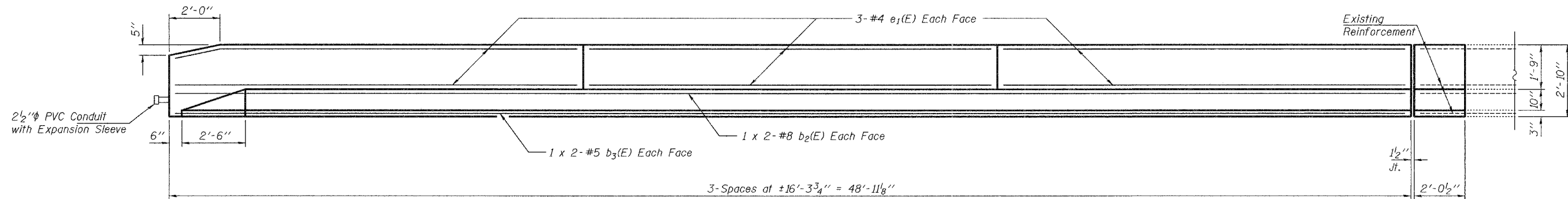
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATION	SHEET	SHEET NO. 5 15 SHEETS
FAI 94	*	COOK	30	8	
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT:	

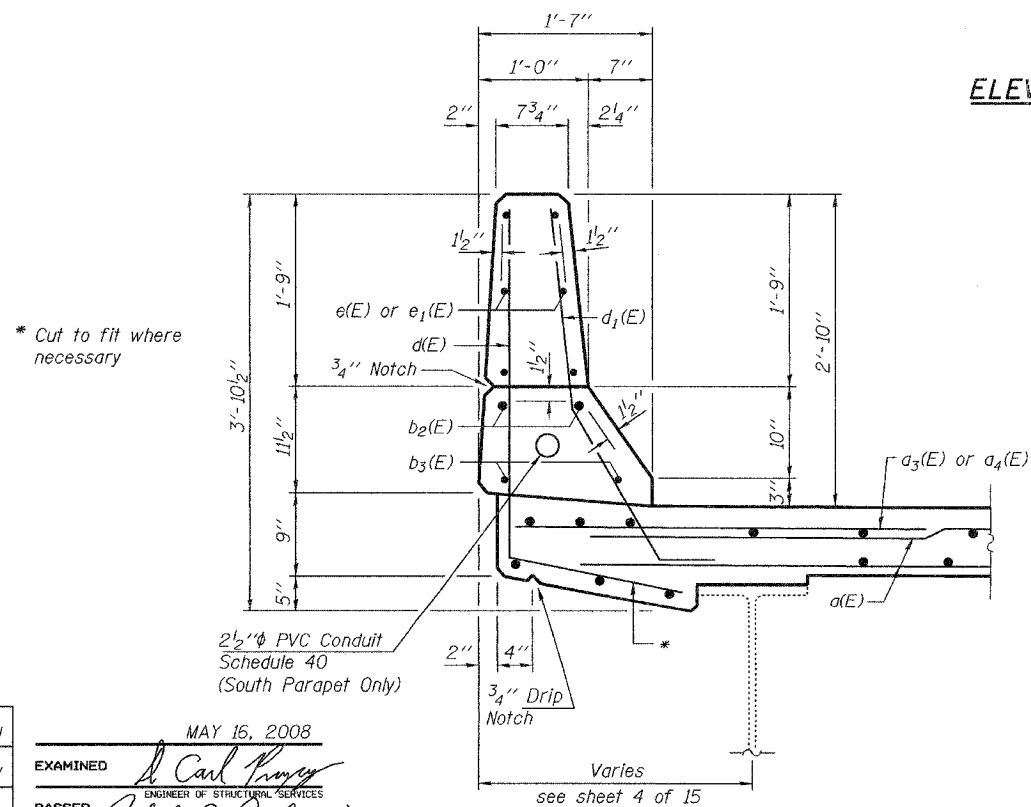
Contract Number: 60E12
* 1111-700 HB-BR



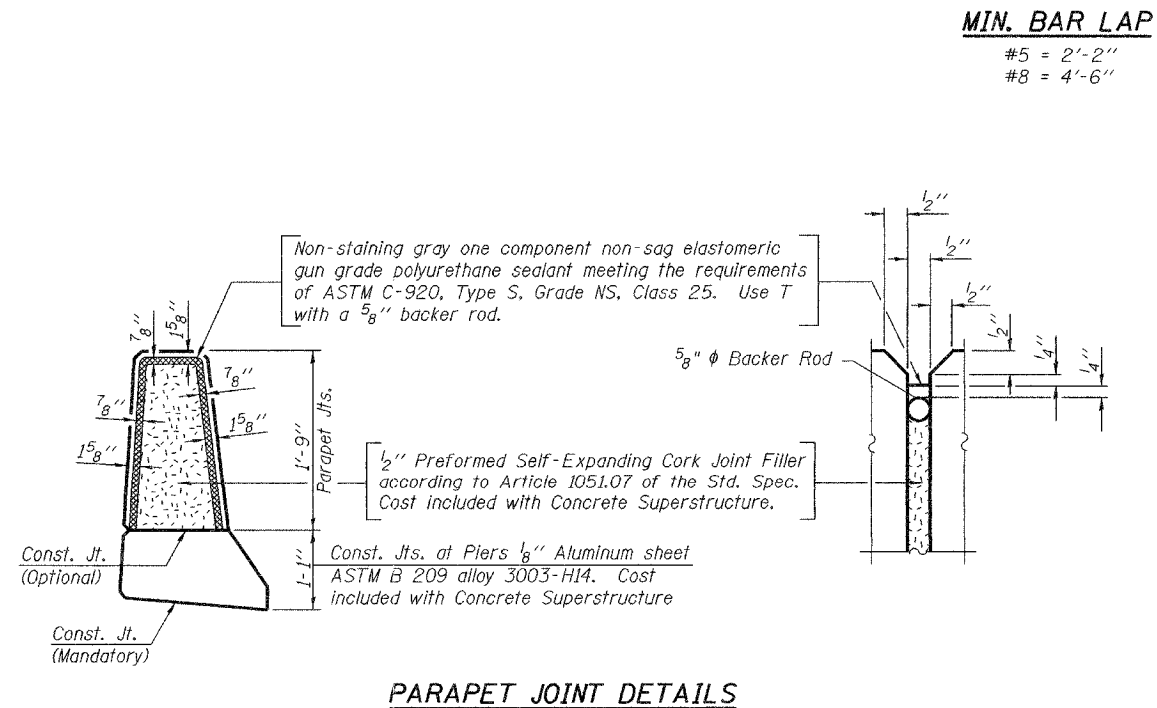
ELEVATION OF NORTH PARAPET



ELEVATION OF SOUTH PARAPET



SECTION THRU PARAPET



PARAPET JOINT DETAILS

MIN. BAR LAP

#5 = 2'-2"
#8 = 4'-6"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
b2(E)	8	#8	27'-6"	—
b3(E)	8	#5	26'-3"	—
e(E)	18	#4	16'-6"	—
e1(E)	18	#4	16'-0"	—
Concrete Superstructure		Cu. Yd.	10.5	
Reinforcement Bars, Epoxy Coated		Pound	1200	

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

PARAPET DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042

DESIGNED	ATH
CHECKED	VHV
DRAWN	Steffen
CHECKED	ATH VHV

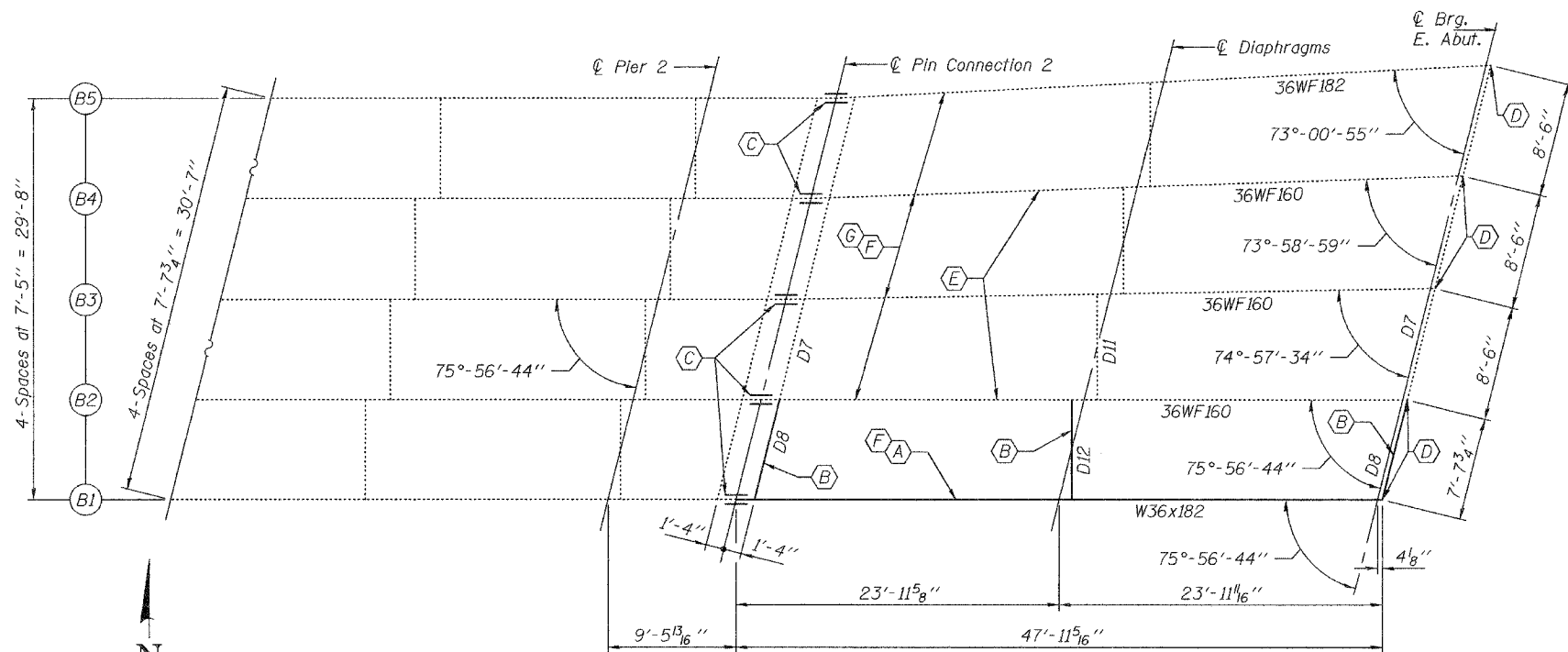
MAY 16, 2008
EXAMINED *Carl Proyer*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
FAI 94	*	COOK	30	9
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 6
15 SHEETS

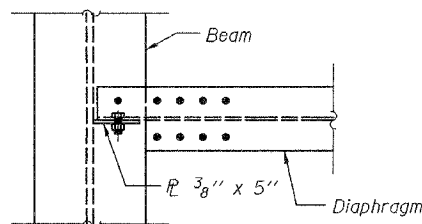
Contract Number: 60E12
* 1111-700 HB-BR



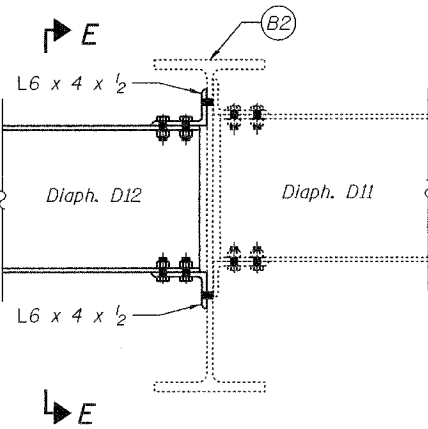
PARTIAL FRAMING PLAN

- (A) - Replace Beam
- (B) - * Remove & Replace Diaphragms
- (C) - Remove & Replace Pin and Link Plates
- (D) - Remove & Replace Type I Elastomeric Bearings
- (E) - Existing Beam to be Straightened
- (F) - Install Shear Studs at 2'-0" cts.
- (G) - Reposition Beams

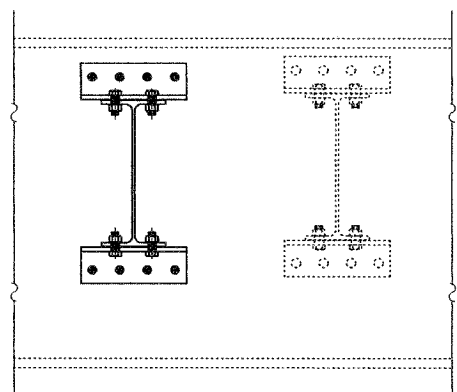
* Existing welded clip angles at B2 shall be removed by Air-Arc Method.



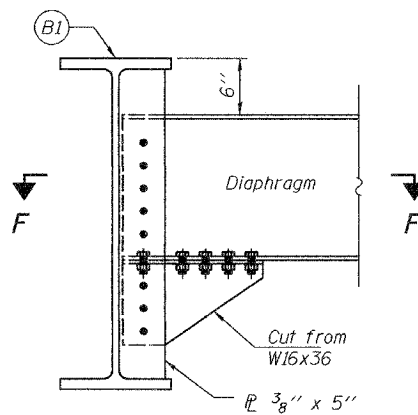
SECTION F-F



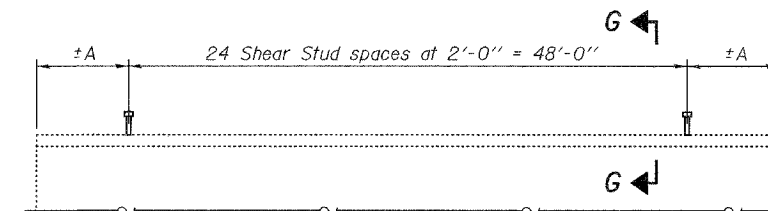
INTERIOR CONNECTION FOR DIAPHRAGMS D11 & D12



SECTION E-E



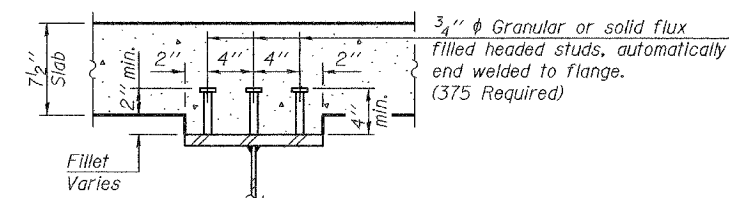
EXTERIOR CONNECTION FOR DIAPHRAGM D12



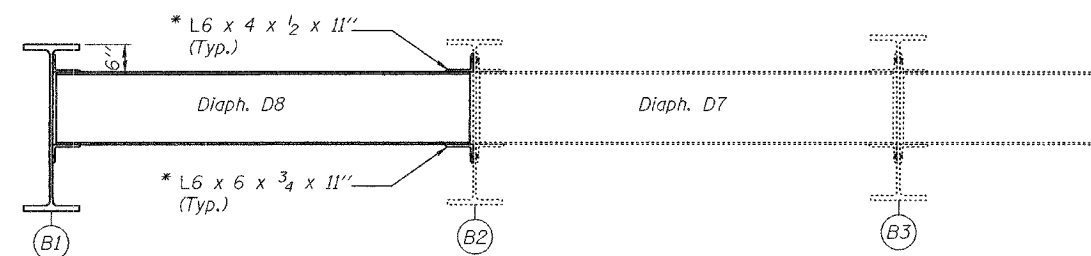
SHEAR STUD SPACING

TABLE OF DIMENSIONS

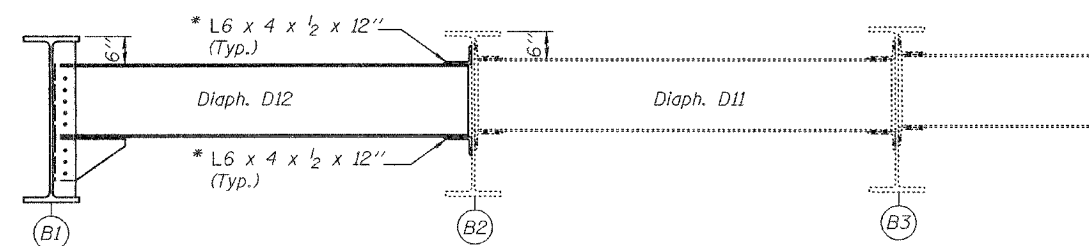
Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5
A	4 1/6"	4 1/6"	5 5/16"	6 3/4"	8 1/8"



SECTION G-G



TYPICAL ELEVATION FOR DIAPHRAGMS D7 & D8



TYPICAL ELEVATION FOR DIAPHRAGMS D11 & D12

STEEL FRAMING DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042

DESIGNED	ATH
CHECKED	VHV
DRAWN	Steffen
CHECKED	ATH VHV

MAY 16, 2008
EXAMINED *Carl Proyer*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

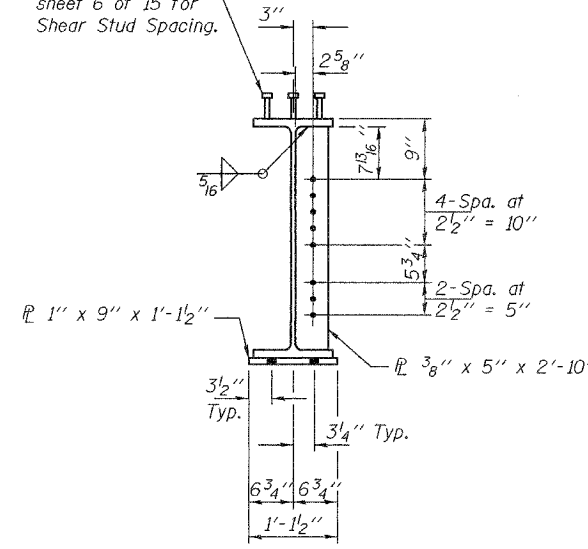
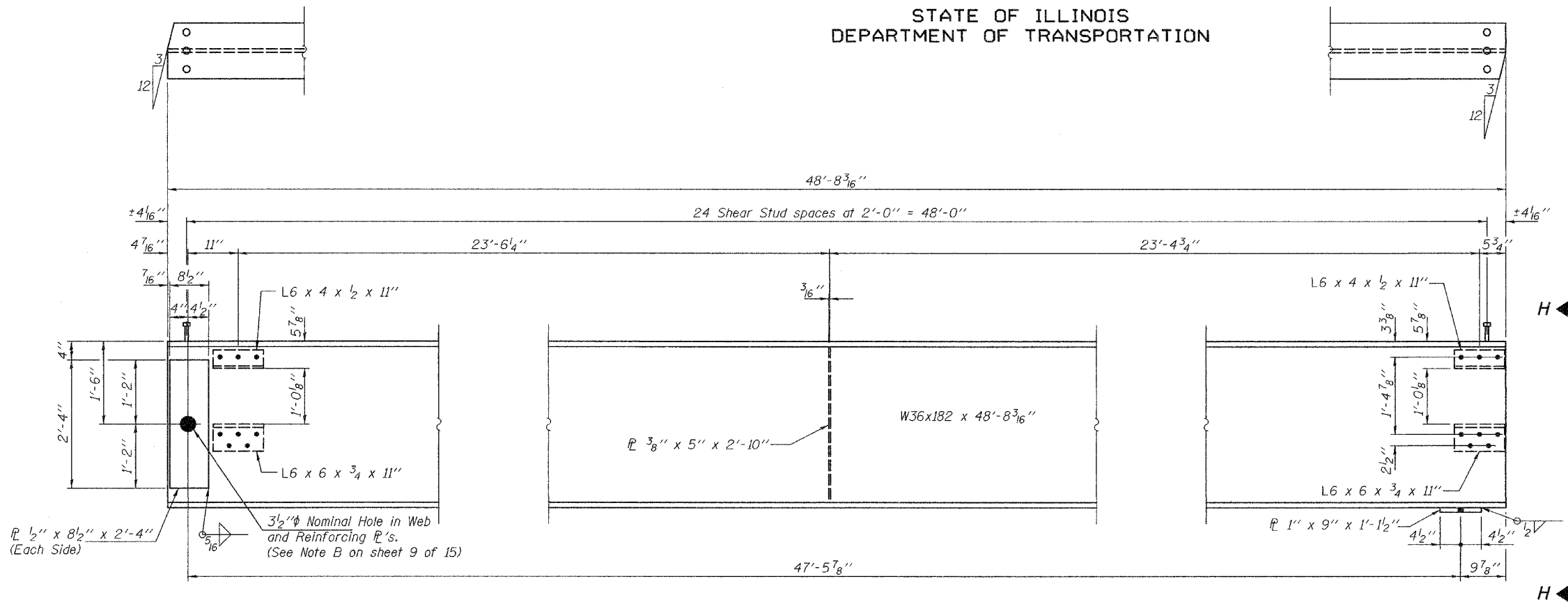
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 94	*	COOK	30	10

SHEET NO. 7
15 SHEETS

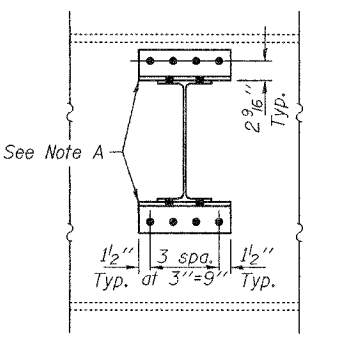
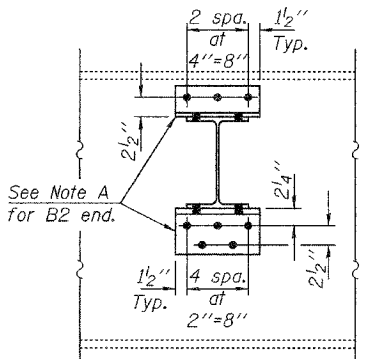
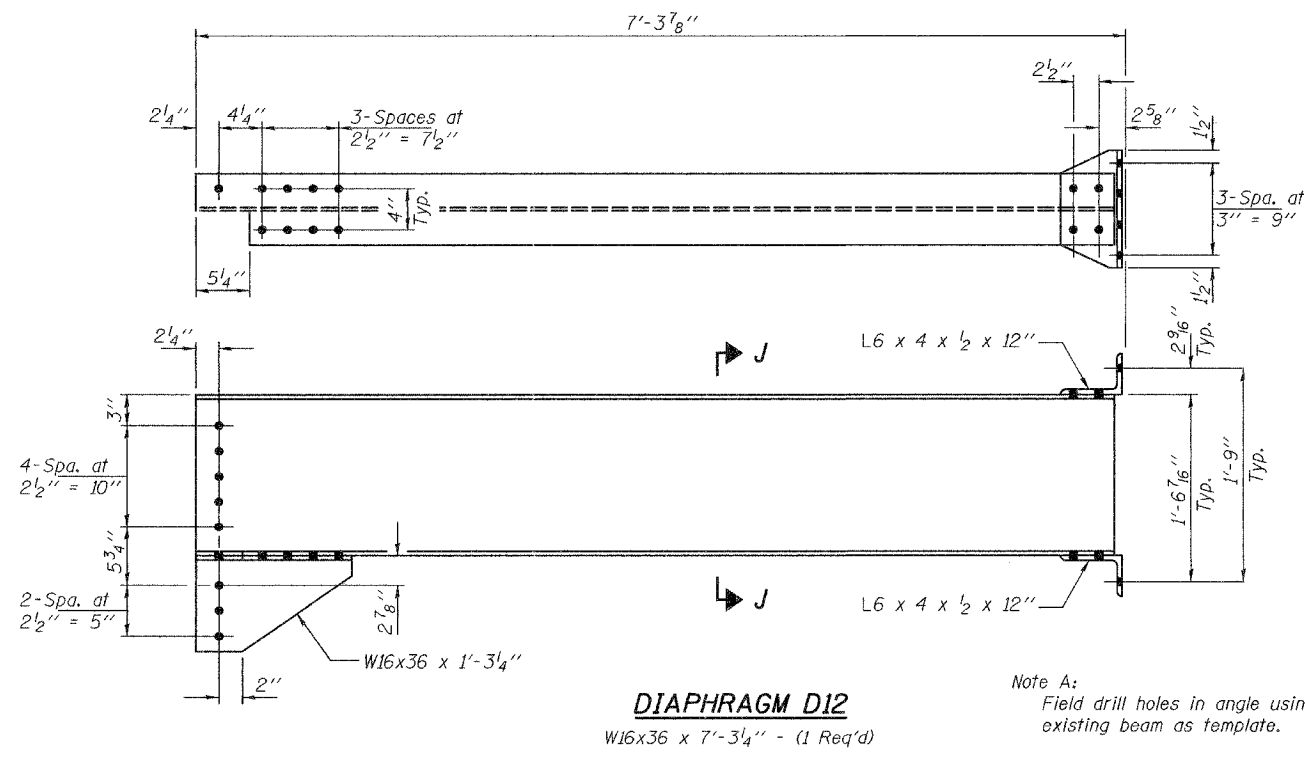
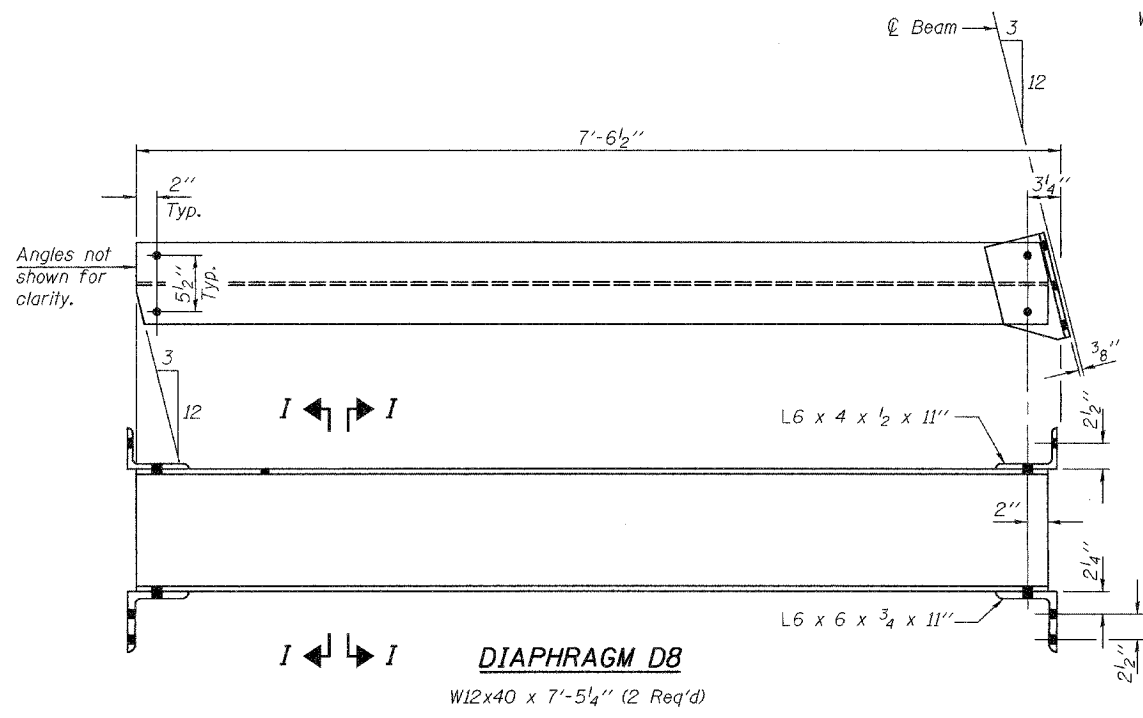
Contract Number: 60E12
* IIII-700 HB-BR

See Sec. G-G on
sheet 6 of 15 for
Shear Stud Spacing.



BEAM 1

W36x182 x 48'-8 3/16"
(1 Required)



Note A:
Field drill holes in angle using
existing beam as template.

BEAM & DIAPHRAGM DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042

DESIGNED	ATH	EXAMINED	MAY 16, 2008 <i>Carl P. Hovick</i> ENGINEER OF STRUCTURAL SERVICES
CHECKED	VHV	PASSED	<i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	Steffen		
CHECKED	ATH VHV		

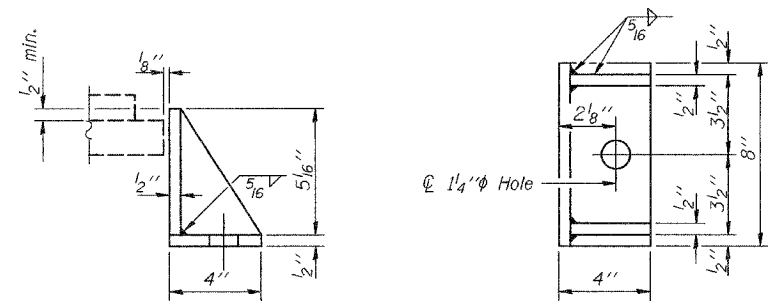
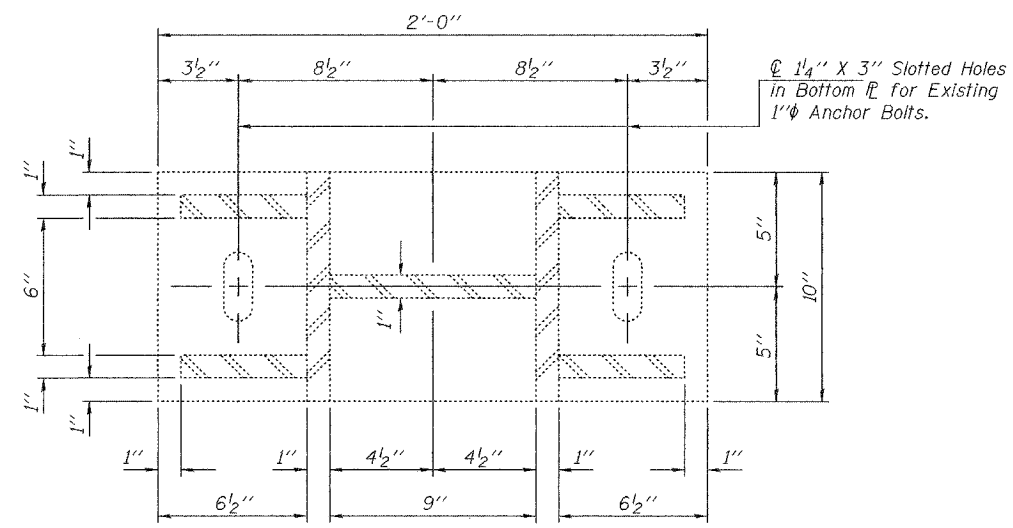
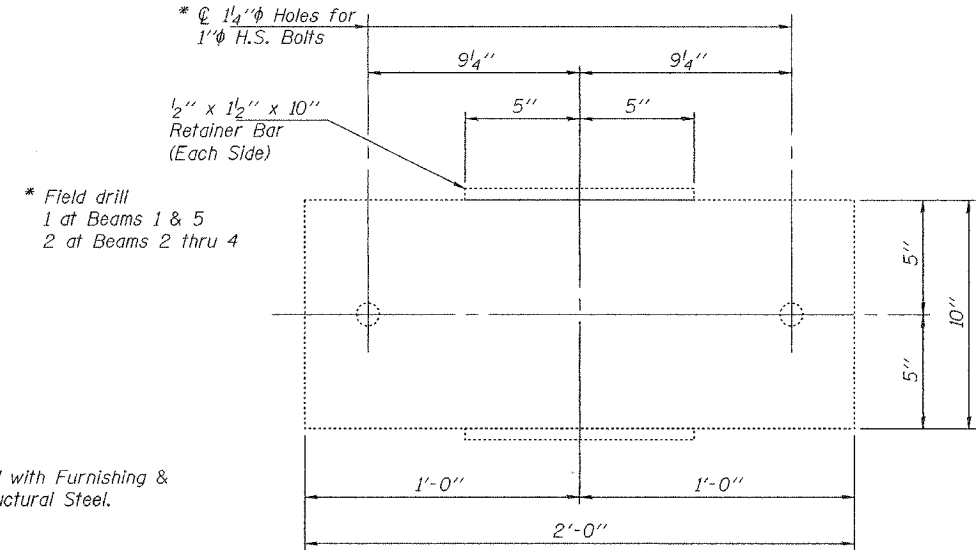
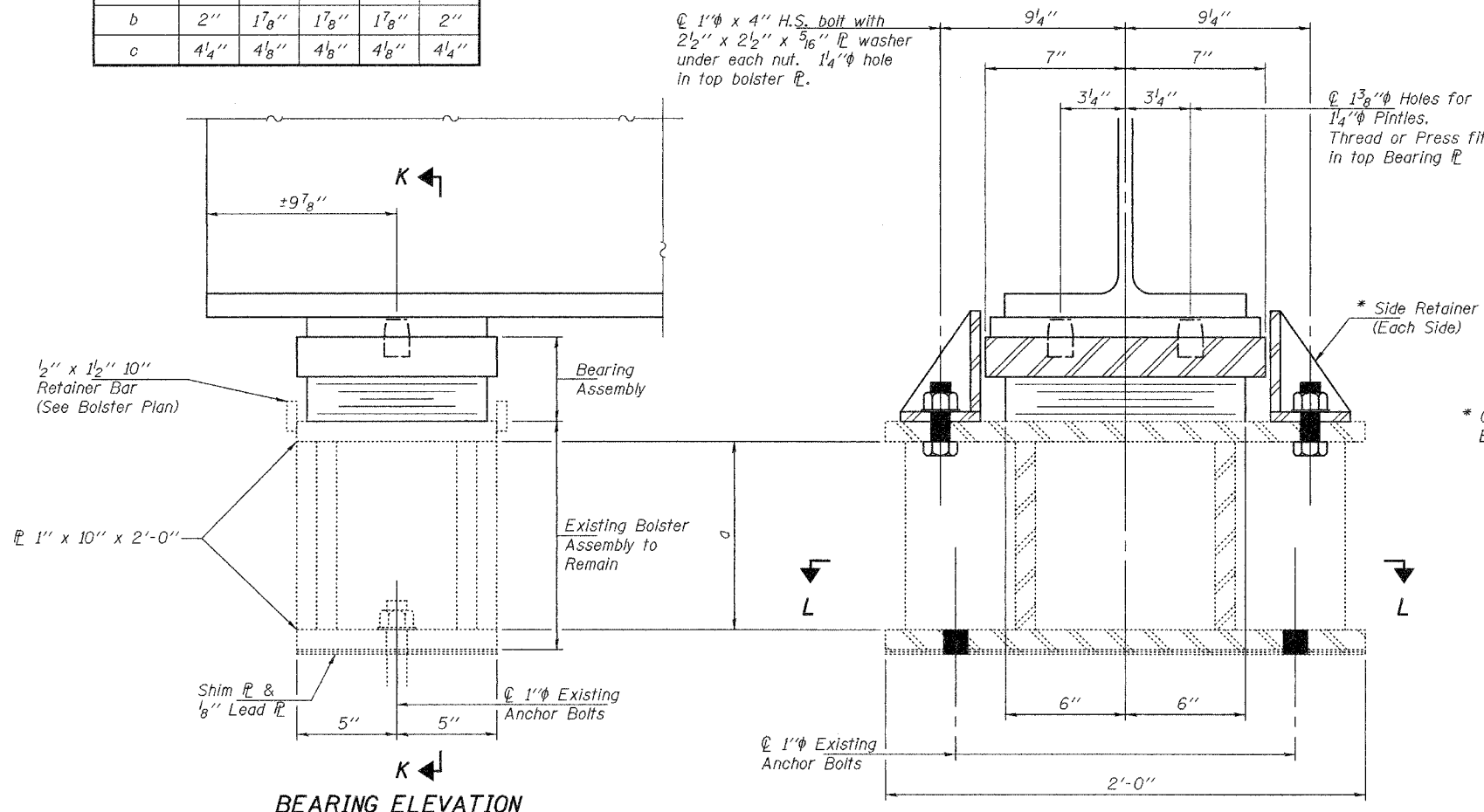
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 8
FAI 94	*	COOK	30	11	15 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	Contract Number: 60E12 * IIII-700 HB-BR		

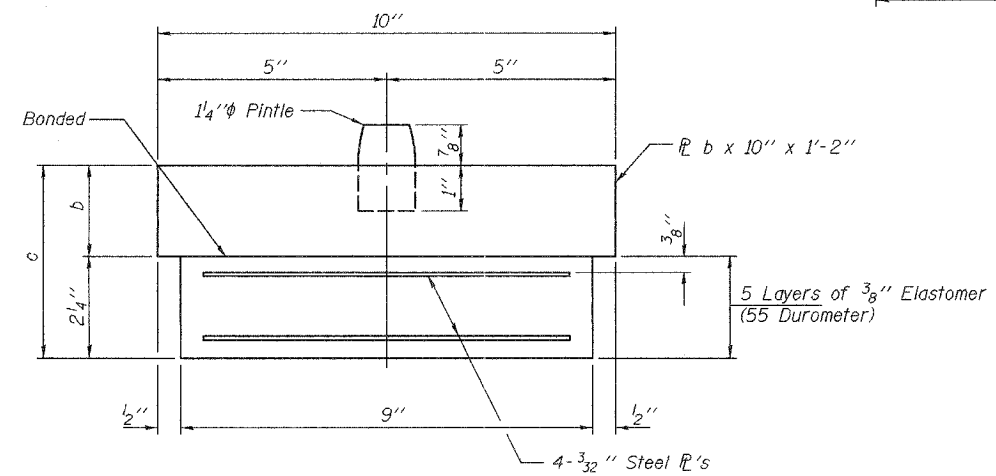
TABLE OF DIMENSIONS

Location	BM 1	BM 2	BM 3	BM 4	BM 5
a	8 ³ / ₄ "	8 ³ / ₁₆ "	9 ⁵ / ₈ "	9 ¹ / ₈ "	9 ³ / ₈ "
b	2"	1 ⁷ / ₈ "	1 ⁷ / ₈ "	1 ⁷ / ₈ "	2"
c	4 ¹ / ₄ "	4 ¹ / ₈ "	4 ¹ / ₈ "	4 ¹ / ₈ "	4 ¹ / ₄ "

@ 1"φ x 4" H.S. bolt with
2¹/₂" x 2¹/₂" x 5¹⁶/₁₆" P washer
under each nut. 1¹/₄"φ hole
in top bolster P.



SIDE RETAINER
Equivalent rolled angle with stiffeners
will be allowed in lieu of welded plates.



BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	5

BEARING DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042

DESIGNED	ATH	EXAMINED	<i>Carl Proyer</i> ENGINEER OF STRUCTURAL SERVICES
CHECKED	VHV	PASSED	<i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	Steffen		
CHECKED	ATH VHV		

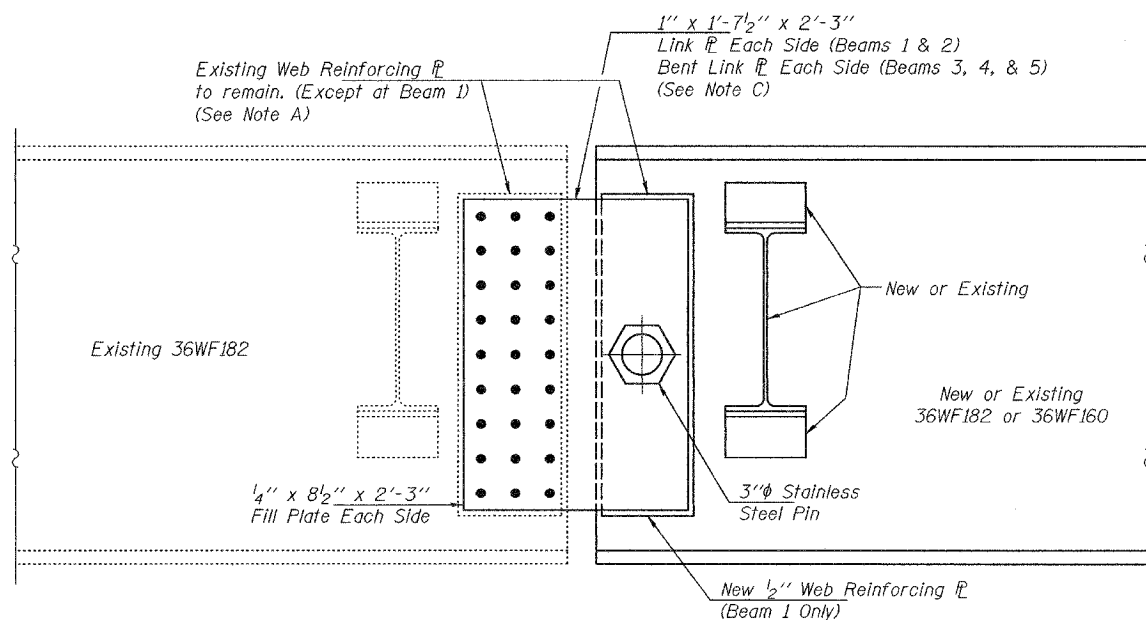
MAY 16, 2008

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

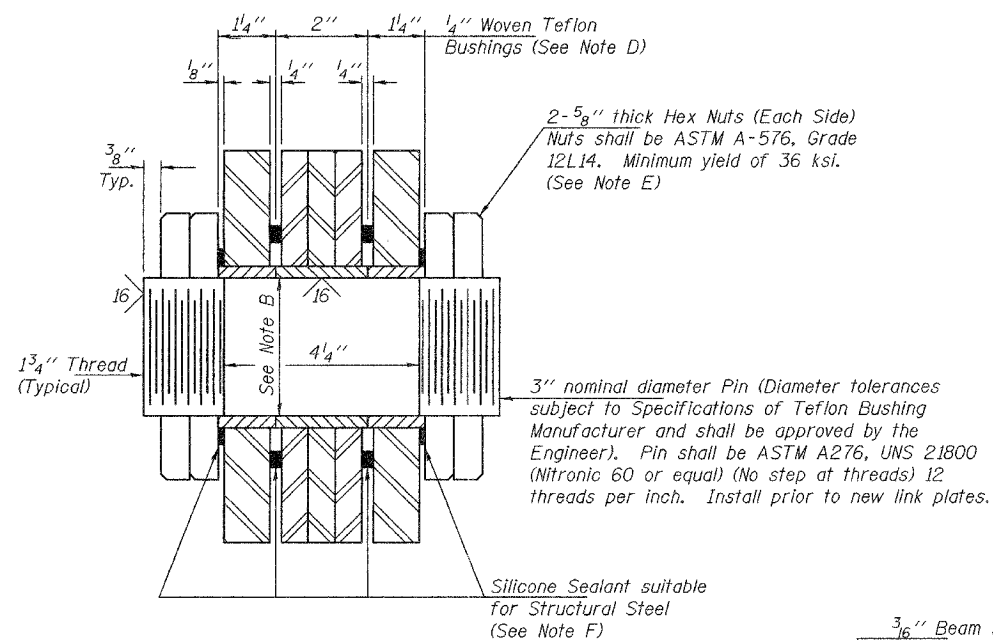
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAI 94	*	COOK	30	12
ILLINOIS		FED. AID PROJECT		

Contract Number: 60E12
* 1111-700 HB-BR

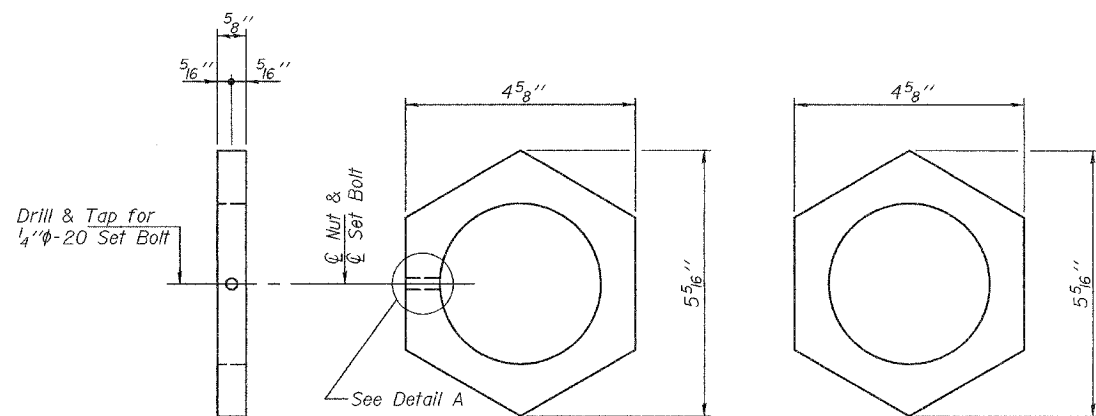
15 SHEETS



ELEVATION AT PIN CONNECTION 2

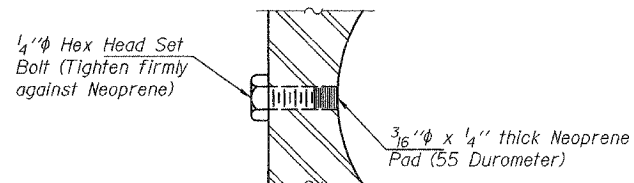


SECTION THRU PIN
(5 Required)



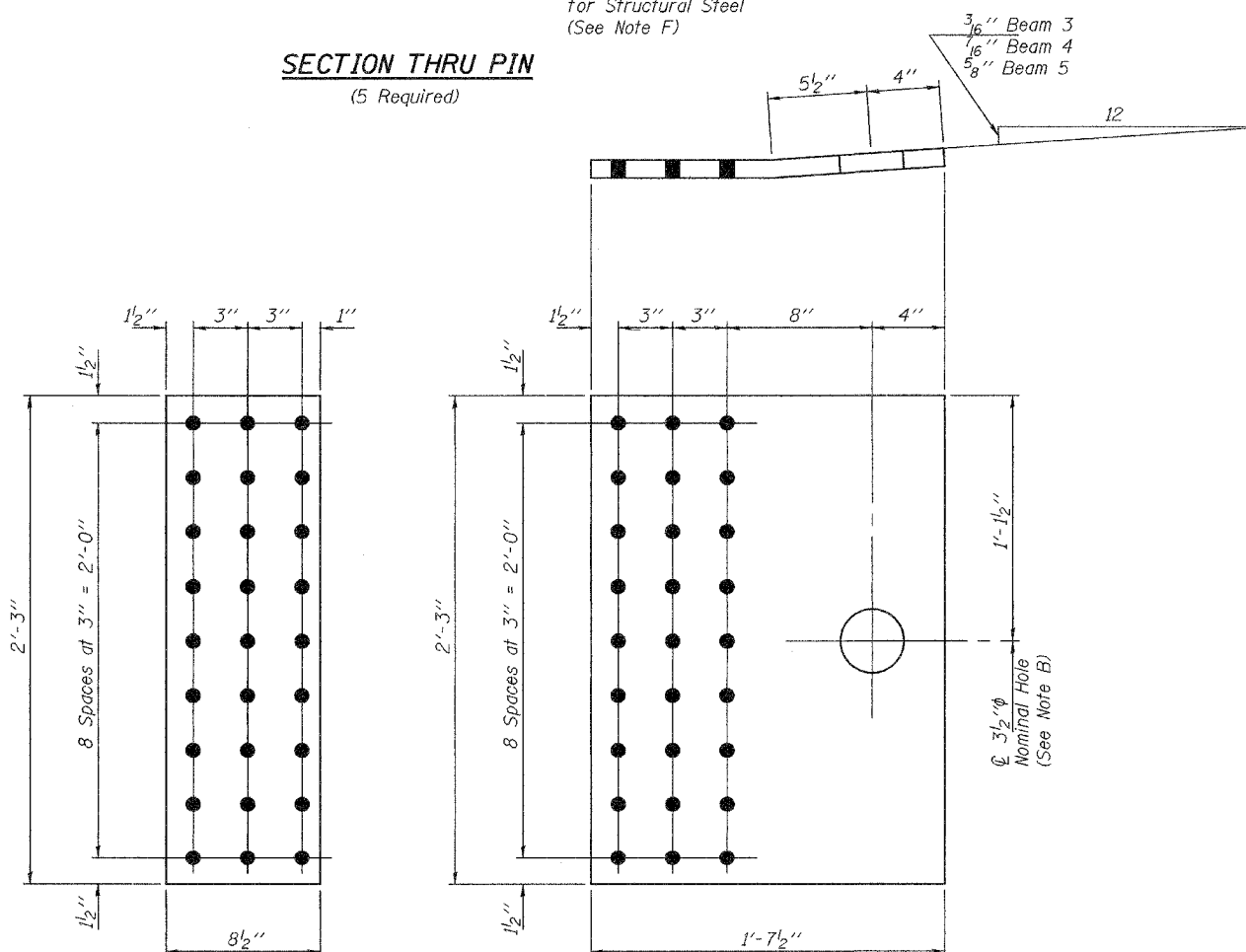
EXTERIOR NUT DETAIL
(10 Required)

INTERIOR NUT DETAIL
(10 Required)



DETAIL A

Set Bolts shall conform to the requirements of ASTM A307 and shall be galvanized according to AASHTO M232.



FILL PLATE DETAIL
(10 Required)

LINK PLATE DETAIL
(4 Required Not Bent)
(2 Required Bent 3/16")
(2 Required Bent 7/16")
(2 Required Bent 5/8")

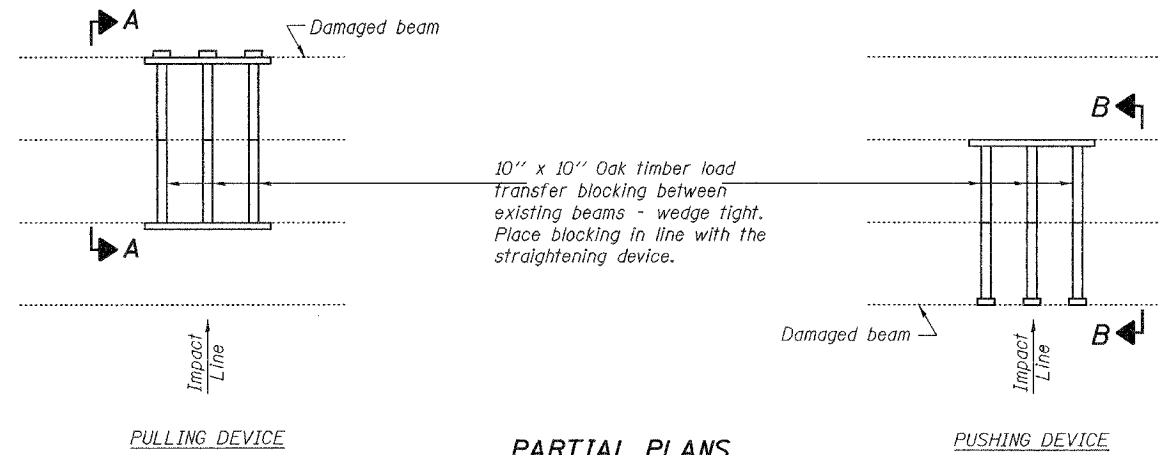
LINK PLATE DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042

DESIGNED	ATH
CHECKED	VHV
DRAWN	Steffen
CHECKED	ATH VHV

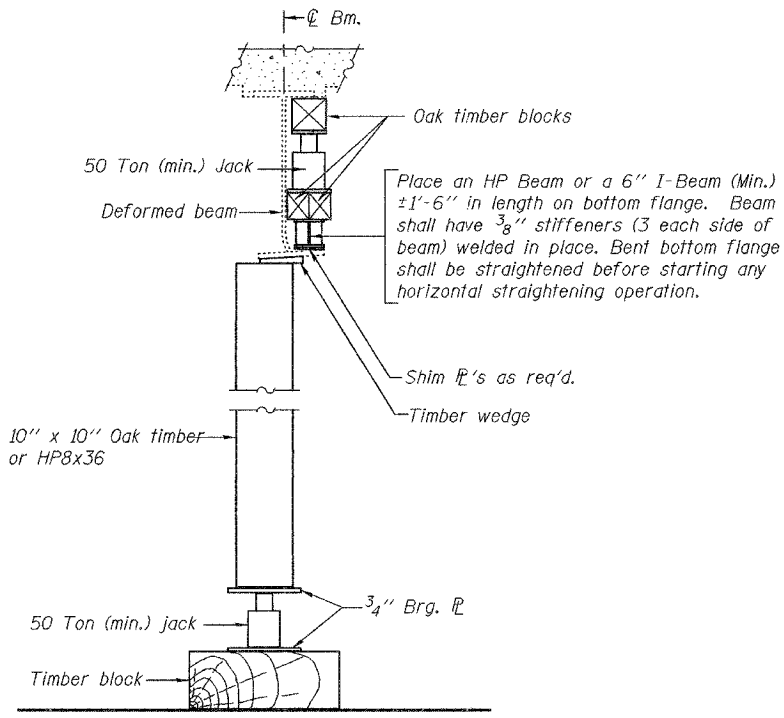
MAY 16, 2008
EXAMINED *Carl Perry*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

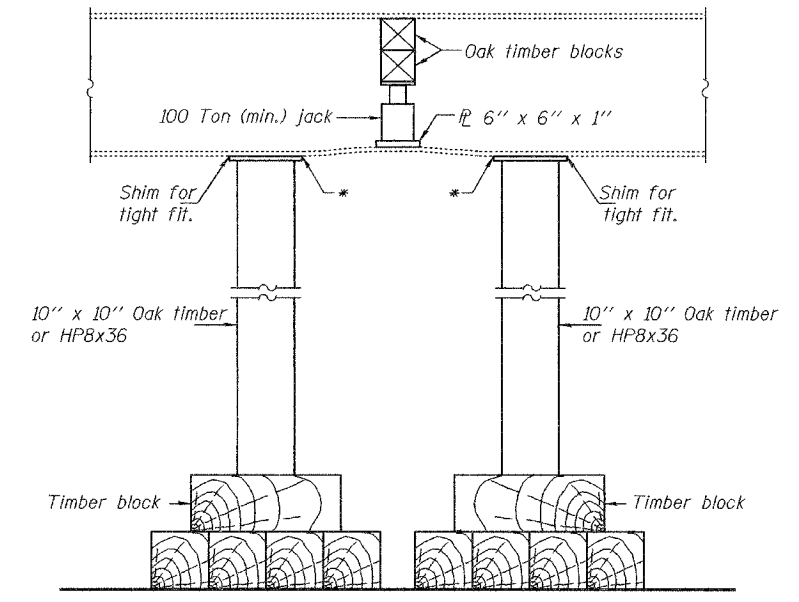
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 10
FAI 94	*	COOK	30	13	15 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	Contract Number: 60E12 * 1111-700 HB-BR		



PARTIAL PLANS
SUGGESTED BEAM STRAIGHTENING METHODS
Straightening force shall be maintained on all load transfer blocking during beam straightening.

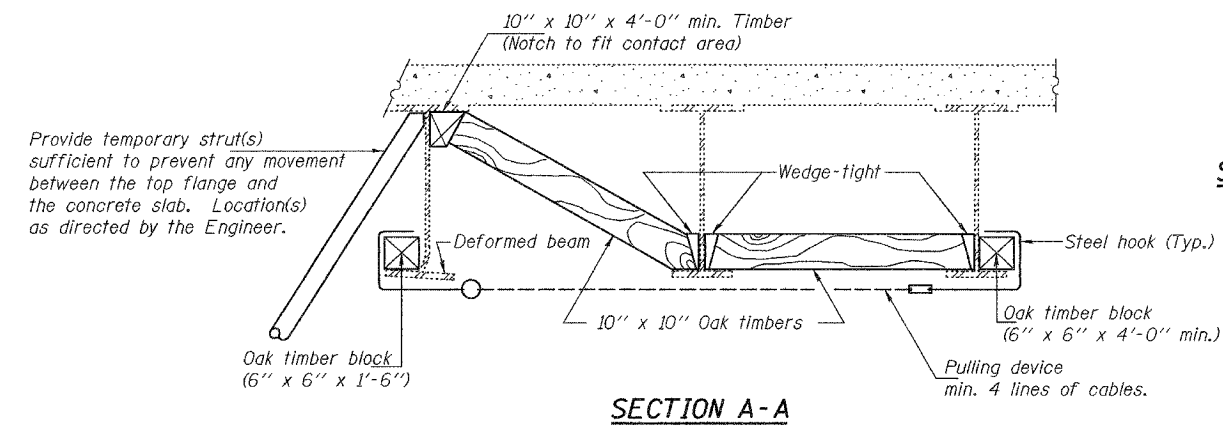


SUGGESTED VERTICAL STRAIGHTENING DETAIL
(To correct flange rotation.)

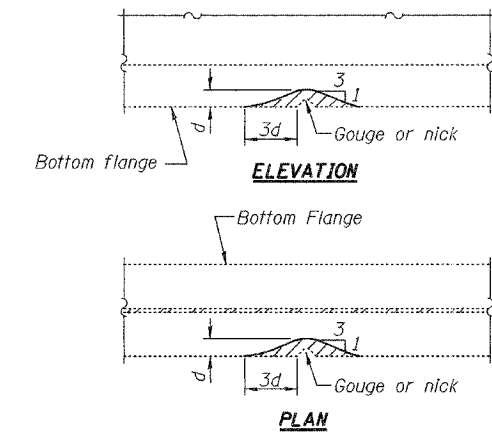


SUGGESTED VERTICAL STRAIGHTENING DETAIL
(To correct localized vertical flange deformations.)

* Edge of plate shall line up with edge of deformation.
Note:
Braces and jack assembly shall be placed on same side of web.
Bent bottom flange shall be straightened before starting any horizontal straightening operations.

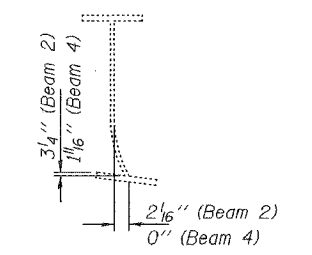


SECTION A-A

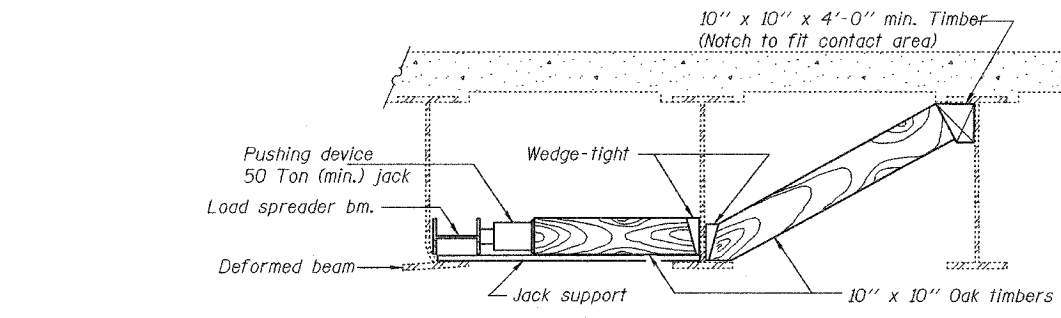


GRINDING DETAIL

Grind existing nicks, gouges and shallow cracks in the damaged beams as detailed. Ground surfaces shall be inspected for cracks using magnetic particle testing prior to initiating any beam straightening operations. Any cracks that cannot be removed by grinding approximately 1/4'' deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Ground surfaces shall be spot cleaned and painted with an aluminum epoxy mastic primer followed by a finish coat to match the color of the existing beam. Cost of grinding, testing and spot painting included with Beam Straightening.



EXISTING DEFORMATION TO BE STRAIGHTENED
(Looking West)
(Approximate max. deflections)
Deflected length of beam to be straightened is approximately 20'-0''.



SECTION B-B

DESIGNED	ATH
CHECKED	VHV
DRAWN	Steffen
CHECKED	ATH VHV

MAY 16, 2008
EXAMINED *Carl Proyer*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

BEAM STRAIGHTENING DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042

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

** When joint is fixed, dimension is set at 1 1/2".

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	LETS	SHEET	SHEET NO. 11 15 SHEETS
FAI 94	*	COOK	30	14	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract Number: 60E12
* IIII-700 HB-BR

Notes:

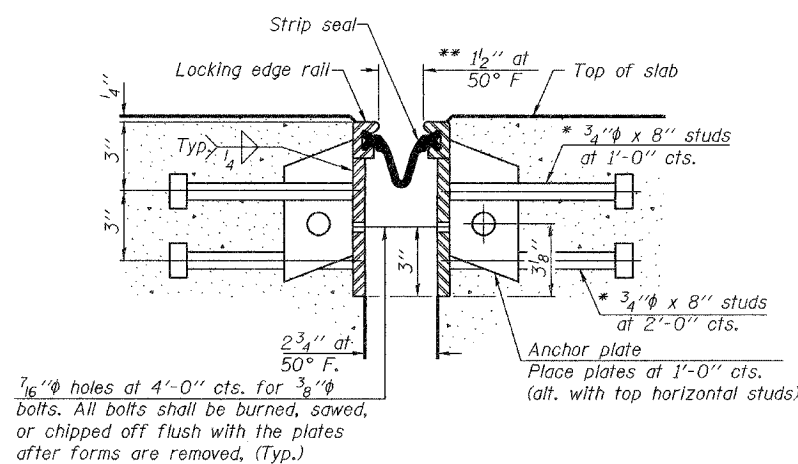
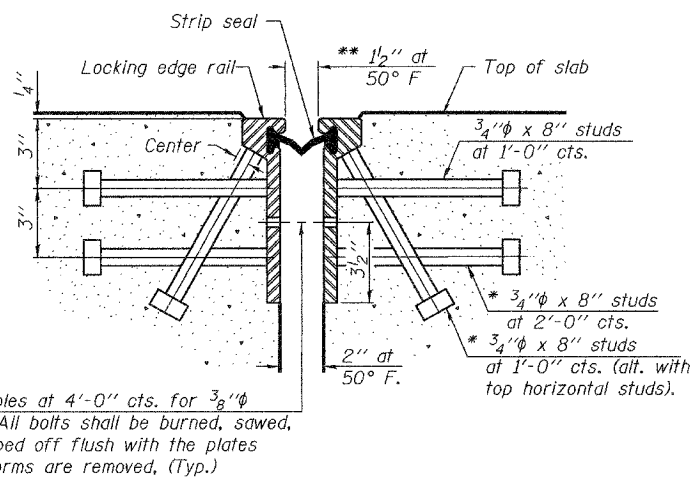
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

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

The manufacturer's recommended installation methods shall be followed.

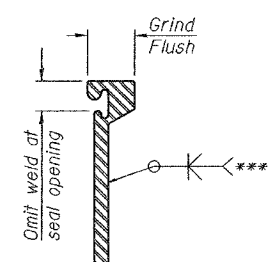
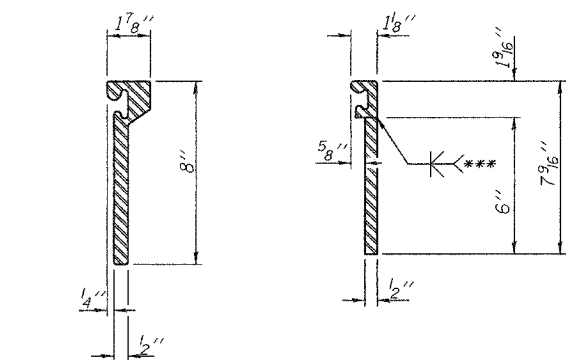
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

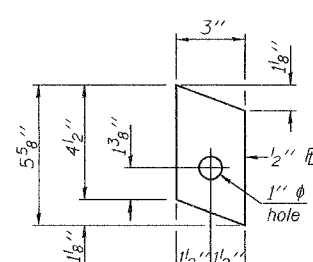


SECTION THRU
ROLLED RAIL JOINT

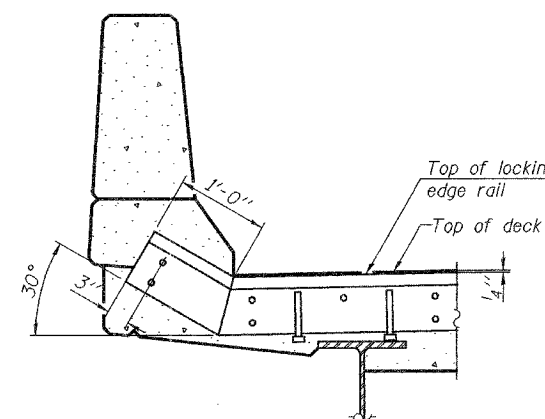
SECTION THRU
WELDED RAIL JOINT



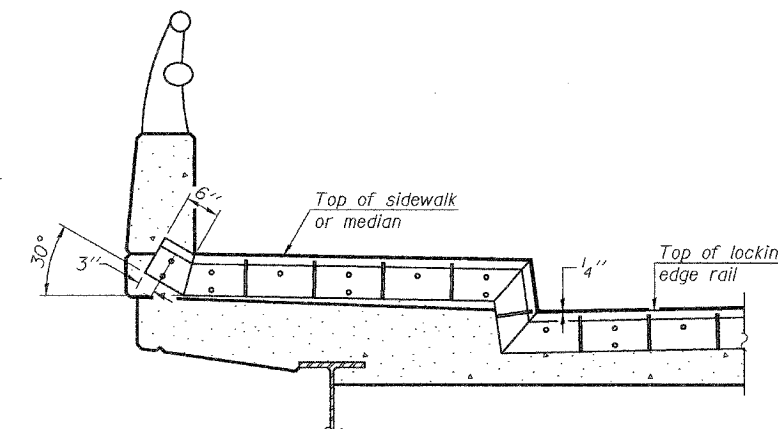
*** Back gouge not required if complete joint penetration is verified by mock-up.



ANCHOR PLATE
(for welded rail)



AT PARAPET



AT SIDEWALK OR MEDIAN

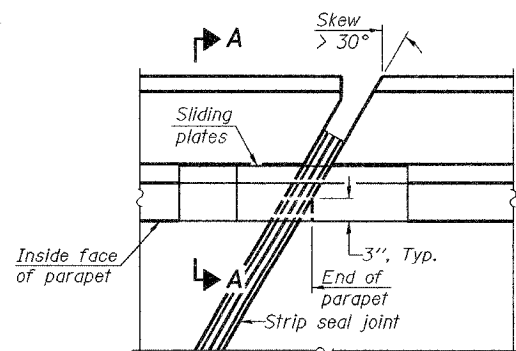
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

ROLLED
(EXTRUDED) RAIL WELDED RAIL

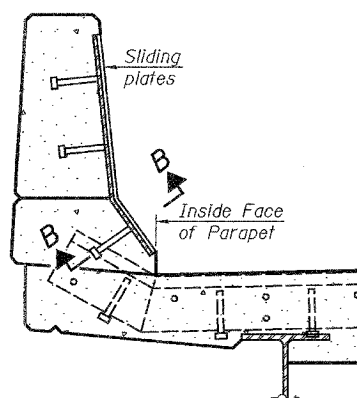
LOCKING EDGE
RAIL SPLICE

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

LOCKING EDGE RAILS



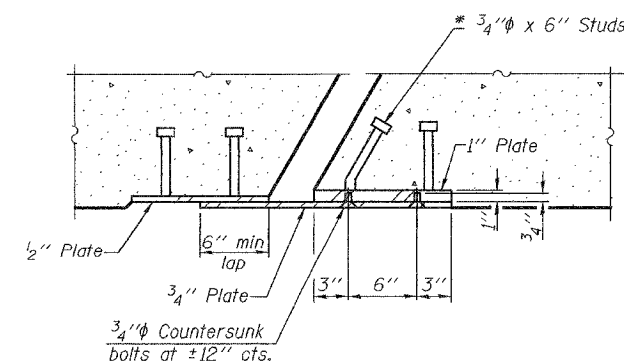
PLAN



SECTION A-A

POINT BLOCK DETAILS
(for skews > 30°)

TYPICAL END TREATMENTS



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	75

DESIGNED	ATH
CHECKED	VHV
DRAWN	Steffen
CHECKED	ATH VHV

MAY 16, 2008
EXAMINED *Carl P. ...*
PASSED *Ralph E. Anderson*
ENGINEER OF STRUCTURAL SERVICES
ENGINEER OF BRIDGES AND STRUCTURES

EJ-SSJ 9-3-07

PREFORMED JOINT
STRIP SEAL DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 12
FAI 94	*	COOK	30	15	15 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract Number: 60E12
* IIII-700 HB-BR

GENERAL NOTES

SPECIFICATIONS:

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications") (2)

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

MINIMUM CLEARANCE: 3" greater than bridge members at all locations. (All Obstructions)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 Structural Welding Code (Steel) and the Standard Specifications.

MATERIALS: All Structural Steel Pipe shall be ASTM A53 Grade B with a minimum yield of 35,000 p.s.i., or A500 Grade B or C with a minimum yield of 46,000 p.s.i. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53.

All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 (M183, M223 Gr. 50).

HIGH STRENGTH BOLTS: All bolts, washers, nuts and locknuts shall satisfy the requirements of ASTM designation A307 unless noted as "H.S." which shall require AASHTO M164 (A325), ASTM A449, or approved alternate. All fasteners shall be hot dip galvanized per AASHTO M232 unless otherwise specified.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: All-threaded rod conforming to ASTM A307, 3/4" ϕ x 12" long, each with one plate washer and locknut and be hot dip galvanized per AASHTO M232. They shall be either cast into the concrete or epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment in concrete shall be 9".

- Bracket spacing $g \leq 6'-0"$, max. Spacing shall be uniform if possible but may vary $\pm 6"$ to miss existing obstruction (rail post, light poles, web stiffeners, splice plates, etc.). Adjust bracket lengths accordingly on skewed structures.
- Any design modifications shall be based on the current version of applicable specifications and submitted for the Engineer's approval.
- Unit price includes grating, handrail, brackets, supports, anchor bolts, fasteners, fabrication, delivery, erection, field drilling and other necessary items. Limits of payment are based on grating length (c_w , d_w) unless otherwise specified. For Safety Chain Details and Details D, F and G, see Base Sheet BM-4.
- If walkway bracket at safety chain location is behind sign, add angle to bracket. See detail on Base Sheet BM-4.

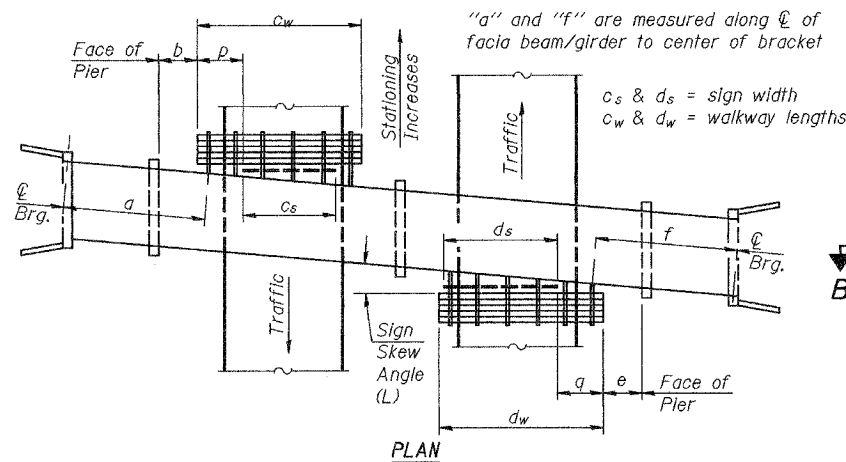
NUMBER	REVISION	DATE

TOTAL BILL OF MATERIAL

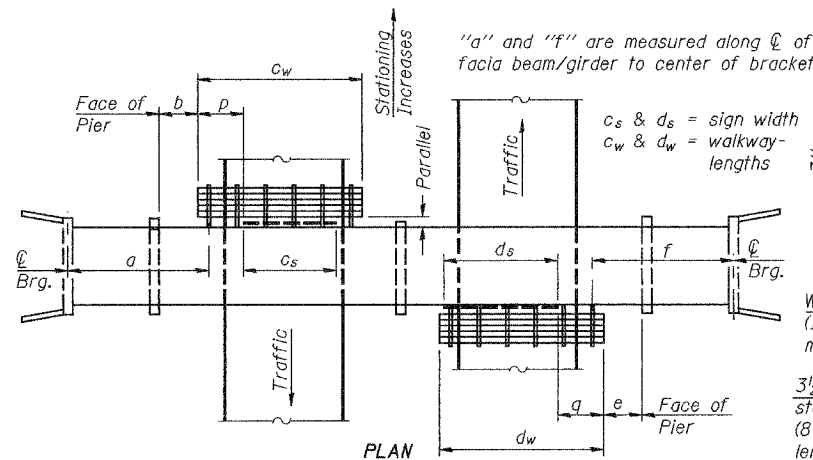
(3) OVERHEAD SIGN STRUCTURE - BRIDGE MOUNTED	Foot	13
Sign Panel, Type 3	Sq. Ft.	88

BRIDGE MOUNT SIGN STRUCTURES
GENERAL PLAN AND ELEVATION

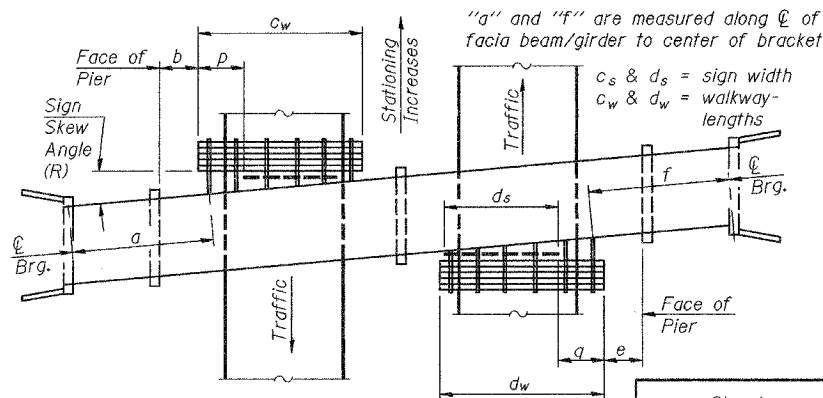
BRIDGE MOUNT SIGN DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042



WALKWAY AND HANDRAIL SKETCH
(Road plan beneath structure varies.)

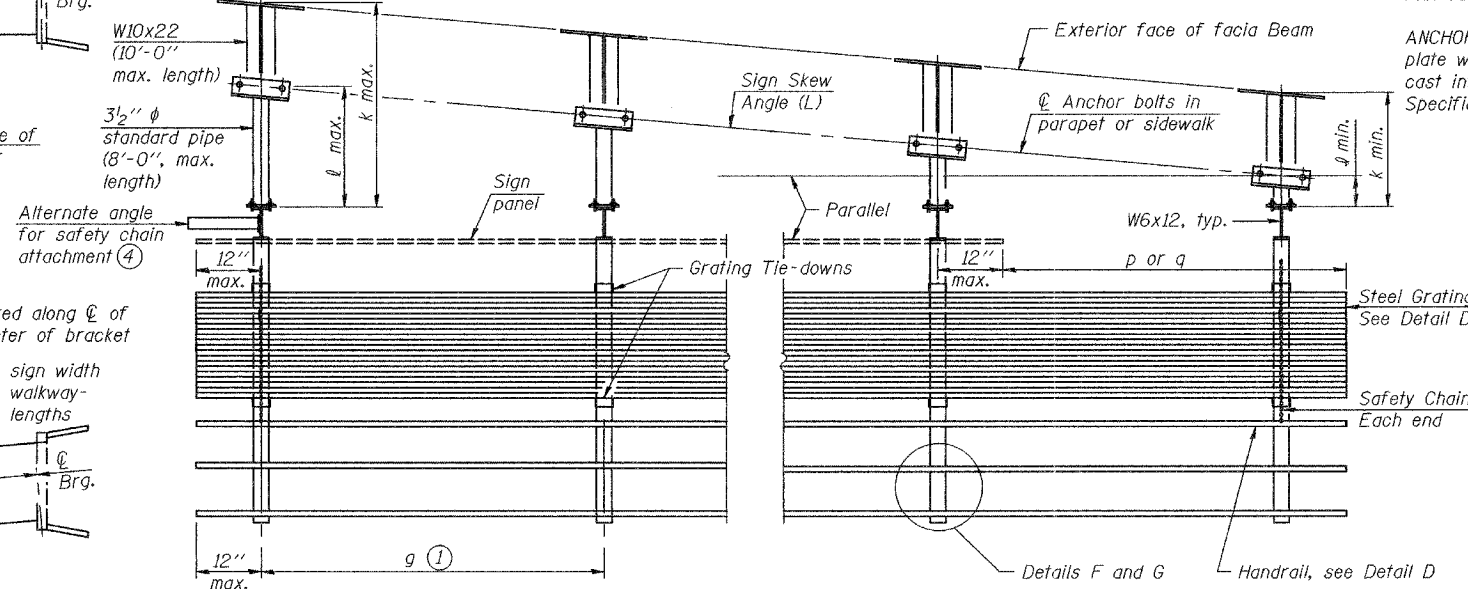


WALKWAY AND HANDRAIL SKETCH
(Road plan beneath structure varies.)



WALKWAY AND HANDRAIL SKETCH
(Road plan beneath structure varies.)

TYPICAL FRONT ELEVATION
(With lights, safety chain and handrail omitted for clarity.)



SECTION B-B
(Shown: Left Sign Skew > 15°)

Structure Number	Sign Skew Angle (L) or (R)	Bridge Station	Bridge Structure Number	Contract Route Designation	a	b	c _s	c _w	d _s	d _w	e	f	g	No. of Brackets (Total)	p	q	Total Grating/Hndrl. Lengths (c _w + d _w)
1B016I094L066.7	0°	17+6.87	016-2042	FAI-94	-	-	-	-	11'-0"	13'-0"	-	8'-6"	5'-0"	-	-	2'-0"	13'-0"

Dimensions a, b, e, f & g may vary as approved by the Engineer, see (1).
When $c_w < c_s$ and/or $d_w < d_s$, use alternate brackets without walkway supports where applicable, see (3).

DESIGNED	ATH	MAY 16, 2008
CHECKED	VHV	EXAMINED <i>Carl Proyer</i> ENGINEER OF STRUCTURAL SERVICES
DRAWN	Steffen	PASSED <i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	ATH VHV	

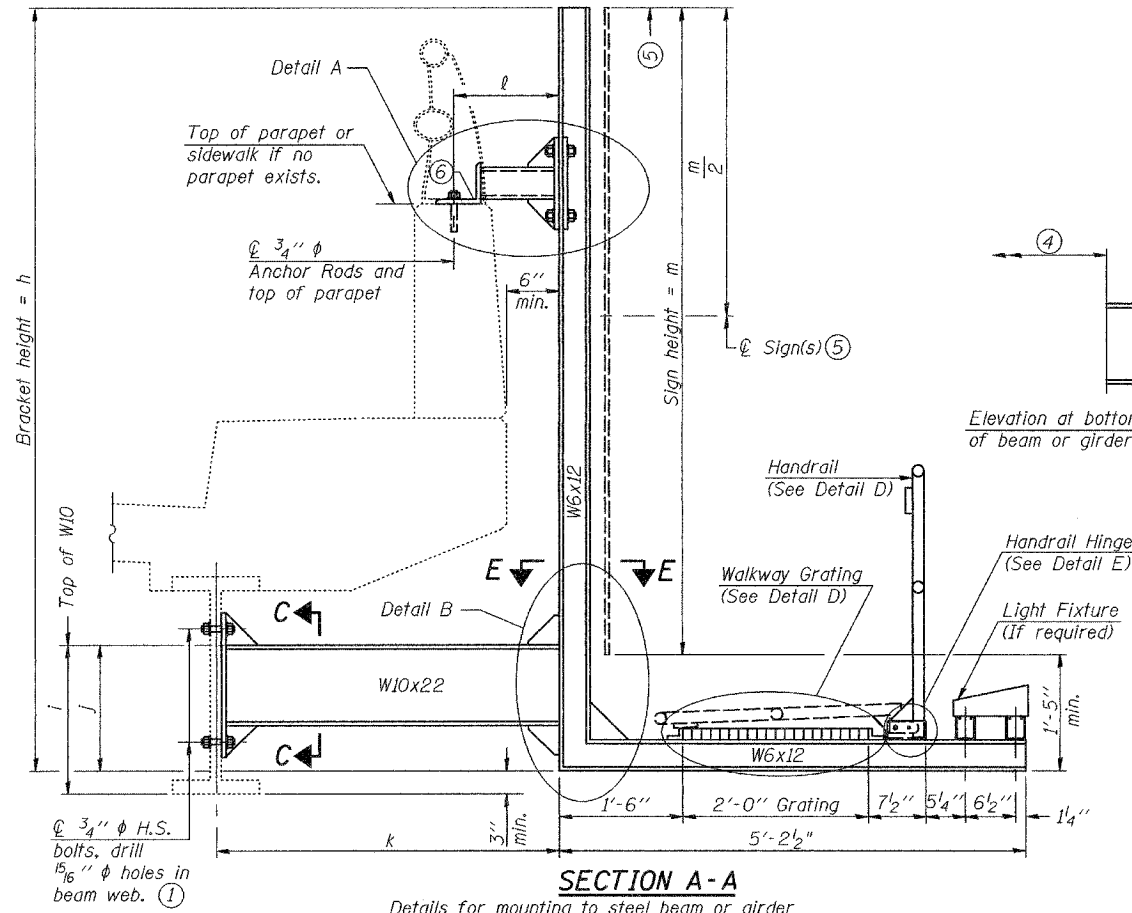
BM-1 6/01/2007

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

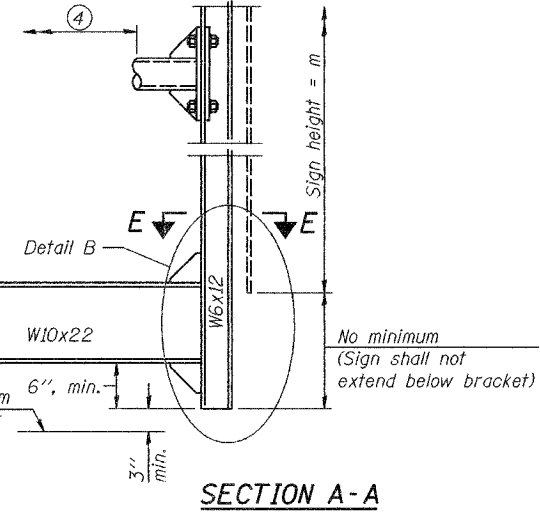
ROUTE NO.	SECTION	COUNTY	DATE	SHEET
FAI 94	*	COOK	30	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 13
15 SHEETS

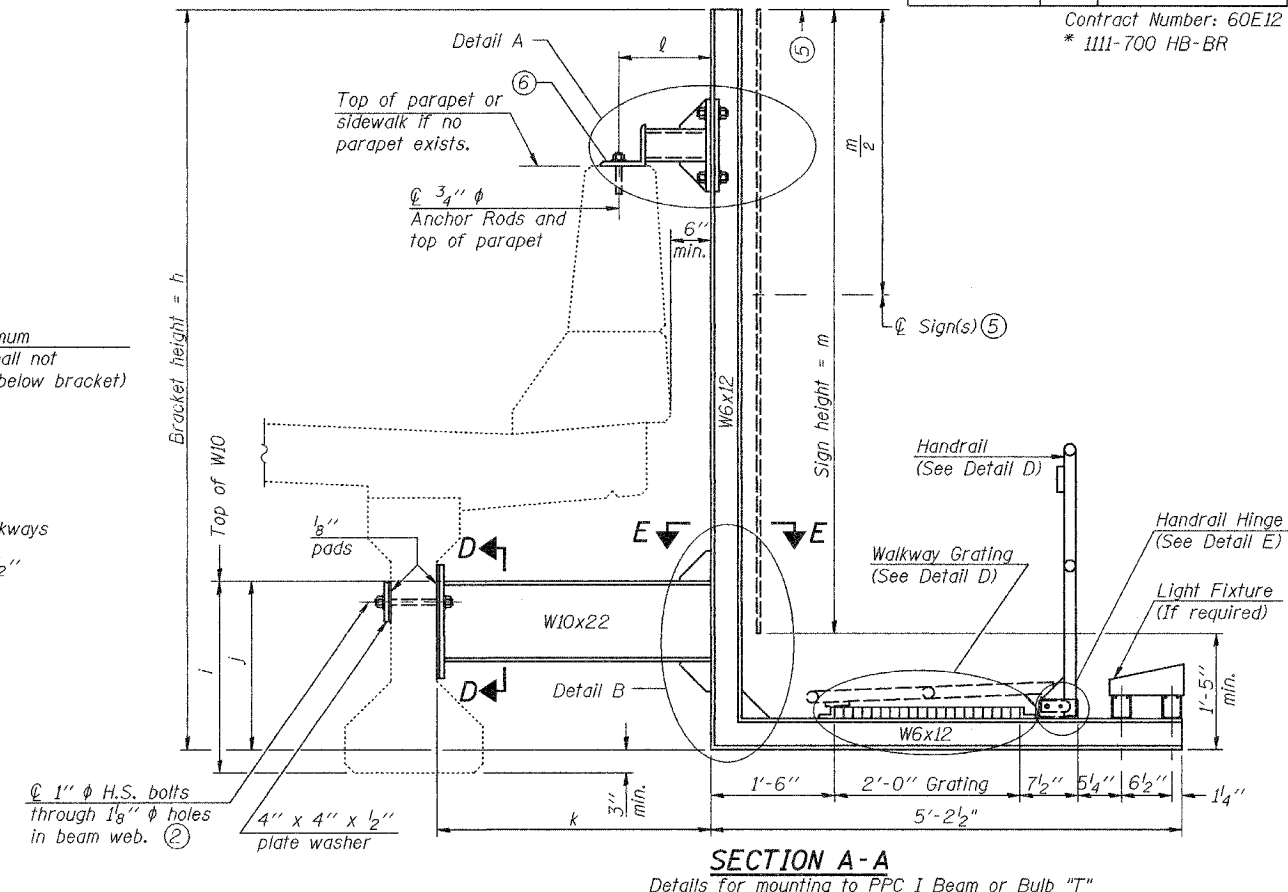
Contract Number: 60E12
* 1111-700 HB-BR



SECTION A-A
Details for mounting to steel beam or girder
& Details for mounting with existing parapet mounted rail



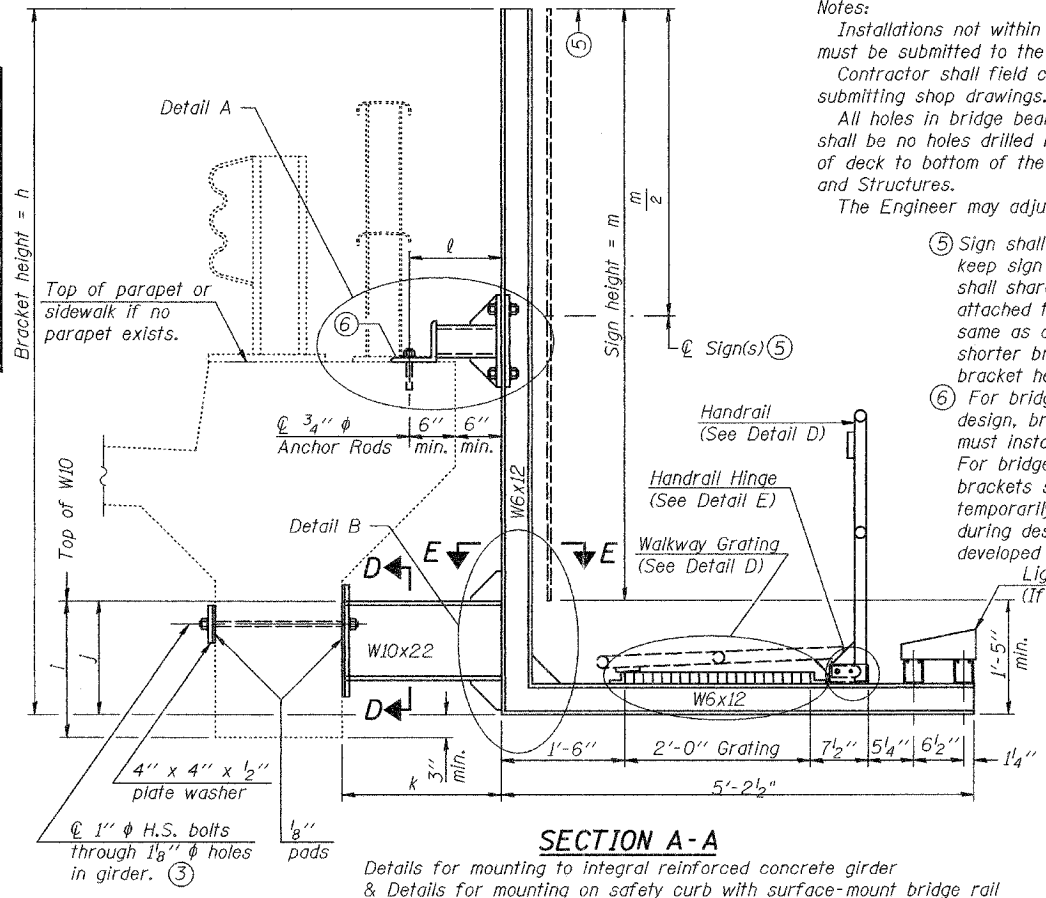
SECTION A-A
Alternate with no lights or walkways
④ For attachment details of 3/2" pipe and W10x22, see other sections as applicable.



SECTION A-A
Details for mounting to PPC I Beam or Bulb "T"
& Details for mounting to parapet w/o rail

Notes:
Installations not within dimensional limits shown require special analysis for all components and must be submitted to the Bureau of Bridges and Structures for approval.
Contractor shall field check all pertinent existing bridge dimensions shown on plans before submitting shop drawings.
All holes in bridge beams or girders should be located in the middle half of the member. There shall be no holes drilled in the lower quarter of the member's depth. (For R.C. girder, depth = bottom of deck to bottom of the girder.) Proposed exceptions must be approved by the Bureau of Bridges and Structures.
The Engineer may adjust dimension "i" to meet the above condition and to keep the sign level.

- ⑤ Sign shall not extend more than 6" above top of bracket, and this dimension may vary to keep sign level if bridge is on grade or vertical curve. Multiple signs of various heights shall share a common horizontal centerline and use equal bracket heights. If no sign is attached to a W6x12 vertical (bracket only supporting walkway), dimension h shall be the same as an adjacent bracket with a sign attached, unless Engineer specifically directs shorter brackets due to locational restraints on future uses. (See Detail A for minimum bracket height.)
- ⑥ For bridge mounted sign structures installed on new bridges with railing, during design, bracket spacing must be coordinated with railing post spacing and the Contractor must install upper brackets prior to railing installation. For bridge mounted sign structures installed on existing bridges with railing, during design, brackets spacing must be coordinated with railing post spacing and the Contractor must temporarily remove sections of railing to facilitate upper bracket installation. If it is determined during design that existing railings can't be removed, alternate upper connection details must be developed for the contract plans and approved by the Bureau of Bridges and Structures.



SECTION A-A
Details for mounting to integral reinforced concrete girder
& Details for mounting on safety curb with surface-mount bridge rail

Structure Number	Station	h	i	j	k max. (10'-0" max.)	l max. (8'-0" max.)	m (15'-0" max.)
1B0161094L066.7	17+65.87	9'-6"	20"	23"	3'-4"	1'-0"	8'-0"

For Details A & B, Sections C-C, D-D and E-E, see Base Sheet BM-3.
For Details D & E, see Base Sheet BM-4.

- ① Holes in new steel members may be drilled in the fabrication shop or in the field. Field drill existing members.
- ② For new PPC I beams, holes shall be formed during casting. For existing PPC I beams, prestressing strand locations shall be determined and spaced to miss strands by 6", min. Minimize spalling during field drilling of existing beams.
- ③ For new construction, form holes. For existing RC beams, locate primary reinforcement and space holes to miss by 6", min. Minimize spalling and concrete fracturing/damage during field drilling of existing concrete. Spalls over 1/4" deep or beyond the coverage of the 4x4 plate washer shall be repaired with epoxy mortar before installing washer.

DESIGNED	ATH
CHECKED	VHV
DRAWN	Steffen
CHECKED	ATH VHV

MAY 16, 2008
EXAMINED *Carl P. ...*
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

NUMBER	REVISION	DATE

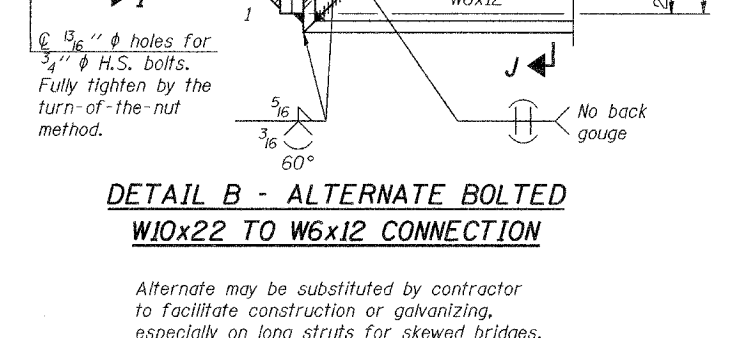
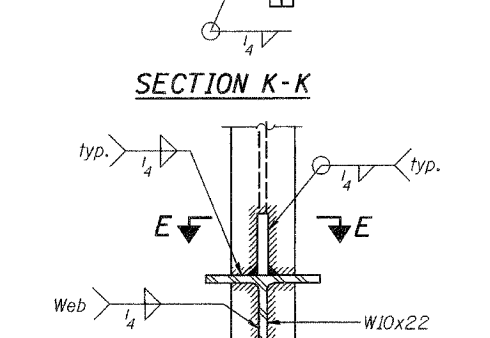
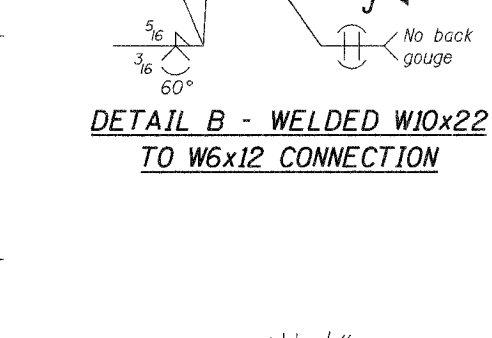
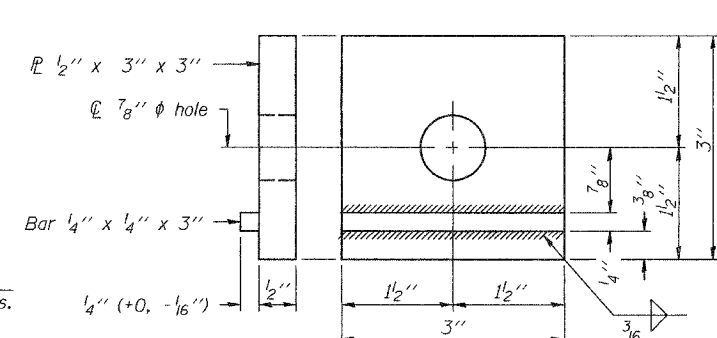
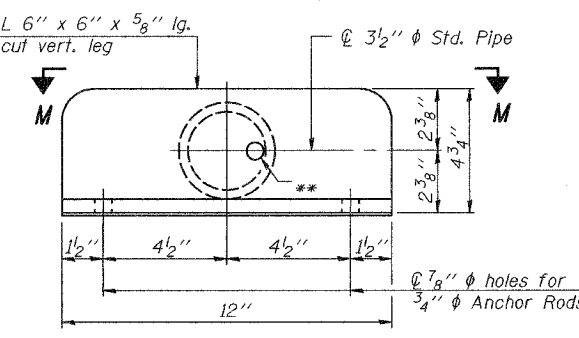
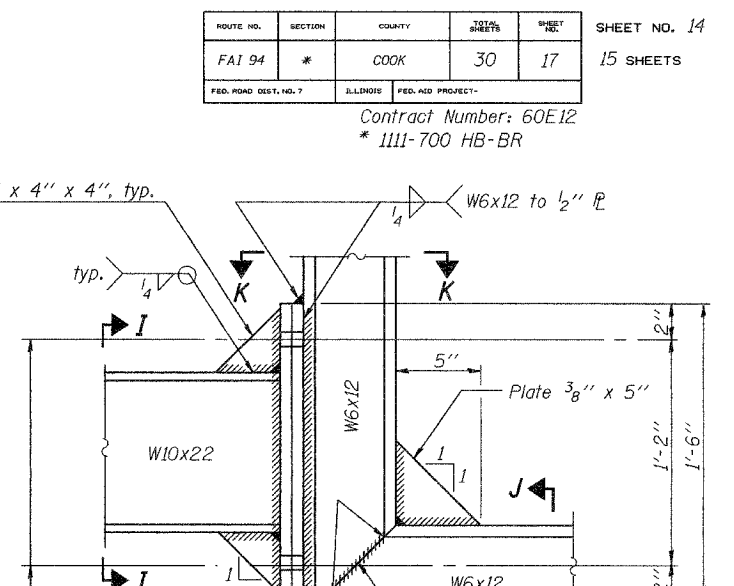
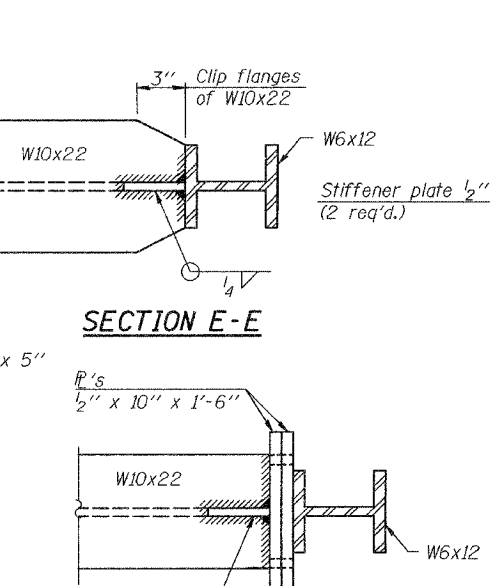
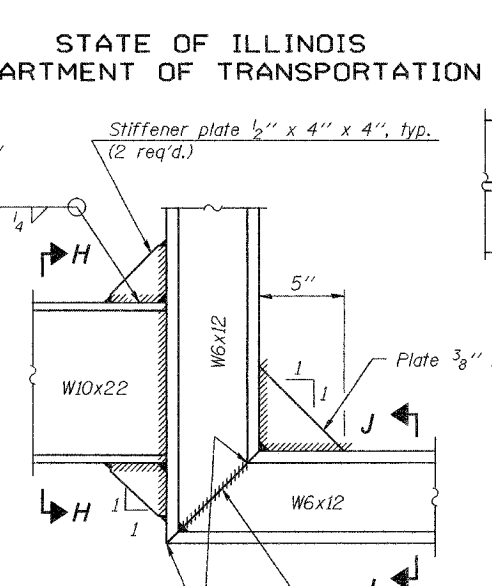
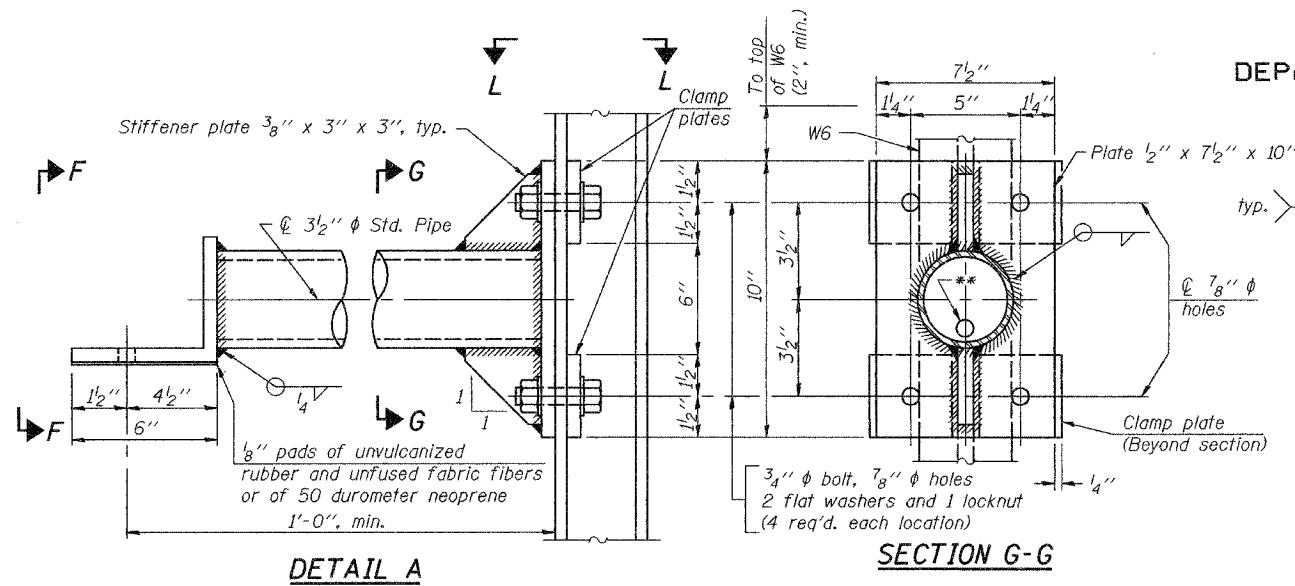
BM-2 6/01/2007

**BRIDGE MOUNT SIGN STRUCTURES
WALKWAY AND CONNECTION DETAILS**

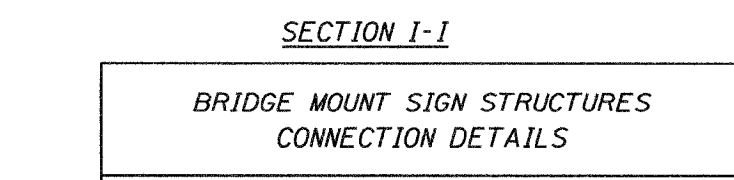
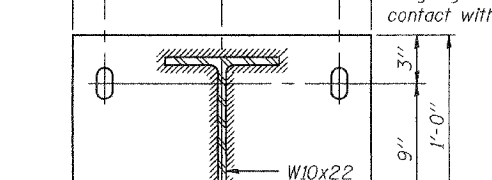
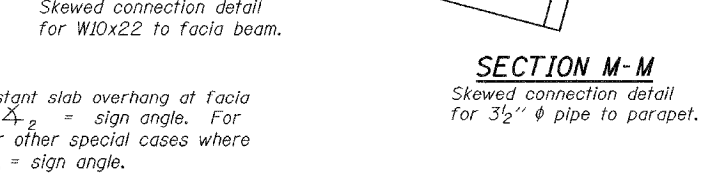
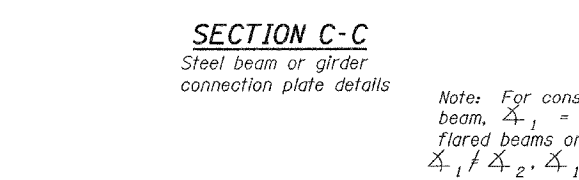
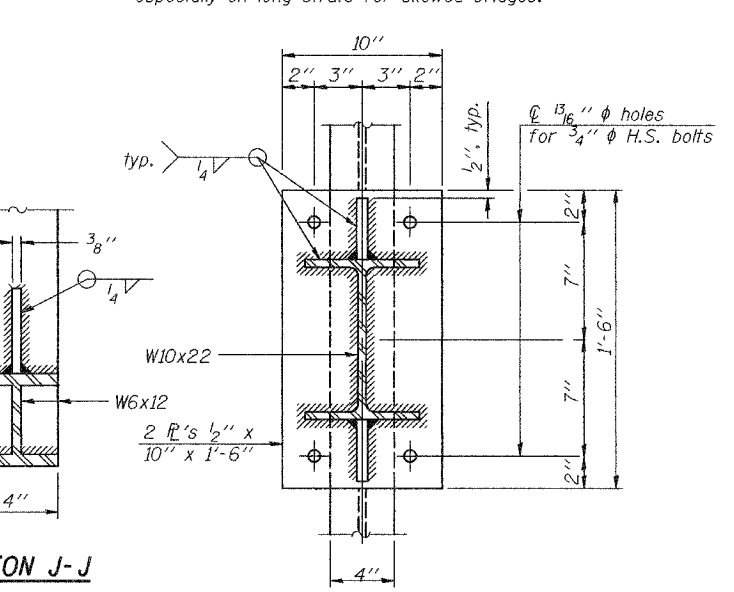
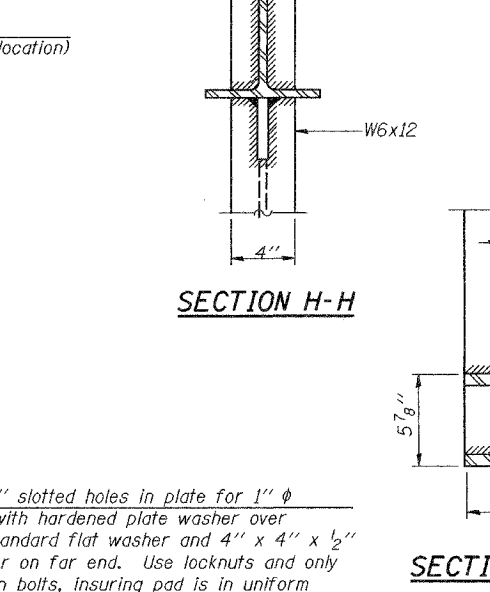
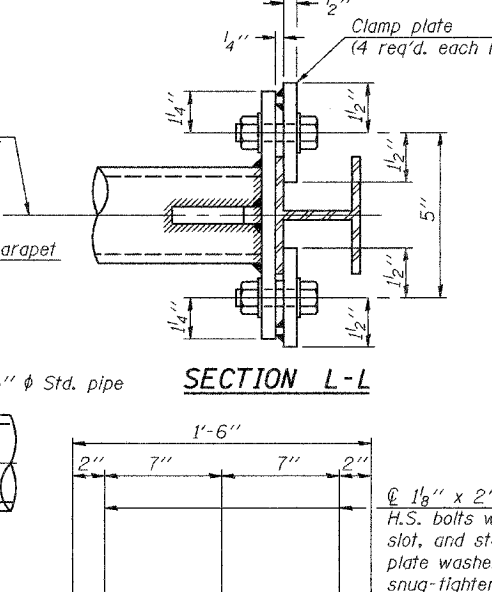
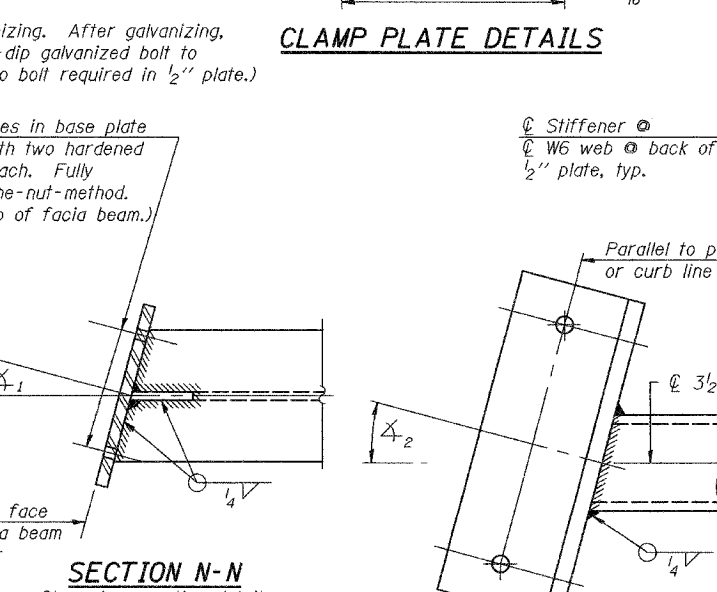
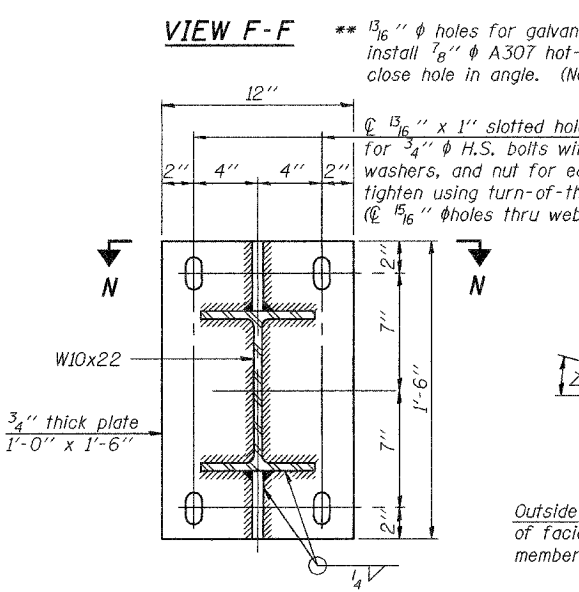
BRIDGE MOUNT SIGN DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO. 14
FAI 94	*	COOK	30	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	Contract Number: 60E12 * 1111-700 HB-BR	



Alternate may be substituted by contractor to facilitate construction or galvanizing, especially on long struts for skewed bridges.



BRIDGE MOUNT SIGN STRUCTURES
CONNECTION DETAILS

BRIDGE MOUNT SIGN DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042

DESIGNED	ATH	EXAMINED	MAY 16, 2008
CHECKED	VHV	PASSED	<i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	Steffen		
CHECKED	ATH VHV		

NUMBER	REVISION	DATE

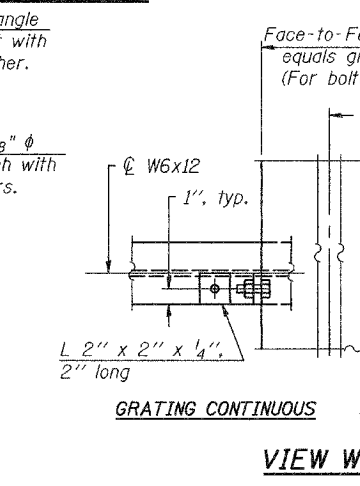
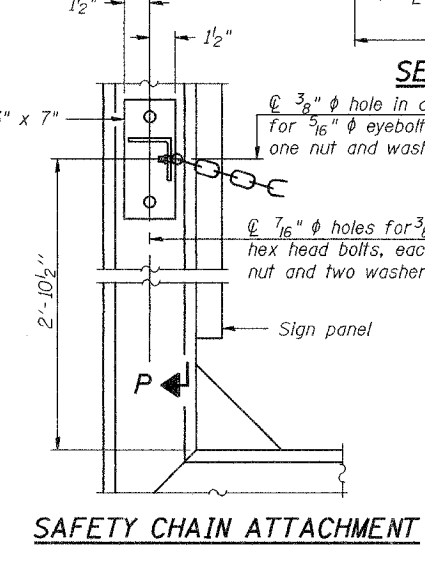
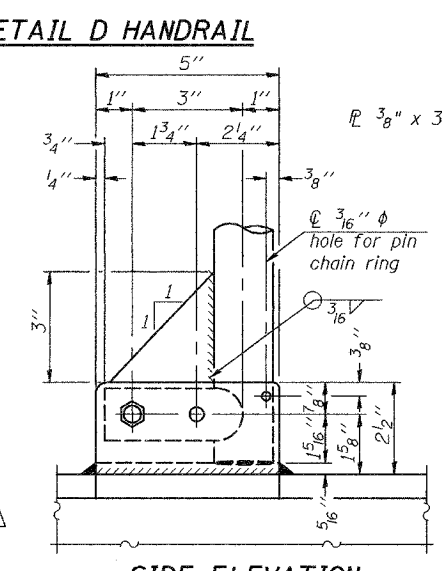
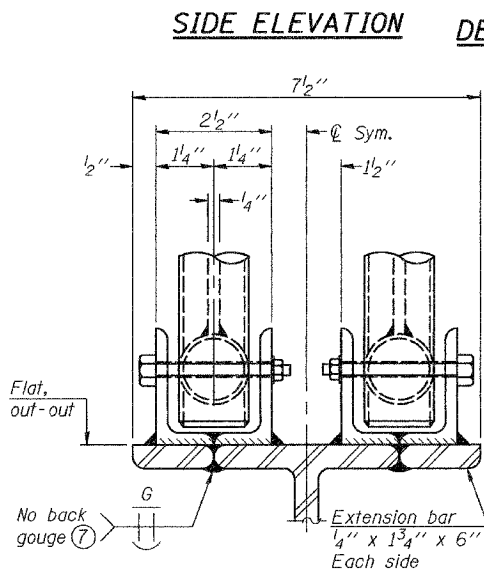
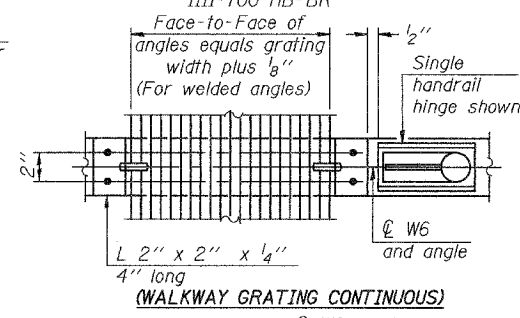
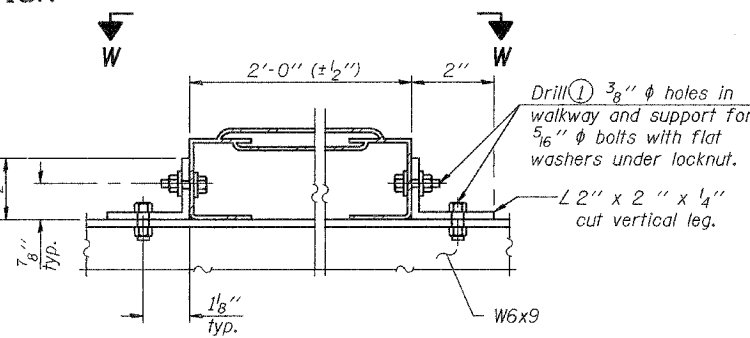
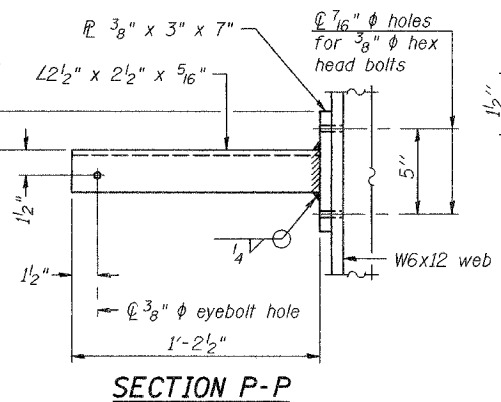
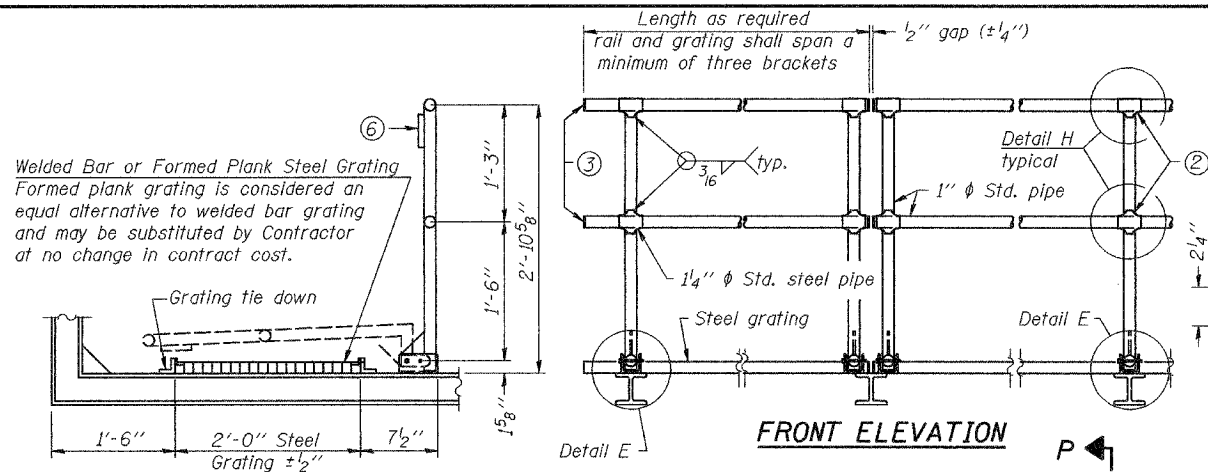
BM-3 6/01/2007

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 94	*	COOK	30	18
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

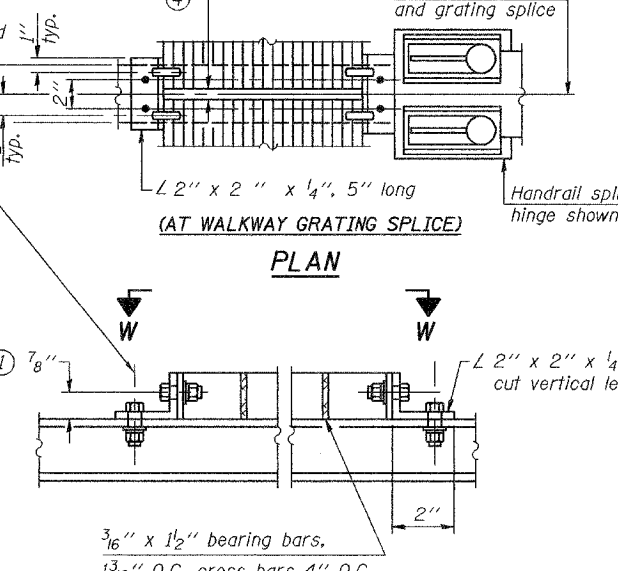
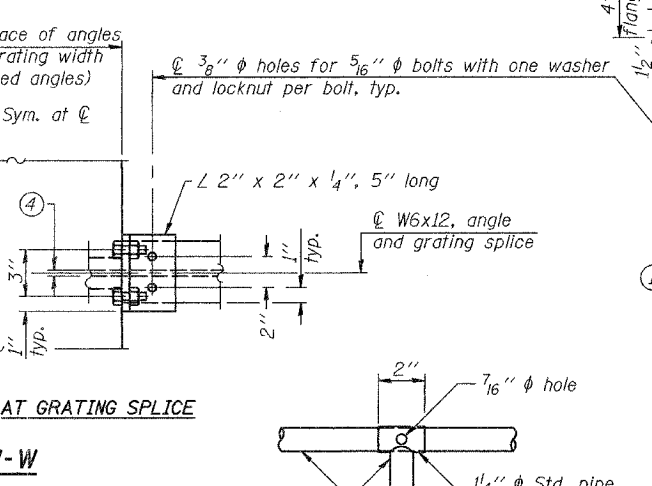
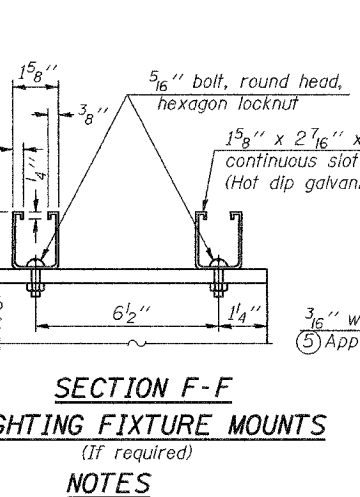
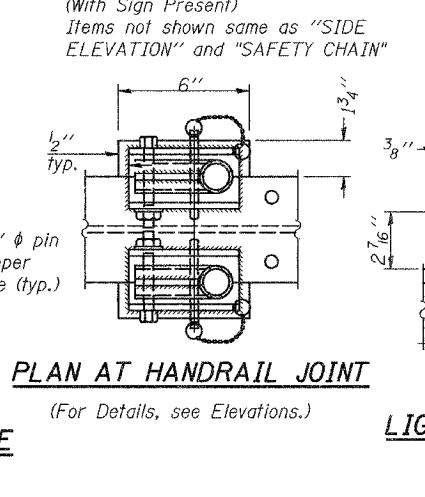
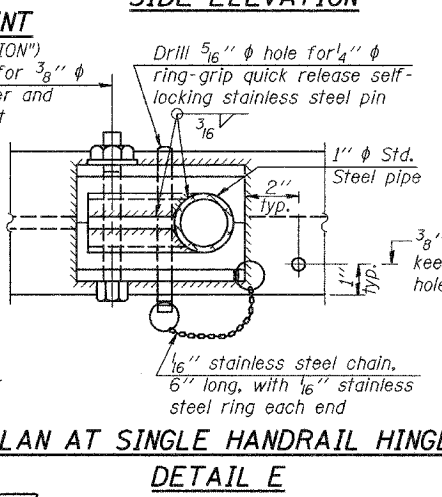
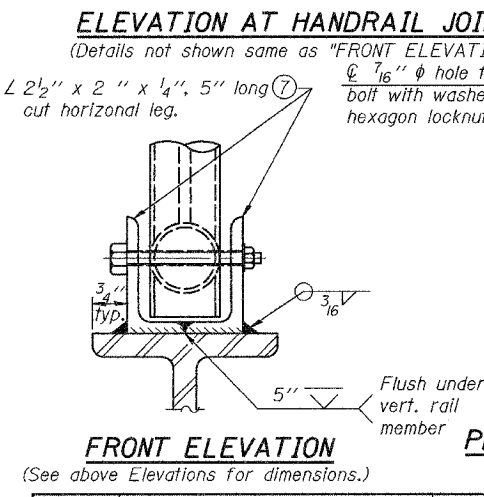
SHEET NO. 15
15 SHEETS

Contract Number: 60E12
* IIII-700 HB-BR



ALTERNATE FORMED PLANK GRATING DETAILS

Plank Grating: nominal depth = 2 1/2" (± 1/2"); perforated or expanded steel sheet with a non-skid surface (non-serrated) concentrated load capacity = 500 lbs. with 6'-0" clear span.



NUMBER	REVISION	DATE

DESIGNED	ATH
CHECKED	VHV
DRAWN	Steffen
CHECKED	ATH VHV

MAY 16, 2008
EXAMINED *Carl P... ENGINEER OF STRUCTURAL SERVICES*
PASSED *Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES*

- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment. Field drilled holes must be touched up with galvanized paint.
- Horizontal rail member shall be continuous thru 1 1/4" pipe. Provide 7/16" hole in 1 1/4" pipe for 3/8" bolt. Field drill 7/16" hole in horizontal rail member. Provide washer and locknut for bolt. (Use 5/16" eyebolts in 7/16" holes on top rail at ends only.)
- Install standard force-fit end caps or weld 1/8" end plates with 1/8" c.f.w. and grind smooth. (All rail ends.)
- 3/8" (± 1/4") gap between grating panels at splice.

- Chain to be type 304L stainless steel suitable for prolonged exterior exposure. Approximately 3'-6" long chain per location. Maximum sag with handrail erected = 4".
- 1 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.
- Extrusions may be used in lieu of details shown, with approval by Engineer.
- Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.

BRIDGE MOUNT SIGN STRUCTURES
WALKWAY DETAILS

BRIDGE MOUNT SIGN DETAILS
115th ST. OVER FAI RT. 94
COOK COUNTY
SN 016-2042

Notes:

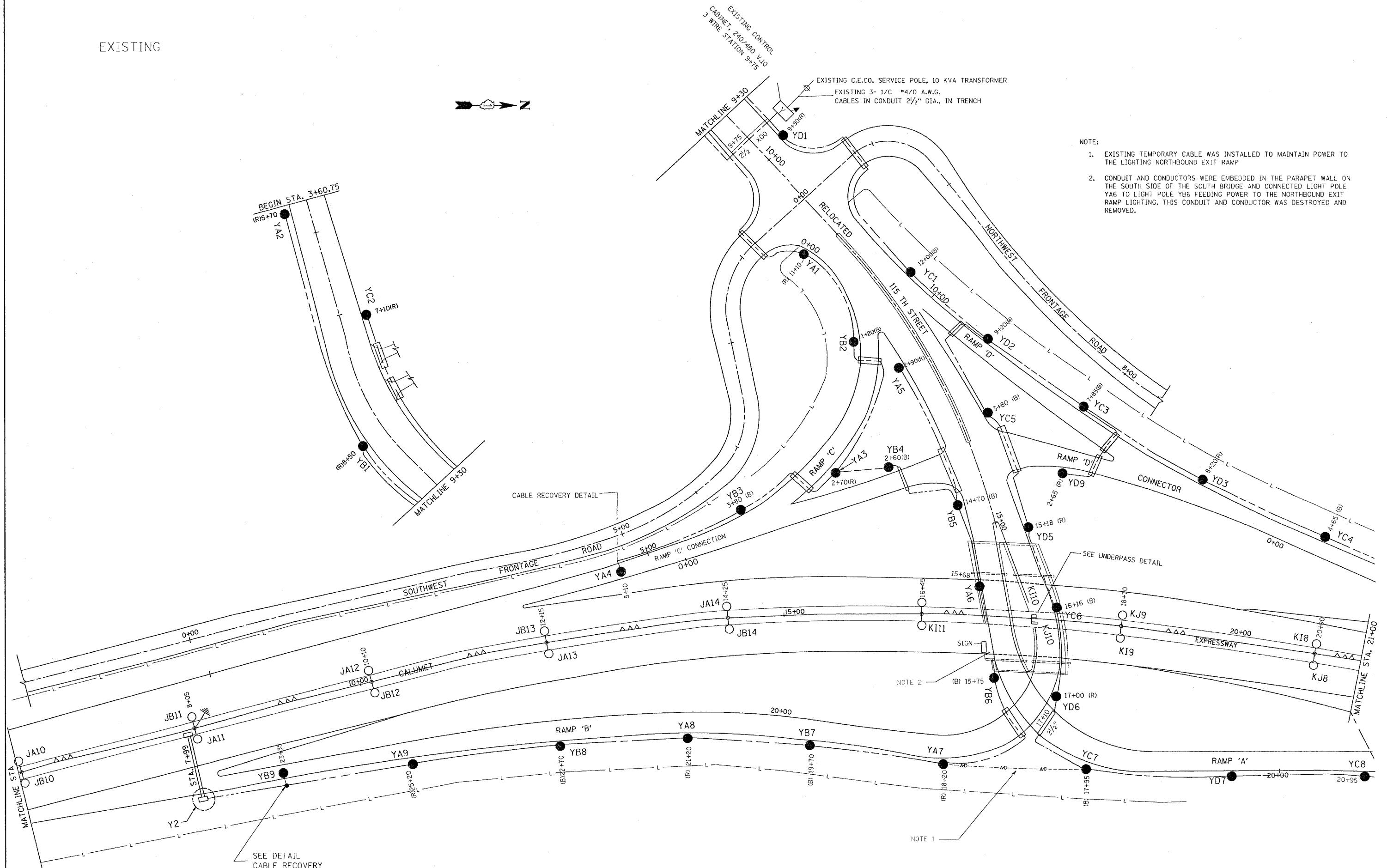
1. The materials and installation methods shall comply with the latest codes, standards and ordinances of Federal, State and Local governing bodies having jurisdiction. All works shown on the plans and described elsewhere shall also conform to the latest National Electrical Code.
2. All electrical equipment, components and devices shall be U/L listed.
3. All material parts of the light poles shall be grounded and bonded conforming to NEC Article 250. The equipment ground shall be part of the temporary light pole pay item.
4. The contractor shall be responsible for any damage to the equipment or devices and not limited to the light system. The contractor shall not install damaged equipment or devices. Instead the contractor shall replace it with new ones at no cost to IDOT and or as directed by the Engineer.
5. The contractor shall splice aerial cable at the junction boxes using heat shrinkable caps with the factory applied waterproof sealant. Cost of splices, installation and mounting hardware shall be included in the unit price for aerial cable.
6. It is the contractor's responsibility to contact J.U.L.I.E. prior to the start of construction and coordinate location of existing underground utilities. The contractor shall locate, flag and protect all underground utilities prior to and during construction. Any damage to existing utilities during construction shall be repaired immediately at no cost to IDOT.
7. The material quantities as shown in the electrical summary of quantities are approximations only. It is the contractor's responsibility to field verify all quantities prior to ordering materials.
8. The contractor shall coordinate construction and staging activities being done in the same area by the utility companies or other contractors and setup coordination meetings if necessary without any additional financial compensation.
9. All areas disturbed under this contract shall be restored to the original condition or better to the satisfaction of the Engineer.

SCHEDULE OF QUANTITIES

PAY ITEM	DESCRIPTION	UNITS	QTY
	CONDUIT ATTACHED TO STRUCTURE, 1" DIA., PVC COATED GALVANIZED STEEL	Ft	250
	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 6" X 6" X 4"	Ea	4
	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 10" X 6"	Ea	3
	"AERIAL CABLE, 3-1/C NO. 8 WITH MESSENGER WIRE"	Ft	50
	REMOVE CONDUIT ATTACHED TO STRUCTURE	Ft	300
	ELECTRIC CABLE IN CONDUIT 1/C NO. 10, 600V, (EPR-TYPE RHW) 3-1/C NO. 10 & 1/C NO. 10 GND.	Ft	300
	ELECTRIC CABLE IN CONDUIT, REMOVE ALL CONDUCTORS	Ft	300
	FLUORESCENT LUMINAIRE FOR SIGN LIGHTING	Ea	7
	REMOVE JUNCTION BOX	Ea	3
	AERIAL CABLE REMOVAL	Ft	250
	LIQUID TIGHT FLEXIBLE METALLIC CONDUIT, 1 INCH	Ft	50

Rev.

EXISTING



- NOTE:
- EXISTING TEMPORARY CABLE WAS INSTALLED TO MAINTAIN POWER TO THE LIGHTING NORTHBOUND EXIT RAMP
 - CONDUIT AND CONDUCTORS WERE EMBEDDED IN THE PARAPET WALL ON THE SOUTH SIDE OF THE SOUTH BRIDGE AND CONNECTED LIGHT POLE YA6 TO LIGHT POLE YB6 FEEDING POWER TO THE NORTHBOUND EXIT RAMP LIGHTING. THIS CONDUIT AND CONDUCTOR WAS DESTROYED AND REMOVED.

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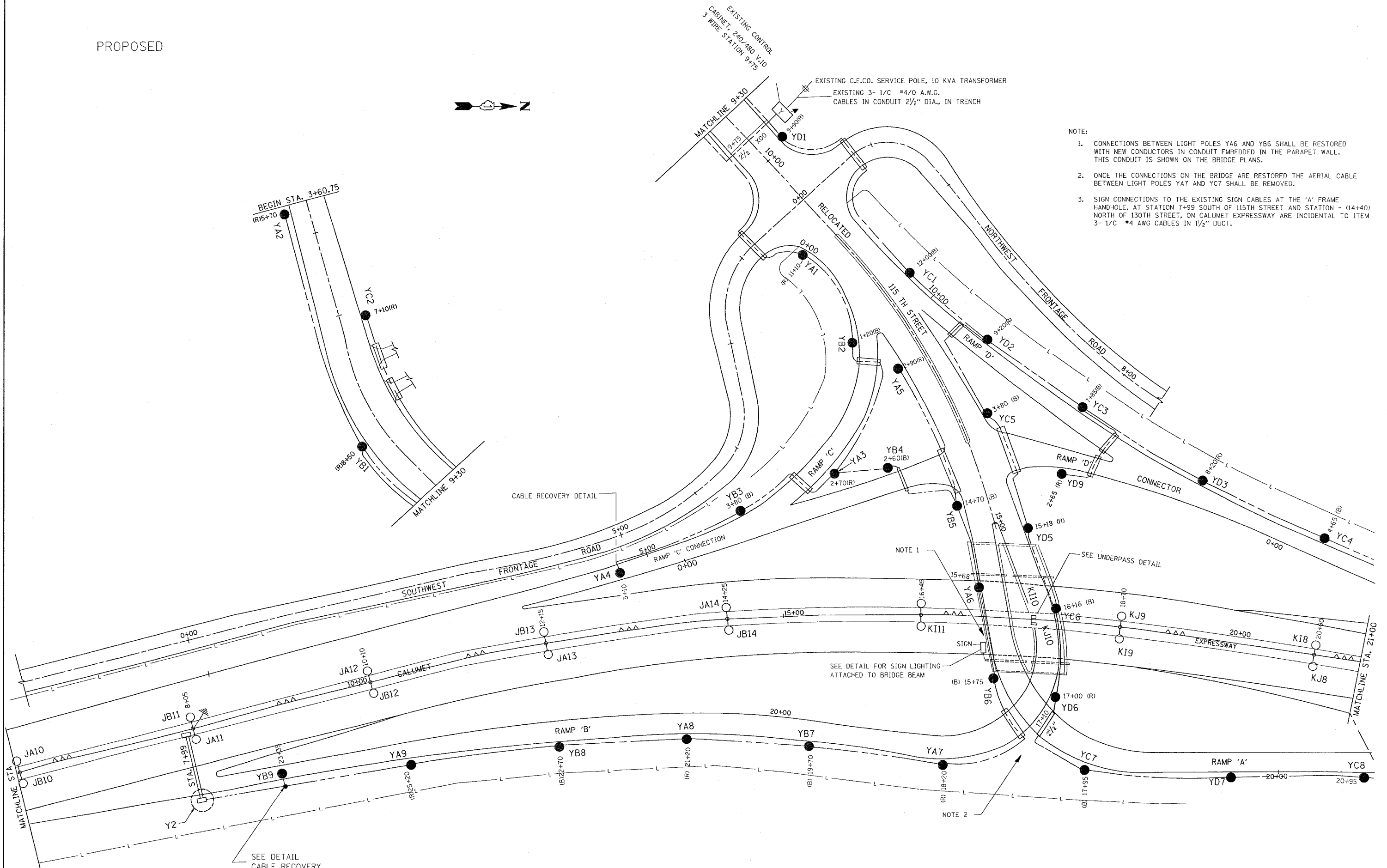
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

F.A. I-94 (BISHOP FORD EXPRESSWAY) LIGHTING PLAN
 EXISTING 115TH STREET INTERCHANGE

SCALE: SHEET NO. 2 OF 8 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1584	1111-700-HB-BR	COCK	30	20
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60E12	

PROPOSED



- NOTE:
1. CONNECTIONS BETWEEN LIGHT POLES YA6 AND YB6 SHALL BE RESTORED WITH NEW CONDUCTORS IN CONDUIT EMBEDDED IN THE PARAPET WALL. THIS CONDUIT IS SHOWN ON THE BRIDGE PLANS.
 2. ONCE THE CONNECTIONS ON THE BRIDGE ARE RESTORED THE AERIAL CABLE BETWEEN LIGHT POLES YA7 AND YC7 SHALL BE REMOVED.
 3. SIGN CONNECTIONS TO THE EXISTING SIGN CABLES AT THE 'A' FRAME HANDHOLE, AT STATION 7+99 SOUTH OF 115TH STREET AND STATION - (14+40) NORTH OF 130TH STREET, ON CALUMET EXPRESSWAY ARE INCIDENTAL TO ITEM 3- 1/C #4 AWG CABLES IN 1 1/2" DUCT.

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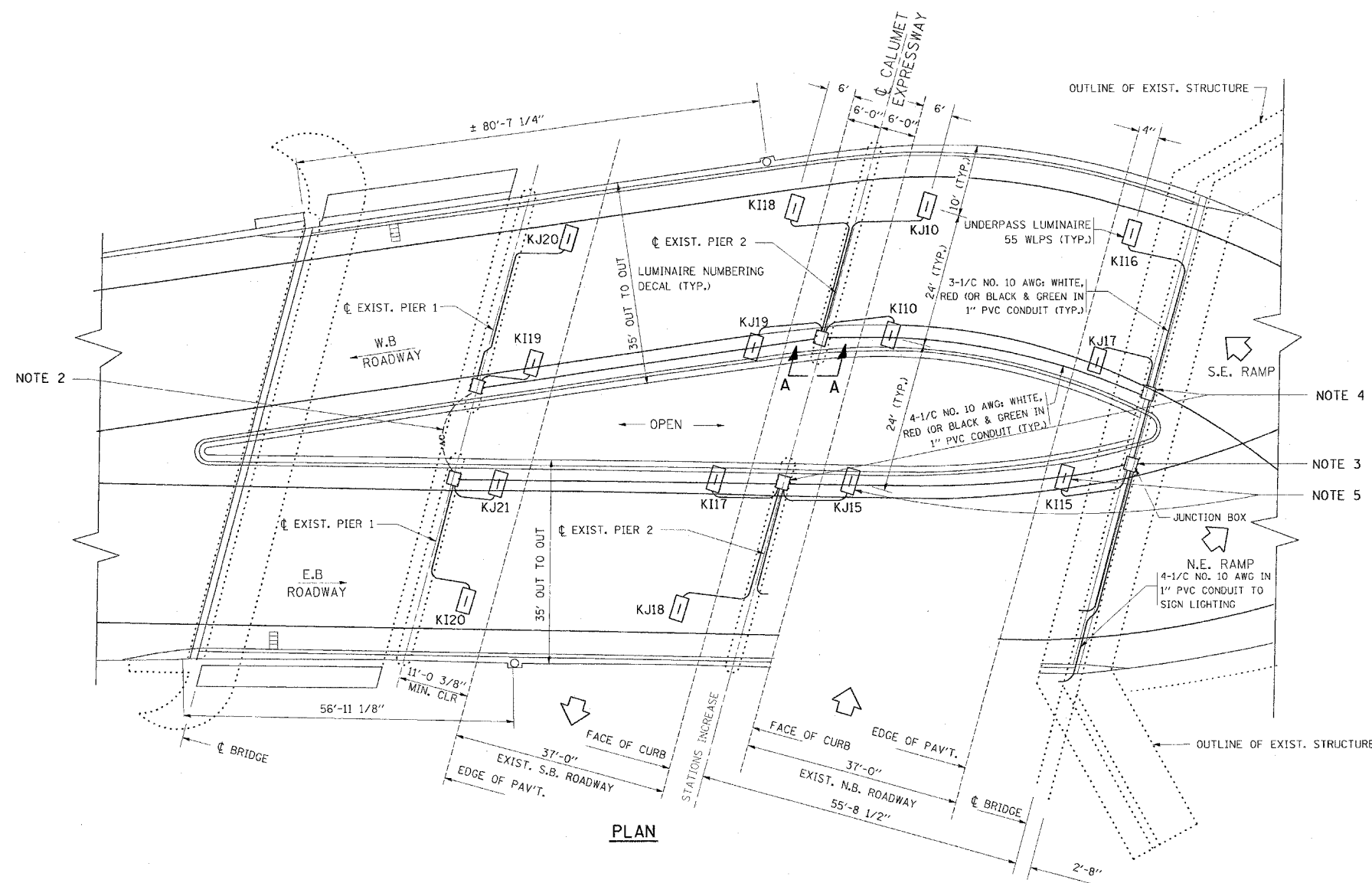
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

F.A. I-94 (BISHOP FORD EXPRESSWAY) LIGHTING PLAN
PROPOSED 115TH STREET INTERCHANGE

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
158E	1111-700-4B-BR	COOK	30	21
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60E12	

SCALE: SHEET NO. 3 OF 8 SHEETS STA. TO STA.

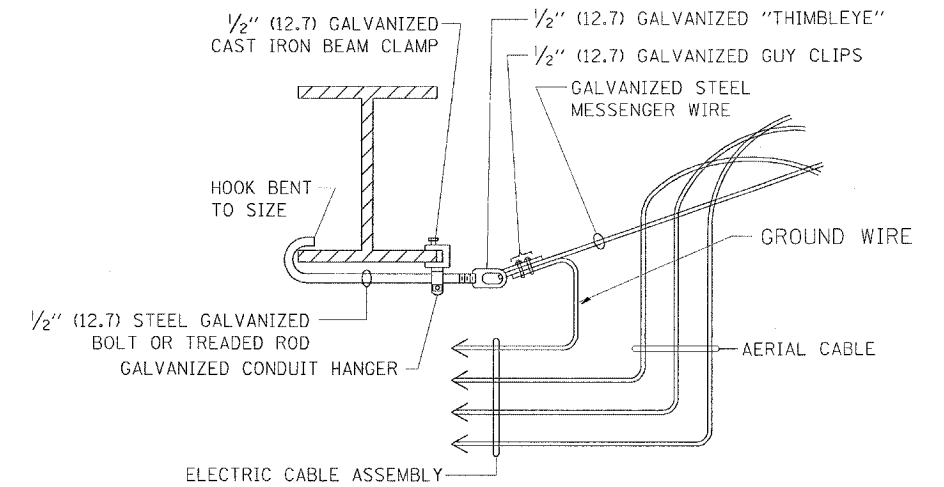
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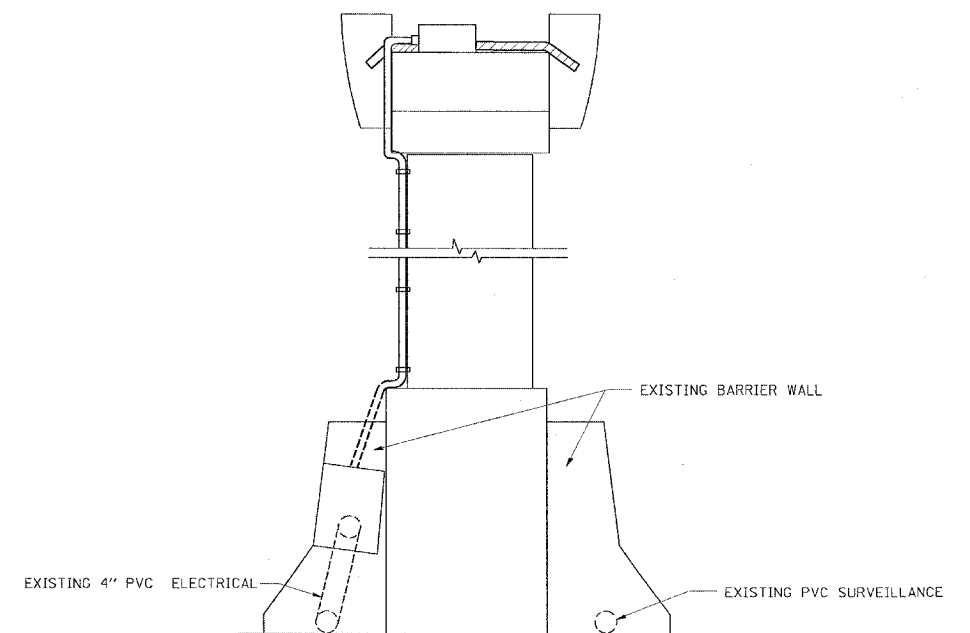
PLAN

NOTES:

1. UNDERPASS LIGHTING ON 115th STREET IS POWERED FROM CONTROLLER K LOCATED ON THE SOUTHBOUND I-94 ENTRANCE RAMP AT 111th STREET.
2. TEMPORARY AERIAL CABLE SHALL BE INSTALLED BETWEEN THE EXISTING JUNCTION BOXES.
THE COST OF SPLICES AND MOUNTING HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE FOR AERIAL CABLE.
3. ALL CONDUIT AND CONDUCTORS ON THE NORTHBOUND SECTION OF THE SOUTH BRIDGE AS WELL AS THE HIGHLIGHTED JUNCTION BOX SHALL BE REMOVED AND SCRAPPED.
4. CONDUCTORS SHALL BE TERMINATED AT THE HIGHLIGHTED JUNCTION BOXES AND THE OPENING FROM THE REMOVED CONDUIT SHALL BE PLUGGED TO PREVENT MOISTURE OUT OF THE JUNCTION BOXES DURING CONSTRUCTION.
5. THE HIGHLIGHTED LUMINAIRES SHALL BE REMOVED AND STORED FOR RE-INSTALLATION ONCE THE REPAIR OF THE BRIDGE DECK IS COMPLETE.



AERIAL CABLE ATTACHED TO STRUCTURE
NOT TO SCALE



SECTION A-A

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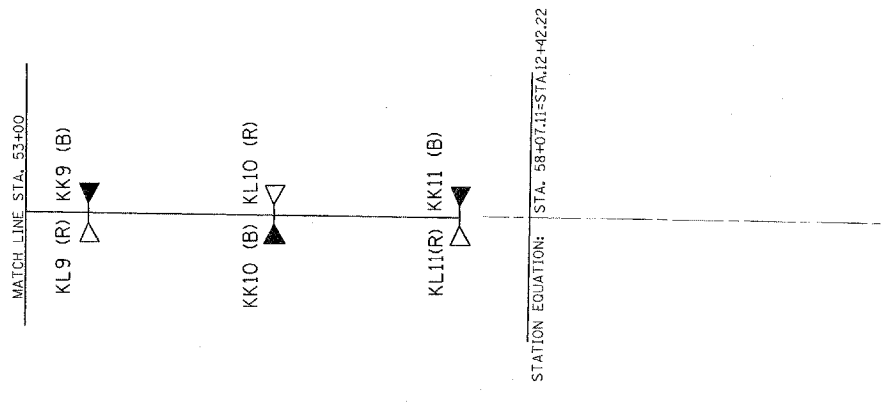
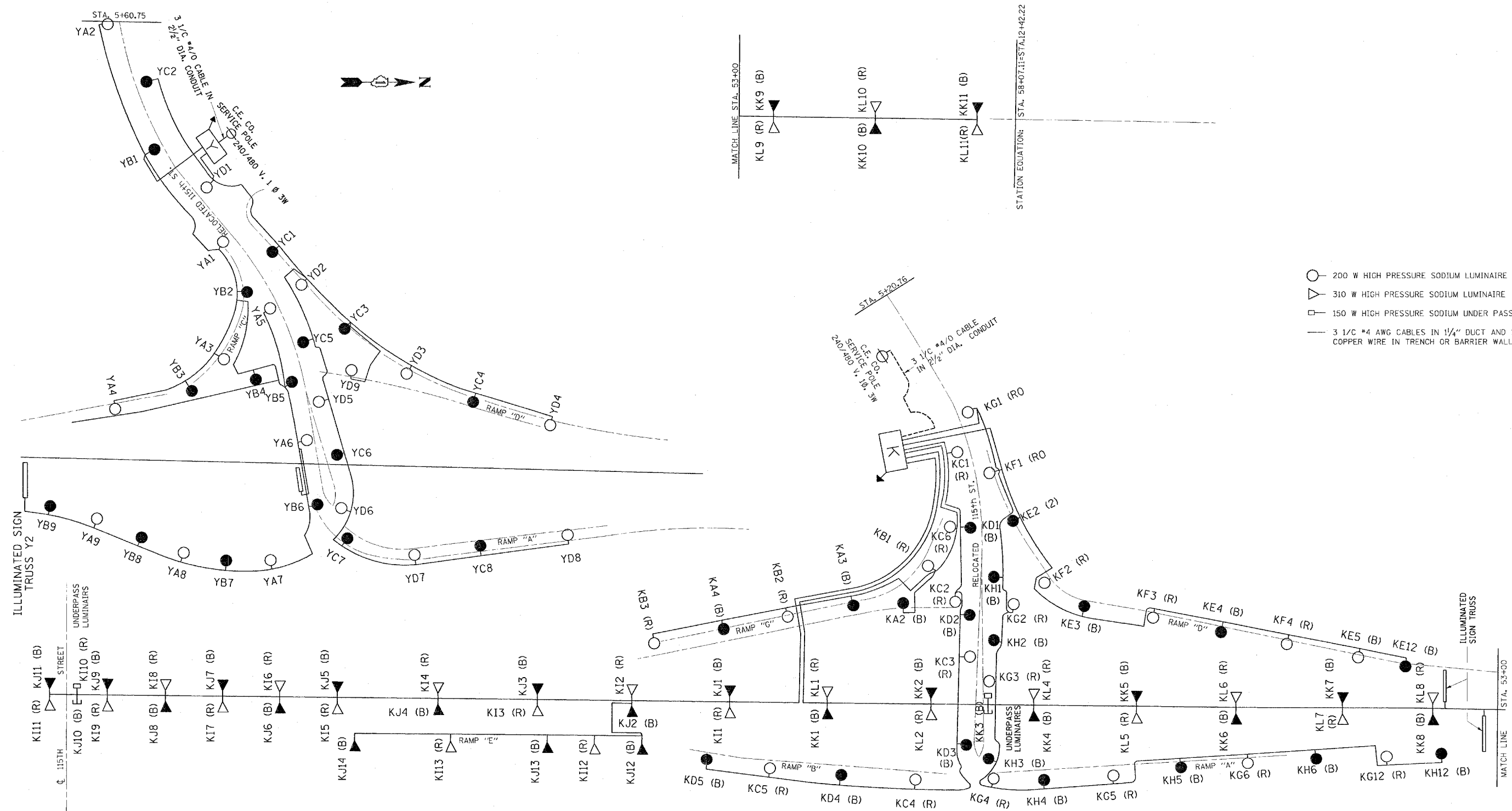
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

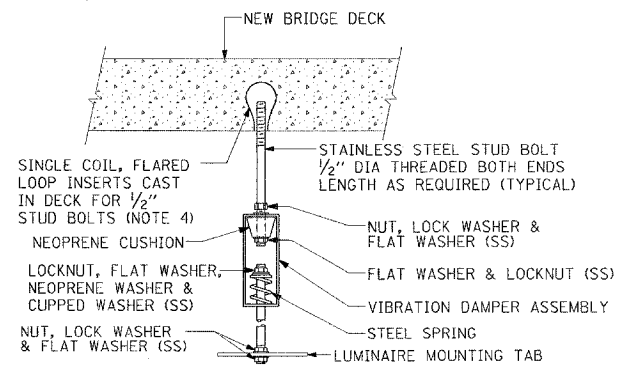
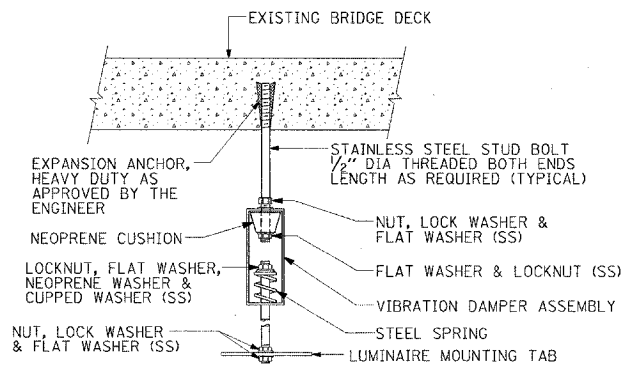
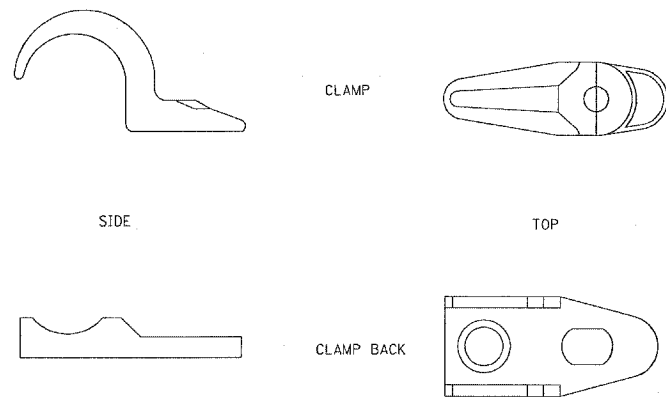
UNDERPASS LIGHTING DETAILS
115TH STREET OVER F.A.I. 94 (BISHOP FORD EXPRESSWAY)

SCALE: SHEET NO. 4 OF 8 SHEETS STA. TO STA.

F.A.U. RTE. 1584	SECTION 1111-700-HB-BR	COUNTY COOK	TOTAL SHEETS 30	SHEET NO. 22
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60E12	



- 200 W HIGH PRESSURE SODIUM LUMINAIRE
- △ 310 W HIGH PRESSURE SODIUM LUMINAIRE
- 150 W HIGH PRESSURE SODIUM UNDER PASS LUMINAIRE
- 3 1/2" * 4 AWG CABLES IN 1 1/4" DUCT AND 1-*6 BARE COPPER WIRE IN TRENCH OR BARRIER WALL.



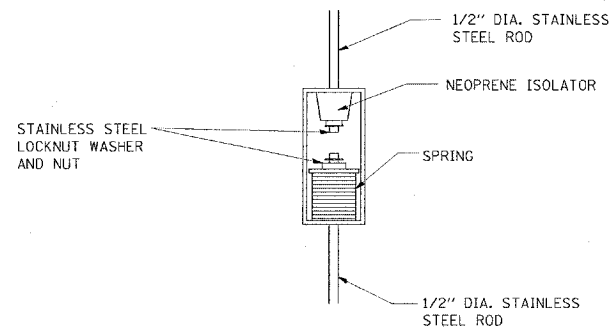
EXISTING BRIDGE DECK INSTALLATION

NEW BRIDGE DECK INSTALLATION

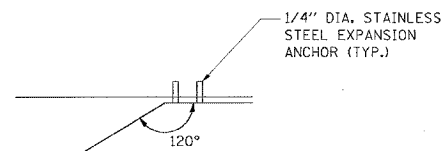
TYPICAL LUMINAIRE HANGER ASSEMBLY DETAILS

NOTES:

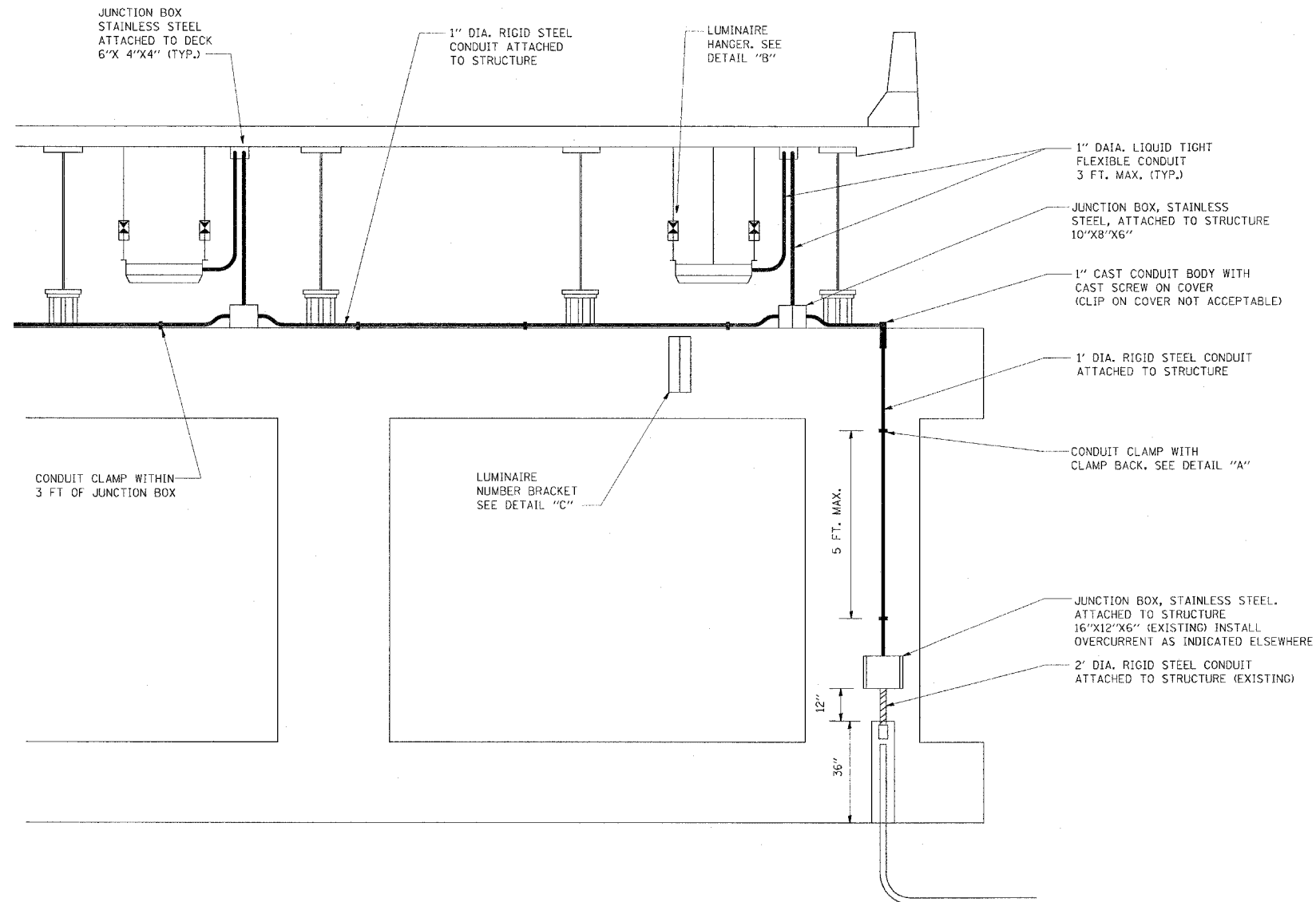
1. LIQUID TIGHT FLEXIBLE METAL CONDUIT, MAXIMUM LENGTH 6'-0" TYPICAL FOR EACH INSTANCE AS SHOWN. PROVIDE PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED NOT TO EXCEED 6'-0" OF FLEXIBLE LIQUID TIGHT FLEXIBLE METAL CONDUIT WILL BE INCLUDED IN THE COST OF THE CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED PAY ITEM EXCEPT THAT 3/4" DIA. CONDUIT AND 1/2" DIA. FLEXIBLE CONDUIT SHALL BE INCLUDED IN THE COST OF UNDERPASS LUMINAIRE INSTALLATION.
2. SEE UNDERPASS LIGHTING PLANS FOR INSTALLATION LOCATION OF UNDERPASS LIGHTING LUMINAIRES.
3. THE CONTRACTOR SHALL USE APPROVED SINGLE COIL FLARED LOOP INSERTS WHEN SUSPENDED MOUNTING AN UNDERPASS LUMINAIRE TO A NEW BRIDGE DECK. THE FLARED LOOP INSERTS MUST BE CAST INTO THE CONCRETE DECK. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND COORDINATING THE INSERT LOCATIONS FOR MOUNTING THE UNDERPASS LIGHTING SYSTEM AS SHOWN ON THE PLANS WITH THE BRIDGE DECK CONTRACTOR. SEE DETAIL.
4. THE UNDERPASS LUMINAIRE HANGER ASSEMBLY COMPLETE WITH HEAVY DUTY ANCHORS/INSERTS AND ALL APPLICABLE HARDWARE SHALL BE INCLUDED IN THE COST OF THE UNDERPASS LUMINAIRE PAY ITEM.
5. SECURE THE CONDUIT WITH PVC COATED CONDUIT CLAMPS OR CONDUIT BEAM CLAMPS AS SHOWN AT 5'-0" INTERVALS FOR LATERALS AND WITHIN 2'-0" MAXIMUM FROM ANY JUNCTION BOX, FLEXIBLE CONDUIT, OR CHANGE IN DIRECTION. ALL PVC COATED CONDUIT CLAMPS OR BEAM CLAMPS SHALL BE INCLUDED WITH THE COST OF THE "CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED" PAY ITEM.
6. ALL UNDERPASS LUMINAIRES MUST BE CENTERED IN THE BEAM SPACE AS INDICATED ON THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGR. LUMINAIRE SETBACK SHALL BE AS INDICATED IN PLANS FOR EACH SPECIFIC UNDERPASS
7. THE CONCRETE ENCASED CONDUIT TRANSITION SHALL BE INCLUDED IN THE COST OF THE GALVANIZED RIGID STEEL CONDUIT PAY ITEMS.
8. ALL CONDUIT ATTACHED TO STRUCTURE SHALL BE PVC COATED RIGID STEEL CONDUIT (PVC RCC) TYPICAL.



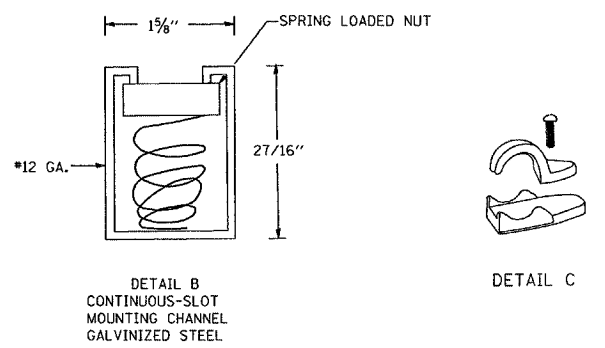
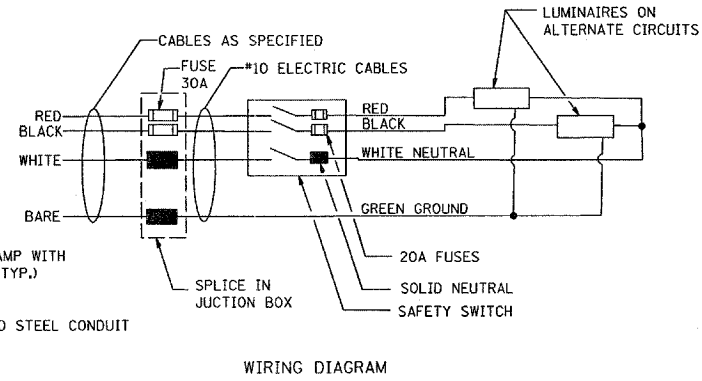
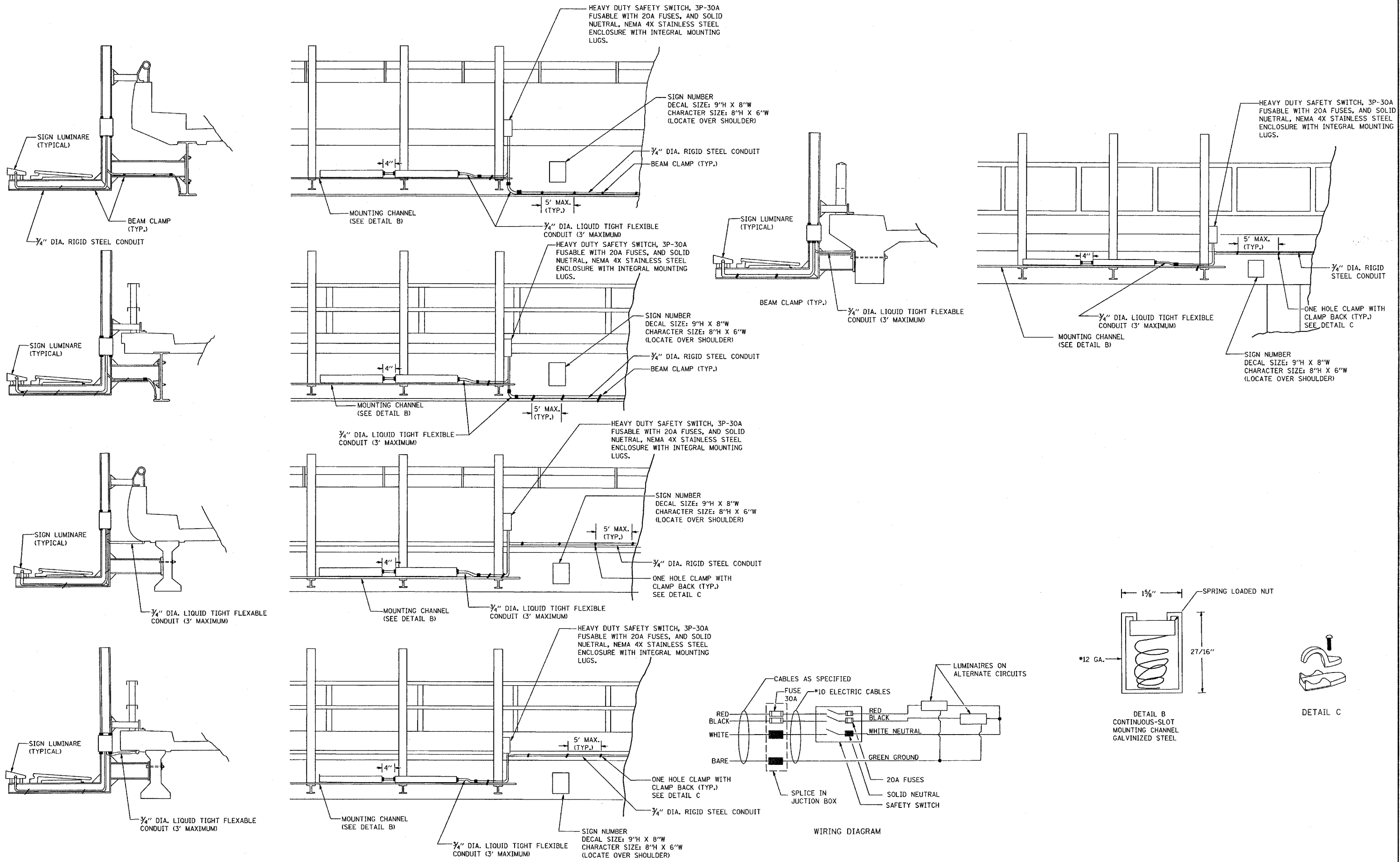
DETAIL "B"
LUMINAIRE HANGER ASSEMBLY



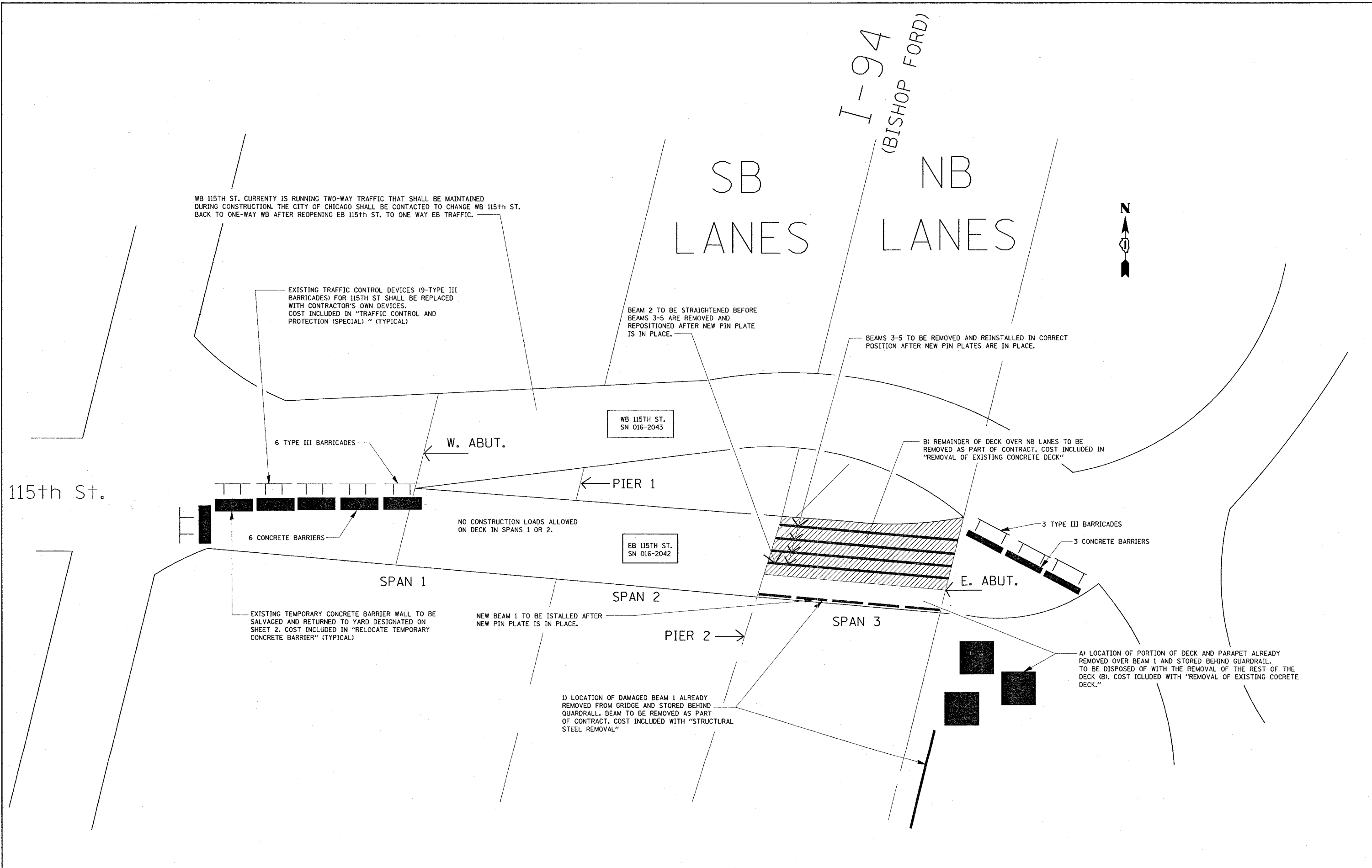
DETAIL "C"
LUMINAIRE NUMBERING DECAL BRACKET



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	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -		SCALE:	SHEET NO. 7 OF 8 SHEETS	STA.	1584	1111-700-HB-BR	COOK	30	25
	PLOT DATE = 4/30/2000	CHECKED -	REVISED -		TO STA.			CONTRACT NO. 60E12				
		DATE -	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							



FILE NAME = K:\vststd22\34\be602.dgn	USER NAME = bauerdl	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ELECTRIC CONNECTION TO SIGN STRUCTURE BRIDGE TYPE		F.A.U. <td>SECTION</td> <td>COUNTY</td> <td>TOTAL</td> <td>SHEET</td>	SECTION	COUNTY	TOTAL	SHEET
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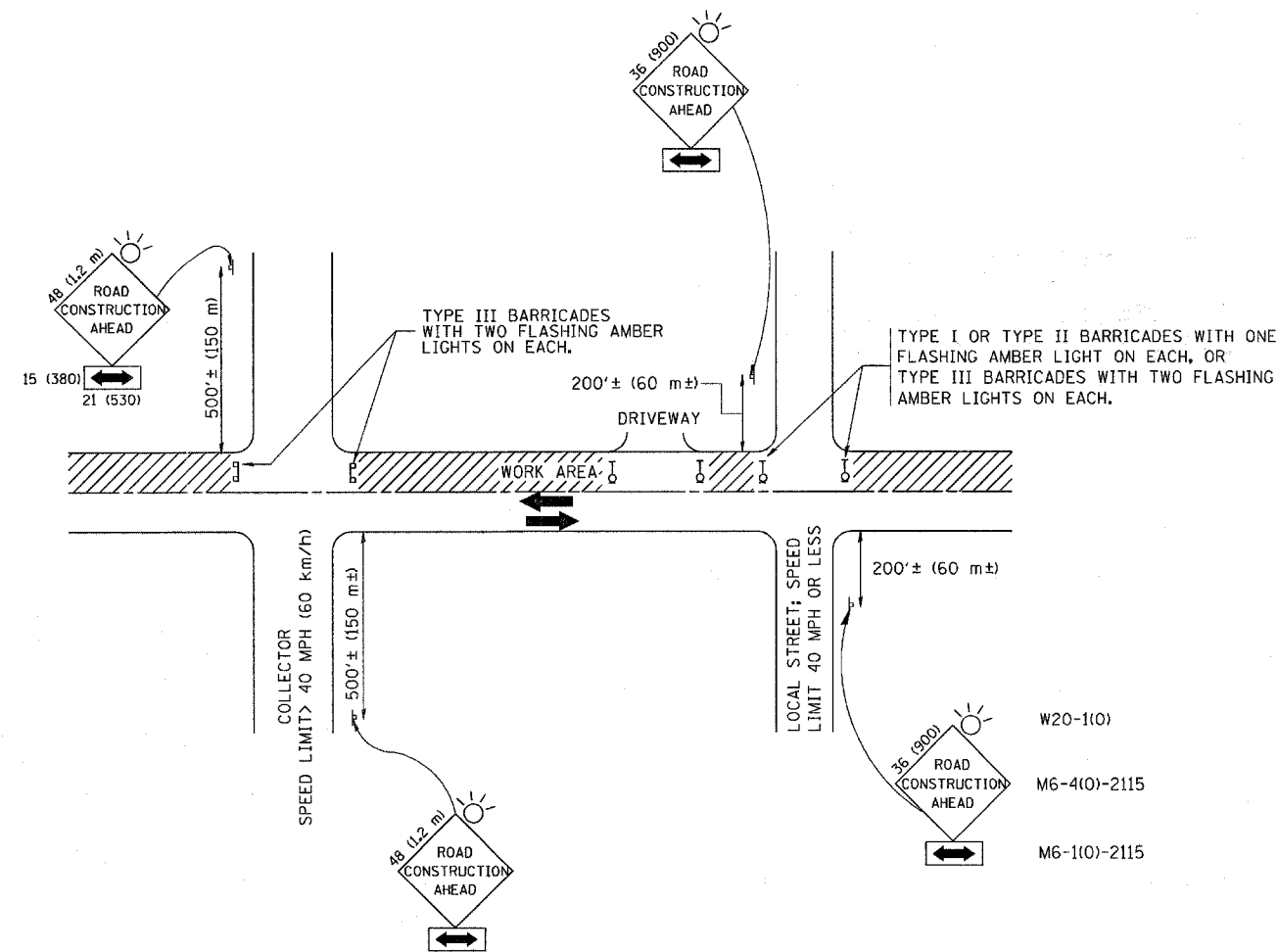
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CONSTRUCTION SEQUENCE PLAN
SN 016-2042**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1584	1111-700 HB-BR	COOK	30	27
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60E12	



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 40 MPH (60 km/h) 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 FIELD 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.
- ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
 - 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.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

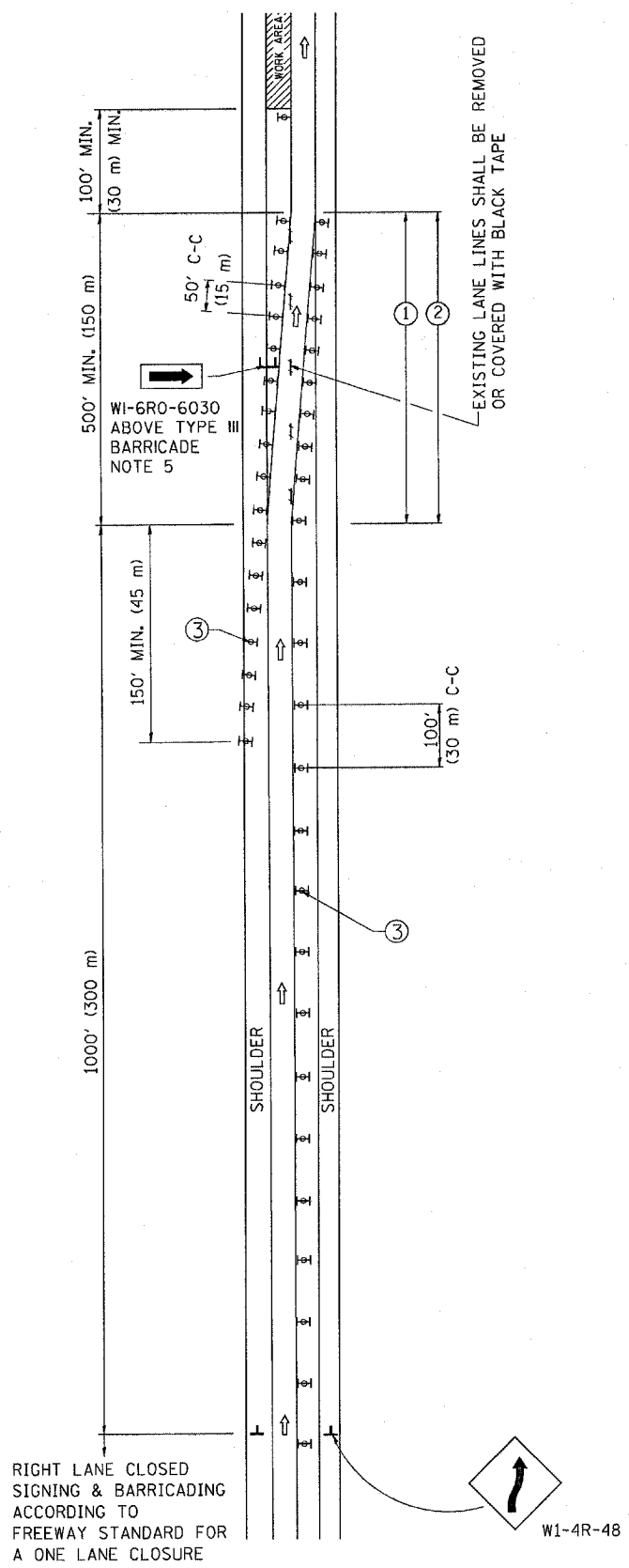
TRAFFIC CONTROL AND PROTECTION FOR
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-10			CONTRACT NO. 60E12	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

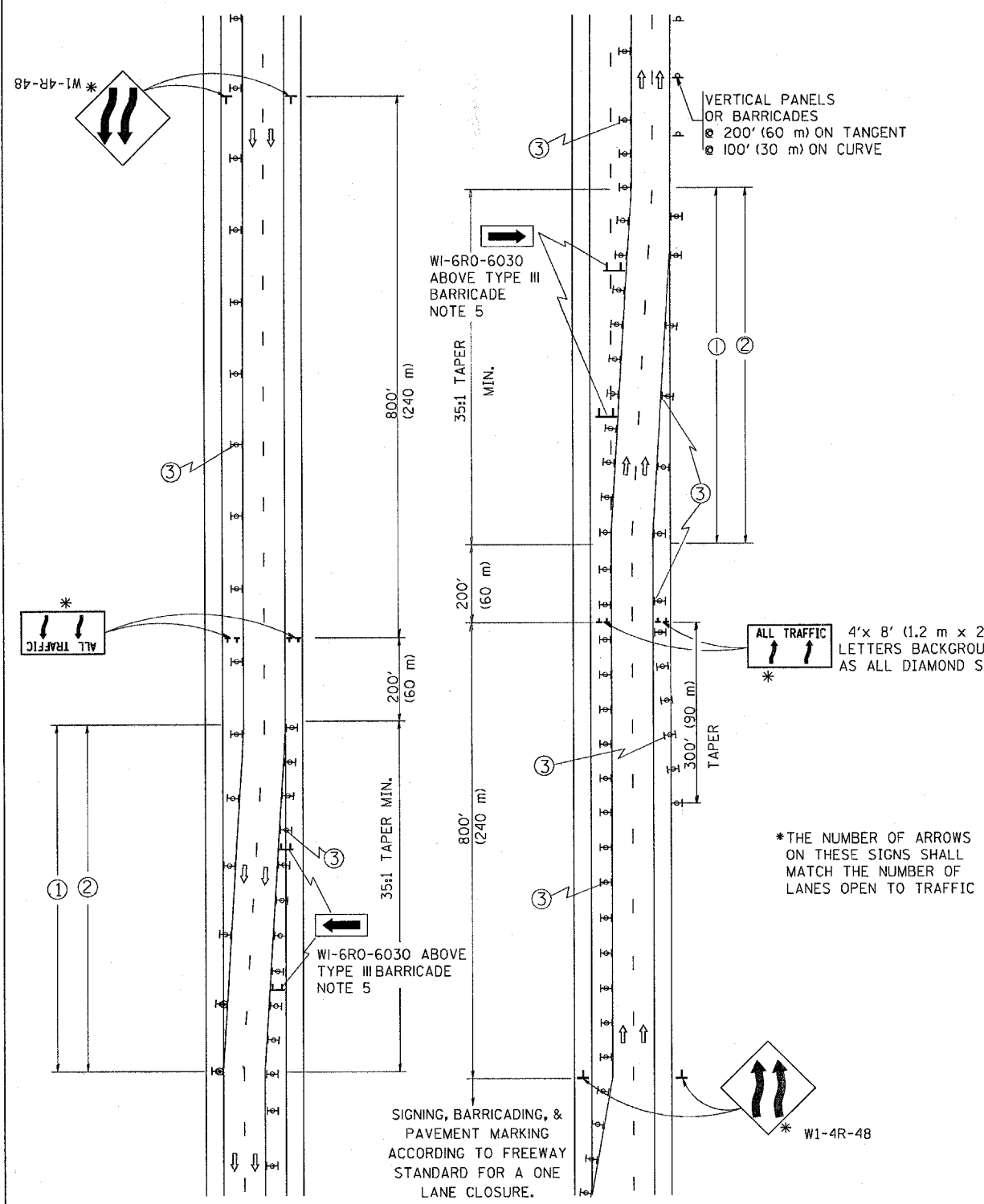
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			A. HOUSEH 03-06-96
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			A. HOUSEH 10-15-96
		DATE -	REVISED -
		06-89	T. RAMMACHER 01-06-00

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

SINGLE LANE WEAVE



MULTI-LANE WEAVE



GENERAL NOTES

- ① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED OR COVERED WITH BLACK TAPE. PAVEMENT MARKING REMOVAL OR BLACK TAPE SHALL NOT BE REQUIRED FOR LANE CLOSURES UNDER 24 HOURS IN DURATION.
- ② CONTINUOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVE LANE LINES SHALL BE 10'-30' (3 m-9 m) SKIP DASH, WHITE.
- ③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.
- ④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- ⑤ IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON NCHRP 350 TEMPORARY SIGN SUPPORTS DIRECTLY IN FRONT OF THE BARRICADE.
- ⑥ IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.

SYMBOLS

- ↑ DIRECTION OF TRAFFIC
- ▨ WORK AREA
- ⊥ SIGN ON PORTABLE OR PERMANENT SUPPORT
- ⊥ TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH MONO-DIRECTIONAL STEADY BURNING LIGHT

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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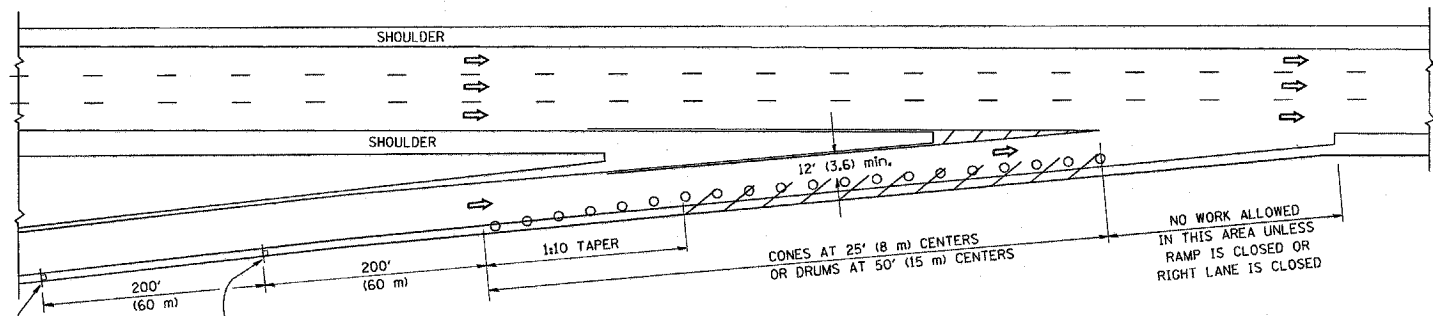
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REVISED - JAF 01-03
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

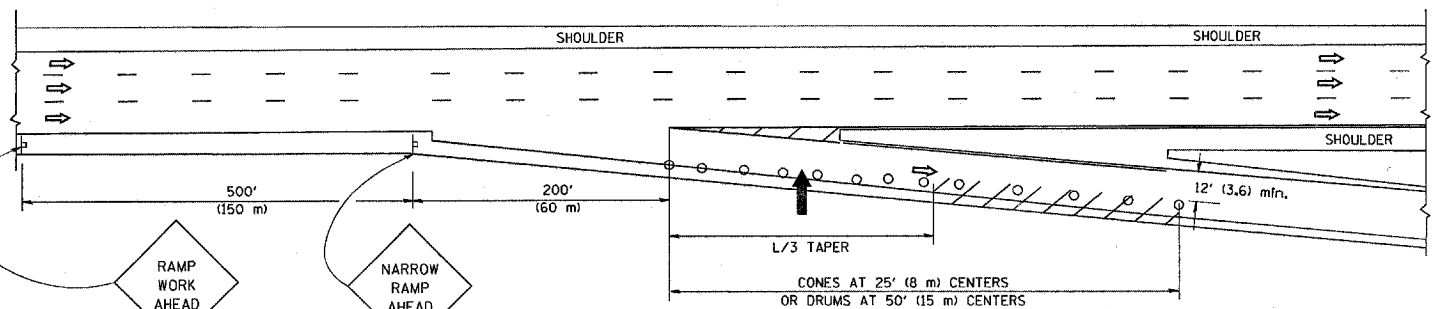
TRAFFIC CONTROL DETAILS FOR
FREEWAY SINGLE & MULTI-LANE WEAVE
SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1584	1111-700 HB-BR	COOK	30	29
TC-09		CONTRACT NO. 60E1Z		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

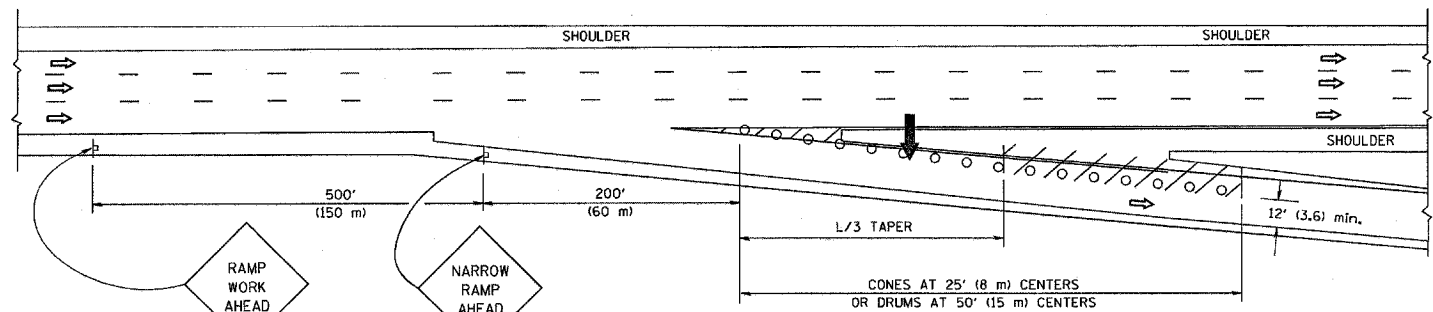
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

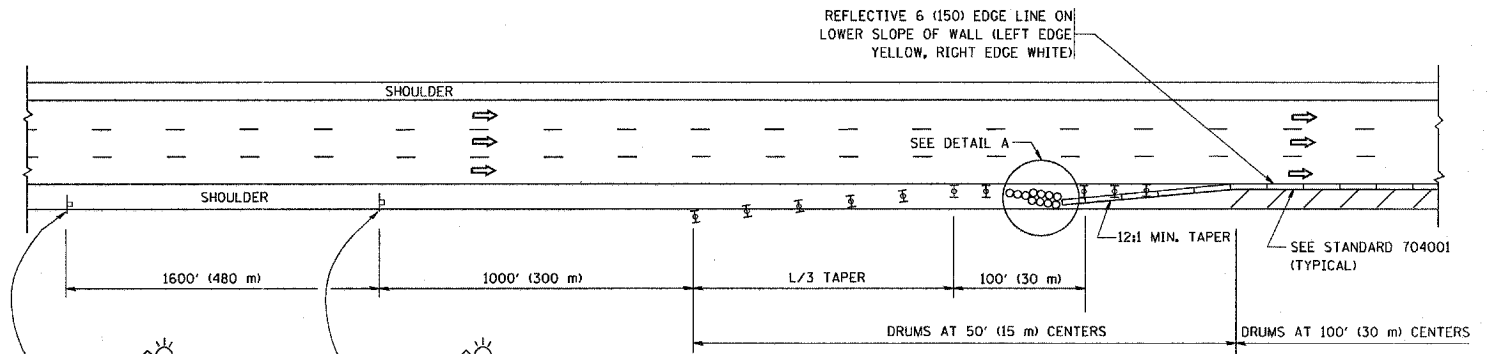
- ARROWBOARD
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE

GENERAL NOTES

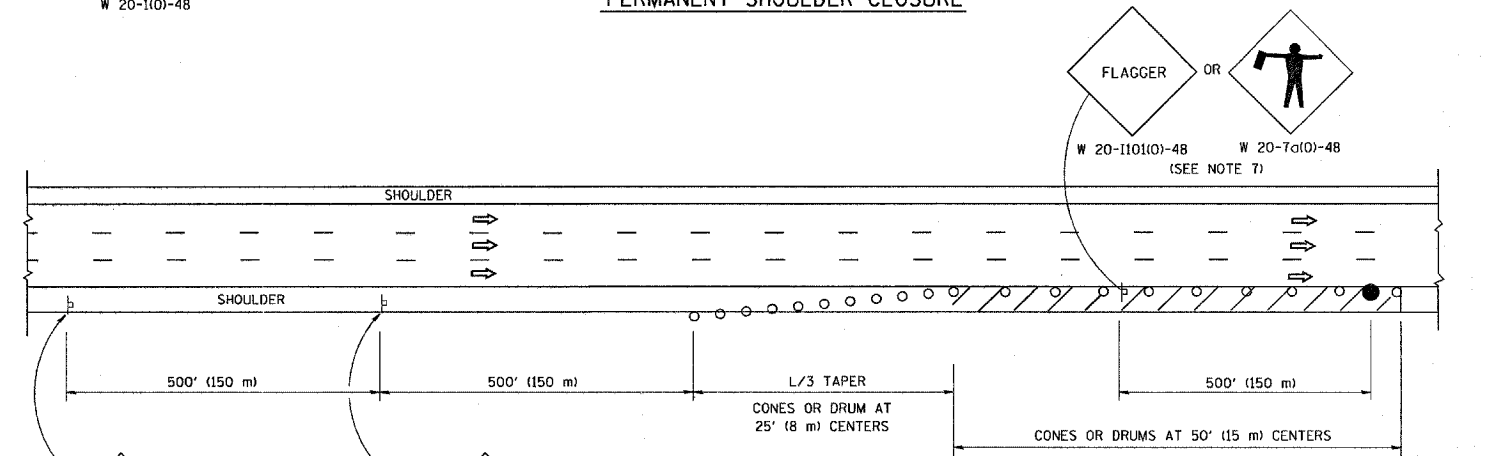
1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS
45 mph (80 km/h) OR GREATER:	METRIC $L=0.65(W/S)$ ENGLISH $L=(W/S)$
	W = WIDTH OF OFFSET IN FEET (METERS)
	S = NORMAL POSTED SPEED MPH (KM/H)
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

SHOULDER CLOSURE DETAILS



PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:

1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.

ARRAY DESIGN PER MANUFACTURER TO BE NCHRP 350 COMPLIANT FOR POSTED SPEED.

DETAIL "A" IMPACT ATTENUATOR, TEMPORARY (SEE NOTE 5)

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

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		DRAWN - D.W.S.	REVISED - 04-03		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	1584	1111-700-HB-BR	COOK	30	30
		CHECKED -	REVISED - J.A.F. 12-06						TC-17				CONTRACT NO. 60E12
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		PLOT DATE = 1/4/2008	DATE = 11-96										