1-15-10 Letting, Item 056

CONTRACT NO. 95598
SHEET NO. 1 OF 10

INDEX OF SHEETS

STANDARDS:

515001-03	NAME PLATE
630001-08	STEEL PLATE BEAM GUARDRAIL
630301-05	SHOULDER WIDENING FOR TY 1 TERM. SEC.
631032-05	TRAFFIC BAR. TERM TY 6A
701901-01	TRAFFIC CONTROL DEVICES
BLR 21-8	TRAFFIC CONTROL
BLR 22-6	TRAFFIC CONTROL

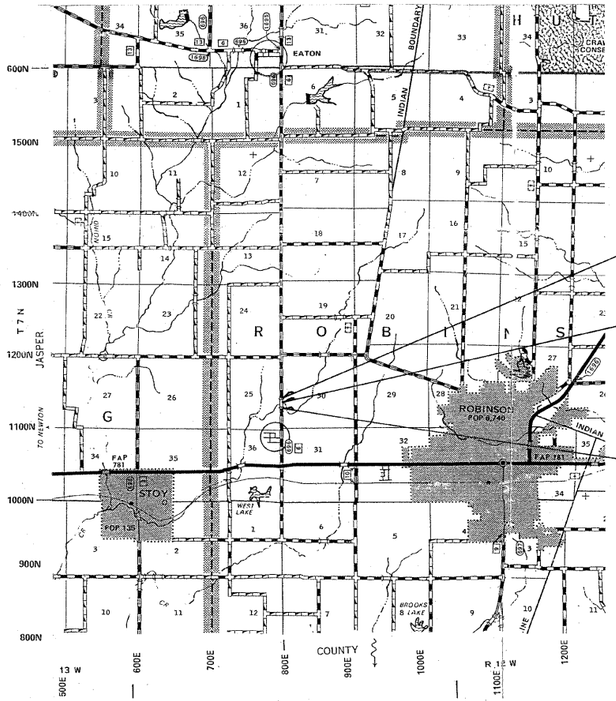
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
A.R.R.A. PROJECT
CRAWFORD COUNTY
SECTION 08-00092-00-BR
FAS 696 (CH 6)
PROJECT NO. ARA-0696(107)
JOB NO. C-97-138-09

SUMMARY OF QUANTITIES

QUANTITY	UNIT	ITEMS	CODE NO.
476	CU YD	CHANNEL EXCAVATION	20300100
111	CU YD	FURNISHED EXCAVATION	20400800
96	TON	POROUS GRANULAR EMBANKMENT	20700110
150	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
60	SQ YD	PORTLAND CEMENT CONCRETE PAVEMENT 8"	42000300
1	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
23.8	CU YD	CONCRETE STRUCTURES	50300225
2.8	CU YD	CONCRETE ENCASEMENT	50300280
1,797	SQ FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	50400505
3,980	POUND	REINFORCEMENT BARS	50800105
131	FOOT	STEEL RAILING, TYPE SM	50901050 *
406	FOOT	FURNISHING STEEL PILES HP 12X53	51201600
406	FOOT	DRIVING PILES	51202305
1	EACH	TEST PILE STEEL HP 12X53	51203600
1	EACH	NAME PLATES	51500100
187.5	FOOT	STEEL PLATE BEAM GUARD RAIL, TYPE B	63000005 *
4	EACH	TRAFFIC BARRIER TERMINAL, TYPE 6A	63100087 *
4	EACH	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	63100167 *
50	FOOT	STEEL PLATE BEAM GUARD RAIL REMOVAL, TYPE A	63200710
4	EACH	TRAFFIC BARRIER TERMINAL REMOVAL, TYPE 1	63304385
1	L SUM	MOBILIZATION	67100100
1	L SUM	TRAFFIC CONTROL AND PROTECTION	70101700
4	EACH	TERMINAL MARKER - DIRECT APPLIED	78201000 *

* SPECIALTY ITEMS



SECTION 08-00092-00-BR
ENDS STA. 41+75

STA. 41+30 – SPECIAL BRIDGE DESIGN
PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE
1 SPAN @ 64', 28' ROADWAY, SKEW = 0°
PROPOSED STRUCTURE NO. 017-3059
EXISTING STRUCTURE NO. 017-3014

SECTION 08-00092-00-BR
BEGINS STA. 40+85

FUNCTIONAL CLASS – RURAL MAJOR COLLECTOR
ADT = 1600
DESIGN SPEED = 50 MPH

LOCATION MAP
APPROXIMATE SCALE: 1 INCH = 1 MILE
NET LENGTH = 90 FEET = 0.017 MILES

TOLL FREE JOINT UTILITY LOCATING
INFORMATION FOR EXCAVATORS (J.U.L.I.E.)
TELEPHONE NO. 1-800-892-0123

CONNOR & CONNOR, INC.
PROFESSIONAL DESIGN FIRM #184-000832

JOHN A. STONE
062-055012
REGISTERED
PROFESSIONAL
ENGINEER
STATE OF ILLINOIS

10/21/2009
ILLINOIS REGISTERED PROFESSIONAL ENGINEER # 55012
LICENSE EXPIRES NOVEMBER 30, 2009

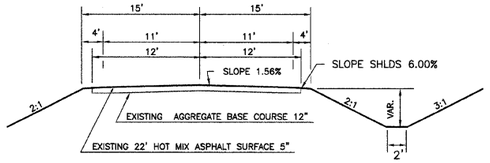
ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED: 10/21, 2009
CRAWFORD COUNTY ENGINEER

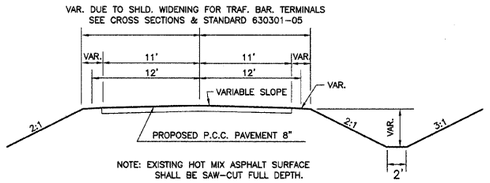
PASSED: 10/26, 2009
DISTRICT SEVEN ENGINEER
OF LOCAL ROADS & STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW 10/26, 2009
DEPUTY DIRECTOR OF HIGHWAYS,
REGION FOUR ENGINEER

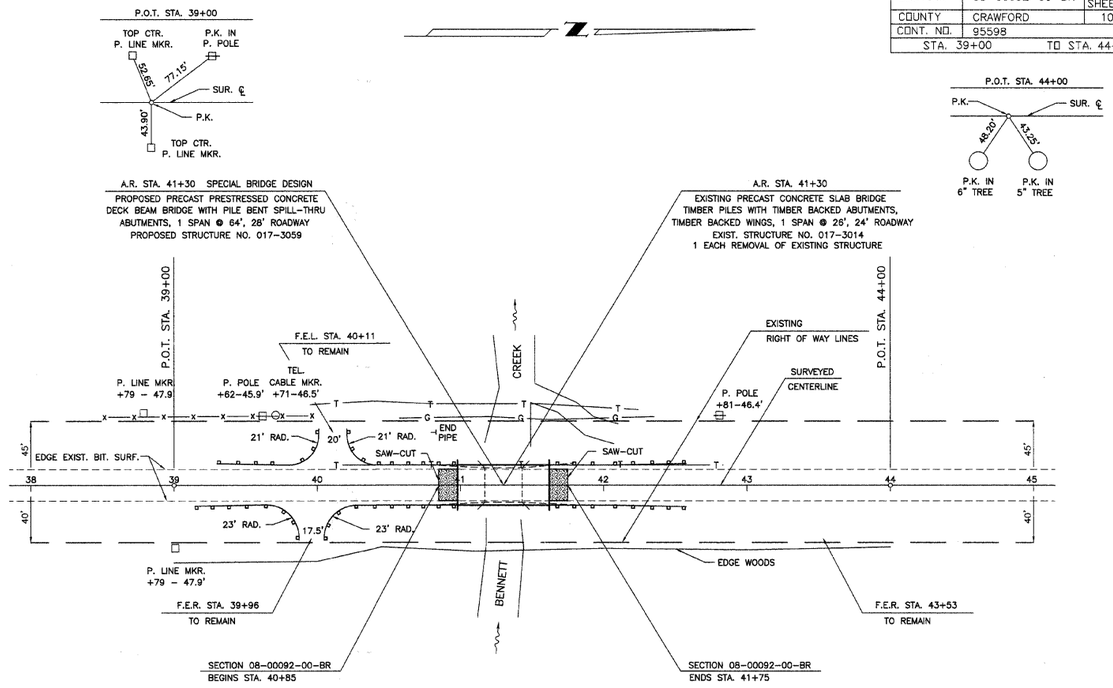
SECTION	08-00092-00-BR	TOTAL SHEETS	SHEET NO.
COUNTY	CRAWFORD	10	2
CONT. NO.	95598		
STA. 39+00	TO STA. 44+00		



TYPICAL CROSS SECTION OF EXISTING ROADWAY



TYPICAL CROSS SECTION OF PROPOSED P.C.C. PAVEMENT 8"



STEEL PLATE BEAM GUARDRAIL TY B

B.M. #1 ELEVATION 500.67
P.K. IN P. POLE 48' LT.
STA. 39+62

B.M. #2 ELEVATION 500.47
P.K. IN P. POLE 46' LT.
STA. 42+81

STEEL PLATE BEAM GUARDRAIL TY B
RT. 39+63 23' RAD. = 37.5 FOOT
LT. 39+79 21' RAD. = 37.5 FOOT
RT. 40+05 23' RAD. TO 40+54 = 62.5 FOOT
LT. 40+21 21' RAD. TO 40+54 = 50.0 FOOT
TOTAL = 187.5 FOOT

PROVIDE END SECTION (STD. 630001)
AT EACH END OF RADIUS = 4 EACH
(COST TO BE INCLUDED IN SPBGR, TY B)

EARTHWORK QUANTITIES
CHANNEL EXCAVATION = 476 CU YD
CHANNEL EXCAVATION ADJ. 25% = 357 CU YD
EMBANKMENT(SHLD. WID.) = 468 CU YD
FURNISHED EXCAVATION = 111 CU YD

TRAF. BARR. TERM. TY 1, SPEC. (TANGENT)
RT. 39+13 TO 39+63 = 1 EACH
LT. 39+29 TO 39+79 = 1 EACH
RT. 42+06 TO 42+56 = 1 EACH
LT. 42+06 TO 42+56 = 1 EACH
TOTAL = 4 EACH

TRAF. BARR. TERM. REMOVAL, TY 1
EACH CORNER OF EXISTING BRIDGE = 4 EACH

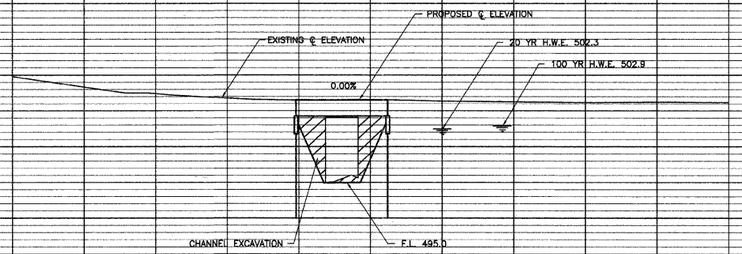
STEEL PLATE BEAM GUARD RAIL REMOVAL, TYPE A
EACH CORNER OF EXISTING BRIDGE = 50 LF

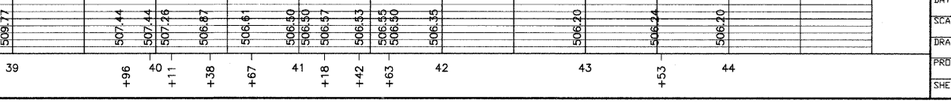
TRAF. BARR. TERM. TY 6A
RT. 40+54 TO 40+98 = 1 EACH
LT. 40+54 TO 40+98 = 1 EACH
RT. 41+62 TO 42+06 = 1 EACH
LT. 41+62 TO 42+06 = 1 EACH
TOTAL = 4 EACH

SEEDING TO BE DONE BY OTHERS

PCC PAVEMENT 8"
STA. 40+85 TO STA. 40+97.25 = 30 SQ. YD.
STA. 41+62.75 TO STA. 41+75 = 30 SQ. YD.
TOTAL = 60 SQ. YD.

POROUS GRANULAR EMBANKMENT
N. ABUTMENT = 48 TON
S. ABUTMENT = 48 TON
TOTAL = 96 TON





UTILITIES

TELEPHONE: VERIZON
225 E. CHESTNUT ST.
OLNEY, IL 62450
618-395-6131

GAS: AMEREN
701 S. 9TH. STREET.
MATTOON, IL 61938
888-789-2477

CONNOR & CONNOR, Inc.
CONSULTING ENGINEERS
209 North Cross Street
ROBINSON, ILLINOIS 62454
Phone 618-544-8623
Fax 618-544-3012
Licensed Engineers
Licensed Surveyors

DATE: 4/09/2009
SCALE 1"= 50'
DRAWN BY DJC
PROJECT P-1548
SHEET OF

SECTION	08-00092-00-BR	TOTAL SHEETS	SHEET NO.
COUNTY	CRAWFORD	10	3
CONT. NO.	95598		
STA.	39+00 TO STA. 41+00		

41 + 00 | 40 + 67 | 40 + 38 | 40 + 11 | 40 + 00 | 39 + 00

505 500 495 510 505 500 505 500 495 510 505 500 510 505 500 510 505 500

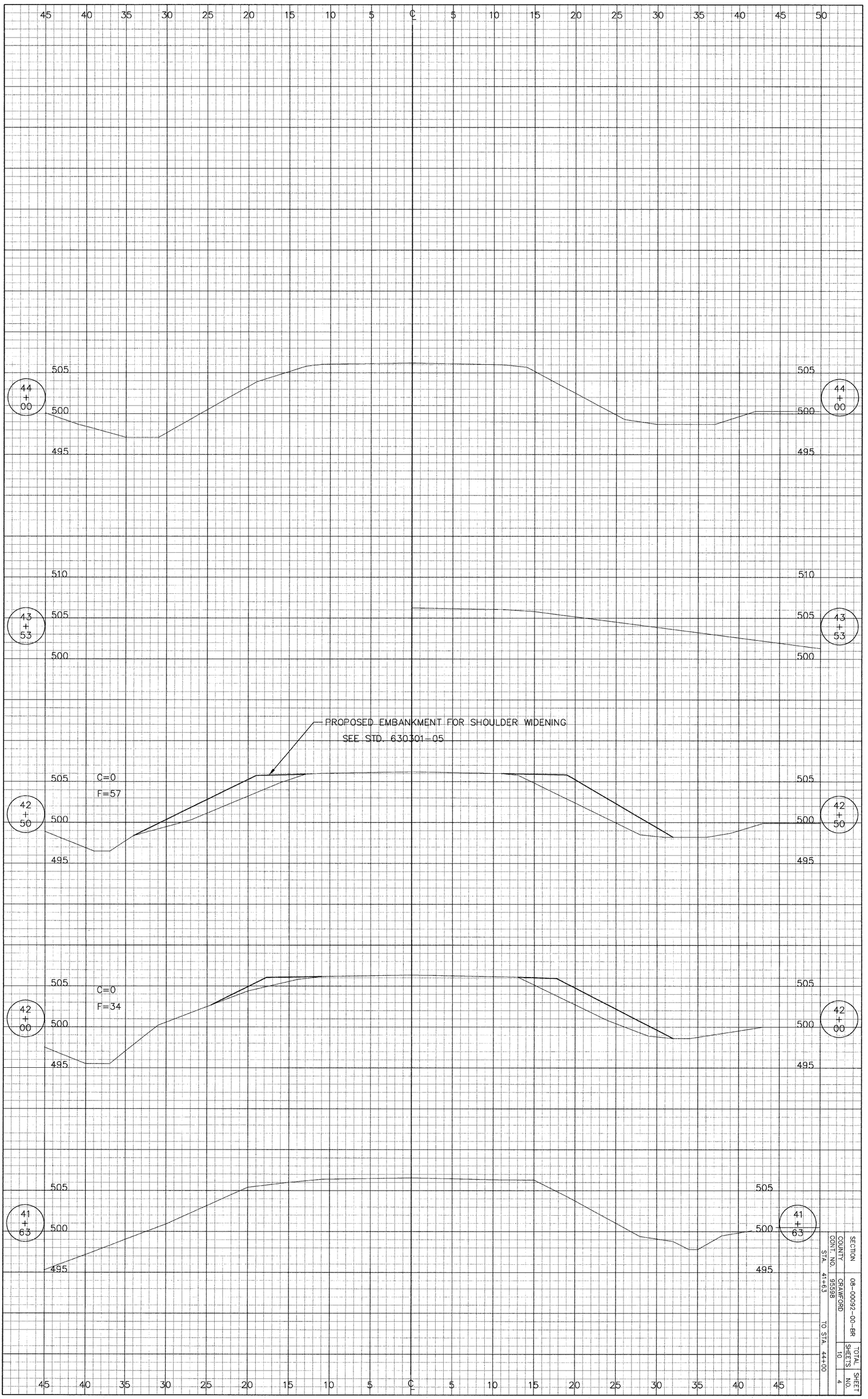
C=0
F=33

C=0
F=37

PROPOSED EMBANKMENT FOR SHOULDER WIDENING
SEE STD. 630301-05

5 10 15 20 25 30 35 40 45 50 ℄ 5 10 15 20 25 30 35 40 45

3



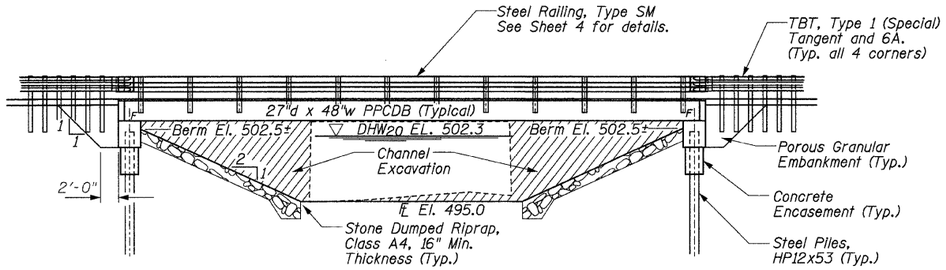
SECTION	08-00092-00-BR
COUNTY	CRAWFORD
CONT. NO.	95588
STA.	41+63
	TO STA. 44+00
TOTAL SHEETS	10
SHEET NO.	4

Bench Mark #1: P.K. nail in power pole
Sta. 39+62, 46' Lt., Elev. 500.67

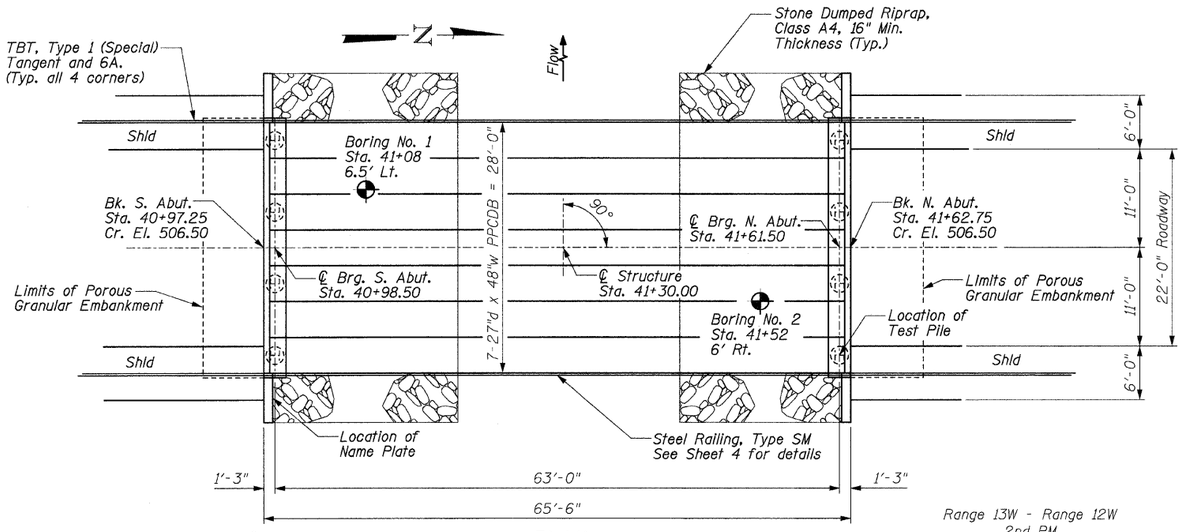
Bench Mark #2: P.K. nail in power pole
Sta. 42+81, 46' Lt., Elev. 500.47

Existing Structure: S.N. 017-3014. Single span precast concrete slab bridge on timber abutments. 28' L x 24'W. No salvage.

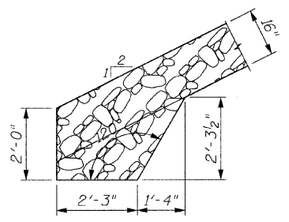
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



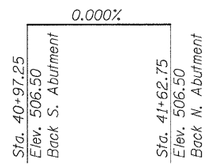
ELEVATION



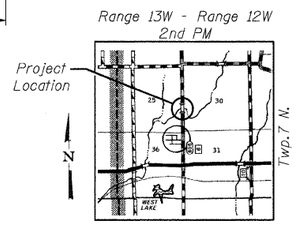
PLAN



RIPRAP ANCHOR DETAIL



GRADE ON STRUCTURE
(along ℄ F.A.S. Rte. 696)



LOCATION SKETCH

WATERWAY INFORMATION
(By Connor & Connor, Inc.)

Drainage Area = 4.28 sq. mi. Low Grade Elev. 506.20 ft. @ Sta. 44+00.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	20	1527	152	286	502.3	2.6	0.7	397.54	503.0
Base	100	2050	165	315	502.9	3.5	1.0	506.4	503.9
Overtopping									
Max. Calc.	500	2790	182	357	503.6	3.5	1.8	507.1	505.4

DESIGNED	GLH
CHECKED	GLH
DRAWN	JN
CHECKED	GLH

10/21/2009 RAAI #51009

INDEX OF SHEETS

STATION 41+30.00
BUILT 2010 BY
CRAWFORD COUNTY
F.A.S. RTE. 696 SEC. 08-00092-00-BR
LOADING HL-93
STRUCTURE NO. 017-3059

NAME PLATE
See Std. 515001

LOADING HL-93
25#/sq. ft. included in dead load for future wearing surface.

DESIGN SPECIFICATIONS
2007 (4th Ed.) AASHTO LRFD Bridge Design Specifications, with 2008 Interims.

DESIGN STRESSES

FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

PRECAST PRESTRESSED UNITS
f'_c = 6,000 psi
f'_{ci} = 5,000 psi
f_{pu} = 270,000 psi (½" ϕ low lax. strands)
f_{pbt} = 201,960 psi (½" ϕ low lax. strands)
f_y = 60,000 psi (reinforcement)

SEISMIC DATA
Seismic Performance Zone (SPZ) = 2
Soil Site Classification = D
S_{D1} = 0.205 S_{DS} = 0.465

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (IL Modified). See Special Provisions.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

The Contractor shall drive test pile to 110% of the Nominal Required Bearing specified in a production location at the substructure specified or approved by the Engineer before ordering the remainder of piles.

See Section 502 of the Standard Specifications for Structural Excavation.

Channel excavation shall be excavated as shown within the limits of the proposed bridge, then tapered to the existing channel at the ROW line. If the Engineer deems the material satisfactory, it may be used to construct the roadway embankment.

See Special Provisions for Soil Borings.

Do not scale these drawings.

The Steel H-piles shall be according to AASHTO M270 Grade 50.

The abutment bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, ⅛" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

A corrosion inhibitor shall be used in the concrete for the precast prestressed deck beams, according to Aticle 1020.05(b)(12) and 1021.06 of the Standard Specifications.

BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu Yd	-	476	476
Porous Granular Embankment	Ton	-	96	96
Stone Dumped Riprap, Class A4	Ton	-	150	150
Removal of Existing Structures	Each	-	-	1
Concrete Structures	Cu Yd	-	23.8	23.8
Concrete Encasement	Cu Yd	-	2.8	2.8
PPCDB (27" Depth)	Sq Ft	1797	-	1797
Reinforcement Bars	Pound	-	3980	3980
Steel Railing, Type SM	Foot	131	-	131
Furnishing Steel Piles HP12x53	Foot	-	406	406
Driving Piles	Foot	-	406	406
Test Pile Steel HP12x53	Each	-	1	1
Name Plates	Each	-	1	1
RELATED BRIDGE ITEMS				
Traffic Barrier Terminal, Type 6A	Each	-	-	4
Traffic Barrier Terminal, Type 1 (Spec) Tan.	Each	-	-	4
Terminal Marker - Direct Applied	Each	-	-	4

I certify that to the best of knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.

GARY L. HAHN
81-4853
LICENSED
STRUCTURAL
ENGINEER
STATE OF ILLINOIS

Gary L. Hahn

10-21-2009
Date of Signing

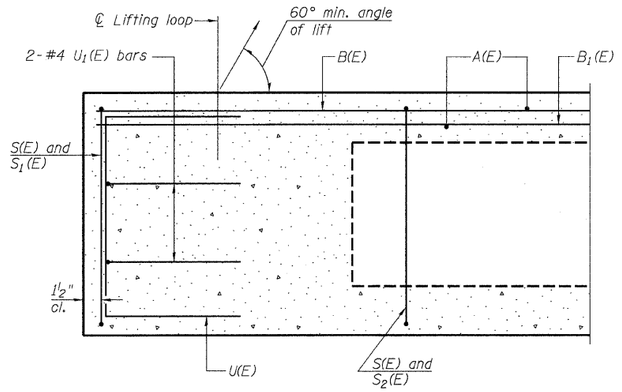
11-30-2010
Date of License Expiration

RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

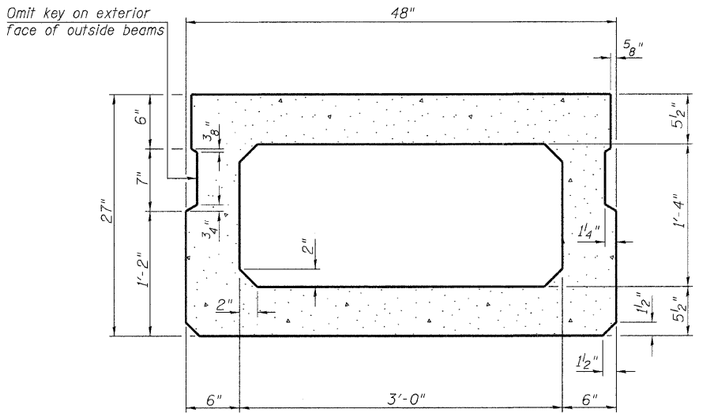
GENERAL PLAN AND ELEVATION
COUNTY HIGHWAY 6 OVER BENNETT CREEK
F.A.S. ROUTE 696 - SECTION 08-00092-00-BR
CRAWFORD COUNTY
STATION 41+30.00
STRUCTURE NO. 017-3059

SHEET NO. 1	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6 SHEETS	696	08-00092-00-BR	CRAWFORD	10	5
			CONTRACT NO. 95598		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

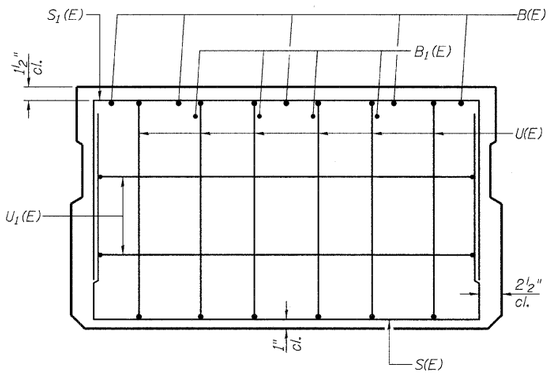
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



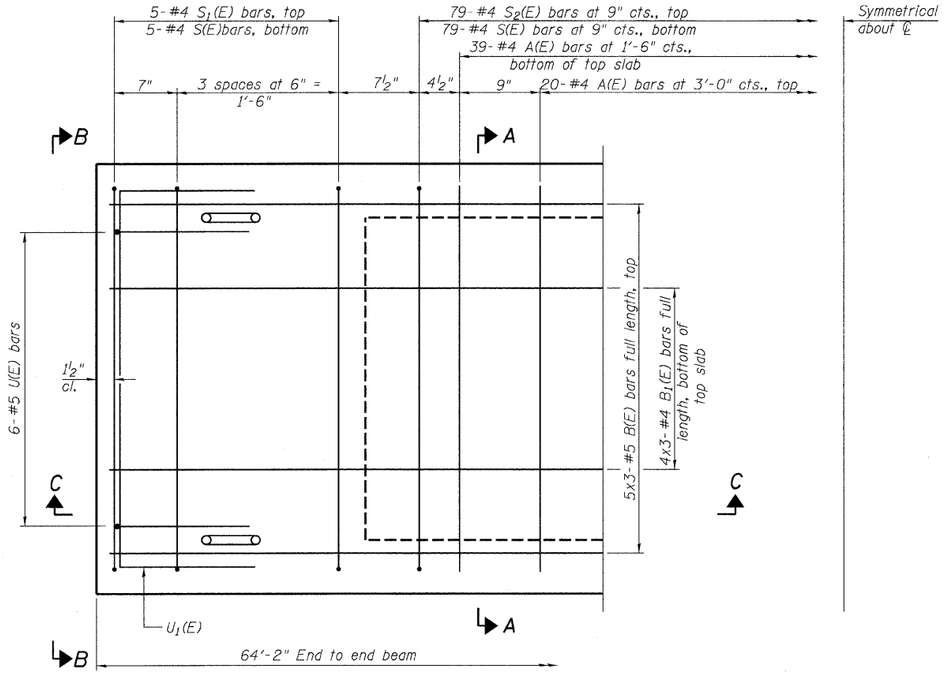
SECTION C-C



SECTION A-A
(Showing dimensions)

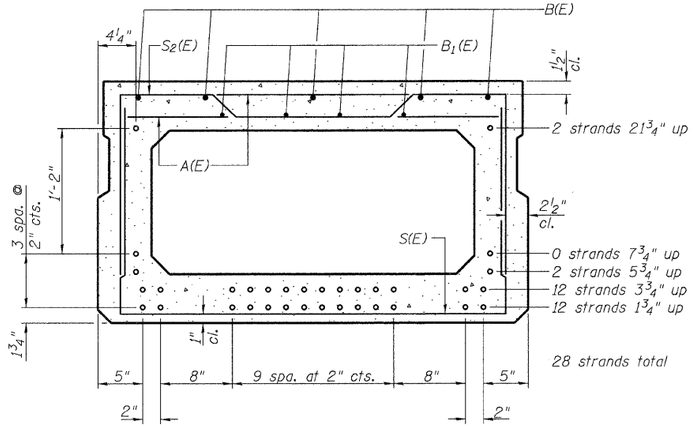


VIEW B-B



PLAN VIEW

Note: Spacing of S(E) and $S_2(E)$ bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.
Bars indicated thus 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.



SECTION A-A
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	59	#4	3'-7"	—
B(E)	15	#5	23'-6"	—
$B_1(E)$	12	#4	22'-6"	—
S(E)	89	#4	7'-5"	⌐¬
$S_1(E)$	10	#4	6'-11"	⌐¬
$S_2(E)$	79	#4	7'-2"	⌐¬
U(E)	12	#5	4'-6"	⌐¬
$U_1(E)$	4	#4	6'-0"	⌐¬

Notes: See sheet 3 of 6 for additional details and Bill of Material.

Bars designated (E) shall be epoxy coated.

DESIGNED -	
CHECKED -	
DRAWN -	
CHECKED -	

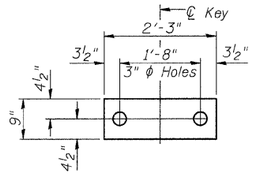
PD-2748-0 10-1-08

10/21/2009 RAAI #51009

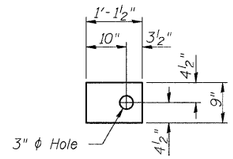
27" X 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 017-3059

SHEET NO. 2	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6 SHEETS	696	08-00092-00-BR	CRAWFORD	10	6
			CONTRACT NO. 95598		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

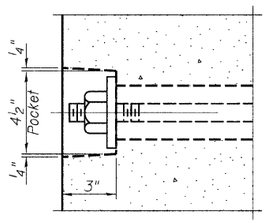


FABRIC BEARING PAD
(Interior)

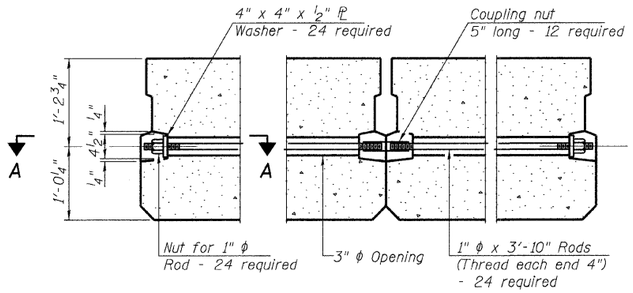


FABRIC BEARING PAD
(Exterior)

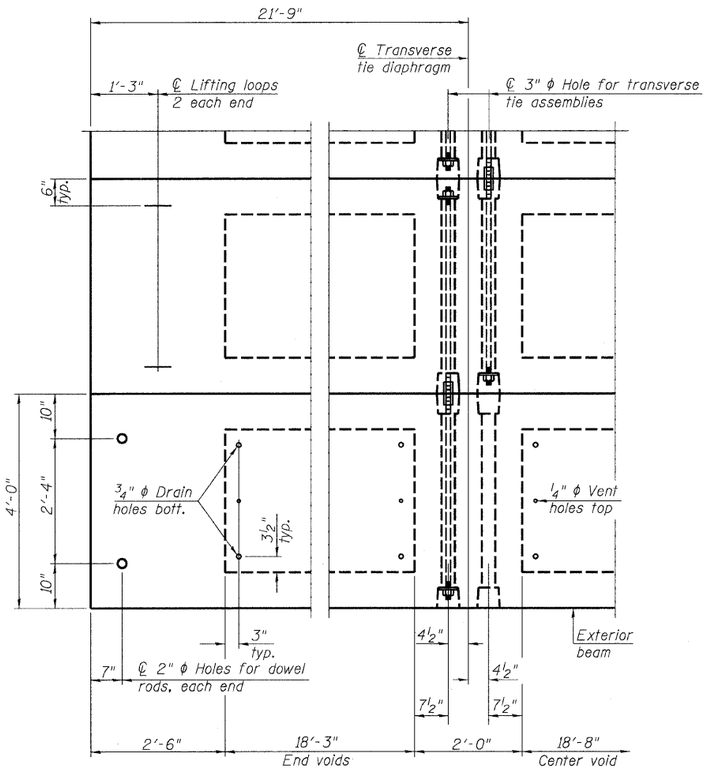
FIXED



SECTION A-A



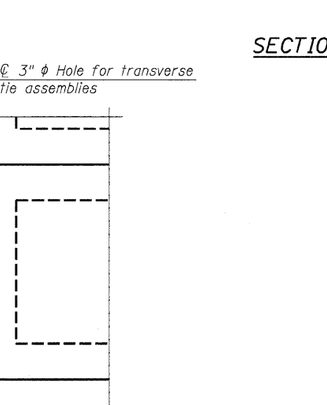
TYPICAL TRANSVERSE TIE ASSEMBLY



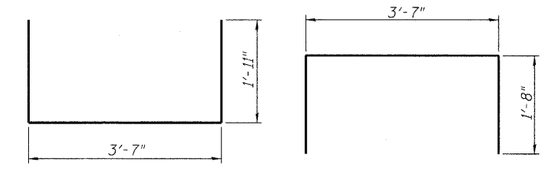
PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

FIXED BEARING
ABUTMENT

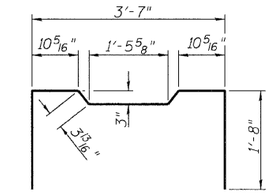


LIFTING LOOP DETAIL

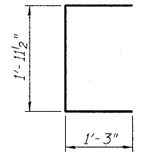


BAR S(E)

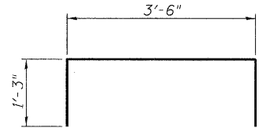
BAR S1(E)



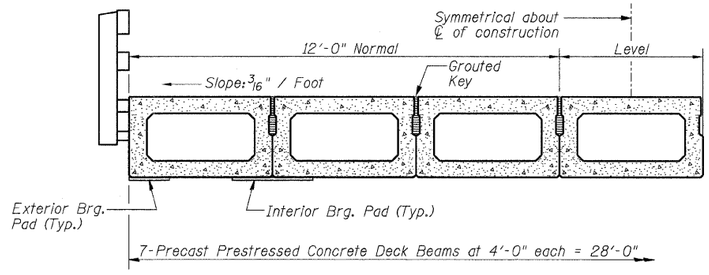
BAR S2(E)



BAR U(E)



BAR U1(E)



HALF CROSS SECTION

See Sheet 4 for the details showing the spacing and mounting of posts and rails to the PPCDB.

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).

Bars designated (E) shall be epoxy coated.

Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1797

DESIGNED -	
CHECKED -	
DRAWN -	
CHECKED -	

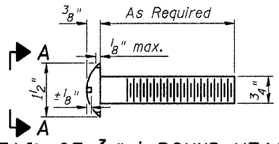
PD-2748-0D 10-1-08

10/21/2009 RAA1 #51009

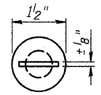
27" X 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 017-3059

SHEET NO. 3	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6 SHEETS	696	08-00092-00-BR	CRAWFORD	10	7
			CONTRACT NO. 95598		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

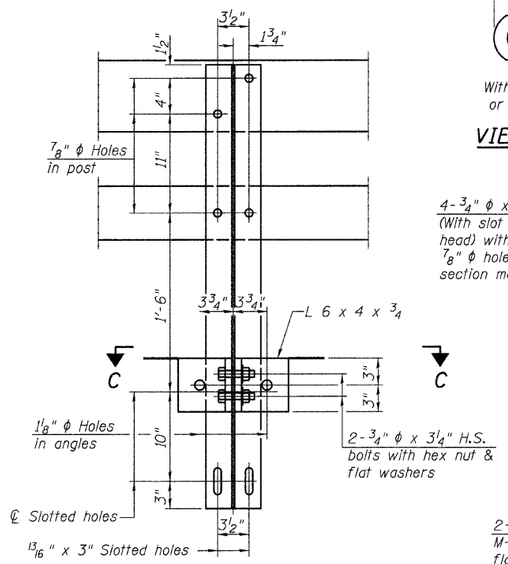
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



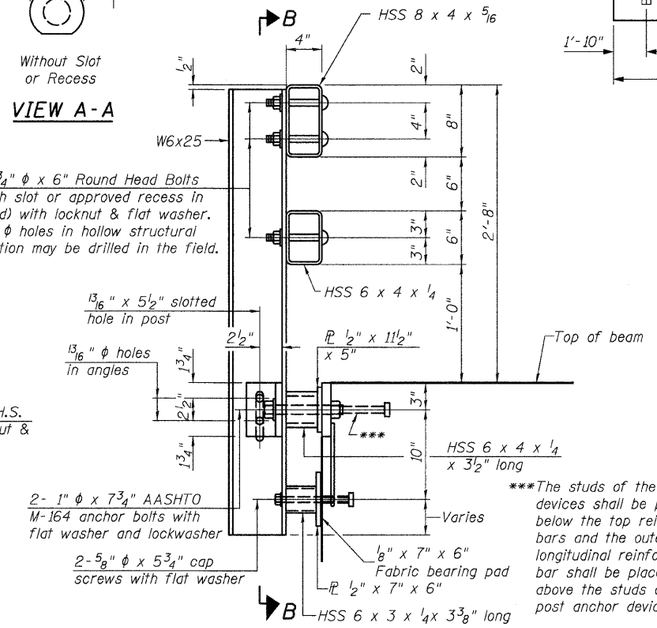
DETAIL OF 3/4" ϕ ROUND HEAD BOLT



VIEW A-A

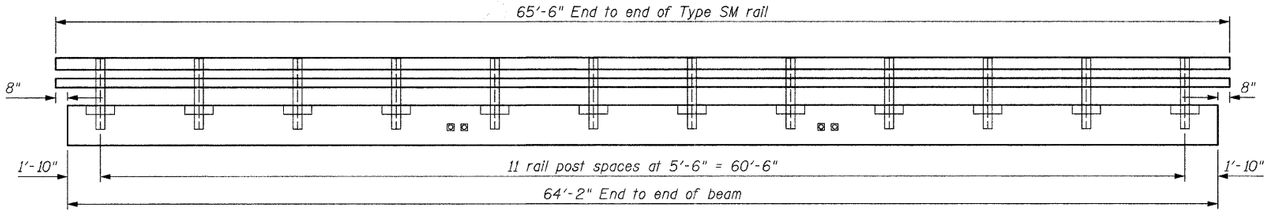


SECTION B-B

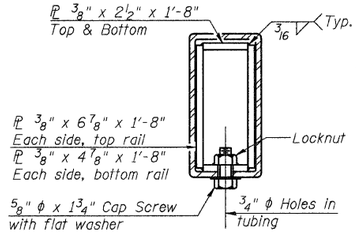


SECTION AT RAIL POST

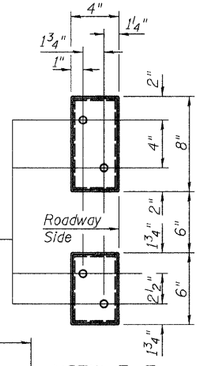
***The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



RAIL POST SPACING

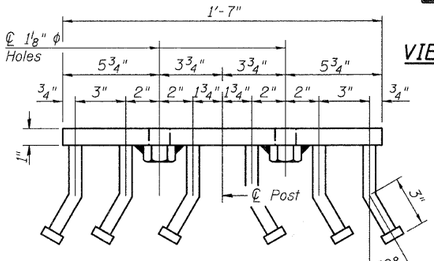


SECTION AT RAIL SPLICE

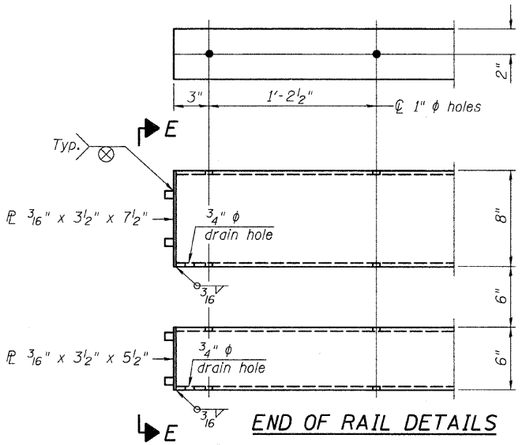


VIEW E-E

℄ -5/8" reduced base welded studs. Provide 4 - 5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032

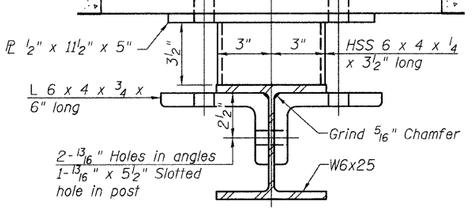


VIEW D-D

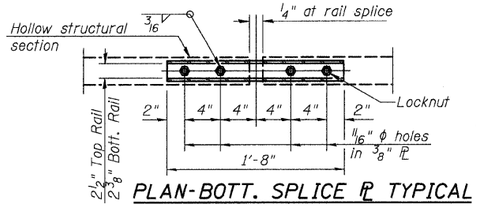


END OF RAIL DETAILS

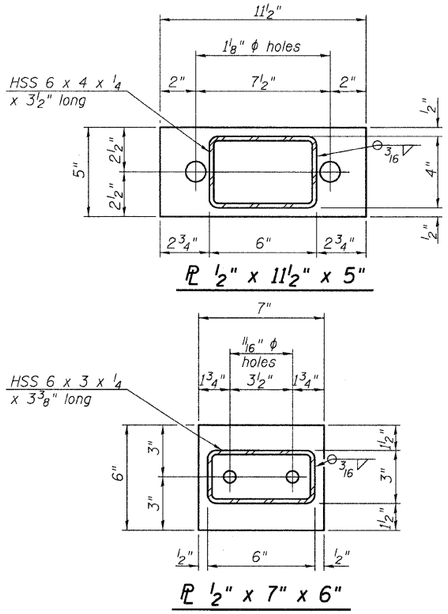
Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.
All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.

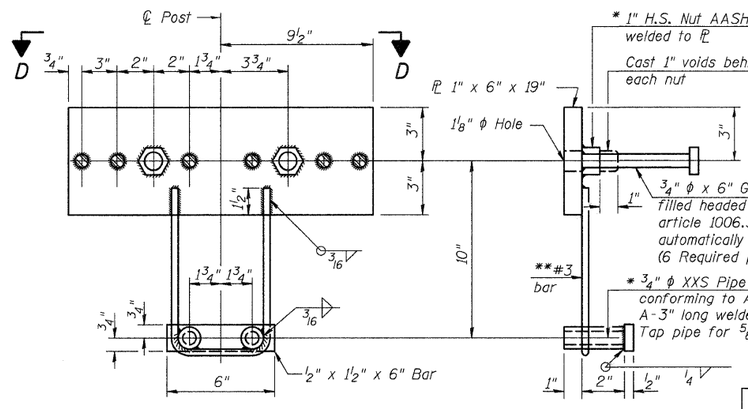


SECTION C-C



PLAN-BOTT. SPLICE PL TYPICAL





ANCHOR DEVICE

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

* 1" H.S. Nut AASHTO M 164 welded to PL
Cast 1" voids behind each nut

** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	131

STEEL RAILING, TYPE SM DETAILS
STRUCTURE NO. 017-3059

SHEET NO. 4	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6 SHEETS	696	08-00092-00-BR	CRAWFORD	10	8
			CONTRACT NO. 95598		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

DESIGNED	-
CHECKED	-
DRAWN	-
CHECKED	-

R-34 10-1-08 (6'-3" Maximum Post Spacing) (1 1/4" minimum to 3 1/8" maximum HMA thickness)

10/21/2009 RAAI #51009

STATE OF ILLINOIS
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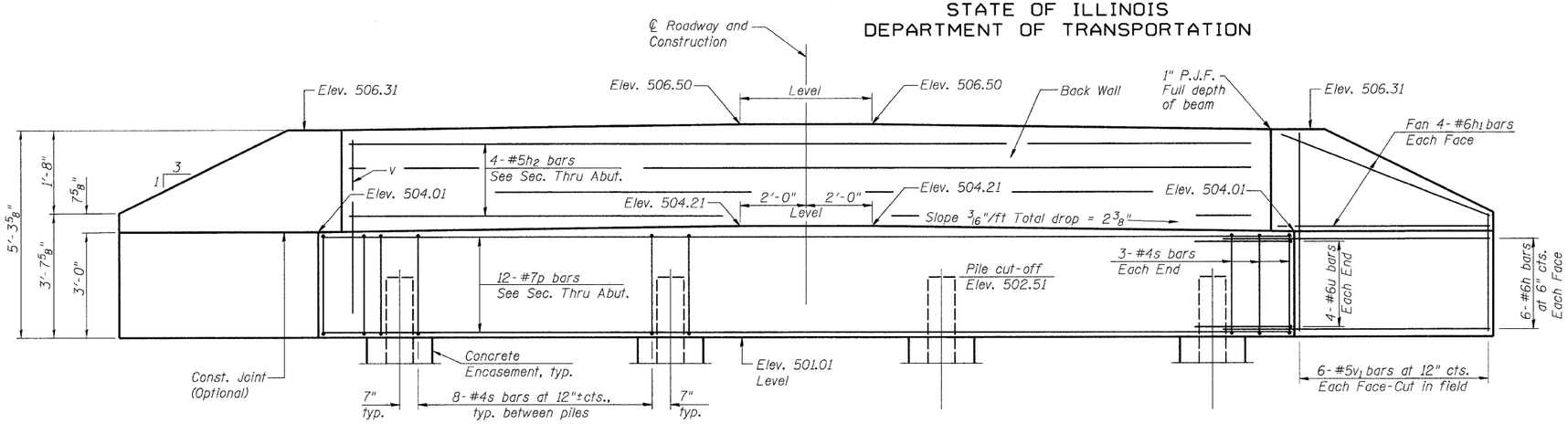
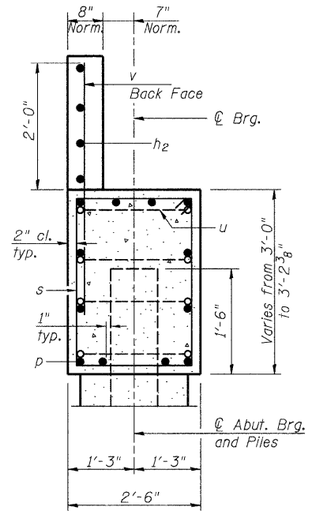
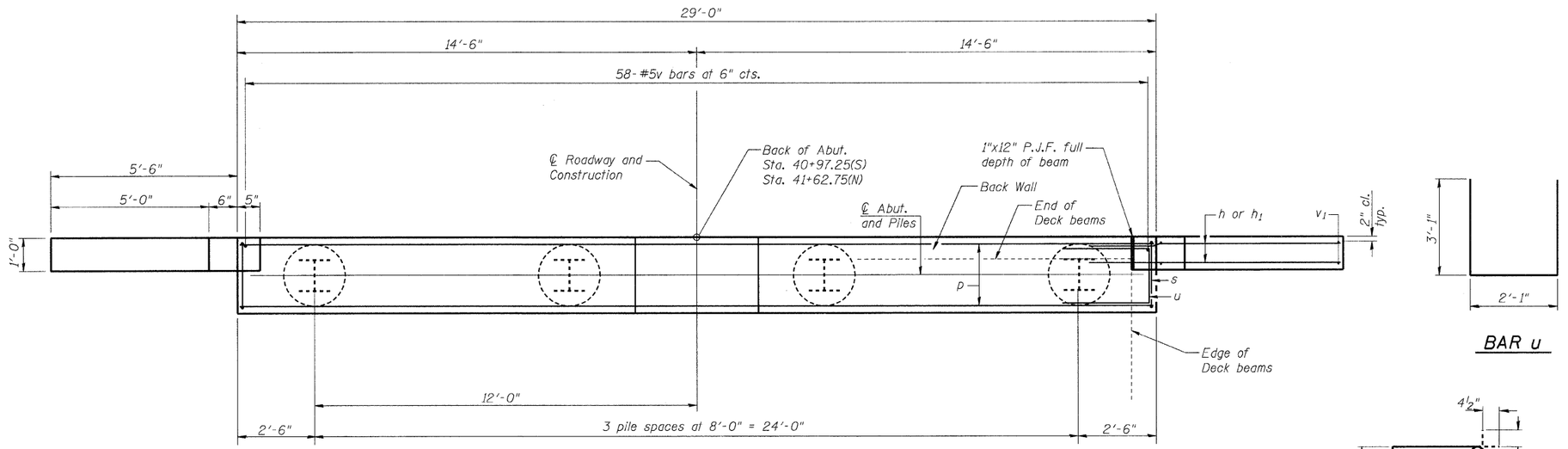


ELEVATION

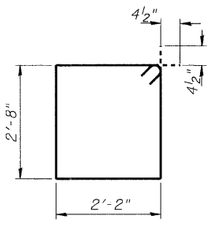


SEC. THRU ABUT.
(Normal to ℄)



PLAN

BAR u



BAR s

BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	24	#6	9'-6"	
h_1	16	#6	5'-9"	
h_2	4	#5	27'-8"	
p	12	#7	28'-8"	
s	30	#4	10'-5"	
u	8	#6	8'-3"	
v	58	#5	4'-3"	
v_1	24	#5	5'-0"	CUT IN FIELD
Concrete Structures			Cu. Yd.	11.9
Reinforcement Bars			Pound	1990
Furnishing Steel Piles, HP12x53	Foot		S. Abut.	232
			N. Abut.	174
Driving Piles	Foot		S. Abut.	232
			N. Abut.	174
Test Pile, Steel HP12x53	Each		S. Abut.	0
			N. Abut.	1
Concrete Encasement			Cu Yd	1.4

For details of piles and Concrete Encasement, see Sheet 6 of 6.

PILE DATA SOUTH ABUTMENT

Type:	Steel HP12x53
Nominal Required Bearing:	419 kips
Allowable Resistance Available:	139 kips
Estimated Length:	58'/pile
No. Production Piles:	4
No. Test Piles:	0

PILE DATA NORTH ABUTMENT

Type:	Steel HP12x53
Nominal Required Bearing:	419 kips
Allowable Resistance Available:	139 kips
Estimated Length:	58'/pile
No. Production Piles:	3
No. Test Piles:	1

GENERAL NOTES

All exposed edges shall have standard 3/4" chamfer, unless otherwise noted.

All clearances between rebar and form surface shall be 2", unless otherwise noted.

Space reinforcement in cap to miss PPCDB dowel rods.

The Steel H-piles shall be according to AASHTO M270 Grade 50.

The Contractor shall drive one (1) Steel HP12x53 Test Pile in a production location at the North abutment as directed by the Engineer before ordering the remainder of the piles.

The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

DESIGNED	-
CHECKED	-
DRAWN	-
CHECKED	-

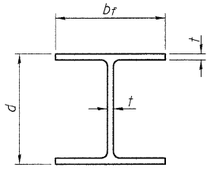
AI-0 10-1-08

10/21/2009 RAAI #51009

ABUTMENT DETAILS STRUCTURE NO. 017-3059

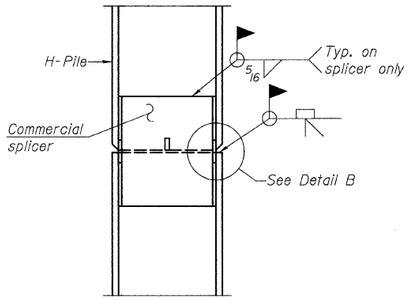
SHEET NO. 5	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6 SHEETS	696	08-00092-00-BR	CRAWFORD	10	9
			CONTRACT NO. 95598		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

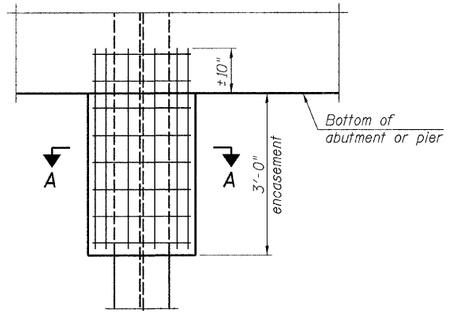


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION



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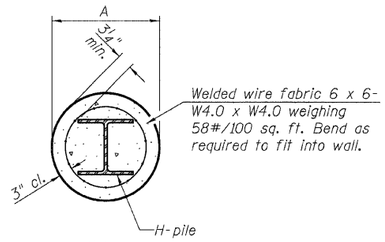
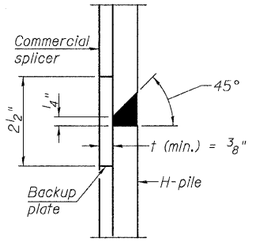


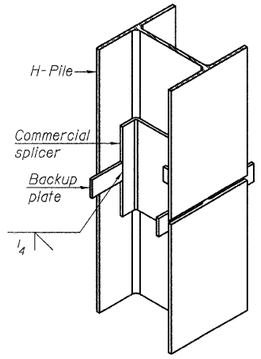
SECTION A-A

Note:
Forms for encasement may be omitted when soil conditions permit.

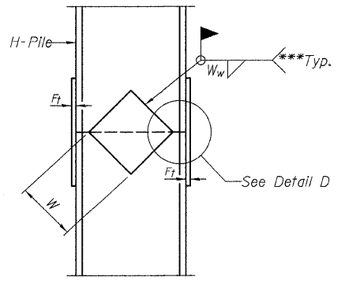
PILE ENCASEMENT



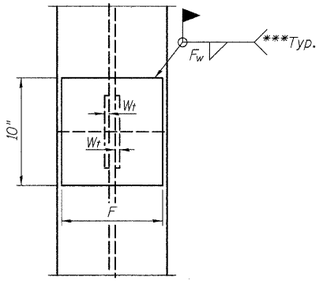
DETAIL "B"



ISOMETRIC VIEW

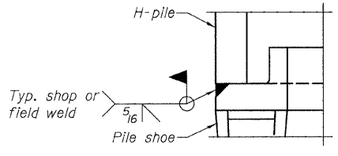


ELEVATION



END VIEW

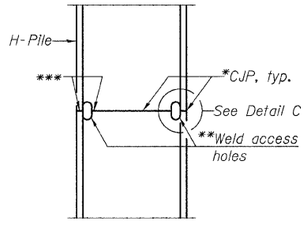
WELDED COMMERCIAL SPLICE



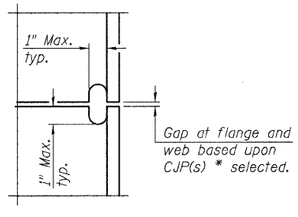
ELEVATION

DETAIL A

H-PILE SHOE ATTACHMENT

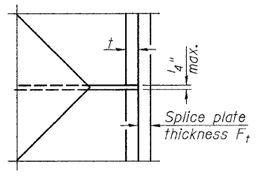


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

* Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.

** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.

*** Interrupt welds 1/4" from end of each pile.

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

HP PILE DETAILS
STRUCTURE NO. 017-3059

SHEET NO. 6	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6 SHEETS	696	08-00092-00-BR	CRAWFORD	10	10
			CONTRACT NO. 95598		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

DESIGNED -	
CHECKED -	
DRAWN -	
CHECKED -	

F-HP 10-1-08

10/21/2009 RAAI #51009